

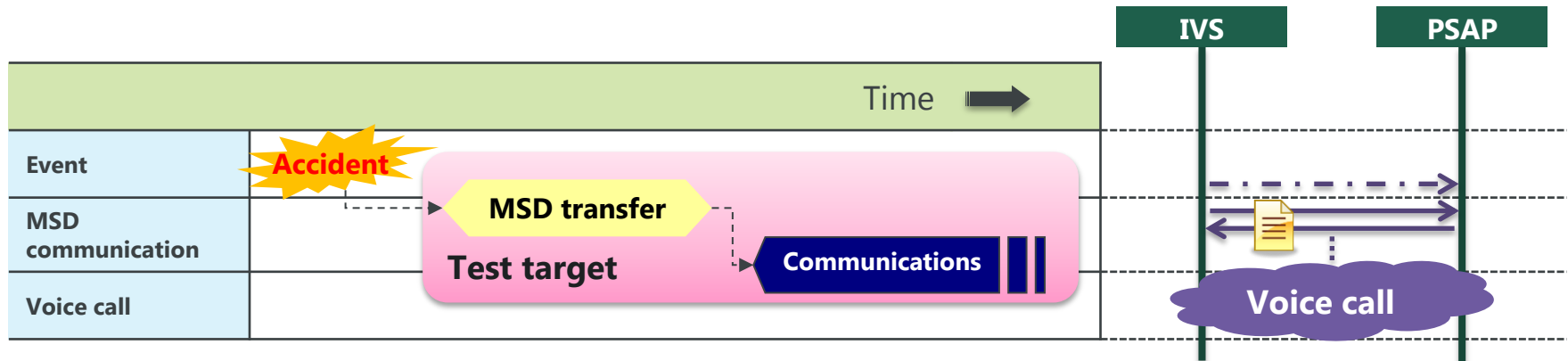


eCall/ERA-GLONASS Test Solution

eCall Tester
MX703330

Overview

The eCall Tester MX703330E software runs with the MD8475A to simulate the eCall and ERA- GLONASS service PSAP. The software emulates eCall communications (MSD communication to Voice call) between the IVS and the PSAP at a traffic accident.

