End to End Test Specification, RCS Universal Profile
Version 1.0
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Table of Contents

1 Introduction

1.1 General

This document is intended for use as a test specification for RCC.71 RCS Universal Profile Service Definition Document v1.0 [GSMA RCC.71 UP-SDD]. This test specification can be used for end-to-end testing over both User-to-Network Interface (UNI) and Network-to-Network Interface (NNI).

Parties wishing to verify compliance of their RCS implementations (e.g. devices, networks, APIs, test tools) to RCS Universal Profile [GSMA RCC.71 UP-SDD] using this test specification and be listed on the GSMA website as accredited are advised to contact GSMA for guidelines.

The content of this document is based on test cases from [GSMA RCC.58 NARCS TS] with additional contribution from joyn Crane Priority Release Test Matrices and new test cases for specific aspects of RCS Universal Profile [GSMA RCC.71 UP-SDD].

The test cases in this document are partitioned to correspond to RCS Service Clusters:

- Framework
- Messaging
- Enriched Calling
- Multi-Device Messaging
- Data off
- Backup and Restore
- APIs
- Green Button Promise for Voice
- Green Button Promise for IP Video Call Services
  Multi-Device for Voice & Video

Annexes A and B provide guidelines for test cases usage for Phase 1 and Phase 2 of transition from OMA SIMPLE IM to OMA CPM technologies as per [RCC.64]. Overall stages of transition are illustrated on the diagram below (Figure 1).
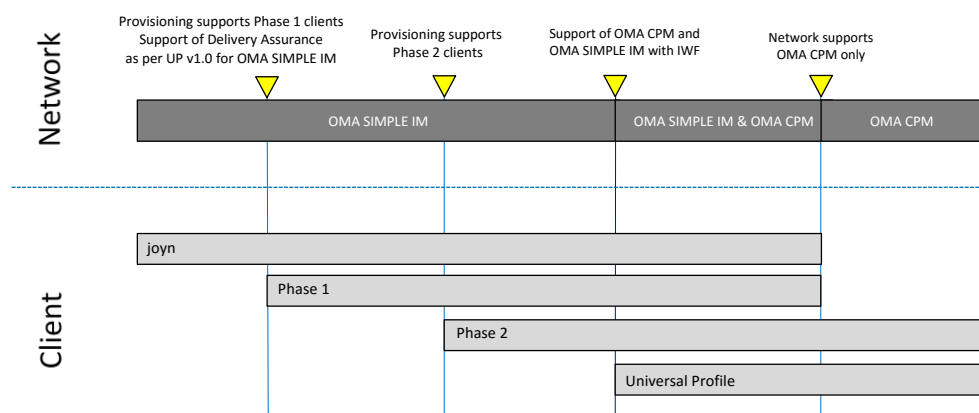

Figure 1: OMA SIMPLE IM to OMA CPM transition stages.

1.2   Functional Assumptions

Device Under Test (DUT), Reference 1, Reference 2, Reference 3 (previously referred to as User A, B, C, D) belong to the same or different operators/service providers depending on the purpose of testing.

1.   All users have been provisioned in the respective networks.
2.   All users' devices have been configured unless otherwise specified.
3.   All users are registered in their RCS networks (online) unless otherwise specified. The registration timer for each user is far from expiration.
4.   All users are in 3G/LTE mobile coverage unless otherwise specified. Type of Wi-Fi coverage is specified explicitly, e.g. EPC or non EPC integrated.
5.   Operators/service providers that are performing NNI testing have signed the appropriate interworking agreements and have IMS level of interconnections.

1.3   Testing Environment Assumptions

All test cases to be performed in the Original Equipment Manufacturers (OEM) setup or Operator environment with the exception of the test cases which contain a special note allowing simulation of the test scenario. Means of simulation are outside the scope of this Test Specification.

Tests are performed as applicable, by user and terminal capabilities and supporting network / backend functionalities.

It is assumed that the following procedures have been concluded prior to execution of RCS North America End-to-End Test Cases between Operators:

•   All users' operators have successfully verified RCS implementations, including UNI, in their respective networks.
•   ENUMs and DNSs have been established and provisioned, if applicable.
•   All users use UEs of their Operator's choice.
•   IP connectivity verified.
•   SIP connectivity verified.
•   RCS media connectivity verified.
•   Addressing and routing, including ENUM and DNS functionality verified.

When testing over NNI, repeat the agreed test set swapping the role of the devices.

Test traces can be captured using either TCPDUMP or WIRESHARK or own SDK toolkit (built-in tracer).

1.4   Assumed architecture

IMS architecture used for RCS services should be based on [3GPP TS 23.221] and [GSMA RCC.07 RCS5.2 UNI].

Refer to [GSMA RCC.54 Interconnect] for IMS Interconnect architecture.

1.5   References

Document Number	Title
[GSMA RCC.71 UP-SDD]	GSMA RCC.71 "RCS Universal Profile Service Definition Document" version 1.0 http://www.gsma.com
[GSMA RCC.58 NARCS TS]	GSMA RCC.58 "End-to-End Test Specification. North America RCS Profile" v1.0 http://www.gsma.com
[3GPP TS 24.229]	3GPP TS 24.229 Release 12, "3rd Generation Partnership Project; IP multimedia call control protocol based on Session Initiation Protocol (SIP) and Session Description Protocol (SDP)" http://www.3gpp.org
[OMA CPM CONV TS]	"CPM Conversation Functions v2.0", Open Mobile Alliance Ltd. http://member.openmobilealliance.org
[GSMA PRD-IR.64]	GSMA PRD IR.64 - "IMS Service Centralization and Continuity Guidelines" Version 8.0 http://www.gsma.com
[GSMA PRD-IR.65]	GSMA PRD IR.65 - "IMS Roaming and Interworking Guidelines" Version 14.0 http://www.gsma.com
[GSMA PRD-IR.67]	GSMA PRD IR.67 - "DNS/ENUM Guidelines for Service Providers & GRX/IPX Providers" Version 10.0 http://www.gsma.com
[GSMA PRD-IR.74]	GSMA PRD IR.74 - "Video Share Interoperability Specification" version 1.4 http://www.gsma.com
[GSMA PRD-IR.79]	GSMA PRD IR.79 - "Image Share Interoperability Specification" version 1.4 http://www.gsma.com
[GSMA PRD-IR.84]	GSMA PRD IR.84 - "Video Share Phase 2 Interoperability Specification" 2.2 http://www.gsma.com
[GSMA PRD-IR.88]	GSMA PRD IR.88 - "LTE Roaming Guidelines" 12.0 http://www.gsma.com
[GSMA PRD-IR.90]	GSMA PRD IR.90 - "RCS Interworking Guidelines" v9.0 http://www.gsma.com
[GSMA PRD-IR.92]	GSMA PRD IR.92 - "IMS Profile for Voice and SMS" 8.0 http://www.gsma.com
[GSMA PRD-IR.94]	GSMA PRD IR.94 - "IMS Profile for Conversational Video Service" Version 6.0 http://www.gsma.com
[OMA PDE DDS]	"Presence SIMPLE Data Specification" version 2.2.1, Open Mobile Alliance Ltd. http://member.openmobilealliance.org
[GSMA RCC.07 RCS5.1 UNI]	GSMA RCC.07 "Rich Communication Suite 5.1 Advanced Communications Services and Client Specification" v4.0
[GSMA RCC.07 RCS5.2 UNI]	GSMA RCC.07 "Rich Communication Suite 5.2 Advanced Communications Services and Client Specification" v5.0
[GSMA RCC.09 RCS 5.1 CMS]	GSMA RCC.09 "RCS 5.1 Endorsement of OMA CPM 2.0 Message", Version 3.0
[GSMA RCC.10 RCS 5.1 IW]	GSMA RCC.10 "RCS 5.1 Endorsement of OMA CPM 2.0 Interworking", Version 2.0
[GSMA RCC.11 RCS 5.1 Conv]	GSMA RCC.11 "RCS 5.1 Endorsement of OMA CPM 2.0 Conversation Functions", Version 2.0

Document Number	Title
[GSMA RCC.52 PRS Best Practices]	GSMA "RCS Presence Best Practice Optimization Guidelines" v1.0 (part of RCS 5.1 v4.0 release package)
[GSMA RCC.54 Interconnect]	GSMA "RCS Interconnection Guidelines" v1.0 (part of RCS 5.1 v4.0 release package)
[GSMA RCC.61 SDD]	GSMA RCC.61 "Common Core Service Description Document" http://www.gsma.com
[IETF RFC 2119]	IETF RFC "Key words for use in RFCs to Indicate Requirement Levels", S. Bradner, March 1997. Available at http://www.ietf.org/rfc/rfc2119.txt
[IETF RFC 3261]	IETF RFC "SIP: Session Initiation Protocol", J. Rosenberg, H. Schulzrinne, G. Camarillo, A. Johnston, J. Peterson, R. Sparks, M. Handley, E. Schooler, June 2002 https://www.ietf.org/rfc/rfc3261.txt
[IETF RFC 3326]	IETF RFC "The Reason Header Field for the Session Initiation Protocol (SIP)", H. Schulzrinne, D. Oran, G. Camarillo, December 2002. Available at http://www.ietf.org/rfc/rfc3326.txt
[IETF RFC 3840]	IETF RFC "Indicating User Agent Capabilities in the Session Initiation Protocol (SIP)", J. Rosenberg, H. Schulzrinne, P. Kyzivat, August 2004. http://www.ietf.org/rfc/rfc3840.txt
[IETF RFC 3862]	IETF RFC "Common Presence and Instant Messaging (CPIM): Message Format", G. Klyne, Nine by Nine, D. Atkins IHTFP Consulting, August 2004. https://tools.ietf.org/html/rfc3862
[IETF RFC 4575]	"A Session Initiation Protocol (SIP) Event Package for Conference State", IETF RFC http://tools.ietf.org/html/rfc4575
[IETF RFC 4975]	"The Message Session Relay Protocol", IETF RFC http://tools.ietf.org/html/rfc4975
[GSMA NG.102-ICU]	GSMA NG.102 "IMS Profile for Converged IP Communications Profile for Converged IP Communications" http://www.gsma.com
[GSMA PRD-TS.11]	GSMA TS.11 "Device Field and Lab Test Guidelines", version 12.2, March 2015 http://www.gsma.com
[3GPP TS 23.221]	3GPP TS 23.221 Release 10, "3rd Generation Partnership Project; Architectural requirements" http://www.3gpp.org
[IETF RFC 5626]	"Managing Client-Initiated Connections in the Session Initiation Protocol (SIP)", IETF RFC https://tools.ietf.org/html/rfc5626

1.6 Definitions

Definition	Description
File Transfer Status Notification or File Transfer States Notifications	A visible information for the sender of a File Transfer in 1-to-1 Messaging or Group Chat about the progress of the delivery.
Functional test case	Test cases designed to confirm compliance of main RCS services from the user perspective to the requirements of RCC.71. Functional test cases shall cover the services as a user experiences them, in realistic set up of real networks, and do not require deep inspection of traces.
Technical test case	A test case designed to verify technical implementation of devices/clients and networks and their compliance to technical requirements provided in RCC.71. Technical test case require deep inspection of traces to confirm correct message syntax, formatting and sequencing.
Is Typing Notification	Information for participants in a 1-to-1 Messaging or Group Chat conversation that another participant in the conversation is in the process of creating a message. This message may or may not be sent by that user.
Message Status Notification or Message States Notifications	A visible information for the sender of a message in 1-to-1 Messaging or Group Chat about the progress of the delivery.
Online	A user who is known to be RCS enabled and is currently IMS registered to the RCS service
Offline	A user who is known to be RCS enabled and is currently not IMS registered to the RCS service
RCS 1-to-1 Messaging	Can either be standalone messaging or 1-to-1 chat as defined in RCC.07

1.7 Acronyms

Acronym / Abbreviation	Description
3GPP	3rd Generation Partnership Project
Address Book	Enhanced Address Book
AMR	Adaptive Multi-Rate
AVP	Audio Video Profile
BPEF	Blacklist Policy Enforcement Function
CBP	Constrained Baseline Profile
CPIM	Common Profile for Instant Messaging
CPM	Converged IP Messaging
CS	Circuit Switched
DNS	Domain Name System

Acronym / Abbreviation	Description
ENUM	E.164 Number Mapping
FT	File Transfer
FTF	File Transfer Function
GC	Group Chat
GRUU	Globally Routable User agent URI
GSMA	GSM Association
HOS	Home Operator Services
HSPA	High Speed Packet Access
HTTP	Hyper-Text Transfer Protocol
HTTPS	Hyper-Text Transfer Protocol Secure
IM	Instant Messaging
IMS	IP Multimedia Subsystem
IP	Internet Protocol
IPX	Internet Protocol Packet Exchange
LTE	Long Term Evolution
MIME	Multipurpose Internet Mail Extensions
MMC	Mobile Country Code
MNC	Mobile Network Code
MNO	Mobile Network Operator
MSRP	Message Session Relay Protocol
NAT	Network Address Translation
NB AMR	Narrowband AMR
NNI	Network-to-Network Interface
OMA	Open Mobile Alliance
PNB	Personal Network Blacklist
RCS	Rich Communication Suite
RCS-AA	RCS Access Agnostic mode
RCS-CS	RCS CS mode
RR	Receiver Report
RTCP	RTP Control Protocol
RTP	Real Time Protocol
S&F	Store and Forward
SDP	Session Description Protocol
SIMPLE	Session Initiation Protocol for Instant Messaging and Presence Leveraging Extensions

Acronym / Abbreviation	Description
SIP	Session Initiation Protocol
SPI	Social Presence Information
UE	User Equipment
UI	User Interface
UNI	User-to-Network Interface
URI	Uniform Resource Identifier
URL	Uniform Resource Locator
UX	User Experience
VIP	Very Important Person
VoHSPA	Voice over HSPA
VoLTE	Voice over LTE
WB AMR	Wideband AMR
XDMS	XML Document Management Server
XML	eXtensible Markup Language

2 Framework

2.1 Device Provisioning

2.1.1 Functional test cases

Test case ID	ID_RCS_F_2_1_1
Related test cases	
Feature	Device Provisioning
Reason for test	Validate UP 1.0 Reference section US 2-1 and US2-2 and subsequent requirements.
Pre-conditions Scenario	− Handset factory settings(device not started-up for the first time yet). − The RCS Client on the device is set as default SMS application. − Access to cellular network and cellular data is allowed on the device.
Test procedure	− Insert SIM and switch on the device.

Expected results **Post-conditions**	− RCS service provisioning is performed automatically without any user interaction. This can be verified by the tester in the following ways: − RCS Master Switch is set to "RCS on" in Settings. (If the network supports "RCS Welcome Message", then the welcome message or a notification for this welcome message is displayed.) − RCS services are available to the user.
Deep inspection	−

Test case ID	ID_RCS_F_2_1_2
Related test cases	
Feature	Device Provisioning
Reason for test	Validate UP 1.0 Reference section R2-2-3
Pre-conditions Scenario	− Messaging client under testing is already provisioned and registered for RCS
Test procedure	− Set a different (not the RCS application under test) messaging application as default SMS client. − Select the RCS application under test as "SMS default application" (again).
Expected results **Post-conditions**	− The RCS application under test is de-provisioned from RCS: The RCS Master Switch for the application under test is set to "RCS off" in Settings. − Provisioning of the service is done automatically without any user interaction: RCS Master Switch for the application under test is set to "RCS on" in Settings. RCS services are available to the user.
Deep inspection	−

Test case ID	ID_RCS_F_2_1_3
Related test cases	
Feature	Device Provisioning

Reason for test	Validate UP 1.0 Reference section US2-3 and subsequent requirements.
Pre-conditions Scenario	– Handset factory settings (device not started-up for the first time yet) – An active SIM is inserted in the device. – Device connected through wifi – Cellular Data is disabled in device settings – RCS application under test is selected as default SMS application. – IMSI provisioning is available in the network.
Test procedure	– First start-up is done over non-cellular networks (e.g. Wi-Fi).
Expected results Post-conditions	– The user should be identified automatically and the device is provisioned for RCS without user interaction: – RCS Master Switch is set to "RCS on" in Settings. – If the network supports "RCS Welcome Message", then the welcome message or a notification for this welcome message is displayed.
Deep inspection	–

Test case ID	ID_RCS_F_2_1_4
Related test cases	
Feature	Device Provisioning
Reason for test	Validate UP 1.0 Reference section US2-3 and subsequent requirements.
Pre-conditions Scenario	– Handset factory settings (device not started-up for the first time yet) – An active SIM is inserted in the device. – Device connected through wifi. – Cellular Data is disabled in device settings. – RCS application under test is selected as default SMS application. – IMSI provisioning is not available in the network.
Test procedure	– First start-up is done. – One week later: reboot (test can be simulated by device date change) and select the "Messaging" application under test on the device. – Any request by the messaging application under test for manual MSISDN identification is skipped or abandoned. – Reboots the device and skip / abandon manual MSISDN introduction another two times (several reboots might be needed). – Reboot again the device and enter messaging native app.

	− Switch Cellular Data to 'on' in device settings.
Expected results **Post-conditions**	− RCS is not activated . − User should be prompted to provide his identity when in the context of messaging (i.e: after a tutorial, when entering messaging...) for the first time. − The RCS application under test requests manual MSISDN identification. An option to 'skip' or 'enter later' or similar is offered to the user. − The RCS application under test requests manual MSISDN identification. An option to 'skip' or 'enter later' or similar is offered to the user. − Check, user is not longer offered to introduce MSISDN again. − The application under test is provisioned and registered to RCS. This can be verified by the tester in the following ways: − If the network supports "RCS Welcome Message", then the welcome message or a notification for this welcome message is displayed. − RCS services are available to the user.
Deep inspection	−

Test case ID	ID_RCS_F_2_1_5
Related test cases	
Feature	Device Provisioning
Reason for test	Validate UP 1.0 Reference section US2-2 and subsequent requirements.
Pre-conditions Scenario	− Handset factory settings (device not started-up for the first time yet) − An active SIM is inserted in the device. − Device connected through wifi. IMSI identification in WiFi is not available on the network. − Cellular Data is disabled in device settings. − SIM card not identified by the device is inside. − RCS Master Switch is turned 'off'.
Test procedure	− Turn RCS master switch to 'on'.
Expected results **Post-conditions**	− RCS application prompts the user to manually enter MSISDN for identification of the device on the network.

Deep inspection	–

Test case ID	ID_RCS_F_2_1_6
Related test cases	
Feature	Device Provisioning
Reason for test	Validate UP 1.0 Reference section "SIM Swap" R2-5-1
Pre-conditions Scenario	– SIM Card A is plugged into the device. – The device under test is online (registered to RCS). – Cellular Data is turned off. – User is connected through Wifi. – Network does not support IMSI identification in WiFi. – SIM Card B was online shortly before (i.e. within the last 24 hrs.) in the device under test. SIM card B is not inserted in any device at the start of this test case.
Test procedure	– Switch off the device under test. – Change SIM card in device under test from SIM Card A to SIM Card B. – Switch on device under test (and enter PIN if required to unlock the device).
Expected results Post-conditions	– New SIM card is properly identified without the need to ask the user for manual identification. The device goes online using the existing and valid RCS configuration for SIM Card B stored on the device. – The RCS Master Switch is set to "RCS on" in Settings. – RCS services are available to the user.
Deep inspection	–

2.1.2   Technical test cases

Test case ID	ID_RCS_T_2_1_1
Related test cases	
Feature	Device Provisioning

Reason for test	First-time registration over 3GPP. First-time successful configuration; R2-16-2
Pre-conditions Scenario	− Autoconfiguration Server (ACS) ready to fulfil the requirements described in RCC.14 v3.0 (equals provisioning_version 2.0) − SIM card is enabled to use RCS UP − RCS services have not been previously configured on the phone/SIM pair − DUT is in cellular coverage − DUT is powred off
Test procedure	− DUT is powered up and contacts ACS − ACS validates the SIM/phone and the client type, provisions the user and sends a valid configuration to the phone − If Terms and Conditions or a Welcome message is provided in the configuration they are accepted − The configuration is successfully received by DUT
Expected results Post-conditions	− ACS is contacted by DUT − Configuration takes place seamlessly to the user − If applicable, the welcome message is displayed and the user accepts it − RCS can be used
Deep inspection	− Inspect HTTP request includes new or updated GET parameters (rcs_version=6.0, rcs_profile=UP_1.0, vers, provisioning_version=2.0) − DUT resolves the IP address and port to access SIP − Verify successful registration

Test case ID	ID_RCS_T_2_1_2
Related test cases	
Feature	Device Provisioning
Reason for test	First-time registration over 3GPP. First-time successful configuration in network without Header Enrichment; R2-16-6
Pre-conditions Scenario	− ACS ready to fulfil the requirements described in RCC.14 − ACS is unable to successfully identify/verify the identity of the requester (e.g. Header enrichment is not implemented by the Service Provider) − SIM card is enabled to use RCS UP − RCS services have not been previously configured on the phone/SIM pair − DUT is in cellular or WiFi coverage − DUT is powered off

Test procedure	− DUT is powered and contacts ACS − ACS validates the SIM/phone based on IMSI or MSISDN provided by the user and OTP (One-Time-Password) − The ACS validates the SIM/phone and the client type, provisions the user and sends a valid configuration to the phone − If Terms and Conditions or a Welcome message is provided in the configuration they are accepted − Configuration is successfully received by DUT
Expected results **Post-conditions**	− ACS is contacted by DUT − Configuration takes place seamlessly to the user except that the user is prompted to provide a MSISDN for the current device − If applicable, user receives an OTP that he is prompted to provide − If applicable, the welcome message is displayed and the user accepts − RCS is enabled
Deep inspection	− Verify initial HTTP request − Verify HTTP 511 Network authentification required error response − Verify new cookie to be used in subsequent HTTP requests − DUT resolves the IP address and port to access SIP − Verify successful registration

Test case ID	ID_RCS_T_2_1_3
Related test cases	
Feature	Device Provisioning
Reason for test	First-time unsuccessful configuration over 3GPP: incorrect configuration data
Pre-conditions Scenario	− ACS ready to fulfil the requirements described in RCC.14 − ACS is able to send invalid configuration − RCS services have not been previously configured on the phone/SIM pair − SIM card is enabled to use RCS UP − DUT is in cellular coverage − DUT is powered off
Test procedure	− **NOTE: To facilitate self-accreditation this test can be simulated** − DUT is powered on − Reboot DUT.
Expected results **Post-conditions**	− The ACS validates the SIM/phone, provisions the Reference 1ut sends an invalid configuration to the phone − The XML is not complete/truncated − XML is malformed

	− XML contains values not accepted as valid in some areas (e.g. text where a number is expected) − RCS not enabled as the configuration is not successful − DUT retries the configuration and receives valid config file. Configuration takes places seamlessly to the user
Deep inspection	− Inspect HTTP negotiation − Verify registration does not take place following invalid configuration − Verify successful registration after reboot and re-configuration

Test case ID	ID_RCS_T_2_1_4
Related test cases	
Feature	Device Provisioning
Reason for test	First-time registration over 3GPP. First-time unsuccessful configuration: internal server error
Pre-conditions Scenario	− ACS ready to fulfil the requirements described in RCC.14 − ACS configured according to test purpose: generating HTTP 500 error. − SIM card is enabled to use RCS UP − RCS services have not been previously configured on the phone/SIM pair − DUT in cellular coverage − DUT is powered off
Test procedure	− **NOTE: To facilitate self-accreditation this test can be simulated** − DUT is powered on. − DUT is rebooted.
Expected results Post-conditions	− The ACS detects an internal error and generates a 500 response (internal server error). Configuration does not take place and RCS not enabled as the configuration is not successful − DUT retries the configuration. Configuration takes place seamlessly to the user
Deep inspection	− Inspect HTTP negotiation − Verify 500 Internal error response

Test case ID	ID_RCS_T_2_1_5
Related test cases	
Feature	Device Provisioning

Reason for test	First-time unsuccessful configuration over 3GPP: server not responding
Pre-conditions Scenario	− ACS ready to fulfil the requirements described in RCC.14 − ACS configured according to test purpose: Not responding to first config request. − SIM card is enabled to use RCS UP − RCS services have not been previously configured on the phone/SIM pair − DUT in cellular coverage − DUT is powered off
Test procedure	− **NOTE: To facilitate self-accreditation this test can be simulated** − DUT is powered on and contacts ACS − Reboot DUT
Expected results **Post-conditions**	− The ACS does not respond (request timeout). Configuration does not take place and RCS not enabled as the configuration is not successful − Following a reboot DUT retries the configuration. Configuration successfully takes place
Deep inspection	− Verify HTTP request timeout − Verify DUT tears the HTTP connection following timeout − Verify successful configuration and registration after reboot

Test case ID	ID_RCS_T_2_1_6
Related test cases	
Feature	Device Provisioning
Reason for test	First-time registration over 3GPP. First-time unsuccessful configuration: subscriber unauthorized (via HTTP 403)
Pre-conditions Scenario	− ACS ready to fulfil the requirements described in RCC.14 − ACS/Backend configured according to test purpose − SIM card is enabled to use RCS UP − RCS services have not been previously configured on the phone/SIM pair − DUT in cellular coverage − DUT is powered off
Test procedure	− **NOTE: To facilitate self-accreditation this test can be simulated** − DUT is powered on and contacts ACS − Following a reboot DUT retries the configuration
Expected results **Post-conditions**	− The ACS or an intermediate server generates a 403 response (to the HTTP transaction). RCS on DUT not enabled as the configuration is not successful − Configuration takes places seamlessly to the user.

Deep inspection	− Inspect HTTP request − Verify HTTP 403 response

Test case ID	ID_RCS_T_2_1_7
Related test cases	
Feature	Device Provisioning
Reason for test	First-time registration over 3GPP. Autoconfiguration once the validity has expired
Pre-conditions Scenario	− **NOTE: To facilitate self-accreditation this test can be simulated** − ACS ready to fulfil the requirements described in RCC.14 − SIM card is enabled to use RCS UP − Validity of the configuration is known − RCS services have not been previously configured on the phone/SIM pair − DUT in cellular coverage − DUT is powered off
Test procedure	− DUT is powered on and contacts ACS − No action from the user – wait until validity of the config files expires
Expected results Post-conditions	− ACS is contacted and sends xml configuration to DUT. DUT registers succesfully and RCS services are enabled on the device. − After expiry of configuration Re-Configuration takes place seamlessly to the user
Deep inspection	− Inspect HTTP request includes GET parameters and the version of its current configuration

Test case ID	ID_RCS_T_2_1_8
Related test cases	
Feature	Device Provisioning
Reason for test	First-time registration over 3GPP. Configuration is no longer valid in the network
Pre-conditions Scenario	− **NOTE: To facilitate self-accreditation this test can be simulated** − ACS ready to fulfil the requirements described in RCC.14 − SIM card is enabled to use RCS UP − Validity of the configuration is known − RCS services have been previously configured on the phone/SIM pair − DUT is in cellular coverage

	− The configuration is no longer valid in the network (e.g. user swaps the SIM between devices) − DUT is powered off
Test procedure	− DUT is powered on and contacts ACS − DUT is powered off − No action from the user – wait until validity of the config files expires while DUT is still powered off. − DUT is powered on
Expected results **Post-conditions**	− ACS is contacted and sends xml configuration to DUT. DUT registers succesfully and RCS services are enabled on the device. − DUT succesfully deregisters. − DUT remains powered off. − Re-Configuration takes place seamlessly to the user, though fails in the end.
Deep inspection	− Verify autoconfiguration request is sent by the client following rebooting − Verify unsuccessful configuration with 4xx/5xx error responses

Test case ID	ID_RCS_T_2_1_9
Related test cases	
Feature	Device Provisioning
Reason for test	First-time successful configuration over non 3GPP: token value empty
Pre-conditions Scenario	− ACS ready to fulfil the requirements described in RCC.14 − SIM card is enabled to use RCS UP − RCS services have not been previously configured on the phone/SIM − DUT is under WiFi
Test procedure	− DUT is powered on and contacts ACS − If applicable, user receives an OTP that he is prompted to provide − The ACS validates the client type, provisions the user and sends a valid configuration to the DUT − If Terms and Conditions or a Welcome message is provided in the configuration they are dispayed on DUT − Once the configuration is successfully sent, it is possible to access RCS services
Expected results	− ACS is contacted by DUT − The ACS validates the SIM/phone based on IMSI or MSISDN provided by the client and OTP

Post-conditions	− Configuration takes place seamlessly to the user except that the user is prompted to provide a MSISDN for the current device − If applicable, the welcome message is displayed and the user accepts − RCS is enabled
Deep inspection	− Verify IMSI is sent without MSISDN when OS platform allows it without MSISDN − Verify when IMSI is sent and user inserts the msisdn that 403 response is sent − Verify MSISDN is sent when OS does not allow to send IMSI − Verify that DUT correctly resolves the IP address and port to access SIP

Test case ID	ID_RCS_T_2_1_10
Related test cases	
Feature	Device Provisioning
Reason for test	First-time registration over non 3GPP. First-time successful configuration: IMSI validation not supported by the network
Pre-conditions Scenario	− ACS ready to fulfil the requirements described in RCC.14 − ACS setup according to test procedure − SIM card is enabled to use RCS UP − IMSI validation is not supported by the network − RCS services have not been previously configured on the phone/SIM − DUT is in WiFi
Test procedure	− DUT is powered on − User enters the MSISDN assigned to the SIM card − Verify that RCS is enabled (e.g. chat is available)
Expected results Post-conditions	− The DUT prompts the user to enter MSISDN − DUT accepts input, no error response − RCS services are enabled
Deep inspection	− Verify 403 response − Verify new cookie to be used in subsequent HTTP requests − DUT resolves the IP address and port to access SIP using NAPTR/SRV/A queries − Verify successful registration

Test case ID	ID_RCS_T_2_1_11

Related test cases	
Feature	Device Provisioning
Reason for test	First-time registration over non 3GPP. First-time unsuccessful configuration: invalid MSISDN
Pre-conditions Scenario	- ACS ready to fulfil the requirements described in RCC.14 - ACS setup according to Test procedure - SIM card is enabled to use RCS UP - IMSI validation is not supported by the network - RCS services have not been previously configured on the phone/SIM - DUT is under WiFi - DUT is powered off
Test procedure	- DUT is powered on and DUT contacts ACS - An invalid MSISDN (too many or too few digits) is entered
Expected results Post-conditions	- ACS is contacted by DUT. ACS cannot validate the SIM/phone based on IMS and the user is prompted to provide MSISDN for DUT/SIM pair - The client should inform the user of the problem and may offer to retry with a different MSISDN and if not following a reboot DUT retries the configuration. RCS is not enabled as the configuration is not successful
Deep inspection	- Inspect request - Verify 403 response

Test case ID	ID_RCS_T_2_1_12
Related test cases	
Feature	Device Provisioning
Reason for test	First-time registration over non 3GPP. First-time unsuccessful configuration: subscriber unauthorized
Pre-conditions Scenario	- ACS ready to fulfil the requirements described in RCC.14 - SIM card is enabled to use RCS UP - RCS services have not been previously configured on the phone/SIM - DUT is under WiFi
Test procedure	- DUT is powered on and contacts ACS - When prompted an MSISDN belonging to different MNO is entered - The client informs the user of the problem and may offer to retry

Expected results **Post-conditions**	− ACS is contacted by DUT. Configuration takes place seamlessly to the user or the user is prompted to provide a MSISDN for the current device − ACS validates the SIM/phone based on MSISDN provided and generates a 403 response. − RCS is not enabled
Deep inspection	− Inspect request − Verify 403 response

Test case ID	ID_RCS_T_2_1_13
Related test cases	
Feature	Device Provisioning
Reason for test	First-time registration over non 3GPP. First-time unsuccessful configuration: OTP invalid
Pre-conditions Scenario	− ACS ready to fulfil the requirements described in RCC.14 − SIM card is enabled to use RCS UP − RCS services have not been previously configured on the phone/SIM − DUT is under WiFi − DUT cannot handle the SMS with the OTP silently in the background
Test procedure	− DUT is powered on and contacts ACS − DUT's user enters correct MSISDN − DUT's user enters an incorrect OTP − RCS not enabled as the configuration is not successful. Autoconfiguration might start from the beginning and if not following a reboot DUT retries the configuration
Expected results **Post-conditions**	− Configuration takes place seamlessly to the user or the user is prompted to provide a MSISDN for the current device. − DUT's User is prompted to provide the OTP received through SMS − ACS cannot validate the SIM/phone based on OTP provided by the user and generates error response. − DUT may provide user retry mechanism and configuration starts from the beginning
Deep inspection	− Inspect request − Verify error response

Test case ID	ID_RCS_T_2_1_14

Related test cases	
Feature	Device Provisioning
Reason for test	First-time registration over non 3GPP. Other than 403 response - retry procedure
Pre-conditions Scenario	− **NOTE: To facilitate self-accreditation this test can be simulated** − SIM card is enabled to use RCS UP − ACS ready to fulfil the requirements described in RCC.14 − RCS services have not been previously configured on the phone/SIM − DUT is under WiFi − DUT is powered off
Test procedure	− DUT is powered on and contacts ACS − DUT is rebooted.
Expected results Post-conditions	− The ACS detects an internal error and generates a 500 response (internal server error). DUT's user is presented with a screen informing him that the process is taking longer than expected. RCS is not enabled as the configuration is not successful − Following a reboot DUT retries the configuration. Depending on ACS behaviour subsequent configuration requests can be handled.
Deep inspection	− Inspect HTTP negotiation − Verify 500 internal error response − This procedure can be attempted a maximum of five times after which autoconfiguration is aborted.

Test case ID	ID_RCS_T_2_1_15
Related test cases	
Feature	Device Provisioning
Reason for test	Configuration triggered by a reboot over 3GPP: autoconfiguration disabled and configuration query permanently stopped; rcs_state set to -1
Pre-conditions Scenario	− **NOTE: To facilitate self-accreditation this test can be simulated** − SIM card is enabled to use RCS UP − ACS ready to fulfil the requirements described in RCC.14 − ACS setup according to test procedure − RCS services have been successfully configured on the phone/SIM pair − DUT is using cellular coverage − DUT is powered off
Test procedure	− Client is started and contacts ACS − DUT is rebootet

	− The user takes some action
Expected results **Post-conditions**	− ACS is contacted by client. The ACS validates the SIM/phone and provides a response with DISABLED STATE configuration parameter set to -1. RCS services are not registered. − Following a reboot the client does not try an autoconfiguration. Configuration disabled − Configuration remains disabled.
Deep inspection	− Inspect HTTP negotiation − Verify response containing the XML − Verify DUT does not try to register

Test case ID	ID_RCS_T_2_1_16
Related test cases	
Feature	Device Provisioning
Reason for test	Configuration triggered by a reboot over 3GPP: autoconfiguration disabled and configuration query stopped. rcs_state set to -2
Pre-conditions Scenario	− **NOTE: To facilitate self-accreditation this test can be simulated** − SIM card is enabled to use RCS UP − ACS ready to fulfil the requirements described in RCC.14 − ACS setup according to test procedure − RCS services have been successfully configured on the phone/SIM pair DUT is using cellular coverage − DUT is powered off
Test procedure	− Client is started and contacts ACS − DUT is rebootet − The user takes some action (e.g. user attempts to send an IM) and the client tries an autoconfiguration
Expected results **Post-conditions**	− ACS is contacted by client. The ACS validates the SIM/phone and provides a response with DISABLED STATE configuration parameter set to -2. RCS services are not registered. − Following a reboot the client does not try an autoconfiguration. Configuration disabled until user action triggers configuration − Configuration takes place

Deep inspection	− Inspect HTTP negotiation − Verify response containing the XML − Verify DUT does not try to register − Verify autoconfiguration starts once the user takes some action

Test case ID	ID_RCS_T_2_1_17
Related test cases	
Feature	Device Provisioning
Reason for test	Configuration triggered by a reboot over 3GPP: set client in dormant state. rcs_state set to-3
Pre-conditions Scenario	− SIM card is enabled to use RCS UP − ACS ready to fulfil the requirements described in RCC.14 − ACS setup according to test procedure − RCS services have been successfully configured on the phone/SIM pair − DUT is using cellular coverage − The validity of the client's current configuration has expired
Test procedure	− **NOTE: To facilitate self-accreditation this test can be simulated** − DUT is powered on and contacts ACS − DUT is rebooted − The user takes some action and after reboot DUT tries an autoconfiguration
Expected results Post-conditions	− The ACS validates the SIM/phone and provides a response without configuration data except from the RCS DISBALED STATE set to -3. Client does not register to RCS. − Following a reboot DUT remains in dormant state. DUT unregistered until user action triggers configuration − Autoconfiguration queries are performed.
Deep inspection	− Inspect HTTP negotiation − Verify response containing the XML − Verify DUT does not try to register

Test case ID	ID_RCS_T_2_1_18
Related test cases	
Feature	Device Provisioning

Reason for test	User explicitly disabled the RCS service; rcs_state set to -4;R2-16-4
Pre-conditions Scenario	− SIM card is enabled to use RCS UP − ACS ready to fulfil the requirements described in RCC.14 − ACS setup according to test procedure − RCS services have been successfully configured on the phone/SIM pair − DUT is using cellular coverage − The validity of the client's current configuration has not expired
Test procedure	− User disables RCS on DUT, e.g. master switch to off
Expected results Post-conditions	− RCS services are disabled
Deep inspection	− Verify HTTPS request with version set to current version and rcs_state set to -4 − Verify ACS response to contain valid configuration response

Test case ID	ID_RCS_T_2_1_19
Related test cases	
Feature	Device Provisioning
Reason for test	User explicitly re-enables the RCS service; rcs_state set to -4
Pre-conditions Scenario	− SIM card is enabled to use RCS UP − ACS ready to fulfil the requirements described in RCC.14 − ACS setup according to test procedure − user has previously disabled RCS − DUT is using cellular coverage − The validity of the client's most recent configuration has not expired
Test procedure	− User enables RCS services on DUT, e.g. master switch to on
Expected results Post-conditions	− RCS services are enabled
Deep inspection	− Verify HTTPS request with version set to current version and rcs_state set to same value as version − Verify ACS response to contain valid configuration response

Test case ID	ID_RCS_T_2_1_20
Related test cases	
Feature	Device Provisioning
Reason for test	Configuration triggered by a reboot over 3GPP: internal server error
Pre-conditions Scenario	− **NOTE: To facilitate self-accreditation this test can be simulated** − SIM card is enabled to use RCS UP − ACS ready to fulfil the requirements described in RCC.14 − ACS setup according to test procedure − RCS services have been successfully configured on the phone/SIM pair − DUT in cellular coverage
Test procedure	− DUT is powered on and contacts ACS − Reboot DUT.
Expected results Post-conditions	− The ACS detects an internal error and generates a 500 response (internal server error). DUT keeps using the previous configuration settings and completes a successful registration. RCS and services remain in the same condition as prior to the configuration − Following a reboot DUT retries the configuration. Dependent on ACS response (500 error still present or not) subsequent configuration requests are properly handled.
Deep inspection	− Inspect HTTP/HTTPS negotiation − Verify 500 Internal error − Verify successful registration following reboot

Test case ID	ID_RCS_T_2_1_21
Related test cases	
Feature	Device Provisioning
Reason for test	Configuration triggered by a reboot over 3GPP: server not responding
Pre-conditions Scenario	− **NOTE: To facilitate self-accreditation this test can be simulated** − SIM card is enabled to use RCS UP − ACS ready to fulfil the requirements described in RCC.14 − ACS setup according to test procedure − RCS services have been successfully configured on the phone/SIM pair − DUT in cellular coverage

	− DUT is powered off
Test procedure	− DUT is powered on. − DUT is rebooted.
Expected results **Post-conditions**	− ACS does not respond (request timeout). DUT keeps using the previous configuration settings and completes a successful registration. RCS remains in the same condition as prior to the configuration − DUT retries the configuration. Dependent on ACS response subsequent configuration requests are properly handled.
Deep inspection	− Inspect HTTP negotiation − Verify successful registration following reboot

Test case ID	ID_RCS_T_2_1_22
Related test cases	
Feature	Device Provisioning
Reason for test	Configuration triggered by a reboot over 3GPP: no version checking
Pre-conditions Scenario	− SIM card is enabled to use RCS UP − ACS ready to fulfil the requirements described in RCC.14 − RCS services have been successfully configured on the phone/SIM pair − DUT is using cellular coverage − The validity of the client's current configuration has NOT expired − DUT is powered off
Test procedure	− DUT is powered on − DUT registers.
Expected results **Post-conditions**	− ACS is contacted by DUT. Due to valid configuration <u>no</u> auto-configuration takes place. − Registration takes place successfully.
Deep inspection	− Verify client does not start autoconfiguration after reboot − Verify client tries to register − Verify client is successfully registered

Test case ID	ID_RCS_T_2_1_23
Related test cases	

Feature	Device Provisioning
Reason for test	Configuration triggered by a reboot over non 3GPP: subscriber unauthorized
Pre-conditions Scenario	− **NOTE: To facilitate self-accreditation this test can be simulated** − SIM card is enabled to use RCS UP − ACS ready to fulfil the requirements described in RCC.14 − ACS setup according to test procedure − RCS services have been successfully configured on the phone/SIM pair − DUT is under WiFi − The validity of the client's current configuration has expired − DUT is powered off
Test procedure	− DUT is powered on and contacts ACS − The ACS validates the SIM/phone and ACS generates a 403 response (subscriber unauthorized)
Expected results Post-conditions	− ACS is contacted by DUT − RCS not enabled as the configuration is not successful
Deep inspection	− Inspect HTTPS negotiation − Verify 403 Unauthorized response − Verify registration does not take place

Test case ID	ID_RCS_T_2_1_24
Related test cases	
Feature	Device Provisioning
Reason for test	Configuration triggered by a reboot over non 3GPP: token invalid
Pre-conditions Scenario	− **NOTE: To facilitate self-accreditation this test can be simulated** − SIM card is enabled to use RCS UP − ACS ready to fulfil the requirements described in RCC.14 − ACS setup according to test procedure − RCS services have been successfully configured on the phone/SIM pair − DUT is under WiFi − The validity of the client's current configuration has expired − DUT is powered off
Test procedure	− DUT is powered on and contacts ACS − The ACS generates a 511 response (network authentication required) − DUT provides user retry mechanism

Expected results **Post-conditions**	− ACS is contacted by DUT − Configuration takes place seamlessly to the user.RCS services remain in the same condition as prior to the configuration. Token value is removed from DUT. − Configuration starts from the beginning
Deep inspection	− Inspect HTTPS negotiation − Verify 511 (Network authenticatio)n required response − Verify autoconfiguration re-start

Test case ID	ID_RCS_T_2_1_25
Related test cases	
Feature	Device Provisioning
Reason for test	Provisioning PUSH: First time configuration initiated by SMS
Pre-conditions Scenario	− **NOTE: To facilitate self-accreditation this test can be simulated** − SIM card is enabled to use RCS UP − ACS ready to fulfil the requirements described in RCC.14 − ACS setup according to test procedure − RCS is inactive on the device − DUT is using cellular coverage or WiFi − DUT is powered off
Test procedure	− DUT is powered on and contacts ACS − DUT receives configuration request and validates whether IMSI included in the SMS content matches the one on the SIM − Client de-registers from the IMS network if registered. And DUT should start configuration procedure.
Expected results **Post-conditions**	− ACS is contacted by DUT. A network initiated SMS is sent to the device that includes the IMSI associated to the SIM.. − DUT should start cofiguration procedure. If applicable, the welcome message is displayed and the user accepts − Registration starts and enables RCS.
Deep inspection	− Inspect de-registration if client is already registered − Inspect HTTP/HTTPS negotiation

Test case ID	ID_RCS_T_2_1_26
Related test cases	

Feature	Device Provisioning
Reason for test	Provisioning PUSH: Reconfiguration initiated by SMS
Pre-conditions Scenario	− **NOTE: To facilitate self-accreditation this test can be simulated** − SIM card is enabled to use RCS UP − ACS ready to fulfil the requirements described in RCC.14 − ACS setup according to test procedure − RCS services have been previously configured on the DUT/SIM pair − DUT is using cellular coverage or WiFi − DUT is powered off
Test procedure	− DUT is powered on and contacts the ACS. − A network initiated SMS is sent to the device that includes the Private User Identity − Client de-registers if registered. Current configuration is deleted. Configuration starts.
Expected results **Post-conditions**	− ACS is contacted by DUT. − DUT receives configuration request and validates whether the IMPI included in the SMS content matches the one in the existing configuration − Configuration takes places seamlessly to the user and registration takes place.
Deep inspection	− Validate SMS format and content − Inspect de-registration if client is already registered − Verify configuration deletion − Inspect HTTP negotiation − Verify registration takes place

Test case ID	ID_RCS_T_2_1_27
Related test cases	
Feature	Device Provisioning
Reason for test	Provisioning PUSH: Reconfiguration initiated via EUCR request; R2-16-28
Pre-conditions Scenario	− **NOTE: To facilitate self-accreditation this test can be simulated** − SIM card is enabled to use RCS UP − ACS ready to fulfil the requirements described in RCC.14 − ACS setup according to test procedure − RCS services have been previously configured on the device/SIM pair − DUT is using cellular coverage or WiFi − DUT is powered off

Test procedure	− DUT is powered on and contacts ACS − A EUCR request is sent by the network − Configuration starts.
Expected results Post-conditions	− ACS is contacted by DUT. − Client de-registers and current configuration is deleted. − Configuration takes places seamlessly to the user. After registration DUT is RCS enabled.
Deep inspection	− Inspect de-registration if client is already registered − Verify configuration deletion − Inspect HTTP negotiation − Verify registration takes place

Test case ID	ID_RCS_T_2_1_28
Related test cases	
Feature	Device Provisioning
Reason for test	First-time registration over 3GPP. First-time successful configuration. Default sms app
Pre-conditions Scenario	− - − ACS ready to fulfil the requirements described in RCC.14 − ACS setup according to test procedure − RCS services have not been previously configured on the phone/SIM pair − Handset is using cellular coverage − default_sms_app=1
Test procedure	− Handset is powered on − Once the configuration is successfully sent, it is possible to access RCS services − User changes default SMS application, RCS is not selected as default. − User A sends messages to Reference 1 − User changes default SMS application, RCS is selected as default. − User A sends messages to Reference 1
Expected results Post-conditions	− Configuration takes place seamlessly to the user − Reference 1 receives a SMS, from user A − Reference 1 receives a RCS messaged from user A, when he changed default SMS app

Deep inspection	− Inspect HTTP/HTTPS request includes new GET parameters (rcs_version, rcs_profile, default_sms_app= 1) − Verify successful registration following configuration − When the user changed parameter, inspect HTTP/HTTPS request includes new GET parameters (rcs_version, rcs_profile, default_sms_app= 2) − Verify there is no RCS chat session established between user A and B − When the user changed parameter, inspect HTTP/HTTPS request includes new GET parameters (rcs_version, rcs_profile, default_sms_app= 1) − Verify there is RCS chat session established between user A and B

Test case ID	ID_RCS_T_2_1_29
Related test cases	
Feature	Device Provisioning
Reason for test	Conflicts of clients (Android only). Clients switch
Pre-conditions Scenario	− ACS ready to fulfil the requirements described in RCC.14 − 2 downloadable clients are installed on Android device − RCS clients listening for the broadcast of the Android™ Intents: ▪ "ACTION_DEFAULT_SMS_PACKAGE_CHANGED". ▪ "ACTION_DEFAULT_DIALER_CHANGED" − RCS Client #1 is currently running on a device
Test procedure	− Handset is powered on − Run the RCS client #2 on a device − Change RCS client preferences to disable currently running client − Run again the RCS client #2 on the device − Once the configuration is successfully sent, it is possible to access RCS services − Test a successful chat to verify behaviour − Run RCS client #1 on the device − Change RCS client preferences to disable currently running RCS client #1 − After registration test a successful chat to verify behaviour
Expected results Post-conditions	− Embedded client performs de-registration − Configuration of not embedded client takes places seamlessly to the user − If applicable, the welcome message is displayed and the user accepts

	− RCS UX elements are enabled and the user can perform a successful chat after the successful configuration and first-time registration − Not embedded client performs de-registration − Configuration of embedded client takes places seamlessly to the user − RCS UX elements are enabled and the user can perform a successful chat after the successful configuration and first-time registration
Deep inspection	− Inspect HTTP/HTTPS negotiation − Verify response containing the XML − The handset resolves the IP address and port to access SIP using FQDN and DNS/SRV queries − Verify successful registration following configuration − Verify successful IM flow − Verify there are no other configuration requests and error messages

Test case ID	ID_RCS_T_2_1_30
Related test cases	
Feature	Device Provisioning
Reason for test	Successful Single Registration over LTE
Pre-conditions Scenario	− User's device is configured for VoLTE and RCS in the respective network − RCS VOLTE SINGLE REGISTRATION parameter value is set to 1 − Handset is using LTE − RCS client mode: RCS-VoLTE
Test procedure	− Handset is powered on − User tries to make a VoLTE call − User tries to use RCS messaging services (e.g. 1-2-1 chat, standalone message)
Expected results **Post-conditions**	− Registration takes place seamlessly to the user − User can make VoLTE call − User can communicate with RCS messaging (e.g. 1-2-1 chat, standalone message)
Deep inspection	− Verify single RCS&VoLTE registration flow covering joint capabilities in SIP REGISTER (one IMPI, one sip.instance) − Verify session establishment for the VoLTE call − Verify session establishment for RCS chat or verify that the message is delivered successfully to a recipient.

Test case ID	ID_RCS_T_2_1_31
Related test cases	
Feature	Device Provisioning
Reason for test	Successful Dual Registration over LTE
Pre-conditions Scenario	- User's device is configured for VoLTE and RCS in the respective network with different IMPIs - RCS VOLTE SINGLE REGISTRATION parameter value is set to 0 - Handset is using LTE - RCS client mode: RCS-CS - IMS APN and HOS APN are configured on the device
Test procedure	- Handset is powered on - User tries to make a VoLTE call - User tries to use RCS messaging services (e.g. 1-2-1chat, standalone message)
Expected results **Post-conditions**	- Registration takes place seamlessly to the user - User can make VoLTE call - User can communicate with RCS messaging (e.g. 1-2-1 chat, standalone message)
Deep inspection	- Verify registration flow covering VoLTE capabilities with one IMPI - Verify registration flow covering RCS capabilities with a different IMPI than the VoLTE registration - Verify session establishment for the VoLTE call - Verify session establishment for RCS chat or verify that the message is delivered successfully to a recipient.

Test case ID	ID_RCS_T_2_1_32
Related test cases	
Feature	Device Provisioning
Reason for test	Successful Dual Registration over EPC-integrated WiFi
Pre-conditions Scenario	- User's device is configured for VoLTE and RCS in the respective network with different IMPIs - RCS VOLTE SINGLE REGISTRATION parameter value is set to 0 - Handset is using LTE and connected to the EPC-integrated WiFi - RCS client mode: RCS-CS

Test procedure	– Handset is powered on – User tries to make a VoLTE call – User tries to use RCS messaging services (e.g. 1-2-1 chat, standalone message)
Expected results Post-conditions	– Registration takes place seamlessly to the user – User can make VoLTE call – User can communicate with RCS messaging (e.g. 1-2-1 chat, standalone message)
Deep inspection	– Verify registration flow covering VoLTE capabilities with one IMPI – Verify registration flow covering RCS capabilities with a different IMPI than the VoLTE registration – Verify session establishment for the VoLTE call – Verify session establishment for RCS chat or verify that the message is delivered successfully to a recipient.

Test case ID	ID_RCS_T_2_1_33
Related test cases	
Feature	Device Provisioning
Reason for test	Successful Dual Registration over non EPC-integrated WiFi
Pre-conditions Scenario	– User's device is configured for VoLTE and RCS in the respective network with different IMPIs – RCS VOLTE SINGLE REGISTRATION parameter value is set to 0 – Handset is using LTE and connected to the non EPC-integrated WiFi – RCS client mode: RCS-CS
Test procedure	– Handset is powered on – User tries to make a VoLTE call – User tries to use RCS messaging services (e.g. 1-2-1 chat, standalone message)
Expected results Post-conditions	– Registration takes place seamlessly to the user – User can make VoLTE call – User can communicate with RCS messaging (e.g. 1-2-1 chat, standalone message)

Deep inspection	− Verify registration flow covering VoLTE capabilities with one IMPI − Verify registration flow covering RCS capabilities with a different IMPI than the VoLTE registration − Verify session establishment for the VoLTE call − Verify session establishment for RCS chat or verify that the message is delivered successfully to a recipient.

