3GPP TS 34.229-2 V10.2.0 (2013-09)

Technical Specification

**3rd Generation Partnership Project;
Technical Specification Group Radio Access Network;
Internet Protocol (IP) multimedia call control protocol based on
Session Initiation Protocol (SIP) and Session Description
Protocol (SDP);
User Equipment (UE) conformance specification;
Part 2: Implementation Conformance Statement (ICS)
specification
(Release 10)**

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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

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y   the second digit is incremented for all changes of substance, i.e. technical enhancements, corrections, updates, etc.

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Introduction

To evaluate conformance of a particular implementation, it is necessary to have a statement of which capabilities and options have been implemented for a telecommunication specification. Such a statement is called an Implementation Conformance Statement (ICS).

The present document is 2rd part of a multi-part conformance test specification for UE and is *valid for 3GPP Release 5*. The specification contains the UE IMS CC capability and the applicability of the UE IMS CC conformance test cases.

3GPP TS 34.229-1 [5]: 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.

3GPP TS 34.229-2 (the present document): "Internet Protocol (IP) multimedia call control protocol based on Session Initiation Protocol (SIP) and Session Description Protocol (SDP); User Equipment (UE) conformance specification; Part 2: Implementation Conformance Statement (ICS) proforma specification" - current document.

3GPP TS 34.229-3 [6]: "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 Suites (ATS)".

Note: For conformance testing of the UTRAN requirements refer to 3GPP TS 34.123 Parts 1 to 3 [2] [3] [4].

1 Scope

The present document provides the Implementation Conformance Statement (ICS) proforma for 3rd Generation User Equipment (UE) supporting the Internet Protocol (IP) multimedia call control protocol based on Session Initiation Protocol (SIP) and Session Description Protocol (SDP), in compliance with the relevant requirements, and in accordance with the relevant guidance given in ISO/IEC 9646-7 [8] and ETS 300 406 [9].

The present document also specifies a recommended applicability statement for the test cases included in TS 34.229-1 [5]. These applicability statements are based on the features implemented in the UE.

The present document is valid for UE implemented according to 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.

    - For a Release 5 UE, references to 3GPP documents are to version 5.x.y, when available

    - For a Release 6 UE, references to 3GPP documents are to version 6.x.y, when available

    - For a Release 7 UE, references to 3GPP documents are to version 7.x.y, when available

    - For a Release 8 UE, references to 3GPP documents are to version 8.x.y, when available.

    - For a Release 9 UE, references to 3GPP documents are to version 9.x.y, when available.

[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 ".

[6]   3GPP TS 34.229-3: "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 Suites (ATS)".

[7]   ISO/IEC 9646-1: "Information technology - Open systems interconnection - Conformance testing methodology and framework - Part 1: General concepts".

[8]   ISO/IEC 9646-7: "Information technology - Open systems interconnection - Conformance testing methodology and framework - Part 7: Implementation Conformance Statements".

[9] ETSI ETS 300 406: "Methods for testing and Specification (MTS); Protocol and profile conformance testing specifications; Standardization methodology".

[10] 3GPP TS 24.229: "IP Multimedia Call Control Protocol based on Session Initiation Protocol (SIP) and Session Description Protocol (SDP); Stage 3".

[11] 3GPP TS 26.234: "Transparent end-to-end Packet-switched Streaming Service (PSS); Protocols and codecs".

[12] 3GPP TS 33.203: "Access security for IP-based services".

[13] 3GPP TS 23.221: "Architectural requirements".

[14] 3GPP TS 26.235: "Packet switched conversational multimedia applications; Default codecs".

[15] RFC 3261: "SIP: Session Initiation Protocol".

[16] 3GPP TS 24.141: "Presence service using the IP Multimedia (IM) Core Network (CN) subsystem; Stage 3".

[17] 3GPP TS 24.247: "Messaging using the IP Multimedia (IM) Core Network (CN) subsystem; Stage 3".

[18] 3GPP TR 23.981: "Interworking aspects and migration scenarios for IPv4-based IP Multimedia Subsystem (IMS) implementations".

[19] 3GPP TS 24.147: "Conferencing using the IP Multimedia (IM) Core Network (CN) subsystem; Stage 3".

[20] RFC 3455: "Private Header (P-Header) Extensions to the Session Initiation Protocol (SIP) for the 3rd-Generation Partnership Project (3GPP)"

[21] RFC 3608: "Session Initiation Protocol (SIP) Extension Header Field for Service Route Discovery During Registration".

[22] RFC 3327: "Session Initiation Protocol Extension Header Field for Registering Non-Adjacent Contacts".

[23] RFC 3329: "Security Mechanism Agreement for the Session Initiation Protocol (SIP)".

[24] RFC 3680: "A Session Initiation Protocol (SIP) Event Package for Registrations".

[25] RFC 3486: "Compressing the Session Initiation Protocol (SIP)"

[26] RFC 3312: "Integration of Resource Management and Session Initiation Protocol (SIP)".

[27] RFC 3262: "Reliability of provisional responses in Session Initiation Protocol (SIP)".

[28] RFC 3265: "Session Initiation Protocol (SIP) Specific Event Notification".

[29] RFC 3515: "The Session Initiation Protocol (SIP) REFER method".

[30] RFC 3311: "The Session Initiation Protocol (SIP) UPDATE method".

[31] RFC 3313: "Private Session Initiation Protocol (SIP) Extensions for Media Authorization".

[32] RFC 3323: "A Privacy Mechanism for the Session Initiation Protocol (SIP)".

[33] RFC 3325: "Private Extensions to the Session Initiation Protocol (SIP) for Network Asserted Identity within Trusted Networks".

[34] RFC 3428: "Session Initiation Protocol (SIP) Extension for Instant Messaging".

[35] RFC 3326: "The Reason Header Field for the Session Initiation Protocol (SIP)".

[36] RFC 3841: "Caller Preferences for the Session Initiation Protocol (SIP)"

[37] RFC 3903: "An Event State Publication Extension to the Session Initiation Protocol (SIP)".

[38]   RFC 4028: "Session Timers in the Session Initiation Protocol (SIP)".

[39]   RFC 3892: "The Session Initiation Protocol (SIP) Referred-By Mechanism".

[40]   RFC 3891: "The Session Initiation Protocol (SIP) "Replaces" Header".

[41]   RFC 3911: "The Session Initiation Protocol (SIP) "Join" Header".

[42]   RFC 3840: "Indicating User Agent Capabilities in the Session Initiation Protocol (SIP)"

[43]   RFC 3857: "A Watcher Information Event Template Package for the Session Initiation Protocol (SIP)".

[44]   RFC 3856: "A Presence Event Package for the Session Initiation Protocol (SIP)".

[45]   draft-ietf-sipping-config-framework-07 (July 2005): "A Framework for Session Initiation Protocol User Agent Profile Delivery".

Editor's note: The above document cannot be formally referenced until it is published as an RFC.

[46]   draft-ietf-sipping-conference-package-12 (July 2005): "A Session Initiation Protocol (SIP) Event Package for Conference State"

Editor's note: The above document cannot be formally referenced until it is published as an RFC.

[47]   RFC 2403 "The Use of HMAC-MD5-96 within ESP and AH".

[48]   RFC 2404 "The Use of HMAC-SHA-1-96 within ESP and AH".

[49]   RFC 3388: "Grouping of Media Lines in Session Description Protocol".

[50]   RFC 3524: "Mapping of Media Streams to Resource Reservation Flows".

[51]   RFC 3556: "Session Description Protocol (SDP) Bandwidth Modifiers for RTP Control Protocol (RTCP) Bandwidth".

[52]   Void

[53]   RFC 2451: "The ESP CBC-Mode Cipher Algorithms".

[54]   RFC 3602: "The AES-CBC Cipher Algorithm and Its Use with IPsec".

[55]   3GPP TS 24.173: "IMS Multimedia Telephony Communication Service and supplementary services; stage 3"

[56]   3GPP TS 26.114: "IP Multimedia Subsystem (IMS); Multimedia Telephony; Media handling and interaction".

[57]   RFC 4032 (March 2005): "Update to the Session Initiation Protocol (SIP) Preconditions Framework"

[58]   RFC 4145 (September 2005): "TCP-Based Media Transport in the Session Description Protocol (SDP)".

[59]   draft-ietf-mmusic-ice-17 (July 2007): "Interactive Connectivity Establishment (ICE): A Protocol for Network Address Translator (NAT) Traversal for Offer/Answer Protocols".

[60]   RFC 4583 (November 2006): "Session Description Protocol (SDP) Format for Binary Floor Control Protocol (BFCP) Streams".

[61]   RFC 4566 (June 2006): "SDP: Session Description Protocol".

[62]   RFC 3267 (June 2002): "Real-Time Transport Protocol (RTP) Payload Format and File Storage Format for the Adaptive Multi-Rate (AMR) and Adaptive Multi-Rate Wideband (AMR-WB) Audio Codecs".

