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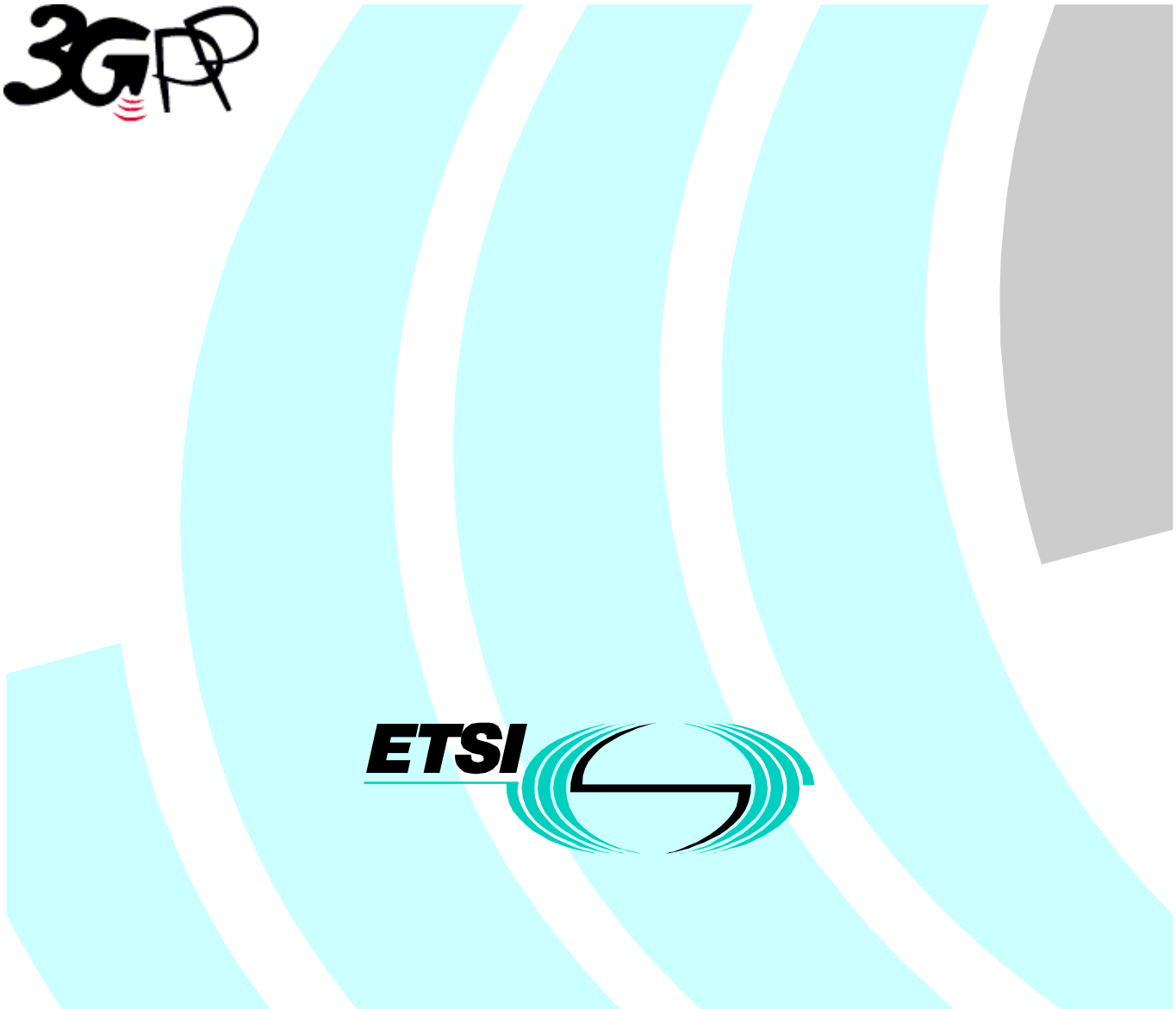
*Technical Specification*

**Universal Mobile Telecommunications System (UMTS);**
**UTRAN Iur Interface RNSAP Signalling**
**(3GPP TS 25.423 version 4.0.0 Release 4)**



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# Contents

# Foreword

This Technical Specification (TS) has been produced by the 3rd Generation Partnership Project (3GPP).

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- y the second digit is incremented for all changes of substance, i.e. technical enhancements, corrections, updates, etc.
- z the third digit is incremented when editorial only changes have been incorporated in the document.

# 1 Scope

The present document specifies the radio network layer signalling procedures of the control plane between RNCs in UTRAN.

# 2 References

The following documents contain provisions which, through reference in this text, constitute provisions of the present document.

- References are either specific (identified by date of publication, edition number, version number, etc.) or non-specific.
- For a specific reference, subsequent revisions do not apply.
- For a non-specific reference, the latest version applies. In the case of a reference to a 3GPP document (including a GSM document), a non-specific reference implicitly refers to the latest version of that document *in the same Release as the present document*.

[1] 3GPP TS 23.003: "Numbering, addressing and identification".

[2] 3GPP TS 25.413: "UTRAN Iu Interface RANAP Signalling".

[3] 3GPP TS 25.426: "UTRAN Iur and Iub Interface Data Transport & Transport Layer Signalling for DCH Data Streams".

[4] 3GPP TS 25.427: "UTRAN Iur and Iub Interface User Plane Protocols for DCH Data Streams".

[5] 3GPP TS 25.435: "UTRAN Iub interface User Plane Protocols for Common Transport Channel Data Streams".

[6] 3GPP TS 25.104: "UTRA (BS) FDD; Radio transmission and Reception".

[7] 3GPP TS 25.105: "UTRA (BS) TDD; Radio Transmission and Reception".

[8] 3GPP TS 25.211: "Physical Channels and Mapping of Transport Channels onto Physical Channels (FDD)".

[9] 3GPP TS 25.212: "Multiplexing and Channel Coding (FDD)".

[10] 3GPP TS 25.214: "Physical Layer Procedures (FDD)".

[11] 3GPP TS 25.215: "Physical Layer – Measurements (FDD)".

[12] 3GPP TS 25.221: "Physical Channels and Mapping of Transport Channels onto Physical Channels (TDD)".

[13] 3GPP TS 25.223: "Spreading and Modulation (TDD)".

[14] 3GPP TS 25.225: "Physical Layer – Measurements (TDD)".

[15] 3GPP TS 25.304: "UE Procedures in Idle Mode"

[16] 3GPP TS 25.331: "RRC Protocol Specification".

[17] 3GPP TS 25.402: "Synchronisation in UTRAN, Stage 2".

[18] ITU-T Recommendation X.680 (12/94): "Information technology - Abstract Syntax Notation One (ASN.1): Specification of basic notation".

[19] ITU-T Recommendation X.681 (12/97): "Information technology - Abstract Syntax Notation One (ASN.1): Information object specification".

[20] ITU-T Recommendation X.691 (12/97): "Information technology - ASN.1 encoding rules - Specification of Packed Encoding Rules (PER)".

[21] 3GPP TS 25.213: "Spreading and modulation (FDD)".

[22] 3GPP TS 25.224: "Physical Layer Procedures (TDD)".

[23] 3GPP TS 25.133 (V3.3): "Requirements for support of Radio Resource management (FDD)".

[24] 3GPP TS 25.123 (V3.5): "Requirements for support of Radio Resource management (TDD)".

[25] 3GPP TS 23.032: "Universal Graphical Area Description (GAD)".

[26] 3GPP TS 25.302: "Services Provided by the Physical Layer".

[27] 3GPP TS 25.213: "Spreading and modulation (FDD)".

[28] 3GPP TR 25.921: "Guidelines and Principles for Protocol Description and Error Handling".

[29] GSM TS 05.05: "Digital cellular telecommunications system (Phase 2+); Radio transmission and reception".

[30] ICD-GPS-200: "Navstar GPS Space Segment/Navigation User Interface".

[31] RTCM-SC104: "RTCM Recommended Standards for Differential GNSS Service (v.2.2)".

# 3 Definitions, symbols and abbreviations

## 3.1 Definitions

For the purposes of the present document, the following terms and definitions apply:

**Elementary Procedure:** RNSAP protocol consists of Elementary Procedures (EPs). An Elementary Procedure is a unit of interaction between two RNCs. An EP consists of an initiating message and possibly a response message. Two kinds of EPs are used:

- **Class 1:** Elementary Procedures with response (success or failure);
- **Class 2:** Elementary Procedures without response.

For Class 1 EPs, the types of responses can be as follows:

Successful

- A signalling message explicitly indicates that the elementary procedure has been successfully completed with the receipt of the response.

Unsuccessful

- A signalling message explicitly indicates that the EP failed.

Class 2 EPs are considered always successful.

**Prepared Reconfiguration:** A Prepared Reconfiguration exists when the Synchronised Radio Link Reconfiguration Preparation procedure has been completed successfully. The Prepared Reconfiguration does not exist any more after either of the procedures Synchronised Radio Link Reconfiguration Commit or Synchronised Radio Link Reconfiguration Cancellation has been completed.

**UE Context:** The UE Context contains the necessary information for the DRNC to communicate with a specific UE. The UE Context is created by the Radio Link Setup procedure or by the Uplink Signalling Transfer procedure when the UE makes its first access in a cell controlled by the DRNS. The UE Context is deleted by the Radio Link Deletion

procedure, by the Common Transport Channel Resources Release procedure, or by the Downlink Signalling Transfer procedure when neither any Radio Links nor any common transport channels are established towards the concerning UE. The UE Context is identified by the SCCP Connection for messages using connection oriented mode of the signalling bearer and the D-RNTI for messages using connectionless mode of the signalling bearer, unless specified otherwise in the procedure text.

**Common Measurement Context:** The Common Measurement context is created by the first Common Measurement Initiation Procedure initiated by one RNC and requested from another RNC. The Common Measurement Context is deleted by the Common Measurement Termination or the Common Measurement Failure procedure when there is no more Common Measurement to be provided by the requested RNC to the requesting RNC. The Common Measurement Context is identified by an SCCP connection as, for Common Measurements, only the connection oriented mode of the signalling bearer is used.

**Distant RNC Context:** The Distant RNC context is created by the first Common Measurement Initiation Procedure or Information Exchange Initiation Procedure initiated by one RNC and requested from another RNC. The Distant RNC Context is deleted after the Common Measurement Termination, the Common Measurement Failure, the Information Exchange Termination or the Information Exchange Failure procedure when there is no more Common Measurement and no more Information to be provided by the requested RNC to the requesting RNC. The Distant RNC Context is identified by an SCCP connection as, for common measurements and information exchange, only the connection oriented mode of the signalling bearer is used.

## 3.2 Symbols

Void.

## 3.3 Abbreviations

For the purposes of the present document, the following abbreviations apply:

| | |
|---|---|
| A-GPS | Assisted-GPS |
| ASN.1 | Abstract Syntax Notation One |
| BLER | Block Error Rate |
| CCCH | Common Control Channel |
| CCPCH | Common Control Physical Channel |
| CCTrCH | Coded Composite Transport Channel |
| CFN | Connection Frame Number |
| CM | Compressed Mode |
| CN | Core Network |
| CPCH | Common Packet Channel |
| CPICH | Common Pilot Channel |
| CRNC | Controlling RNC |
| DCH | Dedicated Channel |
| DGPS | Differential GPS |
| DL | Downlink |
| DPCCH | Dedicated Physical Control Channel |
| DPCH | Dedicated Physical Channel |
| DRNC | Drift RNC |
| DRNS | Drift RNS |
| D-RNTI | Drift Radio Network Temporary Identifier |
| DRX | Discontinuous Reception |
| DSCH | Downlink Shared Channel |
| EP | Elementary Procedure |
| FACH | Forward Access Channel |
| FDD | Frequency Division Duplex |
| FP | Frame Protocol |
| GPS | Global Positioning System |
| IE | Information Element |
| IPDL | Idle Period DownLink |
| ISCP | Interference Signal Code Power |
| LCS | Location Services |

| | |
|---|---|
| MAC | Medium Access Control |
| O&M | Operation and Maintenance |
| P-CCPCH | Primary CCPCH |
| PCH | Paging Channel |
| P-CIPCH | Primary CIPCH |
| PCPCH | Physical Common Packet Channel |
| PDU | Protocol Data Unit |
| PICH | Paging Indication Channel |
| PRACH | Physical Random Access Channel |
| RACH | Random Access Channel |
| RL | Radio Link |
| RLC | Radio Link Control |
| RLS | Radio Link Set |
| RNS | Radio Network Subsystem |
| RNSAP | Radio Network Subsystem Application Part |
| RNTI | Radio Network Temporary Identifier |
| RRC | Radio Resource Control |
| RSCP | Received Signal Code Power |
| S-CCPCH | Secondary CCPCH |
| SCH | Synchronisation Channel |
| SDU | Service Data Unit |
| SFN | System Frame Number |
| SIR | Signal-to-Interference Ratio |
| SRNC | Serving RNC |
| SRNS | Serving RNS |
| SSDT | Site Selection Diversity Transmission |
| STTD | Space Time Transmit Diversity |
| TDD | Time Division Duplex |
| TFCI | Transport Format Combination Indicator |
| TFCS | Transport Format Combination Set |
| TFS | Transport Format Set |
| ToAWS | Time of Arrival Window Endpoint |
| TPC | Transmit Power Control |
| TrCh | Transport Channel |
| TSTD | Time Switched Transmit Diversity |
| UARFCN | UTRA Absolute Radio Frequency Channel Number |
| UE | User Equipment |
| UL | Uplink |
| URA | UTRAN Registration Area |
| USCH | Uplink Shared Channel |
| UTRA | Universal Terrestrial Radio Access |
| UTRAN | Universal Terrestrial Radio Access Network |

# 4 General

## 4.1 Procedure Specification Principles

The principle for specifying the procedure logic is to specify the functional behaviour of the DRNC/CRNC exactly and completely. The SRNC functional behaviour is left unspecified. The Physical Channel Reconfiguration procedure is an exception from this principle.

The following specification principles have been applied for the procedure text in subclause 8:

- The procedure text discriminates between:

  1) Functionality which "shall" be executed

  The procedure text indicates that the receiving node "shall" perform a certain function Y under a certain condition. If the receiving node supports procedure X but cannot perform functionality Y requested in the

REQUEST message of a Class 1 EP, the receiving node shall respond with the message used to report unsuccessful outcome for this procedure, containing an appropriate cause value.

2) Functionality which "shall, if supported" be executed

The procedure text indicates that the receiving node "shall, if supported," perform a certain function Y under a certain condition. If the receiving node supports procedure X, but does not support functionality Y, the receiving node shall proceed with the execution of the EP, possibly informing the requesting node about the not supported functionality.

- Any required inclusion of an optional IE in a response message is explicitly indicated in the procedure text. If the procedure text does not explicitly indicate that an optional IE shall be included in a response message, the optional IE shall not be included.

## 4.2 Forwards and Backwards Compatibility

The forwards and backwards compatibility of the protocol is assured by a mechanism where all current and future messages, and IEs or groups of related IEs, include Id and criticality fields that are coded in a standard format that will not be changed in the future. These parts can always be decoded regardless of the standard version.

## 4.3 Source Signalling Address Handling

The sender of an RNSAP messages shall include the Source Signalling Address, i.e. the Signalling Address of the sending node.

## 4.4 Specification Notations

For the purposes of the present document, the following notations apply:

[FDD] This tagging of a word indicates that the word preceding the tag "[FDD]" applies only to FDD. This tagging of a heading indicates that the heading preceding the tag "[FDD]" and the section following the heading applies only to FDD.

[TDD] This tagging of a word indicates that the word preceding the tag "[TDD]" applies only to TDD, including 3.84Mcps TDD and 1.28Mcps TDD. This tagging of a heading indicates that the heading preceding the tag "[TDD]" and the section following the heading applies only to TDD, including 3.84Mcps TDD and 1.28Mcps TDD.

[3.84Mcps TDD] This tagging of a word indicates that the word preceding the tag “[3.84Mcps TDD]” applies only to 3.84Mcps TDD. This tagging of a heading indicates that the heading preceding the tag “[3.84Mcps TDD]” and the section following the heading applies only to 3.84Mcps TDD.

[1.28Mcps TDD] This tagging of a word indicates that the word preceding the tag "[1.28Mcps TDD]" applies only to 1.28Mcps TDD. This tagging of a heading indicates that the heading preceding the tag "[1.28Mcps TDD]" and the section following the heading applies only to 1.28Mcps TDD.

[FDD - …] This tagging indicates that the enclosed text following the "[FDD - " applies only to FDD. Multiple sequential paragraphs applying only to FDD are enclosed separately to enable insertion of TDD specific (or common) paragraphs between the FDD specific paragraphs.

[TDD - …] This tagging indicates that the enclosed text following the "[TDD - " applies only to TDD including 3.84Mcps TDD and 1.28Mcps TDD. Multiple sequential paragraphs applying only to TDD are enclosed separately to enable insertion of FDD specific (or common) paragraphs between the TDD specific paragraphs.

[3.84Mcps TDD - …] This tagging indicates that the enclosed text following the "[3.84Mcps TDD - " applies only to 3.84Mcps TDD. Multiple sequential paragraphs applying only to 3.84Mcps TDD are enclosed separately to enable insertion of FDD and TDD specific (or common) paragraphs between the 3.84Mcps TDD specific paragraphs.

[1.28Mcps TDD - …] This tagging indicates that the enclosed text following the "[1.28Mcps TDD – " applies only to 1.28Mcps TDD. Multiple sequential paragraphs applying only to 1.28Mcps TDD are enclosed separately to enable insertion of FDD and TDD specific (or common) paragraphs between the 1.28Mcps TDD specific paragraphs.

Procedure When referring to an elementary procedure in the specification, the Procedure Name is written with the first letters in each word in upper case characters followed by the word "procedure", e.g. Radio Link Setup procedure.

Message When referring to a message in the specification, the MESSAGE NAME is written with all letters in upper case characters followed by the word "message", e.g. RADIO LINK SETUP REQUEST message.

IE When referring to an information element (IE) in the specification, the *Information Element Name* is written with the first letters in each word in upper case characters and all letters in Italic font followed by the abbreviation "IE", e.g. *Transport Format Set* IE.

Value of an IE When referring to the value of an information element (IE) in the specification, the "Value" is written as it is specified in subclause 9.2 enclosed by quotation marks, e.g. "Abstract Syntax Error (Reject)" or "SSDT Active in the UE".

# 5 RNSAP Services

## 5.1 RNSAP Procedure Modules

The Iur interface RNSAP procedures are divided into four modules as follows:

1. RNSAP Basic Mobility Procedures;
2. RNSAP DCH Procedures;
3. RNSAP Common Transport Channel Procedures;
4. RNSAP Global Procedures.

The Basic Mobility Procedures module contains procedures used to handle the mobility within UTRAN.

The DCH Procedures module contains procedures that are used to handle DCHs, DSCHs, and USCHs between two RNSs. If procedures from this module are not used in a specific Iur, then the usage of DCH, DSCH, and USCH traffic between corresponding RNSs is not possible.

The Common Transport Channel Procedures module contains procedures that are used to control common transport channel data streams (excluding the DSCH and USCH) over Iur interface.

The Global Procedures module contains procedures that are not related to a specific UE. The procedures in this module are in contrast to the above modules involving two peer CRNCs.

## 5.2 Parallel Transactions

Unless explicitly indicated in the procedure specification, at any instance in time one protocol peer shall have a maximum of one ongoing RNSAP DCH procedure related to a certain UE.

# 6 Services Expected from Signalling Transport

The signalling transport shall provide two different service modes for the RNSAP.

1. Connection oriented data transfer service. This service is supported by a signalling connection between two RNCs. It shall be possible to dynamically establish and release signalling connections based on the need. Each active UE shall have its own signalling connection. The signalling connection shall provide in sequence delivery of RNSAP messages. RNSAP shall be notified if the signalling connection breaks.

2. Connectionless data transfer service. RNSAP shall be notified in case a RNSAP message did not reach the intended peer RNSAP entity.

# 7 Functions of RNSAP

The RNSAP protocol provides the following functions:

- Radio Link Management. This function allows the SRNC to manage radio links using dedicated resources in a DRNS;

- Physical Channel Reconfiguration. This function allows the DRNC to reallocate the physical channel resources for a Radio Link;

- Radio Link Supervision. This function allows the DRNC to report failures and restorations of a Radio Link;

- Compressed Mode Control [FDD]. This function allows the SRNC to control the usage of compressed mode within a DRNS;

- Measurements on Dedicated Resources. This function allows the SRNC to initiate measurements on dedicated resources in the DRNS. The function also allows the DRNC to report the result of the measurements;

- DL Power Drifting Correction [FDD]. This function allows the SRNC to adjust the DL power level of one or more Radio Links in order to avoid DL power drifting between the Radio Links;

- DCH Rate Control. This function allows the DRNC to limit the rate of each DCH configured for the Radio Link(s) of a UE in order to avoid congestion situations in a cell;

- CCCH Signalling Transfer. This function allows the SRNC and DRNC to pass information between the UE and the SRNC on a CCCH controlled by the DRNS;

- Paging. This function allows the SRNC to page a UE in a URA or a cell in the DRNS;

- Common Transport Channel Resources Management. This function allows the SRNC to utilise Common Transport Channel Resources within the DRNS (excluding DSCH resources for FDD);

- Relocation Execution. This function allows the SRNC to finalise a Relocation previously prepared via other interfaces;

- Reporting of General Error Situations. This function allows reporting of general error situations, for which function specific error messages have not been defined.

- DL Power Timeslot Correction [TDD]. This function enables the DRNS to apply an individual offset to the transmission power in each timeslot according to the downlink interference level at the UE.

- Measurements on Common Resources. This function allows an RNC to request from another RNC to initiate measurements on Common Resources. The function also allows the requested RNC to report the result of the measurements.

- Information Exchange. This function allows an RNC to request from another RNC the transfer of information. The function also allows the requested RNC to report the requested information.

The mapping between the above functions and RNSAP elementary procedures is shown in the Table 1.

**Table 1: Mapping between functions and RNSAP elementary procedures**

| Function | Elementary Procedure(s) |
|---|---|
| Radio Link Management | a) Radio Link Setup<br>b) Radio Link Addition<br>c) Radio Link Deletion<br>d) Unsynchronised Radio Link Reconfiguration<br>e) Synchronised Radio Link Reconfiguration Preparation<br>f) Synchronised Radio Link Reconfiguration Commit<br>g) Synchronised Radio Link Reconfiguration Cancellation<br>h) Radio Link Pre-emption |
| Physical Channel Reconfiguration | Physical Channel Reconfiguration |
| Radio Link Supervision | a) Radio Link Failure<br>b) Radio Link Restoration |
| Compressed Mode Control [FDD] | a) Radio Link Setup<br>b) Radio Link Addition<br>c) Compressed Mode Command<br>d) Unsynchronised Radio Link Reconfiguration<br>e) Synchronised Radio Link Reconfiguration Preparation<br>f) Synchronised Radio Link Reconfiguration Commit<br>g) Synchronised Radio Link Reconfiguration Cancellation |
| Measurements on Dedicated Resources | a) Dedicated Measurement Initiation<br>b) Dedicated Measurement Reporting<br>c) Dedicated Measurement Termination<br>d) Dedicated Measurement Failure |
| DL Power Drifting Correction [FDD] | Downlink Power Control |
| DCH Rate Control | a) Radio Link Setup<br>b) Radio Link Addition<br>c) Unsynchronised Radio Link Reconfiguration<br>d) Synchronised Radio Link Reconfiguration Preparation<br>e) Radio Link Congestion |
| CCCH Signalling Transfer | a) Uplink Signalling Transfer<br>b) Downlink Signalling Transfer |
| Paging | Paging |
| Common Transport Channel Resources Management | a) Common Transport Channel Resources Initiation<br>b) Common Transport Channel Resources Release |
| Relocation Execution | Relocation Commit |
| Reporting of General Error Situations | Error Indication |
| Measurements on Common Resources | a) Common Measurement Initiation<br>b) Common Measurement Reporting<br>c) Common Measurement Termination<br>d) Common Measurement Failure |
| Information Exchange | a) Information Exchange Initiation<br>b) Information Reporting<br>c) Information Exchange Termination<br>d) Information Exchange Failure |
| DL Power Timeslot Correction [TDD] | Downlink Power Timeslot Control |

# 8 RNSAP Procedures

## 8.1 Elementary Procedures

In the following tables, all EPs are divided into Class 1 and Class 2 EPs.

**Table 2: Class 1 Elementary Procedures**

| Elementary Procedure | Initiating Message | Successful Outcome | Unsuccessful Outcome |
|---|---|---|---|
| | | Response message | Response message |
| Radio Link Setup | RADIO LINK SETUP REQUEST | RADIO LINK SETUP RESPONSE | RADIO LINK SETUP FAILURE |
| Radio Link Addition | RADIO LINK ADDITION REQUEST | RADIO LINK ADDITION RESPONSE | RADIO LINK ADDITION FAILURE |
| Radio Link Deletion | RADIO LINK DELETION REQUEST | RADIO LINK DELETION RESPONSE | |
| Synchronised Radio Link Reconfiguration Preparation | RADIO LINK RECONFIGURATION PREPARE | RADIO LINK RECONFIGURATION READY | RADIO LINK RECONFIGURATION FAILURE |
| Unsynchronised Radio Link Reconfiguration | RADIO LINK RECONFIGURATION REQUEST | RADIO LINK RECONFIGURATION RESPONSE | RADIO LINK RECONFIGURATION FAILURE |
| Physical Channel Reconfiguration | PHYSICAL CHANNEL RECONFIGURATION REQUEST | PHYSICAL CHANNEL RECONFIGURATION COMMAND | PHYSICAL CHANNEL RECONFIGURATION FAILURE |
| Dedicated Measurement Initiation | DEDICATED MEASUREMENT INITIATION REQUEST | DEDICATED MEASUREMENT INITIATION RESPONSE | DEDICATED MEASUREMENT INITIATION FAILURE |
| Common Transport Channel Resources Initialisation | COMMON TRANSPORT CHANNEL RESOURCES REQUEST | COMMON TRANSPORT CHANNEL RESOURCES RESPONSE | COMMON TRANSPORT CHANNEL RESOURCES FAILURE |
| Common Measurement Initiation | COMMON MEASUREMENT INITIATION REQUEST | COMMON MEASUREMENT INITIATION RESPONSE | COMMON MEASUREMENT INITIATION FAILURE |
| Information Exchange Initiation | INFORMATION EXCHANGE INITIATION REQUEST | INFORMATION EXCHANGE INITIATION RESPONSE | INFORMATION EXCHANGE INITIATION FAILURE |

**Table 3: Class 2 Elementary Procedures**

| Elementary Procedure | Initiating Message |
|---|---|
| Uplink Signalling Transfer | UPLINK SIGNALLING TRANSFER INDICATION |
| Downlink Signalling Transfer | DOWNLINK SIGNALLING TRANSFER REQUEST |
| Relocation Commit | RELOCATION COMMIT |
| Paging | PAGING REQUEST |
| Synchronised Radio Link Reconfiguration Commit | RADIO LINK RECONFIGURATION COMMIT |
| Synchronised Radio Link Reconfiguration Cancellation | RADIO LINK RECONFIGURATION CANCEL |
| Radio Link Failure | RADIO LINK FAILURE INDICATION |
| Radio Link Restoration | RADIO LINK RESTORE INDICATION |
| Dedicated Measurement Reporting | DEDICATED MEASUREMENT REPORT |
| Dedicated Measurement Termination | DEDICATED MEASUREMENT TERMINATION REQUEST |
| Dedicated Measurement Failure | DEDICATED MEASUREMENT FAILURE INDICATION |
| Downlink Power Control [FDD] | DL POWER CONTROL REQUEST |
| Compressed Mode Command [FDD] | COMPRESSED MODE COMMAND |
| Common Transport Channel Resources Release | COMMON TRANSPORT CHANNEL RESOURCES RELEASE REQUEST |
| Error Indication | ERROR INDICATION |
| Downlink Power Timeslot Control [TDD] | DL POWER TIMESLOT CONTROL REQUEST |
| Radio Link Pre-emption | RADIO LINK PREEMPTION REQUIRED INDICATION |
| Radio Link Congestion | RADIO LINK CONGESTION INDICATION |
| Common Measurement Reporting | COMMON MEASUREMENT REPORT |
| Common Measurement Termination | COMMON MEASUREMENT TERMINATION REQUEST |
| Common Measurement Failure | COMMON MEASUREMENT FAILURE INDICATION |
| Information Reporting | INFORMATION REPORT |
| Information Exchange Termination | INFORMATION EXCHANGE TERMINATION REQUEST |
| Information Exchange Failure | INFORMATION EXCHANGE FAILURE INDICATION |

## 8.2 Basic Mobility Procedures

### 8.2.1 Uplink SignallingTransfer

#### 8.2.1.1 General

The procedure is used by the DRNC to forward a Uu message received on the CCCH to the SRNC.

This procedure shall use the connectionless mode of the signalling bearer.

### 8.2.1.2 Successful Operation

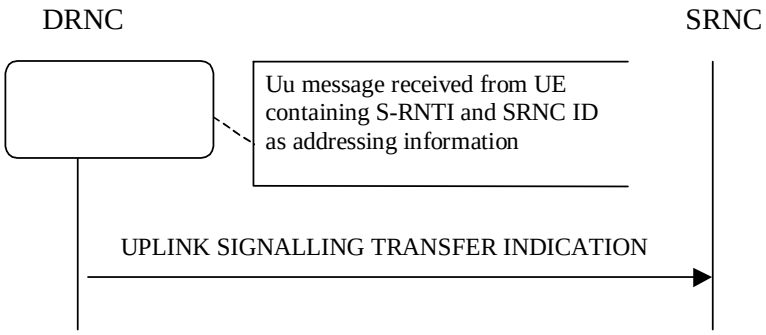


**Figure 1: Uplink Signalling Transfer procedure, Successful Operation**

When the DRNC receives an Uu message on the CCCH where the UE addressing information is U-RNTI, i.e. S-RNTI and SRNC-ID, DRNC shall send the UPLINK SIGNALLING TRANSFER INDICATION message to the SRNC identified by the SRNC-ID received from the UE.

If at least one URA Identity is being broadcast in the cell where the Uu message was received (the accessed cell), the DRNC shall include a URA Identity for this cell in the *URA ID* IE, the *Multiple URAs Indicator* IE indicating whether or not multiple URA Identities are being broadcast in the accessed cell, and the RNC Identity of all other RNCs that are having at least one cell within the URA where the Uu message was received in the *URA Information* IE in the UPLINK SIGNALLING TRANSFER INDICATION message.

The DRNC shall include in the message the C-RNTI that it allocates to identify the UE in the radio interface in the accessed cell. If there is no valid C-RNTI for the UE in the accessed cell , the DRNS shall allocate a new C-RNTI for the UE. If the DRNS allocates a new C-RNTI it shall also release any C-RNTI previously allocated for the UE.

If the DRNS has any RACH, [FDD - CPCH], and/or FACH resources allocated for the UE identified by the U-RNTI in another cell than the accessed cell, the DRNS shall release these RACH, [FDD - CPCH,] and/or FACH resources.

If the message received from the UE was the first message from that UE in the DRNC, the DRNC shall create a UE Context for this UE, allocate a D-RNTI for the UE Context, and include the *D-RNTI* IE and the identifiers for the CN CS Domain and CN PS Domain that the DRNC is connected to in the UPLINK SIGNALLING TRANSFER INDICATION message. These CN Domain Identifiers shall be based on the LAC and RAC respectively of the cell where the message was received from the UE.

Depending on local configuration in the DRNS, it may include the geographical co-ordinates of the cell, represented either by the *Cell GAI* IE or by the *Cell GA Additional Shapes* IE, where the Uu message was received in the UPLINK SIGNALLING TRANSFER INDICATION message.

### 8.2.1.3 Abnormal Conditions

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## 8.2.2 Downlink SignallingTransfer

### 8.2.2.1 General

The procedure is used by the SRNC to request to the DRNC the transfer of a Uu message on the CCCH in a cell. When used, the procedure is in response to a received Uplink Signalling Transfer procedure.

This procedure shall use the connectionless mode of the signalling bearer.

#### 8.2.2.2 Successful Operation


**Figure 2: Downlink Signalling Transfer procedure, Successful Operation**

The procedure consists of the DOWNLINK SIGNALLING TRANSFER REQUEST message sent by the SRNC to the DRNC.

The message contains the Cell Identifier (C-Id) contained in the received UPLINK SIGNALLING TRANSFER INDICATION message and the D-RNTI.

At the reception of the message, the DRNC shall send the L3 Information on the CCCH in the cell indicated by the *C-Id* IE to the UE identified by the *D-RNTI* IE.

If the *D-RNTI Release Indication* IE is set to "Release D-RNTI" and the DRNS has no dedicated resources (DCH, [TDD - USCH,] and/or DSCH) allocated for the UE, the DRNS shall release the D-RNTI and thus the UE Context and any RACH, [FDD - CPCH,] and FACH resources and any C-RNTI allocated to the UE Context at the reception of the DOWNLINK SIGNALLING TRANSFER REQUEST message.

If the *D-RNTI Release Indication* IE is set to "Release D-RNTI" and the DRNS has dedicated resources allocated for the UE, the DRNS shall only release any RACH, [FDD - CPCH,] and FACH resources and any C-RNTI allocated to the UE Context at the reception of the DOWNLINK SIGNALLING TRANSFER REQUEST message.

#### 8.2.2.3 Abnormal Conditions

If the user identified by the *D-RNTI* IE has already accessed another cell controlled by the DRNC than the cell identified by the *C-Id* IE in the DOWNLINK SIGNALLING TRANSFER REQUEST message, the message shall be ignored.

If the D-RNTI is allocated to one UE context whose status does not allow the sending of the L3 information from the DRNC, then the DOWNLINK SIGNALLING TRANSFER REQUEST message shall be ignored.

### 8.2.3 Relocation Commit

#### 8.2.3.1 General

The Relocation Commit procedure is used by source RNC to execute the Relocation. This procedure supports the Relocation procedures described in [2].

This procedure shall use the signalling bearer mode specified below.

#### 8.2.3.2 Successful Operation


**Figure 3: Relocation Commit procedure, Successful Operation**

The source RNC sends the RELOCATION COMMIT message to the target RNC to request the target RNC to proceed with the Relocation. When the UE is utilising one or more radio links in the DRNC the message shall be sent using the connection oriented service of the signalling bearer and no further identification of the UE context in the DRNC is required. If on the other hand, the UE is not utilising any radio link the message shall be sent using the connectionless service of the signalling bearer and the *D-RNTI* IE shall be included in the message to identify the UE context in the DRNC.

At reception of the RELOCATION COMMIT message from the source RNC the target RNC finalises the Relocation. If the message contains the transparent *RANAP Relocation Information* IE the target RNC shall use this information when finalising the Relocation.

#### 8.2.3.3 Abnormal Conditions

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### 8.2.4 Paging

#### 8.2.4.1 General

This procedure is used by the SRNC to indicate to a CRNC that a UE shall be paged in a cell or URA that is under the control of the CRNC.

This procedure shall use the connectionless mode of the signalling bearer.

#### 8.2.4.2 Successful Operation


**Figure 4: Paging procedure, Successful Operation**

The procedure is initiated with a PAGING REQUEST message sent from the SRNC to the CRNC.

If the message contains the *C-Id* IE, the CRNC shall page in the indicated cell. Alternatively, if the message contains the *URA-Id* IE, the CRNC shall page in all cells that it controls in the indicated URA.

If the PAGING REQUEST message includes the *CN Originated Page to Connected Mode UE* IE, the CRNC shall include the information contained in the *CN Originated Page to Connected Mode UE* IE when paging the UE.

The CRNC shall calculate the Paging Occasions from the *IMSI* IE and the *DRX Cycle Length Coefficient* IE according to specification in ref. [15] and apply transmission on PICH and PCH accordingly.

#### 8.2.4.3 Abnormal Conditions

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## 8.3 DCH procedures

### 8.3.1 Radio Link Setup

#### 8.3.1.1 General

This procedure is used for establishing the necessary resources in the DRNS for one or more radio links.

The connection-oriented service of the signalling bearer shall be established in conjunction with this procedure.

### 8.3.1.2 Successful Operation

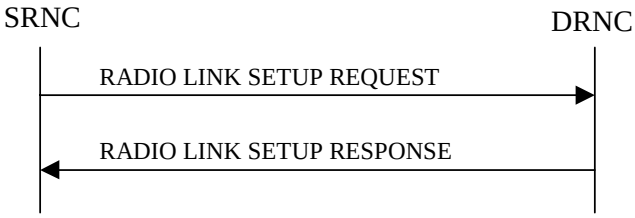


**Figure 5: Radio Link Setup procedure: Successful Operation**

When the SRNC makes an algorithmic decision to add the first cell or set of cells from a DRNS to the active set of a specific UE-UTRAN connection, the RADIO LINK SETUP REQUEST message is sent to the corresponding DRNC to request establishment of the radio link(s).

If no *D-RNTI* IE was included in the RADIO LINK SETUP REQUEST message, the DRNC shall assign a new D-RNTI for this UE.

[FDD - The *First RLS Indicator* IE indicates if the concerning RL shall be considered part of the first RLS established towards this UE. The *First RLS Indicator* IE shall be used by the DRNS to determine the initial TPC pattern in the DL of the concerning RL and all RLs which are part of the same RLS, as described in [10], section 5.1.2.2.1.2.

[FDD - The *Diversity Control Field* IE indicates for each RL except for the first RL whether the DRNS shall combine the RL with any of the other RLs or not on the Iur. If the *Diversity Control Field* IE is set to "May" (be combined with another RL), then the DRNS shall decide for any of the alternatives. If the *Diversity Control Field* IE is set to "Must", the DRNS shall combine the RL with one of the other RL. When an RL is to be combined, the DRNS shall choose which RL(s) to combine it with.]

[FDD - If the *Propagation Delay* IE is included, the DRNS may use this information to speed up the detection of UL synchronisation on the Uu interface.]

If the RADIO LINK SETUP REQUEST message includes the *Allowed Queuing Time* IE the DRNS may queue the request the time corresponding to the value of the *Allowed Queuing Time* IE before starting to execute the request.

[FDD - If both the *Initial DL TX Power* IE and *Uplink SIR Target* IE are included in the message, the DRNS shall use the indicated DL TX Power and Uplink SIR Target as initial value. If the value of the *Initial DL TX Power* IE is outside the configured DL TX power range, the DRNS shall apply these constrains when setting the initial DL TX power. The DRNS shall also include the configured DL TX power range defined by *Maximum DL TX Power* IE and *Minimum DL TX Power* IE in the RADIO LINK SETUP RESPONSE message.]

[FDD - If the *Primary CPICH Ec/No* IE is present, the DRNC should use the indicated value when deciding the Initial DL TX Power.]

[TDD - If the *Primary CCPCH RSCP* IE and/or the [3.84Mcps TDD - *DL Time Slot ISCP Info* IE] and/or the [1.28Mcps TDD - *DL Time Slot ISCP Info LCR* IE] are present, the DRNC should use the indicated values when deciding the Initial DL TX Power.]

[FDD – If the received *Limited Power Increase* IE is set to 'Used', the DRNS shall, if supported, use Limited Power Increase according to ref. [10] subclause 5.2.1 for the inner loop DL power control.]

[FDD – If the received *Inner Loop DL PC Status* IE is set to "Active", the DRNS shall activate the inner loop DL power control for all RLs. If *Inner Loop DL PC Status* IE is set to "Inactive", the DRNS shall deactivate the inner loop DL power control for all RLs according to ref. [10]]

[FDD – The DRNS shall start the DL transmission using the indicated DL TX power level (if received) or the decided DL TX power level on each DL channelisation code of a RL until UL synchronisation is achieved on the Uu interface for the concerning RLS or a DL POWER CONTROL REQUEST message is received. No inner loop power control or power balancing shall be performed during this period. The DL power shall then vary according to the inner loop power control (see ref.[10] subclause 5.2.1.2) and the power control procedure (see 8.3.7).]

[TDD – The DRNS shall start the DL transmission using the decided DL TX power level on each DL channelisation code and on each Time Slot of a RL until UL synchronisation is achieved on the Uu interface for the concerning RL.

No inner loop power control shall be performed during this period. The DL power shall then vary according to the inner loop power control (see ref. [22] subclause 4.2.3.3).]

[FDD - If the *DPC Mode* IE is present in the RADIO LINK SETUP REQUEST message, the DRNC shall apply the DPC mode indicated in the message, and be prepared that the DPC mode may be changed during the life time of the RL. If the *DPC Mode* IE is not present in the RADIO LINK SETUP REQUEST message, DPC mode 0 shall be applied (see ref. [10]).]

[TDD - If the *DCH Information* IE is present in RADIO LINK SETUP REQUEST message, the DRNS shall configure the new DCHs according to the parameters given in the message.]

If the RADIO LINK SETUP REQUEST message includes a *DCH Information* IE with multiple *DCH Specific Info* IEs then the DRNS shall treat the DCHs in the *DCH Information* IE as a set of co-ordinated DCHs.

[FDD - For DCHs which do not belong to a set of co-ordinated DCHs with the *QE-Selector* IE set to "selected", the Transport channel BER from that DCH shall be the base for the QE in the UL data frames. If no Transport channel BER is available for the selected DCH the Physical channel BER shall be used for the QE, ref. [4]. If the QE-Selector is set to "non-selected ", the Physical channel BER shall be used for the QE in the UL data frames, ref. [4].]

For a set of co-ordinated DCHs the Transport channel BER from the DCH with the *QE-Selector* IE set to "selected" shall be used for the QE in the UL data frames, ref. [4]. [FDD - If no Transport channel BER is available for the selected DCH the Physical channel BER shall be used for the QE, ref. [4]. If all DCHs have *QE-Selector* IE set to "non-selected" the Physical channel BER shall be used for the QE, ref. [4].]

The DRNS shall prioritise resource allocation for the RL(s) to be established according to Annex A.

The *Frame Handling Priority* IE defines the priority level that should be used by the DRNS to prioritise between different frames of the data frames of the DCHs in the downlink on the radio interface in congestion situations once the new RL(s) have been activated.

The DRNS shall use the included *UL DCH FP Mode* IE for a DCH or a set of co-ordinated DCHs as the DCH FP Mode in the Uplink of the user plane for the DCH or the set of co-ordinated DCHs.

The DRNS shall use the included *ToAWS* IE for a DCH or a set of co-ordinated DCHs as the Time of Arrival Window Start Point in the user plane for the DCH or the set of co-ordinated DCHs.

The DRNS shall use the included *ToAWE* IE for a DCH or a set of co-ordinated DCHs as the Time of Arrival Window End Point in the user plane for the DCH or the set of co-ordinated DCHs.

If the *DCH Specific Info* IE in the *DCH Information* IE includes the *Guaranteed Rate Information* IE, the DRNS shall treat the included IEs according to the following:

- If the *Guaranteed Rate Information* IE includes the *Guaranteed UL Rate* IE, the DRNS may decide to request the SRNC to limit the user rate of the uplink of the DCH at any point in time. If the *DCH Specific Info* IE in the *DCH Information* IE does not include the *Guaranteed UL Rate* IE the DRNS shall regard the maximum rate as the guaranteed rate in the uplink of this DCH.

- If the *Guaranteed Rate Information* IE includes the *Guaranteed DL Rate* IE, the DRNS may decide to request the SRNC to limit the user rate of the downlink of the DCH at any point in time. If the *DCH Specific Info* IE in the *DCH Information* IE does not include the *Guaranteed DL Rate* IE the DRNS shall regard the maximum rate as the guaranteed rate in the downlink of this DCH.

[FDD - If the RADIO LINK SETUP REQUEST message includes the *SSDT Cell Identity* IE, the DRNS shall activate SSDT, if supported, using the *SSDT Cell Identity* IE and *SSDT Cell Identity Length* IE.]

[FDD - If the RADIO LINK SETUP REQUEST message includes the *SSDT Cell Identity for EDSCHPC* IE, the DRNS shall activate enhanced DSCH power control, if supported, using the *SSDT Cell Identity for EDSCHPC* IE and *SSDT Cell Identity Length* IE as well as *Enhanced DSCH PC* IE. If the RADIO LINK SETUP REQUEST message includes both *SSDT Cell Identity* IE and *SSDT Cell Identity for EDSCHPC* IE, then DRNS shall ignore the *SSDT Cell Identity for EDSCHPC* IE.]

[FDD - If the RADIO LINK SETUP REQUEST message includes the *Transmission Gap Pattern Sequence Information* IE, the DRNS shall store the information about the Transmission Gap Pattern Sequences to be used in the

Compressed Mode Configuration. This Compressed Mode Configuration shall be valid in the DRNS until the next Compressed Mode Configuration is configured in the DRNS or last Radio Link is deleted.]

[FDD - If the RADIO LINK SETUP REQUEST message includes the *Transmission Gap Pattern Sequence Information* IE and the *Active Pattern Sequence Information* IE, the DRNS shall immediately activate the indicated Transmission Gap Pattern Sequences: for each sequence the *TGCFN* refers to latest passed CFN with that value.]

[TDD – The DRNS shall use the list of RB Identities in the *RB Info* IE in the *USCH information* IE to map each *RB Identity* IE to the corresponding USCH.]

At the reception of the RADIO LINK SETUP REQUEST message, DRNS allocates requested type of channelisation codes and other physical channel resources for each RL and assigns a binding identifier and a transport layer address for each DCH or set of co-ordinated DCHs and for each DSCH [TDD – and USCH]. This information shall be sent to the SRNC in the message RADIO LINK SETUP RESPONSE when all the RLs have been successfully established.

If the *DSCH Information* IE is included in the RADIO LINK SETUP REQUEST message, the DRNC shall establish the requested DSCHs [FDD - on the RL indicated by the PDSCH RL ID IE]. In addition, the DRNC shall send a valid set of *DSCH Scheduling Priority* IE and *MAC-c/sh SDU Length* IE parameters to the SRNC in the message RADIO LINK SETUP RESPONSE message.

[FDD - If both the *Initial DL TX Power* and the *Uplink SIR Target* IEs are not included in the RADIO LINK SETUP REQUEST message, then DRNC shall determine the initial Uplink SIR Target and include it in the *Uplink SIR Target* IE in the RADIO LINK SETUP RESPONSE message.]

[FDD – When more than one DL DPDCH are assigned per RL, the segmented physical channel shall be mapped on to DL DPDCHs according to [8]. When *p* number of DL DPDCHs are assigned to each RL, the first pair of DL Scrambling Code and FDD DL Channelisation Code Number corresponds to "*PhCH number 1*", the second to "*PhCH number 2"*, and so on until the *p*th to "*PhCH number p*".]

[FDD – For each RL not having a common generation of the TPC commands in the DL with another RL, the DRNS shall assign the *RL Set ID* IE included in the RADIO LINK SETUP RESPONSE message a value that uniquely identifies the RL Set within the UE Context.]

[FDD – For all RLs having a common generation of the TPC commands in the DL with another RL, the DRNS shall assign the *RL Set ID* IE included in the RADIO LINK SETUP RESPONSE message the same value. This value shall uniquely identify the RL Set within the UE context.]

[FDD - In the case of combining one or more RLs the DRNC shall indicate in the RADIO LINK SETUP RESPONSE message with the *Diversity Indication* IE that the RL is combined with another RL RL for all RLs but the first RL. In this case the Reference *RL ID* IE shall be included to indicate with which RL the combination is performed. The Reference *RL ID* IE shall not be included for the first of the combined RLs, for which the *Transport Layer Address* IE and the *Binding ID* IE shall be included.]

[FDD - In the case of not combining an RL with another RL, the DRNC shall indicate in the RADIO LINK SETUP RESPONSE message with the *Diversity Indication* IE that no combining is performed. In this case the DRNC shall include both the *Transport Layer Address* IE and the *Binding ID* IE for the transport bearer to be established for each DCH and DSCH of the RL in the RADIO LINK SETUP RESPONSE message.]

[TDD - The DRNC shall always include in the RADIO LINK SETUP RESPONSE message both the *Transport Layer Address* IE and the *Binding ID* IE for the transport bearer to be established for each DCH, DSCH and USCH of the RL.]

In case of a set of co-ordinated DCHs requiring a new transport bearer on Iur the *Binding ID* IE and the *Transport Layer Address* IE shall be included only for one of the DCHs in the set of co-ordinated DCHs.

If the DRNS need to limit the user rate in the uplink of a DCH already when starting to utilise a new Radio Link, the DRNC shall include the *Allowed UL Rate* IE of the *Allowed Rate Information* IE in the *DCH Information Response* IE for this DCH in the RADIO LINK SETUP RESPONSE message for this Radio Link.

If the DRNS need to limit the user rate in the downlink of a DCH already when starting to utilise a new Radio Link, the DRNC shall include the *Allowed DL Rate* IE of the *Allowed Rate Information* IE in the *DCH Information Response* IE for this DCH in the RADIO LINK SETUP RESPONSE message for this Radio Link.

[FDD – If the cell in which the RL is being set up is capable to provide Close loop Tx diversity, the DRNC shall include the *Closed Loop Timing Adjustment Mode* IE in the RADIO LINK SETUP RESPONSE message indicating the configured Closed loop timing adjustment mode of the cell.]

For any cell neighbouring a cell in which a RL was established, the DRNS shall also provide the SRNC with the UTRAN Cell Identifier (UC-Id), the Frequency Number, the [FDD - Primary Scrambling Code], the [TDD - Cell Parameter ID, [3.84Mcps TDD - the Sync Case, the SCH Time Slot information], the Block STTD Indicator] and the node identification of the CN nodes connected to the RNC controlling the neighbouring cell if the UMTS neighbouring cell is not controlled by the DRNC. In addition, if the information is available, the DRNC shall also provide the [FDD - CPICH Power level, cell individual offset]/[TDD - PCCPCH Power level, DPCH Constant Value] and Frame Offset of the UMTS neighbouring cell.

If a UMTS neighbouring cell is controlled by another RNC, the DRNC shall report also the node identifications (i.e. RNC and CN domain nodes) of the RNC controlling the UMTS neighbouring cell. [FDD – If the information is available, the DRNC shall include the *Tx Diversity Indicator* IE and Tx diversity capability (i.e. *STTD Support Indicator* IE, *Closed Loop Mode1 Support Indicator* IE, and *Closed Loop Mode2 Support Indicator* IE) in the *Neighbouring FDD Cell Information* IE].

If there are GSM neighbouring cells to the cell(s) where a radio link is established, the DRNC shall include the *Neighbouring GSM Cell Information* IE in the RADIO LINK SETUP RESPONSE message for each of the GSM neighbouring cells. If available the DRNC shall include the *GSM Output Power* IE in the *Neighbouring GSM Cell Information* IE.

If no *D-RNTI* IE was included in the RADIO LINK SETUP REQUEST message, the DRNC shall include the node identifications of the CN Domain nodes that the RNC is connected to (using LAC and RAC of the current cell), and the *D-RNTI* IE in the RADIO LINK SETUP RESPONSE message.

[FDD - If the *D-RNTI* IE was included the RADIO LINK SETUP REQUEST message the DRNC shall include the *Primary Scrambling Code* IE, the *UL UARFCN* IE, the *DL UARFCN* IE, and the *Primary CPICH Power* IE in the RADIO LINK SETUP RESPONSE message.]

[TDD – If the *D-RNTI* IE was included in the RADIO LINK SETUP REQUEST message the DRNC shall include the *UARFCN* IE, the *Cell Parameter ID* IE, the *Sync Case* IE, the *SCH Time Slot* IE, the *Block STTD Indicator* IE, and the *PCCPCH Power* IE in the RADIO LINK SETUP RESPONSE message.]

[FDD - If the *DRAC Control* IE is set to "requested" in the RADIO LINK SETUP REQUEST message for at least one DCH and if the DRNS supports the DRAC, the DRNC shall indicate in the RADIO LINK SETUP RESPONSE message the *Secondary CCPCH Info* IE for the FACH where the DRAC information is sent, for each Radio Link established in a cell where DRAC is active. If the DRNS does not support DRAC, the DRNC shall not provide these IEs in the RADIO LINK SETUP RESPONSE message.]

[TDD - The DRNC shall include the *Secondary CCPCH Info TDD* IE in the RADIO LINK SETUP RESPONSE message if at least one *DSCH Information Response* IE or *USCH Information Response* IE is included in the message and at least one DCH is configured for the radio link. The DRNC shall also include the *Secondary CCPCH Info TDD* IE in the RADIO LINK SETUP RESPONSE message if at least one *DSCH Information Response* IE or *USCH Information Response* IE is included in the message and the SHCCH messages for this radio link will be transmitted over a different secondary CCPCH than selected by the UE from system information.]

Depending on local configuration in the DRNS, it may include the geographical co-ordinates of the cell, represented either by the *Cell GAI* IE or by the *Cell GA Additional Shapes* IE and the UTRAN access point position for each of the established RLs in the RADIO LINK SETUP RESPONSE message.

After sending of the RADIO LINK SETUP RESPONSE message the DRNS shall continuously attempt to obtain UL synchronisation on the Uu interface and start reception on the new RL. [FDD - The DRNS shall start DL transmission on the new RL after synchronisation is achieved in the DL user plane as specified in ref. [4].] [TDD – The DRNS shall start transmission on the new RL immediately as specified in ref. [4].]

[FDD – When *Diversity Mode* IE is "STTD", "Closed loop mode1", or "Closed loop mode2", the DRNC shall activate/deactivate the Transmit Diversity to each Radio Link in accordance with *Transmit Diversity Indicator* IE].

[FDD- If the *Downlink Compressed Mode Method* IE in one or more Transmission Gap Pattern Sequence is set to 'SF/2' in the RADIO LINK SETUP REQUEST message, the DRNS shall include the *Transmission Gap Pattern Sequence Scrambling Code Information* IE in the RADIO LINK SETUP RESPONSE message indicating for each DL Channelisation Code whether the alternative scrambling code shall be used or not.]

[FDD –The UL Uu synchronisation detection algorithm defined in ref. [10] subclause 4.3 shall for each of the established RL Set(s) use the maximum value of the parameters N_OUTSYNC_IND and T_RLFAILURE, and the minimum value of the parameters N_INSYNC_IND, that are configured in the cells supporting the radio links of the RL Set].

For each Radio Link established in a cell where at least one URA Identity is being broadcast, the DRNC shall include a URA Identity for this cell in the *URA ID* IE, the *Multiple URAs Indicator* IE indicating whether or not multiple URA Identities are being broadcast in the cell, and the RNC Identity of all other RNCs that are having at least one cell within the URA in the cell in the *URA Information* IE in the RADIO LINK SETUP RESPONSE message.

### 8.3.1.3 Unsuccessful Operation

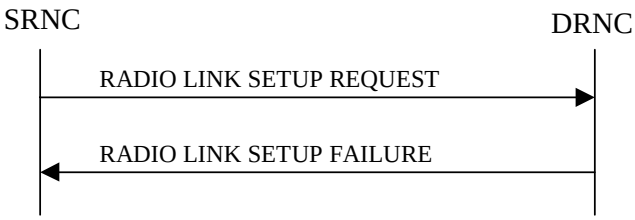


**Figure 6: Radio Link Setup procedure: Unsuccessful Operation**

In unsuccessful case (i.e. one or more RLs can not be established) the RADIO LINK SETUP FAILURE message shall be sent to the SRNC, indicating the reason for failure. If some radio links were established successfully, the DRNC shall indicate this in the RADIO LINK SETUP FAILURE message in the same way as in the RADIO LINK SETUP RESPONSE message.

If more than one DCH of a set of co-ordinated DCHs has the *QE-Selector* IE set to "selected" [TDD – or no DCH of a set of co-ordinated DCHs has the *QE-Selector* IE set to “selected”] the DRNS shall regard the Radio Link Setup procedure as failed and shall respond with a RADIO LINK SETUP FAILURE message.

[FDD - If only the *Initial DL TX Power* IE or the *Uplink SIR Target* IE is included in the RADIO LINK SETUP REQUEST message, then DRNC shall regard the Radio Link Setup procedure as failed and shall respond with the RADIO LINK SETUP FAILURE message.]

Typical cause values are:

**Radio Network Layer Causes:**

- RL Already Activated/Allocated
- [FDD - UL Scrambling Code Already in Use];
- DL Radio Resources not Available;
- UL Radio Resources not Available;
- Unknown C-ID;
- [FDD - Combining Resources not available];
- Combining not Supported
- Requested Configuration not Supported;
- Cell not Available;
- [FDD - Requested Tx Diversity Mode not Supported];
- Power Level not Supported;
- Invalid CM Settings;
- Number of DL codes not supported;

- Number of UL codes not supported;
- Dedicated Transport Channel Type not Supported;
- DL Shared Channel Type not Supported;
- [TDD - UL Shared Channel Type not Supported];
- [FDD - UL Spreading Factor not Supported];
- [FDD - DL Spreading Factor not Supported];
- CM not Supported;
- [FDD – DPC mode change not Supported].

**Transport Layer Causes:**

- Transport Resource Unavailable.

**Miscellaneous Causes:**

- Control Processing Overload;
- HW Failure;
- Not enough User Plane Processing Resources.

#### 8.3.1.4 Abnormal Conditions

If the DRNC receives either an S-RNTI or a D-RNTI which already has RL(s) established the DRNC shall send the RADIO LINK SETUP FAILURE message to the SRNC, indicating the reason for failure.

### 8.3.2 Radio Link Addition

#### 8.3.2.1 General

This procedure is used for establishing the necessary resources in the DRNS for one or more additional RLs towards a UE when there is already at least one RL established to the concerning UE via this DRNS.

This procedure shall use the signalling bearer connection for the relevant UE context.

The Radio Link Addition procedure shall not be initiated if a Prepared Reconfiguration exists, as defined in subclause 3.1.

[FDD – The Radio Link Addition procedure serves to establish one or more new Radio Links which do not contain the DSCH. If the DSCH shall be moved into a new Radio Link, the Radio Link reconfiguration procedure shall be applied.]

[TDD – The Radio Link Addition procedure serves to establish a new Radio Link with the DSCH and USCH included, if they existed before.]

#### 8.3.2.2 Successful Operation

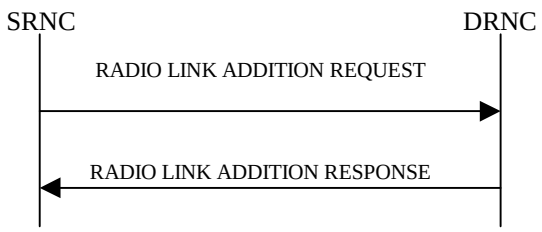


**Figure 7: Radio Link Addition procedure: Successful Operation**

The procedure is initiated with a RADIO LINK ADDITION REQUEST message sent from the SRNC to the DRNC.

Upon reception, the DRNS shall reserve the necessary resources and configure the new RL(s) according to the parameters given in the message. Unless specified below, the meaning of parameters is specified in other specifications.

The DRNS shall prioritise resource allocation for the RL(s) to be established according to Annex A.

The *Diversity Control Field* IE indicates for each RL whether the DRNS shall combine the new RL with existing RL(s) or not on the Iur. If the *Diversity Control Field* IE is set to "May" (be combined with another RL), then the DRNS shall decide for any of the alternatives. If the *Diversity Control Field* IE is set to "Must", the DRNS shall combine the RL with one of the other RL. When a new RL is to be combined the DRNS shall choose which RL(s) to combine it with.

[FDD - If the *Primary CPICH Ec/No* IE measured by the UE is included in the RADIO LINK ADDITION REQUEST message, the DRNS shall use this in the calculation of the Initial DL TX Power. If the *Primary CPICH Ec/No* IE is not present, the DRNS sets the Initial DL TX Power accordingly to the power used by the existing RLs.]

[TDD - If the *Primary CCPCH RSCP* IE and/or the [3.84Mcps TDD - *DL Time Slot ISCP Info* IE] and/or the [1.28Mcps TDD - *DL Time Slot ISCP Info LCR* IE] are included in the RADIO LINK ADDITION REQUEST message, the DRNS shall use them in the calculation of the Initial DL TX Power. If the *Primary CCPCH RSCP* IE and [3.84Mcps TDD - *DL Time Slot ISCP Info* IE] and [1.28Mcps TDD - *DL Time Slot ISCP Info LCR* IE] are not present, the DRNS sets the Initial DL TX Power accordingly to the power used by the existing RLs.]

[FDD - The Initial DL TX Power shall be applied until UL synchronisation is achieved on the Uu interface for that RLS or a DL POWER CONTROL REQUEST message is received. No inner loop power control or power balancing shall be performed during this period. The DL power shall then vary according to the inner loop power control (see ref. [10] subclause 5.2.1.2) and the power control procedure (see 8.3.7)].

[TDD – The Initial DL TX Power shall be applied until UL synchronisation is achieved on the Uu interface for that RL. No innerloop power control shall be performed during this period. The DL power shall then vary according to the inner loop power control (see ref. [22] subclause 4.2.3.3).].

[FDD - If the *DPC Mode* IE is present in the RADIO LINK ADDITION REQUEST message, the DRNC shall apply the DPC mode indicated in the message, and be prepared that the DPC mode may be changed during the life time of the RL. If the *DPC Mode* IE is not present in the RADIO LINK ADDITION REQUEST message, DPC mode 0 shall be applied (see ref. [10]).]

[FDD - The DRNS shall use the provided Uplink SIR Target value as the current target for the inner-loop power control.]

[FDD - If the RADIO LINK ADDITION REQUEST message contains an *SSDT Cell Identity* IE, SSDT shall, if supported, be activated for the concerned new RL, with the indicated SSDT Cell Identity used for that RL.]

The DRNS shall activate any feedback mode diversity according to the received settings.

[FDD - If the RADIO LINK ADDITION REQUEST message includes the *Active Pattern Sequence Information* IE, the DRNS shall use the information to immediately activate all ongoing Transmission Gap Pattern Sequence(s) also in the new RL. For each sequence the *TGCFN* refers to latest passed CFN with that value. If *Active Pattern Sequence Information* IE is not included, the DRNS shall not activate the on going compressed mode pattern in the new RLs, but the on going pattern in the existing RL shall be maintained.]

If all requested RLs are successfully added, the DRNC shall respond with a RADIO LINK ADDITION RESPONSE message.

[FDD – When more than one DL DPDCH are assigned per RL, the segmented physical channel shall be mapped on to DL DPDCHs according to [8]. When *p* number of DL DPDCHs are assigned to each RL, the first pair of DL Scrambling Code and FDD DL Channelisation Code Number corresponds to "*PhCH number 1*", the second to "*PhCH number 2*", and so on until the *p*th to "*PhCH number p*".]

[FDD – For each RL not having a common generation of the TPC commands in the DL with another RL, the DRNS shall assign the *RL Set ID* IE included in the RADIO LINK ADDITION RESPONSE message a value that uniquely identifies the RL Set within the UE context.]

[FDD – For all RLs having a common generation of the TPC commands in the DL with another new or existing RL, the DRNS shall assign the *RL Set ID* IE included in the RADIO LINK ADDITION RESPONSE message the same value. This value shall uniquely identify the RL Set within the UE context.]

In the case of combining an RL with existing RL(s) the DRNC shall indicate in the RADIO LINK ADDITION RESPONSE message with the *Diversity Indication* IE that the RL is combined. In this case the Reference RL ID shall be included to indicate one of the existing RLs that the new RL is combined with.

[FDD - In the case of combining one or more RLs being established by this procedure, the DRNC shall indicate in the RADIO LINK ADDITION RESPONSE message with the *Diversity Indication* IE that the RL is combined with another RL for all RLs but the first RL. In this case the Reference RL ID shall be included to indicate one of the other RLs being established by this procedure that the new RL is combined with. The Reference *RL ID* IE shall not be included for the first of the combined RLs, for which the *Transport Layer Address* IE and the *Binding ID* IE shall be included.]

In the case of not combining an RL with existing RL(s), the DRNC shall indicate in the RADIO LINK ADDITION RESPONSE message with the *Diversity Indication* IE that no combining is done. In this case the DRNC shall include both the *Transport Layer Address* IE and the *Binding ID* IE for the transport bearer to be established for each DCH, [TDD – and DSCH, USCH] of the RL in the RADIO LINK ADDITION RESPONSE message.

In case of a set of co-ordinated DCHs, the *Binding ID* IE and the *Transport Layer Address* IE shall be included for only one of the DCHs in the set of co-ordinated DCHs.

If the DRNS need to limit the user rate in the uplink of a DCH already when starting to utilise a new Radio Link, the DRNC shall include the *Allowed UL Rate* IE of the *Allowed Rate Information* IE in the *DCH Information Response* IE for this DCH in the RADIO LINK ADDITION RESPONSE message for this Radio Link.

If the DRNS need to limit the user rate in the downlink of a DCH already when starting to utilise a new Radio Link, the DRNC shall include the *Allowed DL Rate* IE of the *Allowed Rate Information* IE in the *DCH Information Response* IE for this DCH in the RADIO LINK ADDITION RESPONSE message for this Radio Link.

[TDD - If the radio link to be added includes a DSCH, the DRNC shall send a set of valid *DSCH Scheduling Priority* IE and *MAC-c/sh SDU Length* IE parameters to the SRNC in the message RADIO LINK ADDITION RESPONSE message.]

[FDD – If the cell in which the RL is being added is capable to provide Close loop Tx diversity, the DRNC shall include the *Closed Loop Timing Adjustment Mode* IE in the RADIO LINK ADDITION RESPONSE message indicating the Closed loop timing adjustment mode of the cell.]

For any UMTS cell neighbouring a cell in which a RL was added, the DRNC shall provide in the RADIO LINK ADDITION RESPONSE message the UTRAN Cell Identifier (UC-Id), the Frequency Number, the [FDD - Primary Scrambling Code], the [TDD – Cell Parameter Id, [3.84Mcps TDD - the Sync Case, the SCH Time slot information], the Block STTD Indicator] and the node identification of CN nodes connected to the RNC controlling the UMTS neighbouring cell if the UMTS neighbouring cell is not controlled by the DRNC. In addition, if the information is available, the DRNC shall also provide the [FDD- *Primary CPICH Power* IE, *Cell Individual Offset* IE]/[TDD - *PCCPCH Power* IE, *DPCH Constant Value* IE], *Frame Offset* IE, [FDD – *Tx Diversity Indicator* IE, and Tx diversity capability, i.e. *STTD Support Indicator* IE, *Closed Loop Mode1 Support Indicator* IE, and *Closed Loop Mode2 Support Indicator* IE] of the UMTS neighbouring cell.

If there are GSM neighbouring cells to the cell(s) where a radio link is established, the DRNC shall include the *Neighbouring GSM Cell Information* IE in the RADIO LINK ADDITION RESPONSE message for each of the GSM neighbouring cells. If available the DRNC shall include the *GSM Output Power* IE in the *Neighbouring GSM Cell Information* IE.

The DRNC shall also provide the configured UL Maximum SIR and UL Minimum SIR for every new RL to the SRNC in the RADIO LINK ADDITION RESPONSE message. These values are taken into consideration by DRNS admission control and shall be used by the SRNC as limits for the UL inner-loop power control target.

The DRNC shall provide the configured *Maximum DL TX Power* IE and *Minimum DL TX Power* IE for every new RL to the SRNC in the RADIO LINK ADDITION RESPONSE message.

The DRNC shall also provide the selected scrambling and channelisation codes of the new RLs in order to enable the SRNC to inform the UE about the selected codes.

[FDD - If some Transmission Gap Pattern sequences using SF/2 method are initialised in the DRNS, DRNS shall include the *Transmission Gap Pattern Sequence Scrambling Code Information IE* in the RADIO LINK ADDITION RESPONSE message to indicate the Scrambling code change method that it selects for each channelisation code]

Depending on local configuration in the DRNS, it may include the geographical co-ordinates of the cell, represented either by the *Cell GAI* IE or by the *Cell GA Additional Shapes* IE, and the UTRAN access point position for each of the added RLs in the RADIO LINK ADDITION RESPONSE message.

After sending of the RADIO LINK ADDITION RESPONSE message the DRNS shall continuously attempt to obtain UL synchronisation on the Uu interface and start reception on the new RL. [FDD - The DRNS shall start DL transmission on the new RL after synchronisation is achieved in the DL user plane as specified in ref. [4].] [TDD – The DRNS shall start transmission on the new RL immediately as specified in ref. [4].]

[TDD - The DRNC shall include the *Secondary CCPCH Info TDD* IE in the RADIO LINK ADDITION RESPONSE message if at least one *DSCH Information Response* IE or *USCH Information Response* IE is included in the message and at least one DCH is configured for the radio link. The DRNC shall also include the *Secondary CCPCH Info TDD* IE in the RADIO LINK ADDITION RESPONSE message if at least one *DSCH Information Response* IE or *USCH Information Response* IE is included in the message and the SHCCH messages for this radio link will be transmitted over a different secondary CCPCH than selected by the UE from system information.]

[FDD - If the UE has been allocated one or several DCH controlled by DRAC and if the DRNS supports the DRAC, the DRNC shall indicate in the RADIO LINK ADDITION RESPONSE message the *Secondary CCPCH Info* IE for the FACH where the DRAC information is sent, for each Radio Link established in a cell where DRAC is active. If the DRNS does not support DRAC, the DRNC shall not provide these IEs in the RADIO LINK ADDITION RESPONSE message.]

[FDD – When *Transmit Diversity Indicator* IE is present the DRNS shall activate/deactivate the Transmit Diversity to each new Radio Link in accordance with the *Transmit Diversity Indicator* IE using the diversity mode of the existing Radio Link(s).]

[FDD – After addition of the new RL(s), the UL Uu synchronisation detection algorithm defined in ref. [10] subclause 4.3 shall for each of the previously existing and newly established RL Set(s) use the maximum value of the parameters N_OUTSYNC_IND and T_RLFAILURE, and the minimum value of the parameters N_INSYNC_IND, that are configured in the cells supporting the radio links of the RL Set].

For each Radio Link established in a cell where at least one URA Identity is being broadcast, the DRNC shall include a URA Identity for this cell in the *URA ID* IE, the *Multiple URAs Indicator* IE indicating whether or not multiple URA Identities are being broadcast in the cell, and the RNC Identity of all other RNCs that are having at least one cell within the URA in the cell in the *URA Information* IE in the RADIO LINK ADDITION RESPONSE message.

### 8.3.2.3 Unsuccessful Operation

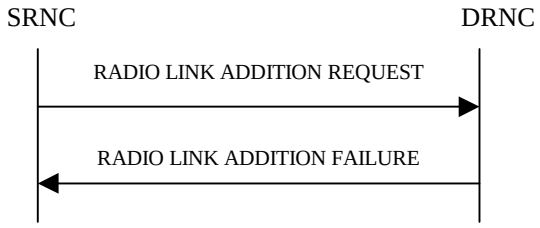


**Figure 8: Radio Link Addition procedure: Unsuccessful Operation**

If the establishment of at least one RL is unsuccessful, the DRNC shall send a RADIO LINK ADDITION FAILURE as response.

If some RL(s) were established successfully, the DRNC shall indicate this in the RADIO LINK ADDITION FAILURE message in the same way as in the RADIO LINK ADDITION RESPONSE message.

[FDD – If the RADIO LINK ADDITION REQUEST message includes the *Active Pattern Sequence Information* IE and the DRNS cannot provide the requested compressed mode or if the *Transmission Gap Pattern Sequence Status* IEs in the *Active Pattern Sequence Information* IE do not address exactly all ongoing compressed mode patterns the DRNS shall regard the Radio Link Addition procedure as failed and shall respond with a RADIO LINK ADDITION FAILURE message with the cause value "Invalid CM settings". ]

[FDD - If the RADIO LINK ADDITION REQUEST is used to establish a new RL without compressed mode when compressed mode is active for the existing RL(s) (as specified in subclause 8.3.2.2), but at least one new RL is to be established in a cell that has the same UARFCN (both UL and DL) as at least one cell with an already existing RL, the

DRNS shall regard the Radio Link Addition procedure as failed and shall respond with a RADIO LINK ADDITION FAILURE message with the cause value "Invalid CM settings".]

Typical cause values are:

**Radio Network Layer Causes:**

- RL Already Activated/Allocated
- DL Radio Resources not Available;
- UL Radio Resources not Available;
- Unknown C-ID;
- Combining Resources not Available;
- Combining not Supported
- Cell not Available;
- [FDD - Requested Tx Diversity Mode not Supported];
- Power Level not Supported;
- Invalid CM Settings;
- CM not Supported;
- Reconfiguration CFN not Elapsed;
- Number of DL Codes not Supported;
- Number of UL codes not Supported;
- [FDD – DPC mode change not Supported].

**Transport Layer Causes:**

- Transport Resource Unavailable.

**Miscellaneous Causes:**

- Control Processing Overload;
- HW Failure;
- Not enough User Plane Processing Resources.

#### 8.3.2.4 Abnormal Conditions

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### 8.3.3 Radio Link Deletion

#### 8.3.3.1 General

The Radio Link Deletion procedure is used to release the resources in a DRNS for one or more established radio links towards a UE.

This procedure shall use the signalling bearer connection for the relevant UE context.

The Radio Link Deletion procedure may be initiated by the SRNC at any time after establishing a Radio Link.

### 8.3.3.2 Successful Operation

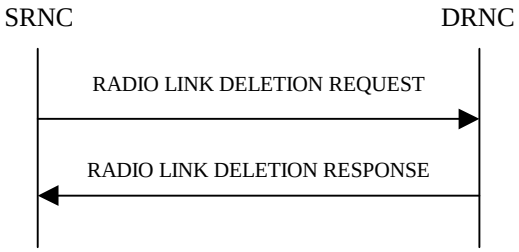


**Figure 9: Radio Link Deletion procedure, Successful Operation**

The procedure is initiated with a RADIO LINK DELETION REQUEST message sent from the SRNC to the DRNC.

Upon receipt of this message, the DRNS shall delete the radio link(s) identified in the message and release all associated resources and respond to the SRNC with a RADIO LINK DELETION RESPONSE message.

If the radio link(s) to be deleted represent the last radio link(s) for the UE in the DRNS then the DRNC shall also release the UE context, unless the UE is using common resources in the DRNS.

[FDD – After deletion of the RL(s), the UL Uu synchronisation detection algorithm defined in ref. [10] subclause 4.3 shall for each of the remaining RL Set(s) use the maximum value of the parameters N_OUTSYNC_IND and T_RLFAILURE, and the minimum value of the parameters N_INSYNC_IND, that are configured in the cells supporting the radio links of the RL Set].

### 8.3.3.3 Unsuccessful Operation

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### 8.3.3.4 Abnormal Conditions

If the RL indicated by the *RL ID* IE does not exist, the DRNC shall respond with the RADIO LINK DELETION RESPONSE message.

## 8.3.4 Synchronised Radio Link Reconfiguration Preparation

### 8.3.4.1 General

The Synchronised Radio Link Reconfiguration Preparation procedure is used to prepare a new configuration of all Radio Links related to one UE-UTRAN connection within a DRNS.

This procedure shall use the signalling bearer connection for the relevant UE context.

The Synchronised Radio Link Reconfiguration Preparation procedure shall not be initiated if a Prepared Reconfiguration exists, as defined in subclause 3.1.

### 8.3.4.2 Successful Operation

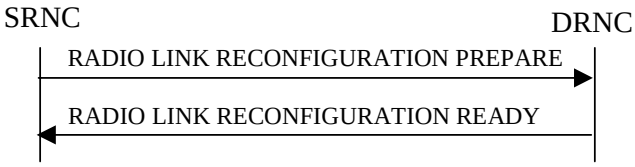


**Figure 10: Synchronised Radio Link Reconfiguration Preparation procedure, Successful Operation**

The Synchronised Radio Link Reconfiguration Preparation procedure is initiated by the SRNC by sending the RADIO LINK RECONFIGURATION PREPARE message to the DRNC.

Upon reception, the DRNS shall reserve necessary resources for the new configuration of the Radio Link(s) according to the parameters given in the message. Unless specified below, the meaning of parameters is specified in other specifications.

If the RADIO LINK RECONFIGURATION PREPARE message includes the *Allowed Queuing Time* IE the DRNS may queue the request the time corresponding to the value of the *Allowed Queuing Time* IE before starting to execute the request.

The DRNS shall prioritise resource allocation for the RL(s) to be modified according to Annex A.

**DCH Modification:**

If the RADIO LINK RECONFIGURATION PREPARE message includes any *DCHs to Modify* IEs then the DRNS shall treat them each as follows:

- If the *DCHs to Modify IE* includes multiple *DCH Specific Info* IEs then the DRNS shall treat the DCHs in the *DCHs to Modify* IE as a set of co-ordinated DCHs. The DRNS shall include these DCHs in the new configuration only if it can include all of them in the new configuration.

- If the *DCHs to Modify IE* includes the *UL FP Mode* IE for a DCH or a set of co-ordinated DCHs to be modified, the DRNS shall apply the new FP Mode in the Uplink of the user plane for the DCH or the set of co-ordinated DCHs in the new configuration.

- If the *DCHs to Modify IE* includes the *ToAWS* IE for a DCH or a set of co-ordinated DCHs to be modified, the DRNS shall apply the new ToAWS in the user plane for the DCH or the set of co-ordinated DCHs in the new configuration.

- If the *DCHs to Modify IE* includes the *ToAWE* IE for a DCH or a set of co-ordinated DCHs to be modified, the DRNS shall apply the new ToAWE in the user plane for the DCH or the set of co-ordinated DCHs in the new configuration.

- If the *DCH Specific Info* IE includes the *Frame Handling Priority* IE for a DCH to be modified, the DRNS should store this information for this DCH in the new configuration. The received Frame Handling Priority should be used when prioritising between different frames in the downlink on the radio interface in congestion situations within the DRNS once the new configuration has been activated.

- If the *DCH Specific Info* IE includes the *Transport Format Set* IE for the UL of a DCH to be modified, the DRNS shall apply the new Transport Format Set in the Uplink of this DCH in the new configuration.

- If the *DCH Specific Info* IE includes the *Transport Format Set* IE for the DL of a DCH to be modified, the DRNS shall apply the new Transport Format Set in the Downlink of this DCH in the new configuration.

- [FDD - If, in the *DCH Specific Info* IE, the *DRAC Control* IE is present and set to "requested" for at least one DCH and if the DRNS supports the DRAC, the DRNC shall indicate in the RADIO LINK RECONFIGURATION READY message the *Secondary CCPCH Info* IE for the FACH where the DRAC information is sent, for each Radio Link established in a cell where DRAC is active. If the DRNS does not support DRAC, DRNC shall not provide these IEs in the RADIO LINK RECONFIGURATION READY message.]

- [TDD - If the *DCH Specific Info* IE includes the *CCTrCH ID* IE for the UL, the DRNS shall map the DCH onto the referenced UL CCTrCH.]

- [TDD - If the *DCH Specific Info* IE includes the *CCTrCH ID* IE for the DL, the DRNS shall map the DCH onto the referenced DL CCTrCH.]

- If the *DCH Specific Info* IE includes the *Guaranteed Rate Information* IE, the DRNS shall treat the included IEs according to the following:

- If the *Guaranteed Rate Information* IE includes the *Guaranteed UL Rate* IE, the DRNS shall apply the new Guaranteed Rate in the uplink of this DCH in the new configuration. The DRNS may decide to request the SRNC to limit the user rate in the uplink of the DCH at any point in time after activating the new configuration.

- If the *Guaranteed Rate Information* IE includes the *Guaranteed DL Rate* IE, the DRNS shall apply the new Guaranteed Rate in the downlink of this DCH in the new configuration. The DRNS may decide to request the SRNC to limit the user rate in the downlink of the DCH at any point in time after activating the new configuration.

**DCH Addition:**

If the RADIO LINK RECONFIGURATION PREPARE message includes any *DCHs to Add* IEs then the DRNS shall treat them each as follows:

- The DRNS shall reserve necessary resources for the new configuration of the Radio Link(s) according to the parameters given in the message and include these DCH in the new configuration.

- If the *DCHs to Add* IE includes a *DCHs to Add* IE with multiple *DCH Specific Info* IEs then the DRNS shall treat the DCHs in the *DCHs to Add* IE as a set of co-ordinated DCHs. The DRNS shall include these DCHs in the new configuration only if it can include all of them in the new configuration.

- [FDD - For DCHs which do not belong to a set of co-ordinated DCHs with the *QE-Selector* IE set to "selected", the Transport channel BER from that DCH shall be the base for the QE in the UL data frames. If no Transport channel BER is available for the selected DCH the Physical channel BER shall be used for the QE, ref. [4]. If the QE-Selector is set to "non-selected", the Physical channel BER shall be used for the QE in the UL data frames, ref. [4].]

- [FDD - For a set of co-ordinated DCHs the Transport channel BER from the DCH with the *QE-Selector* IE set to "selected" shall be used for the QE in the UL data frames, ref. [4]. [FDD - If no Transport channel BER is available for the selected DCH the Physical channel BER shall be used for the QE, ref. [4]. If all DCHs have *QE-Selector* IE set to "non-selected" the Physical channel BER shall be used for the QE, ref. [4].]

- The DRNS should store the *Frame Handling Priority* IE received for a DCH to be added in the new configuration. The received Frame Handling Priority should be used when prioritising between different frames in the downlink on the radio interface in congestion situations within the DRNS once the new configuration has been activated.

- The DRNS shall use the included *UL FP Mode* IE for a DCH or a set of co-ordinated DCHs to be added as the new FP Mode in the Uplink of the user plane for the DCH or the set of co-ordinated DCHs in the new configuration.

- The DRNS shall use the included *ToAWS* IE for a DCH or a set of co-ordinated DCHs to be added as the new Time of Arrival Window Start Point in the user plane for the DCH or the set of co-ordinated DCHs in the new configuration.

- The DRNS shall use the included *ToAWE* IE for a DCH or a set of co-ordinated DCHs to be added as the new Time of Arrival Window End Point in the user plane for the DCH or the set of co-ordinated DCHs in the new configuration.

- [TDD - The DRNC shall include the *Secondary CCPCH Info TDD* IE in the RADIO LINK RECONFIGURATION READY message if at least one DSCH or USCH exists in the new configuration.]

- [FDD - If the *DRAC Control* IE is set to "requested" in the *DCH Specific Info* IE for at least one DCH and if the DRNS supports the DRAC, the DRNC shall indicate in the RADIO LINK RECONFIGURATION READY message the *Secondary CCPCH Info* IE for the FACH where the DRAC information is sent, for each Radio

Link supported by a cell where DRAC is active. If the DRNS does not support DRAC, the DRNC shall not provide these IEs in the RADIO LINK RECONFIGURATION READY message.]

- If the *DCH Specific Info* IE includes the *Guaranteed Rate Information* IE, the DRNS shall treat the included IEs according to the following:

  - If the *Guaranteed Rate Information* IE includes the *Guaranteed UL Rate* IE, the DRNS shall apply the new Guaranteed Rate in the uplink of this DCH in the new configuration. The DRNS may decide to request the SRNC to limit the user rate of the uplink of the DCH at any point in time after activating the new configuration. If the *DCH Specific Info* IE in the *DCH Information* IE does not include the *Guaranteed UL Rate* IE the DRNS shall regard the maximum rate as the guaranteed rate in the uplink of this DCH.

- If the *Guaranteed Rate Information* IE includes the *Guaranteed DL Rate* IE, the DRNS shall apply the new Guaranteed Rate in the downlink of this DCH in the new configuration. The DRNS may decide to request the SRNC to limit the user rate of the downlink of the DCH at any point in time after activating the new configuration. If the *DCH Specific Info* IE in the *DCH Information* IE does not include the *Guaranteed DL Rate* IE the DRNS shall regard the maximum rate as the guaranteed rate in the downlink of this.

**DCH Deletion:**

If the RADIO LINK RECONFIGURATION PREPARE message includes any *DCH to Delete*, the DRNS shall not include the referenced DCHs in the new configuration.

If all of the DCHs belonging to a set of co-ordinated DCHs are requested to be deleted, the DRNS shall not include this set of co-ordinated DCHs in the new configuration.

**Physical Channel Modification:**

[FDD - If the RADIO LINK RECONFIGURATION PREPARE message includes an *UL DPCH Information* IE then the DRNS shall apply the parameters to the new configuration as follows: ]

- [FDD - If the *UL DPCH Information* IE includes the *Uplink Scrambling Code* IE, the DRNS shall apply this Uplink Scrambling Code to the new configuration.]

- [FDD - If the *UL DPCH Information* IE includes the *Min UL Channelisation Code Length* IE, the DRNS shall apply the new Min UL Channelisation Code Length in the new configuration. The DRNS shall apply the contents of the *Max Number of UL DPDCHs* IE (if it is included) in the new configuration.]

- [FDD - If the *UL DPCH Information* IE includes the *TFCS* IE, the DRNS shall use the *TFCS* IE for the UL when reserving resources for the uplink of the new configuration. The DRNS shall apply the new TFCS in the Uplink of the new configuration.]

- [FDD - If the *UL DPCH Information* IE includes the *UL DPCCH Slot Format* IE, the DRNS shall apply the new Uplink DPCCH *Slot Format* to the new configuration.]

- [FDD – If the *UL DPCH Information* IE includes the *UL SIR Target* IE, the DRNS shall set the UL inner loop power control to the UL SIR target when the new configuration is being used.]

- [FDD – If the *UL DPCH Information* IE includes the *Puncture Limit* IE, the DRNS shall apply the value in the uplink of the new configuration.]

- [FDD - If the *UL DPCH Information* IE includes the *Diversity Mode* IE, the DRNS shall apply diversity according to the given value.]

- [FDD – If the *UL DPCH Information* IE includes an *SSDT Cell Identity Length* IE and/or an *S-Field Length* IE, the DRNS shall apply the values in the new configuration.]

[FDD - If the RADIO LINK RECONFIGURATION PREPARE message includes a *DL DPCH Information* IE then the DRNS shall apply the parameters to the new configuration as follows:]

- [FDD - If the *DL DPCH Information* IE includes *Number of DL Channelisation Codes IE*, the DRNS shall allocate given number of Downlink Channelisation Codes per Radio Link and apply the new Downlink Channelisation Code(s) to the new configuration. Each Downlink Channelisation Code allocated for the new configuration shall be included as a FDD DL Channelisation Code Number IE in the RADIO LINK RECONFIGURATION READY message when sent to the SRNC. If some Transmission Gap Pattern sequences using 'SF/2' method are already initialised in the DRNS, DRNC shall include the *Transmission Gap Pattern Sequence Scrambling Code Information IE* in the RADIO LINK RECONFIGURATION READY message in case the DRNS selects to change the Scrambling code change method for one or more DL Channelisation Code.]

- [FDD – When more than one DL DPDCH are assigned per RL, the segmented physical channel shall be mapped on to DL DPDCHs according to [8]. When *p* number of DL DPDCHs are assigned to each RL, the first pair of DL Scrambling Code and FDD DL Channelisation Code Number corresponds to "*PhCH number 1*", the second to "*PhCH number 2"*, and so on until the *p*th to "*PhCH number p*".]

- [FDD - If the *DL DPCH Information* IE includes the *TFCS* IE, the DRNS shall use the *TFCS* IE for the DL when reserving resources for the downlink of the new configuration. The DRNS shall apply the new TFCS in the Downlink of the new configuration.]

- [FDD – If the *DL DPCH Information* IE includes the *DL DPCH Slot Format* IE, the DRNS shall apply the new slot format used in DPCH in DL.]

- [FDD – If the *DL DPCH Information* IE includes the *TFCI Signalling Mode* IE, the DRNS shall apply the new signalling mode of the TFCI.]

- [FDD – If the *DL DPCH Information* IE includes the *Multiplexing Position* IE, the DRNS shall apply the new parameter to define whether fixed or flexible positions of transport channels shall be used in the physical channel.]

- [FDD – If the *DL DPCH Information* IE includes the *Limited Power Increase* IE and the IE is set to 'Used', the DRNS shall, if supported, use Limited Power Increase according to ref. [10] subclause 5.2.1 for the inner loop DL power control in the new configuration.]

- [FDD – If the *DL DPCH Information* IE includes the *Limited Power Increase* IE and the IE is set to 'Not Used', the DRNS shall not use Limited Power Increase for the inner loop DL power control in the new configuration.]

[FDD – If the RADIO LINK RECONFIGURATION PREPARE message includes the *Transmission Gap Pattern Sequence Information* IE, the DRNS shall store the new information about the Transmission Gap Pattern Sequences to be used in the new Compressed Mode Configuration. This new Compressed Mode Configuration shall be valid in the DRNS until the next Compressed Mode Configuration is configured in the DRNS or last Radio Link is deleted.]

[FDD – If the RADIO LINK RECONFIGURATION PREPARE message includes the *Transmission Gap Pattern Sequence Information* IE and the *Downlink Compressed Mode Method* IE in one or more Transmission Gap Pattern Sequence within the *Transmission Gap Pattern Sequence Information* IE is set to 'SF/2', the DRNC shall include the *Transmission Gap Pattern Sequence Scrambling Code Information* IE to the RADIO LINK RECONFIGURATION READY message indicating for each Channelisation Code whether the alternative scrambling code shall be used or not].

**[TDD - UL/DL CCTrCH Modification]**

[TDD - If the RADIO LINK RECONFIGURATION PREPARE message includes any *UL CCTrCH to Modify* IEs or *DL CCTrCH to Modify* IEs, then the DRNS shall treat them each as follows:]

[TDD - If any of the *UL CCTrCH to Modify* IEs or *DL CCTrCH to Modify* IEs includes any of *TFCS* IE, *TFCI coding* IE, *Puncture limit* IE, or *TPC CCTrCH ID* IEs the DRNS shall apply these as the new values, otherwise the old values specified for this CCTrCH are still applicable.]

- [TDD – The DRNC shall include in the RADIO LINK RECONFIGURATION READY message DPCH information to be modified and the IEs modified if any of *Repetition Period* IE, *Repetition Length* IE, *TDD DPCH Offset* IE or timeslot information was modified. The DRNC shall include timeslot information and the IEs modified if any of *[3.84Mcps TDD - Midamble Shift and Burst Type* IE, *Time Slot* IE], [1.28Mcps TDD - *Midamble Shift LCR* IE, *Time Slot LCR* IE], *TFCI Presence* IE or Code information was modified. The DRNC shall include code information if [3.84Mcps TDD - *TDD Channelisation Code* IE] and/or [1.28Mcps TDD - *TDD Channelisation Code LCR* IE] was modified.]

**[TDD – UL/DL CCTrCH Addition]**

[TDD – If the RADIO LINK RECONFIGURATION PREPARE message includes any *UL CCTrCH to Add* IEs or *DL CCTrCH to Add* IEs, the DRNS shall include this CCTrCH in the new configuration.]

[TDD – If the DRNS has reserved the required resources for any requested DPCHs, the DRNC shall include the DPCH information within DPCH to be added in the RADIO LINK RECONFIGURATION READY message. [3.84Mcps TDD - If no DPCH was active before the reconfiguration, and if a valid Rx Timing Deviation measurement is known in DRNC, then the DRNC shall include the *Rx Timing Deviation* IE in the RADIO LINK RECONFIGURATION READY message.]]

**[TDD – UL/DL CCTrCH Deletion]**

[TDD - If the RADIO LINK RECONFIGURATION PREPARE message includes any *UL CCTrCH to Delete* IEs *or DL CCTrCH to Delete* IEs, the DRNS shall remove this CCTrCH in the new configuration.]

**SSDT Activation/Deactivation:**

- [FDD - If the *RL Information* IE includes the *SSDT Indication* IE set to "SSDT Active in the UE", the DRNS shall activate SSDT, if supported, using the *SSDT Cell Identity* IE in *RL Information* IE, and the *SSDT Cell Identity Length* IE in *UL DPCH Information* IE, in the new configuration. If the *RL Information* IE includes both *SSDT Cell Identity* IE and *SSDT Cell Identity for EDSCHPC* IE, then DRNS shall ignore the *SSDT Cell Identity for EDSCHPC* IE.]

- [FDD - If the *RL Information* IE includes the *SSDT Indication* IE set to "SSDT not Active in the UE", the DRNS shall deactivate SSDT in the new configuration.]

**DSCH Addition/Modification/Deletion:**

If the RADIO LINK RECONFIGURATION PREPARE message includes any *DSCH to modify*, *DSCH to add* or *DSCH to delete* IEs, then the DRNS shall use this information to add/modify/delete the indicated DSCH channels to/from the radio link, in the same way as the DCH info is used to add/modify/release DCHs.

If the RADIO LINK RECONFIGURATION PREPARE message includes any *DSCH to Add* IE, then the DRNS shall use the *Allocation/Retention Priority* IE, *Scheduling Priority Indicator* IE and *TrCH Source Statistics Descriptor* IE to define a set of DSCH Priority classes each of which is associated with a set of supported MAC-c/sh SDU lengths.

[FDD - If the *DSCHs to Add* IE includes the *Enhanced DSCH PC* IE, the DRNS shall activate enhanced DSCH power control, if supported, using either:]

- [FDD - the *SSDT Cell Identity for EDSCHPC* IE in the *RL Information* IE, if the *SSDT Cell Identity* IE is not included in the *RL Information* IE or]

- [FDD - the *SSDT Cell Identity* IE in the *RL Information* IE, if both the *SSDT Cell Identity* IE and the *SSDT Cell Identity for EDSCHPC* are included in the *RL Information* IE.]

[FDD - together with the *SSDT Cell Identity Length* IE in *UL DPCH Information* IE, and *Enhanced DSCH PC* IE, in the new configuration.]

If the RADIO LINK RECONFIGURATION PREPARE message includes any *DSCH to Modify* IE, then the DRNS shall treat them each as follows:

- [FDD – If the *DSCH to Modify* IE includes any *DSCH Info* IEs, then the DRNS shall treat them each as follows:]

- [FDD – If the *DSCH Info* IE includes any of the *Allocation/Retention Priority* IE, *Scheduling Priority Indicator* IE or *TrCH Source Statistics Descriptor* IE, the DNRS shall use them to update the set of DSCH Priority classes each of which is associated with a set of supported MAC-c/sh SDU lengths.]

- [FDD – If the *DSCH Info* IE includes any of the *Transport Format Set* IE or *BLER* IE, the DRNS shall apply the parameters to the new configuration.]

- [FDD – If the *DSCH to Modify* IE includes the *PDSCH RL ID* IE, then the DRNS shall use it as the new DSCH RL identifier.]

- [FDD – If the *DSCH to Modify* IE includes the *Transport Format Combination Set* IE, then the DRNS shall use it as the new Transport Format Combination Set associated with the DSCH.]

- [TDD – If the *DSCHs to Modify* IE includes the *CCTrCH Id* IE, then the DRNS shall map the DSCH onto the referenced DL CCTrCH.]

- [TDD – If the *DSCHs to Modify* IE includes any of the *Allocation/Retention Priority* IE, *Scheduling Priority Indicator* IE or *TrCH Source Statistics Descriptor* IE, the DNRS shall use them to update the set of DSCH Priority classes each of which is associated with a set of supported MAC-c/sh SDU lengths.]

- [TDD – If the *DSCHs to Modify* IE includes any of the *Transport Format Set* IE or *BLER* IE, the DRNS shall apply the parameters to the new configuration.]

- [TDD – The DRNC shall include the *Secondary CCPCH Info TDD* IE in the RADIO LINK RECONFIGURATION READY message if a DSCH is added and at least one DCH exists in the new configuration. The DRNC shall also include the *Secondary CCPCH Info TDD* IE in the RADIO LINK RECONFIGURATION READY message if the SHCCH messages for this radio link will be transmitted over a different secondary CCPCH than selected by the UE from system information.]

- [FDD - If the *DSCHs to Modify* IE includes the *Enhanced DSCH PC Indicator* IE set to "Enhanced DSCH PC Active in the UE ", the DRNS shall activate enhanced DSCH power control, if supported, using either:]

  - [FDD - the *SSDT Cell Identity for EDSCHPC* IE in *RL Information* IE, if the *SSDT Cell Identity* IE is not included in the *RL Information* IE or]

  - [FDD - the *SSDT Cell Identity* IE in the *RL Information* IE, if both the *SSDT Cell Identity* IE and the *SSDT Cell Identity for EDSCHPC* are included in the *RL Information* IE.]

  [FDD - together with the *SSDT Cell Identity Length* IE in *UL DPCH Information* IE, and *Enhanced DSCH PC* IE, in the new configuration.]

- [FDD - If the *DSCHs to Modify* IE includes the *Enhanced DSCH PC Indicator* IE set to "Enhanced DSCH PC not Active in the UE", the DRNS shall deactivate enhanced DSCH power control in the new configuration.]

[FDD - If *DSCHs to Add* IE includes *Enhanced DSCH PC* IE and *DSCH to Modify* IE include the *Enhanced DSCH PC Indicator* IE set to " Enhanced DSCH PC not Active in the UE", then the DRNS shall deactivate enhanced DSCH power control in the new configuration.]

[FDD - If both *DSCHs to Add* IE and *DSCH to Modify* IE include *Enhanced DSCH PC* IE, then the DRNS shall ignore the *Enhanced DSCH PC* IE in the *DSCH to Add* IE.]

If the requested modifications are allowed by the DRNS and the DRNS has successfully reserved the required resources for the new configuration of the Radio Link(s), it shall respond to the SRNC with the RADIO LINK RECONFIGURATION READY message.

**[TDD] USCH Addition/Modification/Deletion**

If the RADIO LINK RECONFIGURATION PREPARE message includes any *USCH to modify*, *USCH to add* or *USCH to delete* IEs, then the DRNS shall use this information to add/modify/delete the indicated USCH channels to/from the radio link, in the same way as the DCH info is used to add/modify/release DCHs.

If the RADIO LINK RECONFIGURATION PREPARE message includes any *USCH to Add* IE, then, the DRNS shall use the *Allocation/Retention Priority* IE, *Scheduling Priority Indicator* IE and *TrCH Source Statistics Descriptor* IE to define a set of USCH Priority classes each of which is associated with a set of supported MAC-c/sh SDU lengths.

If the RADIO LINK RECONFIGURATION PREPARE message includes any *USCH to Modify* IE, then the DRNS shall treat them each as follows:

- If the USCH to Modify IE includes any of the Allocation/Retention Priority IE , Scheduling Priority Indicator IE or TrCH Source Statistics Descriptor IE, the DNRS shall use them to update the set of USCH Priority classes.

- If the USCH to Modify IE includes any of the CCTrCH Id IE, Transport Format Set IE, BLER IE or RB Info IE, the DRNS shall apply the parameters to the new configuration.

- [TDD - The DRNC shall include the *Secondary CCPCH Info TDD* IE in the RADIO LINK RECONFIGURATION READY message if a USCH is added and at least one DCH exists in the new configuration. The DRNC shall also include the *Secondary CCPCH Info TDD* IE in the RADIO LINK RECONFIGURATION READY message if the SHCCH messages for this radio link will be transmitted over a different secondary CCPCH than selected by the UE from system information.]

If the requested modifications are allowed by the DRNC and the DRNC has successfully reserved the required resources for the new configuration of the Radio Link(s), it shall respond to the SRNC with the RADIO LINK RECONFIGURATION READY message.

**General**

The DRNS shall include in the RADIO LINK RECONFIGURATION READY message the *Transport Layer Address* IE and the *Binding ID* IE in the *DCH Information Response* IE for any Transport Channel being added, or any Transport Channel being modified for which a new transport bearer was requested with the *Transport Bearer Request Indicator* IE. In case of a set of co-ordinated DCHs requiring a new transport bearer on Iur, the *Transport Layer Address* IE and the *Binding ID* IE in the *DCH Information Response* IE shall be included only for one of the DCHs in the set of co-ordinated DCHs.

In case of a Radio Link being combined with another Radio Link within the DRNS, the *Transport Layer Address* IE and the *Binding ID* IE in the *DCH Information Response* IE shall be included only for one of the combined Radio Links.

Any allowed rate for the uplink of a DCH provided for the old configuration will not be valid for the new configuration. If the DRNS need to limit the user rate in the uplink of a DCH in the new configuration for a Radio Link, the DRNC shall include the *Allowed UL Rate* IE of the *Allowed Rate Information* IE in the *DCH Information Response* IE for this DCH in the RADIO LINK RECONFIGURATION READY message for this Radio Link.

Any allowed rate for the downlink of a DCH provided for the old configuration will not be valid for the new configuration. If the DRNS need to limit the user rate in the downlink of a DCH in the new configuration for a Radio Link, the DRNC shall include the *Allowed DL Rate* IE of the *Allowed Rate Information* IE in the *DCH Information Response* IE for this DCH in the RADIO LINK RECONFIGURATION READY message for this Radio Link.

If the requested modifications are allowed by the DRNS, and the DRNS has successfully reserved the required resources for the new configuration of the Radio Link(s) it shall respond to the SRNC with the RADIO LINK RECONFIGURATION READY message. When this procedure has been completed successfully there exist a Prepared Reconfiguration, as defined in subclause 3.1.

The DRNS decides the maximum and minimum SIR for the uplink of the Radio Link(s) and shall return this in the *Maximum Uplink SIR* IE and *Minimum Uplink SIR* IE for each Radio Link in the RADIO LINK RECONFIGURATION READY message.

If the DL TX power upper or lower limit has been re-configured the DRNC shall return this in the *Maximum DL TX Power* IE and *Minimum DL TX Power* IE respectively in the RADIO LINK RECONFIGURATION RESPONSE message.

### 8.3.4.3 Unsuccessful Operation

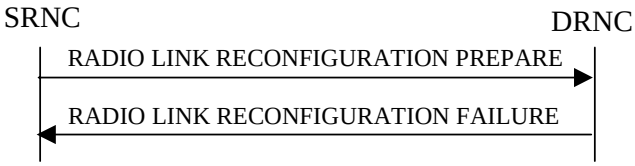


**Figure 11: Synchronised Radio Link Reconfiguration Preparation procedure, Unsuccessful Operation**

If the DRNS cannot reserve the necessary resources for all the new DCHs of a set of co-ordinated DCHs requested to be added, it shall regard the Synchronised Radio Link Reconfiguration procedure as having failed.

If the requested Synchronised Radio Link Reconfiguration procedure fails for one or more RLs the DRNC shall send the RADIO LINK RECONFIGURATION FAILURE message to the SRNC, indicating the reason for failure.

If more than one DCH of a set of co-ordinated DCHs has the *QE-Selector* IE set to "selected" [TDD – or no DCH of a set of co-ordinated DCHs has the *QE-Selector* IE set to “selected”] the DRNS shall regard the Synchronised Radio Link Reconfiguration Preparation procedure as failed and the DRNC shall respond with a RADIO LINK RECONFIGURATION FAILURE message.

Typical cause values are:

**Radio Network Layer Causes:**

- UL Scrambling Code Already in Use;
- DL Radio Resources not Available;
- UL Radio Resources not Available;
- Requested Configuration not Supported;
- Invalid CM Settings;
- Number of DL Codes not Supported;
- Number of UL Codes not Supported;
- Dedicated Transport Channel Type not Supported;
- DL Shared Channel Type not Supported;
- [TDD - UL Shared Channel Type not Supported];
- [FDD - UL Spreading Factor not Supported];
- [FDD - DL Spreading Factor not Supported];
- CM not Supported.

**Miscellaneous Causes:**

- Control Processing Overload;
- Not enough User Plane Processing Resources.

### 8.3.4.4 Abnormal Conditions

If only a subset of all the DCHs belonging to a set of co-ordinated DCHs is requested to be deleted, the DRNS shall regard the Synchronised Radio Link Reconfiguration Preparation procedure as having failed and the DRNC shall send the RADIO LINK RECONFIGURATION FAILURE message to the SRNC.

## 8.3.5 Synchronised Radio Link Reconfiguration Commit

### 8.3.5.1 General

This procedure is used to order the DRNS to switch to the new configuration for the Radio Link(s) within the DRNS, previously prepared by the Synchronised Radio Link Preparation procedure.

This procedure shall use the signalling bearer connection for the relevant UE context.

### 8.3.5.2 Successful Operation


**Figure 12: Synchronised Radio Link Reconfiguration Commit procedure, Successful Operation**

The DRNS shall switch to the new configuration previously prepared by the Synchronised RL Reconfiguration procedure at the next coming CFN with a value equal to the value requested by the SRNC in the *CFN* IE when receiving the RADIO LINK RECONFIGURATION COMMIT message from the SRNC.

[FDD – If the *Active Pattern Sequence Information* IE is included in the RADIO LINK RECONFIGURATION COMMIT message, the *CM Configuration Change CFN* IE in the *Active Pattern Sequence Information* IE shall be ignored by the DRNS.]

When this procedure has been completed the Prepared Reconfiguration does not exist any more, see subclause 3.1

In the case of a transport channel modification for which a new transport bearer was requested and established, the switch to the new transport bearer shall also take place at the indicated CFN.

[FDD - If the RADIO LINK RECONFIGURATION COMMIT includes the *Active Pattern Sequence Information* IE, the DRNS shall deactivate all the ongoing Transmission Gap Pattern Sequences at the *CFN* IE. From that moment on all Transmission Gap Pattern Sequences included in *Transmission Gap Pattern Sequence Status* IE repetitions shall be started when the indicated *TGCFN* IE elapses. The *CFN* IE and *TGCFN* IE for each sequence refer to the next coming CFN with that value. If the values of the *CFN* IE and the *TGCFN* IE are equal, the concerning Transmission Gap Pattern Sequence shall be started immediately at the CFN with a value equal to the value received in the *CFN* IE.]

### 8.3.5.3 Abnormal Conditions

If a new transport bearer is required for the new configuration and it is not available at the requested CFN, the DRNS shall initiate the Radio Link Failure procedure.

## 8.3.6 Synchronised Radio Link Reconfiguration Cancellation

### 8.3.6.1 General

This procedure is used to order the DRNS to release the new configuration for the Radio Link(s) within the DRNS, previously prepared by the Synchronised Radio Link Preparation procedure.

This procedure shall use the signalling bearer connection for the relevant UE context.

### 8.3.6.2 Successful Operation


**Figure 13: Synchronised Radio Link Reconfiguration Cancellation procedure, Successful Operation**

The DRNS shall release the new configuration ([FDD – including the new Transmission Gap Pattern Sequence parameters (if existing)]) previously prepared by the Synchronised RL Reconfiguration Preparation procedure and continue using the old configuration when receiving the RADIO LINK RECONFIGURATION CANCEL message from the SRNC. When this procedure has been completed the Prepared Reconfiguration does not exist any more, see subclause 3.1.

### 8.3.6.3 Abnormal Conditions

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## 8.3.7 Unsynchronised Radio Link Reconfiguration

### 8.3.7.1 General

The Unsynchronised Radio Link Reconfiguration procedure is used to reconfigure Radio Link(s) related to one UE-UTRAN connection within a DRNS.

The procedure is used when there is no need to synchronise the time of the switching from the old to the new radio link configuration in the cells used by the UE-UTRAN connection within the DRNS.

This procedure shall use the signalling bearer connection for the relevant UE context.

The Unsynchronised Radio Link Reconfiguration procedure shall not be initiated if a Prepared Reconfiguration exists, as defined in subclause 3.1.

### 8.3.7.2 Successful Operation

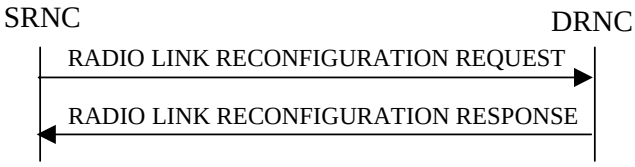


**Figure 14: Unsynchronised Radio Link Reconfiguration procedure, Successful Operation**

The Unsynchronised Radio Link Reconfiguration procedure is initiated by the SRNC by sending the RADIO LINK RECONFIGURATION REQUEST message to the DRNC.

Upon reception, the DRNS shall modify the configuration of the Radio Link(s) according to the parameters given in the message. Unless specified below, the meaning of parameters is specified in other specifications.

If the RADIO LINK RECONFIGURATION REQUEST message includes the *Allowed Queuing Time* IE the DRNS may queue the request the time corresponding to the value of the *Allowed Queuing Time* IE before starting to execute the request.

The DRNS shall prioritise resource allocation for the RL to be modified according to Annex A.

**DCH Modification:**

If the RADIO LINK RECONFIGURATION REQUEST message includes any *DCHs to Modify* IEs, then the DRNS shall treat them as follows:

- If the *DCHs to Modify* IE includes multiple *DCH Specific Info* IEs, then the DRNS shall treat the DCHs as a set of co-ordinated DCHs. The DRNS shall include these DCHs in the new configuration only if it can include all of them in the new configuration.

- If the *DCHs to Modify* IE includes the *UL FP Mode* IE for a DCH or a set of co-ordinated DCHs to be modified, the DRNS shall apply the new FP Mode in the Uplink of the user plane for the DCH or the set of co-ordinated DCHs in the new configuration.

- If the *DCHs to Modify* IE includes the *ToAWS* IE for a DCH or a set of co-ordinated DCHs to be modified, the DRNS shall apply the new ToAWS in the user plane for the DCH or the set of co-ordinated DCHs in the new configuration.

- If the *DCHs to Modify* IE includes the *ToAWE* IE for a DCH or a set of co-ordinated DCHs to be modified, the DRNS shall apply the new ToAWE in the user plane for the DCH or the set of co-ordinated DCHs in the new configuration.

- If the *DCH Specific Info* IE includes on the *Transport Format Set* IE for the UL of a DCH to be modified, the DRNS shall apply the new Transport Format Set in the Uplink of this DCH in the new configuration.

- If the *DCH Specific Info* IE includes on the *Transport Format Set* IE for the DL of a DCH to be modified, the DRNS shall apply the new Transport Format Set in the Downlink of this DCH in the new configuration.

- If the *DCH Specific Info* IE includes the *Frame Handling Priority* IE, the DRNS should store this information for this DCH in the new configuration. The received Frame Handling Priority should be used when prioritising between different frames in the downlink on the radio interface in congestion situations within the DRNS once the new configuration has been activated.

- [FDD - If the *DRAC Control* IE is present and set to "requested" in *DCH Specific Info* IE for at least one DCH, and if the DRNS supports the DRAC, the DRNC shall indicate in the RADIO LINK RECONFIGURATION RESPONSE message the *Secondary CCPCH Info* IE for the FACH where the DRAC information is sent, for each Radio Link supported by a cell where DRAC is active. If the DRNS does not support DRAC, the DRNC shall not provide these IEs in the RADIO LINK RECONFIGURATION RESPONSE message.]

- [TDD - If the *DCH Specific Info* IE includes the *CCTrCH ID* IE for the UL, the DRNS shall map the DCH onto the referenced UL CCTrCH.]

- [TDD - If the *DCH Specific Info* IE includes the *CCTrCH ID* IE for the DL, the DRNS shall map the DCH onto the referenced DL CCTrCH.]

- If the *DCH Specific Info* IE includes the *Guaranteed Rate Information* IE, the DRNS shall treat the included IEs according to the following:

  - If the *Guaranteed Rate Information* IE includes the *Guaranteed UL Rate* IE, the DRNS shall apply the new Guaranteed Rate in the uplink of this DCH in the new configuration. The DRNS may decide to request the SRNC to limit the user rate in the uplink of the DCH at any point in time after activating the new configuration.

- If the *Guaranteed Rate Information* IE includes the *Guaranteed DL Rate* IE, the DRNS shall apply the new Guaranteed Rate in the downlink of this DCH in the new configuration. The DRNS may decide to request the SRNC to limit the user in the downlink of the DCH at any point in time after activating the new configuration.

**DCH Addition:**

If the RADIO LINK RECONFIGURATION REQUEST message includes any *DCHs to Add* IEs, then the DRNS shall treat them each as follows:

- The DRNS shall reserve necessary resources for the new configuration of the Radio Link(s) according to the parameters given in the message and include these DCH in the new configuration.

- If the *DCHs to Add* IE includes multiple DCH Specific Info IEs then the DRNS shall treat the DCHs in the *DCHs to Add* IE as a set of co-ordinated DCHs. The DRNS shall include these DCHs in the new configuration only if all of them can be in the new configuration.

- [FDD - For DCHs which do not belong to a set of co-ordinated DCHs with the *QE-Selector* IE set to "selected", the Transport channel BER from that DCH shall be the base for the QE in the UL data frames. If no Transport channel BER is available for the selected DCH the Physical channel BER shall be used for the QE, ref. [4]. If the QE-Selector is set to "non-selected", the Physical channel BER shall be used for the QE in the UL data frames, ref. [4].]

- For a set of co-ordinated DCHs the Transport channel BER from the DCH with the *QE-Selector* IE set to "selected" shall be used for the QE in the UL data frames, ref. [4]. [FDD - If no Transport channel BER is available for the selected DCH the Physical channel BER shall be used for the QE, ref. [4]. If all DCHs have *QE-Selector* IE set to "non-selected" the Physical channel BER shall be used for the QE, ref. [4].]

- The DRNS should store the *Frame Handling Priority* IE received for a DCH to be added in the new configuration. The received Frame Handling Priority should be used when prioritising between different frames in the downlink on the radio interface in congestion situations within the DRNS once the new configuration has been activated.

- The DRNS shall use the included *UL FP Mode* IE for a DCH or a set of co-ordinated DCHs to be added as the new FP Mode in the Uplink of the user plane for the DCH or the set of co-ordinated DCHs in the new configuration.

- The DRNS shall use the included *ToAWS* IE for a DCH or a set of co-ordinated DCHs to be added as the new Time of Arrival Window Start Point in the user plane for the DCH or the set of co-ordinated DCHs in the new configuration.

- The DRNS shall use the included *ToAWE* IE for a DCH or a set of co-ordinated DCHs to be added as the new Time of Arrival Window End Point in the user plane for the DCH or the set of co-ordinated DCHs in the new configuration.

- [FDD - If the *DRAC Control* IE is set to "requested" in *DCH Specific Info* IE for at least one DCH, and if the DRNS supports the DRAC, the DRNC shall indicate in the RADIO LINK RECONFIGURATION RESPONSE message the *Secondary CCPCH Info* IE for the FACH where the DRAC information is sent, for each Radio Link supported by a cell where DRAC is active. If the DRNS does not support DRAC, the DRNC shall not provide these IEs in the RADIO LINK RECONFIGURATION RESPONSE message.

- If the *DCH Specific Info* IE includes the *Guaranteed Rate Information* IE, the DRNS shall treat the included IEs according to the following:

  - If the *Guaranteed Rate Information* IE includes the *Guaranteed UL Rate* IE, the DRNS shall apply the new Guaranteed Rate in the uplink of this DCH in the new configuration. The DRNS may decide to request the SRNC to limit the user rate of the uplink of the DCH at any point in time after activating the new configuration. If the *DCH Specific Info* IE in the *DCH Information* IE does not include the *Guaranteed UL Rate* IE the DRNS shall regard the maximum rate as the guaranteed rate in the uplink of this DCH.

- If the *Guaranteed Rate Information* IE includes the *Guaranteed DL Rate* IE, the DRNS shall apply the new Guaranteed Rate in the downlink of this DCH in the new configuration. The DRNS may decide to request the SRNC to limit the user rate of the downlink of the DCH at any point in time after activating the new configuration. If the *DCH Specific Info* IE in the *DCH Information* IE does not include the *Guaranteed DL Rate* IE the DRNS shall regard the maximum rate as the guaranteed rate in the downlink of this DCH.

**DCH Deletion:**

If the RADIO LINK RECONFIGURATION REQUEST message includes any *DCH to delete* IE, the DRNS shall not include the referenced DCHs in the new configuration.

If all of the DCHs belonging to a set of co-ordinated DCHs are requested to be deleted, the DRNS shall not include this set of co-ordinated DCHs in the new configuration.

**Physical Channel Modification:**

[FDD - If the RADIO LINK RECONFIGURATION PREPARE message includes an *UL DPCH Information* IE, then the DRNS shall apply the parameters to the new configuration as follows: ]

- [FDD - If the *UL DPCH Information* IE includes the *TFCS* IE for the UL, the DRNS shall apply the new TFCS in the Uplink of the new configuration.]

[FDD - If the RADIO LINK RECONFIGURATION PREPARE message includes a *DL DPCH Information* IE, then the DRNS shall apply the parameters to the new configuration as follows:]

- [FDD - If the *DL DPCH Information* IE includes the *TFCS* IE for the DL, the DRNS shall apply the new TFCS in the Downlink of the new configuration.]

- [FDD - If the *DL DPCH Information* IE includes the *TFCI Signalling Mode* IE for the DL, the DRNS shall apply the new TFCI Signalling Mode in the Downlink of the new configuration.]

- [FDD – If the *DL DPCH Information* IE includes the *Limited Power Increase* IE and the IE is set to 'Used', the DRNS shall, if supported, use Limited Power Increase according to ref. [10] subclause 5.2.1 for the inner loop DL power control in the new configuration.]

- [FDD – If the *DL DPCH Information* IE includes the *Limited Power Increase* IE and the IE is set to 'Not Used', the DRNS shall not use Limited Power Increase for the inner loop DL power control in the new configuration.]

[FDD - If the RADIO LINK RECONFIGURATION REQUEST message includes the *Transmission Gap Pattern Sequence Information* IE, the DRNS shall store the new information about the Transmission Gap Pattern Sequences to be used in the new Compressed Mode configuration This new Compressed Mode Configuration shall be valid in the DRNS until the next Compressed Mode Configuration is configured in the DRNS or last Radio Link is deleted.]

[FDD - If the RADIO LINK RECONFIGURATION REQUEST message includes the *Transmission Gap Pattern Sequence Information* IE, and if the *Downlink Compressed Mode Method* in one or more Transmission Gap Pattern Sequence within the *Transmission Gap Pattern Sequence Information* IE is set to 'SF/2', the DRNC shall include the *DL Code Information* IE in the RADIO LINK RECONFIGURATION RESPONSE message, without changing any of the DL Channelisation Codes or DL Scrambling Codes, indicating for each DL Channelisation Code whether the alternative scrambling code shall be used or not.]

**[TDD - UL/DL CCTrCH Modification]**

[TDD - If the RADIO LINK RECONFIGURATION REQUEST message includes any *UL CCTrCH Information to modify* IEs or */DL CCTrCH Information to modify* IEs and it includes *TFCS* IE, the DRNS shall apply the included *TFCS* IE as the new value to the referenced CCTrCH.]

