ETSI TS 136 579-1 V15.3.1 (2021-10)



LTE;

Mission Critical (MC) services over LTE; Part 1: Common test environment (3GPP TS 36.579-1 version 15.3.1 Release 15)



Reference RTS/TSGR-0536579-1vf31 Keywords LTE

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Contents

1011151616
11151616
11151616
15 16 16
16 16 16
16 16
16
16
17
17
17
19
22
23
23
24
24
25
26
27
27
27
27
27
27
28
28
28
28
39
39
39
41
ıal
42
42
44
nal 46
47
49
49
50
51
51
52
53
54
54
55
55

5.3.20	Generic Test Procedure for MCPTT Floor Release – Floor Idle	
5.3.21	Generic Test Procedure for MCPTT Floor Release – Floor Taken	57
5.3.22	Generic Test Procedure for NW initiated notifications regarding temporary group creation or tear down	57
5.3.23	Generic Test Procedure for MCPTT CT Call establishment automatic commencement using a pre- established session	
5.3.24	Generic Test Procedure for UE initiated MCPTT functional alias status determination and	
5 0 05	subscription	62
5.3.25	Generic Test Procedure for UE initiated MCPTT functional alias status change	
5.3.26	Generic Test Procedure for MCPTT CO Group Creation	
5.3.27	Generic Test Procedure for MCPTT CO Temporary Group Creation	
5.3.28	Generic Test Procedure for MCPTT CO Temporary Group Tear Down	
5.3.29	Generic Test Procedure for MCPTT Subscription and Notification	
5.4	Generic test procedures for UE operation over E-UTRA/EPC	
5.4.1	General	
5.4.1A	UE APN/PDN support assumptions	
5.4.2	Generic Test Procedure for MCPTT UE registration	
5.4.2A	Generic Test Procedure for MCVideo UE registration	75
5.4.2B	Generic Test Procedure for MCData UE registration	
5.4.3	Generic Test Procedure for MCPTT CO communication in E-UTRA	
5.4.3A	Generic Test Procedure for MCVideo CO communication in E-UTRA	
5.4.3B	Generic Test Procedure for MCData CO communication in E-UTRA	
5.4.4	Generic Test Procedure for MCPTT CT communication in E-UTRA	
5.4.4A	Generic Test Procedure for MCVideo CT communication in E-UTRA	
5.4.4B	Generic Test Procedure for MCData CT communication in E-UTRA	79
5.4.5	Generic Test Procedure for MCPTT CO communication over ProSe direct one-to-one	
	communication out of E-UTRA coverage-establishment	79
5.4.6	Generic Test Procedure for MCPTT CT communication over ProSe direct one-to-one	0.5
	communication out of E-UTRA coverage-establishment	82
5.4.7	Generic Test Procedure for MCPTT communication over ProSe direct one-to-one communication	0.5
. 0	out of E-UTRA coverage - release by the SS	85
5.4.8	Generic Test Procedure for MCPTT communication over ProSe direct one-to-one communication	0.
7 4 0	out of E-UTRA coverage - release by the UE	
5.4.9	Generic Test Procedure for MCPTT communication in E-UTRA / Change of cells	87
5.4.10	Generic Test Procedure for MCPTT CT communication over ProSe direct one-to-many communication out of E-UTRA coverage / Announcing/Discoveree procedure for group member	
	discoverydiscovered	90
5.4.11	Generic Test Procedure for MCPTT CO communication over ProSe direct one-to-many	65
J. 4 .11	communication out of E-UTRA coverage / Monitoring/Discoverer procedure for group member	
		0.7
5.4.12	discovery / One-to-many communication	
5.4.12	Generic Test Procedure for MCPTT radio bearer establishment for use of pre-established session	
5.4.13 5.5	Default message and other information elements content	
5.5.1	General	
5.5.2	Default SIP message and other information elements	
5.5.2.1	SIP ACK	
5.5.2.1.1	SIP ACK SIP ACK from the UE	
5.5.2.1.2	SIP ACK from the SS	
5.5.2.1.2	SIP BYE	
5.5.2.2.1	SIP BYE from the UE	
5.5.2.2.1	SIP BYE from the SS	
5.5.2.2	SIP CANCEL	
5.5.2.3 5.5.2.4	SIP INFO	
5.5.2.4	SIP INVITE	
5.5.2.5.1	SIP INVITE	
5.5.2.5.1	SIP INVITE from the SS	
5.5.2.5.2 5.5.2.6	Void	
5.5.2.0 5.5.2.7	SIP MESSAGE	
5.5.2.7 5.5.2.7.1	SIP MESSAGE SIP MESSAGE from the UE	
5.5.2.7.1	SIP MESSAGE from the SS	
5.5.2.7.2	SIP NOTIFY	
5.5.2.8 5.5.2.9	SIP OPTIONS	
J.J.4.7	DIL OI 11OND	1 24

5.5.2.10	SIP PRACK	138
5.5.2.10.1	SIP PRACK from the UE	
5.5.2.10.2	SIP PRACK from the SS	
5.5.2.11	SIP PUBLISH	
5.5.2.12	SIP REFER	
5.5.2.13	SIP REGISTER	
5.5.2.14	SIP SUBSCRIBE	
5.5.2.15	SIP UPDATE	
5.5.2.15.1	SIP UPDATE from the UE	
5.5.2.15.2	SIP UPDATE from the SS	
5.5.2.16	SIP 1xx	
5.5.2.16.1	SIP 100 (Trying)	
5.5.2.16.2	SIP 180 (Ringing)	
5.5.2.16.3	SIP 183 (Session Progress)	
5.5.2.17	SIP 2xx	
5.5.2.17.1	SIP 200 (OK)	
5.5.2.17.2	SIP 202 (Accepted)	
5.5.2.18	SIP 3xx	
5.5.2.18.1	SIP 302 (Moved Temporarily)	
5.5.2.19	SIP 4xx	
5.5.2.19.1	SIP 403 (Forbidden)	
5.5.2.19.2	SIP 404 (Not Found)	
5.5.2.19.3	SIP 423 (Interval Too Brief)	
5.5.2.19.4	SIP 480 (Temporarily unavailable)	
5.5.2.19.5	SIP 486 (Busy Here)	
5.5.2.19.6	SIP 488 (Not Acceptable Here)	
5.5.2.19.7	SIP 401 (Unauthorized)	
5.5.2.19.8	SIP 487 (Request Terminated)	
5.5.2.20	SIP 5xx	
5.5.2.20.1	SIP 500 (Server Internal Error)	
5.5.2.21	SIP 6xx	
5.5.2.21.1	SIP 606 (Not Acceptable)	
5.5.3	Default SDP message and other information elements	
5.5.3.1	SDP Message	
5.5.3.1.1	SDP Message from the UE	
_	MCPTT	
_	MCVideo	
_	MCData	
5.5.3.1.2	SDP Message from the SS	
_	MCPTT	
_	MCVideo	215
_	MCData	220
5.5.3.1.3	SDP Message from the UE - Off-network	223
-	MCPTT	223
_	MCVideo	225
-	MCData	229
5.5.3.1.4	SDP Message from the SS - Off-network	230
-	MCPTT	230
-	MCVideo	232
-	MCData	236
5.5.3.2	MCS Info Lists	237
5.5.3.2.1	MCS Info Lists from the UE	237
-	MCPTT	237
-	MCVideo	
-	MCData	244
5.5.3.2.2	MCS Info Lists from the SS	
-	MCPTT	245
-	MCVideo	246
-	MCData	247
5.5.3.3	Resource-lists	
5.5.3.3.1	Resource-lists from the UE	248
_	MCPTT	248

-	MCVideo	252
-	MCData	253
5.5.3.3.2	Resource-lists from the SS	253
-	MCPTT	253
-	MCVideo	254
-	MCData	254
5.5.3.4	Location-info	255
5.5.3.4.1	Location-info (Report from the UE)	255
-	MCPTT	255
-	MCVideo	258
5.5.3.4.2	Location-info (Configuration sent by the SS)	260
-	MCPTT	260
-	MCVideo	263
5.5.3.4.3	Location-info (Request sent by the SS)	265
-	MCPTT	265
-	MCVideo	265
5.5.3.5	PIDF	267
5.5.3.5.1	PIDF from the UE	267
-	MCPTT	267
-	MCVideo	268
-	MCData	268
5.5.3.5.2	PIDF from the SS	269
-	MCPTT	269
-	MCVideo	270
-	MCData	270
5.5.3.6	SIMPLE-FILTER	271
-	MCPTT	271
-	MCVideo	272
-	MCData	273
5.5.3.7	AFFILIATION-COMMAND	273
-	MCPTT	273
-	MCVideo	273
-	MCData	274
5.5.3.8	SDS Signaling Payload	274
5.5.3.8.1	SDS Signaling Payload from the UE	
5.5.3.8.2	SDS Signaling Payload from the SS	275
5.5.3.9	MCData Data Payload	
5.5.3.10	MCData Protected Payload Message	
5.5.3.11	PoC Settings	
5.5.3.11.1	PoC Settings from the UE	
5.5.3.11.2	PoC Settings from the SS	
5.5.3.12	Xcap-diff documents	
5.5.3.13	MCDATA FD SIGNALLING PAYLOAD FROM THE UE	
	GNALLING PAYLOAD FROM THE UE	
	GNALLING PAYLOAD FROM THE SS	
5.5.3.13.3 FD SI	GNALLING PAYLOAD USING THE MEDIA PLANE FROM THE UE	285
5.5.3.13.4 FD SI	GNALLING PAYLOAD USING THE MEDIA PLANE FROM THE SS	
5.5.3.14	MCS group key transport payloads (GKTP) document	
	efault HTTP message and other information elements	287
5.5.4.1	General	
5.5.4.2	GET	
5.5.4.3	POST	
5.5.4.4	PUT	
5.5.4.5	DELETE	
5.5.4.6	HTTP 200 (OK)	
5.5.4.7	HTTP 201 (Created)	
5.5.4.8	HTTP 302 (Found)	
5.5.4.9	HTTP 409 (Conflict)	
5.5.4.10	HTTP Message Bodies	
5.5.4.10.1	Authentication Request	
5.5.4.10.2	Authentication Response	
5.5.4.10.3	Token Request	302

5.5.4.10.4	Token Response	303
5.5.4.10.5	Void	307
5.5.4.10.6	KMS Certificate	
5.5.4.10.7	Void	
5.5.4.10.8	KMS Key Set	
5.5.4.10.9	Signed KMS Request	
5.5.5	Default MCPTT call control Off-network messages and other information elements	315
5.5.5.1	GROUP CALL PROBE	
5.5.5.2	GROUP CALL ANNOUNCEMENT	
5.5.5.2.1	GROUP CALL ANNOUNCEMENT from the UE	316
5.5.5.2.2	GROUP CALL ANNOUNCEMENT from the SS	317
5.5.5.3	GROUP CALL ACCEPT	
5.5.5.3.1	GROUP CALL ACCEPT from the UE	318
5.5.5.3.2	GROUP CALL ACCEPT from the SS	318
5.5.5.4	GROUP CALL EMERGENCY END	319
5.5.5.4.1	GROUP CALL EMERGENCY END from the UE	319
5.5.5.4.2	GROUP CALL EMERGENCY END from the SS	319
5.5.5.5	GROUP CALL IMMINENT PERIL END	
5.5.5.5.1	GROUP CALL IMMINENT PERIL END from the UE	320
5.5.5.5.2	GROUP CALL IMMINENT PERIL END from the SS	320
5.5.5.6	GROUP CALL BROADCAST	
5.5.5.6.1	GROUP CALL BROADCAST from the UE	321
5.5.5.6.2	GROUP CALL BROADCAST from the SS	321
5.5.5.7	GROUP CALL BROADCAST END	
5.5.5.7.1	GROUP CALL BROADCAST END from the UE	321
5.5.5.7.2	GROUP CALL BROADCAST END from the SS	322
5.5.5.8	PRIVATE CALL SETUP REQUEST	322
5.5.5.8.1	PRIVATE CALL SETUP REQUEST from the UE	322
5.5.5.8.2	PRIVATE CALL SETUP REQUEST from the SS	
5.5.5.9	PRIVATE CALL RINGING	
5.5.5.10	PRIVATE CALL ACCEPT	
5.5.5.11	PRIVATE CALL REJECT	
5.5.5.11.1	PRIVATE CALL REJECT from the UE	
5.5.5.11.2	PRIVATE CALL REJECT from the SS	
5.5.5.12	PRIVATE CALL RELEASE	
5.5.5.13	PRIVATE CALL RELEASE ACK	
5.5.5.14	PRIVATE CALL ACCEPT ACK	
5.5.5.15	PRIVATE CALL EMERGENCY CANCEL	
5.5.5.15.1	PRIVATE CALL EMERGENCY CANCEL from the UE	
5.5.5.15.2	PRIVATE CALL EMERGENCY CANCEL from the SS	
5.5.5.16	PRIVATE CALL EMERGENCY CANCEL ACK	
5.5.5.16.1	PRIVATE CALL EMERGENCY CANCEL ACK from the UE	
5.5.5.16.2	PRIVATE CALL EMERGENCY CANCEL ACK from the SS	
5.5.5.17	GROUP EMERGENCY ALERT	
5.5.5.17.1	GROUP EMERGENCY ALERT from the UE	
5.5.5.17.2	GROUP EMERGENCY ALERT from the SS	
5.5.5.18	GROUP EMERGENCY ALERT ACK	
5.5.5.18.1	GROUP EMERGENC ALERT ACK from the UE	
5.5.5.18.2	GROUP EMERGENCY ALERT ACK from the SS	
5.5.5.19	GROUP EMERGENCY ALERT CANCEL from the HE	
5.5.5.19.1	GROUP EMERGENCY ALERT CANCEL from the UE	
5.5.5.19.2 5.5.5.20	GROUP EMERGENCY ALERT CANCEL IROM the SS	
5.5.5.20.1	GROUP EMERGENCY ALERT CANCEL ACK from the UE	
5.5.5.20.1	GROUP EMERGENCY ALERT CANCEL ACK from the UE	
5.5.6	Default MCPTT media plane control messages and other information elements	
5.5.6.1	General	
5.5.6.2	Floor Request	
5.5.6.3	Floor Granted	
5.5.6.4	Floor Deny	
5.5.6.5	Floor Release	
5.5.6.6	Floor Idle	

5.5.6.7	Floor Taken	
5.5.6.8	Floor Revoke	
5.5.6.9	Floor Queue Position Request	
5.5.6.10	Floor Queue Position Info	341
5.5.6.11	Floor Ack	
5.5.6.11A	Floor Release Multi Talker	
5.5.6.12	Connect	344
5.5.6.13	Disconnect	346
5.5.6.14	Acknowledge	347
5.5.6.15	Map Group To Bearer	
5.5.6.16	Unmap Group To Bearer	
5.5.6.17	Application Paging	
5.5.6.18	Bearer Announcement	
5.5.7	Default MCPTT group management messages and other information elements	
5.5.7.1	MCPTT Group Configuration	
5.5.7.2	MCVideo Group Configuration	
5.5.7.3	MCDATA Group Configuration	
5.5.8	Default MCS configuration management messages and other information elements	
5.5.8.1	MCPTT Initial UE Configuration	
5.5.8.2	MCPTT UE Configuration	
5.5.8.3	MCPTT User Profile	
5.5.8.4	MCPTT Service Configuration	
5.5.8.5	MCVideo Initial UE Configuration	
5.5.8.6	MCVideo UE Configuration	
5.5.8.7	MCVideo User Profile	
5.5.8.8	MCVideo Service Configuration	
5.5.8.9	MCDATA Initial UE Configuration	
5.5.8.10	MCDATA UE Configuration	
5.5.8.11	MCDATA User Profile	
5.5.8.12	MCDATA Service Configuration	
5.5.9	Default miscellaneous messages and other information elements	
5.5.9.1	MIKEY-SAKKE I_MESSAGE	
=	CSK distribution (MIKEY-SAKKE sent by the UE)	
_	Private call (MIKEY-SAKKE sent by the SS)	
-	Private call (MIKEY-SAKKE sent by the UE)	
-	GMK distribution (MIKEY-SAKKE sent by the SS)	
-	MSCCK distribution (MIKEY-SAKKE sent by the SS)	
5.5.10	Common MCS test USIM parameters	
5.5.10.1	General	
5.5.10.1	Default settings for the Elementary Files (EFs)	
5.5.10.2	Default MCVideo Transmission Control Messages and other Information Elements	
5.5.11.1	Transmission Control Specific Messages Sent by the Transmission Participant	
5.5.11.1.1	Transmission Request	
5.5.11.1.2	Transmission Release	
5.5.11.1.3	Queue Position Request	
5.5.11.1.4	Receive Media Request	
5.5.11.1.5	Transmission Cancel Request	
5.5.11.1.6	Remote Transmission Request	
5.5.11.1.7	Remote Transmission Cancel Request	
5.5.11.2	Transmission Control Specific Messages Sent by the Transmission Control Server	
5.5.11.2.1	Transmission Granted	
5.5.11.2.2	Transmission Rejected	
5.5.11.2.3	Transmission Arbitration Taken	
5.5.11.2.4	Transmission Arbitration Release	
5.5.11.2.5	Transmission Revoked	
5.5.11.2.6	Queue Position Info	
5.5.11.2.7	Media Transmission Notification	
5.5.11.2.8	Receive Media Response	499
5.5.11.2.9	Media Reception Notification	502
5.5.11.2.10	Transmission Cancel Response	503
5.5.11.2.11	Transmission Cancel Request Notify	503

5.5.11.2.1	2 Remote Transmission Response	504
5.5.11.2.1	Remote Transmission Cancel Response	504
5.5.11.2.1	4 Media Reception Override Notification	505
5.5.11.2.1	5 Transmission End Notify	507
5.5.11.2.1	6 Transmission Idle	507
5.5.11.3	Transmission control specific messages sent by both the transmission control server and	
	transmission control participant	509
5.5.11.3.1	Transmission End Request	509
5.5.11.3.2	Transmission End Response	511
5.5.11.3.3	Media Reception End Request	511
5.5.11.3.4	Media Reception End Response	513
5.5.11.3.5	Transmission Control Ack	513
5.5.12	MSRP Messages for MCData	515
5.5.12.1	MSRP SEND	515
5.5.12.1.1	MSRP SEND from the UE	515
_	MSRP SEND from the UE with No Chunking Used	515
-	Empty MSRP SEND from the UE for Binding	517
-	MSRP SEND from the UE with Chunking Used	518
-	MSRP SEND from the UE with Chunking Used – Last Chunk	521
5.5.12.1.2	MSRP SEND from the SS	524
-	MSRP SEND from the SS	524
-	Empty MSRP SEND from the SS for Binding	525
5.5.12.2	MSRP 200 (OK)	525
5.5.12.2.1	MSRP 200 (OK) from the UE	525
5.5.12.2.2	MSRP 200 (OK) from the SS	526
5.5.13	Default XML messages and elements for XML security	527
5.5.13.1	XML signature for integrity protection of MIME bodies	527
5.5.13.2	XML <encrypteddata> element for encryption of XML element content</encrypteddata>	529
5.6	Reference configurations	
5.6.1	General	
5.6.2	Key material for provisioning of End-to-end communication security	530
5.6.3	XML schema for MCPTT location information	532
5.6.4	XML schema for MCVideo location information	537
Annex A	(informative): Change history	543
History		548

Foreword

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The present document is part 1 of a multi-part deliverable covering conformance test specification for Mission Critical Services over LTE consisting of:

3GPP TS 36.579-1: "Mission Critical (MC) services over LTE; Part 1: Common test environment" (the present document)

3GPP TS 36.579-2 [2]: "Mission Critical (MC) services over LTE; Part 2: Mission Critical Push To Talk (MCPTT) User Equipment (UE) Protocol conformance specification"

3GPP TS 36.579-3 [3]: "Mission Critical (MC) services over LTE; Part 3: Mission Critical Push To Talk (MCPTT) Server Application test specification"

3GPP TS 36.579-4 [4]: "Mission Critical (MC) services over LTE; Part 4: Test Applicability and Implementation Conformance Statement (ICS)"

3GPP TS 36.579-5 [5]: "Mission Critical (MC) services over LTE; Part 5: Abstract test suite (ATS)"

3GPP TS 36.579-6 [84]: "Mission Critical (MC) services over LTE; Part 6: Mission Critical Video (MCVideo) User Equipment (UE) Protocol conformance specification"

3GPP TS 36.579-7 [85]: "Mission Critical (MC) services over LTE; Part 7: Mission Critical Data (MCData) User Equipment (UE) Protocol conformance specification"

1 Scope

The present document defines the common test environment required for testing Client and Server implementations for compliance to the Mission Critical Services over LTE protocol requirements defined by 3GPP.

It contains definitions of reference conditions and test signals, default messages and other parameters, generic procedures, and, common requirements for test equipment with the goal for facilitating testing in general and test procedures specification in particular. Various parts of its content are referred to from other parts of the Mission Critical Services over LTE protocol conformance testing specification e.g. TS 36.579-2 [2], TS 36.579-3 [3], 3GPP TS 36.579-6 [84], 3GPP TS 36.579-7 [85].

The present document does not define the common test environment required for testing the implementation of the underlying LTE protocols, i.e. the LTE bearers used for transport of the Mission Critical Services signalling and media. This is defined in TS 36.508 [6] and referred to from the present document whenever needed.

In regard to default messages or other information elements contents, the present document refers to content defined in requirements specifications specified by 3GPP or other organisations.

2 References

[13]

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*.

Reteuse us i	пе ртелет иоситет.
[1]	3GPP TR 21.905: "Vocabulary for 3GPP Specifications".
[2]	3GPP TS 36.579-2: "Mission Critical (MC) services over LTE; Part 2: Mission Critical Push To Talk (MCPTT) User Equipment (UE) Protocol conformance specification".
[3]	3GPP TS 36.579-3: "Mission Critical (MC) services over LTE; Part 3: Mission Critical Push To Talk (MCPTT) Server Application test specification".
[4]	3GPP TS 36.579-4: "Mission Critical (MC) services over LTE; Part 4: Test Applicability and Implementation Conformance Statement (ICS)".
[5]	3GPP TS 36.579-5: " Mission Critical (MC) services over LTE; Part 5: Abstract test suite (ATS)".
[6]	3GPP TS 36.508: "Evolved Universal Terrestrial Radio Access (E-UTRA) and Evolved Packet Core (EPC); Common Test Environments for User Equipment (UE) Conformance Testing".
[7]	3GPP TS 22.179: "Mission Critical Push To Talk (MCPTT) over LTE; Stage 1".
[8]	3GPP TS 23.179: "Functional architecture and information flows to support mission critical communication services; Stage 2".
[9]	3GPP TS 24.379: "Mission Critical Push To Talk (MCPTT) call control; Protocol specification".
[10]	3GPP TS 24.380: "Mission Critical Push To Talk (MCPTT) floor control; Protocol specification".
[11]	3GPP TS 24.481: "Mission Critical Services (MCS) group management; Protocol specification".
[12]	3GPP TS 24.482: "Mission Critical Services (MCS) identity management; Protocol specification".

3GPP TS 24.483: "Mission Critical Services (MCS) Management Object (MO)".

[14]	3GPP TS 24.484: "Mission Critical Services (MCS) configuration management; Protocol specification".
[15]	3GPP TS 33.179: "Security of Mission Critical Push-To-Talk (MCPTT) over LTE".
[16]	3GPP TS 24.229: "IP multimedia call control protocol based on Session Initiation Protocol (SIP) and Session Description Protocol (SDP); Stage 3".
[17]	Void
[18]	Void
[19]	Void
[20]	Void
[21]	Void
[22]	IETF RFC 3261 (June 2002): "SIP: Session Initiation Protocol".
[23]	IETF RFC 6509 (February 2012): "MIKEY-SAKKE: Sakai-Kasahara Key Encryption in Multimedia Internet KEYing (MIKEY)".
[24]	IETF RFC 3830: "MIKEY: Multimedia Internet KEYing".
[25]	IETF RFC 6043: "MIKEY-TICKET: Ticket-Based Modes of Key Distribution in Multimedia Internet KEYing (MIKEY)".
[26]	IETF RFC 2616: "Hypertext Transfer Protocol HTTP/1.1".
[27]	IETF RFC 4566 (July 2006): "SDP: Session Description Protocol".
[28]	Void
[29]	IETF RFC 3841 (August 2004): "Caller Preferences for the Session Initiation Protocol (SIP)".
[30]	IETF RFC 4028 (April 2005): "Session Timers in the Session Initiation Protocol (SIP)".
[31]	IETF RFC 6050 (November 2010): "A Session Initiation Protocol (SIP) Extension for the Identification of Services".
[32]	IETF RFC 3325 (November 2002): "Private Extensions to the Session Initiation Protocol (SIP) for Asserted Identity within Trusted Networks".
[33]	IETF RFC 3840 (August 2004): "Indicating User Agent Capabilities in the Session Initiation Protocol (SIP)".
[34]	IETF RFC 5373 (November 2008): "Requesting Answering Modes for the Session Initiation Protocol (SIP)".
[35]	IETF RFC 5366 (October 2008): "Conference Establishment Using Request-Contained Lists in the Session Initiation Protocol (SIP)".
[36]	IETF RFC 4488 (May 2006): "Suppression of Session Initiation Protocol (SIP) REFER Method Implicit Subscription".
[37]	IETF RFC 4538 (June 2006): "Request Authorization through Dialog Identification in the Session Initiation Protocol (SIP)".
[38]	IETF RFC 3515 (April 2003): "The Session Initiation Protocol (SIP) Refer Method".
[39]	IETF RFC 6665 (July 2012): "SIP-Specific Event Notification".
[40]	IETF RFC 4412 (February 2006): "Communications Resource Priority for the Session Initiation Protocol (SIP)".
[41]	Void

[42]	Void
[43]	IETF RFC 3903 (October 2004): "Session Initiation Protocol (SIP) Extension for Event State Publication".
[44]	IETF RFC 4567 (July 2006): "Key Management Extensions for Session Description Protocol (SDP) and Real Time Streaming Protocol (RTSP)".
[45]	IETF RFC 8101 "IANA Registration of New Session Initiation Protocol (SIP) Resource-Priority Namespace for Mission Critical Push To Talk service".
[46]	Void
[47]	Void
[48]	IETF RFC 4661 (September 2006): "An Extensible Markup Language (XML)-Based Format for Event Notification Filtering".
[49]	Void
[50]	Void
[51]	IETF RFC 7913 (June 2016): "P-Access-Network-Info ABNF Update".
[52]	IETF RFC 7315 (July 2014): "Private Header (P-Header) Extensions to the Session Initiation Protocol (SIP) for the 3GPP".
[53]	IETF RFC 3329 (January 2003): "Security Mechanism Agreement for the Session Initiation Protocol (SIP)".
[54]	IETF RFC 5031 (January 2008): "A Uniform Resource Name (URN) for Emergency and Other Well-Known Services".
[55]	IETF RFC 3581 (August 2003): "An Extension to the Session Initiation Protocol (SIP) for Symmetric Response Routing".
[56]	IETF RFC 3312 (October 2002): "Integration of resource management and Session Initiation Protocol (SIP)".
[57]	IETF RFC 7134: "The Management Policy of the Resource Priority Header (RPH) Registry Changed to "IETF Review"".
[58]	IETF RFC 5621 (September 2009): "Message Body Handling in the Session Initiation Protocol (SIP)".
[59]	IETF RFC 4867: "RTP Payload Format and File Storage Format for the Adaptive Multi-Rate (AMR) and Adaptive Multi-Rate Wideband (AMR-WB) Audio Codecs".
[60]	IETF RFC 5009 (September 2007): "Private Header (P-Header) Extension to the Session Initiation Protocol (SIP) for Authorization of Early Media".
[61]	IETF RFC 3842 (August 2004) "A Message Summary and Message Waiting Indication Event Package for the Session Initiation Protocol (SIP)".
[62]	IETF RFC 6442 (December 2011): "Location Conveyance for the Session Initiation Protocol".
[63]	IETF RFC 6335: "Internet Assigned Numbers Authority (IANA) Procedures for the Management of the Service Name and Transport Protocol Port Number Registry".
[64]	3GPP TS 26.114: "IP Multimedia Subsystem (IMS); Multimedia telephony; Media handling and interaction".
[65]	3GPP TS 23.032: "Universal Geographical Area Description (GAD)".
[66]	3GPP TS 26.171: "Speech codec speech processing functions; Adaptive Multi-Rate - Wideband (AMR-WB) speech codec; General description".

[67]	3GPP TS 33.303: "Proximity-based Services (ProSe); Security aspects".
[68]	3GPP TS 23.303: "Proximity-based services (ProSe); Stage 2".
[69]	3GPP TS 23.003: "Numbering, addressing and identification".
[70]	3GPP TS 33.310: "Network Domain Security (NDS); Authentication Framework (AF)".
[71]	Void
[72]	IETF RFC 2617: "HTTP Authentication: Basic and Digest Access Authentication".
[73]	3GPP TS 31.102: "Characteristics of the Universal Subscriber Identity Module (USIM) application".
[74]	3GPP TS 36.523-3: "Evolved Universal Terrestrial Radio Access (E-UTRA) and Evolved Packet Core (EPC); User Equipment (UE) conformance specification; Part 3: Abstract Test Suites (ATS)".
[75]	3GPP TS 36.523-2: "User Equipment (UE) conformance specification; Part 2: Implementation Conformance Statement (ICS) proforma specification".
[76]	IETF RFC 3550: "RTP: A Transport Protocol for Real-Time Applications".
[77]	IETF RFC 6749: "The OAuth 2.0 Authorization Framework".
[78]	3GPP TS 24.334: "Proximity-services (ProSe) User Equipment (UE) to ProSe function protocol aspects; Stage 3".
[79]	3GPP TS 31.101: "UICC-terminal interface; Physical and logical characteristics.
[80]	3GPP TS 31.103: "Characteristics of the IP Multimedia Services Identity Module (ISIM) application".
[81]	IETF RFC 6809 (November 2012): "Mechanism to Indicate Support of Features and Capabilities in the Session Initiation Protocol (SIP)".
[82]	IETF RFC 7462 (March 2015): "URNs for the Alert-Info Header Field of the Session Initiation Protocol (SIP)".
[83]	IETF RFC 4826 (May 2007): " Extensible Markup Language (XML) Formats for Representing Resource Lists".
[84]	3GPP TS 36.579-6: "Mission Critical (MC) services over LTE; Part 6: Mission Critical Video (MCVideo) User Equipment (UE) Protocol conformance specification"
[85]	3GPP TS 36.579-7: "Mission Critical (MC) services over LTE; Part 7: Mission Critical Data (MCData) User Equipment (UE) Protocol conformance specification"
[86]	3GPP TS 24.281: "Mission Critical Video (MCVideo) signalling control; Protocol specification".
[87]	3GPP TS 24.282: "Mission Critical Data (MCData) signalling control; Protocol specification".
[88]	3GPP TS 24.581: "Mission Critical Video (MCVideo) media plane control; Protocol specification".
[89]	3GPP TS 24.582: "Mission Critical Data (MCData) media plane control; Protocol specification".
[90]	3GPP TS 23.281: "Functional architecture and information flows to support Mission Critical Video (MCVideo); Stage 2".
[91]	3GPP TS 23.282: "Functional architecture and information flows to support Mission Critical Data (MCData); Stage 2".
[92]	3GPP TS 22.281: "Mission Critical Video over LTE".
[93]	3GPP TS 22.282: "Mission Critical Data over LTE".

[94]	3GPP TS 33.180: "Security of the mission critical service".
[95]	OpenID Connect 1.0: "OpenID Connect Core 1.0 incorporating errata set 1", http://openid.net/specs/openid-connect-core-1-0.html .
[96]	IETF RFC 3310: "Hypertext Transfer Protocol (HTTP) Digest Authentication Using Authentication and Key Agreement (AKA)".
[97]	IETF RFC 3262: "Reliability of Provisional Responses in the Session Initiation Protocol (SIP)".
[98]	IETF RFC 6507: "Elliptic Curve-Based Certificateless Signatures for Identity-Based Encryption (ECCSI)".
[99]	IETF RFC 6508: "Sakai-Kasahara Key Encryption (SAKKE)".
[100]	IETF RFC 7636: "Proof Key for Code Exchange by OAuth Public Clients".
[101]	IETF RFC 7519: "JSON Web Token (JWT)".
[102]	IETF RFC 7515: "JSON Web Signature (JWS)".
[103]	IETF RFC 4354 "A Session Initiation Protocol (SIP) Event Package and Data Format for Various Settings in Support for the Push-to-Talk over Cellular (PoC) Service"
[104]	IETF RFC 6750 "The OAuth 2.0 Authorization Framework: Bearer Token Usage"
[105]	HTML 4.01 Specification: https://www.w3.org/TR/html401/ .
[106]	IETF RFC 4122: "A Universally Unique IDentifier (UUID) URN Namespace".
[107]	IETF RFC 5874: "An Extensible Markup Language (XML) Document Format for Indicating a Change in XML Configuration Access Protocol (XCAP) Resources".
[108]	W3C: "XML Encryption Syntax and Processing Version 1.1", https://www.w3.org/TR/xmlenc-core1/ .
[109]	IETF RFC 5322: "Internet Message Format".
[110]	3GPP TS 22.280: "Common functional architecture to support mission critical services; Stage 2".
[111]	IETF RFC 2854: "The 'text/html' Media Type".
[112]	IETF RFC 7303: "XML Media Types".
[113]	IETF RFC 3556: "Session Description Protocol (SDP) Bandwidth Modifiers for RTP Control Protocol (RTCP) Bandwidth".
[114]	IETF RFC 3863 (August 2004): "Presence Information Data Format (PIDF)".
[115]	IETF RFC 5245: "Interactive Connectivity Establishment (ICE): A Protocol for Network Address Translator (NAT) Traversal for Offer/Answer Protocols"
[116]	IETF RFC 5576: "Source-Specific Media Attributes in the Session Description Protocol (SDP)"
[117]	IETF RFC 3891:The Session Initiation Protocol (SIP) "Replaces" Header
[118]	IETF RFC 7231: Hypertext Transfer Protocol (HTTP/1.1): Semantics and Content

3 Definitions, symbols and abbreviations

Editor's Note: Implication to the content of the present chapter due to the introduction of MCVideo and MCData are FFS.

3.1 Definitions

For the purposes of the present document, the terms and definitions given in 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].

For the purpose of the present document, the following terms and definitions given in TS 24.379 [9] apply:

An MCPTT user is affiliated to an MCPTT group

An MCPTT user is affiliated to an MCPTT group at an MCPTT client

Affiliation status

Group identity

In-progress emergency private call state

In-progress imminent peril group state

MCPTT client ID

MCPTT emergency alert state

MCPTT emergency group state

MCPTT emergency group call state

MCPTT emergency private call state

MCPTT emergency private priority state

MCPTT imminent peril group call state

MCPTT imminent peril group state

MCPTT private emergency alert state

MCPTT speech

Media-floor control entity

Temporary MCPTT group identity

Trusted mutual aid

Untrusted mutual aid

For the purposes of the present document, the following terms and definitions given in TS 22.179 [7] apply:

In-progress emergency

MCPTT emergency alert

MCPTT emergency group call

MCPTT emergency state

Partner MCPTT system

Primary MCPTT system

For the purpose of the present document, the following terms and definitions given in 3GPP TS 24.380 [10] apply:

MBMS subchannel

For the purpose of the present document, the following terms and definitions given in 3GPP TS 23.179 [8] apply:

Pre-selected MCPTT user profile

3.2 Symbols

Void.

3.3 Abbreviations

For the purposes of the present document, the abbreviations given in 3GPP 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 3GPP TR 21.905 [1].

ECGI E-UTRAN Cell Global Identification

FFS For Further Study

ICS Implementation Conformance Statement

IPEG In-Progress Emergency Group IPEPC In-Progress Emergency Private Call

IPIG In-Progress Imminent peril Group IUT Implementation Under Test

IXIT Implementation eXtra Information for Testing MBMS Multimedia Broadcast and Multicast Service

MBSFN Multimedia Broadcast multicast service Single Frequency Network

MCData Mission Critical Data

MCPTT Mission Critical Push To Talk
MCPTT group ID MCPTT group IDentity
MCVideo Mission Critical Video

MCX Mission Critical X, with X = PTT or X = Video or X = Data

MEA MCPTT Emergency Alert
MEG MCPTT Emergency Group
MEGC MCPTT Emergency Group Call
MEPC MCPTT Emergency Private Call
MEPP MCPTT Emergency Private Priority

MES MCPTT Emergency State

MIME Multipurpose Internet Mail Extensions
MIG MCPTT Imminent peril Group
MIGC MCPTT Imminent peril Group Call
MONP MCPTT Off-Network Protocol
MPEA MCPTT Private Emergency Alert
NAT Network Address Translation

QCI QoS Class Identifier

RTP Real-time Transport Protocol
SAI Service Area Identifier
SDP Session Description Protocol
SIP Session Initiation Protocol
SS System Simulator

SSRC Synchronization SouRCe

TGI Temporary MCPTT Group Identity
TMGI Temporary Mobile Group Identity

TP Transmission Point

URI Uniform Resource Identifier

4 General

Editor's note: Implication to the content of the present chapter due to the introduction of MCVideo and MCData are FFS

4.0 Introduction

Depending on the TS 36.579-5[5] test model being used, either the LTE UE (with the MCX Client installed) is considered as the IUT (MCX EUTRA test model), or, only the MCX Client is considered as the IUT (MCX IPCAN test model).

4.1 MCPTT Conformance testing test points overview

Figure 4.1.1 provides a general overview of all MCPTT players which may have a role in different conformance testing scenarios together with virtual test points representing the information flow which is intended for conformance testing. The figure is mainly for descriptive purposes and may not necessarily represent a real MCPTT deployment or implementation.

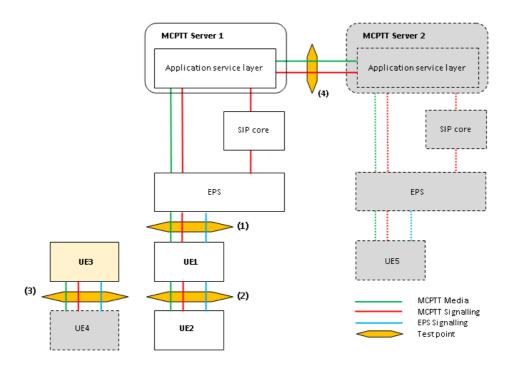


Figure 4.1.1: MCPTT Conformance testing test points model

NOTE 1: Which of the shown entities will be simulated and which will be real implementation depends on the test scenario. In the test scenarios in which they play a part, the entities presented with dashed borders and grey fill will be always simulated whereas, the entities with light yellow fill (UE3) will be Implementation Under Test (IUT). The entities with white fill will be either simulated or IUTs or real implementation (e.g. network) depending on the test scenario.

NOTE 2: While showing the different players, figure 4.1.1 should not be understood as showing test environment implementation.

The test points shown on Figure 4.1.1 cover behaviour/requirements observed at various reference points and communication scenarios:

- MCPTT on-network (whenever relevant, reference points as specified in TS 23.179 [8] Functional model description clause 7.3.1 'On-network functional model' are referred):
 - Application plane (MCPTT-1, MCPTT-4, MCPTT-7, MCPTT-8 and MCPTT-9), and, (CSC-1, CSC-2, CSC-4 and CSC-8); Signalling control plane (SIP-1, HTTP-1 and HTTP-2). Test point: (1) or (2). IUT: the UE or the MCPTT Client or the MCPTT Server.
 - MCPTT-3 (between different MCPTT Servers), CSC-7 (other group management Servers, normally associated with other MCPTT Servers); Signalling control plane (SIP-2, HTTP-1, HTTP2 and HTTP-3). Test point: (4). IUT: the MCPTT Server.
- MCPTT off-network (TS 23.179 [8], clause 7.3.2 'Off-network functional model'). Test point: (3). IUT: the UE.
- LTE Legacy requirements between UE and EPS and between 2 UEs (covering e.g. Bearer Management at the UE side, ProSe including among others UE-to-network relay, MBMS). Test point: (1), (2) or (3).

Figure 4.1.2 provides a general overview of functions distributions at the MCPTT server side when multiple MCPTT Servers are involved. More functional models can be found in TS 24.379 [9].

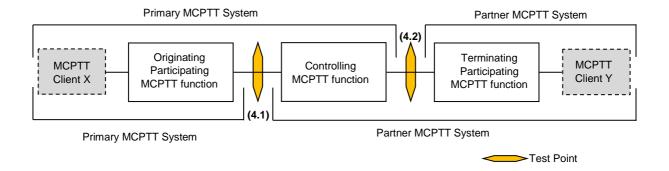


Figure 4.1.2: MCPTT Conformance testing Client-to-Client test points model

NOTE 3: While showing the different players and Server functionality, figure 4.1.2 should not be understood as showing test environment implementation.

The test points shown on Figure 4.1.2 provide an example of how 2 different communication scenarios between 2 MCPTT Servers will result in the communication between the servers being monitored at different test points (4.1) and (4.2). It should be noted that Figure 4.1.2 does not imply the physical existence of 2 test points during MCPTT Server-to-Server testing rather it shows two different information flows which need to be verified for conformance. In practice this will also mean that for testing the MCPTT Server on the Server-to-Server interface (test point 4 on Figure 4.1.1), the System Simulator (SS) will need to implement (i.e. be able to simulate) at least all 3 MCPTT functions.

4.2 MCPTT Conformance testing test environment overview

Based on the test points models shown in clause 4.1 examples for test environment implementations are provided below. Figures 4.2.1 to 4.2.3 show test configuration where the Implementation Under Test (IUT) and the System Simulator communicate, one with the other, over the LTE radio interface (test points (1), (2) and (3)). Figure 4.2.4 shows test configuration where the IUT and the system simulator, simulating MCPTT Clients, communicate, one with the other, over the LTE radio interface (test points (1)). Figures 4.2.5 and 4.2.6 show test configuration where the IUT and the System Simulator communicate, one with the other, over the MCPTT-3 interface, as defined by TS 23.179 [8], clause 7.5.2.4 (test points (4)).

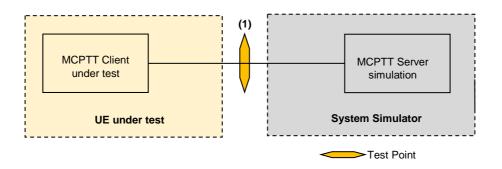


Figure 4.2.1: Testing the MCPTT Client (on-network)

NOTE 1: Figure 4.2.1 covers also the case for testing the UE at interface (1) when the IUT behaves as a Relay. For testing this the existence of another UE playing the role of an UE off-network which uses the Relay to connect to the Server will be needed. This could be implemented by the SS simulating both in similar manner as it is shown on Figure 4.2.2.

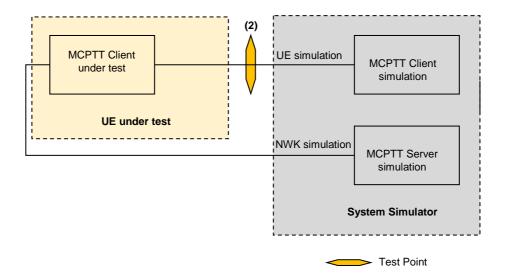


Figure 4.2.2: Testing the MCPTT Client (on-network) Relay side

NOTE 1: Figure 4.2.2 covers the case for testing the UE at interface (2) when the IUT behaves as a Relay. For testing this, the existence of LTE NWK and Server to which the Relay relays the data will be needed. This could be implemented by the SS simulating both.

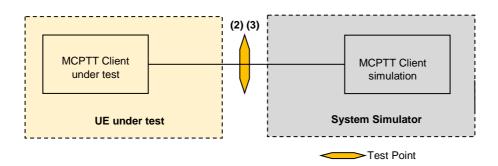


Figure 4.2.3: Testing the MCPTT Client (off-network)

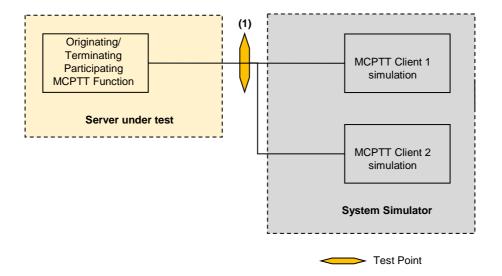


Figure 4.2.4: Testing the MCPTT Server (server-to-client)

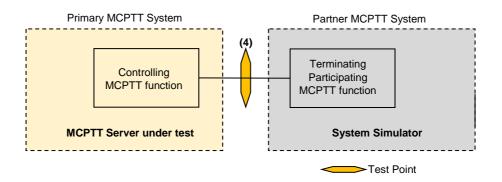


Figure 4.2.5: Testing the MCPTT Server (server-to-server), Controlling function

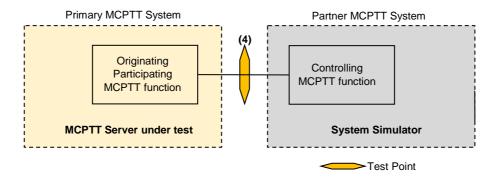


Figure 4.2.6: Testing the MCPTT Server (server-to-server), Originating function

4.3 MCPTT Conformance testing players and roles assumptions

Based on the described in clause 4.2 test environment scenarios a number of players and their roles have been designated to facilitate the test specification and provide a consistent test description.

For the purposes of MCPTT Client testing

1 MCPTT Server:

- Server A simulated by the SS (in the case of on-network operation).

2 MCPTT Clients:

- Client A installed on the implementation under test
- Client B simulated by the System Simulator (SS) either explicitly (in the case of off-network operations), or, implicitly (in the case of on-network operation).

3 MCPTT Users:

- User A registered with Client A and operating on the implementation under test
- User B registered with Client B simulated by the System Simulator (SS) either explicitly (in the case of offnetwork operations), or, implicitly (in the case of on-network operation); pre-set at User A configuration as User allowed to be called by User A for any types of calls
- User C known to the User A, not involved in any communication, defined for the sole purpose of testing if the User A/Client A can distinguish between different users when choosing one of them for action; pre-set at User A configuration as User allowed to be called by User A for any types of calls.

4 MCPTT groups:

- Group A to which User A is implicitly affiliated, pre-set at User A configuration, and, comprising as members User A, User B and User C, to be available throughout the entire testing.
- Group D to which User A is not implicitly affiliated, pre-set at User A configuration, and, comprising as members User B and User C, to be used for testing group affiliation.
- Groups B and C not pre-set at User A configuration, to be used for testing creation and termination of groups.

For the purposes of MCPTT Server testing

1 MCPTT Server:

- Server A installed on the implementation under test.

2 MCPTT Clients:

- Client A simulated by the System Simulator (SS)
- Client B simulated by the System Simulator (SS).

2 MCPTT Users:

- User A registered with Client A simulated by the System Simulator (SS); pre-set at User A configuration as User allowed to be called by User A for any types of calls
- User B registered with Client B simulated by the System Simulator (SS); pre-set at User A configuration as User allowed to be called by User A for any types of calls

1 MCPTT group:

- Group A to which User A is implicitly affiliated, pre-set at User A configuration, and, comprising as members User A and User B to be available throughout the entire testing.

4.4 References to TS 33.179 and TS 33.180

For the purposes of this Technical Specification, it is assumed that TS 33.180 supersedes TS 33.179 and is a backwards compatible substitute for TS 33.179.

4.5 MCVideo Conformance testing test points overview

Figure 4.5.1 provides a general overview of all MCVideo players which may have a role in different conformance testing scenarios together with virtual test points representing the information flow which is intended for conformance testing. The figure is mainly for descriptive purposes and may not necessarily represent a real MCVideo deployment or implementation.

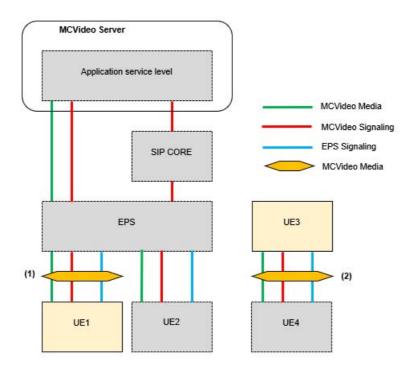


Figure 4.5.1: MCVideo Conformance testing test points model

NOTE 1: Which of the shown entities will be simulated and which will be real implementation depends on the test scenario. In the test scenarios in which they play a part, the entities presented with dashed borders and grey fill will be always simulated whereas, the entities with light yellow fill (UE 1 or UE3) will be Implementation Under Test (IUT).

NOTE 2: While showing the different players, figure 4.5.1 should not be understood as showing test environment implementation.

The test points shown on Figure 4.5.1 cover behaviour/requirements observed at various reference points and communication scenarios:

- MCVideo on-network (TS 23.280 [110] Functional model description clause 7.3.1 'On-network functional model' and TS 23.281 [91] Functional model description clause 6.1.1 'On-network functional model'.):
- Application plane (MCVideo-1, MCVideo-4, MCVideo-5, MCVideo-6, MCVideo-7, MCVideo-8 and MCVideo-9), and, (CSC-1, CSC-2, CSC-4, CSC-8, and CSC-14); Signalling control plane (SIP-1, HTTP-1 and HTTP-2). Test point: (1). IUT: the UE or the MCVideo Client.
- MCVideo off-network (TS 23.280 [110], clause 7.3.2 'Off-network functional model' and TS 23.281 [91], clause 6.1.2 'Off-network functional model'.). Test point: (2). IUT: the UE.

- LTE Legacy requirements between UE and EPS and between 2 UEs (covering e.g. Bearer Management at the UE side, ProSe, MBMS). Test point: (1) or (2).

4.6 MCVideo Conformance testing test environment overview

Based on the test points models shown in clause 4.5 examples for test environment implementations are provided below. Figures 4.6.1 and 4.6.2 show test configuration where the Implementation Under Test (IUT) and the System Simulator communicate, one with the other, over the LTE radio interface (test points (1) and (2)).

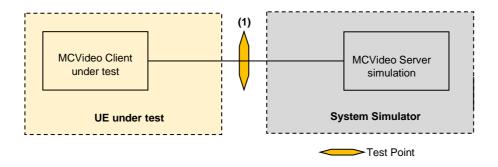


Figure 4.6.1: Testing the MCVideo Client (on-network)

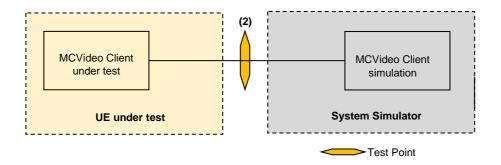


Figure 4.6.2: Testing the MCVideo Client (off-network)

4.7 MCVideo Conformance testing players and roles assumptions

Based on the described test environment scenarios in clause 4.6, a number of players and their roles have been designated to facilitate the test specification and provide a consistent test description.

For the purposes of MCVideo Client testing

- 1 MCVideo Server:
- Server A simulated by the SS (in the case of on-network operation).
- 2 MCVideo Clients:
- Client A installed on the implementation under test
- Client B simulated by the System Simulator (SS) either explicitly (in the case of off-network operations), or, implicitly (in the case of on-network operation).

3 MCVideo Users:

- User A registered with Client A and operating on the implementation under test
- User B registered with Client B simulated by the System Simulator (SS) either explicitly (in the case of offnetwork operations), or, implicitly (in the case of on-network operation); pre-set at User A configuration as User allowed to be called by User A for any types of calls
- User C known to the User A, not involved in any communication, defined for the sole purpose of testing if the User A/Client A can distinguish between different users when choosing one of them for action; pre-set at User A configuration as User allowed to be called by User A for any types of calls.

4 MCVideo groups:

- Group A to which User A is implicitly affiliated, pre-set at User A configuration, and, comprising as members User A, User B and User C, to be available throughout the entire testing.
- Group D to which User A is not implicitly affiliated, pre-set at User A configuration, and, comprising as members User B and User C, to be used for testing group affiliation.
- Groups B and C not pre-set at User A configuration, to be used for testing creation and termination of groups.

4.8 MCData Conformance testing test points overview

Figure 4.8.1 provides a general overview of all MCData players which may have a role in different conformance testing scenarios together with virtual test points representing the information flow which is intended for conformance testing. The figure is mainly for descriptive purposes and may not necessarily represent a real MCData deployment or implementation.

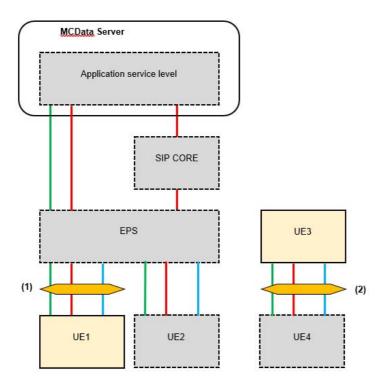


Figure 4.8.1: MCData Conformance testing test points model

NOTE 1: Which of the shown entities will be simulated and which will be real implementation depends on the test scenario. In the test scenarios in which they play a part, the entities presented with dashed borders and grey fill will be always simulated whereas, the entities with light yellow fill (UE1 or UE3) will be Implementation Under Test (IUT).

NOTE 2: While showing the different players, figure 4.8.1 should not be understood as showing test environment implementation.

The test points shown on Figure 4.8.1 cover behaviour/requirements observed at various reference points and communication scenarios:

- MCData on-network (TS 23.280 [110] Functional model description clause 7.3.1 'On-network functional model' and TS 23.282 [91] Functional model description clause 6.4.1, 6.5.1, and 6.6.1 'On-network functional model'.):
- Application plane (MCData-SDS-1, MCData-SDS-2, MCData-SDS-3, MCData-FD-1, MCData-FD-2, MCData-FD-3, MCData-FD-4, MCData -5, and MCData -6), and, (CSC-1, CSC-2, CSC-4, CSC-8, and CSC-14); Signalling control plane (SIP-1, HTTP-1 and HTTP-2). Test point: (1). IUT: the UE or the MCData Client.
- MCData off-network (TS 23.280 [110], clause 7.3.2 'Off-network functional model' and TS 23.282 [91], clause 6.4.2 'Off-network functional model'.). Test point: (2). IUT: the UE.
- LTE Legacy requirements between UE and EPS and between 2 UEs (covering e.g. Bearer Management at the UE side, ProSe). Test point: (1) or (2).

4.9 MCData Conformance testing test environment overview

Based on the test points models shown in clause 4.8 examples for test environment implementations are provided below. Figures 4.9.1 and 4.9.2 show test configuration where the Implementation Under Test (IUT) and the System Simulator communicate, one with the other, over the LTE radio interface (test points (1) and (2)).

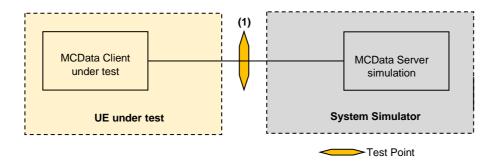


Figure 4.9.1: Testing the MCData Client (on-network)

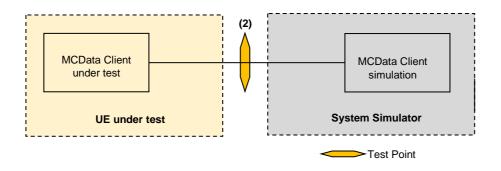


Figure 4.9.2: Testing the MCData Client (off-network)

4.10 MCData Conformance testing players and roles assumptions

Based on the described test environment scenarios in clause 4.9, a number of players and their roles have been designated to facilitate the test specification and provide a consistent test description.

For the purposes of MCData Client testing

1 MCdata Server:

- Server A simulated by the SS (in the case of on-network operation).

2 MCData Clients:

- Client A installed on the implementation under test
- Client B simulated by the System Simulator (SS) either explicitly (in the case of off-network operations), or, implicitly (in the case of on-network operation).

3 MCData Users:

- User A registered with Client A and operating on the implementation under test
- User B registered with Client B simulated by the System Simulator (SS) either explicitly (in the case of offnetwork operations), or, implicitly (in the case of on-network operation); pre-set at User A configuration as User allowed to be called by User A for any types of calls
- User C known to the User A, not involved in any communication, defined for the sole purpose of testing if the User A/Client A can distinguish between different users when choosing one of them for action; pre-set at User A configuration as User allowed to be called by User A for any types of calls.

4 MCData groups:

- Group A to which User A is implicitly affiliated, pre-set at User A configuration, and, comprising as members User A, User B and User C, to be available throughout the entire testing.
- Group D to which User A is not implicitly affiliated, pre-set at User A configuration, and, comprising as members User B and User C, to be used for testing group affiliation.
- Groups B and C not pre-set at User A configuration, to be used for testing creation and termination of groups.

5 Common Test Environment

5.1 General

Clause 5 provides basic test requirements, and, Generic Procedures and Default messages content to be used by the test cases wherever applicable.

5.2 Reference test conditions

5.2.1 General

Any E-UTRA frequency band can be used to provide the underlying communication bearer to carry the MCS communication. The requirements are defined in TS 36.508 [6].

5.2.2 On-network

There are no specific requirements to the UE on which the MCS client is installed when operating in on-network environment. The basic E-UTRA/EPC procedures shall be supported.

5.2.3 Off-network

When operating in off-network environment a MCS client shall:

- implement the procedures for ProSe direct discovery for public safety use as specified in 3GPP TS 24.334 [78];
- implement the procedures for one-to-one ProSe direct communication for Public Safety use as specified in 3GPP TS 24.334 [78].
- implement the procedures for one-to-many ProSe direct communication for Public Safety use as specified in 3GPP TS 24.334 [78].

5.3 Generic test procedures for UE MCS operation

5.3.1 General

The purpose of the procedures specified in the following clauses is to facilitate test description by providing procedure sequences which can be referred from the relevant TCs specified e.g. in 3GPP TS 36.579-2 [2], 3GPP TS 36.579-3 [3], 3GPP TS 36.579-6 [84], 3GPP TS 36.579-7 [85].

The procedures specified are required to ensure that any MC service can take place or specific MC relevant preconditions are met before a test case can be executed.

5.3.2 Generic Test Procedure for MCPTT Authorization/Configuration and Key Generation

5.3.2.1 Initial conditions

System Simulator:

- SS (MCPTT server)
 - For the underlying "transport bearer" over which the SS and the UE will communicate Parameters are set to the default parameters for the basic E-UTRA Single cell network scenarios, as defined in TS 36.508 [6] clause 4.4. The simulated Cell 1 shall belong to PLMN1 (the PLMN specified for MCPTT operation in the MCPTT configuration document).

Implementation Under Test (IUT):

- UE (MCPTT client)
 - The MCPTT Client has been provisioned with the Initial UE Configuration Data as specified in clause 5.5.8.1 allowing for the location of the configuration management server for configuration of the MCPTT UE initial configuration management object (MO) and the default MCPTT user profile configuration management object (MO).
 - According to TS 33.180 [94] all HTTP connections are secured by TLS.
 The HTTP-1 interface authentication between the HTTP client in the MC UE and the HTTP server endpoint (HTTP proxy, IdM server or KMS) shall be performed by one-way authentication of the HTTP server endpoint based on server certificate as described in TS 33.180 [94] clause 6.1.1..
 - The UE User is provided with username/password for user authentication (px_MCPTT_User_A_username, px_MCPTT_User_A_password as provided in TS 36.579-5 [5], Table 9.2-1: MCPTT Client Common PIXIT)
 - The test USIM set as defined in clause 5.5.10 is inserted.

The UE is attached to EPS services.

- The UE is provisioned with the names and values of the Transport Key (TrK) and the Integrity Key (InK), since the KMS shall encrypt the key material sent to the client with the TrK and sign the response with the TrK or the InK according to TS 33.180 [94].

5.3.2.2 Definition of system information messages

The E-UTRA default system information messages as defined in TS 36.508 [6] are used.

5.3.2.3 Procedures

Table 5.3.2.3-1: MCPTT user authentication

St	Procedure		Message Sequence	TP	Verdict
		U - S	Message	1	
1	Void	-	-	-	ı
2	Void	-	-	-	-
-	EXCEPTION: Depending on the UE capabilities, the UE	-	-	-	-
	(MCX client) executes the sequence described in Table				
	5.3.2.3-1A				
-	EXCEPTION: The messages below up to and including	-	-	-	-
	step 7 are transmitted over a secure TLS tunnel that has				
	been established by the UE (MCPTT client) as specified by				
	3GPP TS 33.310 [70], to the authorisation endpoint of the IdM server as specified in 3GPP TS 33.180 [94] using the				
	configured URL of the authorisation endpoint of the IdM				
	server as specified in the				
	" <x>/OnNetwork/AppServerInfo/IDMSAuthEndpoint" leaf</x>				
	node, Table 5.5.8.1-1.				
-	EXCEPTION: Steps 3a1-3b1 describe behaviour that	-	-	-	-
	depends on UE implementation of the OpenID Connect				
	protocol; the "lower case letter" identifies a step sequence				
	that takes place when one or the other is the case.				
3a1	The UE (MCPTT client) sends an OpenID Connect	>	HTTP GET (Authorization)	-	Р
	Authentication Request using HTTP GET.				
3b1	The UE (MCPTT client) sends an OpenID Connect	>	HTTP POST (Authorization)	-	Р
	Authentication Request using HTTP POST.		,		
4	The SS sends a HTTP 200 (OK) including the HTML form	<	HTTP 200 (OK)	-	-
	requesting username and password.				
5	Make the UE user provide user credentials: username and	-	-	-	-
	password (px_MCX_User_A_username,				
	px_MCX_User_A_password).				
	NOTE 2				
6	The UE (MCPTT client) sends an HTTP POST Request	>	HTTP POST	-	Р
	message to the SS containing user name and password.		LITTE COO (E. I)		
7	The SS sends a HTTP 302 (Found) as the OpenID	<	HTTP 302 (Found)	-	-
	Connect Authentication Response containing an				
0	authorization code.				
8	Void EXCEPTION: The messages in steps 9 to 10 are	-	-	-	-
-	transmitted over a secure TLS tunnel that has been	-	-	-	_
	established by the UE (MCPTT client) as specified by				
	3GPP TS 33.310 [70] to the token endpoint of the IdM				
	server as specified in 3GPP TS 33.180 [94] using the				
	configured URL of the token endpoint of the IdM server as				
	specified in the				
	"/ <x>/OnNetwork/AppServerInfo/IDMSTokenEndpoint" leaf</x>				
	node, Table 5.5.8.1-1.				
9	The UE (MCPTT client) sends an HTTP POST Request	>	HTTP POST	-	Р
	message to the SS (OIDC Token Request message),				
	passing the authorization code obtained in step 7.				
10	The SS sends a HTTP 200 (OK) providing id_token,	<	HTTP 200 (OK)	-	-
	access_token and refresh token.				
-	EXCEPTION: The messages in steps 11 to 14 are	-	-		
	transmitted over a secure TLS tunnel that has been				
	established by the UE (MCPTT client) as specified by				
	3GPP TS 33.310 [70] to the HTTP Proxy as specified in				
	3GPP TS 33.180 [94] using the configured URL of the				
	HTTP Proxy as specified in the				
	"/ <x>/OnNetwork/AppServerInfo/HTTPproxy" leaf node,</x>				
11	Table 5.5.8.1-1. The UE (MCPTT client) sends a HTTP POST message		HTTP POST		Р
''	presenting the access token obtained in step 10 to the SS	>	11115 5031	-	F
	over HTTP for Key Management Initialisation.				
	Over the first wanagement initialisation.				
	NOTE: Step 11 is the start of the second stage which was				
	started in Step 2. Steps 11 through 14 involve Key				
	Management Authorization. The MCPTT Client/Key				
	Management Client presents the access token to the Key				
	Management Server. The end result is the user gets				
	specific key material.	<u>L</u>			
	• • •	•			

St	Procedure	Message Sequence		TP	Verdict
		U-S	Message		
12	The SS replies to the UE with identity specific key information.	<	HTTP 200 (OK)	-	-
13	The UE (MCPTT client) sends a HTTP POST message presenting an access token to the SS over HTTP for Key Material Request.	>	HTTP POST	-	Р
14	The SS replies to the UE with identity specific key information.		HTTP 200 (OK)	-	-
15- 32	Void	-	-	-	-

NOTE 1: Void. NOTE 1A: Void.

NOTE 2: The UE is expected to prompt the MCPTT user for their username and password, or it may be stored on the UE. The provision of the username/password is expected to be done via a suitable implementation dependent MMI.

Table 5.3.2.3-1A: MCPTT Initial UE Configuration Request

St	Procedure	Message Sequence			Verdict
		U-S	Message		
1	The UE (MCPTT client) sends an HTTP GETrequestto retrieve the initial UE configuration from the Server	>	HTTP GET (initial UE configuration)	-	Р
2	The SS sends a HTTP 200 (OK) including the initial UE configuration document	<	HTTP 200 (OK)	-	-

Table 5.3.2.3-2: MCPTT Service Authorization and Key Generation

St	St Procedure		Message Sequence		Verdict
		U-S	Message		
-	EXCEPTION: In parallel to procedure of all steps below the behaviour of table 5.3.2.3-2A, the behaviour of table 5.3.2.3-2B and the behaviour of table 5.3.2.3-2C takes place.	-	-	-	-
-	EXCEPTION: Steps 1a1-1b2 describe behaviour that depends on UE implementation; the "lower case letter" identifies a step sequence that takes place when one or the other is the case. NOTE: Step 1a1 is the start of the third stage which was started in Step 3 of table 5.3.2.3-1. Steps 1a1 and 1b1 involve User Service Authorization.	-	-	-	-
1a1	The UE (MCPTT client) sends a SIP REGISTER request for service authorisation.	>	SIP REGISTER	-	Р
1a2	The SS (MCPTT server) sends SIP 200 (OK). NOTE: The user is now authorized for MCPTT service.	<	SIP 200 (OK)	-	-
1a3	The UE (MCPTT client) sends a SIP PUBLISH request for update of PoC-settings (NOTE 1).	>	SIP PUBLISH	-	Р
1a4	The SS (MCPTT server) sends SIP 200 (OK).	<	SIP 200 (OK)	-	-
1b1	The UE (MCPTT client) sends a SIP PUBLISH request for service authorisation and update of PoC-settings (NOTE 1).	>	SIP PUBLISH		Р
1b2	The SS (MCPTT server) sends SIP 200 (OK). NOTE: The user is now authorized for MCPTT service.	<	SIP 200 (OK)		-

NOTE 1: The PoC-settings document contains the user profile index of the selected user profile.

 \Rightarrow In general the UE sends the SIP PUBLISH request not before it has retrieved the user profile at step 8 in Table 5.3.2.3-2A.

Table 5.3.2.3-2A: Configuration management subscription and notification procedure

St	Procedure		Message Sequence	TP	Verdict
		U-S	Message		
1	The UE (MCPTT client) sends a SIP SUBSCRIBE - subscription to multiple documents simultaneously - to the SS containing the access token and a resource list mime body containing a list of the following documents: MCPTT UE Configuration document, MCPTT User Profile Configuration Document, and the MCPTT Service configuration document. The base URI of each list entry is set to the CMS XCAP-ROOT-URI. NOTE: Step 1 is the start of the fourth stage which was	>	SIP SUBSCRIBE	-	Р
	started in Step 3 of table 5.3.2.3-1. Steps 1 through 10 involve Configuration Management Authorization. The end result of the fourth stage is that the MCPTT Client receives 3 configuration documents: UE Configuration Document, User Profile Configuration Document, and the Service Configuration Document.				
2	The SS sends a SIP 200 (OK) message.	<	SIP 200 (OK)	-	-
3	The SS sends a SIP NOTIFY message to the UE that contains the XCAP-URI of the documents.	<	SIP NOTIFY	-	-
-	EXCEPTION: The order of steps 4, 5, 7 and 9 depends on UE and SS implementation and is not checked by the implementation	-	-		-
4	The UE (MCPTT client) sends a SIP 200 (OK) message.	>	SIP 200 (OK)	-	P
5	The UE (MCPTT client) sends an HTTP GET Request message to the SS that contains the access token and the XCAP-URI of the MCPTT UE Configuration Document. NOTE: The MCPTT Client is requesting the MCPTT UE Configuration Document.	>	HTTP GET		Р
6	The SS sends the HTTP 200 (OK) message including the MCPTT UE Configuration Document.	<	HTTP 200 (OK)	-	-
7	The UE (MCPTT client) sends an HTTP GET Request message to the SS that contains the access token and the XCAP-URI of the MCPTT User Profile Configuration Document. NOTE: The MCPTT Client is requesting the MCPTT	>	HTTP GET	-	P
8	User Profile Configuration Document. The SS sends the HTTP 200 (OK) message including the MCPTT User Profile Configuration Document.	<	HTTP 200 (OK)	-	-
	NOTE: The MCPTT User Profile Configuration Document includes information on MCPTT groups including for which groups the MCPTT Client is a member. The MCPTT User Profile Configuration Document includes Group A as a group for which the MCPTT Client is a member and is implicitly affiliated. Group A is used as the default group for all test cases in TS 36.579-2 and TS 36.579-3.				
9	The UE (MCPTT client) sends an HTTP GET Request message to the SS that contains the access token and the XCAP-URI of the MCPTT Service Configuration Document. NOTE: The MCPTT Client is requesting the MCPTT Service Configuration Document.	>	HTTP GET	-	P
10	The SS sends the HTTP 200 (OK) message including the MCPTT Service Configuration Document.	<	HTTP 200 (OK)	-	

Table 5.3.2.3-2B: Group document subscription and notification procedure

St	Procedure		Message Sequence		Verdict		
			Message				
1	The UE (MCPTT client) sends a SIP SUBSCRIBE to the SS, containing the access token and a resource list mime body and a list of the Groups to be obtained. The base URI of each list entry is set to the GMS XCAP-ROOT-URI, and the MCPTT group ID identifies a group document. NOTE: Step 1 is the start of the fifth stage which was started in Step 2 of table 5.3.2.3-1. Steps 1 through 6 involve Group Management Authorization. The end result is the MCPTT Client will receive group information for Group A. The MCPTT Client will also get the Group Master Key (GMK) for the group which will be used to derive keys for the group. There will also be a Group User Key Identifier (GUK-ID), and a Group Master Key Identifier (GMK-ID). According TS 33.180 [94], clause 7.4.1, the GMK shall be used as the MIKEY Traffic Generating Key (TGK) and the GUK-ID shall be used as the MIKEY CSB ID. These shall be used to generate the SRTP Master Key and SRTP Master Salt as specified in IETF RFC 3830 [24].	>	SIP SUBSCRIBE		P		
2	The SS sends a SIP 200 (OK) message.	<	SIP 200 (OK)	-	_		
3	The SS sends a SIP NOTIFY message to the UE that contains the XCAP-URI of the Group documents.	<	SIP NOTIFY	-	-		
-	EXCEPTION: The order of steps 4 and 5 depends on UE and SS implementation and is not checked by the implementation	-	-	-	-		
4	The UE (MCPTT client) sends a SIP 200 (OK) message.	>	SIP 200 (OK)	-	Р		
5	The UE (MCPTT client) sends an HTTP GET Request message to the SS that contains the access token and the XCAP-URI of the Group Configuration document.	>	HTTP GET	-	Р		
6	The SS sends the HTTP 200 (OK) message including the Group Document 'MCPTT UE Configuration document'. NOTE 1	<	HTTP 200 (OK)	-	-		
-	EXCEPTION: Steps 7a1-7a2 describe behaviour that depends on UE implementation; the "lower case letter" identifies a step sequence that takes place when one or the other is the case.	-	-				
7a1	IF the Resource-Lists received from the UE at step 1 contains an entry referring to an MCPTT-GKTP document THEN the SS sends a SIP NOTIFY message to the UE containing the group key transport payloads (GKTP) document.	<	SIP NOTIFY				
7a2	The UE (MCPTT client) sends a SIP 200 (OK)	>	SIP 200 (OK)				
NOTE	message.1: This completes MCPTT service enabling on the UE.						
NOTE 1: This completes MCPTT service enabling on the UE.							

Table 5.3.2.3-2C: Group communication key retrieval procedure

St	Procedure		Message Sequence		Verdict
		U-S	Message		
1	The SS starts timer Timer_1 = 5 seconds.	-	-	-	-
-	EXCEPTION: Steps 2a5-3a1 describe behaviour that depends on UE implementation; the "lower case letter" identifies a step sequence that takes place when one or the other is the case.	-	-	-	-
2a1	The UE (MCPTT client) sends a SIP SUBSCRIBE to the SS, creating a new dialog and containing the access token and a resource list mime body containing an entry to request group key transport payloads (GKTP) document.	>	SIP SUBSCRIBE	-	Р
2a2	The SS sends a SIP 200 (OK) message	<	SIP 200 (OK)	-	-
2a3	The SS sends a SIP NOTIFY message to the UE containing the group key transport payloads (GKTP) document.	<	SIP NOTIFY	-	-
2a4	The UE (MCPTT client) sends a SIP 200 (OK) message.	>	SIP 200 (OK)	-	Р
2a5	The SS stops Timer_1.	-	-	-	-
2b1	Timer_1 expires	-	-		
NOTE:	This key retrieval from the GMS is necessary for the in group communications.	MCX UE	under test to enable ciphering	g exchange	ed media

5.3.2.4 Specific message contents

Table 5.3.2.4-1: HTTP GET (Step 3a1, Table 5.3.2.3-1)

Derivation Path: Table 5.5.4.2-1, condition AUTH

Table 5.3.2.4-2: HTTP POST (Step 3b1, Table 5.3.2.3-1)

Derivation Path: Table 5.5.4.3-1, condition AUTH

Table 5.3.2.4-3: HTTP 200 (OK) (Step 4, Table 5.3.2.3-1)

Derivation Path: Table 5.5.4.6-1 Information Element	Value/remark	Comment	Reference	Condition
Content-Type			11010101100	
media-type	"text/html"		RFC 2854 [111]	
Message-body				
HTML form	html <html> <html> <body> <form action="/idms/userauth" method="post"> Username: <input name="user" type="text"/> Password: <input name="password" type="password"/><bu tton="" type="submit">Login</bu> </form></body> </html></html>	"/idms/userauth" given by tsc_MCX_IdMS_userau th_UriPath is the URI to be used by the UE as request URI in the HTTP POST request for user authentication	HTML 4.01 Specification [105]	

Table 5.3.2.4-4: HTTP POST (Step 6, Table 5.3.2.3-1)

Derivation Path: Table 5.5.4.3-1, condition USERAUTH

Table 5.3.2.4-5: HTTP 302 (Found) (Step 7, Table 5.3.2.3-1)

Derivation Path: Table 5.5.4.8-1, condition AUTH.

Table 5.3.2.4-6: HTTP POST (Step 9, Table 5.3.2.3-1)

Derivation Path: Table 5.5.4.3-1, condition TOKEN

Table 5.3.2.4-7: HTTP 200 (OK) (Step 10, Table 5.3.2.3-1)

Derivation Path: Table 5.5.4.6-1, condition TOKEN

Table 5.3.2.4-8: HTTP POST (Step 11, Table 5.3.2.3-1)

Derivation Path: Table 5.5.4.33-1, condition KMSINIT.

Table 5.3.2.4-9: HTTP 200 (OK) (Step 12, Table 5.3.2.3-1)

Derivation Path: Table 5.5.4.6-1, condition KMSINIT.

Table 5.3.2.4-10: HTTP POST (Step 13, Table 5.3.2.3-1)

Derivation Path: Table 5.5.4.3-1, condition KMSKEY.

Table 5.3.2.4-11: HTTP 200 (OK) (Step 14, Table 5.3.2.3-1)

Derivation Path: Table 5.5.4.6-1, condition KMSKEY.

Table 5.3.2.4-12: SIP REGISTER (Step 1a1, Table 5.3.2.3-2)

Derivation Path: Table 5.5.2.13-1, condition CONFIG

Table 5.3.2.4-13: SIP PUBLISH (Step 1b1, Table 5.3.2.3-2)

Derivation Path: Table 5.5.2.11-1, condition CONFIG

Table 5.3.2.4-13A: SIP PUBLISH (Step 1a3, Table 5.3.2.3-2)

Derivation Path: Table 5.5.2.11-1, condition POC-SETTINGS-EVENT

Table 5.3.2.4-14: SIP SUBSCRIBE (Step 1, Table 5.3.2.3-2A)

Derivation Path: Table 5.5.2.14-1, condition CONFIG

Table 5.3.2.4-15: SIP NOTIFY (Step 3, Table 5.3.2.3-2A)

Derivation Path: Table 5.5.2.8-1, condition CONFIG

Table 5.3.2.4-16: HTTP GET (Step 5, Table 5.3.2.3-2A)

Derivation Path: Table 5.5.4.2-1, condition UECONFIG.

Table 5.3.2.4-17: HTTP GET (Step 7, Table 5.3.2.3-2A)

Derivation Path: Table 5.5.4.2-1, condition UEUSERPROF.

Table 5.3.2.4-18: HTTP GET (Step 9, Table 5.3.2.3-2A)

Derivation Path: Table 5.5.4.2-1, condition UESERVCONFIG.

Table 5.3.2.4-19: HTTP 200 (OK) (Step 6, Table 5.3.2.3-2A)

Derivation Path: Table 5.5.4.6-1, condition UECONFIG.

Table 5.3.2.4-20: HTTP 200 (OK) (Step 8, Table 5.3.2.3-2A)

Derivation Path: Table 5.5.4.6-1, condition UEUSERPROF.

Table 5.3.2.4-21: HTTP 200 (OK) (Step 10, Table 5.3.2.3-2A)

Derivation Path: Table 5.5.4.6-1, condition UESERVCONFIG.

Table 5.3.2.4-22: SIP SUBSCRIBE (Step 1, Table 5.3.2.3-2B)

Derivation Path: Table 5.5.2.14-1, condition GROUPCONFIG

Table 5.3.2.4-22A: VoidTable 5.3.2.4-22B: SIP NOTIFY (Step 3, Table 5.3.2.3-2B)

Derivation Path: Table 5.5.2.8-1, condition GROUPCONFIG

Table 5.3.2.4-23: HTTP GET (Step 5, Table 5.3.2.3-2B)

Derivation Path: Table 5.5.4.2-1, condition GROUPCONFIG

Table 5.3.2.4-24: HTTP 200 (OK) (Step 6, Table 5.3.2.3-2B)

Derivation Path: Table 5.5.4.6-1, condition GROUPCONFIG.

Table 5.3.2.4-25: Void

Table 5.3.2.4-26: SIP 200 (OK) (Steps 1a2, 1a4, 1b2, Table 5.3.2.3-2, step 2, Table 5.3.2.3-2A, step 2, Table 5.3.2.3-2B)

Derivation Path: Table 5.5.2.17.1.2-1

Table 5.3.2.4-27: SIP 200 (OK) (Step 4, Table 5.3.2.3-2A, step 4, Table 5.3.2.3-2B)

Derivation Path: Table 5.5.2.17.1.1-1

Table 5.3.2.4-28: HTTP GET (Step 1, Table 5.3.2.3-1A)

Derivation Path: Table 5.5.4.2-1, condition UEINITIALCONFIG

Table 5.3.2.4-29: HTTP 200 (OK) (Step 2, Table 5.3.2.3-1A)

Derivation Path: Table 5.5.4.6-1, condition UEINITIALCONFIG

Table 5.3.2.4-30: SIP SUBSCRIBE (Step 1, Table 5.3.2.3-2C)

Derivation Path: Table 5.5.2.14-1, condition GROUPCONFIG						
Message-body						
MIME body part		Resource-lists				
MIME-part-headers						
Content-Type	"application/resource- lists+xml"					
MIME-part-body	Resource-lists as described in Table 5.3.2.4-31					

Table 5.3.2.4-31: Resource-Lists in SIP SUBSCRIBE (Table 5.3.2.4-30)

Derivation Path: Table 5.5.3.3.1-1 condition GROUPKEY

Table 5.3.2.4-32: SIP NOTIFY (Step 7a, Table 5.3.2.3-2B and Step 3, Table 5.3.2.3-2C)

Derivation Path: Table 5.5.2.14-1, condition GROUPCONFIG					
Message-body					
xcap-diff document	xcap-diff document as described in Table 5.3.2.4-33				

Table 5.3.2.4-33: Xcap-Diff Document (Table 5.3.2.4-32)

Derivation Path: Table5.5.3.12-2, condition GROUPKEY

5.3.2A Generic Test Procedure for MCVideo Authorization/Configuration and Key Generation

The same as the procedure described in 5.3.2 with the following exception(s):

- The term "MCPTT" is replaced with "MCVideo"
- FFS

5.3.2B Generic Test Procedure for MCData Authorization/Configuration and Key Generation

FFS

5.3.3 Generic Test Procedure for MCPTT pre-established session establishment CO

5.3.3.1 Initial conditions

System Simulator:

- SS (MCPTT server)
- For the underlying "transport bearer" over which the SS and the UE will communicate Parameters are set to the default parameters for the basic E-UTRA Single cell network scenarios, as defined in TS 36.508 [6] clause 4.4. The simulated Cell 1 shall belong to PLMN1 (the PLMN specified for MCPTT operation in the MCPTT configuration document)

IUT:

- UE (MCPTT client)
 - The UE has performed the Generic Test Procedure for MCPTT Authorization/Configuration and Key Generation as specified in clause 5.3.2 and thereby the MCPTT client is authorised for and able to use the MCPTT service including making group and private calls on- and off-network, and, the MCPTT user is registered for receiving MCPTT service through the MCPTT Client.

5.3.3.2 Definition of system information messages

5.3.3.3 Procedure

Table 5.3.3.3-1: MCPTT pre-established session establishment CO

St	Procedure		Message Sequence	TP	Verdict
		U - S	Message		
1	Void	-	-	-	-
1A	E-UTRA/EPC signalling according to steps 2 - 8 of clause 5.4.13 'Generic Test Procedure for MCPTT radio bearer establishment for use of pre-established session' takes place	1	-	-	-
2-7	Void	-	-	-	-
8	Check: Does the UE (MCPTT Client) send a SIP INVITE message in order to create a pre-established session?	>	SIP INVITE	-	P
8A	The SS sends SIP 100 Trying	<	SIP 100 Trying	-	-
9	Void	-	-	-	-
10	The SS (MCPTT server) responds with a SIP 200 (OK) message.	<	SIP 200 (OK)	-	-
10A	Check: Does the UE (MCPTT Client) respond with a SIP ACK message?	>	SIP ACK	-	Р
11	Void	-	-	-	-
11A	The SS waits 2 seconds to ensure that lower layer signalling (TCP) is finished.	•	-	-	-
12	The SS transmits an RRCConnectionRelease message.	~	RRC: RRCConnectionRelease	-	-

5.3.3.4 Specific message contents

Table 5.3.3.4-1: SIP INVITE (step 8, Table 5.3.3.3-1)

Information Element	Value/remark	Comment	Reference	Condition
Contact			RFC 3261 [22	
			RFC 3840 [33]	
feature-param	"+g.3gpp.mcptt"	This media feature tag		
		when used in a SIP		
		request or a SIP		
		response indicates that		
		the function sending		
		the SIP message		
		supports Mission		
		Critical Push To Talk		
		(MCPTT)		
		communication.		
feature-param	"audio"	This feature tag		
		indicates that the		
		device supports audio		
		as a streaming media		
		type.	DEC 2004 (201	
Accept			RFC 3261 [22]	
media-range[1]	"application/sdp"			
Accept-Contact			RFC 3841 [29]	
ac-value[1]				
feature-param	"+g.3gpp.mcptt"			
req-param	"require"			
explicit-param	"explicit"			
Answer-Mode	not present			
Content-Type				
media-type	"application/sdp"			
Message-body				
SDP Message	SDP message as			
	described in Table			
	5.5.3.1.1-1 with			
	conditions			
	PRE_ESTABLISHED,			
	INITIAL_SDP_OFFER			

Table 5.3.3.4-2: SIP 200 (OK) (step 10, Table 5.3.3.3-1)

Derivation Path: Table 5.5.2.17.1.2-1 with condition INVITE-RSP							
Information Element	Value/remark	Comment	Reference	Condition			
Contact							
addr-spec							
user-info and host	tsc_MCX_SessionID_B	The URI that identifies					
		the pre-established					
		session					

5.3.3A Generic Test Procedure for MCVideo pre-established session establishment CO

The same as the procedure described in 5.3.3 with the following exception(s):

- The term "MCPTT" is replaced with "MCVideo"

5.3.4 Generic Test Procedure for MCPTT CT session establishment/modification without provisional responses other than 100 Trying

5.3.4.1 Initial conditions

As specified in the test case which calls the procedure in its entirety or refers to parts of it.

5.3.4.2 Definition of system information messages

The E-UTRA default system information messages as defined in TS 36.508 [6] are used.

5.3.4.3 Procedure

Table 5.3.4.3-1: MCPTT CT session establishment/modification without provisional responses other than 100 Trying

St	Procedure		Message Sequence	TP	Verdict
		U-S	Message		
-	EXCEPTION: Step 1a1 describes behaviour that	-	-	-	-
	depends on the E-UTRA RRC state at the time				
	the present procedure is called.				
1a1	IF in RRC_IDLE state, the E-UTRA/EPC actions	-	-	-	-
	which are related to the MCPTT call				
	establishment described in clause 5.4.4 'Generic				
	Test Procedure for MCPTT CT communication in				
	E-UTRA' take place.				
2	The SS (MCPTT Server) sends a SIP INVITE	<	SIP INVITE	-	-
	requesting the establishment/modification of an				
	MCPTT call.				
-	EXCEPTION: Step 3a1 describes behaviour that	-	-	-	-
	depends on the UE implementation; the "lower				
	case letter" identifies a step sequence that take				
	place if the UE responds to a SIP INVITE with a				
0-4	SIP 100 (Trying)		OID 400 (To do a)		
3a1	The UE (MCPTT client) sends SIP 100 (Trying)	>	SIP 100 (Trying)	-	-
4	Check: Does the UE (MCPTT client) respond to	>	SIP 200 (OK)	-	P
	the SIP INVITE with SIP 200 (OK)?				
5	The SS (MCPTT server) sends a SIP ACK to	<	SIP ACK	-	-
	acknowledge the session				
	establishment/modification				

5.3.4.4 Specific message contents

All message contents are as specified in clause 5.5 with the following clarifications:

Table 5.3.4.4-1: SIP 200 (OK) (step 4, Table 5.3.4.3-1)

Derivation Path: Table 5.5.2.17.1.1-1 with condition INVITE-RSP and MCPTT

5.3.5 Generic Test Procedure for MCPTT CT group call establishment, manual commencement

5.3.5.1 Initial conditions

As specified in the test case which calls the procedure in its entirety or refers to parts of it.

5.3.5.2 Definition of system information messages

The E-UTRA default system information messages as defined in TS 36.508 [6] are used.

5.3.5.3 Procedure

Table 5.3.5.3-1: MCPTT CT group call establishment, manual commencement

St	Procedure		Message Sequence	TP	Verdict
		U-S	Message		
-	EXCEPTION: Steps 1a1-1b1 describe behaviour	-	-	-	-
	that depends on the E-UTRA RRC state at the				
	time the present procedure is called.				
1a1	IF in RRC_IDLE state, the E-UTRA/EPC actions	-	-	-	-
	which are related to the MCPTT call				
	establishment described in clause 5.4.4 'Generic				
	Test Procedure for MCPTT CT communication in				
	E-UTRA' take place.				
1b1	IF in RRC_IDLE state having a pre-established	-	-	-	-
	session, the E-UTRA/EPC actions which are				
	related to the MCPTT call establishment				
	described in clause 5.4.13 Generic Test				
	Procedure for MCPTT radio bearer				
	establishment for use of pre-established session				
2	take place. The SS (MCPTT Server) sends an initial SIP		SIP INVITE	-	
2	INVITE requesting the establishment of an	<	SIP INVITE	-	-
	MCPTT group call.				
	EXCEPTION: Step 3a1 describes behaviour that	_	-	-	
_	depends on the UE implementation; the "lower	-		_	_
	case letter" identifies a step sequence that take				
	place if the UE responds to a SIP INVITE with a				
	SIP 100 (Trying)				
3a1	The UE (MCPTT client) sends SIP 100 (Trying).	>	SIP 100 (Trying)	† <u> </u>	-
4	The SS starts timer Timer_1 = 5 seconds.	-	-	-	-
-	EXCEPTION: Steps 5a1 to 5c1 describe	-	-	-	-
	behaviour that depends on the UE				
	implementation; the "lower case letter" identifies				
	a step sequence that may take place if the UE				
	responds reliably or unreliably to a SIP INVITE				
	with a SIP 183 (Session Progress)				
5a1	Check: Does the UE (MCPTT client) send SIP	>	SIP 183 (Session Progress)	-	Р
	183 (Session Progress) unreliably?				
5a2	The SS stops Timer_1.	-	-	-	-
5b1	Check: Does the UE (MCPTT client) send SIP	>	SIP 183 (Session Progress)	-	Р
	183 (Session Progress) reliably?				
5b2	The SS stops Timer_1.	-	-	-	-
5b3	The SS (MCPTT Server) acknowledges the	<	PRACK	-	-
	receipt of SIP 183 (Session Progress)	1	010 000 (010)		
5b4	The UE (MCPTT Client) responds PRACK with	>	SIP 200 (OK)	-	-
<u> </u>	SIP 200 (OK)				<u> </u>
5c1	Check: Does Timer_1 expire?	-	-	-	Р
5A	Check: Does the UE (MCPTT client) notify the	-	-	-	Р
<u> </u>	User of the incoming call request? (NOTE 1)				
6	Make UE (MCPTT User) accept the call (NOTE	-	-	-	-
-	1)	<u> </u>	CID 200 (OK)		
7	Check: Does the UE (MCPTT client) respond to	>	SIP 200 (OK)	-	Р
8	the SIP INVITE with SIP 200 (OK)?		SIP ACK		
°	The SS (MCPTT server) sends a SIP ACK to	<	OIF AUN	-	-
NOTE	acknowledge the session establishment 1: This expected to be done via a suitable implement	I antation do	nendent MMI	1	1
INOIE	i. This expected to be done via a suitable impleme	zinanon de	pendent iviivii.		

5.3.5.4 Specific message contents

All message contents are as specified in clause 5.5 with condition GROUP-CALL where applicable and with the following clarifications:

Table 5.3.5.4-1: SIP INVITE (step 2, Table 5.3.5.3-1)

Derivation Path: Table 5.5.2.5.2-1 with condition MANUAL and GROUP-CALL and MCPTT

Table 5.3.5.4-1A: SIP 183 (Session Progress) (step 5a1, Table 5.3.5.3-1)

Derivation Path: Table 5.5.2.16.3.1-1 with condition MCPTT

Table 5.3.5.4-2: SIP 183 (Session Progress) (step 5b1, Table 5.3.5.3-1)

Derivation Path: Table 5.5.2.16.3.1-1 with condition 100rel and MCPTT

Table 5.3.5.4-3: SIP 200 (OK) (step 7, Table 5.3.5.3-1)

Derivation Path: Table 5.5.2.17.1.1-1 with condition INVITE-RSP and MCPTT

5.3.6 Generic Test Procedure for MCPTT CT private call establishment, manual commencement

5.3.6.1 Initial conditions

The same initial conditions apply as specified in clause 5.3.3.1.

5.3.6.2 Definition of system information messages

5.3.6.3 Procedure

Table 5.3.6.3-1: MCPTT CT private call establishment, manual commencement

St	Procedure		Message Sequence	TP	Verdict
		U - S	Message		
-	EXCEPTION: Step 1a1 describes behaviour that	-	-	-	-
	depends on the E-UTRA RRC state at the time				
	the present procedure is called.				
1a1	IF in RRC_IDLE state, the E-UTRA/EPC actions	-	-	-	-
	which are related to the MCPTT call				
	establishment described in clause 5.4.4 'Generic				
	Test Procedure for MCPTT CT communication in				
	E-UTRA' take place.				
2	The SS (MCPTT Server) sends an initial SIP	<	SIP INVITE	-	-
	INVITE requesting the establishment of an				
	MCPTT private call.				
-	EXCEPTION: Step3a1 describes behaviour that	-	-	-	-
	depends on the UE implementation; the "lower				
	case letter" identifies a step sequence that take				
	place if the UE responds to a SIP INVITE with a				
2-4	SIP 100 (Trying)		CID 400 (Truin a)		
3a1	The UE (MCPTT client) sends SIP 100 (Trying).	>	SIP 100 (Trying)	-	-
-	EXCEPTION: Steps 4a1 to 4b3 describe behaviour that depends on the UE	-	-	-	-
	implementation; the "lower case letter" identifies				
	a step sequence that takes place if the UE				
	responds either unreliably or reliably to a SIP				
	INVITE with a SIP 180 (Ringing)				
4a1	Check: Does the UE (MCPTT client) send a SIP	>	SIP 180 (Ringing)		Р
	180 (Ringing) unreliably?		on roo (runging)		'
4b1	Check: Does the UE (MCPTT client) send a SIP	>	SIP 180 (Ringing)	-	Р
	180 (Ringing) reliably?		3 3,		
4b2	The SS (MCPTT Server) acknowledges the	<	PRACK	-	-
	receipt of SIP 180 (Ringing)				
4b3	The UE (MCPTT Client) responds PRACK with	>	SIP 200 (OK)	-	-
	SIP 200 (OK)				
4A	Check: Does the UE (MCPTT client) notify the	-	-	-	Р
	User of the incoming call request? (NOTE 1)				
5	Make UE (MCPTT User) accept the call	-	-	-	-
6	Check: Does the UE (MCPTT client) respond to	>	SIP 200 (OK)	-	Р
	the SIP INVITE with SIP 200 (OK)?				
7	The SS (MCPTT server) sends a SIP ACK to	<	SIP ACK	-	-
	acknowledge the session establishment				
NOTE	1: This expected to be done via a suitable implement	ntation dep	pendent MMI.		

5.3.6.4 Specific message contents

All message contents are as specified in clause 5.5 with condition PRIVATE-CALL where applicable and with the following clarifications:

Table 5.3.6.4-1: SIP INVITE (step 2, Table 5.3.6.3-1)

Derivation Path: Table 5.5.2.5.2-1 with condition MANUAL and PRIVATE-CALL and MCPTT

Table 5.3.6.4-1A: SIP 180 (Ringing) (step 4a1, Table 5.3.6.3-1)

Derivation Path: Table 5.5.2.16.2.1-1 with condition MCPTT

Table 5.3.6.4-2: SIP 180 (Ringing) (step 4b1, Table 5.3.6.3-1)

Derivation Path: Table 5.5.2.16.2.1-1 with condition 100rel and MCPTT

Table 5.3.6.4-3: SIP 200 (OK) (step 6, Table 5.3.6.3-1)

Derivation Path: Table 5.5.2.17.1.1-1 with condition INVITE-RSP and MCPTT

5.3.7 Generic Test Procedure for MCPTT CO session establishment/modification without provisional responses other than 100 Trying

5.3.7.1 Initial conditions

As specified in the test case which calls the procedure in its entirety or refers to parts of it.

5.3.7.2 Definition of system information messages

The E-UTRA default system information messages as defined in TS 36.508 [6] are used.

5.3.7.3 Procedure

Table 5.3.7.3-1: MCPTT CO session establishment/modification without provisional responses other than 100 Trying

St	Procedure		Message Sequence	TP	Verdict
		U-S	Message		
-	EXCEPTION: Step 1a1 describes behaviour that	-	-	-	-
	depends on the E-UTRA RRC state at the time				
1a1	the present procedure is called.				
lai	IF in RRC_IDLE state, the E-UTRA/EPC actions which are related to the MCPTT call	-	-	-	-
	establishment described in clause 5.4.3 'Generic				
	Test Procedure for MCPTT CO communication in				
	E-UTRA' take place.				
2	Check: Does the UE (MCPTT Client) send a SIP	>	SIP INVITE	-	Р
	INVITE requesting the				
	establishment/modification of an MCPTT call?				
3	The SS sends SIP 100 Trying	<	SIP 100 (Trying)	-	-
4	The SS (MCPTT server) responds with a SIP	<	SIP 200 (OK)	-	-
	200 (OK)		OID AOI/		-
5	Check: Does the UE (MCPTT Client) send a SIP	>	SIP ACK	-	Р
	ACK to acknowledge the session establishment/modification?				
<u> </u>	EXCEPTION: Steps 6a1 describes behaviour	_	_	 	_
	that depends on the test case requirements; the				
	"lower case letter" identifies a step sequence that				
	takes place if the UE requests implicit floor				
	control in step 2 (i.e. the "mc_implicit_request"				
	fmtp attribute included in the SDP offer and the				
	SS responded with the "mc_implicit_request"				
	fmtp attribute included and the "mc_granted"				
	fmtp attribute not present in the SDP answer				
6a1	(NOTE1)	<	Floor Granted	-	
bai	The SS (MCPTT server) sends a Floor Granted	<	Floor Granted	-	<u> </u>
	message.	1			

NOTE1: Possibilities in SDP-offer/answer depend on the test case requirements

- a. UE sends SDP offer without implicit floor request
- b. UE sends SDP offer with implicit floor request
 - i. SDP answer from SS contains "mc_implicit_request" and "mc_granted" (Floor is implicitly granted)
 - ii. SDP answer from SS contains "mc_implicit request" and but no "mc_granted" (Floor needs to be explicitly granted ar step 6a1)
 - iii. SDP answer from SS contains no "mc_implicit_request"and no "mc_granted" (the UE needs to explicitly request the floor)

5.3.7.4 Specific message contents

All message contents are as specified in clause 5.5 and in the test case calling the procedure with the following clarifications:

Table 5.3.7.4-1: SIP INVITE (step 2, Table 5.3.7.3-1)

Derivation Path: Table 5.5.2.5.2-1 with condition MCPTT

Table 5.3.7.4-2: SIP 200 (OK) (step 4, Table 5.3.7.3-1)

Derivation Path: Table 5.5.2.17.1.2-1 with condition INVITE-RSP and MCPTT

5.3.8 Generic Test Procedure for MCPTT CO private call establishment, manual commencement

5.3.8.1 Initial conditions

The same initial conditions apply as specified in clause 5.3.3.1.

5.3.8.2 Definition of system information messages

5.3.8.3 Procedure

Table 5.3.8.3-1: MCPTT CO private call establishment, manual commencement

St	Procedure		Message Sequence	TP	Verdict
		U-S	Message		
-	EXCEPTION: Step 1a1 describes behaviour that	-	-	-	-
	depends on the E-UTRA RRC state at the time				
4.4	the present procedure is called.				
1a1	IF in RRC_IDLE state, the E-UTRA/EPC actions which are related to the MCPTT call	-	-	-	-
	establishment described in clause 5.4.3 'Generic				
	Test Procedure for MCPTT CO communication in				
	E-UTRA' take place.				
2	Check: Does the UE (MCPTT Client) send a SIP	>	SIP INVITE	-	Р
	INVITE requesting the establishment of an				
	MCPTT call?				
3	The SS sends SIP 100 Trying	<	SIP 100 (Trying)	-	-
4	The SS (MCPTT server) responds with a SIP	<	SIP 180 (Ringing)	-	-
	180 (Ringing)				
5	The SS (MCPTT server) responds with a SIP	<	SIP 200 (OK)	-	-
	200 (OK)		OID AOI		_
6	Check: Does the UE (MCPTT Client) send a SIP	>	SIP ACK	-	Р
	ACK to acknowledge the session establishment/modification?				
<u> </u>	EXCEPTION: Steps 7a1 describes behaviour	_	_	+	_
	that depends on the test case requirements; the				
	"lower case letter" identifies a step sequence that				
	takes place if the UE requests implicit floor				
	control in step 2 (i.e. the "mc_implicit_request"				
	fmtp attribute included in the SDP offer and the				
	SS responded with the "mc_implicit_request"				
	fmtp attribute included and the "mc_granted"				
	fmtp attribute not present in the SDP answer				
	(NOTE1)				
7a1	The SS (MCPTT server) sends a Floor Granted	<	Floor Granted	-	-
	message.				

NOTE1: Possibilities in SDP-offer/answer depend on the test case requirements

- a. UE sends SDP offer without implicit floor request
- b. UE sends SDP offer with implicit floor request
 - i. SDP answer from SS contains "mc_implicit_request" and "mc_granted" (Floor is implicitly granted)
 - ii. SDP answer from SS contains "mc_implicit request" and but no "mc_granted" (Floor needs to be explicitly granted ar step 7a1)
 - iii. SDP answer from SS contains no "mc_implicit_request" and no "mc_granted" (the UE needs to explicitly request the floor)

5.3.8.4 Specific message contents

All message contents are as specified in clause 5.5 with condition PRIVATE-CALL where applicable and in the test case calling the procedure, with the following clarifications: Table 5.3.8.4-1: SIP INVITE (step 2, Table 5.3.8.3-1)

Derivation Path: Table 5.5.2.5.2-1 with condition MANUAL and PRIVATE-CALL and MCPTT

Table 5.3.8.4-2: SIP 200 (OK) (step 5, Table 5.3.8.3-1)

Derivation Path: Table 5.5.2.17.1.2-1 with condition INVITE-RSP and MCPTT

5.3.9 Generic Test Procedure for MCPTT CO call establishment using a pre-established session

5.3.9.1 Initial conditions

As specified in the test case which calls the procedure.

5.3.9.2 Definition of system information messages

The E-UTRA default system information messages as defined in TS 36.508 [6] are used.

5.3.9.3 Procedure

Table 5.3.9.3-1: MCPTT CO call establishment using a pre-established session

St	Procedure		Message Sequence	TP	Verdict
		U-S	Message		
-	EXCEPTION: Step 1a1 describes behaviour	-	-	-	-
	that depends on the E-UTRA RRC state at the				
	time the present procedure is called.				
1a1	IF in RRC_IDLE state, the E-UTRA/EPC	-	-	-	-
	actions which are related to the MCPTT call				
	establishment described in clause 5.4.4				
	'Generic Test Procedure for MCPTT CT				
	communication in E-UTRA' take place.				
2	Check: Does the UE (MCPTT Client) send a	>	SIP REFER	-	Р
	SIP REFER message to request the				
	establishment of an MCPTT call using a pre-				
	established session?				
3	The SS (MCPTT Server) responds with a SIP	<	SIP 200 (OK)	-	-
	200 (OK) message indicating that the MCPTT				
	call has been established				
4	The SS sends a Connect message	<	Connect	-	-
5	Check: Does the UE (MCPTT Client) send an	>	Acknowledge	-	Р
	Acknowledgement in response to the Connect				
	message?				

5.3.9.4 Specific message contents

All message contents are as specified in clause 5.5 and in the test case calling the procedure, with the following clarifications:

none

5.3.10 Generic Test Procedure for MCPTT CO call release

5.3.10.1 Initial conditions

As specified in the test case which calls the procedure.

5.3.10.2 Definition of system information messages

5.3.10.3 Procedure

Table 5.3.10.3-1: MCPTT CO call release

St	Procedure		Message Sequence	TP	Verdict
		U-S	Message		
1	Check: Does the UE (MCPTT Client) send a SIP BYE request to terminate the MCPTT session?	>	SIP BYE	-	Р
2	The SS (MCPTT Server) responds with a SIP 200 (OK) message?	<	SIP 200 (OK)	-	-
-	EXCEPTION: The SS waits 2 seconds before the SS deactivates the dedicated EPS bearer and releases the RRC connection. NOTE: The specified wait period of 2s shall ensure that lower layer signalling (TCP) is finished and any not allowed behaviour captured.	-	-	-	-

5.3.10.4 Specific message contents

All message contents are as specified in clause 5.5 and in the test case calling the procedure, with the following clarifications:

none

5.3.11 Generic Test Procedure for MCPTT CO call release keeping the pre-established session

5.3.11.1 Initial conditions

As specified in the test case which calls the procedure.

5.3.11.2 Definition of system information messages

The E-UTRA default system information messages as defined in TS 36.508 [6] are used.

5.3.11.3 Procedure

Table 5.3.11.3-1: MCPTT CO call release keeping the pre-established session

St	Procedure		Message Sequence	TP	Verdict
		U-S	Message		
1	Check: Does the UE (MCPTT Client) send a SIP REFER message with method "BYE" to release the MCPTT session and keep the preestablished session?	>	SIP REFER	-	Р
2	The SS (MCPTT Server) responds with a SIP 200 (OK)	<	SIP 200 (OK)	-	-
-	EXCEPTION: The SS waits 2 seconds before the SS releases the RRC connection. NOTE: The specified wait period of 2s shall ensure that lower layer signalling (TCP) is finished and any not allowed behaviour captured.	-	-	-	-

5.3.11.4 Specific message contents

All message contents are as specified in clause 5.5 and in the test case calling the procedure, with the following clarifications:.

Table 5.3.11.4-1: SIP REFER (step 1, Table 5.3.11.3-1)

Derivation Path: Table 5.5.2.12-1 with condition METHOD-BYE

5.3.12 Generic Test Procedure for MCPTT CT call release

5.3.12.1 Initial conditions

As specified in the test case which calls the procedure.

5.3.12.2 Definition of system information messages

The E-UTRA default system information messages as defined in TS 36.508 [6] are used.

5.3.12.3 Procedure

Table 5.3.12.3-1: MCPTT CT call release

St	Procedure		Message Sequence	TP	Verdict
		U-S	Message		
1	The SS (MCPTT Server) sends a SIP BYE	<	SIP BYE	-	-
	request to terminate the MCPTT session.				
2	Check: Does the UE (MCPTT Client) respond	>	SIP 200 (OK)	-	Р
	with a SIP 200 (OK) message?				
-	EXCEPTION: The SS waits 2 seconds before	-	-	-	-
	the SS deactivates the dedicated EPS bearer				
	and releases the RRC connection.				
	NOTE: The specified wait period of 2s shall				
	ensure that lower layer signalling (TCP) is				
	finished.				

5.3.12.4 Specific message contents

All message contents are as specified in clause 5.5. and in the test case calling the procedure, with the following clarifications:

none

5.3.13 Generic Test Procedure for MCPTT CT call release keeping the preestablished session

5.3.13.1 Initial conditions

As specified in the test case which calls the procedure.

5.3.13.2 Definition of system information messages

5.3.13.3 Procedure

Table 5.3.13.3-1: MCPTT CT call release keeping the pre-established session

St	Procedure	Message Sequence		TP	Verdict
		U-S	Message		
1	SS (MCPTT Server) releases the call by sending a Disconnect message	<	Disconnect	-	-
2	Check: Does the UE (MCPTT Client) send an Acknowledgement to accept the release of the call?	>	Acknowledge	-	Р
-	EXCEPTION: the SS waits 2 seconds before the SS releases the RRC connection. NOTE: The specified wait period of 2s shall ensure that lower layer signalling (TCP) is finished and any not allowed behaviour captured.	-	-	-	-

5.3.13.4 Specific message contents

All message contents are as specified in clause 5.5 and in the test case calling the procedure, with the following clarifications:

none

5.3.14 Generic Test Procedure for MCPTT CO session modification with implicit Floor Control

5.3.14.1 Initial conditions

As specified in the test case which calls the procedure in its entirety or refers to parts of it.

5.3.14.2 Definition of system information messages

The E-UTRA default system information messages as defined in TS 36.508 [6] are used.

5.3.14.3 Procedure

Table 5.3.14.3-1: MCPTT CO session modification with implicit Floor Control

St	Procedure		Message Sequence	TP	Verdict
		U - S	Message		
1	Check: Does the UE (MCPTT Client) send a SIP INVITE requesting the establishment/modification of an MCPTT call?	>	SIP re-INVITE	-	Р
2	The SS sends SIP 100 Trying	<	SIP 100 (Trying)	-	-
3	The SS (MCPTT server) responds with a SIP 200 (OK)	<	SIP 200 (OK)	1	-
4	Check: Does the UE (MCPTT Client) send a SIP ACK to acknowledge the session establishment/modification?	>	SIP ACK	-	Р
5	The SS (MCPTT Server) sends a Floor Granted message with an acknowledgement required.	<	Floor Granted	-	-
6	Check: Does the UE (MCPTT Client) sends a Floor Ack message in response to the Floor Granted message?	>	Floor Ack	-	Р

5.3.14.4 Specific message contents

All message contents are as specified in clause 5.5 and in the test case calling the procedure, with the following clarifications:

Table 5.3.14.4-1: SIP 200 (OK) (step 2, Table 5.3.14.3-1)

Derivation Path: Table 5.5.2.17.1.2-1 with condition INVITE-RSP

5.3.15 Generic Test Procedure for MCPTT CO session modification without implicit Floor Control

5.3.15.1 Initial conditions

As specified in the test case which calls the procedure in its entirety or refers to parts of it.

5.3.15.2 Definition of system information messages

The E-UTRA default system information messages as defined in TS 36.508 [6] are used.

5.3.15.3 Procedure

Table 5.3.15.3-1: MCPTT CO session modification without implicit Floor Control

St	Procedure		Message Sequence		Verdict
		U-S	Message		
1	Check: Does the UE (MCPTT Client) send a SIP INVITE requesting the establishment/modification of an MCPTT call?	>	SIP re-INVITE	-	Р
2	The SS sends SIP 100 Trying	<	SIP 100 (Trying)	-	-
3	The SS (MCPTT server) responds with a SIP 200 (OK)	<	SIP 200 (OK)	-	-
4	Check: Does the UE (MCPTT Client) send a SIP ACK to acknowledge the session establishment/modification?	>	SIP ACK	-	Р
5	The SS (MCPTT Server) sends a Floor Idle message with no acknowledgement required.	<	Floor Idle	-	-

5.3.15.4 Specific message contents

All message contents are as specified in clause 5.5 and in the test case calling the procedure, with the following clarifications:

Table 5.3.15.4-1: SIP 200 (OK) (step 2, Table 5.3.15.3-1)

Derivation Path: Table 5.5.2.17.1.2-1 with condition INVITE-RSP							
Information Element	Value/remark	Comment	Reference	Condition			
Message-body							
MIME body part		SDP message	RFC 4566				
MIME-part-body	SDP message as described in Table 5.3.15.4-2						

Table 5.3.15.4-2: SDP in SIP 200 (OK) (Table 5.3.15.4-1)

Information Element	Value/remark	Comment	Reference	Condition
Media description[2]		Media description for media control		
media attribute		a= line attribute = fmtp		
fmtp				
format specific parameters				
mc_implicit_request	Not present	Parameter has no value	TS 24.380 [10] cl. 12.1.2.3	

5.3.16 Generic Test Procedure for MCPTT Floor Request – Floor Granted

5.3.16.1 Initial conditions

As specified in the test case which calls the procedure in its entirety or refers to parts of it.

5.3.16.2 Definition of system information messages

The E-UTRA default system information messages as defined in TS 36.508 [6] are used.

5.3.16.3 Procedure

Table 5.3.16.3-1: MCPTT Floor Request - Floor Granted

St	Procedure		Message Sequence	TP	Verdict
		U-S	Message		
1	Check: Does the UE (MCPTT Client) send a Floor Request message?	>	Floor Request	-	Р
2	The SS (MCPTT Server) sends a Floor Granted message with an acknowledgement required.	<	Floor Granted	-	-
3	Check: Does the UE (MCPTT Client) send a Floor Ack message in response to the Floor Granted message?	>	Floor Ack	-	Р
4	Check: Does the UE (MCPTT Client) provide floor granted notification to the MCPTT User? (NOTE 1)	-	-	-	Р

5.3.16.4 Specific message contents

All message contents are as specified in clause 5.5 and in the test case calling the procedure, with the following clarifications:

none

5.3.17 Generic Test Procedure for MCPTT Floor Request – Floor Queue Position Info

5.3.17.1 Initial conditions

As specified in the test case which calls the procedure.

5.3.17.2 Definition of system information messages

5.3.17.3 Procedure

Table 5.3.17.3-1: MCPTT Floor Request – Floor Queue Position Info

St	Procedure	Message Sequence		TP	Verdict
		U-S	Message		
1	Check: Does the UE (MCPTT Client) send a Floor Request message?	>	Floor Request	-	Р
2	The SS (MCPTT Server) sends a Floor Queue Position Info message indicating that the Floor Request was queued message with no acknowledgement required.	<	Floor Queue Position Info	-	-

5.3.17.4 Specific message contents

All message contents are as specified in clause 5.5 and in the test case calling the procedure, with the following clarifications:

none.

5.3.18 Generic Test Procedure for MCPTT Queuing Position Request

5.3.18.1 Initial conditions

As specified in the test case which calls the procedure.

5.3.18.2 Definition of system information messages

The E-UTRA default system information messages as defined in TS 36.508 [6] are used.

5.3.18.3 Procedure

Table 5.3.18.3-1: MCPTT Queuing Position Request

St	Procedure		Message Sequence		Verdict
		U-S	Message		
1	Check: Does the UE (MCPTT Client) send a Floor Queue Position Request message?	>	Floor Queue Position Request	-	Р
2	The SS (MCPTT Server) responds with a Floor Queue Position Info message with no acknowledgement required.	<	Floor Queue Position Info	-	-

5.3.18.4 Specific message contents

All message contents are as specified in clause 5.5 and in the test case calling the procedure, with the following clarifications:

none

5.3.19 Generic Test Procedure for MCPTT Floor Request – Floor Deny

5.3.19.1 Initial conditions

As specified in the test case which calls the procedure.

5.3.19.2 Definition of system information messages

5.3.19.3 Procedure

Table 5.3.19.3-1: MCPTT Floor Request – Floor Deny

St	Procedure		Message Sequence		Verdict			
		U - S	Message					
1	Check: Does the UE (MCPTT Client) send a	>	Floor Request	-	Р			
	Floor Request message?							
2	The SS (MCPTT Server) sends a Floor Deny	<	Floor Deny	-	-			
	message with no acknowledgement required							
3	Check: Does the UE (MCPTT Client) provide	-	-	-	Р			
	floor deny notification to the MCPTT User?							
	(NOTE 1)							
NOTE	NOTE 1: This expected to be done via a suitable implementation dependent MMI.							

5.3.19.4 Specific message contents

All message contents are as specified in clause 5.5 and in the test case calling the procedure, with the following clarifications:

none

5.3.20 Generic Test Procedure for MCPTT Floor Release - Floor Idle

5.3.20.1 Initial conditions

As specified in the test case which calls the procedure in its entirety or refers to parts of it.

5.3.20.2 Definition of system information messages

The E-UTRA default system information messages as defined in TS 36.508 [6] are used.

5.3.20.3 Procedure

Table 5.3.20.3-1: MCPTT Floor Release - Floor Idle

St	Procedure	Message Sequence		TP	Verdict
		U-S	Message		
1	Check: Does the UE (MCPTT Client) send a	>	Floor Release	-	Р
	Floor Release message?				
-	EXCEPTION: Step 2a1 describes behaviour	-	-	-	-
	that depends on the UE implementation; the				
	"lower case letter" identifies a step sequence				
	that take place if the UE requests an				
	acknowledgement to the Floor Release				
	message.				
2a1	The SS (MCPTT Server) sends a Floor Ack	<	Floor Ack	-	-
	message in response to the Floor Release				
	message				
3	The SS (MCPTT Server) sends a Floor Idle	<	Floor Idle	-	-
	message with no acknowledgement required.				

5.3.20.4 Specific message contents

All message contents are as specified in clause 5.5 and in the test case calling the procedure, with the following clarifications:

None

5.3.21 Generic Test Procedure for MCPTT Floor Release – Floor Taken

5.3.21.1 Initial conditions

As specified in the test case which calls the procedure in its entirety or refers to parts of it.

5.3.21.2 Definition of system information messages

The E-UTRA default system information messages as defined in TS 36.508 [6] are used.

5.3.21.3 Procedure

Table 5.3.21.3-1: MCPTT Floor Release - Floor Taken

St	Procedure		Message Sequence	TP	Verdict
		U - S	Message	1	
1	Check: Does the UE (MCPTT Client) send a Floor Release message?	>	Floor Release	-	Р
-	EXCEPTION: Step 2a1 describes behaviour that depends on the UE implementation; the "lower case letter" identifies a step sequence that take place if the UE requests an acknowledgement to the Floor Release message.	-	-	-	-
2a1	The SS (MCPTT Server) sends a Floor Ack message in response to the Floor Release message	<	Floor Ack	-	-
3	The SS (MCPTT Server) sends a Floor Taken message with no acknowledgement required.	<	Floor Taken	-	-

5.3.21.4 Specific message contents

All message contents are as specified in clause 5.5 and in the test case calling the procedure, with the following clarifications:

none

5.3.22 Generic Test Procedure for NW initiated notifications regarding temporary group creation or tear down

5.3.22.1 Initial conditions

As specified in the test case which calls the procedure in its entirety or refers to parts of it.

5.3.22.2 Definition of system information messages

_

5.3.22.3 Procedure

Table 5.3.22.3-1: NW initiated notifications regarding temporary group creation or tear down

St	Procedure		Message Sequence	TP	Verdict
		U - S	Message		
1	The SS (MCPTT server) sends a SIP NOTIFY to the UE informing about change of group A's configuration document.	\ -	SIP NOTIFY	-	-
2	The UE sends a SIP 200 (OK) message to the SS.	^	SIP 200 (OK)	-	-
2A- 2F	Void	1	-	-	-
3	The UE (MCPTT client) sends an HTTP GET Request message to the SS that contains the access token and the XCAP-URI of the Group Configuration document.	>	HTTP GET	-	-
4	The SS (MCPTT server) sends the HTTP 200 (OK) message including the updated Group Document	<	HTTP 200 (OK)	-	-
5	The SS (MCPTT server) sends a SIP NOTIFY message to the UE containing the group key transport payloads (GKTP) document including the group keys.	V -	SIP NOTIFY	-	-
5a1- 5a2	Void	-	-	-	-
6	The UE (MCPTT client) sends a SIP 200 (OK) message.	>	SIP 200 (OK)	-	-

5.3.22.4 Specific message contents

All message contents are as specified in clause 5.5 and in the test case calling the procedure, with the following clarifications:

Table 5.3.22.4-1: SIP NOTIFY (Step 1)

Derivation Path: Table 5.5.2.8-1, condition GROUPCONFIG						
Information Element	Value/remark	Comment	Reference	Condition		
Message-body						
MIME body part		xcap-diff				
MIME-part-body	Xcap-diff as described in Table 5.3.22.4-1A					

Table 5.3.22.4-1A: Xcap-diff document in SIP NOTIFY (Table 5.3.22.4-1)

Derivation Path: Table 5.5.3.12-2, condition GROUPCONFIG

Table 5.3.22.4-2: SIP 200 (OK) (Steps 2, 6)

Derivation Path: Table 5.5.2.17.1.1-1

Table 5.3.22.4-2A..2G: Void

Table 5.3.22.4-3: HTTP GET (Step 3)

Derivation Path: Table 5.5.4.2-1, condition GROUPCONFIG

Table 5.3.22.4-4: HTTP 200 (OK) (Step 4)

Derivation Path: Table 5.5.4.6-1, condition GROUPCONFIG						
Information Element Value/remark Comment Reference Condition						
Message-body						
group-configuration	As described in Table 5.3.22.4-5	Group Configuration document returned				

Table 5.3.22.4-5: Group Configuration document (Table 5.3.22.4-4)

Derivation Path: Table 5.5.7.1-3				
Information Element	Value/remark	Comment	Reference	Condition
list-service[1]				
mcpttgi:on-network-			TS 24.481 [31]	TEMPGRO
regrouped			clause 7.2.4.2	UPCREAT
				E
temporary-MCPTT-group-ID	px_MCPTT_Group_T_I	MCS temporary group	TS 24.481 [31]	
attribute	D	identity	clause 7.2.4.2	
temporary-MCPTT-group-	px_MCPTT_ID_User_B	Identity of the	TS 24.481 [31]	
requestor attribute		responsible for	clause 7.2.4.2	
		formatting the MCS		
		temporary group.		
constituent-MCPTT-group-IDs			TS 24.481 [31]	
			clause 7.2.4.2	
constituent-MCPTT-group-	px_MCPTT_Group_A_I	MCS group ID of a	TS 24.481 [31]	
ID[1]	D	constituent MCS group	clause 7.2.4.2	
		of the temporary MCS		
		group		
constituent-MCPTT-group-	px_MCPTT_Group_B_I	MCS group ID of a	TS 24.481 [31]	
ID[1]	D	constituent MCS group	clause 7.2.4.2	
		of the temporary MCS		
		group		
protect-media	"true"	Indicates whether	TS 24.481 [31]	
		confidentiality and	clause 7.2.4.2	
		integrity of media is		
		required on the MCPTT		
		temporary group		
protect-floor-control-signalling	"true"	Indicates whether	TS 24.481 [31]	
		confidentiality and	clause 7.2.4.2	
		integrity of floor control		
		signalling is required on		
		the temporary MCPTT		
		group		

Condition	Explanation
TEMPGROUPCREATE	Procedure is used for creation of a temporary group (but not for tear
	down)

Table 5.3.22.4-5A: Void

Table 5.3.22.4-6: SIP NOTIFY (Step 5)

Derivation Path: Table 5.5.2.14-1, condition GROUPCONFIG				
Message-body				
xcap-diff document	xcap-diff document as described in Table 5.3.22.4-7			

Table 5.3.22.4-7: xcap-diff document for MCX group configuration (Table5.3.22.4-6)

Derivation Path: Table 5.5.3.12-2,	condition GROUPKEY			
Information Element	Value/remark	Comment	Reference	Condition
xcap-diff	encrypted according to NOTE 1 of Table 5.5.3.12-2			
element[1]				
sel attribute	Doc-Sel & "~~" & Node- Sel	Document and node selector for Group T according to NOTEs 2a, 2b and 3 of Table 5.5.3.12-2		
GKTPs	group key transport payloads (GKTP) document as described in Table 5.3.22.4-8			

Table 5.3.22.4-8: group key transport payloads (GKTP) document (Table 5.3.22.4-7)

Derivation Path: TS 24.481 [11] clause 7.7					
Information Element	Value/remark	Comment	Reference	Condition	
GKTPs					
GMK-GKTPs					
GKTP[1]	MIKEY message as used in group communication key retrieval procedure	MIKEY message containing the GMK for Group A	TS 33.180 [94]		
id attribute	Same value as used in group communication key retrieval procedure				
on-network-regrouped- GKTPs[1]				TEMPGRO UPCREAT E	
temporary-MCPTT-group-ID attribute	px_MCPTT_Group_T_I D				
GKTP[1]	MIKEY message as described in Table 5.3.22.4-9	MIKEY message containing the GMK for Group T	TS 33.180 [94]		
id attribute	arbitrary value	unique charstring assigned by the SS			

Condition	Explanation
TEMPGROUPCREATE	Procedure is used for creation of a temporary group (but not for tear
	down)

Table 5.3.22.4-9: MIKEY-SAKKE I_MESSAGE (GMK distribution by the SS) (Table 5.3.22.4-8)

Derivation Path: Table 5.5.9.1-3			
Field	Value/remark	Comment	Condition
General Extension Payload {			
Content {			
Payload {			
Data {		See TS 33.180 [94] clause E.6	
Group IDs {			
Number of Group IDs	'1'		
Group ID	px_MCPTT_Group_T_ID	The ID for the group associated with the key.	
}			
}			
}			
}			
}			

5.3.23 Generic Test Procedure for MCPTT CT Call establishment automatic commencement using a pre-established session

5.3.23.1 Initial conditions

As specified in the test case which calls the procedure in its entirety or refers to parts of it.