[63]   3GPP TS 33.222: "Generic Authentication Architecture (GAA); Access to network application functions using Hypertext Transfer Protocol over Transport Layer Security (HTTPS)".

[64] 3GPP TS 24.109: "Bootstrapping interface (Ub) and network application function interface (Ua); Protocol details".

[65] RFC 2617; "HTTP Authentication: Basic and Digest Access Authentication".

[66] 3GPP TS 24.341: "Support of SMS over IP networks; Stage 3".

[67] 3GPP TS 24.341: "Support of SMS over IP networks; Stage 3".

[68] 3GPP TS 24.604: "Communication Diversion (CDIV) using IP Multimedia (IM)".

[69] 3GPP TS 24.615: "Communication Waiting (CW) using IP Multimedia (IM) Core Network (CN) subsystem".

[70] 3GPP TS 36.101: "Evolved Universal Terrestrial Radio Access (E-UTRA); User Equipment (UE) radio transmission and reception"

[71] 3GPP TR 21.904: "UE capability requirements"

[72] GSMA PRD IR.92: "IMS Profile for Voice and SMS"

[73] 3GPP TS 36.523-2: "User Equipment (UE) conformance specification; Part 2: Implementation Conformance Statement (ICS) proforma specification"

[74] 3GPP2 C.S0005-E: "Upper Layer (Layer 3) Signaling Standard for cdma2000 Spread Spectrum Systems"

[75] GSMA PRD IR.94: "IMS Profile for Conversational Video Service".

[76] 3GPP TS 23.167: "IP Multimedia Subsystem (IMS) emergency sessions".

[77] 3GPP TS 24.237: "IP Multimedia Subsystem (IMS) Service Continuity; Stage 3".

[78] 3GPP TS 34.109: "Terminal logical test interface; Special conformance testing functions".

[79] 3GPP TS 36.509: "Special conformance testing functions for User Equipment (UE)".

3 Definitions and abbreviations

3.1 Definitions

For the purposes of the present document, the following terms and definitions apply, in addition to those in TR 21.905 [1]:

- terms defined in the relevant 3GPP core specifications (see normative references);

- terms defined in ISO/IEC 9646-1 [7] and in ISO/IEC 9646-7 [8].

In particular, the following terms defined in ISO/IEC 9646-1 [7] apply:

Implementation Conformance Statement (ICS): statement made by the supplier of an implementation or system claimed to conform to a given specification, stating which capabilities have been implemented
The ICS can take several forms: protocol ICS, profile ICS, profile specific ICS, information object ICS, etc.

ICS proforma: document, in the form of a questionnaire, which when completed for an implementation or system becomes an ICS

3.2 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].

ICS   Implementation Conformance Statement
SCS   System Conformance Statement
UEUT   User Equipment Under Test

4 Recommended test case applicability

The applicability of each individual test is identified in the table 1. This is just a recommendation based on the purpose for which the test case was written.

The applicability of every test is formally expressed by the use of Boolean expression that are based on parameters (ICS) included in annex A of the present document.

The columns in table 1 have the following meaning:

Clause

The clause column indicates the clause number in TS 34.229-1 [5] that contains the test body.

Title

The title column describes the name of the test.

Release

The release column indicates the earliest release from which each testcase is applicable, except if otherwise stated of an individual test case.

Applicability

The following notations are used for the applicability column:

R   recommended - the test case is recommended

O   optional – the test case is optional

N/A   not applicable - in the given context, the test case is not recommended.

Ci   conditional - the test is recommended ("R") or not ("N/A") depending on the support of other items. "i" is an integer identifying an unique conditional status expression which is defined immediately following the table. For nested conditional expressions, the syntax "IF ... THEN (IF ... THEN ... ELSE...) ELSE..." is used to avoid ambiguities.

Comments

This column contains a verbal description of the condition included in the applicability column.

Table 1: Applicability of tests

Clause	Title	Release	Applicability	Comments
PDP Context Activation				
6.2	General Purpose PDP Context Establishment (UE Requests for a Dedicated PDP Context)	Rel-8	C04	UE capable of being configured to initiate Dedicated PDP Context
6.3	Dedicated PDP Context Establishment	Rel-8	C04	UE capable of being configured to initiate Dedicated PDP Context
P-CSCF Discovery				
7.1	P-CSCF Discovery via PDP Context	Rel-8	C05	UE capable of being configured to initiate P-CSCF Discovery via PCO
7.2	P-CSCF Discovery via DHCP - IPv4	Rel-8	C06	UE supporting IPv4 and capable of being configured to initiate P-CSCF Discovery via DHCPv4
7.3	P-CSCF Discovery via DHCP - IPv4 (UE Requests P-CSCF discovery via PCO)	Rel-8	C07	UE supporting IPv4, supporting P-CSCF Discovery via PCO and DHCPv4 and capable of being configured to initiate P-CSCF Discovery via PCO
7.4	P-CSCF Discovery by DHCP - IPv6	Rel-8	C08	UE capable of being configured to initiate P-CSCF Discovery via DHCPv6
7.5	P-CSCF Discovery by DHCP-IPv6 (UE Requests P-CSCF discovery by PCO)	Rel-8	C09	UE supporting P-CSCF Discovery via PCO and DHCPv6 and capable of being configured to initiate P-CSCF Discovery via PCO
7.6	P-CSCF Discovery by DHCP - IPv6 (UE does not Request P-CSCF discovery by PCO, SS includes P-CSCF Address(es) in PCO)	Rel-8	C10	UE supporting P-CSCF Discovery via PCO and DHCPv6 and capable of being configured to initiate P-CSCF Discovery via DHCPv6
7.7	Void			
7.8	Void			
7.9	P-CSCF discovery from ISIM	Rel-8	C60	UE supporting P-CSCF discovery in home network while roaming
Registration				
8.1	Initial registration	Rel-8	C17	UE supporting IMS security
8.2	User Initiated Re-Registration	Rel-8	C17	UE supporting IMS security
8.3	Mobile Initiated Deregistration	Rel-8	C17	UE supporting IMS security
8.4	Invalid Behaviour - 423 Interval Too Brief	Rel-8	C17	UE supporting IMS security
8.5	Void			
8.6	Void			
8.7	Void			
8.8	Void			
8.9	Void			
8.10	Initial registration using GIBA	Rel-8	C18	UE supporting GIBA only
8.11	Initial registration using IMS AKA and GIBA against a network with GIBA support only	Rel-8	C19	UE supporting IMS security and GIBA
8.12	User initiated re-registration using GIBA	Rel-8	C18	UE supporting GIBA only
8.13	User initiated de-registration using GIBA	Rel-8	C18	UE supporting GIBA only
8.14	Initial registration for three implicit registration sets	Rel-8	C17	UE supporting IMS security
8.x	Refresh for ISIM parameters	Rel-10	C17	UE supporting IMS security
Authentication				
9.1	Invalid Behaviour - MAC Parameter Invalid	Rel-8	C17	UE supporting IMS security
9.2	Invalid Behaviour - SQN out of range	Rel-8	C17	UE supporting IMS security
Subscription				
10.1	Invalid Behaviour - 503 Service Unavailable	Rel-8	R	
Notification				
11.1	Network-initiated deregistration	Rel-8	R	
11.2	Network initiated re-authentication	Rel-8	C17	UE supporting IMS security
Call Control				
12.1	Void			
12.2	MO Call - 503 Service Unavailable	Rel-8	C22	UE supporting MTSI and speech
12.2a	MO Call - 504 Server Time-out	Rel-8	C22	UE supporting MTSI and speech
12.3	Void			
12.4	Void			
12.5	Void			
12.6	Void			
12.7	Void			
12.8	Void			

