
**Intelligent transport systems —
Communications access for land
mobiles (CALM) — Evolved Universal
Terrestrial Radio Access Network
(E-UTRAN) —**

**Part 1:
General usage**

(standards.iteh.ai)

*Systèmes intelligents de transport — Accès aux communications
des services mobiles terrestres (CALM) — Réseau d'accès à la radio
terrestre universelle évoluée (E-UTRAN) —*

Partie 1: D'usage général



iTeh STANDARD PREVIEW
(standards.iteh.ai)

ISO 17515-1:2015

<https://standards.iteh.ai/catalog/standards/sist/99be2a53-27aa-41c5-a10c-35681da71d44/iso-17515-1-2015>



COPYRIGHT PROTECTED DOCUMENT

© ISO 2015, Published in Switzerland

All rights reserved. Unless otherwise specified, no part of this publication may be reproduced or utilized otherwise in any form or by any means, electronic or mechanical, including photocopying, or posting on the internet or an intranet, without prior written permission. Permission can be requested from either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office
Ch. de Blandonnet 8 • CP 401
CH-1214 Vernier, Geneva, Switzerland
Tel. +41 22 749 01 11
Fax +41 22 749 09 47
copyright@iso.org
www.iso.org

Contents

	Page
Foreword	iv
Introduction	v
1 Scope	1
2 Normative references	1
3 Terms and definitions	1
4 Abbreviated terms	2
5 Adoption of other standards and internationally adopted practices	3
6 Communication and management adaptation	3
6.1 Communication interface	3
6.2 Communication adaptation	3
6.2.1 Communication adaptation layer	3
6.3 Management adaptation	3
6.3.1 Management adaptation entity	3
6.3.2 Mapping of E-UTRAN connection states to ISO 21218 CI states	4
6.3.3 Connection and disconnection procedure	4
6.4 CI parameters	5
6.4.1 General	5
6.4.2 E-UTRAN specific parameters	5
6.4.3 Communication profile parameters	5
7 Session establishment and termination procedures	6
Annex A (informative) E-UTRAN initial access/default bearer establishment	7
Bibliography	10
	ISO 17515-1:2015
	https://standards.iteh.ai/catalog/standards/sist/99be2a53-27aa-41c5-a10c-35681da71d44/iso-17515-1-2015

Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation on the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the WTO principles in the Technical Barriers to Trade (TBT) see the following URL: [Foreword - Supplementary information](#)

The committee responsible for this document is ISO/TC 204, *Intelligent transport systems*.

ISO 17515 consists of the following parts, under the general title *Intelligent transport systems — Communications access for land mobiles (CALM) — Evolved Universal Terrestrial Radio Access Network (E-UTRAN)*:

— *Part 1: General usage*

Additional parts, dealing with direct communications and routing functionalities, are under preparation.

Introduction

This International Standard is a member of the set of International Standards developed under the acronym “Communications Access for Land Mobiles” (CALM) that refers to ISO/TC 204 work items. An introduction to this set of International Standards is provided in ISO 21217.

This part of ISO 17515 is part 1 of a multipart standard which determines usage of technology developed under the acronym E-UTRAN for usage as a communication interface in an ITS station unit.

The term long-term evolution (LTE) is commonly used to refer to the set of standards containing the E-UTRAN technical specifications. In this part of ISO 17515, the term “E-UTRAN” is used to refer to these specifications and can be treated as a synonym for “LTE”.

iTeh STANDARD PREVIEW (standards.iteh.ai)

[ISO 17515-1:2015](https://standards.iteh.ai/catalog/standards/sist/99be2a53-27aa-41c5-a10c-35681da71d44/iso-17515-1-2015)

<https://standards.iteh.ai/catalog/standards/sist/99be2a53-27aa-41c5-a10c-35681da71d44/iso-17515-1-2015>

iTeh STANDARD PREVIEW
(standards.iteh.ai)

[ISO 17515-1:2015](https://standards.iteh.ai/catalog/standards/sist/99be2a53-27aa-41c5-a10c-35681da71d44/iso-17515-1-2015)

<https://standards.iteh.ai/catalog/standards/sist/99be2a53-27aa-41c5-a10c-35681da71d44/iso-17515-1-2015>

Intelligent transport systems — Communications access for land mobiles (CALM) — Evolved Universal Terrestrial Radio Access Network (E-UTRAN) —

Part 1: General usage

1 Scope

This part of ISO 17515 enables usage of the E-UTRAN cellular network technology as an ITS access technology in an ITS station by specifying details of the “Communication Adaptation Layer” (CAL) and the “Management Adaptation Entity” (MAE) of communication interfaces specified in ISO 21218, and session management by reference to ISO 25111.

