Multi SIM Devices Requirements Test Cases
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1 Introduction

1.1 Overview

The aim of the GSMA Multi SIM DUTs (Device Under Test) work is to ensure all DUTs supporting multiple SIMs/eUICCs behave in a similar way.

This document provides test cases for the Multi SIM requirements detailed in GSMA PRD TS.37 Requirements for Multi SIM devices [1].

1.2 Scope

This document is intended for:

1. Parties which develop test tools and platforms
2. Test Labs / Test Houses which execute the testing
3. Vendors, device & chipset Manufacturers
4. Operators

The Test Book consists of a set of test cases relevant for testing a device supporting multiple SIMs/eUICCs.

The test cases specified within the Test Book are either specified fully, step by step or refer to existing publicly available test standards. For the test cases from other organizations, a unique reference to the specification and test case is provided.

For each test case specified or defined by reference within this Test Book, there is a reference to one or more requirements from the GSMA PRD TS.37 [1].

1.3 Definition of Terms

Term	Definition
SIM	Subscriber Identity Module; a physical entity that contains keys and ID required to authenticate a user on a mobile network. "SIM" is commonly used to refer to the physical entity that is technically called the UICC (see below).This document generally uses "SIM" to refer to the physical entity
UICC	Universal Integrated Circuit Card; the physical entity that contains as a minimum the SIM/USIM application
USIM	An application that runs on the UICC and provides authentication functions similar to those provided by the SIM in pre-3G systems
eUICC	A removable or non-removable UICC which enables the remote and/or local management of Profiles in a secure way
Profile	A specific SIM/USIM application contained within an eUICC. Generally an eUICC will contain multiple SIM profiles, but only one will be active at any given time.
Simulator	A Network Simulator or a Test Network within a test lab.

1.4 Abbreviations

Abbreviation	Definition
APN	Access Point Name
CS	Circuit Switched
DSDA / MSMA	Dual SIM Dual Active / Multi SIM Multi Active
DSDS / MSMS	Dual SIM Dual Standby / Multi SIM Multi Standby
DUT	Device Under Test
EAP	Extensible Authentication Protocol
FFS	For Future Study
IMEI	International Mobile Equipment Identifier
IMS	IP Multimedia Subsystem
ME	Mobile Equipment
MMS	Multimedia Message Service
NFC	Near Field Communications
OS	Operating System
OTA	Over The Air
PDN	Public Data Network
SMS	Short Message Service
USAT	UMTS SIM Application Toolkit
UE	User Equipment
UI	User Interface

1.5 References

Ref	Document Number	Title
[1]	GSMA PRD TS.37	Requirements on Multi SIM devices
[2]	GSMA PRD TS.06	IMEI Allocation and Approval Process
[3]	GSMA PRD TS.26	NFC Handset Requirements
[4]	GSMA PRD TS.32	Technical Adaptation of Devices through Late Customisation
[5]	GSMA PRD TS.36	Device Settings Database
[6]	3GPP TS 24.008	Mobile Radio Interface Layer 3 Specification
[7]	3GPP TS 24.301	Non-Access-Stratum (NAS) protocol for Evolved Packet System (EPS)
[8]	3GPP TS 23.122	Non-Access-Stratum (NAS) functions related to Mobile Station (MS) in idle mode
[9]	3GPP TS 31.102	Characteristics of the Universal Subscriber Identity Module (USIM) application
[10]	3GPP TS 31.111	Universal Subscriber Identity Module (USIM) Application Toolkit (USAT)
[11]	3GPP TS 25.331	Radio Resource Control (RRC); Protocol specification
[12]	3GPP TS 36.331	E-UTRA Radio Resource Control (RRC); Protocol specification

Ref	Document Number	Title
[13]	3GPP2 C.S0005-F	Upper Layer (Layer 3) Signalling Standard for cdma2000 Spread Spectrum Systems.
[14]	GSMA PRD SGP.21	Remote SIM Provisioning Architecture
[15]	GSMA PRD SGP.22	Remote SIM Provisioning Technical Specification
[16]	GSMA PRD SGP.23	Remote SIM Provisioning Test Book
[17]	MIIT (PRC) YDT 3041-2016	Test Methods for LTE/CDMA/TD-SCDMA/WCDMA/GSM (GPRS) Multi-Mode Dual-SIM Multi-Standby User Equipment An English translation of this document is available from MIIT
[18]	GSMA PRD TS.27	NFC Test Book
[19]	3GPP TS 31.124	Mobile Equipment (ME) conformance test specification; Universal Subscriber Identity Module Application Toolkit (USAT) conformance test specification
[20]	3GPP TS 24.080	Mobile radio interface layer 3 supplementary services specification; Formats and coding
[21]	3GPP TS 24.082	Call Forwarding (CF) supplementary services; Stage 3
[22]	3GPP TS 24.173	IMS Multimedia telephony communication service and supplementary services; Stage 3
[23]	3GPP TS 24.501	Non-Access-Stratum (NAS) protocol for 5G System (5GS)
[24]	3GPP TS 38.331	NR; Radio Resource Control (RRC); Protocol specification

1.6 Conventions

As per IETF Requirements terminology, reference RFC 2119, the following terms have the following meaning.

Term	Description
SHALL	Denotes a mandatory requirement
SHOULD	Denotes a recommendation
MAY	Denotes Optional

2 Applicability

2.1 DUT optional features and feature description

Several requirements in GSMA PRD TS.37 [1] are either optional or depend on the DUT implementing specific technologies. The tables below list the DUT optional features and DUT related implementation values. The “Support” and “Value” columns are intended to be filled by the DUT Vendor.

Item	Optional Feature	Support [Yes/ No]	Mnemonic (short name for the optional feature)
1	Support of 3GPP2 technologies		3GPP2
2	User Interface control of SIM association		UI_SIM_Assoc
3	Hot Swap of SIMs		Hot_Swap
4	Compliance to MIIT “All mode” specification		All_Mode
5	Dual SIM Dual Active		DSDA
6	Dual SIM Dual Standby		DSDS
7	(void)		(void)
8	Preferred SIM for Voice, SMS, MMS		Pref_Voice
9	Data use display per SIM		Data_Display
10	SMS cell broadcast support		SMSCB
11	All SIM Network Search		All_SIM_Search
12	VoLTE		VoLTE
13	VoWiFi		VoWiFi
14	DUT has a port limited to 2G operation		2G
15	DUT supports automatic association based on hardware		Auto_HW
16	DUT supports automatic association based on discovery protocols		Auto_Discovery
17	Support of eUICC		eUICC
18	Support of UICC based NFC		NFC
19	Support of accessories		Accessory
20	Support of automatic call forwarding between SIMs		Auto_Forward
21	Primary IMEI is always used regardless of SIM port(s) used.		Always_Primary_IMEI

DUTs with more than two SIM ports are also possible:

Item	Feature description	Value	Mnemonic (short name for the optional feature)
1	Number of SIM ports supported by the DUT		No_Of_SIM_Ports_N

2.2 Conditional Tests

The table below defines conditions applicable to certain test cases. The conditions below are used in the Applicability Table in the following section.

Conditional item	Condition
C001	IF UI_SIM_Assoc THEN M ELSE N/A
C002	IF Hot_Swap THEN M ELSE N/A
C003	IF 3GPP2 THEN M ELSE N/A
C004	VOID
C005	IF 3GPP2 AND Hot_Swap THEN M Else N/A
C006	IF All_Mode THEN M Else N/A
C007	IF DSDA THEN M Else N/A
C008	IF DSDS THEN M Else N/A
C009	IF DSPA THEN M Else N/A
C010	IF Pref_Voice THEN M Else N/A
C011	IF Data_Display THEN M Else N/A
C012	IF SMSCB THEN M Else N/A
C013	IF All_SIM_Search THEN M Else N/A
C014	IF VoLTE THEN M Else N/A
C015	IF VoWiFi THEN M Else N/A
C016	IF 2G AND Auto_HW THEN M Else N/A
C017	IF Auto_Discovery THEN M Else N/A
C018	VOID
C019	IF NFC THEN M Else N/A
C020	IF Accessory then M Else N/A
C021	IF Auto_Forward then M Else N/A
C022	IF Always_Primary_IMEI then M else N/A

2.3 Test Applicability Table

The table below specifies the applicability of each test case according to the DUT optional features.

Test case	Test case title	Live Network or Simulator	Physical SIM + Physical SIM	Physical SIM + eUICC	eUICC + eUICC
4.1.1	Number of IMEIs	Either	M	M	M
4.1.2	Primary IMEI	Either	C022	C022	C022
4.1.3	IMEI presentation	Either	M	M	M
4.2.1	Blocking of service	Simulator	M	M	M
4.2.2.1	Retry following blocking (3GPP) – automatic retry	Simulator	M	M	M
4.2.2.2	Retry following blocking (3GPP) – association change	Simulator	C001	M	M
4.2.2.3	Retry following blocking (3GPP) – hot swap	Simulator	C002	C002	N/A
4.2.3.1	Retry following blocking (3GPP2) – automatic retry	Simulator	C003	C003	C003
4.2.3.2	Retry following blocking (3GPP2) – association change	Simulator	C001 and C003	C003	C003
4.2.3.3	Retry following blocking (3GPP2) – hot swap	Simulator	C005	C005	N/A
4.3	All Mode	Either	C006	N/A	N/A
4.4.1	USAT – Dual SIM Dual Active (DSDA)	Simulator	C007	C007	C007
4.4.2	USAT – Dual SIM Dual Standby (DSDS)	Simulator	C008	C008	C008
4.4.3	(void)	N/A	N/A	N/A	N/A
4.5.1	SIM selection via software	Either	C001	M	M
4.5.2	Preferred SIM for data	Either	M	M	M
4.5.3	Preferred SIM for voice, SMS, MMS	Either	C010	C010	C010
4.5.4	Single SIM operation	Either	M	M	M
4.5.5	Change of SIM association	Simulator	C001	M	M
4.5.6	Idle screen display	Either	M	M	M
4.5.7	Lock screen display	Either	M	M	M
4.5.8	Mobile terminated call, SMS, MMS	Either	M	M	M

Test case	Test case title	Live Network or Simulator	Physical SIM + Physical SIM	Physical SIM + eUICC	eUICC + eUICC
4.5.9	Mobile originated call, SMS, MMS	Either	M	M	M
4.5.10	Emergency call	Simulator	M	M	M
4.5.11	Voice call logs	Either	M	M	M
4.5.12	SMS MMS logs	Either	M	M	M
4.5.13	Data use display	Either	C011	C011	C011
4.5.14	Cell broadcast	Either	C012	C012	C012
4.5.15	Priority of services	Either	M	M	M
4.5.16	Call forwarding / call waiting	Either	M	M	M
4.5.17	Call hold	Either	C007	C007	C007
4.5.18	SIM PIN	Either	M	M	M
4.5.19	PUK code	Either	M	M	M
4.5.20	Unlock code	Either	M	M	M
4.5.21	Network and service provider locks	FFS	FFS	FFS	FFS
4.5.22.1	Access to contacts	Either	M	M	M
4.5.22.2	Presentation of contacts	Either	M	M	M
4.5.22.3	Adding contacts	Either	M	M	M
4.5.22.4	Deleting contacts	Either	M	M	M
4.5.22.5	Copying contacts	Either	M	M	M
4.5.23.1	Simple network search	Either	M	M	M
4.5.23.2	Simultaneous network search	Either	C013	C013	C013
4.5.24.1	VoLTE user interface	Either	C014	C014	C014
4.5.24.2	VoWiFi user interface	Either	C015	C015	C015
4.5.25.1	Accessory – presentation of contacts	Either	C020	C020	C020

Test case	Test case title	Live Network or Simulator	Physical SIM + Physical SIM	Physical SIM + eUICC	eUICC + eUICC
4.5.25.2	Accessory – voice calls	Either	C020	C020	C020
4.5.25.3	Accessory – SMS	Either	C020	C020	C020
4.5.25.4	Accessory - data	Either	C020	C020	C020
4.6.1	SIM allocation based on hardware	Either	C016	C016	N/A
4.6.2	SIM allocation based on discovery protocol	Either	C017	C017	C017
4.7.1	Network specific applications	FFS	FFS	FFS	FFS
4.8.1	User imposed limitations on applications	FFS	FFS	FFS	FFS
4.9.1	Auto configuration across all SIMs	FFS	FFS	FFS	FFS
4.9.2	Auto configuration of one connection	FFS	FFS	FFS	FFS
4.9.3	Reconfiguration	FFS	FFS	FFS	FFS
4.10.1	(void)	N/A	N/A	N/A	N/A
4.10.2	Management of eUICC	Either	N/A	M	M
4.10.3	eUICC and user interface	FFS	N/A	FFS	FFS
4.11	NFC	Either	C019	C019	C019
4.12	EAP-SIM	FFS	FFS	FFS	FFS
4.13.1	Data throughput – secondary SIM idle	Either	C008	C008	C008
4.13.2	Data throughput – secondary SIM idle (dual data / Dual VoLTE)	Either	C007 and C008+C014	C007 and C008+C014	C007 and C008+C014
4.13.3	Data throughput – secondary SIM in call	Either	C007	C007	C007
4.14.1	Auto Forward UI	Either	C021	C021	C021
4.14.2	Auto Forward enabling & disabling	Either	C021	C021	C021
4.14.3	Auto Forward already set	Either	C021	C021	C021
4.14.4	Auto Forward failure case	Simulator	C021	C021	C021

Test case	Test case title	Live Network or Simulator	Physical SIM + Physical SIM	Physical SIM + eUICC	eUICC + eUICC
4.14.5	Auto Forward network not available	Simulator	C021	C021	C021

Table definitions:

- M – the test case is Mandatory.
- Cxxx – the test case is conditional and the applicability depends on DUT support of optional or conditional features as specified by Cxxx in the previous section.
- FFS – For Future Study; the test case is not yet defined.
- N/A – the test is not applicable to this device type

3 Test process

3.1 Test Environment

Test cases may be performed in a Laboratory using one or more network simulators or on Live Networks. Most tests can be performed in either environment.