Clause	Title	Release	Applicability	Comments
12.9	Void			
12.10	Void			
12.11	Void			
12.12	MO MTSI Voice Call Successful with preconditions	Rel-8	C22	UE supporting MTSI and speech
12.13	MT MTSI Speech call	Rel-8	C27	UE supporting MTSI and Initiating session and MTSI speech
12.15	Void			
12.16	MO MTSI Text call	Rel-8	C26	UE capable of initiating a session and supporting preconditions and MTSI text, RTP
12.17	MT MTSI Text call	Rel-8	C37	UE supporting MTSI and UE capable of initiating a session and MTSI text, RTP
12.18	MTSI MO speech call / SSAC / 0% access probability for MTSI MO speech call	Rel-9	C68	UE supporting MTSI and Initiating session and MTSI speech and E-UTRA.
12.19	MTSI MO video call / SSAC / 0% access probability for MTSI MO video call	Rel-9	C69	UE supporting MTSI and Initiating session and MTSI speech and MTSI video and E-UTRA.
12.20	Emergency call / Success / SSAC / 0% access propability for MTSI MO speech call	Rel-9	C64	UE supports IMS emergency services and EUTRA FDD or TDD..
12.21	MO MTSI Video call	Rel-8	C71	UE supporting MTSI and initiating session and MTSI speech and MTSI video H.264 CBP Level 1.2
12.22	MT MTSI Video call	Rel-8	C70	UE supporting MTSI and MTSI speech and MTSI video H.264 CBP Level 1.2
SIP Compression (SigComp)				
13.1	SigComp in the Initial registration	FFS	C58	UE supporting IMS security and Indicate Sigcomp
13.2	SigComp in the MO Call	FFS	FFS	FFS (see Note1 below)
13.3	SigComp in the MT Call	FFS	FFS	FFS (see Note1 below)
13.4	Void			
Emergency Service				
14.1	Void			
14.2	Void			
Supplementary Services				
15.1	Originating Identification Presentation	Rel-8	C43	UE supporting MTSI and Originating Identification Presentation
15.2	Originating Identification Restriction	Rel-8	C44	UE supporting MTSI and Originating Identification Restriction
15.3	Terminating Identification Presentation	Rel-8	C48	UE supporting MTSI and Terminating Identification Presentation
15.4	Terminating Identification Restriction	Rel-8	C49	UE supporting MTSI and Terminating Identification Restriction
15.5	Communication Forwarding unconditional	Rel-8	C30	UE supporting MTSI and Communication Diversion
15.6	Communication Deflection	Rel-8	C31	UE supporting MTSI and speech and Communication Diversion
15.7	Communication Forwarding on non Reply: activation	Rel-8	C30	UE supporting MTSI and Communication Diversion
15.8	Communication Forwarding on non reply: MO call initiation	Rel-8	C31	UE supporting MTSI and speech and Communication Diversion
15.9	Communication Forwarding on Busy	Rel-8	C30	UE supporting MTSI and Communication Diversion
15.10	Communication Forwarding on Not logged-in	Rel-8	C30	UE supporting MTSI and Communication Diversion
15.10a	Communication Forwarding on Not reachable	Rel-8	C30	UE supporting MTSI and Communication Diversion
15.11	MO Call Hold without announcement	Rel-8	C23	UE supporting MTSI and speech and Communication Hold
15.12	MT Call Hold without announcement	Rel-8	C23	UE supporting MTSI and speech and Communication Hold
15.13	Incoming Communication Barring except for a specific user	Rel-8	C24	UE supporting MTSI and Communication Barring
15.14	Incoming Communication Barring for anonymous users	Rel-8	C45	UE supporting MTSI and Communication Barring and Anonymous Communication Rejection
15.14a	Communication Barring while roaming	Rel-8	C24	UE supporting MTSI and Communication Barring
15.15	Subscription to the MWI event package	Rel-8	C50	UE supporting MTSI and Message Waiting Indication
15.17	Creating and leaving a conference	Rel-8	C32	UE supporting MTSI and Conference

Clause	Title	Release	Applicability	Comments
15.18	Inviting user to conference by sending a REFER request to the user	Rel-8	C32	UE supporting MTSI and Conference
15.19	Inviting user to conference by sending a REFER request to the conference focus	Rel-8	C32	UE supporting MTSI and Conference
15.21	Joining a conference after being invited to it	Rel-8	C32	UE supporting MTSI and Conference
15.21a	Three way session creation	Rel-8	C61	UE supporting MTSI and Conference and three way session
15.23	MO Explicit Communication Transfer - Blind Call Transfer	Rel-8	C25	UE supporting MTSI and speech and Explicit Communication Transfer - blind transfer
15.24	MT Explicit Communication Transfer - Blind Call Transfer	Rel-8	C25	UE supporting MTSI and speech and Explicit Communication Transfer - blind transfer
15.25	MO Explicit Communication Transfer - Consultative Call Transfer	Rel-8	C29	UE supporting MTSI and speech and Explicit Communication Transfer - consultative transfer
15.26	MT Explicit Communication Transfer - Consultative Call Transfer (without 3PCC)	Rel-8	C29	UE supporting MTSI and speech and Explicit Communication Transfer - consultative transfer
15.27	Communication Waiting and answering the call	Rel-8	C57	MTSI and Communication Waiting
15.28	Communication Waiting and cancelling the call	Rel-8	C57	MTSI and Communication Waiting
Codec selecting				
16.1	Speech AMR, indicate all codec modes	Rel-8	C27	UE supporting MTSI and Initiating session and MTSI speech
16.2	Speech AMR, indicate selective codec modes	Rel-8	C27	UE supporting MTSI and Initiating session and MTSI speech
16.3	Speech AMR-WB, indicate all codec modes	Rel-8	C28	UE supporting MTSI and Initiating session and MTSI speech and MTSI speech, AMR wideband
16.4	Speech AMR-WB, indicate all codec modes	Rel-8	C28	UE supporting MTSI and Initiating session and MTSI speech and MTSI speech, AMR wideband
16.5	Void			
16.6	Void			
16.7	Void			
16.8	Void			
16.10	MO MTSI Text session with MSRP	Rel-8	C46	UE supporting MTSI and text, MSRP and UE not supporting preconditions (for MSRP session)
16.11	MT Speech, add video H.263 profile 3	FFS	C52	UE supporting MTSI and Initiating session and MTSI speech and MTSI video and MTSI video H.263 profile 3
16.12	MT Speech, add video H.264	FFS	C53	UE supporting MTSI and Initiating session and MTSI speech and MTSI video and MTSI video H.264
16.13	MT Speech, add video MPEG-4	FFS	C54	UE supporting MTSI and Initiating session and MTSI speech and MTSI video and MTSI video MPEG-4
Media use cases				

Clause	Title	Release	Applicability	Comments
17.1	MO Speech, add video remove video	Rel-8	C71	UE supporting MTSI and Initiating session and MTSI speech and MTSI video H.264 CBP Level 1.2
17.2	MT Speech, add video remove video	Rel-8	C70	UE supporting MTSI and MTSI speech and MTSI video H.264 CBP Level 1.2
17.4	Void			
17.5	MO Speech, add text remove text	Rel-7	C51	UE supporting MTSI and Initiating session and MTSI speech and MTSI text, MSRP
17.6	MT Speech, add text remove text	FFS	C38	UE supporting MTSI and Initiating session and MTSI speech and MTSI text, RTP
17.8	Void			
17.10	Void			
17.12	Void			
17.14	Void			
17.16	Void			
17.17	MO Text, add video remove video	FFS	C47	UE supporting MTSI and Initiating session and MTSI video and MTSI text, RTP and text, add video remove video
17.18	MT Text, add video remove video	FFS	C47	UE supporting MTSI and Initiating session and MTSI video and MTSI text, RTP and text, add video remove video
SMS over IMS				
18.1	Mobile Originating SMS	Rel-8	C55	UE supporting MO SMS over IMS
18.2	Mobile Terminating SMS	Rel-8	C56	UE supports SM-over-IP receiver
Emergency Service				
19.1.1	Emergency call with emergency registration / Success / Location information available	Rel-9	C76	UE supports IMS emergency services and Geolocation Information
19.1.2	Emergency call with emergency registration / Success / Location information not available	Rel-9	C59	UE supports IMS emergency services
19.1.3	Emergency call with emergency registration / Abnormal case / IM CN sends a 380 / UE performs emergency call via CS domain / UTRAN or GERAN	Rel-9	C62	UE supporting IMS emergency services and Emergency speech call over UTRAN or GERAN (NOTE 2)
19.1.3a	Emergency call with emergency registration / Abnormal case / IM CN sends a 380 / UE performs emergency call via CS domain / CDMA 2000 1xRTT	Rel-9	C74	UE supporting IMS emergency services and Emergency speech call over 1XRTT (NOTE 2)
19.1.4	Void			
19.1.5	Emergency call with emergency registration / Emergency SIP signalling and media in parallel with an other ongoing IM CN subsystem signalling and media	Rel-9	C72	UE supporting IMS emergency services and MTSI and speech and Communication Hold during emergency call
19.3.1	Non-UE detectable emergency call / IM CN sends a 1xx response / UE geographical location information available	Rel-9	C73	UE supports IMS emergency services and Geolocation Information and MTSI and speech
19.3.2	Non-UE detectable emergency call / IM CN sends 380 Alternative Service / Non-emergency IMS registration / UTRAN or GERAN	Rel-9	C66	Speech and IMS emergency call and emergency call over UTRAN or GERAN (NOTE 2)
19.3.2a	Non-UE detectable emergency call / IM CN sends 380 Alternative Service / Non-emergency IMS registration / CDMA 2000 1xRTT	Rel-9	C75	Speech and IMS emergency call and emergency call over 1XRTT (NOTE 2)
19.3.3	Non-UE detectable emergency call / IM CN sends 380 Alternative Service / Emergency IMS registration	Rel-9	C59	UE supports IMS emergency services
19.3.4	Non-UE detectable emergency call / IM CN sends 380 with an Alternative Service / Previous emergency IMS registration not expired	Rel-9	C59	UE supports IMS emergency services
19.4.1	Emergency call without emergency registration / EPS / UE does not contain an ISIM or USIM	Rel-9	C59	UE supports IMS emergency services
19.4.2	Emergency call without emergency registration / EPS / UE contains an ISIM or USIM / UE is in state EMM-REGISTERED.LIMITED-SERVICE	Rel-9	C64	UE supports IMS emergency services and EUTRA FDD or TDD

