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Technical Specification

Universal Mobile Telecommunications System (UMTS); Requirements on UEs supporting a release-independent frequency band (3GPP TS 25.307 version 4.2.0 Release 4)



Reference

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Keywords

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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
Association à but non lucratif enregistrée à la
Sous-Préfecture de Grasse (06) N° 7803/88

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Foreword

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

The present document may refer to technical specifications or reports using their 3GPP identities, UMTS identities or GSM identities. These should be interpreted as being references to the corresponding ETSI deliverables.

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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

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 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, UMTS 1800 is contained in the Release 5 specifications. In order to implement a UE conforming to Release '4 but supporting the 1800 MHz band, 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 1800 MHz band 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)".

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 UMTS 1800 Independent of Release

UMTS 1800 is specified in Release 5 but is defined as a release-independent frequency band. This approach aligns the UMTS 1800 band with other frequency bands when considering features that have to be supported in different releases.

4.1 UMTS 1800 UE

UEs that conform to Release 4 and support the 1800 MHz frequency band shall support the following requirements in Release 5.

4.1.1 RF Requirements

The UE shall comply with the RF requirements for the 1800 MHz band specified in [2]. These requirements are:

- Section 5: Frequency bands and channel arrangement;
- Section 6: Transmitter characteristics;
- Section 7: Receiver characteristics.

Other requirements for radio reception and transmission requirements are defined in [5].

The UE shall comply with the Radio Resource Management requirements for the 1800 MHz band specified in [7]. These requirements are:

- Section 9.1: Measurement Performances for UE.

Other requirements for radio resource management are defined in [6].

4.1.2 Signalling Requirements

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

- The parameter value "UMTS1800" 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 the 1800 MHz band.

5 UMTS 1900 Independent of Release

UMTS 1900 is specified in Release 5 but is defined as a release-independent frequency band. This approach aligns the UMTS 1900 band with other frequency bands when considering features that have to be supported in different releases.

5.1 UMTS 1900 UE

UEs that conform to Release 4 and support the 1900 MHz frequency band shall support the following requirements in Release 5

5.1.1 RF Requirements

The UE shall comply with the RF requirements for the 1900 MHz band specified in [2]. These requirements are:

Section 5: Frequency bands and channel arrangement;

Section 6: Transmitter characteristics;

Section 7: Receiver characteristics.

Other requirements for radio reception and transmission requirements are defined in [5].

The UE shall comply with the Radio Resource Management requirements for the 1900 MHz band specified in [7]. These requirements are:

Section 9.1: Measurement Performances for UE.

Other requirements for radio resource management are defined in [6].

5.1.2 Signalling Requirements

Release 4 contains the necessary signalling for the 1900 MHz frequency band [4].

6 UMTS 800 Independent of Release

UMTS 800 is specified in Release 6 but is defined as a release-independent frequency band. This approach aligns the UMTS 800 band with other frequency bands when considering features that have to be supported in different releases.

6.1 UMTS 800 UE

UEs that conform to Release '99 and support the 800 MHz frequency band shall support the following requirements in Release 6:

6.1.1 RF Requirements

The UE shall comply with the RF requirements for the 800 MHz band specified in [9]. These requirements are:

Section 5: Frequency bands and channel arrangement;

Section 6: Transmitter characteristics;

Section 7: Receiver characteristics.

Other requirements for radio reception and transmission requirements are defined in [5].

The UE shall comply with the Radio Resource Management requirements for the 800 MHz band specified in [10]. These requirements are:

Section 9.1: Measurement Performances for UE.

Other requirements for radio resource management are defined in [6].

6.1.2 Signalling Requirements

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

- The parameter value "UMTS800" 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 the 800 MHz band.

- 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.

NOTE: The UE must 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".

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

History

Document history		
V4.0.0	September 2001	Publication
V4.1.0	December 2001	Publication
V4.2.0	December 2003	Publication