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Evolved Universal Terrestrial Radio Access (E-UTRA); Requirements on User Equipments (UEs) supporting a release-independent frequency band (3GPP TS 36.307 version 8.5.0 Release 8)



1

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3

Contents

Intelle	ectual Property Rights	2
Forew	ord	2
Forew	ord	5
1	Scope	6
2	References	6
3 3.1	Definitions and Abbreviations Definitions	
3.2	Abbreviations	6
4 4.1 4.1.1	Band 18 Independent of Release Band 18 UE RF Requirements	7
4.1.2	RRM Requirements	
5 5.1 5.1.1	Band 19 Independent of Release Band 19 UE RF Requirements	7
5.1.2	RRM Requirements	8
6 6.1 6.1.1	Band 20 Independent of Release Band 20 UE RF Requirements	8 8
6.1.2	RRM Requirements	
7 7.1 7.1.1	Band 21 Independent of Release Band 21 UE RF Requirements	9
7.1.2	RRM Requirements	
8 8.1 8.1.1	Band 41 Independent of Release Band 41 UE RF Requirements	10
8.1.2	RRM Requirements	
9 9.1	Band 42 Independent of Release Band 42 UE	11
9.1.1 9.1.2	RF Requirements RRM Requirements	
10	Band 43 Independent of Release	12
10.1 10.1.1 10.1.2	Band 43 UE RF Requirements RRM Requirements	12
11	Band 24 Independent of Release	
11.1 11.1.1 11.1.2	Band 24 UE RF Requirements RRM Requirements	13
12	Band 23 Independent of Release	
12.1	Band 23 UE	14
12.1.1 12.1.2	RF Requirements RRM Requirements	
13 13.1	Band 25 Independent of Release	
13.1.1	RF Requirements	15
13.1.2	RRM Requirements	16

Histor	ry	20
Anne	ex A (informative): Change history	19
13.1.2	KKW Kequitements	10
15.1.2	1	
15.1.1	RF Requirements	17
15.1	Band 26 UE	17
15	Band 26 Independent of Release	17
14.1.2	2 RRM Requirements	17
	RF Requirements	16
14.1	Band 22 UE	16
	Band 22 Independent of Release	16

Foreword

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- y the second digit is incremented for all changes of substance, i.e. technical enhancements, corrections, updates, etc.
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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 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.

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, version 9): "Evolved Universal Terrestrial Radio Access (E-UTRA); "User Equipment (UE) Radio Transmission and Reception".
- [3] 3GPP TS 36.133 (Release 9, version 9): "Evolved Universal Terrestrial Radio Access (E-UTRA); "Requirements for Support of Radio Resource Management".

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
- RRM Radio Resource Management
- UE User Equipment

4 Band 18 Independent of Release

Band 18 is specified in Release 9 but is defined as a release-independent frequency band. This approach aligns the Band 18 band with other frequency bands when considering features that have to be supported in different releases.

4.1 Band 18 UE

UEs that conform to Release 8 and support band 18 shall support the following requirements in Release 9.

4.1.1 RF Requirements

The UE shall comply with the RF requirements for band 18 specified in [2]. These requirements are:

Section / Clause	Description
5.5	Operating bands
5.6	Channel bandwidth
5.7	Channel arrangement
6.2	Transmit power
6.3	Output power dynamics
6.6	Output RF spectrum emissions
6.7	Transmit intermodulation
7.3	Reference sensitivity power level
7.4	Maximum input level
7.5	Adjacent Channel Selectivity (ACS)
7.6	Blocking characteristics
7.7	Spurious response
7.8	Intermodulation characteristics

Table 4.1.1-1: RF Requirements for Band 18 UE

4.1.2 RRM Requirements

The UE shall comply with the following RRM requirements for band 18 specified in [3]. These requirements are:

Section / Clause	Description
4	E-UTRAN RRC_IDLE state mobility
8	UE Measurements Procedures in RRC_CONNECTED State
9	Measurement Performances for UE.

5 Band 19 Independent of Release

Band 19 is specified in Release 9 but is defined as a release-independent frequency band. This approach aligns the Band 19 band with other frequency bands when considering features that have to be supported in different releases.

5.1 Band 19 UE

UEs that conform to Release 8 and support band 19 shall support the following requirements in Release 9.

