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**Universal Mobile Telecommunications System (UMTS);  
LTE;  
Evolved Universal Terrestrial  
Radio Access Network (E-UTRAN);  
SLM interface layer 1  
(3GPP TS 36.457 version 12.0.0 Release 12)**



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# Foreword

This Technical Specification has been produced by the 3<sup>rd</sup> Generation Partnership Project (3GPP).

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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.

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# 1 Scope

The present document specifies the standards allowed to implement layer 1 on the SLM 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.

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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".

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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 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 TR 21.905 [1].

## 3.2 Symbols

For the purposes of the present document, the following symbols apply:

## 3.3 Abbreviations

For the purposes of the present document, the abbreviations given in 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 TR 21.905 [1].

E-UTRAN	Evolved UTRAN
O&M	Operation and Maintenance

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## 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.

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## 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.

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## 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.

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## Annex A (informative): Change history

Change history						
Date	TSG #	TSG Doc.	CR	Rev	Subject/Comment	New
2012-12	58	RP-121767			Approved in RAN#58 and put under change control	11.0.0
2014-09					Update to Rel-12 version (MCC)	12.0.0



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# History

<b>Document history</b>		
V12.0.0	September 2014	Publication