For some of the test cases it is necessary to log the signalling between the DUT and the network. If a network simulator is used all the signalling between the DUT and the network shall be logged and shall be accessible to be used to derive the test case verdict.
If a Live Network is used, other options such as on-DUT logging or live network logging may be used. Such logging will be implementation dependent.

The number of SIMs required for each test case depends on the capability of the DUT. Most current DUTs require two SIMs, but some have more. Each SIM port is identified SIM n.

For each SIM, the DUT will provide a SIM slot or soldered (fix mounted) SIM (eUICC). For testing, the SIM(s) can be real physical SIMs or simulated SIMs. The SIMs can be either Test SIMs or real according to the configuration required.

Tests specify that certain SIM ports either have a physical SIM or are empty; in the case of devices with eUICC:

- an eUICC with an active profile is equivalent to a physical SIM in the port,
- an eUICC with no active profile is equivalent to an empty port.

3.2 Pass Criteria

- A test is considered as successful only if the entire test procedure was carried out successfully and the expected results observed.
- A test is considered as failed if the tested feature shows unexpected behaviour.
- A test is considered as non-conclusive when the pass criteria cannot be evaluated due to issues during the setup of the initial conditions.

3.3 Future Study

Some of the test cases described in this Test Book are FFS (For Future Study). This means that some clarifications are expected at the requirement level to conclude on a test method, or that the test cases are low priority and have not yet been defined.

3.4 Tests From Other Sources

This document refers to test specifications developed by other organisations. These organisations define their own requirements for test benches, test applicability and pass criteria.

Changes to all tests in this document may be requested by contacting the GSMA Terminal Steering Group at terminals@gsma.com. If such a request affects a test belonging to an outside organisation then either:

a) The change request will be passed on to the outside organisation for action, or
b) The change request will be actioned by removing the outside reference and drafting a replacement case within this document.

The complete MIIT (PRC) YDT 3041-2016 [17] only applies to handsets being tested for CCSA All Mode certification, and covers only technologies appropriate to that market. A subset of CCSA requirements & test cases are used by GSMA TS.37 & TS.42. The GSMA documents are global specifications wherein choice of technologies is at the discretion of the device vendor. Hence for GSMA testing, references to [17] section 4.8.1 table 1 should be replaced with technology combinations appropriate to the capabilities of the device under test.

3.5 Test Execution Optimisation

Some tests do not require the device to start in a powered off state. These tests may be run directly after another test case, subject to all initial conditions for the test being met,

4 Test Cases

4.1 IMEIs

4.1.1 Number of IMEIs and IMEI SV

Test Purpose

To ensure the DUT has correct number of IMEIs, uses them in the correct manner and has the same SV value for all IMEIs

Referenced requirements

TS37_2.1_REQ_1
TS37_2.1_REQ_2
TS37_2.2_REQ_6

Initial Conditions

Entity	Description of the initial condition
Network	Network simulator(s) or network(s) configured to allow access for the number of SIMs/eUICCs supported by the DUT.
	If live network is used, the network shall be configured to request the IMEI of the DUT during the IMSI attach procedure.
SIM	Each SIM is configured to access the configured networks. Each eUICC has an appropriate active profile
DUT	The DUT is powered off. Each SIM port has either an inserted physical SIM or a logically associated eUICC

Test execution

Step	Direction	Sequence	Expected Result
1	User → DUT	Power on DUT	The DUT attaches to each network. Each connection uses a unique IMEI. One of the connections uses the primary IMEI. SV value is the same for all connections

4.1.2 Primary IMEI

Test Purpose

To ensure the DUT always uses primary IMEI

Referenced requirements

TS37_2.2_REQ_4

TS37_2.2_REQ_5

Initial Conditions

Entity	Description of the initial condition
Network	Network simulator or network configured to allow access by at least one SIM/eUICC
	If live network is used, the network shall be configured to request the IMEI of the DUT during the IMSI attach procedure.
SIM	A SIM is configured to access the configured networks. If the SIM is an eUICC, it has an appropriate active profile
DUT	The DUT is powered off. The DUT has n SIM ports

Test execution:

Step	Direction	Sequence	Expected Result
1	User → DUT	Insert a SIM in SIM port n and power on DUT (For eUICC, use the device UI to associate an eUICC with SIM port n)	The DUT performs attach to the network. The connection uses the Primary IMEI.
2	User → DUT	Power off the DUT	
3		Repeat steps 1 and 2 for each SIM port	

4.1.3 IMEI Presentation

Test Purpose

To ensure the DUT presents IMEIs correctly

Referenced requirements

TS37_2.2_REQ_7

TS37_2.2_REQ_8

Initial Conditions

Entity	Description of the initial condition
Network	Network simulator(s) or network(s) configured to allow access for the number of SIMs/eUICCs supported by the DUT.
	If live network is used, the network shall be configured to request the IMEI of the DUT during the IMSI attach procedure.
SIM	Each SIM is configured to access the configured networks. Each eUICC has an appropriate active profile
DUT	Each SIM port has either an inserted physical SIM or a logically associated eUICC. The DUT is powered on and is attached to networks appropriate to the SIMs/eUICCs.

Test execution:

Step	Direction	Sequence	Expected Result
1	User → DUT	Type *#06# on dialler	Number of IMEIs displayed is equal to number of SIM ports Each IMEI is unique One IMEI is highlighted / listed as the being the Primary IMEI

Note: if the DUT does not have a dialler then a different process may be used to access IMEIs; this is particularly applicable to embedded DUTs.

4.2 Blocking & Recovery of Service

4.2.1 Blocking of Service

Test Purpose

To ensure the DUT handles blocking of service correctly

Referenced requirements

TS37_2.2_REQ_1

TS37_2.2_REQ_2

TS37_2.2_REQ_3

Initial Conditions

Entity	Description of the initial condition
Network	Network simulator(s) or network(s) configured to allow access for the number of SIMs/eUICCs supported by the DUT.
	If live network is used, the network shall be configured to request the IMEI of the DUT during the IMSI attach procedure.
SIM	Each SIM is configured to access the configured networks. Each eUICC has an appropriate active profile
DUT	The DUT is powered off. Each SIM port has either an inserted physical SIM or a logically associated eUICC

Test execution:

Step	Direction	Sequence	Expected Result
1	User → DUT	Power on DUT	The DUT attaches to each network.

Step	Direction	Sequence	Expected Result
2	Network → DUT	At periodic update, connection n sends a reject with a blocking reject cause (reject #6 “Illegal ME” for a 3GPP connection or *Lock until Power-Cycled Order* received over one 3GPP2 connection)	All connections are closed in accordance with standards [6], [11], [13] The UI displays an appropriate message
3	User → DUT	Attempt to: 1. Dial a call 2. Send an SMS 3. Browse the internet	No connection request is initiated from the DUT
4	User → DUT	Power off DUT	
5		Repeat steps 1-4 with the reject sent over a different connection until all connections have been tested.	

4.2.2 Retry Following Blocking (3GPP)

4.2.2.1 Automatic Retry (3GPP)

Test Purpose

To ensure the DUT follows correct 3GPP retry procedure

Referenced requirements

TS37_2.2_REQ_12

TS37_2.2_REQ_16

Initial Conditions

Entity	Description of the initial condition
Network	Network simulator(s) or network(s) configured to allow access for the number of SIMs/eUICCs supported by the DUT.
	If live network is used, the network shall be configured to request the IMEI of the DUT during the IMSI attach procedure.
SIM	Each SIM is configured to access the configured networks. Each eUICC has an appropriate active profile
DUT	The DUT is powered off. Each SIM port has either an inserted physical SIM or a logically associated eUICC

Test execution:

Step	Direction	Sequence	Expected Result
1	User → DUT	Power on DUT	The DUT attaches to each network.
2	Network → DUT	At periodic update, 3GPP connection n sends a reject with a blocking reject cause (reject #6 “Illegal ME”)	All connections are closed in accordance with standards [6], [11], [13] The UI displays an appropriate message
3	DUT → Network	Wait for DUT to retry connection	Interval between retries is greater than 12 hours First retry is always made over the connection that had previously generated the blocking reject.
4	User → DUT	Power cycle DUT	The DUT attempts attach to each network.

4.2.2.2 Change of SIM association to port (3GPP)

Test Purpose

To ensure the DUT correctly retries connection following SIM association change

Referenced requirements

TS37_2.2_REQ_12

TS37_2.2_REQ_14

Initial Conditions

Entity	Description of the initial condition
Network	Network simulator(s) or network(s) configured to allow access for the number of SIMs/eUICCs supported by the DUT.
	If live network is used, the network shall be configured to request the IMEI of the DUT during the IMSI attach procedure.
SIM	Each SIM is configured to access the configured networks. Each eUICC has an appropriate active profile
DUT	The DUT is powered off. Each SIM port has either an inserted physical SIM or a logically associated eUICC

Test execution:

Step	Direction	Sequence	Expected Result
1	User → DUT	Power on DUT	The DUT attaches to each network.
2	Network → DUT	At periodic update, 3GPP connection n sends a reject with a blocking reject cause (reject #6 “Illegal ME”)	All connections are closed in accordance with standards [6], [11], [13] The UI displays an appropriate message
3	User → DUT	Change SIM/eUICC association to SIM port through user interface	The DUT attempts attach to each network.

4.2.2.3 Hot Swap of SIMs (3GPP)

Test Purpose

To ensure the DUT correctly retries connection following hot swap of SIMs

Referenced requirements

TS37_2.2_REQ_12

TS37_2.2_REQ_14

Initial Conditions

Entity	Description of the initial condition
Network	Network simulator(s) or network(s) configured to allow access for the number of SIMs/eUICCs supported by the DUT.
	If live network is used, the network shall be configured to request the IMEI of the DUT during the IMSI attach procedure.
SIM	Each SIM is configured to access the configured networks. Each eUICC has an appropriate active profile
DUT	The DUT is powered off. Each SIM port has either an inserted physical SIM or a logically associated eUICC

Test execution:

Step	Direction	Sequence	Expected Result
1	User → DUT	Power on DUT	The DUT attaches to each network.
2	Network → DUT	At periodic update, 3GPP connection n sends a reject with a blocking reject cause (reject #6 “Illegal ME”)	All connections are closed in accordance with standards [6], [11], [13] The UI displays an appropriate message

Step	Direction	Sequence	Expected Result
3	User → DUT	Physically change a SIM in the DUT without powering off.	The DUT attempts attach to each network.

4.2.3 Retry Following Blocking (3GPP2)

4.2.3.1 Automatic Retry (3GPP2)

Test Purpose

To ensure the DUT follows correct 3GPP2 retry procedure

Referenced requirements

TS37_2.2_REQ_13
TS37_2.2_REQ_16

Initial Conditions

Entity	Description of the initial condition
Network	Network simulator(s) or network(s) configured to allow access for the number of SIMs/eUICCs supported by the DUT.
	If live network is used, the network shall be configured to request the IMEI of the DUT during the IMSI attach procedure.
SIM	Each SIM is configured to access the configured networks. Each eUICC has an appropriate active profile
DUT	The DUT is powered off. Each SIM port has either an inserted physical SIM or a logically associated eUICC

Test execution:

Step	Direction	Sequence	Expected Result
1	User → DUT	Power on DUT	The DUT attaches to each network.
2	Network → DUT	At periodic update, 3GPP2 connection n sends a reject with a blocking reject cause (*Lock until Power-Cycled Order)*	All connections are closed in accordance with standards [6], [11], [13] The UI displays an appropriate message
3	DUT → Network	Wait for DUT to retry connection	No retry is seen within 12 hours. Note: there should be no automatic retry regardless of interval; 12 hours is given as an appropriate test duration.

Step	Direction	Sequence	Expected Result
4	User → DUT	Power cycle DUT	The DUT attempts attach to each network.

4.2.3.2 Change of SIM association to port (3GPP2)

Test Purpose

To ensure the DUT correctly retries connection following SIM association change

Referenced requirements

TS37_2.2_REQ_13
TS37_2.2_REQ_14

Initial Conditions

Entity	Description of the initial condition
Network	Network simulator(s) or network(s) configured to allow access for the number of SIMs/eUICCs supported by the DUT.
	If live network is used, the network shall be configured to request the IMEI of the DUT during the IMSI attach procedure.
SIM	Each SIM is configured to access the configured networks. Each eUICC has an appropriate active profile
DUT	The DUT is powered off. Each SIM port has either an inserted physical SIM or a logically associated eUICC

Test execution:

Step	Direction	Sequence	Expected Result
1	User → DUT	Power on DUT	The DUT attaches to each network.
2	Network → DUT	At periodic update, 3GPP2 connection n sends a reject with a blocking reject cause (*Lock until Power-Cycled Order)*	All connections are closed in accordance with standards [6], [11], [13] The UI displays an appropriate message
3	User → DUT	Change SIM/eUICC association to SIM port through user interface	The DUT attempts attach to each network.

