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650 Route des Lucioles
F-06921 Sophia Antipolis Cedex - FRANCE

Tel.: +33 4 92 94 42 00 Fax: +33 4 93 65 47 16

Siret N° 348 623 562 00017 - NAF 742 C
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Foreword

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

The contents of the present document are subject to continuing work within the TSG and may change following formal TSG approval. Should the TSG modify the contents of the present document, it will be re-released by the TSG with an identifying change of release date and an increase in version number as follows:

Version x.y.z

where:

- x the first digit:
 - 1 presented to TSG for information;
 - 2 presented to TSG for approval;
 - 3 or greater indicates TSG approved document under change control.
- 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 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.

- [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 (V3.3): "Requirements for support of Radio Resource management (TDD)".
- [25] 3GPP TS 23.003: "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"

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 successfully completed with the receipt of the response.

Unsuccessful

- A signalling message explicitly indicates that the EP failed.
- On time supervision expiry (i.e. absence of expected response). Whether or not any Class 1 procedure will have a timer on RNSAP is FFS. To be sorted out when discussing the details of the error cases.

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 for communication 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 or by the Common Transport Channel Resources Release 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.

3.2 Symbols

Void.

3.3 Abbreviations

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

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
CPICH	Common Pilot Channel
CRNC	Controlling RNC
DCH	Dedicated Channel
DL	Downlink
DPCCH	Dedicated Physical Control Channel
DPCH	Dedicated Physical Channel
DRNC	Drift RNC
DRNS	Drift RNS
DRX	Discontinuous Reception
DSCH	Downlink Shared Channel
EP	Elementary Procedure
FACH	Forward Access Channel
FDD	Frequency Division Duplex
FP	Frame Protocol
IE	Information Element
MAC	Medium Access Control
PCPCH	Physical Common Packet Channel
PDU	Protocol Data Unit
PRACH	Physical Random Access Channel
RAB	Radio Access Bearer
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
SCH	Synchronisation Channel
SDU	Signalling Data Unit
SFN	System Frame Number
SRNC	Serving RNC
SRNS	Serving RNS
SSDT	Site Selection Diversity Transmit
TDD	Time Division Duplex
TFCI	Transport Format Combination Indicator
TFCS	Transport Format Combination Set
TFS	Transport Format Set
TPC	Transmit Power Control
UARFCN	UTRA Absolute Radio Frequency Channel Number
UE	User Equipment
UL	Uplink
URA	UTRAN Registration Area
USCH	Uplink Shared Channel

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 chapter 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. This tagging of a heading indicates that the heading preceding the tag "[TDD]" and the section following the heading applies only to 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. Multiple sequential paragraphs applying only to TDD are enclosed separately to enable insertion of FDD specific (or common) paragraphs between the 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 <i>Information Element Name</i> 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. <i>Transport Format Set IE</i> .
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

The RNSAP offers the following 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 Procedures module contains procedures used to handle the mobility within UTRAN.

The DCH Procedures module contains procedures that are used to handle DCHs between two RNSs. If procedures from this module are not used in a specific Iur, then the usage of DCH 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 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 initiated maximum 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 has 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;
- 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.

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 b) Radio Link Addition c) Radio Link Deletion d) Unsynchronised Radio Link Reconfiguration e) Synchronised Radio Link Reconfiguration Preparation f) Synchronised Radio Link Reconfiguration Commit g) Synchronised Radio Link Reconfiguration Cancellation h) Radio Link Pre-emption
Physical Channel Reconfiguration	Physical Channel Reconfiguration
Radio Link Supervision	a) Radio Link Failure b) Radio Link Restoration
Compressed Mode Control [FDD]	a) Radio Link Setup b) Radio Link Addition c) Compressed Mode Command d) Unsynchronised Radio Link Reconfiguration e) Synchronised Radio Link Reconfiguration Preparation f) Synchronised Radio Link Reconfiguration Commit g) Synchronised Radio Link Reconfiguration Cancellation
Measurements on Dedicated Resources	a) Measurement Initiation b) Measurement Reporting c) Measurement Termination d) Measurement Failure
DL Power Drifting Correction [FDD]	Downlink Power Control
CCCH Signalling Transfer	a) Uplink Signalling Transfer b) Downlink Signalling Transfer
Paging	Paging
Common Transport Channel Resources Management	a) Common Transport Channel Resources Initiation b) Common Transport Channel Resources Release
Relocation Execution	Relocation Commit
Reporting of General Error Situations	Error Indication
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 Procedure	Initiating Message	Successful Outcome	Unsuccessful Outcome	
		Response message	Response message	Timer
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	
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	

The need for Timers will be defined on a per procedure basis. The content of this column is thus FFS.

Table 3: Class 2

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
Measurement Reporting	DEDICATED MEASUREMENT REPORT
Measurement Termination	DEDICATED MEASUREMENT TERMINATION REQUEST
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

8.2 Basic Mobility Procedures

8.2.1 Uplink Signalling Transfer

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

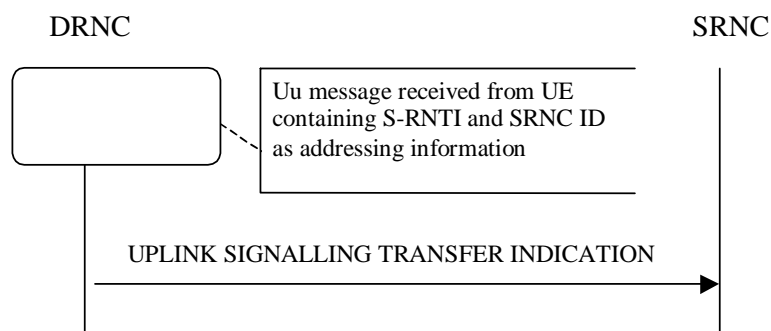


Figure 1: Uplink Signalling Transfer procedure, Successful Operation

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.

The DRNC shall include the URA Identity of the cell where the Uu message was received (the accessed cell), an indication on whether or not the accessed cell belongs to multiple URAs, 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 DRNC shall allocate a new C-RNTI for the UE. If the DRNC allocates a new C-RNTI it shall also release any C-RNTI previously allocated for the UE.

If the DRNC has any RACH, FACH, and CPCH resources allocated for the UE identified by the U-RNTI in another cell than the accessed cell, the DRNC 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 DRNC, it may include the geographical co-ordinates of the cell 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 Signalling Transfer

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 is not camping in 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 target 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

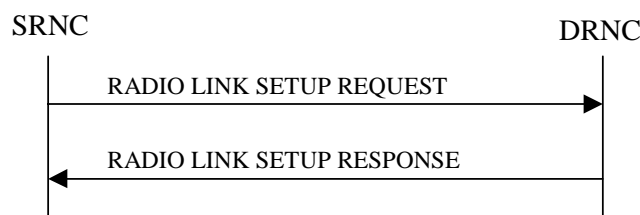


Figure 5: Radio Link Setup procedure: Successful Operation

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 RRC connection, the RADIO LINK SETUP REQUEST message is sent to the corresponding DRNC to request setup 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. If the *First RLS indicator* IE is set to "first RLS", the DRNS shall use a TPC pattern of $n \cdot "01" + "1"$ in the DL of the concerning RL and all RLs which are part of the same RLS, until UL synchronisation is achieved on the

Uu. The TPC pattern shall continuously be repeated but shall be restarted at the beginning of every frame with $CFN_{mod4}=0$. For all other RLs, the DRNS shall use a TPC pattern of all "1"s in the DL until UL synchronisation is achieved on the Uu.]

[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 L1 synchronisation.]

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 the *Initial DL TX Power* IE and *Uplink SIR Target* IE are present 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 constraints 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 *DL Time Slot ISCP Info* 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 for the concerning RLS or a DL POWER CONTROL REQUEST message is received. No innerloop 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) with $DPC_MODE=0$ 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 for the concerning 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).]

[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 the discard/delay of the data frames of the DCH and DSCH (if any).

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

[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 *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. If during the compressed mode measurement the gaps of two or more pattern sequences overlap, the DRNS shall behave as specified in subclause 8.3.9.]

[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 setup.

If the *DSCH Information* IE is included in the RADIO LINK SETUP REQUEST message, the DRNC shall establish the requested DSCH's [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 the *Initial DL TX Power* and the *Uplink SIR Target* IEs are not present in the RADIO LINK SETUP REQUEST message, then DRNC shall include the determined initial Uplink SIR Target 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. 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 be included for all but one 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 coordinated 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 DCH in the set of co-ordinated DCHs.

[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, 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.]

[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 DRNC supports the DRAC, the DRNC shall indicate in the RADIO LINK SETUP RESPONSE message the *Secondary CCPCH Info IE* to be received on FACH, for each added Radio Link. If the DRNC does not support DRAC, it shall not provide these IEs in the RADIO LINK SETUP RESPONSE message.]

Depending on local configuration in the DRNS, it may include the geographical co-ordinates of the cell 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 and start reception on the new RL. The DRNS shall start transmission on the new RL after synchronisation is achieved in the DL user plane as specified in ref. [3].

[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 Indication IE*].

[FDD- If the *Downlink compressed mode method* 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 out-of-sync algorithm defined in [10] 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 the DRNC shall include the *URA ID* IE of the cell, the *Multiple URAs Indicator* IE indicating whether or not the cell belongs to multiple URAs, 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

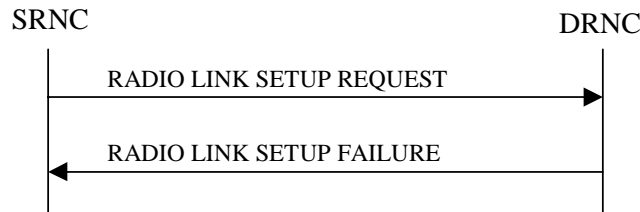


Figure 6: Radio Link Setup procedure: Unsuccessful Operation

In unsuccessful case (i.e. one or more RLs can not be setup) 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 DRNC shall regard the Radio Link Setup procedure as failed and shall respond with a 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;
- 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.

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.]

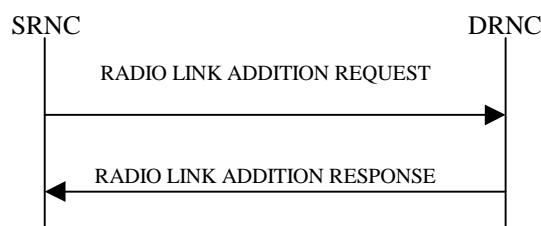
8.3.2.2 Successful Operation

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 *DL Time Slot ISCP Info* 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 *DL Time Slot ISCP Info* 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 for that RLS or a DL POWER CONTROL REQUEST message is received. No innerloop 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) with *DPC_MODE=0* and the power control procedure (see 8.3.7)].

[TDD – The Initial DL TX Power shall be applied until UL synchronisation is achieved 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 - 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 CM pattern in the new RLS, but the on going pattern in the existing RL are 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.

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 coordinated DCH, the *Binding ID* IE and the *Transport Layer Address* IE shall be included for only one of the co-ordinated DCHs.

[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 cell UMTS 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, 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 uplink 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 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 and start reception on the new RL. The DRNS shall start transmission on the new RL after synchronisation is achieved in the DL user plane as specified in ref. [4].

[FDD - If the UE has been allocated one or several DCH controlled by DRAC (*DRAC Control IE* was set to "requested" in the RADIO LINK ADDITION REQUEST message for at least one DCH) and if the DRNC supports the DRAC, the DRNC shall indicate in the RADIO LINK ADDITION RESPONSE message the *Secondary CCPCH Info IE* to be received on FACH, for each added Radio Link. If the DRNC does not support DRAC, it shall not provide these IEs in the RADIO LINK ADDITION RESPONSE message.]

[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 Indication IE*.]

[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* and the already known diversity mode.]