**[TDD – UL/DL CCTrCH Deletion]**

[TDD - If the RADIO LINK RECONFIGURATION REQUEST message includes any *UL CCTrCH Information to delete* IEs or *DL CCTrCH Information to delete* IEs, the DRNS shall remove the referenced CCTrCH in the new configuration.]

**General:**

The DRNS shall include in the RADIO LINK RECONFIGURATION RESPONSE message the *Transport Layer Address* IE and the *Binding ID* IE in the *DCH Information Response* IE for any Transport Channel being added, or any Transport Channel being modified for which a new transport bearer was requested with the *Transport Bearer Request Indicator* IE. In case of a set of co-ordinated DCHs requiring a new transport bearer on Iur, the *Transport Layer Address* IE and the *Binding ID* IE in the *DCH Information Response* IE shall be included only for one of the DCHs in the set of co-ordinated DCHs.

In case of a Radio Link being combined with another Radio Link within the DRNS, the DRNC shall return the *Transport Layer Address* IE and the *Binding ID* IE in the *DCH Information Response* IE in the RADIO LINK RECONFIGURATION RESPONSE message only for one of the combined Radio Links.

Any allowed rate for the uplink of a DCH provided for the old configuration will not be valid for the new configuration. If the DRNS need to limit the user rate in the uplink of a DCH in the new configuration for a Radio Link, the DRNC shall include the *Allowed UL Rate* IE of the *Allowed Rate Information* IE in the *DCH Information Response* IE for this DCH in the RADIO LINK RECONFIGURATION RESPONSE message for this Radio Link.

Any allowed rate for the downlink of a DCH provided for the old configuration will not be valid for the new configuration. If the DRNS need to limit the user rate in the downlink of a DCH in the new configuration for a Radio Link, the DRNC shall include the *Allowed DL Rate* IE of the *Allowed Rate Information* IE in the *DCH Information Response* IE for this DCH in the RADIO LINK RECONFIGURATION RESPONSE message for this Radio Link.

If the requested modifications are allowed by the DRNS, and if the DRNS has successfully allocated the required resources and changed to the new configuration, the DRNC shall respond to the SRNC with the RADIO LINK RECONFIGURATION RESPONSE message.

The DRNS decides the maximum and minimum SIR for the uplink of the Radio Link(s), and the DRNC shall return this in the IEs *Maximum Uplink SIR* and *Minimum Uplink SIR* for each Radio Link in the RADIO LINK RECONFIGURATION RESPONSE message.

If the DL TX power upper or lower limit has been re-configured, the DRNC shall return this in the *Maximum DL TX Power* IE and *Minimum DL TX Power* IE respectively in the RADIO LINK RECONFIGURATION RESPONSE message.

### 8.3.7.3 Unsuccessful Operation

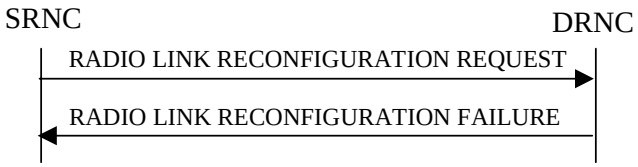


**Figure 15: Unsynchronised Radio Link Reconfiguration procedure, Unsuccessful Operation**

If more than one DCH of a set of co-ordinated DCHs has the *QE-Selector* IE set to "selected" [TDD – or no DCH of a set of co-ordinated DCHs has the *QE-Selector* IE set to "selected"] the DRNS shall regard the Unsynchronised Radio Link Reconfiguration procedure as failed, and the DRNC shall respond with a RADIO LINK RECONFIGURATION FAILURE message.

If the DRNS cannot allocate the necessary resources for all the new DCHs of a set of co-ordinated DCHs requested to be added, it shall regard the Unsynchronised Radio Link Reconfiguration procedure as having failed.

If the requested Unsynchronised Radio Link Reconfiguration procedure fails for one or more Radio Link(s) the DRNC shall send the RADIO LINK RECONFIGURATION FAILURE message to the SRNC, indicating the reason for failure.

Typical cause values are:

**Radio Network Layer Causes:**

- UL Scrambling Code Already in Use;
- DL Radio Resources not Available;
- UL Radio Resources not Available;
- Requested Configuration not Supported;
- Invalid CM Setting;
- CM not Supported.

**Miscellaneous Causes:**

- Control Processing Overload;
- Not enough User Plane Processing Resources.

#### 8.3.7.4 Abnormal Conditions

If only a subset of all the DCHs belonging to a set of co-ordinated DCHs is requested to be deleted, the DRNS shall regard the Unsynchronised Radio Link Reconfiguration procedure as having failed, and the DRNC shall send the RADIO LINK RECONFIGURATION FAILURE message to the SRNC.

### 8.3.8 Physical Channel Reconfiguration

#### 8.3.8.1 General

The Physical Channel Reconfiguration procedure is used by the DRNC to request to SRNC the reconfiguration of one of its physical channels.

This procedure shall use the signalling bearer connection for the relevant UE context.

The Physical Channel Reconfiguration procedure shall not be initiated if a Prepared Reconfiguration exists as defined in subclause 3.1, or if a Synchronised Radio Link Reconfiguration procedure, Unsynchronised Radio Link Reconfiguration procedure or Radio Link Deletion procedure is ongoing.

#### 8.3.8.2 Successful Operation

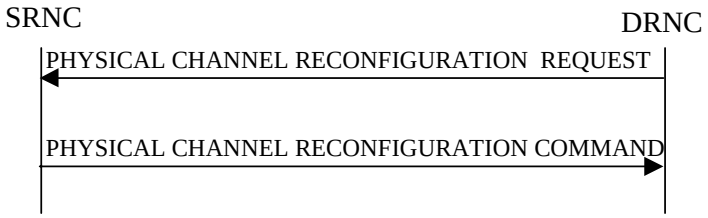


**Figure 16: Physical Channel Reconfiguration procedure, Successful Operation**

When the DRNC detects the need to modify one of its physical channels, it shall send a PHYSICAL CHANNEL RECONFIGURATION REQUEST to the SRNC.

The message contains the new value of the physical channel parameter(s) that shall be reconfigured and in which radio link.

[FDD- If compressed mode is prepared or active and at least one of the downlink compressed mode methods is 'SF/2', the DRNC shall include the *Transmission Gap Pattern Sequence Scrambling Code Information* IE in the *DL Code Information* IE in the PHYSICAL CHANNEL RECONFIGURATION REQUEST message indicating for each DL Channelisation Code whether the alternative scrambling code will be used or not if the downlink compressed mode methods 'SF/2' is activated.]

[TDD – The SRNC shall apply the new values for any of [3.84Mcps TDD - *TDD Channelisation Code* IE, *Midamble shift and Burst Type* IE, *Time Slot* IE], [1.28Mcps TDD - *TDD Channelisation Code LCR* IE, *Midamble shift LCR* IE, *Time Slot LCR* IE], *TDD Physical Channel Offset* IE, *Repetition Period* IE, *Repetition Length* IE, or *TFCI presence* IE included in the *UL DPCH Information* IE given in the PHYSICAL CHANNEL RECONFIGURATION REQUEST message, otherwise the old values specified for this DPCH shall still apply.]

[TDD – The SRNC shall apply the new values for any of *TDD Channelisation Code* IE, *Midamble shift and Burst Type* IE, *Time Slot* IE, *TDD Physical Channel Offset* IE, *Repetition Period* IE, *Repetition Length* IE, or *TFCI presence* IE included in the *DL DPCH Information* IE given in the PHYSICAL CHANNEL RECONFIGURATION REQUEST message, otherwise the old values specified for this DPCH shall still apply.]

Upon reception of the PHYSICAL CHANNEL RECONFIGURATION REQUEST, the SRNC shall decide an appropriate execution time for the change. The SRNC shall respond with a PHYSICAL CHANNEL RECONFIGURATION COMMAND message to the DRNC that includes the *CFN* IE indicating the execution time.

At the CFN, the DRNS shall switch to the new configuration that has been requested, and release the resources related to the old physical channel configuration.

### 8.3.8.3 Unsuccessful Operation

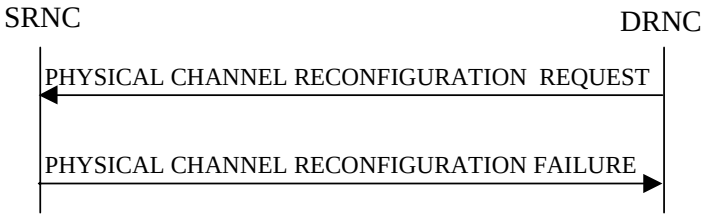


**Figure 17: Physical Channel Reconfiguration procedure, Unsuccessful Operation**

If the SRNC can not accept the reconfiguration request it shall send the PHYSICAL CHANNEL RECONFIGURATION FAILURE message to the DRNC, including the cause for the failure.

Typical cause values are:

**Radio Network Layer Causes:**

- Reconfiguration not Allowed.

### 8.3.8.4 Abnormal Conditions

If the DRNC receives any of the RADIO LINK RECONFIGURATION PREPARE, RADIO LINK RECONFIGURATION REQUEST, or RADIO LINK DELETION REQUEST messages while waiting for the PHYSICAL CHANNEL RECONFIGURATION COMMAND message, this shall be regarded as a Physical Channel Reconfiguration failure. These messages thus override the DRNC request for physical channel reconfiguration.

When the SRNC receives a PHYSICAL CHANNEL RECONFIGURATION REQUEST message while a Synchronised Radio Link Reconfiguration procedure, Unsynchronised Radio Link Reconfiguration procedure or Radio Link Deletion procedure is ongoing, it shall assume that receival of any of the messages RADIO LINK RECONFIGURATION PREPARE, RADIO LINK RECONFIGURATION REQUEST or RADIO LINK DELETION REQUEST by the DRNC has terminated the Physical Channel Reconfiguration procedure. No separate response message for the Physical Channel Reconfiguration procedure shall be returned by the SRNC in this situation.

## 8.3.9 Radio Link Failure

### 8.3.9.1 General

This procedure is started by the DRNS when one or more Radio Links [FDD - or Radio Link Sets][TDD - or CCTrCHs within a Radio Link] are no longer available.

This procedure shall use the signalling bearer connection for the relevant UE context.

The DRNC may initiate the Radio Link Failure procedure at any time after establishing a Radio Link.

### 8.3.9.2 Successful Operation

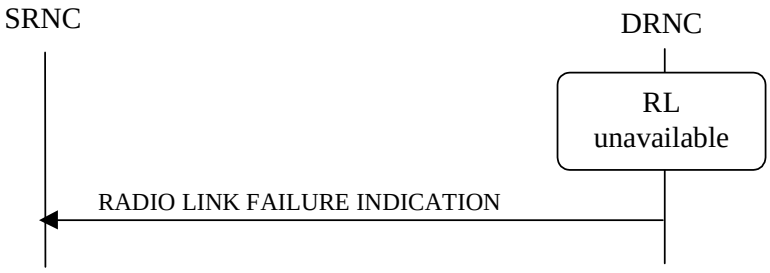


**Figure 18: RL Failure procedure, Successful Operation**

When DRNC detects that a one or more Radio Links [FDD - or Radio Link Sets] [TDD – or CCTrCHs within a Radio Link] are no longer available, it shall send the RL FAILURE INDICATION message to the SRNC. The message indicates the failed Radio Links or Radio Link Sets or CCTrCHs with the most appropriate cause values defined in the *Cause* IE. If the failure concerns one or more individual Radio Links the DRNS shall indicate the affected Radio Link(s) using the *RL Information* IE. [FDD - If the failure concerns one or more Radio Link Sets the DRNS shall indicate the affected Radio Link Set(s) using the *RL Set Information* IE.] [TDD – If the failure concerns only the failure of one or more CCTrCHs within in a radio link the Node B shall indicate the affected CCTrCHs using the *CCTrCH ID* IE].

When the RL Failure procedure is used to notify loss of UL synchronisation of a [FDD – Radio Link Set] [TDD – Radio Link or CCTrCHs within a Radio Link] on the Uu interface, the message shall be sent when indicated by the UL synchronisation detection algorithm defined in ref. [10] subclause 4.3 and [22] subclause 4.4.2, and with the cause value 'Synchronisation Failure'.

[FDD – When Radio Link Failure procedure is used to indicate permanent failure in one or more Radio Links/Radio Link Sets due the overlapping of two or more compressed mode patterns during operation of compressed mode, the DL transmission shall be stopped and the RADIO LINK FAILURE INDICATION message shall be sent with the cause value 'Invalid CM Settings'. After sending the RADIO LINK FAILURE INDICATION message to notify the permanent failure, the DRNS shall not remove the Radio Link(s)/Radio Link Set(s) from the UE context, or the UE context itself.]

In the other cases Radio Link Failure procedure is used to indicate that one or more Radio Links or Radio Link Sets are permanently unavailable and cannot be restored. After sending the RADIO LINK FAILURE INDICATION message to notify the permanent failure, the DRNS shall not remove the Radio Link from the UE context, or the UE context itself. When applicable, the allocation retention priorities associated to the transport channels shall be used by the DRNS to prioritise which Radio Links to indicate as unavailable to the SRNC.

Typical cause values are:

**Radio Network Layer Causes:**

- Synchronisation Failure;
- Invalid CM Settings.

**Transport Layer Causes:**

- Transport Resources Unavailable.

**Miscellaneous Causes:**

- Control Processing Overload;
- HW Failure;
- O&M Intervention.

#### 8.3.9.3 Abnormal Conditions

-

### 8.3.10 Radio Link Restoration

#### 8.3.10.1 General

This procedure is used to notify establishment and re-establishment of UL synchronisation on the Uu interface.

This procedure shall use the signalling bearer connection for the relevant UE Context.

The DRNC may initiate the Radio Link Restoration procedure after establishing a Radio Link.

### 8.3.10.2 Successful Operation


**Figure 19: RL Restoration procedure, Successful Operation**

The DRNC shall send the RADIO LINK RESTORE INDICATION message to the SRNC when indicated by the UL Uu synchronisation detection algorithm defined in ref. [10] subclause 4.3 and [22] subclause 4.4.2. [FDD – The algorithm in ref. [10] shall use the minimum value of the parameters N_INSYNC_IND that are configured in the cells supporting the radio links of the RL Set].

[TDD - If the re-established UL Uu synchronisation concerns one or more individual Radio Links the DRNC shall indicate the affected Radio Link(s) using the *RL Information* IE.] [TDD – If the re-established synchronisation concerns one or more individual CCTrCHs within a radio link the Node B shall indicate the affected CCTrCHs using the *CCTrCH ID* IE.] [FDD - If the re-established UL Uu synchronisation concerns one or more Radio Link Sets the DRNC shall indicate the affected Radio Link Set(s) using the *RL Set Information* IE.]

### 8.3.10.3 Abnormal Conditions

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## 8.3.11 Dedicated Measurement Initiation

### 8.3.11.1 General

This procedure is used by an SRNS to request the initiation of dedicated measurements in a DRNS.

This procedure shall use the signalling bearer connection for the relevant UE context.

The Dedicated Measurement Initiation procedure shall not be initiated if a Prepared Reconfiguration exists, as defined in subclause 3.1.

### 8.3.11.2 Successful Operation

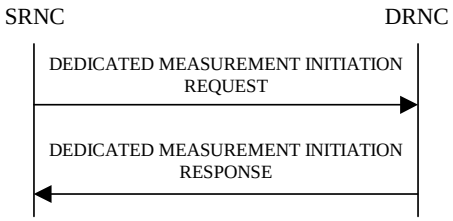


**Figure 20: Dedicated Measurement Initiation procedure, Successful Operation**

The procedure is initiated with a DEDICATED MEASUREMENT INITIATION REQUEST message sent from the SRNC to the DRNC.

Upon reception, the DRNC shall initiate the requested dedicated measurement according to the parameters given in the request.

If the *Dedicated Measurement Object Type* IE is set to "RL", measurement results shall be reported for all the indicated Radio Links.

[FDD - If the *Dedicated Measurement Object Type* IE is set to "RLS", measurement results shall be reported for all the indicated Radio Link Sets.]

If the *Dedicated Measurement Object Type* IE is set to "ALL RL", measurement results shall be reported for all current and future Radio Links within the UE Context.

[FDD - If the *Dedicated Measurement Object Type* IE is set to "ALL RLS", measurement results shall be reported for all the existing and future Radio Link Sets within the UE Context.]

If the *CFN Reporting Indicator* IE is set to "FN Reporting Required", the *CFN* IE shall be included in the measurement report or in the measurement response, the latter only in the case the *Report Characteristics* IE is set to 'On-Demand'. The reported CFN shall be the CFN at the time when the dedicated measurement value was reported by the layer 3 filter, referred to as point C in the measurement model [26].

If the *CFN* IE is provided, it indicates the frame for which the first measurement shall be provided. The provided measurement value shall be the one reported by the layer 3 filter referred to as point C in the measurement model [26].

**Report characteristics**
The *Report Characteristics* IE indicates how the reporting of the dedicated measurement shall be performed.

If the *Report Characteristics* IE is set to 'On-Demand', the DRNS shall report the measurement result immediately.

If the *Report Characteristics* IE is set to 'Periodic', the DRNS shall periodically initiate the Dedicated Measurement Report procedure for this measurement, with the requested report periodicity.

If the *Report Characteristics* IE is set to 'Event A', the DRNS shall initiate the Dedicated Measurement Reporting procedure when the measured entity rises above the requested threshold and stays there for the requested hysteresis time. If no hysteresis time is given, the DRNC shall use the value zero for the hysteresis time.

If the *Report Characteristics* IE is set to 'Event B', the DRNS shall initiate the Dedicated Measurement Reporting procedure when the measured entity falls below the requested threshold and stays there for the requested hysteresis time. If no hysteresis time is given, the DRNC shall use the value zero for the hysteresis time.

If the *Report Characteristics* IE is set to 'Event C', the DRNS shall initiate the Dedicated Measurement Reporting procedure when the measured entity rises by an amount greater than the requested threshold within the requested time.

If the *Report Characteristics* IE is set to 'Event D', the DRNS shall initiate the Dedicated Measurement Reporting procedure when the measured entity falls by an amount greater than the requested threshold within the requested time.

If the *Report Characteristics* IE is set to 'Event E', the DRNS shall initiate the Dedicated Measurement Reporting procedure when the measured entity rises above the 'Measurement Threshold 1' and stays there for the 'Measurement Hysteresis Time' (Report A). When the conditions for Report A are met and the *Report Periodicity* IE is provided the DRNS shall also initiate the Dedicated Measurement Reporting procedure periodically. If the conditions for Report A have been met and the measured entity falls below the 'Measurement Threshold 2' and stays there for the 'Measurement Hysteresis Time', the DRNS shall initiate the Dedicated Measurement Reporting procedure (Report B) as well as terminating any corresponding periodic reporting. If 'Measurement Threshold 2' is not present, the DRNS shall use 'Measurement Threshold 1' instead. If no 'Measurement Hysteresis Time' is provided, the DRNC shall use the value zero as hysteresis times for both Report A and Report B.

If the *Report Characteristics* IE is set to 'Event F', the DRNS shall initiate the Dedicated Measurement Reporting procedure when the measured entity falls below the 'Measurement Threshold 1' and stays there for the 'Measurement Hysteresis Time' (Report A). When the conditions for Report A are met and the *Report Periodicity* IE is provided the DRNS shall also initiate the Dedicated Measurement Reporting procedure periodically. If the conditions for Report A have been met and the measured entity rises above the 'Measurement Threshold 2' and stays there for the 'Measurement Hysteresis Time', the DRNS shall initiate the Dedicated Measurement Reporting procedure (Report B) as well as terminating any corresponding periodic reporting. . If 'Measurement Threshold 2' is not present, the DRNS shall use 'Measurement Threshold 1' instead. If no 'Measurement Hysteresis Time' is provided, the DRNC shall use the value zero as hysteresis times for both Report A and Report B.

If the *Report Characteristics* IE is not set to 'On-Demand', the DRNS is required to perform reporting for a dedicated measurement object, in accordance with the conditions provided in the DEDICATED MEASUREMENT INITIATION REQUEST message, as long as the object exists. If no dedicated measurement object(s) for which a measurement is defined exists any more the DRNS shall terminate the measurement locally without reporting this to the SRNC.

If at the start of the measurement, the reporting criteria are fulfilled for any of Event A, Event B, Event E or Event F, the DRNS shall initiate the Dedicated Measurement Reporting procedure immediately, and then continue with the measurements as specified in the DEDICATED MEASUREMENT INITIATION REQUEST message.

**Higher layer filtering**
The *Measurement Filter Coefficient* IE indicates how filtering of the dedicated measurement values shall be performed before measurement event evaluation and reporting.

The averaging shall be performed according to the following formula.

$$F_n = (1-a) \cdot F_{n-1} + a \cdot M_n$$

The variables in the formula are defined as follows:

$F_n$ is the updated filtered measurement result

$F_{n-1}$ is the old filtered measurement result

$M_n$ is the latest received measurement result from physical layer measurements

$a = 1/2^{(k/2)}$, where k is the parameter received in the *Measurement Filter Coefficient* IE. If the *Measurement Filter Coefficient* IE is not present, *a* shall be set to 1 (no filtering)

In order to initialise the averaging filter, $F_0$ is set to $M_1$ when the first measurement result from the physical layer measurement is received.

**Response message**
If the DRNS was able to initiate the measurement requested by the SRNS it shall respond with the DEDICATED MEASUREMENT INITIATION RESPONSE message. The message shall include the same Measurement Id that was used in the DEDICATED MEASUREMENT INITIATION REQUEST message.

Only in the case when the *Report Characteristics* IE is set to "On-Demand", the DEDICATED MEASUREMENT INITIATION RESPONSE message shall contain the measurement result. In this case also the *Dedicated Measurement Object* IE shall be included if it was included in the DEDICATED MEASUREMENT INITIATION REQUEST message.

### 8.3.11.3 Unsuccessful Operation

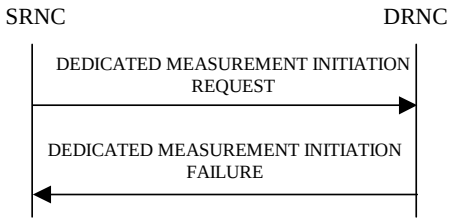


**Figure 21: Dedicated Measurement Initiation procedure, Unsuccessful Operation**

If the Dedicated Measurement Type received in the *Dedicated Measurement Type* IE is not defined in ref. [11] or [14] to be measured on the Dedicated Measurement Object Type received in the *Dedicated Measurement Object Type* IE in the DEDICATED MEASUREMENT INITIATION REQUEST message the DRNS shall regard the Dedicated Measurement Initiation procedure as failed.

If the requested measurement can not be initiated, the DRNC shall send a DEDICATED MEASUREMENT INITIATION FAILURE message. The message shall include the same Measurement Id that was used in the DEDICATED MEASUREMENT INITIATION REQUEST message and the *Cause* IE set to an appropriate value.

Typical cause values are:

**Radio Network Layer Causes:**

- Measurement not Supported For The Object

- Measurement Temporarily not Available

**Miscellaneous Causes:**

- Control Processing Overload
- HW Failure

#### 8.3.11.4 Abnormal Conditions

-

### 8.3.12 Dedicated Measurement Reporting

#### 8.3.12.1 General

This procedure is used by the DRNS to report results of measurements requested by the SRNS with the Dedicated Measurement Initiation procedure.

This procedure shall use the signalling bearer connection for the relevant UE Context.

The DRNC may initiate the Dedicated Measurement Reporting procedure at any time after establishing a Radio Link.

#### 8.3.12.2 Successful Operation


**Figure 22: Dedicated Measurement Reporting procedure, Successful Operation**

If the requested measurement reporting criteria are met, the DRNS shall initiate the Dedicated Measurement Reporting procedure. If the measurement was initiated (by the Dedicated Measurement Initiation procedure) for multiple dedicated measurement objects, the DRNC may include dedicated measurement values in the *Dedicated Measurement Value Information* IE for multiple objects in the DEDICATED MEASUREMENT REPORT message.

The *Dedicated Measurement Id* IE shall be set to the Dedicated Measurement Id provided by the SRNC when initiating the measurement with the Dedicated Measurement Initiation procedure.

If the achieved measurement accuracy does not fulfil the given accuracy requirement specified in ref. [23] and [24], the Measurement not available shall be reported in the *Dedicated Measurement Value Information* IE.

#### 8.3.12.3 Abnormal Conditions

-

### 8.3.13 Dedicated Measurement Termination

#### 8.3.13.1 General

This procedure is used by the SRNS to terminate a measurement previously requested by the Dedicated Measurement Initiation procedure.

This procedure shall use the signalling bearer connection for the relevant UE Context.

The Dedicated Measurement Termination procedure shall not be initiated if a Prepared Reconfiguration exists, as defined in subclause 3.1.

### 8.3.13.2 Successful Operation


**Figure 23: Dedicated Measurement Termination procedure, Successful Operation**

This procedure is initiated with a DEDICATED MEASUREMENT TERMINATION REQUEST message, sent from the SRNC to the DRNC.

Upon reception, the DRNS shall terminate reporting of measurements corresponding to the received Dedicated Measurement Id.

### 8.3.13.3 Abnormal Conditions

-

## 8.3.14 Dedicated Measurement Failure

### 8.3.14.1 General

This procedure is used by the DRNS to notify the SRNS that a measurement previously requested by the Dedicated Measurement Initiation procedure can no longer be reported.

This procedure shall use the signalling bearer connection for the relevant UE Context.

The DRNC may initiate the Dedicated Measurement Failure procedure at any time after establishing a Radio Link.

### 8.3.14.2 Successful Operation


**Figure 24: Dedicated Measurement Failure procedure, Successful Operation**

This procedure is initiated with a DEDICATED MEASUREMENT FAILURE INDICATION message, sent from the DRNC to the SRNC, to inform the SRNC that a previously requested dedicated measurement can no longer be reported. The DRNC has locally terminated the indicated measurement.

Typical cause values are:

**Miscellaneous Causes:**

- Control Processing Overload
- HW Failure
- O&M Intervention

### 8.3.14.3 Abnormal Conditions

-

## 8.3.15 Downlink Power Control [FDD]

### 8.3.15.1 General

The purpose of this procedure is to balance the DL transmission powers of the radio links for one UE.

This procedure shall use the signalling bearer connection for the relevant UE context.

The Downlink Power Control procedure may be initiated by the SRNC at any time after establishing a Radio Link. If the SRNC has initiated deletion of the last Radio Link in this DRNS the Downlink Power Control procedure shall not be initiated.

### 8.3.15.2 Successful Operation


**Figure 25: Downlink Power Control procedure, Successful Operation**

The Downlink Power Control procedure is initiated by the SRNC sending a DL POWER CONTROL REQUEST message to the DRNC.

The *Power Adjustment Type* IE defines the characteristic of the power adjustment.

If the value of the *Power Adjustment Type* IE is "Common", the DRNC shall perform the power adjustment (see below) for all radio links for the UE context using a common DL reference power level.

If the value of the *Power Adjustment Type* IE is "Individual", the DRNC shall perform the power adjustment (see below) for all radio links addressed in the message using the given DL Reference Power per RL.

If the value of the *Power Adjustment Type* IE is "None", the DRNS shall suspend on going power adjustments for all radio links for the UE context.

If the *Inner Loop DL PC Status* IE is present and set to 'Active ', the DRNS shall activate inner loop DL power control for all radio links for the UE context. If the *Inner Loop DL PC Status* IE is present and set to 'Inactive ', the DRNS shall deactivate inner loop DL power control for all radio links for the UE context according to ref. [10].

**Power Adjustment**

The power balancing adjustment shall be superimposed on the inner loop power control adjustment (see ref. [10]) if activated. The power balancing adjustment shall be such that:

$\sum P_{bal} = (1-r)(P_{ref} + P_{P-CPICH} - P_{init})$ with an accuracy of ±0.5 dB

where the sum is performed over an adjustment period corresponding to a number of frames equal to the value of the *Adjustment Period* IE, *Pref* is the value of the *DL Reference Power* IE, $P_{P\text{-}CPICH}$ is the power used on the primary CPICH, *Pinit* is the code power of the last slot of the previous adjustment period and $r$ is given by the *Adjustment Ratio* IE. If the last slot of the previous adjustment period is within a transmission gap due to compressed mode, *Pinit* shall be set to the same value as the code power of the slot just before the transmission gap.

The adjustment within one adjustment period shall in any case be performed with the constraints given by the *Max Adjustment Step* IE and the DL TX power range set by the DRNC.

The power adjustments shall be started at the first slot of a frame with CFN modulo the value of *Adjustment Period* IE equal to 0 and shall be repeated for every adjustment period and shall be restarted at the first slot of a frame with CFN=0, until a new DL POWER CONTROL REQUEST message is received or the RL is deleted.

#### 8.3.15.3 Abnormal Conditions

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## 8.3.16 Compressed Mode Command [FDD]

### 8.3.16.1 General

The Compressed Mode Command procedure is used to activate or deactivate the compressed mode in the DRNS for one UE-UTRAN connection. This procedure shall use the signalling bearer connection for the relevant UE context.

The Compressed Mode Command procedure shall not be initiated if a Prepared Reconfiguration exists, as defined in subclause 3.1.

### 8.3.16.2 Successful Operation


**Figure 26: Compressed Mode Command procedure, Successful Operation**

The DRNS shall deactivate all the ongoing Transmission Gap Pattern Sequences at the *CM Configuration Change CFN* IE requested by SRNC when receiving COMPRESSED MODE COMMAND message from the SRNC. From that moment on all Transmission Gap Pattern Sequences included in *Transmission Gap Pattern Sequence Status* IE repetitions (if present) shall be started when the indicated *TGCFN* IE elapses. The *CM Configuration Change CFN* IE in the *Active Pattern Sequence Information* IE and *TGCFN* IE for each sequence refer to the next coming CFN with that value.

If the values of the *CM Configuration Change CFN* IE and the *TGCFN* IE are equal, the concerning Transmission Gap Pattern Sequence shall be started immediately at the CFN with a value equal to the value received in the *CM Configuration Change CFN* IE.

### 8.3.16.3 Abnormal Conditions

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## 8.3.17 Downlink Power Timeslot Control [TDD]

### 8.3.17.1 General

The purpose of this procedure is to enable the DRNS to use the indicated DL Timeslot ISCP values when deciding the DL TX Power for each timeslot.

This procedure shall use the signalling bearer connection for the relevant UE context.

The Downlink Power Timeslot Control procedure can be initiated by the SRNC at any time after establishing a Radio Link. If the SRNC has initiated deletion of the last Radio Link in this DRNS, the Downlink Power Timeslot Control procedure shall not be initiated.

### 8.3.17.2 Successful Operation


**Figure 26A: Downlink Power Timeslot Control procedure, Successful Operation**

The Downlink Power Timeslot Control procedure is initiated by the SRNC sending a DL POWER TIMESLOT CONTROL REQUEST message to the DRNC.

Upon reception, the DRNS shall use the indicated DL Timeslot ISCP value when deciding the DL TX Power for each timeslot as specified in [22], i.e. it shall reduce the DL TX power in those downlink timeslots of the radio link where the interference is low, and increase the DL TX power in those timeslots where the interference is high, while keeping the total downlink power in the radio link unchanged.

### 8.3.17.3 Abnormal Conditions

-

## 8.3.18 Radio Link Pre-emption

### 8.3.18.1 General

This procedure is started by the DRNS when resources need to be freed.

This procedure shall use the signalling bearer connection for the UE context that owns the RL to be pre-empted.

The DRNS may initiate the Radio Link Pre-emption procedure at any time after establishing a Radio Link.

### 8.3.18.2 Successful Operation

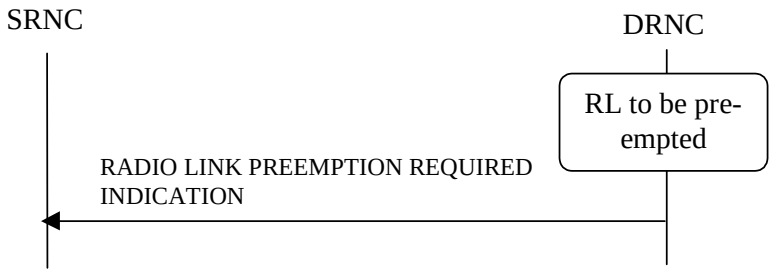


**Figure 26B: RL Pre-emption procedure, Successful Operation**

When DRNC detects that a one or more Radio Links should be pre-empted, see Annex A, it shall send the RADIO LINK PREEMPTION REQUIRED INDICATION message to the SRNC. If all Radio Links for an UE Context should be pre-empted, the *RL Information* IE shall be omitted. If one or several but not all Radio Links should be pre-empted for an UE Context, the Radio Links that should be pre-empted shall be indicated in the *RL Information* IE. The Radio Link(s) that should be pre-empted, should be deleted by the SRNC.

### 8.3.18.3 Abnormal Conditions

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### 8.3.19 Radio Link Congestion

#### 8.3.19.1 General

This procedure is started by the DRNS when RL congestion is detected and the rate of one or more DCHs need to be limited. This procedure is also used by the DRNC to indicate to the SRNC any change of the congestion situation. This procedure shall use the signalling bearer connection for the relevant UE context.

The Radio Link Congestion procedure shall not be initiated if a Prepared Reconfiguration exists, as defined in subclause 3.1.

#### 8.3.19.2 Successful Operation


**Figure 26C: Radio Link Congestion procedure, Successful Operation**

When DRNC detects that the rate of one or more DCHs need to be limited below the maximum rate, it shall send the RADIO LINK CONGESTION INDICATION message to the SRNC. The DRNC shall indicate all the Radio Links where the rate of a DCH need to be reduced. When receiving the RADIO LINK CONGESTION INDICATION message the SRNC should reduce the rate in accordance with the indicated allowed rate(s) for a DCH.

The DRNC shall indicate any change of the congestion situation by sending the RADIO LINK CONGESTION INDICATION message in which the new allowed rate of the DCHs are indicated by the *Allowed Rate Information* IE.

#### 8.3.19.3 Abnormal Conditions

-

## 8.4 Common Transport Channel Procedures

### 8.4.1 Common Transport Channel Resources Initialisation

#### 8.4.1.1 General

The Common Transport Channel Resources Initialisation procedure is used by the SRNC for the initialisation of the Common Transport Channel user plane towards the DRNC and/or for the initialisation of the Common Transport Channel resources in the DRNC to be used by a UE.

This procedure shall use the connectionless mode of the signalling bearer.

#### 8.4.1.2 Successful Operation

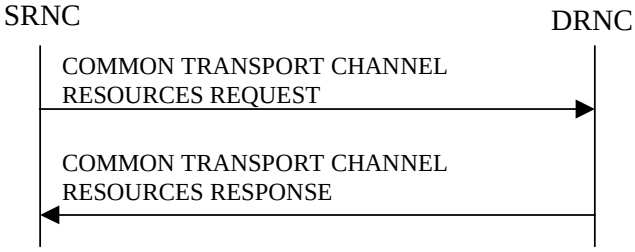


**Figure 27: Common Transport Channel Resources Initialisation procedure, Successful Operation**

The SRNC initiates the procedure by sending the message COMMON TRANSPORT CHANNEL RESOURCES REQUEST to the DRNC.

If the value of the *Transport Bearer Request Indicator* IE is set to "Bearer Requested", the DRNC shall store the received *Transport Bearer ID* IE and include the *Binding ID* IE and *Transport Layer Address* IE in the COMMON TRANSPORT CHANNEL RESOURCES RESPONSE message.

If the value of the *Transport Bearer Request Indicator* IE is set to" Bearer not Requested", the DRNC shall use the transport bearer indicated by the *Transport Bearer ID* IE.

If the *C-ID* IE is included in the COMMON TRANSPORT CHANNEL RESOURCES REQUEST message, the DRNC shall allocate a C-RNTI for the indicated cell and include the *C-RNTI* IE in the COMMON TRANSPORT CHANNEL RESOURCES RESPONSE message.

If the *C-ID* IE is included in the COMMON TRANSPORT CHANNEL RESOURCES REQUEST message, the DRNC shall include the *FACH Info for UE Selected S-CCPCH* IE valid for the cell indicated by the *C-ID* IE in the COMMON TRANSPORT CHANNEL RESOURCES RESPONSE message. If the *C-ID* IE is not included in the COMMON TRANSPORT CHANNEL RESOURCES REQUEST message, the DRNC shall include the *FACH Info for UE Selected S-CCPCH* IE valid for the cell where the UE is located. The DRNC shall include the *FACH Scheduling Priority* IE and *FACH Initial Window Size* IE in the *FACH Flow Control Information* IE of the *FACH Info for UE Selected S-CCPCH* IE for each priority class that the DRNC has determined shall be used. The DRNC may include several *MAC-c/sh SDU Length* IEs for each priority class.

If the DRNS has any RACH, [FDD - CPCH,] and/or FACH resources previously allocated for the UE in another cell than the cell where resources are currently being allocated, the DRNS shall release the previously allocated RACH, [FDD - CPCH,] and/or FACH resources.

If the DRNS has successfully reserved the required resources, the DRNC shall respond to the SRNC with the COMMON TRANSPORT CHANNEL RESOURCES RESPONSE message.

### 8.4.1.3 Unsuccessful Operation

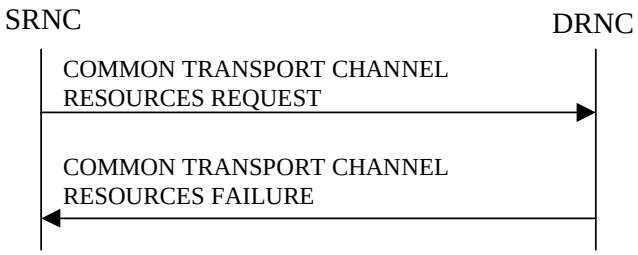


**Figure 28: Common Transport Channel Resources Initialisation procedure, Unsuccessful Operation**

If the *Transport Bearer Request Indicator* IE is set to "Bearer Requested" and the DRNC is not able to provide a Transport Bearer, the DRNC shall respond to the SRNC with the COMMON TRANSPORT CHANNEL RESOURCES FAILURE message, indicating the cause of the failure.

Typical cause values are:

**Radio Network Layer Causes:**

- Common Transport Channel Type not Supported.

**Transport Layer Causes:**

- Transport Resource Unavailable.

### 8.4.1.4 Abnormal Conditions

-

### 8.4.2 Common Transport Channel Resources Release

#### 8.4.2.1 General

This procedure is used by the SRNC to request release of Common Transport Channel Resources for a given UE in the DRNS. The SRNC uses this procedure either to release the UE Context from the DRNC (and thus both the D-RNTI and the C-RNTI) or to release only the C-RNTI.

This procedure shall use the connectionless mode of the signalling bearer.

#### 8.4.2.2 Successful Operation


**Figure 29: Common Transport Channel Resources Release procedure, Successful Operation**

The SRNC initiates the Common Transport Channel Resources Release procedure by sending the message COMMON TRANSPORT CHANNEL RESOURCES RELEASE REQUEST to the DRNC. At the reception of the message the DRNC shall release the UE Context identified by the D-RNTI and all its related RACH, [FDD - CPCH,] and/or FACH resources, unless the UE is using dedicated resources (DCH, [TDD - USCH,] and/or DSCH) in the DRNS in which case the DRNC shall release only the C-RNTI and all its related RACH, [FDD - CPCH,] and/or FACH resources allocated for the UE.

#### 8.4.2.3 Abnormal Conditions

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## 8.5 Global Procedures

### 8.5.1 Error Indication

#### 8.5.1.1 General

The Error Indication procedure is initiated by a node to report detected errors in a received message, provided they cannot be reported by an appropriate response message.

This procedure shall use the signalling bearer mode specified below.

#### 8.5.1.2 Successful Operation

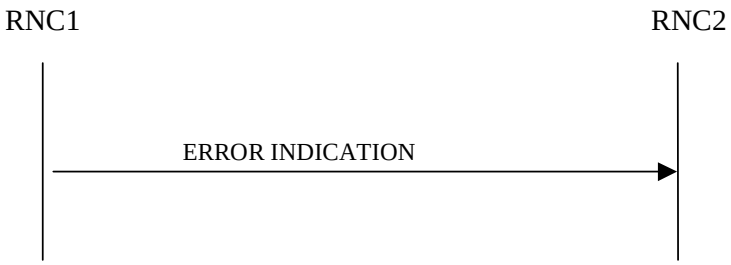


**Figure 30: Error Indication procedure, Successful Operation**

When the conditions defined in clause 10 are fulfilled, the Error Indication procedure is initiated by an ERROR INDICATION message sent from the receiving node. This message shall use the same mode of the signalling bearer and the same signalling bearer connection (if connection oriented) as the message that triggers the procedure.

Typical cause values for the ERROR INDICATION message are:

**Protocol Causes:**

- Transfer Syntax Error
- Abstract Syntax Error (Reject)
- Abstract Syntax Error (Ignore and Notify)
- Message not Compatible with Receiver State
- Unspecified

#### 8.5.1.3 Abnormal Conditions

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### 8.5.2 Common Measurement Initiation

#### 8.5.2.1 General

This procedure is used by an RNC to request the initiation of measurements of common resources to another RNC. The requesting RNC is referred to as $RNC_1$ and the RNC to which the request is sent is referred to as $RNC_2$.

This procedure uses the signalling bearer connection for the relevant Distant RNC Context.

#### 8.5.2.2 Successful Operation

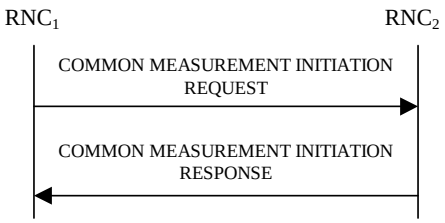


**Figure 30A: Common Measurement Initiation procedure, Successful Operation**

The procedure is initiated with a COMMON MEASUREMENT INITIATION REQUEST message sent from the $RNC_1$ to the $RNC_2$.

Upon reception, the $RNC_2$ shall initiate the requested measurement according to the parameters given in the request.

Unless specified below, the meaning of the parameters are given in other specifications.

[TDD- If the Time Slot Information is provided in the *Common Measurement Object Type* IE , the measurement request shall apply to the requested time slot individually.]

If the *Common Measurement Type* IE is not set to 'SFN-SFN Observed Time Difference' and the *SFN Reporting Indicator* IE is set to "FN Reporting Required", the *SFN* IE shall be included in the measurement report or in the

measurement response, the latter only in the case the *Report Characteristics* IE is set to 'On-Demand'. The reported SFN shall be the SFN at the time when the measurement value was reported by the layer 3 filter, referred to as point C in the measurement model [26]. If the *Common Measurement Type* IE is set to 'SFN-SFN Observed Time Difference', then the *SFN Reporting Indicator* IE is ignored.

If the *SFN* IE is provided, it indicates the frame for which the first measurement shall be provided. The provided measurement value shall be the one reported by the layer 3 filter, referred to as point C in the measurement model [26]. Furthermore, if the *SFN* IE is present and if the *Common Measurement Object Type* IE is set to "UP Neighbouring Cell", then the *SFN* IE relates to the Radio Frames of the Reference Cell identified by the first *UTRAN Cell Identifier* IE.

**Common measurement type**

If the *Common Measurement Type* IE is set to 'SFN-SFN Observed Time Difference', then the $RNC_2$ shall initiate the SFN-SFN Observed Time Difference measurements between the reference cell identified by *C-ID* IE and the neighbouring cells identified by the *UTRAN Cell Identifier* IE (*UC-Id*).

If the *Common Measurement Type* IE is set to 'load', the RNC2 shall initiate measurements of uplink and downlink load on the measured object. If either uplink or downlink load satisfies the requested report characteristics, the RNC2 shall report the result of both uplink and downlink measurements.

**Report characteristics**

The *Report Characteristics* IE indicates how the reporting of the measurement shall be performed.

If the *Report Characteristics* IE is set to 'On-Demand', the $RNC_2$ shall report the result of the requested measurement immediately.

If the *Report Characteristics* IE is set to 'Periodic', the $RNC_2$ shall periodically initiate a Measurement Reporting procedure for this measurement, with the requested report frequency. Furthermore, if the *Common Measurement Type* IE is set to 'SFN-SFN Observed Time Difference', then all the available measurements shall be reported in the *Successful Neighbouring cell SFN-SFN Observed Time Difference Measurement Information* IE and the neighbouring cells with no measurement result available shall be reported in the *Unsuccessful Neighbouring cell SFN-SFN Observed Time Difference Measurement Information* IE.

If the *Report Characteristics* IE is set to 'Event A', the $RNC_2$ shall initiate a Measurement Reporting procedure when the measured entity rises above the requested threshold and stays there for the requested hysteresis time. If no hysteresis time is given, the $RNC_2$ shall use the value zero for the hysteresis time.

If the *Report Characteristics* IE is set to 'Event B', the $RNC_2$ shall initiate a Measurement Reporting procedure when the measured entity falls below the requested threshold and stays there for the requested hysteresis time. If no hysteresis time is given, the $RNC_2$ shall use the value zero for the hysteresis time.

If the *Report Characteristics* IE is set to 'Event C', the $RNC_2$ shall initiate a Measurement Reporting procedure when the measured entity rises more than the requested threshold within the requested time.

If the *Report Characteristics* IE is set to 'Event D', the $RNC_2$ shall initiate a Measurement Reporting procedure when the measured entity falls more than the requested threshold within the requested time.

If the *Report Characteristics* IE is set to 'Event E', the $RNC_2$ shall initiate the Measurement Reporting procedure when the measured entity rises above the 'Measurement Threshold 1' and stays there for the 'Measurement Hysteresis Time' (Report A). When the conditions for Report A are met and the *Report Periodicity* IE is provided, the $RNC_2$ shall initiate the Measurement Reporting procedure periodically. If the conditions for Report A have been met and the measured entity falls below the 'Measurement Threshold 2' and stays there for the 'Measurement Hysteresis Time', the $RNC_2$ shall initiate the Common Measurement Reporting procedure (Report B) as well as terminating any corresponding periodic reporting. If 'Measurement Threshold 2' is not present, the $RNC_2$ shall use 'Measurement

Threshold 1' instead. If no 'Measurement Hysteresis Time' is provided, the $RNC_2$ shall use the value zero as hysteresis times for both Report A and Report B.

If the *Report Characteristics* IE is set to 'Event F', the $RNC_2$ shall initiate the Measurement Reporting procedure when the measured entity falls below the 'Measurement Threshold 1' and stays there for the 'Measurement Hysteresis Time' (Report A). When the conditions for Report A are met and the *Report Periodicity* IE is provided the $RNC_2$ shall also initiate the Measurement Reporting procedure periodically. If the conditions for Report A have been met and the measured entity rises above the 'Measurement Threshold 2' and stays there for the 'Measurement Hysteresis Time', the $RNC_2$ shall initiate the Common Measurement Reporting procedure (Report B) as well as terminating any corresponding periodic reporting. If 'Measurement Threshold 2' is not present, the $RNC_2$ shall use 'Measurement Threshold 1' instead. If no 'Measurement Hysteresis Time' is provided, the $RNC_2$ shall use the value zero as hysteresis times for both Report A and Report B.

If the *Report Characteristics* IE is set to 'On Modification', the $RNC_2$ shall report the result of the requested measurement immediately. Then the $RNC_2$ shall initiate the Common Measurement Reporting procedure in accordance to the following conditions:

1. If the *Common Measurement Type* IE is set to 'UTRAN GPS Timing of Cell Frame for LCS':

   - If the $T_{UTRAN-GPS}$ *Change Limit* IE is included in the $T_{UTRAN-GPS}$ *Measurement Threshold Information* IE, the $RNC_2$ shall each time a new measurement result is received from the physical layer measurement, calculate the change of $T_{UTRAN-GPS}$ value ($F_n$). The $RNC_2$ shall initiate the Common Measurement Reporting procedure and set n equal to zero when the absolute value of $F_n$ rises above the threshold indicated by the $T_{UTRAN-GPS}$ *Change Limit* IE. The change of $T_{UTRAN-GPS}$ value ($F_n$) is calculated according to the following:

     $F_n=0$ *for n=0*

     $F_n = (M_n – M_{n-1}) \bmod 37158912000000 – ((SFN_n – SFN_{n-1}) \bmod 4096) *10*3.84*10\text{^}3*16 + F_{n-1}$ *for n>0*

     $F_n$ is the change of the $T_{UTRAN-GPS}$ value expressed in unit [1/16 chip] when n measurement results has been received after first Common Measurement Reporting at initiation or after the last event was triggered.

     $M_n$ is the latest measurement result received from the physical layer measurements, measured at $SFN_n$.

     $M_{n-1}$ is the previous measurement result received from the physical layer measurements, measured at $SFN_{n-1}$.

     $M_1$ is the first measurement result received from the physical layer measurements after first Common Measurement Reporting at initiation or after the last event was triggered.

     $M_0$ is equal to the value reported in the first Common Measurement Reporting at initiation or in the Common Measurement Reporting when the event was triggered.

   - If the *Predicted* $T_{UTRAN-GPS}$ *Deviation Limit* IE is included in the $T_{UTRAN-GPS}$ *Measurement Threshold Information* IE, the $RNC_2$ shall, each time a new measurement result is received from the physical layer measurement, update the $P_n$ and $F_n$. The $RNC_2$ shall initiate the Common Measurement Reporting procedure and set n equal to zero when $F_n$ rises above the threshold indicated by the *Predicted* $T_{UTRAN-GPS}$ *Deviation Limit* IE. The $P_n$ and $F_n$ are calculated according to the following:

     $P_n=b$ *for n=0*

     $P_n = ( (1+a) * ((SFN_n – SFN_{n-1}) \bmod 4096) *10*3.84*10\text{^}3*16 + P_{n-1} ) \bmod 37158912000000$ *for n>0*

     $F_n = \min(abs(M_n – P_n), abs(M_n – P_n – 37158912000000), abs(M_n – P_n + 37158912000000))$ *for n>0*

     $P_n$ is the predicted $T_{UTRAN-GPS}$ value when n measurement results has been received after first Common Measurement Reporting at initiation or after the last event was triggered.

*a* is the last reported $T_{UTRAN-GPS}$ Drift Rate value.

*b* is the last reported $T_{UTRAN-GPS}$ value.

$F_n$ is the deviation of the last measurement result from the predicted $T_{UTRAN-GPS}$ value ($P_n$) when n measurements have been received after first Common Measurement Reporting at initiation or after the last event was triggered.

$M_n$ is the latest measurement result received from the physical layer measurements, measured at $SFN_n$.

$M_1$ is the first measurement result received from the physical layer measurements after first Common Measurement Reporting at initiation or after the last event was triggered.

The $T_{UTRAN-GPS}$ Drift Rate is determined by the Node B in an implementation-dependent way after point B (see model of physical layer measurements in [26]).

2. If the *Common Measurement Type* IE is set to 'SFN-SFN Observed Time Difference':

- If the *SFN-SFN Change Limit* IE is included in the *SFN-SFN Measurement Threshold Information* IE, the $RNC_2$ shall each time a new measurement result is received from the physical layer measurement, calculate the change of SFN-SFN value ($F_n$). The $RNC_2$ shall initiate the Common Measurement Reporting procedure in order to report the particular SFN-SFN measurement which has triggered the event and set n equal to zero when the absolute value of $F_n$ rises above the threshold indicated by the *SFN-SFN Change Limit* IE. The change of the SFN-SFN value is calculated according to the following:

  $F_n=0$ *for n=0*

  $F_n = (M_n – a) \bmod 40960$ *for n>0*

  $F_n$ is the change of the SFN-SFN value expressed in unit [1/16 chip] when n measurement results has been received after first Common Measurement Reporting at initiation or after the last event was triggered.

  *a* is the last reported SFN-SFN.

  $M_n$ is the latest measurement result received from the physical layer measurements, measured at $SFN_n$.

  $M_1$ is the first measurement result received from the physical layer measurements after first Common Measurement Reporting at initiation or after the last event was triggered.

- If the *Predicted SFN-SFN Deviation Limit* IE is included in the *SFN-SFN Measurement Threshold Information* IE, the $RNC_2$ shall each time a new measurement result is received from the physical layer measurement, update the $P_n$ and $F_n$. The $RNC_2$ shall initiate the Common Measurement Reporting procedure in order to report the particular SFN-SFN measurement which has triggered the event and set n equal to zero when $F_n$ rises above the threshold indicated by the *Predicted SFN-SFN Deviation Limit* IE. The $P_n$ and $F_n$ are calculated according to the following:

  $P_n=b$ *for n=0*

  $P_n = (( a * (15*((SFN_n – SFN_{n-1}) \bmod 4096) + (TS_n – TS_{n-1}))*2560*16+ P_{n-1} ) \bmod 40960) – 20480$ *for n>0*

  $F_n = \min(abs(M_n – P_n), abs(M_n – P_n – 40960), abs(M_n – P_n + 40960))$ *for n>0*

  $P_n$ is the predicted *SFN-SFN* value when n measurement results has been received after first Common Measurement Reporting at initiation or after the last event was triggered.

  *a* is the last reported *SFN-SFN* Drift Rate value.

  *b* is the last reported SFN-SFN value.

$F_n$ is the deviation of the last measurement result from the predicted *SFN-SFN* value ($P_n$) when n measurements has been received after first Common Measurement Reporting at initiation or after the last event was triggered.

$M_n$ is the latest measurement result received from the physical layer measurements, measured at the Time Slot $TS_n$ of the Frame $SFN_n$.

$M_1$ is the first measurement result received from the physical layer measurements after first Common Measurement Reporting at initiation or after the last event was triggered.

The SFN-SFN Drift Rate is determined by the Node B in an implementation-dependent way after point B (see model of physical layer measurements in [26]).

If the *Report Characteristics* IE is not set to 'On-Demand', the $RNC_2$ is required to perform reporting for a common measurement object, in accordance with the conditions provided in the COMMON MEASUREMENT INITIATION REQUEST message, as long as the object exists. If no common measurement object(s) for which a measurement is defined exists any more the $RNC_2$ shall terminate the measurement locally without reporting this to $RNC_1$.

If at the start of the measurement, the reporting criteria are fulfilled for any of Event A, Event B, Event E or Event F, the $RNC_2$ shall initiate a Measurement Reporting procedure immediately, and then continue with the measurements as specified in the COMMON MEASUREMENT INITIATION REQUEST message.

**Common measurement accuracy**

If the *Common Measurement Type* IE is set to 'UTRAN GPS Timing of Cell Frames for LCS', then the *UTRAN GPS Timing Measurement Minimum Accuracy Class* IE included in the *Report Characteristics* IE indicates the minimum accuracy class required in the measurements.

- If the *UTRAN GPS Timing Measurement Minimum Accuracy Class* IE indicates 'Class A', then the concerned $RNC_2$ shall perform the measurement with the highest supported accuracy according to any of the accuracy classes A, B or C.
- If the *UTRAN GPS Timing Measurement Minimum Accuracy Class* IE indicates the 'Class B', then the concerned $RNC_2$ shall perform the measurements with the highest supported accuracy according to class B or C.
- If the *UTRAN GPS Timing Measurement Minimum Accuracy Class* IE indicates 'Class C', then the concerned $RNC_2$ shall perform the measurements with the highest supported accuracy according to class C only.
- If the *Common Measurement Type* IE is set to 'SFN-SFN Observed Time Difference', then the concerned $RNC_2$ shall initiate the SFN-SFN observed Time Difference measurements between the reference cell identified by *UC-ID* IE and the neighbouring cells identified by their UC-ID. The *Report Characteristics* IE applies to each of these measurements.

**Higher layer filtering**

The *Measurement Filter Coefficient* IE indicates how filtering of the measurement values shall be performed before measurement event evaluation and reporting.

The averaging shall be performed according to the following formula.

$$F_n = (1-a) \cdot F_{n-1} + a \cdot M_n$$

The variables in the formula are defined as follows

$F_n$ is the updated filtered measurement result

$F_{n-1}$ is the old filtered measurement result

$M_n$ is the latest received measurement result from physical layer measurements

$a = 1/2^{(k/2)}$ -, where k is the parameter received in the *Measurement Filter Coefficient* IE. If the *Measurement Filter Coefficient* IE is not present, *a* shall be set to 1 (no filtering)

In order to initialise the averaging filter, $F_0$ is set to $M_1$ when the first measurement result from the physical layer measurement is received.

**Response message**
If the $RNC_2$ was able to initiate the measurement requested by $RNC_1$ it shall respond with the COMMON MEASUREMENT INITIATION RESPONSE message sent. The message shall include the same Measurement ID that was used in the measurement request. Only in the case when the *Report Characteristics* IE is set to "On-Demand" or "On Modification", the COMMON MEASUREMENT INITIATION RESPONSE message shall contain the measurement result. It shall also the *Common Measurement Achieved Accuracy* IE in the *Common Measurement Value* IE if the *Common Measurement Type* IE is set to 'UTRAN GPS Timing of Cell Frame for LCS'.

Furthermore, if the *Common Measurement Type* IE is set to 'SFN-SFN Observed Time Difference', then all the available measurements shall be reported in the *Successful Neighbouring cell SFN-SFN Observed Time Difference Measurement Information* IE and the neighbouring cells with no measurement result available shall be reported in the *Unsuccessful Neighbouring cell SFN-SFN Observed Time Difference Measurement Information* IE.

### 8.5.2.3 Unsuccessful Operation

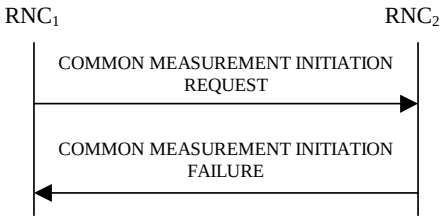


**Figure 30B: Common Measurement Initiation procedure, Unsuccessful Operation**

If the Common Measurement Type received in the *Common Measurement Type* IE is not 'load', and if the Common Measurement Type received in the *Common Measurement Type* IE is not defined in ref. [11] or [15] to be measured on the Common Measurement Object Type received in the *Common Measurement Object Type* IE in the COMMON MEASUREMENT INITIATION REQUEST message the $RNC_2$ shall regard the Common Measurement Initiation procedure as failed.

If the requested measurement cannot be initiated, the $RNC_2$ shall send a COMMON MEASUREMENT INITIATION FAILURE message. The message shall include the same Measurement ID that was used in the COMMON MEASUREMENT INITIATION REQUEST message and the *Cause* IE set to an appropriate value.

If the *Common Measurement Type* IE is set to 'SFN-SFN Observed Time Difference', but the *Neighbouring Cell Measurement Information* IE is not received in the COMMON MEASUREMENT INITIATION REQUEST message, the $RNC_2$ shall regard the Common Measurement Initiation procedure as failed.

If the *Common Measurement Type* IE is set to 'UTRAN GPS Timing of Cell Frame for LCS', but the $T_{UTRAN\text{-}GPS}$ *Measurement Minimum Accuracy Class* IE in the *Common Measurement Accuracy* IE is not received in the COMMON MEASUREMENT INITIATION REQUEST message, the $RNC_2$ shall regard the Common Measurement Initiation procedure as failed.

Typical cause values are as follows:

**Radio Network Layer Cause**

- Measurement not supported for the object.
- Measurement Temporarily not Available

#### 8.5.2.4 Abnormal Conditions

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### 8.5.3 Common Measurement Reporting

#### 8.5.3.1 General

This procedure is used by an RNC to report the result of measurements requested by another RNC using the Common Measurement Initiation.

This procedure uses the signalling bearer connection for the relevant Distant RNC Context.

#### 8.5.3.2 Successful Operation


**Figure 30C: Common Measurement Reporting procedure, Successful Operation**

If the requested measurement reporting criteria are met, the $RNC_2$ shall initiate a Measurement Reporting procedure. Unless specified below, the meaning of the parameters are given in other specifications.

The *Common Measurement ID* IE shall be set to the Common Measurement ID provided by $RNC_1$ when initiating the measurement with the Common Measurement Initiation procedure.

If the achieved measurement accuracy does not fulfil the given accuracy requirement, the Measurement not available shall be reported.

The $RNC_2$ shall include the *Common Measurement Achieved Accuracy* IE in the *Common Measurement Value* IE if the measurement was initiated for the 'UTRAN GPS Timing of Cell Frame for LCS' measurement type by the Common Measurement Initiation procedure.

#### 8.5.3.3 Abnormal Conditions

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## 8.5.4 Common Measurement Termination

### 8.5.4.1 General

This procedure is used by an RNC to terminate a measurement previously requested by the Common Measurement Initiation procedure.

This procedure uses the signalling bearer connection for the relevant Distant RNC Context.

### 8.5.4.2 Successful Operation


**Figure 30D: Common Measurement Termination procedure, Successful Operation**

This procedure is initiated with a COMMON MEASUREMENT TERMINATION REQUEST message.

Upon reception, $RNC_2$ shall terminate reporting of measurements corresponding to the Common Measurement ID.

### 8.5.4.3 Abnormal Conditions

-

## 8.5.5 Common Measurement Failure

### 8.5.5.1 General

This procedure is used by an RNC to notify another RNC that a measurement previously requested by the Common Measurement Initiation procedure can no longer be reported.

This procedure uses the signalling bearer connection for the relevant Distant RNC Context.

### 8.5.5.2 Successful Operation


**Figure 30E: Common Measurement Failure procedure, Successful Operation**

This procedure is initiated with a COMMON MEASUREMENT FAILURE INDICATION message, sent from $RNC_2$ to $RNC_1$ to inform the $RNC_1$ that a previously requested measurement can no longer be reported. $RNC_2$ has locally terminated the indicated measurement.

#### 8.5.5.3 Abnormal Conditions

-

### 8.5.6 Information Exchange Initiation

#### 8.5.6.1 General

This procedure is used by a RNC to request the initiation of an information exchange with another RNC.

This procedure uses the signalling bearer connection for the relevant Information Exchange Context.

#### 8.5.6.2 Successful Operation

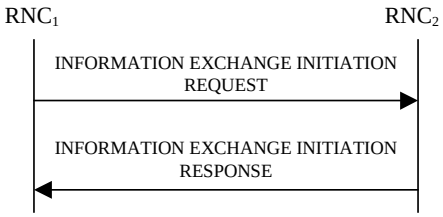


**Figure 30F: Information Exchange Initiation procedure, Successful Operation**

The procedure is initiated with an INFORMATION EXCHANGE INITIATION REQUEST message sent from $RNC_1$ to $RNC_2$.

Upon reception, the $RNC_2$ shall provide the requested information according to the parameters given in the request. Unless specified below, the meaning of the parameters are given in other specifications.

**Information Report Characteristics:**

The *Information Report Characteristics* IE indicates how the reporting of the information shall be performed.

If the *Information Report Characteristics* IE is set to 'On-Demand', the $RNC_2$ shall report the requested information immediately.

If the *Information Report Characteristics* IE is set to 'Periodic', the $RNC_2$ shall periodically initiate the Information Reporting procedure for all the requested information, with the requested report frequency.

If the *Information Report Characteristics* IE is set to 'On-Modification', the $RNC_2$ shall report the requested information immediately and then shall initiate the Information Reporting procedure in accordance to the following conditions:

- If the *Information Type Item* IE is set to 'IPDL Parameters', the $RNC_2$ shall initiate the Information Reporting procedure when any change in the parameters occurs.

- If the *Information Type Item* IE is set to 'DGPS Corrections', the $RNC_2$ shall initiate the Information Reporting procedure for this specific Information Type when either the PRC has drifted from the previously reported value more than the threshold indicated in the *PRC Deviation* IE or a change has occurred in the IODE.

- If the *Information Type Item* IE is set to 'GPS Information' and the *GPS Information Item* IE includes 'GPS Navigation Model & Recovery Assistance', the $RNC_2$ shall initiate the Information Reporting procedure for this specific GPS Information Type when a change has occurred regarding either the IODC or the list of visible satellites, identified by the *SatID* IEs.

- If the *Information Type Item* IE is set to 'GPS Information' and the *GPS Information Item* IE includes 'GPS Ionospheric Model', the $RNC_2$ shall initiate the Information Reporting procedure for this specific GPS Information Type when any change has occurred.

- If the *Information Type Item* IE is set to 'GPS Information' and the *GPS Information Item* IE includes 'GPS UTC Model', the $RNC_2$ shall initiate the Information Reporting procedure for this specific GPS Information Type when a change has occurred in the t_ot parameter.

- If the *Information Type Item* IE is set to 'GPS Information' and the *GPS Information Item* IE includes 'GPS Almanac', the $RNC_2$ shall initiate the Information Reporting procedure for this specific GPS Information Type when any change has occurred.

- If the *Information Type Item* IE is set to 'GPS Information' and the *GPS Information Item* IE includes 'GPS Real-Time Integrity', the $RNC_2$ shall initiate the Information Reporting procedure for this specific GPS Information Type when any change has occurred.

**Response message:**

If the $RNC_2$ was able to determine the information requested by the $RNC_1$, it shall respond with the INFORMATION EXCHANGE INITIATION RESPONSE message. The message shall include the same Information Exchange ID that was included in the INFORMATION EXCHANGE REQUEST message.

### 8.5.6.3 Unsuccessful Operation

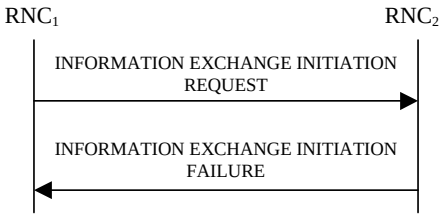


**Figure 30G: Information Exchange Initiation procedure, Unsuccessful Operation**

If the requested Information Type received in the *Information Type* IE indicates a type of information that $RNC_2$ cannot provide, the $RNC_2$ shall regard the Information Exchange Initiation procedure as failed.

If the requested information provision cannot be carried out, the $RNC_2$ shall send the INFORMATION EXCHANGE INITIATION FAILURE message. The message shall include the same Information Exchange ID that was used in the INFORMATION EXCHANGE INITIATION REQUEST message and the *Cause* IE set to an appropriate value.

Typical cause values are as follows:

**Radio Network Layer Cause**:

Information temporarily not available.

Information Provision not supported for the object.

#### 8.5.6.4 Abnormal Conditions

-

### 8.5.7 Information Reporting

#### 8.5.7.1 General

This procedure is used by a RNC to report the result of information requested by another RNC using the Information Exchange Initiation.

This procedure uses the signalling bearer connection for the relevant Information Exchange Context.

#### 8.5.7.2 Successful Operation


**Figure 30H: Information Reporting procedure, Successful Operation**

If the requested information reporting criteria are met, the $RNC_2$ shall initiate an Information Reporting procedure. Unless specified below, the meaning of the parameters are given in other specifications.

The *Information Exchange ID* IE shall be set to the Information Exchange ID provided by the $RNC_1$ when initiating the information exchange with the Information Exchange Initiation procedure.

#### 8.5.7.3 Abnormal Conditions

-

### 8.5.8 Information Exchange Termination

#### 8.5.8.1 General

This procedure is used by a RNC to terminate the information exchange requested using the Information Exchange Initiation.

This procedure uses the signalling bearer connection for the relevant Information Exchange Context.

### 8.5.8.2 Successful Operation


**Figure 30I: Information Exchange Termination procedure, Successful Operation**

This procedure is initiated with a INFORMATION EXCHANGE TERMINATION REQUEST message.

Upon reception, the $RNC_2$ shall terminate the information exchange corresponding to the Information Exchange ID.

### 8.5.8.3 Abnormal Conditions

-

## 8.5.9 Information Exchange Failure

### 8.5.9.1 General

This procedure is used by a RNC to notify another that the information exchange it previously requested using the Information Exchange Initiation can no longer be reported.

This procedure uses the signalling bearer connection for the relevant Information Exchange Context.

### 8.5.9.2 Successful Operation


**Figure 30J: Information Exchange Failure procedure, Successful Operation**

This procedure is initiated with a INFORMATION EXCHANGE FAILURE INDICATION message, sent from the $RNC_2$ to the $RNC_1$, to inform the $RNC_1$ that information previously requested by the Information Exchange Initiation procedure can no longer be reported. The message shall include the same Information Exchange ID that was used in the INFORMATION EXCHANGE INITIATION REQUEST message and the *Cause* IE set to an appropriate value.

Typical cause values are as follows:

**Radio Network Layer Cause**:

Information temporarily not available.

# 9 Elements for RNSAP Communication

## 9.1 Message Functional Definition and Content

### 9.1.1 General

This subclause defines the structure of the messages required for the RNSAP protocol in tabular format. The corresponding ASN.1 definition is presented in subclause 9.3. In case there is contradiction between the tabular format in subclause 9.1 and the ASN.1 definition, the ASN.1 shall take precedence, except for the definition of conditions for the presence of conditional IEs, where the tabular format shall take precedence.

NOTE: The messages have been defined in accordance to the guidelines specified in [28].

### 9.1.2 Message Contents

#### 9.1.2.1 Presence

An information element can be of the following *types*:

| | |
|---|---|
| **M** | The information element is mandatory, i.e. always present in the message |
| **O** | The information element is optional, i.e. may or may not be present in the message independently on the presence or value of other information elements in the same message |
| **C#** | The presence of the information element is conditional to the presence or to the value of another information element, as reported in the table below the message containing the explanation of the condition. |

In case of an information element group, the group is preceded by a name for the info group (in bold). It is also indicated how many times a group may be repeated in the message and whether the group is conditional. Each group may be also repeated within one message. The presence field of the information elements inside one group defines if the information element is mandatory, optional or conditional if the group is present.

#### 9.1.2.2 Criticality

Each information element or Group of information elements may have criticality information applied to it. Following cases are possible:

| | |
|---|---|
| **–** | No criticality information is applied explicitly. |
| **YES** | Criticality information is applied. 'YES' is usable only for non-repeatable information elements. |
| **GLOBAL** | The information element and all its repetitions together have one common criticality information. 'GLOBAL' is usable only for repeatable information elements. |
| **EACH** | Each repetition of the information element has its own criticality information. It is not allowed to assign different criticality values to the repetitions. 'EACH' is usable only for repeatable information elements. |

#### 9.1.2.3 Range

The Range column indicates the allowed number of copies of repetitive IEs/IE groups.

#### 9.1.2.4 Assigned Criticality

This column provides the actual criticality information as defined in subclause 10.3.2, if applicable.

## 9.1.3 RADIO LINK SETUP REQUEST

### 9.1.3.1 FDD Message

| IE/Group Name | Presence | Range | IE type and reference | Semantics description | Criticality | Assigned Criticality |
|---|---|---|---|---|---|---|
| Message Type | M | | 9.2.1.40 | | YES | reject |
| Transaction ID | M | | 9.2.1.59 | | – | |
| SRNC-Id | M | | RNC-Id 9.2.1.50 | | YES | reject |
| S-RNTI | M | | 9.2.1.53 | | YES | reject |
| D-RNTI | O | | 9.2.1.24 | | YES | reject |
| Allowed Queuing Time | O | | 9.2.1.2 | | YES | reject |
| **UL DPCH Information** | | *1* | | | YES | reject |
| >UL Scrambling Code | M | | 9.2.2.53 | | – | |
| >Min UL Channelisation Code Length | M | | 9.2.2.25 | | – | |
| >Max Number of UL DPDCHs | C – CodeLen | | 9.2.2.24 | | – | |
| >Puncture Limit | M | | 9.2.1.46 | For the UL. | – | |
| >TFCS | M | | TFCS for the UL 9.2.1.63 | | – | |
| >UL DPCCH Slot Format | M | | 9.2.2.52 | | – | |
| >Uplink SIR Target | O | | Uplink SIR 9.2.1.69 | | – | |
| >Diversity mode | M | | 9.2.2.8 | | – | |
| >SSDT Cell Identity Length | O | | 9.2.2.41 | | – | |
| >S Field Length | O | | 9.2.2.36 | | – | |
| >DPC Mode | O | | 9.2.2.12A | | YES | reject |
| **DL DPCH Information** | | *1* | | | YES | reject |
| >TFCS | M | | TFCS for the DL. 9.2.1.63 | | – | |
| >DL DPCH Slot Format | M | | 9.2.2.9 | | – | |
| >Number of DL Channelisation Codes | M | | 9.2.2.26A | | – | |
| >TFCI Signalling Mode | M | | 9.2.2.46 | | – | |
| >TFCI Presence | C-SlotFormat | | 9.2.1.55 | | – | |
| >Multiplexing Position | M | | 9.2.2.26 | | – | |
| **>Power Offset Information** | | *1* | | | – | |
| >>PO1 | M | | Power Offset 9.2.2.30 | Power offset for the TFCI bits. | – | |
| >>PO2 | M | | Power Offset 9.2.2.30 | Power offset for the TPC bits. | – | |
| >>PO3 | M | | Power Offset 9.2.2.30 | Power offset for the pilot bits. | – | |
| >FDD TPC Downlink Step Size | M | | 9.2.2.16 | | – | |
| >Limited Power Increase | M | | 9.2.2.21A | | – | |
| >Inner Loop DL PC Status | M | | 9.2.2.21a | | – | |
| DCH Information | M | | DCH FDD Information 9.2.2.4A | | YES | reject |
| DSCH Information | O | | DSCH FDD Information 9.2.2.13A | | YES | reject |
| **RL Information** | | *1…<maxnoofRLs>* | | | EACH | notify |

| IE/Group Name | Presence | Range | IE type and reference | Semantics description | Criticality | Assigned Criticality |
|---|---|---|---|---|---|---|
| >RL ID | M | | 9.2.1.49 | | – | |
| >C-Id | M | | 9.2.1.6 | | – | |
| >First RLS Indicator | M | | 9.2.2.16A | | - | |
| >Frame Offset | M | | 9.2.1.30 | | – | |
| >Chip Offset | M | | 9.2.2.1 | | – | |
| >Propagation Delay | O | | 9.2.2.33 | | – | |
| >Diversity Control Field | C – NotFirstRL | | 9.2.1.20 | | – | |
| >Initial DL TX Power | C_ifAlone | | DL Power 9.2.2.10 | | – | |
| >Primary CPICH Ec/No | C_ifAlone | | 9.2.2.32 | | – | |
| >SSDT Cell Identity | O | | 9.2.2.40 | | – | |
| >Transmit Diversity Indicator | C – Diversity mode | | 9.2.2.48 | | – | |
| >SSDT Cell Identity for EDSCHPC | C-EDSCHPC | | 9.2.2.40A | | YES | ignore |
| Transmission Gap Pattern Sequence Information | C – CM Active | | 9.2.2.47A | | YES | reject |
| Active Pattern Sequence Information | O | | 9.2.2.A | | YES | reject |

| Condition | Explanation |
|---|---|
| CodeLen | This IE shall be present only if *Min UL Channelisation Code length* IE equals to 4 |
| SlotFormat | This IE shall only be present if the *DL DPCH Slot Format* IE is equal to any of the values 12 to 16. |
| NotFirstRL | This IE shall be present only if the RL is not the first one in the *RL Information* IE. |
| Diversity mode | This IE shall be present unless *Diversity Mode* IE in *UL DPCH Information* IE is "none" |
| C_IfAlone | Either *Initial DL TX Power* IE or *Primary CPICH Ec/No* IE shall be present. |
| CM_Active | This IE shall be present when the *Active Pattern Sequence Information* IE is present, otherwise this IE is optional. |
| EDSCHPC | This IE shall be present if *Enhanced DSCH PC* IE is present in the *DSCH Information* IE. |

| Range bound | Explanation |
|---|---|
| MaxnoofRLs | Maximum number of RLs for one UE. |

### 9.1.3.2 TDD Message

| IE/Group Name | Presence | Range | IE type and reference | Semantics description | Criticality | Assigned Criticality |
|---|---|---|---|---|---|---|
| Message Type | M | | 9.2.1.40 | | YES | reject |
| Transaction ID | M | | 9.2.1.59 | | – | |
| SRNC-Id | M | | RNC-Id 9.2.1.50 | | YES | reject |
| S-RNTI | M | | 9.2.1.53 | | YES | reject |
| D-RNTI | O | | 9.2.1.24 | | YES | reject |
| Allowed Queuing Time | O | | 9.2.1.2 | | YES | reject |
| **UL Physical Channel Information** | | *1* | | | YES | reject |
| >Maximum Number of Timeslots per Frame | M | | 9.2.3.3A | For the UL | – | |
| >Minimum Spreading Factor | M | | 9.2.3.4A | For the UL | – | |
| >Maximum Number of UL Physical Channels per Timeslot | M | | 9.2.3.3B | | – | |
| **DL Physical Channel Information** | | *1* | | | YES | reject |
| >Maximum Number of Timeslots per Frame | M | | 9.2.3.3A | For the DL | – | |
| >Minimum Spreading Factor | M | | 9.2.3.4A | For the DL | – | |
| >Maximum Number of DL Physical Channels per Frame | M | | 9.2.3.3C | | – | |
| **UL CCTrCH Information** | | *0..<maxnoofCCTrCHs>* | | For DCH and USCH | EACH | notify |
| >CCTrCH ID | M | | 9.2.3.2 | | – | |
| >TFCS | M | | 9.2.1.63 | For the UL. | – | |
| >TFCI Coding | M | | 9.2.3.11 | | – | |
| >Puncture Limit | M | | 9.2.1.46 | | – | |
| **DL CCTrCH Information** | | *0..<maxnoofCCTrCHs>* | | For DCH and DSCH | EACH | notify |
| >CCTrCH ID | M | | 9.2.3.2 | | – | |
| >TFCS | M | | 9.2.1.63 | For the DL. | – | |
| >TFCI Coding | M | | 9.2.3.11 | | – | |
| >Puncture Limit | M | | 9.2.1.46 | | – | |
| >TDD TPC Downlink Step Size | M | | 9.2.3.10 | | – | |
| **>TPC CCTrCH List** | | 0 to <maxnoCCTrCH> | | List of uplink CCTrCH which provide TPC | – | |
| >>TPC CCTrCH ID | M | | CCTrCH ID 9.2.3.2 | | – | |
| DCH Information | O | | DCH TDD Information 9.2.3.2A | | YES | reject |
| DSCH Information | O | | DSCH TDD Information 9.2.3.3a | | YES | reject |
| USCH Information | O | | 9.2.3.15 | | YES | reject |
| **RL Information** | | *1* | | | YES | reject |
| >RL ID | M | | 9.2.1.49 | | – | |
| >C-Id | M | | 9.2.1.6 | | – | |
| >Frame Offset | M | | 9.2.1.30 | | – | |
| >Special Burst Scheduling | M | | 9.2.3.7D | | – | |
| >Primary CCPCH RSCP | O | | 9.2.3.5 | | – | |

| | | | | | | |
|---|---|---|---|---|---|---|
| >DL Time Slot ISCP Info | O | | 9.2.3.2D | For 3.84Mcps TDD only | – | |
| >DL Time Slot ISCP Info LCR | O | | 9.2.3.2F | For 1.28Mcps TDD only | YES | reject |
| >TSTD Support Indicator | O | | 9.2.3.13F | For 1.28Mcps TDD only | YES | ignore |

| Range bound | Explanation |
|---|---|
| MaxnoofCCTrCHs | Maximum number of CCTrCH for one UE. |

## 9.1.4 RADIO LINK SETUP RESPONSE

### 9.1.4.1 FDD Message

| IE/Group Name | Presence | Range | IE type and reference | Semantics description | Criticality | Assigned Criticality |
|---|---|---|---|---|---|---|
| Message Type | M | | 9.2.1.40 | | YES | reject |
| Transaction ID | M | | 9.2.1.59 | | – | |
| D-RNTI | O | | 9.2.1.24 | | YES | ignore |
| CN PS Domain Identifier | O | | 9.2.1.12 | | YES | ignore |
| CN CS Domain Identifier | O | | 9.2.1.11 | | YES | ignore |
| **RL Information Response** | | *1..<maxnoofRLs>* | | | EACH | ignore |
| >RL ID | M | | 9.2.1.49 | | – | |
| >RL Set ID | M | | 9.2.2.35 | | – | |
| >URA Information | O | | 9.2.1.70B | | – | |
| >SAI | M | | 9.2.1.52 | | – | |
| >Cell GAI | O | | 9.2.1.5A | | – | |
| >UTRAN Access Point Position | O | | 9.2.1.70A | | – | |
| >Received Total Wide Band Power | M | | 9.2.2.35A | | – | |
| >Secondary CCPCH Info | O | | 9.2.2.37B | | – | |
| >DL Code Information | M | | FDD DL Code Information 9.2.2.14A | | – | |
| >Diversity Indication | C-NotFirstRL | | 9.2.1.21 | | – | |
| >CHOICE *Diversity Indication* | M | | | | – | |
| *>>Combining* | | | | | – | |
| >>>RL ID | M | | 9.2.1.49 | Reference RL ID for the combining | – | |
| >>>DCH Information Response | O | | 9.2.1.16A | | YES | ignore |
| *>>Non Combining or First RL* | | | | | – | |
| >>>DCH Information Response | M | | 9.2.1.16A | | – | |
| >SSDT Support Indicator | M | | 9.2.2.43 | | – | |
| >Maximum Uplink SIR | M | | Uplink SIR 9.2.1.69 | | – | |
| >Minimum Uplink SIR | M | | Uplink SIR 9.2.1.69 | | – | |
| >Closed Loop Timing Adjustment Mode | O | | 9.2.2.3A | | – | |
| >Maximum Allowed UL Tx Power | M | | 9.2.1.35 | | – | |
| >Maximum DL TX Power | M | | DL Power 9.2.2.10 | | – | |
| >Minimum DL TX Power | M | | DL Power 9.2.2.10 | | – | |
| >Primary Scrambling Code | O | | 9.2.1.45 | | – | |
| >UL UARFCN | O | | UARFCN 9.2.1.66 | Corresponds to Nu in ref. [6] | – | |
| >DL UARFCN | O | | UARFCN 9.2.1.66 | Corresponds to Nd in ref. [6] | – | |
| >Primary CPICH Power | O | | 9.2.1.44 | | – | |
| >DSCH Information Response | O | | DSCH FDD Information | | YES | ignore |

| IE/Group Name | Presence | Range | IE type and reference | Semantics description | Criticality | Assigned Criticality |
|---|---|---|---|---|---|---|
| | | | Response 9.2.2.13B | | | |
| >Neighbouring UMTS Cell Information | O | | 9.2.1.41A | | – | |
| >Neighbouring GSM Cell Information | O | | 9.2.1.41C | | YES | ignore |
| >PC Preamble | M | | 9.2.2.27a | | – | |
| >SRB Delay | M | | 9.2.2.39A | | – | |
| >Cell GA Additional Shapes | O | | 9.2.1.5B | | YES | ignore |
| Uplink SIR Target | O | | Uplink SIR 9.2.1.69 | | YES | ignore |
| Criticality Diagnostics | O | | 9.2.1.13 | | YES | ignore |

| Condition | Explanation |
|---|---|
| NotFirstRL | The IE shall be present only if the RL is not the first RL in the RL Information |

| Range bound | Explanation |
|---|---|
| MaxnoofRLs | Maximum number of RLs for one UE. |

### 9.1.4.2 TDD Message

| IE/Group Name | Presence | Range | IE type and reference | Semantics description | Criticality | Assigned Criticality |
|---|---|---|---|---|---|---|
| Message Type | M | | 9.2.1.40 | | YES | reject |
| Transaction ID | M | | 9.2.1.59 | | – | |
| D-RNTI | O | | 9.2.1.24 | | YES | ignore |
| CN PS Domain Identifier | O | | 9.2.1.12 | | YES | ignore |
| CN CS Domain Identifier | O | | 9.2.1.11 | | YES | ignore |
| **RL Information Response** | | *0..1* | | Mandatory For 3.84Mcps TDD only | YES | ignore |
| >RL ID | M | | 9.2.1.49 | | – | |
| >URA Information | O | | 9.2.1.70B | | – | |
| >SAI | M | | 9.2.1.52 | | – | |
| >Cell GAI | O | | 9.2.1.5A | | – | |
| >UTRAN Access Point Position | O | | 9.2.1.70A | | – | |
| >UL Time Slot ISCP Info | M | | 9.2.3.13D | | – | |
| >Maximum Uplink SIR | M | | Uplink SIR 9.2.1.69 | | – | |
| >Minimum Uplink SIR | M | | Uplink SIR 9.2.1.69 | | – | |
| >Maximum Allowed UL Tx Power | M | | 9.2.1.35 | | – | |
| >Maximum DL TX Power | M | | DL Power 9.2.2.10 | | – | |
| >Minimum DL TX Power | M | | DL Power 9.2.2.10 | | – | |
| >UARFCN | O | | UARFCN 9.2.1.66 | Corresponds to Nt in ref. [7] | – | |
| >Cell Parameter ID | O | | 9.2.1.8 | | – | |
| >Sync Case | O | | 9.2.1.54 | | – | |
| >SCH Time Slot | C-Case2 | | 9.2.1.51 | | – | |
| >Block STTD Indicator | O | | 9.2.3.A | | – | |
| >PCCPCH Power | O | | 9.2.1.43 | | – | |
| >Timing Advance Applied | M | | 9.2.3.12A | | – | |
| >Alpha Value | M | | 9.2.3.a | | – | |
| >UL PhysCH SF Variation | M | | 9.2.3.13B | | – | |
| >Synchronisation Configuration | M | | 9.2.3.7E | | – | |
| >Secondary CCPCH Info TDD | O | | 9.2.3.7B | | – | |
| **>UL CCTrCH Information** | | *0..<maxnoofCCTrCHs>* | | For DCH | GLOBAL | ignore |
| >>CCTrCH ID | M | | 9.2.3.2 | | – | |
| **>>UL DPCH Information** | | *0..1* | | | YES | ignore |
| >>>Repetition Period | M | | 9.2.3.7 | | – | |
| >>>Repetition Length | M | | 9.2.3.6 | | – | |
| >>>TDD DPCH Offset | M | | 9.2.3.8A | | – | |
| >>>UL Timeslot Information | M | | 9.2.3.13C | | – | |
| **>DL CCTrCH Information** | | *0..<maxnoofCCTrCHs>* | | For DCH | GLOBAL | ignore |
| >>CCTrCH ID | M | | 9.2.3.2 | | – | |
| **>>DL DPCH Information** | | *0..1* | | | YES | ignore |
| >>>Repetition Period | M | | 9.2.3.7 | | – | |
| >>>Repetition Length | M | | 9.2.3.6 | | – | |
| >>>TDD DPCH Offset | M | | 9.2.3.8A | | – | |
| >>>DL Timeslot Information | M | | 9.2.3.2C | | | |

| IE/Group Name | Presence | Range | IE type and reference | Semantics description | Criticality | Assigned Criticality |
|---|---|---|---|---|---|---|
| >DCH Information Response | O | | 9.2.1.16A | | YES | ignore |
| **>DSCH Information Response** | | *0 .. <Maxnoof DSCHs>* | | | GLOBAL | ignore |
| >>DSCH ID | M | | 9.2.1.26A | | – | |
| >>DSCH Flow Control Information | M | | 9.2.1.26B | | – | |
| >>Binding ID | O | | 9.2.1.3 | | – | |
| >>Transport Layer Address | O | | 9.2.1.62 | | – | |
| >>Transport Format Management | M | | 9.2.3.13 | | – | |
| **>USCH Information Response** | | *0 .. <Maxnoof USCHs>* | | | GLOBAL | ignore |
| >>USCH ID | M | | 9.2.3.14 | | – | |
| >>Binding ID | O | | 9.2.1.3 | | – | |
| >>Transport Layer Address | O | | 9.2.1.62 | | – | |
| >>Transport Format Management | M | | 9.2.3.13 | | – | |
| >Neighbouring UMTS Cell Information | O | | 9.2.1.41A | | – | |
| >Neighbouring GSM Cell Information | O | | 9.2.1.41C | | YES | ignore |
| >Cell GA Additional Shapes | O | | 9.2.1.5B | | YES | ignore |
| **RL Information Response LCR** | | *0..1* | | Mandatory For 1.28Mcps TDD only | YES | ignore |
| >RL ID | M | | 9.2.1.49 | | – | |
| >URA Information | M | | 9.2.1.70B | | – | |
| >SAI | M | | 9.2.1.52 | | – | |
| >Cell GAI | O | | 9.2.1.5A | | – | |
| >UTRAN Access Point Position | O | | 9.2.1.70A | | – | |
| >UL Time Slot ISCP Info LCR | M | | 9.2.3.13H | | – | |
| >Maximum Uplink SIR | M | | Uplink SIR 9.2.1.69 | | – | |
| >Minimum Uplink SIR | M | | Uplink SIR 9.2.1.69 | | – | |
| >Maximum Allowed UL Tx Power | M | | 9.2.1.35 | | – | |
| >Maximum DL TX Power | M | | DL Power 9.2.2.10 | | – | |
| >Minimum DL TX Power | M | | DL Power 9.2.2.10 | | – | |
| >UL PhysCH SF Variation | M | | 9.2.3.13B | | – | |
| **>UL CCTrCH Information LCR** | | *0..<maxnoofCCTrCHsLCR>* | | For DCH | GLOBAL | ignore |
| >>CCTrCH ID | M | | 9.2.3.2 | | – | |
| **>>UL DPCH Information LCR** | | *0..1* | | | YES | ignore |
| >>>Repetition Period | M | | 9.2.3.7 | | – | |
| >>>Repetition Length | M | | 9.2.3.6 | | – | |
| >>>TDD DPCH Offset | M | | 9.2.3.8A | | – | |
| >>>UL Timeslot Information LCR | M | | 9.2.3.x5 | | – | |
| **>DL CCTrCH Information LCR** | | *0..<maxnoofCCTrCHsLCR>* | | For DCH | GLOBAL | ignore |
| >>CCTrCH ID | M | | 9.2.3.2 | | – | |
| **>>DL DPCH Information** | | *0..1* | | | YES | ignore |

| IE/Group Name | Presence | Range | IE type and reference | Semantics description | Criticality | Assigned Criticality |
|---|---|---|---|---|---|---|
| **LCR** | | | | | | |
| >>>Repetition Period | M | | 9.2.3.7 | | – | |
| >>>Repetition Length | M | | 9.2.3.6 | | – | |
| >>>TDD DPCH Offset | M | | 9.2.3.8A | | – | |
| >>>DL Timeslot Information LCR | M | | 9.2.3.2E | | | |
| >>>TSTD Indicator | M | | 9.2.3.13E | | – | |
| >DCH Information Response | O | | 9.2.1.16A | | YES | ignore |
| **>DSCH Information Response LCR** | | *0 .. <Maxnoof DSCHsLCR>* | | | GLOBAL | ignore |
| >>DSCH ID | M | | 9.2.1.26A | | – | |
| >>DSCH Flow Control Information | M | | 9.2.1.26B | | – | |
| >>Binding ID | O | | 9.2.1.3 | | – | |
| >>Transport Layer Address | O | | 9.2.1.62 | | – | |
| >>Transport Format Management | M | | 9.2.3.13 | | – | |
| **>USCH Information Response LCR** | | *0 .. <Maxnoof USCHsLCR>* | | | GLOBAL | ignore |
| >>USCH ID | M | | 9.2.3.14 | | – | |
| >>Binding ID | O | | 9.2.1.3 | | – | |
| >>Transport Layer Address | O | | 9.2.1.62 | | – | |
| >>Transport Format Management | M | | 9.2.3.13 | | – | |
| >Neighbouring UMTS Cell Information | O | | 9.2.1.41A | | – | |
| >Neighbouring GSM Cell Information | O | | 9.2.1.41C | | – | |
| Uplink SIR Target | M | | Uplink SIR 9.2.1.69 | | YES | ignore |
| Criticality Diagnostics | O | | 9.2.1.13 | | YES | ignore |

| Condition | Explanation |
|---|---|
| Case2 | This IE shall be present when *Sync Case* IE is Case2. |

| Range bound | Explanation |
|---|---|
| MaxnoofDSCHs | Maximum number of DSCHs for one UE for 3.84Mcps TDD. |
| MaxnoofUSCHs | Maximum number of USCHs for one UE for 3.84Mcps TDD. |
| MaxnoofCCTrCHs | Maximum number of CCTrCH for one UE for 3.84Mcps TDD. |
| MaxnoofDSCHsLCR | Maximum number of DSCHs for one UE for 1.28Mcps TDD. |
| MaxnoofUSCHsLCR | Maximum number of USCHs for one UE for 1.28Mcps TDD. |
| MaxnoofCCTrCHsLCR | Maximum number of CCTrCH for one UE for 1.28Mcps TDD. |

## 9.1.5 RADIO LINK SETUP FAILURE

### 9.1.5.1 FDD Message

| IE/Group Name | Presence | Range | IE type and reference | Semantics description | Criticality | Assigned Criticality |
|---|---|---|---|---|---|---|
| Message Type | M | | 9.2.1.40 | | YES | reject |
| Transaction ID | M | | 9.2.1.59 | | – | |
| D-RNTI | O | | 9.2.1.24 | | YES | ignore |
| CN PS Domain Identifier | O | | 9.2.1.12 | | YES | ignore |
| CN CS Domain Identifier | O | | 9.2.1.11 | | YES | ignore |
| CHOICE *Cause Level* | M | | | | YES | ignore |
| *>General* | | | | | – | |
| >>Cause | M | | 9.2.1.5 | | – | |
| *>RL Specific* | | | | | – | |
| **>>Unsuccessful RL Information Response** | | *1...<maxnoofRLs>* | | | EACH | ignore |
| >>>RL ID | M | | 9.2.1.49 | | – | |
| >>>Cause | M | | 9.2.1.5 | | – | |
| **>>Successful RL Information Response** | | *0..<maxnoofRLs-1>* | | | EACH | ignore |
| >>>RL ID | M | | 9.2.1.49 | | – | |
| >>>RL Set ID | M | | 9.2.2.35 | | – | |
| >>>URA Information | O | | 9.2.1.70B | | – | |
| >>>SAI | M | | 9.2.1.52 | | – | |
| >>>Cell GAI | O | | 9.2.1.5A | | – | |
| >>>UTRAN Access Point Position | O | | 9.2.1.70A | | – | |
| >>>Received Total Wide Band Power | M | | 9.2.2.35A | | – | |
| >>>Secondary CCPCH Info | O | | 9.2.2.37B | | – | |
| >>>DL Code Information | M | | FDD DL Code Information 9.2.2.14A | | YES | ignore |
| >>>Diversity Indication | M | | 9.2.1.21 | | – | |
| >>>CHOICE *Diversity Indication* | M | | | | – | |
| >>>>*Combining* | | | | | – | |
| >>>>>RL ID | M | | 9.2.1.49 | Reference RL ID for the combining | – | |
| >>>>>DCH Information Response | O | | 9.2.1.16A | | YES | ignore |
| >>>>*Non Combining or First RL* | | | | | – | |
| >>>>>DCH Information Response | M | | 9.2.1.16A | | – | |
| >>>SSDT Support Indicator | M | | 9.2.2.43 | | – | |
| >>>Maximum Uplink SIR | M | | Uplink SIR 9.2.1.69 | | – | |
| >>>Minimum Uplink SIR | M | | Uplink SIR 9.2.1.69 | | – | |
| >>>Closed Loop Timing Adjustment Mode | O | | 9.2.2.3A | | – | |
| >>>Maximum Allowed UL Tx Power | M | | 9.2.1.35 | | – | |
| >>>Maximum DL TX Power | M | | DL Power 9.2.2.10 | | – | |
| >>>Minimum DL TX Power | M | | DL Power 9.2.2.10 | | – | |
| >>>DSCH Information | O | | DSCH | | YES | ignore |

| IE/Group Name | Presence | Range | IE type and reference | Semantics description | Criticality | Assigned Criticality |
|---|---|---|---|---|---|---|
| Response | | | FDD Information Response 9.2.2.13B | | | |
| >>>Neighbouring UMTS Cell Information | O | | 9.2.1.41A | | – | |
| >>>Neighbouring GSM Cell Information | O | | 9.2.1.41C | | - | |
| >>>Cell GA Additional Shapes | O | | 9.2.1.5B | | YES | ignore |
| Uplink SIR Target | O | | Uplink SIR 9.2.1.69 | | YES | ignore |
| Criticality Diagnostics | O | | 9.2.1.13 | | YES | ignore |

| Range bound | Explanation |
|---|---|
| MaxnoofRLs | Maximum number of RLs for one UE. |

### 9.1.5.2 TDD Message

| IE/Group Name | Presence | Range | IE type and reference | Semantics description | Criticality | Assigned Criticality |
|---|---|---|---|---|---|---|
| Message Type | M | | 9.2.1.40 | | YES | reject |
| Transaction ID | M | | 9.2.1.59 | | – | |
| CHOICE *Cause Level* | M | | | | YES | ignore |
| *>General* | | | | | – | |
| >>Cause | M | | 9.2.1.5 | | – | |
| *>RL Specific* | | | | | – | |
| **>>Unsuccessful RL Information Response** | | *1* | | | YES | ignore |
| >>>RL ID | M | | 9.2.1.49 | | – | |
| >>>Cause | M | | 9.2.1.5 | | – | |
| Criticality Diagnostics | O | | 9.2.1.13 | | YES | ignore |

## 9.1.6 RADIO LINK ADDITION REQUEST

### 9.1.6.1 FDD Message

| IE/Group Name | Presence | Range | IE type and reference | Semantics description | Criticality | Assigned Criticality |
|---|---|---|---|---|---|---|
| Message Type | M | | 9.2.1.40 | | YES | reject |
| Transaction ID | M | | 9.2.1.59 | | – | |
| Uplink SIR Target | M | | Uplink SIR 9.2.1.69 | | YES | reject |
| **RL Information** | | *1..<maxnoofRLs-1>* | | | EACH | notify |
| >RL ID | M | | 9.2.1.49 | | – | |
| >C-Id | M | | 9.2.1.6 | | – | |
| >Frame Offset | M | | 9.2.1.30 | | – | |
| >Chip Offset | M | | 9.2.2.1 | | – | |
| >Diversity Control Field | M | | 9.2.1.20 | | – | |
| >Primary CPICH Ec/No | O | | 9.2.2.32 | | – | |
| >SSDT Cell Identity | O | | 9.2.2.40 | | | |
| >Transmit Diversity Indicator | O | | 9.2.2.48 | | – | |
| Active Pattern Sequence Information | O | | 9.2.2A | Either all the already active Transmission Gap Sequence(s) are addressed (Transmission Gap Pattern sequence shall overlap with the existing one) or none of the transmission gap sequences is activated. | YES | reject |
| DPC Mode | O | | 9.2.2.12A | | YES | reject |

| Range bound | Explanation |
|---|---|
| MaxnoofRLs | Maximum number of radio links for one UE. |

### 9.1.6.2 TDD Message

| IE/Group Name | Presence | Range | IE type and reference | Semantics description | Criticality | Assigned Criticality |
|---|---|---|---|---|---|---|
| Message Type | M | | 9.2.1.40 | | YES | reject |
| Transaction ID | M | | 9.2.1.59 | | – | |
| **RL Information** | | *1* | | | YES | reject |
| >RL ID | M | | 9.2.1.49 | | – | |
| >C-Id | M | | 9.2.1.6 | | – | |
| >Frame Offset | M | | 9.2.1.30 | | – | |
| >Diversity Control Field | M | | 9.2.1.20 | | – | |
| >Primary CCPCH RSCP | O | | 9.2.3.5 | | – | |
| >DL Time Slot ISCP Info | O | | 9.2.3.2D | For 3.84Mcps TDD only | – | |
| >DL Time Slot ISCP Info LCR | O | | 9.2.3.2F | For 1.28Mcps TDD only | YES | reject |

## 9.1.7 RADIO LINK ADDITION RESPONSE

### 9.1.7.1 FDD Message

| IE/Group Name | Presence | Range | IE type and reference | Semantics description | Criticality | Assigned Criticality |
|---|---|---|---|---|---|---|
| Message Type | M | | 9.2.1.40 | | YES | reject |
| Transaction ID | M | | 9.2.1.59 | | – | |
| **RL Information Response** | | *1..<maxnoof RLs-1>* | | | EACH | ignore |
| >RL ID | M | | 9.2.1.49 | | – | |
| >RL Set ID | M | | 9.2.2.35 | | – | |
| >URA Information | O | | 9.2.1.70B | | – | |
| >SAI | M | | 9.2.1.52 | | – | |
| >Cell GAI | O | | 9.2.1.5A | | – | |
| >UTRAN Access Point Position | O | | 9.2.1.70A | | – | |
| >Received Total Wide Band Power | M | | 9.2.2.35A | | – | |
| >Secondary CCPCH Info | O | | 9.2.2.37B | | – | |
| >DL Code Information | M | | FDD DL Code Information 9.2.2.14A | | YES | ignore |
| >Diversity Indication | M | | 9.2.1.21 | | – | |
| >CHOICE *Diversity Indication* | M | | | | – | |
| >>*Combining* | | | | | – | |
| >>>RL ID | M | | 9.2.1.49 | Reference RL ID | – | |
| >>>DCH Information Response | O | | 9.2.1.16A | | YES | ignore |
| >>*Non Combining* | | | | | – | |
| >>>DCH Information Response | M | | 9.2.1.16A | | – | |
| >SSDT Support Indicator | M | | 9.2.2.43 | | – | |
| >Minimum Uplink SIR | M | | Uplink SIR 9.2.1.69 | | – | |
| >Maximum Uplink SIR | M | | Uplink SIR 9.2.1.69 | | – | |
| >Closed Loop Timing Adjustment Mode | O | | 9.2.2.3A | | – | |
| >Maximum Allowed UL Tx Power | M | | 9.2.1.35 | | – | |
| >Maximum DL TX Power | M | | DL Power 9.2.2.10 | | – | |
| >Minimum DL TX Power | M | | DL Power 9.2.2.10 | | – | |
| >Neighbouring UMTS Cell Information | O | | 9.2.1.41A | | – | |
| >Neighbouring GSM Cell Information | O | | 9.2.1.41C | | YES | ignore |
| >PC Preamble | M | | 9.2.2.27a | | – | |
| >SRB Delay | M | | 9.2.2.39A | | – | |
| >Cell GA Additional Shapes | O | | 9.2.1.5B | | YES | ignore |
| Criticality Diagnostics | O | | 9.2.1.13 | | YES | ignore |

| Range bound | Explanation |
|---|---|
| MaxnoofRLs | Maximum number of radio links for one UE. |

### 9.1.7.2 TDD Message

| IE/Group Name | Presence | Range | IE type and reference | Semantics description | Criticality | Assigned Criticality |
|---|---|---|---|---|---|---|
| Message Type | M | | 9.2.1.40 | | YES | reject |
| Transaction ID | M | | 9.2.1.59 | | – | |
| **RL Information Response** | | *0..1* | | Mandatory For 3.84Mcps TDD only | YES | ignore |
| >RL ID | M | | 9.2.1.49 | | – | |
| >URA Information | O | | 9.2.1.70B | | – | |
| >SAI | M | | 9.2.1.52 | | – | |
| >Cell GAI | O | | 9.2.1.5A | | – | |
| >UTRAN Access Point Position | O | | 9.2.1.70A | | – | |
| >UL Time Slot ISCP Info | M | | 9.2.3.13D | | – | |
| >Minimum Uplink SIR | M | | Uplink SIR 9.2.1.69 | | – | |
| >Maximum Uplink SIR | M | | Uplink SIR 9.2.1.69 | | – | |
| >Maximum Allowed UL Tx Power | M | | 9.2.1.35 | | – | |
| >Maximum DL TX Power | M | | DL Power 9.2.2.10 | | – | |
| >Minimum DL TX Power | M | | DL Power 9.2.2.10 | | – | |
| >Timing Advance Applied | M | | 9.2.3.12A | | – | |
| >Alpha Value | M | | 9.2.3.a | | – | |
| >UL PhysCH SF Variation | M | | 9.2.3.13B | | – | |
| >Synchronisation Configuration | M | | 9.2.3.7E | | – | |
| >Secondary CCPCH Info TDD | O | | 9.2.3.7B | | – | |
| **>UL CCTrCH Information** | | *0..<maxnoof CCTrCHs>* | | For DCH | GLOBAL | ignore |
| >>CCTrCH ID | M | | 9.2.3.2 | | – | |
| **>>UL DPCH Information** | | *0..1* | | | YES | ignore |
| >>>Repetition Period | M | | 9.2.3.7 | | – | |
| >>>Repetition Length | M | | 9.2.3.6 | | – | |
| >>>TDD DPCH Offset | M | | 9.2.3.8A | | – | |
| >>>UL Timeslot Information | M | | 9.2.3.13C | | – | |
| **>DL CCTrCH Information** | | *0..<maxnoof CCTrCHs>* | | For DCH | GLOBAL | ignore |
| >>CCTrCH ID | M | | 9.2.3.2 | | – | |
| **>>DL DPCH Information** | | *0..1* | | | YES | ignore |
| >>>Repetition Period | M | | 9.2.3.7 | | – | |
| >>>Repetition Length | M | | 9.2.3.6 | | – | |
| >>>TDD DPCH Offset | M | | 9.2.3.8A | | – | |
| >>>DL Timeslot Information | M | | 9.2.3.2C | | – | |
| **>DCH Information** | | 0..1 | | | – | |
| >>Diversity Indication | M | | 9.2.1.21 | | – | |
| >>CHOICE *Diversity Indication* | M | | | | – | |
| *>>>Combining* | | | | | – | |
| >>>>RL ID | M | | 9.2.1.49 | Reference RL | – | |
| >>>>DCH Information Response | O | | 9.2.1.16A | | YES | ignore |

| IE/Group Name | Presence | Range | IE type and reference | Semantics description | Criticality | Assigned Criticality |
|---|---|---|---|---|---|---|
| >>>*Non Combining* | | | | | – | |
| >>>>DCH Information Response | M | | 9.2.1.16A | | – | |
| **>DSCH Information Response** | | *0 .. <Maxnoof DSCHs>* | | | GLOBAL | ignore |
| >>DSCH ID | M | | 9.2.1.26A | | – | |
| >>Transport Format Management | M | | 9.2.3.13 | | – | |
| >>DSCH Flow Control Information | M | | 9.2.1.26B | | – | |
| >>CHOICE *Diversity Indication* | O | | | | – | |
| >>>*Non Combining* | | | | | – | |
| >>>>Binding ID | O | | 9.2.1.3 | | – | |
| >>>>Transport Layer Address | O | | 9.2.1.62 | | – | |
| **>USCH Information Response** | | *0 .. <Maxnoof USCHs>* | | | GLOBAL | ignore |
| >>USCH ID | M | | 9.2.3.14 | | – | |
| >>Transport Format Management | M | | 9.2.3.13 | | – | |
| >>CHOICE *Diversity Indication* | O | | | | – | |
| >>>*Non Combining* | | | | | – | |
| >>>>Binding ID | O | | 9.2.1.3 | | – | |
| >>>>Transport Layer Address | O | | 9.2.1.62 | | – | |
| >Neighbouring UMTS Cell Information | O | | 9.2.1.41A | | – | |
| >Neighbouring GSM Cell Information | O | | 9.2.1.41C | | YES | ignore |
| >Cell GA Additional Shapes | O | | 9.2.1.5B | | YES | ignore |
| **RL Information Response LCR** | | *0..1* | | Mandatory For 1.28Mcps TDD only | YES | ignore |
| >RL ID | M | | 9.2.1.49 | | – | |
| >URA Information | M | | 9.2.1.70B | | – | |
| >SAI | M | | 9.2.1.52 | | – | |
| >Cell GAI | O | | 9.2.1.5A | | – | |
| >UTRAN Access Point Position | O | | 9.2.1.70A | | – | |
| >UL Time Slot ISCP Info LCR | M | | 9.2.3.13H | | – | |
| >Minimum Uplink SIR | M | | Uplink SIR 9.2.1.69 | | – | |
| >Maximum Uplink SIR | M | | Uplink SIR 9.2.1.69 | | – | |
| >Maximum Allowed UL Tx Power | M | | 9.2.1.35 | | – | |
| >Maximum DL TX Power | M | | DL Power 9.2.2.10 | | – | |
| >Minimum DL TX Power | M | | DL Power 9.2.2.10 | | – | |
| >UL PhysCH SF Variation | M | | 9.2.3.13B | | – | |
| **>UL CCTrCH Information LCR** | | *0..<maxnoof CCTrCHsLCR>* | | For DCH | GLOBAL | ignore |
| >>CCTrCH ID | M | | 9.2.3.2 | | – | |
| **>>UL DPCH** | | *0..1* | | | YES | ignore |

| IE/Group Name | Presence | Range | IE type and reference | Semantics description | Criticality | Assigned Criticality |
|---|---|---|---|---|---|---|
| **Information LCR** | | | | | | |
| >>>Repetition Period | M | | 9.2.3.7 | | – | |
| >>>Repetition Length | M | | 9.2.3.6 | | – | |
| >>>TDD DPCH Offset | M | | 9.2.3.8A | | – | |
| >>>UL Timeslot Information LCR | M | | 9.2.3.13G | | – | |
| **>DL CCTrCH Information LCR** | | *0..<maxnoof CCTrCHsLCR>* | | For DCH | GLOBAL | ignore |
| >>CCTrCH ID | M | | 9.2.3.2 | | – | |
| **>>DL DPCH Information LCR** | | *0..1* | | | YES | ignore |
| >>>Repetition Period | M | | 9.2.3.7 | | – | |
| >>>Repetition Length | M | | 9.2.3.6 | | – | |
| >>>TDD DPCH Offset | M | | 9.2.3.8A | | – | |
| >>>DL Timeslot Information LCR | M | | 9.2.3.2E | | – | |
| >>>TSTD Indicator | M | | 9.2.3.13E | | – | |
| **>DCH Information** | | 0..1 | | | YES | ignore |
| >>Diversity Indication | M | | 9.2.2.7 | | – | |
| >>CHOICE *Diversity Indication* | M | | | | – | |
| *>>>Combining* | | | | | – | |
| >>>>RL ID | M | | 9.2.1.49 | Reference RL | – | |
| *>>>Non Combining* | | | | | – | |
| >>>>DCH Information Response | M | | 9.2.1.16A | | – | |
| **>DSCH Information Response LCR** | | *0 .. <Maxnoof DSCHsLCR >* | | | GLOBAL | ignore |
| >>DSCH ID | M | | 9.2.1.26A | | – | |
| >>Transport Format Management | M | | 9.2.3.13 | | – | |
| >>DSCH Flow Control Information | M | | 9.2.1.26B | | – | |
| >>CHOICE *Diversity Indication* | O | | | | – | |
| *>>>Non Combining* | | | | | – | |
| >>>>Binding ID | O | | 9.2.1.3 | | – | |
| >>>>Transport Layer Address | O | | 9.2.1.62 | | – | |
| **>USCH Information Response LCR** | | *0 .. <Maxnoof USCHsLCR >* | | | GLOBAL | ignore |
| >>USCH ID | M | | 9.2.3.14 | | – | |
| >>Transport Format Management | M | | 9.2.3.13 | | – | |
| >>CHOICE *Diversity Indication* | O | | | | – | |
| *>>>Non Combining* | | | | | – | |
| >>>>BindingID | O | | 9.2.1.3 | | – | |
| >>>>Transport Layer Address | O | | 9.2.1.62 | | – | |
| >Neighbouring UMTS Cell Information | O | | 9.2.1.41A | | – | |
| >Neighbouring GSM Cell Information | O | | 9.2.1.41C | | – | |
| Criticality Diagnostics | O | | 9.2.1.13 | | YES | ignore |

| Range Bound | Explanation |
|---|---|
| MaxnoofDSCHs | Maximum number of DSCHs for one UE for 3.84Mcps TDD. |
| MaxnoofUSCHs | Maximum number of USCHs for one UE for 3.84Mcps TDD. |
| MaxnoofCCTrCHs | Maximum number of CCTrCHs for one UE for 3.84Mcps TDD. |
| MaxnoofDSCHsLCR | Maximum number of DSCHs for one UE for 1.28Mcps TDD. |
| MaxnoofUSCHsLCR | Maximum number of USCHs for one UE for 1.28Mcps TDD. |
| MaxnoofCCTrCHsLCR | Maximum number of CCTrCH for one UE for 1.28Mcps TDD. |

## 9.1.8 RADIO LINK ADDITION FAILURE

### 9.1.8.1 FDD Message

| IE/Group Name | Presence | Range | IE type and reference | Semantics description | Criticality | Assigned Criticality |
|---|---|---|---|---|---|---|
| Message Type | M | | 9.2.1.40 | | YES | reject |
| Transaction ID | M | | 9.2.1.59 | | – | |
| CHOICE *Cause Level* | M | | | | YES | ignore |
| *>General* | | | | | – | |
| >>Cause | M | | 9.2.1.5 | | – | |
| *>RL Specific* | | | | | – | |
| **>>Unsuccessful RL Information Response** | | *1..<maxnoof RLs-1>* | | | EACH | ignore |
| >>>RL ID | M | | 9.2.1.49 | | – | |
| >>>Cause | M | | 9.2.1.5 | | – | |
| **>>Successful RL Information Response** | | *0..<maxnoof RLs-2>* | | | EACH | ignore |
| >>>RL ID | M | | 9.2.1.49 | | – | |
| >>>RL Set ID | M | | 9.2.2.35 | | – | |
| >>>URA Information | O | | 9.2.1.70B | | – | |
| >>>SAI | M | | 9.2.1.52 | | – | |
| >>>Cell GAI | O | | 9.2.1.5A | | – | |
| >>>UTRAN Access Point Position | O | | 9.2.1.70A | | – | |
| >>>Received Total Wide Band Power | M | | 9.2.2.35A | | – | |
| >>>Secondary CCPCH Info | O | | 9.2.2.37B | | – | |
| >>>DL Code Information | M | | FDD DL Code Information 9.2.2.14A | | YES | ignore |
| >>>Diversity Indication | M | | 9.2.1.21 | | – | |
| >>>CHOICE *Diversity Indication* | M | | | | – | |
| *>>>>Combining* | | | | | – | |
| >>>>>RL ID | M | | 9.2.1.49 | Reference RL ID | – | |
| >>>>>DCH Information Response | O | | 9.2.1.16A | | YES | ignore |
| *>>>>Non Combining* | | | | | – | |
| >>>>>DCH Information Response | M | | 9.2.1.16A | | – | |
| >>>SSDT Support Indicator | M | | 9.2.2.43 | | – | |
| >>>Minimum Uplink SIR | M | | Uplink SIR 9.2.1.69 | | – | |
| >>>Maximum Uplink SIR | M | | Uplink SIR 9.2.1.69 | | – | |
| >>>Closed Loop Timing Adjustment Mode | O | | 9.2.2.3A | | – | |
| >>>Maximum Allowed UL Tx Power | M | | 9.2.1.35 | | – | |
| >>>Maximum DL TX Power | M | | DL Power 9.2.2.10 | | – | |
| >>>Minimum DL TX Power | M | | DL Power 9.2.2.10 | | – | |
| >>>Neighbouring UMTS Cell Information | O | | 9.2.1.41A | | – | |
| >>>Neighbouring GSM Cell Information | O | | 9.2.1.41C | | YES | ignore |

| IE/Group Name | Presence | Range | IE type and reference | Semantics description | Criticality | Assigned Criticality |
|---|---|---|---|---|---|---|
| >>>Cell GA Additional Shapes | O | | 9.2.1.5B | | YES | ignore |
| Criticality Diagnostics | O | | 9.2.1.13 | | YES | ignore |

| Range bound | Explanation |
|---|---|
| MaxnoofRLs | Maximum number of radio links for one UE. |

### 9.1.8.2 TDD Message

| IE/Group Name | Presence | Range | IE type and reference | Semantics description | Criticality | Assigned Criticality |
|---|---|---|---|---|---|---|
| Message Type | M | | 9.2.1.40 | | YES | reject |
| Transaction ID | M | | 9.2.1.59 | | – | |
| CHOICE *Cause Level* | M | | | | YES | ignore |
| >*General* | | | | | – | |
| >>Cause | M | | 9.2.1.5 | | – | |
| >*RL Specific* | | | | | – | |
| **>>Unsuccessful RL Information Response** | | *1* | | | YES | ignore |
| >>>RL ID | M | | 9.2.1.49 | | – | |
| >>>Cause | M | | 9.2.1.5 | | – | |
| Criticality Diagnostics | O | | 9.2.1.13 | | YES | ignore |

## 9.1.9 RADIO LINK DELETION REQUEST

| IE/Group Name | Presence | Range | IE type and reference | Semantics description | Criticality | Assigned Criticality |
|---|---|---|---|---|---|---|
| Message Type | M | | 9.2.1.40 | | YES | reject |
| Transaction ID | M | | 9.2.1.59 | | – | |
| **RL Information** | | *1..<maxnoofRLs>* | | | EACH | notify |
| >RL ID | M | | 9.2.1.49 | | – | |

| Range bound | Explanation |
|---|---|
| MaxnoofRLs | Maximum number of radio links for one UE |

## 9.1.10 RADIO LINK DELETION RESPONSE

| IE/Group Name | Presence | Range | IE type and reference | Semantics description | Criticality | Assigned Criticality |
|---|---|---|---|---|---|---|
| Message Type | M | | 9.2.1.40 | | YES | reject |
| Transaction ID | M | | 9.2.1.59 | | – | |
| Criticality Diagnostics | O | | 9.2.1.13 | | YES | ignore |