Clause	Title	Release	Applicability	Comments
19.4.3	Emergency call without emergency registration / GPRS / UE does not contain an ISIM or USIM / UE is in state GMM-NO USIM	Rel-9	C65	UE supports IMS emergency services and UTRA and PS domain
19.4.4	Emergency call without emergency registration / GPRS / UE contains an ISIM or USIM / UE is in state GMM-REGISTERED.LIMITED-SERVICE	Rel-9	C59	UE supports IMS emergency services
19.4.5	Emergency call without emergency registration / UE credentials are not accepted	Rel-9	C59	UE supports IMS emergency services
19.5.1	New initial emergency registration / UE obtains from the serving IP-CAN an IP address different than the IP address used for the emergency registration	Rel-9	C59	UE supports IMS emergency services
19.5.6	User-initiated emergency reregistration / UE has emergency related ongoing dialog	Rel-9	C59	UE supports IMS emergency services
19.5.7	User-initiated emergency reregistration / The user initiates an emergency call	Rel-9	C59	UE supports IMS emergency services
19.5.8	User-initiated emergency reregistration / Standalone transactions exist	Rel-9	C67	UE supports IMS emergency services and MO SMS over IMS
19.5.9	In parallel emergency and non-emergency registrations	Rel-9	C59	UE supports IMS emergency services
19.5.10	Deregistration upon emergency registration expiration	Rel-9	C59	UE supports IMS emergency services

	Conditions/Options	
C00	Void	
C01	IF A.4/2B THEN R ELSE N/A (condition unused, see Note1 below)	Initiating session
C02	Void	
C03	IF A.4/2B AND A.4/16 THEN R ELSE N/A (condition unused, see Note1)	Initiating session AND preconditions
C04	IF A.12/4 THEN R ELSE N/A	Dedicated PDP Context
C05	IF A.12/5 THEN R ELSE N/A	P-CSCF Discovery via PCO
C06	IF A.7/1 AND A.13/1 THEN R ELSE N/A	IPv4 AND configured to initiate P-CSCF discovery via DHCPv4
C07	IF A.7/1 AND A.12/8 AND A.13/2 AND A.12/5 THEN R ELSE N/A	IPv4 AND P-CSCF discovery via PCO AND P-CSCF discovery via DHCPv4 AND configured to initiate P-CSCF discovery via PCO
C08	IF A.12/7 THEN R ELSE N/A	Configured to initiate P-CSCF discovery via DHCPv6
C09	IF A.12/8 AND A.12/10 AND A.12/5 THEN R ELSE N/A	P-CSCF Discovery via PCO AND P-CSCF discovery via DHCPv6 AND configured to initiate P-CSCF discovery via PCO
C10	IF A.12/8 AND A.12/10 AND A.12/7 THEN R ELSE N/A	P-CSCF Discovery via PCO AND P-CSCF discovery via DHCPv6 AND configured to initiate P-CSCF discovery via DHCPv6
C11	Void	
C12	IF A.7/1 THEN R ELSE N/A	IPv4
C13	Void	
C14	Void	
C15	Void	
C16	Void	
C17	IF A.6a/2 THEN R ELSE N/A	IMS security
C18	IF A.6a/1 AND NOT A.6a/2 THEN R ELSE N/A	GIBA AND NOT IMS security
C19	IF A.6a/2 AND A.6a/1 THEN R ELSE N/A	IMS security AND GIBA
C20	IF A.6a/2 AND A.8/5 THEN R ELSE N/A	IMS security AND indication of the willingness to receive the responses and requests compressed from initial REGISTER onwards by using the "comp=sigcomp" parameter
C21	Void	
C22	IF A.3A/50 AND A.15/1 THEN R ELSE N/A	MTSI and speech
C23	IF A.3A/50 AND A.15/1 AND A.16/6 THEN R ELSE N/A	MTSI and speech and Communication Hold
C24	IF A.3A/50 AND A.16/7 THEN R ELSE N/A	MTSI and Communication Barring
C25	IF A.3A/50 AND A.15/1 AND A.16/10 THEN R ELSE N/A	MTSI and speech and Explicit Communication Transfer - blind transfer
C26	IF A.3A/50 AND A.4/2B AND A.4/16 AND A.15/7 THEN R ELSE N/A	MTSI AND Initiating session AND preconditions AND MTSI text, RTP
C27	IF A.3A/50 AND A.4/2B AND A.15/1 THEN R ELSE N/A	MTSI AND Initiating session AND MTSI speech
C28	IF A.3A/50 AND A.4/2B AND A.15/1 AND A.15/2 THEN R ELSE N/A	MTSI AND Initiating session AND MTSI speech AND MTSI speech, AMR wideband
C29	IF A.3A/50 AND A.15/1 AND A.16/11 THEN R ELSE N/A	MTSI and speech and Explicit Communication Transfer - consultative transfer
C30	IF A.3A/50 AND A.16/5 THEN R ELSE N/A	MTSI and Communication Diversion
C31	IF A.3A/50 AND A.15/1 AND A.16/5 THEN R ELSE N/A	MTSI and speech and Communication Diversion
C32	IF A.3A/50 AND A.16/9 THEN R ELSE N/A	MTSI and Conference
C33	Void	
C34	Void	
C35	Void	
C37	IF A.3A/50 AND A.4/2B AND A.15/7 THEN R ELSE N/A	MTSI AND Initiating session AND MTSI text, RTP
C38	IF A.3A/50 AND A.4/2B AND A.15/1 AND A.15/7 THEN R ELSE N/A	MTSI AND Initiating session AND MTSI speech AND MTSI text, RTP
C39	Void	
C40	Void	
C41	Void	
C42	Void	
C43	IF A.3A/50 AND A.16/1 THEN R ELSE N/A	MTSI and Originating Identification Presentation
C44	IF A.3A/50 AND A.16/2 THEN R ELSE N/A	MTSI and Originating Identification Restriction

C45	IF A.3A/50 AND A.16/7 AND A.16/12 THEN R ELSE N/A	MTSI and Communication Barring and Anonymous Communication Rejection
C46	IF A.3A/50 AND A.15/8 AND NOT A.4/16 THEN R ELSE N/A	MTSI and Text, MSRP and no preconditions
C47	IF A.3A/50 AND A.4/2B AND A.15/3 AND A.15/7 AND A.17/1 THEN R ELSE N/A	MTSI AND Initiating session AND MTSI video AND MTSI text, RTP AND text, add video remove video
C48	IF A.3A/50 AND A.16/3 THEN R ELSE N/A	MTSI and Terminating Identification Presentation
C49	IF A.3A/50 AND A.16/4 THEN R ELSE N/A	MTSI and Terminating Identification Restriction
C50	IF A.3A/50 AND A.16/8 THEN R ELSE N/A	MTSI and Message Waiting Indication
C51	IF A.3A/50 AND A.4/2B AND A.15/1 AND A.15/8 THEN R ELSE N/A	MTSI AND Initiating session AND MTSI speech AND MTSI text, MSRP
C52	IF A.3A/50 AND A.4/2B AND A.15/1 AND A.15/3 AND A.15/4 THEN R ELSE N/A	MTSI AND Initiating session AND MTSI speech AND MTSI video AND MTSI video H.263 profile 3
C53	IF A.3A/50 AND A.4/2B AND A.15/1 AND A.15/3 AND A.15/6 THEN R ELSE N/A	MTSI AND Initiating session AND MTSI speech AND MTSI video AND MTSI video H.264
C54	IF A.3A/50 AND A.4/2B AND A.15/1 AND A.15/3 AND A.15/5 THEN R ELSE N/A	MTSI AND Initiating session AND MTSI speech AND MTSI video AND MTSI video MPEG-4
C55	IF A.3A/61 THEN R ELSE N/A	SM-over-IP sender
C56	IF A.3A/62 THEN R ELSE N/A	SM-over-IP receiver
C57	IF A.3A/50 AND A.16/13 THEN R ELSE N/A	MTSI AND communication waiting
C58	IF A.6a/2 AND A.8/5 THEN R ELSE N/A	IMS security AND Indicate Sigcomp
C59	IF A.12/26 THEN R ELSE N/A	IMS emergency services
C60	IF A.12/28 THEN R ELSE N/A	P-CSCF discovery in home network while roaming
C61	IF A.3A/50 AND A.16/9 AND A.16/14 THEN R ELSE N/A	UE supporting MTSI and Conference and three way session
C62	IF A.12/26 AND [34.123-2] A.2/2 AND ([73] A.4.1-1/6 OR [73] A.4.1-1/7) THEN R ELSE N/A	IMS emergency services and emergency speech call and UTRAN or GERAN
C63	Void	
C64	IF A.12/26 AND ([36.523-2] A.4.1-1/1 OR [36.523-2] A.4.1-1/2) THEN R ELSE N/A	IMS emergency services and EUTRA FDD or EUTRA TDD
C65	IF A.12/26 AND [36.523-2] A.4.1-1/6 AND [34.123-2] A.3/2 THEN R ELSE N/A	IMS emergency services and UTRA and PS domain
C66	IF A.12/12 AND A.15/1 AND ([34.123-2] A.2/2 AND ([73] A.4.1-1/6 OR [73] A.4.1-1/7)36.523-2THEN R ELSE N/A	Speech and IMS emergency call and emergency call over GERAN or UTRAN
C67	IF A.12/26 and A.3A/61 THEN R ELSE N/A	IMS emergency services and SM-over-IP sender
C68	IF A.3A/50 AND A.4/2B AND A.15/1 AND A.18/1 THEN R ELSE N/A	MTSI AND Initiating session AND MTSI speech AND E-UTRA
C69	IF A.3A/50 AND A.4/2B AND A.15/1 AND A.15/3 AND A.18/1 THEN R ELSE N/A	MTSI AND Initiating session AND MTSI speech AND MTSI video AND E-UTRA
C70	IF A.3A/50 AND A.15/1 AND A.15/3 AND A.15/AA THEN R ELSE N/A	MTSI AND MTSI speech AND MTSI video AND MTSI Video H.264 CBP Level 1.2
C71	IF A.3A/50 AND A.4/2B AND A.15/1 AND A.15/3 AND A.15/AA THEN R ELSE N/A	MTSI AND Initiating session AND MTSI speech AND MTSI video AND MTSI Video H.264 CBP Level 1.2
C72	IF A.12/26 AND A.3A/50 AND A.15/1 AND A.12/33 THEN R ELSE N/A	IMS emergency services and MTSI and speech and Communication Hold during emergency call.
C73	IF A.12/26 AND A.12/27 AND A.3A/50 AND A.15/1 THEN R ELSE N/A	IMS emergency services and Geolocation Information and MTSI and speech
C74	IF A.12/26 AND [3] A.2/2 AND [73] A.4.1-1/4 THEN R ELSE N/A	IMS emergency services and emergency speech call and 1xRTT
C75	IF A.12/12 AND A.15/1 AND ([3] A.2/2 AND [73] A.4.1-1/4 THEN R ELSE N/A	Speech and IMS emergency call and emergency call over 1xRTT
C76	IF A.12/26 AND A.12/27 THEN R ELSE N/A	IMS emergency services and Geolocation Information