[FDD – After addition of the new RL(s), the UL out-of-sync algorithm defined in [10] 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 the DRNC shall include the *URA ID IE* of the cell, the *Multiple URAs Indicator IE* indicating whether or not the cell belongs to multiple URAs, 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

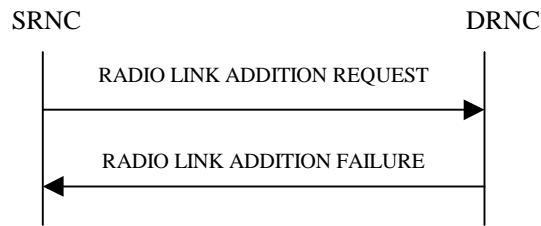


Figure 8: Radio Link Addition procedure: Unsuccessful Operation

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 CM measurements, or if the *Transmission Gap Pattern Sequence Status IE* repetitions 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 terminate the on going compressed mode measurement in the new RLs (as specified above), but at least one new RL is to be established in one cell that has the same UARCFN 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.

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

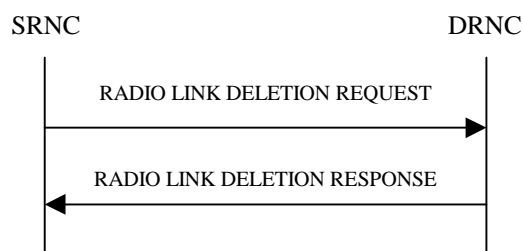


Figure 9: Radio Link Deletion procedure, Successful Operation

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 out-of-sync algorithm defined in [10] 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

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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

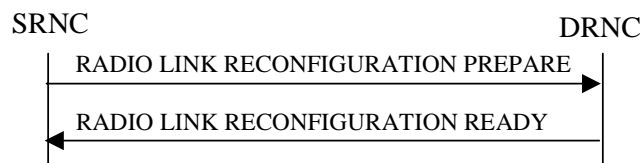


Figure 10: Synchronised Radio Link Reconfiguration Preparation procedure, Successful Operation

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 the *UL FP Mode* IE for a DCH or a DCH which belongs to 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 DCH which belongs to 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 DCH which belongs to 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 *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 *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 to be received on FACH, for each Radio Link. If the DRNS does not support DRAC, it 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.]

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.

- [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 to be received on FACH, for each Radio Link. If the DRNS does not support DRAC, it shall not provide these IEs in the RADIO LINK RECONFIGURATION READY message.]

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.]
- [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 DPCCCH Slot Format* IE, the DRNS shall apply the new Uplink DPCCCH 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 DPDCCH are assigned per RL, the segmented physical channel shall be mapped on to DL DPDCCHs according to [8]. When p number of DL DPDCCHs 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.
- [FDD: If the RADIO LINK RECONFIGURATION PREPARE message includes the *Transmission Gap Pattern Sequence Information* IE and 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 *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 *Midamble Shift and Burst Type* IE, *Time Slot* IE, *TFCI Presence* IE or Code information was modified. The DRNC shall include code information if *TDD Channelisation Code* 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. 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.]
- [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.

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.]

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 DRNS 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.

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 coordinated 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 DCH in the set of coordinated 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.

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

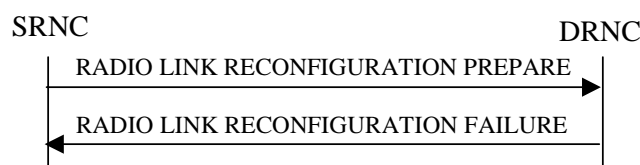


Figure 11: Synchronised Radio Link Reconfiguration Preparation procedure, Unsuccessful Operation

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;
- 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 CFN requested by the SRNC when receiving the RADIO LINK RECONFIGURATION COMMIT

message from the SRNC. [FDD – The CFN shall be ignored by DRNS if only Transmission Gap Pattern Sequence Information was included in the RL Reconfiguration.] 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 CM Configuration Change CFN. 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 elapses. The *CM Configuration Change CFN* in the *Active Pattern Sequence Information* IE and *TGCFN* for each sequence refers to the next coming CFN with that value. If during the compressed mode measurement the gaps of two or more pattern sequences overlap, the DRNS shall behave as specified in subclause 8.3.9.]

8.3.5.3 Abnormal Conditions

If a new transport bearer is required for the new reconfiguration 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

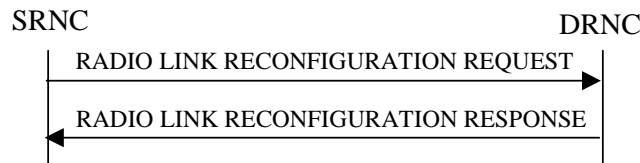


Figure 14: Unsynchronised Radio Link Reconfiguration procedure, Successful Operation

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 DCH which belongs to 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 DCH which belongs to 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 DCH which belongs to 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* to be received on FACH, for each Radio Link. If the DRNS does not support DRAC, 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.]

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 it can 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].]
- 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* and the *Reference to System Information blocks IE* to be received on FACH, for each Radio Link. If the DRNS does not support DRAC, the DRNC shall not provide these IEs in the RADIO LINK RECONFIGURATION RESPONSE message.

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.]

Compressed Mode Preparation:

[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 LD 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 coordinated 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 DCH in the set of coordinated 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.

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

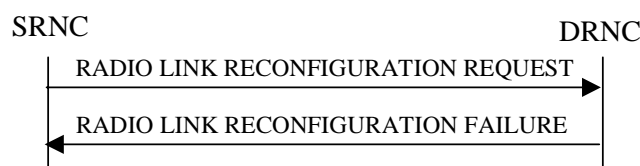


Figure 15: Unsyncronised Radio Link Reconfiguration procedure, Unsuccessful Operation

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 Unsyncronised 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 Unsyncronised Radio Link Reconfiguration procedure as having failed.

If the requested Unsyncronised 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

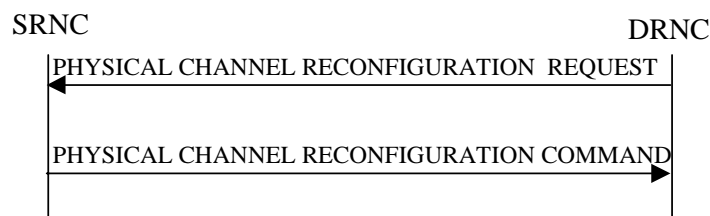


Figure 16: Physical Channel Reconfiguration procedure, Successful Operation

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 *TDD Channelisation Code* IE, *Burst Type* IE, *Midamble shift* IE, *Time Slot* 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, *Burst Type* IE, *Midamble shift* 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

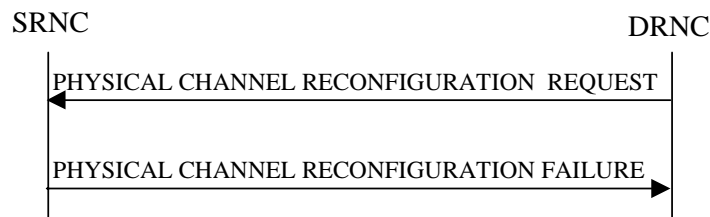


Figure 17: Physical Channel Reconfiguration procedure, Unsuccessful Operation

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 receipt 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 or Radio Link Sets 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

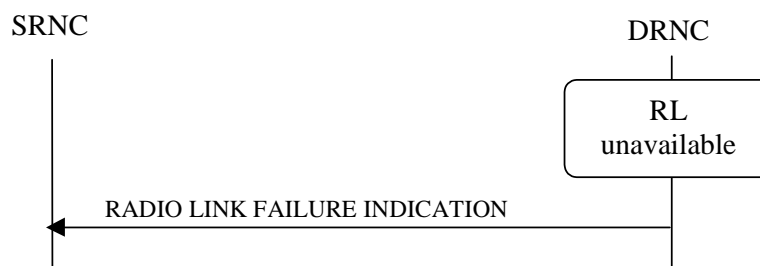


Figure 18: RL Failure procedure, Successful Operation

When DRNC detects that a one or more Radio Links or Radio Link Sets 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 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.]

When the RL Failure procedure is used to notify loss of UL synchronisation, the message shall be sent when indicated by the UL sync detection algorithm defined in ref. [10] and [22] , 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 pattern sequences during the compressed mode measurement, 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/Radio Link Set 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.

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 sync detection algorithm defined in ref. [10] and [22]. [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 synchronisation concerns one or more individual Radio Links the DRNC shall indicate the affected Radio Link(s) using the *RL Information IE*.] [FDD - If the re-established 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 Measurement Initiation

8.3.11.1 General

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

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

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

8.3.11.2 Successful Operation

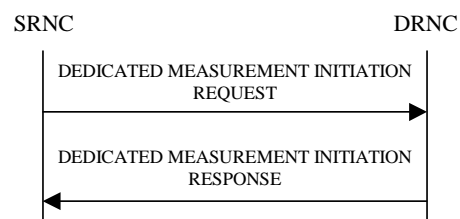


Figure 20: Measurement Initiation procedure, Successful Operation

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 measurement according to the parameters given in the request. Unless specified below, the meaning of the parameters are given in other specifications.

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 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 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 a 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 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 DRNC shall use the value zero for the hysteresis time.

If the *Report Characteristics* IE is set to 'Event B', the DRNS 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 DRNC shall use the value zero for the hysteresis time.

If the *Report Characteristics* IE is set to 'Event C', the DRNS 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 DRNS 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 DRNS shall initiate a Measurement Reporting procedure when the measured entity rises above the 'Measurement Threshold 1' and stays there for the 'Measurement Hysteresis Time' (Report A). The DRNS shall also initiate a Measurement Reporting procedure when the measured entity falls below the 'Measurement Threshold 2' and stays there for the 'Measurement Hysteresis Time' (Report B). If the *Report Periodicity* IE is provided, the DRNS shall initiate Measurement Reporting procedures periodically, with the requested frequency, between Report A and Report B. 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 a Measurement Reporting procedure when the measured entity falls below the 'Measurement Threshold 1' and stays there for the 'Measurement Hysteresis Time' (Report A). The DRNS shall also initiate a Measurement Reporting procedure when the measured entity rises above the 'Measurement Threshold 2' and stays there for the 'Measurement Hysteresis Time' (Report B). If the *Report Periodicity* IE is provided, the DRNS shall initiate Measurement Reporting procedures periodically, with the requested frequency, between Report A and Report B. 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 a 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 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 measurement request.

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 request message.

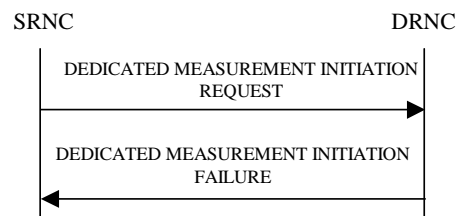
8.3.11.3 Unsuccessful Operation

Figure 21: 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

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8.3.12 Measurements Reporting

8.3.12.1 General

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

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

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

8.3.12.2 Successful Operation



Figure 22: Measurement Reporting procedure, Successful Operation

If the requested measurement reporting criteria are met, the DRNS shall initiate a Measurement Reporting procedure. If the measurement was initiated (by the Measurement Initiation procedure) for multiple dedicated measurement objects, the DRNC may include measurement values for multiple objects in the DEDICATED MEASUREMENT REPORT message. Unless specified below, the meaning of the parameters are given in other specifications.

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

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

8.3.12.3 Abnormal Conditions

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8.3.13 Measurement Termination

8.3.13.1 General

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

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

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

8.3.13.2 Successful Operation

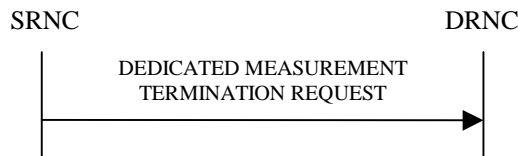


Figure 23: Measurement Termination procedure, Successful Operation

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

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8.3.14 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 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 Measurement Failure procedure at any time after establishing a Radio Link.

8.3.14.2 Successful Operation



Figure 24: 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 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

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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:

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

where the sum is performed over an adjustment period corresponding to a number of frames equal to the value of the *Adjustment Period* IE, P_{ref} is the value of the *DL Reference Power* IE, $P_{P-CPICH}$ is the power used on the primary CPICH, P_{init} is the code power of the last slot of previous the 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, P_{init} 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 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 elapses. The *CM Configuration Change CFN* in the *Active Pattern Sequence Information IE* and *TGCFN* for each sequence refers to the next coming CFN with that value.