Test case ID	ID_RCS_T_2_1_34
Related test cases	
Feature	Device Provisioning
Reason for test	Non EPC integrated Wifi and Cellular endurance. A long Idle period
Pre-conditions Scenario	− Pre-conditions as per section 1.2 of the current document apply. − User in Wi-Fi and Cellular coverage. − Test must be performed on UDP and TCP TLS network protocol
Test procedure	− Test duration at least 3 hours − User is in a chat session and receives a chat message every 30 minutes
Expected results **Post-conditions**	− Chat sessions work correctly on UDP, TCP and TLS protocols − After screen 'timeout' has expired, device automatically turns in idle state (black screen is shown). − User leaves idle state and a chat window is open
Deep inspection	− Inspect Expires header value − Verify that all re-register have been done correctly during idle period (in accordance with network parameters) − Verify that client uses the "NEXT NONCE" value provided by the network − Verify "NONCE COUNT" value has been incremented

Test case ID	ID_RCS_T_2_1_35
Related test cases	

Feature	Device Provisioning
Reason for test	Unexpected 403 response
Pre-conditions Scenario	- Pre-conditions as per section 1.2 of the current document apply. - The phone/client is registered and the registration timer is far from expiration
Test procedure	- IP connectivity is lost - IP connectivity is recovered (i.e. switching from PS to non EPC integrated Wi-Fi) - A registration is triggered - Client gets the 403 Forbidden (no Warning header included) response due to change of IP address **NOTE: This test can be simulated**
Expected results Post-conditions	- The re-registration is performed and - the 403 Forbidden response was received - The request fails for 5 times - No further attempts shall be made and an error message shall be shown to the user
Deep inspection	- Verify re-registration takes place before timer expires in all cases - Re-registration flow - Verify no more than 5 attempts of registration attempts take place

Test case ID	ID_RCS_T_2_1_36
Related test cases	
Feature	Device Provisioning
Reason for test	Wifi - Internet Network failure
Pre-conditions Scenario	- Pre-conditions as per section 1.2 of the current document apply. - Dual registration is implemented in the network and on the device - Device is connected to both non EPC integrated Wi-Fi and Cellular coverage.

Test procedure	− Simulate a network failure: No answer to SIP requests over TCP or TLS (e.g. disconnect Wi-Fi access point from WAN) − Start chat , FT and in-call sharing services (such as Video Share, Image Share)
Expected results **Post-conditions**	− Chat, FT, in-call sharing services failed on the client
Deep inspection	− Verify client sends REGISTER request over TCP or TLS to the P-CSCF and waits for a response from the network − Whenever SIP 200 OK response or an error response (e.g. 403, 408, 500 etc.) does not arrive , the application client shall execute the mechanism defined in 3GPP TS 24.229 and sub-clause 4.5 of RFC5626

Test case ID	ID_RCS_T_2_1_37
Related test cases	
Feature	Device Provisioning
Reason for test	Wi-Fi access point temporarily without internet connection
Pre-conditions Scenario	− Pre-conditions as per section 1.2 of the current document apply. − Dual registration is implemented in the network and on the device − Device is connected to both non EPC integrated Wi-Fi and Cellular coverage.
Test procedure	− After successful registration process, unplug internet connection from the Wi-Fi Access Point for 1 hour − Re-Plug of the internet connection on the Wi-Fi Access Point, while mobile device still in the range of the Wi-Fi Access Point
Expected results **Post-conditions**	− No freeze / no black screen on the device

Deep inspection	− After internet connection lost verify if REGISTERs are regularly sent to the IMS according to RFC5626 − Verify successful re-registration after Internet connection is back. − Verify that re-registration was performed within the re-register timer on a regular basis

2.2   Capability Discovery and Service Availability

2.2.1   Functional test cases

Test case ID	ID_RCS_F_2_2_1
Related test cases	
Feature	Capability Discovery and Service Availability
Reason for test	Validate R3-3-3-1 the device updates the capability of a contact when the user enters a new contact into their address book on their device.
Pre-conditions Scenario	− The device is able to indicate messaging service (e.g. RCS Message v.s. xMS) when the message is sent. − User A is an RCS User − User A is online (connected via HSPA, LTE, or WiFI) − Reference 1 is not stored in User A address book − Reference 1 is an RCS User − Reference 1 is online (connected via HSPA, LTE, or WiFI)
Test procedure	− User A adds Reference 1 MSISDN into the address book. − User A opens the messaging composer and sends a message to Reference 1.
Expected results Post-conditions	− User A's device sends an RCS Message to Reference 1.
Deep inspection	−

Test case ID	ID_RCS_F_2_2_2
Related test cases	

Feature	Capability Discovery and Service Availability
Reason for test	Validate R3-3-3-1 the device updates the capability of a contact when the user enters a new contact into their address book on their device.
Pre-conditions Scenario	− Network A allows capability discovery. − For Seamless Messaging, network A does not support NFS. − The device is able to indicate the messaging service (e.g. RCS Message v.s. xMS) when the message is sent. − User A is an RCS User − User A is online (connected via HSPA, LTE, or WiFI) − Reference 1 is not stored in User A address book − Reference 1 is not an RCS User
Test procedure	− User A adds Reference 1 MSISDN to their address book. − User A opens the messaging composer and sends a message to Reference 1
Expected results Post-conditions	− User A's device sends a SMS Message to Reference 1.
Deep inspection	−

2.2.2   Technical test cases

2.2.2.1   SIP OPTIONS Exchange

Test case ID	ID_RCS_T_2_2_1_1
Related test cases	
Feature	Capability Discovery and Service Availability - OPTIONS
Reason for test	Capability query in addressbook
Pre-conditions Scenario	− Both handsets are RCS registered − DUT and Reference 1 are online

Test procedure	− DUT selects Reference 1 in the addressbook who is also an RCS user − As a result a capability exchange takes place and the right capabilities/services available are displayed
Expected results Post-conditions	− The phone/client shows the Universal Profile Release RCS services available
Deep inspection	− Verify OPTIONS exchange with right tags − Verify responses − If testing two different devices, repeat the test swapping the role of the devices

Test case ID	ID_RCS_T_2_2_1_2
Related test cases	
Feature	Capability Discovery and Service Availability - OPTIONS
Reason for test	Capability query in addressbook (RCS contact currently not registered)
Pre-conditions Scenario	− DUT handset is RCS registered − Reference 1 is an offline RCS user
Test procedure	− DUT selects Reference 1 who is an RCS user − As a result a capability exchange takes place but the network reports that Reference 1 is offline
Expected results Post-conditions	− The phone/client shows from the RCS services for that contact only IM/Chat and File Transfer as currently available
Deep inspection	− Verify OPTIONS exchange with right tags − Verify OPTIONS response includes automata tag or is a 480/408 response

	− If testing two different devices, repeat the test swapping the role of the devices

Test case ID	ID_RCS_T_2_2_1_3
Related test cases	
Feature	Capability Discovery and Service Availability - OPTIONS
Reason for test	Compatibility: Capability query in addressbook with pre-UP1.0 user
Pre-conditions Scenario	− Both handsets are RCS registered − DUT and Reference 1 are online − Reference 1 is pre-UP1.0 user (RCS)
Test procedure	− DUT selects Reference 1 in the addressbook who is also an RCS user − As a result a capability exchange takes place and the right capabilities/services available are displayed
Expected results Post-conditions	− The phone/client shows only the pre-UP1.0 RCS services as available
Deep inspection	− Verify OPTIONS exchange with right tags − Verify responses

Test case ID	ID_RCS_T_2_2_1_4
Related test cases	
Feature	Capability Discovery and Service Availability - OPTIONS
Reason for test	To verify that there shall not be any RCS service entry points when the recipient is known to be a non- RCS user.

Pre-conditions Scenario	− DUT registers and is online. − Reference 1 is a non-RCS user.
Test procedure	− DUT opens the conversation with Reference 1 or opens the contact of Reference 1.
Expected results **Post-conditions**	− There are not any RCS service entry points.
Deep inspection	− Verify OPTIONS exchange with right tags. − Verify response from the core is 404 Not Found or 604 Does Not Exist Anywhere or 200 OK not including any of the tags used by RCS services.

Test case ID	ID_RCS_T_2_2_1_5
Related test cases	
Feature	Capability Discovery and Service Availability - OPTIONS
Reason for test	Capability query in addressbook (polling set to 0)
Pre-conditions Scenario	− DUT handset is RCS registered − The polling period is set to 0
Test procedure	− Leave the phone running for a significant period of time (2 days)
Expected results **Post-conditions**	− No polling is performed

Deep inspection	− N/A

Test case ID	ID_RCS_T_2_2_1_6
Related test cases	
Feature	Capability Discovery and Service Availability - OPTIONS
Reason for test	To verify that the conditions the device scan the full contact list to find out which of the contacts are enabled for which RCS services.
Pre-conditions Scenario	− SIM 1 with RCS account 1 is inserted on DUT. SIM 2 with RCS account 2 is not inserted on DUT. − There are 5 contacts on DUT. − There is no RCS application on DUT.
Test procedure	− Install the RCS application on DUT and DUT with account 1 registers. − Power off DUT and switch SIM card to SIM 2. Then power on and DUT with account 2 registers.
Expected results Post-conditions	− For RCS contacts on DUT, there are available RCS services entry points. For Non-RCS contacts on DUT, there are not any RCS services entry points. − The same as 1.
Deep inspection	− DUT shall perform an initial scan of the full contact list. Verify OPTIONS exchange with right tags to each contact in contact list and responses. − The same as 1.

Test case ID	ID_RCS_T_2_2_1_7
Related test cases	
Feature	Capability Discovery and Service Availability - OPTIONS
Reason for test	To verify the conditions that the device requests a RCS capability discovery and/or service availability update of an individual contact.

Pre-conditions Scenario	− DUT registers RCS services and is online. − Reference 1 and Reference 5 are RCS users but are not saved as contact on DUT. − Reference 2, Reference 3 and Reference 4 are RCS users and are contacts of DUT with CAPABILITY INFO EXPIRY time expires. − Reference 6 and Reference 7 are RCS users.
Test procedure	− When Reference 1 is added to the address book. − When opening Reference 2 from the contact list. − When starting a conversation with Reference 3 (e.g. when adding a contact to the "To:" field of a new message.) − When opening a conversation or thread with Reference 4. − When entering the number of Reference 5 into the dialler. − A chat message or File Transfer event from Reference 6 is received. − A delivery or display notification for a sent message or file from Reference 7 is received.
Expected results Post-conditions	− Reference 1 is created as a new contact, the right capabilities available for Reference 1 are displayed on DUT. − The capabilities available for Reference 2 are updated and displayed on DUT. − The capabilities available for Reference 3 are updated and displayed on DUT. − The capabilities available for Reference 4 are updated and displayed on DUT. − The right capabilities available for Reference 5 are displayed on DUT.
Deep inspection	− For each time, DUT requests an RCS capability discovery. Verify OPTIONS exchange with right tags and responses.

Test case ID	ID_RCS_T_2_2_1_8
Related test cases	
Feature	Capability Discovery and Service Availability - OPTIONS
Reason for test	Messaging Capabilities Validity (optimization)

Pre-conditions Scenario	− DUT and Reference 1 handsets are registered − Both users are online − DUT and Reference 1 have integrated messaging clients − DUT and Reference 1 exchange chat messages
Test procedure	− The coverage varies for handset Reference 1 between EDGE/3G/HSPA/LTE or vice versa − IP reconfiguration does not take place
Expected results Post-conditions	− The UX is not impacted − Capability exchange does NOT happen
Deep inspection	− Verify OPTIONS exchange does not take place unless CAPABILITY INFO EXPIRY time expires for DUT or Reference 1 − If testing two different devices, repeat the test swapping the role of the devices

Test case ID	ID_RCS_T_2_2_1_9
Related test cases	
Feature	Capability Discovery and Service Availability - OPTIONS
Reason for test	To verify that MNO shall have the ability to limit the impact of capability and availability checks.
Pre-conditions Scenario	− DUT registers RCS services and is online. − NUT defines minimum interval duration by set CAPABILITY INFO EXPIRY for RCS contact and NON RCS CAPABILITY INFO EXPIRY for Non-RCS contact. − There are some contacts on DUT, including RCS contact and non-RCS contact.
Test procedure	− DUT opens an RCS contact in minimum interval duration. − DUT opens a non-RCS contact in minimum interval duration. − DUT makes an RCS Call with an RCS contact.

Expected results **Post-conditions**	− RCS contact is open with capabilities available unchanged. − Non-RCS contact is open with capabilities unavailable unchanged. − Call can be made successfully with capabilities available of the contact is updated.
Deep inspection	− Verify DUT does not use capability discovery mechanism to the same RCS − contact in CAPABILITY INFO EXPIRY value. − Verify DUT does not use capability discovery mechanism to the same non-RCS contact in NON CAPABILITY INFO EXPIRY value. − Verify OPTIONS exchange happens with right tags and responses when the call has been set up.

Test case ID	ID_RCS_T_2_2_1_10
Related test cases	
Feature	Capability Discovery and Service Availability - OPTIONS
Reason for test	To verify that individual MNO can disable RCS capability discovery and service availability in their network and on their devices.
Pre-conditions Scenario	− DUT and Reference 1 register RCS services and are online. − Network Reference 1 and Network Reference 2 disable RCS capability discovery and service availability by set CAPABILITY DISCOVERY MECHANISM to 2. − Reference 2 is Non-RCS user. − Reference 1 and Reference 2 are contacts of DUT.
Test procedure	− DUT selects Reference 1 in the addressbook. − DUT selects Reference 2 in the addressbook.
Expected results **Post-conditions**	− Reference 1 shows the RCS services available and selectable. − Reference 2 shows the RCS services available and selectable.
Deep inspection	− Verify OPTIONS exchange with right tags and response from the core is 200 OK with agreed interworking service tags. − The same as 1.

Test case ID	ID_RCS_T_2_2_1_11

Related test cases	
Feature	Capability Discovery and Service Availability - OPTIONS
Reason for test	Reference section R3-4-6: To verify address book scan when SIM is changed
Pre-conditions Scenario	− DUT is RCS registered − The new SIM is RCS capable − For the new SIM, CAPABILITY DISCOVERY MECHANISM config value is set to (**0**) OPTIONS by MNO of the new SIM − For the new SIM, DISABLE INITIAL ADDRESS BOOK SCAN config is set to (0) FALSE by MNO of the new SIM − Reference1 is RCS capable and RCS registered − Reference2 is RCS capable and RCS not registered (offline) − Reference3 is non RCS capable − Reference1, Reference2 and Reference3 are in the DUT's address book − DUT is under 3GPP coverage or Wi-Fi
Test procedure	− Insert the new RCS SIM in DUT and reboot the DUT. − Check the address book
Expected results **Post-conditions**	− DUT is registered to RCS − All the contacts in the address book are updated with their supported capabilities as received from the network.
Deep inspection	− Verify DUT sends out autoconfiguration request and it is successfull − Verify DUT sends REGSITER request. Post success of REGISTER the 200OK response is received from the network. − Verify DUT sends SIP OPTIONS to Reference1 and receives 200OK indicating it is RCS capable amd with supported RCS capabilities for Reference 1. − Verify DUT sends SIP OPTIONS to Reference2 and receives "480 TEMPORARILY UNAVAILABLE" indicating it is RCS capable but offline. − Verify DUT sends SIP OPTIONS to Reference3 and receives "404 NOT FOUND" indicating it is non-RCS capable

Test case ID	ID_RCS_T_2_2_1_12
Related test cases	
Feature	Capability Discovery and Service Availability - OPTIONS

Reason for test	Reference section R3-4-9-1 (US R3-3-5-1): To verify the Capability availability checks optimization for RCS contact
Pre-conditions Scenario	− In DUT, CAPABILITY DISCOVERY MECHANISM config value is set to (**0**) OPTIONS − DUT is RCS registered − SERVICE AVAILABILITY INFO EXPIRY value is greater than 0 − CAPABILITY INFO EXPIRY value is greater than 0 − Service and capability was obtained more recently than the above configured value − Reference1 is RCS capable and RCS registered − Reference1 exist in the address book in DUT. − DUT is under 3GPP coverage or Wi-Fi
Test procedure	− Open address book in DUT and select Reference1
Expected results Post-conditions	− Reference1's supported RCS capabilities are displayed to the user.
Deep inspection	− Verify DUT will not send any capability fetch request as the service and capability was obtained more recently.

Test case ID	ID_RCS_T_2_2_1_13
Related test cases	
Feature	Capability Discovery and Service Availability - OPTIONS
Reason for test	Reference section R3-4-9-3 (US R3-3-5-3): To verify that Capability availability check will not be sent for the RCS contact whose prefix will not match with MNO configured prefix list
Pre-conditions Scenario	− In DUT, CAPABILITY DISCOVERY MECHANISM config value is set to (**0**) OPTIONS − DUT is RCS registered − CAPABILITY DISCOVERY ALLOWED PREFIXES config value is not 0 − Reference1 is RCS capable and RCS registered − Reference1 doest't exist in the address book in DUT. − Prefix of Reference1 doesn't matches with any value in the list of prefixes provided in CAPABILITY DISCOVERY ALLOWED PREFIXES config value

	− DUT is under 3GPP coverage or Wi-Fi
Test procedure	− DUT adds Reference1 to the address book
Expected results **Post-conditions**	− Reference1 will not be added to the address book
Deep inspection	− Verify DUT will not send any capability fetch request

Test case ID	ID_RCS_T_2_2_1_14
Related test cases	
Feature	Capability Discovery and Service Availability - OPTIONS
Reason for test	Reference section R3-4-9-3 (US R3-3-5-3): To verify the Capability availability check will be sent for only those RCS contacts whose prefix will match with MNO configured prefix list
Pre-conditions Scenario	− In DUT, CAPABILITY DISCOVERY MECHANISM config value is set to (**0**) OPTIONS − DUT is RCS registered − CAPABILITY DISCOVERY ALLOWED PREFIXES config value is not 0 − Reference1 is RCS capable and RCS registered − Reference1 doest't exist in the address book in DUT. − Prefix of Reference1 matches with a value in the list of prefixes provided in CAPABILITY DISCOVERY ALLOWED PREFIXES config value − DUT is under 3GPP coverage or Wi-Fi
Test procedure	− DUT adds Reference1 to the address book

Expected results **Post-conditions**	− Reference1 is added to the address book and all its supported RCS capabilities are displayed to the user.
Deep inspection	− Verify DUT sends SIP OPTIONS to Reference1 and receives 200OK indicating it is RCS capable with the list of supported RCS capabilities

2.2.2.2   Presence Based Exchange

Test case ID	ID_RCS_T_2_2_2_1
Related test cases	
Feature	Capability Discovery and Service Availability - Presence
Reason for test	Reference section R3-4-1: Configuring Capability Discovery
Pre-conditions Scenario	− DUT is not RCS registered − DUT is under 3GPP coverage or Wi-Fi
Test procedure	− DUT is powered on
Expected results **Post-conditions**	− DUT is registered to RCS services
Deep inspection	− Verify HTTP GET request (autoconfig request) is sent from DUT − Verify DUT recieves HTTP 200OK with RCS configuration − Verify CAPABILITY DISCOVERY MECHANISM config value is set to (1) PRESENCE. − Verify DUT sends out REGISTER request, post success of REGISTER, PUBLISH request containing RCS service capabilities is sent out and 200OK is received from the network.

Test case ID	ID_RCS_T_2_2_2_2

Related test cases	
Feature	Capability Discovery and Service Availability - Presence
Reason for test	Reference section R3-4-3: To verify network responds 200OK response for capability discovery request.
Pre-conditions Scenario	− In DUT, CAPABILITY DISCOVERY MECHANISM config value is set to (**1**) PRESENCE − DUT is RCS registered − Reference1 is RCS capable and RCS registered − Reference1 doesn't exist in the DUT's address book − DUT and Reference1 are under 3GPP coverage or Wi-Fi
Test procedure	− Add Reference1 to address book in DUT
Expected results **Post-conditions**	− Reference1 is shown as RCS capable in the address book with its supported RCS capabilities.
Deep inspection	− Verify DUT sends ANONYMOUS SUBSCRIBE to the Reference1 and 200OK response is recieved from the network − Verify DUT recieves NOTIFY from the network with the Reference1's supported RCS service capability information, DUT responds with 200OK to this NOTIFY request.

Test case ID	ID_RCS_T_2_2_2_3
Related test cases	
Feature	Capability Discovery and Service Availability - Presence
Reason for test	Reference section R3-4-3: To verify network responds 480 response for capability discovery request.
Pre-conditions Scenario	− In DUT, CAPABILITY DISCOVERY MECHANISM config value is set to (**1**) PRESENCE − DUT is RCS registered − Reference1 is RCS capable and not RCS registered − Reference1 not exist in the DUT's address book − DUT is under 3GPP coverage or Wi-Fi
Test procedure	− Add Reference1 to address book in DUT

Expected results Post-conditions	− Reference1 is shown as RCS capable in the address book and is offline.
Deep inspection	− Verify DUT sends SIP ANONYMOUS SUBSCRIBE to the Reference1 and Network responds with "480 TEMPORARILY UNAVAILABLE" response

Test case ID	ID_RCS_T_2_2_2_4
Related test cases	
Feature	Capability Discovery and Service Availability - Presence
Reason for test	Reference section R3-4-3: To verify network responds 404 response for capability discovery request.
Pre-conditions Scenario	− In DUT, CAPABILITY DISCOVERY MECHANISM config value is set to (**1**) PRESENCE − DUT is RCS registered − Reference1 is non RCS capable − Reference1 not exist in the DUT's address book − DUT is under 3GPP coverage or Wi-Fi
Test procedure	− DUT adds Reference 1 to his address book
Expected results Post-conditions	− Reference1 is shown as not RCS capable in the address book.
Deep inspection	− Verify DUT sends SIP ANONYMOUS SUBSCRIBE to the Reference1 and Network responds with "404 NOT FOUND" response

Test case ID	ID_RCS_T_2_2_2_5
Related test cases	
Feature	Capability Discovery and Service Availability - Presence

Reason for test	Reference section R3-4-4 (US3-2 R3-2-1 & US3-2 R3-2-2): To verify capability fetch of individual contacts
Pre-conditions Scenario	− In DUT, CAPABILITY DISCOVERY MECHANISM config value is set to (**1**) PRESENCE − DUT is RCS registered − Reference1 is RCS capable and RCS registered − Reference2 is RCS capable and RCS registered − Reference1 and Reference2 are part of DUT's address book − Capabilities of Reference1 and Reference2 are not available or are expired − DUT is under 3GPP coverage or Wi-Fi
Test procedure	− In DUT's address book select Reference1 − In DUT's address book select Reference2
Expected results Post-conditions	− Reference1 is shown as RCS capable and its supported RCS capabilties are displayed to the user. − Reference2 is shown as RCS capable and its supported RCS capabilties are displayed to the user.
Deep inspection	− Verify DUT sends SIP ANONYMOUS SUBSCRIBE to the Reference1 and Reference2 and 200OK response is recieved from the network for each SUBSCRIBE request sent. − Verify DUT recieves NOTIFY from the network with the Reference1's supported service capability information, DUT responds with 200OK to this NOTIFY request. − Verify DUT recieves NOTIFY from the network with the Reference2's supported service capability information, DUT responds with 200OK to this NOTIFY request.

Test case ID	ID_RCS_T_2_2_2_6
Related test cases	
Feature	Capability Discovery and Service Availability - Presence
Reason for test	Reference section R3-4-6: To verify address book scan when SIM is changed
Pre-conditions Scenario	− DUT is RCS registered − The new SIM is RCS capable − For the new SIM, CAPABILITY DISCOVERY MECHANISM config value is set to (**1**) PRESENCE by MNO of the new SIM − For the new SIM, DISABLE INITIAL ADDRESS BOOK SCAN config is set to (0) FALSE by MNO of the new SIM

	− Reference1 is RCS capable and RCS registered − Reference2 is RCS capable and RCS not registered (offline) − Reference3 is non RCS capable − Reference1, Reference2 and Reference3 are in the DUT's address book − DUT is under 3GPP coverage or Wi-Fi
Test procedure	− Insert the new RCS SIM in DUT and reboot the DUT. − Check the address book
Expected results **Post-conditions**	− DUT is registered to RCS − All the contacts in the address book are updated with their supported capabilities as received from the network.
Deep inspection	− Verify DUT sends out autoconfiguration request and it is successfull − Verify DUT sends REGSITER request. Post success of REGISTER, PUBLISH request is sent out and 200OK response is received from the network. − Verify DUT sends SIP ANONYMOUS SUBSCRIBE to Reference1 and receives 200OK indicating it is RCS capable − Verify DUT sends SIP ANONYMOUS SUBSCRIBE to Reference2 and receives "480 TEMPORARILY UNAVAILABLE" indicating it is RCS capable but offline. − Verify DUT sends SIP ANONYMOUS SUBSCRIBE to Reference3 and receives "404 NOT FOUND" indicating it is non-RCS capable − Verify NOTIFY is received for Reference1 with its supported RCS capabilities, DUT responds with 200OK to this NOTIFY request.

Test case ID	ID_RCS_T_2_2_2_7
Related test cases	
Feature	Capability Discovery and Service Availability - Presence
Reason for test	Reference section R3-4-7 (US R3-3-3-2): To verify capability update fetch when a contact is selected in the address book
Pre-conditions Scenario	− In DUT, CAPABILITY DISCOVERY MECHANISM config value is set to (**1**) PRESENCE − DUT is RCS registered − Reference1 is RCS capable and RCS registered − Reference1 exist in the address book of DUT − Capabilities of Reference1 are not available or are expired − DUT is under 3GPP coverage or Wi-Fi

Test procedure	− Open adress book in DUT − Select reference1 in the address book
Expected results Post-conditions	− Reference1 is shown in the address book − User should be able see the updated supported RCS capabilites of Reference1
Deep inspection	− Verify DUT sends SIP ANONYMOUS SUBSCRIBE to Reference1 and receives 200OK indicating it is RCS capable − Verify NOTIFY is received for Reference1 with its supported RCS capabilities, DUT responds with 200OK to this NOTIFY request.

Test case ID	ID_RCS_T_2_2_2_8
Related test cases	
Feature	Capability Discovery and Service Availability - Presence
Reason for test	Reference section R3-4-7 (US R3-3-3-3):To verify capability update fetch when starting a conversation with the contact
Pre-conditions Scenario	− In DUT, CAPABILITY DISCOVERY MECHANISM config value is set to (**1**) PRESENCE − DUT is RCS registered and supports RCS Messaging service (one to one IM) − Reference 1 is RCS capable and RCS registered − Reference 1 doesn't exist in the DUT address book − Reference 1 supports RCS Messaging service (one to one IM) − DUT is under 3GPP coverage or Wi-Fi
Test procedure	− Open the native messaging application on DUT − Create a new message and send to Reference1
Expected results Post-conditions	− Native messaging application shall be opened successfully − New message is created succssfully. Reference1 shall be entered in the "To" field of the new message and message is sent to Reference1
Deep inspection	− Verify DUT sends SIP ANONYMOUS SUBSCRIBE to Reference1 and receives 200OK indicating it is RCS capable − Verify NOTIFY is received for Reference1 with its supported RCS capabilities and indicates IM service is supported, DUT responds with 200OK to this NOTIFY request. − IM Chat is successfully established with SIP INVITE session.

Test case ID	ID_RCS_T_2_2_2_9
Related test cases	
Feature	Capability Discovery and Service Availability - Presence
Reason for test	Reference section R3-4-7 (US R3-3-3-4): To verify capability update fetch when opening a conversation or thread with that contact.
Pre-conditions Scenario	− In DUT, CAPABILITY DISCOVERY MECHANISM config value is set to (**1**) PRESENCE − DUT is RCS registered and supports messaging service (one to one IM chat) − Reference 1 is RCS capable and RCS registered − DUT and Reference1 supports RCS messaging service (one to one IM chat) − There are existing messaging threads on the DUT with Reference1 − Capabilities of Reference1 are not available or are expired − DUT and Reference1 are under 3GPP coverage or Wi-Fi
Test procedure	− Open messaging thread on DUT with Reference1
Expected results **Post-conditions**	− Messaging thread with Referene1 is loaded and Reference1 is shown as RCS Messaging service (one to one IM chat) capable.
Deep inspection	− Verify DUT sends SIP ANONYMOUS SUBSCRIBE to Reference1 and receives 200OK indicating it is RCS capable − Verify NOTIFY is received for Reference1 with its supported RCS capabilities and indicates IM service is supported, DUT responds with 200OK to this NOTIFY request.

Test case ID	ID_RCS_T_2_2_2_10
Related test cases	
Feature	Capability Discovery and Service Availability - Presence
Reason for test	Reference section R3-4-7 (US R3-3-3-5): To verify capability update fetch when entering a potentially valid number into the dialler

Pre-conditions Scenario	– In DUT, CAPABILITY DISCOVERY MECHANISM config value is set to (**1**) PRESENCE – DUT is RCS registered – Reference 1 is RCS capable and RCS registered – Reference 1 doesn't exist in the address book on DUT – DUT is under 3GPP coverage or Wi-Fi
Test procedure	– Open native dialer on DUT and enter Reference1's phone number
Expected results Post-conditions	– Capability fetch request is sent for Reference1
Deep inspection	– Verify DUT sends SIP ANONYMOUS SUBSCRIBE to Reference1 and receives 200OK indicating it is RCS capable – Verify NOTIFY is received for Reference1 with its supported RCS capabilities, DUT responds with 200OK to this NOTIFY request.

Test case ID	ID_RCS_T_2_2_2_11
Related test cases	
Feature	Capability Discovery and Service Availability - Presence
Reason for test	Reference section R3-4-9-1 (US R3-3-5-1): To verify the Capability availability checks optimization for RCS contact
Pre-conditions Scenario	– In DUT, CAPABILITY DISCOVERY MECHANISM config value is set to (**1**) PRESENCE – DUT is RCS registered – SERVICE AVAILABILITY INFO EXPIRY value is greater than 0 – CAPABILITY INFO EXPIRY value is greater than 0 – Service and capability was obtained more recently than the above configured value – Reference1 is RCS capable and RCS registered – Reference1 exist in the address book in DUT. – DUT is under 3GPP coverage or Wi-Fi
Test procedure	– Open address book in DUT and select Reference1

Expected results **Post-conditions**	− Reference1's supported RCS capabilities are displayed to the user.
Deep inspection	− Verify DUT will not send any capability fetch request as the service and capability was obtained more recently.

Test case ID	ID_RCS_T_2_2_2_12
Related test cases	
Feature	Capability Discovery and Service Availability - Presence
Reason for test	Reference section R3-4-9-2 (US R3-3-5-2): To verify the Capability availability checks optimization for non-RCS contact
Pre-conditions Scenario	− In DUT, CAPABILITY DISCOVERY MECHANISM config value is set to (**1**) PRESENCE − DUT is RCS registered − NON RCS CAPABILITY INFO EXPIRY value is greater than 0 − Reference 1 is non-RCS capable − Reference 1 exist in the address book in DUT. − The time since the last capability query for Reference1 is not older than NON RCS CAPABILITY INFO EXPIRY value − DUT is under 3GPP coverage or Wi-Fi
Test procedure	− Open address book in DUT and select Reference1
Expected results **Post-conditions**	− Reference1 is displayed as non-RCS capable
Deep inspection	− Verify DUT will not send any capability fetch request

Test case ID	ID_RCS_T_2_2_2_13

Related test cases	
Feature	Capability Discovery and Service Availability - Presence
Reason for test	Reference section R3-4-9-3 (US R3-3-5-3): To verify that Capability availability check will not be sent for the RCS contact whose prefix will not match with MNO configured prefix list
Pre-conditions Scenario	- In DUT, CAPABILITY DISCOVERY MECHANISM config value is set to (**1**) PRESENCE - DUT is RCS registered - CAPABILITY DISCOVERY ALLOWED PREFIXES config value is not 0 - Reference1 is RCS capable and RCS registered - Reference1 doest't exist in the address book in DUT. - Prefix of Reference1 doesn't matches with any value in the list of prefixes provided in CAPABILITY DISCOVERY ALLOWED PREFIXES config value - DUT is under 3GPP coverage or Wi-Fi
Test procedure	DUT adds Reference1 to the address book
Expected results **Post-conditions**	Reference1 is added to the address book
Deep inspection	Verify DUT will not send any capability fetch request

Test case ID	ID_RCS_T_2_2_2_14
Related test cases	
Feature	Capability Discovery and Service Availability - Presence
Reason for test	Reference section R3-4-9-3 (US R3-3-5-3): To verify the Capability availability check will be sent for only those RCS contacts whose prefix will match with MNO configured prefix list
Pre-conditions Scenario	- In DUT, CAPABILITY DISCOVERY MECHANISM config value is set to (**1**) PRESENCE - DUT is RCS registered

	− CAPABILITY DISCOVERY ALLOWED PREFIXES config value is not 0 − Reference1 is RCS capable and RCS registered − Reference1 doest't exist in the address book in DUT. − Prefix of Reference1 matches with a value in the list of prefixes provided in CAPABILITY DISCOVERY ALLOWED PREFIXES config value − DUT is under 3GPP coverage or Wi-Fi
Test procedure	− DUT adds Reference1 to the address book
Expected results **Post-conditions**	− Reference1 is added to the address book and all its supported RCS capabilities are displayed to the user.
Deep inspection	− Verify DUT sends SIP ANONYMOUS SUBSCRIBE to Reference1 and receives 200OK indicating it is RCS capable − Verify NOTIFY is received for Reference1 with its supported RCS capabilities and DUT responds with 200OK to this NOTIFY request.

Test case ID	ID_RCS_T_2_2_2_15
Related test cases	
Feature	Capability Discovery and Service Availability - Presence
Reason for test	Reference section R3-4-9-4 (US R3-3-5-4): To verify that DUT displays to user only the Capabilities which are understood and supported by DUT (unrecognized and not supported feature tags would be ignored by DUT)
Pre-conditions Scenario	− In DUT, CAPABILITY DISCOVERY MECHANISM config value is set to (**1**) PRESENCE − DUT is RCS registered and doesn't support IP Video call − Reference1 is RCS capable and supports IP Video call − Reference1 exist in the DUT's address book. − DUT is under 3GPP coverage or Wi-Fi
Test procedure	− DUT opens address book and selects Reference1
Expected results	− Reference1's supported RCS capabilities are displayed to the user (IP Video call service will not be displayed).

Post-conditions	
Deep inspection	− Verify DUT sends SIP ANONYMOUS SUBSCRIBE to Reference1 and receives 200OK indicating it is RCS capable − Verify NOTIFY is received for Reference1 with its supported RCS capabilities (Video call service tag, "+g.gsma.rcs.ipcall; +g.3gpp.icsi-ref="urn%3Aurn-7%3A3gpp-service.ims.icsi.mmtel";video" is inlcuded), DUT responds with 200OK to this NOTIFY request.

2.3   Security Against Malware

2.3.1   Technical test cases

Test case ID	ID_RCS_T_2_3_1
Related test cases	
Feature	Security Against Malware
Reason for test	UP 1.0. Reference section R16-4-1. GBA Configuration request
Pre-conditions Scenario	− The network supports GBA as defined in [RCC.14] − The client supports GBA as defined in [RCC.14] − The client hasn't been configured yet as defined in [RCC.14] − The client is switch on as defined in [RCC.14]
Test procedure	− DUT is powered on. − Automatically in the background DUT sends a valid GBA configuration request
Expected results Post-conditions	− DUT is configured (e.g. sending GBA HTTP digest configuration request) and registered properly. − Capabilities are properly shown and RCS messages can be sent
Deep inspection	− Inspect a static string "3gpp-gba" in User-Agent Header in GBA HTTP digest configuration request, if the HTTP DUT application resides in the ME, or "3gpp-gba-uicc" if the HTTP DUT application resides in the UICC − Check that DUT receives the 401 "Unauthorized" HTTP response to the HTTP request that was protected.

	− If DUT has no bootstrapped security association then verify that client generates one using bootstrapping procedure defined in section 2.4.2.2 of RCC14 and shall run bootstrapping procedure over Ub interface − If DUT has a bootstrapped security association check during HTTP request that use the stored key material and the B-TID to generate keys − Verify 200 OK response containing an Authentication-Info header and the configuration XML document.

Test case ID	ID_RCS_T_2_3_2
Related test cases	
Feature	Security Against Malware
Reason for test	Successful configuration trigger request, SMS_port zero policy in cellular access R16-4-5-2
Pre-conditions Scenario	− Autoconfiguration server ready to fulfil the requirements described in [RCC.14] − RCS services have not been previously configured on the phone/SIM pair or it has been previously configured with a valid configuration or it has previously received a configuration XML document with zero or negative integer VERSION value or RCS DISABLED STATE value. − Autoconfiguration server applies security enhanced configuration (two factor authentication via OTP) − Handset is using cellular coverage
Test procedure	− DUT is powered on. − The user enters the OTP to confirm DUT provisioning. − DUT is registered properly.
Expected results **Post-conditions**	− The user is prompted to confirm DUT provisioning via OTP − The user receives an OTP − RCS UX elements are enabled
Deep inspection	− Verify HTTP GET request w/o parameters is sent − Verify that HTTP 200 OK is received with Set-Cookie header − Inspect HTTPS GET request includes parameters (provisioning_version=2.0, rcs_version=6.0, rcs_profile= UP_1.0, default_sms_app, imsi), HTTP Cookie header − Verify that HTTP 511 response from autoconfiguration server is received containing a HTTP Set-Cookie − Verify that new HTTP request is sent. − Verify HTTP 200 OK to contain Set-Cookie header and a configuration XML document with only POLICY characteristic containing SMS_port parameter with value "0"

	− verify that HTTPS GET with OTP parameter and value and a HTTP Cookie header is sent − verify HTTPs request response contains configuration XML document − 9. Verify successful registration following configuration

Test case ID	ID_RCS_T_2_3_3
Related test cases	
Feature	Security Against Malware
Reason for test	Successful configuration trigger request, SMS_port zero policy in non-cellular access R16-4-5-5
Pre-conditions Scenario	− Autoconfiguration server ready to fulfil the requirements described in [RCC.14] − RCS services have not been previously configured on the DUT/SIM pair or it has been previously configured with a valid configuration or it has previously received a configuration XML document with zero or negative integer VERSION value or RCS DISABLED STATE value. − Autoconfiguration server applies security enhanced configuration (two factor authentication via OTP − DUT is using Wi-Fi coverage
Test procedure	− DUT is powered on. − DUT should contact the autoconfiguration server − The autoconfiguration server requests additional confirmation of DUT provisioning via OTP − Once the configuration is successfully sent, it is possible to access RCS services
Expected results **Post-conditions**	− The user have to enter their MSISDN − The user receives a prompt to provide the OTP − The user enters the OTP to confirm DUT provisioning − RCS UX elements are enabled
Deep inspection	− Inspect HTTPS GET request includes parameters (provisioning_version=2.0, rcs_version=6.0, rcs_profile= UP_1.0, default_sms_app, imsi), HTTP Cookie header − verify that HTTP 511 response from autoconfiguration server is received containing a HTTP Set-Cookie − Verify that new HTTP request is sent. − Verify HTTP 200 OK to contain Set-Cookie header and a configuration XML document with only POLICY characteristic containing SMS_port parameter with value "0"

	− verify that HTTPS GET with OTP parameter and value and a HTTP Cookie header is sent − verify HTTPS request response contains a configuration XML document − Verify successful registration following configuration

3   Messaging

3.1   1-to-1 Messaging

3.1.1   Functional test cases

Test case ID	ID_RCS_F_3_1_1
Related test cases	
Feature	1-to-1 Messaging
Reason for test	UP 1.0. Reference section US5.1 and subsequent requirements
Pre-conditions Scenario	− A-Party's device is online. − B-Party's device is online and known to be RCS capable (to A). − There are existing messaging threads on the A-Party's device with B-Party. − Existing messaging threads may contain Group Chat and 1-to-1 Messaging.
Test procedure	− Open the native messaging application on the A-Party's device. − A-party opens the conversation thread with B-Party. − Create and send messages (e.g. RCS 1-to-1 Message or SMS) from A-Party's device to B-Party. − Send 2 files of different file type from A-Party's device to B-Party (e.g. File Transfer or MMS (the latter only if offered by the network operator)). − Check on A-Party's device that any service entry point that suggests to send Messages or Files leads to the native messaging application.
Expected results Post-conditions	− The user can see messages and shared files. − The user is able to create a message and send. − The user is able to select a file and send. − Selecting the various operator messaging access points on the device directs the user to the messaging application.

Deep inspection	−

Test case ID	ID_RCS_F_3_1_2
Related test cases	
Feature	1-to-1 Messaging
Reason for test	UP 1.0. Reference section US5.2 - Integrated Messaging (and subsequent requirements)
Pre-conditions Scenario	− A- and B-Party are RCS capable. − C-Party is not RCS capable. − The A- and B-Party's RCS Service Provider supports Integrated Messaging. − On A-Party's device, the user setting for the proposed messaging service (R18-12-1) is set to default "Propose Messaging Service" − The proposed messaging service is not latched to SMS (see R5-2-4-6).
Test procedure	− On A-Party's device, select the conversation history with B. − On A-Party's device, open the input field for creating a new message. − Send a message. − Change the proposed messaging service from Chat RCS 1-to-1 Messaging to SMS and back to RCS 1-to-1 Messaging. − On A-Party's device, select the conversation history with C-Party. Open the input field for creating a new message. − A message shall be sent. − Try and change the messaging service to chat.
Expected results Post-conditions	− The suggested messaging service is RCS 1-to-1 Messaging. − The message is sent as an RCS 1-to-1 Message. A- and B-Party are aware that the message sent was an RCS 1-to-1 Message. − The proposed messaging service can be changed manually to SMS and back to RCS 1-to-1 Messaging. − The suggested messaging service is SMS. − The message is sent as SMS. A- and C-Party are aware that the message sent was SMS. − It shall not be possible to change the proposed messaging service to RCS 1-to-1 Messaging.
Deep inspection	−

Test case ID	ID_RCS_F_3_1_3
Related test cases	
Feature	1-to-1 Messaging
Reason for test	UP 1.0. Reference section R5-2-2-1-2. CFS
Pre-conditions Scenario	− A- and B-Party's operator(s) support Integrated Messaging. − A-Party's device is online. − An RCS 1-to-1 Message has been sent to B-Party device previous to the test. − B-Party is a known RCS contact to A-Party's device. − B-Party's device is offline but available for CS (e.g. cellular data is switched off and WiFi is switched off). − B-Party's Service Provider does not support RCS 1-to-1 Messaging in Data Off (as defined in section 17 of UP 1.0). − B-Party's Service Provider supports CFS. − The CFS Timer is set to 5 minutes (no user setting). − The user setting (as described in US18-13 / R5-2-4-4) "re-send as SMS" is set to "always ask".
Test procedure	− On A-Party device, enter the conversation with B. Create and send a message on the A-Party device as RCS 1-to-1 Message. − Wait for more than 5 minutes. − The A-Party user is offered to re-send the message as SMS. − The A-party user shall select to re-send as SMS. − Create another few messages on the A-Party device in the messaging screen. − Go online on B-Party's device (e.g. by enabling cellular data or WiFi). − The A-Party user leaves the conversation with the B-Party. − The A-Party user enters the conversation with B again, and starts creating a new message. The message shall be sent.
Expected results Post-conditions	− The status of the message is 'sent' and remains 'sent' (and does not change to 'delivered'). − After 5 Minutes, the A-Party device informs the user that the message could not be delivered. − Appropriate display of user information. − The message is re-sent as SMS. On the A-Party device, there is no indication that the original RCS 1-to-1 Message has been sent to B. The original RCS 1-to-1 Message is removed from the conversation history. In the conversation history an SMS message is indicated to be sent. The B-Party device receives SMS message.

	− The messaging service is latched to SMS. The A-party user is not asked again to re-send as SMS for future messages. The A-Party device stays in 'SMS mode' as long as the B-Party availability for RCS 1-to-1 Messaging has not been re-confirmed. − B-Party is online. − The proposed messaging service changes to RCS 1-to-1 Messaging. The message is sent as RCS 1-to-1 Message. B-party receives an RCS 1-to-1 Message from A-Party.
Deep inspection	−

Test case ID	ID_RCS_F_3_1_4
Related test cases	
Feature	1-to-1 Messaging
Reason for test	UP 1.0. Reference section R5-2-2-1-2-3. CFS
Pre-conditions Scenario	− A- and B-Party's RCS Service Provider supports Integrated Messaging. − A-Party's device is offline and no CS (e.g. in Flight mode). − B-Party is known to be RCS capable to A-Party's device. − A-Party's device is not latched to SMS in communication with B-Party.
Test procedure	− The A-Party creates a message and selects 'send'. − A-Party device goes online.
Expected results **Post-conditions**	− Messages shall be created as RCS 1-to-1 Message. When attempting to send, the A-Party user is made aware that messages are locally queued and sent once re-connected. − Message is sent as RCS 1-to-1 Messaging when A-Party's device is online again.
Deep inspection	−

Test case ID	ID_RCS_F_3_1_5
Related test cases	
Feature	1-to-1 Messaging
Reason for test	UP 1.0. Reference section R5-2-2-2-4. CFS

Pre-conditions Scenario	− A-and B-Party's operator(s) support Integrated Messaging. − A-Party's device is offline / no data but connected to cellular. − B-Party is known to be RCS capable to A-Party's device.
Test procedure	− A-Party enters 1-to-1 Messaging thread with B-Party and creates a new message. − A-Party sends the message.
Expected results Post-conditions	− The proposed messaging service is SMS before and during the process of creating a new message. − The message is sent as SMS from A-Party's device. A- Party is made aware that the messaging service is SMS.
Deep inspection	−

Test case ID	ID_RCS_F_3_1_6
Related test cases	
Feature	1-to-1 Messaging
Reason for test	UP 1.0. Reference section R5-2-3. NFS
Pre-conditions Scenario	− A- and B-Party's RCS Service Provider(s) support Integrated Messaging. − A-Party's device is online. − A-Party has sent an RCS 1-to-1 Message to B-Party prior to the test procedure starts. − B-Party's device is offline / no data but connected to cellular. − A-party's device is aware that B-Party's Service Provider supports NFS. − B-Party's device is enabled for SMS Delivery notification in user settings.
Test procedure	− A-Party enters the 1-to-1 Messaging thread with B-Party. − A-Party sends an RCS 1-to-1 Message.
Expected results Post-conditions	− The proposed messaging service is RCS 1-to-1 Messaging. − Message is sent and indicated as RCS 1-to-1 Message. The A-Party receives a 'delivered' Message Status Notification. The A-Party is made aware not to expect a 'display' notification. The B-Party receives the message as SMS.

Deep inspection	–

Test case ID	ID_RCS_F_3_1_7
Related test cases	
Feature	1-to-1 Messaging
Reason for test	UP 1.0. Reference section R5-3-1, R5-3-2, R5-3-3, R5-3-7, Seamless Messaging
Pre-conditions Scenario	– The A-, B-, C-, D- and E-Party network(s) support Seamless Messaging. – The A-, B-, C-, D- and E-Party devices support RCS. – A- and B-Party's devices are online. – C-Party's device is not online but connected to cellular (CS and data).. – D-Party's device is offline but connected to CS (no cellular data connection). – E-Party's device is offline and not connected to cellular. – - All parties are stored in each other's contact lists.
Test procedure	1. A-Party sends a short text (less than 1300 characters) to B-Party. 2. A-Party sends a long text (more than 1300 characters) to B-Party. 3. B-Party sends a short text (less than 1300 characters) to A-Party. 4. B-Party sends a long text (more than 1300 characters) to A-Party. 5. A-Party sends a short text (less than 1300 characters) to C-Party. 6. A-Party sends a long text (more than 1300 characters) to C-Party. 7. A-Party sends a short text (less than 1300 characters) to D-Party. 8. A-Party sends a long text (more than 1300 characters) to D-Party. 9. A-Party sends a short text (less than 1300 characters) to E-Party. 10. A-Party sends a long text (more than 1300 characters) to E-Party.
Expected results Post-conditions	– For test cases 1-7, the receiving device receives the message successfully and on the sending device, the message is presented with a "delivered" Message Status. – For test cases 1-10, the message is sent from A-party's device.
Deep inspection	–

Test case ID	ID_RCS_F_3_1_8
Related test cases	

Feature	1-to-1 Messaging
Reason for test	UP 1.0. Reference section R5-3-4, Seamless Messaging
Pre-conditions Scenario	− The A- and B-Party network(s) support Seamless Messaging. − A- Party's device is offline and not connected to cellular. − B-Party's device is online. − All parties are stored in each other's contact lists.
Test procedure	− A-Party sends a short text (less than 1300 characters) to B-Party. − A-Party sends a long text (more than 1300 characters) to B-Party.
Expected results Post-conditions	− For both test cases, the message shall be queued for delivery on A-Party's device, and the user is informed about the queuing of messages.
Deep inspection	−

Test case ID	ID_RCS_F_3_1_9
Related test cases	
Feature	1-to-1 Messaging
Reason for test	UP 1.0. Reference section R5-3-5, Seamless Messaging
Pre-conditions Scenario	− The A- and B-Party network(s) support Seamless Messaging. − A- Party's device is offline but connected to cellular CS service (no cellular data). − B-Party's device is online. − All parties are stored in each other's contact lists.
Test procedure	− A-Party sends a short text (less than 1300 characters) to B-Party. − A-Party sends a file to B-Party.

Expected results **Post-conditions**	− The message is successfully received on B-Party's device. A-Party's device presents a 'delivered' Message Status Notification to the user. − The File shall be queued for delivery on A-Party's device, and the A-Party user is informed about the queuing of files.
Deep inspection	−

Test case ID	ID_RCS_F_3_1_10
Related test cases	
Feature	1-to-1 Messaging
Reason for test	UP 1.0. Reference section R5-3-6, Seamless Messaging
Pre-conditions Scenario	− The A- and B-Party network(s) support Seamless Messaging. − A- and B-Party networks support MMS. − A- Party's device is offline but connected to cellular data. − B-Party's device is online. − All parties are stored in each other's contact lists.
Test procedure	− A-Party sends a short text (less than 1300 characters) to B-Party. − A-Party sends a long text (more than 1300 characters) to B-Party. − A-Party sends a file to B-Party.
Expected results **Post-conditions**	− The message is successfully received on B-Party's device. A-Party's device presents a 'delivered' Message Status Notification to the user. − The message is successfully received on B-Party's device. A-Party's device presents a 'delivered' Message Status Notification to the user. − The File shall be successfully received on B-Party's device. A-Party's device presents a 'delivered' File Transfer Status Notification to the user.
Deep inspection	−

Test case ID	ID_RCS_F_3_1_11
Related test cases	
Feature	1-to-1 Messaging

Reason for test	UP 1.0. Reference sections US5-4 (sending messages); US5-5 (Sent Message States) ; US5-6 (Smileys); US5-7 (Is Typing Notification) and subsequent requirements.
Pre-conditions Scenario	− A-Party's device is online. − B-Party is stored as a contact in A-Party's contact list, online and known to be RCS capable. − C-Party is not stored as a contact in A-party's contact list, online and RCS capable.
Test procedure	− Select the B-Party contact from the contact list on A-Party device, create a new message (including a random selection of smileys) and send. − Select "create a message", enter C-Party's MSISDN and then create a message (including a random selection of smileys) and send message. − Open the messages on B-Party's and C-Party's device. − Send another message from A-Partys device while conversation history is open on B-Party's device.
Expected results Post-conditions	− Message is sent as an RCS 1-to-1 Message. On A-Party device, the sent message states are presented: 'pending', 'sent', 'delivered'. (Remark: 'Pending' and 'sent' may be displayed very shortly or not displayed because of rapid message delivery.) Smileys are represented appropriately. − While entering C-Party's MSISDN, the RCS capability is detected in the background without any user information or interaction. The proposed messaging service is RCS 1-to-1 Messaging. The Sent Message States are presented: 'pending', 'sent', 'delivered'. (Remark: 'Pending' and 'sent' may be displayed very shortly or not displayed because of rapid message delivery.) Smileys are represented appropriately. − The sent message state on A-Party's device changes to 'displayed' in the conversations with B-Party and C-Party (if supported by the network). − An Is-Typing Notification is shown on B-Party's device (if supported by the network).
Deep inspection	−

Test case ID	ID_RCS_F_3_1_12
Related test cases	

Feature	1-to-1 Messaging
Reason for test	UP 1.0. Reference sections US5-9, US5-10, US5-11, US5-12, US5-13 (and subsequent requirements): Receiving messages.
Pre-conditions Scenario	− A-Party's device is online − B-Party's device is online and known to be RCS capable − B-Party's device has closed the messaging application and screen is in stand-by mode.
Test procedure	− Send an RCS 1-to-1 Message from A-Party's device to B-Party. − Send SMS message from A-Party's device to B-Party. − B-Party selects the notification to open the messages.
Expected results **Post-conditions**	− B-Party is notified appropriately when a new message arrives. Audible notifications are subject to "silent" and "vibration" mode of the B-Party device. − The message is received on the B-Party device in the conversation history with A-party. − Visual notifications are removed whenever the B-party has accessed these in the Conversation History. (NOTE it is not sufficient to remove the visible notification when the message has been partly or entirely displayed in a notification widget etc.). All different operator messages are lined up in the same conversation history with A-Party on the B-party's device. Messages are displayed in the order they were received, with correct time stamp.
Deep inspection	−

Test case ID	ID_RCS_F_3_1_13
Related test cases	
Feature	1-to-1 Messaging
Reason for test	UP 1.0. Reference section US5-14, US5-15, US5-16 (and subsequent requirements) Receiving messages.