# 9.1.11 RADIO LINK RECONFIGURATION PREPARE

## 9.1.11.1 FDD Message

| IE/Group Name | Presence | Range | IE Type and Reference | Semantics Description | Criticality | Assigned Criticality |
|---|---|---|---|---|---|---|
| Message Type | M | | 9.2.1.40 | | YES | reject |
| Transaction ID | M | | 9.2.1.59 | | – | |
| Allowed Queuing Time | O | | 9.2.1.2 | | YES | reject |
| **UL DPCH Information** | | *0..1* | | | YES | reject |
| >UL Scrambling Code | O | | 9.2.2.53 | | – | |
| >UL SIR Target | O | | Uplink SIR 9.2.1.69 | | – | |
| >Min UL Channelisation Code Length | O | | 9.2.2.25 | | – | |
| >Max Number of UL DPDCHs | C – CodeLen | | 9.2.2.24 | | – | |
| >Puncture Limit | O | | 9.2.1.46 | For the UL. | – | |
| >TFCS | O | | 9.2.1.63 | TFCS for the UL. | – | |
| >UL DPCCH Slot Format | O | | 9.2.2.52 | | – | |
| >Diversity Mode | O | | 9.2.2.8 | | – | |
| >SSDT Cell Identity Length | O | | 9.2.2.41 | | – | |
| >S-Field Length | O | | 9.2.2.36 | | – | |
| **DL DPCH Information** | | *0..1* | | | YES | reject |
| >TFCS | O | | 9.2.1.63 | TFCS for the DL. | – | |
| >DL DPCH Slot Format | O | | 9.2.2.9 | | – | |
| >Number of DL Channelisation Codes | O | | 9.2.2.26A | | – | |
| >TFCI Signalling Mode | O | | 9.2.2.46 | | – | |
| >TFCI Presence | C-SlotFormat | | 9.2.1.55 | | – | |
| >Multiplexing Position | O | | 9.2.2.26 | | – | |
| >Limited Power Increase | O | | 9.2.2.21A | | – | |
| DCHs to Modify | O | | FDD DCHs to Modify 9.2.2.13C | | YES | reject |
| DCHs to Add | O | | DCH FDD Information 9.2.2.4A | | YES | reject |
| **DCHs to Delete** | | *0..<maxnoof DCHs>* | | | GLOBAL | reject |
| >DCH ID | M | | 9.2.1.16 | | – | |
| **DSCHs to Modify** | | 0..1 | | | YES | reject |
| **>DSCH Info** | | 0..<maxnoof DSCHs> | | | – | |
| >>DSCH ID | M | | 9.2.1.26A | | – | |
| >>TrCh Source Statistics Descriptor | O | | 9.2.1.65 | | – | |
| >>Transport Format Set | O | | 9.2.1.64 | For DSCH | – | |
| >>Allocation/ Retention Priority | O | | 9.2.1.1 | | – | |
| >>Scheduling Priority Indicator | O | | 9.2.1.51A | | – | |
| >>BLER | O | | 9.2.1.4 | | – | |
| >>Transport Bearer Request Indicator | M | | 9.2.1.61 | | – | |
| >PDSCH RL ID | O | | RL ID 9.2.1.49 | | – | |

| IE/Group Name | Presence | Range | IE Type and Reference | Semantics Description | Criticality | Assigned Criticality |
|---|---|---|---|---|---|---|
| >TFCS | O | | 9.2.1.63 | For DSCH | – | |
| >Enhanced DSCH PC Indicator | O | | 9.2.2.13F | | YES | ignore |
| >Enhanced DSCH PC | C-EDSCHPCOn | | 9.2.2.13D | | YES | ignore |
| DSCHs to Add | O | | DSCH FDD Information 9.2.2.13A | | YES | reject |
| **DSCHs to Delete** | | 0..1 | | | YES | reject |
| **>DSCH Info** | | 1..<maxnoof DSCHs> | | | – | |
| >>DSCH ID | M | | 9.2.1.26A | | – | |
| **RL Information** | | *0..<maxnoof RLs>* | | | EACH | reject |
| >RL ID | M | | 9.2.1.49 | | – | |
| >SSDT Indication | O | | 9.2.2.42 | | – | |
| >SSDT Cell Identity | C - SSDTIndON | | 9.2.2.40 | | – | |
| >Transmit Diversity Indicator | C – Diversity mode | | 9.2.2.48 | | – | |
| >SSDT Cell Identity for EDSCHPC | C-EDSCHPC | | 9.2.2.40A | | YES | ignore |
| Transmission Gap Pattern Sequence Information | O | | 9.2.2.47A | | YES | reject |

| Condition | Explanation |
|---|---|
| SSDTIndON | The IE may be present if the *SSDT Indication* IE is set to 'SSDT Active in the UE'. |
| CodeLen | This IE shall be present only if the *Min UL Channelisation Code length* IE equals to 4. |
| SlotFormat | This IE shall only be present if the *DL DPCH Slot Format* IE is equal to any of the values 12 to 16. |
| Diversity mode | This IE shall be present if *Diversity Mode* IE is present in the *UL DPCH Information* IE and is not equal to “none”. |
| EDSCHPCOn | The IE shall be present only if the *Enhanced DSCH PC Indicator* IE is set to "Enhanced DSCH PC Active in the UE". |
| EDSCHPC | This IE shall be present if *Enhanced DSCH PC* IE is present in either the *DSCHs to Modify* IE or the *DSCHs to Add* IE. |

| Range bound | Explanation |
|---|---|
| MaxnoofDCHs | Maximum number of DCHs for a UE. |
| MaxnoofDSCHs | Maximum number of DSCHs for one UE. |
| MaxnoofRLs | Maximum number of RLs for a UE. |

### 9.1.11.2 TDD Message

| IE/Group Name | Presence | Range | IE Type and Reference | Semantics Description | Criticality | Assigned Criticality |
|---|---|---|---|---|---|---|
| Message Type | M | | 9.2.1.40 | | YES | reject |
| Transaction ID | M | | 9.2.1.59 | | – | |
| Allowed Queuing Time | O | | 9.2.1.2 | | YES | reject |
| **UL CCTrCH to Add** | | *0..<maxnoofCCTrCHs>* | | For DCH and USCH | EACH | notify |
| >CCTrCH ID | M | | 9.2.3.2 | | – | |
| >TFCS | M | | 9.2.1.63 | For the UL. | – | |
| >TFCI Coding | M | | 9.2.3.11 | | – | |
| >Puncture Limit | M | | 9.2.1.40 | | – | |
| **UL CCTrCH to Modify** | | *0..<maxnoofCCTrCHs>* | | | EACH | notify |
| >CCTrCH ID | M | | 9.2.3.2 | | – | |
| >TFCS | O | | 9.2.1.63 | For the UL. | – | |
| >TFCI Coding | O | | 9.2.3.11 | | – | |
| >Puncture Limit | O | | 9.2.1.46 | | – | |
| **UL CCTrCH toDdelete** | | *0..<maxnoofCCTrCHs>* | | | EACH | notify |
| >CCTrCH ID | M | | 9.2.3.2 | | – | |
| **DL CCTrCH to Add** | | *0..<maxnoofCCTrCHs>* | | For DCH and DSCH | EACH | notify |
| >CCTrCH ID | M | | 9.2.3.2 | | – | |
| >TFCS | M | | 9.2.1.63 | For the DL. | – | |
| >TFCI Coding | M | | 9.2.3.11 | | – | |
| >Puncture Limit | M | | 9.2.1.46 | | – | |
| **>TPC CCTrCH List** | | 0 to <maxnoCCTrCH> | | List of uplink CCTrCH which provide TPC | – | |
| >>TPC CCTrCH ID | M | | CCTrCH ID 9.2.3.2 | | – | |
| **DL CCTrCH to Modify** | | *0..<maxnoofCCTrCHs>* | | | EACH | notify |
| >CCTrCH ID | M | | 9.2.3.2 | | – | |
| >TFCS | O | | 9.2.1.63 | For the DL. | – | |
| >TFCI Coding | O | | 9.2.3.11 | | – | |
| >Puncture Limit | O | | 9.2.1.46 | | – | |
| **>TPC CCTrCH List** | | 0 to <maxnoCCTrCH> | | List of uplink CCTrCH which provide TPC | – | |
| >>TPC CCTrCH ID | M | | CCTrCH ID 9.2.3.3 | | – | |
| **DL CCTrCH to Delete** | | *0..<maxnoofCCTrCHs>* | | | EACH | notify |
| >CCTrCH ID | M | | 9.2.3.2 | | – | |
| DCHs to Modify | O | | TDD DCHs to Modify 9.2.3.8B | | YES | reject |
| DCHs to Add | O | | DCH TDD Information 9.2.3.2A | | YES | reject |
| **DCHs to Delete** | | *0..<maxnoofDCHs>* | | | GLOBAL | reject |

| IE/Group Name | Presence | Range | IE Type and Reference | Semantics Description | Criticality | Assigned Criticality |
|---|---|---|---|---|---|---|
| >DCH ID | M | | 9.2.1.16 | | – | |
| **DSCHs to Modify** | | *0..<maxnoofDSCHs>* | | | GLOBAL | reject |
| >DSCH ID | M | | 9.2.1.26A | | – | |
| >CCTrCH Id | O | | 9.2.3.2 | DL CCTrCH in which the DSCH is mapped. | – | |
| >TrCh Source Statistics Descriptor | O | | 9.2.1.65 | | – | |
| >Transport Format Set | O | | 9.2.1.64 | | – | |
| >Allocation/Retention Priority | O | | 9.2.1.1 | | – | |
| >Scheduling Priority Indicator | O | | 9.2.1.51A | | – | |
| >BLER | O | | 9.2.1.4 | | – | |
| >Transport Bearer Request Indicator | M | | 9.2.1.61 | | – | |
| DSCHs to Add | O | | DSCH TDD Information 9.2.3.3a | | YES | reject |
| **DSCHs to Delete** | | *0..<maxnoofDSCHs>* | | | GLOBAL | reject |
| >DSCH ID | M | | 9.2.1.26A | | – | |
| **USCHs to Modify** | | *0..<maxnoofUSCHs>* | | | GLOBAL | reject |
| >USCH ID | M | | 9.2.3.14 | | – | |
| >CCTrCH Id | O | | 9.2.3.2 | UL CCTrCH in which the USCH is mapped. | – | |
| >TrCh Source Statistics Descriptor | O | | 9.2.1.65 | | – | |
| >Transport Format Set | O | | 9.2.1.64 | | – | |
| >Allocation/Retention Priority | O | | 9.2.1.1 | | – | |
| >Scheduling Priority Indicator | O | | 9.2.1.51A | | – | |
| >BLER | O | | 9.2.1.4 | | – | |
| >Transport Bearer Request Indicator | M | | 9.2.1.61 | | – | |
| **>RB Info** | | 0 to <maxnoofRB> | | All Radio Bearers using this USCH | – | |
| >>RB Identity | M | | 9.2.3.5B | | – | |
| USCHs to Add | O | | USCH Information 9.2.3.15 | | YES | reject |
| **USCHs to Delete** | | *0..<maxnoofUSCHs>* | | | GLOBAL | reject |
| >USCH ID | M | | 9.2.3.14 | | – | |

| Condition | Explanation |
|---|---|
| CoorDCH | This IE shall be present only this DCH is part of a set of coordinated DCHs (number of instances of DCH Specific Info is greater than 1) |

| Range bound | Explanation |
|---|---|
| MaxnoofDCHs | Maximum number of DCHs for a UE. |
| MaxnoofCCTrCHs | Maximum number of CCTrCHs for a UE. |
| MaxnoofDSCHs | Maximum number of DSCHs for one UE. |
| MaxnoofUSCHs | Maximum number of USCHs for one UE. |

## 9.1.12 RADIO LINK RECONFIGURATION READY

### 9.1.12.1 FDD Message

| IE/Group Name | Presence | Range | IE Type and Reference | Semantics Description | Criticality | Assigned Criticality |
|---|---|---|---|---|---|---|
| Message Type | M | | 9.2.1.40 | | YES | reject |
| Transaction ID | M | | 9.2.1.59 | | – | |
| **RL Information Response** | | *0..<maxnoofRLs>* | | | EACH | ignore |
| >RL ID | M | | 9.2.1.49 | | – | |
| >Maximum Uplink SIR | O | | Uplink SIR 9.2.1.69 | | – | |
| >Minimum Uplink SIR | O | | Uplink SIR 9.2.1.69 | | – | |
| >Maximum DL TX Power | O | | DL Power 9.2.2.10 | | – | |
| >Minimum DL TX Power | O | | DL Power 9.2.2.10 | | – | |
| >Secondary CCPCH Info | O | | 9.2.2.37B | | – | |
| >DL Code Information | O | | FDD DL Code Information 9.2.2.14A | | YES | ignore |
| >DCH Information Response | O | | 9.2.1.16A | | YES | ignore |
| >DSCHs to be Added or Modified | O | | DSCH FDD Information Response 9.2.2.13B | | YES | ignore |
| Criticality Diagnostics | O | | 9.2.1.13 | | YES | ignore |

| Range bound | Explanation |
|---|---|
| MaxnoofRLs | Maximum number of RLs for a UE. |

### 9.1.12.2 TDD Message

| IE/Group Name | Presence | Range | IE Type and Reference | Semantics Description | Criticality | Assigned Criticality |
|---|---|---|---|---|---|---|
| Message Type | M | | 9.2.1.40 | | YES | reject |
| Transaction ID | M | | 9.2.1.59 | | – | |
| **RL Information Response** | | *0..1* | | | YES | ignore |
| >RL ID | M | | 9.2.1.49 | | – | |
| >Maximum Uplink SIR | O | | Uplink SIR 9.2.1.69 | | – | |
| >Minimum Uplink SIR | O | | Uplink SIR 9.2.1.69 | | – | |
| >Maximum DL TX Power | O | | DL Power 9.2.2.10 | | – | |
| >Minimum DL TX Power | O | | DL Power 9.2.2.10 | | – | |
| >Secondary CCPCH Info TDD | O | | 9.2.3.7B | | – | |
| **>UL CCTrCH Information** | | *0..<maxnoof CCTrCHs>* | | For DCH | GLOBAL | ignore |
| >>CCTrCH ID | M | | 9.2.3.2 | | – | |
| **>>UL DPCH to be Added** | | *0..1* | | For 3.84Mcps TDD only | YES | ignore |
| >>>Repetition Period | M | | 9.2.3.7 | | – | |
| >>>Repetition Length | M | | 9.2.3.6 | | – | |
| >>>TDD DPCH Offset | M | | 9.2.3.8A | | – | |
| >>> Rx Timing Deviation | O | | 9.2.3.7A | | – | |
| >>>UL Timeslot Information | M | | 9.2.3.13C | | – | |
| **>>UL DPCH to be Added LCR** | | *0..1* | | For 1.28Mcps TDD only | YES | ignore |
| >>>Repetition Period | M | | 9.2.3.7 | | – | |
| >>>Repetition Length | M | | 9.2.3.6 | | – | |
| >>>TDD DPCH Offset | M | | 9.2.3.8A | | – | |
| >>>UL Timeslot Information LCR | M | | 9.2.3.13G | | – | |
| **>>UL DPCH to be Modified** | | *0..1* | | | YES | ignore |
| >>>Repetition Period | O | | 9.2.3.7 | | – | |
| >>>Repetition Length | O | | 9.2.3.6 | | – | |
| >>>TDD DPCH Offset | O | | 9.2.3.8A | | – | |
| **>>>UL Timeslot Information** | | *0 to <maxnoOfTS>* | | For 3.84Mcps TDD only | – | |
| >>>>Time Slot | M | | 9.2.1.56 | | – | |
| >>>>Midamble Shift and Burst Type | O | | 9.2.3.4 | | – | |
| >>>>TFCI Presence | O | | 9.2.1.55 | | – | |
| **>>>>UL Code Information** | | *0 to <maxnoOfDPCH>* | | | – | |
| >>>>>DPCH ID | M | | 9.2.3.3 | | – | |
| >>>>>TDD Channelisation Code | O | | 9.2.3.8 | | – | |
| **>>>UL Timeslot** | | *0 to* | | For | GLOBAL | ignore |

| IE/Group Name | Presence | Range | IE Type and Reference | Semantics Description | Criticality | Assigned Criticality |
|---|---|---|---|---|---|---|
| **Information LCR** | | *<maxnoOfTSLCR>* | | 1.28Mcps TDD only | | |
| >>>>Time Slot LCR | M | | 9.2.3.12a | | – | |
| >>>>Midamble Shift LCR | O | | 9.2.3.4C | | – | |
| >>>>TFCI Presence | O | | 9.2.1.55 | | – | |
| **>>>>UL Code Information LCR** | | *0 to <maxnoOfDPCHLCR>* | | | GLOBAL | ignore |
| >>>>>DPCH ID | M | | 9.2.3.3 | | – | |
| >>>>>TDD Channelisation Code LCR | O | | 9.2.3.8a | | – | |
| **>>UL DPCH to be Deleted** | | *0..<maxnoofDPCHs>* | | | GLOBAL | ignore |
| >>>DPCH ID | M | | 9.2.3.3 | | – | |
| **>DL CCTrCH Information** | | *0..<maxnoofCCTrCHs>* | | For DCH | GLOBAL | ignore |
| >>CCTrCH ID | M | | 9.2.3.2 | | – | |
| **>>DL DPCH to be Added** | | *0..1* | | For 3.84Mcps TDD only | YES | ignore |
| >>>Repetition Period | M | | 9.2.3.7 | | – | |
| >>>Repetition Length | M | | 9.2.3.6 | | – | |
| >>>TDD DPCH Offset | M | | 9.2.3.8A | | – | |
| >>>DL Timeslot Information | M | | 9.2.3.2C | | – | |
| **>>DL DPCH to be Added LCR** | | *0..1* | | For 1.28Mcps TDD only | YES | ignore |
| >>>Repetition Period | M | | 9.2.3.7 | | – | |
| >>>Repetition Length | M | | 9.2.3.6 | | – | |
| >>>TDD DPCH Offset | M | | 9.2.3.8A | | – | |
| >>>DL Timeslot Information LCR | M | | 9.2.3.2E | | – | |
| **>>DL DPCH to be Modified** | | *0..1* | | | YES | ignore |
| >>>Repetition Period | O | | 9.2.3.7 | | – | |
| >>>Repetition Length | O | | 9.2.3.6 | | – | |
| >>>TDD DPCH Offset | O | | 9.2.3.8A | | – | |
| **>>>DL Timeslot Information** | | *0 to <maxnoOfTS>* | | For 3.84Mcps TDD only | – | |
| >>>>Time Slot | M | | 9.2.1.56 | | – | |
| >>>>Midamble Shift and Burst Type | O | | 9.2.3.4 | | – | |
| >>>>TFCI Presence | O | | 9.2.1.55 | | – | |
| **>>>>DL Code Information** | | *0 to <maxnoOfDPCH>* | | | – | |
| >>>>>DPCH ID | M | | 9.2.3.3 | | – | |
| >>>>>TDD Channelisation Code | O | | 9.2.3.8 | | – | |
| **>>>DL Timeslot Information LCR** | | *0 to <maxnoOfTSLCR>* | | For 1.28Mcps TDD only | GLOBAL | ignore |
| >>>>Time Slot LCR | M | | 9.2.3.12a | | – | |
| >>>>Midamble Shift LCR | O | | 9.2.3.4C | | – | |

| IE/Group Name | Presence | Range | IE Type and Reference | Semantics Description | Criticality | Assigned Criticality |
|---|---|---|---|---|---|---|
| >>>>TFCI Presence | O | | 9.2.1.55 | | – | |
| **>>>>DL Code Information LCR** | | *0 to <maxnoOfDPCHLCR>* | | | GLOBAL | ignore |
| >>>>>DPCH ID | M | | 9.2.3.3 | | – | |
| >>>>>TDD Channelisation Code LCR | O | | 9.2.3.8a | | – | |
| **>>DL DPCH to be Deleted** | | *0..<maxnoofDPCHs>* | | | GLOBAL | ignore |
| >>>DPCH ID | M | | 9.2.3.3 | | – | |
| >DCH Information Response | O | | 9.2.1.16A | | YES | ignore |
| >**DSCH to be Added or Modified** | | *0 .. <Maxnoof DSCHs>* | | | GLOBAL | ignore |
| >>DSCH ID | M | | 9.2.1.26A | | – | |
| >>Transport Format Management | M | | 9.2.3.13 | | – | |
| >>DSCH Flow Control Information | M | | 9.2.1.26B | | – | |
| >>Binding ID | O | | 9.2.1.3 | | – | |
| >>Transport Layer Address | O | | 9.2.1.62 | | – | |
| **>USCH to be Added or Modified** | | *0 .. <Maxnoof USCHs>* | | | GLOBAL | ignore |
| >>USCH ID | M | | 9.2.3.14 | | – | |
| >>Transport Format Management | M | | 9.2.3.13 | | – | |
| >>Binding ID | O | | 9.2.1.3 | | – | |
| >>Transport Layer Address | O | | 9.2.1.62 | | – | |
| Criticality Diagnostics | O | | 9.2.1.13 | | YES | ignore |

| Range bound | Explanation |
|---|---|
| MaxnoofDSCHs | Maximum number of DSCHs for one UE. |
| MaxnoofUSCHs | Maximum number of USCHs for one UE. |
| MaxnoofCCTrCHs | Maximum number of CCTrCHs for a UE. |
| MaxnoofTS | Maximum number of Timeslots for a UE for 3.84Mcps TDD. |
| MaxnoofDPCH | Maximum number of DPCH for a UE for 3.84Mcps TDD.. |
| MaxnoofTSLCR | Maximum number of Timeslots for a UE for 1.28Mcps TDD.. |
| MaxnoofDPCHLCR | Maximum number of DPCH for a UE for 1.28Mcps TDD.. |

## 9.1.13 RADIO LINK RECONFIGURATION COMMIT

| IE/Group Name | Presence | Range | IE Type and Reference | Semantics Description | Criticality | Assigned Criticality |
|---|---|---|---|---|---|---|
| Message Type | M | | 9.2.1.40 | | YES | ignore |
| Transaction ID | M | | 9.2.1.59 | | – | |
| CFN | M | | 9.2.1.9 | | YES | ignore |
| Active Pattern Sequence Information | O | | 9.2.2.A | | YES | ignore |

## 9.1.14 RADIO LINK RECONFIGURATION FAILURE

| IE/Group Name | Presence | Range | IE Type and Reference | Semantics Description | Criticality | Assigned Criticality |
|---|---|---|---|---|---|---|
| Message Type | M | | 9.2.1.40 | | YES | reject |
| Transaction ID | M | | 9.2.1.59 | | – | |
| CHOICE *Cause Level* | M | | | | YES | ignore |
| *>General* | | | | | – | |
| >>Cause | M | | 9.2.1.5 | | – | |
| *> RL Specific* | | | | | – | |
| **>>RLs Causing Reconfiguration Failure** | | *0..<maxnoof RLs>* | | | EACH | ignore |
| >>>RL ID | M | | 9.2.1.49 | | – | |
| >>>Cause | M | | 9.2.1.5 | | – | |
| Criticality Diagnostics | O | | 9.2.1.13 | | YES | ignore |

| Range bound | Explanation |
|---|---|
| MaxnoofRLs | Maximum number of RLs for a UE. |

## 9.1.15 RADIO LINK RECONFIGURATION CANCEL

| IE/Group Name | Presence | Range | IE Type and Reference | Semantics Description | Criticality | Assigned Criticality |
|---|---|---|---|---|---|---|
| Message Type | M | | 9.2.1.40 | | YES | ignore |
| Transaction ID | M | | 9.2.1.59 | | – | |

## 9.1.16 RADIO LINK RECONFIGURATION REQUEST

### 9.1.16.1 FDD Message

| IE/Group Name | Presence | Range | IE Type and Reference | Semantics Description | Criticality | Assigned Criticality |
|---|---|---|---|---|---|---|
| Message Type | M | | 9.2.1.40 | | YES | reject |
| Transaction ID | M | | 9.2.1.59 | | – | |
| Allowed Queuing Time | O | | 9.2.1.2 | | YES | reject |
| **UL DPCH Information** | | *0..1* | | | YES | reject |
| >TFCS | O | | 9.2.1.63 | TFCS for the UL. | – | |
| **DL DPCH Information** | | *0..1* | | | YES | reject |
| >TFCS | O | | 9.2.1.63 | TFCS for the DL. | – | |
| >TFCI Signalling Mode | O | | 9.2.2.46 | | – | |
| >Limited Power Increase | O | | 9.2.2.21A | | – | |
| DCHs to Modify | O | | FDD DCHs to Modify 9.2.2.13C | | YES | reject |
| DCHs to Add | O | | DCH FDD Information 9.2.2.4A | | YES | reject |
| **DCHs to Delete** | | *0..<maxnoofDCHs>* | | | GLOBAL | reject |
| >DCH ID | M | | 9.2.1.16 | | – | |
| Transmission Gap Pattern Sequence Information | O | | 9.2.2.47A | | YES | reject |

### 9.1.16.2 TDD Message

| IE/Group Name | Presence | Range | IE Type and Reference | Semantics Description | Criticality | Assigned Criticality |
|---|---|---|---|---|---|---|
| Message Type | M | | 9.2.1.40 | | YES | reject |
| Transaction ID | M | | 9.2.1.59 | | – | |
| Allowed Queuing Time | O | | 9.2.1.2 | | YES | reject |
| **UL CCTrCH Information to Modify** | | *0..<maxnoof CCTrCHs>* | | | EACH | notify |
| >CCTrCH ID | M | | 9.2.3.2 | | – | |
| >TFCS | O | | 9.2.1.63 | | – | |
| **UL CCTrCH Information to Delete** | | *0..<maxnoof CCTrCHs>* | | | EACH | notify |
| >CCTrCH ID | M | | 9.2.3.2 | | – | |
| **DL CCTrCH Information to Modify** | | *0..<maxnoof CCTrCHs>* | | | EACH | notify |
| >CCTrCH ID | M | | 9.2.3.2 | | – | |
| >TFCS | O | | 9.2.1.63 | | – | |
| **DL CCTrCH Information to Delete** | | *0..<maxnoof CCTrCHs>* | | | EACH | notify |
| >CCTrCH ID | M | | 9.2.3.2 | | – | |
| DCHs to Modify | O | | TDD DCHs to Modify 9.2.3.8B | | YES | reject |
| DCHs to Add | O | | DCH TDD Information 9.2.3.2A | | YES | reject |
| **DCHs to Delete** | | *0..<maxnoof DCHs>* | | | GLOBAL | reject |
| >DCH ID | M | | 9.2.1.16 | | – | |

| Range Bound | Explanation |
|---|---|
| MaxnoofCCTrCHs | Maximum number of CCTrCHs for a UE. |

# 9.1.17 RADIO LINK RECONFIGURATION RESPONSE

## 9.1.17.1 FDD Message

| IE/Group Name | Presence | Range | IE Type and Reference | Semantics Description | Criticality | Assigned Criticality |
|---|---|---|---|---|---|---|
| Message Type | M | | 9.2.1.40 | | YES | reject |
| Transaction ID | M | | 9.2.1.59 | | – | |
| **RL Information Response** | | *0..<maxnoofRLs>* | | | EACH | ignore |
| >RL ID | M | | 9.2.1.49 | | – | |
| >Maximum Uplink SIR | O | | Uplink SIR 9.2.1.69 | | – | |
| >Minimum Uplink SIR | O | | Uplink SIR 9.2.1.69 | | – | |
| >Maximum DL TX Power | O | | DL Power 9.2.2.10 | | – | |
| >Minimum DL TX Power | O | | DL Power 9.2.2.10 | | – | |
| >Secondary CCPCH Info | O | | 9.2.2.37B | | – | |
| >DCH Information Response | O | | 9.2.1.16A | | YES | ignore |
| >DL Code Information | O | | FDD DL Code Information 9.2.2.14A | | YES | ignore |
| Criticality Diagnostics | O | | 9.2.1.13 | | YES | ignore |

| Range Bound | Explanation |
|---|---|
| MaxnoofRLs | Maximum number of RLs for a UE. |

## 9.1.17.2 TDD Message

| IE/Group Name | Presence | Range | IE Type and Reference | Semantics Description | Criticality | Assigned Criticality |
|---|---|---|---|---|---|---|
| Message Type | M | | 9.2.1.40 | | YES | reject |
| Transaction ID | M | | 9.2.1.59 | | – | |
| **RL Information Response** | | *0..1* | | | YES | ignore |
| >RL ID | M | | 9.2.1.49 | | – | |
| >Maximum Uplink SIR | O | | Uplink SIR 9.2.1.69 | | – | |
| >Minimum Uplink SIR | O | | Uplink SIR 9.2.1.69 | | – | |
| >Maximum DL TX Power | O | | DL Power 9.2.2.10 | | – | |
| >Minimum DL TX Power | O | | DL Power 9.2.2.10 | | – | |
| >DCH Information Response | O | | 9.2.1.16A | | YES | ignore |
| Criticality Diagnostics | O | | 9.2.1.13 | | YES | ignore |

## 9.1.18 RADIO LINK FAILURE INDICATION

| IE/Group Name | Presence | Range | IE type and reference | Semantics description | Criticality | Assigned Criticality |
|---|---|---|---|---|---|---|
| Message Type | M | | 9.2.1.40 | | YES | ignore |
| Transaction ID | M | | 9.2.1.59 | | – | |
| CHOICE *Reporting Object* | M | | | Object for which the Failure shall be reported. | YES | ignore |
| *>RL* | | | | | – | |
| **>>RL Information** | | *1 .. <MaxnoofRLs>* | | | EACH | ignore |
| >>>RL ID | M | | 9.2.1.49 | | – | |
| >>>Cause | M | | 9.2.1.5 | | – | |
| *>RLS* | | | | | – | |
| **>>RL Set Information** | | *1 .. <MaxnoofRLSets>* | | | EACH | ignore |
| >>>RL Set ID | M | | 9.2.2.35 | | – | |
| >>>Cause | M | | 9.2.1.5 | | – | |
| *>CCTrCH* | | | | | | |
| >>RL ID | M | | 9.2.1.53 | | – | |
| **>>CCTrCH List** | | 1 to *<MaxnoCCTrCH>* | | | EACH | ignore |
| >>>CCTrCH ID | M | | CCTrCH ID 9.2.3.3 | | – | |
| >>>Cause | M | | 9.2.1.5 | | – | |

| Range bound | Explanation |
|---|---|
| MaxnoofRLs | Maximum number of RLs for one UE. |
| *MaxnoofRLSets* | Maximum number of RL Sets for one UE. |
| *MaxnoofCCTrCHs* | Maximum number of CCTrCHs for a UE. |

## 9.1.19 RADIO LINK RESTORE INDICATION

| IE/Group Name | Presence | Range | IE type and reference | Semantics description | Criticality | Assigned Criticality |
|---|---|---|---|---|---|---|
| Message Type | M | | 9.2.1.40 | | YES | ignore |
| Transaction ID | M | | 9.2.1.59 | | – | |
| CHOICE *Reporting Object* | M | | | Object for which the Restoration shall be reported. | YES | ignore |
| *>RL* | | | | | – | |
| **>>RL Information** | | *1 .. <MaxnoofRLs>* | | | EACH | ignore |
| >>>RL ID | M | | 9.2.1.49 | | – | |
| *>RLS* | | | | | – | |
| **>>RL Set Information** | | *1 .. <MaxnoofRLSets>* | | | EACH | ignore |
| >>>RL Set ID | M | | 9.2.2.35 | | – | |
| *>CCTrCH* | | | | | | |
| >>RL ID | M | | 9.2.1.53 | | – | |
| **>>CCTrCH List** | | 1 to *<MaxnoCCTrCH>* | | | EACH | ignore |
| >>>CCTrCH ID | M | | CCTrCH ID 9.2.3.3 | | – | |

| Range bound | Explanation |
|---|---|
| MaxnoofRLs | Maximum number of RLs for one UE. |
| *MaxnoofRLSets* | Maximum number of RL Sets for one UE. |
| *MaxnoofCCTrCHs* | Maximum number of CCTrCHs for a UE. |

## 9.1.20 DL POWER CONTROL REQUEST [FDD]

| IE/Group Name | Presence | Range | IE type and reference | Semantics description | Criticality | Assigned Criticality |
|---|---|---|---|---|---|---|
| Message Type | M | | 9.2.1.40 | | YES | ignore |
| Transaction ID | M | | 9.2.1.59 | | – | |
| Power Adjustment Type | M | | 9.2.2.28 | | YES | ignore |
| DL Reference Power | C-Common | | DL Power 9.2.2.10 | | YES | ignore |

| | | | | | | |
|---|---|---|---|---|---|---|
| Inner Loop DL PC Status | O | | 9.2.2.21a | | YES | ignore |
| **DL Reference Power Information** | C-Individual | *1..<maxnoofRLs>* | | | GLOBAL | ignore |
| >RL ID | M | | 9.2.1.49 | | – | |
| >DL Reference Power | M | | DL Power 9.2.2.10 | | – | |
| Max Adjustment Step | C-CommonOrIndividual | | 9.2.2.23 | | YES | ignore |
| Adjustment Period | C-CommonOrIndividual | | 9.2.2.B | | YES | ignore |
| Adjustment Ratio | C-CommonOrIndividual | | 9.2.2.C | | YES | ignore |

| Condition | Explanation |
|---|---|
| Common | This IE shall be present only if the *Power Adjustment Type* IE is set to 'Common'. |
| Individual | This IE shall be present only if the *Power Adjustment Type* IE is set to 'Individual'. |
| CommonOrIndividual | This IE shall be present only if the *Power Adjustment Type* IE is set to 'Common' or 'Individual'. |

| Range Bound | Explanation |
|---|---|
| MaxnoofRLs | Maximum number of RLs for one UE. |

# 9.1.21 PHYSICAL CHANNEL RECONFIGURATION REQUEST

## 9.1.21.1 FDD Message

| IE/Group Name | Presence | Range | IE type and reference | Semantics description | Criticality | Assigned Criticality |
|---|---|---|---|---|---|---|
| Message Type | M | | 9.2.1.40 | | YES | reject |
| Transaction ID | M | | 9.2.1.59 | | – | |
| **RL Information** | | *1* | | | YES | reject |
| >RL ID | M | | 9.2.1.49 | | – | |
| >DL Code Information | M | | FDD DL Code Information 9.2.2.14A | | YES | notify |

### 9.1.21.2 TDD Message

| IE/Group Name | Presence | Range | IE type and reference | Semantics description | Criticality | Assigned Criticality |
|---|---|---|---|---|---|---|
| Message Type | M | | 9.2.1.40 | | YES | reject |
| Transaction ID | M | | 9.2.1.59 | | – | |
| **RL Information** | | *1* | | | YES | reject |
| >RL ID | M | | 9.2.1.49 | | – | |
| **>UL CCTrCH Information** | | *0.. <maxnoof CCTrCHs>* | | | GLOBAL | reject |
| >>CCTrCH ID | M | | 9.2.3.2 | | – | |
| **>>UL DPCH Information** | | *1* | | | YES | notify |
| >>>Repetition Period | O | | 9.2.3.7 | | – | |
| >>>Repetition Length | O | | 9.2.3.6 | | – | |
| >>>TDD DPCH Offset | O | | 9.2.3.8A | | – | |
| **>>>UL Timeslot Information** | | *0 to <maxnoOf TS>* | | For 3.84Mcps TDD only | – | |
| >>>>Time Slot | M | | 9.2.1.56 | | – | |
| >>>>Midamble Shift and Burst Type | O | | 9.2.3.4 | | – | |
| >>>>TFCI Presence | O | | 9.2.1.55 | | – | |
| >>>>UL Code Information | O | | TDD UL Code Information 9.2.3.10A | | – | |
| **>>>UL Timeslot Information LCR** | | *0 to <maxnoOf TSLCR>* | | For 1.28Mcps TDD only | GLOBAL | reject |
| >>>>Time Slot LCR | M | | 9.2.3.12a | | – | |
| >>>>Midamble Shift LCR | O | | 9.2.3.4C | | – | |
| >>>>TFCI Presence | O | | 9.2.1.55 | | – | |
| >>>>UL Code Information LCR | O | | TDD UL Code Information LCR 9.2.3.10B | | – | |
| **>DL CCTrCH Information** | | *0..<maxno ofCCTrCH s>* | | | GLOBAL | reject |
| >>CCTrCH ID | M | | 9.2.3.2 | | – | |
| **>>DL DPCH Information** | | *1* | | | YES | notify |
| >>>Repetition Period | O | | 9.2.3.7 | | – | |
| >>>Repetition Length | O | | 9.2.3.6 | | – | |
| >>>TDD DPCH Offset | O | | 9.2.3.8A | | – | |
| **>>>DL Timeslot Information** | | *0 to <maxnoOf TS>* | | For 3.84Mcps TDD only | – | |
| >>>>Time Slot | M | | 9.2.1.56 | | – | |
| >>>>Midamble Shift and Burst Type | O | | 9.2.3.4 | | – | |
| >>>>TFCI Presence | O | | 9.2.1.55 | | – | |
| >>>>DL Code Information | O | | TDD DL Code Information 9.2.3.8C | | – | |
| **>>>DL Timeslot Information LCR** | | *0 to <maxnoOf TSLCR>* | | For 1.28Mcps TDD only | GLOBAL | reject |
| >>>>Time Slot LCR | M | | 9.2.3.12a | | – | |
| >>>>Midamble Shift LCR | O | | 9.2.3.4C | | – | |
| >>>>TFCI Presence | O | | 9.2.1.55 | | – | |
| >>>>DL Code | O | | TDD DL | | – | |

| | | | | | | |
|---|---|---|---|---|---|---|
| Information LCR | | | Code Information LCR 9.2.3.8D | | | |

| Range bound | Explanation |
|---|---|
| MaxnoofDPCHs | Maximum number of DPCHs for one CCTrCH. |
| MaxnoofCCTrCHs | Maximum number of CCTrCHs for a UE. |
| MaxnoofTS | Maximum number of Timeslots for a UE for 3.84Mcps TDD. |
| MaxnoofTSLCR | Maximum number of Timeslots for a UE for 1.28Mcps TDD. |

## 9.1.22 PHYSICAL CHANNEL RECONFIGURATION COMMAND

| IE/Group Name | Presence | Range | IE type and reference | Semantics description | Criticality | Assigned Criticality |
|---|---|---|---|---|---|---|
| Message Type | M | | 9.2.1.40 | | YES | reject |
| Transaction ID | M | | 9.2.1.59 | | – | |
| CFN | M | | 9.2.1.9 | | YES | ignore |
| Criticality Diagnostics | O | | 9.2.1.13 | | YES | ignore |

## 9.1.23 PHYSICAL CHANNEL RECONFIGURATION FAILURE

| IE/Group Name | Presence | Range | IE type and reference | Semantics description | Criticality | Assigned Criticality |
|---|---|---|---|---|---|---|
| Message Type | M | | 9.2.1.40 | | YES | reject |
| Transaction ID | M | | 9.2.1.59 | | – | |
| Cause | M | | 9.2.1.5 | | YES | ignore |
| Criticality Diagnostics | O | | 9.2.1.13 | | YES | ignore |

## 9.1.24 UPLINK SIGNALLING TRANSFER INDICATION

### 9.1.24.1 FDD Message

| IE/Group Name | Presence | Range | IE type and reference | Semantics description | Criticality | Assigned Criticality |
|---|---|---|---|---|---|---|
| Message Type | M | | 9.2.1.40 | | YES | ignore |
| Transaction ID | M | | 9.2.1.59 | | – | |
| UC-Id | M | | 9.2.1.71 | | YES | ignore |
| SAI | M | | 9.2.1.52 | | YES | ignore |
| Cell GAI | O | | 9.2.1.5A | | YES | ignore |
| C-RNTI | M | | 9.2.1.14 | | YES | ignore |
| S-RNTI | M | | 9.2.1.54 | | YES | ignore |
| D-RNTI | O | | 9.2.1.24 | | YES | ignore |
| Propagation Delay | M | | 9.2.2.33 | | YES | ignore |
| STTD Support Indicator | M | | 9.2.2.45 | | YES | ignore |
| Closed Loop Mode1 Support Indicator | M | | 9.2.2.2 | | YES | ignore |
| Closed Loop Mode2 Support Indicator | M | | 9.2.2.3 | | YES | ignore |
| L3 Information | M | | 9.2.1.32 | | YES | ignore |
| CN PS Domain Identifier | O | | 9.2.1.12 | | YES | ignore |
| CN CS Domain Identifier | O | | 9.2.1.11 | | YES | ignore |
| URA Information | O | | 9.2.1.70B | | YES | ignore |
| Cell GA Additional Shapes | O | | 9.2.1.5B | | YES | ignore |

### 9.1.24.2 TDD Message

| IE/Group Name | Presence | Range | IE type and reference | Semantics description | Criticality | Assigned Criticality |
|---|---|---|---|---|---|---|
| Message Type | M | | 9.2.1.40 | | YES | ignore |
| Transaction ID | M | | 9.2.1.59 | | – | |
| UC-Id | M | | 9.2.1.71 | | YES | ignore |
| SAI | M | | 9.2.1.52 | | YES | ignore |
| Cell GAI | O | | 9.2.1.5A | | YES | Ignore |
| C-RNTI | M | | 9.2.1.14 | | YES | ignore |
| S-RNTI | M | | 9.2.1.54 | | YES | ignore |
| D-RNTI | O | | 9.2.1.24 | | YES | ignore |
| Rx Timing Deviation | M | | 9.2.3.7A | | YES | ignore |
| L3 Information | M | | 9.2.1.32 | | YES | ignore |
| CN PS Domain Identifier | O | | 9.2.1.12 | | YES | ignore |
| CN CS Domain Identifier | O | | 9.2.1.11 | | YES | ignore |
| URA Information | O | | 9.2.1.70B | | YES | ignore |
| Cell GA Additional Shapes | O | | 9.2.1.5B | | YES | ignore |

## 9.1.25 DOWNLINK SIGNALLING TRANSFER REQUEST

| IE/Group Name | Presence | Range | IE type and reference | Semantics description | Criticality | Assigned Criticality |
|---|---|---|---|---|---|---|
| Message Type | M | | 9.2.1.40 | | YES | ignore |
| Transaction ID | M | | 9.2.1.59 | | – | |
| C-Id | M | | 9.2.1.6 | | YES | ignore |
| D-RNTI | M | | 9.2.1.24 | | YES | ignore |
| L3 Information | M | | 9.2.1.32 | | YES | ignore |
| D-RNTI Release Indication | M | | 9.2.1.25 | | YES | ignore |

## 9.1.26 RELOCATION COMMIT

| IE/Group Name | Presence | Range | IE type and reference | Semantics description | Criticality | Assigned Criticality |
|---|---|---|---|---|---|---|
| Message Type | M | | 9.2.1.40 | | YES | ignore |
| Transaction ID | M | | 9.2.1.59 | | – | |
| D-RNTI | O | | 9.2.1.24 | | YES | ignore |
| RANAP Relocation Information | O | | 9.2.1.47 | | YES | ignore |

## 9.1.27 PAGING REQUEST

| IE/Group Name | Presence | Range | IE type and reference | Semantics description | Criticality | Assigned Criticality |
|---|---|---|---|---|---|---|
| Message Type | M | | 9.2.1.40 | | YES | ignore |
| Transaction ID | M | | 9.2.1.59 | | – | |
| CHOICE *Paging Area* | M | | | | YES | ignore |
| >*URA* | | | | | – | |
| >>URA-ID | M | | 9.2.1.70 | | – | |
| >*Cell* | | | | | – | |
| >>C-Id | M | | 9.2.1.6 | | – | |
| SRNC-Id | M | | RNC-Id 9.2.1.50 | | YES | ignore |
| S-RNTI | M | | 9.2.1.53 | | YES | ignore |
| IMSI | M | | 9.2.1.31 | | YES | ignore |
| DRX Cycle Length Coefficient | M | | 9.2.1.26 | | YES | ignore |
| **CN Originated Page to Connected Mode UE** | | 0..1 | | | YES | ignore |
| >Paging Cause | M | | 9.2.1.41E | | – | |
| >CN Domain Type | M | | 9.2.1.11A | | – | |
| >Paging Record Type | M | | 9.2.1.41F | | – | |

## 9.1.28 DEDICATED MEASUREMENT INITIATION REQUEST

| IE/Group Name | Presence | Range | IE Type and Reference | Semantics Description | Criticality | Assigned Criticality |
|---|---|---|---|---|---|---|
| Message Type | M | | 9.2.1.40 | | YES | reject |
| Transaction ID | M | | 9.2.1.59 | | – | |
| Measurement Id | M | | 9.2.1.37 | | YES | reject |
| Dedicated Measurement Object Type | M | | 9.2.1.17 | | YES | reject |
| CHOICE *Dedicated Measurement Object Type* | M | | | | YES | reject |
| >*RL* | | | | | – | |
| >>**RL Information** | | *1..<maxnoofRLs>* | | | EACH | reject |
| >>>RL-ID | M | | 9.2.1.49 | | – | |
| >>>DPCH ID | O | | 9.2.3.3 | TDD only | – | |
| >*RLS* | | | | FDD only | – | |
| **>>RL Set Information** | | *1..<maxnoofRLSets>* | | | EACH | reject |
| >>>RL-Set-ID | M | | 9.2.2.35 | | – | |
| Dedicated Measurement Type | M | | 9.2.1.18 | | YES | reject |
| Measurement Filter Coefficient | O | | 9.2.1.36 | | YES | reject |
| Report Characteristics | M | | 9.2.1.48 | | YES | reject |
| CFN reporting indicator | M | | FN reporting indicator 9.2.1.28A | | YES | reject |
| CFN | O | | 9.2.1.9 | | YES | reject |

| Range bound | Explanation |
|---|---|
| MaxnoofRLs | Maximum number of individual RLs a measurement can be started on. |
| *MaxnoofRLSets* | Maximum number of individual RL Sets a measurement can be started on. |

## 9.1.29 DEDICATED MEASUREMENT INITIATION RESPONSE

| IE/Group Name | Presence | Range | IE Type and Reference | Semantics Description | Criticality | Assigned Criticality |
|---|---|---|---|---|---|---|
| Message Type | M | | 9.2.1.40 | | YES | reject |
| Transaction ID | M | | 9.2.1.59 | | – | |
| Measurement Id | M | | 9.2.1.37 | | YES | ignore |
| CHOICE *Dedicated Measurement Object Type* | O | | | Dedicated Measurement Object Type the measurement was initiated with | YES | ignore |
| *>RL* or *ALL RL* | | | | | – | |
| **>>RL Information** | | *1..<maxnoofRLs>* | | | EACH | ignore |
| >>>RL ID | M | | 9.2.1.49 | | – | |
| >>>DPCH ID | O | | 9.2.3.3 | TDD only | – | |
| >>>Dedicated Measurement Value | M | | 9.2.1.19 | | – | |
| >>>CFN | O | | 9.2.1.9 | Dedicated Measurement Time Reference | – | |
| *>RLS* or *ALL RLS* | | | | FDD only | – | |
| **>>RL Set Information** | | *1..<maxnoofRLSets>* | | | EACH | ignore |
| >>>RL Set ID | M | | 9.2.2.35 | | – | |
| >>>Dedicated Measurement Value | M | | 9.2.1.19 | | – | |
| >>>CFN | O | | 9.2.1.9 | Dedicated Measurement Time Reference | – | |
| Criticality Diagnostics | O | | 9.2.1.13 | | YES | Ignore |

| Range bound | Explanation |
|---|---|
| MaxnoofRLs | Maximum number of individual RLs the measurement can be started on. |
| *MaxnoofRLSets* | Maximum number of individual RL Sets the measurement can be started on. |

## 9.1.30 DEDICATED MEASUREMENT INITIATION FAILURE

| IE/Group Name | Presence | Range | IE Type and Reference | Semantics Description | Criticality | Assigned Criticality |
|---|---|---|---|---|---|---|
| Message Type | M | | 9.2.1.40 | | YES | reject |
| Transaction ID | M | | 9.2.1.59 | | – | |
| Measurement Id | M | | 9.2.1.37 | | YES | ignore |
| Cause | M | | 9.2.1.5 | | YES | ignore |
| Criticality Diagnostics | O | | 9.2.1.13 | | YES | ignore |

## 9.1.31 DEDICATED MEASUREMENT REPORT

| IE/Group Name | Presence | Range | IE Type and Reference | Semantics Description | Criticality | Assigned Criticality |
|---|---|---|---|---|---|---|
| Message Type | M | | 9.2.1.40 | | YES | ignore |
| Transaction ID | M | | 9.2.1.59 | | – | |
| Measurement Id | M | | 9.2.1.37 | | YES | ignore |
| CHOICE *Dedicated Measurement Object Type* | M | | | Dedicated Measurement Object Type the measurement was initiated with | YES | ignore |
| *>RL or ALL RL* | | | | | – | |
| **>>RL Information** | | *1..<maxnoofRLs>* | | | EACH | ignore |
| >>>RL-ID | M | | 9.2.1.49 | | – | |
| >>>DPCH ID | O | | 9.2.3.3 | TDD only | – | |
| >>>Dedicated Measurement Value Information | M | | 9.2.1.19A | | – | |
| *>RLS or ALL RLS* | | | | FDD only | – | |
| **>>RL Set Information** | | *1..<maxnoofRLSets>* | | | EACH | ignore |
| >>>RL Set ID | M | | 9.2.2.35 | | – | |
| >>>Dedicated Measurement Value Information | M | | 9.2.1.19A | | – | |

| Range bound | Explanation |
|---|---|
| MaxnoofRLs | Maximum number of individual RLs the measurement can be started on. |
| MaxnoofRLSets | Maximum number of individual RL Sets the measurement can be started on. |

## 9.1.32 DEDICATED MEASUREMENT TERMINATION REQUEST

| IE/Group Name | Presence | Range | IE Type and Reference | Semantics Description | Criticality | Assigned Criticality |
|---|---|---|---|---|---|---|
| Message Type | M | | 9.2.1.40 | | YES | ignore |
| Transaction ID | M | | 9.2.1.59 | | – | |
| Measurement Id | M | | 9.2.1.37 | | YES | ignore |

## 9.1.33 DEDICATED MEASUREMENT FAILURE INDICATION

| IE/Group Name | Presence | Range | IE Type and Reference | Semantics Description | Criticality | Assigned Criticality |
|---|---|---|---|---|---|---|
| Message Type | M | | 9.2.1.40 | | YES | ignore |
| Transaction ID | M | | 9.2.1.59 | | – | |
| Measurement Id | M | | 9.2.1.37 | | YES | ignore |
| Cause | M | | 9.2.1.5 | | YES | ignore |

## 9.1.34 COMMON TRANSPORT CHANNEL RESOURCES RELEASE REQUEST

| IE/Group Name | Presence | Range | IE type and reference | Semantics description | Criticality | Assigned Criticality |
|---|---|---|---|---|---|---|
| Message Type | M | | 9.2.1.40 | | YES | ignore |
| Transaction ID | M | | 9.2.1.59 | | – | |
| D-RNTI | M | | 9.2.1.24 | | YES | ignore |

## 9.1.35 COMMON TRANSPORT CHANNEL RESOURCES REQUEST

| IE/Group Name | Presence | Range | IE type and reference | Semantics description | Criticality | Assigned Criticality |
|---|---|---|---|---|---|---|
| Message Type | M | | 9.2.1.40 | | YES | reject |
| Transaction ID | M | | 9.2.1.59 | | – | |
| D-RNTI | M | | 9.2.1.24 | | YES | reject |
| C-ID | O | | 9.2.1.6 | | YES | reject |
| Transport Bearer Request Indicator | M | | 9.2.1.61 | Request a new transport bearer or to use an existing bearer for the user plane. | YES | reject |
| Transport Bearer ID | M | | 9.2.1.60 | Indicates the Iur transport bearer to be used for the user plane. | YES | reject |

## 9.1.36 COMMON TRANSPORT CHANNEL RESOURCES RESPONSE

### 9.1.36.1 FDD Message

| IE/Group Name | Presence | Range | IE type and reference | Semantics description | Criticality | Assigned Criticality |
|---|---|---|---|---|---|---|
| Message Type | M | | 9.2.1.40 | | YES | reject |
| Transaction ID | M | | 9.2.1.59 | | – | |
| S-RNTI | M | | 9.2.1.53 | | YES | ignore |
| C-RNTI | O | | 9.2.1.14 | | YES | ignore |
| **FACH Info for UE Selected S-CCPCH** | | *1* | | | YES | ignore |
| >FACH Flow Control Information | M | | 9.2.1.26C | | YES | ignore |
| Transport Layer Address | O | | 9.2.1.62 | | YES | ignore |
| Binding Identity | O | | 9.2.1.3 | | YES | ignore |
| Criticality Diagnostics | O | | 9.2.1.13 | | YES | ignore |

### 9.1.36.2 TDD Message

| IE/Group Name | Presence | Range | IE type and reference | Semantics description | Criticality | Assigned Criticality |
|---|---|---|---|---|---|---|
| Message Type | M | | 9.2.1.40 | | YES | reject |
| Transaction ID | M | | 9.2.1.59 | | – | |
| S-RNTI | M | | 9.2.1.53 | | YES | ignore |
| C-RNTI | O | | 9.2.1.14 | | YES | ignore |
| **FACH Info for UE Selected S-CCPCHs** | | *1* | | | YES | ignore |
| >FACH Flow Control Information | M | | 9.2.1.26C | | YES | ignore |
| Transport Layer Address | O | | 9.2.1.62 | | YES | ignore |
| Binding Identity | O | | 9.2.1.3 | | YES | ignore |
| Criticality Diagnostics | O | | 9.2.1.13 | | YES | ignore |

## 9.1.37 COMMON TRANSPORT CHANNEL RESOURCES FAILURE

| IE/Group Name | Presence | Range | IE type and reference | Semantics description | Criticality | Assigned Criticality |
|---|---|---|---|---|---|---|
| Message Type | M | | 9.2.1.40 | | YES | reject |
| Transaction ID | M | | 9.2.1.59 | | – | |
| S-RNTI | M | | 9.2.1.53 | | YES | ignore |
| Cause | M | | 9.2.1.5 | | YES | ignore |
| Criticality Diagnostics | O | | 9.2.1.13 | | YES | ignore |

## 9.1.38 COMPRESSED MODE COMMAND [FDD]

| IE/Group Name | Presence | Range | IE type and reference | Semantics description | Criticality | Assigned Criticality |
|---|---|---|---|---|---|---|
| Message Type | M | | 9.2.1.40 | | YES | ignore |
| Transaction ID | M | | 9.2.1.59 | | – | |
| Active Pattern Sequence Information | M | | 9.2.2.A | | YES | ignore |

## 9.1.39 ERROR INDICATION

| IE/Group Name | Presence | Range | IE Type and Reference | Semantics Description | Criticality | Assigned Criticality |
|---|---|---|---|---|---|---|
| Message Type | M | | 9.2.1.40 | | YES | ignore |
| Transaction ID | M | | 9.2.1.59 | | – | |
| Cause | C_ifalone | | 9.2.1.5 | | YES | ignore |
| Criticality Diagnostics | C_ifalone | | 9.2.1.13 | | YES | ignore |

| Condition | Explanation |
|---|---|
| C_ifalone | At least the *Cause* IE or the *Criticality Diagnostics* IE shall be present. |

## 9.1.40 DL POWER TIMESLOT CONTROL REQUEST [TDD]

| IE/Group Name | Presence | Range | IE type and reference | Semantics description | Criticality | Assigned Criticality |
|---|---|---|---|---|---|---|
| Message Type | M | | 9.2.1.40 | | YES | ignore |
| Transaction ID | M | | 9.2.1.59 | | – | |
| DL Time Slot ISCP Info | O | | 9.2.3.2D | Mandatory For 3.84Mcps TDD only | YES | ignore |
| DL Time Slot ISCP Info LCR | O | | 9.2.3.2F | | YES | reject |

| Range bound | Explanation |
|---|---|
| MaxnoofDLtsLCR | Maximum number of Downlink time slots per Radio Link for 1.28Mcps TDD |

## 9.1.41 RADIO LINK PREEMPTION REQUIRED INDICATION

| IE/Group Name | Presence | Range | IE type and reference | Semantics description | Criticality | Assigned Criticality |
|---|---|---|---|---|---|---|
| Message Type | M | | 9.2.1.40 | | YES | ignore |
| Transaction ID | M | | 9.2.1.59 | | – | |
| **RL Information** | | *0..<maxnoofRLs>* | | | EACH | ignore |
| >RL ID | M | | 9.2.1.49 | | – | |

| Range bound | Explanation |
|---|---|
| MaxnoofRLs | Maximum number of radio links for one UE |

## 9.1.42 RADIO LINK CONGESTION INDICATION

| IE/Group Name | Presence | Range | IE type and reference | Semantics description | Criticality | Assigned Criticality |
|---|---|---|---|---|---|---|
| Message Type | M | | 9.2.1.40 | | YES | ignore |
| Transaction ID | M | | 9.2.1.59 | | – | |
| **RL Information** | | *1..<maxnoofRLs>* | | | EACH | ignore |
| >RL ID | M | | 9.2.1.49 | | – | |
| **>DCH Rate Information** | | *1..<maxnoofDCHs>* | | | EACH | ignore |
| >>DCH ID | M | | 9.2.1.16 | | – | |
| >>Allowed Rate Information | M | | 9.2.1.2A | | – | |

| Range bound | Explanation |
|---|---|
| MaxnoofRLs | Maximum number of Radio Links for one UE |
| MaxnoofDCHs | Maximum number of DCHs for one UE. |

## 9.1.43 COMMON MEASUREMENT INITIATION REQUEST

| IE/Group Name | Presence | Range | IE Type and Reference | Semantics Description | Criticality | Assigned Criticality |
|---|---|---|---|---|---|---|
| Message Type | M | | 9.2.1.40 | | YES | reject |
| Transaction ID | M | | 9.2.1.59 | | – | |
| Measurement ID | M | | 9.2.1.37 | | YES | reject |
| Common Measurement Object Type | M | | 9.2.1.12B | | YES | reject |
| CHOICE *Common Measurement Object Type* | M | | | | YES | reject |
| *>Cell* | | | | | – | |
| >>UTRAN Cell Identifier | M | | 9.2.1.71 | | – | |
| **>>Neighbouring Cell Measurement Information** | | *0..<maxnoof MeasNCells>* | | | – | |
| >>> Neighbouring FDD Cell Measurement Information | C-CellInfo | | 9.2.1.41G | | – | |
| >>> Neighbouring TDD Cell Measurement Information | C-CellInfo | | 9.2.1.41H | | – | |
| >>Time Slot | O | | 9.2.1.56 | TDD Only | | |
| Common Measurement Type | M | | 9.2.1.12C | | YES | reject |
| Measurement Filter Coefficient | O | | 9.2.1.41 | | YES | reject |
| Report Characteristics | M | | 9.2.1.48 | | YES | reject |
| SFN reporting indicator | M | | FN reporting indicator 9.2.1.28A | | YES | reject |
| SFN | O | | 9.2.1.52A | | YES | reject |
| Common Measurement Accuracy | O | | 9.2.1.12A | | YES | reject |

| Range bound | Explanation |
|---|---|
| *maxnoofMeasNCell* | Maximum number of neighbouring cells on which measurements can be performed. |

| Condition | Explanation |
|---|---|
| *CellInfo* | Only one Neighbouring Cell Measurement Information IE can be present at the same time. |

## 9.1.44 COMMON MEASUREMENT INITIATION RESPONSE

| IE/Group Name | Presence | Range | IE Type and Reference | Semantics Description | Criticality | Assigned Criticality |
|---|---|---|---|---|---|---|
| Message Type | M | | 9.2.1.40 | | YES | reject |
| Transaction ID | M | | 9.2.1.59 | | – | |
| Measurement ID | M | | 9.2.1.37 | | YES | ignore |
| CHOICE *Common Measurement Object Type* | O | | | Common Measurement Object Type that the measurement was initiated with. | YES | ignore |
| *>Cell* | | | | | – | |
| >>Common Measurement value | M | | 9.2.1.12D | | – | |
| SFN | O | | 9.2.1.52A | Common Measurement Time Reference | YES | ignore |
| Criticality Diagnostics | O | | 9.2.1.13 | | YES | ignore |
| Common Measurement Achieved Accuracy | O | | Common Measurement Accuracy 9.2.1.12A | | YES | ignore |

## 9.1.45 COMMON MEASUREMENT INITIATION FAILURE

| IE/Group Name | Presence | Range | IE Type and Reference | Semantics Description | Criticality | Assigned Criticality |
|---|---|---|---|---|---|---|
| Message Type | M | | 9.2.1.40 | | YES | reject |
| Transaction ID | M | | 9.2.1.59 | | – | |
| Measurement ID | M | | 9.2.1.37 | | YES | ignore |
| Cause | M | | 9.2.1.5 | | YES | ignore |
| Criticality Diagnostics | O | | 9.2.1.13 | | YES | ignore |

## 9.1.46 COMMON MEASUREMENT REPORT

| IE/Group Name | Presence | Range | IE Type and Reference | Semantics Description | Criticality | Assigned Criticality |
|---|---|---|---|---|---|---|
| Message Type | M | | 9.2.1.40 | | YES | ignore |
| Transaction ID | M | | 9.2.1.59 | | – | |
| Measurement ID | M | | 9.2.1.37 | | YES | ignore |
| CHOICE *Common Measurement Object Type* | M | | | Common Measurement Object Type that the measurement was initiated with. | YES | ignore |
| *>Cell* | | | | | – | |
| >>Common Measurement Value Information | M | | 9.2.1.12E | | – | |
| SFN | O | | 9.2.1.52A | Common Measurement Time Reference | YES | ignore |

## 9.1.47 COMMON MEASUREMENT TERMINATION REQUEST

| IE/Group Name | Presence | Range | IE Type and Reference | Semantics Description | Criticality | Assigned Criticality |
|---|---|---|---|---|---|---|
| Message Type | M | | 9.2.1.40 | | YES | ignore |
| Transaction ID | M | | 9.2.1.59 | | – | |
| Measurement ID | M | | 9.2.1.37 | | YES | ignore |

## 9.1.48 COMMON MEASUREMENT FAILURE INDICATION

| IE/Group Name | Presence | Range | IE Type and Reference | Semantics Description | Criticality | Assigned Criticality |
|---|---|---|---|---|---|---|
| Message Type | M | | 9.2.1.40 | | YES | ignore |
| Transaction ID | M | | 9.2.1.59 | | – | |
| Measurement ID | M | | 9.2.1.37 | | YES | ignore |
| Cause | M | | 9.2.1.5 | | YES | ignore |

## 9.1.49 INFORMATION EXCHANGE INITIATION REQUEST

| IE/Group Name | Presence | Range | IE Type and Reference | Semantics Description | Criticality | Assigned Criticality |
|---|---|---|---|---|---|---|
| Message Type | M | | 9.2.1.40 | | YES | reject |
| Transaction ID | M | | 9.2.1.59 | | – | |
| Information Exchange ID | M | | 9.2.1.31A | | YES | reject |
| Information Exchange Object Type | M | | 9.2.1.31B | | YES | reject |
| CHOICE *Information Exchange Object Type* | M | | | | YES | reject |
| *>Cell* | | | | | - | |
| >>C-ID | M | | 9.2.1.6 | | YES | reject |
| Information Type | M | | 9.2.1.31E | | YES | reject |
| Information Report Characteristics | M | | 9.2.1.31C | | YES | reject |

## 9.1.50 INFORMATION EXCHANGE INITIATION RESPONSE

| IE/Group Name | Presence | Range | IE Type and Reference | Semantics Description | Criticality | Assigned Criticality |
|---|---|---|---|---|---|---|
| Message Type | M | | 9.2.1.40 | | YES | reject |
| Transaction ID | M | | 9.2.1.59 | | – | |
| Information Exchange ID | M | | 9.2.1.31A | | YES | ignore |
| CHOICE *Information Exchange Object Type* | M | | 9.2.1.31B | | YES | ignore |
| *>Cell* | | | | | - | |
| >>Requested Data Value | M | | 9.2.1.48A | | YES | ignore |
| Criticality Diagnostics | O | | 9.2.1.13 | | YES | ignore |

### 9.1.51 INFORMATION EXCHANGE INITIATION FAILURE

| IE/Group Name | Presence | Range | IE Type and Reference | Semantics Description | Criticality | Assigned Criticality |
|---|---|---|---|---|---|---|
| Message Type | M | | 9.2.1.40 | | YES | reject |
| Transaction ID | M | | 9.2.1.59 | | – | |
| Information Exchange ID | M | | 9.2.1.31A | | YES | ignore |
| Cause | M | | 9.2.1.5 | | YES | ignore |
| Criticality Diagnostics | O | | 9.2.1.13 | | YES | ignore |

### 9.1.52 INFORMATION REPORT

| IE/Group Name | Presence | Range | IE Type and Reference | Semantics Description | Criticality | Assigned Criticality |
|---|---|---|---|---|---|---|
| Message Type | M | | 9.2.1.40 | | YES | ignore |
| Transaction ID | M | | 9.2.1.59 | | – | |
| Information Exchange ID | M | | 9.2.1.31A | | YES | ignore |
| CHOICE *Information Exchange Object Type* | M | | | | YES | ignore |
| *>Cell* | | | | | - | |
| >>Requested Data Value Information | M | | 9.2.1.48B | | YES | ignore |

### 9.1.53 INFORMATION EXCHANGE TERMINATION REQUEST

| IE/Group Name | Presence | Range | IE Type and Reference | Semantics Description | Criticality | Assigned Criticality |
|---|---|---|---|---|---|---|
| Message Type | M | | 9.2.1.40 | | YES | ignore |
| Transaction ID | M | | 9.2.1.59 | | – | |
| Information Exchange ID | M | | 9.2.1.31A | | YES | ignore |

### 9.1.54 INFORMATION EXCHANGE FAILURE INDICATION

| IE/Group Name | Presence | Range | IE Type and Reference | Semantics Description | Criticality | Assigned Criticality |
|---|---|---|---|---|---|---|
| Message Type | M | | 9.2.1.40 | | YES | ignore |
| Transaction ID | M | | 9.2.1.59 | | – | |
| Information Exchange ID | M | | 9.2.1.31A | | YES | ignore |
| Cause | M | | 9.2.1.5 | | YES | ignore |

## 9.2 Information Element Functional Definition and Contents

### 9.2.0 General

Subclause 9.2 presents the RNSAP IE definitions in tabular format. The corresponding ASN.1 definition is presented in subclause 9.3. In case there is contradiction between the tabular format in subclause 9.2 and the ASN.1 definition, the ASN.1 shall take precedence, except for the definition of conditions for the presence of conditional elements, where the tabular format shall take precedence.

## 9.2.1 Common Parameters

This subclause contains parameters that are common to FDD and TDD.

### 9.2.1.1 Allocation/Retention Priority

This parameter indicates the priority level in the allocation and retention of transport channel resources in DRNS. DRNS may use the Allocation/Retention priority information of the transport channels composing the RL to prioritise requests for RL Setup/addition and reconfiguration. In similar way, DRNS may use the allocation/Retention priority information of the transport channels composing the RL to prioritise which RL shall be set to failure, in case prioritisation is possible. See Annex A.

| IE/Group Name | Presence | Range | IE type and reference | Semantics description |
|---|---|---|---|---|
| Priority Level | M | | INTEGER (0..15) | This IE indicates the priority of the request.<br>0 = spare.<br>1 = highest priority.<br>.<br>.<br>.<br>14 = Lowest priority.<br>15 = not used. |
| Pre-emption Capability | M | | ENUMERATED(shall not trigger pre-emption, may trigger pre-emption) | |
| Pre-emption Vulnerability | M | | ENUMERATED(not pre-emptable, pre-emptable) | |

### 9.2.1.2 Allowed Queuing Time

This parameter specifies the maximum queuing time that is allowed in the DRNS until the DRNS must start to execute the request.

| IE/Group Name | Presence | Range | IE type and reference | Semantics description |
|---|---|---|---|---|
| Allowed Queuing Time | | | INTEGER(1. .60) | Seconds |

### 9.2.1.2A Allowed Rate Information

The *Allowed Rate Information* IE indicates the TFI corresponding to the highest allowed bit rate for the uplink and/or the downlink of a DCH. The SRNC is allowed to use any rate being lower than or equal to the rate corresponding to the indicated TFI.

| IE/Group Name | Presence | Range | IE type and reference | Semantics description |
|---|---|---|---|---|
| Allowed UL Rate | O | | INTEGER(0. .maxTFcount ) | |
| Allowed DL Rate | O | | INTEGER(0. .maxTFcount ) | |

### 9.2.1.2B Altitude and Direction

This IE contains a description of Altitude and Direction.

| IE/Group Name | Presence | Range | IE type and reference | Semantics description |
|---|---|---|---|---|
| Direction of Altitude | M | | ENUMERATED (Height, Depth) | |
| Altitude | M | | INTEGER ( $0...2^{15}-1$) | The relation between the value (N) and the altitude (a) in meters it describes is $N \leq a < N+1$, except for $N=2^{15}-1$ for which the range is extended to include all grater values of (a). |

### 9.2.1.3 Binding ID

The Binding ID is the identifier of a user data stream. It is allocated at the DRNS and it is unique for each transport bearer under establishment to/from the DRNS.

| IE/Group Name | Presence | Range | IE type and reference | Semantics description |
|---|---|---|---|---|
| Binding ID | | | OCTET STRING (1..4,…) | |

### 9.2.1.4 BLER

This Block Error Rate defines the target radio interface Transport Block Error Rate of the transport channel . BLER is used by the DRNS to determine the needed SIR targets, for admission control and power management reasons.

| IE/Group Name | Presence | Range | IE type and reference | Semantics description |
|---|---|---|---|---|
| BLER | | | INTEGER (-63..0) | Step 0.1. (Range –6.3…0). It is the Log10 of the BLER |

### 9.2.1.4A Block STTD Indicator

Indicates if Block STTD antenna diversity is applied or not to the PCCPCH.

| IE/Group Name | Presence | Range | IE type and reference | Semantics description |
|---|---|---|---|---|
| Block STTD Indicator | | | ENUMERATED(active, inactive) | |

### 9.2.1.4B Burst Mode Parameters

The *Burst Mode Parameters* IE provides all the relevant information in order to able IPDL in the Burst mode.

| Information Element/Group name | Presence | Range | IE Type and Reference | Semantics description |
|---|---|---|---|---|
| Burst Start | M | | INTEGER(0. .15) | See [10] and [22] |
| Burst Length | M | | INTEGER(1 0..25) | See [10] and [22] |
| Burst freq | M | | INTEGER(1. .16) | See [10] and [22] |

### 9.2.1.5 Cause

The purpose of the cause information element is to indicate the reason for a particular event for the whole protocol.

| IE/Group Name | Presence | Range | IE type and reference | Semantics description |
|---|---|---|---|---|
| CHOICE *Cause Group* | | | | |
| *>Radio Network Layer* | | | | |
| >>Radio Network Layer Cause | M | | ENUMERATED<br>(Unknown C-ID,<br>Cell not Available,<br>Power Level not Supported,<br>UL Scrambling Code Already in Use,<br>DL Radio Resources not Available,<br>UL Radio Resources not Available,<br>Measurement not Supported For The Object,<br>Combining Resources Not Available,<br>Combining not Supported,<br>Reconfiguration not Allowed,<br>Requested Configuration not Supported,<br>Synchronisation Failure,<br>Requested Tx Diversity Mode not Supported,<br>Measurement Temporarily not Available,<br>Unspecified,<br>Invalid CM Settings,<br>Reconfiguration CFN not Elapsed,<br>Number of DL Codes Not Supported,<br>Dedicated Transport Channel Type not Supported,<br>DL Shared Channel Type not Supported,<br>UL Shared Channel Type not Supported,<br>Common Transport Channel Type not Supported,<br>UL Spreading Factor not Supported,<br>DL Spreading Factor not Supported,<br>CM not Supported,<br>Transaction not Supported by Destination Node B,<br>RL Already Activated/Allocated,<br>...,<br>Number of UL Codes Not Supported,<br>DPC Mode Change not Supported,<br>Information temporarily not available,<br>Information Provision not supported for the object) | |
| *>Transport Layer* | | | | |
| >>Transport Layer Cause | M | | ENUMERATED<br>(Transport Resource Unavailable,<br>Unspecified,<br>...) | |
| *>Protocol* | | | | |
| >>Protocol Cause | | | ENUMERATED<br>(Transfer Syntax Error,<br>Abstract Syntax Error (Reject),<br>Abstract Syntax Error (Ignore and Notify),<br>Message not Compatible with Receiver State,<br>Semantic Error,<br>Unspecified,<br>Abstract Syntax Error (Falsely Constructed Message),...) | |
| *>Misc* | | | | |
| >>Miscellaneous Cause | M | | ENUMERATED<br>(Control Processing Overload,<br>Hardware Failure,<br>O&M Intervention,<br>Not enough User Plane Processing Resources,<br>Unspecified,...) | |

The meaning of the different cause values is described in the following table. In general, "not supported" cause values indicate that the concerning capability is missing. On the other hand, "not available" cause values indicate that the concerning capability is present, but insufficient resources were available to perform the requested action.

| Radio Network Layer cause | Meaning |
|---|---|
| Cell not Available, | The concerning cell is not available |
| Combining not Supported | The DRNS does not support the RL combining for the concerning cells |
| Combining Resources Not Available | The value of the received *Diversity Control Field* IE was set to 'Must', but the DRNS cannot perform the requested combining |
| CM not Supported | The concerning cell(s) do not support Compressed Mode |
| Common Transport Channel Type not Supported | The concerning cell(s) do not support the RACH and/or FACH and/or CPCH Common Transport Channel Type |
| Dedicated Transport Channel Type not Supported | The concerning cell(s) do not support the Dedicated Transport Channel Type |
| DL Radio Resources not Available | The DRNS does not have sufficient DL radio resources available |
| DL SF not Supported | The concerning cell(s) do not support the requested DL SF |
| DL Shared Channel Type not Supported | The concerning cell(s) do not support the Downlink Shared Channel Type |
| DPC Mode Change not Supported | The concerning cells do not support the DPC mode changes |
| Information Provision not supported for the object | The RNS doesn't support provision of the requested information for the concerned object types |
| Information temporarily not available | The RNS can temporarily not provide the requested information |
| Invalid CM Settings | The concerning cell(s) consider the requested Compressed Mode settings invalid |
| Measurement not Supported For The Object | At least one of the concerning cell(s) does not support the requested measurement on the concerning object type |
| Measurement Temporarily not Available | The DRNS can temporarily not provide the requested measurement value |
| Number of DL Codes not Supported | The concerning cell(s) do not support the requested number of DL codes |
| Number of UL Codes not Supported | The concerning cell(s) do not support the requested number of UL codes |
| Power Level not Supported | A DL power level was requested which the concerning cell(s) do not support |
| Reconfiguration CFN not Elapsed | The requested action cannot be performed due to that a COMMIT message was received previously, but the concerning CFN has not yet elapsed |
| Reconfiguration not Allowed | The SRNC does currently not allow the requested reconfiguration |
| Requested Configuration not Supported | The concerning cell(s) do not support the requested configuration i.e. power levels, Transport Formats, physical channel parameters,….. |
| Requested Tx Diversity mode not Supported | The concerning cell(s) do not support the requested transmit diversity mode |
| RL Already Activated/ Allocated | The DRNS has already allocated an RL with the requested RL ID for this UE Context |
| Synchronisation Failure | Loss of UL Uu synchronisation |
| Transaction not Supported by Destination Node B | The requested action cannot be performed due to lack of support of the corresponding action in the destination Node B |
| UL Radio Resources not Available | The DRNS does not have sufficient UL radio resources available |
| UL Scrambling Code Already in Use | The concerning UL scrambling code is already in use for another UE |
| UL SF not Supported | The concerning cell(s) do not support the requested minimum UL SF |
| UL Shared Channel Type not Supported | The concerning cell(s) do not support the Uplink Shared Channel Type |
| Unknown C-ID | The DRNS is not aware of a cell with the provided C-Id |
| Unspecified | Sent when none of the above cause values applies but still the cause is Radio Network Layer related |

| Transport Network Layer cause | Meaning |
|---|---|
| Transport resource unavailable | The required transport resources are not available |

| | |
|---|---|
| Unspecified | Sent when none of the above cause values applies but still the cause is Transport Network Layer related |

| Protocol cause | Meaning |
|---|---|
| Abstract Syntax Error (Reject) | The received message included an abstract syntax error and the concerning criticality indicated "reject" (see subclause 10.3) |
| Abstract Syntax Error (Ignore and Notify) | The received message included an abstract syntax error and the concerning criticality indicated "ignore and notify" (see subclause 10.3) |
| Abstract syntax error (falsely constructed message) | The received message contained IEs or IE groups in wrong order or with too many occurrences (see subclause 10.3) |
| Message not Compatible with Receiver State | The received message was not compatible with the receiver state (see subclause 10.4) |
| Semantic Error | The received message included a semantic error (see subclause 10.4) |
| Transfer Syntax Error | The received message included a transfer syntax error (see subclause 10.2) |
| Unspecified | Sent when none of the above cause values applies but still the cause is Protocol related |

| Miscellaneous cause | Meaning |
|---|---|
| Control Processing Overload | DRNS control processing overload |
| Hardware Failure | DRNS hardware failure |
| Not enough User Plane Processing Resources | DRNS has insufficient user plane processing resources available |
| O&M Intervention | Operation and Maintenance intervention related to DRNS equipment |
| Unspecified | Sent when none of the above cause values applies and the cause is not related to any of the categories Radio Network Layer, Transport Network Layer or Protocol. |

### 9.2.1.5A Cell Geographical Area Identity (Cell GAI)

The Cell Geographical Area is used to identify the geographical area of a cell. The area is represented as a polygon. See ref. [25].

| IE/Group Name | Presence | Range | IE type and reference | Semantics description |
|---|---|---|---|---|
| **Cell GAI Geographical Co-ordinates** | | *1 .. <maxnoofPoints>* | | |
| >Latitude Sign | M | | ENUMERATED (North, South) | |
| >Degrees of Latitude | M | | INTEGER ( $0...2^{23}-1$) | The IE value (N) is derived by this formula:<br>$N \leq 2^{23} X /90 < N+1$<br>X being the latitude in degree (0°.. 90°) |
| >Degrees of Longitude | M | | INTEGER ( $-2^{23}...2^{23}-1$) | The IE value (N) is derived by this formula:<br>$N \leq 2^{24} X /360 < N+1$<br>X being the longitude in degree (-180°..+180°) |

| Range bound | Explanation |
|---|---|
| *maxnoofPoints* | Maximum no. of points in polygon. |

### 9.2.1.5B Cell Geographical Area Additional Shapes (Cell GAI Additional Shapes)

This IE is used to provide several descriptions of the geographical area of a cell.

| IE/Group Name | Presence | Range | IE type and reference | Semantics description |
|---|---|---|---|---|
| CHOICE *Cell GAI Additional Shapes* | | | | |
| *>GA Point With Uncertainty* | | | | |
| >>GA Point With Uncertainty | M | | 9.2.1.30A | Ellipsoid point with uncertainty circle |
| *>GA Ellipsoid point with uncertainty Ellipse* | | | | |
| >>GA Ellipsoid point with uncertainty Ellipse | M | | 9.2.1.30B | Ellipsoid point with uncertainty Ellipse |
| *>GA Ellipsoid point with altitude* | | | | |
| >>GA Ellipsoid point with altitude | M | | 9.2.1.30C | Ellipsoid point with altitude |
| *>GA Ellipsoid point with altitude and uncertainty Ellipsoid* | | | | |
| >>GA Ellipsoid point with altitude and uncertainty Ellipsoid | M | | 9.2.1.30D | Ellipsoid point with altitude and uncertainty Ellipsoid |
| *>GA Ellipsoid Arc* | | | | |
| >>GA Ellipsoid Arc | M | | 9.2.1.30E | Ellipsoid Arc |

### 9.2.1.6 Cell Identifier (C-Id)

The C-Id (Cell Identifier) is the identifier of a cell in one RNS.

| IE/Group Name | Presence | Range | IE type and reference | Semantics description |
|---|---|---|---|---|
| C-Id | | | INTEGER (0…65535) | |

### 9.2.1.7 Cell Individual Offset

Cell individual offset is an offset that will be applied by UE to the measurement results for a Primary-CPICH[FDD]/ Primary-CCPCH[TDD], before the measurement takes place. This allows operators to easily monitor specific cell, as well as other uses. The offset can be positive or negative, so the measured results can be reported as better than, or worse than what it really is.

| IE/Group Name | Presence | Range | IE type and reference | Semantics description |
|---|---|---|---|---|
| Cell Individual Offset | | | INTEGER (-20,..,+20) | -20 -> -10dB<br>-19 -> -9.5dB<br>…<br>+20 -> +10dB |

### 9.2.1.8 Cell Parameter ID

The Cell Parameter ID identifies unambiguously the Code Groups, Scrambling Codes, Midambles and Toffset (see table 9 of ref. [13]).

| IE/Group Name | Presence | Range | IE type and reference | Semantics description |
|---|---|---|---|---|
| Cell Parameter ID | | | INTEGER (0…127,…) | |

### 9.2.1.9 CFN

Connection Frame Number for the radio connection, see ref. [17].

| IE/Group Name | Presence | Range | IE type and reference | Semantics description |
|---|---|---|---|---|
| CFN | | | INTEGER (0… 255) | |

### 9.2.1.10 CFN Offset

Void

### 9.2.1.11 CN CS Domain Identifier

Identification of the CN node in the CS Domain.

| IE/Group Name | Presence | Range | IE type and reference | Semantics description |
|---|---|---|---|---|
| PLMN Id | M | | OCTET STRING (3) | - digits 0 to 9, two digits per octet,<br>- each digit encoded 0000 to 1001,<br>- 1111 used as filler<br>- bit 4 to 1 of octet n encoding digit 2n-1<br>- bit 8 to 5 of octet n encoding digit 2n<br><br>-The PLMN-ID consists of 3 digits from MCC followed by either<br>-a filler plus 2 digits from MNC (in case of 2 digit MNC) or<br>-3 digits from MNC (in case of a 3 digit MNC). |
| LAC | M | | OCTET STRING (2) | 0000 and FFFE not allowed |

### 9.2.1.11A CN Domain Type

Identifies the type of core network domain.

| IE/Group Name | Presence | Range | IE type and reference | Semantics description |
|---|---|---|---|---|
| CN Domain Type | | | ENUMERATED (CS domain, PS domain, Don't care,…) | See in [16] |

### 9.2.1.12 CN PS Domain Identifier

Identification of the CN Node in the PS Domain.

| IE/Group Name | Presence | Range | IE type and reference | Semantics description |
|---|---|---|---|---|
| PLMN Id | M | | OCTET STRING (3) | - digits 0 to 9, two digits per octet,<br>- each digit encoded 0000 to 1001,<br>- 1111 used as filler<br>- bit 4 to 1 of octet n encoding digit 2n-1<br>- bit 8 to 5 of octet n encoding digit 2n<br><br>-The PLMN-ID consists of 3 digits from MCC followed by either<br>-a filler plus 2 digits from MNC (in case of 2 digit MNC) or<br>-3 digits from MNC (in case of a 3 digit MNC). |
| LAC | M | | OCTET STRING (2) | 0000 and FFFE not allowed |
| RAC | M | | OCTET STRING (1) | |

## 9.2.1.12A Common Measurement Accuracy

The Common Measurement Accuracy IE indicates the accuracy of the common measurement.

| IE/Group Name | Presence | Range | IE type and reference | Semantics description |
|---|---|---|---|---|
| $T_{UTRAN-GPS}$ Measurement Accuracy Class | C-MeasurementAccuracy | | $T_{UTRAN-GPS}$ Accuracy Class 9.2.1.59B | |

| Condition | Explanation |
|---|---|
| C-MeasurementAccuracy | Only one IE shall be present. |

## 9.2.1.12B Common Measurement Object Type

The Common Measurement Object type indicates the type of object that the measurement is to be performed on.

| IE/Group Name | Presence | Range | IE Type and Reference | Semantics Description |
|---|---|---|---|---|
| Common Measurement Object Type | | | ENUMERATED (CELL,…) | |

## 9.2.1.12C Common Measurement Type

The Common Measurement Type identifies which measurement that shall be performed.

| IE/Group Name | Presence | Range | IE Type and Reference | Semantics Description |
|---|---|---|---|---|
| Common Measurement Type | | | ENUMERATED (UTRAN GPS Timing of Cell Frames for LCS, SFN-SFN Observed Time Difference, load, transmitted carrier power, received total wide band power, UL timeslot ISCP, …) | UL timeslot ISCP shall only be used by TDD |

## 9.2.1.12D Common Measurement Value

The Common Measurement Value shall be the most recent value for this measurement, for which the reporting criteria were met.

| IE/Group Name | Presence | Range | IE Type and Reference | Semantics Description |
|---|---|---|---|---|
| $T_{UTRAN-GPS}$ Measurement Value Information | C *MeasValue* | | 9.2.1.59D | |
| SFN-SFN Measurement Value Information | C *MeasValue* | | 9.2.1.52C | |
| Load Value | *C-MeasValue* | | 9.2.1.33A | |
| Transmitted Carrier Power Value | *C-MeasValue* | | Transmitted Carrier Power 9.2.1.59A | |
| Received Total Wide Band Power Value | *C-MeasValue* | | Received Total Wide Band Power 9.2.2.35A | |
| UL Timeslot ISCP Value | *C-MeasValue* | | UL Timeslot ISCP 9.2.3.13A | Only applicable for TDD. |

| Condition | Explanation |
|---|---|
| *MeasValue* | Only one measurement value can be present at the same time. |

## 9.2.1.12E Common Measurement Value Information

The *Common Measurement Value Information* IE provides information both on whether or not the Common Measurement Value is provided in the message or not and if provided also the Common Measurement Value itself.

| IE/Group Name | Presence | Range | IE Type and Reference | Semantics Description |
|---|---|---|---|---|
| CHOICE *Measurement Availability* | M | | | |
| *>Measurement Available* | | | | |
| >>Common Measurement Value | M | | 9.2.1.12D | |
| *>Measurement not Available* | | | NULL | |

## 9.2.1.13 Criticality Diagnostics

| IE/Group Name | Presence | Range | IE type and reference | Semantics description |
|---|---|---|---|---|
| **Procedure ID** | | 0..1 | | Procedure ID is to be used if Criticality Diagnostics is part of Error Indication procedure, and not within the response message of the same procedure that caused the error |
| >Procedure Code | M | | INTEGER (0..255) | |
| >Ddmode | M | | ENUMERATED (FDD, TDD, Common) | Common = common to FDD and TDD. |
| Triggering Message | O | | ENUMERATED(initiating message, successful outcome, unsuccessful outcome, outcome) | The Triggering Message is used only if the Criticality Diagnostics is part of Error Indication. |
| Procedure Criticality | O | | ENUMERATED(reject, ignore, notify) | This Procedure Criticality is used for reporting the Criticality of the Triggering message (Procedure). The value 'ignore' shall never be used. |
| Transaction ID | O | | Transaction ID | |
| **Information Element Criticality Diagnostics** | | *0..<maxnoof errors>* | | |
| >IE Criticality | M | | ENUMERATED(reject, ignore, notify) | The IE Criticality is used for reporting the criticality of the triggering IE. The value 'Ignore" shall never be used. |
| >IE Id | M | | INTEGER (0..65535) | The IE Id of the not understood or missing IE as defined in the ASN.1 part of the specification. |
| >Repetition Number | O | | INTEGER (1..256) | The repetition number of the not understood IE within the bottom most repetition level identified by the message structure IE, if applicable |
| >Message Structure | O | | 9.2.1.39A | |

| Range bound | Explanation |
|---|---|
| Maxnooferrors | Maximum number of IE errors allowed to be reported with a single message. |

### 9.2.1.14 C-RNTI

C-RNTI (Cell RNTI) is the UE identifier allocated by the DRNS to be used over the radio interface. It is unique in the cell. One UE context has one unique C-RNTI value allocated in the DRNS.

| IE/Group Name | Presence | Range | IE type and reference | Semantics description |
|---|---|---|---|---|
| C-RNTI | | | INTEGER(0. .65535) | |

### 9.2.1.15 DCH Combination Indicator

Void

### 9.2.1.16 DCH ID

The DCH ID is the identifier of an active dedicated transport channel. It is unique for each active DCH among the active DCHs simultaneously allocated for the same UE.

| IE/Group Name | Presence | Range | IE type and reference | Semantics description |
|---|---|---|---|---|
| DCH ID | | | INTEGER (0..255) | |

### 9.2.1.16A DCH Information Response

The *DCH Information* IE provides information for DCHs that have been established or modified.

| IE/Group Name | Presence | Range | IE type and reference | Semantics description | Criticality | Assigned Criticality |
|---|---|---|---|---|---|---|
| **DCH Information Response** | | *1..<maxnoofDCHs>* | | | – | |
| >DCH ID | M | | 9.2.1.16 | | – | |
| >Binding ID | O | | 9.2.1.3 | | – | |
| >Transport Layer Address | O | | 9.2.1.62 | | – | |
| >Allowed Rate Information | O | | 9.2.1.2A | | YES | ignore |

| Range bound | Explanation |
|---|---|
| MaxnoofDCHs | Maximum number of DCHs for one UE. |

### 9.2.1.17 Dedicated Measurement Object Type

The Dedicated Measurement Object type indicates the type of object that the measurement is to be performed on.

| IE/Group Name | Presence | Range | IE Type and Reference | Semantics Description |
|---|---|---|---|---|
| Dedicated Measurement Object Type | | | ENUMERATED (RL, RLS, ALL RL, ALL RLS,…) | |

### 9.2.1.18 Dedicated Measurement Type

The Dedicated Measurement Type identifies the type of measurement that shall be performed.

| IE/Group Name | Presence | Range | IE Type and Reference | Semantics Description |
|---|---|---|---|---|
| Dedicated Measurement Type | | | ENUMERATED (SIR, SIR Error, Transmitted Code Power, RSCP, Rx Timing Deviation, Round Trip Time, …) | RSCP, Rx Timing Deviation are used by TDD only, Round Trip Time, SIR Error are used by FDD only. |

NOTE: For definitions of the measurement types refer to ref. [11] and [14].

### 9.2.1.19 Dedicated Measurement Value

The Dedicated Measurement Value shall be the most recent value for this measurement, for which the reporting criteria were met.

| IE/Group Name | Presence | Range | IE Type and Reference | Semantics Description |
|---|---|---|---|---|
| SIR Value | C *MeasValue* | | INTEGER(0..63) | According to mapping in ref. [23] and [24] |
| SIR Error Value | C *MeasValue* | | INTEGER(0..125) | According to mapping in [23], [FDD only] |
| Transmitted Code Power Value | C *MeasValue* | | INTEGER(0..127) | According to mapping in ref. [23] and [24] |
| RSCP | C *MeasValue* | | INTEGER(0..127) | According to mapping in ref. [24] [TDD only] |
| Rx Timing Deviation | C MeasValue | | INTEGER(0..8191) | According to mapping in [24] [3.84Mcps TDD only] |
| Round Trip Time | C *MeasValue* | | INTEGER(0..32767) | According to mapping in [23] [FDD only] |

| Condition | Explanation |
|---|---|
| *MeasValue* | Only one measurement value can be present at the same time. |

### 9.2.1.19A Dedicated Measurement Value Information

The *Dedicated Measurement Value Information* IE provides information both on whether or not the Dedicated Measurement Value is provided in the message and if provided also the Dedicated Measurement Value itself.

| IE/Group Name | Presence | Range | IE type and reference | Semantics description | Criticality | Assigned Criticality |
|---|---|---|---|---|---|---|
| CHOICE *Measurement Availability Indicator* | M | | | | – | |
| >*Measurement Available* | | | | | – | |
| >>Dedicated Measurement Value | M | | 9.2.1.19 | | – | |
| >>CFN | O | | 9.2.1.9 | Dedicated Measurement Time Reference | – | |
| >*Measurement not Available* | | | NULL | | – | |

### 9.2.1.19B DGPS Corrections

The DGPS Corrections IE contains DGPS information used by the UE Positioning A-GPS method. For further details on the meaning of parameters, see [31].

| IE/Group Name | Presence | Range | IE Type and Reference | Semantics Description |
|---|---|---|---|---|
| GPS TOW | M | | INTEGER(0..604799) | Time in seconds. This field indicates the baseline time for which the corrections are valid |
| Status/Health | M | | ENUMERATED (UDRE scale 1.0, UDRE scale 0.75, UDRE scale 0.5, UDRE scale 0.3, UDRE scale 0.1, no data, invalid data) | This field indicates the status of the differential corrections |
| **Satellite DGPS Corrections Information** | | *1..<MaxNoSat>* | | |
| >SatID | M | | SAT ID 9.2.1.50A | Satellite ID |
| >IODE | M | | Bit string(8) | This IE is the sequence number for the ephemeris for the particular satellite. It can be used to determine if new ephemeris is used for calculating the corrections that are provided. This eight-bit IE is incremented for each new set of ephemeris for the satellite and may occupy the numerical range of [0, 239] during normal operations. |
| >UDRE | M | | ENUMERATED (UDRE ≤1.0m, 1.0m < UDRE ≤ 4.0m, 4.0m < UDRE ≤ 8.0m, 8.0m < UDRE) | User Differential Range Error. This field provides an estimate of the uncertainty (1-σ) in the corrections for the particular satellite. The value in this field shall be multiplied by the UDRE Scale Factor in the common Corrections Status/Health field to determine the final UDRE estimate for the particular satellite |
| >PRC | M | | Integer(-2047..2047) | Scaling factor 0.32 meters |
| >Range Correction Rate | M | | Integer(-127.. 127) | Scaling factor 0.032 m/s |

| Range Bound | Explanation |
|---|---|
| MaxNoSat | Maximum number of satellites for which information can be provided |

### 9.2.1.20 Diversity Control Field

The Diversity Control Field indicates if the current RL may, must or must not be combined with the already existing RLs.

| IE/Group Name | Presence | Range | IE type and reference | Semantics description |
|---|---|---|---|---|
| Diversity Control Field | | | ENUMERATED(May, Must, Must not) | |

### 9.2.1.21 Diversity Indication

The Diversity Indication indicates if the RL has been or has not been combined with another RL.

| IE/Group Name | Presence | Range | IE type and reference | Semantics description |
|---|---|---|---|---|
| Diversity Indication | | | ENUMERATED (Combined, Not Combined) | |

### 9.2.1.22 Downlink SIR Target

Void

### 9.2.1.23 DPCH Constant Value

DPCH Constant Value is the power margin used by a UE to set the proper uplink power.

| IE/Group Name | Presence | Range | IE type and reference | Semantics description |
|---|---|---|---|---|
| DPCH Constant Value | | | INTEGER (-10...10) | Unit dB<br>Granularity 1 dB. |

### 9.2.1.24 D-RNTI

The D-RNTI identifies the UE Context in the DRNC.

| IE/Group Name | Presence | Range | IE type and reference | Semantics description |
|---|---|---|---|---|
| D-RNTI | | | INTEGER (0..2^20 –1) | |

### 9.2.1.25 D-RNTI Release Indication

The D-RNTI Release Indication indicates whether or not a DRNC shall release the D-RNTI allocated for a particular UE.

| IE/Group Name | Presence | Range | IE type and reference | Semantics description |
|---|---|---|---|---|
| D-RNTI Release Indication | | | ENUMERATED (Release D-RNTI, not Release D-RNTI) | |

### 9.2.1.26 DRX Cycle Length Coefficient

The DRX Cycle Length Coefficient is used as input for the formula to establish the paging occasions to be used in DRX.

| IE/Group Name | Presence | Range | IE type and reference | Semantics description |
|---|---|---|---|---|
| DRX Cycle Length Coefficient | | | INTEGER (3, .., 9) | Refers to 'k' in the formula as specified in ref. [15], Discontinuous Reception. |

### 9.2.1.26A DSCH ID

The DSCH ID is the identifier of an active downlink shared channel. It is unique for each active DSCH among the active DSCHs simultaneously allocated for the same UE.

| IE/Group Name | Presence | Range | IE type and reference | Semantics description |
|---|---|---|---|---|
| DSCH ID | | | INTEGER (0..255) | |

### 9.2.1.26B DSCH Flow Control Information

The *DSCH Flow Control Information* IE provides flow control information for each scheduling priority class for the DSCH FP over Iur.

| IE/Group Name | Presence | Range | IE type and reference | Semantics description | Criticality | Assigned Criticality |
|---|---|---|---|---|---|---|
| **DSCH Flow Control Information** | | *1..16* | | | – | |
| >DSCH Scheduling Priority | M | | Scheduling Priority Indicator 9.2.1.51A | | – | |
| **>MAC-c/sh SDU Length** | | *1..<MaxNb MAC-c/shSDUL ength>* | | | – | |
| >>MAC-c/sh SDU Length | M | | 9.2.1.34 | | – | |

| Range bound | Explanation |
|---|---|
| MaxNbMAC-c/shSDULength | Maximum number of different MAC-c/sh SDU lengths. |

### 9.2.1.26C FACH Flow Control Information

The *FACH Flow Control Information* IE provides flow control information for each scheduling priority class for the FACH FP over Iur.

| IE/Group Name | Presence | Range | IE type and reference | Semantics description | Criticality | Assigned Criticality |
|---|---|---|---|---|---|---|
| **FACH Flow Control Information** | | *1..16* | | | – | |
| >FACH Scheduling Priority | M | | Scheduling Priority Indicator 9.2.1.51A | | – | |
| **>MAC-c/sh SDU Length** | | *1..<MaxNb MAC-c/shSDUL ength>* | | | – | |
| >>MAC-c/sh SDU Length | M | | 9.2.1.34 | | – | |
| >FACH Initial Window Size | M | | 9.2.1.27 | | – | |

| Range bound | Explanation |
|---|---|
| MaxNbMAC-c/shSDULength | Maximum number of different MAC-c/sh SDU lengths. |

### 9.2.1.27 FACH Initial Window Size

Indicates the initial number of MAC-c/sh SDUs that may be transmitted before an acknowledgement is received from the DRNC.

| IE/Group Name | Presence | Range | IE type and reference | Semantics description |
|---|---|---|---|---|
| FACH Initial Window Size | | | INTEGER (0..255) | Number of frames (MAC-c/sh SDUs.)<br>255 = Unlimited number of FACH data frames. |

### 9.2.1.28 FACH Priority Indicator

Void

### 9.2.1.28A FN reporting indicator

Frame Number reporting indicator.

Indicates if the SFN or CFN shall be included together with the reported measurement value.

| IE/Group Name | Presence | Range | IE type and reference | Semantics description |
|---|---|---|---|---|
| FN reporting indicator | | | ENUMERATED(FN reporting required, FN reporting not required) | |

### 9.2.1.29 Frame Handling Priority

This parameter indicates the priority level to be used during the lifetime of the DCH/DSCH for temporary restriction of the allocated resources due overload reason.

| IE/Group Name | Presence | Range | IE type and reference | Semantics description |
|---|---|---|---|---|
| Frame Handling Priority | | | INTEGER (0..15) | 0=Lowest Priority,<br>…<br>15=Highest Priority |

### 9.2.1.30 Frame Offset

Frame Offset is the required offset between the dedicated channel downlink transmission frames (CFN, Connection Frame Number) and the broadcast channel frame offset (Cell Frame Number). The Frame_offset is used in the translation between Connection Frame Number (CFN) on Iub/Iur and least significant 8 bits of SFN (System Frame Number) on Uu. The Frame Offset is UE and cell specific.

| IE/Group Name | Presence | Range | IE type and reference | Semantics description |
|---|---|---|---|---|
| Frame Offset | | | INTEGER (0..255) | Frames |

### 9.2.1.30A GA Point with Uncertainty

This IE contains one of the possible descriptions of a Cell Geographical Area.

| IE/Group Name | Presence | Range | IE type and reference | Semantics description |
|---|---|---|---|---|
| Geographical Coordinates | M | | 9.2.1.30F | |
| Uncertainty Code | M | | INTEGER( 0...127) | The uncertainty "r" is derived from the "uncertainty code" k by<br>$r = 10x(1.1^k-1)$ |

### 9.2.1.30B GA Ellipsoid Point with Uncertainty Ellipse

This IE contains one of the possible descriptions of a Cell Geographical Area.

| IE/Group Name | Presence | Range | IE type and reference | Semantics description |
|---|---|---|---|---|
| Geographical Coordinates | M | | 9.2.1.30F | |
| Uncertainty Ellipse | M | | 9.2.1.68A | |
| Confidence | M | | INTEGER( 0...127) | |

### 9.2.1.30C GA Ellipsoid Point with Altitude

This IE contains one of the possible descriptions of a Cell Geographical Area.

| IE/Group Name | Presence | Range | IE type and reference | Semantics description |
|---|---|---|---|---|
| Geographical Coordinates | M | | 9.2.1.30F | |
| Altitude and direction | M | | 9.2.1.2B | |

### 9.2.1.30D GA Ellipsoid Point with Altitude and Uncertainty Ellipsoid

This IE contains one of the possible descriptions of a Cell Geographical Area.

| IE/Group Name | Presence | Range | IE type and reference | Semantics description |
|---|---|---|---|---|
| Geographical Coordinates | M | | 9.2.1.30F | |
| Altitude and direction | M | | 9.2.1.2B | |
| Uncertainty Ellipse | M | | 9.2.1.68A | |
| Uncertainty Altitude | M | | INTEGER( 0...127) | |
| Confidence | M | | INTEGER( 0...127) | |

### 9.2.1.30E GA Ellipsoid Arc

This IE contains one of the possible descriptions of a Cell Geographical Area.

| IE/Group Name | Presence | Range | IE type and reference | Semantics description |
|---|---|---|---|---|
| Geographical Coordinates | M | | 9.2.1.30F | |
| Inner radius | M | | INTEGER ( $0...2^{16}$-1) | The relation between the value (N) and the radius (r) in meters it describes is $5N \leq r < 5(N+1)$, except for $N=2^{16}$-1 for which the range is extended to include all grater values of (r). |
| Uncertainty radius | M | | INTEGER( 0...127) | The uncertainty "r" is derived from the "uncertainty code" k by $r = 10x(1.1^{k}-1)$ |
| Offset angle | M | | INTEGER( 0...179) | The relation between the value (N) and the angle (a) in degrees it describes is $2N \leq a < 2(N+1)$ |
| Included angle | M | | INTEGER( 0...179) | The relation between the value (N) and the angle (a) in degrees it describes is $2N \leq a < 2(N+1)$ |
| Confidence | M | | INTEGER( 0...127) | |

## 9.2.1.30F Geographical Coordinates

This IE contains the description of geographical coordinates.

| IE/Group Name | Presence | Range | IE type and reference | Semantics description |
|---|---|---|---|---|
| Latitude Sign | M | | ENUMERATED (North, South) | |
| Degrees Of Latitude | M | | INTEGER ( $0...2^{23}$-1) | The IE value (N) is derived by this formula: $N \leq 2^{23} X /90 < N+1$ X being the latitude in degree (0°.. 90°) |
| Degrees Of Longitude | M | | INTEGER ( $-2^{23}...2^{23}$-1) | The IE value (N) is derived by this formula: $N \leq 2^{24} X /360 < N+1$ X being the longitude in degree (-180°..+180°) |

## 9.2.1.30G GPS Almanac

This IE provides the information regarding the GPS Almanac. For further details on the meaning of parameters, see [30].

| IE/Group name | Presence | Range | IE Type and Reference | Semantics description |
|---|---|---|---|---|
| $WN_a$ | M | | Bit string(8) | |
| **Satellite Almanac Information** | M | *1,,<MaxNo Sat>* | | |
| >SatID | M | | SAT ID 9.2.1.50A | Satellite ID |
| >e | M | | Bit string(16) | |
| >$t_{oa}$ | M | | Bit string(8) | |
| >δI | M | | Bit string(16) | |
| >OMEGADOT | M | | Bit string(16) | |
| >SV Health | M | | Bit string(8) | |
| >$A^{1/2}$ | M | | Bit string(24) | |
| >$OMEGA_0$ | M | | Bit string(24) | |
| >$M_0$ | M | | Bit string(24) | |
| >ω | M | | Bit string(24) | |
| >$af_0$ | M | | Bit string(11) | |
| >$af_1$ | M | | Bit string(11) | |

| Range Bound | Explanation |
|---|---|
| MaxNoSat | Maximum number of satellites for which information can be provided |

## 9.2.1.30H GPS Ionospheric Model

This IE provides the information regarding the GPS Ionospheric Model. For further details on the meaning of parameters, see [30].

| IE/Group Name | Presence | Range | IE Type and Reference | Semantics Description |
|---|---|---|---|---|
| $\alpha_0$ | M | | Bit string(8) | |
| $\alpha_1$ | M | | Bit string(8) | |
| $\alpha_2$ | M | | Bit string(8) | |
| $\alpha_3$ | M | | Bit string(8) | |
| $\beta_0$ | M | | Bit string(8) | |
| $\beta_1$ | M | | Bit string(8) | |
| $\beta_2$ | M | | Bit string(8) | |
| $\beta_3$ | M | | Bit string(8) | |

## 9.2.1.30I GPS Navigation Model and Time Recovery

This IE contains subframes 1 to 3 of the GPS navigation message. For further details on the meaning of parameters, see [30].

| IE/Group Name | Presence | Range | IE Type and Reference | Semantics Description |
|---|---|---|---|---|
| **Navigation Message 1to3** | | *1..<MaxNoSat>* | | |
| >Transmission TOW | M | | ENUMERATED (0..1048575) | Time of the Week when the message is broadcast. |
| >SatID | M | | SAT ID 9.2.1.50A | Satellite ID of the satellite from which the information is obtained |
| >TLM Message | M | | Bit string(14) | |
| >Tlm Revd (C) | M | | Bit string(2) | |
| >HO-Word | M | | Bit string(22) | |
| >WN | M | | Bit string(10) | |
| >C/A or P on L2 | M | | Bit string(2) | |
| >User Range Accuracy Index | M | | Bit string(4) | |
| >SV Health | M | | Bit string(6) | |
| >IODC | M | | Bit string(10) | |
| >L2 P Data Flag | M | | Bit string(1) | |
| >SF 1 Reserved | M | | Bit string(87) | |
| >$T_{GD}$ | M | | Bit string(8) | |
| >$t_{oc}$ | M | | Bit string(16) | |
| >$af_2$ | M | | Bit string(8) | |
| >$af_1$ | M | | Bit string(16) | |
| >$af_0$ | M | | Bit string(22) | |
| >$C_{rs}$ | M | | Bit string(16) | |
| >$\Delta n$ | M | | Bit string(16) | |
| >$M_0$ | M | | Bit string(32) | |
| >$C_{uc}$ | M | | Bit string(16) | |
| >e | M | | Bit string(32) | |
| >$C_{us}$ | M | | Bit string(16) | |
| >$(A)^{1/2}$ | M | | Bit string(32) | |
| >$t_{oe}$ | M | | Bit string(16) | |
| >Fit Interval Flag | M | | Bit string(1) | |
| >AODO | M | | Bit string(5) | |
| >$C_{ic}$ | M | | Bit string(16) | |
| >$OMEGA_0$ | M | | Bit string(32) | |
| >$C_{is}$ | M | | Bit string(16) | |
| >$i_0$ | M | | Bit string(32) | |
| >$C_{rc}$ | M | | Bit string(16) | |
| >$\omega$ | M | | Bit string(32) | |
| >OMEGAdot | M | | Bit string(24) | |
| >Idot | M | | Bit string(14) | |
| >Spare/zero fill | M | | Bit string(20) | |

| Range Bound | Explanation |
|---|---|
| MaxNoSat | Maximum number of satellites for which information can be provided |

## 9.2.1.30J GPS Real-Time Integrity

This IE provides the information regarding the status of the GPS constellation. For further details on the meaning of parameters, see [30].

| IE/Group name | Presence | Range | IE Type and Reference | Semantics description |
|---|---|---|---|---|
| CHOICE *Bad Satellites Presence* | M | | | |
| *>Bad Satellites* | | | | |
| **>>Satellite information** | | *1..<MaxNoSat>* | | |
| >>>BadSatID | M | | SAT ID 9.2.1.50A | Satellite ID |
| *>No Bad Satellites* | | | NULL | |

| Range Bound | Explanation |
|---|---|
| MaxNoSat | Maximum number of satellites for which information can be provided |

## 9.2.1.30K GPS Receiver Geographical Position (GPS RX Pos)

The GPS Receiver Geographical Position is used to identify the geographical coordinates of a GPS receiver relevant for a certain Information Exchange Object.

| IE/Group Name | Presence | Range | IE type and reference | Semantics description |
|---|---|---|---|---|
| Latitude Sign | M | | ENUMERATED (North, South) | |
| Degrees of Latitude | M | | INTEGER ( $0...2^{23}-1$) | The IE value (N) is derived by this formula:<br>$N \leq 2^{23} X /90 < N+1$<br>X being the latitude in degree (0°.. 90°) |
| Degrees of Longitude | M | | INTEGER ( $-2^{23}...2^{23}-1$) | The IE value (N) is derived by this formula:<br>$N \leq 2^{24} X /360 < N+1$<br>X being the longitude in degree (-180°..+180°) |

## 9.2.1.30L GPS UTC Model

This IE provides the information regarding the GPS UTC Model. For further details on the meaning of parameters, see [30].

| IE/Group name | Presence | Range | IE Type and Reference | Semantics description |
|---|---|---|---|---|
| $A_1$ | M | | Bit string(24) | |
| $A_0$ | M | | Bit string(32) | |
| $t_{ot}$ | M | | Bit string(8) | |
| $\Delta t_{LS}$ | M | | Bit string(8) | |
| $WN_t$ | M | | Bit string(8) | |
| $WN_{LSF}$ | M | | Bit string(8) | |
| DN | M | | Bit string(8) | |
| $\Delta t_{LSF}$ | M | | Bit string(8) | |

## 9.2.1.30M Guaranteed Rate Information

The *Guaranteed Rate Information* IE indicates the TFI corresponding to the guaranteed bit rate for the uplink and/or the downlink of a DCH.

| IE/Group Name | Presence | Range | IE type and reference | Semantics description |
|---|---|---|---|---|
| Guaranteed UL Rate | O | | INTEGER(0..maxTFcount) | |
| Guaranteed DL Rate | O | | INTEGER(0..maxTFcount) | |

### 9.2.1.31 IMSI

The IMSI is the permanent UE user Identity, see ref. [1].

| IE/Group Name | Presence | Range | IE type and reference | Semantics description |
|---|---|---|---|---|
| IMSI | | | OCTET STRING (SIZE(3..8)) | -Decimal digits coded in BCD<br>-'1111' used as filler<br>-bit 4 to 1 of octet n is encoding digit 2n-1<br>-bit 8 to 5 of octet n is encoding digit 2n |

### 9.2.1.31A Information Exchange ID

The Information Exchange ID uniquely identifies any requested information per RNS.

| IE/Group Name | Presence | Range | IE Type and Reference | Semantics Description |
|---|---|---|---|---|
| Information Exchange ID | M | | Integer(0 .. 2^20-1) | |

### 9.2.1.31B Information Exchange Object Type

The Information Exchange Object type indicates the type of object that the requested information shall be valid for.

| IE/Group Name | Presence | Range | IE Type and Reference | Semantics Description |
|---|---|---|---|---|
| Information Exchange Object Type | | | ENUMERATED(CELL, …) | |

### 9.2.1.31C Information Report Characteristics

The information report characteristics define how the reporting shall be performed.

| IE/Group Name | Presence | Range | IE Type and Reference | Semantics Description |
|---|---|---|---|---|
| Information Report Characteristics Type | M | | ENUMERATED(On Demand, Periodic, On Modification, ...) | |
| **Periodic Information** | C-Periodic | | | |
| >Information Report Periodicity | M | | ENUMERATED (1min…1hr, …) step 1min, (1hr…24hr, …) step 1hr, … | The frequency with which the RNS shall send information reports. |
| **On Modification Information** | C-OnModification | | | |
| >Information Threshold | M | | 9.2.1.31D | |

| Condition | Explanation |
|---|---|
| Periodic | This IE shall be present if the *Information Report Characteristics Type* IE indicates 'periodic' |
| OnModification | This IE shall be present if the *Information Report Characteristics Type* IE indicates 'on modification' |

## 9.2.1.31D Information Threshold

The Information Threshold indicates which kind of information shall trigger the Information Reporting procedure.

| IE/Group Name | Presence | Range | IE Type and Reference | Semantics Description |
|---|---|---|---|---|
| CHOICE *Information Type Item* | M | | | |
| *>DGPS* | | | | |
| >>PRC Deviation | M | | ENUMERATED (1, 2, 5, 10, …) | PRC deviation in meters from the previously reported value, which shall trigger a report |

## 9.2.1.31E Information Type

The Information Type indicates which kind of information the RNS shall provide.

| IE/Group Name | Presence | Range | IE Type and Reference | Semantics Description |
|---|---|---|---|---|
| Information Type Item | M | | ENUMERATED (UTRAN Access Point Position, IPDL Parameters, GPS Information, DGPS Corrections, GPS RX Pos,…) | |
| **GPS Information** | C-GPS | *1..<maxnoofGPSTypes>* | | |
| >GPS Information Item | | | ENUMERATED (GPS Navigation Model and Time Recovery, GPS Ionospheric Model, GPS UTC Model, GPS Almanac, GPS Real-Time Integrity, …) | |

| Condition | Explanation |
|---|---|
| GPS | This IE shall be present if the *Information Type* IE indicates 'GPS Information' |

| Range Bound | Explanation |
|---|---|
| MaxnoofGPSTypes | Maximum number of GPS Information Types supported in one Information Exchange. |

## 9.2.1.31F IPDL parameters

| Information Element/Group name | Presence | Range | IE Type and Reference | Semantics description |
|---|---|---|---|---|
| IPDL FDD parameters | C-IPDLparams | | 9.2.2.21B | |
| IPDL TDD parameters | C-IPDLparams | | 9.2.1.4B | |

| Condition | Explanation |
|---|---|
| IPDLparams | Only one of these IEs can be present at the same time |

### 9.2.1.32 L3 Information

This parameter contains the Layer 3 Information from a Uu message as received from the UE over the Uu interface or the Layer 3 Information for a Uu message to be sent to a UE by the DRNC, as defined in ref. [16].

| IE/Group Name | Presence | Range | IE type and reference | Semantics description |
|---|---|---|---|---|
| L3 Information | | | BIT STRING | The content is defined in ref. [16] |

### 9.2.1.33 Limited Power Increase

Void.

