Enabler Test Specification for RCS Conformance

Candidate Version 5.x – 22 Aug 2017

Open Mobile Alliance
OMA-ETS-RCS-CON-V5_x-20170822-C

Contents

Figures

No table of figures entries found.

Tables

1. Scope

This document describes in detail the conformance test cases for the deployment suite of RCS 5.1, RCS 5.2 and RCS 5.3 as described in references [RCS 5.1], [RCS 5.2] and [RCS 5.3] together with the RCS Implementation Guidelines [RIG 5.1], [RIG 5.2] and [RIG 5.3].

The test cases are split into two categories, conformance and interoperability test cases. The interoperability test cases are defined in a separate interoperability ETS.

The conformance test cases are aimed to verify the adherence to the requirements described in the technical specifications.

Some of the test cases are also applicable for previous versions of RCS. Appendix E specifies the applicability of each conformance test for previous RCS profiles.

2. References

2.1 Normative References

[OMA_IM_TS]	"Instant Messaging Requirements", Version 1.0, Open Mobile Alliance™, OMA-RD-IM-V1_0, URL:http://www.openmobilealliance.org/
[OMA_IM_XDM]	"IM XDM Specification", Version 1.0, Open Mobile Alliance™, OMA-TS-IM_XDM-V1_0, URL:http://www.openmobilealliance.org/
[RFC2119]	"Key words for use in RFCs to Indicate Requirement Levels", S. Bradner, March 1997, URL:http://www.ietf.org/rfc/rfc2119.txt

2.2 Informative References

[OMADICT]	"Dictionary for OMA Specifications", Version 2.9, Open Mobile Alliance™, OMA-ORG-Dictionary-V2_9, URL:http://www.openmobilealliance.org/
[RCS 1.2.2]	"RCS-e – Advanced Communications: Services and Client Specification", v1.2.2, July 2012, GSM Association, RCS_e_Specification_Document_1_2_2, URL:http://www.gsma.com/rcs/wp-content/uploads/2012/03/rcs-e_advanced_comms_specification_v1_2_2_approved.pdf
[RCS 5.1]	"Rich Communication Suite 5.1 Advanced Communications Services and Client Specification". Version 4.0, 28 November 2013. URL:http://www.gsma.com/network2020/rcs/specs-and-product-docs/
[RCS 5.2]	"Rich Communication Suite 5.2 Advanced Communications Services and Client Specification". Version 5.0, 07 May 2014. URL:http://www.gsma.com/network2020/rcs/specs-and-product-docs/
[RCS 5.3]	"Rich Communication Suite 5.3 Advanced Communications Services and Client Specification". Version 6.0, 28 February 2015. URL:http://www.gsma.com/network2020/rcs/specs-and-product-docs/
[RIG 1.2.2]	"GSMA RCS IOT RCS-e Implementation Guidelines", Version 3.2, 10 December 2012, URL:http://www.gsma.com/rcs/wp-content/uploads/2012/12/RCS-e_Implementation_guidelines_v3_2_clean.pdf
[RIG 5.1]	"GSMA RCS IOT joyn Blackbird Implementation Guidelines". Version 1.5. 18 February 2014, URL:http://www.gsma.com/network2020/rcs/specs-and-product-docs/
[RIG 5.2]	"GSMA RCS IOT joyn Blackbird Implementation Guidelines", Version 1.3, 15 May 2014, URL:http://www.gsma.com/network2020/rcs/specs-and-product-docs/
[RIG 5.3]	"GSMA RCS IOT joyn Crane Implementation Guidelines", Version 1.5, 18 February 2015, URL:http://www.gsma.com/network2020/rcs/specs-and-product-docs/
[VSI]	"GSMA Video Share Service Definition", Version 1.4, 20 December 2010, URL:http://www.gsma.com/newsroom/ir-74-1-4-video-share-interoperability-specification

3. Terminology and Conventions

3.1 Conventions

The key words "MUST", "MUST NOT", "REQUIRED", "SHALL", "SHALL NOT", "SHOULD", "SHOULD NOT", "RECOMMENDED", "MAY", and "OPTIONAL" in this document are to be interpreted as described in [RFC2119].

All sections and appendixes, except "Scope", are normative, unless they are explicitly indicated to be informative.

The following numbering scheme is used:

xxx-y.z-con-number where:

xxx	Name of enabler, e.g. MMS or Browsing
y.z	Version of enabler release, e.g. 1.2 or 1.2.1
'con'	Indicating this test is a conformance test case
number	Leap number for the test case

Or

xxx-y.z-int-number where:

xxx	Name of enabler, e.g. MMS or Browsing
y.z	Version of enabler release, e.g. 1.2 or 1.2.1
'int'	Indicating this test is a interoperability test case
number	Leap number for the test case

3.2 Definitions

Auto-Configuration Service	A component of RCS functionality that provides an interoperable way to provision RCS configuration information from a Service Provider to an RCS Client.
Client	Uses definition from [OMADICT].
Component	Uses definition from [OMADICT].
IMS Mode	A mode of SIP signalling used for SIP session setup, as described in [VSI], section 3.4
RCS Client	A Client which adheres and conforms to GSMA RCS specifications and is capable to receive RCS service.
RCS Group Chat ID (Group Chat ID)	A globally unique identifier that identifies a Group Chat and that is created when the group chat is first started and preserved over Group Chat restarts. The Group Chat ID is transported as the Contribution-ID header field in a SIMPLE-IM based communication and as the Conversation-ID header field when the communication is CPM based [RCS 5.1]
Service	Uses definition from [OMADICT].
Service Provider	Uses definition from [OMADICT].

3.3 Abbreviations

AMR	Adaptive Multi-Rate
BPEF	Blacklist Enforcement Function
CPIM	Common Profile for Instant Messaging
CPR	Crane Priority Release
CS	Circuit Switch
FTF	File Transfer Function
HTTP	Hyper-Text Transfer Protocol
IMDN	Instant Message Disposition Notification
IMS	IP Media Service
MSRP	Message Session Relay Protocol
RCS	Rich Communications Suite
SDP	Session Description Protocol
SIM	Subscriber Identity Module

SIP	Session Initiation Protocol
SPI	Social Presence Information
STUN	Simple Traversal of UDP through NATs
USIM	Universal Subscriber Identity Module
UX	User eXperience
XDMS	XML Document Management Server
XML	EXtensible Markup Languange

4. Introduction

The purpose of this document is to provide conformance test cases for RCS versions 5.1, 5.2 and 5.3.

Some of the test cases are also applicable for previous versions of RCS.

Where tests, test steps, procedures etc. are only applicable to a certain version of RCS they are marked accordingly, for example with [RCS 5.1] etc.

The implementation of some features is optional for the Clients and/or the Servers in the RCS Enabler. The tests associated with these optional features are marked as "(Includes Optional Features)" in the test specification.

5. RCS Client Conformance Test Cases

5.1 General

In this section, the following conventions apply:

- Client A is the client on the device-under-test and User A is the notional user of the device.

- All other Users and Clients are simulated in the Test Tool.

- When User A triggers an action or sends or receives a message, file, image, video etc. this shall be performed or verified either on the UI of the device-under-test or via some test-automation interface to the device.

The common procedures used by some test cases are defined in Appendix C.

The message content for most messages is defined in Appendix D.

For tests requiring "video share", video from any of the following, as defined in [RCS 1.2.2] section 3.3, may be used:

- The front camera ("me")

- The rear camera ("what I see")

- A file ("video streaming")

For tests requiring "image share", image from any of the following, as defined in [RCS 1.2.2] section 3.3, may be used:

- A picture taken using the front camera ("me")

- A picture taken using the rear camera ("what I see")

- A file ("send stored image")

5.2 Configuration

5.2.1 RCS-con-001 First-time unsuccessful configuration - Subscriber unauthorized (Auto-Configuration Server)

Test Case Id	RCS-con-001
Test Object	RCS Client
Test Case Description	First-time unsuccessful configuration: Subscriber unauthorized
Specification Reference	[RCS 1.2.2]: RCS 2.2.2.1.2
SCR Reference	
Test code	Verified TTCN-3 code
Preconditions	• User A NOT IMS registered for RCS
Test Procedure	1. Handset is powered on. 2. Execute "Successful autoconfiguration" (C.6.1.1). In step 4 set the version in the XML body to "0". 3. Reboot the handset. 4. Execute "Successful autoconfiguration" (C.6.1.1). 5. User A's RCS client executes the IMS registration successful.
Pass-Criteria	1. After step 2 service is not enabled on the handset. 2. At step 4 of the test procedure in step 3 of C.6.1.1 "vers" parameter SHALL be 0. 3. After step 4 service is enabled on the handset. 4. After step 5 User's RCS client is RCS registered.

5.2.2 RCS-con-004 Configuration - RCS re-configuration successful (Includes Optional Features)

Test Case Id	RCS-con-004
Test Object	RCS Client
Test Case Description	Successful re-configuration: RCS configuration enableRcseSwitch first set to 'true' and then set to 'false'
Specification Reference	[RCS 1.2.2]: RCS 2.10 (and A.2.6)
SCR Reference	
Test code	Verified TTCN-3 code
Preconditions	• RCS services previously configured on the phone/(U)SIM pair
Test Procedure	1. User A's handset is powered on. 2. Execute "Successful autoconfiguration" (C.6.1.1). In step 4 set the enableRcseSwitch to true in the XML body. 3. User A's RCS client performs IMS registration. 4. User A's handset is power cycled. 5. Execute "Successful autoconfiguration" (C.6.1.1). In step 4 set the enableRcseSwitch to false in the XML body. 6. User A's RCS client performs IMS registration.
Pass-Criteria	1. After step 3 User A's handset, RCS UX provides the following control elements: 'RCS Service while roaming' enabled/disabled switch; and 'RCS Service' enabled/disabled switch. 2. After step 6 User A's handset, RCS UX does not provide the following control element: 'RCS Service' enabled/disabled switch.

5.3   Keep Alive

5.3.1   RCS-con-020 Keep-Alive for SIPoUDP (STUN) (Includes Optional Features)

Test Case Id	RCS-con-020
Test Object	RCS Client
Test Case Description	Keep-alive for SIPoUDP (STUN)
Specification Reference	[RCS 1.2.2]: RCS 2.8
SCR Reference	
Test code	Verified TTCN-3 code
Preconditions	• The client A is a registered RCS user. • The client A's handset coverage is Wi-Fi. Applicability: • ics_stun_udp
Test Procedure	1. The client A exchanges initial STUN message. 2. The client A's handset registers for the RCS service. 3. The client A's constantly sends keep-alive message.
Pass-Criteria	1. During step 3, the test tool receives STUN keep-alive messages from the client A.

5.4   Mobile Originated Capability Discovery

5.4.1   RCS-con-030 Mobile Originated Capability Discovery – Successful

Test Case Id	RCS-con-030
Test Object	RCS Client
Test Case Description	Mobile Originated Capability Discovery - Successful
Specification Reference	[RCS 1.2.2]: RCS 2.3.1
SCR Reference	
Test code	Verified TTCN-3 code
Preconditions	• User A is IMS registered for RCS • User A's RCS device is provisioned for RCS
Test Procedure	1. User A triggers a capability discovery procedure towards User B at User A's device. This can be done by one of the following: a. Adding new User B entry (RCS user) to User A's address book; or b. Refreshing User B's status (RCS user) manually 2. Execute "Mobile Originated Capability Exchange" (C.1.1). 3. Check that User B is shown as available for RCS on User A's RCS client.
Pass-Criteria	1. At step 3 User A's RCS client shows User B as available.

5.4.2   RCS-con-031 Mobile Originated Capability Discovery – Unsuccessful – 480 Temporarily Unavailable

Test Case Id	RCS-con-031
Test Object	RCS Client
Test Case Description	Mobile Originated Capability Discovery – Unsuccessful – 480 Temporarily Unavailable
Specification Reference	[RCS 1.2.2]: RCS 2.3.1

SCR Reference	
Test code	Verified TTCN-3 code
Preconditions	• User A is IMS registered for RCS • User A's RCS device is provisioned for RCS
Test Procedure	1. User A triggers a capability discovery procedure towards User B on User A's device. This can be done by one of the following: a. Adding new User B entry (RCS user) to User A's address book; or b. Refreshing User B's (RCS user) status manually 2. Execute step 1 of "Mobile Originated Capability Exchange" (C.1.1). 3. The test tool responds with a 480 TEMPORARILY UNAVAILABLE (D.1.7) towards User A's RCS client. 4. Check that User B is shown as not available for RCS on User A's RCS Client.
Pass-Criteria	1. At step 4 User A's RCS client shows User B as not available.

5.4.3 RCS-con-032 Mobile Originated Capability Discovery – Unsuccessful – 408 Request Timeout

Test Case Id	RCS-con-032
Test Object	RCS Client
Test Case Description	Mobile Originated Capability Discovery – Unsuccessful – 408 Request Timeout
Specification Reference	[RCS 1.2.2]: RCS 2.3.1
SCR Reference	
Test code	Verified TTCN-3 code
Preconditions	• User A is IMS registered for RCS • User A's RCS device is provisioned for RCS
Test Procedure	1. User A triggers a capability discovery procedure towards User B on User A's device. This can be done by one of the following: a. Adding new User B entry (RCS user) to User A's address book; or b. Refreshing User B's (RCS user) status manually 2. Execute step 1 of "Mobile Originated Capability Exchange" (C.1.1). 3. The test tool responds with a 408 REQUEST TIMEOUT (D.1.6) towards the RCS client. 4. Check that User B is shown as not available for RCS on User A's RCS client.
Pass-Criteria	1. At step 4 User A's RCS client shows User B as not available.

5.4.4 RCS-con-033 Mobile Originated Capability Discovery – Unsuccessful – 404 Not Found

Test Case Id	RCS-con-033
Test Object	RCS Client
Test Case Description	Mobile Originated Capability discovery – Unsuccessful – 404 Not Found
Specification Reference	[RCS 1.2.2]: RCS 2.3.1
SCR Reference	
Test code	Verified TTCN-3 code
Preconditions	• User A is IMS registered for RCS • User A's RCS device is provisioned for RCS

Test Procedure	1. User A triggers a capability discovery procedure towards User B on User A's device. This can be done by one of the following: a. Adding new User B entry (RCS user) to User A's address book; or b. Refreshing User B's (RCS user) status manually 2. Execute step 1 of "Mobile Originated Capability Exchange" (C.1.1). 3. The test tool responds with a 404 NOT FOUND (D.1.5) towards User A's RCS client. 4. Check that User B is shown as not available for RCS on User A's RCS client.
Pass-Criteria	1. At step 4 User A's RCS client shows User B as not available.

5.4.5   RCS-con-034 Mobile Originated Capability Discovery – Successful – Multiple Identities

Test Case Id	RCS-con-034
Test Object	RCS Client
Test Case Description	Mobile Originated Capability Discovery – Successful – Multiple Identities
Specification Reference	[RCS 1.2.2]: RCS 2.3.1
SCR Reference	
Test code	Verified TTCN-3 code
Preconditions	• User A is IMS registered for RCS • User A's RCS device is provisioned for RCS

Test Procedure	1. User A creates a new contact (User C) in address book with the following four unique entries
	   1) MSISDN number 1 (RCS capable)
	   2) MSISDN number 2 (without RCS capabilities)
	   3) MSISDN number 3 (RCS capable, different from 1)
	   4) SIP-URI (RCS capable, if supported by the UI, independent from 1, 2 or 3).
	 2. Execute step 1 of "Mobile Originated Capability Exchange" (C.1.1) for all four entries (three if SIP-URI was not supported).
	 3. The test tool responds with 200 OK towards User A's RCS client for each OPTIONS message.
	 4. Check that User C's identities 1, 3 and 4 (if supported) are shown as available for RCS on User A's RCS client.

Pass-Criteria	1. At step 4 User A's RCS client shows User C's identities 1, 3 and 4 (if supported) as available.

5.4.6   RCS-con-035 Mobile Originated Capability Discovery – Successful (IMS registered, does not support RCS)

Test Case Id	RCS-con-035
Test Object	RCS Client
Test Case Description	Mobile Originated Capability Discovery - Successful
Specification Reference	[RCS 1.2.2]: RCS 2.3.1
SCR Reference	
Test code	Verified TTCN-3 code
Preconditions	• User A is IMS registered for RCS • User A's RCS device is provisioned for RCS • User B is IMS registered, but does not support RCS

Test Procedure	1. User A triggers a capability discovery procedure towards User B at User A's device. This can be done by one of the following: a. Adding new User B entry (RCS user) to User A's address book; or b. Refreshing User B's (RCS user) status manually 2. Execute "Mobile Originated Capability Exchange" (C.1.1) with exception to not sending feature param tag in the contact header of 200 OK. 3. Check that User B is shown as unavailable for RCS on User A's RCS client
Pass-Criteria	1. At step 3 User A's RCS client shows User B as unavailable.

5.4.7 RCS-con-036 Mobile Originated Capability Discovery – Send and Receive Social Presence Information to non-VIP Contacts

Test Case Id	RCS-con-036
Test Object	RCS Client
Test Case Description	Mobile Originated Capability Discovery – Send Social Presence Information to non-VIP contacts
Specification Reference	[RCS 5.x]: RCS 3.7.1.4.1
SCR Reference	
Test code	Verified TTCN-3 code
Preconditions	• User A's RCS device is provisioned for RCS • User A is IMS registered for RCS
Test Procedure	1. User A selects User B in his RCS address book and sends him an invitation to share Social Presence Information. User B's URI is added to the "RCS" list in Shared-XDMS 2. Execute "Mobile Originated Presence Exchange with Non-VIP contact" (C.1.3) 3. User A checks the Social Presence Information for User B
Pass-Criteria	1. At step 3 User A is able to check the Social Presence Information for User B

5.4.8 RCS-con-037 Mobile Originated Capability Discovery – Social Presence Information including Geolocation

Test Case Id	RCS-con-037
Test Object	RCS Client
Test Case Description	Mobile Originated Capability Discovery – Social Presence Information including Geolocation
Specification Reference	[RCS 5.x]: RCS 3.7.1.3.3
SCR Reference	
Test code	Verified TTCN-3 code
Preconditions	• User A's RCS device is provisioned for RCS • User A is IMS registered for RCS • User B's URI is added to the "RCS" list in Shared-XDMS
Test Procedure	1. User A checks the geolocation information of User B. 2. Execute "Mobile Originated Geolocation information" (C.1.5).
Pass-Criteria	1. User A gets User B geolocation information either pointed out on a map, or as intelligible text.

5.4.9 RCS-con-038 Mobile Originated Capability Discovery – Social Presence Information of a VIP contact (Pull)

Test Case Id	RCS-con-038
Test Object	RCS Client
Test Case Description	Mobile Originated Capability Discovery – Social Presence Information of a VIP contact
Specification Reference	[RCS 5.x]: RCS 3.7.1.4.9
SCR Reference	
Test code	Verified TTCN-3 code
Preconditions	• User A's RCS device is provisioned for RCS • User A is IMS registered for RCS • User B's URI is added to the "RCS" list in Shared-XDMS
Test Procedure	1. User A selects User B with whom he already shares Social Presence Information and adds him to his VIP contacts. 2. User A checks User B's Social Presence Information. 3. Execute "Mobile Originated Presence Exchange with VIP contact" (C.1.4).
Pass-Criteria	1. User B is listed on User A's device as VIP 2. At step 3 User A can follow that the social presence information status of User B is updated.

5.5   Mobile Terminated Capability Discovery

5.5.1   RCS-con-040 Mobile Terminated Capability Discovery – Correct Presentation of Remote Capabilities

Test Case Id	RCS-con-040
Test Object	RCS Client
Test Case Description	Mobile Terminated Capability Discovery – Correct Presentation of Remote Capabilities
Specification Reference	[RCS 1.2.2]: RCS 2.4.1
SCR Reference	
Test code	Verified TTCN-3 code
Preconditions	• User A is IMS registered for RCS • User A's RCS device is provisioned for RCS • User B is stored in User A's address book
Test Procedure	1. Execute "Mobile Terminated Capability Exchange" (C.1.2). 2. Check that User B is shown as available for RCS on User A's RCS client.
Pass-Criteria	1. At step 2 User A's RCS client shows User B as available for RCS.

5.5.2   RCS-con-041 Mobile Terminated Capability Discovery – Learning Unknown New Users RCS Capabilities

Test Case Id	RCS-con-041
Test Object	RCS Client
Test Case Description	Mobile Terminated Capability Discovery – Learning Unknown New Users RCS Capabilities
Specification Reference	[RCS 1.2.2]: RCS 2.4.1
SCR Reference	
Test code	Verified TTCN-3 code
Preconditions	• User A's and User X's RCS devices are provisioned for RCS • User A and User X are IMS registered for RCS • User X is not currently stored in User A's address book
Test Procedure	1. Execute "Mobile Terminated Capability Exchange" (C.1.2) with User X as sender and condition B4 in D.1.3. 2. Execute "Mobile Terminated Session Establishment" (C.2.2) with the message "Hello A" from User X. 3. Execute "Mobile Terminated Session Termination" (C.3.2). 4. Store User X contact in the address book.
Pass-Criteria	1. In Step 2 User A receives "Hello A" from User X. 2. In step 4 verify that User X capabilities are visible on User A's terminal when the contact is stored in the address book.

5.6   Capability Update

5.6.1   RCS-con-050 Capability update during a MO call for video /image sharing (Includes Optional Features)

Test Case Id	RCS-con-050
Test Object	RCS Client
Test Case Description	When a voice call is established the participants have to update their capabilities
Specification Reference	[RCS 1.2.2]: RCS 3.3.1
SCR Reference	
Test code	Verified TTCN-3 code
Preconditions	• User A is IMS registered for RCS • User A's RCS device is provisioned for RCS • The client A's handset coverage is 3G Applicability: ics_imageShare OR ics_videoShare
Test Procedure	1. User A initiates a CS voice call to User B at User A's device. 2. Execute "Mobile Originated Capability Exchange" (C.1.1). 3. Check that User B is shown as available for video and/or image sharing on User A's RCS client as supported by User A's RCS client.
Pass-Criteria	1. At step 3 User A's RCS client shows User B as available for video / image sharing as matching User A's RCS client's capabilities.

5.6.2   RCS-con-051 Capability update during a MT call for video /image sharing

Test Case Id	RCS-con-051
Test Object	RCS Client
Test Case Description	When a voice call is established the participants have to update their capabilities
Specification Reference	[RCS 1.2.2]: RCS 3.3.1
SCR Reference	
Test code	Verified TTCN-3 code
Preconditions	• User A is IMS registered for RCS • User A's RCS device is provisioned for RCS • The client A's handset coverage is 3G
Test Procedure	1. User A accepts a CS voice call from User B at User A's device. 2. Execute "Mobile Terminated Capability Exchange" (C.1.2). 3. Check that User B's capabilities for video and image sharing are shown as available on User A's RCS client matching User A's RCS client's capabilities according to ICS.
Pass-Criteria	1. At step 3 User B's capabilities for video and image sharing are shown as available on User A's RCS client matching User A's RCS client's capabilities according to ICS.

5.6.3   RCS-con-052 Capability update during initiation of an MO voice call — fails as other end has no capability (Includes Optional Features)

Test Case Id	RCS-con-052

Test Object	RCS Client
Test Case Description	When a voice call is initiated the call participants have to update their capabilities. The recipient should not be shown as available for video / image share if the corresponding tags are not included in the 200 OK response
Specification Reference	[RCS 1.2.2]: RCS 3.3.1
SCR Reference	
Test code	Verified TTCN-3 code
Preconditions	• The client A's handset coverage is 3G • User A is IMS registered for RCS • User A's RCS device is provisioned for RCS Applicability: ics_imageShare OR ics_videoShare
Test Procedure	1. User A initiates a CS voice call to User B at User A's device. 2. Execute "Mobile Originated Capability Exchange" (C.1.1) and do not use condition B1 and B2 in step 2 (D.1.4). 3. Check that User B is shown as not available for video and image sharing on User A's RCS client.
Pass-Criteria	1. At step 3 User A's RCS client shows User B as not available for video and image sharing.

5.6.4 RCS-con-053 Capability Exchange Optimization during a Call

Test Case Id	RCS-con-053
Test Object	RCS Client
Test Case Description	Capability exchange optimization during a call
Specification Reference	[RCS 1.2.2]: RCS 2.3.1
SCR Reference	
Test code	Verified TTCN-3 code
Preconditions	• The client A's handset coverage is 3G. • The client A is RCS registered user. • The client A's handset is in an on-going CS voice call with a test tool (simulating an RCS user) and the test tool delivers its RCS capabilities to the client A during the execution of "Mobile Originated Capability Exchange" (C.1.1). • The displayed capabilities on the client A's handset for the current call include both image and video share.
Test Procedure	1. The client A's handset's coverage is changed to HSPA. 2. Wait for 15 seconds. 3. The client A's handset's coverage is changed to 3G. 4. Wait for 15 seconds.
Pass-Criteria	1. Client A is not sending SIP OPTIONS message at step #2 and step #4.

5.7   Mobile Originated 1-to-1 Chat

5.7.1   RCS-con-100 Mobile Originated 1-to-1 Chat — session establishment – Mobile Originated session termination

Test Case Id	RCS-con-100
Test Object	RCS Client
Test Case Description	Verifies Mobile Originated 1-to-1 Chat session establishment with Mobile Originated session termination
Specification Reference	[RCS 1.2.2]: RCS 3.2.4
SCR Reference	
Test code	Verified TTCN-3 code
Preconditions	- User A's device is provisioned for RCS - User A is IMS registered for RCS - In case of User A's device support UI for switching display notifications on/off then display notification are to be switched on
Test Procedure	1. User A initiates a 1-to-1 Chat session with User B on his device with the message "Hello B". 2. Execute "Mobile Originated Session Establishment" (C.2.1) with the message "Hello B". 3. User A receives an indication that the message "Hello B" has been delivered. 4. If the session invitation in step 2 contained a request for display notification, then execute MSRP SEND request towards A that contains display status for message "Hello B". 5. Execute "MSRP Session Message" (C.7.1) with the message "Hello A" from the Test Tool. 6. User A receives an "Is Composing" indication from User B. 7. User A receives "Hello A" from User B. 8. User A sends the message "Bye B" to User B. 9. Execute "MSRP Session Message" (C.7.1) with the message "Bye B" from client A. 10. User A receives an indication that the message "Bye B" has been delivered and if display notifications were requested, then an indication that the message has been displayed. 11. User A terminates the session. 12. Execute "Mobile Originated Session Termination" (C.3.1).
Pass-Criteria	1. At step 3 User A receives an indication that the message "Hello B" has been delivered. 2. At step 4 User A receives an indication that message "Hello B" has been displayed. 3. At step 6 User A receives an "Is Composing" indication from User B. 4. At step 7 User A receives "Hello A" from User B. 5. At step 10 User A receives an indication that the message "Bye B" has been delivered and if display notifications were requested, then an indication that the message has been displayed.

5.7.2   RCS-con-101 Mobile Originated 1-to-1 Chat — session establishment – Mobile Terminated session termination

Test Case Id	RCS-con-101
Test Object	RCS Client

Test Case Description	Verifies Mobile Originated 1-to-1 Chat session establishment with Mobile Terminated session termination
Specification Reference	[RCS 1.2.2]: RCS 3.2.4
SCR Reference	
Test code	Verified TTCN-3 code
Preconditions	- User A's device is provisioned for RCS - User A is IMS registered for RCS - In case of User A's device support UI for switching display notifications on/off then display notification are to be switched on
Test Procedure	1. User A initiates a 1-to-1 Chat session with User B on his device with the message "Hello B". 2. Execute "Mobile Originated Session Establishment" (C.2.1) with the message "Hello B". 3. User A receives an indication that the message "Hello B" has been delivered. 4. If the session invitation in step 2 contained a request for display notification, then execute MSRP SEND request towards A that contains display status for message "Hello B". 5. Execute "MSRP Session Message" (C.7.1) with the message "Hello A" from the Test Tool. 6. User A receives an "Is Composing" indication from User B. 7. User A receives "Hello A" from User B. 8. User A sends the message "Bye B" to User B. 9. Execute "MSRP Session Message" (C.7.1) with the message "Bye B" from client A. 10. User A receives an indication that the message "Bye B" has been delivered and if display notifications were requested, then an indication that the message has been displayed. 11. Execute "Mobile Terminated Session Termination" (C.3.2).
Pass-Criteria	1. At step 3 User A receives an indication that the message "Hello B" has been delivered. 2. At step 4 User A receives an indication that message "Hello B" has been displayed. 3. At step 6 User A receives an "Is Composing" indication from User B. 4. At step 7 User A receives "Hello A" from User B. 5. At step 10 User A receives an indication that the message "Bye B" has been delivered and if display notifications were requested, then an indication that the message has been displayed.

5.7.3   RCS-con-102 Mobile Originated 1-to-1 Chat – display notification (Includes Optional Features)

Test Case Id	RCS-con-102
Test Object	RCS Client
Test Case Description	Verifies display notification in Mobile Originated 1-to-1 Chat session
Specification Reference	[RCS 1.2.2]: RCS 3.2.2.4
SCR Reference	
Test code	Verified TTCN-3 code

Preconditions	• User A's device is provisioned for RCS • User A is IMS registered for RCS • User A's device is configured to request display notifications Applicability: ics_request_displayNotifications
Test Procedure	1. User A initiates a 1-to-1 Chat session with User B on his device with the message "Hello B". 2. Execute "Mobile Originated Session: 1-to-1 Chat with display notification" (C.2.3) with the message "Hello B". 3. User A receives an indication that the message "Hello B" has been delivered. 4. User A receives an indication that the message "Hello B" has been displayed. 5. Execute "MSRP Session Message" (C.7.1) with the message "Hello A" from the Test Tool. 6. User A receives "Hello A" from User B. 7. User A sends the message "Bye B" to User B. 8. Execute "MSRP Session Message with Display Notification" (C.7.2) with the message "Bye B" from client A. 9. User A receives an indication that the message "Bye B" has been delivered. 10. User A receives an indication that the message "Bye B" has been displayed. 11. User A terminates the session. 12. Execute "Mobile Originated Session Termination" (C.3.1).
Pass-Criteria	1. At step 3 User A receives an indication that the message "Hello B" has been delivered. 2. At step 4 User A receives an indication that the message "Hello B" has been displayed. 3. At step 9 User A receives an indication that the message "Bye B" has been delivered. 4. At step 10 User A receives an indication that the message "Bye B" has been displayed.