NOTE 1: Applicability of test cases 13.2 and 13.3 are currently marked as FFS. The reason to this is that the contents of the specific messages sent by the SS (as currently specified within those Call Control test cases) do not match the contents of those messages as expected by any specific IMS application known. Further on the test specification apparently lacks support for certain application specific message exchanges which are however mandatory for a few specific IMS applications specified outside of TS 24.229. It is necessary to fully resolve the problem (by e.g. defining the applications for which the Call Control test cases would be applicable, possibly specifying the extensions to the test cases like required by those applications and creating the corresponding application profiles) before the applicability statements of Call Control test cases can be unambiguously defined.

NOTE 2: Either one of the two adjacent test cases, i.e. (19.1.3 or 19.1.3a), (19.3.2 or 19.3.2a), shall be executed.

Annex A (normative):
ICS proforma for 3rd Generation User Equipment supporting IP multimedia call control based on SIP and SDP

A.1 Guidance for completing the ICS proforma

A.1.1 Purposes and structure

The purpose of this ICS proforma is to provide a mechanism whereby a supplier of an implementation of the requirements defined in relevant specifications may provide information about the implementation in a standardised manner.

The ICS proforma is subdivided into clauses for the following categories of information:

- instructions for completing the ICS proforma;

- identification of the implementation;

- identification of the protocol;

- ICS proforma tables (for example: UE roles specific to additional capabilities, Major capabilities etc).

A.1.2 Abbreviations and conventions

This annex does not reflect dynamic conformance requirements but static ones. In particular, a condition for support of a PDU parameter does not reflect requirements about the syntax of the PDU (i.e. the presence of a parameter) but the capability of the implementation to support the parameter.

In the sending direction, the support of a parameter means that the implementation is able to send this parameter (but it does not mean that the implementation always sends it).

In the receiving direction, it means that the implementation supports the whole semantic of the parameter that is described in the main part of this specification.

As a consequence, PDU parameter tables in this annex are not the same as the tables describing the syntax of a PDU in the reference specification, e.g. RFC 3261 [15] tables 2 and 3. It is not rare to see a parameter which is optional in the syntax but mandatory in subclause below.

The ICS proforma contained in this annex is comprised of information in tabular form in accordance with the guidelines presented in ISO/IEC 9646-7 [8].

Item column

The item column contains a number which identifies the item in the table.

Item description column

The item description column describes in free text each respective item (e.g. parameters, timers, etc.). It implicitly means "is <item description> supported by the implementation?".

Reference column

The reference column gives reference to the relevant 3GPP core specifications and optional IMS profile documents (e.g. GSMA PRD IR.92).

Status column

The various statii used in this annex are in accordance with the rules in table A.1. The status column can also be used for IMS profile documents.

Table A.1: Key to status codes

Status code	Status name	Meaning
m	mandatory	the capability shall be supported. It is a static view of the fact that the conformance requirements related to the capability in the reference specification are mandatory requirements. This does not mean that a given behaviour shall always be observed (this would be a dynamic view), but that it shall be observed when the implementation is placed in conditions where the conformance requirements from the reference specification compel it to do so. For instance, if the support for a parameter in a sent PDU is mandatory, it does not mean that it shall always be present, but that it shall be present according to the description of the behaviour in the reference specification (dynamic conformance requirement).
o	optional	the capability may or may not be supported. It is an implementation choice.
n/a	not applicable	it is impossible to use the capability. No answer in the support column is required.
x	prohibited (excluded)	It is not allowed to use the capability. This is more common for a profile.
c <integer>	conditional	the requirement on the capability ("m", "o", "n/a" or "x") depends on the support of other optional or conditional items. <integer> is the identifier of the conditional expression.
o.<integer>	qualified optional	for mutually exclusive or selectable options from a set. <integer> is the identifier of the group of options, and the logic of selection of the options.

Release column

The release column indicates the earliest release from which the capability or option is relevant.

Mnemonic column

The Mnemonic column contains mnemonic identifiers for each item.

Support column

The support column shall be filled in by the supplier of the implementation. The following common notations, defined in ISO/IEC 9646-7 [8], are used for the support column:

Y or y   supported by the implementation

N or n   not supported by the implementation

N/A, n/a or -   no answer required (allowed only if the status is N/A, directly or after evaluation of a conditional status)

References to items

For each possible item answer (answer in the support column) within the ICS proforma there exists a unique reference, used, for example, in the conditional expressions. It is defined as the table identifier, followed by a solidus character "/", followed by the item number in the table.

EXAMPLE: A.5/4 is the reference to the answer of item 4 in table A.5.

A.1.3   Instructions for completing the ICS proforma

The supplier of the implementation may complete the ICS proforma in each of the spaces provided. More detailed instructions are given at the beginning of the different clauses of the ICS proforma.

A.2   Identification of the User Equipment

Identification of the User Equipment should be filled in so as to provide as much detail as possible regarding version numbers and configuration options.

The product supplier information and client information should both be filled in if they are different.

A person who can answer queries regarding information supplied in the ICS should be named as the contact person.

A.2.1 Date of the statement

....

A.2.2 User Equipment Under Test (UEUT) identification

UEUT name:

....

....

Hardware configuration:

....

....

....

Software configuration:

....

....

....

A.2.3 Product supplier

Name:

....

Address:

....

....

....

Telephone number:

....

Facsimile number:

....

E-mail address:

....

Additional information:

....

....

....

A.2.4 Client

Name:

....

Address:

....

....

....

Telephone number:

....

Facsimile number:

....

E-mail address:

....

Additional information:

....

....

....

A.2.5 ICS contact person

Name:

....

Telephone number:

....

Facsimile number:

....

E-mail address:

....

Additional information:

....

....

A.3 Identification of the protocol

This ICS proforma applies to the 3GPP standards listed in the normative references clause of the present document.

A.4 ICS proforma tables

NOTE: Tables A.2, A. 3A and A. 4 have been based on tables with the same number in TS 24.229 [10]. In order to facilitate traceability, table and item numbers are the same as those in the corresponding tables in TS 24.229 [10].

A.4.1 Roles

Table A.2: Roles

Item	UE roles	Reference	Status	Release	Support
1	User agent	24.229 [10], A.1.3 RFC 3261 [15]	m	Rel-5	

Table A.3A: UE roles specific to additional capabilities

Item	UE roles	Reference	Status	Release	Support
50	Multimedia telephony service participant	24.173 [55]	o	Rel-8	
		IR.92 [72], 2.2.1	m		
61	SM-over-IP sender	24.341 [66]	o	Rel-8	
62	SM-over-IP receiver	24.341 [66]	o	Rel-8	

A.4.2 ICS related to SIP

A.4.2.1 Major capabilities

Prerequisite: A.2/1 - - user agent role.