If during the compressed mode measurement the gaps of two or more pattern sequences overlap, the DRNS shall behave as specified in subclause 8.3.9.

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

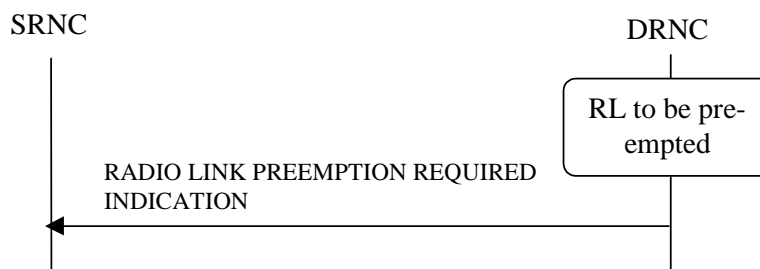


Figure 26B: RL Pre-emption procedure, Successful Operation

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

-

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

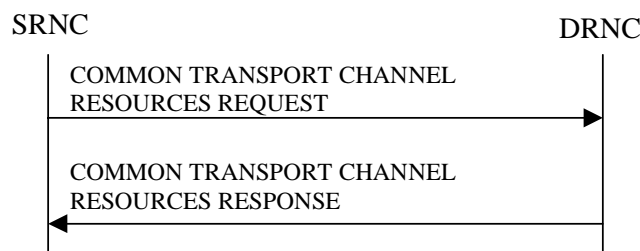


Figure 27: Common Transport Channel Resources Initialisation procedure, Successful Operation

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

Upon reception of the COMMON TRANSPORT CHANNEL RESOURCES REQUEST message, the DRNC shall respond by sending a COMMON TRANSPORT CHANNEL RESOURCES RESPONSE message to the SRNC.

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 for the 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.

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.

8.4.1.3 Unsuccessful Operation

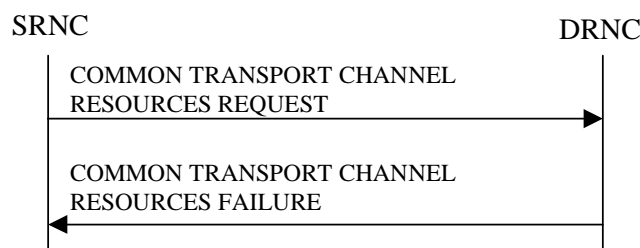


Figure 28: Common Transport Channel Resources Initialisation procedure, Unsuccessful Operation

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.

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

-

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 one incoming message, provided they cannot be reported by an appropriate failure message.

This procedure shall use the signalling bearer mode specified below.

8.5.1.2 Successful Operation

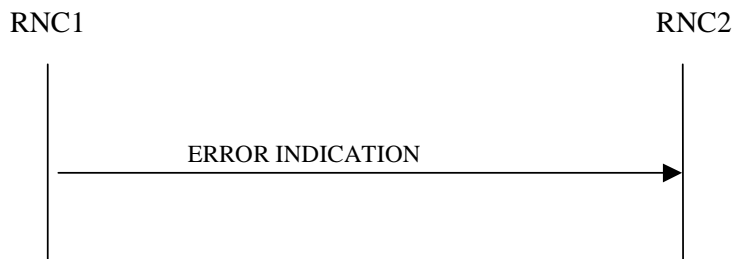


Figure 30: Error Indication procedure, Successful Operation

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

-

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 a 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 chapter 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 DPCH 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		–	
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		9.2.1.33		–	
>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...<maxn oofRLs>			EACH	notify
>RL ID	M		9.2.1.49		–	

IE/Group Name	Presence	Range	IE type and reference	Semantics description	Criticality	Assigned Criticality
>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		9.2.2.6		–	
>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		9.2.2.50		–	
Transmission Gap Pattern Sequence Information	O		9.2.2.47A		YES	reject
Active Pattern Sequence Information	O		9.2.2.A		YES	reject

Condition	Explanation
CodeLen	This IE is present only if <i>Min UL Channelisation Code length</i> IE equals to 4
SlotFormat	This IE is only present if the <i>DL DPCH Slot Format</i> IE is equal to any of the values 12 to 16.
NotFirstRL	This IE is present only if the RL is not the first one in the <i>RL Information</i> IE.
Diversity mode	This IE is present unless <i>Diversity Mode</i> IE in <i>UL DPCH Information</i> IE is "none"
C_ifalone	Either <i>Initial DL TX Power</i> IE or <i>Primary CPICH Ec/No</i> IE shall be present.

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..<maxno of CCTrCHs>		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..<maxno of CCTrCHs>		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		9.2.3.14A		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		–	
>Primary CCPCH RSCP	O		9.2.3.5		–	
>DL Time Slot ISCP Info	O		9.2.3.2D		–	

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		<i>1..<maxno ofRLs></i>			EACH	ignore
>RL ID	M		9.2.1.49		–	
>RL Set ID	M		9.2.2.35		–	
>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		–	
>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		9.2.2.7		–	
>CHOICE <i>Diversity Indication</i>	M				–	
>> <i>Combining</i>					–	
>>>RL ID	M		9.2.1.49	Reference RL ID for the combining	–	
>> <i>Non Combining or First RL</i>					–	
>>>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 Response 9.2.2.13B		YES	ignore

IE/Group Name	Presence	Range	IE type and reference	Semantics description	Criticality	Assigned Criticality
>Neighbouring UMTS Cell Information	O		9.2.1.41A		–	
>Neighbouring GSM Cell Information	O		9.2.1.41C		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 is 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		1			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	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		–	
>Timing Advance Applied	M		9.2.3.12A		–	
>Alpha Value	M		9.2.3.a		–	
>UL PhysCH SF Variation	M		9.2.3.13B		–	
>UL CCTrCH Information		0..<maxno of 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..<maxno of 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 Response	O		9.2.1.16A		YES	ignore
>DSCH Information Response		0..<Maxno of 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..<Maxno of USCHs>			GLOBAL	ignore
>>USCH ID	M		9.2.3.14		–	

IE/Group Name	Presence	Range	IE type and reference	Semantics description	Criticality	Assigned Criticality
>>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
Uplink SIR Target	M		Uplink SIR 9.2.1.69		–	
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 CCTrCH for one UE.

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...<max number of RLS>			EACH	ignore
>>>RL ID	M		9.2.1.49		–	
>>>Cause	M		9.2.1.5		–	
>>Successful RL Information Response		0..<max number of RLS-1>			EACH	ignore
>>>RL ID	M		9.2.1.49		–	
>>>RL Set ID	M		9.2.2.35		–	
>>>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		–	
>>>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		9.2.2.7		–	
>>>CHOICE Diversity Indication	M				–	
>>>>Combining					–	
>>>>>RL ID	M		9.2.1.49	Reference RL ID for the combining	–	
>>>>>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 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
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		<i>1..<maxnoofRLs-1></i>			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		9.2.2.6		–	
>Primary CPICH Ec/No	O		9.2.2.32		–	
>SSDT Cell Identity	O		9.2.2.40		–	
>Transmit Diversity Indicator	O		9.2.2.50		–	
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

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		9.2.2.6		–	
>Primary CCPCH RSCP	O		9.2.3.5		–	
>DL Time Slot ISCP Info	O		9.2.3.2D		–	

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		<i>1..<maxnoof RLS-1></i>			EACH	ignore
>RL ID	M		9.2.1.49		–	
>RL Set ID	M		9.2.2.35		–	
>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		–	
>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		9.2.2.7		–	
>CHOICE <i>Diversity Indication</i>	M				–	
>> <i>Combining</i>					–	
>>>RL ID	M		9.2.1.49	Reference RL ID	–	
>> <i>Non Combining</i>					–	
>>>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
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		1			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	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		–	
>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		9.2.2.7		–	
>>CHOICE <i>Diversity Indication</i>	M				–	
>>> <i>Combining</i>					–	
>>>>RL ID	M		9.2.1.49	Reference RL	–	
>>>> <i>Non Combining</i>					–	
>>>>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	M		9.2.1.26B		–	

IE/Group Name	Presence	Range	IE type and reference	Semantics description	Criticality	Assigned Criticality
Information						
>>CHOICE <i>Diversity Indication</i>	O				–	
>>> <i>Non Combining</i>					–	
>>>>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 <i>Diversity Indication</i>	O				–	
>>> <i>Non Combining</i>					–	
>>>>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		YES	ignore
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 one UE.

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 <i>Cause Level</i>	M				YES	ignore
> <i>General</i>					–	
>> <i>Cause</i>	M		9.2.1.5		–	
> <i>RL Specific</i>					–	
>> 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	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		–	
>>>Received total wide band power	M		9.2.2.35A		–	
>>>Secondary CCPCCH Info	O		9.2.2.37B		–	
>>>DL Code Information	M		FDD DL Code Information 9.2.2.14A		YES	ignore
>>>Diversity Indication	M		9.2.2.7		–	
>>>CHOICE <i>Diversity Indication</i>	M				–	
>>>> <i>Combining</i>					–	
>>>>>RL ID	M		9.2.1.49	Reference RL ID	–	
>>>> <i>Non Combining</i>					–	
>>>>>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
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 <i>Cause Level</i>	M				YES	ignore
> <i>General</i>					–	
>> <i>Cause</i>	M		9.2.1.5		–	
> <i>RL Specific</i>					–	
>> Unsuccessful RL Information Response		1			YES	ignore
>>>RL ID	M		9.2.1.49		–	
>>> <i>Cause</i>	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..<maxno ofRLs>			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		9.2.1.33		–	
DCHs to Modify	O		FDD DCHs to Modify 9.2.2.14C		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	–	
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		9.2.2.41		–	
>SSDT Cell Identity	C - SSDTIndON		9.2.2.40		–	
>Transmit Diversity Indicator	C – Diversity mode		9.2.2.50		–	
Transmission Gap Pattern Sequence Information	O		9.2.2.47A		YES	reject

Condition	Explanation
SSDTIndON	The IE may be present if the <i>SSDT Indication</i> IE is set to 'SSDT Active in the UE'.
CodeLen	This IE is present only if the <i>Min UL Channelisation Code length</i> IE equals to 4.
SlotFormat	This IE is only present if the <i>DL DPCH Slot Format</i> IE is equal to any of the values 12 to 16.
Diversity mode	This IE is present if <i>Diversity Mode</i> IE is present in the <i>UL DPCH Information</i> IE and is not equal to "none".

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 CCH to Add		0..<maxno of CCHs>		For DCH and USCH	EACH	notify
>CCH 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 CCH to Modify		0..<maxno of CCHs>			EACH	notify
>CCH 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 CCH to Delete		0..<maxno of CCHs>			EACH	notify
>CCH ID	M		9.2.3.2		–	
DL CCH to Add		0..<maxno of CCHs>		For DCH and DSCH	EACH	notify
>CCH 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 CCH List		0 to <maxno CCH>		List of uplink CCH which provide TPC	–	
>>TPC CCH ID	M		CCH ID 9.2.3.2		–	
DL CCH to Modify		0..<maxno of CCHs>			EACH	notify
>CCH 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 CCH List		0 to <maxno CCH>		List of uplink CCH which provide TPC	–	
>>TPC CCH ID	M		CCH ID 9.2.3.3		–	
DL CCH to Delete		0..<maxno of CCHs>			EACH	notify
>CCH 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..<maxno of DCHs>			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..<maxno ofDSCHs>			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..<maxno ofDSCHs>			GLOBAL	reject
>DSCH ID	M		9.2.1.26A		–	
USCHs to Modify		0..<maxno ofUSCHs>			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 <maxno of RB>		All Radio Bearers using this USCH	–	
>>RB Identity	M		9.2.3.5B		–	
USCHs to Add	O		USCH Information 9.2.3.14A		YES	reject
USCHs to Delete		0..<maxno ofUSCHs>			GLOBAL	reject
>USCH ID	M		9.2.3.14		–	

Condition	Explanation
CoordCH	This IE is 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		<i>0..<maxno ofRLs></i>			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		–	
>UL CCTrCH Information		0..<maxnoof CCTrCHs>		For DCH	GLOBAL	ignore
>>CCTrCH ID	M		9.2.3.2		–	
>>UL DPCH to be Added		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		–	
>>> Rx Timing Deviation	O		9.2.3.7A		–	
>>>UL Timeslot Information	M		9.2.3.13C		–	
>>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 <maxnoOfT S>			–	
>>>>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 <maxnoOfD PCH>			–	
>>>>>DPCH ID	M		9.2.3.3		–	
>>>>>TDD Channelisation Code	O		9.2.3.8		–	
>>UL DPCH to be Deleted		0..<maxnoof DPCHs>			GLOBAL	ignore
>>>DPCH ID	M		9.2.3.3		–	
>DL CCTrCH Information		0..<maxnoof CCTrCHs>		For DCH	GLOBAL	ignore
>>CCTrCH ID	M		9.2.3.2		–	
>>DL DPCH to be Added		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
>>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>			–	
>>>>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 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 .. <MaxnoofDSCHs>			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 .. <MaxnoofUSCHs>			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.