5.7.4 RCS-con-103 Mobile Originated 1-to-1 Chat – duplicate session

Test Case Id	RCS-con-103
Test Object	RCS Client
Test Case Description	Verifies a duplicate session in a Mobile Originated 1-to-1 Chat session
Specification Reference	[RCS 1.2.2]: RCS 3.2.4.1
SCR Reference	
Test code	Verified TTCN-3 code
Preconditions	• User A's device is provisioned for RCS • User A is IMS registered for RCS • In case of User A's device support UI for switching display notifications on/off then display notification are to be switched on

Test Procedure	1. User A initiates a 1-to-1 Chat session with User B on his device with the first message "Hello B".
	2. Execute "Mobile Originated Session Establishment — 1-to-1 Chat with two messages" (C.2.5) with the first message "Hello B".
	3. User A receives an indication that the message "Hello B" has been delivered.
	4. User A sends the second message "Wake up B" to User B.
	5. Continue to execute "Mobile Originated Session Establishment — 1-to-1 Chat with two messages" (C.2.5) with the second message "Wake up B".
	6. User A receives an indication that the message "Wake up B" has been delivered.
	7. If the session invitation in step 2 contained a request for display notification, then execute MSRP SEND request towards A that contains display status for message "Hello B".
	8. If the session invitation in step 5 contained a request for display notification, then execute MSRP SEND request towards A that contains display status for message "Wake up B".
	9. Execute "MSRP Session Message" (C.7.1) with the message "Hello A" from the Test Tool.
	10. User A receives "Hello A" from User B.
	11. User A terminates the session.
	12. Execute "Mobile Originated Session Termination" (C.3.1).
Pass-Criteria	1. At step 3 User A receives an indication that the message "Hello B" has been delivered.
	2. At step 6 User A receives an indication that the message "Wake up B" has been delivered.
	3. At step 7 User A receives an indication that message "Hello B" has been displayed.
	4. At step 8 User A receives an indication that message "Wake up B" has been displayed.
	5. At step 10 User A receives "Hello A" from User B.

5.7.5   RCS-con-104 Mobile Originated 1-to-1 Chat — race condition

Test Case Id	RCS-con-104
Test Object	RCS Client
Test Case Description	Verifies Mobile Originated 1-to-1 Chat session race condition with two simultaneous invites
Specification Reference	[RCS 1.2.2]: RCS 3.2.4.18.1
SCR Reference	
Test code	Verified TTCN-3 code
Preconditions	• User A's device is provisioned for RCS
	• User A is IMS registered for RCS
	• In case of User A's device support UI for switching display notifications on/off then display notification are to be switched on

Test Procedure	1. User A initiates a 1-to-1 Chat session with User B on his device with the message "Hello B".
	2. Execute "Mobile Originated Session Establishment: simultaneous INVITEs" (C.2.8) with the messages "Hello B" from User A and "Hello A" from User B.
	3. User A receives "Hello A" from User B.
	4. User A receives an indication that the message "Hello B" has been delivered.
	5. If the session invitation in step 2 contained a request for display notification, then execute MSRP SEND request towards A that contains display status for message "Hello B".
	6. User A sends the message "Quick B" to User B.
	7. Execute "MSRP Session Message" (C.7.1) with the message "Quick B" from client A.
	8. Execute "MSRP Session Message" (C.7.1) with the message "Yes A" from the Test Tool.
	9. User A receives "Yes A" from User B.
	10. User A receives an indication that the message "Quick B" has been delivered and if display notifications were requested, then an indication that the message has been displayed.
	11. User A terminates the session.
	12. Execute "Mobile Originated Session Termination" (C.3.1).
Pass-Criteria	1. At step 3 User A receives "Hello A" from User B.
	2. At step 4 User A receives an indication that the message "Hello B" has been delivered.
	3. At step 5 User A receives an indication that message "Hello B" has been displayed.
	4. At step 9 User A receives "Yes A" from User B.
	5. At step 10 User A receives an indication that the message "Quick B" has been delivered and if display notifications were requested, then an indication that the message has been displayed.

5.7.6 RCS-con-105 Mobile Originated 1-to-1 Chat – inactivity timeout

Test Case Id	RCS-con-105
Test Object	RCS Client
Test Case Description	Verifies 1-to-1 Chat inactivity timeout
Specification Reference	[RCS 1.2.2]: RCS 3.2.4.8
SCR Reference	
Test code	Verified TTCN-3 code
Preconditions	• User A's device is provisioned for RCS
	• User A is IMS registered for RCS
	• In case of User A's device support UI for switching display notifications on/off then display notification are to be switched on

Test Procedure	1. User A initiates a 1-to-1 Chat session with User B on his device with the message "Hello B".
	2. Execute "Mobile Originated Session Establishment" (C.2.1) with the message "Hello B".
	3. User A receives an indication that the message "Hello B" has been delivered.
	4. If the session invitation in step 2 contained a request for display notification, then execute MSRP SEND request towards A that contains display status for message "Hello B".
	5. Execute "MSRP Session Message" (C.7.1) with the message "Hello A" from the Test Tool.
	6. User A receives "Hello A" from User B.
	7. User A waits until the chat inactivity (ixit_chat_inactivity_timeout) timeout occurs and Client A then terminates the session.
	8. Execute "Mobile Originated Session Termination" (C.3.1).
Pass-Criteria	1. At step 8 Client A terminates the session.

5.7.7 RCS-con-106 Mobile Originated 1-to-1 Chat — store and forward – sender still in active IM session

Test Case Id	RCS-con-106
Test Object	RCS Client
Test Case Description	Verifies Mobile Originated 1-to-1 Chat session with store and forward when the sender is still in active IM session (with MSRP session still active) when the recipient comes back online.
Specification Reference	[RCS 1.2.2]: RCS 3.2.4.11
SCR Reference	
Test code	Verified TTCN-3 code
Preconditions	• User A's device is provisioned for RCS
	• User A is IMS registered for RCS
	• In case of User A's device support UI for switching display notifications on/off then display notification are to be switched on.
Test Procedure	1. User A initiates a 1-to-1 Chat session with User B on his device with the message "Hello B". (User B is offline)
	2. Execute "Mobile Originated Session: Store and Forward — Receiver offline" (C.2.10) with the message "Hello B".
	3. User A sends the message "Again B" to User B. (User B is offline)
	4. Execute "MSRP Session Store and Forward" (C.7.3) with the message "Again B" from Client A.
	5. (User A keeps chat session open and User B comes back online)
	6. Execute "MSRP Session Store and Forward Message Delivered" (C.7.4) for the message "Hello B" from Client A.
	7. User A receives an indication that the message "Hello B" has been delivered.
	8. If the MSRP SEND request in step 4 contains a request for display notification, then User A receives an indication that the message "Hello B" has been displayed.
	9. Execute "MSRP Session Store and Forward Final Message Delivered" (C.7.5) for the message "Again B" from Client A.
	10. User A receives an indication that the message "Again B" has been delivered and if display notifications were requested, then an indication that the message has been displayed.

Pass-Criteria	1. At step 7 User A receives an indication that the message "Hello B" has been delivered.
	2. At step 8 User A receives an indication that message "Hello B" has been displayed.
	3. At step 10 User A receives an indication that the message "Again B" has been delivered and if display notifications were requested, then an indication that the message has been displayed.

5.7.8 RCS-con-107 Mobile Originated 1-to-1 Chat — store and forward – sender still online

Test Case Id	RCS-con-107
Test Object	RCS Client
Test Case Description	Verifies Mobile Originated 1-to-1 Chat session with store and forward when the sender is still online when the recipient comes back online. The same call-flow is also used for delivery of deferred notifications when the sender goes offline and then comes back on line later.
Specification Reference	[RCS 1.2.2]: RCS 3.2.4.11
SCR Reference	
Test code	Verified TTCN-3 code
Preconditions	• User A's device is provisioned for RCS
	• User A is IMS registered for RCS
	• In case of User A's device support UI for switching display notifications on/off then display notification are to be switched on
Test Procedure	1. User A initiates a 1-to-1 Chat session with User B on his device with the message "Hello B". (User B is offline)
	2. Execute "Mobile Originated Session Store and Forward — Receiver offline" (C.2.10) with the message "Hello B".
	3. User A sends the message "Again B" to User B. (User B is offline)
	4. Execute "MSRP Session Store and Forward" (C.7.3) with the message "Again B" from Client A.
	5. User A terminates the session.
	6. Execute "Mobile Originated Session Termination" (C.3.1).
	7. (User A stays online and User B comes back online)
	8. Execute "Mobile Originated Session Store and Forward — deferred delivery" (C.2.11).
	9. Execute "MSRP Session Store and Forward Message Delivered" (C.7.4) for the message "Hello B" from Client A.
	10. Client A auto-accepts and User A receives an indication that the message "Hello B" has been delivered.
	11. If the MSRP SEND request in step 4 contains a request for display notification, then User A receives an indication that the message "Hello B" has been displayed.
	12. Execute "MSRP Session Store and Forward Final Message Delivered" (C.7.5) for the message "Again B" from Client A.
	13. User A receives an indication that the message "Again B" has been delivered and if display notifications were requested, then an indication that the message has been displayed.

Pass-Criteria	1. At step 10 User A receives an indication that the message "Hello B" has been delivered.
	2. At step 11 User A receives an indication that message "Hello B" has been displayed.
	3. At step 13 User A receives an indication that the message "Again B" has been delivered and if display notifications were requested, then an indication that the message has been displayed.

5.7.9 RCS-con-108 Mobile Originated 1-to-1 Chat – Switch up to Group Chat

Test Case Id	RCS-con-108
Test Object	RCS Client
Test Case Description	Mobile Originated 1-to-1 Chat – Switch up to group Chat
Specification Reference	[RCS 5.x]: RCS 3.4.6.1.2
SCR Reference	
Test code	Verified TTCN-3 code
Preconditions	• User A's RCS device is provisioned for RCS
	• User A is IMS registered for RCS
	• configuration parameter CONFFCTY-URI is configured - SIP URI is available and not a dummy
Test Procedure	1. User A initiates a 1-to-1 Chat session with User B (Test Tool) on his device with the message "Hello B".
	2. Execute "Mobile Originated Session Establishment" (C.2.1) with the message "Hello B".
	3. User A receives an indication that the message "Hello B" has been delivered.
	4. If the session invitation in step 2 contained a request for display notification, then execute MSRP SEND request towards A that contains display status for message "Hello B".
	5. Execute "MSRP Session Message" (C.7.1) with the message "Hello A" from the Test Tool.
	6. User A receives "Hello A" from User B.
	7. User A invites User C (Test Tool) to join the 1-to-1 Chat session.
	8. After User B accepts the switch to the group chat.
	9. User C accepts the invitation as well.
Pass-Criteria	1. At Step 7 User A sends a SIP-Invite to the MSRP.
	2. At Step 8 User B (Test Tool) accepts and sends a SIP-200-OK which the MSRP also sends to User A.
	3. At Step 9 User A receives a SIP BYE of the original session and sends out a 200 OK to MSRP. Group Chat is established with a new RCS Group Chat ID if the group session hasn't already existed before.

5.7.10 RCS-con-109 Mobile Originated 1-to-1 Chat – Maximum Concurrent Sessions (Includes Optional Features)

Test Case Id	RCS-con-109
Test Object	RCS Client
Test Case Description	Mobile Originated 1-to-1 Chat – Maximum Concurrent Sessions
Specification Reference	[RCS 5.x]: RCS 3.3.4.1
SCR Reference	
Test code	Verified TTCN-3 code

Preconditions	• User A, B and C's RCS device is provisioned for RCS
	• User A, B and C are IMS registered for RCS
	• RCS Provisioning Parameter MAX CONCURRENT SESSION is set to 1
Test Procedure	1. User A initiates a 1-to-1 Chat session with User B on his device with the message "Hello B".
	2. Execute "Mobile Originated Session Establishment" (C.2.1) with the message "Hello B".
	3. User A receives an indication that the message "Hello B" has been delivered.
	4. User A keep the chat to User B open and initiates a new 1-to-1 Chat session with User C on his device with the message "Hello C".
Pass-Criteria	1. At step 4 the chat with User B is torn down and the message to User C is sent.

5.8   Mobile Terminated 1-to-1 Chat

5.8.1   RCS-con-120 Mobile Terminated 1-to-1 Chat — session establishment – Mobile Terminated session termination

Test Case Id	RCS-con-120
Test Object	RCS Client
Test Case Description	Verifies Mobile Terminated 1-to-1 Chat session establishment with Mobile Terminated session termination
Specification Reference	[RCS 1.2.2]: RCS 3.2.4
SCR Reference	
Test code	Verified TTCN-3 code
Preconditions	• User A's RCS device is provisioned for RCS • User A is IMS registered for RCS
Test Procedure	1. Execute "Mobile Terminated Session Establishment" (C.2.2) with the message "Hello A" from User B. 2. User A receives "Hello A" from User B. 3. User A sends the message "Hello B" to User B before the session times out. 4. Execute "MSRP Session Message" (C.7.1) with the message "Hello B" from client A. 5. Execute "MSRP Session Message" (C.7.1) with the message "Bye A" from the Test Tool. 6. User A receives an "Is Composing" indication from User B. 7. User A receives "Bye A" from User B. 8. Execute "Mobile Terminated Session Termination" (C.3.2).
Pass-Criteria	1. At step 2 User A receives "Hello A" from User B. 2. At step 6 User A receives an "Is Composing" indication from User B. 3. At step 7 User A receives "Bye A" from User B.

5.8.2   RCS-con-121 Mobile Terminated 1-to-1 Chat — session establishment – Mobile Originated session termination

Test Case Id	RCS-con-121
Test Object	RCS Client
Test Case Description	Verifies Mobile Terminated 1-to-1 Chat session establishment with Mobile Originated session termination
Specification Reference	[RCS 1.2.2]: RCS 3.2.4
SCR Reference	
Test code	Verified TTCN-3 code
Preconditions	• User A's RCS device is provisioned for RCS • User A is IMS registered for RCS

Test Procedure	1. Execute "Mobile Terminated Session Establishment" (C.2.2) with the message "Hello A" from User B.
	2. User A receives "Hello A" from User B.
	3. User A sends the message "Hello B" to User B before the session times out.
	4. Execute "MSRP Session Message" (C.7.1) with the message "Hello B" from client A.
	5. Execute "MSRP Session Message" (C.7.1) with the message "Bye A" from the Test Tool.
	6. User A receives an "Is Composing" indication from User B.
	7. User A receives "Bye A" from User B.
	8. User A terminates the session.
	9. Execute "Mobile Originated Session Termination" (C.3.1).
Pass-Criteria	1. At step 2 User A receives "Hello A" from User B.
	2. At step 6 User A receives an "Is Composing" indication from User B.
	3. At step 7 User A receives "Bye A" from User B.

5.8.3   RCS-con-122 Mobile Terminated 1-to-1 Chat – spam/blacklist

Test Case Id	RCS-con-122
Test Object	RCS Client
Test Case Description	Verifies Mobile Terminated 1-to-1 Chat session establishment when the sender is on the spam/blacklist
Specification Reference	[RCS 1.2.2]: RCS 3.2.4.15
SCR Reference	
Test code	Verified TTCN-3 code
Preconditions	• User A's RCS device is provisioned for RCS
	• User A is IMS registered for RCS
	• User A has User S listed in the spam/blacklist
Test Procedure	1. Execute "Mobile Terminated Session Establishment: Spam" (C.2.7) with the message "Spam for A" from User S.
	2. User A does not receive the message from User S.
	3. The message "Spam for A" is available in the spam filter.
Pass-Criteria	1. During step 1 Client A sends a delivery notification with status "delivered" to Client S.
	2. At step 2 User A does not receive the message from User S.
	3. At step 3 the message "Spam for A" is available in the spam filter.

5.8.4   RCS-con-123 Mobile Terminated 1-to-1 Chat – display notification

Test Case Id	RCS-con-123
Test Object	RCS Client
Test Case Description	Verifies display notification in Mobile Terminated 1-to-1 Chat session
Specification Reference	[RCS 1.2.2]: RCS 3.2.2.4
SCR Reference	
Test code	Verified TTCN-3 code
Preconditions	• User A's RCS device is provisioned for RCS
	• User A is IMS registered for RCS
	• User A's device is configured to respond to display notification requests

Test Procedure	1. Execute "Mobile Terminated Session Establishment: 1-to-1 Chat with display notification" (C.2.4) with the message "Hello A" from User B.
	2. User A receives "Hello A" from User B.
	3. User A sends the message "Hello B" to User B before the session times out.
	4. Execute "MSRP Session Message" (C.7.1) with the message "Hello B" from client A.
	5. Execute "MSRP Session with Display Notification" (C.7.2) with the message "Bye A" from the Test Tool.
	6. User A receives "Bye A" from User B.
	7. User A displays "Bye A" from User B.
	8. Execute "Mobile Terminated Session Termination" (C.3.2).
Pass-Criteria	1. The pass-criteria are completely contained in the message flows in Appendix C.

5.8.5 RCS-con-124 Mobile Terminated 1-to-1 Chat – duplicate session

Test Case Id	RCS-con-124
Test Object	RCS Client
Test Case Description	Verifies a duplicate session in a Mobile Terminated 1-to-1 Chat session
Specification Reference	[RCS 1.2.2]: RCS 3.2.4.1
SCR Reference	
Test code	Verified TTCN-3 code
Preconditions	• User A's RCS device is provisioned for RCS
	• User A is IMS registered for RCS
Test Procedure	1. Execute "Mobile Terminated Session Establishment: 1-to-1 Chat with two messages" (C.2.6) with the first message "Hello A" from User B and the second message "Wake up A" from User B.
	2. User A receives "Hello A" from User B (but performs no action).
	3. User A receives "Wake up A" from User B.
	4. User A sends the message "Hello B" to User B before the session times out.
	5. Execute "MSRP Session Message" (C.7.1) with the message "Hello B" from client A.
	6. Execute "MSRP Session Message" (C.7.1) with the message "Bye A" from the Test Tool.
	7. User A receives "Bye A" from User B.
	8. Execute "Mobile Terminated Session Termination" (C.3.2).
Pass-Criteria	1. At step 2 User A receives "Hello A" from User B.
	2. At step 3 User A receives "Wake up A" from User B.
	3. At step 7 User A receives "Bye A" from User B.

5.8.6 RCS-con-125 Mobile Terminated 1-to-1 Chat — race condition

Test Case Id	RCS-con-125
Test Object	RCS Client
Test Case Description	Verifies Mobile Terminated 1-to-1 Chat session race condition with new invite received after previous invite has been accepted
Specification Reference	[RCS 1.2.2]: RCS 3.2.4.18.2
SCR Reference	
Test code	Verified TTCN-3 code

Preconditions	• User A's RCS device is provisioned for RCS • User A is IMS registered for RCS
Test Procedure	1. Execute "Mobile Terminated Session Establishment: new INVITE race" (C.2.9) with the first message "Hello A" from User B and the second message "Again A" from User B. 2. User A receives "Hello A" from User B. 3. User A receives "Again A" from User B. 4. User A sends the message "Two B" to User B before the session times out. 5. Execute "MSRP Session Message" (C.7.1) with the message "Two B" from client A. 6. Execute "MSRP Session Message" (C.7.1) with the message "Bye A" from the Test Tool. 7. User A receives "Bye A" from User B. 8. Execute "Mobile Terminated Session Termination" (C.3.2).
Pass-Criteria	1. At step 2 User A receives "Hello A" from User B. 2. At step 3 User A receives "Again A" from User B. 3. At step 7 User A receives "Bye A" from User B.

5.8.7   RCS-con-126 Mobile Terminated 1-to-1 Chat — store and forward

Test Case Id	RCS-con-126
Test Object	RCS Client
Test Case Description	Verifies delivery of deferred messages in a Mobile Terminated 1-to-1 Chat session.
Specification Reference	[RCS 1.2.2]: RCS 3.2.4.11, RCS 3.2.4.19
SCR Reference	
Test code	Verified TTCN-3 code
Preconditions	• User A's RCS device is provisioned for RCS • User A is IMS registered for RCS • User A is offline
Test Procedure	1. User A comes online. 2. Execute "Mobile Terminated Session Store and Forward — deferred delivery" (C.2.12) with the first stored message "Hello A" from User B and the second stored message "Again A" from User B. 3. User A receives an indication of the stored message "Hello A" from User B and may optionally receive an indication of the stored message "Again A" from User B. User A opens the chat window. 4. Execute "MSRP Session Store and Forward Final Message Delivered" (C.7.5) with the stored message "Yet again A" from User B. 5. User A receives the stored message "Again A" from User B if not already received and then the message "Yet again A" from User B and the session is closed.
Pass-Criteria	1. At step 3 User A receives an indication of the stored message "Hello A" from User B and optionally receives an indication of the stored message "Again A" from User B. 2. At step 5 User A receives the stored message "Again A" from User B if not already received and then receives the stored message "Yet again A" from User B and the session is closed.

5.8.8   RCS-con-127 Mobile Terminated 1-to-1 Chat – Switch up to group Chat

Test Case Id	RCS-con-127

Test Object	RCS Client
Test Case Description	Mobile Terminated 1-to-1 Chat – Switch up to group Chat
Specification Reference	[RCS 5.x]: RCS 3.4.6.1.2
SCR Reference	
Test code	Verified TTCN-3 code
Preconditions	• The client A's handset coverage is 3G • User A's RCS device is provisioned for RCS • User A is IMS registered for RCS
Test Procedure	1. User B (Test Tool) initiates a 1-to-1 Chat session with User A on his device with the message "Hello A". 2. Execute "Mobile Originated Session Establishment" (?) with the message "Hello A". 3. User B receives an indication that the message "Hello A" has been delivered. 4. User A receives "Hello A" from User B. 5. User B invites User C (Test Tool) to join the 1-to-1 Chat session. User A receives a SIP-Invite from the MSRP with Session-Replace and list of invitees (User A, User B & User C). 6. User A accepts the switch to the group chat. 7. User C accepts as well.
Pass-Criteria	1. At Step 6 User A receives an Invite. 2. User A sends a SIP Bye of the original session and the Group Chat is established with a new RCS Group Chat ID if the group session hasn't already existed before.

5.9 Mobile Originated Group Chat

5.9.1 RCS-con-130 Mobile Originated Group Chat — establishment – Originating User leaves the session

Test Case Id	RCS-con-130
Test Object	RCS Client
Test Case Description	Verifies Mobile Originated Group Chat session establishment and Originating User leaves the session
Specification Reference	[RCS 1.2.2]: RCS 3.2.5 [RCS 5.1]: RCS 3.4.4
SCR Reference	
Test code	Verified TTCN-3 code
Preconditions	• User A's device is provisioned for RCS • User A is IMS registered for RCS • In case of User A's device support UI for switching display notifications on/off then display notification are to be switched on [RCS 5.1]
Test Procedure	1. User A initiates a Group Chat session with User B, User C and User D on his device with the subject "Test". 2. Execute "Mobile Originated Session Establishment: Group Chat" (C.2.13) with the subject "Test" and participants list with User B and User C as accepted (User D does not accept). 3. User A receives the participant list and the status for each one. 4. User A sends the message "Hello group" to the group. 5. Execute "MSRP Group Session Message" (C.7.6) with the message "Hello group" from Client A. 5a. User A receives an indication that the message "Hello group" has been delivered [RCS 5.1]. 5b. If the MSRP SEND request in step 5 contains a request for display notification, then User A receives an indication that the message "Hello group" has been displayed [RCS 5.1]. 6. Execute "MSRP Group Session Message" (C.7.6) with the message "Hello A" from the Test Tool from User B. 6a. User A receives an "Is Composing" indication from User B [RCS 5.1]. 7. User A receives "Hello A" from User B. 8. User A leaves the Group Chat session. 9. Execute "Mobile Originated Session Termination" (C.3.1).
Pass-Criteria	1. At step 3 User A receives the participant list and the status for each one 1a. At step 5a User A receives an indication that the message "Hello group" has been delivered [RCS 5.1]. 1b. At step 5b. User A receives an indication that message "Hello group" has been displayed [RCS 5.1]. 1c. At step 6a User A receives an "Is Composing" indication from User B [RCS 5.1]. 2. At step 7 User A receives "Hello A" from User B.

5.9.2 RCS-con-131 Mobile Originated Group Chat — non-originating Users leave the session

Test Case Id	RCS-con-131
Test Object	RCS Client

Test Case Description	Verifies Mobile Originated Group Chat session when non-originating Users leave the session and the session is closed
Specification Reference	[RCS 1.2.2]: RCS 3.2.5 [RCS 5.1]: RCS 3.4.4
SCR Reference	
Test code	Verified TTCN-3 code
Preconditions	• User A's device is provisioned for RCS • User A is IMS registered for RCS • In case of User A's device support UI for switching display notifications on/off then display notification are to be switched on [RCS 5.1]
Test Procedure	1. User A initiates a Group Chat session with User B, User C and User D on his device with the subject "Test". 2. Execute "Mobile Originated Session Establishment: Group Chat" (C.2.13) with the subject "Test" and participants list with User B and User C as accepted (User D does not accept). 3. Execute "MSRP Group Session Message" (C.7.6) with the message "B going" from the Test Tool from User B. 3a. User A receives an "Is Composing" indication from User B [RCS 5.1]. 4. User A receives the message "B going" from User B. 5. Execute "Participant List Update" (C.5.1) with User B as offline (and User C as accepted). 6. User A receives the participant list and the status for each one (User B as offline and User C as accepted). 7. Execute "MSRP Group Session Message" (C.7.6) with the message "C going" from the Test Tool from User C. 7a. User A receives an "Is Composing" indication from User C [RCS 5.1]. 8. User A receives the message "C going" from User C. 9. Execute "Participant List Update" (C.5.1) with User C as offline. 10. User A receives the participant list and the status for each one (User C as offline). 11. Execute "Mobile Terminated Session Termination" (C.3.2).
Pass-Criteria	1. At step 4 User A receives the message "B going" from User B. 2. At step 6 User A receives the participant list and the status for each one (User B as offline and User C as accepted). 3. At step 8 User A receives the message "C going" from User C. 4. At step 10 User A receives the participant list and the status for each one (User C as offline).

5.9.3 RCS-con-132 Mobile Originated Group Chat — adding new User to the session

Test Case Id	RCS-con-132
Test Object	RCS Client
Test Case Description	Verifies Group Chat when a new User is added to the session
Specification Reference	[RCS 1.2.2]: RCS 3.2.5.5.4 [RCS 5.1]: RCS 3.4.4
SCR Reference	
Test code	Verified TTCN-3 code
Preconditions	• User A's device is provisioned for RCS • User A is IMS registered for RCS

Test Procedure	1. User A initiates a Group Chat session with User B and User C on his device with the subject "Test".
	2. Execute "Mobile Originated Session Establishment: Group Chat" (C.2.13) with the subject "Test" and participants list with User B and User C as accepted.
	3. User A selects User D to add to the session.
	4. Execute "Inviting new User to Group Chat" (C.5.2) with new User D added to the Group Chat.
	5. User A receives the participant list and the status for each one (User D as added/accepted and User B and User C as accepted).
	6. User A leaves the Group Chat session.
	7. Execute "Mobile Originated Session Termination" (C.3.1).
Pass-Criteria	1. At step 5 User A receives the participant list and the status for each one (User D as added/accepted and User B and User C as accepted).

5.9.4 RCS-con-135 Mobile Originated Group Chat — closed Group Chat

Test Case Id	RCS-con-135 [RCS 5.1]
Test Object	RCS Client
Test Case Description	Verifies setting up a closed Group Chat and attempting to add a new User
Specification Reference	[RCS 5.1]: 3.4.4.2
SCR Reference	
Test code	Verified TTCN-3 code
Preconditions	• User A's RCS device is provisioned for RCS
	• User A is IMS registered for RCS
	• In case of User A's device support UI for switching display notifications on/off then display notification are to be switched on
Test Procedure	1. User A initiates a Closed Group Chat session with User B and User C on his device with the subject "Closed group".
	2. Execute "Mobile Originated Session Establishment: Group Chat" (C.2.13) with the subject "Closed group" with the additional attribute "*a=chatroom:org.openmobilealliance.groupchat.closed*" and participants list with User B and User C as accepted.
	3. User A selects User D (who was not in the original invitation list) to add to the session.
	4. User A may be prevented from selecting User D to add to the session, or if not prevented then execute "Inviting new User to Closed Group Chat" (C.5.4) with new User D invited to the Group Chat. In this last case User A receives an indication that User D cannot be added to the Closed Group Chat.
	5. User A leaves the Closed Group Chat session.
	6. Execute "Mobile Originated Session Termination" (C.3.1).
Pass-Criteria	1. At step 2, the pass-criteria are completely contained in the message flows in Appendix C.
	2. At step 4 User A is either prevented from selecting User D to add to the session, or if not prevented then after selecting User D, User A receives an indication that User D cannot be added to the Closed Group Chat.

5.10 Mobile Terminated Group Chat

5.10.1 RCS-con-140 Mobile Terminated Group Chat — establishment – Terminating User leaves the session

Test Case Id	RCS-con-140
Test Object	RCS Client
Test Case Description	Verifies Mobile Terminated Group Chat session establishment and Terminating User leaves the session
Specification Reference	[RCS 1.2.2]: RCS 3.2.5 [RCS 5.1]: RCS 3.4.4
SCR Reference	
Test code	Verified TTCN-3 code
Preconditions	- User A's RCS device is provisioned for RCS - User A is IMS registered for RCS - In case of User A's device support UI for switching display notifications on/off then display notification are to be switched on [RCS 5.1]
Test Procedure	1. Execute "Mobile Terminated Session Establishment: Group Chat" (C.2.14) with User B as the initiator and User C also invited. 2. User A receives the invitation and the participant list. 3. User A accepts the invitation. 4. Continue to execute "Mobile Terminated Session Establishment: Group Chat" (C.2.14). 5. Execute "MSRP Group Session Message" (C.7.6) with the message "Hello group" from the Test Tool from Client B. 5a. User A receives an "Is Composing" indication from User B [RCS 5.1]. 6. User A receives the message "Hello group" from User B. 7. User A sends the message "Hello BC" to the Group. 8. Execute "MSRP Group Session Message" (C.7.6) with the message "Hello BC" from User A to the Group. 8a. User A receives an indication that the message "Hello BC" has been delivered [RCS 5.1]. 8b. If the MSRP SEND request in step 8 contains a request for display notification, then User A receives an indication that the message "Hello BC" has been displayed [RCS 5.1]. 9. User A leaves the Group Chat session. 10. Execute "Mobile Originated Session Termination" (C.3.1).
Pass-Criteria	1. At step 2 User A receives the invitation and the participant list (User B and User C). 1a. At step 5a User A receives an "Is Composing" indication from User B [RCS 5.1]. 2. At step 6 User A receives the message "Hello group" from User B. 3. At step 8a User A receives an indication that the message "Hello BC" has been delivered [RCS 5.1]. 4. At step 8b. User A receives an indication that message "Hello BC" has been displayed [RCS 5.1].

