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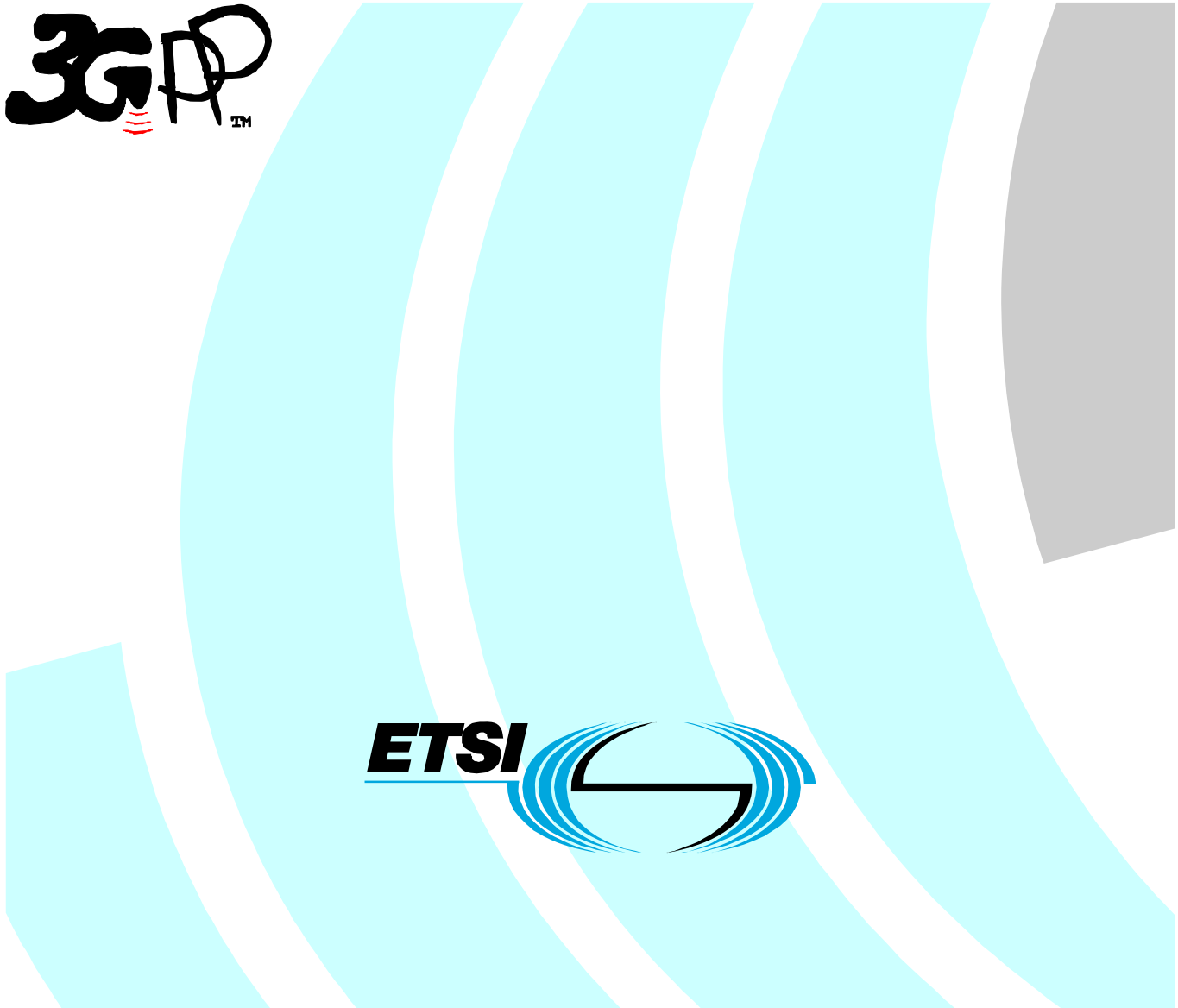
Technical Specification

Universal Mobile Telecommunications System (UMTS); Requirements on User Equipments (UEs) supporting a release-independent frequency band (3GPP TS 25.307 version 4.16.0 Release 4)



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Foreword

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

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Contents

Foreword

This Technical Specification 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

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  - 1 presented to TSG for information;
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- z the third digit is incremented when editorial only changes have been incorporated in the document.

1 Scope

The present document specifies requirements on UEs supporting a frequency band that is independent of release. TSG-RAN has agreed that the standardisation of new frequency bands may be independent of a release. However, in order to implement a UE that conforms to a particular release but supports a band of operation that is specified in a later release, it is necessary to specify some extra requirements.

For example, Band III is contained in the Release 5 specifications. In order to implement a UE conforming to Release '4 but supporting Band III, it is necessary for the UE to additionally conform to some parts of the Release 5 specifications, such as the radio frequency requirements for the Band III and some signalling extensions relating to the UE radio access capabilities.

2 References

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

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

[1] 3GPP TR 21.905: "Vocabulary for 3GPP Specifications".

