



**ARIB STD-T104-36.307 V11.3.0**

**Requirements on User  
Equipments (UEs)  
Supporting a release-independent  
frequency band**

**(Release 11)**

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Note: Since the national regulatory requirements applicable to the IMT-Advanced radio system have not yet been set forth, this ARIB standard shall not practically be used for manufacturing, installation and operation of the LTE-Advanced System in Japan. It is therefore anticipated that this standard will be revised in response to the implementation of the relevant national regulations. Refer to “Industrial Property Rights (IPR)” in the preface of ARIB STD-T104 for Related Industrial Property Rights. Refer to “Notice” in the preface of ARIB STD-T104 for Copyrights

# 3GPP TS 36.307 V11.3.0 (2012-12)

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*Technical Specification*

## **3rd Generation Partnership Project; Technical Specification Group Radio Access Network; Evolved Universal Terrestrial Radio Access (E-UTRA); Requirements on User Equipments (UEs) Supporting a release-independent frequency band (Release 11)**



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## Foreword

This Technical Specification has been produced by the 3<sup>rd</sup> 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.

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# 1 Scope

The present document specifies requirements on UEs supporting a frequency band and inter-band/intra-band CA configurations that are independent of release. TSG-RAN has agreed that the standardisation of new frequency bands may be independent of a release, and that the standardisations of new inter-band/intra-band CA configurations also may be independent of a release for Rel-10 upwards. However, in order to implement a UE that conforms to a particular release but supports a band of operation or carrier aggregation of particular inter-band/intra-band CA configurations 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.

For another example on carrier aggregations, CA configuration CA\_1A-19A is contained in the Release 11 specifications. In order to implement a UE conforming to Release 10 but supporting the CA configuration CA\_1A-19A, it is necessary for the UE to additionally conform to some parts of the Release 11 specifications, such as the radio frequency and radio resource management requirements for the CA configuration CA\_1A-19A.

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.

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

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# 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:



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## 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 [2].

**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
09-2010	RP-49	RP-100927	2	CR LTE_TDD_2600_US spectrum band definition additions to TS 36.307 V900	9.0.0	9.1.0
				Correction of section numbering	9.1.0	9.1.1
12-2010	RP-50	RP-101356	008	Band 42 and 43 parameters for UMTS/LTE 3500 (TDD) for TS 36.307	9.1.1	9.2.0
12-2010	RP-50	RP-101361	005	Introduction of L-band in TS 36.307	9.1.1	9.2.0
12-2010	RP-50	RP-101344	016	CR creating the rel-10 of the 36.307 specification	9.2.0	9.3.0
12-2010	RP-50	RP-101356	012	Band 42 and 43 parameters for UMTS/LTE 3500 (TDD) for TS 36.307	9.2.0	9.3.0
12-2010	RP-50			Raised to Rel-10 with no technical change	9.3.0	10.0.0
01-2011				Correction to history table	10.0.0	10.0.1
06-2011	RP-52	RP-110804	015	Add Expanded 1900 MHz Band (Band 25) in 36.307	10.0.1	10.1.0
06-2011	RP-52	RP-110812	022	Add 2GHz S-Band (Band 23) in 36.307 (Rel 10)	10.0.1	10.1.0
09-2011	RP-53	RP-111255	025	Add Band 22 for LTE/UMTS 3500 (FDD) to TS 36.307	10.1.0	10.2.0
03-2012	RP-55	RP-120305	029	Introduction of Band 26/XXVI to TS 36.307	10.2.0	11.0.0
2012-06	RP-56	RP-120789	043	Introduction of CA_1A-19A to TS 36.307	11.0.0	11.1.0
2012-06	RP-56	RP-120793	049	Introduction of APAC700(FDD) into TS 36.307 Rel-11	11.0.0	11.1.0
2012-06	RP-56	RP-120793	053	Introduction of APAC700(TDD) into TS 36.307 Rel-11	11.0.0	11.1.0
2012-06	RP-56	RP-120791	057	Introduction of e850_LB (Band 27) to TS 36.307	11.0.0	11.1.0
2012-09	RP-57	RP-121335	059	Introduction of CA_1A-21A to TS 36.307	11.1.0	11.2.0
2012-09	RP-57	RP-121295	070r1	Relation between EARFCN for overlapping bands with multiple FBI indication	11.1.0	11.2.0
2012-09	RP-57	RP-121338	072	36.307 CR for LTE_CA_B7	11.1.0	11.2.0
2012-09	RP-57	RP-121337	073	TS 36.307 CR for CA_38	11.1.0	11.2.0
2012-09	RP-57	RP-121327	074	Introduction of CA_B7_B20 in 36.307	11.1.0	11.2.0
2012-09	RP-57	RP-121329	075	Introduction of CA band combination Band3 + Band5 to TS 36.307	11.1.0	11.2.0
2012-09	RP-57	RP-121331	076	Introduction of CA_3A-20A to TS 36.307	11.1.0	11.2.0
2012-09	RP-57	RP-121334	077	Add requirements for inter-band CA of B_1-18 in TS36.307	11.1.0	11.2.0
2012-09	RP-57	RP-121333	078	Introduction of CA_8_20 RF requirements into TS36.307	11.1.0	11.2.0
2012-09	RP-57	RP-121324	079	Introduction of CA_B3_B7 in 36.307	11.1.0	11.2.0
2012-12	RP-58	RP-121890	086	Introduction of CA_4A-5A into 36.307	11.2.0	11.3.0
2012-12	RP-58	RP-121889	088	Introduction of CA band combination Band4 + Band13 to TS 36.307 (Rel-11)	11.2.0	11.3.0
2012-12	RP-58	RP-121896	091	Introduction of Band 5 + Band 17 inter-band CA configuration into 36.307	11.2.0	11.3.0
2012-12	RP-58	RP-121884	092	Introduction of CA_3A-8A to TS 36.307	11.2.0	11.3.0
2012-12	RP-58	RP-121894	093	Introduction of CA_B5_B12 in 36.307	11.2.0	11.3.0
2012-12	RP-58	RP-121887	095	Introduction of CA_4-12 into TS 36.307 (Rel-11)	11.2.0	11.3.0
2012-12	RP-58	RP-121882	097	[Rel-11] Introduction of inter-band CA_11-18 into TS36.307	11.2.0	11.3.0
2012-12	RP-58	RP-121861	099	Release-independent implementation of carrier aggregation configuration CA_4-7	11.2.0	11.3.0
2012-12	RP-58	RP-121901	101	Introduction of Band 29	11.2.0	11.3.0
2012-12	RP-58	RP-121718	0102	Introduction of CA band combination Band2 + Band17 to TS 36.307 (Rel-11)	11.2.0	11.3.0
2012-12	RP-58	RP-121720	0104	Introduction of CA band combination Band4 + Band17 to TS 36.307 (Rel-11)	11.2.0	11.3.0