5.10.2 RCS-con-141 Mobile Terminated Group Chat – establishment – Terminating User tries to rejoin

Test Case Id	RCS-con-140
Test Object	RCS Client

Test Case Description	Verifies Mobile Terminated Group Chat session establishment and Terminating User tries to rejoin
Specification Reference	[RCS 1.2.2]: RCS 3.2.5 [RCS 5.1]: RCS 3.4.4
SCR Reference	
Test code	Verified TTCN-3 code
Preconditions	- User A's RCS device is provisioned for RCS - User A is IMS registered for RCS - In case of User A's device support UI for switching display notifications on/off then display notification are to be switched on [RCS 5.1]
Test Procedure	1. Execute "Mobile Terminated Session Establishment: Group Chat" (C.2.14) with User B as the initiator and User C also invited. 2. User A receives the invitation and the participant list. 3. User A accepts the invitation. 4. Continue to execute "Mobile Terminated Session Establishment: Group Chat" (C.2.14). 5. Execute "MSRP Group Session Message" (C.7.6) with the message "Hello group" from the Test Tool from Client B. 5a. User A receives an "Is Composing" indication from User B [RCS 5.1]. 6. User A receives the message "Hello group" from User B. 7. User A sends the message "Hello BC" to the Group. 8. Execute "MSRP Group Session Message" (C.7.6) with the message "Hello BC" from User A to the Group 8a. User A receives an indication that the message "Hello BC" has been delivered [RCS 5.1]. 8b. If the MSRP SEND request in step 8 contains a request for display notification, then User A receives an indication that the message "Hello BC" has been displayed [RCS 5.1]. 9. User A leaves the Group Chat session. 10. Execute "Mobile Originated Session Termination" (C.3.1). 11. User A tries to rejoin the chat.
Pass-Criteria	1. At step 11 User A is not able to rejoin the chat.

5.11 Group Chat Store and Forward

5.11.1 RCS-con-145 Group Chat Store and Forward – notification for sent messages

Test Case Id	RCS-con-145 [RCS 5.1]
Test Object	RCS Client
Test Case Description	Group Chat Store and Forward – notification for sent messages delivered after the Group Chat has been closed
Specification Reference	[RCS 5.1]: 3.4.4.3.4, 3.4.4.3.5, B.1.14, B.1.15
SCR Reference	
Test code	Verified TTCN-3 code
Preconditions	• User A's RCS device is provisioned for RCS • User A is IMS registered for RCS • In case of User A's device support UI for switching display notifications on/off then display notification are to be switched on
Test Procedure	1. User A, User B, User C and User D are in an established Group Chat session initiated by User B. (Execute "Mobile Terminated Session Establishment: Group Chat" (C.2.14) with User B as the initiator and User A, User C and User D also invited). 2. User D leaves the session involuntarily. (Execute "Participant List Update" (C.5.1) with User D as offline). 3. User A sends the message "Hello group" to the group. 4. Execute "MSRP Group Session Message" (C.7.6) with the message "Hello group" from Client A. 5. User A receives an indication that the message "Hello group" has been delivered to User B and User C (but not to User D). 6. If the MSRP SEND request in step 4 contains a request for display notification, then User A receives an indication that the message "Hello group" has been displayed by User B and User C (but not by User D). 7. The Group Chat session is torn down due to inactivity. Execute "Group Chat Session Tear Down" (C.2.22). 8. (User D gets back online and receives and then displays the message "Hello group") 9. The IMS core (test tool) restarts the original Group Chat and Client A auto-accepts the invitation. Execute "Group Chat re-start: Mobile Terminated" (C.2.23), followed by "Auto-accept Group Chat" (C.2.20), followed by "Get Participant List" (C.5.3). 10. The IMS core (test tool) sends Client A an indication that the message "Hello group" has been delivered to User D. Execute "MSRP Session Store and Forward Message Delivered" (C.7.4). 11. User A receives an indication that the message "Hello group" has been delivered to User D. 12. If the MSRP SEND request in step 4 contains a request for display notification, then User A receives an indication that the message "Hello group" has been displayed by User D. 13. The IMS core (test tool) closes the Group Chat session. Execute "Group Chat Session Tear Down" (C.2.22).
Pass-Criteria	1. At step 11 User A receives an indication that the message "Hello group" has been delivered to User D. 2. At step 12 User A receives an indication that the message "Hello group" has been displayed by User D.

5.11.2   RCS-con-146 Group Chat Store and Forward – delivery of stored messages

Test Case Id	RCS-con-146 [RCS 5.1]
Test Object	RCS Client
Test Case Description	Group Chat Store and Forward – delivery of stored messages after the Group Chat has been closed
Specification Reference	[RCS 5.1]: 3.4.4.3.4, 3.4.4.3.5, B.1.14, B.1.15
SCR Reference	
Test code	Verified TTCN-3 code
Preconditions	• User A's RCS device is provisioned for RCS • User A is IMS registered for RCS • In case of User A's device support UI for switching display notifications on/off then display notification are to be switched on
Test Procedure	1. User A, User B, User C and User D are in an established Group Chat session initiated by User B. (Execute "Mobile Terminated Session Establishment: Group Chat" (C.2.14) with User B as the initiator and User A, User C and User D also invited). 2. User A leaves the Group Chat involuntarily. Simulate by e.g. severely attenuating the cellular signal from the Test Tool to the device under test and waiting ixit_RF_loss_recognition_timer seconds. Note that Client A may succeed in sending a SIP BYE in this case. 3. (While User A is offline, User B sends the message "Hello group" to the group. The Group Chat is then torn down due to inactivity.) 4. Connectivity with the device under test is restored by re-establishing the cellular signal from the Test Tool. 5. Client A re-registers with the IMS core (Test Tool). 6. Client A automatically re-joins the original Group Chat session using the original Group Chat ID. Execute: "Group Chat automatic re-join" (C.2.15) with User A as the initiator. Client A receives and displays the participants list with User B, User C and User D as "FFS". 7. The IMS core (Test Tool) sends the message "Hello group" to Client A. 8. Execute "MSRP Session Store and Forward Message Reception" (C.7.7) with the message "Hello group" (from Client B) to Client A. 9. User A receives the message "Hello group" from User B. 10. The IMS core (test tool) closes the Group Chat session. Execute "Group Chat Session Tear Down" (C.2.22).
Pass-Criteria	1. At step 9 User A receives the message "Hello group" from User B.

5.11.3   RCS-con-147 Group Chat Store and Forward – race condition

Test Case Id	RCS-con-147 [RCS 5.1]
Test Object	RCS Client
Test Case Description	Group Chat – Store and Forward – race condition: user rejoins Group Chat which is being torn down due to inactivity
Specification Reference	[RCS 5.1]: 3.4.4.3.4, 3.4.4.3.5, B.1.16
SCR Reference	
Test code	Verified TTCN-3 code
Preconditions	• User A's RCS device is provisioned for RCS • User A is IMS registered for RCS • In case of User A's device support UI for switching display notifications on/off then display notification are to be switched on

Test Procedure	1. User A, User B, User C and User D are in an established Group Chat session initiated by User B. (Execute "Mobile Terminated Session Establishment: Group Chat" (C.2.14) with User B as the initiator and User A, User C and User D also invited).
	2. User A leaves the Group Chat involuntarily. Simulate by e.g. severely attenuating the cellular signal from the Test Tool to the device under test and waiting ixit_RF_loss_recognition_timer seconds. Note that Client A may succeed in sending a SIP BYE in this case.
	3. (While User A is offline, User B sends the message "Hello group" to the group.)
	4. Connectivity with the device under test is restored by re-establishing the cellular signal from the Test Tool.
	5. Client A re-registers with the IMS core (Test Tool).
	6. Client A automatically re-joins the original Group Chat session using the original Group Chat ID. Execute: "Group Chat automatic re-join" (C.2.15) with User A as the initiator. Client A receives and displays the participants list with User B, User C and User D as present.
	7. Before the stored message can be sent the Group Chat is torn down due to inactivity. Execute "Group Chat Session Tear Down" (C.2.22).
	8. The IMS core (Test Tool) restarts the original Group Chat session using the original Group Chat ID. Execute "Mobile Terminated Session Establishment: Group Chat" (C.2.14) using the original Group Chat ID and with User B, User C and User D as "FFS" in the participants list.
	9. The IMS core (Test Tool) sends the message "Hello group" to Client A.
	10. Execute "MSRP Session Store and Forward Message Reception" (C.7.7) with the message "Hello group" (from Client B) to Client A.
	11. User A receives the message "Hello group" from User B.
	12. The IMS core (test tool) closes the Group Chat session. Execute "Group Chat Session Tear Down" (C.2.22).
Pass-Criteria	1. At step 11 User A receives the message "Hello group" from User B.

5.12 Group Chat Common

5.12.1 RCS-con-165 Group Chat automatic re-join

Test Case Id	RCS-con-165
Test Object	RCS Client
Test Case Description	Verifies Group Chat automatic re-join when a participant leaves the session due to loss of connectivity.
Specification Reference	[RCS 1.2.2]: RCS 3.2.5.5.6, [RIG 1.2.2]: RIG ID_4_21_2 [RCS 5.1]: RCS 3.4.4.3.2
SCR Reference	
Test code	Verified TTCN-3 code
Preconditions	• User A's RCS device is provisioned for RCS • User A is IMS registered for RCS
Test Procedure	1. User A, User B and User C are in an established Group Chat session initiated by User B. (Execute "Mobile Terminated Session Establishment: Group Chat" (C.2.14) with User B as the initiator and User A and User C also invited). 2. User A leaves the Group Chat involuntarily. Simulate by e.g. severely attenuating the cellular signal from the Test Tool to the device under test and waiting ixit_RF_loss_recognition_timer seconds. Note that Client A may succeed in sending a SIP BYE in this case [RCS 5.1]. 3. Connectivity with the device under test is restored by re-establishing the cellular signal from the Test Tool. 4. Client A re-registers with the IMS core (Test Tool). 5. Client A automatically re-joins the original Group Chat session using the original Contribution ID [RCS 1.2.2] or Group Chat ID [RCS 5.1]. Execute: "Group Chat automatic re-join" (C.2.15) with User A as the initiator. Client A receives and displays the participants list with User B and User C as "connected" [RCS 5.1]. 6. Execute "MSRP Group Session Message" (C.7.6) with the message "Hello again A" from User B to the Group. 6a. User A receives an "Is Composing" indication from User B [RCS 5.1]. 7. User A receives the message "Hello again A" from User B. 8. User A leaves the Group Chat session. 9. Execute "Mobile Originated Session Termination" (C.3.1).
Pass-Criteria	1. At step 5 Client A automatically re-joins the original Group Chat. User A receives the participants list [RCS 5.1]. 2. At step 7 User A receives the message "Hello again A" from User B.

5.12.2 RCS-con-166 Group Chat re-start: 404 (Not Found)

Test Case Id	RCS-con-166
Test Object	RCS Client
Test Case Description	Verifies correct behaviour after a Group Chat times out and a participant attempts to re-start the session and receives a 404 Not Found response from the IM server.
Specification Reference	[RCS 1.2.2]: RCS 3.2.5.5.6, [RIG 1.2.2]: RIG ID_4_21_3 [RCS 5.1]: RCS 3.4.4.1.7, RCS 3.4.4.3.3
SCR Reference	
Test code	Verified TTCN-3 code

Preconditions	• User A's RCS device is provisioned for RCS
	• User A is IMS registered for RCS
	• In case of User A's device support UI for switching display notifications on/off then display notification are to be switched on [RCS 5.1]
Test Procedure	1. User A, User B and User C are in an established Group Chat session initiated by User B. (Execute "Mobile Terminated Session Establishment: Group Chat" (C.2.14) with User B as the initiator and User A and User C also invited).
	2. The Group Chat session is torn down due to inactivity. Execute "Group Chat Session Tear Down" (C.2.22).
	3. User A sends the message "Restart" to the original Group.
	4. Client A attempts to automatically re-join the original Group Chat session using the original Contribution ID [RCS 1.2.2] or Group Chat ID [RCS 5.1]. This fails as the session has expired and the IM server (Test Tool) sends 404 Not Found. Execute: "Group Chat re-start: 404 Not Found" (C.2.16) with User A as the initiator.
	5. Client A automatically starts a new Group Chat session using the original Contribution ID [RCS 1.2.2] or Group Chat ID [RCS 5.1] and participant list. Execute: "Group Chat auto-start" (C.2.18) with User A as the initiator and User B and User C as the other members of the previous group session participants list.
	6. Execute "MSRP Group Session Message" (C.7.6) with the message "Restart" from Client A.
	6a. User A receives an indication that the message "Restart" has been delivered [RCS 5.1].
	6b. If the MSRP SEND request in step 6 contains a request for display notification, then User A receives an indication that the message "Restart" has been displayed [RCS 5.1].
	7. User A leaves the Group Chat session.
	8. Execute "Mobile Originated Session Termination" (C.3.1).
Pass-Criteria	1. At step 4 Client A attempts to automatically re-join the original Group Chat.
	2. At step 5 Client A automatically starts a new Group Chat session using the original Contribution ID [RCS 1.2.2] or Group Chat ID [RCS 5.1] and participant list.
	3. At step 6a User A receives an indication that the message "Restart" has been delivered [RCS 5.1].
	4. At step 6b User A receives an indication that message "Restart" has been displayed [RCS 5.1].

5.12.3   RCS-con-167 Group Chat re-start: 403 (Forbidden)

Test Case Id	RCS-con-167
Test Object	RCS Client
Test Case Description	Verifies correct behaviour after a Group Chat times out and a participant attempts to re-start the session but receives a 403 Forbidden response from the IM server.
Specification Reference	[RIG 1.2.2]: RIG ID_4_21_3
	[RCS 5.1]: RCS 3.4.4.1.7
SCR Reference	
Test code	Verified TTCN-3 code
Preconditions	• User A's RCS device is provisioned for RCS
	• User A is IMS registered for RCS

Test Procedure	1. User A, User B and User C are in an established Group Chat session initiated by User B. (Execute "Mobile Terminated Session Establishment: Group Chat" (C.2.14) with User B as the initiator and User A and User C also invited).
	2. The Group Chat session is torn down due to inactivity. Execute "Group Chat Session Tear Down" (C.2.22).
	3. User A sends the message "Restart" to the original Group.
	4. Client A attempts to automatically re-join the original Group Chat using the original Contribution ID [RCS 1.2.2] or Group Chat ID [RCS 5.1]. This fails as the session has expired and the IM server (Test Tool) sends 403 Forbidden. Execute: "Group Chat re-start: 403 Forbidden" (C.2.17) with User A as the initiator.
	5. Client A either: *200)* Abandons the attempt to start a Group Chat and sends no new messages [RCS 1.2.2 only]. Or b) Starts a new Group Chat in which case execute "Mobile Originated Session Establishment: Group Chat" (C.2.13) with User A as the initiator, with the subject "Restart" and participants list with User B and User C [RCS 1.2.2 and RCS 5.1]. Then User A leaves the Group Chat session. Execute "Mobile Originated Session Termination" (C.3.1).
Pass-Criteria	1. At step 4 Client A attempts to automatically re-join the original Group Chat.
	2. At step 5 Client A either: *201)* Sends no messages [RCS 1.2.2 only]. Or b) Starts a new Group Chat [RCS 1.2.2 and RCS 5.1].

5.12.4   RCS-con-168 Group Chat: Concurrent sessions

Test Case Id	RCS-con-168
Test Object	RCS Client
Test Case Description	Verifies correct behaviour after a Group Chat is re-started more than once leading to two concurrent sessions.
Specification Reference	[RIG 1.2.2]: RIG ID_4_21_3 [RCS 5.1]: RCS 3.4.4.1.7
SCR Reference	
Test code	Verified TTCN-3 code
Preconditions	• User A's RCS device is provisioned for RCS • User A is IMS registered for RCS • In case of User A's device support UI for switching display notifications on/off then display notification are to be switched on [RCS 5.1]

Test Procedure	1. User A, User B, User C and User D are in a re-started Group Chat session (session 1), re-started by User B. (Execute "Mobile Terminated Session Establishment: Group Chat" (C.2.14) with User B as the initiator and User A and User C and User D also invited). User C does not re-join (as is offline).
	2. Wait 5 seconds.
	3. User C (the Test Tool) re-starts the same Group Chat using the same Contribution ID [RCS 1.2.2] or Group Chat ID [RCS 5.1] (session 2). (User C was offline at step 1 and also was not aware that User D was a member of the Group Chat). Execute: "Group Chat concurrent re-start: Mobile Terminated" (C.2.19) with User C as the initiator and User A and User B (only) as the other members of the participants list.
	4. Client A auto-accepts the group session request from step 3. Execute: "Auto-accept Group Chat" (C.2.20).
	5. Client A auto-invites Client D to the Group Chat (session 2). Execute: "Auto-invite Group Chat" (C.2.21).
	6. User A sends the message "Hello again" to the group using session 2.
	7. Execute "MSRP Group Session Message" (C.7.6) (session 2) with the message "Hello again" from Client A.
	7a. User A receives an indication that the message "Hello again" has been delivered [RCS 5.1].
	7b. If the MSRP SEND request in step 7 contains a request for display notification, then User A receives an indication that the "Hello again" has been displayed [RCS 5.1].
	8. (User B (the Test Tool) did not receive the second re-start (session 2) at step 3 and so when he sends a message Client B uses session 1). Execute "MSRP Group Session Message" (C.7.6) with the message "Back again" from the Test Tool from Client B using session 1.
	8a. User A receives an "Is Composing" indication from User B [RCS 5.1].
	9. User A receives the message "Back again" from User B.
	10. Client A auto-invites Client B to the Group Chat (session 2). Execute: "Auto-invite Group Chat" (C.2.21).
	11. User A leaves the Group Chat session.
	12. Execute "Mobile Originated Session Termination" (C.3.1).
Pass-Criteria	1. At step 4 Client A auto-accepts the group session request.
	2. At step 5 Client A auto-invites Client D to the Group Chat session 2.
	3. At step 7 the MSRP Group Session uses session 2.
	4. At step 9 User A receives the message "Back again" from User B.
	5. At step 10 Client A auto-invites Client B to the Group Chat session 2.

5.12.5   RCS-con-169 Group Chat: Maximum Concurrent Sessions (Includes Optional Features)

Test Case Id	RCS-con-169
Test Object	RCS Client
Test Case Description	Mobile Originated Group Chat: Maximum Concurrent Sessions
Specification Reference	[RCS 5.x]: RCS 3.4.1
SCR Reference	
Test code	Verified TTCN-3 code
Preconditions	• User A's RCS device is provisioned for RCS
	• User A is IMS registered for RCS
	• RCS Provisioning Parameter MAX CONCURRENT SESSION is set to 1

Test Procedure	1. User A initiates a Group Chat session with User B, User C and User D on his device with the subject "Test".
	2. Execute "Mobile Originated Session Establishment: Group Chat" (C.2.13) with the subject "Test" and participants list with User B and User C as accepted (User D does not accept).
	3. User A receives the participant list and the status for each one.
	4. User A sends the message "Hello group" to the group.
	5. User A initiates another Group Chat session with User E and User F on his device with the subject "Test2".
	6. Execute "Mobile Originated Session Establishment: Group Chat" (C.2.13) with the subject "Test2" and participants list with User E and User F as accepted.
	7. User A sends the message "Hello group2" to the group.
Pass-Criteria	1. At step 6 the first group chat is torn down and User A receives the participant list of the second group chat with User E and User F and the status for each.
	2. At step 7 User A receives an indication that the message "Hello group2" has been delivered [RCS 5.1].

5.13 Mobile Originated File transfer

5.13.1 RCS-con-200 Mobile Originated File Transfer (Includes Optional Features)

Test Case Id	RCS-con-200
Test Object	RCS Client
Test Case Description	Mobile Originated File Transfer
Specification Reference	[RCS 1.2.2]: RCS 3.4.1
SCR Reference	
Test code	Verified TTCN-3 code
Preconditions	• User A's RCS device is provisioned for RCS • User A is IMS registered for RCS Applicability: ics_fileTransfer
Test Procedure	1. User A initiates a File Transfer towards User B on his device. 2. Execute "Mobile Originated Session Establishment" (C.2.1). 3. User A's RCS client sends a file in an MSRP session. 4. Execute "Mobile Originated Session Termination" (C.3.1).
Pass-Criteria	1. At step 3 the MSRP session is setup correctly and a file is transferred successfully.

5.13.2 RCS-con-201 Mobile Originated File Transfer – Rejected (Includes Optional Features)

Test Case Id	RCS-con-201
Test Object	RCS Client
Test Case Description	Mobile originated file transfer – Rejected
Specification Reference	[RCS 1.2.2]: RCS 3.4.3
SCR Reference	
Test code	Verified TTCN-3 code
Preconditions	• User A's RCS device is provisioned for RCS • User A is IMS registered for RCS Applicability: ics_fileTransfer
Test Procedure	1. User A initiates a File Transfer towards User B on his device. 2. Execute "Mobile Originated Session – Reject" (C.4.1).
Pass-Criteria	1. At step 2 User A's RCS client shows User B rejected the file sharing session.

5.13.3 RCS-con-202 Mobile Originated File Transfer – Store and Forward Sending 1

Test Case Id	RCS-con-202
Test Object	RCS Client
Test Case Description	Mobile Originated File Transfer – Store and Forward Sending 1
Specification Reference	[RCS 5.x]: RCS 3.5.4.7
SCR Reference	
Test code	Verified TTCN-3 code

Preconditions	• User A's RCS device is provisioned for RCS • User A is IMS registered for RCS Applicability: ics_fileTransfer
Test Procedure	1. User A initiates a 1-to-1 Chat session with User B on his device with the message "Hello B". (User B is offline) 2. Execute "Mobile Originated Session: Store and Forward — Receiver offline" (C.2.10) with the message "Hello B". 3. User A selects a file (e.g. image) to send it to User B. (User B is offline) 4. Execute "MSRP Session Store and Forward File Transfer" (C.7.8). 5. (User A keeps chat session open) 6. After transfer has been completed execute "MSRP Session Store and Forward File Transfer Completed" (C.7.9). 7. (User A keeps chat session open and User B comes back online) 8. Execute "MSRP Session Store and Forward Message Delivered" (C.7.4). 9. Execute "MSRP Session Store and Forward File Delivered Notification" (C.7.10).
Pass-Criteria	1. At Step 4 User A's RCS client shows the progress of the upload (transfer bar). 2. At Step 6 User A should not get a notification that the file has been delivered. 3. At Step 9 User A should get a notification that the file has been delivered.

5.13.4 RCS-con-205 Mobile Originated File Transfer – File Transfer within a Group Chat

Test Case Id	RCS-con-205
Test Object	RCS Client
Test Case Description	Mobile Originated File Transfer – Send a File Transfer within a Group Chat
Specification Reference	[RCS 5.x]: RCS 5.3.1 and RCS 3.5.4.2
SCR Reference	
Test code	Verified TTCN-3 code
Preconditions	• User A's RCS device is provisioned for RCS • User A is IMS registered for RCS Applicability: ics_fileTransfer
Test Procedure	1. User A, User B and User C are in an established Group Chat session initiated by User A. (Execute "Mobile Originated Session Establishment: Group Chat" (C.2.1.3) with User A as the initiator and User B and User C also invited). 2. User A initiates a File Transfer towards User B and User C on his device. 3. Execute "Mobile Originated Session Establishment in Group Chat" (C.2.24). 4. User A's RCS client sends a file in an MSRP session. 5. Execute "Mobile Originated Session Termination: Video share, Image share, File share, Group Sessions" (C.3.5).
Pass-Criteria	1. At step 3 the MSRP session is setup correctly and a file is transferred successfully.

5.13.5 RCS-con-206 Mobile Originated File Transfer – Resume a Send File Transfer

Test Case Id	RCS-con-206
Test Object	RCS Client
Test Case Description	Mobile Originated File Transfer – Resume a Send File Transfer
Specification Reference	[RCS 5.x]: RCS 5.1.3
SCR Reference	
Test code	Verified TTCN-3 code
Preconditions	• User A's RCS device is provisioned for RCS • User A is IMS registered for RCS Applicability: ics_fileTransfer
Test Procedure	1. User A initiates a File Transfer towards User B on his device. 2. Execute "Mobile Originated Session Establishment" (C.2.1). 3. User A's RCS client sends a file in an MSRP session. 4. User B (Test Tool) leaves the Group Chat involuntarily. Simulate by e.g. severely attenuating the cellular signal and waiting ixit_RF_loss_recognition_timer seconds. Note that Client B may succeed in sending a SIP BYE in this case [RCS 5.1]. 5. Connectivity with User B's client is restored by re-establishing the cellular signal from the Test Tool. 6. Client B re-registers with the IMS core (Test Tool). 7. Client B automatically re-joins the original Group Chat session using the original Contribution ID [RCS 1.2.2] or Group Chat ID [RCS 5.1]. Execute: "Group Chat automatic re-join" (C.2.15). 8. File Transfer is resumed and completed. 9. Execute "Store and Forward File Transfer Delivered Notification" (C.7.10). 10. Execute "Mobile Originated Session Termination" (C.3.1).
Pass-Criteria	1. At step 6 the MSRP session is again setup correctly and the file transfer is completed successfully. 2. At step 9 User A is notified that the file has been delivered.

5.13.6 RCS-con-209 Mobile Originated File Transfer – Send Audio Message

Test Case Id	RCS-con-209
Test Object	RCS Client
Test Case Description	Mobile Originated File Transfer – Send Audio Message
Specification Reference	[RCS 5.x]: RCS 3.11.4
SCR Reference	
Test code	Verified TTCN-3 code
Preconditions	• User A's RCS device is provisioned for RCS • User A is IMS registered for RCS Applicability: ics_fileTransferAudioMessage

Test Procedure	1. User A selects User B (Test Tool) from the Adress Book and selects to send a Audio Message.
	2. User A records the Audio Message using the AMR codec and the microphone of the DUT and sends it to User B.
	3. Execute "Mobile Originated Session Establishment" (C.2.1)
	4. User A's RCS client sends the file in an HTTP or MSRP session based on the parameter set at FT DEFAULT MECH.
	5. Execute "Mobile Originated Session Termination" (C.3.1)
Pass-Criteria	1. At step 3 the HTTP or MSRP session is setup correctly and an audio file is transferred successfully.

5.13.7 RCS-con-220 Mobile Originated File Transfer in a Group Chat – Blocked file transfer

Test Case Id	RCS-con-220
Test Object	RCS Client
Test Case Description	Mobile Originated File Transfer in a Group Chat – Blocked File Transfer
Specification Reference	[RCS 5.x]: RCS3.5.4.2
SCR Reference	
Test code	Verified TTCN-3 code
Preconditions	• User A's RCS device is provisioned for RCS
	• User A is IMS registered for RCS
	Applicability:
	ics_fileTransfer
Test Procedure	1. User A, User B and User C are in an established Group Chat session initiated by User A. (Execute "Mobile Originated Session Establishment: Group Chat" (C.2.1.3) with User A as the initiator and User B and User C also invited). Conference Focus indicated support for File Transfer in Chat. User A is blacklisted on the 'rcs_pnb_ft_blockedusers' list of the BPEF.
	2. User A initiates a File Transfer towards User B and User C (both Test Tool) on his device.
	3. BPEF (Test Tool) sends a 403 Forbidden with a warning header set to "122 Function not allowed".
Pass-Criteria	1. If the Common Message Store is supported it shall store the File Transfer History object data as defined in [RCS5-CPM-MSGSTOR-ENDORS] for the blocked File Transfer event in user ś dedicated Blocked Folder.
	2. User A is informed that File Transfer is not allowed.

5.14 Mobile Terminated File transfer

5.14.1 RCS-con-210 Mobile Terminated File Transfer (Includes Optional Features)

Test Case Id	RCS-con-210
Test Object	RCS Client
Test Case Description	Mobile Terminated File Transfer
Specification Reference	[RCS 1.2.2]: RCS 3.4.1
SCR Reference	
Test code	Verified TTCN-3 code
Preconditions	• User A's RCS device is provisioned for RCS • User A is IMS registered for RCS Applicability: ics_fileTransfer
Test Procedure	1. Execute "Mobile Terminated Session Establishment" (C.2.2). 2. The test tool sends a file in an MSRP session to User A's RCS client. 3. Execute "Mobile Terminated Session Termination" (C.3.2).
Pass-Criteria	1. At step 2 User A's RCS client receives the file.

5.14.2 RCS-con-211 Mobile Terminated File Transfer – Rejected (Includes Optional Features)

Test Case Id	RCS-con-211
Test Object	RCS Client
Test Case Description	Mobile terminated file transfer – Rejected
Specification Reference	[RCS 1.2.2]: RCS 3.4.3
SCR Reference	
Test code	Verified TTCN-3 code
Preconditions	• User A's RCS device is provisioned for RCS • User A is IMS registered for RCS • User A's RCS device is configured with File Transfer Auto-accept set to "off" (ftAutAccept set to 0) Applicability: ics_fileTransfer
Test Procedure	1. Execute "Mobile Terminated Session – Reject" (C.4.2).
Pass-Criteria	1. At step 1 User A's RCS client shows no ongoing file transfer.

5.14.3 RCS-con-212 Mobile Terminated File Transfer – File Size Limit (Includes Optional Features)

Test Case Id	RCS-con-212
Test Object	RCS Client
Test Case Description	File size limit
Specification Reference	[RCS 1.2.2]: RCS 3.4.6
SCR Reference	
Test code	Verified TTCN-3 code

Preconditions	• User A is IMS registered for RCS
	• User A's RCS device is provisioned for RCS
	• User A's RCS device is configured with a non-zero value of FT MAX SIZE
	Applicability:
	     ics_fileTransfer
	ixit:
	     ixit_FTMAXSIZE

Test Procedure	1. Execute steps 1 to 3 of "Mobile Terminated Session Establishment: File Transfer" (C.2.2) from User B, for a file of size larger than FT MAX SIZE (i.e. maximum file size User A's RCS client is allowed to receive, given by ixit_FTMAXSIZE). 2. User A's RCS client auto-rejects the file transfer invitation request with a 603 DECLINE towards User B (and User A receives a warning message). 3. The test tool sends a SIP ACK message to User A's RCS client.
Pass-Criteria	1. At step 2 User A's RCS client auto-rejects the file transfer invitation request. 2. At step 2 User A receives a warning message indicating file size too large.

5.14.4 RCS-con-213 Mobile Terminated File Transfer – File Size Warn Limit (Includes Optional Features)

Test Case Id	RCS-con-213
Test Object	RCS Client
Test Case Description	File size warning
Specification Reference	[RCS 1.2.2]: RCS 3.4.6
SCR Reference	
Test code	Verified TTCN-3 code

Preconditions	• User A is IMS registered for RCS
	• User A's RCS device is provisioned for RCS
	• User A's RCS device is configured with a non-zero value of FT WARN SIZE
	Applicability:
	     ics_fileTransfer
	ixit:
	     ixit_FTWARNSIZE

Test Procedure	1. Execute steps 1 to 3 of "Mobile Terminated Session Establishment: File Transfer" (C.2.2) from User B, for a file of size larger than FT WARN SIZE (i.e. maximum file size User A's RCS client is allowed to receive, given by ixit_FTMAXSIZE, before a warning requesting confirmation is required). 2. User A's RCS client determines file is of size larger than FT WARN SIZE and User A receives a warning message requesting confirmation. 3. User A accepts the confirmation request. 4. Continue to execute steps 6 to 8 of "Mobile Terminated Session Establishment: File Transfer" (C.2.2).
Pass-Criteria	1. At step 2 User A receives a warning message requesting confirmation. 2. At step 4 the file is transferred successfully.