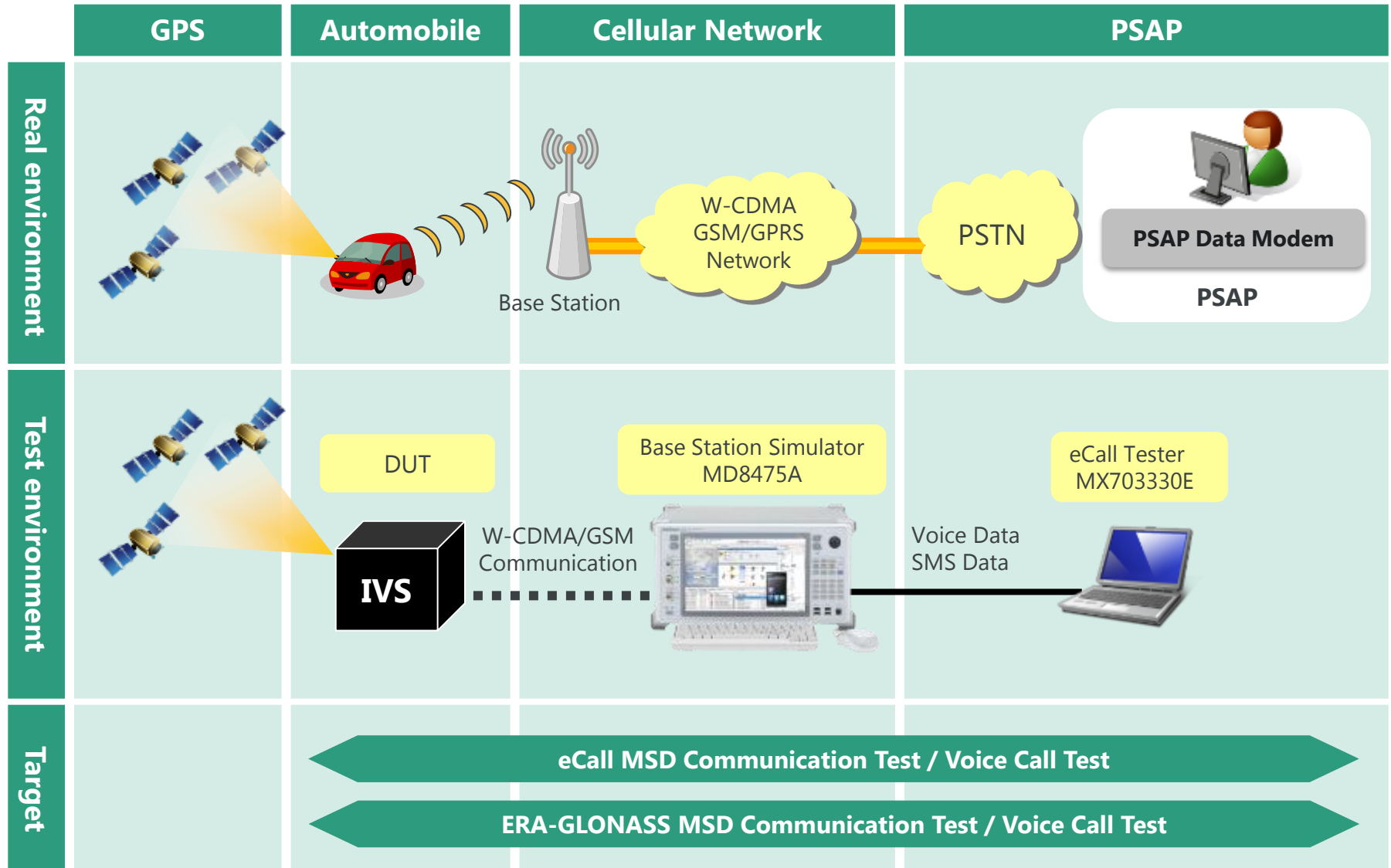


- eCall : Rules governing how vehicle automatically contacts PSAP at traffic accident. In Europe, all new vehicles sold from April 2018 are required to have eCall installed.
- IVS : In-vehicle System
- MSD : Minimum Set of Data (location, number of passengers etc.)
- PSAP : Public Safety Answering Point

In addition, adding the MSD ERA GLONASS Option MX703330E-031 supports ERA-GLONASS system tests of MSD data communications using SMS.

- Tests communications sequence for MSD transmissions and voice calls
- Displays high-level layer protocol messages and in-band modem communications status
- Saves test sequence and results
- Controls base station simulator at response

Test Environment and Target



Supported Standards (eCall)

Specification No.	Title
TS 26.267 V12.0.0 (2012-12)	eCall Data Transfer ; In-band modem solution ; General description (Release 12)
TS 26.268 V12.0.0 (2014-09)	eCall Data Transfer ; In-band modem solution ; ANSI-C reference code (Release 12)
EN15722:2015	Intelligent transport systems - eSafety - eCall minimum set of data (MSD)
EN16062:2015	Intelligent transport systems - eSafety - eCall high level application requirements (HLAP)
EN16454:2015	Intelligent transport systems - eSafety - eCall end to end conformance testing

Out of the total of 47 test cases defined in EN16454, 44 test cases can be performed using the tester. The MX703330 supports 43 of the 44 (98%) test cases with an automated test sequence for each.

Supported Standards (ERA-GLONASS)

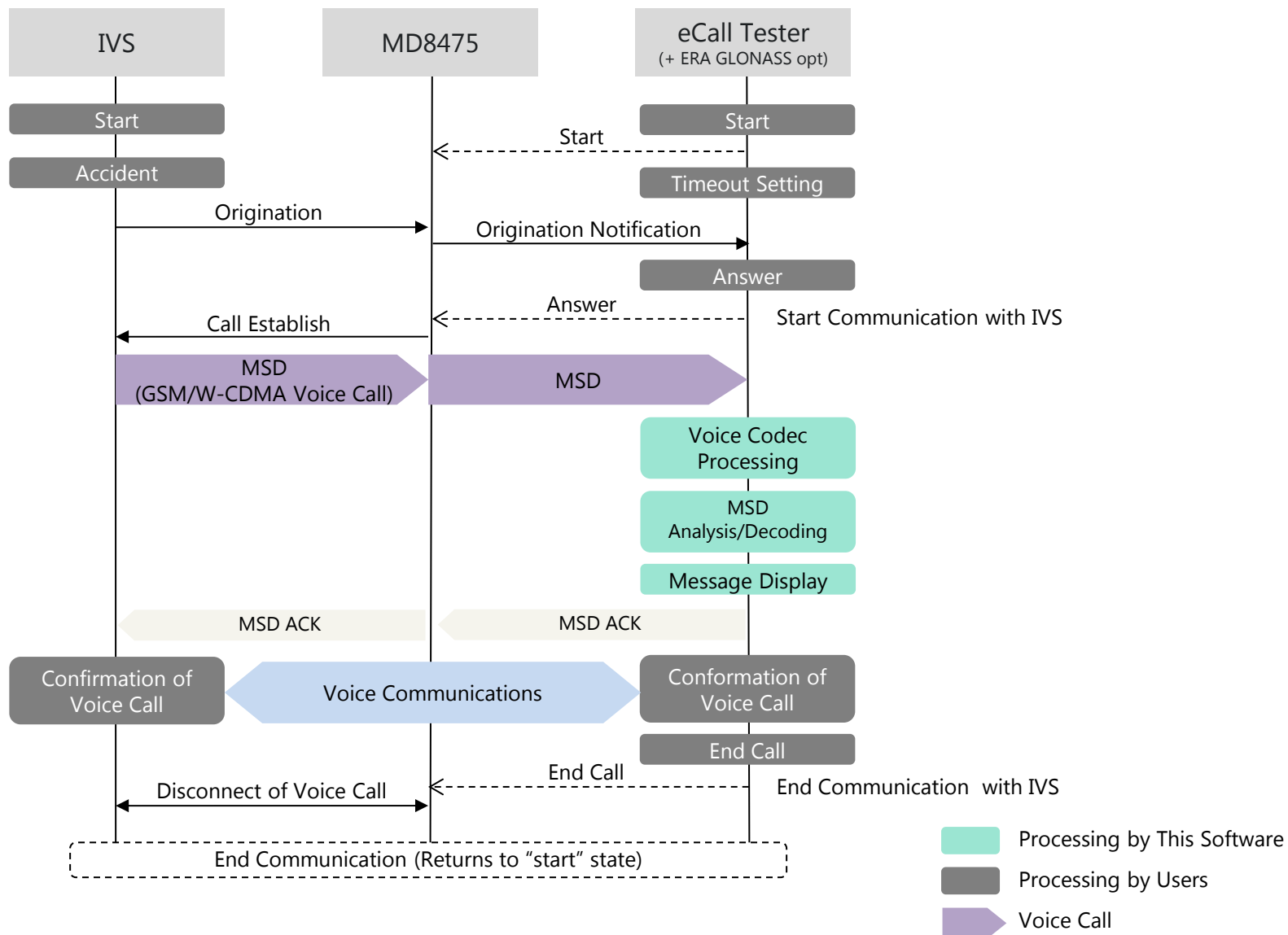
Specification No.	Title
GOST R 54619-2011*	Global navigation satellite system. Road accident emergency response system. Protocol of Data Transmission from In-Vehicle Emergency Call System to Emergency Response System Infrastructure
GOST R 54620-2011*	Global Navigation Satellite System ROAD ACCIDENT EMERGENCY RESPONSE SYSTEM In-Vehicle Emergency Call System General technical requirements
GOST R 54721-2011*	Global navigation satellite system. Road accident emergency response system. Base service Description
GOST R 55530-2013*	Global Navigation Satellite System – Road Accident Emergency Response System – Functional Test Methods Of In-Vehicle Emergency Call System And Data Transfer Protocols**

