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**LTE;
Evolved Universal Terrestrial Radio
Access Network (E-UTRAN);
S1 layer 1
(3GPP TS 36.411 version 15.0.0 Release 15)**



Reference

RTS/TSGR-0336411vf00

Keywords

LTE

ETSI

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Foreword

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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 S1 interface.

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.
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[1] 3GPP TR 21.905: "Vocabulary for 3GPP Specifications".

[2] Void

[3] Void

[4] Void

[5] Void

[6] Void

3 Abbreviations

For the purposes of the present document, the abbreviations given in TR 21.905 [1] and the following abbreviations apply:

E-UTRAN Evolved Universal Terrestrial Radio Access Network

4 Introduction

The main functions of layer 1 are summarized in the following:

- Interface to physical medium;
- Frame delineation;
- Line clock extraction capability;
- Layer 1 alarms extraction and generation;
- Transmission quality control.

5 Layer 1 specifications

The support of any suitable layer 1 technique - like point-to-point or point-to-multipoint techniques - shall not be prevented.

6 Interface to management plane

The description of the interface towards the management plane is out of scope of this document, but at least the following O&M functions should be foreseen:

- Performance monitoring functions;
- Alarm status reporting functions;
- Synchronisation source management.

Annex A (informative): Change history

Change history							
Date	TSG #	TSG Doc.	CR	Rev	Subject/Comment	Old	New
2007-09	37	RP-070586			specification presented to TSG-RAN for information	0.0.2	1.0.0
2007-11	38	RP-070849			specification presented to TSG-RAN for approval	1.0.0	2.0.0
2007-12	38				specification approved at TSG-RAN and placed under change control	2.0.0	8.0.0
2008-12	42	RP-080844	001		Rapporteurs Cut	8.0.0	8.1.0
2009-12					Created Rel-9 version based on v8.1.0	8.1.0	9.0.0
2010-12					Created Rel-10 version based on v 9.0.0	9.0.0	10.0.0
2011-06	52	RP-110684	004		Correction of references	10.0.0	10.1.0
2012-09					Update to Rel-11 version (MCC)	10.1.0	11.0.0
2014-09					Update to Rel-12 version (MCC)	11.0.0	12.0.0
2015-12					Update to Rel-13 version (MCC)	12.0.0	13.0.0

Change history							
Date	Meeting	TDoc	CR	Rev	Cat	Subject/Comment	New version
2017-03	SA#75					Promotion to Release 14 without technical change	14.0.0
2018-06	SA#80	-	-	-	-	Promotion to Release 15 without technical change	15.0.0

History

Document history		
V15.0.0	July 2018	Publication