5.14.5 RCS-con-214 Mobile Terminated File Transfer – Store and Forward Receiving 1

Test Case Id	RCS-con-214
Test Object	RCS Client
Test Case Description	Mobile Terminated File Transfer – Store and Forward Receiving 1
Specification Reference	[RCS 5.x]: RCS 3.5.4.7
SCR Reference	
Test code	Verified TTCN-3 code
Preconditions	• User A's RCS device is provisioned for RCS • User A is IMS registered for RCS • Have a testfile (e.g. image) ready on the FTF with a known SDP file-transfer-id and file-name Applicability: ics_fileTransfer
Test Procedure	1. Execute "Mobile Terminated Session Establishment" (C.2.2). 2. Execute "Mobile Terminated File Transfer – Store and Forward Receiving" (C.2.25). 3. Execute "Mobile Terminated Session Termination" (C.3.6).
Pass-Criteria	1. At step 2 User A's RCS client receives the file.

5.14.6 RCS-con-218 Mobile Terminated File Transfer in a Group Chat – Receive a file

Test Case Id	RCS-con-218
Test Object	RCS Client
Test Case Description	Mobile Terminated File Transfer in a Group Chat – Receive a file
Specification Reference	[RCS 5.x]: RCS 3.5.4.2
SCR Reference	
Test code	Verified TTCN-3 code
Preconditions	• User A's RCS device is provisioned for RCS • User A is IMS registered for RCS • User A, B and C all include IARI tags for the RCS File Transfer services they support in the contact header (+g.3gpp.iari-ref="urn%3Aurn-7%3A3gpp-application.ims.iari.rcse.ft") Applicability: ics_fileTransfer
Test Procedure	1. User A, User B and User C are in an established Group Chat session initiated by User A. (Execute "Mobile Originated Session Establishment: Group Chat" (C.2.1.3) with User A as the initiator and User B and User C also invited). Conference Focus indicated support for File Transfer in Chat by including the IARI tags. 2. User B (Test Tool) sends a File in an MSRP session towards User A's and User C's (Test Tool) RCS client which is handled by the conference focus. 3. User A accepts the file transfer. 4. Execute "Mobile Terminated Session Termination" (C.3.2).
Pass-Criteria	1. At step 3 a test file is received and successfully downloaded.

5.14.7 RCS-con-219 Mobile Terminated File Transfer in a Group Chat – Ignore to receive a file

Test Case Id	RCS-con-219
Test Object	RCS Client
Test Case Description	Mobile Terminated File Transfer in a Group Chat – Ignore to receive a file
Specification Reference	[RCS 5.x]: RCS 3.5.4.7.1
SCR Reference	
Test code	Verified TTCN-3 code
Preconditions	• User A's RCS device is provisioned for RCS • User A is IMS registered for RCS • User A, B and C all include IARI tags for the RCS File Transfer services they support in the contact header (+g.3gpp.iari-ref="urn%3Aurn-7%3A3gpp-application.ims.iari.rcse.ft") Applicability: ics_fileTransfer
Test Procedure	1. User A, User B and User C are in an established Group Chat session initiated by User A. (Execute "Mobile Originated Session Establishment: Group Chat" (C.2.13) with User A as the initiator and User B and User C also invited). Conference Focus indicated support for File Transfer in Chat by including the IARI tags. 2. User B (Test Tool) sends a File in an MSRP session towards User A's and User C's (Test Tool) RCS client which is handled by the conference focus. 3. User A ignores the file transfer for at least the time defined in the corresponding configured timer. 4. The terminating FTF cancels the SIP INVITE request towards the receiver by sending a SIP CANCEL and includes a reason header based on [RFC3326]: Reason: SIP;cause=408;text="User not responding".
Pass-Criteria	1. At step 4 User A receives a SIP CANCEL with the reason header "408 User not Responding".

5.14.8 RCS-con-223 Mobile Terminated File Transfer – Resume receiving a file

Test Case Id	RCS-con-223
Test Object	RCS Client
Test Case Description	Mobile Terminated File Transfer – Resume receiving a file
Specification Reference	[RCS 5.x]: RCS 3.5.4 and [RFC5547]
SCR Reference	
Test code	Verified TTCN-3 code
Preconditions	• User A's RCS device is provisioned for RCS • User A is IMS registered for RCS Applicability: ics_fileTransfer
Test Procedure	1. Execute "Mobile Terminated Session Establishment" (C.2.2). 2. The test tool sends a large file in an MSRP session to User A's RCS client. 3. While transferring the file User A's handset is power cycled. 4. User A restarts the RCS client. 5. Execute "Mobile Originated Session Termination" (C.3.2).

Pass-Criteria	1. At step 4 the device reconnects and sends a SIP INVITE using the file-range attribute including the file-selector to User B (Test Tool) asking for the missing part of the file. After resuming the file transfer is completed.

5.14.9 RCS-con-226 Mobile Terminated File Transfer – Receive Audio Message

Test Case Id	RCS-con-226
Test Object	RCS Client
Test Case Description	Mobile Terminated File Transfer – Receive Audio Message
Specification Reference	[RCS 5.x]: RCS 3.11.4
SCR Reference	
Test code	Verified TTCN-3 code
Preconditions	• User A's RCS device is provisioned for RCS • User A is IMS registered for RCS Applicability: ics_fileTransferAudioMessage
Test Procedure	1. Execute "Mobile Terminated Session Establishment" (C.2.2). 2. The test tool sends a file in an HTTP or MSRP session based on the parameter set at FT DEFAULT MECH to User A's RCS client. 3. Execute "Mobile Terminated Session Termination" (C.3.2).
Pass-Criteria	1. At step 2 User A's RCS client receives the file and is able to display it on the DUT.

5.15 Mobile Originated Image sharing

5.15.1 RCS-con-250 Mobile Originated Image Sharing – Session Establishment – Mobile Originated Session Termination (Includes Optional Features)

Test Case Id	RCS-con-250
Test Object	RCS Client
Test Case Description	Mobile Originated Image sharing session – Mobile originated Session termination
Specification Reference	[RCS 1.2.2]: RCS 3.3.8
SCR Reference	
Test code	Verified TTCN-3 code
Preconditions	• User A's RCS device is provisioned for RCS • User A is IMS registered for RCS Applicability: ics_imageShare
Test Procedure	1. User A establishes a CS Voice call to User B. 2. Execute "Mobile Originated Capability Exchange" (C.1.1). 3. User A initiates an Image Share session towards User B on his device. 4. Execute "Mobile Originated Session Establishment" (C.2.1). 5. User A's RCS client sends an image in an MSRP session. 6. Execute "Mobile Originated Session Termination" (C.3.1). 7. Execute "Mobile Terminated Capability Exchange" (C.1.2).
Pass-Criteria	1. At step 5 the MSRP session is setup correctly and an image is transferred successfully. 2. At step 7 User A's RCS client shows User B still as available for image sharing.

5.15.2 RCS-con-251 Mobile Originated Image Sharing – Session Establishment – rejected (Includes Optional Features)

Test Case Id	RCS-con-251
Test Object	RCS Client
Test Case Description	Mobile originated image sharing session establishment – Rejected
Specification Reference	[RCS 1.2.2]: RCS 3.3.11
SCR Reference	
Test code	Verified TTCN-3 code
Preconditions	• User A's RCS device is provisioned for RCS • User A is IMS registered for RCS Applicability: ics_imageShare
Test Procedure	1. User A establishes a CS Voice call to User B. 2. Execute "Mobile Originated Capability Exchange" (C.1.1). 3. User A initiates an Image Share session towards User B on his device. 4. Execute "Mobile Originated Call – Reject" (C.4.1).
Pass-Criteria	1. At step 4 User A's RCS client shows User B rejected the image sharing session.

5.16 Mobile Terminated Image sharing

5.16.1 RCS-con-270 Mobile Terminated Image Sharing – Session Establishment – Mobile Terminated Session Termination (Includes Optional Features)

Test Case Id	RCS-con-270
Test Object	RCS Client
Test Case Description	Mobile Terminated Image sharing session – Mobile Terminated session termination
Specification Reference	[RCS 1.2.2]: RCS 3.3.8
SCR Reference	
Test code	Verified TTCN-3 code
Preconditions	• User A's RCS device is provisioned for RCS • User A is IMS registered for RCS Applicability: ics_imageShare
Test Procedure	1. User A establishes a CS Voice call to User B. 2. Execute "Mobile Originated Capability Exchange" (C.1.1). 3. Execute "Mobile Terminated Session Establishment" (C.2.2). 4. The test tool sends an image in an MSRP session to User A's RCS client. 5. Execute "Mobile Terminated Session Termination" (C.3.2). 6. Execute "Mobile Originated Capability Exchange" (C.1.1).
Pass-Criteria	1. At step 4 User A's RCS client receives the image. 2. At step 6 User A's RCS client shows User B still as available for image sharing.

5.16.2 RCS-con-271 Mobile Terminated Image Sharing – Session Establishment – rejected (Includes optional Features)

Test Case Id	RCS-con-271
Test Object	RCS Client
Test Case Description	Mobile terminated Image sharing session establishment – Rejected
Specification Reference	[RCS 1.2.2]: RCS 3.3.11
SCR Reference	
Test code	Verified TTCN-3 code
Preconditions	• User A's RCS device is provisioned for RCS • User A is IMS registered for RCS Applicability: ics_imageShare
Test Procedure	1. User A establishes a CS Voice call to User B. 2. Execute "Mobile Originated Capability Exchange" (C.1.1). 3. Execute "Mobile Terminated Session – Reject" (C.4.2).
Pass-Criteria	1. At step 3 User A's RCS client shows no ongoing image share session.

5.17 Mobile Originated Video sharing

5.17.1 RCS-con-300 Mobile Originated Video Sharing – Session Establishment – Mobile Originated Session Termination (Includes Optional Features)

Test Case Id	RCS-con-300
Test Object	RCS Client
Test Case Description	Mobile Originated Video sharing session – Mobile originated termination
Specification Reference	[RCS 1.2.2]: RCS 3.3.4
SCR Reference	
Test code	Verified TTCN-3 code
Preconditions	- The client A's handset coverage is 3G - User A's RCS device is provisioned for RCS - User A is IMS registered for RCS Applicability: ics_videoShare
Test Procedure	1. User A establishes a CS Voice call to User B. 2. Execute "Mobile Originated Capability Exchange" (C.1.1). 3. User A initiates a Video Share session towards User B on his device. 4. Execute "Mobile Originated Session Establishment" (C.2.1). 5. User A terminates the Video Share session. 6. Execute "Mobile Originated Session Termination" (C.3.1). 7. Execute "Mobile Terminated Capability Exchange" (C.1.2).
Pass-Criteria	1. At step 4 the test tool receives an RTP video stream from User A's RCS device. 2. At step 7 User A's RCS client shows User B still as available for video sharing.

5.17.2 RCS-con-301 Mobile Originated Video Sharing – Session Establishment – Mobile Terminated Session Termination (Includes Optional Features)

Test Case Id	RCS-con-301
Test Object	RCS Client
Test Case Description	Mobile Terminated Video sharing session – Mobile Terminated Session termination
Specification Reference	[RCS 1.2.2]: RCS 3.3.5
SCR Reference	
Test code	Verified TTCN-3 code
Preconditions	- The client A's handset coverage is 3G - User A's RCS device is provisioned for RCS - User A is IMS registered for RCS Applicability: ics_videoShare

Test Procedure	1. User A establishes a CS Voice call to User B.
	2. Execute "Mobile Originated Capability Exchange" (C.1.1).
	3. User A initiates a Video Share session towards User B on his device.
	4. Execute "Mobile Originated Session Establishment" (C.2.1).
	5. Execute "Mobile Terminated Session Termination" (C.3.2).
	6. Execute "Mobile Originated Capability Exchange" (C.1.1).
Pass-Criteria	1. At step 3 the test tool receives an RTP video stream from User A's RCS device.
	2. At step 5 User A's RCS client shows User B still as available for video sharing.

5.17.3   RCS-con-302 Mobile Originated Video Sharing – Session Establishment – Rejected (Includes Optional Features)

Test Case Id	RCS-con-302
Test Object	RCS Client
Test Case Description	Unsuccessful mobile originated video sharing session establishment
Specification Reference	[RCS 1.2.2]: RCS 3.3.11
SCR Reference	
Test code	Verified TTCN-3 code
Preconditions	• The client A's handset coverage is 3G
	• User A's RCS device is provisioned for RCS
	• User A is IMS registered for RCS
	Applicability:
	ics_videoShare
Test Procedure	1. User A establishes a CS Voice call to User B.
	2. Execute "Mobile Originated Capability Exchange" (C.1.1).
	3. User A initiates a Video Share session towards User B on his device.
	4. Execute "Mobile Originated Session – Reject" (C.4.1).
Pass-Criteria	1. At step 4 User A's RCS client shows User B rejected the video sharing session.

5.17.4   RCS-con-303 Mobile Originated Video Sharing – Send Video Sharing outside of a Voice Call

Test Case Id	RCS-con-303
Test Object	RCS Client
Test Case Description	Mobile Originated Video Sharing – Send Video Sharing outside of a Voice Call
Specification Reference	[RCS 5.x]: RCS 3.6.1.4.4 and RCS 3.6.4.1.2
SCR Reference	
Test code	Verified TTCN-3 code
Preconditions	• User A's RCS device is provisioned for RCS
	• User A is IMS registered for RCS
	• User A and B indicate Video Share capability
	Applicability:
	ics_videoShare

Test Procedure	1. User A selects User B (Test Tool) from the address book and initiates a Video Share session towards User B on his device.
	2. Execute "Mobile Originated Session Establishment" (C.2.1).
	3. User A terminates the Video Share session.
	4. Execute "Mobile Originated Session Termination" (C.3.1).
Pass-Criteria	1. At step 2 the test tool receives an RTP video stream from User A's RCS device.

5.17.5   RCS-con-304 Mobile Originated Video Sharing – Send Video Sharing outside of a Voice Call - Rejected

Test Case Id	RCS-con-304
Test Object	RCS Client
Test Case Description	Mobile Originated Video Sharing – Send Video Sharing outside of a Voice Call - Rejected
Specification Reference	[RCS 5.x]: RCS 3.6.1.4.4 and RCS 3.6.4.1.2
SCR Reference	
Test code	Verified TTCN-3 code
Preconditions	• User A's RCS device is provisioned for RCS
	• User A is IMS registered for RCS
	• User A and B indicate Video Share capability
	Applicability:
	ics_videoShare
Test Procedure	1. User A initiates a Video Share session towards User B on his device.
	2. Execute "Mobile Originated Session – Reject" (C.4.1).
Pass-Criteria	1. At step 2 User A's RCS client shows User B rejected the video sharing session.

5.17.6   RCS-con-305 Mobile Originated Video Sharing –Video Sharing outside of a Voice Call not possible

Test Case Id	RCS-con-305
Test Object	RCS Client
Test Case Description	Mobile Originated Video Sharing – Video Sharing outside of a Voice Call not possible
Specification Reference	[RCS 5.x]: 3.6.1.4.4 and RCS 3.6.4.1.2
SCR Reference	
Test code	Verified TTCN-3 code
Preconditions	• The client B's handset (Test Tool) coverage is 2G
	• User A's RCS device is provisioned for RCS
	• User A is IMS registered for RCS
	Applicability:
	ics_videoShare
Test Procedure	1. User A tries to initiate a Video Share towards User B on his device.
Pass-Criteria	1. User A shall not be able to share Video with User B.

5.18 Mobile Terminated Video sharing

5.18.1 RCS-con-320 Mobile Terminated Video Sharing – Session Establishment – Mobile Terminated Session Termination (Includes Optional Features)

Test Case Id	RCS-con-320
Test Object	RCS Client
Test Case Description	Mobile Terminated Video sharing session – Mobile Terminated Session termination
Specification Reference	[RCS 1.2.2]: RCS 3.3.4
SCR Reference	
Test code	Verified TTCN-3 code
Preconditions	• The client A's handset coverage is 3G • User A's RCS device is provisioned for RCS • User A is IMS registered for RCS Applicability: ics_videoShare
Test Procedure	1. User A establishes a CS Voice call to User B. 2. Execute "Mobile Originated Capability Exchange" (C.1.1). 3. Execute "Mobile Terminated Session Establishment" (C.2.2). 4. The test tool sends a video stream to User A's RCS client. 5. Execute "Mobile Terminated Session Termination" (C.3.2). 6. Execute "Mobile Originated Capability Exchange" (C.1.1).
Pass-Criteria	1. At step 4 on User A's RCS client the video stream received from User B can be seen. 2. At step 6 User A's RCS client shows User B still as available for video sharing.

5.18.2 RCS-con-321 Mobile Terminated Video Sharing – Session Establishment – Mobile Originated Session Termination (Includes Optional features)

Test Case Id	RCS-con-321
Test Object	RCS Client
Test Case Description	Mobile Terminated Video sharing session – Mobile Originated session termination
Specification Reference	[RCS 1.2.2]: RCS 3.3.5
SCR Reference	
Test code	Verified TTCN-3 code
Preconditions	• The client A's handset coverage is 3G • User A's RCS device is provisioned for RCS • User A is IMS registered for RCS Applicability: ics_videoShare

Test Procedure	1. User A establishes a CS Voice call to User B.
	2. Execute "Mobile Originated Capability Exchange" (C.1.1).
	3. Execute "Mobile Terminated Session Establishment" (C.2.2).
	4. The test tool sends a video stream to User A's RCS client.
	5. User A terminates the Video Share session.
	6. Execute "Mobile Originated Session Termination" (C.3.1).
	7. Execute "Mobile Terminated Capability Exchange" (C.1.2).
Pass-Criteria	1. At step 4 on User A's RCS client the video stream received from User B can be seen.
	2. At step 7 User A's RCS client shows User B still as available for video sharing.

5.18.3 RCS-con-322 Mobile Terminated Video Sharing – Session Establishment – Rejected (Includes Optional Features)

Test Case Id	RCS-con-322
Test Object	RCS Client
Test Case Description	Unsuccessful mobile terminated video sharing session establishment
Specification Reference	[RCS 1.2.2]: RCS 3.3.11
SCR Reference	
Test code	Verified TTCN-3 code
Preconditions	• The client A's handset coverage is 3G
	• User A's RCS device is provisioned for RCS
	• User A is IMS registered for RCS
	Applicability:
	ics_videoShare
Test Procedure	1. User A establishes a CS Voice call to User B.
	2. Execute "Mobile Originated Capability Exchange" (C.1.1).
	3. Execute "Mobile Terminated Session – Reject" (C.4.2).
Pass-Criteria	1. At step 3 User A's RCS client shows User B as still available for video sharing.

5.18.4 RCS-con-323 Mobile Terminated Video Sharing – Receive Video Sharing outside of a Voice Call

Test Case Id	RCS-con-323
Test Object	RCS Client
Test Case Description	Mobile Terminated Video Sharing – Receive Video Sharing outside of a Voice Call
Specification Reference	[RCS 5.x]: RCS 3.6.1.4.4 and RCS 3.6.4.1.2
SCR Reference	
Test code	Verified TTCN-3 code
Preconditions	• User A's RCS device is provisioned for RCS
	• User A is IMS registered for RCS
	• User A and B indicate Video Share capability
	Applicability:
	ics_videoShare
Test Procedure	1. Execute "Mobile Terminated Session Establishment" (C.2.2).
	2. The test tool sends a video stream to User A's RCS client.
Pass-Criteria	1. At step 4 on User A's RCS client the video stream received from User B can be seen.

5.18.5 RCS-con-324 Mobile Terminated Video Sharing – Ignore Video Sharing outside of a Voice Call

Test Case Id	RCS-con-324
Test Object	RCS Client
Test Case Description	Mobile Terminated Video Sharing – Ignore Video Sharing outside of a Voice Call
Specification Reference	[RCS 5.x]: RCS 3.6.1.4.4 and RCS 3.6.4.1.2
SCR Reference	
Test code	Verified TTCN-3 code
Preconditions	• User A's RCS device is provisioned for RCS • User A is IMS registered for RCS • User A and B indicate Video Share capability Applicability: ics_videoShare
Test Procedure	1. User B (Test Tool) initiates a Video Share towards User A on his device. 2. Execute Step 1, 2 and 3 of "Mobile Terminated Session Establishment" (C.2.2). 3. User A ignores the video share for at least 20 seconds. 4. Test Tool response with a ACK after receiving the "408 Request Timeout" or "480 Temporary Unavailable".
Pass-Criteria	1. After step 3 User B (Test Tool) receives a "480 Temporary Unavailable" or "408 Request Timeout".

5.18.6 RCS-con-325 Mobile Terminated Video Sharing – Video Sharing outside of a Voice Call not possible

Test Case Id	RCS-con-325
Test Object	RCS Client
Test Case Description	Mobile Terminated Video Sharing – Video Sharing outside of a Voice Call not possible
Specification Reference	[RCS 5.x]: 3.6.1.4.4 and RCS 3.6.4.1.2
SCR Reference	
Test code	Verified TTCN-3 code
Preconditions	• The client A's handset coverage is 2G • User A's RCS device is provisioned for RCS • User A is IMS registered for RCS Applicability: ics_videoShare
Test Procedure	1. User B (Test Tool) initiates a Video Share towards User A on his device. 2. Execute "Mobile Terminated Session - Reject" (C.4.2).
Pass-Criteria	1. At step 2 User A shall get an information about the invitation and the cause for automatic cancellation due to insufficient coverage.

5.19　Mobile Originated Standalone Messaging

5.19.1　RCS-con-400 Mobile Originated Pager Mode – Send Text

Test Case Id	RCS-con 400
Test Object	RCS Client
Test Case Description	Mobile Originated Pager Mode – Sending Text
Specification Reference	[RCS 5.x]:
SCR Reference	
Test code	Verified TTCN-3 code
Preconditions	- User A's RCS device is provisioned for RCS - User A is IMS registered for RCS - In Autoconfig for User A set CHAT AUTH to 0 - In Autoconfig for User A set STANDALONE MGS AUTH to 1 - User B (Test tool) announces only Pager Mode capabilities - User A's RCS client is configured to request "Display Notifications"
Test Procedure	1. User A selects User B (Test Tool) from the Address Book and sends a short message saying "Hello B". 2. Execute "Mobile Originated Pager Mode Message" (C.5.5). 3. Execute "Mobile Terminated Delivered Notification" (C.5.8) with content Delivery report (D.x.y). 4. Execute "Mobile Terminated Displayed Notification" (C.5.10) towards A that contains display status for message "Hello B".
Pass-Criteria	1. In Step 2 User A a receives the notification that message "Hello B" has been sent and Client A sends a "Display Notification" request. 2. At step 3 User A receives an indication that message "Hello B has been delivered. 3. At step 4 User A receives an indication that message "Hello B" has been displayed.

5.19.2　RCS-con-401 Mobile Originated Large Message Mode – Send Multimedia

Test Case Id	RCS-con-401
Test Object	RCS Client
Test Case Description	Mobile Originated Large Message Mode – Sending Multimedia
Specification Reference	[RCS 5.x]: RCS 3.2.4.1.2 and OMA-TS-CPM-Conversation_Function-V2_1 – 9.1.2
SCR Reference	
Test code	Verified TTCN-3 code
Preconditions	- User A's RCS device is provisioned for RCS - User A is IMS registered for RCS - In Autoconfig for User A set CHAT AUTH to 0 - In Autoconfig for User A set STANDALONE MGS AUTH to 1 - User B (Test tool) announces only Pager Mode capabilities - ics_standalone_messaging - ics_imageShare

Test Procedure	1. User A initiates a standalone message with User B on his device with a message "Hello B…." including an image with a size of more than 1300 bytes.
	2. Execute "Mobile Originated Session Establishment" (C.2.1) with the message "Hello B…" including an image with a size of more than 1300 bytes.
	3. Execute "MO Session Termination" (C.3.1).
	4. Execute "Mobile Terminated Delivered Notification" (C.5.8) with content Delivery report (D.x.y).
	5. If the session invitation in step 2 contained a request for display notification, then execute "Mobile Terminated Displayed Notification" (C.5.10) with content Read report (D.x.z).
Pass-Criteria	1. At step 3 Client A sends a BYE message.
	2. At step 4 User A receives an indication that the message has been delivered.
	3. At step 5 User A receives an indication that the message has been displayed.

5.19.3   RCS-con-402 Mobile Originated Large Message Mode – Send Long Text (Includes Optional Features)

Test Case Id	RCS-con-402
Test Object	RCS Client
Test Case Description	Mobile Originated Large Message Mode – Sending Long Text
Specification Reference	[RCS 5.x]: RCS 3.2.4.1.2 and OMA-TS-CPM-Conversation_Function-V2_1 – 9.1.2
SCR Reference	
Test code	Verified TTCN-3 code
Preconditions	• User A's RCS device is provisioned for RCS
	• User A is IMS registered for RCS
	• In Autoconfig for User A set CHAT AUTH to 0
	• In Autoconfig for User A set STANDALONE MGS AUTH to 1
	• User B (Test tool) announces only Pager Mode capabilities
	• ics_standalone_messaging
Test Procedure	1. User A initiates a standalone message with User B on his device with a message "Hello B…." which is at least 500 characters long.
	2. Execute "Mobile Originated Session Establishment" (C.2.1) with the message "Hello B…"
	3. Execute "MO Session Termination" (C.3.1).
	4. Execute "Mobile Terminated Delivered Notification" (C.5.8) with content Delivery report (D.x.y).
	5. If the session invitation in step 2 contained a request for display notification, then execute "Mobile Terminated Displayed Notification" (C.5.10) with content Read report (D.x.z).
Pass-Criteria	1. At step 3 Client A sends a BYE message.
	2. At step 4 User A receives an indication that the message has been delivered.
	3. At step 5 User A receives an indication that the message has been displayed.

5.20 Mobile Terminated Standalone messaging

5.20.1 RCS-con-420 Mobile Terminated Pager Mode – Receive Text

Test Case Id	RCS-con-420
Test Object	RCS Client
Test Case Description	Mobile Terminated Pager Mode – Receiving Text
Specification Reference	[RCS 5.x]:
SCR Reference	
Test code	Verified TTCN-3 code
Preconditions	- User A's RCS device is provisioned for RCS - User A is IMS registered for RCS - In Autoconfig for User A set CHAT AUTH to 0 - In Autoconfig for User A set STANDALONE MGS AUTH to 1 - User B (Test tool) announces only Pager Mode capabilities - User A's RCS client is configured to respond to "Display Notifications"
Test Procedure	1. Execute "Mobile Terminated Pager Mode Message" (C.5.6) 2. Execute "Mobile Originated Delivered Notification" (C.5.7) 3. User A opens the received message 4. Execute "Mobile Originated Displayed Notification" (C.5.9)
Pass-Criteria	1. At step 1 User A receives a message from User B (Test Tool) in Pager Mode. 2. At step 2 User B (Test Tool) receives a SIP message that "Hello A" has been delivered. 3. At step 4 User B (Test Tool) receives a SIP message that "Hello A" has been displayed.

5.20.2 RCS-con-421 Mobile Terminated Large Message Mode – Receive Multimedia

Test Case Id	RCS-con-421
Test Object	RCS Client
Test Case Description	Mobile Terminated Large Message Mode – Receiving Multimedia
Specification Reference	[RCS 5.x]: RCS 3.2.4.1.2 and OMA-TS-CPM-Conversation_Function-V2_1 – 9.1.2
SCR Reference	
Test code	Verified TTCN-3 code
Preconditions	- User A's RCS device is provisioned for RCS - User A is IMS registered for RCS
Test Procedure	1. Execute "Mobile Terminated Session Establishment" (C.2.2) including an image with a size of more than 1300 bytes.
Pass-Criteria	1. User A receives the message including an image with a size of more than 1300 bytes.

5.20.3 RCS-con-422 Mobile Terminated Large Message Mode – Receive Long Text (Includes Optional Features)

Test Case Id	RCS-con-422
Test Object	RCS Client
Test Case Description	Mobile Terminated Large Message Mode – Receive Long Text

Specification Reference	[RCS 5.x]: RCS 3.2.4.1.2 and OMA-TS-CPM-Conversation_Function-V2_1 – 9.1.2
SCR Reference	
Test code	Verified TTCN-3 code
Preconditions	• User A's RCS device is provisioned for RCS • User A is IMS registered for RCS
Test Procedure	1. Execute "Mobile Terminated Session Establishment" (C.2.2) with a message that is bigger than 1300 bytes.
Pass-Criteria	1. User A receives the message that is bigger than 1300 bytes

5.20.4 RCS-con-425 Mobile Terminated Pager Mode – No Displayed Notification Sent (Includes Optional Features)

Test Case Id	RCS-con-425
Test Object	RCS Client
Test Case Description	Mobile Terminated Pager Mode – No Displayed Notification Sent
Specification Reference	[RCS 5.x]:
SCR Reference	
Test code	Verified TTCN-3 code
Preconditions	• User A's RCS device is provisioned for RCS • User A is IMS registered for RCS • In Autoconfig for User A set CHAT AUTH to 0 • In Autoconfig for User A set STANDALONE MGS AUTH to 1 • User B (Test tool) announces only Pager Mode capabilities • User A's RCS client is configured to not respond to "Display Notifications"
Test Procedure	1. Execute "Mobile Terminated Pager Mode Message" (C.5.6) 2. Execute "Mobile Originated Delivered Notification" (C.5.7) 3. User A opens the received message
Pass-Criteria	1. At step 1 User A receives a message from User B (Test Tool) in Pager Mode. 2. At step 2 User B (Test Tool) receives a SIP message that "Hello A" has been delivered. 3. At step 3 User B (Test Tool) does not receive a SIP message that "Hello A" has been displayed

5.21 Mobile Originated RCS IP Video Call

5.21.1 RCS-con-500 Mobile Originated RCS IP Video Call – Send an accepted Call (Duplex Mode)

Test Case Id	RCS-con-500
Test Object	RCS Client
Test Case Description	Mobile Originated RCS IP Video Call – Send an accepted Call (Duplex Mode)
Specification Reference	[RCS 5.x]: RCS 3.9.4.2.2.1
SCR Reference	
Test code	Verified TTCN-3 code
Preconditions	• The client A's handset coverage is at least 3G • User A's RCS device is provisioned for RCS • User A is IMS registered for RCS • User A and B indicate Video Call capability
Test Procedure	1. User A selects User B (test tool) from the address book for an IP video call. 2. Execute "Mobile Originated Session Establishment" (C.2.26).
Pass-Criteria	1. At step 2 this results in two bidirectional RTP/RTCP stream, one for audio and one for video.