*Only supports Emergency call mode description executed by MSD communications sequence

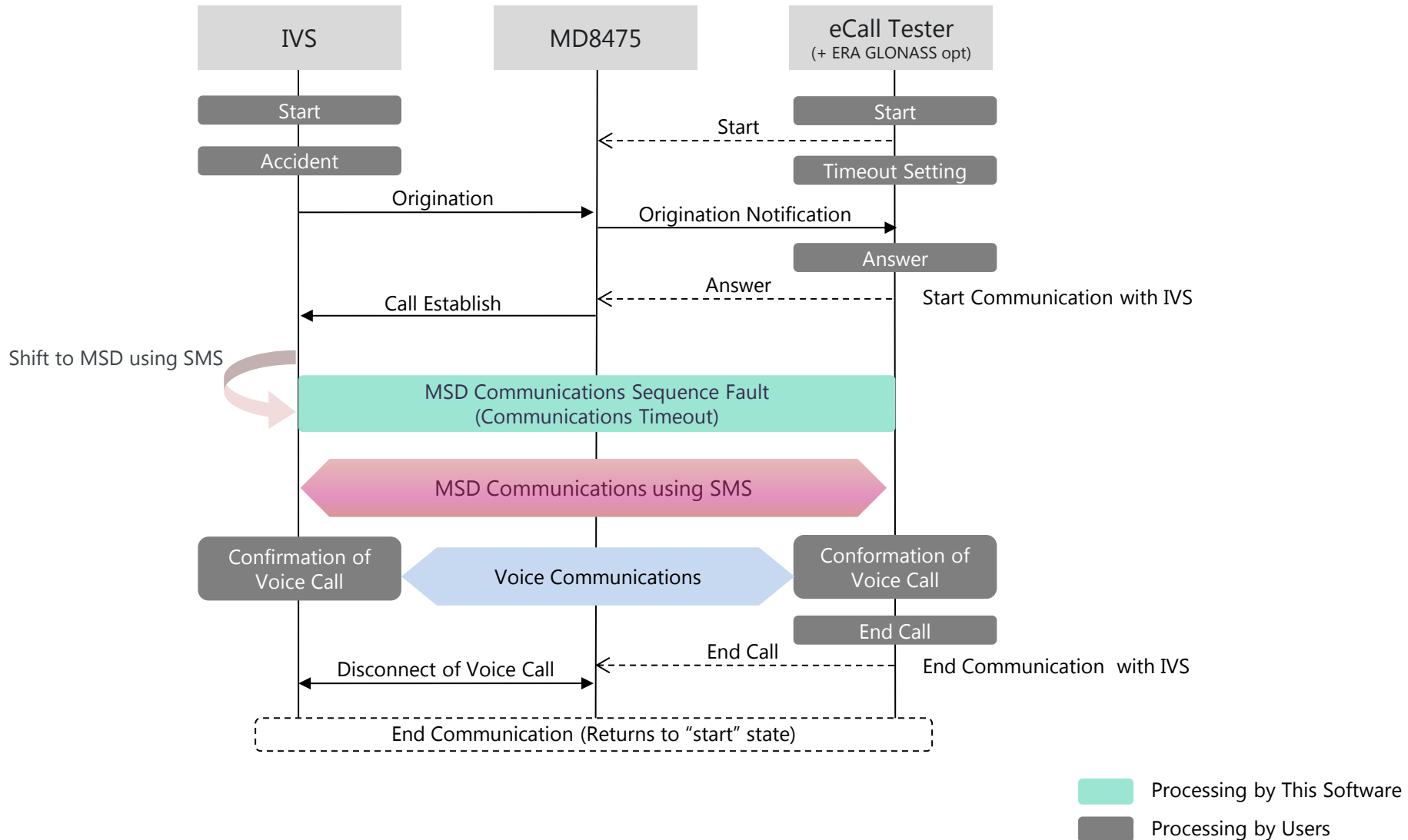
**Out of the total of 31 test cases defined by GOST R 55530-2013, 27 test cases can be performed using the tester. Using the MX703330 + ERA GLONASS option supports 18 of the 27 (67%) test cases with an automated test sequence for each.