Pre-conditions Scenario	− A-Party's device is online. Messaging Service is not latched to SMS in the conversation with B-Party (if applicable). − Messaging service on A-Party's device for communication with B-Party is neither manually nor automatically set to "SMS".- B-Party's device is online and known to be RCS capable to A-party's device. − B-Party's device has closed the messaging application and screen is in stand-by mode. − A-Party is not in B-Party's contact list. − A-Party has set the RCS Alias (R18-2-1)
Test procedure	− Send a Message from A to B. Message length should be >4000 characters. − Open the Messaging application on B-Party's device and display the list of conversations. − Select the conversation with the new message from A-Party to display the message.
Expected results **Post-conditions**	− B-Party's device displays a new incoming event notification on reception of a new message. The sender of the message is indicated with Alias and MSISDN. The user interface has taken appropriate means to differentiate unverified Alias sender identity from identified contacts from the contact list in the new incoming event notification. − In the list of messaging conversation, the conversation that contains the message from A-Party is visually differentiated and easy to find and access. The sender of the message is indicated with Alias and MSISDN. The user interface has taken appropriate means to differentiate unverified Alias sender identity from identified contacts from the contact list in the list of existing messaging conversations. − All characters of the sent message are displayed. The sender of the message is indicated with Alias and MSISDN. The user interface has taken appropriate means to differentiate unverified Alias sender identity from identified contacts from the contact list in the conversation with A-Party.
Deep inspection	−

Test case ID	ID_RCS_F_3_1_14
Related test cases	
Feature	1-to-1 Messaging

Reason for test	UP 1.0. Reference section US5-17 (Messaging conversation as Service Access Point for sharing) and US5-18 (Maintain multiple conversations in parallel) and subsequent requirements.
Pre-conditions Scenario	− A-Party's device is online − B-Party's device is online and known to be RCS capable to A-Party's device. − C-Party's device is online and known to be RCS capable to A-party's device. − A-party's device has existing 1-to-1 Messaging conversations with B-Party and C-Party.
Test procedure	− Access Conversation with B-Party on A-Party's device. − Send a message on the A-Party device as RCS 1-to-1 Messaging to B-Party. − Switch to the conversation with C-Party and send a message on the A-Party device as RCS 1-to-1 Messaging to C-Party. − Switch back to the conversation with B-Party conversation and send a message to B-Party.
Expected results Post-conditions	− Service entry points to add a photo, video, audio message, any selected file or geolocation shall be available. − A-Party is able to switch between conversations and maintain conversations successively.
Deep inspection	−

Test case ID	ID_RCS_F_3_1_15
Related test cases	
Feature	1-to-1 Messaging
Reason for test	UP 1.0. Reference section US5-19, US5-20, US5-21, US5-22 (Backup & Restore) and subsequent requirements
Pre-conditions Scenario	− A-Party's device is online − A-Party's device has a number of existing messaging conversations. − A-Party's RCS Service Provider supports backup & restore

Test procedure	− Delete 3 messages or files from the A-Party device (in different conversations). − Reset A-Party device to factory settings. − Re-Boot A-Party device. − Open A-Party's messaging application. − Select "restore conversations from RCS service provider storage" on A-Party's device. − Check whether the 3 deleted messages /files are available.
Expected results **Post-conditions**	− Messages are deleted on A-Party's device. − A-Party's device is reset to factory settings. − A-Party's device is rebooted and online. − The messaging application is wiped, no existing conversations shall exist. The A-Party user shall have the option to restore messaging conversations. − After the A-party user has slected "restore", all messaging conversations and all content from in each conversation shall be restored (except those messages and files which have been deleted by the service provider in the cloud storage because of capacity limits, see R5-19-1 and R5-19-3). − The 3 previously deleted messages / files shall not be restored from the cloud storage and are not available in the restored conversations.
Deep inspection	−

Test case ID	ID_RCS_F_3_1_16
Related test cases	
Feature	1-to-1 Messaging
Reason for test	UP 1.0. Reference section US5-23 (Voice & Messaging in parallel) and subsequent requirements
Pre-conditions Scenario	− A-Party's device is online. − C-Party's device is able to call A-Party.
Test procedure	− A-Party and B-Party are engaged in a messaging conversation. − C-Party calls A-Party. A-Party accepts the call. − C-Party hangs up.

Expected results **Post-conditions**	− A-Party is able to return to the messaging conversation with B-Party any time during the call. − If A-Party did not switch back to messaging conversation with B-Party, A-Party's device automatically returns to the messaging conversation with B-Party after C-Party terminated the call.
Deep inspection	−

Test case ID	ID_RCS_F_3_1_17
Related test cases	
Feature	1-to-1 Messaging
Reason for test	UP 1.0 Reference section US5-24, US5-26 (and subsequent requirements). Geolocation push.
Pre-conditions Scenario	− A-Party's device is online. − B-Party's device is online. − A-Party's and B-Party's RCS Service Provider supports Geolocation Push.
Test procedure	− A-Party opens a messaging conversation with B-Party − A-Party shares a location from the messaging thread with B-Party and taggs the location.
Expected results **Post-conditions**	− A-Party has a thumbnail of the map with the shared location in the conversation history with B-Party. B-Party receives the Geolocation push as an icon (thumbnail) that is typical for a location. A map can opened on both A-Party's and B-Party's device and the location is visible in a map application including the tag.
Deep inspection	−

Test case ID	ID_RCS_F_3_1_18
Related test cases	
Feature	1-to-1 Messaging
Reason for test	UP 1.0. Reference section US5-25, US5-27 (and subsequent requirements) Geolocation push.

Pre-conditions Scenario	− A-Party's device is online. − B-Party's device is a legacy device (non-RCS device or an RCS version that does not support Geolocation Push) − A-Party's and B-Party's RCS Service Provider support Geolocation Push.
Test procedure	− A-Party opens 'location share' from the messaging thread with B-Party. − A-Party selects a location different than the current position and selects "Send".
Expected results **Post-conditions**	− A-Party sees a map application and the current position selected. − A-Party is able to change the proposed position and select a location. The selected location is sent. On A-Party's device, the Geolocation Push activity creates a thumbnail in the conversation history with B that can be extended in a map application at any time. B-Party receives the selected location either as SMS link to a map application, or a picture of the selected location.
Deep inspection	−

Test case ID	ID_RCS_F_3_1_19
Related test cases	
Feature	1-to-1 Messaging
Reason for test	UP 1.0. Reference section US5-28 (and subsequent requirements). Multiple 1-to-1 messages.
Pre-conditions Scenario	− A-Party's device is UP1.0 and online. − B-Party's and C-Party's devices are known to be RCS UP 1.0 to A-Party's device and online. − D-Party's device is RCS enabled but on a previous version and online. − E-Party's device is not RCS enabled. − F-Party's device is known to be RCS UP 1.0 enabled to A-Party's device.
Test procedure	− Start creating a 'multiple 1-to-1 distribution list on A-Party's device with the 4 recipients B, C, D and E. − Select the distribution list as recipient of a message on A-party's device. The message contains smileys. − Send a message to the 4 recipients. − Add a 5th participant F to the distribution list.

Expected results **Post-conditions**	− The A-Party user is made aware that this is about a multiple 1-to-1 conversation and not a Group Chat. A distribution list with 4 recipients is created. − The A-Party's device creates 4 1-to-1 messages in 1-to-1 messaging conversations with B, C, D, and E. − Devices B, C and D receive an RCS 1-to-1 Messaging message from A-Party. Device E receives an SMS. Smileys are correctly represented on the RCS capable devices (B,C, and D). On E-Party's device, only a subset of smileys may be represented correctly. − The distribution list can be edited / extended.
Deep inspection	−

Test case ID	ID_RCS_F_3_1_20
Related test cases	
Feature	1-to-1 Messaging
Reason for test	To validate UP 1.0. Reference section US5-29 (and subsequent requirements). Multiple 1-to-1 messages.
Pre-conditions Scenario	− A-Party's device is UP1.0 and online. Network limit for maximum number of participants for multiple 1-to-1 messaging is set. − The contact list on A-Party's device is filled with many contacts. − B-Party's and C-Party's devices are known to be RCS UP 1.0 to A-Party's device and online. − D-Party's device is RCS enabled but on a previous version and online. − E-Party's device is not RCS enabled.
Test procedure	− Start creating a 'multiple 1-to-1 distribution list' on A-Party's device with the 4 recipients B, C, D and E. − Extend the distribution list with an attempt to enter more contacts than allowed by the RCS Service Provider.
Expected results **Post-conditions**	− A distribution list is created. − Once the maximum number of participants have been selected, it shall not be possible to add more participants to the distribution list. The execution of the limit shall be user friendly, i.e. recipients already added in that attempt are not lost so the A-party user has to start from scratch again.

Deep inspection	–

3.1.2   Technical test cases

Test Case ID	ID_RCS_T_3_1_1
Related Test Cases	
Feature	1-to-1 Messaging
Reason for test	Send Pager Mode message 1-to-1. R5-30-1
Pre-conditions Scenario	– DUT and Reference 1 are online. – STANDALONE MSG AUTH configuration parameter set to 1. – CHAT AUTH configuration parameter set to 0.
Test procedure	– DUT sends a small message (less than 1300 bytes and MAX SIZE STANDALONE) (Pager Mode Standalone Message) to Reference 1 with delivery notification requested.
Expected results Post-conditions	– Reference 1 receives the message. – The message is shown as delivered in DUT.
Deep inspection	– Verify that the message is delivered immediately. The feature tag is '3gpp-service.ims.icsi.oma.cpm.msg' – Verify that the delivery notification is received (SIP MESSAGE).

Test Case ID	ID_RCS_T_3_1_2
Related Test Cases	
Feature	1-to-1 Messaging
Reason for test	Send Large Message Mode message one-to-one. R5-30-1

Pre-conditions Scenario	− DUT and Reference 1 are online. − STANDALONE MSG AUTH configuration parameter set to 1. − CHAT AUTH configuration parameter set to 0.
Test procedure	− DUT sends a large message (more than 1300 bytes but less than MAX SIZE STANDALONE) to Reference 1 with delivery notification requested. − Reference 1 accepts the invitation (either auto or manual).
Expected results Post-conditions	− Reference 1 receives the message. − DUT receives a delivery notification.
Deep inspection	− Verify that the invitation is received and accepted. − Verify that the message is delivered immediately. The feature tag is '3gpp-service.ims.icsi.oma.cpm.largemsg' in SIP INVITE − Verify that the delivery notification is received.

Test Case ID	ID_RCS_T_3_1_3
Related Test Cases	
Feature	1-to-1 Messaging
Reason for test	Send chat message 1-to-1. R5-30-1
Pre-conditions Scenario	− DUT and Reference 1 are online. − STANDALONE MSG AUTH configuration parameter set to 0. − CHAT AUTH configuration parameter set to 1.
Test procedure	− DUT sends new message (chat invitation) to Reference 1.

Expected results Post-conditions	− Reference 1 receives the message.
Deep inspection	− Verify DUT sends SIP invitation process with feature tag is '3gpp-service.ims.icsi.oma.cpm.session'. − Verify Reference 1 accepts the invitation and receives the message. − Verify DUT receives delivery notification.

Test Case ID	ID_RCS_T_3_1_4
Related Test Cases	
Feature	1-to-1 Messaging
Reason for test	User does not respond the invitation to start chatting. R5-30-1
Pre-conditions Scenario	− DUT and Reference 1 are online. − STANDALONE MSG AUTH configuration parameter set to 0. − CHAT AUTH configuration parameter set to 1.
Test procedure	− DUT starts a chat conversation by sending a message to Reference 1 (invitation) − Reference 1 does not respond the invitation to start chatting.
Expected results Post-conditions	− Reference 1 sees the message from DUT but he/she decides not to open the chat.
Deep inspection	− Verify DUT sends SIP invitation process with feature tag is '3gpp-service.ims.icsi.oma.cpm.session'. − Verify Chat session is not set up and after invitation times expires, the invitation is cancelled by the IM server (486).

Test case ID	ID_RCS_T_3_1_5

Related test cases	
Feature	1-to-1 Messaging
Reason for test	Deferred messaging. R5-30-1
Pre-conditions Scenario	− DUT is online. − Reference 1 is offline. − STANDALONE MSG AUTH configuration parameter set to 1. − CHAT AUTH configuration parameter set to 0 − Reference 1 is offline.
Test procedure	− DUT sends 3 messages (less than MAX SIZE STANDALONE) to Reference 1 while Reference 1 is offline. − Reference 1 registers for service.
Expected results Post-conditions	− Reference 1 receives the 3 messages after registering for RCS service
Deep inspection	− The 3 messages are stored locally in Reference 1 PF − When Reference 1 registers for service the messages are delivered to Reference 1 − An extended test case for DUT to set the delivery and displayed notification request and Reference 1 should send the delivery notification back to DUT when it receives the messages.

Test case ID	ID_RCS_T_3_1_6
Related test cases	
Feature	1-to-1 Messaging
Reason for test	To verify that messaging technology is not latched to SMS
Pre-conditions Scenario	− Reference 1 is registered RCS users − Both DUT and Reference 1 are under 3GPP coverage or Wi-Fi − DUT sets the default messaging service to chat in settings

Test procedure	- DUT register to RCS service - DUT sends a chat message to Reference 1. - Reference 1 selects the chat message from the notification bar.
Expected results Post-conditions	- DUT is registered to RCS services. - Reference 1 receives the chat message - The chat session is established on DUT, and chat composer remains on DUT
Deep inspection	- Verify SIP Register process on DUT. - Verify capability exchange process" - Verify DUT sends SIP OPTIONS to Reference 1. Verify DUT receives 200 OK (OPTIONS) with the capability supported by Reference 1. - Note: SIP options shall contain at least : +g.3gpp.iari-ref="urn%3Aurn-7%3A3gpp-application.ims.iari.rcs Or - Verify DUT sends ANONYMOUS SUBSCRIBE to the Reference1 and 200OK response is recieved from the network - Verify DUT recieves NOTIFY from the network with the Reference1's supported RCS service capability information, DUT responds with 200OK to this NOTIFY request. - Verify SIP invitation and establishment process on DUT.

Test case ID	ID_RCS_T_3_1_7
Related test cases	
Feature	1-to-1 Messaging
Reason for test	To verify that chat composer is still available even if DUT is switched to flight mode
Pre-conditions Scenario	- Both DUT and Reference 1 is registered RCS users - Both DUT and Reference 1 are under 3GPP coverage or Wi-Fi - DUT and Reference 1 are in an active chat session and are actively exchanging messages.
Test procedure	- DUT and Reference 1 exchange chat messages. - DUT switches to flight mode.

Expected results **Post-conditions**	− DUT and Reference 1 receives chat messages. Both composer are in chat. − DUT's chat composer still remains
Deep inspection	− Verify DUT sends no SIP request.

Test case ID	ID_RCS_T_3_1_8
Related test cases	
Feature	1-to-1 Messaging
Reason for test	To verify that chat composer is still available even if DUT switches to Wi-Fi
Pre-conditions Scenario	− Both DUT and Reference 1 are registered RCS users − Both DUT and Reference 1 are under cellular coverage.
Test procedure	− DUT switches the coverage to Wi-Fi − DUT sends a chat message to Reference 1. − Reference 1 selects the chat message from the notification bar.
Expected results **Post-conditions**	− DUT is registered to RCS services. − Reference 1 receives the chat message − The chat session is established on DUT, and chat composer remains on DUT.
Deep inspection	− Verify SIP Register process on DUT. − Verify DUT sends SIP OPTIONS to Reference 1. Verify DUT receives 200 OK (OPTIONS) with the capability supported by Reference 1. − Note: SIP options shall contain : +g.3gpp.iari-ref="urn%3Aurn-7%3A3gpp-application.ims.iari.rcse.im". **Or** − Verify DUT sends ANONYMOUS SUBSCRIBE to the Reference1 and 200OK response is recieved from the network − Verify DUT recieves NOTIFY from the network with the Reference1's supported RCS service capability information, DUT responds with 200OK to this NOTIFY request.

−	Verify SIP invitation and establishment process on DUT.

Test case ID	ID_RCS_T_3_1_9
Related test cases	
Feature	1-to-1 Messaging
Reason for test	To verify that composer is latched to SMS
Pre-conditions Scenario	− DUT is registered RCS user − Reference 1 is not a RCS registered user − Both DUT and Reference 1 are under 3GPP coverage or Wi-Fi
Test procedure	− DUT selects Reference 1 from address book.
Expected results Post-conditions	− A conversation thread is opened on DUT and SMS composer remains on DUT.
Deep inspection	− Verify DUT sends SIP OPTIONS when selecting Reference 1. − Verify DUT receives 404 response for the SIP OPTIONS request. **Or** − Verify DUT sends ANONYMOUS SUBSCRIBE to the Reference1 and 404 response is recieved from the network

Test Case ID	ID_RCS_T_3_1_10
Related Test Cases	
Feature	1-to-1 Messaging
Reason for test	Client fallback mechanism applies.

Pre-conditions Scenario	- DUT is registered and able to access IMS/RCS core network and relevant servers - Reference 1 is offline - DUT has cached chat capabilities from Reference 1 - Supported by network: 2G, 3G, HSPA, Wi-Fi - Reference 1 network supports revocation as fallback mechanism - ChatRevokeTimer is set to a positive integer - CFS trigger is equal to 0 - Assumption: SMS fallback is enabled in the client as 'Never ask and always send SMS'
Test procedure	- DUT opens a chat conversation from the addressbook with Reference 1 - DUT composes and sends a message to Reference 1 (Invitation)
Expected results Post-conditions	- DUT starts an IM session with Reference 1 and sends a message. Message is not delivered to Reference 1 as it is offline - Once ChatRevokeTimer expires, DUT send this message as SMS and revokes it from the server. - DUT shows the message is sent as SMS. Message is received by Reference 1 as SMS
Deep inspection	- Verify invitation process to a chat1to1 - Verify 200OK response includes tag support for revocation as '+g.gsma.rcs.msgrevoke' - Verify SIP MESSAGE RevokeRequest is sent following 5.3.5 of RCC71v1 once ChatRevokeTimer expires - Verify message is sent as SMS - Verify SIP MESSAGE RevokeResponse is received with 'success' status as defined in 5.3.5 of RCC71v1

Test Case ID	ID_RCS_T_3_1_11
Related Test Cases	
Feature	1-to-1 Messaging
Reason for test	Active chat1to1 session initiated by DUT. Client fallback mechanism applies.
Pre-conditions Scenario	- DUT and Reference 1 are registered and able to access IMS/RCS core network and relevant servers. - Supported by network: 2G, 3G, HSPA, Wi-Fi - Reference 1 network supports revocation as fallback mechanism - ChatRevokeTimer is set to a positive integer - CFS trigger is equal to 0 - Assumption: SMS fallback is enabled in the client as 'Never ask and always send SMS'

Test procedure	– DUT and Reference 1 are in an active chat1to1 session – Reference 1 goes offline – DUT sends one message more
Expected results **Post-conditions**	– DUT and Reference 1 are in an active chat1to1 session. Delivery and display notifications has been received for the messages sent so far – Once Reference 1 goes offline, DUT sends one more message. This chat message does not reach Reference 1, therefore, DUT does not receive delivery notification – Once ChatRevokeTimer expires, DUT sends this message as SMS and revokes it from the server. Message is only delivered to Reference 1 as SMS. SMS is the service offered to DUT for Reference 1.
Deep inspection	– Verify invitation process and successful establishment of the chat – Verify 200OK response includes tag support for revocation as '+g.gsma.rcs.msgrevoke' – Verify SIP MESSAGE RevokeRequest is sent following 5.3.5 of RCC71v1 once ChatRevokeTimer expires – Verify message is sent as SMS – Verify SIP MESSAGE RevokeResponse is received with 'success' status as defined in 2.5.3.5 of RCC71v1

Test Case ID	ID_RCS_T_3_1_12
Related Test Cases	
Feature	1-to-1 Messaging
Reason for test	Active chat1to1 session initiated by Reference 1. Message sent by DUT is not delivered. Client fallback mechanism applies.
Pre-conditions Scenario	– DUT and Reference 1 are registered and able to access IMS/RCS core network and relevant servers. – Supported by network: 2G, 3G, HSPA, Wi-Fi – Reference 1 network supports revocation as fallback mechanism – ChatRevokeTimer is set to a positive integer – CFS trigger is equal to 0 – Assumption: SMS fallback is enabled in the client as 'Never ask and always send SMS'
Test procedure	– Reference 1 starts a chat conversation from the addressbook with DUT – Reference 1 composes a couple of messages and sends them to DUT – Reference 1 goes offline – DUT sends one message more

Expected results **Post-conditions**	− Reference 1 and DUT are in an active chat1to1 session. Delivery and display notifications has been received for the messages sent so far − Once Reference 1 goes offline, DUT sends one more message. This chat message does not reach Reference 1, therefore, DUT does not receive delivery notification − Once ChatRevokeTimer expires, DUT sends this message as SMS and revokes this message from the server. Message is only delivered to Reference 1 as SMS. SMS is the service offered to DUT for Reference 1.
Deep inspection	− Verify invitation process and successful establishment of the chat − Verify INVITE request includes tag support for revocation as '+g.gsma.rcs.msgrevoke' − Verify SIP MESSAGE RevokeRequest is sent following 5.3.5 of RCC71v1 once ChatRevokeTimer expires − Verify message is sent as SMS − Verify SIP MESSAGE RevokeResponse is received with 'success' status as defined in 5.3.5 of RCC71v1

Test Case ID	ID_RCS_T_3_1_13
Related Test Cases	
Feature	1-to-1 Messaging
Reason for test	Active chat1to1 session when several messages are not sent. Messages are delivered as SMS and revoked in the correct order.
Pre-conditions Scenario	− DUT and Reference 1 are registered and able to access IMS/RCS core network and relevant servers. − Supported by network: 2G, 3G, HSPA, Wi-Fi − Reference 1 network supports revocation as fallback mechanism − ChatRevokeTimer is set to a value higher than zero − CFS trigger is equal to 0 − Assumption: SMS fallback is enabled in the client as 'Never ask and always send SMS'
Test procedure	− DUT and Reference 1 are in an active chat1to1 session − Reference 1 goes offline − DUT sends four messages in the chat session, from '1' to '4'. − Once chat revoke expires, DUT sends these four messages as SMS to Reference 1 − SMS is the service offered to DUT for Reference 1, as it is latched to SMS. DUT types and sends a couple of messages more as SMS

Expected results **Post-conditions**	− DUT and Reference 1 are in an active chat1to1 session. Delivery and display notifications has been received for the messages sent so far − Once Reference 1 goes offline, DUT sends four messages, there are not delivery notifications for these four messages. − Once ChatRevokeTimer expires, DUT sends these messages as SMS and revokes them, starting from the older message not delivered − Once the older 'not delivered' message is revoked, all the 'not delivered' messages will be revoked, there is no need to wait until ChatMessageRevoke expires for them − DUT sends a couple of messages more in the conversation thread as SMS as per the SMS Latching behaviour (there is no indication that Reference 1 is back online)
Deep inspection	− Verify invitation process and successful establishment of the chat − Verify 200OK response includes tag support for revocation as '+g.gsma.rcs.msgrevoke' − Verify SIP MESSAGE RevokeRequest is sent following 5.3.5 of RCC71v1 once ChatRevokeTimer expires for the older message − Verify message is sent as SMS for the older message not delivered as chat − Verify SIP MESSAGE RevokeResponse is received with 'success' status as defined in 5.3.5 of RCC71v1 − Verify steps 4-5-6 are repeated in the in the expected order for the rest of messages − Verify there is no chat Invitation sent once client is SMS latched

Test Case ID	ID_RCS_T_3_1_14
Related Test Cases	
Feature	1-to-1 Messaging
Reason for test	Make sure DUT waits the configured reconnect guard time when coming back online before DUT revokes the messages, letting the server to deliver any possible delivery notifications
Pre-conditions Scenario	− DUT is registered and able to access IMS/RCS core network and relevant servers − Reference 1 is offline − Supported by network: 2G, 3G, HSPA, Wi-Fi − Reference 1 network supports revocation as fallback mechanism − ChatRevokeTimer is set to a value higher than zero − CFS trigger is equal to 0 − Reconnect Guard Timer is not set to 0 − Assumption: SMS fallback is enabled in the client as 'Never ask and always send SMS'

Test procedure	− DUT starts a chat from the addressbook with Reference 1 − DUT composes a couple of messages and sends them to Reference 1 − DUT goes offline − Once the ChatRevokeTimer expires, DUT comes back online
Expected results Post-conditions	− DUT starts a IM session with Reference 1 and sends a couple of messages to Reference 1 − Messages are not delivered to Reference 1 − DUT goes offline and comes back successfully online once the ChatRevokeTimer expires. Reference 1 keeps offline, no delivery notifications are received by DUT. − Once the RECONNECT GUARD TIMER expires, DUT sends the messages as SMS and revokes the chat messages not delivered from the server, starting for the older message not delivered − Messages are delivered to Reference 1 as SMS in the correct order.
Deep inspection	− Verify invitation process to a chat1to1 − Verify 200OK response includes tag support for revocation as '+g.gsma.rcs.msgrevoke' − Verify successful registration − Verify SIP MESSAGE RevokeRequest are sent only when RECONNECT GUARD TIMER expires. − Verity SIP MESSAGE RevokeRequest are sent following 5.3.5 of RCC71v1 − Verify message is sent as SMS − Verify SIP MESSAGE RevokeResponse are received with 'success' status as defined in 5.3.5 of RCC71v1

Test Case ID	ID_RCS_T_3_1_15
Related Test Cases	
Feature	1-to-1 Messaging
Reason for test	Make sure DUT waits the configured reconnect guard time when coming back online before DUT revokes the messages, letting the server to deliver any possible delivery notifications
Pre-conditions Scenario	− DUT is registered and able to access IMS/RCS core network and relevant servers − Reference 1 is offline − Supported by network: 2G, 3G, HSPA, Wi-Fi − Reference 1 network supports revocation as fallback mechanism − ChatRevokeTimer is set to a value higher than zero − CFS trigger is equal to 0 − Reconnect Guard Timer is not set to 0 − Assumption: SMS fallback is enabled in the client as 'Never ask and always send SMS'

Test procedure	– DUT starts a chat from the addressbook with Reference 1 – DUT composes a couple of messages and sends them to Reference 1 – DUT goes offline and Reference 1 comes back online – Once the ChatRevokeTimer expires, DUT comes back online
Expected results **Post-conditions**	– DUT starts a IM session with Reference 1 and sends a two messages to Reference 1. Messages are stored in the Server and not delivered to Reference 1 – DUT goes offline. Reference 1 comes back online and receives the stored messages from the server – DUT comes back successfully online once the ChatRevokeTimer expires. – While RECONNECT GUARD TIMER is running, DUT receives the delivery/display notifications that the messages are being sent by IM Chat to Reference 1
Deep inspection	– Verify invitation process to a chat1to1 – Verify 200OK response includes tag support for revocation as '+g.gsma.rcs.msgrevoke' – Verify successful registration – Verify delivery/display notifications are received by DUT for the messages sent to Reference 1 – Verify there is no SIP MESSAGEs RevokeRequest sent to the Server – Verify messages are not sent as SMS to Reference 1

Test Case ID	ID_RCS_T_3_1_16
Related Test Cases	
Feature	1-to-1 Messaging
Reason for test	As per CFS configuration required, make sure DUT acts accordingly with the status received in the RevokeRequest response.
Pre-conditions Scenario	– DUT is registered and able to access IMS/RCS core network and relevant servers – Reference 1 is offline – Supported by network: 2G, 3G, HSPA, Wi-Fi – Reference 1 network supports revocation as fallback mechanism – ChatRevokeTimer is set to a value higher than zero – CFS trigger is equal to 1

	− Assumption: SMS fallback is enabled in the client as 'Never ask and always send SMS'
Test procedure	− DUT starts a chat from the addressbook with Reference 1 − DUT composes a couple of messages and sends them to Reference 1 − Reference 1 comes back online right when the Chat Revoke Timer expires − NOTE: This test can be simulated
Expected results **Post-conditions**	− DUT starts a IM session with Reference 1 and sends a couple of messages to Reference 1. Messages are stored in the Server and not delivered to Reference 1 − Once ChatRevokeTimer expires and as CFS is equal to 1, DUT revokes these chat message at the same time that Reference 1 comes back online. − The response received for the MessageRevoke request is a 'non-successful' response, as the server is trying to deliver the messages to Reference 1 as chat messages − As CFS trigger is equal to 1, Chat Messages are not sent by SMS. Reference 1 receives the messages as chat messages
Deep inspection	− Verify invitation process to a chat1to1 − Verify 200OK response includes tag support for revocation as '+g.gsma.rcs.msgrevoke' − Verify SIP MESSAGE RevokeRequest is sent following 5.3.5 of RCC71v1 once ChatRevokeTimer expires − Verify SIP MESSAGE RevokeResponse is received with 'failure' status as defined in 5.3.5 of RCC71v1

Test Case ID	ID_RCS_T_3_1_17
Related Test Cases	
Feature	1-to-1 Messaging
Reason for test	As per CFS configuration required, make sure DUT acts accordingly with the status received in the RevokeResponse
Pre-conditions Scenario	− DUT is registered and able to access IMS/RCS core network and relevant servers − Reference 1 is offline − Supported by network: 2G, 3G, HSPA, Wi-Fi − Reference 1 network supports revocation as fallback mechanism − ChatRevokeTimer is set to a value higher than zero − CFS trigger is equal to 1

	− Assumption: SMS fallback is enabled in the client as 'Never ask and always send SMS'
Test procedure	− DUT starts a chat from the addressbook with Reference 1 − DUT composes a couple of messages and sends them to Reference 1 − Reference 1 keeps offline
Expected results **Post-conditions**	− DUT starts a IM session with Reference 1 and sends a couple of messages to Reference 1. Messages are stored in the Server and not delivered to Reference 1 − Once ChatRevokeTimer expires and as CFS is equal to 1, DUT revokes these chat messages − The response received for these MessageRevoke requests are a 'successful' response − Only then, messages are sent as SMS to Reference 1
Deep inspection	− Verify invitation process to a chat1to1 − Verify 200OK response includes tag support for revocation as '+g.gsma.rcs.msgrevoke' − Verify SIP MESSAGE RevokeRequest is sent following 5.3.5 of RCC71v1 once ChatRevokeTimer expires − Verify SIP MESSAGE RevokeResponse is received with 'success' status as defined in 5.3.5 of RCC71v1

Test Case ID	ID_RCS_T_3_1_18
Related Test Cases	
Feature	1-to-1 Messaging
Reason for test	As per CFS configuration required, make sure DUT acts accordingly with the status received in the RevokeResponse
Pre-conditions Scenario	− DUT is registered and able to access IMS/RCS core network and relevant servers − Reference 1 is offline − Supported by network: 2G, 3G, HSPA, Wi-Fi − Reference 1 network supports revocation as fallback mechanism − ChatRevokeTimer is set to a value higher than zero − CFS trigger is equal to 0 − Assumption: SMS fallback is enabled in the client as 'Never ask and always send SMS'

Test procedure	− DUT starts a chat from the addressbook with Reference 1 − DUT composes a couple of messages and sends them to Reference 1 − Reference 1 comes back online right when the Chat Revoke Timer expires − NOTE: This test can be simulated
Expected results Post-conditions	− DUT starts a IM session with Reference 1 and sends a couple of messages to Reference 1. Messages are stored in the Server and not delivered to Reference 1 − Once ChatRevokeTimer expires as CFS trigger is equal to 0, DUT sends the non-delivered messages as SMS and then DUT revokes these chat messages at the same time that Reference 1 comes back online. − The response received for the MessageRevoke request is a 'non-successful' response, as the server is trying to deliver the messages to Reference 1 as chat messages − Reference 1 receives the messages as chat messages by the server. Reference 1 also receives the messages as SMS sent by DUT
Deep inspection	− Verify invitation process to a chat1to1 − Verify 200OK response includes tag support for revocation as '+g.gsma.rcs.msgrevoke' − Verify SIP MESSAGE RevokeRequest is sent following 5.3.5 of RCC71v1 once ChatRevokeTimer expires − Verify SIP MESSAGE RevokeResponse is received with 'failure' status as defined in 5.3.5 of RCC71v1

Test Case ID	ID_RCS_T_3_1_19
Related Test Cases	
Feature	1-to-1 Messaging
Reason for test	As per ChatRevokeTimer configuration required. Message is not revoked.
Pre-conditions Scenario	− DUT is registered and able to access IMS/RCS core network and relevant servers − Reference 1 is offline − DUT has cached chat capabilities from Reference 1 − Supported by network: 2G, 3G, HSPA, Wi-Fi − Reference 1 network supports revocation as fallback mechanism − ChatRevokeTimer is set to 0 − CFS trigger is equal to 0

Test procedure	− DUT opens a chat conversation from the addressbook with Reference 1 − DUT composes and sends a message to Reference 1 (Invitation)
Expected results Post-conditions	− DUT starts an IM session with Reference 1 and sends a message. Message is not delivered to Reference 1 as it is offline − As ChatRevokeTimer is set to 0, the client shall not monitor the delivery of the messages and assume the delivery of any messages according to the terminating network delivery policies
Deep inspection	− Verify invitation process to a chat1to1 − Verify 200OK response includes tag support for revocation as '+g.gsma.rcs.msgrevoke' − Verify there is no SIP MESSAGEs RevokeRequest sent to the Server − Verify messages are not sent as SMS to Reference 1

Test case ID	ID_RCS_T_3_1_20
Related test cases	
Feature	1-to-1 Messaging
Reason for test	UP 1.0. Reference section 5.3.2 - Delivery Assurance, Network Interworking, session initiation
Pre-conditions Scenario	− DUT is registered and able to access IMS/RCS core network and relevant servers. − Supported by network: 2G, 3G, HSPA, LTE, Wi-Fi − DUT is configured with: CHAT REVOKE TIMER=X − Reference 1 network supports delivery assurance via network interworking − Reference 1 is registered and able to access IMS/RCS core network and relevant servers.
Test procedure	− DUT opens a chat conversation with Reference 1. − Reference 1 goes offline (e.g. airplane mode on). − DUT composes message and sends it to Reference 1 and wait at least X seconds. − Reference 1 comes online (e.g. airplane mode off), device attaches to cellular network, client does not register in IMS/RCS core. − DUT continues conversation by sending a message to Reference 1.
Expected results Post-conditions	− After sending: the message status of sent message changes to "pending" and then "sent" on DUT. − After X seconds: DUT does neither resend message as SMS nor offers to DUT to resend as SMS − After network attach: Reference 1 device receives DUT message as SMS message

	− After SMS message delivery to Reference 1: On DUT the message status of sent message changes to "delivered via interworking" − When sending a subsequent message to Reference 1: DUT sends message to Reference 1 as SMS until RCS availability is confirmed (e.g. capability exchange or use of another RCS service) .
Deep inspection	− Verify SIP 200 OK to DUT for presence of "Network Interworking supported" media feature tag (section 5.3.2 of [RCC.71]). − DUT initiates IM session and sends message to Reference 1 and learns that network interworking is supported. − Verify that CPIM body in MSRP SEND of DUT client contains requests for "Interworking" Disposition Notification (as defined in Appendix O of [RCC.11]) in addition to "Delivered" and "Displayed". − Verify that CPIM body in MESSAGE contains "interworking" IMDN.

Test case ID	ID_RCS_T_3_1_21
Related test cases	
Feature	1-to-1 Messaging
Reason for test	UP 1.0. Reference section 5.3.2 - Delivery Assurance, Network interworking, during a chat session
Pre-conditions Scenario	− DUT is registered and able to access IMS/RCS core network and relevant servers. − Supported by network: 2G, 3G, HSPA, LTE, Wi-Fi − DUT is configured with: CHAT REVOKE TIMER=X − Reference 1 network supports delivery assurance via network interworking − Reference 1 is registered and able to access IMS/RCS core network and relevant servers.
Test procedure	− Reference 1 starts a chat conversation by sending 3 messages to DUT. − Reference 1 goes offline (e.g. airplane mode). − DUT enters conversation, sends a message and wait at least X seconds. − Reference 1 comes online (e.g. airplane mode off), device attaches to cellular network, client does not register in IMS/RCS core. − DUT continues conversation by sending a message to Reference 1.
Expected results **Post-conditions**	− The following applies to messages sent by DUT after Reference 1 became offline: − After sending: the message status of sent message changes to "pending" and then "sent" on DUT. − After X seconds: DUT does neither resend message as SMS nor offer to DUT to resend as SMS − After network attach: Reference 1 receives DUT message as SMS message − After SMS message delivery to Reference 1: On DUT the message status of sent message changes to "delivered via interworking"

	− When sending a subsequent message to Reference 1: DUT sends the message to Reference 1 as SMS until RCS availability is confirmed (e.g. capability exchange or use of another RCS service).
Deep inspection	− DUT learns at the time of IMS session invitation that Reference 1 network supports network interworking. − Verify INVITE to DUT for presence of "Network Interworking supported" media feature tag (section 5.3.2 of [RCC.71]) − Verify that CPIM body in MSRP SEND of DUT client contains requests for "Interworking" Disposition Notification (as defined in Appendix O of [RCC.11]) in addition to "Delivered" and "Displayed". − Verify that CPIM body in MESSAGE contains "interworking" IMDN.

Test case ID	ID_RCS_T_3_1_22
Related test cases	
Feature	1-to-1 Messaging
Reason for test	R5-2-3 R5-30-5 R5-2-3-1(5.3.2 Network Fallback Support Capability 5.3.3.4 Disposition Notifications) Network Fallback to SMS: To verify the various types, order of messages and lengthy messages are not affected during NFS
Pre-conditions Scenario	− DUT and Reference 1 are registered and able to access IMS/RCS core network and relevant servers. − DUT and Reference 1 are configured with CHAT AUTH = 1 − Reference 1 network supports delivery assurance via network interworking − DUT and Reference 1 are configured with CHAT AUTH = 1, MESSAGING UX = 1
Test procedure	− Reference 1 starts a chat conversation by sending 2 messages to DUT. − DUT enters conversation, sends a message. − Reference 1 goes offline (e.g. airplane mode). − DUT sends combination of emoticons to Reference 1 − DUT sends two text message to Reference 1 − DUT sends message(1000 < size > 8192) to Reference 1 − Reference 1 comes online (e.g. airplane mode off), device attaches to cellular network; client does not register in IMS/RCS core.
Expected results **Post-conditions**	− Messages sent by DUT delivered. There is no SMS initiated for those messages. − Messages sent by Reference 1 are marked as delivered and displayed. − Reference 1 goes offline , RCS gets disabled

	− The following applies to messages sent by DUT after Reference 1 became offline: − After sending: the message status of sent message changes to "pending" and then "sent" on DUT. − DUT does neither resend message as SMS nor offer to DUT to resend as SMS − The following applies to messages sent by DUT after Reference 1 became offline: − After sending: the message status of sent message changes to "pending" and then "sent" on DUT. − DUT does neither resend message as SMS nor offer to DUT to resend as SMS. − The following applies to messages sent by DUT after Reference 1 became offline: − After sending: the message status of sent message changes to "pending" and then "sent" on DUT. − DUT does neither resend message as SMS nor offer to DUT to resend as SMS. − After network attach: Reference 1 receives DUT message as SMS message. − Emoticons are received properly. − Messages are delivered in order. Message sent at step 4 received before messages sent at step5. Messges sent at step5 are received inorder. Same behavior for messages sent step 5 and 6. − Order of messages are maintained. − After SMS message delivery to Reference 1: On DUT the message status of sent message changes to 'delivered'.
Deep inspection	− Verify INVITE to DUT and 200OK to Reference1 for presence of " +g.gsma.rcs.msgfallback" media feature tag (Table 9: Feature tags used to indicate network support for chat fallback mechanisms section 5.3.2 of [RCC.71]) − Verify that CPIM body in MSRP SEND of DUT client contains requests for "Interworking" Disposition Notification (as defined in Appendix O of [RCC.11]) in addition to "Delivered" and "Displayed". − Verify that CPIM body in SIP MESSAGE contains "interworking" IMDN.

Test case ID	ID_RCS_T_3_1_23
Related test cases	
Feature	1-to-1 Messaging
Reason for test	R5-2-3 R5-30-5 R5-2-3-1

	(5.3.2 Network Fallback Support Capability,5.3.3.4 Disposition Notifications,5.3.3.1 Technology selection rules Table 10: Messaging technology selection for 1-to-1 conversation initiation when A party is online)
	NFS: For Non RCS Recipients
	Verify Network interworking of a Standalone message to SMS
Pre-conditions Scenario	− DUT is registered and able to access IMS/RCS core network and relevant servers. − DUT supports Standalone Messaging only. DUT is configured with CHAT AUTH = 0, MESSAGING UX = 1 and STANDALONE MSG AUTH =1 − Reference 1 is a Non RCS recipient
Test procedure	− DUT starts conversation with Reference 1 by sending 1 message to DUT. − DUT sends emoticons to Reference 1
Expected results **Post-conditions**	− After sending: the message status of sent message changes to "pending" and then "sent" on DUT. − Reference 1 receives message as SMS. − After Message is delivered to Reference 1 as SMS, message is marked as delivered at DUT. − After sending: the message status of sent message changes to "pending" and then "sent" on DUT. − Reference 1 receives message as SMS. − After Message is delivered to Reference 1 as SMS, message is marked as delivered at DUT. − Emoticons are received properly.
Deep inspection	− DUT initiates standalone messaging as per 3.2.4.1 Standalone messaging of RCC.07 and sends messages to Reference Verify that there are two SIP messages sent by DUT carrying messages sent at step1 and step2. − Verify that DUT received SIP message carrying IMDN delivery for all the messages after it was delivered to reference 1as SMS.

Test case ID	ID_RCS_T_3_1_24
Related test cases	
Feature	1-to-1 Messaging
Reason for test	UP 1.0. Reference section 5.3.6.6. - Geo location push fallback to SMS

Pre-conditions Scenario	− DUT and Reference 1 are UP users. − DUT is online and Reference 1 is out of data coverage. − Reference 1 Network supports geo location fallback to SMS (from an previous capability exchanged "urn%3Aurn-7%3A3gpp-application.ims.iari.rcs.geosms" or via presence document - org.3gpp.urn:urn-7:3gpp-application.ims.iari.rcs.geosms).
Test procedure	− DUT selects 'send my location' option to share location information and adds a label to identify the location before sending. − Reference 1 receives the notification of Location Share. − Reference 1 comes back with data coverage and then clicks on Location Share [link or a screen shot].
Expected results **Post-conditions**	− DUT's location is received by Reference 1 − Reference 1 can see location of DUT with the label − DUT is notified of the status of delivery of his location share (delivered, displayed)
Deep inspection	− Verify DUT adds the correct label in the geo URI as a parameter. − Verify DUT receives a delivered notification. − Verify DUT correctly encodes in percent the label as defined in [RFC5870].

Test case ID	ID_RCS_T_3_1_25
Related test cases	
Feature	1-to-1 Messaging
Reason for test	R5-24-4(5.3.6 Geolocation Push fall-back, 5.3.2 Network Fallback Support Capability) To Verify the network supporting NFS handles no fallback scenario properly when remote device does not support Geolocation Push via SMS.
Pre-conditions Scenario	− DUT and Reference 1 are registered and able to access IMS/RCS core network and relevant servers. − Reference 1 does not support Geolocation Push via SMS. − Reference 1 network supports delivery assurance via network interworking − DUT and Reference1 are configured with CHAT AUTH = 1 and MESSAGING UX = 1.
Test procedure	− DUT selects 'send my location' option to share location information and adds a label to identify the location − Reference 1 goes out of coverrage and becomes offline. − DUT sends location informaton prepared at step 1

	– Reference 1 gets network coverage back but yet to become IMS registered.
	– Reference 1 becomes Online
	– Reference 1 receives Geo Location Information as RCS message
	– Reference 1 opens Geo Location Information and marks it as read
Expected results **Post-conditions**	– User should be able to select the location – Reference 1 goes offline , RCS gets disabled – After sending: the message status of sent message changes to "pending" and then "sent" on DUT. – DUT does neither resend message as SMS nor offers to DUT to resend as SMS any time after location was sent – After network attach: Reference 1 device does not receive DUT message as SMS message – After step5 Geo Location is delivered to Reference 1 as ST&FW message. – Geo Location message is marked as delivered at DUT – Geo Location message is marked as displayed at DUT
Deep inspection	– Verify contact header of REGISTER sent by Reference 1 – does not include IARI (Table 11: SIP OPTIONS tag for Geolocation Push via SMS of [RCC.71) or via presence document - org.3gpp.urn:urn-7:3gpp-application.ims.iari.rcs.geosms – DUT sends out INVITE as per procedures defined in **3.10.4 Technical Realisation of RCC.07**. – Verify SIP 200 OK to DUT for presence of "Network Interworking supported" media feature tag (section 5.3.2 of [RCC.71]). – Verify that CPIM body in MSRP SEND of DUT client contains requests for "Interworking" Disposition Notification (as defined in Appendix O of [RCC.11]) in addition to "Delivered" and "Displayed". – Referece 1 does not receive Geo Location Link in SMS – Verify that DUT receives SIP message carrying IMDN delivery and display report from Reference 1.

Test case ID	ID_RCS_T_3_1_26
Related test cases	
Feature	1-to-1 Messaging
Reason for test	R5-24-4(5.3.6 Geolocation Push fall-back, 5.3.2 Network Fallback Support Capability) To Verify the network fallback of standalone message carrying geo location functions properly.

Pre-conditions Scenario	− DUT and Reference 1 are registered and able to access IMS/RCS core network and relevant servers. − Reference 1 supports Geolocation Push via SMS. − Reference 1 network supports delivery assurance via network interworking − DUT supports Standalone Messaging only. DUT is configured with MESSAGING UX = 1,CHAT AUTH = 0 and STANDALONE MSG AUTH = 1 − Reference1 is configured with MESSAGING UX = 1, CHAT AUTH = 1 and STANDALONE MSG AUTH = 1
Test procedure	− DUT selects 'send my location' option to share location information and adds a label to identify the location − Reference 1 becomes offline. − DUT sends location informaton prepared at step 1 − Reference 1 gets network coverage back but yet to become IMS registered. − Reference 1 receives Geo Location Link as SMS message
Expected results Post-conditions	− User should be able to select the location − Reference 1 goes offline , RCS gets disabled − After sending: the message status of sent message changes to "pending" and then "sent" on DUT. − Reference one latches to network and registration is not complete − − DUT does neither resend message as SMS nor offers to DUT to resend as SMS any time after location was sent − After network attach: Reference 1 device receives DUT message as SMS message
Deep inspection	− Verify contact header of REGISTER sent by Reference 1 − includes IARI (Table 11: SIP OPTIONS tag for Geolocation Push via SMS of [RCC.71) or via presence document - org.3gpp.urn:urn-7:3gpp-application.ims.iari.rcs.geosms − Verify Reference 1 − includes IARI (Table 11: SIP OPTIONS tag for Geolocation Push via SMS of [RCC.71] or via presence document) in all OPTIONS request& responses − Verify that DUT sends out SIP message carrying Geo Info Uri as per as per 3.2.4.1 Standalone messaging of RCC.07 − Verify that Geo Uri included by DUT in Standalone message is as per RFC5870 − Verify that CPIM body in MSRP SEND of DUT client does not contain requests for "Interworking" Disposition Notification (as defined in Appendix O of [RCC.11]) in addition to "Delivered" and "Displayed". − Referece 1 receives Geo Location Link in SMS

Test case ID	ID_RCS_T_3_1_27
Related test cases	
Feature	1-to-1 Messaging
Reason for test	To verify that the user can switch messaging services (from chat to SMS)
Pre-conditions Scenario	− Both DUT and Reference 1 are registered RCS users − Both DUT and Reference 1 are under 3GPP coverage or Wi-Fi
Test procedure	− DUT selects Reference 1 in address book then select the option to create a chat conversation. − DUT switches the composer to SMS/MMS
Expected results Post-conditions	− DUT displays a chat conversation and chat composer remains on DUT − DUT's composer changes to SMS.
Deep inspection	− Verify DUT checks capabiliteis for Reference 1. Verify DUT receives 200 capabilities supported by Reference 1. − Verify DUT doesn't check capabilities for ference 1.