[2] 3GPP TS 25.101 (Release 5, version 5): "UE Radio Transmission and Reception (FDD)".

[3] 3GPP TS 25.331 (Release 5, version 5): "Radio Resource Control Protocol".

[4] 3GPP TS 25.331 (Release 4, version 4): "Radio Resource Control Protocol".

[5] 3GPP TS 25.101 (Release 4, version 4): "UE Radio Transmission and Reception (FDD)".

[6] 3GPP TS 25.133 (Release 4, version 4): "Requirements for Support of Radio Resource Management (FDD)".

[7] 3GPP TS 25.133 (Release 5, version 5): "Requirements for Support of Radio Resource Management (FDD)".

[8] 3GPP TS25.331 (Release 6, version 6): "Radio Resource Control Protocol".

[9] 3GPP TS 25.101 (Release 6, version 6): "UE Radio Transmission and Reception (FDD)".

[10] 3GPP TS 25.133 (Release 6, version 6): "Requirements for Support of Radio Resource Management (FDD)".

[11] 3GPP TS 25.331 (Release 7, version 7): "Radio Resource Control Protocol".

[12] 3GPP TS 25.101 (Release 7, version 7): "UE Radio Transmission and Reception (FDD)".

[13] 3GPP TS 25.133 (Release 7, version 7): "Requirements for Support of Radio Resource Management (FDD)".

[14] 3GPP TS 25.331 (Release 8, version 8): "Radio Resource Control Protocol".

[15] 3GPP TS 25.101 (Release 8, version 8): "UE Radio Transmission and Reception (FDD)".

[16] 3GPP TS 25.133 (Release 8, version 8): "Requirements for Support of Radio Resource Management (FDD)".

[17] 3GPP TS 25.102 (Release 7, version 7): "UE Radio Transmission and Reception (TDD)".

[18] 3GPP TS 25.102 (Release 8, version 8): "UE Radio Transmission and Reception (TDD)".

[19] 3GPP TS 25.331 (Release 9, version 9): "Radio Resource Control Protocol".

[20] 3GPP TS25.101 (Release 9, version 9): "UE Radio Transmission and Reception (FDD)".

[21] 3GPP TS25.133 (Release 9, version 9): "Requirements for Support of Radio Resource Management (FDD)".

3 Definitions and abbreviations

3.1 Definitions

For the purposes of the present document, the terms and definitions given in [1] apply.

3.2 Abbreviations

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

FDD	Frequency Division Duplex
RRC	Radio Resource Control
UE	User Equipment

4 Band III Independent of Release

Band III is specified in Release 5 but is defined as a release-independent frequency band. This approach aligns the Band III with other frequency bands when considering features that have to be supported in different releases.

4.1 Band III UE

UEs that conform to Release 4 and support Band III shall support the following requirements in Release 5.

4.1.1 RF Requirements

The UE shall comply with the RF requirements Band III specified in [2]. These requirements are:

Section / Clause	Description
5	Frequency bands and channel arrangement
6.2.1	UE maximum output power
6.6	Output RF spectrum emissions
7.3	Reference sensitivity level
7.6	Blocking characteristics
7.8	Intermodulation characteristics
7.9	Spurious emissions

The UE shall comply with the following Radio Resource Management requirements for Band III specified in [7]. These requirements are:

Section / Clause	Description
9.1	Measurement Performances for UE.

4.1.2 Signalling Requirements

The UE shall support the following RRC extensions specified in [3]:

- The parameter value "Band III" for the IE "FDD frequency band" contained within the IEs "UE radio access capability extension" and "Measurement capability extension". The UE shall use this parameter value in order to signal its radio access capabilities relating to Band III.

5 Band II Independent of Release

Band II is specified in Release 5 but is defined as a release-independent frequency band. This approach aligns Band II with other frequency bands when considering features that have to be supported in different releases.

5.1 Band II UE

UEs that conform to Release 4 and support Band II shall support the following requirements in Release 5

5.1.1 RF Requirements

The UE shall comply with the RF requirements for Band II specified in [2]. These requirements are:

Section / Clause	Description
5	Frequency bands and channel arrangement
6.2.1	UE maximum output power
6.6	Output RF spectrum emissions
7.3	Reference sensitivity level
7.6	Blocking characteristics
7.8	Intermodulation characteristics
7.9	Spurious emissions

The UE shall comply with the following Radio Resource Management requirements for Band II specified in [7]. These requirements are:

Section / Clause	Description
9.1	Measurement Performances for UE.

5.1.2 Signalling Requirements

Release 4 contains the necessary signalling for Band II [4].

6 Band VI Independent of Release

Band VI is specified in Release 6 but is defined as a release-independent frequency band. This approach aligns Band VI with other frequency bands when considering features that have to be supported in different releases.

