

# ETSI TS 136 307 V11.3.0 (2013-02)



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 11.3.0 Release 11)**



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Reference

RTS/TSGR-0436307vb30

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Keywords

LTE

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## Foreword

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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 |

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## History

| <b>Document history</b> |               |             |
|-------------------------|---------------|-------------|
| V11.2.0                 | November 2012 | Publication |
| V11.3.0                 | February 2013 | Publication |
|                         |               |             |
|                         |               |             |
|                         |               |             |