Table A.4: Major capabilities

Item	Does the implementation support	Reference	Status	Release	Support
	Capabilities within main protocol				
2B	initiating a session?	24.229 [10], A.2.1.2; RFC 3261 [15], 13	o	Rel-5	
2C	initiating a session which require local and/or remote resource reservation?	24.229 [10], A.2.1.2; RFC 3262 [27]	c43	Rel-8	
	Extensions				
16	integration of resource management and SIP? (use of preconditions)	24.229 [10], A.2.1.2; RFC 3312 [26]	C44	Rel-8	
		IR.92 [72], 2.4.1	m		
53	obtaining and using GRUUs in the Session Initiation Protocol (SIP)	24.229 [10], A.2.1.2	m (note 2)	Rel-7	
	Conditions/Options				
c43:	IF A.4/2B THEN o ELSE n/a - - initiating sessions.				
c44:	IF A.4/2C THEN m ELSE o - - initiating a session which require local and/or remote resource reservation.				
NOTE 2:	If a UE is unable to become engaged in a service that potentially requires the ability to identify and interact with a specific UE even when multiple UEs share the same single Public User Identity then the UE support can be "o" instead of "m". Examples include telemetry applications, where point-to-point communication is desired between two users.				

A.4.2.2 Void

A.4.2.3 Security

Table A.6a: Security scheme

Item	Security scheme	Reference	Status	Release	Support
1	GIBA	24.229 [10]	o.1	Rel-8	
2	IMS security	24.229 [10]	o.1	Rel-8	
3	GAA XCAP authentication	33.222 [63]; 24.109 [64]	o.2	Rel-7	
4	HTTP Digest XCAP authentication	RFC 2617 [65]	o.2	Rel-7	
5	Void				
	Conditions/Options				
o.1	At least one of these options has to be supported				
o.2	At least one of these options has to be supported if the UE supports XCAP				

NOTE: Support of GPRS-IMS-Bundled authentication (GIBA) is considered as an interim security solution for IMS security (mandatory requirement as specified in TS 24.229 [10]). IMS security refer to IMS AKA plus IPsec ESP as specified in TS 24.229 [10].

A.4.2.4 Addressing

Table A.7: IP address format

Item	IP address format	Reference	Status	Release	Mnemonic	Support
1	IPv4	23.221 [13], 5.1	o	Rel-5		
2	IPv6	23.221 [13], 5.1	m	Rel-5		
NOTE 1: For testing purposes, at least one of these IP address format has to be supported by the UE.						

A.4.2.5 SIP Compression

Table A.8: SIP Compression

Item		Reference	Status	Release	Support
1	Void				
2	Void				
3	Void				
4	Void				
5	Indicate the willingness to receive the responses and requests compressed from initial REGISTER onwards by using the "comp=sigcomp" parameter	24.229 [10], 8.1.1	o	Rel-5	

A.4.3 Void

A.4.4 Void

A.4.5 Additional information

Table A.12: Additional information

Item	Additional information	Ref.	Status	Release	Mnemonic	Support
1	Void					
2	Void					
3	Void					
4	UE capable of being configured to initiate Dedicated PDP Context	24.229 [10], 9.2.1	o	Rel-5		
5	UE capable of being configured to initiate P-CSCF discovery via PCO	24.229 [10], 9.2.1	o	Rel-5		
6	Void					
7	UE capable of being configured to initiate P-CSCF discovery via DHCPv6	24.229 [10], 9.2.1	o	Rel-5		
8	UE supports P-CSCF discovery via PCO	24.229 [10], 9.2.1	o	Rel-5		
9	Void					
10	UE supports P-CSCF discovery via DHCPv6	24.229 [10], 9.2.1	o	Rel-5		
11	Void					
12	UE capable of initiating a bidirectional voice session over IMS	24.229 [10], 5.1.6	o	Rel-5		
13	Void					
14	Void					
15	Void					
16	UE Supports "IPv6 address with embedded IPv4 address" in PCO IE	23.981 [18], 5.2.1	o	Rel-6		
17	UE Supports IPv4 address in PCO IE	23.981 [18], 5.2.1	o	Rel-6		
18	Void					
19	UE supports UI capable of showing user notification for Message Waiting Indication	24.173 [55], Annex F	o	Rel-7		
20	Void					
21	Void					
22	UE suppresses RTCP during the active two-way voice sessions	26.114 [56], 7.3.1	o	Rel-7		
		IR.92 [72], 3.2.4	m			

23	UE supports sending RTCP while call is put on hold	26.114 [56], 7.3.1	o	Rel-7		
		IR.92 [72], 3.2.4	m			
24	UE supports no reply timer setting	24.604 [68], 4.9.1.4	o	Rel-8		
		IR.92 [72], 2.3.8	m			
25	UE supports sending DTMF events over RTP	26.114 [56], Annex G	o	Rel-7		
		IR.92 [72], 3.3	m			
26	UE supports IMS emergency services	24.229 [10], 5.1.6	o	Rel-9		
27	UE uses Geolocation header to provide its geographical location for emergency session setup	24.229 [10], 4.7	o	Rel-9		
28	UE supports P-CSCF discovery in home network while roaming	24.229 [10], L.2.2.1	o	Rel-8		
29	UE supports emergency speech call over 1xRTT	C.S0005-E [74]				
30	UE supports Session-ID	24.229 [10], 4.10.1	o	Rel-9		
31	UE supports end-to-access-edge media security using SDES	24.229 [10], 4.2.B.2	o	Rel-9		
32	UE indicates video media feature tag in REGISTER and INVITE request	26.114 [56], 5.2.2	o	Rel-7		
		IR.94 [75], 2.2	m			
33	UE supports Communication Hold during emergency call	23.167 [76], 7.1.1	o	Rel-9		
34	UE indicates g.3gpp.srvcc-alerting media feature tag in INVITE request or 180 (Ringing) response	24.237 [77], 12.2.3B.1	o	Rel-10		

A.4.6   Additional information for IPv4

Table A.13: Additional information for IPv4

| Precondition: This table is only applicable if A.7/1 IPv4 is supported | | | | | |
Item	Additional information for IPv4	Ref.	Status	Release	Mnemonic	Support
1	UE capable of being configured to initiate P-CSCF discovery via DHCPv4	23.981 [18], 5.2.1	o	Rel-5		
2	UE supports P-CSCF discovery via DHCPv4	23.981 [18], 5.2.1	o	Rel-5		

A.4.7 MTSI media

Table A.15: MTSI media

Item	Media	Ref.	Status	Release	Mnemonic	Support
1	Speech	26.114 [56], 5.2.1	o	Rel-7		
		IR.92 [72], 3.2	m			
2	Speech, AMR wideband	26.114 [56], 5.2.1	o	Rel-7		
3	Video	26.114 [56], 5.2.2	o	Rel-7		
		IR.94 [75], 3.3	m			
4	Video, H.263 Profile 3	26.114 [56], 5.2.2	o	Rel-7		
5	Video, MPEG-4	26.114 [56], 5.2.2	o	Rel-7		
6	Video, H.264	26.114 [56], 5.2.2	o	Rel-7		
7	Text, RTP	26.114 [56], 5.2.3	o	Rel-7		
8	Text, MSRP	24.247 [17], 8.3	o	Rel-7		
AA	Video codec H.264 CBP Level 1.2	26.114 [56], 5.2.2	o	Rel-8		
		IR.94 [75], 3.3	m			

A.4.8   MTSI supplementary services

Table A.16: MTSI supplementary services

Item	Service	Ref.	Status	Release	Mnemonic	Support
1	Originating Identification Presentation	24.173 [55], Annex A	o	Rel-7	OIP	
		IR.92 [72], 2.3	m			
2	Originating Identification Restriction	24.173 [55], Annex A	o	Rel-7	OIR	
		IR.92 [72], 2.3	m			
3	Terminating Identification Presentation	24.173 [55], Annex B	o	Rel-7	TIP	
		IR.92 [72], 2.3	m			
4	Terminating Identification Restriction	24.173 [55], Annex B	o	Rel-7	TIR	
		IR.92 [72], 2.3	m			
5	Communication Diversion	24.173 [55], Annex C	o	Rel-7	CDIV	
		IR.92 [72], 2.3	m			
6	Communication Hold	24.173 [55], Annex D	o	Rel-7	HOLD	
		IR.92 [72], 2.3	m			
7	Communication Barring	24.173 [55], Annex E	o	Rel-7	CB	
		IR.92 [72], 2.3	m			
8	Message Waiting Indication	24.173 [55], Annex F	o	Rel-7	MWI	
		IR.92 [72], 2.3	m			
9	Conference	24.173 [55], Annex G	o	Rel-7	CONF	
		IR.92 [72], 2.3	m			
10	Explicit Communication Transfer - blind transfer	24.173 [55], Annex H	o	Rel-7	ECT-b	
11	Explicit Communication Transfer - consultative transfer	24.173 [55], Annex H	o	Rel-7	ECT-c	
12	Anonymous Communication Rejection	24.173 [55], Annex E	o	Rel-7	ACR	
13	Communication Waiting	24.615 [69]	o	Rel-7	CW	
		IR.92 [72], 2.3	m			
14	Three way session	24.147 [19]	o	Rel-8	TWS	
		IR.92 [72], 2.3	m			