6.1 Band VI UE

UEs that conform to Release 4 and support Band VI shall support the following requirements in Release 6:

6.1.1 RF Requirements

The UE shall comply with the RF requirements for Band VI specified in [9]. These requirements are:

Section / Clause	Description
5	Frequency bands and channel arrangement
6.2.1	UE maximum output power
6.6	Output RF spectrum emissions
7.3	Reference sensitivity level
7.6	Blocking characteristics
7.9	Spurious emissions
B2.2	Multi-path fading propagation conditions

The UE shall comply with the following Radio Resource Management requirements for Band VI specified in [10]. These requirements are:

Section / Clause	Description
9.1	Measurement Performances for UE.

6.1.2 Signalling Requirements

The UE shall support the following RRC extensions specified in [8]:

- The parameter value "Band VI" for the IE "FDD frequency band" contained within the IEs "UE radio access capability extension" and "Measurement capability extension". The UE shall use this parameter value in order to signal its radio access capabilities relating to Band VI.
- The IE "Frequency band indicator" contained within the IEs "System Information Block type 5" and "System Information Block type 6". The UE shall use this IE to determine whether it is compliant with the RF requirement in the indicated frequency band, in case the UE is in the frequency that belongs to multiple frequency bands.

The UE may:

- If the UE is on a network with Mobile Country Code set to '440', '441', '442' or '443' (i.e. the MCC is reserved for Japan):
  - assume that any DL UARFCN sent by the network from the overlapping region of Band V and Band VI is from Band VI.
- If the UE is on a network with a Mobile Country Code other than '440', '441', '442' or '443' (i.e. the MCC is not reserved for Japan):
  - assume that any DL UARFCN sent by the network from the overlapping region of Band V and Band VI is from Band V.

7 Band IV Independent of Release

Band IV is specified in Release 6 but is defined as a release-independent frequency band. This approach aligns Band IV with other frequency bands when considering features that have to be supported in different releases.

7.1 Band IV UE

UEs that conform to Release 4 and support Band IV shall support the following requirements in Release 6

7.1.1 RF Requirements

The UE shall comply with the RF requirements for Band IV specified in [9]. These requirements are:

Section / Clause	Description
5	Frequency bands and channel arrangement

6.2.1	UE maximum output power
6.6	Output RF spectrum emissions
7.3	Reference sensitivity level
7.6	Blocking characteristics
7.8	Intermodulation characteristics
7.9	Spurious emissions

The UE shall comply with the following Radio Resource Management requirements for Band IV specified in [10]. These requirements are:

Section / Clause	**Description**
9.1	Measurement Performances for UE.

7.1.2 Signalling Requirements

The UE shall be able to decode "System Information Block type 5bis" specified in [8].

The UE shall support the following RRC extensions specified in [8]:

- The parameter value "Band IV" for the IE "FDD frequency band" contained within the IEs "UE radio access capability extension" and "Measurement capability extension". The UE shall use this parameter value in order to signal its radio access capabilities relating to Band IV.
- The IE "Frequency band indicator" contained within the IEs "System Information Block type 5bis" and "System Information Block type 6". The UE shall use this IE to determine whether it is compliant with the RF requirement in the indicated frequency band, in case the UE is in the frequency that belongs to multiple frequency bands.

The UE shall be able to at least decode any unrelated RRC extensions that can be included in between the release it supports, and the IE "Frequency band indicator".

8 Band V Independent of Release

Band V is specified in Release 6 but is defined as a release-independent frequency band. This approach aligns Band V with other frequency bands when considering features that have to be supported in different releases.

8.1 Band V UE

UEs that conform to Release 4 and support band V shall support the following requirements in Release 6

8.1.1 RF Requirements

The UE shall comply with the RF requirements for band V specified in [9]. These requirements are:

Section / Clause	**Description**
5	Frequency bands and channel arrangement
6.2.1	UE maximum output power
6.6	Output RF spectrum emissions
7.3	Reference sensitivity level
7.6	Blocking characteristics
7.8	Intermodulation characteristics
7.9	Spurious emissions
B2.2	Multi-path fading propagation conditions

The UE shall comply with the following Radio Resource Management requirements for band V specified in [10]. These requirements are:

Section / Clause	Description
9.1	Measurement Performances for UE.

8.1.2 Signalling Requirements

The UE shall support the following RRC extensions specified in [8]:

- The parameter value "Band V" for the IE "FDD frequency band" contained within the IEs "UE radio access capability extension" and "Measurement capability extension". The UE shall use this parameter value in order to signal its radio access capabilities relating to band V.
- The IE "Frequency band indicator" contained within the IEs "System Information Block type 5" and "System Information Block type 6". The UE shall use this IE to determine whether it is compliant with the RF requirement in the indicated frequency band, in case the UE is in the frequency that belongs to multiple frequency bands.

The UE shall be able to at least decode any unrelated RRC extensions that can be included in between the release it supports, and the IE "Frequency band indicator".

9 Band VII Independent of Release

Band VII is specified in Release 7 but is defined as a release-independent frequency band. This approach aligns the Band VII band with other frequency bands when considering features that have to be supported in different releases.