Note: The contents of GOST-R (Russian national standards regulations) referenced by ERA-GLONASS may change and there may be widespread revisions such as re-examination of implementation methods and addition of functions. The software functions supporting ERA-GLONASS explained in these materials are specified in accordance with the above-described 2014 version of the ERA-GLONASS specification.

Communications Sequence – eCall Normal Sequence –



Communications Sequence – ERA-GLONASS Quasi-Normal Sequence –



eCall Tester MX703330 User Interface (1/8)

eCall Tester Main GUI Screen

The screenshot shows the main GUI of the eCall Tester MX703330. The interface is divided into several functional areas:

- Call Operation:** Includes buttons for starting and ending communications with IVS, and an 'Auto Answer' checkbox.
- Emergency Call / MSD Transfer / Voice Call:** A central control panel with tabs for 'Idle', 'Trigger', 'Start', 'Nack', 'Ack', and 'Hlack'. Below these are 'MSD Transfer' and 'Voice Call' sections.
- In-band modem / Signaling Tester / PCM Signal / Audio:** A bottom control panel with sub-tabs for 'eCall Mode' (PUSH/PULL), 'Ack Control' (LL-ACK Send, HL-ACK Send, HL-ACK Status), and 'Enable Timeout Test' (T5 START, T7 LL-ACK, T6 HL-ACK).
- Test Case:** A table displaying received MSD lists.
- Sequence Log:** A log of communication events with columns for No., Time, Dir., and Data.
- Detail:** A section showing decoded MSD results in a structured text format.
- IN/OUT:** A status bar at the bottom showing audio input/output conditions.

Callouts provide the following descriptions:

- Ends communications with IVS
- Starts communications with IVS
- Enables auto-answer
- Displays PSAP status
- In-band modem Tab Sets, displays, controls MSD communications status
- Signaling Tester Tab Sets SmartStudio cell parameters
- PCM Signal Tab Sets voice call test conditions
- Displays audio input/output conditions
- Displays MSD communications results (sequence, decode results)
- Displays received MSD list

eCall Tester MX703330 User Interface (2/8)

eCall Tester Main GUI Screen

The screenshot displays the main GUI of the eCall Tester MX703330E. The interface is divided into several sections:

- Call Operation:** Includes a phone icon, an "Auto Answer" checkbox, and a red "End Call" button.
- PSAP Status:** Shows "Emergency Call" and "MSD Transfer" sections. Below these are buttons for "Idle", "Trigger", "Start", "Nack", "Ack", and "Hlack".
- Voice Call:** A prominent orange bar indicating the current call mode.
- In-band modem:** A sub-panel with tabs for "Signaling Tester", "PCM Signal", and "Audio". It contains:
 - eCall Mode:** Radio buttons for "PUSH" and "PULL", and buttons for "MSD PULL" and "RESET".
 - Ack Control:** Spinners for "LL-ACK Send" (set to 5) and "HL-ACK Send" (set to 5), and a dropdown for "HL-ACK Status" (set to "Positive Ack").
 - Enable Timeout Test:** A checkbox and radio buttons for "T5 START Message", "T7 LL-ACK Message", and "T6 HL-ACK Message".
 - Delay:** A spinner for "Delay" (set to 1) and "Send" (set to 0).
- Test Case:** A table with columns "No.", "Start Time", "End Time", and "MSD". It contains one entry: No. 1, Start Time 2018/05/10 17:31:56, End Time, and MSD 1.
- Logging Control:** Radio buttons for "Auto" and "Manual", and a play button.
- Sequence Log:** A table with columns "No.", "Time", "Dir.", and "Data". It shows a log of events, with the last entry (No. 34) highlighted: "Voice Call Operation start".
- Detail:** A text area showing a hex dump of the MSD data and a structured log entry for "ECallMessage".