Test case ID	ID_RCS_T_3_1_28
Related test cases	
Feature	1-to-1 Messaging
Reason for test	If both RCS 1-to-1 chat and RCS Standalone messaging are enabled, the message can be delivered seamlessly to recipient according to their capability
Pre-conditions Scenario	− DUT support seamless messaging and is online − MESSAGING UX configuration parameter set to 0 − CHAT AUTH configuration parameter set to 1 − STANDALONE MSG AUTH configuration parameter set to 1 − Reference 1 is online but only support RCS Chat service − CHAT AUTH configuration parameter set to 1 − Reference 2 is online but only support RCS Standalone messaging

	− STANDALONE MSG AUTH configuration parameter set to 1
Test procedure	− DUT send message to Reference 1 − DUT send message to Reference 2
Expected results **Post-conditions**	− Reference 1 successfully receive message from DUT − verify that DUT does not show or visually indicate about technology/service used to convey message to reference device − Reference 2 successfully receive message from DUT − verify that DUT does not show or visually indicate about technology/service used to convey message to reference device
Deep inspection	− Verify that selected technology selected by DUT is 1-to1 Chat − Verify that selected technology selected by DUT is RCS Standalone messaging

Test case ID	ID_RCS_T_3_1_29
Related test cases	
Feature	1-to-1 Messaging
Reason for test	MSRP 403 error-- This test is to verify if 1-to1 chat message fails to deliver due to MSRP error code then message successfully send as an RCS standalone message
Pre-conditions Scenario	− DUT support seamless messaging and is online − MESSAGING UX configuration parameter set to 0 − CHAT AUTH configuration parameter set to 1 − STANDALONE MSG AUTH configuration parameter set to 1 − Reference 1 is online
Test procedure	− DUT send message to reference 1(1-to1 Chat technology selected) − Reference 1 fails to receive message from DUT(simulate 403 response from reference 1 to DUT)

	− DUT retry and send same message again to reference 1 − **NOTE: This test can be simulated**
Expected results **Post-conditions**	− Reference1 successfully receive message from DUT − verify that DUT does not show or visually indicate about technology/service used to convey message to reference device
Deep inspection	− Verify DUT selected 1-to-1 chat for delivering message to reference 1 − Verify DUT receives MSRP error response 403 − Verify DUT delivered/send an message an RCS Standalone message

Test case ID	ID_RCS_T_3_1_30
Related test cases	
Feature	1-to-1 Messaging
Reason for test	MSRP 400 error-- This test is to verify if 1-to-1 chat message fails to deliver due to MSRP error code then message successfully send as an RCS standalone message
Pre-conditions Scenario	− DUT support seamless messaging and is online − MESSAGING UX configuration parameter set to 0 − CHAT AUTH configuration parameter set to 1 − STANDALONE MSG AUTH configuration parameter set to 1 − Reference 1 is online
Test procedure	− DUT send message to reference 1(1-to1 Chat technology selected) − Reference 1 fails to receive message from DUT(simulate 400 response from reference 1 to DUT) − DUT retry and send same message again to reference 1 − **NOTE: This test can be simulated**
Expected results **Post-conditions**	− Reference1 successfully receive message from DUT − verify that DUT does not show or visually indicate about technology/service used to convey message to reference device

Deep inspection	– Verify DUT selected 1-to-1 chat for delivering message to reference 1
	– Verify DUT receives MSRP error response 400
	– Verify DUT delivered/send an message an RCS Standalone message

Test case ID	ID_RCS_T_3_1_31
Related test cases	
Feature	1-to-1 Messaging
Reason for test	MSRP 501 error-- This test is to verify if 1-to-1 chat message fails to deliver due to MSRP error code then message successfully send as an RCS standalone message
Pre-conditions Scenario	– DUT support seamless messaging and is online – MESSAGING UX configuration parameter set to 0 – CHAT AUTH configuration parameter set to 1 – STANDALONE MSG AUTH configuration parameter set to 1 – Reference 1 is online
Test procedure	– DUT send message to reference 1(1-to1 Chat technology selected) – Reference 1 fails to receive message from DUT(simulate 501 response from reference 1 to DUT) – DUT retry and send same message again to reference 1 – **NOTE: This test can be simulated**
Expected results Post-conditions	– Reference1 successfully receive message from DUT – verify that DUT does not show or visually indicate about technology/service used to convey message to reference device
Deep inspection	– Verify DUT selected 1-to-1 chat for delivering message to reference 1 – Verify DUT receives MSRP error response 501 – Verify DUT delivered/send an message an RCS Standalone message

Test case ID	ID_RCS_T_3_1_32
Related test cases	

Feature	1-to-1 Messaging
Reason for test	MSRP 400, 403 and 501 errors-- This test is to verify if 1-to-1 chat message fails to deliver due to MSRP errors code then message successfully send as an SMS
Pre-conditions Scenario	- DUT support seamless messaging and is online - MESSAGING UX configuration parameter set to 0 - CHAT AUTH configuration parameter set to 1 - STANDALONE MSG AUTH configuration parameter set to 0 - Reference 1 is online
Test procedure	- DUT send message to reference 1(1-to1 Chat technology selected) - Reference 1 fails to receive message from DUT(simulate 400 or 403 or 501 responses from reference 1 to DUT) - DUT retry and send same message again to reference 1 **NOTE: This test can be simulated**
Expected results Post-conditions	- Reference1 successfully receive message from DUT - verify that DUT does not show or visually indicate about technology/service used to convey message to reference device
Deep inspection	- Verify DUT selected 1-to-1 chat for delivering message to reference 1 - Verify DUT receives MSRP error response 400 or 403 or 501 - Verify DUT delivered/send an message as SMS

Test case ID	ID_RCS_T_3_1_33
Related test cases	
Feature	1-to-1 Messaging
Reason for test	R5-30-17(5.3.3.1 Technology selection rules) Messaging Technology selection at Sender supporting Standalone messaging only ;for a RCS Recipient supporting 1-1Chat Fall-back to SMS due to Standalone Messaging Failure

Pre-conditions Scenario	− DUT and Reference 1 are registered and able to access IMS/RCS core network and relevant servers. − Supported by network: 2G, 3G, HSPA, LTE, Wi-Fi − DUT supports Standalone Messaging only. DUT is configured with CHAT AUTH = 0 and STANDALONE MSG AUTH =1 − Reference1 is configured with CHAT AUTH = 1 and − STANDALONE MSG AUTH = 1 − Reference 1 network does not indicates fall back/delivery assurance (network support required)
Test procedure	− DUT starts conversation by sending 2 message to Reference 1.
Expected results **Post-conditions**	− After sending: the message status of sent message changes to "pending" and then "sent as SMS" on DUT.
Deep inspection	− Verify that SIP message is sent out by DUT − DUT receives any of below error responses → 380 Alternative Service → 408 Request Timeout → 486 Busy Here → 487 Request Terminated − DUT chooses to Fall-back to SMS and resends messages in SMS − Reference 1 receives these messages as SMS

Test case ID	ID_RCS_T_3_1_34
Related test cases	
Feature	1-to-1 Messaging
Reason for test	To verify that user can still send new chat message after expiration of chat session by inactivity (R5-30-19)
Pre-conditions Scenario	− Both DUT and Reference 1 are registered RCS users − Both DUT and Reference 1 are under 3GPP coverage or Wi-Fi − DUT and Reference 1 are in an active chat session and are actively exchanging messages. − Chat inactivity timer is known from IMS network
Test procedure	− DUT and Reference 1 exchange chat messages. − Wait for the chat inactivity timer to expire − DUT sends a new chat message to Reference 1

Expected results Post-conditions	− DUT and Reference 1 receive chat messages − The chat session expires (DUT will not notice a closing SIP session) − Reference 1 receives the messages from DUT seamlessly
Deep inspection	− Verify chat messages are exchanged with MSRP messages. − At DUT, confirm in SIP protocol for BYE (Cseq : Bye). Confirm the SIP BYE message was sent after the expected time out. − Verify DUT sends the chat message. Also DUT receives the delivered notification as SIP MESSAGE.

Test case ID	ID_RCS_T_3_1_35
Related test cases	
Feature	1-to-1 Messaging
Reason for test	To verify that a user can start chat by entering a MSISDN (R5-30-19)
Pre-conditions Scenario	− Both DUT Reference 1 are registered RCS users − Both DUT and Reference 1 are under 3GPP coverage or Wi-Fi
Test procedure	− DUT starts a chat from the address book with Reference 1. − DUT deletes the chat conversation with Reference 1. − DUT starts a new chat by entering Reference 1's MSISDN
Expected results Post-conditions	− Reference 1 receives the chat message from DUT − On DUT, the chat conversation with Reference 1 is deleted − Reference 1 receives the chat message from DUT.
Deep inspection	− Verify DUT sends the chat message. Verify in the header To the format of the phone number. − Verify DUT sends the chat message. Verify in the header To the format of the phone number.

Test case ID	ID_RCS_T_3_1_36

Related test cases	
Feature	1-to-1 Messaging
Reason for test	To verify that a user can manually set the default messaging to chat or SMS (R5-30-21)
Pre-conditions Scenario	- Both DUT and Reference 1 are registered RCS users - Both DUT and Reference 1 are under 3GPP coverage or Wi-Fi - On DUT, default messaging service is set to automatic
Test procedure	- DUT starts a chat conversation with Reference 1 and users exchange message. - DUT sets default message type to SMS/MMS and sends one SMS to Reference 1 - DUT sets default message type to Chat and sends one chat message to Reference 1
Expected results Post-conditions	- Chat composer remains on DUT - SMS composer remains on DUT - Chat composer remains on DUT
Deep inspection	- Verify invitation and establishment process on DUT. Verify DUT receives the notification as SIP MESSAGE or MSRP messages - Verify DUT does not checks capabilties nor sends MSRP messages - Verify DUT checks capabilties and sends MSRP messages

Test Case ID	ID_RCS_T_3_1_37
Related Test Cases	
Feature	1-to-1 Messaging
Reason for test	To verify that the sent message status. R5-30-22
Pre-conditions Scenario	- DUT is online. - Display Notification switch configuration parameter set to 0. - STANDALONE MSG AUTH configuration parameter set to 1. - CHAT AUTH configuration parameter set to 0. - The Message Size is less than MAX SIZE IM.

Test procedure	− DUT sends message to Reference 1，transfer of the Message in progress (e.g. queuing on device). − DUT sends message and confirmation that the message has been correctly accepted by the DUT network. − DUT sends message and confirmation that the message has been delivered to Reference 1. − DUT sends message and the message has been displayed in chat view on the receiving Reference 1. − DUT sends message and the expected outcome of the operation could not be confirmed by the network and the device does not attempt to send the message anymore.
Expected results Post-conditions	− Message status is Pending. − Message status is Sent. − Message status is Delivered. − Message status is Displayed. − Message status is Failed.
Deep inspection	− Verify DUT message has been transferred, but DUT has not received the 200OK response message in timeout time. − Verify DUT message has been transferred and DUT received the 200OK response message. − Verify DUT received the "Delivered" message notification. − Verify DUT received "Displayed" message notification. − Verify DUT message has been transferred, but DUT has not received the 200OK response message over timeout time.

Test case ID	ID_RCS_T_3_1_38
Related test cases	
Feature	1-to-1 Messaging
Reason for test	To verify different notifications for chat messages (pending, sending, delivery and display, error) (R5-30-22, R5-30-23)
Pre-conditions Scenario	− Both DUT and Reference 1 are registered RCS users − Both DUT and Reference 1 are under 3GPP coverage or Wi-Fi − DUT and Reference 1 are in an active chat session and are actively exchanging messages. − Reference 1 is on the home page.
Test procedure	− DUT sends a new chat message to Reference 1, transfer of the Message in progress (e.g. queuing on device). − DUT's network confirms that the message has been correctly accepted. − Reference 1 receives the chat message. − Reference 1 opens the chat message. − DUT sends a new chat message to Reference 1 and an error appears on the Reference 1 side

	− *NOTE: To facilitate self-accreditation this test can be simulated*
Expected results **Post-conditions**	− DUT displays a delivered notification to indicate the chat message has been delivered successfully to Reference 1. − DUT displays a notification to indicate the chat message has been read on Reference 1. − DUT displays an error notification
Deep inspection	− Verify DUT message has been transferred, but DUT has not received the MSRP 200OK response message in timeout time. − Verify DUT message has been transferred and DUT received the MSRP 200OK response message. − Verify DUT received the "Delivered" message notification via MSRP. − Verify DUT received the "Displayed" message notification via MSRP. − Verify DUT recived error message

Test case ID	ID_RCS_T_3_1_39
Related test cases	
Feature	1-to-1 Messaging
Reason for test	To verify that the aggregation of display notifications works well (R5-30-25)
Pre-conditions Scenario	− Both DUT and Reference 1 are registered RCS users − Both DUT and Reference 1 are under 3GPP coverage or Wi-Fi − DUT and Reference 1 are in an active chat session and are actively exchanging messages.
Test procedure	− DUT sends 10 messages to Reference 1. − Reference 1 selects the last message received.
Expected results **Post-conditions**	− Reference 1 only sends delivered notifications, not displayed notifications. − Reference 1 only sends displayed notifications for the last message(The other displayed notifications are done by aggregation). DUT displayed that all the messages are displayed.

Deep inspection	− Verify DUT receives delivered notifications via MSRP. − Verify DUT receives all displayed notifications via MSRP.

Test case ID	ID_RCS_T_3_1_40
Related test cases	
Feature	1-to-1 Messaging
Reason for test	To verify that emoticon pictures (figurines) are supported and properly displayed (R5-30-26)
Pre-conditions Scenario	− Both DUT and Reference 1 are registered RCS users − Both DUT and Reference 1 are under 3GPP coverage or Wi-Fi. − DUT and Reference 1 are in an active chat session and are actively exchanging messages. − STANDALONE MSG AUTH configuration parameter set to 0. − CHAT AUTH configuration parameter set to 1. − The Message Size is less than MAX SIZE IM.
Test procedure	− DUT sends a chat message to Reference 1 with emoticon, for example : ":-)". − Reference 1 sends a chat message with emoticon to DUT, for example : ":-("
Expected results **Post-conditions**	− Reference 1 receives the chat message with the emoticon. Emoticon is displayed to DUT in chat conversation. − DUT receives the chat message with the emoticon. Emoticon is displayed to DUT in chat conversation.
Deep inspection	− Verify Emoticons is sent in the MSRP message as text and delivered and displayed notifications for the emoticons message in MSRP. − Verify Emoticons is received in the MSRP message as text bu DUT. Verify DUT sends delivered and displayed notifications as MSRP.

Test case ID	ID_RCS_T_3_1_41
Related test cases	
Feature	1-to-1 Messaging

Reason for test	To verify that the "is typing" notification is well supported and displayed (R5-30-27)
Pre-conditions Scenario	− Both DUT and Reference 1 are registered RCS users − Both DUT and Reference 1 are under 3GPP coverage or Wi-Fi − DUT and Reference 1 are in an active chat session and are actively exchanging messages.
Test procedure	− DUT starts typing a message to Reference 1. − DUT stops typing message. − DUT starts typing again. − DUT sends the message to Reference 1 − DUT starts typing another message to Reference 1 − DUT removes all the text in the second message (empty the message box) without sending it
Expected results Post-conditions	− "DUT is composing" notification is displayed ion Reference 1. − After a short time, notification "DUT is composing" disappears on Reference 1. − "DUT is composing" notification is displayed on Reference 1. − "DUT is composing" disappears and the chat message is received on Reference 1. − "DUT is composing" notification is displayed on Reference 1. − After a short time, notification "DUT is composing" disappears on Reference 1.
Deep inspection	− Verify isComposing notification is send by MSRP message by DUT. The paramter \<state\> must be set to active. − Verify isComposing notification is send by MSRP message by DUT. The paramter \<state\> must be set to idle. − Verify isComposing notification is send by MSRP message by DUT. The paramter \<state\> must be set to active. − Verify isComposing notification is send by MSRP message by DUT. The paramter \<state\> must be set to active. − Verify isComposing notification is send by MSRP message by DUT. The paramter \<state\> must be set to idle.

Test Case ID	ID_RCS_T_3_1_42
Related Test Cases	
Feature	1-to-1 Messaging
Reason for test	To verify that user can see when the other party is currently writing a message. R5-30-27

Pre-conditions Scenario	− DUT and Reference 1 are online. − STANDALONE MSG AUTH configuration parameter set to 0. − CHAT AUTH configuration parameter set to 1.
Test procedure	− DUT is composing message with typing text string.
Expected results Post-conditions	− Reference 1 shall be able to see an "is typing" notification whenever the creator of a message is typing.
Deep inspection	− Verify 'IsComposing' notification is sent when DUT is tying. Content-type is application/im-iscomposing+xml.

Test case ID	ID_RCS_T_3_1_43
Related test cases	
Feature	1-to-1 Messaging
Reason for test	Testing that sent messages are stored when the other party is offline and then forwarded when the party comes online R5-30-29
Pre-conditions Scenario	− DUT is registered RCS user − Reference 1 is an RCS Reference 1ut currently de-registered (RCS disabled) − Both DUT and Reference 1 are under 3GPP coverage or Wi-Fi − Chat inactivity timer value is known for the server under test
Test procedure	− DUT sends 3 chat messages to Reference 1. − Wait for chat inactivity timer to expire. − Reference 1 enables RCS, so it will register for RCS services.
Expected results Post-conditions	− DUT successfully sends the 3 chat messages. − At DUT, there is no delivered or read icon for the message just sent. − Reference 1 successfully registers for RCS and the 3 chat message received in the order they were sent. − On DUT, the delivered and read icons are displayed for all 3 messages.

Deep inspection	− Verify DUT doesn't receive notifications for the chat messages.
	− At DUT, confirm in SIP protocol for BYE (Cseq : Bye). Confirm the SIP BYE message was sent after the expected time out.
	− Verify DUT receives "Delivered" and "Displayed" notifications for the chat messages via MSRP or SIP Message.

Test case ID	ID_RCS_T_3_1_44
Related test cases	
Feature	1-to-1 Messaging
Reason for test	Testing that store and forward function works properly when DUT is in a concurrent chat session with another party R5-30-29
Pre-conditions Scenario	− DUT and Reference 2 are registered RCS users
	− Reference 1 is an RCS Reference 1ut currently de-registered (RCS disabled)
	− Both DUT, Reference 2 and Reference 1 are under 3GPP coverage or Wi-Fi
	− Chat inactivity timer value is known for the server under test
Test procedure	− DUT sends chat message to Reference 2.
	− DUT sends 3 chat messages to Reference 1.
	− Wait for chat inactivity timer to expire.
	− Reference 1 enables RCS, so it will register for RCS services.
Expected results Post-conditions	− Reference 2 receives the chat message successfully
	− DUT successfully sends the 3 chat messages.
	− At DUT, there is no delivered or read icon for the message just sent.
	− Reference 1 successfully registers for RCS and the 3 chat message received in the order they were sent.
	− At DUT, the delivered and read icons are displayed for all 3 messages.
Deep inspection	− Verify DUT receives notifications for the chat messages
	− Verify DUT doesn't receive notifications for the chat messages.
	− At DUT, confirm in SIP protocol for BYE (Cseq : Bye). Confirm the SIP BYE message was sent after the expected time out.
	− Verify DUT receives "Delivered" and "Displayed" notifications for the chat messages via MSRP or SIP Message.

Test case ID	ID_RCS_T_3_1_45
Related test cases	

Feature	1-to-1 Messaging
Reason for test	Testing that both deferred and new messages are delivered when the user comes online R5-30-29
Pre-conditions Scenario	− DUT and Reference 1 are registered RCS users − DUT is offline and on the home page − Both DUT and Reference 1 are under 3GPP coverage or Wi-Fi
Test procedure	− Reference 1 sends 4 chat message to DUT. − DUT is back online. − DUT sends a chat message to Reference 1. − While the deferred messages are being delivered, Reference 1 sends an additional fifth message to DUT
Expected results **Post-conditions**	− DUT receives the fourth chat messages. Only the first message should provide a notification, the rest do not cause a notification. − Reference 1 receives the chat message. − DUT receives the fifth message from Reference 1 with current time as it's been stored
Deep inspection	− Verify DUT doesn't receive notifications or messages − Verify SIP Register process on DUT. Verify DUT receive chat messages and sends notifications for the chat messages. − Verify DUT receives notifications for the chat messages. − Verify DUT sends notifications for the chat messages

Test case ID	ID_RCS_T_3_1_46
Related test cases	
Feature	1-to-1 Messaging
Reason for test	Testing that message notifications are displayed correctly when both sender and receiver goes offline and online R5-30-29
Pre-conditions Scenario	− DUT is registered RCS user − Reference 1 is an RCS Reference 1ut currently de-registered (RCS disabled) − Both DUT and Reference 1 are under 3GPP coverage or Wi-Fi
Test procedure	− DUT sends 3 chat messages to Reference 1. − DUT de-registered (RCS disabled). − Reference 1 registers to RCS

	− DUT registers to RCS
Expected results **Post-conditions**	− On DUT, there is no delivered or read icon for the message just sent − Reference 1 receives the 3 chat messages.
Deep inspection	− Verify DUT doesn't receive notifications. − Verify SIP Register process on DUT. Verify DUT receives notifications for the chat messages

Test case ID	ID_RCS_T_3_1_47
Related test cases	
Feature	1-to-1 Messaging
Reason for test	Testing that message notifications are received correctly if the chat is unanswered R5-30-29
Pre-conditions Scenario	− DUT and Reference 1 are registered RCS users − Both DUT and Reference 1 are under 3GPP coverage or Wi-Fi − Chat inactivity timer value is known for the server under test − Reference 1 is on the home page
Test procedure	− DUT sends chat messages to Reference 1. − DUT stops sending chat messages. − Reference 1 wait until the new invites are expired and opens the chat window
Expected results **Post-conditions**	− Reference 1 receives the chat messages but does not open the chat window and DUT see the delivered notifications in the chat thread. − DUT see the displayed notifications in the chat thread
Deep inspection	− Verify DUT receives delivered notifications. − Verify DUT receives displayed notifications.

Test case ID	ID_RCS_T_3_1_48
Related test cases	
Feature	1-to-1 Messaging
Reason for test	Testing that message notifications are received correctly if the chat is suddenly interrupted R5-30-29
Pre-conditions Scenario	− DUT and Reference 1 are registered RCS users − Both DUT and Reference 1 are under 3GPP coverage or Wi-Fi
Test procedure	− DUT sends chat invitation to Reference 1. − Reference 1 disables mobile data. − DUT sends new chat messages to Reference 1. − Reference 1 enables mobile data and sends 1 chat message to DUT.
Expected results Post-conditions	− Reference 1 sees the chat message in the notification bar − DUT receives the chat message
Deep inspection	− Verify SIP invitation and establishment process on DUT. − At DUT, confirm SIP protocol for INVITE message and 486 busy here message. − Verify DUT receives the chat message as MSRP or SIP Message and sends notifications. − DUT also receives notifications for the chat message sent in Step1.

Test case ID	ID_RCS_T_3_1_49
Related test cases	
Feature	1-to-1 Messaging
Reason for test	Testing that message notifications are received correctly when the sender goes offline after sending the messages R5-30-29
Pre-conditions Scenario	− DUT and Reference 1 are registered RCS users − Both DUT and Reference 1 are under 3GPP coverage or Wi-Fi

Test procedure	− DUT sends chat invitation to Reference 1, then DUT sends a 2nd chat message to Reference 1. − DUT disables mobile data. − Reference 1 selects the chat message from the notification bar − DUT enables mobile data.
Expected results Post-conditions	− Reference 1 sees the chat messages in the notification bar − DUT sees the displayed notification in the chat thread.
Deep inspection	− Verify SIP invitation and establishment process on DUT. − Verify DUT doesn't receive notification. − Verify SIP Register process on DUT. Verify DUT receives the notification as MSRP or SIP Message.

Test case ID	ID_RCS_T_3_1_50
Related test cases	
Feature	1-to-1 Messaging
Reason for test	To verify device's behaviour against the network configuration (auto accept setting) (R5-30-32)
Pre-conditions Scenario	− Both DUT and Reference 1 are registered RCS users − Both DUT and Reference 1 are under 3GPP coverage or Wi-Fi − IM_SESSION_AUTO_ACCEPT is set to 0 and IM_SESSION_START is set to 0 − N*OTE: To facilitate self-accreditation this test can be simulated*
Test procedure	− Reference 1 sends chat invitation to DUT − DUT selects the chat message from the notification bar − DUT sends a chat message.
Expected results Post-conditions	− DUT sees the chat message in the notification bar − The chat session is established on DUT, and chat composer is opened on DUT − Reference 1 receives the chat message.

Deep inspection	− Verify DUT receives the SIP INVITE. − Verify the 200 OK is only send when DUT selects the notification. − Verify DUT sends chat message via MSRP message.

Test case ID	ID_RCS_T_3_1_51
Related test cases	
Feature	1-to-1 Messaging
Reason for test	To verify that the user sees any events (xMS, Chat, file transfer) within a single conversation thread. (R5-30-33)
Pre-conditions Scenario	− Both DUT and Reference 1 are registered RCS users − Both DUT and Reference 1 are under 3GPP coverage or Wi-Fi − DUT and Reference 1 are in an active chat session and are actively exchanging messages.
Test procedure	− Reference 1 selects a file from local storage and sends to DUT. − DUT accepts the notification for downloading the file − DUT opens the file.
Expected results Post-conditions	− Reference 1 sees that FT option is available for DUT. − File downloading is started on DUT − File transfer and chat messages are grouped into one chat conversation on DUT
Deep inspection	− Verify no SIP INVITE is receive for the FT, only MSRP Message used. − Verify DUT sends delivery notification via MSRP Message − Verify DUT sends displayed notifications via MSRP session or SIP MESSAGE if chat session closed.

Test case ID	ID_RCS_T_3_1_52
Related test cases	
Feature	1-to-1 Messaging
Reason for test	To verify that messages received that exceed the Max Size IM value will be truncated (R5-30-33)

Pre-conditions Scenario	– Both DUT and Reference 1 are registered RCS users – Both DUT and Reference 1 are under 3GPP coverage or Wi-Fi – DUT is connected to Network 1 – Reference 1 is connected to Network 2 – Network 2 has the highest MAX-SIZE-IM value – DUT and Reference 1 are in an active chat session and are actively exchanging messages. – NOTE: To facilitate self-accreditation this test can be simulated
Test procedure	– Reference 1 sends a chat message with a size which exceeds the MAX-SIZE-IM of the Network 1.
Expected results **Post-conditions**	– DUT receives the chat message but the message is truncated and – DUT receives notification that only a part of the chat message can be displayed
Deep inspection	– Verify in MSRP message that the message is not cut off by the Network 1, same size as the MSRP message sends by Reference 1.

Test case ID	ID_RCS_T_3_1_53
Related test cases	
Feature	1-to-1 Messaging
Reason for test	To verify that all messages with the same contact are in the same thread and in a timely order (R5-30-35) To verify that incoming and outgoing messages are - displayed interlaced - and in the order messages have been sent and received
Pre-conditions Scenario	– Both DUT and Reference 1 are registered RCS users – Both DUT and Reference 1 are under 3GPP coverage or Wi-Fi
Test procedure	– DUT sends chat invitation to Reference 1 – Reference 1 sends chat message to DUT. – DUT sends a chat message to Reference 1 – DUT goes to home page and Reference 1 sends chat message. – DUT opens the addressbook and Reference 1 sends a chat message.

	− DUT opens the messaging application and selects the chat conversation with Reference 1. − DUT and Reference 1 keep exchange chat messages
Expected results **Post-conditions**	− Reference 1 selects the chat message from the notification bar. This establishes the chat session. − DUT receives the chat message. − Reference 1 receives the chat message. − DUT received the chat message in the notification bar − DUT received the chat message in the notification bar − DUT sees all the exchange messages with Reference 1 in the same chat thread. − The order of the messages shall be the same between sending and receiving and chat message should be interlaced
Deep inspection	− Verify DUT received chat message in MSRP message. Verify DUT sends delivered notification in MSRP message. − Verify DUT received chat message in MSRP message. Verify DUT sends delivered notification in MSRP message. − Verify DUT sends displayed notifcation in MSRP message. − Verify sent and received chat message in MSRP message are displayed into the chat conversation as they have been sent or received.

Test case ID	ID_RCS_T_3_1_54
Related test cases	
Feature	1-to-1 Messaging
Reason for test	To verify that the parameter USER ALIAS AUTH is correctly configured (R5-30-39)
Pre-conditions Scenario	− Both DUT and Reference 1 are registered RCS users − Both DUT and Reference 1 are under 3GPP coverage or Wi-Fi − DUT defines an alias name in chat settings and is not in Reference 1 addressbook. − Reference 1 defines an alias name in chat settings and is not in DUT addressbook.
Test procedure	− Reference 1 sends chat invitation to DUT − DUT opens and reads the message from the notification bar. − Reference 1 starts typing a message to DUT − DUT starts typing a message to Reference 1.

	− DUT sends a chat message to DUT.
Expected results **Post-conditions**	− DUT received the chat message in the notification bar with the alias of Reference 1 − Chat thread with Reference 1 is displayed and the alias of Reference 1 is displayed to DUT. − DUT should see the notification is Composing with the alias and/or the phone number of Reference 1. − Reference 1 should see the notification is Composing with the alias and/or the phone number of DUT. − Reference 1 receives the chat message from DUT. −
Deep inspection	− Verify in the SIP INVITE, that the header From contains the alias of Reference 1. Verify in the 200 OK sends by the DUT, the header From contains the alias of DUT. − Verify isComposing notification is receive by MSRP message by DUT. The parameter <state> must be set to active. − Verify isComposing notification is send by MSRP message by DUT. The parameter <state> must be set to active.

Test Case ID	ID_RCS_T_3_1_55
Related Test Cases	
Feature	1-to-1 Messaging
Reason for test	No restrictions by the message size. R5-30-40
Pre-conditions Scenario	− DUT and Reference 1 are registered and able to access IMS/RCS core network and relevant servers. − Supported by network: 2G, 3G, HSPA, Wi-Fi − CHAT AUTH configuration parameter set to 1. − STANDALONE AUTH configuration parameter set to 0. − Maximum message size is set to 8192bytes
Test procedure	− DUT starts a chat conversation with Reference 1 by sending a message 3000 English characters long (invitation) − DUT types a second message with 8192 English characters − DUT types a third message with 8193 English characters in the IM/chat application client with Reference 1 − Note: It is assumed that 8192 bytes is equal 8192 English characters

Expected results Post-conditions	− DUT starts a IM session with Reference 1. Reference 1 receives a first message 3000 characters long − Reference 1 receives a second message 8192 characters long. − Messages are displayed correctly in Reference 1 screen − DUT gets an error notification on maximum message size reached when trying to types a 8193 message long (UI dependent)
Deep inspection	− Verify invitation process and successful establishment of the chat − Verify Content-Length for the 'message/cpim' is equal to 8192 − Verify delivery/display notifications (both over SIP and MSRP) − Verify chat session is working (8192 message exchanged and 'is typing' notifications)

Test Case ID	ID_RCS_T_3_1_56
Related Test Cases	
Feature	1-to-1 Messaging
Reason for test	To verify the max message size in standalone. R5-30-40
Pre-conditions Scenario	− DUT and Reference 1 are online. − CHAT AUTH configuration parameter set to 0 − STANDALONE AUTH configuration parameter set to 1 − DUT is configured MAX SIZE STANDALONE.
Test procedure	− DUT sends message with size over MAX SIZE STANDALONE.
Expected results Post-conditions	− Message cannot be sent out.
Deep inspection	− Verify MSRP message is not sent out.

Test Case ID	ID_RCS_T_3_1_57
Related Test Cases	

Feature	1-to-1 Messaging
Reason for test	Maximum large message size exceeded (NNI only). R5-30-40
Pre-conditions Scenario	− DUT and Reference 1 are online. − STANDALONE MSG AUTH configuration parameter set to 1. − CHAT AUTH configuration parameter set to 0 − DUT NNI parameters: − Max size of large message = xxx MB. − Reference 1 NNI parameters: − Max size of large message = yyy MB. − **NOTE: This test case can be simulated**
Test procedure	− DUT sends a multimedia message (Large Message Mode Standalone Message) to Reference 1 with the message size larger than Reference 1 network can support.
Expected results **Post-conditions**	− Reference 1 network rejects the message from DUT
Deep inspection	− Verify the a=file-selector attribute in the incoming SIP request. − Verify the Max size of large message parameter defined in Reference 1 Network. − Reference 1 Messaging Server detects that the multimedia message to be sent is too big (i.e., a=file-selector value is too big) and responds the INVITE with a 403 "Forbidden" and warning header set to "133 Size exceeded".

Test case ID	ID_RCS_T_3_1_58
Related test cases	
Feature	1-to-1 Messaging
Reason for test	To verify that the client supports multiple parallel conversations and group conversations (R5-30-43)
Pre-conditions Scenario	− Both DUT, Reference 1 and Reference 2 are registered RCS users − Both DUT and Reference 1 are under 3GPP coverage or Wi-Fi − DUT and Reference 1 are in an active chat session and are actively exchanging messages. − DUT and Reference 2 are in an active chat session and are actively exchanging messages

	− DUT, Reference 1 and Reference 2 are in an active group chat session and are actively exchanging messages
Test procedure	− DUT sends a chat message to the Group Chat − Reference 1 sends a chat message to chat conversation with DUT. − DUT sends a chat message to chat conversation with Reference 2. − Reference 1 sends a chat message to the Group Chat −
Expected results **Post-conditions**	− Reference 1 and Reference 2 receive the group chat message. − DUT received chat message from Reference 1. − Reference 2 received the chat message. − DUT and Reference 2 receive the group chat message.
Deep inspection	− Verify DUT sends chat message via MSRP message. − Verify DUT receives the chat message via MSRP message. − Verify DUT sends chat message via MSRP message − Verify DUT receives the chat message via MSRP message.

Test case ID	ID_RCS_T_3_1_59
Related test cases	
Feature	1-to-1 Messaging
Reason for test	To verify the deletion function in a chat message thread (R5-30-48)
Pre-conditions Scenario	− Both DUT and Reference 1 are registered RCS users − Both DUT and Reference 1 are under 3GPP coverage or Wi-Fi − DUT and Reference 1 are in an active chat session and are actively exchanging messages
Test procedure	− DUT selects one chat message and deletes it. − DUT selects multiple chat messages and deletes them. − DUT selects all the chat messages and deletes them
Expected results **Post-conditions**	− The chat message is deleted on DUT − The chat messages are deleted on DUT − All the chat messages are deleted and the chat conversation is also deleted on DUT

Deep inspection	− Verify DUT doesn't send any SIP or MSRP request when delete chat message − Verify DUT doesn't send any SIP or MSRP request when delete chat messages − Verify DUT doesn't send any SIP or MSRP request when delete all chat messages

Test Case ID	ID_RCS_T_3_1_60
Related Test Cases	
Feature	1-to-1 Messaging
Reason for test	To verify that Geolocation Push Service should offer a 'legacy mode'. R5-30-50
Pre-conditions Scenario	− DUT is online. − Reference 1 is non-RCS recipients or recipients with RCS versions that do not support Geolocation Push. − DUT supports CFS. − MNO of Reference 1 does NOT support NFS. − PROVIDE GEOLOC PUSH configuration parameter set to 1. − DUT and Reference 1 support geo location fallback to SMS (from an previous capability exchanged "urn%3Aurn-7%3A3gpp-application.ims.iari.rcs.geosms").
Test procedure	− DUT sends positions or locations to Reference 1. − Reference 1 selects the positions or locations icon.
Expected results Post-conditions	− The positions or locations are received as SMS. Reference 1 shall be able to detect that it's a Geolocation Push and display that event as an icon. − Reference 1 can see the position / location on a map.
Deep inspection	− Verify DUT use the position and the label of the RCS Location information to generate sms message with content "geo" URI. − Reference 1 should Parse the "geo" URI and show the position and the label of the RCS Location information on map. − Verify DUT receives delivered notification.

Test Case ID	ID_RCS_T_3_1_61
Related Test Cases	

Feature	1-to-1 Messaging
Reason for test	To verify that user can send/receive positions or locations via Chat message. R5-30-50
Pre-conditions Scenario	− DUT and Reference 1 are online. − CHAT AUTH configuration parameter set to 1 − STANDALONE AUTH configuration parameter set to 0 − PROVIDE GEOLOC PUSH configuration parameter set to 1
Test procedure	− DUT sends detected or selected location to Reference 1. − DUT sends detected or selected location with tag to Reference 1.
Expected results **Post-conditions**	− Reference 1 receives a position or location, the RCS Geolocation Push user shall have the ability to see the position / location on a map. − Reference 1 receives a position or location, the RCS Geolocation Push user shall be able to see any tags that were added by the sender.
Deep inspection	− Verify the DUT sent geolocation information message via msrp, and the message has "Content-Type: application/vnd.gsma.rcspushlocation+xml". − Verify the DUT sent geolocation information message via msrp, and the message has "Content-Type: application/vnd.gsma.rcspushlocation+xml" and has "Label" attribute in rcslocation xml.

Test Case ID	ID_RCS_T_3_1_62
Related Test Cases	
Feature	1-to-1 Messaging
Reason for test	To verify that user can send/receive positions or locations via Standalone message. R5-30-50
Pre-conditions Scenario	− DUT and Reference 1 are online. − CHAT AUTH configuration parameter set to 0 − STANDALONE AUTH configuration parameter set to 1 − PROVIDE GEOLOC PUSH configuration parameter set to 1
Test procedure	− DUT sends detected or selected location to Reference 1. − DUT sends detected or selected location with tag to Reference 1.

Expected results **Post-conditions**	− Reference 1 receives a position or location, the RCS Geolocation Push user shall have the ability to see the position / location on a map. − Reference 1 receives a position or location, the RCS Geolocation Push user shall be able to see any tags that were added by the sender.
Deep inspection	− Verify DUT send SIP Message with "geo" URI as content. − Verify DUT send SIP Message as "geo" URI with "labeltext" as content.

Test Case ID	ID_RCS_T_3_1_63
Related Test Cases	
Feature	1-to-1 Messaging
Reason for test	To verify that user can send/receive positions or locations via Chat message. R5-30-50
Pre-conditions Scenario	− DUT and Reference 1 are online. − CHAT AUTH configuration parameter set to 1 − STANDALONE AUTH configuration parameter set to 0 − PROVIDE GEOLOC PUSH configuration parameter set to 1
Test procedure	− DUT sends detected or selected location to Reference 1. − DUT sends detected or selected location with tag to Reference 1.
Expected results **Post-conditions**	− Reference 1 receives a position or location, the RCS Geolocation Push user shall have the ability to see the position / location on a map. − Reference 1 receives a position or location, the RCS Geolocation Push user shall be able to see any tags that were added by the sender.
Deep inspection	− Verify the DUT sent geolocation information message via msrp, and the message has "Content-Type: application/vnd.gsma.rcspushlocation+xml". − Verify the DUT sent geolocation information message via msrp, and the message has "Content-Type: application/vnd.gsma.rcspushlocation+xml" and has "Label" attribute in rcslocation xml.

Test Case ID	ID_RCS_T_3_1_64
Related Test Cases	

Feature	1-to-1 Messaging
Reason for test	To verify that user can send/receive positions or locations via Standalone message. R5-30-50
Pre-conditions Scenario	− DUT and Reference 1 are online. − CHAT AUTH configuration parameter set to 0 − STANDALONE AUTH configuration parameter set to 1 − PROVIDE GEOLOC PUSH configuration parameter set to 1
Test procedure	− DUT sends detected or selected location to Reference 1. − DUT sends detected or selected location with tag to Reference 1.
Expected results Post-conditions	− Reference 1 receives a position or location, the RCS Geolocation Push user shall have the ability to see the position / location on a map. − Reference 1 receives a position or location, the RCS Geolocation Push user shall be able to see any tags that were added by the sender.
Deep inspection	− Verify DUT send SIP Message with "geo" URI as content.

Test Case ID	ID_RCS_T_3_1_65
Related Test Cases	
Feature	1-to-1 Messaging
Reason for test	Send Pager Mode message 1-to-many. R5-30-51
Pre-conditions Scenario	− DUT and Reference 1 are online and Reference 2 is offline. − STANDALONE MSG AUTH configuration parameter set to 1 − CHAT AUTH configuration parameter set to 0. − MAX 1 TO MANY RECIPIENTS configuration parameter is "1".
Test procedure	− DUT sends a small message (less than 1300 bytes and MAX SIZE STANDALONE) (Pager Mode Standalone Message) to Reference 1 and Reference 2 with delivery notification requested.

Expected results Post-conditions	− Reference 1 receives the message immediately. − Reference 2 receives the message after registering for RCS service. − The message is shown as delivered in DUT
Deep inspection	− Verify that the message is delivered successfully to each recipient. Verify that the delivery notification is received (SIP MESSAGE) from each recipient.

Test Case ID	ID_RCS_T_3_1_66
Related Test Cases	
Feature	1-to-1 Messaging
Reason for test	Send Large Message Mode message 1-to-many. R5-30-51
Pre-conditions Scenario	− DUT and Reference 1 are online and Reference 2 is offline. − STANDALONE MSG AUTH configuration parameter set to 1. − CHAT AUTH configuration parameter set to 0. − MAX 1 TO MANY RECIPIENTS configuration parameter is "1".
Test procedure	− DUT sends a large message (more than 1300 bytes but less than MAX SIZE STANDALONE) to Reference 1 and Reference 2 with delivery notification requested. − Reference 1 accepts the invitation immediately. − Reference 2 accepts the invitation after registering for RCS service.
Expected results Post-conditions	− Reference 1 and Reference 2 receive the message. − DUT receives delivery notification.
Deep inspection	− Verify that the invitation is received and accepted by each recipient. − Verify that the message is delivered successfully. − Verify that the delivery notification is received from each recipient.

Test Case ID	ID_RCS_T_3_1_67

Related Test Cases	
Feature	1-to-1 Messaging
Reason for test	Send Pager Mode message 1-to-many. R5-30-51
Pre-conditions Scenario	− DUT, Reference 1,Reference 2 and Reference 3 are online. − STANDALONE MSG AUTH configuration parameter set to 1. − CHAT AUTH configuration parameter set to 0. − MAX 1 TO MANY RECIPIENTS configuration parameter is present with a value 2.
Test procedure	− DUT sends a small message (less than 1300 bytes and MAX SIZE STANDALONE) (Pager Mode Standalone Message) to Reference 1, Reference 2 and Reference 3 with delivery notification requested.
Expected results Post-conditions	− Message cannot be sent out.
Deep inspection	− Verify DUT didn't send the SIP Message out.

Test Case ID	ID_RCS_T_3_1_68
Related Test Cases	
Feature	1-to-1 Messaging
Reason for test	Send Large Message Mode message 1-to-many. R5-30-51
Pre-conditions Scenario	− DUT, Reference 1,Reference 2 and Reference 3 are online. − STANDALONE MSG AUTH configuration parameter set to 1. − CHAT AUTH configuration parameter set to 0. − MAX 1 TO MANY RECIPIENTS configuration parameter is present with a value 2.

Test procedure	− DUT sends a small message (less than 1300 bytes and MAX SIZE STANDALONE) (Pager Mode Standalone Message) to Reference 1, Reference 2 and Reference 3 with delivery notification requested.
Expected results Post-conditions	− Message cannot be sent out.
Deep inspection	− Verify DUT didn't send the SIP Message out.

Test Case ID	ID_RCS_T_3_1_69
Related Test Cases	
Feature	1-to-1 Messaging
Reason for test	Verify 1 TO MANY SELECTED TECHNOLOGY configuration parameter. R5-30-53, R5-30-52
Pre-conditions Scenario	− DUT, Reference 1,Reference 2 and Reference 3 are RCS capable and online. − STANDALONE MSG AUTH configuration parameter set to 0. − CHAT AUTH configuration parameter set to 1. − MAX 1 TO MANY RECIPIENTS configuration parameter is present with a value 3. − 1 TO MANY SELECTED TECHNOLOGY configuration parameter is present with a value 1 (RCS 1-to-1 Chat)
Test procedure	− DUT sends a message to a distribution list of Reference 1, Reference 2 and Reference 3 with delivery notification requested.
Expected results Post-conditions	− Message sent out in individual RCS chat sessions to Reference 1, Reference 2 and Reference 3.

Deep inspection	− Verify DUT initiates individual RCS Chat sessions with Reference 1, Reference 2 and Reference 3

3.2 Group Chat

3.2.1 Functional test cases

For the sake of clarity, the initial precondition of known users in each device's contact list is summarised:

- A-Party's device has users B-, C-, D- and E-Party in its contact list.

- B-Party's device has users A-, C- and E-Party in its contact list.

- C-Party's device has Reference 1-Party in its contact list.

- E-Party's device has users A- and C-Party in its contact list.

Test case ID	ID_RCS_F_3_2_1
Related test cases	ID_RCS_T_3_1_1
Feature	Group Chat
Reason for test	UP 1.0. Reference section US6.1: Create a Group Chat Conversation with a selection of contacts – Contact offline, non RCS contact.
Pre-conditions Scenario	− A-Party's device is online. − B-, C- and D-Party are existing Group chat enabled contacts on the device's contact list. − B- and C-Party are actually Group chat enabled contacts, but D-Party is no longer an RCS contact (D's SIM has been moved from RCS device to non-RCS device). − B-Party belongs to an RCS provider different from A-Party's RCS provider, and its device is switched-off.
Test procedure	− Select any 'Create Group chat' entry point (Messaging application or Contact List) provided on A-Party's device. − Select B-, C- and D-Party in the contact list to create a Group chat. − Type some short text in the 'Subject' field, select any image from device's gallery as 'Icon' of the Group chat, and create the Group. − B-Party switches on his device.

Expected results **Post-condition**	− While only one contact is selected, 'create Group Chat' option is disabled (f.e. greyed out), until 2 or more contacts are selected. − 3a. A Group chat conversation appears in A- and C-Party's devices, with 'Subject' and 'Icon' as defined by A. A- Party sees B- and C-Party as participants; C-Party sees A- and B-Party as participants. − 3b. A-Party receives a notification that D-Party cannot take part in the Group chat. D-Party is no longer displayed as an RCS enabled contact in A-Party's contact list. − Group chat conversation appears in B-Party's device, with 'Subject' and 'Icon' as defined by A-Party. B-Party sees A- and C-Party as participants.
Deep inspection	−

Test case ID	ID_RCS_F_3_2_2
Related test cases	ID_RCS_F_3_2_1
Feature	Group Chat
Reason for test	UP 1.0. Reference section US6.1: Create a Group Chat Conversation with a selection of contacts – From 1-to-1 Chat
Pre-conditions Scenario	− A-Party's device is online. − B- and E-Party are existing Group chat enabled contacts on the A-Party's contact list. − There's an existing 1-to-1 Chat Messaging conversation between A- and E-Party on their respective devices. − Test case ID_RCS_F_3_2_1 has been executed and the Group Chat conversation is still available on A- and B-Party's devices.
Test procedure	− Open the messaging application in A-Party's device. − Select 1-to-1 Chat Messaging Conversation between A- and E-Party. − Select 'Add participant' option and select B-Party from A-Party's contact list. − Type same short text in the 'Subject' field, and select same image from A-Party's device gallery as 'Icon' of the Group chat, as in 3_2_1 and create the Group.
Expected results **Post-conditionn**	− A Group Chat conversation appears on A-, B- and E-Party's devices, with 'Subject' and 'Icon' as defined by A-Party. Each party can see the other parties as participants. The existing 1-to-1 Messaging conversation remains as independent conversation in A- and E-Party's devices.

	− A- and B-Party now have two different Group chat conversations, with same Subject and Icon, but different participants.
Deep inspection	−

Test case ID	ID_RCS_F_3_2_3
Related test cases	ID_RCS_F_3_2_2
Feature	Group Chat
Reason for test	UP 1.0. Reference section US6.1: Create a Group Chat Conversation with a selection of contacts – Same 'Subject' and participants as other Group chat.
Pre- conditions Scenario	− B-Party's device is offline. − A- and E-Parties are existing Group chat enabled contacts on B-Party's contact list. − Test case 3_2_2 has been executed and its resultant Group Chat conversation remains on A- , B- and E-Party's devices.
Test procedure	− Select any 'Create Group chat' entry point (Messaging application or Contact List) provided on the B-party device. − Select A- and E-Party in the contact list to create a Group chat. − Type same short text in the 'Subject' field of the Group chat, as in ID_RCS_F_3_2_1 and ID_RCS_F_3_2_2 and create the Group.
Expected results **Post- conditions**	− While only one contact is selected, 'create Group Chat' option is disabled (f.e. greyed out), until the second contacts is selected. − Existing Group chat conversation between A-, B- and E-Party (as per 3_2_2) is opened in B-Party's device.
Deep inspection	−

Test case ID	ID_RCS_F_3_2_4
Related test cases	
Feature	Group Chat

Reason for test	UP 1.0. Reference section US6.2: Add a subject title and Group Chat Picture to any Group Chat Conversation – No initial 'Subject'.
Pre-conditions Scenario	– B-Party's device is online. – C- and E-Parties are existing Group chat enabled contacts on B-Party's contact list.
Test procedure	– Select any 'Create Group chat' entry point (Messaging application or Contact List) provided on B-Party's device. – Select C- and E-Party in the contact list to create a Group chat. – Create the Group without typing any text in the 'Subject' field, nor choosing any image for the 'Icon' field. – B-Party sends text messages, emoticons and files to the Group. – B-, C- and E-Party change the 'Subject' of the Group chat, and select an image from device gallery for the Group Chat 'Icon' (each one, different subject and image).
Expected results **Post-conditions**	– While only one contact is selected, 'create Group Chat' option is disabled (f.e. greyed out), until the second contacts is selected. – A Group chat conversation appears on B-, C- and E-Party's device, with a generic 'Subject' and a generic Group Chat 'Icon'. – C- and E-Party receive text, emoticons and files as sent by B-Party. – Each Group Chat participant sees their own Subject and Icon to identify the Group Chat.
Deep inspection	–

Test case ID	ID_RCS_F_3_2_5
Related test cases	ID_RCS_F_3_2_4
Feature	Group Chat
Reason for test	UP 1.0. Reference section US6.3: Add a contact from contact list to an existing Group Chat Conversation – Added contact is offline; attempt to add a non RCS contact.
Pre-conditions Scenario	– B-Party's device is online. – A-, C-, D- and E-Party are existing Group chat enabled contacts Known to B-Party's contact list. – A-Pparty's device is switched-off.

	− A-Party is an existing Group chat enabled contact known to B-Party's contact list. − Test case 3_2_4 has been executed and its resultant Group Chat conversation remains on B-, C- and E-Party's device.
Test procedure	− Open existing Group chat conversation between B-, C- and E-Party (as created in Test case 3_2_4) on B-Party's device. − Select 'Add participant' on B-Party's device and add A-Party from contacts. − Switch on A-Party's device. *NOTE: If the network is not configured for auto-accept Group Chat participation, a manual acceptance to join the Group Chat is required.* − Send text messages, emoticons and files to the Group Chat from A-Party's device. − Unplug D-Party's SIM from the RCS capable device and plug it into a new device which is not RCS capable. − A-Party shall try and add D-Party to the Group Chat.
Expected results **Post-conditions**	− A party appears as new participant on B-, C- and E-Party's devices. *NOTE: If the network is configured not to manually accept Group Chat participation.* − A-Party is new participant in the Group Chat. *NOTE: If the network is not configured for auto-accept Group Chat participation and manual acceptance to join the Group Chat was required.* − B-, C- and E-Party receive text, emoticons and files in the Group Chat as sent by A-Party. − D-Party is not added to the Group chat.
Deep inspection	−

Test case ID	ID_RCS_F_3_2_6
Related test cases	ID_RCS_F_3_2_5
Feature	Group Chat
Reason for test	UP 1.0. Reference section US6.4: Know who is participating in a Group Chat Conversation at any point in time – Unknown participant; Alias handling; participant leaves.
Pre-conditions Scenario	− A- and E-Party are NOT contacts on C-Party's contact list. − B-Party is an existing contact in C-Party's contact list.

	− A- and B-Party have set RCS Alias names; E-Party has not set a RCS Alias name. − Test case 3_2_5 has been executed and the Group Chat conversation remains A-, B-, C- and E-Party#s device.
Test procedure	− Open existing Group chat conversation between A-, B-, C- and E-Party (as created in Test case 3_2_5) on C-Party's device. − Select the available Group chat information option. − Leave Group Chat on B-Party's device.
Expected results **Post-conditions**	− C-Party can see A-, B- and E-Party as participants in the Group, identified as: A-Party RCS Alias plus MSISDN, B-Party contact name as in C-Party's contact list, E-Party's MSISDN. − A-, C- and E-Party are notified that B-Party has left the Group Chat.
Deep inspection	−

Test case ID	ID_RCS_F_3_2_7
Related test cases	ID_RCS_F_3_2_1
Feature	Group Chat
Reason for test	UP 1.0. Reference section US6.5: not need to deal with Group Chat invites and acceptances.
Pre-conditions Scenario	− A-Party's device is online. − B- and C-Party are existing Group Chat enabled contacts known to A-Party's device. − B-Party belongs to a RCS provider different from A-Party's RCS provider. B-Party's RCS provider has disabled Group Chat auto-accept. − Group Chat created in Test case 3_2_1 is deleted on A-, B- and C-Party's devices.
Test procedure	− Select any 'Create Group chat' (from messaging application or Contact List) on A-Party's device. − Select B- and C-Party from the contact list to create a Group Chat. − Type some short text in the 'Subject' field and create the Group Chat. − B-Party accepts the invitation to be part of the Group Chat
Expected results	− While only one contact is selected, 'create Group Chat' option is disabled (f.e. greyed out), until a second contact is selected.

Post-conditions	− A Group Chat conversation appears on A- and C-Party's devices, with 'Subject' as defined by A-Party, and A- and C-Party as participants. − An invitation for that Group Chat appears on B-Party's device. − The Group Chat conversation appears on B-Party's device, with 'Subject' as defined by A-Party, and A-, B- and C-Party as participants. − A- and C-Party are notified that B-Party has accepted the Group Chat invite.
Deep inspection	−

Test case ID	ID_RCS_F_3_2_8
Related test cases	ID_RCS_F_3_2_1 or ID_RCS_F_3_2_7
Feature	Group Chat
Reason for test	UP 1.0. Reference section US6.6: send text Group Chat Messages to an existing Group Chat Conversation – Sender is offline
Pre-conditions Scenario	− A-Party's device is online. − B- and C-Party are known Group Chat enabled contacts to A-Party. − Test case 3_2_1 or 3_2_7 has been executed and its resultant Group Chat conversation is available on A-, B- and C-Party's devices.
Test procedure	− Open existing Group chat conversation between A-, B- and C-Party (as created in Test case 3_2_1 or 3_2_7) on the A-Party's device. − Send a few text messages from A-Party's device in that Group Chat. − Set A-Party's device to 'Flight mode' (any kind of communication is barred) − Create a few Group Chat messages on A-Party's device and select "send". − Disable 'Flight Mode' to regain connectivity on A-Party's device.
Expected results Post-conditions	− B- and C-Party receive the Group Chat messages as sent by A-Party. − Messages created by A-Party are locally queued in its device. A-Party user is informed accordingly. − Queued messages are sent from A-party's device to the Group Chat and received by B and C parties.
Deep inspection	−

Test case ID	ID_RCS_F_3_2_9
Related test cases	ID_RCS_F_3_2_8
Feature	Group Chat
Reason for test	UP 1.0. Reference section US6.7: send a Group Chat Message to an existing Group Chat Conversation like a text and it is just delivered. Recipients do not need to explicitly accept any single message.
Pre-conditions Scenario	− A-Party's device is online. − B- and C-Party are known to be Group Chat enabled on A-Party's device. − Test case 3_2_8 has been executed.
Test procedure	− Open Croup Chat conversation on B- and C-Party's device.
Expected results Post-conditions	− When B- and C-Party open the Group Chat conversation with A-party, all messages sent by A are available, without any need to accept those messages.
Deep inspection	−

Test case ID	ID_RCS_F_3_2_10
Related test cases	ID_RCS_F_3_2_1 or ID_RCS_F_3_2_7
Feature	Group Chat
Reason for test	UP 1.0. Reference section US6.8: send Group Chat Messages to Group Chat participants even when they're temporarily offline (e.g. device switched off). - receive these Group Chat Messages when they come online again.
Pre-conditions Scenario	− A-Party's device is online. − B- and C-Party are known to be Group Chat enabled to A-Party's device. − Test case 3_2_1 or 3_2_7 has been executed and the Group Chat conversation is still available on A-, B- and C-Party's devices.

Test procedure	− Set B-Party's device to 'Flight mode' (any kind of communication is barred). − Open existing Group chat conversation between A-, B- and C-Party (as created in Test case 3_2_1 or 3_2_7) on A-Party's device. − Send a Group Chat message from A-Party's device to the Group. − Disable 'Flight Mode' on B-Party's device (communications allowed)
Expected results Post-conditions	− C-Party receives messages as sent by A-Party in the Group Chat. − B-Party receives messages as sent by A-Party in the Group Chat.
Deep inspection	−

Test case ID	ID_RCS_F_3_2_11
Related test cases	ID_RCS_F_3_2_1 or ID_RCS_F_3_2_7
Feature	Group Chat
Reason for test	UP 1.0. Reference section US6.9: include small graphics into Group Chat Messages
Pre-conditions Scenario	− A-Party's device is online. − B- and C-Party are known to be Group Chat enabled to A-Party's device. − Test case 3_2_1 or 3_2_7 has been executed and the Group Chat conversation is still available on A-, B- and C-Party's devices.
Test procedure	− Open existing Group chat conversation between A-, B- and C-Party (as created in Test case 3_2_1 or 3_2_7) on A-Party's device. − Send selected character sequences (as defined in in Annex 2: "Emoticon Conversion table") from A-Party's device to the Group Chat (one sequence at a time).
Expected results Post-conditions	− B- and C-Party receive correct emoticons in the Group Chat conversation.
Deep inspection	−

Test case ID	ID_RCS_F_3_2_12

Related test cases	ID_RCS_F_3_2_1 or ID_RCS_F_3_2_7
Feature	Group Chat
Reason for test	UP 1.0. Reference section US6.10: Group Chat Message size limits.
Pre-conditions Scenario	– A-Party's device is online. – B- and C-Party are known to be Group Chat enabled to A-Party's device. – Test case 3_2_1 or 3_2_7 has been executed and the Group Chat conversation is still available on A-, B- and C-Party's devices. – A- and B-Party's devices are configured to handle chat messages up to 8192 bytes long. – C-Party's device is configured to handle chat messages up to 4096 bytes long.
Test procedure	– Open existing Group chat conversation between A-, B- and C-Party (as created in Test case 3_2_1 or 3_2_7) on A-Party's device. – Type (or copy and paste) and send a text message of length near 8192 characters (at least 1100 words). – Type (or copy and paste) and try to send a text message longer than 8192 characters (for example, more than 1700 words).
Expected results **Post-conditions**	– B-Party's device receives and displays the message in the Group Chat as sent by A-Party. – C-Party's device displays only the first 4096 characters of the message from A-Party in the Group Chat conversation. C-Party shall be informed that the original message has been cut. – A-Party is informed that the whole message cannot be sent. Only the first 8192 characters are displayed in A party's conversation and sent. – B-Party's device receives and displays in the Group Chat conversation the 8192 characters long message as sent by A-Party. – C-Party's device displays in the Group Chat conversation the first 4096 characters of the message that was sent by A-Party. C-Party shall be informed that the original message has been cut.
Deep inspection	–

Test case ID	ID_RCS_F_3_2_13

Related test cases	ID_RCS_F_3_2_10
Feature	Group Chat
Reason for test	UP 1.0. Reference section US6.11: Status of sent Group Chat Messages
Pre-conditions Scenario	− C-Party's device is online. − B- and C-Party are known to be Group Chat enabled to A-Party's device. − Test case 3_2_1 or 3_2_7 has been executed and the Group Chat conversation is still available on A-, B- and C-Party's devices.
Test procedure	− Set A- and B-Party's devices to 'Flight mode' (any kind of communication is barred). − Open existing Group chat conversation on A-Party's device between A-, B- and C-Party (as created in Test case 3_2_1 or 3_2_7). − Create a Group Chat message on A-Party's device and send. − Disable 'Flight Mode' on A-Party's device. − Open the Group Chat conversation on C-Party's device when the message from A-Party comes in. − Set A-Party's device back to 'Flight Mode'. − Disable 'Flight Mode' on B-Party's device. − Open the Group Chat conversation on B-Party's device when the message from A-Party comes in. − Disable 'Flight Mode' on A-Party's device.
Expected results **Post-conditions**	− A-Party is informed that the message cannot be sent until connectivity is restored. Message is in 'Pending' state on A-Party's device. − A-Party's device sends the message. Message is in 'sent' state. − C-Party receives Group Chat messages sent by A-Party. On A-Party's device, the message state changes to 'delivered' for C-Party. − A-Party's device indicates 'displayed' to C-Party for the message. − B-Party's device receives messages sent by A-Party to the Group. − A-Party's device indicates 'displayed' for all Group Chat participants. − *NOTE: aggregation of sent message status notification is up to the implementation; representation of steps 4b, 5 and 9 may vary depending on the implementation.*
Deep inspection	−

Test case ID	ID_RCS_F_3_2_14

Related test cases	ID_RCS_F_3_2_8
Feature	Group Chat
Reason for test	UP 1.0. Reference section US6.12: See when the other party is currently writing a Group Chat Message
Pre-conditions Scenario	− A-, B- and C-Party's devices are online. − The MNO of A-, B- and C-Party support 'is typing'. − B- and C-Party are known to be Group Chat enabled to A-Party's device. − Test case 3_2_1 or 3_2_7 has been executed and the Group Chat conversation is still available on A-, B- and C-Party's devices.
Test procedure	− Open existing Group chat conversation between A-, B- and C-Party (as created in Test case 3_2_1 or 3_2_7) on A-, B- and C-Party's devices. − Start typing a new message to the Group on A-Party's device. A types text messages to the Group.
Expected results **Post-conditions**	− B- and C-Party's devices indicate 'is typing' while A-Party is typing (support of 'is typing' is subject to network configuration).
Deep inspection	−

Test case ID	ID_RCS_F_3_2_15
Related test cases	ID_RCS_F_3_2_8
Feature	Group Chat
Reason for test	UP 1.0. Reference section US6.13: Notification at any time a device receives a new Group Chat Message.
Pre-conditions Scenario	− A-, B- and C-Party's devices are online. − B- and C-Party are known to be Group Chat enabled to A-Party's device. − Test case 3_2_1 or 3_2_7 has been executed and the Group Chat conversation is still available on A-, B- and C-Party's devices. − B-Party's device is muted

	− C-Party's device has enabled device audio notifications for incoming messages.
Test procedure	− Open existing Group chat conversation between A-, B- and C-Party (as created in Test case 3_2_1 or 3_2_7) on A-, B- and C-Party's devices. − Sends Group Chat message from A-Party to the Group.
Expected results **Post-conditions**	− B-Party's device shows some kind of visual indication that a message has arrived but remains silent. C-Party's device notifies incoming messages with visual and audible notifications.
Deep inspection	−

Test case ID	ID_RCS_F_3_2_16
Related test cases	ID_RCS_F_3_2_6, ID_RCS_F_3_2_7, ID_RCS_F_3_2_15
Feature	Group Chat
Reason for test	UP 1.0. Reference section US6.14: notifications of rapidly sequenced incoming Group Chat Messages intelligibly aggregated and counted.
Pre-conditions Scenario	− A-, B-, C- and E-Party's devices are online. − B-Party is known to be Group Chat enabled to C- and E-Party's devices. − Test case 3_2_6 and 3_2_7 have been executed and the Group Chat conversation is still available on A-, B-, C- and E-Party's devices. − B-Party has enabled audio notifications for incoming new messages.
Test procedure	− Open existing Group Chat conversation between A-, B- and C-Party (as created in Test case 3_2_1 or 3_2_7) on C-Party's device. − Open existing Group Chat conversation between A-, C- and E-Party (as created in Test case 3_2_6) on E-Party's device. − Send a burst of 6 short Group Chat messages from C-Party's device (one single character each) to the Group chat conversation of A-, B- and C-Party. Simultaneously, send a burst of 9 short Group Chat messages from E-Party's device (one single character each) to the Group Chat conversation of A-, C- and E-Party.
Expected results **Post-conditions**	− A-Party's device generates only two audible notifications, and displays two visual indications, one telling that 6 messages have arrived to a Group Chat conversation, the other telling that 9 messages have arrived to a Group Chat conversation. *NOTE: as part of the visual*

	notification, details of the Group Chat that received the Group Chat messages may be provided to A-Party.
Deep inspection	−

Test case ID	ID_RCS_F_3_2_17
Related test cases	ID_RCS_F_3_2_4
Feature	Group Chat
Reason for test	UP 1.0. Reference section US6.15: Subject title and Group Picture are displayed as the identifier of a Group Chat Conversation in the list of Chat and Group Chat Conversations.
Pre-conditions Scenario	− B-Party's device is online. − C- and E-Party are known to be Group Chat capable to B-Party's device. − Test case 3_2_4 has been executed, and B-, C- and E-Party have changed the local Group Chat 'Subject' and 'Icon' on their devices.
Test procedure	− B-, C- and E-Party open the messaging application on their devices and display the list of conversations.
Expected results **Post-conditions**	− Each device displays a list of existing 1-to-1 and Group Chat conversations. The Group Chat conversation created in step 3 from Test case 3_2_4 is identifiable through the local 'Subject' and 'Icon' as set on each device in step 5 of test case 3_2_4.
Deep inspection	−

Test case ID	ID_RCS_F_3_2_18
Related test cases	ID_RCS_F_3_2_6, ID_RCS_F_3_2_7, ID_RCS_F_3_2_16
Feature	Group Chat
Reason for test	UP 1.0. Reference section US6.16: Conversations which contain unread messages to be differentiated from conversations that contain messages which have been seen.

Pre-conditions Scenario	− A-, B-, C- and E-Party's devices are online. − B-Party is known to be Group Chat capable to C- and E-Party's devices. − Test case 3_2_6 and 3_2_7 have been executed and the Group Chat conversation is still available on A-, B-, C- and E-Party's devices. − Test case 3_2_16 has been executed, and B-Party has unread messages in two different Group Chat conversations.
Test procedure	− B-Party opens the messaging application to see the list of conversations. − B-Party opens the Group Chat conversation with A- and C-Party. − B-Party closes the Group Chat conversation window (*NOTE: do not leave the Group Chat with A- and C-Party*) and goes back to the overview of conversations in the messaging application.
Expected results **Post-conditions**	− Both Group Chat conversations (with A- and B-Party and with A- and E-Party) are highlighted to inform the user of new, unread messages. − The Group Chat conversation with A- and B-Party is no longer highlighted (no unread messages anymore), while the Group Chat conversation with A- and E-Party is still highlighted (still unread messages).
Deep inspection	−

Test case ID	ID_RCS_F_3_2_19
Related test cases	ID_RCS_F_3_2_6
Feature	Group Chat
Reason for test	UP 1.0. Reference section US6.17: Receive Group Chat Messages from any of the contacts participating in a Group Chat Conversation – no handshake required; only those messages interchanged while taking part in the Group chat.
Pre-conditions Scenario	− Test case 3_2_6 has been executed and the Group Chat conversation is still available on A-, C- and E-Party's devices. − B-party is a known Group Chat capable contact to A-Party.
Test procedure	− A-Party opens the Group Chat conversation with C- and E-Party and sends a message. − C-Party opens the Group Chat conversation with A- and E-Party and sends a message.

	− A-Party adds B-Party to the Group Chat with C- and E-Party. − E-Party opens the Group Chat conversation with A-, B- and C-Party and sends a message. − B-Party leaves the Group Chat conversation with A-, C- and E-Party. − A-Party opens the Group Chat conversation with C- and E-Party and sends a message.
Expected results **Post-conditions**	− C- and E-Party receive the message as sent by A-Party (no acceptance or confirmation required). − A- and E-Party receive the message as sent by C-Party (no acceptance or confirmation required). − A-, C- and E-Party are notified that B-Party joined the Group Chat. − A-, B- and C-Party receive the message sent by E-Party. − A-, C- and E-Party are notified that B-Party has left the Group Chat. − C- and E-Party receive the message as sent by A-Party. B-Party shall not receive that message.
Deep inspection	−

Test case ID	ID_RCS_F_3_2_20
Related test cases	ID_RCS_F_3_2_6, ID_RCS_F_3_2_7
Feature	Group Chat
Reason for test	UP 1.0. Reference section US6.18: Exchange multi-media content (e.g., but not limited to: take an instant picture from camera and send from within the chat) in Group Chat Conversations
Pre-conditions Scenario	− A-, B-, C- and E-Party's devices are online. − B-Party is is known to be Group Chat capable to C- and E-Party. − Test case 3_2_6 and 3_2_7 have been executed and the Group Chat conversation is still available on A-, B-, C- and E-Party's devices.
Test procedure	− B-Party takes a picture with the device camera and sends it to the Group Chat with A- and C-Party. − A-Party opens the Group Chat with B- and C-Party, selects the picture that was received from B-Party, and sends it to another Group Chat conversation with C- and E-Party. − Close the Group Chat conversation with A- and C-party on B-Party's device and go back to the list of conversations.
Expected results	− A- and C-Party receive the image as sent by B-Party. − C- and E-Party receive the image as sent by A-Party.

Post-conditions	
Deep inspection	−

Test case ID	ID_RCS_F_3_2_21
Related test cases	ID_RCS_F_3_2_1, ID_RCS_F_3_2_7
Feature	Group Chat
Reason for test	UP 1.0. Reference section US6.19: view sent and received Group Chat Messages in a time-based order.
Pre-conditions Scenario	− A- and B-Party's devices are online. − Test case 3_2_1 or 3_2_7 has been executed and the Group Chat conversation is still available on A-, B- and C-Party's devices.
Test procedure	− Open existing Group Chat conversation with A-, B- and C-Party (as created in Test case 3_2_1 or 3_2_7) on A-Party's device. − Send a Group Chat message from A-Party to the Group. − As soon as the message from step 2 was received on B-Party's device, send a new message from B-Party's device to the Group. − As soon as the message from step 3 was received on C-Party's device, send a new message from C-Party's device to the Group.
Expected results Post-conditions	− The same sequence of messages (from steps 2, 3 and 4) is displayed in the Group Chat conversations on A-, B- and C-Party's devices.
Deep inspection	−

Test case ID	ID_RCS_F_3_2_22
Related test cases	ID_RCS_F_3_2_21
Feature	Group Chat
Reason for test	UP 1.0. Reference section US6.20: see the timestamp associated with each of the sent and received messages.

Pre-conditions Scenario	− A- and B-Party's devices are online. − Test case 3_2_1 or 3_2_7 has been executed and the Group Chat conversation is still available on A-, B- and C-Party's devices. − A and C devices are synchronised to the UTC aligned with the selected device time zone. − Set local time on B-Party's device to 00h00m
Test procedure	− Open existing Group Chat conversation with A-, B- and C-Party (as created in Test case 3_2_1 or 3_2_7) on A-Party's device. − Send a Group Chat message from A-Party to the Group. − As soon as the message from step 2 was received on B-Party's device, send a new message from B-Party's device to the Group. − As soon as the message from step 3 was received on C-Party's device, send a new message from C-Party's device to the Group.
Expected results **Post-conditions**	− The same sequence of messages (from steps 2, 3 and 4) is displayed in the Group Chat conversations on A-, B- and C-Party's devices. − Timestamp on A-Party's device will look as: WWhXXm – message from A; WWhYYm – message from B; WWhZZm – message from C; − Timestamps in B-Party's device will look as: WWhXXm – message from A; 00h0Mm – message from B; WWhZZm – message from C. − Timestamps in C-Party'S device will look as: WWhXXm – message from A; WWhYYm – message from B; WWhZZm – message from C;
Deep inspection	−

Test case ID	ID_RCS_F_3_2_23
Related test cases	ID_RCS_F_3_2_6
Feature	Group Chat
Reason for test	UP 1.0. Reference section US6.23: User is able to leave a Group Chat Conversation at any point in time – Without deleting the conversation.
Pre-conditions Scenario	− Test case 3_2_6have been executed and the Group Chat conversation is still available on A-, C- and E-Party's devices.
Test procedure	− A-Party opens the Chat Group conversation with C- and E-Party and leaves the Group Chat conversation (without deleting the conversation). − C-Party sends a message to the Group Chat with E-Party.

	− A-Party opens the Group chat conversation and tries to send a message. − E-Party adds A-Party to the Group Chat conversation. − E-Party sends a message to the Group chat.
Expected results **Post-conditions**	− C- and E-Party receive a notification that A-Party is no longer a member of the Group Chat. A-Party is not longer visible in the participant list on C- and E-Party's devices. − E-Party receives the Group Chat message as sent by C-Party. − A-Party's device displays the Group Chat conversation. The Group Chat is marked as 'closed'. The message sent by C-Party (step 2) is not displayed. C- and E-Party are visible in the participant list as last known members of the Group Chat. A-Party is not allowed to send any messages to the Group. − A- and C-Party are notified that A-Party is now member of Group Chat. − A- and C-Party receive the Group Chat message as sent by E-Party. The message sent by C-Party (step 2) still does not appear in A-Party's Group Chat conversation.
Deep inspection	−

Test case ID	ID_RCS_F_3_2_24
Related test cases	
Feature	Group Chat
Reason for test	UP 1.0. Reference section US6.23: User is able to leave a Group Chat Conversation at any point in time – Deleting messages
Pre-conditions Scenario	− Test case 3_2_6 have been executed and the Group Chat conversation is still available on A-, C- and E-Party's devices.
Test procedure	− Open the Group Chat conversation with C- and E-Party on A-Party's device. − Delete a few randomly selected Group Char messages from the Group Chat on A-Party's device. − Send a message from C-Party's device to the Group Chat. − Send a message from A-Party's device to the Group Chat.
Expected results **Post-conditions**	− Selected messages are remove3d from the Group Chat on A-Party's device. C- and E-Party are not aware of this. On C- and E-Party's devices, these messages remain part of the Group Chat conversation. − A- and E-Party receive the Group Chat message as sent by C-Party.

	− C- and E-Party receive the Group Chat message as sent by A-Party.
Deep inspection	−

Test case ID	ID_RCS_F_3_2_25
Related test cases	ID_RCS_F_3_2_6
Feature	Group Chat
Reason for test	UP 1.0. Reference section US6.23: User is able to leave a Group Chat Conversation at any point in time – Deleting the conversation.
Pre-conditions Scenario	− - Test case 3_2_6 have been executed and the Group Chat conversation is still available on A-, C- and E-Party's devices.
Test procedure	− Find the Group Chat conversation with C- and E-Party on A-Party's device. − Delete the entire Group Chat conversation with C- and E-party from A-Party's device. If the device should ask to 'delete conversation only' or 'delete conversation and leave the Group Chat', then select 'delete conversation and leave the Group Chat'. − Send a message from C-Party's device to the Group Chat. − Add A-Party to the Group Chat from E-Party's device. − Send another message from E-Party's device to the Group Chat.
Expected results Post-conditions	− On A-Party's device, the Group Chat conversation is listed in the list of conversations. − The entire conversation is deleted on A-Party's device and A-Party left the Group Chat with C- and E-Party. C- and E-Party receive a notification that A-Party is no longer a member of the Group Chat conversation. A-Party is no longer visible in the participant list. − E-Party receives the Group Chat message from C-Party. − A- and C-Parties receive a notification that A party is now a member of the Group chat conversation. A-Party is on the list of Group Chat participants on A-, C- and E-Party's devices. − A- and C-Party receive the Group Chat message from E-Party.
Deep inspection	−

Test case ID	ID_RCS_F_3_2_26

Related test cases	ID_RCS_F_6_21_2
Feature	Group Chat
Reason for test	UP 1.0. Reference section US6.24: be able to answer any incoming voice or video call during a Group Chat Conversation - and resume the Group Chat when the call is finished.
Pre-conditions Scenario	- A-, B- and C-Party are online. - B- and C-Party are known to be Group Chat capable to A-Party's device. - Test case 3_2_1 or 3_2_7 has been executed and the Group Chat conversation is still available on A-, B- and C-Party's devices. - Video Calling is available on A-, B- and C-party's networks and devices. *(NOTE: If Video Call is not available, this test case shall be ignored.)*
Test procedure	- Open existing Group Chat conversation between A-, B- and C-Party on A-Party's device. - Video-Call A-Party from C-Party's device. Answers the video call on A-Party's device. - Send a message to the Group Chat conversation from B-Party's device. - Open the participant list of the Group Chat on B-Party's device. - Hangs up the Video Call with E-Party on A-Party's device.
Expected results Post-conditions	- A-Party is notified of the incoming video call and has a one-click option to accept the incoming video call. - A- and C-Party's device notify the user of an incoming new Group Chat message. - A- and C-Party are displayed as participants in the Group chat conversation. - A-Party's device displays the screen that was displayed before A-Party accepted the incoming Video Call in step 2 including the new incoming Group Chat message from step 3.
Deep inspection	–

Test case ID	ID_RCS_F_3_2_27
Related test cases	ID_RCS_F_3_2_6, ID_RCS_F_2_1_1 (Autoprovisioning)
Feature	Group Chat

Reason for test	UP 1.0. Reference section US6.26 and US6.27: Group Chat messages backed up on the Common Message Store - Restore Group Chat Conversations from the Common Message Store (e.g. but not limited to, after wiping device or purchasing a new device).
Pre-conditions Scenario	− Test case 3_2_6 has been executed and the Group Chat conversation is still available on A-, C- and E-Party's devices. − Backup & Restore service is available to A-Party. − *(NOTE: If Backup & Restore is not available, this test case shall be ignored.)*
Test procedure	− Unplug A-Party's SIM. Plug A-Party's SIM into a different RCS-enabled mobile device which was reset to factory settings before. − Open the Messaging application on the A-Party's 'new device'. On request, confirm sync of A-Party's new device with the Backup & Restore service. − Open the Group Chat conversation with C- and E-Party on A-Party's 'new device'.
Expected results **Post-conditions**	− A-Party's 'new device' is provisioned for RCS services without any interaction from A-Party (as per Test case 2_1_1). − A-Party shall be made aware that there are messages on the Backup & Restore service waiting to be sync'ed with A-Party's 'new device'. On confirmation, messaging conversations are restored on A-Party's new device beginning with the latest conversations. − The full Group Chat conversation shall be displayed on A-Party's 'new device'.
Deep inspection	−

Test case ID	ID_RCS_F_3_2_28
Related test cases	ID_RCS_F_3_2_6
Feature	Group Chat
Reason for test	UP 1.0. Reference section US6.28: ability to share current position or a selected location with any of my Groups from the Messaging Application.
Pre-conditions Scenario	− Test case 3_2_6 has been executed and the Group Chat conversation is still available on A-, C- and E-Party's devices. − Geo-location Push feature is available to A-Party.

Test procedure	− Open the Group chat conversation on A-Party's device with C- and E-Party − Select Geolocation Push feature on A-party's device and send to the Group Chat with C- and E-Party.
Expected results Post-conditions	− C- and E-Party receive the Location information sent by A-Party.
Deep inspection	−

3.2.2   Technical test cases

Test case ID	ID_RCS_T_3_2_1
Related test cases	
Feature	Group Chat
Reason for test	Change chat 1 to 1 -> one to many; R6-29-1
Pre-conditions Scenario	− DUT + Reference 1,2 are registered and able to access IMS/RCS core network and relevant servers. − Contacts addresses of Reference 1,2 are entries in DUT's addressbook and RCS capabilities are known and not expired. − GROUP CHAT AUTH configuration parameter set to 1. − IM SESSION AUTO ACCEPT GROUP CHAT set to 1. − Supported by network: Cellular, Wi-Fi
Test procedure	− DUT starts a chat conversation by sending a message to Reference 1. − DUT selects contact of Reference 2, adds it to the chat and sends a message into the new Groupchat.
Expected results Post-conditions	− Message from DUT is received and displayed by Reference 1 − Groupchat Message from DUT is received and displayed by Reference 1+2
Deep inspection	− Verify SIP INVITE containing resource-list with Reference 1,2 − New Contribution and Conversation ID − Verify ICSI media feature tag value urn:urn-7:3gpp-service.ims.icsi.oma.cpm.session − The P-Preferred-Service header field feature tag is '3gpp-service.ims.icsi.oma.cpm.session.group'. − Verify Subscription to conference event package

Test case ID	ID_RCS_T_3_2_2
Related test cases	
Feature	Group Chat
Reason for test	Initiate a new group chat conversation by selecting contacts. R6-29-1
Pre-conditions Scenario	− DUT, Reference 1, Reference 2 and Reference 3 are online. − GROUP CHAT AUTH configuration parameter set to 1. − IM SESSION AUTO ACCEPT GROUP CHAT set to 0.
Test procedure	− DUT selects 2 contacts (Reference1, 2) and creates a new group chat conversation. − Reference 1 and Reference 2 accept the invitation. − Reference 3 rejects the invitation.
Expected results Post-conditions	− DUT sends group chat initiation request − References 1, 2, 3 receive the INVITE request, and show a inviation message. − DUT, Reference 1 and Reference 2 join the group chat manually, and display the group chat conversation. − Reference 3 will not display the group chat conversation.
Deep inspection	− Verify that the INVITE messages delivered successfully to each recipient. − The P-Preferred-Service header field feature tag is '3gpp-service.ims.icsi.oma.cpm.session.group'. − Verify that Reference 1 and Reference 2 sending "200 OK". − Verify that Reference 3 sending "403 fobiden".

Test case ID	ID_RCS_T_3_2_3
Related test cases	
Feature	Group Chat
Reason for test	Iniating a chat / add a new participant; R6-29-2; R6-29-7; R6-29-8; R6-29-10; 6-29-13, R6-29-20;R6-29-22
Pre-conditions Scenario	− Minimum setup: − DUT + Reference 1,2,3 are registered and able to access IMS/RCS core network and relevant servers. − Contacts addresses of Reference 1,2,3 are entries in DUT's addressbook and RCS capabilities are known and not expired. − GROUP CHAT AUTH configuration parameter set to 1 − IM SESSION AUTO ACCEPT GROUP CHAT set to 1

	− Supported by network: Cellular, Wi-Fi − Important information: Correct Implementation of the "icon in a groupchat" feature is currently under GSG review. Related CR: GSG_RCS_CR076R01
Test procedure	− DUT selects Reference 1,2 from IM/chat application to start a Groupchat, selects a Subject and an icon for the GC and sends 3 messages into the created Groupchat − DUT adds Reference 3 into the Groupchat and sends 3 message into the new, extended groupchat − DUT sends 5 different small graphics into the group chat
Expected results Post-conditions	− GC Subject and icon are visible to all participants.3 Groupchat Messages from DUT received and displayed on Reference 1+2. All GC participants are visible for all participants − GC Subject is visible to all participants.3 Groupchat Message from DUT received and displayed on Reference 1-3. All GC participants are visible for all participants − All 5 small graphics are correctly displayed on Reference 1-3
Deep inspection	− Verify NO options exchange when selecting new user to join due to non expired capability (see pre-condition) − Verify INVITE containing subject header − Verify INVITE containing resource-list with Reference 1,2 − The P-Preferred-Service header field feature tag is '3gpp-service.ims.icsi.oma.cpm.session.group'. − Verify Conversation-ID − Verify subscription to conference event package − Verify REFER containing subject header − Verify NOTIFY processing with added Reference 3

Test case ID	ID_RCS_T_3_2_4
Related test cases	
Feature	Group Chat
Reason for test	Add or change the Subject and/or Icon of a Group Chat R6-29-2, R6-29-3, R6-29-4, R6-29-5 , R6-29-6
Pre-conditions Scenario	− GROUP CHAT AUTH configuration parameter set to 1. − DUT, Reference 1 and Reference 2 are online.
Test procedure	− DUT creates a group chat conversation inviting Reference 1 and Reference 2. A subject and icon is selected.

	− DUT changes group subject. − DUT changes group icon.
Expected results **Post-conditions**	− DUT sends INVITE with the default subject. − After Reference 1 and Reference 2 accepted the invitiation, they display the default subject and icon. − Updated subject is displayed on Reference 1 and Reference 2. − Updated icon is diplayed on Reference 1 and Reference 2.
Deep inspection	− Verify that the Content-Type should be "application/vnd.oma.cpm-groupdata+xml". − Verify that the group session data containing top element <cpm-event-group-management> and child elements − <subject> element including the new subject. − Verify that the group session data containing top element <cpm-event-group-management> and child elements. − <icon> element including the new icon information using file-info element.

Test case ID	ID_RCS_T_3_2_5
Related test cases	
Feature	Group Chat
Reason for test	Typing text /notifications; Particpant leaves Group R6-29-16;R6-29-17; R6-29-18; R6-29-19
Pre-conditions Scenario	− Minimal setup: − DUT + Reference 1-3 are registered and able to access IMS/RCS core network and relevant servers. − Reference 1-3 are entries in DUT's addressbook and their RCS capabilities are known and not expired. − Supported by network: Cellular, Wi-Fi
Test procedure	− DUT selects Reference 1-3 from IM/chat application to start a Groupchat and sends a message into the created Groupchat − DUT types text in the IM/chat application client. − DUT stops typing text in the message. − DUT sends a message into the Groupchat − Reference 1 leaves the groupchat
Expected results **Post-conditions**	− Groupchat Message from DUT received on Reference 1-3 − Reference 1-3 receive 'is typing' notification from DUT − 'is typing' notifications disappear from Reference 1-3 screens − Reference 1-3 receive message from DUT − DUT and Reference 2+3 get notification "Reference 1 has left"

Deep inspection	− Verify INVITE containing resource-list with Reference 1,2,3 − Verify Conversation-ID − Verify subscription to conference event package − Verify MSRP Send request with CPIM body and and 'iscomposing' xml body − Verify NOTIFY with Reference 1 disconnected departed indication

Test case ID	ID_RCS_T_3_2_6
Related test cases	
Feature	Group Chat
Reason for test	Closing a group chat (other than initiator)
Pre-conditions Scenario	− Minimal setup: − DUT + Reference 1,2 are registered and able to access IMS/RCS core network and relevant servers. − Reference 1,2 are entries in DUT's addressbook and their RCS capabilities are known and not expired. − Supported by network: Cellular, Wi-Fi
Test procedure	− Reference 1 selects Reference 2 and DUT to start a Groupchat and sends a message into the created Groupchat − DUT leaves the Group Chat − Reference 2 sends a Chat Message
Expected results **Post-conditions**	− DUT is invited to a Group Chat and the chat message is received − Conversation is closed, user is not able to compose a chat message or to add files − Message is not received on DUT
Deep inspection	− Verify INVITE for Group Chat Session − Verify subscription to conference event package − Verify SIP BYE with reason header set to SIP;cause=200 − Verify session termination − Verify Subscription termination

Test case ID	ID_RCS_T_3_2_7
Related test cases	
Feature	Group Chat

Reason for test	Re-invited after departure R6-29-28
Pre-conditions Scenario	− Minimal setup: − DUT + Reference 1,2 are registered and able to access IMS/RCS core network and relevant servers. − Reference 1,2 are entries in DUT's addressbook and their RCS capabilities are known and not expired. − Supported by network: Cellular, Wi-Fi
Test procedure	− DUT selects Reference 1,2 from IM/chat application to start a Groupchat and sends a message into the created Groupchat − Reference 1 leaves the chat voluntarily. − Reference 2 send message − DUT adds Reference 1 to the Groupchat − Reference 1 sends a message into the group chat.
Expected results **Post-conditions**	− Group Chat Message from DUT received and displayed for Reference 1,2 − DUT received notification that Reference 1 has left the group chat. Group with DUT & Reference 2 is available − DUT receives message, Reference 1 does not receive message − DUT invites Reference 1 to the Group Chat − Message is received by DUT and Reference 2
Deep inspection	− Verify BYE from DUT with reason header SIP;cause=200. − Verify NOTIFY with Reference 1 set to disconnected, departed. − Verify REFER with resource-list containing Reference 1 − Verify NOTIFY with Reference 1 set to connected

Test case ID	ID_RCS_T_3_2_8
Related test cases	
Feature	Group Chat
Reason for test	Inviting an unregistered user
Pre-conditions Scenario	− Minimal setup: − DUT + Reference 1,2 are registered and able to access IMS/RCS core network and relevant servers. Reference 3 is unregistered. − Reference 1,2,3 are entries in DUT's addressbook and their RCS capabilities are known and not expired. − Supported by network: Cellular, Wi-Fi
Test procedure	− DUT selects Reference 1,2,3 from IM/chat application to start a Groupchat and sends 3 messages into the created Groupchat − Reference 3 registers.

	− Reference 3 sends 3 Messages into the Groupchat.
Expected results Post-conditions	− Messages are received by Reference 1,2 − Reference 3 receives messages sent by DUT and DUT receives delivery notification. − 3 Messages are received by DUT, Reference 1,2
Deep inspection	− Verify INVITE with resource-list containing Reference 1,2,3 − Verify Subscription − Verify NOTIFY with Reference 1,2,3 set to "connected" − Verify that there is no futher participant information update

Test case ID	ID_RCS_T_3_2_9
Related test cases	
Feature	Group Chat
Reason for test	Re-Start a group chat
Pre-conditions Scenario	− Minimal setup: − DUT + Reference 1,2 are registered and able to access IMS/RCS core network and relevant servers. − Reference 1,2 are entries in DUT's addressbook and their RCS capabilities are known and not expired. − Group Chat session timer – TimerIdle – is known and e.g. set to 300 seconds − Supported by network: Cellular, Wi-Fi
Test procedure	− DUT selects References 1,2 from IM/chat application to start a Groupchat and sends a message into the created Groupchat. Reference 1,2 also send a message into the groupchat − Message exchange is stopped. Wait until session idle timer expires − After the timeout DUT, Reference 1,2 send a new message.
Expected results Post-conditions	− Groupchat Messages are received on target devices − No more messages are exchanged. No "is typing" message is visible, Group Chat continues to exist. − All messages are delivered correctly and can be read on target devices.
Deep inspection	− Verify group session ID, Conversation-ID and Contribution-ID in INVITE − Verify BYE with reason code other than 200 (e.g. 503) − Verify INVITE with group Session Identity, Contribution-ID and Conversation-ID

	− Verify INVITE with resource-list absent

Test case ID	ID_RCS_T_3_2_10
Related test cases	
Feature	Group Chat
Reason for test	Simultaneous Re-start group chat
Pre-conditions Scenario	− Minimal setup: − DUT + Reference 1,2 are registered and able to access IMS/RCS core network and relevant servers. − Reference 1,2 are entries in DUT's addressbook and their RCS capabilities are known and not expired. − Group Chat session timer – TimerIdle – is known and e.g. set to 300 seconds − Supported by network: Cellular, Wi-Fi
Test procedure	− DUT selects References 1,2 from IM/chat application to start a Groupchat and sends a message into the created Groupchat. − Reference 1,2 send a message into the groupchat − Message exchange is stopped. Wait until session idle timer expires. − After the timeout **Reference 1,2** send a message **at the same time.**
Expected results Post-conditions	− Groupchat messages are received on target devices − Groupchat messages are received on target devices − No more messages are exchanged. No "is typing" message is visible, Group Chat continues to exist. − All messages are delivered correctly and can be read on target devices.
Deep inspection	− Verify Group Chat set-up and subscriptions − Verify session involuntary departure − DUT sends or receive only one INVITE to/from group session identity with Contribution-ID and Conversation-ID

Test case ID	ID_RCS_T_3_2_11
Related test cases	
Feature	Group Chat
Reason for test	Re-start a group chat with some users offline

Pre-conditions Scenario	− Minimal setup: − DUT + Reference 1,2,3 are registered and able to access IMS/RCS core network and relevant servers. − Reference 1,2,3 are entries in DUT's addressbook and their RCS capabilities are known and not expired. − Chat inactivity Timeout of the messaging server is known and e.g. set to 300 seconds − Supported by network: Cellular, Wi-Fi
Test procedure	− DUT selects References 1,2,3 from IM/chat application to start a Groupchat and sends a message into the created Groupchat. − Reference 1,2,3 also send one message into the groupchat − Message exchange is stoppped, wait until session idle timer expires. − After the timeout Reference 3 unregisters (data loss, turn off, closes RCS services). − DUT sends new messages . − Reference 3 registers back and sends a new message.
Expected results Post-conditions	− Groupchat Messages are received on target devices − Groupchat Messages are received on target devices − No more messages are exchanged. No "is typing" message is visible, Group Chat continues to exist. − Reference 3 stays to be participant in the Group Chat − Messages are received by Reference 1,2. Message to Reference 3 is not delivered. − Message is received from Reference 3, delivery notifications are received for sent messages for Reference 3.
Deep inspection	− Verify Group Chat set-up and subscription − Verify message sending and receiving on DUT − Verify INVITE from group session identity, Contibution-ID and Conversation-ID − Verify NOTIFY with Reference 1,2,3, set to connected − Verify message and IMDN receiving

Test case ID	ID_RCS_T_3_2_12
Related test cases	
Feature	Group Chat
Reason for test	Re-join a group chat with some users offline and adding more users. No new session is created.
Pre-conditions Scenario	− Minimal setup: − DUT + Reference 1,2,3,4 are registered and able to access IMS/RCS core network and relevant servers.

	− Reference 1,2,3,4 are entries in DUT's addressbook and their RCS capabilities are known and not expired. − Chat inactivity Timeout of the messaging server is known and e.g. set to 300 seconds − Supported by network: Cellular, Wi-Fi
Test procedure	− Reference 3 selects References 1,2,DUT from IM/chat application to start a Groupchat and sends a message into the created Groupchat. Reference 1,2, DUT also send a message into the groupchat − DUT looses coverage (data loss, turn off, taken battery). − Message exchange is stopped. Wait for session idle time to expire. − Reference 3 sends a new message. − Reference 3 invites Reference 4 to the group chat. − Reference 4 sends 3 messages − DUT registers back (without sending a message) − Reference 3 sends a new messages
Expected results **Post-conditions**	− Groupchat Messages are received on target devices − DUT stays to be a participant of the Group Chat. No more messages or notifications are received on DUT side. − No more messages are exchanged. No "is typing" message is visible on any device. − Messages are received by all clients except DUT. − Reference 4 successfully joins the existing groupchat − Messages from Reference 4 are received from all other devices (except DUT) − DUT receives messages − Messages are received by all participants − New messages shall be received by DUT.
Deep inspection	− Verify no NOTIFY is received on Refrence if DUT leaves the Group Chat − Verify no NOTIFY is received if DUT re-joins − Verify NOTIFY with Reference 4 status set to connected

Test case ID	ID_RCS_T_3_2_13
Related test cases	
Feature	Group Chat
Reason for test	Too many participants
Pre-conditions Scenario	− Minimal setup: − Configuration Parameter MAX_AD-HOC_GROUP_SIZE is set to 5, and maximum-user-count in network is set to 5

	− DUT + Reference 1,2,3,4,5 are registered and able to access IMS/RCS core network and relevant servers. − Reference 1,2,3,4,5 are entries in DUT's addressbook and their RCS capabilities are known and not expired. − Supported by network: Cellular, Wi-Fi
Test procedure	− DUT selects Reference 1,2,3,4 from IM/chat application to start a Groupchat and sends a message into the created Groupchat − DUT tries to add Reference 5 into the existing Groupchat
Expected results **Post-conditions**	− Message from DUT is received on target devices. − DUT receives a warning message, e.g. 'too many participants' or the menue "Add participant" is greyed out.
Deep inspection	− Verify NOTIFY to contain maximum-user-count parameter set to "5" − Verify no REFER message sent from DUT to invite Reference 5

Test case ID	ID_RCS_T_3_2_14
Related test cases	
Feature	Group Chat
Reason for test	Chat invitation auto-accept R6-29-9
Pre-conditions Scenario	− Minimal setup: − Configuration parameter AutAcceptGroupChat is set to 1 − DUT + Reference 1,2,3 are registered and able to access IMS/RCS core network and relevant servers. − Supported by network: Cellular, Wi-Fi − NOTE: This test case depends on network configuration settings
Test procedure	− Check that DUT is provisioned for auto-accept of group chat invitations − Reference 1 creates a Groupchat with Reference 2,3 and each of the particpants sends a Message − Reference 3 adds DUT into the exsting Groupchat − DUT sends a Message into the Groupchat
Expected results **Post-conditions**	− DUT is proviosioned for auto-accept of group chat invitations − Groupchat is created and Messages are display on target devices. − DUT is automatically added to the group chat. (No User Interaction required) − Message is received on target devices.
Deep inspection	− Verify 200 OK sent if INVITE is received by DUT.

Test case ID	ID_RCS_T_3_2_15
Related test cases	
Feature	Group Chat
Reason for test	Notifications / Message Status
Pre-conditions Scenario	- DUT + Reference 1,2 are registered and able to access IMS/RCS core network and relevant servers. Reference 3 is not registered in IMS/RCS core network. - Reference 1,2,3 are entries in DUT's addressbook and their RCS capabilities are known and not expired. - Supported by network: Cellular, Wi-Fi
Test procedure	- DUT selects References 1,2,3 from IM/chat application to start a Groupchat and sends a message into the created Groupchat. - Reference 1 does not read the message (e.g. user does not enter the group conversation) - Reference 2 reads the message (e.g. user enters the group conversattion) - Reference 3 stays unregistered
Expected results Post-conditions	- GC sucessfully established and messages are received on target devices - Message status for reference 1 is **delivered** on DUT. - Message status for Reference 2 is **displayed** on DUT - Message status for Reference 3 is marked **sent** on DUT
Deep inspection	- Verify CPIM contains request for IMDN positive-delivery and display notifications - Verify that CPIM contains FROM header with public user identity of the user and does not contain sip.instance parameter. - Verify received MSRP SEND body, request with CPIM containing IMDN body with approriate notifications. - Verify CPIM TO of the notification is equal to the URI received in CPIM FROM and does not contain device identifier

Test case ID	ID_RCS_T_3_2_16
Related test cases	
Feature	Group Chat
Reason for test	Reason headers: Explicit Departure

Pre-conditions Scenario	– DUT + Reference 1,2 are registered and able to access IMS/RCS core network and relevant servers. – Reference 1,2 are entries in DUT's addressbook and their RCS capabilities are known and not expired. – Supported by network: Cellular, Wi-Fi
Test procedure	– DUT, References 1,2 create a Groupchat and each of the particpants sends a Message – DUT leaves the Group Chat voluntarily
Expected results Post-conditions	– GC sucessfully established and Messages are received and displayed on target devices. – GC is terminated on DUT, Reference 1,2 show the notification "DUT has left the conversation"
Deep inspection	– Check that the DUT sent the SIP BYE request – Check that the SIP BYE request includes a Reason Header field (as defined in [RFC3326]) with the protocol set to SIP and the protocol-cause set to 200 (e.g. SIP;cause=200;text="Call completed").

Test case ID	ID_RCS_T_3_2_17
Related test cases	
Feature	Group Chat
Reason for test	Messaging Server closes Group Chat
Pre-conditions Scenario	– DUT + Reference 1,2 are registered and able to access IMS/RCS core network and relevant servers. – Reference 1,2 are entries in DUT's addressbook and their RCS capabilities are known and not expired. – Supported by network: Cellular, Wi-Fi
Test procedure	– DUT, reference 1,2 have established a groupchat session and exchange messages – The Group Chat is closed by the Messaging Server due to one of the following reasons (as defined in 3.4.4.1.3.3 of RCC.07 V07) – Less than the minimum number of active participants as defined in the Messaging Server, for a Group Chat remain in the Group Chat, or – When a chat inactivity timeout expires, or – Based on local policy in the Messaging Server, e.g. if the originator leaves the Group Chat.

Expected results Post-conditions	− Groupchat between DUT, Reference 1,2 sucessfully established and Messages recived on target devices. − Group Chat is closed on DUT
Deep inspection	− Check the protocol-cause set to 410 (e.g. SIP;cause=410;text="Gone") in the SIP BYE request received by DUT.

Test case ID	ID_RCS_T_3_2_18
Related test cases	
Feature	Group Chat
Reason for test	User abandons group chat (session idle) and attempts to re-join
Pre-conditions Scenario	− DUT + Reference 1,2 are registered and able to access IMS/RCS core network and relevant servers. − Reference 1,2 are entries in DUT's addressbook and their RCS capabilities are known and not expired. − Chat inactivity Timeout of the messaging server is known and e.g. set to 300 seconds − Supported by network: Cellular, Wi-Fi
Test procedure	− DUT, References 1,2 create a Groupchat and each of the particpants sends a Message − Group Chat session is terminated due to session inactivity, DUT leaves the Group Chat voluntarily
Expected results Post-conditions	− Groupchat between DUT, Reference 1,2 sucessfully established and Messages recived on target devices. − The Group Chat is closed in the DUT.
Deep inspection	− Verify INVITE with no ressource-list to restart Group Chat Session at the time of request to leave the Goup Chat − Verify BYE request with Reason header set to SIP;cause=200

Test case ID	ID_RCS_T_3_2_19
Related test cases	
Feature	Group Chat
Reason for test	User coming online in active session (store and forward) R6-29-12

Pre-conditions Scenario	− DUT + Reference 1,2 are registered and able to access IMS/RCS core network and relevant servers. − Reference 1,2 are entries in DUT's addressbook and their RCS capabilities are known and not expired. − Supported by network: Cellular, Wi-Fi
Test procedure	− DUT selects Reference 1,2 from IM/chat application to start a Groupchat and sends a 3 messages into the created Groupchat − DUT goes offline (looses coverage or activates flight mode) − Reference 1,2 keep exchanging messages in the group chat − DUT gets back online before group chat session expires
Expected results **Post-conditions**	− Groupchat is successfully establsihed and Messages are displayed on target devices. − DUT is offline − Reference 1,2 do not get delivery notifications − Once DUT is back online, it gets the messages and Reference 1,2 get the delivery notifications
Deep inspection	− Verify CPIM FROM of the message contains the public user identity and does not contain device identifier (e.g. sip.instance) − Verify successful re-join once DUT gets back online − Verify delivery notifications sent through MSRP − Verify CPIM TO of the notification is equal to the URI received in CPIM FROM and does not contain device identifier

Test case ID	ID_RCS_T_3_2_20
Related test cases	
Feature	Group Chat
Reason for test	User coming online in inactive session (store and forward) R6-29-12
Pre-conditions Scenario	− Minimal Setup: − DUT + Reference 1,2 are registered and able to access IMS/RCS core network and relevant servers. − Reference 1,2 are entries in DUT's addressbook and their RCS capabilities are known and not expired. − Chat inactivity Timeout of the messaging server is known and e.g. set to 300 seconds − Supported by network: Cellular, Wi-Fi

Test procedure	– DUT selects Reference 1,2 from IM/chat application to start a Groupchat and sends a 3 messages into the created Groupchat – DUT goes offline (looses coverage or activates flight mode) – Reference 1,2 keep exchanging messages in the group chat – Reference 1,2 stop exchanging messages and wait until Chat activity Timer has expired – DUT gets back online
Expected results Post-conditions	– Groupchat is successfully established and Messages are displayed on target devices. – DUT is offline – Reference 1,2 do not get delivery notifications – No Notifications are received within this period – Once DUT is back online, it gets the messages (notification bar) and – Reference 1,2 get the delivery notifications
Deep inspection	– Verify CPIM FROM of the message contains the public user identity and does not contain device identifier (e.g. sip.instance) – Verify successful re-join once DUT gets back online – Verify delivery notifications sent through MSRP – Verify CPIM TO of the notification is equal to the URI received in CPIM FROM and does not contain device identifier

Test case ID	ID_RCS_T_3_2_21
Related test cases	
Feature	Group Chat
Reason for test	User coming online in new Group Chat (store and forward)
Pre-conditions Scenario	– Reference 1,2 are registered and able to access IMS/RCS core network and relevant servers. – DUT is offline – Reference 1,2 are entries in DUT's addressbook and their RCS capabilities are known and not expired. – Supported by network: Cellular, Wi-Fi
Test procedure	– Reference 1 starts a group chat with DUT and Reference 2 – Reference 1,2 exchange messages in the group chat – DUT comes online – DUT sends messages

Expected results **Post-conditions**	– Reference 1,2 do not get delivery notifications for DUT – DUT does not receive any messages or notifcations – DUT gets the messages and References 1,2 get the delivery notifications – References 1,2 get the messages and DUT gets the delivery notifications
Deep inspection	– Verify SIP INVITE received if DUT comes online – Verify delivery notifications sent through MSRP – Verify CPIM TO of the notification is equal to the URI received in CPIM FROM

Test case ID	ID_RCS_T_3_2_22
Related test cases	
Feature	Group Chat
Reason for test	Crosstest between WiFi and cellular Connection
Pre-conditions Scenario	– Minimum setup: – DUT 1,2 are two samples of DUT – DUT1 + DUT2 + Reference 1,2 are registered and able to access IMS/RCS core network and relevant servers. – Contacts addresses of Reference 1,2 are entries in DUT1's+ DUT2's addressbook and RCS capabilities are known and not expired. – Supported by network: – DUT 1, Reference 1 are on Cellular, – DUT 2, Reference 2 are on Wi-Fi
Test procedure	– DUT1 selects DUT2, Reference 1 from IM/chat application to start a Groupchat and sends a 3 messages into the created Groupchat – DUT adds Reference 2 into the Groupchat and sends 3 message into the new, extended groupchat – DUT sends a random file (e.g. Picture) into the Groupchat – Reference 2 activates Flight mode – Reference 2 tries to send messages into the existing Group chat – DUT sends 3 messages into the Groupchat – Reference 2 deactivates Flight mode
Expected results **Post-conditions**	– All Groupchat Messages from DUT1 displayed on target devices – All Groupchat Messages from DUT1 displayed on target devices – File is received on target devices – Cellular and Wifi Connection is dropped on Reference 2. – Device indicates that due to Filght mode Messages cannot be sent but will be stored locally on the device – All messages are received on target devices.

