ETSI TS 136 307 V8.15.0 (2016-08)

TECHNICAL SPECIFICATION

LTE;
Evolved Universal Terrestrial Radio Access (E-UTRA);
Requirements on User Equipments (UEs) supporting a release-
independent frequency band
(3GPP TS 36.307 version 8.15.0 Release 8)

Reference

RTS/TSGR-0436307v8f0

Keywords

LTE

ETSI

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

Important notice

The present document can be downloaded from:
http://www.etsi.org/standards-search

The present document may be made available in electronic versions and/or in print. The content of any electronic and/or
print versions of the present document shall not be modified without the prior written authorization of ETSI. In case of any
existing or perceived difference in contents between such versions and/or in print, the only prevailing document is the
print of the Portable Document Format (PDF) version kept on a specific network drive within ETSI Secretariat.

Users of the present document should be aware that the document may be subject to revision or change of status.
Information on the current status of this and other ETSI documents is available at
https://portal.etsi.org/TB/ETSIDeliverableStatus.aspx

If you find errors in the present document, please send your comment to one of the following services:
https://portal.etsi.org/People/CommiteeSupportStaff.aspx

Copyright Notification

ETSI

Intellectual Property Rights

IPRs essential or potentially essential to the present document may have been declared to ETSI. The information pertaining to these essential IPRs, if any, is publicly available for **ETSI members and non-members**, and can be found in ETSI SR 000 314: *"Intellectual Property Rights (IPRs); Essential, or potentially Essential, IPRs notified to ETSI in respect of ETSI standards"*, which is available from the ETSI Secretariat. Latest updates are available on the ETSI Web server (https://ipr.etsi.org/).

Pursuant to the ETSI IPR Policy, no investigation, including IPR searches, has been carried out by ETSI. No guarantee can be given as to the existence of other IPRs not referenced in ETSI SR 000 314 (or the updates on the ETSI Web server) which are, or may be, or may become, essential to the present document.

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.

The cross reference between GSM, UMTS, 3GPP and ETSI identities can be found under http://webapp.etsi.org/key/queryform.asp.

Modal verbs terminology

In the present document "**shall**", "**shall not**", "**should**", "**should not**", "**may**", "**need not**", "**will**", "**will not**", "**can**" and "**cannot**" are to be interpreted as described in clause 3.2 of the ETSI Drafting Rules (Verbal forms for the expression of provisions).

"**must**" and "**must not**" are **NOT** allowed in ETSI deliverables except when used in direct citation.

Contents

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.

The cross reference between GSM, UMTS, 3GPP and ETSI identities can be found under http://webapp.etsi.org/key/queryform.asp.

Modal verbs terminology

In the present document "**shall**", "**shall not**", "**should**", "**should not**", "**may**", "**need not**", "**will**", "**will not**", "**can**" and "**cannot**" are to be interpreted as described in clause 3.2 of the ETSI Drafting Rules (Verbal forms for the expression of provisions).

"**must**" and "**must not**" are **NOT** allowed in ETSI deliverables except when used in direct citation.

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.

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 36.101 (Release 9): "Evolved Universal Terrestrial Radio Access (E-UTRA); User Equipment (UE) Radio Transmission and Reception".

[3]   3GPP TS 36.133 (Release 9): "Evolved Universal Terrestrial Radio Access (E-UTRA); Requirements for Support of Radio Resource Management".

[4]   3GPP TS 36.101 (Release 10): "Evolved Universal Terrestrial Radio Access (E-UTRA); User Equipment (UE) Radio Transmission and Reception".

[5]   3GPP TS 36.133 (Release 10): "Evolved Universal Terrestrial Radio Access (E-UTRA); Requirements for Support of Radio Resource Management".

[6]   3GPP TS 36.101 (Release 11): "Evolved Universal Terrestrial Radio Access (E-UTRA); User Equipment (UE) Radio Transmission and Reception".

[7]   3GPP TS 36.133 (Release 11): "Evolved Universal Terrestrial Radio Access (E-UTRA); Requirements for Support of Radio Resource Management".