Sets PUSH/PULL mode

Sets ACK control

Sets timer (EN 16062)

eCall Tester MX703330 User Interface (3/8)

eCall Tester Main GUI Screen

The screenshot displays the eCall Tester MX703330 User Interface. The window title is 'MX703330E'. The menu bar includes 'File', 'Mode', 'Setup', 'Simulation', and 'Help'. The interface is divided into several sections:

- Call Operation:** Features a 'Call' icon, an 'Auto Answer' checkbox, and a 'Call End' icon.
- PSAP Status:** Shows 'Emergency Call' and 'MSD Transfer'.
- Voice Call:** A prominent orange bar indicating the current call mode.
- In-band modem:** Includes 'Signaling Tester', 'PCM Signal', and 'Audio' tabs. It has radio buttons for 'BTS1' (selected) and 'BTS2'. Below are 'Out of Service' icons and a 'Cell Parameters' section with expandable lists for 'Common' (DL Ref Power: -40.0, Emergency Number Lis, Access Class Barred: Not Barred) and 'GSM/GPRS' (Band: P-GSM900). A 'Band' section with 'Select Band' is also present.
- Test Case:** Contains icons for test case management.
- Logging Control:** Has radio buttons for 'Auto' and 'Manual', along with play and stop icons.
- Sequence Log:** A table showing test sequence events.
- Detail:** A text area displaying detailed log data for the selected event.

At the bottom, there are 'IN:' and 'OUT:' status indicators with green bars.

Sets out-of-service area

Sets SmartStudio cell parameters

eCall Tester MX703330 User Interface (4/8)

eCall Tester Main GUI Screen

The screenshot displays the MX703330E software interface with a menu bar (File, Mode, Setup, Simulation, Help) and a toolbar. The main area is divided into several sections:

- Call Operation:** Includes a phone icon, an "Auto Answer" checkbox, and a red "End Call" button.
- PSAP Status:** Shows "Emergency Call" and "MSD Transfer" sections. Below these are buttons for "Idle", "Trigger", "Start", "Nack", "Ack", and "Hlack". A prominent orange "Voice Call" button is also present.
- Logging Control:** Features radio buttons for "Auto" and "Manual", along with a play button and a log icon.
- Test Case Table:**

No.	Start Time	End Time	MSD
1	2018/05/10 17:31:56	2018/05/10 17:37:07	1
2	2018/05/10 17:41:21		1
- Sequence Log : 2:**

No.	Time	Dir.	Data
31	2018/05/10 17:41:32.55	<	Sending HL-ACK Msg (data:0x00)
32	2018/05/10 17:41:32.95	<	Sending HL-ACK Msg (data:0x00)
33	2018/05/10 17:41:33.03	-	HL-ACK Msg send complete
34	2018/05/10 17:41:33.06	-	Voice Call Operation start
- Detail:** Shows a log entry for "Time: 2018/05/10 17:41:29" with a long hexadecimal MSD string and a structured ECallMessage object:

```
+ ECallMessage
- msdVersion : 2
+ msd
+ msdStructure
- messageIdIdentifier : 1
+ control
- automaticActivation : FALSE
- testCall : TRUE
- positionCanBeTrusted : TRUE
- vehicleType : passengerVehicleClassM1
+ vehicleIdentificationNumber
```
- Bottom Panel:** Includes "In-band modem", "Signaling Tester", "PCM Signal", and "Audio" tabs. The "In-band modem" tab is active, showing "Noisy Conditions" checked with a "7dB" condition, and "Scaling of PCM signals" with radio buttons for "Gain" (-12dB, -6dB, +6dB, +12dB). "IN:" and "OUT:" status indicators are at the bottom.

Sets noise

Sets PCM signal scaling

eCall Tester MX703330 User Interface (5/8)

eCall Tester Main GUI Screen

The screenshot displays the main GUI of the eCall Tester MX703330. The interface is divided into several sections:

- Call Operation:** Includes a phone icon, an "Auto Answer" checkbox, and a red "End Call" button.
- PSAP Status:** Shows "Emergency Call" and "MSD Transfer" sections. Below these are buttons for "Idle", "Trigger", "Start", "Nack", "Ack", and "Hlack".
- Voice Call:** A prominent orange button for initiating a voice call.
- Recording and Playback:** A sub-panel with tabs for "In-band modem", "Signaling Tester", "PCM Signal", and "Audio". It includes checkboxes for "In-band modem(Uplink/Downlink)" and "Voice(Uplink)", an "Audio File Play" section with a file input field, and an "Automatic Playback on Voice Communication State" checkbox.
- Test Case:** A table listing test cases with columns for No., Start Time, End Time, and MSD.
- Logging Control:** Radio buttons for "Auto" and "Manual" logging, along with a play button.
- Sequence Log:** A log showing the sequence of events, including "Voice Call Operation start".
- Detail:** A section showing the current test case details, including the time (2018/05/10 17:43:59) and a detailed log of the ECallMessage.