4.2.3.3 Hotswap of SIMs (3GPP2)

Test Purpose

To ensure the DUT correctly retries connection following hot swap of SIMs

Referenced requirements

TS37_2.2_REQ_13
TS37_2.2_REQ_14

Initial Conditions

Entity	Description of the initial condition
Network	Network simulator(s) or network(s) configured to allow access for the number of SIMs/eUICCs supported by the DUT.
	If live network is used, the network shall be configured to request the IMEI of the DUT during the IMSI attach procedure.
SIM	Each SIM is configured to access the configured networks. Each eUICC has an appropriate active profile
DUT	The DUT is powered off. Each SIM port has either an inserted physical SIM or a logically associated eUICC

Test execution:

Step	Direction	Sequence	Expected Result
1	User → DUT	Power on DUT	The DUT attaches to each network.
2	Network → DUT	At periodic update, 3GPP2 connection n sends a reject with a blocking reject cause (*Lock until Power-Cycled Order)*	All connections are closed in accordance with standards [6], [11], [13] The UI displays an appropriate message
3	User → DUT	Physically change a SIM in the DUT without powering off.	The DUT attempts attach to each network.

4.3 All Mode

Test Purpose

To ensure the DUT follows China “All Mode” technology and user interface requirements

Note: DUTs which support a subset of the “All Mode” features are acceptable in China BUT these MAY NOT be sold as “All Mode” DUTs.

Referenced requirements

TS37_2.3_REQ_3

Test execution:

Please refer to the following tests in YDT 3041-2016 [17].

GSMA TS.42 Test ID	YTD 3041-2016 referenced test
4.3.1	4.1.2a Only one SIM is inserted
4.3.2	4.1.2b Only one SIM is inserted
4.3.3	4.1.2c Only one SIM is inserted
4.3.4	4.1.3a Two SIMs are inserted
4.3.5	4.1.3b Two SIMs are inserted
4.3.6	4.1.3c Two SIMs are inserted
4.3.7	4.8.2 PIN protection function
4.3.8	4.8.3.1 SMS test
4.3.9	4.8.3.2 Phonebook test
4.3.10	4.8.3.3 Data files test
4.3.11	4.8.3.4 Test for call records
4.3.12	4.8.4.1 MO call in idle state
4.3.13	4.8.4.2 MT call in idle state
4.3.14	4.8.4.3 MO call on SIM1 when using data on SIM2
4.3.15	4.8.4.4 MT call on SIM1 when using data on SIM2
4.3.16	4.8.4.5 Simultaneous MT calls in idle state
4.3.17	4.8.4.6 MT call on SIM1 when SIM2 in call
4.3.18	4.8.5.1 MO SMS in idle state
4.3.19	4.8.5.2 MT SMS in idle state
4.3.20	4.8.5.3 MO SMS on SIM1 when in call on SIM2
4.3.21	4.8.5.4 MT SMS on SIM1 when in call on SIM2
4.3.22	4.8.5.5 MO SMS on SIM1 when using data on SIM2
4.3.23	4.8.5.6 MT SMS on SIM1 when using data on SIM2
4.3.24	4.8.6.1 Data service from idle mode
4.3.25	4.8.6.2 Data service on SIM1 when in call on SIM2
4.3.26	4.8.7.2 Selection of network in idle mode

Note: Some of these tests are also called up by the “user interface” section of this document. It is not necessary to run identical tests twice, but be aware that

the user interface tests require any test applicable to SMS to be repeated for MMS.

4.4 USAT Operation

4.4.1 Dual SIM Dual Active

Test Purpose

To ensure USAT functions correctly on all SIM ports

When a DUT is DSDA (or MSMA) USAT commands SHALL be supported on all SIM ports.

Referenced requirements

TS37_2.4_REQ_2

Test execution:

1. Perform all USAT tests accordingly to Applicability Table of 3GPP TS 31.124 on each SIM port.

4.4.2 Dual SIM Dual Standby

Test Purpose

To ensure USAT functions correctly on all SIM ports

Referenced requirements

TS37_2.4_REQ_3

Test execution:

1. Perform all USAT tests accordingly to Applicability Table of 3GPP TS 31.124 on the in-call SIM port.
2. For each SIM port that is power on other than the in-call SIM port, call up USAT tests that do not require network access accordingly to the Applicability Table of 3GPP TS 31.124, including tests related to the USAT command Open Channel over a Local Bearer.
3. For each SIM port that is power on other than the in-call SIM port, call up USAT tests that require network access accordingly to the Applicability Table of 3GPP TS 31.124. For these USAT tests when the ME is unable to process the command, the ME SHALL inform the SIM ("ME currently unable to process command" or "Network currently unable to process command") as specified in the USAT specification.

4.4.3 Void

4.5 User Interface

4.5.1 SIM Selection via Software

Test Purpose

For DUTs supporting SIM selection through software, to ensure the DUT offers appropriate SIM selection menu(s)

Referenced requirements

TS37_2.5_REQ_1
TS37_2.5_REQ_2

Initial Conditions

Entity	Description of the initial condition
Network	Network simulator(s) or network(s) configured to allow access for the number of SIMs/eUICCs supported by the DUT.
SIM	Each SIM is configured to access the configured networks. Each eUICC has an appropriate active profile
DUT	The DUT is powered off. Each SIM port has either an inserted physical SIM or a logically associated eUICC

Test execution

Step	Direction	Sequence	Expected Result
1	User → DUT	Power on DUT and access the menu for SIM selection	The user interface offers a SIM selection menu. Technology restrictions (if any) are indicated and match those declared by the vendor in the proforma in TS.37 section 2.3

4.5.2 Preferred SIM for Data

Test Purpose

To ensure the DUT allows selection of a preferred SIM for data, that this selection is used to direct data traffic, and that the correct default is applied if the user does not make a selection

Referenced requirements

TS37_2.5_REQ_3
TS37_2.5_REQ_4

Initial Conditions

Entity	Description of the initial condition
Network	Network simulator(s) or network(s) configured to allow access for the number of SIMs/eUICCs supported by the DUT.

SIM	Each SIM is configured to access the configured networks. Each eUICC has an appropriate active profile
DUT	Each SIM port has either an inserted physical SIM or a logically associated eUICC. The DUT is powered on and is attached to networks appropriate to the SIMs/eUICCs.

Test execution

Step	Direction	Sequence	Expected Result
1	User → DUT	Go to the menu for SIM selection for data traffic	The user interface allows selection of a preferred SIM/eUICC for data Prior to user selecting a SIM/eUICC for data service, the device automatically selects a connection with the highest available radio access technology generation.
2	User → DUT	Select a SIM/eUICC as preferred for data and browse a web page.	All data is routed over the connection associated with the selected SIM/eUICC
3		Repeat step 2 for each available SIM/eUICC	

4.5.3 Preferred SIM for Voice, SMS, MMS

Test Purpose

To ensure that, if the DUT allows selection of a preferred SIM for Voice, SMS or MMS, these selections are used to direct traffic accordingly.

Referenced requirements

TS37_2.5_REQ_5

Initial Conditions

Entity	Description of the initial condition
Network	Network simulator(s) or network(s) configured to allow access for the number of SIMs/eUICCs supported by the DUT.
SIM	Each SIM is configured to access the configured networks. Each eUICC has an appropriate active profile
DUT	Each SIM port has either an inserted physical SIM or a logically associated eUICC.

	The DUT is powered on and is attached to networks appropriate to the SIMs/eUICCs.

Test execution

Step	Direction	Sequence	Expected Result
1	User → DUT	Go to the menu for SIM selection for Voice	Prior to user selecting a SIM/eUICC for voice service, the device automatically selects a connection with voice call capability and clearly shows this in the user interface. The user interface allows selection of a preferred SIM/eUICC for Voice
2	User → DUT	Select a SIM/eUICC as preferred for voice and make a voice call.	All mobile originated voice calls are routed over the connection associated with the selected SIM/eUICC
3		Repeat step 2 for each available SIM/eUICC	
4	User → DUT	Repeat steps 2 & 3 for SMS and MMS if a preferred SIM/eUICC for these can be selected independently of Voice.	All mobile originated SMS / MMS are routed over the connection associated with the selected SIM/eUICC

4.5.4 Single SIM Operation

Test Purpose

To ensure that, if the DUT contains a single SIM, this SIM is automatically chosen as the default SIM for all services.

Referenced requirements

TS37_2.4_REQ_5
TS37_2.5_REQ_6

Initial Conditions

Entity	Description of the initial condition
Network	Network simulator(s) or network(s) configured to allow access for the number of SIMs/eUICCs supported by the DUT.
SIM	Each SIM is configured to access the configured networks. Each eUICC has an appropriate active profile

DUT	There are no SIMs inserted or eUICCs associated with SIM ports. The DUT is powered off

Test execution

Step	Direction	Sequence	Expected Result
1	User → DUT	Insert a single USIM in slot 1, then power on the device. (For eUICC, associate a single eUICC with SIM port 1)	Device camps onto a network appropriate to inserted SIM / associated eUICC and enters standby state
2	User → DUT	Access configuration UI	UI settings relating to multi SIM operation are either hidden or pre set to the inserted SIM and are not changeable
3	User → DUT	Make a voice call; maintain call for 10 seconds and then end the call.	UI only offers one connection for making the call. Call is set up and terminated in accordance with 3GPP/3GPP2 standards. [6], [11], [13]
4	User → DUT	Send an SMS	UI only offers one connection for sending SMS. SMS is sent in accordance with 3GPP/3GPP2 standards. [6], [11], [13]
5	User → DUT	Send an MMS.	UI only offers one connection for sending MMS MMS is sent in accordance with 3GPP/3GPP2 standards. [6], [11], [13]
6	User → DUT	Access contacts	UI only presents contacts from the active SIM/eUICC
7	User → DUT	Access SIM toolkit menu	UI only presents SIM toolkit options for the active SIM/eUICC
8	User → DUT	Power down DUT	Device disconnects from network in accordance 3GPP/3GPP2 standards. [6], [11], [13] and powers down
9	User → DUT	Repeat steps 1-8 for each available SIM port.	

Note: this test corresponds to YDT 3041-2016 [17] test 4.1.2(a,b,c). eUICC is not explicitly covered by YDT specifications.

4.5.5 Change of SIM Association

Test Purpose

To ensure that alteration of SIM association through DUT software results in network connectivity changes that comply with 3GPP / 3GPP2 standards

Referenced requirements

TS37_2.5_REQ_7
TS37_2.5_REQ_8

Initial Conditions

Entity	Description of the initial condition
Network	Network simulator(s) or network(s) configured to allow access for the number of SIMs/eUICCs supported by the DUT.
SIM	Each SIM is configured to access the configured networks. Each eUICC has an appropriate active profile
DUT	Each SIM port has either an inserted physical SIM or a logically associated eUICC. The DUT is powered on and is attached to networks appropriate to the SIMs/eUICCs.

Test execution

Step	Direction	Sequence	Expected Result
1	User → DUT	Access the SIM selection menu and associate each SIM/eUICC with a SIM port	Connections are established according to 3GPP/3GPP2 standards [6], [11], [13]

Step	Direction	Sequence	Expected Result
2	User → DUT	Change SIM/eUICC association	For connections where association has been changed 1. Connection detaches according to 3GPP/3GPP2 standards and using original IMEI [6], [11], [13] 2. Relevant parameters are synchronised with SIM and higher layers (via modem reset or otherwise) 3. Connection is re-established according to 3GPP/3GPP2 standards and using new IMEI [6], [11], [13] For connections where association has not changed: 1. No detach / re attach is seen.

4.5.6 Idle Mode Display

Test Purpose

To ensure the DUT presents connection status information for each SIM when in idle mode

Referenced requirements

TS37_2.5_REQ_9

Initial Conditions

Entity	Description of the initial condition
Network	Network simulator(s) or network(s) configured to allow access for the number of SIMs/eUICCs supported by the DUT.
SIM	Each SIM is configured to access the configured networks. Each eUICC has an appropriate active profile
DUT	Each SIM port has either an inserted physical SIM or a logically associated eUICC. The DUT is powered on and is attached to networks appropriate to the SIMs/eUICCs.

Test execution

Step	Direction	Sequence	Expected Result
1	User → DUT	Check the idle mode UI	The following are visible on the idle mode user interface for each connection: a) Network identifier b) Roaming status c) Radio Access Technology d) Signal strength

4.5.7 Lock Screen Display

Test Purpose

To ensure the DUT presents connection status information for each SIM on the lock screen

Referenced requirements

TS37_2.5_REQ_10

Initial Conditions

Entity	Description of the initial condition
Network	Network simulator(s) or network(s) configured to allow access for the number of SIMs/eUICCs supported by the DUT.
SIM	Each SIM is configured to access the configured networks. Each eUICC has an appropriate active profile
DUT	Each SIM port has either an inserted physical SIM or a logically associated eUICC. The DUT is powered on and is attached to networks appropriate to the SIMs/eUICCs.