8

5.1.1 RF Requirements

The UE shall comply with the RF requirements for band 19 specified in [2]. These requirements are:

Section / Clause	Description
5.5	Operating bands
5.6	Channel bandwidth
5.7	Channel arrangement
6.2	Transmit power
6.3	Output power dynamics
6.6	Output RF spectrum emissions
6.7	Transmit intermodulation
7.3	Reference sensitivity power level
7.4	Maximum input level
7.5	Adjacent Channel Selectivity (ACS)
7.6	Blocking characteristics
7.7	Spurious response
7.8	Intermodulation characteristics

Table 5.1.1-1: RF Requirements for Band 19 UE

5.1.2 RRM Requirements

The UE shall comply with the following RRM requirements for band 19 specified in [3]. These requirements are:

Table 5.1.2-1: RRM Requirements for Band 19 UE

Section / Clause	Description
4	E-UTRAN RRC_IDLE state mobility
8	UE Measurements Procedures in RRC_CONNECTED State
9	Measurement Performances for UE.

6 Band 20 Independent of Release

Band 20 is specified in Release 9 but is defined as a release-independent frequency band. This approach aligns the Band 20 band with other frequency bands when considering features that have to be supported in different releases.

6.1 Band 20 UE

UEs that conform to Release 8 and support band 20 shall support the following requirements in Release 9.

6.1.1 RF Requirements

The UE shall comply with the RF requirements for band 20 specified in [2]. These requirements are:

Section / Clause	Description
5.5	Operating bands
5.6	Channel bandwidth
5.7	Channel arrangement
6.2	Transmit power
6.3	Output power dynamics
6.6	Output RF spectrum emissions
6.7	Transmit intermodulation
7.3	Reference sensitivity power level
7.4	Maximum input level
7.5	Adjacent Channel Selectivity (ACS)
7.6	Blocking characteristics
7.7	Spurious response
7.8	Intermodulation characteristics

Table 6.1.1-1: RF Requirements for Band 20 UE

6.1.2 RRM Requirements

The UE shall comply with the following RRM requirements for band 20 specified in [3]. These requirements are:

Table 6.1.2-1: RRM Requirements for Band 20 UE

Section / Clause	Description
4	E-UTRAN RRC_IDLE state mobility
8	UE Measurements Procedures in RRC_CONNECTED State
9	Measurement Performances for UE.

7 Band 21 Independent of Release

Band 21 is specified in Release 9 but is defined as a release-independent frequency band. This approach aligns the Band 21 band with other frequency bands when considering features that have to be supported in different releases.

7.1 Band 21 UE

UEs that conform to Release 8 and support band 21 shall support the following requirements in Release 9.

7.1.1 RF Requirements

The UE shall comply with the RF requirements for band 21 specified in [2]. These requirements are:

Section / Clause	Description
5.5	Operating bands
5.6	Channel bandwidth
5.7	Channel arrangement
6.2	Transmit power
6.3	Output power dynamics
6.6	Output RF spectrum emissions
6.7	Transmit intermodulation
7.3	Reference sensitivity power level
7.4	Maximum input level
7.5	Adjacent Channel Selectivity (ACS)
7.6	Blocking characteristics
7.7	Spurious response
7.8	Intermodulation characteristics

Table 7.1.1-1: RF Requirements for Band 21 UE

7.1.2 RRM Requirements

The UE shall comply with the following RRM requirements for band 21 specified in [3]. These requirements are:

Table 7.1.2-1: RRM Requirements for Band 21 UE

Section / Clause	Description
4	E-UTRAN RRC_IDLE state mobility
8	UE Measurements Procedures in RRC_CONNECTED State
9	Measurement Performances for UE.

8 Band 41 Independent of Release

Band 41 is specified in Release 10 but is defined as a release-independent frequency band. This approach aligns the Band 41 band with other frequency bands when considering features that have to be supported in different releases.

8.1 Band 41 UE

UEs that conform to Release 8 and support band 41 shall support the following requirements in Release 10.

8.1.1 RF Requirements

The UE shall comply with the RF requirements for band 41 specified in [2]. These requirements are:

Section / Clause	Description
5.5	Operating bands
5.6	Channel bandwidth
5.7	Channel arrangement
6.2	Transmit power
6.3	Output power dynamics
6.6	Output RF spectrum emissions
6.7	Transmit intermodulation
7.3	Reference sensitivity power level
7.4	Maximum input level
7.5	Adjacent Channel Selectivity (ACS)
7.6	Blocking characteristics
7.7	Spurious response
7.8	Intermodulation characteristics

Table 8.1.1-1: RF Requirements for Band 41 UE

8.1.2 RRM Requirements

The UE shall comply with the following RRM requirements for band 41 specified in [3]. These requirements are:

Table 8.1.2-1: RRM Requirements for Band 41 UE

Section / Clause	Description
4	E-UTRAN RRC_IDLE state mobility
8	UE Measurements Procedures in RRC_CONNECTED State
9	Measurement Performances for UE
A.9	Measurement Performances for UE Test Cases

9 Band 42 Independent of Release

Band 42 is specified in Release 10 but is defined as a release-independent frequency band. This approach aligns the Band 42 band with other frequency bands when considering features that have to be supported in different releases.