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		9.2.1.33		–	
DCHs to Modify	O		FDD DCHs to Modify 9.2.2.14C		YES	reject
DCHs to Add	O		DCH FDD Information 9.2.2.4A		YES	reject
DCHs to Delete		0..<maxno ofDCHs>			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		<i>0..<maxno ofRLs></i>			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		<i>0..1</i>			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 <i>Reporting Object</i>	M			Object for which the Failure shall be reported.	YES	ignore
>RL					–	
>>RL Information	M	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		–	

Range bound	Explanation
MaxnoofRLs	Maximum number of RLs for one UE.
MaxnoofRLSets	Maximum number of RL Sets for one 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 <i>Reporting Object</i>	M			Object for which the Restoration shall be reported.	YES	ignore
>RL					–	
>>RL Information		1 .. <Maxno ofRLs>			EACH	ignore
>>>RL ID	M		9.2.1.49		–	
>RLS					–	
>>RL Set Information		1 .. <Maxno ofRLSets>			EACH	ignore
>>>RL Set ID	M		9.2.2.35		–	

Range bound	Explanation
MaxnoofRLs	Maximum number of RLs for one UE.
MaxnoofRLSets	Maximum number of RL Sets for one 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	<i>1..<maxnoofRLs></i>			GLOBAL	ignore
>RL ID	M		9.2.1.49		–	
>DL Reference Power	M		DL Power 9.2.2.10		–	
Max Adjustment Step	C- Common Or Individual		9.2.2.23		YES	ignore
Adjustment Period	C- Common Or Individual		9.2.2.22		YES	ignore
Adjustment Ratio	C- Common Or Individual		9.2.2.C		YES	ignore

Condition	Explanation
Common	This IE is present only if the <i>Power Adjustment Type</i> IE is set to 'Common'.
Individual	This IE is present only if the <i>Power Adjustment Type</i> IE is set to 'Individual'.
CommonOrIndividual	This IE is present only if the <i>Power Adjustment Type</i> 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		<i>1</i>			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>			–	
>>>>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		–	
>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>			–	
>>>>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		–	

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

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		9.2.2.23		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	M		9.2.1.70B		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	M		9.2.1.70B		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 <i>Paging Area</i>	M				YES	ignore
> <i>URA</i>					–	
>>URA-ID	M		9.2.1.70		–	
> <i>Cell</i>					–	
>>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 <i>Dedicated Measurement Object Type</i>	M				YES	reject
>RL					–	
>>RL Information		1..<maxn oofRLs>			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..<maxn oofRLSets>			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 <i>Dedicated Measurement Object Type</i>	O			Dedicated Measurement Object Type the measurement was initiated with	YES	ignore
>RL or ALL RL					–	
>>RL Information		1..<maxno ofRLs>			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..<maxno ofRLSets>			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 <i>Dedicated Measurement Object Type</i>	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 lur 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

Range Bound	Explanation
MaxnoofMACcshSDUlengthsperPriority	Maximum number of different MAC-c/sh SDU Lengths.

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

Range Bound	Explanation
MaxnoofMSCcshSDUlengthsperPriority	Maximum number of different MAC-c/sh SDU Lengths.

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 <i>Cause</i> IE or the <i>Criticality Diagnostics</i> 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 Timeslot ISCP Information		1..<maxnoof DLts>			GLOBAL	ignore
>RL ID	M		9.2.1.49		–	
>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

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..<maxno ofRLs>			EACH	ignore
>RL ID	M		9.2.1.49		–	

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

9.2 Information Element Functional Definition and Contents

9.2.0 General

Section 9.2 presents the RNSAP IE definitions in tabular format. The corresponding ASN.1 definition is presented in section 9.3. In case there is contradiction between the tabular format in section 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 subclass 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
Allocation/Retention Priority				
>Priority Level	M		INTEGER (0..15)	This IE indicates the priority of the request. 0 = spare. 1 = highest priority. . . . 14 = Lowest priority. 15 = not used.
>Pre-emption Capability	M		ENUMERATED (shall not trigger pre-emption, may trigger pre-emption)	
>Pre-emption Vulnerability	M		ENUMERATED (not preemptable, preemptable)	

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

9.2.1.3 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. The length of this parameter is variable.

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.

Information Element/Group Name	Presence	Range	IE type and reference	Semantics description
Block STTD Indicator			ENUMERATED(active, inactive)	

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 (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 Temporarily 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/Allocated, ...)	
>Transport Layer				
>>Transport Layer Cause	M		ENUMERATED (Transport Resource Unavailable, Unspecified, ...)	
>Protocol				
>>Protocol Cause			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),...)	
>Misc				
>>Miscellaneous Cause	M		ENUMERATED (Control Processing Overload, Hardware Failure, O&M Intervention, Not enough User Plane Processing Resources, 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
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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 <i>Diversity Control Field</i> 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
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
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 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
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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 section 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 Coordinates		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: N ≤ 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 ≤ 2 ²⁴ X / 360 < N+1 X being the longitude in degree (-180°..+180°)

Range bound	Explanation
maxnoofPoints	Maximum no. of points in polygon.

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 P-CPICH[FDD]/ P-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 -19 -> -9.5dB ... +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
CN CS Domain Identifier				
>PLMN Id	M		OCTET STRING (3)	<ul style="list-style-type: none"> - digits 0 to 9, two digits per octet, - each digit encoded 0000 to 1001, - 1111 used as filler - bit 4 to 1 of octet n encoding digit 2n-1 - bit 8 to 5 of octet n encoding digit 2n <p>-The PLMN-ID consists of 3 digits from MCC followed by either</p> <ul style="list-style-type: none"> -a filler plus 2 digits from MNC (in case of 2 digit MNC) or -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
CN CS Domain Identifier				
>PLMN Id	M		OCTET STRING (3)	<ul style="list-style-type: none"> - digits 0 to 9, two digits per octet, - each digit encoded 0000 to 1001, - 1111 used as filler - bit 4 to 1 of octet n encoding digit 2n-1 - bit 8 to 5 of octet n encoding digit 2n <p>-The PLMN-ID consists of 3 digits from MCC followed by either</p> <ul style="list-style-type: none"> -a filler plus 2 digits from MNC (in case of 2 digit MNC) or -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)	

9.2.1.13 Criticality Diagnostics

IE/Group Name	Presence	Range	IE type and reference	Semantics description
Criticality Diagnostics				
>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				
>IE Criticality	M	0..<maxnoof errors>	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 if applicable

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		<i>1..<maxno of DCHs></i>			–	
>DCH ID	M		9.2.1.16		–	
>Binding ID	O		9.2.1.3		–	
>Transport Layer Address	O		9.2.1.62		–	

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
Dedicated measurement Value				
>SIR Value	C <i>MeasValue</i>		INTEGER(0..63)	According to mapping in ref. [23] and [24]
>SIR Error Value	C <i>MeasValue</i>		INTEGER(0..125)	According to mapping in [23], (FDD only)
>Transmitted Code Power Value	C <i>MeasValue</i>		INTEGER(0..127)	According to mapping in ref. [23] and [24]
>RSCP	C <i>MeasValue</i>		INTEGER(0..81)	According to mapping in ref. [24] (TDD only)
>Rx Timing Deviation	C <i>MeasValue</i>		INTEGER(0..2047)	According to mapping in [24] [TDD only]
>Round Trip Time	C <i>MeasValue</i>		INTEGER(0..32767)	According to mapping in [23] [FDD only]

Condition	Explanation
<i>MeasValue</i>	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
Dedicated Measurement Value Information		1			–	
>CHOICE <i>Measurement Availability Indicator</i>	M				–	
>> <i>Measurement Available</i>					–	
>>>Dedicated Measurement Value	M		9.2.1.19		–	
>>>CFN	O		9.2.1.9	Dedicated Measurement Time Reference	–	
>> <i>Measurement not Available</i>			NULL		–	

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

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 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.

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
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.) 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 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, ... 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

9.2.1.31 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 -'1111' used as filler -bit 4 to 1 of octet n is encoding digit 2n-1 -bit 8 to 5 of octet n is encoding digit 2n

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.

9.2.1.34 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

Indicates if measurement is available or not.

IE/Group Name	Presence	Range	IE type and reference	Semantics description
Measurement Availability Indicator			ENUMERATE D(measurement available, measurement not available)	

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	M		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 any measurement on dedicated resources requested over RNSAP.

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.

Information Element / Group Name	Presence	Range	IE Type and Reference	Semantics Description
SIR	<i>C – Threshold</i>		INTEGER(0..62)	0: 0 dB 1: 0.5 dB 2: 1 dB ... 62: 31dB
SIR Error	<i>C – Threshold</i>		INTEGER(0..124)	0: 0 dB 1: 0.5 dB 2: 1 dB ... 124: 62 dB (FDD only)
Transmitted Code Power	<i>C – Threshold</i>		INTEGER(0..112,...)	0: 0 dB 1: 0.5 dB 2: 1 dB ... 112: 56 dB
RSCP	<i>C – Threshold</i>		INTEGER(0..80)	0: 0 dB 1: 0.5 dB 2: 1 dB ... 80: 40dB (TDD only)
Round Trip Time	<i>C – Threshold</i>		INTEGER(0..32766)	0: 0 chips 1: 0.0625 chips 2: 0.1250 chips ... 32766: 2047.875 chips (FDD only)

Condition	Explanation
<i>Threshold</i>	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 or F.

Information Element / Group Name	Presence	Range	IE Type and Reference	Semantics Description
SIR	<i>C – Threshold</i>		INTEGER(0..63)	According to mapping in ref. [23] and [24].
SIR Error	<i>C – Threshold</i>		INTEGER(0..125)	According to mapping in [23], (FDD only)
Transmitted Code Power	<i>C – Threshold</i>		INTEGER(0..127)	According to mapping in ref. [23] and [24].
RSCP	<i>C – Threshold</i>		INTEGER(0..81)	According to mapping in ref. [24] (TDD only)
Rx Timing Deviation	<i>C - Threshold</i>		INTEGER(0..2047)	According to mapping in [24] (TDD only)
Round Trip Time	<i>C – Threshold</i>		INTEGER(0..32767)	According to mapping in [23] (FDD only)

Condition	Explanation
<i>Threshold</i>	Only one measurement threshold can be present at the same time.