9.1 Band VII UE

UEs that conform to Release 4 and support band VII shall support the following requirements in Release 7

9.1.1 RF Requirements

The UE shall comply with the RF requirements for band VII specified in [12]. These requirements are:

Section / Clause	Description
5	Frequency bands and channel arrangement
6.2.1	UE maximum output power
6.6	Output RF spectrum emissions
7.3	Reference sensitivity level
7.6	Blocking characteristics
7.8	Intermodulation characteristics
7.9	Spurious emissions
B2.2	Multi-path fading propagation conditions

The UE shall comply with the following Radio Resource Management requirements for band VII specified in [13]. These requirements are:

Section / Clause	Description
9.1	Measurement Performances for UE.

9.1.2 Signalling Requirements

The UE shall support the following RRC extensions specified in [11]:

- The parameter value "Band VII" for the IE "FDD frequency band" contained within the IEs "UE radio access capability extension" and "Measurement capability extension". The UE shall use this parameter value in order to signal its radio access capabilities relating to band VII.

- The UE shall use the parameter "3" as specified in [11] in order to signal its UE power class relating to band VII if the UE power class for this band corresponds to the class 3bis.

- The IE "Frequency band indicator" contained within the IEs "System Information Block type 5" and "System Information Block type 6". The UE shall use this IE to determine whether it is compliant with the RF requirement in the indicated frequency band, in case the UE is in the frequency that belongs to multiple frequency bands.

The UE shall be able to at least decode any unrelated RRC extensions that can be included in between the release it supports, and the IE "Frequency band indicator".

10 Band VIII Independent of Release

Band VIII is specified in Release 7 but is defined as a release-independent frequency band. This approach aligns the Band VIII band with other frequency bands when considering features that have to be supported in different releases.

10.1 Band VIII UE

UEs that conform to Release 4 and support band VIII shall support the following requirements in Release 7

10.1.1 RF Requirements

The UE shall comply with the RF requirements for band VIII specified in [12]. These requirements are:

Section / Clause	Description
5	Frequency bands and channel arrangement
6.2.1	UE maximum output power
6.6	Output RF spectrum emissions
7.3	Reference sensitivity level
7.6	Blocking characteristics
7.8	Intermodulation characteristics
7.9	Spurious emissions
B2.2	Multi-path fading propagation conditions

The UE shall comply with the following Radio Resource Management requirements for band VIII specified in [13]. These requirements are:

Section / Clause	Description
9.1	Measurement Performances for UE.

10.1.2 Signalling Requirements

The UE shall support the following RRC extensions specified in [11]:

- The parameter value "Band VIII" for the IE "FDD frequency band 2" contained within the IEs "UE radio access capability extension" and "Measurement capability extension". The UE shall use this parameter value in order to signal its radio access capabilities relating to band VIII.

- The UE shall use the parameter "3" as specified in [11] in order to signal its UE power class relating to band VIII if the UE power class for this band corresponds to the class 3bis.

- The IE "Frequency band indicator 2" contained within the IEs "System Information Block type 5" and "System Information Block type 6". The UE shall use this IE to determine whether it is compliant with the RF requirement in the indicated frequency band, in case the UE is in the frequency that belongs to multiple frequency bands.

The UE shall be able to at least decode any unrelated RRC extensions that can be included in between the release it supports, and the IE "Frequency band indicator 2".

11 Band IX Independent of Release

Band IX is specified in Release 7 but is defined as a release-independent frequency band. This approach aligns the Band IX band with other frequency bands when considering features that have to be supported in different releases.

11.1 Band IX UE

UEs that conform to Release 4 and support Band IX shall support the following requirements in Release 7.

11.1.1 RF Requirements

The UE shall comply with the RF requirements for Band IX specified in [12]. These requirements are:

Section / Clause	Description
5	Frequency bands and channel arrangement
6.2.1	UE maximum output power
6.6	Output RF spectrum emissions
7.3	Reference sensitivity level
7.6	Blocking characteristics
7.8	Intermodulation characteristics
7.9	Spurious emissions
B2.2	Multi-path fading propagation conditions

The UE shall comply with the following Radio Resource Management requirements for Band IX specified in [13]. These requirements are:

Section / Clause	Description
9.1	Measurement Performances for UE.

11.1.2 Signalling Requirements

The UE shall be able to decode "System Information Block type 5bis" specified in [11].

The UE shall support the following RRC extensions specified in [11]:

- The parameter value "Band IX" for the IE "FDD frequency band" contained within the IEs "UE radio access capability extension" and "Measurement capability extension". The UE shall use this parameter value in order to signal its radio access capabilities relating to Band IX.

- The IEs "Frequency band indicator" and "Frequency band indicator2"contained within the IEs "System Information Block type 5bis" and "System Information Block type 6". The UE shall use these IEs to determine whether it is compliant with the RF requirement in the indicated frequency band, in case the UE is in the frequency that belongs to multiple frequency bands.