### 9.2.1.33A Load Value

The *Load Value* IE contains the load for both the uplink and downlink.

| IE/Group Name | Presence | Range | IE Type and Reference | Semantics Description |
|---|---|---|---|---|
| Uplink Load Value | M | | INTEGER(0..9) | Value 0 shall indicate the minimum load, and 9 shall indicate the maximum load. Load should be measured on a linear scale. |
| Downlink Load Value | M | | INTEGER(0..9) | Value 0 shall indicate the minimum load, and 9 shall indicate the maximum load. Load should be measured on a linear scale. |

### 9.2.1.34 MAC-c/sh SDU Length

Indicates the MAC-c/sh SDU Length. Which is used for FACH, DSCH and USCH. There may be multiple MAC-c/sh SDU Lengths per priority class.

| IE/Group Name | Presence | Range | IE type and reference | Semantics description |
|---|---|---|---|---|
| MAC-c/sh SDU Length | | | INTEGER (1..5000) | Size of the MAC-c/sh SDU in number of bits. |

### 9.2.1.35 Maximum Allowed UL Tx Power

Maximum Allowed UL Tx Power is the maximum power that a UE in a particular cell is allowed to transmit.

| IE/Group Name | Presence | Range | IE type and reference | Semantics description |
|---|---|---|---|---|
| Maximum Allowed UL Tx Power | | | INTEGER (-50..+33) | dBm |

### 9.2.1.35A Measurement Availability Indicator

Void

### 9.2.1.36 Measurement Filter Coefficient

The Measurement Filter Coefficient determines the amount of filtering to be applied for measurements.

| IE/Group Name | Presence | Range | IE type and reference | Semantics description |
|---|---|---|---|---|
| Measurement Filter Coefficient | | | ENUMERATED(0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 11, 13, 15, 17, 19,…) | |

### 9.2.1.37 Measurement ID

The Measurement Id uniquely identifies a dedicated measurement within a UE Context or a common measurement within a Distant RNC Context.

| IE/Group Name | Presence | Range | IE Type and Reference | Semantics Description |
|---|---|---|---|---|
| Measurement ID | | | INTEGER(0 .. 2^20-1) | |

### 9.2.1.38 Measurement Increase/Decrease Threshold

The Measurement Increase/Decrease Threshold defines the threshold that shall trigger Event C or D.

| IE/ Group Name | Presence | Range | IE Type and Reference | Semantics Description |
|---|---|---|---|---|
| SIR | *C – Threshold* | | INTEGER(0. .62) | 0: 0 dB<br>1: 0.5 dB<br>2: 1 dB<br>…<br>62: 31dB |
| SIR Error | *C – Threshold* | | INTEGER(0. .124) | 0: 0 dB<br>1: 0.5 dB<br>2: 1 dB<br>…<br>124: 62 dB<br>[FDD only] |
| Transmitted Code Power | *C – Threshold* | | INTEGER(0. .112,...) | 0: 0 dB<br>1: 0.5 dB<br>2: 1 dB<br>…<br>112: 56 dB |
| RSCP | *C – Threshold* | | INTEGER(0. .126) | 0: 0 dB<br>1: 0.5 dB<br>2: 1 dB<br>…<br>126: 63 dB<br>[TDD only] |
| Round Trip Time | *C – Threshold* | | INTEGER(0. .32766) | 0: 0 chips<br>1: 0.0625 chips<br>2: 0.1250 chips<br>…<br>32766: 2047.875 chips<br>[FDD only] |
| Load | *C- Threshold* | | INTEGER(0. .9) | Units are the same as for the Uplink *Load Value* IE and *Dowlink Load Value* IE. |
| Transmitted Carrier Power | *C- Threshold* | | INTEGER(0. .100) | According to mapping in [23] and [24]. |
| Received Total Wide Band Power | *C- Threshold* | | INTEGER(0. .620) | 0: 0dB<br>1: 0.1dB<br>2: 0.2dB<br>...<br>620: 62dB |
| UL Timeslot ISCP | *C- Threshold* | | INTEGER(0. .126) | 0: 0dB<br>1: 0.5dB<br>2: 1dB<br>...<br>126: 63dB<br>Only applicable for TDD |

| Condition | Explanation |
|---|---|
| *Threshold* | Only one measurement threshold can be present at the same time. |

### 9.2.1.39 Measurement Threshold

The Measurement Threshold defines which threshold that shall trigger Event A, B, E, F or On Modification.

| IE/ Group Name | Presence | Range | IE Type and Reference | Semantics Description |
|---|---|---|---|---|
| SIR | *C – Threshold* | | INTEGER(0. .63) | According to mapping in ref. [23] and [24]. |
| SIR Error | *C – Threshold* | | INTEGER(0. .125) | According to mapping in [23], (FDD only) |
| Transmitted Code Power | *C – Threshold* | | INTEGER(0. .127) | According to mapping in ref. [23] and [24]. |
| RSCP | *C – Threshold* | | INTEGER(0. .127) | According to mapping in ref. [24] (TDD only) |
| Rx Timing Deviation | *C - Threshold* | | INTEGER(0. .8191) | According to mapping in [24] (TDD only) |
| Round Trip Time | *C – Threshold* | | INTEGER(0. .32767) | According to mapping in [23] (FDD only) |
| $T_{UTRAN-GPS}$ Measurement Threshold Information | *C – Threshold* | | 9.2.1.59C | |
| SFN-SFN Measurement Threshold Information | *C – Threshold* | | 9.2.1.52B | |
| Load | *C- Threshold* | | INTEGER(0. .9) | 0 is the minimum indicated load, and 9 is the maximum indicated load. |
| Transmitted Carrier Power | *C- Threshold* | | INTEGER(0. .100) | According to mapping in [23] and [24]. |
| Received Total Wide Band Power | *C- Threshold* | | INTEGER(0. .621) | According to mapping in [23] and [24]. |
| UL Timeslot ISCP | *C- Threshold* | | INTEGER(0. .127) | According to mapping in [24]. Only applicable for TDD. |

| Condition | Explanation |
|---|---|
| *Threshold* | Only one measurement threshold can be present at the same time. |

## 9.2.1.39A Message Structure

| IE/Group Name | Presence | Range | IE type and reference | Semantics description | Criticality | Assigned Criticality |
|---|---|---|---|---|---|---|
| **Message structure** | | 1 to <maxnooflevels> | | Information given per level with assigned criticality in an hierachical message structure. Given from top level down to the level above the reported level for the occured error (reported in the *Information Element Criticality Diagnostics* IE). | GLOBAL | ignore |
| >IE ID | M | | INTEGER (0..65535) | The IE ID of this level's IE containing the not understood or missing IE. | - | |
| >Repetition Number | O | | INTEGER (1..256) | The repetition number of this level's reported IE, if applicable | - | |

| Range bound | Explanation |
|---|---|
| maxnooflevels | Maximum no. of message levels to report. The value for maxnooflevels is 256. |

### 9.2.1.40 Message Type

The Message Type uniquely identifies the message being sent.

| IE/Group Name | Presence | Range | IE type and reference | Semantics description |
|---|---|---|---|---|
| | | | | |
| **Procedure ID** | | 1 | | |
| >Procedure Code | M | | ENUMERATED (RL Setup,<br>RL Addition,<br>RL Deletion,<br>Synchronised RL Reconfiguration Preparation,<br>Synchronised RL Reconfiguration Commit,<br>Synchronised RL Reconfiguration Cancel,<br>Unsynchronised RL Reconfiguration Request,<br>RL Failure,<br>RL Pre-emption,<br>RL Restoration,<br>DL Power Control,<br>DL Power Timeslot Control,<br>Physical Channel Reconfiguration,<br>UL Signalling Transfer,<br>DL Signalling Transfer,<br>Relocation Commit,<br>Paging,<br>Dedicated Measurement Initiation,<br>Dedicated Measurement Reporting,<br>Dedicated Measurement Termination,<br>Dedicated Measurement Failure,<br>Common Transport Channel Resources Initiation,<br>Common Transport Channel Resources Release,<br><br>Compressed Mode Command,<br><br>Error Indication, …,<br>Common Measurement Initiation,<br>Common Measurement Reporting,<br>Common Measurement Termination,<br>Common Measurement Failure,<br>Information Exchange Initiation,<br>Information Reporting,<br>Information Exchange Termination,<br>Information Exchange Failure) | |
| >Ddmode | M | | ENUMERATED (FDD, TDD, Common, …) | Common = common to FDD and TDD. |
| Type of Message | M | | ENUMERATED (Initiating Message, Successful Outcome, Unsuccessful Outcome, Outcome) | |

### 9.2.1.41 Multiple URAs Indicator

The Multiple URAs Indicator indicates whether the accessed cell has multiple URAs.

| IE/Group Name | Presence | Range | IE type and reference | Semantics description |
|---|---|---|---|---|
| Multiple URAs Indicator | | | ENUMERATED (Multiple URA s exist, Single URA Exists) | |

## 9.2.1.41A Neighbouring UMTS Cell Information

The *Neighbouring UMTS Cell Information* IE provides information for UMTS Cells that are neighbouring cells to a cell in the DRNC. The neighbouring cell information is provided for each RNC (including the DRNC) that has cells that are neighbouring cells to the cell in the DRNC.

| IE/Group Name | Presence | Range | IE type and reference | Semantics description | Criticality | Assigned Criticality |
|---|---|---|---|---|---|---|
| **Neighbouring UMTS Cell Information** | | *1..<maxnoof neighbouringRNCs>* | | | EACH | ignore |
| >RNC-Id | M | | 9.2.1.50 | | – | |
| >CN PS Domain Identifier | O | | 9.2.1.12 | | – | |
| >CN CS Domain Identifier | O | | 9.2.1.11 | | – | |
| >Neighbouring FDD Cell Information | O | | 9.2.1.41B | For 3.84Mcps TDD only | – | |
| >Neighbouring TDD Cell Information | O | | 9.2.1.41D | | – | |
| >Neighbouring TDD Cell Information LCR | O | | 9.2.3.4D | For 1.28Mcps TDD only | YES | reject |

| Range bound | Explanation |
|---|---|
| MaxnoofneighbouringRNCs | Maximum number of neighbouring RNCs. |

## 9.2.1.41B Neighbouring FDD Cell Information

The *Neighbouring FDD Cell Information* IE provides information for FDD cells that are a neighbouring cells to a cell in the DRNC.

| IE/Group Name | Presence | Range | IE type and reference | Semantics description | Criticality | Assigned Criticality |
|---|---|---|---|---|---|---|
| **Neighbouring FDD Cell Information** | | *1..<maxnoofFDDneighbours>* | | | – | |
| >C-Id | M | | 9.2.1.6 | | – | |
| >UL UARFCN | M | | UARFCN 9.2.1.66 | Corresponds to Nu in ref. [6] | – | |
| >DL UARFCN | M | | UARFCN 9.2.1.66 | Corresponds to Nd in ref. [6] | – | |
| >Frame Offset | O | | 9.2.1.30 | | – | |
| >Primary Scrambling Code | M | | 9.2.1.45 | | – | |
| >Primary CPICH Power | O | | 9.2.1.44 | | – | |
| >Cell Individual Offset | O | | 9.2.1.7 | | – | |
| >Tx Diversity Indicator | M | | 9.2.2.50 | | | |
| >STTD Support Indicator | O | | 9.2.2.45 | | – | |
| >Closed Loop Mode1 Support Indicator | O | | 9.2.2.2 | | – | |
| >Closed Loop Mode2 Support Indicator | O | | 9.2.2.3 | | – | |

| Range bound | Explanation |
|---|---|
| MaxnoofFDDneighbours | Maximum number of neighbouring FDD cell for one cell. |

## 9.2.1.41C Neighbouring GSM Cell Information

The *Neighbouring GSM Cell Information* IE provides information for one GSM Cell that is a neighbouring cell to a cell in the DRNC.

| IE/Group Name | Presence | Range | IE type and reference | Semantics description |
|---|---|---|---|---|
| **Neighbouring GSM Cell Information** | | *1..<maxnoofGSM neighbours>* | | |
| **>CGI** | | *1* | | Cell Global Identity as defined in ref. [1]. |
| **>>LAI** | | *1* | | |
| >>>PLMN-ID | M | | OCTET STRING (3) | - digits 0 to 9, two digits per octet,<br>- each digit encoded 0000 to 1001,<br>- 1111 used as filler<br>- bit 4 to 1 of octet n encoding digit 2n-1<br>- bit 8 to 5 of octet n encoding digit 2n<br><br>-The PLMN-ID consists of 3 digits from MCC followed by either<br>-a filler plus 2 digits from MNC (in case of 2 digit MNC) or<br>-3 digits from MNC (in case of a 3 digit MNC). |
| >>>LAC | M | | OCTET STRING (2) | 0000 and FFFE not allowed |
| >>CI | M | | OCTET STRING (2) | |
| >Q-Offset Serving to Neighbour | M | | INTEGER (-50..50) | |
| >Q-RxlevMin | M | | INTEGER (-58..-13) | Range: -115 to -25 dBm, Step: 2 dB<br>Actual value =<br>(IE value * 2) + 1:<br>-58: -115 dBm<br>-57: -113 dBm<br>…<br>-13: -25 dBm |
| >Maximum Allowed UL Tx Power | M | | 9.2.1.35 | |
| **>BSIC** | | *1* | | Base Station Identity Code as defined in ref. [1]. |
| >>NCC | M | | BIT STRING(3) | Network Colour Code. |
| >>BCC | M | | BIT STRING(3) | Base Station Colour Code. |
| >BCCH ARFCN | M | | INTEGER (0..1023) | BCCH Frequency as defined in ref. [29]. |
| >GSM Output Power | O | | Value range?? | Output Power level of the GSM cell as defined in ref. [29]. |

| Range bound | Explanation |
|---|---|
| MaxnoofGSMneighbours | Maximum number of neighbouring GSM cells for one cell. |

## 9.2.1.41D Neighbouring TDD Cell Information

The *Neighbouring TDD Cell Information* IE provides information for TDD cells that are a neighbouring cells to a cell in the DRNC.

| IE/Group Name | Presence | Range | IE type and reference | Semantics description | Criticality | Assigned Criticality |
|---|---|---|---|---|---|---|
| **Neighbouring TDD Cell Information** | | *1..<maxnoofTDDneighbours>* | | | – | |
| >C-Id | M | | 9.2.1.6 | | – | |
| >UARFCN | M | | 9.2.1.66 | Corresponds to Nt in ref. [7] | – | |
| >Frame Offset | O | | 9.2.1.30 | | – | |
| >Cell Parameter ID | M | | 9.2.1.8 | | – | |
| >Sync Case | M | | 9.2.1.54 | | – | |
| >Time Slot | C-Case1 | | 9.2.1.56 | | – | |
| >SCH Time Slot | C-Case2 | | 9.2.1.51 | | – | |
| >Block STTD Indicator | M | | 9.2.1.4A | | – | |
| >Cell Individual Offset | O | | 9.2.1.7 | | – | |
| >DPCH Constant Value | O | | 9.2.1.23 | | – | |
| >PCCPCH Power | O | | 9.2.1.43 | | – | |

| Condition | Explanation |
|---|---|
| Case1 | This IE shall be present only if Sync Case = Case1. |
| Case2 | This IE shall be present only if Sync Case = Case2. |

| Range bound | Explanation |
|---|---|
| MaxnoofTDDneighbours | Maximum number of neighbouring TDD cell for one cell. |

## 9.2.1.41E Paging Cause

Cause for a CN originated page.

| IE/Group Name | Presence | Range | IE type and reference | Semantics description |
|---|---|---|---|---|
| Paging Cause | | | ENUMERATED( Terminating Conversational Call, Terminating Streaming Call, Terminating Interactive Call, Terminating Background Call, Terminating Low Priority Signalling,…, Terminating High Priority Signalling, Terminating – cause unknown ) | See in [16] |

### 9.2.1.41F Paging Record Type

| IE/Group Name | Presence | Range | IE type and reference | Semantics description |
|---|---|---|---|---|
| Paging Record Type | | | ENUMERATED (IMSI (GSM-MAP), TMSI (GSM-MAP), P-TMSI (GSM-MAP), IMSI (DS-41), TMSI (DS-41)) | See ref. [16] |

### 9.2.1.41G Neighbouring FDD Cell Measurement Information

This IE provides information on the FDD neighbouring cells used for the purpose of Measurements.

| IE/Group Name | Presence | Range | IE type and reference | Semantics description |
|---|---|---|---|---|
| UTRAN Cell Identifier | M | | 9.2.1.71 | |
| UARFCN | M | | 9.2.1.66 | Corresponds to Nd [6] |
| Primary Scrambling Code | M | | 9.2.1.45 | |

### 9.2.1.41H Neighbouring TDD Cell Measurement Information

This IE provides information on the TDD neighbouring cells used for the purpose of Measurements.

| IE/Group Name | Presence | Range | IE type and reference | Semantics description |
|---|---|---|---|---|
| UTRAN Cell Identifier | M | | 9.2.1.71 | |
| UARFCN | M | | 9.2.1.66 | |
| Cell Parameter ID | M | | 9.2.1.8 | |

### 9.2.1.42 Payload CRC Present Indicator

This parameter indicates whether FP payload 16 bit CRC is used or not.

| IE/Group Name | Presence | Range | IE type and reference | Semantics description |
|---|---|---|---|---|
| Payload CRC Presence Indicator | | | ENUMERATED (CRC Included, CRC not included) | |

### 9.2.1.43 PCCPCH Power

Primary CCPCH power is the power that shall be used for reference power value in a TDD cell.

| IE/Group Name | Presence | Range | IE type and reference | Semantics description |
|---|---|---|---|---|
| PCCPCH Power | | | ENUMERATED(-15..40,…) | Unit dBm<br>Granularity 0.1 dB. |

### 9.2.1.44 Primary CPICH Power

Primary CPICH power is the power that is used for transmitting the Primary CPICH in a cell. The reference point is the antenna connector.

| IE/Group Name | Presence | Range | IE type and reference | Semantics description |
|---|---|---|---|---|
| Primary CPICH Power | | | ENUMERATED (-10..50) | Unit dBm<br>Granularity 0.1 dB. |

### 9.2.1.45 Primary Scrambling Code

The Primary scrambling code to be used in the cell.

| IE/Group Name | Presence | Range | IE type and reference | Semantics description |
|---|---|---|---|---|
| Primary Scrambling Code | | | INTEGER (0 .. 511) | |

### 9.2.1.46 Puncture Limit

The maximum amount of puncturing for a transport channel in rate matching.

| IE/Group Name | Presence | Range | IE type and reference | Semantics description |
|---|---|---|---|---|
| Puncture Limit | | | INTEGER (0..15) | 0: 40%<br>1: 44 %<br>…<br>14: 96%<br>15: 100% (no puncturing) |

### 9.2.1.46A QE-Selector

The QE-Selector indicates from which source the value for the quality estimate (QE) shall be taken.

| IE/Group Name | Presence | Range | IE type and reference | Semantics description |
|---|---|---|---|---|
| QE-Selector | | | ENUMERATED(selected, non-selected) | |

### 9.2.1.47 RANAP Relocation Information

This parameter is transparent to the RNSAP. The parameter contains information for the Relocation procedure as defined in [2].

| IE/Group Name | Presence | Range | IE type and reference | Semantics description |
|---|---|---|---|---|
| RANAP Relocation Information | | | BIT STRING | The contents is defined in ref. [2]. |

### 9.2.1.48 Report Characteristics

The Report Characteristics, defines how the reporting shall be performed.

| IE/Group Name | Presence | Range | IE Type and Reference | Semantics Description |
|---|---|---|---|---|
| Report Characteristics Type | | | ENUMERATED(On Demand, Periodic, Event A, Event B, Event C, Event D, Event E, Event F, …, On Modification) | |
| **Periodic Report Information** | C – Periodic | | | |
| >Report Periodicity | M | | ENUMERATED (10ms…1min, …) step 10ms, (1min…1hr,…) step 1min,… | The periodicity with which the DRNS shall send measurement reports. |
| **Event A** | C – Event A | | | |
| >Measurement Threshold | M | | Measurement Threshold | The threshold for which the DRNS shall trigger a measurement report. |
| >Measurement Hysteresis Time | O | | ENUMERATED (10ms…1min, …) step 10ms,… | |
| **Event B** | C – Event B | | | |
| >Measurement Threshold | M | | Measurement Threshold | The threshold for which the DRNS shall trigger a measurement report. |
| >Measurement Hysteresis Time | O | | ENUMERATED (10ms…1min, …) step 10ms,… | |
| **Event C** | C – Event C | | | |
| >Measurement Increase/Decrease Threshold | M | | Measurement Increase/Decrease Threshold | |
| >Measurement Change Time | M | | ENUMERATED (10ms…1min, …) step 10ms,… | The time within which the measurement entity shall rise, in order to trigger a measurement report. |
| **Event D** | C – Event D | | | |
| >Measurement Increase/Decrease Threshold | M | | Measurement Increase/Decrease Threshold | |
| >Measurement Change Time | M | | ENUMERATED (10ms…1min, …) step 10ms,… | The time within which the measurement entity shall fall, in order to trigger a measurement report. |
| **Event E** | C – Event E | | | |
| >Measurement | M | | Measurement | |

| IE/Group Name | Presence | Range | IE Type and Reference | Semantics Description |
|---|---|---|---|---|
| Threshold 1 | | | Threshold | |
| >>Measurement Threshold 2 | O | | Measurement Threshold | |
| >Measurement Hysteresis Time | O | | ENUMERATED (10ms…1min, …) step 10ms,… | The hysteresis time in ms |
| >Report Periodicity | O | | ENUMERATED (10ms…1min, …) step 10ms, (1min…1hr,…) step 1min,… | The periodicity with which the DRNS shall send measurement reports. |
| **Event F** | C – Event F | | | |
| >Measurement Threshold 1 | M | | Measurement Threshold | |
| >Measurement Threshold 2 | O | | Measurement Threshold | |
| >Measurement Hysteresis Time | O | | ENUMERATED (10ms…1min, …) step 10ms,… | The hysteresis time in ms |
| >Report Periodicity | O | | ENUMERATED (10ms…1min, …) step 10ms, (1min…1hr,…) step 1min,… | The periodicity with which the DRNS shall send measurement reports. |
| >**On Modification** | C - On Modification | | | |
| >>Measurement Threshold | | | Measurement Threshold 9.2.1.39 | |

| Condition | Explanation |
|---|---|
| C-Periodic | Valid if *Report Characteristics Type* IE indicates "periodic" |
| C-Event A | Valid if *Report Characteristics Type* IE indicates "Event A" |
| C-Event B | Valid if *Report Characteristics Type* IE indicates "Event B" |
| C-Event C | Valid if *Report Characteristics Type* IE indicates "Event C" |
| C-Event D | Valid if *Report Characteristics Type* IE indicates "Event D" |
| C-Event E | Valid if *Report Characteristics Type* IE indicates "Event E" |
| C-Event F | Valid if *Report Characteristics Type* IE indicates "Event F" |
| C-On Modification | Valid if *Report Characteristics Type* IE indicates 'On Modification' |

### 9.2.1.48A Requested Data Value

The Requested Data Value contains the relevant data concerning the ongoing information exchange.

| IE/Group Name | Presence | Range | IE Type and Reference | Semantics Description |
|---|---|---|---|---|
| UTRAN Access Point Position | C-DataVal | | 9.2.1.70A | |
| IPDL Parameters | C-DataVal | | 9.2.1.31F | |
| DGPS Corrections | C-DataVal | | 9.2.1.19B | |
| GPS Navigation Model and Time Recovery | C-DataVal | | 9.2.1.30I | |
| GPS Ionospheric Model | C-DataVal | | 9.2.1.30H | |
| GPS UTC Model | C-DataVal | | 9.2.1.30L | |
| GPS Almanac | C-DataVal | | 9.2.1.30G | |
| GPS Real-Time Integrity | C-DataVal | | 9.2.1.30J | |
| GPS RX Pos | C-DataVal | | 9.2.1.30K | |

| Condition | Explanation |
|---|---|
| C-DataVal | At least one of these IEs shall be present. |

## 9.2.1.48B Requested Data Value Information

The Requested Data Value Information IE provides information both on whether or not the Requested Data Value is provided in the message or not and if provided also the Requested Data Value itself.

| IE/Group Name | Presence | Range | IE Type and Reference | Semantics Description | Criticality | Assigned Criticality |
|---|---|---|---|---|---|---|
| Requested Data Value Information | | | | | – | |
| >CHOICE *Information Availability Indicator* | M | | | | – | |
| >>*Information Available* | | | | | – | |
| >>>Requested Data Value | M | | 9.2.1.48A | | – | |
| >>*Information not Available* | | | NULL | | – | |

## 9.2.1.49 RL ID

The RL ID is the unique identifier for one RL associated with a UE.

| IE/Group Name | Presence | Range | IE type and reference | Semantics description |
|---|---|---|---|---|
| RL ID | | | INTEGER (0..31) | |

## 9.2.1.50 RNC-Id

This is the identifier of one RNC in UTRAN.

| IE/Group Name | Presence | Range | IE type and reference | Semantics description |
|---|---|---|---|---|
| RNC-Id | | | INTEGER (0..4095) | |

## 9.2.1.50A SAT ID

The SAT ID indicates the identity of the satellite.

| IE/Group Name | Presence | Range | IE Type and Reference | Semantics Description |
|---|---|---|---|---|
| SAT ID | | | INTEGER(0. .63) | |

### 9.2.1.51 SCH Time Slot

The *SCH Time Slot* IE represents the first time slot (k) of a pair of time slots inside a Radio Frame that is assigned to the Physical Channel SCH. The *SCH Time Slot* IE is only applicable if the value of *Sync Case* IE is Case 2 since in this case the SCH is allocated in TS#k and TS#k+8.

| IE/Group Name | Presence | Range | IE type and reference | Semantics description |
|---|---|---|---|---|
| SCH Time Slot | | | INTEGER(0. .6) | |

### 9.2.1.51A Scheduling Priority Indicator

Indicates the relative priority of the FACH, DSCH, or USCH data frame. Used by the DRNC when scheduling FACH, DSCH, or USCH traffic.

| IE/Group Name | Presence | Range | IE type and reference | Semantics description |
|---|---|---|---|---|
| Scheduling Priority Indicator | | | INTEGER (0..15) | Relative priority of the FACH, DSCH, or USCH data frame:<br>0=Lowest Priority<br>…<br>15=Highest Priority |

### 9.2.1.52 Service Area Identifier (SAI)

This information element is used to identify an area consisting of one or more cells belonging to the same Location Area. Such an area is called a Service Area and can be used for indicating the location of a UE to the CN. For this protocol, only a Service Area that is defined to be applicable to the PS and CS domains shall be used.

| IE/Group Name | Presence | Range | IE type and reference | Semantics description |
|---|---|---|---|---|
| PLMN Id | M | | OCTET STRING (3) | - digits 0 to 9, two digits per octet,<br>- each digit encoded 0000 to 1001,<br>- 1111 used as filler<br>- bit 4 to 1 of octet n encoding digit 2n-1<br>- bit 8 to 5 of octet n encoding digit 2n<br><br>-The PLMN-ID consists of 3 digits from MCC followed by either<br>-a filler plus 2 digits from MNC (in case of 2 digit MNC) or<br>-3 digits from MNC (in case of a 3 digit MNC). |
| LAC | M | | OCTET STRING (2) | 0000 and FFFE not allowed |
| SAC | M | | OCTET STRING (2) | |

### 9.2.1.52A SFN

System Frame Number of the cell, see ref. [17].

| IE/Group Name | Presence | Range | IE type and reference | Semantics description |
|---|---|---|---|---|
| SFN | | | Integer (0..4095) | |

### 9.2.1.52B SFN-SFN Measurement Threshold Information

The SFN-SFN Measurement Threshold Information defines the related thresholds SFN-SFN Observed Time Difference measurements which shall trigger the Event On Modification.

| IE/Group Name | Presence | Range | IE type and reference | Semantics description |
|---|---|---|---|---|
| SFN-SFN Change Limit | C - SFNSFNLimit | | INTEGER(1. .16384,…) | Change of SFN-SFN value compared to previously reported value, which shall trigger a new report.<br>Unit in 1/16 chip. |
| Predicted SFN-SFN Deviation Limit | C-SFNSFNLimit | | INTEGER(1. .16384,…) | Deviation the Predicted SFN-SFN from the latest measurement result, which shall trigger a new report.<br>Unit in 1/16 chip. |

| Condition | Explanation |
|---|---|
| C- SFNSFNLimit | At least one threshold shall be present. |

### 9.2.1.52C SFN-SFN Measurement Value Information

The SFN-SFN Measurement Value Information IE indicates the measurement result related to SFN-SFN Observed Time Difference measurements as well as other related information.

| IE/Group Name | Presence | Range | IE type and reference | Semantics description |
|---|---|---|---|---|
| **Successful Neighbouring cell SFN-SFN Observed Time Difference Measurement Information** | | *1..<maxnoofMeasNCell>* | | |
| >UTRAN Cell Identifier | | | 9.2.1.71 | |
| >SFN-SFN | M | | INTEGER(-20480..20479) | |
| >SFN-SFN Quality | M | | INTEGER(0..16383) | Indicates the standard deviation of the SFN-SFN measurements. |
| >SFN-SFN Drift Rate | M | | INTEGER(-16383..16383) | Indicates the SFN-SFN drift rate in 1/16 chip per second. A positive value indicates that the Reference cell clock is running at a greater frequency than the measured neighbouring cell. |
| >SFN-SFN Drift Rate Quality | M | | INTEGER(0..16383) | Indicates the standard deviation of the SFN-SFN drift rate measurements. |
| >SFN | M | | 9.2.1.52A | Indicates the SFN at which this measurement has been performed. |
| >Timeslot | M | | 9.2.1.56 | Indicates the Time Slot at which this measurement has been performed. |
| **Unsuccessful Neighbouring cell SFN-SFN Observed Time Difference Measurement Information** | | *0..<maxnoofMeasNCell-1>* | | |
| >UTRAN Cell Identifier | | | 9.2.1.71 | |

| Range bound | Explanation |
|---|---|
| *maxnoofMeasNCell* | Maximum number of neighbouring cells on which measurements can be performed. |

## 9.2.1.53 S-RNTI

The S-RNTI identifies the UE in the SRNC.

| IE/Group Name | Presence | Range | IE type and reference | Semantics description |
|---|---|---|---|---|
| S-RNTI | | | INTEGER(0..2^20 –1) | |

## 9.2.1.54 Sync Case

The SCH and PCCPCH in a TDD cell are mapped on one or two downlink slots per frame. There are two cases of Sync Case as follows:

Case 1) SCH and PCCPCH allocated in a single TS#k

Case 2) SCH allocated in two TS: TS#k and TS#k+8
PCCPCH allocated in TS#k

[1.28Mcps TDD - There is no Sync Case indication needed for 1.28Mcps TDD. If the *Sync Case* IE must be included in a message from DRNC to SRNC used for 1.28Mcps TDD, the DRNC shall indicate Sync Case 1 and the SRNC shall ignore it.]

| IE/Group Name | Presence | Range | IE type and reference | Semantics description |
|---|---|---|---|---|
| Sync Case | | | INTEGER (1..2,...) | |

### 9.2.1.55 TFCI Presence

The TFCI Presence parameter indicates whether the TFCI shall be included. In TDD if it is present in the timeslot it will be included within the first DPCH listed.

| IE/Group Name | Presence | Range | IE type and reference | Semantics description |
|---|---|---|---|---|
| TFCI Presence | | | ENUMERATED (Present, not present) | |

### 9.2.1.56 Time Slot

The Time Slot represents the time interval assigned to a Physical Channel referred to the start of a Radio Frame.

| IE/Group Name | Presence | Range | IE type and reference | Semantics description |
|---|---|---|---|---|
| Time Slot | | | INTEGER (0..14) | |

### 9.2.1.57 ToAWE

ToAWE is the window endpoint. DL data frames are expected to be received before this window endpoint. ToAWE is defined with a positive value relative Latest Time of Arrival (LToA). A data frame arriving after ToAWS gives a Timing Adjustment Control frame response.

| IE/Group Name | Presence | Range | IE type and reference | Semantics description |
|---|---|---|---|---|
| ToAWE | | | INTEGER (0..2559) | msec. |

### 9.2.1.58 ToAWS

ToAWS is the window startpoint. DL data frames are expected to be received after this window startpoint. ToAWS is defined with a positive value relative Time of Arrival Window Endpoint (ToAWE). A data frame arriving before ToAWS gives a Timing Adjustment Control frame response.

| IE/Group Name | Presence | Range | IE type and reference | Semantics description |
|---|---|---|---|---|
| ToAWS | | | INTEGER (0..1279) | msec. |

### 9.2.1.59 Transaction ID

The Transaction ID is used to associate all the messages belonging to the same procedure. Messages belonging to the same procedure shall use the same Transaction ID.

The Transaction ID is determined by the initiating peer of a procedure.

For procedures addressed to a specific UE context, the Transaction ID shall uniquely identify a procedure among all ongoing parallel procedures for the same UE using the same procedure code, and initiated by the same protocol peer.

For procedures not addressed to a specific UE context, the Transaction ID shall uniquely identify a procedure among all ongoing parallel procedures using the same procedure code, and initiated by the same protocol peer.

| IE/Group Name | Presence | Range | IE type and reference | Semantics description |
|---|---|---|---|---|
| Transaction ID | | | CHOICE INTEGER (0..127) or INTEGER (0..32767) | |

### 9.2.1.59A Transmitted Carrier Power

The *Transmitted Carrier Power* IE contains the Transmitted Carrier Power in a cell, as defined in [11] & [14].

| IE/Group Name | Presence | Range | IE Type and Reference | Semantics Description |
|---|---|---|---|---|
| Transmitted Carrier Power | | | INTEGER(0. .100) | According to mapping in [23] and [24]. |

### 9.2.1.59B $T_{UTRAN-GPS}$ Accuracy Class

| IE/Group Name | Presence | Range | IE type and reference | Semantics description |
|---|---|---|---|---|
| $T_{UTRAN-GPS}$ Accuracy Class | | | ENUMERATED(Accuracy Class A, Accuracy Class B, Accuracy Class C,…) | More information about Measurement Accuracy Class is included in [23]. |

### 9.2.1.59C $T_{UTRAN-GPS}$ Measurement Threshold Information

The $T_{UTRAN-GPS}$ Measurement Threshold Information defines the related thresholds for UTRAN GPS Timing of Cell Frame for LCS measurements shall trigger the Event On Modification.

| IE/Group Name | Presence | Range | IE type and reference | Semantics description |
|---|---|---|---|---|
| $T_{UTRAN-GPS}$ Change Limit | C - UTRANGPSLimit | | INTEGER(1. .2^20,…) | Change of $T_{UTRAN-GPS}$ value compared to previously reported value, which shall trigger a new report. Unit in 1/16 chip. |
| Predicted $T_{UTRAN-GPS}$ Deviation Limit | C- UTRANGPSLimit | | INTEGER(1. .2^20,…) | Deviation of the Predicted $T_{UTRAN-GPS}$ from the latest measurement result, which shall trigger a new report. Unit in 1/16 chip. |

| Condition | Explanation |
|---|---|
| C- UTRANGPSLimit | At least one threshold shall be present. |

### 9.2.1.59D $T_{UTRAN-GPS}$ Measurement Value Information

The $T_{UTRAN-GPS}$ *Measurement Value Information* IE indicates the measurement results related to the UTRAN GPS Timing of Cell Frame for LCS measurements.

| IE/Group Name | Presence | Range | IE type and reference | Semantics description |
|---|---|---|---|---|
| $T_{UTRAN-GPS}$ | M | | INTEGER(0..3715891199 9999) | Indicates the UTRAN GPS Timing of Cell Frame for LCS. According to mapping in [23] and [24] |
| $T_{UTRAN-GPS}$ Quality | M | | INTEGER(0..2^20-1) | Indicates the standard deviation of the $T_{UTRAN-GPS}$ measurements. |
| $T_{UTRAN-GPS}$ Drift Rate | M | | INTEGER(-16383..16383) | Indicates the $T_{UTRAN-GPS}$ drift rate in 1/16 chip per second. A positive value indicates that the UTRAN clock is running at a lower frequency than GPS clock. |
| $T_{UTRAN-GPS}$ Drift Rate Quality | M | | INTEGER(0..16383) | Indicates the standard deviation of the $T_{UTRAN-GPS}$ drift rate measurements. |

### 9.2.1.60 Transport Bearer ID

The Transport Bearer ID uniquely identifies an Iur transport bearer.

| IE/Group Name | Presence | Range | IE type and reference | Semantics description |
|---|---|---|---|---|
| Transport Bearer ID | | | INTEGER (0..4095) | |

### 9.2.1.61 Transport Bearer Request Indicator

Indicates whether a new Iur transport bearer needs to be established for carrying the corresponding data stream(s), or whether an existing transport bearer will be used.

| IE/Group Name | Presence | Range | IE type and reference | Semantics description |
|---|---|---|---|---|
| Transport Bearer Request Indicator | | | ENUMERATED(Bearer Requested, Bearer not Requested, …) | |

### 9.2.1.62 Transport Layer Address

Transport Layer Address defines the transport address of the DRNS. For details on the Transport Address used see [3].

| IE/Group Name | Presence | Range | IE type and reference | Semantics description |
|---|---|---|---|---|
| Transport Layer Address | | | BIT STRING(1…160, …) | |

### 9.2.1.63 Transport Format Combination Set (TFCS)

The Transport Format Combination Set is defined as a set of Transport Format Combinations on a Coded Composite Transport Channel. It is the allowed Transport Format Combinations of the corresponding Transport Channels. The DL Transport Format Combination Set is applicable for DL Transport Channels.

[FDD - Where the UE is assigned access to one or more DSCH transport channels then the UTRAN has the choice of two methods for signalling the mapping between TFCI(field 2) values and the corresponding TFC:
Method #1 - TFCI range
The mapping is described in terms of a number of groups, each group corresponding to a given transport format combination (value of CTFC(field2)). The CTFC(field2) value specified in the first group applies for all values of TFCI(field 2) between 0 and the specified 'Max TFCI(field2) value'. The CTFC(field2) value specified in the second group applies for all values of TFCI(field 2) between the 'Max TFCI(field2) value' specified in the last group plus one and the specified 'Max TFCI(field2) value' in the second group. The process continues in the same way for the following groups with the TFCI(field 2) value used by the UE in constructing its mapping table starting at the largest value reached in the previous group plus one.
Method #2 - Explicit
The mapping between TFCI(field 2) value and CTFC(field2) is spelt out explicitly for each value of TFCI (field2) ]

| IE/Group Name | Presence | Range | IE type and reference | Semantics description |
|---|---|---|---|---|
| **CHOICE *DSCH*** | | | | |
| *>No Split in the TFCI* | | | | This choice is made if :<br>a) The TFCS refers to the uplink<br>OR<br>b) The mode is FDD and none of the Node B communication contexts are assigned any DSCH transport channels<br>OR<br>c) The mode is TDD |
| **>>TFCS** | | 1 to <maxnoofTFCs> | | The first instance of the parameter corresponds to TFC zero, the second to 1 and so on. |
| >>>CTFC | M | | INTEGER(0..MaxCTFC) | Integer number calculated according to ref. [16]. |
| >>>CHOICE Gain Factors | C-PhysChan | | | |
| >>>>Signalled Gain Factors | | | | |
| >>>>>Gain Factor $\beta_C$ | M | | INTEGER (0..15) | For UL DPCCH or control part of PRACH in FDD ref. [21]. |
| >>>>>Gain Factor $\beta_D$ | M | | INTEGER (0..15) | For UL DPDCH or data part of PRACH in FDD ref. [21]. |
| >>>>>Reference TFC nr | O | | INTEGER (0..15) | If this TFC is a reference TFC, this IE indicates the reference number |
| >>>>Computed Gain Factors | | | | |
| >>>>>Reference TFC nr | M | | INTEGER (0..15) | Indicates the reference TFC to be used to calculate the gain factors for this TFC |
| *>There is a split in the TFCI* | | | | This choice is made if :<br>a) The TFCS refers to the downlink<br>AND<br>b) The mode is FDD and one of the Node B communication contexts is assigned one or more DSCH transport channels |
| >>**Transport Format Combination_DCH** | | 1 to <MaxTFCI_1_Combs> | | The first instance of the *Transport format combination_DCH IE* corresponds to TFCI (field 1) = 0, the second to TFCI (field 1) = 1 and so on. |
| >>>CTFC(field1) | M | | INTEGER(0..MaxCTFC) | Integer number calculated according to [16] . The calculation of CTFC ignores any DSCH transport channels which may be assigned |
| >>Choice *Signalling Method* | | | | |
| *>>>TFCI Range* | | | | |
| >>>>**TFC Mapping on DSCH** | | 1 to <MaxNoTFCIGroups> | | |
| >>>>>Max TFCI(field2) Value | M | | INTEGER(1..1023) | This is the Maximum value in the range of TFCI(field2) values for which the specified CTFC(field2) applies |
| >>>>>CTFC(field | M | | INTEGER(0. | Integer number calculated |

| | | | | |
|---|---|---|---|---|
| 2) | | | .MaxCTFC) | according to [16] The calculation of CTFC ignores any DCH transport channels which may be assigned |
| >>>*Explicit* | | | | |
| >>>>**Transport Format Combination_DSCH** | | 1 to <MaxTFCI_2_Combs> | | The first instance of the *Transport format combination_DSCH* IE corresponds to TFCI (field2) = 0, the second to TFCI (field 2) = 1 and so on. |
| >>>>>CTFC(field 2) | M | | INTEGER(0. .MaxCTFC) | Integer number calculated according to [16] . The calculation of CTFC ignores any DCH transport channels which may be assigned |

| Condition | Explanation |
|---|---|
| PhysChan | The choice shall be present if the TFCS concerns a UL DPCH or PRACH channel in FDD, not when the TFCS is used for other physical channels. |

| Range bound | Explanation |
|---|---|
| *MaxnoofTFCs* | The maximum number of Transport Format Combinations. |
| MaxTFCI_1_Combs | Maximum number of TFCI (field 1) combinations (given by 2 raised to the power of the length of the TFCI (field 1)). |
| MaxTFCI_2_Combs | Maximum number of TFCI (field 2) combinations (given by 2 raised to the power of the length of the TFCI (field 2)). |
| MaxNoTFCIGroups | Maximum number of groups, each group described in terms of a range of TFCI(field 2) values for which a single value of CTFC(field2) applies. |
| *MaxCTFC* | Maximum number of the CTFC value is calculated according to the following: $\sum_{i=1}^{I}(L_i - 1)P_i$ with the notation according to ref. [16]. |

### 9.2.1.64 Transport Format Set

The Transport Format Set is defined as the set of Transport Formats associated to a Transport Channel, e.g. DCH.

| IE/Group Name | Presence | Range | IE type and reference | Semantics description |
|---|---|---|---|---|
| **Dynamic Transport Format Information** | | 1..<maxTFcount> | | The first instance of the parameter corresponds to TFI zero, the second to 1 and so on. |
| >Number of Transport blocks | M | | INTEGER (0..512) | |
| >Transport Block Size | C – Blocks | | INTEGER (0..5000) | Bits |
| >CHOICE *Mode* | M | | | |
| >>*TDD* | | | | |
| >>>**Transmission Time Interval Information** | C-TTIdynamic | 1..<maxTTIcount> | | |
| >>>>Transmission Time Interval | M | | ENUMERATED(10, 20, 40, 80,…) | msec |
| **Semi-static Transport Format Information** | | 1 | | |
| >Transmission Time Interval | M | | ENUMERATED (10, 20, 40, 80, dynamic, …) | msec<br>Value “dynamic” for TDD only |
| >Type of Channel Coding | M | | ENUMERATED (No coding, Convolutional, Turbo,…) | |
| >Coding Rate | C – Coding | | ENUMERATED (1/2, 1/3,…) | |
| >Rate Matching Attribute | M | | INTEGER (1..maxRM) | |
| >CRC size | M | | ENUMERATED (0, 8, 12, 16, 24,…) | |
| >CHOICE *Mode* | M | | | |
| >>*TDD* | | | | |
| >>>2nd Interleaving Mode | M | | ENUMERATED(Frame related, Timeslot related,…) | |

| Condition | Explanation |
|---|---|
| Blocks | This IE is only present if "Number of Transport Blocks" is greater than 0. |
| Coding | This IE is only present if IE "Type of channel coding" is "Convolutional" or "Turbo" |
| TTIdynamic | This IE is mandatory if the “Transmission Time Interval” of the “Semi-static Transport Format Information” is “dynamic” Otherwise it is absent. |

| Range bound | Explanation |
|---|---|
| *MaxTFcount* | The maximum number of different transport formats that can be included in the Transport format set for one transport channel. |
| *MaxRM* | The maximum number that could be set as rate matching attribute for a transport channel. |
| *MaxTTIcount* | The amount of different TTI that are possible for that transport format is. |

### 9.2.1.65 TrCh Source Statistics Descriptor

Defines the statistics of the data transmitted in the transport channel. This information may be used in reserving resources in the DRNS.

| IE/Group Name | Presence | Range | IE type and reference | Semantics description |
|---|---|---|---|---|
| TrCh Source Statistics Descriptor | | | ENUMERATED (Speech, RRC, Unknown, …) | 'Speech' = Statistics of the data corresponds to speech.<br>'RRC' = Statistics of the data corresponds to RRC signalling<br>'Unknown' = The statistics of the data is unknown |

### 9.2.1.66 UARFCN

The UTRA Absolute Radio Frequency Channel Number defines the carrier.

| IE/Group Name | Presence | Range | IE type and reference | Semantics description |
|---|---|---|---|---|
| UARFCN | | | INTEGER (0..16383, …) | Corresponds to: 0.0Hz.. 3276.6MHz<br>see ref. [6] and ref. [7]. |

### 9.2.1.67 UL FP Mode

This parameter defines if normal or silent mode of the Frame Protocol shall be used for the UL.

| IE/Group Name | Presence | Range | IE type and reference | Semantics description |
|---|---|---|---|---|
| UL FP Mode | | | ENUMERATED(Normal, Silent,…) | |

### 9.2.1.68 UL Interference Level

Void

### 9.2.1.68A Uncertainty Ellipse

This IE contains the uncertainty ellipse used to describe a possible shape of the geographical area of a cell.

| IE/Group Name | Presence | Range | IE type and reference | Semantics description |
|---|---|---|---|---|
| Uncertainty semi-major | M | | INTEGER( 0...127) | The uncertainty "r" is derived from the "uncertainty code" k by<br>$r = 10x(1.1^k-1)$ |
| Uncertainty semi-minor | M | | INTEGER( 0...127) | The uncertainty "r" is derived from the "uncertainty code" k by<br>$r = 10x(1.1^k-1)$ |
| Orientation of major axis | M | | INTEGER( 0...179) | The relation between the value (N) and the angle (a) in degrees it describes is<br>$2N \leq a < 2(N+1)$ |

### 9.2.1.69 Uplink SIR

The UL SIR indicates a received UL SIR.

| IE/Group Name | Presence | Range | IE type and reference | Semantics description |
|---|---|---|---|---|
| Uplink SIR | | | ENUMERATED (-8.2 .. 17.3) | Step 0.1 dB |

### 9.2.1.70 URA ID

| IE/Group Name | Presence | Range | IE type and reference | Semantics description |
|---|---|---|---|---|
| URA ID | | | INTEGER (0..65 535) | |

### 9.2.1.70A UTRAN Access Point Position

The UTRAN Access Point Position indicates the exact geographical position of the base station antenna.

| IE/Group Name | Presence | Range | IE type and reference | Semantics description |
|---|---|---|---|---|
| Latitude Sign | M | | ENUMERATED (North, South) | |
| Degrees of Latitude | M | | INTEGER ( $0...2^{23}-1$) | The IE value (N) is derived by this formula:<br>$N \leq 2^{23} X /90 < N+1$<br>X being the latitude in degree (0°.. 90°) |
| Degrees of Longitude | M | | INTEGER ( $-2^{23}...2^{23}-1$) | The IE value (N) is derived by this formula:<br>$N \leq 2^{24} X /360 < N+1$<br>X being the longitude in degree (-180°..+180°) |

### 9.2.1.70B URA Information

The *URA Information* IE contains URA Information for one cell.

| IE/Group Name | Presence | Range | IE type and reference | Semantics description |
|---|---|---|---|---|
| URA ID | M | | 9.2.1.70 | |
| Multiple URAs Indicator | M | | 9.2.1.41 | |
| **RNCs with Cells in the Accessed URA** | | *0 .. <MaxRNCinURA-1>* | | Other RNCs having at least one cell in the URA identified by the *URA ID* IE. |
| >RNC-Id | M | | 9.2.1.50 | |

| Range Bound | Explanation |
|---|---|
| MaxRNCinURA | Maximum number of RNC in one URA. |

### 9.2.1.71 UTRAN Cell Identifier (UC-Id)

The UC-Id (UTRAN Cell identifier) is the identifier of a cell in one UTRAN.

| IE/Group Name | Presence | Range | IE type and reference | Semantics description |
|---|---|---|---|---|
| RNC-Id | M | | 9.2.1.50 | |
| C-Id | M | | 9.2.1.6 | |

## 9.2.2 FDD Specific Parameters

This subclause contains parameters that are specific to FDD.

### 9.2.2.A Active Pattern Sequence Information

Defines the parameters for the compressed mode gap pattern sequence activation. For details see ref. [16].

| IE/Group Name | Presence | Range | IE type and reference | Semantics description |
|---|---|---|---|---|
| CM Configuration Change CFN | M | | CFN 9.2.1.9 | Defines when the old Active pattern sequences, if active, shall be terminated. From this moment on, the new sequences are activated at the given TGCFN . |
| **Transmission Gap Pattern Sequence Status** | | 0 to <MaxTGPS> | | If the group is not present, none of the pattern sequences are activated. |
| >TGPSI Identifier | M | | INTEGER(1. .<MaxTGPS >) | Establish a reference to the compressed mode pattern sequence. Up to <MaxAPS> simultaneous compressed mode pattern sequences can be activated. |
| >TGPRC | M | | INTEGER(0. .63) | The number of transmission gap patterns within the Transmission Gap Pattern Sequence. 0=Infinity. |
| >TGCFN | M | | CFN 9.2.1.9 | Connection Frame Number of the first frame of the first pattern within the Transmission Gap Pattern Sequence. |

| Range bound | Explanation |
|---|---|
| MaxTGPS | Maximum number of active pattern sequences. Value 6. |

### 9.2.2.B Adjustment Period

*Adjustment Period* IE defines the period to be used for power balancing.

| IE/Group Name | Presence | Range | IE type and reference | Semantics description |
|---|---|---|---|---|
| Adjustment Period | | | INTEGER (1 .. 256) | Frames |

### 9.2.2.C Adjustment Ratio

*Adjustment Ratio* IE *(Radj)* defines the convergence rate used for the associated Adjustment Period.

| IE/Group Name | Presence | Range | IE type and reference | Semantics description |
|---|---|---|---|---|
| Adjustment Ratio | | | INTEGER (0 .. 100) | The Adjustment Ratio is given with a granularity of 0.01<br><br>0 -> 0.00<br>1 -> 0.01<br>...<br>100 -> 1.00 |

### 9.2.2.1 Chip Offset

The Chip Offset is defined as the radio timing offset inside a radio frame. The Chip Offset is used as offset for the DL DPCH relative to the Primary CPICH timing.

| IE/Group Name | Presence | Range | IE type and reference | Semantics description |
|---|---|---|---|---|
| Chip Offset | | | INTEGER (0..38399) | Chips |

### 9.2.2.2 Closed Loop Mode1 Support Indicator

The Closed Loop Mode1 Support Indicator indicates whether the particular cell is capable to support Closed loop mode1 or not

| IE/Group Name | Presence | Range | IE type and reference | Semantics description |
|---|---|---|---|---|
| Closed Loop Mode1 Support Indicator | | | ENUMERATED (Closed loop mode1 Supported, Closed loop mode1 not supported). | |

### 9.2.2.3 Closed Loop Mode2 Support Indicator

The Closed Loop Mode2 Support Indicator indicates whether the particular cell is capable to support Closed loop mode2 or not.

| IE/Group Name | Presence | Range | IE type and reference | Semantics description |
|---|---|---|---|---|
| Closed Loop Mode2 Support Indicator | | | ENUMERATED (Closed loop mode2 Supported, Closed loop mode2 not supported). | |

### 9.2.2.3A Closed Loop Timing Adjustment Mode

Indicates when the phase/amplitude adjustment is performed in the DL in relation to the receipt of the UL feedback command in case of closed loop mode transmit diversity on DPCH.

| IE/Group Name | Presence | Range | IE type and reference | Semantics description |
|---|---|---|---|---|
| Closed Loop Timing Adjustment Mode | | | ENUMERATED (Offset1, Offset2,…) | According to [10] subclause 7.1:<br>Offset1 = slot(j+1)mod15<br>Offset2 = slot(j+2)mod15 |

### 9.2.2.4 Compressed Mode Method

Void

### 9.2.2.4A DCH FDD Information

The *DCH FDD Information* IE provides information for DCHs to be established.

| IE/Group Name | Presence | Range | IE type and reference | Semantics description | Criticality | Assigned Criticality |
|---|---|---|---|---|---|---|
| **DCH FDD Information** | | *1..<maxnoofDCHs>* | | | – | |
| >Payload CRC Presence Indicator | M | | 9.2.1.42 | | – | |
| >UL FP Mode | M | | 9.2.1.67 | | – | |
| >ToAWS | M | | 9.2.1.58 | | – | |
| >ToAWE | M | | 9.2.1.57 | | – | |
| **>DCH Specific Info** | | *1..<maxnoofDCHs>* | | | – | |
| >>DCH ID | M | | 9.2.1.16 | | – | |
| >>TrCh Source Statistics Descriptor | M | | 9.2.1.65 | | – | |
| >>Transport Format Set | M | | 9.2.1.64 | For the UL. | – | |
| >>Transport Format Set | M | | 9.2.1.64 | For the DL. | – | |
| >>BLER | M | | 9.2.1.4 | For the UL. | – | |
| >>BLER | M | | 9.2.1.4 | For the DL. | – | |
| >>Allocation/Retention Priority | M | | 9.2.1.1 | | – | |
| >>Frame Handling Priority | M | | 9.2.1.29 | | – | |
| >>QE-Selector | M | | 9.2.1.46A | | – | |
| >>DRAC control | M | | 9.2.2.13 | | – | |
| >>Guaranteed Rate Information | O | | 9.2.1.30M | | YES | ignore |

| Range bound | Explanation |
|---|---|
| MaxnoofDCHs | Maximum number of DCHs for one UE. |

### 9.2.2.5 D-Field Length

Void

### 9.2.2.6 Diversity Control Field

Void.

### 9.2.2.7 Diversity Indication

Void.

### 9.2.2.8 Diversity Mode

Define the diversity mode to be applied.

| IE/Group Name | Presence | Range | IE type and reference | Semantics description |
|---|---|---|---|---|
| Diversity Mode | | | ENUMERATED(None, STTD, Closed loop mode 1, Closed loop mode2,…) | |

### 9.2.2.9 DL DPCH Slot Format

Indicates the slot format used in DPCH in DL, according to ref. [8].

| IE/Group Name | Presence | Range | IE type and reference | Semantics description |
|---|---|---|---|---|
| DL DPCH Slot Format | | | INTEGER (0..16,…) | |

### 9.2.2.10 DL Power

The DL Power IE indicates the power level of the DPDCH symbols, expressed as a relative value with respect to the CPICH power.

| IE/Group Name | Presence | Range | IE type and reference | Semantics description |
|---|---|---|---|---|
| DL Power | | | ENUMERATED (-35..+15dB) | Step 0.1dB |

### 9.2.2.11 DL Scrambling Code

DL Scrambling code to be used by the RL. One cell may have multiple DL Scrambling codes available.

| IE/Group Name | Presence | Range | IE type and reference | Semantics description |
|---|---|---|---|---|
| DL Scrambling Code | | | INTEGER (0..15) | 0= Primary scrambling code of the cell<br>1…15= Secondary scrambling code |

### 9.2.2.12 Downlink Frame Type

Void

### 9.2.2.12A DPC Mode

The *DPC Mode* IE indicates the DPC mode to be applied [10].

| IE/Group Name | Presence | Range | IE type and reference | Semantics description |
|---|---|---|---|---|
| DPC Mode | | | ENUMERATTED (Mode0, Mode1, …) | Mode0: The Node B shall estimate the UE transmitted TPC command and update the DL power in every slot<br><br>Mode1: The Node B shall estimate the UE transmitted TPC command over three slots and shall update the DL power in every three slots |

### 9.2.2.13 DRAC Control

This IE indicates whether the DCH is control by DRAC or not.

| IE/Group Name | Presence | Range | IE type and reference | Semantics description |
|---|---|---|---|---|
| DRAC Control | | | ENUMERATED (Requested, Not-Requested) | Requested means that DCH is controlled by DRAC |

### 9.2.2.13A DSCH FDD Information

The *DSCH FDD Information* IE provides information for DSCHs to be established.

| IE/Group Name | Presence | Range | IE type and reference | Semantics description | Criticality | Assigned Criticality |
|---|---|---|---|---|---|---|
| **DSCH Specific FDD Information** | | *1..<maxnoofDSCHs>* | | | – | |
| >DSCH ID | M | | 9.2.1.26A | | – | |
| >TrCh Source Statistics Descriptor | M | | 9.2.1.65 | | – | |
| >Transport Format Set | M | | 9.2.1.64 | For DSCH | – | |
| >Allocation/Retention Priority | M | | 9.2.1.1 | | – | |
| >Scheduling Priority Indicator | M | | 9.2.1.51A | | – | |
| >BLER | M | | 9.2.1.4 | | – | |
| PDSCH RL ID | M | | RL ID 9.2.1.49 | | – | |
| TFCS | M | | 9.2.1.63 | For DSCH | – | |
| >Enhanced DSCH PC | O | | 9.2.2.13D | | YES | ignore |

| Range bound | Explanation |
|---|---|
| MaxnoofDSCHs | Maximum number of DSCHs for one UE. |

### 9.2.2.13B DSCH FDD Information Response

The *DSCH FDD Information Response* IE provides information for DSCHs that have been established or modified.

| IE/Group Name | Presence | Range | IE type and reference | Semantics description | Criticality | Assigned Criticality |
|---|---|---|---|---|---|---|
| **DSCH Specific FDD Information Response** | | *1..<MaxnoofDSCHs>* | | | – | |
| >DSCH ID | M | | 9.2.1.26A | | – | |
| >DSCH Flow Control Information | M | | 9.2.1.26B | | – | |
| >Binding ID | O | | 9.2.1.3 | | – | |
| >Transport Layer Address | O | | 9.2.1.62 | | – | |
| PDSCH Code Mapping | M | | 9.2.2.27A | PDSCH code mapping to be used | – | |

| Range bound | Explanation |
|---|---|
| MaxnoofDSCHs | Maximum number of DSCHs for one UE. |

## 9.2.2.13C FDD DCHs to Modify

The *FDD DCHs to Modify* IE provides information for DCHs to be modified.

| IE/Group Name | Presence | Range | IE type and reference | Semantics description | Criticality | Assigned Criticality |
|---|---|---|---|---|---|---|
| **FDD DCHs to Modify** | | *1..<maxnoofDCHs>* | | | – | |
| >UL FP Mode | O | | 9.2.1.67 | | – | |
| >ToAWS | O | | 9.2.1.58 | | – | |
| >ToAWE | O | | 9.2.1.57 | | – | |
| >Transport Bearer Request Indicator | M | | 9.2.1.61 | | – | |
| **>DCH Specific Info** | | *1..<maxnoofDCHs>* | | | – | |
| >>DCH ID | M | | 9.2.1.16 | | – | |
| >>Transport Format Set | O | | 9.2.1.64 | For the UL. | – | |
| >>Transport Format Set | O | | 9.2.1.64 | For the DL. | – | |
| >>Allocation/Retention Priority | O | | 9.2.1.1 | | – | |
| >>Frame Handling Priority | O | | 9.2.1.29 | | – | |
| >>DRAC Control | O | | 9.2.2.13 | | – | |
| >>Guaranteed Rate Information | O | | 9.2.1.30M | | YES | ignore |

| Range bound | Explanation |
|---|---|
| MaxnoofDCHs | Maximum number of DCHs for one UE. |

## 9.2.2.13D Enhanced DSCH PC

The Enhanced DSCH PC includes all the parameters which are needed for DSCH power control improvement during soft handover.

| IE/Group Name | Presence | Range | IE type and reference | Semantics description |
|---|---|---|---|---|
| Enhanced DSCH PC Wnd | M | | 9.2.2.13G | |
| Enhanced DSCH PC Counter | M | | 9.2.2.13E | |
| Enhanced DSCH Power Offset | M | | 9.2.2.13H | |

### 9.2.2.13E Enhanced DSCH PC Counter

The Enhanced DSCH PC Counter parameter gives the number of correct cell ID command to receive in the averaging window, *Enhance DSCH PC Wnd* IE.

| IE/Group Name | Presence | Range | IE type and reference | Semantics description |
|---|---|---|---|---|
| Enhanced DSCH PC Counter | | | INTEGER(1. .50) | |

### 9.2.2.13F Enhanced DSCH PC Indicator

The Enhanced DSCH PC Indicator indicates whether Enhanced DSCH PC is in use by the UE or not.

| IE/Group Name | Presence | Range | IE type and reference | Semantics description |
|---|---|---|---|---|
| Enhanced DSCH PC Indicator | | | ENUMERATED(Enhanced DSCH PC Active in the UE, Enhanced DSCH PC not Active in the UE) | |

### 9.2.2.13G Enhanced DSCH PC Wnd

The Enhanced DSCH PC Wnd parameter shows the window size to decide primary or non-primary cell.

| IE/Group Name | Presence | Range | IE type and reference | Semantics description |
|---|---|---|---|---|
| Enhanced DSCH PC Wnd | | | INTEGER(1. .10) | |

### 9.2.2.13H Enhanced DSCH Power Offset

The Enhanced DSCH Power Offset parameter gives the power offset to be added on DSCH when cell is decided to be primary.

| IE/Group Name | Presence | Range | IE type and reference | Semantics description |
|---|---|---|---|---|
| Enhanced DSCH Power Offset | | | INTEGER(-15..0) | step 1dB |

### 9.2.2.14 FDD DL Channelisation Code Number

The DL Channelisation Code Number indicates the DL Channelisation Code number for a specific DL physical channel.

| IE/Group Name | Presence | Range | IE type and reference | Semantics description |
|---|---|---|---|---|
| FDD DL Channelisation Code Number | | | INTEGER(0. . 511) | According to the mapping in [27].<br>The maximum value is equal to the DL spreading factor –1 |

### 9.2.2.14A FDD DL Code Information

The *FDD DL Code Information* IE provides FDD DL Code information for all DPCHs of one Radio Link.

| IE/Group Name | Presence | Range | IE type and reference | Semantics description | Criticality | Assigned Criticality |
|---|---|---|---|---|---|---|
| **FDD DL Code Information** | | *1.. <maxnoof DLCodes* | | | – | |
| >DL Scrambling Code | M | | 9.2.2.8 | | – | |
| >FDD DL Channelisation Code Number | M | | 9.2.2.14 | | – | |
| >Transmission Gap Pattern Sequence Scrambling Code Information | O | | 9.2.2.47B | | – | |

| Range bound | Explanation |
|---|---|
| MaxnoofDLCodes | Maximum number of DL Channelisation Codes for one UE. |

## 9.2.2.15 FDD S-CCPCH Offset

The Secondary CCPCH offset is defined as the time offset towards the Primary CCPCH in the cell. The offset is a multiple of 256 chips.

| IE/Group Name | Presence | Range | IE type and reference | Semantics description |
|---|---|---|---|---|
| FDD S-CCPCH Offset | | | INTEGER(0. . 149) | 0: 0 chip<br>1: 256 chip<br>2: 512 chip<br>..<br>149: 38144 chip<br>ref. [8] |

## 9.2.2.16 FDD TPC Downlink Step Size

This parameter indicates step size for the DL power adjustment.

| IE/Group Name | Presence | Range | IE type and reference | Semantics description |
|---|---|---|---|---|
| FDD TPC Downlink Step Size | | | ENUMERATED (0.5, 1, 1.5, 2,…) | |

## 9.2.2.16A First RLS Indicator

The First *RLS Indicator* IE indicates if a specific Radio Link and all Radio Links which are part of the same Radio Link Set, shall be considered as the first radio links established towards the UE or not.

| IE/Group Name | Presence | Range | IE type and reference | Semantics description |
|---|---|---|---|---|
| First RLS Indicator | | | ENUMERATED (first RLS, not first RLS) | |

## 9.2.2.17 Gap Position Mode

Void.

### 9.2.2.18 Gap Period (TGP)

Void.

### 9.2.2.19 Gap Starting Slot Number (SN)

Void

### 9.2.2.20 IB_SG_POS

First position of an Information Block segment in the SFN cycle (IB_SG_POS < IB_SG_REP).

| IE/Group Name | Presence | Range | IE type and reference | Semantics description |
|---|---|---|---|---|
| IB_SG_POS | | | INTEGER (0..4094) | Only even positions allowed. Reference [16] |

### 9.2.2.21 IB_SG_REP

Repetition distance for an Information Block segment. The segment shall be transmitted when SFN mod IB_SG_REP = IB_SG_POS.

| IE/Group Name | Presence | Range | IE type and reference | Semantics description |
|---|---|---|---|---|
| IB_SG_REP | | | ENUMERATED (4, 8, 16, 32, 64, 128, 256, 512, 1024, 2048, 4096) | Repetition period for the IB segment in frames |

### 9.2.2.21a Inner Loop DL PC Status

The *Inner Loop DL PC Status* IE indicates whether inner loop DL control shall be active or inactive for all radio links for the UE context.

| IE/Group Name | Presence | Range | IE type and reference | Semantics description |
|---|---|---|---|---|
| Inner Loop DL PC Status | | | ENUMERATED(Active, Inactive) | |

### 9.2.2.21A Limited Power Increase

The parameter is used for a more efficient use of the inner loop DL power control for non real time data.

If the limited power increase is used, DRNS shall use the limited power increase algorithm as specified in [10], subclause 5.2.

| IE/Group Name | Presence | Range | IE type and reference | Semantics description |
|---|---|---|---|---|
| Limited Power Increase | | | ENUMERATED(Used, Not used , ) | |

### 9.2.2.21B IPDL FDD parameters

The *IPDL FDD Parameters* IE provides the information for the IPDL Configuration applied in FDD mode.

| Information Element/Group name | Presence | Range | IE Type and Reference | Semantics description |
|---|---|---|---|---|
| IP spacing FDD | M | | ENUMERATED(5,7,10,15,20,30,40,50,…) | See [10] |
| IP length | M | | ENUMERATED(5,10,…) | See [10] |
| IP offset | M | | INTEGER(0..9) | See [10] |
| Seed | M | | INTEGER(0..63) | See [10] |
| Burst mode parameters | O | | 9.2.1.4B | |

### 9.2.2.22 Max Adjustment Period

Void.

### 9.2.2.23 Max Adjustment Step

Defines the maximum allowed value for the change of DL power level during a certain number of slots that can be utilised by the downlink power balancing algorithm. *Max Adjustment Step* IE defines a time period, in terms of number of slots, in which the accumulated power adjustments shall be maximum 1 dB. This value does not include the DL inner loop PC adjustment.

| IE/Group Name | Presence | Range | IE type and reference | Semantics description |
|---|---|---|---|---|
| Max Adjustment Step | | | INTEGER (1..10) | Slots |

### 9.2.2.24 Max Number of UL DPDCHs

Maximum number of uplink DPDCHs during the connection. Needed by the rate matching algorithm.

| IE/Group Name | Presence | Range | IE type and reference | Semantics description |
|---|---|---|---|---|
| Max Number of UL DPDCHs | | | INTEGER (1..6) | |

### 9.2.2.24A Min DL Channelisation Code Length

Void

### 9.2.2.25 Min UL Channelisation Code Length

Minimum UL channelisation code length (spreading factor) of a DPDCH during the connection. Needed by rate matching algorithm.

| IE/Group Name | Presence | Range | IE type and reference | Semantics description |
|---|---|---|---|---|
| Min UL Channelisation Code Length | | | ENUMERATED(4,8,16,32,64,128,256) | |

### 9.2.2.26 Multiplexing Position

Multiplexing Position specifies whether fixed or flexible positions of transport channels shall be used in the physical channel.

| IE/Group Name | Presence | Range | IE type and reference | Semantics description |
|---|---|---|---|---|
| Multiplexing Position | | | ENUMERATED(Fixed, Flexible) | |

### 9.2.2.26A Number of DL Channelisation Codes

This parameter notifies DRNS of the number of DL channelisation codes required for the Radio Link(s).

| IE/Group Name | Presence | Range | IE type and reference | Semantics description |
|---|---|---|---|---|
| Number of DL Channelisation Codes | | | INTEGER (1..8) | |

### 9.2.2.27 Pattern Duration (PD)

Void

### 9.2.2.27a PC Preamble

Indicates DPDCH power control preamble length see ref. [7].

| IE/Group Name | Presence | Range | IE type and reference | Semantics description |
|---|---|---|---|---|
| PCP Preamble | | | INTEGER(0..7,...) | In number of frames. |

### 9.2.2.27A PDSCH Code Mapping

This IE indicates the association between each possible value of TFCI(field 2) and the corresponding PDSCH channelisation code. There are three ways which the UTRAN must choose between in order to signal the mapping information, these are described below. The signalling capacity consumed by the different methods will typically vary depending on the way in which the UTRAN configures usage of the DSCH.

Method #1 - Using code range

The mapping is described in terms of a number of groups, each group associated with a given spreading factor. The UE maps TFCI (field2) values to PDSCH codes in the following way. The PDSCH code used for TFCI (field 2) = 0 , is given by the SF and code number = 'PDSCH code start' of Group = 1. The PDSCH code used for TFCI (field 2) = 1, is given by the SF and code number = 'PDSCH code start' + 1. This continues, with unit increments in the value of TFC mapping to unit increments in code number up until the point that code number = 'PDSCH code stop'. The process continues in the same way for the next group with the TFCI (field 2) value used by the UE when constructing its mapping table starting at the largest value reached in the previous group plus one. In the event that 'PDSCH code start' = 'PDSCH code stop' (as may occur when mapping the PDSCH root code to a TFCI (field 2) value) then this is to be interpreted as defining the mapping between the channelisation code and a single TFCI (ie. TFCI (field 2) should not be incremented twice).

Note that each value of TFCI (field 2) maps to a given code number and when the 'multi-code info' parameter is greater than 1, then each value of TFCI (field 2) actually maps to a set of PDSCH codes. In this case contiguous codes are assigned, starting at the channelisation code denoted by the 'code number' parameter and including all codes with code numbers up to and including 'code number' - 1 + the value given in the parameter 'multi-code info'.

Method #2 - Using TFCI range

The mapping is described in terms of a number of groups, each group corresponding to a given PDSCH channelisation code. The PDSCH code specified in the first group applies for all values of TFCI (field 2) between 0 and the specified 'Max TFCI(field2)'. The PDSCH code specified in the second group applies for all values of TFCI (field 2) between the 'Max TFCI(field2) value' specified in the last group plus one and the specified 'Max TFCI (field2)' in the second group.

The process continues in the same way for the following groups with the TFCI (field 2) value starting at the largest value reached in the previous group plus one.

Method #3 - Explicit

The mapping between TFCI (field 2) value and PDSCH channelisation code is spelt out explicitly for each value of TFCI (field2).

| IE/Group name | Presence | Range | IE type and reference | Semantics description |
|---|---|---|---|---|
| DL Scrambling Code | M | | INTEGER (0..15) | Scrambling code on which PDSCH is transmitted.<br>0= Primary scrambling code of the cell<br>1…15 = Secondary scrambling code |

| | | | | |
|---|---|---|---|---|
| Choice *Signalling Method* | | | | |
| *>Code Range* | | | | |
| **>>PDSCH Code Mapping** | | 1 to <MaxNoCodeGroups> | | |
| >>Spreading Factor | M | | Enumerated( 4, 8, 16, 32, 64, 128, 256) | |
| >>Multi-code Info | M | | Integer(1..16 ) | This parameter indicates the number of PDSCH transmitted to the UE. The PDSCH codes all have the same SF as denoted by the Spreading factor parameter. Contiguous codes are assigned, starting at the channelisation code denoted by the spreading factor and code number parameter and including all codes, with code numbers up to and including 'code number' - 1 + 'multi-code info'. Note that 'code number'-1+'multi-code info' will not be allowed to exceed 'maxCodeNumComp'-1 |
| >>Code Number | M | | Integer(0..maxCodeNumComp-1) | PDSCH code start, Numbering as described in [16] |
| >>Code Number | M | | Integer(0..maxCodeNumComp-1) | PDSCH code stop, Numbering as described in [16] |
| *>TFCI Range* | | | | |
| >>**DSCH Mapping** | | 1 to <MaxNoTFCIGroups> | | |
| >>>Max TFCI(field2) Value | M | | Integer(1..1023) | This is the maximum value in the range of TFCI(field 2) values for which the specified PDSCH code applies |
| >>>Spreading Factor | M | | Enumerated( 4, 8, 16, 32, 64, 128, 256) | SF of PDSCH code |
| >>>Multi-code Info | M | | Integer(1..16 ) | Semantics as described for this parameter above |
| >>>Code Number | M | | Integer(0..maxCodeNumComp-1) | Code number of PDSCH code. Numbering as described in [16] |
| *>Explicit* | | | | |
| >>>**PDSCH Code** | | 1 to MaxTFCI_2_Combs | | The first instance of the parameter PDSCH code corresponds to TFCI (field2) = 0, the second to TFCI(field 2) = 1 and so on. |
| >>>>Spreading Factor | M | | Enumerated( 4, 8, 16, 32, 64, 128, 256) | SF of PDSCH code |
| >>>>Multi-code Info | M | | Integer(1..16 ) | Semantics as described for this parameter above |
| >>>>Code Number | M | | Integer(0..maxCodeNumComp-1) | Code number of PDSCH code. Numbering as described in [16] |

| Range Bound | Explanation |
|---|---|
| MaxCodeNumComp | Maximum number of codes at the defined spreading factor, within the complete code tree. |
| MaxTFCI_2_Combs | Maximum number of TFCI (field 2) combinations (given by 2 raised to the power of the length of the TFCI field 2) |
| MaxNoTFCIGroups | Maximum number of groups, each group described in terms of a range of TFCI(field 2) values for which a single PDSCH code applies. |
| MaxNoCodeGroups | Maximum number of groups, each group described in terms of a range of PDSCH channelisation code values for which a single spreading factor applies. |

### 9.2.2.28 Power Adjustment Type

Defines the characteristic of the power adjustment.

| IE/Group Name | Presence | Range | IE type and reference | Semantics description |
|---|---|---|---|---|
| Power Adjustment Type | | | ENUMERATED (None, Common, Individual) | |

### 9.2.2.29 Power Control Mode (PCM)

Void.

### 9.2.2.30 Power Offset

This IE defines a power offset respect the Downlink transmission power of a DPCH.

| IE/Group Name | Presence | Range | IE type and reference | Semantics description |
|---|---|---|---|---|
| Power Offset | | | INTEGER (0…24) | Unit dB, Step 0.25 dB, range 0-6 dB |

### 9.2.2.31 Power Resume Mode (PRM)

Void.

### 9.2.2.31A Preamble Signatures

Void.

### 9.2.2.32 Primary CPICH Ec/No

Energy per chip divided by the power density per band measured on the Primary CPICH by the terminal.

| IE/Group Name | Presence | Range | IE type and reference | Semantics description |
|---|---|---|---|---|
| Primary CPICH Ec/No | | | INTEGER (-30…+30) | Unit dB, step 1 dB |

### 9.2.2.33 Propagation Delay (PD)

Propagation delay is the one-way propagation delay of the radio signal from the UE to the Node B.

| IE/Group Name | Presence | Range | IE type and reference | Semantics description |
|---|---|---|---|---|
| Propagation Delay | | | INTEGER (0..255) | Chips. Step size is 3 chips.<br>0=0 chips,<br>1=3 chips, … |

### 9.2.2.33A PRACH Minimum Spreading Factor

Void.

### 9.2.2.34 QE-Selector

Void.

### 9.2.2.34A RACH Sub Channel Numbers

Void.

### 9.2.2.35 RL Set ID

The RL Set ID uniquely identifies one RL Set within a UE Context.

| IE/Group Name | Presence | Range | IE type and reference | Semantics description |
|---|---|---|---|---|
| RL Set ID | | | INTEGER (0..31) | |

### 9.2.2.35A Received Total Wide Band Power

The parameter indicates the Received total wide band power in a cell, see ref. [11].

| IE/Group Name | Presence | Range | IE type and reference | Semantics description |
|---|---|---|---|---|
| Received Total Wide Band Power | | | INTEGER(0. .621) | According to mapping in [23]. |

### 9.2.2.36 S-Field Length

The UE uses the S Field of the UL DPCCH slot to send the SSDT Cell ID to the network.

| IE/Group Name | Presence | Range | IE type and reference | Semantics description |
|---|---|---|---|---|
| S Field Length | | | ENUMERATED (1, 2,…) | |

### 9.2.2.37 Scrambling Code Change

Void.

### 9.2.2.37A Scrambling Code Number

Void.

### 9.2.2.37B Secondary CCPCH Info

The *Secondary CCPCH Info* IE provides information on scheduling of broadcast information for DRAC on a Secondary CCPCH in one cell.

| IE/Group Name | Presence | Range | IE type and reference | Semantics description | Criticality | Assigned Criticality |
|---|---|---|---|---|---|---|
| FDD S-CCPCH Offset | M | | 9.2.2.15 | Corresponds to: $\tau_{S\text{-}CCPCH,k}$, see ref. [8] | – | |
| DL Scrambling Code | M | | 9.2.2.8 | | – | |
| FDD DL Channelisation Code Number | M | | 9.2.2.14 | | – | |
| TFCS | M | | 9.2.1.63 | For the DL. | – | |
| Secondary CCPCH Slot Format | M | | 9.2.2.38 | | – | |
| TFCI Presence | C - SlotFormat | | 9.2.1.55 | | – | |
| Multiplexing Position | M | | 9.2.2.26 | | – | |
| STTD Indicator | M | | 9.2.2.44 | | – | |
| **FACH/PCH Information** | | *1 .. <maxFACHcount+1>* | | | – | |
| >TFS | | | 9.2.1.64 | For each FACH, and the PCH when multiplexed on the same Secondary CCPCH | – | |
| **IB Scheduling Information** | | *1* | | | – | |
| >IB_SG_REP | M | | 9.2.2.4 | | – | |
| **>IB Segment Information** | | *1.. <maxIBSEG>* | | | – | |
| >>IB_SG_POS | M | | 9.2.2.20 | | – | |

| Condition | Explanation |
|---|---|
| SlotFormat | This IE shall be present only if the *Secondary CCPCH Slot Format* IE is equal to any of the value 8 to 17. |

| Range bound | Explanation |
|---|---|
| MaxFACHCount | Maximum number of FACHs mapped onto a Secondary CCPCH. |
| MaxIBSEG | Maximum number of segments for one Information Block. |

### 9.2.2.38 Secondary CCPCH Slot Format

| IE/Group Name | Presence | Range | IE type and reference | Semantics description |
|---|---|---|---|---|
| Secondary CCPCH Slot Format | | | INTEGER (0..17,…) | See ref. [8]. |

### 9.2.2.39 Slot Number (SN)

Void

### 9.2.2.39A SRB Delay

Indicates the number of frames after the PC Preamble period during which transmission of data on some RRC Signalling Bearers shall be prohibited by UE in accordance with ref. [16].

| IE/Group Name | Presence | Range | IE type and reference | Semantics description |
|---|---|---|---|---|
| SRB Delay | | | INTEGER(0..7,…) | In number of frames. |

### 9.2.2.40 SSDT Cell Identity

The SSDT Cell Identity is a temporary ID for SSDT assigned to a cell.

| IE/Group Name | Presence | Range | IE type and reference | Semantics description |
|---|---|---|---|---|
| SSDT Cell Identity | | | ENUMERATED (a, b.., h) | |

### 9.2.2.40A SSDT Cell Identity for EDSCHPC

The SSDT Cell Identity for EDSCHPC is a temporary ID for enhanced DSCH power control.

| IE/Group Name | Presence | Range | IE type and reference | Semantics description |
|---|---|---|---|---|
| SSDT Cell Identity for EDSCHPC | | | SSDT Cell Identity 9.2.2.40 | |

### 9.2.2.41 SSDT Cell Identity Length

The SSDT Cell Identity Length parameter shows the length of the SSDT Cell ID.

| IE/Group Name | Presence | Range | IE type and reference | Semantics description |
|---|---|---|---|---|
| SSDT Cell Identity Length | | | ENUMERATED(Short, Medium, Long) | |

### 9.2.2.42 SSDT Indication

The SSDT Indication indicates whether SSDT is in use by the UE or not.

| IE/Group Name | Presence | Range | IE type and reference | Semantics description |
|---|---|---|---|---|
| SSDT Indication | | | ENUMERATED(SSDT Active in the UE, SSDT not Active in the UE) | |

### 9.2.2.43 SSDT Support Indicator

The SSDT Support Indicator indicates whether a RL supports SSDT or not.

| IE/Group Name | Presence | Range | IE type and reference | Semantics description |
|---|---|---|---|---|
| SSDT Support Indicator | | | ENUMERATED (SSDT Supported, SSDT not supported). | |

### 9.2.2.44 STTD Indicator

Indicates if STTD is active or not.

| IE/Group Name | Presence | Range | IE type and reference | Semantics description |
|---|---|---|---|---|
| STTD Indicator | | | ENUMERATED(active, inactive) | |

### 9.2.2.45 STTD Support Indicator

The STTD Support Indicator indicates whether the STTD can be applied to DL DPCH in the cell or not.

| IE/Group Name | Presence | Range | IE type and reference | Semantics description |
|---|---|---|---|---|
| STTD Support Indicator | | | ENUMERATED (STTD Supported, STTD not Supported). | |

### 9.2.2.46 TFCI Signalling Mode

This parameter indicates if the normal or split mode is used for the TFCI.

| IE/Group Name | Presence | Range | IE type and reference | Semantics description |
|---|---|---|---|---|
| TFCI Signalling Mode | | | ENUMERATED (Normal, Split) | |

### 9.2.2.47 Transmission Gap Distance (TGD)

Void.

### 9.2.2.47A Transmission Gap Pattern Sequence Information

Defines the parameters for the compressed mode gap pattern sequence. For details see [16].

| IE/Group Name | Presence | Range | IE type and reference | Semantics description |
|---|---|---|---|---|
| **Transmission Gap Pattern Sequence Information** | | 1 to <MaxTGPS> | | |
| >TGPSI Identifier | M | | INTEGER(1. .<MaxTGPS >) | Transmission Gap Pattern Sequence Identifier<br>Establish a reference to the compressed mode pattern sequence. Up to <MaxTGPS> simultaneous compressed mode pattern sequences can be used. |
| >TGSN | M | | INTEGER (0..14) | Transmission Gap Starting Slot Number<br>The slot number of the first transmission gap slot within the TGCFN. |
| >TGL1 | M | | INTEGER(1. .14) | The length of the first Transmission Gap within the transmission gap pattern expressed in number of slots. |
| >TGL2 | O | | INTEGER (1..14) | The length of the second Transmission Gap within the transmission gap pattern. If omitted, then TGL2=TGL1. |
| >TGD | M | | INTEGER (0, 15.. 269) | Transmission gap distance indicates the number of slots between the starting slots of two consecutive transmission gaps within a transmission gap pattern. If there is only one transmission gap in the transmission gap pattern, this parameter shall be set to 0 (0 =undefined). |
| >TGPL1 | M | | INTEGER (1..144,…) | The duration of transmission gap pattern 1 in frames. |
| >TGPL2 | O | | INTEGER (1..144,…) | The duration of transmission gap pattern 2 in frames. If omitted, then TGPL2=TGPL1. |
| >UL/DL mode | M | | Enumerated (UL only, DL only, UL/DL) | Defines whether only DL, only UL, or combined UL/DL compressed mode is used. |
| >Downlink Compressed Mode Method | C-DL | | ENUMERATED (puncturing, SF/2, higher layer scheduling, …) | Method for generating downlink compressed mode gap<br>None means that compressed mode pattern is stopped. |
| >Uplink Compressed Mode Method | C-UL | | ENUMERATED (SF/2, higher layer scheduling, …) | Method for generating uplink compressed mode gap. |
| >Downlink Frame Type | M | | ENUMERATED (A, B) | Defines if frame type 'A' or 'B' shall be used in downlink compressed mode. |
| >DeltaSIR1 | M | | INTEGER (0..30) | Delta in UL SIR target value to be set in the DRNS during the frame containing the start of the first transmission gap in the transmission gap pattern (without including the effect of the bit-rate increase)<br><br>Step 0.1 dB, Range 0-3dB |

| | | | | |
|---|---|---|---|---|
| >DeltaSIRafter1 | M | | INTEGER (0..30) | Delta in UL SIR target value to be set in the DRNS one frame after the frame containing the start of the first transmission gap in the transmission gap pattern,.<br><br>Step 0.1 dB, Range 0-3dB |
| >DeltaSIR2 | O | | INTEGER (0..30) | Delta in UL SIR target value to be set in the DRNS during the frame containing the start of the second transmission gap in the transmission gap pattern (without including the effect of the bit-rate increase)<br>When omitted, DeltaSIR2 = DeltaSIR1.<br><br>Step 0.1 dB, Range 0-3dB |
| >DeltaSIRafter2 | O | | INTEGER (0..30) | Delta in UL SIR target value to be set in the DRNS one frame after the frame containing the start of the second transmission gap in the transmission gap pattern.<br>When omitted, DeltaSIRafter2 = DeltaSIRafter1.<br><br>Step 0.1 dB, Range 0-3dB |

| Condition | Explanation |
|---|---|
| C-UL | This information element is only sent when the value of the "UL/DL mode" IE is "UL only" or "UL/DL". |
| C-DL | This information element is only sent when the value of the "UL/DL mode" IE is "DL only" or "UL/DL". |

| Range bound | Explanation |
|---|---|
| MaxTGPS | Maximum number of transmission gap pattern sequences. |

## 9.2.2.47B Transmission Gap Pattern Sequence Scrambling Code Information

This IE indicates whether or not the alternative scrambling code will be used in the DRNS for the Downlink compressed mode method 'SF/2' in the Transmission Gap Pattern Sequence. For details see ref. [16].

| IE/Group Name | Presence | Range | IE type and reference | Semantics description |
|---|---|---|---|---|
| Transmission Gap Pattern Sequence Scrambling Code Information | | | ENUMERATED (code change, no code change) | Code change = alternative scrambling code will be used. |

## 9.2.2.48 Transmit Diversity Indicator

The Transmit Diversity Indicator indicates whether Transmit Diversity shall be active or not.

| IE/Group Name | Presence | Range | IE type and reference | Semantics description |
|---|---|---|---|---|
| Transmit Diversity Indicator | | | ENUMERATED (active, inactive) | |

### 9.2.2.49 Transmit Gap Length (TGL)

Void

### 9.2.2.50 Tx Diversity Indicator

The Tx Diversity Indicator indicates if the following conditions are satisfied:

- Primary CPICH is broadcast from two antennas
- STTD is applied to Primary CCPCH
- TSTD is applied to Primary SCH and Secondary SCH

| IE/Group Name | Presence | Range | IE type and reference | Semantics description |
|---|---|---|---|---|
| Tx Diversity Indicator | | | ENUMERATED (true, false). | |

### 9.2.2.51 UL/DL Compressed Mode Selection

Void

### 9.2.2.52 UL DPCCH Slot Format

Indicates the slot format used in DPCCH in UL, according to ref. [8].

| IE/Group Name | Presence | Range | IE type and reference | Semantics description |
|---|---|---|---|---|
| UL DPCCH Slot Format | | | INTEGER (0..5,…) | |

### 9.2.2.53 UL Scrambling Code

The UL Scrambling Code is the scrambling code used by UE. Every UE has its specific UL Scrambling Code.

| IE/Group Name | Presence | Range | IE type and reference | Semantics description |
|---|---|---|---|---|
| | | | | |
| UL Scrambling Code Number | M | | INTEGER (0.. $2^{24}$-1) | |
| UL Scrambling Code Length | M | | ENUMERATED(Short, Long) | |

### 9.2.2.54 Uplink Delta SIR

Void

### 9.2.2.55 Uplink Delta SIR After

Void

## 9.2.3 TDD Specific Parameters

This subclause contains parameters that are specific to TDD.

### 9.2.3.a Alpha Value

Used to support signalling of cell specific Alpha Value to SRNS.

| IE/Group Name | Presence | Range | IE type and reference | Semantics description |
|---|---|---|---|---|
| Alpha Value | | | ENUMERATED(0, 1/8, 2/8, 3/8, 4/8, 5/8, 6/8, 7/8, 1) | |

### 9.2.3.A Block STTD Indicator

Void.

### 9.2.3.1 Burst Type

Void.

### 9.2.3.2 CCTrCH ID

The CCTrCH ID identifies unambiguously a CCTrCH inside a Radio Link.

| IE/Group Name | Presence | Range | IE type and reference | Semantics description |
|---|---|---|---|---|
| CCTrCH ID | | | INTEGER (0..15) | |

### 9.2.3.2A DCH TDD Information

The *DCH TDD Information* IE provides information for DCHs to be established.

| IE/Group Name | Presence | Range | IE type and reference | Semantics description | Criticality | Assigned Criticality |
|---|---|---|---|---|---|---|
| **DCH Information** | | *1..<maxnoofDCHs>* | | | – | |
| >Payload CRC Presence Indicator | M | | 9.2.1.42 | | – | |
| >UL FP Mode | M | | 9.2.1.67 | | – | |
| >ToAWS | M | | 9.2.1.58 | | – | |
| >ToAWE | M | | 9.2.1.57 | | – | |
| **>DCH Specific Info** | | *1..<maxnoofDCHs>* | | | – | |
| >>DCH ID | M | | 9.2.1.16 | | – | |
| >>CCTrCH ID | M | | 9.2.3.2 | UL CCTrCH in which the DCH is mapped | – | |
| >>CCTrCH ID | M | | 9.2.3.2 | DL CCTrCH in which the DCH is mapped | – | |
| >>TrCh Source Statistics Descriptor | M | | 9.2.1.65 | | – | |
| >>Transport Format Set | M | | 9.2.1.64 | For the UL. | – | |
| >>Transport Format Set | M | | 9.2.1.64 | For the DL. | – | |
| >>BLER | M | | 9.2.1.4 | For the UL. | – | |
| >>BLER | M | | 9.2.1.4 | For the DL. | – | |
| >>Allocation/Retention Priority | M | | 9.2.1.1 | | – | |
| >>Frame Handling Priority | M | | 9.2.1.29 | | – | |
| >>QE-Selector | C-CoorDCH | | 9.2.1.46A | | – | |
| >>Guaranteed Rate Information | O | | 9.2.1.30M | | YES | ignore |

| Condition | Explanation |
|---|---|
| CoorDCH | This IE shall be present only this DCH is part of a set of coordinated DCHs (number of instances of the *DCH Specific Info* IE is greater than 1). |

| Range bound | Explanation |
|---|---|
| MaxnoofDCHs | Maximum number of DCHs for one UE. |

## 9.2.3.2B DCH TDD Information Response

Void

## 9.2.3.2C DL Timeslot Information

The *DL Timeslot Information* IE provides information on the time slot allocation for a DL DPCH.

| IE/Group Name | Presence | Range | IE type and reference | Semantics description | Criticality | Assigned Criticality |
|---|---|---|---|---|---|---|
| **DL Timeslot Information** | | *1 to <maxnoOfTS>* | | | – | |
| >Time Slot | M | | 9.2.1.56 | | – | |
| >Midamble Shift and Burst Type | M | | 9.2.3.4 | | – | |
| >TFCI Presence | M | | 9.2.1.55 | | – | |
| >DL Code Information | M | | TDD DL Code Information 9.2.3.8C | | – | |

| Range bound | Explanation |
|---|---|
| MaxnoofTS | Maximum number of Timeslots for a UE. |

## 9.2.3.2D DL Time Slot ISCP Info

The *DL Time Slot ISCP Info* IE gives interference level for each DL time slot within the Radio Link.

| IE/Group Name | Presence | Range | IE type and reference | Semantics description | Criticality | Assigned Criticality |
|---|---|---|---|---|---|---|
| **DL Time Slot ISCP Info** | | *1..<maxnoofDLts>* | | | – | |
| >Time Slot | M | | 9.2.1.56 | | – | |
| >DL Timeslot ISCP | M | | 9.2.3.12 | | – | |

| Range bound | Explanation |
|---|---|
| MaxnoofDLts | Maximum number of downlink time slots per Radio Link for 3.84Mcps TDD. |

## 9.2.3.2E DL Timeslot Information LCR

The *DL Timeslot Information LCR* IE provides information for DL Timeslot to be established for 1.28Mcps TDD.

| IE/Group Name | Presence | Range | IE type and reference | Semantics descriptions | Criticality | Assigned Criticality |
|---|---|---|---|---|---|---|
| **DL Timeslot Information LCR** | | *1 .. <maxnoofDLtsLCR>* | | | – | |
| >Time Slot LCR | M | | 9.2.3.12a | | – | |
| >Midamble Shift LCR | M | | 9.2.3.4C | | – | |
| >TFCI Presence | M | | 9.2.1.57 | | – | |
| >TDD DL Code Information LCR | M | | TDD DL Code Information 9.2.3.8D | | – | |

| Range bound | Explanation |
|---|---|
| *MaxnoofDLtSLCR* | Maximum number of Downlink time slots per Radio Link for 1.28Mcps TDD. |

### 9.2.3.2F DL Time Slot ISCP Info LCR

The D*L Time Slot ISCP Info LCR* IE provides information for DL Interference level for each time slot within the Radio Link for 1.28Mcps TDD.

| IE/Group Name | Presence | Range | IE type and reference | Semantics descriptions | Criticality | Assigned Criticality |
|---|---|---|---|---|---|---|
| **DL Time Slot ISCP Info LCR** | | *1 .. <maxnoofULtsLCR>* | | | – | |
| >Time Slot LCR | M | | 9.2.3.12a | | – | |
| >DL Timeslot ISCP | M | | 9.2.3.12 | | – | |

| Range bound | Explanation |
|---|---|
| *MaxnoofULtsLCR* | Maximum number of Uplink time slots per Radio Link for 1.28Mcps TDD |

### 9.2.3.3 DPCH ID

The DPCH ID identifies unambiguously a DPCH inside a Radio Link.

| IE/Group Name | Presence | Range | IE type and reference | Semantics description |
|---|---|---|---|---|
| DPCH ID | | | INTEGER (0..239) | |

### 9.2.3.3a DSCH TDD Information

The *DSCH TDD Information* IE provides information for DSCHs to be established.

| IE/Group Name | Presence | Range | IE type and reference | Semantics description | Criticality | Assigned Criticality |
|---|---|---|---|---|---|---|
| **DSCH TDD Information** | | *1..<maxnoofDSCHs>* | | | – | |
| >DSCH ID | M | | 9.2.1.26A | | – | |
| >CCTrCH ID | M | | 9.2.3.2 | DL CCTrCH in which the DSCH is mapped. | – | |
| >TrCh Source Statistics Descriptor | M | | 9.2.1.65 | | – | |
| >Transport Format Set | M | | 9.2.1.64 | | – | |
| >Allocation/Retention Priority | M | | 9.2.1.1 | | – | |
| >Scheduling Priority Indicator | M | | 9.2.1.51A | | – | |
| >BLER | M | | 9.2.1.4 | | – | |

| Range bound | Explanation |
|---|---|
| MaxnoofDSCHs | Maximum number of DSCHs for one UE. |

### 9.2.3.3A Maximum Number of Timeslots per Frame

Defines the maximum number of timeslots the UE has the capability of receiving or transmitting.

| IE/Group Name | Presence | Range | IE type and reference | Semantics description |
|---|---|---|---|---|
| Maximum Number of Timeslots per Frame | | | INTEGER (1..14) | |

### 9.2.3.3B Maximum number of UL Physical Channels per Timeslot

Defines the maximum number of physical channels per frame that the UE is capable to transmit.

| IE/Group Name | Presence | Range | IE type and reference | Semantics description |
|---|---|---|---|---|
| Maximum Number of UL Physical Channels per Timeslot | | | INTEGER (1..2) | |

### 9.2.3.3C Maximum number of DL Physical Channels per Frame

Defines the maximum number of physical channels per frame that the UE is capable to receive.

| IE/Group Name | Presence | Range | IE type and reference | Semantics description |
|---|---|---|---|---|
| Maximum Number of DL Physical Channels per Frame | | | INTEGER (1..224) | |

### 9.2.3.4 Midamble Shift and Burst Type

This information element indicates burst type and midamble allocation.

Three different midamble allocation schemes exist:

- Default midamble: the midamble shift is selected by layer 1 depending on the associated channelisation code (DL and UL);
- Common midamble: the midamble shift is chosen by layer 1 depending on the number of channelisation codes (possible in DL only);
- UE specific midamble: a UE specific midamble is explicitly assigned (DL and UL).

| IE/Group Name | Presence | Range | IE type and reference | Semantics description |
|---|---|---|---|---|
| CHOICE *Burst Type* | | | | |
| >*Type 1* | | | | |
| >>Midamble Allocation Mode | M | | ENUMERATED (Default midamble, Common midamble, UE specific midamble) | |
| >> Midamble Configuration Burst Type 1 And 3 | M | | Integer(4, 8, 16) | As defined in [12] |
| >>Midamble Shift | C-UE | | INTEGER(0..15) | |
| >*Type 2* | | | | |
| >>Midamble Allocation Mode | M | | ENUMERATED (Default midamble, Common midamble, UE specific midamble) | |
| >> Midamble Configuration Burst Type 2 | M | | Integer(3,6) | As defined in [12] |
| >>Midamble Shift | | | INTEGER (0..15) | |
| >*Type 3* | | | | UL only |
| >>Midamble Allocation Mode | M | | ENUMERATED (Default midamble, UE specific midamble) | |
| >> Midamble Configuration Burst Type 1 And 3 | M | | Integer(4, 8, 16) | As defined in [12] |
| >>Midamble Shift | C-UE | | INTEGER(0..15) | |

| Condition | Explanation |
|---|---|
| *C-UE* | This information element is only sent when the value of the "Midamble Allocation Mode" IE is "UE-specific midamble". |

### 9.2.3.4A Minimum Spreading Factor

Defines the minimum spreading factor the UE has the capability of receiving or transmitting.

| IE/Group Name | Presence | Range | IE type and reference | Semantics description |
|---|---|---|---|---|
| Minimum Spreading Factor | | | INTEGER (1..16) | |

### 9.2.3.4B IPDL TDD parameters

The *IPDL TDD Parameters* IE provides the information for the IPDL Configuration applied in TDD mode.

| Information Element/Group name | Presence | Range | IE Type and Reference | Semantics description |
|---|---|---|---|---|
| IP Spacing TDD | M | | ENUMERATED(30,40,50, 70, 100,…) | See [22] |
| IP Start | M | | INTEGER(0..4095) | See [22] |
| IP Slot | M | | INTEGER(0..14) | See [22] |
| IP P-CCPCH | M | | ENUMERATED(Switch off 1 frame, Switch off 2 frames) | See [22] |
| Burst mode parameters | O | | 9.2.1.4B | |

## 9.2.3.4C Midamble shift LCR

This information element indicates midamble allocation in 1.28Mcps TDD.

| IE/Group name | Presence | Range | IE type and reference | Semantics description |
|---|---|---|---|---|
| Midamble Allocation Mode | M | | Enumerated (Default midamble, Common midamble, UE specific midamble) | |
| Midamble Shift | C-UE | | Integer(0..15) | |

| Condition | Explanation |
|---|---|
| *UE* | This information element is only sent when the value of the "Midamble Allocation Mode" IE is "UE-specific midamble". |

## 9.2.3.4D Neighbouring TDD Cell Information LCR

The *Neighbouring TDD Cell Information LCR* IE provides information for 1.28Mcps TDD cells that are a neighbouring cells to a cell in the DRNC.

| IE/Group Name | Presence | Range | IE type and reference | Semantics description | Criticality | Assigned Criticality |
|---|---|---|---|---|---|---|
| **Neighbouring TDD Cell Information LCR** | | *1..<maxnoofLCRTDDneighbours>* | | | – | |
| >C-Id | M | | 9.2.1.6 | | – | |
| >UARFCN | M | | 9.2.1.66 | Corresponds to Nt in ref. [7] | – | |
| >Frame Offset | O | | 9.2.1.30 | | – | |
| >Cell Parameter ID | M | | 9.2.1.8 | | – | |
| >Time Slot LCR | M | | 9.2.3.12a | | – | |
| >Block STTD Indicator | M | | 9.2.1.4A | | – | |
| >Cell Individual Offset | O | | 9.2.1.7 | | – | |
| >DPCH Constant Value | O | | 9.2.1.23 | | – | |
| >PCCPCH Power | O | | 9.2.1.43 | | – | |

| Range bound | Explanation |
|---|---|
| MaxnoofLCRTDDneighboursLCR | Maximum number of neighbouring LCR TDD cell for one cell. |

### 9.2.3.5 Primary CCPCH RSCP

Received Signal Code Power is the received power on PCCPCH of the target cell after despreading. The reference point for the RSCP is the antenna connector at the UE, see ref. [14].

| IE/Group Name | Presence | Range | IE type and reference | Semantics description |
|---|---|---|---|---|
| Primary CCPCH RSCP | | | INTEGER ( 0..91) | According to mapping in in ref. [14]. |

### 9.2.3.5A PRACH Midamble

Void.

### 9.2.3.5B RB Identity

The RB Identity is the identifier of a radio bearer. It is unique for each active Radio bearer among the active radio bearers simultaneously allocated for the same UE.

| IE/Group Name | Presence | Range | IE type and reference | Semantics description |
|---|---|---|---|---|
| RB Identity | | | INTEGER (0..31) | In line with [16], ch. 10.3.4.11 |

### 9.2.3.6 Repetition Length

The Repetition Length represents the number of consecutive Radio Frames inside a Repetition Period in which the same Time Slot is assigned to the same Physical Channel see ref. [16].

| IE/Group Name | Presence | Range | IE type and reference | Semantics description |
|---|---|---|---|---|
| Repetition Length | | | INTEGER(1..63 ) | |

### 9.2.3.7 Repetition Period

The Repetition Period represents the number of consecutive Radio Frames after which the same assignment scheme of Time Slots to a Physical Channel is repeated. This means that if the Time Slot *K* is assigned to a physical channel in the Radio Frame *J*, it is assigned to the same physical channel also in all the Radio Frames *J+n*Repetition Period* (where *n* is an integer) see ref. [16].

| IE/Group Name | Presence | Range | IE type and reference | Semantics description |
|---|---|---|---|---|
| Repetition Period | | | ENUMERATED (1,2,4,8,16,32,64) | |

### 9.2.3.7A Rx Timing Deviation

Measured Rx Timing Deviation as a basis for timing advance, either measured directly from a RACH burst, or calculated from the Rx Timing Deviation measurement on the USCH by adding the current Timing Advance value. For 1.28Mcps TDD this IE must be set to 0.

| IE/Group Name | Presence | Range | IE type and reference | Semantics description |
|---|---|---|---|---|
| Rx Timing Deviation | | | INTEGER (0..127) | As specified in [5], ch. 6.2.7.6 |

## 9.2.3.7B Secondary CCPCH Info TDD

The *Secondary CCPCH Info TDD* IE provides information on the Secondary CCPCH that carries the logical channel SHCCH for the UE.

| IE/Group Name | Presence | Range | IE type and reference | Semantics description | Criticality | Assigned Criticality |
|---|---|---|---|---|---|---|
| TFCS | M | | 9.2.1.63 | For the DL. | – | |
| TFCI Coding | M | | 9.2.3.11 | | – | |
| **Secondary CCPCH** | | 1..<maxnoofSCCPCHs> | | | – | |
| >Time Slot | M | | 9.2.1.56 | | – | |
| >Midamble Shift and Burst Type | M | | 9.2.3.4 | | – | |
| >TFCI Presence | M | | 9.2.1.55 | | – | |
| > Secondary CCPCH TDD Code Information | M | | 9.2.3.7C | | – | |
| >TDD Physical Channel Offset | M | | 9.2.3.9 | | | |
| >Repetition Length | M | | 9.2.3.6 | | – | |
| >Repetition Period | M | | 9.2.3.7 | | – | |
| **FACH** | | 0..maxnooffFACHs | | | – | |
| > TFS | M | | 9.2.1.64 | For the DL. | – | |
| **PCH** | | 0..1 | | | – | |
| > TFS | M | | 9.2.1.64 | For the DL. | – | |

| Range bound | Explanation |
|---|---|
| MaxnoofSCCPCHs | Maximum number of Secondary CCPCHs per CCTrCH. |
| MaxnoofFACHs | Maximum number of FACHs mapped onto a Secondary CCPCH. |

## 9.2.3.7C Secondary CCPCH TDD Code Information

The *Secondary CCPCH TDD Code Information* IE provides TDD Channelisation Code information for all SCCPCHs of one Time Slot.

| IE/Group Name | Presence | Range | IE type and reference | Semantics description | Criticality | Assigned Criticality |
|---|---|---|---|---|---|---|
| **Secondary CCPCH TDD Code Information** | | *1 to <maxnoOfSCCPCHs>* | | | – | |
| >TDD Channelisation Code | M | | 9.2.3.8 | | – | |

| Range bound | Explanation |
|---|---|
| maxnoofSCCPCHs | Maximum number of SCCPCHs for one CCTrCH. |

## 9.2.3.7D Special Burst Scheduling

The number of frames between special burst transmissions during DTX.

| IE/Group Name | Presence | Range | IE type and reference | Semantics description |
|---|---|---|---|---|
| Special Burst Scheduling | | | Integer (1, 2, .., 256) | Number of frames between special burst transmissions during DTX |

### 9.2.3.7E Synchronisation Configuration

The Synchronisation Configuration parameters that are used by the DRNS in the Radio Link Failure/Restore procedure.

| IE/Group Name | Presence | Range | IE type and reference | Semantics description |
|---|---|---|---|---|
| N_INSYNC_IND | M | | Integer (1, 2, .., 256) | |
| N_OUTSYNC_IND | M | | Integer (1, 2, .., 256) | |
| T_RLFAILURE | M | | ENUMERATED (0, 0.1, 0.2, .., 25.5) | In seconds |

### 9.2.3.8 TDD Channelisation Code

The Channelisation Code Number indicates which Channelisation Code is used for a given Physical Channel. In TDD the Channelisation Code is an Orthogonal Variable Spreading Factor code that can have a spreading factor of 1, 2, 4, 8 or 16.

| IE/Group Name | Presence | Range | IE type and reference | Semantics description |
|---|---|---|---|---|
| TDD Channelisation Code | | | ENUMERATED ((1/1), (2/1), (2/2), (4/1),…(4/4), (8/1), (8/8), (16/1)… (16/16),… ) | |

### 9.2.3.8a TDD Channelisation Code LCR

The Channelisation Code Number indicates which Channelisation Code is used for a given Physical Channel. In 1.28Mcps TDD the Channelisation Code is an Orthogonal Variable Spreading Factor code, that can have a spreading factor of 1, 2, 4, 8 or 16 where in case of spreading factor 1, there is a choice between QPSK and 8PSK modulation.

| IE/Group Name | Presence | Range | IE type and reference | Semantics description |
|---|---|---|---|---|
| CHOICE *SF* | | | | |
| >SF=1 | | | Enumerated( QPSK, 8PSK,... ) | Modulation options in contrast to 3.84Mcps TDD mode |
| >Otherwise | | | | |
| >>TDD Channelisation Code | | | ENUMERATED ((1/1), (2/1), (2/2), (4/1),…(4/4), (8/1), (8/8), (16/1)… (16/16) ,… ) | |

| CHOICE SF | Condition under which the given SF is chosen |
|---|---|
| SF =1 | “spreading factor” is set to 1 |
| otherwise | “spreading factor” is set to a value distinct from 1 |

### 9.2.3.8A TDD DPCH Offset

The Offset represents the phase information for the allocation of a group of dedicated physical channels. The first range is used when a starting offset is not required and the TDD Physical channel offset for each DPCH in the CCTrCH shall be directly determined from the TDD DPCH Offset. The second range is used when a starting offset is required. The TDD DPCH Offset shall map to the CFN and the TDD Physical Channel Offet for each DPCH in this CCTrCH shall calculated by TDD DPCH Offset *mod* Repetition period, see ref. [16].

| IE/Group Name | Presence | Range | IE type and reference | Semantics description |
|---|---|---|---|---|
| TDD DPCH Offset | | | CHOICE INTEGER (0..63) or INTEGER (0..255) | |

### 9.2.3.8B TDD DCHs to Modify

The *TDD DCHs to Modify* IE provides information for DCHs to be modified.

| IE/Group Name | Presence | Range | IE type and reference | Semantics description | Criticality | Assigned Criticality |
|---|---|---|---|---|---|---|
| **TDD DCHs to Modify** | | *1..<maxnoofDCHs>* | | | – | |
| >UL FP Mode | O | | 9.2.1.67 | | – | |
| >ToAWS | O | | 9.2.1.58 | | – | |
| >ToAWE | O | | 9.2.1.57 | | – | |
| >Transport Bearer Request Indicator | M | | 9.2.1.61 | | – | |
| **>DCH Specific Info** | | *1..<maxnoofDCHs>* | | | – | |
| >>DCH ID | M | | 9.2.1.16 | | – | |
| >>CCTrCH ID | O | | 9.2.3.2 | UL CCTrCH in which the DCH is mapped. | – | |
| >>CCTrCH ID | O | | 9.2.3.2 | DL CCTrCH in which the DCH is mapped | – | |
| >>Transport Format Set | O | | 9.2.1.64 | For the UL. | – | |
| >>Transport Format Set | O | | 9.2.1.64 | For the DL. | – | |
| >>Allocation/Retention Priority | O | | 9.2.1.1 | | – | |
| >>Frame Handling Priority | O | | 9.2.1.29 | | – | |

| Range bound | Explanation |
|---|---|
| MaxnoofDCHs | Maximum number of DCHs for one UE. |

### 9.2.3.8C TDD DL Code Information

The *TDD DL Code Information* IE provides TDD DL Code information for all DPCHs of one DL Time Slot.

| IE/Group Name | Presence | Range | IE type and reference | Semantics description | Criticality | Assigned Criticality |
|---|---|---|---|---|---|---|
| **TDD DL Code Information** | | *1 to <maxnoOf DPCH>* | | | – | |
| >DPCH ID | M | | 9.2.3.3 | | – | |
| >TDD Channelisation Code | M | | 9.2.3.8 | | – | |

| Range bound | Explanation |
|---|---|
| MaxnoofDPCHs | Maximum number of DPCHs for one CCTrCH. |

## 9.2.3.8D TDD DL Code Information LCR

The *TDD DL Code Information LCR* IE provides DL Code information for the RL for 1.28Mcps TDD.

| IE/Group Name | Presence | Range | IE type and reference | Semantics descriptions | Criticality | Assigned Criticality |
|---|---|---|---|---|---|---|
| **TDD DL Code Information LCR** | | *1 .. <maxnoOf DPCHLCR>* | | | – | |
| >DPCH ID | M | | 9.2.3.5 | | – | |
| >TDD Channelisation Code LCR | M | | 9.2.3.8a | | – | |

| Range bound | Explanation |
|---|---|
| *MaxnoOfDPCHLCR* | Maximum number of DPCH in one CCTrCH for 1.28Mcps TDD |

## 9.2.3.9 TDD Physical Channel Offset

The TDD Physical Channel Offset represents the phase information for the allocation of a non DPCH physical channel. (CFN mod Repetition Period = TDD Physical Channel Offset) see ref. [16].

| IE/Group Name | Presence | Range | IE type and reference | Semantics description |
|---|---|---|---|---|
| TDD Physical Channel Offset | | | INTEGER (0..63) | |

## 9.2.3.10 TDD TPC Downlink Step Size

This parameter indicates step size for the DL power adjustment.

| IE/Group Name | Presence | Range | IE type and reference | Semantics description |
|---|---|---|---|---|
| TDD TPC Downlink Step Size | | | ENUMERATED (1, 2, 3,…) | |

## 9.2.3.10A TDD UL Code Information

The *TDD UL Code Information* IE provides TDD UL Code information for all DPCHs of one UL Time Slot.

| IE/Group Name | Presence | Range | IE type and reference | Semantics description | Criticality | Assigned Criticality |
|---|---|---|---|---|---|---|
| **TDD UL Code Information** | | *1 to <maxnoOfDPCH>* | | | – | |
| >DPCH ID | M | | 9.2.3.3 | | – | |
| >TDD Channelisation Code | M | | 9.2.3.8 | | – | |

| Range bound | Explanation |
|---|---|
| MaxnoofDPCHs | Maximum number of DPCHs for one CCTrCH. |

## 9.2.3.10B TDD UL Code Information LCR

The *TDD UL Code Information LCR* IE provides information for UL Code to be established for 1.28Mcps TDD.

| IE/Group Name | Presence | Range | IE type and reference | Semantics descriptions | Criticality | Assigned Criticality |
|---|---|---|---|---|---|---|
| **TDD UL Code Information LCR** | | *1 .. <maxnoOfDPCHLCR>* | | | – | |
| >DPCH ID | M | | 9.2.3.5 | | – | |
| >TDD Channelisation Code LCR | M | | 9.2.3.8a | | – | |

| Range bound | Explanation |
|---|---|
| *MaxnoOfDPCHLCR* | Maximum number of DPCH in one CCTrCH for 1.28Mcps TDD. |

## 9.2.3.11 TFCI Coding

The TFCI Coding describes how the TFCI bits are coded. By default 1 TFCI bit is coded with 4 bits, 2 TFCI bits are coded with 8 bits, 3-5 TFCI bits are coded with 16 bits and 6-10 TFCI bits are coded with 32 bits.

| IE/Group Name | Presence | Range | IE type and reference | Semantics description |
|---|---|---|---|---|
| TFCI Coding | | | ENUMERATED (4, 8, 16, 32,…) | |

## 9.2.3.12 DL Timeslot ISCP

DL Timeslot ISCP is the measured interference in a downlink timeslot at the UE, see ref. [14].

| IE/Group Name | Presence | Range | IE type and reference | Semantics description |
|---|---|---|---|---|
| DL Timeslot ISCP | | | INTEGER ( 0..91) | According to mapping in [24]. |

## 9.2.3.12a Time Slot LCR

The Time Slot LCR represents the minimum time interval inside a Radio Frame that can be assigned to a Physical Channel in 1.28Mcps TDD.

| IE/Group Name | Presence | Range | IE type and reference | Semantics description |
|---|---|---|---|---|
| Time Slot LCR | | | INTEGER (0..6) | |

### 9.2.3.12A Timing Advance Applied

Defines the need for Timing Advance functions such as Rx Timing Deviation measurement in a particular cell.

| IE/Group Name | Presence | Range | IE type and reference | Semantics description |
|---|---|---|---|---|
| Timing Advance Applied | | | ENUMERATED (Yes, No) | |

### 9.2.3.13 Transport Format Management

Defines whether the cell transmits the transport format information via broadcast or whether the transport format information is transmitted to the UE using dedicated RRC procedures

| IE/Group Name | Presence | Range | IE type and reference | Semantics description |
|---|---|---|---|---|
| Transport Format Management | | | ENUMERATED(Cell Based, UE Based,…) | |

### 9.2.3.13A UL Timeslot ISCP

UL Timeslot ISCP is the measured interference in a uplink timeslot at the DRNS, see ref. [14].

| IE/Group Name | Presence | Range | IE type and reference | Semantics description |
|---|---|---|---|---|
| UL Timeslot ISCP | | | INTEGER ( 0..127) | According to mapping in [24]. |

### 9.2.3.13B UL PhysCH SF Variation

Indicates whether variation of SF in UL is supported by Radio Link or not.

| IE/Group Name | Presence | Range | IE type and reference | Semantics description |
|---|---|---|---|---|
| UL PhysCH SF Variation | | | ENUMERATED (SF_Variation_supported, SF_Variation_NOT_supported) | |

### 9.2.3.13C UL Timeslot Information

The *UL Timeslot Information* IE provides information on the time slot allocation for a UL DPCH.

| IE/Group Name | Presence | Range | IE type and reference | Semantics description | Criticality | Assigned Criticality |
|---|---|---|---|---|---|---|
| **UL Timeslot Information** | | *1 to <maxnoOfTS>* | | | – | |
| >Time Slot | M | | 9.2.1.56 | | – | |
| >Midamble Shift and Burst Type | M | | 9.2.3.4 | | – | |
| >TFCI Presence | M | | 9.2.1.55 | | – | |
| >UL Code Information | M | | TDD UL Code Information 9.2.3.10A | | – | |

| Range bound | Explanation |
|---|---|
| MaxnoofTS | Maximum number of Timeslots for a UE. |

## 9.2.3.13D UL Time Slot ISCP Info

The *UL Time Slot ISCP Info* IE gives interference level for each UL time slot within the Radio Link.

| IE/Group Name | Presence | Range | IE type and reference | Semantics description | Criticality | Assigned Criticality |
|---|---|---|---|---|---|---|
| **UL Time Slot ISCP Info** | | *1 .. <maxnoofULts>* | | | – | |
| >Time Slot | M | | 9.2.1.56 | | – | |
| >UL Timeslot ISCP | M | | 9.2.3.13A | | – | |

| Range bound | Explanation |
|---|---|
| MaxnoofULts | Maximum number of uplink time slots per Radio Link. |

## 9.2.3.13E TSTD Indicator

Indicates if TSTD shall be active or not for the DL DPCH.

| IE/Group Name | Presence | Range | IE type and reference | Semantics description |
|---|---|---|---|---|
| TSTD Indicator | | | ENUMERATED(active, inactive) | |

## 9.2.3.13F TSTD Support Indicator

Indicates if UE support TSTD or not for DL DPCH.

| IE/Group Name | Presence | Range | IE type and reference | Semantics description |
|---|---|---|---|---|
| TSTD Support Indicator | | | ENUMERATED(TSTD supported, TSTD not supported) | |

### 9.2.3.13G UL Timeslot Information LCR

The *UL Timeslot Information LCR* IE provides information on the timeslot allocation for an UL DPCH.

| IE/Group Name | Presence | Range | IE type and reference | Semantics descriptions | Criticality | Assigned Criticality |
|---|---|---|---|---|---|---|
| **UL Timeslot Information LCR** | | *1 .. <maxnoofULtsLCR>* | | | – | |
| >Time Slot LCR | M | | 9.2.3.21a | | – | |
| >Midamble Shift LCR | M | | 9.2.3.4C | | – | |
| >TFCI Presence | M | | 9.2.1.57 | | – | |
| >TDD UL Code Information LCR | M | | TDD UL Code Information 9.2.3.10B | | | |

| Range bound | Explanation |
|---|---|
| *MaxnoofULtsLCR* | Maximum number of Uplink time slots per Radio Link for 1.28Mcps TDD. |

### 9.2.3.13H UL Time Slot ISCP Info LCR

The *UL Time Slot ISCP Info LCR* IE provides information for UL Interference level for each time slot within the Radio Link for 1.28Mcps TDD.

| IE/Group Name | Presence | Range | IE type and reference | Semantics descriptions | Criticality | Assigned Criticality |
|---|---|---|---|---|---|---|
| **UL Time Slot ISCP Info** | | *1 .. <maxnoofULtsLCR>* | | | – | |
| >Time Slot LCR | M | | 9.2.3.21a | | – | |
| >UL Timeslot ISCP | M | | 9.2.3.26A | | – | |

| Range bound | Explanation |
|---|---|
| *MaxnoofULtsLCR* | Maximum number of Uplink time slots per Radio Link for 1.28Mcps TDD |

### 9.2.3.14 USCH ID

The USCH ID is the identifier of an uplink shared channel. It is unique among the USCHs simultaneously allocated for the same UE.

| IE/Group Name | Presence | Range | IE type and reference | Semantics description |
|---|---|---|---|---|
| USCH ID | | | INTEGER (0..255) | |

### 9.2.3.15 USCH Information

The *USCH Information* IE provides information for USCHs to be established.

| IE/Group Name | Presence | Range | IE type and reference | Semantics description | Criticality | Assigned Criticality |
|---|---|---|---|---|---|---|
| **USCH Information** | | *1 to <maxnoof USCHs>* | | | **–** | |
| >USCH ID | M | | 9.2.3.14 | | **–** | |
| >CCTrCH ID | M | | 9.2.3.2 | UL CCTrCH in which the USCH is mapped | – | |
| >TrCh Source Statistics Descriptor | M | | 9.2.1.65 | | – | |
| >Transport Format Set | M | | 9.2.1.64 | For USCH | – | |
| >Allocation/Retention Priority | M | | 9.2.1.1 | | – | |
| >Scheduling Priority Indicator | M | | 9.2.1.51A | | – | |
| >BLER | M | | 9.2.1.4 | | | |
| **>RB Info** | | 1 to <maxnoof RB> | | All Radio Bearers using this USCH | – | |
| >>RB Identity | M | | 9.2.3.5B | | – | |

| Range bound | Explanation |
|---|---|
| MaxnoofUSCHs | Maximum number of USCHs for one UE. |
| MaxnoofRBs | Maximum number of Radio Bearers for one UE. |

# 9.3 Message and Information element abstract syntax (with ASN.1)

## 9.3.0 General

Subclause 9.3 presents the Abstract Syntax of RNSAP protocol with ASN.1. In case there is contradiction between the ASN.1 definition in this subclause and the tabular format in subclauses 9.1 and 9.2, the ASN.1 shall take precedence, except for the definition of conditions for the presence of conditional elements, where the tabular format shall take precedence.

The ASN.1 definition specifies the structure and content of RNSAP messages. RNSAP messages can contain any IEs specified in the object set definitions for that message without the order or number of occurrence being restricted by ASN.1. However, for this version of the standard, a sending entity shall construct a RNSAP message according to the PDU definitions module and with the following additional rules (Note that in the following IE means an IE in the object set with an explicit id. If one IE needed to appear more than once in one object set, then the different occurrences have different IE ids):

- IEs shall be ordered (in an IE container) in the order they appear in object set definitions.
- Object set definitions specify how many times IEs may appear. An IE shall appear exactly once if the presence field in an object has value "mandatory". An IE may appear at most once if the presence field in an object has value "optional" or "conditional". If in a tabular format there is multiplicity specified for an IE (i.e. an IE list) then in the corresponding ASN.1 definition the list definition is separated into two parts. The first part defines an IE container list where the list elements reside. The second part defines list elements. The IE container list appears as an IE of its own. For this version of the standard an IE container list may contain only one kind of list elements.

If a RNSAP message that is not constructed as defined above is received, this shall be considered as Abstract Syntax Error, and the message shall be handled as defined for Abstract Syntax Error in subclause 10.3.6.

## 9.3.1 Usage of Private Message Mechanism for non-standard use

The private message mechanism for non-standard use may be used:

- for special operator (and/or vendor) specific features considered not to be part of the basic functionality, i.e. the functionality required for a complete and high-quality specification in order to guarantee multivendor inter-operability.
- by vendors for research purposes, e.g. to implement and evaluate new algorithms/features before such features are proposed for standardisation.