5.21.2 RCS-con-501 Mobile Originated RCS IP Video Call – Send a declined Call

Test Case Id	RCS-con-501
Test Object	RCS Client
Test Case Description	Mobile Originated RCS IP Video Call – Send a declined Call
Specification Reference	[RCS 5.x]: RCS 3.9.4.2.2.3
SCR Reference	
Test code	Verified TTCN-3 code
Preconditions	• The client A's handset coverage is at least 3G • User A's RCS device is provisioned for RCS • User A is IMS registered for RCS • User A and B indicate Video Call capability
Test Procedure	1. User A selects User B (test tool) from the address book for an IP video call. 2. Execute "Mobile Originated Session Establishment - Declined" (C.4.3).
Pass-Criteria	1. At step 2 this results in a rejected call.

5.21.3 RCS-con-502 Mobile Originated RCS IP Video Call (Upgrade from CS voice call) – Send an uni-directional accepted Call

Test Case Id	RCS-con-502
Test Object	RCS Client
Test Case Description	Mobile Originated RCS IP Video Call (Upgrade from CS voice call) – Send an uni-directional accepted Call
Specification Reference	[RCS 5.x]: RCS 3.9.4.2.7.1
SCR Reference	
Test code	Verified TTCN-3 code

Preconditions	• User A's RCS device is provisioned for RCS • User A is IMS registered for RCS • User A and B indicate Video Call capability • User A is in an active CS call with User B (Test Tool)
Test Procedure	1. User A decides to upgrade the ongoing CS call into a Video Call and sends an invitation to User B (Test Tool) 2. Execute "Mobile Originated Session Establishment" (C.2.27) [I.e. User B rejects to send Video back]
Pass-Criteria	1. The CS call is torn down. 2. User A is informed that User B does not want to send video back. 3. At step 2 this results in two RTP/RTCP streams, one bidirectional for the audio and one unidirectional (from User A to User B) for the video.

5.21.4 RCS-con-503 Mobile Originated RCS IP Video Call (Upgrade from CS voice call) – Send a bi-directional accepted Call

Test Case Id	RCS-con-503
Test Object	RCS Client
Test Case Description	Mobile Originated RCS IP Video Call (Upgrade from CS voice call) – Send a bi-directional accepted Call
Specification Reference	[RCS 5.x]: RCS 3.9.4.2.7.1
SCR Reference	
Test code	Verified TTCN-3 code
Preconditions	• User A's RCS device is provisioned for RCS • User A is IMS registered for RCS • User A and B indicate Video Call capability • User A is in an active CS call with User B (Test Tool)
Test Procedure	1. User A decides to upgrade the ongoing CS call into a Video Call and sends an invitation to User B (Test Tool) 2. Execute "Mobile Originated Session Establishment" (C.2.27) [I.e. User B accepts to send Video and Audio back]
Pass-Criteria	1. The CS call is torn down. 2. At step 2 this results in two bidirectional RTP/RTCP stream, one for audio and one for video.

5.21.5 RCS-con-504 Mobile Originated RCS IP Video Call (Upgrade from CS voice call) – Switch between a bi-directional and uni-directional Call

Test Case Id	RCS-con-504
Test Object	RCS Client
Test Case Description	Mobile Originated RCS IP Video Call (Upgrade from CS voice call) – Switch between a bi-directional and uni-directional Call
Specification Reference	[RCS 5.x]: RCS 3.9.4.2.7.1
SCR Reference	
Test code	Verified TTCN-3 code
Preconditions	• User A's RCS device is provisioned for RCS • User A is IMS registered for RCS • User A and B indicate Video Call capability • User A is in an active CS call with User B (Test Tool)

Test Procedure	1. User A decides to upgrade the ongoing CS call into a Video Call and sends an invitation to User B (Test Tool)
	2. Execute "Mobile Originated Session Establishment: RCS IP Video Call (Duplex Mode)" (C.2.26) [I.e. User B accepts to send Video and Audio back]
	3. After 30sec User B (Test Tool) decides to stop share Video and only continues Audio – stop sending RTP (video data) from User B (Test Tool.
Pass-Criteria	1. At step 3 while User A still continues to share Video, he does not receive a Video anymore, but still the Audio signal.

5.21.6 RCS-con-505 Mobile Originated RCS IP Video Call – Receive a Decline of an upgrade from CS voice call

Test Case Id	RCS-con-505
Test Object	RCS Client
Test Case Description	Mobile Originated RCS IP Video Call – Receive a Decline of an upgrade from CS voice call
Specification Reference	[RCS 5.x]: RCS 3.9.4.2.7.2
SCR Reference	
Test code	Verified TTCN-3 code
Preconditions	• User A's RCS device is provisioned for RCS
	• User A is IMS registered for RCS
	• User A and B indicate Video Call capability
	• User A is in an active CS call with User B (Test Tool)
Test Procedure	1. User A decides to upgrade the ongoing CS call into a Video Call and sends an invitation to User B (Test Tool)
	2. Execute "Mobile Originated IP Video Call Upgrade from CS voice call decline" (C.4.5) [I.e. User B declines the upgrade of the CS voice call]
Pass-Criteria	1. The CS call is torn down.

5.21.7 RCS-con-506 Mobile Originated RCS IP Video Call – Send an accepted Call (Simplex Mode)

Test Case Id	RCS-con-506
Test Object	RCS Client
Test Case Description	Mobile Originated RCS IP Video Call – Send an accepted Call (Simplex Mode)
Specification Reference	[RCS 5.x]: RCS 3.9.4.2.2.2
SCR Reference	
Test code	Verified TTCN-3 code
Preconditions	• The client A's handset coverage is at least 3G
	• User A's RCS device is provisioned for RCS
	• User A is IMS registered for RCS
	• User A and B indicate Video Call capability
Test Procedure	1. User A selects User B (test tool) from the address book for an IP video call.
	2. Execute "Mobile Originated Session Establishment" (C.2.27).
Pass-Criteria	1. User A is informed that User B does not want to send video back.
	2. At step 2 this results in two RTP/RTCP streams, one bidirectional for the audio and one unidirectional (from User A to User B) for the video.

5.22 Mobile Terminated RCS IP Video Call

5.22.1 RCS-con-530 Mobile Terminated RCS IP Video Call – Accept a Call (Duplex Mode)

Test Case Id	RCS-con-530
Test Object	RCS Client
Test Case Description	Mobile Originated RCS IP Video Call – Accept a Call (Duplex Mode)
Specification Reference	[RCS 5.x]: RCS 3.9.4.2.2.1
SCR Reference	
Test code	Verified TTCN-3 code
Preconditions	• The client A's handset coverage is at least 3G • User A's RCS device is provisioned for RCS • User A is IMS registered for RCS • User A and B indicate Video Call capability
Test Procedure	1. Execute "Mobile Terminated RCS IP Video Call Session Establishment" (C.2.28) 2. User A accepts the RCS IP Video Call from User B (Test Tool)
Pass-Criteria	1. At step 2 this results in two bidirectional RTP/RTCP stream, one for audio and one for video.

5.22.2 RCS-con-531 Mobile Terminated RCS IP Video Call – Decline a Call

Test Case Id	RCS-con-531
Test Object	RCS Client
Test Case Description	Mobile Terminated RCS IP Video Call – Decline a Call
Specification Reference	[RCS 5.x]: RCS 3.9.4.2.2.3
SCR Reference	
Test code	Verified TTCN-3 code
Preconditions	• The client A's handset coverage is at least 3G • User A's RCS device is provisioned for RCS • User A is IMS registered for RCS • User A and B indicate Video Call capability
Test Procedure	1. Execute "Mobile Terminated RCS IP Video Call Session - Rejected" (C.4.4) 2. User A declines the incoming RCS IP Video Call from User B (Test Tool)
Pass-Criteria	1. At step 2 User A's RCS client shows no ongoing video call.

5.22.3 RCS-con-532 Mobile Terminated RCS IP Video Call (Upgrade from CS voice call) – Accept an uni-directional Call

Test Case Id	RCS-con-532
Test Object	RCS Client
Test Case Description	Mobile Terminated RCS IP Video Call (Upgrade from CS voice call) – Accept an uni-directional Call
Specification Reference	[RCS 5.x]: RCS 3.9.4.2.7.1
SCR Reference	
Test code	Verified TTCN-3 code

Preconditions	• User A's RCS device is provisioned for RCS • User A is IMS registered for RCS • User A and B indicate Video Call capability • User A is in an active CS call with User B (Test Tool)
Test Procedure	1. User B (Test Tool) decides to upgrade the ongoing CS call into a Video Call and sends an invitation to User A. 2. User B (Test Tool) releases the CS voice call. 3. Execute "Mobile Terminated RCS IP Video Call Session Establishment" (C.2.28). 4. User A accepts the RCS IP Video Call from User B (Test Tool) but indicates that he does not want to send video back.
Pass-Criteria	1. In step 2 the CS call is torn down. 2. In step 3 User A receives an invitation to upgrade to a RCS IP Video Call. 3. At step 4 this results in two RTP/RTCP streams, one bidirectional for the audio and one unidirectional (from User B to User A) for the video.

5.22.4   RCS-con-533 Mobile Terminated RCS IP Video Call (Upgrade from CS voice call) – Accept a bi-directional Call

Test Case Id	RCS-con-533
Test Object	RCS Client
Test Case Description	Mobile Terminated RCS IP Video Call (Upgrade from CS voice call) – Accept a bi-directional Call
Specification Reference	[RCS 5.x]: RCS 3.9.4.2.7.1
SCR Reference	
Test code	Verified TTCN-3 code
Preconditions	• User A's RCS device is provisioned for RCS • User A is IMS registered for RCS • User A and B indicate Video Call capability • User A is in an active CS call with User B (Test Tool)
Test Procedure	1. User B (Test Tool) decides to upgrade the ongoing CS call into a Video Call and sends an invitation to User A. 2. User B (Test tool) releases the CS voice call. 3. Execute "Mobile Terminated RCS IP Video Call Session Establishment" (C.2.28). 4. User A accepts the RCS IP Video Call from User B (Test Tool).
Pass-Criteria	1. In step 2 the CS call is torn down. 2. In step 3 User A receives an invitation to upgrade to a RCS IP Video Call. 3. At step 4 this results in two bidirectional RTP/RTCP stream, one for audio and one for video.

5.22.5   RCS-con-534 Mobile Terminated RCS IP Video Call – Decline an upgrade from CS voice call

Test Case Id	RCS-con-534
Test Object	RCS Client
Test Case Description	Mobile Originated RCS IP Video Call – Decline an upgrade from CS voice call
Specification Reference	[RCS 5.x]: RCS 3.9.4.2.7.2
SCR Reference	

Test code	Verified TTCN-3 code
Preconditions	• User A's RCS device is provisioned for RCS • User A is IMS registered for RCS • User A and B indicate Video Call capability • User A is in an active CS call with User B (Test Tool)
Test Procedure	1. User B (Test Tool) decides to upgrade the ongoing CS call into a Video Call and sends an invitation to User A. Execute "Mobile Terminated IP Video Call Upgrade from CS voice call decline" (C.4.6) 2. User A declines the invitation
Pass-Criteria	1. The CS call is torn down.

5.22.6 RCS-con-535 Mobile Terminated RCS IP Video Call – Accept a Call (Simplex Mode)

Test Case Id	RCS-con-535
Test Object	RCS Client
Test Case Description	Mobile Originated RCS IP Video Call – Accept a Call (Simplex Mode)
Specification Reference	[RCS 5.x]: RCS 3.9.4.2.2.2
SCR Reference	
Test code	Verified TTCN-3 code
Preconditions	• The client A's handset coverage is at least 3G • User A's RCS device is provisioned for RCS • User A is IMS registered for RCS • User A and B indicate Video Call capability
Test Procedure	1. Execute "Mobile Terminated RCS IP Video Call Session Establishment" (C.2.28). 2. User A accepts the RCS IP Video Call from User B (Test Tool) but indicates that he does not want to send video back.
Pass-Criteria	1. At step 2 this results in two RTP/RTCP streams, one bidirectional for the audio and one unidirectional (from User B to User A) for the video.

5.23 Call Establishment and Termination

5.23.1 RCS-con-600 Mobile Originated IP Voice Call Set Up – Mobile Originated IP Voice Call Termination (Includes Optional Features)

Test Case Id	RCS-con-600
Test Object	RCS Client
Test Case Description	Mobile Originated IP Voice call set up – Mobile originated IP Voice call termination
Specification Reference	[RCS 5.2]: RCS 3.8
SCR Reference	
Test code	Verified TTCN-3 code
Preconditions	- User A's RCS device is provisioned for RCS - User A is IMS registered for RCS - WiFi/WLAN connection only Applicability: ics_IPVoiceCall
Test Procedure	1. User A establishes an IP Voice call with User B (Test Tool) 2. Execute "Mobile Originated IP Voice Call Establishment" (C.2.1) 3. User A ends the IP Voice call 4. Execute "Mobile Originated IP Voice Call termination" (C.3.1)
Pass-Criteria	1. At step 2 the IP voice call is established.

5.24 Enriched Calling

5.24.1 RCS-con-620 Mobile originated Voice Call - Mobile terminated Geolocation Push

Test Case Id	RCS-con-620
Test Object	RCS Client
Test Case Description	Mobile Originated Voice Call – Mobile terminated Geolocation Push
Specification Reference	[RCS 5.3]: RCS 2.9.4
SCR Reference	
Test code	Verified TTCN-3 code
Preconditions	• User A's RCS device is provisioned for RCS • User A is IMS registered for RCS • WiFi/WLAN connection only • The client A's handset is in an on-going CS voice call with a test tool (simulating an RCS user) and the test tool delivers its RCS capabilities to the client A during the execution of "Mobile Originated Capability Exchange" (C.1.1). • The displayed capabilities on the client A's handset for the current call include both image and video share, as well as Geolocation Push.
Test Procedure	1. Execute "Mobile Terminated Geolocation Push" (C.5.13) 2. User A accepts the Geolocation Push from User B
Pass-Criteria	1. User A's device displays the location of User B and at least if he selects them, they're displayed on a map.

5.24.2 RCS-con-621 Mobile originated Voice Call – Send Shared Sketch

Test Case Id	RCS-con-621
Test Object	RCS Client
Test Case Description	Mobile Originated Voice Call – Send shared sketch
Specification Reference	[RCS 5.3]: RCS 2.9.8
SCR Reference	
Test code	Verified TTCN-3 code
Preconditions	• User A's RCS device is provisioned for RCS • User A is IMS registered for RCS • WiFi/WLAN connection only • The client A's handset is in an on-going CS voice call with a test tool (simulating an RCS user) and the test tool delivers its RCS capabilities to the client A during the execution of "Mobile Originated Capability Exchange" (C.1.1). • The displayed capabilities on the client A's handset for the current call include both image and video share, as well as Shared Sketch and Map.
Test Procedure	1. User A selects in the RCS client to share a sketch with User B (Test Tool) 2. Execute "Mobile Originated Shared Sketch/Map" (C.5.15)
Pass-Criteria	1. At step 2 User B (Test Tool) receives an MSRP Message with the Content Type: application/vnd.gsma.sharedsketch+xml

5.24.3 RCS-con-622 Mobile originated Voice Call – Receive Shared Sketch

Test Case Id	RCS-con-622
Test Object	RCS Client
Test Case Description	Mobile Originated Voice Call – Receive Shared Sketch
Specification Reference	[RCS 5.3]: RCS 2.9.8
SCR Reference	
Test code	Verified TTCN-3 code
Preconditions	• User A's RCS device is provisioned for RCS • User A is IMS registered for RCS • WiFi/WLAN connection only • The client A's handset is in an on-going CS voice call with a test tool (simulating an RCS user) and the test tool delivers its RCS capabilities to the client A during the execution of "Mobile Originated Capability Exchange" (C.1.1). • The displayed capabilities on the client A's handset for the current call include both image and video share, as well as Shared Sketch and Map.
Test Procedure	1. Execute "Mobile Terminated Shared Sketch" (C.5.14). 2. User A accepts the invitation to view a shared sketch.
Pass-Criteria	1. At step 2 User A receives a shared sketch from User B (Test Tool) that he can edit.

5.24.4 RCS-con-623 Mobile originated Voice Call – MSRP Error during shared sketch

Test Case Id	RCS-con-623
Test Object	RCS Client
Test Case Description	Mobile Originated Voice Call – MSRP Error during shared sketch
Specification Reference	[RCS 5.3]: RCS 2.9.8
SCR Reference	
Test code	Verified TTCN-3 code
Preconditions	• User A's RCS device is provisioned for RCS • User A is IMS registered for RCS • WiFi/WLAN connection only • The client A's handset is in an on-going CS voice call with a test tool (simulating an RCS user) and the test tool delivers its RCS capabilities to the client A during the execution of "Mobile Originated Capability Exchange" (C.1.1). • The displayed capabilities on the client A's handset for the current call include both image and video share, as well as Shared Sketch and Map.
Test Procedure	1. Execute "Mobile Terminated Shared Sketch" (C.5.14). 2. User A accepts the shared sketch. 3. User B (Test Tool) leaves the call involuntarily. Simulate by e.g. severly attenuating the cellular signal and waiting ixit_RF_loss_recognition_timer seconds. Note that Client B may succeed in sending a SIP BYE in this case [RCS 5.1]. 4. Connectivity with User B's client is restored by re-establishing the cellular signal from the Test Tool. 5. Client B re-registers and re-establishs the Shared Sketch.

Pass-Criteria	1. After step 4 both User's client reconnect and try to re-establish the MSRP session

5.24.5 RCS-con-624 Mobile originated Voice Call – Send Shared Map

Test Case Id	RCS-con-624
Test Object	RCS Client
Test Case Description	Mobile Originated Voice Call – Send shared Map
Specification Reference	[RCS 5.3]: RCS 2.9.7
SCR Reference	
Test code	Verified TTCN-3 code
Preconditions	- User A's RCS device is provisioned for RCS - User A is IMS registered for RCS - WiFi/WLAN connection only - The client A's handset is in an on-going CS voice call with a test tool (simulating an RCS user) and the test tool delivers its RCS capabilities to the client A during the execution of "Mobile Originated Capability Exchange" (C.1.1). - The displayed capabilities on the client A's handset for the current call include both image and video share, as well as Shared Sketch and Map.
Test Procedure	1. User A shares a map with User B (Test Tool) 2. Execute "Mobile Originated Shared Sketch/Map" (C.5.15)
Pass-Criteria	1. At step 2 User B (Test Tool) receives an MSRP Message with the Content Type: application/vnd.gsma.sharedmap+xml

5.24.6 RCS-con-625 Mobile originated Voice Call – Receive Shared Map

Test Case Id	RCS-con-625
Test Object	RCS Client
Test Case Description	Mobile Originated Voice Call – Receive shared Map
Specification Reference	[RCS 5.3]: RCS 2.9.7
SCR Reference	
Test code	Verified TTCN-3 code
Preconditions	- User A's RCS device is provisioned for RCS - User A is IMS registered for RCS - WiFi/WLAN connection only - The client A's handset is in an on-going CS voice call with a test tool (simulating an RCS user) and the test tool delivers its RCS capabilities to the client A during the execution of "Mobile Originated Capability Exchange" (C.1.1). - The displayed capabilities on the client A's handset for the current call include both image and video share, as well as Shared Sketch and Map.
Test Procedure	1. Execute "Mobile Terminated Shared Map" (C.5.16). 2. User A accepts the invitation to view a shared map.
Pass-Criteria	1. At step 2 User A receives a shared map from User B (Test Tool).

5.24.7 RCS-con-627 Mobile Terminated Voice Call – MSRP error during shared sketch

Test Case Id	RCS-con-627

Test Object	RCS Client
Test Case Description	Mobile Originated Voice Call – MSRP error during Shared Sketch
Specification Reference	[RCS 5.3]: RCS 2.9.8
SCR Reference	
Test code	Verified TTCN-3 code
Preconditions	- User A's RCS device is provisioned for RCS - User A is IMS registered for RCS - WiFi/WLAN connection only - The client A's handset is in an on-going CS voice call with a test tool (simulating an RCS user) and the test tool delivers its RCS capabilities to the client A during the execution of "Mobile Originated Capability Exchange" (C.1.1). - The displayed capabilities on the client A's handset for the current call include both image and video share, as well as Shared Sketch and Map.
Test Procedure	1. Execute "Mobile Terminated Shared Sketch/Map" (C.5.16). 2. User A accepts the invitation to view a shared map. 3. User B (Test Tool) leaves the call involuntarily. Simulate by e.g. severly attenuating the cellular signal and waiting ixit_RF_loss_recognition_timer seconds. Note that Client B may succeed in sending a SIP BYE in this case [RCS 5.1]. 4. Connectivity with User B's client is restored by re-establishing the cellular signal from the Test Tool. 5. Client B re-registers and re-establishs the Shared Map.
Pass-Criteria	1. After step 4 both User's client reconnect and try to re-establish the MSRP session

Appendix A.   Change History   (Informative)

A.1   Approved Version History

Reference	Date	Description
n/a	n/a	No prior version

A.2   Draft/Candidate Version 5.x History

Document Identifier	Date	Sections	Description
Draft Versions OMA-ETS-RCS-CON-V5_2	03 Nov 2014	All	New conformance specification created from previous RCS 1.2.2 specification, in OMA-ETS-RCS-CON-V1_2_2-20140623-D
	11 Nov 2014	5.18, B.3.1, B.4, C.2, C.2.1, C.3.1, D.1.1, E	Incorporated CR: OMA-IOP-2014-0192R01-CR_RCS_IP_Voice_Call_test_case

	26 Jan 2015	2.2, 5.4.7, 5.4.8, 5.5.3, 5.5.4, 5.7.9-5.7.13, 5.8.8, 5.8.9, 5.9.4-5.9.10, 5.10.2-5.10.10, 5.11, 5.12.3-5.12.10, 5.13.5-5.13.17, 5.16.4, 5.17.4-5.17.8, 5.18, 5.19, 5.20, 5.21, E	Incorporated CRs:
			    OMA-IOP-2015-0019-CR_RCS5.x_Workplan_Integration
			    OMA-IOP-2015-0021-CR_RCS_5.2_ETS_update
			Editorial changes

	04 Feb 2015	5.5.3, 5.8.5, 5.8.8, 5.8.9, 5.9.4-5.9.9, 5.10.3-5.10.10, 5.14.1, 5.16.4, 5.17.4, 5.20, 5.21, E	Incorporated CR: OMA-IOP-2015-0026-CR_RCS5_Clean_Up

	17 Mar 2015	1, 2.2, 4, 5.7.4, 5.7.7, 5.9.1-5.9.7, 5.9.10, 5.10.1, 5.11.1, 5.11.2, 5.11.3, 5.11.4, C.2.15, C.7.1, C.7.5, C.7.6, D.1, D.1.1	Incorporated CRs:
			    OMA-IOP-2015-0044-CR_RCS_5.2_ETS_con_103_correction
			    OMA-IOP-2015-0045-CR_RCS_5.2_ETS_displayed_notifications_correction
			    OMA-IOP-2015-0046R01-CR_RCS_5.2_ETS_update_basic_group_chat_tests
			    OMA-IOP-2015-0047-CR_RCS_5.2_ETS_update_complex_group_chat_tests

	01 Apr 2015	3.2, 5.11.1, 5.11.2, 5.11.3, 5.11.4, C.2.15-C.2.19, C.2.22	Incorporated CRs:
			    OMA-IOP-2015-0053-CR_RCS_5.2_ETS_update_con_168_group_chat_test
			    OMA-IOP-2015-0054-CR_RCS_5.2_ETS_Group_Chat_ID_update
			    OMA-IOP-2015-0055-CR_RCS_5.2_ETS_Group_Chat_session_tear_down
			    OMA-IOP-2015-0056-CR_RCS_5.2_ETS_Group_Chat_re_start_403
			Editorial changes

Document Identifier	Date	Sections	Description

	14 Apr 2015	5.7.7, 5.7.8, 5.9.1, 5.9.4, 5.9.5, 5.9.8, 5.9.9, 5.10.1, 5.10.5, 5.10.6, 5.10.9, 5.10.10, 5.11.1, 5.11.2, 5.11.3, 5.12, 5.12.2, 5.12.4, B.3.1, B.3.3, C.2.19, C.2.23, C.5.3, C.7.4	Incorporated CRs:
			  OMA-IOP-2015-0066-CR_RCS_5.2_ETS_Group_Chat_display_notification_correction
			  OMA-IOP-2015-0067-CR_RCS_5.2_ETS_Group_Chat_store_forward_tests
			Editorial changes

Draft Versions OMA-ETS-RCS-CON-V5_1	15 Apr 2015	n/a	Incorporated CR: OMA-IOP-2015-0071-CR_OMA_ETS_RCS_CON_V5_1

	28 Apr 2015	5.9.4, 5.9.5, 5.11.2, 5.11.3, 5.11.4, 5.11.5, C.5.4, C.7.7	Incorporated CRs:
			  OMA-IOP-2015-0077-CR_RCS_5.2_ETS_More_Group_Chat_store_and_forward_tests
			  OMA-IOP-2015-0078-CR_RCS_5.1_ETS_Closed_Group_Chat_test
			Editorial changes

	18 May 2015	E	Incorporated CR: OMA-IOP-2015-0086-CR_RCS_5.1_ETS_Update_Annex_E Editorial changes
Candidate Version OMA-ETS-RCS-CON-V5_1	26 May 2015	n/a	Status changed to Candidate by TP TP Ref # OMA-TP-2015-0084-INP_RCS_V5_1_CON_ETS_for_Candidate_approval

Draft Versions OMA-ETS-RCS-CON-V5_1	12 Jun 2015	2.2, 3.3, 5.3.1, 5.6.4, 5.7.4, 5.7.9-5.7.13, 5.13.6, 5.13.7, 5.13.8, 5.13.11, 5.14.2, 5.14.9, 5.14.10, 5.14.11, 5.14.15, 5.15.1, 5.16.2, 5.17.1, 5.17.2, 5.23.1, C.2.5, C.2.24, C.3.5, D.2.5	Incorporated CRs:
			  OMA-IOP-2015-0090-CR_RCS_5.2_ETS_Editorial
			  OMA-IOP-2015-0093-CR_RCS_5_File_Transfer_Part1
			  OMA-IOP-2015-0099-CR_RCS_5_File_Transfer_Part2
			  OMA-IOP-2015-0108-CR_RCS_Autoconfig_message_content_correction
			Editorial changes

	19 Jun 2015	5.13.1, 5.13.6, 5.13.7, 5.13.11, 5.14.9, 5.14.10	Incorporated CR: OMA-IOP-2015-0123-CR_RCS_5_Precondition_Correction

Document Identifier	Date	Sections	Description
	14 Jul 2015	3.3, 5.7.7, 5.13.3, 5.13.5, 5.14.5, 5.15, 5.16, 5.17, 5.18.1, 5.18.2, 5.18.3, 5.18.4, 5.19, 5.20, 5.21, 5.22, C.2.10, C.2.11, C.2.12, C.2.22, C.2.25, C.3.6, C.7.2, C.7.8, C.7.9, C.7.10	Incorporated CRs: OMA-IOP-2015-0133R01-CR_RCS_FileTransfer3 OMA-IOP-2015-0134R01-CR_RCS_FileTransfer4
	28 Jul 2015	3.3, 5.4.7, 5.4.8, 5.5, 5.6, 5.7.1, 5.7.2, 5.7.4, 5.7.5, 5.7.7, 5.7.8, 5.7.9, 5.8.1, 5.8.2, 5.8.6, 5.8.7, 5.8.8, 5.9, 5.10, 5.11, 5.12.1, 5.12.2, 5.12.3, 5.13.3, C.1.3, C.1.4, C.1.5, C.1.6, C.4, C.6.1.1, C.7.1-C.7.5, C.7.7, C.7.8, C.7.10, D.1, D.1.1, D.1.2, D.1.3, D.1.4, D.1.11, D.1.13, D.2.4, D.2.5, E	Incorporated CRs: OMA-IOP-2015-0130R01-CR_RCS_Switch_to_GroupChat OMA-IOP-2015-0140R01-CR_RCS_SocialPresence
	11 Aug 2015	5.21.1, 5.21.2, 5.21.7, 5.22.1, 5.22.2, 5.22.6, C.2.26, C.2.27, C.2.28, C.2.29, C.4.3, C.4.4, E	Incorporated CR: OMA-IOP-2015-0150-CR_RCS_IP_Video_Call_Tests_Cover

Document Identifier	Date	Sections	Description

	02 Sep 2015	1, 2.2, 3.3, 4, 5.7.10, 5.7.11, 5.7.12, 5.7.13, 5.8.9, 5.12.5, 5.13.4, 5.13.5, 5.13.9, 5.13.10, 5.14.6, 5.14.7, 5.14.8, 5.14.13, 5.14.14, 5.14.17, 5.17.4, 5.17.5, 5.17.6, 5.18.4-5.18.8, 5.19, 5.19.2, 5.19.3, 5.19.4, 5.20, 5.20.2, 5.20.3, 5.20.5-5.20.10, 5.21.3, 5.21.4, 5.21.6, 5.22.3, 5.22.4, 5.22.5, 5.23.1, C.2.30, C.4.5, C.4.6, E	Incorporated CRs:
			  OMA-IOP-2015-0141R03-CR_RCS_Large_Message_Mode
			  OMA-IOP-2015-0159-CR_RCS_Cleanup
			  OMA-IOP-2015-0160R01-CR_RCS_IP_Video_Call_Tests2
			  OMA-IOP-2015-0161R01-CR_RCS_Audio_Message_Test
			  OMA-IOP-2015-0162-CR_RCS_Max_Concurrent_Sessions_Tests
			  OMA-IOP-2015-0163-CR_RCS_Revoke_Message_Test
			  OMA-IOP-2015-0167R01-CR_RCS_Resume_File_Reception
			  OMA-IOP-2015-0169R01-CR_RCS_Video_Share_Outside_Call

	09 Sep 2015	5.7.11, 5.7.12, 5.8.9, 5.14.12, 5.14.16, 5.19, C.2.24	Incorporated CR: OMA-IOP-2015-0181-CR_RCS_Cleanup_and_PagerMode Editorial changes

	29 Sep 2015	5.13.11, 5.14.10, 5.18.5, 5.19.2, 5.19.3, 5.20.2, 5.20.3, 5.21.5	Incorporated CRs:
			  OMA-IOP-2015-0182-CR_RCS5_Large_Message_Mode
			  OMA-IOP-2015-0184-CR_RCS5_IP_Video_Call

	12 Nov 2015	2.2, 5.2.1, 5.10.2, 5.13.7, 5.13.11, 5.14.9, 5.14.10, 5.19.1, 5.20.1, 5.20.4-5.20.10, 5.21.3, 5.21.4, 5.21.5, 5.22.3, 5.22.4, 5.24, C.2.31, C.5.5-C.5.12, D.2.4, D.2.5, E	Incorporated CRs:
			  OMA-IOP-2015-0192R02-CR_RCS5_Structural_Update
			  OMA-IOP-2015-0194R02-CR_RCS5_Pager_Mode_Tests
			  OMA-IOP-2015-0203R01-CR_RCS5_Annex_Fix1
			  OMA-IOP-2015-0204-CR_Add_IMS_registration_001
			  OMA-IOP-2015-0205-CR_Add_PagerMode_Default_procedure
			  OMA-IOP-2015-0208-CR_RCS_autoconfig_clean_up
			  OMA-IOP-2015-0209-CR_RCS_CS_to_IP_Video_call_clean_up
			Editorial changes

Document Identifier	Date	Sections	Description
	15 Dec 2015	3.3, 5.7.11, 5.7.12, 5.7.13, 5.24, C.5.13, C.5.14, C.5.15, E	Incorporated CR: OMA-IOP-2015-0219-CR_RCS_Crane_Tests

	25 Jan 2016	5.8.9, 5.13.6, 5.13.10, 5.18.7, 5.18.8, 5.19.1, 5.19.2, 5.19.3, 5.20.1, 5.20.6-5.20.10, 5.21.5, 5.21.6, 5.23.1, 5.24.1-5.24.8, C.2.24, C.2.30, C.5.13, C.5.14, C.5.15, C.5.16, C.8, D.1.17, D.1.18, D.1.19, D.2.5, E	Incorporated CRs:
			  OMA-IOP-2016-0002R01-CR_RCS_5_3_Features
			  OMA-IOP-2016-0008-CR_Autoconfig_Corrections
			  OMA-IOP-2016-0009-CR_RCS_Presence_procedures

	25 Feb 2016	5.2.2, 5.2.3, 5.4.9, 5.5.3, 5.5.4, 5.5.5, 5.9.5, 5.13.4, 5.13.5, 5.13.10, 5.13.11, 5.14.6, 5.14.7, 5.14.8, 5.14.11, 5.14.12, 5.14.13, 5.14.15, 5.14.16, 5.20.4, 5.20.5, 5.24.7, C.1.5, C.1.6, E	Incorporated CR: OMA-IOP-2016-0011R03-CR_RCS5_Geolocation_Procedures Editorial changes

Draft Versions
OMA-ETS-RCS-CON-V5_x
	26 Aug 2016	3.3, 5.21.5, A.2	Incorporated CRs:
			  OMA-IOP-2016-0054-CR_RCS5.x_ETS_Titlechange
			  OMA-IOP-2016-0056-CR_RCS5_ETS_Fix_con_504

	08 Oct 2016	5.2.2, C.1.3, C.1.4	Incorporated CR: OMA-IOP-2016-0072R01-CR_RCS5x_ETS_Update_Mandatory_Test_List
Candidate Version OMA-ETS-RCS-CON-V5_x	18 Oct 2016	n/a	Status changed to Candidate by TP TP Ref # OMA-TP-2016-0096R01-INP_RCS_V5_1_CON_ETS_for_Candidate_re_approval

Draft Version
OMA-ETS-RCS-CON-V5_x
	03 Nov 2016	D.1.5-D.1.9, D.1.11, D.1.12, D.1.14, D.1.15, D.1.16, D.1.17, D.3	Incorporated CRs:
			  OMA-IOP-2016-0086R01-CR_RCS_default_publish
			  OMA-IOP-2016-0087-CR_RCS_default_responses
			  OMA-IOP-2016-0093R01-CR_RCS_default_conference
			  OMA-IOP-2016-0095-CR_RCS_default_MSRP

	04 May 2017	C.2.1	Incorporated CR: OMA-IOP-2017-0054-CR_RCS_Remove_183_for_IETF_mode
Candidate Version OMA-ETS-RCS-CON-V5_x	22 Aug 2017	n/a	Status changed to Candidate by TP TP Ref # OMA-TP-2017-0034-INP_RCS_5.x_Testing-V1_0_ETS_for_Notification

Appendix B.   Conformance Test Case applicability

B.1   Introduction

This appendix allows implementers of RCS clients or servers to select the appropriate Conformance test cases that are applicable to the features implemented.