The UE shall be able to at least decode any unrelated RRC extensions that can be included in between the release it supports, and the IE "Frequency band indicator" and "Frequency Band Indicator 2".

12 Band X Independent of Release

Band X is specified in Release 7 but is defined as a release-independent frequency band. This approach aligns the Band X band with other frequency bands when considering features that have to be supported in different releases.

12.1 Band X UE

UEs that conform to Release 4 and support Band X shall support the following requirements in Release 7.

12.1.1 RF Requirements

The UE shall comply with the RF requirements for Band X specified in [12]. These requirements are:

Section / Clause	Description
5	Frequency bands and channel arrangement
6.2.1	UE maximum output power
6.6	Output RF spectrum emissions
7.3	Reference sensitivity level
7.6	Blocking characteristics
7.8	Intermodulation characteristics
7.9	Spurious emissions
B2.2	Multi-path fading propagation conditions

The UE shall comply with the following Radio Resource Management requirements for Band X specified in [13]. These requirements are:

Section / Clause	Description
9.1	Measurement Performances for UE.

12.1.2 Signalling Requirements

The UE shall be able to decode "System Information Block type 5bis" specified in [11].

The UE shall support the following RRC extensions specified in [11]:

- The parameter value "Band X" for the IE "FDD frequency band" contained within the IEs "UE radio access capability extension" and "Measurement capability extension". The UE shall use this parameter value in order to signal its radio access capabilities relating to Band X.
- The IEs "Frequency band indicator" and "Frequency band indicator2"contained within the IEs "System Information Block type 5bis" and "System Information Block type 6". The UE shall use these IEs to determine whether it is compliant with the RF requirement in the indicated frequency band, in case the UE is in the frequency that belongs to multiple frequency bands.

The UE shall be able to at least decode any unrelated RRC extensions that can be included in between the release it supports, and the IE "Frequency band indicator" and "Frequency Band Indicator 2".

13 Band XI Independent of Release

Band XI is specified in Release 8 but is defined as a release-independent frequency band. This approach aligns the Band XI band with other frequency bands when considering features that have to be supported in different releases.

13.1 Band XI UE

UEs that conform to Release 4 and support band XI shall support the following requirements in Release 8

13.1.1 RF Requirements

The UE shall comply with the RF requirements for band XI specified in [15]. These requirements are:

Section / Clause	Description
5	Frequency bands and channel arrangement
6.2.1	UE maximum output power
6.6	Output RF spectrum emissions
7.3	Reference sensitivity level
7.6	Blocking characteristics
7.8	Intermodulation characteristics
7.9	Spurious emissions
B2.2	Multi-path fading propagation conditions

The UE shall comply with the following Radio Resource Management requirements for band XI specified in [16]. These requirements are:

Section / Clause	Description
9.1	Measurement Performances for UE.

13.1.2 Signalling Requirements

The UE shall support the following RRC extensions specified in [14]:

- The parameter value "Band XI" for the IE "FDD frequency band" contained within the IEs "UE radio access capability extension" and "Measurement capability extension". The UE shall use this parameter value in order to signal its radio access capabilities relating to band XI.
- The IEs "Frequency band indicator" and "Frequency band indicator2"contained within the IEs "System Information Block type 5" and "System Information Block type 6". The UE shall use these IEs to determine whether it is compliant with the RF requirement in the indicated frequency band, in case the UE is in the frequency that belongs to multiple frequency bands.

The UE shall be able to at least decode any unrelated RRC extensions that can be included in between the release it supports, and the IE "Frequency band indicator" and "Frequency Band Indicator 2".

14 Band XII Independent of Release

Band XII is specified in Release 8 but is defined as a release-independent frequency band. This approach aligns the Band XII band with other frequency bands when considering features that have to be supported in different releases.

14.1 Band XII UE

UEs that conform to Release 4 and support Band XII shall support the following requirements in Release 8.

14.1.1 RF Requirements

The UE shall comply with the RF requirements for Band XII specified in [15]. These requirements are:

Section / Clause	Description

5	Frequency bands and channel arrangement
6.2.1	UE maximum output power
6.6	Output RF spectrum emissions
7.3	Reference sensitivity level
7.6	Blocking characteristics
7.8	Intermodulation characteristics
7.9	Spurious emissions
B2.2	Multi-path fading propagation conditions

The UE shall comply with the following Radio Resource Management requirements for Band XII specified in [16]. These requirements are:

Section / Clause	**Description**
9.1	Measurement Performances for UE.

14.1.2 Signalling Requirements

The UE shall support the following RRC extensions specified in [14]:

- The parameter value "Band XII" for the IE "FDD frequency band" contained within the IEs "UE radio access capability extension" and "Measurement capability extension". The UE shall use this parameter value in order to signal its radio access capabilities relating to Band XII.

- The IEs "Frequency band indicator" and "Frequency band indicator2"contained within the IEs "System Information Block type 5" and "System Information Block type 6". The UE shall use these IEs to determine whether it is compliant with the RF requirement in the indicated frequency band, in case the UE is in the frequency that belongs to multiple frequency bands.