A.4.9   MTSI media change

Table A.17: MTSI media change

Item	Media change	Ref.	Status	Release	Mnemonic	Support
1	Text, add video remove video		o	Rel-7		

A.4.10 UE Implementation Types

Table A.18: UE Radio Technologies

Item	UE Radio Technologies	Ref.	Status	Release	Mnemonic	Support
1	E-UTRA	36.101 [70]	o	Rel-8		
2	UTRA	21.904 [71], 5	o	R99		

A.4.11 Special Conformance Testing Functions

Table A.19: Special Conformance Testing Functions

Item	Special Conformance Testing Functions	Ref.	Release	Mnemonic	Support
1	Update UE Location Information	34.109 [78], 5.4.2 36.509 [79], 5.5.2	Rel-10	See 36.523-2 [73]	

Annex B (informative):
Change history

Meeting -1st- Level	Doc-1st- Level	CR	Rev	Subject	Cat	Version - Current	Version -New	Doc-2nd- Level

Meeting -1st- Level	Doc-1st- Level	CR	Rev	Subject	Cat	Version- Current	Version -New	Doc-2nd- Level
RP-31	RP-060053	-	-	Update to version 1.0.0 and present to RAN#31 for information	-	0.0.1	1.0.0	R5-060523
-	-	-	-	Update to version 2.0.0 during RAN5#31 e-mail agreement procedure	-	1.0.0	2.0.0	R5-061399
RP-32	RP-060320	-	-	MCC Editorial clean up version 2.0.1 - and present to RAN#32 for approval to go under revision control (as version 5.0.0)	-	2.0.0	2.0.1	-
-	-	-	-	Update to version 5.0.0 after RAN#32	-	2.0.1	5.0.0	-
RP-33	RP-060565	0001	-	Applicability for new P-CSCF Discovery List test cases	F	5.0.0	5.1.0	R5-062365
RP-33	RP-060565	0002	-	CR to 34.229-2: Update applicability table for IMSCC test	F	5.0.0	5.1.0	R5-062026
RP-34	RP-060746	0003	-	Updating of test cases to cover both IMS support and early IMS security scenarios, ICS part	F	5.1.0	5.2.0	R5-063528
RP-34	RP-060746	0004	-	ICS part for new registration test cases 8.5, 8.6 and 8.7 for early IMS security	F	5.1.0	5.2.0	R5-063527
RP-34	RP-060746	0005	-	Removal of MO Call - 488 not accepted here for rel 5, ICS part	F	5.1.0	5.2.0	R5-063331
RP-34	RP-060746	0006	-	Production of pointer version 5.2.0 of TS 34.229-2 with no technical contents	F	5.1.0	5.2.0	R5-063292
RP-34	RP-060748	0007	-	Update to 34.229-2 : Major capabilities	F	5.1.0	6.0.0	R5-063571
RP-35	RP-070089	0008	-	IMS security and early IMS security capability update	F	6.0.0	6.1.0	R5-070426
RP-35	RP-070089	0009	-	Removal of applicability statements for IMS test cases 7.7 and 7.8	F	6.0.0	6.1.0	R5-070330
RP-36	RP-070362	0010		Applicability of IMS TC 13.4	F	6.1.0	6.2.0	R5-071060
RP-36	RP-070362	0011		Coding options for the IPv4 address in PCO IE	F	6.1.0	6.2.0	R5-071438
RP-36	RP-070362	0013		Applicability of Call Control TCs	F	6.1.0	6.2.0	R5-071507
RP-37	RP-070607	0014	-	Applicability of re- and de-registration TCs for early IMS	F	6.2.0	6.3.0	R5-072115
RP-38	RP-070874	0017		Production of 34.229-2 pointer version in Rel-6 pointing to Rel-7 version	F	6.3.0	6.4.0	R5-073279
RP-38	RP-070882	0015		Applicability of new MTSI MO Call and Call Hold test cases	F	6.3.0	7.0.0	R5-073445
RP-38	RP-070882	0016		Add MTSI media capabilities	F	6.3.0	7.0.0	R5-073096
RP-39	RP-080113	0018		Applicability for new MTSI test cases 15.12, 15.13 and 15.23	F	7.0.0	7.1.0	R5-080597
RP-39	RP-080113	0019		Applicability for MTSI test case MO MTSI Text call	F	7.0.0	7.1.0	R5-080562
RP-39	RP-080114	0020		Applicability for MTSI test case Speech AMR, indicate all codec modes	F	7.0.0	7.1.0	R5-080081
RP-39	RP-080114	0021		Applicability for MTSI test case Speech AMR-WB, indicate all codec modes	F	7.0.0	7.1.0	R5-080083
RP-39	RP-080114	0022		Applicability for MTSI test case MT Video, add speech remove speech	F	7.0.0	7.1.0	R5-080590
RP-39	RP-080114	0023		Update SDP applicability tables	F	7.0.0	7.1.0	R5-080578
RP-39	RP-080114	0024		Update references in TS 34.229-2	F	7.0.0	7.1.0	R5-080090
RP-39	RP-080114	0025		Update key to status codes	F	7.0.0	7.1.0	R5-080091
RP-39	RP-080114	0026		Addition of Applicability Statement for new MTSI test cases	F	7.0.0	7.1.0	R5-080603
RP-40	RP-080376	0027		Applicability statements of new MTSI test cases	F	7.1.0	7.20	R5-081500
RP-40	RP-080376	0028		Media change capabilities	F	7.1.0	7.20	R5-081084
RP-40	RP-080376	0029		Applicability for new MTSI test case MT MTSI Speech call	F	7.1.0	7.20	R5-081085
RP-40	RP-080376	0030		Applicability for new MTSI test case MT MTSI Video call	F	7.1.0	7.20	R5-081086
RP-40	RP-080376	0031		Applicability for new MTSI test case Speech AMR indicate selective codec modes	F	7.1.0	7.20	R5-081088
RP-40	RP-080376	0032		Applicability for new MTSI test case Speech AMR-WB indicate selective codec modes	F	7.1.0	7.20	R5-081089
RP-40	RP-080376	0033		Applicability for new MTSI test case MT Speech add video remove video	F	7.1.0	7.20	R5-081090
RP-40	RP-080376	0034		Applicability for new MTSI test case MT Speech add video remove speech	F	7.1.0	7.20	R5-081091
RP-41	RP-080564	0035		Update applicabilities for clause 12 test cases	F	7.2.0	7.3.0	R5-083134
RP-41	RP-080564	0036		Update applicabilities for clause 17 test cases	F	7.2.0	7.3.0	R5-083135
RP-41	RP-080564	0037		Update applicabilities for clause 16 test cases	F	7.2.0	7.3.0	R5-083136
RP-41	RP-080564	0038		Remove table for MTSI media change	F	7.2.0	7.3.0	R5-083137
RP-41	RP-080564	0039		Correct applicability for test case 14.2	F	7.2.0	7.3.0	R5-083452
RP-41	RP-080564	0040		Applicability statements of new MTSI test cases	F	7.2.0	7.3.0	R5-083560
RP-41	RP-080557	0041		Removal of reference to IMS test case 13.4	F	7.2.0	7.3.0	R5-083586
RP-42	RP-080966	0042		Applicability statements of new MTSI test cases	F	7.3.0	8.0.0	R5-085049