9.1 Band 42 UE

UEs that conform to Release 8 and support band 42 shall support the following requirements in Release 10.

9.1.1 RF Requirements

The UE shall comply with the RF requirements for band 42 specified in [2]. These requirements are:

Section / Clause	Description
5.5	Operating bands
5.6	Channel bandwidth
5.7	Channel arrangement
6.2	Transmit power
6.3	Output power dynamics
6.6	Output RF spectrum emissions
6.7	Transmit intermodulation
7.3	Reference sensitivity power level
7.4	Maximum input level
7.5	Adjacent Channel Selectivity (ACS)
7.6	Blocking characteristics
7.7	Spurious response
7.8	Intermodulation characteristics

Table 9.1.1-1: RF Requirements for Band 42 UE

9.1.2 RRM Requirements

The UE shall comply with the following RRM requirements for band 42 specified in [3]. These requirements are:

Table 9.1.2-1: RRM Requirements for Band 42 UE

Section / Clause	Description
4	E-UTRAN RRC_IDLE state mobility
8	UE Measurements Procedures in RRC_CONNECTED State
9	Measurement Performances for UE
A.9	Measurement Performances for UE Test Cases

10 Band 43 Independent of Release

Band 43 is specified in Release 10 but is defined as a release-independent frequency band. This approach aligns the Band 43 band with other frequency bands when considering features that have to be supported in different releases.

10.1 Band 43 UE

UEs that conform to Release 8 and support band 43 shall support the following requirements in Release 10.

10.1.1 RF Requirements

The UE shall comply with the RF requirements for band 43 specified in [2]. These requirements are:

Section / Clause	Description
5.5	Operating bands
5.6	Channel bandwidth
5.7	Channel arrangement
6.2	Transmit power
6.3	Output power dynamics
6.6	Output RF spectrum emissions
6.7	Transmit intermodulation
7.3	Reference sensitivity power level
7.4	Maximum input level
7.5	Adjacent Channel Selectivity (ACS)
7.6	Blocking characteristics
7.7	Spurious response
7.8	Intermodulation characteristics

Table 10.1.1-1: RF Requirements for Band 43 UE

10.1.2 RRM Requirements

The UE shall comply with the following RRM requirements for band 43 specified in [3]. These requirements are:

Table 10.1.2-1: RRM Requirements for Band 43 UE

Section / Clause	Description
4	E-UTRAN RRC_IDLE state mobility
8	UE Measurements Procedures in RRC_CONNECTED State
9	Measurement Performances for UE
A.9	Measurement Performances for UE Test Cases

11 Band 24 Independent of Release

Band 24 is specified in Release 10, but is defined as a release-independent frequency band. This approach aligns the Band 24 band with other frequency bands when considering features that have to be supported in different releases.

11.1 Band 24 UE

UEs that conform to Release 8 and support Band 24 shall support the following requirements in Release 10.

11.1.1 RF Requirements

The UE shall comply with the Release 10 RF requirements for Band 24 specified [2]. The requirements are:

Section / Clause	Description
5.5	Operating bands
5.6	Channel bandwidth
5.7	Channel arrangement
6.2	Transmit power
6.3	Output power dynamics
6.6	Output RF spectrum emissions
6.7	Transmit intermodulation
7.3	Reference sensitivity power level
7.4	Maximum input level
7.5	Adjacent Channel Selectivity (ACS)
7.6	Blocking characteristics
7.7	Spurious response
7.8	Intermodulation characteristics

Table 11.1.1-1: RF Requirements for Band 24 UE

11.1.2 RRM Requirements

The UE shall comply with the following RRM requirements for Band 24 specified in [3]. These requirements are:

Table 11.1.2-1: RRM Requirements for Band 24 UE

Section / Clause	Description
4	E-UTRAN RRC_IDLE state mobility
8	UE Measurements Procedures in RRC_CONNECTED State
9	Measurement Performances for UE.
A.9	Measurement Performances for UE Test Cases

12 Band 23 Independent of Release

Band 23 is specified in Release 10 but is defined as a release-independent frequency band. This approach aligns the Band 23 band with other frequency bands when considering features that have to be supported in different releases.

12.1 Band 23 UE

UEs that conform to Release 8 and support band 23 shall support the following requirements in Release 10.