The private message mechanism shall not be used for basic functionality. Such functionality shall be standardised.

## 9.3.2 Elementary Procedure Definitions

```
-- **************************************************************
--
-- Elementary Procedure definitions
--
```

```
-- **************************************************************

RNSAP-PDU-Descriptions {
itu-t (0) identified-organization (4) etsi (0) mobileDomain (0)
umts-Access (20) modules (3) rnsap (1) version1 (1) rnsap-PDU-Descriptions (0) }

DEFINITIONS AUTOMATIC TAGS ::=

BEGIN

-- **************************************************************
--
-- IE parameter types from other modules.
--
-- **************************************************************

IMPORTS
    Criticality,
    ProcedureID,
    TransactionID
FROM RNSAP-CommonDataTypes

    CommonMeasurementFailureIndication,
    CommonMeasurementInitiationFailure,
    CommonMeasurementInitiationRequest,
    CommonMeasurementInitiationResponse,
    CommonMeasurementReport,
    CommonMeasurementTerminationRequest,
    CommonTransportChannelResourcesFailure,
    CommonTransportChannelResourcesRequest,
    CommonTransportChannelResourcesReleaseRequest,
    CommonTransportChannelResourcesResponseFDD,
    CommonTransportChannelResourcesResponseTDD,
    CompressedModeCommand,
    DedicatedMeasurementFailureIndication,
    DedicatedMeasurementInitiationFailure,
    DedicatedMeasurementInitiationRequest,
    DedicatedMeasurementInitiationResponse,
    DedicatedMeasurementReport,
    DedicatedMeasurementTerminationRequest,
    DL-PowerControlRequest,
    DL-PowerTimeslotControlRequest,
    DownlinkSignallingTransferRequest,
    ErrorIndication,
    InformationExchangeFailureIndication,
    InformationExchangeInitiationFailure,
    InformationExchangeInitiationRequest,
    InformationExchangeInitiationResponse,
    InformationExchangeTerminationRequest,
    InformationReport,
    PagingRequest,
```

```
    PhysicalChannelReconfigurationCommand,
    PhysicalChannelReconfigurationFailure,
    PhysicalChannelReconfigurationRequestFDD,
    PhysicalChannelReconfigurationRequestTDD,
    PrivateMessage,
    RadioLinkAdditionFailureFDD,
    RadioLinkAdditionFailureTDD,
    RadioLinkAdditionRequestFDD,
    RadioLinkAdditionRequestTDD,
    RadioLinkAdditionResponseFDD,
    RadioLinkAdditionResponseTDD,
    RadioLinkCongestionIndication,
    RadioLinkDeletionRequest,
    RadioLinkDeletionResponse,
    RadioLinkFailureIndication,
    RadioLinkPreemptionRequiredIndication,
    RadioLinkReconfigurationCancel,
    RadioLinkReconfigurationCommit,
    RadioLinkReconfigurationFailure,
    RadioLinkReconfigurationPrepareFDD,
    RadioLinkReconfigurationPrepareTDD,
    RadioLinkReconfigurationReadyFDD,
    RadioLinkReconfigurationReadyTDD,
    RadioLinkReconfigurationRequestFDD,
    RadioLinkReconfigurationRequestTDD,
    RadioLinkReconfigurationResponseFDD,
    RadioLinkReconfigurationResponseTDD,
    RadioLinkRestoreIndication,
    RadioLinkSetupFailureFDD,
    RadioLinkSetupFailureTDD,
    RadioLinkSetupRequestFDD,
    RadioLinkSetupRequestTDD,
    RadioLinkSetupResponseFDD,
    RadioLinkSetupResponseTDD,
    RelocationCommit,
    UplinkSignallingTransferIndicationFDD,
    UplinkSignallingTransferIndicationTDD
FROM RNSAP-PDU-Contents

    id-commonMeasurementFailure,
    id-commonMeasurementInitiation,
    id-commonMeasurementReport,
    id-commonMeasurementTermination,
    id-commonTransportChannelResourcesInitialisation,
    id-commonTransportChannelResourcesRelease,
    id-compressedModeCommand,
    id-downlinkPowerControl,
    id-downlinkSignallingTransfer,
    id-downlinkPowerTimeslotControl,
    id-errorIndication,
    id-informationExchangeFailure,
```

```
    id-informationExchangeInitiation,
    id-informationReporting,
    id-informationExchangeTermination,
    id-dedicatedMeasurementFailure,
    id-dedicatedMeasurementInitiation,
    id-dedicatedMeasurementReporting,
    id-dedicatedMeasurementTermination,
    id-paging,
    id-physicalChannelReconfiguration,
    id-privateMessage,
    id-radioLinkAddition,
    id-radioLinkCongestion,
    id-radioLinkDeletion,
    id-radioLinkFailure,
    id-radioLinkPreemption,
    id-radioLinkRestoration,
    id-radioLinkSetup,
    id-relocationCommit,
    id-synchronisedRadioLinkReconfigurationCancellation,
    id-synchronisedRadioLinkReconfigurationCommit,
    id-synchronisedRadioLinkReconfigurationPreparation,
    id-unSynchronisedRadioLinkReconfiguration,
    id-uplinkSignallingTransfer
FROM RNSAP-Constants;

-- **************************************************************
--
-- Interface Elementary Procedure Class
--
-- **************************************************************

RNSAP-ELEMENTARY-PROCEDURE ::= CLASS {
    &InitiatingMessage              ,
    &SuccessfulOutcome              OPTIONAL,
    &UnsuccessfulOutcome                OPTIONAL,
    &Outcome                    OPTIONAL,
    &procedureID            ProcedureID UNIQUE,
    &criticality            Criticality DEFAULT ignore
}
WITH SYNTAX {
    INITIATING MESSAGE      &InitiatingMessage
    [SUCCESSFUL OUTCOME     &SuccessfulOutcome]
    [UNSUCCESSFUL OUTCOME       &UnsuccessfulOutcome]
    [OUTCOME            &Outcome]
    PROCEDURE ID            &procedureID
    [CRITICALITY            &criticality]
}

-- **************************************************************
--
-- Interface PDU Definition
```

```
--
-- **************************************************************

RNSAP-PDU ::= CHOICE {
    initiatingMessage   InitiatingMessage,
    successfulOutcome   SuccessfulOutcome,
    unsuccessfulOutcome UnsuccessfulOutcome,
    outcome         Outcome,
    ...
}

InitiatingMessage ::= SEQUENCE {
    procedureID RNSAP-ELEMENTARY-PROCEDURE.&procedureID     ({RNSAP-ELEMENTARY-PROCEDURES}),
    criticality RNSAP-ELEMENTARY-PROCEDURE.&criticality     ({RNSAP-ELEMENTARY-PROCEDURES}{@procedureID}),
    transactionID   TransactionID,
    value       RNSAP-ELEMENTARY-PROCEDURE.&InitiatingMessage   ({RNSAP-ELEMENTARY-PROCEDURES}{@procedureID})
}

SuccessfulOutcome ::= SEQUENCE {
    procedureID RNSAP-ELEMENTARY-PROCEDURE.&procedureID     ({RNSAP-ELEMENTARY-PROCEDURES}),
    criticality RNSAP-ELEMENTARY-PROCEDURE.&criticality     ({RNSAP-ELEMENTARY-PROCEDURES}{@procedureID}),
    transactionID   TransactionID,
    value       RNSAP-ELEMENTARY-PROCEDURE.&SuccessfulOutcome   ({RNSAP-ELEMENTARY-PROCEDURES}{@procedureID})
}

UnsuccessfulOutcome ::= SEQUENCE {
    procedureID RNSAP-ELEMENTARY-PROCEDURE.&procedureID     ({RNSAP-ELEMENTARY-PROCEDURES}),
    criticality RNSAP-ELEMENTARY-PROCEDURE.&criticality     ({RNSAP-ELEMENTARY-PROCEDURES}{@procedureID}),
    transactionID   TransactionID,
    value       RNSAP-ELEMENTARY-PROCEDURE.&UnsuccessfulOutcome ({RNSAP-ELEMENTARY-PROCEDURES}{@procedureID})
}

Outcome ::= SEQUENCE {
    procedureID RNSAP-ELEMENTARY-PROCEDURE.&procedureID     ({RNSAP-ELEMENTARY-PROCEDURES}),
    criticality RNSAP-ELEMENTARY-PROCEDURE.&criticality     ({RNSAP-ELEMENTARY-PROCEDURES}{@procedureID}),
    transactionID   TransactionID,
    value       RNSAP-ELEMENTARY-PROCEDURE.&Outcome     ({RNSAP-ELEMENTARY-PROCEDURES}{@procedureID})
}

-- **************************************************************
--
-- Interface Elementary Procedure List
--
-- **************************************************************

RNSAP-ELEMENTARY-PROCEDURES RNSAP-ELEMENTARY-PROCEDURE ::= {
    RNSAP-ELEMENTARY-PROCEDURES-CLASS-1         |
    RNSAP-ELEMENTARY-PROCEDURES-CLASS-2         |
    RNSAP-ELEMENTARY-PROCEDURES-CLASS-3         ,
    ...
}
```

```
RNSAP-ELEMENTARY-PROCEDURES-CLASS-1 RNSAP-ELEMENTARY-PROCEDURE ::= {
    radioLinkSetupFDD                                       |
    radioLinkSetupTDD                                       |
    radioLinkAdditionFDD                                    |
    radioLinkAdditionTDD                                    |
    radioLinkDeletion                                       |
    synchronisedRadioLinkReconfigurationPreparationFDD      |
    synchronisedRadioLinkReconfigurationPreparationTDD      |
    unSynchronisedRadioLinkReconfigurationFDD               |
    unSynchronisedRadioLinkReconfigurationTDD               |
    physicalChannelReconfigurationFDD                       |
    physicalChannelReconfigurationTDD                       |
    dedicatedMeasurementInitiation                          |
    commonTransportChannelResourcesInitialisationFDD        |
    commonTransportChannelResourcesInitialisationTDD        ,
    ...,
    commonMeasurementInitiation                             |
    informationExchangeInitiation
}

RNSAP-ELEMENTARY-PROCEDURES-CLASS-2 RNSAP-ELEMENTARY-PROCEDURE ::= {
    uplinkSignallingTransferFDD                           |
    uplinkSignallingTransferTDD                           |
    downlinkSignallingTransfer                            |
    relocationCommit                                      |
    paging                                                |
    synchronisedRadioLinkReconfigurationCommit            |
    synchronisedRadioLinkReconfigurationCancellation      |
    radioLinkFailure                                      |
    radioLinkPreemption                                   |
    radioLinkRestoration                                  |
    dedicatedMeasurementReporting                         |
    dedicatedMeasurementTermination                       |
    dedicatedMeasurementFailure                           |
    downlinkPowerControlFDD                               |
    downlinkPowerTimeslotControl                          |
    compressedModeCommandFDD                              |
    commonTransportChannelResourcesRelease                |
    errorIndication                                       |
    privateMessage                                        ,
    ...,
    radioLinkCongestion                                   |
    commonMeasurementFailure                              |
    commonMeasurementReporting                            |
    commonMeasurementTermination                          |
    informationExchangeFailure                            |
    informationExchangeTermination                        |
    informationReporting
}
```

```
RNSAP-ELEMENTARY-PROCEDURES-CLASS-3 RNSAP-ELEMENTARY-PROCEDURE ::= {
    ...
}

-- **************************************************************
--
-- Interface Elementary Procedures
--
-- **************************************************************

radioLinkSetupFDD RNSAP-ELEMENTARY-PROCEDURE ::= {
    INITIATING MESSAGE  RadioLinkSetupRequestFDD
    SUCCESSFUL OUTCOME  RadioLinkSetupResponseFDD
    UNSUCCESSFUL OUTCOME    RadioLinkSetupFailureFDD
    PROCEDURE ID        { procedureCode id-radioLinkSetup, ddMode fdd }
    CRITICALITY     reject
}

radioLinkSetupTDD RNSAP-ELEMENTARY-PROCEDURE ::= {
    INITIATING MESSAGE  RadioLinkSetupRequestTDD
    SUCCESSFUL OUTCOME  RadioLinkSetupResponseTDD
    UNSUCCESSFUL OUTCOME    RadioLinkSetupFailureTDD
    PROCEDURE ID        { procedureCode id-radioLinkSetup, ddMode tdd }
    CRITICALITY     reject
}

radioLinkAdditionFDD RNSAP-ELEMENTARY-PROCEDURE ::= {
    INITIATING MESSAGE  RadioLinkAdditionRequestFDD
    SUCCESSFUL OUTCOME  RadioLinkAdditionResponseFDD
    UNSUCCESSFUL OUTCOME    RadioLinkAdditionFailureFDD
    PROCEDURE ID        { procedureCode id-radioLinkAddition , ddMode fdd }
    CRITICALITY     reject
}

radioLinkAdditionTDD RNSAP-ELEMENTARY-PROCEDURE ::= {
    INITIATING MESSAGE  RadioLinkAdditionRequestTDD
    SUCCESSFUL OUTCOME  RadioLinkAdditionResponseTDD
    UNSUCCESSFUL OUTCOME    RadioLinkAdditionFailureTDD
    PROCEDURE ID        { procedureCode id-radioLinkAddition , ddMode tdd }
    CRITICALITY     reject
}

radioLinkDeletion RNSAP-ELEMENTARY-PROCEDURE ::= {
    INITIATING MESSAGE  RadioLinkDeletionRequest
    SUCCESSFUL OUTCOME  RadioLinkDeletionResponse
    PROCEDURE ID        { procedureCode id-radioLinkDeletion, ddMode common }
    CRITICALITY     reject
}

synchronisedRadioLinkReconfigurationPreparationFDD RNSAP-ELEMENTARY-PROCEDURE ::= {
    INITIATING MESSAGE  RadioLinkReconfigurationPrepareFDD
```

```
    SUCCESSFUL OUTCOME  RadioLinkReconfigurationReadyFDD
    UNSUCCESSFUL OUTCOME    RadioLinkReconfigurationFailure
    PROCEDURE ID        { procedureCode id-synchronisedRadioLinkReconfigurationPreparation, ddMode fdd }
    CRITICALITY     reject
}

synchronisedRadioLinkReconfigurationPreparationTDD RNSAP-ELEMENTARY-PROCEDURE ::= {
    INITIATING MESSAGE  RadioLinkReconfigurationPrepareTDD
    SUCCESSFUL OUTCOME  RadioLinkReconfigurationReadyTDD
    UNSUCCESSFUL OUTCOME    RadioLinkReconfigurationFailure
    PROCEDURE ID        { procedureCode id-synchronisedRadioLinkReconfigurationPreparation, ddMode tdd }
    CRITICALITY     reject
}

unSynchronisedRadioLinkReconfigurationFDD RNSAP-ELEMENTARY-PROCEDURE ::= {
    INITIATING MESSAGE  RadioLinkReconfigurationRequestFDD
    SUCCESSFUL OUTCOME  RadioLinkReconfigurationResponseFDD
    UNSUCCESSFUL OUTCOME    RadioLinkReconfigurationFailure
    PROCEDURE ID        { procedureCode id-unSynchronisedRadioLinkReconfiguration, ddMode fdd }
    CRITICALITY     reject
}

unSynchronisedRadioLinkReconfigurationTDD RNSAP-ELEMENTARY-PROCEDURE ::= {
    INITIATING MESSAGE  RadioLinkReconfigurationRequestTDD
    SUCCESSFUL OUTCOME  RadioLinkReconfigurationResponseTDD
    UNSUCCESSFUL OUTCOME    RadioLinkReconfigurationFailure
    PROCEDURE ID        { procedureCode id-unSynchronisedRadioLinkReconfiguration, ddMode tdd }
    CRITICALITY     reject
}

physicalChannelReconfigurationFDD RNSAP-ELEMENTARY-PROCEDURE ::= {
    INITIATING MESSAGE  PhysicalChannelReconfigurationRequestFDD
    SUCCESSFUL OUTCOME  PhysicalChannelReconfigurationCommand
    UNSUCCESSFUL OUTCOME    PhysicalChannelReconfigurationFailure
    PROCEDURE ID        { procedureCode id-physicalChannelReconfiguration, ddMode fdd }
    CRITICALITY     reject
}

physicalChannelReconfigurationTDD RNSAP-ELEMENTARY-PROCEDURE ::= {
    INITIATING MESSAGE  PhysicalChannelReconfigurationRequestTDD
    SUCCESSFUL OUTCOME  PhysicalChannelReconfigurationCommand
    UNSUCCESSFUL OUTCOME    PhysicalChannelReconfigurationFailure
    PROCEDURE ID        { procedureCode id-physicalChannelReconfiguration, ddMode tdd }
    CRITICALITY     reject
}

dedicatedMeasurementInitiation RNSAP-ELEMENTARY-PROCEDURE ::= {
    INITIATING MESSAGE  DedicatedMeasurementInitiationRequest
    SUCCESSFUL OUTCOME  DedicatedMeasurementInitiationResponse
    UNSUCCESSFUL OUTCOME    DedicatedMeasurementInitiationFailure
    PROCEDURE ID        { procedureCode id-dedicatedMeasurementInitiation, ddMode common }
```

```
    CRITICALITY     reject
}

commonTransportChannelResourcesInitialisationFDD RNSAP-ELEMENTARY-PROCEDURE ::= {
    INITIATING MESSAGE  CommonTransportChannelResourcesRequest
    SUCCESSFUL OUTCOME  CommonTransportChannelResourcesResponseFDD
    UNSUCCESSFUL OUTCOME    CommonTransportChannelResourcesFailure
    PROCEDURE ID        { procedureCode id-commonTransportChannelResourcesInitialisation, ddMode fdd }
    CRITICALITY     reject
}

commonTransportChannelResourcesInitialisationTDD RNSAP-ELEMENTARY-PROCEDURE ::= {
    INITIATING MESSAGE  CommonTransportChannelResourcesRequest
    SUCCESSFUL OUTCOME  CommonTransportChannelResourcesResponseTDD
    UNSUCCESSFUL OUTCOME    CommonTransportChannelResourcesFailure
    PROCEDURE ID        { procedureCode id-commonTransportChannelResourcesInitialisation, ddMode tdd }
    CRITICALITY     reject
}

uplinkSignallingTransferFDD RNSAP-ELEMENTARY-PROCEDURE ::= {
    INITIATING MESSAGE  UplinkSignallingTransferIndicationFDD
    PROCEDURE ID        { procedureCode id-uplinkSignallingTransfer, ddMode fdd }
    CRITICALITY     ignore
}

uplinkSignallingTransferTDD RNSAP-ELEMENTARY-PROCEDURE ::= {
    INITIATING MESSAGE  UplinkSignallingTransferIndicationTDD
    PROCEDURE ID        { procedureCode id-uplinkSignallingTransfer, ddMode tdd }
    CRITICALITY     ignore
}

downlinkSignallingTransfer RNSAP-ELEMENTARY-PROCEDURE ::= {
    INITIATING MESSAGE  DownlinkSignallingTransferRequest
    PROCEDURE ID        { procedureCode id-downlinkSignallingTransfer, ddMode common }
    CRITICALITY     ignore
}

relocationCommit RNSAP-ELEMENTARY-PROCEDURE ::= {
    INITIATING MESSAGE  RelocationCommit
    PROCEDURE ID        { procedureCode id-relocationCommit, ddMode common }
    CRITICALITY     ignore
}

paging RNSAP-ELEMENTARY-PROCEDURE ::= {
    INITIATING MESSAGE  PagingRequest
    PROCEDURE ID        { procedureCode id-paging, ddMode common }
    CRITICALITY     ignore
}

synchronisedRadioLinkReconfigurationCommit RNSAP-ELEMENTARY-PROCEDURE ::= {
    INITIATING MESSAGE  RadioLinkReconfigurationCommit
```

```
    PROCEDURE ID        { procedureCode id-synchronisedRadioLinkReconfigurationCommit, ddMode common }
    CRITICALITY     ignore
}

synchronisedRadioLinkReconfigurationCancellation RNSAP-ELEMENTARY-PROCEDURE ::= {
    INITIATING MESSAGE  RadioLinkReconfigurationCancel
    PROCEDURE ID        { procedureCode id-synchronisedRadioLinkReconfigurationCancellation, ddMode common }
    CRITICALITY     ignore
}

radioLinkFailure RNSAP-ELEMENTARY-PROCEDURE ::= {
    INITIATING MESSAGE  RadioLinkFailureIndication
    PROCEDURE ID        { procedureCode id-radioLinkFailure, ddMode common }
    CRITICALITY     ignore
}

radioLinkPreemption RNSAP-ELEMENTARY-PROCEDURE ::= {
    INITIATING MESSAGE  RadioLinkPreemptionRequiredIndication
    PROCEDURE ID        { procedureCode id-radioLinkPreemption, ddMode common }
    CRITICALITY     ignore
}

radioLinkRestoration RNSAP-ELEMENTARY-PROCEDURE ::= {
    INITIATING MESSAGE  RadioLinkRestoreIndication
    PROCEDURE ID        { procedureCode id-radioLinkRestoration, ddMode common }
    CRITICALITY     ignore
}

dedicatedMeasurementReporting RNSAP-ELEMENTARY-PROCEDURE ::= {
    INITIATING MESSAGE  DedicatedMeasurementReport
    PROCEDURE ID        { procedureCode id-dedicatedMeasurementReporting, ddMode common }
    CRITICALITY     ignore
}

dedicatedMeasurementTermination RNSAP-ELEMENTARY-PROCEDURE ::= {
    INITIATING MESSAGE  DedicatedMeasurementTerminationRequest
    PROCEDURE ID        { procedureCode id-dedicatedMeasurementTermination, ddMode common }
    CRITICALITY     ignore
}

dedicatedMeasurementFailure RNSAP-ELEMENTARY-PROCEDURE ::= {
    INITIATING MESSAGE  DedicatedMeasurementFailureIndication
    PROCEDURE ID        { procedureCode id-dedicatedMeasurementFailure, ddMode common }
    CRITICALITY     ignore
}

radioLinkCongestion RNSAP-ELEMENTARY-PROCEDURE ::= {
    INITIATING MESSAGE  RadioLinkCongestionIndication
    PROCEDURE ID        { procedureCode id-radioLinkCongestion, ddMode common }
    CRITICALITY     reject
}
```

```
downlinkPowerControlFDD RNSAP-ELEMENTARY-PROCEDURE ::= {
    INITIATING MESSAGE  DL-PowerControlRequest
    PROCEDURE ID        { procedureCode id-downlinkPowerControl, ddMode fdd }
    CRITICALITY     ignore
}

downlinkPowerTimeslotControl RNSAP-ELEMENTARY-PROCEDURE ::= {
    INITIATING MESSAGE  DL-PowerTimeslotControlRequest
    PROCEDURE ID        { procedureCode id-downlinkPowerTimeslotControl, ddMode tdd }
    CRITICALITY     ignore
}

compressedModeCommandFDD RNSAP-ELEMENTARY-PROCEDURE ::= {
    INITIATING MESSAGE  CompressedModeCommand
    PROCEDURE ID        { procedureCode id-compressedModeCommand, ddMode fdd }
    CRITICALITY     ignore
}

commonTransportChannelResourcesRelease RNSAP-ELEMENTARY-PROCEDURE ::= {
    INITIATING MESSAGE  CommonTransportChannelResourcesReleaseRequest
    PROCEDURE ID        { procedureCode id-commonTransportChannelResourcesRelease, ddMode common }
    CRITICALITY     ignore
}

errorIndication RNSAP-ELEMENTARY-PROCEDURE ::= {
    INITIATING MESSAGE  ErrorIndication
    PROCEDURE ID        { procedureCode id-errorIndication, ddMode common }
    CRITICALITY     ignore
}

commonMeasurementInitiation RNSAP-ELEMENTARY-PROCEDURE ::= {
    INITIATING MESSAGE      CommonMeasurementInitiationRequest
    SUCCESSFUL OUTCOME      CommonMeasurementInitiationResponse
    UNSUCCESSFUL OUTCOME    CommonMeasurementInitiationFailure
    PROCEDURE ID            { procedureCode id-commonMeasurementInitiation, ddMode common }
    CRITICALITY             reject
}

commonMeasurementReporting RNSAP-ELEMENTARY-PROCEDURE ::= {
    INITIATING MESSAGE  CommonMeasurementReport
    PROCEDURE ID        { procedureCode id-commonMeasurementReporting, ddMode common }
    CRITICALITY         ignore
}

commonMeasurementTermination RNSAP-ELEMENTARY-PROCEDURE ::= {
    INITIATING MESSAGE  CommonMeasurementTerminationRequest
    PROCEDURE ID        { procedureCode id-commonMeasurementTermination, ddMode common }
    CRITICALITY     ignore
}
```

```
commonMeasurementFailure RNSAP-ELEMENTARY-PROCEDURE ::= {
    INITIATING MESSAGE  CommonMeasurementFailureIndication
    PROCEDURE ID        { procedureCode id-commonMeasurementFailure, ddMode common }
    CRITICALITY     ignore
}

informationExchangeInitiation RNSAP-ELEMENTARY-PROCEDURE ::= {
    INITIATING MESSAGE      InformationExchangeInitiationRequest
    SUCCESSFUL OUTCOME      InformationExchangeInitiationResponse
    UNSUCCESSFUL OUTCOME    InformationExchangeInitiationFailure
    PROCEDURE ID            { procedureCode id-informationExchangeInitiation, ddMode common }
    CRITICALITY             reject
}

informationReporting RNSAP-ELEMENTARY-PROCEDURE ::= {
    INITIATING MESSAGE      InformationReport
    PROCEDURE ID            { procedureCode id-informationReporting, ddMode common }
    CRITICALITY             ignore
}

informationExchangeTermination RNSAP-ELEMENTARY-PROCEDURE ::= {
    INITIATING MESSAGE      InformationExchangeTerminationRequest
    PROCEDURE ID            { procedureCode id-informationExchangeTermination, ddMode common }
    CRITICALITY             ignore
}

informationExchangeFailure RNSAP-ELEMENTARY-PROCEDURE ::= {
    INITIATING MESSAGE      InformationExchangeFailureIndication
    PROCEDURE ID            { procedureCode id-informationExchangeFailure, ddMode common }
    CRITICALITY             ignore
}

privateMessage RNSAP-ELEMENTARY-PROCEDURE ::= {
    INITIATING MESSAGE  PrivateMessage
    PROCEDURE ID        { procedureCode id-privateMessage, ddMode common }
    CRITICALITY     ignore
}

END
```

