ETSI TS 138 471 V15.0.0 (2018-09)



5G; NG-RAN; F1 layer 1 (3GPP TS 38.471 version 15.0.0 Release 15)



Reference

RTS/TSGR-0338471vf00

Keywords

5G

ETSI

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 Sous-Préfecture de Grasse (06) N° 7803/88

Important notice

The present document can be downloaded from: <u>http://www.etsi.org/standards-search</u>

The present document may be made available in electronic versions and/or in print. The content of any electronic and/or print versions of the present document shall not be modified without the prior written authorization of ETSI. In case of any existing or perceived difference in contents between such versions and/or in print, the only prevailing document is the print of the Portable Document Format (PDF) version kept on a specific network drive within ETSI Secretariat.

Users of the present document should be aware that the document may be subject to revision or change of status. Information on the current status of this and other ETSI documents is available at <u>https://portal.etsi.org/TB/ETSIDeliverableStatus.aspx</u>

If you find errors in the present document, please send your comment to one of the following services: https://portal.etsi.org/People/CommiteeSupportStaff.aspx

Copyright Notification

No part may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying and microfilm except as authorized by written permission of ETSI. The content of the PDF version shall not be modified without the written authorization of ETSI. The copyright and the foregoing restriction extend to reproduction in all media.

> © ETSI 2018. All rights reserved.

DECT[™], PLUGTESTS[™], UMTS[™] and the ETSI logo are trademarks of ETSI registered for the benefit of its Members. **3GPP**[™] and LTE[™] are trademarks of ETSI registered for the benefit of its Members and of the 3GPP Organizational Partners. **oneM2M** logo is protected for the benefit of its Members.

GSM[®] and the GSM logo are trademarks registered and owned by the GSM Association.

Intellectual Property Rights

Essential patents

IPRs essential or potentially essential to normative deliverables may have been declared to ETSI. The information pertaining to these essential IPRs, if any, is publicly available for **ETSI members and non-members**, and can be found in ETSI SR 000 314: "Intellectual Property Rights (IPRs); Essential, or potentially Essential, IPRs notified to ETSI in respect of ETSI standards", which is available from the ETSI Secretariat. Latest updates are available on the ETSI Web server (https://ipr.etsi.org/).

Pursuant to the ETSI IPR Policy, no investigation, including IPR searches, has been carried out by ETSI. No guarantee can be given as to the existence of other IPRs not referenced in ETSI SR 000 314 (or the updates on the ETSI Web server) which are, or may be, or may become, essential to the present document.

Trademarks

The present document may include trademarks and/or tradenames which are asserted and/or registered by their owners. ETSI claims no ownership of these except for any which are indicated as being the property of ETSI, and conveys no right to use or reproduce any trademark and/or tradename. Mention of those trademarks in the present document does not constitute an endorsement by ETSI of products, services or organizations associated with those trademarks.

Foreword

This Technical Specification (TS) has been produced by ETSI 3rd Generation Partnership Project (3GPP).

The present document may refer to technical specifications or reports using their 3GPP identities, UMTS identities or GSM identities. These should be interpreted as being references to the corresponding ETSI deliverables.

The cross reference between GSM, UMTS, 3GPP and ETSI identities can be found under <u>http://webapp.etsi.org/key/queryform.asp</u>.

Modal verbs terminology

In the present document "shall", "shall not", "should", "should not", "may", "need not", "will", "will not", "can" and "cannot" are to be interpreted as described in clause 3.2 of the ETSI Drafting Rules (Verbal forms for the expression of provisions).

"must" and "must not" are NOT allowed in ETSI deliverables except when used in direct citation.

Contents

Intelle	ectual Property Rights	2				
Forew	/ord	2				
Moda	l verbs terminology	2				
	Foreword					
1	Scope	5				
	References					
3 3.1 3.2	Definitions, symbols and abbreviations Definitions Abbreviations	5 .5 .5				
4	Introduction	5				
Anne	Annex A (informative): Change history					
	listory					

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.

1 Scope

The present document specifies the standards allowed to implement Layer 1 on the F1 interface. The F1 interface provides means for interconnecting a gNB-CU and a gNB-DU of a gNB within an NG-RAN, or for interconnecting a gNB-CU and a gNB-DU of an en-gNB within an E-UTRAN.

The specification of transmission delay requirements and O&M requirements are not in the scope of the present document.

In the following 'Layer 1' and 'Physical Layer' are assumed to be synonymous.

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 TS 38.411: "NG-RAN; NG layer 1".
- [2] 3GPP TS 38.401: "NG-RAN; Architecture Description".
- [3] 3GPP TS 38.300: "NR; Overall description; Stage-2".
- [4] 3GPP TS 37.340: "NR; Multi-connectivity; Overall description; Stage-2".

3 Definitions, symbols and abbreviations

3.1 Definitions

gNB: as defined in TS 38.300 [3]

en-gNB: as defined in TS 37.340 [4]

3.2 Abbreviations

For the purposes of the present document, the abbreviations given in TS 38.411 [1] apply.

4 Introduction

The F1 Layer 1 shall comply with the requirements of clauses 4 through 6 in TS 38.411 [1].

gNB-CU: as defined in TS 38.401 [2]

gNB-DU: as defined in TS 38.401 [2]

Annex A (informative): Change history

	Change history								
Date	Meeting	TDoc	CR	Rev	Cat	,	New version		
2017-06	RAN3- NR#2	R3-172602				Replace sections 4, 5 and 6 by a reference to NG Layer 1 requirements.	0.2.0		
2017-10	RAN3#97 bis	R3-174245				Implementing the agreed pCR from RAN3#97bis meeting: R3- 174127	0.3.0		
2017-12	RAN#78	RP-172493				Version submitted to RAN for approval. Correction of the references in "Definitions, symbols and abbreviations" section. Table of contents changes	1.0.0		
2017-12	RAN#78					TR approved by RAN plenary	15.0.0		

History

Document history								
V15.0.0	September 2018	Publication						