ETSI TS 125 411 V13.0.0 (2016-01)

Universal Mobile Telecommunications System (UMTS);
UTRAN Iu interface layer 1
(3GPP TS 25.411 version 13.0.0 Release 13)

Reference
RTS/TSGR-0325411vd00

Keywords
UMTS

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

Intellectual Property Rights

IPRs essential or potentially essential to the present document 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.

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 http://webapp.etsi.org/key/queryform.asp.

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

Foreword

This Technical Specification (TS) 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 Iu 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.
- 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] ITU-T Recommendation I.432.2 (1996-08): "ISDN User-Network interfaces, Layer 1 Recommendations, 155 520 kbit/s and 622 080 kbit/s operation".

[2] Void.

[3] ITU-T Recommendation G.703 (1998-10): "Physical/electrical characteristics of hierarchical digital interfaces".

[4] ITU-T Recommendation G.704 (1998-10): "Synchronous frame structures used at 1544, 6312, 2048, 8448 and 44 736 kbit/s hierarchical levels".

[5] ITU-T Recommendation G.957 (1995-07): "Optical interfaces for equipments and systems relating to the synchronous digital hierarchy".

[6] ITU-T Recommendation I.432.1 (1996-08): "ISDN User-Network interfaces, Layer 1 Recommendations, General characteristics".

[7] ITU-T Recommendation G.823 (2000-03): "The control of jitter and wander within digital networks which are based on the 2048 kbit/s hierarchy".

[8] ITU-T Recommendation G.824 (2000-03): "The control of jitter and wander within digital networks which are based on the 1544 kbit/s hierarchy".

[9] ITU-T Recommendation G.825 (2001-08): "The control of jitter and wander within digital networks which are based on the synchronous digital hierarchy (SDH)".

[10] ITU-T Recommendation G.826 (1996-08): "Error performance parameters and objectives for international, constant bit rate digital paths at or above the primary rate".

[11] ITU-T Recommendation I.361 (1995-11): "B-ISDN ATM layer specification".

[12] ATM Forum AF-PHY-0016.000 (1994-09): "DS1 Physical Layer Specification".

[13] ATM Forum AF-PHY-0064.000 (1996-09): "E1 Physical Layer Interface Specification".

[14] ATM Forum AF-PHY-0086.001 (1999-02): "Inverse Multiplexing for ATM (IMA) Specification Version 1.1".