Test execution

Step	Direction	Sequence	Expected Result
1	User → DUT	Activate lock screen and check the UI.	The following are visible on the lock screen for each connection: 1. Network identifier 2. Roaming status 3. Radio Access Technology 4. Signal strength

4.5.8 Mobile Terminated Calls SMS & MMS

Test Purpose

To ensure that, for mobile terminated calls, SMS and MMS, the user interface SHALL indicate the connection on which the call/SMS/MMS is received.

Referenced requirements

TS37_2.5_REQ_11

Initial Conditions

Entity	Description of the initial condition
Network	Network simulator(s) or network(s) configured to allow access for the number of SIMs/eUICCs supported by the DUT.
SIM	Each SIM is configured to access the configured networks. Each eUICC has an appropriate active profile
DUT	Each SIM port has either an inserted physical SIM or a logically associated eUICC. The DUT is powered on and is attached to networks appropriate to the SIMs/eUICCs.
UE_B	A reference device containing a single SIM is powered on and attached to a network appropriate to its SIM

Test execution

Step	Direction	Sequence	Expected Result
1	User → UE_B	Make a call to the number associated with DUT SIM/eUICC1	Call is routed and causes ringing at DUT with indication of which SIM/eUICC the call is being received on
2	User → DUT	Answer call	Call is connected
3	User → DUT	After 10 seconds, disconnect call	Call is disconnected at both DUT and UE_B
4	User → UE_B	Send an SMS to the number associated with DUT SIM/eUICC1	SMS is received at DUT with indication of which SIM/eUICC the SMS was received on
5	User → UE_B	Send an MMS to the number associated with DUT SIM/eUICC1	MMS is received at DUT with indication of which SIM/eUICC the MMS was received on

Step	Direction	Sequence	Expected Result
6		Repeat steps 1-5 for each SIM/eUICC in DUT.	

Note: this test in part corresponds to YDT 3041-2016 [17] tests 4.8.4.2 (MT Call) and 4.8.5.2 (MT SMS). The MMS case is not covered by YDT specifications. eUICC is not explicitly covered by YDT specifications.

4.5.9 Mobile Originated Calls SMS & MMS

Test Purpose

To ensure that, for mobile originated calls, SMS and MMS, the user interface SHALL allow the user to select the connection used to make the call.

Referenced requirements

TS37_2.5_REQ_12

Initial Conditions

Entity	Description of the initial condition
Network	Network simulator(s) or network(s) configured to allow access for the number of SIMs/eUICCs supported by the DUT.
SIM	Each SIM is configured to access the configured networks. Each eUICC has an appropriate active profile
DUT	Each SIM port has either an inserted physical SIM or a logically associated eUICC. The DUT is powered on and is attached to networks appropriate to the SIMs/eUICCs.
UE_B	A reference device containing a single SIM is powered on and attached to a network appropriate to its SIM

Test execution

Step	Direction	Sequence	Expected Result
1	User → DUT	Make a call to UE_B using DUT SIM/eUICC1	Call is routed and causes ringing at UE_B with indication of number associated with DUT SIM/eUICC1
2	User → UE_B	Answer call	Call is connected
3	User → UE_B	After 10 seconds, disconnect call	Call is disconnected at both DUT and UE_B

Step	Direction	Sequence	Expected Result
4	User → DUT	Send an SMS to UE_B using DUT SIM/eUICC1	SMS is received at UE_B with indication of number associated with DUT SIM/eUICC1
5	User → DUT	Send an MMS to UE_B using DUT SIM/eUICC1	MMS is received at UE_B with indication of number associated with DUT SIM/eUICC1
6		Repeat steps 1-5 for each SIM/eUICC in DUT.	

Note: this test in part corresponds to YDT 3041-2016 [17] tests 4.8.4.1 (MO Call) and 4.8.5.1 (MO SMS). The MMS case is not covered by YDT specifications. eUICC is not explicitly covered by YDT specifications.

4.5.10 Emergency Call

Test Purpose

To ensure the DUT initiates emergency calls on all available connections

Referenced requirements

TS37_2.5_REQ_13

Initial Conditions

Entity	Description of the initial condition
Network	Network simulator(s) or test network(s) configured to allow access for the number of SIMs/eUICCs supported by the DUT. Some of the network connections shall be configured to reject emergency calls.
SIM	Each SIM is configured to access the configured networks. Each eUICC has an appropriate active profile
DUT	The DUT is powered off. Each SIM port has either an inserted physical SIM or a logically associated eUICC

Test execution

Step	Direction	Sequence	Expected Result
1	User → DUT	Power on DUT.	DUT attaches to each network
2	User → DUT	Dial emergency call through user interface	DUT initiates emergency call with no additional dialog boxes.

Step	Direction	Sequence	Expected Result
3	DUT → Network		Emergency call is initiated in accordance with 3GPP/3GPP2 standards. [6], [11], [13]
4	Network →DUT	Connect emergency call	Call is connected
5	User → DUT	Terminate emergency call at user interface	DUT terminates emergency call with no additional dialog boxes.
6	DUT → Network		Call is terminated in accordance with 3GPP/3GPP2 standards. [6], [11], [13]
7	User → DUT	Dial emergency call through user interface on a network that will reject the call	DUT initiates emergency call with no additional dialog boxes.
8	DUT → Network		Emergency call is initiated in accordance with 3GPP/3GPP2 standards. [6], [11], [13]
9	Network →DUT	Reject emergency call	DUT retries on second connection regardless of voice call routing preferences set in the DUT
10	DUT → Network		Emergency call is initiated on 2nd network in accordance with 3GPP/3GPP2 standards. [6], [11], [13]
11	Network →DUT	Connect emergency call	Call is connected
12	User → DUT	Terminate emergency call at user interface	DUT terminates emergency call with no additional dialog boxes.
13	DUT → Network		Call is terminated in accordance with 3GPP/3GPP2 standards. [6], [11], [13]
14	User → DUT	Dial emergency call through user interface on first network that will reject the call	DUT initiates emergency call with no additional dialog boxes.
15	DUT → Network		Emergency call is initiated in accordance with 3GPP/3GPP2 standards. [6], [11], [13]
16	Network →DUT	Reject emergency call	DUT retries on 2nd connection regardless of voice call routing preferences set in the DUT
17	DUT → Network		Emergency call is initiated on 2nd network in accordance with 3GPP/3GPP2 standards. [6], [11], [13]

Step	Direction	Sequence	Expected Result
18	Network →DUT	Reject emergency call	DUT retries on 3rd connection regardless of voice call routing preferences set in the DUT
19	DUT → Network		Emergency call is initiated on 3rd network in accordance with 3GPP/3GPP2 standards. [6], [11], [13] Note: for a Dual SIM DUT the third connection will be emergency camped-on state through any available network.
20	Network →DUT	Connect emergency call	Call is connected
21	User → DUT	Terminate emergency call at user interface	DUT terminates emergency call with no additional dialog boxes.
22	DUT → Network		Call is terminated in accordance with 3GPP/3GPP2 standards. [6], [11], [13]

If the DUT has more than two SIMs/eUICCs, repeat with 3,4,5…. networks rejecting the call attempt

Note: After an IMS emergency call is ended, the device MAY remain IMS registered on that connection until the SESSION_EXPIRY time. This is to allow support for emergency service callback. This is typically 30 minutes, so will lead to long test durations if the above procedure is run on live networks.

4.5.11 Call Logs

Test Purpose

To ensure the DUT shows which SIM a call was made / received on

Referenced requirements

TS37_2.5_REQ_14

Initial Conditions

Entity	Description of the initial condition
Network	Network simulator(s) or network(s) configured to allow access for the number of SIMs/eUICCs supported by the DUT.
SIM	Each SIM is configured to access the configured networks. Each eUICC has an appropriate active profile
DUT	Each SIM port has either an inserted physical SIM or a logically associated eUICC.

	The DUT is powered on and is attached to networks appropriate to the SIMs/eUICCs.
UE_B	A reference device containing a single SIM is powered on and attached to a network appropriate to its SIM

Test execution

Step	Direction	Sequence	Expected Result
1	User → UE_B	Make a call to number associated with DUT SIM/eUICC 1	Call is routed and causes ringing at DUT with indication of which SIM/eUICC the call is being received on
2	User → DUT	Answer call	Call is connected
3	User → DUT	After 10 seconds, disconnect call	Call is disconnected at both DUT and UE_B
4	User → UE_B	Make a call to number associated with DUT SIM/eUICC 1	Call is routed and causes ringing at DUT with indication of which SIM/eUICC the call is being received on
5	User → DUT	Reject call	Call is rejected at DUT and shown as rejected at UE_B
6	User → DUT	Make a call to UE_B using DUT SIM/eUICC 1	Call is routed and causes ringing at UE_B with indication of number associated with DUT SIM/eUICC 1
7	User → UE_B	Answer call	Call is connected
8	User → UE_B	After 10 seconds, disconnect call	Call is disconnected at both DUT and UE_B
9	User → DUT	Make a call to UE_B using DUT SIM/eUICC 1	Call is routed and causes ringing at UE_B with indication of number associated with DUT SIM/eUICC 1
10	User → UE_B	Reject call	Call is rejected at UE_B and shown as rejected at DUT
11		Repeat steps 1-10 for each SIM/eUICC in DUT.	
12	User → DUT	Access call records in DUT UI	All calls are shown with indication of the SIM with which they were made (for MO) or received (for MT)

Note: this test corresponds to YDT 3041-2016 [17] test 4.8.3.4 (Call records) eUICC is not explicitly covered by YDT specifications.

4.5.12 SMS / MMS Logs

Test Purpose

To ensure the DUT shows which SIM an SMS / MMS was made / received on

Referenced requirements

TS37_2.5_REQ_15

Initial Conditions

Entity	Description of the initial condition
Network	Network simulator(s) or network(s) configured to allow access for the number of SIMs/eUICCs supported by the DUT.
SIM	Each SIM is configured to access the configured networks. Each eUICC has an appropriate active profile
DUT	Each SIM port has either an inserted physical SIM or a logically associated eUICC. The DUT is powered on and is attached to networks appropriate to the SIMs/eUICCs.
UE_B	A reference device containing a single SIM is powered on and attached to a network appropriate to its SIM

Test execution

Step	Direction	Sequence	Expected Result
1	User → UE_B	Send an SMS to number associated with DUT SIM/eUICC 1	SMS is routed and arrives at indication of which SIM/eUICC the SMS was received on
2	User → UE_B	Send an MMS to number associated with DUT SIM/eUICC 1	MMS is routed and arrives at indication of which SIM/eUICC the MMS was received on
3	User → DUT	Send an SMS to UE_B using DUT SIM/eUICC 1	SMS arrives at UE_B with indication of number associated with DUT SIM/eUICC 1
4	User → DUT	Send an MMS to UE_B using DUT SIM/eUICC 1	MMS arrives at UE_B with indication of number associated with DUT SIM/eUICC 1
5		Repeat steps 1-4 for each SIM/eUICC in DUT.	

Step	Direction	Sequence	Expected Result
6	User → DUT	Access call records in DUT UI	All calls are shown with indication of the SIM with which they were made (for MO) or received (for MT)
7	User → DUT	Reply to a message from SIM/eUICC 1 using SIM/eUICC 2	UI offers an option to reply using a different SIM/eUICC from the SIM/eUICC associated with the message, and reply is sent using the selected SIM/eUICC.
8	User → DUT	Forward a message from SIM/eUICC 1 using SIM/eUICC 2	UI offers an option to forward message using a different SIM/eUICC from the SIM/eUICC associated with the message, and reply is sent using the selected SIM/eUICC.
9	User → DUT	Make a call in reply to a message from SIM/eUICC 1 using SIM/eUICC 2	UI offers an option to make a call in reply to a message using a different SIM/eUICC from the SIM/eUICC associated with the message, and reply is sent using the selected SIM/eUICC.
10	User → DUT	Repeat steps 7-9 for all SIM/eUICCcombinations in DUT.	

Note: This test corresponds in part to YDT 3041-2016 [17] test 4.8.3.1 (SMS records). The MMS case is not covered by YDT specifications. While covered by YDT, this test omits the case where SMS are physically stored in the SIM as this is not seen in any recent devices. eUICC is not explicitly covered by YDT specifications.

4.5.13 Data Use Display

Test Purpose

To ensure that, if the DUT has a per-connection data use display, data use is correctly shown.

Referenced requirements

TS37_2.5_REQ_16

Initial Conditions

Entity	Description of the initial condition
Network	Network simulator(s) or network(s) configured to allow access for the number of SIMs/eUICCs supported by the DUT.
SIM	Each SIM is configured to access the configured networks. Each eUICC has an appropriate active profile

DUT	Each SIM port has either an inserted physical SIM or a logically associated eUICC. The DUT is powered on and is attached to networks appropriate to the SIMs/eUICCs.