12.1.1 RF Requirements

The UE shall comply with the RF requirements for band 23 specified in [2]. These requirements are:

Section / Clause	Description
5.5	Operating bands
5.6	Channel bandwidth
5.7	Channel arrangement
6.2	Transmit power
6.3	Output power dynamics
6.6	Output RF spectrum emissions
6.7	Transmit intermodulation
7.3	Reference sensitivity power level
7.4	Maximum input level
7.5	Adjacent Channel Selectivity (ACS)
7.6	Blocking characteristics
7.7	Spurious response
7.8	Intermodulation characteristics

Table 12.1.1-1: RF Requirements for Band 23 UE

12.1.2 RRM Requirements

The UE shall comply with the following RRM requirements for band 23 specified in [3]. These requirements are:

Table 12.1.2-1: RRM Requirements for Band 23 UE

Section / Clause	Description
4	E-UTRAN RRC_IDLE state mobility
8	UE Measurements Procedures in RRC_CONNECTED State
9	Measurement Performances for UE
A.9	Measurement Performances for UE Test Cases

13 Band 25 Independent of Release

Band 25 is specified in Release 10 but is defined as a release-independent frequency band. This approach aligns the Band 25 band with other frequency bands when considering features that have to be supported in different releases.

13.1 Band 25 UE

UEs that conform to Release 8 and support band 25 shall support the following requirements in Release 10.

13.1.1 RF Requirements

The UE shall comply with the RF requirements for band 25 specified in [2]. These requirements are:

Section / Clause	Description
5.5	Operating bands
5.6	Channel bandwidth
5.7	Channel arrangement
6.2	Transmit power
6.3	Output power dynamics
6.6	Output RF spectrum emissions
6.7	Transmit intermodulation
7.3	Reference sensitivity power level
7.4	Maximum input level
7.5	Adjacent Channel Selectivity (ACS)
7.6	Blocking characteristics
7.7	Spurious response
7.8	Intermodulation characteristics

Table 13.1.1-1: RF Requirements for Band 25 UE

13.1.2 RRM Requirements

The UE shall comply with the following RRM requirements for band 25 specified in [3]. These requirements are:

Table 13.1.2-1: RRM Requirements for Band 25 UE

Section / Clause	Description
4	E-UTRAN RRC_IDLE state mobility
8	UE Measurements Procedures in RRC_CONNECTED State
9	Measurement Performances for UE
A.9	Measurement Performances for UE Test Cases

14 Band 22 Independent of Release

Band 22 is specified in Release 10 but is defined as a release-independent frequency band. This approach aligns the Band 22 band with other frequency bands when considering features that have to be supported in different releases.

14.1 Band 22 UE

UEs that conform to Release 8 and support band 22 shall support the following requirements in Release 10.

14.1.1 RF Requirements

The UE shall comply with the RF requirements for band 22 specified in [2]. These requirements are:

Section / Clause	Description
5.5	Operating bands
5.6	Channel bandwidth
5.7	Channel arrangement
6.2	Transmit power
6.3	Output power dynamics
6.6	Output RF spectrum emissions
6.7	Transmit intermodulation
7.3	Reference sensitivity power level
7.4	Maximum input level
7.5	Adjacent Channel Selectivity (ACS)
7.6	Blocking characteristics
7.7	Spurious response
7.8	Intermodulation characteristics
7.9	Spurious emissions

Table 14.1.1-1: RF Requirements for Band 22 UE

14.1.2 RRM Requirements

The UE shall comply with the following RRM requirements for band 22 specified in [3]. These requirements are:

Table 14.1.2-1: RRM Requirements for Band 22 UE

Section / Clause	Description
4	E-UTRAN RRC_IDLE state mobility
8	UE Measurements Procedures in RRC_CONNECTED State
9	Measurement Performances for UE.

15 Band 26 Independent of Release

Band 26 is specified in Release 11 but is defined as a release-independent frequency band. This approach aligns the Band 26 band with other frequency bands when considering features that have to be supported in different releases.

15.1 Band 26 UE

UEs that conform to Release 8 and support Band 26 shall support the following requirements in Release 11.

15.1.1 RF Requirements

The UE shall comply with the RF requirements for Band 26 specified [2]. The requirements are:

Section / Clause	Description
5.5	Operating bands
5.6	Channel bandwidth
5.7	Channel arrangement
6.2	Transmit power
6.3	Output power dynamics
6.6	Output RF spectrum emissions
6.7	Transmit intermodulation
7.3	Reference sensitivity power level
7.4	Maximum input level
7.5	Adjacent Channel Selectivity (ACS)
7.6	Blocking characteristics
7.7	Spurious response
7.8	Intermodulation characteristics

Table 15.1.1-1: RF Requirements for Band 26 UE

15.1.2 RRM Requirements

The UE shall comply with the following RRM requirements for Band 26 specified in [3]. These requirements are:

Table 15.1.2-1: RRM Requirements for Band 26 UE

Section / Clause	Description
4	E-UTRAN RRC_IDLE state mobility
8	UE Measurements Procedures in RRC_CONNECTED State
9	Measurement Performances for UE.
A.9	Measurement Performances for UE Test Cases

Annex A (informative): Change history

Table A.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

History

Document history			
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V8.4.0	November 2011	Publication	
V8.5.0	April 2012	Publication	