5.3.23.2 Definition of system information messages

The E-UTRA default system information messages as defined in TS 36.508 [6] are used.

5.3.23.3 Procedure

Table 5.3.23.3-1: MCPTT CT Call establishment automatic commencement using a pre-established session

St	Procedure		Message Sequence	TP	Verdict
		U-S	Message		
1	E-UTRA/EPC signalling according to clause 5.4.13 'Generic Test Procedure for MCPTT radio bearer establishment for use of preestablished session' takes place	-	-	-	-
2	SS initiates an on-demand pre-arranged group call with automatic commencement mode using a pre-established session by sending a Connect message	<	Connect	-	-
3	Check: Does the UE (MCPTT client) send an Acknowledgement to accept the incoming prearranged group call using a pre-established session?	>	Acknowledge	-	Р

5.3.23.4 Specific message contents

All message contents are as specified in clause 5.5 and in the test case calling the procedure, with the following clarifications:

none

5.3.24 Generic Test Procedure for UE initiated MCPTT functional alias status determination and subscription

5.3.24.1 Initial conditions

As specified in the test case which calls the procedure in its entirety or refers to parts of it.

5.3.24.2 Definition of system information messages

The E-UTRA default system information messages as defined in TS 36.508 [6] are used.

5.3.24.3 Procedure

Table 5.3.24.3-1: MCPTT functional alias status determination and subscription

St	Procedure	Message Sequence		TP	Verdict	
		U-S	Message			
1	Make the MCPTT User request to determine the current status of a functional alias and later notification of status changes of a functional alias. (NOTE 1)	-	-	-	-	
-	EXCEPTION: Step 2a1 describes behaviour that depends on the E-UTRA RRC state at the time the present procedure is called.	-	-	-	-	
2a1	IF in RRC_IDLE state, the E-UTRA/EPC actions which are related to the MCPTT call establishment described in clause 5.4.3 'Generic Test Procedure for MCPTT CO communication in E-UTRA' take place.	-	-	-	-	
3	Check: Does the UE (MCPTT Client) send a SIP SUBSCRIBE requesting the status of any existing functional aliases?	>	SIP SUBSCRIBE	-	Р	
4	The SS (MCPTT server) responds with a SIP 200 (OK)	<	SIP 200 (OK)	-	-	
5	The SS (MCPTT server) sends a SIP NOTIFY with functional alias information	<	SIP NOTIFY	-	-	
6	Check: Does the UE (MCPTT Client) send a SIP 200 (OK)?	>	SIP 200 (OK)	-	Р	
-	EXCEPTION: The SS waits 2 seconds before the SS deactivates the dedicated EPS bearer and releases the RRC connection. (NOTE 2)	-	-	-	-	

NOTE 1: This is expected to be done via a suitable implementation dependent MMI

NOTE 2: The specified wait period of 2s shall ensure that lower layer signalling (TCP) is finished.

5.3.24.4 Specific message contents

All message contents are as specified in clause 5.5 and in the test case calling the procedure with the following clarifications:

Table 5.3.24.4-1: SIP SUBSCRIBE (step 3, Table 5.3.24.3-1)

Derivation Path: Table 5.5.2.14-1 with condition MCPTT								
Information Element	Value/remark	Comment	Reference	Condition				
Expires								
value	"4294967295"	to receive the current status and later notification	TS 24.379 [9] clause 9A.2.1.3					
Message-body			TS 24.379 [9] clause 9A.2.1.3					
MIME body part		MCPTT Info						
MIME-part-body	MCPTT-Info as described in Table 5.3.24.4-2							

Table 5.3.24.4-2: MCPTT-Info in SIP SUBSCRIBE (Table 5.3.24.4-1)

Derivation Path: Table 5.5.3.2.1-	1			
Information Element	Value/remark	Comment	Reference	Condition
mcpttinfo				
mcptt-Params				
mcptt-request-uri	px_MCPTT_ID_User_A		TS 24.379 [9]	
			clause	
			9A.2.1.3	

Table 5.3.24.4-3: SIP 200 (OK) (step 4, Table 5.3.24.3-1)

Derivation Path: Table 5.5.2.17.1.2-1 with condition SUBSCRIBE-RSP

Table 5.3.24.4-4: SIP NOTIFY (step 5, Table 5.3.24.3-1)

Information Element	Value/remark	Comment	Reference	Condition
Message-body				
MIME body part		PIDF	TS 24.379 [9] clause 9A.2.2. 2.5	
MIME-part-body	PIDF as described in Table 5.3.24.4-5			

Table 5.3.24.4-5: PIDF in SIP NOTIFY (Table 5.3.24.4-4)

Derivation Path: Table 5.5.3.5.2-1 (NOTE 1)

NOTE 1: PIDF document contains tuple with empty <status> element (i.e. there are no <functionalAlias> entries at all) and not containing a <p-id-fa> element

5.3.25 Generic Test Procedure for UE initiated MCPTT functional alias status change

5.3.25.1 Initial conditions

As specified in the test case which calls the procedure in its entirety or refers to parts of it.

5.3.25.2 Definition of system information messages

5.3.25.3 Procedure

Table 5.3.25.3-1: MCPTT functional alias status change

St	Procedure	Message Sequence		TP	Verdict
		U-S	Message		
1	Make the MCPTT User request to change the	-	-	-	-
	status of a functional alias to "activated".				
	(NOTE 1)				
-	EXCEPTION: Step 2a1 describes behaviour that	-	-	-	-
	depends on the E-UTRA RRC state at the time				
0.4	the present procedure is called.				
2a1	IF in RRC_IDLE state, the E-UTRA/EPC actions which are related to the MCPTT call	-	-	-	-
	establishment described in clause 5.4.3 'Generic				
	Test Procedure for MCPTT CO communication in				
	E-UTRA' take place.				
3	Check: Does the UE (MCPTT Client) send a SIP	>	SIP PUBLISH	_	Р
	PUBLISH requesting the status change of a		G 1 G.ZG.1		
	functional alias?				
4	The SS (MCPTT server) responds with a SIP	<	SIP 200 (OK)	-	-
	200 (OK)				
5	The SS (MCPTT server) sends a SIP NOTIFY	<	SIP NOTIFY	-	-
	with functional alias information				
6	Check: Does the UE (MCPTT Client) send a SIP	>	SIP 200 (OK)	-	Р
	200 (OK)?				
-	EXCEPTION: The SS waits 2 seconds before the	-	-	-	-
	SS deactivates the dedicated EPS bearer and				
	releases the RRC connection.				
NOTE	(NOTE 2)		1		l
	1: This is expected to be done via a suitable impler		•	-1	

NOTE 2: The specified wait period of 2s shall ensure that lower layer signalling (TCP) is finished.

5.3.25.4 Specific message contents

All message contents are as specified in clause 5.5 and in the test case calling the procedure with the following clarifications:

Table 5.3.25.4-1: SIP PUBLISH (step 3, Table 5.3.25.3-1)

Information Element	Value/remark	Comment	Reference	Condition
Message-body				
MIME body part		MCPTT Info	TS 24.379 [9] clause 9A.2.1.2	
MIME-part-body	MCPTT-Info as described in Table 5.3.25.4-2			
MIME body part		PIDF	TS 24.379 [9] clause 9A.2.1.2	
MIME-part-body	PIDF as described in Table 5.3.25.4-3			

Table 5.3.25.4-2: MCPTT-Info in SIP PUBLISH (Table 5.3.25.4-1)

Derivation Path: Table 5.5.3.2.1-1						
Information Element	Value/remark	Comment	Reference	Condition		
mcpttinfo						
mcptt-Params						
mcptt-request-uri	px_MCPTT_ID_User_A		TS 24.379 [9]			
			clause			
			9A.2.1.2			

Table 5.3.25.4-3: PIDF in SIP PUBLISH (Table 5.3.25.4-1)

Derivation Path: Table 5.5.3.5.1-1 with condition FUNCTIONAL_ALIAS_STATUS_CHANGE

Table 5.3.25.4-4: SIP 200 (OK) (step 4, Table 5.3.25.3-1)

Derivation Path: Table 5.5.2.17.1.2-1 with condition PUBLISH-RSP

Table 5.3.25.4-5: SIP NOTIFY (step 5, Table 5.3.25.3-1)

Derivation Path: Table 5.5.2.8-1 with condition PRESENCE-EVENT						
Information Element	Value/remark	Comment	Reference	Condition		
Message-body						
MIME body part		PIDF	TS 24.379 [9] clause 9A.2.2. 2.5			
MIME-part-body	PIDF as described in Table 5.3.25.4-6					

Table 5.3.25.4-6: PIDF in SIP NOTIFY (Table 5.3.25.4-5)

Derivation Path: Table 5.5.3.5.2-1 with condition FUNCTIONAL_ALIAS_ACTIVATED, NOTIFY_FOR_PUBLISH

5.3.26 Generic Test Procedure for MCPTT CO Group Creation

5.3.26.1 Initial conditions

As specified in the test case which calls the procedure.

5.3.26.2 Definition of system information messages

The E-UTRA default system information messages as defined in TS 36.508 [6] are used.

5.3.26.3 Procedure

Table 5.3.26.3-1: MCPTT CO Group Creation procedure

St	Procedure		Message Sequence	TP	Verdict
		U - S	Message		
1a1-	Void	-	-	-	-
1a2					
1	Check: Does the UE (MCPTT Client) send a HTTP PUT to the SS to request for creation of	>	HTTP PUT	-	Р
	the new group?				
2	The SS (MCPTT Server) sends a HTTP 201	<	HTTP 201 (Created)	-	-
	(Created).				
3-5	Void				

5.3.26.4 Specific message contents

All message contents are as specified in clause 5.5 and in the test case calling the procedure, with the following clarifications:

Table 5.3.26.4-1..2: Void

Table 5.3.26.4-3: HTTP PUT (Step 1, Table 5.3.26.3-1)

Derivation Path: Table 5.5.4.4-1, condition GROUPCREATE

Table 5.3.26.4-4..25: Void

5.3.27 Generic Test Procedure for MCPTT CO Temporary Group Creation

5.3.27.1 Initial conditions

As specified in the test case which calls the procedure.

5.3.27.2 Definition of system information messages

The E-UTRA default system information messages as defined in TS 36.508 [6] are used.

5.3.27.3 Procedure

Table 5.3.27.3-1: MCPTT CO Temporary Group Creation procedure

St	Procedure		Message Sequence		Verdict
		U-S	Message		
1	Check: Does the UE (MCPTT Client) send a HTTP POST to the SS to request for creation of a temporary group?	>	HTTP POST	-	Р
2	The SS (MCPTT Server) sends a HTTP 200 (OK) containing the GMOP group-regroup-creation-response.	<	HTTP 200 (OK)	-	-

5.3.27.4 Specific message contents

All message contents are as specified in clause 5.5 and in the test case calling the procedure, with the following clarifications:

Table 5.3.27.4-1: HTTP POST (Step 1, Table 5.3.27.3-1)

Derivation Path: Table 5.5.4.3-1, condition TEMPGROUP

Table 5.3.27.4-2: HTTP 200 (OK) (Step 2, Table 5.3.27.3-1)

Derivation Path: Table 5.5.4.6-1, condition TEMPGROUP

5.3.28 Generic Test Procedure for MCPTT CO Temporary Group Tear Down

5.3.28.1 Initial conditions

As specified in the test case which calls the procedure.

5.3.28.2 Definition of system information messages

The E-UTRA default system information messages as defined in TS 36.508 [6] are used.

5.3.28.3 Procedure

Table 5.3.28.3-1: MCPTT CO Temporary Group Creation procedure

St	Procedure		Message Sequence		Verdict
		U-S	Message		
1	Check: Does the UE (MCPTT Client) send a HTTP DELETE to the SS to request for tear down of a temporary group?	>	HTTP DELETE	-	Р
2	The SS (MCPTT Server) sends a HTTP 200 (OK).	<	HTTP 200 (OK)	-	-

5.3.28.4 Specific message contents

All message contents are as specified in clause 5.5 and in the test case calling the procedure, with the following clarifications:

Table 5.3.28.4-1: HTTP DELETE (Step 1, Table 5.3.28.3-1)

Derivation Path: Table 5.5.4.5-1, condition TEMPGROUP

5.3.29 Generic Test Procedure for MCPTT Subscription and Notification

5.3.29.1 Initial conditions

As specified in the test case which calls the procedure in its entirety or refers to parts of it.

5.3.29.2 Definition of system information messages

5.3.29.3 Procedure

Table 5.3.29.3-1: MCPTT Subscription and Notification

St	Procedure	Message Sequence		TP	Verdict
		U - S	Message		
-	EXCEPTION: Step 1a1 describes behaviour	-	-	-	-
	that depends on the E-UTRA RRC state at the				
	time the present procedure is called.				
1a1	IF in RRC_IDLE state, the E-UTRA/EPC	-	-	-	-
	actions which are related to the MCPTT call				
	establishment described in clause 5.4.3				
	'Generic Test Procedure for MCPTT CO				
	communication in E-UTRA' take place.				
2	Check: Does the UE (MCPTT Client) send a	>	SIP SUBSCRIBE	-	Р
	SIP SUBSCRIBE message request?				
3	The SS (MCPTT Server) responds to the SIP		SIP 200 (OK)	-	-
	SUBSCRIBE message with a SIP 200 (OK)	<			
	message.				
4	The SS (MCPTT Server) sends a SIP NOTIFY	<	SIP NOTIFY	-	-
	message	\			
5	The UE (MCPTT Client) responds with a SIP	>	SIP 200 (OK)		
	200 (OK) message.	>			
-	EXCEPTION: SS (MCPTT Server) releases	-	-	-	-
	the E-UTRA connection.				

5.3.29.4 Specific message contents

All message contents are as specified in clause 5.5 and in the test case calling the procedure, with the following clarifications:

none

5.4 Generic test procedures for UE operation over E-UTRA/EPC

5.4.1 General

The purpose of the procedures specified in the following clauses is to facilitate test description by providing procedure sequences which can be referred from the relevant test cases specified e.g. in 3GPP TS 36.579-2 [2], 3GPP TS 36.579-3 [3], 3GPP TS 36.579-6 [84], 3GPP TS 36.579-7 [85].

The intention is, wherever possible, that E-UTRA/EPC signalling and initial conditions should not be provided in the test descriptions rather should be referred to the procedure steps described in the generic procedures below, whereas, the MCS SIP signalling and initial conditions when relevant for the test purposes shall be explicitly provided in the tests description itself.

Throughout the generic test procedures E-UTRA/EPC behaviour is denoted as "SS" for the System Simulator simulating the NWK side of the communication, and, "UE" for the Implementation Under Test (IUT), whereas the MCPTT/MCVideo/MCData relevant behaviour is denoted as "SS (MCPTT/MCVideo/MCData server)" and "UE (MCPTT/MCVideo/MCData client)"/"UE (MCPTT/MCVideo/MCData user)" respectively. ProSe related SS behaviour when the SS simulates an UE device is denoted e.g. as "SS-UE1".

Depending on the TS 36.579-5[5] test model being used, the E-UTRA/EPC signalling is:

- MCX EUTRA test model: normative.
- MCX IPCAN test model: informative, unless specifically specified otherwise elsewhere.

5.4.1A UE APN/PDN support assumptions

A MCPTT (or in general Mission Critical Services) capable UE, depending on implementation/deployment, may be provided with up to 3 MCPTT related APN: An APN utilised by the MCPTT service including the MCPTT service APN for the SIP-1 reference point, an MC common core services APN for the HTTP-1 reference point and a MC identity management service APN for the CSC-1 reference point (see TS 23.179 [8], clause 5.2.9).

To limit the test specification complexity utilisation of single APN/PDN to be used for all 3 MCPTT services is assumed and only 2 QCIs are used for the bearers established in regard to the PDN:

- 1. MCPTT (QCI=69 for signalling bearer, QCI=65 for voice)
- NOTE 1: It should be noted that the core specs impose a requirement that the QCI value 8 or better shall be used for the EPS bearer that transports HTTP-1 reference point messaging. Using a single APN and having for the EPS bearer QCI=69 will satisfy this.

NOTE 2: Void.

In addition to the MCPTT relevant APN, a MCPTT (or in general Mission Critical Services) capable UE may support 2 additional different APNs for which different PDNs each with its specific QCI:

- 2. Internet (QCI=9)
- 3. IMS (VOLTE QCI=5 for signalling bearer, QCI=1 for voice call)

This will result in the need the MCPTT tests to be able to handle a 3 APNs and different PDNs.

NOTE 3: It should be noted that, handling IMS and MCPTT with one APN is theoretically possible but may have undesirable implications e.g. VoLTE signalling could delay MCPTT signalling therefore the assumption is that such implementations will be undesirable and unlikely.

Consequently, for the IMS and MCPTT it should be assumed that the UE will do 2 different registrations, i.e. for each of them there will be a separate IP connection (different IP addresses at the UE and the SS).

Depending on UE configuration PDN connectivities for the up-to three PDNs may be established. There are two major scenarios:

- 1. The MCX PDN connectivity gets established automatically after switch-on during the initial registration procedure. In addition the UE may establish PDN connectivities to the IMS PDN and/or the internet PDN. The connectivity to these PDNs may be requested in any order. There can be 1, 2 or 3 PDNs.
- 2. The UE requests PDN connectivities for IMS and/or internet but not for MCPTT. If IMS and internet are requested, it may be in any order. Establishment of the MCX PDN connectivity is triggered after the initial registration in a separate procedure. There can be 2 or 3 PDNs in total.

To serve the above scenarios the following parameters are defined in TS 36.579-5 [5]:

- px_MCX_InitialRegistration_TypeOfPDN1: First PDN registered during initial registration (either 'ims' or 'internet' or 'mcx')
- px_MCX_InitialRegistration_TypeOfPDN2:
 Second PDN registered during initial registration; in addition to 'ims' or 'internet' or 'mcx' it may be 'none' to indicate that there is no second PDN connectivity requested by the UE during initial registration.
- px_MCX_InitialRegistration_TypeOfPDN3:
 Third PDN registered during initial registration; in addition to 'ims' or 'internet' or 'mcx' it may be 'none' to indicate that there is no third PDN connectivity requested by the UE during initial registration.

The type of the parameters is a TTCN-3 enumerated type with values 'ims', 'internet', 'mcx' and 'none'.

In addition there is the parameter px_AccessPointName in TS 36.523-3 [74] which is used as default APN, i.e. for a PDN for which the UE does not provide an APN (NOTE: Any, but only one, of the three PDNs can be the one with default APN).

In regard to the MCPTT the following shall be also taken into account

- If the PDN connection established during the initial attach by the UE is to an APN other than the MCPTT service APN, then prior to user authentication, the UE shall establish another PDN connection to the MCPTT service APN. PDN connection establishment can also be caused by a SIP registration request for MCPTT. The QCI value of 69 shall be used for the EPS bearer that transports SIP-1 reference point messaging. It is used for SIP signalling.
- For the MCPTT service APN, the MCPTT UE does not activate EPS bearers for media streams.
- The network initiates the creation of a dedicated bearer to transport the voice media. The dedicated bearer for Conversational Voice utilises the standardised QCI value of 65. The network, utilising dynamic PCC, creates no more than one dedicated bearer for voice media (the UE is required to support at minimum one UM bearer which is used for MCPTT voice).

Editor's Note: The requirements in regard to MCVideo and MCData are FFS.

5.4.2 Generic Test Procedure for MCPTT UE registration

5.4.2.1 Initial conditions

System Simulator:

- SS (MCPTT server)
- E-UTRA related parameters are set to the default parameters for the basic single cell environment, as defined in TS 36.508 [6] clause 4.4, unless otherwise specified in the test case. Requirements in regard to the PLMN which the simulated Cell(s) belongs to are specified in the test case using the present procedure.

IUT:

- UE (MCPTT client)
 - The UE is MCPTT capable. The MCPTT preconditions required for initiation of MCPTT service authorization for the MCPTT client and the MCPTT service are specified in the test cases.
 - The test USIM set as defined in clause 5.5.10 is inserted.
 - The UE shall be switched off.

5.4.2.2 Definition of system information messages

5.4.2.3 Procedure

Table 5.4.2.3-1: E-UTRA/EPC signalling for UE registration

St	Procedure		Message Sequence
	110004410	U-S	Message
0	Switch the UE on.	-	-
1	Void	-	-
2	UE transmits an RRCConnectionRequest message.	>	RRC: RRCConnectionRequest
3	SS transmits an RRCConnectionSetup message.	<	RRC: RRCConnectionSetup
4	The UE transmits an RRCConnectionSetupComplete	>	RRC: RRCConnectionSetupComplete
	message to confirm the successful completion of the		NAS: ATTACH REQUEST
	connection establishment and to initiate the Attach		NAS: PDN CONNECTIVITY REQUEST
	procedure by including the ATTACH REQUEST		
	message. The PDN CONNECTIVITY REQUEST message is piggybacked in ATTACH REQUEST.		
	(NOTE 1)		
5	The SS transmits an AUTHENTICATION REQUEST	<	RRC: DLInformationTransfer
	message to initiate the EPS authentication and AKA		NAS: AUTHENTICATION REQUEST
	procedure.		
6	The UE transmits an AUTHENTICATION RESPONSE	>	RRC: ULInformationTransfer
	message and establishes mutual authentication.		NAS: AUTHENTICATION RESPONSE
7	The SS transmits a NAS SECURITY MODE	<	RRC: DLInformationTransfer
	COMMAND message to activate NAS security.		NAS: SECURITY MODE COMMAND
8	The UE transmits a NAS SECURITY MODE	>	RRC: ULInformationTransfer
1	COMPLETE message and establishes the initial		NAS: SECURITY MODE COMPLETE
<u> </u>	security configuration. EXCEPTION: Steps 9a1 to 9a2 describe behaviour that		_
_	depends on UE configuration; the "lower case letter"	-	
	identifies a step sequence that take place if the UE has		
	ESM information which needs to be transferred.		
9a1	IF the UE sets the ESM information transfer flag in the	<	RRC: DLInformationTransfer
	last PDN CONNECTIVITY REQUEST message THEN		NAS: ESM INFORMATION REQUEST
	the SS transmits an ESM INFORMATION REQUEST		
	message to initiate exchange of protocol configuration		
	options and/or APN.		
9a2	The UE transmits an ESM INFORMATION RESPONSE	>	RRC: ULInformationTransfer
	message to transfer protocol configuration options and/or APN.		NAS: ESM INFORMATION RESPONSE
10	The SS transmits a SecurityModeCommand message	<	RRC: SecurityModeCommand
'	to activate AS security.	,	Title: Gooding Mode Command
11	The UE transmits a SecurityModeComplete message	>	RRC: SecurityModeComplete
	and establishes the initial security configuration.		
12	The SS transmits a UECapabilityEnquiry message to	<	RRC: UECapabilityEnquiry
	initiate the UE radio access capability transfer		
40	procedure.		DDC: UCComphility deformanting
13	The UE transmits a <i>UECapabilityInformation</i> message to transfer UE radio access capability.	>	RRC: UECapabilityInformation
14	The SS transmits an RRCConnectionReconfiguration	<	RRC: RRCConnectionReconfiguration
'-	message to establish the default bearer with condition		NAS: ATTACH ACCEPT
	SRB2-DRB(1, 0) according to TS 36.508 [6]		NAS: ACTIVATE DEFAULT EPS
1	clause 4.8.2.2.1.1.		BEARER CONTEXT REQUEST
1	This message includes the ATTACH ACCEPT		
	message. The ACTIVATE DEFAULT EPS BEARER		
1	CONTEXT REQUEST message is piggybacked in		
	ATTACH ACCEPT. (NOTE 1)		DDO:
15	The UE transmits an RRCConnectionReconfigurationComplete message to	>	RRC: RRCConnectionReconfigurationComplet
	confirm the establishment of default bearer.		e
-	EXCEPTION: In parallel to the event described in steps	-	-
	16 and 16A below, if initiated by the UE the generic		
	procedure for IP address allocation in the U-plane as		
	defined in TS 36.508 [6] clause 4.5A.1 takes place.		
-	EXCEPTION: IF the UE is configured to register for	-	-
1	MCX as first PDN during initial registration, THEN in		
1	parallel to the event described in steps 16 and		
	16Abelow the events described in table 5.4.2.3-2 take		
<u> </u>	place.		l .

St Procedure U - S Message Sequence - EXCEPTION: IF the UE is configured to register for IMS as first PDN during initial registration, THEN in parallel to the event described in steps 16 and 16A below the generic procedure for IMS signalling in the U-plane specified in TS 36.508 clause 4.5A.3 takes place if requested by the UE 16 This message includes the ATTACH COMPLETE message. The ACTIVATE DEFAULT EPS BEARER CONTEXT ACCEPT message is piggybacked in ATTACH COMPLETE. - EXCEPTION: Depending on the UE capability step 16A may be performed 0, 1 or 2 times. (NOTE 1) 16A The E-UTRA/EPC signalling for establishment of an -	
- EXCEPTION: IF the UE is configured to register for IMS as first PDN during initial registration, THEN in parallel to the event described in steps 16 and 16A below the generic procedure for IMS signalling in the U-plane specified in TS 36.508 clause 4.5A.3 takes place if requested by the UE 16 This message includes the ATTACH COMPLETE message. The ACTIVATE DEFAULT EPS BEARER CONTEXT ACCEPT message is piggybacked in ATTACH COMPLETE. - EXCEPTION: Depending on the UE capability step 16A may be performed 0, 1 or 2 times. (NOTE 1)	
as first PDN during initial registration, THEN in parallel to the event described in steps 16 and 16A below the generic procedure for IMS signalling in the U-plane specified in TS 36.508 clause 4.5A.3 takes place if requested by the UE 16 This message includes the ATTACH COMPLETE message. The ACTIVATE DEFAULT EPS BEARER CONTEXT ACCEPT message is piggybacked in ATTACH COMPLETE. - EXCEPTION: Depending on the UE capability step 16A may be performed 0, 1 or 2 times. (NOTE 1)	
generic procedure for IMS signalling in the U-plane specified in TS 36.508 clause 4.5A.3 takes place if requested by the UE 16 This message includes the ATTACH COMPLETE message. The ACTIVATE DEFAULT EPS BEARER CONTEXT ACCEPT message is piggybacked in ATTACH COMPLETE. - EXCEPTION: Depending on the UE capability step 16A may be performed 0, 1 or 2 times. (NOTE 1)	
specified in TS 36.508 clause 4.5A.3 takes place if requested by the UE 16 This message includes the ATTACH COMPLETE message. The ACTIVATE DEFAULT EPS BEARER CONTEXT ACCEPT message is piggybacked in ATTACH COMPLETE. - EXCEPTION: Depending on the UE capability step 16A may be performed 0, 1 or 2 times. (NOTE 1) RRC: ULInformationTra NAS: ATTACH COMPLE NAS: ATTACH COMPLETE.	
requested by the UE 16 This message includes the ATTACH COMPLETE message. The ACTIVATE DEFAULT EPS BEARER CONTEXT ACCEPT message is piggybacked in ATTACH COMPLETE EXCEPTION: Depending on the UE capability step 16A may be performed 0, 1 or 2 times. (NOTE 1) RRC: ULInformationTra NAS: ATTACH COMPL NAS: ACTIVATE DEFA BEARER CONTEXT AC	
16 This message includes the ATTACH COMPLETE message. The ACTIVATE DEFAULT EPS BEARER CONTEXT ACCEPT message is piggybacked in ATTACH COMPLETE. - EXCEPTION: Depending on the UE capability step 16A may be performed 0, 1 or 2 times. (NOTE 1) - RRC: ULInformationTra NAS: ATTACH COMPL NAS: ACTIVATE DEFA BEARER CONTEXT ACCEPTION: Depending on the UE capability step 16A - Complete the complete th	
message. The ACTIVATE DEFAULT EPS BEARER CONTEXT ACCEPT message is piggybacked in ATTACH COMPLETE. - EXCEPTION: Depending on the UE capability step 16A may be performed 0, 1 or 2 times. (NOTE 1) NAS: ATTACH COMPL NAS: ATTACH C	
CONTEXT ACCEPT message is piggybacked in ATTACH COMPLETE. - EXCEPTION: Depending on the UE capability step 16A may be performed 0, 1 or 2 times. (NOTE 1) NAS: ACTIVATE DEFA BEARER CONTEXT AC	
ATTACH COMPLETE. BEARER CONTEXT AC - EXCEPTION: Depending on the UE capability step 16A may be performed 0, 1 or 2 times. (NOTE 1)	
- EXCEPTION: Depending on the UE capability step 16A - may be performed 0, 1 or 2 times. (NOTE 1)	
may be performed 0, 1 or 2 times. (NOTE 1)	CCEPT
may be performed 0, 1 or 2 times. (NOTE 1) 16A The E-UTRA/EPC signalling for establishment of an	
16A The E-UTRA/EPC signalling for establishment of an - -	
1 1 1 5 1 5 1 5 1 5 1 5 1 5 1 5 1 5 1 5	
additional PDN connectivity according to table 5.4.2.3-	
1A takes place 17 The SS transmits an RRCConnectionRelease < RRC: RRCConnectionRelease	70/0000
17 The SS transmits an RRCConnectionRelease	release
- EXCEPTION: IF the UE is not configured to register for	
MCX during initial registration, THEN steps 18 to 27	
take place.	
18 Make the UE user request MCPTT service	
authorisation/configuration.	
NOTE 2	
19 The UE transmits an RRCConnectionRequest> RRCConnectionReques	st
message.	
20 SS transmit an RRCConnectionSetup message. < RRC: RRCConnectionS	Setup
21 The UE transmits an RRCConnectionSetupComplete> RRC: RRCConnectionS	
message to confirm the successful completion of the NAS: SERVICE REQUE	EST
connection establishment and to initiate the session	
management procedure by including the SERVICE	
REQUEST message.	
22 The SS transmits a SecurityModeCommand message < RRC: SecurityModeCom	mmand
to activate AS security.	
23 The UE transmits a SecurityModeComplete message> RRC: SecurityModeComplete	mplete
and establishes the initial security configuration.	
24 The SS configures a new data radio bearer, associated < RRC: RRCConnectionF	Reconfiguration
with the default EPS bearer context.	
The RRCConnectionReconfiguration message is using	
condition SRB2-DRB(N, 0) with N being the number of	
PDN connectivities established during initial registration	
(steps 0 – 17).	
The DRBs associated with the respective default EPS bearer context obtained during the attach procedure are	
established	
25 The UE transmits an> RRC:	
RRCConnectionReconfigurationComplete message to RRCConnectionReconfigurationReconfigurationComplete message to RRCConnectionReconfigurationReconfigurationComplete message to RRCConnectionReconfigurationReconfigurationComplete message to RRCConnectionReconfigura	figurationComplet
confirm the establishment of the new radio bearer,	.garadon Oompiet
associated with the default EPS bearer context.	
26 The E-UTRA/EPC signalling for establishment of an	
Laggitional PDN connectivity according to table 5.4.2.3-	
additional PDN connectivity according to table 5.4.2.3- 1A takes place	
additional PDN connectivity according to table 5.4.2.3- 1A takes place 27 The SS transmits an RRCConnectionRelease < RRC: RRCConnectionRelease	Release

MOTE 1: The assumptions for the PDN support of a MCPTT capable UE, including the default EPS bearer context QCI requirements in regard to the different PDN are described in 5.4.1A.

NOTE 2: This will start a 5 stage process. The first stage involves MCPTT User Authentication and includes Steps 3a1 through 10 of Table 5.3.2.3-1. The end result of the first stage is the MCPTT Client receives 3 tokens: access token, ID token, and refresh token.

Table 5.4.2.3-1A: E-UTRA/EPC signalling for establishment of an additional PDN connectivity

St	Procedure	Message Sequence		
		U-S	Message	
1	The UE transmits a PDN CONNECTIVITY REQUEST	>	RRC: ULInformationTransfer	
	message to request an additional PDN.		NAS: PDN CONNECTIVITY REQUEST	
2	The SS configures a new data radio bearer, associated	<	RRC: RRCConnectionReconfiguration	
	with the additional default EPS bearer context.		NAS:	
	RRCConnectionReconfiguration message contains the		ACTIVATE DEFAULT EPS BEARER	
	ACTIVATE DEFAULT EPS BEARER CONTEXT		CONTEXT REQUEST	
	REQUEST message.			
3	The UE transmits an	>	RRC:	
	RRCConnectionReconfigurationComplete message to		RRCConnectionReconfigurationComplet	
	confirm the establishment of additional default bearer.		е	
-	EXCEPTION: In parallel to the event described in step	-	-	
	4 below, if initiated by the UE the generic procedure for			
	IP address allocation in the U-plane specified in			
	TS 36.508 clause 4.5A.1 takes place performing IP			
	address allocation in the U-plane.			
-	EXCEPTION: IF ADD_IMS THEN in parallel to the	-	-	
	event described in step 4 below the generic procedure			
	for IMS signalling in the U-plane specified in TS 36.508			
	clause 4.5A.3 takes place if requested by the UE			
-	EXCEPTION: IF ADD_MCX THEN in parallel to the	-	-	
	event described in step 4 below the SIP registration for			
	MCPTT as specified in table 5.4.2.3-2 takes place			
4	The UE transmits an ACTIVATE DEFAULT EPS	>	RRC: ULInformationTransfer	
	BEARER CONTEXT ACCEPT message.		NAS: ACTIVATE DEFAULT EPS	
			BEARER CONTEXT ACCEPT	

Condition	Explanation
ADD_IMS	true if PDN CONNECTIVITY REQUEST is for IMS
ADD MCX	true if PDN CONNECTIVITY REQUEST is for MCX

Table 5.4.2.3-2: SIP registration for MCPTT

St	Procedure	Message Sequence				
		U - S	Message			
-	EXCEPTION: In parallel to the event described					
	in steps 1 to 4 below the MCPTT user					
	authentication as according to table 5.3.2.3-1					
	take place.					
1	The UE sends initial registration for IMS	>	SIP REGISTER			
	services.					
2	The SS responds with a valid AKAv1-MD5	<	SIP 401 Unauthorized			
	authentication challenge and security					
	mechanisms supported by the network.					
3	The UE completes the security negotiation	>	SIP REGISTER			
	procedures, sets up a temporary set of SAs					
	and uses those for sending another					
	REGISTER with AKAv1-MD5 credentials.					
4	The SS responds with 200 OK.	<	SIP 200 OK			
5-6	Void					
6A	The generic procedure for MCPTT Service					
	Authorization as specified in table 5.3.2.3-2					
	takes place					
7	The SS (MCPTT server) sends SIP MESSAGE	<	SIP MESSAGE			
	for configuring Location Info reporting.					
8	The UE (MCPTT client) responds with SIP 200	>	SIP 200 (OK)			
	(OK)					

5.4.2.4 Specific message contents

All specific E-UTRA/EPC signalling message contents shall be referred to TS 36.508 [6] clause 4.6 and 4.7.

The MCPTT relevant SIP message contents, Table 5.4.2.3-2, are specified in the present document clause 5.5.2, except for the following messages.

Table 5.4.2.4-1: SIP MESSAGE (step 7)

Derivation Path: Table 5.5.2.7.2-1 SIP MESSAGE from the SS, condition LOCATION-INFO				
Information Element Value/remark Comment Reference Cond				Condition
Message-body				
MIME body part		MCPTT Info		
MIME-part-body	As described in Table			
-	5.4.2.4-1A			

Table 5.4.2.4-1A: MCPTT Info in SIP MESSAGE (Table 5.4.2.4-1)

Derivation Path: Table 5.5.3.2.2-1					
Information Element	Value/remark	Comment	Reference	Condition	
mcpttinfo					
mcptt-Params					
mcptt-calling-user-id	not present				

Table 5.4.2.4-2: SIP 200 (OK) (Step 8, Table 5.4.2.3-2)

Derivation Path: Table 5.5.2.17.1.1-1

Table 5.4.2.4-3: REGISTER (Step 1, Table 5.4.2.3-2)

Derivation Path: Table 5.5.2.13-1 with condition SIP_REGISTER_INITIAL

Table 5.4.2.4-4: SIP 401 (Unauthorized) (Step 2, Table 5.4.2.3-2)

Derivation Path: Table 5.5.2.19.7-1

Table 5.4.2.4-5: REGISTER (Step 3, Table 5.4.2.3-2)

Derivation Path: Table 5.5.2.13-1

Table 5.4.2.4-6: SIP 200 (OK) (Step 4, Table 5.4.2.3-2)

Derivation Path: Table 5.5.2.17.1.2-1

5.4.2A Generic Test Procedure for MCVideo UE registration

The same as the procedure described in 5.4.2 with the following exception(s):

- The term "MCPTT" is replaced with "MCVideo".

5.4.2B Generic Test Procedure for MCData UE registration

The same as the procedure described in 5.4.2 with the following exception(s):

- The term "MCPTT" is replaced with "MCData", and the term "call" with "communication".

5.4.3 Generic Test Procedure for MCPTT CO communication in E-UTRA

5.4.3.1 Initial conditions

System Simulator:

- SS (MCPTT server)
- SS E-UTRA related parameters are set to the default parameters for the basic single cell environment, as defined in TS 36.508 [6] clause 4.4, unless otherwise specified in the test case. Requirements in regard to the PLMN which the simulated Cell(s) belongs to are specified in the test case using the present procedure.

IUT:

- UE (MCPTT client)
 - The test USIM set as defined in clause 5.5.10 is inserted.
 - The UE has performed the Generic Test Procedure for MCPTT UE registration as specified in clause 5.4.2 and is in E-UTRA Registered, Idle Mode state with the MCPTT Client being active. During the attach a default EPS bearer context #3 (QCI 69) according to table 6.6.1-1, TS 36.508 [6] is established for MCPTT and SIP signalling.
 - NOTE 1: The assumptions for the PDN support of a MCPTT capable UE, including the default EPS bearer context QCI requirements in regard to the different PDN are described in 5.4.1A.
 - Detailed initial conditions for the UE (MCPTT client) shall be specified in the TC referring to the present procedure.

5.4.3.2 Definition of system information messages

The E-UTRA default system information messages as defined in TS 36.508 [6] are used.

5.4.3.3 Procedure

Table 5.4.3.3-1: E-UTRA/EPC signalling for MCPTT CO communication

St	Procedure	Message Sequence	
		U - S	Message
1	Make the UE attempt an MCPTT call	-	-
2	The UE transmits an RRCConnectionRequest message	>	RRCConnectionRequest
	with ' establishmentCause' set to ' mo-Data '.		
3	SS transmit an RRCConnectionSetup message.	<	RRC: RRCConnectionSetup
4	The UE transmits an RRCConnectionSetupComplete	>	RRC: RRCConnectionSetupComplete
	message to confirm the successful completion of the		NAS: SERVICE REQUEST
	connection establishment and to initiate the session		
	management procedure by including the SERVICE		
	REQUEST message.		
5	The SS transmits a SecurityModeCommand message	<	RRC: SecurityModeCommand
	to activate AS security.		
6	The UE transmits a SecurityModeComplete message	>	RRC: SecurityModeComplete
	and establishes the initial security configuration.		
7	The SS configures a new data radio bearer, associated	<	RRC: RRCConnectionReconfiguration
	with the default EPS bearer context.		
	The RRCConnectionReconfiguration message is using		
	condition SRB2-DRB(1, 0) as specified in TS 36.508 [6]		
	clause 4.8.2.2.1. The DRB associated with default EPS		
	bearer context obtained during the attach procedure is		
	established (see Preamble).		
-	EXCEPTION: In parallel to the events described below,	-	-
	depending on the test case, one of the generic procedures in clause 5.3 for MCPTT CO call		
	<u> </u>		
	establishment, starting with step 2, takes place		

St	Procedure	Message Sequence		
		U - S	Message	
8	The UE transmits an RRCConnectionReconfigurationComplete message to confirm the establishment of the new data radio bearer, associated with the default EPS bearer context.	>	RRC: RRCConnectionReconfigurationComplet e	
9-12	Void.	-	-	
13	The SS configures a new RLC-UM data radio bearer, associated with the dedicated EPS bearer context. RRCConnectionReconfiguration message contains the ACTIVATE DEDICATED EPS BEARER CONTEXT REQUEST message. EPS bearer context #5 (QCI 65) according to table 6.6.2-1: Reference dedicated EPS bearer contexts is used. NOTE 1: The same MCPTT PDN address is applicable because the linked EPS bearer ID refers to the default EBC. NOTE 2: The network initiates the creation of a dedicated bearer to transport the voice media see 5.4.1A.	V	RRC: RRCConnectionReconfiguration NAS: ACTIVATE DEDICATED EPS BEARER CONTEXT REQUEST	
14	The UE transmits an RRCConnectionReconfigurationComplete message to confirm the establishment of the new data radio bearer, associated with the default EPS bearer for emergency IMS signalling.	>	RRC: RRCConnectionReconfigurationComplet e	
15	The UE transmits an ACTIVATE DEDICATED EPS BEARER CONTEXT ACCEPT message.	>	RRC: ULInformationTransfer NAS:ACTIVATE DEDICATED EPS BEARER CONTEXT ACCEPT	

Table 5.4.3.3-2: Void

5.4.3.4 Specific message contents

All specific E-UTRA/EPC signalling message contents shall be referred to TS 36.508 [6] clauses 4.6 and 4.7.

5.4.3A Generic Test Procedure for MCVideo CO communication in E-UTRA

The same as the procedure described in 5.4.3 with the following exception(s):

- The term "MCPTT" is replaced with "MCVideo".
- EPS bearer context #3 (QCI 2) according to TS 36.508 [6], table 6.6.2-1: Reference dedicated EPS bearer contexts is used.

5.4.3B Generic Test Procedure for MCData CO communication in E-UTRA

The same as the procedure described in 5.4.3 with the following exception(s):

- The term "MCPTT" is replaced with "MCData", and the term "call" with "communication".
- EPS bearer context #[9] (QCI 70) according to TS 36.508 [6], table 6.6.2-1: Reference dedicated EPS bearer contexts is used.

5.4.4 Generic Test Procedure for MCPTT CT communication in E-UTRA

5.4.4.1 Initial conditions

System Simulator:

- SS (MCPTT server)

- E-UTRA related parameters are set to the default parameters for the basic single cell environment, as defined in TS 36.508 [6] clause 4.4, unless otherwise specified in the test case. Requirements in regard to the PLMN which the simulated Cell(s) belongs to are specified in the test case using the present procedure.

IUT:

- UE (MCPTT client):
 - The test USIM set as defined in clause 5.5.10 is inserted.
 - The UE has performed the Generic Test Procedure for MCPTT UE registration as specified in clause 5.4.2 and is in E-UTRA Registered, Idle Mode state with the MCPTT Client being active. During the attach a default EPS bearer context #3 (QCI 69) according to table 6.6.1-1, TS 36.508 [6] is established for MCPTT and SIP signalling.
- NOTE 1: The assumptions for the PDN support of a MCPTT capable UE, including the default EPS bearer context QCI requirements in regard to the different PDN are described in 5.4.1A.
 - Detailed initial conditions for the UE (MCPTT client) shall be specified in the TC referring to the present procedure.

5.4.4.2 Definition of system information messages

The E-UTRA default system information messages as defined in TS 36.508 [6] are used.

5.4.4.3 Procedure

Table 5.4.4.3-1: E-UTRA/EPC signalling for MCPTT CT communication

St	Procedure	Message Sequence		
		U - S	Message	
1	SS sends a <i>Paging</i> message to the UE on the	<	RRC: Paging (PCCH)	
	appropriate paging block, and including the UE identity			
	in one entry of the IE pagingRecordLists.			
2	The UE transmits an RRCConnectionRequest message	>	RRCConnectionRequest	
	with ' establishmentCause' set to 'mt-Access'.			
3	SS transmit an RRCConnectionSetup message.	<	RRC: RRCConnectionSetup	
4	The UE transmits an RRCConnectionSetupComplete	>	RRC: RRCConnectionSetupComplete	
	message to confirm the successful completion of the		NAS: SERVICE REQUEST	
	connection establishment and to initiate the session			
	management procedure by including the SERVICE			
	REQUEST message.			
5	The SS transmits a SecurityModeCommand message	<	RRC: SecurityModeCommand	
	to activate AS security.		550.0 ".11.10	
6	The UE transmits a SecurityModeComplete message	>	RRC: SecurityModeComplete	
	and establishes the initial security configuration.			
7	The SS configures a new data radio bearer, associated	<	RRC: RRCConnectionReconfiguration	
	with the default EPS bearer context.			
	The RRCConnectionReconfiguration message is using			
	condition SRB2-DRB(1, 0) as specified in TS 36.508 [6] clause 4.8.2.2.1. The DRB associated with default EPS			
	bearer context obtained during the attach procedure is established (see Preamble).			
8	The UE transmits an	>	RRC:	
0	RRCConnectionReconfigurationComplete message to	/	RRCConnectionReconfigurationComplet	
	confirm the establishment of the new data radio bearer,		e	
	associated with the default EPS bearer context.			
-	EXCEPTION: In parallel to the events described below,	-	-	
	depending on the test case, one of the generic			
	procedures in clause 5.3 for MCPTT CT call			
	establishment, starting with step 2, takes place			
9-12	Void.	-	-	

St	Procedure	Message Sequence		
		U - S	Message	
13	The SS configures a new RLC-UM data radio bearer, associated with the dedicated EPS bearer context. RRCConnectionReconfiguration message contains the ACTIVATE DEDICATED EPS BEARER CONTEXT REQUEST message. EPS bearer context #5 (QCI 65/69) according to table 6.6.2-1: Reference dedicated EPS bearer contexts is used. NOTE 1: The same MCPTT PDN address is applicable because the linked EPS bearer ID refers to the default EBC. NOTE 2: The network initiates the creation of a dedicated bearer to transport the voice media see 5.4.1A.	<	RRC: RRCConnectionReconfiguration NAS: ACTIVATE DEDICATED EPS BEARER CONTEXT REQUEST	
14	The UE transmits an RRCConnectionReconfigurationComplete message to confirm the establishment of the new data radio bearer, associated with the default EPS bearer for emergency IMS signalling.	>	RRC: RRCConnectionReconfigurationComplet e	
15	The UE transmits an ACTIVATE DEDICATED EPS BEARER CONTEXT ACCEPT message.	>	RRC: ULInformationTransfer NAS:ACTIVATE DEDICATED EPS BEARER CONTEXT ACCEPT	
16	Void	-	-	

Table 5.4.4.3-2: Void

5.4.4.4 Specific message contents

All specific E-UTRA/EPC signalling message contents shall be referred to TS 36.508 [6] clause 4.6 and 4.7.

5.4.4A Generic Test Procedure for MCVideo CT communication in E-UTRA

The same as the procedure described in 5.4.4 with the following exception(s):

- The term "MCPTT" is replaced with "MCVideo".
- EPS bearer context #3 (QCI 2) according to TS 36.508 [6], table 6.6.2-1: Reference dedicated EPS bearer contexts is used.

5.4.4B Generic Test Procedure for MCData CT communication in E-UTRA

The same as the procedure described in 5.4.4 with the following exception(s):

- The term "MCPTT" is replaced with "MCData", and the term "call" with "communication".
- EPS bearer context #[9] (QCI 70) according to TS 36.508 [6], table 6.6.2-1: Reference dedicated EPS bearer contexts is used.

5.4.5 Generic Test Procedure for MCPTT CO communication over ProSe direct one-to-one communication out of E-UTRA coverage-establishment

5.4.5.1 Initial conditions

System Simulator:

- SS-UE1 (MCPTT Client).

- For the underlying "transport bearer" over which the SS and the UE will communicate, the SS is behaving as SS-UE1 as defined in TS 36.508 [6], configured for and operating as ProSe Direct Communication transmitting and receiving device.
- GNSS simulator configured to simulate a location in the centre of Geographical area #1 and providing timing reference as defined in TS 36.508 [6] Table 4.11.2-2 scenario #1, for the assistance of E-UTRAN off-network testing.

NOTE: For operation in off-network environment, it needs to be ensured that after the UE is powered up it considers the Geographical area #1 as being one of the geographical areas set in the USIM for operation when UE is "not served by E-UTRAN".

IUT:

- UE (MCPTT client):
 - The test USIM set as defined in clause 5.5.10 is inserted.
 - Detailed initial conditions for the UE (MCPTT client) shall be specified in the TC referring to the present procedure.

UE state:

- The UE is in state Switched OFF (state 1) according to TS 36.508 [6].

5.4.5.2 Definition of system information messages

N/a (out of E-UTRA coverage)

5.4.5.3 Procedure

Table 5.4.5.3-1: ProSe direct communication one-to-one out of E-UTRA coverage signalling for MCPTT CO communication-establishment

St	Procedure	Message Sequence		
		U - S	Message	
1	Power up the UE.	-	-	
2	Wait for 15 sec to allow the UE to establish that it is out of coverage and initiate scanning the frequency pre-set for ProSe communication for any activities.	-	-	
3	Make the UE initiate one-to-one ProSe direct communication with the remote UE preconfigured (ProSe Layer-2 Group ID).	-	-	
4	UE sends a DIRECT_COMMUNICATION_REQUEST message, IP Address Config IE set to "address allocation not supported".	^	DIRECT_COMMUNICATION_REQUES T	
5	SS-UE1 sends a DIRECT_SECURITY_MODE_COMMAND message.	<	DIRECT_SECURITY_MODE_COMMAND	
6	UE sends a DIRECT_SECURITY_MODE_COMPLETE message ciphered and integrity protected with the new security context.	-^	DIRECT_SECURITY_MODE_COMPLET E	
7	SS-UE1 sends a DIRECT_COMMUNICATION_ACCEPT message.	<	DIRECT_COMMUNICATION_ACCEPT	
-	EXCEPTION: After the communication is established, an IP address configuration procedure is performed depending on what the UE has indicated in the IP Address Config IE (if it is not "address allocation not supported") in the DIRECT_COMMUNICATION_REQUEST message, and, the SS-UE1 itself indicating "address allocation not supported" in the DIRECT_COMMUNICATION_ACCEPT message. EXCEPTION: Steps 9a1 to 9a2 describe behaviour that depends on UE implementation; the "lower case letter" identifies a step sequence that depends on the UE	-	-	
9a1	implementation of keepalive procedure. UE sends a DIRECT_COMMUNICATION_KEEPALIVE	>	DIRECT_COMMUNICATION_KEEPALI	
	message.		VE	
9a2	SS-UE1 sends a DIRECT_COMMUNICATION_KEEPALIVE_ACK message.	<	DIRECT_COMMUNICATION_KEEPALI VE_ACK	

5.4.5.4 Specific message contents

Table 5.4.5.4-1: DIRECT_COMMUNICATION_ACCEPT (step 7 Table 5.4.5.3-1)

Derivation path: 36.508 [6], Table 4.7F.3-6. Information Element	Value/remark	Comment	Condition
IP Address Config	'0011'B	address allocation not supported	
Link Local IPv6 Address	If the UE indicated 'address allocation not supported' in the IP Address Config IE in the DIRECT_COMMUNICAT ION_REQUEST message then a link-local IPv6 address formed locally	128-bit IPv6 address	

Table 5.4.5.4-2: DIRECT_SECURITY_MODE_COMMAND (step 5, Table 5.4.5.3-1)

Derivation path: 36.508 [6], Table 4.7F.3-7.						
Information Element	Value/remark	Comment	Condition			
UE Security Capabilities	Set to the UE Security Capabilities received in the DIRECT_COMMUNICAT ION_REQUEST message	Capabilities received in the DIRECT_COMMUNICAT ION_REQUEST				
Chosen Algorithms	One of the non-null algorithms provided in UE Security Capabilities (i.e. different to EIA0 (null integrity protection algorithm)/EEA0 (null ciphering algorithm))					
MSB of K _D ID	The MSB of KD ID of the new KD					
K _D Freshness	Not included					
GPI	Not included					
User Info {						
Type of User Info	IMSI					
Odd/even indication	Reflecting the number of digits in the IMSI					
Identity digits	A value different to the IMSI of the UE					
}						

Table 5.4.5.4-3: DIRECT_SECURITY_MODE_COMPLETE (step 6, Table 5.4.5.3-1)

Derivation path: 36.508 [6], Table 4.7F.3-8.			
Information Element	Value/remark	Comment	Condition
LSB of KD ID Not included			

Table 5.4.5.4-4: DIRECT_COMMUNICATION_KEEPALIVE (step 9a1, Table 5.4.5.3-1)

Derivation path: 36.508 [6], Table 4.7F.3-9.			
Information Element	Value/remark	Comment	Condition
Keepalive Counter	0		
Maximum Inactivity Period	Any allowed value		

5.4.6 Generic Test Procedure for MCPTT CT communication over ProSe direct one-to-one communication out of E-UTRA coverage-establishment

5.4.6.1 Initial conditions

System Simulator:

- SS-UE1 (MCPTT Client).
 - For the underlying "transport bearer" over which the SS and the UE will communicate, the SS is behaving as SS-UE1 as defined in TS 36.508 [6], configured for and operating as ProSe Direct Communication transmitting and receiving device.
- GNSS simulator configured to simulate a location in the centre of Geographical area #1 and providing timing reference as defined in TS 36.508 [6] Table 4.11.2-2 scenario #1, for the assistance of E-UTRAN off-network testing.

NOTE: For operation in off-network environment, it needs to be ensured that after the UE is powered up it considers the Geographical area #1 as being one of the geographical areas set in the USIM for operation when UE is "not served by E-UTRAN".

IUT:

- UE (MCPTT client)
 - The test USIM set as defined in clause 5.5.10 is inserted.
 - Detailed initial conditions for the UE (MCPTT client) shall be specified in the TC referring to the present procedure.

UE state:

- The UE is in state Switched OFF (state 1) according to TS 36.508 [6].

5.4.6.2 Definition of system information messages

N/a (out of E-UTRA coverage).

5.4.6.3 Procedure

Table 5.4.6.3-1: ProSe direct communication one-to-one out of E-UTRA coverage signalling for MCPTT CT communication-establishment

St	Procedure		Message Sequence
		U - S	Message
1	Power up the UE.	-	-
2	Wait for 15 sec to allow the UE to establish that it is out of coverage and initiate scanning the frequency pre-set for ProSe communication for any activities.	-	-
3	SS-UE1 sends a DIRECT_COMMUNICATION_REQUEST message, IP Address Config IE set to "address allocation not supported".	<	DIRECT_COMMUNICATION_REQUES T
4	UE sends a DIRECT_SECURITY_MODE_COMMAND message uncyphered but integrity protected with the new security context.	>	DIRECT_SECURITY_MODE_COMMAN D
5	SS-UE1 sends a DIRECT_SECURITY_MODE_COMPLETE message ciphered and integrity protected with the new security context.	<	DIRECT_SECURITY_MODE_COMPLET E
6	UE sends a DIRECT_COMMUNICATION_ACCEPT message.	>	DIRECT_COMMUNICATION_ACCEPT
7	EXCEPTION: After the communication is established, an IP address configuration procedure is performed depending on what the UE has indicated in the IP Address Config IE (if it is not "address allocation not supported") in the DIRECT_COMMUNICATION_REQUEST message, and, the SS-UE1 itself indicating "address allocation not supported" in the DIRECT_COMMUNICATION_ACCEPT message.	-	-
8	SS-UE1 sends a DIRECT_COMMUNICATION_KEEPALIVE message with a Keepalive Counter IE that contains the value of the keepalive counter for this link=0, and a Maximum Inactivity Period IE.	<	DIRECT_COMMUNICATION_KEEPALI VE
9	UE sends a DIRECT_COMMUNICATION_KEEPALIVE_ACK message including the Keepalive Counter IE set to the same value as that received in the DIRECT_COMMUNICATION_KEEPALIVE message.	>	DIRECT_COMMUNICATION_KEEPALI VE_ACK

5.4.6.4 Specific message contents

Table 5.4.6.4-1: DIRECT_COMMUNICATION_REQUEST (step 3, Table 5.4.6.3-1)

Derivation path: 36.508 [6], Table 4.7F.3-5.			
Information Element	Value/remark	Comment	Condition
User Info {			
Type of User Info	IMSI		
Odd/even indication	Reflecting the number of digits in the IMSI		
Identity digits	A value different to the IMSI of the UE		
}			
IP Address Config	'0011'B	address allocation not supported	
Maximum Inactivity Period	'10 0000 0000'B	512 sec, randomly chosen to allow sufficient time for a TC which uses this procedure to be completed without need to repeat the keepalive procedure	
Nonce 1			
UE Security Capabilities	01111111 01111111	All but null algorithms supported	
MSB of K _{D-sess} ID	the 8 most significant bits of the KD-sess ID		
K _D ID	Not present		
Signature	the ECCSI signature calculated with the User Info and Nonce_1 as specified in 3GPP TS 33.303 [67]		
Link Local IPv6 Address	a link-local IPv6 address formed locally		

Table 5.4.6.4-2: DIRECT_SECURITY_MODE_COMMAND (step 4 Table 5.4.6.3-1)

Derivation path: 36.508 [6], Table 4.7F.3-7.			
Information Element	Value/remark	Comment	Condition
MSB of K _D ID	Any allowed value		
K _D Freshness	Not included		
GPI	Not included		
Signature	The ECCSI signature calculated with the User Info and Nonce_1 as specified in 3GPP TS 33.303 [67]		
Encrypted Payload	The SAKKE payload generated as specified in 3GPP TS 33.303 [67].		

Table 5.4.6.4-3: DIRECT_SECURITY_MODE_COMPLETE (step 5, Table 5.4.6.3-1)

Derivation path: 36.508 [6], Table 4.7F.3-8.			
Information Element	Value/remark	Comment	Condition
LSB of KD ID	16 least significant bits of		
	KD ID		

Table 5.4.6.4-4: DIRECT_COMMUNICATION_KEEPALIVE (step 8, Table 5.4.6.3-1)

Derivation path: 36.508 [6], Table 4.7F.3-9.			
Information Element	Value/remark	Comment	Condition
Keepalive Counter	0		
Maximum Inactivity Period	'10 0000 0000'B	512 sec, randomly chosen to allow sufficient time for a TC which uses this procedure to be completed without need to repeat the keepalive procedure	

5.4.7 Generic Test Procedure for MCPTT communication over ProSe direct one-to-one communication out of E-UTRA coverage - release by the SS

5.4.7.1 Initial conditions

System Simulator:

- SS-UE1 (MCPTT Client).
 - Same as those defined in the 'Generic Test Procedure for MCPTT CO communication over ProSe direct one-to-one communication out of E-UTRA coverage-establishment', as described in clause 5.4.5, or, the 'Generic Test Procedure for MCPTT CT communication over ProSe direct one-to-one communication out of E-UTRA coverage-establishment', as described in clause 5.4.6.

IUT:

- UE (MCPTT client)

ProSe related configuration

Same as those defined in the 'Generic Test Procedure for MCPTT CO communication over ProSe direct one-to-one communication out of E-UTRA coverage-establishment', as described in clause 5.4.5, or, the 'Generic Test Procedure for MCPTT CT communication over ProSe direct one-to-one communication out of E-UTRA coverage-establishment', as described in clause 5.4.6.

UE state

- The UE has established ProSe direct communication one-to-one out of E-UTRA coverage using the 'Generic Test Procedure for MCPTT CO communication over ProSe direct one-to-one communication out of E-UTRA coverage-establishment', as described in clause 5.4.5, or, the 'Generic Test Procedure for MCPTT CT communication over ProSe direct one-to-one communication out of E-UTRA coverage-establishment', as described in clause 5.4.6.

5.4.7.2 Definition of system information messages

N/a (out of E-UTRA coverage).

5.4.7.3 Procedure

Table 5.4.7.3-1: ProSe direct communication one-to-one out of E-UTRA coverage signalling for MCPTT communication - release by the SS

St	Procedure	Message Sequence	
		U - S	Message
1	SS-UE1 sends a	<	DIRECT_COMMUNICATION_RELEASE
	DIRECT_COMMUNICATION_RELEASE message with		
	a Release Reason IE indicating 'Direct Communication		
	to peer UE no longer needed'.		
2	UE sends a	>	DIRECT_COMMUNICATION_RELEASE
	DIRECT_COMMUNICATION_RELEASE_ACCEPT		_ACCEPT
	message.		

5.4.7.4 Specific message contents

Table 5.4.7.4-1: DIRECT_COMMUNICATION_RELEASE (step 1, Table 5.4.7.3-1)

Derivation path: 36.508 [6], Table 4.7F.3-11.			
Information Element	Value/remark	Comment	Condition
Release Reason	'0001'B	Direct communication to the peer UE no longer needed	

5.4.8 Generic Test Procedure for MCPTT communication over ProSe direct one-to-one communication out of E-UTRA coverage - release by the UE

5.4.8.1 Initial conditions

System Simulator:

- SS-UE1 (MCPTT Client).
 - Same as those defined in the 'Generic Test Procedure for MCPTT CO communication over ProSe direct one-to-one communication out of E-UTRA coverage-establishment', as described in clause 5.4.5, or, the 'Generic Test Procedure for MCPTT CT communication over ProSe direct one-to-one communication out of E-UTRA coverage-establishment', as described in clause 5.4.6.

IUT:

- UE (MCPTT client)

ProSe related configuration

Same as those defined in the 'Generic Test Procedure for MCPTT CO communication over ProSe direct one-to-one communication out of E-UTRA coverage-establishment', as described in clause 5.4.5, or, the 'Generic Test Procedure for MCPTT CT communication over ProSe direct one-to-one communication out of E-UTRA coverage-establishment', as described in clause 5.4.6.

UE state

The UE has established ProSe direct communication one-to-one out of E-UTRA coverage using the 'Generic Test Procedure for MCPTT CO communication over ProSe direct one-to-one communication out of E-UTRA coverage-establishment', as described in clause 5.4.5, or, the 'Generic Test Procedure for MCPTT CT communication over ProSe direct one-to-one communication out of E-UTRA coverage-establishment', as described in clause 5.4.6.

5.4.8.2 Definition of system information messages

N/a (out of E-UTRA coverage).

5.4.8.3 Procedure

Table 5.4.8.3-1: ProSe direct communication one-to-one out of E-UTRA coverage signalling for MCPTT communication - release by the UE

St	Procedure	Message Sequence	
		U - S	Message
1	UE sends a DIRECT_COMMUNICATION_RELEASE message with a Release Reason IE indicating 'Direct Communication to peer UE no longer needed'.	>	DIRECT_COMMUNICATION_RELEASE
2	SS-UE1 sends a DIRECT_COMMUNICATION_RELEASE_ACCEPT message.	<	DIRECT_COMMUNICATION_RELEASE _ACCEPT

5.4.8.4 Specific message contents

Table 5.4.8.4-1: DIRECT COMMUNICATION RELEASE (step 1, Table 5.4.8.3-1)

Derivation path: 36.508 [6], Table 4.7F.3-11.			
Information Element	Value/remark	Comment	Condition
Release Reason	'0001'B	Direct communication to the peer UE no longer needed	

5.4.9 Generic Test Procedure for MCPTT communication in E-UTRA / Change of cells

5.4.9.1 Initial conditions

System Simulator:

- SS (MCPTT server)
- SS E-UTRA
 - Parameters are set to the default parameters for the basic E-UTRA single mode multi cell network scenarios, as defined in TS 36.508 [6] clause 4.4, unless otherwise specified in the test case.
 - 3 cells (Cell 1, Cell 2 and Cell 4, all operating on the same frequency). Cells 1 and 2 are on the same PLMN1, whereas Cell 4 is on a different PLMN2.

NOTE: The procedure only requires at maximum 2 cells to be active at any one instance.

IUT:

- UE (MCPTT client)
 - The UE has performed the Generic Test Procedure for MCPTT UE registration as specified in clause 5.4.2 and is in E-UTRA Registered, Idle Mode state on Cell 1 with the MCPTT Client being active. During the attach a default EPS bearer context #3 (QCI 69) according to table 6.6.1-1, TS 36.508 [6] is established for MCPTT and SIP signalling. The UE is allowed to operate on both PLMN1 and PLMN2.
 - NOTE 1: The assumptions for the PDN support of a MCPTT capable UE, including the default EPS bearer context QCI requirements in regard to the different PDN are described in 5.4.1A.

- The UE has performed the Generic Test Procedure for MCPTT Authorization/Configuration and Key Generation as specified in clause 5.3.2 and thereby the MCPTT client is authorised for and able to use the MCPTT service including making group and private calls on- and off-network, and, the MCPTT user is registered for receiving MCPTT service through the MCPTT Client. The PLMN1 is set as HPLMN and PLMN2 is set as VPLMN in Table 5.5.8.1-1: MCPTT Initial UE Configuration Defaults.
- Detailed initial conditions for the UE (MCPTT client) shall be specified in the TC referring to the present procedure.

5.4.9.2 Definition of system information messages

The E-UTRA default system information messages as defined in TS 36.508 [6] are used.

5.4.9.3 Procedure

Table 5.4.9.3-1 illustrates the downlink power levels and other changing parameters to be applied for the cells at various time instants of the test execution. Row marked "T0" denotes the initial conditions after preamble, while columns marked "T1" ... "Tn" are to be applied subsequently. The exact instants on which these values shall be applied are described elsewhere in the present clause.

Table 5.4.9.3-1: Time instances of cell power level and parameter changes

	Parameter	Unit	Cell 1	Cell 2	Cell 4
T0	Cell-specific RS	dBm/15k	-79	"Off"	"Off"
	EPRE	Hz			
T1	Cell-specific RS	dBm/15k	"Off"	-79	"Off"
	EPRE	Hz			
T2	Cell-specific RS	dBm/15k	"Off"	"Off"	-79
	ÉPRE	Hz			

Table 5.4.9.3-2: E-UTRA/EPC signalling for UE changing cells

St	Procedure		Message Sequence
		U-S	Message
1	The SS configures: Cell 1 and Cell 2 parameters according to the row "T1" in table 5.4.9.3-1 in order to simulate needs for cell reselection to Cell2.	-	-
2	Wait for 5 sec to allow the UE to adjust to cell changes. NOTE 1.	-	-
3	The SS configures: Cell 2 and Cell 4 parameters according to the row "T2" in table 5.4.9.3-1 in order to simulate needs for cell reselection to Cell4.	-	-
4	The Generic test procedure for 'Tracking area updating procedure' defined in TS 36.508 [6] clause 4.5A.2 take place. NOTE 2.	-	-

NOTE 1: Depending on implementation the UE may start transmitting MCPTT protocol relevant data earlier. What may be transmitted is specified in the TCs.

NOTE 2: The UE may start transmitting MCPTT protocol relevant data as soon as it receives TRACKING AREA UPDATE ACCEPT message. If this happens the SS shall not execute step 7 of the Generic test procedure for 'Tracking area updating procedure' and shall continue with the rest of the messages exchange defined in the test case.

5.4.9.4 Specific message contents

None.

5.4.10 Generic Test Procedure for MCPTT CT communication over ProSe direct one-to-many communication out of E-UTRA coverage / Announcing/Discoveree procedure for group member discovery

5.4.10.1 Initial conditions

System Simulator:

- SS-UE1 (MCPTT Client).
 - For the underlying "transport bearer" over which the SS and the UE will communicate, the SS is behaving as SS-UE1 as defined in TS 36.508 [6], configured for and operating as ProSe Direct Communication transmitting and receiving device.
- GNSS simulator configured to simulate a location in the centre of Geographical area #1 and providing timing reference as defined in TS 36.508 [6] Table 4.11.2-2 scenario #1, for the assistance of E-UTRAN off-network testing.

NOTE: For operation in off-network environment, it needs to be ensured that after the UE is powered up it considers the Geographical area #1 as being one of the geographical areas set in the USIM for operation when UE is "not served by E-UTRAN".

IUT:

- UE (MCPTT client)
 - The test USIM set as defined in clause 5.5.10 is inserted.
 - Detailed initial conditions for the UE (MCPTT client) shall be specified in the TC referring to the present procedure.

UE state:

- The UE is in state Switched OFF (state 1) according to TS 36.508 [6].

5.4.10.2 Definition of system information messages

N/a (out of E-UTRA coverage)

5.4.10.3 Procedure

Table 5.4.10.3-1: ProSe Direct Discovery for public safety use / Announcing/Discoveree procedure for group member discovery for MCPTT off-network CT group calls

St	Procedure		Message Sequence	
		U - S	Message	
1	Power up the UE.	-	-	
2	Wait for 60 sec to allow the UE to determine that it is in the Geographical area #1 set in the USIM for operation when UE is "not served by E-UTRAN and acquire reference timing.	-	-	
-	EXCEPTION: Steps 3a1-3b3b1 describe events which depend on the UE capabilities; the "lower case letter" identifies a step sequence that takes place if the UE is capable or not of Announcing for group member discovery.	-	-	
3a1	IF pc_ProSeAnnForGroupMemberDiscovery (TS 36.523-2 [75]) THEN Force the UE upper layer application corresponding to ProSe Application ID px_ProSeAnnApplicationIdentity2 (TS 36.523-3 [74]) to initiate continuous announcing its availability in a discovery group. NOTE 1.	1	-	
3a2	The UE transmits in the next transmission period a PC5_DISCOVERY message for Group Member Discovery Announcement applying DUIK, DUSK, and DUCK with the associated Encrypted Bitmask, along with the UTC-based counter to the PC5_DISCOVERY message.	>	PC5_DISCOVERY	
3b1	ELSE SS sets WaitForMessageCounter=1	ı	-	
-	EXCEPTION: Steps 3b2-3b3b1 are repeated until the event described in step 3b3a1 takes place OR WaitForMessageCounter=11.	1	-	
3b2	SS-UE1 transmits in the next transmission period a PC5_DISCOVERY message for Group Member Discovery Solicitation applying DUIK, DUSK, and DUCK with the associated Encrypted Bitmask, along with the UTC-based counter to the PC5_DISCOVERY message. WaitForMessageCounter=WaitForMessageCounter+1	<	PC5_DISCOVERY	
-	EXCEPTION: Steps 3b3a1-3b3b1 describe events which depend on the UE behaviour; the "lower case letter" identifies a step sequence that take place if the UE transmit or not in the next transmission period a PC5_DISCOVERY message.	-	-	
3b3a1	The UE transmits in the next transmission period a PC5_DISCOVERY message for Group Member Discovery Response applying DUIK, DUSK, and DUCK with the associated Encrypted Bitmask, along with the UTC-based counter to the PC5_DISCOVERY message and including the target Discovery Group ID of the discovery group to be discovered in step 3b2.	>	PC5_DISCOVERY	
3b3b1	The WaitForMessageCounter=11.	-	-	
-	EXCEPTION: Steps 4 and 5 may be repeated multiple times depending on the MCPTT procedure taking place.	-	-	
_	EXCEPTION: Step 4 is repeated until the MCPTT protocol data unit provided by the higher layers is transmitted in full. NOTE 2.	-	-	
4	SS-UE1 sends sidelink communication over the PC5 interface in the next transmission period using the timing reference provided by the GNSS simulator (same to be used by the UE). NOTE 3.	<	STCH PDCP SDU packet	
-	EXCEPTION: Step 5 is repeated until the MCPTT protocol data unit provided by the higher layers is transmitted in full. NOTE 4.	-	-	
5	The UE sends sidelink communication over the PC5 interface in the next transmission period using the timing reference provided by the GNSS simulator (same to be used by the SS-UE1). NOTE 3.	>	STCH PDCP SDU packet	
NOTE 4	: LIEs which are capable of Appending for group member discovery			

NOTE 1: UEs which are capable of Announcing for group member discovery may start announcement automatically. NOTE 2: The SS-UE1 may need to send more than one MCPTT protocol data unit in sequence with no response expected between them from the UE.

NOTE 3: What MCPTT protocol data units are included in the sidelink communication is defined in the test case using the present generic procedure.

NOTE 4: The UE may need to send more than one MCPTT protocol data unit in sequence with no response expected between them from the SS-UE1.

5.4.10.4 Specific message contents

Table 5.4.10.4-1: PC5_DISCOVERY (step 3a2 Table 5.4.10.3-1)

Derivation path: 36.508 [6], Table 4.7F.1-5A.

Table 5.4.10.4-2: PC5_DISCOVERY (step 3b2 Table 5.4.10.3-1)

Derivation path: 36.508 [6], Table 4.7F.1-5B.

Table 5.4.10.4-3: PC5_DISCOVERY (step 3b3a1 Table 5.4.10.3-1)

Derivation path: 36.508 [6], Table 4.7F.1-5C.

5.4.11 Generic Test Procedure for MCPTT CO communication over ProSe direct one-to-many communication out of E-UTRA coverage / Monitoring/Discoverer procedure for group member discovery / One-to-many communication

5.4.11.1 Initial conditions

System Simulator:

- SS-UE1 (MCPTT Client).
 - For the underlying "transport bearer" over which the SS and the UE will communicate, the SS is behaving as SS-UE1 as defined in TS 36.508 [6], configured for and operating as ProSe Direct Communication transmitting and receiving device.
- GNSS simulator configured to simulate a location in the centre of Geographical area #1 and providing timing reference as defined in TS 36.508 [6] Table 4.11.2-2 scenario #1, for the assistance of E-UTRAN off-network testing.

NOTE: For operation in off-network environment, it needs to be ensured that after the UE is powered up it considers the Geographical area #1 as being one of the geographical areas set in the USIM for operation when UE is "not served by E-UTRAN".

IUT:

- UE (MCPTT client)
 - The test USIM set as defined in clause 5.5.10 is inserted.
 - Detailed initial conditions for the UE (MCPTT client) shall be specified in the TC referring to the present procedure.

UE state:

- The UE is in state Switched OFF (state 1) according to TS 36.508 [6].

5.4.11.2 Definition of system information messages

N/a (out of E-UTRA coverage)

5.4.11.3 Procedure

Table 5.4.11.3-1: ProSe Direct Discovery for public safety use / Monitoring/Discoverer procedure for group member discovery for MCPTT off-network CO group calls

St	Procedure		Message Sequence
		U-S	Message
1	Power up the UE.	-	-
2	Wait for 60 sec to allow the UE to determine that it is in	-	-
	the Geographical area #1 set in the USIM for operation when UE is "not served by E-UTRAN and acquire		
	reference timing.		
-	EXCEPTION: Steps 3a1-3b3 describe events which	-	-
	depend on the UE capabilities; the "lower case letter"		
	identifies a step sequence that takes place if the UE is		
	capable or not of Monitoring for group member		
3a1	discovery. IF pc_ProSeMonForGtoupMemberDiscovery	<	PC5_DISCOVERY
Jai	(TS 36.523-2 [75]) THEN the SS-UE1 starts		T CO_DIOCOVERT
	continuously transmitting in the relevant transmission		
	periods a PC5_DISCOVERY message for Group		
	Member Discovery Announcement applying DUIK,		
	DUSK, and DUCK with the associated Encrypted Bitmask, along with the UTC-based counter to the		
	PC5_DISCOVERY message.		
3b1	ELSE Force the UE upper layer application	-	-
	corresponding to ProSe Application ID		
	px_ProSeAnnApplicationIdentity2 (TS 36.523-3 [74]) to		
	solicit proximity of other UEs in a discovery group. NOTE 1.		
3b2	The UE transmits in the next transmission period a	>	PC5_DISCOVERY
002	PC5_DISCOVERY message for Group Member		1 00_B1000 VERVI
	Discovery Solicitation applying DUIK, DUSK, and		
	DUCK with the associated Encrypted Bitmask, along		
	with the UTC-based counter to the PC5_DISCOVERY		
3b3	message. SS-UE1 transmits a PC5_DISCOVERY message for	<	PC5_DISCOVERY
	Group Member Discovery Response applying DUIK,		1 00_B1000 VERVI
	DUSK, and DUCK with the associated Encrypted		
	Bitmask, along with the UTC-based counter to the		
	PC5_DISCOVERY message and including the target Discovery Group ID of the discovery group to be		
	discovery Group to be discovery group to be discovered in step 2b2.		
-	EXCEPTION: Steps 4 and 5 may be repeated multiple	-	-
	times depending on the MCPTT procedure taking		
	place.		
-	EXCEPTION: Step 4 is repeated until the MCPTT	-	-
	protocol data unit provided by the higher layers is transmitted in full.		
	NOTE 2.		
4	The UE sends sidelink communication over the PC5	>	STCH PDCP SDU packet
	interface in the next transmission period using the		·
	timing reference provided by the GNSS simulator		
	(same to be used by the SS-UE1). NOTE 3.		
_	EXCEPTION: Step 5 is repeated until the MCPTT	_	-
	protocol data unit provided by the higher layers is		
	transmitted in full.		
	NOTE 4.		
5	SS-UE1 sends sidelink communication over the PC5	<	STCH PDCP SDU packet
	interface in the next transmission period using the timing reference provided by the GNSS simulator		
	(same to be used by the UE).		
	NOTE 3.		
	•		

St	Procedure	Message Sequence			
		U - S	Message		
NOTE	TE 1: UEs which are not capable of Monitoring for group member discovery may start Discoverer procedure automatically.				
NOTE	E 2: The UE may need to send more than one MCPTT protocol data unit in sequence with no response expected between them from the SS-UE1.				
NOTE	E 3: Which MCPTT protocol data units are included in the sidelink communication is defined in the test case using the present generic procedure.				
NOTE	4: The SS-UE1 may need to send more than one MCPTT expected between them from the UE.	Γ protocol o	data unit in sequence with no response		

5.4.11.4 Specific message contents

Table 5.4.11.4-1: PC5_DISCOVERY (step 3a1 Table 5.4.11.3-1)

Derivation path: 36.508 [6], Table 4.7F.1-5A.

Table 5.4.11.4-2: PC5_DISCOVERY (step 3b2 Table 5.4.11.3-1)

Derivation path: 36.508 [6], Table 4.7F.1-5B.

Table 5.4.11.4-3: PC5_DISCOVERY (step 3b3 Table 5.4.11.3-1)

Derivation path: 36.508 [6], Table 4.7F.1-5C.

5.4.12 Generic Test Procedure for MCPTT communication over MBMS

5.4.12.1 Initial conditions

System Simulator:

- SS (MCPTT server)
- SS E-UTRA
 - E-UTRA related parameters are set to the default parameters for the basic single cell environment, as defined in TS 36.508 [6] clause 4.4, unless otherwise specified in the test case.
 - MBSFNAreaConfiguration as defined in TS 36.508[6] table 4.6.1-4A is transmitted on MCCH

IUT:

- UE (MCPTT client):
 - E-UTRAN UE supporting MBMS services. The UE has performed the Generic Test Procedure for MCPTT
 UE registration as specified in clause 5.4.2 and is in E-UTRA Registered, Idle Mode state. The UE is made
 interested in receiving MBMS service in the PLMN of Cell 1 with MBMS Service ID 0.
 - Detailed initial conditions for the UE (MCPTT client) shall be specified in the TC referring to the present procedure.

5.4.12.2 Definition of system information messages

The E-UTRA default system information messages as defined in TS 36.508 [6] are used. System information combination 15 as defined in TS 36.508[6] clause 4.4.3.1 is used in the E-UTRA cell.

5.4.12.3 Procedure

Table 5.4.12.3-1: MCPTT communication over MBMS

St	Procedure	Message Sequence	
		U-S	Message
1	SS transmits MBSFNAreaConfiguration message		MBSFNAreaConfiguration
2	Wait for a period equal to the MCCH modification period for the UE to receive MBSFNAreaConfiguration message.	-	-
-	EXCEPTION: Step 3 is repeated continuously to carry the relevant MCPTT protocol data units provided by the higher layers.	-	-
3	The SS transmits 1 MBMS Packet on the MTCH in the next MCH Scheduling Period.	<	MBMS Packet
	NOTE: Which MCPTT protocol data units are sent and at which time is defined in the test case using the present generic procedure.		

5.4.12.4 Specific message contents

None.

5.4.13 Generic Test Procedure for MCPTT radio bearer establishment for use of pre-established session

5.4.13.1 Initial conditions

System Simulator:

- SS (MCPTT server)
- SS E-UTRA related parameters are set to the default parameters for the basic single cell environment, as defined in TS 36.508 [6] clause 4.4, unless otherwise specified in the test case. Requirements in regard to the PLMN which the simulated Cell(s) belongs to are specified in the test case using the present procedure.

IUT:

- UE (MCPTT client)
 - The test USIM set as defined in clause 5.5.10 is inserted.
 - The UE has performed the Generic Test Procedure for MCPTT UE registration as specified in clause 5.4.2 and is in E-UTRA Registered, Idle Mode state with the MCPTT Client being active. During the attach a default EPS bearer context #3 (QCI 69) according to table 6.6.1-1, TS 36.508 [6] is established for MCPTT and SIP signalling.

NOTE 1: The assumptions for the PDN support of a MCPTT capable UE, including the default EPS bearer context QCI requirements in regard to the different PDN are described in 5.4.1A.

- The UE has performed the Generic Test Procedure for MCPTT pre-established session establishment CO as specified in clause 5.3.3.
- Detailed initial conditions for the UE (MCPTT client) shall be specified in the TC referring to the present procedure.

5.4.13.2 Definition of system information messages

The E-UTRA default system information messages as defined in TS 36.508 [6] are used.

5.4.13.3 Procedure

Table 5.4.13.3-1: MCPTT radio bearer establishment for use of pre-established session

St	Procedure		Message Sequence	
		U - S	Message	
1	SS sends a Paging message to the UE	<	RRC: Paging (PCCH)	
2	The UE transmits an RRCConnectionRequest message	>	RRC: RRCConnectionRequest	
3	The SS transmit an RRCConnectionSetup message.	<	RRC: RRCConnectionSetup	
4	The UE transmits an RRCConnectionSetupComplete	>	RRC: RRCConnectionSetupComplete	
	message to confirm the successful completion of the		NAS: SERVICE REQUEST	
	connection establishment and to initiate the session			
	management procedure by including the SERVICE			
	REQUEST message.			
5	The SS transmits a SecurityModeCommand message	<	RRC: SecurityModeCommand	
	to activate AS security.			
6	The UE transmits a SecurityModeComplete message	>	RRC: SecurityModeComplete	
	and establishes the initial security configuration.			
7	The SS configures all DRBs, associated with the default	<	RRC: RRCConnectionReconfiguration	
	EPS bearers established during the attach procedure			
	and another DRB, associated with the dedicated EPS			
	bearer established during pre-established session			
	establishment.			
	The RRCConnectionReconfiguration message is using			
	condition SRB2-DRB(n, 1) as specified in TS 36.508 [6] clause 4.8.2.2.1, with n=13 depending on the number			
	of PDNs (see clause 5.4.1A).			
	=> The DRB associated with MCPTT default EPS			
	bearer obtained during the attach procedure and the			
	DRB associated with dedicated EPS bearer obtained			
	during the establishment of the pre-established session			
	get established			
-	EXCEPTION: In parallel to step 8, depending on the	-	-	
	test case, the UE may start signalling on the DRBs			
8	The UE transmits an	>	RRC:	
	RRCConnectionReconfigurationComplete message to		RRCConnectionReconfigurationComplet	
	confirm the establishment of radio bearers.		е	

5.4.13.4 Specific message contents

All specific E-UTRA/EPC signalling message contents shall be referred to TS 36.508 [6] clauses 4.6 and 4.7.

5.5 Default message and other information elements content

5.5.1 General

The following conditions apply throughout clause 5.5:

Table 5.5.1-1: Conditions

Condition	Explanation

Message/IE sent only in on-network scenario.	
Message/IE sent only in off-network scenario.	
Message/IE sent only as part of a Private call handling.	
Message/IE sent only as part of a Group call handling.	
Message/IE sent only as part of an Emergency call handling.	
Message/IE sent only as part of an Immanent Peril call handling.	
Message/IE sent only as part of a Chat group call scenario.	
Message/IE sent only as part of an ambient listening call	
Message/IE sent only as part of a first-to-answer call	
Message/IE sent only in configuration/authentication/authorisation scenario.	
Message/IE sent only in group configuration scenario.	
Message/IE sent only in group key material retrieval scenario.	
Message/IE for presence even package	
Message/IE for poc-settings even package	
Message/IE for affiliation	
Message containing location info	
UE uses UDP for sending a request (this implies UDP to be used for a	
corresponding response)	
UE uses TCP for sending a request (this implies TCP to be used for a	
corresponding response)	
Call (dialog) has been initiated by the UE (mobile originated call)	
Call (dialog) has been initiated by the SS (mobile terminated call)	
MCPTT specific message content	
MCVideo specific message content	
MCData specific message content	

5.5.2 Default SIP message and other information elements

5.5.2.1 SIP ACK

5.5.2.1.1 SIP ACK from the UE

Table 5.5.2.1.1-1: SIP ACK from the UE

Derivation Path: TS 24.229 [16 Information Element	J, clause A.2.1.4.2, A.2.2.4.2 Value/remark	Comment	Reference	Condition
	value/remark	Comment		Condition
Request-Line	"ACK"		RFC 3261 [22]	
Method Request-URI	same URI as the SS			
Request-ORI	has sent earlier in the			
	Contact header of a			
	response within the same dialog			
SIP-Version	"SIP/2.0"			
Via	SIP/2.0		DEC 2264 [22]	
	"CID/2 0/LIDD"		RFC 3261 [22]	LIDD
sent-protocol	"SIP/2.0/UDP"			UDP
	"SIP/2.0/TCP"			TCP
sent-by	Same value as in			
 	INVITE message			
via-branch	Value starting with			
B. 4	'z9hG4bK'		DEC 0004 (00)	
Route			RFC 3261 [22]	
route-param list	URIs of the Record-			
	Route header sent to			
	the UE in the response			
	which has established			
	the dialog, in reverse			
_	order		550 200 1001	
From			RFC 3261 [22]	
addr-spec	same value as in the	Local URI of the dialog		
	INVITE message	(from the UE's point of		
		view)		
tag	same value as in the	Local tag of the dialog		
	INVITE	ID (from the UE's point		
_		of view)	DEC 0004 (00)	
То			RFC 3261 [22]	
addr-spec	same value as in the	Remote URI of the		
	INVITE	dialog (from the UE's		
		point of view)		
tag	same tag as in the To-	Remote tag of the		
	header of the response	dialog ID (from the UE's		
	which has established	point of view)		
0.11.15	the dialog		DEC 0004 (00)	
Call-ID			RFC 3261 [22]	
callid	same value as in			
0.000	INVITE message		DE0 0004 500	
Cseq			RFC 3261 [22]	
value	same value as in			
4 1	INVITE message			
method	"ACK"		DE0 000 / 1000	
Max-Forwards		ļ	RFC 3261 [22]	
value	any allowed value	Non-zero value		
Content-Length	if present		RFC 3261 [22]	
value	"0"	No message body		
		included	1	

5.5.2.1.2 SIP ACK from the SS

Table 5.5.2.1.2-1: SIP ACK from the SS

Derivation Path: TS 24.229 [16]				
Information Element	Value/remark	Comment	Reference	Condition
Request-Line			RFC 3261 [22]	
Method	"ACK"			
Request-URI	same URI as the UE has sent earlier in the Contact header of a response within the same dialog	Contact URI of the UE ("callee")		
SIP-Version	"SIP/2.0"			
Via	same as in the INVITE but with updated via- branches in case of an ACK for 2xx response	see Table 5.5.2.5.2-1	RFC 3261 [22]	
Route	not present		RFC 3261 [22]	
From			RFC 3261 [22]	
addr-spec	same URI as in the From-header of the INVITE	remote URI of the dialog (from the UE's point of view)		
tag	same tag as in the From-header of the INVITE	remote tag of the dialog (from the UE's point of view)		
То			RFC 3261 [22]	
addr-spec	same URI as in the To- header of the INVITE	local URI of the dialog (from the UE's point of view)		
tag	same tag as in the To- header of the response which has established the dialog	local tag of the dialog (from the UE's point of view)		
Call-ID			RFC 3261 [22]	
callid	Same value as in INVITE	Call-Id of the dialog		
Cseq			RFC 3261 [22]	
value	Same value as in INVITE			
method	"ACK"			
Max-Forwards			RFC 3261 [22]	
value	"68"	The recommended initial value is 70 in RFC 3261. Assuming 2 hops as according to the Via header this results in a value of 68 in the message sent to the UE		
Content-Length			RFC 3261 [22]	
value	"0"	No message body included		

5.5.2.2 SIP BYE

5.5.2.2.1 SIP BYE from the UE

Table 5.5.2.2.1-1: SIP BYE from the UE

Information Element	Value/remark	Comment	Reference	Condition
Request-Line			RFC 3261 [22]	22
Method	"BYE"		10 0 0201 [22]	
Request-URI	same URI as the SS	Contact URI of the		
Request-URI				
	has sent earlier in the	recipient of the BYE		
	Contact header of a			
	message within the			
	same dialog			
SIP-Version	"SIP/2.0"			
Via			RFC 3261 [22]	
sent-protocol	"SIP/2.0/UDP"			UDP
	"SIP/2.0/TCP"			TCP
sent-by	same value as in			MO_CALL
•	INVITE message			
sent-by	<u> </u>			MT_CALL
host	IP address or FQDN	Either the UE's IP		_
		address or its home		
		domain name		
port	protected server port of	as assigned during		
port	the UE	registration		
via branch		regionanon		
via-branch	Value starting with			
Davida	'z9hG4bK'	-	DEC 2004 [22]	
Route	1151 (4 5		RFC 3261 [22]	140 0
route-param list	URIs of the Record-			MO_CALL
	Route header sent to			
	the UE in the response			
	which has established			
	the dialog, in reverse			
	order			
	URIs of the Record-			MT_CALL
	Route header sent to			_
	the UE in the INVITE			
From			RFC 3261 [22]	
addr-spec	Same URI of the UE as	Local URI of the dialog		
add. op oo	used earlier in the	(from the UE's point of		
	dialog	view)		
tag	Same tag of the UE as	Local tag of the dialog		
iag	used earlier in the	ID (from the UE's point		
	dialog	of view)		
То	dialog	or view)	RFC 3261 [22]	
	Same URI of the SS as	Dometa LIDI of the	KFC 3201 [22]	
addr-spec		Remote URI of the		
	used earlier in the	dialog (from the UE's		
	dialogURI	point of view)		
tag	Same tag of the SS as	Remote tag of the		
	used earlier in the	dialog ID (from the UE's		
0.11.10	dialog	point of view)	DE0	
Call-ID			RFC 3261 [22]	
callid	same value as in			
	INVITE message			
CSeq			RFC 3261 [22]	
value	value of CSeq sent by			
	the endpoint within its			
	previous request in the			
	same dialog but			
	increased by one			
method	"BYE"			
Require		1	RFC 3261 [22]	
quii v			RFC 3201 [22]	
ontion-tag	"sec-agree"		111 0 0028 [00]	
option-tag	sec-agree		DEC 2064 [00]	
Proxy-Require			RFC 3261 [22]	
			RFC 3329 [53]	
option-tag	"sec-agree"			
Security-Verify			RFC 3329 [53]	
sec-mechanism	same value as Security			
	-Server header sent by			
	SS during registration		İ	Ĩ

Max-Forwards			RFC 3261[22]
value	any allowed value	Non-zero value	
P-Access-Network-Info			RFC 7315 [52] RFC 7913 [51]
access-net-spec	Access network technology and, if applicable, the cell ID		
Content-Length	if present		RFC 3261 [22]
value	"0"	No message body included	

5.5.2.2.2 SIP BYE from the SS

Table 5.5.2.2.2-1: SIP BYE from the SS

Derivation Path: TS 24.229 [16 Information Element	Value/remark	Comment	Reference	Condition
Request-Line			RFC 3261 [22]	
Method	"BYE"			
Request-URI	same URI as the UE has sent earlier in the Contact header of a response within the same dialog	Contact URI of the UE ("callee")		
SIP-Version	"SIP/2.0"			
Via	same as specified for INVITE sent by the SS in Table 5.5.2.5.2-		RFC 3261 [22]	MO_CALL
Via	same as in INVITE but with updated via- branches		RFC 3261 [22]	MT_CALL
Route	Not present		RFC 3261 [22]	
From			RFC 3261 [22]	
addr-spec	Same URI of the SS as used earlier in the dialog	Remote URI of the dialog (from the UE's point of view)		
tag	Same tag of the SS as used earlier in the dialog	Remote tag of the dialog (from the UE's point of view)		
То			RFC 3261 [22]	
addr-spec	Same URI of the UE as used earlier in the dialog	Local URI of the dialog (from the UE's point of view)		
tag	Same tag of the UE as used earlier in the dialog	Local tag of the dialog (from the UE's point of view)		
Call-ID	9	,	RFC 3261 [22]	
callid	same value as in INVITE message			
CSeq			RFC 3261 [22]	
value	value of CSeq sent by the endpoint within its previous request in the same dialog but increased by one			
method	"BYE"			
Max-Forwards			RFC 3261[22]	
value	"68"	The recommended initial value is 70 in RFC 3261. Assuming 2 hops as according to the Via header this results in a value of 68 in the message sent to the UE		
P-Asserted-Identity			RFC 3325 [32]	
addr-spec				
user-info and host	tsc_MCPTT_PublicServ iceId_A	The URI of the SS		
port	not present			
Content-Length			RFC 3261 [22]	
value	"0"	No message body included		

5.5.2.3 SIP CANCEL

This message is sent by the SS.

Table 5.5.2.3-1: SIP CANCEL

Information Element	Value/remark	Comment	Reference	Condition
Request-Line			RFC 3261 [22]	
Method	"CANCEL"			
Request-URI	same value as in the INVITE being cancelled			
SIP-Version	"SIP/2.0"			
Via			RFC 3261 [22]	
via-parm	same value as in the INVITE being cancelled			
From			RFC 3261 [22]	
addr-spec	same value as in the INVITE being cancelled			
tag	same value as in the INVITE being cancelled			
То			RFC 3261 [22]	
addr-spec	same value as in the INVITE being cancelled			
Call-ID			RFC 3261 [22]	
Callid	same value as in the INVITE being cancelled			
CSeq			RFC 3261 [22]	
value	same value as in the INVITE being cancelled			
Method	"CANCEL"			
Content-Length			RFC 3261 [22]	
value	"0"	No message body included		

5.5.2.4 SIP INFO

This message is sent by the SS.

Table 5.5.2.4-1: SIP INFO

Derivation Path: TS 24.229 [16] Information Element	Value/remark	Comment	Reference	Condition
Request-Line			1101010101	
Method	"INFO"			
Request-URI	px_MCPTT_Client_A_I			
	D			
	px_MCVideo_Client_A			MCVIDEO
	_ID			MODATA
	px_MCData_Client_A_I D			MCDATA
SIP-Version	"SIP/2.0"			
Via	011 72.0		RFC 3261 [22]	
			RFC 3581 [55]	
sent-protocol	"SIP/2.0/UDP"			
sent-by	any allowed value	IP address or FQDN		
		and protected server		
		port of the UE		
via-branch	any allowed value	Value starting with		
From		'z9hG4bK'	DEC 2204 [22]	
addr-spec	px_MCPTT_Client_A_I		RFC 3261 [22]	
addi-spec	D D			
	px_MCVideo_Client_A			MCVIDEO
	_ID			
	px_MCData_Client_A_I			MCDATA
	D			
tag	"1"			
То			RFC 3261 [22]	
	1 MORTT BUILD		RFC 5031 [54]	
addr-spec	tsc_MCPTT_PublicSer viceId_A			
	px_MCVideo_PublicSer viceId_A			MCVIDEO
	px_MCData_PublicSer viceId_A			MCDATA
Call-ID	1 2 2		RFC 3261 [22]	
Callid	same value as in the INVITE			
CSeq			RFC 3261 [22]	
value	value of CSeq sent by			
	the SS within its			
	previous request in the			
	same dialog but			
Method	increased by one "INFO"			
Max-Forwards	11110		RFC 3261 [22]	
value	"70"	The recommended	5 0201 [22]	
value		initial value is 70 in		
		RFC 3261.		
		Editor's Note: to be		
		changed to realistic		
		value taking into account number of		
		hops		
Content-Length		Поро	RFC 3261 [22]	
value	length of message		[]	
	body			
Message Body	any allowed value			

Editor's note: Table 5.5.2.4-1 needs to be reviewed

5.5.2.5 SIP INVITE

5.5.2.5.1 SIP INVITE from the UE

Table 5.5.2.5.1-1: SIP INVITE from the UE

Derivation Path: TS 24.229 [16] Information Element	Value/remark	Comment	Reference	Condition
Request-Line	Talac/Tollial N	Comment	RFC 3261 [22]	Condition
			RFC 5031 [54]	
Method	"INVITE"			
Request-URI	tsc_MCPTT_PublicServ iceId_A	The public service identity identifying the participating MCPTT function serving the MCPTT user		
	px_MCVideo_PublicSer viceId_A	The public service identity identifying the participating MCVideo function serving the MCVideo user		MCVIDEO
	px_MCData_PublicServ iceId_A	The public service identity identifying the participating MCData function serving the MCData user		MCDATA
Request-URI SIP-Version	same URI as the SS has sent earlier in the Contact header of a message within the same dialog "SIP/2.0"	Contact URI of the recipient of the BYE		re_INVITE
Via	011 72.0		RFC 3261 [22]	
			RFC 3581 [55]	
sent-protocol	"SIP/2.0/UDP"	UE accesses the server via UDP		UDP
	"SIP/2.0/TCP"	UE accesses the server via TCP		TCP
sent-by				
host	IP address or FQDN	Either the UE's IP address or its home domain name		
port	protected server port of the UE	as assigned during registration		
via-branch	Value starting with 'z9hG4bK'			
Route			RFC 3261 [22]	
addr-spec[1] user-info and host	P-CSCF address of the SS	P-CSCF address as assigned to the UE via NAS signalling or P- CSCF discovery		
port	protected server port of the SS	as assigned during registration		
uri-parameters	"Ir"			
addr-spec[2] user-info and host	SIP URI "scscf.3gpp.org"	same value as in the Service-Route header field of the 200 OK response to REGISTER		
port	not present			
uri-parameters	"Ir"			
route-param list	URIs of the Record- Route header sent to the UE in the response which has established the dialog, in reverse order		RFC 3261 [22]	re_INVITE MO_CALL
	URIs of the Record- Route header sent to the UE in the INVITE			MT_CALL

Derivation Path: TS 24.229 [16] Information Element	Value/remark	Comment	Reference	Condition
From			RFC 3261 [22]	
addr-spec			-	
user-info and host	Default public user id (px_MCX_SIP_PublicU serId_A_1)			
port	not present			
tag	any value			
From			RFC 3261 [22]	re_INVITE
addr-spec	Same URI of the UE as used earlier in the dialog	Local URI of the dialog (from the UE's point of view)		
tag	Same tag of the UE as used earlier in the dialog	Local tag of the dialog ID (from the UE's point of view)		
То			RFC 3261 [22] RFC 5031 [54]	
addr-spec				
user-info and host	Same URI as Request- URI			
port	not present			
tag	not present			
То			RFC 3261 [22]	re_INVITE
addr-spec	Same URI of the SS as used earlier in the dialogURI	Remote URI of the dialog (from the UE's point of view)		
tag	Same tag of the SS as used earlier in the dialog	Remote tag of the dialog ID (from the UE's point of view)		
Call-ID			RFC 3261 [22]	
callid	any allowed value			
callid	same value as in INVITE creating the dialog			re_INVITE
CSeq			RFC 3261 [22]	
value	any allowed value			
value	value of CSeq sent by the endpoint within its previous request in the same dialog but increased by one			re_INVITE
method	"INVITE"			
Supported			RFC 3261 [22]	
option-tag	"timer"		()	
Session-Expires			RFC 4028 [30]	
delta-seconds	any allowed value			
Require	any america rando		RFC 3261 [22] RFC 3312 [56] RFC 3329 [53]	
option-tag	"sec-agree"			
Proxy-Require			RFC 3261 [22] RFC 3329 [53]	
option-tag	"sec-agree"			
Security-Verify	3		RFC 3329 [53]	
sec-mechanism	same value as Security -Server header sent by SS during registration			
Contact			RFC 3261 [22 RFC 3840 [33]	

Information Element addr-spec user-info and host port feature-param	Value/remark SIP URI IP address or FQDN protected server port of UE "+g.3gpp.mcptt"	as assigned during registration	Reference	Condition
user-info and host port	IP address or FQDN protected server port of UE			
port	protected server port of UE			
•	ÜE			1
feature-param	_	rogiotiation		
Todas param	у у одрринори	This media feature tag		
		when used in a SIP		
	Ī	request or a SIP		
		response indicates that		
		the function sending		
		the SIP message		
		supports Mission		
		Critical Push To Talk		
		(MCPTT)		
		communication.		
	"+g.3gpp.mcvideo"	This media feature tag		MCVIDEO
		when used in a SIP		
		request or a SIP		
		response indicates that		
		the function sending		
		the SIP message		1
		supports Mission		1
		Critical Video		1
		(MCVideo)		
		communication.		1405.5
	"+g.3gpp.mcdata.sds"	This media feature tag		MCDATA
		when used in a SIP		
		request or a SIP		
		response indicates that		
		the function sending		
		the SIP message supports mission		
		critical data (MCData)		
		service.communication.		
feature-param	"+g.3gpp.icsi-	This URN indicates that		
ioatuie-paiaiii	ref=urn:urn-7:3gpp-	the device has the		
	service.ims.icsi.mcptt"	capabilities to support		1
	20oninononinopit	the mission critical		1
		push to talk (MCPTT)		
		service.		1
	"+g.3gpp.icsi-	This URN indicates that		MCVIDEO
	ref=urn:urn-7:3gpp-	the device has the		
	service.ims.icsi.mcvide	capabilities to support		1
	0"	the Mission Critical		
		Video (MCVideo)		1
		communication.		
	"+g.3gpp.icsi-	This URN indicates that		MCDATA
	ref=urn:urn-7:3gpp-	the device has the		1
	service.ims.icsi.mcdata.	capabilities to support		
	sds"	the mission critical data		
		(MCData) service.		
feature-param	"audio"	This feature tag		MCPTT
		indicates that the		OR
		device supports audio		MCVIDEO
		as a streaming media		1
		type.		
feature-param	"video"	This feature tag		MCVIDEO
		indicates that the		
		device supports video		1
		as a streaming media		1
		type.		
feature-param	"text"	This feature tag		MCDATA
		indicates that the		
		device supports text as		1
		a streaming media		
		type.	RFC 3261 [22]	

Derivation Path: TS 24.229 [16]		Comment	Deference	Condition
Information Element	Value/remark	Comment	Reference	Condition
value P-Access-Network-Info	any allowed value	Non-zero value	RFC 7315 [52]	
access-net-specs	Access network	AUTO	KFC 7313 [32]	
access-net-specs	technology and, if	7010		
	applicable, the cell ID			
Accept			RFC 3261 [22]	
media-range[1]	"application/sdp"		•	
media-range[2]	"application/vnd.3gpp.			
	mcptt-info+xml"			
	application/vnd.3gpp.m			MCVIDEO
	cvideo-info+xml			MODATA
	"application/vnd.3gpp. mcdata-info+xml"			MCDATA
P-Preferred-Service	Ilicuata-Ilii0+xiiii		RFC 6050 [31]	
Service-ID	"urn:urn-7:3gpp-		1(1 0 0000 [51]	
001 VI00 12	service.ims.icsi.mcptt"			
	"urn:urn-7:3gpp-			MCVIDEO
	service.ims.icsi.mcvide			
	о"			
	"urn:urn-7:3gpp-			MCDATA
	service.ims.icsi.mcdata.			
D. Dunfarra d. Idantitu	sds"		DEC 2005 [00]	
P-Preferred-Identity PPreferredID-value	if present same URI as in From-		RFC 3325 [32]	
PPreferredib-value	header			
Accept-Contact	rieadei		RFC 3841 [29]	
ac-value[1]			1(1 0 3041 [23]	
feature-param	"+g.3gpp.icsi-			
routuro param	ref=urn:urn-7:3gpp-			
	service.ims.icsi.mcptt"			
	"+g.3gpp.icsi-			MCVIDEO
	ref=urn:urn-7:3gpp-			
	service.ims.icsi.mcvide			
	o" "+g.3gpp.icsi-			MCDATA
	ref=urn:urn-7:3gpp-			MCDATA
	service.ims.icsi.mcdata.			
	sds"			
req-param	"require"			
explicit-param	"explicit"			
ac-value[2]				
feature-param	"+g.3gpp.mcptt"			
	"+g.3gpp.mcvideo"			MCVIDEO
	"+g.3gpp.mcdata.sds"			MCDATA
req-param	"require"			
explicit-param Priv Angwer Mode	"explicit"			
Priv-Answer-Mode Answer-Mode	not present not present		RFC 5373 [34]	re_INVITE
Answer-Mode	not present		RFC 5373 [34]	IG_IINVIIE
answer-mode-value	"Auto"		111 0 007 0 [04]	
answer-mode-value	"Manual"			MANUAL
Resource-Priority			RFC 4412 [40]	EMERGEN
•			RFC 7134 [57]	CY-CALL
			RFC 8101 [45]	or
				IMMPERIL
				-CALL
r-value				EMERGEN CY-CALL

Derivation Path: TS 24.229 [16], c				
Information Element	Value/remark	Comment	Reference	Condition
namespace	value of the <resource-< td=""><td>As configured in Table</td><td></td><td></td></resource-<>	As configured in Table		
	priority-namespace>	5.5.8.4-1		
	element contained in			
	the <emergency-< td=""><td></td><td></td><td></td></emergency-<>			
	resource-priority> element contained in			
	the <onnetwork></onnetwork>			
	element of the MCX			
	service configuration			
	documents			
r-priority	value of the <resource-< td=""><td>As configured in Table</td><td></td><td></td></resource-<>	As configured in Table		
· phony	priority-priority>	5.5.8.4-1		
	element contained in			
	the <emergency-< td=""><td></td><td></td><td></td></emergency-<>			
	resource-priority>			
	element contained in			
	the <onnetwork></onnetwork>			
	element of the MCX			
	service configuration			
	document			
r-value				IMMPERIL
				-CALL
namespace	value of the <resource-< td=""><td>As configured in Table</td><td></td><td></td></resource-<>	As configured in Table		
	priority-namespace>	5.5.8.4-1		
	element contained in			
	the <imminent-peril-< td=""><td></td><td></td><td></td></imminent-peril-<>			
	resource-priority>			
	element contained in			
	the <onnetwork></onnetwork>			
	element of the MCX			
	service configuration			
r priority	documents value of the <resource-< td=""><td>As soutier and in Table</td><td></td><td></td></resource-<>	As soutier and in Table		
r-priority		As configured in Table 5.5.8.4-1		
	priority-priority> element contained in	5.5.6.4-1		
	the <imminent-peril-< td=""><td></td><td></td><td></td></imminent-peril-<>			
	resource-priority>			
	element contained in			
	the <onnetwork></onnetwork>			
	element of the MCX			
	service configuration			
	document			
Content-Type			RFC 5621 [58]	
media-type	"multipart/mixed"			
Content-Length	present in case of TCP		RFC 3261 [22]	
	and when there is a			
	message body			
	(otherwise optional)			
value	any value	length of message-		
Message-body		body	RFC 3261 [22]	
MIME body part		SDP message	111 0 3201 [22]	
MIME-part-headers		ODI IIIGSSAYE		
Content-Type	"application/sdp"		RFC 4566 [27]	
		Î	N O 7000 [27]	
MIME-part-body	SDP Message as			
	SDP Message as described in Table			
	SDP Message as described in Table 5.5.3.1.1-1			MCVIDEO
	SDP Message as described in Table 5.5.3.1.1-1 SDP Message as			MCVIDEO
	SDP Message as described in Table 5.5.3.1.1-1 SDP Message as described in Table			MCVIDEO
	SDP Message as described in Table 5.5.3.1.1-1 SDP Message as described in Table 5.5.3.1.1-2			
	SDP Message as described in Table 5.5.3.1.1-1 SDP Message as described in Table 5.5.3.1.1-2 SDP Message as			MCVIDEO MCDATA
	SDP Message as described in Table 5.5.3.1.1-1 SDP Message as described in Table 5.5.3.1.1-2 SDP Message as described in Table			
MIME-part-body	SDP Message as described in Table 5.5.3.1.1-1 SDP Message as described in Table 5.5.3.1.1-2 SDP Message as	MCPTT		
	SDP Message as described in Table 5.5.3.1.1-1 SDP Message as described in Table 5.5.3.1.1-2 SDP Message as described in Table	MCPTT Info/MCVideo/MCData		

Derivation Path: TS 24.229 [16],				
Information Element	Value/remark	Comment	Reference	Condition
Content-Type	"application/vnd.3gpp.			
	mcptt-info+xml" "application/vnd.3gpp.			MCVIDEO
	mcvideo-info+xml"			.vic viblo
	"application/vnd.3gpp.			MCDATA
	mcdata-info+xml"			
Content-ID	any value	Unique URL identifying the MCPTT/MCVideo/MCD ata Info XML MIME	TS 24.379 [9] clause 6.6.3.1	
		body; used as reference in the signature MIME body		
MIME-part-body	MCPTT-Info as described in Table 5.5.3.2.1-1		TS 24.379 [9] clause F.1	
	MCVideo-Info as described in Table 5.5.3.2.1-2		TS 24.281 [86] clause F.1	MCVIDEO
	MCData-Info as described in Table 5.5.3.2.1-3		TS 24.282 [87] clause D.1	MCDATA
MIME body part		Resource list	RFC 5366 [35]	PRIVATE- CALL OR MCD_1to1
MIME-part-headers				
Content-Type	"application/resource- lists+xml"			
Content-ID	any value	Unique URL identifying the Resource-lists XML MIME body; used as reference in the signature MIME body	TS 24.379 [9] clause 6.6.3.1	
MIME-part-body	As described in Table 5.5.3.3.1-1			
	As described in Table 5.5.3.3.1-2 As described in Table			MCVIDEO MCDATA
	5.5.3.3.1-3			
MIME body part		Location info		(EMERGE NCY-CALL AND ALERT_IN D) OR LOCATIO N-INFO
MIME-part-headers		T1: 141145		
Content-Type	"application/vnd.3gpp. mcptt-location- info+xml"	This MIME part shall be included if the MCPTT-Info 'alert-ind' element sent in the MCPTT-Info is set to true.		
	"application/vnd.3gpp. mcvideo-location- info+xml"	This MIME part shall be included if the MCVideo-Info 'alert-ind' element sent in the MCVideo-Info is set to true.		MCVIDEO
Content-ID	any value	Unique URL identifying the Location-info XML MIME body; used as reference in the signature MIME body	TS 24.379 [9] clause 6.6.3.1	

Derivation Path: TS 24.229 [16],	clause A.2.1.4.7, A.2.2.4.7			
Information Element	Value/remark	Comment	Reference	Condition
MIME-part-body	Location-info as described in Table 5.5.3.4.1-1		TS 24.379 [9] clause F.3	
	Location-info as described in Table 5.5.3.4.1-2		TS 24.281 [86] clause F.3	MCVIDEO
MIME body part		MIKEY message		MCD_1to1
MIME-part-headers				
Content-Type	"application/mikey"			
MIME-part-body	As described in Table 5.5.9.1-2A	MIKEY message, containing the PSK	TS 33.180 [30] TS 24.282 [87]	
MIME body part		Signature		
MIME-part-headers				
Content-Type	"application/vnd.3gpp. mcptt-signed+xml"		TS 24.379 [9]	
MIME-part-body	Signatures for XML MIME bodies as described in Table 5.5.13.1-1		TS 24.379 [9]	

Condition	Explanation
MANUAL	Call establishment with manual commencement mode
MCD_1to1	A one-to-one MCData call
re_INVITE	INVITE within a dialog
ALERT_IND	MCPTT emergency alert is required as specified for the test case or automatically initiated by the client for an emergency call (in case of condition EMERGENCY-CALL when pc_MCX_EmergencyIndWithAlertInd=true); ⇒ <alert-ind> is set to true in the mcptt-info.</alert-ind>
NOTE: For further conditions see table 5.5.1	-1

5.5.2.5.2 SIP INVITE from the SS

Table 5.5.2.5.2-1: SIP INVITE from the SS

Derivation Path: TS 24.229 [16] Information Element	Value/remark	Comment	Reference	Condition
Request-Line	- araon oman	- John Hollt	RFC 3261 [22]	Condition
			RFC 5031 [54]	
Method	"INVITE"			
Request-URI	SIP URI of the UE's			
	contact address as			
	provided in the			
	Contact-header of the			
Deguest LIDI	REGISTER message same URI as the UE	Contact URI of the UE		re_INVITE
Request-URI	has sent earlier in the	("callee")		ie_iivvii∈
	Contact header of a	(canee)		
	response within the			
	same dialog			
SIP-Version	"SIP/2.0"			
Via			RFC 3261 [22]	
			RFC 3581 [55]	
sent-protocol[1]	"SIP/2.0/TCP"			
sent-by[1]		Address of the P-CSCF		
		that communicates with		
h a a t	D 0005 - 44 (4	the called party		
host	P-CSCF address of the	P-CSCF address as		
	SS	assigned to the UE via NAS signalling or P-		
		CSCF discovery		
port	protected server port of	as assigned during		
port	the SS	registration		
via-branch[1]	Value assigned by the			
	SS starting with			
	'z9hG4bK'			
sent-protocol[2]	"SIP/2.0/UDP"			
sent-by[2]		Address of the other		
		endpoint (the caller)		
host	Host name of the SIP			
	URI being used in the			
port	From header Same port number as	Caller's port number		
port	in Contact-header	Caller's port number		
via-branch[2]	Value assigned by the			
via pranon[2]	SS starting with			
	'z9hG4bK'			
Record-Route		Record-Route	RFC 3261 [22]	
		corresponding to the		
		Via header		
addr-spec[1]	SIP URI	SIP URI corresponding		
		to first entry of Via		
constitute and to set	D CCCE address of the	header		
user-info and host	P-CSCF address of the SS	P-CSCF address as assigned to the UE via		
	33	NAS signalling or P-		
		CSCF discovery		
port	protected server port of	as assigned during		
P	the SS	registration		
uri-parameters	"Ir"			
addr-spec[2]	SIP URI			
user-info and host	"term@scscf1.3gpp.org			
	"			
port	not present			
uri-parameters	"Ir"			
addr-spec[3]	SIP URI			
user-info and host	"orig@scscf2.3gpp.org"			
port	not present			
uri paramatara		Î.	1	I
uri-parameters	I .			
uri-parameters addr-spec[4] user-info and host	SIP URI "pcscf2.3gpp.org"			

Derivation Path: TS 24.229 [16] Information Element	Value/remark	Comment	Reference	Condition
uri-parameters	"Ir"	Comment	Reference	Condition
Record-Route	same as in the 180, 183 or 200 response sent to the UE during MO call establishment in reverse order		RFC 3261 [22]	re_INVITE AND MO_CALL
From			RFC 3261 [22]	
addr-spec				
user-info and host	tsc_MCPTT_PublicServ iceId_A	SIP URI of the calling UE		
	px_MCVideo_PublicSer viceId_A	SIP URI of the calling UE		MCVIDEO
	px_MCData_PublicServ iceId_A	SIP URI of the calling UE		MCDATA
port	not present			
tag	Value assigned by the SS			
From			RFC 3261 [22]	re_INVITE
addr-spec	Same URI of the SS as used earlier in the dialog	Remote URI of the dialog (from the UE's point of view)		
tag	Same tag of the SS as used earlier in the dialog	Remote tag of the dialog (from the UE's point of view)		
То			RFC 3261 [22] RFC 5031 [54]	
addr-spec				
user-info and host	px_MCX_SIP_PublicUs erld_A_1	Default public user ID (IMPU) as stored in the UICC		
port	not present			
tag	not present			
То			RFC 3261 [22]	re_INVITE
addr-spec	Same URI of the UE as used earlier in the dialog	Local URI of the dialog (from the UE's point of view)		
tag	Same tag of the UE as used earlier in the dialog	Local tag of the dialog (from the UE's point of view)		
Call-ID		,	RFC 3261 [22]	
callid	Value assigned by the SS			
Call-ID			RFC 3261 [22]	re_INVITE
callid	same value as in INVITE creating the dialog			
Replaces			RFC 3891 [117] TS 24.379 [9] clause 6.3.2.2	PRE- ESTABLIS HED
callid	callid of the targeted pre-established session			
replaces-params				
from-tag	to-tag of the targeted pre-established session			
to-tag	from-tag of the targeted pre-established session			
CSeq	pre-established Session		RFC 3261 [22]	
value	Value assigned by the		11 0 0201 [22]	
	SS SS			

Derivation Path: TS 24.229 [16] Information Element	Value/remark	Comment	Reference	Condition
value	value of CSeq sent by			re_INVITE
	the endpoint within its			
	previous request in the			
	same dialog but			
	increased by one			
method	"INVITE"			
Supported			RFC 3261 [22]	
option-tag	"100rel"	This option tag		
		indicates that the UA		
		can send or receive		
		reliable provisional responses.		
option-tag	"timer"	responses.		
option-tag	"tdialog"			
option-tag	"norefersub"			
P-Called-Party-ID			RFC 7315 [52]	
called-pty-id-spec	Same public user ID as			
. , .	used in the To-header			
Session-Expires			RFC 4028 [30]	
generic-param	"1800"	The recommended		
		initial value is 1800 in		
		RFC 4028 [30].		
P-Early-Media			RFC 5009 [60]	
em-parm	"inactive"		DE0 0004 (00)	
Require			RFC 3261 [22]	
			RFC 3312 [56]	
antion to a	"ana agrae"		RFC 3329 [53]	
option-tag Proxy-Require	"sec-agree"		RFC 3261 [22]	
rioxy-Require			RFC 3201 [22] RFC 3329 [53]	
option-tag	"sec-agree"		10 0020 [00]	
P-Asserted-Identity	000 ag.00		RFC 3325 [32]	
addr-spec			0 0020 [02]	
user-info and host	same URI as in From-			
	header			
port	not present			
Contact			RFC 3261 [22]	
			RFC 3840 [33]	
addr-spec	SIP URI			
user-info and host	tsc_MCPTT_PublicServ			
	iceld_A			140)//550
	px_MCVideo_PublicSer			MCVIDEO
	viceId_A			MODATA
	px_MCData_PublicServ			MCDATA
port	iceld_A Value assigned by the			
port	SS saligned by the			
feature-param	"+g.3gpp.mcptt"	This media feature tag	RFC 3840 [33]	
•		when used in a SIP	clause 9	
		request or a SIP		
		response indicates that		
		the function sending		
		the SIP message		
		supports Mission		
		Critical Push To Talk		
		(MCPTT)		
		communication.		1

Derivation Path: TS 24.229 [16]				
Information Element	Value/remark	Comment	Reference	Condition
	"+g.3gpp.mcvideo"	This media feature tag when used in a SIP request or a SIP	RFC 3840 [33] clause 9	MCVIDEO
		response indicates that the function sending the SIP message supports Mission		
		Critical Video (MCVideo) communication.		
	"+g.3gpp.mcdata.sds"	This media feature tag when used in a SIP request or a SIP response indicates that the function sending the SIP message supports Mission Critical Data (MCData) communication.	RFC 3840 [33] clause 9	MCDATA
feature-param	"+g.3gpp.icsi- ref=urn:urn-7:3gpp- service.ims.icsi.mcptt"	This URN indicates that the device has the capabilities to support the mission critical push to talk (MCPTT) service.	RFC 3840 [33] clause 9	
	"+g.3gpp.icsi- ref=urn:urn-7:3gpp- service.ims.icsi.mcvide o"	This URN indicates that the device has the capabilities to support the mission critical video (MCVideo) service.	RFC 3840 [33] clause 9	MCVIDEO
	"+g.3gpp.icsi- ref=urn:urn-7:3gpp- service.ims.icsi.mcdata. sds"	This URN indicates that the device has the capabilities to support the mission critical data (MCData) service.	RFC 3840 [33] clause 9	MCDATA
feature-param	"audio"	This feature tag indicates that the device supports audio as a streaming media type.	RFC 3840 [33] clause 10.1	MCPTT OR MCVIDEO
feature-param	"video"	This feature tag indicates that the device supports video as a streaming media type.		MCVIDEO
feature-param	"text"	This feature tag indicates that the device supports text as a streaming media type.		MCDATA
feature-param	"isfocus"			
Max-Forwards	"00"	The reserver ! !	RFC 3261 [22]	
value	"68"	The recommended initial value is 70 in RFC 3261 [22]. Assuming 2 hops as according to the Via header this results in a value of 68 in the message sent to the UE		
Accept			RFC 3261 [22]	
media-range[1]	"application/sdp "			
media-range[2]	"application/vnd.3gpp. mcptt-info+xml"			