At the bottom, there are "IN:" and "OUT:" status indicators with green bars.

Audio Recording

Audio Playback

eCall Tester MX703330 User Interface (6/8)

ERA-GLONASS Option Execution Screen

MX703330E

File Mode Setup Simulation Help

Call Operation

Auto Answer

PSAP Status

Emergency Call

MSD Transfer

Idle Trigger Start Nack Ack Hlack

Voice Call SMS

In-band modem SMS Signaling Tester PCM Signal

EGTS Request Command

Timer 30 Sec.

Retry 0 Times

Command Type

EGTS_ECALL_REQ

Parameters

Call Type Manual Call

SMS Send

0 Bytes

Test Case

No.	Start Time	End Time	MSD
1	2018/05/10 17:58:01		2

Logging Control

Auto Manual

Sequence Log : 1

No.	Time	Dir.	Data
33	2018/05/10 17:58:11.26	-	HL-ACK Msg send complete
34	2018/05/10 17:58:11.33	-	Voice Call Operation start
35	2018/05/10 17:58:27.80	->	SMS Receive from IVS
36	2018/05/10 17:58:27.80	-	Address:777, Message:0100000B002F00000001B8240000081000000...

Detail

MSD 2

Type:SMS

Time:2018/05/10 17:58:27

MSD:021E000580A2CC0420CD38F28108310518740AD7A40AD42BAEC644388780000

```
+ ECallMessage
- msdVersion : 2
+ msd
+ msdStructure
- messageIdentifier : 1
+ control
- automaticActivation : FALSE
- testCall : TRUE
- positionCanBeTrusted : TRUE
- vehicleType : passengerVehicleClassM1
+ vehicleIdentificationNumber
- isowmi : ABC
- isovds : 123DEF
```

IN: OUT:

Displays SMS communications status label

• SMS Tab
Sets and sends SMS command used by ERA-GLONASS

eCall Tester MX703330 User Interface (7/8)

EGTS Server GUI Screen

Displays EGTS Server log

EGTS command decode

EGTS command encode

The screenshot shows the EGTS Server GUI with three main panels:

- EGTS Server Log:** A table displaying log entries with columns No, Time, Source, Destination, Type, and Data.
- Decode Info:** A window showing a hex string and a table of decoded parameters.
- Message Editor:** A window for editing commands and SMS data, with a table of parameter values.

No	Time	Source	Destination	Type	Data
1	2018/05/10 17:58:27.803	IVS	PSAP	SMS	0100000B002F0000001B8240...
2	2018/05/10 18:00:17.470	PSAP	IVS	SMS	0100000B001E0000001EF170...

Decode Info

```
0100000B001E0000001EF1700000400A0A331400500000000000000000000000000013010000000002B1F0
```

Name	Value
TLP	
PRV	1
SKID	0
Flag	
PRF	0
RTE	0
ENA	0
CMP	0
PR	highest(0)
HL	11
HE	0
FDL	30
PID	0
PT	EGTS PT APPDATA(1)
PRA	<input type="checkbox"/> 0
RCA	<input type="checkbox"/> 0
TTL	<input type="checkbox"/> 0
HCS	239

Description: Transport Layer Protocol

Message Response

Auto Response EGTS_PC_OK(0)

Message Editor

Command: [EGTS_SR_COMMAND_DATA]EGTS_ECALL_MSD_REQ

SMS data: 0100000B001E0000001EF1700000400A0A3314005000000000000000000000000000001301000000002B1F0

Name	Value
TLP	
PRV	1
SKID	0
Flag	
PRF	0
RTE	0
ENA	0
CMP	0
PR	highest(0)
HL	11
HE	0
FDL	30
PID	0
PT	EGTS PT APPDATA(1)
PRA	<input type="checkbox"/> 0
RCA	<input type="checkbox"/> 0
TTL	<input type="checkbox"/> 0
HCS	239
SFRD	
SDR	

Description: Transport Layer Protocol

eCall Tester MX703330 User Interface (8/8)