### 9.3.3 PDU Definitions

```
-- **************************************************************
--
-- PDU definitions for RNSAP.
--
-- **************************************************************

RNSAP-PDU-Contents {
itu-t (0) identified-organization (4) etsi (0) mobileDomain (0)
```

```
umts-Access (20) modules (3) rnsap (1) version1 (1) rnsap-PDU-Contents (1) }

DEFINITIONS AUTOMATIC TAGS ::=

BEGIN

-- **************************************************************
--
-- IE parameter types from other modules.
--
-- **************************************************************

IMPORTS
    Active-Pattern-Sequence-Information,
    AllocationRetentionPriority,
    AllowedQueuingTime,
    Allowed-Rate-Information,
    AlphaValue,
    BLER,
    Block-STTD-Indicator,
    BindingID,
    C-ID,
    C-RNTI,
    CCTrCH-ID,
    CFN,
    ClosedLoopMode1-SupportIndicator,
    ClosedLoopMode2-SupportIndicator,
    Closedlooptimingadjustmentmode,
    CN-CS-DomainIdentifier,
    CN-PS-DomainIdentifier,
    CNDomainType,
    Cause,
    CellParameterID,
    ChipOffset,
    CommonMeasurementAccuracy,
    CommonMeasurementType,
    CommonMeasurementValue,
    CommonMeasurementValueInformation,
    CriticalityDiagnostics,
    D-RNTI,
    D-RNTI-ReleaseIndication,
    DCH-FDD-Information,
    DCH-ID,
    DCH-InformationResponse,
    DCH-TDD-Information,
    DL-DPCH-SlotFormat,
    DL-TimeslotISCP,
    DL-Power,
    DL-ScramblingCode,
    DL-Timeslot-Information,
    DL-TimeslotLCR-Information,
```

```
    DL-TimeSlot-ISCP-Info,
    DL-TimeSlot-ISCP-LCR-Info,
    DPC-Mode,
    DPCH-ID,
    DRACControl,
    DRXCycleLengthCoefficient,
    DedicatedMeasurementType,
    DedicatedMeasurementValue,
    DedicatedMeasurementValueInformation,
    DiversityControlField,
    DiversityMode,
    DSCH-FDD-Information,
    DSCH-FDD-InformationResponse,
    DSCH-FlowControlInformation,
    DSCH-FlowControlItem,
    DSCH-TDD-Information,
    DSCH-ID,
    SchedulingPriorityIndicator,
    EnhancedDSCHPC,
    EnhancedDSCHPCCounter,
    EnhancedDSCHPCIndicator,
    EnhancedDSCHPCWnd,
    EnhancedDSCHPowerOffset,
    FACH-FlowControlInformation,
    FDD-DCHs-to-Modify,
    FDD-DL-ChannelisationCodeNumber,
    FDD-DL-CodeInformation,
    FDD-S-CCPCH-Offset,
    FDD-TPC-DownlinkStepSize,
    FirstRLS-Indicator,
   FNReportingIndicator,
    FrameHandlingPriority,
    FrameOffset,
    GA-AccessPointPosition,
    GA-Cell,
    GA-CellAdditionalShapes,
    IMSI,
    InformationExchangeID,
    InformationReportCharacteristics,
    InformationType,
    InnerLoopDLPCStatus,
    L3-Information,
    LimitedPowerIncrease,
    MaximumAllowedULTxPower,
    MaxNrDLPhysicalchannels,
    MaxNrOfUL-DPCHs,
    MaxNrTimeslots,
    MaxNrULPhysicalchannels,
    MeasurementFilterCoefficient,
    MeasurementID,
    MidambleAllocationMode,
```

```
    MidambleShiftAndBurstType,
    MidambleShiftLCR,
    MinimumSpreadingFactor,
    MinUL-ChannelisationCodeLength,
    MultiplexingPosition,
    NeighbouringFDDCellMeasurementInformation,
    NeighbouringTDDCellMeasurementInformation,
    Neighbouring-GSM-CellInformation,
    Neighbouring-UMTS-CellInformation,
    NrOfDLchannelisationcodes,
    PagingCause,
    PagingRecordType,
    PDSCHCodeMapping,
    PayloadCRC-PresenceIndicator,
    PCCPCH-Power,
    PC-Preamble,
    PowerAdjustmentType,
    PowerOffset,
    PrimaryCCPCH-RSCP,
    PrimaryCPICH-EcNo,
    PrimaryCPICH-Power,
    PrimaryScramblingCode,
    PropagationDelay,
    PunctureLimit,
    QE-Selector,
    RANAP-RelocationInformation,
    RB-Info,
    RL-ID,
    RL-Set-ID,
    RNC-ID,
    RepetitionLength,
    RepetitionPeriod,
    ReportCharacteristics,
    Received-total-wide-band-power,
    RequestedDataValue,
    RequestedDataValueInformation,
    RxTimingDeviationForTA,
    S-FieldLength,
    S-RNTI,
    SCH-TimeSlot,
    SAI,
    SFN,
    Secondary-CCPCH-Info,
    Secondary-CCPCH-Info-TDD,
    SpecialBurstScheduling,
    SSDT-CellID,
    SSDT-CellID-Length,
    SSDT-Indication,
    SSDT-SupportIndicator,
    STTD-Indicator,
    STTD-SupportIndicator,
```

```
    AdjustmentPeriod,
    ScaledAdjustmentRatio,
    MaxAdjustmentStep,
    SecondaryCCPCH-SlotFormat,
    SRB-Delay,
    SyncCase,
    SynchronisationConfiguration,
    TDD-ChannelisationCode,
    TDD-DCHs-to-Modify,
    TDD-DL-Code-Information,
    TDD-DPCHOffset,
    TDD-PhysicalChannelOffset,
    TDD-TPC-DownlinkStepSize,
    TDD-ChannelisationCodeLCR,
    TDD-DL-Code-LCR-Information,
    TDD-UL-Code-Information,
    TDD-UL-Code-LCR-Information,
    TFCI-Coding,
    TFCI-Presence,
    TFCI-SignallingMode,
    TimeSlot,
    TimeSlotLCR,
    TimingAdvanceApplied,
    ToAWE,
    ToAWS,
    TransmitDiversityIndicator,
    TransportBearerID,
    TransportBearerRequestIndicator,
    TFCS,
    Transmission-Gap-Pattern-Sequence-Information,
    TransportFormatManagement,
    TransportFormatSet,
    TransportLayerAddress,
    TrCH-SrcStatisticsDescr,
    TSTD-Indicator,
    TSTD-Support-Indicator,
    UARFCN,
    UC-ID,
    UL-DPCCH-SlotFormat,
    UL-SIR,
    UL-FP-Mode,
    UL-PhysCH-SF-Variation,
    UL-ScramblingCode,
    UL-Timeslot-Information,
    UL-TimeslotLCR-Information,
    UL-TimeSlot-ISCP-Info,
    UL-TimeSlot-ISCP-LCR-Info,
    URA-ID,
    URA-Information,
    USCH-ID,
    USCH-Information
```

```
FROM RNSAP-IEs

    PrivateIE-Container{},
    ProtocolExtensionContainer{},
    ProtocolIE-ContainerList{},
    ProtocolIE-ContainerPair{},
    ProtocolIE-ContainerPairList{},
    ProtocolIE-Container{},
    ProtocolIE-Single-Container{},
    RNSAP-PRIVATE-IES,
    RNSAP-PROTOCOL-EXTENSION,
    RNSAP-PROTOCOL-IES,
    RNSAP-PROTOCOL-IES-PAIR
FROM RNSAP-Containers

    maxNoOfDSCHs,
    maxNoOfUSCHs,
    maxNrOfCCTrCHs,
    maxNrOfDCHs,
    maxNrOfTS,
    maxNrOfDPCHs,
    maxNrOfRLs,
    maxNrOfRLSets,
    maxNrOfRLs-1,
    maxNrOfRLs-2,
    maxNrOfULTs,
    maxNrOfDLTs,
    maxNoOfDSCHsLCR,
    maxNoOfUSCHsLCR,
    maxNrOfCCTrCHsLCR,
    maxNrOfTsLCR,
    maxNrOfDLTsLCR,
    maxNrOfULTsLCR,
    maxNrOfDPCHsLCR,
    maxNrOfLCRTDDNeighboursPerRNC,
    maxNrOfMeasNCell,

    id-Active-Pattern-Sequence-Information,
    id-AdjustmentRatio,
    id-AllowedQueuingTime,
    id-BindingID,
    id-C-ID,
    id-C-RNTI,
    id-CFN,
   id-CFNReportingIndicator,
    id-CN-CS-DomainIdentifier,
    id-CN-PS-DomainIdentifier,
    id-Cause,
    id-CauseLevel-RL-AdditionFailureFDD,
    id-CauseLevel-RL-AdditionFailureTDD,
    id-CauseLevel-RL-ReconfFailure,
```

```
    id-CauseLevel-RL-SetupFailureFDD,
    id-CauseLevel-RL-SetupFailureTDD,
    id-CCTrCH-InformationItem-RL-FailureInd,
    id-CCTrCH-InformationItem-RL-RestoreInd,
    id-ClosedLoopMode1-SupportIndicator,
    id-ClosedLoopMode2-SupportIndicator,
    id-CNOriginatedPage-PagingRqst,
    id-CommonMeasurementAccuracy,
    id-CommonMeasurementObjectType-CM-Rprt,
    id-CommonMeasurementObjectType-CM-Rqst,
    id-CommonMeasurementObjectType-CM-Rsp,
    id-CommonMeasurementType,
    id-CriticalityDiagnostics,
    id-D-RNTI,
    id-D-RNTI-ReleaseIndication,
    id-DCHs-to-Add-FDD,
    id-DCHs-to-Add-TDD,
    id-DCH-DeleteList-RL-ReconfPrepFDD,
    id-DCH-DeleteList-RL-ReconfPrepTDD,
    id-DCH-DeleteList-RL-ReconfRqstFDD,
    id-DCH-DeleteList-RL-ReconfRqstTDD,
    id-DCH-FDD-Information,
    id-DCH-TDD-Information,
    id-FDD-DCHs-to-Modify,
    id-TDD-DCHs-to-Modify,
    id-DCH-InformationResponse,
    id-DCH-Rate-InformationItem-RL-CongestInd,
    id-DL-CCTrCH-InformationAddItem-RL-ReconfPrepTDD,
    id-DL-CCTrCH-InformationDeleteItem-RL-ReconfPrepTDD,
    id-DL-CCTrCH-InformationModifyItem-RL-ReconfPrepTDD,
    id-DL-CCTrCH-InformationListIE-RL-ReconfReadyTDD,
    id-DL-CCTrCH-InformationModifyItem-RL-ReconfRqstTDD,
    id-DL-CCTrCH-InformationDeleteItem-RL-ReconfRqstTDD,
    id-DL-CCTrCH-InformationItem-RL-SetupRqstTDD,
    id-DL-CCTrCH-InformationListIE-PhyChReconfRqstTDD,
    id-DL-CCTrCH-InformationListIE-RL-AdditionRspTDD,
    id-DL-CCTrCH-InformationListIE-RL-SetupRspTDD,
    id-DL-CCTrCH-InformationAddList-RL-ReconfPrepTDD,
    id-DL-CCTrCH-InformationDeleteList-RL-ReconfPrepTDD,
    id-DL-CCTrCH-InformationModifyList-RL-ReconfPrepTDD,
    id-DL-CCTrCH-InformationDeleteList-RL-ReconfRqstTDD,
    id-DL-CCTrCH-InformationModifyList-RL-ReconfRqstTDD,
    id-DL-CCTrCH-InformationList-RL-SetupRqstTDD,
    id-FDD-DL-CodeInformation,
    id-DL-DPCH-Information-RL-ReconfPrepFDD,
    id-DL-DPCH-Information-RL-SetupRqstFDD,
    id-DL-DPCH-Information-RL-ReconfRqstFDD,
    id-DL-DPCH-InformationItem-PhyChReconfRqstTDD,
    id-DL-DPCH-InformationItem-RL-AdditionRspTDD,
    id-DL-DPCH-InformationItem-RL-SetupRspTDD,
    id-DL-DPCH-InformationAddListIE-RL-ReconfReadyTDD,
```

```
    id-DL-DPCH-InformationDeleteListIE-RL-ReconfReadyTDD,
    id-DL-DPCH-InformationModifyListIE-RL-ReconfReadyTDD,
    id-DL-Physical-Channel-Information-RL-SetupRqstTDD,
    id-DLReferencePower,
    id-DLReferencePowerList-DL-PC-Rqst,
    id-DL-ReferencePowerInformation-DL-PC-Rqst,
    id-DRXCycleLengthCoefficient,
    id-DedicatedMeasurementObjectType-DM-Rprt,
    id-DedicatedMeasurementObjectType-DM-Rqst,
    id-DedicatedMeasurementObjectType-DM-Rsp,
    id-DedicatedMeasurementType,
    id-DPC-Mode,
    id-DSCHs-to-Add-FDD,
    id-DSCHs-to-Add-TDD,
    id-DSCH-DeleteList-RL-ReconfPrepTDD,
    id-DSCH-Delete-RL-ReconfPrepFDD,
    id-DSCH-FDD-Information,
    id-DSCH-InformationListIE-RL-AdditionRspTDD,
    id-DSCH-InformationListIEs-RL-SetupRspTDD,
    id-DSCH-TDD-Information,
    id-DSCH-FDD-InformationResponse,
    id-DSCH-ModifyList-RL-ReconfPrepTDD,
    id-DSCH-Modify-RL-ReconfPrepFDD,
    id-DSCHsToBeAddedOrModified-FDD,
    id-DSCHToBeAddedOrModifiedList-RL-ReconfReadyTDD,
    id-EnhancedDSCHPC,
    id-EnhancedDSCHPCIndicator,
    id-FACH-InfoForUESelectedS-CCPCH-CTCH-ResourceRspFDD,
    id-FACH-InfoForUESelectedS-CCPCH-CTCH-ResourceRspTDD,
    id-GA-Cell,
    id-GA-CellAdditionalShapes,
    id-IMSI,
    id-InformationExchangeID,
    id-InformationExchangeObjectType-InfEx-Rprt,
    id-InformationExchangeObjectType-InfEx-Rqst,
    id-InformationExchangeObjectType-InfEx-Rsp,
    id-InformationReportCharacteristics,
    id-InformationType,
    id-InnerLoopDLPCStatus,
    id-L3-Information,
    id-AdjustmentPeriod,
    id-MaxAdjustmentStep,
    id-MeasurementFilterCoefficient,
    id-MeasurementID,
    id-PagingArea-PagingRqst,
    id-FACH-FlowControlInformation,
    id-PowerAdjustmentType,
    id-PropagationDelay,
    id-RANAP-RelocationInformation,
    id-RL-Information-PhyChReconfRqstFDD,
    id-RL-Information-PhyChReconfRqstTDD,
```

```
    id-RL-Information-RL-AdditionRqstFDD,
    id-RL-Information-RL-AdditionRqstTDD,
    id-RL-Information-RL-DeletionRqst,
    id-RL-Information-RL-FailureInd,
    id-RL-Information-RL-ReconfPrepFDD,
    id-RL-Information-RL-RestoreInd,
    id-RL-Information-RL-SetupRqstFDD,
    id-RL-Information-RL-SetupRqstTDD,
    id-RL-InformationItem-RL-CongestInd,
    id-RL-InformationItem-DM-Rprt,
    id-RL-InformationItem-DM-Rqst,
    id-RL-InformationItem-DM-Rsp,
    id-RL-InformationItem-RL-PreemptRequiredInd,
    id-RL-InformationItem-RL-SetupRqstFDD,
    id-RL-InformationList-RL-CongestInd,
    id-RL-InformationList-RL-AdditionRqstFDD,
    id-RL-InformationList-RL-DeletionRqst,
    id-RL-InformationList-RL-PreemptRequiredInd,
    id-RL-InformationList-RL-ReconfPrepFDD,
    id-RL-InformationResponse-RL-AdditionRspTDD,
    id-RL-InformationResponse-RL-ReconfReadyTDD,
    id-RL-InformationResponse-RL-ReconfRspTDD,
    id-RL-InformationResponse-RL-SetupRspTDD,
    id-RL-InformationResponseItem-RL-AdditionRspFDD,
    id-RL-InformationResponseItem-RL-ReconfReadyFDD,
    id-RL-InformationResponseItem-RL-ReconfRspFDD,
    id-RL-InformationResponseItem-RL-SetupRspFDD,
    id-RL-InformationResponseList-RL-AdditionRspFDD,
    id-RL-InformationResponseList-RL-ReconfReadyFDD,
    id-RL-InformationResponseList-RL-ReconfRspFDD,
    id-RL-InformationResponseList-RL-SetupRspFDD,
    id-RL-ReconfigurationFailure-RL-ReconfFail,
    id-RL-Set-InformationItem-DM-Rprt,
    id-RL-Set-InformationItem-DM-Rqst,
    id-RL-Set-InformationItem-DM-Rsp,
    id-RL-Set-Information-RL-FailureInd,
    id-RL-Set-Information-RL-RestoreInd,
    id-ReportCharacteristics,
    id-Reporting-Object-RL-FailureInd,
    id-Reporing-Object-RL-RestoreInd,
    id-RxTimingDeviationForTA,
    id-S-RNTI,
    id-SAI,
    id-SFN,
    id-SFNReportingIndicator,
    id-SRNC-ID,
    id-SSDT-CellIDforEDSCHPC,
    id-STTD-SupportIndicator,
    id-SuccessfulRL-InformationResponse-RL-AdditionFailureFDD,
    id-SuccessfulRL-InformationResponse-RL-SetupFailureFDD,
    id-timeSlot-ISCP,
```

```
    id-TransportBearerID,
    id-TransportBearerRequestIndicator,
    id-TransportLayerAddress,
    id-UC-ID,
    id-Transmission-Gap-Pattern-Sequence-Information,
    id-UL-CCTrCH-AddInformation-RL-ReconfPrepTDD,
    id-UL-CCTrCH-DeleteInformation-RL-ReconfPrepTDD,
    id-UL-CCTrCH-ModifyInformation-RL-ReconfPrepTDD,
    id-UL-CCTrCH-InformationDeleteItem-RL-ReconfRqstTDD,
    id-UL-CCTrCH-InformationModifyItem-RL-ReconfRqstTDD,
    id-UL-CCTrCH-InformationAddList-RL-ReconfPrepTDD,
    id-UL-CCTrCH-InformationDeleteList-RL-ReconfPrepTDD,
    id-UL-CCTrCH-InformationModifyList-RL-ReconfPrepTDD,
    id-UL-CCTrCH-InformationDeleteList-RL-ReconfRqstTDD,
    id-UL-CCTrCH-InformationModifyList-RL-ReconfRqstTDD,
    id-UL-CCTrCH-InformationItem-RL-SetupRqstTDD,
    id-UL-CCTrCH-InformationList-RL-SetupRqstTDD,
    id-UL-CCTrCH-InformationListIE-PhyChReconfRqstTDD,
    id-UL-CCTrCH-InformationListIE-RL-AdditionRspTDD,
    id-UL-CCTrCH-InformationListIE-RL-ReconfReadyTDD,
    id-UL-CCTrCH-InformationListIE-RL-SetupRspTDD,
    id-UL-DPCH-Information-RL-ReconfPrepFDD,
    id-UL-DPCH-Information-RL-ReconfRqstFDD,
    id-UL-DPCH-Information-RL-SetupRqstFDD,
    id-UL-DPCH-InformationItem-PhyChReconfRqstTDD,
    id-UL-DPCH-InformationItem-RL-AdditionRspTDD,
    id-UL-DPCH-InformationItem-RL-SetupRspTDD,
    id-UL-DPCH-InformationAddListIE-RL-ReconfReadyTDD,
    id-UL-DPCH-InformationDeleteListIE-RL-ReconfReadyTDD,
    id-UL-DPCH-InformationModifyListIE-RL-ReconfReadyTDD,
    id-UL-Physical-Channel-Information-RL-SetupRqstTDD,
    id-UL-SIRTarget,
    id-URA-Information,
    id-UnsuccessfulRL-InformationResponse-RL-AdditionFailureFDD,
    id-UnsuccessfulRL-InformationResponse-RL-AdditionFailureTDD,
    id-UnsuccessfulRL-InformationResponse-RL-SetupFailureFDD,
    id-UnsuccessfulRL-InformationResponse-RL-SetupFailureTDD,
    id-USCHs-to-Add,
    id-USCH-DeleteList-RL-ReconfPrepTDD,
    id-USCH-InformationListIE-RL-AdditionRspTDD,
    id-USCH-InformationListIEs-RL-SetupRspTDD,
    id-USCH-Information,
    id-USCH-ModifyList-RL-ReconfPrepTDD,
    id-USCHToBeAddedOrModifiedList-RL-ReconfReadyTDD,
    id-neighbouring-LCR-TDD-CellInformation,
    id-DL-Timeslot-ISCP-LCR-Information-RL-SetupRqstTDD,
    id-RL-LCR-InformationResponse-RL-SetupRspTDD,
    id-UL-CCTrCH-LCR-InformationListIE-RL-SetupRspTDD,
    id-UL-DPCH-LCR-InformationItem-RL-SetupRspTDD,
    id-DL-CCTrCH-LCR-InformationListIE-RL-SetupRspTDD,
    id-DL-DPCH-LCR-InformationItem-RL-SetupRspTDD,
```

```
    id-DSCH-LCR-InformationListIEs-RL-SetupRspTDD,
    id-USCH-LCR-InformationListIEs-RL-SetupRspTDD,
    id-DL-Timeslot-ISCP-LCR-Information-RL-AdditionRqstTDD,
    id-RL-LCR-InformationResponse-RL-AdditionRspTDD,
    id-UL-CCTrCH-LCR-InformationListIE-RL-AdditionRspTDD,
    id-UL-DPCH-LCR-InformationItem-RL-AdditionRspTDD,
    id-DL-CCTrCH-LCR-InformationListIE-RL-AdditionRspTDD,
    id-DL-DPCH-LCR-InformationItem-RL-AdditionRspTDD,
    id-DSCH-LCR-InformationListIEs-RL-AdditionRspTDD,
    id-USCH-LCR-InformationListIEs-RL-AdditionRspTDD,
    id-UL-DPCH-LCR-InformationAddListIE-RL-ReconfReadyTDD,
    id-UL-DPCH-LCR-InformationAddListIE-RL-ReconfReadyTDD,
    id-UL-Timeslot-LCR-InformationList-RL-ReconfReadyTDD,
    id-DL-DPCH-LCR-InformationAddListIE-RL-ReconfReadyTDD,
    id-DL-Timeslot-LCR-InformationList-RL-ReconfReadyTDD,
    id-UL-Timeslot-LCR-InformationList-PhyChReconfRqstTDD,
    id-DL-Timeslot-LCR-InformationList-PhyChReconfRqstTDD,
    id-timeSlot-LCR-ISCPList-DL-PC-Rqst-TDD,
    id-TSTD-Support-Indicator-RL-SetupRqstTDD

FROM RNSAP-Constants;

-- **************************************************************
--
-- RADIO LINK SETUP REQUEST FDD
--
-- **************************************************************

RadioLinkSetupRequestFDD ::= SEQUENCE {
    protocolIEs                 ProtocolIE-Container      {{RadioLinkSetupRequestFDD-IEs}},
    protocolExtensions           ProtocolExtensionContainer {{RadioLinkSetupRequestFDD-Extensions}}               OPTIONAL,
    ...
}

RadioLinkSetupRequestFDD-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-SRNC-ID                 CRITICALITY reject  TYPE RNC-ID                   PRESENCE mandatory} |
    { ID id-S-RNTI                  CRITICALITY reject  TYPE S-RNTI                PRESENCE mandatory  } |
    { ID id-D-RNTI                  CRITICALITY reject  TYPE D-RNTI                PRESENCE optional   } |
    { ID id-AllowedQueuingTime          CRITICALITY reject  TYPE AllowedQueuingTime         PRESENCE optional} |
    { ID id-UL-DPCH-Information-RL-SetupRqstFDD CRITICALITY reject  TYPE UL-DPCH-Information-RL-SetupRqstFDD    PRESENCE mandatory   } |
    { ID id-DL-DPCH-Information-RL-SetupRqstFDD CRITICALITY reject  TYPE DL-DPCH-Information-RL-SetupRqstFDD    PRESENCE mandatory   } |
    { ID id-DCH-FDD-Information     CRITICALITY reject  TYPE DCH-FDD-Information        PRESENCE mandatory} |
    { ID id-DSCH-FDD-Information    CRITICALITY reject  TYPE DSCH-FDD-Information           PRESENCE optional   } |
    { ID id-RL-Information-RL-SetupRqstFDD      CRITICALITY notify  TYPE RL-InformationList-RL-SetupRqstFDD     PRESENCE mandatory   }|
    { ID id-Transmission-Gap-Pattern-Sequence-Information       CRITICALITY reject  TYPE Transmission-Gap-Pattern-Sequence-Information   PRESENCE
    conditional } |
    -- This IE shall be present when the Active Pattern Sequence Information IE is present, otherwise this IE is optional.
    { ID id-Active-Pattern-Sequence-Information CRITICALITY reject  TYPE Active-Pattern-Sequence-Information  PRESENCE optional },
    ...
}
```

```
UL-DPCH-Information-RL-SetupRqstFDD ::= SEQUENCE {
    ul-ScramblingCode               UL-ScramblingCode,
    minUL-ChannelisationCodeLength          MinUL-ChannelisationCodeLength,
    maxNrOfUL-DPCHs                 MaxNrOfUL-DPCHs         OPTIONAL
    -- This IE shall be present only if minUL-ChannelisationCodeLength equals to 4 -- ,
    ul-PunctureLimit                PunctureLimit,
    ul-TFCS                         TFCS,
    ul-DPCCH-SlotFormat             UL-DPCCH-SlotFormat,
    ul-SIRTarget                    UL-SIR          OPTIONAL,
    diversityMode                   DiversityMode,
    sSDT-CellIdLength               SSDT-CellID-Length      OPTIONAL,
    s-FieldLength                   S-FieldLength           OPTIONAL,
    iE-Extensions                   ProtocolExtensionContainer { {UL-DPCH-Information-RL-SetupRqstFDD-ExtIEs} } OPTIONAL,
    ...
}

UL-DPCH-Information-RL-SetupRqstFDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    { ID id-DPC-Mode                CRITICALITY reject      EXTENSION DPC-Mode  PRESENCE optional  },
    ...
}

DL-DPCH-Information-RL-SetupRqstFDD ::= SEQUENCE {
    tFCS                            TFCS,
    dl-DPCH-SlotFormat              DL-DPCH-SlotFormat,
    nrOfDLchannelisationcodes       NrOfDLchannelisationcodes,
    tFCI-SignallingMode             TFCI-SignallingMode,
    tFCI-Presence                   TFCI-Presence           OPTIONAL
    -- This IE shall be present if Slot Format is from 12 to 16 --,
    multiplexingPosition                MultiplexingPosition,
    powerOffsetInformation              PowerOffsetInformation-RL-SetupRqstFDD,
    fdd-dl-TPC-DownlinkStepSize     FDD-TPC-DownlinkStepSize,
    limitedPowerIncrease            LimitedPowerIncrease,
    innerLoopDLPCStatus             InnerLoopDLPCStatus,
    iE-Extensions                   ProtocolExtensionContainer { {DL-DPCH-Information-RL-SetupRqstFDD-ExtIEs} } OPTIONAL,
    ...
}

DL-DPCH-Information-RL-SetupRqstFDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

PowerOffsetInformation-RL-SetupRqstFDD ::= SEQUENCE {
        po1-ForTFCI-Bits                PowerOffset,
        po2-ForTPC-Bits                 PowerOffset,
        po3-ForPilotBits                PowerOffset,
        iE-Extensions                   ProtocolExtensionContainer { { PowerOffsetInformation-RL-SetupRqstFDD-ExtIEs} } OPTIONAL,
        ...
}

PowerOffsetInformation-RL-SetupRqstFDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
```

```
}

RL-InformationList-RL-SetupRqstFDD          ::= SEQUENCE (SIZE (1..maxNrOfRLs)) OF ProtocolIE-Single-Container { {RL-InformationItemIEs-RL-
SetupRqstFDD} }

RL-InformationItemIEs-RL-SetupRqstFDD RNSAP-PROTOCOL-IES ::= {
    { ID id-RL-InformationItem-RL-SetupRqstFDD  CRITICALITY notify  TYPE RL-InformationItem-RL-SetupRqstFDD     PRESENCE mandatory   }
}

RL-InformationItem-RL-SetupRqstFDD ::= SEQUENCE {
    rL-ID                           RL-ID,
    c-ID                            C-ID,
    firstRLS-indicator              FirstRLS-Indicator,
    frameOffset                     FrameOffset,
    chipOffset                      ChipOffset,
    propagationDelay                PropagationDelay        OPTIONAL,
    diversityControlField           DiversityControlField       OPTIONAL
    -- This IE shall be present only if the RL is not the first one in the RL-InformationList-RL-SetupRqstFDD --,
    dl-InitialTX-Power              DL-Power            OPTIONAL,
    primaryCPICH-EcNo               PrimaryCPICH-EcNo           OPTIONAL,
    -- Either Initial DL TX Power IE or Primary CPICH Ec/No IE shall be present.
    sSDT-CellID                     SSDT-CellID         OPTIONAL,
    transmitDiversityIndicator      TransmitDiversityIndicator      OPTIONAL,
    -- This IE shall be present unless Diversity Mode IE in UL DPCH Information group is "none"
    iE-Extensions                   ProtocolExtensionContainer { {RL-InformationItem-RL-SetupRqstFDD-ExtIEs} } OPTIONAL,
    ...
}

RL-InformationItem-RL-SetupRqstFDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    { ID id-SSDT-CellIDforEDSCHPC CRITICALITY ignore EXTENSION SSDT-CellID          PRESENCE conditional },
    -- This IE shall be present if Enhanced DSCH PC IE is present in the DSCH Information IE.
    ...
}

RadioLinkSetupRequestFDD-Extensions RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

-- **************************************************************
--
-- RADIO LINK SETUP REQUEST TDD
--
-- **************************************************************

RadioLinkSetupRequestTDD ::= SEQUENCE {
    protocolIEs                 ProtocolIE-Container      {{RadioLinkSetupRequestTDD-IEs}},
    protocolExtensions           ProtocolExtensionContainer {{RadioLinkSetupRequestTDD-Extensions}}               OPTIONAL,
    ...
}

RadioLinkSetupRequestTDD-IEs RNSAP-PROTOCOL-IES ::= {
```

```
    { ID id-SRNC-ID                                 CRITICALITY reject  TYPE RNC-ID                                   PRESENCE mandatory} |
    { ID id-S-RNTI                                  CRITICALITY reject  TYPE S-RNTI                                PRESENCE mandatory} |
    { ID id-D-RNTI                                  CRITICALITY reject  TYPE D-RNTI                                   PRESENCE optional } |
    { ID id-UL-Physical-Channel-Information-RL-SetupRqstTDD CRITICALITY reject  TYPE UL-Physical-Channel-Information-RL-SetupRqstTDD    PRESENCE
mandatory   } |
    { ID id-DL-Physical-Channel-Information-RL-SetupRqstTDD CRITICALITY reject  TYPE DL-Physical-Channel-Information-RL-SetupRqstTDD    PRESENCE
mandatory   } |
    { ID id-AllowedQueuingTime                      CRITICALITY reject  TYPE AllowedQueuingTime                       PRESENCE optional } |
    { ID id-UL-CCTrCH-InformationList-RL-SetupRqstTDD   CRITICALITY notify  TYPE UL-CCTrCH-InformationList-RL-SetupRqstTDD  PRESENCE optional } |
    { ID id-DL-CCTrCH-InformationList-RL-SetupRqstTDD   CRITICALITY notify  TYPE DL-CCTrCH-InformationList-RL-SetupRqstTDD  PRESENCE optional } |
    { ID id-DCH-TDD-Information         CRITICALITY reject  TYPE DCH-TDD-Information            PRESENCE optional  } |
    { ID id-DSCH-TDD-Information        CRITICALITY reject  TYPE DSCH-TDD-Information           PRESENCE optional  } |
    { ID id-USCH-Information        CRITICALITY reject  TYPE USCH-Information          PRESENCE optional } |
    { ID id-RL-Information-RL-SetupRqstTDD              CRITICALITY reject  TYPE RL-Information-RL-SetupRqstTDD            PRESENCE mandatory},
    ...
}

UL-Physical-Channel-Information-RL-SetupRqstTDD ::= SEQUENCE {
    maxNrTimeslots-UL               MaxNrTimeslots,
    minimumSpreadingFactor-UL       MinimumSpreadingFactor,
    maxNrULPhysicalchannels         MaxNrULPhysicalchannels,
    iE-Extensions                   ProtocolExtensionContainer { {UL-Physical-Channel-InformationItem-RL-SetupRqstTDD-ExtIEs} } OPTIONAL,
    ...
}

UL-Physical-Channel-InformationItem-RL-SetupRqstTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

DL-Physical-Channel-Information-RL-SetupRqstTDD ::= SEQUENCE {
    maxNrTimeslots-DL               MaxNrTimeslots,
    minimumSpreadingFactor-DL       MinimumSpreadingFactor,
    maxNrDLPhysicalchannels         MaxNrDLPhysicalchannels,
    iE-Extensions                   ProtocolExtensionContainer { {DL-Physical-Channel-InformationItem-RL-SetupRqstTDD-ExtIEs} } OPTIONAL,
    ...
}

DL-Physical-Channel-InformationItem-RL-SetupRqstTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

UL-CCTrCH-InformationList-RL-SetupRqstTDD           ::= SEQUENCE (SIZE (1..maxNrOfCCTrCHs)) OF ProtocolIE-Single-Container { {UL-CCTrCH-
InformationItemIEs-RL-SetupRqstTDD} }

UL-CCTrCH-InformationItemIEs-RL-SetupRqstTDD RNSAP-PROTOCOL-IES ::= {
    { ID id-UL-CCTrCH-InformationItem-RL-SetupRqstTDD   CRITICALITY notify  TYPE UL-CCTrCH-InformationItem-RL-SetupRqstTDD  PRESENCE mandatory   }
}

UL-CCTrCH-InformationItem-RL-SetupRqstTDD ::= SEQUENCE {
    cCTrCH-ID                   CCTrCH-ID,
    ul-TFCS                     TFCS,
```

```
    tFCI-Coding                 TFCI-Coding,
    ul-PunctureLimit                PunctureLimit,
    iE-Extensions                   ProtocolExtensionContainer { {UL-CCTrCH-InformationItem-RL-SetupRqstTDD-ExtIEs} } OPTIONAL,
    ...
}

UL-CCTrCH-InformationItem-RL-SetupRqstTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

DL-CCTrCH-InformationList-RL-SetupRqstTDD           ::= SEQUENCE (SIZE (1..maxNrOfCCTrCHs)) OF ProtocolIE-Single-Container { {DL-CCTrCH-
InformationItemIEs-RL-SetupRqstTDD} }

DL-CCTrCH-InformationItemIEs-RL-SetupRqstTDD RNSAP-PROTOCOL-IES ::= {
    { ID id-DL-CCTrCH-InformationItem-RL-SetupRqstTDD   CRITICALITY notify  TYPE DL-CCTrCH-InformationItem-RL-SetupRqstTDD  PRESENCE mandatory    }
}

DL-CCTrCH-InformationItem-RL-SetupRqstTDD ::= SEQUENCE {
    cCTrCH-ID                   CCTrCH-ID,
    dl-TFCS                     TFCS,
    tFCI-Coding                 TFCI-Coding,
    dl-PunctureLimit                PunctureLimit,
    tdd-TPC-DownlinkStepSize        TDD-TPC-DownlinkStepSize,
    cCTrCH-TPCList                  CCTrCH-TPCList-RL-SetupRqstTDD  OPTIONAL,
    iE-Extensions                   ProtocolExtensionContainer { {DL-CCTrCH-InformationItem-RL-SetupRqstTDD-ExtIEs} } OPTIONAL,
    ...
}

DL-CCTrCH-InformationItem-RL-SetupRqstTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

CCTrCH-TPCList-RL-SetupRqstTDD ::= SEQUENCE (SIZE (1..maxNrOfCCTrCHs)) OF CCTrCH-TPCItem-RL-SetupRqstTDD

CCTrCH-TPCItem-RL-SetupRqstTDD   ::= SEQUENCE {
    cCTrCH-ID                           CCTrCH-ID,
    iE-Extensions                       ProtocolExtensionContainer { { CCTrCH-TPCItem-RL-SetupRqstTDD-ExtIEs} } OPTIONAL,
    ...
}

CCTrCH-TPCItem-RL-SetupRqstTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

RL-Information-RL-SetupRqstTDD ::= SEQUENCE {
    rL-ID                       RL-ID,
    c-ID                        C-ID,
    frameOffset                 FrameOffset,
    specialBurstScheduling      SpecialBurstScheduling,
    primaryCCPCH-RSCP               PrimaryCCPCH-RSCP       OPTIONAL,
    dL-TimeSlot-ISCP                DL-TimeSlot-ISCP-Info   OPTIONAL
```

```
    --for 3.84Mcps TDD only,
    iE-Extensions                   ProtocolExtensionContainer { {RL-Information-RL-SetupRqstTDD-ExtIEs} } OPTIONAL,
    ...
}

RL-Information-RL-SetupRqstTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    { ID id-DL-Timeslot-ISCP-LCR-Information-RL-SetupRqstTDD    CRITICALITY reject      EXTENSION    DL-Timeslot-ISCP-LCR-Information PRESENCE optional
    },
    { ID id-TSTD-Support-Indicator-RL-SetupRqstTDD              CRITICALITY ignore      EXTENSION    TSTD-Support-Indicator           PRESENCE optional
    },
    --for 1.28Mcps TDD only
    ...
}

RadioLinkSetupRequestTDD-Extensions RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

-- **************************************************************
--
-- RADIO LINK SETUP RESPONSE FDD
--
-- **************************************************************

RadioLinkSetupResponseFDD ::= SEQUENCE {
    protocolIEs                 ProtocolIE-Container      {{RadioLinkSetupResponseFDD-IEs}},
    protocolExtensions           ProtocolExtensionContainer {{RadioLinkSetupResponseFDD-Extensions}}               OPTIONAL,
    ...
}

RadioLinkSetupResponseFDD-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-D-RNTI                          CRITICALITY ignore  TYPE D-RNTI                 PRESENCE optional } |
    { ID id-CN-PS-DomainIdentifier          CRITICALITY ignore  TYPE CN-PS-DomainIdentifier      PRESENCE optional } |
    { ID id-CN-CS-DomainIdentifier          CRITICALITY ignore  TYPE CN-CS-DomainIdentifier      PRESENCE optional } |
    { ID id-RL-InformationResponseList-RL-SetupRspFDD   CRITICALITY ignore  TYPE RL-InformationResponseList-RL-SetupRspFDD  PRESENCE mandatory   } |
    { ID id-UL-SIRTarget                    CRITICALITY ignore  TYPE UL-SIR             PRESENCE optional  } |
    { ID id-CriticalityDiagnostics          CRITICALITY ignore  TYPE CriticalityDiagnostics      PRESENCE optional },
    ...
}

RL-InformationResponseList-RL-SetupRspFDD       ::= SEQUENCE (SIZE (1..maxNrOfRLs)) OF ProtocolIE-Single-Container { {RL-InformationResponseItemIEs-RL-
SetupRspFDD} }

RL-InformationResponseItemIEs-RL-SetupRspFDD RNSAP-PROTOCOL-IES ::= {
    { ID id-RL-InformationResponseItem-RL-SetupRspFDD
                            CRITICALITY ignore  TYPE RL-InformationResponseItem-RL-SetupRspFDD  PRESENCE mandatory }
}

RL-InformationResponseItem-RL-SetupRspFDD ::= SEQUENCE {
    rL-ID                           RL-ID,
    rL-Set-ID                       RL-Set-ID,
```

```
    uRA-Information                 URA-Information     OPTIONAL,
    sAI                             SAI,
    gA-Cell                         GA-Cell     OPTIONAL,
    gA-AccessPointPosition          GA-AccessPointPosition      OPTIONAL,
    received-total-wide-band-power  Received-total-wide-band-power,
    secondary-CCPCH-Info            Secondary-CCPCH-Info        OPTIONAL,
    dl-CodeInformation              FDD-DL-CodeInformation,
    diversityIndication             DiversityIndication-RL-SetupRspFDD,
    -- This IE represents both the Diversity Indication IE and the choice based on the diversity indication as described in
    -- the tabular message format in subclause 9.1.
    sSDT-SupportIndicator           SSDT-SupportIndicator,
    maxUL-SIR                       UL-SIR,
    minUL-SIR                       UL-SIR,
    closedlooptimingadjustmentmode  Closedlooptimingadjustmentmode  OPTIONAL,
    maximumAllowedULTxPower         MaximumAllowedULTxPower,
    maximumDLTxPower                DL-Power,
    minimumDLTxPower                DL-Power,
    primaryScramblingCode           PrimaryScramblingCode   OPTIONAL,
    uL-UARFCN                       UARFCN                  OPTIONAL,
    dL-UARFCN                       UARFCN                  OPTIONAL,
    primaryCPICH-Power              PrimaryCPICH-Power      OPTIONAL,
    dSCHInformationResponse         DSCH-InformationResponse-RL-SetupRspFDD OPTIONAL,
    neighbouring-UMTS-CellInformation   Neighbouring-UMTS-CellInformation OPTIONAL,
    neighbouring-GSM-CellInformation    Neighbouring-GSM-CellInformation OPTIONAL,
    pC-Preamble                     PC-Preamble,
    sRB-Delay                       SRB-Delay,
    iE-Extensions                   ProtocolExtensionContainer { {RL-InformationResponseItem-RL-SetupRspFDD-ExtIEs} } OPTIONAL,
    ...
}

RL-InformationResponseItem-RL-SetupRspFDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    { ID id-GA-CellAdditionalShapes         CRITICALITY ignore  EXTENSION   GA-CellAdditionalShapes     PRESENCE optional },
    ...
}

DiversityIndication-RL-SetupRspFDD ::= CHOICE {
    combining                       Combining-RL-SetupRspFDD,
    nonCombiningOrFirstRL           NonCombiningOrFirstRL-RL-SetupRspFDD
}

Combining-RL-SetupRspFDD ::= SEQUENCE {
    rL-ID                       RL-ID,
    iE-Extensions               ProtocolExtensionContainer { { CombiningItem-RL-SetupRspFDD-ExtIEs} } OPTIONAL,
    ...
}

CombiningItem-RL-SetupRspFDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...,
    { ID id-DCH-InformationResponse         CRITICALITY ignore  EXTENSION DCH-InformationResponse       PRESENCE optional }
}
```

```
NonCombiningOrFirstRL-RL-SetupRspFDD ::= SEQUENCE {
    dCH-InformationResponse     DCH-InformationResponse,
    iE-Extensions               ProtocolExtensionContainer { { NonCombiningOrFirstRLItem-RL-SetupRspFDD-ExtIEs} } OPTIONAL,
    ...
}

NonCombiningOrFirstRLItem-RL-SetupRspFDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

DSCH-InformationResponse-RL-SetupRspFDD ::= ProtocolIE-Single-Container {{ DSCH-InformationResponseIE-RL-SetupRspFDD }}

DSCH-InformationResponseIE-RL-SetupRspFDD RNSAP-PROTOCOL-IES ::= {
    { ID id-DSCH-FDD-InformationResponse   CRITICALITY ignore    TYPE    DSCH-FDD-InformationResponse PRESENCE mandatory }
}

RadioLinkSetupResponseFDD-Extensions RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

-- **************************************************************
--
-- RADIO LINK SETUP RESPONSE TDD
--
-- **************************************************************

RadioLinkSetupResponseTDD ::= SEQUENCE {
    protocolIEs                 ProtocolIE-Container      {{RadioLinkSetupResponseTDD-IEs}},
    protocolExtensions           ProtocolExtensionContainer {{RadioLinkSetupResponseTDD-Extensions}}               OPTIONAL,
    ...
}

RadioLinkSetupResponseTDD-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-D-RNTI                  CRITICALITY ignore  TYPE D-RNTI                PRESENCE optional   } |
    { ID id-CN-PS-DomainIdentifier          CRITICALITY ignore  TYPE CN-PS-DomainIdentifier      PRESENCE optional } |
    { ID id-CN-CS-DomainIdentifier          CRITICALITY ignore  TYPE CN-CS-DomainIdentifier      PRESENCE optional } |
    { ID id-RL-InformationResponse-RL-SetupRspTDD   CRITICALITY ignore  TYPE RL-InformationResponse-RL-SetupRspTDD  PRESENCE mandatory   }
    --For 3.84Mcps TDD only |
    { ID id-UL-SIRTarget               CRITICALITY ignore  TYPE UL-SIR             PRESENCE mandatory  } |
    { ID id-CriticalityDiagnostics          CRITICALITY ignore  TYPE CriticalityDiagnostics      PRESENCE optional },
    ...
}

RL-InformationResponse-RL-SetupRspTDD ::= SEQUENCE {
    rL-ID                       RL-ID,
    uRA-Information             URA-Information     OPTIONAL,
    sAI                         SAI,
    gA-Cell                     GA-Cell     OPTIONAL,
    gA-AccessPointPosition      GA-AccessPointPosition  OPTIONAL,
    ul-TimeSlot-ISCP-Info       UL-TimeSlot-ISCP-Info,
    maxUL-SIR                   UL-SIR,
```

```
    minUL-SIR                   UL-SIR,
    maximumAllowedULTxPower     MaximumAllowedULTxPower,
    maximumDLTxPower            DL-Power,
    minimumDLTxPower            DL-Power,
    uARFCNforNt                 UARFCN              OPTIONAL,
    cellParameterID             CellParameterID     OPTIONAL,
    syncCase                    SyncCase            OPTIONAL,
    sCH-TimeSlot                SCH-TimeSlot        OPTIONAL,
    -- This IE shall be present when Sync Case IE is Case2. --
    block-STTD-Indicator        Block-STTD-Indicator    OPTIONAL,
    pCCPCH-Power                PCCPCH-Power            OPTIONAL,
    timingAdvanceApplied        TimingAdvanceApplied,
    alphaValue                  AlphaValue,
    ul-PhysCH-SF-Variation      UL-PhysCH-SF-Variation,
    synchronisationConfiguration        SynchronisationConfiguration,
    secondary-CCPCH-Info-TDD            Secondary-CCPCH-Info-TDD    OPTIONAL,
    ul-CCTrCHInformation                UL-CCTrCHInformationList-RL-SetupRspTDD     OPTIONAL,
    dl-CCTrCHInformation                DL-CCTrCHInformationList-RL-SetupRspTDD     OPTIONAL,
    dCH-InformationResponse             DCH-InformationResponseList-RL-SetupRspTDD  OPTIONAL,
    dsch-InformationResponse            DSCH-InformationResponse-RL-SetupRspTDD OPTIONAL,
    usch-InformationResponse            USCH-InformationResponse-RL-SetupRspTDD OPTIONAL,
    neighbouring-UMTS-CellInformation           Neighbouring-UMTS-CellInformation OPTIONAL,
    neighbouring-GSM-CellInformation            Neighbouring-GSM-CellInformation OPTIONAL,
    iE-Extensions                   ProtocolExtensionContainer { {RL-InformationResponse-RL-SetupRspTDD-ExtIEs} } OPTIONAL,
    ...
}

RL-InformationResponse-RL-SetupRspTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    { ID id-GA-CellAdditionalShapes         CRITICALITY ignore  EXTENSION   GA-CellAdditionalShapes    PRESENCE optional },
    ...
}

UL-CCTrCHInformationList-RL-SetupRspTDD ::= ProtocolIE-Single-Container {{UL-CCTrCHInformationListIEs-RL-SetupRspTDD}}

UL-CCTrCHInformationListIEs-RL-SetupRspTDD RNSAP-PROTOCOL-IES ::= {
    { ID id-UL-CCTrCH-InformationListIE-RL-SetupRspTDD  CRITICALITY ignore  TYPE UL-CCTrCHInformationListIE-RL-SetupRspTDD     PRESENCE mandatory }
}

UL-CCTrCHInformationListIE-RL-SetupRspTDD ::= SEQUENCE (SIZE (1..maxNrOfCCTrCHs)) OF UL-CCTrCHInformationItem-RL-SetupRspTDD

UL-CCTrCHInformationItem-RL-SetupRspTDD ::= SEQUENCE {
    cCTrCH-ID                   CCTrCH-ID,
    ul-DPCH-Information             UL-DPCH-InformationList-RL-SetupRspTDD      OPTIONAL,
    iE-Extensions                   ProtocolExtensionContainer { {UL-CCTrCHInformationItem-RL-SetupRspTDD-ExtIEs} } OPTIONAL,
    ...
}

UL-CCTrCHInformationItem-RL-SetupRspTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}
```

```
UL-DPCH-InformationList-RL-SetupRspTDD ::= ProtocolIE-Single-Container { {UL-DPCH-InformationListIEs-RL-SetupRspTDD} }

UL-DPCH-InformationListIEs-RL-SetupRspTDD RNSAP-PROTOCOL-IES ::= {
    { ID id-UL-DPCH-InformationItem-RL-SetupRspTDD      CRITICALITY ignore  TYPE UL-DPCH-InformationItem-RL-SetupRspTDD  PRESENCE mandatory}
}


UL-DPCH-InformationItem-RL-SetupRspTDD ::= SEQUENCE {
    repetitionPeriod                RepetitionPeriod,
    repetitionLength                RepetitionLength,
    tDD-DPCHOffset                  TDD-DPCHOffset,
    uL-Timeslot-Information         UL-Timeslot-Information,
    iE-Extensions                   ProtocolExtensionContainer { {UL-DPCH-InformationItem-RL-SetupRspTDD-ExtIEs} } OPTIONAL,
    ...
}

UL-DPCH-InformationItem-RL-SetupRspTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

DL-CCTrCHInformationList-RL-SetupRspTDD ::= ProtocolIE-Single-Container {{DL-CCTrCHInformationListIEs-RL-SetupRspTDD}}

DL-CCTrCHInformationListIEs-RL-SetupRspTDD RNSAP-PROTOCOL-IES ::= {
    { ID id-DL-CCTrCH-InformationListIE-RL-SetupRspTDD  CRITICALITY ignore  TYPE DL-CCTrCHInformationListIE-RL-SetupRspTDD  PRESENCE mandatory }
}

DL-CCTrCHInformationListIE-RL-SetupRspTDD ::= SEQUENCE (SIZE (1..maxNrOfCCTrCHs)) OF DL-CCTrCHInformationItem-RL-SetupRspTDD

DL-CCTrCHInformationItem-RL-SetupRspTDD ::= SEQUENCE {
    cCTrCH-ID                   CCTrCH-ID,
    dl-DPCH-Information             DL-DPCH-InformationList-RL-SetupRspTDD      OPTIONAL,
    iE-Extensions                   ProtocolExtensionContainer { {DL-CCTrCHInformationItem-RL-SetupRspTDD-ExtIEs} } OPTIONAL,
    ...
}

DL-CCTrCHInformationItem-RL-SetupRspTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

DL-DPCH-InformationList-RL-SetupRspTDD ::= ProtocolIE-Single-Container { {DL-DPCH-InformationListIEs-RL-SetupRspTDD} }

DL-DPCH-InformationListIEs-RL-SetupRspTDD RNSAP-PROTOCOL-IES ::= {
    { ID id-DL-DPCH-InformationItem-RL-SetupRspTDD      CRITICALITY ignore  TYPE DL-DPCH-InformationItem-RL-SetupRspTDD  PRESENCE mandatory}
}

DL-DPCH-InformationItem-RL-SetupRspTDD ::= SEQUENCE {
    repetitionPeriod                RepetitionPeriod,
    repetitionLength                RepetitionLength,
    tDD-DPCHOffset                  TDD-DPCHOffset,
    dL-Timeslot-Information         DL-Timeslot-Information,
    iE-Extensions                   ProtocolExtensionContainer { {DL-DPCH-InformationItem-RL-SetupRspTDD-ExtIEs} } OPTIONAL,
```

```
    ...
}

DL-DPCH-InformationItem-RL-SetupRspTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

DCH-InformationResponseList-RL-SetupRspTDD ::= ProtocolIE-Single-Container {{DCH-InformationResponseListIEs-RL-SetupRspTDD}}

DCH-InformationResponseListIEs-RL-SetupRspTDD RNSAP-PROTOCOL-IES ::= {
    { ID id-DCH-InformationResponse   CRITICALITY ignore TYPE DCH-InformationResponse  PRESENCE mandatory }
}

DSCH-InformationResponse-RL-SetupRspTDD ::= ProtocolIE-Single-Container {{DSCH-InformationList-RL-SetupRspTDD}}

DSCH-InformationList-RL-SetupRspTDD RNSAP-PROTOCOL-IES ::= {
    { ID id-DSCH-InformationListIEs-RL-SetupRspTDD      CRITICALITY ignore  TYPE DSCH-InformationListIEs-RL-SetupRspTDD PRESENCE mandatory }
}

DSCH-InformationListIEs-RL-SetupRspTDD ::= SEQUENCE (SIZE(0..maxNoOfDSCHs)) OF DSCHInformationItem-RL-SetupRspTDD

DSCHInformationItem-RL-SetupRspTDD ::= SEQUENCE {
    dsch-ID                 DSCH-ID,
    dSCH-FlowControlInformation     DSCH-FlowControlInformation,
    bindingID               BindingID   OPTIONAL,
    transportLayerAddress   TransportLayerAddress   OPTIONAL,
    transportFormatManagement   TransportFormatManagement,
    iE-Extensions           ProtocolExtensionContainer { {DSCHInformationItem-RL-SetupRspTDD-ExtIEs} } OPTIONAL,
    ...
}

DSCHInformationItem-RL-SetupRspTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

USCH-InformationResponse-RL-SetupRspTDD ::= ProtocolIE-Single-Container {{USCH-InformationList-RL-SetupRspTDD}}

USCH-InformationList-RL-SetupRspTDD RNSAP-PROTOCOL-IES ::= {
    { ID id-USCH-InformationListIEs-RL-SetupRspTDD      CRITICALITY ignore  TYPE USCH-InformationListIEs-RL-SetupRspTDD PRESENCE mandatory }
}

USCH-InformationListIEs-RL-SetupRspTDD ::= SEQUENCE (SIZE(0..maxNoOfUSCHs)) OF USCHInformationItem-RL-SetupRspTDD

USCHInformationItem-RL-SetupRspTDD ::= SEQUENCE {
    usch-ID                     USCH-ID,
    bindingID                   BindingID   OPTIONAL,
    transportLayerAddress       TransportLayerAddress   OPTIONAL,
    transportFormatManagement   TransportFormatManagement,
    iE-Extensions               ProtocolExtensionContainer { {USCHInformationItem-RL-SetupRspTDD-ExtIEs} } OPTIONAL,
    ...
}
```

```
USCHInformationItem-RL-SetupRspTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

RadioLinkSetupResponseTDD-Extensions RNSAP-PROTOCOL-EXTENSION ::= {
    { ID id-RL-LCR-InformationResponse-RL-SetupRspTDD   CRITICALITY ignore  EXTENSION   RL-LCR-InformationResponse-RL-SetupRspTDD    PRESENCE
mandatory},
    --For 1.28Mcps TDD only
    ...
}

RL-LCR-InformationResponse-RL-SetupRspTDD ::= SEQUENCE {
    rL-ID                       RL-ID,
    uRA-Information             URA-Information,
    sAI                         SAI,
    gA-Cell                     GA-Cell     OPTIONAL,
    uTRAN-AccessPointPosition   UTRAN-AccessPointPosition   OPTIONAL,
    ul-TimeSlot-ISCP-LCR-Info   UL-TimeSlot-ISCP-LCR-Info,
    maxUL-SIR                   UL-SIR,
    minUL-SIR                   UL-SIR,
    maximumAllowedULTxPower     MaximumAllowedULTxPower,
    maximumDLTxPower            DL-Power,
    minimumDLTxPower            DL-Power,
    ul-PhysCH-SF-Variation      UL-PhysCH-SF-Variation,
    ul-LCR-CCTrCHInformation                UL-LCR-CCTrCHInformationList-RL-SetupRspTDD     OPTIONAL,
    dl-LCR-CCTrCHInformation                DL-LCR-CCTrCHInformationList-RL-SetupRspTDD     OPTIONAL,
    dCH-InformationResponse                 DCH-InformationResponseList-RL-SetupRspTDD      OPTIONAL,
    dsch-LCR-InformationResponse            DSCH-LCR-InformationResponse-RL-SetupRspTDD     OPTIONAL,
    usch-LCR-InformationResponse            USCH-LCR-InformationResponse-RL-SetupRspTDD    OPTIONAL,
    neighbouring-UMTS-CellInformation       Neighbouring-UMTS-CellInformation             OPTIONAL,
    neighbouring-GSM-CellInformation        Neighbouring-GSM-CellInformation               OPTIONAL,
    iE-Extensions                           ProtocolExtensionContainer { { RL-LCR-InformationResponseList-RL-SetupRspTDD-ExtIEs} }   OPTIONAL,
    ...
}

RL-LCR-InformationResponseList-RL-SetupRspTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

UL-LCR-CCTrCHInformationList-RL-SetupRspTDD ::= ProtocolIE-Single-Container {{UL-LCR-CCTrCHInformationListIEs-RL-SetupRspTDD}}

UL-LCR-CCTrCHInformationListIEs-RL-SetupRspTDD RNSAP-PROTOCOL-IES ::= {
    { ID id-UL-CCTrCH-LCR-InformationListIE-RL-SetupRspTDD  CRITICALITY ignore  TYPE UL-LCR-CCTrCHInformationListIE-RL-SetupRspTDD   PRESENCE mandatory
}
}

UL-LCR-CCTrCHInformationListIE-RL-SetupRspTDD ::= SEQUENCE (SIZE (1..maxNrOfCCTrCHsLCR)) OF UL-LCR-CCTrCHInformationItem-RL-SetupRspTDD

UL-LCR-CCTrCHInformationItem-RL-SetupRspTDD ::= SEQUENCE {
    cCTrCH-ID                   CCTrCH-ID,
```

```
    ul-DPCH-LCR-Information         UL-DPCH-LCR-InformationList-RL-SetupRspTDD      OPTIONAL,
    iE-Extensions                  ProtocolExtensionContainer { {UL-LCR-CCTrCHInformationItem-RL-SetupRspTDD-ExtIEs} } OPTIONAL,
    ...
}

UL-LCR-CCTrCHInformationItem-RL-SetupRspTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

UL-DPCH-LCR-InformationList-RL-SetupRspTDD ::= ProtocolIE-Single-Container { {UL-DPCH-LCR-InformationListIEs-RL-SetupRspTDD} }

UL-DPCH-LCR-InformationListIEs-RL-SetupRspTDD RNSAP-PROTOCOL-IES ::= {
    { ID id-UL-DPCH-LCR-InformationItem-RL-SetupRspTDD      CRITICALITY ignore  TYPE UL-DPCH-LCR-InformationItem-RL-SetupRspTDD  PRESENCE mandatory }
}

UL-DPCH-LCR-InformationItem—RL-SetupRspTDD ::= SEQUENCE {
    repetitionPeriod               RepetitionPeriod,
    repetitionLength               RepetitionLength,
    tDD-DPCHOffset                 TDD-DPCHOffset,
    uL-TimeslotLCR-Information     UL-TimeslotLCR-Information,
    iE-Extensions                  ProtocolExtensionContainer { {UL-DPCH-LCR-InformationItem-RL-SetupRspTDD-ExtIEs} } OPTIONAL,
    ...
}

UL-DPCH-LCR-InformationItem-RL-SetupRspTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}
DL-LCR-CCTrCHInformationList-RL-SetupRspTDD ::= ProtocolIE-Single-Container {{DL-LCR-CCTrCHInformationListIEs-RL-SetupRspTDD}}

DL-LCR-CCTrCHInformationListIEs-RL-SetupRspTDD RNSAP-PROTOCOL-IES ::= {
    { ID id-DL-CCTrCH-LCR-InformationListIE-RL-SetupRspTDD   CRITICALITY ignore  TYPE DL-CCTrCH-LCR-InformationListIE-RL-SetupRspTDD  PRESENCE mandatory
}
}

DL-CCTrCH-LCR-InformationListIE-RL-SetupRspTDD ::= SEQUENCE (SIZE (1..maxNrOfCCTrCHsLCR)) OF DL-CCTrCH-LCR-InformationItem-RL-SetupRspTDD

DL-CCTrCH-LCR-InformationItem-RL-SetupRspTDD ::= SEQUENCE {
    cCTrCH-ID                   CCTrCH-ID,
    dl-DPCH-LCR-Information         DL-DPCH-LCR-InformationList-RL-SetupRspTDD      OPTIONAL,
    iE-Extensions                  ProtocolExtensionContainer { {DL-CCTrCH-LCR-InformationItem-RL-SetupRspTDD-ExtIEs} } OPTIONAL,
    ...
}

DL-CCTrCH-LCR-InformationItem-RL-SetupRspTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

DL-DPCH-LCR-InformationList-RL-SetupRspTDD ::= ProtocolIE-Single-Container { {DL-DPCH-LCR-InformationListIEs-RL-SetupRspTDD} }

DL-DPCH-LCR-InformationListIEs-RL-SetupRspTDD RNSAP-PROTOCOL-IES ::= {
    { ID id-DL-DPCH-LCR-InformationItem-RL-SetupRspTDD      CRITICALITY ignore  TYPE DL-DPCH-LCR-InformationItem-RL-SetupRspTDD  PRESENCE mandatory }
```

```
}

DL-DPCH-LCR-InformationItem-RL-SetupRspTDD ::= SEQUENCE {
    repetitionPeriod                RepetitionPeriod,
    repetitionLength                RepetitionLength,
    tDD-DPCHOffset                  TDD-DPCHOffset,
    dL-Timeslot-LCR-Information         DL-Timeslot-LCR-Information,
    tSTD-Indicator                  TSTD-Indicator,
    iE-Extensions                   ProtocolExtensionContainer { {DL-DPCH-LCR-InformationItem-RL-SetupRspTDD-ExtIEs} } OPTIONAL,
    ...
}

DL-DPCH-LCR-InformationItem-RL-SetupRspTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

DCH-InformationResponseList-RL-SetupRspTDD ::= ProtocolIE-Single-Container {{DCH-InformationResponseListIEs-RL-SetupRspTDD}}

DCH-InformationResponseListIEs-RL-SetupRspTDD RNSAP-PROTOCOL-IES ::= {
    { ID id-DCH-InformationResponse   CRITICALITY ignore TYPE DCH-InformationResponse  PRESENCE mandatory }
}

DSCH-LCR-InformationResponse-RL-SetupRspTDD ::= ProtocolIE-Single-Container {{DSCH-LCR-InformationList-RL-SetupRspTDD}}

DSCH-LCR-InformationList-RL-SetupRspTDD RNSAP-PROTOCOL-IES ::= {
    { ID id-DSCH-LCR-InformationListIEs-RL-SetupRspTDD      CRITICALITY ignore  TYPE DSCH-LCR-InformationListIEs-RL-SetupRspTDD PRESENCE mandatory }
}

DSCH-LCR-InformationListIEs-RL-SetupRspTDD ::= SEQUENCE (SIZE(0..maxNoOfDSCHsLCR)) OF DSCH-LCR-InformationItem-RL-SetupRspTDD

DSCH-LCR-InformationItem-RL-SetupRspTDD ::= SEQUENCE {
    dsch-ID                 DSCH-ID,
    dSCH-FlowControlInformation     DSCH-FlowControlInformation,
    bindingID               BindingID   OPTIONAL,
    transportLayerAddress   TransportLayerAddress   OPTIONAL,
    transportFormatManagement   TransportFormatManagement,
    iE-Extensions           ProtocolExtensionContainer { {DSCH-LCR-InformationItem-RL-SetupRspTDD-ExtIEs} } OPTIONAL,
    ...
}

DSCH-LCR-InformationItem-RL-SetupRspTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

USCH-LCR-InformationResponse-RL-SetupRspTDD ::= ProtocolIE-Single-Container {{USCH-LCR-InformationList-RL-SetupRspTDD}}

USCH-LCR-InformationList-RL-SetupRspTDD RNSAP-PROTOCOL-IES ::= {
    { ID id-USCH-LCR-InformationListIEs-RL-SetupRspTDD      CRITICALITY ignore  TYPE USCH-LCR-InformationListIEs-RL-SetupRspTDD PRESENCE mandatory }
}

USCH-LCR-InformationListIEs-RL-SetupRspTDD ::= SEQUENCE (SIZE(0..maxNoOfUSCHsLCR)) OF USCH-LCR-InformationItem-RL-SetupRspTDD
```

```
USCH-LCR-InformationItem-RL-SetupRspTDD ::= SEQUENCE {
    usch-ID                     USCH-ID,
    bindingID                   BindingID   OPTIONAL,
    transportLayerAddress       TransportLayerAddress   OPTIONAL,
    transportFormatManagement   TransportFormatManagement,
    iE-Extensions               ProtocolExtensionContainer { {USCH-LCR-InformationItem-RL-SetupRspTDD-ExtIEs} } OPTIONAL,
    ...
}

USCH-LCR-InformationItem-RL-SetupRspTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

-- **************************************************************
--
-- RADIO LINK SETUP FAILURE FDD
--
-- **************************************************************

RadioLinkSetupFailureFDD ::= SEQUENCE {
    protocolIEs                 ProtocolIE-Container      {{RadioLinkSetupFailureFDD-IEs}},
    protocolExtensions           ProtocolExtensionContainer {{RadioLinkSetupFailureFDD-Extensions}}               OPTIONAL,
    ...
}

RadioLinkSetupFailureFDD-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-D-RNTI                  CRITICALITY ignore  TYPE D-RNTI                PRESENCE optional   } |
    { ID id-CN-PS-DomainIdentifier          CRITICALITY ignore  TYPE CN-PS-DomainIdentifier       PRESENCE optional } |
    { ID id-CN-CS-DomainIdentifier          CRITICALITY ignore  TYPE CN-CS-DomainIdentifier       PRESENCE optional } |
    { ID id-CauseLevel-RL-SetupFailureFDD              CRITICALITY ignore    TYPE  CauseLevel-RL-SetupFailureFDD     PRESENCE mandatory }|
    { ID id-UL-SIRTarget               CRITICALITY ignore  TYPE UL-SIR             PRESENCE optional   } |
    { ID id-CriticalityDiagnostics          CRITICALITY ignore  TYPE CriticalityDiagnostics       PRESENCE optional },
    ...
}

CauseLevel-RL-SetupFailureFDD ::= CHOICE {
    generalCause        GeneralCauseList-RL-SetupFailureFDD,
    rLSpecificCause     RLSpecificCauseList-RL-SetupFailureFDD,
    ...
}

GeneralCauseList-RL-SetupFailureFDD ::= SEQUENCE {
    cause                                   Cause,
    iE-Extensions                           ProtocolExtensionContainer { { GeneralCauseItem-RL-SetupFailureFDD-ExtIEs} }   OPTIONAL,
    ...
}

GeneralCauseItem-RL-SetupFailureFDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}
```

```
RLSpecificCauseList-RL-SetupFailureFDD ::= SEQUENCE {
    unsuccessful-RL-InformationRespList-RL-SetupFailureFDD      UnsuccessfulRL-InformationResponseList-RL-SetupFailureFDD,
    successful-RL-InformationRespList-RL-SetupFailureFDD        SuccessfulRL-InformationResponseList-RL-SetupFailureFDD  OPTIONAL,
    iE-Extensions                               ProtocolExtensionContainer { { RLSpecificCauseItem-RL-SetupFailureFDD-ExtIEs} }   OPTIONAL,
    ...
}

RLSpecificCauseItem-RL-SetupFailureFDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

UnsuccessfulRL-InformationResponseList-RL-SetupFailureFDD ::= SEQUENCE (SIZE (1..maxNrOfRLs)) OF ProtocolIE-Single-Container { {UnsuccessfulRL-
InformationResponse-RL-SetupFailureFDD-IEs} }

UnsuccessfulRL-InformationResponse-RL-SetupFailureFDD-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-UnsuccessfulRL-InformationResponse-RL-SetupFailureFDD       CRITICALITY ignore  TYPE UnsuccessfulRL-InformationResponse-RL-SetupFailureFDD
    PRESENCE mandatory  }
}

UnsuccessfulRL-InformationResponse-RL-SetupFailureFDD ::= SEQUENCE {
    rL-ID                       RL-ID,
    cause                       Cause,
    iE-Extensions                   ProtocolExtensionContainer { {UnsuccessfulRL-InformationResponse-RL-SetupFailureFDD-ExtIEs} } OPTIONAL,
    ...
}

UnsuccessfulRL-InformationResponse-RL-SetupFailureFDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

SuccessfulRL-InformationResponseList-RL-SetupFailureFDD ::= SEQUENCE (SIZE (0..maxNrOfRLs-1)) OF ProtocolIE-Single-Container { {SuccessfulRL-
InformationResponse-RL-SetupFailureFDD-IEs} }

SuccessfulRL-InformationResponse-RL-SetupFailureFDD-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-SuccessfulRL-InformationResponse-RL-SetupFailureFDD     CRITICALITY ignore  TYPE SuccessfulRL-InformationResponse-RL-SetupFailureFDD
    PRESENCE mandatory  }
}

SuccessfulRL-InformationResponse-RL-SetupFailureFDD ::= SEQUENCE {
    rL-ID                                   RL-ID,
    rL-Set-ID                               RL-Set-ID,
    uRA-Information                         URA-Information     OPTIONAL,
    sAI                                     SAI,
    gA-Cell                                 GA-Cell     OPTIONAL,
    gA-AccessPointPosition                  GA-AccessPointPosition      OPTIONAL,
    received-total-wide-band-power                                  Received-total-wide-band-power,
    secondary-CCPCH-Info                    Secondary-CCPCH-Info        OPTIONAL,
    dl-CodeInformation                      FDD-DL-CodeInformation,
    diversityIndication                     DiversityIndication-RL-SetupFailureFDD,
    -- This IE represents both the Diversity Indication IE and the choice based on the diversity indication as described in
```

```
    -- the tabular message format in subclause 9.1.
    sSDT-SupportIndicator                   SSDT-SupportIndicator,
    maxUL-SIR                               UL-SIR,
    minUL-SIR                               UL-SIR,
    closedlooptimingadjustmentmode          Closedlooptimingadjustmentmode  OPTIONAL,
    maximumAllowedULTxPower                 MaximumAllowedULTxPower,
    maximumDLTxPower                        DL-Power,
    minimumDLTxPower                        DL-Power,
    dSCH-InformationResponse-RL-SetupFailureFDD     DSCH-InformationResponseList-RL-SetupFailureFDD    OPTIONAL,
    neighbouring-UMTS-CellInformation       Neighbouring-UMTS-CellInformation OPTIONAL,
    neighbouring-GSM-CellInformation        Neighbouring-GSM-CellInformation OPTIONAL,
    iE-Extensions                           ProtocolExtensionContainer { {SuccessfulRL-InformationResponse-RL-SetupFailureFDD-ExtIEs} } OPTIONAL,
    ...
}

SuccessfulRL-InformationResponse-RL-SetupFailureFDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    { ID id-GA-CellAdditionalShapes         CRITICALITY ignore  EXTENSION   GA-CellAdditionalShapes    PRESENCE optional },
    ...
}

DiversityIndication-RL-SetupFailureFDD ::= CHOICE {
    combining                       Combining-RL-SetupFailureFDD,
    nonCombiningOrFirstRL       NonCombiningOrFirstRL-RL-SetupFailureFDD
}

Combining-RL-SetupFailureFDD ::= SEQUENCE {
    rL-ID                       RL-ID,
    iE-Extensions               ProtocolExtensionContainer { { CombiningItem-RL-SetupFailureFDD-ExtIEs} } OPTIONAL,
    ...
}

CombiningItem-RL-SetupFailureFDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...,
    { ID id-DCH-InformationResponse         CRITICALITY ignore  EXTENSION DCH-InformationResponse      PRESENCE optional }
}

NonCombiningOrFirstRL-RL-SetupFailureFDD ::= SEQUENCE {
    dCH-InformationResponse                 DCH-InformationResponse,
    iE-Extensions                           ProtocolExtensionContainer { { NonCombiningOrFirstRLItem-RL-SetupFailureFDD-ExtIEs} } OPTIONAL,
    ...
}

NonCombiningOrFirstRLItem-RL-SetupFailureFDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

DSCH-InformationResponseList-RL-SetupFailureFDD ::= ProtocolIE-Single-Container {{ DSCH-InformationResponseListIEs-RL-SetupFailureFDD }}

DSCH-InformationResponseListIEs-RL-SetupFailureFDD RNSAP-PROTOCOL-IES ::= {
    { ID id-DSCH-FDD-InformationResponse   CRITICALITY ignore    TYPE DSCH-FDD-InformationResponse    PRESENCE mandatory }
}
```

```
RadioLinkSetupFailureFDD-Extensions RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

-- **************************************************************
--
-- RADIO LINK SETUP FAILURE TDD
--
-- **************************************************************

RadioLinkSetupFailureTDD ::= SEQUENCE {
    protocolIEs                 ProtocolIE-Container      {{RadioLinkSetupFailureTDD-IEs}},
    protocolExtensions           ProtocolExtensionContainer {{RadioLinkSetupFailureTDD-Extensions}}               OPTIONAL,
    ...
}

RadioLinkSetupFailureTDD-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-CauseLevel-RL-SetupFailureTDD   CRITICALITY ignore  TYPE CauseLevel-RL-SetupFailureTDD     PRESENCE mandatory }|
    { ID id-CriticalityDiagnostics          CRITICALITY ignore  TYPE CriticalityDiagnostics       PRESENCE optional },
    ...
}

CauseLevel-RL-SetupFailureTDD ::= CHOICE {
    generalCause        GeneralCauseList-RL-SetupFailureTDD,
    rLSpecificCause     RLSpecificCauseList-RL-SetupFailureTDD,
    ...
}

GeneralCauseList-RL-SetupFailureTDD ::= SEQUENCE {
    cause                       Cause,
    iE-Extensions               ProtocolExtensionContainer { { GeneralCauseItem-RL-SetupFailureTDD-ExtIEs} }    OPTIONAL,
    ...
}

GeneralCauseItem-RL-SetupFailureTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

RLSpecificCauseList-RL-SetupFailureTDD ::= SEQUENCE {
    unsuccessful-RL-InformationRespItem-RL-SetupFailureTDD  Unsuccessful-RL-InformationRespItem-RL-SetupFailureTDD,
    iE-Extensions                                           ProtocolExtensionContainer { { RLSpecificCauseItem-RL-SetupFailureTDD-ExtIEs} }   OPTIONAL,
    ...
}

RLSpecificCauseItem-RL-SetupFailureTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

Unsuccessful-RL-InformationRespItem-RL-SetupFailureTDD ::= ProtocolIE-Single-Container { {Unsuccessful-RL-InformationRespItemIE-RL-SetupFailureTDD} }
```

```
Unsuccessful-RL-InformationRespItemIE-RL-SetupFailureTDD RNSAP-PROTOCOL-IES ::= {
    { ID    id-UnsuccessfulRL-InformationResponse-RL-SetupFailureTDD        CRITICALITY ignore    TYPE  UnsuccessfulRL-InformationResponse-RL-
SetupFailureTDD     PRESENCE    mandatory   }
}

UnsuccessfulRL-InformationResponse-RL-SetupFailureTDD ::= SEQUENCE {
    rL-ID                       RL-ID,
    cause                       Cause,
    iE-Extensions                   ProtocolExtensionContainer { {UnsuccessfulRL-InformationResponse-RL-SetupFailureTDD-ExtIEs} } OPTIONAL,
    ...
}

UnsuccessfulRL-InformationResponse-RL-SetupFailureTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

RadioLinkSetupFailureTDD-Extensions RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

-- **************************************************************
--
-- RADIO LINK ADDITION REQUEST FDD
--
-- **************************************************************

RadioLinkAdditionRequestFDD ::= SEQUENCE {
    protocolIEs                 ProtocolIE-Container      {{RadioLinkAdditionRequestFDD-IEs}},
    protocolExtensions           ProtocolExtensionContainer {{RadioLinkAdditionRequestFDD-Extensions}}               OPTIONAL,
    ...
}

RadioLinkAdditionRequestFDD-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-UL-SIRTarget               CRITICALITY reject  TYPE UL-SIR                 PRESENCE mandatory } |
    { ID id-RL-InformationList-RL-AdditionRqstFDD   CRITICALITY notify  TYPE RL-InformationList-RL-AdditionRqstFDD  PRESENCE mandatory   }|
    { ID id-Active-Pattern-Sequence-Information CRITICALITY reject  TYPE Active-Pattern-Sequence-Information  PRESENCE optional },
    ...
}

RL-InformationList-RL-AdditionRqstFDD          ::= SEQUENCE (SIZE (1..maxNrOfRLs-1)) OF ProtocolIE-Single-Container { {RL-Information-RL-
AdditionRqstFDD-IEs} }

RL-Information-RL-AdditionRqstFDD-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-RL-Information-RL-AdditionRqstFDD   CRITICALITY notify  TYPE RL-Information-RL-AdditionRqstFDD   PRESENCE mandatory   }
}

RL-Information-RL-AdditionRqstFDD ::= SEQUENCE {
    rL-ID                           RL-ID,
    c-ID                            C-ID,
    frameOffset                     FrameOffset,
    chipOffset                      ChipOffset,
```

```
    diversityControlField           DiversityControlField,
    primaryCPICH-EcNo               PrimaryCPICH-EcNo       OPTIONAL,
    sSDT-CellID                     SSDT-CellID         OPTIONAL,
    transmitDiversityIndicator      TransmitDiversityIndicator      OPTIONAL,
    iE-Extensions                   ProtocolExtensionContainer { {RL-Information-RL-AdditionRqstFDD-ExtIEs} } OPTIONAL,
    ...
}

RL-Information-RL-AdditionRqstFDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

RadioLinkAdditionRequestFDD-Extensions RNSAP-PROTOCOL-EXTENSION ::= {
    { ID id-DPC-Mode                CRITICALITY reject      EXTENSION   DPC-Mode        PRESENCE optional  },
    ...
}

-- **************************************************************
--
-- RADIO LINK ADDITION REQUEST TDD
--
-- **************************************************************

RadioLinkAdditionRequestTDD ::= SEQUENCE {
    protocolIEs                 ProtocolIE-Container      {{RadioLinkAdditionRequestTDD-IEs}},
    protocolExtensions           ProtocolExtensionContainer {{RadioLinkAdditionRequestTDD-Extensions}}               OPTIONAL,
    ...
}

RadioLinkAdditionRequestTDD-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-RL-Information-RL-AdditionRqstTDD   CRITICALITY reject  TYPE RL-Information-RL-AdditionRqstTDD   PRESENCE mandatory   },
    ...
}

RL-Information-RL-AdditionRqstTDD ::= SEQUENCE {
    rL-ID                           RL-ID,
    c-ID                            C-ID,
    frameOffset                     FrameOffset,
    diversityControlField           DiversityControlField,
    primaryCCPCH-RSCP               PrimaryCCPCH-RSCP       OPTIONAL,
    dL-TimeSlot-ISCP-Info           DL-TimeSlot-ISCP-Info   OPTIONAL
    --for 3.84Mcps TDD only,
    iE-Extensions                   ProtocolExtensionContainer { {RL-Information-RL-AdditionRqstTDD-ExtIEs} } OPTIONAL,
    ...
}

RL-Information-RL-AdditionRqstTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    { ID id-DL-Timeslot-ISCP-LCR-Information-RL-AdditionRqstTDD CRITICALITY reject      EXTENSION    DL-Timeslot-ISCP-LCR-Information    PRESENCE
optional    },
    --for 1.28Mcps TDD only
    ...
```

```
}

RadioLinkAdditionRequestTDD-Extensions RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

-- **************************************************************
--
-- RADIO LINK ADDITION RESPONSE FDD
--
-- **************************************************************

RadioLinkAdditionResponseFDD ::= SEQUENCE {
    protocolIEs                 ProtocolIE-Container      {{RadioLinkAdditionResponseFDD-IEs}},
    protocolExtensions           ProtocolExtensionContainer {{RadioLinkAdditionResponseFDD-Extensions}}               OPTIONAL,
    ...
}

RadioLinkAdditionResponseFDD-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-RL-InformationResponseList-RL-AdditionRspFDD    CRITICALITY ignore  TYPE RL-InformationResponseList-RL-AdditionRspFDD    PRESENCE mandatory
    } |
    { ID id-CriticalityDiagnostics          CRITICALITY ignore  TYPE CriticalityDiagnostics      PRESENCE optional },
    ...
}

RL-InformationResponseList-RL-AdditionRspFDD        ::= SEQUENCE (SIZE (1..maxNrOfRLs-1)) OF ProtocolIE-Single-Container { {RL-
InformationResponseItemIEs-RL-AdditionRspFDD} }

RL-InformationResponseItemIEs-RL-AdditionRspFDD RNSAP-PROTOCOL-IES ::= {
    { ID id-RL-InformationResponseItem-RL-AdditionRspFDD        CRITICALITY ignore  TYPE RL-InformationResponseItem-RL-AdditionRspFDD   PRESENCE
mandatory   }
}

RL-InformationResponseItem-RL-AdditionRspFDD ::= SEQUENCE {
    rL-ID                           RL-ID,
    rL-Set-ID                       RL-Set-ID,
    uRA-Information                 URA-Information     OPTIONAL,
    sAI                             SAI,
    gA-Cell                         GA-Cell     OPTIONAL,
    gA-AccessPointPosition          GA-AccessPointPosition  OPTIONAL,
    received-total-wide-band-power  Received-total-wide-band-power,
    secondary-CCPCH-Info            Secondary-CCPCH-Info        OPTIONAL,
    dl-CodeInformation              DL-CodeInformationList-RL-AdditionRspFDD,
    diversityIndication             DiversityIndication-RL-AdditionRspFDD,
    -- This IE represents both the Diversity Indication IE and the choice based on the diversity indication as described in
    -- the tabular message format in subclause 9.1.
    sSDT-SupportIndicator               SSDT-SupportIndicator,
    minUL-SIR                           UL-SIR,
    maxUL-SIR                           UL-SIR,
    closedlooptimingadjustmentmode      Closedlooptimingadjustmentmode  OPTIONAL,
    maximumAllowedULTxPower             MaximumAllowedULTxPower,
```

```
    maximumDLTxPower                    DL-Power,
    minimumDLTxPower                    DL-Power,
    neighbouring-UMTS-CellInformation   Neighbouring-UMTS-CellInformation   OPTIONAL,
    neighbouring-GSM-CellInformation    Neighbouring-GSM-CellInformation OPTIONAL,
    pC-Preamble                         PC-Preamble,
    sRB-Delay                           SRB-Delay,
    iE-Extensions                       ProtocolExtensionContainer { {RL-InformationResponseItem-RL-AdditionRspFDD-ExtIEs} } OPTIONAL,
    ...
}

RL-InformationResponseItem-RL-AdditionRspFDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    { ID id-GA-CellAdditionalShapes         CRITICALITY ignore  EXTENSION   GA-CellAdditionalShapes     PRESENCE optional },
    ...
}

DL-CodeInformationList-RL-AdditionRspFDD ::= ProtocolIE-Single-Container {{ DL-CodeInformationListIEs-RL-AdditionRspFDD }}

DL-CodeInformationListIEs-RL-AdditionRspFDD RNSAP-PROTOCOL-IES ::= {
    { ID id-FDD-DL-CodeInformation  CRITICALITY ignore  TYPE FDD-DL-CodeInformation     PRESENCE mandatory }
}

DiversityIndication-RL-AdditionRspFDD ::= CHOICE {
    combining                       Combining-RL-AdditionRspFDD,
    nonCombining                    NonCombining-RL-AdditionRspFDD
}

Combining-RL-AdditionRspFDD ::= SEQUENCE {
    rL-ID                       RL-ID,
    iE-Extensions               ProtocolExtensionContainer { { CombiningItem-RL-AdditionRspFDD-ExtIEs} } OPTIONAL,
    ...
}

CombiningItem-RL-AdditionRspFDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...,
    { ID id-DCH-InformationResponse         CRITICALITY ignore  EXTENSION DCH-InformationResponse      PRESENCE optional }
}

NonCombining-RL-AdditionRspFDD ::= SEQUENCE {
    dCH-InformationResponse                 DCH-InformationResponse,
    iE-Extensions                               ProtocolExtensionContainer { { NonCombiningItem-RL-AdditionRspFDD-ExtIEs} } OPTIONAL,
    ...
}

NonCombiningItem-RL-AdditionRspFDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

RadioLinkAdditionResponseFDD-Extensions RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}
```

```
-- **************************************************************
--
-- RADIO LINK ADDITION RESPONSE TDD
--
-- **************************************************************

RadioLinkAdditionResponseTDD ::= SEQUENCE {
    protocolIEs                 ProtocolIE-Container      {{RadioLinkAdditionResponseTDD-IEs}},
    protocolExtensions           ProtocolExtensionContainer {{RadioLinkAdditionResponseTDD-Extensions}}               OPTIONAL,
    ...
}

RadioLinkAdditionResponseTDD-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-RL-InformationResponse-RL-AdditionRspTDD
                           CRITICALITY ignore  TYPE RL-InformationResponse-RL-AdditionRspTDD   PRESENCE mandatory }
    --For 3.84Mcps TDD only |
    { ID id-CriticalityDiagnostics          CRITICALITY ignore  TYPE CriticalityDiagnostics      PRESENCE optional },
    ...
}

RL-InformationResponse-RL-AdditionRspTDD ::= SEQUENCE {
    rL-ID                               RL-ID,
    uRA-Information                     URA-Information     OPTIONAL,
    sAI                                 SAI,
    gA-Cell                             GA-Cell     OPTIONAL,
    gA-AccessPointPosition              GA-AccessPointPosition  OPTIONAL,
    ul-TimeSlot-ISCP-Info               UL-TimeSlot-ISCP-Info,
    minUL-SIR                           UL-SIR,
    maxUL-SIR                           UL-SIR,
    maximumAllowedULTxPower             MaximumAllowedULTxPower,
    maximumDLTxPower                    DL-Power,
    minimumDLTxPower                    DL-Power,
    timingAdvanceApplied                TimingAdvanceApplied,
    alphaValue                          AlphaValue,
    ul-PhysCH-SF-Variation              UL-PhysCH-SF-Variation,
    synchronisationConfiguration        SynchronisationConfiguration,
    secondary-CCPCH-Info-TDD            Secondary-CCPCH-Info-TDD                        OPTIONAL,
    ul-CCTrCHInformation                UL-CCTrCHInformationList-RL-AdditionRspTDD      OPTIONAL,
    dl-CCTrCHInformation                DL-CCTrCHInformationList-RL-AdditionRspTDD      OPTIONAL,
    dCH-Information                     DCH-Information-RL-AdditionRspTDD               OPTIONAL,
    dSCH-InformationResponse            DSCH-InformationResponse-RL-AdditionRspTDD      OPTIONAL,
    uSCH-InformationResponse            USCH-InformationResponse-RL-AdditionRspTDD      OPTIONAL,
    neighbouring-UMTS-CellInformation   Neighbouring-UMTS-CellInformation   OPTIONAL,
    neighbouring-GSM-CellInformation    Neighbouring-GSM-CellInformation OPTIONAL,
    iE-Extensions                       ProtocolExtensionContainer { {RL-InformationResponse-RL-AdditionRspTDD-ExtIEs} } OPTIONAL,
    ...
}

RL-InformationResponse-RL-AdditionRspTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    { ID id-GA-CellAdditionalShapes         CRITICALITY ignore  EXTENSION   GA-CellAdditionalShapes     PRESENCE optional },
    ...
```

```
}

UL-CCTrCHInformationList-RL-AdditionRspTDD ::= ProtocolIE-Single-Container {{UL-CCTrCHInformationListIEs-RL-AdditionRspTDD}}

UL-CCTrCHInformationListIEs-RL-AdditionRspTDD RNSAP-PROTOCOL-IES ::= {
    { ID id-UL-CCTrCH-InformationListIE-RL-AdditionRspTDD   CRITICALITY ignore   TYPE UL-CCTrCHInformationListIE-RL-AdditionRspTDD    PRESENCE mandatory
}
}

UL-CCTrCHInformationListIE-RL-AdditionRspTDD ::= SEQUENCE (SIZE (1..maxNrOfCCTrCHs)) OF UL-CCTrCHInformationItem-RL-AdditionRspTDD

UL-CCTrCHInformationItem-RL-AdditionRspTDD ::= SEQUENCE {
    cCTrCH-ID                   CCTrCH-ID,
    ul-DPCH-Information              UL-DPCH-InformationList-RL-AdditionRspTDD       OPTIONAL,
    iE-Extensions                    ProtocolExtensionContainer { {UL-CCTrCHInformationItem-RL-AdditionRspTDD-ExtIEs} } OPTIONAL,
    ...
}

UL-CCTrCHInformationItem-RL-AdditionRspTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

UL-DPCH-InformationList-RL-AdditionRspTDD ::= ProtocolIE-Single-Container { {UL-DPCH-InformationListIEs-RL-AdditionRspTDD} }

UL-DPCH-InformationListIEs-RL-AdditionRspTDD RNSAP-PROTOCOL-IES ::= {
    { ID id-UL-DPCH-InformationItem-RL-AdditionRspTDD       CRITICALITY ignore  TYPE UL-DPCH-InformationItem-RL-AdditionRspTDD  PRESENCE mandatory  }
}

UL-DPCH-InformationItem-RL-AdditionRspTDD ::= SEQUENCE {
    repetitionPeriod                RepetitionPeriod,
    repetitionLength                RepetitionLength,
    tDD-DPCHOffset                  TDD-DPCHOffset,
    uL-Timeslot-Information         UL-Timeslot-Information,
    iE-Extensions                   ProtocolExtensionContainer { {UL-DPCH-InformationItem-RL-AdditionRspTDD-ExtIEs} } OPTIONAL,
    ...
}

UL-DPCH-InformationItem-RL-AdditionRspTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

DL-CCTrCHInformationList-RL-AdditionRspTDD ::= ProtocolIE-Single-Container {{DL-CCTrCHInformationListIEs-RL-AdditionRspTDD}}

DL-CCTrCHInformationListIEs-RL-AdditionRspTDD RNSAP-PROTOCOL-IES ::= {
    { ID id-DL-CCTrCH-InformationListIE-RL-AdditionRspTDD   CRITICALITY ignore   TYPE DL-CCTrCHInformationListIE-RL-AdditionRspTDD    PRESENCE mandatory
}
}

DL-CCTrCHInformationListIE-RL-AdditionRspTDD ::= SEQUENCE (SIZE (1..maxNrOfCCTrCHs)) OF DL-CCTrCHInformationItem-RL-AdditionRspTDD

DL-CCTrCHInformationItem-RL-AdditionRspTDD ::= SEQUENCE {
```

```
    cCTrCH-ID                   CCTrCH-ID,
    dl-DPCH-Information              DL-DPCH-InformationList-RL-AdditionRspTDD       OPTIONAL,
    iE-Extensions                   ProtocolExtensionContainer { {DL-CCTrCHInformationItem-RL-AdditionRspTDD-ExtIEs} } OPTIONAL,
    ...
}

DL-CCTrCHInformationItem-RL-AdditionRspTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

DL-DPCH-InformationList-RL-AdditionRspTDD ::= ProtocolIE-Single-Container { {DL-DPCH-InformationListIEs-RL-AdditionRspTDD} }

DL-DPCH-InformationListIEs-RL-AdditionRspTDD RNSAP-PROTOCOL-IES ::= {
    { ID id-DL-DPCH-InformationItem-RL-AdditionRspTDD       CRITICALITY ignore  TYPE DL-DPCH-InformationItem-RL-AdditionRspTDD  PRESENCE mandatory  }
}

DL-DPCH-InformationItem-RL-AdditionRspTDD ::= SEQUENCE {
    repetitionPeriod                RepetitionPeriod,
    repetitionLength                RepetitionLength,
    tDD-DPCHOffset                  TDD-DPCHOffset,
    dL-Timeslot-Information         DL-Timeslot-Information,
    iE-Extensions                   ProtocolExtensionContainer { {DL-DPCH-InformationItem-RL-AdditionRspTDD-ExtIEs} } OPTIONAL,
    ...
}

DL-DPCH-InformationItem-RL-AdditionRspTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

DCH-Information-RL-AdditionRspTDD ::= SEQUENCE {
    diversityIndication                 DiversityIndication-RL-AdditionRspTDD,
    -- This IE represents both the Diversity Indication IE and the choice based on the diversity indication as described in
    -- the tabular message format in subclause 9.1.
    iE-Extensions                   ProtocolExtensionContainer { { DCH-Information-RL-AdditionRspTDD-ExtIEs} } OPTIONAL,
    ...
}

DCH-Information-RL-AdditionRspTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

DiversityIndication-RL-AdditionRspTDD ::= CHOICE {
    combining       Combining-RL-AdditionRspTDD,
    nonCombining    NonCombining-RL-AdditionRspTDD
}

Combining-RL-AdditionRspTDD ::= SEQUENCE {
    rL-ID                       RL-ID,
    iE-Extensions               ProtocolExtensionContainer { { CombiningItem-RL-AdditionRspTDD-ExtIEs} } OPTIONAL,
    ...
}
```

```
CombiningItem-RL-AdditionRspTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...,
    { ID id-DCH-InformationResponse         CRITICALITY ignore  EXTENSION DCH-InformationResponse      PRESENCE optional }
}

NonCombining-RL-AdditionRspTDD  ::= SEQUENCE {
    dCH-InformationResponse     DCH-InformationResponse,
    iE-Extensions                   ProtocolExtensionContainer { { NonCombiningItem-RL-AdditionRspTDD-ExtIEs} } OPTIONAL,
    ...
}

NonCombiningItem-RL-AdditionRspTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

DSCH-InformationResponse-RL-AdditionRspTDD ::= ProtocolIE-Single-Container {{DSCH-InformationListIEs-RL-AdditionRspTDD}}

DSCH-InformationListIEs-RL-AdditionRspTDD RNSAP-PROTOCOL-IES ::= {
    { ID id-DSCH-InformationListIE-RL-AdditionRspTDD    CRITICALITY ignore  TYPE DSCH-InformationListIE-RL-AdditionRspTDD   PRESENCE mandatory }
}

DSCH-InformationListIE-RL-AdditionRspTDD ::= SEQUENCE (SIZE(0..maxNoOfDSCHs)) OF DSCHInformationItem-RL-AdditionRspTDD

DSCHInformationItem-RL-AdditionRspTDD ::= SEQUENCE {
    dsch-ID                 DSCH-ID,
    transportFormatManagement   TransportFormatManagement,
    dSCH-FlowControlInformation     DSCH-FlowControlInformation,
    diversityIndication     DiversityIndication-RL-AdditionRspTDD2 OPTIONAL,
    -- diversityIndication present, if CHOICE = nonCombining
    iE-Extensions           ProtocolExtensionContainer { {DSCHInformationItem-RL-AdditionRspTDD-ExtIEs} } OPTIONAL,
    ...
}

DSCHInformationItem-RL-AdditionRspTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

DiversityIndication-RL-AdditionRspTDD2 ::= SEQUENCE {
    bindingID               BindingID   OPTIONAL,
    transportLayerAddress   TransportLayerAddress   OPTIONAL,
    iE-Extensions           ProtocolExtensionContainer { {DiversityIndication-RL-AdditionRspTDD2-ExtIEs} } OPTIONAL,
    ...
}
DiversityIndication-RL-AdditionRspTDD2-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

USCH-InformationResponse-RL-AdditionRspTDD ::= ProtocolIE-Single-Container {{USCH-InformationListIEs-RL-AdditionRspTDD}}

USCH-InformationListIEs-RL-AdditionRspTDD RNSAP-PROTOCOL-IES ::= {
```

```
    { ID id-USCH-InformationListIE-RL-AdditionRspTDD    CRITICALITY ignore  TYPE USCH-InformationListIE-RL-AdditionRspTDD   PRESENCE mandatory }
}

USCH-InformationListIE-RL-AdditionRspTDD ::= SEQUENCE (SIZE(0..maxNoOfUSCHs)) OF USCHInformationItem-RL-AdditionRspTDD

USCHInformationItem-RL-AdditionRspTDD ::= SEQUENCE {
    uSCH-ID                 USCH-ID,
    transportFormatManagement   TransportFormatManagement,
    diversityIndication     DiversityIndication-RL-AdditionRspTDD2 OPTIONAL,
    -- diversityIndication present, if CHOICE = nonCombining
    iE-Extensions           ProtocolExtensionContainer { {USCHInformationItem-RL-AdditionRspTDD-ExtIEs} } OPTIONAL,
    ...
}

USCHInformationItem-RL-AdditionRspTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

RadioLinkAdditionResponseTDD-Extensions RNSAP-PROTOCOL-EXTENSION ::= {
    { ID id-RL-LCR-InformationResponse-RL-AdditionRspTDD    CRITICALITY ignore      EXTENSION   RL-LCR-InformationResponse-RL-AdditionRspTDD
    PRESENCE mandatory  },
    --For 1.28Mcps TDD only
    ...
}

RL-LCR-InformationResponse-RL-AdditionRspTDD ::= SEQUENCE {
    rL-ID                       RL-ID,
    uRA-Information             URA-Information,
    sAI                         SAI,
    gA-Cell                     GA-Cell     OPTIONAL,
    uTRAN-AccessPointPosition   UTRAN-AccessPointPosition   OPTIONAL,
    ul-TimeSlot-ISCP-LCR-Info   UL-TimeSlot-ISCP-LCR-Info,
    maxUL-SIR                   UL-SIR,
    minUL-SIR                   UL-SIR,
    maximumAllowedULTxPower     MaximumAllowedULTxPower,
    maximumDLTxPower            DL-Power,
    minimumDLTxPower            DL-Power,
    ul-PhysCH-SF-Variation      UL-PhysCH-SF-Variation,
    ul-CCTrCH-LCR-Information           UL-CCTrCH-LCR-InformationList-RL-SetupRspTDD        OPTIONAL,
    dl-CCTrCH-LCR-Information           DL-CCTrCH-LCR-InformationList-RL-SetupRspTDD        OPTIONAL,
    dCH-InformationResponse             DCH-InformationResponseList-RL-SetupRspTDD  OPTIONAL,
    dsch-LCR-InformationResponse        DSCH-LCR-InformationResponse-RL-SetupRspTDD    OPTIONAL,
    usch-LCR-InformationResponse            USCH-LCR-InformationResponse-RL-SetupRspTDD    OPTIONAL,
    neighbouring-UMTS-CellInformation           Neighbouring-UMTS-CellInformation           OPTIONAL,
    neighbouring-GSM-CellInformation            Neighbouring-GSM-CellInformation            OPTIONAL,
    iE-Extensions                               ProtocolExtensionContainer { { RL-LCR-InformationResponseList-RL-SetupRspTDD-ExtIEs} }     OPTIONAL,
    ...
}

RL-LCR-InformationResponseList-RL-AdditionRspTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
```

```
}

UL-CCTrCH-LCR-InformationList-RL-AdditionRspTDD ::= ProtocolIE-Single-Container {{UL-CCTrCH-LCR-InformationListIEs-RL-AdditionRspTDD }}

UL-CCTrCH-LCR-InformationListIEs-RL-AdditionRspTDD RNSAP-PROTOCOL-IES ::= {
    { ID id-UL-CCTrCH-LCR-InformationListIE-RL-AdditionRspTDD   CRITICALITY ignore   TYPE UL-CCTrCH-LCR-InformationListIE-RL-AdditionRspTDD    PRESENCE
mandatory }
}

UL-CCTrCH-LCR-InformationListIE-RL-AdditionRspTDD ::= SEQUENCE (SIZE (1..maxNrOfCCTrCHsLCR)) OF UL-CCTrCH-LCR-InformationItem-RL-AdditionRspTDD

UL-CCTrCH-LCR-InformationItem-RL-AdditionRspTDD ::= SEQUENCE {
    cCTrCH-ID                   CCTrCH-ID,
    ul-DPCH-LCR-Information            UL-DPCH-LCR-InformationList-RL-AdditionRspTDD       OPTIONAL,
    iE-Extensions                   ProtocolExtensionContainer { {UL-CCTrCH-LCR-InformationItem-RL-AdditionRspTDD-ExtIEs} } OPTIONAL,
    ...
}

UL-CCTrCH-LCR-InformationItem-RL-AdditionRspTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

UL-DPCH-LCR-InformationList-RL-AdditionRspTDD ::= ProtocolIE-Single-Container { {UL-DPCH-LCR-InformationListIEs-RL-AdditionRspTDD} }

UL-DPCH-LCR-InformationListIEs-RL-AdditionRspTDD RNSAP-PROTOCOL-IES ::= {
    { ID id-UL-DPCH-LCR-InformationItem-RL-AdditionRspTDD       CRITICALITY ignore  TYPE UL-DPCH-LCR-InformationItem-RL-AdditionRspTDD  PRESENCE
mandatory   }
}

UL-DPCH-LCR-InformationItem—RL-AdditionRspTDD ::= SEQUENCE {
    repetitionPeriod                RepetitionPeriod,
    repetitionLength                RepetitionLength,
    tDD-DPCHOffset                  TDD-DPCHOffset,
    uL-TimeslotLCR-Information      UL-TimeslotLCR-Information,
    iE-Extensions                   ProtocolExtensionContainer { {UL-DPCH-LCR-InformationItem-RL-AdditionRspTDD-ExtIEs} } OPTIONAL,
    ...
}

UL-DPCH-LCR-InformationItem-RL-AdditionRspTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

DL-CCTrCH-LCR-InformationList-RL-AdditionRspTDD ::= ProtocolIE-Single-Container {{DL-CCTrCH-LCR-InformationListIEs-RL-AdditionRspTDD}}

DL-CCTrCH-LCR-InformationListIEs-RL-AdditionRspTDD RNSAP-PROTOCOL-IES ::= {
    { ID id-DL-CCTrCH-LCR-InformationListIE-RL-AdditionRspTDD   CRITICALITY ignore   TYPE DL-CCTrCH-LCR-InformationListIE-RL-AdditionRspTDD  PRESENCE
mandatory }
}

DL-CCTrCH-LCR-InformationListIE-RL-AdditionRspTDD ::= SEQUENCE (SIZE (1..maxNrOfCCTrCHsLCR)) OF DL-CCTrCH-LCR-InformationItem-RL-AdditionRspTDD
```

```
DL-CCTrCH-LCR-InformationItem-RL-AdditionRspTDD ::= SEQUENCE {
    cCTrCH-ID                   CCTrCH-ID,
    dl-DPCH-LCR-Information             DL-DPCH-LCR-InformationList-RL-AdditionRspTDD       OPTIONAL,
    iE-Extensions                   ProtocolExtensionContainer { {DL-CCTrCH-LCR-InformationItem-RL-AdditionRspTDD-ExtIEs} } OPTIONAL,
    ...
}

DL-CCTrCH-LCR-InformationItem-RL-AdditionRspTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

DL-DPCH-LCR-InformationList-RL-AdditionRspTDD ::= ProtocolIE-Single-Container { {DL-DPCH-LCR-InformationListIEs-RL-AdditionRspTDD} }

DL-DPCH-LCR-InformationListIEs-RL-AdditionRspTDD RNSAP-PROTOCOL-IES ::= {
    { ID id-DL-DPCH-LCR-InformationItem-RL-AdditionRspTDD       CRITICALITY ignore  TYPE DL-DPCH-LCR-InformationItem-RL-AdditionRspTDD  PRESENCE
mandatory   }
}

DL-DPCH-LCR-InformationItem-RL-AdditionRspTDD ::= SEQUENCE {
    repetitionPeriod                RepetitionPeriod,
    repetitionLength                RepetitionLength,
    tDD-DPCHOffset                  TDD-DPCHOffset,
    dL-TimeslotLCR-Information          DL-TimeslotLCR-Information,
    tSTD-Indicator                  TSTD-Indicator,
    iE-Extensions                   ProtocolExtensionContainer { {DL-DPCH-LCR-InformationItem-RL-AdditionRspTDD-ExtIEs} } OPTIONAL,
    ...
}

DL-DPCH-LCR-InformationItem-RL-AdditionRspTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

DCH-InformationResponseList-RL-AdditionRspTDD ::= ProtocolIE-Single-Container {{DCH-InformationResponseListIEs-RL-AdditionRspTDD}}

DCH-InformationResponseListIEs-RL-AdditionRspTDD RNSAP-PROTOCOL-IES ::= {
    { ID id-DCH-InformationResponse   CRITICALITY ignore TYPE DCH-InformationResponse  PRESENCE mandatory }
}

DSCH-LCR-InformationResponse-RL-AdditionRspTDD ::= ProtocolIE-Single-Container {{DSCH-LCR-InformationList-RL-AdditionRspTDD}}

DSCH-LCR-InformationList-RL-AdditionRspTDD RNSAP-PROTOCOL-IES ::= {
    { ID id-DSCH-LCR-InformationListIEs-RL-AdditionRspTDD       CRITICALITY ignore  TYPE DSCH-LCR-InformationListIEs-RL-AdditionRspTDD PRESENCE
mandatory }
}

DSCH-LCR-InformationListIEs-RL-AdditionRspTDD ::= SEQUENCE (SIZE(0..maxNoOfDSCHsLCR)) OF DSCH-LCR-InformationItem-RL-AdditionRspTDD

DSCH-LCR-InformationItem-RL-AdditionRspTDD ::= SEQUENCE {
    dsch-ID                 DSCH-ID,
    dSCH-FlowControlInformation     DSCH-FlowControlInformation,
    bindingID               BindingID   OPTIONAL,
```

```
    transportLayerAddress   TransportLayerAddress   OPTIONAL,
    transportFormatManagement   TransportFormatManagement,
    iE-Extensions           ProtocolExtensionContainer { {DSCH-LCR-InformationItem-RL-AdditionRspTDD-ExtIEs} } OPTIONAL,
    ...
}

DSCH-LCR-InformationItem-RL-AdditionRspTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

USCH-LCR-InformationResponse-RL-AdditionRspTDD ::= ProtocolIE-Single-Container {{USCH-LCR-InformationList-RL-AdditionRspTDD}}

USCH-LCR-InformationList-RL-AdditionRspTDD RNSAP-PROTOCOL-IES ::= {
    { ID id-USCH-LCR-InformationListIEs-RL-AdditionRspTDD       CRITICALITY ignore  TYPE USCH-LCR-InformationListIEs-RL-AdditionRspTDD PRESENCE
mandatory }
}

USCH-LCR-InformationListIEs-RL-AdditionRspTDD ::= SEQUENCE (SIZE(0..maxNoOfUSCHsLCR)) OF USCH-LCR-InformationItem-RL-AdditionRspTDD

USCH-LCR-InformationItem-RL-AdditionRspTDD ::= SEQUENCE {
    usch-ID                     USCH-ID,
    transportFormatManagement   TransportFormatManagement,
    diversityIndication         DiversityIndication-RL-AdditionRspTDD2      OPTIONAL,
    iE-Extensions               ProtocolExtensionContainer { {USCH-LCR-InformationItem-RL-AdditionRspTDD-ExtIEs} } OPTIONAL,
    ...
}

USCH-LCR-InformationItem-RL-AdditionRspTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

Neighbouring-GSM-CellInformation-RL-AdditionRspTDD ::= ProtocolIE-Single-Container {{ Neighbouring-GSM-CellInformationItem-RL-AdditionRspTDD }}

Neighbouring-GSM-CellInformationItem-RL-AdditionRspTDD RNSAP-PROTOCOL-IES ::= {
    { ID id-Neighbouring-GSM-CellInformation    CRITICALITY ignore  TYPE    Neighbouring-GSM-CellInformation  PRESENCE mandatory }}

-- **************************************************************
--
-- RADIO LINK ADDITION FAILURE FDD
--
-- **************************************************************

RadioLinkAdditionFailureFDD ::= SEQUENCE {
    protocolIEs                 ProtocolIE-Container      {{RadioLinkAdditionFailureFDD-IEs}},
    protocolExtensions           ProtocolExtensionContainer {{RadioLinkAdditionFailureFDD-Extensions}}               OPTIONAL,
    ...
}

RadioLinkAdditionFailureFDD-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-CauseLevel-RL-AdditionFailureFDD                    CRITICALITY     ignore           TYPE CauseLevel-RL-AdditionFailureFDD
    PRESENCE    mandatory }|
```

```
    { ID id-CriticalityDiagnostics          CRITICALITY ignore  TYPE CriticalityDiagnostics      PRESENCE optional },
    ...
}

CauseLevel-RL-AdditionFailureFDD ::= CHOICE {
    generalCause        GeneralCauseList-RL-AdditionFailureFDD,
    rLSpecificCause     RLSpecificCauseList-RL-AdditionFailureFDD,
    ...
}

GeneralCauseList-RL-AdditionFailureFDD ::= SEQUENCE {
    cause                                   Cause,
    iE-Extensions                           ProtocolExtensionContainer { { GeneralCauseItem-RL-AdditionFailureFDD-ExtIEs} }      OPTIONAL,
    ...
}

GeneralCauseItem-RL-AdditionFailureFDD-ExtIEs  RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

RLSpecificCauseList-RL-AdditionFailureFDD ::= SEQUENCE {
    unsuccessful-RL-InformationRespList-RL-AdditionFailureFDD       UnsuccessfulRL-InformationResponseList-RL-AdditionFailureFDD,
    successful-RL-InformationRespList-RL-AdditionFailureFDD         SuccessfulRL-InformationResponseList-RL-AdditionFailureFDD  OPTIONAL,
    iE-Extensions                           ProtocolExtensionContainer { { RLSpecificCauseItem-RL-AdditionFailureFDD-ExtIEs} }      OPTIONAL,
    ...
}

RLSpecificCauseItem-RL-AdditionFailureFDD-ExtIEs  RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

UnsuccessfulRL-InformationResponseList-RL-AdditionFailureFDD ::= SEQUENCE (SIZE (1..maxNrOfRLs-1)) OF ProtocolIE-Single-Container { {UnsuccessfulRL-
InformationResponse-RL-AdditionFailureFDD-IEs} }

UnsuccessfulRL-InformationResponse-RL-AdditionFailureFDD-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-UnsuccessfulRL-InformationResponse-RL-AdditionFailureFDD    CRITICALITY ignore  TYPE UnsuccessfulRL-InformationResponse-RL-
AdditionFailureFDD      PRESENCE mandatory  }
}

UnsuccessfulRL-InformationResponse-RL-AdditionFailureFDD ::= SEQUENCE {
    rL-ID                           RL-ID,
    cause                           Cause,
    iE-Extensions                   ProtocolExtensionContainer { {UnsuccessfulRL-InformationResponse-RL-AdditionFailureFDD-ExtIEs} } OPTIONAL,
    ...
}

UnsuccessfulRL-InformationResponse-RL-AdditionFailureFDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}
```

```
SuccessfulRL-InformationResponseList-RL-AdditionFailureFDD ::= SEQUENCE (SIZE (0..maxNrOfRLs-2)) OF ProtocolIE-Single-Container { {SuccessfulRL-
InformationResponse-RL-AdditionFailureFDD-IEs} }

SuccessfulRL-InformationResponse-RL-AdditionFailureFDD-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-SuccessfulRL-InformationResponse-RL-AdditionFailureFDD      CRITICALITY ignore  TYPE SuccessfulRL-InformationResponse-RL-AdditionFailureFDD
        PRESENCE mandatory  }
}

SuccessfulRL-InformationResponse-RL-AdditionFailureFDD ::= SEQUENCE {
    rL-ID                               RL-ID,
    rL-Set-ID                           RL-Set-ID,
    uRA-Information                     URA-Information     OPTIONAL,
    sAI                                 SAI,
    gA-Cell                             GA-Cell     OPTIONAL,
    gA-AccessPointPosition              GA-AccessPointPosition      OPTIONAL,
    received-total-wide-band-power      Received-total-wide-band-power,
    secondary-CCPCH-Info                Secondary-CCPCH-Info        OPTIONAL,
    dl-CodeInformation                  DL-CodeInformationList-RL-AdditionFailureFDD,
    diversityIndication                 DiversityIndication-RL-AdditionFailureFDD,
    -- This IE represents both the Diversity Indication IE and the choice based on the diversity indication as described in
    -- the tabular message format in subclause 9.1.
    sSDT-SupportIndicator               SSDT-SupportIndicator,
    minUL-SIR                           UL-SIR,
    maxUL-SIR                           UL-SIR,
    closedlooptimingadjustmentmode      Closedlooptimingadjustmentmode  OPTIONAL,
    maximumAllowedULTxPower             MaximumAllowedULTxPower,
    maximumDLTxPower                    DL-Power,
    minimumDLTxPower                    DL-Power,
    neighbouring-UMTS-CellInformation   Neighbouring-UMTS-CellInformation OPTIONAL,
    neighbouring-GSM-CellInformation    Neighbouring-GSM-CellInformation OPTIONAL,
    iE-Extensions                       ProtocolExtensionContainer { {SuccessfulRL-InformationResponse-RL-AdditionFailureFDD-ExtIEs} } OPTIONAL,
    ...
}

SuccessfulRL-InformationResponse-RL-AdditionFailureFDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    { ID id-GA-CellAdditionalShapes         CRITICALITY ignore  EXTENSION   GA-CellAdditionalShapes     PRESENCE optional },
    ...
}

DL-CodeInformationList-RL-AdditionFailureFDD ::= ProtocolIE-Single-Container {{ DL-CodeInformationListIEs-RL-AdditionFailureFDD }}

DL-CodeInformationListIEs-RL-AdditionFailureFDD RNSAP-PROTOCOL-IES ::= {
    { ID id-FDD-DL-CodeInformation  CRITICALITY ignore  TYPE FDD-DL-CodeInformation     PRESENCE mandatory }
}

DiversityIndication-RL-AdditionFailureFDD ::= CHOICE {
    combining                       Combining-RL-AdditionFailureFDD,
    nonCombining                    NonCombining-RL-AdditionFailureFDD
}

Combining-RL-AdditionFailureFDD ::= SEQUENCE {
```

```
    rL-ID                       RL-ID,
    iE-Extensions               ProtocolExtensionContainer { { CombiningItem-RL-AdditionFailureFDD-ExtIEs} } OPTIONAL,
    ...
}

CombiningItem-RL-AdditionFailureFDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...,
    { ID id-DCH-InformationResponse         CRITICALITY ignore  EXTENSION DCH-InformationResponse      PRESENCE optional }
}

NonCombining-RL-AdditionFailureFDD ::= SEQUENCE {
    dCH-InformationResponse     DCH-InformationResponse,
    iE-Extensions                           ProtocolExtensionContainer { { NonCombiningItem-RL-AdditionFailureFDD-ExtIEs} } OPTIONAL,
    ...
}

NonCombiningItem-RL-AdditionFailureFDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

RadioLinkAdditionFailureFDD-Extensions RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

-- **************************************************************
--
-- RADIO LINK ADDITION FAILURE TDD
--
-- **************************************************************

RadioLinkAdditionFailureTDD ::= SEQUENCE {
    protocolIEs                 ProtocolIE-Container      {{RadioLinkAdditionFailureTDD-IEs}},
    protocolExtensions           ProtocolExtensionContainer {{RadioLinkAdditionFailureTDD-Extensions}}               OPTIONAL,
    ...
}

RadioLinkAdditionFailureTDD-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-CauseLevel-RL-AdditionFailureTDD    CRITICALITY ignore  TYPE CauseLevel-RL-AdditionFailureTDD  PRESENCE mandatory }|
    { ID id-CriticalityDiagnostics          CRITICALITY ignore  TYPE CriticalityDiagnostics      PRESENCE optional },
    ...
}

CauseLevel-RL-AdditionFailureTDD ::= CHOICE {
    generalCause        GeneralCauseList-RL-AdditionFailureTDD,
    rLSpecificCause     RLSpecificCauseList-RL-AdditionFailureTDD,
    ...
}

GeneralCauseList-RL-AdditionFailureTDD ::= SEQUENCE {
    cause                       Cause,
    iE-Extensions               ProtocolExtensionContainer { { GeneralCauseItem-RL-AdditionFailureTDD-ExtIEs} }    OPTIONAL,
```

```
    ...
}

GeneralCauseItem-RL-AdditionFailureTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

RLSpecificCauseList-RL-AdditionFailureTDD ::= SEQUENCE {
    unsuccessful-RL-InformationRespItem-RL-AdditionFailureTDD   Unsuccessful-RL-InformationRespItem-RL-AdditionFailureTDD,
    iE-Extensions                                               ProtocolExtensionContainer { { RLSpecificCauseItem-RL-AdditionFailureTDD-ExtIEs} }
    OPTIONAL,
    ...
}

RLSpecificCauseItem-RL-AdditionFailureTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

Unsuccessful-RL-InformationRespItem-RL-AdditionFailureTDD ::= ProtocolIE-Single-Container { {Unsuccessful-RL-InformationRespItemIE-RL-
AdditionFailureTDD} }

Unsuccessful-RL-InformationRespItemIE-RL-AdditionFailureTDD RNSAP-PROTOCOL-IES ::= {
    { ID    id-UnsuccessfulRL-InformationResponse-RL-AdditionFailureTDD     CRITICALITY ignore    TYPE  UnsuccessfulRL-InformationResponse-RL-
AdditionFailureTDD  PRESENCE mandatory}
}

UnsuccessfulRL-InformationResponse-RL-AdditionFailureTDD ::= SEQUENCE {
    rL-ID                       RL-ID,
    cause                       Cause,
    iE-Extensions               ProtocolExtensionContainer { {UnsuccessfulRL-InformationResponse-RL-AdditionFailureTDD-ExtIEs} } OPTIONAL,
    ...
}

UnsuccessfulRL-InformationResponse-RL-AdditionFailureTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

RadioLinkAdditionFailureTDD-Extensions RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

-- **************************************************************
--
-- RADIO LINK DELETION REQUEST
--
-- **************************************************************

RadioLinkDeletionRequest ::= SEQUENCE {
    protocolIEs                 ProtocolIE-Container      {{RadioLinkDeletionRequest-IEs}},
    protocolExtensions           ProtocolExtensionContainer {{RadioLinkDeletionRequest-Extensions}}               OPTIONAL,
    ...
```

```
}

RadioLinkDeletionRequest-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-RL-InformationList-RL-DeletionRqst  CRITICALITY notify  TYPE RL-InformationList-RL-DeletionRqst     PRESENCE mandatory   },
    ...
}

RL-InformationList-RL-DeletionRqst          ::= SEQUENCE (SIZE (1..maxNrOfRLs)) OF ProtocolIE-Single-Container { {RL-Information-RL-DeletionRqst-IEs} }

RL-Information-RL-DeletionRqst-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-RL-Information-RL-DeletionRqst      CRITICALITY notify  TYPE RL-Information-RL-DeletionRqst    PRESENCE mandatory   }
}

RL-Information-RL-DeletionRqst ::= SEQUENCE {
    rL-ID                       RL-ID,
    iE-Extensions               ProtocolExtensionContainer { {RL-Information-RL-DeletionRqst-ExtIEs} } OPTIONAL,
    ...
}

RL-Information-RL-DeletionRqst-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

RadioLinkDeletionRequest-Extensions RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

-- **************************************************************
--
-- RADIO LINK DELETION RESPONSE
--
-- **************************************************************

RadioLinkDeletionResponse ::= SEQUENCE {
    protocolIEs                 ProtocolIE-Container      {{RadioLinkDeletionResponse-IEs}},
    protocolExtensions           ProtocolExtensionContainer {{RadioLinkDeletionResponse-Extensions}}               OPTIONAL,
    ...
}

RadioLinkDeletionResponse-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-CriticalityDiagnostics          CRITICALITY ignore  TYPE CriticalityDiagnostics       PRESENCE optional },
    ...
}

RadioLinkDeletionResponse-Extensions RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

-- **************************************************************
--
-- RADIO LINK RECONFIGURATION PREPARE FDD
```

```
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-- **********************************************************

RadioLinkReconfigurationPrepareFDD ::= SEQUENCE {
    protocolIEs                 ProtocolIE-Container      {{RadioLinkReconfigurationPrepareFDD-IEs}},
    protocolExtensions           ProtocolExtensionContainer {{RadioLinkReconfigurationPrepareFDD-Extensions}}               OPTIONAL,
    ...
}

RadioLinkReconfigurationPrepareFDD-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-AllowedQueuingTime          CRITICALITY reject  TYPE AllowedQueuingTime            PRESENCE optional  } |
    { ID id-UL-DPCH-Information-RL-ReconfPrepFDD           CRITICALITY reject  TYPE UL-DPCH-Information-RL-ReconfPrepFDD      PRESENCE optional } |
    { ID id-DL-DPCH-Information-RL-ReconfPrepFDD           CRITICALITY reject  TYPE DL-DPCH-Information-RL-ReconfPrepFDD      PRESENCE optional } |
    { ID id-FDD-DCHs-to-Modify      CRITICALITY reject  TYPE FDD-DCHs-to-Modify     PRESENCE optional  } |
    { ID id-DCHs-to-Add-FDD     CRITICALITY reject  TYPE DCH-FDD-Information        PRESENCE optional  } |
    { ID id-DCH-DeleteList-RL-ReconfPrepFDD     CRITICALITY reject  TYPE DCH-DeleteList-RL-ReconfPrepFDD     PRESENCE optional } |
    { ID id-DSCH-Modify-RL-ReconfPrepFDD        CRITICALITY reject  TYPE DSCH-Modify-RL-ReconfPrepFDD     PRESENCE optional } |
    { ID id-DSCHs-to-Add-FDD            CRITICALITY reject  TYPE DSCH-FDD-Information           PRESENCE optional  } |
    { ID id-DSCH-Delete-RL-ReconfPrepFDD        CRITICALITY reject  TYPE DSCH-Delete-RL-ReconfPrepFDD     PRESENCE optional } |
    { ID id-RL-InformationList-RL-ReconfPrepFDD CRITICALITY reject  TYPE RL-InformationList-RL-ReconfPrepFDD  PRESENCE optional }|
    { ID id-Transmission-Gap-Pattern-Sequence-Information   CRITICALITY reject  TYPE Transmission-Gap-Pattern-Sequence-Information PRESENCE optional },
    ...
}

UL-DPCH-Information-RL-ReconfPrepFDD ::= SEQUENCE {
    ul-ScramblingCode               UL-ScramblingCode       OPTIONAL,
    ul-SIRTarget                    UL-SIR                  OPTIONAL,
    minUL-ChannelisationCodeLength  MinUL-ChannelisationCodeLength  OPTIONAL,
    maxNrOfUL-DPDCHs                MaxNrOfUL-DPCHs         OPTIONAL
    -- This IE shall be present only if minUL-ChannelisationCodeLength equals to 4 --,
    ul-PunctureLimit                PunctureLimit           OPTIONAL,
    tFCS                            TFCS    OPTIONAL,
    ul-DPCCH-SlotFormat             UL-DPCCH-SlotFormat     OPTIONAL,
    diversityMode                   DiversityMode           OPTIONAL,
    sSDT-CellIDLength               SSDT-CellID-Length      OPTIONAL,
    s-FieldLength                   S-FieldLength           OPTIONAL,
    iE-Extensions                   ProtocolExtensionContainer { {UL-DPCH-Information-RL-ReconfPrepFDD-ExtIEs} } OPTIONAL,
    ...
}

UL-DPCH-Information-RL-ReconfPrepFDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

DL-DPCH-Information-RL-ReconfPrepFDD ::= SEQUENCE {
    tFCS                            TFCS    OPTIONAL,
    dl-DPCH-SlotFormat              DL-DPCH-SlotFormat      OPTIONAL,
    nrOfDLchannelisationcodes       NrOfDLchannelisationcodes   OPTIONAL,
    tFCI-SignallingMode             TFCI-SignallingMode     OPTIONAL,
    tFCI-Presence                   TFCI-Presence           OPTIONAL
    -- This IE shall be present if Slot Format is from 12 to 16 --,
```

```
    multiplexingPosition            MultiplexingPosition        OPTIONAL,
    limitedPowerIncrease            LimitedPowerIncrease        OPTIONAL,
    iE-Extensions                   ProtocolExtensionContainer { {DL-DPCH-Information-RL-ReconfPrepFDD-ExtIEs} } OPTIONAL,
    ...
}

DL-DPCH-Information-RL-ReconfPrepFDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

DCH-DeleteList-RL-ReconfPrepFDD             ::= SEQUENCE (SIZE (0..maxNrOfDCHs)) OF DCH-DeleteItem-RL-ReconfPrepFDD

DCH-DeleteItem-RL-ReconfPrepFDD ::= SEQUENCE {
    dCH-ID                          DCH-ID,
    iE-Extensions                   ProtocolExtensionContainer { {DCH-DeleteItem-RL-ReconfPrepFDD-ExtIEs} } OPTIONAL,
    ...
}

DCH-DeleteItem-RL-ReconfPrepFDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

DSCH-Modify-RL-ReconfPrepFDD ::= SEQUENCE {
    dSCH-Information                    DSCH-ModifyInfo-RL-ReconfPrepFDD    OPTIONAL,
    pdSCH-RL-ID                         RL-ID                       OPTIONAL,
    tFCS                                TFCS                        OPTIONAL,
    iE-Extensions                       ProtocolExtensionContainer { {DSCH-Modify-RL-ReconfPrepFDD-ExtIEs} } OPTIONAL,
    ...
}

DSCH-Modify-RL-ReconfPrepFDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

DSCH-ModifyInfo-RL-ReconfPrepFDD ::= SEQUENCE (SIZE(0..maxNoOfDSCHs)) OF DSCH-ModifyInformationItem-RL-ReconfPrepFDD

DSCH-ModifyInformationItem-RL-ReconfPrepFDD ::= SEQUENCE {
    dSCH-ID                             DSCH-ID,
    trChSourceStatisticsDescriptor      TrCH-SrcStatisticsDescr OPTIONAL,
    transportFormatSet                  TransportFormatSet              OPTIONAL,
    allocationRetentionPriority     AllocationRetentionPriority     OPTIONAL,
    schedulingPriorityIndicator         SchedulingPriorityIndicator     OPTIONAL,
    bLER                                BLER                            OPTIONAL,
    transportBearerRequestIndicator     TransportBearerRequestIndicator,
    iE-Extensions                       ProtocolExtensionContainer { {DSCH-ModifyInformationItem-RL-ReconfPrepFDD-ExtIEs} } OPTIONAL,
    ...
}

DSCH-ModifyInformationItem-RL-ReconfPrepFDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    { ID id-EnhancedDSCHPCIndicator         CRITICALITY ignore  EXTENSION EnhancedDSCHPCIndicator         PRESENCE optional }|
    { ID id-EnhancedDSCHPC                  CRITICALITY ignore  EXTENSION EnhancedDSCHPC                  PRESENCE conditional },
```

```
    -- The IE shall be present only if the Enhanced DSCH PC Indicator IE is set to "Enhanced DSCH PC Active in the UE".
    ...
}

DSCH-Delete-RL-ReconfPrepFDD ::= SEQUENCE {
    dSCH-Information                    DSCH-Info-Delete-RL-ReconfPrepFDD,
    iE-Extensions                       ProtocolExtensionContainer { {DSCH-Delete-RL-ReconfPrepFDD-ExtIEs} } OPTIONAL,
    ...
}

DSCH-Delete-RL-ReconfPrepFDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

DSCH-Info-Delete-RL-ReconfPrepFDD ::= SEQUENCE (SIZE(1..maxNoOfDSCHs)) OF DSCH-DeleteInformationItem-RL-REconfPrepFDD

DSCH-DeleteInformationItem-RL-REconfPrepFDD ::= SEQUENCE {
    dSCH-ID                             DSCH-ID,
    iE-Extensions                   ProtocolExtensionContainer { {DSCH-DeleteInformationItem-RL-ReconfPrepFDD-ExtIEs} } OPTIONAL,
    ...
}

DSCH-DeleteInformationItem-RL-ReconfPrepFDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

RL-InformationList-RL-ReconfPrepFDD         ::= SEQUENCE (SIZE (0..maxNrOfRLs)) OF ProtocolIE-Single-Container { {RL-Information-RL-ReconfPrepFDD-IEs}
}

RL-Information-RL-ReconfPrepFDD-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-RL-Information-RL-ReconfPrepFDD     CRITICALITY reject  TYPE RL-Information-RL-ReconfPrepFDD     PRESENCE mandatory   }
}

RL-Information-RL-ReconfPrepFDD ::= SEQUENCE {
    rL-ID                       RL-ID,
    sSDT-Indication                 SSDT-Indication     OPTIONAL,
    sSDT-CellIdentity               SSDT-CellID     OPTIONAL
    -- The IE may be present if the sSDT-Indication is set to 'sSDT-active-in-the-UE' --,
    transmitDiversityIndicator      TransmitDiversityIndicator      OPTIONAL,
    -- This IE shall be present if Diversity Mode IE in UL DPCH Information IE is present, unless it is equal to "none"
    iE-Extensions                   ProtocolExtensionContainer { {RL-Information-RL-ReconfPrepFDD-ExtIEs} } OPTIONAL,
    ...
}

RL-Information-RL-ReconfPrepFDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    { ID id-SSDT-CellIDforEDSCHPC CRITICALITY ignore EXTENSION SSDT-CellID          PRESENCE conditional },
    -- This IE shall be present if Enhanced DSCH PC IE is present in either the DSCHs to Modify IE or the DSCHs to Add IE.
    ...
}

RadioLinkReconfigurationPrepareFDD-Extensions RNSAP-PROTOCOL-EXTENSION ::= {
```

```
    ...
}

-- **************************************************************
--
-- RADIO LINK RECONFIGURATION PREPARE TDD
--
-- **************************************************************

RadioLinkReconfigurationPrepareTDD ::= SEQUENCE {
    protocolIEs                 ProtocolIE-Container      {{RadioLinkReconfigurationPrepareTDD-IEs}},
    protocolExtensions           ProtocolExtensionContainer {{RadioLinkReconfigurationPrepareTDD-Extensions}}               OPTIONAL,
    ...
}

RadioLinkReconfigurationPrepareTDD-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-AllowedQueuingTime          CRITICALITY reject  TYPE AllowedQueuingTime             PRESENCE optional  } |
    { ID id-UL-CCTrCH-InformationAddList-RL-ReconfPrepTDD   CRITICALITY notify  TYPE UL-CCTrCH-InformationAddList-RL-ReconfPrepTDDPRESENCE optional } |
    { ID id-UL-CCTrCH-InformationModifyList-RL-ReconfPrepTDD    CRITICALITY notify  TYPE UL-CCTrCH-InformationModifyList-RL-ReconfPrepTDD  PRESENCE
optional    } |
    { ID id-UL-CCTrCH-InformationDeleteList-RL-ReconfPrepTDD    CRITICALITY notify  TYPE UL-CCTrCH-InformationDeleteList-RL-ReconfPrepTDD  PRESENCE
optional    } |
    { ID id-DL-CCTrCH-InformationAddList-RL-ReconfPrepTDD   CRITICALITY notify  TYPE DL-CCTrCH-InformationAddList-RL-ReconfPrepTDDPRESENCE optional } |
    { ID id-DL-CCTrCH-InformationModifyList-RL-ReconfPrepTDD    CRITICALITY notify  TYPE DL-CCTrCH-InformationModifyList-RL-ReconfPrepTDD  PRESENCE
optional    } |
    { ID id-DL-CCTrCH-InformationDeleteList-RL-ReconfPrepTDD    CRITICALITY notify  TYPE DL-CCTrCH-InformationDeleteList-RL-ReconfPrepTDD  PRESENCE
optional    } |
    { ID id-TDD-DCHs-to-Modify      CRITICALITY reject  TYPE TDD-DCHs-to-Modify     PRESENCE optional   } |
    { ID id-DCHs-to-Add-TDD     CRITICALITY reject  TYPE DCH-TDD-Information        PRESENCE optional   } |
    { ID id-DCH-DeleteList-RL-ReconfPrepTDD     CRITICALITY reject  TYPE DCH-DeleteList-RL-ReconfPrepTDD     PRESENCE optional }|
    { ID id-DSCH-ModifyList-RL-ReconfPrepTDD    CRITICALITY reject  TYPE DSCH-ModifyList-RL-ReconfPrepTDD    PRESENCE optional } |
    { ID id-DSCHs-to-Add-TDD        CRITICALITY reject  TYPE DSCH-TDD-Information           PRESENCE optional} |
    { ID id-DSCH-DeleteList-RL-ReconfPrepTDD    CRITICALITY reject  TYPE DSCH-DeleteList-RL-ReconfPrepTDD    PRESENCE optional } |
    { ID id-USCH-ModifyList-RL-ReconfPrepTDD    CRITICALITY reject  TYPE USCH-ModifyList-RL-ReconfPrepTDD    PRESENCE optional } |
    { ID id-USCHs-to-Add        CRITICALITY reject  TYPE USCH-Information           PRESENCE optional   } |
    { ID id-USCH-DeleteList-RL-ReconfPrepTDD    CRITICALITY reject  TYPE USCH-DeleteList-RL-ReconfPrepTDD    PRESENCE optional },
    ...
}

UL-CCTrCH-InformationAddList-RL-ReconfPrepTDD       ::= SEQUENCE (SIZE (0..maxNrOfCCTrCHs)) OF ProtocolIE-Single-Container { {UL-CCTrCH-AddInformation-
RL-ReconfPrepTDD-IEs} }

UL-CCTrCH-AddInformation-RL-ReconfPrepTDD-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-UL-CCTrCH-AddInformation-RL-ReconfPrepTDD   CRITICALITY notify  TYPE UL-CCTrCH-AddInformation-RL-ReconfPrepTDD  PRESENCE mandatory   }
}

UL-CCTrCH-AddInformation-RL-ReconfPrepTDD ::= SEQUENCE {
    cCTrCH-ID                   CCTrCH-ID,
    tFCS                        TFCS,
    tFCI-Coding                 TFCI-Coding,
    punctureLimit                   PunctureLimit,
```

```
    iE-Extensions                   ProtocolExtensionContainer { {UL-CCTrCH-AddInformation-RL-ReconfPrepTDD-ExtIEs} } OPTIONAL,
    ...
}

UL-CCTrCH-AddInformation-RL-ReconfPrepTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

UL-CCTrCH-InformationModifyList-RL-ReconfPrepTDD        ::= SEQUENCE (SIZE (0..maxNrOfCCTrCHs)) OF ProtocolIE-Single-Container { {UL-CCTrCH-
ModifyInformation-RL-ReconfPrepTDD-IEs} }

UL-CCTrCH-ModifyInformation-RL-ReconfPrepTDD-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-UL-CCTrCH-ModifyInformation-RL-ReconfPrepTDD    CRITICALITY notify  TYPE UL-CCTrCH-ModifyInformation-RL-ReconfPrepTDD PRESENCE mandatory
    }
}

UL-CCTrCH-ModifyInformation-RL-ReconfPrepTDD ::= SEQUENCE {
    cCTrCH-ID                   CCTrCH-ID,
    tFCS                        TFCS        OPTIONAL,
    tFCI-Coding                 TFCI-Coding             OPTIONAL,
    punctureLimit                   PunctureLimit               OPTIONAL,
    iE-Extensions                   ProtocolExtensionContainer { {UL-CCTrCH-ModifyInformation-RL-ReconfPrepTDD-ExtIEs} } OPTIONAL,
    ...
}

UL-CCTrCH-ModifyInformation-RL-ReconfPrepTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

UL-CCTrCH-InformationDeleteList-RL-ReconfPrepTDD        ::= SEQUENCE (SIZE (0..maxNrOfCCTrCHs)) OF ProtocolIE-Single-Container { {UL-CCTrCH-
DeleteInformation-RL-ReconfPrepTDD-IEs} }

UL-CCTrCH-DeleteInformation-RL-ReconfPrepTDD-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-UL-CCTrCH-DeleteInformation-RL-ReconfPrepTDD    CRITICALITY notify  TYPE UL-CCTrCH-DeleteInformation-RL-ReconfPrepTDD PRESENCE mandatory
    }
}

UL-CCTrCH-DeleteInformation-RL-ReconfPrepTDD ::= SEQUENCE {
    cCTrCH-ID                   CCTrCH-ID,
    iE-Extensions                   ProtocolExtensionContainer { {UL-CCTrCH-DeleteInformation-RL-ReconfPrepTDD-ExtIEs} } OPTIONAL,
    ...
}

UL-CCTrCH-DeleteInformation-RL-ReconfPrepTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

DL-CCTrCH-InformationAddList-RL-ReconfPrepTDD       ::= SEQUENCE (SIZE (0..maxNrOfCCTrCHs)) OF ProtocolIE-Single-Container { {DL-CCTrCH-AddInformation-
RL-ReconfPrepTDD-IEs} }

DL-CCTrCH-AddInformation-RL-ReconfPrepTDD-IEs RNSAP-PROTOCOL-IES ::= {
```

```
    { ID id-DL-CCTrCH-InformationAddItem-RL-ReconfPrepTDD   CRITICALITY notify  TYPE DL-CCTrCH-InformationAddItem-RL-ReconfPrepTDD PRESENCE mandatory
    }
}

DL-CCTrCH-InformationAddItem-RL-ReconfPrepTDD ::= SEQUENCE {
    cCTrCH-ID                   CCTrCH-ID,
    tFCS                        TFCS,
    tFCI-Coding                 TFCI-Coding,
    punctureLimit                   PunctureLimit,
    cCTrCH-TPCList                  CCTrCH-TPCAddList-RL-ReconfPrepTDD  OPTIONAL,
    iE-Extensions                   ProtocolExtensionContainer { {DL-CCTrCH-InformationAddItem-RL-ReconfPrepTDD-ExtIEs} } OPTIONAL,
    ...
}

DL-CCTrCH-InformationAddItem-RL-ReconfPrepTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

CCTrCH-TPCAddList-RL-ReconfPrepTDD ::= SEQUENCE (SIZE (1..maxNrOfCCTrCHs)) OF CCTrCH-TPCAddItem-RL-ReconfPrepTDD

CCTrCH-TPCAddItem-RL-ReconfPrepTDD   ::= SEQUENCE {
    cCTrCH-ID                       CCTrCH-ID,
    iE-Extensions                   ProtocolExtensionContainer { { CCTrCH-TPCAddItem-RL-ReconfPrepTDD-ExtIEs} } OPTIONAL,
    ...
}

CCTrCH-TPCAddItem-RL-ReconfPrepTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

DL-CCTrCH-InformationModifyList-RL-ReconfPrepTDD        ::= SEQUENCE (SIZE (0..maxNrOfCCTrCHs)) OF ProtocolIE-Single-Container { {DL-CCTrCH-
ModifyInformation-RL-ReconfPrepTDD-IEs} }

DL-CCTrCH-ModifyInformation-RL-ReconfPrepTDD-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-DL-CCTrCH-InformationModifyItem-RL-ReconfPrepTDD    CRITICALITY notify  TYPE DL-CCTrCH-InformationModifyItem-RL-ReconfPrepTDD  PRESENCE
mandatory   }
}

DL-CCTrCH-InformationModifyItem-RL-ReconfPrepTDD ::= SEQUENCE {
    cCTrCH-ID                   CCTrCH-ID,
    tFCS                        TFCS        OPTIONAL,
    tFCI-Coding                 TFCI-Coding             OPTIONAL,
    punctureLimit                   PunctureLimit               OPTIONAL,
    cCTrCH-TPCList                  CCTrCH-TPCModifyList-RL-ReconfPrepTDD       OPTIONAL,
    iE-Extensions                   ProtocolExtensionContainer { {DL-CCTrCH-InformationModifyItem-RL-ReconfPrepTDD-ExtIEs} } OPTIONAL,
    ...
}

DL-CCTrCH-InformationModifyItem-RL-ReconfPrepTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}
```

```
CCTrCH-TPCModifyList-RL-ReconfPrepTDD ::= SEQUENCE (SIZE (1..maxNrOfCCTrCHs)) OF CCTrCH-TPCModifyItem-RL-ReconfPrepTDD

CCTrCH-TPCModifyItem-RL-ReconfPrepTDD    ::= SEQUENCE {
    cCTrCH-ID                       CCTrCH-ID,
    iE-Extensions                   ProtocolExtensionContainer { { CCTrCH-TPCModifyItem-RL-ReconfPrepTDD-ExtIEs} } OPTIONAL,
    ...
}

CCTrCH-TPCModifyItem-RL-ReconfPrepTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

DL-CCTrCH-InformationDeleteList-RL-ReconfPrepTDD        ::= SEQUENCE (SIZE (0..maxNrOfCCTrCHs)) OF ProtocolIE-Single-Container { {DL-CCTrCH-
DeleteInformation-RL-ReconfPrepTDD-IEs} }

DL-CCTrCH-DeleteInformation-RL-ReconfPrepTDD-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-DL-CCTrCH-InformationDeleteItem-RL-ReconfPrepTDD    CRITICALITY notify  TYPE DL-CCTrCH-InformationDeleteItem-RL-ReconfPrepTDD  PRESENCE
mandatory   }
}

DL-CCTrCH-InformationDeleteItem-RL-ReconfPrepTDD ::= SEQUENCE {
    cCTrCH-ID                   CCTrCH-ID,
    iE-Extensions                   ProtocolExtensionContainer { {DL-CCTrCH-InformationDeleteItem-RL-ReconfPrepTDD-ExtIEs} } OPTIONAL,
    ...
}

DL-CCTrCH-InformationDeleteItem-RL-ReconfPrepTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

DCH-DeleteList-RL-ReconfPrepTDD             ::= SEQUENCE (SIZE (0..maxNrOfDCHs)) OF DCH-DeleteItem-RL-ReconfPrepTDD

DCH-DeleteItem-RL-ReconfPrepTDD ::= SEQUENCE {
    dCH-ID                      DCH-ID,
    iE-Extensions               ProtocolExtensionContainer { {DCH-DeleteItem-RL-ReconfPrepTDD-ExtIEs} } OPTIONAL,
    ...
}

DCH-DeleteItem-RL-ReconfPrepTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

DSCH-ModifyList-RL-ReconfPrepTDD ::= SEQUENCE (SIZE(0..maxNoOfDSCHs)) OF DSCH-ModifyItem-RL-ReconfPrepTDD

DSCH-ModifyItem-RL-ReconfPrepTDD ::= SEQUENCE {
    dSCH-ID                         DSCH-ID,
    dl-ccTrCHID                     CCTrCH-ID                       OPTIONAL,
    trChSourceStatisticsDescriptor      TrCH-SrcStatisticsDescr OPTIONAL,
    transportFormatSet              TransportFormatSet              OPTIONAL,
    allocationRetentionPriority     AllocationRetentionPriority     OPTIONAL,
```

```
    schedulingPriorityIndicator         SchedulingPriorityIndicator     OPTIONAL,
    bLER                                BLER                            OPTIONAL,
    transportBearerRequestIndicator     TransportBearerRequestIndicator,
    iE-Extensions                   ProtocolExtensionContainer { {DSCH-ModifyItem-RL-ReconfPrepTDD-ExtIEs} } OPTIONAL,
    ...
}

DSCH-ModifyItem-RL-ReconfPrepTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

DSCH-DeleteList-RL-ReconfPrepTDD ::= SEQUENCE (SIZE(0..maxNoOfDSCHs)) OF DSCH-DeleteItem-RL-ReconfPrepTDD

DSCH-DeleteItem-RL-ReconfPrepTDD ::= SEQUENCE {
    dSCH-ID                             DSCH-ID,
    iE-Extensions                   ProtocolExtensionContainer { {DSCH-DeleteItem-RL-ReconfPrepTDD-ExtIEs} } OPTIONAL,
    ...
}

DSCH-DeleteItem-RL-ReconfPrepTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

USCH-ModifyList-RL-ReconfPrepTDD ::= SEQUENCE (SIZE(0..maxNoOfUSCHs)) OF USCH-ModifyItem-RL-ReconfPrepTDD

USCH-ModifyItem-RL-ReconfPrepTDD ::= SEQUENCE {
    uSCH-ID                             USCH-ID,
    ul-ccTrCHID                         CCTrCH-ID                       OPTIONAL,
    trChSourceStatisticsDescriptor      TrCH-SrcStatisticsDescr OPTIONAL,
    transportFormatSet                  TransportFormatSet              OPTIONAL,
    allocationRetentionPriority     AllocationRetentionPriority     OPTIONAL,
    schedulingPriorityIndicator         SchedulingPriorityIndicator     OPTIONAL,
    bLER                                BLER                            OPTIONAL,
    transportBearerRequestIndicator     TransportBearerRequestIndicator,
    rb-Info                             RB-Info                         OPTIONAL,
    iE-Extensions                       ProtocolExtensionContainer { {USCH-ModifyItem-RL-ReconfPrepTDD-ExtIEs} } OPTIONAL,
    ...
}

USCH-ModifyItem-RL-ReconfPrepTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

USCH-DeleteList-RL-ReconfPrepTDD ::= SEQUENCE (SIZE(0..maxNoOfUSCHs)) OF USCH-DeleteItem-RL-ReconfPrepTDD

USCH-DeleteItem-RL-ReconfPrepTDD ::= SEQUENCE {
    uSCH-ID                             USCH-ID,
    iE-Extensions                   ProtocolExtensionContainer { {USCH-DeleteItem-RL-ReconfPrepTDD-ExtIEs} } OPTIONAL,
    ...
}
```

```
USCH-DeleteItem-RL-ReconfPrepTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

RadioLinkReconfigurationPrepareTDD-Extensions RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

-- **************************************************************
--
-- RADIO LINK RECONFIGURATION READY FDD
--
-- **************************************************************

RadioLinkReconfigurationReadyFDD ::= SEQUENCE {
    protocolIEs                 ProtocolIE-Container      {{RadioLinkReconfigurationReadyFDD-IEs}},
    protocolExtensions           ProtocolExtensionContainer {{RadioLinkReconfigurationReadyFDD-Extensions}}               OPTIONAL,
    ...
}

RadioLinkReconfigurationReadyFDD-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-RL-InformationResponseList-RL-ReconfReadyFDD    CRITICALITY ignore  TYPE RL-InformationResponseList-RL-ReconfReadyFDD    PRESENCE optional
    } |
    { ID id-CriticalityDiagnostics          CRITICALITY ignore  TYPE CriticalityDiagnostics      PRESENCE optional },
    ...
}

RL-InformationResponseList-RL-ReconfReadyFDD        ::= SEQUENCE (SIZE (0..maxNrOfRLs)) OF ProtocolIE-Single-Container { {RL-InformationResponse-RL-
ReconfReadyFDD-IEs} }

RL-InformationResponse-RL-ReconfReadyFDD-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-RL-InformationResponseItem-RL-ReconfReadyFDD    CRITICALITY ignore  TYPE RL-InformationResponseItem-RL-ReconfReadyFDD    PRESENCE mandatory
    }
}

RL-InformationResponseItem-RL-ReconfReadyFDD ::= SEQUENCE {
    rL-ID                           RL-ID,
    max-UL-SIR                      UL-SIR          OPTIONAL,
    min-UL-SIR                      UL-SIR          OPTIONAL,
    maximumDLTxPower                DL-Power        OPTIONAL,
    minimumDLTxPower                DL-Power        OPTIONAL,
    secondary-CCPCH-Info            Secondary-CCPCH-Info        OPTIONAL,
    dl-CodeInformationList          DL-CodeInformationList-RL-ReconfReadyFDD    OPTIONAL,
    dCHInformationResponse          DCH-InformationResponseList-RL-ReconfReadyFDD   OPTIONAL,
    dSCHsToBeAddedOrModified        DSCHsToBeAddedOrModified-RL-ReconfReadyFDD      OPTIONAL,
    iE-Extensions                   ProtocolExtensionContainer { {RL-InformationResponseItem-RL-ReconfReadyFDD-ExtIEs} } OPTIONAL,
    ...
}

RL-InformationResponseItem-RL-ReconfReadyFDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
```

```
}

DL-CodeInformationList-RL-ReconfReadyFDD ::= ProtocolIE-Single-Container {{ DL-CodeInformationListIEs-RL-ReconfReadyFDD }}

DL-CodeInformationListIEs-RL-ReconfReadyFDD RNSAP-PROTOCOL-IES ::= {
    { ID id-FDD-DL-CodeInformation  CRITICALITY ignore  TYPE FDD-DL-CodeInformation     PRESENCE mandatory }
}

DCH-InformationResponseList-RL-ReconfReadyFDD              ::= ProtocolIE-Single-Container { {DCH-InformationResponseListIEs-RL-ReconfReadyFDD} }

DCH-InformationResponseListIEs-RL-ReconfReadyFDD RNSAP-PROTOCOL-IES ::= {
    { ID id-DCH-InformationResponse     CRITICALITY ignore  TYPE DCH-InformationResponse        PRESENCE mandatory  }
}

DSCHsToBeAddedOrModified-RL-ReconfReadyFDD ::= ProtocolIE-Single-Container { {DSCHsToBeAddedOrModifiedIEs-RL-ReconfReadyFDD} }

DSCHsToBeAddedOrModifiedIEs-RL-ReconfReadyFDD RNSAP-PROTOCOL-IES ::= {
    { ID id-DSCHsToBeAddedOrModified-FDD    CRITICALITY ignore  TYPE DSCH-FDD-InformationResponse    PRESENCE mandatory   }
}

RadioLinkReconfigurationReadyFDD-Extensions RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

-- **************************************************************
--
-- RADIO LINK RECONFIGURATION READY TDD
--
-- **************************************************************

RadioLinkReconfigurationReadyTDD ::= SEQUENCE {
    protocolIEs                 ProtocolIE-Container      {{RadioLinkReconfigurationReadyTDD-IEs}},
    protocolExtensions           ProtocolExtensionContainer {{RadioLinkReconfigurationReadyTDD-Extensions}}               OPTIONAL,
    ...
}

RadioLinkReconfigurationReadyTDD-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-RL-InformationResponse-RL-ReconfReadyTDD
                          CRITICALITY ignore  TYPE RL-InformationResponse-RL-ReconfReadyTDD   PRESENCE optional  } |
    { ID id-CriticalityDiagnostics          CRITICALITY ignore  TYPE CriticalityDiagnostics      PRESENCE optional },
    ...
}

RL-InformationResponse-RL-ReconfReadyTDD ::= SEQUENCE {
    rL-ID                           RL-ID,
    max-UL-SIR                      UL-SIR          OPTIONAL,
    min-UL-SIR                      UL-SIR          OPTIONAL,
    maximumDLTxPower                DL-Power        OPTIONAL,
    minimumDLTxPower                DL-Power        OPTIONAL,
    secondary-CCPCH-Info-TDD        Secondary-CCPCH-Info-TDD    OPTIONAL,
    ul-CCTrCH-Information           UL-CCTrCH-InformationList-RL-ReconfReadyTDD OPTIONAL,
```

```
    dl-CCTrCH-Information           DL-CCTrCH-InformationList-RL-ReconfReadyTDD OPTIONAL,
    dCHInformationResponse          DCH-InformationResponseList-RL-ReconfReadyTDD   OPTIONAL,
    dSCHsToBeAddedOrModified        DSCHToBeAddedOrModified-RL-ReconfReadyTDD   OPTIONAL,
    uSCHsToBeAddedOrModified        USCHToBeAddedOrModified-RL-ReconfReadyTDD   OPTIONAL,
    iE-Extensions                   ProtocolExtensionContainer { {RL-InformationResponse-RL-ReconfReadyTDD-ExtIEs} } OPTIONAL,
    ...
}

RL-InformationResponse-RL-ReconfReadyTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

UL-CCTrCH-InformationList-RL-ReconfReadyTDD     ::= ProtocolIE-Single-Container {{UL-CCTrCHInformationListIEs-RL-ReconfReadyTDD}}

UL-CCTrCHInformationListIEs-RL-ReconfReadyTDD RNSAP-PROTOCOL-IES ::= {
    { ID id-UL-CCTrCH-InformationListIE-RL-ReconfReadyTDD  CRITICALITY ignore  TYPE UL-CCTrCHInformationListIE-RL-ReconfReadyTDD    PRESENCE mandatory
}
}

UL-CCTrCHInformationListIE-RL-ReconfReadyTDD ::= SEQUENCE (SIZE (0..maxNrOfCCTrCHs)) OF UL-CCTrCH-InformationItem-RL-ReconfReadyTDD

UL-CCTrCH-InformationItem-RL-ReconfReadyTDD ::= SEQUENCE {
    cCTrCH-ID                       CCTrCH-ID,
    ul-DPCH-AddInformation          UL-DPCH-InformationAddList-RL-ReconfReadyTDD            OPTIONAL
    --For 3.84Mcps TDD only,
    ul-DPCH-ModifyInformation       UL-DPCH-InformationModifyList-RL-ReconfReadyTDD             OPTIONAL
    --For 3.84Mcps TDD only,
    ul-DPCH-DeleteInformation       UL-DPCH-InformationDeleteList-RL-ReconfReadyTDD             OPTIONAL,
    iE-Extensions                   ProtocolExtensionContainer { {UL-CCTrCH-InformationItem-RL-ReconfReadyTDD-ExtIEs} } OPTIONAL,
    ...
}

UL-CCTrCH-InformationItem-RL-ReconfReadyTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    { ID id-UL-DPCH-LCR-InformationAddListIE-RL-ReconfReadyTDD  CRITICALITY ignore     EXTENSION   UL-DPCH-LCR-InformationAddList-RL-ReconfReadyTDD
    PRESENCE optional },
    --For 1.28Mcps TDD only
    ...
}

UL-DPCH-LCR-InformationAddList-RL-ReconfReadyTDD ::= ProtocolIE-Single-Container {{UL-DPCH-LCR-InformationAddListIEs-RL-ReconfReadyTDD}}

UL-DPCH-LCR-InformationAddListIEs-RL-ReconfReadyTDD RNSAP-PROTOCOL-IES ::= {
    { ID id-UL-DPCH-LCR-InformationAddListIE-RL-ReconfReadyTDD  CRITICALITY ignore  TYPE UL-DPCH-LCR-InformationAddListIE-RL-ReconfReadyTDD   PRESENCE
mandatory }
}

UL-DPCH-LCR-InformationAddListIE-RL-ReconfReadyTDD ::= SEQUENCE {
    repetitionPeriod                RepetitionPeriod,
    repetitionLength                RepetitionLength,
    tDD-DPCHOffset                  TDD-DPCHOffset,
    uL-TimeslotLCR-Info           UL-TimeslotLCR-Info,
```

```
    iE-Extensions                   ProtocolExtensionContainer { {UL-DPCH-LCR-InformationAddItem-RL-ReconfReadyTDD-ExtIEs} } OPTIONAL,
    ...
}

UL-DPCH-LCR-InformationAddItem-RL-ReconfReadyTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

UL-DPCH-InformationAddList-RL-ReconfReadyTDD ::= ProtocolIE-Single-Container {{UL-DPCH-InformationAddListIEs-RL-ReconfReadyTDD}}

UL-DPCH-InformationAddListIEs-RL-ReconfReadyTDD RNSAP-PROTOCOL-IES ::= {
    { ID id-UL-DPCH-InformationAddListIE-RL-ReconfReadyTDD  CRITICALITY ignore  TYPE UL-DPCH-InformationAddListIE-RL-ReconfReadyTDD     PRESENCE
optional }
}

UL-DPCH-InformationAddListIE-RL-ReconfReadyTDD ::= SEQUENCE {
    repetitionPeriod                RepetitionPeriod,
    repetitionLength                RepetitionLength,
    tDD-DPCHOffset                  TDD-DPCHOffset,
    rxTimingDeviationForTA          RxTimingDeviationForTA          OPTIONAL,
    uL-Timeslot-Information         UL-Timeslot-Information,
    iE-Extensions                   ProtocolExtensionContainer { {UL-DPCH-InformationAddItem-RL-ReconfReadyTDD-ExtIEs} } OPTIONAL,
    ...
}

UL-DPCH-InformationAddItem-RL-ReconfReadyTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

UL-DPCH-InformationModifyList-RL-ReconfReadyTDD ::= ProtocolIE-Single-Container {{UL-DPCH-InformationModifyListIEs-RL-ReconfReadyTDD}}

UL-DPCH-InformationModifyListIEs-RL-ReconfReadyTDD RNSAP-PROTOCOL-IES ::= {
    { ID id-UL-DPCH-InformationModifyListIE-RL-ReconfReadyTDD   CRITICALITY ignore   TYPE UL-DPCH-InformationModifyListIE-RL-ReconfReadyTDD    PRESENCE
mandatory }
}

UL-DPCH-InformationModifyListIE-RL-ReconfReadyTDD::= SEQUENCE {
    repetitionPeriod                RepetitionPeriod            OPTIONAL,
    repetitionLength                RepetitionLength            OPTIONAL,
    tDD-DPCHOffset                  TDD-DPCHOffset              OPTIONAL,
    uL-Timeslot-InformationModifyList-RL-ReconfReadyTDD         UL-Timeslot-InformationModifyList-RL-ReconfReadyTDD      OPTIONAL
    --For 3.84Mcps TDD only,
    iE-Extensions                   ProtocolExtensionContainer { {UL-DPCH-InformationModifyItem-RL-ReconfReadyTDD-ExtIEs} } OPTIONAL,
    ...
}

UL-DPCH-InformationModifyItem-RL-ReconfReadyTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    { ID id-UL-TimeslotLCR-InformationList-RL-ReconfReadyTDD  CRITICALITY ignore   EXTENSION  UL-TimeslotLCR-InformationList-RL-ReconfReadyTDD
    PRESENCE optional },
    --For 1.28Mcps TDD only
    ...
```

```
}

UL-TimeslotLCR-InformationModifyList-RL-ReconfReadyTDD::= SEQUENCE ( SIZE (1..maxNrOfTSLCR)) OF UL-TimeslotLCR-InformationModifyItem-RL-ReconfReadyTDD

UL-TimeslotLCR-InformationModifyItem-RL-ReconfReadyTDD ::= SEQUENCE {
    timeSlotLCR                     TimeSlotLCR,
    midambleShiftLCR                MidambleShiftLCR            OPTIONAL,
    tFCI-Presence                   TFCI-Presence           OPTIONAL,
    tDD-uL-Code-LCR-Information         TDD-UL-Code-LCR-InformationModifyList-RL-ReconfReadyTDD     OPTIONAL,
    iE-Extensions                   ProtocolExtensionContainer { {UL-TimeslotLCR-InformationModifyItem-RL-ReconfReadyTDD-ExtIEs} } OPTIONAL,
    ...
}

TDD-UL-Code-LCR-InformationModifyList-RL-ReconfReadyTDD::= SEQUENCE ( SIZE (1..maxNrOfDPCHLCR)) OF TDD-UL-Code-LCR-InformationModifyItem-RL-
ReconfReadyTDD

TDD-UL-Code-LCR-InformationModifyItem-RL-ReconfReadyTDD ::= SEQUENCE {
    dPCH-ID                         DPCH-ID,
    tDD-ChannelisationCodeLCR           TDD-ChannelisationCodeLCR       OPTIONAL,
    iE-Extensions                   ProtocolExtensionContainer { {TDD-UL-Code-LCR-InformationModifyItem-RL-ReconfReadyTDD-ExtIEs} } OPTIONAL,
    ...
}

TDD-UL-Code-LCR-InformationModifyItem-RL-ReconfReadyTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

UL-Timeslot-LCR-InformationModifyItem-RL-ReconfReadyTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

UL-Timeslot-InformationModifyList-RL-ReconfReadyTDD::= SEQUENCE ( SIZE (1..maxNrOfTS)) OF UL-Timeslot-InformationModifyItem-RL-ReconfReadyTDD

UL-Timeslot-InformationModifyItem-RL-ReconfReadyTDD ::= SEQUENCE {
    timeSlot                        TimeSlot,
    midambleShiftAndBurstType                   MidambleShiftAndBurstType           OPTIONAL,
    tFCI-Presence                   TFCI-Presence           OPTIONAL,
    uL-Code-Information         TDD-UL-Code-InformationModifyList-RL-ReconfReadyTDD         OPTIONAL,
    iE-Extensions                   ProtocolExtensionContainer { {UL-Timeslot-InformationModifyItem-RL-ReconfReadyTDD-ExtIEs} } OPTIONAL,
    ...
}

UL-Timeslot-InformationModifyItem-RL-ReconfReadyTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

TDD-UL-Code-InformationModifyList-RL-ReconfReadyTDD::= SEQUENCE ( SIZE (1..maxNrOfDPCHs)) OF TDD-UL-Code-InformationModifyItem-RL-ReconfReadyTDD

TDD-UL-Code-InformationModifyItem-RL-ReconfReadyTDD ::= SEQUENCE {
    dPCH-ID                         DPCH-ID,
    tDD-ChannelisationCode          TDD-ChannelisationCode      OPTIONAL,
```

```
    iE-Extensions                   ProtocolExtensionContainer { {TDD-UL-Code-InformationModifyItem-RL-ReconfReadyTDD-ExtIEs} } OPTIONAL,
    ...
}

TDD-UL-Code-InformationModifyItem-RL-ReconfReadyTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

UL-DPCH-InformationDeleteList-RL-ReconfReadyTDD ::= ProtocolIE-Single-Container {{UL-DPCH-InformationDeleteListIEs-RL-ReconfReadyTDD}}

UL-DPCH-InformationDeleteListIEs-RL-ReconfReadyTDD RNSAP-PROTOCOL-IES ::= {
    { ID id-UL-DPCH-InformationDeleteListIE-RL-ReconfReadyTDD   CRITICALITY ignore   TYPE UL-DPCH-InformationDeleteListIE-RL-ReconfReadyTDD    PRESENCE
mandatory }
}

UL-DPCH-InformationDeleteListIE-RL-ReconfReadyTDD ::= SEQUENCE (SIZE (0..maxNrOfDPCHs)) OF UL-DPCH-InformationDeleteItem-RL-ReconfReadyTDD

UL-DPCH-InformationDeleteItem-RL-ReconfReadyTDD ::= SEQUENCE {
    dPCH-ID                     DPCH-ID,
    iE-Extensions                   ProtocolExtensionContainer { {UL-DPCH-InformationDeleteList-RL-ReconfReadyTDD-ExtIEs} } OPTIONAL,
    ...
}

UL-DPCH-InformationDeleteList-RL-ReconfReadyTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

DL-CCTrCH-InformationList-RL-ReconfReadyTDD     ::= ProtocolIE-Single-Container {{DL-CCTrCHInformationListIEs-RL-ReconfReadyTDD}}

DL-CCTrCHInformationListIEs-RL-ReconfReadyTDD RNSAP-PROTOCOL-IES ::= {
    { ID id-DL-CCTrCH-InformationListIE-RL-ReconfReadyTDD   CRITICALITY ignore   TYPE DL-CCTrCHInformationListIE-RL-ReconfReadyTDD    PRESENCE mandatory
}
}

DL-CCTrCHInformationListIE-RL-ReconfReadyTDD ::= SEQUENCE (SIZE (0..maxNrOfCCTrCHs)) OF DL-CCTrCH-InformationItem-RL-ReconfReadyTDD

DL-CCTrCH-InformationItem-RL-ReconfReadyTDD ::= SEQUENCE {
    cCTrCH-ID                       CCTrCH-ID,
    dl-DPCH-AddInformation          DL-DPCH-InformationAddList-RL-ReconfReadyTDD            OPTIONAL
    --For 3.84Mcps TDD only,
    dl-DPCH-ModifyInformation       DL-DPCH-InformationModifyList-RL-ReconfReadyTDD         OPTIONAL
    --For 3.84Mcps TDD only,
    dl-DPCH-DeleteInformation       DL-DPCH-InformationDeleteList-RL-ReconfReadyTDD         OPTIONAL,
    iE-Extensions                   ProtocolExtensionContainer { {DL-CCTrCH-InformationItem-RL-ReconfReadyTDD-ExtIEs} } OPTIONAL,
    ...
}

DL-CCTrCH-InformationItem-RL-ReconfReadyTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    { ID id-DL-DPCH-LCR-InformationAddListIE-RL-ReconfReadyTDD   CRITICALITY ignore         EXTENSION   DL-DPCH-LCR-InformationAddList-RL-
ReconfReadyTDD      PRESENCE  },
    --For 1.28Mcps TDD only
```

```
    ...
}

DL-DPCH-LCR-InformationAddList-RL-ReconfReadyTDD ::= ProtocolIE-Single-Container {{DL-DPCH-LCR-InformationAddListIEs-RL-ReconfReadyTDD}}

DL-DPCH-LCR-InformationAddListIEs-RL-ReconfReadyTDD RNSAP-PROTOCOL-IES ::= {
    { ID id-DL-DPCH-LCR-InformationAddListIE-RL-ReconfReadyTDD  CRITICALITY ignore  TYPE DL-DPCH-LCR-InformationAddListIE-RL-ReconfReadyTDD   PRESENCE
mandatory }
}

DL-DPCH-LCR-InformationAddListIE-RL-ReconfReadyTDD ::= SEQUENCE {
    repetitionPeriod               RepetitionPeriod,
    repetitionLength               RepetitionLength,
    tDD-DPCHOffset                 TDD-DPCHOffset,
    dL-TimeslotLCR-Info          DL-TimeslotLCR-Info,
    iE-Extensions                  ProtocolExtensionContainer { {DL-DPCH-LCR-InformationAddItem-RL-ReconfReadyTDD-ExtIEs} } OPTIONAL,
    ...
}

DL-DPCH-LCR-InformationAddItem-RL-ReconfReadyTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

DL-DPCH-InformationAddList-RL-ReconfReadyTDD ::= ProtocolIE-Single-Container {{DL-DPCH-InformationAddListIEs-RL-ReconfReadyTDD}}

DL-DPCH-InformationAddListIEs-RL-ReconfReadyTDD RNSAP-PROTOCOL-IES ::= {
    { ID id-DL-DPCH-InformationAddListIE-RL-ReconfReadyTDD  CRITICALITY ignore  TYPE DL-DPCH-InformationAddListIE-RL-ReconfReadyTDD     PRESENCE
mandatory }
}

DL-DPCH-InformationAddListIE-RL-ReconfReadyTDD ::= SEQUENCE {
    repetitionPeriod               RepetitionPeriod,
    repetitionLength               RepetitionLength,
    tDD-DPCHOffset                 TDD-DPCHOffset,
    dL-Timeslot-Information        DL-Timeslot-Information,
    iE-Extensions                  ProtocolExtensionContainer { {DL-DPCH-InformationAddItem-RL-ReconfReadyTDD-ExtIEs} } OPTIONAL,
    ...
}

DL-DPCH-InformationAddItem-RL-ReconfReadyTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

DL-DPCH-InformationModifyList-RL-ReconfReadyTDD ::= ProtocolIE-Single-Container {{DL-DPCH-InformationModifyListIEs-RL-ReconfReadyTDD}}

DL-DPCH-InformationModifyListIEs-RL-ReconfReadyTDD RNSAP-PROTOCOL-IES ::= {
    { ID id-DL-DPCH-InformationModifyListIE-RL-ReconfReadyTDD  CRITICALITY ignore  TYPE DL-DPCH-InformationModifyListIE-RL-ReconfReadyTDD    PRESENCE
mandatory }
}

DL-DPCH-InformationModifyListIE-RL-ReconfReadyTDD ::= SEQUENCE {
```

```
    repetitionPeriod                RepetitionPeriod            OPTIONAL,
    repetitionLength                RepetitionLength            OPTIONAL,
    tDD-DPCHOffset                  TDD-DPCHOffset              OPTIONAL,
    dL-Timeslot-InformationModifyList-RL-ReconfReadyTDD         DL-Timeslot-InformationModifyList-RL-ReconfReadyTDD      OPTIONAL
    --For 3.84Mcps TDD only,
    iE-Extensions                   ProtocolExtensionContainer { {DL-DPCH-InformationModifyItem-RL-ReconfReadyTDD-ExtIEs} } OPTIONAL,
    ...
}

DL-DPCH-InformationModifyItem-RL-ReconfReadyTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    { ID id-DL-TimeslotLCR-InformationList-RL-ReconfReadyTDD  CRITICALITY ignore   EXTENSION  DL-TimeslotLCR-InformationList-RL-ReconfReadyTDD
    PRESENCE optional },
    --For 1.28Mcps TDD only
    ...
}

DL-TimeslotLCR-InformationModifyList-RL-ReconfReadyTDD::= SEQUENCE ( SIZE (1..maxNrOfTSLCR)) OF DL-TimeslotLCR-InformationModifyItem-RL-ReconfReadyTDD

DL-TimeslotLCR-InformationModifyItem-RL-ReconfReadyTDD ::= SEQUENCE {
    timeSlotLCR                     TimeSlotLCR,
    midambleShiftLCR                MidambleShiftLCR            OPTIONAL,
    tFCI-Presence                   TFCI-Presence           OPTIONAL,
    tDD-dL-Code-LCR-Information         TDD-DL-Code-LCR-InformationModifyList-RL-ReconfReadyTDD     OPTIONAL,
    iE-Extensions                   ProtocolExtensionContainer { {DL-TimeslotLCR-InformationModifyItem-RL-ReconfReadyTDD-ExtIEs} } OPTIONAL,
    ...
}

TDD-DL-Code-LCR-InformationModifyList-RL-ReconfReadyTDD::= SEQUENCE ( SIZE (1..maxNrOfDPCHLCR)) OF TDD-DL-Code-LCR-InformationModifyItem-RL-
ReconfReadyTDD

TDD-DL-Code-LCR-InformationModifyItem-RL-ReconfReadyTDD ::= SEQUENCE {
    dPCH-ID                         DPCH-ID,
    tDD-ChannelisationCodeLCR           TDD-ChannelisationCodeLCR       OPTIONAL,
    iE-Extensions                   ProtocolExtensionContainer { {TDD-DL-Code-LCR-InformationModifyItem-RL-ReconfReadyTDD-ExtIEs} } OPTIONAL,
    ...
}

TDD-DL-Code-LCR-InformationModifyItem-RL-ReconfReadyTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

DL-TimeslotLCR-InformationModifyItem-RL-ReconfReadyTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

DL-Timeslot-InformationModifyList-RL-ReconfReadyTDD::= SEQUENCE ( SIZE (1..maxNrOfTS)) OF DL-Timeslot-InformationModifyItem-RL-ReconfReadyTDD

DL-Timeslot-InformationModifyItem-RL-ReconfReadyTDD ::= SEQUENCE {
    timeSlot                        TimeSlot,
    midambleShiftAndBurstType       MidambleShiftAndBurstType           OPTIONAL,
    tFCI-Presence                   TFCI-Presence           OPTIONAL,
```

```
    dL-Code-Information             TDD-DL-Code-InformationModifyList-RL-ReconfReadyTDD         OPTIONAL,
    iE-Extensions                   ProtocolExtensionContainer { {DL-Timeslot-InformationModifyItem-RL-ReconfReadyTDD-ExtIEs} } OPTIONAL,
    ...
}

DL-Timeslot-InformationModifyItem-RL-ReconfReadyTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

TDD-DL-Code-InformationModifyList-RL-ReconfReadyTDD::= SEQUENCE ( SIZE (1..maxNrOfDPCHs)) OF TDD-DL-Code-InformationModifyItem-RL-ReconfReadyTDD

TDD-DL-Code-InformationModifyItem-RL-ReconfReadyTDD ::= SEQUENCE {
    dPCH-ID                         DPCH-ID,
    tDD-ChannelisationCode          TDD-ChannelisationCode      OPTIONAL,
    iE-Extensions                   ProtocolExtensionContainer { {TDD-DL-Code-InformationModifyItem-RL-ReconfReadyTDD-ExtIEs} } OPTIONAL,
    ...
}

TDD-DL-Code-InformationModifyItem-RL-ReconfReadyTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

DL-DPCH-InformationDeleteList-RL-ReconfReadyTDD ::= ProtocolIE-Single-Container {{DL-DPCH-InformationDeleteListIEs-RL-ReconfReadyTDD}}

DL-DPCH-InformationDeleteListIEs-RL-ReconfReadyTDD RNSAP-PROTOCOL-IES ::= {
    { ID id-DL-DPCH-InformationDeleteListIE-RL-ReconfReadyTDD   CRITICALITY ignore   TYPE DL-DPCH-InformationDeleteListIE-RL-ReconfReadyTDD    PRESENCE
mandatory }
}

DL-DPCH-InformationDeleteListIE-RL-ReconfReadyTDD ::= SEQUENCE (SIZE (0..maxNrOfDPCHs)) OF DL-DPCH-InformationDeleteItem-RL-ReconfReadyTDD

DL-DPCH-InformationDeleteItem-RL-ReconfReadyTDD ::= SEQUENCE {
    dPCH-ID                     DPCH-ID,
    iE-Extensions                   ProtocolExtensionContainer { {DL-DPCH-InformationDeleteList-RL-ReconfReadyTDD-ExtIEs} } OPTIONAL,
    ...
}

DL-DPCH-InformationDeleteList-RL-ReconfReadyTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

DCH-InformationResponseList-RL-ReconfReadyTDD              ::= ProtocolIE-Single-Container { {DCH-InformationResponseListIEs-RL-ReconfReadyTDD} }

DCH-InformationResponseListIEs-RL-ReconfReadyTDD RNSAP-PROTOCOL-IES ::= {
    { ID id-DCH-InformationResponse     CRITICALITY ignore  TYPE DCH-InformationResponse        PRESENCE mandatory }
}

DSCHToBeAddedOrModified-RL-ReconfReadyTDD           ::= ProtocolIE-Single-Container { {DSCHToBeAddedOrModifiedIEs-RL-ReconfReadyTDD} }

DSCHToBeAddedOrModifiedIEs-RL-ReconfReadyTDD RNSAP-PROTOCOL-IES ::= {
```

```
    { ID id-DSCHToBeAddedOrModifiedList-RL-ReconfReadyTDD   CRITICALITY ignore  TYPE DSCHToBeAddedOrModifiedList-RL-ReconfReadyTDD   PRESENCE mandatory
    }
}

DSCHToBeAddedOrModifiedList-RL-ReconfReadyTDD ::= SEQUENCE (SIZE (0..maxNoOfDSCHs)) OF DSCHToBeAddedOrModifiedItem-RL-ReconfReadyTDD

DSCHToBeAddedOrModifiedItem-RL-ReconfReadyTDD ::= SEQUENCE {
    dsch-ID                 DSCH-ID,
    transportFormatManagement   TransportFormatManagement,
    dSCH-FlowControlInformation DSCH-FlowControlInformation,
    bindingID               BindingID   OPTIONAL,
    transportLayerAddress   TransportLayerAddress   OPTIONAL,
    iE-Extensions           ProtocolExtensionContainer { {DSCHToBeAddedOrModifiedItem-RL-ReconfReadyTDD-ExtIEs} } OPTIONAL,
    ...
}

DSCHToBeAddedOrModifiedItem-RL-ReconfReadyTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

USCHToBeAddedOrModified-RL-ReconfReadyTDD           ::= ProtocolIE-Single-Container { {USCHToBeAddedOrModifiedIEs-RL-ReconfReadyTDD}
}USCHToBeAddedOrModifiedIEs-RL-ReconfReadyTDD RNSAP-PROTOCOL-IES ::= {
    { ID id-USCHToBeAddedOrModifiedList-RL-ReconfReadyTDD   CRITICALITY ignore  TYPE USCHToBeAddedOrModifiedList-RL-ReconfReadyTDD   PRESENCE mandatory
    }
}

USCHToBeAddedOrModifiedList-RL-ReconfReadyTDD ::= SEQUENCE (SIZE (0..maxNoOfUSCHs)) OF USCHToBeAddedOrModifiedItem-RL-ReconfReadyTDD

USCHToBeAddedOrModifiedItem-RL-ReconfReadyTDD ::= SEQUENCE {
    uSCH-ID                 USCH-ID,
    transportFormatManagement   TransportFormatManagement,
    bindingID               BindingID   OPTIONAL,
    transportLayerAddress   TransportLayerAddress   OPTIONAL,
    iE-Extensions           ProtocolExtensionContainer { {USCHToBeAddedOrModifiedItem-RL-ReconfReadyTDD-ExtIEs} } OPTIONAL,
    ...
}

USCHToBeAddedOrModifiedItem-RL-ReconfReadyTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

RadioLinkReconfigurationReadyTDD-Extensions RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

-- **************************************************************
--
-- RADIO LINK RECONFIGURATION COMMIT
--
-- **************************************************************
```

```
RadioLinkReconfigurationCommit ::= SEQUENCE {
    protocolIEs                 ProtocolIE-Container      {{RadioLinkReconfigurationCommit-IEs}},
    protocolExtensions           ProtocolExtensionContainer {{RadioLinkReconfigurationCommit-Extensions}}               OPTIONAL,
    ...
}

RadioLinkReconfigurationCommit-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-CFN                 CRITICALITY ignore  TYPE CFN                    PRESENCE mandatory   }|
    { ID id-Active-Pattern-Sequence-Information     CRITICALITY ignore  TYPE Active-Pattern-Sequence-Information    PRESENCE optional  },
    ...
}

RadioLinkReconfigurationCommit-Extensions RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

-- **************************************************************
--
-- RADIO LINK RECONFIGURATION FAILURE
--
-- **************************************************************

RadioLinkReconfigurationFailure ::= SEQUENCE {
    protocolIEs                 ProtocolIE-Container      {{RadioLinkReconfigurationFailure-IEs}},
    protocolExtensions           ProtocolExtensionContainer {{RadioLinkReconfigurationFailure-Extensions}}               OPTIONAL,
    ...
}

RadioLinkReconfigurationFailure-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-CauseLevel-RL-ReconfFailure     CRITICALITY ignore  TYPE CauseLevel-RL-ReconfFailure  PRESENCE mandatory   } |
    { ID id-CriticalityDiagnostics          CRITICALITY ignore  TYPE CriticalityDiagnostics       PRESENCE optional },
    ...
}

CauseLevel-RL-ReconfFailure ::= CHOICE {
    generalCause        GeneralCauseList-RL-ReconfFailure,
    rLSpecificCause     RLSpecificCauseList-RL-ReconfFailure,
    ...
}

GeneralCauseList-RL-ReconfFailure ::= SEQUENCE {
    cause                                   Cause,
    iE-Extensions                           ProtocolExtensionContainer { { GeneralCauseItem-RL-ReconfFailure-ExtIEs} }        OPTIONAL,
    ...
 }

GeneralCauseItem-RL-ReconfFailure-ExtIEs  RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

RLSpecificCauseList-RL-ReconfFailure ::= SEQUENCE {
```

```
    rL-ReconfigurationFailureList-RL-ReconfFailure      RL-ReconfigurationFailureList-RL-ReconfFailure    OPTIONAL,
    iE-Extensions                                       ProtocolExtensionContainer { { RLSpecificCauseItem-RL-ReconfFailure-ExtIEs} }      OPTIONAL,
    ...
 }

RLSpecificCauseItem-RL-ReconfFailure-ExtIEs  RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

RL-ReconfigurationFailureList-RL-ReconfFailure ::= SEQUENCE (SIZE (0..maxNrOfRLs)) OF ProtocolIE-Single-Container { {RL-ReconfigurationFailure-RL-
ReconfFailure-IEs} }

RL-ReconfigurationFailure-RL-ReconfFailure-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-RL-ReconfigurationFailure-RL-ReconfFail CRITICALITY ignore  TYPE RL-ReconfigurationFailure-RL-ReconfFail  PRESENCE mandatory   }
}

RL-ReconfigurationFailure-RL-ReconfFail ::= SEQUENCE {
    rL-ID                       RL-ID,
    cause                       Cause,
    iE-Extensions                   ProtocolExtensionContainer { {RL-ReconfigurationFailure-RL-ReconfFailure-ExtIEs} } OPTIONAL,
    ...
}

RL-ReconfigurationFailure-RL-ReconfFailure-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

RadioLinkReconfigurationFailure-Extensions RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

-- **************************************************************
--
-- RADIO LINK RECONFIGURATION CANCEL
--
-- **************************************************************

RadioLinkReconfigurationCancel ::= SEQUENCE {
    protocolIEs                 ProtocolIE-Container      {{RadioLinkReconfigurationCancel-IEs}},
    protocolExtensions            ProtocolExtensionContainer {{RadioLinkReconfigurationCancel-Extensions}}               OPTIONAL,
    ...
}

RadioLinkReconfigurationCancel-IEs RNSAP-PROTOCOL-IES ::= {
    ...
}

RadioLinkReconfigurationCancel-Extensions RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}
```

```
-- **************************************************************
--
-- RADIO LINK RECONFIGURATION REQUEST FDD
--
-- **************************************************************

RadioLinkReconfigurationRequestFDD ::= SEQUENCE {
    protocolIEs                 ProtocolIE-Container      {{RadioLinkReconfigurationRequestFDD-IEs}},
    protocolExtensions           ProtocolExtensionContainer {{RadioLinkReconfigurationRequestFDD-Extensions}}               OPTIONAL,
    ...
}

RadioLinkReconfigurationRequestFDD-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-AllowedQueuingTime          CRITICALITY reject  TYPE AllowedQueuingTime             PRESENCE optional  } |
    { ID id-UL-DPCH-Information-RL-ReconfRqstFDD            CRITICALITY reject  TYPE UL-DPCH-Information-RL-ReconfRqstFDD PRESENCE optional } |
    { ID id-DL-DPCH-Information-RL-ReconfRqstFDD            CRITICALITY reject  TYPE DL-DPCH-Information-RL-ReconfRqstFDD PRESENCE optional } |
    { ID id-FDD-DCHs-to-Modify      CRITICALITY reject  TYPE FDD-DCHs-to-Modify     PRESENCE optional  } |
    { ID id-DCHs-to-Add-FDD     CRITICALITY reject  TYPE DCH-FDD-Information        PRESENCE optional  } |
    { ID id-DCH-DeleteList-RL-ReconfRqstFDD     CRITICALITY reject  TYPE DCH-DeleteList-RL-ReconfRqstFDD     PRESENCE optional }|
    { ID id-Transmission-Gap-Pattern-Sequence-Information   CRITICALITY reject  TYPE Transmission-Gap-Pattern-Sequence-Information PRESENCE optional },
    ...
}

UL-DPCH-Information-RL-ReconfRqstFDD ::= SEQUENCE {
    tFCS                            TFCS    OPTIONAL,
    iE-Extensions                   ProtocolExtensionContainer { {UL-DPCH-Information-RL-ReconfRqstFDD-ExtIEs} } OPTIONAL,
    ...
}

UL-DPCH-Information-RL-ReconfRqstFDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

DL-DPCH-Information-RL-ReconfRqstFDD ::= SEQUENCE {
    tFCS                            TFCS    OPTIONAL,
    tFCI-SignallingMode             TFCI-SignallingMode OPTIONAL,
    limitedPowerIncrease            LimitedPowerIncrease    OPTIONAL,
    iE-Extensions                   ProtocolExtensionContainer { {DL-DPCH-Information-RL-ReconfRqstFDD-ExtIEs} } OPTIONAL,
    ...
}

DL-DPCH-Information-RL-ReconfRqstFDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

DCH-DeleteList-RL-ReconfRqstFDD             ::= SEQUENCE (SIZE (0..maxNrOfDCHs)) OF DCH-DeleteItem-RL-ReconfRqstFDD

DCH-DeleteItem-RL-ReconfRqstFDD ::= SEQUENCE {
    dCH-ID                          DCH-ID,
    iE-Extensions                   ProtocolExtensionContainer { {DCH-DeleteItem-RL-ReconfRqstFDD-ExtIEs} } OPTIONAL,
    ...
```

```
}

DCH-DeleteItem-RL-ReconfRqstFDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

RadioLinkReconfigurationRequestFDD-Extensions RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

-- **************************************************************
--
-- RADIO LINK RECONFIGURATION REQUEST TDD
--
-- **************************************************************

RadioLinkReconfigurationRequestTDD ::= SEQUENCE {
    protocolIEs                 ProtocolIE-Container      {{RadioLinkReconfigurationRequestTDD-IEs}},
    protocolExtensions           ProtocolExtensionContainer {{RadioLinkReconfigurationRequestTDD-Extensions}}               OPTIONAL,
    ...
}

RadioLinkReconfigurationRequestTDD-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-AllowedQueuingTime          CRITICALITY reject  TYPE AllowedQueuingTime             PRESENCE optional  } |
    { ID id-UL-CCTrCH-InformationModifyList-RL-ReconfRqstTDD    CRITICALITY notify  TYPE UL-CCTrCH-InformationModifyList-RL-ReconfRqstTDD  PRESENCE
optional    } |
    { ID id-UL-CCTrCH-InformationDeleteList-RL-ReconfRqstTDD    CRITICALITY notify  TYPE UL-CCTrCH-InformationDeleteList-RL-ReconfRqstTDD  PRESENCE
optional    } |
    { ID id-DL-CCTrCH-InformationModifyList-RL-ReconfRqstTDD    CRITICALITY notify  TYPE DL-CCTrCH-InformationModifyList-RL-ReconfRqstTDD  PRESENCE
optional    } |
    { ID id-DL-CCTrCH-InformationDeleteList-RL-ReconfRqstTDD    CRITICALITY notify  TYPE DL-CCTrCH-InformationDeleteList-RL-ReconfRqstTDD  PRESENCE
optional    } |
    { ID id-TDD-DCHs-to-Modify      CRITICALITY reject  TYPE TDD-DCHs-to-Modify     PRESENCE optional  } |
    { ID id-DCHs-to-Add-TDD     CRITICALITY reject  TYPE DCH-TDD-Information        PRESENCE optional  } |
    { ID id-DCH-DeleteList-RL-ReconfRqstTDD     CRITICALITY reject  TYPE DCH-DeleteList-RL-ReconfRqstTDD     PRESENCE optional },
    ...
}

UL-CCTrCH-InformationModifyList-RL-ReconfRqstTDD        ::= SEQUENCE (SIZE (0..maxNrOfCCTrCHs)) OF ProtocolIE-Single-Container { {UL-CCTrCH-
InformationModifyList-RL-ReconfRqstTDD-IEs} }

UL-CCTrCH-InformationModifyList-RL-ReconfRqstTDD-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-UL-CCTrCH-InformationModifyItem-RL-ReconfRqstTDD    CRITICALITY notify  TYPE UL-CCTrCH-InformationModifyItem-RL-ReconfRqstTDD  PRESENCE
mandatory   }
}

UL-CCTrCH-InformationModifyItem-RL-ReconfRqstTDD ::= SEQUENCE {
    cCTrCH-ID                   CCTrCH-ID,
    tFCS                        TFCS        OPTIONAL,
    iE-Extensions                   ProtocolExtensionContainer { {UL-CCTrCH-InformationModifyItem-RL-ReconfRqstTDD-ExtIEs} } OPTIONAL,
    ...
```

```
}

UL-CCTrCH-InformationModifyItem-RL-ReconfRqstTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

UL-CCTrCH-InformationDeleteList-RL-ReconfRqstTDD        ::= SEQUENCE (SIZE (0..maxNrOfCCTrCHs)) OF ProtocolIE-Single-Container { {UL-CCTrCH-
InformationDeleteList-RL-ReconfRqstTDD-IEs} }

UL-CCTrCH-InformationDeleteList-RL-ReconfRqstTDD-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-UL-CCTrCH-InformationDeleteItem-RL-ReconfRqstTDD    CRITICALITY notify  TYPE UL-CCTrCH-InformationDeleteItem-RL-ReconfRqstTDD  PRESENCE
mandatory   }
}

UL-CCTrCH-InformationDeleteItem-RL-ReconfRqstTDD ::= SEQUENCE {
    cCTrCH-ID                   CCTrCH-ID,
    iE-Extensions                   ProtocolExtensionContainer { {UL-CCTrCH-InformationDeleteItem-RL-ReconfRqstTDD-ExtIEs} } OPTIONAL,
    ...
}

UL-CCTrCH-InformationDeleteItem-RL-ReconfRqstTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

DL-CCTrCH-InformationModifyList-RL-ReconfRqstTDD        ::= SEQUENCE (SIZE (0..maxNrOfCCTrCHs)) OF ProtocolIE-Single-Container { {DL-CCTrCH-
InformationModifyList-RL-ReconfRqstTDD-IEs} }

DL-CCTrCH-InformationModifyList-RL-ReconfRqstTDD-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-DL-CCTrCH-InformationModifyItem-RL-ReconfRqstTDD    CRITICALITY notify  TYPE DL-CCTrCH-InformationModifyItem-RL-ReconfRqstTDD  PRESENCE
mandatory   }
}

DL-CCTrCH-InformationModifyItem-RL-ReconfRqstTDD ::= SEQUENCE {
    cCTrCH-ID                   CCTrCH-ID,
    tFCS                        TFCS        OPTIONAL,
    iE-Extensions                   ProtocolExtensionContainer { {DL-CCTrCH-InformationModifyItem-RL-ReconfRqstTDD-ExtIEs} } OPTIONAL,
    ...
}

DL-CCTrCH-InformationModifyItem-RL-ReconfRqstTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

DL-CCTrCH-InformationDeleteList-RL-ReconfRqstTDD        ::= SEQUENCE (SIZE (0..maxNrOfCCTrCHs)) OF ProtocolIE-Single-Container { {DL-CCTrCH-
InformationDeleteList-RL-ReconfRqstTDD-IEs} }

DL-CCTrCH-InformationDeleteList-RL-ReconfRqstTDD-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-DL-CCTrCH-InformationDeleteItem-RL-ReconfRqstTDD    CRITICALITY notify  TYPE DL-CCTrCH-InformationDeleteItem-RL-ReconfRqstTDD  PRESENCE
mandatory   }
}
```

```
DL-CCTrCH-InformationDeleteItem-RL-ReconfRqstTDD ::= SEQUENCE {
    cCTrCH-ID                   CCTrCH-ID,
    iE-Extensions                   ProtocolExtensionContainer { {DL-CCTrCH-InformationDeleteItem-RL-ReconfRqstTDD-ExtIEs} } OPTIONAL,
    ...
}

DL-CCTrCH-InformationDeleteItem-RL-ReconfRqstTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

DCH-DeleteList-RL-ReconfRqstTDD             ::= SEQUENCE (SIZE(0..maxNrOfDCHs)) OF DCH-DeleteItem-RL-ReconfRqstTDD

DCH-DeleteItem-RL-ReconfRqstTDD ::= SEQUENCE {
    dCH-ID                      DCH-ID,
    iE-Extensions                   ProtocolExtensionContainer { {DCH-DeleteItem-RL-ReconfRqstTDD-ExtIEs} } OPTIONAL,
    ...
}

DCH-DeleteItem-RL-ReconfRqstTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

RadioLinkReconfigurationRequestTDD-Extensions RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

-- **************************************************************
--
-- RADIO LINK RECONFIGURATION RESPONSE FDD
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-- **************************************************************

RadioLinkReconfigurationResponseFDD ::= SEQUENCE {
    protocolIEs                 ProtocolIE-Container      {{RadioLinkReconfigurationResponseFDD-IEs}},
    protocolExtensions           ProtocolExtensionContainer {{RadioLinkReconfigurationResponseFDD-Extensions}}               OPTIONAL,
    ...
}

RadioLinkReconfigurationResponseFDD-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-RL-InformationResponseList-RL-ReconfRspFDD      CRITICALITY ignore  TYPE RL-InformationResponseList-RL-ReconfRspFDD      PRESENCE optional
    } |
    { ID id-CriticalityDiagnostics          CRITICALITY ignore  TYPE CriticalityDiagnostics       PRESENCE optional },
    ...
}

RL-InformationResponseList-RL-ReconfRspFDD      ::= SEQUENCE (SIZE (0..maxNrOfRLs)) OF ProtocolIE-Single-Container { {RL-InformationResponse-RL-
ReconfRspFDD-IEs} }

RL-InformationResponse-RL-ReconfRspFDD-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-RL-InformationResponseItem-RL-ReconfRspFDD      CRITICALITY ignore  TYPE RL-InformationResponseItem-RL-ReconfRspFDD   PRESENCE mandatory
    }
```

```
}

RL-InformationResponseItem-RL-ReconfRspFDD ::= SEQUENCE {
    rL-ID                           RL-ID,
    max-UL-SIR                      UL-SIR          OPTIONAL,
    min-UL-SIR                      UL-SIR          OPTIONAL,
    maximumDLTxPower                DL-Power        OPTIONAL,
    minimumDLTxPower                DL-Power        OPTIONAL,
    secondary-CCPCH-Info            Secondary-CCPCH-Info        OPTIONAL,
    dCHsInformationResponseList     DCH-InformationResponseList-RL-ReconfRspFDD OPTIONAL,
    dL-CodeInformationList-RL-ReconfResp    DL-CodeInformationList-RL-ReconfRspFDD  OPTIONAL,
    iE-Extensions                   ProtocolExtensionContainer { {RL-InformationResponseItem-RL-ReconfRspFDD-ExtIEs} } OPTIONAL,
    ...
}

RL-InformationResponseItem-RL-ReconfRspFDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

DCH-InformationResponseList-RL-ReconfRspFDD             ::= ProtocolIE-Single-Container { {DCH-InformationResponseListIEs-RL-ReconfRspFDD} }

DCH-InformationResponseListIEs-RL-ReconfRspFDD RNSAP-PROTOCOL-IES ::= {
    { ID id-DCH-InformationResponse     CRITICALITY ignore  TYPE DCH-InformationResponse        PRESENCE mandatory }
}

DL-CodeInformationList-RL-ReconfRspFDD ::= ProtocolIE-Single-Container {{ DL-CodeInformationListIEs-RL-ReconfRspFDD }}

DL-CodeInformationListIEs-RL-ReconfRspFDD RNSAP-PROTOCOL-IES ::= {
    { ID id-FDD-DL-CodeInformation   CRITICALITY ignore  TYPE FDD-DL-CodeInformation     PRESENCE optional }
}

RadioLinkReconfigurationResponseFDD-Extensions RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

-- **************************************************************
--
-- RADIO LINK RECONFIGURATION RESPONSE TDD
--
-- **************************************************************

RadioLinkReconfigurationResponseTDD ::= SEQUENCE {
    protocolIEs                 ProtocolIE-Container      {{RadioLinkReconfigurationResponseTDD-IEs}},
    protocolExtensions           ProtocolExtensionContainer {{RadioLinkReconfigurationResponseTDD-Extensions}}              OPTIONAL,
    ...
}

RadioLinkReconfigurationResponseTDD-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-RL-InformationResponse-RL-ReconfRspTDD      CRITICALITY ignore  TYPE RL-InformationResponse-RL-ReconfRspTDD        PRESENCE optional } |
    { ID id-CriticalityDiagnostics          CRITICALITY ignore  TYPE CriticalityDiagnostics       PRESENCE optional },
    ...
```

```
}

RL-InformationResponse-RL-ReconfRspTDD ::= SEQUENCE {
    rL-ID                           RL-ID,
    max-UL-SIR                      UL-SIR          OPTIONAL,
    min-UL-SIR                      UL-SIR          OPTIONAL,
    maximumDLTxPower                DL-Power        OPTIONAL,
    minimumDLTxPower                DL-Power        OPTIONAL,
    dCHsInformationResponseList     DCH-InformationResponseList-RL-ReconfRspTDD OPTIONAL,
    iE-Extensions                   ProtocolExtensionContainer { {RL-InformationResponse-RL-ReconfRspTDD-ExtIEs} } OPTIONAL,
    ...
}

RL-InformationResponse-RL-ReconfRspTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

DCH-InformationResponseList-RL-ReconfRspTDD             ::= ProtocolIE-Single-Container { {DCH-InformationResponseListIEs-RL-ReconfRspTDD} }

DCH-InformationResponseListIEs-RL-ReconfRspTDD RNSAP-PROTOCOL-IES ::= {
    { ID id-DCH-InformationResponse CRITICALITY ignore  TYPE DCH-InformationResponse    PRESENCE optional }
}

RadioLinkReconfigurationResponseTDD-Extensions RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

-- **************************************************************
--
-- RADIO LINK FAILURE INDICATION
--
-- **************************************************************

RadioLinkFailureIndication ::= SEQUENCE {
    protocolIEs                 ProtocolIE-Container      {{RadioLinkFailureIndication-IEs}},
    protocolExtensions           ProtocolExtensionContainer {{RadioLinkFailureIndication-Extensions}}               OPTIONAL,
    ...
}

RadioLinkFailureIndication-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-Reporting-Object-RL-FailureInd  CRITICALITY ignore  TYPE Reporting-Object-RL-FailureInd    PRESENCE mandatory   },
    ...
}

Reporting-Object-RL-FailureInd ::= CHOICE {
    rL                      RL-RL-FailureInd,
    rL-Set                  RL-Set-RL-FailureInd,
    ...,
    cCTrCH                  CCTrCH-RL-FailureInd
}
```

```
RL-RL-FailureInd            ::= SEQUENCE {
    rL-InformationList-RL-FailureInd        RL-InformationList-RL-FailureInd,
    iE-Extensions                           ProtocolExtensionContainer { { RLItem-RL-FailureInd-ExtIEs} } OPTIONAL,
    ...
}

RLItem-RL-FailureInd-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

RL-InformationList-RL-FailureInd            ::= SEQUENCE (SIZE (1..maxNrOfRLs)) OF ProtocolIE-Single-Container { {RL-Information-RL-FailureInd-IEs} }

RL-Information-RL-FailureInd-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-RL-Information-RL-FailureInd        CRITICALITY ignore  TYPE RL-Information-RL-FailureInd     PRESENCE mandatory   }
}

RL-Information-RL-FailureInd ::= SEQUENCE {
    rL-ID                       RL-ID,
    cause                       Cause,
    iE-Extensions                   ProtocolExtensionContainer { {RL-Information-RL-FailureInd-ExtIEs} } OPTIONAL,
    ...
}

RL-Information-RL-FailureInd-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

RL-Set-RL-FailureInd            ::= SEQUENCE {
    rL-Set-InformationList-RL-FailureInd    RL-Set-InformationList-RL-FailureInd,
    iE-Extensions                           ProtocolExtensionContainer { { RL-SetItem-RL-FailureInd-ExtIEs} } OPTIONAL,
    ...
}

RL-SetItem-RL-FailureInd-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

RL-Set-InformationList-RL-FailureInd            ::= SEQUENCE (SIZE (1..maxNrOfRLSets)) OF ProtocolIE-Single-Container { {RL-Set-Information-RL-
FailureInd-IEs} }

RL-Set-Information-RL-FailureInd-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-RL-Set-Information-RL-FailureInd        CRITICALITY ignore  TYPE RL-Set-Information-RL-FailureInd    PRESENCE mandatory   }
}

RL—Set-Information-RL-FailureInd ::= SEQUENCE {
    rL-Set-ID                       RL-Set-ID,
    cause                           Cause,
    iE-Extensions                   ProtocolExtensionContainer { {RL-Set-Information-RL-FailureInd-ExtIEs} } OPTIONAL,
    ...
}
```

```
RL-Set-Information-RL-FailureInd-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

RadioLinkFailureIndication-Extensions RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

CCTrCH-RL-FailureInd ::= SEQUENCE {
    rL-ID                                   RL-ID,
    cCTrCH-InformationList-RL-FailureInd    CCTrCH-InformationList-RL-FailureInd,
    iE-Extensions                       ProtocolExtensionContainer { { CCTrCHItem-RL-FailureInd-ExtIEs } }     OPTIONAL,
    ...
 }

CCTrCHItem-RL-FailureInd-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

CCTrCH-InformationList-RL-FailureInd ::= SEQUENCE (SIZE (1..maxNrOfCCTrCHs)) OF ProtocolIE-Single-Container {{ CCTrCH-InformationItemIE-RL-FailureInd}}

CCTrCH-InformationItemIE-RL-FailureInd RNSAP-PROTOCOL-IES ::= {
    { ID    id-CCTrCH-InformationItem-RL-FailureInd         CRITICALITY     ignore          TYPE  CCTrCH-InformationItem-RL-FailureInd        PRESENCE
    mandatory}
 }

CCTrCH-InformationItem-RL-FailureInd ::= SEQUENCE {
    cCTrCH-ID                               CCTrCH-ID,
    cause                                   Cause,
    iE-Extensions                           ProtocolExtensionContainer { { CCTrCH-InformationItem-RL-FailureInd-ExtIEs } }    OPTIONAL,
    ...
 }

CCTrCH-InformationItem-RL-FailureInd-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

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--
-- RADIO LINK PREEMPTION REQUIRED INDICATION
--
-- **************************************************************

RadioLinkPreemptionRequiredIndication ::= SEQUENCE {
    protocolIEs                 ProtocolIE-Container      {{RadioLinkPreemptionRequiredIndication-IEs}},
    protocolExtensions           ProtocolExtensionContainer {{RadioLinkPreemptionRequiredIndication-Extensions}}               OPTIONAL,
    ...
}

RadioLinkPreemptionRequiredIndication-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-RL-InformationList-RL-PreemptRequiredInd    CRITICALITY ignore  TYPE RL-InformationList-RL-PreemptRequiredInd   PRESENCE optional },
```

```
    ...
}

RL-InformationList-RL-PreemptRequiredInd           ::= SEQUENCE (SIZE (1..maxNrOfRLs)) OF ProtocolIE-Single-Container { {RL-InformationItemIEs-RL-
PreemptRequiredInd} }

RL-InformationItemIEs-RL-PreemptRequiredInd RNSAP-PROTOCOL-IES ::= {
    { ID id-RL-InformationItem-RL-PreemptRequiredInd        CRITICALITY ignore  TYPE RL-InformationItem-RL-PreemptRequiredInd     PRESENCE mandatory
    }
}

RL-InformationItem-RL-PreemptRequiredInd::= SEQUENCE {
    rL-ID                       RL-ID,
    iE-Extensions               ProtocolExtensionContainer { {RL-Information-RL-PreemptRequiredInd-ExtIEs} } OPTIONAL,
    ...
}

RL-Information-RL-PreemptRequiredInd-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

RadioLinkPreemptionRequiredIndication-Extensions RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

-- **************************************************************
--
-- RADIO LINK RESTORE INDICATION
--
-- **************************************************************

RadioLinkRestoreIndication ::= SEQUENCE {
    protocolIEs                 ProtocolIE-Container      {{RadioLinkRestoreIndication-IEs}},
    protocolExtensions           ProtocolExtensionContainer {{RadioLinkRestoreIndication-Extensions}}               OPTIONAL,
    ...
}

RadioLinkRestoreIndication-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-Reporing-Object-RL-RestoreInd   CRITICALITY ignore  TYPE Reporting-Object-RL-RestoreInd    PRESENCE mandatory   },
    ...
}

Reporting-Object-RL-RestoreInd ::= CHOICE {
    rL                      RL-RL-RestoreInd,
    rL-Set                  RL-Set-RL-RestoreInd,
    ...,
    cCTrCH                  CCTrCH-RL-RestoreInd
}

RL-RL-RestoreInd ::= SEQUENCE {
    rL-InformationList-RL-RestoreInd        RL-InformationList-RL-RestoreInd,
```

```
    iE-Extensions                       ProtocolExtensionContainer { { RLItem-RL-RestoreInd-ExtIEs} } OPTIONAL,
    ...
}

RLItem-RL-RestoreInd-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

RL-InformationList-RL-RestoreInd            ::= SEQUENCE (SIZE (1..maxNrOfRLs)) OF ProtocolIE-Single-Container { {RL-Information-RL-RestoreInd-IEs} }

RL-Information-RL-RestoreInd-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-RL-Information-RL-RestoreInd        CRITICALITY ignore  TYPE RL-Information-RL-RestoreInd     PRESENCE mandatory   }
}

RL-Information-RL-RestoreInd ::= SEQUENCE {
    rL-ID                       RL-ID,
    iE-Extensions                   ProtocolExtensionContainer { {RL-Information-RL-RestoreInd-ExtIEs} } OPTIONAL,
    ...
}

RL-Information-RL-RestoreInd-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

RL-Set-RL-RestoreInd ::= SEQUENCE {
    rL-Set-InformationList-RL-RestoreInd    RL-Set-InformationList-RL-RestoreInd,
    iE-Extensions                           ProtocolExtensionContainer { { RL-SetItem-RL-RestoreInd-ExtIEs} } OPTIONAL,
    ...
}

RL-SetItem-RL-RestoreInd-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

RL-Set-InformationList-RL-RestoreInd            ::= SEQUENCE (SIZE (1..maxNrOfRLSets)) OF ProtocolIE-Single-Container { {RL-Set-Information-RL-
RestoreInd-IEs} }

RL-Set-Information-RL-RestoreInd-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-RL-Set-Information-RL-RestoreInd        CRITICALITY ignore  TYPE RL-Set-Information-RL-RestoreInd    PRESENCE mandatory   }
}

RL-Set-Information-RL-RestoreInd ::= SEQUENCE {
    rL-Set-ID                       RL-Set-ID,
    iE-Extensions                   ProtocolExtensionContainer { {RL-Set-Information-RL-RestoreInd-ExtIEs} } OPTIONAL,
    ...
}

RL-Set-Information-RL-RestoreInd-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}
```

```
RadioLinkRestoreIndication-Extensions RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

CCTrCH-RL-RestoreInd ::= SEQUENCE {
    rL-ID                                   RL-ID,
    cCTrCH-InformationList-RL-RestoreInd    CCTrCH-InformationList-RL-RestoreInd,
    iE-Extensions                       ProtocolExtensionContainer { { CCTrCHItem-RL-RestoreInd-ExtIEs } }     OPTIONAL,
    ...
 }

CCTrCHItem-RL-RestoreInd-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

CCTrCH-InformationList-RL-RestoreInd ::= SEQUENCE (SIZE (1..maxNrOfCCTrCHs)) OF ProtocolIE-Single-Container {{ CCTrCH-InformationItemIE-RL-RestoreInd}}

CCTrCH-InformationItemIE-RL-RestoreInd RNSAP-PROTOCOL-IES ::= {
    { ID    id-CCTrCH-InformationItem-RL-RestoreInd     CRITICALITY     ignore      TYPE  CCTrCH-InformationItem-RL-RestoreInd    PRESENCE
    mandatory}
 }

CCTrCH-InformationItem-RL-RestoreInd ::= SEQUENCE {
    cCTrCH-ID                               CCTrCH-ID,
    iE-Extensions                       ProtocolExtensionContainer { { CCTrCH-InformationItem-RL-RestoreInd-ExtIEs } }    OPTIONAL,
    ...
 }

CCTrCH-InformationItem-RL-RestoreInd-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

-- **************************************************************
--
-- DOWNLINK POWER CONTROL REQUEST
--
-- **************************************************************

DL-PowerControlRequest ::= SEQUENCE {
    protocolIEs                 ProtocolIE-Container      {{DL-PowerControlRequest-IEs}},
    protocolExtensions           ProtocolExtensionContainer {{DL-PowerControlRequest-Extensions}}               OPTIONAL,
    ...
}

DL-PowerControlRequest-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-PowerAdjustmentType         CRITICALITY ignore  TYPE PowerAdjustmentType            PRESENCE mandatory} |
   { ID id-DLReferencePower         CRITICALITY ignore  TYPE DL-Power                          PRESENCE conditional} |
    -- This IE shall be present only 'Adjustment Type' equals to 'Common'
    { ID id-InnerLoopDLPCStatus         CRITICALITY ignore  TYPE InnerLoopDLPCStatus            PRESENCE optional } |
    { ID id-DLReferencePowerList-DL-PC-Rqst     CRITICALITY ignore  TYPE DL-ReferencePowerInformationList-DL-PC-Rqst  PRESENCE conditional} |
    -- This IE shall be present only 'Adjustment Type' equals to 'Individual'
```

```
    { ID id-MaxAdjustmentStep           CRITICALITY ignore  TYPE MaxAdjustmentStep          PRESENCE conditional} |
    -- This IE shall be present only ''Adjustment Type " equals to 'Common' or 'Individual'
    { ID id-AdjustmentPeriod            CRITICALITY ignore  TYPE AdjustmentPeriod           PRESENCE conditional}|
    -- This IE shall be present only ''Adjustment Type " equals to 'Common' or 'Individual'
    { ID id-AdjustmentRatio         CRITICALITY ignore  TYPE ScaledAdjustmentRatio          PRESENCE conditional},
    -- This IE shall be present only ''Adjustment Type " equals to 'Common' or 'Individual'
    ...
}

DL-ReferencePowerInformationList-DL-PC-Rqst     ::= SEQUENCE (SIZE (1..maxNrOfRLs)) OF ProtocolIE-Single-Container { {DL-ReferencePowerInformation-DL-
PC-Rqst-IEs} }

DL-ReferencePowerInformation-DL-PC-Rqst-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-DL-ReferencePowerInformation-DL-PC-Rqst CRITICALITY ignore  TYPE DL-ReferencePowerInformation-DL-PC-Rqst   PRESENCE mandatory   }
}

DL-ReferencePowerInformation-DL-PC-Rqst ::= SEQUENCE {
    rL-ID                       RL-ID,
    dl-Reference-Power              DL-Power,
    iE-Extensions                   ProtocolExtensionContainer { {DL-ReferencePowerInformation-DL-PC-Rqst-ExtIEs} } OPTIONAL,
    ...
}

DL-ReferencePowerInformation-DL-PC-Rqst-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

DL-PowerControlRequest-Extensions RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

-- **************************************************************
--
-- DOWNLINK POWER TIMESLOT CONTROL REQUEST TDD
--
-- **************************************************************

DL-PowerTimeslotControlRequest ::= SEQUENCE {
    protocolIEs                 ProtocolIE-Container      {{DL-PowerTimeslotControlRequest-IEs}},
    protocolExtensions            ProtocolExtensionContainer {{DL-PowerTimeslotControlRequest-Extensions}}               OPTIONAL,
    ...
}

DL-PowerTimeslotControlRequest-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-timeSlot-ISCP   CRITICALITY ignore  TYPE DL-TimeSlot-ISCP-Info  PRESENCE mandatory}
    --For 3.84Mcps TDD only,
    ...
}

DL-PowerTimeslotControlRequest-Extensions RNSAP-PROTOCOL-EXTENSION ::= {
    { ID id-timeSlot-ISCP-LCR-List-DL-PC-Rqst-TDD   CRITICALITY     EXTENSION   TimeSlot-ISCP-LCR-List-DL-PC-Rqst-TDD PRESENCE optional},
```

```
    --For 1.28Mcps TDD only
    ...
}

TimeSlot-ISCP-LCR-List-DL-PC-Rqst-TDD ::= SEQUENCE (SIZE (0..maxNrOfDLTsLCR)) OF Timeslot-ISCP-LCR-Item-DL-PC-Rqst-TDD

Timeslot-ISCP-LCR-Item-DL-PC-Rqst-TDD::= SEQUENCE {
    rL-ID                       RL-ID,
    timeSlotLCR                 TimeSlotLCR,
    dl-TimeslotISCP             DL-TimeslotISCP,
    iE-Extensions               ProtocolExtensionContainer { { Timeslot-ISCP-LCR-Item-DL-PC-Rqst-TDD-ExtIEs} } OPTIONAL,
    ...
}

Timeslot-ISCP-LCR-Item-DL-PC-Rqst-TDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

-- **************************************************************
--
-- PHYSICAL CHANNEL RECONFIGURATION REQUEST FDD
--
-- **************************************************************

PhysicalChannelReconfigurationRequestFDD ::= SEQUENCE {
    protocolIEs                 ProtocolIE-Container      {{PhysicalChannelReconfigurationRequestFDD-IEs}},
    protocolExtensions           ProtocolExtensionContainer {{PhysicalChannelReconfigurationRequestFDD-Extensions}}               OPTIONAL,
    ...
}

PhysicalChannelReconfigurationRequestFDD-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-RL-Information-PhyChReconfRqstFDD   CRITICALITY reject  TYPE RL-Information-PhyChReconfRqstFDD    PRESENCE mandatory   },
    ...
}

RL-Information-PhyChReconfRqstFDD ::= SEQUENCE {
    rL-ID                       RL-ID,
    dl-CodeInformation              DL-CodeInformationList-PhyChReconfRqstFDD,
    iE-Extensions                   ProtocolExtensionContainer { {RL-Information-PhyChReconfRqstFDD-ExtIEs} } OPTIONAL,
    ...
}

RL-Information-PhyChReconfRqstFDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

DL-CodeInformationList-PhyChReconfRqstFDD       ::= ProtocolIE-Single-Container { {DL-CodeInformationListIEs-PhyChReconfRqstFDD} }

DL-CodeInformationListIEs-PhyChReconfRqstFDD RNSAP-PROTOCOL-IES ::= {
    { ID id-FDD-DL-CodeInformation  CRITICALITY notify  TYPE FDD-DL-CodeInformation PRESENCE mandatory  }
}
```

```
PhysicalChannelReconfigurationRequestFDD-Extensions RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

-- **************************************************************
--
-- PHYSICAL CHANNEL RECONFIGURATION REQUEST TDD
--
-- **************************************************************

PhysicalChannelReconfigurationRequestTDD ::= SEQUENCE {
    protocolIEs                 ProtocolIE-Container      {{PhysicalChannelReconfigurationRequestTDD-IEs}},
    protocolExtensions           ProtocolExtensionContainer {{PhysicalChannelReconfigurationRequestTDD-Extensions}}               OPTIONAL,
    ...
}

PhysicalChannelReconfigurationRequestTDD-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-RL-Information-PhyChReconfRqstTDD   CRITICALITY reject  TYPE RL-Information-PhyChReconfRqstTDD   PRESENCE mandatory   },
    ...
}

RL-Information-PhyChReconfRqstTDD ::= SEQUENCE {
    rL-ID                       RL-ID,
    ul-CCTrCH-Information               UL-CCTrCH-InformationList-PhyChReconfRqstTDD    OPTIONAL,
    dl-CCTrCH-Information               DL-CCTrCH-InformationList-PhyChReconfRqstTDD    OPTIONAL,
    iE-Extensions                   ProtocolExtensionContainer { {RL-Information-PhyChReconfRqstTDD-ExtIEs} } OPTIONAL,
    ...
}

RL-Information-PhyChReconfRqstTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

UL-CCTrCH-InformationList-PhyChReconfRqstTDD        ::= ProtocolIE-Single-Container { {UL-CCTrCH-InformationListIEs-PhyChReconfRqstTDD} }

UL-CCTrCH-InformationListIEs-PhyChReconfRqstTDD RNSAP-PROTOCOL-IES ::= {
    { ID id-UL-CCTrCH-InformationListIE-PhyChReconfRqstTDD      CRITICALITY reject  TYPE UL-CCTrCH-InformationListIE-PhyChReconfRqstTDD    PRESENCE
mandatory   }
}

UL-CCTrCH-InformationListIE-PhyChReconfRqstTDD ::= SEQUENCE (SIZE (1..maxNrOfCCTrCHs)) OF UL-CCTrCH-InformationItem-PhyChReconfRqstTDD

UL-CCTrCH-InformationItem-PhyChReconfRqstTDD ::= SEQUENCE {
    cCTrCH-ID                       CCTrCH-ID,
    ul-DPCH-Information             UL-DPCH-InformationList-PhyChReconfRqstTDD,
    iE-Extensions                   ProtocolExtensionContainer { {UL-CCTrCH-InformationItem-PhyChReconfRqstTDD-ExtIEs} } OPTIONAL,
    ...
}

UL-CCTrCH-InformationItem-PhyChReconfRqstTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
```

```
    ...
}

UL-DPCH-InformationList-PhyChReconfRqstTDD ::= ProtocolIE-Single-Container {{UL-DPCH-InformationListIEs-PhyChReconfRqstTDD}}

UL-DPCH-InformationListIEs-PhyChReconfRqstTDD RNSAP-PROTOCOL-IES ::= {
    { ID id-UL-DPCH-InformationItem-PhyChReconfRqstTDD  CRITICALITY notify  TYPE UL-DPCH-InformationItem-PhyChReconfRqstTDD    PRESENCE mandatory }
}

UL-DPCH-InformationItem-PhyChReconfRqstTDD ::= SEQUENCE {
    repetitionPeriod               RepetitionPeriod        OPTIONAL,
    repetitionLength               RepetitionLength        OPTIONAL,
    tDD-DPCHOffset                 TDD-DPCHOffset          OPTIONAL,
    uL-Timeslot-InformationList-PhyChReconfRqstTDD          UL-Timeslot-InformationList-PhyChReconfRqstTDD   OPTIONAL
    --For 3.84Mcps TDD only,
    iE-Extensions                  ProtocolExtensionContainer { {UL-DPCH-InformationItem-PhyChReconfRqstTDD-ExtIEs} } OPTIONAL,
    ...
}

UL-DPCH-InformationItem-PhyChReconfRqstTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    { ID id-UL-TimeslotLCR-InformationList-PhyChReconfRqstTDD  CRITICALITY reject      EXTENSION  UL-TimeslotLCR-InformationList-PhyChReconfRqstTDD
    PRESENCE optional },
    --For 1.28Mcps TDD only
    ...
}

UL-TimeslotLCR-InformationList-PhyChReconfRqstTDD::= SEQUENCE ( SIZE (1..maxNrOfTSLCR)) OF UL-TimeslotLCR-InformationItem-PhyChReconfRqstTDD

UL-TimeslotLCR-InformationItem-PhyChReconfRqstTDD ::= SEQUENCE {
    timeSlotLCR                    TimeSlotLCR,
    midambleShiftLCR                   MidambleShiftLCR       OPTIONAL,
    tFCI-Presence                  TFCI-Presence       OPTIONAL,
    uL-Code-LCR-Information        TDD-UL-Code-LCR-Information     OPTIONAL,
    iE-Extensions                  ProtocolExtensionContainer { {UL-TimeslotLCR-InformationItem-PhyChReconfRqstTDD-ExtIEs} } OPTIONAL,
    ...
}

UL-TimeslotLCR-InformationItem-PhyChReconfRqstTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

UL-Timeslot-InformationList-PhyChReconfRqstTDD::= SEQUENCE ( SIZE (1..maxNrOfTS)) OF UL-Timeslot-InformationItem-PhyChReconfRqstTDD

UL-Timeslot-InformationItem-PhyChReconfRqstTDD ::= SEQUENCE {
    timeSlot                       TimeSlot,
    midambleShiftAndBurstType                  MidambleShiftAndBurstType       OPTIONAL,
    tFCI-Presence                  TFCI-Presence       OPTIONAL,
    uL-Code-Information         TDD-UL-Code-Information     OPTIONAL,
    iE-Extensions                  ProtocolExtensionContainer { {UL-Timeslot-InformationItem-PhyChReconfRqstTDD-ExtIEs} } OPTIONAL,
    ...
}
```

```
UL-Timeslot-InformationItem-PhyChReconfRqstTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

DL-CCTrCH-InformationList-PhyChReconfRqstTDD        ::= ProtocolIE-Single-Container { {DL-CCTrCH-InformationListIEs-PhyChReconfRqstTDD} }

DL-CCTrCH-InformationListIEs-PhyChReconfRqstTDD RNSAP-PROTOCOL-IES ::= {
    { ID id-DL-CCTrCH-InformationListIE-PhyChReconfRqstTDD      CRITICALITY reject  TYPE DL-CCTrCH-InformationListIE-PhyChReconfRqstTDD    PRESENCE
mandatory   }
}

DL-CCTrCH-InformationListIE-PhyChReconfRqstTDD ::= SEQUENCE (SIZE (1..maxNrOfCCTrCHs)) OF DL-CCTrCH-InformationItem-PhyChReconfRqstTDD

DL-CCTrCH-InformationItem-PhyChReconfRqstTDD ::= SEQUENCE {
    cCTrCH-ID                       CCTrCH-ID,
    dl-DPCH-Information             DL-DPCH-InformationList-PhyChReconfRqstTDD,
    iE-Extensions                   ProtocolExtensionContainer { {DL-CCTrCH-InformationItem-PhyChReconfRqstTDD-ExtIEs} } OPTIONAL,
    ...
}

DL-CCTrCH-InformationItem-PhyChReconfRqstTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

DL-DPCH-InformationList-PhyChReconfRqstTDD ::= ProtocolIE-Single-Container {{DL-DPCH-InformationListIEs-PhyChReconfRqstTDD}}

DL-DPCH-InformationListIEs-PhyChReconfRqstTDD RNSAP-PROTOCOL-IES ::= {
    { ID id-DL-DPCH-InformationItem-PhyChReconfRqstTDD  CRITICALITY notify  TYPE DL-DPCH-InformationItem-PhyChReconfRqstTDD    PRESENCE mandatory }
}

DL-DPCH-InformationItem-PhyChReconfRqstTDD ::= SEQUENCE {
    repetitionPeriod                RepetitionPeriod        OPTIONAL,
    repetitionLength                RepetitionLength        OPTIONAL,
    tDD-DPCHOffset                  TDD-DPCHOffset          OPTIONAL,
    dL-Timeslot-InformationList-PhyChReconfRqstTDD          DL-Timeslot-InformationList-PhyChReconfRqstTDD   OPTIONAL,
    iE-Extensions                   ProtocolExtensionContainer { {DL-DPCH-InformationItem-PhyChReconfRqstTDD-ExtIEs} } OPTIONAL,
    ...
}

DL-DPCH-InformationItem-PhyChReconfRqstTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    { ID id-DL-TimeslotLCR-InformationList-PhyChReconfRqstTDD  CRITICALITY reject      EXTENSION  DL-TimeslotLCR-InformationList-PhyChReconfRqstTDD
    PRESENCE optional },
    --For 1.28Mcps TDD only
    ...
}

DL-TimeslotLCR-InformationList-PhyChReconfRqstTDD::= SEQUENCE ( SIZE (1..maxNrOfTSLCR)) OF DL-TimeslotLCR-InformationItem-PhyChReconfRqstTDD

DL-TimeslotLCR-InformationItem-PhyChReconfRqstTDD ::= SEQUENCE {
    timeSlotLCR                     TimeSlotLCR,
```

```
    midambleShiftLCR                MidambleShiftLCR        OPTIONAL,
    tFCI-Presence                   TFCI-Presence       OPTIONAL,
    dL-Code-LCR-Information         TDD-DL-Code-LCR-Information     OPTIONAL,
    iE-Extensions                   ProtocolExtensionContainer { {DL-TimeslotLCR-InformationItem-PhyChReconfRqstTDD-ExtIEs} } OPTIONAL,
    ...
}

DL-TimeslotLCR-InformationItem-PhyChReconfRqstTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

DL-Timeslot-InformationList-PhyChReconfRqstTDD::= SEQUENCE ( SIZE (1..maxNrOfTS)) OF DL-Timeslot-InformationItem-PhyChReconfRqstTDD

DL-Timeslot-InformationItem-PhyChReconfRqstTDD ::= SEQUENCE {
    timeSlot                        TimeSlot,
    midambleShiftAndBurstType                   MidambleShiftAndBurstType       OPTIONAL,
    tFCI-Presence                   TFCI-Presence       OPTIONAL,
    dL-Code-Information         TDD-DL-Code-Information     OPTIONAL,
    iE-Extensions                   ProtocolExtensionContainer { {DL-Timeslot-InformationItem-PhyChReconfRqstTDD-ExtIEs} } OPTIONAL,
    ...
}

DL-Timeslot-InformationItem-PhyChReconfRqstTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

PhysicalChannelReconfigurationRequestTDD-Extensions RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

-- **************************************************************
--
-- PHYSICAL CHANNEL RECONFIGURATION COMMAND
--
-- **************************************************************

PhysicalChannelReconfigurationCommand ::= SEQUENCE {
    protocolIEs                 ProtocolIE-Container      {{PhysicalChannelReconfigurationCommand-IEs}},
    protocolExtensions           ProtocolExtensionContainer {{PhysicalChannelReconfigurationCommand-Extensions}}              OPTIONAL,
    ...
}

PhysicalChannelReconfigurationCommand-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-CFN                 CRITICALITY ignore  TYPE CFN                    PRESENCE mandatory   } |
    { ID id-CriticalityDiagnostics          CRITICALITY ignore  TYPE CriticalityDiagnostics      PRESENCE optional },
    ...
}

PhysicalChannelReconfigurationCommand-Extensions RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}
```

```
-- **************************************************************
--
-- PHYSICAL CHANNEL RECONFIGURATION FAILURE
--
-- **************************************************************

PhysicalChannelReconfigurationFailure ::= SEQUENCE {
    protocolIEs                 ProtocolIE-Container      {{PhysicalChannelReconfigurationFailure-IEs}},
    protocolExtensions           ProtocolExtensionContainer {{PhysicalChannelReconfigurationFailure-Extensions}}               OPTIONAL,
    ...
}

PhysicalChannelReconfigurationFailure-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-Cause                   CRITICALITY ignore  TYPE Cause                  PRESENCE mandatory  } |
    { ID id-CriticalityDiagnostics          CRITICALITY ignore  TYPE CriticalityDiagnostics      PRESENCE optional },
    ...
}

PhysicalChannelReconfigurationFailure-Extensions RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

-- **************************************************************
--
-- RADIO LINK CONGESTION INDICATION
--
-- **************************************************************

RadioLinkCongestionIndication ::= SEQUENCE {
    protocolIEs                 ProtocolIE-Container      {{RadioLinkCongestionIndication-IEs}},
    protocolExtensions           ProtocolExtensionContainer {{RadioLinkCongestionIndication-Extensions}}               OPTIONAL,
    ...
}

RadioLinkCongestionIndication-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-RL-InformationList-RL-CongestInd    CRITICALITY ignore  TYPE RL-InformationList-RL-CongestInd    PRESENCE mandatory },
    ...
}

RL-InformationList-RL-CongestInd           ::= SEQUENCE (SIZE (1..maxNrOfRLs)) OF ProtocolIE-Single-Container { {RL-InformationItemIEs-RL-CongestInd}
}

RL-InformationItemIEs-RL-CongestInd RNSAP-PROTOCOL-IES ::= {
    { ID id-RL-InformationItem-RL-CongestInd        CRITICALITY ignore  TYPE RL-InformationItem-RL-CongestInd   PRESENCE mandatory   }
}

RL-InformationItem-RL-CongestInd ::= SEQUENCE {
    rL-ID                               RL-ID,
    dCH-Rate-Information        DCH-Rate-Information-RL-CongestInd,
    iE-Extensions               ProtocolExtensionContainer { {RL-Information-RL-CongestInd-ExtIEs} } OPTIONAL,
```

```
    ...
}

DCH-Rate-Information-RL-CongestInd ::= SEQUENCE (SIZE (1..maxNrOfDCHs)) OF ProtocolIE-Single-Container { {DCH-Rate-InformationItemIEs-RL-CongestInd} }

DCH-Rate-InformationItemIEs-RL-CongestInd RNSAP-PROTOCOL-IES ::= {
    { ID id-DCH-Rate-InformationItem-RL-CongestInd      CRITICALITY ignore  TYPE DCH-Rate-InformationItem-RL-CongestInd     PRESENCE mandatory   }
}

DCH-Rate-InformationItem-RL-CongestInd ::= SEQUENCE {
    dCH-ID                      DCH-ID,
    allowed-Rate-Information    Allowed-Rate-Information OPTIONAL,
    iE-Extensions               ProtocolExtensionContainer { {DCH-Rate-InformationItem-RL-CongestInd-ExtIEs} } OPTIONAL,
    ...
}

DCH-Rate-InformationItem-RL-CongestInd-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

RL-Information-RL-CongestInd-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

RadioLinkCongestionIndication-Extensions RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

-- **************************************************************
--
-- UPLINK SIGNALLING TRANSFER INDICATION FDD
--
-- **************************************************************

UplinkSignallingTransferIndicationFDD ::= SEQUENCE {
    protocolIEs                 ProtocolIE-Container      {{UplinkSignallingTransferIndicationFDD-IEs}},
    protocolExtensions           ProtocolExtensionContainer {{UplinkSignallingTransferIndicationFDD-Extensions}}               OPTIONAL,
    ...
}

UplinkSignallingTransferIndicationFDD-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-UC-ID                   CRITICALITY ignore  TYPE UC-ID                PRESENCE mandatory  } |
    { ID id-SAI                 CRITICALITY ignore  TYPE SAI                  PRESENCE mandatory   } |
    { ID id-GA-Cell             CRITICALITY ignore  TYPE GA-Cell              PRESENCE optional } |
    { ID id-C-RNTI                  CRITICALITY ignore  TYPE C-RNTI               PRESENCE mandatory  } |
    { ID id-S-RNTI                  CRITICALITY ignore  TYPE S-RNTI               PRESENCE mandatory  } |
    { ID id-D-RNTI                  CRITICALITY ignore  TYPE D-RNTI               PRESENCE optional   } |
    { ID id-PropagationDelay        CRITICALITY ignore  TYPE PropagationDelay     PRESENCE mandatory  } |
    { ID id-STTD-SupportIndicator               CRITICALITY ignore  TYPE STTD-SupportIndicator  PRESENCE mandatory } |
    { ID id-ClosedLoopMode1-SupportIndicator    CRITICALITY ignore  TYPE ClosedLoopMode1-SupportIndicator  PRESENCE mandatory } |
    { ID id-ClosedLoopMode2-SupportIndicator    CRITICALITY ignore  TYPE ClosedLoopMode2-SupportIndicator  PRESENCE mandatory } |
```

```
    { ID id-L3-Information             CRITICALITY ignore  TYPE L3-Information            PRESENCE mandatory  } |
    { ID id-CN-PS-DomainIdentifier         CRITICALITY ignore  TYPE CN-PS-DomainIdentifier      PRESENCE optional } |
    { ID id-CN-CS-DomainIdentifier         CRITICALITY ignore  TYPE CN-CS-DomainIdentifier      PRESENCE optional } |
    { ID id-URA-Information                CRITICALITY ignore  TYPE URA-Information               PRESENCE optional },
    ...
}

UplinkSignallingTransferIndicationFDD-Extensions RNSAP-PROTOCOL-EXTENSION ::= {
    { ID id-GA-CellAdditionalShapes        CRITICALITY ignore  EXTENSION   GA-CellAdditionalShapes    PRESENCE optional },
    ...
}

-- **************************************************************
--
-- UPLINK SIGNALLING TRANSFER INDICATION TDD
--
-- **************************************************************

UplinkSignallingTransferIndicationTDD ::= SEQUENCE {
    protocolIEs                ProtocolIE-Container     {{UplinkSignallingTransferIndicationTDD-IEs}},
    protocolExtensions          ProtocolExtensionContainer {{UplinkSignallingTransferIndicationTDD-Extensions}}              OPTIONAL,
    ...
}

UplinkSignallingTransferIndicationTDD-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-UC-ID                  CRITICALITY ignore  TYPE UC-ID                PRESENCE mandatory  } |
    { ID id-SAI                CRITICALITY ignore  TYPE SAI                   PRESENCE mandatory   } |
    { ID id-GA-Cell            CRITICALITY ignore  TYPE GA-Cell               PRESENCE optional } |
    { ID id-C-RNTI                 CRITICALITY ignore  TYPE C-RNTI                PRESENCE mandatory  } |
    { ID id-S-RNTI                 CRITICALITY ignore  TYPE S-RNTI                PRESENCE mandatory  } |
    { ID id-D-RNTI                 CRITICALITY ignore  TYPE D-RNTI                PRESENCE optional   } |
    { ID id-RxTimingDeviationForTA         CRITICALITY ignore  TYPE RxTimingDeviationForTA PRESENCE mandatory } |
    { ID id-L3-Information             CRITICALITY ignore  TYPE L3-Information            PRESENCE mandatory  } |
    { ID id-CN-PS-DomainIdentifier         CRITICALITY ignore  TYPE CN-PS-DomainIdentifier      PRESENCE optional } |
    { ID id-CN-CS-DomainIdentifier         CRITICALITY ignore  TYPE CN-CS-DomainIdentifier      PRESENCE optional } |
    { ID id-URA-Information                CRITICALITY ignore  TYPE URA-Information               PRESENCE optional },
    ...
}

UplinkSignallingTransferIndicationTDD-Extensions RNSAP-PROTOCOL-EXTENSION ::= {
    { ID id-GA-CellAdditionalShapes        CRITICALITY ignore  EXTENSION   GA-CellAdditionalShapes    PRESENCE optional },
    ...
}

-- **************************************************************
--
-- DOWNLINK SIGNALLING TRANSFER REQUEST
--
-- **************************************************************

DownlinkSignallingTransferRequest ::= SEQUENCE {
```

```
    protocolIEs                 ProtocolIE-Container      {{DownlinkSignallingTransferRequest-IEs}},
    protocolExtensions           ProtocolExtensionContainer {{DownlinkSignallingTransferRequest-Extensions}}               OPTIONAL,
    ...
}

DownlinkSignallingTransferRequest-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-C-ID                   CRITICALITY ignore  TYPE C-ID                  PRESENCE mandatory  } |
    { ID id-D-RNTI                 CRITICALITY ignore  TYPE D-RNTI                PRESENCE mandatory  } |
    { ID id-L3-Information             CRITICALITY ignore  TYPE L3-Information            PRESENCE mandatory  } |
    { ID id-D-RNTI-ReleaseIndication        CRITICALITY ignore  TYPE D-RNTI-ReleaseIndication       PRESENCE mandatory  },
    ...
}

DownlinkSignallingTransferRequest-Extensions RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

-- **************************************************************
--
-- RELOCATION COMMIT
--
-- **************************************************************

RelocationCommit ::= SEQUENCE {
    protocolIEs                 ProtocolIE-Container      {{RelocationCommit-IEs}},
    protocolExtensions           ProtocolExtensionContainer {{RelocationCommit-Extensions}}               OPTIONAL,
    ...
}

RelocationCommit-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-D-RNTI                 CRITICALITY ignore  TYPE D-RNTI                PRESENCE optional  } |
    { ID id-RANAP-RelocationInformation     CRITICALITY ignore  TYPE RANAP-RelocationInformation    PRESENCE optional },
    ...
}

RelocationCommit-Extensions RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

-- **************************************************************
--
-- PAGING REQUEST
--
-- **************************************************************

PagingRequest ::= SEQUENCE {
    protocolIEs                 ProtocolIE-Container      {{PagingRequest-IEs}},
    protocolExtensions           ProtocolExtensionContainer {{PagingRequest-Extensions}}               OPTIONAL,
    ...
}
```

```
PagingRequest-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-PagingArea-PagingRqst           CRITICALITY ignore  TYPE PagingArea-PagingRqst       PRESENCE mandatory   } |
    { ID id-SRNC-ID                CRITICALITY ignore  TYPE RNC-ID                PRESENCE mandatory  } |
    { ID id-S-RNTI                 CRITICALITY ignore  TYPE S-RNTI                PRESENCE mandatory  } |
    { ID id-IMSI                   CRITICALITY ignore  TYPE IMSI                  PRESENCE mandatory  } |
    { ID id-DRXCycleLengthCoefficient              CRITICALITY ignore  TYPE DRXCycleLengthCoefficient          PRESENCE mandatory   }|
    { ID id-CNOriginatedPage-PagingRqst            CRITICALITY ignore  TYPE CNOriginatedPage-PagingRqst        PRESENCE optional    },
    ...
}

PagingArea-PagingRqst ::= CHOICE {
    uRA                    URA-PagingRqst,
    cell                   Cell-PagingRqst,
    ...
}

URA-PagingRqst ::= SEQUENCE {
    uRA-ID                      URA-ID,
    iE-Extensions               ProtocolExtensionContainer { { URAItem-PagingRqst-ExtIEs} } OPTIONAL,
    ...
}

URAItem-PagingRqst-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

Cell-PagingRqst ::= SEQUENCE {
    c-ID                        C-ID,
    iE-Extensions               ProtocolExtensionContainer { { CellItem-PagingRqst-ExtIEs} } OPTIONAL,
    ...
}

CellItem-PagingRqst-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

CNOriginatedPage-PagingRqst::= SEQUENCE {
    pagingCause                 PagingCause,
    cNDomainType                CNDomainType,
    pagingRecordType            PagingRecordType,
    iE-Extensions               ProtocolExtensionContainer { { CNOriginatedPage-PagingRqst-ExtIEs} } OPTIONAL,
    ...
}

CNOriginatedPage-PagingRqst-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

PagingRequest-Extensions RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}
```

```
-- **************************************************************
--
-- DEDICATED MEASUREMENT INITIATION REQUEST
--
-- **************************************************************

DedicatedMeasurementInitiationRequest ::= SEQUENCE {
    protocolIEs                 ProtocolIE-Container      {{DedicatedMeasurementInitiationRequest-IEs}},
    protocolExtensions           ProtocolExtensionContainer {{DedicatedMeasurementInitiationRequest-Extensions}}              OPTIONAL,
    ...
}

DedicatedMeasurementInitiationRequest-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-MeasurementID              CRITICALITY reject  TYPE MeasurementID              PRESENCE mandatory  } |
    { ID id-DedicatedMeasurementObjectType-DM-Rqst  CRITICALITY reject  TYPE DedicatedMeasurementObjectType-DM-Rqst PRESENCE mandatory   } |
    -- This IE represents both the Dedicated Measurement Object Type IE and the choice based on the Dedicated Measurement Object Type
    -- as described in the tabular message format in subclause 9.1.
    { ID id-DedicatedMeasurementType           CRITICALITY reject  TYPE DedicatedMeasurementType      PRESENCE mandatory   } |
    { ID id-MeasurementFilterCoefficient       CRITICALITY reject  TYPE MeasurementFilterCoefficient        PRESENCE optional } |
    { ID id-ReportCharacteristics          CRITICALITY reject  TYPE ReportCharacteristics       PRESENCE mandatory   }|
   { ID id-CFNReportingIndicator         CRITICALITY reject  TYPE FNReportingIndicator       PRESENCE mandatory  }|
   { ID id-CFN                       CRITICALITY reject  TYPE CFN                     PRESENCE optional   },
    ...
}

DedicatedMeasurementObjectType-DM-Rqst ::= CHOICE {
    rL                      RL-DM-Rqst,
    rLS                     RL-Set-DM-Rqst,
    allRL                   All-RL-DM-Rqst,
    allRLS                  All-RL-Set-DM-Rqst,
    ...
}

RL-DM-Rqst ::= SEQUENCE {
    rL-InformationList-DM-Rqst      RL-InformationList-DM-Rqst,
    iE-Extensions                   ProtocolExtensionContainer { { RLItem-DM-Rqst-ExtIEs} } OPTIONAL,
        ...
    }

RLItem-DM-Rqst-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

RL-InformationList-DM-Rqst                  ::= SEQUENCE (SIZE (1..maxNrOfRLs)) OF ProtocolIE-Single-Container { {RL-Information-DM-Rqst-IEs} }

RL-Information-DM-Rqst-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-RL-InformationItem-DM-Rqst      CRITICALITY reject  TYPE RL-InformationItem-DM-Rqst     PRESENCE mandatory   }
}

RL-InformationItem-DM-Rqst ::= SEQUENCE {
```

```
    rL-ID                       RL-ID,
    dPCH-ID                     DPCH-ID     OPTIONAL,
    iE-Extensions                   ProtocolExtensionContainer { {RL-InformationItem-DM-Rqst-ExtIEs} } OPTIONAL,
    ...
}

RL-InformationItem-DM-Rqst-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

RL-Set-DM-Rqst ::= SEQUENCE {
    rL-Set-InformationList-DM-Rqst  RL-Set-InformationList-DM-Rqst,
    iE-Extensions                   ProtocolExtensionContainer { { RL-SetItem-DM-Rqst-ExtIEs} } OPTIONAL,
        ...
    }

RL-SetItem-DM-Rqst-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

RL-Set-InformationList-DM-Rqst                  ::= SEQUENCE (SIZE (1..maxNrOfRLSets)) OF ProtocolIE-Single-Container { {RL-Set-Information-DM-Rqst-
IEs} }

RL-Set-Information-DM-Rqst-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-RL-Set-InformationItem-DM-Rqst      CRITICALITY ignore  TYPE RL-Set-InformationItem-DM-Rqst      PRESENCE mandatory   }
}

RL-Set-InformationItem-DM-Rqst ::= SEQUENCE {
    rL-Set-ID                       RL-Set-ID,
    iE-Extensions                   ProtocolExtensionContainer { {RL-Set-InformationItem-DM-Rqst-ExtIEs} } OPTIONAL,
    ...
}

RL-Set-InformationItem-DM-Rqst-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

All-RL-DM-Rqst ::= NULL

All-RL-Set-DM-Rqst ::= NULL

DedicatedMeasurementInitiationRequest-Extensions RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

-- **************************************************************
--
-- DEDICATED MEASUREMENT INITIATION RESPONSE
--
-- **************************************************************
```

```
DedicatedMeasurementInitiationResponse ::= SEQUENCE {
    protocolIEs                 ProtocolIE-Container      {{DedicatedMeasurementInitiationResponse-IEs}},
    protocolExtensions           ProtocolExtensionContainer {{DedicatedMeasurementInitiationResponse-Extensions}}              OPTIONAL,
    ...
}

DedicatedMeasurementInitiationResponse-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-MeasurementID               CRITICALITY ignore  TYPE MeasurementID              PRESENCE mandatory  } |
    { ID id-DedicatedMeasurementObjectType-DM-Rsp   CRITICALITY ignore  TYPE DedicatedMeasurementObjectType-DM-Rsp  PRESENCE optional } |
    { ID id-CriticalityDiagnostics          CRITICALITY ignore  TYPE CriticalityDiagnostics      PRESENCE optional },
    ...
}

DedicatedMeasurementObjectType-DM-Rsp ::= CHOICE {
    rLs                     RL-DM-Rsp,
    rLS                     RL-Set-DM-Rsp,
    allRL                   RL-DM-Rsp,
    allRLS                  RL-Set-DM-Rsp,
    ...
}

RL-DM-Rsp ::= SEQUENCE {
    rL-InformationList-DM-Rsp       RL-InformationList-DM-Rsp,
    iE-Extensions                   ProtocolExtensionContainer { { RLItem-DM-Rsp-ExtIEs} } OPTIONAL,
    ...
}

RLItem-DM-Rsp-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

RL-Set-DM-Rsp ::= SEQUENCE {
    rL-Set-InformationList-DM-Rsp   RL-Set-InformationList-DM-Rsp,
    iE-Extensions                   ProtocolExtensionContainer { { RL-SetItem-DM-Rsp-ExtIEs} } OPTIONAL,
    ...
}

RL-SetItem-DM-Rsp-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

RL-InformationList-DM-Rsp                   ::= SEQUENCE (SIZE (1..maxNrOfRLs)) OF ProtocolIE-Single-Container { {RL-Information-DM-Rsp-IEs} }

RL-Information-DM-Rsp-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-RL-InformationItem-DM-Rsp       CRITICALITY ignore  TYPE RL-InformationItem-DM-Rsp    PRESENCE mandatory   }
}

RL-InformationItem-DM-Rsp ::= SEQUENCE {
    rL-ID                       RL-ID,
    dPCH-ID                     DPCH-ID             OPTIONAL,
    dedicatedMeasurementValue           DedicatedMeasurementValue,
```

```
    cFN                     CFN             OPTIONAL,
    iE-Extensions                   ProtocolExtensionContainer { {RL-InformationItem-DM-Rsp-ExtIEs} } OPTIONAL,
    ...
}

RL-InformationItem-DM-Rsp-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

RL-Set-InformationList-DM-Rsp                   ::= SEQUENCE (SIZE (1..maxNrOfRLSets)) OF ProtocolIE-Single-Container { {RL-Set-Information-DM-Rsp-IEs}
}

RL-Set-Information-DM-Rsp-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-RL-Set-InformationItem-DM-Rsp       CRITICALITY ignore  TYPE RL-Set-InformationItem-DM-Rsp     PRESENCE mandatory   }
}

RL-Set-InformationItem-DM-Rsp ::= SEQUENCE {
    rL-Set-ID                       RL-Set-ID,
    dedicatedMeasurementValue       DedicatedMeasurementValue,
    cFN                     CFN                     OPTIONAL,
    iE-Extensions                   ProtocolExtensionContainer { {RL-Set-InformationItem-DM-Rspns-ExtIEs} } OPTIONAL,
    ...
}

RL-Set-InformationItem-DM-Rspns-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

DedicatedMeasurementInitiationResponse-Extensions RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

-- **************************************************************
--
-- DEDICATED MEASUREMENT INITIATION FAILURE
--
-- **************************************************************

DedicatedMeasurementInitiationFailure ::= SEQUENCE {
    protocolIEs                 ProtocolIE-Container      {{DedicatedMeasurementInitiationFailure-IEs}},
    protocolExtensions           ProtocolExtensionContainer {{DedicatedMeasurementInitiationFailure-Extensions}}               OPTIONAL,
    ...
}

DedicatedMeasurementInitiationFailure-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-MeasurementID               CRITICALITY ignore  TYPE MeasurementID              PRESENCE mandatory   } |
    { ID id-Cause                   CRITICALITY ignore  TYPE Cause                  PRESENCE mandatory  } |
    { ID id-CriticalityDiagnostics          CRITICALITY ignore  TYPE CriticalityDiagnostics       PRESENCE optional },
    ...
}
```

```
DedicatedMeasurementInitiationFailure-Extensions RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

-- **************************************************************
--
-- DEDICATED MEASUREMENT REPORT
--
-- **************************************************************

DedicatedMeasurementReport ::= SEQUENCE {
    protocolIEs                 ProtocolIE-Container      {{DedicatedMeasurementReport-IEs}},
    protocolExtensions           ProtocolExtensionContainer {{DedicatedMeasurementReport-Extensions}}               OPTIONAL,
    ...
}

DedicatedMeasurementReport-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-MeasurementID               CRITICALITY ignore  TYPE MeasurementID              PRESENCE mandatory  } |
    { ID id-DedicatedMeasurementObjectType-DM-Rprt  CRITICALITY ignore  TYPE DedicatedMeasurementObjectType-DM-Rprt PRESENCE mandatory   },
    ...
}

DedicatedMeasurementObjectType-DM-Rprt ::= CHOICE {
    rLs                     RL-DM-Rprt,
    rLS                     RL-Set-DM-Rprt,
    allRL                   RL-DM-Rprt,
    allRLS                  RL-Set-DM-Rprt,
    ...
}

RL-DM-Rprt ::= SEQUENCE {
    rL-InformationList-DM-Rprt      RL-InformationList-DM-Rprt,
    iE-Extensions                   ProtocolExtensionContainer { { RLItem-DM-Rprt-ExtIEs} } OPTIONAL,
    ...
}

RLItem-DM-Rprt-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

RL-Set-DM-Rprt ::= SEQUENCE {
    rL-Set-InformationList-DM-Rprt  RL-Set-InformationList-DM-Rprt,
    iE-Extensions                   ProtocolExtensionContainer { { RL-SetItem-DM-Rprt-ExtIEs} } OPTIONAL,
    ...
}

RL-SetItem-DM-Rprt-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

RL-InformationList-DM-Rprt                ::= SEQUENCE (SIZE (1..maxNrOfRLs)) OF ProtocolIE-Single-Container { {RL-Information-DM-Rprt-IEs} }
```

```
RL-Information-DM-Rprt-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-RL-InformationItem-DM-Rprt      CRITICALITY ignore  TYPE RL-InformationItem-DM-Rprt     PRESENCE mandatory   }
}

RL-InformationItem-DM-Rprt ::= SEQUENCE {
    rL-ID                       RL-ID,
    dPCH-ID                     DPCH-ID             OPTIONAL,
    dedicatedMeasurementValueInformation    DedicatedMeasurementValueInformation,
    iE-Extensions                   ProtocolExtensionContainer { {RL-InformationItem-DM-Rprt-ExtIEs} } OPTIONAL,
    ...
}

RL-InformationItem-DM-Rprt-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

RL-Set-InformationList-DM-Rprt                ::= SEQUENCE (SIZE (1..maxNrOfRLSets)) OF ProtocolIE-Single-Container { {RL-Set-Information-DM-Rprt-
IEs} }

RL-Set-Information-DM-Rprt-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-RL-Set-InformationItem-DM-Rprt      CRITICALITY ignore  TYPE RL-Set-InformationItem-DM-Rprt      PRESENCE mandatory   }
}

RL-Set-InformationItem-DM-Rprt ::= SEQUENCE {
    rL-Set-ID                       RL-Set-ID,
    dedicatedMeasurementValueInformation    DedicatedMeasurementValueInformation,
    iE-Extensions                   ProtocolExtensionContainer { {RL-Set-InformationItem-DM-Rprt-ExtIEs} } OPTIONAL,
    ...
}

RL-Set-InformationItem-DM-Rprt-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

DedicatedMeasurementReport-Extensions RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

-- **************************************************************
--
-- DEDICATED MEASUREMENT TERMINATION REQUEST
--
-- **************************************************************

DedicatedMeasurementTerminationRequest ::= SEQUENCE {
    protocolIEs                 ProtocolIE-Container      {{DedicatedMeasurementTerminationRequest-IEs}},
    protocolExtensions           ProtocolExtensionContainer {{DedicatedMeasurementTerminationRequest-Extensions}}              OPTIONAL,
    ...
}
```

```
DedicatedMeasurementTerminationRequest-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-MeasurementID               CRITICALITY ignore  TYPE MeasurementID              PRESENCE mandatory   },
    ...
}

DedicatedMeasurementTerminationRequest-Extensions RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

-- **************************************************************
--
-- DEDICATED MEASUREMENT FAILURE INDICATION
--
-- **************************************************************

DedicatedMeasurementFailureIndication ::= SEQUENCE {
    protocolIEs                 ProtocolIE-Container      {{DedicatedMeasurementFailureIndication-IEs}},
    protocolExtensions           ProtocolExtensionContainer {{DedicatedMeasurementFailureIndication-Extensions}}               OPTIONAL,
    ...
}

DedicatedMeasurementFailureIndication-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-MeasurementID               CRITICALITY ignore  TYPE MeasurementID              PRESENCE mandatory   } |
    { ID id-Cause                   CRITICALITY ignore  TYPE Cause                  PRESENCE mandatory  },
    ...
}

DedicatedMeasurementFailureIndication-Extensions RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

-- **************************************************************
--
-- COMMON TRANSPORT CHANNEL RESOURCES RELEASE REQUEST
--
-- **************************************************************

CommonTransportChannelResourcesReleaseRequest ::= SEQUENCE {
    protocolIEs                 ProtocolIE-Container      {{CommonTransportChannelResourcesReleaseRequest-IEs}},
    protocolExtensions           ProtocolExtensionContainer {{CommonTransportChannelResourcesReleaseRequest-Extensions}}               OPTIONAL,
    ...
}

CommonTransportChannelResourcesReleaseRequest-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-D-RNTI                  CRITICALITY ignore  TYPE D-RNTI                 PRESENCE mandatory  },
    ...
}

CommonTransportChannelResourcesReleaseRequest-Extensions RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}
```

```
-- **************************************************************
--
-- COMMON TRANSPORT CHANNEL RESOURCES REQUEST
--
-- **************************************************************

CommonTransportChannelResourcesRequest ::= SEQUENCE {
    protocolIEs                 ProtocolIE-Container      {{CommonTransportChannelResourcesRequest-IEs}},
    protocolExtensions           ProtocolExtensionContainer {{CommonTransportChannelResourcesRequest-Extensions}}       OPTIONAL,
    ...
}

CommonTransportChannelResourcesRequest-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-D-RNTI                  CRITICALITY reject  TYPE D-RNTI                PRESENCE mandatory  } |
    { ID id-C-ID                    CRITICALITY reject  TYPE C-ID                  PRESENCE optional   } |
    { ID id-TransportBearerRequestIndicator     CRITICALITY reject  TYPE TransportBearerRequestIndicator     PRESENCE mandatory   } |
    { ID id-TransportBearerID           CRITICALITY reject  TYPE TransportBearerID              PRESENCE mandatory },
    ...
}

CommonTransportChannelResourcesRequest-Extensions RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

-- **************************************************************
--
-- COMMON TRANSPORT CHANNEL RESOURCES RESPONSE FDD
--
-- **************************************************************

CommonTransportChannelResourcesResponseFDD ::= SEQUENCE {
    protocolIEs                 ProtocolIE-Container      {{CommonTransportChannelResourcesResponseFDD-IEs}},
    protocolExtensions           ProtocolExtensionContainer {{CommonTransportChannelResourcesResponseFDD-Extensions}}      OPTIONAL,
    ...
}

CommonTransportChannelResourcesResponseFDD-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-S-RNTI                  CRITICALITY ignore  TYPE S-RNTI                PRESENCE mandatory  } |
    { ID id-C-RNTI                  CRITICALITY ignore  TYPE C-RNTI                PRESENCE optional   } |
    { ID id-FACH-InfoForUESelectedS-CCPCH-CTCH-ResourceRspFDD   CRITICALITY ignore  TYPE FACH-InfoForUESelectedS-CCPCH-CTCH-ResourceRspFDD    PRESENCE
mandatory   } |
    { ID id-TransportLayerAddress           CRITICALITY ignore  TYPE TransportLayerAddress       PRESENCE optional } |
    { ID id-BindingID               CRITICALITY ignore  TYPE BindingID                  PRESENCE optional  } |
    { ID id-CriticalityDiagnostics          CRITICALITY ignore  TYPE CriticalityDiagnostics      PRESENCE optional },
    ...
}

FACH-InfoForUESelectedS-CCPCH-CTCH-ResourceRspFDD ::= SEQUENCE {
    fACH-FlowControlInformation     FACH-FlowControlInformation-CTCH-ResourceRspFDD,
    iE-Extensions                   ProtocolExtensionContainer { {FACH-InfoForUESelectedS-CCPCH-CTCH-ResourceRspFDD-ExtIEs} } OPTIONAL,
```

```
    ...
}

FACH-InfoForUESelectedS-CCPCH-CTCH-ResourceRspFDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

FACH-FlowControlInformation-CTCH-ResourceRspFDD ::= ProtocolIE-Single-Container {{ FACH-FlowControlInformationIEs-CTCH-ResourceRspFDD }}

FACH-FlowControlInformationIEs-CTCH-ResourceRspFDD RNSAP-PROTOCOL-IES ::= {
    { ID id-FACH-FlowControlInformation CRITICALITY ignore  TYPE    FACH-FlowControlInformation PRESENCE mandatory }
}

CommonTransportChannelResourcesResponseFDD-Extensions RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

-- **************************************************************
--
-- COMMON TRANSPORT CHANNEL RESOURCES RESPONSE TDD
--
-- **************************************************************

CommonTransportChannelResourcesResponseTDD ::= SEQUENCE {
    protocolIEs                 ProtocolIE-Container      {{CommonTransportChannelResourcesResponseTDD-IEs}},
    protocolExtensions           ProtocolExtensionContainer {{CommonTransportChannelResourcesResponseTDD-Extensions}}      OPTIONAL,
    ...
}

CommonTransportChannelResourcesResponseTDD-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-S-RNTI                  CRITICALITY ignore  TYPE S-RNTI                PRESENCE mandatory  } |
    { ID id-C-RNTI                  CRITICALITY ignore  TYPE C-RNTI                PRESENCE optional   } |
    { ID id-FACH-InfoForUESelectedS-CCPCH-CTCH-ResourceRspTDD   CRITICALITY ignore  TYPE FACH-InfoForUESelectedS-CCPCH-CTCH-ResourceRspTDD    PRESENCE
mandatory   } |
    { ID id-TransportLayerAddress           CRITICALITY ignore  TYPE TransportLayerAddress       PRESENCE optional } |
    { ID id-BindingID               CRITICALITY ignore  TYPE BindingID                  PRESENCE optional  } |
    { ID id-CriticalityDiagnostics          CRITICALITY ignore  TYPE CriticalityDiagnostics      PRESENCE optional },
    ...
}

FACH-InfoForUESelectedS-CCPCH-CTCH-ResourceRspTDD ::= SEQUENCE {
    fACH-FlowControlInformation     FACH-FlowControlInformation-CTCH-ResourceRspTDD,
    iE-Extensions                   ProtocolExtensionContainer { {FACH-InfoForUESelectedS-CCPCH-CTCH-ResourceRspTDD-ExtIEs} } OPTIONAL,
    ...
}

FACH-InfoForUESelectedS-CCPCH-CTCH-ResourceRspTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

FACH-FlowControlInformation-CTCH-ResourceRspTDD ::= ProtocolIE-Single-Container {{ FACH-FlowControlInformationIEs-CTCH-ResourceRspTDD }}
```

```
FACH-FlowControlInformationIEs-CTCH-ResourceRspTDD RNSAP-PROTOCOL-IES ::= {
    { ID id-FACH-FlowControlInformation CRITICALITY ignore  TYPE    FACH-FlowControlInformation PRESENCE mandatory }
}

CommonTransportChannelResourcesResponseTDD-Extensions RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

-- **************************************************************
--
-- COMMON TRANSPORT CHANNEL RESOURCES FAILURE
--
-- **************************************************************

CommonTransportChannelResourcesFailure ::= SEQUENCE {
    protocolIEs                 ProtocolIE-Container     {{CommonTransportChannelResourcesFailure-IEs}},
    protocolExtensions           ProtocolExtensionContainer {{CommonTransportChannelResourcesFailure-Extensions}}       OPTIONAL,
    ...
}

CommonTransportChannelResourcesFailure-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-S-RNTI                  CRITICALITY ignore  TYPE S-RNTI                PRESENCE mandatory  } |
    { ID id-Cause                   CRITICALITY ignore  TYPE Cause                 PRESENCE mandatory  } |
    { ID id-CriticalityDiagnostics          CRITICALITY ignore  TYPE CriticalityDiagnostics      PRESENCE optional },
    ...
}

CommonTransportChannelResourcesFailure-Extensions RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

-- **************************************************************
--
-- COMPRESSED MODE COMMAND
--
-- **************************************************************

CompressedModeCommand ::= SEQUENCE {
    protocolIEs                 ProtocolIE-Container      {{CompressedModeCommand-IEs}},
    protocolExtensions           ProtocolExtensionContainer {{CompressedModeCommand-Extensions}}               OPTIONAL,
    ...
}

CompressedModeCommand-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-Active-Pattern-Sequence-Information     CRITICALITY ignore  TYPE Active-Pattern-Sequence-Information    PRESENCE mandatory  },
    ...
}

CompressedModeCommand-Extensions RNSAP-PROTOCOL-EXTENSION ::= {
    ...
```

```
}

-- **************************************************************
--
-- ERROR INDICATION
--
-- **************************************************************

ErrorIndication ::= SEQUENCE {
    protocolIEs                 ProtocolIE-Container      {{ErrorIndication-IEs}},
    protocolExtensions           ProtocolExtensionContainer {{ErrorIndication-Extensions}}                  OPTIONAL,
    ...
}

ErrorIndication-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-Cause                   CRITICALITY ignore  TYPE Cause                  PRESENCE conditional
    -- At least either of Cause IE or Criticality IE shall be present --                                  } |
    { ID id-CriticalityDiagnostics          CRITICALITY ignore  TYPE CriticalityDiagnostics      PRESENCE conditional
    -- At least either of Cause IE or Criticality IE shall be present --                                  },
    ...
}

ErrorIndication-Extensions RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

-- **************************************************************
--
-- COMMON MEASUREMENT INITIATION REQUEST
--
-- **************************************************************

CommonMeasurementInitiationRequest ::= SEQUENCE {
    protocolIEs             ProtocolIE-Container    {{CommonMeasurementInitiationRequest-IEs}},
    protocolExtensions      ProtocolExtensionContainer  {{CommonMeasurementInitiationRequest-Extensions}}    OPTIONAL,
    ...
}

CommonMeasurementInitiationRequest-IEs RNSAP-PROTOCOL-IES ::= {
    { ID    id-MeasurementID                            CRITICALITY reject          TYPE    MeasurementID                       PRESENCE mandatory
    }|
    { ID    id-CommonMeasurementObjectType-CM-Rqst          CRITICALITY reject          TYPE    CommonMeasurementObjectType-CM-Rqst     PRESENCE
    mandatory   }|
    -- This IE represents both the Common Measurement Object Type IE and the choice based on the Common Measurement Object Type
    -- as described in the tabular message format in subclause 9.1.
    { ID    id-CommonMeasurementType                    CRITICALITY reject          TYPE    CommonMeasurementType               PRESENCE mandatory
    }|
    { ID    id-MeasurementFilterCoefficient             CRITICALITY reject          TYPE    MeasurementFilterCoefficient        PRESENCE optional }|
    { ID    id-ReportCharacteristics                    CRITICALITY reject          TYPE    ReportCharacteristics               PRESENCE mandatory
    }|
    { ID    id-SFNReportingIndicator                    CRITICALITY reject          TYPE    FNReportingIndicator                PRESENCE mandatory
```

```
    } |
    { ID    id-SFN                                          CRITICALITY reject          TYPE    SFN                                 PRESENCE optional
    }|
    { ID    id-CommonMeasurementAccuracy                CRITICALITY reject          TYPE    CommonMeasurementAccuracy           PRESENCE optional
    },
    ...
}

CommonMeasurementInitiationRequest-Extensions RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

CommonMeasurementObjectType-CM-Rqst ::= CHOICE {
    cell                            Cell-CM-Rqst,
    ...
}

Cell-CM-Rqst ::= SEQUENCE {
    uC-ID                           UC-ID,
    neighbouringCellMeasurementInformation          SEQUENCE (SIZE (1..maxNrOfMeasNCell)) OF
        CHOICE {
                neighbouringFDDCellMeasurementInformation       NeighbouringFDDCellMeasurementInformation,
                neighbouringTDDCellMeasurementInformation       NeighbouringTDDCellMeasurementInformation,
                ...
            }
    iE-Extensions                   ProtocolExtensionContainer  { { CellItem-CM-Rqst-ExtIEs} }    OPTIONAL,
    ...
}

CellItem-CM-Rqst-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

-- **************************************************************
--
-- COMMON MEASUREMENT INITIATION RESPONSE
--
-- **************************************************************

CommonMeasurementInitiationResponse ::= SEQUENCE {
    protocolIEs             ProtocolIE-Container    {{CommonMeasurementInitiationResponse-IEs}},
    protocolExtensions      ProtocolExtensionContainer  {{CommonMeasurementInitiationResponse-Extensions}}   OPTIONAL,
    ...
}

CommonMeasurementInitiationResponse-IEs RNSAP-PROTOCOL-IES ::= {
    { ID    id-MeasurementID                            CRITICALITY ignore          TYPE    MeasurementID                       PRESENCE mandatory
    }|
    { ID    id-CommonMeasurementObjectType-CM-Rsp       CRITICALITY ignore          TYPE    CommonMeasurementObjectType-CM-Rsp  PRESENCE optional }|
    { ID    id-SFN                                      CRITICALITY ignore          TYPE    SFN                                 PRESENCE optional }|
    { ID    id-CriticalityDiagnostics                   CRITICALITY ignore          TYPE    CriticalityDiagnostics              PRESENCE optional }|
```

```
    { ID   id-CommonMeasurementAccuracy               CRITICALITY reject          TYPE    CommonMeasurementAccuracy          PRESENCE optional
    },
    ...
}

CommonMeasurementInitiationResponse-Extensions RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

CommonMeasurementObjectType-CM-Rsp ::= CHOICE {
    cell                        Cell-CM-Rsp,
    ...
 }

Cell-CM-Rsp ::= SEQUENCE {
    commonMeasurementValue                      CommonMeasurementValue,
    iE-Extensions                               ProtocolExtensionContainer  { { CellItem-CM-Rsp-ExtIEs} }     OPTIONAL,
    ...
 }

CellItem-CM-Rsp-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

-- **************************************************************
--
-- COMMON MEASUREMENT INITIATION FAILURE
--
-- **************************************************************

CommonMeasurementInitiationFailure ::= SEQUENCE {
    protocolIEs             ProtocolIE-Container    {{CommonMeasurementInitiationFailure-IEs}},
    protocolExtensions      ProtocolExtensionContainer  {{CommonMeasurementInitiationFailure-Extensions}}    OPTIONAL,
    ...
}

CommonMeasurementInitiationFailure-IEs RNSAP-PROTOCOL-IES ::= {
    { ID    id-MeasurementID                CRITICALITY     ignore          TYPE    MeasurementID            PRESENCE mandatory   }|
    { ID    id-Cause                        CRITICALITY     ignore          TYPE    Cause                    PRESENCE mandatory   }|
    { ID    id-CriticalityDiagnostics       CRITICALITY     ignore          TYPE    CriticalityDiagnostics   PRESENCE optional },
    ...
}

CommonMeasurementInitiationFailure-Extensions RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

-- **************************************************************
--
-- COMMON MEASUREMENT REPORT
--
```

```
-- **************************************************************

CommonMeasurementReport ::= SEQUENCE {
    protocolIEs             ProtocolIE-Container    {{CommonMeasurementReport-IEs}},
    protocolExtensions      ProtocolExtensionContainer  {{CommonMeasurementReport-Extensions}}    OPTIONAL,
    ...
}

CommonMeasurementReport-IEs RNSAP-PROTOCOL-IES ::= {
    { ID    id-MeasurementID                            CRITICALITY ignore          TYPE    MeasurementID                   PRESENCE mandatory   }|
    { ID    id-CommonMeasurementObjectType-CM-Rprt      CRITICALITY ignore          TYPE    CommonMeasurementObjectType-CM-Rprt   PRESENCE mandatory
    }|
    { ID    id-SFN                                      CRITICALITY ignore          TYPE    SFN                           PRESENCE optional },
    ...
}

CommonMeasurementReport-Extensions RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

CommonMeasurementObjectType-CM-Rprt ::= CHOICE {
    cell                        Cell-CM-Rprt,
    ...
 }

Cell-CM-Rprt ::= SEQUENCE {
    commonMeasurementValueInformation   CommonMeasurementValueInformation,
    iE-Extensions                   ProtocolExtensionContainer  {{ CellItem-CM-Rprt-ExtIEs }}     OPTIONAL,
    ...

 }

CellItem-CM-Rprt-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

-- **************************************************************
--
-- COMMON MEASUREMENT TERMINATION REQUEST
--
-- **************************************************************

CommonMeasurementTerminationRequest ::= SEQUENCE {
    protocolIEs             ProtocolIE-Container    {{CommonMeasurementTerminationRequest-IEs}},
    protocolExtensions      ProtocolExtensionContainer  {{CommonMeasurementTerminationRequest-Extensions}}    OPTIONAL,
    ...
}

CommonMeasurementTerminationRequest-IEs RNSAP-PROTOCOL-IES ::= {
    { ID    id-MeasurementID            CRITICALITY     ignore              TYPE    MeasurementID       PRESENCE mandatory},
    ...
```

```
}

CommonMeasurementTerminationRequest-Extensions RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

-- **************************************************************
--
-- COMMON MEASUREMENT FAILURE INDICATION
--
-- **************************************************************

CommonMeasurementFailureIndication ::= SEQUENCE {
    protocolIEs             ProtocolIE-Container    {{CommonMeasurementFailureIndication-IEs}},
    protocolExtensions          ProtocolExtensionContainer  {{CommonMeasurementFailureIndication-Extensions}}         OPTIONAL,
    ...
}

CommonMeasurementFailureIndication-IEs RNSAP-PROTOCOL-IES ::= {
    { ID    id-MeasurementID            CRITICALITY ignore          TYPE    MeasurementID        PRESENCE mandatory   }|
    { ID    id-Cause                    CRITICALITY ignore          TYPE    Cause                PRESENCE mandatory   },
    ...
}

CommonMeasurementFailureIndication-Extensions RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

-- **************************************************************
--
-- INFORMATION EXCHANGE INITIATION REQUEST
--
-- **************************************************************

InformationExchangeInitiationRequest ::= SEQUENCE {
    protocolIEs             ProtocolIE-Container    {{InformationExchangeInitiationRequest-IEs}},
    protocolExtensions      ProtocolExtensionContainer  {{InformationExchangeInitiationRequest-Extensions}}     OPTIONAL,
    ...
}

InformationExchangeInitiationRequest-IEs RNSAP-PROTOCOL-IES ::= {
    { ID    id-InformationExchangeID                        CRITICALITY reject      TYPE    InformationExchangeID              PRESENCE mandatory   }|
    { ID    id-InformationExchangeObjectType-InfEx-Rqst     CRITICALITY reject      TYPE    InformationExchangeObjectType-InfEx-Rqst    PRESENCE
    mandatory   }|
    -- This IE represents both the Information Exchange Object Type IE and the choice based on the Information Exchange Object Type
    -- as described in the tabular message format in subclause 9.1.
    { ID    id-InformationType                              CRITICALITY reject      TYPE    InformationType                    PRESENCE mandatory   }|
    { ID    id-InformationReportCharacteristics             CRITICALITY reject      TYPE    InformationReportCharacteristics   PRESENCE mandatory   },
    ...
}
```

```
InformationExchangeInitiationRequest-Extensions RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

InformationExchangeObjectType-InfEx-Rqst ::= CHOICE {
    cell                        Cell-InfEx-Rqst,
    ...
}

Cell-InfEx-Rqst ::= SEQUENCE {
    c-ID                        C-ID,
    iE-Extensions               ProtocolExtensionContainer  { { CellItem-InfEx-Rqst-ExtIEs} }    OPTIONAL,
    ...
}

CellItem-InfEx-Rqst-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}



-- **************************************************************
--
-- INFORMATION EXCHANGE INITIATION RESPONSE
--
-- **************************************************************

InformationExchangeInitiationResponse ::= SEQUENCE {
    protocolIEs             ProtocolIE-Container    {{InformationExchangeInitiationResponse-IEs}},
    protocolExtensions      ProtocolExtensionContainer  {{InformationExchangeInitiationResponse-Extensions}}    OPTIONAL,
    ...
}

InformationExchangeInitiationResponse-IEs RNSAP-PROTOCOL-IES ::= {
    { ID    id-InformationExchangeID                        CRITICALITY ignore          TYPE    InformationExchangeID             PRESENCE mandatory
    }|
    { ID    id-InformationExchangeObjectType-InfEx-Rsp      CRITICALITY ignore          TYPE    InformationExchangeObjectType-InfEx-Rsp    PRESENCE
    mandatory   }|
    { ID    id-CriticalityDiagnostics                       CRITICALITY ignore          TYPE    CriticalityDiagnostics            PRESENCE optional },
    ...
}

InformationExchangeInitiationResponse-Extensions RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

InformationExchangeObjectType-InfEx-Rsp ::= CHOICE {
    cell                        Cell-InfEx-Rsp,
    ...
}
```

```
Cell-InfEx-Rsp ::= SEQUENCE {
    requestedDataValue              RequestedDataValue,
    iE-Extensions                   ProtocolExtensionContainer  { { CellItem-InfEx-Rsp-ExtIEs} }  OPTIONAL,
    ...
}

CellItem-InfEx-Rsp-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}


-- **************************************************************
--
-- INFORMATION EXCHANGE INITIATION FAILURE
--
-- **************************************************************

InformationExchangeInitiationFailure ::= SEQUENCE {
    protocolIEs             ProtocolIE-Container    {{InformationExchangeInitiationFailure-IEs}},
    protocolExtensions      ProtocolExtensionContainer  {{InformationExchangeInitiationFailure-Extensions}}     OPTIONAL,
    ...
}

InformationExchangeInitiationFailure-IEs RNSAP-PROTOCOL-IES ::= {
    { ID    id-InformationExchangeID                CRITICALITY     ignore          TYPE    InformationExchangeID           PRESENCE mandatory   }|
    { ID    id-Cause                                CRITICALITY     ignore          TYPE    Cause                           PRESENCE mandatory   }|
    { ID    id-CriticalityDiagnostics               CRITICALITY     ignore          TYPE    CriticalityDiagnostics          PRESENCE optional },
    ...
}

InformationExchangeInitiationFailure-Extensions RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

-- **************************************************************
--
-- INFORMATION REPORT
--
-- **************************************************************

InformationReport ::= SEQUENCE {
    protocolIEs             ProtocolIE-Container    {{InformationReport-IEs}},
    protocolExtensions      ProtocolExtensionContainer  {{InformationReport-Extensions}}        OPTIONAL,
    ...
}

InformationReport-IEs RNSAP-PROTOCOL-IES ::= {
    { ID    id-InformationExchangeID                        CRITICALITY ignore          TYPE    InformationExchangeID                       PRESENCE
    mandatory   }|
    { ID    id-InformationExchangeObjectType-InfEx-Rprt     CRITICALITY ignore          TYPE    InformationExchangeObjectType-InfEx-Rprt    PRESENCE
    mandatory   },
```

```
        ...
}

InformationReport-Extensions RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

InformationExchangeObjectType-InfEx-Rprt ::= CHOICE {
    cell                            Cell-InfEx-Rprt,
    ...
 }

Cell-Inf-Rprt ::= SEQUENCE {
    requestedDataValueInformation   RequestedDataValueInformation,
    iE-Extensions                   ProtocolExtensionContainer  {{ CellItem-InfEx-Rprt-ExtIEs }}  OPTIONAL,
    ...

 }

CellItem-InfEx-Rprt-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}


-- **************************************************************
--
-- INFORMATION EXCHANGE TERMINATION REQUEST
--
-- **************************************************************

InformationExchangeTerminationRequest ::= SEQUENCE {
    protocolIEs             ProtocolIE-Container    {{InformationExchangeTerminationRequest-IEs}},
    protocolExtensions      ProtocolExtensionContainer  {{InformationExchangeTerminationRequest-Extensions}}    OPTIONAL,
    ...
}

InformationExchangeTerminationRequest-IEs RNSAP-PROTOCOL-IES ::= {
    { ID    id-InformationExchangeID            CRITICALITY     ignore              TYPE    InformationExchangeID        PRESENCE mandatory},
    ...
}

InformationExchangeTerminationRequest-Extensions RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}


-- **************************************************************
--
-- INFORMATION EXCHANGE FAILURE INDICATION
--
-- **************************************************************
```

```
InformationExchangeFailureIndication ::= SEQUENCE {
    protocolIEs             ProtocolIE-Container    {{InformationExchangeFailureIndication-IEs}},
    protocolExtensions          ProtocolExtensionContainer  {{InformationExchangeFailureIndication-Extensions}}          OPTIONAL,
    ...
}

InformationExchangeFailureIndication-IEs RNSAP-PROTOCOL-IES ::= {
    { ID    id-InformationExchangeID            CRITICALITY ignore          TYPE    InformationExchangeID       PRESENCE mandatory   }|
    { ID    id-Cause                            CRITICALITY ignore          TYPE    Cause                       PRESENCE mandatory   },
    ...
}

InformationExchangeFailureIndication-Extensions RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

-- **************************************************************
--
-- PRIVATE MESSAGE
--
-- **************************************************************

PrivateMessage ::= SEQUENCE {
    privateIEs      PrivateIE-Container  {{PrivateMessage-IEs}},
    ...
}

PrivateMessage-IEs RNSAP-PRIVATE-IES ::= {
    ...
}

END
```

