

3GPP-(Technical Speciation  
Group Radio Access Network;  
Base Station (BS) requirements  
and conformance tests for shared  
spectrum channel access)



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# 3GPP TS 37.107 V15.0.0 (2018-06)

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*Technical Specification*

## **3rd Generation Partnership Project; Technical Specification Group Radio Access Network; Base Station (BS) requirements and conformance tests for shared spectrum channel access (Release 15)**

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**3GPP**

Postal address

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3GPP support office address

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650 Route des Lucioles - Sophia Antipolis  
Valbonne - FRANCE  
Tel.: +33 4 92 94 42 00 Fax: +33 4 93 65 47 16

Internet

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<http://www.3gpp.org>

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## 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:

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 the minimum Radio Frequency (RF) characteristics, minimum performance requirements, and the RF test methods and conformance requirements for E-UTRA with LAA Base Stations (BS).

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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 36.141: "Evolved Universal Terrestrial Radio Access (E-UTRA); Base Station (BS) conformance testing".
  - [3] ITU-R Recommendation M.1545: "Measurement uncertainty as it applies to test limits for the terrestrial component of International Mobile Telecommunications-2000".
  - [4] 3GPP TR 36.213: "Evolved Universal Terrestrial Radio Access (E-UTRA); Physical layer procedures".
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# 3 Definitions, symbols and abbreviations

## 3.1 Definitions

For the purposes of the present document, the terms and definitions given in 3GPP TR 21.905 [1] and the following apply. A term defined in the present document takes precedence over the definition of the same term, if any, in 3GPP TR 21.905 [1].

## 3.2 Symbols

## 3.3 Abbreviations

For the purposes of the present document, the abbreviations given in 3GPP TR 21.905 [1] and the following apply. An abbreviation defined in the present document takes precedence over the definition of the same abbreviation, if any, in 3GPP TR 21.905 [1].

LBT	Listen-Before-Talk
PDSCH	Physical Downlink Shared Channel
RF	Radio Frequency

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## 4 General

### 4.1 Relationship between minimum requirements and test requirements

The Minimum Requirements given in this specification make no allowance for measurement uncertainty. The test specification TS 36.141 [2] Annex G defines Test Tolerances. These Test Tolerances are individually calculated for each test. The Test Tolerances are used to relax the Minimum Requirements in this specification to create Test Requirements.

The measurement results returned by the Test System are compared - without any modification - against the Test Requirements as defined by the shared risk principle.

The Shared Risk principle is defined in ITU-R M.1545 [3].

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## 5 Channel access procedures (core part)

### 5.1 Downlink channel access procedure

For downlink operation in Band 46 and Band 49, a channel access procedure for PDSCH transmission as described in TS 36.213 [4], Clause 15.1.1 is specified.

#### 5.1.1 Channel access parameters

Channel access related parameters for PDSCH are listed in Table 5.1.1-1.

**Table 5.1.1-1: Channel access parameters for PDSCH**

Parameter	Unit	Value
LBT measurement bandwidth	MHz	10, 20
Energy detection threshold	dBm/20MHz	-72
	dBm/10MHz	-75
Maximum channel occupancy time	ms	8

#### 5.1.2 Minimum requirement

The Base Station shall be able to assess whether the medium is busy or idle with at least 90% probability, using a channel access procedure with the parameters in Table 5.1.1-1.

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## 6 Channel access procedures (performance part)

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## Annex A (informative): Change history

Change history							
Date	Meeting	TDoc	CR	Rev	Cat	Subject/Comment	New version
2018-03	RAN4#86	R4-1802453				TS skeleton created from 3GPP TS template.	0.0.1
2018-05	RAN4#87	R4-1807758				Updated TS draft for 37.107 with core part and corrections	0.1.0
2018-06	RAN#80	RP-181132				v1.0.0 submitted for plenary approval	1.0.0
2018-06	RAN#80					Approved by plenary – Rel-15 spec under change control	15.0.0