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
Message Type				
>Procedure ID		1		
>>Procedure Code	M		ENUMERATED (RL Setup, RL Addition, RL Deletion, Synchronised RL Reconfiguration Preparation, Synchronised RL Reconfiguration Commit, Synchronised RL Reconfiguration Cancel, Unsynchronised RL Reconfiguration Request, RL Failure, RL Restoration, DL Power Control, DL Power Timeslot Control, Physical Channel Reconfiguration, UL Signalling Transfer, DL Signalling Transfer, Relocation Commit, Paging, Measurement Initiation, Measurement Reporting, Measurement Termination, Measurement Failure, Common Transport Channel Resources Initiation, Common Transport Channel Resources Release, Compressed Mode Command, Error Indication, ...)	
>>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 URAs exist, Single URAs Exist)	

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 neighbourin gRNCs>			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		–	
>Neighbouring TDD Cell Information	O		9.2.1.41D		–	

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..<max noofFDD neighbours>			–	
>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		<i>1..<maxnoofGSM neighbours></i>		
>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, - each digit encoded 0000 to 1001, - 1111 used as filler - bit 4 to 1 of octet n encoding digit 2n-1 - bit 8 to 5 of octet n encoding digit 2n -The PLMN-ID consists of 3 digits from MCC followed by either -a filler plus 2 digits from MNC (in case of 2 digit MNC) or -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 Actual value = (IE value * 2) + 1: -58: -115 dBm -57: -113 dBm ... -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		<i>1..<maxno ofTDDneighbours></i>			–	
>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 is present only if Sync Case = Case1.
Case2	This IE is 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, SMS,...)	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 in [16]

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			INTEGER(-15..40,...)	Unit dBm Granularity 0.1 dB.

9.2.1.44 Primary CPICH Power

Primary CPICH power is the power that is used for transmitting the P-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 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% 1: 44 % ... 14: 96% 15: 100%

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				
>Report Characteristics Type			ENUMERATED(On Demand, Periodic, Event A, Event B, Event C, Event D, Event E, Event F, ...)	
> 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.

Condition	Explanation
C-Periodic	Valid if <i>Report Characteristics Type</i> IE indicates "periodic"
C-Event A	Valid if <i>Report Characteristics Type</i> IE indicates "Event A"
C-Event B	Valid if <i>Report Characteristics Type</i> IE indicates "Event B"
C-Event C	Valid if <i>Report Characteristics Type</i> IE indicates "Event C"
C-Event D	Valid if <i>Report Characteristics Type</i> IE indicates "Event D"
C-Event E	Valid if <i>Report Characteristics Type</i> IE indicates "Event E"
C-Event F	Valid if <i>Report Characteristics Type</i> IE indicates "Event F"

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)	

9.2.1.51 SCH Time Slot

The SCH Time Slot is only applicable if the value of *Sync Case* IE is Case 2.

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 DSCH or USCH data frame. Used by the DRNC when scheduling 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 DSCH or USCH data frame: 0=Lowest Priority ... 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
SAI				
>PLMN Id	M		OCTET STRING (3)	- digits 0 to 9, two digits per octet, - each digit encoded 0000 to 1001, - 1111 used as filler - bit 4 to 1 of octet n encoding digit 2n-1 - bit 8 to 5 of octet n encoding digit 2n -The PLMN-ID consists of 3 digits from MCC followed by either -a filler plus 2 digits from MNC (in case of 2 digit MNC) or -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)	

9.2.1.53 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

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)	

9.2.1.60 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 : a) The TFCS refers to the uplink OR b) The mode is FDD and none of the Node B communication contexts are assigned any DSCH transport channels OR 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 β_C	M		INTEGER(0..15)	For UL DPCCCH or control part of PRACH in FDD ref. [21].
>>>>>Gain Factor β_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 : a) The TFCS refers to the downlink AND 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_Comb>		The first instance of the <i>Transport format combination_DCH IE</i> 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_Comb>		The first instance of the <i>Transport format combination_DSCH</i> 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
<i>MaxnoofTFCs</i>	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.
<i>MaxCTFC</i>	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
Transport Format Set				
>Dynamic Transport Format Information		1..<maxTFcount>		
>>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 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				
>>>>2 nd 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. 'RRC' = Statistics of the data corresponds to RRC signalling '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 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

9.2.1.69 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
UTRAN Access Point Position				
>Latitude Sign	M		ENUMERATED (North, South)	
>Degrees of Latitude	M		INTEGER (0...2 ²³ -1)	The IE value (N) is derived by this formula: $N \leq 2^{23} \times X / 90 < N+1$ 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: $N \leq 2^{24} \times X / 360 < N+1$ 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 <i>URA ID</i> 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
UC-ID		1		
>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 [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 0 -> 0.00 1 -> 0.01 ... 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.

Information Element/Group Name	Presence	Range	IE type and reference	Semantics description
Closed Loop Timing Adjustment Mode			ENUMERATED (Offset1, Offset2,...)	According to [10] subclause 7.1: Offset1 = slot(j+1)mod15 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		<i>1..<maxno ofDCHs></i>			–	
>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		<i>1..<maxno ofDCHs></i>			–	
>>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		–	

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.

Information Element/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 1...15= Secondary scrambling code

9.2.2.12 Downlink Frame Type

Void

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 FDD Information		1			–	
>DSCH Specific FDD Information		1..<maxno of DSCHs>			–	
>>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	–	

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 FDD Information Response		1			–	
>DSCH Specific FDD Information Response		1..<Maxno of DSCHs>			–	
>>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..<maxno ofDCHs>			–	
>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..<maxno ofDCHs>			–	
>>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		–	

Range bound	Explanation
MaxnoofDCHs	Maximum number of DCHs for one UE.

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	M		INTEGER(0..511)	According to the mapping in [27]. 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 1: 256 chip 2: 512 chip .. 149: 38144 chip 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 $SFN \bmod IB_SG_REP = IB_SG_POS$.

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 ,)	

9.2.2.22 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

This parameter is an UE Radio Access Capability parameter which is needed in 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 which is supported by UE. 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 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).

Information Element/Group name	Presence	Range	IE type and reference	Semantics description
DL Scrambling Code	M		INTEGER (0..15)	Scrambling code on which PDSCH is transmitted. 0= Primary scrambling code of the cell 1...15 = Secondary scrambling code

<i>Choice Signalling Method</i>				
<i>>Code Range</i>				
>>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]
<i>>TFCI Range</i>				
>>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]
<i>>Explicit</i>				
>>>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. 0=0 chips, 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 SSID 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
Secondary CCPCH Info		1			–	
>FDD S-CCPCH Offset	M		9.2.2.15	Corresponds to: $\tau_{S-CCPCH,k}$, 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 .. <maxFACH Hcount+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 G>			–	
>>>IB_SG_POS	M		9.2.2.20		–	

Condition	Explanation
SlotFormat	This IE is present only if the <i>Secondary CCPCH Slot Format</i> 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

Information Element/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

9.2.2.40 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)	

9.2.2.41 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 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 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 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) 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,. 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) When omitted, DeltaSIR2 = DeltaSIR1. 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. When omitted, DeltaSIRafter2 = DeltaSIRafter1. 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 [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

IE/Group Name	Presence	Range	IE type and reference	Semantics description
Transmit Diversity Indicator			ENUMERATED (active, inactive)	

The Transmit Diversity Indicator indicates whether Transmit Diversity shall be active or not.

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:

- P-CPICH is broadcast from two antennas
- STTD is applied to P-CCPCH
- TSTD is applied to P-SCH and S-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				
>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..<maxno ofDCHs>			–	
>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..<maxno ofDCHs>			–	
>>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-CoordDCH		9.2.1.46A		–	

Condition	Explanation
CoordDCH	This IE is present only this DCH is part of a set of coordinated DCHs (number of instances of the <i>DCH Specific Info</i> IE is greater than 1).

Range bound	Explanation
MaxnoofDCHs	Maximum number of DCHs for one UE.

9.2.3.2B DCH TDD Information Response

The *DCH TDD 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 TDD Information Response		1..<maxno ofDCHs>			–	
>DCH ID	M		9.2.1.16		–	
>Binding ID	O		9.2.1.3		–	
>Transport Layer Address	O		9.2.1.62		–	

Range bound	Explanation
MaxnoofDCHs	Maximum number of DCHs for one UE.

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 <maxnoOf TS>			–	
>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..<maxno ofDLts>			–	
>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.

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		<i>1..<maxno of DSCHs></i>			–	
>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 <i>Burst Type</i>				
> <i>Type 1</i>				
>>Midamble Allocation Mode	M		ENUMERATED (Default midamble, Common midamble, UE specific midamble)	
>>Midamble Shift	C-UE		INTEGER(0..15)	
> <i>Type 2</i>				
>>Midamble Allocation Mode	M		ENUMERATED (Default midamble, Common midamble, UE specific midamble)	
>>Midamble Shift			INTEGER (0..15)	
> <i>Type 3</i>				
>>Midamble Allocation Mode	M		ENUMERATED (Default midamble, UE specific midamble)	UL only
>>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)	

9.2.3.5 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 [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 [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.

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

9.2.3.8 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 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 Offset for each DPCH in this CCTrCH shall be calculated by TDD DPCH Offset *mod* Repetition period, see [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		<i>1..<maxno ofDCHs></i>			–	
>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		<i>1..<maxno ofDCHs></i>			–	
>>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.

9.2.3.9 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 [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 <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.

9.2.3.11 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	M		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 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 an uplink timeslot at the DRNS, see ref. [14].

IE/Group Name	Presence	Range	IE type and reference	Semantics description
UL Timeslot ISCP			INTEGER (0..81)	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 <maxnoOf TS>			–	
>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 .. <maxnoof ULts>			–	
>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.

9.2.3.14 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)	

9.2.3.14A 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

Section 9.3 presents the Abstract Syntax of RNSAP protocol with ASN.1. In case there is contradiction between the ASN.1 definition in this section and the tabular format in sections 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 section 10.3.7.

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
```

```
    CommonTransportChannelResourcesFailure,
    CommonTransportChannelResourcesRequest,
    CommonTransportChannelResourcesReleaseRequest,
    CommonTransportChannelResourcesResponseFDD,
    CommonTransportChannelResourcesResponseTDD,
    CompressedModeCommand,
    DedicatedMeasurementFailureIndication,
    DedicatedMeasurementInitiationFailure,
    DedicatedMeasurementInitiationRequest,
    DedicatedMeasurementInitiationResponse,
    DedicatedMeasurementReport,
    DedicatedMeasurementTerminationRequest,
    DL-PowerControlRequest,
    DL-PowerTimeslotControlRequest,
    DownlinkSignallingTransferRequest,
    ErrorIndication,
    PagingRequest,
    PhysicalChannelReconfigurationCommand,
    PhysicalChannelReconfigurationFailure,
    PhysicalChannelReconfigurationRequestFDD,
    PhysicalChannelReconfigurationRequestTDD,
    PrivateMessage,
    RadioLinkAdditionFailureFDD,
    RadioLinkAdditionFailureTDD,
    RadioLinkAdditionRequestFDD,
    RadioLinkAdditionRequestTDD,
    RadioLinkAdditionResponseFDD,
    RadioLinkAdditionResponseTDD,
    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-commonTransportChannelResourcesInitialisation,
id-commonTransportChannelResourcesRelease,
id-compressedModeCommand,
id-downlinkPowerControl,
id-downlinkSignallingTransfer,
id-downlinkPowerTimeslotControl,
id-errorIndication,
id-measurementFailure,
id-measurementInitiation,
id-measurementReporting,
id-measurementTermination,
id-paging,
id-physicalChannelReconfiguration,
id-privateMessage,
id-radioLinkAddition,
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,
    succesfulOutcome       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 |
    measurementInitiation |
    commonTransportChannelResourcesInitialisationFDD |
    commonTransportChannelResourcesInitialisationTDD |
    ...
}

RNSAP-ELEMENTARY-PROCEDURES-CLASS-2 RNSAP-ELEMENTARY-PROCEDURE ::= {
    uplinkSignallingTransferFDD |
    uplinkSignallingTransferTDD |
    downlinkSignallingTransfer |

```

```

    relocationCommit
    paging
    synchronisedRadioLinkReconfigurationCommit
    synchronisedRadioLinkReconfigurationCancellation
    radioLinkFailure
    radioLinkPreemption
    radioLinkRestoration
    measurementReporting
    measurementTermination
    measurementFailure
    downlinkPowerControlFDD
    downlinkPowerTimeslotControl
    compressedModeCommandFDD
    commonTransportChannelResourcesRelease
    errorIndication
    privateMessage
    ...
}

