ETSI TS 134 229-3 V13.3.0 (2017-07)

Universal Mobile Telecommunications System (UMTS);
LTE;
Internet Protocol (IP) multimedia call control protocol based on Session Initiation Protocol (SIP) and Session Description Protocol (SDP);
User Equipment (UE) conformance specification;
Part 3: Abstract test suite (ATS)
(3GPP TS 34.229-3 version 13.3.0 Release 13)

Reference
RTS/TSGR-0534229-3vd30

Keywords
LTE,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

Important notice

The present document can be downloaded from:
http://www.etsi.org/standards-search

The present document may be made available in electronic versions and/or in print. The content of any electronic and/or print versions of the present document shall not be modified without the prior written authorization of ETSI. In case of any existing or perceived difference in contents between such versions and/or in print, the only prevailing document is the print of the Portable Document Format (PDF) version kept on a specific network drive within ETSI Secretariat.

Users of the present document should be aware that the document may be subject to revision or change of status.
Information on the current status of this and other ETSI documents is available at
https://portal.etsi.org/TB/ETSIDeliverableStatus.aspx

If you find errors in the present document, please send your comment to one of the following services:
https://portal.etsi.org/People/CommiteeSupportStaff.aspx

Copyright Notification

No part may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying and microfilm except as authorized by written permission of ETSI.
The content of the PDF version shall not be modified without the written authorization of ETSI.
The copyright and the foregoing restriction extend to reproduction in all media.

© ETSI 2017.
All rights reserved.

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

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

Intellectual Property Rights 2
Foreword 2
Modal verbs terminology 2
Foreword 5
Introduction 5
1 Scope 6
2 References 6
3 Definitions and abbreviations 9
3.1 Definitions 9
3.2 Abbreviations 9
4 Requirements on the TTCN development 9
5 Test method and test model 9
5.1 Test method 9
5.2 IMS CC test model 9
5.2.1 Transport protocol 14
5.2.2 IMS CC test cases over IP-CAN test model 14
5.3 Upper Tester (UT) 15
5.4 TTCN-3 15
5.5 Support of XCAP 15
5.5.1 XCAP Server 15
5.5.2 HTTP Signalling 16
5.6 Void 17
6 ASP definitions 17
6.1 Void 17
6.2 Void 17
6.3 Void 17
6.4 Void 17
6.5 XCAP server ASP definitions 17
7 Codec definitions for IP User Data 18
7.1 Introduction 18
7.2 General Aspects 18
7.3 Requirements on abstract message syntax for IMS (SIP, SDP) 18
7.3.1 Type definition - Syntax / Semantic aspects 18
7.3.2 Deviations of the type definition semantic 19
7.3.3 Additional requirements for codec implementations (SIP/IMS Message 20
7.3.3.1 Differences between BNF - TTCN-3 Type Mapping 20
7.3.3.2 URL Encoding 23
7.3.4 Additional requirements for codec implementations (Message Body) 24
7.3.5 Additional requirements for codec implementations (SDP Body) 24
7.3.5.1 Differences between BNF - SDP Type Mapping 24
7.3.5.2 Defined attributes 25
7.3.6 Additional requirements for codec implementations (HTTP) 27
7.3.7 Additional requirements for codec implementations (XML) 27
7.4 Requirements for codec implementations (DHCP, DNS) 27
8 Design consideration 27
8.1 Void 27
8.2 Void 27
8.3 Void 27
8.4 AT commands 27
8.5 Timer Tolerances 28
8.6 Bearer information for UTRAN 28

Annex A (normative): Abstract Test Suites (ATS) 29

A.1 Version of specifications 29

A.2 IMS-CC ATS 29

A.2.1 Void 32

A.2.2 Void 32

A.2.3 Void 32

Annex B (normative): Partial IXIT proforma 32

B.0 Introduction 32

B.1 Parameter values 33

B.1.1 PIXITs 33

B.2 MMI Commands 35

Annex C: Void 36

Annex D: Void 37

Annex E (informative): TTCN3 style guide for 3GPP IMS ATS 38

Annex F (informative): BNF Message Definitions 39

Annex G (Normative): SIP Type Definitions and XSD References 40

G.1 LibSip_MessageBodyTypes 41

G.1.1 MIMETypes 41

G.2 References to TTCN-3 42

Annex H (informative): TTCN-3 Definitions of Common Interfaces 43

H.1 IMS_PTC_CoordMsg 43

H.2 IMS_ASP_TypeDefs 46

H.3 HTTP_ASP_TypeDefs 49

H.3.1 HTTP_ASP_Definitions 49

H.3.2 HTTP_Port_Definitions 51

H.4 References to TTCN-3 51

Annex I (informative): Change history 52

History 68

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.

Introduction

The present document is 3rd part of a multi-part conformance test specification for UE and is *valid for 3GPP Release 5 and above*. The specification contains a TTCN design frame work and the detailed test specifications in TTCN for the UE conformance at the Gm reference point.

3GPP TS 34.229-1 [5] contains a conformance test description in prose.

3GPP TS 34.229-2 [6] contains a pro-forma for the UE Implementation Conformance Statement (ICS).

3GPP TS 34.229-3 the present document.

1 Scope

The present document specifies the protocol conformance testing in TTCN for the 3GPP User Equipment (UE) at the Gm interface.

The present document is the 3rd part of a multi-part test specification, 3GPP TS 34.229. The following TTCN test specification and design considerations can be found in the present document:

- the overall test suite structure;
- the testing architecture;
- the test methods and PCO definitions;
- the test configurations;
- the design principles, assumptions, and used interfaces to the TTCN tester (System Simulator);
- TTCN styles and conventions;
- the partial PIXIT proforma;
- the TTCN files for the mentioned protocols tests.

The Abstract Test Suites designed in the document are based on the test cases specified in prose (3GPP TS 34.229-1 [5]).

The present document is valid for UE implemented according 3GPP Releases starting from Release 5 up to the Release indicated on the cover page of the present document.

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 unless the context in which the reference is made suggests a different Release is relevant (information on the applicable release in a particular context can be found in e.g. test case title, description or applicability, message description or content).

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

[2] 3GPP TS 34.123-1: "User Equipment (UE) conformance specification; Part 1: Protocol conformance specification".

[3] 3GPP TS 34.123-2: "User Equipment (UE) conformance specification; Part 2: Implementation Conformance Statement (ICS) proforma specification".

[4] 3GPP TS 34.123-3: "User Equipment (UE) conformance specification; Part 3: Abstract Test Suites (ATS)".

[5] 3GPP TS 34.229-1: "Internet Protocol (IP) multimedia call control protocol based on Session Initiation Protocol (SIP) and Session Description Protocol (SDP); User Equipment (UE) conformance specification; Part 1: Protocol conformance specification ".