[8]   3GPP TS 36.101 (Release 12): "Evolved Universal Terrestrial Radio Access (E-UTRA); User Equipment (UE) Radio Transmission and Reception".

[9]   3GPP TS 36.133 (Release 12): "Evolved Universal Terrestrial Radio Access (E-UTRA); Requirements for Support of Radio Resource Management".

[10]   3GPP TS 36.307 (Release 9): "Evolved Universal Terrestrial Radio Access (E-UTRA); Requirements on User Equipments (UEs) Supporting a release-independent frequency band".

[11]   3GPP TS 36.307 (Release 10): "Evolved Universal Terrestrial Radio Access (E-UTRA); Requirements on User Equipments (UEs) Supporting a release-independent frequency band".

[12]   3GPP TS 36.307 (Release 11): "Evolved Universal Terrestrial Radio Access (E-UTRA); Requirements on User Equipments (UEs) Supporting a release-independent frequency band".

[13]   3GPP TS 36.307 (Release 12): "Evolved Universal Terrestrial Radio Access (E-UTRA); Requirements on User Equipments (UEs) Supporting a release-independent frequency band".

[14]   3GPP TS 36.101 (Release 8): "Evolved Universal Terrestrial Radio Access (E-UTRA); User Equipment (UE) Radio Transmission and Reception".

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
TDD	Time Division Duplex
RRC	Radio Resource Control
RRM	Radio Resource Management
UE	User Equipment

3A General

TSG-RAN has agreed that the standardisation of new features listed in Table 3A-1 are independent of a release. UE conforming earlier release than when the feature was introduced into the specifications shall comply with RRM- , demodulation- and RF-requirements as specified in the Annex-B2, Annex-B3 and Annex-B4 of TS 36.307 in the release that the feature was introduced. The applicable UE Categories are specified in TS 36.306 according to the release to which the UE conforms.

Table 3A-1: E-UTRA operating bands and UE power class

Feature	Duplex-mode	Release independent from
Operating bands, band number <= 64, Power Class 3	FDD, TDD	8

For example, Band 19 is contained in the Release 9 specifications. In order to implement a UE conforming to Release 8 but supporting Band 19, it is necessary for the UE to additionally conform to some parts of the Release 9 specifications, such as the radio frequency and radio resource management requirements for the Band 19.

All frequency bands are fully specified in this release of the specifications. The present document does not contain any requirements for UEs supporting frequency bands independent of release.

NOTE: See NOTE in clause 4.4 in [14].

4 – 209 Void

Annex A (informative):
Frequency arrangement for overlapping operating bands

The following information is provided in order to assist a UE derive the DL EARFCN and UL EARFCN in a multi-band environment, in which multiple overlapping operating bands may be indicated in the fields *freqBandIndicator* and *multiBandInfoList* of SIB1.

The overlapping bands, independent of release, which may be indicated in a cell are shown in Table A-1 for applicable E-UTRA bands. The DL EARFCN and UL EARFCN are derived according to [4].

Table A-1: Overlapping bands (multi-band environments) for each E-UTRA band

E-UTRA Operating Band	Overlapping E-UTRA operating bands	Duplex Mode
2	25	FDD
3	9	FDD
4	10	FDD
5	18, 19, 26	FDD
9	3	FDD
10	4	FDD
12	17	FDD
17	12	FDD
18	5, 26, 27	FDD
19	5, 26	FDD
25	2	FDD
26	5, 18, 19, 27	FDD
27	18, 26	FDD
33	39	TDD
38	41	TDD
39	33	TDD
41	38	TDD

Annex B (informative): Change history

Table B.1: Change History

Date	TSG#	TSG Doc.	CR	Subject	Old	New
11-2009	RP#46	RP-091141		TS36.307 V0.1.0 approved by RAN (Originally in R4-095022)	-	0.1.0
02-2010	R4#54	R4-100419		For release 9 version, replace sections 4 to 6 as "Void" and add a new void section as section 7.	0.1.0	0.2.0
03-2010	RP#47	RP-100162		TS36.307 v1.0.0 for approval	0.2.0	1.0.0
03-2010	RP#47	RP-100162		Approved by RAN	1.0.0	9.0.0
03-2010	RP#47	RP-100163	1	Introduction of Band 18, 19, 20 and 21 in 36.307	9.0.0	8.0.0
09-2010	RP-49	RP-100927	3	CR LTE_TDD_2600_US spectrum band definition additions to TS 36.307 V800	8.0.0	8.1.0
12-2010	RP-50	RP-101356	007	Band 42 and 43 parameters for UMTS/LTE 3500 (TDD) for TS 36.307	8.1.0	8.2.0
12-2010	RP-50	RP-101361	004	Introduction of L-band in TS 36.307	8.1.0	8.2.0
06-2011	RP-52	RP-110804	013r2	Add Expanded 1900 MHz Band (Band 25) in 36.307	8.2.0	8.3.0
06-2011	RP-52	RP-110812	020r1	Add 2GHz S-Band (Band 23) in 36.307 (Rel 8)	8.2.0	8.3.0
09-2011	RP-53	RP-111255	023	Add Band 22 for LTE/UMTS 3500 (FDD) to TS 36.307	8.3.0	8.4.0
03-2012	RP-55	RP-120305	026	Introduction of Band 26/XXVI to TS 36.307	8.4.0	8.5.0
2012-06	RP-56	RP-120767	034r1	Correction of references	8.5.0	8.6.0
2012-06	RP-56	RP-120793	046	Introduction of APAC700(FDD) into TS 36.307 Rel-8	8.5.0	8.6.0
2012-06	RP-56	RP-120793	050	Introduction of APAC700(TDD) into TS 36.307 Rel-8	8.5.0	8.6.0
2012-06	RP-56	RP-120791	054	Introduction of e850_LB (Band 27) to TS 36.307	8.5.0	8.6.0
2012-09	RP-57	RP-121295	067r2	Relation between EARFCN for overlapping bands with multiple FBI indication	8.6.0	8.7.0
2013-06	RP-60	RP-130791	132r1	Introduction of Band 30	8.7.0	8.8.0
2013-06	RP-60	RP-130790	139	Introduction of LTE 450 into TS 36.307 R8	8.7.0	8.8.0
09-2013	RP-61	RP-131303	171	Band 31 release independence for UE demodulation performance	8.8.0	8.9.0
12-2013	RP-62	RP-131924	186r2	Correction to release independent specification	8.9.0	8.10.0
12-2013	RP-62	RP-131924	212r1	UE performance requirements in release independent specification for CA	8.9.0	8.10.0
12-2013	RP-62	RP-131924	220	Introducing "General" clause with note referring to note in clause 4.4 in TS25.101, editorial modifications to Scope clause	8.9.0	8.10.0
03-2014	RP-63	RP-140366	228r1	CR on UE performance requirements in release independent specification	8.10.0	8.11.0
03-2014	RP-63	RP-140366	241r1	Correction to release independent specification	8.10.0	8.11.0
09-2014	RP-65	RP-141541	409	CR on UE performance requirement for Band 31 for 36.307 Rel-8	8.11.0	8.12.0
12-2014	RP-66	RP-142142	436	UE RF requirements in the release independent spec	8.12.0	8.13.0
12-2015	RP-70	RP-152173	0607	Introduction of 1447-1467MHz Band into TS36.307	8.13.0	8.14.0

Change history							
Date	Meeting	TDoc	CR	Rev	Cat	Subject/Comment	New version
2016/06	RP-72	RP-161137	677	-	F	CR TS 36.307 REL-8	8.15.0

History

Document history		
V8.0.0	April 2010	Publication
V8.1.0	October 2010	Publication
V8.2.0	January 2011	Publication
V8.3.0	June 2011	Publication
V8.4.0	November 2011	Publication
V8.5.0	April 2012	Publication
V8.6.0	July 2012	Publication
V8.7.0	November 2012	Publication
V8.8.0	July 2013	Publication
V8.9.0	October 2013	Publication
V8.10.0	January 2014	Publication
V8.11.0	April 2014	Publication
V8.12.0	October 2014	Publication
V8.13.0	February 2015	Publication
V8.14.0	January 2016	Publication
V8.15.0	August 2016	Publication