Derivation Path: TS 24.229 [16],				
Information Element	Value/remark	Comment	Reference	Condition
	"application/vnd.3gpp. mcvideo-info+xml"			MCVIDEO
	"application/vnd.3gpp. mcdata-info+xml"			MCDATA
Accept-Contact			RFC 3841 [29]	
ac-value[1]				
feature-param	"+g.3gpp.icsi- ref=urn:urn-7:3gpp- service.ims.icsi.mcptt" "+g.3gpp.icsi-			MCVIDEO
	ref=urn:urn-7:3gpp- service.ims.icsi.mcvide o"			
	"+g.3gpp.icsi- ref=urn:urn-7:3gpp- service.ims.icsi.mcdata. sds"			MCDATA
req-param	"require"			
explicit-param	"explicit"			
ac-value[2]				
feature-param	"+g.3gpp.mcptt" "+g.3gpp.mcvideo" "+g.3gpp.mcdata.sds"			MCVIDEO MCDATA
req-param	"require"			
explicit-param	"explicit"			
Answer-Mode	not present		RFC 5373 [34] TS 24.379 [9] clause 6.3.2.2.6.3	re-INVITE OR FIRST- TO- ANSWER
Answer-Mode			RFC 5373 [34]	
answer-mode-value	"Auto"			
answer-mode-value	"Manual"			MANUAL
Priv-Answer-Mode				FIRST-TO- ANSWER
answer-mode-value	"Manual"			
Resource-Priority			RFC 4412 [40] RFC 7134 [57] RFC 8101 [45]	EMERGEN CY-CALL or IMMPERIL -CALL
r-value				EMERGEN CY-CALL
namespace	value of the <resource- priority-namespace> element contained in the <emergency- resource-priority> element contained in the <onnetwork> element of the MCX service configuration documents</onnetwork></emergency- </resource- 	As configured in Table 5.5.8.4-1		
r-priority	value of the <resource- priority-priority> element contained in the <emergency- resource-priority> element contained in the <onnetwork> element of the MCX service configuration document</onnetwork></emergency- </resource- 	As configured in Table 5.5.8.4-1		
r-value				IMMPERIL -CALL

Indows - Class Electric	clause A.2.1.4.7, A.2.2.4.7	0	D-f	0
Information Element	Value/remark	Comment	Reference	Condition
Namespace	value of the <resource-< td=""><td>As configured in Table</td><td></td><td></td></resource-<>	As configured in Table		
	priority-namespace>	5.5.8.4-1		
	element contained in			
	the <imminent-peril-< td=""><td></td><td></td><td></td></imminent-peril-<>			
	resource-priority>			
	element contained in			
	the <onnetwork></onnetwork>			
	element of the MCX			
	service configuration documents			
r priority	value of the <resource-< td=""><td>As configured in Table</td><td></td><td></td></resource-<>	As configured in Table		
r-priority		5.5.8.4-1		
	priority-priority> element contained in	5.5.6.4-1		
	the <imminent-peril-< td=""><td></td><td></td><td></td></imminent-peril-<>			
	resource-priority>			
	element contained in			
	the <onnetwork></onnetwork>			
	element of the MCX			
	service configuration			
	document			
Content-Type			RFC 5621 [58]	
media-type	"multipart/mixed"			
Content-Length			RFC 3261 [22]	
Value	length of message-			
	body		D=0 t	
Message-body		000	RFC 3261 [22]	
MIME body part		SDP message		
MIME-part-headers				
MIME-Content-Type	"application/sdp"		DEO 4500 1071	
MIME-part-body	SDP Message as		RFC 4566 [27]	
	described in Table			
	5.5.3.1.2-1		DEC 4560 1071	MOVIDEO
	SDP Message as described in Table		RFC 4566 [27]	MCVIDEO
	5.5.3.1.2-2			
	SDP Message as		RFC 4566 [27]	MCDATA
	described in Table		111 0 4300 [27]	WODATA
	5.5.3.1.2-3			
MIME body part	3.0.02 0	MCPTT/MCVideo/MCD		
		ata Info		
		ata Info		
MIME-part-headers	"application/ynd 3gpp	ata Info		
	"application/vnd.3gpp.	ata Info		
MIME-part-headers	mcptt-info+xml"	ata Info		MCVIDEO
MIME-part-headers	mcptt-info+xml" "application/vnd.3gpp.	ata Info		MCVIDEO
MIME-part-headers	mcptt-info+xml" "application/vnd.3gpp. mcvideo-info+xml"	ata Info		
MIME-part-headers	mcptt-info+xml" "application/vnd.3gpp. mcvideo-info+xml" "application/vnd.3gpp.	ata Info		MCVIDEO MCDATA
MIME-part-headers MIME-Content-Type	mcptt-info+xml" "application/vnd.3gpp. mcvideo-info+xml" "application/vnd.3gpp. mcdata-info+xml"		TS 24.379 [9]	
MIME-part-headers	mcptt-info+xml" "application/vnd.3gpp. mcvideo-info+xml" "application/vnd.3gpp. mcdata-info+xml" Unique id in format of a	Unique URL identifying the	TS 24.379 [9] clause 6.6.3.1	
MIME-part-headers MIME-Content-Type	mcptt-info+xml" "application/vnd.3gpp. mcvideo-info+xml" "application/vnd.3gpp. mcdata-info+xml" Unique id in format of a Message-ID assigned	Unique URL identifying	TS 24.379 [9] clause 6.6.3.1	
MIME-part-headers MIME-Content-Type	mcptt-info+xml" "application/vnd.3gpp. mcvideo-info+xml" "application/vnd.3gpp. mcdata-info+xml" Unique id in format of a	Unique URL identifying the		
MIME-part-headers MIME-Content-Type	mcptt-info+xml" "application/vnd.3gpp. mcvideo-info+xml" "application/vnd.3gpp. mcdata-info+xml" Unique id in format of a Message-ID assigned	Unique URL identifying the MCPTT/MCVideo/MCD		
MIME-part-headers MIME-Content-Type	mcptt-info+xml" "application/vnd.3gpp. mcvideo-info+xml" "application/vnd.3gpp. mcdata-info+xml" Unique id in format of a Message-ID assigned	Unique URL identifying the MCPTT/MCVideo/MCD ata Info XML MIME		
MIME-part-headers MIME-Content-Type	mcptt-info+xml" "application/vnd.3gpp. mcvideo-info+xml" "application/vnd.3gpp. mcdata-info+xml" Unique id in format of a Message-ID assigned	Unique URL identifying the MCPTT/MCVideo/MCD ata Info XML MIME body; used as		
MIME-part-headers MIME-Content-Type	mcptt-info+xml" "application/vnd.3gpp. mcvideo-info+xml" "application/vnd.3gpp. mcdata-info+xml" Unique id in format of a Message-ID assigned by the SS	Unique URL identifying the MCPTT/MCVideo/MCD ata Info XML MIME body; used as reference in the		
MIME-part-headers MIME-Content-Type Content-ID	mcptt-info+xml" "application/vnd.3gpp. mcvideo-info+xml" "application/vnd.3gpp. mcdata-info+xml" Unique id in format of a Message-ID assigned by the SS MCPTT-Info as described in Table	Unique URL identifying the MCPTT/MCVideo/MCD ata Info XML MIME body; used as reference in the		
MIME-part-headers MIME-Content-Type Content-ID	mcptt-info+xml" "application/vnd.3gpp. mcvideo-info+xml" "application/vnd.3gpp. mcdata-info+xml" Unique id in format of a Message-ID assigned by the SS MCPTT-Info as described in Table 5.5.3.2.2-1	Unique URL identifying the MCPTT/MCVideo/MCD ata Info XML MIME body; used as reference in the		MCDATA
MIME-part-headers MIME-Content-Type Content-ID	mcptt-info+xml" "application/vnd.3gpp. mcvideo-info+xml" "application/vnd.3gpp. mcdata-info+xml" Unique id in format of a Message-ID assigned by the SS MCPTT-Info as described in Table 5.5.3.2.2-1 MCVideo-Info as	Unique URL identifying the MCPTT/MCVideo/MCD ata Info XML MIME body; used as reference in the		
MIME-part-headers MIME-Content-Type Content-ID	mcptt-info+xml" "application/vnd.3gpp. mcvideo-info+xml" "application/vnd.3gpp. mcdata-info+xml" Unique id in format of a Message-ID assigned by the SS MCPTT-Info as described in Table 5.5.3.2.2-1 MCVideo-Info as described in Table	Unique URL identifying the MCPTT/MCVideo/MCD ata Info XML MIME body; used as reference in the		MCDATA
MIME-part-headers MIME-Content-Type Content-ID	mcptt-info+xml" "application/vnd.3gpp. mcvideo-info+xml" "application/vnd.3gpp. mcdata-info+xml" Unique id in format of a Message-ID assigned by the SS MCPTT-Info as described in Table 5.5.3.2.2-1 MCVideo-Info as described in Table 5.5.3.2.2-2	Unique URL identifying the MCPTT/MCVideo/MCD ata Info XML MIME body; used as reference in the		MCDATA
MIME-part-headers MIME-Content-Type Content-ID	mcptt-info+xml" "application/vnd.3gpp. mcvideo-info+xml" "application/vnd.3gpp. mcdata-info+xml" Unique id in format of a Message-ID assigned by the SS MCPTT-Info as described in Table 5.5.3.2.2-1 MCVideo-Info as described in Table 5.5.3.2.2-2 As described in Table	Unique URL identifying the MCPTT/MCVideo/MCD ata Info XML MIME body; used as reference in the		MCDATA
MIME-part-headers MIME-Content-Type Content-ID MIME-part-body	mcptt-info+xml" "application/vnd.3gpp. mcvideo-info+xml" "application/vnd.3gpp. mcdata-info+xml" Unique id in format of a Message-ID assigned by the SS MCPTT-Info as described in Table 5.5.3.2.2-1 MCVideo-Info as described in Table 5.5.3.2.2-2	Unique URL identifying the MCPTT/MCVideo/MCD ata Info XML MIME body; used as reference in the signature MIME body		MCVIDEO MCDATA
MIME-part-headers MIME-Content-Type Content-ID	mcptt-info+xml" "application/vnd.3gpp. mcvideo-info+xml" "application/vnd.3gpp. mcdata-info+xml" Unique id in format of a Message-ID assigned by the SS MCPTT-Info as described in Table 5.5.3.2.2-1 MCVideo-Info as described in Table 5.5.3.2.2-2 As described in Table	Unique URL identifying the MCPTT/MCVideo/MCD ata Info XML MIME body; used as reference in the		MCDATA

Derivation Path: TS 24.229 [16]	, clause A.2.1.4.7, A.2.2.4.7			
Information Element	Value/remark	Comment	Reference	Condition
MIME-Content-Type	"application/vnd.3gpp. mcptt-location- info+xml"			
	"application/vnd.3gpp. mcvideo-location- info+xml"			MCVIDEO
Content-ID	Unique id in format of a Message-ID assigned by the SS	Unique URL identifying the Location-info XML MIME body; used as reference in the signature MIME body	TS 24.379 [9] clause 6.6.3.1	
MIME-part-body	Location-info as described in Table 5.5.3.4.2-1		TS 24.379 [9] clause F.3	
	Location-info as described in Table 5.5.3.4.2-2		TS 24.281 [86] clause F.3	MCVIDEO
MIME body part		MIKEY message		MCD_1to1
MIME-part-headers				
Content-Type	"application/mikey"			
MIME-part-body	As described in Table 5.5.9.1-2	MIKEY message, containing the PSK	TS 33.180 [30] TS 24.282 [87]	
MIME body part		Signature		
MIME-part-headers				
Content-Type	"application/vnd.3gpp. mcptt-signed+xml"		TS 24.379 [9]	
MIME-part-body	Signatures for XML MIME bodies as described in Table 5.5.13.1-2		TS 24.379 [9]	

Condition	Explanation
MANUAL	Call establishment with manual commencement mode
re_INVITE	INVITE within a dialog
MCD_1to1	A one-to-one MCData call
For further conditions see table 5.5.1-1	

5.5.2.6 Void

5.5.2.7 SIP MESSAGE

5.5.2.7.1 SIP MESSAGE from the UE

Table 5.5.2.7.1-1: SIP MESSAGE from the UE

Derivation Path: TS 24.229 [16] Information Element	Value/remark	Comment	Reference	Condition
Request-Line	value/remark	Comment	RFC 3261 [22]	Condition
Request Ellie			RFC 5031 [54]	
Method	"MESSAGE"			
Request-URI	tsc_MCPTT_PublicSer	The public service		
	viceId_A	identity identifying the		
		originating participating		
		MCPTT function		
		serving the MCPTT		
	MOVEL BUILD	user		MO) (IDEO
	px_MCVideo_PublicSer	The public service		MCVIDEO
	viceId_A	identity identifying the		
		originating participating MCVideo function		
		serving the MCVideo		
		user		
	px_MCData_PublicSer	The public service		MCDATA
	viceld_A	identity identifying the		
	_	originating participating		
		MCData function		
		serving the MCData		
	11017 (0.01)	user		
SIP-Version Via	"SIP/2.0"		RFC 3261 [22]	
via			RFC 3261 [22] RFC 3581 [55]	
sent-protocol	"SIP/2.0/UDP"		Ki C 3301 [33]	UDP
3011 protocol	"SIP/2.0/TCP"			TCP
sent-by	311 /2:0/131			
host	IP address or FQDN	Either the UE's IP		
		address or its home		
		domain name		
port	protected server port of	as assigned during		
	the UE	registration		
via-branch	Value starting with			
E	'z9hG4bK'		DE0 0004 [00]	
From			RFC 3261 [22]	
addr-spec user-info and host	Default public user id	The URI of the UE		
user-inio and nost	(px_MCX_SIP_PublicU	The ORI of the OE		
	serId_A_1)			
port	not present			
tag	any allowed value			
То			RFC 3261 [22]	
			RFC 5031 [54]	
addr-spec				
user-info and host		The URI of the SS		
	px_MCVideo_PublicSer	The URI of the SS		MCVIDEO
	viceld_A	TI LIDY (1) CO	ļ	
	px_MCData_PublicSer	The URI of the SS		MCDATA
nort	viceId_A		1	
port	not present			
tag Call-ID	not present		RFC 3261 [22]	
callid	any allowed value		111 0 0201 [22]	
Cseq	any anomou value		RFC 3261 [22]	
value	any allowed value		5 5251 [22]	
method	"MESSAGE"			
Max-Forwards			RFC 3261 [22]	
value	any allowed value	Non-zero value		
P-Access-Network-Info			RFC 7315 [52]	
access-net-spec	Access network			
	technology and, if			
	applicable, the cell ID			
Route	same as specified for		RFC 3261 [22]	
	INVITE sent by the UE			
	in Table 5.5.2.5.1-1			

Accept-Contact			RFC 3841 [29]	
ac-value[1]				
feature-param	"+g.3gpp.icsi- ref=urn:urn-7:3gpp- service.ims.icsi.mcptt"			
	"+g.3gpp.icsi- ref=urn:urn-7:3gpp- service.ims.icsi.mcvide o"			MCVIDEO
	"+g.3gpp.icsi- ref=urn:urn-7:3gpp- service.ims.icsi.mcdata. sds"			MCDATA
req-param	"require"			
explicit-param	"explicit"		D=0 t	
P-Preferred-Service Service-ID	"urn:urn-7:3gpp- service.ims.icsi.mcptt"		RFC 6050 [31]	
	"urn:urn-7:3gpp- service.ims.icsi.mcvide o"			MCVIDEO
	"urn:urn-7:3gpp- service.ims.icsi.mcdata. sds"			MCDATA
Content-Type			RFC 5621 [58]	
media-type Content-Length	"multipart/mixed" present in case of TCP and when there is a		RFC 3261 [22]	
value	message body (otherwise optional) any value	length of message-		
	arry value	body		
Message-body		MODIT (MONEY L. (MOD	RFC 3261 [22]	
MIME body part		MCPTT/MCVideo/MCD ata Info		
MIME-part-headers				
MIME-Content-Type	"application/vnd.3gpp. mcptt-info+xml" "application/vnd.3gpp.			MCVIDEO
	mcvideo-info+xml" "application/vnd.3gpp.			MCDATA
	mcdata-info+xml"			
Content-ID	any value	Unique URL identifying the MCPTT/MCVideo/MCD ata Info XML MIME body; used as reference in the signature MIME body	TS 24.379 [9] clause 6.6.3.1	
MIME-part-body	MCPTT-Info as described in Table 5.5.3.2.1-1		TS 24.379 [9] clause F.1	
	MCVideo-Info as described in Table 5.5.3.2.1-2		TS 24.281 [86] clause F.1	MCVIDEO
	MCData-Info as described in Table 5.5.3.2.1-3			MCDATA
MIME body part		Affiliation-Command		AFFILIATI ON
MIME-part-headers	n n n n n n			
MIME-Content-Type	"application/vnd.3gpp. mcptt-affiliation- command+xml" "application/vnd.3gpp.			
	mcvideo-affiliation- command+xml"			

Content-ID	any value	Unique URL identifying the affiliation-command XML MIME body; used as reference in the signature MIME body	TS 24.379 [9] clause 6.6.3.1	
MIME-part-body	MCPTT-Affiliation- Command as described in Table 5.5.3.7-1		TS 24.379 [9] clause F.4	
	MCVideo-Affiliation- Command as described in Table 5.5.3.7-2		TS 24.281 [86] clause F.4	MCVIDEO
MIME body part		Resource lists	RFC 5366 [35]	RESOURC E_LISTS OR MCD_1to1
MIME-part-headers				_
MIME-Content-Type	"application/resource- lists+xml"			
Content-ID	any value	Unique URL identifying the Resource-lists XML MIME body; used as reference in the signature MIME body	TS 24.379 [9] clause 6.6.3.1	
MIME-part-body	Resource-lists as described in Table 5.5.3.3.1-1 Resource-lists as			MOVIDEO
	described in Table 5.5.3.3.1-2			MCVIDEO
	Resource-lists as described in Table 5.5.3.3.1-3			MCDATA
MIME body part		Location info	TS 24.379 [9] clause F.3	LOCATIO N-INFO
MIME-part-headers				
Content-Type	"application/vnd.3gpp. mcptt-location- info+xml"	This MIME part shall be included if the MCPTT-Info 'alert-ind' element sent in the MCPTT-Info is set to true.		
Content-ID	any value	Unique URL identifying the Location-info XML MIME body; used as reference in the signature MIME body	TS 24.379 [9] clause 6.6.3.1	
MIME-part-body	Location-info as described in Table 5.5.3.4.1-1			
MIME body part		MIKEY message		MCD_1to1
MIME-part-headers				
Content-Type	"application/mikey"			
MIME-part-body	As described in Table 5.5.9.1-2A	MIKEY message, containing the PSK	TS 33.180 [30] TS 24.282 [87]	MODATA
MIME body part		SDS SIGNALLING PAYLOAD		MCDATA
MIME-part-headers Content-Type	"application/and 2an-			
	"application/vnd.3gpp. mcdata-signalling"		TC 24 202 [07]	
MIME-part-body	As described in Table 5.5.3.8.1-1	DATA BANGOAS	TS 24.282 [87]	MODATA
MIME body part		DATA PAYLOAD		MCDATA
MIME-part-headers Content-Type	application/vnd.3gpp.m			
	cdata-payload As described in Table		TC 24 202 [07]	
MIME-part-body	5.5.3.9-1	Signature	TS 24.282 [87]	
MIME body part		Signature		<u> </u>

MIME-part-headers		
Content-Type	"application/vnd.3gpp. mcptt-signed+xml"	TS 24.379 [9]
MIME-part-body	Signatures for XML MIME bodies as described in Table 5.5.13.1-1	TS 24.379 [9]

Condition	Explanation
MCD_1to1	A one-to-one MCData call
RESOURCE_LISTS	Resource lists is to be sent from the UE (MCPTT client)
For further conditions see table 5.5.1-1	

5.5.2.7.2 SIP MESSAGE from the SS

Table 5.5.2.7.2-1: SIP MESSAGE from the SS

Derivation Path: TS 24.229 [16 Information Element	Value/remark	Comment	Reference	Condition
Request-Line			RFC 3261 [22] RFC 5031 [54]	
Method	"MESSAGE"		14. 6 6661 [61]	
Request-URI	Public user id associated to the MC service id	px_MCX_SIP_PublicUs erld_A_1 (in general)		
SIP-Version	"SIP/2.0"			
Via			RFC 3261 [22] RFC 3581 [55]	
sent-protocol[1]	"SIP/2.0/TCP"		• •	
sent-by[1]		Address of the P-CSCF that communicates with the called party		
host	P-CSCF address of the SS	P-CSCF address as assigned to the UE via NAS signalling or P- CSCF discovery		
port	protected server port of the SS	as assigned during registration		
via-branch[1]	Value assigned by the SS starting with 'z9hG4bK'			
sent-protocol[2]	"SIP/2.0/UDP"			
sent-by[2]				
host	"scscf.3gpp.org"			
port	Value assigned by the SS	Caller's port number		
via-branch[2]	Value assigned by the SS starting with 'z9hG4bK'			
sent-protocol[3]	"SIP/2.0/UDP"			
sent-by[3]				
host	host name of the MC server			
port	not present			
via-branch[3]	Value assigned by the SS starting with 'z9hG4bK'			
From			RFC 3261 [22]	
addr-spec				
user-info and host	tsc_MCPTT_PublicSer viceId_A			
	px_MCVideo_PublicSer viceId_A			MCVIDEO

Information Element	Value/remark	Comment	Reference	Condition
	px_MCData_PublicSer viceId_A			MCDATA
port	not present			
tag	Value assigned by the SS			
То			RFC 3261 [22] RFC 5031 [54]	
addr-spec				
user-info and host	same URI as used as Request URI			
port	not present			
tag	not present			
Call-ID			RFC 3261 [22]	
callid	Value assigned by the SS			
Cseq			RFC 3261 [22]	
value	Value assigned by the SS			
method	"MESSAGE"			
Max-Forwards			RFC 3261 [22]	
value	"67"	The recommended initial value is 70 in RFC 3261. Assuming 3 hops as according to the Via header this results in a value of 67 in the message sent to the UE		

Derivation Path: TS 24.229 [16], Information Element	Value/remark	a Comment	Reference	Condition
P-Asserted-Service	value/remark	Comment	RFC 6050 [31]	MCDATA
	"LIFELLIFE 7/2 GER		RFC 6050 [31]	MCDATA
Service-ID	"urn:urn-7:3gpp- service.ims.icsi.mcdata.			
Assent Contact	sds"		DEC 2044 [20]	
Accept-Contact ac-value[1]			RFC 3841 [29]	
feature-param	"La 2ann ioni			
iodidio param	"+g.3gpp.icsi- ref=urn:urn-7:3gpp- service.ims.icsi.mcptt"			
	"+g.3gpp.icsi- ref=urn:urn-7:3gpp- service.ims.icsi.mcvide o"			MCVIDEO
	"+g.3gpp.icsi- ref=urn:urn-7:3gpp- service.ims.icsi.mcdata. sds"			MCDATA
req-param	"require"			
explicit-param	"explicit"			
ac-value[2]				
feature-param	"+g.3gpp.mcptt"			
	"+g.3gpp.mcvideo"			MCVIDEO
	"+g.3gpp.mcdata.sds"			MCDATA
req-param	"require"			
explicit-param	"explicit"			
P-Asserted-Identity			RFC 3325 [32]	MCDATA
name-addr	px_MCData_ID_User_ B	The public user identity of the originating MCData User		
Content-Type			RFC 5621 [58]	
media-type	"multipart/mixed"		• 1	
Content-Length	•		RFC 3261 [22]	
value	length of message- body			
Message-body			RFC 3261 [22]	
MIME body part		MCPTT/MCVideo/MCD ata Info		
MIME-part-headers				
MIME-Content-Type	"application/vnd.3gpp. mcptt-info+xml"			
	"application/vnd.3gpp. mcvideo-info+xml"			MCVIDEO
	"application/vnd.3gpp. mcdata-info+xml"			MCDATA
Content-ID	Unique id in format of a Message-ID assigned by the SS	Unique URL identifying the MCPTT/MCVideo/MCD ata Info XML MIME body; used as reference in the signature MIME body	TS 24.379 [9] clause 6.6.3.1	
MIME-part-body	MCPTT-Info as described in Table 5.5.3.2.2-1		TS 24.379 [9] clause F.1	
	MCVideo-Info as described in Table 5.5.3.2.2-2		TS 24.281 [86] clause F.1	MCVIDEO
	MCData-Info as described in Table 5.5.3.2.2-3		TS 24.282 [87] clause D.1.2	MCDATA
MIME body part	3.3.3.2.2	Affiliation-Command		AFFILIATI ON
MIME-part-headers	<u> </u>			<u> </u>

Information Element	, clause A.2.1.4.7a, A.2.2.4.7 Value/remark	Comment	Reference	Condition
MIME-Content-Type	"application/vnd.3gpp.	Comment	Reference	Condition
MIME-Content-Type	mcptt-affiliation-			
	command+xml"			
	"application/vnd.3gpp.			MCVIDEO
	mcvideo-affiliation-			
	command+xml"			
Content-ID	Unique id in format of a	Unique URL identifying	TS 24.379 [9]	
	Message-ID assigned by the SS	the affiliation-command XML MIME body; used	clause 6.6.3.1	
	by the 33	as reference in the		
		signature MIME body		
MIME-part-body	MCPTT-Affiliation-	- e-g	TS 24.379 [9]	
	Command as described		clause F.4	
	in Table 5.5.3.7-1			
	MCVideo-Affiliation-		TS 24.281 [86]	MCVIDEO
	Command as described		clause F.4	
MIME body part	in Table 5.5.3.7-2	Resource lists	RFC 5366 [35]	RESOURC
MIME body part		Resource lists	KFC 5300 [35]	E_LISTS
MIME-part-headers				
MIME-Content-Type	"application/resource-			
	lists+xml"			
Content-ID	Unique id in format of a	Unique URL identifying	TS 24.379 [9]	
	Message-ID assigned	the Resource-lists XML	clause 6.6.3.1	
	by the SS	MIME body; used as reference in the		
		signature MIME body		
MIME-part-body	Resource-lists as	Signature Willvie body		
William part body	described in Table			
	5.5.3.3.2-1			
	Resource-lists as			MCVIDEO
	described in Table			
	5.5.3.3.2-2			MODATA
	Resource-lists as described in Table			MCDATA
	5.5.3.3.2-3			
MIME body part	0.0.0.0.2	Location info		LOCATIO
,				N-INFO
MIME-part-headers				
MIME-Content-Type	"application/vnd.3gpp.			
	mcptt-location-			
	info+xml" "application/vnd.3gpp.			MCVIDEO
	mcvideo-location-			IVICVIDEO
	info+xml"			
Content-ID	Unique id in format of a	Unique URL identifying	TS 24.379 [9]	
	Message-ID assigned	the Location-info XML	clause 6.6.3.1	
	by the SS	MIME body; used as		
		reference in the		
MIME part body	Location-info as	signature MIME body	TS 24.379 [9]	
MIME-part-body	described in Table		15 24.379 [9] clause F.3	
	5.5.3.4.2-1		3,000 1.0	
	Location-info as		TS 24.281 [86]	MCVIDEO
	described in Table		clause F.3	
	5.5.3.4.2-2			
MIME body part		SDS SIGNALLING		MCDATA
MIME-part-headers		PAYLOAD		
Content-Type	"application/vnd.3gpp.		 	
Joine Type	mcdata-signalling"			
MIME-part-body	As described in Table		TS 24.282 [87]	
•	5.5.3.8.2-1		[4.]	
MIME body part		DATA PAYLOAD		MCDATA
MIME-part-headers				

Derivation Path: TS 24.229 [16], of	Derivation Path: TS 24.229 [16], clause A.2.1.4.7a, A.2.2.4.7a						
Information Element	Value/remark	Comment	Reference	Condition			
Content-Type	application/vnd.3gpp.m cdata-payload						
MIME-part-body	As described in Table 5.5.3.9-2		TS 24.282 [87]				
MIME body part		Signature					
MIME-part-headers							
Content-Type	"application/vnd.3gpp. mcptt-signed+xml"		TS 24.379 [9]				
MIME-part-body	Signatures for XML MIME bodies as described in Table 5.5.13.1-2		TS 24.379 [9]				

Condition	Explanation
RESOURCE_LISTS	Resource lists is to be sent to the UE (MCPTT client)
For further conditions see table 5.5.1-1	

5.5.2.8 SIP NOTIFY

This message is sent by the SS.

Table 5.5.2.8-1: SIP NOTIFY

Derivation Path: TS 24.229 [16]				
Information Element	Value/remark	Comment	Reference	Condition
Request-Line			RFC 3261 [22]	
Method	"NOTIFY"			
Request-URI	same URI as the UE			
	has provided earlier in			
	the Contact header of			
	the SUBSCRIBE			
SIP-Version	"SIP/2.0"			
Via			RFC 3261 [22]	
sent-protocol[1]	"SIP/2.0/TCP"			
sent-by[1]				
host	P-CSCF address of the	P-CSCF address as		
	SS	assigned to the UE via		
		NAS signalling or P-		
		CSCF discovery		
port	protected server port of			
	the SS			
via-branch[1]	Value assigned by the			
	SS starting with			
	'z9hG4bK'			
sent-protocol[2]	"SIP/2.0/UDP"			
sent-by[2]	"a a a d O "			
host	"scscf.3gpp.org"			
port	not present			
via-branch[2]	Value assigned by the			
	SS starting with			
	'z9hG4bK'			
sent-protocol[3]	"SIP/2.0/UDP"			
sent-by[3]	(1) 100			
host	host name of the MC			
	server			CONTIO
	tsc_MCX_CMS_Hostna			CONFIG
	me			ODOLIDO
	tsc_MCX_GMS_Hostn			GROUPC ONFIG
nort	ame			UNFIG
port	not present			
via-branch[3]	Value assigned by the SS starting with			
	'z9hG4bK'			
From	291104610		RFC 3261 [22]	
addr-spec	same URI as received	Remote URI of the	Ki C 3201 [22]	
audi-spec	in the To header of the	dialog (from the UE's		
	SUBSCRIBE message	point of view)		
tag	same tag as in the To-	Remote tag of the		
wy	header of the response	dialog (from the UE's		
	which has established	point of view)		
	the dialog	point or violity		
То	and diding		RFC 3261 [22]	
addr-spec	same URI as received	Local URI of the dialog	111 0 0201 [22]	
addi-spec	in the From header of	(from the UE's point of		
	the SUBSCRIBE	view)		
	message	,		
tag	same value as received	Local tag of the dialog		
-∽ਰ	in From tag of the	(from the UE's point of		
	SUBSCRIBE message	view)		
Call-ID		- /	RFC 3261 [22]	
callid	same as value received		<u></u> -	
	in SUBSCRIBE			
	message			
Cseq			RFC 3261 [22]	
value	value of CSeq sent by			
	the SS within its			
	previous request in the			
	same dialog but			
	increased by one			
method	"NOTIFY"			

Derivation Path: TS 24.229 [16] Information Element	Value/remark	Comment	Reference	Condition
Contact			RFC 3261 [22]	
addr-spec				
user-info and host	tsc_MCPTT_PublicSer viceId_A			
	px_MCVideo_PublicSer viceId_A			MCVIDEO
	px_MCData_PublicSer viceId_A			MCData
	"sip:" & tsc_MCX_CMS_Hostna me			CONFIG
	"sip:" & tsc_MCX_GMS_Hostn ame			GROUPC ONFIG
port	not present			
Event			RFC 6665 [39] RFC 3842 [61]	
event-type	"presence"			PRESENC E-EVENT
	"xcap-diff"			CONFIG. GROUPC ONFIG
	"poc-settings"			POC- SETTINGS -EVENT
Max-Forwards			RFC 3261 [22]	
value	"67"	The recommended initial value is 70 in RFC 3261. Assuming 3 hops as according to the Via header this results in a value of 67 in the message sent to the UE		
Subscription-State		000	RFC 6665 [39]	
substate-value	"active"		KFC 0003 [39]	
expires	"7200"			
Content-Type	7200		RFC 3261 [22] RFC 3842 [61]	
media-type	"multipart/mixed"		10 3042 [01]	
Content-Length	manipartimized		RFC 3261 [22]	
value	length of message- body		111 0 0201 [22]	
Message-body			RFC 3261 [22]	
MIME body part		PIDF		PRESENC E-EVENT
MIME-part-headers				
Content-Type	"application/pidf+xml"			
Content-ID	Unique id in format of a Message-ID assigned by the SS	Unique URL identifying the PIDF XML MIME body; used as reference in the signature MIME body	TS 24.379 [9] clause 6.6. 3.1	
MIME-part-body	PIDF as described in Table 5.5.3.5-1		TS 24.379 [9] clause 9.3.1	
	PIDF as described in Table 5.5.3.5-2		TS 24.281 [86] clause 8.3.1	MCVIDEO
	PIDF as described in Table 5.5.3.5-3		TS 24.282 [87] clause 8.4.1	MCDATA
MIME body part		xcap-diff		CONFIG, GROUPC ONFIG

Derivation Path: TS 24.229 [16] Information Element	Value/remark	Comment	Reference	Condition
Content-Type	"application/xcap- diff+xml"			
Content-ID	Unique id in format of a Message-ID assigned by the SS	Unique URL identifying the xcap-diff XML MIME body; used as reference in the signature MIME body	TS 24.379 [9] clause 6.6.3.1	
MIME-part-body	xcap-diff document as described in Table 5.5.3.12-1			CONFIG
	xcap-diff document as described in Table 5.5.3.12-2			GROUPC ONFIG
MIME body part		PoC-Settings		POC- SETTINGS -EVENT
MIME-part-headers				
Content-Type	"application/poc- settings+xml"		RFC 4354 [103]	
Content-ID	Unique id in format of a Message-ID assigned by the SS	Unique URL identifying the PoC-Settings XML MIME body; used as reference in the signature MIME body	TS 24.379 [9] clause 6.6.3.1	
MIME-part-body	PoC-Settings document as described in Table 5.5.3.11-1			
MIME body part		Signature		
MIME-part-headers				
Content-Type	"application/vnd.3gpp. mcptt-signed+xml"		TS 24.379 [9]	
MIME-part-body	Signatures for XML MIME bodies as described in Table 5.5.13.1-2		TS 24.379 [9]	

5.5.2.9 SIP OPTIONS

Editor's note: It shall be specified who is sending the message.

Table 5.5.2.9-1: SIP OPTIONS

Derivation Path: TS 24.229 [16] Information Element	Value/remark	Comment	Reference	Condition
Request-Line				
Method	"OPTIONS"			
Request-Disposition	px_MCPTT_Client_A_I D			
	px_MCVideo_Client_A _ID			MCVIDEO
	px_MCData_Client_A_I D			MCDATA
SIP-Version	"SIP/2.0"			
Via			RFC 3261 [22] RFC 3581 [55]	
sent-protocol	"SIP/2.0/UDP"			
sent-by	any allowed value	IP address or FQDN and protected server port of the UE		
via-branch	any allowed value	Value starting with 'z9hG4bK'		
From			RFC 3261 [22]	
addr-spec	px_MCPTT_Client_A_I D			
	px_MCVideo_Client_A _ID			MCVIDEO
	px_MCData_Client_A_I D			MCDATA
tag	"1"			
То			RFC 3261 [22] RFC 5031 [54]	
addr-spec	tsc_MCPTT_PublicSer viceId_A			
	px_MCVideo_PublicSer viceId_A			MCVIDEO
	px_MCData_PublicSer viceId_A			MCDATA
Call-ID			RFC 3261 [22]	
Callid	same value as in the INVITE			
CSeq			RFC 3261 [22]	
value	value of CSeq sent by the SS within its previous request in the same dialog but increased by one			
Method	"INFO"		DE0 0004 F00	
Contact	OID LID!		RFC 3261 [22 RFC 3840 [33]	
addr-spec	SIP URI			
user-info and host	IP address or FQDN (px_MCPTT_Client_A_ID)			
	IP address or FQDN (px_MCVideo_Client_A _ID)			MCVIDEO
	IP address or FQDN (px_MCData_Client_A_ID)			MCDATA
feature-param	"+g.3gpp.mcptt"	This media feature tag when used in a SIP request or a SIP response indicates that the function sending the SIP message supports Mission Critical Push To Talk (MCPTT) communication.		

	T	I	T	
	"+g.3gpp.mcvideo"	This media feature tag		MCVIDEO
		when used in a SIP		
		request or a SIP		
		response indicates that		
		the function sending		
		the SIP message		
		supports Mission		
		Critical Video		
		(MCVideo)		
		communication.		
	"+g.3gpp.mcdata.sds"	This media feature tag		MCDATA
		when used in a SIP		
		request or a SIP		
		response indicates that		
		the function sending		
		the SIP message		
		supports Mission		
		Critical Data (MCData)		
		communication.		
feature-param	"+g.3gpp.icsi-	This URN indicates that		
r	ref=urn:urn-7:3gpp-	the device has the		
	service.ims.icsi.mcptt"	capabilities to support		
		the mission critical		
		push to talk (MCPTT)		
		service.		
	"+g.3gpp.icsi-	This URN indicates that		MCVIDEO
	ref=urn:urn-7:3gpp-	the device has the		
	service.ims.icsi.mcvide	capabilities to support		
	o"	the mission critical		
	ľ	video (MCVideo)		
		service.		
	"+g.3gpp.icsi-	This URN indicates that		MCDATA
	ref=urn:urn-7:3gpp-	the device has the		MODAIA
	service.ims.icsi.mcdata.	capabilities to support		
	service.ims.icsi.mcdata.	the mission critical data		
	Sus	(MCData) service.		
feature-param	"audio"	This feature tag		MCPTT
feature-param	auuio			OR
		indicates that the		
		device supports audio		MCVIDEO
		as a streaming media		
ft	11. del = = 11	type.		MOVUES
feature-param	"video"	This feature tag		MCVIDEO
		indicates that the		
		device supports video		
		as a streaming media		
		type.		
feature-param	"text"	This feature tag		MCDATA
		indicates that the		
		device supports text as		
		a streaming media		
			1	
		type.		
Accept		type.		
media-range	"application/sdp"	type.		
	"application/sdp"	type.	RFC 3261 [22]	
media-range	"application/sdp" any allowed value	type. Non-zero value	RFC 3261 [22]	
media-range Max-Forwards value			RFC 3261 [22]	
media-range Max-Forwards		Non-zero value		
media-range Max-Forwards value Content-Length	any allowed value			

Editor's note: Table 5.5.2.9-1 needs to be reviewed

5.5.2.10 SIP PRACK

5.5.2.10.1 SIP PRACK from the UE

Table 5.5.2.10.1-1: SIP PRACK from the UE

Derivation Path: TS 24.229 [16]			Doforonos	Candition
Information Element	Value/remark	Comment	Reference	Condition
Status-Line	"DD A CK"		RFC 3261 [22]	
Method Reguest-URI	"PRACK" same URI as the SS			
Request-ORI	has sent earlier in the			
	Contact header of a			
	response within the			
	same dialog			
SIP-Version	"SIP/2.0"			
Via			RFC 3261 [22]	
sent-protocol	"SIP/2.0/UDP"			UDP
	"SIP/2.0/TCP"			TCP
sent-by	same value as in INVITE message			
via-branch	Value starting with			
	'z9hG4bK'			
Route			RFC 3261 [22]	
route-param list	URIs of the Record-			
	Route header sent to			
	the UE in the response			
	which has established			
	the dialog, in reverse			
From	order		DEC 2264 [20]	
	same value as in the	Local URI of the dialog	RFC 3261 [22]	
addr-spec	INVITE message	(from the UE's point of		
	IIIVITE message	view)		
tag	same value as in the	Local tag of the dialog		
tag	INVITE	ID (from the UE's point		
		of view)		
То		,	RFC 3261 [22]	
addr-spec	same value as in the	Remote URI of the		
·	INVITE	dialog (from the UE's point of view)		
tag	same tag as in the To-	Remote tag of the		
	header of the response	dialog ID (from the UE's		
	which has established	point of view)		
	the dialog			
Call-ID			RFC 3261 [22]	
callid	same value as in			
	INVITE message		DE0 0004 (00)	
CSeq			RFC 3261 [22]	
value	value of CSeq sent by			
	the endpoint within its previous request in the			
	same dialog but			
	increased by one			
method	"PRACK"			
Max-Forwards			RFC 3261 [22]	
value	any allowed value	Non-zero value		
RAck			RFC 3261 [22]	
response-num	same value as in RSeq		` 1	
	header of the reliable			
	response			
cseq-num	same value as in CSeq			
	of reliable response			
method	same value as in CSeq			
D Access Nationals Info	of reliable response		DEC 7045 (50)	
P-Access-Network-Info	A access matrices of		RFC 7315 [52]	
access-net-spec	Access network			
	technology and, if applicable, the cell ID			
			DE0 0004 [00]	
Content-Length	if nrecent		BE(. 30K4 100)	
Content-Length value	if present	No message body	RFC 3261 [22]	

5.5.2.10.2 SIP PRACK from the SS

Table 5.5.2.10.2-1: SIP PRACK from the SS

	6] clause A.2.1.4.10, A2.2.4.10		D. (
Information Element	Value/remark	Comment	Reference	Condition
Status-Line	1777 1 O 1 (1)		RFC 3261 [22]	
Method	"PRACK"			
Request-URI	same URI as the UE has sent earlier in the Contact header of a response within the same dialog	Contact URI of the UE ("callee")		
SIP-Version	"SIP/2.0"			
Via	same as in the INVITE but with updated via-branches	see Table 5.5.2.5.2-1	RFC 3261 [22]	
From			RFC 3261 [22]	
addr-spec	same URI as in the From-header of the INVITE	remote URI of the dialog (from the UE's point of view)		
tag	same tag as in the From-header of the INVITE	remote tag of the dialog (from the UE's point of view)		
То			RFC 3261 [22]	
addr-spec	same URI as in the To- header of the INVITE	local URI of the dialog (from the UE's point of view)		
tag	same tag as in the To- header of the response which has established the dialog	local tag of the dialog (from the UE's point of view)		
Call-ID			RFC 3261 [22]	
callid	Same value as in INVITE	Call-Id of the dialog		
CSeq			RFC 3261 [22]	
value	value of CSeq sent by the endpoint within its previous request in the same dialog but increased by one			
method	"PRACK"			
Max-Forwards			RFC 3261 [22]	
value	"68"	The recommended initial value is 70 in RFC 3261. Assuming 2 hops as according to the Via header this results in a value of 68 in the message sent to the UE		
RAck			RFC 3261 [22]	
response-num	same value as in RSeq header of the reliable response			
cseq-num	same value as in CSeq of reliable response			
method	same value as in CSeq of reliable response			
Content-Length			RFC 3261 [22]	
value	"0"	No message body included		

5.5.2.11 SIP PUBLISH

This message is sent by the UE.

Table 5.5.2.11-1: SIP PUBLISH

Derivation Path: TS 24.229 [16] Information Element	Value/remark	Comment	Reference	Condition
Request-Line	value/reillark	Comment	RFC 3261 [22] RFC 5031 [54]	Condition
Method	"PUBLISH"		RFC 5031 [54]	
Request-URI	tsc_MCPTT_PublicSer viceId_A	The public service identity identifying the originating participating MCPTT function serving the MCPTT user		
	px_MCVideo_PublicSer viceId_A	The public service identity identifying the originating participating MCVideo function serving the MCVideo user		MCVIDEO
	px_MCData_PublicSer viceId_A	The public service identity identifying the originating participating MCData function serving the MCData user		MCDATA
SIP-Version	"SIP/2.0"		DE0 0004 (00)	
Route	CID LID!		RFC 3261 [22]	
addr-spec[1] user-info and host	P-CSCF address of the SS	P-CSCF address as assigned to the UE via NAS signalling or P- CSCF discovery		
port	protected server port of the SS	as assigned during registration		
uri-parameters	"Ir"			
addr-spec[2]	SIP URI			
user-info and host port	"scscf.3gpp.org" not present			
uri-parameters	"Ir"			
Via	"		RFC 3261 [22] RFC 3581 [55]	
sent-protocol	"SIP/2.0/UDP" "SIP/2.0/TCP"			UDP TCP
sent-by				
user-info and host	IP address or FQDN	Either the UE's IP address or its home domain name		
port	protected server port of the UE	as assigned during registration		
via-branch	Value starting with 'z9hG4bK'			
From			RFC 3261 [22]	
addr-spec user-info and host	Default public user id (px_MCX_SIP_PublicU serId_A_1)			
port	not present			
tag	any value		DE0 222 : 222	
То			RFC 3261 [22] RFC 5031 [54]	
addr-spec				
user-info and host	same URI as used as Request URI			
port	not present			
tag Expires	not present		RFC 3261 [22]	
delta-seconds	"4294967295"		RFC 3903 [43]	

Derivation Path: TS 24.229 [16] Information Element	Value/remark	Comment	Reference	Condition
Require	Value/Terriark	Comment	RFC 3261 [22]	Condition
Require			RFC 3329 [53]	
option-tag	"sec-agree"		0 0020 [00]	
Proxy-Require			RFC 3261 [22]	
			RFC 3329 [53]	
option-tag	"sec-agree"			
Security-Verify			RFC 3329 [53]	
sec-mechanism	same value as Security			
	-Server header sent by			
	SS during registration		DE0 0004 (00)	
Cseq			RFC 3261 [22]	
value	any allowed value "PUBLISH"			
method	"PUBLISH"		DEC 2204 [22]	
Call-ID callid	any allowed value		RFC 3261 [22]	
Max-Forwards	any allowed value		DEC 2204 [22]	
value	any allowed value	+	RFC 3261 [22]	
P-Access-Network-Info	arry anoweu value		RFC 7315 [52]	1
F-ACCESS-INCLWOLK-IIIIO			RFC 7315 [52]	
access-net-spec	Access network		5 / 5 / 5 5 5	
dococo not opoc	technology and, if			
	applicable, the cell ID			
Event			RFC 3903 [43]	
event-type	"presence"			PRESENC
				E-EVENT
	"poc-settings"			CONFIG
				OR POC-
				SETTINGS
D.D. Committee			DE0 0050 [04]	-EVENT
P-Preferred-Service	Thursday 7,2 sans		RFC 6050 [31] TS 24.379 [9]	
Service-ID	"urn:urn-7:3gpp- service.ims.icsi.mcptt"		clause 7.2.1A	
	"urn:urn-7:3gpp-	+	TS 24.281 [86]	MCVIDEO
	service.ims.icsi.mcvide		clause 7.2.1A	MCVIDEO
	o"		010000 7.2.171	
	"urn:urn-7:3gpp-		TS 24.282 [87]	MCDATA
	service.ims.icsi.mcdata		clause 7.2.1A	
	11			
Accept			RFC 3261 [22]	PRESENC
				E-EVENT
media-range	"application/pidf+xml"			
port	not present			
Content-Type	H 101 17 18		RFC 5621 [58]	
media-type	"multipart/mixed"		5-0	
Content-Length	present in case of TCP		RFC 3261 [22]	
	and when there is a			1
	message body (otherwise			1
	optional)length of			1
	message-body			
value	any value			1
Message-body			RFC 3261 [22]	
MIME body part		MCPTT/MCVideo/MCD ata Info	. 1	
MIME-part-headers				
Content-Type	"application/vnd.3gpp.			
- ·	mcptt-info+xml"			
	"application/vnd.3gpp.			MCVIDEO
	mcvideo-info+xml"			
	"application/vnd.3gpp.			MCDATA
	mcdata-info+xml"			

Derivation Path: TS 24.229 [16]	clause A.2.1.4.10A, A.2.2.4.			
Information Element	Value/remark	Comment	Reference	Condition
Content-ID	any value	Unique URL identifying the MCPTT/MCVideo/MCD ata Info XML MIME body; used as reference in the signature MIME body	TS 24.379 [9] clause 6.6.3.1	
MIME-part-body	MCPTT-Info as described in Table 5.5.3.2.1-1		TS 24.379 [9] clause F.1	
	MCVideo-Info as described in Table 5.5.3.2.1-2		TS 24.281 [86] clause F.1	MCVIDEO
	MCData-Info as described in Table 5.5.3.2.1-3		TS 24.282 [87] clause D.1	MCDATA
MIME body part		PIDF		PRESENC E-EVENT
MIME-part-headers				
Content-Type	"application/pidf+xml"			
MIME-part-body	PIDF as described in Table 5.5.3.5-1		TS 24.379 [9] clause 9.3.1	
	PIDF as described in Table 5.5.3.5-2		TS 24.281 [86] clause 8.3.1	MCVIDEO
	PIDF as described in Table 5.5.3.5-3		TS 24.282 [87] clause 8.3.1	MCDATA
MIME body part		MIKEY		CONFIG
MIME-part-headers			DE0 0000 10 41	
Content-Type	"application/mikey"	MUZEV	RFC 3830 [24]	
MIME-part-body	MIKEY message as described in Table 5.5.9.1-1	MIKEY message, containing the CSK	TS 33.180 [94]	
MIME body part		PoC-Settings		CONFIG OR POC- SETTINGS -EVENT
MIME-part-headers			550	
Content-Type	"application/poc- settings+xml"		RFC 4354 [103]	
Content-ID	any value	Unique URL identifying the PoC-settings XML MIME body; used as reference in the signature MIME body		
MIME-part-body	PoC Settings as described in Table 5.5.3.11.1-1		TS 24.379 [9]	
MIME body part		Signature		
MIME-part-headers				
Content-Type	"application/vnd.3gpp. mcptt-signed+xml"		TS 24.379 [9]	
MIME-part-body	Signatures for XML MIME bodies as described in Table 5.5.13.1-1		TS 24.379 [9]	

5.5.2.12 SIP REFER

This message is sent by the UE outside of a dialog.

Table 5.5.2.12-1: SIP REFER

Derivation Path: TS 24.229 [16] Information Element	Value/remark	Comment	Reference	Condition
Request-Line	raido/romain	- Commont	RFC 3261 [22]	Condition
			RFC 5031 [54]	
Method	"REFER"		• • • • • • • • • • • • • • • • • •	
Request-URI	tsc_MCX_SessionID_B	session identity of the		
		pre-established session		
SIP-Version	"SIP/2.0"			
Via			RFC 3261 [22]	
			RFC 3581 [55]	
sent-protocol	"SIP/2.0/UDP"			UDP
•	"SIP/2.0/TCP"			TCP
sent-by				
host	IP address or FQDN	Either the UE's IP address or its home		
		domain name		
port	protected server port of the UE			
via-branch	Value starting with 'z9hG4bK'			
Route			RFC 3261 [22]	
addr-spec[1]	SIP URI			
user-info and host	P-CSCF address of the SS	P-CSCF address as assigned to the UE via NAS signalling or P- CSCF discovery		
port	protected server port of the SS	as assigned during registration		
uri-parameters	"Ir"			
addr-spec[2]	SIP URI			
user-info and host	"scscf.3gpp.org"			
port	not present			
uri-parameters	"Ir"			
From			RFC 3261 [22]	
addr-spec				
user-info and host	Default public user id (px_MCX_SIP_PublicU serId_A_1)			
port	not present			
tag	any allowed value			
То			RFC 3261 [22] RFC 5031 [54]	
addr-spec				
user-info and host	Same URI as used in the INVITE creating the pre-established session			
port	not present			
tag	not present		5-6	
Call-ID			RFC 3261 [22]	
callid	any allowed value		DE0	
CSeq			RFC 3261 [22]	
value	any allowed value			
method	"REFER"		DE0 000 / 100	
Supported			RFC 3261 [22] RFC 6442 [62] RFC 4488 [36]	
option-tag	"norefersub"			
Refer-Sub			RFC 4488 [36]	
refer-sub-value	"false"			
Target-Dialog			RFC 4538 [37]	
callid	Callid of the pre- established session	Callid as used by the UE in the INVITE for establishment of the pre-established session		

Derivation Path: TS 24.229 [16] Information Element	Value/remark	Comment	Reference	Condition
	value/remark	Comment		Condition
Require			RFC 3261 [22]	
			RFC 3312 [56]	
			RFC 3329 [53]	
option-tag	"sec-agree"			
option-tag	"multiple-refer"			
Proxy-Require			RFC 3261 [22]	
-			RFC 3329 [53]	
option-tag	"sec-agree"			
Security-Verify	333 ag. 33		RFC 3329 [53]	
sec-mechanism	same value as Security		10 0020 [00]	
Sec-mechanism				
	-Server header sent by			
	SS during registration		D=0	
Contact			RFC 3261 [22	
			RFC 3840 [33]	
addr-spec	SIP URI			
user-info and host	IP address or FQDN			
feature-param	"+g.3gpp.mcptt"	This media feature tag		
reature param	т д.одрр.тори	when used in a SIP		
		request or a SIP		
		response indicates that		
		the function sending		
		the SIP message		
		supports Mission		
		Critical Push To Talk		
		(MCPTT)		
		communication.		
	"+g.3gpp.mcvideo"	This media feature tag		MCVIDEO
	1 g.ogpp.mevideo	when used in a SIP		WOVIDEO
		request or a SIP		
		response indicates that		
		the function sending		
		the SIP message		
		supports Mission		
		Critical Video		
		(MCVideo)		
		communication.		
	"+g.3gpp.mcdata.sds"	This media feature tag		MCDATA
	ту. эурр. псиага. заз			MCDATA
		when used in a SIP		
		request or a SIP		
		response indicates that		
		the function sending		
		the SIP message		
		supports Mission		
		Critical Data (MCData)		
		communication.		
feature-param	"+g.3gpp.icsi-	This URN indicates that		
feature-param				
	ref=urn:urn-7:3gpp-	the device has the		
	service.ims.icsi.mcptt"	capabilities to support		
		the mission critical		
		push to talk (MCPTT)		
		service.		
	"+g.3gpp.icsi-	This URN indicates that		MCVIDEO
	ref=urn:urn-7:3gpp-	the device has the		
	service.ims.icsi.mcvide	capabilities to support		
	0"	the mission critical		
	ľ	video (MCVideo)		
		service.		1405 4=:
	"+g.3gpp.icsi-	This URN indicates that		MCDATA
	ref=urn:urn-7:3gpp-	the device has the		
			•	i
	service.ims.icsi.mcdata.	capabilities to support		
	service.ims.icsi.mcdata.	the mission critical data		

Derivation Path: TS 24.229 [16] Information Element	Value/remark	Comment	Reference	Condition
feature-param	"audio"	This feature tag		MCPTT
roaturo param	a.a.a.	indicates that the		OR
		device supports audio		MCVIDEO
		as a streaming media		
		type.		
feature-param	"video"	This feature tag		MCVIDEO
Todataro param	V1000	indicates that the		WOVIDEO
		device supports video		
		as a streaming media		
		_		
feature-param	"text"	type. This feature tag		MCDATA
leature-param	text	indicates that the		INICDATA
		device supports text as		
		a streaming media		
		_		
Refer-To		type.	RFC 3515 [38]	
addr-spec	a Content-ID ("cid")		1(1 0 3313 [30]	
addi-spec	Uniform Resource			
	Locator (URL) as			
	specified in IETF RFC			
	2392 that points to an			
	application/resource-			
	lists+xml MIME body as			
	specified in IETF RFC			
Refer-To	5366		RFC 3515 [38]	METHOD-
(CICI-10			1(1 0 33 13 [30]	BYE
addr-spec				J
user-info and host	tsc_MCX_SessionID_B	The session identity of	1	
	100_1110/1_00001011110_0	the pre-established		
		session to leave.		
uri-parameters		2200.0 10 100.101	1	
id[1]	method			
value[1]	"BYE"			
Max-Forwards	5.5		RFC 3261 [22]	
value	any allowed value	Non-zero value	111 0 0201 [22]	
P-Access-Network-Info	any anowed value	11011 ZOIO VAIUG	RFC 7315 [52]	
access-net-specs	Access network		111 0 1010 [02]	
access-Her-specs	technology and, if			
	applicable, the cell ID			
P-Preferred-Service	applicable, the cell iD		RFC 6050 [31]	
Service-ID	"urn:urn-7:3gpp-		AT 0 0000 [31]	
COLVIOG-ID	service.ims.icsi.mcptt"			
	"urn:urn-7:3gpp-			MCVIDEO
	service.ims.icsi.mcvide			INICAIDEO
	0"		-	MODATA
	"urn:urn-7:3gpp-			MCDATA
	service.ims.icsi.mcdata			
P-Preferred-Identity	If procest		DEC 2225 [22]	
r-rreierrea-iaentity	If present		RFC 3325 [32]	
PPreferredID-value	same URI as in From-			
rrielelleulD-value				
Resource-Priority	header		DEC 4440 [40]	EMEDOEN
5 - SCHITT - C-PTIOTITY			RFC 4412 [40]	EMERGEN
resource i monty		1	RFC 7134 [57]	CY-CALL
tosource i flority				
Resource Friendly			RFC 8101 [45]	AND
kesourse i nonky			TS 24.379 [9]	(GROUP-
kesourse i nonky			TS 24.379 [9] clause	(GROUP- CALL OR
kesourse i nonky			TS 24.379 [9]	(GROUP-

Derivation Path: TS 24.229 [16] Information Element	Value/remark	Comment	Reference	Condition
namespace	value of the <resource- priority-namespace></resource- 	As configured in Table 5.5.8.4-1	TS 24.484 [14]	Johnston
	element contained in the <emergency-< td=""><td></td><td></td><td></td></emergency-<>			
	resource-priority> element contained in the <onnetwork></onnetwork>			
	element of the MCX service configuration			
	documents			
r-priority	value of the <resource- priority-priority=""> element contained in the <emergency- resource-priority=""> element contained in the <onnetwork> element of the MCX service configuration document</onnetwork></emergency-></resource->	As configured in Table 5.5.8.4-1	TS 24.484 [14]	
Resource-Priority	GOGGIIIOIN		RFC 4412 [40]	IMMPERIL
			RFC 7134 [57] RFC 8101 [45] TS 24.379 [9] clause 6.2.8.1.15	-CALL AND (GROUP- CALL OR PRIVATE- CALL)
r-value				
namespace	value of the <resource- priority-namespace> element contained in the <imminent-peril- resource-priority> element contained in the <onnetwork> element of the MCX service configuration documents</onnetwork></imminent-peril- </resource- 	As configured in Table 5.5.8.4-1	TS 24.484 [14]	
r-priority	value of the <resource- priority-priority> element contained in the <imminent-peril- resource-priority> element contained in the <onnetwork> element of the MCX service configuration document</onnetwork></imminent-peril- </resource- 	As configured in Table 5.5.8.4-1	TS 24.484 [14]	
Content-Type	not present			METHOD BYE
Content-Type			RFC 5621 [58]	DIE
media-type	"multipart/mixed"		5 5521 [55]	
Content-Length	present in case of TCP and when there is a message body (otherwise optional)		RFC 3261 [22]	
Value	any value	length of message- body		
Message-body	not present			METHOD- BYE
Message-body			RFC 3261 [22]	DIL
MIME body part		Resource list	RFC 5366 [35]	
MIME-part-headers				
Content-Type	"application/resource- lists+xml"			

Information Element	Value/remark	Comment	Reference	Conditio
Content-ID	same value as the cid URL in the Refer-To header field	Unique URL identifying the Resource-lists XML MIME body; used as reference in the signature MIME body too	TS 24.379 [9] clause 6.6.3.1	
MIME-part-body	Resource-lists as described in Table 5.5.3.3.1-1 with condition PRE-ESTABLISH and the uri attribute of the single <entry> element extended with the headers of Table 5.5.2.12-2</entry>			
	Resource-lists as described in Table 5.5.3.3.1-2			MCVIDEO
	Resource-lists as described in Table 5.5.3.3.1-3			MCDATA
MIME body part		Location info		LOCATIO N-INFO
MIME-part-headers				
Content-Type	"application/vnd.3gpp. mcptt-location- info+xml"			
	"application/vnd.3gpp. mcvideo-location- info+xml"			MCVIDEO
Content-ID	any value	Unique URL identifying the Location-info XML MIME body; used as reference in the signature MIME body	TS 24.379 [9] clause 6.6.3.1	
MIME-part-body	Location-info as described in Table 5.5.3.4.1-1		TS 24.379 [9] clause F.3	
	Location-info as described in Table 5.5.3.4.1-2		TS 24.281 [86] clause F.3	MCVIDEO
MIME body part		Signature		
MIME-part-headers				
Content-Type	"application/vnd.3gpp. mcptt-signed+xml"		TS 24.379 [9]	
MIME-part-body	Signatures for XML MIME bodies as described in Table 5.5.13.1-1		TS 24.379 [9]	

Table 5.5.2.12-2: SIP header fields extending the uri attribute of the resource-lists' single entry

Derivation Path: TS 24.379 [9] clause 10.1.1.2.2.1, 10.1.2.2.2.1, 11.1.1.2.2.1, 11.1.6.2.2.1 Editor's note: references for MCVIDEO and MCDATA to be added Information Comment Condition Value/remark Reference **Element** GROUP-CALL **Accept-Contact** RFC 3841 [29] OR CHAT-**GROUP-CALL** ac-value[1] feature-param "+g.3gpp.icsi-ref=urn:urn-7:3gpp-service.ims.icsi.mcptt" MCVIDEO "+g.3gpp.icsi-ref=urn:urn-7:3gppservice.ims.icsi.mcvideo" MCDATA "+g.3gpp.icsi-ref=urn:urn-7:3gppservice.ims.icsi.mcdata.sds" "require" req-param explicit-param "explicit" ac-value[2] feature-param "+g.3gpp.mcptt" "+g.3gpp.mcvideo" MCVIDEO "+g.3gpp.mcdata.sds" MCDATA req-param "require' "explicit" explicit-param **Answer-Mode** not present Answer-Mode RFC 5373 [34] PRIVATE-CALL AND (NOT TS 24.379 [9] FORCE) 11.1.1.2.2.1, 8) answer-mode-"Auto" value answer-mode-"Manual MANUAL value Priv-Answernot present Mode Priv-Answer-RFC 5373 [34] PRIVATE-CALL Mode TS 24.379 [9] AND FORCE clause 11.1.1.2.2.1, 8) and clause 11.1.6.2.2.1, 8) "Auto" answer-modeif force of automatic commencement mode at value the invited MCPTT client is requested by the MCPTT user, Content-Type RFC 5621 [58] "multipart/mixed" media-type NOTE: Characters that are RFC 3261 [22] body not formatted as ASCII characters are escaped in the following parameters in the headers portion of the SIP URI. MIME body MCPTT/MCVideo/MCData Info part MIME-partheaders "application/vnd.3gpp.mcptt-Content-Type info+xml" **MCPTT** "application/vnd.3gpp.mcvideo **MCVIDEO** -info+xml" "application/vnd.3gpp.mcdata-**MCDATA** info+xml"

Derivation Path: TS 24.379 [9] clause 10.1.1.2.2.1, 10.1.2.2.2.1, 11.1.1.2.2.1, 11.1.6.2.2.1 Editor's note: references for MCVIDEO and MCDATA to be added Information Value/remark Comment Reference Condition **Element** Unique URL identifying the Content-ID any value TS 24.379 [9] MCPTT/MCVideo/MCData clause 6.6.3.1 Info XML MIME body; used as reference in the signature MIME body MCPTT-Info as described in MIME-part-TS 24.379 [9] body Table 5.5.3.2.1-1 clause F.1 MCVideo-Info as described in TS 24.281 [86] **MCVIDEO** Table 5.5.3.2.1-2 clause F.1 MCData-Info as described in TS 24.282 [87] MCDATA Table 5.5.3.2.1-3 clause D.1 MIME body Location info (MCPTT OR MCVIDEO) AND part ALLOW-LOCATION-INFO MIME-part-<u>head</u>ers Content-"application/vnd.3gpp.mcpttlocation-info+xml" Type "application/vnd.3gpp.mcvideo-MCVIDEO location-info+xml" Content-ID any value Unique URL identifying the TS 24.379 [9] Location-info XML MIME clause 6.6.3.1 body; used as reference in the signature MIME body TS 24.379 [9] MIME-part-Location-info as described in body Table 5.5.3.4.1-1 clause F.3 TS 24.281 [86] Location-info as described in **MCVIDEO** Table 5.5.3.4.1-2 clause F.3 MIME body Signature part MIME-partheaders Content-"application/vnd.3gpp.mcptt-TS 24.379 [9] Type signed+xml" Signatures for XML MIME MIME-part-TS 24.379 [9] bodies as described in Table body 5.5.13.1-1

Condition	Explanation
MANUAL	Call establishment with manual commencement mode
FORCE	force of automatic commencement mode at the invited MCPTT client
	is requested by the MCPTT user
ALLOW-LOCATION-INFO	Implicit floor control is requested AND <allow-location-info-when-talking> element of the <ruleset> element of the MCPTT user profile document set to "true" in TS 36.579-1 [2] Table 5.5.8.3-1</ruleset></allow-location-info-when-talking>
For further conditions see table 5.5.1-1	

5.5.2.13 SIP REGISTER

This message is sent by the UE.

Table 5.5.2.13-1: SIP REGISTER

Derivation Path: TS 24.229 [16] of Information Element	Value/remark		Doforonce	Condition
	value/remark	Comment	Reference	Condition
Request-Line	"DECICTED"		RFC 3261 [22]	
Method	"REGISTER"	5 " " 115		
Request-URI	SIP URI of the home	Depending on the UE		
	domain name	configuration the UE		
	(px_MCX_SIP_HomeD	may know the home		
	omain_A) if available at	domain name of the		
	the UE or derived from	SIP core (e.g. when		
	the IMSI otherwise	there is an ISIM) or the		
		UE needs to derive it		
		from the IMSI as		
		according to		
		23.003 [69] clause 13.2		
		(e.g. when there is a		
		USIM only)		
SIP-Version	"SIP/2.0"		DEC 2224 (222)	
Route	Not present		RFC 3261 [22]	
Via			RFC 3261 [22]	
			RFC 3581 [55]	
sent-protocol	"SIP/2.0/UDP"	UE uses UDP for		UDP
	#01D/0.6/7707	registration		T05
	"SIP/2.0/TCP	UE uses TCP for		TCP
		registration		
sent-by	ID - dda 500M			
host	IP address or FQDN			OID DES
port	any value if present			SIP_REGI
				STER_INI
				TIAL
	any value if present			TCP
	protected server port of			UDP
	the UE when using			
	UDP			
via-branch	Value starting with			
From	'z9hG4bK'		DEC 2264 [22]	
From			RFC 3261 [22]	
addr-spec	a a mana a valua a a in the a			
user-info and host	same value as in the initial REGISTER			
	Default public user id	Depending on the UE		SIP_REGI
	(px_MCX_SIP_PublicU	configuration the UE		STER_INI
	serId_A_1) if available	may know the default		TIAL
	at the UE or derived	public user id (e.g.		
	from the IMSI otherwise	when there is an ISIM)		
		or the UE needs to		
		derive it from the IMSI		
		as according to		
		23.003 [69]		
		clause 13.4B (e.g.		
		when there is a USIM		
	1	only)		
port	not present			
tag	any value			
То	+			
addr-spec	same value as in From- header			
tag	Not present			
Contact			RFC 3261 [22]	
addr-spec	SIP URI			
user-info and host	IP address or FQDN			
port	any value if present			SIP_REGI
Port	any value ii present			STER_INI
				TIAL
	protected server port of			
	the UE			

	"+g.3gpp.mcvideo"	This media feature tag		MCVIDEO
	G 5	when used in a SIP		
		request or a SIP		
		response indicates that		
		the function sending		
		the SIP message		
		supports Mission		
		Critical Video		
		(MCVideo)		
		communication.		
	"+g.3gpp.mcdata.sds"	This media feature tag		MCDATA
	+g.ogpp.modata.sus	when used in a SIP		WODATA
		request or a SIP		
		response indicates that		
		the function sending		
		the SIP message		
		supports Mission		
		Critical Data (MCData)		
		communication.		
feature-param	"+g.3gpp.icsi-	Communication:		
feature-param				
	ref=urn:urn-7:3gpp-			
	service.ims.icsi.mcptt"			
	"+g.3gpp.icsi-	This URN indicates that		MCVIDEO
	ref=urn:urn-7:3gpp-	the device has the		
	service.ims.icsi.mcvide	capabilities to support		
	О"	the mission critical		
		video (MCVideo)		
		service.		
	"La 2ann ioni	This URN indicates that		MCDATA
	"+g.3gpp.icsi-			MCDATA
	ref=urn:urn-7:3gpp-	the device has the		
	service.ims.icsi.mcdata.	capabilities to support		
	sds"	the mission critical data		
		(MCData) service.		
feature-param	"audio"	,		MCPTT
Tourist parties				OR
				MCVIDEO
footure param	"video"	This feature tag		MCVIDEO
feature-param	video			MCAIDEO
		indicates that the		
		device supports video		
		as a streaming media		
		type.		
feature-param	"text"	This feature tag		MCDATA
		indicates that the		
		device supports text as		
		a streaming media		
	"	type.		
feature-param	"expires=600000" if			
	present			
Expires	Present if no expires		RFC 3261 [22]	<u> </u>
_ ·	parameter in Contact		RFC 3903 [43]	
	header			
value	"600000"			
Require	00000		DEC 2064 [00]	
Require			RFC 3261 [22]	
			RFC 3329 [53]	
option-tag	"sec-agree"			
Proxy-Require			RFC 3261 [22]	
			RFC 3329 [53]	
option-tag	"sec-agree"			
Supported			RFC 3261 [22]	
_ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~			RFC 6442 [62]	
anting to a	H 41- H		RFC 4488 [36]	
option-tag	"path"			
option-tag	"timer"			
Cseq			RFC 3261 [22]	
value	any allowed value			SIP_REGI
1				STER_INI
				TIAL
İ		1	1	11/76

	value sent by the UE in			
	previous REGISTER			
	incremented by one			
	"REGISTER"			
method	"REGISTER"			
Call-ID			RFC 3261 [22]	
callid	any value			
Security-Client			RFC 7315 [52]	
mechanism-name	"ipsec-3gpp"			
algorithm	"hmac-sha-1-96"			
protocol	"esp" (if present)			
mode	"trans" (if present)			
encrypt-algorithm	"des-ede3-cbc" or "aes- cbc"			
spi-c	SPI number of the inbound SA at the protected client port			
spi-s	SPI number of the inbound SA at the protected server port			
port-c	protected client port			
port-c				
port-s	protected server port		DE0 0000 17-1	015 5=0;
Security-Verify	Not present		RFC 3329 [53]	SIP_REGI STER_INI TIAL
Security-Verify			RFC 3329 [53]	
sec-mechanism	same value as Security		• ••=• [••]	
	Server header sent by SS			
Authorization			RFC 2617 [72], RFC 3310 [96]	SIP_REGI STER_INI TIAL
username	Private user id (px_MCX_SIP_Private UserId_A) if available at the UE or derived from the IMSI otherwise	Depending on the UE configuration the UE may know the private public user id (e.g. when there is an ISIM) or the UE needs to derive it from the IMSI as according to 23.003 [69] clause 13.3 (e.g. when there is a USIM only)		
realm	same home domain name as used in Request-URI			
nonco	""	Empty string		
nonce	some CID LIDL se	Linpty stillig		
digest-uri	same SIP-URI as used as Request-URI			
opaque	any value if present			
qop	any value if present			
cnonce	any value if present			
nc	any value if present			
algorithm	any value if present			
· ·	any value ii present	Empty string	1	
response		Empty string	DEC	
Authorization			RFC 2617 [72], RFC 3310 [96]	
username	same value as for condition SIP_REGISTER_INITI AL			
realm	same value as received in the realm directive in the WWW Authenticate header sent by SS			

			T	T
nonce	same value as in			
	WWW-Authenticate			
	header sent by SS			
digest-uri	same SIP-URI as used			
	as Request-URI			
opaque	same value as sent by			
	the server in "401			
	Unauthorized for			
	REGISTER"			
qop	"auth"			
cnonce	any value	value assigned by UE		
CHOICE	arry value	affecting the response		
		calculation		
nc	nonce-count value	counter to indicate how		
TIC	Horice-count value	many times the UE has		
		sent the same value of		
		nonce within		
		successive		
		REGISTERs, initial		
	"AIZA: 4 BADE"	value shall be 1		
algorithm	"AKAv1-MD5"			
response	Digest response	calculated by the client		
		according to RFC 2617	DEC 0001 1000	
Max-Forwards			RFC 3261 [22]	
value	any allowed value	Non-zero value		
P-Access-Network-Info			RFC 7315 [52]	
access-net-specs	Access network			
	technology and, if			
	applicable, the cell ID			
Content-Type			RFC 5621 [58]	CONFIG
media-type	"multipart/mixed"			
Content-Length	present in case of TCP		RFC 3261 [22]	
3	and when there is a			
	message body			
	(otherwise optional)			
value	any value	length of the message		
valdo	any value	body		
Message-body		Body	RFC 3261 [22]	CONFIG
MIME body part		MCPTT/MCVideo/MCD	1(1 0 0201 [22]	0014110
MINIC Dody part		ata Info		
MIME part bandara	+	ata iiiio		
MIME-part-headers	llandiantian / mad 2 mm			
Content-Type	"application/vnd.3gpp.			
	mcptt-info+xml"			140) ((0.50
	"application/vnd.3gpp.			MCVIDEO
	mcvideo-info+xml"			
	"application/vnd.3gpp.			MCDATA
_	mcdata-info+xml"			
Content-ID	any value	Unique URL identifying	TS 24.379 [9]	
		the	clause 6.6.3.1	
		MCPTT/MCVideo/MCD		
		ata Info XML MIME		
		body; used as		
		reference in the		
		signature MIME body		
MIME port body		T -	TO 04 070 [0]	
MIME-part-body	MCPTT-Info as		15 24.379 191	
MIME-part-body	MCPTT-Info as described in Table		TS 24.379 [9] clause F.1	
MIME-part-body				
мім : -рап-роду	described in Table 5.5.3.2.1-1		clause F.1	MCVIDEO
мим е -рап-воду	described in Table 5.5.3.2.1-1 MCVideo-Info as		clause F.1 TS 24.281 [86]	MCVIDEO
мим : -рап-росу	described in Table 5.5.3.2.1-1 MCVideo-Info as described in Table		clause F.1	MCVIDEO
MIME-part-body	described in Table 5.5.3.2.1-1 MCVideo-Info as described in Table 5.5.3.2.1-2		Clause F.1 TS 24.281 [86] clause F.1	
мим с -рап-роду	described in Table 5.5.3.2.1-1 MCVideo-Info as described in Table 5.5.3.2.1-2 MCData-Info as		Clause F.1 TS 24.281 [86] clause F.1 TS 24.282 [87]	MCVIDEO MCDATA
MIME-part-body	described in Table 5.5.3.2.1-1 MCVideo-Info as described in Table 5.5.3.2.1-2 MCData-Info as described in Table		Clause F.1 TS 24.281 [86] clause F.1	
	described in Table 5.5.3.2.1-1 MCVideo-Info as described in Table 5.5.3.2.1-2 MCData-Info as	MIKEY	Clause F.1 TS 24.281 [86] clause F.1 TS 24.282 [87]	
MIME body part	described in Table 5.5.3.2.1-1 MCVideo-Info as described in Table 5.5.3.2.1-2 MCData-Info as described in Table	MIKEY	Clause F.1 TS 24.281 [86] clause F.1 TS 24.282 [87]	
	described in Table 5.5.3.2.1-1 MCVideo-Info as described in Table 5.5.3.2.1-2 MCData-Info as described in Table	MIKEY	Clause F.1 TS 24.281 [86] clause F.1 TS 24.282 [87]	

MIME-part-body	MIKEY message as described in Table 5.5.9.1-1	MIKEY message, containing the CSK	TS 33.180 [94]
MIME body part		Signature	
MIME-part-headers			
Content-Type	"application/vnd.3gpp. mcptt-signed+xml"		TS 24.379 [9]
MIME-part-body	Signatures for XML MIME bodies as described in Table 5.5.13.1-1		TS 24.379 [9]

Condition	Explanation
SIP_REGISTER_INITIAL	Initial unprotected REGISTER
For further conditions see table 5.5.1-1	

5.5.2.14 SIP SUBSCRIBE

This message is sent by the UE.

Table 5.5.2.14-1: SIP SUBSCRIBE

Information Element	clause A.2.1.4.13, A.2.2.4.13 Value/remark	Comment	Reference	Condition
Request-Line	Talao, omark		RFC 3261 [22]	Containen
Method	"SUBSCRIBE"		RFC 5031 [54]	
Request-URI	tsc_MCPTT_PublicSer viceId_A	The public service identity identifying the originating participating MCPTT function serving the MCPTT user		
	px_MCVideo_PublicSer viceId_A	The public service identity identifying the originating participating MCVideo function serving the MCVideo user		MCVIDEO
	px_MCData_PublicSer viceId_A	The public service identity identifying the originating participating MCData function serving the MCData user		MCDATA
	"sip:" & tsc_MCX_CMS_Hostna me	SIP URI of the CMS's domain name: public service identity (PSI) for performing subscription proxy function of the CMS	TS 24.484 [14] clause 6.3.13. 2.2	CONFIG
	tsc_MCX_GMSURI	public service identity (PSI) for performing subscription proxy function of the GMS as configured in the <gms-uri> element of the initial UE configuration</gms-uri>	TS 24.481 [11] clause 6.3.13. 2.1	GROUPC ONFIG
	same URI as the SS has sent earlier in the Contact header of a message within the same dialog	Contact URI of the recipient of the previous 200 OK		re_SUBSC RIBE
SIP-Version	"SIP/2.0"			
Route			RFC 3261 [22]	
addr-spec[1] user-info and host	P-CSCF address of the SS	P-CSCF address as assigned to the UE via NAS signalling or P- CSCF discovery		
port	protected server port of the SS	as assigned during registration		
uri-parameters	"Ir"			
addr-spec[2] user-info and host	SIP URI "scscf.3gpp.org"			
port	not present			
uri-parameters	"Ir"			
Route			RFC 3261 [22]	re_SUBSC
route-param list	URIs of the Record- Route header sent to the UE in the response which has established the dialog, in reverse order			
Via	order		RFC 3261 [22] RFC 3581 [55]	
sent-protocol	"SIP/2.0/UDP"		0 0001 [00]	UDP

Derivation Path: TS 24.229 [16] Information Element	Value/remark	Comment	Reference	Condition
o.mation Element	"SIP/2.0/TCP"	Johnnont	TOTOTOTOG	TCP
sent-by	JII 12.0/101			10.
host	IP address or FQDN	Either the UE's IP address or its home domain name		
port	protected server port of the UE	as assigned during registration		
via-branch	value starting with 'z9hG4bK'			
From			RFC 3261 [22]	
addr-spec user-info and host	Default public user id (px_MCX_SIP_PublicU serId_A_1)			
port	not present			
tag From	any value		RFC 3261 [22]	re_SUBSC RIBE
addr-spec	Same URI of the UE as used earlier in the dialog	Local URI of the dialog (from the UE's point of view)		
tag	Same tag of the UE as used earlier in the dialog	Local tag of the dialog ID (from the UE's point of view)		
То			RFC 3261 [22] RFC 5031 [54]	
addr-spec				
user-info and host	same URI as used as Request URI			
port	not present			
tag	not present			
То			RFC 3261 [22]	re_SUBSC RIBE
addr-spec	Same URI of the SS as used earlier in the dialogURI	Remote URI of the dialog (from the UE's point of view)		
tag	Same tag of the SS as used earlier in the dialog	Remote tag of the dialog ID (from the UE's point of view)		
Contact			RFC 3261 [22]	
addr-spec	SIP URI			
user-info and host	IP address or FQDN			
port	protected server port of UE	as assigned during registration		
feature-param	"+g.3gpp.mcvideo" "+g.3gpp.mcvideo" "+g.3gpp.mcdata.sds"	This media feature tag when used in a SIP request or a SIP response indicates that the function sending the SIP message supports Mission Critical Video (MCVideo) communication. This media feature tag		MCVIDEO MCDATA
		when used in a SIP request or a SIP response indicates that the function sending the SIP message supports Mission Critical Data (MCData) communication.		

Derivation Path: TS 24.229 [16]		3		
Information Element	Value/remark	Comment	Reference	Condition
feature-param	"+g.3gpp.icsi- ref=urn:urn-7:3gpp- service.ims.icsi.mcptt"			
	"+g.3gpp.icsi- ref=urn:urn-7:3gpp- service.ims.icsi.mcvide o"	This URN indicates that the device has the capabilities to support the mission critical video (MCVideo) service.		MCVIDEO
	"+g.3gpp.icsi- ref=urn:urn-7:3gpp- service.ims.icsi.mcdata. sds"	This URN indicates that the device has the capabilities to support the mission critical data (MCData) service.		MCDATA
feature-param	"audio"			MCPTT OR MCVIDEO
feature-param	"video"	This feature tag indicates that the device supports video as a streaming media type.		MCVIDEO
feature-param	"text"	This feature tag indicates that the device supports text as a streaming media type.		MCDATA
Expires			RFC 3261 [22] RFC 3903 [43]	
value	any value			
Require			RFC 3261 [22] RFC 3329 [53]	
option-tag Proxy-Require	"sec-agree"		RFC 3261 [22] RFC 3329 [53]	
option-tag	"sec-agree"			
Security-Verify			RFC 3329 [53]	
sec-mechanism	same value as Security -Server header sent by SS during registration			
Cseq			RFC 3261 [22]	
value	any allowed value value of CSeq sent by the endpoint within its previous request in the same dialog but increased by one			re_SUBSC RIBE
method	"SUBSCRIBE"			
Call-ID			RFC 3261 [22]	
callid	any allowed value same value as in SUBSCRIBE creating the dialog			re_SUBSC RIBE
Max-Forwards			RFC 3261 [22]	
value	any allowed value	Non-zero value		
P-Access-Network-Info			RFC 7315 [52] RFC 7913 [51]	
access-net-spec	Access network technology and, if applicable, the cell ID	Access network technology and, if applicable, the cell ID		
Event			RFC 6665 [39]	
event-type	"presence" "xcap-diff"			CONFIG GROUPC ONFIG

Derivation Path: TS 24.229 [16] Information Element	Value/remark	Comment	Reference	Condition
information Element	"poc-settings"	Comment	Reference	MCDATA, POC-
				SETTINGS -EVENT
Accept			RFC 3261 [22]	
media-range	"application/pidf+xml"			OONEIO
	"application/xcap- diff+xml"			CONFIG, GROUPC ONFIG
	"application/poc- settings+xml"			POC- SETTINGS -EVENT
P-Preferred-Service			RFC 6050 [31]	
Service-ID	"urn:urn-7:3gpp- service.ims.icsi.mcptt"			
	"urn:urn-7:3gpp- service.ims.icsi.mcvide o"			MCVIDEO
	"urn:urn-7:3gpp- service.ims.icsi.mcdata			MCDATA
Content-Type			RFC 5621 [58]	
media-type	"multipart/mixed"			
Content-Length	present in case of TCP and when there is a message body		RFC 3261 [22]	
value	(otherwise optional) any value	length of message-		
	any value	body	DEC 2004 [00]	
Message-body MIME body part		MCPTT/MCVideo/MCD	RFC 3261 [22]	
		ata Info		
MIME-part-headers				
Content-Type	"application/vnd.3gpp. mcptt-info+xml"			MOVIDEO
	"application/vnd.3gpp. mcvideo-info+xml"			MCVIDEO
	"application/vnd.3gpp. mcdata-info+xml"			MCDATA
Content-ID	any value	Unique URL identifying the MCPTT/MCVideo/MCD	TS 24.379 [9] clause 6.6.3.1	
		ata Info XML MIME body; used as reference in the signature MIME body		
MIME-part-body	MCPTT-Info as	orginature ivilivia acay	TS 24.379 [9]	
1	described in Table 5.5.3.2.1-1		clause F.1	
	MCVideo-Info as described in Table 5.5.3.2.1-2		TS 24.281 [86] clause F.1	MCVIDEO
	MCData-Info as described in Table 5.5.3.2.1-3		TS 24.282 [87] clause D.1	MCDATA
MIME body part		SIMPLE-FILTER		PRESENC E-EVENT
MIME-part-headers				
Content-Type	"application/simple- filter+xml"			
MIME-part-body	SIMPLE-FILTER as described in Table 5.5.3.6-1		TS 24.379 [9] clause 9.3.2	

Information Element	Value/remark	Comment	Reference	Condition
	SIMPLE-FILTER as		TS 24.281 [86]	MCVIDEO
	described in Table		clause 8.3.2	
	5.5.3.6-2			
	SIMPLE-FILTER as		TS 24.282 [87]	MCDATA
	described in Table		clause 8.4.2	
	5.5.3.6-3		0.00000	
MIME body part		Resource-lists		CONFIG,
, , , , ,				GROUPC
				ONFIG
MIME-part-headers				
Content-Type	"application/resource-			
	lists+xml"			
Content-ID	Unique id in format of a	Unique URL identifying	TS 24.379 [9]	
Contone 12	Message-ID assigned	the Resource-lists XML	clause 6.6.3.1	
	by the SS	MIME body; used as	0.0000 0.0.0.1	
	by 1110 00	reference in the		
		signature MIME body		
MIME-part-body	Resource-lists as	Signature Wilvic Body		
	described in Table			
	5.5.3.3.1-1			
	Resource-lists as			MCVIDEO
	described in Table			MCVIDEO
	5.5.3.3.1-2 Resource-lists as			MCDATA
				MCDATA
	described in Table			
NAINAE I I	5.5.3.3.1-3	BAUGEN .	DE0 0000 [04]	OONEIO
MIME body part		MIKEY	RFC 3830 [24]	CONFIG,
				GROUPC
				ONFIG
MIME-part-headers				
Content-Type	"application/mikey"			
MIME-part-body	MIKEY message as	MIKEY message,	TS 33.180 [94]	
	described in Table	containing the CSK		
	5.5.9.1-1			
MIME body part		Signature		
MIME-part-headers				
Content-Type	"application/vnd.3gpp.		TS 24.379 [9]	
	mcptt-signed+xml ["]			
MIME-part-body	Signatures for XML		TS 24.379 [9]	
	MIME bodies as			
	described in Table			
	5.5.13.1-1			

Condition	Explanation
re_SUBSCRIBE	SUBSCRIBE within a dialog
For further conditions see table 5.5.1-1	

5.5.2.15 SIP UPDATE

5.5.2.15.1 SIP UPDATE from the UE

Table 5.5.2.15.1-1: SIP UPDATE from the UE

Derivation Path: TS 24.229 [16] Information Element	A.2.1.4.14, A.2.2.4.14 Value/remark	Comment	Reference	Condition
Request-Line	value/remark	Comment	RFC 3261 [22]	Condition
Request-Line			RFC 5261 [22] RFC 5031 [54]	
Method	"UPDATE"		141 0 0001 [01]	
Request-URI	The same URI value as			
•	the recipient of			
	UPDATE has earlier			
	sent in its Contact			
	header within the same			
	dialog			
SIP-Version	'SIP/2.0"		DEC 2004 (201	
Via			RFC 3261 [22]	
sent-protocol	"SIP/2.0/UDP"		RFC 3581 [55]	
sent-protocor	"SIP/2.0/TCP"			TCP
sent-by	same value as in			MO_CALL
Serit-by	INVITE message			WO_CALL
sent-by	nvvive meedage			MT_CALL
host	IP address or FQDN	Either the UE's IP		
		address or its home		
		domain name		
port	protected server port of	as assigned during		
	the UE	registration		
via-branch	Value starting with			
	'z9hG4bK'		550	
Route	LIDI (II D		RFC 3261 [22]	140 0411
route-param list	URIs of the Record-			MO_CALL
	Route header sent to			
	the UE in the response which has established			
	the dialog, in reverse			
	order			
	URIs of the Record-			MT_CALL
	Route header sent to			
	the UE in the INVITE			
From			RFC 3261 [22]	
addr-spec	Same URI of the UE as	Local URI of the dialog		
	used earlier in the	(from the UE's point of		
	dialog	view)		
tag	Same tag of the UE as	Local tag of the dialog		
	used earlier in the	ID (from the UE's point		
То	dialog	of view)	DEC 2264 [22]	
10			RFC 3261 [22] RFC 5031 [54]	
addr-spec	Same URI of the SS as	Remote URI of the	101 0 0001 [04]	
addi opoo	used earlier in the	dialog (from the UE's		
	dialog	point of view)		
tag	Same tag of the SS as	Remote tag of the		
-	used earlier in the	dialog ID (from the UE's		
	dialog	point of view)		
Call-ID			RFC 3261 [22]	
callid	Same value as used in			
	the INVITE initiating the			
	dialog		DE0 000 / 1000	
Contact	Contact header with the		RFC 3261 [22]	MO_CALL
	same Contact URI and			
	the same mandatory			
	feature parameters as in the INVITE creating			
	the dialog	1	I	

		1		T
	Contact header with the			MT_CALL
	same Contact URI and			
	the same mandatory			
	feature parameters as			
	in the response for the			
	INVITE creating the			
	dialog			
CSeq			RFC 3261 [22]	
value	value of CSeq sent by			
	the UE within its			
	previous request in the			
	same dialog but			
	increased by one			
method	"UPDATE"			
Require	OFBATE		RFC 3261 [22]	
Require			RFC 3329 [53]	
option-tag	"sec-agree"		KFC 3329 [33]	
Proxy-Require	Sec-agree		RFC 3261 [22]	1
Proxy-Require			RFC 3329 [53]	
ontion tog	"aga agrag"		KFC 3329 [33]	
option-tag Security-Verify	"sec-agree"		DEC 2220 [52]	
Security-verify			RFC 3329 [53]	
sec-mechanism	same value as Security			
	-Server header sent by			
	SS during registration			
Max-Forwards	o a manning region amon		RFC 3261 [22]	
value	any allowed value	Non-zero value		
P-Access-Network-Info	·		RFC 7315 [52]	
			RFC 7913 [51]	
access-net-spec	Access network			
	technology and, if			
	applicable, the cell ID			
Content-Type			RFC 5621 [58]	
media-type	"application/sdp"			
Content-Length	present in case of TCP		RFC 3261 [22]	
	and when there is a			
	message body			
	(otherwise optional)			
value	any value	length of message- body		
Message-body			RFC 3261 [22]	
SDP Message	SDP Message as		· ·	
5 -	described in Table			
	5.5.3.1.1-1			
	SDP Message as			MCVIDEO
	described in Table			
	5.5.3.1.1-2			
	SDP Message as			MCDATA
	described in Table			
	5.5.3.1.1-3			
	0.0.0.1.170	1		

5.5.2.15.2 SIP UPDATE from the SS

Table 5.5.2.15.2-1: SIP UPDATE from the SS

Derivation Path: TS 24.229 [16] Information Element	A.2.1.4.14, A.2.2.4.14 Value/remark	Comment	Reference	Condition
Request-Line	value/remark	Comment	RFC 3261 [22] RFC 5031 [54]	Condition
Method	"UPDATE"			
Request-URI	same URI as the UE has sent earlier in the Contact header of a response within the same dialog	Contact URI of the UE ("callee")		
SIP-Version	'SIP/2.0"			
Via	same as specified for INVITE sent by the SS in Table 5.5.2.5.2-1		RFC 3261 [22] RFC 3581 [55]	MO_CALL
Via	same as in INVITE but with updated via- branches		RFC 3261 [22] RFC 3581 [55]	MT_CALL
From			RFC 3261 [22]	
addr-spec	Same URI of the SS as used earlier in the dialog	Remote URI of the dialog (from the UE's point of view)		
tag	Same tag of the SS as used earlier in the dialog	Remote tag of the dialog (from the UE's point of view)		
То			RFC 3261 [22] RFC 5031 [54]	
addr-spec	Same URI of the UE as used earlier in the dialog	Local URI of the dialog (from the UE's point of view)		
tag	Same tag of the UE as used earlier in the dialog	Local tag of the dialog (from the UE's point of view)		
Call-ID			RFC 3261 [22]	
callid	Same value as used in the INVITE initiating the dialog			
Contact	same as in the response for the INVITE creating the dialog		RFC 3261 [22]	MO_CALL
	same as in the INVITE creating the dialog			MT_CALL
CSeq	-		RFC 3261 [22]	
value	value of CSeq sent by the endpoint within its previous request in the same dialog but increased by one			
method	"UPDATE"		<u> </u>	
Max-Forwards value	"68"	The recommended initial value is 70 in	RFC 3261 [22]	
		RFC 3261 [22]. Assuming 2 hops as according to the Via header this results in a value of 68 in the message sent to the UE.		
Content-Type			RFC 5621 [58]	
media-type	"application/sdp"			
Content-Length	length of message- body		RFC 3261 [22]	
value	length of message- body		DE0 0001 700	
Message-body			RFC 3261 [22]	

SDP Message	SDP Message as described in Table 5.5.3.1.1-2		
	SDP Message as described in Table 5.5.3.1.2-2		MCVIDEO
	SDP Message as described in Table 5.5.3.1.2-3		MCDATA

5.5.2.16 SIP 1xx

5.5.2.16.1 SIP 100 (Trying)

This message is sent by the UE or the SS.

Table 5.5.2.16.1-1: SIP 100 (Trying)

Derivation Path: RFC 3261 [22]		1 -		
Information Element	Value/remark	Comment	Reference	Condition
Status-Line				
SIP-Version	"SIP/2.0"			
Status-Code	"100"			
Reason-Phrase	"Trying"			
Via				
via-parm	same value as received in INVITE message			
From				
addr-spec	same value as received in INVITE message			
tag	same value as received in INVITE message			
То				
addr-spec	same value as received in INVITE message			
Call-ID	<u> </u>			
callid	same value as received in INVITE message			
CSeq				
value	same value as received in INVITE message			
Content-Length	Optional in case of the message being sent by the UE			
value	"0"	No message body included - end of SIP message		

5.5.2.16.2 SIP 180 (Ringing)

5.5.2.16.2.1 SIP 180 (Ringing) from the UE

Table 5.5.2.16.2.1-1: SIP 180 (Ringing) from the UE

Derivation Path: RFC 3261 [22] Information Element	Value/remark	Comment	Reference	Condition
Status-Line	Value/Terriark	Comment	Reference	Condition
SIP-Version	"SIP/2.0"			
Status-Code	"180"			
Reason-Phrase	"Ringing"			
Record-Route	V V		RFC 3261 [22]	
rec-route	same as received in			
Via	INVITE message same as received in		RFC 3261 [22]	
	INVITE message		RFC 3581 [55]	
Require				100rel
option-tag	"100rel"			
From				
addr-spec	same value as received in INVITE message			
tag	same value as received in INVITE message			
То	III II VII L III essage			
addr-spec	same value as received			
	in INVITE message			
tag	same value as received			
	in the INVITE message			
	or any value if missing			
	in the INVITE message.			
Contact	OID LIE:			
addr-spec	SIP URI			
user-info and host	IP address or FQDN			
port	protected server port of UE	as assigned during registration		
feature-param	"+g.3gpp.mcptt"			
	"+g.3gpp.mcvideo"			MCVIDEO
	"+g.3gpp.mcdata.sds"			MCDATA
feature-param	"+g.3gpp.icsi-ref=			
	urn:urn-7:3gpp-			
	service.ims.icsi.mcptt" "+g.3gpp.icsi-			MCVIDEO
	ref=urn:urn-7:3gpp-			INICAIDEO
	service.ims.icsi.mcvide			
	0"			
	"+g.3gpp.icsi-			MCDATA
	ref=urn:urn-7:3gpp-			
	service.ims.icsi.mcdata.			
	sds"			
feature-param	"audio"			MCPTT
				OR
for the same of th	U. data = U			MCVideo
feature-param	"video"			MCVIDEO
feature-param	"text" "isfocus"			MCDATA
feature-param Supported	ISIUCUS			
option-tag	"norefersub"			
Rseq	HOTEIGIOUD		RFC 3262 [97]	100rel
response-num	previous RSeq number		2 2=3= [0.]	
•	sent in the same			
	direction incremented			
	by one			
Call-ID	same value as received			
callid				i
callid	in INVITE message			
callid CSeq	in INVITE message			
callid	in INVITE message same value as received			
callid CSeq value	in INVITE message same value as received in INVITE message			
callid CSeq	in INVITE message same value as received	No message body		

Condition	Explanation	
100rel	Reponse sent reliable according to RFC 3262 [97]	

5.5.2.16.2.2 SIP 180 (Ringing) from the SS

Table 5.5.2.16.2.2-1: SIP 180 (Ringing) from the SS

Information Element	Value/remark	Comment	Reference	Condition
Status-Line				
SIP-Version	"SIP/2.0"			
Status-Code	"180"			
Reason-Phrase	"Ringing"			
Record-Route	same as spefied for the SIP 200 (OK) from the SS in table 5.5.2.17.1.2-1 with condition INVITE-RSP		RFC 3261 [22]	
Via	same as received in the INVITE message		RFC 3261 [22] RFC 3581 [55]	
Require				100rel
option-tag	"100rel"			
From				
addr-spec	same value as in the request			
tag	same value as in the request			
То				
addr-spec	same value as in the request			
tag	same value as in the request or To-tag assigned by the SS if missing in the request			
Contact				
addr-spec				
user-info and host	Public user id of the callee (px_IMS_CalleeContact Uri)	Callee contact Uri		
port	not present			
feature-param	"+g.3gpp.mcptt"			
	"+g.3gpp.mcvideo"			MCVIDEO
	"+g.3gpp.mcdata.sds"			MCDATA
feature-param	"+g.3gpp.icsi-ref= urn:urn-7:3gpp- service.ims.icsi.mcptt"			
	"+g.3gpp.icsi- ref=urn:urn-7:3gpp- service.ims.icsi.mcvide o"			MCVIDEO
	"+g.3gpp.icsi- ref=urn:urn-7:3gpp- service.ims.icsi.mcdata. sds"			MCDATA
feature-param	"audio"			MCPTT OR MCVIDEO
feature-param	"video"	This feature tag indicates that the device supports video as a streaming media type.		MCVIDEO

Derivation Path: RFC 3261 [22]				
Information Element	Value/remark	Comment	Reference	Condition
feature-param	"text"	This feature tag indicates that the device supports text as a streaming media type.		MCDATA
feature-param	"isfocus"			
Supported				
option-tag	"norefersub"			
Rseq			RFC 3262 [97]	100rel
response-num	previous RSeq number sent in the same direction incremented by one; arbitrarily selected if there is no previous RSeq number			
Call-ID				
callid	same value as received in INVITE message			
CSeq				
value	same value as received in INVITE message			
Content-Length				
value	"0"	No message body included		

Condition Explanation	
100rel	Reponse sent reliable according to RFC 3262 [97]

5.5.2.16.3 SIP 183 (Session Progress)

5.5.2.16.3.1 SIP 183 (Session Progress) from the UE

Table 5.5.2.16.3.1-1: SIP 183 (Session Progress) from the UE

Derivation Path: RFC 3261 [22] Information Element	Value/remark	Comment	Reference	Condition
Status-Line				
SIP-Version	"SIP/2.0"			
Status-Code	"183"			
Reason-Phrase	"Session progress"			
Record-Route			RFC 3261 [22]	
rec-route	same as received in			
	INVITE message			
Via	same as received in		RFC 3261 [22]	
	INVITE message		RFC 3581 [55]	
Require				100rel
option-tag	"100rel"			
From				
addr-spec	same value as received in INVITE message			
tag	same value as received in INVITE message			
То	<u>=</u>			
addr-spec	same value as received in INVITE message			
tag	same value as received			
.~g	in the INVITE message			
	or any value if missing			
	in the INVITE message.			
Contact	3-			
addr-spec	SIP URI			
user-info and host	IP address or FQDN			
port	protected server port of	as assigned during		
	UE	registration		
feature-param	"+g.3gpp.mcptt"			
	"+g.3gpp.mcvideo"			MCVIDEO
	"+g.3gpp.mcdata.sds"			MCDATA
feature-param	"+g.3gpp.icsi-ref=			
	urn:urn-7:3gpp-			
	service.ims.icsi.mcptt"			
	"+g.3gpp.icsi-			MCVIDEO
	ref=urn:urn-7:3gpp-			
	service.ims.icsi.mcvide o"			
	"+g.3gpp.icsi-			MCDATA
	ref=urn:urn-7:3gpp-			
	service.ims.icsi.mcdata.			
	sds"			
feature-param	"audio"			MCPTT
				OR MOV
for a transport	U			MCVideo
feature-param	"video"			MCVIDEO
feature-param	"text" "isfocus"			MCDATA
feature-param	ISIOCUS			
Supported ontion-tag	"norefersub"			
option-tag Rseq	Horeleisub			100rel
response-num	previous RSeq number			100161
response-num	sent in the same			
	direction incremented			
	by one			
Call-ID	1,7 =			
callid	same value as received			
-	in INVITE message			
CSeq				
value	same value as received			
	in INVITE message			
P-Answer-State	if present			
value	"unconfirmed"			
Content-Length	if present		RFC 3261 [22]	

Derivation Path: RFC 3261 [22]					
Information Element	Value/remark	Comment	Reference	Condition	
value	"0"	No message body			
		included			

Condition	Explanation	
100rel	Reponse sent reliable according to RFC 3262 [97]	

5.5.2.16.3.2 SIP 183 (Session Progress) from the SS

Table 5.5.2.16.3.2-1: SIP 183 (Session Progress) from the SS

Derivation Path: RFC 3261 [22] Information Element	Value/remark	Comment	Reference	Condition
Status-Line	- Sido/i Gillain			23.14.10.1
SIP-Version	"SIP/2.0"			
Status-Code	"183"			
Reason-Phrase	"Session progress"			
Record-Route	same as specified for the SIP 200 (OK) from the SS in table 5.5.2.17.1.2-1 with		RFC 3261 [22]	
Via	condition INVITE-RSP same as received in the		RFC 3261 [22]	
	INVITE message		RFC 3581 [55]	100 1
Require	#400 III			100rel
option-tag	"100rel"			
From	a a secondario de la compansión de la co			
addr-spec	same value as in the request			
tag	same value as in the request			
То				
addr-spec	same value as in the request			
tag	same value as in the request or To-tag assigned by the SS if missing in the request			
Contact				
addr-spec				
user-info and host	Public user id of the callee (px_IMS_CalleeContact	Callee contact Uri		
nort	Uri) not present			
port feature-param	"+g.3gpp.mcptt"			
reature-param	"+g.3gpp.mcvideo"			MCVIDEO
	"+g.3gpp.mcdata.sds"			MCDATA
feature-param	"+g.3gpp.icsi-ref= urn:urn-7:3gpp- service.ims.icsi.mcptt"			WODATA
	"+g.3gpp.icsi- ref=urn:urn-7:3gpp- service.ims.icsi.mcvide o"			MCVIDEO
	"+g.3gpp.icsi- ref=urn:urn-7:3gpp- service.ims.icsi.mcdata. sds"			MCDATA
feature-param	"audio"			MCPTT OR MCVIDEO
feature-param	"video"	This feature tag indicates that the device supports video as a streaming media type.		MCVIDEO
feature-param	"text"	This feature tag indicates that the device supports text as a streaming media type.		MCDATA
feature-param	"isfocus"			
Supported				
option-tag	"norefersub"			
Rseq				100rel

response-num	previous RSeq number			
•	sent in the same			
	direction incremented			
	by one; arbitrarily			
	selected if there is no			
	previous RSeq number			
Call-ID	i			
callid	same value as received			
	in INVITE message			
CSeq				
value	same value as received			
	in INVITE message			
P-Answer-State				
value	"unconfirmed"			
P-Asserted-Identity			RFC 3325 [32]	
addr-spec				
user-info and host	tsc_MCPTT_PublicSer			
	viceId_A			
	px_MCVideo_PublicSer			MCVIDEO
	viceId_A			
	px_MCData_PublicSer			MCDATA
	viceld_A			
port	not present			
Content-Length			RFC 3261 [22]	
value	"0"	No message body		
		included		

Condition	Explanation
100rel	Response sent reliable according to RFC 3262 [97]

5.5.2.17 SIP 2xx

5.5.2.17.1 SIP 200 (OK)

5.5.2.17.1.1 SIP 200 (OK) from the UE

Table 5.5.2.17.1.1-1: SIP 200 (OK) from the UE

Derivation Path: RFC 3261 [22] Information Element	Value/remark	Comment	Reference	Condition
Status-Line	Taido/Toillain	Johnnent	1.CICIGIICE	Condition
SIP-Version	"SIP/2.0"			
Status-Code	"200"			
Reason-Phrase	"OK"			
	_		DEC 2204 [22]	
Via	same as received in the request		RFC 3261 [22] RFC 3581 [55]	
Record-Route			RFC 3261 [22]	INVITE- RSP
rec-route	same as received in the request			
From				
addr-spec	Same value as received in the request			
tag	same value as received in the request			
То				
addr-spec	same value as received			
·	in the request			
tag	same value as received in the request or any value if missing in the			
Contact	request.			INVITE-
Contact				RSP
user-info and host	IP address or FQDN			
port	protected server port of UE	as assigned during registration		
feature-param	"+g.3gpp.mcptt"	registration		
reature-param	"+g.3gpp.mcvideo"			MCVIDEO
	"+g.3gpp.mcdata.sds"			MCDATA
factives parama				MCDATA
feature-param	"+g.3gpp.icsi-ref= urn:urn- 7:3gpp-			
	service.ims.icsi.mcptt"			MO) (IDEO
	"+g.3gpp.icsi-			MCVIDEO
	ref=urn:urn-7:3gpp-			
	service.ims.icsi.mcvide o"			
	"+g.3gpp.icsi-			MCDATA
	ref=urn:urn-7:3gpp-			WICDATA
	service.ims.icsi.mcdata.			
	sds"			
feature-param	"audio"			MCPTT
reature param	addio			OR
				MCVideo
feature-param	"video"			MCVIDEO
feature-param	"text"			MCDATA
feature-param	"isfocus"			
Call-ID				
callid	same value as received			
·····	in the request			
CSeq	<u>'</u>			
value	same value as received			
	in the request			
Require				INVITE- RSP
option-tag	"timer"			
Session-Expires				INVITE- RSP
delta-seconds	Same value as session		RFC 4028 [30]	1101
dolla doddiad	expires header in SIP		TS 24.229 [16]	
	INVITE		cl.5.1.4.1	
refresher	"uas"			
Content-Type			RFC 5621 [58]	INVITE-
				RSP
value	"multipart/mixed"			

Derivation Path: RFC 3261 [22] Information Element	Value/remark	Comment	Reference	Condition
Content-Length	present in case of TCP	Commone	RFC 3261 [22]	Condition
g	and when there is a		• • = • [==]	
	message body			
	(otherwise optional)			
value	any value	length of message- body		
P-Answer-State	If present		RFC 4964	INVITE-
			[118]	RSP AND
			TS 24.379 [9]	GROUP-
			clause 6.2.3.1.2	CALL
answer-type	"confirmed"		0.2.3.1.2	
Message-body	not present		RFC 3261 [22]	
Message-body	·		RFC 3261 [22]	INVITE-
				RSP
MIME body part		SDP message		
MIME-part-header MIME-Content-Type	"application/sdp"		RFC 4566 [27]	
MIME-part-body	SDP message as		111 0 4300 [27]	
part body	described in Table			
	5.5.3.1.1-1			
	SDP message as			MCVIDEO
	described in Table			
	5.5.3.1.1-2	FFS		MCDATA
	SDP message as described in Table	FF5		MCDATA
	5.5.3.1.1-3			
MIME body part	0.0.0.111	MCPTT/MCVideo/MCD		
		ata Info		
MIME-part-header				
MIME-Content-Type	"application/vnd.3gpp.			
	mcptt-info+xml" "application/vnd.3gpp.			MCVIDEO
	mcvideo-info+xml"			INICAIDEO
	"application/vnd.3gpp.			MCDATA
	mcdata-info+xml"			
Content-ID	any value	Unique URL identifying	TS 24.379 [9]	_
		the	clause 6.6.3.1	
		MCPTT/MCVideo/MCD		
		ata Info XML MIME body; used as		
		reference in the		
		signature MIME body		
MIME-part-body	MCPTT-Info as		TS 24.379 [9]	
	described in Table		clause F.1	
	5.5.3.2.1-1		TC 04 004 [00]	MOVUDEO
	MCVideo-Info as described in Table		TS 24.281 [86] clause F.1	MCVIDEO
	5.5.3.2.1-2		CIAUSE F. I	
	MCData-Info as		TS 24.282 [87]	MCDATA
	described in Table		clause D.1	
	5.5.3.2.1-3			
MIME body part		Signature		
MIME-part-headers Content-Type	"application/vnd.3gpp.		TS 24.379 [9]	
Content-Type	mcptt-signed+xml"		13 24.378 [8]	
MIME-part-body	Signatures for XML		TS 24.379 [9]	
	MIME bodies as			
	described in Table			
	5.5.13.1-1			

Condition	Explanation	
INVITE-RSP	200 OK is the response to the SIP INVITE	

5.5.2.17.1.2 SIP 200 (OK) from the SS

Table 5.5.2.17.1.2-1: SIP 200 (OK) from the SS

Derivation Path: RFC 3261 [22] Information Element	Value/remark	Comment	Reference	Condition
Status-Line	value/remark	Comment	Reference	Condition
SIP-Version	"SIP/2.0"			
Status-Code	"200"			
Reason-Phrase	"OK"			
Via	same as received in the		RFC 3261 [22]	
	request		RFC 3581 [55]	
Record-Route	1		RFC 3261 [22]	INVITE-
	OID LIDI			RSP
addr-spec[1]	SIP URI			
user-info and host port	pcscf.other.com			
uri-parameters	not present "Ir"			
addr-spec[2]	SIP URI			
user-info and host	scscf.other.com			
port	not present			
uri-parameters	"Ir"			
addr-spec[3]	SIP URI			
user-info and host	orig@scscf.3gpp.org			
port	not present			
uri-parameters	"lr"			
addr-spec[4]	SIP URI			
user-info and host	same address as sent by the UE in the first entry of the Route	P-CSCF address		
	header of the INVITE			
port	not present			
uri-parameters	"Ir"			
Record-Route			RFC 3261 [22]	SUBSCRI BE-RSP
addr-spec[1]	SIP URI			
user-info and host	P-CSCF address of the SS	P-CSCF address as assigned to the UE via NAS signalling or P- CSCF discovery (px_MCPTT_PCSCF_A _URI)		
port	not present	_====/		
uri-parameters	"Ir"			
From				
addr-spec	same value as in the request			
tag	same value as in the			
То	request			
addr-spec	same value as in the			
addi opoo	request			
tag	same value as in the			
-	request or To-tag			
	assigned by the SS if			
	missing in the request		DE0 222 : 222	0115055
Expires			RFC 3261 [22] RFC 3903 [43]	SUBSCRI BE-RSP, PUBLISH- RSP
value	same value as in the request			
Contact				REGISTE R-RSP
addr-spec	same value as received in the REGISTER			
feature-param	"+g.3gpp.mcptt"			
- Later & Parisin	"+g.3gpp.mcvideo"			MCVIDEO
	"+g.3gpp.mcdata.sds"			MCDATA
expires	"600000"			

Derivation Path: RFC 3261 [22] Information Element	Value/remark	Comment	Reference	Condition
Contact	value/remark	Comment	Reference	SUBSCRI
Contact				BE-RSP
addr-spec				
user-info and host	tsc_MCPTT_PublicSer			
	viceId_A			
	px_MCVideo_PublicSer			MCVIDEO
	viceId_A			
	px_MCData_PublicSer			MCDATA
	viceId_A "sip:" &			CONFIG
	tsc_MCX_CMS_Hostna			CONFIG
	me			
	"sip:" &			GROUPC
	tsc_MCX_GMS_Hostn			ONFIG
	ame			
port	not present			
Contact				INVITE-
- data	+			RSP
addr-spec user-info and host	too MCDTT Dubliceor			1
user-inio and nost	tsc_MCPTT_PublicSer viceId_A			1
	px_MCVideo_PublicSer			MCVIDEO
	viceId_A			WOVIBEO
	px_MCData_PublicSer			MCDATA
	viceId_A			
port	not present			
feature-param	"audio"			MCPTT
				OR
f t	(c; -1))			MCVIDEO
feature-param	"video" "text"			MCVIDEO MCDATA
feature-param Call-ID	lext			WICDATA
callid	same value as received			
cama	in the request			
CSeq				
value	same value as received			
	in the request			
Require				INVITE-
	net u			RSP
option-tag	"timer"			IND/ITE
Session-Expires				INVITE- RSP
generic-param	"3600"			KOI
refresher	"uac"			
Supported				INVITE-
				RSP
option-tag	"tdialog"			
option-tag	"norefersub"			.
option-tag	"explicitsub"			
option-tag	"nosub"		DEC 4400 [00]	DEEED
Refer-Sub			RFC 4488 [36]	REFER- RSP
refer-sub-value	"false"			INOF
P-Associated-URI	10.00		RFC 3261 [22]	REGISTE
			0 0201 [22]	R-RSP
addr-spec[1]	SIP URI			
host	px_MCX_SIP_PublicUs]
	erld_A_1			1
port	not present		BE0 225 : 225 :	DE0:0==
Service-Route			RFC 3261 [22]	REGISTE
				R-RSP
addr special	CIDIIDI			
addr-spec[1] host	SIP URI scscf.3gpp.org			

Derivation Path: RFC 3261 [22] Information Element	Value/remark	Comment	Reference	Condition
uri-parameters	"Ir"		11010101100	
SIP-ETag			RFC 3903 [43]	PUBLISH- RSP
entity-tag	unique value arbitrarily selected by the SS			
Content-Type			RFC 4566 [27]	INVITE- RSP
media-type	"application/sdp"			
Content-Length			RFC 3261 [22]	
value	length of message- body			
Message-body			RFC 3261 [22]	INVITE- RSP
SDP message	SDP message as described in Table 5.5.3.1.2-1			
	SDP message as described in Table 5.5.3.1.2-2			MCVIDEO
	SDP message as described in Table 5.5.3.1.2-3	FFS		MCDATA

Condition	Explanation
REGISTER-RSP	200 OK is the response to a SIP REGISTER
INVITE-RSP	200 OK is the response to a SIP INVITE
SUBSCRIBE-RSP	200 OK is the response to a SIP SUBSCRIBE
PUBLISH-RSP	200 OK is the response to a SIP PUBLISH
REFER-RSP	200 OK is the response to a SIP REFER

5.5.2.17.2 SIP 202 (Accepted)

Table 5.5.2.17.2-1: SIP 202 (Accepted)

Derivation Path: RFC 2616 [26]	Value/remark	Comment	Reference	Condition
Status-Line	T GILLOTT CITTLE IN		RFC 3261 [22]	
SIP-Version	"SIP/2.0"		1 0 020 1 [22]	
Status-Code	"202"			
Reason-Phrase	"Accepted"			
Via	same value as received in request		RFC 3261 [22]	
From	·		RFC 3261 [22]	
addr-spec	same value as received in request			
tag	same value as received in request			
То	·		RFC 3261 [22]	
addr-spec	same value as received in request			
tag	same value as in the request or To-tag assigned by the SS if missing in the request			
Call-ID			RFC 3261 [22]	
callid	same value as received in request			
CSeq	,		RFC 3261 [22]	
value	same value as received in request			
Content-Length	,		RFC 3261 [22]	
value	"0"		, ,	

5.5.2.18 SIP 3xx

5.5.2.18.1 SIP 302 (Moved Temporarily)

Table 5.5.2.18.1-1: SIP 302 (Moved Temporarily)

"SIP/2.0"			
1100011			
"302"			
"Moved Temporarily"			
		RFC 3261 [22]	
"0"	No message body		
	, ,		"0" RFC 3261 [22] No message body included - end of SIP

Editor's note: Table 5.5.2.18.1-1 needs to be reviewed

5.5.2.19 SIP 4xx

5.5.2.19.1 SIP 403 (Forbidden)

This message is sent by the SS.

Table 5.5.2.19.1-1: SIP 403 (Forbidden)

Delivery Path: RFC 3261 [22] Information Element	Value/remark	Comment	Reference	Condition
Status-Line	Valacifemark	Comment	Reference	Contaition
SIP-Version	"SIP/2.0"			
Status-Code	"403"			
Reason-Phrase	"Forbidden"			
Via	same as received in the request			
From				
addr-spec	same value as in the request			
tag	same value as in the request			
То	•			
addr-spec	same value as in the request			
tag	same value as in the request or To-tag assigned by the SS if missing in the request			
Call-ID				
callid	same value as in the request			
CSeq	1 1 2 2 2			
value	same value as in the request			
Warning			RFC 3261 [22]	
warn-code[1]	"100"			
warn-agent[1]		name or pseudonym of the server adding the Warning header		
pseudonym	"MCX Server"			
warn-text[1]	"function not allowed due to" <detailed reason></detailed 			
Content-Length			RFC 3261 [22]	
value	"0"		- 1	

5.5.2.19.2 SIP 404 (Not Found)

Table 5.5.2.19.2-1: SIP 404 (Not Found)

Delivery Path: RFC 3261 [22]				
Information Element	Value/remark	Comment	Reference	Condition
Request-Line				
SIP-Version	"SIP/2.0"			
Status-Code	"404"			
Reason-Phrase	"Not Found"			
Content-Length			RFC 3261 [22]	
value	"0"	No message body included - end of SIP message		

Editor's note: Table 5.5.2.19.2-1 needs to be reviewed

5.5.2.19.3 SIP 423 (Interval Too Brief)

Table 5.5.2.19.3-1: SIP 423 (Interval Too Brief)

Delivery Path: RFC 3261 [22]					
Information Element	Reference	Condition			
Request-Line					
SIP-Version					
Status-Code					
Reason-Phrase					
Content-Length	RFC 3261 [22]				
value					

Editor's note: Table 5.5.2.19.3-1 needs to be reviewed

5.5.2.19.4 SIP 480 (Temporarily unavailable)

This message is sent by the UE.