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
}

measurementInitiation RNSAP-ELEMENTARY-PROCEDURE ::= {
  INITIATING MESSAGE DedicatedMeasurementInitiationRequest
  SUCCESSFUL OUTCOME DedicatedMeasurementInitiationResponse
  UNSUCCESSFUL OUTCOME DedicatedMeasurementInitiationFailure
  PROCEDURE ID         { procedureCode id-measurementInitiation, 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
}

measurementReporting RNSAP-ELEMENTARY-PROCEDURE ::= {
  INITIATING MESSAGE DedicatedMeasurementReport
  PROCEDURE ID       { procedureCode id-measurementReporting, ddMode common }
  CRITICALITY        ignore
}
```

```
}  
  
measurementTermination RNSAP-ELEMENTARY-PROCEDURE ::= {  
  INITIATING MESSAGE DedicatedMeasurementTerminationRequest  
  PROCEDURE ID      { procedureCode id-measurementTermination, ddMode common }  
  CRITICALITY      ignore  
}  
  
measurementFailure RNSAP-ELEMENTARY-PROCEDURE ::= {  
  INITIATING MESSAGE DedicatedMeasurementFailureIndication  
  PROCEDURE ID      { procedureCode id-measurementFailure, ddMode common }  
  CRITICALITY      ignore  
}  
  
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  
}  
  
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,
    AlphaValue,
    BLER,
    Block-STTD-Indicator,
    BindingID,
    C-ID,
    C-RNTI,
    CCTrCH-ID,
    CFN,
    ClosedLoopModel-SupportIndicator,
    ClosedLoopMode2-SupportIndicator,
    ClosedloopTimingadjustmentmode,
    CN-CS-DomainIdentifier,
    CN-PS-DomainIdentifier,
    CNDomainType,
    Cause,
    CellParameterID,
    ChipOffset,
    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-TimeSlot-ISCP-Info,
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,
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,
IMSI,
InnerLoopDLPCStatus,
L3-Information,
LimitedPowerIncrease,
MaximumAllowedULTxPower,
MaxNrDLPhysicalchannels,
MaxNrOfUL-DPCHs,
MaxNrTimeslots,
MaxNrULPhysicalchannels,
MeasurementFilterCoefficient,
MeasurementID,
MidambleShiftAndBurstType,
MinimumSpreadingFactor,
MinUL-ChannelisationCodeLength,
MultiplexingPosition,
Neighbouring-GSM-CellInformation,
Neighbouring-UMTS-CellInformation,

NrOfDLchannelisationcodes,
PagingCause,
PagingRecordType,
PDSCHCodeMapping,
PayloadCRC-PresenceIndicator,
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,
RxTimingDeviationForTA,
S-FieldLength,
S-RNTI,
SCH-TimeSlot,
SAI,
SN,
Secondary-CCPCH-Info,
SSDT-CellID,
SSDT-CellID-Length,
SSDT-Indication,
SSDT-SupportIndicator,
STTD-Indicator,
STTD-SupportIndicator,
AdjustmentPeriod,
ScaledAdjustmentRatio,
MaxAdjustmentStep,
SecondaryCCPCH-SlotFormat,
SyncCase,
TDD-ChannelisationCode,
TDD-DCHs-to-Modify,
TDD-DL-Code-Information,
TDD-DPCHOffset,
TDD-PhysicalChannelOffset,
TDD-TPC-DownlinkStepSize,
TDD-UL-Code-Information,
TFCI-Coding,
TFCI-Presence,
TFCI-SignallingMode,

TimeSlot,
TimingAdvanceApplied,
ToAWE,
ToAWS,
TransmitDiversityIndicator,
TransportBearerID,
TransportBearerRequestIndicator,
TFCS,
Transmission-Gap-Pattern-Sequence-Information,
Transmission-Gap-Pattern-Sequence-ScramblingCode-Information,
TransportFormatManagement,
TransportFormatSet,
TransportLayerAddress,
TrCH-SrcStatisticsDescr,
UARFCN,
UC-ID,
UL-DPCCH-SlotFormat,
UL-SIR,
UL-FP-Mode,
UL-PhysCH-SF-Variation,
UL-ScramblingCode,
UL-TimeSlot-Information,
UL-TimeSlot-ISCP-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,

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-ClosedLoopModel-SupportIndicator,
id-ClosedLoopMode2-SupportIndicator,
id-CNOriginatedPage-PagingRqst,
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-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-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-DSCHsToBeAddedOrModifiedList-RL-ReconfReadyTDD,
id-FACH-InfoForUESelectedS-CCPCH-CTCH-ResourceRspFDD,
id-FACH-InfoForUESelectedS-CCPCH-CTCH-ResourceRspTDD,
id-GA-AccessPointPosition,
id-GA-Cell,
id-IMSI,
id-InnerLoopDLPCStatus,
id-L3-Information,
id-AdjustmentPeriod,
id-MaxAdjustmentStep,
id-MeasurementFilterCoefficient,
id-MeasurementID,
id-Neighbouring-GSM-CellInformation,
id-PagingArea-PagingRqst,
id-FACH-FlowControlInformation,
id-PowerAdjustmentType,
id-ProcedureScope-DL-PC-Rqst,
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-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-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-Reporting-Object-RL-RestoreInd,
id-RxTimingDeviationForTA,
id-S-RNTI,
id-SAI,
id-SRNC-ID,
id-STTD-SupportIndicator,
id-SuccessfulRL-InformationResponse-RL-AdditionFailureFDD,
id-SuccessfulRL-InformationResponse-RL-SetupFailureFDD,
id-SuccessfulRL-InformationResponseList-RL-AdditionFailureFDD,
id-SuccessfulRL-InformationResponseList-RL-SetupFailureFDD,
id-timeSlot-ISCPList-DL-PC-Rqst-TDD,

```

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-UnsuccessfulRL-InformationResponseList-RL-AdditionFailureFDD,
id-UnsuccessfulRL-InformationResponseList-RL-SetupFailureFDD,
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
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 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 is 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-CellIdLength        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 ::= {
    ...
}

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 is 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 is 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 is 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 ::= {
    ...
}

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,
    primaryCCPCH-RSCP  PrimaryCCPCH-RSCP OPTIONAL,
    dL-TimeSlot-ISCP   DL-TimeSlot-ISCP-Info OPTIONAL,
    iE-Extensions      ProtocolExtensionContainer { { RL-Information-RL-SetupRqstTDD-ExtIEs } } OPTIONAL,
    ...
}

RL-Information-RL-SetupRqstTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

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,
    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-RL-SetupRspFDD OPTIONAL,
    iE-Extensions       ProtocolExtensionContainer { {RL-InformationResponseItem-RL-SetupRspFDD-ExtIEs} } OPTIONAL,
    ...
}

RL-InformationResponseItem-RL-SetupRspFDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

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 ::= {
    ...
}

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 }
}

Neighbouring-GSM-CellInformation-RL-SetupRspFDD ::= ProtocolIE-Single-Container {{ Neighbouring-GSM-CellInformationItem-RL-SetupRspFDD }}

Neighbouring-GSM-CellInformationItem-RL-SetupRspFDD RNSAP-PROTOCOL-IES ::= {
    { ID id-Neighbouring-GSM-CellInformation CRITICALITY ignore TYPE Neighbouring-GSM-CellInformation 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 } |
{ 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,
  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,
  timingAdvanceApplied  TimingAdvanceApplied,
  alphaValue           AlphaValue,
  ul-PhysCH-SF-Variation  UL-PhysCH-SF-Variation,
  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-RL-SetupRspTDD OPTIONAL,
  iE-Extensions         ProtocolExtensionContainer { {RL-InformationResponse-RL-SetupRspTDD-ExtIEs} } OPTIONAL,
  ...
}

RL-InformationResponse-RL-SetupRspTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
  ...
}

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 ::= {
...
}

Neighbouring-GSM-CellInformation-RL-SetupRspTDD ::= ProtocolIE-Single-Container {{ Neighbouring-GSM-CellInformationItem-RL-SetupRspTDD }}

Neighbouring-GSM-CellInformationItem-RL-SetupRspTDD RNSAP-PROTOCOL-IES ::= {
  { ID id-Neighbouring-GSM-CellInformation    CRITICALITY ignore    TYPE    Neighbouring-GSM-CellInformation    PRESENCE mandatory }
}

RadioLinkSetupResponseTDD-Extensions 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
    ...
}

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,
    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-RL-SetupFailureFDD OPTIONAL,
iE-Extensions         ProtocolExtensionContainer { {SuccessfulRL-InformationResponse-RL-SetupFailureFDD-ExtIEs} } OPTIONAL,
...
}

SuccessfulRL-InformationResponse-RL-SetupFailureFDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
...
}

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 ::= {
...
}

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 }
}
```

```
Neighbouring-GSM-CellInformation-RL-SetupFailureFDD ::= ProtocolIE-Single-Container {{ Neighbouring-GSM-CellInformationItem-RL-SetupFailureFDD }}
```

```
Neighbouring-GSM-CellInformationItem-RL-SetupFailureFDD RNSAP-PROTOCOL-IES ::= {
  { ID id-Neighbouring-GSM-CellInformation CRITICALITY ignore TYPE Neighbouring-GSM-CellInformation 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 ::= {
  ...
}
```

```
-- *****
--
-- 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,
    iE-Extensions                  ProtocolExtensionContainer { {RL-Information-RL-AdditionRqstTDD-ExtIEs} } OPTIONAL,
    ...
}

RL-Information-RL-AdditionRqstTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

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,
    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-RL-AdditionRspFDD OPTIONAL,
iE-Extensions                  ProtocolExtensionContainer { {RL-InformationResponseItem-RL-AdditionRspFDD-ExtIEs} } OPTIONAL,
...
}

RL-InformationResponseItem-RL-AdditionRspFDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
...
}

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 ::= {
...
}

NonCombining-RL-AdditionRspFDD ::= SEQUENCE {
    dCH-InformationResponse DCH-InformationResponse,
    iE-Extensions          ProtocolExtensionContainer { { NonCombiningItem-RL-AdditionRspFDD-ExtIEs} } OPTIONAL,
    ...
}

NonCombiningItem-RL-AdditionRspFDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
...
}

Neighbouring-GSM-CellInformation-RL-AdditionRspFDD ::= ProtocolIE-Single-Container {{ Neighbouring-GSM-CellInformationItem-RL-AdditionRspFDD }}

```

```

Neighbouring-GSM-CellInformationItem-RL-AdditionRspFDD RNSAP-PROTOCOL-IES ::= {
  { ID id-Neighbouring-GSM-CellInformation    CRITICALITY ignore  TYPE   Neighbouring-GSM-CellInformation  PRESENCE mandatory }
}

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 } |
  { ID id-CriticalityDiagnostics
    CRITICALITY ignore  TYPE CriticalityDiagnostics  PRESENCE optional },
  ...
}

RL-InformationResponse-RL-AdditionRspTDD ::= SEQUENCE {
  rL-ID                RL-ID,
  uRA-Information      URA-Information,
  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,
  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-RL-AdditionRspTDD    OPTIONAL,
  IE-Extensions       ProtocolExtensionContainer { {RL-InformationResponse-RL-AdditionRspTDD-ExtIEs} } OPTIONAL,
}