Test execution

Step	Direction	Sequence	Expected Result
1	User → DUT	Access the UI for data connection	Prior to user selection of a preferred SIM/eUICC for data, the DUT automatically selects a connection. The automatic selection uses the highest available radio access technology generation and is clearly indicated on the user interface. The user interface allows selection of a preferred SIM/eUICC for data
2	User → DUT	Select a SIM/eUICC as preferred for data.	All data is routed over the connection associated with the selected SIM/eUICC
3	User → DUT	Download a file of known size	User interface shows the correct amount of data traffic for the selected SIM/eUICC
		Repeat steps 2 & 3 for each available SIM/eUICC	

4.5.14 Cell Broadcast

Test Purpose

If cell broadcast reception is supported:

To ensure the DUT implements cell broadcast messaging per connection, and that message display includes an indication of the connection over which they were received.

Referenced requirements

TS37_2.5_REQ_17
TS37_2.5_REQ_18
TS37_2.5_REQ_19

Initial Conditions

Entity	Description of the initial condition
Network	Network simulator(s) or network(s) configured to allow access for the number of SIMs/eUICCs supported by the DUT.
SIM	Each SIM is configured to access the configured networks. Each eUICC has an appropriate active profile
DUT	Each SIM port has either an inserted physical SIM or a logically associated eUICC. The DUT is powered on and is attached to networks appropriate to the SIMs/eUICCs.

Test execution

Step	Direction	Sequence	Expected Result
1	User → DUT	Access Cell Broadcast configuration in the user interface.	Cell broadcast configuration is offered independently for each connection
2	User → DUT	Enable cell broadcast reception for all connections	User interface shows which connections cell broadcast is enabled for
3	Network → DUT	All networks send cell broadcast messages	DUT displays each message in cell broadcast display and correctly indicates the connection over which it was received.
4		If DUT can display cell broadcast messages in idle or lock screen, repeat step 3 for each screen	

Note: Any user visible cell broadcast message may be used. Details are not defined in this test as messages in use vary considerably between countries / networks.

4.5.15 Priority of Services

Test Purpose

For a DUT that does not offer dual active connection, to ensure that voice, SMS and MMS are prioritised over data

Referenced requirements

TS37_2.5_REQ_20
TS37_2.5_REQ_20.1
TS37_2.5_REQ_20.2

Initial Conditions

Entity	Description of the initial condition
Network	Network simulator(s) or network(s) configured to allow access for the number of SIMs/eUICCs supported by the DUT.
SIM	Each SIM is configured to access the configured networks. Each eUICC has an appropriate active profile
DUT	Each SIM port has either an inserted physical SIM or a logically associated eUICC. The DUT is powered on and is attached to networks appropriate to the SIMs/eUICCs.
UE_B	A reference device containing a single SIM is powered on and attached to a network appropriate to its SIM

Test execution

Step	Direction	Sequence	Expected Result
1	User → DUT	Using UI, configure device to route data traffic to SIM/eUICC 1 and start a data download.	Data traffic is routed over the connection associated with SIM/eUICC 1
2	User → DUT	Make a call to UE_B using SIM/eUICC 2	Call is routed and causes ringing at UE_B with indication of number associated with DUT SIM/eUICC2
3	User → UE_B	Answer call	Call is connected. Data traffic on DUT SIM/eUICC 1 is suspended for devices types other than DSDA
4	User → UE_B	After 10 seconds, disconnect call	Call is disconnected at both DUT and UE_B. Data traffic at DUT resumes on SIM/eUICC 1.
5	User → UE_B	Make a call to number associated with DUT SIM/eUICC 2	Call is routed and causes ringing at DUT with indication of which SIM/eUICC the call is being received on.
6	User → DUT	Answer call	Call is connected. Data traffic on DUT SIM/eUICC 1 is suspended for devices types other than DSDA
7	User → DUT	After 10 seconds, disconnect call	Call is disconnected at both DUT and UE_B. Data traffic at DUT resumes on SIM/eUICC 1.
8		Repeat steps 2-7 using SMS instead of voice calls	
9		Repeat steps 2-7 using MMS instead of voice calls	

Step	Direction	Sequence	Expected Result
10		Repeat steps 2-7 for a voice call of longer duration than the network FTP timeout	Data traffic does not resume due to FTP timeout; instead the data transfer restarts on SIM/eUICC 1.
11		Repeat steps 1-9 for all other SIM/eUICC combinations supported by the device	

Note: This test corresponds to YDT 3041-2016 [17] tests 4.8.4.3, 4.8.4.4, 4.8.5.5 & 4.8.5.6 (call & SMS priority over data). The MMS case is not covered by YDT specifications. eUICC is not explicitly covered by YDT specifications.

4.5.16 Call Forwarding / Call Waiting

Test Purpose

To ensure supplementary services operate independently on each connection

Referenced requirements

TS37_2.5_REQ_21
TS37_2.5_REQ_22

Initial Conditions

Entity	Description of the initial condition
Network	Network simulator(s) or network(s) configured to allow access for the number of SIMs/eUICCs supported by the DUT.
SIM	Each SIM is configured to access the configured networks. Each eUICC has an appropriate active profile
User B	A second device is connected to a network from which it may make call to / receive calls from the DUT
DUT	Each SIM port has either an inserted physical SIM or a logically associated eUICC. The DUT is powered on and is attached to networks appropriate to the SIMs/eUICCs.

Test execution

Step	Direction	Sequence	Expected Result
1	User → DUT	Access call forwarding configuration in the user interface.	Call forwarding configuration is offered independently for each connection

Step	Direction	Sequence	Expected Result
2	User → DUT	Enable call forwarding on connection n	User interface shows call forwarding is enabled on connection n
3	User B → another DUT	Make a call to connection n of DUT	Call is forwarded in accordance with settings at DUT.
4	User B → another DUT	Terminate call	
5	User B → another DUT	Make call to other connection(s) of DUT	Calls is received by DUT
6	User B → another DUT	Terminate call	
7	User → DUT	Disable call forwarding on connection n	User interface shows call forwarding is disenabled on connection n
8	User B → another DUT	Make a call to connection n of DUT	Call is received by DUT
9		Repeat steps 2-8 for each available connection on DUT	
10	User → DUT	Access call waiting configuration in the user interface.	Call waiting configuration is offered independently for each connection
11	User → DUT	Enable call waiting on connection n	User interface shows call waiting is enabled on connection n
12	User → DUT	Make a call on connection n	Call is connected
13	User B → another DUT	While DUT MO call is still in progress, make a call to connection n of DUT	Call waiting indication is made at DUT Call waiting indication is made to User B
14		Terminate all calls	
15	User → DUT	Make a call on a connection other than n	Call is connected
16	User B → another DUT	While DUT MO call is still in progress, make a call to connection n of DUT	Call waiting indication is not made at DUT Call waiting indication is not made to User B
17		Terminate all calls	

Step	Direction	Sequence	Expected Result
18	User → DUT	Disable call waiting on connection n	User interface shows call waiting is disabled on connection n
19	User → DUT	Make a call on a connection n	Call is connected
20	User B → another DUT	While DUT MO call is still in progress, make a call to connection n of DUT	Call waiting indication is not made at DUT Call waiting indication is not made to User B
21		Terminate all calls	
22		Repeat steps 11-21 for each connection available on the DUT	

4.5.17 Call Hold

Test Purpose

For a DSDA DUT to ensure that an ongoing call can be placed on hold while a call on the other connection is answered or initiated.

Referenced requirements

TS37_2.5_REQ_23

Initial Conditions

Entity	Description of the initial condition
Network	Network simulator(s) or network(s) configured to allow access for the number of SIMs/eUICCs supported by the DUT.
SIM	Each SIM is configured to access the configured networks. Each eUICC has an appropriate active profile
DUT	Each SIM port has either an inserted physical SIM or a logically associated eUICC. The DUT is powered on and is attached to networks appropriate to the SIMs/eUICCs.
UE_B	A reference device containing a single SIM is powered on and attached to a network appropriate to its SIM
UE_C	A reference device containing a single SIM is powered on and attached to a network appropriate to its SIM

Test execution

Step	Direction	Sequence	Expected Result
1	User → DUT	Initiate a call to UE_B using SIM/eUICC 1	Call is routed and causes ringing at UE_B with indication of number associated with DUT SIM/eUICC 1
2	User → UE_B	Answer call from DUT SIM/eUICC 1	Call is connected.
3	User → DUT	Place call to UE_B on hold. Make a call to UE_C using SIM/eUICC 2	Call is routed and causes ringing at UE_C with indication of number associated with DUT SIM/eUICC 2
4	User → UE_C	Answer call from DUT SIM/eUICC 2	Call is connected.
5	User → DUT	Place call to UE_C on hold. Resume call with UE_B	Call to UE_B is successfully resumed
6	User → DUT	Disconnect call to UE_B. Resume call with UE_C	Call to UE_B is disconnected at both DUT and UE_B. Call to UE_C is successfully resumed
7	User → DUT	Disconnect call to UE_C.	Call is disconnected at both DUT and UE_C.
8	User → UE_B	Initiate a call to DUT SIM/eUICC 1 from UE_B	Call is routed and causes ringing at DUT SIM/eUICC 1 with indication of number associated with UE_B
9	User → DUT	Answer call from UE_B	Call is connected.
10	User → UE_C	Initiate a call to DUT SIM/eUICC 2 from UE_C	Call is routed and causes ringing at DUT SIM/eUICC 2 with indication of number associated with UE_C
11	User → DUT	Please call from UE_B on hold. Answer call from UE_C	Call is connected.
12	User → DUT	Place call to UE_C on hold. Resume call with UE_B	Call from UE_B is successfully resumed
13	User → DUT	Disconnect call from UE_B. Resume call from UE_C	Call from UE_B is disconnected at both DUT and UE_B. Call from UE_C is successfully resumed
14	User → DUT	Disconnect call from UE_C.	Call is disconnected at both DUT and UE_C.
15		Repeat steps 1-14 for any other SIM/eUICC combinations supported by the device	

Note: This test corresponds in part to YDT 3041-2016 [17] test 4.8.4.6 (MT call on SIM/eUICC 1 when in call on SIM2). The MO case is not covered by YDT. eUICC is not explicitly covered by YDT specifications

4.5.18 SIM PIN

Test Purpose

To ensure correct operation of SIM PIN and presentation of appropriate information to the user

Referenced requirements

TS37_2.5_REQ_24
TS37_2.5_REQ_25

Initial Conditions

Entity	Description of the initial condition
Network	Network simulator(s) or network(s) configured to allow access for the number of SIMs/eUICCs supported by the DUT.
SIM	Each SIM is configured to access the configured networks. Each eUICC has an appropriate active profile Each SIM has a PIN code set and activated
DUT	Each SIM port has either an inserted physical SIM or a logically associated eUICC. The DUT is powered off

Test execution

Step	Direction	Sequence	Expected Result
1	User → DUT	Power on DUT	UI presents SIM PIN entry screen with indication of which SIM the entry relates to
2	User → DUT	Enter PIN for indicated SIM/eUICC	DUT connects to network associated with the SIM just unlocked. UI presents SIM PIN entry screen for next SIM/eUICC with indication of which SIM/eUICC the entry relates to.
3		Repeat step 2 until all SIM/eUICCs have been unlocked	
4	User → DUT	Power off DUT	DUT shuts down

Note: this test corresponds to YDT 3041-2016 test [17] 4.8.2 (SIM PIN). eUICC is not explicitly covered by YDT specifications

4.5.19 PUK Code

Test Purpose

To ensure that when asking for a PUK, the DUT indicates which SIM this relates to

Referenced requirements

TS37_2.5_REQ_26

Initial Conditions

Entity	Description of the initial condition
Network	Network simulator(s) or network(s) configured to allow access for the number of SIMs/eUICCs supported by the DUT.
SIM	Each SIM is configured to access the configured networks. Each eUICC has an appropriate active profile Each SIM has a PUK code set and activated
DUT	Each SIM port has either an inserted physical SIM or a logically associated eUICC. The DUT is powered off

Test execution

Step	Direction	Sequence	Expected Result
1	User → DUT	Power on DUT	UI presents SIM PUK entry screen with indication of which SIM/eUICC the entry relates to
2	User → DUT	Enter PUK for indicated SIM/eUICC	DUT connects to network associated with the SIM just unlocked. UI presents SIM PUK entry screen for next SIM/eUICC with indication of which SIM/eUICC the entry relates to.
3		Repeat step 2 until all SIMs have been unlocked	
4	User → DUT	Power off DUT	DUT shuts down

4.5.20 (Void)

4.5.21 Network & Service Provide Locks (FFS)

Test Purpose

To ensure the Network and service provider locks operate in an easy-to-understand manner

Referenced requirements

TS37_2.5_REQ_27
TS37_2.5_REQ_28
TS37_2.5_REQ_29

Test execution:

Test to be defined

4.5.22 Contact Book Management

4.5.22.1 Access to Contacts

Test Purpose

To ensure the user can access all contacts, whether stored in a SIM, the DUT itself or cloud storage

Referenced requirements

TS37_2.5_REQ_30

Initial Conditions

Entity	Description of the initial condition
Network	Network simulator(s) or network(s) configured to allow access for the number of SIMs/eUICCs supported by the DUT.
SIM	Each SIM is configured to access the configured networks. Each eUICC has an appropriate active profile SIMs contain stored contacts; some contacts are present in more than one SIM
Cloud account	A cloud account containing contacts is accessible over at least one of the networks. Some contacts stored in this account are the same as on one or more SIMs
DUT	Each SIM port has either an inserted physical SIM or a logically associated eUICC. The DUT is powered on and is attached to networks appropriate to the SIMs/eUICCs. No preferred SIM is set for voice call, SMS or MMS.