Table 5.5.2.19.4-1: SIP 480 (Temporarily unavailable)

Information Element	Value/remark	Comment	Reference	Condition
Request-Line				
SIP-Version	"SIP/2.0"			
Status-Code	"480"			
Reason-Phrase	"Temporarily Unavailable"			
Via	same as received in request message		RFC 3261 [22] RFC 3581 [55]	
From	·			
addr-spec	same value as received in INVITE message			
tag	same value as received in request message			
То	·			
addr-spec	same value as received in request message			
tag	same value as received in the INVITE or any value if missing in the INVITE.			
Warning			RFC 3261 [22]	
warn-code[1]	"110"			
warn-agent[1]	any value			
warn-text[1]	"user declined the call invitation"			
Call-ID	same value as received in request message			
CSeq	same value as received in request message			
Content Length	if present			
value	"0"	No message body included		

5.5.2.19.5 SIP 486 (Busy Here)

Table 5.5.2.19.5-1: SIP 486 (Busy Here)

Information Element	Value/remark	Comment	Reference	Condition
Request-Line				
SIP-Version	"SIP/2.0"			
Status-Code	"486"			
Reason-Phrase	"Busy Here"			
Content-Length	-		RFC 3261 [22]	
value	"0"	No message body included - end of SIP message		

Editor's note: Table 5.5.2.18.5-1 needs to be reviewed

5.5.2.19.6 SIP 488 (Not Acceptable Here)

Table 5.5.2.19.6-1: SIP 488 (Not Acceptable Here)

Derivation Path: RFC 3261 [22]					
Information Element	Value/remark	Comment	Reference	Condition	
Request-Line					
SIP-Version	"SIP/2.0"				
Status-Code	"488"				
Reason-Phrase	"Not Acceptable Here"				
Content-Length			RFC 3261 [22]		
value	"0"	No message body included - end of SIP			
		message			

Editor's note: Table 5.5.2.19.6-1 needs to be reviewed

5.5.2.19.7 SIP 401 (Unauthorized)

Table 5.5.2.19.7-1: SIP 401 (Unauthorized)

Derivation Path: RFC 3261 [22] Information Element	Value/remark	Comment	Reference	Condition
Status-Line			RFC 3261 [22]	
SIP-Version	"SIP/2.0"			
Status-Code	"401"			
Reason-Phrase	"Unauthorized"			
Via	Same value as		RFC 3261 [22]	
	received in the			
	REGISTER message			
То			RFC 3261 [22]	
addr-spec	Same value as			
	received in the			
toa	REGISTER message To-tag assigned by the			
tag	SS			
From	Same value as		RFC 3261 [22]	
	received in the		111 0 0201 [22]	
	REGISTER message			
Call-ID	Same value as		RFC 3261 [22]	
	received in the		, ,	
	REGISTER message			
CSeq	Same value as		RFC 3261 [22]	
	received in the			
	REGISTER message			
WWW-Authenticate			RFC 2617 [72]	
	MOV D : N		RFC 3310 [96]	
Realm	px_MCX_DomainName			
al a a rith m	_Organization_A "AKAv1-MD5"			
algorithm qop-value	"auth"			
nonce	Base 64 encoding of			
nonce	RAND and AUTN			
opaque	arbitrary value (to be			
opaquo	returned by the UE in			
	subsequent			
	REGISTER)			
Security-Server	,		RFC 3329 [50]	
mechanism-name	"ipsec-3gpp"			
algorithm[1]	px_lpSecAlgorithm			
	(hmac-md5-96 or			
	hmac-sha-1-96)			
spi-c[1]	SPI number of the			
	inbound SA at the			
: -[4]	protected client port			
spi-s[1]	SPI number of the			
	inbound SA at the			
port-c[1]	protected server port protected client port of			
Port of 1	SS			
port-s[1]	protected server port of			
i f - 1	SS			
Encrypt-algorithm[1]	des-ede3-cbc or aes-			
	cbc			
q[1]	"0.9"			
mechanism-name[2]	"Ipsec-3gpp"			
algorithm[2]	Algorithm not selected			
	by px_lpSecAlgorithm			
	(hmac-sha-1-96 or			
. 101	hmac-md5-96)			
spi-c[2]	SPI number of the			
	inbound SA at the			
spi-s[2]	protected client port SPI number of the			
ομι-ο[Δ]	inbound SA at the			
	protected server port			
port-c[2]	protected client port of			
i	SS			

port-s[2]	protected server port of		
	SS		
encrypt-algorithm[2]	des-ede3-cbc or aes-		
	cbc		
q[2]	"0.7"		
Content-Length		RFC 3261 [22]	
value	"0"		

5.5.2.19.8 SIP 487 (Request Terminated)

Table 5.5.2.19.8-1: SIP 486 (Request Terminated)

Information Element	Value/remark	Comment	Reference	Condition
Request-Line				
SIP-Version	"SIP/2.0"			
Status-Code	"487"			
Reason-Phrase	"Request Terminated"			
Content-Length			RFC 3261 [22]	
value	"0"	No message body included - end of SIP message		

5.5.2.20 SIP 5xx

5.5.2.20.1 SIP 500 (Server Internal Error)

Table 5.5.2.20.1-1: SIP 500 (Server Internal Error)

Derivation Path: RFC 3261 [22]					
Information Element	Value/remark	Comment	Reference	Condition	
Request-Line					
SIP-Version	"SIP/2.0"				
Status-Code	"500"				
Reason-Phrase	"Server Internal Error"				
Content-Length			RFC 3261 [22]		
value	"0"	No message body included - end of SIP			
		message			

Editor's note: Table 5.5.2.20.1-1 needs to be reviewed

5.5.2.21 SIP 6xx

5.5.2.21.1 SIP 606 (Not Acceptable)

Table 5.5.2.21.1-1: SIP 606 (Not Acceptable)

Derivation Path: RFC 3261 [22]					
Information Element	Value/remark	Comment	Reference	Condition	
Request-Line					
SIP-Version	"SIP/2.0"				
Status-Code	"606"				
Reason-Phrase	"Not Acceptable"				
Content-Length			RFC 3261 [22]		
value	"0"	No message body included - end of SIP message			

Editor's note: Table 5.5.2.21.1-1 needs to be reviewed

5.5.3 Default SDP message and other information elements

5.5.3.1 SDP Message

5.5.3.1.0 Common conditions for SDP Message

The following conditions apply throughout clause 5.5.3.1:

Table 5.5.3.1.0-1: Conditions

Condition	Explanation
INITIAL_SDP_OFFER	SDP message is an initial offer
SDP_OFFER	SDP message is an offer
SDP_ANSWER	SDP message is an Answer
FIRST_SDP_FROM_UE	First SDP message sent by the UE within the session
FIRST_SDP_FROM_SS	First SDP message sent by the SS within the session
IMPLICIT_GRANT_REQUESTED	An implicit grant is requested by the user
IMPLICIT_FLOOR_GRANTED	An implicit grant shall be granted by the SS
PRE_ESTABLISHED_SESSION	SDP message during establishment or modification of a pre- established session
	NOTE: The condition shall be applied for all SDP messages of preestablished session test cases and it is not explicitly mentioned in specific message content for these test cases
WITHOUT_MEDIACONTROL	SDP message shall not contain a media description for media control (e.g. in case on-demand private call without floor control)
WITHOUT_SECURITY	In case of private call: SDP message shall not contain any "a=key-mgmt" attribute for end-to-end security

5.5.3.1.1 SDP Message from the UE

- MCPTT

Table 5.5.3.1.1-1: SDP Message from the UE for MCPTT

Derivation Path: RFC 4566 [27]				
Information Element	Value/remark	Comment	Reference	Condition
Session description:				
Protocol Version	"0"	v= line		
Origin	Same o=line as in the previous SDP message sent by the UE except that sess-version is incremented by one	o= line		
Origin	,	o= line		FIRST_SD P_FROM_ UE
username	any allowed value			
sess-id	any allowed value	A numeric string such that the tuple of <username>, <sess- id="">, <nettype>, <addrtype>, and <unicast-address> forms a globally unique identifier for the session</unicast-address></addrtype></nettype></sess-></username>		
sess-version	any allowed value			
nettype	"IN"			
Addrtype	"IP4" or "IP6" depending on IP address			
unicast-address	IP address of the UE	IP address assigned at initial registration		
Session Name	at least one UTF-8- encoded character, or if no name is given, a single empty space	s= line		
Connection Data	not required if included in all media	c= line		
nettype	"IN"			
Addrtype	"IP4" or "IP6" depending on IP address			
connection-address	IP address of the UE			
Bandwidth		b= line		
bwtype	"AS"	bwtype:bandwidth		
bandwidth	any allowed value		TS 26.114 [64] Table K.6	
Time description				
Timing		t= line		
start-time	"0"			
stop-time	"0"			DD1) (: ==
Session attribute	present only if there is no key-mgmt media attribute in the media description for audio	a= line attribute = key-mgmt (NOTE 2)		PRIVATE- CALL AND SDP_OFF ER AND NOT WITHOUT _SECURIT Y
key-mgmt			TS 24.379 [9] clause 6.2.1	
mikey	MIKEY-SAKKE I_MESSAGE as specified in Table 5.5.9.1-2A		RFC 4567 [44]	
Session attribute	optional (NOTE 3)	a=line attribute="ice-lite"	RFC 5245 [115]	PRE_EST ABLISHED _SESSION
ice-lite Media description[1]		Media description for audio		

Derivation Path: RFC 4566 [27] Information Element	Value/remark	Comment	Reference	Condition
media description		m= line media = audio	RFC 4867 [59]	
media	"audio"			
port	any allowed value	The transport port to which the media stream is sent		
proto	"RTP/SAVP"			-
fmt	any allowed value(s)	Indicating RTP payload type numbers		
media title	"speech"	i= line		
Connection Data	present if session description does not contain a c=line; optional otherwise	c= line		
nettype	"IN"			
Addrtype	"IP4" or "IP6" depending on IP address"			
connection-address	IP address of the UE			
Bandwidth		b= line		
bwtype	"AS"	bwtype:bandwidth	TO 00 444 7247	
bandwidth	any allowed value		TS 26.114 [64] Table K.6	
bwtype	"RS"		RFC 3556 [113]	
bandwidth	any value if present		DEC 3550	
bwtype	"RR"		RFC 3556 [113]	
bandwidth	any value if present			
media attribute		a= line attribute = rtpmap		
rtpmap	"rtpmap"			
payload type	same value as format parameter of the "fmtp" attribute			
encoding name	"AMR-WB"			
clock rate	16000		RFC 4867 [59] clause 8.3	
encoding parameter	"1" if present	Channel number		
media attribute		a= line attribute = fmtp		
fmtp	"fmtp"			
format	a value given in fmt in the audio media description			
format specific parameters		Parameters of WB- AMR codec NOTE: In addition to the parameters below the UE may provide further parameters		
mode-change-capability	"2"	To be able to interoperate fully with gateways to circuit switched networks	RFC 4867 [59] clause 8.2	
max-red	"0"	No redundancy will be used	RFC 4867 [59] clause 8.2	
media attribute		a= line attribute =ptime		
ptime	any allowed value	packet time		
media attribute		a= line attribute =maxptime		
maxptime	any allowed value	maximum packet time		

Information Element	Value/remark	Comment	Reference	Conditio
media attribute	optional	a= line attribute =sendrecv Indicates send and receive mode being activated		
sendrecv		Parameter has no value		
media attribute	one or several attribute lines if present	a=line attribute=ssrc	RFC 5576 [116]	
ssrc-id	any allowed value but all the same if there is more than one ssrc attribute for audio			
attribute	any source attribute according to RFC 5576 [116] (NOTE 1)			
media attribute		a=line attribute="candidate"	RFC 5245 [115]	PRE_EST ABLISHE _SESSIO
candidate		candidate for RTP		
foundation	any value			
component-id	1	according to RFC 5245 [115] clause 4.1.1.1		
transport	"UDP"			
priority	any value			
connection-address	same IP address as in speech media's c= line or in the session's c= line if the speech media does not have a c= line	default candidate		
port	same port number as in the m= line for speech			
cand-type	"host"			
media attribute		a=line attribute="candidate"	RFC 5245 [115]	PRE_ES
candidate		candidate for RTCP		
foundation	any value			
component-id	2	according to RFC 5245 [115] clause 4.1.1.1		
transport	"UDP"			
priority connection-address	any value same IP address as in speech media's c= line or in the session's c= line if the speech media does not have a c= line	default candidate		
port	same port number as in the m= line for speech incremented by 1			
cand-type	"host"			DD::::==
media attribute	present only if there is no key-mgmt attribute at session level	a= line attribute = key-mgmt		PRIVATE CALL AN SDP_OF ER AND NOT WITHOU _SECUR Y
key-mgmt			TS 24.379 [9] clause 6.2.1	1

Derivation Path: RFC 4566 [27] Information Element	Value/remark	Comment	Reference	Condition
mikey	MIKEY-SAKKE I_MESSAGE as		RFC 4567 [44]	
	specified in Table 5.5.9.1-2A			
Media description[2]		Media description for media control		NOT WITHOUT _MEDIAC ONTROL
media description		m= line media = application		
		SDP media-level section for a media-floor control entity		
		(NOTE 2)		
media	"application"	T		
port	any allowed value	The port for the media- floor control entity		
proto	"udp"			
fmt Connection Data	"MCPTT"	a line		
Connection Data	present if session description does not contain a c=line; optional otherwise	c= line		
nettype	"IN"			
Addrtype	"IP4" or "IP6" depending on IP address"			
connection-address	IP address of the UE			
media attribute		a= line attribute = fmtp		
fmtp				
format	"MCPTT"			000 055
format specific parameters				SDP_OFF ER, INITIAL_S DP_OFFE R
mc_queueing	optional	Parameter has no value	TS 24.380 [10] cl. 12.1.2.3	
mc_priority	any allowed value	Any integer value in the range of 1255	TS 24.380 [10] cl. 12.1.2.3	
mc_granted	not present			
	present	Parameter has no value	TS 24.380 [10] cl. 12.1.2.3	INITIAL_S DP_OFFE R
mc_implicit_request	not present			
	present	Parameter has no value	TS 24.380 [10] cl. 12.1.2.3	IMPLICIT_ GRANT_R EQUESTE D
format specific parameters				SDP_ANS WER
mc_queueing	optional	Parameter has no value	TS 24.380 [10] cl. 12.1.2.3	
mc_priority	same value as in the offer		TS 24.380 [10] cl. 12.1.2.3	
mc_granted	not present		TS 24.380 [10] cl. 12.1.2.3	
mc_implicit_request	not present		TS 24.380 [10] cl. 12.1.2.3	
mc_ssrc	not present		TS 24.380 [10] cl. 12.1.2.3	

Derivation Path: RFC 4566 [27]					
Information Element	Value/remark	Comment	Reference	Condition	
media attribute		a=line attribute="candidate"	RFC 5245 [115]	PRE_EST ABLISHED _SESSION	
candidate		candidate for Media Control messages			
foundation	any value				
component-id	1	according to RFC 5245 [115] clause 4.1.1.1			
transport	"UDP"				
priority	any value				
connection-address	same IP address as in application media's c= line or in the session's c= line if the application media does not have a c= line	default candidate			
port	same port number as in the m= line for application				
cand-type	"host"				

NOTE 1: If "ssrc" media attributes are included, then at least one "ssrc=" line shall contain a "cname" source attribute according to RFC 5576 [116] clause 6.1.

NOTE 2: Even though there is no clarity in core specs it is assumed that a key-mgmt attribute at session level does not affect the media control security, i.e. the key-mgmt attribute is not applicable for the "application" media description for which still the CSK is used as security key. This is in contrast to RFC 4566 [27] clause 5 saying "In general, session-level values are the default for all media unless overridden by an equivalent media-level value."

NOTE 3: If the UE is configured as lite implementation according to RFC 5245 [115], it shall include "a=ice-lite" session-level attribute; nevertheless this is not a test requirement unless specified otherwise in a test case.

MCVideo

Table 5.5.3.1.1-2: SDP Message from the UE for MCVideo

Derivation Path: RFC 4566 [27]				
Information Element	Value/remark	Comment	Reference	Condition
Session description:				
Protocol Version	"0"	v= line		
Origin	Same o=line as in the previous SDP message sent by the UE except that sess-version is incremented by one	o= line		
Origin		o= line		FIRST_SD P_FROM_ UE
username	px_ MCVideo _User_A_ID	Username of client		
sess-id	any allowed value	A numeric string such that the tuple of <username>, <sess- id="">, <nettype>, <addrtype>, and <unicast-address> forms a globally unique identifier for the session.</unicast-address></addrtype></nettype></sess-></username>		
sess-version	any allowed value			
nettype	"IN"			
Addrtype	"IP4" or "IP6" depending on IP address"			

Information Element	Value/remark	Comment	Reference	Condition
unicast-address	IP address of the UE	IP address assigned at initial registration		
Session Name	at least one UTF-8- encoded character, or if	s= line		
	no name is given, a			
	single empty space			
Connection Data	not required if included	c= line		
	in all media			
nettype	"IN"			
Addrtype	"IP4" or "IP6" depending on IP address"			
connection-address	IP address of the UE			
Bandwidth		b= line		
bwtype	"AS"	bwtype:bandwidth		
bandwidth	any allowed value		TS 26.114 [64] Table K.6	
Time description				
Timing		t= line		
start-time	"0"			
stop-time	"0"			
Media description[1]s		Media description for audio		
media description		m= line media = audio	RFC 4867 [59]	
media	"audio"			
port	any allowed value	The transport port to		
		which the media stream is sent		
proto	"RTP/SAVP"			
fmt	any allowed value(s)	Indicating RTP payload type numbers		
media title	"speech"	i= line		
Connection Data	present if session description does not contain a c=line;	c= line		
nettype	optional otherwise			
Addrtype	"IP4" or "IP6"			
Additype	depending on IP address"			
connection-address	IP address of the UE			
Bandwidth		b= line		
bwtype	"AS"	bwtype:bandwidth		
bandwidth	any allowed value		TS 26.114 [64] Table K.6	
bwtype	"RS"		RFC 3556 [113]	
bandwidth	any value if present		•	
bwtype	"RR"		RFC 3556 [113]	
bandwidth	any value if present			-
media attribute		a= line		
rtnman	"rtpmap"	attribute = rtpmap		
rtpmap payload type	same value as format			
payioau typ e	parameter of the "fmtp" attribute			
encoding name	"AMR-WB"			
clock rate	16000		RFC 4867 [59] clause 8.3	
encoding parameter	"1" if present	Channel number		
media attribute		a= line attribute = fmtp		
fmtp	"fmtp"	1		

Derivation Path: RFC 4566 [27] Information Element	Value/remark	Comment	Reference	Condition
format	a value given in fmt in the audio media description			
format specific parameters		Parameters of WB- AMR codec NOTE: In addition to the parameters below the UE may provide further parameters		
mode-change-capability	"2"	To be able to interoperate fully with gateways to circuit switched networks	RFC 4867 [59] clause 8.2	
max-red	"0"	No redundancy will be used	RFC 4867 [59] clause 8.2	
media attribute		a= line attribute =ptime		
ptime	any allowed value	packet time		
media attribute		a= line attribute =maxptime		
maxptime	any allowed value	maximum packet time		
media attribute	optional	a= line attribute =sendrecv Indicates send and receive mode being activated		
sendrecv		Parameter has no value		
media attribute		a= line attribute = key-mgmt		PRIVATE- CALL
key-mgmt			TS 24.281 [86] clause 6.2.1	
mikey	MIKEY-SAKKE I_MESSAGE as specified in Table 5.5.9.1-2A	Use condition MCVIDEO	RFC 4567 [44]	
Media description[2]		Media description for video		
media description		m= line media = video		
		SDP media-level section for a media- transmission control entity		
media	"video"			
port	any allowed value	The port for the media- transmission control entity		
proto	"udp"	User Datagram Protocol. With UDP, computer applications can send messages to other hosts on an Internet Protocol (IP) network. Time- sensitive applications often use UDP because dropping packets is preferable to waiting for packets delayed due to retransmission, which may not be an option in a real-time system.		

Derivation Path: RFC 4566 [27] Information Element	Value/remark	Comment	Reference	Condition
fmt	"MCVideo"			
Connection Data	present if session description does not contain a c=line; optional otherwise	c= line		
nettype	"IN"			
Addrtype	"IP4" or "IP6" depending on IP address"			
connection-address	IP address of the UE			
Bandwidth		b= line		
bwtype	"AS"	bwtype:bandwidth		
bandwidth	any allowed value		TS 26.114 [64] Table K.6	
bwtype	"RS"		RFC 3556 [113]	
bandwidth	any value if present			
bwtype	"RR"		RFC 3556 [113]	
bandwidth	any value if present			
media attribute		a= line attribute = rtpmap		
rtpmap	"rtpmap"			
payload type	""			
encoding name	"H.264"			
clock rate			RFC 4867 [59] clause 8.3	
encoding parameter	"" if present	Channel number		
media attribute		a= line attribute = key-mgmt		PRIVATE- CALL
key-mgmt			TS 24.281 [86] clause 6.2.1	
mikey	MIKEY-SAKKE I_MESSAGE as specified in Table 5.5.9.1-2A	Use condition MCVIDEO	RFC 4567 [44]	
Media description[3]		Media description for media control		
media description		m= line media = application		
		SDP media-level section for a media-floor control entity		
media	"application"		3GPP TS 24.581 [88] clause 12	
port	any allowed value	The port for the media- floor control entity		

Derivation Path: RFC 4566 [27]		_	I	I -
Information Element	Value/remark	Comment	Reference	Condition
proto	"udp"	User Datagram Protocol. With UDP, computer applications can send messages to other hosts on an Internet Protocol (IP) network. Time- sensitive applications often use UDP because dropping packets is preferable to waiting for packets delayed due to retransmission, which may not be an option in a real-time system.		
fmt	"MCVideo"			
Connection Data	present if session description does not contain a c=line; optional otherwise	c= line		
nettype	"IN"			
Addrtype	"IP4" or "IP6" depending on IP address"			
connection-address	IP address of the UE			
media attribute		a= line attribute = fmtp		
fmtp			3GPP TS 24.581 [88] clause 12, clause 14	
format	"MCVideo"			
format specific parameters				SDP_OFF ER, INITIAL_S DP_OFFE R
mc_queueing	optional	Parameter has no value. Shall include the "mc_queueing" fmtp attribute in SDP offers when queueing of Transmission request is supported.	3GPP TS 24.581 [88] clause 12, clause 14	
mc_priority	not present or any allowed value	Any integer value in the range of 1255 Shall include the "mc_priority" fmtp attribute when a transmission priority different than the default priority is required.	3GPP TS 24.581 [88] clause 12, clause 14	

Information Element	Value/remark	Comment	Reference	Condition
mc_reception_priority	not present or any allowed value	Any integer value in the range of 0255	3GPP TS 24.581 [88] clause 12,	
	any anowed value	Shall include the "mc_reception_priority" fmtp attribute when a	clause 14	
		reception priority different than the default reception		
		priority is required.		
mc_granted	not present			
-	present	Parameter has no value	3GPP TS 24.581 [88] clause 12, clause 14	INITIAL_ DP_OFF R
mc_implicit_request	not present			
	present	Parameter has no value	3GPP TS 24.581 [88] clause 12, clause 14	IMPLICI GRANT_ EQUEST D
format specific parameters				SDP_AN WER
mc_queueing	optional	Parameter has no value	3GPP TS 24.581 [88] clause 12, clause 14	
mc_priority	same value as in the offer		3GPP TS 24.581 [88] clause 12, clause 14	
mc_reception_priority	not present or any allowed value	Any integer value in the range of 0255 Shall include the "mc_reception_priority" fmtp attribute when a reception priority different than the	3GPP TS 24.581 [88] clause 12, clause 14	
mc_granted	not present	default reception priority is required.	3GPP	
			TS 24.581 [88] clause 12, clause 14	
mc_implicit_request	not present		3GPP TS 24.581 [88] clause 12, clause 14	

- MCData

Table 5.5.3.1.1-3: SDP Message from the UE for MCData

Derivation Path: RFC 4566 [27] Information Element	Value/remark	Comment	Reference	Condition
Session description:	Taido/Toillain	Commont	ROTOTOTOG	Sommer
Protocol Version	"0"	v= line		
Origin	<u> </u>	o= line		
username	px_MCDATA_ID_User _A	Username of client		
sess-id	any allowed value	A numeric string such that the tuple of <username>, <sess- id="">, <nettype>, <addrtype>, and <unicast-address> forms a globally unique identifier for the session.</unicast-address></addrtype></nettype></sess-></username>		
sess-version	any allowed value			
nettype	"IN"			
Addrtype	"IP4" or "IP6" depending on IP address"			
unicast-address	IP address of the UE	IP address assigned at initial registration		
Session Name	at least one UTF-8- encoded character, or if no name is given, a single empty space	s= line		
Session Information	any allowed value	i= <session description=""> The "i=" field is intended to provide a free-form human- readable description of the session or the purpose of a media stream. It is not suitable for parsing by automata.</session>		
Connection Data	not required if included in all media	c= line		
nettype	"IN"			
Addrtype	"IP4" or "IP6" depending on IP address"			
connection-address	IP address of the UE			
Bandwidth		b= line		
bwtype	"AS:"	bwtype:bandwidth		
bandwidth	any allowed value		TS 26.114 [64] Table K.6	
Time description				
Timing		t= line		
start-time	"0"			
stop-time Media description[1]	"0"	Media description for		
media description		data m= line media = message	RFC 4867 [59] TS 24.282 [31]	
media	"message"	modia – mossage	10 2 7.202 [01]	<u> </u>
port	any allowed value	The transport port to which the media stream is sent		
proto	"TCP/MSRP "			
fmt	(i+1)			
media title	"message"	i= line		-
Connection Data	present if session description does not contain a c=line; optional otherwise	c= line		

Value/remark	Comment	Reference	Condition
"IN"			
"IP4" or "IP6"			
depending on IP			
address"			
IP address of the UE			
	a= line		
	attribute = sendonly		
	No parameters		
	a= line		
	attribute = path		
px_MSRP_URI_A_ID		TS 24.282 [31]	
	attribute = accept-types		
cdata-payload*	_ 10		
#= = + = = = ?!	attribute = Setup		
acipass	a line		MCD_1to1
	- ·····		MCD_1101
	attribute = key-mgmt	TC 04 070 [0]	
MIKEN CAKKE	Line condition MCDATA		
	Use condition IVICDATA	KFC 4507 [44]	
	"IN" "IP4" or "IP6" depending on IP	"IN" "IP4" or "IP6" depending on IP address" IP address of the UE a= line attribute = sendonly No parameters associated with this line a= line attribute = path attribute = path attribute containing its own MSRP URI. An example: msrp://mcdata.example .com:7654/abcde1; tcp a= line attribute = accept-types "application/vnd.3gpp.m cdata-payload" a= line attribute = setup "actpass" a= line attribute = setup MIKEY-SAKKE I_MESSAGE as specified in Table Use condition MCDATA	"IN" "IP4" or "IP6" depending on IP address" IP address of the UE a= line attribute = sendonly No parameters associated with this line a= line attribute = path attribute = path attribute = path IP address of the UE a= line attribute = path attribute = containing its own MSRP URI. An example: msrp://mcdata.example .com:7654/abcde1; tcp a= line attribute = accept-types "application/vnd.3gpp.m cdata-signalling application/vnd.3gpp.m cdata-payload" a= line attribute = setup "actpass" a= line attribute = key-mgmt TS 24.379 [9] clause 6.2.1 MIKEY-SAKKE I_MESSAGE as specified in Table

5.5.3.1.2 SDP Message from the SS

- MCPTT

Table 5.5.3.1.2-1: SDP Message from the SS for MCPTT

Derivation Path: RFC				
Information	Value/remar	Comment	Reference	Condition
Element	k			
Session				
description: Protocol Version	"0"	v= line		
Origin	Same o=line	o= line		
Origin	as in the	O= III le		
	previous SDP			
	message sent			
	by the SS			
	except that			
	sess-version			
	is			
	incremented			
0.1.1.	by one			FIRST ORD FROM OR
Origin	"_"	o= line		FIRST_SDP_FROM_SS
username	"-"	"-" indicating the concept of		
acca id	"12345678"	user IDs not being supported		
sess-id	123430/8	A numeric string such that the tuple of <username>,</username>		
		<pre><sess-id>, <nettype>,</nettype></sess-id></pre>		
		<addrtype>, and <unicast-< td=""><td></td><td></td></unicast-<></addrtype>		
		address> forms a globally		
		unique identifier for the		
		session.		
sess-version	"12345678"			
nettype	"IN"			
Addrtype	"IP4" or "IP6"	This depends on the unicast		
	depending on	address of the UE		
	IP address"			
unicast-address	IP address of			
Session Name	the SS	s= line		
Session Name		single empty space		
		indicating no session name		
Bandwidth		b= line		
bwtype	"AS"	bwtype:bandwidth		
bandwidth	"38"	kilobits per second;	TS 26.114 [64	
banamam		Maximum AMR-WB at 23.85] Table K.6	
		kbps but limit to 12.65 kbps	1	
		plus overhead		
Time description				
Timing		t= line		
start-time	"0"			
stop-time	"0"			
Session attribute		a=line	RFC 5245	PRE_ESTABLISHED_SESSION
		attribute="ice-lite"	[115]	
ice-lite		NA 11 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		
Media		Media desciption for audio		
description[1] media		m_ line	DEC 4067 [50]	
media description		m= line media = audio	RFC 4867 [59]	
media	"audio"	meuia = auuiu		
port	port number	The transport port to which	RFC 6335 [63]	
port	assigned by	the media stream is sent	clause 6	
	the SS (even	and model of our is some	3.4450	
	integer)			
proto	"RTP/SAVP"			
fmt	"99"	RTP/SAVP payload type for		INITIAL_SDP_OFFER
		AMR-WB is dynamic		
	value for			
	AMR-WB as			
	used in initial			
media title	offer	i= line		
Connection Data	"speech"	c= line		
John Ection Data	I	U- III IC	I	

Derivation Path: RFC				
Information	Value/remar	Comment	Reference	Condition
Element	k			
nettype	"IN"			
Addrtype	"IP4" or "IP6"	This depends on the		
	depending on	connection address		
	IP address"			
connection-	IP address of			
address	the SS	la Bia a		
Bandwidth	"AS"	b= line		
bwtype bandwidth	38	bwtype:bandwidth	TS 26.114	
Dariuwiutii	30		[64] Table K.6	
bwtype	"RS"		RFC 3556	
DWtype	I NO		[113]	
bandwidth	0		[110]	
bwtype	"RR"		RFC 3556	
этуро	1		[113]	
bandwidth	2000		[]	
media attribute		a= line		
		attribute = rtpmap		
rtpmap	"rtpmap"			
payload type	"99"			INITIAL_SDP_OFFER
	value for			
	AMR-WB as			
	used in initial			
	offer			
encoding name	"AMR-WB"		550 (555 (555)	
clock rate	16000		RFC 4867 [59]	
	"1"	Ob a real records an	clause 8.3	
encoding	"1"	Channel number		
parameter media attribute		a= line		
media attribute		a= line attribute = fmtp		
fmtp		attribute = IIIItp		
format	"99"			INITIAL_SDP_OFFER
Tomat	value for			HATTINE_OBT _OTT EX
	AMR-WB as			
	used in initial			
	offer			
format specific		Parameters of WB-AMR		
parameters		codec		
mode-change-	"2"	To be able to interoperate	RFC 4867 [59]	
capability		fully with gateways to circuit	clause 8.2	
	"0"	switched networks	DE0 (00=	
max-red	"0"	No redundancy will be used	RFC 4867 [59]	
media attribute		a line	clause 8.2	
media attribute		a= line		
ptime	"20"	attribute =ptime packet time		
media attribute	20	a= line		
modia attiibute		attribute =maxptime		
maxptime	"240"	maximum packet time		
media attribute	0	a= line		PRIVATE-CALL AND
		attribute = key-mgmt		SDP_OFFER AND NOT
				WITHOUT_SECURITY
key-mgmt			TS 24.379 [9]	_
			clause 6.2.1	
mikey	MIKEY-		RFC 4567 [44]	
	SAKKE			
	I_MESSAGE			
	as specified			
	in Table			
madic offull	5.5.9.1-2	a line	DEC 5045	DDE ECTADI IQUED OFFICIAL
media attribute		a=line	RFC 5245	PRE_ESTABLISHED_SESSION
candidate		attribute="candidate" candidate for RTP	[115]	
		L CALICIDATE IOLINIE	i	T.

	4566 [27]			
Information	Value/remar	Comment	Reference	Condition
Element	k			
foundation	1234	arbitrarily selected		
component-id	1	according to RFC 5245 [115] clause 4.1.1.1		
transport	"UDP"			
priority	2130706431	RFC 5245 [115] clause 4.2: 2 ²⁴ * 126 + 2 ⁸ * 65535 + 256 - component id		
connection- address	IP address of the SS (same IP address as in the c=line for speech)	default candidate		
port	same port number as in the m= line for speech			
cand-type	"host"			
media attribute		a=line attribute="candidate"	RFC 5245 [115]	PRE_ESTABLISHED_SESSION
candidate		candidate for RTCP	-	
foundation	1234	same as for RTP		
component-id	2	according to RFC 5245 [115] clause 4.1.1.1		
transport	"UDP"			
priority	2130706430	RFC 5245 [115] clause 4.2: 2 ²⁴ * 126 + 2 ⁸ * 65535 + 256 - component id		
connection- address	IP address of the SS (same IP address as in the c=line for speech)	default candidate		
port	same port number as in the m= line for speech incremented by 1			
cand-type	"host"			
Media		Media description for media		NOT
description[2]		control		WITHOUT_MEDIACONTROL
media description		m= line media = application SDP media-level section for		
		a media-floor control entity		
media port	"application" port number assigned by the SS being	The port for the media-floor control entity		
	different than the port number of the audio channel (RTP) and its associated control channel			
	(RTCP)"			
proto	(RTCP)" "udp"			
proto fmt	(RTCP)" "udp" "MCPTT"			

Derivation Path: RFC				
Information Element	Value/remar k	Comment	Reference	Condition
nettype	"IN"			
Addrtype	"IP4" or "IP6"	This depends on the		
	depending on IP address	connection address		
connection- address	IP address of the SS			
media attribute		a= line attribute = fmtp		
fmtp				
format	"MCPTT"			
format specific parameters				SDP_OFFER
mc_queueing	Present	Parameter has no value	TS 24.380 [10] cl. 12.1.2.3	
mc_priority	"3"	"3" is the value of the <user- priority> element for user A in the MCPTT Group Configuration (Table 5.5.7.1- 1)</user- 	TS 24.380 [10] cl. 12.1.2.3 and cl. 143.3	
mc_granted	not present	,	TS 24.380 [10] cl. 12.1.2.3	
mc_implicit_reques	not present		TS 24.380 [10] cl. 12.1.2.3	
format specific parameters				SDP_ANSWER
mc_queueing	present if included in the offer	Parameter has no value	TS 24.380 [10] cl. 12.1.2.3	
mc_priority	if a value is provided in the offer: "3" or the value provided in the offer, whichever is the lower value; otherwise not present	"3" is the value of the <user- priority> element for user A in the MCPTT Group Configuration (Table 5.5.7.1- 1) NOTE: <num-levels-priority- hierarchy> has a value of 10 for on-network i.e. it is greater than 3</num-levels-priority- </user- 	TS 24.380 [10] cl. 12.1.2.3 and cl. 14.3.3	
mc_granted	not present		TS 24.380 [10] cl. 12.1.2.3	
	present	Parameter has no value	TS 24.380 [10] cl. 12.1.2.3	IMPLICIT_FLOOR_GRANTED
mc_implicit_reques	not present		TS 24.380 [10] cl. 12.1.2.3	
	present	Parameter has no value	TS 24.380 [10] cl. 12.1.2.3	IMPLICIT_GRANT_REQUESTE D
mc_ssrc	not present		TS 24.380 [10] cl. 12.1.2.3	

Derivation Path: RFC	4566 [27]			
Information Element	Value/remar k	Comment	Reference	Condition
	same value as in the offer if provided in the offer and there is no collision with the value used by the SS; otherwise value assigned by the SS		TS 24.380 [10] cl. 12.1.2.3	IMPLICIT_GRANT_REQUESTE D
media attribute		a=line attribute="candidate"	RFC 5245 [115]	PRE_ESTABLISHED_SESSION
candidate		candidate for Media Control messages		
foundation	4321	arbitrarily selected; different than for RTP/RTCP		
component-id	1	according to RFC 5245 [115] clause 4.1.1.1		
transport	"UDP"			
priority	2130706431	RFC 5245 [115] clause 4.2: 2 ²⁴ * 126 + 2 ⁸ * 65535 + 256 - component id		
connection- address	IP address of the SS (same IP address as in the c=line for media control)	default candidate		
port	same port number as in the m= line for application			
cand-type	"host"			

- MCVideo

Table 5.5.3.1.2-2: SDP Message from the SS for MCVideo

Information Element	Value/remark	Comment	Reference	Condition
Session description:				
Protocol Version	"0"	v= line		
Origin	Same o=line as in the previous SDP message sent by the SS except that sess-version is incremented by one	o= line		
Origin		o= line		FIRST_SD P_FROM_ SS
username	px_MCVideo_ID_User_ B	Username of client sending message		

Derivation Path: RFC 4566 [27] Information Element	Value/remark	Comment	Reference	Condition
sess-id	"12345678"	A numeric string such	Reference	Condition
5655-lu	12343076	that the tuple of		
		<username>, <sess-< td=""><td></td><td></td></sess-<></username>		
		id>, <nettype>,</nettype>		
		<addrtype>, and</addrtype>		
		<unicast-address></unicast-address>		
		forms a globally unique		
		identifier for the		
		session.		
sess-version	"12345678"			
nettype	"IN"			
Addrtype	"IP4" or "IP6"	This depends on the		
•	depending on IP	unicast address of the		
	address	UE		
unicast-address	IP address of the SS			
Session Name	"_"	s= line		
Bandwidth		b= line		
bwtype	"AS:"	bwtype:bandwidth		
bandwidth	"38"	kilobits per second;	TS 26.114 [64]	
		Maximum AMR-WB at	Table K.6	
		23.85 kbps but limit to		
		12.65 kbps plus		
Time deceriosies		overhead		
Time description		t_ line		
Timing	"0"	t= line		
start-time	"0"	+		
stop-time Media description[1]	0	Media description for		
media description[1]		audio		
media description		m= line	RFC 4867 [59]	
modia accomption		media = audio	100 4007 [08]	
media	"audio"	modia – addio		
port	port number assigned	The transport port to	RFC 6335 [63]	
l=	by the SS (even	which the media stream	clause 6	
	integer)	is sent		
proto	"RTP/AVP"	1		
fmt	"99"	RTP/AVP payload type		
		for AMR-WB is		
		dynamic		
media title	"speech"	i= line		
Connection Data		c= line		
nettype	"IN"			
Addrtype	"IP4" or "IP6"	This depends on the		·
	depending on IP	connection address		
	address			
connection-address	IP address of the SS			
media attribute		a= line		
		attribute = rtpmap		
rtpmap	"rtpmap"			
payload type	"99"			
encoding name	"AMR-WB"		DE0 100= 1===	
clock rate	16000		RFC 4867 [59]	
ancoding parameter	"1" if present	Channel number	clause 8.3	
encoding parameter media attribute	i ii present	Channel number a= line		
media attribute		a= line attribute = fmtp		
fmtp		attribute – mitp		
format	"99"			
format specific parameters		Parameters of WB-		
ionnat opcome parameters		AMR codec		
mode-change-capability	"2"	To be able to	RFC 4867 [59]	
sindings supusinty	-	interoperate fully with	clause 8.2	
		gateways to circuit		
	İ	switched networks	Ī	

Derivation Path: RFC 4566 [27] Information Element	Value/remark	Comment	Reference	Condition
max-red	"0"	No redundancy will be used	RFC 4867 [59] clause 8.2	
media attribute		a= line	01000 0.2	
ptime	"20"	attribute =ptime packet time		
media attribute	20	a= line		
modia attributo		attribute =maxptime		
maxptime	"240"	maximum packet time		
media attribute		a= line		PRIVATE-
		attribute = key-mgmt		CALL
key-mgmt			TS 24.281 [86] clause 6.2.1	
mikey	MIKEY-SAKKE I_MESSAGE as specified in Table 5.5.9.1-2	Use condition MCVIDEO	RFC 4567 [44]	
Media description[2]		Media description for video		
media description		m= line media = video		
		SDP media-level section for a media-transmission control entity		
media	"video"			
port	port number of the audio stream incremented by 2 (resulting in even integer)	The port for the media- transmission control entity		
proto	"udp"	User Datagram Protocol. With UDP, computer applications can send messages to other hosts on an Internet Protocol (IP) network. Time- sensitive applications often use UDP because dropping packets is preferable to waiting for packets delayed due to retransmission, which may not be an option in a real-time system.		
fmt	"MCVideo"			
Connection Data		c= line Included if the media plane control channel uses a different IP address than other media described in the SDP		
nettype	"IN"			
Addrtype	"IP4" or "IP6" depending on IP address			
connection-address	IP address of the SS			
media attribute		a= line attribute = rtpmap		
rtpmap	"rtpmap"	- 1p		
payload type	""			
encoding name	"H.264"			

encoding parameter media attribute key-mgmt mikey	"" if present	Channel number a= line	RFC 4867 [59] clause 8.3	
media attribute key-mgmt	"" if present	a= line		
media attribute key-mgmt		a= line		
		attributa leave as and		PRIVATE
		attribute = key-mgmt		CALL
mikey			TS 24.281 [86] clause 6.2.1	
	MIKEY-SAKKE I MESSAGE as	Use condition MCVIDEO	RFC 4567 [44]	
	specified in Table 5.5.9.1-2			
Media description[3]		Media description for media control		
media description		m= line media = application		
		SDP media-level section for a media-floor control entity		
media	"application"			
port	port number assigned by the SS being different than the port number of the audio and video channels (RTP) and their associated control channels (RTCP)"	The port for the media- floor control entity		
proto	"udp"			
fmt	"MCVideo"			
Connection Data		c= line		
nettype	"IN"			
Addrtype	"IP4" or "IP6" depending on IP address	This depends on the connection address		
connection-address	IP address of the SS			
media attribute		a= line attribute = fmtp		
fmtp				
format	"MCVideo"			
format specific parameters				SDP_OF ER
mc_queueing	Present	Parameter has no value	3GPP TS 24.581 [88] clause 12, clause 14	
mc_priority	"5"	Any integer value in the range of 1255	3GPP TS 24.581 [88] clause 12, clause 14	
mc_granted	not present	Parameter has no value	3GPP TS 24.581 [88] clause 12, clause 14	
mc_implicit_request	Present	Parameter has no value	3GPP TS 24.581 [88] clause 12, clause 14	
mc_reception_priority"	not present		3GPP TS 24.581 [88] clause 12, clause 14	
format specific parameters				SDP_AN

Information Element	Value/remark	Comment	Reference	Condit
mc_queueing	Present	Parameter has no value	3GPP TS 24.581 [88] clause 12, clause 14	
mc_priority	"5"	Any integer value in the range of 1255	3GPP TS 24.581 [88] clause 12, clause 14	
mc_granted	not present			
_ _	present	Parameter has no value	3GPP TS 24.581 [88] clause 12, clause 14	IMPLIC FLOOR RANTE
mc_implicit_request	Present	Parameter has no value	Clause 14	
			3GPP TS 24.581 [88] clause 12, clause 14	IMPLIC GRANT EQUES D
mc_reception_priority"	not present or "10"	No present if not present in the SDP offer. If present in the SDP offer, then the arbitrarily chosen value of "10 should be used	3GPP TS 24.581 [88] clause 12, clause 14	

Table 5.5.3.1.2-3: SDP Message from the SS for MCData

Derivation Path: RFC 4566 [27]			5.6	0
Information Element	Value/remark	Comment	Reference	Condition
Session description:				
Protocol Version	"0"	v= line		
Origin		o= line		
username	px_MCDATA_ID_User _B	Username of client		
sess-id	"12345678"	A numeric string such that the tuple of <username>, <sess- id="">, <nettype>, <addrtype>, and <unicast-address> forms a globally unique identifier for the session.</unicast-address></addrtype></nettype></sess-></username>		
sess-version	"12345678"			
nettype	"IN"			
Addrtype	"IP4" or "IP6" depending on IP address			
unicast-address	IP address of the SS			
Session Name	"_"	s= line		
Session Information	"message"	i= <session description=""> The "i=" field is intended to provide a free-form human- readable description of the session or the purpose of a media stream. It is not suitable for parsing by automata.</session>		
Connection Data	not required if included in all media	c= line Included if the media plane control channel uses a different IP address than other media described in the SDP		
nettype	"IN"			
Addrtype	"IP4" or "IP6" depending on IP address			
connection-address	IP address of the SS			
Bandwidth		b= line		
bwtype	"AS:"	bwtype:bandwidth		
bandwidth	"38"	kilobits per second; Maximum AMR-WB at 23.85 kbps but limit to 12.65 kbps plus overhead	TS 26.114 [64] Table K.6	
Time description				
Timing		t= line		
start-time	"0"			
stop-time	"0"			
Media description[1]		Media description for data		
media description		m= line media = message	RFC 4867 [59] TS 24.282 [31]	
media	"message"	- J		
port	"49152"	The transport port to which the media stream is sent		
proto	"TCP/MSRP "			
fmt	"*"			
media title	"message"	i= line		

Derivation Path: RFC 4566 [27] Information Element	Value/remark	Comment	Reference	Condition
Connection Data		c= line		
		Included if the media		
		plane for audio uses a		
		different IP address		
		than other media		
		described in the SDP		
nettype	"IN"	decombed in the CD1		
Addrtype	"IP4" or "IP6"			
ridditypo	depending on IP			
	address			
connection-address	IP address of the SS			
media attribute	ii address of the ee	a= line		
oaia attiibato		attribute = recvonly		
recvonly		No parameters		
Toovorny		associated with this line		
media attribute		a= line		
modia attributo		attribute = path		
path	px_MSRP_URI_SS_ID	attribute containing its	TS 24.282 [31]	
pati	px_werki _erki_ee_ib	own MSRP URI.	10 2 1.202 [01]	
		An example:		
		msrp://mcdata.example		
		.com:7654/abcde1; tcp		
media attribute		a= line		
		attribute = accept-types		
accept-types	"application/vnd.3gpp.			
	mcdata-signalling			
	application/vnd.3gpp.m			
	cdata-payload"			
media attribute		a= line		
		attribute = setup		
role	"actpass"			
media attribute		a= line		MCD_1to1
		attribute = key-mgmt		
key-mgmt			TS 24.379 [9]	·
			clause 6.2.1	
mikey	MIKEY-SAKKE	Use condition MCDATA	RFC 4567 [44]	
	I_MESSAGE as			
	specified in Table			
	5.5.9.1-2A			

5.5.3.1.3 SDP Message from the UE - Off-network

- MCPTT

Table 5.5.3.1.3-1: SDP Message from the UE - Off-network for MCPTT

Derivation Path: RFC 4566 [27] Information Element	Value/remark	Comment	Reference	Condition
Session description:	value/leillaik	Comment	iveteteting.	Condition
Protocol Version	"0"	v= line		
	0	o= line		
Origin	11_11	o= line		
username	_	A		
sess-id	any allowed value	A numeric string such that the tuple of		
		<username>, <sess-< td=""><td></td><td></td></sess-<></username>		
		id>, <nettype>,</nettype>		
		<addrtype>, and</addrtype>		
		<unicast-address></unicast-address>		
		forms a globally unique		
		identifier for the		
		session.		
sess-version	any allowed value			
nettype	"IN"			
addrtype	"IP4"	"IP4" or "IP6"		
unicast-address	px_MCPTT_IP_ConnectionAddressAll			
Session Name	"_"	s= line		
Connection Data		c= line		
nettype	"IN"			
addrtype	"IP4"	"IP4" or "IP6"		
connection-address	px_MCPTT_IP_Connec	Set to the multicast IP		
	tionAddressAll	address of the MCPTT		
		group		
Bandwidth		b= line		
bwtype	"AS:"	bwtype:bandwidth		
bandwidth	any allowed value			
Time description				
Timing		t= line		
start-time	"0"			
stop-time	"0"			
Media descriptions				
media description		m= line		
<u></u>		media = audio		
media	"audio"			
port	any allowed value	Set to a port number for		
		MCPTT speech of the		
		MCPTT group		
proto	"RTP/AVP"			
fmt	any allowed value(s)	Indicating RTP payload type numbers		
media title	"speech"	i= line		
media attribute		a= line		
		attribute = rtpmap		
rtpmap	"rtpmap"	1 -7		
payload type	"99"			
encoding name	"AMR-WB"			
clock rate	16000			
encoding parameter	"1" if present	Channel number		
media attribute	,	a= line		
		attribute = fmtp		
fmtp	"fmtp"	1		
format	the value given in fmt in			
	the audio media description			
format specific parameters	Gescription	Parameters of WB-		
manda at 1999	II OII	AMR codec		
mode-change-capability	"2"	To be able to		
		interoperate fully with		
		gateways to circuit		
		switched networks		+
max-red	"0"	No redundancy will be		

Information Element	Value/remark	Comment	Reference	Condition
media attribute		a= line		
		attribute =ptime		
ptime	any allowed value	packet time		
media attribute		a= line		
		attribute =maxptime		
maxptime	any allowed value	maximum packet time		
media description		m= line		
•		media = application		
media	"application"	1.		
port	any allowed value	Set to a port number for		
•		media-floor control		
		entity of the MCPTT		
		group		
proto	"udp"			
fmt	"MCPTT"			
media attribute		a= line		
		attribute = fmtp		
fmtp				
format	"MCPTT"			
format specific parameters				
mc_queueing	optional	Parameter has no		
	•	value		
mc_priority	not present	Any integer value in the		
	or	range of 1255		
	any allowed value			
mc_granted	present	Parameter has no		
		value		
mc_implicit_request	present	Parameter has no		
		value		
media attribute		a= line		
		attribute = key-mgmt		
key-mgmt				
mikey	MIKEY-SAKKE			
•	I_MESSAGE as			
	specified in Table			
	5.5.9.1-2			

Table 5.5.3.1.3-2: SDP Message from the UE - Off-network for MCVideo

Derivation Path: RFC 4566 [27]				
Information Element	Value/remark	Comment	Reference	Condition
Session description:				
Protocol Version	"0"	v= line		
Origin		o= line		
username	"_"			
sess-id	any allowed value	A numeric string such that the tuple of <username>, <sess- id="">, <nettype>, <addrtype>, and <unicast-address> forms a globally unique identifier for the session.</unicast-address></addrtype></nettype></sess-></username>		
sess-version	any allowed value			
nettype	"IN"			
addrtype	"IP4"	"IP4" or "IP6"		
unicast-address	px_MCVideo_IP_Conn ectionAddressAll			
Session Name	"_"	s= line	•	
Connection Data		c= line	•	

Derivation Path: RFC 4566 [27] Information Element	Value/remark	Comment	Reference	Condition
nettype	"IN"			
addrtype	"IP4"	"IP4" or "IP6"		
connection-address	px_MCVideo_IP_Conn ectionAddressAll	Set to the multicast IP address of the MCVideo group		
Bandwidth		b= line		
bwtype	"AS:"	bwtype:bandwidth		
bandwidth	any allowed value			
Time description				
Timing		t= line		
start-time	"0"			
stop-time	"0"			
Media descriptions				
media description		m= line media = audio		
media	"audio"			
port	any allowed value	Set to a port number for MCVideo speech of the MCVideo group		
proto	"RTP/AVP"			
fmt	any allowed value(s)	Indicating RTP payload type numbers		
media title	"speech"	i= line		
media attribute		a= line		
		attribute = rtpmap		
rtpmap	"rtpmap"			
payload type	"99"			
encoding name	"AMR-WB"			
clock rate	16000			
encoding parameter	"1" if present	Channel number		
media attribute		a= line attribute = fmtp		
fmtp	"fmtp"			
format	the value given in fmt in the audio media description			
format specific parameters		Parameters of WB- AMR codec		
mode-change-capability	"2"	To be able to interoperate fully with gateways to circuit switched networks		
max-red	"0"	No redundancy will be used		
media attribute		a= line attribute =ptime		
ptime	any allowed value	packet time		
media attribute		a= line attribute =maxptime		
maxptime	any allowed value	maximum packet time		
media description		m= line		
		media = video SDP media-level section for a media-transmission control entity		
media	"video"	-		
port	any allowed value	The port for the media- transmission control entity		

Derivation Path: RFC 4566 [27] Information Element	Value/remark	Comment	Reference	Condition
proto	"udp"	User Datagram Protocol. With UDP, computer applications can send messages to other hosts on an Internet Protocol (IP) network. Time- sensitive applications often use UDP because dropping packets is preferable to waiting for packets delayed due to retransmission, which may not be an option in a real-time system.		
fmt	"MCVideo"	-		
Connection Data		c= line Included if the media plane control channel uses a different IP address than other media described in the SDP		
nettype	"IN"			
addrtype	"IP4"			
connection-address	px_MCVideo_IP_Conn ectionAddressApp			
media attribute		a= line attribute = rtpmap		
rtpmap	"rtpmap"			
payload type	"H.264"			
encoding name clock rate	П.204		RFC 4867 [59] clause 8.3	
encoding parameter	"" if present	Channel number		
media attribute		a= line attribute = fmtp		
fmtp			3GPP TS 24.581 [88] clause 12, clause 14	
format	"MCVideo"			
format specific parameters				
mc_queueing	optional	Parameter has no value. Shall include the "mc_queueing" fmtp attribute in SDP offers when queueing of Transmission request is supported.	3GPP TS 24.581 [88] clause 12, clause 14	

ivation Path: RFC 4566 [27] Information Element	Value/remark	Comment	Reference	Conditio
mc_priority	not present	Any integer value in the	3GPP	
_, ,	or	range of 1255	TS 24.581 [88]	
	any allowed value		clause 12,	
		Shall include the	clause 14	
		"mc_priority" fmtp		
		attribute when a		
		transmission priority		
		different than the		
		default priority is		
		required.		
mc_reception_priority	not present	Any integer value in the	3GPP	
_ ' _, ,	or	range of 0255	TS 24.581 [88]	
	any allowed value		clause 12,	
	, , , , , , , , , , , , , , , , , , , ,	Shall include the	clause 14	
		"mc_reception_priority"		
		fmtp attribute when a		
		reception priority		
		different than the		
		different than the default reception		
		•		
was averated		priority is required.	2000	
mc_granted	present	Parameter has no	3GPP	
		value	TS 24.581 [88]	
		Shall include the	clause 12,	
			clause 14	
		"mc_granted" fmtp		
		attribute in the SDP		
		offer of an initial SIP		
		INVITE request when it		
		is acceptable for the		
		MCVideo client to		
		receive a granted		
		indication in the SIP		
		200 (OK) response to		
		an initial INVITE		
		request.		
mc_implicit_request	present	Parameter has no	3GPP	
		value	TS 24.581 [88]	
			clause 12,	
		Shall include the	clause 14	
		"mc_implicit_request"		
		fmtp attribute when a		
		SIP request shall be		
		interpreted as an		
		implicit Transmission		
		request. If not explicitly		
		stated in procedures in		
		the present document		
		or in procedures in		
		3GPP TS 24.281 [2]		
		that the		
		"mc_implicit_request"		
		fmtp attribute shall be		
		included, the decision		
		to include the		
		"mc_implicit_request"		
		fmtp attribute or not, is		
		an implementation		
		option.		
edia attribute				PRIVATE
edia attribute		option. a= line		PRIVATE CALL
		option. a= line attribute = key-mgmt	TS 24.281 [86]	
edia attribute ey-mgmt		option. a= line attribute = key-mgmt Key Management	TS 24.281 [86] clause 6.2.1	
		option. a= line attribute = key-mgmt	TS 24.281 [86] clause 6.2.1	

Information Element	Value/remark	Comment	Reference	Condition
mikey	MIKEY-SAKKE	MIKEY carries the	RFC 4567 [44]	
····· ,	I_MESSAGE as	security parameters	• [11]	
	specified in Table	needed for		
	6.1.1.1.3.3-3	setting up the security		
	0.1.1.1.0.0	protocol. It is a protocol		
		designed for		
		government and		
		relevant enterprises to		
		enable secure, cross-		
		platform multimedia		
		communications.		
media description		m= line		
media description		media = application		
media	"application"	media = application		
port	any allowed value	Set to a port number for		
port	any allowed value	media-floor control		
		entity of the MCVideo		
		group		
proto	"udp"			
fmt	"MCVideo"			
media attribute		a= line		
		attribute = fmtp		
fmtp				
format	"MCVideo"			
format specific parameters				
mc_queueing	optional	Parameter has no		
		value		
mc_priority	not present	Any integer value in the		
	or	range of 1255		
	any allowed value			
mc_granted	present	Parameter has no		
		value		
mc_implicit_request	present	Parameter has no		· · · · · · · · · · · · · · · · · · ·
		value		
media attribute		a= line		
		attribute = key-mgmt		
key-mgmt				
mikey	MIKEY-SAKKE			
•	I_MESSAGE as			
	specified in Table			
	5.5.9.1-2A			

Table 5.5.3.1.3-3: SDP Message from the UE - Off-network for MCData

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5.5.3.1.4 SDP Message from the SS - Off-network

- MCPTT

Table 5.5.3.1.4-1: SDP Message from the SS - Off-network for MCPTT

Derivation Path: RFC 4566 [27] Information Element	Value/remark	Comment	Reference	Condition
Session description:	Turao/Turain	Commons	11010101100	00114111111
Protocol Version	"0"	v= line		
Origin		o= line		
username	п_п			
sess-id	"12345678"	A numeric string such		
3033 10	12040070	that the tuple of		
		<username>, <sess-< td=""><td></td><td></td></sess-<></username>		
		id>, <nettype>,</nettype>		
		<addrtype>, and</addrtype>		
		<unicast-address></unicast-address>		
		forms a globally unique		
		identifier for the		
		session.		
sess-version	"12345678"			
nettype	"IN"			
addrtype	"IP4"			
unicast-address	px_MCPTT_IP_Connec			
	tionAddressAll			
Session Name	"_"	s= line		
Connection Data		c= line		
nettype	"IN"			
addrtype	"IP4"	"IP4" or "IP6"		
connection-address	px_MCPTT_IP_Connec	Set to the multicast IP		
	tionAddressAll	address of the MCPTT		
		group		
Bandwidth		b= line		
bwtype	"AS:"	bwtype:bandwidth		
bandwidth	any allowed value	,		
Time description				
Timing		t= line		
start-time	"0"			
stop-time	"0"			
Media descriptions				
media description		m= line		
•		media = audio		
media	"audio"			
port	"49152"	Set to a port number for		
•		MCPTT speech of the		
		MCPTT group		
proto	"RTP/AVP"	-		
fmt	"99"	Indicating RTP payload		
<u> </u>		type numbers		
media title	"speech"	i= line		
media attribute		a= line		
		attribute = rtpmap		
rtpmap	"rtpmap"			
payload type	"99"			
encoding name	"AMR-WB"			
clock rate	16000			
encoding parameter	"1" if present	Channel number		
media attribute		a= line		
		attribute = fmtp		
fmtp	"fmtp"			
format	"99"			
format specific parameters		Parameters of WB- AMR codec		
mode-change-capability	"2"	To be able to		
		interoperate fully with		
		gateways to circuit		
		switched networks		
max-red	"0"	No redundancy will be		
		used		
media attribute		a= line		
		attribute =ptime		1

Information Element	Value/remark	Comment	Reference	Condition
ptime	"20"	packet time		
media attribute		a= line		
		attribute =maxptime		
maxptime	"240"	maximum packet time		
media description		m= line		
		media = application		
media	"application"			
port	"49153"	Set to a port number for		
		media-floor control		
		entity of the MCPTT		
		group		
proto	"udp"			
fmt	"MCPTT"			
media attribute		a= line		
		attribute = fmtp		
fmtp				
format	"MCPTT"			
format specific parameters				
mc_queueing	Present	Parameter has no		
		value		
mc_priority	"5"	Any integer value in the		
	_	range of 1255		
mc_granted	Present	Parameter has no		
		value		
mc_implicit_request	Present	Parameter has no		
media attribute		value		
media attribute		a= line		
Leave magning t		attribute = key-mgmt		
key-mgmt	MUZEY OAKKE			
mikey	MIKEY-SAKKE			
	I_MESSAGE as			
	specified in Table			
	5.5.9.1-2			

Table 5.5.3.1.4-2: SDP Message from the SS - Off-network for MCVideo

Derivation Path: RFC 4566 [27]				
Information Element	Value/remark	Comment	Reference	Condition
Session description:				
Protocol Version	"0"	v= line		
Origin		o= line		
username	"_"			
sess-id	"12345678"	A numeric string such that the tuple of <username>, <sess- id="">, <nettype>, <addrtype>, and <unicast-address> forms a globally unique identifier for the session.</unicast-address></addrtype></nettype></sess-></username>		
sess-version	"12345678"			
nettype	"IN"			
addrtype	"IP4"			
unicast-address	px_MCVideo_IP_Conn ectionAddressAll			
Session Name	"_"	s= line		
Connection Data		c= line		
nettype	"IN"			
addrtype	"IP4"	"IP4" or "IP6"		

Derivation Path: RFC 4566 [27] Information Element	Value/remark	Comment	Reference	Condition
connection-address	px_MCVideo_IP_Conn ectionAddressAll	Set to the multicast IP address of the MCVideo group		
Bandwidth		b= line		
bwtype	"AS:"	bwtype:bandwidth		
bandwidth	any allowed value	71		
Time description	, , , , , , , , , , , , , , , , , , , ,			
Timing		t= line		
start-time	"0"			
stop-time	"0"			
Media descriptions				
media description		m= line media = audio		
media	"audio"			
port	"49152"	Set to a port number for MCVideo speech of the MCVideo group		
proto	"RTP/AVP"	<u> </u>		
fmt	"99"	Indicating RTP payload type numbers		
media title	"speech"	i= line		
media attribute		a= line attribute = rtpmap		
rtpmap	"rtpmap"	, ,		
payload type	"99"			
encoding name	"AMR-WB"			
clock rate	16000			
encoding parameter	"1" if present	Channel number		
media attribute	T II processi	a= line attribute = fmtp		
fmtp	"fmtp"	,		
format	"99"			
format specific parameters		Parameters of WB- AMR codec		
mode-change-capability	"2"	To be able to interoperate fully with gateways to circuit switched networks		
max-red	"0"	No redundancy will be used		
media attribute		a= line attribute =ptime		
ptime	"20"	packet time		
media attribute		a= line attribute =maxptime		
maxptime	"240"	maximum packet time		
media description		m= line media = video		
		SDP media-level section for a media-transmission control entity		
media	"video"			
port	any allowed value	The port for the media- transmission control entity		

Derivation Path: RFC 4566 [27]				
Information Element	Value/remark	Comment	Reference	Condition
proto	"udp"	User Datagram Protocol. With UDP, computer applications can send messages to other hosts on an Internet Protocol (IP) network. Time- sensitive applications often use UDP because dropping packets is preferable to waiting for packets delayed due to retransmission, which may not be an option in a real-time system.		
fmt	"MCVideo"			
Connection Data		c= line Included if the media plane control channel uses a different IP address than other media described in the SDP		
nettype	"IN"			
addrtype	"IP4"			
connection-address	px_MCVideo_IP_Conn ectionAddressApp			
media attribute		a= line attribute = rtpmap		
rtpmap	"rtpmap"			
payload type				
encoding name clock rate	"H.264"		RFC 4867 [59]	
	WW : 6 m = 2 m 4	Oh saar al aaraah aa	clause 8.3	
encoding parameter media attribute	"" if present	Channel number a= line		
media attribute		attribute = fmtp		
fmtp			3GPP TS 24.581 [88] clause 12, clause 14	
format	"MCVideo"			
format specific parameters				
mc_queueing	optional	Parameter has no value. Shall include the "mc_queueing" fmtp attribute in SDP offers when queueing of Transmission request is supported.	3GPP TS 24.581 [88] clause 12, clause 14	

ivation Path: RFC 4566 [27] Information Element	Value/remark	Comment	Reference	Conditio
mc_priority	not present	Any integer value in the	3GPP	
_, ,	or	range of 1255	TS 24.581 [88]	
	any allowed value		clause 12,	
		Shall include the	clause 14	
		"mc_priority" fmtp		
		attribute when a		
		transmission priority		
		different than the		
		default priority is		
		required.		
mc_reception_priority	not present	Any integer value in the	3GPP	
_ ' _, ,	or	range of 0255	TS 24.581 [88]	
	any allowed value		clause 12,	
	, , , , , , , , , , , , , , , , , , , ,	Shall include the	clause 14	
		"mc_reception_priority"		
		fmtp attribute when a		
		reception priority		
		different than the		
		different than the default reception		
		•		
was averated		priority is required.	2000	
mc_granted	present	Parameter has no	3GPP	
		value	TS 24.581 [88]	
		Shall include the	clause 12,	
			clause 14	
		"mc_granted" fmtp		
		attribute in the SDP		
		offer of an initial SIP		
		INVITE request when it		
		is acceptable for the		
		MCVideo client to		
		receive a granted		
		indication in the SIP		
		200 (OK) response to		
		an initial INVITE		
		request.		
mc_implicit_request	present	Parameter has no	3GPP	
		value	TS 24.581 [88]	
			clause 12,	
		Shall include the	clause 14	
		"mc_implicit_request"		
		fmtp attribute when a		
		SIP request shall be		
		interpreted as an		
		implicit Transmission		
		request. If not explicitly		
		stated in procedures in		
		the present document		
		or in procedures in		
		3GPP TS 24.281 [2]		
		that the		
		"mc_implicit_request"		
		fmtp attribute shall be		
		included, the decision		
		to include the		
		"mc_implicit_request"		
		fmtp attribute or not, is		
		an implementation		
		option.		
edia attribute				PRIVATE
edia attribute		option. a= line		PRIVATE CALL
		option. a= line attribute = key-mgmt	TS 24.281 [86]	
edia attribute ey-mgmt		option. a= line attribute = key-mgmt Key Management	TS 24.281 [86] clause 6.2.1	
		option. a= line attribute = key-mgmt	TS 24.281 [86] clause 6.2.1	

Derivation Path: RFC 4566 [27]	T. Maladasa .		D (0 1141
Information Element	Value/remark	Comment	Reference	Condition
mikey	MIKEY-SAKKE	MIKEY carries the	RFC 4567 [44]	
	I_MESSAGE as	security parameters		
	specified in Table	needed for		
	6.1.1.1.3.3-3	setting up the security		
		protocol. It is a protocol		
		designed for government and		
		relevant enterprises to		
		enable secure, cross-		
		platform multimedia		
		communications.		
media description		m= line		
modia description		media = application		
media	"application"	cuia – application		
port	"49153"	Set to a port number for		
1		media-floor control		
		entity of the MCVideo		
		group		
proto	"udp"			
fmt	"MCVideo"			
media attribute		a= line		
		attribute = fmtp		
fmtp	# * 4 0 \ <i>C</i> \ 1 \ 1			
format	"MCVideo"			
format specific parameters	Dragant	Davamatar has no		
mc_queueing	Present	Parameter has no value		
mc_priority	"5"	Any integer value in the range of 1255		
mc_granted	Present	Parameter has no		
_0		value		
mc_implicit_request	Present	Parameter has no		
		value		
media attribute		a= line		
		attribute = key-mgmt		
key-mgmt	1.00/=0/-0			
mikey	MIKEY-SAKKE			
	I_MESSAGE as			
	specified in Table			
	5.5.9.1-2			

Table 5.5.3.1.4-3: SDP Message from the SS - Off-network for MCData

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5.5.3.2 MCS Info Lists

5.5.3.2.1 MCS Info Lists from the UE

- MCPTT

Table 5.5.3.2.1-1: MCPTT-Info from the UE

Derivation Path: TS 24.379 [9] c	lause F.1.2			
Information Element	Value/remark	Comment	Reference	Condition
mcpttinfo				
mcptt-Params	not nuce out			
mcptt-access-token	not present Encrypted (NOTE 2) <mcptt-access-token> with mcpttString set to access token as assigned to the UE in the Token Response</mcptt-access-token>	The access token is opaque to the MCPTT client	TS 33.180 [94] , clause B.4 RFC 6749 [77]	CONFIG, GROUPC ONFIG
session-type	not present			
·	"prearranged"			GROUP- CALL AND INVITE_R EFER
	"private"			PRIVATE- CALL AND INVITE_R EFER
	"chat"			CHAT- GROUP- CALL AND INVITE_R EFER
	"first-to-answer"			FIRST-TO- ANSWER AND INVITE_R EFER
mcptt-request-uri	not present			
	Encrypted (NOTE 2) <mcptt-request-uri> with mcpttURI set to px_MCPTT_Group_A_I D</mcptt-request-uri>	The URI of the group		(GROUP- CALL OR CHAT- GROUP- CALL) AND INVITE_R EFER
	not present or encrypted (NOTE 2) <mcptt-request-uri> with mcpttURI set to px_MCPTT_User_B_ID</mcptt-request-uri>	The URI of the invited MCPTT Client		PRIVATE- CALL AND INVITE_R EFER
	encrypted (NOTE 2) <mcptt-request-uri> with mcpttURI set to px_MCPTT_ID_User_A</mcptt-request-uri>			POC- SETTINGS -EVENT
mcptt-calling-user-id	not present or encrypted (NOTE 2) <mcptt-calling-user-id> with mcpttURI set to px_MCPTT_ID_User_A</mcptt-calling-user-id>			
	not present			CONFIG, GROUPC ONFIG, POC- SETTINGS -EVENT
mcptt-called-party-id	not present not present or encrypted (NOTE 2) <mcptt-called-party-id> with mcpttURI set to px_MCPTT_ID_User_A</mcptt-called-party-id>			INVITE- RSP
mcptt-calling-group-id	not present			
required	not present			

Derivation Path: TS 24.379 [9]				1
Information Element	Value/remark	Comment	Reference	Condition
emergency-ind	not present or encrypted (NOTE 2) <emergency-ind> with mcpttBoolean set to "false"</emergency-ind>			
	Encrypted (NOTE 2) <emergency-ind> with mcpttBoolean set to "true"</emergency-ind>			EMERGEN CY-CALL AND INVITE_R EFER
alert-ind	not present or encrypted (NOTE 2) <alert-ind> with mcpttBoolean set to "false"</alert-ind>			
	Encrypted (NOTE 2) <alert-ind> with mcpttBoolean set to pc_MCX_EmergencyIn dWithAlertInd</alert-ind>			EMERGEN CY-CALL AND INVITE_R EFER
imminentperil-ind	not present or encrypted (NOTE 2) <imminentperil-ind> with mcpttBoolean set to "false" Encrypted (NOTE 2)</imminentperil-ind>			IMMPERIL
	<pre><emergency-ind> with mcpttBoolean set to "true"</emergency-ind></pre>			-CALL AND INVITE_R EFER
broadcast-ind	not present or "false"			
mc-org"	not present			
floor-state	not present			
associated-group-id	not present px_MCPTT_Group_A_I D if mcptt-request-uri contains a temporary group identity; otherwise, not present	if the <mcptt-request- uri=""> element contains a group identity then this element can include an MCPTT group ID associated with the group identity in the <mcptt-request-uri> element. E.g. if the <mcptt-request-uri> element contains a temporary group identity (TGI), then the <associated-group-id> element can contain the constituent MCPTT group ID</associated-group-id></mcptt-request-uri></mcptt-request-uri></mcptt-request->	TS 24.379 [9] clause F.1.3	GROUP- CALL
originated-by	not present	3.3%		
MKFC-GKTPs	not present			
mcptt-client-id	not present			

Derivation Path: TS 24.379 [9] clause F.1.2				
Information Element	Value/remark	Comment	Reference	Condition
	encrypted (NOTE 2) <mcptt-client-id> with mcpttString set to valid UUID URN (NOTE 1)</mcptt-client-id>	The UUID URN of the MCPTT Client	RFC 4122 [106] TS 24.379 [9] clause 4.10	(GROUP- CALL OR CHAT- GROUP- CALL OR EMERGEN CY-CALL OR IMMPERIL -CALL) AND INVITE_R EFER
	not present or encrypted (NOTE 2) <mcptt-client-id> with mcpttString set to valid UUID URN (NOTE 1)</mcptt-client-id>			(PRIVATE- CALL OR FIRST-TO- ANSWER) AND INVITE_R EFER
	not present or encrypted (NOTE 2) <mcptt-client-id> with mcpttString set to valid UUID URN (NOTE 1)</mcptt-client-id>	in general mcptt-client- id is not mandatory (e.g. for SIP SUBSCRIBE)	RFC 4122 [106] TS 24.379 [9] clause 4.10	CONFIG, GROUPC ONFIG
	encrypted (NOTE 2) <mcptt-client-id> with mcpttString set to valid UUID URN (NOTE 1)</mcptt-client-id>	mcptt-client-id is mandatory in the SIP REGISTER or SIP PUBLISH for service authorisation according to TS 24.379 [9] clauses 7.2.1 and 7.2.2	RFC 4122 [106] TS 24.379 [9] clause 4.10	CONFIG AND REGISTE R_PUBLIS H
	encrypted (NOTE 2) <mcptt-client-id> with mcpttString set to valid UUID URN (NOTE 1)</mcptt-client-id>	mcptt-client-id is mandatory in SIP PUBLISH for MCPTT service settings only, according to TS 24.379 [9] clause 7.2.3	RFC 4122 [106] TS 24.379 [9] clause 4.10	POC- SETTINGS -EVENT
alert-ind-rcvd	not present		TO 04 070 [0]	
anyExt	not present or any allowed value		TS 24.379 [9], clause F.1.3	

NOTE 1: The SS shall check the mcptt-client-id

- at the first time being sent by the UE to be a valid UUID URN with a format like "urn:uuid:XXXXXXXXYYYY-ZZZZ-yyyy-zzzzzzzzzzz" according to RFC 4122 [106]

- to be all the same UUID URN in subsequent messages.

NOTE 2: Encrypted element as described in Table 5.5.3.2.1-1A

Condition	Explanation
REGISTER_PUBLISH	MCPTT-Info in SIP REGISTER or SIP PUBLISH request for service
	authorisation
INVITE_REFER	MCPTT-Info in SIP INVITE or SIP REFER request for call
	establishment
INVITE-RSP	MCPTT-Info in SIP response to a SIP INVITE
	NOTE: INVITE-RSP is inherited from the SIP response, i.e. it shall be
	considered as true whenever set for the SIP response
For further conditions see table 5.5.1-1	

Table 5.5.3.2.1-1A: Encrypted MCPTT info parameter sent by the UE

Derivation Path: TS 24.379 [9] clauses F.1.2, F.1.3					
Information Element	Value/remark	Comment	Reference	Condition	
type attribute	"Encrypted"				

EncryptedData	EncryptedData as	
	described in Table	ļ
	5.5.13.2-1 containing	
	encrypted element	
	content of the mcptt	
	parameter	ļ

Table 5.5.3.2.1-2: MCVideo-Info from the UE

Derivation Path: TS 24.281 [86]		_		
Information Element	Value/remark	Comment	Reference	Condition
mcvideoinfo				
mcvideo-Params				
mcvideo-access-token	not present Encrypted (NOTE 2) <mcvideo-access- token=""> with mcvideoString set to access token as assigned to the UE in the Token Response</mcvideo-access->	The access token is opaque to the MCVideo client	TS 33.180 [94], clause B.4 RFC 6749 [77]	CONFIG GROUPCO NFIG
session-type	not present			
	"prearranged"			GROUP- CALL AND INVITE_RE FER
	"private"			PRIVATE- CALL AND INVITE_RE FER
	"chat"			CHAT- GROUP- CALL AND INVITE_RE FER
mcvideo-request-uri	not present			
movideo-request-un	Encrypted (NOTE 2) <mcvideo-request-uri> with mcvideoURI set to px_MCVideo_Group_A _ID</mcvideo-request-uri>	The URI of the group		(GROUP- CALL OR CHAT- GROUP- CALL) AND INVITE_RE FER
	not present or Encrypted (NOTE 2) <mcvideo-request-uri> with mcvideoURI set to px_MCVideo_User_B_I D</mcvideo-request-uri>	The URI of the invited MCVideo Client		PRIVATE- CALL AND INVITE_RE FER
	Encrypted (NOTE 2) <mcvideo-request-uri> with mcvideoURI set to px_MCVideo_User_A_I D</mcvideo-request-uri>			POC- SETTINGS -EVENT
mcvideo-calling-user-id	not present or Encrypted (NOTE 2) <mcvideo-request-uri> with mcvideoURI set to px_MCVideo_ID_User_ A</mcvideo-request-uri>			

	not present			CONFIG, GROUPCO NFIG, POC- SETTINGS -EVENT
mcvideo-called-party-id	not present not present or Encrypted (NOTE 2) <mcvideo-request-uri> with mcvideoURI set to px_MCVideo_ID_User_ A</mcvideo-request-uri>			INVITE- RSP
mcvideo-calling-group-id	not present			
required	not present			
emergency-ind	not present or encrypted (NOTE 2) <emergency-ind> with mcvideoBoolean set to "false"</emergency-ind>			
	encrypted (NOTE 2) <emergency-ind> with mcvideoBoolean set to true</emergency-ind>			EMERGEN CY-CALL AND INVITE- REFER
alert-ind	not present or encrypted (NOTE 2) <emergency-ind> with mcvideoBoolean set to "false"</emergency-ind>			
	encrypted (NOTE 2) <emergency-ind> with mcvideoBoolean set to true</emergency-ind>			EMERGEN CY-CALL AND INVITE_RE FER
imminentperil-ind	not present or encrypted (NOTE 2) <emergency-ind> with mcvideoBoolean set to "false"</emergency-ind>			
	encrypted (NOTE 2) <emergency-ind> with mcvideoBoolean set to true</emergency-ind>			IMMPERIL- CALL AND INVITE- REFER
broadcast-ind	not present or "false"			
mc-org"	not present			
transmission-state	not present			
associated-group-id	not present px_MCVideo_Group_A _ID if mcvideo-request- uri contains a temporary group identity; otherwise, not present	if the <mcvideo- request-uri=""> element contains a group identity then this element can include an MCVideo group ID associated with the group identity in the <mcvideo-request-uri> element. E.g. if the <mcvideo-request-uri> element contains a temporary group identity (TGI), then the <associated-group-id> element can contain the constituent MCVideo group ID</associated-group-id></mcvideo-request-uri></mcvideo-request-uri></mcvideo->	TS 24.281 [86] clause F.1.3	GROUP- CALL
MKFC-GKTPs	not present	l		

mcvideo-client-id	not present			
	encrypted (NOTE 2) < mcvideo-client-id> with mcvideoString set to valid UUID URN (NOTE 1)	The UUID URN of the MCVIDEO Client	RFC 4122 [106] TS 24.281 [86] clause 4.9	(GROUP- CALL OR CHAT- GROUP- CALLOR EMERGEN CY-CALL OR IMMPERIL- CALL) AND INVITE_RE FER
	not present or encrypted (NOTE 2) < mcvideo-client-id> with mcvideoString set to valid UUID URN (NOTE 1)			PRIVATE- CALL AND INVITE_RE FER
	not present or encrypted (NOTE 2) < mcvideo-client-id> with mcvideoString set to valid UUID URN (NOTE 1)	in general mcvideo- client-id is not mandatory (e.g. for SIP SUBSCRIBE)	RFC 4122 [106] TS 24.281 [86] clause 4.9	CONFIG, GROUPCO NFIG
	encrypted (NOTE 2) < mcvideo-client-id> with mcvideoString set to valid UUID URN (NOTE 1)	mcvideo-client-id is mandatory in the SIP REGISTER or SIP PUBLISH for service authorisation according to TS 24.281 [86] clauses 7.2.1 and 7.2.2	RFC 4122 [106] TS 24.281 [86] clause 4.9	CONFIG AND REGISTER _PUBLISH
	encrypted (NOTE 2) < mcvideo-client-id> with mcvideoString set to valid UUID URN (NOTE 1)	mcvideo-client-id is mandatory in SIP PUBLISH for MCVideo service settings only, according to TS 24.281 [86] clause 7.2.3	RFC 4122 [106] TS 24.281 [86] clause 4.9	POC- SETTINGS -EVENT
alert-ind-rcvd	not present			
anyExt	not present or any allowed value		TS 24.281 [86] clause F.1.3	

NOTE 1: The SS shall check the mcvideo-client-id

- at the first time being sent by the UE to be a valid UUID URN with a format like "urn:uuid:XXXXXXXXYYYY-ZZZZ-yyyy-zzzzzzzzzzz" according to RFC 4122 [106]

- to be all the same UUID URN in subsequent messages.

NOTE 2: Encrypted element as described in Table 5.5.3.2.1-2A

Table 5.5.3.2.1-2A: Encrypted MCVideo info parameter sent by the UE

Derivation Path: TS 24.281 [86] clauses F.1.2, F.1.3					
Information Element	Value/remark	Comment	Reference	Condition	
type attribute	"Encrypted"				
EncryptedData	EncryptedData as described in Table 5.5.13.2-1 containing encrypted element content of the mcvideo parameter				

MCData

Table 5.5.3.2.1-3: MCData-Info from the UE

Derivation Path: TS 24.282 [87]	Derivation Path: TS 24.282 [87], Clause D.1				
Information Element	Value/remark	Comment	Reference	Condition	
mcdata-info					
mcdata-Params					
mcdata-access-token	not present				
request-type	"one-to-one-sds"			MCD_1to1	
request-type	"group-sds"			MCD_grp	
mcdata-request-uri	px_MCData_Group_A			MCD_grp	
mcdata-calling-user-id	not present				
mcdata-called-party-id	not present				
mcdata-calling-group-id	not present				
alert-ind	not present				
originated-by	not present				
mcdata-client-id	px_MCData_Client_A_I D			MCD_grp	
mcdata-controller-psi	not present				

Condition	Explanation
MCD_1to1	A one-to-one MCData call
MCD_grp	A goup MCData call
For further conditions see table 5.5.1-1	

5.5.3.2.2 MCS Info Lists from the SS

- MCPTT

Table 5.5.3.2.2-1: MCPTT-Info from the SS

Derivation Path: TS 24.379 [9] of Information Element	Value/remark	Comment	Reference	Condition
mcpttinfo				
mcptt-Params				
mcptt-access-token	not present			
session-type	not present			
• •	"prearranged"			GROUP-
				CALL
	"private"			PRIVATE-
				CALL
	"chat"			CHAT-
				GROUP-
				CALL
	"first-to-answer"			FIRST-TO- ANSWER
mcptt-request-uri	Encrypted (NOTE 1)	The URI of the called		
	<mcptt-request-uri></mcptt-request-uri>	user		
	with mcpttURI set to			
	px_MCPTT_ID_User_A			
mcptt-calling-user-id	Encrypted (NOTE 1)	The URI of the calling		
	<mcptt-calling-user-id></mcptt-calling-user-id>	user		
	with mcpttURI set to			
	px_MCPTT_ID_User_B			
mcptt-called-party-id	not present			
mcptt-calling-group-id	not present	The LIDI of the group		CDOUD
	Encrypted (NOTE 1)	The URI of the group		GROUP- CALLOR
	<pre><mcptt-calling-group- id=""> with mcpttURI set to</mcptt-calling-group-></pre>			CHAT-
	px_MCPTT_Group_A_I			GROUP-
	D D			CALL
required	not present			OALL
emergency-ind	not present			
emergency ma	Encrypted (NOTE 1)			EMERGEN
	<pre><emergency-ind> with</emergency-ind></pre>			CY-CALL
	mcpttBoolean set to			
	"true"			
alert-ind	not present			
	Encrypted (NOTE 1)			EMERGEN
	<alert-ind> with</alert-ind>			CY-CALL
	mcpttBoolean set to			
	"false"			
imminentperil-ind	not present			
	Encrypted (NOTE 1)			IMMPERIL
	<imminentperil-ind></imminentperil-ind>			-CALL
	with mcpttBoolean set			
	to "true"			
broadcast-ind	not present			-
mc-org"	not present			-
floor-state	not present			-
associated-group-id	not present			-
originated-by MKFC-GKTPs	not present		1	-
	not present		1	-
mcptt-client-id	not present		1	-
alert-ind-rcvd	not present		TC 04 070 [0]	-
anyExt	not present		TS 24.379 [9], clause F.1.3	

Table 5.5.3.2.2-1A: Encrypted MCPTT info parameter sent by the SS

Information Element	Value/remark	Comment	Reference	Condition
type attribute	"Encrypted"			
EncryptedData	EncryptedData as described in Table 5.5.13.2-2 containing encrypted element content of the mcptt parameter			

Table 5.5.3.2.2-2: MCVideo-Info from the SS

Information Element	Clause F.1.2 Value/remark	Comment	Reference	Condition
mcvideoinfo				
mcvideo-Params				
mcvideo-access-token	not present			
session-type	"prearranged"			GROUP- CALL
	"private"			PRIVATE- CALL
	"chat"			CHAT- GROUP- CALL
mcvideo-request-uri	Encrypted (NOTE 1) <mcvideo-request-uri> with mcvideoURI set to px_MCVideo_ID_User_ A</mcvideo-request-uri>	The URI of the called user		
mcvideo-calling-user-id	not present or encrypted (NOTE 1) <mcvideo-calling-user- id> with mcvideoURI set to px_MCVideo_ID_User_ B</mcvideo-calling-user- 	The URI of the calling user		
mcvideo-called-party-id	not present			
mcvideo-calling-group-id	not present			
	Encrypted (NOTE 1) <mcvideo-calling- group-id=""> with mcvideoURI set to px_MCVideo_Group_A ID</mcvideo-calling->	The URI of the group		GROUP- CALLOR CHAT- GROUP- CALL
required	not present			
emergency-ind	not present or encrypted (NOTE 1) <emergency-ind> with mcvideoBoolean set to "false"</emergency-ind>			
	encrypted (NOTE 1) <emergency-ind> with mcvideoBoolean set to "true"</emergency-ind>			EMERGEN CY-CALL
alert-ind	not present Encrypted (NOTE 1) <alert-ind> with mcvideoBoolean set to "false"</alert-ind>			EMERGEN CY-CALL
imminentperil-ind	not present			

Derivation Path: TS 24.281 [86] Clause F.1.2				
Information Element	Value/remark	Comment	Reference	Condition
	Encrypted (NOTE 1) <imminentperil-ind> with mcvideoBoolean set to "true"</imminentperil-ind>			IMMPERIL -CALL
broadcast-ind	not present			
mc-org"	not present			
floor-state	not present			
associated-group-id	not present			
originated-by	not present			
MKFC-GKTPs	not present			
mcvideo-client-id	not present			
alert-ind-rcvd	not present			
anyExt	not present		TS 24.281 [86] clause F.1.3	
NOTE 1: Encrypted element as described in Table 5.5.3.2.2-2A				

Table 5.5.3.2.2-2A: Encrypted MCVideo info parameter sent by the SS

Derivation Path: TS 24.281 [86] clauses F.1.2, F.1.3				
Information Element	Value/remark	Comment	Reference	Condition
type attribute	"Encrypted"			
EncryptedData	EncryptedData as described in Table 5.5.13.2-2 containing encrypted element content of the mcvideo parameter			

Table 5.5.3.2.2-3: MCData-Info from the SS

Derivation Path: TS 24.282 [87], Clause D.1				
Information Element	Value/remark	Comment	Reference	Condition
mcdata-info				
mcdata-Params				
mcdata-access-token	not present			
request-type	"one-to-one-sds"			MCD_1to1
request-type	"group-sds"			MCD_grp
mcdata-request-uri	px_MCData_Group_A			MCD_grp
mcdata-calling-user-id	px_MCData_ID_User_ B			
mcdata-called-party-id	px_MCData_ID_User_ A			
mcdata-calling-group-id	not present			
alert-ind	not present			
originated-by	not present			
mcdata-client-id	px_MCData_Client_B_I D			
mcdata-controller-psi	not present			

Condition	Explanation
MCD_1to1	A one-to-one MCData call
MCD_grp	A goup MCData call
For further conditions see table 5.5.1-1	

5.5.3.3 Resource-lists

5.5.3.3.1 Resource-lists from the UE

- MCPTT

Table 5.5.3.3.1-1: Resource-lists from the UE for MCPTT

Derivation Path: RFC 5366 [35] Information Element	Value/remark	Comment	Reference	Condition
resource-lists	encrypted (NOTE 4)			
list[1]	encrypted (NOTE 4)			
name attribute	Not present			
display-name	Not present			
entry[1]	NOTE 4,5			
uri attribute	px_MCPTT_ID_User_B	The MCPTT ID of the		
	px_MCPTT_ID_User_B	invited user the MCPTT ID contained in the <mcptt-calling-user-id> element in the application/ vnd.3gpp.mcptt- info+xml MIME body of the received SIP</mcptt-calling-user-id>		MSG_RSP
	SIP-URI with px_MCPTT_Group_A_I D (NOTE 8) extended with SIP URI header fields as specified for the SIP REFER message	MESSAGE request SIP-URI: prearranged MCPTT group identit or chat group identity extended with header fields		PRE- ESTABLIS H AND (GROUP- CALL OR CHAT- GROUP- CALL)
	SIP-URI with px_MCPTT_ID_User_B (NOTE 8) extended with SIP URI header fields as specified for the SIP REFER message	SIP-URI: MCPTT ID of the called user extended with header fields		PRE- ESTABLIS H AND (PRIVATE- CALL OR FIRST-TO- ANSWER)
display-name	not present			
entry[2]	NOTE 4,5			FIRST-TO- ANSWER
uri attribute	px_MCPTT_ID_User_C			
display-name	not present			
entry[2]	NOTE 4,5			PRE- ESTABLIS H AND FIRST-TO- ANSWER
uri attribute	SIP-URI with px_MCPTT_ID_User_C (NOTE 8) extended with SIP URI header fields as specified for the SIP REFER message	SIP-URI: MCPTT ID of the called user extended with header fields		
display-name	not present			
resource-lists	encrypted (NOTE 4)		TS 24.481 [11] TS 24.484 [14]	CONFIG OR GROUPC ONFIG
list[1]	encrypted (NOTE 4)			
name attribute	not present			
display-name	Not present			
entry[1]	NOTE 4, 5		TS 24.484 [14]	CONFIG
uri attribute	AUID1 & "/users/" & XUID & "/" & MCSUEID & "/"	UE Configuration document (NOTE 1a, 2, 3)		

		_		
	"AUID1 & "/users/" & XUID & "/"	Editor's note: It is not clear in the core specs whether both options are allowed or only one of both; if the UE is allowed not to include the MCSUEID, it is not clear where the MC server gets it from		
display-name	Not present	government.		
entry[2]	NOTE 4, 5		TS 24.484 [14]	CONFIG
uri attribute	AUID2 & "/users/" & XUID & "/"	UE User Profile document (NOTE 1b, 2)		
display-name	Not present	(11010101111111111111111111111111111111		
entry[3]	NOTE 4, 5		TS 24.484 [14]	CONFIG
uri attribute	AUID3 & "/global/service- config.xml"	UE Service Configuration document (NOTE 1c)		
display-name	Not present			
entry[1]	NOTE 4, 5		TS 24.484 [14]	GROUPC ONFIG
uri attribute	"org.openmobileallianc e.groups/global/byGrou pID/" & px_MCPTT_Group_A_I D	UE Group Configuration document		
display-name	Not present			
entry[1]	NOTE 4, 5		TS 24.484 [14]	GROUPC ONFIG_B
uri attribute	"org.openmobileallianc e.groups/global/byGrou pID/" & px_MCPTT_Group_B_I D	UE Group Configuration document		
display-name	Not present			
entry[1]	NOTE 4, 5		TS 24.484 [14]	GROUPC ONFIG_C
uri attribute	"org.openmobileallianc e.groups/global/byGrou pID/" & px_MCPTT_Group_C_I D	UE Group Configuration document		
display-name	Not present			
entry[1]	NOTE 4, 5 "org.openmobileallianc	UE Group	TS 24.484 [14]	GROUPC ONFIG_T
uri attribute	e.groups/global/byGrou pID/" & px_MCPTT_Group_T_I D	Configuration document		
display-name	Not present			
entry[2]	optional, NOTE 4, 5	MODITI OVID	TS 24.481 [11]	GROUPC ONFIG
uri attribute	Doc-Sel & "~~" & Node- Sel	MCPTT-GKTP document (NOTE 6, 7)		
display-name entry[2]	Not present optional, NOTE 4, 5		TS 24.481 [11]	GROUPC ONFIG_B
uri attribute	Doc-Sel_B & "~~" & Node-Sel	MCPTT-GKTP document (NOTE 6, 7)		_
display-name	Not present			
entry[2]	optional, NOTE 4, 5	MODITI OVID	TS 24.481 [11]	GROUPC ONFIG_C
uri attribute	Doc-Sel_C & "~~" & Node-Sel	MCPTT-GKTP document (NOTE 6, 7)		

display-name	Not present			
entry[2]	optional, NOTE 4, 5		TS 24.481 [11]	GROUPC ONFIG_T
uri attribute	Doc-Sel_T & "~~" & Node-Sel	MCPTT-GKTP document (NOTE 6, 7)		
display-name	Not present			
entry[1]	NOTE 4, 5		TS 24.481 [11]	GROUPKE Y
uri attribute	Doc-Sel & "~~" & Node- Sel	MCPTT-GKTP document (NOTE 6, 7)		
display-name	Not present			
entry[1]	NOTE 4, 5		TS 24.481 [11]	GROUPKE Y_B
uri attribute	Doc-Sel_B & "~~" & Node-Sel	MCPTT-GKTP document (NOTE 6, 7)		
display-name	Not present			
entry[1]	NOTE 4, 5		TS 24.481 [11]	GROUPKE Y_C
uri attribute	Doc-Sel_C & "~~" & Node-Sel	MCPTT-GKTP document (NOTE 6, 7)		
display-name	Not present			
entry[2]	optional, NOTE 4, 5		TS 24.481 [11]	GROUPC ONFIG_T
uri attribute	Doc-Sel_T & "~~" & Node-Sel	MCPTT-GKTP document (NOTE 6, 7)		
display-name	Not present			

NOTE 1a: AUID1 = "org.3gpp.mcptt.ue-config" NOTE 1b: AUID2 = "org.3gpp.mcptt.user-profile" NOTE 1c: AUID3 = "org.3gpp.mcptt.service-config" NOTE 2: XUID = "sip:" & px_MCPTT_ID_User_A

NOTE 3: MCSUEID = Instance id of the UE (derived from the IMEI according to 23.003 [69] clause 13.8)

NOTE 4: XML encryption may be done by

- element content encryption of the root element <resource-lists> as described in Table 5.5.13.2-1

- element content encryption of (each) < list> element as described in Table 5.5.13.2-1

- attribute URI encryption of the entry's uri attribute as described in Table 5.5.13.3-1

NOTE 5: When a resource-lists document contains more than one entry, the entries may be in any order NOTE 6: Doc-Sel = "org.3gpp.MCPTT-GKTP/global/byGroupID/" & px_MCPTT_Group_A_ID & "/"

Doc-Sel = "org.3gpp.MCPTT-GKTP/global/byGroupID/" & px_MCPTT_Group_A_ID & "/"
Doc-Sel_B="org.3gpp.MCPTT-GKTP/global/byGroupID/" & px_MCPTT_Group_B_ID & "/"
Doc-Sel_C="org.3gpp.MCPTT-GKTP/global/byGroupID/" & px_MCPTT_Group_C_ID & "/"
Doc-Sel_T="org.3gpp.MCPTT-GKTP/global/byGroupID/" & px_MCPTT_Group_T_ID & "/"

NOTE 7: Node-Sel = "/group/list-service/mgktp:GKTPs?xmlns(mgktp=urn:3gpp:ns:mcpttGKTP:1.0)"

NOTE 8: TS 23.179 [8] specifies MCPTT ID and MCPTT group ID (clause 8.1.3.1) to be a URIs but does not mandate them to be a SIP URIs; nevertheless according to TS 24.379 [9] (clauses 10.1.1.2.2.1, 10.1.2.2.2.1) the URI in the uri attribute of the resource-lists' <entry> element needs to be a SIP URI.

Condition	Explanation
PRE-ESTABLISH	Call using a pre-established session
MSG_RSP	resource lists IE in SIP MESSAGE in response to a received SIP MESSAGE message
GROUPCONFIG_B	Message content within subscription to GROUP_B documents
GROUPCONFIG_C	Message content within subscription to GROUP_C documents
GROUPCONFIG_T	Message content within subscription to temporary GROUP_T documents
GROUPKEY_B	Message content within subscription to GROUP_B key material retrieval
GROUPKEY_C	Message content within subscription to GROUP_C key material retrieval
GROUPKEY_T	Message content within subscription to temporary GROUP_T key material retrieval
For further conditions see table 5.5.1-1	

MCVideo

Table 5.5.3.3.1-2: Resource-lists from the UE for MCVideo

Derivation Path: RFC 5366 [35]	/ RFC 4826 [83]			
Information Element	Value/remark	Comment	Reference	Condition
resource-lists				PRIVATE- CALL GROUP- CALL EMERGEN CY-CALL IMMPERIL -CALL
list[1]				
name attribute	Not present			
display-name	Not present			
entry[1]	NOTE 5			
uri attribute	px_MCVideo_ID_User_ B	The MCVideo ID of the invited user		
display-name	Not present			
resource-lists	encrypted (NOTE 4)		TS 24.481 [11] TS 24.484 [14]	CONFIG OR GROUPC ONFIG
list[1]	encrypted (NOTE 4)			
name attribute	"uri: mcvideo- op.gov:resource-lists"	Editor's note: to be removed		CONFIG
display-name	Not present			
entry[1]	NOTE 5		TS 24.484 [14]	CONFIG
uri attribute	AUID1 & "/users/" & XUID & "/" & MCSUEID & "/"	UE Configuration document (NOTE 1a, 2, 3)		
	"AUID1 & "/users/" & XUID & "/"	Editor's note: It is not clear in the core specs whether both options are allowed or only one of both; if the UE is allowed not to include the MCSUEID, it is not clear where the MC server gets it from		
display-name	Not present		TO 04 404 54 41	0011510
entry[2] uri attribute	NOTE 5 AUID2 & "/users/" & XUID & "/"	UE User Profile document (NOTE 1b, 2)	TS 24.484 [14]	CONFIG
display-name	Not present	, ,		
entry[3]	NOTE 5		TS 24.484 [14]	CONFIG
uri attribute	AUID3 & "/global/service- config.xml"	UE Service Configuration document (NOTE 1c)		_
display-name	Not present			
entry[1]	NOTE 5		TS 24.481 [11]	GROUPC ONFIG

uri attribute	"org.openmobileallianc e.groups/global/byGrou pID/" & px_MCVideo_Group_A _ID	UE Group Configuration document		
display-name	Not present			
entry[2]	optional NOTE 5		TS 24.481 [11]	GROUPC ONFIG
uri attribute	Doc-Sel & "~~" & Node- Sel	MCPTT-GKTP document (NOTE 6, 7)		
display-name	Not present			
entry[1]	NOTE 5		TS 24.481 [11]	GROUPKE Y
uri attribute	Doc-Sel & "~~" & Node- Sel	MCPTT-GKTP document (NOTE 6, 7)		
display-name	Not present			

NOTE 1a: AUID1 = "org.3gpp.mcvideo.ue-config" NOTE 1b: AUID2 = "org.3gpp.mcvideo.user-profile" NOTE 1c: AUID3 = "org.3gpp.mcvideo.service-config" = "sip:" & px_MCVideo_ID_User_A NOTE 2: XUID

NOTE 3: MCSUEID = Instance id of the UE (derived from the IMEI according to 23.003 [69] clause 13.8)

NOTE 4: XML encryption may be done by

element content encryption of the root element <resource-lists> as described in Table 5.5.13.2-1

element content encryption of (each) < list> element as described in Table 5.5.13.2-1

attribute URI encryption of the entry's uri attribute as described in Table 5.5.13.3-1

NOTE 5: When a resource-lists document contains more than one entry, the entries may be in any order NOTE 6: Doc-Sel = "org.3qpp.MCPTT-GKTP/qlobal/byGroupID/" & px MCVideo Group A ID & "/" NOTE 7: Node-Sel = "/group/list-service/mgktp:GKTPs?xmlns(mgktp=urn:3gpp:ns:mcpttGKTP:1.0)"

MCData

Table 5.5.3.3.1-3: Resource-lists from the UE for MCData

Derivation Path: RFC 5366 [35] / RFC 4826 [83]					
Information Element	Value/remark	Comment	Reference	Condition	
resource-lists	Editor's note: XML element content encryption to be added				
list					
entry	px_MCData_ID_User_ B	The MCData ID of the target MCData user			

Resource-lists from the SS 5.5.3.3.2

MCPTT

Table 5.5.3.3.2-1: Resource-lists from the SS for MCPTT

Derivation Path: RFC 5366 [35]	RFC 4826 [83]			
Information Element	Value/remark	Comment	Reference	Condition
resource-lists	Editor's note: XML element content encryption to be added			
name attribute	Not present			
display-name	Not present			
list				
entry[1]				
uri attribute	px_MCPTT_ID_User_A	The MCPTT ID of the invited user		
display-name	Not present			

MCVideo

Table 5.5.3.3.2-2: Resource-lists from the SS for MCVideo

Information Element	Value/remark	Comment	Reference	Condition
resource-lists	Editor's note: XML element content encryption to be added			
list				
entry	px_MCVideo_ID_User_ A	The MCVideo ID of the invited user		

- MCData

Table 5.5.3.3.2-3: Resource-lists from the SS for MCData

Information Element	Value/remark	Comment	Reference	Condition
resource-lists	Editor's note: XML element content encryption to be added			
list				
entry	px_MCData_ID_User_ A	The MCData ID of the invited user		

5.5.3.4 Location-info

5.5.3.4.1 Location-info (Report from the UE)

- MCPTT

Table 5.5.3.4.1-1: Location-info (Report from the UE) for MCPTT

Derivation Path: TS 24.379 [9] of Information Element	Value/remark	Comment	Reference	Condition
location-info				
Report				
ReportID attribute	not present	Attribute is used to return the value in the <requestld> attribute in the <request> element. Only present</request></requestld>		
		in response to a Location-Info Request.		
PapartType attribute	"Emorgonov"			+
ReportType attribute	"Emergency"	Required The <reporttype> attribute has two values "Emergency" and "NonEmergency" used to inform whether the client is sending the report in an emergency situation or not.</reporttype>		
TriggerID	not present	An element which can occur multiple times. Contains the value of the <triggerid> attribute associated with a trigger that has fired. Only present if a trigger is the cause of the Location-info Report.</triggerid>		
CurrentLocation				+
CurrentLocation		A mandatory element that contains the location information		
CurrentServingEcgi	Encrypted (NOTE 2) <currentservingecgi> with any content if present</currentservingecgi>	This is optional depending on the configuration sent by the SS		
NeighbouringEcgi	Encrypted (NOTE 2) <neighbouringecgi> with any content if present</neighbouringecgi>	This is optional depending on the configuration sent by the SS		
MbmsSald	Encrypted (NOTE 2) <mbmssald> with any content if present</mbmssald>	This is optional depending on the configuration sent by the SS		
MbsfnArea	Encrypted (NOTE 2) <mbsfnarea> with any content if present</mbsfnarea>	This is optional depending on the configuration sent by the SS		
CurrentCoordinate	if present	This is optional depending on the configuration sent by the SS		
longitude	Encrypted (NOTE 1) <longitude> with any content</longitude>			
latitude	Encrypted (NOTE 1) <latitude> with any content</latitude>			

Table 5.5.3.4.1-1A: Encrypted sub-element of <CurrentCoordinate> sent by the UE

NOTE 2: Encrypted sub-element of <CurrentLocation> element as described in Table 5.5.3.4.1-1B

Derivation Path: TS 24.379 [9] cla	use F.3.2 (tCoordinateType	e)		
Information Element	Value/remark	Comment	Reference	Condition

type attribute	"Encrypted"		
EncryptedData	EncryptedData as described in Table 5.5.13.2-1 containing encrypted element content of the subelement of <currentcoordinate></currentcoordinate>		

Table 5.5.3.4.1-1B: Encrypted sub-element of <CurrentLocation> sent by the UE

Information Element	Value/remark	Comment	Reference	Condition
type attribute	"Encrypted"			
EncryptedData	EncryptedData as described in Table 5.5.13.2-1 containing encrypted element content of the sub- element of <currentlocation></currentlocation>			

- MCVideo

Table 5.5.3.4.1-2: Location-info (Report from the UE) for MCVideo

Derivation Path: TS 24.281 [86] Information Element	Value/remark	Comment	Reference	Condition
location-info	value/lellialk	Comment	Veletelice	Condition
Report				†
TriggerID	not present	An element which can occur multiple times. Contains the value of the <triggerid> attribute associated</triggerid>		
		with a trigger that has fired. Only present if a trigger is the cause of the Location-info Report.		
CurrentLocation		A mandatory element that contains the location information		
CurrentServingEcgi	optional	This is optional depending on the configuration sent by the SS		
NeighbouringEcgi	optional	This is optional depending on the configuration sent by the SS		
MbmsSald	optional	This is optional depending on the configuration sent by the SS		
MbsfnArea	optional	This is optional depending on the configuration sent by the SS		
CurrentCoordinate	optional	This is optional depending on the configuration sent by the SS		
ReportID	not present	Attribute is used to return the value in the <requestld> attribute in the <request> element. Only present in response to a Location-Info Request.</request></requestld>		
ReportType	"Emergency"	Required The <reporttype> attribute has two values "Emergency" and "NonEmergency" used to inform whether the client is sending the report in an emergency situation or not.</reporttype>		
EmergencyEventType	"GroupCallEmergency"			GROUP- CALL and EMERGEN CY-CALL
	"GroupCallImminentPer il"			GROUP- CALL and IMMPERIL -CALL
	"PrivateCallEmergency"			PRIVATE- CALL and EMERGEN CY-CALL
	"InitiateEmergencyAlert			IMMPERIL -CALL

5.5.3.4.2 Location-info (Configuration sent by the SS)

- MCPTT

Table 5.5.3.4.2-1: Location-info (Configuration sent by the SS) for MCPTT

Derivation Path: TS 24.379 [9] cla	Value/remark	Comment	Reference	Condition
location-info	Valadifoliarik	Comment	11010101100	Gondinon
Configuration				
ConfigScope	"Full"	The MCPTT Client		
		shall replace any		
		previous configuration.		
NonEmergencyLocationInformat ion				
ServingEcgi	present	An optional element		
		specifying that the		
		serving E-UTRAN Cell		
		Global Identity (ECGI)		
N. H E.		needs to be reported		-
NeighbouringEcgi	present	An optional element		
		that can occur multiple		
		times, specifying that		
		neighbouring ECGIs need to be reported		
MbmsSald	present	An optional element		+
MIDITISOUIU	present	specifying that the		1
		serving MBMS Service		
		Area Id needs to be		
		reported;		
MbsfnArea	present	An optional element		
		specifying that the		
		MBSFN area ld needs		
		to be reported;		
GeographicalCoordinate	present	An optional element		
		specifying that the		
		geographical		
		coordinate specified in clause 6.1 in 3GPP		
		TS 23.032 [65] needs		
		to be reported		
minimumIntervalLength	"10"	A mandatory element		
3.		specifying the minimum		
		time the MCPTT client		
		needs to wait between		
		sending location		
		reports. The value is		
		given in seconds		
EmergencyLocationInformation"		An antimal plans of		
ServingEcgi	present	An optional element specifying that the		
		serving E-UTRAN Cell		
		Global Identity (ECGI)		
		needs to be reported		
NeighbouringEcgi	present	An optional element		1
		that can occur multiple		
		times, specifying that		
		neighbouring ECGIs		
		need to be reported		1
MbmsSald	present	An optional element		
		specifying that the		
		serving MBMS Service Area Id needs to be		
		reported;		
MbsfnArea	present	An optional element		+
Ινιμοπιτισα	Pieseiii	specifying that the		
		MBSFN area Id needs		1
		to be reported;		1

Derivation Path: TS 24.379 [9] cla Information Element	Value/remark	Comment	Reference	Condition
GeographicalCoordinate	present	An optional element specifying that the geographical coordinate specified in clause 6.1 in 3GPP	Reference	Condition
		TS 23.032 [65] needs to be reported		
minimumIntervalLength	"5"	A mandatory element specifying the minimum time the MCPTT client needs to wait between sending location reports. The value is given in seconds		
TriggeringCriteria				
CellChange	not present			
TrackingAreaChange	not present			
PlmnChange	not present			
MbmsSaChange	not present			
MbsfnAreaChange	not present			
PeriodicReport	not present			
TravelledDistance	not present			
McpttSignallingEvent	not present			
GeographicalAreaChange				
AnyAreaChange	not present			
EnterSpecificAreaType	not present			
ExitSpecificAreaType	not present			
anyExt		mandatory for Rel-15 and above		
EmergencyTriggeringCriteria				
CellChange	not present			
TrackingAreaChange	not present			
PlmnChange	not present			
MbmsSaChange	not present			
MbsfnAreaChange	not present			
PeriodicReport	not present			
TravelledDistance	not present			
McpttSignallingEvent	not present			
GeographicalAreaChange				
AnyAreaChange	not present			
EnterSpecificAreaType	not present			
ExitSpecificAreaType	not present			

- MCVideo

Table 5.5.3.4.2-2: Location-info (Configuration sent by the SS) for MCVideo

Derivation Path: TS 24.281 [86] cl	ause F.3 Value/remark	Comment	Reference	Condition
location-info	value/Telliai k	Comment	IVEIGI GIICE	Condition
Configuration				
ConfigScope	"Full"	The MCVideo Client shall replace any previous configuration.		
NonEmergencyLocationInformat ion				
ServingEcgi	present	An optional element specifying that the serving E-UTRAN Cell Global Identity (ECGI) needs to be reported		
NeighbouringEcgi	present	An optional element that can occur multiple times, specifying that neighbouring ECGIs need to be reported		
MbmsSald	present	An optional element specifying that the serving MBMS Service Area Id needs to be reported;		
MbsfnArea	present	An optional element specifying that the MBSFN area Id needs to be reported;		
GeographicalCoordinate	present	An optional element specifying that the geographical coordinate specified in clause 6.1 in 3GPP TS 23.032 [65] needs to be reported		
minimumIntervalLength	"10"	A mandatory element specifying the minimum time the MCVIdeo client needs to wait between sending location reports. The value is given in seconds		
EmergencyLocationInformation" ServingEcgi	present	An optional element specifying that the serving E-UTRAN Cell Global Identity (ECGI) needs to be reported		
NeighbouringEcgi	present	An optional element that can occur multiple times, specifying that neighbouring ECGIs need to be reported		
MbmsSald	present	An optional element specifying that the serving MBMS Service Area Id needs to be reported;		
MbsfnArea	present	An optional element specifying that the MBSFN area Id needs to be reported;		

Information Element	Value/remark	Comment	Reference	Condition
GeographicalCoordinate	present	An optional element specifying that the geographical coordinate specified in clause 6.1 in 3GPP TS 23.032 [65] needs to be reported		
minimumIntervalLength	"5"	A mandatory element specifying the minimum time the MCVideo client needs to wait between sending location reports. The value is given in seconds		
TriggeringCriteria				
CellChange	not present			
TrackingAreaChange	not present		<u>-</u>	
PlmnChange	not present			
MbmsSaChange	not present			
MbsfnAreaChange	not present			
PeriodicReport	not present			
TravelledDistance	not present			
McvideoSignallingEvent	not present			
GeographicalAreaChange	not present			

5.5.3.4.3 Location-info (Request sent by the SS)

- MCPTT

Table 5.5.3.4.3-1: Location-info (Request sent by the SS) for MCPTT

Derivation Path: TS 24.379 [9] cl	ause F.3			
Information Element	Value/remark	Comment	Reference	Condition
location-info				
Request				
RequestID	"1"	The RequestID that the MCPTT Client will reference in the Report		

MCVideo

Table 5.5.3.4.3-2: Location-info (Request sent by the SS) for MCVideo

Derivation Path: TS 24.281 [96] clause F.3				
Information Element	Value/remark	Comment	Reference	Condition
location-info				
Request				
RequestID	"1"	The RequestID that the MCVideo Client will reference in the Report		

5.5.3.4.4 Location-info (Report from the SS)

- MCPTT

Table 5.5.3.4.4-1: Location-info (Report from the SS) for MCPTT

Derivation Path: TS 24.379 [9] cla	use F.3			
Information Element	Value/remark	Comment	Reference	Condition
location-info				
Report				
ReportID attribute	not present			
ReportType attribute	"Emergency"			
TriggerID [1]	"EMERGENCY ALERT"	A randomly chosen string to reflect the trigger of the message.		
CurrentLocation				
CurrentServingEcgi	not present			
NeighbouringEcgi	not present			
MbmsSald	not present			
MbsfnArea	not present			
CurrentCoordinate				
longitude	Encrypted (NOTE 1) <longitude> with content as specified by the test case</longitude>			
latitude NOTE 1: Encrypted tCoordinate	Encrypted (NOTE 1) <longitude> with content as specified by the test case</longitude>			

Table 5.5.3.4.4-1A: Encrypted sub-element of <CurrentCoordinate> sent by the SS

Derivation Path: TS 24.379 [9] c	lause F.3.2 (tCoordinateType)			
Information Element	Value/remark	Comment	Reference	Condition
type attribute	"Encrypted"			
EncryptedData	EncryptedData as described in Table 5.5.13.2-2 containing encrypted element content of the sub- element of <currentcoordinate></currentcoordinate>			

5.5.3.5 PIDF

5.5.3.5.1 PIDF from the UE

- MCPTT

Table 5.5.3.5.1-1: PIDF for MCPTT from the UE

Information Element	Value/remark	Comment	Reference	Condition
presence			RFC 3863	
	E , LUDI MOTE		[114]	
entity attribute	Encrypted URI (NOTE			
	1) with value set to			
	px_MCPTT_ID_User_A			
tuple				
id attribute	Encrypted URI (NOTE			
	with value set to the mcptt-client-id as			
	provided by the UE at			
	registration			
status	registration			
affiliation		MCPTT extension	TS 24.379 [9]	AFFILIATI
annation		WOT TT EXTENSION	clause 9.3.1	ON
group	Encrypted URI (NOTE		0.00000.0.1	0.1
9.045	1) with value set to			
	px_MCPTT_Group_A_I			
	D			
client	not present			
status	not present			
expires	not present			
functionalAlias		MCPTT extension	TS 24.379 [9] Table 9A.3.1.2-1	FUNCTIO NAL_ALIA S_STATU S_CHANG
				E
functionalAliasID attribute	Encrypted URI (NOTE			
	1) with value set to			
	px_MCPTT_ID_FA_A			
user attribute	not present			
status attribute	not present			
expires attribute	not present			
contact	not present			
note	not present			
timestamp	not present			
note	not present		TC 04 070 [0]	A E E II I A T I
p-id	any allowed value if present		TS 24.379 [9] clause 9.3.1	AFFILIATI ON
p-id-fa	Any allowed value	a globally unique value	TS 24.379 [9]	FUNCTIO
р-іа-та	Any anowed value	set to an identifier of a	15 24.379 [9] clause	NAL_ALIA
		SIP PUBLISH request	9A.2.1.2	S_STATU
		On 1 Obcioi i fequest	JA.2.1.2	S_CHANG

 Condition
 Explanation

 FUNCTIONAL_ALIAS_STATUS_CHANGE
 PIDF sent by the UE in request for functional alias status change

 For further conditions see table 5.5.1-1

MCVideo

Table 5.5.3.5.1-2: PIDF for MCVideo from the UE

Information Element	Value/remark	Comment	Reference	Condition
presence			RFC 3863 [114]	
entity attribute	Encrypted URI (NOTE 1) with value set to px_MCVideo_ID_User_ A			
tuple				
id attribute	Encrypted URI (NOTE 1) with value set to the mcptt-client-id as provided by the UE at registration			
status				
affiliation			TS 24.281 [86] clause 8.3.1	AFFILIATI ON
group	Encrypted URI (NOTE 1) with value set to px_MCVideo_Group_A _ID			
client	not present			
status	not present			
expires	not present			
p-id	any allowed value if present			AFFILIATI ON

- MCData

Table 5.5.3.5.1-3: PIDF for MCData from the UE

Information Element	Value/remark	Comment	Reference	Condition
presence			RFC 3863 [114]	
entity attribute	Encrypted URI (NOTE 1) with value set to px_MCData_ID_User_ A			
tuple				
id attribute	Encrypted URI (NOTE 1) with value set to the mcptt-client-id as provided by the UE at registration			
status				
affiliation			TS 24.282 [87] clause 8.4.1	AFFILIATI ON
group	Encrypted URI (NOTE 1) with value set to px_MCDATA_Group_A _ID			
client	not present			
status	not present			
expires	not present			
p-id	any allowed value or same value as sent in SIP PUBLISH	set to an identifier of a SIP PUBLISH request		AFFILIATI ON

5.5.3.5.2 PIDF from the SS

- MCPTT

Table 5.5.3.5.2-1: PIDF for MCPTT from the SS

Derivation Path: RFC 3863 [114] Information Element	Value/remark	Comment	Reference	Condition
presence			RFC 3863 [114]	
entity attribute	Encrypted URI (NOTE 1) with value set to px_MCPTT_ID_User_A			
tuple				
id attribute	Encrypted URI (NOTE 1) with value set to the mcptt-client-id as provided by the UE at registration			
status				
affiliation		MCPTT extension	TS 24.379 [9] clause 9.3.1	AFFILIATI ON
group	Encrypted URI (NOTE 1) with value set to px_MCPTT_Group_A_I D			
client	not present			
status	"affiliating"			
expires	not present			
functionalAlias		MCPTT extension	TS 24.379 [9] Table 9A.3.1.2-1	FUNCTIO NAL_ALIA S_ACTIVA TED
functionalAliasID attribute	Encrypted URI (NOTE 1) with value set to px_MCPTT_ID_FA_A			
user attribute	not present			
status attribute	"activated"			
expires attribute	not present			
contact	not present			
note	not present			
timestamp	not present			
note	not present			
p-id	not present			AFFILIAT ION
p-id-fa NOTE 1: Encrypted attribute as	same value as received in the SIP PUBLISH message		TS 24.379 [9] clause 9A.2.2.2.5	NOTIFY_F OR_PUBL SH

Condition	Explanation
FUNCTIONAL_ALIAS_ACTIVATED	PIDF sent by the SS in notification for functional alias getting activated
NOTIFY_FOR_PUBLISH	PIDF sent by the SS in notification associated with a previous SIP
	PUBLISH message sent by the UE
For further conditions see table 5.5.1-1	

MCVideo

Table 5.5.3.5.2-2: PIDF for MCVideo from the SS

Information Element	Value/remark	Comment	Reference	Condition
presence			RFC 3863 [114]	
entity attribute	Encrypted URI (NOTE 1) with value set to px_MCVideo_ID_User_ A			
tuple				
id attribute	Encrypted URI (NOTE 1) with value set to the mcptt-client-id as provided by the UE at registration			
status				
affiliation			TS 24.281 [86] clause 8.3.1	AFFILIATI ON
group	Encrypted URI (NOTE 1) with value set to px_MCVideo_Group_A _ID			
client	not present			
status	"affiliating"			
expires	not present			
p-id	not present			AFFILIATI ON

MCData

Table 5.5.3.5.2-3: PIDF for MCData from the SS

Information Element	Value/remark	Comment	Reference	Condition
presence			RFC 3863 [114]	
entity attribute	Encrypted URI (NOTE 1) with value set to px_MCDATA_ID_User _A			
tuple				
id attribute	Encrypted URI (NOTE 1) with value set to the mcptt-client-id as provided by the UE at registration			
status				
affiliation			TS 24.282 [87] clause 8.4.1	AFFILIATI ON
group	px_MCDATA_Group_A _ID			
client	not present			
status	"affiliating"			
expires	not present			
p-id	not present			AFFILIATI ON

5.5.3.6 SIMPLE-FILTER

- MCPTT

Table 5.5.3.6-1: SIMPLE-FILTER for MCPTT

Information Element	Value/remark	Comment	Reference	Condition
filter-set			RFC 4661 [48]	
ns-bindings		TS 24.379 [9] clause 9.3.2.2 requires two separate ns- binding elements	RFC 4661 [48]	
ns-binding urn			RFC 4661 [48]	
prefix	пи	Editor's note: according to RFC 4661 the prefix is required nevertheless TS 24.379 says 'does not contain a "prefix" attribute'		
urn	"urn:ietf:params:xml:ns:			
ns-binding urn			RFC 4661 [48]	
prefix	"mcpttPI10"			
urn	"urn:3gpp:ns:mcpttPres Info:1.0"			
filter[1]			RFC 4661 [48]	
filter id	Any value	The value of the 'id' attribute has to be unique within the <filter-set> element</filter-set>		
uri attribute	Not present	According to TS 24.379		
domain attribute	Not present	According to TS 24.379		
remove attribute	Not present	'false' per default		
enabled attribute	Not present	'true' per default		
what			RFC 4661 [48]	
include	"//presence/tuple[@id=" & px_MCPTT_Client_A_I D & "]"	contains the value, according to IETF RFC 4661 [48], set to concatenation of the '//presence/tuple[@id="' string, the MCPTT client ID, and the '"]' string	RFC 4661 [48]	
trigger	Not present			

MCVideo

Table 5.5.3.6-2: SIMPLE-FILTER for MCVideo

Information Element	Value/remark	Comment	Reference	Condition
filter-set	px_MCVideo_Client_A _ID		RFC 4661 [48]	
nc-bindings	px_MCVideo_Client_A _ID		RFC 4661 [48]	
ns-binding urn	"urn:ietf:params:xml:ns: pidf"		RFC 4661 [48]	
ns-binding urn	"urn:3gpp:ns:mcvideoP resInfo:1.0"	TS 24.281 [86] clause 8.3.2.2 requires two separate nsbinding elements	RFC 4661 [48]	
filter id	"123"	The value of the 'id' attribute has to be unique within the <filterset> element. Does not contain the 'uri' element. Does not contain the 'domain' element.</filterset>	RFC 4661 [48]	
what			RFC 4661 [48]	
include	//presence/tuple[@id= px_MCVideo_Client_A _ID]	contains the value, according to IETF RFC 4661 [48], set to concatenation of the '//presence/tuple[@id="' string, the MCVideo client ID, and the '"]' string	RFC 4661 [48]	

MCData

Table 5.5.3.6-3: SIMPLE-FILTER for MCData

Information Element	Value/remark	Comment	Reference	Condition
filter-set	px_MCData_Client_A_I D		RFC 4661 [48]	
nc-bindings	px_MCData_Client_A_I D		RFC 4661 [48]	
ns-binding urn	"urn:ietf:params:xml:ns: pidf"		RFC 4661 [48]	
ns-binding urn	"urn:3gpp:ns:mcdataPr esInfo:1.0"	TS 24.282 [87] clause 8.4.2.2 requires two separate nsbinding elements	RFC 4661 [48]	
filter id	"123"	The value of the 'id' attribute has to be unique within the <filter-set> element. Does not contain the 'uri' element. Does not contain the 'domain' element.</filter-set>	RFC 4661 [48]	
what			RFC 4661 [48]	
include	//presence/tuple[@id= px_MCData_Client_A_I D]	contains the value, according to IETF RFC 4661 [48], set to concatenation of the '//presence/tuple[@id="' string, the MCData client ID, and the ""]' string	RFC 4661 [48]	

5.5.3.7 AFFILIATION-COMMAND

- MCPTT

Table 5.5.3.7-1: MCPTT-AFFILIATION-COMMAND for MCPTT

Derivation Path: TS 24.379 [9] clause F.4				
Information Element	Value/remark	Comment	Reference	Condition
command-list				
affiliate				
group[1]	px_MCPTT_Group_A_I D	MCPTT group name		
de-affiliate	not present			

MCVideo

Table 5.5.3.7-2: MCVideo-AFFILIATION-COMMAND for MCVideo

Derivation Path: TS 24.281 [86] clause F.4				
Information Element	Value/remark	Comment	Reference	Condition
command-list				
affiliate				
group[1]	px_MCVideo_Group_A _ID	MCVideo group name		
de-affiliate	not present			

MCData

Table 5.5.3.7-3: MCData-AFFILIATION-COMMAND for MCData

Derivation Path: TS 24.282 [87] clause D.3				
Information Element	Value/remark	Comment	Reference	Condition
command-list				
affiliate				
group[1]	px_MCData_Group_A_ ID	MCData group name		
de-affiliate	not present			