The UE shall be able to at least decode any unrelated RRC extensions that can be included in between the release it supports, and the IE "Frequency band indicator" and "Frequency Band Indicator 2".

15 Band XIII Independent of Release

Band XIII is specified in Release 8 but is defined as a release-independent frequency band. This approach aligns the Band XIII band with other frequency bands when considering features that have to be supported in different releases.

15.1 Band XIII UE

UEs that conform to Release 4 and support Band XIII shall support the following requirements in Release 8.

15.1.1 RF Requirements

The UE shall comply with the RF requirements for Band XIII specified in [15]. These requirements are:

Section / Clause	**Description**
5	Frequency bands and channel arrangement
6.2.1	UE maximum output power
6.6	Output RF spectrum emissions
7.3	Reference sensitivity level
7.6	Blocking characteristics
7.8	Intermodulation characteristics
7.9	Spurious emissions
B2.2	Multi-path fading propagation conditions

The UE shall comply with the following Radio Resource Management requirements for Band XIII specified in [16]. These requirements are:

Section / Clause	Description
9.1	Measurement Performances for UE.

15.1.2 Signalling Requirements

The UE shall support the following RRC extensions specified in [14]:

- The parameter value "Band XIII" for the IE "FDD frequency band" contained within the IEs "UE radio access capability extension" and "Measurement capability extension". The UE shall use this parameter value in order to signal its radio access capabilities relating to Band XIII.
- The IEs "Frequency band indicator" and "Frequency band indicator2"contained within the IEs "System Information Block type 5" and "System Information Block type 6". The UE shall use these IEs to determine whether it is compliant with the RF requirement in the indicated frequency band, in case the UE is in the frequency that belongs to multiple frequency bands.

The UE shall be able to at least decode any unrelated RRC extensions that can be included in between the release it supports, and the IE "Frequency band indicator" and "Frequency Band Indicator 2".

16 Band XIV Independent of Release

Band XIV is specified in Release 8 but is defined as a release-independent frequency band. This approach aligns the Band XIV band with other frequency bands when considering features that have to be supported in different releases.

16.1 Band XIV UE

UEs that conform to Release 4 and support Band XIV shall support the following requirements in Release 8.

16.1.1 RF Requirements

The UE shall comply with the RF requirements for Band XIV specified in [15]. These requirements are:

Section / Clause	Description
5	Frequency bands and channel arrangement
6.2.1	UE maximum output power
6.6	Output RF spectrum emissions
7.3	Reference sensitivity level
7.6	Blocking characteristics
7.8	Intermodulation characteristics
7.9	Spurious emissions
B2.2	Multi-path fading propagation conditions

The UE shall comply with the following Radio Resource Management requirements for Band XIV specified in [16]. These requirements are:

Section / Clause	Description
9.1	Measurement Performances for UE.

16.1.2 Signalling Requirements

The UE shall support the following RRC extensions specified in [14]:

- The parameter value "Band XIV" for the IE "FDD frequency band" contained within the IEs "UE radio access capability extension" and "Measurement capability extension". The UE shall use this parameter value in order to signal its radio access capabilities relating to Band XIV.

- The IEs "Frequency band indicator" and "Frequency band indicator2"contained within the IEs "System Information Block type 5" and "System Information Block type 6". The UE shall use these IEs to determine whether it is compliant with the RF requirement in the indicated frequency band, in case the UE is in the frequency that belongs to multiple frequency bands.

The UE shall be able to at least decode any unrelated RRC extensions that can be included in between the release it supports, and the IE "Frequency band indicator" and "Frequency Band Indicator 2".

17 Band d Independent of Release

Band d is specified in Release 7 but is defined as a release-independent frequency band. This approach aligns the Band d band with other frequency bands when considering features that have to be supported in different releases.

17.1 Band d UE

UEs that conform to Release 4 and support Band d shall support the following requirements in Release 7.

17.1.1 RF Requirements

The UE shall comply with the RF requirements for Band d specified in [17]. These requirements are:

Section / Clause	Description
5	Frequency bands and channel arrangement
6.6.3	Spurious emissions
7.6	Blocking characteristics
7.9	Spurious emissions

17.1.2 Signalling Requirements

The UE shall support the following RRC extensions speicified in [11]:

- The parameter values "d", "ad", "bd", "cd", "abd", "acd", "bcd" and "abcd"contained within the IEs "RF capability TDD". The UE shall use these parameter values in order to signal its radio access capabilities relating to Band d.

The UE shall be able to at least decode any unrelated RRC extensions that can be included in between the release it supports.

18 Band e Independent of Release

Band e is specified in Release 8 but is defined as a release-independent frequency band. This approach aligns the Band e band with other frequency bands when considering features that have to be supported in different releases.

18.1 Band e UE

UEs that conform to Release 4 and support Band e shall support the following requirements in Release 8.