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RP-42	RP-080966	0043		Remove applicabilities for non MTSI related call setup test cases	F	7.3.0	8.0.0	R5-085352
RP-42	RP-080966	0044		Remove applicabilities for non mandatory use cases	F	7.3.0	8.0.0	R5-085434
RP-42	RP-080966	0045		Update of applicability of MTSI test cases for adding/removing media	F	7.3.0	8.0.0	R5-085444
RP-43	RP-090205	0046		Update of TS 34.229-2 from Rel-7 to Rel-8	F	7.3.0	8.0.0	R5-090764
RP-43	RP-090214	0047		Applicability statements of new MTSI test cases	F	8.0.0	8.1.0	R5-090346
RP-43	RP-090214	0048		Applicability statements of new MTSI test cases	F	8.0.0	8.1.0	R5-090624
RP-43	RP-090214	0049		Remove applicabilities for non MTSI related call setup test cases (2nd)	F	8.0.0	8.1.0	R5-090626
RP-43	RP-090214	0050		Add applicabilities for new clause 16 test cases	F	8.0.0	8.1.0	R5-090627
RP-43	RP-090214	0051		Remove applicabilities for removed clause 16 test cases	F	8.0.0	8.1.0	R5-090628
RP-43	RP-090214	0052		Add applicability for new clause 17 test case	F	8.0.0	8.1.0	R5-090629
RP-44	RP-090433	0053		Addition of PICS for support of UI Message Waiting Indication	F	8.1.0	8.2.0	R5-092218
RP-45	RP-090794	0054		Update table A.318 SDP types	F	8.2.0	8.3.0	R5-094354
RP-46	RP-091116	0055		Update applicability for test cases 14.1 and 14.2	F	8.3.0	8.4.0	R5-095818
RP-46	RP-091118	0056		Update applicability for test case 12.2	F	8.3.0	8.4.0	R5-095820
RP-46	RP-091118	0057		Update table A.12	F	8.3.0	8.4.0	R5-096181
RP-47	RP-100155	0058	-	Addition of applicability for new SMS over IMS test case	F	8.4.0	8.5.0	R5-100083
RP-47	RP-100155	0059	-	Add capability for SMS over IP	F	8.4.0	8.5.0	R5-100510
RP-47	RP-100155	0060	-	Add applicability for SMS test cases	F	8.4.0	8.5.0	R5-100511
RP-47	-	-	-	Moved to v9.0.0 with no change	-	8.5.0	9.0.0	-
RP-48	RP-100511	0061	-	Adding capabilities to TS 34.229-2 for VoLTE profile alignment	F	9.0.0	9.1.0	R5-103856
RP-49	RP-100985	0063	-	Introducing new MTSI test cases for CF and CW	F	9.1.0	9.2.0	R5-104293
RP-49	RP-100986	0064	-	Add radio capabilities	F	9.1.0	9.2.0	R5-104312
RP-49	RP-100986	0065	-	Update security scheme with GIBA	F	9.1.0	9.2.0	R5-104436
RP-49	RP-100986	0066	-	Update applicability for clause 8 registration test cases	F	9.1.0	9.2.0	R5-104438
RP-49	RP-100986	0067	-	Update applicability for test case 13.1	F	9.1.0	9.2.0	R5-104439
RP-49	RP-100838	0068	-	Introducing new test cases for IMS emergency registration	F	9.1.0	9.2.0	R5-104737
-	-	-	-	Editorial renumbering of test cases 15.27 - 15.30 in order to align with GCF list	-	9.1.0	9.2.0	-
RP-50	RP-101146	0072	-	Remove applicability for test case 14.1 and 14.2	F	9.2.0	9.3.0	R5-106488
RP-50	RP-101146	0071	-	Update of applicability for MTSI test cases	F	9.2.0	9.3.0	R5-106302
RP-50	RP-101146	0070	-	Remove PSS tables	F	9.2.0	9.3.0	R5-106239
RP-50	RP-101146	0069	-	Add new test case 15.14a CB while roaming	F	9.2.0	9.3.0	R5-106153
RP-50	RP-101146	0073	-	Update security, adressing and SIP compression tables	F	9.2.0	9.3.0	R5-106579
RP-50	RP-101156	0076	-	Introducing TC 19.1.1 Basic IMS emergency call over EPS	F	9.2.0	9.3.0	R5-106591
RP-50	RP-101146	0075	-	Update MTSI information	F	9.2.0	9.3.0	R5-106584
RP-50	RP-101146	0074	-	Update additional information for IPv4	F	9.2.0	9.3.0	R5-106582
RP-50	RP-101146	0078	-	Update abbreviations and conventions	F	9.2.0	9.3.0	R5-106686
RP-50	RP-101146	0077	-	Rel-8 IMS test case applicabilities	F	9.2.0	9.3.0	R5-106685
-	-	-	-	Added email agreed R5-106685	-	9.3.0	9.3.1	-
RP-51	RP-110165	0079	-	Applicability for IMS TCs updated or added to Rel-8	F	9.3.1	9.4.0	R5-110264
RP-51	RP-110174	0080	-	Introducing IMS emergency TCs 19.1.2, 19.1.4, 19.5.6	F	9.3.1	9.4.0	R5-110270
RP-51	RP-110165	0081	-	Update roles and ICS related to SIP	F	9.3.1	9.4.0	R5-110291
RP-51	RP-110165	0082	-	Update applicability roles	F	9.3.1	9.4.0	R5-110292
RP-51	RP-110165	0083	-	Update SIP compression table	F	9.3.1	9.4.0	R5-110293

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RP-51	RP-110165	0084	-	Remove SDP tables	F	9.3.1	9.4.0	R5-110294
RP-51	RP-110165	0085	-	Update additional information	F	9.3.1	9.4.0	R5-110295
RP-51	RP-110165	0086	-	Update UE implementation types	F	9.3.1	9.4.0	R5-110296
RP-51	RP-110165	0087	-	Update applicability for test case 10.1	F	9.3.1	9.4.0	R5-110378
RP-51	RP-110165	0088	-	Update applicability for test cases 12.2, 12.13, 12.16 and 12.17	F	9.3.1	9.4.0	R5-110379
RP-51	RP-110165	0089	-	Update applicability for test cases 16.1, 16.2, 16.3 and 16.4	F	9.3.1	9.4.0	R5-110381
RP-51	RP-110165	0090	-	Applicable release upgrade for clause 6 and 7 test cases	F	9.3.1	9.4.0	R5-110401
RP-51	RP-110165	0091	-	Update applicability of test cases 16.11, 16.12, 16.13, 17.2, 17.6, 17.17 and 17.18.	F	9.3.1	9.4.0	R5-110500
RP-51	RP-110165	0092	-	update applicability for test cases 13.1, 13.2 and 13.3	F	9.3.1	9.4.0	R5-110707
RP-51	RP-110174	0093	-	Introduction of applicability conditions for new test cases for CT1 aspects of IMS emergency call over GPRS and EPS	F	9.3.1	9.4.0	R5-110811
RP-51	RP-110174	0094	-	Applicability for new emergency test case 19.3.2	F	9.3.1	9.4.0	R5-110812
RP-51	RP-110165	0095	-	Introducing new MTSI test cases for Three Way Session and CW	F	9.3.1	9.4.0	R5-110822
RP-52	RP-110660	0096	-	New IMS emergency TCs 19.5.7, 19.5.8, 19.5.9, 19.5.10	F	9.4.0	9.5.0	R5-112175
RP-52	RP-110660	0097	-	Add applicability for new test case 19.4.1	F	9.4.0	9.5.0	R5-112497
RP-52	RP-110651	0098	-	Applicability for IMS TCs updated or added to Rel-8	F	9.4.0	9.5.0	R5-112647
RP-52	RP-110660	0099	-	Introduction of applicability conditions for new test cases for CT1 aspects of IMS emergency call over GPRS and EPS	F	9.4.0	9.5.0	R5-112652
RP-53	RP-111151	0100	-	Applicability of new test cases for SSAC	F	9.5.0	9.6.0	R5-113746
RP-54	RP-111591	0101	-	Correction to applicability for test case 19.5.9 and 19.5.10	F	9.6.0	9.7.0	R5-115183
RP-54	RP-111583	0102	-	Update test case numbering	F	9.6.0	9.7.0	R5-115345
RP-55	RP-120195	0103	-	Update to test case 12.19	F	9.7.0	9.8.0	R5-120437
RP-55	RP-120192	0104	-	Correcting applicability for test case 19.3.2 and a PICS condition	F	9.7.0	9.8.0	R5-120692
RP-56	RP-120657	0105	-	Update to ICS proforma table for Additional information	F	9.8.0	9.9.0	R5-121282
RP-56	RP-120655	0106	-	Removing TC 19.1.4 applicability	F	9.8.0	9.9.0	R5-121431
RP-56	RP-120655	0107	-	Adding applicability for test case 19.3.3 and 19.3.4	F	9.8.0	9.9.0	R5-121499
RP-56	RP-120649	0108	-	Applicability for video test cases 12.21, 12.22. 17.1 and 17.2	F	9.8.0	9.9.0	R5-122120
RP-57	RP-121103	0109	-	Update to ICS proforma table for Additional information	F	9.9.0	9.10.0	R5-123201
RP-58	RP-121664	0110	-	Update applicability for emergency test cases	F	9.10.0	9.11.0	R5-125617
RP-58	RP-121685	0111	-	Update to ICS proforma table for Additional information	F	9.11.0	10.0.0	R5-126005

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RP-60	RP-130625	0113	-	Addition of testing function	F	10.0.0	10.1.0	R5-131165
RP-60	RP-130611	0114	-	Applicability of 19.1.3a and 19.3.2a	F	10.0.0	10.1.0	R5-131876
RP-60	RP-130625	0115	-	34.229-2 specification clean up	F	10.0.0	10.1.0	R5-132012
RP-61	RP-131114	0116	-	Update reference for Update UE Location Information	F	10.1.0	10.2.0	R5-133631
RP-61	RP-131102	0117	-	Correction of applicability for test cases 19.1.1 and 19.3.1	F	10.1.0	10.2.0	R5-133708