5.5.3.8 SDS Signaling Payload

5.5.3.8.1 SDS Signaling Payload from the UE

Table 5.5.3.8.1-1: SDS Signaling Payload from the UE

Derivation Path: TS 24.282 [87]				
Information Element	Value/remark	Comment	Reference	Condition
SDS signalling payload	"01000001"	SDS Signalling Payload	TS 24.282 [87]	
message identity			clause 15.2.2	
Date and time	The current date and	The Date and time	TS 24.282 [87]	
	time	value is an unsigned	clause 15.2.8	
		integer containing UTC		
		time of the time when a		
		message was sent, in		
		seconds since midnight		
		UTC of January 1,		
		1970 (not counting leap		
	<u> </u>	seconds).	TO 04 000 1071	
Conversation ID	Any allowed value	The Conversation ID	TS 24.282 [87]	
		contains a number	clause 15.2.9	
		uniquely identifying the		
		conversation. The		
		value is a universally		
Massaga ID	Any allowed value	unique identifier.	TC 24 202 [07]	
Message ID	Arry allowed value	The Message ID contains a number	TS 24.282 [87]	
		uniquely identifying a	ciause 13.2.10	
		message. The value is		
		a universally unique		
		identifier		
InReplyTo message ID	Not present		TS 24.282 [87]	
-, ,			clause 15.2.11	
Application ID	Not present		TS 24.282 [87]	
			clause 15.2.7	
SDS disposition request type	"0001"	DELIVERY	TS 24.282 [87]	
			clause 15.2.3	

5.5.3.8.2 SDS Signaling Payload from the SS

Table 5.5.3.8.2-1: SDS Signaling Payload from the SS

Information Element	Value/remark	Comment	Reference	Condition
SDS signalling payload	"01000001"	SDS Signalling Payload	TS 24.282 [87]	
message identity			clause 15.2.2	
Date and time	The current date and	The Date and time	TS 24.282 [87]	
	time	value is an unsigned	clause 15.2.8	
		integer containing UTC		
		time of the time when a		
		message was sent, in		
		seconds since midnight		
		UTC of January 1,		
		1970 (not counting leap		
		seconds).		
Conversation ID	"0000001000000100	The Conversation ID	TS 24.282 [87]	
	0000010000000100000	contains a number	clause 15.2.9	
	0010000000100000001	uniquely identifying the		
	0000000100000001000	conversation. The		
	0000100000001000000	value is a universally		
	0100000001000000010	unique identifier.		
	000000100000001"			
Message ID	"00000010000000100	The Message ID	TS 24.282 [87]	
	0000010000000100000	contains a number	clause 15.2.10	
	001000000100000001	uniquely identifying a		
	00000010000001000	message. The value is		
	0000100000001000000	a universally unique		
	010000001000000010	identifier		
	000000100000001"			
InReplyTo message ID	Not present		TS 24.282 [87]	
			clause 15.2.11	
Application ID	Not present		TS 24.282 [87]	
			clause 15.2.7	
SDS disposition request type	"0001"	DELIVERY	TS 24.282 [87]	
			clause 15.2.3	

5.5.3.9 MCData Data Payload

Table 5.5.3.9-1: MCData Data Payload from the UE

Derivation Path: TS 24.282 [87] of	clause 15.1.4			
Information Element	Value/remark	Comment	Reference	Condition
Data payload message identity	"01000011"	Data payload	TS 24.282 [87] clause 15.2.2	
Number of payloads	"1"	1 payload	TS 24.282 [87] clause 15.2.12	
Security parameters and Payload	As described in Table 5.5.3.10-1	MCData Protected Payload Message	TS 33.180 [94]	MCD_1to1
Payload			TS 24.282 [87] clause 15.2.13	MCD_grp
Payload content type	"0000001"	TEXT		
Payload data	any allowed value	The data payload Example: "abcdEFGH"		

Condition	Explanation
MCD_1to1	A one-to-one MCData call
MCD_grp	A goup MCData call
For further conditions see table 5.5.1-1	

Table 5.5.3.9-2: MCData Data Payload from the SS

Derivation Path: TS 24.282 [87] clause 15.1.4					
Information Element	Value/remark	Comment	Reference	Condition	
Data payload message identity	"01000011"	Data payload	TS 24.282 [87]		
			clause 15.2.2		
Number of payloads	"1"	1 payload	TS 24.282 [87]		
			clause 15.2.12		
Security parameters and	As described in Table	MCData Protected	TS 33.180 [94]	MCD_1to1	
Payload	5.5.3.10-2	Payload Message			
Payload			TS 24.282 [87]	MCD_grp	
			clause 15.2.13		
Payload content type	"0000001"	TEXT			
Payload data	"Test"	The data payload			

Condition	Explanation
MCD_1to1	A one-to-one MCData call
MCD_grp	A goup MCData call
For further conditions see table 5.5.1-1	

5.5.3.10 MCData Protected Payload Message

Table 5.5.3.10-1: MCData Protected Payload Message from the UE

Derivation Path: TS 33.180 [94]				_
Information Element	Value/remark	Comment	Reference	Condition
Message Type	"01000011"	Message type – Data Payload		
Date and Time	The current date and time	Date and Time of creation of protected payload message		
Payload ID	"1"	The identifier for the payload.		
Payload sequence number	"1"	The sequence number of the protected payload.		
Algorithm	"DP_AES_128_GCM"	Protection of payloads shall support the following algorithms (cipher suites): DP_AES_128_GCM and DP_AES_256_GCM		
IV	"11011100 10111001 00001000 01010001 01010000 10110011 11001111 00100001 11100010 11110111 11011111 01011011 01010100 00101100 00100101 10100010"	Initialisation vector (or nonce) for message. Length depends on the algorithm and key used. 128 bits or 256 bits depending on the algorithm.		
DPPK-ID	PCK-ID	Key identifier 128 bits or 256 bits depending on the algorithm For one-to-one communications, DPPK-ID shall be the PCK-ID. For group communications, the DPPK ID shall be the GMK-ID		
Payload		Protected Payload (Ciphertext)		
Payload content type	"0000001"	TEXT	_	
Payload contents	Any allowed value	Example: "abcdEFGH"		

Table 5.5.3.10-2: MCData Protected Payload Message from the SS

Derivation Path: TS 33.180 [94]] clause 8.5.4			
Information Element	Value/remark	Comment	Reference	Condition
Message Type	"01000011"	Message type – Data Payload		
Date and Time	The current date and time	Date and Time of creation of protected payload message		
Payload ID	"1"	The identifier for the payload.		
Payload sequence number	"1"	The sequence number of the protected payload.		
Algorithm	"DP_AES_128_GCM"	Protection of payloads shall support the following algorithms (cipher suites): DP_AES_128_GCM and DP_AES_256_GCM		
IV	"11011100 10111001 00001000 01010001 01010000 10110011 11001111 00100001 11100010 11110111 11011111 01011011 01010100 00101100 00100101 10100010"	Initialisation vector (or nonce) for message. Length depends on the algorithm and key used. 128 bits or 256 bits depending on the algorithm.		
DPPK-ID	PCK-ID	Key identifier 128 bits or 256 bits depending on the algorithm For one-to-one communications, DPPK-ID shall be the PCK-ID. For group communications, the DPPK ID shall be the GMK-ID		
Payload		Protected Payload (Ciphertext)		
Payload content type	"0000001"	TEXT		
Payload contents	"abcdEFGH"			

5.5.3.11 PoC Settings

5.5.3.11.1 PoC Settings from the UE

Table 5.5.3.11.1-1: PoC Settings from the UE

Derivation Path: RFC 4354 [103]				
Information Element	Value/remark	Comment	Reference	Condition
poc-settings				
entity [1]				
id attribute	any value	unique identifier of the EPA (Event Publication Agent) Editor's note: to be clarified whether there are requirements for the id	RFC 4354 [103]	
am-settings			RFC 4354 [103]	
answer-mode	"automatic" or "manual"			
	"manual"			MANUAL
	"automatic"			AUTOMAT IC
selected-user-profile-index			TS 24.379 [9] clause 7.4.1	
user-profile-index	same value the user- profile-index in the user profile in Table 5.5.8.3- 1			

Condition	Explanation
MANUAL	Manual answer mode
AUTOMATIC	Automatic answer mode

5.5.3.11.2 PoC Settings from the SS

Table 5.5.3.11.2-1: PoC Settings from the SS

Information Element	Value/remark	Comment	Reference	Condition
poc-settings				
entity [1]				
id-attribute	"PoC-Settings-1"	unique identifier of the EPA (Event Publication Agent) Editor's note: to be clarified whether there are requirements for the id	RFC 4354 [103]	
isb-settings				
incoming-session-barring	"false"			
am-settings			RFC 4354 [103]	
answer-mode				
	"manual"			MANUAL
	"automatic"			AUTOMAT IC
ipab-settings				
incoming-personal-alert- barring	"false"			
sss-settings				
simultaneous-sessions- support	"true"			
selected-user-profile-index			TS 24.379 [9] clause 7.4.1	
user-profile-index	same value the user- profile-index in the user profile in Table 5.5.8.3- 1			

Condition	Explanation
MANUAL	Manual answer mode
AUTOMATIC	Automatic answer mode

5.5.3.12 Xcap-diff documents

Table 5.5.3.12-1: xcap-diff document for MCX configuration

Derivation Path: RFC 5854 [10 Information Element	Value/remark	Comment	Reference	Condition
xcap-diff	encrypted (NOTE 5)	Comment	11010101100	Condition
xcap-root attribute	tsc_MCX_CMSXCAPR ootURI	same URI as <cms- XCAP-root-URI> element of the initial UE configuration</cms- 		
document[1]				
sel attribute	AUID1 & "/users/" & XUID & "/" & MCSUEID & "/mcptt-ue- configuration.xml"	NOTE 1a, 2, 3		
new-etag	arbitrary value			
previous-etag	same as new-etag			
document[2]				
sel attribute	AUID2 & "/users/" & XUID & "/mcptt-user- profile-" & profile-index & ".xml"	NOTE 1b, 2, 4		
new-etag	arbitrary value (different than for document[1])			
previous-etag	same as new-etag			
document[3]				
sel attribute	AUID3 & "/global/service- config.xml"	NOTE 1c		
new-etag	arbitrary value (different than for document[1] and [2])			
previous-etag	same as new-etag			
NOTE 1a: AUID1 = "org.3g AUID1 = "org.3g AUID1 = "org.3g	pp.mcptt.ue-config" for Conditipp.mcvideo.ue-config" for Congpp.mcdata.ue-config" for Congpp.mcptt.user-profile" for Congpp.mcptt.user-profile" for Cong	dition MCVideo lition MCData		•
AUID2 = "org.3g AUID2 = "org.3g	pp.mcvideo.user-profile" for Copp.mcdata.user-profile" for Co	ondition MCVideo ndition MCData		
AUID3 = "org.3g	pp.mcptt.service-config" for Co pp.mcvideo.service-config" for pp.mcdata.service-config" for	Condition MCVideo		
NOTE 2: XUID = "sip:" & XUID = "sip:" &	px_MCPTT_ID_User_A for C px_MCVideo_ID_User_A for C px_MCData_ID_User_A for C	ondition MCPTT Condition MCVideo		
NOTE 3: MCSUEID = Instance			[69] clause 13.8	()
NOTE 4: profile-index is the s NOTE 5: The content of the r in Table 5.5.13.2-2	same as in the user-profile-inde	ex attribute of the correspon	ding document	

Table 5.5.3.12-2: xcap-diff document for MCX group configuration

Derivation Path: RFC 5854 [107	Value/remark	Comment	Reference	Condition
xcap-diff	encrypted (NOTE 1)			
xcap-root	tsc_MCX_GMSXCAPR ootURI	same URI as <gms- XCAP-root-URI> element of the initial UE configuration</gms- 		
document[1]				GROUPC ONFIG
sel attribute	"org.openmobileallianc e.groups/global/byGrou pID/" & px_MCPTT_Group_A_I D			
new-etag	arbitrary value for first notification, 'incremented' value otherwise (NOTE 4)	NOTE 5		
previous-etag	same as new-etag for first notification, same as <new-etag> of previous notification otherwise</new-etag>	NOTE 5		
element[1]				GROUPKE Y
sel attribute	Doc-Sel-PTT & "~~" & Node-Sel	NOTE 2a, 3		MCPTT
sel attribute	Doc-Sel-Video & "~~" & Node-Sel	NOTE 2b, 3		MCVIDEO
GKTPs	group key transport payloads (GKTP) document as described in Table 5.5.3.14-1			

NOTE 1: The content of the root element <xcap-diff> (not including the xcap-root attribute) is encrypted as described in Table 5.5.13.2-2

NOTE 2a: Doc-Sel-PTT = "org.3gpp.MCPTT-GKTP/global/byGroupID/" & px_MCPTT_Group_A_ID & "/"

NOTE 2b: Doc-Sel-Video = "org.3gpp.MCPTT-GKTP/global/byGroupID/" & px_MCVideo_Group_A_ID & "/"

NOTE 3: Node-Sel = "/group/list-service/mgktp:GKTPs?xmlns(mgktp=urn:3gpp:ns:mcpttGKTP:1.0)"

NOTE 4: It is TTCN implementation dependent how the etag is incremented

NOTE 5: Values for <new-etag> and shall be different for different groups

5.5.3.13 MCDATA FD SIGNALLING PAYLOAD FROM THE UE

5.5.3.13.1 FD SIGNALLING PAYLOAD FROM THE UE

Table 5.5.3.13.1-1: FD Signalling Payload from the UE

Derivation Path: TS 24.282 [87],				
Information Element	Value/remark	Comment	Reference	Condition
FD signalling payload message identity	"0000010"	FD SIGNALLING PAYLOAD	TS 24.282 [87] clause 15.2.2	
Date and time	The current date and time	The Date and time value is an unsigned integer containing UTC time of the time when a message was sent, in seconds since midnight UTC of January 1, 1970 (not counting leap seconds).	TS 24.282 [87] clause 15.2.8	
Conversation ID	Any allowed value	The Conversation ID contains a number uniquely identifying the conversation. The value is a universally unique identifier.	TS 24.282 [87] clause 15.2.9	
Message ID	Any allowed value	The Message ID contains a number uniquely identifying a message. The value is a universally unique identifier	TS 24.282 [87] clause 15.2.10	
InReplyTo message ID	Not present		TS 24.282 [87] clause 15.2.11	
Application ID	Not present		TS 24.282 [87] clause 15.2.7	
FD disposition request type	"0001"	FILE DOWNLOAD COMPLETED UPDATE	TS 24.282 [87] clause 15.2.4	
Mandatory download	Not present	Not present indicates a Non-Mandatory download	TS 24.282 [87] clause 15.2.16	
Payload			TS 24.282 [87] clause 15.2.13	
Length of Payload contents	Length of the payload contents			
Payload content type	"00000100"	FILEURL		
Payload contents	px_MCDATA_FD_FILE _LOC			
Metadata	Any allowed value	Metadata is optional	TS 24.282 [87] clause 15.2.17	
file-selector	Any allowed value			
file-date	Any allowed value			
file-availability	Any allowed value			

5.5.3.13.2 FD SIGNALLING PAYLOAD FROM THE SS

Table 5.5.3.13.2-1: FD Signalling Payload from the SS

Derivation Path: TS 24.282 [87],				
Information Element	Value/remark	Comment	Reference	Condition
FD signalling payload message identity	"0000010"	FD SIGNALLING PAYLOAD	TS 24.282 [87] clause 15.2.2	
Date and time	The current date and time	The Date and time value is an unsigned integer containing UTC time of the time when a message was sent, in seconds since midnight UTC of January 1, 1970 (not counting leap seconds).	TS 24.282 [87] clause 15.2.8	
Conversation ID	"0000001000000100 000001000000100000 001000000	The Conversation ID contains a number uniquely identifying the conversation. The value is a universally unique identifier.	TS 24.282 [87] clause 15.2.9	
Message ID	"0000001000000100 000010000001100000 001000000	The Message ID contains a number uniquely identifying a message. The value is a universally unique identifier	TS 24.282 [87] clause 15.2.10	
InReplyTo message ID	Not present		TS 24.282 [87] clause 15.2.11	
Application ID	Not present		TS 24.282 [87] clause 15.2.7	
FD disposition request type	"0001"	FILE DOWNLOAD COMPLETED UPDATE	TS 24.282 [87] clause 15.2.4	
Mandatory download	Not present	Not present indicates a Non-Mandatory download	TS 24.282 [87] clause 15.2.16	
Payload			TS 24.282 [87] clause 15.2.13	
Length of Payload contents	Length of the payload contents			
Payload content type	"00000100"	FILEURL		
Payload contents	px_MCDATA_FD_FILE _LOC			
Metadata	Not present		TS 24.282 [87] clause 15.2.17	
file-selector	"file-selector:name:" <name file="" of="">":size:"<size file="" of="">":type:"<type file="" of="">":hash:sha-1:58:23:1F:E8:65:3B:BC:F3:71:36:2F:86:D4:71:91:3E:E4:B1:DF:2F"</type></size></name>	a concatenation of filename, filesize, filetype and hash. The filesize value is an integer as defined RFC 4566 [27]		
file-date	"file- date:creation:" <dquot E date-time the file was created DQUOTE></dquot 			
file-availability	"file-availability:" <date- time></date- 	date-time is set to a date and time that the file is available until and is defined in RFC 5322 [109]		

5.5.3.13.3 FD SIGNALLING PAYLOAD USING THE MEDIA PLANE FROM THE UE

Table 5.5.3.13.3-1: FD Signalling Payload Using the Media Plane from the UE

Derivation Path: TS 24.282 [87], Table 15.1.3.1-1					
Information Element	Value/remark	Comment	Reference	Condition	
FD signalling payload message	"0000010"	FD SIGNALLING	TS 24.282 [87]		
identity		PAYLOAD	clause 15.2.2		
Date and time	The current date and	The Date and time	TS 24.282 [87]		
	time	value is an unsigned	clause 15.2.8		
		integer containing UTC			
		time of the time when a			
		message was sent, in			
		seconds since midnight			
		UTC of January 1,			
		1970 (not counting leap			
	 	seconds).			
Conversation ID	Any allowed value	The Conversation ID	TS 24.282 [87]		
		contains a number	clause 15.2.9		
		uniquely identifying the			
		conversation. The			
		value is a universally			
Macagain	A real plants division	unique identifier.	TC 04 000 [07]		
Message ID	Any allowed value	The Message ID contains a number	TS 24.282 [87] clause 15.2.10		
			clause 15.2.10		
		uniquely identifying a message. The value is			
		a universally unique			
		identifier			
InReplyTo message ID	Not present	Identifier	TS 24.282 [87]		
mitoply to moodage 12	140t procent		clause 15.2.11		
Application ID	Not present		TS 24.282 [87]		
Application 15	140t procent		clause 15.2.7		
FD disposition request type	"0001"	FILE DOWNLOAD	TS 24.282 [87]		
1 2 dioposition request type		COMPLETED UPDATE	clause 15.2.4		
Mandatory download	"0001"	MANDATORY	TS 24.282 [87]		
		DOWNLOAD	clause 15.2.16		
Payload	Not present		TS 24.282 [87]		
	,		clause 15.2.13		
Metadata	Not present		TS 24.282 [87]		
			clause 15.2.17		

5.5.3.13.4 FD SIGNALLING PAYLOAD USING THE MEDIA PLANE FROM THE SS

Table 5.5.3.13.4-1: FD Signalling Payload Using the Media Plane from the SS

Derivation Path: TS 24.282 [87], Table 15.1.3.1-1					
Information Element	Value/remark	Comment	Reference	Condition	
FD signalling payload message	"0000010"	FD SIGNALLING	TS 24.282 [87]		
identity		PAYLOAD	clause 15.2.2		
Date and time	The current date and	The Date and time	TS 24.282 [87]		
	time	value is an unsigned	clause 15.2.8		
		integer containing UTC			
		time of the time when a			
		message was sent, in			
		seconds since midnight			
		UTC of January 1,			
		1970 (not counting leap			
		seconds).			
Conversation ID	"0000001000000100	The Conversation ID	TS 24.282 [87]		
	0000010000000100000	contains a number	clause 15.2.9		
	0010000000100000001	uniquely identifying the conversation. The			
	000000010000001000				
	010000000100000010	value is a universally unique identifier.			
	000000100000010	unique identiner.			
Message ID	"000000100000001 "000000100000001	The Message ID	TS 24.282 [87]		
Wessage ID	0000001000000100	contains a number	clause 15.2.10		
	00100000001000001	uniquely identifying a	ciause 13.2.10		
	000000010000001000	message. The value is			
	0000100000001000000	a universally unique			
	010000001000000010	identifier			
	000000100000001"				
InReplyTo message ID	Not present		TS 24.282 [87]		
	-		clause 15.2.11		
Application ID	Not present		TS 24.282 [87]		
			clause 15.2.7		
FD disposition request type	"0001"	FILE DOWNLOAD	TS 24.282 [87]		
		COMPLETED UPDATE	clause 15.2.4		
Mandatory download	"0001"	MANDATORY	TS 24.282 [87]		
		DOWNLOAD	clause 15.2.16		
Payload	Not present		TS 24.282 [87]		
			clause 15.2.13		
Metadata	Not present		TS 24.282 [87]		
			clause 15.2.17		

5.5.3.14 MCS group key transport payloads (GKTP) document

Table 5.5.3.14-1: group key transport payloads (GKTP) document

Information Element	Value/remark	Comment	Reference	Condition
GKTP S				
GMK-GKTPs				
GKTP[1]	MIKEY message as described in Table 5.5.9.1-3	MIKEY message, containing the GMK	TS 33.180 [94]	
id attribute	arbitrary value	unique charstring assigned by the SS		

5.5.4 Default HTTP message and other information elements

5.5.4.1 General

The HTTP Messages are specified in RFC 2616 [26]. Wherever another reference apply to their content it is explicitly indicated.

The following conditions apply throughout clause 5.5:

Table 5.5.4.1-1: Conditions

Condition	Explanation
AUTH	Message/IE sent only as part of an MCPTT UE authentication
UEINITIALCONFIG	Message/IE sent only as part of an MCPTT UE initial configuration
USERAUTH	Message/IE sent only as part of an MCPTT UE user authentication
UECONFIG	Message/IE sent only as part of an MCPTT UE configuration
UEUSERPROF	Message/IE sent only as part of an MCPTT UE User profile configuration
UESERVCONFIG	Message/IE sent only as part of an MCPTT UE service configuration
GROUPCONFIG	Message/IE sent only as part of an MCPTT group configuration
TEMPGROUP	Message/IE sent only in temporary group creation scenario
TOKEN	Message/IE sent only as part of an MCPTT token exchange
KMSINIT	Message/IE sent only as part of an MCPTT KMS initialisation
KMSKEY	Message/IE sent only as part of an MCPTT KMS key exchange

5.5.4.2 GET

Table 5.5.4.2-1: HTTP GET

Derivation Path: RFC 2616 [26] Information Element	Value/remark	Comment	Reference	Condition
Request-Line	Value/Terrial K	Comment	Reference	Condition
Method	"GET"			
Request-URI	1			
uri	tsc_MCX_IdMS_auth_ UriPath	points to the Authorisation endpoint of the IdM Server	TS 33.180 [94]	AUTH
	px_MCX_InitialConfigS erver_UriPath	points to initial UE Configuration document	TS 24.484 [14]	UEINITIAL CONFIG
	tsc_MCX_CMSXCAPR ootURI & "/" & AUID1 & "/users/" & XUID & "/" & MCSUEID & "/mcptt- ue-configuration.xml"	points to UE Configuration document (NOTE 1a, 2, 3)	TS 24.484 [14]	UECONFI G
	tsc_MCX_CMSXCAPR ootURI & "/" & AUID2 & "/users/" & XUID & "/mcptt-user-profile-" & profile-index & ".xml"	points to UE User Profile document (NOTE 1b, 2, 4)	TS 24.484 [14]	UEUSERP ROF
	tsc_MCX_CMSXCAPR ootURI & "/" & AUID3 & "/global/service- config.xml"	points to UE Service Configuration document (NOTE 1c, 2)	TS 24.484 [14]	UESERVC ONFIG
	tsc_MCX_GMSXCAPR ootURI & "/" & "org.openmobileallianc e.groups/global/byGrou pID/" & px_MCPTT_Group_A_I D	points to group configuration document	TS 24.481 [11]	GROUPC ONFIG
query	As described in Table 5.5.4.10.1-1		TS 33.180 [94]	AUTH
HTTP-Version	"HTTP/1.1"			
Cache-Control			RFC 2616 [26]	
cache-directive	"no-cache"			
Authorization			RFC 2617 [72]	UECONFI G UEUSERP ROF UESERVC ONFIG GROUPC ONFIG
authentication-scheme	"Bearer"		RFC 6750 [104]	
b64token	Access token as assigned to the UE by Token Response		RFC 6750 [104]	
Authorization	not present			
Content-Type				AUTH
media-type	"application/x-www- form-urlencoded"			
Content-Type	Not present			
Message-body	Not present			

NOTE 1a: Al	LIID1	= "org.3gpp.mcptt.ue-config" for Condition MCPTT
	UID1	= "org.3gpp.mcvideo.ue-config" for Condition MCVideo
Al	UID1	= "org.3gpp.mcdata.ue-config" for Condition MCData
NOTE 1b: Al	UID2	= "org.3gpp.mcptt.user-profile" for Condition MCPTT
Al	UID2	= "org.3gpp.mcvideo.user-profile" for Condition MCVideo
Al	UID2	= "org.3gpp.mcdata.user-profile" for Condition MCData
NOTE 1c: Al	UID3	= "org.3gpp.mcptt.service-config" for Condition MCPTT
Al	UID3	= "org.3gpp.mcvideo.service-config" for Condition MCVideo
Al		= "org.3gpp.mcdata.service-config" for Condition MCData
NOTE 2: XI	UID	= "sip:" & px_MCPTT_ID_User_A for Condition MCPTT
Xl	(UID	= "sip:" & px_MCVideo_ID_User_A for Condition MCVideo
Xl	(UID	= "sip:" & px_MCData_ID_User_A for Condition MCData
NOTE 3: M	1CSUEID	= Instance id of the UE (derived from the IMEI according to 23.003 [69] clause 13.8)
NOTE 4: pr	rofile-inde	ex is the same as in the <user-profile-index> attribute of the corresponding document</user-profile-index>

5.5.4.3 POST

Table 5.5.4.3-1: HTTP POST

Derivation Path: RFC 2616 [26]				
Information Element	Value/remark	Comment	Reference	Condition
Status-Line				
Method	"POST"			
Request-URI				
uri	tsc_MCX_IdMS_auth_ UriPath	points to the Authorisation endpoint of the IdM Server	TS 33.180 [94]	AUTH, USERAUT H
	tsc_MCX_IdMS_userau th_UriPath	points to the endpoint verifying the user authentication; same URI as provided to the UE in the action attribute of the HTML login form	TS 33.180 [94] HTML 4.01 Specification [105]	USERAUT H
	tsc_MCX_IdMS_token_ UriPath	points to the Token endpoint of the IdM Server	TS 33.180 [94]	TOKEN
	tsc_MCX_KMS_init_Uri Path	"KMS Initialize" request according to TS 33.180 [94] D.2.3	TS 33.180 [94]	KMSINIT
	tsc_MCX_KMS_keypro v_UriPath	"KMS KeyProvision" request according to TS 33.180 [94] D.2.4	TS 33.180 [94]	KMSKEY
	tsc_MCX_GMSXCAPR ootURI & "/" & "org.openmobileallianc e.groups/users/" & px_MCPTT_GroupCrea tionXUI & "/" & px_MCPTT_Group_T_I D	Points to the temporary group configuration document to be created	TS 24.481[11] clause 6.3.14.2	TEMPGRO UP
HTTP-Version	"HTTP/1.1"			
Cache-Control			RFC 2616 [26]	
cache-directive	"no-cache"			
Authorization			RFC 2617 [72]	KMSINIT, KMSKEY, TEMPGRO UP
authentication-scheme	"Bearer"		RFC 6750 [104]	
b64token	Access token as assigned to the UE by Token Response		RFC 6750 [104]	
Content-Type				AUTH, USERAUT H, TOKEN
media-type	"application/x-www- form-urlencoded"			
Content-Type		present in case of KMS request security		(KMSINIT OR KMSKEY) AND pc_MCX_K MS_Reque stSecurity
media-type	"application/xml"		RFC 7303 [112]	-,
Content-Type				TEMPGRO UP
media-type	"application/vnd.3gpp.G MOP+xml"			
Message-body				AUTH
Authentication Request	As described in Table 5.5.4.10.1-1			

Message-body			HTML 4.01 Specification [105]	USERAUT H
user	px_MCX_User_A_user name			
password	px_MCX_User_A_pass word			
Message-body				TOKEN
Token request	As described in Table 5.5.4.10.3-1			
Message-body		present in case of KMS request security		(KMSINIT OR KMSKEY) AND pc_MCX_K MS_Reque stSecurity
Signed KMS Request	As described in Table 5.5.4.10.9-1			
Message-body				TEMPGRO UP
Temporary Group Creation Document"	As described in Table 5.5.7.1-3			

5.5.4.4 PUT

Table 5.5.4.4-1: HTTP PUT

Derivation Path: RFC 2616 [26]				
Information Element	Value/remark	Comment	Reference	Condition
Request-line				
Method	"PUT"			
Request-URI	tsc_MCX_GMSXCAPR ootURI & "/" & "org.openmobileallianc e.groups/users/" & px_MCPTT_GroupCrea tionXUI & "/" & document name (NOTE 1)	XCAP URI in users tree where the XUI is set to a group creation XUI configuration parameter	TS 24.481 [11] clause 6.3.2.2.1	GROUPC REATE
Cache-Control			RFC 2616 [26]	
cache-directive	"no-cache"			
Authorization		TS 24.482 [12] A.2.3: Expected by the server to validate and identify the client	RFC 2617 [72]	
authentication-scheme	"Bearer"		RFC 6750 [104]	
b64token	Access token as assigned to the UE by Token Response		RFC 6750 [104]	
Content-Type				GROUPC REATE
media-type	application/vnd.oma.po c.groups+xml			
Message-body				GROUPC REATE
Group Creation Document	As described in Table 5.5.7.1-2			
NOTE 1: document name is the	name of the group docume	nt contained in the messag	je body	

Condition	Explanation
GROUPCREATE	Message/IE sent only in group creation scenario
NOTE: For further conditions see table 5.5.1-1	

5.5.4.5 DELETE

Table 5.5.4.5-1: HTTP DELETE

Derivation Path: RFC 2616 [26]					
Information Element	Value/remark	Comment	Reference	Condition	
Request-line					
Method	"DELETE"				
Request-URI	tsc_MCX_GMSXCAPR ootURI & "/" & "org.openmobileallianc e.groups/users/" & px_MCPTT_GroupCrea tionXUI & "/" & px_MCPTT_Group_T_I D	Points to the group configuration document	TS 24.481 [11]	TEMPGRO UP	
Cache-Control			RFC 2616 [26]		
cache-directive	"no-cache"				
Authorization		TS 24.482 [12] A.2.3: Expected by the server to validate and identify the client	RFC 2617 [72]		
authentication-scheme	"Bearer"		RFC 6750 [104]		
b64token	Access token as assigned to the UE by Token Response		RFC 6750 [104]		

5.5.4.6 HTTP 200 (OK)

Table 5.5.4.6-1: HTTP 200 (OK)

Derivation Path: RFC 2616 [26] Information Element	Value/remark	Comment	Reference	Condition
Status-Line	Value/Terrial K	Comment	Reference	Condition
HTTP-Version	"HTTP/1.1"			
Status-Code	"200"			
Reason-Phrase	"OK"			
Cache-Control			RFC 2616 [26]	
cache-directive	"no-store"			
Pragma			RFC 2616 [26]	
pragma-directive	"no-cache"			
Content-Length				
value	length of message- body			
Content-Type				
media-type	"application/json;charse t=UTF-8"		TS 33.180 [94]	TOKEN
media-type	"application/xml"	Editor's note: Message-Body contains an XML document but there is no media-type specific for "urn:3gpp:ns:mcsecKM SInterface:1.0" > "application/xml" to be confirmed	TS 33.180 [94]	KMSINIT
media-type	"application/xml"	Editor's note: Message-Body contains an XML document but there is no media-type specific for "urn:3gpp:ns:mcsecKM SInterface:1.0" ⇒ "application/xml" to be confirmed	TS 33.180 [94]	KMSKEY
media-type	"application/vnd.3gpp. mcptt-ue-init- config+xml"		TS 24.484 [14]	UEINITIAL CONFIG
media-type	"application/vnd.3gpp. mcptt-ue-config+xml"		TS 24.484 [14]	UECONFI G
media-type	"application/vnd.3gpp. mcptt-user-profile+xml"		TS 24.484 [14]	UEUSERP ROF
media-type	"application/vnd.3gpp. mcptt-service- config+xml"		TS 24.484 [14]	UESERVC ONFIG
media-type	"application/vnd.oma.p oc.groups+xml"		TS 24.481 [11]	GROUPC ONFIG
media-type	"application/vnd.3gpp.G MOP+xml"		TS 24.481 [11]	TEMPGRO UP
Message-body				TOKEN
Token response	As described in Table 5.5.4.10.4-1			
Message-body				KMSINIT
KMS Certificate	As described in Table 5.5.4.10.6-1			
Message-body				KMSKEY
KMS Key Set	As described in Table 5.5.4.10.8-1			
Message-body				UEINITIAL CONFIG
mcptt-initial-UE-configuration	As described in Table 5.5.8.1-1	Initial UE Configuration document returned		
Message-body				UECONFI G
mcptt-UE-configuration	As described in Table 5.5.8.2-1	UE Configuration document returned		

Message-body			UEUSERP ROF
mcptt-user-profile	As described in Table 5.5.8.3-1	UE User Profile document returned	
Message-body			UESERVC ONFIG
service-configuration-info	As described in Table 5.5.8.4-1	UE Service Configuration document returned	
Message-body			GROUPC ONFIG
group-configuration	As described in Table 5.5.7.1-1	Group Configuration document returned	
Message-body			TEMPGRO UP
gmop:document			
gmop:response			
gmop:group-regroup-creation-response			
temporary-group-document- ETag	unique value arbitrarily selected by the SS		

5.5.4.7 HTTP 201 (Created)

Table 5.5.4.7-1: HTTP 201 (Created)

Information Element	Value/remark	Comment	Reference	Condition
Status-Line				
HTTP-Version	"HTTP/1.1"			
Status-Code	"20"			
Reason-Phrase	"Created"			
Cache-Control			RFC 2616 [26]	
cache-directive	"no-store"			
Pragma			RFC 2616 [26]	
pragma-directive	"no-cache"			
ETag			RFC 2616 [26]	
entity-tag	unique value arbitrarily selected by the SS			
Location			RFC 7231 [118] clauses 4.3.3, 6.3.2, 7.1.2	
uri	tsc_MCX_GMSXCAPR ootURI & "/" & "org.openmobileallianc e.groups/global/byGrou pID/" & px_MCPTT_Group_B_I D	URI referring to the created MCPTT GROUP B document		

5.5.4.8 HTTP 302 (Found)

Table 5.5.4.8-1: HTTP 302 (Found)

Information Element	Value/remark	Comment	Reference	Condition
Status-Line				
HTTP-Version	"HTTP/1.1"			
Status-Code	"302"			
Reason-Phrase	"Found"			
Location				AUTH
Location-URI				
uri	px_MCX_OAuth_Redir ectURI_A	Identifier of the MCPTT client making the API request	TS 33.180 [94]	
query	As described in Table 5.5.4.10.2-1			

5.5.4.9 HTTP 409 (Conflict)

Table 5.5.4.9-1: HTTP 409 (Conflict)

Derivation Path: RFC 2616 [26]				
Information Element	Value/remark	Comment	Reference	Condition
Status-Line				
HTTP-Version	"HTTP/1.1"			
Status-Code	"409"			
Reason-Phrase	"URI constraint violated"	Conflict reason	TS 24.484 [14]	

5.5.4.10 HTTP Message Bodies

5.5.4.10.1 Authentication Request

Table 5.5.4.10.1-1: Authentication Request

Derivation Path: TS 33.180 [9				
Information Element	Value/remark	Comment	Reference	Condition
response-type	"code"	For native MCPTT clients the value shall be set to "code"	OpenID Connect 1.0 [95]	
client_id	px_MCX_OAuth_ClientId_ A	Identifier of the MCPTT client making the API request	OpenID Connect 1.0 [95]	
Scope	"openid"	Scope values are expressed as a list of space-delimited, case-sensitive strings which indicate which MCS resource servers the client is requesting access to. "openid" is defined by the OpenID Connect standard and is mandatory	TS 33.180 [94] OpenID Connect 1.0 [95]	
	"3gpp:mc:ptt_service" "3gpp:mc:ptt_key_manage ment_service" "3gpp:mc:ptt_config_mana gement_service" "3gpp:mc:ptt_group_manag ement_service" NOTE: The list may contain further scope values which are not checked	Additional authorization scopes when the UE supports MCPTT		MCPTT
	"3gpp:mc:video_service" "3gpp:mc:video_key_mana gement_service" "3gpp:mc:video_config_ma nagement_service" "3gpp:mc:video_group_ma nagement_service" NOTE: The list may contain further scope values which are not checked	Additional authorization scopes when the UE supports MCVideo		MCVIDEO
	"3gpp:mc:data_service" "3gpp:mc:data_key_manag ement_service" "3gpp:mc:data_config_man agement_service" "3gpp:mc:data_group_man agement_service" NOTE: The list may contain further scope values which are not checked	Additional authorization scopes when the UE supports MCData		MCDATA
redirect_uri	px_MCX_OAuth_RedirectU RI_A	The URI of the MCPTT client to which the IdM server will redirect the MCPTT client's user agent in order to return the authorization code	OpenID Connect 1.0 [95]	
state	any value as selected by the UE	An opaque value used by the MCPTT client to maintain state between the authentication request and authentication response	OpenID Connect 1.0 [95]	

acr-values	"3gpp:acr:password"	Space-separated string that specifies the acr values that the IdM server is being requested to use for processing this authentication request	TS 33.180 [94]
code-challenge	any value	base64url-encoded SHA-256 challenge: hash of the code_verifier selected by the UE	TS 33.180 [94] RFC 7636 [100]
codechallenge-method	"S256"	The hash method used to transform the code verifier to produce the code challenge	TS 33.180 [94] RFC 7636 [100]

5.5.4.10.2 Authentication Response

Table 5.5.4.10.2-1: Authentication Response

Information Element	Value/remark	Comment	Reference	Condition
code	"SpixIOBeZQQYbYS6 WxSbIA"	The authorization code generated by the authorization endpoint and returned to the MCPTT client via the authentication response	TS 33.180 [94]	
state	same value as in the Authentication Request	The value shall match the exact value used in the authorization request	TS 33.180 [94]	

5.5.4.10.3 Token Request

Table 5.5.4.10.3-1: Token Request

Derivation Path: TS 33.180 [94] Information Element	Value/remark	Comment	Reference	Condition
grant-type	"authorization_code"		RFC 2616 [26]	
code	same value as assigned by the SS in the Authentication Response	The authorization code generated by the authorization endpoint and returned to the MCPTT client via the authentication response	TS 33.180 [94]	
client_id	px_MCX_OAuth_Client Id_A	Identifier of the MCPTT client making the API request	TS 33.180 [94]	
redirect_uri	px_MCX_OAuth_Redir ectURI_A	The URI of the MCPTT client to which the IdM server will redirect the MCPTT client's user agent	TS 33.180 [94]	
code_verifier	Value selected by the UE: The SS shall check that the code-challenge in the Authentication Request is the base64url-encoded SHA-256 hash of the code-verifier	A cryptographically random string that is used to correlate the authorization request to the token request; the minimum length is 43 characters, the maximum length of 128 characters	TS 33.180 [94] RFC 7636 [100]	

5.5.4.10.4 Token Response

Table 5.5.4.10.4-1: Token Response

Derivation Path: TS 33.180 [9				T _
Information Element	Value/remark	Comment	Reference	Condition
access_token		The access token. The	RFC 6749 [77]	
		access token is opaque	TS 33.180 [94]	
1		to the MCPTT client		
{		Header Algorithm		
"kid"	"jws-rsa"	hint indicating which	RFC 7515 [102]	
	,	key was used to secure		
		the JWS: name of the		
		RSA public key in case		
		of RS256 Editor's note:		
		value to be confirmed		
"alg"	"RS256"	identifies the	RFC 7515 [102]	
9		cryptographic algorithm		
		used to secure the		
		JWS: RSASSA-		
		PKCS1-v1_5 SHA-256		
		digital signature Editor's note:		
		value to be confirmed		
}		. sado to bo dominiou		
{		Payload Data	RFC 7519 [101]	
"mcptt_id"	px_MCPTT_ID_User_A	URI of the MCPTT	TS 24.380	
		client User this is a	TS 24.483	
		globally unique		
		identifier within the MCPTT service that		
		represents the MCPTT		
		user		
"scope"	"openid"	list of space-delimited,	RFC 6749 [77]	
		case-sensitive strings	TS 33.180 [94]	
		to inform the client of	B.2.2.2	
		the scope of the access token issued and is	OpenID Connect 1.0 [95]	
		OPTIONAL, if identical	1.0 [95]	
		to the scope requested		
		by the client otherwise		
		REQUIRED		
		"openid" is defined by		
		the OpenID Connect		
		standard and is mandatory regardless		
		from the MCS context		
		in which the message		
		is used		
	"3gpp:mc:ptt_service"			MCPTT
	"3gpp:mc:ptt_key_manag ement_service"			
	"3gpp:mc:ptt_config_man			
	agement_service"			
	"3gpp:mc:ptt_group_man			
	agement_service"			
	"3gpp:mc:video_service"			MCVIDEO
	"3gpp:mc:video_key_ma			
	nagement_service" "3gpp:mc:video_config_			
	management_service"			
	"3gpp:mc:video_group_m			
	anagement_service"			
	"3gpp:mc:data_service"			MCDATA
	"3gpp:mc:data_key_man			
	agement_service"			
	"3gpp:mc:data_config_m anagement_service"			
	"3gpp:mc:data_group_m			
	anagement_service"			
			·	

"exp"	Current system time + 7199 seconds; the system time is the number of seconds since 00:00:00 UTC on 1 January 1970	Number containing a NumericData value identifies the expiration time on or after which the JWT MUST NOT be accepted for processing Editor's note: value to be confirmed	RFC 7519 [101] TS 33.180 [94]
"client_id"	Same value as received in the token request	Identifier of the MCPTT client making the API request	TS 33.180 [94]
Signature	HASH [base64UrlEncode(heade r) + "." + base64UrlEncode(payloa d))	Created by the hash algorithm corresponding to the algorithm provided in the header	RFC 7515 [102]
refresh_token	"Y7NSzUJuS0Jp7G4SKp BKSOJVHIZxFbxqsqCIZ hOEk9"	Arbitrarily selected string: The refresh token that can be used to refresh the access token and avoid having to prompt the user for authentication again	RFC 6749 [77]
id_token		The MCPTT client may validate the user with the ID token and configure itself for the user	RFC 6749 [77] TS 33.180 [94]
{			
{		Header Algorithm	RFC 7515 [102]
"kid"	"jws-rsa"	hint indicating which key was used to secure the JWS Editor's note: value to be confirmed	
"alg"	"RS256"	identifies the cryptographic algorithm used to secure the JWS Editor's note: value to be confirmed	
}		Payload Data	DEC 7510 [404]
"mcptt_id"	px_MCPTT_ID_User_A	Payload Data URI of the MCPTT client User this is a globally unique identifier within the MCPTT service that represents the MCPTT user	RFC 7519 [101] TS 24.380 TS 24.483
"sub"	"1234567890"	Arbitrarily selected string: case-sensitive string containing a StringOrURI value which identifies the principal that is the subject of the JWT, and is optional	RFC 7519 [101]
"aud"	client_id as received in token request	Audience: identifies the recipients that the JWT is intended for and is optional	RFC 7519 [101]

"iss"	px_MCPTT_IdM_Server_ URI	Issuer: case-sensitive string containing a StringOrURI value which identifies the principal that issued the JWT and is optional	RFC 7519 [101]
"exp"	Current system time + 7199 seconds; the system time is the number of seconds since 00:00:00 UTC on 1 January 1970	Number containing a NumericData value identifies the expiration time on or after which the JWT MUST NOT be accepted for processing	RFC 7519 [101] TS 33.180 [94]
"iat"	Current system time Epoch time: number of seconds since 00:00:00 UTC on 1 January 1970	Numeric value which identifies the time at which the JWT was issued and is optional	RFC 7519 [101] TS 33.180 [94]
Signature	HASH (base64UrlEncode(heade r) + "." + base64UrlEncode(payloa d))	Created by the hash algorithm corresponding to the algorithm provided in the header	RFC 7515 [102]
}			
token-type	"Bearer"	The token type for access	RFC 6749 [77]
expires-in	"7199"	Token expiry time	RFC 6749 [77]

Editor's note: It is to be clarified whether the identifiers for mcdata and mcvideo are to be added in the table above or whether explicit tables are to be defined.

5.5.4.10.5 Void

5.5.4.10.6 KMS Certificate

Table 5.5.4.10.6-1: KMS Certificate

Derivation Path: TS 33.180 [94] Information Element	Value/remark	Comment	Reference	Condition
SignedKmsResponse	. siwe/i eriidi it			23
Id	"kmsResponse"	arbitrarily selected id		
		which the Signature's		
		Reference URI refers to		
KmsUri	tsc_MCX_KMS_Hostna	The URI of the KMS		
	me	which issued the key		
		set		
UserUri	tsc_MCX_MC_ID_User	The MC ID with which		
	A	the user has used for		
	Editor's note: to be	authentication		
	clarified whether the			
	MC ID can be used in			
	this context or whether			
	there are restrictions			
	how to set the UserUri			
Time	Current system time of	Time stamp of KMS		
	the SS	message		
ClientReqUrl	tsc_MCX_KMS_Client	URL of the client		
•	RegUrl_init	making the key request		
KmsMessage	, =			
KmsInit				
Version	"1.0.0"			
KmsCertificate				
Version	"1.1.0"	The version number of		
VOIGIOII	111.0	the certificate type		
Role	"Root"	This shall indicate		
11010	11001	whether the certificate		
		is a "Root" or "External"		
		certificate		
CertUri	tsc_MCX_KMS_CertUri	The URI of the		
331.311	tee_mex_rune_eenen	Certificate (this object)		
KmsUri	tsc_MCX_KMS_Hostna	The URI of the KMS		
Tanoon	me	which issued the		
		Certificate		
Issuer	Not present	(Optional) String		
	i i i i i i i i i i i i i i i i i i i	describing the issuing		
		entity		
ValidFrom	Not present	(Optional) Date from		
	. tot process.	which the Certificate		
		may be used		
ValidTo	Not present	(Optional) Date at		
valia i o	Troc process	which the Certificate		
		expires		
Revoked	false	(Optional) A Boolean		
	14.55	value defining whether		
		a Certificate has been		
		revoked		
UserIDFormat	"2"	Shall contain the value		
Cooner children	-	'2'		
UserKeyPeriod	"2592000"	The number of seconds		
econtoy: ched	2002000	that each user key		
		issued by this KMS		
		should be used		
		(2592000 seconds are		
		30 days)		
UserKeyOffset	CurrentTimestamp	UserKeyOffset so that		
Coorto, Crisci	MODULO	KeyPeriod starts at		
	UserKeyPeriod	current system time;		
	Joseph Grida	CurrentTimestamp is		
		the current system time		
		in seconds since 0h on		
		1 st Jan 1900		

PubEncKey	SAKKE Public Key Z_T	The SAKKE Public	RFC 6508 [99]
Fublickey	derived from master	Key, "Z_T". This is an	KFC 0308 [99]
	secret z_T according to	OCTET STRING	
	RFC 6508	encoding of an elliptic	
	141 6 6566	curve point	
PubAuthKey	ECCSI Public Key	The ECCSI Public Key,	RFC 6507 [98]
1 db/(dill/(cy	KPAK derived from	"KPAK". This is an	141 0 0007 [50]
	private key KSAK	OCTET STRING	
	according to RFC 6507	encoding of an elliptic	
		curve point	
ParameterSet	Not present	(Optional) The choice	
T dramotor cot	The process	of parameter set used	
		for SAKKE and ECCSI	
KmsDomainList	Not present	(Optional) List of	
Tanobomaniziot	Trot procent	domains associated	
		with the certificate	
SignedInfo		With the continuate	
CanonicalizationAlgorithm	"xml-c14n"	XML Signature	
Gariornoanzation, agorianni	X 01	processing	
SignatureAlgorithm	"HMAC-SHA-256"	Hashing algorithm to be	
J.g. a. a. a. g. a. a. a.		applied to sign the	
		SignedInfo with the key	
		given in the KeyInfo	
Reference		,	
URI	"#kmsResponse"	referring to the data	
	·	object for which the	
		hash is generatet (KMS	
		response element in	
		this case)	
DigestAlgorithm	"SHA-256"	Hashing algorithm to be	
		applied to sign the data	
		object	
DigestValue	Hash signing the data		
	object (referred to by		
	the URI)		
SignatureValue	Hash signing the	The signing key is	
	SignedInfo	derived from the InK	
		(px_MCX_InK)	
		according to TS 33.180	
		[94] Annex F.1.4 with	
		FC = 0x52	
		XPK-ID = InK-ID	
		(px_MCX_InK_ID)	
KeyInfo			
KeyName	base64 encoded InK-ID		
	(px_MCX_InK_ID)		

5.5.4.10.7 Void

5.5.4.10.8 KMS Key Set

Table 5.5.4.10.8-1: KMS Key Set

Derivation Path: TS 33.180 [94]			D. C.	0
Information Element	Value/remark	Comment	Reference	Condition
Signed KmsResponse		1.2		
ld	"kmsResponse"	arbitrarily selected id		
		which the Signature's Reference URI refers to		
KmsUri	tsc_MCX_KMS_Hostna	The URI of the KMS		
KIIISUII	me	which issued the key		
	THE STATE OF THE S	set		
UserUri	tsc_MCX_MC_ID_User	The MC ID with which		
3301311	_A	the user has used for		
	Editor's note: to be	authentication		
	clarified whether the			
	MC ID can be used in			
	this context or whether			
	there are restrictions			
	how to set the UserUri			
Time	Current system time of	Time stamp of KMS		
	the SS	message		
ClientReqUrl	tsc_MCX_KMS_Client	URL of the client		
V	ReqUrl_keyprov	making the key request		
KmsMessage				
KmsKeyProv	"4 0 0"	The waysing and 1		
Version	"1.0.0"	The version number of		
Krank av Catl41		the key provision XML		
KmsKeySet[1]	"1.1.0"	The version number of		
Version	1.1.0	The version number of		
KmsUri	tsc_MCX_KMS_Hostna	the key set XML The URI of the KMS		
KMSUII	me	which issued the key		
	lile lile	set		
CertUri	Not present	(Optional) The URI of		
33.13.1	1101 p. 000	the Certificate which		
		may be used to validate		
		the key set		
Issuer	Not present	(Optional) String		
		describing the issuing		
		entity		
UserUri	px_MCPTT_ID_User_A	The user's MCPTT ID		
	px_MCVideo_ID_User_	The user's MCVideo ID		MCVIDEO
	Α			
	px_MCData_ID_User_	The user's MCData ID		MCDATA
	A	1115	TO 00 400 [04]	
UserID	UID generated	UID corresponding to	TS 33.180 [94]	
	according to annex	the key set		
	F.2.1 of TS 33.180 [94] with MCPTT-Id as			
	identifier			
	Editor's note: to be			
	clarified how to convert			
	the UID into charstring			
	(e.g. hexstring			
	representation or			
	base64 encoding)			
ValidFrom	Not present	(Optional) Date and		
		time from which the key		
		set may be used		
ValidTo	Not present	(Optional) Date and		
		time at which the key		
		set expires		

Derivation Path: TS 33.180 [94], Information Element	Value/remark	Comment	Reference	Condition
Signed KmsResponse	value/remark	Comment	Reference	Condition
KeyPeriodNo	FLOOR((CurrentTimest amp - UserKeyOffset) / UserKeyPeriod)	Current Key Period: CurrentTimestamp is the current system time in seconds since 0h on 1st Jan 1900; UserKeyOffset and UserKeyPeriod are given in the KMS Certificate (Table 5.5.4.10.6-1) in	TS 33.180 [94]	
Revoked	"false"	seconds (Optional) A Boolean value defining whether the key set has been revoked		
UserDecryptKey		The SAKKE "Receiver Secret Key" (RSK). This is an OCTET STRING encoding of an elliptic curve point	RFC 6508 [99]	
EncryptionAlgorithm	"AES256"	Encryption algorithm to use		
KeyInfo				
KeyName	base64 encoded TrK- ID (px_MCX_TrK_ID)			
CipherData	is (px_inex_ine_is)			
CipherValue	encrypted RSK	The encryption key is derived from the TrK (px_MCX_TrK) according to TS 33.180 [94] Annex F.1.4 with FC = 0x51 XPK-ID = TrK-ID (px_MCX_TrK_ID)		
UserSigningKeySSK EncryptionAlgorithm	"AES256"	The ECCSI private Key, "SSK". This is an OCTET STRING encoding of an integer; the PVT is generated using the UID as contained in the UserID of the KSM message Encryption algorithm to	RFC 6507 [98]	
<i>j</i> . c		use		
KeyInfo				
KeyName	base64 encoded TrK- ID (px_MCX_TrK_ID)			
CipherData CipherValue	encrypted SSK	The encryption key is derived from the TrK (px_MCX_TrK) according to TS 33.180 [94] Annex F.1.4 with FC = 0x51 XPK-ID = TrK-ID (px_MCX_TrK_ID)		

Derivation Path: TS 33.180 [94], Information Element	Value/remark	Comment	Reference	Condition
Signed KmsResponse	value/remark	Comment	Reference	Condition
UserPubTokenPVT		The ECCSI public validation token, "PVT". This is an OCTET STRING encoding of an elliptic curve point;	RFC 6507 [98]	
		the PVT is generated using the UID as contained in the UserID of the KSM message		
EncryptionAlgorithm	"AES256"	Encryption algorithm to use		
KeyInfo				
KeyName	base64 encoded TrK- ID (px_MCX_TrK_ID)			
CipherData				
CipherValue	Encrypted PVT	The encryption key is derived from the TrK (px_MCX_TrK) according to TS 33.180 [94] Annex F.1.4 with FC = 0x51 XPK-ID = TrK-ID (px_MCX_TrK_ID)		
Signature				
SignedInfo				
CanonicalizationAlgorithm	"xml-c14n"	XML Signature processing		
SignatureAlgorithm	"HMAC-SHA-256"	Hashing algorithm to be applied to sign the SignedInfo with the key given in the KeyInfo		
Reference				
URI	"#kmsResponse"	referring to the data object for which the hash is generatet (KMS response element in this case)		
DigestAlgorithm	"SHA-256"	Hashing algorithm to be applied to sign the data object		
DigestValue	Hash signing the data object (referred to by the URI)			
SignatureValue	Hash signing the SignedInfo	The signing key is derived from the InK (px_MCX_InK) according to TS 33.180 [94] Annex F.1.4 with FC = 0x52 XPK-ID = InK-ID (px_MCX_InK_ID)		
KeyInfo				
KeyName	base64 encoded InK-ID (px_MCX_InK_ID)			

5.5.4.10.9 Signed KMS Request

Table 5.5.4.10.9-1: Signed KMS Request

Derivation Path: TS 33.180 [94] Information Element	Value/remark	Comment	Reference	Condition
SignedKmsRequest				
KmsRequest				
Id attribute	any value	value as used as reference in the signature		
Version attribute	"1.1.0"			
UserUri	px_MCPTT_ID_User_A	The user's MCPTT ID		
	px_MCVideo_ID_User_ A	The user's MCVideo ID		MCVIDEO
	px_MCData_ID_User_ A	The user's MCData ID		MCDATA
KmsUri	tsc_MCX_KMS_Hostna	The URI of the KMS to		
	me	which the request is sent		
Time	any value	Date/time that the request is made by the client		
ClientId	any value if present	A string representing the client		
DeviceId	any value if present	A string representing the device		
ClientReqUrl	URI with same path as in the request URI of the HTTP request	The resource URI to which the HTTP POST request is sent		
KrrList	not present			
ClientError	not present			
Signature				
SignedInfo				
CanonicalizationAlgorithm	"http://www.w3.org/TR/ 2001/REC-xml-c14n- 20010315"	XML Signature processing		
SignatureAlgorithm	"http://www.w3.org/200 1/04/xmldsig- more#hmac-sha256"	Hashing algorithm to be applied to sign the SignedInfo with the key given in the KeyInfo		
Reference				
URI	URI referring to the Id of the request	same value as the Id attribute of the request with leading "#"		
DigestAlgorithm	"http://www.w3.org/200 1/04/xmlenc#sha256"	Hashing algorithm applied to sign the data object		
DigestValue	Hash signing the data object (referred to by the URI)			
SignatureValue	Hash signing the SignedInfo; shall be validated by the SS	The signing key is derived from the InK (px_MCX_InK) according to TS 33.180 [94] Annex F.1.4 with FC = 0x52 XPK-ID = InK-ID (px_MCX_InK_ID)		
KeyInfo				
KeyName	base64 encoded InK-ID (px_MCX_InK_ID)			

5.5.5 Default MCPTT call control Off-network messages and other information elements

5.5.5.1 GROUP CALL PROBE

Table 5.5.5.1-1: GROUP CALL PROBE

Derivation Path: TS 24.379 [9] Table 15.1.2.1-1			
Information Element	Value/remark	Comment	Condition
MCPTT group ID	px_MCPTT_Group_A_ID		

5.5.5.2 GROUP CALL ANNOUNCEMENT

5.5.5.2.1 GROUP CALL ANNOUNCEMENT from the UE

Table 5.5.5.2.1-1: GROUP CALL ANNOUNCEMENT from the UE

Derivation Path: TS 24.379 [9] Table 15.1.3.1-1			
Information Element	Value/remark	Comment	Condition
Call identifier	a random number uniformly distributed between (0, 65535) generated at the beginning of a call establishment		
Call type	"00000001"	Basic Group Call	
Refresh interval	10000	The Refresh interval contains a number denoting the minimum time interval (milliseconds) between two successive periodic announcements. NOTE: In release 13.7 of TS 24.379 [9], the refresh interval of the call is fixed to 10 seconds.	
Call start time	The Call start time value is an unsigned integer containing UTC time of the time when a call was started, in seconds since midnight UTC of January 1, 1970 (not counting leap seconds).		
Last call type change time	The Last call type change time value is an unsigned integer containing UTC time of the time when a call priority was changed, in seconds since midnight UTC of January 1, 1970 (not counting leap seconds).		
MCPTT group ID	px_MCPTT_Group_A_ID		
SDP	As described in Table 5.5.3.1.3-1		
Originating MCPTT user ID	px_MCPTT_ID_User_A	pre-set MCPTT user ID	
Last user to change call type	The ID of the last user to change contents		
Confirm mode indication	Present		
Probe response	Not Present		

5.5.5.2.2 GROUP CALL ANNOUNCEMENT from the SS

Table 5.5.5.2.2-1: GROUP CALL ANNOUNCEMENT from the SS

Derivation Path: TS 24.379 [9] Table 15.1.3.1-1			
Information Element	Value/remark	Comment	Condition
Call identifier	a random number		
	uniformly distributed		
	between (0, 65535)		
	generated at the		
	beginning of a call		
	establishment		
Call type	"00000001"	Basic Group Call	
Refresh interval	10000	The Refresh	
		interval contains a	
		number denoting	
		the minimum time	
		interval	
		(milliseconds)	
		between two	
		successive	
		periodic	
		announcements.	
		NOTE: In release	
		13.7 of	
		TS 24.379 [9], the	
		refresh interval of	
		the call is fixed to	
		10 seconds.	
Call start time	The Call start time value		
	is an unsigned integer		
	containing UTC time of		
	the time when a call was		
	started, in seconds since		
	midnight UTC of January		
	1, 1970 (not counting		
	leap seconds).		
Last call type change time	The Last call type		
	change time value is an		
	unsigned integer		
	containing UTC time of		
	the time when a call		
	priority was changed, in		
	seconds since midnight		
	UTC of January 1, 1970		
	(not counting leap		
	seconds).		
MCPTT group ID	px_MCPTT_Group_A_ID		
SDP	As described in Table 5.5.3.1.4-1		
Originating MCPTT user ID	px_MCPTT_ID_User_B	pre-set MCPTT user ID	
Last user to change call type	The ID of the last user to		
3	change contents		
Confirm mode indication	Present		
Probe response	Not Present		

5.5.5.3 GROUP CALL ACCEPT

5.5.5.3.1 GROUP CALL ACCEPT from the UE

Table 5.5.5.3.1-1: GROUP CALL ACCEPT from the UE

Derivation Path: TS 24.379 [9] Table 15.1.4.1-1			
Information Element	Value/remark	Comment	Condition
Call identifier	a random number uniformly distributed between (0, 65536) generated at the beginning of a call establishment		
Call type	"0000001"	Basic Group Call	
MCPTT group ID	px_MCPTT_Group_A_ID		
Sending MCPTT user ID	px_MCPTT_ID_User_A		

5.5.5.3.2 GROUP CALL ACCEPT from the SS

Table 5.5.5.3.2-1: GROUP CALL ACCEPT from the SS

Derivation Path: TS 24.379 [9] Table 15.1.4.1-1			
Information Element	Value/remark	Comment	Condition
Call identifier	a random number uniformly distributed between (0, 65536) generated at the beginning of a call establishment		
Call type	"0000001"	Basic Group Call	
MCPTT group ID	px_MCPTT_Group_A_ID		
Sending MCPTT user ID	px_MCPTT_ID_User_B		

5.5.5.4 GROUP CALL EMERGENCY END

5.5.5.4.1 GROUP CALL EMERGENCY END from the UE

Table 5.5.5.4.1-1: GROUP CALL EMERGENCY END from the UE

Derivation Path: TS 24.379 [9] Table 15.1.15.1-1			
Information Element	Value/remark	Comment	Condition
Call identifier	a random number uniformly distributed between (0, 65536) generated at the beginning of a call establishment		
Last call type change time	The Last call type change time value is an unsigned integer containing UTC time of the time when a call priority was changed, in seconds since midnight UTC of January 1, 1970 (not counting leap seconds).		
Last user to change call type	The ID of the last user to change contents		
MCPTT group ID	px_MCPTT_Group_A_ID		
Originating MCPTT user ID	px_MCPTT_ID_User_A		

5.5.5.4.2 GROUP CALL EMERGENCY END from the SS

Table 5.5.5.4.2-1: GROUP CALL EMERGENCY END from the SS

Derivation Path: TS 24.379 [9] Table 15.1.15.1-	1		
Information Element	Value/remark	Comment	Condition
Call identifier	a random number uniformly distributed between (0, 65536) generated at the beginning of a call establishment		
Last call type change time	The Last call type change time value is an unsigned integer containing UTC time of the time when a call priority was changed, in seconds since midnight UTC of January 1, 1970 (not counting leap seconds).		
Last user to change call type	The ID of the last user to change contents		
MCPTT group ID	px_MCPTT_Group_A_ID		
Originating MCPTT user ID	px_MCPTT_ID_User_B		

5.5.5.5 GROUP CALL IMMINENT PERIL END

5.5.5.5.1 GROUP CALL IMMINENT PERIL END from the UE

Table 5.5.5.5.1-1: GROUP CALL IMMINENT PERIL END from the UE

Derivation Path: TS 24.379 [9] Table 15.1.14.1-1			
Information Element	Value/remark	Comment	Condition
Call identifier	a random number uniformly distributed between (0, 65536) generated at the beginning of a call establishment		
Last call type change time	The Last call type change time value is an unsigned integer containing UTC time of the time when a call priority was changed, in seconds since midnight UTC of January 1, 1970 (not counting leap seconds).		
Last user to change call type	The ID of the last user to change contents		
MCPTT group ID	px_MCPTT_Group_A_ID		
Originating MCPTT user ID	px_MCPTT_ID_User_A		

5.5.5.5.2 GROUP CALL IMMINENT PERIL END from the SS

Table 5.5.5.5.2-1: GROUP CALL IMMINENT PERIL END from the SS

Derivation Path: TS 24.379 [9] Table 15.1.14.1			
Information Element	Value/remark	Comment	Condition
Call identifier	a random number uniformly distributed between (0, 65536) generated at the beginning of a call establishment		
Last call type change time	The Last call type change time value is an unsigned integer containing UTC time of the time when a call priority was changed, in seconds since midnight UTC of January 1, 1970 (not counting leap seconds).		
Last user to change call type	The ID of the last user to change contents		
MCPTT group ID	px_MCPTT_Group_A_ID		
Originating MCPTT user ID	px_MCPTT_ID_User_B		

5.5.5.6 GROUP CALL BROADCAST

5.5.5.6.1 GROUP CALL BROADCAST from the UE

Table 5.5.5.6.1-1: GROUP CALL BROADCAST from the UE

Derivation Path: TS 24.379 [9] Table 15.1.20.1- Information Element	Value/remark	Comment	Condition
Call identifier	a random number uniformly distributed between (0, 65536) generated at the beginning of a call establishment		
Call type	"0000010"	Broadcast Group Call	
Originating MCPTT user ID	px_MCPTT_ID_User_A		
MCPTT group ID	px_MCPTT_Group_A_ID		
SDP	As described in Table 5.5.3.1.3-1		

5.5.5.6.2 GROUP CALL BROADCAST from the SS

Table 5.5.5.6.2-1: GROUP CALL BROADCAST from the SS

Derivation Path: TS 24.379 [9] Table 15.1.20.1-1			
Information Element	Value/remark	Comment	Condition
Call identifier	a random number uniformly distributed between (0, 65536) generated at the beginning of a call establishment		
Call type	"0000010"	Broadcast Group Call	
Originating MCPTT user ID	px_MCPTT_ID_User_B		
MCPTT group ID	px_MCPTT_Group_A_ID		
SDP	As described in Table 5.5.3.1.4-1		

5.5.5.7 GROUP CALL BROADCAST END

5.5.5.7.1 GROUP CALL BROADCAST END from the UE

Table 5.5.5.7.1-1: GROUP CALL BROADCAST END from the UE

Information Element	Value/remark	Comment	Condition
Call identifier	a random number uniformly distributed between (0, 65536) generated at the beginning of a call establishment		
MCPTT group ID	px_MCPTT_Group_A_ID		
SDP	As described in Table 5.5.3.1.3-1		

5.5.5.7.2 GROUP CALL BROADCAST END from the SS

Table 5.5.5.7.2-1: GROUP CALL BROADCAST END from the SS

Derivation Path: TS 24.379 [9] Table 15.1.21.1- Information Element	Value/remark	Comment	Condition
Call identifier	a random number uniformly distributed between (0, 65536) generated at the beginning of a call establishment		
MCPTT group ID	px_MCPTT_Group_A_ID		
SDP	As described in Table 5.5.3.1.4-1		

5.5.5.8 PRIVATE CALL SETUP REQUEST

5.5.5.8.1 PRIVATE CALL SETUP REQUEST from the UE

Table 5.5.5.8.1-1: PRIVATE CALL SETUP REQUEST from the UE

Derivation Path: 24.379 [9], Table 15.1.5.1-1.			
Information Element	Value/remark	Comment	Condition
Call identifier	a random number uniformly distributed between (0, 65536) generated at the beginning of a call establishment		
Commencement mode	"0000000"	Automatic Commencement Mode	
Call type	"00000101"	Private Call	
MCPTT user ID of the caller	px_MCPTT_ID_User_A		
MCPTT user ID of the callee	px_MCPTT_ID_User_B		
SDP offer	As described in Table 5.5.3.1.3-1		
User location	Not Present		

5.5.5.8.2 PRIVATE CALL SETUP REQUEST from the SS

Table 5.5.5.8.2-1: PRIVATE CALL SETUP REQUEST from the SS

Derivation Path: 24.379 [9], Table 15.1.5.1-1.			
Information Element	Value/remark	Comment	Condition
Call identifier	a random number uniformly distributed between (0, 65536) generated at the beginning of a call establishment		
Commencement mode	"00000000"	Automatic Commencement Mode	
Call type	"00000101"	Private Call	
MCPTT user ID of the caller	px_MCPTT_ID_User_B		
MCPTT user ID of the callee	px_MCPTT_ID_User_A		
SDP offer	As described in Table 5.5.3.1.4-1		
User location	Not Present		

5.5.5.9 PRIVATE CALL RINGING

Table 5.5.5.9-1: PRIVATE CALL RINGING

Derivation Path: 24.379 [9], Table 15.1.6.1-1.			
Information Element	Value/remark	Comment	Condition
Call identifier	Same as the one in PRIVATE CALL SETUP REQUEST		
MCPTT user ID of the caller	Same as the one in PRIVATE CALL SETUP REQUEST		
MCPTT user ID of the callee	Same as the one in PRIVATE CALL SETUP REQUEST		

5.5.5.10 PRIVATE CALL ACCEPT

Table 5.5.5.10-1: PRIVATE CALL ACCEPT

Derivation Path: 24.379 [9], Table 15.1.7.1-1.			
Information Element	Value/remark	Comment	Condition
Call identifier	Same as the one in PRIVATE CALL SETUP REQUEST		
MCPTT user ID of the caller	Same as the one in PRIVATE CALL SETUP REQUEST		
MCPTT user ID of the callee	Same as the one in PRIVATE CALL SETUP REQUEST		
SDP answer	Same as the one in PRIVATE CALL SETUP REQUEST		

5.5.5.11 PRIVATE CALL REJECT

5.5.5.11.1 PRIVATE CALL REJECT from the UE

Table 5.5.5.11.1-1: PRIVATE CALL REJECT from the UE

Derivation Path: 24.379 [9], Table 15.1.8.1-1.			
Information Element	Value/remark	Comment	Condition
Call identifier	Same as the one in PRIVATE CALL SETUP REQUEST		
Reason	Any allowed value		
MCPTT user ID of the caller	Same as the one in PRIVATE CALL SETUP REQUEST		
MCPTT user ID of the callee	Same as the one in PRIVATE CALL SETUP REQUEST		
SDP answer	As described in Table 5.5.3.1.3-1		

5.5.5.11.2 PRIVATE CALL REJECT from the SS

Table 5.5.5.11.2-1: PRIVATE CALL REJECT from the SS

Derivation Path: 24.379 [9], Table 15.1.8.1-1.			
Information Element	Value/remark	Comment	Condition
Call identifier	Same as the one in PRIVATE CALL SETUP REQUEST		
Reason	"0000000"	Reason = REJECT	
MCPTT user ID of the caller	Same as the one in PRIVATE CALL SETUP REQUEST		
MCPTT user ID of the callee	Same as the one in PRIVATE CALL SETUP REQUEST		
SDP answer	As described in Table 5.5.3.1.4-1		

5.5.5.12 PRIVATE CALL RELEASE

Table 5.5.5.12-1: PRIVATE CALL RELEASE

Derivation Path: 24.379 [9], Table 15.1.9.1-1.			
Information Element	Value/remark	Comment	Condition
Call identifier	Same as the one in PRIVATE CALL SETUP REQUEST		
MCPTT user ID of the caller	Same as the one in PRIVATE CALL SETUP REQUEST		
MCPTT user ID of the callee	Same as the one in PRIVATE CALL SETUP REQUEST		

5.5.5.13 PRIVATE CALL RELEASE ACK

Table 5.5.5.13-1: PRIVATE CALL RELEASE ACK

Derivation Path: 24.379 [9], Table 15.1.10.1-1.			
Information Element	Value/remark	Comment	Condition
Call identifier	Same as the one in PRIVATE CALL SETUP REQUEST		
MCPTT user ID of the caller	Same as the one in PRIVATE CALL SETUP REQUEST		
MCPTT user ID of the callee	Same as the one in PRIVATE CALL SETUP REQUEST		

5.5.5.14 PRIVATE CALL ACCEPT ACK

Table 5.5.5.14-1: PRIVATE CALL ACCEPT ACK

Derivation Path: 24.379 [9], Table 15.1.11.1-1.			
Information Element	Value/remark	Comment	Condition
Call identifier	Same as the one in PRIVATE CALL SETUP REQUEST		
MCPTT user ID of the caller	Same as the one in PRIVATE CALL SETUP REQUEST		
MCPTT user ID of the callee	Same as the one in PRIVATE CALL SETUP REQUEST		

5.5.5.15 PRIVATE CALL EMERGENCY CANCEL

5.5.5.15.1 PRIVATE CALL EMERGENCY CANCEL from the UE

Table 5.5.5.15.1-1: PRIVATE CALL EMERGENCY CANCEL from the UE

Information Element	Value/remark	Comment	Condition
Call identifier	a random number uniformly distributed between (0, 65536) generated at the beginning of a call establishment		
MCPTT user ID of the caller	px_MCPTT_ID_User_A		
MCPTT user ID of the callee	px_MCPTT_ID_User_B		

5.5.5.15.2 PRIVATE CALL EMERGENCY CANCEL from the SS

Table 5.5.5.15.2-1: PRIVATE CALL EMERGENCY CANCEL from the SS

Derivation Path: 24.379 [9], Table 15.1.12.1-1.			
Information Element	Value/remark	Comment	Condition
Call identifier	a random number uniformly distributed between (0, 65536) generated at the beginning of a call establishment		
MCPTT user ID of the caller	px_MCPTT_ID_User_B		
MCPTT user ID of the callee	px_MCPTT_ID_User_A		

5.5.5.16 PRIVATE CALL EMERGENCY CANCEL ACK

5.5.5.16.1 PRIVATE CALL EMERGENCY CANCEL ACK from the UE

Table 5.5.5.16.1-1: PRIVATE CALL EMERGENCY CANCEL ACK from the UE

Derivation Path: 24.379 [9], Table 15.1.13.1-1.			
Information Element	Value/remark	Comment	Condition
Call identifier	Same as the one in PRIVATE CALL EMERGENCY CANCEL		
MCPTT user ID of the caller	px_MCPTT_ID_User_A		
MCPTT user ID of the callee	px_MCPTT_ID_User_B		

5.5.5.16.2 PRIVATE CALL EMERGENCY CANCEL ACK from the SS

Table 5.5.5.16.2-1: PRIVATE CALL EMERGENCY CANCEL ACK from the SS

Derivation Path: 24.379 [9], Table 15.1.13.1-1.			
Information Element	Value/remark	Comment	Condition
Call identifier	Same as the one in		
	PRIVATE CALL		
	EMERGENCY CANCEL		
MCPTT user ID of the caller	px_MCPTT_ID_User_B		
MCPTT user ID of the callee	px_MCPTT_ID_User_A		

5.5.5.17 GROUP EMERGENCY ALERT

5.5.5.17.1 GROUP EMERGENCY ALERT from the UE

Table 5.5.5.17.1-1: GROUP EMERGENCY ALERT from the UE

Derivation Path: TS 24.379 [9] Table 15.1.16.1-1			
Information Element	Value/remark	Comment	Condition
MCPTT group ID	px_MCPTT_Group_A_ID		
Originating MCPTT user ID	px_MCPTT_ID_User_A		
Organization name	Any allowed value		
User location	Not Present		

5.5.5.17.2 GROUP EMERGENCY ALERT from the SS

Table 5.5.5.17.2-1: GROUP EMERGENCY ALERT from the SS

Derivation Path: TS 24.379 [9] Table 15.1.16.1-1			
Information Element	Value/remark	Comment	Condition
MCPTT group ID	px_MCPTT_Group_A_ID		
Originating MCPTT user ID	px_MCPTT_ID_User_B		
Organization name	px_MCPTT_Group_A_O wner_Organization		
User location	Not Present		

5.5.5.18 GROUP EMERGENCY ALERT ACK

5.5.5.18.1 GROUP EMERGENC ALERT ACK from the UE

Table 5.5.5.18.1-1: GROUP EMERGENCY ALERT ACK from the UE

Derivation Path: TS 24.379 [9] Table 15.1.17.1-1			
Information Element	Value/remark	Comment	Condition
MCPTT group ID	px_MCPTT_Group_A_ID		
Originating MCPTT user ID	px_MCPTT_ID_User_B		
Sending MCPTT user ID	px_MCPTT_ID_User_A		

5.5.5.18.2 GROUP EMERGENC ALERT ACK from the SS

Table 5.5.5.18.2-1: GROUP EMERGENCY ALERT ACK from the SS

Derivation Path: TS 24.379 [9] Table 15.1.17.1-1			
Information Element	Value/remark	Comment	Condition
MCPTT group ID	px_MCPTT_Group_A_ID		
Originating MCPTT user ID	px_MCPTT_ID_User_A		
Sending MCPTT user ID	px_MCPTT_ID_User_B		

5.5.5.19 GROUP EMERGENCY ALERT CANCEL

5.5.5.19.1 GROUP EMERGENCY ALERT CANCEL from the UE

Table 5.5.5.19.1-1: GROUP EMERGENCY ALERT CANCEL from the UE

Derivation Path: TS 24.379 [9] Table 15.1.18.1-1			
Information Element	Value/remark	Comment	Condition
MCPTT group ID	px_MCPTT_Group_A_ID		
Originating MCPTT user ID	px_MCPTT_ID_User_A		
Sending MCPTT user ID	px_MCPTT_ID_User_A		

5.5.5.19.2 GROUP EMERGENCY ALERT CANCEL from the SS

Table 5.5.5.19.2-1: GROUP EMERGENCY ALERT CANCEL from the SS

Derivation Path: TS 24.379 [9] Table 15.1.18.1-1			
Information Element	Value/remark	Comment	Condition
MCPTT group ID	px_MCPTT_Group_A_ID		
Originating MCPTT user ID	px_MCPTT_ID_User_B		
Sending MCPTT user ID	px_MCPTT_ID_User_B		

5.5.5.20 GROUP EMERGENCY ALERT CANCEL ACK

5.5.5.20.1 GROUP EMERGENCY ALERT CANCEL ACK from the UE

Table 5.5.5.20.1-1: GROUP EMERGENCY ALERT CANCEL ACK from the UE

Derivation Path: TS 24.379 [9] Table 15.1.19.1-1			
Information Element	Value/remark	Comment	Condition
MCPTT group ID	px_MCPTT_Group_A_ID		
Originating MCPTT user ID	px_MCPTT_ID_User_B		
Sending MCPTT user ID	px_MCPTT_ID_User_A		

5.5.5.20.2 GROUP EMERGENCY ALERT CANCEL ACK from the SS

Table 5.5.5.20.2-1: GROUP EMERGENCY ALERT CANCEL ACK from the SS

Derivation Path: TS 24.379 [9] Table 15.1.19.1-1			
Information Element	Value/remark	Comment	Condition
MCPTT group ID	px_MCPTT_Group_A_ID		
Originating MCPTT user ID	px_MCPTT_ID_User_A		
Sending MCPTT user ID	px_MCPTT_ID_User_B		

5.5.6 Default MCPTT media plane control messages and other information elements

5.5.6.1 General

The media plane control protocols messages specified in the present document are based on those specified in TS 24.380 [10] which in term are based on the RTCP Application Packets (RTCP: APP), as defined in IETF RFC 3550 [76].

Depending on the TC scenario, the same MCPTT media plane control message can be sent by the SS or by the UE. Throughout the default content specified in below a particular value has been chosen to satisfy one or the other scenario. It is expected that when a message is used in a TC in a particular context then the relevant for the usage in the TC values will be defined in the TC.

The following conditions apply throughout clause 5.5.6:

Table 5.5.6.1-1: Conditions

Condition	Explanation
ON-NETWORK	Message sent in on-network scenario.
OFF-NETWORK	Message sent in off-network scenario.
PRIVATE-CALL	Message sent as part of a Private call handling.
GROUP-CALL	Message sent as part of a Group call handling.
FA	IE for when an active Functional Alias is used
Multi-Talker	IE for when a Multi Talker call is active

Considerations in regard to describing specific values:

- SSRC

- Synchronization SouRCe (SSRC) values are used in most of the messages specified in clause 5.5.6. The SSRC value is randomly chosen by the participant in, and globally unique within, an RTP session as specified in IETF RFC 3550 [76]. Because the value chosen by the UE (MCPTT client) cannot be controlled, specifying a "hard coded" value to be used by the SS (MCPTT server) or the SS-UE (MCPTT Client) is prone to triggering a collision by choosing a value which may be the same as the one chosen by the UE. How to resolve SSRC collisions is described in IETF RFC 3550 [76] however, resolving them as part of the MCPTT test case definitions e.g. in TS 36.579-2 [2] is not foreseen and is left to the test implementation.
- For the purposes of default and specific messages definition throughout the present specification, as well as, throughout the rest of the MCPTT conformance test specifications e.g. the TS 36.579-2 [2] no explicit SSRC values are defined and instead the following notation is used to clarify the messages origin/destination:
- When there is no danger for misunderstanding the notation 'The SSRC of the message sender' and the 'The SSRC of the intended recipient of the message' are used whereas the "sender" and the "recipient" are to be understood in the context of the test i.e. the test entities being involved to exchange messages.
- When in doubt, the notations 'UE (MCPTT client) SSRC', SS (MCPTT server) SSRC', 'SS-UE1 (MCPTT Client) SSRC' or 'SS-UE2 (MCPTT Client) SSRC' are used.

5.5.6.2 Floor Request

Table 5.5.6.2-1: Floor Request

Derivation Path: 24.380 [10], Table 8.2.4-1. Information Element	Value/remark	Comment	Condition
RTCP header	value/lelliai K	Comment	Condition
	00000	Floor Dogwoot	
Subtype	00000	Floor Request	
SSRC	The SSRC of the	The SSRC of the	
	message sender	floor participant	
		sending the	
		message.	
		Notation in	
		accordance with	
	MODT	clause 5.5.6.1.	
name	MCPT	If a second a control	
Floor priority	Not present or Any	If present, a value	
	allowed value	between '0' and	
		'255' where '0' is	
		the lowest priority	
		If the Floor Driesity	
		If the Floor Priority	
		field is not	
		included in the	
		message the	
		default priority	
		(='0') is used as	
		the Floor Priority	
		value	
		The max floor	
		priority that can be	
		requested in a	
		Floor Request	
		message is	
		negotiated	
		between the	
		MCPTT client and	
		the controlling	
		MCPTT function	
		using the	
		"mc_priority" fmtp	
		parameter e.g. at	
		call setup	
User ID	Not present		ON-
			NETWORK
User ID			OFF-
			NETWORK
User ID	px_MCPTT_ID_User_A	The MCPTT User	
		ID of the floor	
		participant	
		requesting the	
		floor.	
Track Info	Not present	The MCPTT call	
		does not involve a	
		non-controlling	
		MCPTT function	
Floor Indicator			
Floor Indicator	10000x000000000	Normal call, any	
		queueing	
Functional Alias	Not present		
	px_MCPTT_ID_FA_A	Functional Alias =	FA
		URI	
Location	optional		
Location Type	Any allowed value	See TS 24.380	
	· ·	[10] Table	
		8.2.3.21-3	
	1		

Derivation Path: 24.380 [10], Table 8.2.4-1.			
Information Element	Value/remark	Comment	Condition
Location Value	Not present or Any allowed value	See TS 24.380 [10] Table 8.2.3.21-3. Not present if Location Type is set to "Not provided"	
Location			REL-15
Location Type	Any allowed value	See TS 24.380 [10] Table 8.2.3.21-3	
Location Value	Not present or Any allowed value	See TS 24.380 [10] Table 8.2.3.21-3. Not present if Location Type is set to "Not provided"	

Condition Explanation	
REL-15	In effect when PICS "PICS FFS" is in effect

5.5.6.3 Floor Granted

Table 5.5.6.3-1: Floor Granted

Derivation Path: 24.380 [10], Table 8.2.5-1. Information Element	Value/remark	Comment	Condition
RTCP header	Tuluo/Tolliulik	- Common	
Subtype	10001	Floor Granted with acknowledgment required	
SSRC	The SSRC of the message sender	The SSRC of the floor control server for onnetwork and floor arbitrator for offnetwork. Notation in accordance with clause 5.5.6.1. Coded as specified in IETF RFC 3550 [76].	
name	MCPT		
Duration			
Duration	"00000000 10000000"	128 sec (an arbitrary value)	
SSRC of granted floor participant	The SSRC of the intended recipient of the message	Notation in accordance with clause 5.5.6.1. Coded as specified in IETF RFC 3550 [76].	
Floor priority	Not present	If the Floor Priority field is not included in the message the default priority (='0') is used as the Floor Priority value	

Information Element	Value/remark	Comment	Condition
User ID	Not present		ON- NETWORK
User ID			OFF- NETWORK
User ID	px_MCPTT_ID_User_A	The MCPTT User ID of the floor participant granted the floor.	
Queue Size	Not present		ON- NETWORK
Queue Size	"0"	the number of queued MCPTT clients in the MCPTT call	OFF- NETWORK
SSRC of queued floor participant	Not present		
Queued User ID	Not present		
Queue Info	Not present		
Track Info	Not present	The MCPTT call does not involve a non-controlling MCPTT function	
Floor Indicator			
Floor Indicator	100001000000000	Normal call, queueing supported	

5.5.6.4 Floor Deny

Table 5.5.6.4-1: Floor Deny

Derivation Path: 24.380 [10], Table 8.2.6-1.			
Information Element	Value/remark	Comment	Condition
RTCP header			
Subtype	00011	Floor Deny with acknowledgment not required	
SSRC	The SSRC of the message sender	The SSRC of the floor control server for onnetwork and floor arbitrator for offnetwork. Notation in accordance with clause 5.5.6.1. Coded as specified in IETF RFC 3550 [76].	
name	MCPT		
Reject Cause			
Reject Cause	"1"	Cause #1 - Another MCPTT client has permission	
Reject Phrase	"Another MCPTT client has permission"	An additional text string explaining the reason for rejecting the floor request.	
User ID	Not present		ON- NETWORK
User ID			OFF- NETWORK
User ID	px_MCPTT_ID_User_A	The MCPTT User ID of the floor participant being denied floor request.	
Track Info	Not present	The MCPTT call does not involve a non-controlling MCPTT function	
Floor Indicator			
Floor Indicator	1000010000000000	Normal call, queueing supported	

5.5.6.5 Floor Release

Table 5.5.6.5-1: Floor Release

Derivation Path: 24.380 [10], Table 8.2.7-1.			
Information Element	Value/remark	Comment	Condition
RTCP header			
Subtype	x0100	Floor Release	
SSRC	The SSRC of the	The SSRC of the	
	message sender	floor participant	
		sending the	
		message.	
		Notation in	
		accordance with	
		clause 5.5.6.1.	
		Coded as	
		specified in IETF	
	MODE	RFC 3550 [76]	
name	MCPT		ON
User ID	Not present		ON-
HearlD			NETWORK
User ID			OFF- NETWORK
User ID	px_MCPTT_ID_User_A	The MCPTT User	NETWORK
Osel ID	px_ivici i i_ib_osei_A	ID of the floor	
		participant	
		releasing the floor.	
Track Info	Not present	The MCPTT call	
		does not involve a	
		non-controlling	
		MCPTT function	
Floor Indicator			
Floor Indicator	10000x000000000	Normal call, any	
		queueing	

5.5.6.6 Floor Idle

Table 5.5.6.6-1: Floor Idle

Derivation Path: 24.380 [10], Table 8.2.8-1.			
Information Element	Value/remark	Comment	Condition
RTCP header			
Subtype	00101	Floor Idle with acknowledgment not required	
SSRC	The SSRC of the message sender	The SSRC of the floor control server for onnetwork and floor arbitrator for offnetwork. Notation in accordance with clause 5.5.6.1. Coded as specified in IETF RFC 3550 [76].	
name	MCPT		
Message Sequence Number			
Message Sequence Number	The value sent in the previous Floor Idle message, if any, increased with 1	Any value between '0' and '65535' When the '65535' value is reached, the <message Sequence Number> value starts from '0' again</message 	
Track Info	Not present	The MCPTT call does not involve a non-controlling MCPTT function	
Floor Indicator			
Floor Indicator	1000010000000000	Normal call, queueing supported	

5.5.6.7 Floor Taken

Table 5.5.6.7-1: Floor Taken

Derivation Path: 24.380 [10], Table 8.2.9-1.			
Information Element	Value/remark	Comment	Condition
RTCP header	00040		
Subtype	00010	Floor Taken with	
		acknowledgment not required	
SSRC	The SSRC of the	The SSRC of the	
351(0	message sender	floor control	
	message sender	server for on-	
		network and floor	
		arbitrator for off-	
		network.	
		Notation in	
		accordance with clause 5.5.6.1.	
		Coded as	
		specified in IETF	
		RFC 3550 [76].	
name	MCPT		
User ID	Not present		ON-
			NETWORK
User ID			OFF-
User ID	DV MODIT ID Haar A	The MCPTT user	NETWORK
USEL ID	px_MCPTT_ID_User_A	ID of the floor	
		participant	
		sending the Floor	
		Taken message	
Granted Party's Identity			
Granted Party's Identity	px_MCPTT_ID_User_B	The MCPTT User	
		ID of the floor	
		participant being	
Granted Party's Identity	Not Present	granted the floor.	Multi-Talker
Permission to Request the Floor	Not Flesent		Willian aikei
Permission to Request the Floor	"1"	The receiver is	
	·	permitted to	
		request floor	
Message Sequence Number			
Message Sequence Number	The value sent in the	Any value	
	previous Floor Taken	between '0' and	
	message, if any, increased with 1	'65535' When the '65535'	
	increased with 1	value is reached,	
		the <message< td=""><td></td></message<>	
		Sequence	
		Number> value	
		starts from '0'	
		again	
Track Info	Not present	The MCPTT call	
		does not involve a	
		non-controlling	
Floor Indicator		MCPTT function	
Floor Indicator	100001000000000	Normal call,	
	.0000.00000000	queueing	
		supported	
Floor Indicator	1000010010000000	Normal call,	Multi-Talker
		queueing	
		supported, multi-	
0000 () ()	00 1154 (140577 0);	talker	
SSRC of granted floor participant	SS-UE1 (MCPTT Client)	The SSRC of the	
	SSRC	granted floor	
SSRC of granted floor participant	Not present	participant.	Multi-Talker
Functional Alias	Not present		iviuiti- i ainei
i unotional Alias	NOT PIESCIIL	1	L

Derivation Path: 24.380 [10], Table 8.2.9-1.			
Information Element	Value/remark	Comment	Condition
	px_MCPTT_ID_FA_B	Functional Alias = URI	FA AND NOT Multi-
			Talker
List of Granted Users	Not present		
List of Granted Users	14.01		Multi-Talker
No of users User ID	'10'		
User ID	px_MCPTT_ID_User_A px_MCPTT_ID_User_B		
List of SSRCs of granted floor participants	Not present		
List of SSRCs of granted floor participants	Not present		Multi-Talker
Number of SSRCs	'10'		Watti Taikoi
SSRC	The SSRC of User A		
SSRC	The SSRC of User B		
List of Functional Aliases	Not present		
List of Functional Aliases			FA AND Multi-Talker
No of FAs	'10'		
Functional Alias	px_MCPTT_ID_FA_A		
Functional Alias	px_MCPTT_ID_FA_B		
Location			NOT Multi- Talker
Location Type	'00000000'	Not provided See TS 24.380 [10] Table 8.2.3.21-3	
Location Value	Not present	See TS 24.380 [10] Table 8.2.3.21-3. Not present if Location Type is set to "Not provided"	
Location	Not present		Multi-Talker
List of Locations	Not present		NOT Multi- Talker
List of Locations		The location information shall be maintained in the same order as the users in the List of Granted Users to allow location information to be matched to the correct user.	Multi-Talker
Number of Locations	'10'	N	
Location Type	'00000000'	Not provided See TS 24.380 [10] Table 8.2.3.21-3	
Location Value	Not present	See TS 24.380 [10] Table 8.2.3.21-3. Not present if Location Type is set to "Not provided"	
Location Type	'00000000'	Not provided See TS 24.380 [10] Table 8.2.3.21-3	

Derivation Path: 24.380 [10], Table 8.2.9-1.			
Information Element	Value/remark	Comment	Condition
Location Value	Not present	See TS 24.380 [10] Table 8.2.3.21-3. Not present if Location Type is set to "Not	
		set to "Not provided"	

5.5.6.8 Floor Revoke

Table 5.5.6.8-1: Floor Revoke

Derivation Path: 24.380 [10], Table 8.2.10.1-1. Information Element	Value/remark	Comment	Condition
	value/remark	Comment	Condition
RTCP header	00440	Floor Doveles	
Subtype	00110 The SSRC of the	Floor Revoke	
SSRC		The SSRC of the floor control	
	message sender	server for on-	
		network and floor	
		arbitrator for off-	
		network.	
		Hetwork.	
		Notation in	
		accordance with	
		clause 5.5.6.1.	
		Coded as	
		specified in IETF	
		RFC 3550 [76].	
name	MCPT		
Reject Cause			
Reject Cause	"4"	Cause#4 - Media	
		Burst pre-empted	
Reject Phrase	"Media Burst pre-	a text string	
	empted"	encoded the text	
		string in the SDES	
		item CNAME as	
		specified in IETF	
		RFC 3550 [76],	
-	N	clause 6.5.1.	
Track Info	Not present	The MCPTT call	
		does not involve a	
		non-controlling	
Floor Indicator		MCPTT function	
Floor Indicator	100001000000000	Normal call	
Floor Indicator	100001000000000	Normal call,	
		queueing	
		supported	

5.5.6.9 Floor Queue Position Request

Table 5.5.6.9-1: Floor Queue Position Request

Derivation Path: 24.380 [10], Table 8.2.11-1.			
Information Element	Value/remark	Comment	Condition
RTCP header			
Subtype	01000	Floor Queue Position Request	
SSRC	The SSRC of the message sender	The SSRC of the floor participant sending the message.	
		Notation in accordance with clause 5.5.6.1. Codedas specified in IETF RFC 3550 [76]	
name	MCPT		
User ID	Not present		ON- NETWORK
User ID			OFF- NETWORK
User ID	px_MCPTT_ID_User_A	The MCPTT ID of the floor participant requesting the information.	
Track Info	Not present	The MCPTT call does not involve a non-controlling MCPTT function	

5.5.6.10 Floor Queue Position Info

Table 5.5.6.10-1: Floor Queue Position Info

Derivation Path: 24.380 [10], Table 8.2.12-1. Information Element	Value/remark	Comment	Condition
RTCP header			
Subtype	01001	Floor Queue Position Info with acknowledgment not required	
SSRC	The SSRC of the message sender	The SSRC of the floor control server for onnetwork and floor arbitrator for offnetwork.	
		Notation in accordance with clause 5.5.6.1. Coded as specified in IETF RFC 3550 [76].	
name	MCPT		
User ID	Not present		ON- NETWORK
User ID			OFF- NETWORK
User ID	px_MCPTT_ID_User_B	the MCPTT ID of the floor participant sending the Floor Queue Position Info message	
SSRC of queued floor participant	Not present		ON- NETWORK
	The SSRC of the message recepient	The SSRC field carries the SSRC of the queued floor participant	OFF- NETWORK
Queued User ID	Not present		ON- NETWORK
Queued User ID			OFF- NETWORK
Queued User ID	px_MCPTT_ID_User_A	the MCPTT ID of the queued floor participant	
Queue Info			
Queue Position Info	"1"		
Queue Priority Level	"0"		
Track Info	Not present	The MCPTT call does not involve a non-controlling MCPTT function	
Floor Indicator			
Floor Indicator	1000010000000000	Normal call, queueing supported	

5.5.6.11 Floor Ack

Table 5.5.6.11-1: Floor Ack

Derivation Path: 24.380 [10], Table 8.2.13-1.			
Information Element	Value/remark	Comment	Condition
RTCP header			
Subtype SSRC	01010 The SSRC of the SS	Floor Ack The SSRC of the floor control server for onnetwork and floor arbitrator for offnetwork.	DOWNLINK
		Notation in accordance with clause 5.5.6.1. Coded as specified in IETF RFC 3550 [76].	
	The SSRC of the UE	The SSRC of the floor participant sending the message	UPLINK
		Notation in accordance with subclause 5.5.6.1. Coded as specified in IETF RFC 3550 [76].	
name	MCPT		
Source			
Source	"2"	The controlling MCPTT function is the sender of the message see TS 24.380[10] cl 4.2.1 and cl. 8.2.3.12	DOWNLINK
Source	"0"	The Floor participant is the sender of the message see TS 24.380[10] cl 6.2 and cl. 8.2.3.12	UPLINK
Message Type			
Message Type	"0001xxxx"	Message Type of the Floormessage which requested the acknowledgment	
Track Info	Not present	The MCPTT call does not involve a non-controlling MCPTT function	

Condition	Explanation
UPLINK	The message is sent from the UE
DOWNLINK	The message is sent from the SS
For further conditions see table 5.5.6.1-1	

5.5.6.11A Floor Release Multi Talker

Table 5.5.6.11A-1: Floor Release Multi Talker

Derivation Path: 24.380 [10], Table 8.2.14-1.			
Information Element	Value/remark	Comment	Condition
RTCP header			
Subtype	01111	Floor Release Multi Talker	
SSRC	The SSRC of the message sender	The SSRC of the floor participant sending the message. Notation in accordance with clause 5.5.6.1. Coded as specified in IETF RFC 3550 [76]	
name	MCPT		
User ID			
User ID	px_MCPTT_ID_User_B	The MCPTT User ID of the floor participant releasing the floor.	
Floor Indicator			
Floor Indicator	1000010010000000	Normal call, queueing, multi- talker	

5.5.6.12 Connect

Table 5.5.6.12-1: Connect

Derivation Path: 24.380 [10], Table 8.3.4-1.			
Information Element	Value/remark	Comment	Condition
RTCP header			
Subtype	10000	Connect with acknowledgment required	
SSRC	The SSRC of the SS	The SSRC of the floor control server for on-network and floor arbitrator for offnetwork.	
		Notation in accordance with clause 5.5.6.1. Coded as specified in IETF RFC 3550 [76].	
name	MCPC		
MCPTT Session Identity field	"		
Session Type	"00000000" "00000001"	No session type private	PRIVATE- CALL
	"00000011"	prearranged	GROUP- CALL OR BROADCAS T- GROUPCAL
	"00000100"	chat	CHAT- GROUP- CALL
MCPTT Session Identity	tsc_MCX_SessionID_B	SIP URI, which identifies the MCPTT session between the MCPTT client and the controlling MCPTT function	
MCPTT Group Identity field	Not Present	MOT 11 Idilocali	PRIVATE- CALL
MCPTT Group Identity field			GROUP- CALL
MCPTT Group Identity	px_MCPTT_Group_A_ID	a URI, which identifies the MCPTT group	
Media Streams			
Media Stream field	"1"	8 bit parameter giving the number of the" m=audio" m-line negotiated in the pre- established session	
Control Channel	"2"	8 bit parameter giving the number of the "m=application" m-line negotiated in the pre- established session	
	"0"	no floor control	WITHOUT_ FLOORCON TROL
Warning Text field	Not Present		

Answer State field			
Answer State	"1"	confirmed	
Inviting MCPTT User Identity field			
Inviting MCPTT User Identity	px_MCPTT_ID_User_B	URI, which identifies the inviting MCPTT user	
PCK I_MESSAGE field	Not Present		

Condition	Explanation
WITHOUT_FLOORCONTROL	There shall be no floor control during the call
	(e.g. in case of private or first-to-answer call)
For further conditions see table 5.5.1-1	

5.5.6.13 Disconnect

Table 5.5.6.13-1: Disconnect

Derivation Path: 24.380 [10], Table 8.3.5-1.						
Information Element	Value/remark	Comment	Condition			
RTCP header						
Subtype	10001	Disconnect with acknowledgment required				
SSRC	The SSRC of the SS	The SSRC of the floor control server for onnetwork and floor arbitrator for offnetwork. Notation in accordance with clause 5.5.6.1. Coded as specified in IETF RFC 3550 [76].				
name	MCPC					
MCPTT Session Identity field	Same MCPTT Session Identity as used in the connect message at call establishment	TS 24.380 [10] clause 9.3.2.4.5				

5.5.6.14 Acknowledge

Table 5.5.6.14-1: Acknowledge

Derivation Path: 24.380 [10], Table 8.3.6-1.			
Information Element	Value/remark	Comment	Condition
RTCP header			
Subtype	00010	Acknowledge	
SSRC	The SSRC of the UE	The SSRC of the floor participant sending the message	
		Notation in accordance with clause 5.5.6.1. Coded as specified in IETF RFC 3550 [76].	
name	MCPC		
Reason Code			
Reason Code	"0"	Accepted	

5.5.6.15 Map Group To Bearer

Table 5.5.6.15-1: Map Group To Bearer

RTCP header Subtype 00000 Server for Onnetwork and floor arbitrator for off- network. Notation in accordance with clause 5.5.6.1. Coded as specified in IETT RFC 3550 [76]. MMMC MEPTT Group ID TMGI MBMS Service ID 70F0FF* The selected value is randomly chosen - a 6 digit hexadecimal number between 000000 and FFFFFF (see TS 23.03) [83] clause 15.2. The coding of the MBMS service ID is the responsibility of each MBMS service ID is the responsibility of each MBMS service ID is the responsibility of each MBMS service ID is the responsibility of each MBMS service ID is the responsibility of each MBMS service ID is the responsibility of each MBMS service ID is the responsibility of each MBMS service ID is the responsibility of each MBMS service ID is the responsibility of each MBMS service ID is the responsibility of each MBMS service ID is the responsibility of each MBMS service ID is the responsibility of each MBMS service ID is the responsibility of each MBMS service ID is the responsibility of each MBMS service ID is the responsibility of each MBMS service ID is the responsibility of each MBMS service ID is the responsibility of each MBMS service ID is the responsibility of each MBMS service ID is the responsibility of each MBMS service ID is the SERVICE IN The responsibility of each MBMS service ID is the SERVICE IN The responsibility of each MBMS service ID is the SERVICE IN The responsibility of each MBMS service ID is the SERVICE IN The responsibility of each MBMS service ID is the SERVICE IN The responsibility of each MBMS service ID is the SERVICE IN The responsibility of each MBMS service ID is the SERVICE IN The responsibility of each MBMS service ID is the SERVICE IN The responsibility of each MBMS service ID is the SERVICE IN The responsibility of each MBMS service ID is the SERVICE IN The responsibility of each MBMS service ID is the SERVICE IN The responsibility of each MBMS service ID is the SERVICE IN The responsibility of each MBMS service ID in the SERVICE IN The responsibility of each MBMS ser	Derivation Path: 24.380 [10], Table 8.4.4-1.			
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Floor m-line Number "2" The number of the "m=application" m-line in the SIP MESSAGE request announcing the MBMS bearer The value is set to "0" when the same subchannel is used for media and for floor			"m=audio" m-line	
Floor m-line Number "2" The number of the "m=application" m-line in the SIP MESSAGE request announcing the MBMS bearer. The Number of the "m=application" m-line in the SIP MESSAGE request announcing the MBMS bearer. The <floor m-line="" number=""> value is set to "0" when the same subchannel is used for media and for floor</floor>				
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Floor m-line Number "2" The number of the "m=application" m-line in the SIP MESSAGE request announcing the MBMS bearer. The <floor m-line="" number=""> value is set to "0" when the same subchannel is used for media and for floor</floor>				
Floor m-line Number "2" The number of the "m=application" m-line in the SIP MESSAGE request announcing the MBMS bearer. The <floor m-line="" number=""> value is set to "0" when the same subchannel is used for media and for floor</floor>				
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m-line in the SIP MESSAGE request announcing the MBMS bearer. The <floor m-line="" number=""> value is set to "0" when the same subchannel is used for media and for floor</floor>	1 1001 III IIIIO HAIIIIDOI			
MESSAGE request announcing the MBMS bearer. The <floor m-line="" number=""> value is set to "0" when the same subchannel is used for media and for floor</floor>				
announcing the MBMS bearer. The <floor m-line="" number=""> value is set to "0" when the same subchannel is used for media and for floor</floor>				
MBMS bearer. The <floor m-line="" number=""> value is set to "0" when the same subchannel is used for media and for floor</floor>				
The <floor m-line="" number=""> value is set to "0" when the same subchannel is used for media and for floor</floor>				
Number> value is set to "0" when the same subchannel is used for media and for floor				
set to "0" when the same subchannel is used for media and for floor				
the same subchannel is used for media and for floor				
subchannel is used for media and for floor				
used for media and for floor				
and for floor				
			control.	

Derivation Path: 24.380 [10], Table 8.4.4-1.			
Information Element	Value/remark	Comment	Condition
IP version	"0"	'0' = IP version 4 '1' = IP version 6 All other values are reserved for future use	
Floor control Port Number	"9"	The port to be used if the <floor m-line="" number=""> value is greater than '0'. If the <floor m-line="" number=""> value is equal to '0', the <floor control="" number="" port=""> value is not included in the MBMS Subchannel field</floor></floor></floor>	
Media Port Number	"9"		
IP Address	"0.0.0.0"		

5.5.6.16 Unmap Group To Bearer

Table 5.5.6.16-1: Unmap Group To Bearer

Derivation Path: 24.380 [10], Table 8.4.5-1.			
Information Element	Value/remark	Comment	Condition
RTCP header			
Subtype	00001	Unmap Group To Bearer	
SSRC	The SSRC of the message sender	The SSRC of the floor control server for onnetwork and floor arbitrator for offnetwork. Notation in accordance with clause 5.5.6.1. Coded as specified in IETF RFC 3550 [76].	
name	MCMC	• •	
MCPTT Group ID	px_MCPTT_Group_A_ID	The group ID of the call	

5.5.6.17 Application Paging

Table 5.5.6.17-1: Application Paging

Derivation Path: 24.380 [10], Table 8.4.6-1.			
Information Element	Value/remark	Comment	Condition
RTCP header			
Subtype	00010	Application Paging	
SSRC	The SSRC of the message sender	The SSRC of the participating MCPTT function. Notation in accordance with clause 5.5.6.1. Coded as specified in IETF RFC 3550 [76].	
name	MCMC	5 5550 [10].	
MCPTT Group ID	px_MCPTT_Group_A_ID	The group ID of the call	

5.5.6.18 Bearer Announcement

Table 5.5.6.18-1: Bearer Announcement

Information Element	Value/remark	Comment	Condition
RTCP header			
Subtype	00011	Bearer	
		Announcement	
name	MCMC		
TMGI			
MBMS Service ID	"OFOFOF"	The selected value is randomly chosen - a 6 digit hexadecimal number between 000000 and FFFFFF (see TS 23.003 [69] clause 15.2. The coding of the MBMS Service ID is the responsibility of each	
MCC	The same value as for PLMN1 specified in Table 5.5.8.1-x	administration Mobile Country Code	
MNC	The same value as for PLMN1 specified in Table 5.5.8.1-x	Mobile Network Code	
Alternative TMGI	Not present	 	
Monitoring State	'1'	The <monitoring state=""> value is a binary value where the following values are defined: '0' Monitoring is inactive '1' Monitoring is active</monitoring>	

5.5.7 Default MCPTT group management messages and other information elements

5.5.7.1 MCPTT Group Configuration

The structure of a group configuration document is specified in TS 24.481 [11] clause 7, single MCPTT group configuration parameters are defined in TS 24.483 [13] clause 6.3.

The structure of the configuration document is based on several XML schemas. To distinguish the schemas the prefixes of their corresponding name spaces are used in the 'Information Element' column as according to table 7.2.2-2 of TS 24.481 [11].

Table 5.5.7.1-1: MCPTT Group Configuration Defaults

Information Element	Value/remark	Comment	Reference	Condition
list-service[1]		Group 1		
uri attribute	px_MCPTT_Group_A_I D	Value is a "uri" attribute specified in OMA OMA-TS-XDM_Group-V1_1	TS 24.483 [13] clause 6.2.7	
display-name	px_MCPTT_Group_A_ Name	Value is a <display- name> element specified in OMA OMA- TS-XDM_Group-V1_1</display- 	TS 24.483 [13] clause 6.2.8	
list		·		
entry[1]		group member 1		
uri attribute	px_MCPTT_ID_User_A	Indicates an MCPTT user identity (MCPTT ID) which is a globally unique identifier within the MCPTT service that represents the MCPTT user	TS 24.483 [13] clause 6.2.11	
display-name	Not present			
mcpttgi:user-priority	"3"	Indicates the user priority of the MCPTT group member	TS 24.483 [13] clause 6.2.12	
mcpttgi:participant-type	px_MCPTT_User_A_P articipantType	Participant type of the MCPTT group	TS 24.483 [13] clause 6.2.13	
mcpttgi:multi-talker-allowed	Present	Presence of the <multi-talker-allowed> element indicates that the MCPTT group member is authorized for multi-talker floor control in a MCPTT group call of the MCPTT group in on-network MCPTT procedures when the MCPTT group supports multi-talker-control. Absence of the <multi-talker-allowed> element indicates that the MCPTT group member identified by the <entry> element is not authorized for multi-talker floor control</entry></multi-talker-allowed></multi-talker-allowed>		
entry[2]	TO MODEL ID Hear D	group member 2	TC 04 400 [40]	
uri attribute	px_MCPTT_ID_User_B	Indicates an MCPTT user identity (MCPTT ID) which is a globally unique identifier within the MCPTT service that represents the MCPTT user	TS 24.483 [13] clause 6.2.11	
display-name	Not present			
mcpttgi:user-priority	"2"	Indicates the user priority of the MCPTT group member	TS 24.483 [13] clause 6.2.12	
mcpttgi:participant-type	px_MCPTT_User_B_P articipantType	Participant type of the MCPTT group	TS 24.483 [13] clause 6.2.13	

Derivation Path: TS 24.481 [11] cla				
Information Element	Value/remark	Comment	Reference	Condition
mcpttgi:multi-talker-allowed	Present	Presence of the <multi-< td=""><td></td><td></td></multi-<>		
		talker-allowed> element		
		indicates that the		
		MCPTT group member		
		is authorized for multi-		
		talker floor control in a		
		MCPTT group call of		
		the MCPTT group in		
		on-network MCPTT		
		procedures when the		
		MCPTT group supports		
		multi-talker-control.		
		Absence of the <multi-< td=""><td></td><td></td></multi-<>		
		talker-allowed> element		
		indicates that the		
		MCPTT group member		
		identified by the		
		<entry> element is not authorized for multi-</entry>		
ontro (2)	<u> </u>	talker floor control	1	1 ,
entry[3]	NV MCDTT ID User O	group member 3	TC 24 402 [42]	
uri attribute	px_MCPTT_ID_User_C	Indicates an MCPTT	TS 24.483 [13] clause 6.2.11	
		user identity (MCPTT	ciause 6.2.11	
		ID) which is a globally unique identifier within		
		the MCPTT service that		
		represents the MCPTT		
diantarrana	Not present	user		
display-name	Not present "1"	Ladia da a da a vasa a	TO 04 400 [40]	
mcpttgi:user-priority	"1"	Indicates the user	TS 24.483 [13]	
		priority of the MCPTT	clause 6.2.12	
	MODET II O D	group member	TO 04 400 [40]	
mcpttgi:participant-type	px_MCPTT_User_C_P	Participant type of the	TS 24.483 [13]	
manttai:multi talkar allawad	articipantType Present	MCPTT group Presence of the <multi-< td=""><td>clause 6.2.13</td><td></td></multi-<>	clause 6.2.13	
mcpttgi:multi-talker-allowed	Fresent	talker-allowed> element		
		indicates that the		
		MCPTT group member		
		is authorized for multi-		
		talker floor control in a		
		MCPTT group call of		
		the MCPTT group in on-network MCPTT		
		procedures when the MCPTT group supports		
		multi-talker-control.		
		Absence of the <multi-< td=""><td></td><td></td></multi-<>		
		talker-allowed> element indicates that the		
		MCPTT group member		
		identified by the		
		<pre><entry> element is not</entry></pre>		
		authorized for multi- talker floor control		
cp:ruleset	<u> </u>	ן נמוגפו ווטטו כטוזנוטו	<u> </u>	
cp:rule cp:id attribute	"rule1"			
cp:id attribute cp:actions	TUIGT			
cp:actions cp:on-network-allow-	"true"	Indicates that the		
getting-member-list		identity is allowed to		
getting-member-iist		get the MCS group		
		member list of the MCS		
		group in on-network		
		procedures		
cp:allow-initiate-conference	"true"	p.00000100		
cp:join-handling	"true"			
l colloin-nangling	l liue			l.

Derivation Path: TS 24.481 [11] cl Information Element	Value/remark	Comment	Reference	Condition
cp:allow-MCPTT-	"true"	Indicates whether an	TS 24.483 [13]	
emergency-call		MCPTT emergency	clause 6.2.19	
		group call is permitted		
		on the MCPTT group		
cp:allow-imminent-peril-call	"true"	Indicates whether an	TS 24.483 [13]	
		MCPTT imminent peril	clause 6.2.20	
		group call is permitted		
		on the MCPTT group		
cp:allow-MCPTT-	"true"	Indicates whether an	TS 24.483 [13]	
emergency-alert		MCPTT emergency	clause 6.2.21	
9		alert is possible on the		
		MCPTT group		
cp:on-network-allow-	"true"	Indicates that the		
getting-affiliation-list		identity is allowed to		
gg		get the list of MCPTT		
		users affiliated to the		
		MCPTT group in on-		
		network MCPTT		
		procedures		
cp:on-network-allow-	"true"	indicates that the		
conference-state	lide	identity is allowed to		
comerence-state		subscribe to the		
		conference event		
		package of an MCPTT		
		group session of the		
		MCPTT group in on-		
		network MCPTT		
		procedures		
oxe:supported-services			TO 04 404 [44]	
oxe:service			TS 24.481 [11]	
oxe:enabler	"urn:urn-7:3gpp-			
	service.ims.icsi.mcptt"			
oxe:group-media	Duagant			
mcpttgi:mcptt-speech	Present	() ()	TO 04 400 [40]	
mcpttgi:owner	px_MCPTT_Group_A_ Owner_Organization	Group's owner (Mission Critical Organisation).	TS 24.483 [13] clause 6.2.15	
mcpttgi:preferred-voice-	Owner_Organization	Childa Organisation).	ciause 6.2.15	
encodings				
mcpttgi:encoding-				
· •	ny MCDTT Croup A	Droformed voice and a	DEC 4566 [07]	
mcpttgi:name[1]	px_MCPTT_Group_A_	Preferred voice codec	RFC 4566 [27]	
	preferred_VCodec	is a RTP payload.	TS 26.171 [66]	
		MCPTT clients shall	TS 24.483 [13]	
		support the AMR-WB	clause 6.2.16	
monttailovol viithin arava	"0"	codec.	TC 04 400 [40]	
mcpttgi:level-within-group-	l o	Indicates the level	TS 24.483 [13]	
hierarchy		within a group	clause 6.2.17	
		hierarchy (only		
		applicable for group-		
		broadcast group).		
	"0"	Indicates the level	TS 24.483 [13]	
mcpttgi:level-within-user-	0			
		within user hierarchy	clause 6.2.18	
	0	(only applicable for	clause 6.2.18	
hierarchy		(only applicable for user-broadcast group).		
	"true"	(only applicable for user-broadcast group). Indicates whether	TS 24.483 [13]	
hierarchy		(only applicable for user-broadcast group).		
hierarchy		(only applicable for user-broadcast group). Indicates whether confidentiality and	TS 24.483 [13]	
hierarchy		(only applicable for user-broadcast group). Indicates whether confidentiality and integrity of media is	TS 24.483 [13]	
hierarchy		(only applicable for user-broadcast group). Indicates whether confidentiality and integrity of media is required on the MCPTT	TS 24.483 [13]	
hierarchy mcpttgi:protect-media	"true"	(only applicable for user-broadcast group). Indicates whether confidentiality and integrity of media is required on the MCPTT group	TS 24.483 [13] clause 6.2.22	
mcpttgi:protect-media mcpttgi:protect-floor-control-		(only applicable for user-broadcast group). Indicates whether confidentiality and integrity of media is required on the MCPTT group Indicates whether	TS 24.483 [13] clause 6.2.22	
hierarchy mcpttgi:protect-media	"true"	(only applicable for user-broadcast group). Indicates whether confidentiality and integrity of media is required on the MCPTT group Indicates whether confidentiality and	TS 24.483 [13] clause 6.2.22	
mcpttgi:protect-media mcpttgi:protect-floor-control-	"true"	(only applicable for user-broadcast group). Indicates whether confidentiality and integrity of media is required on the MCPTT group Indicates whether	TS 24.483 [13] clause 6.2.22	

Derivation Path: TS 24.481 [11] c		1		
Information Element	Value/remark	Comment	Reference	Condition
mcpttgi:off-network-ProSe-	tsc_MCPTT_Group_A_	Indicates the Prose	TS 23.303 [68]	
layer-2-group-id	ProSeLayer2GroupID	layer-2 group ID	TS 24.483 [13]	
monttoicoff noticeals ID	#0.000#	La dia ata a tha a Daa Ca	clause 6.2.27	
mcpttgi:off-network-IP- multicast-address	"0.0.0.0"	Indicates the ProSe	TS 23.303 [68]	
municasi-address		group IP multicast address;the IP version	TS 24.483 [13] clause 6.2.28	
		is implicitly given by the	Clause 0.2.20	
		notation of the IP		
		address		
mcpttgi:off-network-ProSe-	"123456"	Indicates the	TS 23.303 [68]	
relay-service-code		connectivity service	TS 24.483 [13]	
		that the ProSe UE-to-	clause 6.2.29	
		network relay provides		
		to public safety applications		
mcpttgi:off-network-in-	"PT18H12M15S"	Indicates the timeout	TS 24.483 [13]	
progress-emergency-state-	1 1101112111100	value for the	clause 6.2.31	
cancellation-timeout		cancellation of an in		
		progress emergency for		
		an MCPTT group call.		
		"PT18H12M15S"		
		corresponds to 65535		
		seconds what is maximum allowed		
		value according to		
		TS 24.483 [13]		
mcpttgi:off-network-in-	"PT18H12M15S"	Indicates the timeout	TS 24.483 [13]	
progress-imminent-peril-state-		value for the	clause 6.2.32	
cancellation-timeout		cancellation of an in		
		progress imminent peril		
		for an MCPTT group		
		call. "PT18H12M15S"		
		corresponds to 65535 seconds what is		
		maximum allowed		
		value according to		
		TS 24.483 [13]		
mcpttgi:off-network-hang-	"PT5S"	Indicates the group call	TS 24.483 [13]	
timer		hang timer. "PT5S"	clause 6.2.33	
		corresponds to 5		
	HDT4 NAU	seconds	TO 04 400 [40]	
mcpttgi:off-network- maximum-duration	"PT1M"	Indicates the max duration of group calls.	TS 24.483 [13] clause 6.2.34	
maximum-quration		"PT1M" corresponds to	Ulause 0.2.34	
		1 minute		
mcpttgi:off-network-queue-	"true"	Indicates if queuing is	TS 24.483 [13]	
usage		enabled or not	clause 6.2.34A	
mcpttgi:off-network-ProSe-	"1"	Indicates the default	TS 24.483 [13]	
signalling-PPPP		ProSe Per-Packet	clause 6.2.36	
month who ff and a district	11411	Priority (PPPP) value	TO 04 400 110	
mcpttgi:off-network-ProSe-	"1"	Indicates the default	TS 24.483 [13]	
media-PPPP		ProSe Per-Packet	clause 6.2.37	
mcpttgi:off-network-ProSe-	"8"	Priority (PPPP) value Indicates the default	TS 24.483 [13]	
emergency-call-signalling-		ProSe Per-Packet	clause 6.2.38	
PPPP		Priority (PPPP) value	3.4430 0.2.00	
mcpttgi:off-network-ProSe-	"8"	Indicates the default	TS 24.483 [13]	
emergency-call-media-PPPP		ProSe Per-Packet	clause 6.2.39	
		Priority (PPPP) value		
mcpttgi:off-network-ProSe-	"7"	Indicates the default	TS 24.483 [13]	
imminent-peril-call-signalling-		ProSe Per-Packet	clause 6.2.40	
PPPP		Priority (PPPP) value	TO 04 400 110	
mcpttgi:off-network-ProSe-	"7"	Indicates the default	TS 24.483 [13]	
imminent-peril-call-media- PPPP		ProSe Per-Packet Priority (PPPP) value	clause 6.2.41	
1177		Tritotity (FFFF) value	l	l

Derivation Path: TS 24.481 [11] clause 7.2.2							
Information Element	Value/remark	Comment	Reference	Condition			
mcpttgi:multi-talker-control	"false"	"true" indicates that multi-talker control is enabled for the group "false" indicates that multi-talker control is disabled for the group					
mcpttgi:max-number- simultaneous-talkers	"1"	Indicates the maximum number of parallel talkers in a MCPTT group session in onnetwork MCPTT procedures					
mcpttgi:audio-mixing-entity	Not present	Absence of the <audio- mixing-entity> element indicates that audio mixing is performed in the network</audio- 					

Table 5.5.7.1-2: Group Creation Document

Derivation Path: TS 24.481 [11] clause	7.2.2			
Information Element	Value/remark	Comment	Reference	Condition
list-service [1]				
uri-attribute	px_MCPTT_Grou p_B_ID	uri of the MCPTT group	TS 24.481 [11]	
display-name	px_MCPTT_Grou p_B_name	group display name	TS 24.481 [11]	
list				
entry[1]		User-C		
uri-attribute	px_MCPTT_ID_U	User ID allowed to	TS 24.481 [11]	
	ser_C	participate in this group		
display-name	Not present	User display name	TS 24.481 [11]	
entry[2]		User-D		
uri-attribute	px_MCPTT_ID_U	User ID allowed to	TS 24.481 [11]	
	ser_D	participate in this group		
display-name	Not present	User display name	TS 24.481 [11]	
oxe:supported-services				
oxe:service			TS 24.481 [11]	
oxe:enabler	"urn:urn-7:3gpp-			
	service.ims.icsi.m cptt"			
oxe:group-media	•			
mcpttgi:mcptt-speech	Present			

Table 5.5.7.1-3: Temporary Group Creation Document

Information Element	Value/remark	Comment	Reference	Condition
gmop:document				
gmop:request				
gmop:group-regroup-creation				
group				
list-service[1]				
uri attribute	px_MCPTT_Group_T_I D	MCS temporary group identity		
display-name	Not present	•		
list	Not present	Temporary group contains constituent groups but no group members		
mcpttgi:on-network- temporary			TS 24.481 [11]	
constituent-MCPTT- group-IDs				
constituent-MCPTT- group-ID[1]	px_MCPTT_Group_A_I D	MCS group ID of a constituent MCS group of the temporary MCS group		
constituent-MCPTT- group-ID[2]	px_MCPTT_Group_B_I D	MCS group ID of a constituent MCS group of the temporary MCS group		
oxe:supported-services				
oxe:service			TS 24.481 [11]	
oxe:enabler	"urn:urn-7:3gpp- service.ims.icsi.mcptt"			
oxe:group-media	·			
mcpttgi:mcptt-speech	Present			

5.5.7.2 MCVideo Group Configuration

The structure of a group configuration document is specified in TS 24.481 [11] clause 7, single MCVideo group configuration parameters are defined in TS 24.483 [13] clause 6.