18.1.1 RF Requirements

The UE shall comply with the RF requirements for Band e specified in [18]. These requirements are:

Section / Clause	Description
5	Frequency bands and channel arrangement
6.6.3	Spurious emissions
7.6	Blocking characteristics
7.9	Spurious emissions

18.1.2 Signalling Requirements

The UE shall support the following RRC extensions speicified in [14]:

- The parameter value "e"contained within the IEs "RF capability TDD". The UE shall use this parameter value in order to signal its radio access capabilities relating to Band e.

The UE shall be able to at least decode any unrelated RRC extensions that can be included in between the release it supports.

19 Band f Independent of Release

Band f is specified in Release 8 but is defined as a release-independent frequency band. This approach aligns the Band f band with other frequency bands when considering features that have to be supported in different releases.

19.1 Band f UE

UEs that conform to Release 4 and support Band f shall support the following requirements in Release 8.

19.1.1 RF Requirements

The UE shall comply with the RF requirements for Band f specified in [18]. These requirements are:

Section / Clause	Description
5	Frequency bands and channel arrangement
6.6.3	Spurious emissions
7.6	Blocking characteristics
7.9	Spurious emissions

19.1.2 Signalling Requirements

The UE shall support the following RRC extensions speicified in [14]:

- The parameter value "f"contained within the IEs "RF capability TDD". The UE shall use this parameter value in order to signal its radio access capabilities relating to Band f.

The UE shall be able to at least decode any unrelated RRC extensions that can be included in between the release it supports.

20 Band XIX Independent of Release

Band XIX is specified in Release 9 but is defined as a release-independent frequency band. This approach aligns the Band XIX band with other frequency bands when considering features that have to be supported in different releases.

20.1 Band XIX UE

UEs that conform to Release 4 and support band XIX shall support the following requirements in Release 9.

UEs that support band XIX shall also support band VI RF requirements and signalling requirements.

20.1.1 RF Requirements

The UE shall comply with the RF requirements for band XIX specified in [20]. These requirements are:

Section / Clause	Description
5	Frequency bands and channel arrangement
6.2.1	UE maximum output power
6.6	Output RF spectrum emissions
7.3	Reference sensitivity level
7.6	Blocking characteristics
7.8	Intermodulation characteristics
7.9	Spurious emissions
B2.2	Multi-path fading propagation conditions

The UE shall comply with the following Radio Resource Management requirements for band XIX specified in [21]. These requirements are:

Section / Clause	Description
9.1	Measurement Performances for UE.

20.1.2 Signalling Requirements

The UE shall support the following RRC extensions specified in [19]:

- The parameter value "Band XIX" for the IE "FDD frequency band" contained within the IEs "UE radio access capability extension" and "Measurement capability extension". The UE shall use this parameter value in order to signal its radio access capabilities relating to band XIX.
- The IEs "Frequency band indicator" and "Frequency band indicator2"contained within the IEs "System Information Block type 5" and "System Information Block type 6". The UE shall use these IEs to determine whether it is compliant with the RF requirement in the indicated frequency band, in case the UE is in the frequency that belongs to multiple frequency bands.

The UE shall be able to at least decode any unrelated RRC extensions that can be included in between the release it supports, and the IE "Frequency band indicator" and "Frequency Band Indicator 2".

21 Band XXI Independent of Release

Band XXI is specified in Release 9 but is defined as a release-independent frequency band. This approach aligns the Band XXI band with other frequency bands when considering features that have to be supported in different releases.

21.1 Band XXI UE

UEs that conform to Release 4 and support band XXI shall support the following requirements in Release 9.

21.1.1 RF Requirements

The UE shall comply with the RF requirements for band XXI specified in [20]. These requirements are:

Section / Clause	Description
5	Frequency bands and channel arrangement
6.2.1	UE maximum output power
6.6	Output RF spectrum emissions
7.3	Reference sensitivity level
7.6	Blocking characteristics
7.8	Intermodulation characteristics
7.9	Spurious emissions
B2.2	Multi-path fading propagation conditions

The UE shall comply with the following Radio Resource Management requirements for band XXI specified in [21]. These requirements are:

Section / Clause	Description
9.1	Measurement Performances for UE.

21.1.2 Signalling Requirements

The UE shall support the following RRC extensions specified in [19]:

- The parameter value "Band XXI" for the IE "FDD frequency band" contained within the IEs "UE radio access capability extension" and "Measurement capability extension". The UE shall use this parameter value in order to signal its radio access capabilities relating to band XXI.
- The IEs "Frequency band indicator" and "Frequency band indicator2"contained within the IEs "System Information Block type 5" and "System Information Block type 6". The UE shall use these IEs to determine whether it is compliant with the RF requirement in the indicated frequency band, in case the UE is in the frequency that belongs to multiple frequency bands.

The UE shall be able to at least decode any unrelated RRC extensions that can be included in between the release it supports, and the IE "Frequency band indicator" and "Frequency Band Indicator 2".