MSD Comparison GUI Screen

Sets comparison flags
ON: Checks value
OFF: Does not check value

Base Value

Value of Compared Items

Compare	MSD Item	Base Value	1	2
	ECallMessage			
<input checked="" type="checkbox"/>	id	1	1	1
	msd			
	msdStructure			
<input checked="" type="checkbox"/>	messageIdentifier	1	1	1
	control			
<input checked="" type="checkbox"/>	automaticActivation	false	false	false
<input checked="" type="checkbox"/>	testCall	true	true	true
<input checked="" type="checkbox"/>	positionCanBeTrusted	false	true	true
<input checked="" type="checkbox"/>	vehicleType	passengerVehicleClassM1	passengerVehi...	passengerVehi...
	Vehicle Identification Number			
<input checked="" type="checkbox"/>	isowmi	ABC	ABC	ABC
<input checked="" type="checkbox"/>	isovds	123DEF	123DEF	123DEF
<input checked="" type="checkbox"/>	isovisModelyear	A	A	A
<input checked="" type="checkbox"/>	isovisSeqPlant	1234567	1234567	1234567
	Vehicle Propulsion StorageType			
<input checked="" type="checkbox"/>	gasolineTankPresent	false	true	true
<input checked="" type="checkbox"/>	dieselTankPresent	true	false	false
<input checked="" type="checkbox"/>	compressedNaturalGas	false	false	false
<input checked="" type="checkbox"/>	liquidPropaneGas	false	false	false
<input checked="" type="checkbox"/>	electricEnergyStorage	false	false	false
<input checked="" type="checkbox"/>	hydrogenStorage	false	false	false
	Timestamp			
<input checked="" type="checkbox"/>	timestamp	1424961782	1424961782	1424961782
	Vehicle Location			
<input checked="" type="checkbox"/>	positionLatitude	127609452	127609452	127609452
<input checked="" type="checkbox"/>	positionLongitude	501627136	501627136	501627136
	Vehicle Direction			
<input checked="" type="checkbox"/>	vehicleDirection	0	0	0
	Recent VehicleLocation N1			

Functions (1/3)

Function	Outline
Test communications sequence	Tests communications sequence (eCall and MSD communications) between IVS and PSAP Refer to list of communications sequence functions on following pages.
Display communications status	Displays communications status between IVS and PSAP <ul style="list-style-type: none">• eCall communications status (MSD – Voice Call)• MSD communications status (In-band Modem, SMS)
Display eCall flags	Displays eCall flags (TS 24.008) reported from IVS
Display/save test results	Displays eCall results and outputs to file <ul style="list-style-type: none">• Communications sequence• MSD Decode results ^{*1}
Control measuring instrument (MD8475A)	Executes following measuring instrument functions from software <ul style="list-style-type: none">• Start/Stop test• Make/Answer voice call
Compare MSD data	Compares two sets of MSD test results
Perform external control	Performs external control of eCall tester from other application and operates PSAP

*1 Decodes based on EN15722
(can decode both MSD version 1 and version 2)

Functions (2/3)

Function	Type	Outline
Voice codec	AMR	Supports communications using AMR (NB 12.2 kbps)
	GSM FR	Supports communications using GSM Full rate
	GSM HR	Supports communications using GSM Half rate
In-band modem	Push mode	Supports mode required from IVS to MSD
	Pull mode	Supports mode required from PSAP to MSD
	Timeout	Executed EN16062 - Annex A - T3, T5, T6, T7 Timeout tests
Voice call	Two-way (Both sides)	Supports two-way (both sides) voice call checks (IVS side, and PASAP side)
	Loopback	Supports voice call checks using loopback (delay loopback)
Voice quality	Noise	Executes MSD communications test with added noise data
	PCM Scaling	Performs PCM signal scaling during voice call
ERA-GLONASS ^{*2}	SMS Message	At ERA-GLONASS sequence, executes MSD transmission using SMS at MSD transmission fault using voice data

*2 Requires MSD ERA-GLONASS option

Functions (3/3)

Function	Outline
Audio	Records and play back the voice during the voice communication
Multi-Cell ^{*3}	Select the type of the communication between the Signaling Tester and the IVS module
EGTS Server ^{*4}	Tests the EGTS messages of ERA GLONASS

