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supporting a release-independent frequency band
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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
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Foreword

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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:

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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): "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".

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

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:

Table 4.1.1-1: RF Requirements for Band 18 UE

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

4.1.2 RRM Requirements

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

Table 4.1.2-1: RRM Requirements for Band 18 UE

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.

5.1.1 RF Requirements

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

Table 5.1.1-1: RF Requirements for Band 19 UE

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

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:

Table 6.1.1-1: RF Requirements for Band 20 UE

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

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:

Table 7.1.1-1: RF Requirements for Band 21 UE

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

7.1.2 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 [4]. These requirements are:

Table 8.1.1-1: RF Requirements for Band 41 UE

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

8.1.2 RRM Requirements

The UE shall comply with the following RRM requirements for band 41 specified in [5]. 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 [4]. These requirements are:

Table 9.1.1-1: RF Requirements for Band 42 UE

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

9.1.2 RRM Requirements

The UE shall comply with the following RRM requirements for band 42 specified in [5]. 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 [4]. These requirements are:

Table 10.1.1-1: RF Requirements for Band 43 UE

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

10.1.2 RRM Requirements

The UE shall comply with the following RRM requirements for band 43 specified in [5]. 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 [4]. The requirements are:

Table 11.1.1-1: RF Requirements for Band 24 UE

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

11.1.2 RRM Requirements

The UE shall comply with the following RRM requirements for Band 24 specified in [5]. 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 [4]. These requirements are:

Table 12.1.1-1: RF Requirements for Band 23 UE

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

12.1.2 RRM Requirements

The UE shall comply with the following RRM requirements for band 23 specified in [5]. 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 [4]. These requirements are:

Table 13.1.1-1: RF Requirements for Band 25 UE

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

13.1.2 RRM Requirements

The UE shall comply with the following RRM requirements for band 25 specified in [5]. 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 [4]. These requirements are:

Table 14.1.1-1: RF Requirements for Band 22 UE

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

14.1.2 RRM Requirements

The UE shall comply with the following RRM requirements for band 22 specified in [5]. 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 [6]. The requirements are:

Table 15.1.1-1: RF Requirements for Band 26 UE

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

15.1.2 RRM Requirements

The UE shall comply with the following RRM requirements for Band 26 specified in [7]. 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

16 Band 27 Independent of Release

Band 27 is specified in Release 11, but is defined as a release-independent frequency band. This approach aligns the Band 27 band with other frequency bands when considering features that have to be supported in different releases.

16.1 Band 27 UE

UEs that conform to Release 8 and support Band 27 shall support the following requirements in Release 11.

16.1.1 RF Requirements

The UE shall comply with the Release 11 RF requirements for Band 27 specified [6]. The requirements are:

Table 16.1.1-1: RF Requirements for Band 27 UE

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

16.1.2 RRM Requirements

The UE shall comply with the following RRM requirements for Band 27 specified in [7]. These requirements are:

Table 16.1.2-1: RRM Requirements for Band 27 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

17 Band 28 Independent of Release

Band 28 is specified in Release 11 but is defined as a release-independent frequency band. This approach aligns the Band 28 band with other frequency bands when considering features that have to be supported in different releases.

17.1 Band 28 UE

UEs that conform to Release 8 and support Band 28 shall support the following requirements in Release 11.

17.1.1 RF Requirements

The UE shall comply with the RF requirements for Band 28 specified [6]. The requirements are:

Table 17.1.1-1: RF Requirements for Band 28 UE

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

17.1.2 RRM Requirements

The UE shall comply with the following RRM requirements for Band 28 specified in [7]. These requirements are:

Table 17.1.2-1: RRM Requirements for Band 28 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

18 Band 44 Independent of Release

Band 44 is specified in Release 11 but is defined as a release-independent frequency band. This approach aligns the Band 44 band with other frequency bands when considering features that have to be supported in different releases.

18.1 Band 44 UE

UEs that conform to Release 8 and support Band 44 shall support the following requirements in Release 11.

18.1.1 RF Requirements

The UE shall comply with the RF requirements for Band 44 specified [6]. The requirements are:

Table 18.1.1-1: RF Requirements for Band 44 UE

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

18.1.2 RRM Requirements

The UE shall comply with the following RRM requirements for Band 44 specified in [7]. These requirements are:

Table 18.1.2-1: RRM Requirements for Band 44 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

19 Void

20 Void

21 Void

22 Void

23 Void

24 Void

25 Void

26 Void

27 Void

28 Void

29 Void

30 Void

31 Void

32 Void

33 Void

34 Void

35 Void

36 Void

37 Void

38 Void

39 Void

40 Void

41 Void

42 Band 30 Independent of Release

Band 30 is specified in Release 12 but is defined as a release-independent frequency band. This approach aligns the Band 30 band with other frequency bands when considering features that have to be supported in different releases.

42.1 Band 30 UE

UEs that conform to Release 8 and support Band 30 shall support the following requirements in Release 12.

42.1.1 RF Requirements

The UE shall comply with the RF requirements for Band 30 specified [8]. The requirements are:

Table 42.1.1-1: RF Requirements for Band 30 UE

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

42.1.2 RRM Requirements

The UE shall comply with the following RRM requirements for Band 30 specified in [9]. These requirements are:

Table 42.1.2-1: RRM Requirements for Band 30 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

43 Band 31 Independent of Release

Band 31 is specified in Release 12, but is defined as a release-independent frequency band. This approach aligns the Band 31 band with other frequency bands when considering features that have to be supported in different releases.

43.1 Band 31 UE

UEs that conform to Release 8 and support Band 31 shall support the following requirements in Release 12.

43.1.1 RF Requirements

The UE shall comply with the Release 12 RF requirements for Band 31 specified [8]. The requirements are:

Table 43.1.1-1: RF Requirements for Band 31 UE

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

43.1.2 RRM Requirements

The UE shall comply with the following RRM requirements for Band 31 specified in [9]. These requirements are:

Table 43.1.2-1: RRM Requirements for Band 31 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): 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

History

Document history		
V8.0.0	April 2010	Publication
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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