This appendix lists:

- All test cases testing only mandatory features as described in [RCS 1.2.2] section 1.2.2 "*Conformance*",
- ICS (Implementation Conformance Statement)
- IXIT (Implementation eXtra Information for testing)
- The mapping from ICS/IXIT to the applicable optional test cases.

B.2   Client Test Cases testing only mandatory features

These Client Conformance test cases are independent from any applicability and are testing only mandatory features and SHALL be run with every implementation.

Client Test Cases
RCS-con-001 First-time unsuccessful configuration: Subscriber unauthorized (Auto-Configuration Server)
RCS-con-004 Configuration: RCS re-configuration successful
RCS-con-030 Mobile Originated Capability Discovery – Successful
RCS-con-031 Mobile Originated Capability Discovery – Unsuccessful – 480 Temporary Unavailable
RCS-con-032 Mobile Originated Capability Discovery – Unsuccessful – 408 Request Timeout
RCS-con-033 Mobile Originated Capability discovery – Unsuccessful – 404 Not Found
RCS-con-034 Mobile Originated Capability Discovery – Successful – Multiple Identities
RCS-con-035 Mobile Originated Capability Discovery – Successful (IMS registered, does not support RCS)
RCS-con-040 Mobile Terminated Capability Discovery – Correct Presentation of Remote Capabilities
RCS-con-041 Mobile Terminated Capability Discovery – Learning Unknown New Users RCS Capabilities
RCS-con-051 Capability update during a MT call for video/image sharing
RCS-con-053 Capability Exchange Optimization During a Call
RCS-con-100 Mobile Originated 1-to-1 Chat – session establishment – Mobile Originated session termination
RCS-con-101 Mobile Originated 1-to-1 Chat – session establishment – Mobile Terminated session termination
RCS-con-103 Mobile Originated 1-to-1 Chat – duplicate session
RCS-con-104 Mobile Originated 1-to-1 Chat – session race condition
RCS-con-105 Mobile Originated 1-to-1 Chat – inactivity timeout
RCS-con-106 Mobile Originated 1-to-1 Chat session – store and forward – sender still in active IM session
RCS-con-107 Mobile Originated 1-to-1 Chat – session store and forward – sender still online
RCS-con-120 Mobile Terminated 1-to-1 Chat – session establishment – Mobile Terminated session termination
RCS-con-121 Mobile Terminated 1-to-1 Chat – session establishment – Mobile Originated session termination
RCS-con-122 Mobile Terminated 1-to-1 Chat – spam/blacklist
RCS-con-123 Mobile Terminated 1-to-1 Chat – display notification

RCS-con-124 Mobile Terminated 1-to-1 Chat – duplicate session
RCS-con-125 Mobile Terminated 1-to-1 Chat – race condition
RCS-con-126 Mobile Terminated 1-to-1 Chat – store and forward
RCS-con-130 Mobile Originated Group Chat – session establishment – Originating User leaves the session
RCS-con-131 Mobile Originated Group Chat – non-originating Users leave the session
RCS-con-132 Mobile Originated Group Chat – adding new User to the session
RCS-con-140 Mobile Terminated Group Chat – session establishment – Terminating User leaves the session
RCS-con-145 Group Chat automatic re-join
RCS-con-146 Group Chat re-start: 404 (Not Found)
RCS-con-147 Group Chat re-start: 403 (Forbidden)
RCS-con-148 Group Chat: Concurrent sessions

Table 1

B.3   Applicability

B.3.1   Client ICS

ICS	*Description*	**Reference(s)**	**Supported** *(yes/no)*
ics_fileTransfer	Support of file transfer	[RCS 1.2.2] 1.2.2	
ics_imageShare	Support of in-call image share	[RCS 1.2.2] 1.2.2	
ics_videoShare	Support of in-call video share	[RCS 1.2.2] 1.2.2	
ics_request_displayNotifications	Support of requesting display notifications	[RCS 1.2.2] 3.2.2.2	
ics_stun_udp	Support of STUN when using SIP/UDP	[RCS 1.2.2] 2.8	
ics_IPVoiceCall	Support of RCS IP Voice Call	[RCS 5.2] 3.8	

Table 2

B.3.2   Client IXIT

IXIT	*Description*	**Unit** **<(Range of values)>**	**Value**
ixit_FTMAXSIZE	Value of FT MAX SIZE	<Any non-zero value>Kbytes	
Ixit_FTWARNSIZE	Value of FT WARN SIZE	<Any non-zero value>Kbytes	
ixit_RF_loss_recognition_	Time until handset recognizes the RF connection is lost (default is 15)	seconds	

Table 3

B.3.3 Server ICS

ICS	Description	Reference(s)	Supported *(yes/no)*

Table 4

B.3.4 Server IXIT

IXIT	Description	Unit <(Range of values)>	Value

Table 5

B.4 Client ICS to test case mapping

According to the Client ICS described above the applicable optional Client test cases can be derived from the following table.

Applicability	Client Test Cases
ics_imageShare OR ics_videoShare	RCS-con-050 Capability update during a MO call for video /image sharing
	RCS-con-052 Capability update during a MO voice call fails as other end has no capability
ics_request_displayNotifications	RCS-con-102 Mobile Originated 1-to-1 Chat – display notification
ics_fileTransfer	RCS-con-200 Mobile Originated File Transfer
	RCS-con-201 Mobile Originated File Transfer – Rejected
	RCS-con-210 Mobile Terminated File Transfer
	RCS-con-211 Mobile Terminated File Transfer – Rejected
	RCS-con-212 Mobile Terminated File Transfer – File Size Limit (receiver)
	RCS-con-213 Mobile Terminated File Transfer – File Size Warn Limit (receiver)
ics_imageShare	RCS-con-250 Mobile Originated Image Sharing – Session Establishment – Mobile Originated Session Termination
	RCS-con-251 Mobile Originated Image Sharing – Session Establishment – rejected
	RCS-con-270 Mobile Terminated Image Sharing – Session Establishment – Mobile Terminated Session Termination
	RCS-con-271 Mobile Terminated Image sharing – Session Establishment – rejected
ics_videoShare	RCS-con-300 Mobile Originated Video Sharing Session Establishment – Mobile Originated Session Termination
	RCS-con-301 Mobile Originated Video Sharing Session Establishment – Mobile Terminated Session Termination
	RCS-con-302 Mobile Originated Video Sharing Session Establishment – Rejected

	RCS-con-320 Mobile Terminated Video Sharing Session Establishment – Mobile Terminated Session Termination
	RCS-con-321 Mobile Terminated Video Sharing Session Establishment – Mobile Originated Session Termination
	RCS-con-322 Mobile Terminated Video Sharing Session Establishment – Rejected
ics_stun_udp	RCS-con-020 Keep-Alive for SIPoUDP (STUN)
ics_IPVoiceCall	RCS-con-400 Mobile Originated IP Voice Call Set Up – Mobile Originated IP Voice Call Termination

Appendix C.   Default Procedures

This Appendix provides the details of some re-occurring RCS signalling procedures.

C.1   Capability Exchange

C.1.1   Mobile Originated Capability Exchange

1.   User A's RCS client sends a SIP OPTIONS (see D.1.3) message towards User B.

2.   The test tool responds with a 200 OK (D.1.4) towards User A's RCS client.

C.1.2   Mobile Terminated Capability Exchange

1.   The test tool sends a SIP OPTIONS (see D.1.3) message towards User A's RCS client.

2.   User A's RCS client responds with a 200 OK (D.1.4) towards User B.

C.1.3   VOID

C.1.4   VOID

C.1.5   Mobile Originated Geolocation information

1.   User A's RCS client sends a SIP INVITE (File transfer <<Fetch>>) to User B (Test Tool)

2.   The test tool responds with a SIP 200 OK towards User A

3.   The test tool sends the geolocation coordinates via MSRP

4.   User A's RCS client responds with a MSRP OK

5.   User A's RCS client sends a SIP BYE

6.   The test tool responds with a SIP 200 OK

C.2   Session Establishment

This section SHALL serve with default procedures to establish one of the following session types:

Video Sharing

Image Sharing

File Sharing

Group Chat

IM 1-1 Chat

RCS IP Voice Call

C.2.1   Mobile Originated Session Establishment: Video share, Image share, File share, basic 1-to-1 Chat, RCS IP Voice Call

NOTE: For Video share IMS mode or RCS IP Voice Call (according to pc_precondition) execute C.2.1a otherwise for IETF mode execute the following steps.

1.   User A's RCS client sends a SIP INVITE message (D.1.1) towards User B to start the session.

2.   void

3.   The test tool responds with a 180 RINGING towards User A's RCS client.

4.   (1-to-1 chat only) The test tool responds with a SIP MESSAGE (D.1.13) (message delivered) towards User A's RCS client.

5.   (1-to-1 chat only) User A's RCS client responds with a 200 OK (D.1.14) towards User B.

6.   The test tool responds with a 200 OK (D.1.2) towards User A's RCS client.

7.   User A's RCS client sends a SIP ACK message towards User B.

C.2.1a Mobile Originated Session Establishment: Video share (IMS mode)

Execute the message flow of 3GPP 34.229-1 C.21 with the following exceptions:

1. Use the message content from D.1.1 and D.1.2.

C.2.2 Mobile Terminated Session Establishment: Video share, Image share, File share, basic 1-to-1 Chat

1. The test tool sends a SIP INVITE message (D.1.1) towards User A's RCS client to start the session.

2. (Optional) User A's RCS client responds with a 100 TRYING.

3. (Optional for Image and Video share) User A's RCS client responds with a 180 RINGING.

4. (1-to-1 chat only) User A's RCS client sends a SIP MESSAGE (D.1.13) (message delivered) towards the test tool.

5. (1-to-1 chat only) The test tool responds with a 200 OK (D.1.14) towards User A's RCS client.

6. User A accepts the incoming session request.

7. User A's RCS client responds with a 200 OK (D.1.2).

8. The test tool sends a SIP ACK message.

C.2.3 Mobile Originated Session Establishment: 1-to-1 Chat with display notification

1. Repeat steps 1 to 7 of C.2.1 Mobile Originated Session Establishment: Video share, Image share, File share, basic 1-to-1 Chat.

C.2.4 Mobile Terminated Session Establishment: 1-to-1 Chat with display notification

1. Repeat steps 1 to 8 of C.2.1 Mobile Originated Session Establishment: Video share, Image share, File share, basic 1-to-1 Chat.

C.2.5 Mobile Originated Session Establishment: 1-to-1 Chat with two messages

1. Repeat steps 1 to 5 of C.2.1 Mobile Originated Session Establishment: Video share, Image share, File share, basic 1-to-1 Chat with the first message.

2. User A's RCS client sends a SIP INVITE message (D.1.1) with the second message towards User B.

3. The test tool responds with a SIP 183 SESSION PROGRESS towards User A's RCS client.

4. The test tool responds with a 180 RINGING towards User A's RCS client.

5. The test tool responds with a SIP MESSAGE (D.1.13) (second message delivered) towards User A's RCS client.

6. User A's RCS client responds with a 200 OK (D.1.14) towards User B.

7. The test tool responds with a 486 BUSY HERE (D.1.9) for the first INVITE towards User A's RCS client.

8. User A's RCS client sends a SIP ACK message towards User B.

9. The test tool responds with a 200 OK (D.1.2) for the second INVITE towards User A's RCS client.

10. User A's RCS client sends a SIP ACK message towards User B.

C.2.6 Mobile Terminated Session Establishment: 1-to-1 Chat with two messages

1. Repeat steps 1 to 5 of C.2.2 Mobile Terminated Session Establishment: Video share, Image share, File share, basic 1-to-1 Chat with the first message.

2. (User A ignores the incoming session request.)

3. The test tool sends a SIP INVITE message (D.1.1) with the second message towards User A's RCS client.

4.   (Optional) User A's RCS client responds with a 100 TRYING.

5.   User A's RCS client responds with a 180 RINGING.

6.   User A's RCS client sends a SIP MESSAGE (D.1.13) (second message delivered) towards the test tool.

7.   The test tool responds with a 200 OK (D.1.14) towards User A's RCS client.

8.   User A's RCS client sends a 486 BUSY HERE (D.1.9) for the first INVITE towards the test tool.

9.   The test tool sends a SIP ACK message.

10.   User A accepts the incoming session request.

11.   User A's RCS client responds with a 200 OK (D.1.2) for the second INVITE towards the test tool.

12.   The test tool sends a SIP ACK message.

C.2.7   Mobile Terminated Session Establishment: Spam

1.   Repeat steps 1 to 5 of C.2.2 Mobile Terminated Session Establishment: Video share, Image share, File share, basic 1-to-1 Chat.

2.   User A's RCS client responds with a 486 BUSY HERE (D.1.9).

3.   The test tool sends a SIP ACK message.

C.2.8   Mobile Originated Session Establishment: simultaneous INVITEs

1.   User A's RCS client sends a SIP INVITE message (D.1.1) with message one towards User B to start the session.

2.   The test tool responds with a SIP 183 SESSION PROGRESS towards User A's RCS client.

3.   The test tool responds with a 180 RINGING towards User A's RCS client.

4.   The test tool sends a SIP INVITE message (D.1.1) with message two towards User A's RCS client.

5.   (Optional) User A's RCS client responds with a 100 TRYING.

6.   User A's RCS client responds with a 180 RINGING.

7.   User A's RCS client responds with a 486 BUSY HERE (D.1.9).

8.   The test tool sends a 486 BUSY HERE (D.1.9) towards User A's RCS client.

9.   The test tool sends a SIP ACK message towards User A's RCS client.

10.   User A's RCS client sends a SIP ACK message towards User B.

11.   User A's RCS client sends a SIP MESSAGE (D.1.13) (message two delivered) towards the test tool.

12.   The test tool responds with a 200 OK (D.1.14) towards User A's RCS client.

13.   The test tool responds with a SIP MESSAGE (D.1.13) (message one delivered) towards User A's RCS client.

14.   User A's RCS client responds with a 200 OK (D.1.14) towards User B.

C.2.9   Mobile Terminated Session Establishment: new INVITE race

1.   Repeat steps 1 to 7 of C.2.2 Mobile Terminated Session Establishment: Video share, Image share, File share, basic 1-to-1 Chat with the first message.

2.   The test tool sends a second SIP INVITE message (D.1.1) with the second message towards User A's RCS client.

3.   (Optional) User A's RCS client responds with a 100 TRYING.

4.   User A's RCS client responds with a 180 RINGING.

5.   The test tool sends a SIP ACK message for the first session established in step 1.

6.   MSRP session is established

7.   User A's RCS client sends a SIP BYE (D.1.12) for the session established in step 1.

8.   The test tool responds with a 200 OK (D.1.14) towards User A's RCS client.

9.   User A's RCS client sends a SIP MESSAGE (D.1.13) (second message delivered) towards the test tool.

10.   The test tool responds with a 200 OK (D.1.14) towards User A's RCS client.

11.   User A's RCS client responds with a 200 OK (D.1.2).

12.   The test tool sends a SIP ACK message for the second session established.

C.2.10   Mobile Originated Session: Store and Forward – Receiver offline

1.   User A's RCS client sends a SIP INVITE message (D.1.1) towards User B to start the session.

2.   The test tool responds with a SIP 183 SESSION PROGRESS towards User A's RCS client.

3.   The test tool responds with a 200 OK (D.1.2) towards User A's RCS client.

4.   User A's RCS client sends a SIP ACK message towards User B.

C.2.11   Mobile Originated Session: Store and Forward – deferred delivery

1.   The test tool sends a SIP INVITE message (D.1.1) towards User A's RCS client.

2.   Client A auto-accepts the incoming session request.

3.   User A's RCS client responds with a 200 OK (D.1.2).

4.   The test tool sends a SIP ACK message.

C.2.12   Mobile Terminated Session: Store and Forward – deferred delivery

1.   Repeat steps 1 to 12 of C.2.6 Mobile Terminated Session Establishment: 1-to-1 Chat with two messages.

C.2.13   Mobile Originated Session Establishment: Group Chat

1.   User A's RCS client sends a SIP INVITE message (D.1.1) towards the IMS core (test tool) to start the group session.

2.   The test tool responds with a 200 OK (D.1.2) towards User A's RCS client.

3.   User A's RCS client sends a SIP ACK message towards the IMS core (test tool).

4.   void

5.   User A's RCS client sends a SIP SUBSCRIBE message (0) towards the IMS core (test tool) to get the participants.

6.   The test tool responds with a 200 OK (D.1.14) towards User A's RCS client.

7.   The test tool sends a SIP NOTIFY (D.1.11) towards User A's RCS client.

8.   User A's RCS client responds with a SIP 200 OK message towards the IMS core (test tool).

C.2.14   Mobile Terminated Session Establishment: Group Chat

1.   The IMS core (test tool) sends a SIP INVITE message (D.1.1) towards User A's RCS client to invite User A to the group session.

2.   User A accepts the incoming group session request.

3.   User A's RCS client responds with a 200 OK (D.1.2).

4.   The IMS core (test tool) sends a SIP ACK message.

5.   User A's RCS client sends a SIP SUBSCRIBE message (0) towards the IMS core (test tool) to get the participants.

6.   The test tool responds with a 200 OK (D.1.14) towards User A's RCS client.

7.   The test tool sends a SIP NOTIFY (D.1.11) towards User A's RCS client.

8.   User A's RCS client responds with a SIP 200 OK message towards the IMS core (test tool).

C.2.15   Group Chat automatic re-join

1.   User A's RCS client sends a SIP INVITE message (D.1.1) towards the IMS core (test tool) to re-join the group session using the same Contribution ID [RCS 1.2.2] or Group Chat ID [RCS 5.1] as in the previous group session.

2. The test tool responds with a 200 OK (D.1.2) towards User A's RCS client.

3. User A's RCS client sends a SIP ACK message towards the IMS core (test tool).

For [RCS 5.1] the following extra steps are required:

4. User A's RCS client sends a SIP SUBSCRIBE message (0) towards the IMS core (test tool) to get the participants.

5. The test tool responds with a 200 OK (D.1.14) towards User A's RCS client.

6. The test tool sends a SIP NOTIFY (D.1.11) towards User A's RCS client.

7. User A's RCS client responds with a SIP 200 OK message towards the IMS core (test tool).

C.2.16   Group Chat re-start: 404 Not Found

1. User A's RCS client sends a SIP INVITE message (D.1.1) towards the IMS core (test tool) to re-join the group session using the same Contribution ID [RCS 1.2.2] or Group Chat ID [RCS 5.1] as in the previous group session.

2. The test tool responds with a 404 Not Found (D.1.5) towards User A's RCS client.

3. User A's RCS client sends a SIP ACK message towards the IMS core (test tool).

C.2.17   Group Chat re-start: 403 Forbidden

1. User A's RCS client sends a SIP INVITE message (D.1.1) towards the IMS core (test tool) to re-join the group session using the same Contribution ID [RCS 1.2.2] or Group Chat ID [RCS 5.1] as in the previous group session.

2. The test tool responds with a 403 Forbidden with the warning text set to "127 Service not authorised" (D.1.8) towards User A's RCS client.

3. User A's RCS client sends a SIP ACK message towards the IMS core (test tool).

C.2.18   Group Chat auto-start

1. User A's RCS client sends a SIP INVITE message (D.1.1) towards the IMS core (test tool) to auto-start the group session using the same Contribution ID [RCS 1.2.2] or Group Chat ID [RCS 5.1] and participant list as in the previous group session.

2. Execute steps 2 to 8 of "Mobile Originated Session Establishment: Group Chat" (C.2.13).

C.2.19   Group Chat concurrent re-start: Mobile Terminated

1. The IMS core (test tool) sends a SIP INVITE message (D.1.1) towards User A's RCS client to invite User A to the group session using the same Contribution ID [RCS 1.2.2] or Group Chat ID [RCS 5.1] as in the previous group session but a new session ID (session 2).

C.2.20   Auto-accept Group Chat

1. Client A auto-accepts the incoming group session request.

2. User A's RCS client responds with a 200 OK (D.1.2).

3. The IMS core (test tool) sends a SIP ACK message.

C.2.21   Auto-invite Group Chat

1. Client A auto-invites the new User to the Group Chat

2. Execute "Inviting new User to Group Chat" (C.5.2)

C.2.22   Group Chat Session Tear Down

1. The IMS core (test tool) sends a SIP BYE message with Reason: SIP; cause=480; text="Temporarily Unavailable".

2. User A's RCS client responds with a 200 OK (D.1.2).

3. The IMS core (test tool) sends a SIP NOTIFY towards User A's RCS client with state="terminated".

4. User A's RCS client responds with a 200 OK (D.1.2).

C.2.23   Group Chat re-start: Mobile Terminated

1.   The IMS core (test tool) sends a SIP INVITE message (D.1.1) towards User A's RCS client to invite User A to the group session using the same Group Chat ID as in the previous group session.

C.2.24   Mobile Originated Session Establishment: Video share, Image share, File share, Group Chat

1.   User A's RCS client sends a SIP INVITE

2.   The IMS core (test tool) responds with a SIP 200 OK

3.   User A's RCS client sends MSRP SEND

4.   IMS core (test tool) sends a MSRP 200 OK

C.2.25   Mobile Terminated File Transfer – Store and Forward Receiving

1.   The test tool sends a cancellation (protocol-cause 408 in the Reason header field indicating that store and forward took place) to User A.

2.   User A's RCS client sends a SIP INVITE (Fetch, FT ID, filename)

3.   The test tool responds with 200 OK (D.1.14)

4.   User A's RCS client sends a SIP ACK message towards the FTF and the MSRP file transfer is started

C.2.26   Mobile Originated Session Establishment: RCS IP Video Call (Duplex Mode)

1.   User A's RCS client sends a SIP INVITE (SDP audio/video session) to User B (Test Tool)

2.   User B (Test tool) accepts with a SIP 200 OK (SDP audio/video session)

3.   User A's RCS client sends a ACK

4.   User A's RCS client sends a RTP (video data) stream

5.   User B (Test Tool) RCS client sends a RTP (video data) stream

6.   User A's RCS client sends a RTP (audio data) stream

7.   User B (Test Tool) RCS client sends a RTP (audio data) stream

This results in two bidirectional RTP/RTCP streams, one for the audio and one for the video.

C.2.27   Mobile Originated Session Establishment: RCS IP Video Call (Simplex Mode)

1.   User A's RCS client sends a SIP INVITE (SDP audio/video session) to User B (Test Tool)

2.   User B (Test tool) accepts with a SIP 200 OK (SDP audio/"recvonly" video session)

3.   User A's RCS client sends a ACK

4.   User A's RCS client sends a RTP (video data) stream

5.   User B (Test Tool) RCS client sends a RTP (audio data) stream

6.   User A's RCS client sends a RTP (audio data) stream

7.   User A's RCS client sends a RTP (video data) stream

8.   User B (Test Tool) RCS client sends a RTP (audio data) stream

This results in two RTP/RTCP streams, one bidirectional for the audio and one unidirectional (from User A to User B) for the video.

C.2.28   Mobile Terminated Session Establishment: RCS IP Video Call (Duplex Mode)

1.   User B (Test Tool) sends a SIP INVITE (SDP audio/video session) towards User A

2.   User A accepts sending video back: SIP 200 OK (SDP audio/video session)

3. User B (Test Tool) sends a ACK

4. User B (Test Tool) sends RTP (video data)

5. User A's RCS client sends a RTP (video data) stream

6. User B (Test Tool) RCS client sends a RTP (audio data) stream

7. User A's RCS client sends a RTP (audio data) stream

This results in two bidirectional RTP/RTCP streams, one for the audio and one for the video.

C.2.29 Mobile Terminated Session Establishment: RCS IP Video Call (Simplex Mode)

1. User B (Test Tool) sends a SIP INVITE (SDP audio/video session) towards User A

2. User A accepts without sending video back: SIP 200 OK (SDP audio/"recvonly" video session)

3. User B (Test Tool) sends a ACK

4. User B (Test Tool) sends RTP (video data)

5. User A's RCS client sends a RTP (audio data)

6. User B (Test Tool) sends RTP (audio data)

7. User B (Test Tool) sends RTP (video data)

This results in two RTP/RTCP streams, one bidirectional for the audio and one unidirectional (from User B to User A) for the video.

C.2.30 Mobile Originated Session File Transfer BlockedGroup Chat

BPEF (Test Tool) sends a 403 Forbidden with a warning header set to "122 Function not allowed".

C.3 Session Termination

C.3.1 Mobile Originated Session Termination: Video share, Image share, File share, 1-to-1 sessions, RCS IP Voice Call

1. User A's RCS client sends a SIP BYE message towards User B to terminate the session.

2. The test tool responds with 200 OK (D.1.14) towards User A's RCS client.

C.3.2 Mobile Terminated Session Termination: Video share, Image share, File share, 1-to-1 sessions

1. The test tool sends a SIP BYE message towards User A's RCS client to terminate the session.

2. User A's RCS client responds with a 200 OK (D.1.14).

C.3.3 Mobile Originated Session Termination: Group chat

1. User A's RCS client sends a SIP BYE message towards the IMS core (test tool) to leave the group session.

2. The IMS core (test tool) responds with 200 OK (D.1.14) towards User A's RCS client.

C.3.4 Mobile Terminated Session Termination: Group chat

1. The IMS core (test tool) sends a SIP BYE message towards User A's RCS client to terminate the group session.

2. User A's RCS client responds with a 200 OK (D.1.14).

C.3.5 Mobile Originated Session Termination: Video share, Image share, File share, Group sessions

1. User A's client sends a SIP BYE message towards User B and User C to terminate the session

2. The test tool responds with a 200 OK (D.1.14)

C.3.6　Mobile Originated Session Termination: File Transfer Store and Forward

1. User A ś client sends a SIP BYE message towards the FTF to terminate the session

2. The test tool responds with a 200 OK (D.1.14)

3. User A ś client sends a SIP MESSAGE (CPIM/IMDN (MESSAGE-ID))

4. The test tool responds with a SIP 200 OK (D.1.14)

C.4　Session Rejection

C.4.1　Mobile Originated Session — Reject

1. User A's RCS client sends a SIP INVITE message (D.1.1) towards User B to start the session.

2. The test tool responds with a SIP 183 SESSION PROGRESS towards User A's RCS client.

3. The test tool responds with a 180 RINGING towards User A's RCS client.

4. The test tool responds with a 603 DECLINE towards User A's RCS client.

5. User A's RCS client sends a SIP ACK message towards User B.

C.4.2　Mobile Terminated Session — Reject

1. The test tool sends a SIP INVITE message (D.1.1) towards User A's RCS client to start the session.

2. (Optional) User A's RCS client responds with a 100 TRYING.