## 9.3.4 Information Element Definitions

```
-- **************************************************************
--
-- Information Element Definitions
--
-- **************************************************************

RNSAP-IEs {
itu-t (0) identified-organization (4) etsi (0) mobileDomain (0)
umts-Access (20) modules (3) rnsap (1) version1 (1) rnsap-IEs (2) }

DEFINITIONS AUTOMATIC TAGS ::=

BEGIN
```

```
IMPORTS
    maxCodeNumComp-1,
    maxNrOfFACHs,
    maxFACHCountPlus1,
    maxIBSEG,
    maxNoOfDSCHs,
    maxNoOfUSCHs,
    maxNoTFCIGroups,
    maxNoCodeGroups,
    maxNrOfDCHs,
    maxNrOfDL-Codes,
    maxNrOfDLTs,
    maxNrOfDPCHs,
    maxNrOfErrors,
    maxNrOfFDDNeighboursPerRNC,
    maxNrOfMACcshSDU-Length,
    maxNrOfNeighbouringRNCs,
    maxNrOfTDDNeighboursPerRNC,
    maxNrOfTS,
    maxNrOfULTs,
    maxNrOfGSMNeighboursPerRNC,
    maxRateMatching,
    maxNrOfPoints,
    maxNoOfRB,
    maxNrOfTFCs,
    maxNrOfTFs,
    maxCTFC,
    maxRNCinURA-1,
    maxNrOfSCCPCHs,
    maxTFCI1Combs,
    maxTFCI2Combs,
    maxTFCI2Combs-1,
    maxTGPS,
    maxTTI-Count,
    maxNoGPSTypes,
    maxNoSat,

    id-Allowed-Rate-Information,
    id-Guaranteed-Rate-Information,
    id-Neighbouring-GSM-CellInformation,
    id-Neighbouring-UMTS-CellInformationItem,
    maxNrOfLevels,
    maxNrOfMeasNCell,
    maxNrOfMeasNCell–1,
    id-MessageStructure,
    id-EnhancedDSCHPC
FROM RNSAP-Constants

    Criticality,
    ProcedureID,
    ProtocolIE-ID,
```

```
    TransactionID,
    TriggeringMessage
FROM RNSAP-CommonDataTypes

    ProtocolIE-Single-Container{},
    ProtocolExtensionContainer{},
    RNSAP-PROTOCOL-IES,
    RNSAP-PROTOCOL-EXTENSION
FROM RNSAP-Containers;

-- A

Active-Pattern-Sequence-Information ::= SEQUENCE {
    cMConfigurationChangeCFN        CFN,
    transmission-Gap-Pattern-Sequence-Status    Transmission-Gap-Pattern-Sequence-Status-List    OPTIONAL,
    iE-Extensions       ProtocolExtensionContainer { {Active-Pattern-Sequence-Information-ExtIEs} } OPTIONAL,
    ...
}

Active-Pattern-Sequence-Information-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

AdjustmentPeriod            ::= INTEGER(1..256)
-- Unit Frame

AllocationRetentionPriority ::= SEQUENCE {
    priorityLevel               PriorityLevel,
    pre-emptionCapability       Pre-emptionCapability,
    pre-emptionVulnerability    Pre-emptionVulnerability,
        iE-Extensions           ProtocolExtensionContainer { {AllocationRetentionPriority-ExtIEs} } OPTIONAL,
        ...
}

AllocationRetentionPriority-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

Allowed-Rate-Information    ::= SEQUENCE {
    allowed-UL-Rate         Allowed-Rate OPTIONAL,
    allowed-DL-Rate         Allowed-Rate OPTIONAL,
    iE-Extensions           ProtocolExtensionContainer { {Allowed-Rate-Information-ExtIEs} } OPTIONAL,
    ...
}

Allowed-Rate-Information-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

Allowed-Rate            ::= INTEGER (1..maxNrOfTFs)
```

```
AllowedQueuingTime          ::= INTEGER (1..60)
-- seconds

AlphaValue                  ::= INTEGER (0..8)
-- Actual value = Alpha / 8

-- B

BadSatellites ::= SEQUENCE {
    badSatelliteInformation     SEQUENCE (SIZE (1..maxNoSat) OF
        SEQUENCE {
            badSAT-ID                   SAT-ID,
            iE-Extensions               ProtocolExtensionContainer { { BadSatelliteInformation-ExtIEs} }     OPTIONAL,
            ...
        },
    iE-Extensions               ProtocolExtensionContainer { { BadSatellites-ExtIEs} }      OPTIONAL,
    ...
}

BadSatelliteInformation-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

BadSatellites-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

BCC ::= BIT STRING (SIZE (3))

BCCH-ARFCN ::= INTEGER (0..1023)

BetaCD ::= INTEGER (0..15)

BindingID               ::= OCTET STRING (SIZE (1..4,...))

BLER                    ::= INTEGER (-63..0)
-- Step 0.1 (Range -6.3..0). It is the Log10 of the BLER

Block-STTD-Indicator    ::= ENUMERATED {
    active,
    inactive
}

BSIC ::= SEQUENCE {
    nCC         NCC,
    bCC         BCC
}

BurstModeParameters ::= SEQUENCE {
    burstStart      INTEGER (0..15),
    burstLength     INTEGER (10..25),
```

```
    burstFreq       INTEGER (1..16),
    iE-Extensions               ProtocolExtensionContainer { { BurstModeParameters-ExtIEs} }     OPTIONAL,
    ...
}

BurstModeParameters-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

-- C

Cause ::= CHOICE {
    radioNetwork        CauseRadioNetwork,
    transport           CauseTransport,
    protocol            CauseProtocol,
    misc                CauseMisc,
    ...
}

CauseMisc ::= ENUMERATED {
    control-processing-overload,
    hardware-failure,
    om-intervention,
    not-enough-user-plane-processing-resources,
    unspecified,
    ...
}

CauseProtocol ::= ENUMERATED {
    transfer-syntax-error,
    abstract-syntax-error-reject,
    abstract-syntax-error-ignore-and-notify,
    message-not-compatible-with-receiver-state,
    semantic-error,
    unspecified,
    abstract-syntax-error-falsely-constructed-message,
    ...
}

CauseRadioNetwork ::= ENUMERATED {
    unknown-C-ID,
    cell-not-available,
    power-level-not-supported,
    ul-scrambling-code-already-in-use,
    dl-radio-resources-not-available,
    ul-radio-resources-not-available,
    measurement-not-supported-for-the-object,
    combining-resources-not-available,
    combining-not-supported,
    reconfiguration-not-allowed,
    requested-configuration-not-supported,
```

```
    synchronisation-failure,
    requested-tx-diversity-mode-not-supported,
    measurement-temporaily-not-available,
    unspecified,
    invalid-CM-settings,
    reconfiguration-CFN-not-elapsed,
    number-of-DL-codes-not-supported,
    dedicated-transport-channel-type-not-supported,
    dl-shared-channel-type-not-supported,
    ul-shared-channel-type-not-supported,
    common-transport-channel-type-not-supported,
    ul-spreading-factor-not-supported,
    dl-spreading-factor-not-supported,
    cm-not-supported,
    transaction-not-supported-by-destination-node-b,
    rl-already-activated-or-alocated,
    ...,
   number-of-UL-codes-not-supported,
    dpc-mode-change-not-supported,
    information-temporarily-not-available,
    information-provision-not-supported-for-the-object
}

CauseTransport ::= ENUMERATED {
    transport-resource-unavailable,
    unspecified,
    ...
}

C-ID                    ::= INTEGER (0..65535)

CCTrCH-ID               ::= INTEGER (0..15)

CellIndividualOffset    ::= INTEGER (-20..20)

CellParameterID             ::= INTEGER (0..127,...)

CFN                 ::= INTEGER (0..255)

CGI ::= SEQUENCE {
    lAI         SEQUENCE {
        pLMN-ID         PLMN-ID,
        lAC             LAC,
        iE-Extensions           ProtocolExtensionContainer { {LAI-ExtIEs} } OPTIONAL,
        ...
    },
    cI              CI,
    iE-Extensions           ProtocolExtensionContainer { {CGI-ExtIEs} } OPTIONAL
}

LAI-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
```

```
    ...
}

CGI-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

ChannelCodingType ::= ENUMERATED {
    no-coding,
    convolutional-coding,
    turbo-coding,
    ...
}

ChipOffset              ::= INTEGER (0..38399)

CI                  ::= OCTET STRING (SIZE (2))

ClosedLoopMode1-SupportIndicator    ::= ENUMERATED {
    closedLoop-Mode1-Supported,
    closedLoop-Mode1-not-Supported
}

ClosedLoopMode2-SupportIndicator    ::= ENUMERATED {
    closedLoop-Mode2-Supported,
    closedLoop-Mode2-not-Supported
}

Closedlooptimingadjustmentmode  ::= ENUMERATED {
    adj-1-slot,
    adj-2-slot,
    ...
}

CodeNumber ::= INTEGER (0..maxCodeNumComp-1)

CodingRate ::= ENUMERATED {
    half,
    third,
    ...
}

CommonMeasurementAccuracy ::= CHOICE {
    tUTRANGPSMeasurementAccuracyClass       TUTRANGPSAccuracyClass,
    ...
}

CommonMeasurementType ::= ENUMERATED {
    uTRAN-GPS-timing-of-cell-frames-for-LCS,
    sFN-SFN-observerd-time-difference,
    load,
```

```
    transmitted-carrier-power,
    received-total-wide-band-power,
    uplink-timeslot-iscp,
    ...
}

CommonMeasurementValue ::= CHOICE {
    tUTRANGPSMeasurementValueInformation    TUTRANGPSMeasurementValueInformation,
    sFNSFNMeasurementValueInformation       SFNSFNMeasurementValueInformation,
    loadValue                           LoadValue,
    transmittedCarrierPowerValue        INTEGER(0..100),
    receivedTotalWideBandPowerValue     INTEGER(0..621),
    uplinkTimeslotISCPValue             UL-Timeslot-ISCP,
    ...
}

CommonMeasurementValueInformation ::= CHOICE {
    measurementAvailable        CommonMeasurementAvailable,
    measurementnotAvailable     NULL
}

CommonMeasurementAvailable::= SEQUENCE {
    commonMeasurementValue      CommonMeasurementValue,
    iE-Extensions                   ProtocolExtensionContainer { { CommonMeasurementAvailableItem-ExtIEs} }     OPTIONAL,
    ...
}

CommonMeasurementAvailableItem-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

CRC-Size                ::= ENUMERATED {
    v0,
    v8,
    v12,
    v16,
    v24,
    ...
}

CriticalityDiagnostics ::= SEQUENCE {
    procedureID                 ProcedureID         OPTIONAL,
    triggeringMessage           TriggeringMessage       OPTIONAL,
    procedureCriticality        Criticality             OPTIONAL,
    transactionID               TransactionID           OPTIONAL,
    iEsCriticalityDiagnostics       CriticalityDiagnostics-IE-List  OPTIONAL,
    iE-Extensions               ProtocolExtensionContainer { {CriticalityDiagnostics-ExtIEs} } OPTIONAL,
    ...
}

CriticalityDiagnostics-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
```

```
    ...
}

CriticalityDiagnostics-IE-List ::= SEQUENCE (SIZE (1..maxNrOfErrors)) OF
    SEQUENCE {
        iECriticality           Criticality,
        iE-ID                   ProtocolIE-ID,
        repetitionNumber        RepetitionNumber        OPTIONAL,
        iE-Extensions           ProtocolExtensionContainer { {CriticalityDiagnostics-IE-List-ExtIEs} } OPTIONAL,
        ...
    }

CriticalityDiagnostics-IE-List-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
{   ID id-MessageStructure      CRITICALITY ignore      EXTENSION MessageStructure      PRESENCE optional  },
    ...
}

MessageStructure ::= SEQUENCE (SIZE (1..maxNrOfLevels)) OF
    SEQUENCE {
        iE-ID                   ProtocolIE-ID,
        repetitionNumber        RepetitionNumber        OPTIONAL,
        iE-Extensions           ProtocolExtensionContainer { {MessageStructure-ExtIEs} } OPTIONAL,
        ...
    }


MessageStructure-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

CN-CS-DomainIdentifier ::= SEQUENCE {
    pLMN-ID             PLMN-ID,
    lAC                 LAC,
    iE-Extensions       ProtocolExtensionContainer { {CN-CS-DomainIdentifier-ExtIEs} } OPTIONAL
}

CN-CS-DomainIdentifier-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

CN-PS-DomainIdentifier ::= SEQUENCE {
    pLMN-ID             PLMN-ID,
    lAC                 LAC,
    rAC                 RAC,
    iE-Extensions       ProtocolExtensionContainer { {CN-PS-DomainIdentifier-ExtIEs} } OPTIONAL
}

CN-PS-DomainIdentifier-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}
```

```
CNDomainType    ::= ENUMERATED {
    cs-domain,
    ps-domain,
    dont-care,
    ...
}
-- See in [16]

C-RNTI                  ::= INTEGER (0..65535)

-- D
DCH-FDD-Information     ::= SEQUENCE (SIZE (1..maxNrOfDCHs)) OF DCH-FDD-InformationItem

DCH-FDD-InformationItem ::= SEQUENCE {
    payloadCRC-PresenceIndicator        PayloadCRC-PresenceIndicator,
    ul-FP-Mode                          UL-FP-Mode,
    toAWS                               ToAWS,
    toAWE                               ToAWE,
    dCH-SpecificInformationList         DCH-Specific-FDD-InformationList,
    iE-Extensions                       ProtocolExtensionContainer { {DCH-FDD-InformationItem-ExtIEs} } OPTIONAL,
    ...
}

DCH-FDD-InformationItem-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

DCH-Specific-FDD-InformationList ::= SEQUENCE (SIZE (1..maxNrOfDCHs)) OF DCH-Specific-FDD-Item

DCH-Specific-FDD-Item ::=   SEQUENCE {
    dCH-ID                              DCH-ID,
    trCH-SrcStatisticsDescr             TrCH-SrcStatisticsDescr,
    ul-transportFormatSet               TransportFormatSet,
    dl-transportFormatSet               TransportFormatSet,
    ul-BLER                             BLER,
    dl-BLER                             BLER,
    allocationRetentionPriority         AllocationRetentionPriority,
    frameHandlingPriority               FrameHandlingPriority,
    qE-Selector                         QE-Selector,
    dRACControl                         DRACControl,
    iE-Extensions                       ProtocolExtensionContainer { {DCH-FDD-SpecificItem-ExtIEs} } OPTIONAL,
    ...
}

DCH-FDD-SpecificItem-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...,
    { ID id-Guaranteed-Rate-Information     CRITICALITY ignore  EXTENSION Guaranteed-Rate-Information     PRESENCE optional }
}

DCH-ID                  ::= INTEGER (0..255)
```

```
DCH-InformationResponse ::= SEQUENCE (SIZE (1..maxNrOfDCHs)) OF DCH-InformationResponseItem

DCH-InformationResponseItem ::= SEQUENCE {
    dCH-ID                      DCH-ID,
    bindingID                   BindingID               OPTIONAL,
    transportLayerAddress       TransportLayerAddress   OPTIONAL,
    iE-Extensions               ProtocolExtensionContainer { {DCH-InformationResponseItem-ExtIEs} } OPTIONAL,
    ...
}

DCH-InformationResponseItem-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...,
    { ID id-Allowed-Rate-Information        CRITICALITY ignore  EXTENSION Allowed-Rate-Information     PRESENCE optional }
}

DCH-TDD-Information     ::= SEQUENCE (SIZE (1..maxNrOfDCHs)) OF DCH-TDD-InformationItem

DCH-TDD-InformationItem ::= SEQUENCE {
    payloadCRC-PresenceIndicator        PayloadCRC-PresenceIndicator,
    ul-FP-Mode                          UL-FP-Mode,
    toAWS                               ToAWS,
    toAWE                               ToAWE,
    dCH-SpecificInformationList         DCH-Specific-TDD-InformationList,
    iE-Extensions                       ProtocolExtensionContainer { {DCH-TDD-InformationItem-ExtIEs} } OPTIONAL,
    ...
}

DCH-TDD-InformationItem-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

DCH-Specific-TDD-InformationList ::= SEQUENCE (SIZE (1..maxNrOfDCHs)) OF DCH-Specific-TDD-Item

DCH-Specific-TDD-Item ::=   SEQUENCE {
    dCH-ID                              DCH-ID,
    ul-cCTrCH-ID                        CCTrCH-ID, -- UL CCTrCH in which the DCH is mapped
    dl-cCTrCH-ID                        CCTrCH-ID, -- DL CCTrCH in which the DCH is mapped
    trCH-SrcStatisticsDescr             TrCH-SrcStatisticsDescr,
    ul-transportFormatSet               TransportFormatSet,
    dl-transportFormatSet               TransportFormatSet,
    ul-BLER                             BLER,
    dl-BLER                             BLER,
    allocationRetentionPriority         AllocationRetentionPriority,
    frameHandlingPriority               FrameHandlingPriority,
    qE-Selector                         QE-Selector         OPTIONAL,
    -- This IE shall be present only if DCH is part of set of Co-ordinated DCHs
    iE-Extensions                       ProtocolExtensionContainer { {DCH-Specific-TDD-Item-ExtIEs} } OPTIONAL,
    ...
}

DCH-Specific-TDD-Item-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
```

```
    ...,
    { ID id-Guaranteed-Rate-Information     CRITICALITY ignore  EXTENSION Guaranteed-Rate-Information     PRESENCE optional }
}

DedicatedMeasurementType ::= ENUMERATED {
    sir,
    sir-error,
    transmitted-code-power,
    rSCP,
    rx-timing-deviation,
    round-trip-time,
    ...
}

DedicatedMeasurementValue ::= CHOICE {
    sIR-Value           SIR-Value,
    sIR-ErrorValue          SIR-Error-Value,
    transmittedCodePowerValue   Transmitted-Code-Power-Value,
    rSCP                RSCP-Value, -- TDD only
    rxTimingDeviationValue  Rx-Timing-Deviation-Value,  -- TDD only
    roundTripTime       Round-Trip-Time-Value,  -- FDD only
    ...
}

DedicatedMeasurementValueInformation ::= CHOICE {
    measurementAvailable        DedicatedMeasurementAvailable,
    measurementnotAvailable     DedicatedMeasurementnotAvailable
}

DedicatedMeasurementAvailable::= SEQUENCE {
    dedicatedmeasurementValue       DedicatedMeasurementValue,
   cFN                      CFN                 OPTIONAL,
    ie-Extensions                   ProtocolExtensionContainer { { DedicatedMeasurementAvailableItem-ExtIEs} }     OPTIONAL,
    ...
}

DedicatedMeasurementAvailableItem-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

DedicatedMeasurementnotAvailable ::= NULL

DeltaSIR                ::= INTEGER (0..30)
-- Step 0.1 dB, Range 0..3 dB.

DGPSCorrections ::= SEQUENCE {
    gPSTOW                              GPSTOW,
    gPS-Status-Health                   GPS-Status-Health,
    satellite-DGPSCorrections-Information   SEQUENCE (SIZE (1..maxNoSat)) OF
        SEQUENCE {
            sAT-ID                          SAT-ID,
```

```
            iode-dgps                       BIT STRING (SIZE (8)),
            uDRE                            UDRE,
            pRC                             PRC,
            range-Correction-Rate           Range-Correction-Rate,
            iE-Extensions                   ProtocolExtensionContainer { { Satellite-DGPSCorrections-Information-ExtIEs} }    OPTIONAL,
            ...
        },
    iE-Extensions                   ProtocolExtensionContainer { { DGPSCorrections-ExtIEs} }     OPTIONAL,
    ...
}

Satellite-DGPSCorrections-Information-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

DGPSCorrections-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

DGPSThreshold ::= SEQUENCE {
    pRCDeviation        PRCDeviation,
    iE-Extensions       ProtocolExtensionContainer { { DGPSThreshold-ExtIEs} }      OPTIONAL,
    ...
}

DGPSThreshold-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

DiversityControlField           ::= ENUMERATED {
    may,
    must,
    must-not
}

DiversityMode               ::= ENUMERATED {
    none,
    sTTD,
    closedLoopMode1,
    closedLoopMode2,
    ...
}

DL-DPCH-SlotFormat          ::= INTEGER (0..16,...)

DL-Power                ::= INTEGER (-350..150)
-- Value = DL-Power / 10
-- Unit dB, Range –35dB .. +15dB, Step 0.1dB
```

```
D-RNTI                  ::= INTEGER (0..1048575)

D-RNTI-ReleaseIndication ::= ENUMERATED {
    release-D-RNTI,
    not-release-D-RNTI
}

DL-ScramblingCode           ::= INTEGER (0..15)

DL-FrameType ::= ENUMERATED {
    typeA,
    typeB,
    ...
}

DL-Timeslot-Information ::= SEQUENCE ( SIZE (1..maxNrOfTS)) OF DL-Timeslot-InformationItem

DL-Timeslot-InformationItem ::= SEQUENCE {
    timeSlot                        TimeSlot,
    midambleShiftAndBurstType       MidambleShiftAndBurstType,
    tFCI-Presence                   TFCI-Presence,
    dL-Code-Information             TDD-DL-Code-Information,
    iE-Extensions                   ProtocolExtensionContainer { {DL-Timeslot-InformationItem-ExtIEs} } OPTIONAL,
    ...
}

DL-Timeslot-InformationItem-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

DL-TimeslotLCR-Information ::= SEQUENCE (SIZE (1.. maxNrOfDLTsLCR)) OF DL-TimeslotLCR-InformationItem

DL-TimeslotLCR-InformationItem   ::= SEQUENCE {
    timeSlotLCR                         TimeSlotLCR,
    midambleShiftLCR                    MidambleShiftLCR,
    tFCI-Presence                       TFCI-Presence,
    tDD-dL-Code-LCR-Information         TDD-DL-Code-LCR-Information,
    iE-Extensions                       ProtocolExtensionContainer { { DL-TimeslotLCR-InformationItem-ExtIEs} }   OPTIONAL,
    ...
}

DL-TimeslotLCR-InformationItem-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

DL-TimeSlot-ISCP-Info ::= SEQUENCE (SIZE (1..maxNrOfDLTs)) OF DL-TimeSlot-ISCP-InfoItem

DL-TimeSlot-ISCP-InfoItem ::= SEQUENCE {
    timeSlot                TimeSlot,
    dL-TimeslotISCP         DL-TimeslotISCP,
```

```
    iE-Extensions               ProtocolExtensionContainer { { DL-TimeSlot-ISCP-InfoItem-ExtIEs} } OPTIONAL,
    ...
}

DL-TimeSlot-ISCP-InfoItem-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

DL-Timeslot-ISCP-LCR-Information ::= SEQUENCE (SIZE (1..maxNrOfDLTsLCR)) OF DL-TimeSlot-ISCP-LCR-InfoItem

DL-TimeSlot-ISCP-LCR-InfoItem ::= SEQUENCE {
    timeSlotLCR                     TimeSlotLCR,
    dL-TimeslotISCP                 DL-TimeslotISCP,
    iE-Extensions                   ProtocolExtensionContainer { { DL-TimeSlot-ISCP-LCR-InfoItem-ExtIEs} }   OPTIONAL,
    ...
 }

DL-TimeSlot-ISCP-LCR-InfoItem-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

DL-TimeslotISCP         ::= INTEGER (0..91)
-- According to mapping in [24]

Downlink-Compressed-Mode-Method ::= ENUMERATED {
    puncturing,
    sFdiv2,
    higher-layer-scheduling,
    ...
}

DPC-Mode ::= ENUMERATED {
   mode0,
   mode1,
   ...
}

DPCH-ID                 ::= INTEGER (0..239)

DPCHConstantValue ::= INTEGER (-10..10)
-- Unit dB, Step 1dB

DRACControl     ::= ENUMERATED {
    requested,
    not-requested
}

DRXCycleLengthCoefficient               ::= INTEGER (3..9)
-- See in [16]

DSCH-FDD-Information::= SEQUENCE {
```

```
    dSCH-Specific-Information           DSCH-Specific-FDD-Item,
    pdSCH-RL-ID                         RL-ID,
    tFCS                                TFCS,
    iE-Extensions                       ProtocolExtensionContainer { {DSCH-FDD-Information-ExtIEs} } OPTIONAL,
    ...
}

DSCH-FDD-Information-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    { ID id-EnhancedDSCHPC              CRITICALITY ignore  EXTENSION EnhancedDSCHPC                PRESENCE optional },
    ...
}

DSCH-Specific-FDD-Item ::= SEQUENCE {
    dSCH-ID                             DSCH-ID,
    trChSourceStatisticsDescriptor      TrCH-SrcStatisticsDescr,
    transportFormatSet                  TransportFormatSet,
    allocationRetentionPriority     AllocationRetentionPriority,
    schedulingPriorityIndicator         SchedulingPriorityIndicator,
    bLER                                BLER,
    iE-Extensions                       ProtocolExtensionContainer { {DSCH-Specific-FDD-Item-ExtIEs} } OPTIONAL,
    ...
}

DSCH-Specific-FDD-Item-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

DSCH-FDD-InformationResponse ::= SEQUENCE {
    dsch-Specific-InformationResponse   DSCH-Specific-FDD-InformationResponse,
    pdSCHCodeMapping                    PDSCHCodeMapping,
    iE-Extensions                       ProtocolExtensionContainer { { DSCH-FDD-InformationResponse-ExtIEs} } OPTIONAL,
    ...
}

DSCH-FDD-InformationResponse-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

DSCH-Specific-FDD-InformationResponse ::= SEQUENCE (SIZE(1..maxNoOfDSCHs)) OF DSCH-Specific-FDD-Response-Item

DSCH-Specific-FDD-Response-Item ::= SEQUENCE {
    dsch-ID                         DSCH-ID,
    dSCH-FlowControlInformation     DSCH-FlowControlInformation,
    bindingID                       BindingID               OPTIONAL,
    transportLayerAddress           TransportLayerAddress   OPTIONAL,
    iE-Extensions                   ProtocolExtensionContainer { {DSCH-Specific-FDD-Response-Item-ExtIEs} } OPTIONAL,
    ...
}

DSCH-Specific-FDD-Response-Item-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
```

```
}

DSCH-FlowControlInformation ::=  SEQUENCE (SIZE(1..16)) OF DSCH-FlowControlItem

DSCH-FlowControlItem ::= SEQUENCE {
    dSCH-SchedulingPriority             SchedulingPriorityIndicator,
    mAC-c-sh-SDU-Lengths                MAC-c-sh-SDU-LengthList,
    iE-Extensions                       ProtocolExtensionContainer { {DSCH-FlowControlItem-ExtIEs} } OPTIONAL,
    ...
}

DSCH-FlowControlItem-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

DSCH-ID                 ::= INTEGER (0..255)

DSCH-TDD-Information ::=  SEQUENCE (SIZE (1..maxNoOfDSCHs)) OF DSCH-TDD-InformationItem

DSCH-TDD-InformationItem ::= SEQUENCE {
    dSCH-ID                             DSCH-ID,
    dl-ccTrCHID                         CCTrCH-ID, -- DL CCTrCH in which the DSCH is mapped
    trChSourceStatisticsDescriptor      TrCH-SrcStatisticsDescr,
    transportFormatSet                  TransportFormatSet,
    allocationRetentionPriority     AllocationRetentionPriority,
    schedulingPriorityIndicator         SchedulingPriorityIndicator,
    bLER                                BLER,
    iE-Extensions                       ProtocolExtensionContainer { {DSCH-TDD-InformationItem-ExtIEs} } OPTIONAL,
    ...
}

DSCH-TDD-InformationItem-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

-- E

EnhancedDSCHPC ::= SEQUENCE {
    enhancedDSCHPCWnd   EnhancedDSCHPCWnd,
    enhancedDSCHPCCounter   EnhancedDSCHPCCounter,
    enhancedDSCHPowerOffset EnhancedDSCHPowerOffset,
    ...
}

EnhancedDSCHPCCounter ::= INTEGER (1..50)

EnhancedDSCHPCIndicator ::= ENUMERATED {
    enhancedDSCHPCActiveInTheUE,
    enhancedDSCHPCNotActiveInTheUE
}
```

```
EnhancedDSCHPCWnd ::= INTEGER (1..10)

EnhancedDSCHPowerOffset ::= INTEGER (-15..0)

EventA ::= SEQUENCE {
    measurementTreshold     MeasurementThreshold,
    measurementHysteresisTime   MeasurementHysteresisTime       OPTIONAL,
    iE-Extensions           ProtocolExtensionContainer { {EventA-ExtIEs} } OPTIONAL,
    ...
}

EventA-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

EventB ::= SEQUENCE {
    measurementTreshold     MeasurementThreshold,
    measurementHysteresisTime   MeasurementHysteresisTime       OPTIONAL,
    iE-Extensions           ProtocolExtensionContainer { {EventB-ExtIEs} } OPTIONAL,
    ...
}

EventB-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}


EventC ::= SEQUENCE {
    measurementIncreaseDecreaseThreshold    MeasurementIncreaseDecreaseThreshold,
    measurementChangeTime       MeasurementChangeTime,
    iE-Extensions           ProtocolExtensionContainer { {EventC-ExtIEs} } OPTIONAL,
    ...
}

EventC-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

EventD ::= SEQUENCE {
    measurementIncreaseDecreaseThreshold    MeasurementIncreaseDecreaseThreshold,
    measurementChangeTime       MeasurementChangeTime,
    iE-Extensions           ProtocolExtensionContainer { {EventD-ExtIEs} } OPTIONAL,
    ...
}

EventD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

EventE ::= SEQUENCE {
    measurementThreshold1       MeasurementThreshold,
```

```
    measurementThreshold2       MeasurementThreshold            OPTIONAL,
    measurementHysteresisTime   MeasurementHysteresisTime       OPTIONAL,
    reportPeriodicity       ReportPeriodicity           OPTIONAL,
    iE-Extensions           ProtocolExtensionContainer { {EventE-ExtIEs} } OPTIONAL,
    ...
}

EventE-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

EventF ::= SEQUENCE {
    measurementThreshold1       MeasurementThreshold,
    measurementThreshold2       MeasurementThreshold            OPTIONAL,
    measurementHysteresisTime   MeasurementHysteresisTime       OPTIONAL,
    reportPeriodicity       ReportPeriodicity           OPTIONAL,
    iE-Extensions           ProtocolExtensionContainer { {EventF-ExtIEs} } OPTIONAL,
    ...
}

EventF-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

-- F

FACH-FlowControlInformation ::= SEQUENCE (SIZE (1..16)) OF FACH-FlowControlInformationItem

FACH-FlowControlInformationItem ::= SEQUENCE {
    fACH-SchedulingPriority         SchedulingPriorityIndicator,
    mAC-c-sh-SDU-Lengths            MAC-c-sh-SDU-LengthList,
    fACH-InitialWindowSize          FACH-InitialWindowSize,
    iE-Extensions                   ProtocolExtensionContainer { {FACH-FlowControlInformationItem-ExtIEs} } OPTIONAL,
    ...
}

FACH-FlowControlInformationItem-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

FACH-InitialWindowSize          ::= INTEGER { unlimited(255) } (0..255)
-- Number of frames MAC-c-sh SDUs.
-- 255 = Unlimited number of FACH data frames

FACH-InformationList ::= SEQUENCE (SIZE(0.. maxNrOfFACHs)) OF FACH-InformationItem

FACH-InformationItem ::= SEQUENCE {
    transportFormatSet              TransportFormatSet,
    iE-Extensions                   ProtocolExtensionContainer { { FACH-InformationItem-ExtIEs} } OPTIONAL,
    ...
}
```

```
FACH-InformationItem-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

FACH-PCH-InformationList ::= SEQUENCE (SIZE(1..maxFACHCountPlus1)) OF FACH-PCH-InformationItem

FACH-PCH-InformationItem ::= SEQUENCE {
    transportFormatSet              TransportFormatSet,
    iE-Extensions                   ProtocolExtensionContainer { { FACH-PCH-InformationItem-ExtIEs} } OPTIONAL,
    ...
}

FACH-PCH-InformationItem-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

FDD-DCHs-to-Modify              ::= SEQUENCE (SIZE (1..maxNrOfDCHs)) OF FDD-DCHs-to-ModifyItem

FDD-DCHs-to-ModifyItem ::= SEQUENCE {
    ul-FP-Mode                          UL-FP-Mode      OPTIONAL,
    toAWS                               ToAWS       OPTIONAL,
    toAWE                               ToAWE       OPTIONAL,
    transportBearerRequestIndicator     TransportBearerRequestIndicator,
    dCH-SpecificInformationList         FDD-DCHs-to-ModifySpecificInformationList,
    iE-Extensions                       ProtocolExtensionContainer { {FDD-DCHs-to-ModifyItem-ExtIEs} } OPTIONAL,
    ...
}

FDD-DCHs-to-ModifyItem-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

FDD-DCHs-to-ModifySpecificInformationList ::= SEQUENCE (SIZE (1..maxNrOfDCHs)) OF FDD-DCHs-to-ModifySpecificItem

FDD-DCHs-to-ModifySpecificItem ::=  SEQUENCE {
    dCH-ID                          DCH-ID,
    ul-TransportformatSet           TransportFormatSet      OPTIONAL,
    dl-TransportformatSet           TransportFormatSet      OPTIONAL,
    allocationRetentionPriority     AllocationRetentionPriority OPTIONAL,
    frameHandlingPriority           FrameHandlingPriority       OPTIONAL,
    dRACControl                     DRACControl     OPTIONAL,
    iE-Extensions                   ProtocolExtensionContainer { {FDD-DCHs-to-ModifySpecificItem-ExtIEs} } OPTIONAL,
    ...
}

FDD-DCHs-to-ModifySpecificItem-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...,
    { ID id-Guaranteed-Rate-Information     CRITICALITY ignore  EXTENSION Guaranteed-Rate-Information     PRESENCE optional }
}
```

```
FDD-DL-ChannelisationCodeNumber     ::= INTEGER (0..511)
-- According to the mapping in [27]. The maximum value is equal to the DL spreading factor -1--

FDD-DL-CodeInformation ::= SEQUENCE (SIZE (1..maxNrOfDL-Codes)) OF FDD-DL-CodeInformationItem

FDD-DL-CodeInformationItem ::= SEQUENCE {
    dl-ScramblingCode                                       DL-ScramblingCode,
    fDD-DL-ChannelisationCodeNumber                         FDD-DL-ChannelisationCodeNumber,
    transmission-Gap-Pattern-Sequence-ScramblingCode-Information       Transmission-Gap-Pattern-Sequence-ScramblingCode-Information OPTIONAL,
    iE-Extensions                           ProtocolExtensionContainer { {FDD-DL-CodeInformationItem-ExtIEs} } OPTIONAL,
    ...
}

FDD-DL-CodeInformationItem-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

FDD-S-CCPCH-Offset          ::= INTEGER (0..149)

FDD-TPC-DownlinkStepSize ::= ENUMERATED {
    step-size0-5,
    step-size1,
    step-size1-5,
    step-size2,
    ...
}

SchedulingPriorityIndicator         ::= INTEGER { lowest(0), highest(15) } (0..15)

FirstRLS-Indicator ::= ENUMERATED {
    first-RLS,
    not-first-RLS
}

FNReportingIndicator ::= ENUMERATED {
    fN-reporting-required,
    fN-reporting-not-required
}

FrameHandlingPriority           ::= INTEGER { lowest(0), highest(15) } (0..15)

FrameOffset             ::= INTEGER (0..255)
-- Frames

-- G

GapLength               ::= INTEGER (1..14)
-- Unit Slot

GapDuration             ::= INTEGER (1..144,...)
-- Unit Frame
```

```
GA-Cell ::= SEQUENCE (SIZE (1..maxNrOfPoints)) OF
    SEQUENCE {
        Cell-GAIgeographicalCoordinate      GeographicalCoordinate,
        iE-Extensions           ProtocolExtensionContainer { {GA-Cell-ExtIEs} } OPTIONAL,
        ...
    }

GA-Cell-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

GA-CellAdditionalShapes ::= CHOICE {
    pointWithUncertainty                        GA-PointWithUnCertainty,
    pointWithUncertaintyEllipse                 GA-PointWithUnCertaintyEllipse,
    pointWithAltitude                           GA-PointWithAltitude,
    pointWithAltitudeAndUncertaintyEllipsoid    GA-PointWithAltitudeAndUncertaintyEllipsoid,
    ellipsoidArc                                GA-EllipsoidArc,
    iE-Extensions                               ProtocolExtensionContainer { {GA-CellAdditionalShapes-ExtIEs} } OPTIONAL,
    ...
    }

GA-CellAdditionalShapes-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

GA-AltitudeAndDirection ::= SEQUENCE {
    directionOfAltitude     ENUMERATED {height, depth},
    altitude                INTEGER (0..32767),
    ...
}

GA-EllipsoidArc ::= SEQUENCE {
    geographicalCoordinates     GeographicalCoordinate,
    innerRadius                 INTEGER (0..65535),
    uncertaintyRadius           INTEGER (0..127),
    offsetAngle                 INTEGER (0..179),
    includedAngle               INTEGER (0..179),
    confidence                  INTEGER (0..127),
    iE-Extensions               ProtocolExtensionContainer { { GA-EllipsoidArc-ExtIEs} } OPTIONAL,
    ...
}

GA-EllipsoidArc-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

GA-PointWithAltitude ::= SEQUENCE {
    geographicalCoordinates     GeographicalCoordinate,
    altitudeAndDirection        GA-AltitudeAndDirection,
    iE-Extensions               ProtocolExtensionContainer { { GA-PointWithAltitude-ExtIEs} } OPTIONAL,
```

```
    ...
}

GA-PointWithAltitude-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

GA-PointWithAltitudeAndUncertaintyEllipsoid ::= SEQUENCE {
    geographicalCoordinates     GeographicalCoordinate,
    altitudeAndDirection        GA-AltitudeAndDirection,
    uncertaintyEllipse          GA-UncertaintyEllipse,
    uncertaintyAltitude         INTEGER (0..127),
    confidence                  INTEGER (0..127),
    iE-Extensions               ProtocolExtensionContainer { { GA-PointWithAltitudeAndUncertaintyEllipsoid-ExtIEs} } OPTIONAL,
    ...
}

GA-PointWithAltitudeAndUncertaintyEllipsoid-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

GA-PointWithUnCertaintyEllipse ::= SEQUENCE {
    geographicalCoordinates     GeographicalCoordinate,
    uncertaintyEllipse          GA-UncertaintyEllipse,
    confidence                  INTEGER (0..127),
    iE-Extensions               ProtocolExtensionContainer { { GA-PointWithUnCertaintyEllipse-ExtIEs} } OPTIONAL,
    ...
}

GA-PointWithUnCertaintyEllipse-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

GA-UncertaintyEllipse ::= SEQUENCE {
    uncertaintySemi-major       INTEGER (0..127),
    uncertaintySemi-minor       INTEGER (0..127),
    orientationOfMajorAxis      INTEGER (0..179),
    ...
}

GA-PointWithUnCertainty ::=SEQUENCE {
    geographicalCoordinates     GeographicalCoordinate,
    iE-Extensions           ProtocolExtensionContainer { {GA-PointWithUnCertainty-ExtIEs} } OPTIONAL,
    uncertaintyCode         INTEGER (0..127)
}

GA-PointWithUnCertainty-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

GA-AccessPointPosition ::= SEQUENCE {
```

```
    geographicalCoordinate      GeographicalCoordinate,
    iE-Extensions           ProtocolExtensionContainer { {GA-AccessPoint-ExtIEs} } OPTIONAL,
    ...
}

GA-AccessPoint-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

GeographicalCoordinate ::= SEQUENCE {
    latitudeSign            ENUMERATED { north, south },
    latitude            INTEGER (0..8388607),
    longitude           INTEGER (-8388608..8388607),
    iE-Extensions           ProtocolExtensionContainer { {GeographicalCoordinate-ExtIEs} } OPTIONAL,
    ...
}

GeographicalCoordinate-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

GPS-Almanac ::= SEQUENCE {
    wn_a-alm                BIT STRING (SIZE (8)),
    satellite-Almanac-Information       SEQUENCE (SIZE (1..maxNoSat)) OF
        SEQUENCE {
            sAT-ID              SAT-ID,
            gps-e-alm           BIT STRING (SIZE (16)),
            gps-toa-alm         BIT STRING (SIZE (8)),
            gps-delta-I-alm     BIT STRING (SIZE (16)),
            omegadot-alm        BIT STRING (SIZE (16)),
            svhealth-alm        BIT STRING (SIZE (8)),
            gps-a-sqrt-alm      BIT STRING (SIZE (24)),
            omegazero-alm       BIT STRING (SIZE (24)),
            m-zero-alm          BIT STRING (SIZE (24)),
            gps-omega-alm       BIT STRING (SIZE (24)),
            gps-af-zero-alm     BIT STRING (SIZE (11)),
            gps-af-one-alm      BIT STRING (SIZE (11)),
            iE-Extensions       ProtocolExtensionContainer { { Satellite-Almanac-Information-ExtIEs} }    OPTIONAL,
            ...
        },
    iE-Extensions           ProtocolExtensionContainer { { GPS-Almanac-ExtIEs} }        OPTIONAL,
    ...
}

Satellite-Almanac-Information-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

GPS-Almanac-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}
```

```
GPSInformation ::= SEQUENCE (SIZE (1..maxNoGPSTypes)) OF
    SEQUENCE {
        gPSInformationItem      ENUMERATED {
            gPS-NavigationModel-and-TimeRecovery,
            gPS-Ionospheric-Model,
            gPS-UTC-Model,
            gPS-Almanac,
            gPS-RealTime-Integrity,
            ...
        },
        iE-Extensions           ProtocolExtensionContainer { { GPSInformation-ExtIEs} }     OPTIONAL,
        ...
    }
-- This IE shall be present if the Information Type IE indicates 'GPS Information'

GPSInformation-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

GPS-Ionospheric-Model ::= SEQUENCE {
    alpha-zero-ionos        BIT STRING (SIZE (8)),
    alpha-one-ionos         BIT STRING (SIZE (8)),
    alpha-two-ionos         BIT STRING (SIZE (8)),
    alpha-three-ionos       BIT STRING (SIZE (8)),
    beta-zero-ionos         BIT STRING (SIZE (8)),
    beta-one-ionos          BIT STRING (SIZE (8)),
    beta-two-ionos          BIT STRING (SIZE (8)),
    beta-three-ionos        BIT STRING (SIZE (8)),
    iE-Extensions           ProtocolExtensionContainer { { GPS-Ionospheric-Model-ExtIEs} }      OPTIONAL,
    ...
}

GPS-Ionospheric-Model-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

GPS-NavigationModel-and-TimeRecovery ::= SEQUENCE (SIZE (1..maxNoSat)) OF
    SEQUENCE {
        tx-tow-nav                      INTEGER (0..1048575),
        sAT-ID                          SAT-ID,
        tlm-message-nav                 BIT STRING (SIZE (14)),
        tlm-revd-c-nav                  BIT STRING (SIZE (2)),
        ho-word-nav                     BIT STRING (SIZE (22)),
        w-n-nav                         BIT STRING (SIZE (10)),
        ca-or-p-on-l2-nav               BIT STRING (SIZE (2)),
        user-range-accuracy-index-nav   BIT STRING (SIZE (4)),
        sv-health-nav                   BIT STRING (SIZE (6)),
        iodc-nav                        BIT STRING (SIZE (10)),
        l2-p-dataflag-nav               BIT STRING (SIZE (1)),
        sf1-reserved-nav                BIT STRING (SIZE (87)),
```

```
        t-gd-nav                        BIT STRING (SIZE (8)),
        t-oc-nav                        BIT STRING (SIZE (16)),
        a-f-2-nav                       BIT STRING (SIZE (8)),
        a-f-1-nav                       BIT STRING (SIZE (16)),
        a-f-zero-nav                    BIT STRING (SIZE (22)),
        c-rs-nav                        BIT STRING (SIZE (16)),
        delta-n-nav                     BIT STRING (SIZE (16)),
        m-zero-nav                      BIT STRING (SIZE (32)),
        c-uc-nav                        BIT STRING (SIZE (16)),
        gps-e-nav                       BIT STRING (SIZE (32)),
        c-us-nav                        BIT STRING (SIZE (16)),
        a-sqrt-nav                      BIT STRING (SIZE (32)),
        t-oe-nav                        BIT STRING (SIZE (16)),
        fit-interval-flag-nav           BIT STRING (SIZE (1)),
        aodo-nav                        BIT STRING (SIZE (5)),
        c-ic-nav                        BIT STRING (SIZE (16)),
        omega-zero-nav                  BIT STRING (SIZE (32)),
        c-is-nav                        BIT STRING (SIZE (16)),
        i-zero-nav                      BIT STRING (SIZE (32)),
        c-rc-nav                        BIT STRING (SIZE (16)),
        gps-omega-nav                   BIT STRING (SIZE (32)),
        omegadot-nav                    BIT STRING (SIZE (24)),
        idot-nav                        BIT STRING (SIZE (14)),
        spare-zero-fill                 BIT STRING (SIZE (20)),
        iE-Extensions                   ProtocolExtensionContainer { { GPS-NavigationModel-and-TimeRecoveryItem-ExtIEs} }   OPTIONAL,
        ...
    }

GPS-NavigationModel-and-TimeRecoveryItem-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

GPS-RealTime-Integrity ::= CHOICE {
    badSatellites               BadSatellites,
    noBadSatellite              NULL
}

GPS-RX-POS ::= SEQUENCE {
    geographicalCoordinate      GeographicalCoordinate,
    iE-Extensions               ProtocolExtensionContainer { { GPS-RX-POS-ExtIEs} } OPTIONAL,
    ...
}

GPS-RX-POS-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

GPS-Status-Health ::= ENUMERATED {
   udre-1-0,
   udre-0-75,
   udre-0-5,
```

```
   udre-0-3,
   udre-0-1,
   no-data,
   invalid-data
}

GPSTOW ::= INTEGER (0..604799)

GPS-UTC-Model ::= SEQUENCE {
    a-one-utc               BIT STRING (SIZE (24)),
    a-zero-utc              BIT STRING (SIZE (32)),
    t-ot-utc                BIT STRING (SIZE (8)),
    delta-t-ls-utc          BIT STRING (SIZE (8)),
    w-n-t-utc               BIT STRING (SIZE (8)),
    w-n-lsf-utc             BIT STRING (SIZE (8)),
    dn-utc                  BIT STRING (SIZE (8)),
    delta-t-lsf-utc         BIT STRING (SIZE (8)),
    iE-Extensions           ProtocolExtensionContainer { { GPS-UTC-Model-ExtIEs} }      OPTIONAL,
    ...
}

GPS-UTC-Model-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

GSM-Output-Power ::= SEQUENCE { -- Value range (and type?) to be aligned with WG2!!!!!!!!!!!!!!
}

Guaranteed-Rate-Information ::= SEQUENCE {
    guaranteed-UL-Rate          Guaranteed-Rate OPTIONAL,
    guaranteed-DL-Rate          Guaranteed-Rate OPTIONAL,
    iE-Extensions               ProtocolExtensionContainer { {Guaranteed-Rate-Information-ExtIEs} } OPTIONAL,
    ...
}

Guaranteed-Rate-Information-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

Guaranteed-Rate         ::= INTEGER (1..maxNrOfTFs)

-- H

-- I

IB-SchedulingInformation::= SEQUENCE {
    iB-SG-Rep                       IB-SG-REP,
    iB-segmentInformationList       IB-SegmentInformationList,
    iE-Extensions                   ProtocolExtensionContainer { { IB-SchedulingInformation-ExtIEs } } OPTIONAL,
        ...
}
```

```
IB-SchedulingInformation-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

IB-SegmentInformationList ::= SEQUENCE (SIZE(1..maxIBSEG)) OF IB-SegmentInformationItem

IB-SegmentInformationItem ::= SEQUENCE {
    iB-SG-POS                       IB-SG-POS,
    iE-Extensions                   ProtocolExtensionContainer { {  IB-SegmentInformationItem-ExtIEs } } OPTIONAL,
    ...
}

IB-SegmentInformationItem-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

IB-SG-POS   ::= INTEGER (0..4094)
-- Only even positions allowed

IB-SG-REP   ::= ENUMERATED {rep4, rep8, rep16, rep32, rep64, rep128, rep256, rep512, rep1024, rep2048, rep4096}

IMSI        ::= OCTET STRING (SIZE(3..8))

InformationAvailable::= SEQUENCE {
    requestedDataValue      RequestedDataValue,
    iE-Extensions           ProtocolExtensionContainer { { InformationAvailable-ExtIEs} }       OPTIONAL,
    ...
}

InformationAvailable-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

InformationExchangeID ::= INTEGER (0..1048575)

InformationNotAvailable ::= NULL

InformationReportCharacteristics ::= CHOICE {
    onDemand                NULL,
    periodic                PeriodicInformation,
    onModification          OnModificationInformation,
    ...
}

InformationReportPeriodicity ::= CHOICE {
    min             INTEGER (1..60,...),
-- Unit min, Step 1min
    hour            INTEGER (1..24,...),
-- Unit hour, Step 1hour
    ...
```

```
}

InformationThreshold ::= CHOICE {
    dGPSThreshold       DGPSThreshold,
    ...
}

InformationType ::= SEQUENCE {
    informationTypeItem     ENUMERATED {
        gA-AccessPointPosition,
        iPDLParameters,
        gPSInformation,
        dGPSCorrections,
        gPS-RX-POS,
        ...
    },
    gPSInformation              GPSInformation          OPTIONAL,
    iE-Extensions               ProtocolExtensionContainer { { InformationType-ExtIEs} }        OPTIONAL,
    ...
}

-- The GPS Information IE shall be present if the Information Exchange Type IE indicates ‘GPS Information’

InformationType-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

InnerLoopDLPCStatus     ::= ENUMERATED {active, inactive}

IPDLParameters ::= CHOICE {
    iPDL-FDD-Parameters         IPDL-FDD-Parameters,
    iPDL-TDD-Parameters         IPDL-TDD-Parameters
}

IPDL-FDD-Parameters ::= SEQUENCE {
    iPSpacingFDD                IPSpacingFDD,
    iPLength                    IPLength,
    iPOffset                    IPOffset,
    seed                        Seed,
    burstModeParameters         BurstModeParameters     OPTIONAL,
    iE-Extensions               ProtocolExtensionContainer { { IPDL-FDD-Parameters-ExtIEs} }      OPTIONAL,
    ...
}

IPDL-FDD-Parameters-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

IPDL-TDD-Parameters ::= SEQUENCE {
    iPSpacingTDD                IPSpacingTDD,
    iPStart                     IPStart,
```

```
    iPSlot                      IPSlot,
    iP-P-CCPCH                  IP-P-CCPCH,
    burstModeParameters         BurstModeParameters     OPTIONAL,
    iE-Extensions               ProtocolExtensionContainer { { IPDL-TDD-Parameters-ExtIEs} }     OPTIONAL,
    ...
}

-- The BurstModeParameters IE shall be included if the Idle Periods are arranged in Burst Mode.

IPDL-TDD-Parameters-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

IPLength ::= ENUMERATED {
    ipl5,
    ipl10,
    ...
}

IPOffset ::= INTEGER (0..9)

IP-P-CCPCH ::= ENUMERATED {
    SwitchOff-1-Frame,
    SwitchOff-2-Frames
}

IPSlot ::= INTEGER (0..14)

IPSpacingFDD ::= ENUMERATED {
    ipsF5,
    ipsF7,
    ipsF10,
    ipsF15,
    ipsF20,
    ipsF30,
    ipsF40,
    ipsF50,
    ...
}

IPSpacingTDD ::= ENUMERATED {
    ipsT30,
    ipsT40,
    ipsT50,
    ipsT70,
    ipsT100,
    ...
}

IPStart ::= INTEGER (0..4095)
```

```
-- J
-- K
-- L

LAC                 ::= OCTET STRING (SIZE (2)) --(EXCEPT (’0000’H|’FFFF’H))

LimitedPowerIncrease ::= ENUMERATED {
    used,
    not-used
}

L3-Information              ::= BIT STRING

Load-Value-IncrDecrThres ::= INTEGER(0..9)

Load-Value ::= INTEGER(0..9)

LoadValue ::= SEQUENCE {
        uplinkLoadValue     INTEGER(0..9),
        downlinkLoadValue   INTEGER(0..9)
}

-- M

MaxNrOfUL-DPCHs             ::= INTEGER (1..6)

MAC-c-sh-SDU-Length         ::= INTEGER (1..5000)

MAC-c-sh-SDU-LengthList ::= SEQUENCE(SIZE(1..maxNrOfMACcshSDU-Length)) OF MAC-c-sh-SDU-Length

MaximumAllowedULTxPower     ::= INTEGER (-50..33)

MaxNrDLPhysicalchannels ::= INTEGER (1..224)

MaxNrTimeslots              ::= INTEGER (1..14)

MaxNrULPhysicalchannels ::= INTEGER (1..2)

MaxTFCIvalue                ::= INTEGER (1..1023)

MeasurementFilterCoefficient ::=  ENUMERATED{k0, k1, k2, k3, k4, k5, k6, k7, k8, k9, k11, k13, k15, k17, k19,...}
-- Measurement Filter Coefficient to be used for measurement

MeasurementID               ::= INTEGER (0..1048575)

MinimumSpreadingFactor      ::= INTEGER (1..16)

Multi-code-info             ::= INTEGER (1..16)

MultipleURAsIndicator ::= ENUMERATED {
    multiple-URAs-exist,
```

```
    single-URA-exists
}

MaxAdjustmentStep           ::= INTEGER(1..10)
-- Unit Slot

MeasurementChangeTime       ::= INTEGER (1..6000,...)
-- The MeasurementChangeTime  gives the MeasurementChangeTime
-- in number of 10 ms periods.
-- E.g. Value 6000 means 60000ms(1min)
-- Unit is ms, Step is 10 ms

MeasurementHysteresisTime       ::= INTEGER (1..6000,...)
-- The MeasurementHysteresisTime  gives the
-- MeasurementHysteresisTime in number of 10 ms periods.
-- E.g. Value 6000 means 60000ms(1min)
-- Unit is ms, Step is 10ms

MeasurementIncreaseDecreaseThreshold        ::= CHOICE {
    sir                             SIR-Value-IncrDecrThres,
    sir-error                       SIR-Error-Value-IncrDecrThres,
    transmitted-code-power          Transmitted-Code-Power-Value-IncrDecrThres,
    rscp                            RSCP-Value-IncrDecrThres,
    round-trip-time                 Round-Trip-Time-IncrDecrThres,
    ...,
    load                            Load-Value-IncrDecrThres,
    transmitted-carrier-power       Transmitted-Carrier-Power-Value-IncrDecrThres,
    received-total-wide-band-power  Received-Total-Wideband-Power-Value-IncrDecrThres,
    ul-timeslot-iscp                UL-Timeslot-ISCP-Value-IncrDecrThres
}

MeasurementThreshold            ::= CHOICE {
    sir                             SIR-Value,
    sir-error                       SIR-Error-Value,
    transmitted-code-power          Transmitted-Code-Power-Value,
    rscp                            RSCP-Value,
    rx-timing-deviation             Rx-Timing-Deviation-Value,
    round-trip-time                 Round-Trip-Time-Value,
    ...,
    t-utran-gps-measurement-threshold-information       TUTRANGPSMeasurementThresholdInformation,
    sfn-sfn-measurement-threshold-information           SFNSFNMeasurementThresholdInformation,
    load                                                Load-Value,
    transmitted-carrier-power                           Transmitted-Carrier-Power-Value,
    received-total-wide-band-power                      Received-Total-Wideband-Power-Value,
    ul-timeslot-iscp                                    UL-Timeslot-ISCP-Value
}

MidambleConfigurationBurstType1And3 ::=     ENUMERATED {v4, v8, v16}

MidambleConfigurationBurstType2 ::=     ENUMERATED {v3, v6}
```

```
MidambleShiftAndBurstType ::=       CHOICE {
    type1                               SEQUENCE {
        midambleConfigurationBurstType1And3     MidambleConfigurationBurstType1And3,
        midambleAllocationMode              CHOICE {
            defaultMidamble                     NULL,
            commonMidamble                      NULL,
            ueSpecificMidamble                  MidambleShiftLong,
            ...
        },
        ...
    },
    type2                               SEQUENCE {
        midambleConfigurationBurstType2     MidambleConfigurationBurstType2,
        midambleAllocationMode              CHOICE {
            defaultMidamble                     NULL,
            commonMidamble                      NULL,
            ueSpecificMidamble                  MidambleShiftShort,
            ...
        },
        ...
    },
    type3                               SEQUENCE {
        midambleConfigurationBurstType1And3 MidambleConfigurationBurstType1And3,
        midambleAllocationMode          CHOICE {
            defaultMidamble                     NULL,
            ueSpecificMidamble                  MidambleShiftLong,
            ...
        },
        ...
    },
    ...
}

MidambleShiftLong ::=               INTEGER (0..15)

MidambleShiftShort ::=              INTEGER (0..5)

MidambleShiftLCR ::= SEQUENCE {
    midambleAllocationMode      MidambleAllocationMode,
    midambleShift               MidambleShiftLong       OPTIONAL,
    iE-Extensions               ProtocolExtensionContainer { {MidambleShiftLCR-ExtIEs} }        OPTIONAL,
    ...
    }

MidambleAllocationMode ::= ENUMERATED {
    DefaultMidamble,
    CommonMidamble,
    UESpecificMidamble,
    ...
    }
```

```
MidambleShiftLCR-ExtIEs  RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

MinUL-ChannelisationCodeLength      ::= ENUMERATED {
    v4,
    v8,
    v16,
    v32,
    v64,
    v128,
    v256
}

MultiplexingPosition ::= ENUMERATED {
    fixed,
    flexible
}

-- N

NCC ::= BIT STRING (SIZE (3))

Neighbouring-UMTS-CellInformation ::= SEQUENCE (SIZE (1..maxNrOfNeighbouringRNCs)) OF ProtocolIE-Single-Container {{ Neighbouring-UMTS-
CellInformationItemIE }}

Neighbouring-UMTS-CellInformationItemIE RNSAP-PROTOCOL-IES ::= {
    { ID id-Neighbouring-UMTS-CellInformationItem   CRITICALITY ignore  TYPE    Neighbouring-UMTS-CellInformationItem  PRESENCE mandatory }
}

Neighbouring-UMTS-CellInformationItem ::= SEQUENCE {
    rNC-ID                                  RNC-ID,
    cN-PS-DomainIdentifier                  CN-PS-DomainIdentifier      OPTIONAL,
    cN-CS-DomainIdentifier                  CN-CS-DomainIdentifier      OPTIONAL,
    neighbouring-FDD-CellInformation        Neighbouring-FDD-CellInformation    OPTIONAL,
    neighbouring-TDD-CellInformation        Neighbouring-TDD-CellInformation    OPTIONAL,
    iE-Extensions                           ProtocolExtensionContainer { {Neighbouring-UMTS-CellInformationItem-ExtIEs} } OPTIONAL,
    ...
}

Neighbouring-UMTS-CellInformationItem-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    { id-neighbouring-LCR-TDD-CellInformation           CRITICALITY  ignore     EXTENSION   Neighbouring-LCR-TDD-CellInformation        PRESENCE
optional },
    ...
}

Neighbouring-FDD-CellInformation ::= SEQUENCE ( SIZE (1..maxNrOfFDDNeighboursPerRNC,...)) OF Neighbouring-FDD-CellInformationItem

Neighbouring-FDD-CellInformationItem ::= SEQUENCE {
    c-ID                                C-ID,
    uARFCNforNu                         UARFCN,
```

```
    uARFCNforNd                         UARFCN,
    frameOffset                         FrameOffset         OPTIONAL,
    primaryScramblingCode               PrimaryScramblingCode,
    primaryCPICH-Power                  PrimaryCPICH-Power      OPTIONAL,
    cellIndividualOffset                CellIndividualOffset    OPTIONAL,
    txDiversityIndicator                TxDiversityIndicator,
    sTTD-SupportIndicator               STTD-SupportIndicator   OPTIONAL,
    closedLoopMode1-SupportIndicator    ClosedLoopMode1-SupportIndicator    OPTIONAL,
    closedLoopMode2-SupportIndicator    ClosedLoopMode2-SupportIndicator    OPTIONAL,
    iE-Extensions                       ProtocolExtensionContainer { { Neighbouring-FDD-CellInformationItem-ExtIEs} } OPTIONAL,
    ...
}

Neighbouring-FDD-CellInformationItem-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

NeighbouringFDDCellMeasurementInformation ::= SEQUENCE {
    uC-ID                               UC-ID,
    uARFCN                              UARFCN,
    primaryScramblingCode               PrimaryScramblingCode,
    iE-Extensions                       ProtocolExtensionContainer { { NeighbouringFDDCellMeasurementInformationItem-ExtIEs} } OPTIONAL,
    ...
}

NeighbouringFDDCellMeasurementInformationItem-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

Neighbouring-GSM-CellInformation ::= ProtocolIE-Single-Container {{ Neighbouring-GSM-CellInformationIE }}

Neighbouring-GSM-CellInformationIE RNSAP-PROTOCOL-IES ::= {
    { ID id-Neighbouring-GSM-CellInformation    CRITICALITY ignore  TYPE    Neighbouring-GSM-CellInformationIEs  PRESENCE mandatory }
}

Neighbouring-GSM-CellInformationIEs ::= SEQUENCE ( SIZE (1..maxNrOfGSMNeighboursPerRNC,...)) OF Neighbouring-GSM-CellInformationItem

Neighbouring-GSM-CellInformationItem ::= SEQUENCE {
    cGI                                 CGI,
    q-Offset-Serving-to-Neighbour       Q-Offset-Serving-to-Neighbour,
    q-RxlevMin                          Q-RxlevMin,
    maximumAllowedULTxPower             MaximumAllowedULTxPower,
    bSIC                                BSIC,
    bCCH-ARFCN                          BCCH-ARFCN,
    gSM-Output-Power                    GSM-Output-Power OPTIONAL,
    iE-Extensions                       ProtocolExtensionContainer { { Neighbouring-GSM-CellInformationItem-ExtIEs} } OPTIONAL,
    ...
}

Neighbouring-GSM-CellInformationItem-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
```

```
    ...
}

Neighbouring-TDD-CellInformation ::= SEQUENCE ( SIZE (1..maxNrOfTDDNeighboursPerRNC,...)) OF Neighbouring-TDD-CellInformationItem

Neighbouring-TDD-CellInformationItem ::= SEQUENCE {
    c-ID                            C-ID,
    uARFCNforNt                     UARFCN,
    frameOffset                     FrameOffset         OPTIONAL,
    cellParameterID                 CellParameterID,
    syncCase                        SyncCase,
    timeSlot                        TimeSlot            OPTIONAL
    -- This IE shall be present only if Sync Case = Case1 -- ,
    sCH-TimeSlot                    SCH-TimeSlot            OPTIONAL
    -- This IE shall be present only if Sync Case = Case2 -- ,
    block-STTD-Indicator            Block-STTD-Indicator,
    cellIndividualOffset            CellIndividualOffset    OPTIONAL,
    dPCHConstantValue               DPCHConstantValue   OPTIONAL,
    pCCPCH-Power                    PCCPCH-Power            OPTIONAL,
    iE-Extensions                   ProtocolExtensionContainer { { Neighbouring-TDD-CellInformationItem-ExtIEs} } OPTIONAL,
    ...
}

Neighbouring-TDD-CellInformationItem-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

NeighbouringTDDCellMeasurementInformation ::= SEQUENCE {
    uC-ID                               UC-ID,
    uARFCN                              UARFCN,
    cellParameterID                     CellParameterID,
    iE-Extensions                       ProtocolExtensionContainer { { NeighbouringTDDCellMeasurementInformationItem-ExtIEs} } OPTIONAL,
    ...
}

NeighbouringTDDCellMeasurementInformationItem-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

Neighbouring-LCR-TDD-CellInformation ::= SEQUENCE (SIZE (1.. maxNrofLCRTDDNeighboursPerRNC,..)) OF Neighbouring-LCR-TDD-CellInformationItem

Neighbouring-LCR-TDD-CellInformationItem ::= SEQUENCE {
    c-ID                            C-ID,
    uARFCNforNt                     UARFCN,
    frameOffset                     FrameOffset         OPTIONAL,
    cellParameterID                 CellParameterID,
    timeSlotLCR                     TimeSlotLCR,
    block-STTD-Indicator            Block-STTD-Indicator,
    cellIndividualOffset            CellIndividualOffset    OPTIONAL,
    dPCHConstantValue               DPCHConstantValue   OPTIONAL,
```

```
    pCCPCH-Power                    PCCPCH-Power            OPTIONAL,
    iE-Extensions                   ProtocolExtensionContainer { { Neighbouring-LCR-TDD-CellInformationItem-ExtIEs} } OPTIONAL,
    ...
}

Neighbouring-LCR TDD-CellInformationItem-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

NrOfDLchannelisationcodes   ::= INTEGER (1..8)

NrOfTransportBlocks         ::= INTEGER (0..512)

-- O

OnModification ::= SEQUENCE {
    measurementThreshold    MeasurementThreshold,
    iE-Extensions           ProtocolExtensionContainer { {OnModification-ExtIEs} } OPTIONAL,
    ...
}

OnModification-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

-- P

PagingCause ::= ENUMERATED {
    terminating-conversational-call,
    terminating-streaming-call,
    terminating-interactive-call,
    terminating-background-call,
    terminating-low-priority-signalling,
    ...,
    terminating-high-priority-signalling,
    terminating–cause-unknown
}
-- See in [16]

PagingRecordType ::= ENUMERATED {
    imsi-gsm-map,
    tmsi-gsm-map,
    p-tmsi-gsm-map,
    imsi-ds-41,
    tmsi-ds-41,
    ...
}
-- See in [16]

PayloadCRC-PresenceIndicator ::= ENUMERATED {
```

```
    crc-included,
    crc-not-included
}

PCCPCH-Power ::= INTEGER (-150..400,...)
-- PCCPCH-power = power * 10
-- If power <= -15 PCCPCH shall be set to -150
-- If power >= 40 PCCPCH shall be set to 400
-- Unit dBm, Range -15dBm .. +40 dBm, Step 0.1dBm

PCH-InformationList ::= SEQUENCE (SIZE(0..1)) OF PCH-InformationItem

PCH-InformationItem ::= SEQUENCE {
    transportFormatSet              TransportFormatSet,
    iE-Extensions                   ProtocolExtensionContainer { { PCH-InformationItem-ExtIEs} } OPTIONAL,
    ...
}

PCH-InformationItem-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

PC-Preamble ::= INTEGER(0..7,...)

PDSCHCodeMapping ::= SEQUENCE {
    dL-ScramblingCode       DL-ScramblingCode,
    signallingMethod        PDSCHCodeMapping-SignallingMethod,
    iE-Extensions           ProtocolExtensionContainer { { PDSCHCodeMapping-ExtIEs} } OPTIONAL,
    ...
}

PDSCHCodeMapping-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

PDSCHCodeMapping-SignallingMethod ::= CHOICE {
    pDSCHCodeMapping-SignallingMethod-CodeRange     PDSCHCodeMapping-SignallingMethod-CodeRange,
    pDSCHCodeMapping-SignallingMethod-TFCIRange     PDSCHCodeMapping-SignallingMethod-TFCIRange,
    pDSCHCodeMapping-SignallingMethod-Explicit      PDSCHCodeMapping-SignallingMethod-Explicit,
    ...
 }

PDSCHCodeMapping-SignallingMethod-CodeRange ::= SEQUENCE (SIZE (1..maxNoCodeGroups)) OF
    SEQUENCE {
        spreadingFactor         SpreadingFactor,
        multi-code-info         Multi-code-info,
        start-CodeNumber        CodeNumber,
        stop-CodeNumber         CodeNumber,
        iE-Extensions           ProtocolExtensionContainer { { PDSCHCodeMapping-SignallingMethod-CodeRange-ExtIEs} } OPTIONAL,
        ...
    }
```

```
PDSCHCodeMapping-SignallingMethod-CodeRange-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

PDSCHCodeMapping-SignallingMethod-TFCIRange ::= SEQUENCE (SIZE (1..maxNoTFCIGroups)) OF
    SEQUENCE {
        maxTFCIvalue            MaxTFCIvalue,
        spreadingFactor         SpreadingFactor,
        multi-code-info         Multi-code-info,
        codeNumber              CodeNumber,
        iE-Extensions           ProtocolExtensionContainer { { PDSCHCodeMapping-SignallingMethod-TFCIRange-ExtIEs} } OPTIONAL,
        ...
    }

PDSCHCodeMapping-SignallingMethod-TFCIRange-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

PDSCHCodeMapping-SignallingMethod-Explicit ::= SEQUENCE (SIZE (1..maxTFCI2Combs)) OF
    SEQUENCE {
        spreadingFactor         SpreadingFactor,
        multi-code-info         Multi-code-info,
        codeNumber              CodeNumber,
        iE-Extensions           ProtocolExtensionContainer { { PDSCHCodeMapping-SignallingMethod-Explicit-ExtIEs} } OPTIONAL,
        ...
    }

PDSCHCodeMapping-SignallingMethod-Explicit-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

Periodic ::= SEQUENCE {
    reportPeriodicity       ReportPeriodicity,
    iE-Extensions           ProtocolExtensionContainer { {Periodic-ExtIEs} } OPTIONAL,
    ...
}

Periodic-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

PeriodicInformation ::= SEQUENCE {
    informationReportPeriodicity        InformationReportPeriodicity,
    iE-Extensions                       ProtocolExtensionContainer { {PeriodicInformation-ExtIEs} } OPTIONAL,
    ...
}

PeriodicInformation-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}
```

```
PLMN-ID ::= OCTET STRING (SIZE(3))

PowerAdjustmentType ::= ENUMERATED {
    none,
    common,
    individual
}

PowerOffset             ::= INTEGER (0..24)

PRC ::= INTEGER (-2047..2047)
--pseudo range correction; scaling factor 0.32 meters

PRCDeviation ::= ENUMERATED {
    prcd1,
    prcd2,
    prcd5,
    prcd10,
    ...
}

Pre-emptionCapability ::= ENUMERATED {
    shall-not-trigger-pre-emption,
    may-trigger-pre-emption
}

Pre-emptionVulnerability ::= ENUMERATED {
    not-pre-emptable,
    pre-emptable
}

PredictedSFNSFNDeviationLimit ::= INTEGER (1..16384)

PredictedTUTRANGPSDeviationLimit ::= INTEGER (1..1048576)

PrimaryCPICH-Power          ::= INTEGER (-100..500)
-- step 0.1 (Range –10.0..50.0) Unit is dBm

PrimaryCPICH-EcNo           ::= INTEGER (-30..30)

PrimaryCCPCH-RSCP           ::= INTEGER (0..91)
-- According to maping in [14]

PrimaryScramblingCode           ::= INTEGER (0..511)

PriorityLevel               ::= INTEGER (0..15)
-- 0 = spare, 1 = highest priority, ...14 = lowest priority and 15 = no priority

PropagationDelay            ::= INTEGER (0..255)
```

```
PunctureLimit               ::= INTEGER (0..15)
-- 0: 40%; 1: 44%; ... 14: 96%; 15: 100

-- Q

QE-Selector ::= ENUMERATED {
    selected,
    non-selected
}

Q-Offset-Serving-to-Neighbour ::= INTEGER (-50..50)

Q-RxlevMin ::= INTEGER (-58..-13)
-- Actual value = (IE value * 2) + 1
-- Range –115 to –25 dBm, Step 2 dB

-- R

RAC                 ::= OCTET STRING (SIZE(1))

RANAP-RelocationInformation     ::= BIT STRING

Range-Correction-Rate ::= INTEGER (-127..127)
-- scaling factor 0.032 m/s

RateMatchingAttribute           ::= INTEGER (1..maxRateMatching)

RB-Identity                     ::= INTEGER (0..31)

RB-Info ::= SEQUENCE (SIZE(1..maxNoOfRB)) OF RB-Identity

Received-Total-Wideband-Power-Value ::= Received-total-wide-band-power

Received-Total-Wideband-Power-Value-IncrDecrThres ::= INTEGER(0..620)
-- Unit dB Step 0.1dB
-- e.g. value 100 means 10dB

RefTFCNumber ::= INTEGER (0..15)

RepetitionLength            ::= INTEGER (1..63)

RepetitionPeriod ::= ENUMERATED {
    v1,
    v2,
    v4,
    v8,
    v16,
    v32,
    v64
}
```

```
RepetitionNumber ::= INTEGER (1..256)

ReportCharacteristics ::= CHOICE {
    onDemand            NULL,
    periodic            Periodic,
    eventA              EventA,
    eventB              EventB,
    eventC              EventC,
    eventD              EventD,
    eventE              EventE,
    eventF              EventF,
    ...,
    onModification      OnModification
}

ReportPeriodicity ::= CHOICE {
    ten-msec                INTEGER (1..6000,...),
-- The Report Periodicity gives the reporting periodicity in number of 10 ms periods.
-- E.g. value 6000 means 60000ms (i.e. 1min)
-- Unit ms, Step 10ms
    min             INTEGER (1..60,...),
-- Unit min, Step 1min
    ...
}

RequestedDataValue ::= SEQUENCE {
    gA-AccessPointPosition                  GA-AccessPointPosition                      OPTIONAL,
    iPDLParameters                          IPDLParameters                              OPTIONAL,
    dGPSCorrections                         DGPSCorrections                             OPTIONAL,
    gPS-NavigationModel-and-TimeRecovery    GPS-NavigationModel-and-TimeRecovery        OPTIONAL,
    gPS-Ionospheric-Model                   GPS-Ionospheric-Model                       OPTIONAL,
    gPS-UTC-Model                           GPS-UTC-Model                               OPTIONAL,
    gPS-Almanac                             GPS-Almanac                                 OPTIONAL,
    gPS-RealTime-Integrity                  GPS-RealTime-Integrity                      OPTIONAL,
    gPS-RX-POS                              GPS-RX-POS                                  OPTIONAL,
    iE-Extensions                           ProtocolExtensionContainer { { RequestedDataValue-ExtIEs} }     OPTIONAL,
    ...
}

--at least one of the above IEs shall be present in the requested data value

RequestedDataValueItem-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

RequestedDataValueInformation ::= CHOICE {
    informationAvailable        InformationAvailable,
    informationNotAvailable     InformationNotAvailable
}

RL-ID                   ::= INTEGER (0..31)
```

```
RL-Set-ID               ::= INTEGER (0..31)

RNC-ID                  ::= INTEGER (0..4095)

Round-Trip-Time-IncrDecrThres ::= INTEGER(0..32766)

Round-Trip-Time-Value ::= INTEGER(0..32767)
-- According to mapping in [23]

RSCP-Value ::= INTEGER (0..127)
-- According to mapping in [24]

RSCP-Value-IncrDecrThres ::= INTEGER (0..126)

Received-total-wide-band-power              ::= INTEGER (0..621)
-- According to mapping in [23]

RxTimingDeviationForTA              ::= INTEGER (0..127)
-- As specified in [5], ch. 6.2.7.6
-- For 1.28Mcps TDD this IE must be set to 0.

Rx-Timing-Deviation-Value ::= INTEGER (0..8191)
--According to mapping in [24][3.84Mcps TDD only]

-- S

SAC                 ::= OCTET STRING (SIZE (2))

SAI ::= SEQUENCE {
    pLMN-ID             PLMN-ID,
    lAC                 LAC,
    sAC                 SAC,
    iE-Extensions       ProtocolExtensionContainer { {SAI-ExtIEs} } OPTIONAL
}

SAI-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

SAT-ID ::= INTEGER (0..63)

SCH-TimeSlot                ::= INTEGER (0..6)

ScaledAdjustmentRatio           ::= INTEGER(0..100)
-- AdjustmentRatio  = ScaledAdjustmentRatio / 100

Secondary-CCPCH-Info::= SEQUENCE {
    fDD-S-CCPCH-Offset                      FDD-S-CCPCH-Offset,
    dl-ScramblingCode                       DL-ScramblingCode,
    fDD-DL-ChannelisationCodeNumber         FDD-DL-ChannelisationCodeNumber,
```

```
    dl-TFCS                                 TFCS,
    secondaryCCPCH-SlotFormat               SecondaryCCPCH-SlotFormat,
    tFCI-Presence                           TFCI-Presence   OPTIONAL,
    -- This IE shall be present only if the Secondary CCPCH Slot Format is equal to any of the values 8 to 17
    multiplexingPosition                    MultiplexingPosition,
    sTTD-Indicator                          STTD-Indicator,
    fACH-PCH-InformationList                FACH-PCH-InformationList,
    iB-schedulingInformation                IB-SchedulingInformation,
    iE-Extensions                           ProtocolExtensionContainer { { Secondary-CCPCH-Info-ExtIEs} } OPTIONAL,
    ...
}

Secondary-CCPCH-Info-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

Secondary-CCPCH-Info-TDD::= SEQUENCE {
    dl-TFCS                                 TFCS,
    tFCI-Coding                             TFCI-Coding,
    secondary-CCPCH-TDD-InformationList     Secondary-CCPCH-TDD-InformationList,
    fACH-InformationList                    FACH-InformationList,
    pCH-InformationList                     PCH-InformationList,
    iE-Extensions                           ProtocolExtensionContainer { { Secondary-CCPCH-Info-TDD-ExtIEs} } OPTIONAL,
    ...
}

Secondary-CCPCH-Info-TDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

Secondary-CCPCH-TDD-InformationList ::= SEQUENCE (SIZE(0.. maxNrOfSCCPCHs)) OF Secondary-CCPCH-TDD-InformationItem

Secondary-CCPCH-TDD-InformationItem ::= SEQUENCE {
    timeSlot                        TimeSlot,
    midambleShiftAndBurstType       MidambleShiftAndBurstType,
    tFCI-Presence                   TFCI-Presence,
    secondary-CCPCH-TDD-Code-Information                Secondary-CCPCH-TDD-Code-Information,
    tDD-PhysicalChannelOffset       TDD-PhysicalChannelOffset,
    repetitionLength                RepetitionLength,
    repetitionPeriod                RepetitionPeriod,
    iE-Extensions                   ProtocolExtensionContainer { { Secondary-CCPCH-TDD-InformationItem-ExtIEs} } OPTIONAL,
    ...
}

Secondary-CCPCH-TDD-InformationItem-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

Secondary-CCPCH-TDD-Code-Information ::= SEQUENCE ( SIZE (1..maxNrOfSCCPCHs)) OF Secondary-CCPCH-TDD-Code-InformationItem

Secondary-CCPCH-TDD-Code-InformationItem ::= SEQUENCE {
```

```
    tDD-ChannelisationCode          TDD-ChannelisationCode,
    iE-Extensions                   ProtocolExtensionContainer { {Secondary-CCPCH-TDD-Code-InformationItem-ExtIEs} } OPTIONAL,
    ...
}

Secondary-CCPCH-TDD-Code-InformationItem-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

SecondInterleavingMode ::= ENUMERATED {
    frame-related,
    timeslot-related,
    ...
}

Seed ::= INTEGER (0..63)

SFN ::= INTEGER (0..4095)

SFNSFN ::= INTEGER(-20480..20479)

SFNSFNChangeLimit ::= INTEGER (1..16384)

SFNSFNDriftRate ::= INTEGER (-16383..16383)

SFNSFNDriftRateQuality ::= INTEGER (0..16383)

SFNSFNMeasurementThresholdInformation::= SEQUENCE {
    sFNSFNChangeLimit                   SFNSFNChangeLimit                   OPTIONAL,
    predictedSFNSFNDeviationLimit       PredictedSFNSFNDeviationLimit       OPTIONAL,
    iE-Extensions                   ProtocolExtensionContainer { { SFNSFNMeasurementThresholdInformation-ExtIEs} }    OPTIONAL,
    ...
}

SFNSFNMeasurementThresholdInformation-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

SFNSFNMeasurementValueInformation ::= SEQUENCE {
    successfullNeighbouringCellSFNSFNObservedTimeDifferenceMeasurementInformation       SEQUENCE (SIZE(1..maxNrOfMeasNCell)) OF
        SEQUENCE {
            uC-ID       UC-ID,
            sFNSFN                      SFNSFN,
            sFNSFNQuality               SFNSFNQuality,
            sFNSFNDriftRate             SFNSFNDriftRate,
            sFNSFNDriftRateQuality      SFNSFNDriftRateQuality,
            sFN                         SFN,
            timeSlot                    TimeSlot,
            iE-Extensions               ProtocolExtensionContainer { {
SuccessfullNeighbouringCellSFNSFNObservedTimeDifferenceMeasurementInformationItem-ExtIEs} }     OPTIONAL,
```

```
            ...
        },
    unsuccessfullNeighbouringCellSFNSFNObservedTimeDifferenceMeasurementInformation     SEQUENCE (SIZE(0..maxNrOfMeasNCell-1)) OF
        SEQUENCE {
            uC-ID       UC-ID,
            iE-Extensions       ProtocolExtensionContainer { { UnsuccessfullNeighbouringCellSFNSFNObservedTimeDifferenceMeasurementInformationItem-
ExtIEs} }       OPTIONAL,
            ...
        }
    iE-Extensions       ProtocolExtensionContainer { { SFNSFNMeasurementValueInformationItem-ExtIEs} }     OPTIONAL,
    ...
}

SFNSFNMeasurementValueInformationItem-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

SuccessfullNeighbouringCellSFNSFNObservedTimeDifferenceMeasurementInformationItem-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

UnsuccessfullNeighbouringCellSFNSFNObservedTimeDifferenceMeasurementInformationItem-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

SFNSFNQuality ::= INTEGER (0..16383)

SIR-Error-Value         ::= INTEGER (0..125)

SIR-Error-Value-IncrDecrThres           ::= INTEGER (0..124)

SIR-Value               ::= INTEGER (0..63)
-- According to mapping in 25.215/25.225

SIR-Value-IncrDecrThres ::= INTEGER (0..62)

SecondaryCCPCH-SlotFormat       ::= INTEGER (0..17,...)
-- refer to 25.211

S-FieldLength               ::= ENUMERATED {
    v1,
    v2,
    ...
}

SpecialBurstScheduling ::= INTEGER (1..256)

SpreadingFactor         ::= INTEGER (4| 8| 16| 32| 64| 128| 256)
```

```
S-RNTI                  ::= INTEGER (0..1048575)
-- From 0 to 2^20-1

SRB-Delay ::= INTEGER(0..7,...)

SSDT-CellID ::= ENUMERATED {
    a,
    b,
    c,
    d,
    e,
    f,
    g,
    h
}

SSDT-CellID-Length ::= ENUMERATED {
    short,
    medium,
    long
}

SSDT-Indication ::= ENUMERATED {
    sSDT-active-in-the-UE,
    sSDT-not-active-in-the-UE
}

SSDT-SupportIndicator ::= ENUMERATED {
    sSDT-supported,
    sSDT-not-supported
}

STTD-Indicator  ::= ENUMERATED {
    active,
    inactive
}

STTD-SupportIndicator   ::= ENUMERATED {
    sTTD-Supported,
    sTTD-not-Supported
}

SyncCase ::= INTEGER (1..2,...)

SynchronisationConfiguration ::= SEQUENCE {
    n-INSYNC-IND            INTEGER (1..256),
    n-OUTSYNC-IND           INTEGER (1..256),
    t-RLFAILURE             INTEGER (0..255),
-- Unit seconds, Range 0s .. 25.5s, Step 0.1s
    iE-Extensions           ProtocolExtensionContainer { { SynchronisationConfiguration-ExtIEs} }    OPTIONAL,
```

```
    ...
}

SynchronisationConfiguration-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

-- T

TDD-ChannelisationCode          ::= ENUMERATED {
    chCode1div1,
    chCode2div1,
    chCode2div2,
    chCode4div1,
    chCode4div2,
    chCode4div3,
    chCode4div4,
    chCode8div1,
    chCode8div2,
    chCode8div3,
    chCode8div4,
    chCode8div5,
    chCode8div6,
    chCode8div7,
    chCode8div8,
    chCode16div1,
    chCode16div2,
    chCode16div3,
    chCode16div4,
    chCode16div5,
    chCode16div6,
    chCode16div7,
    chCode16div8,
    chCode16div9,
    chCode16div10,
    chCode16div11,
    chCode16div12,
    chCode16div13,
    chCode16div14,
    chCode16div15,
    chCode16div16,
    ...
}

TDD-ChannelisationCodeLCR ::= CHOICE {
    sf1                 ENUMERATED { QPSK, 8PSK, ...},
    sfx                 TDD-ChannelisationCode,
    ...
}

TDD-DCHs-to-Modify ::= SEQUENCE (SIZE (1..maxNrOfDCHs)) OF TDD-DCHs-to-ModifyItem
```

```
TDD-DCHs-to-ModifyItem ::= SEQUENCE {
    ul-FP-Mode                          UL-FP-Mode  OPTIONAL,
    toAWS                               ToAWS       OPTIONAL,
    toAWE                               ToAWE       OPTIONAL,
    transportBearerRequestIndicator     TransportBearerRequestIndicator,
    dCH-SpecificInformationList         TDD-DCHs-to-ModifySpecificInformationList,
    iE-Extensions                       ProtocolExtensionContainer { {TDD-DCHs-to-ModifyItem-ExtIEs} } OPTIONAL,
    ...
}

TDD-DCHs-to-ModifyItem-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

TDD-DCHs-to-ModifySpecificInformationList ::= SEQUENCE (SIZE (1..maxNrOfDCHs)) OF TDD-DCHs-to-ModifySpecificItem

TDD-DCHs-to-ModifySpecificItem ::=  SEQUENCE {
    dCH-ID                          DCH-ID,
    ul-CCTrCH-ID                    CCTrCH-ID       OPTIONAL,
    dl-CCTrCH-ID                    CCTrCH-ID       OPTIONAL,
    ul-TransportformatSet           TransportFormatSet  OPTIONAL,
    dl-TransportformatSet           TransportFormatSet  OPTIONAL,
    allocationRetentionPriority     AllocationRetentionPriority OPTIONAL,
    frameHandlingPriority           FrameHandlingPriority   OPTIONAL,
    iE-Extensions                   ProtocolExtensionContainer { {TDD-DCHs-to-ModifySpecificItem-ExtIEs} } OPTIONAL,
    ...
}

TDD-DCHs-to-ModifySpecificItem-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...,
    { ID id-Guaranteed-Rate-Information     CRITICALITY ignore  EXTENSION Guaranteed-Rate-Information     PRESENCE optional }
}

TDD-DL-Code-Information ::= SEQUENCE ( SIZE (1..maxNrOfDPCHs)) OF TDD-DL-Code-InformationItem

TDD-DL-Code-InformationItem ::= SEQUENCE {
    dPCH-ID                         DPCH-ID,
    tDD-ChannelisationCode          TDD-ChannelisationCode,
    iE-Extensions                   ProtocolExtensionContainer { {TDD-DL-Code-InformationItem-ExtIEs} } OPTIONAL,
    ...
}

TDD-DL-Code-InformationItem-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

TDD-DL-Code-LCR-Information ::= SEQUENCE (SIZE (1..maxNrOfDPCHsLCR)) OF TDD-DL-Code-LCR-InformationItem

TDD-DL-Code-LCR-InformationItem ::= SEQUENCE {
    dPCH-ID                             DPCH-ID,
```

```
    tdd-ChannelisationCodeLCR               TDD-ChannelisationCodeLCR,
    iE-Extensions                           ProtocolExtensionContainer { { TDD-DL-Code-LCR-InformationItem-ExtIEs} }     OPTIONAL,
    ...
}

TDD-DL-Code-LCR-InformationItem-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

TDD-DPCHOffset ::= CHOICE {
    initialOffset       INTEGER (0..255),
    noinitialOffset     INTEGER (0..63)
}

TDD-PhysicalChannelOffset       ::= INTEGER (0..63)

TDD-TPC-DownlinkStepSize ::= ENUMERATED {
    step-size1,
    step-size2,
    step-size3,
    ...
}

TDD-UL-Code-Information ::= SEQUENCE ( SIZE (1..maxNrOfDPCHs)) OF TDD-UL-Code-InformationItem

TDD-UL-Code-InformationItem ::= SEQUENCE {
    dPCH-ID                         DPCH-ID,
    tDD-ChannelisationCode          TDD-ChannelisationCode,
    iE-Extensions                   ProtocolExtensionContainer { {TDD-UL-Code-InformationItem-ExtIEs} } OPTIONAL,
    ...
}

TDD-UL-Code-InformationItem-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

TDD-UL-Code-LCR-Information ::= SEQUENCE (SIZE (1..maxNrOfDPCHsLCR)) OF TDD-UL-Code-LCR-InformationItem

TDD-UL-Code-LCR-InformationItem ::= SEQUENCE {
    dPCH-ID                                 DPCH-ID,
    tdd-ChannelisationCodeLCR               TDD-ChannelisationCodeLCR,
    iE-Extensions                           ProtocolExtensionContainer { { TDD-UL-Code-LCR-InformationItem-ExtIEs} }     OPTIONAL,
    ...
}

TDD-UL-Code-LCR-InformationItem-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

TFCI-Coding ::= ENUMERATED {
    v4,
```

```
    v8,
    v16,
    v32,
    ...
}

TFCI-Presence ::= ENUMERATED {
    present,
    not-present
}

TFCI-SignallingMode ::= ENUMERATED {
    normal,
    split
}

TGD                 ::= INTEGER (0|15..269)
-- 0 = Undefined, only one transmission gap in the transmission gap pattern sequence

TGPRC               ::= INTEGER (0..63)
-- 0 = infinity

TGPSID              ::= INTEGER (1.. maxTGPS)

TGSN                ::= INTEGER (0..14)

TimeSlot                ::= INTEGER (0..14)

TimeSlotLCR ::= INTEGER (0..6)

TimingAdvanceApplied ::= ENUMERATED {
    yes,
    no
}

ToAWE                   ::= INTEGER (0..2559)

ToAWS                   ::= INTEGER (0..1279)

Transmission-Gap-Pattern-Sequence-Information ::= SEQUENCE (SIZE (1..maxTGPS)) OF
    SEQUENCE {
        tGPSID          TGPSID,
        tGSN            TGSN,
        tGL1            GapLength,
        tGL2            GapLength   OPTIONAL,
        tGD             TGD,
        tGPL1           GapDuration,
        tGPL2           GapDuration OPTIONAL,
        uL-DL-mode      UL-DL-mode,
        downlink-Compressed-Mode-Method     Downlink-Compressed-Mode-Method     OPTIONAL,
```

```
            -- This IE is only present if the value of the UL/DL mode IE is "DL only" or "UL/DL"
        uplink-Compressed-Mode-Method       Uplink-Compressed-Mode-Method       OPTIONAL,
            -- This IE is only present if the value of the UL/DL mode IE is "UL only" or "UL/DL"
        dL-FrameType        DL-FrameType,
        delta-SIR1      DeltaSIR,
        delta-SIR-after1    DeltaSIR,
        delta-SIR2      DeltaSIR    OPTIONAL,
        delta-SIR-after2    DeltaSIR    OPTIONAL,
        iE-Extensions           ProtocolExtensionContainer { {Transmission-Gap-Pattern-Sequence-Information-ExtIEs} } OPTIONAL,
        ...
    }

Transmission-Gap-Pattern-Sequence-Information-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

Transmission-Gap-Pattern-Sequence-ScramblingCode-Information    ::= ENUMERATED{
   code-change,
   nocode-change
}

Transmission-Gap-Pattern-Sequence-Status-List ::= SEQUENCE (SIZE (0..maxTGPS)) OF
    SEQUENCE {
        tGPSID          TGPSID,
        tGPRC           TGPRC,
        tGCFN           CFN,
        iE-Extensions       ProtocolExtensionContainer { { Transmission-Gap-Pattern-Sequence-Status-List-ExtIEs } } OPTIONAL,
        ...
}

Transmission-Gap-Pattern-Sequence-Status-List-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

TransmissionTimeIntervalDynamic ::= ENUMERATED {
    msec-10,
    msec-20,
    msec-40,
    msec-80,
    ...
}

TransmissionTimeIntervalSemiStatic ::= ENUMERATED {
    msec-10,
    msec-20,
    msec-40,
    msec-80,
    dynamic,
    ...
}
```

```
TransmitDiversityIndicator ::= ENUMERATED {
    active,
    inactive
}

Transmitted-Carrier-Power-Value ::= INTEGER(0..100)
-- according to mapping in [23] and [24]

Transmitted-Carrier-Power-Value-IncrDecrThres ::= INTEGER(0..100)
-- according to mapping in [23] and [24]

TUTRANGPS ::= INTEGER (0..37158911999999)

TUTRANGPSChangeLimit ::= INTEGER (1..1048576)

TUTRANGPSDriftRate ::= INTEGER (-16383..16383)

TUTRANGPSDriftRateQuality ::= INTEGER (0..16383)

TUTRANGPSAccuracyClass ::= ENUMERATED {
    accuracy-class-A,
    accuracy-class-B,
    accuracy-class-C,
    ...
}

TUTRANGPSMeasurementThresholdInformation ::= SEQUENCE {
    tUTRANGPSChangeLimit                    TUTRANGPSChangeLimit                    OPTIONAL,
    predictedTUTRANGPSDeviationLimit        PredictedTUTRANGPSDeviationLimit        OPTIONAL,
    iE-Extensions                   ProtocolExtensionContainer { { TUTRANGPSMeasurementThresholdInformation-ExtIEs} }    OPTIONAL,
    ...
}

TUTRANGPSMeasurementThresholdInformation-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

TUTRANGPSMeasurementValueInformation ::= SEQUENCE {
        tUTRANGPS                       TUTRANGPS,
        tUTRANGPSQuality                TUTRANGPSQuality,
        tUTRANGPSDriftRate              TUTRANGPSDriftRate,
        tUTRANGPSDriftRateQuality       TUTRANGPSDriftRateQuality,
        iEe-Extensions                  ProtocolExtensionContainer { { TUTRANGPSMeasurementValueInformationItem-ExtIEs} }   OPTIONAL,
        ...
}

TUTRANGPSMeasurementValueInformationItem-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}
```

```
TUTRANGPSQuality ::= INTEGER (0..1048575)

TransportBearerID       ::= INTEGER (0..4095)

TransportBearerRequestIndicator     ::= ENUMERATED {
    bearer-requested,
    bearer-not-requested,
    ...
}

TransportBlockSize          ::= INTEGER (0..5000)
-- Unit is bits

TransportFormatCombination-Beta ::= CHOICE {
    signalledGainFactors    SEQUENCE {
        betaC                   BetaCD,
        betaD                   BetaCD,
       refTFCNumber         RefTFCNumber    OPTIONAL,
        iE-Extensions           ProtocolExtensionContainer { { SignalledGainFactors-ExtIEs} } OPTIONAL,
        ...
    },
    refTFCNumber            RefTFCNumber,
    ...
}

SignalledGainFactors-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

TFCS ::= SEQUENCE {
    tFCSvalues          CHOICE {
        no-Split-in-TFCI            TFCS-TFCSList,
        split-in-TFCI               SEQUENCE {
            transportFormatCombination-DCH      TFCS-DCHList,
            signallingMethod                    CHOICE {
                tFCI-Range                      TFCS-MapingOnDSCHList,
                explicit                            TFCS-DSCHList,
                ...
            },
            iE-Extensions                       ProtocolExtensionContainer { { Split-in-TFCI-ExtIEs} } OPTIONAL,
        ...
        },
    ...
    },
    iE-Extensions       ProtocolExtensionContainer  { { TFCS-ExtIEs} }      OPTIONAL,
    ...
}

Split-in-TFCI-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
```

```
}

TFCS-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

TFCS-TFCSList ::= SEQUENCE (SIZE (1..maxNrOfTFCs)) OF
    SEQUENCE {
        cTFC                TFCS-CTFC,
        tFC-Beta        TransportFormatCombination-Beta OPTIONAL,
        iE-Extensions       ProtocolExtensionContainer  { { TFCS-TFCSList-ExtIEs} }     OPTIONAL,
    ...
}

TFCS-TFCSList-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

TFCS-CTFC ::= CHOICE {
    ctfc2bit                            INTEGER (0..3),
    ctfc4bit                            INTEGER (0..15),
    ctfc6bit                            INTEGER (0..63),
    ctfc8bit                            INTEGER (0..255),
    ctfc12bit                           INTEGER (0..4095),
    ctfc16bit                           INTEGER (0..65535),
    ctfcmaxbit                          INTEGER (0..maxCTFC)
}

TFCS-DCHList ::= SEQUENCE (SIZE (1..maxTFCI1Combs)) OF
    SEQUENCE {
        cTFC                TFCS-CTFC,
        iE-Extensions       ProtocolExtensionContainer  { { TFCS-DCHList-ExtIEs} }      OPTIONAL,
    ...
}

TFCS-DCHList-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

TFCS-MapingOnDSCHList ::= SEQUENCE (SIZE (1..maxNoTFCIGroups)) OF
    SEQUENCE {
        maxTFCI-field2-Value        TFCS-MaxTFCI-field2-Value,
        cTFC-DSCH               TFCS-CTFC,
        iE-Extensions               ProtocolExtensionContainer  { { TFCS-MapingOnDSCHList-ExtIEs} }     OPTIONAL,
    ...
}

TFCS-MapingOnDSCHList-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}
```

```
TFCS-MaxTFCI-field2-Value ::= INTEGER (1..maxTFCI2Combs-1)

TFCS-DSCHList ::= SEQUENCE (SIZE (1..maxTFCI2Combs)) OF
    SEQUENCE {
        cTFC-DSCH               TFCS-CTFC,
        iE-Extensions               ProtocolExtensionContainer  { { TFCS-DSCHList-ExtIEs} }     OPTIONAL,
    ...
}

TFCS-DSCHList-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

TransportFormatSet ::= SEQUENCE {
    dynamicParts            TransportFormatSet-DynamicPartList,
    semi-staticPart         TransportFormatSet-Semi-staticPart,
    iE-Extensions           ProtocolExtensionContainer { {TransportFormatSet-ExtIEs} } OPTIONAL,
    ...
}

TransportFormatSet-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

TransportFormatSet-DynamicPartList ::= SEQUENCE (SIZE (1..maxNrOfTFs)) OF
    SEQUENCE {
        nrOfTransportBlocks     NrOfTransportBlocks,
        transportBlockSize      TransportBlockSize      OPTIONAL
        -- This IE is only present if nrOfTransportBlocks is greater than 0 --,
        mode                TransportFormatSet-ModeDP,
        iE-Extensions           ProtocolExtensionContainer { {TransportFormatSet-DynamicPartList-ExtIEs} } OPTIONAL,
        ...
    }

TransportFormatSet-DynamicPartList-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

TransportFormatSet-ModeDP ::= CHOICE {
    tdd             TDD-TransportFormatSet-ModeDP,
    notApplicable       NULL,
    ...
}

TDD-TransportFormatSet-ModeDP ::= SEQUENCE {
    transmissionTimeIntervalInformation     TransmissionTimeIntervalInformation     OPTIONAL,
    -- This IE is mandatory if the “Transmission Time Interval” of the “Semi-static Transport Format Information” is “dynamic”. Otherwise it is absent.
    iE-Extensions                           ProtocolExtensionContainer { {TDD-TransportFormatSet-ModeDP-ExtIEs} } OPTIONAL,
        ...
    }
```

```
TDD-TransportFormatSet-ModeDP-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

TransmissionTimeIntervalInformation ::= SEQUENCE (SIZE (1..maxTTI-Count)) OF
    SEQUENCE {
        transmissionTimeInterval    TransmissionTimeIntervalDynamic,
        iE-Extensions           ProtocolExtensionContainer { {TransmissionTimeIntervalInformation-ExtIEs} } OPTIONAL,
        ...
    }

TransmissionTimeIntervalInformation-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

Transmitted-Code-Power-Value ::= INTEGER (0..127)
-- According to mapping in 25.215/25.225

Transmitted-Code-Power-Value-IncrDecrThres ::= INTEGER (0..112,...)

TransportFormatManagement ::= ENUMERATED {
    cell-based,
    ue-based,
    ...
}

TransportFormatSet-Semi-staticPart ::= SEQUENCE {
    transmissionTime        TransmissionTimeIntervalSemiStatic,
    channelCoding           ChannelCodingType,
    codingRate          CodingRate              OPTIONAL
    -- This IE is only present if channelCoding is 'convolutional' or 'turbo' --,
    rateMatcingAttribute        RateMatchingAttribute,
    cRC-Size            CRC-Size,
    mode                TransportFormatSet-ModeSSP,
    iE-Extensions           ProtocolExtensionContainer { {TransportFormatSet-Semi-staticPart-ExtIEs} } OPTIONAL,
    ...
}

TransportFormatSet-Semi-staticPart-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

TransportFormatSet-ModeSSP ::= CHOICE {
    tdd             SecondInterleavingMode,
    notApplicable           NULL,
    ...
}

TransportLayerAddress           ::= BIT STRING (SIZE(1..160, ...))

TrCH-SrcStatisticsDescr     ::= ENUMERATED {
```

```
    speech,
    rRC,
    unknown,
    ...
}

TSTD-Indicator ::= ENUMERATED {
    active,
    inactive
}

TSTD-Support-Indicator ::= ENUMERATED {
    tSTD-supported,
    tSTD-not-supported
}

TxDiversityIndicator    ::= ENUMERATED {
    true,
    false
}

-- U

UARFCN                  ::= INTEGER (0..16383,...)
-- Corresponds to: 0.0Hz..3276.6Mhz. See 25.101, 25.105

UDRE ::= ENUMERATED {
    lessThan1,
    between1-and-4,
    between4-and-8,
    over8,
    ...
}

UL-DL-mode ::= ENUMERATED {
    ul-only,
    dl-only,
    both-ul-and-dl
}

UL-Timeslot-Information::= SEQUENCE ( SIZE (1..maxNrOfTS)) OF UL-Timeslot-InformationItem

UL-Timeslot-InformationItem ::= SEQUENCE {
    timeSlot                        TimeSlot,
    midambleShiftAndBurstType       MidambleShiftAndBurstType,
    tFCI-Presence                   TFCI-Presence,
    uL-Code-Information             TDD-UL-Code-Information,
    iE-Extensions                   ProtocolExtensionContainer { {UL-Timeslot-InformationItem-ExtIEs} } OPTIONAL,
    ...
}
```

```
UL-Timeslot-InformationItem-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

UL-TimeslotLCR-Information ::= SEQUENCE (SIZE (1..maxNrOfULTsLCR)) OF UL-TimeslotLCR-InformationItem

UL-TimeslotLCR-InformationItem ::= SEQUENCE {
    timeSlotLCR                         TimeSlotLCR,
    midambleShiftLCR                    MidambleShiftLCR,
    tFCI-Presence                       TFCI-Presence,
    tDD-uL-Code-LCR-InformationList     TDD-UL-Code-LCR-Information,
    iE-Extensions                       ProtocolExtensionContainer { { UL-TimeslotLCR-InformationItem-ExtIEs} }   OPTIONAL,
    ...
}

UL-TimeslotLCR-InformationItem-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

UL-TimeSlot-ISCP-Info ::= SEQUENCE (SIZE (1..maxNrOfULTs)) OF UL-TimeSlot-ISCP-InfoItem

UL-TimeSlot-ISCP-InfoItem ::= SEQUENCE {
    timeSlot                    TimeSlot,
    uL-TimeslotISCP             UL-TimeslotISCP,
    iE-Extensions               ProtocolExtensionContainer { { UL-TimeSlot-ISCP-InfoItem-ExtIEs} } OPTIONAL,
    ...
}

UL-TimeSlot-ISCP-InfoItem-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

UL-TimeSlot-ISCP-LCR-Info ::= SEQUENCE (SIZE (1..maxNrOfULTsLCR)) OF    UL-TimeSlot-ISCP-LCR-InfoItem

UL-TimeSlot-ISCP-LCR-InfoItem ::= SEQUENCE {
    timeSlotLCR                     TimeSlotLCR,
    iSCP                            UL-TimeslotISCP-Value,
    iE-Extensions                   ProtocolExtensionContainer { { UL-TimeSlot-ISCP-InfoItem-ExtIEs} }    OPTIONAL,
    ...
 }

UL-TimeSlot-ISCP-LCR-InfoItem-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

UL-Timeslot-ISCP-Value ::= UL-TimeslotISCP

UL-Timeslot-ISCP-Value-IncrDecrThres ::= INTEGER(0..126)
-- Unit dB. Step 0.5dB
-- e.g. Value 100 means 50dB
```

```
Uplink-Compressed-Mode-Method   ::= ENUMERATED {
    sFdiv2,
    higher-layer-scheduling,
    ...
}

UL-SIR                  ::= INTEGER (-82..173)
-- The UL-SIR gives the UL-SIR in number of 0.1 dB steps.
-- E.g. Value 173 means 17.3 dB
-- Unit dB. Step 0.1 dB.

UC-ID ::= SEQUENCE {
    rNC-ID              RNC-ID,
    c-ID                C-ID,
    iE-Extensions           ProtocolExtensionContainer { {UC-ID-ExtIEs} } OPTIONAL,
    ...
}

UC-ID-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

UL-DPCCH-SlotFormat         ::= INTEGER (0..5,...)

UL-FP-Mode ::= ENUMERATED {
    normal,
    silent,
    ...
}

UL-PhysCH-SF-Variation ::= ENUMERATED {
    sf-variation-supported,
    sf-variation-not-supported
}

UL-ScramblingCode ::= SEQUENCE {
    ul-ScramblingCodeNumber     UL-ScramblingCodeNumber,
    ul-ScramblingCodeLength     UL-ScramblingCodeLength,
    iE-Extensions           ProtocolExtensionContainer { {UL-ScramblingCode-ExtIEs} } OPTIONAL
}

UL-ScramblingCode-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

UL-ScramblingCodeLength ::= ENUMERATED {
    short,
    long
}

UL-ScramblingCodeNumber         ::= INTEGER (0..16777215)
```

```
UL-TimeslotISCP         ::= INTEGER (0..127)
-- According to mapping in [14]

URA-ID                  ::= INTEGER (0..65535)

URA-Information ::= SEQUENCE {
    uRA-ID                              URA-ID,
    multipleURAsIndicator               MultipleURAsIndicator,
    rNCsWithCellsInTheAccessedURA-List  RNCsWithCellsInTheAccessedURA-List  OPTIONAL,
    iE-Extensions                       ProtocolExtensionContainer { {URA-Information-ExtIEs} } OPTIONAL,
    ...
}

URA-Information-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

RNCsWithCellsInTheAccessedURA-List ::= SEQUENCE (SIZE (1..maxRNCinURA-1)) OF RNCsWithCellsInTheAccessedURA-Item

RNCsWithCellsInTheAccessedURA-Item ::= SEQUENCE {
    rNC-ID                          RNC-ID,
    iE-Extensions                   ProtocolExtensionContainer { {RNCsWithCellsInTheAccessedURA-Item-ExtIEs} } OPTIONAL,
    ...
}

RNCsWithCellsInTheAccessedURA-Item-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

USCH-ID                 ::= INTEGER (0..255)

USCH-Information ::=  SEQUENCE (SIZE (1..maxNoOfUSCHs)) OF USCH-InformationItem

USCH-InformationItem ::= SEQUENCE {
    uSCH-ID                             USCH-ID,
    ul-CCTrCH-ID                        CCTrCH-ID,
    trChSourceStatisticsDescriptor      TrCH-SrcStatisticsDescr,
    transportFormatSet                  TransportFormatSet,
    allocationRetentionPriority     AllocationRetentionPriority,
    schedulingPriorityIndicator         SchedulingPriorityIndicator,
    rb-Info                             RB-Info,
    iE-Extensions                       ProtocolExtensionContainer { {USCH-InformationItem-ExtIEs} } OPTIONAL,
    ...
}

USCH-InformationItem-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

-- V
```

```
-- W
-- X
-- Y
-- Z

END
```