```

```

}
...
}
RL-InformationResponse-RL-AdditionRspTDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
...
}
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 CTrCH-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 ::= {
    ...
}

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 ::= {
  ...
}

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 }
}

RadioLinkAdditionResponseTDD-Extensions RNSAP-PROTOCOL-EXTENSION ::= {
  ...
}

-- *****
--
-- 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
      PRESENCE mandatory }
}

SuccessfulRL-InformationResponse-RL-AdditionFailureFDD ::= SEQUENCE {
  rL-ID                RL-ID,
  rL-Set-ID            RL-Set-ID,
  uRA-Information      URA-Information,
  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-RL-AdditionFailureFDD OPTIONAL,
  iE-Extensions        ProtocolExtensionContainer { {SuccessfulRL-InformationResponse-RL-AdditionFailureFDD-ExtIEs} } OPTIONAL,
  ...
}

SuccessfulRL-InformationResponse-RL-AdditionFailureFDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
  ...
}

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 ::= {
  ...
}

NonCombining-RL-AdditionFailureFDD ::= SEQUENCE {
  dCH-InformationResponse      DCH-InformationResponse,
  iE-Extensions                ProtocolExtensionContainer { { NonCombiningItem-RL-AdditionFailureFDD-ExtIEs} } OPTIONAL,
  ...
}

NonCombiningItem-RL-AdditionFailureFDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
  ...
}

Neighbouring-GSM-CellInformation-RL-AdditionFailureFDD ::= ProtocolIE-Single-Container { { Neighbouring-GSM-CellInformationItem-RL-AdditionFailureFDD } }

Neighbouring-GSM-CellInformationItem-RL-AdditionFailureFDD RNSAP-PROTOCOL-IES ::= {
  { ID id-Neighbouring-GSM-CellInformation      CRITICALITY ignore TYPE      Neighbouring-GSM-CellInformation PRESENCE mandatory }
}

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}}
  ...
}

RadioLinkDeletionResponse-IEs RNSAP-PROTOCOL-IES ::= {
  { ID id-CriticalityDiagnostics  CRITICALITY ignore  TYPE CriticalityDiagnostics  PRESENCE optional },
  ...
}

RadioLinkDeletionResponse-Extensions RNSAP-PROTOCOL-EXTENSION ::= {
  ...
}

-- *****
--
-- RADIO LINK RECONFIGURATION PREPARE FDD

```



```

--
-- *****
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-DPCHs              MaxNrOfUL-DPCHs              OPTIONAL
    -- This IE is 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-CellIDLength           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 is 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 ::= {
...
}

```

```

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 is present if Diversity Mode IE in UL DPCH Information group 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 ::= {
    ...
}

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-ReconfPrepTDD PRESENCE optional } |
    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-ReconfPrepTDD PRESENCE optional } |
    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            CCH-CH-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}}
  ...
}

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,
  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,
    ul-DPCH-ModifyInformation UL-DPCH-InformationModifyList-RL-ReconfReadyTDD OPTIONAL,
    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 ::= {
    ...
}

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
    mandatory }
}

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,
  iE-Extensions            ProtocolExtensionContainer { {UL-DPCH-InformationModifyItem-RL-ReconfReadyTDD-ExtIEs} } OPTIONAL,
  ...
}

UL-DPCH-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,
    dl-DPCH-ModifyInformation DL-DPCH-InformationModifyList-RL-ReconfReadyTDD      OPTIONAL,
    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 ::= {
    ...
}

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,
    iE-Extensions ProtocolExtensionContainer { {DL-DPCH-InformationModifyItem-RL-ReconfReadyTDD-ExtIEs} } OPTIONAL,
    ...
}

DL-DPCH-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}}
  ...
}

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 } }
  ...
}

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 } }
  ...
}

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}}
    ...
}
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}}
    ...
}
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 TFCS-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}}
    ...
}

```

```

}

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 CTrCH-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 CTrCH-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
--
-- *****

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,
  ...
}

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 ::= {
  ...
}

-- *****
--
-- RADIO LINK PREEMPTION REQUIRED INDICATION
--
-- *****

RadioLinkPreemptionRequiredIndication ::= SEQUENCE {
  protocolIEs                ProtocolIE-Container      {{RadioLinkPreemptionRequiredIndication-IEs}},
  protocolExtensions         ProtocolExtensionContainer {{RadioLinkPreemptionRequiredIndication-Extensions}}
  ...
}

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-Reporting-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,
    ...
}

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 ::= {
  ...
}

-- *****
--
-- 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 is 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 is present only 'Adjustment Type' equals to 'Individual'
  { ID id-MaxAdjustmentStep            CRITICALITY ignore  TYPE MaxAdjustmentStep                      PRESENCE conditional} |
  -- This IE is present only 'Adjustment Type " equals to 'Common' or 'Individual'
  { ID id-AdjustmentPeriod              CRITICALITY ignore  TYPE AdjustmentPeriod                       PRESENCE conditional} |
  -- This IE is present only 'Adjustment Type " equals to 'Common' or 'Individual'
  { ID id-AdjustmentRatio                CRITICALITY ignore  TYPE ScaledAdjustmentRatio                  PRESENCE conditional},
  ...
}

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}}
    ...
}

DL-PowerTimeslotControlRequest-IEs RNSAP-PROTOCOL-IES ::= {
    { ID id-timeSlot-ISCPList-DL-PC-Rqst-TDD    CRITICALITY ignore  TYPE TimeSlot-ISCPList-DL-PC-Rqst-TDD  PRESENCE mandatory},
    ...
}

TimeSlot-ISCPList-DL-PC-Rqst-TDD ::= SEQUENCE (SIZE (0..maxNrOfDLTs)) OF Timeslot-ISCPItem-DL-PC-Rqst-TDD

Timeslot-ISCPItem-DL-PC-Rqst-TDD ::= SEQUENCE {
    rL-ID                      RL-ID,
    timeSlot                    TimeSlot,
    dl-TimeslotISCP             DL-TimeslotISCP,
    iE-Extensions               ProtocolExtensionContainer { { Timeslot-ISCPItem-DL-PC-Rqst-TDD-ExtIEs} } OPTIONAL,
    ...
}

Timeslot-ISCPItem-DL-PC-Rqst-TDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

DL-PowerTimeslotControlRequest-Extensions RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

-- *****
--
-- PHYSICAL CHANNEL RECONFIGURATION REQUEST FDD
--
-- *****

PhysicalChannelReconfigurationRequestFDD ::= SEQUENCE {
    protocolIEs                ProtocolIE-Container    {{PhysicalChannelReconfigurationRequestFDD-IEs}},
    protocolExtensions         ProtocolExtensionContainer {{PhysicalChannelReconfigurationRequestFDD-Extensions}}
    ...
}

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,
  iE-Extensions ProtocolExtensionContainer { {UL-DPCH-InformationItem-PhyChReconfRqstTDD-ExtIEs} } OPTIONAL,
  ...
}

UL-DPCH-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 ::= {
    ...
}

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}}
    ...
}

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}}
    ...
}

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 ::= {
  ...
}

-- *****
--
-- UPLINK SIGNALLING TRANSFER INDICATION FDD
--
-- *****

UplinkSignallingTransferIndicationFDD ::= SEQUENCE {
  protocolIEs          ProtocolIE-Container    {{UplinkSignallingTransferIndicationFDD-IEs}},
  protocolExtensions   ProtocolExtensionContainer {{UplinkSignallingTransferIndicationFDD-Extensions}}
  ...
}

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 mandatory },
  ...
}

UplinkSignallingTransferIndicationFDD-Extensions RNSAP-PROTOCOL-EXTENSION ::= {
  ...
}

-- *****
--
-- UPLINK SIGNALLING TRANSFER INDICATION TDD
--
-- *****

UplinkSignallingTransferIndicationTDD ::= SEQUENCE {
  protocolIEs          ProtocolIE-Container    {{UplinkSignallingTransferIndicationTDD-IEs}},
  protocolExtensions   ProtocolExtensionContainer {{UplinkSignallingTransferIndicationTDD-Extensions}}
  ...
}

```

```

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 mandatory } |
  ...
}

UplinkSignallingTransferIndicationTDD-Extensions RNSAP-PROTOCOL-EXTENSION ::= {
  ...
}

-- *****
--
-- DOWNLINK SIGNALLING TRANSFER REQUEST
--
-- *****

DownlinkSignallingTransferRequest ::= SEQUENCE {
  protocolIEs          ProtocolIE-Container    {{DownlinkSignallingTransferRequest-IEs}},
  protocolExtensions   ProtocolExtensionContainer {{DownlinkSignallingTransferRequest-Extensions}}
  ...
}

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}}
    ...
}

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}}
  ...
}

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 ::= {
    ...
}

CNOOriginatedPage-PagingRqst ::= SEQUENCE {
    pagingCause         PagingCause,
    cNDomainType        CNDomainType,
    pagingRecordType    PagingRecordType,
    iE-Extensions       ProtocolExtensionContainer { { CNOOriginatedPage-PagingRqst-ExtIEs} } OPTIONAL,
    ...
}

CNOOriginatedPage-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}}
    ...
}

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}}
    ...
}

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}}
    ...
}

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}}
    ...
}

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}}
    ...
}

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}}
    ...
}

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}}
    ...
}

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}}
    ...
}

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}}
  ...
}

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 ::= {
    ...
}

```

```

}
-- *****
--
-- 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,
    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,
    maxTFCI1Combs,
    maxTFCI2Combs,
    maxTFCI2Combs-1,
    maxTGPS,
    maxTTI-Count,

    id-Neighbouring-UMTS-CellInformationItem
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 ::= {
    ...
}

AllowedQueuingTime ::= INTEGER (1..60)
-- seconds

AlphaValue ::= INTEGER (0..8)
-- Actual value = Alpha / 8

-- B

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
}

-- 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-temporarily-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-allocated,  
...  
}  
  
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))

ClosedLoopModel-SupportIndicator ::= ENUMERATED {
    closedLoop-Model-Supported,
    closedLoop-Model-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,
    ...
}

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 ::= {

```

```
}
...
}
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 ::= {
    ...
}
```

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 ::= {
    ...
}
```

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 is present only if DCH is part of set of Coordinated DCHs
  iE-Extensions        ProtocolExtensionContainer { {DCH-Specific-TDD-Item-ExtIEs} } OPTIONAL,
  ...
}

```

```
DCH-Specific-TDD-Item-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
  ...
}

```

```
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.

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-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-TimeslotISCP           ::= INTEGER (0..91)
-- According to mapping in [24]

Downlink-Compressed-Mode-Method ::= ENUMERATED {
    puncturing,
    sFdiv2,
    higher-layer-scheduling,
    ...
}

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 ::= {
    ...
}

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                CTrCH-ID, -- DL CTrCH 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

EventA ::= SEQUENCE {
    measurementThreshold      MeasurementThreshold,
    measurementHysteresisTime MeasurementHysteresisTime OPTIONAL,
    iE-Extensions             ProtocolExtensionContainer { {EventA-ExtIEs} } OPTIONAL,
    ...
}

EventA-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

EventB ::= SEQUENCE {
    measurementThreshold      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-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,
    dRACCControl                           DRACCControl            OPTIONAL,
    iE-Extensions                           ProtocolExtensionContainer { {FDD-DCHs-to-ModifySpecificItem-ExtIEs} } OPTIONAL,
    ...
}

FDD-DCHs-to-ModifySpecificItem-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

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 {
        geographicalCoordinate GeographicalCoordinate,
        iE-Extensions ProtocolExtensionContainer { {GA-Cell-ExtIEs} } OPTIONAL,
        ...
    }

GA-Cell-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 ::= {
    ...
}

```



```

}

GSM-Output-Power ::= SEQUENCE { -- Value range (and type?) to be aligned with WG2!!!!!!!!!!!!!!
}

-- 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))

InnerLoopDLPCStatus ::= ENUMERATED {active, inactive}

-- J
-- K
-- L

LAC ::= OCTET STRING (SIZE (2)) --(EXCEPT ('0000'H|'FFFF'H))

LimitedPowerIncrease ::= ENUMERATED {
    used,
    not-used
}

```

```
L3-Information          ::= BIT STRING

-- 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)

MeasurementAvailabilityIndicator ::= ENUMERATED {
    measurementAvailable,
    measurementnotAvailable
}

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,
    ...
}

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,
    ...
}

MidambleShiftAndBurstType ::= CHOICE {
    type1              CHOICE {
        defaultMidamble    NULL,
        commonMidamble     NULL,
        ueSpecificMidamble MidambleShiftLong,
        ...
    },
    type2              CHOICE {
        defaultMidamble    NULL,
        commonMidamble     NULL,
        ueSpecificMidamble MidambleShiftShort,
        ...
    },
    type3              CHOICE {
        defaultMidamble    NULL,
        ueSpecificMidamble MidambleShiftLong,
        ...
    },
    ...
}

MidambleShiftLong ::= INTEGER (0..15)

MidambleShiftShort ::= INTEGER (0..5)

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 ::= {
    ...
}

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,
    closedLoopModel-SupportIndicator       ClosedLoopModel-SupportIndicator    OPTIONAL,
    closedLoopMode2-SupportIndicator       ClosedLoopMode2-SupportIndicator    OPTIONAL,