3. (Optional for Image and Video share) User A's RCS client responds with a 180 RINGING.

4. User A rejects the incoming session request.

5. User A's RCS client responds with a 603 DECLINE.

6. The test tool sends a SIP ACK message.

C.4.3　Mobile Originated RCS IP Video Call Session – Rejected

1. User A's RCS client sends a SIP INVITE (SDP video session) towards User B (test tool) to start the session.

2. The test tool resoinds with a SIP 603 DECLINE towards User A's RCS client.

3. User A's RCS client sends a ACK message towards User B.

C.4.4　Mobile Terminated RCS IP Video Call Session – Rejected

1. The test tool sends a SIP INVITE (SDP video session) towards User A's RCS client to start the session.

2. User A rejects the incoming session request.

3. User A's RCS client responds with a 603 DECLINE.

4. The test tool sends a SIP ACK message towards User B.

C.4.5　Mobile Originated IP Video Call Upgrade from CS voice call decline

1. The active CS Voice call is terminated by User A

2. User A sends a SIP INVITE (SDP audio/video session) to User B (Test Tool)

3. User B rejects with SIP 603 Decline

4. User A sends a ACK message.

C.4.6　Mobile Terminated IP Video Call Upgrade from CS voice call decline

1. The active CS Voice call is terminated by the test tool.

2. User B (Test Tool) sends a SIP INVITE (SDP audio/video session) to User A.

3. User A rejects with SIP 603 Decline.

4. User B sends a ACK message.

C.5 Other Procedures

C.5.1 Participant List Update

1. The IMS core (test tool) sends a SIP NOTIFY message (D.1.11) towards User A's RCS client with new participants' status.

2. User A's RCS client responds with a 200 OK (D.1.14).

C.5.2 Inviting new User to Group Chat

1. User A's RCS client sends a SIP REFER message (0) towards the IMS core (test tool) to invite a new User to the group session.

2. The IMS core (test tool) responds with a 202 ACCEPTED (D.1.16) towards User A's RCS client.

3. Wait 1 second

4. The IMS core (test tool) sends a SIP NOTIFY (D.1.11) towards User A's RCS client with the list of participants.

5. User A's RCS client responds with a SIP 200 OK (D.1.14) message towards the IMS core (test tool).

C.5.3 Get Participant List

1. User A's RCS client sends a SIP SUBSCRIBE message (0) towards the IMS core (test tool) to get the participants.

2. The test tool responds with a 200 OK (D.1.14) towards User A's RCS client.

3. The test tool sends a SIP NOTIFY (D.1.11) towards User A's RCS client.

4. User A's RCS client responds with a SIP 200 OK message towards the IMS core (test tool).

C.5.4 Inviting new User to Closed Group Chat

1. User A's RCS client sends a SIP REFER message (0) towards the IMS core (test tool) to invite a new User to the group session.

2. The IMS core (test tool) responds with a SIP 486 ERROR towards User A's RCS client.

C.5.5 Mobile Originated Pager Mode Message

1. User A's RCS client sends a SIP MESSAGE message (D.1.13) towards the IMS core (test tool).

2. The IMS core (test tool) responds with a SIP 200 OK towards User A's RCS client.

C.5.6 Mobile Terminated Pager Mode Message

1. The IMS core (test tool) sends a SIP MESSAGE message (D.1.13) towards User A's RCS client.

2. User A's RCS client responds with a SIP 200 OK towards User A's RCS client.

C.5.7 Mobile Originated Delivered Notification

1. User A's RCS client sends a SIP MESSAGE message (D.1.13) towards the IMS core (test tool).

2. The IMS core (test tool) responds with a SIP 200 OK towards User A's RCS client.

C.5.8 Mobile Terminated Delivered Notification

1. The IMS core (test tool) sends a SIP MESSAGE message (D.1.13) towards User A's RCS client.

2. User A's RCS client responds with a SIP 200 OK towards User A's RCS client.

C.5.9 Mobile Originated Displayed Notification

1. User A's RCS client sends a SIP MESSAGE message (D.1.13) towards the IMS core (test tool).

2. The IMS core (test tool) responds with a SIP 200 OK towards User A's RCS client.

C.5.10   Mobile Terminated Displayed Notification

1. The IMS core (test tool) sends a SIP MESSAGE message (D.1.13) towards User A's RCS client.

2. User A's RCS client responds with a SIP 200 OK towards User A's RCS client.

C.5.11   Mobile Originated Pager Mode Procedure

1. Execute C.5.5

2. Execute C.5.8

3. Execute C.5.10

C.5.12   Mobile Terminated Pager Mode Procedure

1. Execute C.5.6

2. Execute C.5.7

3. Execute C.5.9

C.5.13   Mobile Terminated Geolocation Push

1. User B's RCS client (Test Tool) sends a SIP INVITE

2. User A's RCS client responds with a SIP 200 OK

3. User B's RCS client (Test Tool) sends MSRP SEND

4. User A's RCS client sends a MSRP 200 OK

5. User B's RCS client (Test Tool) sends a shared map with *+g.3gpp.icsi-ref="urn%3Aurn-7%3A3gpp-service.ims.icsi.gsma.sharedmap"* as value in Accept-Contact or Contact Header. The value carried in a P-Preferred-Service or P-Asserted-Service header is *urn:urn-7:3gpp-service.ims.icsi.gsma.sharedmap* and the Service Tuple is *org.3gpp.urn:urn-7:3gpp-service.ims.icsi.gsma.sharedmap* Version: 1.0

C.5.14   Mobile Terminated Shared Sketch

1. User B's RCS client (Test Tool) sends a SIP INVITE

2. User A's RCS client responds with a SIP 200 OK

3. User B's RCS client (Test Tool) sends MSRP SEND

4. User A's RCS client sends a MSRP 200 OK

5. User B's RCS client (Test Tool) sends a shared sketch with file type *jpg* or *png* and *+g.3gpp.icsi-ref="urn%3Aurn-7%3A3gpp-service.ims.icsi.gsma.sharedsketch"* as value in Accept-Contact or Contact Header. The value carried in a P-Preferred-Service or P-Asserted-Service header is *urn:urn-7:3gpp-service.ims.icsi.gsma.sharedsketch* and the Service Tuple is *org.3gpp.urn:urn-7:3gpp-service.ims.icsi.gsma.sharedsketch* Version: 1.0

C.5.15   Mobile Originated Shared Sketch/Map

1. User A's RCS client sends a SIP INVITE

2. User B's RCS client (test tool) responds with a SIP 200 OK

3. User A's RCS client sends MSRP SEND

4. User B's RCS client (test tool) sends a MSRP 200 OK

C.5.16   Mobile Terminated Shared Map

1. User B's RCS client (Test Tool) sends a SIP INVITE

2. User A's RCS client responds with a SIP 200 OK

3. User B's RCS client (Test Tool) sends MSRP SEND

4. User A's RCS client (test tool) sends a MSRP 200 OK

5. User B's RCS client (Test Tool) sends a shared map with file type *jpg* or *png* and *+g.3gpp.icsi-ref="urn%3Aurn-7%3A3gpp-service.ims.icsi.gsma.sharedmap"* as value in Accept-Contact or Contact Header. The value carried in a

P-Preferred-Service or P-Asserted-Service header is *urn:urn-7:3gpp-service.ims.icsi.gsma.sharedmap* and the Service Tuple is *org.3gpp.urn:urn-7:3gpp-service.ims.icsi.gsma.sharedmap* Version: 1.0

C.6 Autoconfiguration Procedures

C.6.1 HTTP

C.6.1.1 Successful autoconfiguration

1. User A's RCS client sends a HTTP request (D.2.1) to the autoconfiguration server (test tool).

2. The test tool responds with 200 OK (D.2.2).

3. User A's RCS client sends a HTTPS request to the autoconfiguration server (D.2.3).

4. The test tool responds with 200 OK (D.2.4).

C.7 MSRP session

C.7.1 MSRP Session Message

1. The Originating end sends a MSRP SEND message (D.3.1) to the Terminating end with an "iscomposing" notification.

2. The Terminating end responds with MSRP 200 OK (0).

3. In the case of the test tool being the Originating end, wait 2 seconds.

4. The Originating end sends a MSRP SEND message (D.3.1) to the Terminating end with the required message.

5. The Terminating end responds with MSRP 200 OK (0).

6. The Terminating end sends a MSRP SEND message (D.3.1) to the Originating end with a "delivered" notification.

7. The Originating end responds with MSRP 200 OK (0).

In the case that the Originating end is User A and the MSRP SEND message in step 4 requests a "displayed" notification then the following extra steps are required:

8. Wait 2 seconds

9. The test tool sends a MSRP SEND message (D.3.1) to User A's RCS client with a "displayed" notification.

10. User A's RCS client responds with MSRP 200 OK (0).

C.7.2 MSRP Session Message with Display Notification

1. The Originating end sends a MSRP SEND message (D.3.1) to the Terminating end with an "iscomposing" notification.

2. The Terminating end responds with MSRP 200 OK (0).

3. In the case of the test tool being the Originating end, wait 2 seconds

4. The Originating end sends a MSRP SEND message (D.3.1) to the Terminating end with the required message.

5. The Terminating end responds with MSRP 200 OK (0).

6. The Terminating end sends a MSRP SEND message (D.3.1) to the Originating end with a "delivered" notification.

7. The Originating end responds with MSRP 200 OK (0).

8. In the case of the test tool being the Terminating end, wait 2 seconds

9. The Terminating end sends a MSRP SEND message (D.3.1) to the Originating end with a "displayed" notification.

10. The Originating end responds with MSRP 200 OK (0).

C.7.3 MSRP Session Store and Forward

1. User A's RCS client sends a MSRP SEND message (D.3.1) to the test tool with an "iscomposing" notification.

2. The test tool responds with MSRP 200 OK (0).

3. User A's RCS client sends a MSRP SEND message (D.3.1) to the test tool with the required message.

4.   The test tool responds with MSRP 200 OK (0).

C.7.4   MSRP Session Store and Forward Message Delivered

1.   The test tool sends a MSRP SEND message (D.3.1) to User A's RCS client with a "delivered" notification.

2.   User A's RCS client responds with MSRP 200 OK (0).

In the case that the original MSRP SEND with the originating message requested a "displayed" notification then the following extra steps are required:

3.   Wait 2 seconds

4.   The test tool sends a MSRP SEND message (D.3.1) to User A's RCS client with a "displayed" notification.

5.   User A's RCS client responds with MSRP 200 OK (0).

C.7.5   MSRP Session Store and Forward Final Message Delivered

1.   The test tool sends a MSRP SEND message (D.3.1) to User A's RCS client with a "delivered" notification.

2.   User A's RCS client responds with MSRP 200 OK (0).

In the case that the MSRP SEND message previously sent in step 3 of C.7.3 requests a "displayed" notification then the following extra steps 2a, 2b and 2c are required:

2a.   Wait 2 seconds

2b.   The test tool sends a MSRP SEND message (D.3.1) to User A's RCS client with a "displayed" notification.

2c.   User A's RCS client responds with MSRP 200 OK (0).

3.   Execute procedure "Mobile Terminated Session Termination: Video share, Image share, File share, 1-to-1 sessions" (C.3.2).

C.7.6   MSRP Group Session Message

For [RCS 5.1] use C.7.1 MSRP Session Message

1.   The Originating end sends a MSRP SEND message (D.3.1) to the Terminating end with the required message.

2.   The Terminating end responds with MSRP 200 OK (0).

C.7.7   MSRP Session Store and Forward Message Reception

1.   The test tool sends a MSRP SEND message (D.3.1) to User A's RCS client with the required message.

2.   User A's RCS client responds with MSRP 200 OK (0).

3.   User A's RCS client sends a MSRP SEND message (D.3.1) with a "delivered" notification.

4.   The test tool responds with MSRP 200 OK (0).

C.7.8   MSRP Session Store and Forward File Transfer

1.   User A's RCS client sends a SIP INVITE (SDP, IMDN) to the test tool

2.   The test tool responds with SIP 200 OK

3.   User A's RCS clients responds with SIP ACK

C.7.9   MSRP Session Store and Forward File Transfer Completed

1.   User A's RCS clients sends a SIP BYE to the test tool after the transfer is completed

2.   The test tool responds with SIP 200 OK

C.7.10   Store and Forward File Transfer Delivered Notification

1.   The test tool sends a SIP MESSAGE (CPIM/IMDN (Message-ID)) to User A's RCS client with a "delivered" notification.

2.   User A's RCS client responds with SIP 200 OK (0).

C.8 PRESENCE based Capability Exchange

C.8.1 Publishing

1. User A's RCS client sends a SIP PUBLISH message (D.1.17) towards the IMS core (test tool).

2. The test tool responds with a 200 OK (D.1.14) towards User A's RCS client.

Note: This procedure can be executed as soon as the RCS client is SIP registered (also in parallel to SUBSCRIBE/NOTIFY for reg event)

C.8.2 Subscription to capabilities

1. User A's RCS client sends a SIP SUBSCRIBE message (0) towards the IMS core (test tool).

2. The test tool responds with a 200 OK (D.1.14) towards User A's RCS client.

3. The test tool sends a NOTIFY message (D.1.19) towards User A's RCS client.

4. User A's RCS client responds with a 200 OK (D.1.14) towards the IMS core (test tool).

Note: This procedure can be executed as soon as the RCS client is SIP registered (also in parallel to SUBSCRIBE/NOTIFY for reg event)

Appendix D.   Default Message Content

D.1   SIP message content

The default message content from 3GPP TS 34.229-1 Appendix A is used per default. This section just modifies or clarifies the default messages specified there.

Editor's note: Additions for CPM are required in all sections.

D.1.1   INVITE

Header/param	Cond	Value/remark	Rel	Reference
Accept-Contact				RFC 3841 [64]
ac-value	B1	+g.3gpp.cs-voice		
	B2	+g.3gpp.iari-ref="urn%3Aurn-7%3A3gpp-application.ims.iari.gsma-is"		
	B3	+g.oma.sip-im		
	B4, B5	+g.oma.sip-im		
	B6	+g.gsma.rcs.ipcall		
Contact				
feature-param	B1	+g.3gpp.cs-voice+		
	B2	+g.3gpp.iari-ref="urn%3Aurn-7%3A3gpp-application.ims.iari.gsma-is"		
	B3	+g.oma.sip-im		
	B4, B5	+g.oma.sip-im		
	B6	+g.gsma.rcs.ipcall		
Content-Type				RFC 3261 [15]
media-type	*B1, B2, B3, B6*	*application/sdp*		
	B4, B5	multipart/mixed;boundary="boundary1"		
Supported				RFC 3261 [15]
		Precondition is not included		
Require				RFC 3261 [15]
		Precondition is not included		
Message-body	B1	m=video *port* RTP/AVP *(rtp payload types)* a=sendonly a=rtpmap: *payload type* H264/90000 a=fmtp: *payload type* profile-level-id=42C00D; packetization-mode=0 a=rtpmap: *payload type* H263-2000/90000 a=framesize: *payload type* 176-144 a=framerate:8 a=fmtp: *payload type* profile=0; level=45		4119 [99RFC]
	B2	m=message *port* TCP/MSRP * a=sendonly a=accept-types:message/cpim a=accept-wrapped-types:* a=path:msrp://*(IP address):port*/jshA7we;tcp a=file-selector: type:image/jpeg size ⊘*size of file)* a=file-transfer-id:Q6LMoGymJdh0IKIgD6wD0jkcfgva4xvE		
	B3	m=message *port* TCP/MSRP * a=sendonly a=accept-types:message/cpim a=accept-wrapped-types:* a=path:msrp://*(IP address):port*/jshA7we;tcp a=file-selector: type:image/jpeg size:*(size of file)* a=file-transfer-id:Q6LMoGymJdh0IKIgD6wD0jkcfgva4xvE		

	B4	``` --boundary1 Content-Type: application/sdp ``` m=message *port* TCP/MSRP * a=accept-types: message/cpim text/plain [RCS 1.2.2] a=accept-types: message/cpim [RCS 5.1] a=accept-wrapped-types:* [RCS 5.1] *if multimedia in Chat supported* a=accept-wrapped-types: text/plain message/imdn+xml application/im-iscomposing+xml [RCS 5.1] *if multimedia in Chat not supported.Add* application/vnd.gsma.rcs-ft-http+xml *if File Transfer using HTTP is supported. Add* application/vnd.gsma.rcspushlocation+xml *if Geolocation PUSH is supported* a=max-size: 7665 a=path:msrp://*(IP address):port*/jshA7we;tcp ``` --boundary1 Content-Type: message/cpim From: <sip:anonymous@anonymous.invalid> To: <sip:anonymous@anonymous.invalid> DateTime: 2014-01-15T10:17:49.727+01:00 NS: imdn <urn:ietf:params:imdn> imdn.Message-ID: 7QsgkAl8QZvr9XPFtiiCtLj3sls0oNok imdn.Disposition-Notification: positive- delivery, display Content-type: text/plain;charset=UTF-8 ``` *Initial message* ``` --boundary1-- ```		

	B5	```
		--boundary1
		Content-Type: application/sdp
		
		<B4 content>
		
		--boundary1
		Content-Type: application/resource-lists+xml
		Content-Disposition: recipient-list
		
		<?xml versio"="1"0" encodin"="UTF"8"?>
		<resource-lists
		xmln"="urn:ietf:params:xml:ns:resource-lis"s"
		
		xmlns:c"="urn:ietf:params:xml:ns:copycontr"l">
		  <list>
		    <entry ur"="<SIP or TEL URI of User "">"
		cp:copyContro"="""o"/>
		``` *… (NOTE: Add further users as necessary)* ```
		  </list>
		</resource-lists>
		--boundary1--
		``		

	B6	m=audio (transport port) RTP/AVP (fmt) b=AS: (bandwidth-value) b=RS:0 b=RR:0 a=rtpmap:(payload type) AMR/8000/1 a=fmtp:(format) mode-change-capability=2; max-red=220 a=rtpmap:(payload type) telephone-event a=ptime:20 a=maxptime:240		

Condition	Explanation
B1	Video Sharing (ics_videoShare)
B2	Image Sharing (ics_imageShare)
B3	File Sharing (ics_fileTransfer)
B4	IM Chat (1 to 1 session)
B5	IM Group chat
B6	RCS IP Voice Call

D.1.2   200 OK for INVITE

Header/param	Cond	Value/remark	Rel	Reference
Contact				
feature-param	B1	+g.3gpp.cs-voice		
	B2	+g.3gpp.iari-re"="urn%3Aurn-7%3A3gpp-application.ims.iari.gsma-"s"		
	B3	+g.oma.sip-im		
	B4	+g.oma.sip-im		
Content-Type				RFC 3261 [15]
media-type		*application/sdp*		
Message-body	B1	m=video *port* RTP/AVP *(rtp payload types)* a= recvonly a=rtpmap: *payload type* H264/90000 a=fmtp: *payload type* profile-level-id=42C00D; packetization-mode=0 a=rtpmap: *payload type* H263-2000/90000 a=framesize: *payload type* 176-144 a=framerate:8 a=fmtp: *payload type* profile=0; level=45		RFC 4119 [99]
	B2	m=message *port* TCP/MSRP * a=recvonly a=accept-types:message/cpim a=accept-wrapped-types:* a=path:msrp://(*IP address*):*port*/jshA7we;tcp a=file-selector: *(copied from INVITE)* a=file-transfer-id: *(copied from INVITE)*		
	B3	m=message *port* TCP/MSRP * a=recvonly a=accept-types:message/cpim a=accept-wrapped-types:* a=path:msrp://(*IP address*):*port*/jshA7we;tcp a=file-selector: *(copied from INVITE)* a=file-transfer-id: *(copied from INVITE)*		

Condition	Explanation
B1	Video Sharing (ics_videoShare)
B2	Image Sharing (ics_imageShare)
B3	File Sharing (ics_fileTransfer)
B4	IM Chat

D.1.3 OPTIONS

Header/param	Cond	Value/remark	Rel	Reference
Request URI	B5	User-B's IMS identity (SIP-URI or TEL-URI/MSISDN)		
	B6	User-A's IMS contact-URI		
Accept-Contact				RFC 3841 [64]
ac-value	B1	+g.3gpp.cs-voice		
	B2	+g.3gpp.iari-re"="urn%3Aurn-7%3A3gpp-application.ims.iari.gsma-"s"		
	B3	+g.3gpp.iari-re"="urn%3Aurn-7%3A3gpp-application.ims.iari.rcse."t";+g.oma.sip-im (optional)		
	B4	+g.3gpp.iari-re"="urn%3Aurn-7%3A3gpp-application.ims.iari.rcse."m";+g.oma.sip-im (optional)		
Contact				
feature-param	B1	+g.3gpp.cs-voice+		
	B2	g.3gpp.iari-re"="urn%3Aurn-7%3A3gpp-application.ims.iari.gsma-"s"		
	B3	+g.3gpp.iari-re"="urn%3Aurn-7%3A3gpp-application.ims.iari.rcse."t";+g.oma.sip-im (optional)		
	B4	+g.3gpp.iari-re"="urn%3Aurn-7%3A3gpp-application.ims.iari.rcse."m";+g.oma.sip-im (optional)		
Content-Type				RFC 3261 [15]
media-type	*B1*	*application/sdp*		
Message-body	B1	supported video codecs. m=video *0* RTP/AVP *(rtp payload types)* a=rtpmap: *payload type* H264/90000 a=rtpmap: *payload type* H263-2000/90000		RFC 4119 [99] [RCS 1.2.2] 2.7.3
	Other cases	*Not present*		

Condition	Explanation
B1	Video Sharing (ics_videoShare) AND in CS Call
B2	Image Sharing (ics_imageShare) AND in CS Call
B3	File Sharing (ics_fileTransfer)
B4	IM Chat
B5	Mobile originated
B6	Mobile terminated

Note: If more than one of the above conditions evaluate to true and therefore multiple IARI tags are included, these must be combined in a comma separated list, as defined in [RCS 1.2.2] section 2.3.1.1. For example:

+g.3gpp.iari-re"="urn%3Aurn-7%3A3gpp-application.ims.iari.rcse.im,urn%3Aurn-7%3A3gppapplication.ims.iari.rcse."t"

D.1.4 200 OK for OPTIONS

Header/param	Cond	Value/remark	Rel	Reference
Contact				

feature-param	B1	+g.3gpp.cs-voice		
	B2	+g.3gpp.iari-re”="urn%3Aurn-7%3A3gpp-application.ims.iari.gsma-”s"		
	B3	+g.3gpp.iari-re”="urn%3Aurn-7%3A3gpp-application.ims.iari.rcse.”t";+g.oma.sip-im (optional)		
	B4	+g.3gpp.iari-re”="urn%3Aurn-7%3A3gpp-application.ims.iari.rcse.”m";+g.oma.sip-im (optional)		
Content-Type				RFC 3261 [15]
media-type	*B1*	*application/sdp*		
Message-body	B1	supported video codecs. m=video *0* RTP/AVP *(rtp payload types)* a=rtpmap: *payload type* H264/90000 a=rtpmap: *payload type* H263-2000/90000		RFC 4119 [99]
	Other cases	*Not present*		

Condition	Explanation
B1	Video Sharing (ics_videoShare) AND in CS Call
B2	Image Sharing (ics_imageShare) AND in CS Call
B3	File Sharing (ics_fileTransfer)
B4	IM Chat
Note: If more than one of the above conditions evaluate to true and therefore multiple IARI tags are included, these must be combined in a comma separated list, as defined in [RCS 1.2.2] section 2.3.1.1. For example: +g.3gpp.iari-re”="urn%3Aurn-7%3A3gpp-application.ims.iari.rcse.im,urn%3Aurn-7%3A3gppapplication.ims.iari.rcse.”t"	

D.1.5   404 Not found

Header/param			Value/remark	Rel	Reference
Status-Line					RFC 3261 [15]
Version	SIP-		*SIP/2.0*		
Code	Status-		*404*		
Phrase	Reason-		*Not Found*		
Via					RFC 3261 [15]
parm	via-		same value as received in request message		
From					RFC 3261 [15]
spec	addr-		same value as received in request message		
	tag		same value as received in request message		
To					RFC 3261 [15]
spec	addr-		same value as received in request message		
	tag		same value as in an earlier responses sent to the UE for this dialog		
Call-ID					RFC 3261 [15]
	callid		same value as received in request message		
Session-ID					draft-kaplan-dispatch-session-id [115]
	sess-id		same value as received in request message, if Session-ID header field exists in received request message, otherwise, not present.		
CSeq					RFC 3261 [15]
	value		same value as received in request message		
Content-Length					RFC 3261 [15]
	value		0		

D.1.6   408 Request Timeout

Header/param			Value/remark	Rel	Reference
Status-Line					RFC 3261 [15]
Version	SIP-		*SIP/2.0*		
Code	Status-		*408*		
Phrase	Reason-		*Request Timeout*		
Via					RFC 3261 [15]
parm	via-		same value as received in request message		
From					RFC 3261 [15]
spec	addr-		same value as received in request message		
	tag		same value as received in request message		
To					RFC 3261 [15]
spec	addr-		same value as received in request message		
	tag		same value as in an earlier responses sent to the UE for this dialog		
Call-ID					RFC 3261 [15]
	callid		same value as received in request message		
Session-ID					draft-kaplan-dispatch-session-id [115]
	sess-id		same value as received in request message, if Session-ID header field exists in received request message, otherwise, not present.		
CSeq					RFC 3261 [15]

Header/param		Value/remark	Rel	Reference
	value	same value as received in request message		
Content-Length				RFC 3261 [15]
	value	0		

D.1.7   480 Temporarily Unavailable

Header/param		Value/remark	Rel	Reference
Status-Line				RFC 3261 [15]
Version	SIP-	*SIP/2.0*		
Code	Status-	*480*		
Phrase	Reason-	*TEMPORARILY UNAVAILABLE*		
Via				RFC 3261 [15]
parm	via-	same value as received in request message		
From				RFC 3261 [15]
spec	addr-	same value as received in request message		
	tag	same value as received in request message		
To				RFC 3261 [15]
spec	addr-	same value as received in request message		
	tag	same value as in an earlier responses sent to the UE for this dialog		
Call-ID				RFC 3261 [15]
	callid	same value as received in request message		
Session-ID				draft-kaplan-dispatch-session-id [115]
	sess-id	same value as received in request message, if Session-ID header field exists in received request message, otherwise, not present.		
CSeq				RFC 3261 [15]
	value	same value as received in request message		
Content-Length				RFC 3261 [15]
	value	0		

D.1.8   403 Forbidden

Header/param		Value/remark	Rel	Reference
Status-Line				RFC 3261 [15]
Version	SIP-	*SIP/2.0*		
Code	Status-	*403*		
Phrase	Reason-	*FORBIDDEN*		
Via				RFC 3261 [15]
parm	via-	same value as received in request message		
From				RFC 3261 [15]
spec	addr-	same value as received in request message		
	tag	same value as received in request message		
To				RFC 3261 [15]
spec	addr-	same value as received in request message		
	tag	same value as in an earlier responses sent to the UE for this dialog		
Call-ID				RFC 3261 [15]
	callid	same value as received in request message		

Header/param		Value/remark	Rel	Reference
Session-ID				draft-kaplan-dispatch-session-id [115]
	sess-id	same value as received in request message, if Session-ID header field exists in received request message, otherwise, not present.		
CSeq				RFC 3261 [15]
	value	same value as received in request message		
Content-Length				RFC 3261 [15]
	value	0		

D.1.9   486 BUSY HERE

Header/param		Value/remark	Rel	Reference
Status-Line				RFC 3261 [15]
Version	SIP-Version	*SIP/2.0*		
Code	Status-Code	*486*		
n-Phrase	Reason-Phrase	*BUSY HERE*		
Via				RFC 3261 [15]
	via-parm	same value as received in request message		
From				RFC 3261 [15]
spec	addr-spec	same value as received in request message		
	tag	same value as received in request message		
To				RFC 3261 [15]
spec	addr-spec	same value as received in request message		
	tag	same value as in an earlier responses sent to the UE for this dialog		
Call-ID				RFC 3261 [15]
	callid	same value as received in request message		
Session-ID				draft-kaplan-dispatch-session-id [115]
	sess-id	same value as received in request message, if Session-ID header field exists in received request message, otherwise, not present.		
CSeq				RFC 3261 [15]
	value	same value as received in request message		
Content-Length				RFC 3261 [15]
	value	0		

D.1.10   SUBSCRIBE (conference)

Header/param	Cond	Value/remark	Rel	Reference
Request URI		Conference URI		
Event		conference		

D.1.11   NOTIFY (conference)

Header/param	Cond	Value/remark	Rel	Reference
Request URI				
Contact				RFC 3261[15]
addr-spec		<px_FinalConferenceUri>;isfocus		
Content-Type		application/conference-info+xml		
Event				RFC 3265[34]

				RFC 4575[86]
event-type		*conference*		
Subscription-State		active ;expires=7200		

		<?xml version="1.0" encoding="UTF"8"?>
		
		  <conference-info xmlns="urn:ietf:params:xml:ns:conference-info"
		
		  entity="conference1@mrfc2.home1.net"
		
		  state="full"
		
		  version="0" >
		
		<conference-description>
		
		  <display-text>OMA Group Chat</display-text>
		
		  <maximum-user-count>11</maximum-user-count>
		
		</conference-description>
		
		<conference-state>
		
		  <user-count>1</user-count>
		
		  <active>true</active>
		
		  <locked>false</locked>
		
		</conference-state>
		
		<users>
		
		  <user entity="<User SIP URI>" state="full" yourown="true">
		
		    <display- text>User 1</display-text>
		
		    <roles>
		
		      <entry>chairman</entry>
		
		    </roles>
		
		    <endpoint entity=" <u>sip:[5555::eee:fff:aaa:bb</u>"]">
		
		     <display-text>User 1</display-text>
		
		     <status>connected</status>
		
		    </endpoint>
		
		    <etype>gpmanage</etype>
		
		    </user>
		
		(NOTE: Add further users as necessary)
		
		<user entity="<User SIP URI>" state="full" yourown="true">
		
		    <display- text>User 2</display-text>
		
		    <roles>
		
		      <entry>participant</entry>
		
		    </roles>
		
		    <endpoint entity=" <u>sip:[5555::eee:fff:aaa:bb</u>"]">
		
		     <display-text>User 2</display-text>
		
		     <status>connected</status>		

		</endpoint>		
		<etype>gpmanage</etype>		
		</user>		
		</users>		
		</conference-info>		

D.1.12 BYE

See 3GPP 34.229-1 A.2.8

D.1.13 MESSAGE

Header/param	Cond	Value/remark	Rel	Reference
Request URI				
Accept-Contact		+g.oma.sip-im		
Content-type		message/cpim		
		From: Bob <im:bob@example.com>		
		To: Alice <im:alice@example.com>		
		NS: imdn <urn:ietf:params:imdn>		
		imdn.Message-ID: d834jied93rf		
		Content-type: message/imdn+xml		
		Content-Disposition: notification		
		Content-length: ...		
		<?xml versio"="1"0" encodin"="UTF"8"?>		
		<imdn xmln"="urn:ietf:params:xml:ns:im"n">		
		<message-id>34jk324j</message-id>		
		<datetime>2008-04-04T12:16:49-05:00</datetime>		
		<recipient-uri>im:bob@example.com</recipient-uri>		
		<original-recipient-uri		
		>im:bob@example.com</original-recipient-uri>		
		<delivery-notification>		
		<status>		
		<delivered/>		
		</status>		
		</delivery-notification>		
		</imdn>		

D.1.14 200 OK (Generic)

Header/param		Value/remark	Rel	Reference
Status-Line				RFC 3261 [15]
	SIP-Version	*SIP/2.0*		
	Status-Code	*200*		
	Reason-Phrase	*OK*		
Via				RFC 3261 [15]
	via-parm	same value as received in request message		
From				RFC 3261 [15]
	addr-spec	same value as received in request message		
	tag	same value as received in request message		
To				RFC 3261 [15]
	addr-spec	same value as received in request message		
	tag	same value as in an earlier responses sent to the UE for this dialog		
Call-ID				RFC 3261 [15]
	callid	same value as received in request message		
Session-ID				draft-kaplan-dispatch-session-id [115]
	sess-id	same value as received in request message, if Session-ID header field exists in received request message, otherwise, not present.		
CSeq				RFC 3261 [15]
	value	same value as received in request message		
Content-Length				RFC 3261 [15]
	value	0		

D.1.15 REFER

See 3GPP 34.229-1 A.2.10

D.1.16 202 ACCEPTED

Header/param	Value/remark	Rel	Reference

Header/param			Value/remark	Rel	Reference
Status-Line					RFC 3261 [15]
	SIP-Version		*SIP/2.0*		
	Status-Code		*202*		
	Reason-Phrase		*ACCEPTED*		
Via					RFC 3261 [15]
	via-parm		same value as received in request message		
From					RFC 3261 [15]
	addr-spec		same value as received in request message		
	tag		same value as received in request message		
To					RFC 3261 [15]
	addr-spec		same value as received in request message		
	tag		same value as in an earlier responses sent to the UE for this dialog		
Call-ID					RFC 3261 [15]
	callid		same value as received in request message		
Session-ID					draft-kaplan-dispatch-session-id [115]
	sess-id		same value as received in request message, if Session-ID header field exists in received request message, otherwise, not present.		
CSeq					RFC 3261 [15]
	value		same value as received in request message		
Content-Length					RFC 3261 [15]
	value		0		

D.1.17   PUBLISH

Header/param	Cond	Value/remark	Rel	Reference
Request URI				
Contact				
feature-param	B1	+g.3gpp.icsi-ref="urn%3Aurn-7%3A3gpp-service.ims.icsi.oma.cpm.session"		
	B2	+g.3gpp.icsi-ref="urn%3Aurn-7%3A3gpp-service.ims.icsi.oma.cpm.filetransfer"		
	B3	+g.3gpp.iari-ref="urn%3Aurn-7%3A3gpp-application.ims.iari.rcse.dp "		
	B4	+g.3gpp.iari-ref="urn%3Aurn-7%3A3gpp-application.ims.iari.rcs.ftthumb"		
Content-Type		application/pidf+xml		
Event		presence		
Expires		*Any value*		
		<?xml version="1.0" encoding="UTF-8"?> <presence xmlns="urn:ietf:params:xml:ns:pidf" xmlns:op="urn:oma:xml:prs:pidf:oma-pres" xmlns:opd="urn:oma:xml:pde:pidf:ext" xmlns:opd11="urn:oma:xml:pde:pidf:ext:1.1" xmlns:pdm="urn:ietf:params:xml:ns:pidf:data-model"		RRC.07 2.6.1.2.5.1

	xmlns:rpid="urn:ietf:params:xml:ns:pidf:rpid"	
	xmlns:gp="urn:ietf:params:xml:ns:pidf:geopriv10"	
	xmlns:caps="urn:ietf:params:xml:ns:pidf:caps"	
	xmlns:gml="http://www. opengis.net/gml"xmlns:gs="http://www.opengis.net/pidflo/1.0"	
	entity="*<IMPU>*">	
	<tuple id="*any*"><!—multiple elements -->	
	<status><basic>open</basic></status>	
	<op:service-description>	
	<op:service-id>*<SERVICEID>*</op:service-id>	
	<op:version>1.0</op:version>	
	</op :service-description>	
	<contact>*<IMPU>*</contact>	
	</tuple>	
	</presence>	

Condition	SERVICEID	Explanation
B1		CPM
B2	org.openmobilealliance:File-Transfer	File Sharing (ics_fileTransfer)
B3	org.3gpp.urn:urn-7:3gpp-application.ims.iari.rcse.dp	Presence for capability discovery
B4	org.openmobilealliance:File-Transfer-thumb	Filetransfer Thumbnail
	org.openmobilealliance:IM-session	
	org.openmobilealliance:ChatSession	
	org.openmobilealliance:StandaloneMsg	
	org.openmobilealliance:File-Transfer-HTTP	HTTP Filetransfer
	org.3gpp.urn:urn-7:3gpp-application.ims.iari.rcs.geopush	Geolocation PUSH
	org.3gpp.urn:urn-7:3gpp-application.ims.iari.rcs.geopullft	Geolocation PULL
Note: If more than one of the above conditions evaluate to true and therefore multiple IARI tags are included, these must be combined in a comma separated list, as defined in [RCS 1.2.2] section 2.3.1.1. For example: +g.3gpp.iari-re"="urn%3Aurn-7%3A3gpp-application.ims.iari.rcse.im,urn%3Aurn-7%3A3gppapplication.ims.iari.rcse."t"		

D.1.18   SUBSCRIBE (presence)

Header/param	Cond	Value/remark	Rel	Reference
Request URI		Target URI		
Event		presence		

D.1.19   NOTIFY (presence)

Header/param	Cond	Value/remark	Rel	Reference
Request URI				
Event		presence		
Content-Type		application/pidf+xml		
		tbd		

D.2 HTTP autoconfiguration message content

D.2.1 Initial HTTP request

Header/param	Cond	Value/remark	Rel	Reference
Request Line				
Method		*GET*		
URI		*/ and no parameters*		
Message-Body		none		

D.2.2 200 OK for the initial HTTP request

Header/param	Cond	Value/remark	Rel	Reference
Status Line				
Status		*200 OK*		
Set-Cookie		Random value		
Message-Body		none		

D.2.3 Initial HTTPS request

Header/param	Cond	Value/remark	Rel	Reference
Request Line				
Method		GET		[RCS 1.2.2] sect. 2.2.2.1.2
URI		/		
Parameter				
vers		Int (-1, 0 or a positive integer)		
IMSI	B1	15 digit string		
client_vendor		4 letter string		
client_version		Max 10 letter string		
terminal_vendor		4 letter string		
terminal_model	B1	Max 10 letter string		
terminal_sw_version		Max 10 letter string		
IMEI		Max 15 letter string		
Cookie		Same as in 200 OK for HTTP		
Message-Body		None		

Condition	Explanation
B1	OS provides access to IMSI and IMEI (ics_os_supports_imsi_imei)

D.2.4 200 OK for the initial HTTPS request

Header/param	Cond	Value/remark	Rel	Reference
Status Line				
Status		*200 OK*		

Message-Body		`<?xml version="1.0"?>`
		 `<wap-provisioningdoc version="1.1">`
		   `<characteristic type="VERS">`
		     `<parm name="version" value="`*vers from request incremented by 1*`"/>`
		     `<parm name="validity" value="1728000"/>`
		   `</characteristic>`
		   `<characteristic type="APPLICATION">`
		     See D.2.5
		   `</characteristic>`
		 `</wap-provisioningdoc>`		

D.2.5 Default provisioning XML [RCS 1.2.2]