## 9.3.5 Common Definitions

```
-- **************************************************************
--
-- Common definitions
--
-- **************************************************************

RNSAP-CommonDataTypes {
itu-t (0) identified-organization (4) etsi (0) mobileDomain (0)
umts-Access (20) modules (3) rnsap (1) version1 (1) rnsap-CommonDataTypes (3)  }

DEFINITIONS AUTOMATIC TAGS ::=

BEGIN

-- **************************************************************
--
-- Extension constants
--
-- **************************************************************

maxPrivateIEs                                   INTEGER ::= 65535
maxProtocolExtensions                           INTEGER ::= 65535
maxProtocolIEs                                  INTEGER ::= 65535

-- **************************************************************
--
-- Common Data Types
--
-- **************************************************************

Criticality     ::= ENUMERATED { reject, ignore, notify }

Presence        ::= ENUMERATED { optional, conditional, mandatory }

PrivateIE-ID    ::= CHOICE {
    local               INTEGER (0.. maxPrivateIEs),
    global              OBJECT IDENTIFIER
}

ProcedureCode       ::= INTEGER (0..255)
```

```
ProcedureID ::= SEQUENCE {
    procedureCode           ProcedureCode,
    ddMode              ENUMERATED { tdd, fdd, common, ... }
}

ProtocolExtensionID ::= INTEGER (0..maxProtocolExtensions)

ProtocolIE-ID       ::= INTEGER (0..maxProtocolIEs)

TransactionID       ::= CHOICE {
    shortTransActionId  INTEGER (0..127),
    longTransActionId   INTEGER (0..32767)
}

TriggeringMessage   ::= ENUMERATED { initiating-message, successful-outcome, unsuccessful-outcome, outcome }

END
```

## 9.3.6 Constant Definitions

```
-- **************************************************************
--
-- Constant definitions
--
-- **************************************************************

RNSAP-Constants {
itu-t (0) identified-organization (4) etsi (0) mobileDomain (0)
umts-Access (20) modules (3) rnsap (1) version1 (1) rnsap-Constants (4) }

DEFINITIONS AUTOMATIC TAGS ::=

BEGIN

IMPORTS
    ProcedureCode,
    ProtocolIE-ID
FROM RNSAP-CommonDataTypes;

-- **************************************************************
--
-- Elementary Procedures
--
-- **************************************************************

id-commonTransportChannelResourcesInitialisation           ProcedureCode ::= 0
id-commonTransportChannelResourcesRelease                  ProcedureCode ::= 1
id-compressedModeCommand                                   ProcedureCode ::= 2
id-downlinkPowerControl                                    ProcedureCode ::= 3
id-downlinkPowerTimeslotControl                            ProcedureCode ::= 4
```

```
id-downlinkSignallingTransfer                              ProcedureCode ::= 5
id-errorIndication                                         ProcedureCode ::= 6
id-dedicatedMeasurementFailure                             ProcedureCode ::= 7
id-dedicatedMeasurementInitiation                          ProcedureCode ::= 8
id-dedicatedMeasurementReporting                           ProcedureCode ::= 9
id-dedicatedMeasurementTermination                         ProcedureCode ::= 10
id-paging                                                  ProcedureCode ::= 11
id-physicalChannelReconfiguration                          ProcedureCode ::= 12
id-privateMessage                                          ProcedureCode ::= 13
id-radioLinkAddition                                       ProcedureCode ::= 14
id-radioLinkCongestion                                     ProcedureCode ::= 34
id-radioLinkDeletion                                       ProcedureCode ::= 15
id-radioLinkFailure                                        ProcedureCode ::= 16
id-radioLinkPreemption                                     ProcedureCode ::= 17
id-radioLinkRestoration                                    ProcedureCode ::= 18
id-radioLinkSetup                                          ProcedureCode ::= 19
id-relocationCommit                                        ProcedureCode ::= 20
id-synchronisedRadioLinkReconfigurationCancellation        ProcedureCode ::= 21
id-synchronisedRadioLinkReconfigurationCommit              ProcedureCode ::= 22
id-synchronisedRadioLinkReconfigurationPreparation         ProcedureCode ::= 23
id-unSynchronisedRadioLinkReconfiguration                  ProcedureCode ::= 24
id-uplinkSignallingTransfer                                ProcedureCode ::= 25
id-commonMeasurementFailure                                ProcedureCode ::= 26
id-commonMeasurementInitiation                             ProcedureCode ::= 27
id-commonMeasurementReporting                              ProcedureCode ::= 28
id-commonMeasurementTermination                            ProcedureCode ::= 29
id-informationExchangeFailure                              ProcedureCode ::= 30
id-informationExchangeInitiation                           ProcedureCode ::= 31
id-informationReporting                                    ProcedureCode ::= 32
id-informationExchangeTermination                          ProcedureCode ::= 33

-- **************************************************************
--
-- Lists
--
-- **************************************************************

maxCodeNumComp-1                        INTEGER ::= 255
maxRateMatching                         INTEGER ::= 256
maxNoCodeGroups                         INTEGER ::= 256
maxNoOfDSCHs                            INTEGER ::= 10
maxNoOfDSCHsLCR                         INTEGER ::= 10
maxNoOfRB                               INTEGER ::= 32
maxNoOfUSCHs                            INTEGER ::= 10
maxNoOfUSCHsLCR                         INTEGER ::= 10
maxNoTFCIGroups                         INTEGER ::= 256
maxNrOfTFCs                             INTEGER ::= 1024
maxNrOfTFs                              INTEGER ::= 32
maxNrOfCCTrCHs                          INTEGER ::= 16
maxNrOfCCTrCHsLCR                       INTEGER ::= 16
maxNrOfDCHs                             INTEGER ::= 128
```

```
maxNrOfDL-Codes                         INTEGER ::= 8
maxNrOfDPCHs                            INTEGER ::= 240
maxNrOfDPCHsLCR                         INTEGER ::= 240
maxNrOfErrors                           INTEGER ::= 256
maxNrOfMACcshSDU-Length                 INTEGER ::= 16
maxNrOfPoints                           INTEGER ::= 15
maxNrOfRLs                              INTEGER ::= 16
maxNrOfRLSets                           INTEGER ::= maxNrOfRLs
maxNrOfRLs-1                            INTEGER ::= 15  -- maxNrOfRLs – 1
maxNrOfRLs-2                            INTEGER ::= 14  -- maxNrOfRLs – 2
maxNrOfULTs                             INTEGER ::= 15
maxNrOfULTsLCR                          INTEGER ::= 6
maxNrOfDLTs                             INTEGER ::= 15
maxNrOfDLTsLCR                          INTEGER ::= 6
maxRNCinURA-1                           INTEGER ::= 15
maxTTI-Count                            INTEGER ::= 4
maxCTFC                                 INTEGER ::= 16777215
maxNrOfNeighbouringRNCs                 INTEGER ::= 10
maxNrOfFDDNeighboursPerRNC              INTEGER ::= 256
maxNrOfGSMNeighboursPerRNC              INTEGER ::= 256
maxNrOfTDDNeighboursPerRNC              INTEGER ::= 256
maxNrOfFACHs                            INTEGER ::= 8
maxNrOfLCRTDDNeighboursPerRNC           INTEGER ::= 256
maxFACHCountPlus1                       INTEGER ::= 10
maxIBSEG                                INTEGER ::= 16
maxNrOfSCCPCHs                          INTEGER ::= 8
maxTFCI1Combs                           INTEGER ::= 512
maxTFCI2Combs                           INTEGER ::= 1024
maxTFCI2Combs-1                         INTEGER ::= 1023
maxTGPS                                 INTEGER ::= 6
maxNrOfTS                               INTEGER ::= 15
maxNrOfLevels                           INTEGER ::= 256
maxNrOfTSLCR                            INTEGER ::= 6
maxNoSat                                INTEGER ::= 16
maxNoGPSTypes                           INTEGER ::= 8
maxNrOfMeasNCell                        INTEGER ::= 96
maxNrOfMeasNCell -1                     INTEGER ::= 95  -- maxNrOfMeasNCell – 1

-- **************************************************************
--
-- IEs
--
-- **************************************************************

id-AllowedQueuingTime                                               ProtocolIE-ID ::= 4
id-Allowed-Rate-Information                                         ProtocolIE-ID ::= 42
id-BindingID                                                        ProtocolIE-ID ::= 5
id-C-ID                                                             ProtocolIE-ID ::= 6
id-C-RNTI                                                           ProtocolIE-ID ::= 7
id-CFN                                                              ProtocolIE-ID ::= 8
id-CN-CS-DomainIdentifier                                           ProtocolIE-ID ::= 9
```

```
id-CN-PS-DomainIdentifier                                  ProtocolIE-ID ::= 10
id-Cause                                                   ProtocolIE-ID ::= 11
id-CriticalityDiagnostics                                  ProtocolIE-ID ::= 20
id-D-RNTI                                                  ProtocolIE-ID ::= 21
id-D-RNTI-ReleaseIndication                                ProtocolIE-ID ::= 22
id-DCHs-to-Add-FDD                                         ProtocolIE-ID ::= 26
id-DCHs-to-Add-TDD                                         ProtocolIE-ID ::= 27
id-DCH-DeleteList-RL-ReconfPrepFDD                         ProtocolIE-ID ::= 30
id-DCH-DeleteList-RL-ReconfPrepTDD                         ProtocolIE-ID ::= 31
id-DCH-DeleteList-RL-ReconfRqstFDD                         ProtocolIE-ID ::= 32
id-DCH-DeleteList-RL-ReconfRqstTDD                         ProtocolIE-ID ::= 33
id-DCH-FDD-Information                                     ProtocolIE-ID ::= 34
id-DCH-TDD-Information                                     ProtocolIE-ID ::= 35
id-FDD-DCHs-to-Modify                                      ProtocolIE-ID ::= 39
id-TDD-DCHs-to-Modify                                      ProtocolIE-ID ::= 40
id-DCH-InformationResponse                                 ProtocolIE-ID ::= 43
id-DCH-Rate-InformationItem-RL-CongestInd                  ProtocolIE-ID ::= 38
id-DL-CCTrCH-InformationAddItem-RL-ReconfPrepTDD           ProtocolIE-ID ::= 44
id-DL-CCTrCH-InformationListIE-RL-ReconfReadyTDD           ProtocolIE-ID ::= 45
id-DL-CCTrCH-InformationDeleteItem-RL-ReconfRqstTDD        ProtocolIE-ID ::= 46
id-DL-CCTrCH-InformationItem-RL-SetupRqstTDD               ProtocolIE-ID ::= 47
id-DL-CCTrCH-InformationListIE-PhyChReconfRqstTDD          ProtocolIE-ID ::= 48
id-DL-CCTrCH-InformationListIE-RL-AdditionRspTDD           ProtocolIE-ID ::= 49
id-DL-CCTrCH-InformationListIE-RL-SetupRspTDD              ProtocolIE-ID ::= 50
id-DL-CCTrCH-InformationAddList-RL-ReconfPrepTDD           ProtocolIE-ID ::= 51
id-DL-CCTrCH-InformationDeleteList-RL-ReconfRqstTDD        ProtocolIE-ID ::= 52
id-DL-CCTrCH-InformationList-RL-SetupRqstTDD               ProtocolIE-ID ::= 53
id-FDD-DL-CodeInformation                                  ProtocolIE-ID ::= 54
id-DL-DPCH-Information-RL-ReconfPrepFDD                    ProtocolIE-ID ::= 59
id-DL-DPCH-Information-RL-SetupRqstFDD                     ProtocolIE-ID ::= 60
id-DL-DPCH-Information-RL-ReconfRqstFDD                    ProtocolIE-ID ::= 61
id-DL-DPCH-InformationItem-PhyChReconfRqstTDD              ProtocolIE-ID ::= 62
id-DL-DPCH-InformationItem-RL-AdditionRspTDD               ProtocolIE-ID ::= 63
id-DL-DPCH-InformationItem-RL-SetupRspTDD                  ProtocolIE-ID ::= 64
id-DLReferencePower                                        ProtocolIE-ID ::= 67
id-DLReferencePowerList-DL-PC-Rqst                         ProtocolIE-ID ::= 68
id-DL-ReferencePowerInformation-DL-PC-Rqst                 ProtocolIE-ID ::= 69
id-DPC-Mode                                                ProtocolIE-ID ::= 12
id-DRXCycleLengthCoefficient                               ProtocolIE-ID ::= 70
id-DedicatedMeasurementObjectType-DM-Rprt                  ProtocolIE-ID ::= 71
id-DedicatedMeasurementObjectType-DM-Rqst                  ProtocolIE-ID ::= 72
id-DedicatedMeasurementObjectType-DM-Rsp                   ProtocolIE-ID ::= 73
id-DedicatedMeasurementType                                ProtocolIE-ID ::= 74
id-FACH-InfoForUESelectedS-CCPCH-CTCH-ResourceRspFDD       ProtocolIE-ID ::= 82
id-FACH-InfoForUESelectedS-CCPCH-CTCH-ResourceRspTDD       ProtocolIE-ID ::= 83
id-Guaranteed-Rate-Information                             ProtocolIE-ID ::= 41
id-IMSI                                                    ProtocolIE-ID ::= 84
id-L3-Information                                          ProtocolIE-ID ::= 85
id-AdjustmentPeriod                                        ProtocolIE-ID ::= 90
id-MaxAdjustmentStep                                       ProtocolIE-ID ::= 91
id-MeasurementFilterCoefficient                            ProtocolIE-ID ::= 92
```

```
id-MessageStructure                                    ProtocolIE-ID ::= 57
id-MeasurementID                                       ProtocolIE-ID ::= 93
id-Neighbouring-GSM-CellInformation                    ProtocolIE-ID ::= 13
id-Neighbouring-UMTS-CellInformationItem               ProtocolIE-ID ::= 95
id-PagingArea-PagingRqst                               ProtocolIE-ID ::= 102
id-FACH-FlowControlInformation                         ProtocolIE-ID ::= 103
id-PowerAdjustmentType                                 ProtocolIE-ID ::= 107
id-RANAP-RelocationInformation                         ProtocolIE-ID ::= 109
id-RL-Information-PhyChReconfRqstFDD                   ProtocolIE-ID ::= 110
id-RL-Information-PhyChReconfRqstTDD                   ProtocolIE-ID ::= 111
id-RL-Information-RL-AdditionRqstFDD                   ProtocolIE-ID ::= 112
id-RL-Information-RL-AdditionRqstTDD                   ProtocolIE-ID ::= 113
id-RL-Information-RL-DeletionRqst                      ProtocolIE-ID ::= 114
id-RL-Information-RL-FailureInd                        ProtocolIE-ID ::= 115
id-RL-Information-RL-ReconfPrepFDD                     ProtocolIE-ID ::= 116
id-RL-Information-RL-RestoreInd                        ProtocolIE-ID ::= 117
id-RL-Information-RL-SetupRqstFDD                      ProtocolIE-ID ::= 118
id-RL-Information-RL-SetupRqstTDD                      ProtocolIE-ID ::= 119
id-RL-InformationItem-RL-CongestInd                    ProtocolIE-ID ::= 55
id-RL-InformationItem-DM-Rprt                          ProtocolIE-ID ::= 120
id-RL-InformationItem-DM-Rqst                          ProtocolIE-ID ::= 121
id-RL-InformationItem-DM-Rsp                           ProtocolIE-ID ::= 122
id-RL-InformationItem-RL-PreemptRequiredInd            ProtocolIE-ID ::= 2
id-RL-InformationItem-RL-SetupRqstFDD                  ProtocolIE-ID ::= 123
id-RL-InformationList-RL-CongestInd                    ProtocolIE-ID ::= 56
id-RL-InformationList-RL-AdditionRqstFDD               ProtocolIE-ID ::= 124
id-RL-InformationList-RL-DeletionRqst                  ProtocolIE-ID ::= 125
id-RL-InformationList-RL-PreemptRequiredInd            ProtocolIE-ID ::= 1
id-RL-InformationList-RL-ReconfPrepFDD                 ProtocolIE-ID ::= 126
id-RL-InformationResponse-RL-AdditionRspTDD            ProtocolIE-ID ::= 127
id-RL-InformationResponse-RL-ReconfReadyTDD            ProtocolIE-ID ::= 128
id-RL-InformationResponse-RL-SetupRspTDD               ProtocolIE-ID ::= 129
id-RL-InformationResponseItem-RL-AdditionRspFDD        ProtocolIE-ID ::= 130
id-RL-InformationResponseItem-RL-ReconfReadyFDD        ProtocolIE-ID ::= 131
id-RL-InformationResponseItem-RL-ReconfRspFDD          ProtocolIE-ID ::= 132
id-RL-InformationResponseItem-RL-SetupRspFDD           ProtocolIE-ID ::= 133
id-RL-InformationResponseList-RL-AdditionRspFDD        ProtocolIE-ID ::= 134
id-RL-InformationResponseList-RL-ReconfReadyFDD        ProtocolIE-ID ::= 135
id-RL-InformationResponseList-RL-ReconfRspFDD          ProtocolIE-ID ::= 136
id-RL-InformationResponse-RL-ReconfRspTDD              ProtocolIE-ID ::= 28
id-RL-InformationResponseList-RL-SetupRspFDD           ProtocolIE-ID ::= 137
id-RL-ReconfigurationFailure-RL-ReconfFail             ProtocolIE-ID ::= 141
id-RL-Set-InformationItem-DM-Rprt                      ProtocolIE-ID ::= 143
id-RL-Set-InformationItem-DM-Rqst                      ProtocolIE-ID ::= 144
id-RL-Set-InformationItem-DM-Rsp                       ProtocolIE-ID ::= 145
id-RL-Set-Information-RL-FailureInd                    ProtocolIE-ID ::= 146
id-RL-Set-Information-RL-RestoreInd                    ProtocolIE-ID ::= 147
id-ReportCharacteristics                               ProtocolIE-ID ::= 152
id-Reporting-Object-RL-FailureInd                      ProtocolIE-ID ::= 153
id-Reporing-Object-RL-RestoreInd                       ProtocolIE-ID ::= 154
id-S-RNTI                                              ProtocolIE-ID ::= 155
```

```
id-SAI                                                          ProtocolIE-ID ::= 156
id-SRNC-ID                                                      ProtocolIE-ID ::= 157
id-SuccessfulRL-InformationResponse-RL-AdditionFailureFDD       ProtocolIE-ID ::= 159
id-SuccessfulRL-InformationResponse-RL-SetupFailureFDD          ProtocolIE-ID ::= 160
id-TransportBearerID                                            ProtocolIE-ID ::= 163
id-TransportBearerRequestIndicator                              ProtocolIE-ID ::= 164
id-TransportLayerAddress                                        ProtocolIE-ID ::= 165
id-UC-ID                                                        ProtocolIE-ID ::= 166
id-UL-CCTrCH-AddInformation-RL-ReconfPrepTDD                    ProtocolIE-ID ::= 167
id-UL-CCTrCH-InformationAddList-RL-ReconfPrepTDD                ProtocolIE-ID ::= 169
id-UL-CCTrCH-InformationItem-RL-SetupRqstTDD                    ProtocolIE-ID ::= 171
id-UL-CCTrCH-InformationList-RL-SetupRqstTDD                    ProtocolIE-ID ::= 172
id-UL-CCTrCH-InformationListIE-PhyChReconfRqstTDD               ProtocolIE-ID ::= 173
id-UL-CCTrCH-InformationListIE-RL-AdditionRspTDD                ProtocolIE-ID ::= 174
id-UL-CCTrCH-InformationListIE-RL-ReconfReadyTDD                ProtocolIE-ID ::= 175
id-UL-CCTrCH-InformationListIE-RL-SetupRspTDD                   ProtocolIE-ID ::= 176
id-UL-DPCH-Information-RL-ReconfPrepFDD                         ProtocolIE-ID ::= 177
id-UL-DPCH-Information-RL-ReconfRqstFDD                         ProtocolIE-ID ::= 178
id-UL-DPCH-Information-RL-SetupRqstFDD                          ProtocolIE-ID ::= 179
id-UL-DPCH-InformationItem-PhyChReconfRqstTDD                   ProtocolIE-ID ::= 180
id-UL-DPCH-InformationItem-RL-AdditionRspTDD                    ProtocolIE-ID ::= 181
id-UL-DPCH-InformationItem-RL-SetupRspTDD                       ProtocolIE-ID ::= 182
id-UL-DPCH-InformationAddListIE-RL-ReconfReadyTDD               ProtocolIE-ID ::= 183
id-UL-SIRTarget                                                 ProtocolIE-ID ::= 184
id-URA-Information                                              ProtocolIE-ID ::= 185
id-UnsuccessfulRL-InformationResponse-RL-AdditionFailureFDD     ProtocolIE-ID ::= 188
id-UnsuccessfulRL-InformationResponse-RL-SetupFailureFDD        ProtocolIE-ID ::= 189
id-UnsuccessfulRL-InformationResponse-RL-SetupFailureTDD        ProtocolIE-ID ::= 190
id-Active-Pattern-Sequence-Information                          ProtocolIE-ID ::= 193
id-AdjustmentRatio                                              ProtocolIE-ID ::= 194
id-CauseLevel-RL-AdditionFailureFDD                             ProtocolIE-ID ::= 197
id-CauseLevel-RL-AdditionFailureTDD                             ProtocolIE-ID ::= 198
id-CauseLevel-RL-ReconfFailure                                  ProtocolIE-ID ::= 199
id-CauseLevel-RL-SetupFailureFDD                                ProtocolIE-ID ::= 200
id-CauseLevel-RL-SetupFailureTDD                                ProtocolIE-ID ::= 201
id-DL-CCTrCH-InformationDeleteItem-RL-ReconfPrepTDD             ProtocolIE-ID ::= 205
id-DL-CCTrCH-InformationModifyItem-RL-ReconfPrepTDD             ProtocolIE-ID ::= 206
id-DL-CCTrCH-InformationModifyItem-RL-ReconfRqstTDD             ProtocolIE-ID ::= 207
id-DL-CCTrCH-InformationDeleteList-RL-ReconfPrepTDD             ProtocolIE-ID ::= 208
id-DL-CCTrCH-InformationModifyList-RL-ReconfPrepTDD             ProtocolIE-ID ::= 209
id-DL-CCTrCH-InformationModifyList-RL-ReconfRqstTDD             ProtocolIE-ID ::= 210
id-DL-DPCH-InformationAddListIE-RL-ReconfReadyTDD               ProtocolIE-ID ::= 212
id-DL-DPCH-InformationDeleteListIE-RL-ReconfReadyTDD            ProtocolIE-ID ::= 213
id-DL-DPCH-InformationModifyListIE-RL-ReconfReadyTDD            ProtocolIE-ID ::= 214
id-DSCHs-to-Add-TDD                                             ProtocolIE-ID ::= 215
id-DSCHs-to-Add-FDD                                             ProtocolIE-ID ::= 216
id-DSCH-DeleteList-RL-ReconfPrepTDD                             ProtocolIE-ID ::= 217
id-DSCH-Delete-RL-ReconfPrepFDD                                 ProtocolIE-ID ::= 218
id-DSCH-FDD-Information                                         ProtocolIE-ID ::= 219
id-DSCH-InformationListIE-RL-AdditionRspTDD                     ProtocolIE-ID ::= 220
id-DSCH-InformationListIEs-RL-SetupRspTDD                       ProtocolIE-ID ::= 221
```

```
id-DSCH-TDD-Information                                                ProtocolIE-ID ::= 222
id-DSCH-FDD-InformationResponse                                        ProtocolIE-ID ::= 223
id-DSCH-Information-RL-SetupRqstFDD                                    ProtocolIE-ID ::= 226
id-DSCH-ModifyList-RL-ReconfPrepTDD                                    ProtocolIE-ID ::= 227
id-DSCH-Modify-RL-ReconfPrepFDD                                        ProtocolIE-ID ::= 228
id-DSCHsToBeAddedOrModified-FDD                                        ProtocolIE-ID ::= 229
id-DSCHToBeAddedOrModifiedList-RL-ReconfReadyTDD                       ProtocolIE-ID ::= 230
id-EnhancedDSCHPC                                                      ProtocolIE-ID ::= 29
id-EnhancedDSCHPCIndicator                                             ProtocolIE-ID ::= 34
id-GA-Cell                                                             ProtocolIE-ID ::= 232
id-GA-CellAdditionalShapes                                             ProtocolIE-ID ::= 3
id-SSDT-CellIDforEDSCHPC                                               ProtocolIE-ID ::= 35
id-Transmission-Gap-Pattern-Sequence-Information                       ProtocolIE-ID ::= 255
id-UL-CCTrCH-DeleteInformation-RL-ReconfPrepTDD                        ProtocolIE-ID ::= 256
id-UL-CCTrCH-ModifyInformation-RL-ReconfPrepTDD                        ProtocolIE-ID ::= 257
id-UL-CCTrCH-InformationModifyItem-RL-ReconfRqstTDD                    ProtocolIE-ID ::= 258
id-UL-CCTrCH-InformationDeleteList-RL-ReconfPrepTDD                    ProtocolIE-ID ::= 259
id-UL-CCTrCH-InformationModifyList-RL-ReconfPrepTDD                    ProtocolIE-ID ::= 260
id-UL-CCTrCH-InformationModifyList-RL-ReconfRqstTDD                    ProtocolIE-ID ::= 261
id-UL-CCTrCH-InformationDeleteItem-RL-ReconfRqstTDD                    ProtocolIE-ID ::= 262
id-UL-CCTrCH-InformationDeleteList-RL-ReconfRqstTDD                    ProtocolIE-ID ::= 263
id-UL-DPCH-InformationDeleteListIE-RL-ReconfReadyTDD                   ProtocolIE-ID ::= 264
id-UL-DPCH-InformationModifyListIE-RL-ReconfReadyTDD                   ProtocolIE-ID ::= 265
id-UnsuccessfulRL-InformationResponse-RL-AdditionFailureTDD            ProtocolIE-ID ::= 266
id-USCHs-to-Add                                                        ProtocolIE-ID ::= 267
id-USCH-DeleteList-RL-ReconfPrepTDD                                    ProtocolIE-ID ::= 268
id-USCH-InformationListIE-RL-AdditionRspTDD                            ProtocolIE-ID ::= 269
id-USCH-InformationListIEs-RL-SetupRspTDD                              ProtocolIE-ID ::= 270
id-USCH-Information                                                    ProtocolIE-ID ::= 271
id-USCH-ModifyList-RL-ReconfPrepTDD                                    ProtocolIE-ID ::= 272
id-USCHToBeAddedOrModifiedList-RL-ReconfReadyTDD                       ProtocolIE-ID ::= 273
id-DL-Physical-Channel-Information-RL-SetupRqstTDD                     ProtocolIE-ID ::= 274
id-UL-Physical-Channel-Information-RL-SetupRqstTDD                     ProtocolIE-ID ::= 275
id-ClosedLoopMode1-SupportIndicator                                    ProtocolIE-ID ::= 276
id-ClosedLoopMode2-SupportIndicator                                    ProtocolIE-ID ::= 277
id-STTD-SupportIndicator                                               ProtocolIE-ID ::= 279
id-CFNReportingIndicator                                           ProtocolIE-ID ::= 14
id-CNOriginatedPage-PagingRqst                                         ProtocolIE-ID ::= 23
id-InnerLoopDLPCStatus                                                 ProtocolIE-ID ::= 24
id-PropagationDelay                                                    ProtocolIE-ID ::= 25
id-RxTimingDeviationForTA                                              ProtocolIE-ID ::= 36
id-timeSlot-ISCP                                                       ProtocolIE-ID ::= 37
id-CCTrCH-InformationItem-RL-FailureInd                                ProtocolIE-ID ::= 15
id-CCTrCH-InformationItem-RL-RestoreInd                                ProtocolIE-ID ::= 16
id-CommonMeasurementAccuracy                                           ProtocolIE-ID ::= 280
id-CommonMeasurementObjectType-CM-Rprt                                 ProtocolIE-ID ::= 281
id-CommonMeasurementObjectType-CM-Rqst                                 ProtocolIE-ID ::= 282
id-CommonMeasurementObjectType-CM-Rsp                                  ProtocolIE-ID ::= 283
id-CommonMeasurementType                                               ProtocolIE-ID ::= 284
id-SFN                                                                 ProtocolIE-ID ::= 285
id-SFNReportingIndicator                                               ProtocolIE-ID ::= 286
```

```
id-SFNReportingIndicator                                    ProtocolIE-ID ::= 286
id-InformationExchangeID                                    ProtocolIE-ID ::= 287
id-InformationExchangeObjectType-InfEx-Rprt                 ProtocolIE-ID ::= 288
id-InformationExchangeObjectType-InfEx-Rqst                 ProtocolIE-ID ::= 289
id-InformationExchangeObjectType-InfEx-Rsp                  ProtocolIE-ID ::= 290
id-InformationReportCharacteristics                         ProtocolIE-ID ::= 291
id-InformationType                                          ProtocolIE-ID ::= 292
id-neighbouring-LCR-TDD-CellInformation                     protocolIE-ID ::= 58
id-DL-Timeslot-ISCP-LCR-Information-RL-SetupRqstTDD         ProtocolIE-ID ::= 65
id-RL-LCR-InformationResponse-RL-SetupRspTDD                ProtocolIE-ID ::= 66
id-UL-CCTrCH-LCR-InformationListIE-RL-SetupRspTDD           ProtocolIE-ID ::= 75
id-UL-DPCH-LCR-InformationItem-RL-SetupRspTDD               ProtocolIE-ID ::= 76
id-DL-CCTrCH-LCR-InformationListIE-RL-SetupRspTDD           ProtocolIE-ID ::= 77
id-DL-DPCH-LCR-InformationItem-RL-SetupRspTDD               ProtocolIE-ID ::= 78
id-DSCH-LCR-InformationListIEs-RL-SetupRspTDD               ProtocolIE-ID ::= 79
id-USCH-LCR-InformationListIEs-RL-SetupRspTDD               ProtocolIE-ID ::= 80
id-DL-Timeslot-ISCP-LCR-Information-RL-AdditionRqstTDD      ProtocolIE-ID ::= 81
id-RL-LCR-InformationResponse-RL-AdditionRspTDD             ProtocolIE-ID ::= 86
id-UL-CCTrCH-LCR-InformationListIE-RL-AdditionRspTDD        ProtocolIE-ID ::= 87
id-UL-DPCH-LCR-InformationItem-RL-AdditionRspTDD            ProtocolIE-ID ::= 88
id-DL-CCTrCH-LCR-InformationListIE-RL-AdditionRspTDD        ProtocolIE-ID ::= 89
id-DL-DPCH-LCR-InformationItem-RL-AdditionRspTDD            ProtocolIE-ID ::= 94
id-DSCH-LCR-InformationListIEs-RL-AdditionRspTDD            ProtocolIE-ID ::= 96
id-USCH-LCR-InformationListIEs-RL-AdditionRspTDD            ProtocolIE-ID ::= 97
id-UL-DPCH-LCR-InformationAddListIE-RL-ReconfReadyTDD       ProtocolIE-ID ::= 98
id-UL-DPCH-LCR-InformationAddListIE-RL-ReconfReadyTDD       ProtocolIE-ID ::= 99
id-UL-TimeslotLCR-InformationList-RL-ReconfReadyTDD         ProtocolIE-ID ::= 100
id-DL-DPCH-LCR-InformationAddListIE-RL-ReconfReadyTDD       ProtocolIE-ID ::= 101
id-DL-TimeslotLCR-InformationList-RL-ReconfReadyTDD         ProtocolIE-ID ::= 104
id-UL-TimeslotLCR-InformationList-PhyChReconfRqstTDD        ProtocolIE-ID ::= 105
id-DL-TimeslotLCR-InformationList-PhyChReconfRqstTDD        ProtocolIE-ID ::= 106
id-timeSlot-ISCP-LCR-List-DL-PC-Rqst-TDD                    ProtocolIE-ID ::= 138
id-TSTD-Support-Indicator-RL-SetupRqstTDD                   ProtocolIE-ID ::= 139

END
```

## 9.3.7 Container Definitions

```
-- **************************************************************
--
-- Container definitions
--
-- **************************************************************

RNSAP-Containers {
itu-t (0) identified-organization (4) etsi (0) mobileDomain (0)
umts-Access (20) modules (3) rnsap (1) version1 (1) rnsap-Containers (5)  }

DEFINITIONS AUTOMATIC TAGS ::=
```

```
BEGIN

-- **************************************************************
--
-- IE parameter types from other modules.
--
-- **************************************************************

IMPORTS
    maxPrivateIEs,
    maxProtocolExtensions,
    maxProtocolIEs,
    Criticality,
    Presence,
    PrivateIE-ID,
    ProtocolExtensionID,
    ProtocolIE-ID
FROM RNSAP-CommonDataTypes;

-- **************************************************************
--
-- Class Definition for Protocol IEs
--
-- **************************************************************

RNSAP-PROTOCOL-IES ::= CLASS {
    &id             ProtocolIE-ID                   UNIQUE,
    &criticality            Criticality,
    &Value,
    &presence           Presence
}
WITH SYNTAX {
    ID              &id
    CRITICALITY         &criticality
    TYPE                &Value
    PRESENCE            &presence
}

-- **************************************************************
--
-- Class Definition for Protocol IEs
--
-- **************************************************************

RNSAP-PROTOCOL-IES-PAIR ::= CLASS {
    &id             ProtocolIE-ID                   UNIQUE,
    &firstCriticality       Criticality,
    &FirstValue,
    &secondCriticality      Criticality,
    &SecondValue,
    &presence           Presence
```

```
}
WITH SYNTAX {
    ID              &id
    FIRST CRITICALITY       &firstCriticality
    FIRST TYPE          &FirstValue
    SECOND CRITICALITY      &secondCriticality
    SECOND TYPE         &SecondValue
    PRESENCE            &presence
}

-- **************************************************************
--
-- Class Definition for Protocol Extensions
--
-- **************************************************************

RNSAP-PROTOCOL-EXTENSION ::= CLASS {
    &id             ProtocolExtensionID             UNIQUE,
    &criticality            Criticality,
    &Extension,
    &presence       Presence
}
WITH SYNTAX {
    ID              &id
    CRITICALITY         &criticality
    EXTENSION           &Extension
    PRESENCE            &presence
}

-- **************************************************************
--
-- Class Definition for Private IEs
--
-- **************************************************************

RNSAP-PRIVATE-IES ::= CLASS {
    &id             PrivateIE-ID,
    &criticality            Criticality,
    &Value,
    &presence       Presence
}
WITH SYNTAX {
    ID              &id
    CRITICALITY         &criticality
    TYPE            &Value
    PRESENCE            &presence
}

-- **************************************************************
--
-- Container for Protocol IEs
```

```
--
-- **************************************************************

ProtocolIE-Container {RNSAP-PROTOCOL-IES : IEsSetParam} ::=
    SEQUENCE (SIZE (0..maxProtocolIEs)) OF
    ProtocolIE-Field {{IEsSetParam}}

ProtocolIE-Single-Container {RNSAP-PROTOCOL-IES : IEsSetParam} ::=
    ProtocolIE-Field {{IEsSetParam}}

ProtocolIE-Field {RNSAP-PROTOCOL-IES : IEsSetParam} ::= SEQUENCE {
    id              RNSAP-PROTOCOL-IES.&id              ({IEsSetParam}),
    criticality         RNSAP-PROTOCOL-IES.&criticality         ({IEsSetParam}{@id}),
    value               RNSAP-PROTOCOL-IES.&Value           ({IEsSetParam}{@id})
}

-- **************************************************************
--
-- Container for Protocol IE Pairs
--
-- **************************************************************

ProtocolIE-ContainerPair {RNSAP-PROTOCOL-IES-PAIR : IEsSetParam} ::=
    SEQUENCE (SIZE (0..maxProtocolIEs)) OF
    ProtocolIE-FieldPair {{IEsSetParam}}

ProtocolIE-FieldPair {RNSAP-PROTOCOL-IES-PAIR : IEsSetParam} ::= SEQUENCE {
    id              RNSAP-PROTOCOL-IES-PAIR.&id         ({IEsSetParam}),
    firstCriticality        RNSAP-PROTOCOL-IES-PAIR.&firstCriticality   ({IEsSetParam}{@id}),
    firstValue          RNSAP-PROTOCOL-IES-PAIR.&FirstValue       ({IEsSetParam}{@id}),
    secondCriticality       RNSAP-PROTOCOL-IES-PAIR.&secondCriticality  ({IEsSetParam}{@id}),
    secondValue         RNSAP-PROTOCOL-IES-PAIR.&SecondValue          ({IEsSetParam}{@id})
}

-- **************************************************************
--
-- Container Lists for Protocol IE Containers
--
-- **************************************************************

ProtocolIE-ContainerList {INTEGER : lowerBound, INTEGER : upperBound, RNSAP-PROTOCOL-IES : IEsSetParam} ::=
    SEQUENCE (SIZE (lowerBound..upperBound)) OF
    ProtocolIE-Container {{IEsSetParam}}

ProtocolIE-ContainerPairList {INTEGER : lowerBound, INTEGER : upperBound, RNSAP-PROTOCOL-IES-PAIR : IEsSetParam} ::=
    SEQUENCE (SIZE (lowerBound..upperBound)) OF
    ProtocolIE-ContainerPair {{IEsSetParam}}

-- **************************************************************
--
-- Container for Protocol Extensions
```

```
--
-- **************************************************************

ProtocolExtensionContainer {RNSAP-PROTOCOL-EXTENSION : ExtensionSetParam} ::=
    SEQUENCE (SIZE (1..maxProtocolExtensions)) OF
    ProtocolExtensionField {{ExtensionSetParam}}

ProtocolExtensionField {RNSAP-PROTOCOL-EXTENSION : ExtensionSetParam} ::= SEQUENCE {
    id              RNSAP-PROTOCOL-EXTENSION.&id            ({ExtensionSetParam}),
    criticality         RNSAP-PROTOCOL-EXTENSION.&criticality       ({ExtensionSetParam}{@id}),
    extensionValue          RNSAP-PROTOCOL-EXTENSION.&Extension     ({ExtensionSetParam}{@id})
}

-- **************************************************************
--
-- Container for Private IEs
--
-- **************************************************************

PrivateIE-Container {RNSAP-PRIVATE-IES : IEsSetParam} ::=
    SEQUENCE (SIZE (1..maxPrivateIEs)) OF
    PrivateIE-Field {{IEsSetParam}}

PrivateIE-Field {RNSAP-PRIVATE-IES : IEsSetParam} ::= SEQUENCE {
    id              RNSAP-PRIVATE-IES.&id           ({IEsSetParam}),
    criticality         RNSAP-PRIVATE-IES.&criticality      ({IEsSetParam}{@id}),
    value           RNSAP-PRIVATE-IES.&Value        ({IEsSetParam}{@id})
}

END
```

## 9.4 Message Transfer Syntax

RNSAP shall use the ASN.1 Basic Packed Encoding Rules (BASIC-PER) Aligned Variant as transfer syntax as specified in ref. [20].

## 9.5 Timers

$T_{Preempt}$

- Specifies the maximum time that a DRNS may wait for pre-emption of resources for establishment or reconfiguration of Radio Links.

# 10 Handling of Unknown, Unforeseen and Erroneous Protocol Data

## 10.1 General

Protocol Error cases can be divided into three classes:

1. Transfer Syntax Error;
2. Abstract Syntax Error;
3. Logical Error.

Protocol errors can occur in the following functions within a receiving node.

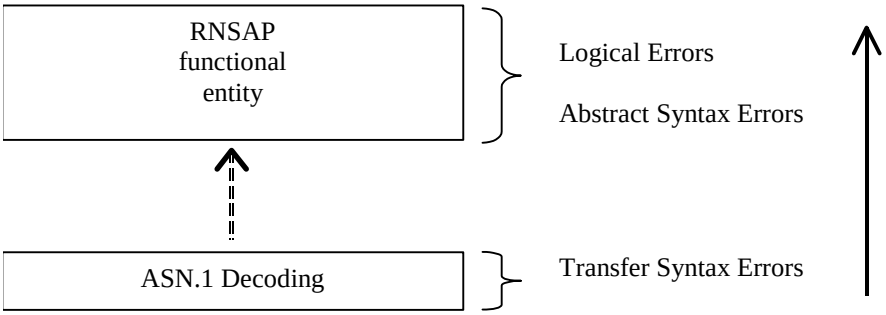


**Figure 34: Protocol Errors in RNSAP**

## 10.2 Transfer Syntax Error

A Transfer Syntax Error occurs when the receiver is not able to decode the received physical message. Transfer syntax errors are always detected in the process of ASN.1 decoding. If a Transfer Syntax Error occurs, the receiver should initiate Error Indication procedure with appropriate cause value for the Transfer Syntax protocol error.

Examples for Transfer Syntax Errors are:

- Violation of value ranges in ASN.1 definition of messages. e.g.: If an IE has a defined value range of 0 to 10 (ASN.1: INTEGER (0..10)), and 12 will be received, then this will be treated as a transfer syntax error;
- Violation in list element constraints. e.g.: If a list is defined as containing 1 to 10 elements, and 12 elements will be received, than this case will be handled as a transfer syntax error;
- Missing mandatory elements in ASN.1 SEQUENCE definitions (as sent by the originator of the message);
- Wrong order of elements in ASN.1 SEQUENCE definitions (as sent by the originator of the message).

# 10.3 Abstract Syntax Error

## 10.3.1 General

An Abstract Syntax Error occurs when the receiving functional RNSAP entity:

1. Receives IEs or IE groups that cannot be understood (unknown IE id);

2 Receives IEs for which the logical range is violated (e.g.: ASN.1 definition: 0 to 15, the logical range is 0 to 10 (values 11 to 15 are undefined), and 12 will be received; this case will be handled as an abstract syntax error using criticality information sent by the originator of the message);

3 Does not receive IEs or IE groups but according to the specified presence of the concerning object, the IEs or IE groups should have been present in the received message;

4 Receives IEs or IE groups that are defined to be part of that message in wrong order or with too many occurrences of the same IE or IE group.

Cases 1 and 2 (not comprehended IE/IE group) are handled based on received Criticality information. Case 3 (missing IE/IE group) is handled based on Criticality information and Presence information for the missing IE/IE group specified in the version of the specification used by the receiver. Case 4 (IEs or IE groups in wrong order or with too many occurrences) results in rejecting the procedure.

If an Abstract Syntax Error occurs, the receiver shall read the remaining message and shall then for each detected Abstract Syntax Error that belong to cases 1-3 act according to the Criticality Information and Presence Information for the IE/IE group due to which Abstract Syntax Error occurred in accordance with subclauses 10.3.4 and 10.3.5. The handling of case 4 is specified in subclause 10.3.7.

## 10.3.2 Criticality Information

In the RNSAP messages there is criticality information set for individual IEs and/or IE groups. This criticality information instructs the receiver how to act when receiving an IE or an IE group that is not comprehended, i.e. the entire item (IE or IE group) which is not (fully or partially) comprehended shall be treated in accordance with its own criticality information as specified in subclause 10.3.4.

In addition, the criticality information is used in case of the missing IE/IE group abstract syntax error (see subclause 10.3.5).

The receiving node shall take different actions depending on the value of the Criticality Information. The three possible values of the Criticality Information for an IE/IE group are:

1. Reject IE;

2. Ignore IE and Notify Sender;

3. Ignore IE.

The following rules restrict when a receiving entity may consider an IE, an IE group or an EP not comprehended (not implemented), and when action based on criticality information is applicable:

1. IE or IE group: When one new or modified IE or IE group is implemented for one EP from a standard version, then other new or modified IEs or IE groups specified for that EP in that standard version shall be considered comprehended by a receiving entity (some may still remain unsupported).

   Note that this restriction is not applicable to a sending entity for constructing messages.

2. EP: The comprehension of different EPs within a standard version or between different standard versions is not mandated. Any EP that is not supported may be considered not comprehended, even if another EP from that standard version is comprehended, and action based on criticality shall be applied.

## 10.3.3 Presence Information

For many IEs/IE groups which are optional according to the ASN.1 transfer syntax, RNSAP specifies separately if the presence of these IEs/IE groups is optional or mandatory with respect to RNS application by means of the

presence field f the concerning object of class RNSAP-PROTOCOL-IES, RNSAP-PROTOCOL-IES-PAIR, RNSAP-PROTOCOL-EXTENSION or RNSAP-PRIVATE-IES.

The presence field of the indicated classes supports three values:

1. Optional;
2. Conditional;
3. Mandatory.

If an IE/IE group is not included in a received message and the presence of the IE/IE group is mandatory or the presence is conditional and the condition is true according to the version of the specification used by the receiver, an abstract syntax error occurs due to a missing IE/IE group.

## 10.3.4 Not Comprehended IE/IE group

### 10.3.4.1 Procedure ID

The receiving node shall treat the different types of received criticality information of the *Procedure ID* according to the following:

**Reject IE:**

- If a message is received with a *Procedure ID* marked with "*Reject IE*" which the receiving node does not comprehend, the receiving node shall reject the procedure using the Error Indication procedure.

**Ignore IE and Notify Sender:**

- If a message is received with a *Procedure ID* marked with "*Ignore IE and Notify Sender*" which the receiving node does not comprehend, the receiving node shall ignore the procedure and initiate the Error Indication procedure.

**Ignore IE:**

- If a message is received with a *Procedure ID* marked with "*Ignore IE*" which the receiving node does not comprehend, the receiving node shall ignore the procedure.

When using the Error Indication procedure to reject a procedure or to report an ignored procedure it shall include the *Procedure ID* IE, the *Triggering Message* IE, and the *Procedure Criticality* IE in the *Criticality Diagnostics* IE.

### 10.3.4.2 IEs other than the Procedure ID

The receiving node shall treat the different types of received criticality information of an IE/IE group other than the *Procedure ID* according to the following:

**Reject IE:**

- If a message *initiating* a procedure is received containing one or more IEs/IE groups marked with "*Reject IE*" which the receiving node does not comprehend; none of the functional requests of the message shall be executed. The receiving node shall reject the procedure and report the rejection of one or more IEs/IE groups using the message normally used to report unsuccessful outcome of the procedure. In case the information received in the initiating message was insufficient to determine a value for all IEs that are required to be present in the message used to report the unsuccessful outcome of the procedure, the receiving node shall instead terminate the procedure and initiate the Error Indication procedure.

- If a message *initiating* a procedure that does not have a message to report unsuccessful outcome is received containing one or more IEs/IE groups marked with "*Reject IE*" which the receiving node does not comprehend, the receiving node shall terminate the procedure and initiate the Error Indication procedure.

- If a *response* message is received containing one or more IEs/IE groups marked with "*Reject IE*, that the receiving node does not comprehend, the receiving node shall initiate local error handling.

**Ignore IE and Notify Sender:**

- If a message *initiating* a procedure is received containing one or more IEs/IE groups marked with "*Ignore IE and Notify Sender*" which the receiving node does not comprehend, the receiving node shall ignore the content of the not comprehended IEs/IE groups, continue with the procedure as if the not comprehended IEs/IE groups were not received (except for the reporting) using the understood IEs/IE groups, and report in the response message of the procedure that one or more IEs/IE groups have been ignored. In case the information received in the initiating message was insufficient to determine a value for all IEs that are required to be present in the response message, the receiving node shall instead terminate the procedure and initiate the Error Indication procedure.

- If a message *initiating* a procedure that does not have a message to report the outcome of the procedure is received containing one or more IEs/IE groups marked with "*Ignore IE and Notify Sender*" which the receiving node does not comprehend, the receiving node shall ignore the content of the not comprehended IEs/IE groups, continue with the procedure as if the not comprehended IEs/IE groups were not received (except for the reporting) using the understood IEs/IE groups, and initiate the Error Indication procedure to report that one or more IEs/IE groups have been ignored.

- If a *response* message is received containing one or more IEs/IE groups marked with "*Ignore IE and Notify Sender*" which the receiving node does not comprehend, the receiving node shall ignore the content of the not comprehended IEs/IE groups and initiate the Error Indication procedure.

**Ignore IE:**

- If a message *initiating* a procedure is received containing one or more IEs/IE groups marked with "*Ignore IE*" which the receiving node does not comprehend, the receiving node shall ignore the content of the not comprehended IEs/IE groups and continue with the procedure as if the not comprehended IEs/IE groups were not received using the understood IEs/IE groups.

- If a *response* message is received containing one or more IEs/IE groups marked with "*Ignore IE*" which the receiving node does not comprehend, the receiving node shall ignore the content of the not comprehended IEs/IE groups.

When reporting not comprehended IEs/IE groups marked with "*Reject IE*" or "*Ignore IE and Notify Sender*" using a response message defined for the procedure, the *Information Element Criticality Diagnostics* IE shall be included in the *Criticality Diagnostics* IE for each reported IE/IE group. The *Repetition Number* IE shall be included in the *Information Element Criticality Diagnostics* IE if the reported IE/IE group was part of a "SEQUENCE OF" definition.

When reporting not comprehended IEs/IE groups marked with "*Reject IE*" or "*Ignore IE and Notify Sender*" using the Error Indication procedure, the *Procedure ID* IE, the *Triggering Message* IE, *Procedure Criticality* IE, the *Transaction Id* IE, and the *Information Element Criticality Diagnostics* IE shall be included in the *Criticality Diagnostics* IE for each reported IE/IE group. The *Repetition Number* IE shall be included in the *Information Element Criticality Diagnostics* IE if the reported IE/IE group was part of a "SEQUENCE OF" definition.

### 10.3.5 Missing IE or IE group

The receiving node shall treat the missing IE/IE group according to the criticality information for the missing IE/IE group in the received message specified in the version of this specification used by the receiver:

**Reject IE:**

- If a received message *initiating* a procedure is missing one or more IEs/IE groups with specified criticality "*Reject IE*"; none of the functional requests of the message shall be executed. The receiving node shall reject the procedure and report the missing IEs/IE groups using the message normally used to report unsuccessful outcome of the procedure. In case the information received in the initiating message was insufficient to determine a value for all IEs that are required to be present in the message used to report the unsuccessful outcome of the procedure, the receiving node shall instead terminate the procedure and initiate the Error Indication procedure.

- If a received message *initiating* a procedure that does not have a message to report unsuccessful outcome is missing one or more IEs/IE groups with specified criticality "*Reject IE*", the receiving node shall terminate the procedure and initiate the Error Indication procedure.

- If a received *response* message is missing one or more IEs/IE groups with specified criticality "*Reject IE*, the receiving node shall initiate local error handling.

**Ignore IE and Notify Sender:**

- If a received message *initiating* a procedure is missing one or more IEs/IE groups with specified criticality "*Ignore IE and Notify Sender*", the receiving node shall continue with the procedure based on the other IEs/IE groups present in the message and report in the response message of the procedure that one or more IEs/IE groups were missing. In case the information received in the initiating message was insufficient to determine a value for all IEs that are required to be present in the response message, the receiving node shall instead terminate the procedure and initiate the Error Indication procedure.

- If a received message *initiating* a procedure that does not have a message to report the outcome of the procedure is missing one or more IEs/IE groups with specified criticality "*Ignore IE and Notify Sender*", the receiving node shall continue with the procedure based on the other IEs/IE groups present in the message and initiate the Error Indication procedure to report that one or more IEs/IE groups were missing.

- If a received *response* message is missing one or more IEs/IE groups with specified criticality "*Ignore IE and Notify Sender*", the receiving node shall initiate the Error Indication procedure.

**Ignore IE:**

- If a received message *initiating* a procedure is missing one or more IEs/IE groups with specified criticality "*Ignore IE*", the receiving node shall continue with the procedure based on the other IEs/IE groups present in the message.

- If a received *response* message is missing one or more IEs/IE groups with specified criticality "*Ignore IE*", the receiving node shall ignore that those IEs/IE groups are missing.

When reporting missing IEs/IE groups with specified criticality "*Reject IE*" or "*Ignore IE and Notify Sender*" using a response message defined for the procedure, the *Information Element Criticality Diagnostics* IE shall be included in the *Criticality Diagnostics* IE for each reported IE/IE group.

When reporting missing IEs/IE groups with specified criticality "*Reject IE*" or "*Ignore IE and Notify Sender*" using the Error Indication procedure, the *Procedure ID* IE, the *Triggering Message* IE, *Procedure Criticality* IE, the *Transaction Id* IE, and the *Information Element Criticality Diagnostics* IE shall be included in the *Criticality Diagnostics* IE for each reported IE/IE group.

### 10.3.6 IEs or IE groups received in wrong order or with too many occurrences

If a message with IEs or IE groups in wrong order or with too many occurrences is received, the receiving node shall behave according to the following:

- If a message *initiating* a procedure is received containing IEs or IE groups in wrong order or with too many occurrences, none of the functional requests of the message shall be executed. The receiving node shall reject the procedure and report the cause value "Abstract Syntax Error (Falsely Constructed Message)" using the message normally used to report unsuccessful outcome of the procedure. In case the information received in the initiating message was insufficient to determine a value for all IEs that are required to be present in the message used to report the unsuccessful outcome of the procedure, the receiving node shall instead terminate the procedure and initiate the Error Indication procedure.

- If a message *initiating* a procedure that does not have a message to report unsuccessful outcome is received containing IEs or IE groups in wrong order or with too many occurrences, the receiving node shall terminate the procedure and initiate the Error Indication procedure, and use cause value "Abstract Syntax Error (Falsely Constructed Message)".

- If a *response* message is received containing IEs or IE groups in wrong order or with too many occurrences, the receiving node shall initiate local error handling.

## 10.4 Logical Error

Logical error situations occur when a message is comprehended correctly, but the information contained within the message is not valid (i.e. semantic error), or describes a procedure which is not compatible with the state of the receiver. In these conditions, the following behaviour shall be performed (unless otherwise specified) as defined by the class of the elementary procedure, irrespective of the criticality information of the IEs/IE groups containing the erroneous values.

**Class 1:**

Where the logical error occurs in a request message of a class 1 procedure, and the procedure has a failure message, the failure message shall be sent with an appropriate cause value. Typical cause values are:

**Protocol Causes:**

1. Semantic Error;
2. Message not Compatible with Receiver State.

Where the logical error is contained in a request message of a class 1 procedure, and the procedure does not have a failure message, the procedure shall be terminated and the Error Indication procedure shall be initiated with an appropriate cause value.

Where the logical error exists in a response message of a class 1 procedure, local error handling shall be initiated.

**Class 2:**

Where the logical error occurs in a message of a class 2 procedure, the procedure shall be terminated and the Error Indication procedure shall be initiated with an appropriate cause value.

# Annex A (normative): Allocation and Pre-emption of Radio Links in the DRNS

## A.1 Deriving Allocation Information for a Radio Link

### A.1.1 Establishment of a New Radio Link

The Allocation Information for a Radio Link in the case of establishment of a new Radio Link shall be derived as follows:

- The latest received *Allocation/Retention Priority* IE for each transport channel shall be used.

Note: The *Allocation/Retention Priority* IE for a transport channel may have been received in
a) the procedure that establishes the first Radio Link for the UE in the DRNS or
b) a procedure adding or modifying the transport channel.

- If the *Priority Level* IE in the *Allocation/Retention Priority* IE for all transport channels that are intended to use the Radio Link is set to "not used", the pre-emption capability of the Radio Link shall be set to "shall not trigger pre-emption".

- If the *Priority Level* IE in the *Allocation/Retention Priority* IE for one or more of the transport channels that are intended to use the Radio Link is not set to "not used", the allocation priority and the pre-emption capability of the Radio Link shall be set according to the following:

  - The transport channels that have the *Priority Level* IE in the *Allocation/Retention Priority* IE set to "not used" shall be excluded when setting the allocation priority and pre-emption capability of a Radio Link.

  - The allocation priority for a Radio Link shall be set to highest priority level, given by the *Priority Level* IE in the *Allocation/Retention Priority* IE, for all non excluded transport channels that are intended to use the Radio Link.

  - If all non-excluded transport channels that are intended to use a Radio Link to be established have the pre-emption capability, given by the *Pre-emption Capability* IE in the *Allocation/Retention Priority* IE, set to "shall not trigger pre-emption", the pre-emption capability of the Radio Link shall be set to "shall not trigger pre-emption".
    If one or more non-excluded transport channels that are intended to use the Radio Link to be established have the value of the *Pre-emption Capability* IE in the *Allocation/Retention Priority* IE set to "may trigger pre-emption", the pre-emption capability of the Radio Link shall be set to "may trigger pre-emption".

The derived allocation priority and pre-emption capability are only valid during this allocation/retention process.

### A.1.2 Modification of an Existing Radio Link

The Allocation Information for a Radio Link in the case of modification of a Radio Link (addition or modification of transport channels using the Radio Link) shall be derived as follows:

- The latest received *Allocation/Retention Priority* IE for each transport channel shall be used.

Note: The *Allocation/Retention Priority* IE for a transport channel may have been received in
a) the procedure that establishes the first Radio Link for the UE in the DRNS,
b) a previous procedure adding or modifying the transport channel, or
c) the current procedure adding or modifying the transport channel.

- If the *Priority Level* IE in the *Allocation/Retention Priority* IE for all transport channels to be added or modified in the Radio Link is set to "not used", the pre-emption capability of the Radio Link to be modified shall be set to "shall not trigger pre-emption".

- If the *Priority Level* IE in the *Allocation/Retention Priority* IE for one or more of the transport channels to be added or modified in the Radio Link is not set to "not used", the allocation priority of and the pre-emption capability of the Radio Link to be modified shall be set according to the following:

  - The transport channels to be added or modified that have the *Priority Level* IE in the *Allocation/Retention Priority* IE set to "not used" shall be excluded when setting the allocation priority and pre-emption capability of a Radio Link to be modified.

  - The allocation priority for a Radio Link to be modified shall be set to highest priority level, given by the *Priority Level* IE in the *Allocation/Retention Priority* IE, for all the non-excluded transport channels that are to be added or modified.

  - If all non-excluded transport channels that are to be added or modified in the Radio Link have the pre-emption capability, given by the *Pre-emption Capability* IE in the *Allocation/Retention Priority* IE, set to "shall not trigger pre-emption", the pre-emption capability of the Radio Link to be modified shall be set to "shall not trigger pre-emption".
    If one or more of the non-excluded transport channels to be added or modified in the Radio Link have the value of the *Pre-emption Capability* IE in the *Allocation/Retention Priority* IE set to "may trigger pre-emption", the pre-emption capability of the Radio Link to be modified shall be set to "may trigger pre-emption".

The derived allocation priority and pre-emption capability are only valid during this allocation/retention process.

# A.2 Deriving Retention Information for a Radio Link

The Retention Information for an existing Radio Link shall be derived as follows:

- The latest received *Allocation/Retention Priority* IE for each transport channel shall be used.

Note: The *Allocation/Retention Priority* IE for a transport channel may have been received in
a) the procedure that establishes the first Radio Link for the UE in the DRNS or
b) a procedure adding or modifying the transport channel.

- If the *Priority Level* IE in the *Allocation/Retention Priority* IE for one or more transport channels using the Radio Link is set to "not used", the pre-emption vulnerability of the Radio Link shall be set to "not pre-emptable".

- If the *Priority Level* IE in the *Allocation/Retention Priority* IE for all the transport channels using the Radio Link is not set to "not used", the retention priority of the Radio Link and the pre-emption vulnerability of the Radio Link shall be set according to the following:

  - The retention priority for a Radio Link shall be set to highest priority level, given by the *Priority Level* IE in the *Allocation/Retention Priority* IE, for all transport channels that uses the Radio Link.

  - If all transport channels that uses the Radio Link have the pre-emption vulnerability, given by the *Pre-emption Vulnerability* IE in the *Allocation/Retention Priority* IE, set to "pre-emptable", the pre-emption vulnerability of the Radio Link shall be set to "pre-emptable".
    If one or more transport channels that uses the Radio Link have the value of the *Pre-emption Vulnerability* IE in the *Allocation/Retention Priority* IE set to "not pre-emptable", the pre-emption vulnerability of the Radio Link shall be set to "not pre-emptable".

The derived retention priority and pre-emption vulnerability are valid until they are changed, or until the Radio Link is deleted. When new transport channels are added to or deleted from the Radio Link or when existing transport channels are modified with regards to the *Allocation/Retention Priority* IE, the retention information shall be derived again according to above.

# A.3 The Allocation/Retention Process

The DRNS shall establish or modify the resources for a Radio Link according to:

- The value of the Allocation Information (allocation priority and pre-emption capability) of the Radio to be established or modified. The Allocation Information is derived according to clause A.1.

- The value of the Retention Information (retention priority and pre-emption vulnerability) of existing Radio Links. The Retention Information derived according to clause A.2.

- The resource situation in the DRNS.

Whilst the process and the extent of the pre-emption functionality is operator dependent, the pre-emption indicators (pre-emption capability and pre-emption vulnerability) shall be treated as follows:

-. If the pre-emption capability for a Radio Link to be established or modified is set to "may trigger pre-emption" and the resource situation so requires, the DRNS may trigger the pre-emption process in clause A.4 to free resources for this allocation request.

-. If the pre-emption capability for a Radio Link to be established or modified is set to "shall not trigger pre-emption", then this allocation request shall not trigger the pre-emption process in clause A.4.

-. If the pre-emption vulnerability for an existing Radio Link is set to "pre-emptable", then this Radio Link shall be included in the pre-emption process in clause A.4.

-. If the pre-emption vulnerability for an existing Radio Link is set to "not pre-emptable", then this Radio Link shall not be included in the pre-emption process in clause A.4.

## A.4 The Pre-emption Process

The pre-emption process shall only pre-empt Radio Links with lower retention priority than the allocation priority of the Radio Link to be established or modified. The Radio Links to be pre-empted shall be selected in ascending order of the retention priority.

When the pre-emption process detects that one or more Radio Links have to be pre-empted to free resources for a Radio Link(s) to be established or modified, the DRNS shall initiate the Radio Link Pre-emption procedure for all the UE Contexts having Radio Links selected for pre-emption and start the $T_{Preempt}$ timer.

When enough resources are freed to establish or modify the Radio Link(s) according to the request, the DRNS shall stop the $T_{Preempt}$ timer and complete the procedure that triggered the pre-emption process in accordance with the "Successful Operation" subclause of the procedure.

If the $T_{Preempt}$ timer expires, the DRNS shall regard the procedure that triggered the pre-emption process as failed and complete the procedure in accordance with the "Unsuccessful Operation" subclause of the procedure.

# Annex B (informative): Change history

| Change history | | | | | |
|---|---|---|---|---|---|
| TSG RAN# | Version | CR | Tdoc RAN | New Version | Subject/Comment |
| RAN_06 | - | - | RP-99755 | 3.0.0 | Approved at TSG RAN #6 and placed under Change Control |
| RAN_07 | 3.0.0 | - | RP-000100 | 3.1.0 | Approved at TSG RAN #7 |
| RAN_07 | 3.0.0 | - | RP-000143 | 3.1.0 | Approved at TSG RAN #7 |
| RAN_07 | 3.0.0 | - | RP-000146 | 3.1.0 | Approved at TSG RAN #7 |
| RAN_08 | 3.1.0 | - | RP-000241 | 3.2.0 | Approved at TSG RAN #8 |
| RAN_08 | 3.1.0 | - | RP-000242 | 3.2.0 | Approved at TSG RAN #8 |
| RAN_08 | 3.1.0 | - | RP-000243 | 3.2.0 | Approved at TSG RAN #8 |
| RAN_08 | 3.1.0 | - | RP-000244 | 3.2.0 | Approved at TSG RAN #8 |
| RAN_09 | 3.2.0 | 145-149, 151-154, 156-164, 166 167 | RP-000379 | 3.3.0 | Approved at TSG RAN #9 |
| RAN_09 | 3.2.0 | 168 169 171 173 174 176 178-180 183-193 | RP-000380 | 3.3.0 | Approved at TSG RAN #9 |
| RAN_09 | 3.2.0 | 194-200- | RP-000381 | 3.3.0 | Approved at TSG RAN #9 |
| RAN_10 | 3.3.0 | 202-219, 221-228, 230, 232-239, 241, 243-257, 259, 260, 263-265, 268-272, 274-278, 280, 281 | RP-000618 RP-000619 RP-000621 RP-000696 | 3.4.0 | Approved at TSG RAN #10 |
| RAN_11 | 3.4.0 | 282-286, 288-293, 295-302, 304-308, 311, 313-319, 329, 332, 334-335 | RP-010117 RP-010118 | 3.5.0 | Approved at TSG RAN #11 |
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| Change history | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Date** | **TSG #** | **TSG Doc.** | **CR** | **Rev** | **Subject/Comment** | **Old** | **New** |
| March 01 | 11 | RP-010167 | 310 | | Approved at TSG RAN #11 and placed under Change Control | - | 4.0.0 |
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# History

| Document history | | |
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