Test execution

Step	Direction	Sequence	Expected Result
1	User → DUT	Log into cloud account (if supported by DUT)	Cloud account successfully accessed.

Step	Direction	Sequence	Expected Result
2	User → DUT	Access the user interface contacts menu, select a contact from SIM/eUICC 1 and perform the following actions: 1. Make a call to contact 2. Send an SMS to contact 3. Send an MMS to contact	The user interface asks which SIM/eUICC to use for each operation Operation is successfully completed over the selected SIM/eUICC connection
3		Repeat step 2 for a contact stored on each other SIM/eUICC in the DUT, stored in the DUT itself, and (if applicable) present in cloud storage	

Note: this test corresponds in part to YDT 3041-2016 [17] test 4.8.3.2 (Phonebook test). **An** eUICC is not explicitly covered by YDT specifications.

4.5.22.2 Presentation of Contacts

Test Purpose

To ensure the DUT presents contacts correctly

Referenced requirements

TS37_2.5_REQ_31
TS37_2.5_REQ_32
TS37_2.5_REQ_33

Initial Conditions

Entity	Description of the initial condition
Network	Network simulator(s) or network(s) configured to allow access for the number of SIMs/eUICCs supported by the DUT.
SIM	Each SIM is configured to access the configured networks. Each eUICC has an appropriate active profile SIMs contain stored contacts; some contacts are present in more than one SIM
Cloud account	A cloud account containing contacts is accessible over at least one of the networks. Some contacts stored in this account are the same as on one or more SIMs
DUT	Each SIM port has either an inserted physical SIM or a logically associated eUICC. The DUT is powered on and is attached to networks appropriate to the SIMs/eUICCs.

Test execution

Step	Direction	Sequence	Expected Result
1	User → DUT	Log into cloud account (if supported by DUT)	Cloud account successfully accessed.
2	User → DUT	Access the user interface contacts menu	Contacts from all sources (DUT, cloud, SIMx, SIMy …) can be accessed within the same user interface menu There is either: – a single contact list consolidating all sources; or – a contact list per source. For a single contact list: – Each contact has an indication of its source – Contacts present in more than source are either displayed multiple times with different source indications, or displayed once with multiple source indications For a contact list per source: – Each list indicates the source it from which it derives.

4.5.22.3 Adding Contacts

Test Purpose

To ensure the DUT adds contacts correctly

Referenced requirements

TS37_2.5_REQ_34
TS37_2.5_REQ_35

Initial Conditions

Entity	Description of the initial condition
Network	Network simulator(s) or network(s) configured to allow access for the number of SIMs/eUICCs supported by the DUT.
SIM	Each SIM is configured to access the configured networks. Each eUICC has an appropriate active profile

Entity	Description of the initial condition
	SIMs contain stored contacts; some contacts are present in more than one SIM
Cloud account	A cloud account containing contacts is accessible over at least one of the networks. Some contacts stored in this account are the same as on one or more SIMs/eUICCs
DUT	Each SIM port has either an inserted physical SIM or a logically associated eUICC. The DUT is powered on and is attached to networks appropriate to the SIMs/eUICCs.

Test execution

Step	Direction	Sequence	Expected Result
1	User → DUT	Log into cloud account (if supported by DUT)	Cloud account successfully accessed.
2	User → DUT	Access the user interface contacts menu and enter a new contact	The user interface asks where to save the contact. The contact is saved to the location selected

Note: it is permissible to allow a contact to be saved to multiple locations, but this must be through user selection

4.5.22.4 Deleting Contacts

Test Purpose

To ensure the DUT deletes contacts correctly

Referenced requirements

TS37_2.2_REQ_36
TS37_2.2_REQ_37

Initial Conditions

Entity	Description of the initial condition
Network	Network simulator(s) or network(s) configured to allow access for the number of SIMs/eUICCs supported by the DUT.
SIM	Each SIM is configured to access the configured networks. Each eUICC has an appropriate active profile SIMs contain stored contacts; some contacts are present in more than one SIM
Cloud account	A cloud account containing contacts is accessible over at least one of the networks. Some contacts stored in this account are the same as on one or more SIMs

DUT	Each SIM port has either an inserted physical SIM or a logically associated eUICC. The DUT is powered on and is attached to networks appropriate to the SIMs/eUICCs.

Test execution

Step	Direction	Sequence	Expected Result
1	User → DUT	Log into cloud account (if supported by DUT)	Cloud account successfully accessed.
2	User → DUT	Access the user interface contacts menu and delete a contact that is present in more than one source	User interface asks which source to delete the contact from. The contact is deleted only from the source(s) selected

Note: it is permissible to allow a contact to be deleted from multiple locations, but this must be through user selection

4.5.22.5 Copying Contacts

Test Purpose

To ensure the DUT copies contacts correctly

Referenced requirements

TS37_2.5_REQ_38

Initial Conditions

Entity	Description of the initial condition
Network	Network simulator(s) or network(s) configured to allow access for the number of SIMs/eUICCs supported by the DUT.
SIM	Each SIM is configured to access the configured networks. Each eUICC has an appropriate active profile SIMs contain stored contacts; some contacts are present in more than one SIM
Cloud account	A cloud account containing contacts is accessible over at least one of the networks. Some contacts stored in this account are the same as on one or more SIMs
DUT	Each SIM port has either an inserted physical SIM or a logically associated eUICC. The DUT is powered on and is attached to networks appropriate to the SIMs/eUICCs.

Test execution

Step	Direction	Sequence	Expected Result
1	User → DUT	Log into cloud account (if supported by DUT)	Cloud account successfully accessed.
2	User → DUT	Access the user interface contacts menu and copy a contact that is present in only one source	User interface asks which source to copy the contact to. The contact is copied only to the location(s) selected

Note: it is permissible to allow a contact to be copied to multiple locations, but this must be through user selection

4.5.23 Network Search

4.5.23.1 Simple network search

Test Purpose

To ensure independent operation of network search for each SIM is available and that the user interface makes appropriate information available

Referenced requirement

TS37_2.5_REQ_39

Initial Conditions

Entity	Description of the initial condition
Network	Network simulator(s) or network(s) configured to allow access for the number of SIMs/eUICCs supported by the DUT.
SIM	Each SIM is configured to access the configured networks. Each eUICC has an appropriate active profile
DUT	Each SIM port has either an inserted physical SIM or a logically associated eUICC. The DUT is powered on and is attached to networks appropriate to the SIMs/eUICCs.

Test execution

Step	Direction	Sequence	Expected Result
1	User → DUT	Access user interface manual network search and begin network search for SIM/eUICC 1	DUT presents search results. – User interface shows all found networks. – User interface shows the highest available radio access technology for each network.
2	User → DUT	From the list of networks, select the home network for SIM/eUICC 1	Device immediately returns to idle mode on the selected network.
3	User → DUT	Access user interface manual network search and begin network search for SIM/eUICC 1	DUT presents search results. – User interface shows all found networks. – User interface shows the highest available radio access technology for each network.
4	User → DUT	Select a network that is forbidden for SIM/eUICC 1	Network selection fails. Device returns to network selection list.
5		Repeat steps 1-4 for all other SIMs/eUICCs in the DUT	

Note: this test corresponds to YDT 3041-2016 [17] test 4.8.7.2 (Network selection in idle). eUICC is not explicitly covered by YDT specifications.

4.5.23.2 Simultaneous Network Search

Test Purpose

If implemented, to ensure simultaneous multi-SIM network search provides results in a consistent manner

Referenced requirements

TS37_2.5_REQ_40

Initial Conditions

Entity	Description of the initial condition
Network	Network simulator(s) or network(s) configured to allow access for the number of SIMs/eUICCs supported by the DUT.

SIM	Each SIM is configured to access the configured networks. Each eUICC has an appropriate active profile
DUT	Each SIM port has either an inserted physical SIM or a logically associated eUICC. The DUT is powered on and is attached to networks appropriate to the SIMs/eUICCs.

Test execution

Step	Direction	Sequence	Expected Result
1	User → DUT	Access user interface manual network search and select “all SIM” search option	DUT to presents search results – User interface indicates which SIM(s)/eUICC(s) may be used for each network found. – User interface indicates the highest available radio access technology for each network. – User interface indicates if the highest available radio access technology of a network differs between SIMs – If FPLMNs are included, User interface indicates the SIM(s) /eUICC(s) for which they are forbidden.
2	User → DUT	Select a network that may be accessed by more than one SIM/eUICC	User interface asks which source to user interface allows selection of the SIM/eUICC to be used
3	User → DUT	Select a network & SIM/eUICC combination	Remaining options are updated appropriately.

Note: there is no naming convention for this search operation. It has been called “all SIM” for convenience; the DUT user interface may use different terminology.

4.5.24 IMS Voice services

Applicable to DUTs supporting IMS services and offering the user options to enable / disable these services.

4.5.24.1 VoLTE

Test Purpose

To ensure user interface controls of VoLTE voice services function correctly

Referenced requirements

TS37_2.5_REQ_41
TS37_2.5_REQ_42
TS37_2.5_REQ_43

Initial Conditions

Entity	Description of the initial condition
Network	Network simulator(s) or network(s) configured to allow access for the number of SIMs/eUICCs supported by the DUT. VoLTE is supported
SIM	Each SIM is configured to access the configured networks. Each eUICC has an appropriate active profile VoLTE subscription is in place
DUT	Each SIM port has either an inserted physical SIM or a logically associated eUICC. The DUT is powered on and is attached to networks appropriate to the SIMs/eUICCs.

Test execution

Step	Direction	Sequence	Expected Result
1	User → DUT	Access VoLTE configuration through user interface	User interface offers individual VoLTE enable/disable controls for each connection that supports VoLTE
2	User → DUT	Enable all VoLTE connections Return to home screen	User interface presents VoLTE registration status for each connection.
3	User → DUT	Access VoLTE configuration through user interface Disable VoLTE connection n Return to home screen	User interface reports connection n is no longer VoLTE registered All other connections are unchanged
4		Repeat step 3 for each VoLTE connection available on the DUT	

4.5.24.2 VoWiFi

Test Purpose

To ensure user interface controls of VoWiFi voice services function correctly

Referenced requirements

TS37_2.5_REQ_44
TS37_2.5_REQ_45
TS37_2.5_REQ_46

Initial Conditions

Entity	Description of the initial condition
Network	Network simulator(s) or network(s) configured to allow access for the number of SIMs/eUICC supported by the DUT. VoWiFi is supported
Wi-Fi	A Wi-Fi access point with backhaul to the cellular network core.
SIM	Each SIM is configured to access the configured networks. Each eUICC has an appropriate active profile VoWiFi subscription is in place
DUT	Each SIM port has either an inserted physical SIM or a logically associated eUICC. The DUT is powered on and is attached to networks appropriate to the SIMs/eUICCs.

Test execution

Step	Direction	Sequence	Expected Result
1	User → DUT	Access VoWiFi configuration through user interface	User interface offers individual VoWiFi enable/disable controls for each connection that supports VoWiFi
2	User → DUT	Enable all VoWiFi connections Return to home screen	User interface presents VoWiFi registration status for each connection.
3	User → DUT	Access VoWiFi configuration through user interface Disable VoWiFi connection n Return to home screen	User interface reports connection n is no longer VoWiFi registered All other connections are unchanged
4		Repeat step 3 for each VoWiFi connection available on the DUT	

4.5.25 Accessories

Accessories with a multi SIM UI are expected to behave in the same way as the DUT itself. Consequently, there are no additional DUT requirements for these, and no additional testing required.

The tests in this section apply ONLY when using an accessory with a single SIM UI and that does not have its own cellular modem. All the tests in this section apply to the master device

rather than the accessory – it is assumed that the accessory behaves in a single SIM mode throughout.

4.5.25.1 Presentation of contacts

Test Purpose

To ensure that accessories with a UI designed for single SIM operation receive a complete contact list when attached to a Multi SIM device.
Note that presentation of contacts stored in SIM phonebooks is optional as, in standard configuration, many current models do not include these in the on-device contact list.

Referenced requirements

TS37_2.5_REQ_53

Initial Conditions

Entity	Description of the initial condition
Network	Network simulator(s) or network(s) configured to allow access for the number of SIMs/eUICCs supported by the DUT.
SIM	Each SIM is configured to access the configured networks. Each eUICC has an appropriate active profile
Cloud account	A cloud account containing contacts is accessible over at least one of the networks. Some contacts stored in this account are the same as on one or more SIMs
DUT	Each SIM port has either an inserted physical SIM or a logically associated eUICC. The DUT is powered on and is attached to networks appropriate to the SIMs/eUICCs. Some contacts are stored locally in the DUT
Accessory	Accessory with single SIM UI is powered on and paired with the DUT

Test execution

Step	Direction	Sequence	Expected Result
1	User → Accessory	Access contact list	Contacts from all DUT & cloud are presented as a single contact list. Contacts from SIMx, SIMy phonebooks MAY be included in the list.