	− Locally stored messaged are sent out from Reference 2 and displayed by target devices
Deep inspection	− Verify options exchange when selecting new user to join − Verify participants status update (MSRP, new participant) − Verify 'is typing' notifications are still working − Verify REFER transaction

Test case ID	ID_RCS_T_3_2_23
Related test cases	
Feature	Group Chat
Reason for test	Location share in Groupchat ; R6-29-33
Pre-conditions Scenario	− Minimum setup: − DUT + Reference 1,2 are registered and able to access IMS/RCS core network and relevant servers. − Contacts addresses of Reference 1,2 are entries in DUT's addressbook and RCS capabilities are known and not expired. − Supported by network: Cellular, Wi-Fi
Test procedure	− DUT selects Reference 1,2 from IM/chat application to start a Groupchat − DUT sends a location share as first message − Reference 1 sends a location share
Expected results Post-conditions	− Groupchat is successfully established − Locationshare is received and correctly displayed by Reference 1,2. Delivery Notification is displayed on DUT side − Locationshare is received and correctly displayed by DUT, Reference 2. Delivery Notification is displayed on DUT side
Deep inspection	− Verify participants status update (MSRP, new participant) − Verify no 1st message in CPIM of INVITE − Verify participants status update (MSRP, new participant) − Verify Contribution-ID (no IP address etc.) − Verify REFER transaction

Test case ID	ID_RCS_T_3_2_24

Related test cases	
Feature	Group Chat
Reason for test	Consolidation of participant lists
Pre-conditions Scenario	− Minimum setup: − DUT + Reference 1,2,3 are registered and able to access IMS/RCS core network and relevant servers. − Contacts addresses of Reference 1,2,3 are entries in DUT's addressbook and RCS capabilities are known and not expired. − Chat inactivity Timeout of the messaging server is known and e.g. set to 300 seconds − Reference 3 is offline − Supported by network: Cellular, Wi-Fi
Test procedure	− DUT selects Reference 1,2 from IM/chat application to start a Groupchat and sends a 3 messages into the created Groupchat − DUT adds Reference 3 into the Groupchat (while Reference 3 is offline) − Wait until Groupchat expires − After Groupchat Inactivity Timeout has expired, Reference 3 gets back online − Reference 1 sends a new message into the groupchat − Verify the participant lists of all Groupchat participants
Expected results Post-conditions	− 3 Groupchat Message from DUT received and displayed on target devices − SIP Invite is sent to Reference 3 − No messages nor notifcations are displayed on any device − As soon as reference 3 is back, it gets a notifciation about the new Groupchat − All target devices (including Reference 3) display the message. − DUT, Reference 1,2,3 are shown as Groupchat participants on all devices.
Deep inspection	− Verify SIP REFER from DUT − Upon expiry of the Groupchat timer SIP BYE is received byDUT − Verify SIP NOTIFY to contain Reference 1,2,3 set to connected

Test case ID	ID_RCS_T_3_2_25
Related test cases	
Feature	Group Chat

Reason for test	Display the list and status of participants in a group chat conversation R6-29-8
Pre-conditions Scenario	− GROUP CHAT AUTH configuration parameter set to 1. − USER ALIAS AUTH configuration parameter set to 1. − DUT, Reference 1 and Reference 2 are in an ongoing Group Chat. − DUT sets Reference 1 as Name 1 in contact list. DUT has not saved Reference 2 and Reference 3 in contact list.
Test procedure	− Reference 1 sets alias as Nikename 1 in the group chat converation. − Reference 2 sets alias as Nikename 2 in the group chat converation. − Reference 2 adds Reference 3 in the group chat conversation. Reference 3 does not set alias in the group chat converation.
Expected results Post-conditions	− After receiving the notification, DUT displays Reference 1 as Name 1 in the group chat conversation. − After receiving the notification, DUT displays Reference 2 as Nickname 2 in the group chat conversation. − After receiving the notification, DUT displays Reference 3 as MSISDN in the group chat conversation.
Deep inspection	− DUT receives the SIP NOTIFY message with Reference 1's new alias − DUT receives the SIP NOTIFY message with Reference 2's new alias − DUT receives the SIP NOTIFY message of the new participant joining of Reference 3.

Test case ID	ID_RCS_T_3_2_26
Related test cases	
Feature	Group Chat
Reason for test	Verification of UP defined Configuration Parameter; R6-29-14, R6-29-15
Pre-conditions Scenario	− Minimum setup: − DUT + Reference 1,2 are registered and able to access IMS/RCS core network and relevant servers. − Contacts addresses of Reference 1,2 are entries in DUT's addressbook and RCS capabilities are known and not expired. − At least one file with a size of 80-100MB is avaialble on DUT and Reference 1 − One Text with Message size close to 8KB is availalable on DUT and Reference 1 − The test of max. number of participants (100) shall be carried out via simulator based tests to reduce testing efforts,

	− Supported by network: Cellular, Wi-Fi
Test procedure	− DUT selects Reference 1,2 from IM/chat application to start a Groupchat and sends 3 messages into the created Groupchat − DUT sends the file (80-100MB) into the Groupchat − Reference 1 sends the file (80-100MB) into the Groupchat − DUT sends a message with the relevant size (7-8 KB) − Reference 1 sends a message with the relevant size (7-8 KB)
Expected results **Post-conditions**	− 3 Groupchat Message from DUT received and displayed on target devices − File is received on Reference 1+2 side − File is received on DUT and Reference 2 side − Message is received on Reference 1+2 side − Message is received on DUT +Reference 1 side
Deep inspection	− Verify delivery of 3 mesages to Reference 1,2 in a Groupchat − Verify notifications delivered to DUT − Verify Reference 1,2 recived file and notifications delivered to DUT − Verify DUT and Reference 2 recived file and notifications delivered to Reference 1 − Verify message is received on Reference 1,2 sides − Verify message is received on DUT +Reference 2 side

Test case ID	ID_RCS_T_3_2_27
Related test cases	
Feature	Group Chat
Reason for test	Sending and receiving small graphics in group chat conversation. R6-29-13
Pre-conditions Scenario	− DUT + Reference 1 are registered and able to access IMS/RCS core network and relevant servers. − GROUP CHAT AUTH configuration parameter set to 1. − DUT and Reference 1 are in an ongoing Group Chat. − Supported by network: Cellular, Wi-Fi
Test procedure	− Reference 1 selects and sends small grpaphic as defined in Annex A.2 and Annex A.3 in RCC.07. − Reference 1 types and sends ";-)" text message

Expected results **Post- conditions**	• DUT displays small graphic as defined in Annex A.2 and Annex A.3 in RCC.07. • DUT receives the text message, and displays "smile" small graphic as defined in Annex A.2 and Annex A.3 in RCC.07.
Deep inspection	− Verify that DUT and Reference 1 support small graphic message exchanging.

Test case ID	ID_RCS_T_3_2_28
Related test cases	
Feature	Group Chat
Reason for test	Multimedia is exchanged via FT HTTP R6-29-23
Pre- conditions Scenario	− GROUP CHAT AUTH configuration parameter set to 1. − DUT ,Reference 1 and Reference 2 are in an ongoing Group Chat. − FT DEFAULT MECH set to HTTP − set the following parameters: − FT HTTP CS USER − FT HTTP CS PWD − FT HTTP CS URI
Test procedure	− DUT sends an image file in the group chat. − Reference 1 accepts the image file in the group chat.
Expected results **Post- conditions**	− DUT uploads the image file to NUT, and receives the file info (including file URL). − DUT sends the message (including the file URL) in the group chat. − NUT sends a message (including the file URL) to Reference 1. − Reference 1 downloads the file and displays it.
Deep inspection	− Verify successfully upload file (with thumbnail if DUT sends too) to content server and recipient of correct file description XML by making an HTTPs post request to FT HTTP CS URI. − Verify DUT receives HTTP 200OK with file information xml. − A MSRP group message with File transfer via HTTP message body content should be delivered successfully.

Test case ID	ID_RCS_T_3_2_29

Related test cases	
Feature	Group Chat
Reason for test	Receiving notification on message status when the Reference 1ecome online R6-29-17
Pre-conditions Scenario	− GROUP CHAT AUTH configuration parameter set to 1. − DISPLAY NOTIFICATION SWITCH is set to 0 − DUT and Reference 1 are is in an ongoing Group Chat
Test procedure	− Reference 1 becomes offline. − DUT sends message 1 in the group chat conversation. − DUT becomes offline. − Reference 1 becomes online. − DUT becomes online.
Expected results **Post-conditions**	− NUT receives the message 1 and store it. − NUT sends the message 1 to Reference 1. − Reference 1 sends notification "delivered" to NUT, and NUT store it since DUT is offline. − NUT sends the notification "delivered" to DUT, and DUT display the statues of message 1.
Deep inspection	− Delivery notifications are stored and forwarded

Test case ID	ID_RCS_T_3_2_30
Related test cases	
Feature	Group Chat
Reason for test	As a user, I want to view my sent and received Group Chat Messages in a time-based order. As a user, I want to see the timestamp associated with each of my sent and received messages. R6-29-24 R6-29-25
Pre-conditions Scenario	− GROUP CHAT AUTH configuration parameter set to 1. − DUT , Reference 1 and Reference 2 are in an ongoing Group Chat.
Test procedure	− Reference 1 sends text message 1 in group chat. − After 1 minute, Reference 2 sends text message 2 in group chat. − Reference 1 sends a text message 3 in the group chat. − DUT opens the group chat conversation and views all messages.

Expected results **Post-conditions**	− NUT sends message 1 to DUT. − NUT sends message 2 to DUT. − NUT sends message 3 to DUT. − DUT displays message 1, message 2 and message 3 in a time-based order with timestamp.
Deep inspection	− Verify the CPIM.DateTime field.

Test case ID	ID_RCS_T_3_2_31
Related test cases	
Feature	Group Chat
Reason for test	The user leaves a group chat while the group is inactive R6-29-28
Pre-conditions Scenario	− GROUP CHAT AUTH configuration parameter set to 1. − IM SESSION TIMER configuration parameter set to 2 minutes. − DUT, Reference 1 and Reference 2 are in an ongoing group chat. − The group chat session is inactive.
Test procedure	− Five minutes after all participants keeping silence, Reference 1 closes RCS application manually. − DUT leaves the group chat conversation. − Reference 1 sends message 1 in the group chat.
Expected results **Post-conditions**	− All paritcipants (including DUT Reference 1 and Reference 2) send BYE to terminate the group chat session. − DUT sends INVITE to NUT to active the group chat sessoin. − NUT sends INVITE to Reference 1 and Reference 2 to active the group chat sessions. − Reference 1 and Reference 2 send SUBSCRIBE to NUT. NUT sends NOTIFY to Reference 1 and Reference 2. − DUT sends BYE to NUT. − Reference 1 and Reference 2 receive the NOTIFY indicating DUT's leaving, and displays the information : DUT left the group chat. − Reference 2 receive message 1 from Reference 1 in the group chat. − DUT will not receive any message (including message 1) from the group chat.
Deep inspection	− Verify the re-start of the Group Chat. − Verify the SIP BYE and SIP NOTIFY messages.

Test case ID	ID_RCS_T_3_2_32
Related test cases	
Feature	Group Chat
Reason for test	Manually deleting a Group Chat conversation from the list of chat conversations automatically triggers leaving the Group Chat. R6-29-29
Pre-conditions Scenario	− GROUP CHAT AUTH configuration parameter set to 1. − DUT and Reference 1 are in an ongoing Group Chat.
Test procedure	− Reference 1 sends message 1 in group chat session. − DUT deletes the message 1 after receiving. − DUT deletes the group chat converation from conversation list. − Reference 1 sends message 2 in the group chat.
Expected results **Post-conditions**	− DUT receive the message 1 in group chat session. − DUT will never display the message 1 after deleting. − DUT sends BYE to NUT to leave the group chat session. − Reference 1 receives NOTIFY to indicate DUT's leaving group chat. − DUT will not receive the message 2.
Deep inspection	− DUT sends SIP BYE with Reason Header including the text : cause=200;text="Call completed". − Reference 1 receives SIP NOTIFY with DUT's leaving, for example: <user entity=*DUT address* > <roles> <entry>participant</entry> </roles> <endpoint entity=*DUT address*> <displayname>*Nickname*</displayname> <state>deleted</state> <status>disconnected</status> <disconnection-method>departed</disconnection-method> </endpoint> <etype>unknown</etype> </user>

3.3   File Transfer

3.3.1   Functional test cases

Test case ID	ID_RCS_F_3_3_1
Related test cases	
Feature	File Transfer
Reason for test	To validate UP 1.0 Reference section R7-1-2 to R7-1-6
Pre-conditions Scenario	− A-Party's device is online. − On A-Party's device, there are pictures stored in .jpg, .gif and .png format. − Pictures can be displayed on A-Party's device within the messaging application (e.g. if sent or received within a messaging conversation). − On A-Party's device, there is a video file in .mpeg4 format stored. This video file can be replayed on A-Party's device from within the messaging application (e.g. if sent or received within a messaging conversation). − On A-Party's device, there is an audio file in .mp3 format stored. This audio file can be replayed on A-Party's device from within the messaging application (e.g. if sent or received within a messaging conversation). − B-Party's device is known to be RCS capable to A-Party and online. − B-Party is stored as a contact in A-Party's device.
Test procedure	− Send one or more pictures of each picture format (.jpg; .gif; .png) from A-Party's device to B-Party using the RCS application under test. − Send one or more videos in .mpeg4 format from A-Party's device to B-Party using the RCS application under test. − Send one or more audio file in .mp3 format from A-Party's device to B-Party using the RCS application under test. − Send a contact from A-party's contact list to B-Party.
Expected results Post-conditions	− B-Party's device receives the pictures that were sent from A-Party. Pictures can be displayed within the messaging application under test on B-Party's device. − B-Party's device receives the video file(s) that were sent from A-Party. Video file(s) can be started from within the messaging application under test on B-Party's device, replay is either within the messaging application under test or the screen returns to the messaging application under test after the replay is finished.

	− B-Party's device receives the audio file(s) that were sent from A-Party. Audio file(s) replay can be controlled from within the messaging application under test on B-Party's device. − B-Party's device receives the contact that was sent from A-Party. The contact can be opened from within the messaging application under test on B-Party's device and saved to B-Party's contact list.
Deep inspection	−

Test case ID	ID_RCS_F_3_3_2
Related test cases	
Feature	File Transfer
Reason for test	To validate UP 1.0 Reference section R7-1-7 and subsequent requirement R7-1-7-1
Pre-conditions Scenario	− A-Party's device is online. − B-Party's device is not RCS enabled (legacy device). − B-Party is a contact in A-Party's contact list. − A-Party's MNO has configured RCS clients to send files to non-RCS users as "SMS with a link". This setting is still set to default value.
Test procedure	− Open the messaging application on A-Party's device. − Open an existing conversation with B-Party on A-Party's device <u>or</u> create a new conversation with B-Party on A-Party's device. − In the conversation with B-Party, select a random picture (existing or new picture from camera) and send. − On B-Party's device, select the link to download the picture.
Expected results **Post-conditions**	− On A-Party's device, the user sees the picture thumbnail that was sent using SMS. On B-Party's device, the user sees a "short link" which is identifiable to be sent from an operator. The link is encompanied with a message that explains to the recipient that a file was sent to the user which can be accessed by clicking the link. − The picture is displayed on B-Party's device – either within the messaging application or in a browser view.

Deep inspection	–

Test case ID	ID_RCS_F_3_3_3
Related test cases	
Feature	File Transfer
Reason for test	To validate UP 1.0 Reference section R7-1-7 and subsequent requirement R7-1-7-2
Pre-conditions Scenario	– A-Party's device is online. – B-Party's device is not RCS enabled (legacy device). – B-Party is a contact in A-Party's contact list. – A-Party's MNO has configured RCS clients to send files to non-RCS users as "MMS". This setting is still set to default value. – B-Party's device is configured to auto-download MMS.
Test procedure	– Open the messaging application on A-Party's device. – Open an existing conversation with B-Party on A-Party's device <u>or</u> create a new conversation with B-Party on A-Party's device. – In the conversation with B-Party, select a random picture (existing or new picture from camera) and send.
Expected results Post-conditions	– On A-Party's device, the user sees the picture thumbnail that was sent using MMS. On B-Party's device, the user sees an incoming MMS.
Deep inspection	–

Test case ID	ID_RCS_F_3_3_4
Related test cases	
Feature	File Transfer
Reason for test	To validate UP 1.0

	Reference section R7-1-7 and subsequent requirements
Pre-conditions Scenario	− A-Party's device is online. − B-Party's device is not RCS enabled (legacy device). − B-Party is a contact in A-Party's contact list. − A-Party's MNO has configured RCS clients to send files to non-RCS users as "SMS with a link". This setting is still set to default value.
Test procedure	− Open the messaging settings on A-Party's device. Change the setting for "send files to non-RCS clients" from "SMS with link" to "MMS". − Open an existing conversation with B-Party on A-Party's device <u>or</u> create a new conversation with B-Party on A-Party's device. − In the conversation with B-Party, select a random picture (existing or new picture from camera) and send.
Expected results **Post-conditions**	− On A-Party's device, the user sees the picture thumbnail that was sent using MMS. On B-Party's device, the user sees an incoming MMS.
Deep inspection	−

Test case ID	ID_RCS_F_3_3_5
Related test cases	
Feature	File Transfer
Reason for test	To validate UP 1.0 Reference section US7-2 and subsequent requirements.
Pre-conditions Scenario	− A-Party's device is online. − B-Party's device is RCS UP 1.0 and online. − B-Party is a known RCS user to A-Party's device. − The user setting on A-Party's device for Client Fallback to SMS (File Transfer Case) is set to "Always ask" (default configuration).
Test procedure	− Send an RCS 1-to-1 message from A-Party to B-Party. − Send an RCS 1-to-1 message from B-Party to A-Party. − Go offline on B-Party's device. − Send a picture from A-Party to B-Party and wait for more than 5 minutes. − Select wait.

	− Go online on B-Party's device.
Expected results **Post-conditions**	− The message is received by B-Party as RCS 1-to-1 message. − The message is received by A-Party as RCS 1-to-1 message. − After 5 minutes, the A-Party's device asks the user to re-send the file as SMS with link. The user has the option to send the file as SMS with link, wait (and not to send the file as SMS with link) and there shall be an option that the application shall always ask or perform one of the two actions without asking. − The file remains in "sent" Message Sent State. − The file is marked "delivered" once the new file was received by B-Party's device.
Deep inspection	−

Test case ID	ID_RCS_F_3_3_6
Related test cases	
Feature	File Transfer
Reason for test	To validate UP 1.0 Reference section
Pre-conditions Scenario	− A-Party's device is online. − A-Party's device is enabled for SMS delivery notifications. − B-Party's device is RCS UP 1.0 and offline but with CS connectivity. − B-Party is a known RCS user to A-Party's device. − The user setting on A-Party's device for Client Fallback to SMS (File Transfer Case) is set to "Always ask" (default configuration).
Test procedure	− Send a picture from A-Party to B-party and wait for 5 minutes. − After 5 minutes, select to "send the file as SMS with link" (on request by the A-Party device). − Send a second picture from A-Party to B-Party. − Go online on B-Party's device and send an RCS 1-to-1 message to A-party. − Send a third picture from A-Party to B-Party.

Expected results **Post-conditions**	− On A-Party's device,. the file transfer remains in "sent" status. − A-Party's device asks to re-send the file as SMS with link. On B-Party's device, SMS with link is received. On A-Party's device, the file transfer is shown as "delivered". − On B-Party's device, the second picture is received as SMS with link. On A-party's device, the file transfer is shown as "delivered". − A-party's device, an RCS 1-to-1message is received. − The file transfer is received on B-Party's device as RCS File Transfer. On A-Party's device, the file transfer is shown as "delivered" or "displayed" (after the thumbnail icon is represented on the active messaging screen on B-Party's device.
Deep inspection	−

Test case ID	ID_RCS_F_3_3_7
Related test cases	
Feature	File Transfer
Reason for test	To validate UP 1.0 Reference section
Pre-conditions Scenario	− A-Party's device is online. − B-Party's device is a pre-UP1.0 RCS device (e.g. CPR) and offline.
Test procedure	− Send a picture from A-Party's device in the conversation with B-Party.
Expected results **Post-conditions**	− The File Transfer on A-Party's device is sent. After 5 minutes, A-Party's device asks to send an SMS notification to B-Party with a link to the picture.
Deep inspection	−

Test case ID	ID_RCS_F_3_3_8
Related test cases	
Feature	File Transfer
Reason for test	To validate UP 1.0 Reference section US7-5 and subsequent requirements
Pre-conditions Scenario	– A-Party's device is online and user setting to resize pictures before sending is set to "always ask" (see US18-9 and subsequent requirements). – B-Party's device is online. – On A-Party's device there is a picture with high resolution and file size (order of magnitude 3-5MB).
Test procedure	– Select a picture of high resolution to be sent from A-Party to B-Party. – Select "resize to small" on request of the device and send the picture. – Check picture size on B-Party's device.
Expected results Post-conditions	– The file size on B-Party's device (use file browser or similar tool) is significantly reduced compared to the original file size.
Deep inspection	–

Test case ID	ID_RCS_F_3_3_9
Related test cases	
Feature	File Transfer
Reason for test	To validate UP 1.0 Reference section US7-6 and subsequent requirements
Pre-conditions Scenario	– A-Party's device is online and user setting to resize video files before sending is set to "always ask" (see US18-10 and subsequent requirements). – B-Party's device is online. – On A-Party's device there is a high resolution video file of approximately 50MB file size.

Test procedure	− Select a video of high resolution to be sent from A-Party to B-Party. − Select "resize to small" on request of the device and send the video. − Check picture size on B-Party's device.
Expected results Post-conditions	− The file size on B-Party's device (use file browser or similar tool) is significantly reduced compared to the original file size.
Deep inspection	−

Test case ID	ID_RCS_F_3_3_10
Related test cases	
Feature	File Transfer
Reason for test	To validate UP 1.0 Reference section R7-7-2
Pre-conditions Scenario	− A-Party's device is online. − B-Party's device is online. − B-Party's device is set to File Transfer auto-download. − B-Party's operator (no user setting) has set a File Transfer Warn Size Limit
Test procedure	− Send a file from A-Party to B-Party with file size bigger than the B-Party operator Warn Size setting. − Confirm the file download on B-Party's device.
Expected results Post-conditions	− On A-Party's device, the file is sent and delivered to B-Party. On B-Party's device, the file is represented in the conversation with A by a thumbnail. − On selection of the thumbnail, the file is downloaded to B-Party's device.
Deep inspection	−

Test case ID	ID_RCS_F_3_3_11
Related test cases	
Feature	File Transfer
Reason for test	To validate UP 1.0 Reference section US7-9 anr R7-9-1
Pre-conditions Scenario	− A-Party's device is online. − B-Party's device is online. − B-Party's device is set to File Transfer auto-download.
Test procedure	− A-Party enters a conversation with B-Party and selects a file for file transfer. (remark: it makes sense to select a decent file size to allow the tester for time between selecting the file to send and cancel the operation). − During the upload of the file, A-Party cancels the file transfer. − On A-Party's device, the file is selected agin and sent
Expected results Post-conditions	− On A-Party's device, the aborted file transfer is either marked cancelled, or failed, or the entire operation is removed from the UI. − The file arrives at B-Party's device in line with file transfer requirements.
Deep inspection	−

Test case ID	ID_RCS_F_3_3_12
Related test cases	
Feature	File Transfer
Reason for test	To validate UP 1.0 Reference section US7-2, US7-4, US7-11, US7-13, US7-14, US7-15,
Pre-conditions Scenario	− A-Party's device is online. − B-Party's device is offline. − NFS or CFS is implemented by B-Party's network. − SMS delivery receipt is enabled on B-Party's device (in user settings).

Test procedure	– Send a picture from A-Party's device to B-Party. – Send a video from A-Party's device to B-Party. – Send a contact from A-Party's device to B-Party. – Send an audio file from A-Party's device to B-Party. – Open the conversation with A-Party on B-Party's device. – Select the picture icon in the conversation with A-Party on B-Party's device. – Confirm the request to go online and make cellular data or WiFi data available. – Select the video icon in the conversation with A-Party on B-Party's device. – Select the contact icon in the conversation with A-Party on B-Party's device. – Select the audio icon in the conversation with A-Party on B-Party's device.
Expected results **Post-conditions**	– On A-Party's device, the picture is represented as a thumbnail, can be expanded by a click, and the status is 'sent'. B-Party's device notifies the user with an incoming file notification. On A-Party's device, the status of the file changes to 'deliverd' after B-Party's device notifies the incoming file. *NOTE: depending on Delivery Assurance configuration, for the first file it may take more than 5 minutes that B-Party's device notifies the user of an incoming file.* – On A-Party's device, the video is represented as a thumbnail, can be replayed by a click, and the status is 'sent'. B-Party's device notifies the user with an incoming file notification. On A-Party's device, the status of the file changes to 'deliverd' after B-Party's device notifies the incoming file. – On A-Party's device, the contact is represented as a thumbnail, contact details can be displayed by a click, and the status is 'sent'. B-Party's device notifies the user with an incoming file notification. On A-Party's device, the status of the file changes to 'deliverd' after B-Party's device notifies the incoming file. – On A-Party's device, the audio file is represented as a thumbnail, can be replayed by a click, and the status is 'sent'. B-Party's device notifies the user with an incoming file notification. On A-Party's device, the status of the file changes to 'deliverd' after B-Party's device notifies the incoming file. – On B-Party's device, in the conversation with A-Party an icon is shown that represents a generic picture, a generic video, a generic contact and a generic audio file. – B-Party's device informs the user that there is content available for download, and the user needs to go online to download. There shall be a UI shortcut presented to go online. After user selection and picture download, the picture is displayed. – B-Party's device goes online. On A-Party's device, that status of the four files (steps 1 through 4) changes to "displayed". All four generic file

	icons are replaces with the actual representation of the content (which may not change for audio file and contact, but will change for picture and video).
	− The video is replayed.
	− The contact card is displayed, an option to store in contact list shall be available.
	− The audio file is replayed.
Deep inspection	−

3.3.2 Technical test cases

Test Case ID	ID_RCS_T_3_3_1
Related Test Cases	
Feature	File Transfer
Reason for test	To verify file can be selected and transferred.
Pre-conditions Scenario	− DUT and Reference 1 are online. − DUT has one file with file format not supported by Reference1 and one file with file format supported by Reference1. − DUT and Reference 1 all set STANDALONE MSG AUTH to 1 and set CHAT AUTH to 0. − FT DEFAULT MECH configuration parameter is set to HTTP. − The size of the File being transferred is less than FT MAX SIZE.
Test procedure	− DUT sends a file (e.g. JPEG file), whose file format is supported by Reference 1. − DUT sends a file (e.g. Word file), whose file format is not supported by Reference 1.
Expected results **Post-conditions**	− File can be sent out and received by Reference 1. − File can be sent out and received by Reference 1.
Deep inspection	− Verify successfully upload file (with thumbnail if DUT sends too) to content server and recipient of correct file description XML by making an HTTPs post request to FT HTTP CS URI. − Verify DUT receives HTTP 200OK with file information xml. − Verify file-info element is as per 3.5.4.8.3.1 of [RCC.07]. − Verify SIP StandAlone Message with feature-tag "+g.3gpp.iari-ref="urn%3Aurn-7%3A3gpp-application.ims.iari.rcs.fthttp"and

	content-type "application/vnd.gsma.rcs-ft-http+xml" is delivered successfully.
	− HTTP URL for the file should be included in message body content(HTTP URL for thumbnail should be included if thumbnail is sent too)
	− Verify delivery notification is delivered to the DUT when Reference 1 receives file.

Test Case ID	ID_RCS_T_3_3_2
Related Test Cases	
Feature	File Transfer
Reason for test	To verify that if the originating device is offline, File Transfer cannot be sent from the device.
Pre-conditions Scenario	− DUT is offline. − DUT and Reference 1 all set STANDALONE MSG AUTH to 1 and set CHAT AUTH to 0. − FT DEFAULT MECH configuration parameter is set to HTTP. − The size of the File being transferred is less than FT MAX SIZE. − DUT does not support MMS service.
Test procedure	− DUT sends file (e.g. JPEG file) to Reference 1. − DUT is online.
Expected results Post-conditions	− DUT can create an RCS File Transfer but the File Transfer status is 'pending'. − File Transfer shall be executed once DUT is online again without further user interaction.
Deep inspection	− Verify no any SIP message is sent out when DUT is offline. − When DUT is online. Verify successfully upload file (with thumbnail if DUT sends too) to content server and recipient of correct file description XML by making an HTTPs post request to FT HTTP CS URI. − Verify DUT receives HTTP 200OK with file information xml. − Verify SIP StandAlone Message with feature-tag "+g.3gpp.iari-ref="urn%3Aurn-7%3A3gpp-application.ims.iari.rcs.fthttp" and content-type "application/vnd.gsma.rcs-ft-http+xml" is delivered successfully. − HTTP URL for the file should be included in message body content(HTTP URL for thumbnail should be included if thumbnail is sent too) − Verify delivery notification is delivered to the DUT when Reference 1 receives file.

Test Case ID	ID_RCS_T_3_3_3
Related Test Cases	
Feature	File Transfer
Reason for test	To verify that user can transfer a file to multiple users at one time and all recipients are RCS user.
Pre-conditions Scenario	− DUT, Reference 1, Reference 2 and Reference 3 are online. − CHAT AUTH of all devices is set to 0. − STANDALONE AUTH of all devices is set to 1. − FT DEFAULT MECH configuration parameter is set to HTTP. − The size of File being transferred is less than FT MAX SIZE. − FT MAX 1 TO MANY RECIPIENTS is set to 0.
Test procedure	− DUT sends file (e.g. JPEG file) to Reference 1, Reference 2 and Reference 3 as recipients.
Expected results Post-conditions	− Reference 1, Reference 2 and Reference 3 receive file as RCS File Transfer.
Deep inspection	− Verify successfully upload file (with thumbnail if DUT sends too) to content server and recipient of correct file description XML by making an HTTPs post request to FT HTTP CS URI. − Verify DUT receives HTTP 200OK with file information xml. − Verify SIP StandAlone Message with feature-tag "+g.3gpp.iari-ref="urn%3Aurn-7%3A3gpp-application.ims.iari.rcs.fthttp"" and with File transfer via HTTP message body as content and Reference1 and Reference 2 and Reference 3 as the recipient-list body is delivered successfully. − HTTP URL for the file should be included in message body content (HTTP URL for thumbnail should be included if thumbnail is sent too)

Test Case ID	ID_RCS_T_3_3_4
Related Test Cases	
Feature	File Transfer
Reason for test	To verify that user can transfer a file to multiple users at one time and one of recipients is Non-RCS user.
Pre-conditions Scenario	− DUT, Reference 1 and Reference 2 are online. − Reference 3 is Non-RCS contact. − CHAT AUTH of all users is set to 1.

	− STANDALONE AUTH of all users is set to 0. − FT DEFAULT MECH configuration parameter is set to HTTP. − The size of File being transferred is less than FT MAX SIZE. − FT MAX 1 TO MANY RECIPIENTS is set to 0. − FT HTTP FALLBACK is set to 1. − File Content server in DUT's Network provides a Branded-url
Test procedure	− DUT sends file (e.g. JPEG file) to Reference 1, Reference 2 and Reference 3 as recipients.
Expected results **Post-conditions**	− Reference 1 and Reference 2 receive file as RCS File Transfer, Reference 3 receives SMS with link (includind the branded-url content received from the FT Server and a cover note letting the user know the aim of the message).
Deep inspection	− Verify successfully upload file (with thumbnail if DUT sends too) to content server and recipient of correct file description XML by making an HTTPs post request to FT HTTP CS URI. − Verify DUT receives HTTP 200OK with file information xml. − Verify file is delivered successfully to Reference1 and Reference 2 individually in Chat 1-to-1 sessions. − HTTP URL for the file should be included in message body content (HTTP URL for thumbnail should be included if thumbnail is sent too) − Verify SMS with file link which includes the branded-url and a cover note is delivered to Reference 3 successfully.

Test Case ID	ID_RCS_T_3_3_5
Related Test Cases	
Feature	File Transfer
Reason for test	To verify that user can transfer a file to multiple users at one time and all recipients are Non-RCS user.
Pre-conditions Scenario	− DUT is online. − Reference 1, Reference 2 and Reference 3 are Non-RCS contact. − CHAT AUTH of all users is set to 0. − STANDALONE AUTH of all users is set to 1. − FT DEFAULT MECH configuration parameter is set to HTTP. − File size being transferred is less than FT MAX SIZE. − FT MAX 1 TO MANY RECIPIENTS is set to 0. − FT HTTP FALLBACK is set to 1. − File Content server in DUT's Network provides a Branded-url

Test procedure	− DUT sends file (e.g. JPEG file) to Reference 1, Reference 2 and Reference 3 as recipients.
Expected results Post-conditions	− Reference 1, Reference 2 and Reference 3 receive file as SMS with link (includind the branded-url content received from the FT Server and a cover note letting the user know the aim of the message).
Deep inspection	− Verify successfully upload file (with thumbnail if DUT sends too) to content server and recipient of correct file description XML by making an HTTPs post request to FT HTTP CS URI. − Verify DUT receives HTTP 200OK with file information xml . − Verify SMS with file link as content is delivered to Reference 1, Reference 2 and Reference 3 successfully.

Test Case ID	ID_RCS_T_3_3_6
Related Test Cases	
Feature	File Transfer
Reason for test	To verify required file types (JPEG file) shall be supported and content can be generated or displayed / played.
Pre-conditions Scenario	− DUT and Reference 1 are online. − There are some JPEG files on DUT − DUT and Reference all set STANDALONE MSG AUTH to 1 and set CHAT AUTH to 0. − FT DEFAULT MECH configuration parameter is set to HTTP. − The size of File being transferred is less than FT MAX SIZE.
Test procedure	− DUT sends a JPEG file to Reference 1.
Expected results Post-conditions	− Reference 1 receives the file, and can display it.
Deep inspection	− Verify successfully upload file (with thumbnail) to content server and recipient of correct file description XML by making an HTTPs post request to FT HTTP CS URI. − Verify DUT receives HTTP 200OK with file information xml. − Verify SIP StandAlone Message with feature-tag "+g.3gpp.iari-ref="urn%3Aurn-7%3A3gpp-application.ims.iari.rcs.fthttp"and

content-type "application/vnd.gsma.rcs-ft-http+xml" is delivered successfully.
- HTTP URL for the file should be included in message body content (HTTP URL for thumbnail should also be included)
- Verify the content-type element of file in message body content should be the type of file being transferred.
- Verify delivery notification is delivered to the DUT when Reference 1 receives file.

Test Case ID	ID_RCS_T_3_3_7
Related Test Cases	
Feature	File Transfer
Reason for test	To verify required file types (Panoramic Photo) shall be supported and content can be generated or displayed / played.
Pre-conditions Scenario	− DUT and Reference 1 are online. − There are some Panoramic Photo files on DUT − DUT and Reference all set STANDALONE MSG AUTH to 1 and set CHAT AUTH to 0. − FT DEFAULT MECH configuration parameter is set to HTTP. − The size of File being transferred is less than FT MAX SIZE.
Test procedure	− DUT sends a Panoramic Photo to Reference 1.
Expected results Post-conditions	− Reference 1 receives the file, and can display it.
Deep inspection	− Verify successfully upload file (with thumbnail) to content server and recipient of correct file description XML by making an HTTPs post request to FT HTTP CS URI. − Verify DUT receives HTTP 200OK with file information xml. − Verify SIP StandAlone Message with feature-tag "+g.3gpp.iari-ref="urn%3Aurn-7%3A3gpp-application.ims.iari.rcs.fthttp"and content-type "application/vnd.gsma.rcs-ft-http+xml" is delivered successfully. − HTTP URL for the file should be included in message body content (HTTP URL for thumbnail should also be included) − Verify the content-type element of file in message body content should be the type of file being transferred. − Verify delivery notification is delivered to the DUT when Reference 1 receives file.

Test Case ID	ID_RCS_T_3_3_8
Related Test Cases	
Feature	File Transfer
Reason for test	To verify required file types (GIF file) shall be supported and content can be generated or displayed / played.
Pre-conditions Scenario	– DUT and Reference 1 are online. – There are some GIF files on DUT – DUT and Reference all set STANDALONE MSG AUTH to 1 and set CHAT AUTH to 0. – FT DEFAULT MECH configuration parameter is set to HTTP. – The size of File being transferred is less than FT MAX SIZE.
Test procedure	– DUT sends a GIF file to Reference 1.
Expected results Post-conditions	– Reference 1 receives the file, and can display and play it.
Deep inspection	– Verify successfully upload file (with thumbnail) to content server and recipient of correct file description XML by making an HTTPs post request to FT HTTP CS URI. – Verify DUT receives HTTP 200OK with file information xml. – Verify SIP StandAlone Message with feature-tag "+g.3gpp.iari-ref="urn%3Aurn-7%3A3gpp-application.ims.iari.rcs.fthttp"and content-type "application/vnd.gsma.rcs-ft-http+xml" is delivered successfully. – HTTP URL for the file should be included in message body content (HTTP URL for thumbnail should also be included) – Verify the content-type element of file in message body content should be the type of file being transferred. – Verify delivery notification is delivered to the DUT when Reference 1 receives file.

Test Case ID	ID_RCS_T_3_3_9
Related Test Cases	
Feature	File Transfer

Reason for test	To verify required file types (MP3 file) shall be supported and content can be generated or displayed / played.
Pre-conditions Scenario	− DUT and Reference 1 are online. − There are some MP3 files on DUT − DUT and Reference all set STANDALONE MSG AUTH to 1 and set CHAT AUTH to 0. − FT DEFAULT MECH configuration parameter is set to HTTP. − The size of File being transferred is less than FT MAX SIZE.
Test procedure	− DUT sends MP3 file to Reference 1.
Expected results Post-conditions	− Reference 1 receives the file, and can display and play it.
Deep inspection	− Verify successfully upload file (with thumbnail if DUT sends too) to content server and recipient of correct file description XML by making an HTTPs post request to FT HTTP CS URI. − Verify DUT receives HTTP 200OK with file information xml. − Verify SIP StandAlone Message with feature-tag "+g.3gpp.iari-ref="urn%3Aurn-7%3A3gpp-application.ims.iari.rcs.fthttp"and content-type "application/vnd.gsma.rcs-ft-http+xml" is delivered successfully. − HTTP URL for the file should be included in message body content(HTTP URL for thumbnail should be included if thumbnail is sent too) − Verify the content-type element of file in message body content should be the type of file being transferred. − Verify delivery notification is delivered to the DUT when Reference 1 receives file.

Test Case ID	ID_RCS_T_3_3_10
Related Test Cases	
Feature	File Transfer
Reason for test	To verify required file types (MPEG4 file) shall be supported and content can be generated or displayed / played.
Pre-conditions Scenario	− DUT and Reference 1 are online. − There are some MPEG4 files on DUT − DUT and Reference all set STANDALONE MSG AUTH to 1 and set CHAT AUTH to 0. − FT DEFAULT MECH configuration parameter is set to HTTP. − The size of File being transferred is less than FT MAX SIZE.

Test procedure	− DUT sends a MPEG4 file to Reference 1.
Expected results Post-conditions	− Reference 1 receives the file, and can display and play it.
Deep inspection	− Verify successfully upload file (with thumbnail) to content server and recipient of correct file description XML by making an HTTPs post request to FT HTTP CS URI. − Verify DUT receives HTTP 200OK with file information xml. − Verify SIP StandAlone Message with feature-tag "+g.3gpp.iari-ref="urn%3Aurn-7%3A3gpp-application.ims.iari.rcs.fthttp"and content-type "application/vnd.gsma.rcs-ft-http+xml" is delivered successfully. − HTTP URL for the file should be included in message body content (HTTP URL for thumbnail should also be included) − Verify the content-type element of file in message body content should be the type of file being transferred. − Verify delivery notification is delivered to the DUT when Reference 1 receives file.

Test Case ID	ID_RCS_T_3_3_11
Related Test Cases	
Feature	File Transfer
Reason for test	To verify that if the recipient is not RCS capable, but the originating device is connected to RCS, the originating device can send file via SMS with short link
Pre-conditions Scenario	− DUT is online. − Reference 1 is Non-RCS contact. − FT DEFAULT MECH configuration parameter is set to HTTP. − The size of File being transferred is less than FT MAX SIZE. − FT HTTP FALLBACK is set to 1. − File Content server in DUT's Network provides a Branded-url
Test procedure	− DUT sends file (e.g. JPEG file) to Reference 1.

Expected results **Post-conditions**	− The file is sent by SMS with link that allows Reference 1 to download the file
Deep inspection	− Verify successfully upload file (with thumbnail if DUT sends also) to content server and recipient of correct file description XML by making an HTTPs post request to FT HTTP CS URI. − Verify DUT receives HTTP 200OK with file information xml. − Verify DUT sends SMS with link extracted from message body content carrying a branded-url parameter from the FT server

Test case ID	ID_RCS_T_3_3_12
Related test cases	
Feature	File Transfer
Reason for test	UP 1.0. Reference section 7.3.2.7.1 – The usege of branded URIs from the Content server
Pre-conditions Scenario	− DUT is out of data coverage and Reference 1 is online. − DUT has enough free storage space to receive file. − File size being transferred is less than the warning file size. − DUT Network supports FT fallback to SMS (from an previous capability exchanged "urn%3Aurn-7%3A3gpp-application.ims.iari.rcs.ftsms"). − Content server has a branded URL defined
Test procedure	− Reference 1 selects one file from the local storage and then selects the file transfer option. − DUT receives an SMS with a message to download a file from a URL. − DUT comes back with data coverage and then clicks on the links and it opens a web browser to download the file.
Expected results **Post-conditions**	− Reference 1 sees that file transfer option is available for the recipient. − DUT receives a SMS with a message describing that there is a file to download and a link. − Delivery notification is received and shown on Referecen 1.
Deep inspection	− Verify successful upload of thumbnail and file to content server and recipient of correct file description XML. With the branded-url defined. − Verify HTTPS requests for file is sent to the content server in A's network and the content is received. − Verify delivery notifications is delivered to the Reference 1.

Test case ID	ID_RCS_T_3_3_13
Related test cases	
Feature	File Transfer
Reason for test	R7-2-1-1,R7-4-1-5-3(7.3.2.5.2 File Transfer Client Fall-back) File transfer Fall-back: Network Interworking to SMS for Files To Verify the network supporting NFS handles no fallback scenario when remote device does not support FT fall back to SMS.
Pre-conditions Scenario	− DUT and Reference 1 are registered and able to access IMS/RCS core network and relevant servers. − Reference 1 does not support FT fall back to SMS − Reference 1 network supports delivery assurance via network interworking − DUT and Reference1 are configured with CHAT AUTH = 1 and MESSAGING UX = 1.
Test procedure	− DUT selects image from galary and chooses to share with Reference 1. − Reference 1 goes out of coverrage and becomes offline. − DUT sends image selected at step 1 to Reference 1 − Reference 1 gets network coverage back but yet to become IMS registered. − Reference 1 becomes IMS registered − File is marked delivered
Expected results Post-conditions	− User should be able to select the image − Reference 1 goes offline , RCS gets disabled − After sending: the message status of sent message changes to "pending" and then "sent" on DUT. − DUT does neither resend message as SMS nor offers to DUT to resend as SMS any time after location was sent − After network attach: Reference 1 device does not receive file link in SMS − After step5 file is delivered to Reference 1 as ST&FW message. − File is marked as delivered at DUT after it is received at Reference 1
Deep inspection	− Verify contact header of REGISTER sent by Reference 1 − Does not include IARI +g.3gpp.iari-ref="urn%3Aurn-7%3A3gpp-application.ims.iari.rcs.ftsms" (Table 31: SIP OPTIONS tag for File Transfer via SMS of [RCC.71) or : org.3gpp.urn:urn-7:3gpp-application.ims.iari.rcs.ftsms (Table 32: Presence document) − Verify SIP 200 OK to DUT for presence of "+g.gsma.rcs.msgfallback" media feature tag (section 5.3.2 of [RCC.71]). − DUT initiates chat session to Reference 1 and learns that network interworking is supported.

- Verify that CPIM body containing http ft xml of DUT client does not contain requests for "Interworking" Disposition Notification (as defined in Appendix O of [RCC.11]) in addition to "Delivered" and "Displayed".
- Referece 1 receives File as ST&FW message as per 3.3.4 Technical Realisation of RCC.07
- DUT receives delivery notification for this message

Test case ID	ID_RCS_T_3_3_14
Related test cases	
Feature	1-to-1 Messaging
Reason for test	R7-2-1-1,R7-4-1-5-3(7.3.2.5.2 File Transfer Client Fall-back) File transfer Fall-back: Network Interworking to SMS for Files To Verify the network fallback of standalone message carrying file uri to SMS
Pre-conditions Scenario	− DUT and Reference 1 are registered and able to access IMS/RCS core network and relevant servers. − Reference 1 supports File Transfer via SMS. − Reference 1 network supports delivery assurance via network interworking − DUT supports Standalone Messaging only. DUT is configured with MESSAGING UX = 1,CHAT AUTH = 0 and STANDALONE MSG AUTH = 1 − Reference1 is configured with MESSAGING UX = 1, CHAT AUTH = 1 and STANDALONE MSG AUTH = 1
Test procedure	− DUT selects an image from galary and chooses to share with Reference 1 − Reference 1 goes out of coverage and becomes offline. − DUT sends image selected at step 1 to Reference 1 − Reference 1 gets network coverage back but yet to become IMS registered.
Expected results **Post-conditions**	− User should be able to select the image − Reference 1 goes offline , RCS gets disabled − After sending: the message status of sent message changes to "pending" and then "sent" on DUT. − DUT does neither resend message as SMS nor offers to DUT to resend as SMS any time after location was sent − Reference 1 device receives DUT message as SMS message
Deep inspection	− Verify contact header of REGISTER sent by Reference 1 does not include IARI +g.3gpp.iari-ref="urn%3Aurn-7%3A3gpp-application.ims.iari.rcs.ftsms" (Table 31: SIP OPTIONS tag for File Transfer via SMS of [RCC.71) or : org.3gpp.urn:urn-7:3gpp-application.ims.iari.rcs.ftsms (Table 32: Presence document)

	− Verify SIP 200 OK to DUT for presence of "Network Interworking supported" media feature tag (section 5.3.2 of [RCC.71]). − Verify that DUT sends out standalone SIP message (carrying file URL) as per 3.2.4.1 Standalone messaging of RCC.07 − Verify that File URL Uri sent by DUT is as per RFC3986 − Verify that CPIM body in MSRP SEND of DUT client does not contain requests for "Interworking" Disposition Notification (as defined in Appendix O of [RCC.11]) in addition to "Delivered" and "Displayed". − Referece 1 receives file link in SMS

Test Case ID	ID_RCS_T_3_3_15
Related Test Cases	
Feature	File Transfer
Reason for test	To verify that if File Transfer cannot be delivered by RCS within an MNO configurable period of time and the terminating network does not support NFS, the client shall use the procedures of CFS to ensure Delivery Assurance. HTTPS Get parameter for FT fall-back is provided from the content server
Pre-conditions Scenario	− DUT is online. − FT DEFAULT MECH configuration parameter is set to HTTP. − The size of File being transferred is less than FT MAX SIZE. − NUT configures the device CHAT REVOKE TIMER higher than 0. − NUT configures the device FT FALLBACK DEFAULT to 1. − NUT configures the device FT HTTP FALLBACK to 1. − NUT configures the device RECONNECT GUARD TIMER to 0. − DUT supports CFS. − Reference 1 network supports CFS. − Reference 1 supports FT fallback to SMS (from a previous capability exchange feature tag "urn%3Aurn-7%3A3gpp-application.ims.iari.rcs.ftsms"). − DUT and Reference 1 all set STANDALONE MSG AUTH to 0 and set CHAT AUTH to 1. − DUT configured the device CFS TRIGGER to 1. − File Content server includes meta information in the HTTP URL for FT fallback to SMS
Test procedure	− DUT sends file (e.g. JPEG file) to Reference 1 but file cannot be instantly delivered over the time of CHAT REVOKE TIMER. − DUT accepts to send message as SMS with link.

Expected results Post-conditions	− DUT offer the option to send the message as SMS. − A revocation for the original chat message shall be triggered. DUT will send via SMS the HTTP URL for File Transfer fallback to SMS.
Deep inspection	− Verify successfully upload file (with thumbnail if DUT sends too) to content server and recipient of correct file description XML by making an HTTPs post request to FT HTTP CS URI. − Verify DUT receives HTTP 200OK with file information xml, providing the HTTPS Get parameter for FT fall-back from the content server (meta-data information as per RCC71, table 34 − Verify SIP INVITE with feature tag "+g.gsma.rcs.msgrevoke" when initiating chat session. − DUT sends Message Revoke Request Message with content-type 'application/vnd.gsma.rcsrevoke.xml'. − The DUT should receive Message Revoke Response Message with content-type 'application/vnd.gsma.rcsrevoke.xml' and <result>success</result>. − Verify DUT sends SMS with link instead of chat message, including the provided HTTPS Get parameter for FT fall-back from the content server (meta-data information as per RCC71, table 34)

Test Case ID	ID_RCS_T_3_3_16
Related Test Cases	
Feature	File Transfer
Reason for test	To verify that user can reject File Transfer fall back to SMS.
Pre-conditions Scenario	− DUT is online. − FT DEFAULT MECH configuration parameter is set to HTTP. − The size of File being transferred is less than FT MAX SIZE. − NUT configures the device CHAT REVOKE TIMER higher than 0. − NUT configures the device FT FALLBACK DEFAULT to 1. − NUT configures the device FT HTTP FALLBACK to 1. − NUT configures the device RECONNECT GUARD TIMER to 0. − DUT supports CFS. − Reference 1 network does not support NFS. − Reference 1 supports FT fallback to SMS (from a previous capability exchange feature tag "urn%3Aurn-7%3A3gpp-application.ims.iari.rcs.ftsms"). − DUT and Reference 1 all set STANDALONE MSG AUTH to 0 and set CHAT AUTH to 1. − NUT configures the device CFS TRIGGER to 1.

Test procedure	− DUT sends file (e.g. JPEG file) to Reference 1 but messages cannot be instantly delivered over the time of CHAT REVOKE TIMER. − DUT rejects to send the message as SMS.
Expected results Post-conditions	− DUT offer the option to send the message as SMS. − A revocation of the original download link notification shall not be triggered, neither an SMS link shall be sent. The File Transfer status is updated according to the delivery status.
Deep inspection	− The RCS File Transfer notification to the recipient user will stay in the store & forward of the terminating network (according to terminating MNO policies). − Verify DUT does not send Message Revoke Request Message with content-type 'application/vnd.gsma.rcsrevoke.xml'.

Test Case ID	ID_RCS_T_3_3_17
Related Test Cases	
Feature	File Transfer
Reason for test	To verify that the function of SMS Latching.
Pre-conditions Scenario	− DUT is online. − FT DEFAULT MECH configuration parameter is set to HTTP. − The size of File being transferred is less than FT MAX SIZE. − NUT configures the device CHAT REVOKE TIMER higher than 0. − NUT configures the device FT FALLBACK DEFAULT to 1. − NUT configures the device FT HTTP FALLBACK to 1. − NUT configures the device RECONNECT GUARD TIMER to 0. − DUT supports CFS. − Reference network 1 support support CFS. − Reference 1 supports FT fallback to SMS (from a previous capability exchange feature tag "urn%3Aurn-7%3A3gpp-application.ims.iari.rcs.ftsms"). − DUT and Reference 1 all set STANDALONE MSG AUTH to 0 and set CHAT AUTH to 1. − NUT configures the device CFS TRIGGER to 1. − Content server includes meta information in the HTTP URL for FT fallback to SMS
Test procedure	− DUT sends a file (e.g. JPEG file) to Reference 1 but messages cannot be instantly delivered by RCS within an MNO configurable period of time. − DUT sends two files (e.g. JPEG file) to Reference 1. − DUT sends a file (e.g. JPEG file) to Reference 1 when RCS availability of Reference 1 is confirmed.

Expected results Post-conditions	− DUT offer the option to send the file as SMS with link for the initial File sent − Subsequent two files are sent as SMS with link, sending via SMS the HTTP URL for File Transfer fallback to SMS − Next file file is sent as RCS chat message, once Reference 1 is back online
Deep inspection	− No SIP Message for this file transfer is sent. − FT fallback to SMS as defined in 7.3.2.5.2 from RCC71 shall be used as the default messaging service. − Once there has been a fall-back to SMS, subsequent messages shall continue to be sent as SMS until RCS availability is confirmed. − Message service is changed back to RCS message when RCS availability is confirmed.