Table 5.5.7.1-1: MCVideo Group Configuration Defaults

Derivation Path: TS 24.481 [11] Information Element	Value/remark	Comment	Reference	Condition
list-service[1]	Value/Telliai N	Group 1	INCIDITETION	Solidition
uri attribute	px_MCVideo_Group_A _ID	Value is a "uri" attribute specified in OMA OMA-	TS 24.483 [13] clause 6.2.7	
display-name	px_MCVideo_Group_A _Name	TS-XDM_Group-V1_1 Value is a <display- name=""> element specified in OMA OMA- TS-XDM_Group-V1_1</display->	TS 24.483 [13] clause 6.2.8	
list		TO ADM_GROUP VI_I		
entry[1]		group member 1		
uri attribute	px_MCVideo_ID_User_ A	Indicates an MCVideo user identity (MCVideo ID) which is a globally unique identifier within the MCVideo service that represents the MCVideo user	TS 24.483 [13] clause 6.2.11	
display-name	Not present			
mcpttgi:user-priority	"3"	Indicates the user priority of the MCVideo group member	TS 24.483 [13] clause 6.2.12	
mcpttgi:participant-type	px_MCVideo_User_A_	Participant type of the	TS 24.483 [13]	
rlimovidoo mavidoo id	ParticipantType	MCVideo group	clause 6.2.13	
rl:mcvideo-mcvideo-id uri attribute	px_MCVideo_ID_User_ A			
entry[2]		Group member 2		
uri attribute	px_MCVideo_ID_User_ B	Indicates an MCVideo user identity (MCVideo ID) which is a globally unique identifier within the MCVideo service that represents the MCVideo user	TS 24.483 [13] clause 6.2.11	
display-name	Not present			
mcpttgi:user-priority	"2"	Indicates the user priority of the MCVideo group member	TS 24.483 [13] clause 6.2.12	
mcpttgi:participant-type	px_MCVideo_User_B_ ParticipantType	Participant type of the MCVideo group	TS 24.483 [13] clause 6.2.13	
rl:mcvideo-mcvideo-id	140) # 1 15 11			
uri attribute	px_MCVideo_ID_User_ B			
entry[3]	<u> </u>	Group member 3		
uri attribute	px_MCVideo_ID_User_ C	Indicates an MCVideo user identity (MCVideo ID) which is a globally unique identifier within the MCVideo service that represents the MCVideo user	TS 24.483 [13] clause 6.2.11	
	Not present			
display-name		1 1 2 4 4	TS 24.483 [13]	
display-name mcpttgi:user-priority	"1"	Indicates the user priority of the MCVideo group member	clause 6.2.12	
		priority of the MCVideo		
mcpttgi:user-priority	"1" px_MCVideo_User_C_ ParticipantType	priority of the MCVideo group member Participant type of the	clause 6.2.12 TS 24.483 [13]	
mcpttgi:user-priority mcpttgi:participant-type rl:mcvideo-mcvideo-id uri attribute	"1" px_MCVideo_User_C_	priority of the MCVideo group member Participant type of the	clause 6.2.12 TS 24.483 [13]	
mcpttgi:user-priority mcpttgi:participant-type rl:mcvideo-mcvideo-id uri attribute cp:ruleset	px_MCVideo_User_C_ ParticipantType px_MCVideo_ID_User_	priority of the MCVideo group member Participant type of the	clause 6.2.12 TS 24.483 [13]	
mcpttgi:user-priority mcpttgi:participant-type rl:mcvideo-mcvideo-id uri attribute	px_MCVideo_User_C_ ParticipantType px_MCVideo_ID_User_	priority of the MCVideo group member Participant type of the	clause 6.2.12 TS 24.483 [13]	

Derivation Path: TS 24.481 [11] c	ause 7.2.2			
Information Element	Value/remark	Comment	Reference	Condition
mcpttgi:on-network-allow- getting-member-list	"true"	Indicates that the identity is allowed to get the MCS group member list of the MCS group in on-network procedures.		
mcpttgi:mcvideo-allow- emergency-call	"true"	Indicates that the identity is allowed to request an MCVideo-emergency call on the MCVideo group.		
mcpttgi:mcvideo-allow- emergency-alert	"true"	Indicates that the identity is allowed to request an MCVideo-emergency alert on the MCVideo group.		
mcpttgi:mcvideo-allow- imminent-peril-call	"true"	Indicates that the identity is allowed to request an MCVideo imminent peril call on the MCVideo group.		
mcpttgi:mcvideo-on- network-allow-conference-state	"true"	Indicates that the identity is allowed to subscribe to the conference event package of an MCVideo group session of the MCVideo group in on-network MCVideo procedures.		
mcpttgi:mcvideo-on- network-allow-getting-affiliation- list	"true"	Indicates that the identity is allowed to get the list of MCVideo users affiliated to the MCVideo group in onnetwork MCVideo procedures.		
oxe:supported-services				
oxe:service				
oxe:enabler	"urn:urn-7:3gpp- service.ims.icsi.mcvide o"	String defining an enabler		
oxe:group-media				
oxe:mcvideo-video-media	. MODIT O		TO 00 000 1000	
mcpttgi:off-network-ProSe- layer-2-group-id	tsc_MCPTT_Group_A_ ProSeLayer2GroupID	Indicates the Prose layer-2 group ID	TS 23.303 [68] TS 24.483 [13] clause 6.2.27	
mcpttgi:off-network-IP- multicast-address	"0.0.0.0"	Indicates the ProSe group IP multicast address;the IP version is implicitly given by the notation of the IP address	TS 23.303 [68] TS 24.483 [13] clause 6.2.28	
mcpttgi:off-network-ProSe- relay-service-code	"123456"	Indicates the connectivity service that the ProSe UE-to-network relay provides to public safety applications	TS 23.303 [68] TS 24.483 [13] clause 6.2.29	
mcpttgi:owner	px_MCVideo_Group_A	Group's owner (Mission	TS 24.483 [13]	
mcpttgi:level-within-group- hierarchy	_Owner_Organization	Critical Organisation). Indicates the level within a group hierarchy (only applicable for group- broadcast group).	clause 6.2.15 TS 24.483 [13] clause 6.2.17	

Derivation Path: TS 24.481 [11] c	Value/remark	Comment	Reference	Condition
mcpttgi:level-within-user-	"0"	Indicates the level	TS 24.483 [13]	
hierarchy		within user hierarchy	clause 6.2.18	
•		(only applicable for		
		user-broadcast group).		
mcpttgi:mcvideo-on-	"true"			
network-invite-members				
mcpttgi:mcvideo-on-	"1800"	Indicates the max	TS 24.483 [13]	
network-maximum-duration		duration of MCVideo	clause 6.2.56	
		group calls.		
mcpttgi:mcvideo-urgent-real-	"true"	Indicates that urgent		
time-video-mode		real-time video mode is		
		allowed for the		
monttel movides non unest		MCVideo group.		
mcpttgi:mcvideo-non-urgent- real-time-video-mode	"true"	indicates that non		
real-time-video-mode		urgent real-time video mode is allowed for the		
mcpttgi:mcvideo-non-real-	"true"	MCVideo group. indicates that non real-		
time-video-mode	true	time video mode is		
unic video-inode		allowed for the		
		MCVideo group.		
mcpttgi:mcvideo-active-real-	"non-urgent-real-time"	Indicates the the active		
time-video-mode	Tion argoni real time	real time video mode of		
		the current group		
		session		
mcpttgi:mcvideo-maximum-	"1"	Indicates the allowed		
simultaneous-mcvideo-		maximum number of		
transmitting-group-members		simultaneous		
		transmitting MCVideo		
		Group Members.		
mcpttgi:mcvideo-on-	"1"	Indicates the minimum		
network-minimum-number-to-		number of affiliated		
start		group members		
		acknowledging before		
		start of video		
		transmission specified in 3GPP TS 23.281 [24]		
		in on-network MCVideo		
		procedures.		
mcpttgi: mcvideo-on-	"1"	Indicates the priority		
network-group-priority	'	level of the group in on-		
g. oap priority		network MCVideo		
		procedures. Higher		
		value indicates higher		
		priority. Absence of the		
		<mcvideo-on-network-< td=""><td></td><td></td></mcvideo-on-network-<>		
		group-priority> element		
		of the <list-service></list-service>		
		element of the		
		MCVideo group		
		document indicates the		
		lowest possible priority.		
mcpttgi:mcvideo-off-	"self"	This leaf node indicates	TS 24.483 [13]	
network-arbitration-approach		the arbitration approach	clause 6.2.47	
		used for off-network		
		video tranmissions on		
menttai-movidoo-eff	"1"	the group.	TC 24 402 [42]	
mcpttgi:mcvideo-off- network-maximum-	'	indicates maximum number of	TS 24.483 [13] clause 6.2.48	
simultaneous-transmissions		simultaneous	Uaust 0.∠.40	
31111111111111111111111111111111111111		transmissions for off-		
		network MCVideo		
		procedures.		
mcpttgi:mcvideo-off-	"1"	Indicates the default	TS 24.483 [13]	
network-ProSe-signalling-	'	ProSe Per-Packet	clause 6.2.50	

Derivation Path: TS 24.481 [11] c Information Element	Value/remark	Comment	Reference	Condition
mcpttgi:mcvideo-off-	"8"	Indicates the default	TS 24.483 [13]	Condition
network-ProSe-emergency-		ProSe Per-Packet	clause 6.2.52	
call-signalling-PPPP		Priority (PPPP) value		
0 0		(as specified in		
		3GPP TS 23.303 [6])		
		for the MCVideo		
		emerency group call		
		signalling.		
mcpttgi:mcvideo-off-	"7"	Indicates the default	TS 24.483 [13]	
network-ProSe-imminent- peril-call-signalling-PPPP		ProSe Per-Packet Priority (PPPP) value	clause 6.2.54	
perii-caii-signaming-FFFF		(as specified in		
		3GPP TS 23.303 [6])		
		for the MCVideo		
		imminent peril group		
		call signalling.		
mcpttgi:mcvideo-off-	"1"	Indicates the default	TS 24.483 [13]	·
network-ProSe-media-PPPP		ProSe Per-Packet	clause 6.2.51	
		Priority (PPPP) value		
mcpttgi:mcvideo-off-	"8"		TS 24.483 [13]	
network-ProSe-emergency-			clause 6.2.53	
call-media-PPPP mcpttgi:mcvideo-off-	"7"	Indicates the default	TS 24.483 [13]	
network-ProSe-imminent-	'	ProSe Per-Packet	clause 6.2.55	
peril-call-media-PPPP		Priority (PPPP) value	0.2.33	
point dan interior in it is		(as specified in		
		3GPP TS 23.303 [6])		
		for the MCVideo		
		imminent peril group		
		call media.		
mcpttgi:mcvideo-off-	"60	Indicates the maximum		
network-maximum-duration	"05505"	duration of group calls		
mcpttgi:mcvideo-off-	"65535"	Indicates the timeout		
network-in-progress- emergency-state-cancellation-		value for the cancellation of an in		
timeout		progress emergency in		
		off-network MCVideo		
		procedures		
mcpttgi:mcvideo-off-	"65535"	Indicates the timeout		
network-in-progress-		value for the		
imminent-peril-state-		cancellation of an in		
cancellation-timeout		progress imminent-peril		
		group call in off-		
		network MCVideo procedures		
list-service[2]		Group 2		
uri attribute	px_MCVideo_Group_D	Value is a "uri" attribute	TS 24.483 [13]	
a atti ibato	_ID	specified in OMA OMA-	clause 6.2.7	
		TS-XDM_Group-V1_1	v.=	
display-name	px_MCVideo_Group_D	Value is a <display-< td=""><td>TS 24.483 [13]</td><td></td></display-<>	TS 24.483 [13]	
	_Name	name> element	clause 6.2.8	
		specified in OMA OMA-		
		TS-XDM_Group-V1_1		
list				
entry[1]	my MO\/3 ID II	group member 1	TO 04 400 [40]	
uri attribute	px_MCVideo_ID_User_	Indicates an MCVideo	TS 24.483 [13]	
	A	user identity (MCVideo ID) which is a globally	clause 6.2.11	
		unique identifier within		
		the MCVideo service		
		that represents the		
		MCVideo user		
	Not propert			
display-name	Not present			
display-name mcpttgi:user-priority	"3"	Indicates the user	TS 24.483 [13]	
	"3"	Indicates the user priority of the MCVideo group member	TS 24.483 [13] clause 6.2.12	

Derivation Path: TS 24.481 [11] c Information Element	Value/remark	Comment	Reference	Condition
mcpttgi:participant-type	px_MCVideo_User_A_	Participant type of the	TS 24.483 [13]	
	ParticipantType	MCVideo group	clause 6.2.13	
rl:mcvideo-mcvideo-id				
uri attribute	px_MCVideo_ID_User_			
	Α			
entry[2]		Group member 2		
uri attribute	px_MCVideo_ID_User_ B	Indicates an MCVideo user identity (MCVideo ID) which is a globally unique identifier within the MCVideo service that represents the MCVideo user	TS 24.483 [13] clause 6.2.11	
display-name	Not present			
mcpttgi:user-priority	"2"	Indicates the user priority of the MCVideo group member	TS 24.483 [13] clause 6.2.12	
mcpttgi:participant-type	px_MCVideo_User_B_ ParticipantType	Participant type of the MCVideo group	TS 24.483 [13] clause 6.2.13	
rl:mcvideo-mcvideo-id				
uri attribute	px_MCVideo_ID_User_ B			
cp:ruleset				
cp:rule				
cp:id attribute	"rule2"			
cp:actions				
mcpttgi:on-network-allow- getting-member-list	"true"	Indicates that the identity is allowed to get the MCS group member list of the MCS group in on-network procedures.		
mcpttgi:mcvideo-allow- emergency-call	"false"	Indicates that the identity is not allowed to request an MCVideo-emergency call on the MCVideo group.		
mcpttgi:mcvideo-allow-	"false"	Indicates that the		
emergency-alert		identity is not allowed to request an MCVideo- emergency alert on the MCVideo group.		
mcpttgi:mcvideo-allow- imminent-peril-call	"false"	Indicates that the identity is not allowed to request an MCVideo imminent peril call on the MCVideo group.		
mcpttgi:mcvideo-on- network-allow-conference-state	"false"	Indicates that the identity is not allowed to subscribe to the conference event package of an MCVideo group session of the MCVideo group in on-network MCVideo procedures.		
mcpttgi:mcvideo-on- network-allow-getting-affiliation- list oxe:supported-services	"false"	Indicates that the identity is not allowed to get the list of MCVideo users affiliated to the MCVideo group in onnetwork MCVideo procedures.		

Derivation Path: TS 24.481 [11] clarification Element	Value/remark	Comment	Reference	Condition
oxe:service				
oxe:enabler	"urn:urn-7:3gpp- service.ims.icsi.mcvide o"	String defining an enabler		
oxe:group-media				
oxe:mcvideo-video-media				
mcpttgi:off-network-ProSe- layer-2-group-id	tsc_MCPTT_Group_D_ ProSeLayer2GroupID	Indicates the Prose layer-2 group ID	TS 23.303 [68] TS 24.483 [13] clause 6.2.27	
mcpttgi:off-network-IP- multicast-address	"0.0.0.0"	Indicates the ProSe group IP multicast address;the IP version is implicitly given by the notation of the IP address	TS 23.303 [68] TS 24.483 [13] clause 6.2.28	
mcpttgi:off-network-ProSe- relay-service-code	"123456"	Indicates the connectivity service that the ProSe UE-to-network relay provides to public safety applications	TS 23.303 [68] TS 24.483 [13] clause 6.2.29	
mcpttgi:owner	px_MCVideo_Group_D _Owner_Organization	Group's owner (Mission Critical Organisation).	TS 24.483 [13] clause 6.2.15	
mcpttgi:level-within-group- hierarchy	"0"	Indicates the level within a group hierarchy (only applicable for group-broadcast group).	TS 24.483 [13] clause 6.2.17	
mcpttgi:level-within-user- hierarchy	"0"	Indicates the level within user hierarchy (only applicable for user-broadcast group).	TS 24.483 [13] clause 6.2.18	
mcpttgi:mcvideo-on- network-invite-members	"true"	-		
mcpttgi:mcvideo-on- network-maximum-duration	"1800"	Indicates the max duration of MCVideo group calls.	TS 24.483 [13] clause 6.2.56	
mcpttgi:mcvideo-urgent-real- time-video-mode	"true"	Indicates that urgent real-time video mode is allowed for the MCVideo group.		
mcpttgi:mcvideo-non-urgent- real-time-video-mode	"true"	indicates that non urgent real-time video mode is allowed for the MCVideo group.		
mcpttgi:mcvideo-non-real- time-video-mode	"true"	indicates that non real- time video mode is allowed for the MCVideo group.		
mcpttgi:mcvideo-active-real- time-video-mode	"non-urgent-real-time"	Indicates the the active real time video mode of the current group session		
mcpttgi:mcvideo-maximum- simultaneous-mcvideo- transmitting-group-members	"1"	Indicates the allowed maximum number of simultaneous transmitting MCVideo Group Members.		

Derivation Path: TS 24.481 [11] c Information Element	Value/remark	Comment	Reference	Condition
mcpttgi:mcvideo-on-	"1"	Indicates the minimum		
network-minimum-number-to-		number of affiliated		
start		group members		
		acknowledging before		
		start of video		
		transmission specified		
		in 3GPP TS 23.281 [24]		
		in on-network MCVideo		
		procedures.		
mcpttgi:mcpttgi: mcvideo-	"1"	Indicates the priority		
mcpttgi:mcpttgi: mcvideo- on-network-group-priority	'	level of the group in on-		
on-network-group-priority		network MCVideo		
		procedures. Higher		
		value indicates higher		
		priority. Absence of the		
		<mcvideo-on-network-< td=""><td></td><td></td></mcvideo-on-network-<>		
		group-priority> element		
		of the <list-service></list-service>		
		element of the		
		MCVideo group		
		document indicates the		
		lowest possible priority.		
mcpttgi:mcvideo-off-	"self"	This leaf node indicates	TS 24.483 [13]	
network-arbitration-approach		the arbitration approach	clause 6.2.47	
		used for off-network		
		video tranmissions on		
		the group.		
mcpttgi:mcvideo-off-	"1"	indicates maximum	TS 24.483 [13]	
network-maximum-		number of	clause 6.2.48	
simultaneous-transmissions		simultaneous		
		transmissions for off-		
		network MCVideo		
		procedures.		
mcpttgi:mcvideo-off-	"1"	Indicates the default	TS 24.483 [13]	
network-ProSe-signalling-	'	ProSe Per-Packet	clause 6.2.50	
PPPP			ciause 6.2.50	
	"8"	Priority (PPPP) value	TC 04 400 [40]	
mcpttgi:mcvideo-off-	"8"	Indicates the default	TS 24.483 [13]	
network-ProSe-emergency-		ProSe Per-Packet	clause 6.2.52	
call-signalling-PPPP		Priority (PPPP) value		
		(as specified in		
		3GPP TS 23.303 [6])		
		for the MCVideo		
		emerency group call		
		signalling.		
mcpttgi:mcvideo-off-	"7"	Indicates the default	TS 24.483 [13]	
network-ProSe-imminent-		ProSe Per-Packet	clause 6.2.54	
peril-call-signalling-PPPP		Priority (PPPP) value		
		(as specified in		
		3GPP TS 23.303 [6])		
		for the MCVideo		
		imminent peril group		
		call signalling.		
mcpttgi:mcvideo-off-	"1"	Indicates the default	TS 24.483 [13]	
network-ProSe-media-PPPP		ProSe Per-Packet	clause 6.2.51	
		Priority (PPPP) value	314400 0.2.01	
mcpttgi:mcvideo-off-	"8"		TS 24.483 [13]	
network-ProSe-emergency-	١		clause 6.2.53	
call-media-PPPP			Ulause 0.2.33	
	"7"	Indicates the state of	TC 04 400 [40]	
mcpttgi:mcvideo-off-	" <i>I</i> "	Indicates the default	TS 24.483 [13]	
network-ProSe-imminent-		ProSe Per-Packet	clause 6.2.55	
peril-call-media-PPPP		Priority (PPPP) value		
		(as specified in		
		3GPP TS 23.303 [6])		
		for the MCVideo		
		imminent peril group		
	1	call media.	i e	

Derivation Path: TS 24.481 [11] cl	ause 7.2.2			
Information Element	Value/remark	Comment	Reference	Condition
mcpttgi:mcvideo-off-	"60	Indicates the maximum		
network-maximum-duration		duration of group calls		
mcpttgi:mcvideo-off-	"65535"	Indicates the timeout		
network-in-progress-		value for the		
emergency-state-cancellation-		cancellation of an in		
timeout		progress emergency in		
		off-network MCVideo		
		procedures		
mcpttgi:mcvideo-off-	"65535"	Indicates the timeout		
network-in-progress-		value for the		
imminent-peril-state-		cancellation of an in		
cancellation-timeout		progress imminent-peril		
		group call in off-		
		network MCVideo		
		procedures		

5.5.7.3 MCDATA Group Configuration

The structure of a group configuration document is specified in TS 24.481 [11] clause 7.

Single MCDATA group configuration parameters are defined in TS 24.483 [13] clause 6.3.

Table 5.5.7.3-1: MCDATA Group Configuration Defaults

Information Element	Value/remark	Comment	Reference	Condition
list-service[1]		Group 1		
uri attribute	px_MCDATA_Group_A _ID	Value is a "uri" attribute specified in OMA OMA-TS-XDM_Group-V1_1	TS 24.483 [13] clause 6.2.7	
display-name	px_MCData _Group_A_Name	Value is a <display- name> element specified in OMA OMA- TS-XDM_Group-V1_1</display- 	TS 24.483 [13] clause 6.2.8	
list				
entry[1]		group member 1		
uri attribute	px_MCData_ID_User_ A	Indicates an MCData user identity (MCData ID) which is a globally unique identifier within the MCData service that represents the MCData user	TS 24.483 [13] clause 6.2.11	
display-name	Not present			
mcpttgi:user-priority	"3"	Indicates the user priority of the MCData group member	TS 24.483 [13] clause 6.2.12	
mcpttgi:participant-type	px_MCData _User_A_ParticipantTy pe	Participant type of the MCData group	TS 24.483 [13] clause 6.2.13	
rl:mcdata-mcdata-id				
uri attribute	px_MCData_ID_User_ A			
entry[2]		Group member 2		
uri attribute	px_MCData_ID_User_ B	Indicates an MCData user identity (MCData ID) which is a globally unique identifier within the MCData service that represents the MCData user	TS 24.483 [13] clause 6.2.11	
display-name	Not present			
mcpttgi:user-priority	"2"	Indicates the user priority of the MCData group member	TS 24.483 [13] clause 6.2.12	
mcpttgi:participant-type	px_MCData _User_B_ParticipantTy pe	Participant type of the MCData group	TS 24.483 [13] clause 6.2.13	
rl:mcdata-mcdata-id	<u> </u>			
uri attribute	px_MCData_ID_User_ B		TS 24.483 [13] clause 6.2.11	
entry[3]		Group member 3		
uri attribute	px_MCData_ID_User_ C	Indicates an MCData user identity (MCData ID) which is a globally unique identifier within the MCData service that represents the MCData user	TS 24.483 [13] clause 6.2.11	
display-name	Not present	I P (d	TO 0 4 400 7:10	
mcpttgi:user-priority	"1"	Indicates the user priority of the MCData group member	TS 24.483 [13] clause 6.2.12	
mcpttgi:participant-type	px_MCData _User_C_ParticipantTy _pe	Participant type of the MCData group	TS 24.483 [13] clause 6.2.13	
rl:mcdata-mcdata-id				
uri attribute	px_MCData_ID_User_ C		TS 24.483 [13] clause 6.2.11	
cp:ruleset				

Derivation Path: TS 24.481 [11] c Information Element	Value/remark	Comment	Reference	Condition
cp:id attribute	"rule1"			
cp:actions	10.01			
mcpttgi:on-network-allow-	"true"	Indicates that the		
getting-member-list		identity is allowed to		
9 9		get the MCS group		
		member list of the MCS		
		group in on-network		
		procedures.		
mcpttgi:mcdata-on-	"true"	Indicates that the		
network-allow-getting-affiliation-		identity is allowed to		
list		get the list of MCData		
		users affiliated to the		
		MCData group in on-		
		network MCData		
		procedures		
mcpttgi:mcdata-allow-	"true"	Indicates that the		
transmit-data-in-this-group		identity is allowed to		
		transmit data in this		
		group		
oxe:supported-services				
oxe:service				
oxe:enabler	"urn:urn-7:3gpp-	String defining an		
	service.ims.icsi.mcdata.	enabler		
mcpttgi:off-network-ProSe-	tsc_MCPTT_Group_A_	Indicates the Prose	TS 23.303 [68]	
layer-2-group-id	ProSeLayer2GroupID	layer-2 group ID	TS 24.483 [13]	
iayo g. cap ia	1 10002ay012010ap12	layor 2 group 12	clause 6.2.27	
mcpttgi:off-network-IP-	"0.0.0.0"	Indicates the ProSe	TS 23.303 [68]	
multicast-address	0.0.0.0	group IP multicast	TS 24.483 [13]	
		address;the IP version	clause 6.2.28	
		is implicitly given by the	0.0.00	
		notation of the IP		
		address		
mcpttgi:off-network-ProSe-	"123456"	Indicates the	TS 23.303 [68]	
relay-service-code	1 - 2 - 2 - 2	connectivity service	TS 24.483 [13]	
		that the ProSe UE-to-	clause 6.2.29	
		network relay provides		
		to public safety		
		applications		
mcpttgi:owner	px_MCData_Group_A_	Group's owner (Mission	TS 24.483 [13]	
	Owner_Organization	Critical Organisation).	clause 6.2.15	
mcpttgi:level-within-group-	"0"	Indicates the level	TS 24.483 [13]	
hierarchy		within a group	clause 6.2.17	
-		hierarchy (only		
		applicable for group-		
		broadcast group).		
mcpttgi:level-within-user-	"0"	Indicates the level	TS 24.483 [13]	
hierarchy		within user hierarchy	clause 6.2.18	
		(only applicable for		
		user-broadcast group).		
mcpttgi:mcpttgi:mcdata-on-	"1"	Indicates the priority		
network-group-priority		level of the group in on-		
		network MCData		
		procedures. Higher		
		value indicates higher		
		priority		
mcpttgi:mcdata-on-network-	"10000"	Indicates the maximum		
max-data-size-for-SDS		size of data (in bytes)		
		that the originating		
		MCData client is		
		allowed to send to the		
		MCData server for on-		
		network SDS		
		communications]

Derivation Path: TS 24.481 [11] of Information Element	Value/remark	Comment	Reference	Condition
mcpttgi:mcdata-on-network-	"10000"	Indicates the maximum	I/elelelelice	Condition
max-data-size-for-FD	10000	size of data (in bytes)		
		that the originating		
		MCData client is		
		allowed to send to the		
		MCData server for on-		
		network FD		
		communications		
mcpttgi:mcdata-on-network-	"2000"	Indicates the maximum		
max-data-size-auto-recv	2000	size of data (in bytes)		
data 3126-auto-1667		which the MCData		
		server always requests		
		the terminating MCData		
		client to automatically		
		download for on-		
		network FD		
		communications using		
		HTTP		
mcpttgi:mcdata-off-network-	"1"	Indicates the ProSe		
ProSe-signalling-PPPP	'	Per-Packet Priority		
1006-Signalling-FFF		value to be used when		
		transmitting IP packets carrying signalling for a		
		carrying signalling for a call on the MCData		
		group in off-network		
monttoirmedate off	"1"	MCData procedures		
mcpttgi:mcdata-off-network- ProSe-media-PPPP	1"	Indicates the ProSe		
rrose-media-PPPP		Per-Packet Priority		
		value to be used when		
		transmitting IP packets		
		carrying media for a		
		call on the MCData		
		group in off-network		
		MCData procedures		
list-service[2]	1 105:5:5	Group 2	TO 0 4 400 THE	
uri attribute	px_MCDATA_Group_D	Value is a "uri" attribute	TS 24.483 [13]	
	_ID	specified in OMA OMA-	clause 6.2.7	
		TS-XDM_Group-V1_1		
display-name	px_MCData	Value is a <display-< td=""><td>TS 24.483 [13]</td><td></td></display-<>	TS 24.483 [13]	
	_Group_D_Name	name> element	clause 6.2.8	
		specified in OMA OMA-		
		TS-XDM_Group-V1_1		
list				
entry[1]		group member 1		
uri attribute	px_MCData_ID_User_	Indicates an MCData	TS 24.483 [13]	
	A	user identity (MCData	clause 6.2.11	
		ID) which is a globally		
		unique identifier within		
		the MCData service		
		that represents the		
		MCData user		
display-name	Not present			
mcpttgi:user-priority	"3"	Indicates the user	TS 24.483 [13]	
-13		priority of the MCData	clause 6.2.12	
		group member		
mcpttgi:participant-type	px_MCData	Participant type of the	TS 24.483 [13]	
mopagapartioiparti-type	_User_A_ParticipantTy	MCData group	clause 6.2.13	
	De	Mobala group	JIGGG 0.2.10	
rl:mcdata-mcdata-id				
uri attribute	px_MCData_ID_User_	+		
un aunbute	px_ivicData_iD_user_ A			
		1		1
entry[2]	7.	Group member 2		

Derivation Path: TS 24.481 [11] c	Value/remark	Comment	Reference	Condition
uri attribute	px_MCData_ID_User_ B	Indicates an MCData user identity (MCData ID) which is a globally unique identifier within the MCData service that represents the MCData user	TS 24.483 [13] clause 6.2.11	
display-name	Not present		TO 04 400 [40]	
mcpttgi:user-priority	_	Indicates the user priority of the MCData group member	TS 24.483 [13] clause 6.2.12	
mcpttgi:participant-type	px_MCData _User_B_ParticipantTy pe	Participant type of the MCData group	TS 24.483 [13] clause 6.2.13	
rl:mcdata-mcdata-id				
uri attribute	px_MCData_ID_User_ B		TS 24.483 [13] clause 6.2.11	
cp:ruleset				
cp:rule				
cp:id attribute	"rule2"			
cp:actions				
mcpttgi:on-network-allow- getting-member-list	"true"	Indicates that the identity is allowed to get the MCS group member list of the MCS group in on-network procedures.		
mcpttgi:mcdata-on- network-allow-getting-affiliation- list	"false"	Indicates that the identity is allowed to get the list of MCData users affiliated to the MCData group in onnetwork MCData procedures		
mcpttgi:mcdata-allow- transmit-data-in-this-group	"true"	Indicates that the identity is allowed to transmit data in this group		
oxe:supported-services				
oxe:service				
oxe:enabler	"urn:urn-7:3gpp- service.ims.icsi.mcdata. sds"	String defining an enabler		
mcpttgi:off-network-ProSe- layer-2-group-id	tsc_MCPTT_Group_D_ ProSeLayer2GroupID	Indicates the Prose layer-2 group ID	TS 23.303 [68] TS 24.483 [13] clause 6.2.27	
mcpttgi:off-network-IP- multicast-address	"0.0.0.0"	Indicates the ProSe group IP multicast address;the IP version is implicitly given by the notation of the IP address	TS 23.303 [68] TS 24.483 [13] clause 6.2.28	
mcpttgi:off-network-ProSe- relay-service-code	"123456"	Indicates the connectivity service that the ProSe UE-to-network relay provides to public safety applications	TS 23.303 [68] TS 24.483 [13] clause 6.2.29	
mcpttgi:owner	px_MCVideo_Group_D _Owner_Organization	Group's owner (Mission Critical Organisation).	TS 24.483 [13] clause 6.2.15	
mcpttgi:level-within-group-	"0"	Indicates the level	TS 24.483 [13]	
hierarchy		within a group hierarchy (only applicable for group- broadcast group).	clause 6.2.17	

Derivation Path: TS 24.481 [11] c Information Element	Value/remark	Comment	Reference	Condition
mcpttgi:level-within-user-	"O"	Indicates the level	TS 24.483 [13]	20
hierarchy		within user hierarchy	clause 6.2.18	
,		(only applicable for		
		user-broadcast group).		
mcpttgi:mcdata-on-network-	"1"	Indicates the priority		
group-priority		level of the group in on-		
		network MCData		
		procedures. Higher		
		value indicates higher		
		priority		
mcpttgi:mcdata-on-network-	"10000"	Indicates the maximum		
max-data-size-for-SDS		size of data (in bytes)		
		that the originating		
		MCData client is		
		allowed to send to the		
		MCData server for on-		
		network SDS		
		communications		
mcpttgi:mcdata-on-network-	"10000"	Indicates the maximum		
max-data-size-for-FD		size of data (in bytes)		
		that the originating		
		MCData client is		
		allowed to send to the		
		MCData server for on-		
		network FD		
		communications		
mcpttgi:mcdata-on-network-	"2000"	Indicates the maximum		
max-data-size-auto-recv		size of data (in bytes)		
		which the MCData		
		server always requests		
		the terminating MCData		
		client to automatically		
		download for on-		
		network FD		
		communications using		
	"1"	HTTP		
mcpttgi:mcdata-off-network-	"T"	Indicates the ProSe		
ProSe-signalling-PPPP		Per-Packet Priority		
		value to be used when		
		transmitting IP packets		
		carrying signalling for a call on the MCData		
		group in off-network		
mcpttgi:mcdata-off-network-	"1"	MCData procedures Indicates the ProSe		
ProSe-media-PPPP	1	Per-Packet Priority		
1 1006-Illeula-i FFF		value to be used when		
		transmitting IP packets		
		carrying media for a		
		call on the MCData		
		group in off-network		
		MCData procedures		
	Į.	Modala procedures	1	L

5.5.8 Default MCS configuration management messages and other information elements

5.5.8.1 MCPTT Initial UE Configuration

The structure of a initial UE configuration document is specified in TS 24.484 [14] clause 7.2, single MCPTT group configuration parameters are defined in TS 24.483 [13] clause 8.2.

Table 5.5.8.1-1: MCPTT Initial UE Configuration Defaults

Information Element mcptt-UE-initial-configuration	Value/remark	Comment		Condition
			Reference	- Containen
domain attribute	px_MCX_DomainName _Organization_A	Mandatory attribute: domain name of the mission critical organization		
Default-user-profile	not present	<u> </u>		
on-network				
Timers				
T100	"2"	Values 0-255 sec	TS 24.380 [10] TS 24.483 [13] clause 8.2.11	
T101	"2"	Values 0-255 sec	TS 24.380 [10] TS 24.483 [13] clause 8.2.12	
T103	"5"	Values 0-255 sec	TS 24.380 [10] TS 24.483 [13] clause 8.2.13	
T104	"2"	Values 0-255 sec	TS 24.380 [10] TS 24.483 [13] clause 8.2.14	
T132	"3"	Values 0-255 sec	TS 24.380 [10] TS 24.483 [13] clause 8.2.15	
HPLMN				
PLMN attribute	PLMN1	the PLMN on which the UE is allowed for MCPTT services. Public Land Mobile Network is uniquely identified by its PLMN identifier; consists of Mobile Country Code (MCC) and Mobile Network Code (MNC) and are defined by the	TS 23.003 [69] TS 24.483 [13] clause 8.2.16	
service		operator. NOTE: PLMN1 shall be the PLMN of the Cell on which the UE is camped during testing. MCPTT related		
		services on a per HPLMN basis		
MCPTT-to-con-ref	px_MCPTT_ALL_APN	configuration parameter for establishment of the PDN connection for the MCPTT service	TS 24.483 [13] clause 8.2.21	
MC-common-core-to-con- ref	px_MCPTT_ALL_APN	configuration parameter for establishment of the PDN connection for the MC common core service	TS 24.483 [13] clause 8.2.24	
MC-ID-to-con-ref	px_MCPTT_ALL_APN	configuration parameter for establishment of the PDN connection for the MC identity management service	TS 24.483 [13] clause 8.2.27	

Derivation Path: TS 24.484 [13], of Information Element	Value/remark	Comment	Reference	Condition
PLMN attribute	PLMN2	VPLMN configuration for another PLMN which can be used by the UE to access	Kelelelice	Condition
		MCPTT service NOTE: PLMN2 shall be a different PLMN to		
		PLMN1 of a Cell to which the UE will move during testing when specified in a test case.		
service MCPTT-to-con-ref	px_MCPTT_ALL_APN	configuration parameter for establishment of the PDN connection for the MCPTT service	TS 24.483 [13] clause 8.2.33	
MC-common-core-to-con- ref	px_MCPTT_ALL_APN	configuration parameter for establishment of the PDN connection for the MC common core service	TS 24.483 [13] clause 8.2.36	
MC-ID-to-con-ref	px_MCPTT_ALL_APN	configuration parameter for establishment of the PDN connection for the MC identity management service	TS 24.483 [13] clause 8.2.39	
App-Server-Info				
idms-auth-endpoint	"https://" & px_MCX_IdMS_auth_I PAddress & ":" & px_MCX_IdMS_auth_P ort & tsc_MCX_IdMS_auth_ UriPath	Identity management server authorisation endpoint identity information	TS 23.003 [69] TS 24.483 [13] clause 8.2.41	IPv4
	"https://[" & px_MCX_IdMS_auth_I PAddress & "]:" & px_MCX_IdMS_auth_P ort & tsc_MCX_IdMS_auth_ UriPath	Identity management server authorisation endpoint identity information	TS 23.003 [69] TS 24.483 [13] clause 8.2.41	IPv6
idms-token-endpoint	"https://" & px_MCX_IdMS_token_I PAddress & ":" & px_MCX_IdMS_token_ Port & tsc_MCX_IdMS_token_ UriPath	Identity management server token endpoint identity information	TS 23.003 [69] TS 24.483 [13] clause 8.2.41A	IPv4
	"https://[" & px_MCX_IdMS_token_I PAddress & "]:" & px_MCX_IdMS_token_ Port & tsc_MCX_IdMS_token_ UriPath	Identity management server token endpoint identity information	TS 23.003 [69] TS 24.483 [13] clause 8.2.41A	IPv6
http-proxy	"https://" & px_MCX_HTTP_Proxy _IPAddress & ":" & px_MCX_HTTP_Proxy _Port	IP address and port used by the UE for the HTTP TCP connection	TS 23.003 [69] TS 24.483 [13] clause 8.2.41B	IPv4
	"https://[" & px_MCX_HTTP_Proxy _IPAddress & "]:" & px_MCX_HTTP_Proxy _Port	IP address and port used by the UE for the HTTP TCP connection	TS 23.003 [69] TS 24.483 [13] clause 8.2.41B	IPv6

Derivation Path: TS 24.484 [13],	clause 7.2			
Information Element	Value/remark	Comment	Reference	Condition
gms	tsc_MCX_GMS_Hostn	Indicates the group	TS 23.003 [69]	
	ame	management server	TS 24.483 [13]	
cmc	tsc_MCX_CMS_Hostna	identity information Indicates the	clause 8.2.42 TS 23.003 [69]	
cms	me	configuration	TS 24.483 [13]	
	ille	management server	clause 8.2.43	
		identity information	0.2.40	
kms	tsc_MCX_KMS_Hostna	Indicates the key	TS 23.003 [69]	
	me	management server	TS 24.483 [13]	
		identity information	clause 8.2.44	
tls-tunnel-auth-method				
mutual-authentication	"false"	Indicates whether	TS 24.483 [13]	
		mutual authentication is	clause 8.2.44B	
		used for the TLS tunnel		
		authentication		
		false=one-way		
		authentication based		
		on the server certificate		
x509	Not present	is used the X.509 certificate for	TC 24 402 [42]	
XOUS	Not present	mutual authentication	TS 24.483 [13] clause 8.2.44C	
		for the TLS tunnel	0.2.440	
		authentication		
key	Not present	pre-shared key for	TS 24.483 [13]	
, noy	Not procent	mutual authentication	clause 8.2.44D	
		for the TLS tunnel		
		authentication		
GMS-URI	tsc_MCX_GMSURI	The group	TS 23.003 [69]	
		management service	TS 24.483 [13]	
		URI information which	clause 8.2.9	
		contains the public		
		service identity for		
		performing subscription		
		proxy function of the		
anaum anautian VIII	THE MODEL CHANGE	GMS	TC 00 000 [C0]	
group-creation-XUI	px_MCPTT_GroupCrea tionXUI	Indicates the group creation XUI	TS 23.003 [69] TS 24.483 [13]	
	tionxor	information for creation	clause 8.2.9A	
		of groups	Clause 0.2.3A	
GMS-XCAP-root-URI	tsc_MCX_GMSXCAPR	Indicates the group	TS 23.003 [69]	
	ootURI	management server	TS 24.483 [13]	
		XCAP Root URI	clause 8.2.9B	
		information		
CMS-XCAP-root-URI	tsc_MCX_CMSXCAPR	Indicates the	TS 23.003 [69]	
	ootURI	configuration	TS 24.483 [13]	
		management server	clause 8.2.9C	
		XCAP Root URI		
independent of the second		information	TO 04 405 115	
integrity-protection-enabled	"true"	Indicates whether	TS 24.483 [13]	
		integrity protection is	clause 8.2.44E	
confidentiality-protection-	"true"	enabled Indicates whether	TS 24.483 [13]	
enabled	uue	integrity protection is	clause 8.2.44F	
Chabled		enabled	0.2.44I	
off-network		- Iubiou		
Timers				
TFG1	"150"	Indicates the timer for	TS 24.379 [9]	
		wait for call	TS 24.483 [13]	
		announcement; Values:	clause 8.2.47	
		0-65535 ms		
TFG2	"2000"	Indicates the timer for	TS 24.379 [9]	
		call announcement;	TS 24.483 [13]	
		Values: 0-65535 ms	clause 8.2.48	

Information Element	, clause 7.2 Value/remark	Comment	Reference	Conditio
TFG3	"40"	Indicates the timer for	TS 24.379 [9]	
		call probe	TS 24.483 [13]	
		retransmission; Values:	clause 8.2.49	
		0-65535 ms		
TFG4	"20"	Indicates the timer for	TS 24.379 [9]	
		waiting for the MCPTT	TS 24.483 [13]	
TFG5	"2"	user; Values: 0-60 s	clause 8.2.50	
IFG5	2	Indicates the timer for not present incoming	TS 24.379 [9] TS 24.483 [13]	
		call announcements;	clause 8.2.51	
		Values: 0-255 s	Clause 6.2.51	
TFG11	"3000"	Indicates the timer for	TS 24.379 [9]	
	0000	MCPTT emergency	TS 24.483 [13]	
		end retransmission;	clause 8.2.52	
		Values: 0-65535 ms		
TFG12	"3000"	Indicates the timer for	TS 24.379 [9]	
		MCPTT imminent peril	TS 24.483 [13]	
		end retransmission;	clause 8.2.53	
		Values: 0-65535 ms		
TFG13	"1"	Indicates the timer for	TS 24.379 [9]	
		implicit priority	TS 24.483 [13]	
		downgrade; Values: 0-	clause 8.2.54	
		255 s		
TFG14	"1"	Indicates the MCPTT	TS 24.379 [9]	
		timer for implicit priority	TS 24.483 [13]	
		downgrade (imminent	clause 8.2.54A	
TED4	"2000"	peril); Values: 0-255 s	TC 04 070 [0]	
TFP1	"2000"	Indicates the timer for	TS 24.379 [9] TS 24.483 [13]	
		private call request retransmission; Values:	clause 8.2.55	
		0-65535 ms	clause 6.2.55	
TFP2	"50"	Indicates the timer for	TS 24.379 [9]	
2		waiting for call	TS 24.483 [13]	
		response message;	clause 8.2.56	
		Values: 0-60 s		
TFP3	"2000"	Indicates the timer for	TS 24.379 [9]	
		private call release	TS 24.483 [13]	
		retransmission; Values:	clause 8.2.57	
		0-65535 ms		
TFP4	"5000"	Indicates the timer for	TS 24.379 [9]	
		private call release	TS 24.483 [13]	
		retransmission; Values:	clause 8.2.58	
TEDE	110011	0-65535 ms	TO 04 070 101	
TFP5	"30"	Indicates the timer for	TS 24.379 [9]	
		call release; Values: 0- 600 s	TS 24.483 [13]	
TFP6	"3000"	Indicates the timer for	clause 8.2.59 TS 24.379 [9]	
11 I ⁻ U	3000	MCPTT emergency	TS 24.379 [9]	
		private call cancel	clause 8.2.60	
		retransmission; Values:	514436 0.2.00	
		0-65535 ms		
TFP7	"6"	Indicates the timer for	TS 24.379 [9]	
-		waiting for any	TS 24.483 [13]	
		message with same	clause 8.2.61	
		call identifier; Values:		
		0-255 s		
TFB1	"300"	Indicates the timer for	TS 24.379 [9]	
		max duration; Values:	TS 24.483 [13]	
		0-600 s	clause 8.2.62	
TFB2	"10"	Indicates the timer for	TS 24.379 [9]	
		max duration; Values:	TS 24.483 [13]	
		0-10 s	clause 8.2.63	
TFB3	"20"	Indicates the timer for	TS 24.379 [9]	
		waiting for the MCPTT	TS 24.483 [13]	
	Í	user; Values: 0-60 s	clause 8.2.64	l

Information Element	, clause 7.2 Value/remark	Comment	Reference	Condition
T201	"1000"	Indicates the timer for	TS 24.380 [10]	
		floor request; Values:	TS 24.483 [13]	
		0-65535 ms	clause 8.2.65	
T203	"5"	Indicates the timer for	TS 24.380 [10]	
		end of RTP media;	TS 24.483 [13]	
		Values: 0-255 s	clause 8.2.66	
T204	"5"	Indicates the timer for	TS 24.380 [10]	
		floor queue position	TS 24.483 [13]	
		request; Values: 0-255	clause 8.2.67	
		S		
T205	"1"	Indicates the timer for	TS 24.380 [10]	
		floor granted request;	TS 24.483 [13]	
		Values: 0-255 s	clause 8.2.68	
T230	"10"	Indicates the timer for	TS 24.380 [10]	
		inactivity; Values: 0-255		
		s		
T233	"10"	Indicates the timer for	TS 24.380 [10]	
		pending user action;	TS 24.483 [13]	
		Values: 0-255 s	clause 8.2.70	
TFE1	"30"	Indicates the timer for	TS 24.379 [9]	
		MCPTT emergency	TS 24.483 [13]	
		alert; Values: 0-65535 s	clause 8.2.71	
TFE2	"10"	Indicates the timer for	TS 24.379 [9]	
		MCPTT emergency	TS 24.483 [13]	
		alert re-transmission;	clause 8.2.72	
		Values: 0-10 s		
Counters				
CFP1	"3"	Indicates the counter	TS 24.379 [9]	
		for private call request	TS 24.483 [13]	
		retransmission	clause 8.2.74	
CFP3	"5"	Indicates the counter	TS 24.379 [9]	
		for private call release	TS 24.483 [13]	
		retransmission	clause 8.2.75	
CFP4	"2"	Indicates the counter	TS 24.379 [9]	
		for private call accept	TS 24.483 [13]	
		retransmission	clause 8.2.76	
CFP6	"2"	Indicates the counter	TS 24.379 [9]	
		for private call accept	TS 24.483 [13]	
		retransmission	clause 8.2.77	
CFP11	"2"	Indicates the counter	TS 24.379 [9]	
		for MCPTT group call	TS 24.483 [13]	
		emergency end	clause 8.2.78	
		retransmission		
CFP12	"2"	Indicates the counter	TS 24.379 [9]	
		for MCPTT imminent	TS 24.483 [13]	
		peril call emergency	clause 8.2.79	
		end retransmission		
C201	"3"	Indicates the counter	TS 24.379 [9]	
		for floor request	TS 24.483 [13]	
			clause 8.2.80	
C204	"2"	Indicates the counter	TS 24.379 [9]	
		for floor queue position	TS 24.483 [13]	
		request	clause 8.2.81	
C205	"4"	Indicates the counter	TS 24.379 [9]	
		for floor granted	TS 24.483 [13]	
		request	clause 8.2.82	

Condition	Explanation
IPv4	IP address is IPv4 address
IPv6	IP address is IPv6 address

5.5.8.2 MCPTT UE Configuration

The structure of a group configuration document is specified in TS 24.484 [14] clause 8.2, single MCPTT group configuration parameters are defined in TS 24.483 [13] clause 4.2.

Table 5.5.8.2-1: MCPTT UE Configuration Defaults

Information Element	Value/remark	Comment	Reference	Condition
mcptt-UE-configuration				
domain attribute	px_MCX_DomainName _Organization_A	Mandatory attribute: domain name of the mission critical organization		
common				
private-call				
Max-Simul-Call-N10	"2"	Indicates the maximum number of private calls	TS 24.483 [13] clause 4.2.7	
MCPTT-Group-Call				
Max-Simul-Call-N4	"3"	Indicates the maximum number of simultaneous group calls	TS 24.483 [13] clause 4.2.9	
Max-Simul-Trans-N5	"5"	Indicates the maximum number of transmissions in a group	TS 24.483 [13] clause 4.2.10	
Prioritized-MCPTT-Group				
MCPTT-Group-Priority[1]				
MCPTT-Group-ID	px_MCPTT_Group_A_I D	Value is a "uri" attribute specified in OMA OMA-TS-XDM_Group-V1_1 that indicates the group id.	TS 24.483 [13] clause 4.2.13	
group-priority-hierarchy	"7"	Indicates the requested presentation priority of group call; Values: 0-7 "7"=the top priority among groups	TS 24.483 [13] clause 4.2.14	
on-network				
IPv6Preferred	"false"	Indicates whether IPv6 is preferred over IPv4 for on-network operation when the MCPTT UE has both IPv4 and IPv6 host configuration.	TS 24.483 [13] clause 4.2.17	
Relay-Service	"true"	Indicates the authorisation to use a relay service	TS 24.483 [13] clause 4.2.16	
Relayed-MCPTT-Group[1]				
MCPTT-Group-ID	px_MCPTT_Group_A_I D	One allowed relayed MCPTT group	TS 24.483 [13] clause 4.2.20	
Relay-Service-Code	"123456"	Identifies a connectivity service the ProSe UE- to-Network Relay provides to Public Safety applications; 24- bit value	TS 23.303 [68] TS 24.483 [13] clause 4.2.21	

5.5.8.3 MCPTT User Profile

The structure of a user profile document is specified in TS 24.484 [14] clause 8.3, single MCPTT group configuration parameters are defined in TS 24.483 [13] clause 5.2.

The structure of the configuration document is based on the XML Schema in clause 8.3.2.3 of TS 24.484 [14] and XML "ruleset" schema according to IETF RFC 4745 [103]. To distinguish the schemas the prefix "cp" ("common policy") is used for the ruleset.

Table 5.5.8.3-1: MCPTT User Profile Defaults

Information Element	Value/remark	Comment	Reference	Condition
mcptt-user-profile				
XUI-URI attribute	px_MCPTT_User_XUI_ URI			
user-profile-index attribute	"49"	value arbitrarily selected		
Status	true	MCPTT user profile is enabled		
ProfileName	px_MCPTT_User_A_Pr ofile_Name	Profile name for the MCPTT user	TS 24.483 [13] clause 5.2.7B	
Common				
index attribute	"0"	Index for the particular MCPTT user profile		
MCPTTUserID				
index attribute	"0"			
uri-entry	px_MCPTT_ID_User_A	MCPTT user identity (MCPTT ID) which is a globally unique identifier within the MCPTT service that represents the MCPTT user	TS 24.483 [13] clause 5.2.7	
UserAlias		Alphanumeric aliases of MCPTT user	TS 24.483 [13] clause 5.2.8	
alias-entry	px_MCPTT_User_A_Al		0.000000.2.00	
ParticipantType	px_MCPTT_User_A_P articipantType	Participant type of the MCPTT user	TS 24.483 [13] clause 5.2.10	
MissionCriticalOrganization	px_MCX_DomainName _Organization_A	Indicates the organization an MCPTT user belongs to	TS 24.483 [13] clause 5.2.11	
PrivateCall		400. 20.01.go to		
PrivateCallList				
PrivateCallURI[1]				
index attribute	"0"			
uri-entry	px_MCPTT_ID_User_B	MCPTT user(s) who can be called in a MCPTT private call	TS 24.483 [13] clause 5.2.17	
display-name	"User B Name"	a human readable name for this User	TS 24.483 [13] clause 5.2.18	
PrivateCallURI[2]				
index attribute	"1"			
uri-entry	px_MCPTT_ID_User_C	MCPTT user(s) who can be called in a MCPTT private call	TS 24.483 [13] clause 5.2.17	
display-name	"User C Name"	a human readable name for this User	TS 24.483 [13] clause 5.2.18	
PrivateCallProSeUser[1]				
index attribute	"0"			
DiscoveryGroupID	"1234"	Discovery group ID in the ProSe discovery procedures	TS 23.303 [68] TS 24.483 [13] clause 5.2.19	
User-Info-ID	"5555"	Prose user Info ID in the ProSe discovery procedures	TS 23.303 [68] TS 24.483 [13] clause 5.2.19A	
PrivateCallProSeUser[2]				
index attribute	"1"			
DiscoveryGroupID	"1234"	Discovery group ID in the ProSe discovery procedures	TS 23.303 [68] TS 24.483 [13] clause 5.2.19	
User-Info-ID	"6666"	Prose user Info ID in the ProSe discovery procedures	TS 23.303 [68] TS 24.483 [13] clause 5.2.19A	
EmergencyCall				
MCPTTPrivateRecipient				
entry				
-				

erivation Path: TS 24.484 [14] of Information Element	Value/remark	Comment	Reference	Conditio
entry-info attribute	"UsePreConfigured"	Indicates the criteria to determine when initiation of an MCPTT emergency private call uses the MCPTT private recipient ID.	TS 24.483 [13] clause 5.2.29F	
index attribute	"0"			
uri-entry	px_MCPTT_ID_User_B	The MCPTT private recipient for an MCPTT emergency private call	TS 24.483 [13] clause 5.2.29B	
display-name	"User B Name"	a human readable name for this User	TS 24.483 [13] clause 5.2.29E	
ProSeUserID-entry				
index attribute	"0"			
DiscoveryGroupID	"1234"	Discovery group ID in the ProSe discovery procedures	TS 24.483 [13] clause 5.2.29C	
User-Info-ID	"5555"	ProSe user Info ID in the ProSe discovery procedures	TS 24.483 [13] clause 5.2.29D	
MCPTT-group-call MaxSimultaneousCallsN6	"3"	Indicates the maximum number of simultaneously received MCPTT group calls	TS 24.483 [13] clause 5.2.31	
EmergencyCall				
MCPTTGroupInitiation				
entry				
entry-info attribute	"UseCurrentlySelected Group"	Use currently selected MCPTT group for an on-network MCPTT emergency group call	TS 24.483 [13] clause 5.2.34D	
index attribute	"0"			
uri-entry	px_MCPTT_Group_A_I D	The group used upon certain criteria on initiation of an MCPTT emergency group call	TS 24.483 [13] clause 5.2.34B	
display-name	px_MCPTT_Group_A_ Name	The display name for group used for emergency	TS 24.483 [13] clause 5.2.34C	
ImminentPerilCall			1	
MCPTTGroupInitiation				
entry entry-info attribute	"UseCurrentlySelected Group"	Use currently selected MCPTT group for an on-network MCPTT imminent peril group call	TS 24.483 [13] clause 5.2.39D	
index attribute	"0"			
uri-entry	px_MCPTT_Group_A_I D	the group used on initiation of an MCPTT imminent peril group call.	TS 24.483 [13] clause 5.2.39B	
display-name	px_MCPTT_Group_A_ Name	display name for group used for the imminent peril call	TS 24.483 [13] clause 5.2.39C	
EmergencyAlert				-
MCPTTGroupInitiation				
entry				
index attribute	"0"			
entry-info attribute	"UseCurrentlySelected Group"	Use currently selected MCPTT group for emergency alert	TS 24.483 [13] clause 5.2.43E	

Derivation Path: TS 24.484 [14] cl Information Element	Value/remark	Comment	Reference	Condition
uri-entry	px_MCPTT_Group_A_I	Indicates the MCPTT	TS 24.483 [13]	
,	D	group used upon	clause 5.2.43B	
		certain criteria on	0.00000.202	
		initiation of an MCPTT		
	MORTE	emergency alert.	TO 04 400 [40]	
display-name	px_MCPTT_Group_A_	Optional; name of	TS 24.483 [13]	
	Name	emergency alert group	clause 5.2.43D	
Priority	"10"	Indicates the priority of	TS 24.483 [13]	
		the MCPTT group calls,	clause 5.2.43F	
		0-255		
OffNetwork		0 200		
index attribute	"0"			
	0			
MCPTTGroupInfo				
entry[1]				
index attribute	"0"			
uri-entry	px_MCPTT_Group_A_I	Indicates an off-	TS 24.483 [13]	
dir only	D	network MCPTT group	clause 5.2.53	
	0		clause 5.2.55	
		for use by an MCPTT		
		user		
display-name	px_MCPTT_Group_A_	The display name	TS 24.483 [13]	
	Name	corresponding to off-	clause 5.2.53A	
		network group id		
User-Info-ID	"5555"	ProSe user info ID	TS 23.303 [68]	
Cool illio ID	3000	1 1000 daer iiilo ib	TS 24.483 [13]	
			clause 5.2.58	
OnNetwork				
index attribute	"0"			
MCPTTGroupInfo				
entry[1]		Group 1 the MCPTT		
ona y[1]		user is allowed to		
	"0"	affiliate to		
index attribute	•			
uri-entry	px_MCPTT_Group_A_I	The MCPTT group ID	TS 24.483 [13]	
	D	for the on-network	clause 5.2.48B	
		MCPTT group that the	4	
		MCPTT user is allowed		
		to affiliate to.		
diaplay nama	ny MCDTT Croup A		TC 24 402 [42]	
display-name	px_MCPTT_Group_A_	The display name for	TS 24.483 [13]	
	Name	the group	clause 5.2.48B	
			5	
MaxAffiliationsN2	20			
	20			
MaxSimultaneousTransmissions				
N7				
ImplicitAffiliations		Group 1 the MCPTT		
пприоплинацона				
		user is implicitly		
		affiliated to		
entry				
index attribute	"0"			-
uri-entry	px_MCPTT_Group_A_I	indicates a MCPTT	TS 24.483 [13]	
an oney	px_ivici 11_Gloup_A_i D	group ID to which the	clause 5.2.48C	
	١٢			
		MCPTT user is	4	
		implicitly affiliated to		
display-name	px_MCPTT_Group_A_	display name for	TS 24.483 [13]	
• •	Name	implicitly affiliated	clause 5.2.48C	
		group	5	
PrivateEmergencyAlert		3		
entry			TO 04 (00 (46)	
entry-info attribute	"UsePreConfigured"	Indicates the criteria to	TS 24.483 [13]	
		determine when	clause 5.2.48	
		initiation of an MCPTT	0	
		emergency private call		
		uses the MCPTT		
		TARGET THE INDIAL L	•	
		private recipient ID.		

Derivation Path: TS 24.484 [14] Information Element	Value/remark	Comment	Reference	Condition
uri-entry	px_MCPTT_ID_User_B	Indicates the default MCPTT user ID to be	TS 24.483 [13] clause 5.2.48	Condition
		used upon certain criteria on initiation of	M	
		an MCPTT private emergency alert for on- network		
display-name	px_MCPTT_User_A_AI	The display name	TS 24.483 [13]	
	ias	corresponding to private emergency call id	clause 5.2.48N	
anyExt				
FunctionalAliasList			TS 24.483 [13] clause 5.2.48 W6	
entry	px_MCPTT_ID_FA_A			
cp:ruleset				
cp:rule	"mulo 1"			
cp:id attribute cp:actions	"rule1"			
allow-create-delete-user-	"true"	Indicates authorisation	TS 24.483 [13]	
alias		to create and delete aliases of other MCPTT users	clause 5.2.9	
allow-private-call	"true"	Indicates the	TS 24.483 [13]	
		authorisation to make a MCPTT private call	clause 5.2.13	
allow-private-call-to-any-	"true"	indicates the	TS 24.483 [13]	
user		authorisation to make a MCPTT private call to any MCPTT user	clause 5.2.14	
allow-manual-	"true"	Indicates the	TS 24.483 [13]	
commencement		authorisation to make a MCPTT private call with manual	clause 5.2.20	
allow automotic		commencement	TC 04 400 [40]	
allow-automatic- commencement	"true"	Indicates the authorisation to make a MCPTT private call with automatic	TS 24.483 [13] clause 5.2.21	
		commencement		
allow-force-auto-answer	"true"	Indicates the	TS 24.483 [13]	
		authorisation of MCPTT user to force automatic	clause 5.2.22	
		answer for a MCPTT private call		
allow-failure-restriction	"false"	Indicates the	TS 24.483 [13]	
		authorisation to restrict the provision of a	clause 5.2.23	
		notification of call		
		failure reason for a		
		MCPTT private call		
allow-private-call-media-	"true"	Indicates authorisation	TS 24.483 [13]	
protection		to protect confidentiality and integrity of media	clause 5.2.24	
		for MCPTT private calls		
allow-private-call-floor-	"true"	Indicates authorisation	TS 24.483 [13]	
control-protection		to protect confidentiality and integrity of floor	clause 5.2.25	
		control signalling for MCPTT private calls.		
allow-emergency-private-	"true"	Indicates the	TS 24.483 [13]	
call		authorisation to make an MCPTT emergency	clause 5.2.27	
		private call.		

Derivation Path: TS 24.484 [14] cla Information Element	Value/remark	Comment	Reference	Condition
allow-cancel-private- emergency-call	"true"	Indicates the authorisation to cancel emergency priority in an MCPTT emergency private call by an authorised MCPTT user	TS 24.483 [13] clause 5.2.28	
allow-emergency-group-call	"true"	Indicates the authorisation to make an MCPTT emergency group call functionality enabled for MCPTT user	TS 24.483 [13] clause 5.2.33	
allow-cancel-group- emergency	"true"	Indicates the authorisation to cancel an in progress MCPTT emergency call associated with a group.	TS 24.483 [13] clause 5.2.35	
allow-imminent-peril-call	"true"	Indicates the authorisation to make an Imminent Peril group call	TS 24.483 [13] clause 5.2.37	
allow-cancel-imminent-peril	"true"	Indicates the authorisation for in- progress MCPTT imminent peril cancelation	TS 24.483 [13] clause 5.2.38	
allow-activate-emergency- alert	"true"	Indicates the authorisation to activate an MCPTT emergency alert	TS 24.483 [13] clause 5.2.41	
allow-cancel-emergency- alert	"true"	Indicates the authorisation to cancel an MCPTT emergency alert	TS 24.483 [13] clause 5.2.42	
allow-create-group- broadcast-group	"true"	Indicates the authorisation to create a group-broadcast group.	TS 24.483 [13] clause 5.2.46	
allow-create-user- broadcast-group	"true"	Indicates the authorisation to create a user-broadcast group	TS 24.483 [13] clause 5.2.48	
allow-offnetwork	"true"	Indicates the authorisation for off-network services	TS 24.483 [13] clause 5.2.50	
allow-listen-both-overriding- and-overridden	"false"	Indicates whether the MCPTT user is allowed to listen both overriding and override	TS 24.483 [13] clause 5.2.54	
allow-transmit-during- override	"false"	Indicates whether the MCPTT user is allowed to transmit in case of override (overriding and/or overridden)	TS 24.483 [13] clause 5.2.55	
allow-off-network-group- call-change-to-emergency	"true"	Indicates the authorisation for a participant to change an off-network group call in-progress to an off-network MCPTT emergency group call	TS 24.483 [13] clause 5.2.56	

Derivation Path: TS 24.484 [14] of Information Element	Value/remark	Comment	Reference	Condition
allow-imminent-peril-	"true"	Indicates the	TS 24.483 [13]	Condition
change	lide	authorisation for a	clause 5.2.57	
		participant to change	010000 0.2.07	
		an off-network group		
		call in-progress to an		
		off-network MCPTT		
		imminent peril group		
		call		
allow roome	"true"	Indicates whether the	TS 24.483 [13]	
allow-regroup	true	MCPTT user is	clause 5.2.48D	
		authorised to perform	Clause 3.2.40D	
		dynamic regrouping		
allaw area and a status	llém ve ll	operations	TC 04 400 [40]	
allow-presence-status	"true"	Indicates the presence	TS 24.483 [13]	
		status on the network	clause 5.2.48E	
		of this MCPTT user is		
		available		
allow-request-presence	"true"	Indicates whether the	TS 24.483 [13]	
		MCPTT user is	clause 5.2.48F	
		authorised to obtain		
		whether a particular		
		MCPTT User is present		
		on the network		
allow-private-call-	"true"	Indicates whether the	TS 24.483 [13]	
participation		MCPTT user is allowed	clause 5.2.48	
		to participate in MCPTT	G	
		private calls that they		
		are invited to		
allow-override-of-	"true"	Indicates whether the	TS 24.483 [13]	
transmission		MCPTT user is	clause 5.2.48H	
		authorised to override		
		transmission in a		
		MCPTT private call		
allow-manual-off-network-	"true"	Indicates whether the	TS 24.483 [13]	
switch		MCPTT user is	clause 5.2.48I	
		authorised to manually		
		switch to off-network		
		operation while in on-		
		network operation		
anyExt				
allow-request-first-to-	"true"	Indicates whether the	TS 24.483 [13]	
answer-call		MCPTT user is	clause 5.2.48T	
a		authorised to request a	0.0000 0.20.	
		first to answer call		
allow-request-remote-init-	"true"	Indicates whether the	TS 24.483 [13]	
private-call	lide	MCPTT user is	clause 5.2.48	
private can		authorised to request	W1	
		remotely initiated	V V I	
		private calls		
allow-query-functional-	"true"	Indicates whether the	TS 24.483 [13]	
aliow-query-runctional- alias-other-user	liue	MCPTT user is	clause 5.2.48	
		authorised to query the	W8	
		functional alias(es)	VVO	
		activated by another		
		MCPTT user		
	"true"	Indicates whether he	TC 24 402 [42]	
allow-takeover-functional-	liue		TS 24.483 [13]	
alias-other-user		MCPTT user is	clause 5.2.48	
		authorised to take over	W9	
		the functional alias(es)		
		previously activated by		
		another		
	i	MCPTT user	1	

Derivation Path: TS 24.484 [14] clause 8.3					
Information Element	Value/remark	Comment	Reference	Condition	
allow-location-info-when- talking	"false"	When set to "true" the MCPTT user is authorised to send its location information when it is requesting the floor. When set to "false" the MCPTT user is not authorised to send its	TS 24.483 [13] clause 5.2.48 W10		
		location information when it is requesting the floor.			

5.5.8.4 MCPTT Service Configuration

The structure of a user profile document is specified in TS 24.484 [14] clause 8.4, single MCPTT group configuration parameters are defined in TS 24.483 [13] clause 7.2.

Table 5.5.8.4-1: MCPTT Service Configuration Defaults

Derivation Path: TS 24.484 [14], (0	Deferre	0
Information Element	Value/remark	Comment	Reference	Condition
service configuration domain attribute	px_MCX_DomainName _Organization_A	Mandatory attribute: domain name of the mission critical organization		
common			TO 04 400 [40]	
min-length-alias	"2"	Indicates minimum length of an alphanumeric identifier (i.e., alias)	TS 24.483 [13] clause 7.2.9	
broadcast-group				
num-levels-group-hierarchy	"1"	Indicates the number of levels of group hierarchy for group-broadcast groups Indicates the number of	TS 24.483 [13] clause 7.2.7	
num-levels-user-hierarchy	1	levels of user hierarchy for user-broadcast groups	TS 24.483 [13] clause 7.2.8	
on-network				
emergency-call	"DTOOM"	00 : :		
private-cancel-timeout	"PT30M"	30 minutes		
group-time-limit	"PT20M"	20 minutes		
private-call	"DT20C"	20 accords		
hang-time max-duration-with-floor-	"PT30S" "PT30S"	30 seconds 30 seconds		
control max-duration-with-noor- control	"PT20M"	20 minutes		
control		20 minutes		
num-levels-priority-hierarchy transmit-time	10			
time-limit	"PT30S"	30 seconds		
time-warning	"PT20M"	20 minutes		
hang-time-warning	"PT20M"	20 minutes		
floor-control-queue	1 120101	20111110103		
depth	5			
max-user-request-time	"PT20M"	20 minutes		
fc-timers-counters				
T1-end-of-rtp-media	"PT4S"	Default value Value in seconds	TS 24.380 [10] clause 11	
T3-stop-talking-grace	"PT3S"	Default value Value in seconds	TS 24.380 [10] clause 11	
T7-floor-idle	"PT2S"	Depends on the characteristic of the radio access network	TS 24.380 [10] clause 11	
T8-floor-revoke	"PT1S"	Default value Value in seconds	TS 24.380 [10] clause 11	
T11-end-of-RTP-dual	"PT4S"	Default value Value in seconds	TS 24.380 [10] clause 11	
T12-stop-talking-dual	"PT30S"	Default value Value in seconds	TS 24.380 [10] clause 11	
T15-conversation	"PT30S"	Default value Value in seconds	TS 24.380 [10] clause 11	
T16-map-group-to-bearer	"PT0.5S"	Default value Value in seconds	TS 24.380 [10] clause 11	
T17-unmap-group-to-bearer	"PT0.2S"	Default value Value in seconds	TS 24.380 [10] clause 11	
T20-floor-granted	"PT1S"	Default value Value in seconds	TS 24.380 [10] clause 11	
T55-connect	"PT2S"	Default value Value in seconds	TS 24.380 [10] clause 11	
T56-disconnect	"PT2S"	Default value Value in seconds	TS 24.380 [10] clause 11	
C7-floor-idle	10	Default value	TS 24.380 [10] clause 11	

Derivation Path: TS 24.484 [14], of Information Element	Value/remark	Comment	Reference	Condition
C17-unmap-group-to-bearer	3	Default value	TS 24.380 [10]	233
OTT drilliap group to bearer	o o	Deladit value	clause 11	
C20-floor-granted	3	Default value	TS 24.380 [10]	
Ozo neer granted		Dordan Value	clause 11	
C55-connect	3	Default value	TS 24.380 [10]	
		Doladii Valao	clause 11	
C56-disconnect	3	Default value	TS 24.380 [10]	
	, and the second	Doradit Value	clause 11	
signalling-protection			oladoo 11	
confidentiality-protection	true			
integrity-protection	true			
protection-between-mcptt-	tide			
servers				
allow-signalling-protection	true			
allow-floor-control-protection	true			
•	true			
emergency-resource-priority	" "		DE0 0404	
resource-priority-namespace	"mcpttp"		RFC 8101	
resource-priority-priority	"8"		RFC 8101	
imminent-peril-resource-				
priority			DE0 - 1-1	
resource-priority-namespace	"mcpttp"		RFC 8101	
resource-priority-priority	"5"		RFC 8101	
normal-resource-priority				
resource-priority-namespace	"mcpttp"		RFC 8101	
resource-priority-priority	_"1"		RFC 8101	
anyExt				
functional-alias-list				
functional-alias	px_MCPTT_ID_FA_A			
max-simultaneous-	"1"			
activations				
allow-takeover	"true"			
mcptt-user-list				
entry	px_MCPTT_ID_User_A			
off-network				
emergency-call				
private-cancel-timeout	"PT5S"	5 seconds;	TS 24.483 [13]	
		Indicates timeout value	clause 7.2.14	
		for the cancellation of		
		an in progress		
		emergency for an		
		MCPTT private call.		
		Values: : 0-65535 s		
group-time-limit	"PT5S"	5 seconds;	TS 24.483 [13]	
-		Indicates time limit for	clause 7.2.16	
		an in progress MCPTT		
		emergency call related		
		to an MCPTT group.		
		Values: 0-65535 s		
private-call				
hang-time	"PT5S"	5 seconds;	TS 24.483 [13]	
		Indicates hang timer for	clause 7.2.13	
		private calls (with floor		
		control). Values: 0-		
		65535 s		
max-duration-with-floor-	"PT60S"	60 seconds;	TS 24.483 [13]	
control		Indicates max private	clause 7.2.12	
		call (with floor control)		
		duration. Values: 0-		
		65535 s		<u> </u>
num-levels-priority-hierarchy	"4"	Indicates the number of	TS 24.483 [13]	
,		levels of hierarchy for	clause 7.2.17	
		floor control override in		
		off-network. Values: 4-		
	Ť	0.50	l	l
		256		

Information Element	Value/remark	Comment	Reference	Condition
time-limit	"PT60S"	60 seconds; Indicates transmit time limit from a single request to transmit in a group or private call. Values: 0-65535 s	TS 24.483 [13] clause 7.2.18	
time-warning	"PT50S"	50 seconds; Indicates configuration of warning time before time limit of transmission is reached (off-network). Values: 0-255 s	TS 24.483 [13] clause 7.2.19	
hang-time-warning	"PT4S"	4 seconds; Indicates configuration of warning time before hang time is reached (off-network). Values: Values: 0-255 s	TS 24.483 [13] clause 7.2.20	
default-prose-per-packet- priority				
mcptt-private-call-signalling	"1"	Indicates the default ProSe Per-Packet Priority (PPPP) value	TS 23.303 [68] TS 24.483 [13] clause 7.2.22	
mcptt-private-call-media	"1"	Indicates the default ProSe Per-Packet Priority (PPPP) value	TS 23.303 [68] TS 24.483 [13] clause 7.2.23	
mcptt-emergency-private- call-signalling	"8"	Indicates the default ProSe Per-Packet Priority (PPPP) value	TS 23.303 [68] TS 24.483 [13] clause 7.2.24	
mcptt-emergency-private- call-media	"8"	Indicates the default ProSe Per-Packet Priority (PPPP) value	TS 23.303 [68] TS 24.483 [13] clause 7.2.25	
allow-log-metadata	"true"	Indicates whether an MCPTT emergency group call is permitted on the MCPTT group	TS 24.483 [13] clause 7.2.26	

5.5.8.5 MCVideo Initial UE Configuration

Table 5.5.8.5-1: MCVideo Initial UE Configuration Defaults

Derivation Path: TS 24.484 [14], o	Value/remark	Commont	Poforonoo	Condition
Information Element mcptt-UE-initial-configuration	value/remark	Comment	Reference	Condition
domain attribute	px_MCX_DomainName _Organization_A	Mandatory attribute: domain name of the mission critical organization		
Default-user-profile		organization		
User-ID attribute	px_MCVideo_ID_User_ A	Default User Identity	TS 24.483 [13] clause 8.2.6	
user-profile-index attribute	"0"	Values 0-255. Indicates selected user profile	TS 24.483 [13] clause 8.2.7	
on-network				
Timers				
T100	"2"	Values 0-255 sec	TS 24.581 [88] TS 24.483 [13] clause 8.2.11	
T101	"2"	Values 0-255 sec	TS 24.581 [88] TS 24.483 [13] clause 8.2.12	
T103	"5"	Values 0-255 sec	TS 24.581 [88] TS 24.483 [13] clause 8.2.13	
T104	"2"	Values 0-255 sec	TS 24.581 [88] TS 24.483 [13] clause 8.2.14	
T132	"3"	Values 0-255 sec	TS 24.581 [88] TS 24.483 [13] clause 8.2.15	
HPLMN				
PLMN attribute	PLMN1	the PLMN on which the UE is allowed for MCVideo services.	TS 23.003 [69] TS 24.483 [13] clause 8.2.16	
		Public Land Mobile Network is uniquely identified by its PLMN identifier; consists of Mobile Country Code (MCC) and Mobile Network Code (MNC) and are defined by the operator.		
		NOTE: PLMN1 shall be the PLMN of the Cell on which the UE is camped during testing.		
service		MCVideo related services on a per HPLMN basis		
MCPTT-to-con-ref	px_MCVideo_ALL_AP N	configuration parameter for establishment of the PDN connection for the MCVideo service	TS 24.483 [13] clause 8.2.21	
MC-common-core-to-con- ref	px_MCVideo_ALL_AP N	configuration parameter for establishment of the PDN connection for the MC common core service	TS 24.483 [13] clause 8.2.24	
MC-ID-to-con-ref	px_MCVideo_ALL_AP N	configuration parameter for establishment of the PDN connection for the MC identity management service	TS 24.483 [13] clause 8.2.27	

Derivation Path: TS 24.484 [14], o	lause 7.2			
Information Element	Value/remark	Comment	Reference	Condition
VPLM[1]				
PLMN attribute	PLMN2	VPLMN configuration		
		for another PLMN		
		which can be used by		
		the UE to access		
		MCVideo service		
		NOTE: PLMN2 shall be		
		a different PLMN to		
		PLMN1 of a Cell to		
		which the UE will move		
		during testing when		
		specified in a test case.		
service				
MCPTT-to-con-ref	px_MCVideo_ALL_AP	configuration	TS 24.483 [13]	
	N	parameter for	clause 8.2.33	
		establishment of the		
		PDN connection for the		
		MCVideo service		
MC-common-core-to-con-	px_MCVideo_ALL_AP	configuration	TS 24.483 [13]	
ref	N	parameter for	clause 8.2.36	
		establishment of the		
		PDN connection for the		
		MC common core		
		service		
MC-ID-to-con-ref	px_MCVideo_ALL_AP	configuration	TS 24.483 [13]	
	N	parameter for	clause 8.2.39	
		establishment of the		
		PDN connection for the		
		MC identity		
		management service		
App-Server-Info		<u> </u>		
idms-auth-endpoint	"https://" &	Identity management	TS 23.003 [69]	IPv4
	px_MCX_IdMS_auth_I	server authorisation	TS 24.483 [13]	
	PAddress & ":" &	endpoint identity	clause 8.2.41	
	px_MCX_IdMS_auth_P	information		
	ort &			
	tsc_MCX_IdMS_auth_			
	UriPath			
	"https://[" &	Identity management	TS 23.003 [69]	IPv6
	px_MCX_IdMS_auth_I	server authorisation	TS 24.483 [13]	
	PAddress & "]:" &	endpoint identity	clause 8.2.41	
	px_MCX_IdMS_auth_P	information		
	ort &			
	tsc_MCX_IdMS_auth_			
	UriPath			
idms-token-endpoint	"https://" &	Identity management	TS 23.003 [69]	IPv4
·	px_MCX_IdMS_token_I	server token endpoint	TS 24.483 [13]	
	PAddress & ":" &	identity information	clause 8.2.41A	
	px_MCX_ldMS_token_	-	3.2	
	Port &			
	tsc_MCX_IdMS_token_			
	UriPath			
	"https://[" &	Identity management	TS 23.003 [69]	IPv6
	px_MCX_IdMS_token_I	server token endpoint	TS 24.483 [13]	
	PAddress & "]:" &	identity information	clause 8.2.41A	
	px_MCX_IdMS_token_	·		
		I		
	Port &			
	Port &			
http-proxy	Port & tsc_MCX_ldMS_token_ UriPath	IP address and port	TS 23.003 [69]	IPv4
http-proxy	Port & tsc_MCX_IdMS_token_ UriPath "https://" &	IP address and port used by the UE for the	TS 23.003 [69] TS 24.483 [13]	IPv4
http-proxy	Port & tsc_MCX_IdMS_token_ UriPath "https://" & px_MCX_HTTP_Proxy	IP address and port used by the UE for the HTTP TCP connection	TS 24.483 [13]	IPv4
http-proxy	Port & tsc_MCX_IdMS_token_ UriPath "https://" & px_MCX_HTTP_Proxy _IPAddress & ":" &	used by the UE for the		IPv4
http-proxy	Port & tsc_MCX_IdMS_token_ UriPath "https://" & px_MCX_HTTP_Proxy	used by the UE for the	TS 24.483 [13]	IPv4

Derivation Path: TS 24.484 [14],		T .		
Information Element	Value/remark	Comment	Reference	Condition
	"https://[" & px_MCX_HTTP_Proxy _IPAddress & "]:" & px_MCX_HTTP_Proxy _Port	IP address and port used by the UE for the HTTP TCP connection	TS 23.003 [69] TS 24.483 [13] clause 8.2.41B	IPv6
gms	tsc_MCX_GMS_Hostn ame	Indicates the group management server identity information	TS 23.003 [69] TS 24.483 [13] clause 8.2.42	
cms	tsc_MCX_CMS_Hostna me	Indicates the configuration management server identity information	TS 23.003 [69] TS 24.483 [13] clause 8.2.43	
kms	tsc_MCX_KMS_Hostna me	Indicates the key management server identity information	TS 23.003 [69] TS 24.483 [13] clause 8.2.44	
tls-tunnel-auth-method				
mutual-authentication	"false"	Indicates whether mutual authentication is used for the TLS tunnel authentication false=one-way authentication based on the server certificate is used	TS 24.483 [13] clause 8.2.44B	
x509	Not present	the X.509 certificate for mutual authentication for the TLS tunnel authentication	TS 24.483 [13] clause 8.2.44C	
key	Not present	pre-shared key for mutual authentication for the TLS tunnel authentication	TS 24.483 [13] clause 8.2.44D	
GMS-URI	tsc_MCX_GMSURI	The group management service URI information which contains the public service identity for performing subscription proxy function of the GMS	TS 23.003 [69] TS 24.483 [13] clause 8.2.9	
group-creation-XUI	px_MCVideo_GroupCr eationXUI	Indicates the group creation XUI information for creation of groups	TS 23.003 [69] TS 24.483 [13] clause 8.2.9A	
GMS-XCAP-root-URI	tsc_MCX_GMSXCAPR ootURI	Indicates the group management server XCAP Root URI information	TS 23.003 [69] TS 24.483 [13] clause 8.2.9B	
CMS-XCAP-root-URI	tsc_MCX_CMSXCAPR ootURI	Indicates the configuration management server XCAP Root URI information	TS 23.003 [69] TS 24.483 [13] clause 8.2.9C	
integrity-protection-enabled	"true"	Indicates whether integrity protection is enabled	TS 24.483 [13] clause 8.2.44E	
confidentiality-protection- enabled	"true"	Indicates whether integrity protection is enabled	TS 24.483 [13] clause 8.2.44F	
off-network				
Timers	"150"	Indicates the time of the	TC 04 004 [00]	
TFG1	"150"	Indicates the timer for wait for call announcement; Values: 0-65535 ms	TS 24.281 [86] TS 24.483 [13] clause 8.2.47	

Information Element	clause 7.2 Value/remark	Comment	Reference	Condition
TFG2	"2000"	Indicates the timer for	TS 24.281 [86]	
		call announcement;	TS 24.483 [13]	
		Values: 0-65535 ms	clause 8.2.48	
TFG3	"40"	Indicates the timer for	TS 24.281 [86]	
		call probe	TS 24.483 [13]	
		retransmission; Values:	clause 8.2.49	
		0-65535 ms		
TFG4	"20"	Indicates the timer for	TS 24.281 [86]	
		waiting for the	TS 24.483 [13]	
		MCVideo user; Values:	clause 8.2.50	
		0-60 s		
TFG5	"2"	Indicates the timer for	TS 24.281 [86]	
		not present incoming	TS 24.483 [13]	
		call announcements;	clause 8.2.51	
		Values: 0-255 s		
TFG11	"3000"	Indicates the timer for	TS 24.281 [86]	
		MCVideo emergency	TS 24.483 [13]	
		end retransmission;	clause 8.2.52	
		Values: 0-65535 ms		
TFG12	"3000"	Indicates the timer for	TS 24.281 [86]	
		MCVideo imminent	TS 24.483 [13]	
		peril end	clause 8.2.53	
		retransmission; Values:		
====		0-65535 ms		
TFG13	"1"	Indicates the timer for	TS 24.281 [86]	
		implicit priority	TS 24.483 [13]	
		downgrade; Values: 0-	clause 8.2.54	
		255 s		
TFG14	"1"	Indicates the MCVideo	TS 24.281 [86]	
		timer for implicit priority	TS 24.483 [13]	
		downgrade (imminent	clause 8.2.54A	
		peril); Values: 0-255 s		
TFP1	"2000"	Indicates the timer for	TS 24.281 [86]	
		private call request	TS 24.483 [13]	
		retransmission; Values:	clause 8.2.55	
		0-65535 ms		
TFP2	"50"	Indicates the timer for	TS 24.281 [86]	
		waiting for call	TS 24.483 [13]	
		response message;	clause 8.2.56	
TEDO	"0000"	Values: 0-60 s	TO 04 004 [00]	
TFP3	"2000"	Indicates the timer for	TS 24.281 [86]	
		private call release	TS 24.483 [13]	
		retransmission; Values:	clause 8.2.57	
TFP4	"5000"	0-65535 ms	TC 24 204 [00]	
1774	5000	Indicates the timer for private call release	TS 24.281 [86]	
			TS 24.483 [13] clause 8.2.58	
		retransmission; Values: 0-65535 ms	Clause 0.2.30	
TFP5	"30"	Indicates the timer for	TS 24.281 [86]	
IFFU	30	call release; Values: 0-	TS 24.281 [86]	
		600 s	clause 8.2.59	
TFP6	"3000"	Indicates the timer for	TS 24.281 [86]	
1110	3000	MCVideo emergency	TS 24.483 [13]	
		private call cancel	clause 8.2.60	
		retransmission; Values:	514436 0.2.00	
		0-65535 ms		
TFP7	"6"	Indicates the timer for	TS 24.281 [86]	
1117	"	waiting for any	TS 24.483 [13]	
		message with same	clause 8.2.61	
		call identifier; Values:	Claust 0.2.01	
		0-255 s		
TFB1	"300"	Indicates the timer for	TS 24.281 [86]	
IFDI	300	max duration; Values:	TS 24.281 [86]	
		0-600 s	clause 8.2.62	

Derivation Path: TS 24.484 [14]		0	Deferre	0
Information Element	Value/remark	Comment	Reference	Condition
TFB2	"10"	Indicates the timer for	TS 24.281 [86]	
		max duration; Values: 0-10 s	TS 24.483 [13] clause 8.2.63	
TFB3	"20"	Indicates the timer for	TS 24.281 [86]	
IFB3	20			
		waiting for the	TS 24.483 [13]	
		MCVideo user; Values:	clause 8.2.64	
T201	"1000"	0-60 s Indicates the timer for	TC 04 F04 [00]	
1201	1000		TS 24.581 [88]	
		floor request; Values:	TS 24.483 [13]	
T000	"5"	0-65535 ms	clause 8.2.65	
T203	"5"	Indicates the timer for	TS 24.581 [88]	
		end of RTP media;	TS 24.483 [13]	
T004	"5"	Values: 0-255 s	clause 8.2.66	
T204	"5"	Indicates the timer for	TS 24.581 [88]	
		floor queue position	TS 24.483 [13]	
		request; Values: 0-255	clause 8.2.67	
		S		
T205	"1"	Indicates the timer for	TS 24.581 [88]	
		floor granted request;	TS 24.483 [13]	
		Values: 0-255 s	clause 8.2.68	
T230	"10"	Indicates the timer for	TS 24.581 [88]	
		inactivity; Values: 0-		
		255 s		
T233	"10"	Indicates the timer for	TS 24.581 [88]	
		pending user action;	TS 24.483 [13]	
		Values: 0-255 s	clause 8.2.70	
TFE1	"30"	Indicates the timer for	TS 24.281 [86]	
		MCVideo emergency	TS 24.483 [13]	
		alert; Values: 0-65535	clause 8.2.71	
		s		
TFE2	"10"	Indicates the timer for	TS 24.281 [86]	
		MCVideo emergency	TS 24.483 [13]	
		alert re-transmission;	clause 8.2.72	
		Values: 0-10 s		
Counters				
CFP1	"3"	Indicates the counter	TS 24.281 [86]	
		for private call request	TS 24.483 [13]	
		retransmission	clause 8.2.74	
CFP3	"5"	Indicates the counter	TS 24.281 [86]	
3113	, and the second	for private call release	TS 24.483 [13]	
		retransmission	clause 8.2.75	
CFP4	"2"	Indicates the counter	TS 24.281 [86]	
0.14	_	for private call accept	TS 24.483 [13]	
		retransmission	clause 8.2.76	
CFP6	"2"	Indicates the counter	TS 24.281 [86]	
OFFU				
		for private call accept	TS 24.483 [13]	
CED44	"2"	retransmission	clause 8.2.77	
CFP11	"Z"	Indicates the counter	TS 24.281 [86]	
		for MCVideo group call	TS 24.483 [13]	
		emergency end	clause 8.2.78	
05540		retransmission	TO 0 / 22 :	
CFP12	"2"	Indicates the counter	TS 24.281 [86]	
		for MCVideo imminent	TS 24.483 [13]	
		peril call emergency	clause 8.2.79	
		end retransmission		
C201	"3"	Indicates the counter	TS 24.281 [86]	
		for floor request	TS 24.483 [13]	
			clause 8.2.80	
C204	"2"	Indicates the counter	TS 24.281 [86]	
		for floor queue position	TS 24.483 [13]	
		request	clause 8.2.81	
C205	"4"	Indicates the counter	TS 24.281 [86]	
		for floor granted	TS 24.483 [13]	
	i		[]	i

Condition	Explanation	
IPv4	IP address is IPv4 address	
IPv6	IP address is IPv6 address	

5.5.8.6 MCVideo UE Configuration

The structure of a UE configuration document is specified in TS 24.484 [14] clause 9.2. Single MCVideo group configuration parameters are defined in TS 24.483 [13] clause 12.2.

Table 5.5.8.6-1: MCVideo UE Configuration Defaults

Derivation Path: TS 24.484 [14] of Information Element	Value/remark	Comment	Reference	Condition
mcvideo-UE-configuration	Value/Terrial K	Comment	Kelelelice	Condition
domain attribute	px_MCX_DomainName _Organization_A	Mandatory attribute: domain name of the mission critical organization		
common				
Mcvideo-private-call				
Max-Simul-Call-N10	"2"	Indicates the maximum number of private calls		
MCVideo-Group-Call				
Max-Simul-Call-Nc4	"3"	Indicates the maximum number of simultaneous group calls		
Max-Simul-Trans-Nc5	"5"	Indicates the maximum number of transmissions in a group		
Prioritized-MCVideo-Group				
MCVideo-Group-Priority[1]				
MCVideo-Group-ID	px_MCVideo_Group_A _ID	Value is a "uri" attribute specified in OMA OMA-TS-XDM_Group-V1_1 that indicates the group id.		
group-priority-hierarchy	"7"	Indicates the requested presentation priority of group call; Values: 0-7 "7"=the top priority among groups		
on-network		among groups		
IPv6Preferred	"false"	Indicates whether IPv6 is preferred over IPv4 for on-network operation when the MCPTT UE has both IPv4 and IPv6 host configuration.		
Relay-Service	"true"	Indicates the authorisation to use a relay service		
Relayed-MCVideo-Group[1]		•		
MCVideo-Group-ID	px_MCVideo_Group_A _ID	One allowed relayed MCPTT group		
Relay-Service-Code	"123456"	Identifies a connectivity service the ProSe UE- to-Network Relay provides to Public Safety applications; 24- bit value	TS 23.303 [68]	

5.5.8.7 MCVideo User Profile

The structure of a user profile document is specified in TS 24.484 [14] clause 9.3. Single MCVideo group configuration parameters are defined in TS 24.483 [13] clause 13.2.

Table 5.5.8.7-1: MCVideo User Profile Defaults

Derivation Path: TS 24.24.484, cl				
Information Element	Value/remark	Comment	Reference	Condition
mcptt-user-profile	140/11/11			
XUI-URI attribute	px_MCVideo_User_XU I_URI			
user-profile-index attribute	"0"	1100 // 1		
Status	"true"	MCVideo user profile is enabled		
ProfileName	px_MCVideo_User_A_ Profile_Name	Profile name for the MCVideo user	TS 24.483 [13] clause 13.2.3;	
Common				
index attribute	"0"	Index for the particular MCVideo user profile		
MCVideoUserID		Indicates an MCVideo user identity (MCVideo ID) which is a globally unique identifier within the MCVideo service that represents the MCVideo user	TS 24.483 [13] clause 13.2.7	
index attribute	"0"			
uri-entry	px_MCVideo_ID_User_ A	MCVideo user identity (MCVideo ID) which is a globally unique identifier within the MCVideo service that represents the MCVideo user		
UserAlias	px_MCVideo_User_A_	Alphanumeric aliases	TS 24.483 [13]	
	Alias	of MCVideo user	clause 13.2.11	
ParticipantType	px_MCVideo_User_A_ ParticipantType	The functional category of the participant (e.g., first responder, second responder, dispatch, dispatch supervisor), typically defined by the MCVideo administrators.	TS 24.483 [13] clause 13.2.15	
MissionCriticalOrganization	px_MCVideo_User_A_ Organization	Indicates the organization an MCVideo user belongs to	TS 24.483 [13] clause 13.2.16	
NotifyList				
index attribute	"0"			
uri-entry	px_MCVideo_ID_User_ B			
CatList				
catentry	"1"		TS 24.483 [13] clause 13.2.38	
ReceptionPriority	"1"			
OnNetwork	11411			
index MCV/ideaCrouplefe	"1"			
MCVideoGroupInfo MCVideo-Group-ID	px_MCVideo_Group_A ID			
GMS-App-Serv-Id	tsc_MCX_GMS_Hostn ame			
IdMS-Token-Endpoint	"https://" & px_MCX_IdMS_token_I PAddress & ":" & px_MCX_IdMS_token_ Port & tsc_MCX_IdMS_token_ UriPath	Identity management server token endpoint identity information	TS 23.003 [69] TS 24.483 [13] clause 8.2.41A	IPv4

Information Element	Value/remark	Comment	Reference	Condition
	"https://[" & px_MCX_IdMS_token_I PAddress & "]:" & px_MCX_IdMS_token_ Port & tsc_MCX_IdMS_token_ UriPath	Identity management server token endpoint identity information	TS 23.003 [69] TS 24.483 [13] clause 8.2.41A	IPv6
RelativePresentationPriority	"7"		TS 24.483 [13] clause 13.2.51	
MaxAffiliationsNc2	"10"		TS 24.483 [13] clause 13.2.67	
MaxTimeSingleTransmit	"600"	Value in seconds	TS 24.483 [13] clause 13.2.87	
OffNetwork				
index	"1"			
MCVideoGroupInfo				
MCVideo-Group-ID	px_MCVideo_Group_A _ID			
GMS-App-Serv-Id	tsc_MCX_GMS_Hostn ame			
IdMS-Token-Endpoint	"https://" & px_MCX_IdMS_token_I PAddress & ":" & px_MCX_IdMS_token_ Port & tsc_MCX_IdMS_token_ UriPath	Identity management server token endpoint identity information	TS 23.003 [69] TS 24.483 [13] clause 8.2.41A	IPv4
	"https://[" & px_MCX_IdMS_token_I PAddress & "]:" & px_MCX_IdMS_token_ Port & tsc_MCX_IdMS_token_ UriPath	Identity management server token endpoint identity information	TS 23.003 [69] TS 24.483 [13] clause 8.2.41A	IPv6
RelativePresentationPriority	"7"		TS 24.483 [13] clause 13.2.51	
User-Info-Id	px_MCVideo_ID_User_ A		TS 24.483 [13] clause 13.2.10	
cp:ruleset				
cp:rule				
cp:id attribute	"rule1"			
cp:actions				
allow-create-delete-user- alias	"true"			
allow-create-group- broadcast- group	"true"			
allow-create-user- broadcast-group	"true"			
allow-modify-video	"true"			
allow-renegotiate-codec	"true"			
allow-camera-control	"true" "true"		+	
allow-remote-control	"true"			
allow-display-remote-ue allow-remote-camera	"true"			
allow-remote-camera allow-push-video	"true"			
allow-auto-send-notify	"true"		+	
allow-request-affiliated- groups	"true"			
allow-request-to-affiliate- other-users	"true"			
allow-recommend-to- affiliate-other-users	"true"			
allow-regroup	"true"			
allow-presence-status	"true"		Ť	İ

Information Element	Value/remark	Comment	Reference	Condition
allow-request-presence	"true"			
allow-activate-emergency-	"true"			
alert				
allow-cancel-emergency-	"true"			
alert				
allow-cancel-emergency-	"true"			
alert-any-user				
allow-enable-disable-user	"true"			
allow-enable-disable-UE	"true"			
allow-off-network-manual-	"true"			
switch				
allow-unlimited-video-	"true"			
streams				
allow-auto-recv	"true"			
allow-auto-recv-emergency	"true"			
allow-auto-recv-imminent-	"true"			
peril				
allow-request-override	"true"			
allow-select-override	"true"			
allow-override-group-call	"true"			
allow-off-network	"true"			
allow-private-call	"true"			
allow-manual-	"true"			
commencement				
allow-automatic-	"true"			
commencement				
allow-failure-restriction	"true"			
allow-emergency-group-call	"true"			
allow-emergency-private-	"true"			
call				
allow-cancel-group-	"true"			
emergency				
allow-imminent-peril-call	"true"			
allow-cancel-imminent-peril	"true"			
allow-off-network-group-	"true"			
call-change-to-emergency				
allow-create-delete-user-	"true"			
alias				

Condition	Explanation	
IPv4	IP address is IPv4 address	
IPv6	IP address is IPv6 address	

5.5.8.8 MCVideo Service Configuration

The structure of a service configuration document is specified in TS 24.484 [14] clause 8.4. Single MCVideo group configuration parameters are defined in TS 24.483 [13] clause 14.2.

Table 5.5.8.8-1: MCVideo Service Configuration Defaults

Information Element	Value/remark	Comment	Reference	Condition
service configuration				
domain attribute	px_MCX_DomainName _Organization_A	Mandatory attribute: domain name of the mission critical organization		
Common				
min-length-alias	"2"	Indicates minimum length of an alphanumeric identifier (i.e., alias)		
broadcast-group				
num-levels-group-hierarchy	"1"	Indicates the number of levels of group hierarchy for group-broadcast groups		
num-levels-user-hierarchy	"1"	Indicates the number of levels of user hierarchy for user-broadcast groups		
on-network				
signalling-protection				
confidentiality-protection	"true"			
integrity-protection	"true"			
protection-between-mcvideo- servers				
allow-signalling-protection	"true"			
allow-transmission-control- protection	"true"			
off-network				
private-call				
mcvideo-max-duration	"600"	Value in seconds	TS 24.483 [13] clause 14.2.17	
default-prose-per-packet- priority	"1"	Indicates the default ProSe Per-Packet Priority (PPPP) value		
mcvideo-private-call- signalling	"1"	Indicates the default ProSe Per-Packet Priority (PPPP) value		
mcvideo-private-call-media	"1"	Indicates the default ProSe Per-Packet Priority (PPPP) value		
mcvideo-emergency-private- call-signalling	"8"	Indicates the default ProSe Per-Packet Priority (PPPP) value		
mcvideo-emergency-private- call-media	"8"	Indicates the default ProSe Per-Packet Priority (PPPP) value		
num-levels-priority-hierarchy	"4"		TS 24.483 [13] clause 14.2.18	

5.5.8.9 MCDATA Initial UE Configuration

The structure of an initial UE configuration document is specified in TS 24.484 [14] clause 7.2. Single MCPTT group configuration parameters are defined in TS 24.483 [13] clause 8.2.

Table 5.5.8.9-1: MCDATA Initial UE Configuration Defaults

Derivation Path: TS 24.484 [14], o				
Information Element	Value/remark	Comment	Reference	Condition
mcptt-UE-initial-configuration				
domain attribute	px_MCX_DomainName _Organization_A	Mandatory attribute: domain name of the mission critical organization		
Default-user-profile				
User-ID attribute	px_MCData_ID_User_ A	Default User Identity	TS 24.483 [13] clause 8.2.6	
user-profile-index attribute	"0"	Values 0-255. Indicates selected user profile	TS 24.483 [13] clause 8.2.7	
on-network				
Timers				
T100	"2"	Values 0-255 sec	TS 24.380 [10] TS 24.483 [13] clause 8.2.11	
T101	"2"	Values 0-255 sec	TS 24.380 [10] TS 24.483 [13] clause 8.2.12	
T103	"5"	Values 0-255 sec	TS 24.380 [10] TS 24.483 [13]	
T104	"2"	Values 0-255 sec	clause 8.2.13 TS 24.380 [10] TS 24.483 [13] clause 8.2.14	
T132	"3"	Values 0-255 sec	TS 24.380 [10] TS 24.483 [13] clause 8.2.15	
TDU1	"120"	Value in ms	TS 24.282 [91] clause F.2.3	
TDU2	"60"	Value in seconds	TS 24.282 [91] clause F.2.3	
HPLMN				
PLMN attribute	PLMN1	the PLMN on which the UE is allowed for MCData services. Public Land Mobile	TS 23.003 [69] TS 24.483 [13] clause 8.2.16	
		Network is uniquely identified by its PLMN identifier; consists of Mobile Country Code (MCC) and Mobile Network Code (MNC) and are defined by the operator.		
		NOTE: PLMN1 shall be the PLMN of the Cell on which the UE is camped during testing.		
service		MCData related services on a per HPLMN basis		
MCPTT-to-con-ref	px_MCData_ALL_APN	configuration parameter for establishment of the PDN connection for the MCData service	TS 24.483 [13] clause 8.2.21	
MC-common-core-to-con- ref	px_MCData_ALL_APN	configuration parameter for establishment of the PDN connection for the MC common core service	TS 24.483 [13] clause 8.2.24	

Derivation Path: TS 24.484 [14], o		0	Defe	0
Information Element	Value/remark	Comment	Reference	Condition
MC-ID-to-con-ref	px_MCData_ALL_APN	configuration parameter for establishment of the PDN connection for the MC identity management service	TS 24.483 [13] clause 8.2.27	
VPLM[1]				
PLMN attribute	PLMN2	VPLMN configuration for another PLMN which can be used by the UE to access MCData service		
		NOTE: PLMN2 shall be a different PLMN to PLMN1 of a Cell to which the UE will move during testing when specified in a test case.		
service				
MCPTT-to-con-ref	px_MCData_ALL_APN	configuration parameter for establishment of the PDN connection for the MCData service	TS 24.483 [13] clause 8.2.33	
MC-common-core-to-con- ref	px_MCData_ALL_APN	configuration parameter for establishment of the PDN connection for the MC common core service	TS 24.483 [13] clause 8.2.36	
MC-ID-to-con-ref	px_MCData_ALL_APN	configuration parameter for establishment of the PDN connection for the MC identity management service	TS 24.483 [13] clause 8.2.39	
App-Server-Info				
idms-auth-endpoint	"https://" & px_MCX_IdMS_auth_I PAddress & ":" & px_MCX_IdMS_auth_P ort & tsc_MCX_IdMS_auth_ UriPath	Identity management server authorisation endpoint identity information	TS 23.003 [69] TS 24.483 [13] clause 8.2.41	IPv4
	"https://[" & px_MCX_IdMS_auth_I PAddress & "]:" & px_MCX_IdMS_auth_P ort & tsc_MCX_IdMS_auth_ UriPath	Identity management server authorisation endpoint identity information	TS 23.003 [69] TS 24.483 [13] clause 8.2.41	IPv6
idms-token-endpoint	"https://" & px_MCX_IdMS_token_I PAddress & ":" & px_MCX_IdMS_token_ Port & tsc_MCX_IdMS_token_ UriPath	Identity management server token endpoint identity information	TS 23.003 [69] TS 24.483 [13] clause 8.2.41A	IPv4
	"https://[" & px_MCX_IdMS_token_I PAddress & "]:" & px_MCX_IdMS_token_ Port & tsc_MCX_IdMS_token_ UriPath	Identity management server token endpoint identity information	TS 23.003 [69] TS 24.483 [13] clause 8.2.41A	IPv6

http-proxy	Derivation Path: TS 24.484 [14],				
px_MCX_HTTP_Proxy_Port Paddress & 1"-8 px_MCX_HTTP_Proxy_Port	Information Element	Value/remark	Comment	Reference	Condition
DX_MCX_HTTP_Proxy Port Proxy Pro	http-proxy	px_MCX_HTTP_Proxy _IPAddress & ":" & px_MCX_HTTP_Proxy _Port	used by the UE for the HTTP TCP connection	TS 24.483 [13] clause 8.2.41B	
mme me management server cleasuse 8.2.42 cms tsc_MCX_CMS_Hostna me me management server configuration management server clearity information for the key management server clearity information management server clearity information for the TLS tunnel authentication for the TLS		px_MCX_HTTP_Proxy _IPAddress & "]:" & px_MCX_HTTP_Proxy _Port	used by the UE for the HTTP TCP connection	TS 24.483 [13] clause 8.2.41B	IPv6
Memory	gms		management server	TS 24.483 [13]	
tls-tunnel-auth-method mutual-authentication "false" Indicates whether untual authentication is used for the TLS tunnel authentication false-one-way authentication false-one-way authentication for the TLS tunnel authentication for the TLS tunnel authentication for the TLS tunnel authentication for the TLS tunnel authentication for the TLS tunnel authentication for the TLS tunnel authentication for the TLS tunnel authentication for the TLS tunnel authentication for the TLS tunnel authentication for the TLS tunnel authentication for the TLS tunnel authentication for the TLS tunnel authentication for the TLS tunnel authentication for the TLS tunnel authentication for the TLS tunnel authentication proxy function of the GMS TS 23.003 [69] TS 24.483 [13] clause 8.2.94 [13] clause 8.2.94 [13] clause 8.2.94 [13] clause 8.2.96 [14] [15] [15] [15] [15] [15] [15] [15] [15	cms		configuration management server	TS 24.483 [13]	
mutual-authentication "false" Indicates whether mutual authentication is used for the TLS tunnel authentication falses—one-way authentication based on the server certificate is used x509 Not present the X.509 certificate for mutual authentication for the TLS tunnel authentication for the GMS are selected and the proper management service identity for performing subscription proxy function of the GMS are selected from XUI information for creation of groups are selected from XUI authentication for creation of groups are selected from XUI authentication for the GMS are selected from XUI authentication for the GMS are selected from XUI authentication for the GMS are selected from XUI authentication for the GMS are selected from XUI authentication for the GMS are selected from XUI authentication for the GMS are selected from XUI authentication for the GMS are selected from XUI authentication for the GMS are selected from XUI authentication for the GMS are selected from XUI authentication for the GMS are selected from XUI authentication for the GMS are selected from XUI authentication for the GMS are selected from XUI authentication for the GMS are selected from XUI authentication for the GMS are selected from XUI authentication for the GMS are selected from XUI authentication for the GMS are selected from XUI authentication for the GMS are selected from XUI authentication for the G			management server	TS 24.483 [13]	
mutual authentication is used for the TLS tunnel authentication false=one-way authentication based on the server certificate is used x509 Not present Not present Not present Not present Not present Not present Not present Not present Not present Not present Not present Not present Not present Not present Not present Not present Not present Pre-shared key for mutual authentication for the TLS tunnel authentication for the TLS tunnel authentication Responsible to the transport of transport of the transport of the transport of the transport of the transport of the transport of the transport of the transport of the transport of transport of the transport of the transport of the transport of the transport of transpo				TO 04 400 [40]	
Mutual authentication for the TLS tunnel authentication for the TLS tunnel authentication for the TLS tunnel authentication for the TLS tunnel authentication for the TLS tunnel authentication for the TLS tunnel authentication for the TLS tunnel authentication for the TLS tunnel authentication for the TLS tunnel authentication The group management service URI information which contains the public service identity for performing subscription proxy function of the GMS GMS-VCAP	mutual-authentication	"false"	mutual authentication is used for the TLS tunnel authentication false=one-way authentication based on the server certificate		
Mutual authentication for the TLS tunnel authentication for the TLS tunnel authentication	x509		mutual authentication for the TLS tunnel	clause 8.2.44C	
management service URI information which contains the public service identity for performing subscription proxy function of the GMS group-creation-XUI px_MCData_GroupCre ationXUI px_S23.003 [69] px_S24.483 [13] clause 8.2.9B px_S23.003 [69] px_S24.483 [13] px_S23.003 [69] px_S24.483 [13] px_S23.003 [69] px_S24.483 [13] px_S23.003 [69] px_S24.483 [13] px_S23.003 [69] px_S24.483 [13] px_S23.003 [69] px_S24.483 [13] px_S23.003 [69] px_S24.483 [13] px_S23.003 [69] px_S24.483 [13] px_S23.003 [69] px_S24.483 [13] px_S23.003 [69] px_S23.003 [69] px_S24.483 [13] px_S23.003 [69] px_S24.483 [13] px_S23.003 [69] px_S24.483 [13] px_S23.003 [69] px_S24.483 [13] px_S23.003 [69] px_S24.483 [13] px_S23.003 [69] px_S24.483 [13] px_S23.003 [69] px_S24.483 [13] px_S23.003 [69] px_S24.483 [13] px_S23.003 [69] px_S24.483 [13] px_S23.003 [69] px_S24.483 [13] px_S23.003 [69] px_S24.483 [13] px_S23.003 [69] px_S24.483 [13] px_S23.003 [69] px_S24.483 [13] px_S23.003 [69] px_S24.483 [13] px_S23.003 [69] px_S23.003 [69] px_S23.003 [69] px_S23.003 [69] px_S23.003 [69] px_S23.003 [69] px_S23.003 [69] px_S23.003 [69] px_S23.003 [69] px_S23.003 [69] px_S23.003 [69] px_S23.003 [69] px_S23.003 [69] px_S23.003 [key	Not present	mutual authentication for the TLS tunnel		
px_MCData_GroupCre ationXUI px_MCData_GroupCre ationXUI px_MCData_GroupCre ationXUI px_MCData_GroupCre ationXUI px_MCData_GroupCre ationXUI px_MCData_GroupCre ationXUI px_MCData_GroupCre ationXUI px_MCData_GroupCre ationXUI px_MCData_GroupCre ationXUI px_MCData_GroupCre ationXUI px_MCData_GroupCreation px_MCData_GroupCre ationXUI px_MCDat	GMS-URI	tsc_MCX_GMSURI	management service URI information which contains the public service identity for performing subscription proxy function of the	TS 24.483 [13]	
GMS-XCAP-root-URItsc_MCX_GMSXCAPR ootURIIndicates the group management server XCAP Root URI informationTS 23.003 [69] TS 24.483 [13] clause 8.2.9BCMS-XCAP-root-URItsc_MCX_CMSXCAPR ootURIIndicates the configuration management server XCAP Root URI informationintegrity-protection-enabled"true"Indicates whether integrity protection is enabledTS 24.483 [13] clause 8.2.44Econfidentiality-protection-enabled"true"Indicates whether integrity protection is enabledTS 24.483 [13] clause 8.2.44Eoff-network	group-creation-XUI		Indicates the group creation XUI information for creation	TS 24.483 [13]	
ootURI configuration management server XCAP Root URI information integrity-protection-enabled "true" Indicates whether integrity protection is enabled confidentiality-protection-enabled integrity protection is enabled confidentiality-protection-enabled off-network TS 24.483 [13] clause 8.2.44E TS 24.483 [13] clause 8.2.44F enabled	GMS-XCAP-root-URI		Indicates the group management server XCAP Root URI	TS 24.483 [13]	
integrity protection is enabled confidentiality-protection- enabled "true" Indicates whether integrity protection is enabled off-network integrity protection is enabled clause 8.2.44E TS 24.483 [13] clause 8.2.44F enabled			configuration management server XCAP Root URI	TS 24.483 [13]	
enabled integrity protection is clause 8.2.44F enabled off-network	integrity-protection-enabled	"true"	integrity protection is		
		"true"	integrity protection is		

erivation Path: TS 24.484 [14], Information Element	Value/remark	Comment	Reference	Conditio
TFG1	"150"	Indicates the timer for	TS 24.379 [9]	
		wait for call	TS 24.483 [13]	
		announcement;	clause 8.2.47	
		Values: 0-65535 ms		
TFG2	"2000"	Indicates the timer for	TS 24.379 [9]	
		call announcement;	TS 24.483 [13]	
		Values: 0-65535 ms	clause 8.2.48	
TFG3	"40"	Indicates the timer for	TS 24.379 [9]	
		call probe	TS 24.483 [13]	
		retransmission; Values: 0-65535 ms	clause 8.2.49	
TFG4	"20"	Indicates the timer for	TS 24.379 [9]	
		waiting for the MCData	TS 24.483 [13]	
		user; Values: 0-60 s	clause 8.2.50	
TFG5	"2"	Indicates the timer for	TS 24.379 [9]	
		not present incoming	TS 24.483 [13]	
		call announcements;	clause 8.2.51	
		Values: 0-255 s		
TFG11	"3000"	Indicates the timer for	TS 24.379 [9]	
		MCData emergency	TS 24.483 [13]	
		end retransmission;	clause 8.2.52	
		Values: 0-65535 ms	1.0000 0.2.02	
TFG12	"3000"	Indicates the timer for	TS 24.379 [9]	
		MCData imminent peril	TS 24.483 [13]	
		end retransmission;	clause 8.2.53	
		Values: 0-65535 ms	3.2230 0.2.00	
TFG13	"1"	Indicates the timer for	TS 24.379 [9]	
11 010	'	implicit priority	TS 24.483 [13]	
		downgrade; Values: 0-	clause 8.2.54	
		255 s	3.4400 0.2.07	
TFG14	"1"	Indicates the MCData	TS 24.379 [9]	
014	'	timer for implicit priority	TS 24.483 [13]	
		downgrade (imminent	clause 8.2.54A	
		peril); Values: 0-255 s	5.4400 0.2.04A	
TFP1	"2000"	Indicates the timer for	TS 24.379 [9]	
		private call request	TS 24.483 [13]	
		retransmission; Values:	clause 8.2.55	
		0-65535 ms	3.4430 0.2.00	
TFP2	"50"	Indicates the timer for	TS 24.379 [9]	
<u>-</u>		waiting for call	TS 24.483 [13]	
		response message;	clause 8.2.56	
		Values: 0-60 s		
TFP3	"2000"	Indicates the timer for	TS 24.379 [9]	
		private call release	TS 24.483 [13]	
		retransmission; Values:	clause 8.2.57	
		0-65535 ms		
TFP4	"5000"	Indicates the timer for	TS 24.379 [9]	
		private call release	TS 24.483 [13]	
		retransmission; Values:	clause 8.2.58	
		0-65535 ms		
TFP5	"30"	Indicates the timer for	TS 24.379 [9]	
		call release; Values: 0-	TS 24.483 [13]	
		600 s	clause 8.2.59	
TFP6	"3000"	Indicates the timer for	TS 24.379 [9]	
0		MCData emergency	TS 24.483 [13]	
		private call cancel	clause 8.2.60	
		retransmission; Values:	5.4400 0.2.00	
		0-65535 ms		
TFP7	"6"	Indicates the timer for	TS 24.379 [9]	
1117		waiting for any	TS 24.483 [13]	
		message with same	clause 8.2.61	
		call identifier; Values:	JIQUSE 0.2.01	
		0-255 s		
		U-Z:0:15	Ĩ	1
TED1	"200"		TC 24 270 [0]	İ
TFB1	"300"	Indicates the timer for max duration; Values:	TS 24.379 [9] TS 24.483 [13]	

erivation Path: TS 24.484 [14] Information Element	Value/remark	Comment	Reference	Conditio
TFB2	"10"	Indicates the timer for	TS 24.379 [9]	
		max duration; Values:	TS 24.483 [13]	
		0-10 s	clause 8.2.63	
TFB3	"20"	Indicates the timer for	TS 24.379 [9]	
11 20	20	waiting for the MCData	TS 24.483 [13]	
		user; Values: 0-60 s	clause 8.2.64	
T201	"1000"	Indicates the timer for	TS 24.380 [10]	
1201	1000			
		floor request; Values:	TS 24.483 [13]	
		0-65535 ms	clause 8.2.65	
T203	"5"	Indicates the timer for	TS 24.380 [10]	
		end of RTP media;	TS 24.483 [13]	
		Values: 0-255 s	clause 8.2.66	
T204	"5"	Indicates the timer for	TS 24.380 [10]	
		floor queue position	TS 24.483 [13]	
		request; Values: 0-255	clause 8.2.67	
		s '		
T205	"1"	Indicates the timer for	TS 24.380 [10]	
00	·	floor granted request;	TS 24.483 [13]	
		Values: 0-255 s	clause 8.2.68	
T230	"10"	Indicates the timer for	TS 24.380 [10]	
1230	10		10 24.300 [10]	
		inactivity; Values: 0-		
		255 s		
T233	"10"	Indicates the timer for	TS 24.380 [10]	
		pending user action;	TS 24.483 [13]	
		Values: 0-255 s	clause 8.2.70	
TFE1	"30"	Indicates the timer for	TS 24.379 [9]	
		MCData emergency	TS 24.483 [13]	
		alert; Values: 0-65535	clause 8.2.71	
		s		
TFE2	"10"	Indicates the timer for	TS 24.379 [9]	
11 62	10		TS 24.483 [13]	
		MCData emergency	clause 8.2.72	
		alert re-transmission;	clause 6.2.72	
		Values: 0-10 s	= 0 0 1 000 fo 12	
TFS1	"40"	Value in ms	TS 24.282 [91]	
			clause F.3.1	
TFS2	"40"	Value in ms	TS 24.282 [91]	
			clause F.3.1	
TFS3	"120"	Value in ms	TS 24.282 [91]	
			clause F.3.1	
Counters				
CFP1	"3"	Indicates the counter	TS 24.379 [9]	
		for private call request	TS 24.483 [13]	
		retransmission	clause 8.2.74	
CED2	"5"		TS 24.379 [9]	
CFP3	٥	Indicates the counter		
		for private call release	TS 24.483 [13]	
0554	101	retransmission	clause 8.2.75	
CFP4	"2"	Indicates the counter	TS 24.379 [9]	
		for private call accept	TS 24.483 [13]	
		retransmission	clause 8.2.76	
CFP6	"2"	Indicates the counter	TS 24.379 [9]	
		for private call accept	TS 24.483 [13]	
		retransmission	clause 8.2.77	
CFP11	"2"	Indicates the counter	TS 24.379 [9]	
J. 7 1 1	-	for MCData group call	TS 24.483 [13]	
			clause 8.2.78	
		emergency end	ciause 0.2.70	
OFD40	"0"	retransmission	TO 04 070 (0)	
CFP12	"2"	Indicates the counter	TS 24.379 [9]	
		for MCData imminent	TS 24.483 [13]	
		peril call emergency	clause 8.2.79	
		end retransmission		
C201	"3"	Indicates the counter	TS 24.379 [9]	
		for floor request	TS 24.483 [13]	
	ı		clause 8.2.80	l

Derivation Path: TS 24.484 [14],	Derivation Path: TS 24.484 [14], clause 7.2				
Information Element	Value/remark	Comment	Reference	Condition	
C204	"2"	Indicates the counter	TS 24.379 [9]		
		for floor queue position	TS 24.483 [13]		
		request	clause 8.2.81		
C205	"4"	Indicates the counter	TS 24.379 [9]		
		for floor granted	TS 24.483 [13]		
		request	clause 8.2.82		
CFS1	"5"		TS 24.282 [91]		
			clause G.3.1		
CFS2	"5"		TS 24.282 [91]		
			clause G.3.1		

Condition	Explanation
IPv4	IP address is IPv4 address
IPv6	IP address is IPv6 address

5.5.8.10 MCDATA UE Configuration

The structure of a UE configuration document is specified in TS 24.484 [14] clause 10.2. Single MCVideo group configuration parameters are defined in TS 24.483 [13] clause 9.2.