Wherever practicable, this part of ISO 17515 has been developed by reference to suitable extant standards, adopted by selection.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 21217:2014, *Intelligent transport systems — Communications access for land mobiles (CALM) — Architecture*

ISO 21218:2013, *Intelligent transport systems — Communications access for land mobiles (CALM) — Access technology support*

ISO 24102-3:2013, *Intelligent transport systems — Communications access for land mobiles (CALM) — ITS station management — Part 3: Service access points*

ISO 25111:2009, *Intelligent transport systems — Communications access for land mobiles (CALM) — General requirements for using public networks*

3GPP TS 36.331, *Technical Specification Group Radio Access Network; Evolved Universal Terrestrial Radio Access (E-UTRA); Radio Resource Control (RRC); Protocol specification (Release 10)*

ETSI/TS 102 760-1, *Intelligent Transport Systems (ITS); Communications Access for Land Mobiles (CALM); Test specifications for Access Technology Support (ISO 21218); Part 1: Implementation Conformance Statement (ICS) proforma*

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

3.1

I-Parameter

parameter of a CI

[SOURCE: ISO 21218]

ISO 17515-1:2015(E)

3.2

Link-ID

identifier of a link given by the address of a VCI

[SOURCE: ISO 21218]

3.3

MI-COMMAND

command issued by the ITS-S management entity and sent to the ITS-S access layer via the MI-SAP

[SOURCE: ISO 24102-3]

3.4

MI-REQUEST

command issued by the ITS-S access layer and sent to the ITS-S management entity via the MI-SAP

[SOURCE: ISO 24102-3]

4 Abbreviated terms

For the purposes of this document, the following abbreviated terms apply.

3GPP	3rd Generation Partnership Project
CAL	Communication Adaptation Layer (see ISO 21217)
CI	Communication Interface (see ISO 21217)
E-UTRAN	Evolved Universal Terrestrial Radio Access Network https://standards.iteh.ai/catalog/standards/sist/99be2a53-27aa-41c5-a10c-35681da71d44/iso-17515-1-2015
IN-SAP	Communication SAP as offered by the CAL to the ITS-S networking and transport layer (see ISO 21218)
ITS-S	ITS Station (see ISO 21217)
LTE	Long Term Evolution
MAE	Management Adaptation Entity (see ISO 21217)
MI-SAP	Management SAP as offered by the ITS-S management towards the MAE (see ISO 21218)
UC-VCI	VCI for reception from and transmission to a unicast MAC address (see ISO 21218)
UE	User Equipment

5 Adoption of other standards and internationally adopted practices

Equipment and systems complying with this part of ISO 17515 shall operate in the environment of, and to the parameters defined in the following International Standards:

- ISO 21217:2014, *Intelligent transport systems — Communications access for land mobiles (CALM) — Architecture*;
- ISO 21218:2013, *Intelligent transport systems — Communications access for land mobiles (CALM) — Access technology support*;
- ISO 24102-3:2013, *Intelligent transport systems — Communications access for land mobiles (CALM) — ITS station management — Part 3: Service access points*;
- ISO 25111:2009, *Intelligent transport systems — Communications access for land mobiles (CALM) — General requirements for using public networks*;
- 3GPP TS 36.331, *Long-Term Evolution of the 3GPP Radio Technology, 3GPP Release 10*, and shall operate within the limits and parameters defined in regional and national regulations.

6 Communication and management adaptation

6.1 Communication interface

The concept of a communication interface (CI) is introduced in ISO 21217 as part of the ITS station reference architecture. Interfaces, management, behaviour, and parameters of CIs are specified in ISO 21218, especially the adaptation of a CI access technology

- to the communication service access point IN-SAP, and
- to the management service access point MI-SAP, with reference to ISO 24102-3.

Such adaptation enables a common definition of IN-SAP and MI-SAP service primitives for all kinds of access technologies. Details of this adaptation functionality dedicated to the access technology E-UTRAN are specified in [6.2](#) and [6.3](#).

6.2 Communication adaptation

6.2.1 Communication adaptation layer

The “Communication Adaptation Layer” (CAL) specified in ISO 21218 provides the IN-SAP towards the ITS-S networking and transport layer.

An E-UTRAN implementation according to this International Standard shall support UC-VCIs and the related procedures specified in ISO 21218. The Link-ID shall be constructed as specified in ISO 21218:2013, 6.3 and C.3.

6.3 Management adaptation

6.3.1 Management adaptation entity

The “Management Adaptation Entity” (MAE) specified in ISO 21218 provides the MI-SAP towards the ITS-S management entity described in ISO 21217. The MI-SAP services, service primitives and service primitive functions are specified in ISO 24102-3.

The MI-COMMANDs presented in [Table 1](#) shall be supported: