ETSI TS 137 483 V19.2.0 (2026-04)

TECHNICAL SPECIFICATION

5G;
E1 Application Protocol (E1AP)
(3GPP TS 37.483 version 19.2.0 Release 19)

Reference
RTS/TSGR-0337483vj20

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 - APE 7112B
Association à but non lucratif enregistrée à la
Sous-Préfecture de Grasse (06) N° w061004871

Intellectual Property Rights

Essential patents

IPRs essential or potentially essential to normative deliverables may have been declared to ETSI. The declarations pertaining to these essential IPRs, if any, are 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 IPR online database.

Pursuant to the ETSI Directives including the ETSI IPR Policy, no investigation regarding the essentiality of IPRs, 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.

DECT™, **PLUGTESTS™**, **UMTS™** and the ETSI logo are trademarks of ETSI registered for the benefit of its Members. **3GPP™**, **LTE™** and **5G™** logo are trademarks of ETSI registered for the benefit of its Members and of the 3GPP Organizational Partners. **oneM2M™** logo is a trademark of ETSI registered for the benefit of its Members and of the oneM2M Partners. **GSM®** and the GSM logo are trademarks registered and owned by the GSM Association.

Legal Notice

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. These shall be interpreted as being references to the corresponding ETSI deliverables.

The cross reference between 3GPP and ETSI identities can be found at 3GPP to ETSI numbering cross-referencing.

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 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 5G radio network layer signalling protocol for the E1 interface. The E1 interface provides means for interconnecting a gNB-CU-CP and a gNB-CU-UP of a gNB within an NG-RAN, or for interconnecting a gNB-CU-CP and a gNB-CU-UP of an en-gNB within an E-UTRAN, or for interconnecting an eNB-CP and an eNB-UP of an eNB within an E-UTRAN, or for interconnecting an ng-eNB-CU-CP and an ng-eNB-CU-UP of an ng-eNB within an NG-RAN. The E1 Application Protocol (E1AP) supports the functions of E1 interface by signalling procedures defined in the present document. E1AP is developed in accordance to the general principles stated in TS 38.401 [2] and TS 37.480 [3].

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 38.401: "NG-RAN; Architecture Description".

[3] 3GPP TS 37.480: "E1 general aspects and principles".

[4] 3GPP TS 38.300: "NR; Overall description; Stage-2".

[5] 3GPP TR 25.921 (version.7.0.0): "Guidelines and principles for protocol description and error".

[6] 3GPP TS 38.413: "NG-RAN; NG Application Protocol (NGAP)".

[7] ITU-T Recommendation X.691 (2002-07): "Information technology - ASN.1 encoding rules - Specification of Packed Encoding Rules (PER)".

[8] ITU-T Recommendation X.680 (07/2002): "Information technology – Abstract Syntax Notation One (ASN.1): Specification of basic notation".

[9] ITU-T Recommendation X.681 (07/2002): "Information technology – Abstract Syntax Notation One (ASN.1): Information object specification".

[10] 3GPP TS 38.331: "NR; Radio Resource Control (RRC); Protocol Specificaiton”.

[11] 3GPP TS 23.401: “General Packet Radio Service (GPRS) Enhancements for Evolved Universal Terrestrial Radio Access Network (E-UTRAN) access”.

[12] 3GPP TS 23.203: “Policy and Charging Control Architecture”.

[13] 3GPP TS 33.501: “Security Architecture and Procedures for 5G System”.

[14] IETF RFC 5905: “Network Time Protocol Version 4: Protocol and Algorithms Specification”.

[15] 3GPP TS 29.281: “General Packet Radio System (GPRS) Tunnelling Protocol User Plane (GTPv1-U)”.

[16] 3GPP TS 38.414: “NG-RAN; NG Data Transport”.

[17] 3GPP TS 38.323: "NR; Packet Data Convergence Protocol (PDCP) specification".

[18] 3GPP TS 37.482: "E1 Signalling Transport".

[19] 3GPP TS 37.340: "NR; Multi-connectivity; Overall description; Stage-2".

[20] 3GPP TS 23.501: "System Architecture for the 5G System".

[21] Void

[22] 3GPP TS 28.552: "Management and orchestration; 5G performance measurements".

[23] 3GPP TS 23.003: "Numbering, addressing and identification".

[24] 3GPP TS 32.422: "Trace control and configuration management".

[25] 3GPP TS 36.300: "Evolved Universal Terrestrial Radio Access (E-UTRA) and Evolved Universal Terrestrial Radio Access Network (E-UTRAN); Overall description; Stage 2".

[26] 3GPP TS 32.425: "Performance measurements; Evolved Universal Terrestrial Radio Access Network (E-UTRAN)".

[27] 3GPP TS 37.320: "Universal Terrestrial Radio Access (UTRA) and Evolved Universal Terrestrial Radio Access (E-UTRA); Radio measurement collection for Minimization of Drive Tests (MDT);Overall description; Stage 2".

[28] 3GPP TS 38.474: "NG-RAN; F1 data transport".

[29] 3GPP TS 29.244: "Interface between the Control Plane and the User Plane Nodes; Stage 3".

[30] 3GPP TS 37.470: "W1 interface; General aspects and principles".

[31] 3GPP TS 36.401: "Evolved Universal Terrestrial Radio Access Network (E-UTRAN); Architecture description".

[32] 3GPP TS 33.401: "3GPP System Architecture Evolution (SAE); Security architecture".

[33] 3GPP TS 36.331: " Evolved Universal Terrestrial Radio Access (E-UTRA); Radio Resource Control (RRC); Protocol specification".

[34] 3GPP TS 36.323: " Evolved Universal Terrestrial Radio Access Network (E-UTRAN); Packet Data Convergence Protocol (PDCP) specification".

[35] 3GPP TS 29.571: "5G System; Common Data Types for Service Based Interfaces; Stage 3".

[36] 3GPP TS 23.527: "5G System; Restoration procedures".

[37] 3GPP TS 28.558: "Management and orchestration; UE level measurements for 5G system".

3 Definitions 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].

Elementary Procedure**:** E1AP consists of Elementary Procedures (EPs). An Elementary Procedure is a unit of interaction between gNB-CU-CP and gNB-CU-UP, or between eNB-CP and eNB-UP, or between ng-eNB-CU-CP and ng-eNB-CU-UP. These Elementary Procedures are defined separately and are intended to be used to build up complete sequences in a flexible manner. If the independence between some EPs is restricted, it is described under the relevant EP description. Unless otherwise stated by the restrictions, the EPs may be invoked independently of each other as standalone procedures, which can be active in parallel. The usage of several E1AP EPs together is specified in stage 2 specifications (e.g., TS 37.480 [3]).