Table 5.5.8.10-1: MCDATA UE Configuration Defaults

Derivation Path: TS 24.484 [14] of Information Element	Value/remark	Comment	Reference	Condition
mcdata-UE-configuration	+ aluc/l cillain	Comment	IVOIGI GIICE	Condition
domain attribute	px_MCX_DomainName	Mandatory attribute:		
domain attribute	_Organization_A	domain name of the		
	_Organization_A	mission critical		
		organization		
common		organization		
short-data-service		Contains an integer	TS 24.483	
Short-data-service		indicating the	clause 9.2.8	
		maximum number of	clause 3.2.0	
		simultaneous SDS		
		transactions (Nc4)		
		allowed for an MCData		
		UE for on-network or		
		off-network group SDS		
Max-Simul-SDS-Txns-Nc4	"2"	Indicates the maximum	TS 24.483 [13]	
	-	number of SDS	clause 10.2	
		Transactions	0.0.00	
SDS-Presentation-Priority			TS 24.483	
CDC 1 recontation 1 menty			clause 9.2.8	
MCDATA -Group-Priority				
MCDATA-Group-ID	px_MCData_Group_A_	Value is a "uri" attribute	TS 24.483 [13]	
	ID	specified in OMA OMA-	clause 10.2	
		TS-XDM_Group-V1_1	0.0000	
		that indicates the group		
		id.		
group-priority-hierarchy	"7"	Indicates the requested	TS 24.483 [13]	
group priority moratory	'	presentation priority of	clause 9.2.11,	
		group call; Values: 0-7	10.2	
		"7"=the top priority		
		among groups		
File distribution		James 19 group 1		
Max-Simul-FD-Txns-Nc4	"4"	Contains an integer	TS 24.483	
		indicating the	clause 9.2.12	
		maximum number of		
		simultaneous FD		
		transactions (Nc4)		
		allowed for an MCData		
		UE for on-network or		
		off-network group FD		
FD-Presentation-Priority		contains a list of	TS 24.483	
•		<mcdata-group-< td=""><td>clause 9.2.13</td><td></td></mcdata-group-<>	clause 9.2.13	
		Priority> elements that		
		contains the following		
		elements shown below.		
MCDATA-Group-Priority				
MCDATA-Group-ID	px_MCData_Group_A_	Identifies a MCData	TS 24.483	
·	İD	group	clause 9.2.15	
group-priority-hierarchy	"7"	Contains an integer	TS 24.483 [13]	
		that identifies the	clause 9.2.16,	
		relative priority level of	10.2	
		that MCData group		
		with 0 being the lowest		
		priority and 255 being		
		the highest priority		
conversation-management				
Conversation-Presentation-				
Priority				
MCData-Group-Priority				
MCData-Group-ID	px_MCData_Group_A_	Identifies a MCData	TS 24.483	
	İD	group	clause 9.2.15	
group-priority-hierarchy	"7"	Indicates the requested	TS 24.483	
-		presentation priority of	clause 9.2.16	
		conversation		
		management		
	I	transactions		

Information Element	Value/remark	Comment	Reference	Condition
transmission-control				
Max-Simul-Data- Transmissions-Nc4	"3"	Indicates the maximum number of simultaneous data transmissions.	TS 24.483 clause 9.2.21	
Max-Data-Transmissions-In- Group-Nc5	"3"	Indicates the maximum number of simultaneous data transmissions.	TS 24.483 clause 9.2.22	
Data-Presentation-Priority		lindicates the requested presentation priority of data received.	TS 24.483 clause 9.2.23	
MCData-Group-Priority				
MCData-Group-ID	px_MCData_Group_A_ ID			
group-priority-hierarchy	"7"	Indicates the requested presentation priority of data received.	TS 24.483 clause 9.2.26	
reception-control				
Max-Simul-Data_Reception-Nc4	"3"	Indicates the maximum number of simultaneous data receptions.		
Max-Simul- Data_Receptions-In-Group-Nc5	"5"	Indicates the maximum number of data receptions in a group.		
on-network				
IPv6Preferred	"false"	Indicates whether IPv6 is preferred over IPv4 for on-network operation when the MCDATA UE has both IPv4 and IPv6 host configuration.	TS 24.483 [13] clause 9.2.31, 10.2	
Relay-Service	"true"	Indicates the authorisation to use a relay service. NOTE: When the <relay-service> element is set to "false" a list of <relayed-mcdata-group> elements is not needed.</relayed-mcdata-group></relay-service>	TS 24.483 [13] clause 9.2.32, 10.2	

5.5.8.11 MCDATA User Profile

The structure of a user profile document is specified in TS 24.484 [14] clause 10.3.2.1. Single MCDATA configuration parameters are defined in TS 24.483 [13] clause 10.2.

Table 5.5.8.11-1: MCDATA User Profile Defaults

Derivation Path: TS 24.484, clau Information Element	Value/remark	Comment	Reference	Condition
mcdata-user-profile				
XUI-URI attribute	px_MCData_User_XUI _URI	Contains the XUI of the MCData user for whom this MCData user profile configuration document is intended and does not appear in the user profile configuration managed object specified in 3GPP TS 24.483 [4].		
user-profile-index attribute	"0"	Indicates the particular MCData user profile configuration document in the collection and corresponds to the "MCDataUserProfileInd ex" element of clause 10.2.8 in 3GPP TS 24.483 [4].		
Status	"true"	MCData user profile is enabled		
Common				
index attribute	"0"	Index for the particular MCDATA user profile	TS 24.483 [13] clause 10.2.6	
UserAlias				
alias-entry	px_MCData_User_A_A lias	Alphanumeric aliases of MCDATA user	TS 24.483 [13] clause 10.2.11	
MCDATAUserID				
entry	px_MCData_ID_User_ A			
MissionCriticalOrganization	px_MCData_User_A_O rganization	Indicates the organization an MCData user belongs to	TS 24.483 [13] clause 10.2.16	
FileDistribution				
FD-cancel-List-Entry				
MCData-ID	px_MCData_ID_User_ A	Contains the MCData user identity (MCData ID) of an MCData user that the configured MCData user is authorised to initiate a one-to-one communication, and corresponds to the "MCDataID" element of clause 10.2.16E in 3GPP TS 24.483 [4];	TS 24.483 clause 10.2.21 A	

Derivation Path: TS 24.484, clau Information Element	value/remark	Comment	Reference	Condition
				Condition
MCData_ID_KMSURI	tsc_MCX_KMS_Hostna me	Contains the KMS URI for the security domain of the MCData user identity (MCData ID) of the MCData user and corresponds to the "MCDataUserIDKMSU RI" element of clause 10.2.9A in 3GPP TS 24.483 [4]. If this parameter is absent, the KMS URI is identified by the <kmssec> element of the <app-server-info> of the MCS UE initial configuration document as specified in clause 7.2.2.1</app-server-info></kmssec>	TS 24.483 [13] clause 10.2.21 A	
TxRxControl		Gladoc 7.2.2.1		
MaxData1To1	"65535"	Indicates the maximum amount of data (in megabytes) that an MCData user can transmit in a single request during one-to-one communication.	TS 24.483 [13] clause 10.2.25	
MaxTime1to1	"65535"	Indicates the maximum amount of time that an MCData user can transmit for in a single request during one-to-one communication.	TS 24.483 [13] clause 10.2.26	
TxReleaseList	px_MCData_ID_User_ A	Indicates an MCData ID of an MCData user that this MCData user is allowed to request release of an ongoing transmission	TS 24.483 [13] clause 10.2.30	
GroupEmergencyAlert		Indicates the MCData group recipient for an MCData emergency Alert	TS 24.483 [13] clause 10.2.38	
entry	px_MCData_ID_User_ A			
OnNetwork				
index attribute	"0"	Is of type "token" and is included within some elements for uniqueness purposes, and does not appear in the user profile configuration managed object specified in 3GPP TS 24.483 [4].		
MCDataGroupInfo	ny MCData Corres A	Indicates the MOD-t-	TC 04 400	
MCData-Group-ID	px_MCData_Group_A_ ID	Indicates the MCData group ID for the on- network MCData group that the MCData user is allowed to use.	TS 24.483 clause 10.2.47	
GMS-App-Serv-ID				
entry	tsc_MCX_GMS_Hostn ame	Placeholder for one or more Group Management Server configurations.		

Derivation Path: TS 24.484, claus	e 10.3.2.1			
Information Element	Value/remark	Comment	Reference	Condition
IdMS-Token-Endpoint	"https://" & px_MCX_IdMS_token_I PAddress & ":" & px_MCX_IdMS_token_ Port & tsc_MCX_IdMS_token_ UriPath	Identity management server token endpoint identity information	TS 23.003 [69] TS 24.483 [13] clause 8.2.41A	IPv4
	"https://[" & px_MCX_IdMS_token_I PAddress & "]:" & px_MCX_IdMS_token_ Port & tsc_MCX_IdMS_token_ UriPath	Identity management server token endpoint identity information	TS 23.003 [69] TS 24.483 [13] clause 8.2.41A	IPv6
Relativepresentation Priority	"7"		TO 04 405	
MaxAffiliations	"10"	contains an integer value between 0 and 255 indicating the presentation priority of the off-network group relative to other off-network groups and off-network users	TS 24.483 clause 10.2.71	
One-To-One-EmergencyAlert		Indicates the MCData user recipient for an on-network MCData emergency one-to-one alert	TS 24.483 clause 10.2.91	
entry	px_MCData_ID_User_ A	Indicates the name of the MCData user recipient for an on- network MCData emergency one-to-one alert	TS 24.43 clause 10.2.92	
OffNetwork				
index attribute	"0"			
MCDataGroupInfo				
MCData-Group-ID	px_MCData_Group_A_ ID	Indicates the MCData group ID for the off-network MCData group that the MCData user is allowed to use.	TS 24.483 [13] clause 10.2.10	
GMS-App-Serv-Id	tsc_MCX_GMS_Hostn			
IdMS-Token-Endpoint	ame "https://" & px_MCX_IdMS_token_I PAddress & ":" & px_MCX_IdMS_token_ Port & tsc_MCX_IdMS_token_ UriPath	Identity management server token endpoint identity information	TS 23.003 [69] TS 24.483 [13] clause 8.2.41A	IPv4
	"https://[" & px_MCX_IdMS_token_I PAddress & "]:" & px_MCX_IdMS_token_ Port & tsc_MCX_IdMS_token_ UriPath	Identity management server token endpoint identity information	TS 23.003 [69] TS 24.483 [13] clause 8.2.41A	IPv6

	Derivation Path: TS 24.484, clause 10.3.2.1					
the AMCDataGroupInfoselement of the		Value/remark	Comment	Reference	Condition	
the AMCDataGroupInfoselement of the AMCDataGroupInfoselement of the AMCDataGroupInfoselement of the AMCDataGroupInfoselement of the AMCDataGroupInfoselement of the AMCDataGroupInfoselement of the on-network group relative to other on-network group relative to other on-network groups and on-network users, and corresponds to the PresentationPriority' element of Clause 10.2.55 indicating the AMCDataGroupInfoselement of the AMCDataGroupInfoselement of the AMCDataGroupInfoselement of the AMCDataGroupInfoselement of the AMCDataGroupInfoselement of the AMCDataGroupInfoselement of AMCDataGroupInfoseleme			When it appears in:			
CoffNetwork> element, contains an integer value between 0 and 255 indicating the presentation priority of the off-network group relative to other off-network groups and off-network users, and corresponds to the "Presentation priority" element of clause 10.2.111 in 3GPP TS 24.483 [4]; User-Info-Id			When it appears in: the <mcdatagroupinfo> element of the <onnetwork> element, contains an integer value between 0 and 255 indicating the presentation priority of the on-network group relative to other on- network groups and on-network users, and corresponds to the "PresentationPriority" element of clause 10.2.55 in 3GPP TS 24.483 [4]; and the <mcdatagroupinfo></mcdatagroupinfo></onnetwork></mcdatagroupinfo>	Reference	Condition	
ruleset rule actions allow-create-delete-user- alias allow-create-group- broadcast-group allow-create-user- broadcast-group allow-transmit-data "true" allow-request-affiliate- groups allow-request-to-affiliate- other-users allow-regroup allow-regroup **True" **True" **True" **True" **Itrue"		<offnetwork> element, contains an integer value between 0 and 255 indicating the presentation priority of the off-network group relative to other off-network groups and off-network users, and corresponds to the "PresentationPriority" element of clause 10.2.111 in</offnetwork>				
rule actions allow-create-delete-user- alias allow-create-group- broadcast- group allow-transmit-data "true" allow-request-affiliate- other-users allow-recommend-to- affiliate-other-users allow-regroup "true" allow-regroup "true" allow-resproup "true" allow-recommend-to- affiliate-other-users allow-resproup "true" allow-request-presence "true" allow-request-presence "true" allow-activate-emergency- alert allow-cancel-emergency- alert allow-cancel-emergency- alert-any-user	User-Info-Id					
actions allow-create-delete-user- alias allow-create-group- broadcast- group allow-create-user- broadcast-group allow-transmit-data "true" allow-request-affiliated- groups allow-request-to-affiliate- other-users allow-recommend-to- affiliate-other-users allow-regroup allow-regroup allow-resproup allow-resproup allow-regroup allow-regroup allow-regroup allow-regroup allow-regroup allow-regroup allow-request-presence allow-request-presence allow-cancel-emergency- alert allow-cancel-emergency- alert-any-user	ruleset					
actions allow-create-delete-user- alias allow-create-group- broadcast- group allow-create-user- broadcast-group allow-transmit-data "true" allow-request-affiliated- groups allow-request-to-affiliate- other-users allow-recommend-to- affiliate-other-users allow-regroup allow-regroup allow-resproup allow-resproup allow-regroup allow-regroup allow-regroup allow-regroup allow-regroup allow-regroup allow-request-presence allow-request-presence allow-cancel-emergency- alert allow-cancel-emergency- alert-any-user						
allow-create-group- broadcast- group allow-create-user- broadcast-group allow-transmit-data "true" allow-request-affiliated- groups allow-request-to-affiliate- other-users allow-recommend-to- affiliate-other-users allow-regoup "true" allow-regoup "true" allow-reguest-presence "true" allow-request-presence "true" allow-cancel-emergency- alert allow-cancel-emergency- alert-any-user "true" "true" "true" allow-cancel-emergency- alert-any-user "true" "true" "true" "true" allow-cancel-emergency- alert-any-user						
broadcast- group allow-create-user- broadcast-group allow-transmit-data "true" allow-request-affiliated- groups allow-request-to-affiliate- other-users allow-recommend-to- affiliate-other-users allow-regroup "true" allow-presence-status "true" allow-request-presence "true" allow-activate-emergency- alert allow-cancel-emergency- alert-any-user "true" "true" "true" "true" "true" "true" "true" "true" "true" "true" "true" "true" "true"	alias					
broadcast-group allow-transmit-data "true" allow-request-affiliated- groups allow-request-to-affiliate- other-users allow-recommend-to- affiliate-other-users allow-regroup "true" allow-presence-status "true" allow-request-presence "true" allow-activate-emergency- alert allow-cancel-emergency- alert-any-user "true" "true" "true" allow-cancel-emergency- alert-any-user	broadcast- group					
allow-request-affiliated- groups allow-request-to-affiliate- other-users allow-recommend-to- affiliate-other-users allow-regroup allow-presence-status allow-request-presence allow-activate-emergency- alert allow-cancel-emergency- alert-any-user "true" "true" "true" "true" "true" "true" "true" "true" "true" "true" "true"	broadcast-group					
groups allow-request-to-affiliate- other-users allow-recommend-to- affiliate-other-users allow-regroup allow-presence-status allow-request-presence allow-activate-emergency- alert allow-cancel-emergency- alert allow-cancel-emergency- alert-any-user "true" "true" "true" "true" "true" "true" "true"						
other-users allow-recommend-to- affiliate-other-users allow-regroup "true" allow-presence-status "true" allow-request-presence "true" allow-activate-emergency- alert allow-cancel-emergency- alert allow-cancel-emergency- alert-any-user	groups					
affiliate-other-users allow-regroup "true" allow-presence-status "true" allow-request-presence "true" allow-activate-emergency-alert allow-cancel-emergency-alert "true" allow-cancel-emergency-alert "true"	other-users					
allow-presence-status "true" allow-request-presence "true" allow-activate-emergency- alert "true" allow-cancel-emergency- alert allow-cancel-emergency- alert allow-cancel-emergency- alert-any-user "true"	affiliate-other-users					
allow-request-presence "true"						
allow-request-presence "true" allow-activate-emergency- alert allow-cancel-emergency- alert allow-cancel-emergency- alert-any-user "true"						
allow-activate-emergency- alert "true" allow-cancel-emergency- alert allow-cancel-emergency- alert-any-user "true"						
allow-cancel-emergency- alert allow-cancel-emergency- alert-any-user "true"	allow-activate-emergency-					
allow-cancel-emergency- alert-any-user "true"	allow-cancel-emergency-	"true"				
	allow-cancel-emergency- alert-any-user					
	allow-enable-disable-user	"true"				

Derivation Path: TS 24.484, clause 10.3.2.1				
Information Element	Value/remark	Comment	Reference	Condition
allow-enable-disable-UE	"true"			
allow-off-network-manual-	"true"			
switch				
allow-off-network	"true"			
allow-create-delete-user-	"true"			
alias				

Condition	Explanation	
IPv4	IP address is IPv4 address	
IPv6	IP address is IPv6 address	

5.5.8.12 MCDATA Service Configuration

The structure of a service configuration document is specified in TS 24.484 [14] clause 10.4.2.1. Single MCVideo group configuration parameters are defined in TS 24.483 [13] clause 11.2.

Table 5.5.8.12-1: MCDATA Service Configuration Defaults

Derivation Path: TS 24.484 [14],		Commont	Deference	Conditio-
Information Element	Value/remark	Comment	Reference	Condition
service configuration domain attribute	my MOD-t- II A O	Mandate		1
domain attribute	px_MCData_User_A_O	Mandatory attribute: domain name of the		
	rganization			
		mission critical		
an naturall		organization		
on-network				
tx-and-rx-control	"4000000"	The manifestory date		
max-data-size-sds-bytes	"10000000"	The maximum data		
		that the originating		
		client can send in an		
 		SDS message		
max-payload-size-sds-	"1000"	The maximum payload		
cplane-bytes		data that the originating		
		client can send in an		
		SDS message over C-		
		plane		
max-data-size-fd-bytes	"100000000"	The maximum data		
		that the originating		
		client can send in an		
		FD message		
max-data-size-auto-recv-	"10000000"	The maximum data		
bytes		that the server can		
		send to the terminating		
		client without		
		requesting the user to		
		indicate a present need		
		for the data		
default-file-availability	"10000000"	The default time for		
•		which a file is available		
		on the server for		
		download, if a explicit		
		time period is not		
		requested by the		
		originating client		
max-file-availability	"10000000"	The maximum time for		
•		which a file can be		
		made available on the		
		server for download		
signalling-protection				
confidentiality-protection	"true"	Indicating whether		
		confidentiality		
		protection of MCData		
		signalling is enabled or		
		disabled between the		
		MCData client and		
		MCData server		
integrity-protection	"true"	Indicating whether		
integrity protection	1140	integrity protection of		
		MCData signalling is		
		enabled or disabled		
		between the MCData		
		client and MCData		1
		server		1
protection-between-mcdata-		301761		
servers				
allow-signalling-protection	:true"	Indicating whether		
anow digitaliting protoction	40	protection of MCData		
		signalling is enabled		
		between MCData		
		servers		
off-network		3317010		
default-prose-per-packet-				
priority	 "1"		TO 04 400 (40)	
mcdata-one-to-one-call- signalling	^{T"}		TS 24.483 [13]	1
SIGNATURO	1	1	clause 11.2.11	1

Derivation Path: TS 24.484 [14], clause 10.4					
Information Element	Value/remark	Comment	Reference	Condition	
mcdata-one-to-one-call-	"1"		TS 24.483 [13]		
media			clause 11.2.12		

- 5.5.9 Default miscellaneous messages and other information elements
- 5.5.9.1 MIKEY-SAKKE I_MESSAGE
- CSK distribution (MIKEY-SAKKE sent by the UE)

Table 5.5.9.1-1: MIKEY-SAKKE I_MESSAGE (CSK distribution by the UE)

Derivation path: RFC 6509 [23], RFC 6043 [2011]			
Field	Value/remark	Comment	Condition
MIKEY Common Header {	Any		
version	'0000001'B		
Data Type	'00011010'B	SAKKE msg (26)	
Next payload	Identifier for the next payload (NOTE 1)		
V	'0'B	555	
PRF func	'0000001'B	PRF-HMAC-SHA- 256	
CSB ID	Any value but 4 most significant bits set to '0010'B	32 bit CSK-ID: the 4 most significant bits indicate the purpose of the key, the other 28- bits shall be randomly generated (TS 33.180 [94] clause 5.2.2 and E.6.11)	
#CS	'0000001'B or '00000000'B	Number of crypto sessions in the CS ID map info: if #CS is 0 the default security policies shall be applied (TS 33.180 [94] E.1.2)	
CS ID map type	2 if #CS > 0	GENÉRIC-ID	
	1 if #CS == 0	empty map	
CS ID map info {	Present only if #CS > 0		
CS ID	'00000110'B	CS ID of the crypto session: '6' for CSK use within MCPTT (TS 33.180 [94] E.4.2)	
Prot type	0	SRTP the security protocol to be used for the crypto session	
S	Any value	S flag to indicate whether the ROC and SEQ fields are provided ('1') or if they are omitted ('0')	
#P Ps {	1	the number of security policies provided for the crypto session	
		for the crypto session	
Policy_no_1	Any value	a policy_no that corresponds to the policy_no of a SP payload	

Derivation path: RFC 6509 [23], RFC 6043 [25],	RFC 3830 [24]		
Field	Value/remark	Comment	Condition
Session Data Length	Length of Session Data (in bytes)	16 bits the length of Session Data (in bytes). For the Prot type SRTP, Session Data MAY be omitted in the initial message (length = 0), but it MUST	
	D 170	be provided in the response message.	
Session Data {	Present if Session Data Length > 0	session data for the crypto session	
SSRC	Any value	specifies the SSRC that MUST be used for the crypto session	
ROC	Any value if S flag is set, not present otherwise	current/initial rollover counter. If the session has not started, this field is set to '0'	
SEQ	Any value if S flag is set, not present otherwise	current/initial sequence number	
SPI Length	Length of the SPI	SPI MAY be omitted in the initial message (length = 0), but it has to be provided in the response message	
SPI	Any value if present	the SPI (or MKI) corresponding to the session key to (initially) be used for the crypto session. Other keys can be used.	
}			
Timestamp Payload (T) {		Addressed by '00000101'B in the 'Next payload' field of the previous payload	
Next payload	Identifier for the next payload (NOTE 1)		
TS Type	'00000000'B	NTP-UTC (0): 64- bits	
TS Value	Any value	64bit UTC value representing the number of seconds since 0h on 1 January 1900 with respect to the Coordinated Universal Time (UTC)	
}			

Derivation path: RFC 6509 [23], RFC 6043 [2		· ·	
Field	Value/remark	Comment	Condition
RAND Payload {		Addressed by '00001011'B in the 'Next payload' field of the	
		previous payload	
Next payload	Identifier for the next payload (NOTE 1)		
RAND len	'00010000'B	At least 16 Bytes	
RAND	128-bit random number	128-bit random number	
} IDRi payload {		Addressed by '00001110'B in the 'Next payload' field of the previous payload	
Next payload	Identifier for the next payload (NOTE 1)		
ID Role	1	Initiator (IDRi)	
ID Type	1	URI	
ID len	Length of ID Data		
ID data	px_MCPTT_ID_User_A	MCPTT ID See TS 33.180 [94] clause E.4.1	
	px_MCVideo_ID_User_A	MCVideo ID See TS 33.180 [94] clause E.4.1	MCVIDEO
	px_MCData_ID_User_A	MCData ID See TS 33.180 [94] clause E.4.1	MCDATA
}			
IDRr payload {		Addressed by '00001110'B in the 'Next payload' field of the previous payload	
Next payload	Identifier for the next payload (NOTE 1)		
ID Role	2	Responder (IDRr)	
ID Type	1	URI	
ID len	Length of ID Data		
ID data	Same URI as used as request URI of the SIP message containing the MIKEY-SAKKE I_MESSAGE	URI of the server to which the message is sent	
} IDRkmsi payload {		Addressed by '00001110'B in the 'Next payload' field of the previous payload	
Next payload	Identifier for the next payload (NOTE 1)	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	
ID Role	6	Initiator's KMS (IDRkmsi)	
ID Type	1	URI	
ID len	Length of ID Data		
ID data	tsc_MCX_KMS_Hostnam e	KMS of the initiating user (UE)	
}			

Derivation path: RFC 6509 [23], RFC 6043 [20j, KFU 3830 [24]	Commont	Condition
Field	Value/remark	Comment	Condition
IDRkmsr payload {		Addressed by	
		'00001110'B in the	
		'Next payload'	
		field of the	
		previous payload	
Next payload	Identifier for the next		
	payload (NOTE 1)		
ID Role	7	Responder's KMS	
		(IDRkmsr)	
ID Type	1	URI	
ID len	Length of ID Data		
ID data	tsc_MCX_KMS_Hostnam	KMS of the	
	e	responder (MCX	
		domain)	
}		Addressed by	
J		'00001010'B in the	
		'Next payload'	
		field of the	
Occupito Brancatica na 1. 17	December 11 1100 0	previous payload	
Security Properties payload {	Present if #CS > 0	If not present	
		(#CS == 0) then	
		the default	
		security profile	
		defined in Annex	
		E.4.2 of	
		TS 33.180 [94]	
		shall be used	
Next payload	Identifier for the next		
	payload (NOTE 1)		
Policy no	same as Policy_no_1 in		
1 Gilloy 110	the CS ID map info of the		
	header payload		
Prot type	0	SRTP	
	0	SKIP	
Policy param length			
Policy param {			
{			
Туре	0	Encryption	
		Algorithm	
length			
value	6	AES-GCM	
}			
{			
Type	1	Session	
. 71		encryption key	
		length	
length			
value	16	16 octets	
valuc	10	10 001619	
ſ			
		0	
Туре	4	Session salt key	
		length	
length			
value	12	12 octets	
}			
{			
Type	5	SRTP PRF	
length			
value	0	AES-CM	
\	ľ	, LEO OIVI	
1			
Time		Mary de minus 4	
Туре	6	Key derivation	
		rate	
length			
value	0	No session key	
		refresh.	

Derivation path: RFC 6509 [23], RFC 6043 [Value/remark	Comment	Condition
l leiu	Value/Terrial K	Comment	Condition
1			
Type	20	AEAD	
туре	20	authentication tag	
		length	
length		lengin	
	16	16 octets	
value	16	16 ocieis	
}			
_}			
}			
SAKKE payload {		Addressed by	
		'00011010'B in the	
		'Next payload'	
		field of the	
		previous payload	
Next payload	Identifier for the next		
	payload (NOTE 1)		
SAKKE params {	1	Parameter Set 1	· · · · · · · · · · · · · · · · · · ·
		according to RFC	
		6509 [23],	
		Appendix A	
ID scheme	2	'3GPP MCX	
15 00:101110	\	hashed UID'	
		(33.180 [94]	
		E.1.2)	
CALLE data la acida	Longith of CAKKE date	E.1.2)	
SAKKE data length	Length of SAKKE data (in bytes)		
SAKKE data	Encapsulated CSK	The CSK is	
SARKE Udid	Encapsulated CSK		
		encapsulated by	
		using the public	
		key (PubEncKey	
		in KMS	
		Certificate) and	
		the UID generated	
		from the MDSI of	
		the MCX Domain	
		(provided in IDRr)	
}			
SIGN (ECCSI) payload {		Addressed by	
		'00000100'B in the	
		'Next payload'	
		field of the	
		previous payload	
S type	2	ECCSI signature	· · · · · · · · · · · · · · · · · · ·
S len	Length of the signature	12 bits	
	field (in bytes)		
S data	Signature:	The signature	
	Shall be validated by the	shall be validated	
	SS	according to RFC	
		3830 [24]	
		clause 5.3 using	
		the algorithm	
		according to RFC	
		6507 [98]	
		clause 5.2.2 using	
		the UID generated	
		from the MC	
		Service user ID	
		associated with	
		the initiating user	
		(provided in IDRi	
		payload).	
}		'	
NOTE 4. MIKEV manda ada manu a anumin an		ulai ala in alivono di C	4

NOTE 1: MIKEY payloads may occur in any order apart from the header payload which is always the first payload and the signature payload which is always the last payload

Table 5.5.9.1-1A: MIKEY-SAKKE I_MESSAGE (CSK download sent by the SS)

Derivation path: RFC 6509 [23], RFC 6043 [25], RFC	3830 [24]		
Field	Value/remark	Comment	Condition
MIKEY Common Header {	Any		
version	'00000001'B		
Data Type	'00011010'B	SAKKE msg (26)	
Next payload	'00000101'B	Timestamp, T	
V	'0'B		
PRF func	'0000001'B	PRF-HMAC-SHA- 256	
CSB ID	'0001xxxx xxxxxxxx'B	32 bit CSK-ID: the 4 most significant bits indicate the purpose of the key, CSK = 0010, the other 28-bits are randomly generated (TS 33.180 [94] clause 5.2.2 and E.6.11)	
#CS	'00000000'B	Number of crypto sessions in the CS ID map info: if #CS is 0 the default security policies shall be applied (TS 33.180 [94] E.1.2)	
CS ID map type	1	See TS 33.180 [94] E.1.2	
CS ID map info	Not present	Present only if #CS > 0	
}			
Timestamp Payload (T) {			
Next payload	'00001011'B		
TS Type	'00000000'B	NTP-UTC (0): 64- bits	
TS Value	Current system time	64bit UTC value representing the number of seconds since 1 January 1900 with respect to the Coordinated Universal Time (UTC)	
RAND Payload {		Addressed by '00001011'B in the 'Next payload' field of the previous payload	
Next payload	'00001110'B		
RAND len RAND	'00010000'B Random value arbitrarily selected by the SS	At least 16 Bytes 128-bit random number	
} IDRi payload {		Addressed by '00001110'B in the 'Next payload' field of the previous payload	

Derivation path: RFC 6509 [23], RFC 6043 [2	25], RFC 3830 [24]		
Field	Value/remark	Comment	Condition
Next payload	'00001110'B		
ID Role	1	Initiator (IDRi)	
ID Type	1	URI	
ID len	Length of ID Data		
ID data	tsc_MCPTT_PublicServic		
.2 33.3	eld_A		
	px MCVideo PublicServi		MCVIDEO
	celd_A		
	px_MCData_PublicServic		MCDATA
	eld_A		
}			
IDRr payload {		Addressed by	
is a payroad ('00001110'B in the	
		'Next payload'	
		field of the	
		previous payload	
Next payload	'00001110'B	promote payrous	
ID Role	2	Responder (IDRr)	
ID Type	1	URI	
ID len	Length of ID Data	31.11	
ID data	px_MCPTT_ID_User_A	MCPTT ID	
ID data	px_lviCi 11_ib_osei_A	See	
		TS 33.180 [94]	
		clause E.4.1	
	px_MCVideo_ID_User_A	MCVideo ID	MCVIDEO
	px_ivic video_ib_osei_A	See	IVICVIDEO
		TS 33.180 [94]	
		clause E.4.1	
	px_MCData_ID_User_A	MCData ID	MCDATA
	px_iviobata_ib_osei_A	See	WODATA
		TS 33.180 [94]	
		clause E.4.1	
}		olddoo E. I. I	
IDRkmsi payload {		Addressed by	
15 Killisi payloda ('00001110'B in the	
		'Next payload'	
		field of the	
		previous payload	
Next payload	'00001110'B	provious payious	
ID Role	6	Initiator's KMS	
TO TOIC	ŭ	(IDRkmsi)	
ID Type	1	URI	
ID len	Length of ID Data	Orti	
ID data	tsc_MCX_KMS_Hostnam	KMS of the	
	e e	initiating user (UE)	
1		miliating user (UE)	
} IDRkmsr payload {		Addressed by	
iDRKilisi payload {		'00001110'B in the	
		'Next payload'	
		field of the	
Novt payland	100011010P	previous payload	<u> </u>
Next payload ID Role	'00011010'B	Doopondoris IAMO	
טוט אטופ	7	Responder's KMS	
ID Time	1	(IDRkmsr)	
ID Type	1	URI	
ID len	Length of ID Data	1410 411	
ID data	tsc_MCX_KMS_Hostnam	KMS of the	
	e	responder (MCX	
		domain)	

Derivation path: RFC 6509 [23], RFC 6043 [25], RI	FC 3830 [24]		
Field	Value/remark	Comment	Condition
Security Properties payload	Not present	If not present (#CS == 0) then the default security profile defined in Annex E.4.2 of TS 33.180 [94] shall be used	
SAKKE payload {		Addressed by '00011010'B in the 'Next payload' field of the previous payload	
Next payload	'00000100'B		
SAKKE params { ID scheme	2	Parameter Set 1 according to RFC 6509 [23], Appendix A '3GPP MCX hashed UID' (33.180 [94]	
SAKKE data length	Length of SAKKE data (in bytes)	E.1.2)	
SAKKE data	Encapsulated CSK	The CSK is encapsulated by using the public key (PubEncKey in KMS Certificate) and the UID generated from the MDSI of the MCX Domain (provided in IDRr)	
SIGN (ECCSI) payload {		Addressed by '00000100'B in the 'Next payload' field of the previous payload	
S type	2	ECCSI signature	
S len S data	Length of the signature field (in bytes) Signature	12 bits The signature	
}	O.g. idialo	shall be validated according to RFC 3830 [24] clause 5.3 using the algorithm according to RFC 6507 [98] clause 5.2.2 using the UID generated from the ID associated with the initiating user (provided in IDRi payload).	

- Private call (MIKEY-SAKKE sent by the SS)

Table 5.5.9.1-2: MIKEY-SAKKE I_MESSAGE (Private call) by the SS

Derivation path: RFC 6509 [23], RFC 6043 [3	25], RFC 3830 [24] Value/remark	Comment	Condition
MIKEY Common Header {	Value/Terrial K	Comment	Condition
version	'0000001'B		
Data Type	'00011010'B	SAKKE msg (26)	
Next payload	'00000101'B	Next payload is	
		timestamp	
V	'0'B	555	
PRF func	'0000001'B	PRF-HMAC-SHA-	
CSB ID	'0001xxxx xxxxxxxx'B	256 32-bit PCK-ID	
COB 1D	0001xxxx xxxxxxx B	The 4 most	
		significant bits of	
		the PCK-ID	
		indicate the	
		purpose of the	
		PCK is to protect	
		Private call communications,	
		the other 28-bits	
		are randomly	
		generated	
#CS	'00000000'B	the number of	
		crypto sessions in	
		the CS ID map	
00.15		info.	
CS ID map type CS ID map Info	1	empty map	
\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	not present		
Timestamp Payload (T) {			
Next payload	'00001011'B	Next payload is	
. ,		RAND	
TS Type	'00000000'B	NTP-UTC (0): 64-	
T0.1/1		bits	
TS Value	Current system time	64bit UTC value	
		representing the number of	
		seconds since 0h	
		on 1 January	
		1900 with respect	
		to the Coordinated	
		Universal Time	
		(UTC)	
RAND Payload {			
Next payload	'00001110'B	Next payload is	
		IDRi	
RAND len	'00010000'B	16 Bytes RAND	
RAND	128-bit random number		
IDBi payload (
IDRi payload { Next payload	'00001110'B	Next payload is	
ινολί μαγισαυ	00001110.6	IDRi	
ID Role	1	Initiator (IDRi)	
ID Type	0	URI	
ID len	Length of ID Data		
ID data	px_MCPTT_ID_User_B	MCPTT ID	
		associated with	
	px_MCVideo_ID_User_B	the initiating user MCVideo ID	MCVIDEO
	px_ivic vide0_iD_user_B	See	INICAIDEO
		TS 33.180 [94]	
		clause E.4.1	
	px_MCData_ID_User_B	MCData ID	MCDATA
		See	
		TS 33.180 [94] clause E.4.1	

Derivation path: RFC 6509 [23], RFC 6043	[25], RFC 3830 [24]	0.0000000000000000000000000000000000000	00
Field	Value/remark	Comment	Condition
IDPr poulood (1
IDRr payload {	'00001110'B	Next poulood is	
Next payload	00001110 B	Next payload is IDRkmsi	
ID Role	2	Responder (IDRr)	
	0	Responder (IDRI)	
ID Type	-		
ID len ID data	Length of ID Data px_MCPTT_ID_User_A	MCPTT ID	
ib data	px_iviCP11_iD_usei_A	associated to the	
		receiving user	
	px_MCVideo_ID_User_A	MDSI of the	MCVIDEO
	px_iviCvideo_iD_osei_A	MCVideo Domain	INICAIDEO
	ny MCData ID Haar A	MDSI of the	MCDATA
	px_MCData_ID_User_A	MCData Domain	MCDATA
1		MCData Domain	
IDRkmsi payload {	(00004440ID	No. 4 mondo o dilo	
Next payload	'00001110'B	Next payload is	
12.2		IDRkmsr	
ID Role	6	Initiator's KMS	
ID T		(IDRkmsi)	
ID Type	0		
ID len	Length of ID Data		ļ
ID data	tsc_MCX_KMS_Hostnam	KMS of the	1
	e	initiating user	
}			
IDRkmsr payload {			
Next payload	'00011010'B	Next payload is	
• •		SAKKE (26)	
ID Role	7	Responder's KMS	
		(IDRkmsr)	
ID Type	0		
ID len	Length of ID Data		
ID data	tsc_MCX_KMS_Hostnam	KMS of the	
	e	responding user	
		(UÉ)	
}			
SAKKE payload {			
Next payload	'00000100'B	Next payload is	
		SIGN	
SAKKE params {	1	Parameter Set 1	
о <u>-</u> раналио (·	according to RFC	
		6509 [23],	
		Appendix A	
ID Scheme	2	'3GPP MCX	
	_	hashed UID'	
		(33.180 [94]	
		E.1.2)	
SAKKE data length	Length of SAKKE data	16 bits	
	(in bytes)		1
SAKKE data	Encapsulated PCK	The PCK is	
of thick data	Endapsdiated FOR	encapsulated by	
		using the public	
		key (PubEncKey	
		in KMS	
		Certificate) and	
		the UID generated	1
		from the MC	
		Service user ID of	
		the terminating	
		user	1
1		usci	
CION (FOCO) mondoned (1
SIGN (ECCSI) payload {		F0001 -: (1
S type	2	ECCSI signature	
	1 41.	40 hita	
S len	Length of the signature field (in bytes)	12 bits	

Derivation path: RFC 6509 [23], RFC 6043 [25], RFC 3830 [24]			
Field	Value/remark	Comment	Condition
S data	Signature: In case of UL message the signature shall be validated by the SS	Signature created according to RFC 3830 [24] clause 5.2 using the algorithm according to RFC 6507 [98] clause 5.2.1 using the UID generated from the MC Service user ID of the initiating user	
}			

- Private call (MIKEY-SAKKE sent by the UE)

Table 5.5.9.1-2A: MIKEY-SAKKE I_MESSAGE (Private call) by the UE

Derivation path: RFC 6509 [23], RFC 6043 [25 Field	Value/remark	Comment	Condition
MIKEY Common Header {	valao/ioniain	Johnnone	Contaction
version	'0000001'B		
Data Type	'00011010'B	SAKKE msg (26)	
Next payload	Identifier for the next	07 ii ii 12 iii 0g (20)	
. to h payload	payload (NOTE 1)		
V	'0'B		
PRF func	'000001'B	PRF-HMAC-SHA-	
		256	
CSB ID	'0001xxxx xxxxxxxx'B	32-bit PCK-ID	
		The 4 most	
		significant bits of	
		the PCK-ID	
		indicate the	
		purpose of the	
		PCK is to protect	
		Private call communications,	
		the other 28-bits	
		are randomly	
		generated	
#CS	'00000001'B or	Number of crypto	
#OO	'0000000'B	sessions in the	
	000000002	CS ID map info: if	
		#CS is 0 the	
		default security	
		policies shall be	
		applied (TS	
		33.180 [94] E.1.2)	
CS ID map type	2 if #CS > 0	GENERIC-ID	
	1 if #CS == 0	empty map	
CS ID map Info {	Present only if #CS > 0		
CS ID	'00000000'B or	CS ID of the	MCPTT
	'0000001'B	crypto session: '0'	
		for PCK use from	
		initiatior or '1' for	
		PCK use from receiver within	
		MCPTT (TS	
		33.180 [94] E.3.3)	
	'00000010'B or	CS ID of the	MCVIDEO
	'0000011'B	crypto session: '2'	
		for PCK use from	
		initiatior or '3' for	
		PCK use from	
		receiver within	
		MCVideo (TS	
		33.180 [94] E.3.3)	
Prot type	0	SRTP	
		the security	
		protocol to be	
		used for the	
S	Any value	crypto session	
S	Any value	S flag to indicate whether the ROC	
		and SEQ fields	
		are provided ('1')	
		or if they are	
		omitted ('0')	
#P	1	the number of	
#F		security policies	
		provided for the	
		crypto session	
Ps {		crypto session lists the policies	
Ps {		crypto session	

Derivation path: RFC 6509 [23], RFC 604	Value/remark	Comment	Condition
Policy_no_1	Any value	a policy_no that corresponds to the policy_no of a SP payload	Contanton
Session Data Langth	Longth of Cossion Data	16 bits	
Session Data Length	Length of Session Data (in bytes)	the length of Session Data (in bytes). For the Prot type SRTP, Session Data MAY be omitted in the initial message (length = 0), but it MUST be provided in the response message.	
Session Data {	Present if Session Data Length > 0	session data for the crypto session	
SSRC	Any value	specifies the SSRC that MUST be used for the crypto session	
ROC	Any value if S flag is set, not present otherwise	current/initial rollover counter. If the session has not started, this field is set to '0'	
SEQ	Any value if S flag is set, not present otherwise	current/initial sequence number	
}			
SPI Length	Length of the SPI	SPI MAY be omitted in the initial message (length = 0), but it MUST be provided in the response message	
SPI	Any value if present	the SPI (or MKI) corresponding to the session key to (initially) be used for the crypto session. Other keys can be used.	
}			
Timestamp Payload (T) {		Addressed by '00000101'B in the 'Next payload' field of the previous payload	
Next payload	Identifier for the next payload (NOTE 1)		
TS Type	(00000000)B	NTP-UTC (0): 64- bits	

Derivation path: RFC 6509 [23], RFC 6043 [Commont	Condition
TS Value	Value/remark Any value	Comment 64bit UTC value representing the number of seconds since 0h	Condition
		on 1 January 1900 with respect to the Coordinated Universal Time (UTC)	
RAND Payload {		Addressed by '00001011'B in the 'Next payload' field of the previous payload	
Next payload	Identifier for the next payload (NOTE 1)		
RAND len RAND	'00010000'B Any value	16 Bytes RAND 128-bit random number	
] IDRi payload {		Addressed by '00001110'B in the 'Next payload' field of the previous payload	
Next payload	Identifier for the next payload (NOTE 1)		
ID Role	1	Initiator (IDRi)	
ID Type	1	URI	
ID len ID data	Length of ID Data px_MCPTT_ID_User_A	MCPTT ID associated with the initiating user	
	px_MCVideo_ID_User_A	MCVideo ID See TS 33.180 [94] clause E.4.1	MCVIDEO
	px_MCData_ID_User_A	MCData ID See TS 33.180 [94] clause E.4.1	MCDATA
IDRr payload {		Addressed by '00001110'B in the 'Next payload' field of the previous payload	
Next payload	Identifier for the next payload (NOTE 1)		
ID Role	2	Responder (IDRr)	
ID Type ID len	1 Length of ID Data	URI	
ID data	px_MCPTT_ID_User_B	MCPTT ID associated to the receiving user	
	px_MCVideo_ID_User_B px_MCData_ID_User_B	MDSI of the MCVideo Domain MDSI of the	MCVIDEO MCDATA
}		MCData Domain	
IDRkmsi payload {		Addressed by '00001110'B in the 'Next payload' field of the previous payload	

Derivation path: RFC 6509 [23], RFC 6043 [25], RFC 3830 [24]		
Field	Value/remark	Comment	Condition
Next payload	Identifier for the next payload (NOTE 1)		
ID Role	6	Initiator's KMS (IDRkmsi)	
ID Type	1	ÙRI	
ID len	Length of ID Data		
ID data	tsc_MCX_KMS_Hostnam	KMS of the	
1	e	initiating user (UE)	
IDRkmsr payload {		Addressed by	
IDRKITSI payioau ('00001110'B in the 'Next payload' field of the previous payload	
Next payload	Identifier for the next payload (NOTE 1)	providuo payioaa	
ID Role	7	Responder's KMS	
		(IDRkmsr)	
ID Type	1	URI	
ID len	Length of ID Data		
ID data	tsc_MCX_KMS_Hostnam e	KMS of the responding user	
}	D 17, 100 0	Addressed by '00001010'B in the 'Next payload' field of the previous payload	
Security Properties payload {	Present if #CS > 0	If not present (#CS == 0) then the default security profile defined in Annex E.4.2 of TS 33.180 [94] shall be used	
Next payload	Identifier for the next payload (NOTE 1)		
Policy no	same as Policy_no_1 in the CS ID map info of the header payload		
Prot type	0	SRTP	
Policy param length	-	-	
Policy param {			
{			
Туре	0	Encryption Algorithm	
length			
value	6	AES-GCM	
<i>\ \ \</i>			
Туре	1	Session encryption key length	
length			
value }	16	16 octets	
{			
Туре	4	Session salt key length	
length		g	
value	12	12 octets	
}	·-	55.565	
,			
Туре	5	SRTP PRF	
length	Ť	3 110	
iongui	1	ı	

Derivation path: RFC 6509 [23], RFC 604 Field	3 [25], RFC 3830 [24] Value/remark	Comment	Condition
value	0	AES-CM	
}			
{			
Туре	6	Key derivation rate	
length		1.4.0	
value	0	No session key refresh.	
}			
Туре	20	AEAD authentication tag length	
length			
value	16	16 octets	
}			
}			
SAKKE payload {		Addressed by '00011010'B in the 'Next payload' field of the previous payload	
Next payload	Identifier for the next payload (NOTE 1)		
SAKKE params {	1	Parameter Set 1 according to RFC 6509 [23], Appendix A	
ID Scheme	2	'3GPP MCX hashed UID' (33.180 [94] E.1.2)	
SAKKE data length	Length of SAKKE data (in bytes)	16 bits	
SAKKE data	Encapsulated PCK	The PCK is encapsulated by using the public key (PubEncKey in KMS Certificate) and the UID generated from the MC Service user ID of the terminating user	
SIGN (ECCSI) payload {		Addressed by	
Gioit (Locoi) payidau ('00000100'B in the 'Next payload' field of the previous payload	
S type	2	ECCSI signature	
Signature len	Length of the signature field (in bytes)	12 bits	

Derivation path: RFC 6509 [23], RFC 6043 [25], RFC 3830 [24]				
Field	Value/remark	Comment	Condition	
S data	Signature: In case of UL message the signature shall be validated by the SS	Signature created according to RFC 3830 [24] clause 5.2 using the algorithm according to RFC 6507 [98] clause 5.2.1 using the UID generated from the MC Service user ID of the initiating user		
NOTE 4. MIKEV neulanda may accur in any andar ana		1:1: 1 (1 (2		

NOTE 1: MIKEY payloads may occur in any order apart from the header payload which is always the first payload and the signature payload which is always the last payload

- GMK distribution (MIKEY-SAKKE sent by the SS)

Table 5.5.9.1-3: MIKEY-SAKKE I_MESSAGE (GMK distribution by the SS)

Field	Derivation path: RFC 6509 [23], RFC 6043 [25], RFC 3830 [24]				
	Value/remark	Comment	Condition		
MIKEY Common Header {	Any				
version	'0000001'B				
Data Type	'00011010'B	SAKKE msg (26)			
Next payload	'00000101'B	Next payload is			
		timestamp			
V	'0'B				
PRF func	'0000001'B	PRF-HMAC-SHA-			
		256			
CSB ID	GUK-ID:	Group User Key			
	4 bit purpose tag ('0000'B	Identifier			
	for GMK) & 28 bit	Derived from			
	identifier	GMK-ID and User			
		Salt according to			
		TS 33.180 [94]			
		clause 5,2,3			
#CS	'00000000'B	no crypto			
		sessions in the			
		CS ID map info.			
CS ID map type	1	empty map			
CS ID map Info	Not present	- 11-7 11-2			
}	Trot prodont				
Timestamp Payload (T) {					
Next payload (1) {	'00001011'B	Next payload is			
Next payload	0000101118				
TO Time	(00000000)D	RAND			
TS Type	'00000000'B	NTP-UTC (0): 64-			
		bits			
TS Value	Current system time	64bit UTC value			
		representing the			
		number of			
		seconds since 0h			
		on 1 January			
		1900 with respect			
		to the Coordinated			
		Universal Time			
		(UTC)			
}					
RAND Payload {					
Next payload	'00001110'B	Next payload is			
		IDRi			
RAND len	'00010000'B	16 Bytes RAND			
RAND	128-bit random number	,			
	arbitrarily selected by the				
	SS SI				
}					
IDRi payload {					
Next payload	'00001110'B	Next payload is			
pajiouu	0000111012	IDRr			
ID Role	1	Initiator (IDRi)			
ID Type	1	URI			
ID len	Length of ID Data	JIN			
ID data	tsc_MCX_GMS_Hostna	LIDI of the group			
ID udld		URI of the group			
	me	management			
1		server			
·					
IDDs souds add					
IDRr payload {	/	I Niesa mesalee elie			
IDRr payload { Next payload	'00001110'B	Next payload is			
Next payload		IDRkmsi			
Next payload ID Role	'00001110'B				
Next payload		IDRkmsi			

Derivation path: RFC 6509 [23], RFC 6043 [25], RFC			
Field	Value/remark	Comment	Condition
ID data	px_MCPTT_ID_User_A	MCPTT ID	
	·	associated to the	
		group	
		management	
		client	
	px_MCVideo_ID_User_A	MCVideo ID	MCVIDEO
		associated to the	
		group	
		management	
		client	
	px_MCData_ID_User_A	MCData ID	MCDATA
		associated to the	
		group	
		management	
		client	
}			
IDRkmsi payload {	(00004440/P	Nove povised is	
Next payload	'00001110'B	Next payload is IDRkmsr	
ID Role	6	Initiator's KMS	
		(IDRkmsi)	
ID Type	1	URI	
ID len	Length of ID Data		
ID data	tsc_MCX_KMS_Hostnam		
	е		
}			
IDRkmsr payload {			
Next payload	'00011010'B	Next payload is SAKKE (26)	
ID Role	7	Responder's KMS (IDRkmsr)	
ID Type	1		
ID len	Length of ID Data		
ID data	tsc_MCX_KMS_Hostnam e	KMS of the UE	
}			
SAKKE payload {			
Next payload	'00010101'B	Next payload is General Extension	
SAKKE params	1	Parameter Set 1	
1		according to RFC	
		6509 [23],	
		Appendix A	
ID Scheme	2	'3GPP MCX	
		hashed UID'	
		(33.180 [94]	
		E.1.2)	
SAKKE data length	Length of SAKKE data	,	
J	(in bytes)		
SAKKE data	Encapsulated GMK	The GMK is	
		encapsulated by	
		using the SAKKE	
		public key and the	
		UID generated	
		from the MC	
		Service user ID of	
		the group	
		management	
		client (provided in	
		IDRr)	
}	+		
[]		l .	l .

Field	Value/remark	Comment	Condition
General Extension Payload {			
Next payload	'00000100'B	Next payload is SIGN	
Туре	7	'3GPP key parameters' See 33.180 [94] clause E.6.1	
Length	Length of the data (in bytes)		
Content {		MCData Protected Payload message according to TS 33.180 [94] clause 8.5.4.1	
Message Type	,C3,O	protected and authenticated DATA PAYLOAD	
Date and Time	Same number of seconds as in the Timestamp Payload	UTC time in seconds since midnight UTC of January 1, 1970	
Payload ID	O'00000000'O	value according to TS 33.180 [94] E.6.1	
Payload sequence number	,00,O	value according to TS 33.180 [94] E.6.1	
Payload algorithm	'01'O	AEAD_AES_128_ GCM	
Signalling algorithm	not present		
IV	'AAAAAAAAAAAAAA 555555555555555'O	arbitrarily selected	
DPPK-ID	Same as the CSB ID in the MIKEY Common Header		
Payload {		'Payload' element according to TS 24.282 [87] clause 15.2.13	
type	'78'O	Value as used in MCData messages in TS 24.282 [87]	
length	length of the payload data		
content type	'02'O	BINARY	
Data {	Protected Payload: encrypted with AEAD algorithms	See TS 33.180 [94] clause E.6 and 8.5.4.2	
Key Type	'00000000'B	GMK	
Status	'1'	Not-revoked	

Derivation path: RFC 6509 [23], RFC 6043 [25], RFC 3			
Field	Value/remark	Comment	Condition
Activation Time	0	The time in UTC at which the	
		associated GMK	
		is to be made	
		active for	
		transmission in	
		seconds since	
		midnight UTC of	
		January 1, 1970	
		(not counting leap	
		seconds). It shall	
		be 5 octets in	
		length.	
		A value of 0 shall	
		imply the	
		activation time is	
		the timestamp of	
		the received	
		MIKEY I_MESSAGE	
Evniry Timo	0	_	
Expiry Time	U	The 'Expiry time' element shall	
		define the time in	
		UTC at which the	
		associated key	
		shall no longer be	
		used in seconds	
		since midnight	
		UTC of January 1,	
		1970 (not	
		counting leap	
		seconds). It shall	
		be 5 octets in	
		length.	
		A value of 0 shall	
		imply the key shall	
		not expire.	
Text	""	no text:	
		Text element shall	
		contain Length sub-element with	
		the value 0 (see	
		TS 33.180 [94]	
		E.6.5)	
Group IDs {		,	
Number of Group IDs	'1'		
Group ID	px_MCPTT_Group_A_ID	The ID for the	
		group associated	
	140) (1.1	with the key.	140) ((5.5)
	px_MCVideo_Group_A_I	The ID for the	MCVIDEO
	D	group associated	
	px_MCData_Group_A_I	with the key. The ID for the	MCDATA
	px_MCData_Group_A_i D	group associated	WICDATA
		with the key.	
}			
}			
} MIKEY_SAKKE I-MESSAGE	not present		
}	not prodont		
SIGN (ECCSI) payload {			

Derivation path: RFC 6509 [23], RFC 6043 [25], RFC 3830 [24]			
Field	Value/remark	Comment	Condition
S type	2	ECCSI signature	
S len	Length of the signature field (in bytes)	12 bits	
S data	Signature	The signature shall be created according to RFC 3830 [24] clause 5.2 using the algorithm according to RFC 6507 [98] clause 5.2.1 using the UID generated from the identifier associated with the group management server	
}			

- MSCCK distribution (MIKEY-SAKKE sent by the SS)

Table 5.5.9.1-4: MIKEY-SAKKE I_MESSAGE (MSCCK distribution by the SS)

Derivation path: RFC 6509 [23], RFC 6043 [2	Value/remark	Comment	Condition
MIKEY Common Header {	Any	Comment	Condition
version	'00000001'B		
Data Type	'00011010'B	SAKKE msg (26)	
Next payload	'00000101'B	Next payload is	
Next payload	000001011	timestamp	
V	'0'B	umostamp	
PRF func	'0000001'B	PRF-HMAC-SHA-	
1 KI TUTIC	0000001 B	256	
CSB ID	'0101xxxx xxxxxxxx'B	32-bit MSCCK-ID	
60B ID	0101xxxx xxxxxxx B	The 4 most	
		significant bits of	
		the MSCCK-ID	
		indicate the	
		purpose of the	
		MSCCK is to	
		protect general	
		purpose	
		subchannel	
		control messages.	
		The other 28-bits	
		are randomly	
		generated	
#CS	'00000000'B	no crypto	
	00000000	sessions in the	
		CS ID map info.	
CS ID map type	1	empty map	
CS ID map Info	Not present	Chipty map	
}	140t procent		
Timestamp Payload (T) {			
Next payload	'00001011'B	Next payload is	
Next payload	000010112	RAND	
TS Type	'00000000'B	NTP-UTC (0): 64-	
ТО Турс	0000000 B	bits	
TS Value	Current system time	64bit UTC value	
10 Value	Current dystom time	representing the	
		number of	
		seconds since 0h	
		on 1 January	
		1900 with respect	
		to the Coordinated	
		Universal Time	
		(UTC)	
}		, ,	
RAND Payload {			
Next payload	'00001110'B	Next payload is	
		IDRi	
RAND len	'00010000'B	16 Bytes RAND	
RAND	128-bit random number		
	arbitrarily selected by the		
	SS		
}			
IDRi payload {			
Next payload	'00001110'B	Next payload is	
		IDRr	
ID Role	1	Initiator (IDRi)	
ID Type	1	URI	
ID len	Length of ID Data		
ID data	px_MCPTT_PublicServic	The public service	
	eld_A	identity identifying	
		the participating	
		MCPTT function	
}			
IDRr payload {			
Next payload	'00001110'B	Next payload is	
		IDRkmsi	

Derivation path: RFC 6509 [23], RFC 6043 [25]			
Field	Value/remark	Comment	Condition
ID Role	2	Responder (IDRr)	
ID Type	1	URI	
ID len	Length of ID Data		
ID data	px_MCPTT_ID_User_A	MCPTT ID	
		associated to the	
		terminating user	
}			
IDRkmsi payload {			
Next payload	'00001110'B	Next payload is	
		IDRkmsr	
ID Role	6	Initiator's KMS	
		(IDRkmsi)	
ID Type	1	URI	
ID len	Length of ID Data		
ID data	tsc_MCX_KMS_Hostnam		
	е		
}			
IDRkmsr payload {	(222442421		
Next payload	'00011010'B	Next payload is	
10.0	_	SAKKE (26)	
ID Role	7	Responder's KMS	
15.7		(IDRkmsr)	
ID Type	1	URI	
ID len	Length of ID Data	1010 (1) 115	
ID data	tsc_MCX_KMS_Hostnam	KMS of the UE	
,	e		
CAKKE payload (
SAKKE payload {	(000004 00/D	Next perdeed in	
Next payload	'00000100'B	Next payload is	
CAKKE navana	1	SIGN Parameter Set 1	
SAKKE params	'	according to RFC	
		6509 [23],	
ID Scheme	2	Appendix A '3GPP MCX	
id Scheme	2	hashed UID'	
		(33.180 [94]	
		E.1.2)	
SAKKE data length	Length of SAKKE data	L.1.2)	
Or with Cadia longin	(in bytes)		
SAKKE data	Encapsulated MSCCK	The MSCCK is	
o, ii ii le data	Endapodiated Widook	encapsulated by	
		using the SAKKE	
		public key and the	
		UID generated	
		from the MC	
		Service user ID of	
		the terminating	
		user	
}			
SIGN (ECCSI) payload {			
S type	2	ECCSI signature	
S len	Length of the signature	12 bits	
	field (in bytes)		
	(5).00/	ı	1

Derivation path: RFC 6509 [23], RFC 6043 [2	5], RFC 3830 [24]		
Field	Value/remark	Comment	Condition
S data	Signature	The signature shall be created according to RFC 3830 [24] clause 5.2 using the algorithm according to RFC 6507 [98] clause 5.2.1 using the UID generated from the public service identity identifying the participating MCPTT function	
}			

- MuSiK distribution (MIKEY-SAKKE sent by the SS)

Table 5.5.9.1-5: MIKEY-SAKKE I_MESSAGE (MuSiK distribution by the SS)

Derivation path: RFC 6509 [23], RFC 6043 Field	Value/remark	Comment	Condition
MIKEY Common Header {	Any	Comment	Condition
version	'0000001'B		
Data Type	'00011010'B	SAKKE msg (26)	
Next payload	'00000101'B	Next payload is	
Next payload	00000101B	timestamp	
V	'0'B	timestamp	
PRF func	'000001'B	PRF-HMAC-SHA-	
i Ki Tulic	0000001B	256	
CSB ID	'0110xxxx xxxxxxxx'B	32-bit MuSiK-ID	
00212	OTTOXXXXXXXXX	The 4 most	
		significant bits of	
		the MuSiK-ID	
		indicate the	
		purpose of the	
		MuSiK is to	
		protect floor	
		control messages	
		sent over MBMS.	
		The other 28-bits	
		are randomly	
		generated	
#CS	'00000000'B	no crypto	
		sessions in the	
		CS ID map info.	
CS ID map type	1	empty map	
CS ID map Info	Not present	ompty map	
\	140t present		
Timestamp Payload (T) {			
Next payload	'00001011'B	Next payload is	
Next payload	0000101111	RAND	
TS Type	'00000000'B	NTP-UTC (0): 64-	
ТОТУРС	00000000 B	bits	
TS Value	Current system time	64bit UTC value	
10 value	Guirent System time	representing the	
		number of	
		seconds since 0h	
		on 1 January	
		1900 with respect	
		to the Coordinated	
		Universal Time	
		(UTC)	
}			
RAND Payload {			
Next payload	'00001110'B	Next payload is	
. ,	-	IDRi	
RAND len	'00010000'B	16 Bytes RAND	
RAND	128-bit random number		
	arbitrarily selected by the		
	SS		
}			
ÍDRi payload {			
Next payload	'00001110'B	Next payload is	
· •		IDRr	
ID Role	1	Initiator (IDRi)	
ID Type	1	URI	
ID len	Length of ID Data		
ID data	px_MCPTT_PublicServic	The public service	
	eld_A	identity identifying	
		the participating	
		MCPTT function	
}			
IDRr payload {			
Next payload	'00001110'B	Next payload is	
	000011102	IDRkmsi	

Derivation path: RFC 6509 [23], RFC 6043 Field	Value/remark	Comment	Condition
ID Type	1	URI	Condition
ID len	Length of ID Data	OIXI	
ID data	px_MCPTT_ID_User_A	MCPTT ID	
ID data	px_wcr11_ib_osei_A	associated to the	
		terminating user	
}			
IDRkmsi payload {			
Next payload	'00001110'B	Next payload is	
		IDRkmsr	
ID Role	6	Initiator's KMS	
		(IDRkmsi)	
ID Type	1	ÙRI	
ID len	Length of ID Data	<u> </u>	
ID data	tsc_MCX_KMS_Hostnam		
ID data	e		
1	<u> </u>		
IDPkmer payload (
IDRkmsr payload {	(00044040)	Martage	
Next payload	'00011010'B	Next payload is	
		SAKKE (26)	1
ID Role	7	Responder's KMS	
		(IDRkmsr)	
ID Type	1	URI	
ID len	Length of ID Data		
ID data	tsc_MCX_KMS_Hostnam	KMS of the UE	
	e		
}			
SAKKE payload {			1
Next payload	'00000100'B	Next payload is	
Next payload	00000100 B	SIGN	
CAVVE parama	1	Parameter Set 1	
SAKKE params	1		
		according to RFC	
		6509 [23],	
		Appendix A	
ID Scheme	2	'3GPP MCX	
		hashed UID'	
		(33.180 [94]	
		E.1.2)	
SAKKE data length	Length of SAKKE data	,	
-	(in bytes)		
SAKKE data	Encapsulated MuSiK	The MuSiK is	1
5, Cata	Endapsulated Macint	encapsulated by	
		using the SAKKE	
		public key and the	
		UID generated	
		from the MC	
		Service user ID of	
		the terminating	
		user	
}			
SIGN (ECCSI) payload {			
S type	2	ECCSI signature	
			
Slen	Length of the signature	12 bits	

Derivation path: RFC 6509 [23], RFC 604	3 [25], RFC 3830 [24]		
Field	Value/remark	Comment	Condition
S data	Signature	The signature shall be created according to RFC 3830 [24] clause 5.2 using the algorithm according to RFC 6507 [98] clause 5.2.1 using the UID generated from the public service identity identifying the participating MCPTT function	
}			

5.5.10 Common MCS test USIM parameters

5.5.10.1 General

The format and coding of elementary files of the USIM are defined in 3GPP TS 31.102 [73]. Those of the ISIM are defined in 3GPP TS 31.101 [79] and 3GPP TS 31.103 [80].

The present clause defines default MCS relevant parameters for programming the elementary files of the test USIM when running conformance test cases defined in TS 36.579-2 [2], TS 36.579-6 [84], or TS 36.579-7 [85].

For requirements to the test USIM/ISIM needed for the E-UTRA/EPC and MCS off-network ProSe operation see 3GPP TS 36.508 [6], clause 4.9.

5.5.10.2 Default settings for the Elementary Files (EFs)

EFUST (USIM Service Table)

Services	Discription	Activated	Version
Service n°109	Mission Critical Services	Yes	
NOTE: Only the relevant MCS related services indicated.			

EF_{MST} (MCS Service Table)

This file shall be present. This EF indicates the coding of the MCS management objects and which MCS services are available.

Coding of the MCPTT management objects = '00' (XML format).

Services	Discription	Activated	Version
Service n°1:	MCPTT UE configuration data	Yes	
Service n°2:	MCPTT User profile data	Yes	
Service n°3:	MCS Group configuration data	Yes	
Service n°4:	MCPTT Service configuration data	Yes	
Service n°5:	MCS UE initial configuration data	Yes	
Service n°6:	MCData UE configuration data	Yes	
Service n°7:	MCData user profile data	Yes	
Service n°8:	MCData service configuration data	Yes	
Service n°9:	MCVideo UE configuration data	Yes	•
Service n°10:	MCVideo user profile data	Yes	
Service n°11:	MCVideo service configuration data	Yes	

EF_{MCS_CONFIG} (MCS configuration data)

This file shall be present.

Encoded in XML format (as specified in the MCS Service Table).

MCPTT configuration data objects	Tag Values	Condition
MCPTT UE configuration data	'80'	Shall be present. The content of the MCPTT UE configuration data object shall be as specified in Table 5.5.8.2-1.
MCPTT user profile data	'81'	Shall be present. The content of the MCPTT User configuration data object shall be as specified in Table 5.5.8.3-1.
MCS Group configuration data	'82'	Shall be present. The content of the MCS Group configuration data object shall be as specified in Table 5.5.7.1 for MCPTT, Table 5.5.7.2-1 for MCVideo, and Table 5.5.7.3-1 for MCData.
MCPTT Service configuration data	'83'	Shall be present. The content of the MCPTT Server configuration data object shall be as specified in Table 5.5.8.4-1.
MCS UE initial configuration data	'84'	Shall be present. The content of the MCS UE initial configuration data object shall be as specified in Table 5.5.8.1-1 for MCPTT, Table 5.5.8.5-1 for MCVideo, and Table 5.5.8.9-1 for MCData,
MCData UE configuration data	'85'	Shall be present. The content of the MCData UE configuration data object shall be as specified in Table 5.5.8.10-1.
MCData user profile data	'86'	Shall be present. The content of the MCData user profile data object shall be as specified in Table 5.5.8.11-1.
MCData service configuration data	'87'	Shall be present. The content of the MCData service configuration data object shall be as specified in Table 5.5.8.12-1.
MCVideo UE configuration data	'88'	Shall be present. The content of the MCVideo UE configuration data object shall be as specified in Table 5.5.8.6-1.
MCVideo user profile data	'89'	Shall be present. The content of the MCVideo user profile data object shall be as specified in Table 5.5.8.7-1.
MCVideo service configuration data	'8A'	Shall be present. The content of the MCVideo service configuration data object shall be as specified in Table 5.5.8.8-1.

5.5.11 Default MCVideo Transmission Control Messages and other Information Elements

Considerations in regard to describing specific values:

- SSRC

- Synchronization SouRCe (SSRC) values are used in most of the messages specified in clause 5.5.6. The SSRC value is randomly chosen by the participant in, and globally unique within, an RTP session as specified in IETF RFC 3550 [76]. Because the value chosen by the UE (MCVideo client) cannot be controlled, specifying a "hard coded" value to be used by the SS (MCVideo Server) or the SS-UE (MCVideo Client) is prone to triggering a collision by choosing a value which may be the same as the one chosen by the UE. How to resolve SSRC collisions is described in IETF RFC 3550 [76] however, resolving them as part of the MCVideo test case definitions e.g. in TS 36.579-6 [84] is not foreseen and is left to the test implementation.
- For the purposes of default and specific messages definition throughout the present specification, as well as, throughout the rest of the MCPTT conformance test specifications e.g. the TS 36.579-6 [84] no explicit SSRC values are defined and instead the following notation is used to clarify the messages origin/destination:

- When there is no danger for misunderstanding the notation 'The SSRC of the message sender' and the 'The SSRC of the intended recipient of the message' are used whereas the "sender" and the "recipient" are to be understood in the context of the test i.e. the test entities being involved to exchange messages.

5.5.11.1 Transmission Control Specific Messages Sent by the Transmission Participant

5.5.11.1.1 Transmission Request

Table: 5.5.11.1.1-1 Transmission Request

Derivation Path: TS 24.581 [88] Information Element	Value/remark	Comment	Reference	Condition
Subtype	"00000"	Transmission control messages sent by the transmission control participant to the transmission control server	TC 24.581 [88] clause 9.2.7 and Table 9.2.2.1-1	
SSRC	The SSRC of the message sender	The SSRC field carries the SSRC of the transmission participant sending the Transmission Request message. The participant has permission to send media.	IETF RFC 35 50 [3].	
Transmission Priority			TC 24.581 [88] clause 9.2.3.2	
Transmission Priority Field ID	"0000000"	8-bit binary value		_
Transmission Priority Length	"0000010"	A binary value that has the value '2'		
		Indicates the total length in octets of the <transmission priority=""> value item and the spare bits.</transmission>		
Transmission Priority Value	Any allowed value	Consists of 8 bit parameter giving the transmission priority ('0' to '255') where '0' is the lowest priority and '255' is the highest priority. If the Transmission Priority field is not included in the message the default priority is used as the Transmission Priority value. The value of the default priority is '0'. The default priority is sometimes referred to as normal priority.		
Spare bits	"00000000"	An 8-bit binary value set to zero.		
User ID	Not Present			ON- NETWORK

Derivation Path: TS 24.581 [88]				
Information Element	Value/remark	Comment	Reference	Condition
User ID		The User ID field is used in off-network only. The User ID field carries the MCVideo ID of the transmission participant sending the Transmission Release message.	TC 24.581 [88] clause 9.3.2.8	OFF- NETWORK
User ID field ID	"00000110"			
User ID length	a binary value that includes the value indicating the length in octets of the <user id=""> value item except padding.</user>			
User ID	px_MCVideo_ID_User_ A	If the length of the <user id=""> value is not (2 + multiple of 4) bytes User ID field shall be padded to (2 + multiple of 4) bytes. The value of the padding bytes is to zero. The padding bytes are ignored by the receiver.</user>		
Transmission Indicator			TC 24.581 [88] clause 9.2.3.1	
Transmission Indicator field ID	"00001101"		TC 24.581 [88] clause 9.2.3.1 1	
Transmission Indicator Length	"10"	value is a binary value and has the value '2'		

erivation Path: TS 24.581 [88 Information Element	Value/remark	Comment	Reference	Condition
ransmission Indicator	"10000000000000"	Contains additional information about a received transmission control message. It is a 16 bit bit-map named as shown in Table 9.2.3.11.2 (a thru P). When set to 1, the bit has the following meaning: A = Normal call B = Broadcast group call C = System call D = Emergency call	TC 24.581 [88] clause 9.2.3.1	Solidido
		E = Imminent peril call		
		NOTE 1: The indicators C, D and E are only informative. There are no procedures specified for the C, D and E indicators in this release of the present document and the use of the indicators are implementation specific.		
		Bits F to P are reserved for future use and are set to 0.		
		There can be more than one bit set to 1 at the same time. The local policy in the transmission control server decides which combinations are possible and the priority of the indications.		

5.5.11.1.2 Transmission Release

Table: 5.5.11.1.2-1 Transmission Release

Derivation Path: TS 24.581 [88		0.5.00	Defe	0 1141
Information Element	Value/remark	Comment	Reference	Condition
Subtype	"00010"	Transmission control messages sent by the transmission control participant to the transmission control server	TC 24.581 [88] clause 9.2.7 and Table 9.2.2.1-1	
SSRC	The SSRC of the message sender	The SSRC field carries the SSRC of the transmission participant with permission to send media.	IETF RFC 35 50 [3].	
User ID	Not Present			ON- NETWORK
User ID		The User ID field is used in off-network only. The User ID field carries the MCVideo ID of the transmission participant sending the Transmission Release message.	TC 24.581 [88] clause 9.3.2.8	OFF- NETWORK
User ID field ID	"00000110"			
User ID length	a binary value that includes the value indicating the length in octets of the <user id=""> value item except padding.</user>			
User ID	px_MCVideo_ID_User_ A	If the length of the <user id=""> value is not (2 + multiple of 4) bytes User ID field shall be padded to (2 + multiple of 4) bytes. The value of the padding bytes is to zero. The padding bytes are ignored by the receiver.</user>		
Transmission Indicator				
Transmission Indicator field ID	"00001101"		TC 24.581 [88] clause 9.2.3.1 1	
Transmission Indicator Length	"10"	value is a binary value and has the value '2'		

Information Element	Value/remark	Comment	Reference	Conditio
ransmission Indicator	"1000000000000000"	Contains additional	TC	
		information about a	24.581 [88]	
		received transmission	clause 9.2.3.1	
		control message.	1	
		It is a 16 bit bit-map		
		named as shown in		
		Table 9.2.3.11.2 (a thru		
		P).		
		When set to 1, the bit		
		has the following		
		meaning:		
		A = Normal call		
		B = Broadcast group		
		call		
		C = System call		
		•		
		call		
		NOTE 1: The		
		indicators C, D and E		
		are only informative.		
		There are no		
		procedures specified for		
		the C, D and E		
		indicators in this release		
		of the present document		
		and the use of the		
		indicators are		
		implementation specific.		
		Dita E ta D ana manana		
		Bits F to P are reserved		
		for future use and are		
		set to 0.		
		There can be more than		
		one bit set to 1 at the		
		same time. The local		
		policy in the		
		transmission control		
		server decides which		
		combinations are		
		possible and the priority		
		of the indications.		I

5.5.11.1.3 Queue Position Request

Table: 5.5.11.1.3-1 Queue Position Request

Derivation Path: TS 24.581 [88]	Derivation Path: TS 24.581 [88] Table 9.2.11-1					
Information Element	Value/remark	Comment	Reference	Condition		
Subtype	"00011"	Server → client	TS 24.581 [88] 9.2.2.1-1			
SSRC	The SSRC of the message sender	The SSRC field carries the SSRC of the transmission participant requesting information about its position in the transmission request queue.	RFC 3550 [3], Appendix 6 shows how to generate a random 32-bit identifier			
User ID	Not Present			ON- NETWOR K		

Derivation Path: TS 24.581 [88]	Table 9.2.11-1			
Information Element	Value/remark	Comment	Reference	Condition
User ID			TS 24.581 [88] 9.2.3.8	OFF- NETWOR K
User ID field ID	"00000110"			
User ID length	a binary value that includes the value indicating the length in octets of the <user id=""> value item except padding.</user>			
User ID	px_MCVideo_ID_User_ A	If the length of the <user id=""> value is not (2 + multiple of 4) bytes User ID field shall be padded to (2 + multiple of 4) bytes. The value of the padding bytes is to zero. The padding bytes are ignored by the receiver.</user>		
Track Info	Not present	The MCVideo call does not involve a non-controlling MCVideo function	TS 24.581 [88] 9.2.3.13	

5.5.11.1.4 Receive Media Request

Table: 5.5.11.1.4-1 Receive Media Request

Derivation Path: TS 24.581 [88] Information Element	Value/remark	Comment	Reference	Condition
Subtype	"00100"	Server → client	TS 24.581 [88] 9.2.2.1-1	
SSRC	The SSRC of the message sender	The SSRC field carries the SSRC of the transmission participant requesting the reception of the media from another user.	RFC 3550 [3], Appendix 6 shows how to generate a random 32-bit identifier	
User ID		The User ID field is used to carry the identity of the user who is requesting the reception of the media Note: If the length of the <user id=""> value is not (2 + multiple of 4) bytes User ID field shall be padded to (2 + multiple of 4) bytes. The value of the padding bytes is to zero. The padding bytes are ignored by the receiver.</user>		
User ID field ID	"00000110"	the receiver.		

Derivation Path: TS 24.581 [88] T				
Information Element	Value/remark	Comment	Reference	Condition
User ID length	a binary value	value is a binary value and includes the value indicating the length in octets of the <user id=""> value item except padding.</user>	TS 24.581 [88] 9.2.3.8	
User ID	px_MCVideo_ID_User_ A		TS 24.581 [88] Table 9.2.3.8- 2	
SSRC of transmitter	The SSRC of the user transmitting the media	The SSRC of transmitter field carries the SSRC of the user transmitting the media		
Media ID	Not present	The Media ID field is present only if media multiplexing is used. The Media ID field identified a media flow within a media multiplex.		
Transmission Indicator		The Transmission Indicator contains additional information about a received transmission control message.	TS 24.581 [88] 9.2.3.11	
		The <transmission field="" id="" indicator=""> value is a binary value and is set according to table 9.2.3.1-1. The <transmission indicator="" length=""> value is a binary value and has the value '2'. The <transmission indicator=""> value is a 16 bit bit-map. When set to 1 these meanings apply:</transmission></transmission></transmission>		
		A = Normal call B = Broadcast group call C = System call D = Emergency call E = Imminent peril call		
Transmission Indicator field ID	"00001101"	An 8-bit binary value set according to TS 24.581 [88] 9.2.3.1-1.	TS 24.581 [88] Table 9.2.3.1- 1-1	
Transmission Indicator Length	"00000010"	An 8-bit binary value (2 in binary)	TS 24.581 [88] Table 9.2.3.1- 1-1	
Transmission Indicator	"10000000000000000"	A 16 bit bit-map	TS 24.581 [88] Table 9.2.3.11-2	

Information Element	Value/remark	Comment	Reference	Condition
Reception Priority		Describes the level of		
		reception priority		
		requested in a		
		Reception Request		
		message or granted in		
		a Reception Granted		
		message. The max		
		reception priority that		
		can be requested in a		
		Reception Request		
		message is negotiated		
		between the		
		transmission control		
		participant and the		
		transmission control		
		server		
Reception Priority field ID	"00010011"	Uniquely identifies the		
		instance of the		
		Reception Priority Field		
Reception Priority length	"0000010"	Indicates the total	TS 24.581 [88]	
. , ,		length in octets of the <	9.2.3.19	
		Reception Priority>		
		value item and the		
		spare bits.		
Reception Priority value	Any allowed value	The reception priority	TS 24.581 [88]	
		('0' to '255') where '0' is	9.2.3.19	
		the lowest reception		
		priority and '255' is the		
		highest reception		
		priority. If the Reception		
		Priority field is not		
		included in the		
		message the default		
		reception priority is		
		used as the Reception		
		Priority value. The		
		value of the default		
		reception priority is '0'.		
		The default reception		
		priority is sometimes		
		referred to as normal		
		reception priority.		
Track Info	Not present	The MCVideo call does	TS 24.581 [88]	
		not involve a non-	9.2.3.13	
		controlling MCVideo		
		function		

5.5.11.1.5 Transmission Cancel Request

Table: 5.5.11.1.5-1 Transmission Cancel Request

Derivation Path: TS 24.581 [88] Table 9.2.17-1					
Information Element	Value/remark	Comment	Reference	Condition	
Subtype	"00101"	Server → client	TS 24.581 [88]		
			9.2.2.1-1		
SSRC	The SSRC of the	The SSRC field carries	RFC 3550 [3],		
	message sender	the SSRC of the	Appendix 6		
		transmission control	shows how to		
		server.	generate a		
			random 32-bit		
			identifier		
User ID			TS 24.581 [88]		
			9.2.3.8		
User ID field ID	"00000110"				

Derivation Path: TS 24.581 [88] T	able 9.2.17-1			
Information Element	Value/remark	Comment	Reference	Condition
User ID length	a binary value that includes the value indicating the length in octets of the <user id=""> value item except padding.</user>			
User ID	px_MCVideo_ID_User_ A	If the length of the <user id=""> value is not (2 + multiple of 4) bytes User ID field shall be padded to (2 + multiple of 4) bytes. The value of the padding bytes is to zero. The padding bytes are ignored by the receiver.</user>		
Media ID	Not present	The Media ID field is present only if media multiplexing is used. The Media ID field identified a media flow within a media multiplex.		

5.5.11.1.6 Remote Transmission Request

Table: 5.5.11.1.6-1 Remote Transmission Request

Derivation Path: TS 24.581 [8 Information Element	Value/remark	Comment	Reference	Condition
Subtype	"00111"	Transmission control messages sent by the transmission control participant to the transmission control server	TC 24.581 [88] clause 9.2.7 and Table 9.2.2.1-1	Condition
SSRC	The SSRC of the message sender	The SSRC field carries the SSRC of the transmission participant requesting the reception of the media from another user.	IETF RFC 35 50 [3].	
Remote ID		Carries the identity of the user whose media transmission is requested.	TC 24.581 [88] clause 9.3.2.8	
User ID field ID	"00000110"			
User ID length	a binary value that includes the value indicating the length in octets of the <user id=""> value item except padding.</user>			

Derivation Path: TS 24.581 [88 Information Element	Value/remark	Comment	Reference	Condition
User ID	px_MCVideo_ID_User_ B	If the length of the <user id=""> value is not (2 + multiple of 4) bytes User ID field shall be padded to (2 + multiple of 4) bytes. The value of the padding bytes is to zero. The padding bytes are ignored by the receiver.</user>	Reference	Condition
User ID			TC 24.581 [88] clause 9.3.2.8	
User ID field ID	"00000110"		_	
User ID length	a binary value that includes the value indicating the length in octets of the <user id=""> value item except padding.</user>			
User ID	px_MCVideo_ID_User_ A	If the length of the <user id=""> value is not (2 + multiple of 4) bytes User ID field shall be padded to (2 + multiple of 4) bytes. The value of the padding bytes is to zero. The padding bytes are ignored by the receiver.</user>		
Media ID	Not present	The Media ID field is present only if media multiplexing is used. The Media ID field identified a media flow within a media multiplex.		

5.5.11.1.7 Remote Transmission Cancel Request

Table: 5.5.11.1.7-1 Remote Transmission Cancel Request

Derivation Path: TS 24.581 [88 Information Element	Value/remark	Comment	Reference	Condition
Subtype	"01000"	Transmission control messages sent by the transmission control participant to the transmission control server	TC 24.581 [88] clause 9.2.7 and Table 9.2.2.1-1	
SSRC	The SSRC of the message sender.	The SSRC field carries the SSRC of the transmission participant requesting the reception of the media from another user.	IETF RFC 35 50 [3].	

Derivation Path: TS 24.581 [88]				
Information Element	Value/remark	Comment	Reference	Condition
User ID		The User ID field is used in off-network only. The User ID field carries the identity of the user whose media transmission is requested for cancellation.	TC 24.581 [88] clause 9.3.2.8	
User ID field ID	"00000110"			
User ID length	a binary value that includes the value indicating the length in octets of the <user id=""> value item except padding.</user>			
User ID	px_MCVideo_ID_User_ A	If the length of the <user id=""> value is not (2 + multiple of 4) bytes User ID field shall be padded to (2 + multiple of 4) bytes. The value of the padding bytes is to zero. The padding bytes are ignored by the receiver.</user>		
Media ID	Not present	The Media ID field is present only if media multiplexing is used. The Media ID field identified a media flow within a media multiplex.		

5.5.11.2 Transmission Control Specific Messages Sent by the Transmission Control Server

5.5.11.2.1 Transmission Granted

Table: 5.5.11.2.1-1 Transmission Granted

Information Element	Value/remark	Comment	Reference	Condition
Subtype	"00000"	Server → client	TS 24.581 [88] 9.2.2.1-2	
SSRC	The SSRC of the	The SSRC of the	•	
	message sender	Transmission Control		
		server for on-network		
		and transmission		
		arbitrator for off-		
		network.		
		Notation in accordance with clause 5.5.6.1.		
		Coded as specified in IETF RFC 3550 [76].		
name	MCV1	Transmission Control		
Harrie	IVIC V I	messages sent by the		
		transmission control		
		server and transmission		
		control participant		
Duration				
Duration field ID	"0000001"			
Duration length	"10"	value is a binary value		
· ·		and has the value '2'		
		indicating the total		
		length in octets of the		
		<duration> value item</duration>		
Duration	"00000000 10000000"	128 sec (an arbitrary		
0000		value)		
SSRC of granted transmission	The SSRC of the	Notation in accordance		
participant	intended recipient of the	with clause 5.5.6.1.		
	message	Coded as specified in IETF RFC 3550 [76].		
Transmission priority	Not present	If the Transmission		
Transmission priority	Not present	Priority field is not		
		included in the message		
		the default priority (='0')		
		is used as the Floor		
		Priority value		
User ID	Not present			ON- NETWORK
User ID				OFF-
				NETWORK
User ID field ID	"00000110"			
User ID length	a binary value that			
•	includes the value			
	indicating the length in			
	octets of the <user id=""></user>			
	value item except			
	padding.			

Derivation Path: TS 24.581 [88] Ta	Derivation Path: TS 24.581 [88] Table 9.2.5-1				
Information Element	Value/remark	Comment	Reference	Condition	
User ID	px_MCVideo_ID_User_ A	If the length of the <user id=""> value is not (2 + multiple of 4) bytes User ID field shall be padded to (2 + multiple of 4) bytes. The value of the padding bytes is to zero. The padding bytes are ignored by the receiver.</user>			
Queue Size	Not present			ON- NETWORK	
Queue Size	"0"	the number of queued MCVideo clients in the MCVideo call		OFF- NETWORK	
SSRC of queued floor participant	Not present				
Queued User ID	Not present				
Queue Info	Not present				
Transmission Indicator					
Transmission Indicator field ID	"00001101"	An 8-bit binary value set according to TS 24.581 [88] 9.2.3.1-1.	TS 24.581 [88] Table 9.2.3.1-1-1		
Transmission Indicator Length	"0000010"	An 8-bit binary value (2 in binary)	TS 24.581 [88] Table 9.2.3.1-1-1		
Transmission Indicator	"100000000000000"	A 16 bit bit-map	TS 24.581 [88] Table 9.2.3.11-2		

5.5.11.2.2 Transmission Rejected

Table: 5.5.11.2.2-1 Transmission Rejected

Derivation Path: TS 24.581 [88]	Table 9.2.6-1			
Information Element	Value/remark	Comment	Reference	Condition
Subtype	"00001"	Server → client	TS 24.581 [88] 9.2.2.1-2	
SSRC	The SSRC of the message sender	The SSRC field carries the SSRC of the transmission control server.	RFC 3550 [3], Appendix 6 shows how to generate a random 32-bit identifier	
Reject Cause		Includes the reason for the rejecting the transmission request and can be followed by a text-string explaining why the transmission request was rejected. Therefore the length of the packet will vary depending on the size of the application dependent field.	TS 24.581 [88] 9.2.3.4	
Reject Cause field ID	"0000010"	,	TS 24.581 [88] Table 9.2.3.1-	

Information Element	Value/remark	Comment	Reference	Condition
Reject Cause length		The <reject cause<="" td=""><td></td><td></td></reject>		
		length> value is a		
		binary value and		
		indicates the total		
		length in octets of the		
		<reject cause=""> value</reject>		
		and the <reject< td=""><td></td><td></td></reject<>		
		Phrase> value items		
		excluding any padding		
		octets. If the length field		
		is set to '2', there is no		
		<reject phrase=""> value</reject>		
		in the Reject Cause		
		field.		
		If the length of the		
		<reject cause=""> value</reject>		
		is not (2 + multiple of 4)		
		bytes, the Reject		
		Cause field is padded		
		to (2 + multiple of 4)		
		bytes. The value of the		
		padding bytes is set to		
		zero. The padding		
		bytes are ignored by		
		the receiver.		

Reject Cause	"255"	Cause #1 -	TC 24 E04 [00]	
Reject Cause	255	Transmission limit reached	TS 24.581 [88] 9.2.6.2	
		The <reject cause=""> value set to '1' indicates that the number of transmitters have reached maximum.</reject>		
		Cause #2 - Internal transmission control server error		
		The <reject cause=""> value set to '2' indicates that the transmission control server cannot grant the transmission request due to an internal error.</reject>		
		Cause #3 - Only one participant		
		The <reject cause=""> value set to '3' indicates that the transmission control server cannot grant the transmission request, because the requesting party is the only participant in the MCVideo session.</reject>		
		Cause #4 - Retry-after timer has not expired		
		The <reject cause=""> value set to '4' indicates that the transmission control server cannot grant the transmission request, because timer T9 (Retry-after) has not expired after permission to send media has been revoked.</reject>		
		Cause #5 - Receive only		
		The <reject cause=""> value set to '5' indicates that the transmission control server cannot grant the transmission request, because the requesting party only has receive privilege.</reject>		
		Cause #6 - No resources available		
		The <reject cause=""> value set to '6' indicates that the transmission control server cannot</reject>		

Information Element	Table 9.2.6-1 Value/remark	Comment	Reference	Condition
	Value	grant the transmission request due to congestion.	1.0.0.0	Condition
		Cause #255 - Other reason		
		The <reject cause=""> value set to '255' indicates that the transmission control server does not grant the transmission request due to the transmission control server local policy.</reject>		
Reject Cause Phrase	"Other reason"	A text string encoded the text string in the SDES item CNAME.	IETF RFC 355 0 [3]	
User ID	Not present			ON- NETWOR K
User ID		The User ID field is used in off-network only. The User ID carries the MCVideo ID of the requesting transmission participant to which the Transmission Rejected message is sent.	TS 24.581 [88] 9.2.3.8	OFF- NETWOR K
User ID field ID	"00000110"			
User ID length	a binary value that includes the value indicating the length in octets of the <user id=""> value item except padding.</user>			
User ID	px_MCVideo_ID_User_ A	If the length of the <user id=""> value is not (2 + multiple of 4) bytes User ID field shall be padded to (2 + multiple of 4) bytes. The value of the padding bytes is to zero. The padding bytes are ignored by the receiver.</user>		

Derivation Path: TS 24.581 [88] Ta	able 9.2.6-1			
Information Element	Value/remark	Comment	Reference	Condition
Transmission Indicator		The Transmission Indicator contains additional information about a received transmission control message.	TS 24.581 [88] 9.2.3.11	
		The <transmission field="" id="" indicator=""> value is a binary value and is set according to table 9.2.3.1-1. The <transmission indicator="" length=""> value is a binary value and has the value '2'. The <transmission indicator=""> value is a 16 bit bit-map. When set to 1 these meanings apply:</transmission></transmission></transmission>		
		A = Normal call B = Broadcast group call C = System call D = Emergency call E = Imminent peril call		
Transmission Indicator field ID	"00001101"		TC 24.581 [88] clause 9.2.3.1.	
Transmission Indicator Length	"10"	value is a binary value and has the value '2'		

Derivation Path: TS 24.581 [88] Table 9.2.6-1					
Value/remark	Comment	Reference	Condition		
	Comment Contains additional information about a received transmission control message. It is a 16 bit bit-map named as shown in Table 9.2.3.11.2 (a thru P). When set to 1, the bit has the following meaning: A = Normal call B = Broadcast group call C = System call D = Emergency call E = Imminent peril call NOTE 1: The indicators C, D and E are only informative. There are no procedures specified for the C, D and E indicators in this release of the present document and the use of the indicators are implementation specific. Bits F to P are reserved for future use and are set to 0. There can be more	Reference TC 24.581 [88] clause 9.2.3.1.	Condition		
	for the C, D and E indicators in this release of the present document and the use of the indicators are implementation specific.				
	set to 0. There can be more than one bit set to 1 at the same time. The local policy in the transmission control server decides which combinations are				
	Value/remark	Tooloooooooooooooooooooooooooooooooooo	"10000000000000" Contains additional information about a received transmission control message. It is a 16 bit bit-map named as shown in Table 9.2.3.11.2 (a thru P). When set to 1, the bit has the following meaning: A = Normal call B = Broadcast group call C = System call D = Emergency call E = Imminent peril call NOTE 1: The indicators C, D and E are only informative. There are no procedures specified for the C, D and E indicators in this release of the present document and the use of the indicators are implementation specific. Bits F to P are reserved for future use and are set to 0. There can be more than one bit set to 1 at the same time. The local policy in the transmission control server decides which combinations are		

5.5.11.2.3 Transmission Arbitration Taken

Table: 5.5.11.2.3-1 Transmission Arbitration Taken

Information Element	Value/remark	Comment	Reference	Condition
Subtype	"00010"	Server → client	TS 24.581 [88] 9.2.2.1-2	
SSRC	The SSRC of the message sender	The SSRC field carries the SSRC of the transmission control server.	RFC 3550 [3], Appendix 6 shows how to generate a random 32-bit identifier	
Granted Party's Identity		Identifies the MCVideo user that is granted to send media.	TS 24.581 [88] 9.2.3.6	
Granted Party's Identity Field ID	"00000100"		TS 24.581 [88] 9.2.3.1.1	

Derivation Path: TS 24.581 [88] Ta		Comment	Deference	Condition
Information Element	Value/remark	Comment	Reference	Condition
Granted Party's Identity length	value is a binary value and includes the value indicating the length in octets of the <user id=""> value item except padding</user>		TS 24.581 [88] 9.2.3.8	
Granted Party's Identity	px_MCVideo_ID_User_ A	If the length of the <granted party's=""> value is not (2 + multiple of 4) bytes, the Granted Party's Identity field shall be padded to (2 + multiple of 4) bytes. The value of the padding bytes is set to zero. The padding bytes are ignored by the receiver.</granted>	TS 24.581 [88] 9.2.3.8	
Permission to Request the Transmission		Indicates whether receiving parties are allowed to request the transmission.	TS 24.581 [88] 9.2.3.8	
Permission to Request the Transmission Field ID	"00000101"		TS 24.581 [88] 9.2.3.1.1	_
Permission to Request the Transmission length	"10"	The <permission length="" request="" the="" to="" transmission=""> value is a binary value and has the value '2' indicating the total length in octets of the <duration> value item.</duration></permission>	TS 24.581 [88] 9.2.3.7	
Permission to Request the Transmission	"1"	O The receiver is not permitted to request transmission. The receiver is permitted to request transmission.	TS 24.581 [88] 9.2.3.7	
User ID	Not Present			ON- NETWOR K
User ID		The User ID field is used in off-network only. The User ID carries the MCVideo ID of the transmission participant sending the Transmission Arbitration Taken message.	TS 24.581 [88] 9.2.3.8	OFF- NETWOR K
User ID field ID	"00000110"			
User ID length	a binary value that includes the value indicating the length in octets of the <user id=""> value item except padding.</user>			

Derivation Path: TS 24.581 [88] T Information Element	able 9.2.8-1 Value/remark	Comment	Reference	Condition
User ID	px_MCVideo_ID_User_	If the length of the	11010101100	Condition
	Ä	<user id=""> value is not (2 + multiple of 4) bytes User ID field shall be padded to (2 + multiple of 4) bytes. The value of the padding bytes is to zero. The padding bytes are ignored by the receiver.</user>		
Message Sequence Number		Used to bind a number of Transmission Arbitration Taken or bind a number of Transmission Idle messages together	TS 24.581 [88] 9.2.3.9	
Message Sequence Number field ID	"00001000"		TS 24.581 [88] 9.2.3.1.1	
Message Sequence Number length	"10"	Has the value '2' indicating the total length in octets of the <message number="" sequence=""> value item.</message>		
Message Sequence Number	"1"	The <message number="" sequence=""> value can be between '0' and '65535'. When the '65535' value is reached, the <message number="" sequence=""> value starts from '0' again.</message></message>		
Transmission Indicator		The Transmission Indicator contains additional information about a received transmission control message. The <transmission field="" id="" indicator=""> value is a binary value and is set according to table 9.2.3.1-1. The <transmission indicator="" length=""> value is a binary value and has the value '2'. The <transmission indicator=""> value is a 16 bit bit-map. When set to 1 these meanings apply:</transmission></transmission></transmission>	TS 24.581 [88] 9.2.3.1.1	
		A = Normal call B = Broadcast group call C = System call D = Emergency call E = Imminent peril call		

Derivation Path: TS 24.581 [88] T		Comment	Deference	Condition
Information Element	Value/remark	Comment	Reference	Condition
Transmission Indicator field ID	"00001101"		TC 24.581 [88]	
			clause 9.2.3.1.	
Transmission Indicator Length	"10"	value is a binary value	I	
Transmission indicator Length	10	and has the value '2'		
Transmission Indicator	"10000000000000000"	Contains additional	TC 24.581 [88]	
Transmission maleater	100000000000000000000000000000000000000	information about a	clause 9.2.3.1.	
		received transmission	1	
		control message.	•	
		It is a 16 bit bit-map		
		named as shown in		
		Table 9.2.3.11.2 (a thru		
		P).		
		When set to 1, the bit		
		has the following		
		meaning:		
		A = Normal call		
		B = Broadcast group		
		call		
		C = System call		
		D = Emergency call		
		E = Imminent peril		
		call		
		NOTE 1: The		
		indicators C, D and E		
		are only informative.		
		There are no		
		procedures specified		
		for the C, D and E		
		indicators in this		
		release of the present		
		document and the use		
		of the indicators are		
		implementation		
		specific.		
		Bits F to P are reserved		
		for future use and are		
		set to 0.		
		There can be more		
		than one bit set to 1 at		
		the same time. The local policy in the		
		transmission control		
		server decides which		
		combinations are		
		possible and the priority		
		of the indications.		
SSRC of Granted	The SSRC of the	or the mulcations.	IETF RFC 355	
Transmission Participant	intended recipient of		0 [3]	
Transmission i articipant	the message		ا د ادا	
	the message	1	L	

5.5.11.2.4 Transmission Arbitration Release

Table: 5.5.11.2.4-1 Transmission Arbitration Release

Derivation Path: TS 24.581 [88] T	able 9.2.9-1			
Information Element	Value/remark	Comment	Reference	Condition
Subtype	"00010"	Server → client	TS 24.581 [88]	
SSRC	The SSRC of the message sender	The SSRC field carries the SSRC of the transmission control server.	9.2.2.1-2 RFC 3550 [3], Appendix 6 shows how to generate a random 32-bit identifier	
Granted Party's Identity		Identifies the MCVideo user that is granted to send media.	TS 24.581 [88] 9.2.3.6	
Granted Party's Identity Field ID	"00000100"		TS 24.581 [88] 9.2.3.1.1	
Granted Party's Identity length	value is a binary value and includes the value indicating the length in octets of the <user id=""> value item except padding</user>		TS 24.581 [88] 9.2.3.8	
Granted Party's Identity	px_MCVideo_ID_User_ A	If the length of the <granted party's=""> value is not (2 + multiple of 4) bytes, the Granted Party's Identity field shall be padded to (2 + multiple of 4) bytes. The value of the padding bytes is set to zero. The padding bytes are ignored by the receiver.</granted>	TS 24.581 [88] 9.2.3.8	
Permission to Request the Transmission		Indicates whether receiving parties are allowed to request the transmission.	TS 24.581 [88] 9.2.3.8	
Permission to Request the Transmission Field ID	"00000101"		TS 24.581 [88] 9.2.3.1.1	
Permission to Request the Transmission length	"10"	The <permission length="" request="" the="" to="" transmission=""> value is a binary value and has the value '2' indicating the total length in octets of the <duration> value item.</duration></permission>	TS 24.581 [88] 9.2.3.7	
Permission to Request the Transmission	"1"	O The receiver is not permitted to request transmission. The receiver is permitted to request transmission.	TS 24.581 [88] 9.2.3.7	
User ID	Not Present			ON- NETWOR K

Derivation Path: TS 24.581 [88] T	able 9.2.9-1			
Information Element	Value/remark	Comment	Reference	Condition
User ID		The User ID field is used in off-network only. The User ID carries the MCVideo ID of the transmission participant sending the Transmission Arbitration Release message.	TS 24.581 [88] 9.2.3.8	OFF- NETWOR K
User ID field ID	"00000110"			
User ID length	a binary value that includes the value indicating the length in octets of the <user id=""> value item except padding.</user>			
User ID	px_MCVideo_ID_User_ A	If the length of the <user id=""> value is not (2 + multiple of 4) bytes User ID field shall be padded to (2 + multiple of 4) bytes. The value of the padding bytes is to zero. The padding bytes are ignored by the receiver.</user>		
Message Sequence Number		Used to bind a number of Transmission Arbitration Taken or bind a number of Transmission Idle messages together	TS 24.581 [88] 9.2.3.9	
Message Sequence Number field ID	"00001000"		TS 24.581 [88] 9.2.3.1.1	
Message Sequence Number length	"10"	Has the value '2' indicating the total length in octets of the <message number="" sequence=""> value item.</message>		
Message Sequence Number	"1"	The <message number="" sequence=""> value can be between '0' and '65535'. When the '65535' value is reached, the <message number="" sequence=""> value starts from '0' again.</message></message>		

Derivation Path: TS 24.581 [88] T	able 9.2.9-1			
Information Element	Value/remark	Comment	Reference	Condition
Information Element Transmission Indicator	Value/remark	Comment The Transmission Indicator contains additional information about a received transmission control message. The <transmission field="" id="" indicator=""> value is a binary value and is set according to table 9.2.3.1-1. The <transmission indicator="" length=""> value is a binary value and has the value '2'. The <transmission< th=""><th>Reference TS 24.581 [88] 9.2.3.1.1</th><th>Condition</th></transmission<></transmission></transmission>	Reference TS 24.581 [88] 9.2.3.1.1	Condition
		Indicator> value is a 16 bit bit-map. When set to 1 these meanings apply: A = Normal call B = Broadcast group call C = System call		
		D = Emergency call E = Imminent peril call		
Transmission Indicator field ID	"00001101"		TC 24.581 [88] clause 9.2.3.1.	
Transmission Indicator Length	"10"	value is a binary value and has the value '2'		

Derivation Path: TS 24.581 [88] Ta	able 9.2.9-1			
Information Element	Value/remark	Comment	Reference	Condition
Transmission Indicator SSRC of Granted	"100000000000000" The SSRC of the	Contains additional information about a received transmission control message. It is a 16 bit bit-map named as shown in Table 9.2.3.11.2 (a thru P). When set to 1, the bit has the following meaning: A = Normal call B = Broadcast group call C = System call D = Emergency call E = Imminent peril call NOTE 1: The indicators C, D and E are only informative. There are no procedures specified for the C, D and E indicators in this release of the present document and the use of the indicators are implementation specific. Bits F to P are reserved for future use and are set to 0. There can be more than one bit set to 1 at the same time. The local policy in the transmission control server decides which combinations are possible and the priority of the indications.	TC 24.581 [88] clause 9.2.3.1.	
Transmission Participant	intended recipient of		0 [3]	
·	the message			

5.5.11.2.5 Transmission Revoked

Table: 5.5.11.2.5-1 Transmission Revoked

Derivation Path: TS 24.581 [88]	Table 9.2.10-1			
Information Element	Value/remark	Comment	Reference	Condition
Subtype	"00100"	Server → client	TS 24.581 [88] 9.2.2.1-2	
SSRC	The SSRC of the message sender	The SSRC field carries the SSRC of the transmission control server.	RFC 3550 [3], Appendix 6 shows how to generate a random 32-bit identifier	

Information Element	Value/remark	Comment	Reference	Condition
Reject Cause		Message includes <reject cause=""> cause value in the Reject Cause field explaining why the transmission control server wants the transmission participant to stop sending media and can be followed by additional information. Therefore the length of the packet can vary depending on the value of the rejection cause.</reject>	TS 24.581 [88] 9.2.3.4	
Reject Cause field ID	"00000010"		TS 24.581 [88] Table 9.2.3.1-	
Reject Cause length		The <reject cause="" length=""> value is a binary value and indicates the total length in octets of the <reject cause=""> value and the <reject cause=""> value and the <reject phrase=""> value items excluding any padding octets. If the length field is set to '2', there is no <reject phrase=""> value in the Reject Cause field. If the length of the <reject cause=""> value is not (2 + multiple of 4) bytes, the Reject Cause field is padded to (2 + multiple of 4) bytes. The value of the padding bytes is set to zero. The padding bytes are ignored by the receiver.</reject></reject></reject></reject></reject></reject>		

MCVideo client The <reject '3'="" 'indicates="" (e.g.,="" <reject="" a="" additional="" burst="" cause-value="" causes="" causes*2—media="" causes*3—media="" causes*3—no="" causes*4—media="" client="" connected="" control="" does="" dra-c<="" dra-capied*4—media="" expired).="" has="" have="" in="" included.="" indicates="" information="" is="" long="" mcvideo="" media="" media.="" no="" not="" of="" only="" or="" participant="" permission="" send="" server.="" session="" set="" stop-transmission="" th="" that="" the="" timer="" to="" too="" transmission="" value=""><th>Reject Cause Value</th><th>"7"</th><th>Cause #1 – Only one</th><th>TS 24.581 [88]</th><th></th></reject>	Reject Cause Value	"7"	Cause #1 – Only one	TS 24.581 [88]	
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send media due to congestion. No additional information is					
congestion. No additional information is					
additional information is					
1110144041			included.		

Derivation Path: TS 24.581 [88] Information Element	Value/remark	Comment	Reference	Condition
illioillation Liellent	Value/Telliark	Cause#7 - Queue the	Kelefelice	Condition
		transmission		
		The <reject< td=""><td></td><td></td></reject<>		
		Cause> value set to '7'		
		indicates that the		
		MCVideo client's		
		permission to send a		
		media is being queued.		
		No additional		
		information is included.		
		Cause #8 - No		
		receiving participant		
		The <reject cause=""></reject>		
		value set to '8' indicates		
		that the MCVideo		
		client's permission to		
		send a media is being		
		revoked because there		
		is no participant to		
		receive the stream.		
		receive the stream.		
		Cause#255 – Other		
		reason		
		The <reject< td=""><td></td><td></td></reject<>		
		Cause> value set to		
		'255' indicates that the		
		transmission control		
		server can no longer		
		grant MCVideo client to		
		send media due to the		
		transmission control		
		server local policy. No		
		additional information is		
		included.		
Reject Cause Phrase	"Queue the	A text string encoded	TS 24.581 [88]	
	transmission"	the text string in the	9.2.10.2	
		SDES item CNAME.		

Derivation Path: TS 24.581 [88] T	able 9.2.10-1			
Information Element	Value/remark	Comment	Reference	Condition
Transmission Indicator	Value/Terriark	The Transmission Indicator contains additional information about a received transmission control message. The <transmission field="" id="" indicator=""> value is a binary value and is set according to</transmission>	TS 24.581 [88] 9.2.3.11	Condition
		table 9.2.3.1-1. The <transmission indicator="" length=""> value is a binary value and has the value '2'. The <transmission indicator=""> value is a 16 bit bit-map. When set to 1 these meanings apply:</transmission></transmission>		
		 A = Normal call B = Broadcast group call C = System call D = Emergency call E = Imminent peril call 		
Transmission Indicator field ID	"00001101"		TC 24.581 [88] clause 9.2.3.1.	
Transmission Indicator Length	"10"	value is a binary value and has the value '2'		

erivation Path: TS 24.581 [88] Information Element	Value/remark	Comment	Reference	Conditio
ransmission Indicator	"1000000000000000"	Contains additional information about a received transmission control message. It is a 16 bit bit-map named as shown in Table 9.2.3.11.2 (a thru P). When set to 1, the bit has the following meaning:	TC 24.581 [88] clause 9.2.3.1.	
		A = Normal call		
		B = Broadcast group call		
		C = System call		
		D = Emergency call		
		E = Imminent peril call		
		NOTE 1: The indicators C, D and E are only informative. There are no procedures specified for the C, D and E indicators in this release of the present document and the use of the indicators are implementation specific.		
		Bits F to P are reserved for future use and are set to 0.		
		There can be more than one bit set to 1 at the same time. The local policy in the transmission control server decides which combinations are possible and the priority		

5.5.11.2.6 Queue Position Info

Table: 5.5.11.2.6-1 Queue Position Info

Derivation Path: TS 24.581 [88] Information Element	Value/remark	Comment	Reference	Condition
Subtype	"00101"	Server → client	TS 24.581 [88] 9.2.2.1-1	
SSRC	The SSRC of the message sender	The SSRC field carries the SSRC of the transmission control server.	RFC 3550 [3], Appendix 6 shows how to generate a random 32-bit identifier	
User ID	Not present			ON- NETWOR K
User ID		The User ID field is used in off-network only. The User ID field carries the MCVideo user ID of the transmission participant sending the Queue Position Info message.	TS 24.581 [88] 9.2.3.8	OFF- NETWOR K
User ID field ID	"00000110"			
User ID length	a binary value that includes the value indicating the length in octets of the <user id=""> value item except padding.</user>			
User ID	px_MCVideo_ID_User _A	If the length of the <user id=""> value is not (2 + multiple of 4) bytes User ID field shall be padded to (2 + multiple of 4) bytes. The value of the padding bytes is to zero. The padding bytes are ignored by the receiver.</user>		
SSRC of Queued Transmission Participant	Not present			ON- NETWOR K
SSRC of Queued Transmission Participant	The SSRC of the queued transmission participant	Applicable only in off- network and shall carry the SSRC of the queued transmission participant.	IETF RFC 355 0 [3].	OFF- NETWOR K
Queued User ID	Not present			ON- NETWOR K
Queued User ID	px_MCVIDEO_ID_User _B	Used in off-network only. The Queued User ID field carries the MCVideo ID of the queued transmission control participant.	TS 24.581 [88] 9.2.3.8	OFF- NETWOR K

Information Element	able 9.2.12-1 Value/remark	Comment	Reference	Conditio
Queue Info		Defines the queue	TS 24.581 [88]	
		position and granted	9.2.3.5	
		transmission control		
		priority in the queue.	_	
Queue Info field ID	"00000011"		TS 24.581 [88]	
			9.2.3.1	
Queue Info length	"10"	value is a binary value		
		and has the value '2'		
Queue Position Info	"0000001"	value is a binary value.		
		The <queue position<="" td=""><td></td><td></td></queue>		
		Info> value has the		
		value '254' if the		
		MCVideo client is not		
		queued. The <queue< td=""><td></td><td></td></queue<>		
		Position Info> value		
		has the max value		
		('255') if the MCVideo		
		client is queued but the		
		MCVideo server is		
		unable to determine the		
		queue position or if		
		MCVideo server policy		
		is not to release		
		information of the		
		queue position to the		
		MCVideo client.	 	
Queue Priority Level	"00000000"	value consists of 8 bit	TS 24.581 [88]	
		parameter giving the	9.2.3.2	
		transmission priority ('0'		
		to '255') where '0' is the		
		lowest priority and '255'		
		is the highest priority. If		
		the Transmission		
		Priority field is not		
		included in the		
		message the default		
		priority is used as the		
		Transmission Priority		
		value. The value of the		
		default priority is '0'.		
		The default priority is		
		sometimes referred to		
rack Info	Not propost	as normal priority.	TC 04 F04 [00]	
TACK INTO	Not present	The MCVideo call does	TS 24.581 [88]	
		not involve a non-	9.2.3.13	
		controlling MCVideo		
ransmission Control		function	TC 04 F04 [00]	
			TS 24.581 [88]	
Indicator	"00004404"		9.2.3.11	
Transmission Indicator field ID	"00001101"		TC 24.581 [88]	
			clause 9.2.3.1.	
Transmission Indicates Law etc.	"10"	volue ie e kiesevijstii	1	
Transmission Indicator Length	10"	value is a binary value		
		and has the value '2'		

Derivation Path: TS 24.581 [88]				
Information Element	Value/remark	Comment	Reference	Condition
Transmission Indicator	"1000000000000000"	Contains additional	TC 24.581 [88]	
		information about a	clause 9.2.3.1.	
		received transmission	1	
		control message.		
		It is a 16 bit bit-map		
		named as shown in		
		Table 9.2.3.11.2 (a thru		
		P).		
		When set to 1, the bit		
		has the following		
		meaning:		
		A = Normal call		
		B = Broadcast group		
		call		
		C = System call		
		D = Emergency call		
		E = Imminent peril		
		call		
		NOTE 1: The		
		indicators C, D and E		
		are only informative.		
		There are no		
		procedures specified		
		for the C, D and E		
		indicators in this		
		release of the present		
		document and the use		
		of the indicators are		
		implementation		
		specific.		
		Bits F to P are reserved		
		for future use and are		
		set to 0.		
		There can be more		
		than one bit set to 1 at		
		the same time. The		
		local policy in the		
		transmission control		
		server decides which		
		combinations are		
		possible and the priority		
		of the indications.		

5.5.11.2.7 Media Transmission Notification

Table: 5.5.11.2.7-1 Media Transmission Notification

Derivation Path: TS 24.581 [88] Table 9.2.13-1					
Information Element	Value/remark	Comment	Reference	Condition	
Subtype	"00110"	Server → client	TS 24.581 [88] 9.2.2.1-2		
SSRC	The SSRC of the message sender	The SSRC field carries the SSRC of the transmission control server	RFC 3550 [3], Appendix 6 shows how to generate a random 32-bit identifier		

Derivation Path: TS 24.581 [88] Information Element	Value/remark	Comment	Reference	Condition
User ID		The User ID field is used in off-network only. The User ID carries the MCVideo ID of the requesting transmission participant to which the Transmission Rejected message is sent.	TS 24.581 [88] 9.2.3.8	
User ID field ID	"00000110"			
User ID length	a binary value that includes the value indicating the length in octets of the <user id=""> value item except padding.</user>			
User ID	px_MCVideo_ID_User_A	If the length of the <user id=""> value is not (2 + multiple of 4) bytes User ID field shall be padded to (2 + multiple of 4) bytes. The value of the padding bytes is to zero. The padding bytes are ignored by the receiver.</user>		
SSRC of transmitter	The SSRC of the user transmitting the media	The SSRC of transmitter field carries the SSRC of the user transmitting the media		
Permission to Request the Transmission		Indicates whether receiving parties are allowed to request the transmission.	TS 24.581 [88] 9.2.3.8	
Permission to Request the Transmission Field ID	"00000101"		TS 24.581 [88] 9.2.3.1.1	
Permission to Request the Transmission length	"10"	The <permission length="" request="" the="" to="" transmission=""> value is a binary value and has the value '2' indicating the total length in octets of the <duration> value item.</duration></permission>	TS 24.581 [88] 9.2.3.7	
Permission to Request the Transmission	"1"	Coded as follows: 0 The receiver is not permitted to request transmission. 1 The receiver is permitted to request transmission	TS 24.581 [88] 9.2.3.7	

Derivation Path: TS 24.581 [88] T				
Information Element	Value/remark	Comment	Reference	Condition
Transmission Indicator		The Transmission Indicator contains additional information about a received transmission control message.	TS 24.581 [88] 9.2.3.1.1	
		The <transmission field="" id="" indicator=""> value is a binary value and is set according to table 9.2.3.1-1. The <transmission indicator="" length=""> value is a binary value and has the value '2'. The <transmission indicator=""> value is a 16 bit bit-map. When set to 1 these meanings apply: A = Normal call B = Broadcast group call C = System call D = Emergency call</transmission></transmission></transmission>		
		E = Imminent peril call		
Transmission Indicator field ID	"00001101"		TC 24.581 [88] clause 9.2.3.1.	
Transmission Indicator Length	"10"	value is a binary value and has the value '2'		

	Derivation Path: TS 24.581 [88] Table 9.2.13-1					
Information Element	Value/remark	Comment	Reference	Condition		
Transmission Indicator	"1000000000000000"	Contains additional	TC 24.581 [88]			
		information about a	clause 9.2.3.1.			
		received transmission	1			
		control message.				
		It is a 16 bit bit-map				
		named as shown in Table 9.2.3.11.2 (a				
		thru P).				
		When set to 1, the bit				
		has the following				
		meaning:				
		A = Normal call				
		B = Broadcast				
		group call				
		C = System call				
		D = Emergency call				
		E = Imminent peril				
		call				
		NOTE 1: The				
		indicators C, D and E				
		are only informative.				
		There are no				
		procedures specified				
		for the C, D and E indicators in this				
		release of the present document and the use				
		of the indicators are				
		implementation				
		specific.				
		Bits F to P are				
		reserved for future use				
		and are set to 0.				
		There can be more				
		than one bit set to 1 at				
		the same time. The				
		local policy in the				
		transmission control				
		server decides which				
		combinations are possible and the				
		priority of the				
		indications.				
Media ID	Not present	The Media ID field is	TS 24.581 [88]			
	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	present only if media	9.2.3			
		multiplexing is used.				
		The Media ID field				
		identified a media flow				
		within a media				
		multiplex.				
Track Info	Not present	The MCVideo call	TS 24.581 [88]			
		does not involve a	9.2.3.13			
		non-controlling				
		MCVideo function				

5.5.11.2.8 Receive Media Response

Table: 5.5.11.2.8-1 Receive Media Response

Derivation Path: TS 24.581 [88] Ta	able 9.2.15-1			
Information Element	Value/remark	Comment	Reference	Condition
Subtype	"00111"	Server → client	TS 24.581 [88] 9.2.2.1-1	

Derivation Path: TS 24.581 [88] Information Element	Value/remark	Comment	Reference	Condition
SSRC	The SSRC of the	The SSRC field carries	RFC 3550 [3],	
	message sender	the SSRC of the	Appendix 6	
	3	transmission participant	shows how to	
		requesting the	generate a	
		reception of the media	random 32-bit	
		from another user.	identifier	
Result		Indicates whether		
		media reception is		
		possible as per the		
		request		
Result field ID	"00001111"	request	TS 24.581 [88]	
Roodit Hold ID	00001111		Table 9.2.3.1-	
			1	
Result length	"2"	value is a binary value	TS 24.581 [88]	
Nesult length		and has the value '2'	9.2.3.17	
		indicating the total	0.2.0.17	
		length in octets of the		
		<result> value item</result>		
DIt	"1"	and the spare bits	TO 04 504 [00]	
Result	"1"	0 - The receiver is not	TS 24.581 [88]	
		permitted (rejected) to	9.2.3.17	
		receive the media		
		transmission.		
		1 - The receiver is		
		permitted (granted) to		
		receive the media		
		transmission.		
Reject Cause	Not present	Includes the reason for		
		the rejecting the media		
		receive request and		
		can be followed by a		
		text-string explaining		
		why the media receive		
		request was rejected.		
		Therefore the length of		
		the packet will vary		
		depending on the size		
		of the application		
		dependent field		
SSRC of transmitter	The SSRC of the user	The SSRC of		
	transmitting the media	transmitter field carries		
	adiomining the modia	the SSRC of the user		
		transmitting the media		
Media ID	Not present	The Media ID field is	TS 24.581 [88]	
	Not prodont	present only if media	9.2.3.x	
		multiplexing is used.	3.2.3.8	
		The Media ID field		
		identified a media flow		
		within a media		
		multiplex.	1	

Derivation Path: TS 24.581 [88] T				
Information Element	Value/remark	Comment	Reference	Condition
Transmission Indicator		The Transmission Indicator contains additional information about a received transmission control message.	TS 24.581 [88] 9.2.3.11	
		The <transmission field="" id="" indicator=""> value is a binary value and is set according to table 9.2.3.1-1. The <transmission indicator="" length=""> value is a binary value and has the value '2'. The <transmission indicator=""> value is a 16 bit bit-map. When set to 1 these meanings apply:</transmission></transmission></transmission>		
		A = Normal call B = Broadcast group call C = System call D = Emergency call E = Imminent peril call		
Transmission Indicator field ID	"00001101"	An 8-bit binary value set according to TS 24.581 [88] 9.2.3.1-1.	TS 24.581 [88] Table 9.2.3.1- 1-1 Transmission Indicator Length	
Transmission Indicator Length	"00000010"	An 8-bit binary value (2 in binary)	TS 24.581 [88] Table 9.2.3.1- 1-1	
Transmission Indicator	"1000000000000000"	A 16 bit bit-map	TS 24.581 [88] Table 9.2.3.11-2	

5.5.11.2.9 Media Reception Notification

Table: 5.5.11.2.9-1 Media Reception Notification

Derivation Path: TS 24.581 [88]				
Information Element	Value/remark	Comment	Reference	Condition
Subtype	"01000"	Server → client	TS 24.581 [88] 9.2.2.1-2	
SSRC	The SSRC of the message sender	The SSRC field carries the SSRC of the transmission control server	RFC 3550 [3], Appendix 6 shows how to generate a random 32-bit identifier	
User ID		The User ID field carries the MCVideo ID of the user transmitting the media. Note: If the length of the <user id=""> value is not (2 + multiple of 4) bytes User ID field shall be padded to (2 + multiple of 4) bytes. The value of the padding bytes is to zero. The padding bytes are ignored by the receiver.</user>	TS 24.581 [88] 9.2.3.8	
User ID field ID	"00000110"			
User ID length	a binary value that includes the value indicating the length in octets of the <user id=""> value item except padding.</user>			
User ID	px_MCVideo_ID_User_ A	If the length of the <user id=""> value is not (2 + multiple of 4) bytes User ID field shall be padded to (2 + multiple of 4) bytes. The value of the padding bytes is to zero. The padding bytes are ignored by the receiver.</user>		
Media ID	Not present	The Media ID field is present only if media multiplexing is used. The Media ID field identified a media flow within a media multiplex.	TS 24.581 [88] 9.2.3	

5.5.11.2.10 Transmission Cancel Response

Table 5.5.11.2.10-1 Transmission Cancel Response

Derivation Path: TS 24.581 [88]	Derivation Path: TS 24.581 [88] Table 9.2.18-1					
Information Element	Value/remark	Comment	Reference	Condition		
Subtype	"01001"	Server → client	TS 24.581 [88] 9.2.2.1-2 and clause 9.2.18			
SSRC	The SSRC of the message sender	The SSRC field carries the SSRC of the transmission control server.	RFC 3550 [3], Appendix 6 shows how to generate a random 32-bit identifier			
Media ID	Not present	The Media ID field is present only if media multiplexing is used. The Media ID field identified a media flow within a media multiplex.	TS 24.581 [88] 9.2.3.x			

5.5.11.2.11 Transmission Cancel Request Notify

Table: 5.5.11.2.11-1 Transmission Cancel Request Notify

Derivation Path: TS 24.581 [88]	Table 9.2.19-1			
Information Element	Value/remark	Comment	Reference	Condition
Subtype	"01010"	Server → client	TS 24.581 [88] 9.2.2.1-2 and clause 9.2.19	
SSRC	The SSRC of the message sender	The SSRC of the Transmission Control server for on-network and transmission arbitrator for offnetwork. Notation in accordance with clause 5.5.6.1. Coded as specified in IETF RFC 3550 [76].		
Media ID	Not present	The Media ID field is present only if media multiplexing is used. The Media ID field identified a media flow within a media multiplex.	TS 24.581 [88] 9.2.3.x	

5.5.11.2.12 Remote Transmission Response

Table: 5.5.11.2.12-1 Remote Transmission Response

Information Element	Value/remark	Comment	Reference	Condition
Subtype	"01011"	Server → client	TS 24.581 [88] 9.2.2.1-2 and clause 9.2.20	
SSRC	The SSRC of the message sender	The SSRC field carries the SSRC of the transmission control server. Notation in accordance with clause 5.5.6.1. Coded as specified in IETF RFC 3550 [76].		
Media ID	Not present	The Media ID field is present only if media multiplexing is used. The Media ID field identified a media flow within a media multiplex.	TS 24.581 [88] 9.2.3.x	

5.5.11.2.13 Remote Transmission Cancel Response

Table: 5.5.11.2.13-1 Remote Transmission Cancel Response

Derivation Path: TS 24.581 [88]	Table 9.2.25-1			
Information Element	Value/remark	Comment	Reference	Condition
Subtype	"01100"	Server → client	TS 24.581 [88] 9.2.2.1-2 and clause 9.2.20	
SSRC	The SSRC of the message sender	The SSRC field carries the SSRC of the transmission participant requesting the reception of the media from another user. Notation in accordance with clause 5.5.6.1. Coded as specified in IETF RFC 3550 [76].		
Media ID	Not present	The Media ID field is present only if media multiplexing is used. The Media ID field identified a media flow within a media multiplex.	TS 24.581 [88] 9.2.3.x	

5.5.11.2.14 Media Reception Override Notification

Table: 5.5.11.2.14-1 Media Reception Override Notification

Derivation Path: TS 24.581 [88				
Information Element	Value/remark	Comment	Reference	Condition
Subtype	"01101"	Server → client	TS 24.581 [88] 9.2.2.1-2 and clause 9.2.20	
SSRC	The SSRC of the message sender	The SSRC field carries the SSRC of the transmission participant requesting the reception of the media from another user. Notation in accordance with clause 5.5.6.1. Coded as specified in IETF RFC 3550 [76].		
User ID	16-bit binary value	Carries the identity of the user who is requesting the reception of the media.	TS 24.581 [88] 9.2.3.8	
User ID field ID	"00000110"			
User ID length	a binary value that includes the value indicating the length in octets of the <user id=""> value item except padding.</user>			
User ID	px_MCVideo_ID_User_ A	If the length of the <user id=""> value is not (2 + multiple of 4) bytes User ID field shall be padded to (2 + multiple of 4) bytes. The value of the padding bytes is to zero. The padding bytes are ignored by the receiver.</user>		
SSRC of transmitter	The SSRC of the user transmitting the media	The SSRC of transmitter field carries the SSRC of the user transmitting the media		
Overriding ID	16-bit binary value	Carries the identity of the user of the overriding media.	TS 24.581 [88] 9.2.3.8	
User ID field ID	"00000110"	Ĭ		
User ID length	a binary value that includes the value indicating the length in octets of the <user id=""> value item except padding.</user>			

Derivation Path: TS 24.581 [88]	Table 9.2.28-1			
Information Element	Value/remark	Comment	Reference	Condition
User ID	px_MCVideo_ID_User_ B	If the length of the <user id=""> value is not (2 + multiple of 4) bytes User ID field shall be padded to (2 + multiple of 4) bytes. The value of the padding bytes is to zero. The padding bytes are ignored by the receiver.</user>		
Media ID	Not present	The Media ID field is present only if media multiplexing is used. The Media ID field identifies the communication of overriding media within a media multiplex.	TS 24.581 [88] 9.2.3.x	
Overridden ID	16-bit binary value	Carries the identity of the user of the overridden media.	TS 24.581 [88] 9.2.3.8	
User ID field ID	"00000110"			
User ID length	a binary value that includes the value indicating the length in octets of the <user id=""> value item except padding.</user>			
User ID	px_MCVideo_ID_User_ A	If the length of the <user id=""> value is not (2 + multiple of 4) bytes User ID field shall be padded to (2 + multiple of 4) bytes. The value of the padding bytes is to zero. The padding bytes are ignored by the receiver.</user>		
Media ID	Not present	The Media ID field is present only if media multiplexing is used. The Media ID field identifies the communication of overriding media within a media multiplex.	TS 24.581 [88] 9.2.3.x	

5.5.11.2.15 Transmission End Notify

Table: 5.5.11.2.15-1 Transmission End Notify

Information Element	Value/remark	Comment	Reference	Condition
Subtype	"01110"	Server → client	TS 24.581 [88] 9.2.2.1-2 and clause 9.2.20	
SSRC	The SSRC of the message sender	The SSRC field carries the SSRC of the transmission control server. Notation in accordance with clause 5.5.6.1. Coded as specified in IETF RFC 3550 [76].	3.4450 3.4150	
User ID		Carries the identity of the user whose media transmission has been released	TS 24.581 [88] 9.2.3.8	
User ID field ID	"00000110"			
User ID length	a binary value that includes the value indicating the length in octets of the <user id=""> value item except padding.</user>			
User ID	px_MCVideo_ID_User_ A	If the length of the <user id=""> value is not (2 + multiple of 4) bytes User ID field shall be padded to (2 + multiple of 4) bytes. The value of the padding bytes is to zero. The padding bytes are ignored by the receiver.</user>		
SSRC of transmitter	The SSRC of the user transmitting the media	The SSRC of transmitter field carries the SSRC of the user transmitting the media		
Media ID	Not present	The Media ID field is present only if media multiplexing is used. The Media ID field identified a media flow within a media multiplex.	TS 24.581 [88] 9.2.3.x	

5.5.11.2.16 Transmission Idle

Table: 5.5.11.2.16-1 Transmission Idle

Derivation Path: TS 24.581 [88] Table 9.2.30-1					
Information Element	Value/remark	Comment	Reference	Condition	
Subtype	"01111"		TS 24.581 [88		
] 9.2.2.1-2		

Derivation Path: TS 24.581 [88] T	Value/remark	Comment	Reference	Condition
SSRC	The SSRC of the message sender	The SSRC of the Transmission Control server for on-network and transmission arbitrator for off-		
		network. Notation in accordance with clause 5.5.6.1. Coded as specified in IETF RFC 3550 [76].		
name	"MCV1"	Transmission Control messages sent by the Transmission Control Server and the Transmission Control Participant.		
Message Sequence Number				
Message Sequence Number field ID	"00001000"			
Message Sequence Number length	"10"	value is a binary value and has the value '2' indicating the total length in octets of the <message sequence<br="">Number> value item.</message>		
Message Sequence Number	"1"	value is a binary value. The <message number="" sequence=""> value can be between '0' and '65535'. When the '65535' value is reached, the <message number="" sequence=""> value starts from '0' again</message></message>		
Transmission Indicator				
Transmission Indicator field ID	"00001101"		TC 24.581 [88] clause 9.2.3.1 .1	
Transmission Indicator Length	"10"	value is a binary value and has the value '2'		

Derivation Path: TS 24.581 [88]				
Information Element	Value/remark	Comment	Reference	Condition
Transmission Indicator	"100000000000000"	Contains additional information about a received transmission control message. It is a 16 bit bit-map named as shown in Table 9.2.3.11.2 (a thru P). When set to 1, the bit has the following meaning:	TC 24.581 [88] clause 9.2.3.1 .1	
		A = Normal call		
		B = Broadcast group call		
		C = System call		
		D = Emergency call		
		E = Imminent peril call		
		NOTE 1: The indicators C, D and E are only informative. There are no procedures specified for the C, D and E indicators in this release of the present document and the use of the indicators are implementation specific.		
		Bits F to P are reserved for future use and are set to 0.		
		There can be more than one bit set to 1 at the same time. The local policy in the transmission control server decides which combinations are possible and the priority of the indications.		