4.5.25.2 Voice calls

Test Purpose

To ensure that accessories with a UI designed for single SIM operate in a logical way when making voice calls via a Multi SIM device

Referenced requirements

TS37_2.5_REQ_47
TS37_2.5_REQ_48
TS37_2.5_REQ_49

Initial Conditions

Entity	Description of the initial condition
Network	Network simulator(s) or network(s) configured to allow access for the number of SIMs/eUICCs supported by the DUT.
SIM	Each SIM is configured to access the configured networks. Each eUICC has an appropriate active profile
Cloud account	A cloud account containing contacts is accessible over at least one of the networks. Some contacts stored in this account are the same as on one or more SIMs
DUT	Each SIM port has either an inserted physical SIM or a logically associated eUICC. The DUT is powered on and is attached to networks appropriate to the SIMs/eUICCs.
Accessory	Accessory with single SIM UI is powered on and paired with the DUT Accessory supports voice calls

Test execution

Step	Direction	Sequence	Expected Result
1	User → DUT	Access call history, then clear it.	Call history is cleared
2	User → DUT	Access contact list	Contact list is displayed
3	User → DUT	Make a 10 second call to one contact from SIM1	Call successfully completes
4	User → DUT	Repeat step 3 for one contact from DUT and one from cloud. Repeat for SIM contacts if present.	
5	User → DUT	Access call history.	All calls from step 3 are shown, with indication of the connection on which they were made.
6	User → Accessory	Access call history	All calls made at step 3 are displayed

Step	Direction	Sequence	Expected Result
7	User → Accessory	Make a 10 second call to the first contact in the call history list.	Call successfully completes using the connection previously used for that contact.
8	User → Accessory	Repeat step 7 for each of the contacts in the call history list.	
9	User → Accessory	Access contact list	Contacts from all DUT & cloud are presented as a single contact list. Contacts from SIMx, SIMy phonebooks MAY be included in the list.
10	User → Accessory	Make a 10 second call to a contact that was not used in step 3.	Call successfully completes using the preferred connection for voice If preferred connection for voice is not set, the call successfully completes using the connection most recently used for voice

4.5.25.3 SMS

Test Purpose

To ensure that accessories with a UI designed for single SIM operate in a logical way when sending SMS via a Multi SIM device

Referenced requirements

TS37_2.5_REQ_50
TS37_2.5_REQ_51
TS37_2.5_REQ_52

Initial Conditions

Entity	Description of the initial condition
Network	Network simulator(s) or network(s) configured to allow access for the number of SIMs/eUICCs supported by the DUT.
SIM	Each SIM is configured to access the configured networks. Each eUICC has an appropriate active profile
Cloud account	A cloud account containing contacts is accessible over at least one of the networks. Some contacts stored in this account are the same as on one or more SIMs
DUT	Each SIM port has either an inserted physical SIM or a logically associated eUICC. The DUT is powered on and is attached to networks appropriate to the SIMs/eUICCs.

Accessory	Accessory with single SIM UI is powered on and paired with the DUT Accessory supports SMS

Test execution

Step	Direction	Sequence	Expected Result
1	User → DUT	Access SMS history, then clear it.	SMS history is cleared
2	User → DUT	Access contact list	Contacts from all DUT & cloud are presented as a single contact list. Contacts from SIMx, SIMy phonebooks MAY be included in the list.
3	User → DUT	Send an SMS to one contact from SIM1	SMS successfully sent
4	User → DUT	Repeat step 3 for one contact from DUT and one from cloud. Repeat for SIM contacts if present.	
5	User → DUT	Access SMS history.	All SMS from step 3 are shown, with indication of the SIM on which they were made.
6	User → Accessory	Access SMS history	All SMS made at step 3 are displayed
7	User → Accessory	Send an SMS to the first contact in the call history list.	SMS successfully sent using the connection previously used for that contact.
8	User → Accessory	Repeat step 7 for each of the contacts in the SMS history list.	
9	User → Accessory	Access contact list	Contacts from all DUT & cloud are presented as a single contact list. Contacts from SIMx, SIMy phonebooks MAY be included in the list.
10	User → Accessory	Send an SMS to a contact that was not used in step 3.	SMS successfully completes using the preferred connection for SMS If no preferred connection for SMS is set, the call successfully completes using the connection most recently used for SMS

4.5.25.4 Data

Test Purpose

To ensure that accessories with a UI designed for single SIM operate in a logical way when accessing data via a Multi SIM device

Referenced requirements

TS37_2.5_REQ_54

Initial Conditions

Entity	Description of the initial condition
Network	Network simulator(s) or network(s) configured to allow access for the number of SIMs/eUICCs supported by the DUT.
SIM	Each SIM is configured to access the configured networks. Each eUICC has an appropriate active profile
Cloud account	A cloud account containing contacts is accessible over at least one of the networks. Some contacts stored in this account are the same as on one or more SIMs
DUT	Each SIM port has either an inserted physical SIM or a logically associated eUICC. The DUT is powered on and is attached to networks appropriate to the SIMs/eUICCs. DUT has data connectivity enabled
Accessory	Accessory with single SIM UI is powered on and paired with the DUT Accessory supports data

Test execution

Step	Direction	Sequence	Expected Result
1	User → Accessory	Perform an operation that accesses the DUT data connection	Data is successfully transferred using the preferred connection for data. If no preferred connection for data is set, data is successfully transferred using the default connection for data.

4.6 Automatic SIM Allocation

4.6.1 Based on Hardware

Test Purpose

To ensure Automatic SIM allocation based on physical SIM hardware, and associated user interface functions, operate correctly

Referenced requirements

TS37_2.6_REQ_1
TS37_2.6_REQ_3
TS37_2.6_REQ_4

Initial Conditions

Entity	Description of the initial condition
Network	Network simulator(s) or network(s) configured to allow access for the number of SIMs/eUICCs supported by the DUT.
SIM	Each SIM is configured to access the configured networks. Each eUICC has an appropriate active profile One SIM is physically a 2G model
DUT	The DUT is powered off. Each SIM port has either an inserted physical SIM or a logically associated eUICC

Test execution

Step	Direction	Sequence	Expected Result
1	User → DUT	Power on DUT	DUT connects to each network
2	User → DUT	Access user interface network search menu	The 2G SIM is associated with the 2G only port. Other SIM(s)/eUICC(s) are allocated the highest radio access technology available according to the settings of the DUT The user interface clearly indicates that automatic association has been used. The user interface clearly indicates the association in use The user interface offers options to manually change the association
3	User → DUT	Change the SIM/eUICC association via the UI	Existing connections are closed in accordance with 3GPP / 3GPP2 standards [6], [11], [13] New connections are established in accordance with the new association

4.6.2 Based on Discovery Protocol

Test Purpose

To ensure Automatic SIM allocation based on discovery protocols, and associated user interface functions, operate correctly

Referenced requirements

TS37_2.6_REQ_2
TS37_2.6_REQ_3
TS37_2.6_REQ_4

Initial Conditions

Entity	Description of the initial condition
Network	Network simulator(s) or network(s) configured to allow access for the number of SIMs/eUICCs supported by the DUT.
SIM	Each SIM is configured to access the configured networks. Each eUICC has an appropriate active profile One SIM must have radio access technology access restricted by subscription status (e.g. LTE not allowed)
DUT	The DUT is powered off. Each SIM port has either an inserted physical SIM or a logically associated eUICC

Test execution

Step	Direction	Sequence	Expected Result
1	User → DUT	Power on DUT	DUT connects to each network
2	User → DUT	Access user interface network search menu	The radio access technology limited SIM/eUICC is associated with the radio access technology limited port. Other SIM(s)/eUICC(s) are allocated the highest radio access technology available according to the settings of the DUT The user interface clearly indicates that automatic association has been used. The user interface clearly indicates the association in use The user interface offers options to manually change the association
3	User → DUT	Change the SIM/eUICC association via the UI	Existing connections are closed in accordance with 3GPP / 3GPP2 standards [6], [11], [13] New connections are established in accordance with the new association

4.7 Network Specific Applications

4.7.1 Applications with Inherent Limitations (FFS)

Test Purpose

To ensure that applications requiring a specific connection are handled gracefully when that connection is not available

Referenced requirement

TS37_2.7_REQ_1

Test execution:

Test to be defined

4.8 User Imposed Limitations (FFS)

Test Purpose

To ensure that applications which the user has limited to using a specific connection are handled gracefully when that connection is not available

Referenced requirement

TS37_2.8_REQ_1

Test execution:

Test to be defined

4.9 Auto Configuration / Late Customisation

4.9.1 Auto Configuration Across All SIMs (FFS)

Test Purpose

If the DUT supports auto configuration across all SIMs/eUICCs, to ensure that automatic configuration settings are correctly applied to all connections

Referenced requirement

TS37_2.9_REQ_1

Test execution:

Test to be defined

4.9.2 Auto Configuration of One Connection (FFS)

Test Purpose

If the DUT only supports one set of auto configuration settings, to ensure that those settings are correctly applied

Referenced requirement

TS37_2.9_REQ_2

Test execution:

Test to be defined

4.9.3 Reconfiguration (FFS)

Test Purpose

In accordance with TS.32 Section 2.12.2 reconfiguration of the items indicated in TS37_2.9_REQ_1 in case of selecting a new SIM using the primary IMEI is optional, but SHALL be documented if implemented.

Referenced requirement

TS37_2.9_REQ_3

Test execution:

Test to be defined

4.10 eUICC

4.10.1 Equivalency of eUICC with SIM

Test Purpose

To ensure that Multi SIM behaviour is the same when one or more of the SIMs is an eUICC

Referenced requirement

TS37_2.10_REQ_1
TS37_2.10_REQ_4

Test execution:

Please run tests as indicated in the applicability matrix in section 2.3 of this document.

Note that:

- An eUICC with an active profile is equivalent to a physical SIM.
- An eUICC with no active profile is equivalent to an empty SIM slot.

4.10.2 Management of eUICC

Test Purpose

To ensure that eUICC management in a multi SIM DUT complies with eUICC standards

Referenced requirement

TS37_2.10_REQ_2

Test execution:

Please refer to SGP.21 & SGP.22 and associated test books.

4.10.3 eUICC and User Interface (FFS)

Test Purpose

To ensure that, if eUICC is indicated in user interface, this indication is consistent.

Referenced requirement

TS37_2.10_REQ_3

Test execution:

Test to be defined

4.11 NFC

Test Purpose

To ensure that, if SIM based secure element NFC is supported, operation complies with TS.26 v10 or later

Referenced requirement

TS37_2.11_REQ_1

Test execution:

Please refer to TS.27 NFC Test Book

4.12 EAP-SIM (FFS)

Test Purpose

To ensure that if EAP-SIM is supported by the DUT, it is supported on all SIM ports and that operation can be individually enabled/disabled for each SIM port.

Referenced requirement

TS37_2.12_REQ_1
TS37_2.12_REQ_2
TS37_2.12_REQ_3

Test execution:

This requires the DUT to support EAP-SIM

Test to be defined

4.13 Performance

4.13.1 LTE Data Throughput – non Carrier Aggregation

Test Purpose

To ensure LTE data throughput on preferred SIM for data with secondary SIM in idle is not significantly different from that of the same device operating with a single SIM.

Referenced requirement

TS37_2.13_REQ_1

Initial Conditions

Entity	Description of the initial condition
Device	Device is Dual SIM Dual Standby and supports LTE on at least one connection Device has an FTP client installed
Network	Network simulator(s) configured to allow access by two SIMs/eUICCs Network simulator configured to provide LTE data connection as specified in 3GPP TS37.901 Network simulator configured to provide LTE, WCDMA or GSM idle mode as specified in TS.09
SIM	Each SIM is configured to access the appropriate network simulator. Each eUICC has an appropriate active profile
DUT	The DUT is powered off. Each SIM port has either an inserted physical SIM or a logically associated eUICC

Test execution

Step	Direction	Sequence	Expected Result
1	User → Network Simulator	Configure GSM idle for 2nd network	2nd network is configured for GSM idle
2	User → DUT	Power on DUT	DUT connects to each network
3	User → DUT	Access user interface. Select SIM/eUICC 1 as preferred SIM for data.	Device logically connects to the selected network for data service. Device logically connects to both networks for voice service
4	User → DUT	Use an FTP client to download a file of 100MB and measure throughput	File is downloaded over the connection associated with the preferred SIM/eUICC for data. Secondary link remains in idle.

Step	Direction	Sequence	Expected Result
5	User → DUT	Disable SIM/eUICC 2. This may be done through user interface or by physical removal of the SIM	Device is logically connected to only the network associated with the enabled SIM/eUICC.
6	User → DUT	Use an FTP client to download a file of 100MB and measure throughput	File is downloaded over the connection associated with the preferred SIM/eUICC for data. Throughput seen at step 3 is at least 90% of throughput at step 5.
7	User → DUT	Re-enable the SIM/eUICC 2 and select SIM/eUICC 2 as preferred for data service	Device logically connects to the selected network for data service. Device logically connects to both networks for voice service
8	User → DUT	Use an FTP client to download a file of 100MB and measure throughput	File is downloaded over the connection associated with the preferred SIM/eUICC for data. Secondary link remains in idle.
9	User → DUT	Disable SIM/eUICC 2. This may be done through user interface or by physical removal of the SIM	Device is logically connected to only the network associated with the enabled SIM/eUICC.
10	User → DUT	Use an FTP client to download a file of 100MB and measure throughput	File is downloaded over the connection associated with the preferred SIM/eUICC for data. Throughput seen at step 7 is at least 90% of throughput at step 9.
11		Repeat steps 2-10 for uplink data	
12		Power off DUT	DUT disconnects from networks in accordance with 3GPP standards
13		If device supports WCDMA on the 2nd SIM port, configure WCDMA idle for 2nd network	2nd network is configured for WCDMA idle
14		Repeat steps 2-12.	
15		If device supports LTE on the 2nd SIM port, configure LTE idle for 2nd network	2nd network is configured for LTE idle
16		Repeat steps 2-12.	