```xml
                                        <characteristic type="ConRefs">
                                                <parm name="ConRef" value="X"/>
                                        </characteristic>
                                        <characteristic type="Public_User_Identity_List">
                                                <parm name="Public_User_Identity"
value="px_IMS_PublicUserIdentity1"/>
                                        </characteristic>
                                        <characteristic type="Ext">
                                                <characteristic type="SecondaryDevicePar">
                                                        <parm name="VoiceCall" value="0"/>
                                                        <parm name="Chat" value="0"/>
                                                        <parm name="SendSms" value="0"/>
                                                       <parm name="FileTranfer" value="0"/>
                                                        <parm name="VideoShare" value="0"/>
                                                        <parm name="ImageShare" value="0"/>
                                                </characteristic>
                                                <parm name="NatUrlFmt" value="1"/>
                                                <parm name="IntUrlFmt" value="1"/>
                                                <parm name="Q-Value" value="0.5"/>
                                                <parm name="MaxSizeImageShare" value="0"/>
                                                <parm name="MaxTimeVideoShare" value="0"/>
                                        </characteristic>
                                        <characteristic type="ICSI_List"/>
                                        <characteristic type="LBO_P-CSCF_Address">
                                                <parm name="Address" value="derived from
px_P_CSCF_IPAddr"/>
                                                <parm name="AddressType" value="IPvx derived from
px_P_CSCF_IPAddr "/>
                                        </characteristic>
                                        <characteristic type="PhoneContext_List"/>
                                        <characteristic type="APPAUTH">
                                                <parm name="AuthType" value="derived from pc_IMS_Sec,
pc_IMS_GIBA_Sec and pc_IMS_Digest_sec "/>
                                        </characteristic>
                                        <parm name="AppID" value="ap2001"/>
                                        <parm name="Name" value="IMS Settings"/>
                                        <parm name="AppRef" value="IMS-Settings"/>
                                        <parm name="PDP_ContextOperPref" value="X"/>
                                        <parm name="Timer_T1" value="2000"/>
                                        <parm name="Timer_T2" value="16000"/>
                                        <parm name="Timer_T4" value="17000"/>
                                        <parm name="Private_User_Identity" value="px_IMS_Private_UserId"/>
                                     <parm name="Home_network_domain_name" value="px_IMS_HomeDomainName"/>
                                        <parm name="Voice_Domain_Preference_E_UTRAN" value="4"/>
                                        <parm name="SMS_Over_IP_Networks_Indication" value="1"/>
                                        <parm name="Keep_Alive_Enabled" value="0"/>
                                        <parm name="Voice_Domain_Preference_UTRAN" value="2"/>
                                        <parm name="Mobility_Management_IMS_Voice_Termination" value="0"/>
                                        <parm name="RegRetryBaseTime" value="0"/>
                                        <parm name="RegRetryMaxTime" value="0"/>
                        </characteristic>
                        <characteristic type="APPLICATION">
                                <characteristic type="IMS">
                                        <parm name="To-AppRef" value="IMS-Settings"/>
                                </characteristic>
                                <characteristic type="PRESENCE">
                                        <characteristic type="FAVLINK">
                                                <parm name="AutMa" value="X"/>
```

```xml
                                                </characteristic>
                                                <characteristic type="SERVCAPWATCH">
                                                        <parm name="FetchAuth" value="X"/>
                                                        <parm name="ContactCapPresAut"
value="X"/>
                                                </characteristic>
                                                <characteristic type="ServCapPresentity">
                                                        <parm name="WATCHERFETCHAUTH"
value="X"/>
                                                </characteristic>
                                                <parm name="usePresence" value="0"/>
                                                <parm name="presencePrfl" value="X"/>
                                                <parm name="AvailabilityAuth" value="X"/>
                                                <parm name="IconMaxSize" value="X"/>
                                                <parm name="NoteMaxSize" value="X"/>
                                                <parm name="PublishTimer" value="X"/>
                                                <parm name="client-obj-datalimit" value="X"/>
                                                <parm name="content-serveruri" value="X"/>
                                                <parm name="source-throttlepublish" value="X"/>
                                                <parm name="max-number-ofsubscriptions-inpresence-
list" value="X"/>
                                                <parm name="service-uritemplate" value="X"/>
                                </characteristic>
                                <characteristic type="XDMS">
                                                <parm name="RevokeTimer" value="X"/>
                                                <parm name="XCAPRootURI" value="X"/>
                                                <parm name="XCAPAuthenticationUserName" value="X"/>
                                                <parm name="XCAPAuthenticationSecret" value="X"/>
                                                <parm name="XCAPAuthenticationType" value="X"/>
                                </characteristic>
                                <characteristic type="IM">
                                                <parm name="imCapAlwaysON" value="1"/>
                                                <parm name="imWarnSF" value="1"/>
                                                <parm name="ftWarnSize" value="ixit_FTWARNSIZE"/>
                                                <parm name="ftAutAccept" value="1"/>
                                                <parm name="ChatAuth" value="1"/>
                                                <parm name="SmsFallBackAuth" value="0"/>
                                                <parm name="AutAccept" value="1"/>
                                                <parm name="AutAcceptGroupChat" value="1"/>
                                                <parm name="MaxSize1to1" value="20000"/>
                                                <parm name="MaxSize1toM" value="20000"/>
                                                <parm name="TimerIdle" value="10"/>
                                                <parm name="MaxSizeFileTr" value="ixit_FTMAXSIZE"/>
                                                <parm name="pres-srv-cap" value="0"/>
                                                <parm name="deferred-msg-func-uri"
value="sip:foo@bar"/>
                                                <parm name="max_adhoc_group_size" value="4"/>
                                                <parm name="conf-fcty-uri" value="sip:foo@bar"/>
                                                <parm name="exploder-uri" value="sip:foo@bar"/>
                                </characteristic>
                                <characteristic type="CAPDISCOVERY">
                                                <parm name="pollingPeriod" value="0"/>
                                                <parm name="capInfoExpiry" value="0"/>
                                                <parm name="presenceDisc" value="0"/>
                                </characteristic>
                                <characteristic type="APN">
                                                <parm name="rcseOnlyAPN" value="ims"/>
                                                <parm name="enableRcseSwitch" value="1"/>
                                </characteristic>
                                <characteristic type="OTHER">
```

```
                                                        <characteristic type="transportProto">
                                                                <parm name="psSignalling"
value="SIPoUDP"/>
                                                                <parm name="psMedia" value="MSRP"/>
                                                           <parm name="psRTMedia" value="RTP"/>
                                                                <parm name="wifiSignalling"
value="SIPoUDP"/>
                                                                <parm name="wifiMedia"
value="MSRP"/>
                                                                <parm name="wifiRTMedia"
value="RTP"/>
                                                        </characteristic>
                                                        <parm name="endUserConfReqId" value="0"/>
                                                        <parm name="deviceID" value="0"/>
                                        </characteristic>
                                        <parm name="AppID" value="ap2002"/>
                                        <parm name="Name" value="RCS-e settings"/>
                                        <parm name="AppRef" value="RCSe-Settings"/>
```

D.3   MSRP message content

D.3.1   MSRP SEND

Header/param	Cond	Value/remark	Rel	Reference

Header/param	Cond	Value/remark	Rel	Reference
Request Line		MSRP *<transactionID>* SEND		
To-Path		msrp://*<IP:port>/<ID>*;tcp		
From-Path		msrp://*<IP:port>/<ID>*;tcp		
Message-ID		*present*		
Success-Report		No		
Failure-Report		Yes		
Byte-Range	B1, B2, B3	1-*/*<length>*		
Content-Type	B1, B2, B3	message/cpim		
Message Body	B1	From: *<USERID>* To: <sip:anonymous@anonymous.invalid> DateTime: *2016-08-23T07:55:41.208Z* NS: imdn <urn:ietf:params:imdn> imdn.Message-ID: *<imdn-messageID>* imdn.Disposition-Notification: positive-delivery, display Content-type: text/plain Content-Length: *<length>* *<some text>*		

Message Body	B2	To: <sip:anonymous@anonymous.invalid>
		From: <sip:anonymous@anonymous.invalid>
		DateTime: 2016-08-23T09:55:44Z
		NS: imdn <urn:ietf:params:imdn>
		imdn.Message-ID: *<new imdn-messageID>*
		
		Content-type: message/imdn+xml
		Content-Disposition: notification
		
		<?xml version="1.0" encoding="UTF-8"?>
		
		<imdn xmlns="urn:ietf:params:xml:ns:imdn">
		 <message-id>*<imdn-messageID as in text message>*</message-id>
		 <datetime>*2016-08-23T07:55:41.208Z*</datetime>
		 <recipient-uri>*<USERID>*</recipient-uri>
		 <delivery-notification>
		  <status>
		   <delivered/>
		  </status>
		 </delivery-notification>
		</imdn>		

Header/param	Cond	Value/remark	Rel	Reference
Message Body	B3	To: <sip:anonymous@anonymous.invalid> From: <sip:anonymous@anonymous.invalid> DateTime: *2016-08-23T09:55:45Z* NS: imdn <urn:ietf:params:imdn> imdn.Message-ID: ><*new imdn-messageID* > Content-type: message/imdn+xml Content-Disposition: notification <?xml version="1.0" encoding="UTF-8"?> <imdn xmlns="urn:ietf:params:xml:ns:imdn"> <message-id><*imdn-messageID as in text message*></message-id> <datetime>*2016-08-23T07:55:41.208Z*</datetime> <recipient-uri><*USERID*></recipient-uri> <display-notification> <status> <displayed/> </status> </display-notification> </imdn>		

Condition	Explanation
B1	MSRP SEND transmitting text
B2	MSRP SEND transmitting delivery notification
B3	MSRP SEND transmitting display notification

D.3.2 MSRP 200 OK for MSRP SEND message

Header/param	Cond	Value/remark	Rel	Reference
Response Line		MSRP *<transactionID>* 200 OK		
To-Path		msrp://*<IP:port>/<ID>*;tcp *(same as in Request)*		
From-Path		msrp://*<IP:port>/<ID>*;tcp *(same as in Request)*		

Appendix E.   Mapping to RCS profiles

The following table specifies the applicability of each conformance test case for previous RCS profiles.

	Test Case Title	RCS 1.2.2	RCS 5.1	RCS 5.2	RCS 5.3
	RCS-con-001 First-time unsuccessful configuration – Subscriber unauthorized (Auto-Configuration Server)	Applies	Applies	Applies	Applies
	RCS-con-004 Configuration – RCS re-configuration successful	Applies	Applies	Applies	Applies
	RCS-con-020 Keep-Alive for SIPoUDP (STUN)	Applies	Applies	Applies	Applies
	RCS-con-030 Mobile Originated Capability Discovery – Successful	Applies	Applies	Applies	Applies
	RCS-con-031 Mobile Originated Capability Discovery – Unsuccessful – 480 Temporarily Unavailable	Applies	Applies	Applies	Applies
	RCS-con-032 Mobile Originated Capability Discovery – Unsuccessful –408 Request Timeout	Applies	Applies	Applies	Applies
	RCS-con-033 Mobile Originated Capability Discovery – Unsuccessful – 404 Not Found	Applies	Applies	Applies	Applies
	RCS-con-034 Mobile Originated Capability Discovery – Successful – Multiple Identities	Applies	Applies	Applies	Applies
	RCS-con-035 Mobile Originated Capability Discovery – Successful (IMS registered, does not support RCS)	Applies	Applies	Applies	Applies
	RCS-con-036 Mobile Originated Capability Discovery – Send and Receive Social Presence Information to a non-VIP contact		Applies	Applies	Applies
	RCS-con-037 Mobile Originated Capability Discovery – Social Presense Information including Geolocation		Applies	Applies	Applies
	RCS-con-038 Mobile Originated Capability Discovery – Social Presence Information of a VIP contact (Pull)		Applies	Applies	Applies
	RCS-con-040 Mobile Terminated Capability Discovery – Correct Presentation of Remote Capabilities	Applies	Applies	Applies	Applies
	RCS-con-041 Mobile Terminated Capability Discovery – Learning Unknown New Users RCS Capabilities	Applies	Applies	Applies	Applies
	RCS-con-050 Capability update during a MO call for video /image sharing	Applies	Applies	Applies	Applies
	RCS-con-051 Capability update during a MT call for video /image sharing	Applies	Applies	Applies	Applies
	RCS-con-052 Capability update during initiation of an MO voice call – fails as other end has no capability	Applies	Applies	Applies	Applies
	RCS-con-053 Capability Exchange Optimization during a Call	Applies	Applies	Applies	Applies
	RCS-con-100 Mobile Originated 1-to-1 Chat – session establishment – Mobile Originated session termination	Applies	Applies	Applies	Applies
	RCS-con-101 Mobile Originated 1-to-1 Chat – session establishment – Mobile Terminated session termination	Applies	Applies	Applies	Applies
	RCS-con-102 Mobile Originated 1-to-1 Chat – display notification	Applies	Applies	Applies	Applies
	RCS-con-103 Mobile Originated 1-to-1 Chat – duplicate session	Applies	Applies	Applies	Applies

	RCS-con-104 Mobile Originated 1-to-1 Chat – race condition	Applies	Applies	Applies	Applies
	RCS-con-105 Mobile Originated 1-to-1 Chat – inactivity timeout	Applies	Applies	Applies	Applies
	RCS-con-106 Mobile Originated 1-to-1 Chat – store and forward – sender still in active IM session	Applies	Applies	Applies	Applies
	RCS-con-107 Mobile Originated 1-to-1 Chat – store and forward – sender still online	Applies	Applies	Applies	Applies
	RCS-con-108 Mobile Originated 1-to-1 Chat – Switch up to group Chat		Applies	Applies	Applies
	RCS-con-109 Mobile Originated 1-to-1 Chat – Maximum Concurrent Sessions		Applies	Applies	Applies
	RCS-con-120 Mobile Terminated 1-to-1 Chat – session establishment – Mobile Terminated session	Applies	Applies	Applies	Applies
	RCS-con-121 Mobile Terminated 1-to-1 Chat – session establishment – Mobile Originated session	Applies	Applies	Applies	Applies
	RCS-con-122 Mobile Terminated 1-to-1 Chat – spam/blacklist	Applies	Applies	Applies	Applies
	RCS-con-123 Mobile Terminated 1-to-1 Chat – display notification	Applies	Applies	Applies	Applies
	RCS-con-124 Mobile Terminated 1-to-1 Chat– duplicate session	Applies	Applies	Applies	Applies
	RCS-con-125 Mobile Terminated 1-to-1 Chat – race condition	Applies	Applies	Applies	Applies
	RCS-con-126 Mobile Terminated 1-to-1 Chat – store and forward	Applies	Applies	Applies	Applies
	RCS-con-127 Mobile Terminated 1-to-1 Chat – Switch up to group Chat		Applies	Applies	Applies
	RCS-con-130 Mobile Originated Group Chat – establishment – Originating User leaves the session	Applies	Applies	Applies	Applies
	RCS-con-131 Mobile Originated Group Chat – non-originating Users leave the session	Applies	Applies	Applies	Applies
	RCS-con-132 Mobile Originated Group Chat – adding new User to the session	Applies	Applies	Applies	Applies
	RCS-con-135 Mobile Orignated Group Chat – closed Group Chat		Applies	Applies	Applies
	RCS-con-140 Mobile Terminated Group Chat – establishment – Terminating User leaves the session	Applies	Applies	Applies	Applies
	RCS-con-145 Group Chat Store and Forward – notification for sent messages		Applies	Applies	Applies
	RCS-con-146 Group Chat Store and Forward – delivery of stored messages		Applies	Applies	Applies
	RCS-con-147 Group Chat Store and Forward – race condition		Applies	Applies	Applies
	RCS-con-165 Group Chat automatic re-join	Applies	Applies	Applies	Applies
	RCS-con-166 Group Chat re-start: 404 (Not Found)	Applies	Applies	Applies	Applies
	RCS-con-167 Group Chat re-start: 403 (Forbidden)	Applies	Applies	Applies	Applies
	RCS-con-168 Group Chat: Concurrent sessions	Applies	Applies	Applies	Applies
	RCS-con-169 Group Chat: Maximum Concurrent Sessions		Applies	Applies	Applies
	RCS-con-200 Mobile Originated File Transfer	Applies	Applies	Applies	Applies

	RCS-con-201 Mobile Originated File Transfer – Rejected	Applies	Applies	Applies	Applies
	RCS-con-202 Mobile Originated File Transfer – Store and Forward Sending 1		Applies	Applies	Applies
	RCS-con-205 Mobile Originated File Transfer – File Transfer within a Group Chat		Applies	Applies	Applies
	RCS-con-206 Mobile Originated File Transfer – Resume a Send File Transfer		Applies	Applies	Applies
	RCS-con-209 Mobile Originated File Transfer – Send Audio Message			Applies	Applies
	RCS-con-210 Mobile Terminated File Transfer	Applies	Applies	Applies	Applies
	RCS-con-211 Mobile Terminated File Transfer – Rejected	Applies	Applies	Applies	Applies
	RCS-con-212 Mobile Terminated File Transfer – File Size Limit	Applies	Applies	Applies	Applies
	RCS-con-213 Mobile Terminated File Transfer – File Size Warn Limit	Applies	Applies	Applies	Applies
	RCS-con-214 Mobile Terminated File Transfer – Store and Forward Receiving 1		Applies	Applies	Applies
	RCS-con-218 Mobile Terminated File Transfer in a Group Chat – Receive a file		Applies	Applies	Applies
	RCS-con-219 Mobile Terminated File Transfer in a Group Chat – Ignore to receive a file		Applies	Applies	Applies
	RCS-con-220 Mobile Originated File Transfer in a Group Chat – Blocked file transfer		Applies	Applies	Applies
	RCS-con-223 Mobile Terminated File Transfer – Resume receiving a file		Applies	Applies	Applies
	RCS-con-226 Mobile Terminated File Transfer – Receive Audio Message			Applies	Applies
	RCS-con-250 Mobile Originated Image Sharing Session Establishment – Mobile Originated Session Termination	Applies	Applies	Applies	Applies
	RCS-con-251 Mobile Originated Image Sharing – Session Establishment – rejected	Applies	Applies	Applies	Applies
	RCS-con-270 Mobile Terminated Image Sharing – Session Establishment – Mobile Terminated Session	Applies	Applies	Applies	Applies
	RCS-con-271 Mobile Terminated Image Sharing – Session Establishment – rejected	Applies	Applies	Applies	Applies
	RCS-con-300 Mobile Originated Video Sharing – Session Establishment – Mobile Originated Session Termination	Applies	Applies	Applies	Applies
	RCS-con-301 Mobile Originated Video Sharing – Session Establishment – Mobile Terminated Session Termination	Applies	Applies	Applies	Applies
	RCS-con-302 Mobile Originated Video Sharing – Session Establishment – Rejected	Applies	Applies	Applies	Applies
	RCS-con-303 Mobile Originated Video Sharing – Send Video Sharing outside of a Voice Call			Applies	Applies
	RCS-con-304 Mobile Originated Video Sharing – Send Video Sharing outside of a Voice Call - Rejected			Applies	Applies
	RCS-con-305 Mobile Originated Video Sharing –Video Sharing outside of a Voice Call not possible			Applies	Applies

	RCS-con-320 Mobile Terminated Video Sharing – Session Establishment – Mobile Terminated Session Termination	Applies	Applies	Applies	Applies
	RCS-con-321 Mobile Terminated Video Sharing – Session Establishment – Mobile Originated Session Termination	Applies	Applies	Applies	Applies
	RCS-con-322 Mobile Terminated Video Sharing – Session Establishment – Rejected	Applies	Applies	Applies	Applies
	RCS-con-323 Mobile Terminated Video Sharing – Receive Video Sharing outside of a Voice Call			Applies	Applies
	RCS-con-324 Mobile Terminated Video Sharing – Ignore Video Sharing outside of a Voice Call			Applies	Applies
	RCS-con-325 Mobile Terminated Video Sharing – Video Sharing outside of a Voice Call not possible			Applies	Applies
	RCS-con-400 Mobile Originated Pager Mode – Send Text			Applies	Applies
	RCS-con-401 Mobile Originated Pager Mode – Send Multimedia			Applies	Applies
	RCS-con-402 Mobile Originated Pager Mode – Send Long Text			Applies	Applies
	RCS-con-420 Mobile Terminated Pager Mode – Receive Text			Applies	Applies
	RCS-con-421 Mobile Terminated Pager Mode – Receive Multimedia			Applies	Applies
	RCS-con-422 Mobile Terminated Pager Mode – Receive Long Text			Applies	Applies
	RCS-con-425 Mobile Terminated Pager Mode – No Displayed Notification Sent			Applies	Applies
	RCS-con-500 Mobile Originated RCS IP Video Call Send an accepted Call (Duplex Mode)		Applies	Applies	Applies
	RCS-con-501 Mobile Originated RCS IP Video Call Send a declined Call		Applies	Applies	Applies
	RCS-con-502 Mobile Originated RCS IP Video Call (Upgrade from CS voice call) Send an uni-directional accepted Call			Applies	Applies
	RCS-con-503 Mobile Originated RCS IP Video Call (Upgrade from CS voice call) Send a bi-directional accepted Call			Applies	Applies
	RCS-con-504 Mobile Originated RCS IP Video Call (Upgrade from CS voice call) Switch between a bi-directional and uni-directional Call			Applies	Applies
	RCS-con-505 Mobile Originated RCS IP Video Call Decline an upgrade from CS voice call			Applies	Applies
	RCS-con-506 Mobile Originated RCS IP Video Call Send an accepted Call (Simplex Mode)		Applies	Applies	Applies
	RCS-con-530 Mobile Terminated RCS IP Video Call – Accept a Call (Duplex Mode)		Applies	Applies	Applies
	RCS-con-531 Mobile Terminated RCS IP Video Call – Decline a Call		Applies	Applies	Applies
	RCS-con-532 Mobile Terminated RCS IP Video Call (Upgrade from CS voice call) – Accept an uni-directional Call			Applies	Applies
	RCS-con-533 Mobile Terminated RCS IP Video Call (Upgrade from CS voice call) – Accept a bi-directional Call			Applies	Applies

RCS-con-534 Mobile Terminated RCS IP Video Call – Receive a decline of an upgrade from CS voice call			Applies	Applies
RCS-con-535 Mobile Terminated RCS IP Video Call – Accept a Call (Simplex Mode)		Applies	Applies	Applies
RCS-con-600 Mobile Originated IP Voice Call Set Up – Mobile Originated IP Voice Call Termination		Applies	Applies	Applies
RCS-con-620 Mobile originated Voice Call - Mobile terminated Geolocation Push				Applies
RCS-con-621 Mobile originated Voice Call – Send Shared Sketch				Applies
RCS-con-622 Mobile originated Voice Call – Receive Shared Sketch				Applies
RCS-con-623 Mobile originated Voice Call – MSRP Error during shared sketch				Applies
RCS-con-624 Mobile originated Voice Call – Send Shared Map				Applies
RCS-con-625 Mobile originated Voice Call – Receive Shared Map				Applies
RCS-con-627 Mobile Terminated Voice Call – MSRP error during shared Maps				Applies