Test Case ID	ID_RCS_T_3_3_18
Related Test Cases	
Feature	File Transfer
Reason for test	To verify that the sent file status.
Pre-conditions Scenario	− DUT and Reference 1 are online. − DISPLAY NOTIFICATION SWITCH configuration parameter is set to 0. − FT DEFAULT MECH configuration parameter is set to HTTP. − The size of File being transferred is less than FT MAX SIZE. − DUT and Reference 1 all set STANDALONE MSG AUTH to 1 and set CHAT AUTH to 0.
Test procedure	− DUT sends a file (e.g. JPEG file) to Reference 1，transfer of the file has been triggered but not actually started (e.g. queuing on device).
Expected results Post-conditions	− Message status is Pending.
Deep inspection	− Verify DUT HTTPs post message to FT HTTP CS URI for uploading file (with thumbnail if DUT sends too) to content server and recipient of correct file description XML has been transferred, but DUT has not received the 200OK response message in timeout time or DUT just initiated sending of the file.

Test Case ID	ID_RCS_T_3_3_19

Related Test Cases	
Feature	File Transfer
Reason for test	To verify that the sent file status.
Pre-conditions Scenario	− DUT and Reference 1 are online. − DISPLAY NOTIFICATION SWITCH configuration parameter is set to 0. − FT DEFAULT MECH configuration parameter is set to HTTP. − The size of File being transferred is less than FT MAX SIZE. − DUT and Reference 1 all set STANDALONE MSG AUTH to 1 and set CHAT AUTH to 0.
Test procedure	− DUT sends a file (e.g. JPEG file) to Reference 1, file transfer is started but not completed.
Expected results **Post-conditions**	− Message status is In Progress.
Deep inspection	− Verify successfully upload file (with thumbnail if DUT sends too) to content server and recipient of correct file description XML by making an HTTPs post request to FT HTTP CS URI. − Verify DUT receives HTTP 200OK with file information xml. − Verify DUT SIP StandAlone Message carrying File Transfer via HTTP message body has been transferred and DUT has not received the SIP 200OK response message.

Test Case ID	ID_RCS_T_3_3_20
Related Test Cases	
Feature	File Transfer
Reason for test	To verify that the sent file status.
Pre-conditions Scenario	− DUT and Reference 1 are online. − DISPLAY NOTIFICATION SWITCH configuration parameter is set to 0. − FT DEFAULT MECH configuration parameter is set to HTTP. − The size of File being transferred is less than FT MAX SIZE. − DUT and Reference 1 all set STANDALONE MSG AUTH to 1 and set CHAT AUTH to 0. − There is a file transfer "Pending" from DUT to Reference 1

Test procedure	− DUT has cancelled the File Transfer during the File Transfer 'Pending'.
Expected results Post-conditions	− Message status is Cancelled.
Deep inspection	− Verify DUT interrupt the ongoing HTTP file upload flow at the time of user input.

Test Case ID	ID_RCS_T_3_3_21
Related Test Cases	
Feature	File Transfer
Reason for test	To verify that the sent file status.
Pre-conditions Scenario	− DUT and Reference 1 are online. − DISPLAY NOTIFICATION SWITCH configuration parameter is set to 0. − FT DEFAULT MECH configuration parameter is set to HTTP. − The size of File being transferred is less than FT MAX SIZE. − DUT and Reference 1 all set STANDALONE MSG AUTH to 1 and set CHAT AUTH to 0.
Test procedure	− DUT sends a file (e.g. JPEG file) to Reference 1，transmission of the File Transfer request has been successfully completed.
Expected results Post-conditions	− Message status is Sent.
Deep inspection	− Verify successfully upload file (with thumbnail if DUT sends too) to content server and recipient of correct file description XML by making an HTTPs post request to FT HTTP CS URI. − Verify DUT receives HTTP 200OK with file information xml. − Verify SIP StandAlone Message with feature-tag "+g.3gpp.iari-ref="urn%3Aurn-7%3A3gpp-application.ims.iari.rcs.fthttp"" and with

	File transfer via HTTP message body as content is delivered successfully.
	− HTTP URL for the file should be included in message body content(HTTP URL for thumbnail should be included if thumbnail is sent too)
	− Verify DUT receives the SIP 200OK response message.

Test Case ID	ID_RCS_T_3_3_22
Related Test Cases	
Feature	File Transfer
Reason for test	To verify that the sent file status.
Pre-conditions Scenario	− DUT and Reference 1 are online. − DISPLAY NOTIFICATION SWITCH configuration parameter is set to 0. − FT DEFAULT MECH configuration parameter is set to HTTP. − The size of File being transferred is less than FT MAX SIZE. − DUT and Reference 1 all set STANDALONE MSG AUTH to 1 and set CHAT AUTH to 0.
Test procedure	− DUT sends a file (e.g. JPEG file) to Reference 1 and the file has been successfully delivered to Reference 1's device.
Expected results Post-conditions	− Message status is Delivered.
Deep inspection	− Verify successfully upload file (with thumbnail if DUT sends too) to content server and recipient of correct file description XML by making an HTTPs post request to FT HTTP CS URI. − Verify DUT receives HTTP 200OK with file information xml. − Verify SIP StandAlone Message with feature-tag "+g.3gpp.iari-ref="urn%3Aurn-7%3A3gpp-application.ims.iari.rcs.fthttp"" and with File transfer via HTTP message body as content is delivered successfully. − HTTP URL for the file should be included in message body content(HTTP URL for thumbnail should be included if thumbnail is sent too) − Verify DUT receives the SIP 200OK response message. − Verify DUT receives the "Delivered" message notification.

Test Case ID	ID_RCS_T_3_3_23
Related Test Cases	
Feature	File Transfer
Reason for test	To verify that the sent file status.
Pre-conditions Scenario	− DUT and Reference 1 are online. − DISPLAY NOTIFICATION SWITCH configuration parameter set to 0. − FT DEFAULT MECH configuration parameter is set to HTTP. − The size of File being transferred is less than FT MAX SIZE. − DUT and Reference 1 all set STANDALONE MSG AUTH to 1 and set CHAT AUTH to 0.
Test procedure	− DUT sends a file (e.g. JPEG file) to Reference 1 and the expected outcome of the operation could not be confirmed by the network. DUT does not attempt to send the message anymore.
Expected results Post-conditions	− Message status is Failed.
Deep inspection	− here may be two kinds of deep inspection: − Verify DUT HTTPs Post Message has been transferred, but DUT has not received the HTTP 200OK response message over timeout time. − Verify DUT SIP StandAlone Message carrying File Transfer via HTTP message body has been transferred, but DUT has not received the SIP 200OK response message over timeout time.

Test Case ID	ID_RCS_T_3_3_24
Related Test Cases	
Feature	File Transfer
Reason for test	To verify that user cannot transfer a file larger than file transfer limit.
Pre-conditions Scenario	− DUT and Reference 1 are online. − NUT sets the FT MAX SIZE. − FT DEFAULT MECH configuration parameter is set to HTTP. − STANDALONE AUTH configuration parameter is set to 1 − CHAT AUTH configuration parameter is set to 0.

Test procedure	− DUT sends a file (e.g. JPEG file) with size over File Transfer limit.
Expected results Post-conditions	− File Transfer Message cannot be sent out.
Deep inspection	− No SIP message for this file transfer should be sent.

Test Case ID	ID_RCS_T_3_3_25
Related Test Cases	
Feature	File Transfer
Reason for test	To verify that user can transfer file in group chat.
Pre-conditions Scenario	− DUT, Reference 1 and Reference 2 are online. All of them are in one group chat named "Test". − GROUP CHAT AUTH configuration parameter is set to 1. − FT DEFAULT MECH configuration parameter is set to HTTP.
Test procedure	− DUT sends a file (e.g. JPEG file) in group chat named "Test".
Expected results Post-conditions	− Reference 1 and Reference 2 receive the file in group chat.
Deep inspection	− The feature-tag "+g.3gpp.iari-ref="urn%3Aurn-7%3A3gpp-application.ims.iari.rcs.fthttp"" should be in the Contact Header field of the SIP INVITE and SIP 200 OK responses that it sends during the setup of the Group Chat. − Verify successfully upload file (with thumbnail if DUT sends too) to content server and recipient of correct file description XML by making an HTTPs post request to FT HTTP CS URI.

− Verify DUT receives HTTP 200OK with file information xml. − A MSRP group message with File transfer via HTTP message body content should be delivered successfully.	

Test Case ID	ID_RCS_T_3_3_26
Related Test Cases	
Feature	File Transfer
Reason for test	To verify that user should be informed when attempts to download an expired file.
Pre-conditions Scenario	− DUT is online. − FT DEFAULT MECH configuration parameter is set to HTTP. − File Transfer Auto-Accept is set to off. − DUT has a RCS File Transfer and a SMS with the original download link on it. − The files in RCS file Transfer and download link have not been downloaded and has expired from network storage.
Test procedure	− DUT tries to download the expired file from RCS file transfer. − DUT tries to download the expired file from SMS with link.
Expected results Post-conditions	− DUT should be informed that the file is no longer available. − DUT should be informed that the file is no longer available.
Deep inspection	− Verify that when DUT attempts to download the expired file, a HTTP 404 NOT FOUND error would be received.

Test Case ID	ID_RCS_T_3_3_27
Related Test Cases	
Feature	File Transfer
Reason for test	To verify that user downloads file when File Transfer Auto-Accept is set to off.

Pre-conditions Scenario	− DUT is online. − FT DEFAULT MECH configuration parameter is set to HTTP. − DUT has a RCS File Transfer and a SMS with the original download link. − File Transfer Auto-Accept is set to off. − The File in HTTP Content Server is not expired.
Test procedure	− DUT downloads the file from RCS File Transfer. − DUT downloads the file from SMS with link.
Expected results Post-conditions	− The file can be downloaded correctly. − The file can be downloaded correctly.
Deep inspection	− The file thumbnail can be downloaded successfully by HTTPs Get if file thumbnail is available. − The file can be downloaded successfully by HTTPs Get. − The file can be downloaded successfully by HTTPs Get.

Test Case ID	ID_RCS_T_3_3_28
Related Test Cases	
Feature	File Transfer
Reason for test	To verify that user downloads file when File Transfer Auto-Accept is set to on.
Pre-conditions Scenario	− DUT is online. − FT DEFAULT MECH configuration parameter is set to HTTP. − File Transfer Auto-Accept is set to on.
Test procedure	− DUT receive a RCS File Transfer. − DUT is set to offline, and then receives a SMS with download File link. − DUT is set to online and the above File in HTTP Content Server is not expired. .
Expected results Post-conditions	− The file is downloaded automatically from RCS File Transfer. − The file is not downloaded automatically as DUT is offline. − The file is downloaded automatically from SMS with download link as DUT is online.

Deep inspection	− The file thumbnail can be downloaded successfully by HTTPs Get if file thumbnail exists. − The file can be downloaded successfully by HTTPs Get. − The file is not downloaded automatically as DUT is offline. − The file can be downloaded successfully by HTTPs Get.

Test Case ID	ID_RCS_T_3_3_29
Related Test Cases	
Feature	File Transfer
Reason for test	To verify that user can transfer contact card and store received contact.
Pre-conditions Scenario	− DUT, Reference 1and Reference 2 are online. − DUT saves Reference 2 as contact. − FT DEFAULT MECH configuration parameter is set to HTTP. − The size of the Contact File being transferred is less than FT MAX SIZE − STANDALONE AUTH configuration parameter is set to 1 − CHAT AUTH configuration parameter is set to 0.
Test procedure	− DUT sends the contact of Reference 2 from contact list to Reference 1.
Expected results Post-conditions	− Reference 1 receives the contact of Reference 2 and saves it to contact list.
Deep inspection	− Verify successfully upload of thumbnail and file to content server and receiving of correct file description XML by making an HTTPs post request to FT HTTP CS URI. − Verify DUT receives HTTP 200OK with file information xml. − A SIP StandAlone Message with File transfer via HTTP message body content and carrying content type "text/vcard" should be delivered successfully. − Verify delivery notification is delivered to the DUT.

Test Case ID	ID_RCS_T_3_3_30
Related Test Cases	
Feature	File Transfer

Reason for test	To verify that the File Transfer shall resume automatically from the point of interruption once the required conditions have been restored.
Pre-conditions Scenario	− DUT and Reference 1 are online. − FT DEFAULT MECH configuration parameter is set to HTTP. − The size of the File being transferred is less than FT MAX SIZE − STANDALONE AUTH configuration parameter set to 1 − CHAT AUTH configuration parameter set to 0.
Test procedure	− DUT sends a file (e.g. JPEG file) to Reference 1 but during sending the File Transfer has been interrupted as DUT lose radio coverage. − DUT is back into radio coverage. − Reference 1 receives the File and tries to download it, but downloading is interrupted as Reference 1 lose radio coverage. − Reference 1 is back into radio coverage.
Expected results Post-conditions	− File is not sent out. − The File Transfer shall resume automatically from the point of interruption. − Downloading is stopped and file is not downloaded. − The downloading shall resume automatically from the point of interruption.
Deep inspection	− DUT should fetch the upload information of the file by a HTTP GET request to the content server including the TID related to former resume upload. − The server sends back the upload information in the XML structure describing the file content without optional thumbnail including the stored byte range within a file-range tag and the direct upload URI. − DUT should resume the upload of the file content it generates an HTTP PUT request to the upload URL that was included in the XML description. − Reference 1 should resume the download of the file content it generates an HTTP GET request to the download URL that was included in the XML description with header "Range". − Reference 1 should receive a HTTP 206 response with header "Content-Range" and left file content.

Test Case ID	ID_RCS_T_3_3_31
Related Test Cases	ID_RCS_T_3_3_12
Feature	File Transfer
Reason for test	To verify that if File Transfer cannot be delivered by RCS within an MNO configurable period of time and the terminating network does not support NFS, the client shall use the procedures of CFS to ensure Delivery Assurance. HTTPS Get parameter for FT fall-back is not provided from the content server

Pre-conditions Scenario	– DUT is online. – FT DEFAULT MECH configuration parameter is set to HTTP. – The size of File being transferred is less than FT MAX SIZE. – NUT configures the device CHAT REVOKE TIMER higher than 0. – NUT configures the device FT FALLBACK DEFAULT to 1. – NUT configures the device FT HTTP FALLBACK to 1. – NUT configures the device RECONNECT GUARD TIMER to 0. – DUT supports CFS. – Reference 1 network supports CFS. – Reference 1 supports FT fallback to SMS (from a previous capability exchange feature tag "urn%3Aurn-7%3A3gpp-application.ims.iari.rcs.ftsms"). – DUT and Reference 1 all set STANDALONE MSG AUTH to 0 and set CHAT AUTH to 1. – DUT configured the device CFS TRIGGER to 1. – Content server does not include meta information in the HTTP URL for FT fallback to SMS
Test procedure	– DUT sends file (e.g. JPEG file) to Reference 1 but file cannot be instantly delivered over the time of CHAT REVOKE TIMER. – DUT accepts to send message as SMS with link.
Expected results Post-conditions	– DUT offer the option to send the message as SMS. – A revocation for the original chat message shall be triggered. DUT will send via SMS the HTTP URL for File Transfer fallback to SMS. As this is not provided by the server, client shall be able to render the response received by the FT server and generate the required parameters to be added to the URL
Deep inspection	– Verify successfully upload file (with thumbnail if DUT sends too) to content server and recipient of correct file description XML by making an HTTPs post request to FT HTTP CS URI. – Verify DUT receives HTTP 200OK with file information xml, which does not contains the HTTPS Get parameter for FT fall-back (meta-data information as per RCC71, table 34) – Verify SIP INVITE with feature tag "+g.gsma.rcs.msgrevoke" when initiating chat session. – DUT sends Message Revoke Request Message with content-type 'application/vnd.gsma.rcsrevoke.xml'. – The DUT should receive Message Revoke Response Message with content-type 'application/vnd.gsma.rcsrevoke.xml' and <result>success</result>. – Verify DUT sends SMS with link instead of chat message, including the provided HTTPS Get parameter for FT fall-back from the content server (meta-data information as per RCC71, table 34)

3.4   Audio Messaging

3.4.1   Functional test cases

Test case ID	ID_RCS_F_3_4_1
Related test cases	
Feature	Audio Messaging
Reason for test	UP 1.0. Reference section US8-1 (and subsequent requirements R8-1-1 to R8-1-12). Record and send Audio Message.
Pre-conditions Scenario	− A-Party's device is online. − B-Party's device is known to be RCS capable to A-Party and online.
Test procedure	− A-Party creates a new 1-to-1 Messaging conversation or enters the existing Chat Conversation with B. − A- Party records an Audio Message. − A-Party sends the Audio Message to B-Party.
Expected results Post-conditions	− In the conversation the A-Party user is presented with a 1-click UI option to record an Audio Message. − A-Party records the Audio Message. After recording, A-Party is offered to listen to the recorded Audio Message or send directly to B-Party (probably amongst other UI options). − Once A-Party has selected "Send", A-Party shall have the option to cancel the sending before the file transfer of the Audio Message has been completed. After the Audio Message was sent, both conversation histories shall represent the Audio Message with a clickable icon that illustrates the audio character of the message (in contrast to e.g. pictures). On selection of the icon, the Audio Message shall be played back. Media settings of the device (e.g. volume, speaker, etc.) shall apply. On A-Party's device, the file transfer progress (pending, sending, sent, delivered, 'displayed' (if 'displayed' feedback is allowed in B-Party's device settings)) shall be visible.
Deep inspection	−

Test case ID	ID_RCS_F_3_4_2

Related test cases	
Feature	Audio Messaging
Reason for test	UP 1.0. Reference section US8-1 (and subsequent requirements R8-1-1 and R8-1-13 and R8-3-4-1). Record and send Audio Message.
Pre-conditions Scenario	− A-Party's device is online. − B-Party's device is known to be RCS capable (to A). − C-Party's device is known to be RCS capable (to A).
Test procedure	− A-Party creates a new Group Chat or enters an existing Group Chat with B and C. − A- Party records an Audio Message. The recording shall not be stopped manually. − After the recording stopped automatically, A-Party sends the Audio Message to the Group Chat.
Expected results Post-conditions	− In the Group Chat the A-Party user is presented with a 1-click UI option to record an Audio Message. − A-Party records the Audio Message. After recording, A-Party is offered to listen to the recorded Audio Message or send directly to the Group Chat (probably amongst other UI options). − Once A-Party has selected "Send", A-Party shall have the option to cancel the sending before the file transfer of the Audio Message has been completed. After the Audio Message was sent, all conversation histories shall represent the Audio Message with a clickable icon that illustrates the audio character of the message (in contrast to e.g. pictures). On selection of the icon, the Audio Message shall be played back. Media settings of the particular device (e.g. volume, speaker, etc.) shall apply. The user shall be presented with playback, stop and forward / rewind options to operate the audio player (R8-3-4-1). On A-Party's device, the file transfer progress (pending, sending, sent, delivered, 'displayed' (if 'displayed' feedback is allowed in B- and C-Party's device settings)) shall be visible.
Deep inspection	−

Test case ID	ID_RCS_F_3_4_3
Related test cases	
Feature	Audio Messaging
Reason for test	UP 1.0. Reference section US8-2 (and subsequent requirements). Receiving Audio Messages.
Pre-conditions Scenario	- A-Party's device is online. - B-Party's device is known to be RCS capable (to A). B-Party device is in idle mode (screen black).
Test procedure	- A-Party creates a new conversation or enters an existing conversation with B. - A- Party records an Audio Message. - After the recording, A-Party sends the Audio Message to B.
Expected results Post-conditions	Once B-Party has received the Audio Message, a visual notification shall be provided allowing the B-Party user to easily identify the incoming message as an Audio Message. An audible notification shall be provided (B-Party device settings for notification sounds apply). On selection of the notification, the Audio Message shall be played back using the active audio speaker. The B-Party user shall have the option to switch to device loudspeaker at any time.
Deep inspection	–

Test case ID	ID_RCS_F_3_4_4
Related test cases	
Feature	Audio Messaging
Reason for test	UP 1.0. Reference section US8-3 (and subsequent requirements). Audio Messaging features.
Pre-conditions Scenario	- A-Party's device is online. - B-Party's device is known to be RCS capable (to A). B-Party device is in idle mode (screen black).

Test procedure	– A-Party creates a new conversation or enters an existing conversation with B. – A- Party records an Audio Message. – After the recording, A-Party sends the Audio Message to B. – Delete an Audio Message from the conversation history. – After replay of an Audio Message, record a new Audio Message and send. – Check time and date stamp of the Audio Message on A- and B-Party's device.
Expected results Post-conditions	– Audio Messages, represented by their icon in the conversation history on A-Party's and B-Party's device, shall allow replay and stop of replay. – Deleted Audio Messages disappear from the conversation history. – The UI shall offer an easy (1-click) option to record and send a new Audio Message. – Time and Date stamps are correct on both devices.
Deep inspection	–

3.4.2 Technical test cases

Test case ID	ID_RCS_T_3_4_1
Related test cases	
Feature	Audio Messaging
Reason for test	UP 1.0. Reference section 8.2.1. Sending Audio Messages in active one-to-one chat
Pre-conditions Scenario	– DUT and Reference 1 are online and in active 1-2-1 chat session. – Reference 1 has enough free storage space to receive a Audio Messages. – Audio Message recording is limited to a duration based on the maximum file size supported by the MNO.
Test procedure	– DUT selects the Audio Message option to record and send an Audio Message to Reference 1. – Reference 1 receives the Audio Messages exchange. – Reference 1 opens Audio Message e.g. presented with playback, stop and forward / rewind options to operate the audio player.

Expected results Post-conditions	− DUT sees that Audio Message option is available for the recipient. − The Audio Message is transferred and received by Reference 1 and he can access and save it. − Delivery and display notification are received and shown on client DUT.
Deep inspection	− Verify successful upload of Audio Messages info to content server and recipient of correct file description XML adding the length of the RRAM in the playing-length element of [RCC.07]. − Verify FT notification XML is sent inside the active chat. − Verify the URL complies to ftcontentserver.rcs.mnc<MNC>.mcc<MCC>.pub.3gppnetwork.org. − Verify File Disposition being set to 'render' according section 3.11.4.2.2. of [RCC.07]. − Verify delivery and display notifications are sent within MSRP session or SIP MESSAGEs if chat session closed. − Verify Audio Message has recorded on the sender's device using the Adaptive Multi-Rate (AMR) codec.

Test case ID	ID_RCS_T_3_4_2
Related test cases	
Feature	Audio Messaging
Reason for test	UP 1.0. Reference section 8.2.3. Receiving Audio Message in active one-to-one chat
Pre-conditions Scenario	− DUT and Reference 1 are online and in active 1-2-1 chat session. − DUT has enough free storage space to receive a Audio Message. − Audio Message recived does not exced the maximum file size supported by the MNO.
Test procedure	− Reference 1 selects one contact and then selects the Audio Message option to record and send an Audio Message to DUT. − DUT receives the Audio Messages exchange. − DUT opens Audio Message e.g. presented with playback, stop and forward / rewind options to operate the audio player.
Expected results Post-conditions	− Reference 1 sees that Audio Message option is available for the recipient. − The Audio Message is transferred and received by DUT and he can access and save it. − Delivery and display notification are received and shown on client Reference 1.

Deep inspection	− Verify FT notification XML is received inside the active chat. − Verify File Disposition being set to 'render' according section 3.11.4.2.2. of [RCC.07]. − Verify the URL complies to ftcontentserver.rcs.mnc<MNC>.mcc<MCC>.pub.3gppnetwork.org.

3.5 Settings

3.5.1 Functional test cases

Test case ID	ID_RCS_F_3_5_1
Related test cases	
Feature	Settings
Reason for test	UP 1.0. Reference section US18-1 and subsequent requirements. RCS (de) activation.
Pre-conditions Scenario	− Device has an activated UP 1.0 RCS native client.
Test procedure	− Set Master Switch for RCS functionality to 'off' − Set Master Switch for RCS functionality to 'on'
Expected results Post-conditions	− RCS functionalities are disabled. All locations / entry points of the (Master) switch are synced to "off". − RCS functionalities are enabled. All locations / entry points of the (Master) switch are synced to "on".
Deep inspection	−

Test case ID	ID_RCS_F_3_5_2
Related test cases	
Feature	Settings
Reason for test	UP 1.0. Reference section US18-2 and subsequent requirements. RCS Messaging Alias

Pre-conditions Scenario	− A-Party's & B-Party's devices are RCS online. − A-Party is not in the contact list of B-Party. − B-Party is in the contact list of A-Party.
Test procedure	− Set an RCS Messaging Alias on the A-party's device. − Send an RCS 1-to-1 Message from A-Party to B-Party
Expected results **Post-conditions**	− On B-Party's device, A-party's RCS Messaging Alias is visible in the conversation thread and in the list of messaging conversations.
Deep inspection	−

Test case ID	ID_RCS_F_3_5_3
Related test cases	
Feature	Settings
Reason for test	UP 1.0. Reference section US18-4 and subsequent requirements. SMS delivery notification
Pre-conditions Scenario	− A- and B-Party's devices are configured for Integrated Messaging.
Test procedure	− On A-Party's device, make sure the option to automatically send a Delivery Notification for SMS is selected. − A-Party sends an SMS to B-Party. − On A-Party's device, deselect the option to automatically send a Delivery Notification for SMS. − A-Party sends an SMS towards B-Party.
Expected results **Post-conditions**	− B-Party's device receives SMS, A-Party's device presents 'sent' and then 'delivered' Message Status Notification. − B-Party device receives SMS, A-Party's device presents "sent" as Message Status Notification (does not change to 'delivered').
Deep inspection	−

Test case ID	ID_RCS_F_3_5_4
Related test cases	

Feature	Settings
Reason for test	UP 1.0. Reference section US18-5 and subsequent requirements. MMS download
Pre-conditions Scenario	− A- and B-Party's devices are configured for Integrated Messaging. − MMS is enabled by the network(s) of A- and B-Party. − A- and B-Party's devices are on home network (not roaming).
Test procedure	− A-Party sends File to B-Party selecting MMS as File Transfer Service. B-Party's device is set to (the default) "automatic download of MMS" enabled. Wait until file has been successfully delivered to B-Party's device. − B-Party disables automatic MMS download. A-Party sends a File to B-Party selecting MMS as File Transfer Service. − B-Party confirms to download the File.
Expected results Post-conditions	− B-Party device receives MMS. The File is automatically downloaded. − B-Party device receives notification that an MMS is waiting for download and offers to B-Party to download the MMS. − Upon confirmation to download the MMS, B-Party's device downloads the MMS.
Deep inspection	−

Test case ID	ID_RCS_F_3_5_5
Related test cases	
Feature	Settings
Reason for test	UP 1.0. Reference section US18-6 and subsequent requirements. Personalization
Pre-conditions Scenario	− A-Party's & B-Party's devices are online. − B-Party's device has a hardware feature "notification LED". The personalization setting is set to default setting "notify incoming new messages".
Test procedure	− A-Party sends a message to B-Party. − B-party opens the message after reception of the message. − B-Party disables LED notification in settings for incoming messages. − A-Party sends a message to B Party.

Expected results Post-conditions	− After reception of the message, B-Party's device LED indicates an unread message. − The message is displayed on B-Party's device, the notification LED is reset (dark). − B-Party's device LED does not indicate a new unread message after the message was received.
Deep inspection	−

Test case ID	ID_RCS_F_3_5_6
Related test cases	
Feature	Settings
Reason for test	UP 1.0. Reference section US18-6-2 and subsequent requirements. Personalization
Pre-conditions Scenario	− A-Party's & B-Party's devices are online. − B-Party's device has a hardware feature "vibration notification". The personalization setting is set to default setting "notify incoming new messages".
Test procedure	− A-Party sends a message to B-Party. − B-party opens the message after reception of the message. − B-Party disables vibration notification in settings for incoming messages. − A-Party sends a message to B Party.
Expected results Post-conditions	− After reception of the message, B-Party's device vibrates to indicate a new incoming message. − The message is displayed on B-Party's device. − B-Party's device does not vibrate to indicate a new incoming message when the message is received.
Deep inspection	−

Test case ID	ID_RCS_F_3_5_7
Related test cases	
Feature	Settings

Reason for test	UP 1.0. Reference section US18-6-3 and subsequent requirements. Personalization
Pre-conditions Scenario	− A-Party's device is RCS enabled.
Test procedure	− Check whether following personalization features are present within the client: − Notification sounds for incoming messages (e.g. xMS, 1-to -1 Messaging Group Chat Messages, File Transfers) − Notification preferences − Customised ringtones (for Voice calls or IP Video) − Visual customisation for chat (for example fonts, bubble styles, backgrounds etc.)
Expected results Post-conditions	− The user should be able to set the above features according to their own preferences.
Deep inspection	−

Test case ID	ID_RCS_F_3_5_8
Related test cases	
Feature	Settings
Reason for test	UP 1.0. Reference section US18-7 and subsequent requirements. Display notification
Pre-conditions Scenario	− A-Party's & B-Party's devices are online. − The send 'display' notification setting on-B-Party's device is set to "send display notification". − A- and B-Party's MNO(s) support display notification feature.
Test procedure	− A-Party sends a message to B Party. − B-Party opens the message. − On B-Party's device, the send 'display notification' setting is set to 'do not send display notification'. − A-Party sends a message to B Party. − B-Party opens the message.

Expected results **Post-conditions**	− The message is received on B-Party's device. − The message is displayed on B-Party's device Party. On A-Party's device, the message is notified as "displayed" in the conversation with B. − Feedback of display notification is disabled. − The message is received on B-Party's device. − The message is displayed on B-Party's device. On A-Party's device, the message stays as "delivered" in the conversation with B.
Deep inspection	−

Test case ID	ID_RCS_F_3_5_9
Related test cases	
Feature	Settings
Reason for test	UP 1.0. Reference section US18-8 and requirements R18-8-1 & R18-8-1-1. File Transfer
Pre-conditions Scenario	− A-Party's & B-Party's devices are online and on home network (not roaming). − The "automatic File Transfer download" setting on-B-Party's device is set to default value "download automatically on home network".
Test procedure	− A-Party sends a file (e.g. a picture) to B-Party. − B-party enters the conversation with A-Party and accesses the file. − B-Party disabled the setting "automatic download on home network". − A-Party sends a file (e.g. a picture) to B-Party.
Expected results **Post-conditions**	− The file is received on B-Party's device. − The file can instantly be accessed, no waiting for download. − The setting "auto download on home network" is disabled. − When the thumbnail icon is accesses on B-Party's device, the user needs to wait for the file download first before the file is on B-Party's device (and e.g. the picture can be displayed in full resolution).
Deep inspection	−

Test case ID	ID_RCS_F_3_5_10

Related test cases	
Feature	Settings
Reason for test	UP 1.0. Reference section US18-9, US18-10 (and subsequent requirements) Resizing options
Pre-conditions Scenario	− A-Party's device is online and known to be RCS capable. Picture and video resizing options set to default. At least one picture and one video are available in the device repository for pictures and video. − B-Party's device is online and known to be RCS capable
Test procedure	− On A-Party's device, select a picture to be sent B-Party. − On request, select 'resize', "don't ask again" and send the picture. − On A-Party's device, select the same picture again and send to B-Party. − On A-Party's device, select a video to be sent to B-Party. − On request, select "resize" and "don't ask again", select an option that is provided for the resizing of the video and send the video. − On A-Party's device, select the same video again and send to B-Party.
Expected results **Post-conditions**	− A-Party's device displays an option to resize the image. An option to select "always resize" is available. On B-party's device, a picture is received which is smaller than the original picture that was selected to be sent from A-Party's device. − The same picture is sent from A-Party's device without asking to resize. On B-Party's device, the picture is received again. The second picture shall have the same format / data volume as the original picture. − A-Party has the option to select a video from existing video repository on A-Party's device. − A-Party's device displays one or more options to resize the video. On B-party's device, a video is received which is in the format as selected and sent from A-Party's device. − The same video is sent from A-Party's device without asking to resize. On B-Party's device, the video is received again. The second video shall have the same format / data volume as the first video that was received on B-Party's device.
Deep inspection	−

Test case ID	ID_RCS_F_3_5_11
Related test cases	

Feature	Settings
Reason for test	UP 1.0. Reference section US18-12 (and subsequent requirements) Selection of default sending preferences
Pre-conditions Scenario	− A-Party's device is RCS enabled, online and configured for Integrated Messaging. In settings on A-Party's device, the setting described in US18-12 is set to "Proposed Messaging Service". The proposed messaging service on A-Party's device for communication with B-Party is not latched to SMS (see R5-2-4-6). − A-Party's MNO supports MMS. − B-Party's device is online and known to be RCS capable − C-Party is a non-RCS user. − - There are existing messaging threads with B-Party and C-Party on A-Party's device.
Test procedure	− Open the messaging application on the A-Party's device − Select and open the conversation with B-Party from the list of conversations − Select and open the conversation with C-Party on A-Party's device.
Expected results **Post-conditions**	− The messaging application suggests to send messages and files as RCS − The messaging application suggests to send messages as SMS and files as MMS.
Deep inspection	−

Test case ID	ID_RCS_F_3_5_12
Related test cases	
Feature	Settings
Reason for test	UP 1.0. Reference section US18-13, US18-14 (and subsequent requirements) Selection of Client Fallback SMS (CFS) preferences
Pre-conditions Scenario	− A- and B-Party's MNO(s) support Integrated Messaging − A-Party's device is online − B-Party's device is offline but available for CS − B-Party's RCS Service Provider supports CFS − - The CFS Timer is set to 5 minutes (no user setting).

Test procedure	− Go to settings on the A-Party's device and set the option 'always ask´ for re-sending RCS messages and RCS files as SMS. − Send an RCS 1-to-1 Message on A-Party's device to B-Party. − Wait for 5 minutes after 'sent' was confirmed by the network on A-Party's device. − Confirm to re-send the message as SMS.
Expected results Post-conditions	− The A-Party's device is set to 'always ask'. − On A-Party's device, the message state is 'sent' but does not show 'delivered'. On B-Party's device, the message will not arrive. − After 5 minutes, A-Party will be asked to resend as SMS. − After re-sending as SMS, the original message is removed from the conversation on A-Party's device. A new message is indicated as SMS in 'sent' status until the message arrives at B-Party's device and the 'delivered' notification is presented on A-Party's device.
Deep inspection	−

Test case ID	ID_RCS_F_3_5_13
Related test cases	
Feature	Settings
Reason for test	UP 1.0. Reference section US18-13, US18-14 (and subsequent requirements) Selection of Client Fallback SMS (CFS) preferences
Pre-conditions Scenario	− A- and B-Party's MNO(s) support Integrated Messaging − A-Party's device is online − B-Party's device is offline but available for CS − B-Party's RCS Service Provider supports CFS − - The CFS Timer is set to 5 minutes (no user setting).
Test procedure	− Go to settings on the A-Party's device and set the option 'Always resend undelivered RCS messages as SMS (and don't ask)'/' Always resend undelivered RCS Files as SMS link (and don't ask)' − Send an RCS 1-to-1 Message on A-Party's device to B-Party. − Wait for 5 minutes after 'sent' was confirmed by the network on A-Party's device.
Expected results Post-conditions	− The A-Party's device is set to 'Always resend undelivered RCS messages as SMS (and don't ask)'/' Always resend undelivered RCS Files as SMS link (and don't ask)'.

	− On A-Party's device, the message state is 'sent' but does not show 'delivered' for about 5 minutes. On B-Party's device, the message will not arrive. − After 5 minutes, the original RCS 1-to-1 message is removed and a new message appears sent as SMS. The new message is indicated as 'sent' until the message arrives at B-Party's device and the 'delivered' notification is presented on A-Party's device.
Deep inspection	−

Test case ID	ID_RCS_F_3_5_14
Related test cases	
Feature	Settings
Reason for test	UP 1.0. Reference section US18-13, US18-14 (and subsequent requirements) Selection of Client Fallback SMS (CFS) preferences
Pre-conditions Scenario	− A- and B-Party's MNO(s) support Integrated Messaging − A-Party's device is online − B-Party's device is offline but available for CS − B-Party's RCS Service Provider supports CFS − - The CFS Timer is set to 5 minutes (no user setting).
Test procedure	− Go to settings on the A-Party's device and set the option 'Never resend undelivered RCS messages as SMS (and don't ask)'/' Never resend undelivered RCS Files as SMS link (and don't ask)' − Send an RCS 1-to-1 Message on A-Party's device to B-Party. − Wait for 6 minutes after 'sent' was confirmed by the network on A-Party's device. − Go online with B-Party's device.
Expected results **Post-conditions**	− The A-Party's device is set to 'Never resend undelivered RCS messages as SMS (and don't ask)'/' Never resend undelivered RCS Files as SMS link (and don't ask)'. − On A-Party's device, the message state is 'sent' but does not show 'delivered'. On B-Party's device, the message will not arrive. − No change. − The message arrives at B-Party's device. On A-Party's device, the Message Status changes to 'delivered'.
Deep inspection	−

Test case ID	ID_RCS_F_3_5_15
Related test cases	
Feature	Settings
Reason for test	UP 1.0. Reference section US18-15 (and subsequent requirements) Blocking contacts
Pre-conditions Scenario	− A-Party's device is online and known to be RCS capable − B-Party's device is online and known to be RCS capable − On A-Party's device, there is a 1-to-1 Messaging conversation with B-Party, and a Group Chat that has B-Party as a participant. − B-Party has blocked incoming communication from A-Party on the device.
Test procedure	− Send a 1-to-1 message from A-Party to B-Party. − Send a file on the A-Party device to B-Party − Send a Group Chat message from A-Party to the group that has B-Party as a participant. − Make a call on the A-Party device to B-Party
Expected results Post-conditions	− The B-Party device entirely ignores the message from A-party. The A-Party user is not notified about the status of being blocked. The A-Party device indicates the message in "sent" state and shall not indicate "displayed". − The B-Party device entirely ignores the file from A-party. The A-Party user is not notified about the status of being blocked. The A-Party device indicates the file in "delivered" state and shall not indicate "displayed". − The B-Party device alerts the B-Party user that there is an incoming Group Chat message from A-Party and the message can be accessed in the Group Chat thread. − The B-Party device does not alert the B-Party user that there is an incoming call from A-Party. The A-Party user hears a ringtone or busy tone.
Deep inspection	−

Test case ID	ID_RCS_F_3_5_16
Related test cases	
Feature	Settings

Reason for test	UP 1.0. Reference section US18-16 (and subsequent requirements) Dual SIM
Pre-conditions Scenario	− A-Party's device is a Dual SIM device − A-Party's device is online on SIM 1 and SIM2 is from an operator known to be RCS capable
Test procedure	− Go to settings on the A-Party's device and select SIM2 that is RCS capable
Expected results Post-conditions	− The A-Party user is able to select the SIM2 as the active RCS SIM.
Deep inspection	−

Test case ID	ID_RCS_F_3_5_17
Related test cases	
Feature	Settings
Reason for test	UP 1.0. Reference section US18-16 (and subsequent requirements) Dual SIM
Pre-conditions Scenario	− A-Party's device is a Dual SIM device − A-Party's device is online on SIM1, SIM2 is from an operator not known to support RCS.
Test procedure	− Go to settings on the A-Party's device and try to select SIM2 for RCS services.
Expected results Post-conditions	− The A-Party's device does not offer to change the active SIM for RCS services.
Deep inspection	−

4   Enriched Calling

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5   Multi-Device Messaging

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6   Data off

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7   Backup and Restore

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8   APIs

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9   Green Button Promise for Voice

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10 Green Button Promise for IP Video Call Services

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11 Multi-Device for Voice & Video

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Annex A   Test Cases guidelines for Phase 1 of OMA SIMPLE IM-CPM transition

A.1   Framework

A.1.1   Device Provisioning

This feature set to be tested in accordance with test cases provided in section 2.1 of the current document.

A.1.2   Capability Discovery

This feature set to be tested in accordance with test cases provided in section 2.2.2.1 of the current document.

A.1.3   Security Against Malware

This feature set to be tested in accordance with test cases provided in section 3.4 of the current document.

A.2   Messaging

A.2.1   1-to-1 Messaging

This feature set to be tested using the generic set of test cases provided in section 3.1 of the current document and additional specific to SIMPLE IM test cases provided in this section. The list of IDs for generic test cases is provided below:

- ID_RCS_T_3_1_6

- ID_RCS_T_3_1_7

- ID_RCS_T_3_1_8

- ID_RCS_T_3_1_9

- ID_RCS_T_3_1_10

- ID_RCS_T_3_1_11

- ID_RCS_T_3_1_12

- ID_RCS_T_3_1_13

- ID_RCS_T_3_1_14

- ID_RCS_T_3_1_15

- ID_RCS_T_3_1_16

- ID_RCS_T_3_1_17

- ID_RCS_T_3_1_18

- ID_RCS_T_3_1_19

- ID_RCS_T_3_1_20

- ID_RCS_T_3_1_21

- ID_RCS_T_3_1_22

- ID_RCS_T_3_1_24

- ID_RCS_T_3_1_25

- ID_RCS_T_3_1_27

- ID_RCS_T_3_1_28

- ID_RCS_T_3_1_29

- ID_RCS_T_3_1_30

- ID_RCS_T_3_1_35

- ID_RCS_T_3_1_37

- ID_RCS_T_3_1_38

- ID_RCS_T_3_1_39

- ID_RCS_T_3_1_41

- ID_RCS_T_3_1_42

- ID_RCS_T_3_1_43

- ID_RCS_T_3_1_44

- ID_RCS_T_3_1_45

- ID_RCS_T_3_1_46

- ID_RCS_T_3_1_47

- ID_RCS_T_3_1_48

- ID_RCS_T_3_1_49

- ID_RCS_T_3_1_50

- ID_RCS_T_3_1_51

- ID_RCS_T_3_1_52

- ID_RCS_T_3_1_53

- ID_RCS_T_3_1_54

- ID_RCS_T_3_1_55

- ID_RCS_T_3_1_56

- ID_RCS_T_3_1_57

- ID_RCS_T_3_1_58

- ID_RCS_T_3_1_59

- ID_RCS_T_3_1_62

- ID_RCS_T_3_1_63

- ID_RCS_T_3_1_64

- ID_RCS_T_3_1_65

- ID_RCS_T_3_1_67

- ID_RCS_T_3_1_73

Test case ID	ID_RCS_T_A_2_1_1
Related test cases	
Feature	1-to-1 Messaging
Reason for test	Share Location: 'send my location'
Pre-conditions Scenario	− RCS services have been previously configured successfully on the phone/SIM pair − Users are registered RCS users − Both users coverage is 3G, HSPA, LTE or Wi-Fi or bearer where Geolocation Push is available by MNO − Users are not in an active 1-2-1 chat − Receiver is online
Test procedure	− DUT selects 'send my location' option to share location information within a 1-to-1 chat − Reference 1 can see location of DUT − Reference 1 waits until session expires − Reference 1 selects 'send my location' option to share location information within a 1-to-1 chat − DUT can see location of Reference 1
Expected results Post-conditions	− DUT's location is received by Reference 1 − Reference 1 receives the notification of Location Share − DUT is notified of the status of delivery of his location share (delivered, displayed) − Reference 1's location is received by DUT

	− DUT receives the notification of Location Share − Reference 1 is notified of the status of delivery of his location share (delivered, displayed)
Deep inspection	− Option exchange is applied with the right tag (i.e. geoplocatiopush IARI) − Verify 1-2-1 chat session establishment with the right tags in the Contact (i.e. geolocationpush IARI, sip.im) and Accept-Contact with sip.im and a separate Accept-Contact with geolocationpush IARI&require&explicit parameters − Contact and Accept-Contact contains the following tags: − +g.oma.sip-im; − +g.3gpp.iari-ref=\""urn%3Aurn-7%3A3gpp-application.ims.iari.rcs.geopush − SDP contains following Media Attribute (a): accept-wrapped-types: application/vnd.gsma.rcspushlocation+xml − Sender is notified of the delivery and display of the content − Verify session has expired − Verify new INVITE with Location share info − Sender is notified of the delivery and display of the content

Test case ID	ID_RCS_T_A_2_1_2
Related test cases	
Feature	1-to-1 Messaging
Reason for test	Share Location: 'send a place'
Pre-conditions Scenario	− RCS services have been previously configured successfully on the phone/SIM pair − Users are registered RCS users − Both users coverage is 3G, HSPA, LTE or Wi-Fi or bearer where Geolocation Push is available by MNO − Users are in the active 1-2-1 chat − Receiver is online
Test procedure	− DUT selects 'send a place' option to share location information within a 1-to-1 chat, he adds Plain Text information − Reference 1 can see location of DUT − Reference 1 waits until session expires − Reference 1 selects 'send a place' option to share location information within a 1-to-1 chat, he adds Plain Text information − DUT can see location of Reference 1

Expected results Post-conditions	- Place information sent by DUT is received by Reference 1 - Reference 1 receives the notification of Location Share - DUT is notified of the status of delivery of his location share (delivered, displayed) - Place information sent by Reference 1 is received by DUT - DUT receives the notification of Location Share - Reference 1 is notified of the status of delivery of his location share (delivered, displayed)
Deep inspection	- Option exchange is applied with the right tag (i.e. geoplocatiopush IARI) - Verify 1-2-1 chat session establishment with the right tags in the Contact (i.e. geolocationpush IARI, sip.im) and Accept-Contact with sip.im and a separate Accept-Contact with geolocationpush IARI&require&explicit parameters - Contact and Accept-Contact contains the following tags: +g.oma.sip-im; +g.3gpp.iari-ref=\""urn%3Aurn-7%3A3gpp-application.ims.iari.rcs.geopush - SDP contains following Media Attribute (a): accept-wrapped-types: application/vnd.gsma.rcspushlocation+xml - Plain Text information is sent, it is included in the label attribute - Sender is notified of the delivery and display of the content - Verify session has expired - Verify new INVITE with Location share info - Sender is notified of the delivery and display of the content

Test case ID	ID_RCS_T_A_2_1_3
Related test cases	
Feature	1-to-1 Messaging
Reason for test	Share Location: 'send my location'
Pre-conditions Scenario	- RCS services have been previously configured successfully on the phone/SIM pair - Users are registered RCS users - Both users coverage is 3G, HSPA, LTE or Wi-Fi or bearer where Geolocation Push is available by MNO - There is no Group Chat - Receiver is online

Test procedure	− DUT selects 'send my location' option to share location information within a group chat − Group chat has expired − Reference 1 selects 'send my location' option to share location information within a group chat − Reference 1 can see delivery notifications − Users can see location of Reference 1
Expected results Post-conditions	− Location information sent by DUT is received by Reference 1 and 2 − DUT is notified of the status of delivery of his location share (delivered) − Group chat restarted − Location information sent by Reference 1 is received by DUT and Reference 2 − Reference 1 is notified of the status of delivery of his location share (delivered)
Deep inspection	− Option exchange is applied with the right tag (i.e. fthttp, geoplocatiopush IARI) − Verify that client includes geolocation push IARI into Contact of Group chat INVITE − and Accept-Contact contains +g.oma.sip-im only; − SDP contains following Media Attribute (a): accept-wrapped-types: application/vnd.gsma.rcspushlocation+xml − Sender is notified of the delivery of the content − Verify group chat session has expired − Verify group chat restarted by Reference 1 − Sender is notified of the delivery of the content

Test case ID	ID_RCS_T_A_2_1_4
Related test cases	
Feature	1-to-1 Messaging
Reason for test	Share Location: 'send a place' within a group chat session
Pre-conditions Scenario	− RCS services have been previously configured successfully on the phone/SIM pair − Users are registered RCS users − Both users coverage is 3G, HSPA, LTE or Wi-Fi or bearer where Geolocation Push is available by MNO − Users are in the active Group chat − Receiver is online

Test procedure	– DUT selects 'send a place' option to share location information within a group chat – Group chat has expired – Reference 1 selects 'send a place' option to share location information within a group chat – Reference 1 can see delivery notification – Users can see location of Reference 1
Expected results Post-conditions	– Location information sent by DUT is received by Reference 1 and 2 – DUT is notified of the status of delivery of his location share (delivered) – Group chat restarted – Location information sent by Reference 1 is received by DUT and Reference 2 – Reference 1 is notified of the status of delivery of his location share (delivered)
Deep inspection	– Option exchange is applied with the right tag (i.e. fthttp, geoplocatiopush IARI) – Verify that client includes geolocation push IARI into Contact of Group chat INVITE and Accept-Contact contains +g.oma.sip-im only; – SDP contains following Media Attribute (a): accept-wrapped-types: application/vnd.gsma.rcspushlocation+xml – Sender is notified of the delivery of the content – Verify group chat session has expired – Verify group chat restarted by Reference 1 – Sender is notified of the delivery of the content

A.2.2   Group Chat

This feature set to be tested using the generic set of test cases provided in section 3.2 of the current document and additional specific to SIMPLE IM test cases provided in this section. The list of IDs for generic test cases is provided below:

- ID_RCS_T_3_2_5

- ID_RCS_T_3_2_6

- ID_RCS_T_3_2_7

- ID_RCS_T_3_2_8

- ID_RCS_T_3_2_9

- ID_RCS_T_3_2_10

- ID_RCS_T_3_2_11

- ID_RCS_T_3_2_12

- ID_RCS_T_3_2_13

- ID_RCS_T_3_2_14

- ID_RCS_T_3_2_15

- ID_RCS_T_3_2_16

- ID_RCS_T_3_2_17

- ID_RCS_T_3_2_18

- ID_RCS_T_3_2_19

- ID_RCS_T_3_2_20

- ID_RCS_T_3_2_21

- ID_RCS_T_3_2_22

- ID_RCS_T_3_2_23

- ID_RCS_T_3_2_24

- ID_RCS_T_3_2_25

- ID_RCS_T_3_2_26

- ID_RCS_T_3_2_27

- ID_RCS_T_3_2_28

- ID_RCS_T_3_2_29

- ID_RCS_T_3_2_30

- ID_RCS_T_3_2_31

- ID_RCS_T_3_2_32

Test case ID	ID_RCS_T_A_2_2_1
Related test cases	
Feature	Group Chat
Reason for test	Chat 1 to many. Change chat 1 to 1 -> one to many

Pre-conditions Scenario	− DUT and Reference 1,2 are RCS capable and online.
Test procedure	− DUT starts a chat conversation by sending a message to Reference 1 (invitation) − Reference 1 accepts invitation to start chatting (opens the chat window). DUT sends another message to Reference 1 − DUT selects Reference 2 (Reference 2's RCS capabilities previously detected) and invites him/her to join the chat by sending a message invitation
Expected results **Post-conditions**	− There should be a handover to a new chat screen. − This new chat screen should follow the UX specs of group chat (visible participant lists, subject, etc.) and it shall not have any message from the chat 1-to-1 on its history.
Deep inspection	− Verify SIP INVITE containing resource-list with Reference 1,2 − Verify Contribution ID − Verify +g.oma.sip-im tag in Contact and Accept-Contact of INVITE − Verify Subscription to conference event package

Test case ID	ID_RCS_T_A_2_2_2
Related test cases	
Feature	Group Chat
Reason for test	Iniating a chat / add a new participant; R6-29-2; R6-29-7; R6-29-8; R6-29-10; 6-29-13, R6-29-20;R6-29-22
Pre-conditions Scenario	− Minimum setup: − DUT + Reference 1,2,3 are registered and able to access IMS/RCS core network and relevant servers. − Contacts addresses of Reference 1,2,3 are entries in DUT's addressbook and RCS capabilities are known and not expired. − GROUP CHAT AUTH configuration parameter set to 1 − IM SESSION AUTO ACCEPT GROUP CHAT set to 1 − Supported by network: Cellular, Wi-Fi − Important information: Correct Implementation of the "icon in a groupchat" feature is currently under GSG review. Related CR: GSG_RCS_CR076R01

Test procedure	− DUT selects Reference 1,2 from IM/chat application to start a Groupchat, selects a Subject and an icon for the GC and sends 3 messages into the created Groupchat − DUT adds Reference 3 into the Groupchat and sends 3 message into the new, extended groupchat − DUT sends 5 different small graphics into the group chat
Expected results Post-conditions	− GC Subject and icon are visible to all participants.3 Groupchat Messages from DUT received and displayed on Reference 1+2. All GC participants are visible for all participants − GC Subject is visible to all participants.3 Groupchat Message from DUT received and displayed on Reference 1-3. All GC participants are visible for all participants − All 5 small graphics are correctly displayed on Reference 1-3
Deep inspection	− Verify NO options exchange when selecting new user to join due to non expired capability (see pre-condition) − Verify INVITE containing subject header − Verify INVITE containing resource-list with Reference 1,2 − Verify Contact and Accept-Contact tag +g.oma.sip-im in the INVITE − Verify Cotribution-ID − Verify subscription to conference event package − Verify REFER containing subject header − Verify NOTIFY processing with added Reference 3

A.2.3   File Transfer

This feature set to be tested in accordance with test cases provided in this section.