4.14 Automatic call forwarding between SIMs

4.14.1 UI Elements

Test Purpose

To ensure that there is a simple user interface to manage call forwarding between SIMs/eUICCs in the device

Referenced requirement

TS37_2.14_REQ_1

TS37_2.14_REQ_2

TS37_2.14_REQ_3

Initial Conditions

Entity	Description of the initial condition
Network	Network simulator(s) or network(s) configured to allow access for the number of SIMs/eUICCs supported by the DUT. Network simulators(s) or Network(s) support call forwarding
SIM	Each SIM is configured to access the configured networks. Each eUICC has an appropriate active profile
DUT	Each SIM port has either an inserted physical SIM or a logically associated eUICC. The DUT is powered on and is attached to networks appropriate to the SIMs/eUICCs. DUT supports automatic call forwarding between SIMs

Test execution

Step	Direction	Sequence	Expected Result
1	User → DUT	Access the UI that controls automatic call forwarding between SIMs	There is a dedicated UI to control this operation
2	User → DUT	Check the following: • There is an individual forwarding setting for each SIM • Turning on forwarding from SIM x to SIM y does not automatically enable the same from SIM y to SIM x	The expected UI elements are present.

4.14.2 Enabling & Disabling

Test Purpose

To ensure that there is a simple user interface to enable call forwarding between SIMs/eUICCs in the device, that the process uses standard network messaging [20], [21], [22] and that interaction with standard call forwarding is gracefully handled.

Referenced requirement

TS37_2.14_REQ_4

TS37_2.14_REQ_6

TS37_2.14_REQ_8

TS37_2.14_REQ_9

TS37_2.14_REQ_10

TS37_2.14_REQ_11

Initial Conditions

Entity	Description of the initial condition
Network	Network simulator(s) or network(s) configured to allow access for the number of SIMs/eUICCs supported by the DUT. Network simulators(s) or Network(s) support call forwarding
SIM	Each SIM is configured to access the configured networks. Each eUICC has an appropriate active profile
DUT	Each SIM port has either an inserted physical SIM or a logically associated eUICC. The DUT is powered on and is attached to networks appropriate to the SIMs/eUICCs. DUT supports automatic call forwarding between SIMs
UE_B	A reference device containing a single SIM is powered on and attached to a network appropriate to its SIM
UE_C	A reference device containing a single SIM is powered on and attached to a network appropriate to its SIM

Test execution

Step	Direction	Sequence	Expected Result
1	User → DUT	Access the standard call forwarding settings	Call forwarding to voicemail is configured for SIM 1 in busy, unanswered and unreachable cases and settings are displayed in the UI
1a	User → DUT	If call forwarding to voicemail is not configured for SIM 1, then configure it for busy, unanswered and unreachable cases	Call forwarding for SIM 1 configuration is acknowledged by the network and settings are displayed in the UI

Step	Direction	Sequence	Expected Result
2	User → DUT	Access the standard call forwarding settings for SIM 2 and ensure that “always forward” is not set.	UI shows that “always forward” for SIM 2 is disabled.
3	User → DUT	Access the UI that controls automatic call forwarding between SIMs	Dedicated UI is displayed Network signalling to read call forwarding setting is seen. Network signalling to set call forwarding is not seen.
4	User → DUT	Select the option to forward from SIM 1 to SIM 2	UI informs the user that there is an existing call forwarding setting for SIM1, and gives the option to proceed or cancel
5	User → DUT	Select the option to proceed with the call forwarding from SIM 1 to SIM 2 operation	UI allows the user to enter the number for SIM 2 UI may automatically populate the number from SIM fields, but if so, the pre-populated number is editable.
6	User → DUT	Confirm the number to be used.	DUT performs standard network signalling to set up the new forwarding number for “unreachable” case only. DUT does not change settings for “busy” or “unanswered” After successful signalling, the UI displays the new forwarding settings
7	User → UE_B	Call DUT on the number associated with SIM 2	DUT rings and indicates the call is associated with SIM 2
8	User → DUT	Answer the call	Call is successfully connected.
9	User → UE_B	Call DUT on the number associated with SIM 1	Call waiting indication is heard in DUT’s existing call
10	User → DUT	Answer the waiting call	Call is successfully connected.
11	User → DUT	End both calls	Calls end
12	User → DUT	Check the DUT call log	Call log shows both calls on SIM 2
13	User → DUT	Access the UI that controls automatic call forwarding between SIMs	Dedicated UI is displayed Network signalling to read call forwarding setting is seen. Network signalling to set call forwarding is not seen.

Step	Direction	Sequence	Expected Result
14	User → DUT	Turn off forwarding from SIM 1 to SIM 2	DUT sends network signalling to update the forwarding settings of SIM 1. UI shows that automatic forwarding from SIM 1 to SIM 2 is now turned off
15	User → DUT	Access the standard call forwarding settings	Call forwarding to voicemail is configured for SIM 1 in busy, unanswered and unreachable cases. and settings are displayed in the UI
16		Repeat steps 1-15 for forwarding from SIM 2 to SIM 1	

4.14.3 Inter SIM forwarding already set

Test Purpose

To ensure that the user is given appropriate information when the device detects that call forwarding between SIMs/eUICCs within the device is already set

Referenced requirement

TS37_2.14_REQ_5

TS37_2.14_REQ_11

Initial Conditions

Entity	Description of the initial condition
Network	Network simulator(s) or network(s) configured to allow access for the number of SIMs/eUICCs supported by the DUT. Network simulators(s) or Network(s) support call forwarding
SIM	Each SIM is configured to access the configured networks. Each eUICC has an appropriate active profile
DUT	Each SIM port has either an inserted physical SIM or a logically associated eUICC. The DUT is powered on and is attached to networks appropriate to the SIMs/eUICCs. DUT supports automatic call forwarding between SIMs
DUT_2	DUT_2 is the same model as DUT DUT_2 is powered off

Test execution

Step	Direction	Sequence	Expected Result
1	User → DUT	Access the standard call forwarding settings	Call forwarding to voicemail is configured for SIM 1 in busy, unanswered and unreachable cases is configured and settings are displayed in the UI
1a	User → DUT	If call forwarding to voicemail is not configured for SIM 1, then configure it for busy, unanswered and unreachable cases	Call forwarding for SIM 1 configuration is acknowledged by the network and settings are displayed in the UI
2	User → DUT	Access the standard call forwarding settings for SIM 2 and ensure that “always forward” is not set.	UI shows that ”always forward” for SIM 2 is disabled.
3	User → DUT	Access the UI that controls automatic call forwarding between SIMs	Dedicated UI is displayed Network signalling to read call forwarding setting is seen. Network signalling to set call forwarding is not seen.
4	User → DUT	Select the option to forward from SIM 1 to SIM 2	UI informs the user that there is an existing call forwarding setting for SIM1, and gives the option to proceed or cancel
5	User → DUT	Select the option to proceed with the call forwarding from SIM 1 to SIM 2 operation	UI allows the user to enter the number for SIM 2 UI may automatically populate the number from SIM fields, but if so, the pre-populated number is editable.
6	User → DUT	Confirm the number to be used.	DUT performs standard network signalling to set up the new forwarding number for “unreachable” case only. DUT does not change settings for “busy” or “unanswered” After successful signalling, the UI displays the new forwarding settings
7	User → DUT	Power off DUT	DUT powers down normally
8	User → DUT_2	Transfer DUT SIMs / eUICC profiles to DUT_2, then power on DUT_2	DUT_2 powers up normally

Step	Direction	Sequence	Expected Result
9	User → DUT_2	Access the UI that controls automatic call forwarding between SIMs	Dedicated UI is displayed Network signalling to read call forwarding setting is seen. Network signalling to set call forwarding is not seen. UI indicates that call forwarding from SIM 1 to SIM 2 is already active.
10	User → DUT_2	Turn off forwarding from SIM 1 to SIM 2	DUT sends network signalling to update the forwarding settings of SIM 1. UI shows that automatic forwarding from SIM 1 to SIM 2 is now turned off
11	User → DUT_2	Power off DUT_2	DUT_2 powers down normally
12		Repeat steps 1-11 for forwarding from SIM 2 to SIM 1	

4.14.4 Failure case

Test Purpose

To ensure that the user is given appropriate information in case of configuration failure of call forwarding between SIMs/eUICCs within the device

Referenced requirement

TS37_2.14_REQ_11

TS37_2.14_REQ_12

TS37_2.14_REQ_13

Initial Conditions

Entity	Description of the initial condition
Network	Network simulator(s) configured to allow access for the number of SIMs/eUICCs supported by the DUT. Network simulators(s) or Network(s) support call forwarding
SIM	Each SIM is configured to access the configured networks. Each eUICC has an appropriate active profile
DUT	Each SIM port has either an inserted physical SIM or a logically associated eUICC. The DUT is powered on and is attached to networks appropriate to the SIMs/eUICCs. DUT supports automatic call forwarding between SIMs

Test execution

Step	Direction	Sequence	Expected Result
1	User → DUT	Access the UI that controls automatic call forwarding between SIMs	Dedicated UI is displayed Network signalling to read call forwarding setting is seen. Network signalling to set call forwarding is not seen.
2	User → DUT	Select the option to forward from SIM 1 to SIM 2	UI informs the user that there is an existing call forwarding setting for SIM1, and gives the option to proceed or cancel
3	User → DUT	Select the option to proceed with the call forwarding from SIM 1 to SIM 2 operation	UI allows the user to enter the number for SIM 2 UI may automatically populate the number from SIM fields, but if so, the pre-populated number is editable.
4	User → DUT	Confirm the number to be used.	DUT performs standard network signalling to set up the new forwarding number for “unreachable” case only. DUT does not change settings for “busy” or “unanswered”
5	Simulator 1 → DUT	Network simulator rejects the requested call forwarding configuration.	DUT UI displays an error message and updated call forwarding settings are not shown.
6	User → DUT	Select the option to forward from SIM 1 to SIM 2	UI informs the user that there is an existing call forwarding setting for SIM1, and gives the option to proceed or cancel
7	User → DUT	Select the option to proceed with the call forwarding from SIM 1 to SIM 2 operation	UI allows the user to enter the number for SIM 2 UI may automatically populate the number from SIM fields, but if so, the pre-populated number is editable.
8	User → DUT	Confirm the number to be used.	DUT performs standard network signalling to set up the new forwarding number for “unreachable” case only. DUT does not change settings for “busy” or “unanswered”
9	Simulator 1 → DUT	Network simulator makes no response to the requested call forwarding configuration.	After the timeout period, DUT UI displays an error message and updated call forwarding settings are not shown.

4.14.5 Network(s) not available

Test Purpose

To ensure that settings for call forwarding between SIMs/eUICCs in the device cannot be changed when one or more of the associated networks are not available.

Referenced requirement

TS37_2.14_REQ_7

Initial Conditions

Entity	Description of the initial condition
Network	Network simulator(s) configured to allow access for the number of SIMs/eUICCs supported by the DUT. Network simulators(s) or Network(s) support call forwarding
SIM	Each SIM is configured to access the configured networks. Each eUICC has an appropriate active profile
DUT	Each SIM port has either an inserted physical SIM or a logically associated eUICC. The DUT is powered on and is attached to networks appropriate to the SIMs/eUICCs. DUT supports automatic call forwarding between SIMs

Test execution

Step	Direction	Sequence	Expected Result
1	User → Test equipment	Disable the network simulator associated with SIM 1	DUT loses coverage from network associated with SIM 1
2	User → DUT	Access the UI that controls automatic call forwarding between SIMs	Dedicated UI is displayed Network signalling to read call forwarding setting is seen. Network signalling to set call forwarding is not seen.
3	User → DUT	Select the option to forward from SIM 1 to SIM 2	UI informs the user that the operation is not possible due to current network coverage
4	User → DUT	Select the option to forward from SIM 2 to SIM 1	UI informs the user that the operation is not possible due to current network coverage
5	User → Test equipment	Enable the network simulator associated with SIM 1	DUT regains coverage from network associated with SIM 1

Step	Direction	Sequence	Expected Result
6	User → Test equipment	Disable the network simulator associated with SIM 2	DUT loses coverage from network associated with SIM 2
7	User → DUT	Select the option to forward from SIM 1 to SIM 2	UI informs the user that the operation is not possible due to current network coverage
8	User → DUT	Select the option to forward from SIM 2 to SIM 1	UI informs the user that the operation is not possible due to current network coverage
9	User → Test equipment	Enable the network simulator associated with SIM 2	DUT regains coverage from network associated with SIM 2
10	User → DUT	Select the option to forward from SIM 1 to SIM 2	UI informs no longer blocks the operation due to network coverage

Annex A Document Management

Document History

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