5.5.11.3 Transmission control specific messages sent by both the transmission control server and transmission control participant

5.5.11.3.1 Transmission End Request

Table: 5.5.11.3.1-1 Transmission End Request

Derivation Path: TS 24.581 [88] Table 9.2.20-1					
Information Element	Value/remark	Comment	Reference	Condition	
Subtype	"00000"		TS 24.581 [88		
			19.2.2.1-2		

Derivation Path: TS 24.581 [88]				
Information Element	Value/remark	Comment	Reference	Condition
SSRC	The SSRC of the message sender	The SSRC of the Transmission Control server for on-network and transmission arbitrator for off- network. Notation in accordance with clause 5.5.6.1. Coded as specified in		
User ID		IETF RFC 3550 [76]. The User ID field is used to carry the identity of the user whose media transmission is requested to be terminated.		
User ID field ID User ID length	"00000110" a binary value that			
	includes the value indicating the length in octets of the <user id=""> value item except padding.</user>			
User ID	px_MCVideo_ID_User_ A	If the length of the <user id=""> value is not (2 + multiple of 4) bytes User ID field shall be padded to (2 + multiple of 4) bytes. The value of the padding bytes is to zero. The padding bytes are ignored by the receiver.</user>		
Media ID	Not Present	The Media ID field is present only if media multiplexing is used. The Media ID field identified a media flow within a media multiplex.		

5.5.11.3.2 Transmission End Response

Table: 5.5.11.3.2-1 Transmission End Response

Derivation Path: TS 24.581 [88 Information Element	Value/remark	Comment	Reference	Condition
Subtype	"00001"		TS 24.581 [88] 9.2.2.1-2	
SSRC	The SSRC of the message sender	The SSRC of the Transmission Control server for on-network and transmission arbitrator for offnetwork. Notation in accordance with clause 5.5.6.1. Coded as specified in IETF RFC 3550 [76].		
User ID		The User ID field is used to carry the identity of the user whose media transmission is requested to be terminated.		
User ID field ID	"00000110"			
User ID length	a binary value that includes the value indicating the length in octets of the <user id=""> value item except padding.</user>			
User ID	px_MCVideo_ID_User_ A	If the length of the <user id=""> value is not (2 + multiple of 4) bytes User ID field shall be padded to (2 + multiple of 4) bytes. The value of the padding bytes is to zero. The padding bytes are ignored by the receiver.</user>		
Media ID	Not Present	The Media ID field is present only if media multiplexing is used. The Media ID field identified a media flow within a media multiplex.		

5.5.11.3.3 Media Reception End Request

Table: 5.5.11.3.3-1 Media Reception End Request

Derivation Path: TS 24.581 [88] Table 9.2.26-1				
Information Element	Value/remark	Comment	Reference	Condition
Subtype	"00010"	Server → client	TS 24.581 [88	
] 9.2.2.1-3	

Derivation Path: TS 24.581 [88] Table 9.2.26-1					
Information Element	Value/remark	Comment	Reference	Condition	
SSRC	The SSRC of the message sender	The SSRC field carries the SSRC of the transmission control server or the transmission control participant requesting the end of reception of the media from another user.	RFC 3550 [3], Appendix 6 shows how to generate a random 32-bit identifier		
SSRC of transmitter	The SSRC of the user transmitting the media	The SSRC of transmitter field carries the SSRC of the user transmitting the media			
Media ID	Not present	The Media ID field is present only if media multiplexing is used. The Media ID field identified a media flow within a media multiplex.	TS 24.581 [88] 9.2.3.x		
Transmission Indicator		The Transmission Indicator contains additional information about a received transmission control message. The <transmission field="" id="" indicator=""> value is a binary value and is set according to table 9.2.3.1-1. The <transmission indicator="" length=""> value is a binary value and has the value '2'. The <transmission indicator=""> value is a 16 bit bit-map. When set to 1 these meanings apply: A = Normal call B = Broadcast group call C = System call D = Emergency call E = Imminent peril call</transmission></transmission></transmission>	TS 24.581 [88] 9.2.3.11		
Transmission Indicator field ID	"00001101"	An 8-bit binary value set according to TS 24.581 [88] 9.2.3.1-1.	TS 24.581 [88] Table 9.2.3.1-1-1		
Transmission Indicator Length	"00000010"	An 8-bit binary value (2 in binary)	TS 24.581 [88] Table 9.2.3.1-1-1		
Transmission Indicator	Any allowed value	A 16 bit bit-map	TS 24.581 [88] Table 9.2.3.11-2		

5.5.11.3.4 Media Reception End Response

Table: 5.5.11.3.4-1 Media Reception End Response

Derivation Path: TS 24.581 [88]	Derivation Path: TS 24.581 [88] Table 9.2.27-1				
Information Element	Value/remark	Comment	Reference	Condition	
Subtype	"00011"	Server → client	TS 24.581 [88] 9.2.2.1-3		
SSRC	The SSRC of the message sender	The SSRC field carries the SSRC of the transmission control server or the transmission control participant requesting the end of reception of the media from another user.	RFC 3550 [3], Appendix 6 shows how to generate a random 32-bit identifier		
SSRC of transmitter	The SSRC of the user transmitting the media	The SSRC of transmitter field carries the SSRC of the user transmitting the media			
Media ID	Not present	The Media ID field is present only if media multiplexing is used. The Media ID field identified a media flow within a media multiplex.	TS 24.581 [88] 9.2.3.x		

5.5.11.3.5 Transmission Control Ack

Table: 5.5.11.3.5-1: Transmission Control Ack

Derivation Path: TS 24.581 [88]	Derivation Path: TS 24.581 [88] Table 9.2.31-1					
Information Element	Value/remark	Comment	Reference	Condition		
Subtype	"00100"					
SSRC	The SSRC of the message sender	The SSRC of the Transmission Control server for on-network and transmission arbitrator for off-network. Notation in accordance with clause 5.5.6.1. Coded as specified in IETF RFC 3550 [76].				
Source			TS 24.581 [88] 9.2.3.12			
Source field ID	"00001010"					
Source length	"10"	value is a binary value and has the value 2 indicating the total length in octets of the <source/> value item				

Derivation Path: TS 24.581 [88]	able 9.2.31-1			
Information Element	Value/remark	Comment	Reference	Condition
Source	"2"	The <source/> value is a 16 bit binary value where:		
		'0' the transmission participant is the source		
		'1' the participating MCVideo function is the source		
		'2' the controlling MCVideo function is the source		
		'3' the non- controlling MCVideo function is the source		
		All other values are reserved for future use		
Message name			TS 24.581 [88] 9.2.3.18	
Message Name field ID	"00010000"] 0.2.00	
Message Name Length	"110"	value is a binary value and has the value '6'.		
Message Name	the message name of the received message	value is as coded as an ascii name field		
Message type	and received mesocage		TS 24.581 [88] 9.2.3.10	
Message Type field ID	"00001100"			
Message Type Length	"10"	value is a binary value and has the value '2'		
Message Type	"000" <the of<br="" subtype="">the received message></the>	value is an 8 bit binary value containing the binary value consisting of the 5 bit message subtype as coded in table 9.2.2.1-1, table 9.2.2.1-2 and table 9.2.2.1-3 (including the first bit (used by some transmission control messages to indicate that a Transmission control Ack message is requested) of the five bit subtype)		

5.5.12 MSRP Messages for MCData

- 5.5.12.1 MSRP SEND
- 5.5.12.1.1 MSRP SEND from the UE
- MSRP SEND from the UE with No Chunking Used

Table 5.5.12.1-1: MSRP SEND from the UE

Derivation Path: RFC 4975 [X] Information Element	Value/remark	Comment	Reference	Condition
Transaction Identifier				
value	any allowed value			
To-Path				
value	px_MSRP_URI_SS_ID			
From-Path				
value	px_MSRP_URI_A_ID			
Message-ID		16 1 1: : 1		
value	any allowed value	If chunking is done: The message ID corresponds to the whole message, so the receiver can also use it to reassemble the message and tell which chunks belong with which message.		
Byte-Range		The Byte-Range header field value contains a starting value (range-start) followed by a "-", an ending value (range-end) followed by a "/", and finally the total length. The first octet in the message has a position of one, rather than a zero. The Byte-Range header field identifies the portion of the message carried in this chunk and the total size of the message		
range-start	any allowed value			
range-end	any allowed value			.
total length	any allowed value		TO 04 500 1001	
Content-Type			TS 24.582 [89] , clause 6.4	
media-type	"multipart/mixed"		, clause 6.4	
media-type MIME body part		SDS SIGNALLING PAYLOAD		
MIME-Content-Type	"application/vnd.3gpp. mcdata-signalling"			
MIME-part-body	As described in Table 5.5.3.8.1-1			
MIME body part		SDS DATA PAYLOAD		
MIME-Content-Type	"application/vnd.3gpp. mcdata-payload"			
MIME-part-body	As described in Table 5.5.3.9-1			
End-line	"" <transaction Identifier value>"\$"</transaction 	an end-line of seven hyphens, the transaction identifier, and a "\$" to indicate that this request contains the end of a complete message		

Empty MSRP SEND from the UE for Binding

Table 5.5.12.1-2: Empty MSRP SEND from the UE for Binding

		Reference	Condition
any allowed value			
-			
px_MSRP_URI_SS_ID			
px_MSRP_URI_A_ID			
any allowed value			
	header field value contains a starting value (range-start) followed by a "-", an ending value (range-end) followed by a "/", and finally the total length. The first octet in the message has a position of one, rather than a zero. The Byte-Range header field identifies the portion of the message carried in this chunk and the total size of the message		
·			
			+
			+
			
	px_MSRP_URI_A_ID	px_MSRP_URI_A_ID any allowed value The Byte-Range header field value contains a starting value (range-start) followed by a "-", an ending value (range-end) followed by a "/", and finally the total length. The first octet in the message has a position of one, rather than a zero. The Byte-Range header field identifies the portion of the message carried in this chunk and the total size of the message "1-" "0/" "0" not present "" <transaction< td=""><td>px_MSRP_URI_A_ID any allowed value The Byte-Range header field value contains a starting value (range-start) followed by a "-", an ending value (range-end) followed by a "/", and finally the total length. The first octet in the message has a position of one, rather than a zero. The Byte-Range header field identifies the portion of the message carried in this chunk and the total size of the message "1-" "0/" "0" not present ""<transaction< td=""></transaction<></td></transaction<>	px_MSRP_URI_A_ID any allowed value The Byte-Range header field value contains a starting value (range-start) followed by a "-", an ending value (range-end) followed by a "/", and finally the total length. The first octet in the message has a position of one, rather than a zero. The Byte-Range header field identifies the portion of the message carried in this chunk and the total size of the message "1-" "0/" "0" not present "" <transaction< td=""></transaction<>

- MSRP SEND from the UE with Chunking Used

Table 5.5.12.1-3: MSRP SEND from the UE with Chunking Used

Derivation Path: RFC 4975 [X]				
Information Element	Value/remark	Comment	Reference	Condition
Transaction Identifier				
value	any allowed value			
To-Path				
value	px_MSRP_URI_SS_ID			
From-Path				
value	px_MSRP_URI_A_ID			
Message-ID				
value	any allowed value	If chunking is done:		
	,	The message ID		
		corresponds to the		
		whole message, so the		
		receiver can also use it		
		to reassemble the		
		message and tell which		
		chunks belong with		
		which message.		
Byte-Range		The Byte-Range		
, 		header field value		
		contains a starting		
		value (range-start)		
		followed by a "-", an		
		ending value (range-		
		end) followed by a "/",		
		and finally the total		
		length. The first octet		
		in the message has a		
		position of one, rather		
		than a zero.		
		The Byte-Range		
		header field identifies		
		the portion of the		
		message carried in this		
		chunk and the total size		
		of the message.		
		Example:		
		Byte-Range for Chunk		
		1 of 2: 1-2/8		
		Byte-Range for Chunk		
		2 of 2: 5-8/8		
range-start	<any allowed="" value="">"-"</any>			
range-end	<any allowed="" value="">"/"</any>	The range-end field		
-		SHOULD indicate the		
		position of the last byte		
		in the body, if known. It		
		MUST take the value of		
		"*" if the position is		
		unknown, or if the		
		request needs to be		
		interruptible.		
total length	the total length			
Content-Type			TS 24.582 [89]	
			, clause 6.4	
media-type	"multipart/mixed"			
MIME body part		SDS SIGNALLING		
- •		PAYLOAD		
MIME-Content-Type	"application/vnd.3gpp.			
71 -	mcdata-signalling"			
MIME-part-body	As described in Table			
p 2003	5.5.3.8.1-1			
MIME body part		SDS DATA PAYLOAD		
MIME-Content-Type	"application/vnd.3gpp.	JUL DAIN A REGAL		
wiiwie-Content-Type	mcdata-payload"			
MIME-part-body	As described in Table			
willviiL-part-bouy	5.5.3.9-1			
	J.J.J.3-1			

End-line	"" <transaction Identifier value>"+"</transaction 	an end-line of seven hyphens, the transaction identifier, and a "+" to indicate that this request is not the end of a complete	
		message	

- MSRP SEND from the UE with Chunking Used – Last Chunk

Table 5.5.12.1-4: MSRP SEND from the UE with Chunking Used – Last Chunk

Derivation Path: RFC 4975 [X] Information Element	Value/remark	Comment	Reference	Condition
Transaction Identifier	value/Telliai K	Comment	iveleteting.	Condition
value	any allowed value			
To-Path	any anowed value			
value	px_MSRP_URI_SS_ID			
From-Path	px_wskr_oki_ss_ib			
value	px_MSRP_URI_A_ID			
Message-ID	px_word _ord_A_ib			
value	any allowed value	If chunking is done: The message ID corresponds to the whole message, so the receiver can also use it to reassemble the message and tell which chunks belong with which message.		
Byte-Range		The Byte-Range header field value contains a starting value (range-start) followed by a "-", an ending value (range-end) followed by a "/", and finally the total length. The first octet in the message has a position of one, rather than a zero. The Byte-Range header field identifies the portion of the message carried in this chunk and the total size of the message. Example: Byte-Range for Chunk 1 of 2: 1-2/8 Byte-Range for Chunk 2 of 2: 5-8/8		
range-start range-end	<any allowed="" value="">"-" <the length="" total="">"/"</the></any>	The range-end field for the last chunk of a message should be equal to the total length of the message.		

		T == -		1
total length	the total length	The Byte-Range		
		header field value		
		contains a starting		
		value (range-start)		
		followed by a "-", an		
		ending value (range-		
		end) followed by a "/",		
		and finally the total		
		length. The first octet		
		in the message has a		
		position of one, rather		
		than a zero.		
		The Byte-Range		
		header field identifies		
		the portion of the		
		message carried in this		
		chunk and the total size		
		of the message.		
		Example:		
		Byte-Range for Chunk		
		1 of 2: 1-2/8		
		Byte-Range for Chunk		
		2 of 2: 5-8/8		
Content-Type			TS 24.582 [89]	
			, clause 6.4	
media-type	"multipart/mixed"	000000000000000000000000000000000000000		
MIME body part		SDS SIGNALLING PAYLOAD		
MIME-Content-Type	"application/vnd.3gpp.			
	mcdata-signalling"			
MIME-part-body	As described in Table			
. ,	5.5.3.8.1-1			
MIME body part		SDS DATA PAYLOAD		
MIME-Content-Type	"application/vnd.3gpp.			
	mcdata-payload"			
MIME-part-body	As described in Table			
	5.5.3.9-1			
End-line	"" <transaction< td=""><td>an end-line of seven</td><td></td><td></td></transaction<>	an end-line of seven		
	Identifier value>"\$"	hyphens, the		
		transaction identifier,		
		and a "\$" to indicate		
		that this request		
		contains the last chunk		
		of a complete message		
		or a complete message		

5.5.12.1.2 MSRP SEND from the SS

- MSRP SEND from the SS

Table 5.5.12.1.2-1: MSRP SEND from the SS

Derivation Path: RFC 4975 [X]				
Information Element	Value/remark	Comment	Reference	Condition
Transaction Identifier				
value	"a786hjs2"			
To-Path				
value	px_MSRP_URI_A_ID			
From-Path				
value	px_MSRP_URI_SS_ID			
Message-ID				
value	"87652491"			
Byte-Range		The Byte-Range header field value contains a starting value (range-start) followed by a "-", an ending value (range-end) followed by a "/", and finally the total length. The first octet in the message has a position of one, rather than a zero. The Byte-Range header field identifies the portion of the message carried in this chunk and the total size of the message		
range-start	1			
range-end	the length of the message in bytes			
total length	the length of the message in bytes			
Content-Type			TS 24.582 [89] , clause 6.4	
media-type	"multipart/mixed"			
MIME body part	·	SDS SIGNALLING PAYLOAD		
MIME-Content-Type	"application/vnd.3gpp. mcdata-signalling"			
MIME-part-body	As described in Table 5.5.3.8.2-1			
MIME body part		SDS DATA PAYLOAD		
MIME-Content-Type	"application/vnd.3gpp. mcdata-payload"			
MIME-part-body	As described in Table 5.5.3.9-2			
End-line	"a786hjs2\$"	an end-line of seven hyphens, the transaction identifier, and a "\$" to indicate that this request contains the end of a complete message		

Empty MSRP SEND from the SS for Binding

Table 5.5.12.1.2-2: Empty MSRP SEND from the SS for Binding

Derivation Path: RFC 4975 [X]				
Information Element	Value/remark	Comment	Reference	Condition
Transaction Identifier				
value	"a786hjs2"			
To-Path				
value	px_MSRP_URI_A_ID			
From-Path				
value	px_MSRP_URI_SS_ID			
Message-ID				
value	"87652491"			
Byte-Range	1	The Byte-Range header field value contains a starting value (range-start) followed by a "-", an ending value (range-end) followed by a "/", and finally the total length. The first octet in the message has a position of one, rather than a zero. The Byte-Range header field identifies the portion of the message carried in this chunk and the total size of the message		
range-start	0			
range-end	0			
total length				
Content-Type End-line	not present			
Ena-line	"a786hjs2\$"			

5.5.12.2 MSRP 200 (OK)

5.5.12.2.1 MSRP 200 (OK) from the UE

Table 5.5.12.2.1-1: MSRP 200 (OK) from the UE

Derivation Path: RFC 4975 [X]				
Information Element	Value/remark	Comment	Reference	Condition
Transaction Identifier				
value	same value as received in the MSRP SEND message			
To-Path				
value	px_MSRP_URI_SS_ID			
From-Path				
value	px_MSRP_URI_A_ID			
End-line	"" <transaction Identifier value>"\$"</transaction 	an end-line of seven hyphens, the transaction identifier, and a "\$" to indicate that this request contains the end of a complete message		

5.5.12.2.2 MSRP 200 (OK) from the SS

Table 5.5.12.2.2-1: MSRP 200 (OK) from the SS

Derivation Path: RFC 4975 [X]		·	·	
Information Element	Value/remark	Comment	Reference	Condition
Transaction Identifier				
value	same value as received in the MSRP SEND message			
To-Path				
value	px_MSRP_URI_A_ID			
From-Path				
value	px_MSRP_URI_SS_ID			
End-line	"" <transaction Identifier value>"\$"</transaction 	an end-line of seven hyphens, the transaction identifier, and a "\$" to indicate that this request contains the end of a complete message		

5.5.13 Default XML messages and elements for XML security

5.5.13.1 XML signature for integrity protection of MIME bodies

Table 5.5.13.1-1: XML signature MIME body from the UE

Information Element	Value/remark	Comment	Reference	Condition
Signatures		list of N signatures for		
_		the signed XML bodies		
		of a SIP message		
Signature [n]		n ∈ {1N}		
id	any value if present			
SignedInfo				
CanonicalizationAlgorithm	any value	canonicalisation method e.g. "http://www.w3.org/TR/ 2001/REC-xml-c14n- 20010315"		
SignatureAlgorithm	"HMAC-SHA-256"	Hashing algorithm to be applied to sign the SignedInfo with the key given in the KeyInfo		
Reference				
URI	same value as the Content-ID of the XML MIME body the signature belongs to			
DigestAlgorithm	"SHA-256"	Hashing algorithm to be applied to sign the data object		
DigestValue	Hash signing the data object (referred to by the URI)			
SignatureValue	Hash signing the SignedInfo	The signing key is derived from the CSK according to TS 33.180 [94] Annex F.1.4 with FC = 0x52 XPK-ID = CSK-ID		
KeyInfo				
KeyName	base64 encoded CSK- ID			

Table 5.5.13.1-2: XML signature MIME body from the SS

Information Element	Value/remark	Comment	Reference	Condition
Signatures		list of N signatures for the signed XML bodies		
		of a SIP message		
Signature [n]		n ∈ {1N}		
id	"signature" & n			
SignedInfo				
CanonicalizationAlgorithm	"http://www.w3.org/TR/ 2001/REC-xml-c14n- 20010315"	canonicalisation method		
SignatureAlgorithm	"HMAC-SHA-256"	Hashing algorithm to be applied to sign the SignedInfo with the key given in the KeyInfo		
Reference				
URI	same value as the Content-ID of the XML MIME body the signature belongs to			
DigestAlgorithm	"SHA-256"	Hashing algorithm to be applied to sign the data object		
DigestValue	Hash signing the data object (referred to by the URI)			
SignatureValue	Hash signing the SignedInfo	The signing key is derived from the CSK according to TS 33.180 [94] Annex F.1.4 with FC = 0x52 XPK-ID = CSK-ID		
KeyInfo				
KeyName	base64 encoded CSK- ID			

5.5.13.2 XML <EncryptedData> element for encryption of XML element content

Table 5.5.13.2-1: XML < Encrypted Data > element from the UE

Derivation Path: XML Encryption Syntax, Version 1.1 [108] clause 9.1									
Information Element	Value/remark	Comment	Reference	Condition					
EncryptedData									
Type attribute	"http://www.w3.org/200								
	1/04/xmlenc#Content" if								
	present								
EncryptionMethod	if present								
Algorithm attribute	"http://www.w3.org/200								
	9/xmlenc11#aes128-								
	gcm"								
KeyInfo	if present								
KeyName	base64 encoded CSK-	The CSK-ID is provided							
	ID	by the UE at CSK							
		distribution							
CipherData									
CipherValue	encrypted XML element	The encryption key is	TS 33.180 [94]						
	content	derived from the CSK	clause 9.3.4.2						
		according to							
		TS 33.180 [94] Annex							
		F.1.4 with							
		FC = 0x51							
		XPK-ID = CSK-ID							

Table 5.5.13.2-2: XML < Encrypted Data > element from the SS

Information Element	Value/remark	Comment	Reference	Condition	
EncryptedData					
Type attribute	"http://www.w3.org/200 1/04/xmlenc#Content"				
EncryptionMethod					
Algorithm attribute	"http://www.w3.org/200 9/xmlenc11#aes128- gcm"				
KeyInfo					
KeyName	base64 encoded CSK- ID	The CSK-ID is provided by the UE at CSK distribution			
CipherData					
CipherValue	encrypted XML element content	The encryption key is derived from the CSK according to TS 33.180 [94] Annex F.1.4 with FC = 0x51 XPK-ID = CSK-ID	TS 33.180 [94] clause 9.3.4.2		

5.5.13.3 Encrypted XML URI attribute

Table 5.5.13.3-1: Encrypted XML URI attribute

Information Element	Value/remark	Comment	Reference	Condition
SIP URI				
scheme	"sip"			
user	semicolon separated list of:		TS 24.379 [9] clause 6.6.2.3.4	
	base64 encoded encrypted URI	The encryption key is derived from the CSK according to TS 33.180 [94] Annex F.1.4 with FC = 0x51 XPK-ID = CSK-ID		
	"iv=" & base64 encoded 96-bit random initialisation vector (IV)	IV as used by AES-128 encryption algorithm		
	"key-id=" & base64 encoded encryption key identifier (XPK-ID)	with XPK-ID = CSK-ID		
	"alg=128-aes-gcm"	AES-128 encryption algorithm		
password	not present			
host	"mc1- encryption.3gppnetwor k.org"		TS 24.379 [9] clause 6.6.2.3.4; TS 23.003 [69] clause 26.2	
port	not present			
uri parameters	not present			
headers	not present			

5.6 Reference configurations

5.6.1 General

The Reference configuration requirements provided in clause 5.6 specify configuration values that are expected to be pre-configured in the UE before a test is started. The exception to this requirement are tests which verify the communication exchange which allows a MCPTT device to be enabled for the provision of MCPTT cervices e.g. test case 5.1 in TS 36.579-2 [2].

5.6.2 Key material for provisioning of End-to-end communication security

For any end-point to use or access end-to-end secure communications, it needs to be provisioned with keying material associated to its identity by the KMS as specified in 3GPP TS 33.180 [94]. To avoid dynamic allocation of key material before each test case is run, the following keying information needs to be preconfigured in the UE. For convenience, the information is provided in the form of an XML which can be provided/pre-configured in the UE e.g. by a Key Management Server (KMS) as specified in 3GPP TS 33.180 [94].

```
<?xml version="1.0" encoding="UTF-8"?>
<SignedKmsResponse xmlns= "TOBEDEFINED" xmlns:xsi = "http://www.w3.org/2001/XMLSchema-instance"
    xmlns:ds = "http://www.w3.org/2000/09/xmldsig#" xmlns:se = "TOBEDEFINED"
    xsi:schemaLocation = "TOBEDEFINED SE_KmsInterface_XMLSchema.xsd" Id = "xmldoc">

<KmsResponse xmlns= "TOBEDEFINED" Version = "1.0.0">

<KmsUri>kms.example.org</KmsUri>
    <UserUri>user@example.org</VserUri>
    <Time>2014-01-26T10:07:14</Time>
    <KmsId>KMsDrovider12345</KmsId>
    <ClientReqUrl>http://kms.example.org/keymanagement/identity/v1/keyprov</ClientReqUrl>
```

```
<KmsMessage>
    <KmsKeyProv Version = "1.0.0" xsi:type = "se:KmsKeyProvTkType">
      <KmsKeySet Version = "1.1.0">
        <KmsUri>kms.example.org</kmsUri>
        <CertUri>cert1.kms.example.org</CertUri>
        <Issuer>www.example.org</Issuer>
        <UserUri>user@example.org</UserUri>
        <UserID>0123456789ABCDEF0123456789ABCDEF</UserID>
        <ValidFrom>2017-07-31T17:00:00</ValidFrom>
        <ValidTo>2018-07-31T16:59:59</ValidTo>
        <KeyPeriodNo>3710502000</KeyPeriodNo>
        <Revoked>false</Revoked>
        <UserDecryptKey xsi:type = "se:EncKeyContentType">
          <EncryptedKey xmlns = "http://www.w3.org/2001/04/xmlenc#">
            <EncryptionMethod Algorithm="http://www.w3.org/2001/04/xmlenc#kw-aes256"/>
            <ds:KevInfo>
              <ds:KeyName>tk.12.user@example.org</KeyName>
            </ds:KevInfo>
            <CipherData>
              <CipherValue>DEADBEEF</CipherValue>
            </CipherData>
          </EncryptedKey>
        </UserDecryptKey>
        <UserSigningKeySSK xsi:type = "se:EncKeyContentType">
          <EncryptedKey xmlns = "http://www.w3.org/2001/04/xmlenc#">
            <EncryptionMethod Algorithm="http://www.w3.org/2001/04/xmlenc#kw-aes256"/>
            <ds:KeyInfo>
              <ds:KeyName>tk.12.user@example.org</KeyName>
            </ds:KeyInfo>
            <CipherData>
              <CipherValue>DEADBEEF</CipherValue>
            </CipherData>
        </EncryptedKey>
        </UserSigningKeySSK>
        <UserPubTokenPVT xsi:type = "se:EncKeyContentType">
          <EncryptedKey xmlns = "http://www.w3.org/2001/04/xmlenc#">
            <EncryptionMethod Algorithm="http://www.w3.org/2001/04/xmlenc#kw-aes256"/>
            <ds:KevInfo>
              <ds:KeyName>tk.12.user@example.org</KeyName>
            </ds:KeyInfo>
            <CipherData>
              <CipherValue>DEADBEEF</CipherValue>
            </CipherData>
          </EncryptedKey>
        </UserPubTokenPVT>
      </KmsKeySet>
      <NewTransportKey xmlns= "TOBEDEFINED">
            <EncryptedKey xmlns="http://www.w3.org/2001/04/xmlenc#"</pre>
Type="http://www.w3.org/2001/04/xmlenc#EncryptedKey">
              <EncryptionMethod Algorithm="http://www.w3.org/2001/04/xmlenc#kw-aes256"/>
              <ds:KeyInfo>
                <ds:KeyName>tk.12.user@example.org</KeyName>
              </ds:KeyInfo>
              <CipherData>
                <CipherValue>DEADBEEF</CipherValue>
              </CipherData>
              <CarriedKeyName>tk.13.user@example.org</CarriedKeyName>
            </EncryptedKey>
          </NewTransportKey>
    </KmsKeyProv>
  </KmsMessage>
</KmsResponse>
<Signature xmlns="http://www.w3.org/2000/09/xmldsig#">
    <SignedInfo>
      <CanonicalizationMethod Algorithm="http://www.w3.org/TR/2001/REC-xml-c14n-20010315"/>
      <SignatureMethod Algorithm="http://www.w3.org/2001/04/xmldsig-more#hmac-sha256">
        <HMACOutputLength>128/HMACOutputLength>
      </SignatureMethod>
      <Reference URI="#xmldoc">
        <DigestMethod Algorithm="http://www.w3.org/2001/04/xmlenc#sha256"/>
        <DigestValue>nnnn</DigestValue>
      </Reference>
    </SignedInfo>
    <SignatureValue>DEADBEEF</SignatureValue>
      <KeyName>tk.12.user@example.org</KeyName>
    </KeyInfo>
  </Signature>
```

</SignedKmsResponse>

5.6.3 XML schema for MCPTT location information

```
From TS 24.379 clause F.3.2:
<?xml version="1.0" encoding="UTF-8"?>
<xs:schema xmlns:xs="http://www.w3.org/2001/XMLSchema"</pre>
xmlns:mcpttloc="urn:3gpp:ns:mcpttLocationInfo:1.0"
targetNamespace="urn:3gpp:ns:mcpttLocationInfo:1.0" elementFormDefault="qualified"
attributeFormDefault="unqualified"
xmlns:xenc="http://www.w3.org/2001/04/xmlenc#">
    <xs:import namespace="http://www.w3.org/2001/04/xmlenc#"/>
    <xs:element name="location-info" id="loc">
            <xs:documentation>Root element, contains all information related to location
configuration, location request and location reporting for the MCPTT service</xs:documentation>
        </xs:annotation>
        <xs:complexType>
            <xs:choice>
                <xs:element name="Configuration" type="mcpttloc:tConfigurationType"/>
                <xs:element name="Request" type="mcpttloc:tRequestType"/>
                <xs:element name="Report" type="mcpttloc:tReportType"/>
                <xs:any namespace="##other" processContents="lax" minOccurs="0"</pre>
maxOccurs="unbounded"/>
            <xs:element name="anyExt" type="mcpttloc:anyExtType" minOccurs="0"/>
            </xs:choice>
            <xs:anyAttribute namespace="##any" processContents="lax"/>
        </xs:complexType>
    </xs:element>
    <xs:complexType name="tConfigurationType">
        <xs:sequence>
            <xs:element name="NonEmergencyLocationInformation"</pre>
type="mcpttloc:tRequestedLocationType" minOccurs="0"/>
            <xs:element name="EmergencyLocationInformation" type="mcpttloc:tRequestedLocationType"</pre>
minOccurs="0"/>
            <xs:element name="TriggeringCriteria" type="mcpttloc:TriggeringCriteriaType"/>
            <xs:any namespace="##other" processContents="lax" minOccurs="0" maxOccurs="unbounded"/>
            <xs:element name="anyExt" type="mcpttloc:anyExtType" minOccurs="0"/>
        </xs:sequence>
        <xs:attribute name="ConfigScope">
            <xs:simpleType>
                <xs:restriction base="xs:string">
                    <xs:enumeration value="Full"/>
                    <xs:enumeration value="Update"/>
                </xs:restriction>
            </xs:simpleType>
        </xs:attribute>
        <xs:anyAttribute namespace="##any" processContents="lax"/>
    </xs:complexType>
    <xs:complexType name="tRequestType">
        <xs:complexContent>
            <xs:extension base="mcpttloc:tEmptyType">
                <xs:attribute name="RequestId" type="xs:string" use="required"/>
            </xs:extension>
        </xs:complexContent>
    </xs:complexType>
    <xs:complexType name="tReportType">
            <xs:element name="TriggerId" type="xs:string" minOccurs="0" maxOccurs="unbounded"/>
            <xs:element name="CurrentLocation" type="mcpttloc:tCurrentLocationType"/>
            <xs:any namespace="##other" processContents="lax" minOccurs="0" maxOccurs="unbounded"/>
            <xs:element name="anyExt" type="mcpttloc:anyExtType" minOccurs="0"/>
        </xs:sequence>
        <xs:attribute name="ReportID" type="xs:string" use="optional"/>
        <xs:attribute name="ReportType" use="required">
            <xs:simpleType>
                <xs:restriction base="xs:string">
                     <xs:enumeration value="Emergency"/>
                    <xs:enumeration value="NonEmergency"/>
                </xs:restriction>
            </xs:simpleType>
        </xs:attribute>
        <xs:anyAttribute namespace="##any" processContents="lax"/>
    </xs:complexType>
    <xs:complexType name="TriggeringCriteriaType">
```

```
<xs:sequence>
            <xs:element name="CellChange" type="mcpttloc:tCellChange" minOccurs="0"/>
            <xs:element name="TrackingAreaChange" type="mcpttloc:tTrackingAreaChangeType"</pre>
minOccurs="0"/>
            <xs:element name="PlmnChange" type="mcpttloc:tPlmnChangeType" minOccurs="0"/>
            <xs:element name="MbmsSaChange" type="mcpttloc:tMbmsSaChangeType" minOccurs="0"/>
            <xs:element name="MbsfnAreaChange" type="mcpttloc:tMbsfnAreaChangeType" minOccurs="0"/>
<xs:element name="PeriodicReport" type="mcpttloc:tIntegerAttributeType" minOccurs="0"/>
            <xs:element name="TravelledDistance" type="mcpttloc:tIntegerAttributeType"</pre>
minOccurs="0"/>
            <xs:element name="McpttSignallingEvent" type="mcpttloc:tSignallingEventType"</pre>
minOccurs="0"/>
            <xs:element name="GeographicalAreaChange" type="mcpttloc:tGeographicalAreaChange"/>
            <xs:any namespace="##other" processContents="lax" minOccurs="0" maxOccurs="unbounded"/>
            <xs:element name="anyExt" type="mcpttloc:anyExtType" minOccurs="0"/>
        </xs:sequence>
        <xs:anyAttribute namespace="##any" processContents="lax"/>
    </xs:complexType>
    <xs:complexType name="tCellChange">
        <xs:sequence>
            <xs:element name="AnyCellChange" type="mcpttloc:tEmptyTypeAttribute" minOccurs="0"/>
            <xs:element name="EnterSpecificCell" type="mcpttloc:tSpecificCellType" minOccurs="0"</pre>
maxOccurs="unbounded"/>
            <xs:element name="ExitSpecificCell" type="mcpttloc:tSpecificCellType" minOccurs="0"</pre>
maxOccurs="unbounded"/>
            <xs:any namespace="##other" processContents="lax" minOccurs="0" maxOccurs="unbounded"/>
            <xs:element name="anyExt" type="mcpttloc:anyExtType" minOccurs="0"/>
        </xs:sequence>
        <xs:anyAttribute namespace="##any" processContents="lax"/>
    </xs:complexType>
    <xs:complexType name="tEmptyType"/>
    <xs:simpleType name="tEcgi">
        <xs:restriction base="xs:string">
            <xs:pattern value="\d{3}\d{3}[0-1]{28}"/>
        </xs:restriction>
    </xs:simpleType>
    <xs:complexType name="tSpecificCellType">
        <xs:simpleContent>
            <xs:extension base="mcpttloc:tEcgi">
                <xs:attribute name="TriggerId" type="xs:string" use="required"/>
            </xs:extension>
        </xs:simpleContent>
    </xs:complexType>
    <xs:complexType name="tEmptyTypeAttribute">
        <xs:complexContent>
            <xs:extension base="mcpttloc:tEmptyType">
                <xs:attribute name="TriggerId" type="xs:string" use="required"/>
            </xs:extension>
        </xs:complexContent>
    </xs:complexType>
    <xs:complexType name="tTrackingAreaChangeType">
        <xs:sequence>
            <xs:element name="AnyTrackingAreaChange" type="mcpttloc:tEmptyTypeAttribute"</pre>
minOccurs="0"/>
            <xs:element name="EnterSpecificTrackingArea" type="mcpttloc:tTrackingAreaIdentity"</pre>
minOccurs="0" maxOccurs="unbounded"/>
            <xs:element name="ExitSpecificTrackingArea" type="mcpttloc:tTrackingAreaIdentity"</pre>
minOccurs="0" maxOccurs="unbounded"/>
            <xs:any namespace="##other" processContents="lax" minOccurs="0" maxOccurs="unbounded"/>
            <xs:element name="anyExt" type="mcpttloc:anyExtType" minOccurs="0"/>
        </xs:sequence>
        <xs:anyAttribute namespace="##any" processContents="lax"/>
    </xs:complexType>
    <xs:simpleType name="tTrackingAreaIdentityFormat">
        <xs:restriction base="xs:string">
            <xs:pattern value="\d{3}\d{3}[0-1]{16}"/>
        </xs:restriction>
    </xs:simpleType>
    <xs:complexType name="tTrackingAreaIdentity">
        <xs:simpleContent>
            <xs:extension base="mcpttloc:tTrackingAreaIdentityFormat">
                <xs:attribute name="TriggerId" type="xs:string" use="required"/>
            </xs:extension>
        </xs:simpleContent>
    </xs:complexType>
    <xs:complexType name="tPlmnChangeType">
        <xs:sequence>
            <xs:element name="AnyPlmnChange" type="mcpttloc:tEmptyTypeAttribute" minOccurs="0"/>
```

```
<xs:element name="EnterSpecificPlmn" type="mcpttloc:tPlmnIdentity" minOccurs="0"</pre>
maxOccurs="unbounded"/>
            <xs:element name="ExitSpecificPlmn" type="mcpttloc:tPlmnIdentity" minOccurs="0"</pre>
maxOccurs="unbounded"/>
            <xs:any namespace="##other" processContents="lax" minOccurs="0" maxOccurs="unbounded"/>
            <xs:element name="anyExt" type="mcpttloc:anyExtType" minOccurs="0"/>
        </xs:sequence>
        <xs:anyAttribute namespace="##any" processContents="lax"/>
    </xs:complexType>
    <xs:simpleType name="tPlmnIdentityFormat">
        <xs:restriction base="xs:string">
            <xs:pattern value="\d{3}\d{3}"/>
        </xs:restriction>
    </xs:simpleType>
    <xs:complexType name="tPlmnIdentity">
        <xs:simpleContent>
            <xs:extension base="mcpttloc:tPlmnIdentityFormat">
                <xs:attribute name="TriggerId" type="xs:string" use="required"/>
            </xs:extension>
        </xs:simpleContent>
    </xs:complexType>
    <xs:complexType name="tMbmsSaChangeType">
            <xs:element name="AnyMbmsSaChange" type="mcpttloc:tEmptyTypeAttribute" minOccurs="0"/>
            <xs:element name="EnterSpecificMbmsSa" type="mcpttloc:tMbmsSaIdentity" minOccurs="0"/>
<xs:element name="ExitSpecificMbmsSa" type="mcpttloc:tMbmsSaIdentity" minOccurs="0"/>
            <xs:any namespace="##other" processContents="lax" minOccurs="0" maxOccurs="unbounded"/>
            <xs:element name="anyExt" type="mcpttloc:anyExtType" minOccurs="0"/>
        </xs:sequence>
        <xs:anvAttribute namespace="##any" processContents="lax"/>
    </xs:complexType>
    <xs:simpleType name="tMbmsSaIdentityFormat">
        <xs:restriction base="xs:integer">
            <xs:minInclusive value="0"/>
            <xs:maxInclusive value="65535"/>
        </xs:restriction>
    </xs:simpleType>
    <xs:complexType name="tMbmsSaIdentity">
        <xs:simpleContent>
            <xs:extension base="mcpttloc:tMbmsSaIdentityFormat">
                <xs:attribute name="TriggerId" type="xs:string" use="required"/>
            </xs:extension>
        </xs:simpleContent>
    </xs:complexType>
    <xs:complexType name="tMbsfnAreaChangeType">
        <xs:sequence>
            <xs:element name="EnterSpecificMbsfnArea" type="mcpttloc:tMbsfnAreaIdentity"</pre>
minOccurs="0"/>
            <xs:element name="ExitSpecificMbsfnArea" type="mcpttloc:tMbsfnAreaIdentity"</pre>
minOccurs="0"/>
            <xs:any namespace="##other" processContents="lax" minOccurs="0" maxOccurs="unbounded"/>
            <xs:element name="anyExt" type="mcpttloc:anyExtType" minOccurs="0"/>
        </xs:sequence>
        <xs:anyAttribute namespace="##any" processContents="lax"/>
    </xs:complexType>
    <xs:simpleType name="tMbsfnAreaIdentityFormat">
        <xs:restriction base="xs:integer">
            <xs:minInclusive value="0"/>
            <xs:maxInclusive value="255"/>
        </xs:restriction>
    </xs:simpleType>
    <xs:complexType name="tMbsfnAreaIdentity">
        <xs:simpleContent>
            <xs:extension base="mcpttloc:tMbsfnAreaIdentityFormat">
                <xs:attribute name="TriggerId" type="xs:string" use="required"/>
            </xs:extension>
        </xs:simpleContent>
    </xs:complexType>
    <xs:complexType name="tIntegerAttributeType">
        <xs:simpleContent>
            <xs:extension base="xs:integer">
                <xs:attribute name="TriggerId" type="xs:string" use="required"/>
            </xs:extension>
        </xs:simpleContent>
    </xs:complexType>
    <xs:complexType name="tTravelledDistanceType">
        <xs:sequence>
            <xs:element name="TravelledDistance" type="xs:positiveInteger"/>
```

```
<xs:any namespace="##other" processContents="lax" minOccurs="0" maxOccurs="unbounded"/>
            <xs:element name="anyExt" type="mcpttloc:anyExtType" minOccurs="0"/>
        </xs:sequence>
        <xs:anyAttribute namespace="##any" processContents="lax"/>
    </xs:complexType>
    <xs:complexType name="tSignallingEventType">
        <xs:sequence>
            <xs:element name="InitialLogOn" type="mcpttloc:tEmptyTypeAttribute" minOccurs="0"/>
            <xs:element name="GroupCallNonEmergency" type="mcpttloc:tEmptyTypeAttribute"</pre>
minOccurs="0"/>
            <xs:element name="PrivateCallNonEmergency" type="mcpttloc:tEmptyTypeAttribute"</pre>
minOccurs="0"/>
            <xs:element name="LocationConfigurationReceived" type="mcpttloc:tEmptyTypeAttribute"</pre>
minOccurs="0"/>
            <xs:any namespace="##other" processContents="lax" minOccurs="0" maxOccurs="unbounded"/>
            <xs:element name="anyExt" type=" mcpttloc:anyExtType" minOccurs="0"/>
        </xs:sequence>
        <xs:anyAttribute namespace="##any" processContents="lax"/>
    </xs:complexType>
    <xs:complexType name="tEmergencyEventType">
        <xs:sequence>
            <xs:element name="GroupCallEmergency" type="mcpttloc:tEmptyTypeAttribute"</pre>
minOccurs="0"/>
            <xs:element name="GroupCallImminentPeril" type="mcpttloc:tEmptyTypeAttribute"</pre>
minOccurs="0"/>
            <xs:element name="PrivateCallEmergency" type="mcpttloc:tEmptyTypeAttribute"</pre>
minOccurs="0"/>
            <xs:element name="InitiateEmergencyAlert" type="mcpttloc:tEmptyTypeAttribute"</pre>
minOccurs="0"/>
            <xs:any namespace="##other" processContents="lax" minOccurs="0" maxOccurs="unbounded"/>
            <xs:element name="anyExt" type="mcpttloc:anyExtType" minOccurs="0"/>
        </xs:sequence>
        <xs:anyAttribute namespace="##any" processContents="lax"/>
    </xs:complexType>
    <xs:complexType name="tRequestedLocationType">
        <xs:sequence>
            <xs:element name="ServingEcqi" type="mcpttloc:tEmptyType" minOccurs="0"/>
            <xs:element name="NeighbouringEcgi" type="mcpttloc:tEmptyType" minOccurs="0"</pre>
maxOccurs="unbounded"/>
            <xs:element name="MbmsSaId" type="mcpttloc:tEmptyType" minOccurs="0"/>
            <xs:element name="MbsfnArea" type="mcpttloc:tEmptyType" minOccurs="0"/>
            <xs:element name="GeographicalCordinate" type="mcpttloc:tEmptyType" minOccurs="0"/>
            <xs:element name="minimumIntervalLength" type="xs:positiveInteger"/>
            <xs:any namespace="##other" processContents="lax" minOccurs="0" maxOccurs="unbounded"/>
            <xs:element name="anyExt" type="mcpttloc:anyExtType" minOccurs="0"/>
        </xs:sequence>
        <xs:anyAttribute namespace="##any" processContents="lax"/>
    </xs:complexType>
    <xs:complexType name="tCurrentLocationType">
        <xs:sequence>
            <xs:element name="CurrentServingEcgi" type="mcpttloc:tLocationType" minOccurs="0"/>
            <xs:element name="NeighbouringEcgi" type="mcpttloc:tLocationType" minOccurs="0"</pre>
maxOccurs="unbounded"/>
            <xs:element name="MbmsSaId" type="mcpttloc:tLocationType" minOccurs="0"/>
            <xs:element name="MbsfnArea" type="mcpttloc:tLocationType" minOccurs="0"/>
            <xs:element name="CurrentCoordinate" type="mcpttloc:tPointCoordinate" minOccurs="0"/>
            <xs:any namespace="##other" processContents="lax" minOccurs="0" maxOccurs="unbounded"/>
            <xs:element name="anyExt" type="mcpttloc:anyExtType" minOccurs="0"/>
        </xs:sequence>
        <xs:anyAttribute namespace="##any" processContents="lax"/>
    </xs:complexType>
    <xs:simpleType name="protectionType">
        <xs:restriction base="xs:string">
            <xs:enumeration value="Normal"/>
            <xs:enumeration value="Encrypted"/>
        </xs:restriction>
    </xs:simpleType>
    <xs:complexType name="tLocationType">
        <xs:choice minOccurs="1" maxOccurs="1">
            <xs:element name="Ecgi" type="mcpttloc:tEcgi" minOccurs="0"/>
            <xs:element name="SaId" type="mcpttloc:tMbmsSaIdentity" minOccurs="0"/>
            <xs:element name="MbsfnAreaId" type="mcpttloc:tMbsfnAreaIdentity" minOccurs="0"/>
            <xs:any namespace="##other" processContents="lax"/>
            <xs:element name="anyExt" type="mcpttloc:anyExtType" minOccurs="0"/>
        </xs:choice>
```

```
<xs:attribute name="type" type="protectionType"/>
        <xs:anyAttribute namespace="##any" processContents="lax"/>
    </xs:complexType>
    <xs:complexType name="tGeographicalAreaChange">
            <xs:element name="AnyAreaChange" type="mcpttloc:tEmptyTypeAttribute" minOccurs="0"/>
            <xs:element name="EnterSpecificAreaType" type="mcpttloc:tSpecificAreaType"</pre>
minOccurs="0"/>
            <xs:element name="ExitSpecificAreaType" type="mcpttloc:tSpecificAreaType"</pre>
minOccurs="0"/>
            <xs:any namespace="##other" processContents="lax" minOccurs="0" maxOccurs="unbounded"/>
            <xs:element name="anyExt" type="mcpttloc:anyExtType" minOccurs="0"/>
        </xs:sequence>
        <xs:anyAttribute namespace="##any" processContents="lax"/>
    </xs:complexType>
    <xs:complexType name="tSpecificAreaType">
        <xs:sequence>
            <xs:element name="GeographicalArea" type="mcpttloc:tGeographicalAreaDef"/>
            <xs:any namespace="##other" processContents="lax" minOccurs="0" maxOccurs="unbounded"/>
            <xs:element name="anyExt" type="mcpttloc:anyExtType" minOccurs="0"/>
        </xs:sequence>
        <xs:attribute name="TriggerId" type="xs:string" use="required"/>
        <xs:anyAttribute namespace="##any" processContents="lax"/>
    </xs:complexType>
    <xs:complexType name="tPointCoordinate">
        <xs:sequence>
            <xs:element name="longitude" type="mcpttloc:tCoordinateType"/>
            <xs:element name="latitude" type="mcpttloc:tCoordinateType"/>
<xs:any namespace="##other" processContents="lax" minOccurs="0" maxOccurs="unbounded"/>
            <xs:element name="anyExt" type="mcpttloc:anyExtType" minOccurs="0"/>
        </xs:sequence>
        <xs:anyAttribute namespace="##any" processContents="lax"/>
    </xs:complexType>
    <xs:complexType name="tCoordinateType">
        <xs:choice minOccurs="1" maxOccurs="1">
            <xs:element name="threebytes" type="mcpttloc:tThreeByteType" minOccurs="0"/>
            <xs:any namespace="##other" processContents="lax"/>
            <xs:element name="anyExt" type="mcpttloc:anyExtType" minOccurs="0"/>
        </xs:choice>
        <xs:attribute name="type" type="protectionType"/>
        <xs:anyAttribute namespace="##any" processContents="lax"/>
    </xs:complexType>
    <xs:simpleType name="tThreeByteType">
        <xs:restriction base="xs:integer">
            <xs:minInclusive value="0"/>
            <xs:maxInclusive value="16777215"/>
        </xs:restriction>
    </xs:simpleType>
    <xs:complexType name="tGeographicalAreaDef">
            <xs:element name="PolygonArea" type="mcpttloc:tPolygonAreaType" minOccurs="0"/>
            <xs:element name="EllipsoidArcArea" type="mcpttloc:tEllipsoidArcType" minOccurs="0"/>
            <xs:any namespace="##other" processContents="lax" minOccurs="0" maxOccurs="unbounded"/>
            <xs:element name="anyExt" type="mcpttloc:anyExtType" minOccurs="0"/>
        </xs:sequence>
        <xs:anyAttribute namespace="##any" processContents="lax"/>
    </xs:complexType>
    <xs:complexType name="tPolygonAreaType">
        <xs:sequence>
            <xs:element name="Corner" type="mcpttloc:tPointCoordinate" minOccurs="3"</pre>
maxOccurs="15"/>
            <xs:any namespace="##other" processContents="lax" minOccurs="0" maxOccurs="unbounded"/>
            <xs:element name="anyExt" type="mcpttloc:anyExtType" minOccurs="0"/>
        </xs:sequence>
        <xs:anyAttribute namespace="##any" processContents="lax"/>
    </xs:complexType>
    <xs:complexType name="tEllipsoidArcType">
        <xs:sequence>
            <xs:element name="Center" type="mcpttloc:tPointCoordinate"/>
            <xs:element name="Radius" type="xs:nonNegativeInteger"/>
            <xs:element name="OffsetAngle" type="xs:unsignedByte"/>
            <xs:element name="IncludedAngle" type="xs:unsignedByte"/>
            <xs:any namespace="##other" processContents="lax" minOccurs="0" maxOccurs="unbounded"/>
            <xs:element name="anyExt" type="mcpttloc:anyExtType" minOccurs="0"/>
```

5.6.4 XML schema for MCVideo location information

```
From TS 24.281 clause F.3.2:
<?xml version="1.0" encoding="UTF-8"?>
<xs:schema xmlns:xs="http://www.w3.org/2001/XMLSchema"</pre>
xmlns:mcvideoloc="urn:3gpp:ns:mcvideoLocationInfo:1.0"
targetNamespace="urn:3gpp:ns:mcvideoLocationInfo:1.0" elementFormDefault="qualified"
attributeFormDefault="unqualified"
xmlns:xenc="http://www.w3.org/2001/04/xmlenc#">
    <xs:import namespace="http://www.w3.org/2001/04/xmlenc#"/>
    <xs:element name="location-info" id="loc">
        <xs:annotation>
            <xs:documentation>Root element, contains all information related to location
configuration, location request and location reporting for the MCVideo service</xs:documentation>
        </xs:annotation>
        <xs:complexType>
                <xs:element name="Configuration" type="mcvideoloc:tConfigurationType"/>
                <xs:element name="Request" type="mcvideoloc:tRequestType"/>
<xs:element name="Report" type="mcvideoloc:tReportType"/>
                 <xs:any namespace="##other" processContents="lax" minOccurs="0"</pre>
maxOccurs="unbounded"/>
            <xs:element name="anyExt" type="mcvideoloc:anyExtType" minOccurs="0"/>
            </xs:choice>
            <xs:anyAttribute namespace="##any" processContents="lax"/>
        </xs:complexType>
    </xs:element>
    <xs:complexType name="tConfigurationType">
        <xs:sequence>
            <xs:element name="NonEmergencyLocationInformation"</pre>
type="mcvideoloc:tRequestedLocationType" minOccurs="0"/>
            <xs:element name="EmergencyLocationInformation" type="mcvideoloc:tRequestedLocationType"</pre>
minOccurs="0"/>
            <xs:element name="TriggeringCriteria" type="mcvideoloc:TriggeringCriteriaType"/>
            <xs:any namespace="##other" processContents="lax" minOccurs="0" maxOccurs="unbounded"/>
            <xs:element name="anyExt" type="mcvideoloc:anyExtType" minOccurs="0"/>
        </xs:sequence>
        <xs:attribute name="ConfigScope">
            <xs:simpleType>
                <xs:restriction base="xs:string">
                    <xs:enumeration value="Full"/>
                     <xs:enumeration value="Update"/>
                </xs:restriction>
            </xs:simpleType>
        </xs:attribute>
        <xs:anyAttribute namespace="##any" processContents="lax"/>
    </xs:complexType>
    <xs:complexType name="tRequestType">
        <xs:complexContent>
            <xs:extension base="mcvideoloc:tEmptyType">
                <xs:attribute name="RequestId" type="xs:string" use="required"/>
            </xs:extension>
        </xs:complexContent>
    </xs:complexType>
    <xs:complexType name="tReportType">
            <xs:element name="TriggerId" type="xs:string" minOccurs="0" maxOccurs="unbounded"/>
            <xs:element name="CurrentLocation" type="mcvideoloc:tCurrentLocationType"/>
            <xs:any namespace="##other" processContents="lax" minOccurs="0" maxOccurs="unbounded"/>
            <xs:element name="anyExt" type="mcvideoloc:anyExtType" minOccurs="0"/>
        </xs:sequence>
        <xs:attribute name="ReportID" type="xs:string" use="optional"/>
        <xs:attribute name="ReportType" use="required">
            <xs:simpleType>
```

```
<xs:restriction base="xs:string">
                    <xs:enumeration value="Emergency"/>
                    <xs:enumeration value="NonEmergency"/>
                </xs:restriction>
            </xs:simpleType>
        </xs:attribute>
        <xs:anyAttribute namespace="##any" processContents="lax"/>
    </xs:complexType>
    <xs:complexType name="TriggeringCriteriaType">
            <xs:element name="CellChange" type="mcvideoloc:tCellChange" minOccurs="0"/>
            <xs:element name="TrackingAreaChange" type="mcvideoloc:tTrackingAreaChangeType"</pre>
minOccurs="0"/>
            <xs:element name="PlmnChange" type="mcvideoloc:tPlmnChangeType" minOccurs="0"/>
            <xs:element name="MbmsSaChange" type="mcvideoloc:tMbmsSaChangeType" minOccurs="0"/>
            <xs:element name="MbsfnAreaChange" type="mcvideoloc:tMbsfnAreaChangeType"</pre>
minOccurs="0"/>
            <xs:element name="PeriodicReport" type="mcvideoloc:tIntegerAttributeType"</pre>
minOccurs="0"/>
            <xs:element name="TravelledDistance" type="mcvideoloc:tIntegerAttributeType"</pre>
minOccurs="0"/>
            <xs:element name="McvideoSignallingEvent" type="mcvideoloc:tSignallingEventType"</pre>
minOccurs="0"/>
            <xs:element name="GeographicalAreaChange" type="mcvideoloc:tGeographicalAreaChange"/>
            <xs:any namespace="##other" processContents="lax" minOccurs="0" maxOccurs="unbounded"/>
            <xs:element name="anyExt" type="mcvideoloc:anyExtType" minOccurs="0"/>
        </xs:sequence>
        <xs:anyAttribute namespace="##any" processContents="lax"/>
    </xs:complexType>
    <xs:complexType name="tCellChange">
        <xs:sequence>
            <xs:element name="AnyCellChange" type="mcvideoloc:tEmptyTypeAttribute" minOccurs="0"/>
            <xs:element name="EnterSpecificCell" type="mcvideoloc:tSpecificCellType" minOccurs="0"</pre>
maxOccurs="unbounded"/>
            <xs:element name="ExitSpecificCell" type="mcvideoloc:tSpecificCellType" minOccurs="0"</pre>
maxOccurs="unbounded"/>
            <xs:any namespace="##other" processContents="lax" minOccurs="0" maxOccurs="unbounded"/>
            <xs:element name="anyExt" type="mcvideoloc:anyExtType" minOccurs="0"/>
        </xs:sequence>
        <xs:anyAttribute namespace="##any" processContents="lax"/>
    </xs:complexType>
    <xs:complexType name="tEmptyType"/>
    <xs:simpleType name="tEcgi">
        <xs:restriction base="xs:string">
           <xs:pattern value="\d{3}\d{3}[0-1]{28}"/>
        </xs:restriction>
    </xs:simpleType>
    <xs:complexType name="tSpecificCellType">
        <xs:simpleContent>
            <xs:extension base="mcvideoloc:tEcgi">
                <xs:attribute name="TriggerId" type="xs:string" use="required"/>
            </xs:extension>
        </xs:simpleContent>
    </xs:complexType>
    <xs:complexType name="tEmptyTypeAttribute">
        <xs:complexContent>
            <xs:extension base="mcvideoloc:tEmptyType">
                <xs:attribute name="TriggerId" type="xs:string" use="required"/>
            </xs:extension>
        </xs:complexContent>
    </xs:complexType>
    <xs:complexType name="tTrackingAreaChangeType">
        <xs:sequence>
            <xs:element name="AnyTrackingAreaChange" type="mcvideoloc:tEmptyTypeAttribute"</pre>
minOccurs="0"/>
            <xs:element name="EnterSpecificTrackingArea" type="mcvideoloc:tTrackingAreaIdentity"</pre>
minOccurs="0" maxOccurs="unbounded"/>
            <xs:element name="ExitSpecificTrackingArea" type="mcvideoloc:tTrackingAreaIdentity"</pre>
minOccurs="0" maxOccurs="unbounded"/>
            <xs:any namespace="##other" processContents="lax" minOccurs="0" maxOccurs="unbounded"/>
            <xs:element name="anyExt" type="mcvideoloc:anyExtType" minOccurs="0"/>
        </xs:sequence>
        <xs:anyAttribute namespace="##any" processContents="lax"/>
    </xs:complexType>
    <xs:simpleType name="tTrackingAreaIdentityFormat">
        <xs:restriction base="xs:string">
            <xs:pattern value="\d{3}\d{3}[0-1]{16}"/>
        </xs:restriction>
```

```
</xs:simpleType>
    <xs:complexType name="tTrackingAreaIdentity">
        <xs:simpleContent>
            <xs:extension base="mcvideoloc:tTrackingAreaIdentityFormat">
                <xs:attribute name="TriggerId" type="xs:string" use="required"/>
        </xs:simpleContent>
    </xs:complexType>
    <xs:complexType name="tPlmnChangeType">
        <xs:sequence>
           <xs:element name="AnyPlmnChange" type="mcvideoloc:tEmptyTypeAttribute" minOccurs="0"/>
            <xs:element name="EnterSpecificPlmn" type="mcvideoloc:tPlmnIdentity" minOccurs="0"</pre>
maxOccurs="unbounded"/>
            <xs:element name="ExitSpecificPlmn" type="mcvideoloc:tPlmnIdentity" minOccurs="0"</pre>
maxOccurs="unbounded"/>
           <xs:any namespace="##other" processContents="lax" minOccurs="0" maxOccurs="unbounded"/>
            </xs:sequence>
        <xs:anyAttribute namespace="##any" processContents="lax"/>
    </xs:complexType>
    <xs:simpleType name="tPlmnIdentityFormat">
        <xs:restriction base="xs:string">
            <xs:pattern value="\d{3}\d{3}"/>
        </xs:restriction>
    </xs:simpleType>
    <xs:complexType name="tPlmnIdentity">
        <xs:simpleContent>
            <xs:extension base="mcvideoloc:tPlmnIdentityFormat">
                <xs:attribute name="TriggerId" type="xs:string" use="required"/>
            </rs:extension>
        </xs:simpleContent>
    </xs:complexType>
    <xs:complexType name="tMbmsSaChangeType">
        <xs:sequence>
            <xs:element name="AnyMbmsSaChange" type="mcvideoloc:tEmptyTypeAttribute" minOccurs="0"/>
            <xs:element name="EnterSpecificMbmsSa" type="mcvideoloc:tMbmsSaIdentity" minOccurs="0"/>
            <xs:element name="ExitSpecificMbmsSa" type="mcvideoloc:tMbmsSaIdentity" minOccurs="0"/>
            <xs:any namespace="##other" processContents="lax" minOccurs="0" maxOccurs="unbounded"/>
            <xs:element name="anyExt" type="mcvideoloc:anyExtType" minOccurs="0"/>
        </xs:sequence>
        <xs:anyAttribute namespace="##any" processContents="lax"/>
    </xs:complexType>
    <xs:simpleType name="tMbmsSaIdentityFormat">
        <xs:restriction base="xs:integer">
            <xs:minInclusive value="0"/>
            <xs:maxInclusive value="65535"/>
        </xs:restriction>
    </xs:simpleType>
    <xs:complexType name="tMbmsSaIdentity">
        <xs:simpleContent>
            <xs:extension base="mcvideoloc:tMbmsSaIdentityFormat">
               <xs:attribute name="TriggerId" type="xs:string" use="required"/>
            </xs:extension>
        </xs:simpleContent>
    </xs:complexType>
    <xs:complexType name="tMbsfnAreaChangeType">
        <xs:sequence>
            <xs:element name="EnterSpecificMbsfnArea" type="mcvideoloc:tMbsfnAreaIdentity"</pre>
minOccurs="0"/>
           <xs:element name="ExitSpecificMbsfnArea" type="mcvideoloc:tMbsfnAreaIdentity"</pre>
minOccurs="0"/>
            <xs:any namespace="##other" processContents="lax" minOccurs="0" maxOccurs="unbounded"/>
            <xs:element name="anyExt" type="mcvideoloc:anyExtType" minOccurs="0"/>
        </xs:sequence>
        <xs:anyAttribute namespace="##any" processContents="lax"/>
    </xs:complexType>
    <xs:simpleType name="tMbsfnAreaIdentityFormat">
        <xs:restriction base="xs:integer">
            <xs:minInclusive value="0"/>
            <xs:maxInclusive value="255"/>
        </xs:restriction>
    </xs:simpleType>
    <xs:complexType name="tMbsfnAreaIdentity">
        <xs:simpleContent>
            <xs:extension base="mcvideoloc:tMbsfnAreaIdentityFormat">
                <xs:attribute name="TriggerId" type="xs:string" use="required"/>
            </xs:extension>
        </xs:simpleContent>
```

```
</xs:complexType>
    <xs:complexType name="tIntegerAttributeType">
        <xs:simpleContent>
            <xs:extension base="xs:integer">
                <xs:attribute name="TriggerId" type="xs:string" use="required"/>
            </xs:extension>
        </xs:simpleContent>
    </xs:complexType>
    <xs:complexType name="tTravelledDistanceType">
        <xs:sequence>
            <xs:element name="TravelledDistance" type="xs:positiveInteger"/>
            <xs:any namespace="##other" processContents="lax" minOccurs="0" maxOccurs="unbounded"/>
            <xs:element name="anyExt" type="mcvideoloc:anyExtType" minOccurs="0"/>
        </xs:sequence>
        <xs:anyAttribute namespace="##any" processContents="lax"/>
    </xs:complexType>
    <xs:complexType name="tSignallingEventType">
        <xs:sequence>
            <xs:element name="InitialLogOn" type="mcvideoloc:tEmptyTypeAttribute" minOccurs="0"/>
            <xs:element name="GroupCallNonEmergency" type="mcvideoloc:tEmptyTypeAttribute"</pre>
minOccurs="0"/>
            <xs:element name="PrivateCallNonEmergency" type="mcvideoloc:tEmptyTypeAttribute"</pre>
minOccurs="0"/>
            <xs:element name="LocationConfigurationReceived" type="mcvideoloc:tEmptyTypeAttribute"</pre>
minOccurs="0"/>
            <xs:any namespace="##other" processContents="lax" minOccurs="0" maxOccurs="unbounded"/>
            <xs:element name="anyExt" type=" mcvideoloc:anyExtType" minOccurs="0"/>
        </xs:sequence>
        <xs:anyAttribute namespace="##any" processContents="lax"/>
    </xs:complexType>
    <xs:complexType name="tEmergencyEventType">
        <xs:sequence>
            <xs:element name="GroupCallEmergency" type="mcvideoloc:tEmptyTypeAttribute"</pre>
minOccurs="0"/>
            <xs:element name="GroupCallImminentPeril" type="mcvideoloc:tEmptyTypeAttribute"</pre>
minOccurs="0"/>
            <xs:element name="PrivateCallEmergency" type="mcvideoloc:tEmptyTypeAttribute"</pre>
minOccurs="0"/>
            <xs:element name="InitiateEmergencyAlert" type="mcvideoloc:tEmptyTypeAttribute"</pre>
minOccurs="0"/>
            <xs:any namespace="##other" processContents="lax" minOccurs="0" maxOccurs="unbounded"/>
            <xs:element name="anyExt" type="mcvideoloc:anyExtType" minOccurs="0"/>
        </xs:sequence>
        <xs:anyAttribute namespace="##any" processContents="lax"/>
    </xs:complexType>
    <xs:complexType name="tRequestedLocationType">
        <xs:sequence>
            <xs:element name="ServingEcgi" type="mcvideoloc:tEmptyType" minOccurs="0"/>
            <xs:element name="NeighbouringEcgi" type="mcvideoloc:tEmptyType" minOccurs="0"</pre>
maxOccurs="unbounded"/>
            <xs:element name="MbmsSaId" type="mcvideoloc:tEmptyType" minOccurs="0"/>
            <xs:element name="MbsfnArea" type="mcvideoloc:tEmptyType" minOccurs="0"/>
            <xs:element name="GeographicalCordinate" type="mcvideoloc:tEmptyType" minOccurs="0"/>
<xs:element name="minimumIntervalLength" type="xs:positiveInteger"/>
            <xs:any namespace="##other" processContents="lax" minOccurs="0" maxOccurs="unbounded"/>
            <xs:element name="anyExt" type="mcvideoloc:anyExtType" minOccurs="0"/>
        </xs:sequence>
        <xs:anyAttribute namespace="##any" processContents="lax"/>
    </xs:complexType>
    <xs:complexType name="tCurrentLocationType">
            <xs:element name="CurrentServingEcgi" type="mcvideoloc:tLocationType" minOccurs="0"/>
            <xs:element name="NeighbouringEcgi" type="mcvideoloc:tLocationType" minOccurs="0"</pre>
maxOccurs="unbounded"/>
            <xs:element name="MbmsSaId" type="mcvideoloc:tLocationType" minOccurs="0"/>
            <xs:element name="MbsfnArea" type="mcvideoloc:tLocationType" minOccurs="0"/>
            <xs:element name="CurrentCoordinate" type="mcvideoloc:tPointCoordinate" minOccurs="0"/>
            <xs:any namespace="##other" processContents="lax" minOccurs="0" maxOccurs="unbounded"/>
            <xs:element name="anyExt" type="mcvideoloc:anyExtType" minOccurs="0"/>
        </xs:sequence>
        <xs:anyAttribute namespace="##any" processContents="lax"/>
    </xs:complexType>
    <xs:simpleType name="protectionType">
        <xs:restriction base="xs:string">
            <xs:enumeration value="Normal"/>
            <xs:enumeration value="Encrypted"/>
```

```
</xs:restriction>
    </xs:simpleType>
    <xs:complexType name="tLocationType">
        <xs:choice minOccurs="1" maxOccurs="1">
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            <xs:element name="SaId" type="mcvideoloc:tMbmsSaIdentity" minOccurs="0"/>
            <xs:element name="MbsfnAreaId" type="mcvideoloc:tMbsfnAreaIdentity" minOccurs="0"/>
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            <xs:element name="anyExt" type="mcvideoinfo:anyExtType" minOccurs="0"/>
        </xs:choice>
        <xs:attribute name="type" type="protectionType"/>
        <xs:anyAttribute namespace="##any" processContents="lax"/>
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        <xs:sequence>
            <xs:element name="AnyAreaChange" type="mcvideoloc:tEmptyTypeAttribute" minOccurs="0"/>
            <xs:element name="EnterSpecificAreaType" type="mcvideoloc:tSpecificAreaType"</pre>
minOccurs="0"/>
            <xs:element name="ExitSpecificAreaType" type="mcvideoloc:tSpecificAreaType"</pre>
minOccurs="0"/>
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            <xs:element name="anyExt" type="mcvideoloc:anyExtType" minOccurs="0"/>
        </xs:sequence>
        <xs:anyAttribute namespace="##any" processContents="lax"/>
    </xs:complexType>
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        <xs:sequence>
            <xs:element name="GeographicalArea" type="mcvideoloc:tGeographicalAreaDef"/>
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<xs:element name="anyExt" type="mcvideoloc:anyExtType" minOccurs="0"/>
        </xs:sequence>
        <xs:attribute name="TriggerId" type="xs:string" use="required"/>
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    </xs:complexType>
    <xs:complexType name="tPointCoordinate">
        <xs:sequence>
            <xs:element name="longitude" type="mcvideoloc:tCoordinate"/>
            <xs:element name="latitude" type="mcvideoloc:tCoordinate"/>
            <xs:any namespace="##other" processContents="lax" minOccurs="0" maxOccurs="unbounded"/>
            <xs:element name="anyExt" type="mcvideoloc:anyExtType" minOccurs="0"/>
        </xs:sequence>
        <xs:anyAttribute namespace="##any" processContents="lax"/>
    </xs:complexType>
    <xs:complexType name="tCoordinateType">
        <xs:choice minOccurs="1" maxOccurs="1">
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        </xs:choice>
        <xs:attribute name="type" type="protectionType"/>
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    </xs:complexType>
    <xs:simpleType name="tThreeByteType">
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            <xs:minInclusive value="0"/>
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        </xs:restriction>
    </xs:simpleType>
    <xs:complexType name="tGeographicalAreaDef">
        <xs:sequence>
            <xs:element name="PolygonArea" type="mcvideoloc:tPolygonAreaType" minOccurs="0"/>
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            <xs:any namespace="##other" processContents="lax" minOccurs="0" maxOccurs="unbounded"/>
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    </xs:complexType>
    <xs:complexType name="tPolygonAreaType">
        <xs:sequence>
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maxOccurs="15"/>
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```

```
</xs:sequence>
        <xs:anyAttribute namespace="##any" processContents="lax"/>
    </xs:complexType>
    <xs:complexType name="tEllipsoidArcType">
        <xs:sequence>
            <xs:element name="Center" type="mcvideoloc:tPointCoordinate"/>
             <xs:element name="Radius" type="xs:nonNegativeInteger"/>
            <xs:element name="OffsetAngle" type="xs:unsignedByte"/>
             <xs:element name="IncludedAngle" type="xs:unsignedByte"/>
            <xs:any namespace="##other" processContents="lax" minOccurs="0" maxOccurs="unbounded"/>
<xs:element name="anyExt" type="mcvideoloc:anyExtType" minOccurs="0"/>
        </xs:sequence>
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    </xs:complexType>
    <xs:complexType name="anyExtType">
        <xs:sequence>
             <xs:any namespace="##any" processContents="lax" minOccurs="0" maxOccurs="unbounded"/>
        </xs:sequence>
    </xs:complexType>
</xs:schema>
```

Annex A (informative): Change history

						Change history	
Date	Meeting	TDoc	CR	R ev	Cat	Subject/Comment	New version
2017-02	R5#74	R5-171298	-	-	-	Introduction of TS 36.579-1.	0.0.1
2017-05	R5#75	R5-172100	-	-	-	Introduction of default message content for some media control messages, some generic procedures from R5-172078 Default MCPTT media plane control messages R5-172079 Generic MCPTT procedures	0.0.2
2017-06	RAN5#75	-	-	† <u>-</u>	-	lifted to v0.1.0 because of technical contents	0.1.0
2017-08	RAN5#76	R5-173766	-	-	-	Implemented approved: R5-173702 'Various updates of MCPTT TS 36579-1' R5-173703 'Update of MCPTT generic procedures' R5-173704 'New Generic procedures ProSe and MCPTT' R5-173705 'Update default media plane control messages' R5-173706 'Update of MCPTT Default MCPTT call control Offnetwork messages' R5-173707 'Update of MCPTT MIKEY-SAKKE I.MESSAGE' R5-173766 'Update of TS 36.579-1 to version 0.2.0' R5-174599 'SIP message defaults for 36.579-1' R5-174600 'MCPTT Off-Network Group Call Signaling Message	0.1.0
2017-12	RAN5#77	R5-176835	-	-	-	Defaults' Implemented approved: R5-177000 "Update of SIP Message Defaults for MCPTT" R5-176345 "Update of Specific SIP messages in Generic procedures" R5-177001 "Update of Generic procedures for SIP registration" R5-176347 "New Generic Procedure for ProSe group calls Announcing-Discoveree procedure for group member discovery" R5-176348 "New Generic Procedure for ProSe group calls Monitoring/Discoverer procedure for group member discovery" R5-177002 "Update with UE Configuration Defaults" - References updates	0.3.0
2017-12	RAN#78	RP-172182	-	-	-	Draft version for information purposes to the RAN Plneary	1.0.0
2018-03	RAN5#78	R5-180684			-	Implemented approved: R5-180534 "Update of Section 5.5.2 and 5.5.3 for TS 36.579-1" R5-180535 "Update of Section 5.5.5 for TS 36.579-1" R5-180536 "Update of Section 5.5.6 for TS 36.579-1" R5-181241 "Update of Section 5.5.9 TS 36.579-1" R5-180633 "Update of Default HTTP message and other information elements" R5-180634 "Update of Default MCPTT configuration management messages" R5-180635 "New Generic procedures for MCPTT Authorization/Configuration and Key Generation" R5-18063 "New Generic procedures for MCPTT communication in E-UTRA / Change of cells" R5-180637 "Generic Test Procedure for MCPTT communication over MBMS" R5-180638 "Various updates to 36579-1"	1.1.0
2018-03	RAN#79	RP-180126	-	-	-	Draft version for approval to move the spec under revision control to	2.0.0
2018-03	RAN#79	_	1_	+-	_	the RAN Plenary Editorial changes and promoted to v13.0.0	13.0.0
2018-06	RAN#79	R5-182418	0001	 -	F	Addition and correction of GNSS information	13.1.0
2018-06	RAN#80	R5-182419	0001	 	F	Editorial correction of typos and incorrect references	13.1.0
2018-06	RAN#80	R5-182430	0003	<u> I-</u>	F	Editorial Update of 36.579-2 for style H6	13.1.0
2018-06	RAN#80	R5-182431	0004	-	F	Update of TC 5.1 for MCPTT APN	13.1.0
2018-06	RAN#80	R5-182432	0005	-	F	Updates of Location information messages in 36.579-2	13.1.0
2018-06	RAN#80	R5-182489	8000	-	F	Update of MCPTT TC 6.1.1.1	13.1.0
2018-06	RAN#80	R5-182510	0009	1	F F	Correction to MCPTT TC of 6.1.1.8, 6.1.1.11, 6.1.2.5 and 6.1.2.7	13.1.0
2018-06 2018-06	RAN#80 RAN#80	R5-183167 R5-183168	0006 0007	1	F	Updates of TC 6.3.1 Updates of TC 6.3.2	13.1.0 13.1.0
2018-06	RAN#80	R5-185084	0007	 	F	Update to TLS setup	13.1.0
2018-09	RAN#81	R5-185122	0003	1	F	Corrections to MCPTT Authorization	13.2.0
2018-09	RAN#81	R5-184685	8000	-	F	Update of default message contents for new Rel-14 TCs for Private Call Call-Back and Ambient listening call	14.0.0
2018-12	RAN#82	R5-186878	0010	-	F	Correction to Generic Test Procedure for MCPTT pre-established	14.1.0
	RAN#82	R5-186879	0011	 	F	session establishment CO Editorial update of the default SDP and Resource-list Messages	14.1.0
2018-12	IIVAIN#OZ		0011	 -	F	Update of default MCPTT media plane control messages and other	14.1.0
2018-12	RAN#82	R5-186880				Topadio di doladit mor i i illodia piano contito illossagos and Utilei	17.1.0
2018-12 2018-12 2018-12	RAN#82 RAN#82	R5-186880 R5-186881	0012	-	F	information elements to reflect latest Rel-13 core specs Update of XML schema for MCPTT location information to reflect	14.1.0
2018-12				-	F	information elements to reflect latest Rel-13 core specs	14.1.0

2018-12 RANM82 R-51-67714 0019 1 F								
2018-12 RANNEZ R6-187713 0016 F Correction to Table 5.5.4.1 no. 11 96.579-1 14.1.0 2018-12 RANNEZ R6-187715 0020 1 F Correction to Table 5.5.4.2 no. 18.679-1 14.1.0 2018-12 RANNEZ R6-187715 0020 1 F Correction to SIP MOTIFY message in 9.6.79-1 14.1.0 2018-12 RANNEZ R5-187717 0022 1 F Correction to SIP MOTIFY message in 9.6.79-1 14.1.0 2018-03 RANNEZ R5-187717 0022 1 F Update of Generic Test 5.3.2 in 36.579-1 14.1.0 2018-03 RANNEZ R5-187717 0022 1 F Update of Generic Test 5.3.2 in 36.579-1 14.1.0 2018-03 RANNEZ R5-18716 0025 - F Update of Generic Test 5.3.2 in 36.579-1 14.1.0 2018-03 RANNEZ R5-18216 0025 - F Update to MCPTT floor control default message in 14.2.0 2018-03 RANNEZ R5-18216 0025 - F Update to MCPTT floor control default message 14.2.0 2018-03 RANNEZ R5-18216 0025 - F Update to MCPTT floor control default message 14.2.0 2018-03 RANNEZ R5-18216 0025 - F Update to MCPTT floor control default message 14.2.0 2018-06 RANNEZ R5-18216 0025 - F Update to MCPTT floor control default message 14.2.0 2018-06 RANNEZ R5-18216 0025 - F Update to MCPTT floor control default message 14.2.0 2018-06 RANNEZ R5-18216 0026 - F Update to MCPTT message 14.2.0 2018-06 RANNEZ R5-18216 0028 - F Update to MCPTT in 36.579-1 2018-06 RANNEZ R5-18216 0029 - F Update to MCPTT in 36.579-1 2018-09 RANNEZ R5-18217 0031 - F Update to MCPTT in 36.579-1 2018-09 RANNEZ R5-18217 0031 - F Update to MCPTT in 36.579-1 2018-09 RANNEZ R5-18217 0041 - F Update to MCPTT in 36.579-1 2018-09 RANNEZ R5-19229 0046 - F Update to MCPTT in 36.579-1 2018-09 RANNEZ R5-19229 0046 - F Update to MCPTT in 36.579-1 2018-09 RANNEZ R5-19229 0038 - F Update to MCPTT in 36.579-1 2018-09 RANNEZ R5-19229 0038 - F Update to MCPTT in 36.579-1 2018-09 RANNEZ R5-19229 0038 - F Update to MCPTT in 36.579-1 2								
2018-12 RANNE2 R5-187714 0019 F Correction to Table 5.5.4.2-1 in 36.579-1 14.1.0 2018-12 RANNE2 R5-187716 0021 F Correction to Table 5.5.4.2-1 in 36.579-1 14.1.0 2018-12 RANNE2 R5-187716 0021 F Correction to SIP SUBSCRIBE message in 36.579-1 14.1.0 2018-12 RANNE2 R5-187176 0021 F Correction to SIP SUBSCRIBE message in 36.579-1 14.1.0 2018-03 RANNES R5-19120 0022 F Update of Generic Test 5.3.2 in 36.579-1 14.1.0 2018-03 RANNES R5-19120 0024 F Update to MCPTT floor control default messages 14.2.0 2018-03 RANNES R5-191205 0025 F Update to MCPTT floor control default messages 14.2.0 2018-03 RANNES R5-191205 0026 F Update to MCPTT floor control default messages 14.2.0 2018-03 RANNES R5-191205 0026 F Update 36.579-1 Blue total removal 14.2.0 2018-03 RANNES R5-191205 0026 F Update 36.579-1 Blue total removal 14.2.0 2018-03 RANNES R5-191205 0026 F Update 36.579-1 Blue total removal 14.2.0 2018-03 RANNES R5-191205 0026 F Update 36.579-1 Blue total removal 14.2.0 2018-03 RANNES R5-191205 0026 F Update 36.579-1 Blue total removal 14.2.0 2018-03 RANNES R5-191205 0026 F Update 36.579-1 Blue total removal 14.2.0 2018-09 RANNES R5-191205 0026 F Update 36.579-1 Blue total removal 14.2.0 2018-09 RANNES R5-191205 0045 F Update 36.579-1 Blue total removal 14.2.0 2018-09 RANNES R5-191205 0046 F Update 36.579-1 Blue total removal 14.2.0 2018-09 RANNES R5-191205 0046 F Update 36.579-1 Blue total removal 14.2.0 2018-09 RANNES R5-191205 0046 F Update 36.579-1 Blue total removal 14.2.0 2018-09 RANNES R5-191205 0046 F Update 36.579-1 Blue total removal 14.2.0 2018-09 RANNES R5-191205 0046 F Update 36.579-1 Blue total removal 14.2.0 2018-09 RANNES R5-191205 0046 F Update 36.579-1 Blue total removal 14.2.0 2018-09 RANNES R5-191205 0046 F Upda								
2018-12 RANNE2 R5-187715 0020								14.1.0
2018-12 RANNEQ R-5187/15 0021 1 F								_
2019-12 RANNES R5-19717 0022 1 F Update of Generic Tast 5.3.2 in 36.876-1 14.1.0 14.2.0 2019-03 RANNES R5-191051 0025 - F Update 16.757-15 2019-03 RANNES R5-191052 0025 - F Update 36.757-15 2019-04 2019-03 RANNES R5-191055 0025 - F Update 36.757-16 2019-04 2019-04 2019-05 RANNES R5-192155 0027 - F Update 36.757-16 2019-05 2019-05 RANNES R5-192157 0027 - F Update 36.757-10 2019-06 RANNES R5-194001 0028 - F Update 36.757-10 2019-06 RANNES R5-194001 0028 - F Update 36.757-10 2019-06 RANNES R5-19506 0030 - F Update 36.757-10 2019-06 RANNES R5-19507-10 0031 1 F Update 36.757-10 2019-06 RANNES R5-19507-10 0031 1 F Update 36.757-10 2019-06 RANNES R5-19507-10 0031 1 F Update of UE registration procedure for location indo configuration 14.3.0 2019-09 RANNES R5-19507-10 0031 1 F Update of UE registration procedure for location indo configuration 14.3.0 2019-09 RANNES R5-19508 0046 - F Update of UE registration procedure for location indo configuration 14.3.0 2019-09 RANNES R5-19508 0046 - F Update for UKCVideo and McData services 14.4.0 2019-09 RANNES R5-197239 0043 - F Update for UKCVideo and McData services 14.4.0 2019-09 RANNES R5-19728 0047 - F Update for UKCVideo and McData services 14.4.0 2019-09 RANNES R5-19728 0047 - F Update for UKCVideo and McData services 14.4.0 2019-12 RANNES R5-19728 0047 - F Update for UKCVideo and McData services 14.4.0 2019-12 RANNES R5-190045 0050 F Corrections to SIP signalling for MCPTT OO and CT communication 14.5.0 2019-12 RANNES R5-190045 0050 F Corrections to SIP signalling for MCPTT OO and CT communication 14.5.0 2019-12 RANNES R5-190045 0055 F Corrections to SIP signalling for MCPTT OO and CT communication 14.5.0 2019-12 RANNES R5-190045 0055 F Corrections to ISP signalling f								
2019-03 RANMR3 R-5-191210 0023 F Correction of default contents in SIP INVITE from the UE 14,20 2019-03 RANMR3 R-5-192156 0026 F Update to MCPTT floor control default messages 14,20 2019-03 RANMR3 R-5-192156 0026 F Update 36,579+1 Section 4.2 and 4.3 2019-03 RANMR3 R-5-192156 0026 F Update 36,579+1 Deletic ausses inside the present spec 14,20 2019-06 RANMR4 R-5-194001 0028 F Update 36,579+1 Deletic ausses inside the present spec 14,20 2019-06 RANMR4 R-5-194001 0028 F Update 36,579+1 Deletic ausses inside the present spec 14,20 2019-06 RANMR4 R-5-194001 0028 F Typo for MCPTT in 36,579+1 14,30 2019-06 RANMR4 R-5-195216 0029 T F Update 20 General procedure for location info configuration 14,30 2019-09 RANMR5 R-5-196727 0045 F Update 20 Correction of default contents in the SIP INVITE from the UE 14,30 2019-09 RANMR5 R-5-19673 0045 F Update 20 Conditions Table 5.1-1 14,40 2019-09 RANMR5 R-5-19673 0045 F Update 20 Conditions Table 5.1-1 14,40 2019-09 RANMR5 R-5-19673 0044 F Correction of SIP messages 14,40 2019-09 RANMR5 R-5-19723 0043 F Correction of default contents in the SIP REDISTER 14,40 2019-09 RANMR5 R-5-19723 0043 F Corrections of MCPTT UE registration procedures 14,40 2019-09 RANMR5 R-5-19723 0043 F Corrections to MCPTT UE registration procedures 14,40 2019-09 RANMR5 R-5-19728 0047 F Corrections to MCPTT UE registration procedures 14,40 2019-19 RANMR6 R-5-19904 0051 F Corrections to MCPTT UE registration procedures 14,50 2019-12 RANMR6 R-5-19904 0051 F Corrections to MCPTT UE registration procedures 14,50 2019-12 RANMR6 R-5-19904 0051 F Corrections to MCPTT UE registration procedures 14,50 2019-12 RANMR6 R-5-19904 0051 F Corrections to MCPTT UE registration procedures 14,50 2019-12 RANMR6 R-5-19904 0051 F Corrections to MCPTT UE registration procedures					-			
2019-03 RANNES R5-191022 0024 F Update to MCPTT floor control default messages 14.2.0					1		'	
2019-03 RANNES R5-192155 0025 F Update 36.579-1 Delete clauses inside the present spec 14.2.0					Ē			
2019-03 RANNES R5-192156 0026 F					Ε			
2019-06 RANNER R5-19010 0028 F Correction of default contents in the SIP INVITE from the UE 14.3.0					-			
2019-06 RANNB4 R5-194001 0028 F Correction of default contents in the SIP INVITE from the UE 14,30 2019-06 RANNB4 R5-195216 0029 T F Update of UE registration procedure for location info configuration 14,30 2019-06 RANNB4 R5-195217 0031 T F References and derivation path updates for SIP messages 14,30 2019-09 RANNB5 R5-196803 0046 F Updates to conditions Table 5,5.1-1 14,40 2019-09 RANNB5 R5-196903 0046 F Updates to conditions Table 5,5.1-1 14,40 2019-09 RANNB5 R5-196903 0044 T Updates to conditions Table 5,5.1-1 14,40 2019-09 RANNB5 R5-197295 0038 T Correction of SIP messages 14,40 2019-09 RANNB5 R5-197295 0038 T Correction of default contents in the SIP REGISTER 14,40 2019-09 RANNB5 R5-197295 0041 F Update for MCV/dec and MCData services 14,40 2019-09 RANNB5 R5-197295 0041 F Update for Genetic Procedure 5,3.3 14,40 2019-09 RANNB5 R5-197295 0041 F Update for Genetic Procedure 5,3.3 14,40 2019-09 RANNB5 R5-197295 0041 F Update for Genetic Procedure 5,3.3 14,40 2019-09 RANNB6 R5-198043 0049 F Correction and addition of references or values and editorial 14,40 2019-12 RANNB6 R5-198043 0049 F Corrections to MCPTT UE registration procedures 14,5.0 2019-12 RANNB6 R5-198043 0050 F Corrections to MCPTT UE registration procedures 14,5.0 2019-12 RANNB6 R5-198045 0052 F Corrections to MCPTT UE registration procedures 14,5.0 2019-12 RANNB6 R5-198045 0052 F Corrections to MCPTT UE registration procedures 14,5.0 2019-12 RANNB6 R5-198045 0052 F Corrections to MCPTT UE registration procedures 14,5.0 2019-12 RANNB6 R5-198045 0052 F Corrections to MCPTT UE registration procedures 14,5.0 2019-12 RANNB6 R5-198045 0055 F Corrections to MCPTT UE registration procedures 14,5.0 2019-12 RANNB6 R5-198045 0056 F Corrections to default MCPT configuration management 14,5.0 2019-12 RA					-			
2019-06 RANNER R5-194665 0030 - F. Typo for MCPTT in 36.579-1 14.30 2019-06 RANNER R5-195217 0031 1 F. Lydate of UE registration procedure for location info configuration [14.30] 2019-08 RANNER R5-195773 0045 - F. Updates to conditions Table 5.1-1 14.40 2019-09 RANNES R5-195983 0046 - F. Correction of SIP messages 14.40 2019-09 RANNES R5-197239 0043 1 F. Update for MCVideo and MCData services 14.40 2019-09 RANNES R5-197239 0033 1 F. Orrection of SIP messages 14.40 2019-09 RANNES R5-197239 0034 1 F. Corrections to MCDate for MCVideo and MCData services 14.40 2019-09 RANNES R5-197239 0047 - F. Corrections to MCDate for SIP services 14.50 2019-12 RANNES R5-197939 0041 2 F. Corrections to MCDATE for SIP services 14.50 2019-12 RANNES R5-199043 <t< td=""><td></td><td></td><td></td><td></td><td>-</td><td></td><td></td><td></td></t<>					-			
2019-06 RANN86 RS-195217 0031 F References and derivation path updates for SIP messages 14.3.0 2019-09 RANN86 RS-196883 0046 F Correction of SIP messages 14.4.0 2019-09 RANN86 RS-197239 0043 F Correction of Geral to PMCVideo and MCData services 14.4.0 2019-09 RANN86 RS-19729 0038 1 F Correction of default contents in the SIP REGISTER 14.4.0 2019-09 RANN86 RS-19729 0047 F Correction of default contents in the SIP REGISTER 14.4.0 2019-09 RANN86 RS-19729 0047 F Correction and addition of references or values and editorial 14.4.0 2019-09 RANN86 RS-197295 0041 2 F Correction and addition of references or values and editorial 14.4.0 2019-12 RANN86 RS-198159 0050 F Corrections to SIP signalling for MCPTT CO and CT communication 14.5.0 2019-12 RANN86 RS-199043 0049 1 F Corrections to SIP signalling for MCPTT CO and CT communication 14.5.0 2019-12 RANN86 RS-199044 0061 1 F Corrections to MCPTT UE registration procedures 14.5.0 2019-12 RANN86 RS-199045 0063 1 F Corrections to MCPTT UE registration procedures 14.5.0 2019-12 RANN86 RS-199047 0064 1 F Corrections to MCPTT UE registration procedures 14.5.0 2019-12 RANN86 RS-199047 0065 1 F Corrections to Interest of the SiP SiP SiP SiP SiP SiP SiP SiP SiP SiP	2019-06	RAN#84	R5-194665	0030	-	F		14.3.0
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2019-09 RANN85 R5-199893 0046 . F Correction of SIP messages 14.4.0 2019-09 RANN85 R5-19729 0038 1 F Correction of default contents in the SIP REGISTER 14.4.0 2019-09 RANN85 R5-19729 0038 1 F Correction of default contents in the SIP REGISTER 14.4.0 2019-09 RANN85 R5-19729 0047 . F Correction and addition of references or values and editorial 14.4.0 2019-09 RANN85 R5-19729 0047 . F Correction and addition of references or values and editorial 14.4.0 2019-09 RANN86 R5-19729 0041 2 F Corrections to MCPTT UE registration procedures 14.4.0 2019-12 RANN86 R5-19910 0041 . F Corrections to MCPTT UE registration procedures 14.5.0 2019-12 RANN86 R5-199043 0049 1 F Corrections to MCPTT UE registration procedures 14.5.0 2019-12 RANN86 R5-199044 0061 1 F Corrections to MCPTT UE registration procedures 14.5.0 2019-12 RANN86 R5-199046 0063 1 F Corrections to MCPTT UE registration procedures 14.5.0 2019-12 RANN86 R5-199046 0063 1 F Corrections to MCPTT UE registration procedures 14.5.0 2019-12 RANN86 R5-199047 0065 1 F Corrections to MCPTT UE registration procedures 14.5.0 2019-12 RANN86 R5-199047 0065 1 F Corrections to MCPTT UE registration procedures 14.5.0 2019-12 RANN86 R5-199047 0065 1 F Corrections to default messages for MCPTT group management and 14.5.0 2019-12 RANN86 R5-199051 0086 1 F Corrections to default messages for MCPTT group management and 14.5.0 2019-12 RANN86 R5-199051 0086 1 F SPP Default for MCVideo and MCData 14.5.0 2019-12 RANN86 R5-199051 0086 1 F SPP Default for MCVideo and MCData 14.5.0 2019-12 RANN86 R5-199052 0086 1 F SPP Default for MCVideo and MCData 14.5.0 2019-12 RANN86 R5-199053 0066 1 F Default MCVideo Transmission Centrol Messages 14.5.0 2019-12 RANN86 R5-199057 0048 2 F Corrections to default MCPT configuration management message 14.5.0 2019-12 RANN8					1			
2019-09 RAN#85 R6-197133 0044 1 F Update for MCVideo and MCData services 14.4.0					-			
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2019-12 RAN#86 R5-199047 0054 1 F Correction to default messages for MCPTT group management and 14.5.0 2019-12 RAN#86 R5-199048 0055 1 F Correction of default SDP message and other information elements 14.5.0 2019-12 RAN#86 R5-199052 0056 1 F SDP Default for MCVideo and MCData 14.5.0 2019-12 RAN#86 R5-199053 0060 1 F Jupdates TS 33.179 references to TS 33.180 14.5.0 2019-12 RAN#86 R5-199053 0060 1 F Updates TS 33.179 references to TS 33.180 14.5.0 2020-03 RAN#87 R5-200264 0063 F Corrections to default SIP message and other information elements 14.5.0 2020-03 RAN#87 R5-200264 0064 F Addition of further references 14.6.0 2020-03 RAN#87 R5-200365 0066 F Corrections to default SIP message and other information 14.6.0 2020-03 RAN#87 R5-200385 0066 F Corrections to default HTTP message and other information 14.6.0 2020-03 RAN#87 R5-200385 0066 F Corrections to default HTTP message and other information 14.6.0 2020-06 RAN#88 R5-20385 0066 F Corrections to default SIP message and other information 14.6.0 2020-06 RAN#88 R5-202552 0069 F Corrections to default SIP message and other information 14.6.0 2020-06 RAN#88 R5-202552 0069 F Corrections to default SIP message and other information 14.6.0 2020-06 RAN#88 R5-203001 0077 F SDP updates for MCVideo and MCData 14.7.0 2020-06 RAN#88 R5-203001 0077 F SDP updates for MCVideo and MCData 14.7.0 2020-06 RAN#88 R5-203001 0077 F SDP updates for MCVideo and MCData 14.7.0 2020-06 RAN#88 R5-203073 0067 F Updates to MCX generic test procedures and default message 14.7.0 2020-09 RAN#89 R5-20426 0082 F Addition of XML schema for MCVideo location information 14.8.0 2020-09 RAN#89 R5-20429 0085 F Updates to UE configuration and Key Generation 14.8.0 2020-09 RAN#89 R5-20433 0078 F Updates to UE configurat								14.5.0
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and other information elements 2020-03 RAN#87 R5-201220 0.062 1 F Corrections to MCPTT UE registration procedures 14.6.0 2020-06 RAN#88 R5-202652 0.069 1 F Correcting core spec reference for APN requirements 14.7.0 2020-06 RAN#88 R5-202698 0.073 1 F SDP updates for MCVideo and MCData 14.7.0 2020-06 RAN#88 R5-202699 0.076 1 F Default MCVideo Transmission Control Messages 14.7.0 2020-06 RAN#88 R5-203001 0.077 1 F SIP 202 (Accepted) message default 14.7.0 2020-06 RAN#88 R5-203073 0.067 1 F Updates to MCX generic test procedures and default message 14.7.0 2020-06 RAN#88 R5-203074 0.068 1 F Updates to generic test procedure for MCPTT 2020-09 RAN#89 R5-204226 0.082 - F Addition of XML schema for MCVideo location information 14.8.0 2020-09 RAN#89 R5-204229 0.083 - F MCVideo and MCData in Clause 4 14.8.0 2020-09 RAN#89 R5-204490 0.084 1 F MCVideo and MCData in Clause 4 14.8.0 2020-09 RAN#89 R5-204491 0.085 1 F Updates to UE configuration document 14.8.0 2020-09 RAN#89 R5-204492 0.086 1 F Updates to UE configuration document 14.8.0 2020-09 RAN#89 R5-204533 0.078 1 F Updates to MCX generic test procedures and default message 14.8.0 2020-09 RAN#89 R5-204533 0.078 1 F Updates to MCX generic test procedures and default message 14.8.0 2020-09 RAN#89 R5-204535 0.081 1 F Description of the distribution of MSCCK and MuSiK 14.8.0 2020-12 RAN#90 R5-206084 0.096 F Condition updates for default MCS configuration management 14.9.0 2020-12 RAN#90 R5-206445 0.087 F PIDF body modifications 14.9.0 2020-12 RAN#90 R5-206445 0.087 F Update of MCPTT Floor Control Messages for Rel-14 14.9.0 2020-12 RAN#90 R5-206445 0.087 F Update of MCPTT Floor Control Messages for Rel-14 14.9.0 2020-12 RAN#90 R5-206445 0.087 F Update of MCPTT Floor Control MC							elements	
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Contents Contents Contents								
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2020-09 RAN#89 R5-204534 0079 1 F Updates to MCX generic test procedures and default message contents 14.8.0 2020-09 RAN#89 R5-204535 0081 1 F Description of the distribution of MSCCK and MuSiK 14.8.0 2020-12 RAN#90 R5-206053 0094 F PIDF body modifications 14.9.0 2020-12 RAN#90 R5-206084 0096 F Condition updates for default MCS configuration management messages 14.9.0 2020-12 RAN#90 R5-206108 0097 F Update of MCPTT Floor Control Messages for Rel-14 14.9.0 2020-12 RAN#90 R5-206445 0087 1 F Correction to Generic Test Procedure for MCPTT pre-established session establishment CO 14.9.0 2020-12 RAN#90 R5-206446 0088 1 F Correction to MCPTT Common Procedures for CT/CO session establishment 14.9.0					-	F	·	
Contents Contents Contents 2020-09 RAN#89 R5-204535 0081 1 F Description of the distribution of MSCCK and MuSiK 14.8.0								
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2020-12RAN#90R5-2060840096FCondition updates for default MCS configuration management messages14.9.02020-12RAN#90R5-2061080097FUpdate of MCPTT Floor Control Messages for Rel-1414.9.02020-12RAN#90R5-20644500871FCorrection to Generic Test Procedure for MCPTT pre-established session establishment CO14.9.02020-12RAN#90R5-20644600881FCorrection to MCPTT Common Procedures for CT/CO session establishment14.9.0						F		14.9.0
messages 2020-12 RAN#90 R5-206108 0097 F Update of MCPTT Floor Control Messages for Rel-14 14.9.0 2020-12 RAN#90 R5-206445 0087 1 F Correction to Generic Test Procedure for MCPTT pre-established session establishment CO 2020-12 RAN#90 R5-206446 0088 1 F Correction to MCPTT Common Procedures for CT/CO session establishment								14.9.0
2020-12RAN#90R5-20644500871FCorrection to Generic Test Procedure for MCPTT pre-established session establishment CO14.9.02020-12RAN#90R5-20644600881FCorrection to MCPTT Common Procedures for CT/CO session establishment14.9.0							messages	
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2020-12 RAN#90 R5-206446 0088 1 F Correction to MCPTT Common Procedures for CT/CO session establishment 14.9.0	2020-12	RAN#90	R5-206445	0087	1	F		14.9.0
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	2020-12	KAN#90	K5-∠Ub446	0088	1	r		14.9.0
14.9.0	2020-12	RAN#00	R5-206447	UUSU	1	F		14 0 0
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2020-12	RAN#90	R5-206449	0091	1	F F	Updates for Group Communications Key retrieval	14.9.0
2020-12	RAN#90	R5-206450	0093	1	F	Second group configuration retrieval process modification	14.9.0
2020-12	RAN#90	R5-206451	0095	1	F	Existing Generic Test Procedures Updates	
2020-12	RAN#90 RAN#90	R5-206422 R5-206423	0098	1	F	Update of MCPTT Floor Control Messages for Rel-15 MCPTT Configuration Doc Update for Rel-15 Location	15.0.0 15.0.0
2020-12	RAN#90	R5-200423	0101	<u> </u>	F	Correction to Generic Test Procedure for MCPTT CT group call	15.0.0
2021-03	IXAIN#91	K3-2 10203	0101	-		establishment, manual commencement	13.1.0
2021-03	RAN#91	R5-210207	0103	-	F	New MCPTT generic test procedures	15.1.0
2021-03	RAN#91	R5-210208	0104	-	F	Update to Default HTTP message - POST	15.1.0
2021-03	RAN#91	R5-210210	0106	-	F	Update to Default Message Content - INVITE	15.1.0
2021-03	RAN#91	R5-210211	0107	-	F	Update to Default Message Content - Pidf	15.1.0
2021-03	RAN#91	R5-210213	0109	-	F	Update to Default Message Content - SDP	15.1.0
2021-03	RAN#91	R5-210214	0110	-	F	Update to Default Message Content - SIP 200 (OK)	15.1.0
2021-03	RAN#91	R5-210215	0111	-	F	Update to Default Message Content - UPDATE	15.1.0
2021-03	RAN#91	R5-210216	0112	-	F	Update to Default Message Content AFFILIATION-COMMAND	15.1.0
2021-03	RAN#91	R5-210217	0113	-	F	Update to Default Message Content MIKEY-SAKKE I_MESSAGE	15.1.0
2021-03	RAN#91	R5-210218	0114	-	F	Update to Default Message Content SIP 180 (Ringing) and SIP 183	15.1.0
						(Session progress)	
2021-03	RAN#91	R5-210219	0115	-	F	Update to Default Message Content SIP MESSAGE	15.1.0
2021-03	RAN#91	R5-210220	0116	-	F	Update to Default Message Content SUBSCRIBE	15.1.0
2021-03	RAN#91	R5-210221	0117	-	F	Update to the MCS GKTP document	15.1.0
2021-03	RAN#91	R5-210319	0118	-	F	Update to references clause	15.1.0
2021-03	RAN#91	R5-210994	0120	-	F	Update to default MCPTT media plane control messages	15.1.0
2021-03	RAN#91	R5-211354	0121	1	F	Update of References in 36.579-1	15.1.0
2021-03	RAN#91	R5-211517	0100	1	F	Addition of a generic procedure for MCPTT radio bearer	15.1.0
2021-03	D 4 N H 0 4	DE 044540	0400	1	F	establishment for use of pre-established session Correction to generic test procedure for MCPTT pre-established	15 1 0
2021-03	RAN#91	R5-211518	0102	ļ '	Г	session establishment	15.1.0
2021-03	RAN#91	R5-211519	0108	1	F	Update to Default Message Content - REFER and Resource-List	15.1.0
2021-03	RAN#91	R5-211520	0119	1	F	MCPTT Info Corrections	15.1.0
2021-06	RAN#92	R5-212145	0123	-	F	Removal of redundant references to TS 36.579-1	15.2.0
2021-06	RAN#92	R5-212146	0124	-	F	Addition of SIP 487 default message and update of User Profile for	15.2.0
			0.2.		ľ	first-to-call and request remotely initiated call	.0.2.0
2021-06	RAN#92	R5-212288	0128	-	F	Correction to generic test procedure 5.3.13	15.2.0
2021-06	RAN#92	R5-212289	0129	-	F	Correction to generic test procedure 5.3.16	15.2.0
2021-06	RAN#92	R5-212290	0130	-	F	Correction to generic test procedure 5.3.19	15.2.0
2021-06	RAN#92	R5-212291	0131	-	F	Correction to generic test procedure 5.3.22	15.2.0
2021-06	RAN#92	R5-212293	0133	-	F	Correction to generic test procedure 5.3.5	15.2.0
2021-06	RAN#92	R5-212294	0134	-	F	Correction to Resource List message content	15.2.0
2021-06	RAN#92	R5-212295	0135	-	F	Correction to SDP message content	15.2.0
2021-06	RAN#92	R5-212298	0138	-	F	Update to Default Message Content - Connect	15.2.0
2021-06	RAN#92	R5-212299	0139	-	F	Update to Default Message Content - INVITE	15.2.0
2021-06	RAN#92	R5-212301	0141	-	F	Update to Default Message Content - SIP MESSAGE	15.2.0
2021-06	RAN#92	R5-212302	0142	-	F	Update to Default Message Content - SIP PUBLISH	15.2.0
2021-06	RAN#92	R5-212303	0143	-	F	Update to Default Message Content SIP 4xx	15.2.0
2021-06	RAN#92	R5-212304	0144	-	F	Update to general conditions	15.2.0
2021-06	RAN#92	R5-212305	0145	-	F	Update to references clause	15.2.0
2021-06	RAN#92	R5-212354	0146	-	F	Correction to default message content Location-Info	15.2.0
2021-06	RAN#92	R5-212665	0148	-	F	Additions to MCPTT Group Configuration	15.2.0
2021-06 2021-06	RAN#92 RAN#92	R5-213265 R5-213266	0151 0152	E	F	Additions to MCPTT Floor Control Defaults 5.5.6 Additions to MCPTT Group Configuration Defaults 5.5.7	15.2.0 15.2.0
2021-06	RAN#92 RAN#92	R5-213266	0152	E	F	Update of MCVideo Transmission Control Default Messages 5.5.11	15.2.0
2021-06	RAN#92	R5-213588	0149	1	F	Addition of Functional Alias Generic Procedures	15.2.0
2021-06	RAN#92	R5-213589	0150	1	F	Addition of Functional Alias Generic Flocedures Addition of Functional Alias to MCPTT Config Documents 5.5.8	15.2.0
2021-06	RAN#92	R5-213653	0126	1	F	Correction to Default Message content HTTP POST, PUT and	15.2.0
202100			15120	Ι΄.		DELETE	10.2.0
2021-06	RAN#92	R5-213654	0127	1	F	Correction to default message content MCPTT-Info	15.2.0
2021-06	RAN#92	R5-213655	0132	1	F	Correction to generic test procedure 5.3.3	15.2.0
2021-06	RAN#92	R5-213656	0137	1	F	New generic test procedure for group creation	15.2.0
2021-06	RAN#92	R5-213657	0140	1	F	Update to Default Message Content - REFER	15.2.0
2021-09	RAN#93	R5-214625	0154	-	F	Addition of clause 5.3.27 - Generic Test Procedure for MCPTT CO	15.3.0
						Temporary Group Creation	
2021-09	RAN#93	R5-214626	0155	-	F	Addition of clause 5.3.28 - Generic Test Procedure for MCPTT CO	15.3.0
						Temporary Group Tear Down	
2021-09	RAN#93	R5-214630	0159	-	F	Correction of clause 5.3.24 - Generic Test Procedure for UE intitated	15.3.0
0004.55	D 4 5 1 11 2 2	DE 044001	0400	<u> </u>	_	MCPTT functional alias status determination and subscription	45.0.0
2021-09	RAN#93	R5-214631	0160	-	F	Correction of clause 5.3.25 - Generic Test Procedure for UE	15.3.0
2024.00	D / N1#02	R5-214632	0161	 	F	inititated MCPTT functional alias status change	15.3.0
2021-09	RAN#93	R5-214632	0161	[Г	Correction of clause 5.3.26 - Generic Test Procedure for MCPTT CO Group Creation	15.3.0
2021-09	RAN#93	R5-214633	0162	 	F	Correction of clause 5.3.3 – Generic Test Procedure for MCPTT pre-	15.3.0
		1.0 21 1000	0.02		l'	established session establishment CO	70.0.0
	1	1	1	1	Ī		1

r			T			Ta	1
2021-09	RAN#93	R5-214635	0164	ļ	F	Correction of clause 5.5.2.11 – SIP PUBLISH	15.3.0
2021-09	RAN#93	R5-214646	0175	-	F	Correction of clause 5.5.4.3 - HTTP POST	15.3.0
2021-09	RAN#93	R5-214918	0182	-	F	MCX IUT	15.3.0
2021-09	RAN#93	R5-215370	0183	-	F	Correction of General extension payload in Mikey message	15.3.0
2021-09	RAN#93	R5-215383	0184	-	F	Correction of XCAP Root URI in HTTP GET Requests	15.3.0
2021-09	RAN#93	R5-215728	0156	1	F	Addition of clause 5.3.29 - Generic Test Procedure for MCPTT	15.3.0
						Subscription and Notification	
2021-09	RAN#93	R5-215729	0157	1	F	Correction of clause 5.3.15 – Generic Test Procedure for MCPTT	15.3.0
						CO session modification without implicit Floor Control	
2021-09	RAN#93	R5-215730	0158	1	F	Correction of clause 5.3.22 - Generic Test Procedure for NW	15.3.0
						initiated temporary group creation	
2021-09	RAN#93	R5-215731	0163	1	F	Correction of clause 5.5.1 – General	15.3.0
2021-09	RAN#93	R5-215732	0165	1	F	Correction of clause 5.5.2.14 – SIP SUBSCRIBE	15.3.0
2021-09	RAN#93	R5-215733	0166	1	F	Correction of clause 5.5.2.5 – SIP INVITE	15.3.0
2021-09	RAN#93	R5-215734	0167	1	F	Correction of clause 5.5.2.8 – SIP NOTIFY	15.3.0
2021-09	RAN#93	R5-215735	0168	1	F	Correction of clause 5.5.3.1 – SDP Message	15.3.0
2021-09	RAN#93	R5-215736	0169	1	F	Correction of clause 5.5.3.11 – PoC-Settings	15.3.0
2021-09	RAN#93	R5-215737	0170	1	F	Correction of clause 5.5.3.12 – XCAP-DIFF	15.3.0
2021-09	RAN#93	R5-215738	0171	1	F	Correction of clause 5.5.3.2 – MCS Info Lists	15.3.0
2021-09	RAN#93	R5-215739	0172	1	F	Correction of clause 5.5.3.3 – Resource Lists	15.3.0
2021-09	RAN#93	R5-215740	0173	1	F	Correction of clause 5.5.3.5 – PIDF	15.3.0
2021-09	RAN#93	R5-215741	0174	1	F	Correction of clause 5.5.4.1 – General conditions	15.3.0
2021-09	RAN#93	R5-215742	0176	1	F	Correction of clause 5.5.4.4 - HTTP PUT	15.3.0
2021-09	RAN#93	R5-215743	0177	1	F	Correction of clause 5.5.4.5 - HTTP DELETE	15.3.0
2021-09	RAN#93	R5-215745	0179	1	F	Correction of clause 5.5.4.7 - HTTP 201 (Created)	15.3.0
2021-09	RAN#93	R5-215746	0180	1	F	Correction of clause 5.5.6.7 - Floor Taken	15.3.0
2021-09	RAN#93	R5-215747	0181	1	F	Correction of clause 5.5.7.1 - MCPTT Group Configuration	15.3.0
2021-09	RAN#93	R5-216282	0185	1	F	Addition of MIKEY-SAKKE I MESSAGE Table 5.5.9.1-1A CSK	15.3.0
						download sent by the SS	
2021-09	RAN#93	-	-	-	-	Editorial fixes	15.3.1

History

	Document history								
V15.0.0	January 2021	Publication							
V15.1.0	May 2021	Publication							
V15.2.0	September 2021	Publication							
V15.3.1	October 2021	Publication							