Test Case ID	ID_RCS_T_A_2_3_1
Related Test Cases	
Feature	File Transfer
Reason for test	Reference section - R7-24-1, R7-24-3 (*US7-1*) To verify file can be selected and transferred.
Pre-conditions Scenario	− DUT and Reference 1 are online. − DUT and Reference 1 are configured CHAT AUTH to 1. − DUT and Reference 1 are configured FT DEFAULT MECH configuration parameter to HTTP. − The size of the File being transferred is less than FT MAX SIZE. − FT HTTP CS URI is valid URI
Test procedure	− DUT sends any file (e.g. JPEG, Word,.. file) to Reference 1

Expected results Post-conditions	− The File sent out by DUT is received by Reference 1 and DUT receives Delivery report from the Reference 1.
Deep inspection	− Verify successfully upload file (with thumbnail if DUT sends too) to content server and recipient of correct file description XML by making an HTTPs post request to FT HTTP CS URI. − Verify DUT receives HTTP 200OK with file information xml. − Verify file-info element is as per 3.5.4.8.3.1 of [RCC.07]. − Verify SIP INVITE Message with feature-tag "+g.3gpp.iari-ref="urn%3Aurn-7%3A3gpp-application.ims.iari.rcs.fthttp"and content-type "application/vnd.gsma.rcs-ft-http+xml" is delivered successfully. − Verify delivery notification is delivered to the DUT when Reference 1 receives file.

Test Case ID	ID_RCS_T_A_2_3_2
Related Test Cases	
Feature	File Transfer
Reason for test	Reference section - R7-24-1, R7-24-2, R7-24-16 (R7-1-1) To verify that if the originating device is offline, File Transfer cannot be sent from the device until DUT becomes online.
Pre-conditions Scenario	− DUT is offline. − DUT and Reference 1 are configured CHAT AUTH to 1. − DUT and Reference 1 are configured FT DEFAULT MECH configuration parameter to HTTP. − The size of the File being transferred is less than FT MAX SIZE.
Test procedure	− DUT sends file (e.g. JPEG file) to Reference 1. − DUT waits for a minute − DUT comes online
Expected results Post-conditions	− DUT creates a RCS File Transfer. And stays in File Transfer status as 'Pending'. − The DUT File Transfer status moves to 'Failed'. − File Transfer shall be executed once DUT is online again without further user interaction and DUT receives delivery report from the Reference 1.
Deep inspection	− Verify NO SIP message is sent out when DUT is offline. − When DUT is online. − Verify successfully upload file (with thumbnail if DUT sends too) to content server and recipient of correct file description XML by making an HTTPs post request to FT HTTP CS URI. − Verify DUT receives HTTP 200OK with file information xml. − Verify SIP INVITE Message with feature-tag "+g.3gpp.iari-ref="urn%3Aurn-7%3A3gpp-application.ims.iari.rcs.fthttp"and content-type "application/vnd.gsma.rcs-ft-http+xml" is delivered successfully.

	− Verify delivery notification is delivered to the DUT when Reference 1 receives file

Test Case ID	ID_RCS_T_A_2_3_3
Related Test Cases	
Feature	File Transfer
Reason for test	Reference section - R7-24-3, R7-24-7, R7-24-8 (R7-1-7, R7-1-7-1, R7-1-2) To verify that if the Reference 1 is Non RCS capable it received FT transfer link in SMS.
Pre-conditions Scenario	− DUT is online. − Reference 1 is Non RCS enabled. − DUT device configured CHAT AUTH to 1. − DUT is configured FT DEFAULT MECH configuration parameter to HTTP. − The size of the File being transferred is less than FT MAX SIZE. − DUT configured to FT HTTP FALLBACK to 1 − File Content server in DUT's Network provides a Branded-url
Test procedure	− Send a picture file from DUT to the Reference 1.
Expected results **Post-conditions**	− The file shall be uploaded and − The sending device creates a SMS containing the branded-url that allows the recipient to download the file. − This link shall be accompanied by a 'cover note' in local language that conveys the following message: "You have received a file "From DUT's MSISDN number" If you wish to download the file, please click the link.
Deep inspection	− Verify successfully upload file (with thumbnail if DUT sends too) to content server and recipient of correct file description XML by making an HTTPs post request to FT HTTP CS URI. − Verify DUT receives HTTP 200OK with file information XML including the branded-url parameter − Verify message is sent to Reference 1 using SMS link

Test Case ID	ID_RCS_T_A_2_3_4
Related Test Cases	
Feature	File Transfer
Reason for test	Reference section - R7-24-4, R7-24-20, **R7-10-4**, R7-1-3, US7-8, US7-10 To verify that DUT transfers file to all RCS users in group chat.

Pre-conditions Scenario	− DUT, Reference 1 and Reference 2 are online. − GROUP CHAT AUTH configuration parameter is set to 1. − DUT and Reference devices are configured FT DEFAULT MECH configuration parameter to HTTP. − DUT creates a group chat with reference 1 and reference 2
Test procedure	− DUT sends a file (e.g. JPEG file) to a group chat created with participants Reference 1 & Reference 2
Expected results Post-conditions	− Reference 1 and Reference 2 receive the file in group chat and File should be visible in group chat conversation.
Deep inspection	− The feature-tag "+g.3gpp.iari-ref="urn%3Aurn-7%3A3gpp-application.ims.iari.rcs.fthttp"" should be in the Contact Header field of the SIP INVITE and SIP 200 OK responses that it sends during the setup of the Group Chat and accept wrapped type "application/vnd.gsma.rcs-ft-http+xml" − Verify successfully upload file (with thumbnail if DUT sends too) to content server and recipient of correct file description XML by making an HTTPs post request to FT HTTP CS URI. − Verify DUT receives HTTP 200OK with file information xml. − A MSRP group message with File transfer via HTTP message body content should be delivered successfully.

Test Case ID	ID_RCS_T_A_2_3_5
Related Test Cases	
Feature	File Transfer
Reason for test	Reference section - R7-24-4, R7-10-3, R7-1-3 US7-8, US7-10 To verify that DUT transfers file to RCS and Non RCS contact lists selected by user.
Pre-conditions Scenario	− DUT, Reference 1 are online and Reference 2 is Non RCS capable. − GROUP CHAT AUTH configuration parameter is set to 1. − DUT set FT DEFAULT MECH configuration parameter to HTTP. − FT HTTP FALLBACK set to 1.
Test procedure	− DUT sends a file (e.g. JPEG file) to reference 1 and 2
Expected results Post-conditions	− Reference 1 receives a file as incoming FT-INVITE and Reference 2 receives file as SMS with File link.

Deep inspection	– Verify successfully upload file (with thumbnail if DUT sends too) to content server and recipient of correct file description XML by making an HTTPs post request to FT HTTP CS URI.
	– Verify DUT receives HTTP 200OK with file information XML including the branded-url parameter
	– Reference 1 Verify SIP INVITE Message with content-type "application/vnd.gsma.rcs-ft-http+xml" is delivered successfully.
	– Reference 2 receives the file URL in SMS.

Test Case ID	ID_RCS_T_A_2_3_6
Related Test Cases	
Feature	File Transfer
Reason for test	Reference section - R7-24-5,R7-24-6 R7-1-4, R7-1-5, R7-1-6 1. To verify File Transfer should be sent exactly one file at a time. 2. To test different file types are supported by DUT and reference device.
Pre-conditions Scenario	– DUT, Reference 1 are online Both of them are in Contact list – CHAT AUTH configuration parameter is set to 1. – DUT and Reference 1 set FT DEFAULT MECH configuration parameterto HTTP. – Each of File selected should be within the FT MAX SIZE limit.
Test procedure	– 1. DUT Selects multiple files with different file types (Ex: JPEG,GIF, panoramic photos,mp3, mpeg-4 ,vcards in .vcf format ,) and sends to reference 1.
Expected results **Post-conditions**	– All the files sent by DUT are received at reference 1.
Deep inspection	– Verify successfully upload file (with thumbnail if DUT sends too) to content server and recipient of correct file description XML by making an HTTPs post request to FT HTTP CS URI. – Verify DUT receives HTTP 200OK with file information xml. – Verify SIP INVITE Message with content-type "application/vnd.gsma.rcs-ft-http+xml" is delivered successfully. – Steps 1 to 2 will repeat for all selected files and XML received from the content server will be forward to Reference 1 for each of them – File URL details in XML format will be sent in MSRP to Reference 1 – File Content-type received at Reference 1 should match the file type sent by DUT.

Test Case ID	ID_RCS_T_A_2_3_7
Related Test Cases	
Feature	File Transfer
Reason for test	Reference section - R7-24-8, R7-24-9 (R7-1-8), R7-1-7-2 To verify that user is able to modify the MNO defined FT fallback preference from SMS-link to MMS.
Pre-conditions Scenario	− DUT is online. − Reference 1 is Non RCS enabled. − DUT and Reference 1 all set CHAT AUTH to 1. − DUT and Reference 1 set FT DEFAULT MECH configuration parameter is to HTTP. − The size of the File being transferred is less than FT MAX SIZE. − DUT configured FT HTTP FALLBACK to 1. − File chosen conforms to the formats and codecs defined in [OMA-MMS-CONF].
Test procedure	− Send a picture file from DUT to the Reference 1. − DUT changes the FT fallback pReference 1 to MMS − Send a picture file from DUT to the Reference 1.
Expected results Post-conditions	− The file shall be uploaded and the sending device creates a SMS containing the link that allows the recipient to download the file. This link shall be accompanied by a 'cover note' in local language that conveys the following message: "You have received a file "From DUT's MSISDN number" If you wish to download the file, please click the link. − FT HTTP FALLBACK should be set as 0.(MMS) − File shall be sent as MMS from DUT and shall be received as MMS at Reference 1 device.
Deep inspection	−

Test Case ID	ID_RCS_T_A_2_3_8
Related Test Cases	
Feature	File Transfer
Reason for test	Reference section - R7-24-10 (R7-1-8) To verify that user modified defined FT fallback preference will be used even after Auto Re-Config

Pre-conditions Scenario	− DUT is online. − Reference 1 is Non RCS enabled. − DUT and Reference 1 all set CHAT AUTH to 1. − DUT and Reference 1 set FT DEFAULT MECH configuration parameter is to HTTP. − The size of the File being transferred is less than FT MAX SIZE. − DUT configured with FT HTTP FALLBACK to 1. − Server is configured to send FT HTTP FALLBACK to 1 in Re-Configuration
Test procedure	− DUT changes the ft fallback preference to MMS and sends a picture file from DUT to the Reference 1. − Wait for the autoconfiguaration service provisioning timer to expire. − After Re-Configuaration is success, send a picture file from DUT to the Reference 1.
Expected results Post-conditions	− File shall be sent as MMS from DUT and shall be received as MMS at Reference 1. − Verify DUT ft fallback preference it should be set to MMS(Re-Configuaration value of ft fallback preference should be ignored) − File shall be sent as MMS from DUT and shall be received as MMS at reference 1.
Deep inspection	− Verify the FT fallback preference it should be same as what user has Set.

Test Case ID	ID_RCS_T_A_2_3_9
Related Test Cases	
Feature	File Transfer
Reason for test	Reference section - R7-2-2, R7-24-13. To verify that if the reference device is offline, after delivery time out reference 1 receives file as SMS. HTTPS Get parameter for FT fall-back is provided from the content server
Pre-conditions Scenario	− DUT and Reference 1 are RCS enabled and make DUT online and reference 1 offline. − DUT and Reference 1 all set CHAT AUTH to 1. − DUT and Reference 1 set FT DEFAULT MECH configuration parameter is to HTTP − The size of the File being transferred is less than FT MAX SIZE. − CHAT REVOKE TIMER set to X. − DUT's MNO has configured RCS clients as FT FALLBACK DEFAULT set to 0) − DUT is configured with FT HTTP FALLBACK set to 1 − Reference's network support CFS. − File transfer via SMS feature tag is supported by DUT and Reference 1.

Test procedure	− Open an existing conversation with Reference 1 on DUT's device <u>or</u> create a new conversation with Reference 1 on DUT's device and Send a picture file to the Reference 1 from DUT. − When the REVOKE TIMER values is expired and with no user interaction,DUT will send via SMS the HTTP URL for File Transfer fallback to SMS to reference 1. − Send one more file immediately after the 1st file send is success.
Expected results Post-conditions	− DUT sends File to reference 1 in Chat. − After X amount of time, file should be sent via SMS the HTTP URL for File Transfer fallback to SMS which includes the meta-data parameters to reference 1. − When sending a subsequent file, as DUT is latched to SMS for Reference 1, file should be sent via SMS to reference 1 directly using the FT fallback to SMS method (Not in chat and later wait for revocation timer to expire to send as SMS.)
Deep inspection	− Verify 200 OK response to Options of the reference 1 includes feature tag "**urn%3Aurn-7%3A3gpp-application.ims.iari.rcs.ftsms** " − Verify successfully upload file (with thumbnail if DUT sends too) to content server and recipient of correct file description XML by making an HTTPs post request to FT HTTP CS URI. − Verify DUT receives HTTP 200OK with file information xml, providing the HTTPS Get parameter for FT fall-back from the content server (meta-data information as per RCC71, table 34) − Verify SIP INVITE Message with content-type "application/vnd.gsma.rcs-ft-http+xml" is delivered successfully. − Verify after X duration message is sent to Reference 1 using SMS link as mentioned in the **File Transfer Client Fall-back mentioned in 7.3.2.5.2 of UP_PDD**

Test Case ID	ID_RCS_T_A_2_3_10
Related Test Cases	
Feature	File Transfer
Reason for test	Reference section - R7-2-2, R7-24-13. To verify that if the reference 1 is offline, after delivery time out reference 1 receives file URL as SMS. Reference 1 does not support FT Fallback to SMS
Pre-conditions Scenario	− DUT and Reference 1 is RCS enabled and online − DUT and Reference 1 all set CHAT AUTH to 1. − DUT and Reference 1 set FT DEFAULT MECH configuration parameter is set to HTTP. − The size of the File being transferred is less than FT MAX SIZE. − CHAT REVOKE TIMER set to X. − DUT's MNO has configured RCS clients to send files to non-RCS users as "SMS with a link" (FT HTTP fallback set to 1)

	− FT FALLBACK DEFAULT set to 0 − Reference's network support CFS. − Make reference 1 RCS offline. − Content server has a branded URL defined
Test procedure	− Open an existing conversation with Reference 1 on DUT's device <u>or</u> create a new conversation with Reference 1 on DUT's device. And send a picture file to the Reference 1 from DUT. − When the REVOKE TIMER values is expired and with no user interaction, SMS with branded-url file link should be sent to reference 1. − Send one more file immediately after the 1st file send is success.
Expected results **Post-conditions**	− DUT sends File to reference 1 in Chat. − After X amount of time, file should be sent via SMS to reference 1, including the 'branded-url' and some explanatory text indicating the purpose of the message − When sending a subsequent file, as DUT is latched to SMS for Reference 1, file should be sent via SMS to reference 1 directly (Not in chat and later wait for revocation timer to expire to send as SMS.)
Deep inspection	− Verify successfully upload file (with thumbnail if DUT sends too) to content server and recipient of correct file description XML by making an HTTPs post request to FT HTTP CS URI. − Verify DUT receives HTTP 200OK with file information xml, including the branded-url parameter. − Verify SIP INVITE Message with content-type "application/vnd.gsma.rcs-ft-http+xml" is delivered successfully. − Verify after X duration message is sent to Reference 1 using SMS link as mentioned in the **File Transfer Client Fall-back mentioned in 7.3.2.5.2 of UP_PDD**

Test Case ID	ID_RCS_T_A_2_3_11
Related Test Cases	
Feature	File Transfer
Reason for test	Reference section - R7-2-2-1-1, R7-2-2, R7-24-13. To verify user have the option to modify MNO defined FT fall back preferences.
Pre-conditions Scenario	− DUT and Reference 1 is RCS enabled and DUT is online. Make reference 1 offline. − DUT and Reference 1 all set CHAT AUTH to 1. − DUT and Reference 1 set FT DEFAULT MECH configuration parameter is set to HTTP − The size of the File being transferred is less than FT MAX SIZE. − DUT does not support MMS service. − CHAT REVOKE TIMER set to X. − DUT's MNO has configured RCS clients to send files to non-RCS users as "SMS with a link" (FT HTTP FALLBACK set to 1)

	– FT FALLBACK DEFAULT set to 1 – DUT support CFS. – **File transfer via SMS feature tag is supported by DUT and Reference 1 device.**
Test procedure	– Open an existing conversation with Reference 1 on DUT's device <u>or</u> create a new conversation with Reference 1 on DUT's device and send a picture file to the Reference 1 from DUT. – When the REVOKE TIMER values is expired, DUT user should be prompted with pop-up to send file via SMS. – DUT user selects "YES". – Make reference 1 RCS online then offline. – DUT changes the default FT fallback to "Never ask" configuration(FT FALLBACK DEFAULT set to 0). – Send one more file.
Expected results **Post-conditions**	– DUT sends File to reference 1 in Chat. – After X amount of time, User should be prompted file should be sent via SMS to reference 1. – DUT sends another File to reference 1 in Chat. – After X amount of time, User should not be prompted pop-up and file should be sent via SMS to reference 1.
Deep inspection	– Verify successfully upload file (with thumbnail if DUT sends too) to content server and recipient of correct file description XML by making an HTTPs post request to FT HTTP CS URI. – Verify DUT receives HTTP 200OK with file information xml. – Verify SIP INVITE Message with content-type "application/vnd.gsma.rcs-ft-http+xml" is delivered successfully. – Verify after X duration, pop up should be displayed to send file link via SMS. – SMS message is sent to Reference 1 using SMS link as mentioned in the **File Transfer Client Fall-back mentioned in 7.3.2.5.2 of UP_PDD.** – Verify successfully upload file (with thumbnail if DUT sends too) to content server and recipient of correct file description XML by making an HTTPs post request to FT HTTP CS URI. – Verify DUT receives HTTP 200OK with file information xml. – Verify SIP INVITE Message with content-type "application/vnd.gsma.rcs-ft-http+xml" is delivered successfully. – Verify after X duration, SMS message is sent to Reference 1 using SMS link as mentioned in the **File Transfer Client Fall-back mentioned in 7.3.2.5.2 of UP_PDD**.

Test case ID	ID_RCS_T_A_2_3_12
Related test cases	
Feature	File Transfer

Reason for test	R7-24-13 (7.3.2.5.2 File Transfer Client Fall-back)
	File transfer Fall-back: Client Interworking to SMS for Files
	FT fall-back to SMS is disabled.
Pre-conditions Scenario	- DUT is registered and able to access IMS/RCS core network and relevant servers. - Supported by network: 2G, 3G, HSPA, LTE, Wi-Fi - DUT is configured with: CHAT REVOKE TIMER=X - DUT is configured with: FT FALLBACK DEFAULT=-1 - DUT is configured with: CFS TRIGGER=1 - DUT network supports delivery assurance via Client Fall-back to SMS - DUT is registered and able to access IMS/RCS core network and relevant servers.
Test procedure	- DUT selects an image from galary and chooses to share with Reference 1 - Reference 1 goes out of coverage and becomes offline. - DUT sends image selected at step 1 to Reference 1 - Reference 1 gets network coverage back but yet to become IMS registered.
Expected results Post-conditions	- Reference 2an select any image from gallery to share - Reference 1 registration icon is removed - After sending: the message status of sent message changes to "pending" and then "sent" on DUT.After X seconds: DUT does not resend file as link in SMS - After network attach: Reference 1 does not receive DUT message as SMS message. Delivery of the message relies on Store and Forward policies
Deep inspection	- Verify SIP 200 OK response to Invite chat1to1 to DUT for presence of "Message Revoke is supported" media feature tag (section 5.3.2 of [RCC.71]). - DUT initiates IM session and sends message to Reference 1 and learns that network supports message revocation. - Verify that CPIM body in MSRP SEND of DUT client does not contain requests for "Interworking" Disposition Notification (as defined in Appendix O of [RCC.11]) in addition to "Delivered" and "Displayed". - DUT does not initiate Messge Revocation for FT message and neither it sends SMS to Refererence 1

Test case ID	ID_RCS_T_A_2_3_13
Related test cases	
Feature	File Transfer

Reason for test	Reference section - R7-24-15, US7-4 To verify that File Transfer states are updated properly on DUT
Pre-conditions Scenario	− DUT's device is online. − Reference 1 device is RCS enabled online − Reference 1 is a contact in DUT's contact list. − CHAT AUTH configuration parameter is set to 1. − FT DEFAULT MECH configuration parameter is set to HTTP.
Test procedure	− Open an existing conversation with Reference 1 on DUT's device <u>or</u> create a new conversation with Reference 1 on DUT's device. In the conversation with Reference 1, select a random picture (existing or new picture from camera) and send.
Expected results Post-conditions	− In the process doing FT observe the file transferring states and it should be updated as the following states. − Pending. − Progress. − Sent. − Delivered. − Displayed.
Deep inspection	− Check the states are updated correctly − **Pending**: When the DUT yet to receive 200OK from the content server for HTTP post request of file. − **Progress**: For File Transfer via HTTP; from the reception of the first success HTTP response from the network and until a MSRP 200 OK is received from the network for the chat message carrying the File Transfer via HTTP message body content − **Sent**: For File Transfer via HTTP; if a MSRP 200 OK is received from the network for the chat message carrying the File Transfer via HTTP message body content. − **Delivered**: For File Transfer via HTTP, when receiving the Delivery Notification. − **Displayed:** For File Transfer via HTTP, when receiving the Display Notification from the Reference 1. − Reference 1 received the request, check IMDN response from the reference 1 for the above state information.

Test case ID	ID_RCS_T_A_2_3_14
Related test cases	
Feature	File Transfer

Reason for test	Reference section - R7-24-19, US7-7 To verify network file size restrictions FT MAX SIZE,FT WARN SIZE, FT MAX SIZE INCOMING
Pre-conditions Scenario	− DUT and Reference 1 are online. − Reference 1 is a contact in DUT's contact list. − CHAT AUTH configuration parameter is set to 1. − DUT is configured with FT MAX SIZE = X. − DUT is configured FT WARN SIZE is set to Y and Y<X. − DUT is configured FT MAX SIZE INCOMING is set to Z. − DUT's Gallery has a file of file size more than FT MAX SIZE and more than FT WARN SIZE and another file of file size smaller than FT MAX SIZE and more than FT WARN SIZE − Reference 1 Gallery has a file of file size more than FT MAX SIZE INCOMING
Test procedure	− Open an existing conversation with Reference 1 on DUT's device <u>or</u> create a new conversation with Reference 1 on DUT's device. DUT sends a file(file1) from gallery of size >Y and < X and send to reference 1 − DUT accept to send the file. − DUT sends a file(file2) from gallery of size >X and send to reference 1. − Reference 1 sends file from gallery of size >Z and sends to DUT. − Reference 1 sends file from gallery of size < Z and >X and sends to DUT.
Expected results Post-conditions	− DUT presents a warning message to User for sending bigger size File − File is sent from DUT and received at reference 1. − DUT is unable to send file due to max size. − DUT receives incoming file size restriction pop up message to user. File receive is auto cancelled at DUT. − DUT receives incoming file size restriction pop up message to user. File is receive at DUT.
Deep inspection	−

Test case ID	ID_RCS_T_A_2_3_15
Related test cases	
Feature	File Transfer
Reason for test	Reference section - R7-24-21, R7-9-1.US7-9

	To verify that on File Transfer cancel DUT does not send File to reference 1.
Pre-conditions Scenario	− DUT's device is online. − Reference 1 is RCS enabled and online − Reference 1 is a contact in DUT's contact list. − CHAT AUTH configuration parameter is set to 1. − FT DEFAULT MECH configuration parameter is set to HTTP. − FT HTTP FALLBACK set to 1.
Test procedure	− Open an existing conversation with Reference 1 on DUT's device or create a new conversation with Reference 1 on DUT's device. In the conversation with Reference 1, select a random file and send. − Select transfer "Cancel", when the file transfer is in progress.
Expected results **Post-conditions**	− − File transfer should be cancelled, with transfer state as Failed − HTTP cancel should, stop communicating with the content server.
Deep inspection	− Verify DUT starts uploading file to content server by making an HTTPs post request to FT HTTP CS URI. − Verify DUT stops sending packet on HTTP stream

Test Case ID	ID_RCS_T_A_2_3_16
Related Test Cases	
Feature	File Transfer
Reason for test	Reference section - R7-24-22 File transfer - 1 to Many RCS Users – FT HTTP Fallback = 1
Pre-conditions Scenario	− DUT, Reference 1, Reference 2 and Reference 3 are online − DUT , Reference 1, Reference 2 and Reference 3 are configured CHAT AUTH to 1 − − DUT is configured FT DEFAULT MECH configuration parameter to HTTP − DUT is configured with MAX_AD-HOC_GROUP_SIZE set to 3 − DUT is configured with FT MAX 1 TO MANY RECIPIENTS is set to 0 − DUT is configured with FT HTTP FALLBACK configured as 1 ('text message with a link")
Test procedure	− − DUT selects a file from the gallery or file browser − DUT sends the selected file to Reference 1, Reference 2 and Reference 3

Expected results Post-conditions	− As a result of a capability discovery, DUT finds all selected users are RCS capable − Number of selected users exceeds max number of Group Chat participants . File transfer is carried out as multiple 1-to-1 File transfers, building up a chat conversation with each recipient
Deep inspection	− Verify capability exchange sent to all Reference 1 and responses compliant with 6.3, 7.3.1 and 7.3.2 of RCC71v1 − Verify an unique successfully upload file (with thumbnail if DUT sends too) to content server and recipient of correct file description XML by making an HTTPs post request to FT HTTP CS URI − Verify DUT receives HTTPs 200OK XML response based on RCC71, including a branded-url apart from te URL for file download − Verify a SIP INVITE Message including accept-wrapped-types "application/vnd.gsma.rcs-ft-http+xml" is sent to each Reference 1 − Verify delivery notification is send back to DUT when Reference 1 receive the file

Test Case ID	ID_RCS_T_A_2_3_17
Related Test Cases	
Feature	File Transfer
Reason for test	Reference section - R7-24-22 File transfer - 1 to Many RCS & NonRCS Users – FT HTTP Fallback = 1
Pre-conditions Scenario	− DUT, Reference 1, Reference 2 are online − Reference 3 device is a nonRCS user − DUT is configured CHAT AUTH to 1 − DUT is configured FT DEFAULT MECH configuration parameter to HTTP − DUT is configured with FT MAX 1 TO MANY RECIPIENTS is set to 0 − DUT is configured with FT HTTP FALLBACK configured as 1 ('text message with a link")
Test procedure	− DUT selects a file from the gallery or file browser − DUT sends the selected file to Reference 1, Reference 2 and Reference 3
Expected results Post-conditions	− As a result of a capability discovery, DUT finds at least one selected contact is a non RCS capable − File transfer is carried out as multiple 1-to-1 File transfers, building up a chat conversation with each recipient where if recipient is RCS capable, then RCS file transfer shall be used. Otherwise, DUT will send an SMS with a link (friendly URL delivered by the FT Server) accompanied with a cover note to the nonRCS user
Deep inspection	− Verify capability exchange sent to all Reference devices and responses compliant with 6.3, 7.3.1 and 7.3.2 of RCC71v1 for Reference 1 and 2. Verify capability exchange shows Reference 3 as nonRCS user

−	Verify successfully upload file (with thumbnail if DUT sends too) to content server and recipient of correct file description XML by making an HTTPs post request to FT HTTP CS URI
−	Verify DUT receives HTTPs 200OK XML response based on RCC71, including a branded-url apart from te URL for file download
−	Verify a SIP INVITE Message including accept-wrapped-types "application/vnd.gsma.rcs-ft-http+xml" is sent to Reference 1 and 2
−	Verify delivery notification is send back to DUT when Reference 1 and 2 devices receive the file
−	Verify an SMS is sent to Reference 3 including the friendly URL (branded-url)

Test Case ID	ID_RCS_T_A_2_3_18
Related Test Cases	
Feature	File Transfer
Reason for test	Reference section - R7-24-22 File transfer - 1 to Many RCS Users – FT HTTP Fallback = 0
Pre-conditions Scenario	− DUT, Reference 1, Reference 2 and Reference 3 devices are online − DUT , Reference 1, Reference 2 and Reference 3 devices are configured CHAT AUTH to 1 − DUT is configured FT DEFAULT MECH configuration parameter to HTTP − DUT is configured with MAX_AD-HOC_GROUP_SIZE set to 3 − DUT is configured with FT MAX 1 TO MANY RECIPIENTS is set to 0 − DUT is configured with FT HTTP FALLBACK configured as 0 ('MMS")
Test procedure	− DUT selects a file from the gallery or file browser − DUT sends the selected file to Reference 1, Reference 2 and Reference 3
Expected results Post-conditions	− As number of selected users exceed max number of Group Chat participants and FT HTTP FALLBACK is set to 0 − File transfer is carried out as multiple MMS, building up a 1to1 conversation with each recipient
Deep inspection	− Verify capability exchange sent to all Reference devices and responses compliant with 6.3, 7.3.1 and 7.3.2 of RCC71v1 − Verify there is no HTTP Post request sent towards the File Transfer Server (FT HTTP CS URI) − Verify there are not SIP Invites sent to Reference devices

Test Case ID	ID_RCS_T_A_2_3_19
Related Test Cases	
Feature	File Transfer

Reason for test	Reference section - R7-24-22 File transfer - 1 to Many RCS & NonRCS Users – FT HTTP Fallback = 0
Pre-conditions Scenario	− DUT, Reference 1, Reference 2 are online − Reference 3 device is a nonRCS user − DUT is configured CHAT AUTH to 1 − DUT is configured FT DEFAULT MECH configuration parameter to HTTP − DUT is configured with FT MAX 1 TO MANY RECIPIENTS is set to 0 − DUT is configured with FT HTTP FALLBACK configured as 0 ('MMS')
Test procedure	− DUT selects a file from the gallery or file browser − DUT sends the selected file to Reference 1, Reference 2 and Reference 3
Expected results **Post-conditions**	− As a result of a capability discovery, DUT finds at least one selected contact is a non RCS capable − File transfer is carried out as multiple MMS, building up a 1to1 conversation with each recipient
Deep inspection	− Verify capability exchange sent to all Reference devices and responses compliant with 6.3, 7.3.1 and 7.3.2 of RCC71v1 − Verify there is no HTTP Post request sent towards the File Transfer Server (FT HTTP CS URI) − Verify there are not SIP Invites sent to Reference devices

Test Case ID	ID_RCS_T_A_2_3_20
Related Test Cases	
Feature	File Transfer
Reason for test	Reference section - R7-24-22 File transfer - 1 to Many RCS – Group Chat
Pre-conditions Scenario	− DUT, Reference 1, Reference 2 and Reference 3 are online − DUT is configured CHAT AUTH to 1 − DUT is configured FT DEFAULT MECH configuration parameter to HTTP − DUT is configured with FT MAX 1 TO MANY RECIPIENTS is set to 0 − DUT is configured with MAX_AD-HOC_GROUP_SIZE set to X (higher than the number of selected Reference devices for the test)
Test procedure	− DUT selects a file from the gallery or file browser − DUT sends the selected file to Reference 1, Reference 2 and Reference 3
Expected results **Post-conditions**	− As a result of a capability discovery, DUT finds all selected users are RCS capable − Number of selected users does not exceed max number of Group Chat participants. File transfer is transferred as RCS File Transfer in Group Chat

Deep inspection	– Verify capability exchange sent to all Reference devices and responses compliant with 6.3, 7.3.1 and 7.3.2 of RCC71v1
	– Verify an unique successfully upload file (with thumbnail if DUT sends too) to content server and recipient of correct file description XML by making an HTTPs post request to FT HTTP CS URI
	– Verify DUT receives HTTPs 200OK XML response based on RCC71, including a branded-url apart from te URL for file download
	– Verify a SIP INVITE for a Group Chat is sent to the conference focus including in the participant list Reference1, Reference2 and Reference3
	– Verify both SIP INVITE and SIP 200OK Response include the feature-tag "+g.3gpp.iari-ref="urn%3Aurn-7%3A3gpp-application.ims.iari.rcs.fthttp" in the contact header and also the accept-wrapped-types "application/vnd.gsma.rcs-ft-http+xml" in the SDP negotiation. is sent to Reference 1 and 2
	– Verify delivery/display notifications are send back to DUT when Reference devices receive the file

Test Case ID	ID_RCS_T_A_2_3_21
Related Test Cases	
Feature	File Transfer
Reason for test	Reference section - R7-24-22 File transfer - 1 to Many RCS & NonRCS Users – FT MAX 1 TO MANY RECIPIENTS config parameter is exceeded
Pre-conditions Scenario	– DUT, Reference 1, Reference 3 are online – Reference 2 device is a nonRCS user – DUT is configured CHAT AUTH to 1 – DUT is configured FT DEFAULT MECH configuration parameter to HTTP – DUT is configured with FT MAX 1 TO MANY RECIPIENTS is set to 2 – DUT is configured with FT HTTP FALLBACK configured as 1 ('text message with a link")
Test procedure	– DUT selects a file from the gallery or file browser – DUT tries to send the selected file to Reference 1, Reference 2 and Reference 3
Expected results **Post-conditions**	– Client gets a notificiation letting him know that the max number of FT recipients has been reached when selecting Reference 3. Reference 3 is therefore not added to the distribution list – File transfer is carried out as multiple 1-to-1 File transfers, building up a chat conversation with each recipient where if recipient is RCS capable, then RCS file transfer shall be used (Reference 1). Otherwise, DUT will send an SMS with a link (friendly URL delivered by the FT Server) accompanied with a cover note to the nonRCS user (Reference 2). Reference 3 is not getting the File Transfer message
Deep inspection	– Verify capability exchange sent to all Reference devices and responses compliant with 6.3, 7.3.1 and 7.3.2 of RCC71v1 for

Reference 1. No capability exchange is sent to Reference 3 as it is not included in the distribution list.
− Verify capability exchange shows Reference 2 as nonRCS user
− Verify successfully upload file (with thumbnail if DUT sends too) to content server and recipient of correct file description XML by making an HTTPs post request to FT HTTP CS URI
− Verify DUT receives HTTPs 200OK XML response based on RCC71, including a branded-url apart from te URL for file download
− Verify a SIP INVITE Message including accept-wrapped-types "application/vnd.gsma.rcs-ft-http+xml" is sent to Reference 1
− Verify delivery notification is send back to DUT when Reference 1 receives the file
− Verify there is no SIP INVITE sent to Reference 3
− Verify an SMS is sent to Reference 2 including the friendly URL (branded-url)

Test Case ID	ID_RCS_T_A_2_3_22
Related Test Cases	
Feature	File Transfer
Reason for test	Reference section - R7-24-23 File transfer – Receiver procedures – File transfer has expired in the FT Server
Pre-conditions Scenario	− DUT and Reference 1 are online and in active 1to1 chat session − DUT and Reference 1 are configured with FT AUT ACCEPT to 0 − DUT is configured FT DEFAULT MECH configuration parameter to HTTP − DUT and Reference 2 support HTTP-based FT according to former capability exchange − DUT has enough free storage space to receive the file − File size being transferred is smaller than FT MAX SIZE and FT WARM SIZE − FT Server validity expiration is set to a lower value − NOTE: This test case can be simulated
Test procedure	− Reference 1 selects one file from the local storage and send it to DUT − DUT receives the file in the conversation thread − Once the FT Server validity file has expired, DUT decices to download the file from the FT Content Server clicking on the thumbal preview (MIME icon)
Expected results Post-conditions	− Reference 1 sees that file transfer is available for DUT − DUT receives file transfer notification and sees the size of the file and an indication of the file type (e.g. MIME icon or mini-preview) − The download of the file does not start as FT AUT ACCEPT is set to 0 − DUT manually decides to download the file but file has expires in the FT Server. DUT shows the file as Failed

Deep inspection	− Verify support of FT HTTP xml content type during SDP negotiation for the chat 1to1 establishment − Verify download of the file is answered with 404 as file has expires in the File Transfer Server

Test Case ID	ID_RCS_T_A_2_3_23
Related Test Cases	
Feature	File Transfer
Reason for test	Reference section - R7-24-26 File transfer – Successful HTTP-based file transfer in active one-to-one chat (resume file upload)
Pre-conditions Scenario	− DUT and Reference 1 are online and in active 1to1 chat session − DUT and Reference 1 are configured with CHAT AUTH to 0 − DUT is configured FT DEFAULT MECH configuration parameter to HTTP − DUT and Reference 1 are configured with FT AUT ACCEPT to 1 − DUT and Reference 2 support HTTP-based FT according to former capability exchange − Reference 1 has enough free storage space to receive the file − File size being transferred is smaller than FT MAX SIZE and FT WARM SIZE − DUT and File transfer server support HTTP-based file resume upload
Test procedure	− DUT selects one file from the local storage and send it to Reference 1 − During file upload, DUT gets out of coverage, e.g. switch to flight mode − A resumes upload when returning to coverage (without user interaction) − Reference 1 receives and accepts the file and this is automatically downloaded. Reference 1 opens the file
Expected results **Post-conditions**	− DUT sees that file transfer is available for the recipient − The upload of the file starts but stops before the transfer is completed as DUT is out of coverage − When DUT is back in data coverage, the transfer proceeds until the file is fully uploadaded and received by Reference 1. − Reference 1 receives file transfer notification and sees the size of the file and an indication of the file type (e.g. MIME icon or mini-preview). Delivery and display notifications are sent back by Reference 1 and received and shown on DUT
Deep inspection	− Verify resume file upload procedure including TID form sent by DUT initially and whole procedure for resume operation is implemented, refer to 3.5.4.8.3.1 of RCC07. Verify correct file description XML. − Verify finally DUT receives HTTPs 200OK XML response based on RCC71

	− Verify support of FT HTTP xml content type during SDP negotiation for the chat 1to1 establishment − Verify delivery and display notifications are sent within MSRP session or in SIP MESSAGEs if chat session closed

Test Case ID	ID_RCS_T_A_2_3_24
Related Test Cases	
Feature	File Transfer
Reason for test	Reference section - R7-24-29 File transfer – Successful HTTP-based file transfer in active one-to-one chat (resume file download)
Pre-conditions Scenario	− DUT and Reference 1 are online and in active 1to1 chat session − DUT and Reference 1 are configured with CHAT AUTH to 0 − DUT is configured FT DEFAULT MECH configuration parameter to HTTP − DUT and Reference 2 support HTTP-based FT according to former capability exchange − DUT has enough free storage space to receive the file − File size being transferred is smaller than FT MAX SIZE and FT WARM SIZE − DUT and File transfer server support HTTP-based file resume upload
Test procedure	− Reference 1 selects one file from the local storage and send it to DUT − DUT receives the file and starts to download it from the FT Content Server − During file download DUT gets out of coverage, e.g. switch to flight mode. − DUT resumes download when returning to coverage (without user interaction) − File is fully downloaded on DUT. DUT opens the file.
Expected results **Post-conditions**	− Reference 1 sees that file transfer is available for DUT − DUT receives file transfer notification and sees the size of the file and an indication of the file type (e.g. MIME icon or mini-preview) − The download of the file starts but stops before the transfer is completed as DUT is out of coverage − When DUT is back in data coverage, the transfer proceeds automatically until the file is fully downloaded by DUT − Delivery and display notifications are sent back by DUT and received and shown on Reference 1
Deep inspection	− − Verify support of FT HTTP xml content type during SDP negotiation for the chat 1to1 establishment

	− Verify resume file download is executed by DUT, refer to 3.5.4.8.3.2 of RCC07. Make sure file is resumed and procedure is not restarted from scratch − Verify delivery and display notifications are sent within MSRP session or in SIP MESSAGEs if chat session closed

Test Case ID	ID_RCS_T_A_2_3_25
Related Test Cases	
Feature	File Transfer
Reason for test	Reference section - R7-24-26 File transfer – Receiver with FT AUT ACCEPT = 0 – Chat1to1
Pre-conditions Scenario	− DUT and Reference 1 are online and in active 1to1 chat session − DUT and Reference 1 are configured with FT AUT ACCEPT to 0 − DUT is configured FT DEFAULT MECH configuration parameter to HTTP − DUT and Reference 2 support HTTP-based FT according to former capability exchange − DUT has enough free storage space to receive the file − File size being transferred is smaller than FT MAX SIZE and FT WARM SIZE
Test procedure	− Reference 1 selects one file from the local storage and send it to DUT − DUT receives the file in the conversation thread − DUT decices to download the file from the FT Content Server clicking on the thumbal preview (MIME icon) − File is fully downloaded on DUT. DUT opens the file.
Expected results Post-conditions	− Reference 1 sees that file transfer is available for DUT − DUT receives file transfer notification and open the conversation chat1to1 thread − DUT sees the thumbnail preview and the size of the file and an indication of the file type (e.g. MIME icon or mini-preview) − Downlowad of the full dule is trigeered by DUT. Delivery and display notifications are sent back by DUT and received and shown on Reference 1
Deep inspection	− − Verify support of FT HTTP xml content type during SDP negotiation for the chat 1to1 establishment − Verify thumbnail preview is implemented as defined in 3.5.4.8 of RCC07 − Verify full download of the file is nor performed until there is an user interaction − Verify delivery and display notifications are sent within MSRP session or in SIP MESSAGEs if chat session closed

Test Case ID	ID_RCS_T_A_2_3_26
Related Test Cases	
Feature	File Transfer
Reason for test	Reference section - R7-24-26 File transfer – Receiver – FT Transfer via SMS supported
Pre-conditions Scenario	− DUT and Reference 1 are RCS users − DUT and Reference 2 support HTTP-based and FT Transfer via SMS according to former capability exchange − DUT and Reference 1 are configured with FT AUT ACCEPT to 1 − DUT and Reference 1 is configured FT DEFAULT MECH configuration parameter to HTTP − DUT has enough free storage space to receive the file − File size being transferred is smaller than FT MAX SIZE and FT WARM SIZE in DUT and Reference 1 − File has been received by DUT as a result of Delivery Assurance via SMS including URL and meta-data information − DUT has no data coverage
Test procedure	− Reference 1 selects one file from the local storage and sends it to DUT. Once chatRevokeTime expires, file is sent by Refenence 1 to DUT via SMS − DUT receives a notification with a new incoming file from Reference 1 and decides to download it unsuccessfully − DUT recovers data coverage and file is fully downloaded on DUT without user interaction. DUT shows a thumbnail of the file − DUT opens the file.
Expected results Post-conditions	− As a result of a capability exchange, Reference 1 sees DUT as an RCS user who supports HTTP-based and FT Transfer via SMS. Reference 1 sends a FT as a chat message (FTHTTP procedures) and once the chat revoke timer expires, Reference 1 sends the file via SMS using the URL and metadata received from the FT Transfer server − DUT receives an SMS which it is rendered and showed as a file transfer notification and open the conversation chat1to1 thread. DUT client shows the received file as an icon (it differentiates preview with different icons, it is showed the size of the file and an indication of the file type). − As DUT has no data coverage, download of the file is not possible. Once device recovers data coverage, download of the file from the FT server is triggered automatically based on the URL received in the SMS − DUT shows a thumbail preview of the file once file is downloaded
Deep inspection	− − Verify Options exchange shows both users support File Transfer via SMS as defined in 7.3.2.2 of RCC71

− Verify request to download the file is done using the URL received in the SMS, based on definitions in 7.3.2.4 of RCC71

− Verify URL received via SMS includes META Data including the information of size, MIME and expiration of the file

− Verify full download of the file is performed once DUT recover data coverage

− Verify thumbnail preview for FT is implemented as defined in 3.5.4.8 of RCC07

Test Case ID	ID_RCS_T_A_2_3_27
Related Test Cases	
Feature	File Transfer
Reason for test	Reference section - R7-24-26 File transfer – Receiver – FT Transfer via SMS not supported
Pre-conditions Scenario	− DUT and Reference 1 are RCS users − Both DUT and Reference 2 supports HTTP-based but only FT Transfer via SMS is supported by Reference according to former capability exchange − DUT and Reference 1 are configured with FT AUT ACCEPT to 1 − Reference 1 is configured FT DEFAULT MECH configuration parameter to HTTP − DUT has enough free storage space to receive the file − File size being transferred is smaller than FT MAX SIZE and FT WARM SIZE in DUT and Reference 1 − File has been received by DUT as a result of Delivery Assurance via SMS including URL (friendlyURL or URL) − DUT has no data coverage
Test procedure	− Reference 1 selects one file from the local storage and sends it to DUT. Once chatRevokeTime expires, file is sent by Refence 1 to DUT via SMS − DUT receives an SMS notification from Reference 1 − DUT recovers data coverage and DUT decides to download the file − Download of the file is triggered when clicking on the received SMS which includes an URL (branded-url) − DUT shows a thumbnail of the file. DUT opens the file.
Expected results **Post-conditions**	− As a result of a capability exchange, Reference 1 sees DUT as an RCS user who supports HTTP-based but FT Transfer via SMS − Reference 1 sends a FT as a chat message (FTHTTP procedures) and once the chat revoke timer expires, Reference 1 sends the file via SMS using the branded-url included in the response from the FT Server (or former URL in case branded-url is not included) accompanied with a cover note − DUT receives the SMS with the branded-URL and the cover note SMS

	− As DUT has no data coverage, download of the file is not possible. Once device recovers data coverage, download of the file from the FT server is triggered by DUT clicking on the URL received in the SMS
	− DUT shows a thumbail preview of the file once file is downloaded
Deep inspection	−
	− Verify Options exchange shows DUT does not support File Transfer via SMS as defined in 7.3.2.2 of RCC71
	− Verify request to download the file is done using the URL received in the SMS
	− Verify successful download of the file from the File Transfer Server
	− Verify thumbnail preview for FT is implemented as defined in 3.5.4.8 of RCC07

Test Case ID	ID_RCS_T_A_2_3_28
Related Test Cases	
Feature	File Transfer
Reason for test	Reference section - R7-24-28 File transfer – vCard – Sender vCard 3.0
Pre-conditions Scenario	− DUT and Reference 1 and Reference 2 are RCS users − DUT and Reference 2 support HTTP-based and FT Transfer via SMS according to former capability exchange − DUT saves Reference 1 as contact in the addressbook − Devices are configured with FT AUT ACCEPT to 1 − Devices are configured FT DEFAULT MECH configuration parameter to HTTP − DUT has enough free storage space to receive the file − File size being transferred is smaller than FT MAX SIZE and FT WARM SIZE in DUT and Reference 1
Test procedure	− DUT selects the contact of Reference 1 from the addressbook − DUT sends it to Reference 2
Expected results **Post-conditions**	− As a result of a capability exchange, DUT sees Reference 1 as an RCS user who supports HTTP-based. DUT upload vCard information to the File Transfer Server using FTHTTP procedure − DUT send contact's information to Reference 1
Deep inspection	− Verify successfully upload of thumbnail and file to content server and receiving of correct file description XML by making an HTTPs post request to FT HTTP CS URI − Verify vCard 3.0 is used for transferring the contact information − Verify DUT receives HTTP 200OK with file information xml. − Verify SIP INVITE is sent and xml File transfer message body content is content type "text/vcard". − Verify delivery notification is delivered to the DUT.

Test Case ID	ID_RCS_T_A_2_3_29
Related Test Cases	
Feature	File Transfer
Reason for test	Reference section - R7-24-28 File transfer – vCard – Receiver vCard 2.1, vCard 3.0 and 1.0 PCC XML
Pre-conditions Scenario	− DUT and Reference 1 and Reference 2 are RCS users − DUT and Reference 2 support HTTP-based and FT Transfer via SMS according to former capability exchange − Reference 2 saves Reference 1 as contact in the addressbook − Devices are configured with FT AUT ACCEPT to 1 − Devices are configured FT DEFAULT MECH configuration parameter to HTTP − DUT has enough free storage space to receive the file − File size being transferred is smaller than FT MAX SIZE and FT WARM SIZE in DUT and Reference 1 − Reference 2 sends Reference 1 Contact's information with different formats (vCard 2.1, vCard 3.0 and 1.0 PCC XML) − Note: This test can be simulated
Test procedure	− Reference 2 selects the contact of Reference 1 from the addressbook and send it to DUT − Reference 2 sends Reference 1 Contact's information with different formats (vCard 2.1, vCard 3.0 and 1.0 PCC XML) to DUT − DUT renders all the received vCard files and open the content of the vCard
Expected results Post-conditions	− As a result of a capability exchange, Reference 2 sees DUT as an RCS user who supports HTTP-based − Reference 2 upload vCard information to the File Transfer Server using FTHTTP procedure. Reference 2 send contact's information to DUT in different formats − DUT is capable to render the vCard files formats received (vCard 2.1, vCard 3.0 and 1.0 PCC XML) and offer to store the received Contact in the device contact list
Deep inspection	− Verify DUT is able to manage (vCard 2.1, vCard 3.0 and 1.0 PCC XML received formats and none information is lost when render the received file as defined in Annex A1 in RCC71 − Verify SIP INVITE is received and xml File transfer message body content is content type "text/vcard" for supported formats vCard 2.1, vCard 3.0 or"application/vnd.oma.cab-pcc+xml" in cae 1.0 PCC XML format is used. − Verify delivery and display notifications are sent by DUT

Test Case ID	ID_RCS_T_A_2_3_30

Related Test Cases	ID_RCS_T_A_2_3_9
Feature	File Transfer
Reason for test	Reference section - R7-2-2, R7-24-13. To verify that if the reference device is offline, after delivery time out reference 1 receives file as SMS. HTTPS Get parameter for FT fall-back is not provided from the content server
Pre-conditions Scenario	− DUT and Reference 1 are RCS enabled and make DUT online and reference 1 offline. − DUT and Reference 1 all set CHAT AUTH to 1. − DUT and Reference 1 set FT DEFAULT MECH configuration parameter is to HTTP − The size of the File being transferred is less than FT MAX SIZE. − CHAT REVOKE TIMER set to X. − DUT's MNO has configured RCS clients as FT FALLBACK DEFAULT set to 0) − DUT is configured with FT HTTP FALLBACK set to 1 − Reference's network support CFS. − File transfer via SMS feature tag is supported by DUT and Reference 1. − Content server does not include meta information in the HTTP URL for FT fallback to SMS
Test procedure	− Open an existing conversation with Reference 1 on DUT's device <u>or</u> create a new conversation with Reference 1 on DUT's device and Send a picture file to the Reference 1 from DUT. − When the REVOKE TIMER values is expired and with no user interaction, DUT will send via SMS the HTTP URL for File Transfer fallback to SMS to reference 1.
Expected results Post-conditions	− DUT sends File to Reference 1 in Chat. − After X amount of time, file should be sent via SMS the HTTP URL for File Transfer fallback to SMS, which includes the meta-data parameters to reference 1. As this is not provided by the server, client shall be able to render the response received by the FT server and generate the required parameters to be added to the URL
Deep inspection	− Verify 200 OK response to Options of the reference 1 includes feature tag "**urn%3Aurn-7%3A3gpp-application.ims.iari.rcs.ftsms** " − Verify successfully upload file (with thumbnail if DUT sends too) to content server and recipient of correct file description XML by making an HTTPs post request to FT HTTP CS URI. − Verify DUT receives HTTP 200OK with file information xml, which does not contains the HTTPS Get parameter for FT fall-back (meta-data information as per RCC71, table 34) − Verify client renders and generates the meta-data information from the XML received from the FT server − Verify SIP INVITE Message with content-type "application/vnd.gsma.rcs-ft-http+xml" is delivered successfully.

	– Verify after X duration message is sent to Reference 1 using SMS link as mentioned in the **File Transfer Client Fall-back mentioned in 7.3.2.5.2 of UP_PDD**

A.2.4   Audio Messaging

This feature set to be tested in accordance with test cases provided in section 3.4 of the current document.

Annex B   Test Cases guidelines for Phase 2 of OMA SIMPLE IM-CPM transition

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Annex C   Document Management

C.1   Document History

Version	Date	Brief Description of Change	Approval Authority	Editor / Company
1.0	28 June 2017	New PRD CR1001 Approved by TG#1.	TG	Ian Crawford / GSMA

C.2   Other Information

Type	Description
Document Owner	Future Networks / GSG
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Your comments or suggestions & questions are always welcome.