22 Band XX Independent of Release

Band XX is specified in Release 9 but is defined as a release-independent frequency band. This approach aligns the Band XX band with other frequency bands when considering features that have to be supported in different releases.

22.1 Band XX UE

UEs that conform to Release 4 and support band XX shall support the following requirements in Release 9.

22.1.1 RF Requirements

The UE shall comply with the RF requirements for band XX specified in [20]. These requirements are:

Section / Clause	Description
5	Frequency bands and channel arrangement
6.2.1	UE maximum output power
6.6	Output RF spectrum emissions
7.3	Reference sensitivity level
7.6	Blocking characteristics
7.8	Intermodulation characteristics
7.9	Spurious emissions
B2.2	Multi-path fading propagation conditions

The UE shall comply with the following Radio Resource Management requirements for band XX specified in [21]. These requirements are:

Section / Clause	Description
9.1	Measurement Performances for UE.

22.1.2 Signalling Requirements

The UE shall support the following RRC extensions specified in [19]:

- The parameter value "Band XX" for the IE "FDD frequency band" contained within the IEs "UE radio access capability extension" and "Measurement capability extension". The UE shall use this parameter value in order to signal its radio access capabilities relating to band XX.

- The IEs "Frequency band indicator" and "Frequency band indicator 2"contained within the IEs "System Information Block type 5" and "System Information Block type 6". The UE shall use these IEs to determine whether it is compliant with the RF requirement in the indicated frequency band, in case the UE is in the frequency that belongs to multiple frequency bands.

The UE shall be able to at least decode any unrelated RRC extensions that can be included in between the release it supports, and the IE "Frequency band indicator" and "Frequency Band Indicator 2".

Annex A (informative): Change history

Change history							
Date	**TSG #**	**TSG Doc.**	**CR**	**Rev**	**Subject/Comment**	**Old**	**New**
09/2001	RP-13	RP-010557			Approved at TSG-RAN #13 and placed under Change Control	-	3.0.0
	RP-13	RP-010558	001	1	Correction to create Release 4	3.0.0	4.0.0
12/2001	RP-14	RP-010759	003		Inclusion of release independent RF related information	4.0.0	4.1.0
12/2003	RP-22	RP-030630	008	1	Introduction of UMTS800	4.1.0	4.2.0
03/2004	RP-23	RP-040093	012		Additional performance requirement for UMTS800	4.2.0	4.3.0
03/2004	RP-23	RP-040092	018		Frequency band alignment with 25.101	4.2.0	4.3.0
03/2004	RP-23	RP-040090	021		Introduction of UMTS1700/2100 (Band IV)	4.2.0	4.3.0
03/2004	RP-23	RP-040091	025		Introduction of UMTS850(Band V)	4.2.0	4.3.0
09/2004	RP-25	RP-040326	029		Correction to applicable TS25.101 clauses/section for release independent operation	4.3.0	4.4.0
09/2005	RP-29	RP-050466	0036		Introduction of UMTS2600 internal band, Band VII	4.4.0	4.5.0
12/2005	RP-30	RP-050800	0040		Introduction of UMTS 900 (Band VIII)	4.5.0	4.6.0
12/2005	RP-30	RP-050801	0032		Introduction of UMTS1700	4.5.0	4.6.0
09/2006	RP-33	RP-060581	0045	1	Power class for UMTS2600 (VII) internal / 900 (VIII)	4.6.0	4.7.0
12/2006	RP-34	RP-060714	0049		Signalling requirements for Band VI and Band IX	4.7.0	4.8.0
12/2006	RP-34	RP-060715	0054		Introduction of Band X (Extended UMTS 1.7/2.1 GHz) in 25.307	4.7.0	4.8.0
03/2007	RP-35	RP-070148	0059		Signalling requirements for Band VI	4.8.0	4.9.0
09/2007	RP-37	RP-070633	0062		Introduction of Band XI	4.9.0	4.10.0
03/2008	RP-39	RP-080200	0068	-	Introduction of UMTS 700 MHz (Bands XII – XIV) in 25.307	4.10.0	4.11.0
09/2008	RP-41	RP-080676	0073	1	Introduction of UMTS Band d in 25.307	4.11.0	4.12.0
09/2008	RP-41	RP-080695	0078	-	Introduction of UMTS Band e in 25.307	4.11.0	4.12.0
03/2009	RP-43	RP-090146	0083	-	Introduction of UMTS Band f in 25.307	4.12.0	4.13.0
09/2009	RP-45	RP-090921	0093	-	Introduction of Band XIX	4.13.0	4.14.0
12/2009	RP-46	RP-091335	0095	1	Introduction of band XXI - 25.307	4.14.0	4.15.0
03/2010	RP-47	RP-100302	0101	-	Introduction of band XX (800 MHz)	4.15.0	4.16.0

History

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V4.0.0	September 2001	Publication
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V4.2.0	December 2003	Publication
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V4.6.0	December 2005	Publication
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