```

```

    iE-Extensions          ProtocolExtensionContainer { { Neighbouring-FDD-CellInformationItem-ExtIEs} } OPTIONAL,
    ...
}

Neighbouring-FDD-CellInformationItem-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

Neighbouring-GSM-CellInformation ::= 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            BCCCH-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 is present only if Sync Case = Case1 -- ,
    sCH-TimeSlot         SCH-TimeSlot         OPTIONAL
    -- This IE is 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 ::= {
    ...
}

NrOfDLchannelisationcodes ::= INTEGER (1..8)

```

```
NrOfTransportBlocks ::= INTEGER (0..512)

-- O

-- P

PagingCause ::= ENUMERATED {
    terminating-conversational-call,
    terminating-streaming-call,
    terminating-interactive-call,
    terminating-background-call,
    sms,
    ...
}
-- 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

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 ::= {
    ...
}

PLMN-ID ::= OCTET STRING (SIZE(3))

PowerAdjustmentType ::= ENUMERATED {
    none,
    common,
    individual
}

PowerOffset ::= INTEGER (0..24)

Pre-emptionCapability ::= ENUMERATED {
    shall-not-trigger-pre-emption,
    may-trigger-pre-emption
}

Pre-emptionVulnerability ::= ENUMERATED {
    not-pre-emptable,
    pre-emptable
}

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 mapping 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

RateMatchingAttribute ::= INTEGER (1..maxRateMatching)

RB-Identity ::= INTEGER (0..31)

RB-Info ::= SEQUENCE (SIZE(1..maxNoOfRB)) OF RB-Identity

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,
    ...
}

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 lmin
    ...
}

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..81)
-- According to mapping in [24]

RSCP-Value-IncrDecrThres ::= INTEGER (0..80)

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

Rx-Timing-Deviation-Value ::= INTEGER (0..2047)

-- 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 ::= {
    ...
}

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 is present only if the Secondary CCPCH Slot Format is equal to any of the value 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 ::= {
    ...
}

SecondInterleavingMode ::= ENUMERATED {
    frame-related,
    timeslot-related,
    ...
}

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

SN ::= TimeSlot

S-FieldLength ::= ENUMERATED {
    v1,
    v2,
    ...
}

SpreadingFactor ::= INTEGER (4| 8| 16| 32| 64| 128| 256)

S-RNTI ::= INTEGER (0..1048575)
-- From 0 to 2^20-1

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,...)  
  
-- 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-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 ::= {
  ...
}

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-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 ::= {
  ...
}

TFCCI-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)

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
}

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-MappingOnDSCHList,
                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..maxNrOfTFCSs)) 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-MappingOnDSCHList ::= SEQUENCE (SIZE (1..maxNoTFCIGroups)) OF
  SEQUENCE {
    maxTFCI-field2-Value TFCS-MaxTFCI-field2-Value,
    cTFC-DSCH            TFCS-CTFC,
    iE-Extensions       ProtocolExtensionContainer { { TFCS-MappingOnDSCHList-ExtIEs} }    OPTIONAL,
    ...
  }

TFCS-MappingOnDSCHList-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' --,
  rateMatchingAttribute 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,
  ...
}

```

```

}

TxDiversityIndicator ::= ENUMERATED {
    true,
    false
}

-- U

UARFCN ::= INTEGER (0..16383,...)
-- Corresponds to: 0.0Hz..3276.6Mhz. See 25.101, 25.105

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-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 ::= {
    ...
}

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..81)
-- 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
maxProtocolsIEs              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-measurementFailure                                ProcedureCode ::= 7
id-measurementInitiation                             ProcedureCode ::= 8
id-measurementReporting                               ProcedureCode ::= 9

```

id-measurementTermination	ProcedureCode ::= 10
id-paging	ProcedureCode ::= 11
id-physicalChannelReconfiguration	ProcedureCode ::= 12
id-privateMessage	ProcedureCode ::= 13
id-radioLinkAddition	ProcedureCode ::= 14
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

```
-- *****
--
-- Lists
--
-- *****
```

maxCodeNumComp-1	INTEGER ::= 255
maxRateMatching	INTEGER ::= 256
maxNoCodeGroups	INTEGER ::= 256
maxNoOfDSCHs	INTEGER ::= 10
maxNoOfRB	INTEGER ::= 32
maxNoOfUSCHs	INTEGER ::= 10
maxNoTFCHGroups	INTEGER ::= 256
maxNrOfTFCHs	INTEGER ::= 1024
maxNrOfTFs	INTEGER ::= 32
maxNrOfCCTrCHs	INTEGER ::= 16
maxNrOfDCHs	INTEGER ::= 128
maxNrOfDL-Codes	INTEGER ::= 8
maxNrOfDPCHs	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
maxNrOfDLTs	INTEGER ::= 15
maxRNCinURA-1	INTEGER ::= 15
maxTTI-Count	INTEGER ::= 4
maxCTFC	INTEGER ::= 16777215
maxNrOfNeighbouringRNCs	INTEGER ::= 10
maxNrOfFDDNeighboursPerRNC	INTEGER ::= 256
maxNrOfGSMNeighboursPerRNC	INTEGER ::= 256

```

maxNrOfTDDNeighboursPerRNC      INTEGER ::= 256
maxFACHCountPlus1                INTEGER ::= 10
maxIBSEG                          INTEGER ::= 16
maxTFCI1Combs                     INTEGER ::= 512
maxTFCI2Combs                     INTEGER ::= 1024
maxTFCI2Combs-1                  INTEGER ::= 1023
maxTGPS                           INTEGER ::= 6
maxNrOfTS                         INTEGER ::= 15

```

```

-- *****
--
-- IEs
--
-- *****

```

```

id-AllowedQueuingTime             ProtocolIE-ID ::= 4
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-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
 id-DL-DPCH-InformationItem-RL-AdditionRspTDD
 id-DL-DPCH-InformationItem-RL-SetupRspTDD
 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-FACH-InfoForUESelectedS-CCPCH-CTCH-ResourceRspFDD
 id-FACH-InfoForUESelectedS-CCPCH-CTCH-ResourceRspTDD
 id-IMSI
 id-L3-Information
 id-AdjustmentPeriod
 id-MaxAdjustmentStep
 id-MeasurementFilterCoefficient
 id-MeasurementID
 id-Neighbouring-GSM-CellInformation
 id-Neighbouring-UMTS-CellInformationItem
 id-PagingArea-PagingRqst
 id-FACH-FlowControlInformation
 id-PowerAdjustmentType
 id-ProcedureScope-DL-PC-Rqst
 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-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-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-SetupRspTDD
 id-RL-InformationResponseItem-RL-AdditionRspFDD
 id-RL-InformationResponseItem-RL-ReconfReadyFDD
 id-RL-InformationResponseItem-RL-ReconfRspFDD

ProtocolIE-ID ::= 62
 ProtocolIE-ID ::= 63
 ProtocolIE-ID ::= 64
 ProtocolIE-ID ::= 67
 ProtocolIE-ID ::= 68
 ProtocolIE-ID ::= 69
 ProtocolIE-ID ::= 70
 ProtocolIE-ID ::= 71
 ProtocolIE-ID ::= 72
 ProtocolIE-ID ::= 73
 ProtocolIE-ID ::= 74
 ProtocolIE-ID ::= 82
 ProtocolIE-ID ::= 83
 ProtocolIE-ID ::= 84
 ProtocolIE-ID ::= 85
 ProtocolIE-ID ::= 90
 ProtocolIE-ID ::= 91
 ProtocolIE-ID ::= 92
 ProtocolIE-ID ::= 93
 ProtocolIE-ID ::= 13
 ProtocolIE-ID ::= 95
 ProtocolIE-ID ::= 102
 ProtocolIE-ID ::= 103
 ProtocolIE-ID ::= 107
 ProtocolIE-ID ::= 108
 ProtocolIE-ID ::= 109
 ProtocolIE-ID ::= 110
 ProtocolIE-ID ::= 111
 ProtocolIE-ID ::= 112
 ProtocolIE-ID ::= 113
 ProtocolIE-ID ::= 114
 ProtocolIE-ID ::= 115
 ProtocolIE-ID ::= 116
 ProtocolIE-ID ::= 117
 ProtocolIE-ID ::= 118
 ProtocolIE-ID ::= 119
 ProtocolIE-ID ::= 120
 ProtocolIE-ID ::= 121
 ProtocolIE-ID ::= 122
 ProtocolIE-ID ::= 2
 ProtocolIE-ID ::= 123
 ProtocolIE-ID ::= 124
 ProtocolIE-ID ::= 125
 ProtocolIE-ID ::= 1
 ProtocolIE-ID ::= 126
 ProtocolIE-ID ::= 127
 ProtocolIE-ID ::= 128
 ProtocolIE-ID ::= 129
 ProtocolIE-ID ::= 130
 ProtocolIE-ID ::= 131
 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-Reporting-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-SuccessfulRL-InformationResponseList-RL-AdditionFailureFDD	ProtocolIE-ID ::= 161
id-SuccessfulRL-InformationResponseList-RL-SetupFailureFDD	ProtocolIE-ID ::= 162
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-InformationAddItem-RL-ReconfRqstTDD	ProtocolIE-ID ::= 168
id-UL-CCTrCH-InformationAddList-RL-ReconfPrepTDD	ProtocolIE-ID ::= 169
id-UL-CCTrCH-InformationAddList-RL-ReconfRqstTDD	ProtocolIE-ID ::= 170
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-UnsuccessfulRL-InformationResponseList-RL-AdditionFailureFDD	ProtocolIE-ID ::= 191
id-UnsuccessfulRL-InformationResponseList-RL-SetupFailureFDD	ProtocolIE-ID ::= 192
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-GA-AccessPointPosition	ProtocolIE-ID ::= 231
id-GA-Cell	ProtocolIE-ID ::= 232
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
id-ClosedLoopModel-SupportIndicator
id-ClosedLoopMode2-SupportIndicator
id-STTD-SupportIndicator
id-CFNReportingIndicator
id-CNOriginatedPage-PagingRqst
id-InnerLoopDLPCStatus
id-PropagationDelay
id-RxTimingDeviationForTA
id-timeSlot-ISCPList-DL-PC-Rqst-TDD

```

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
--

```

```

ProtocolIE-ID ::= 275
ProtocolIE-ID ::= 276
ProtocolIE-ID ::= 277
ProtocolIE-ID ::= 279
ProtocolIE-ID ::= 14
ProtocolIE-ID ::= 23
ProtocolIE-ID ::= 24
ProtocolIE-ID ::= 25
ProtocolIE-ID ::= 36
ProtocolIE-ID ::= 37

```

```

-- *****
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.

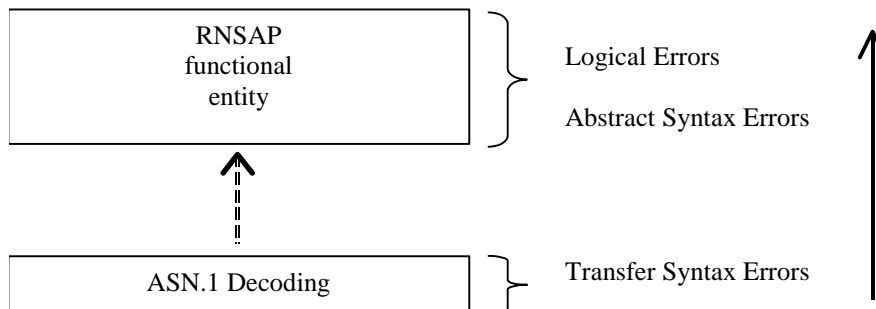


Figure 34: Protocol Errors in RNSAP

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, then 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 of 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.
- 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 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.

- 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.

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.
- 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 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.
- 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.

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.
- 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 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 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 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

History

Document history		
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