^{*3} Requires Multi-Cell option

^{*4} Requires EGTS Server option

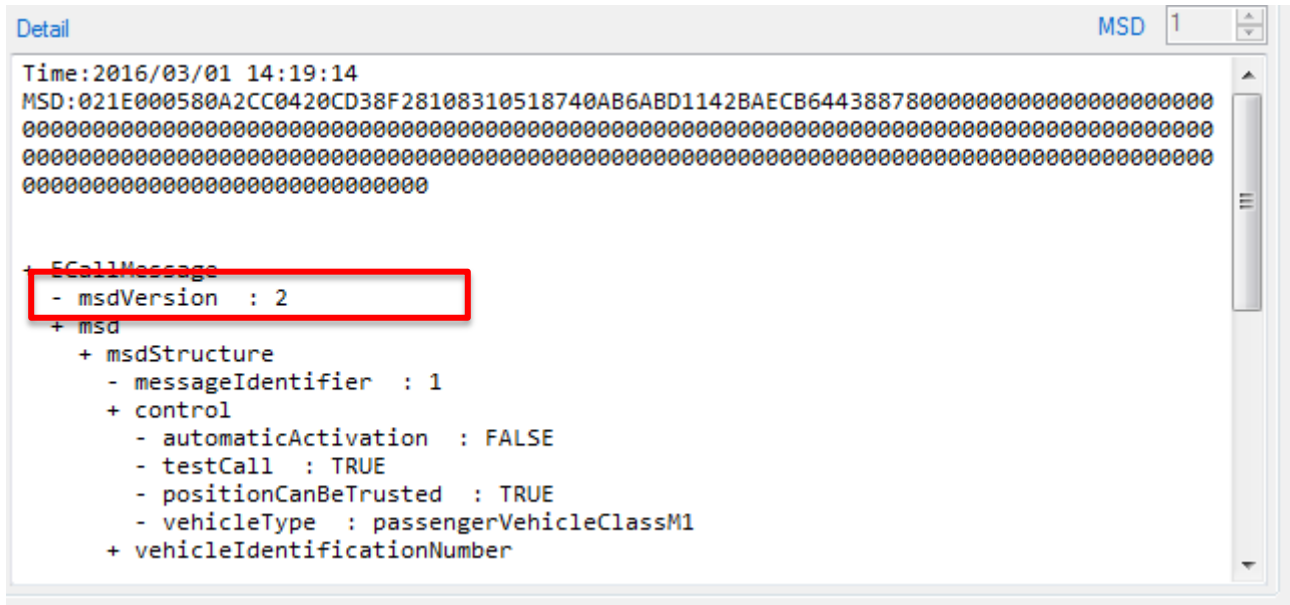
APPENDIX

A.1 MX703330 v6.00 Additional Function Details (1/3)

- eCall Tester MX703330 v6.00 Added Functions

 - MSD version 2 Decode Function

This function supports decoding of MSD version 2 sent from IVS at eCall (described in EN 15722:2015).



```
Detail MSD 1
Time:2016/03/01 14:19:14
MSD:021E000580A2CC0420CD38F28108310518740AB6ABD1142BAECB6443887800000000000000000000
0000000000000000000000000000000000000000000000000000000000000000000000000000000000
0000000000000000000000000000000000000000000000000000000000000000000000000000000000
0000000000000000000000000000000000000000000000000000000000000000000000000000000000

+ eCallMessage
- msdVersion : 2
+ msd
+ msdStructure
- messageIdIdentifier : 1
+ control
- automaticActivation : FALSE
- testCall : TRUE
- positionCanBeTrusted : TRUE
- vehicleType : passengerVehicleClassM1
+ vehicleIdentificationNumber
```

 - eCall Flag Display Function

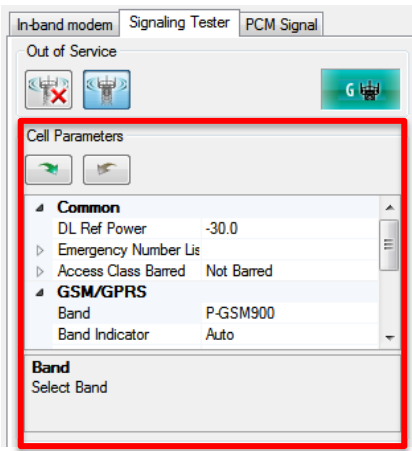
At eCall, this function displays the eCall flag (described in TS 24.008) included in Emergency Service Category Value. Using this function supports confirmation of parameters from the eCall Tester GUI, which previously required confirmation from the SmartStudio Trace log.

A.1 MX703330 v6.00 Additional Function Details (2/3)

▪ eCall Tester MX703330 v6.00 Added Functions

■ Adds Settable SmartStudio Cell Parameters

This function extends the SmartStudio Cell parameters that can be set from the eCall Tester GUI. Settable parameters are listed below.



Parameter (Common)	Parameter (GMS)
DL Ref Power	Band
Emergency Number List	Band Indicator
Access Class Barred	CCH ARFCN
Parameter (W-CDMA)	CCH Frequency (DL)
Band	CCH Frequency (UL)
Channel (DL)	TCH ARFCN
Frequency (DL)	TCH Frequency (DL)
Channel (DL)	TCH Frequency (UL)
Frequency (DL)	Voice Codec

*Parameter value range based on SmartStudio

*Only supports W-CDMA AMR-NB voice codec

A.1 MX703330 v6.00 Additional Function Details (3/3)

▪ eCall Tester MX703330 v6.00 Added Functions

■ Noisy Conditions Function

This function sets the conditions for adding noise (AWGN) to the MSD communications PCM signal. The settable conditions for each Voice Codec are as follows:

Voice Codec	Noisy Conditions
FR	7/10/13/16 dB/clean/RSSI
AMR-NB	7/10/13 dB/clean

■ Scaling of PCM Signals Function

This function sets the scaling value for the PCM signal during voice calling.

The settable scaling values are as follows:
-12 dB/-6 dB/+6 dB/+12 dB



*The Noisy Conditions function cannot be used when Voice Codec is not FR/AMR-NB.

*The Noisy Conditions function cannot be used simultaneously with the Scaling of PCM Signals function.

A.2 MX703330 v6.10 Additional Function Details (1/2)

- eCall Tester MX703330 v6.10 Added Functions

- Supporting MD8475B

- MX703330E can be used by interfacing with the MX8475B.

- Audio recoding

- This function records the voice communication using the In-band modem, select the In-band modem(Uplink/Downlink), and the voice call, select the Voice(Uplink).

- Audio playback

- This function playback audio file during voice communication

- Expanding sequence log function

- Regarding sequence log on MX703330E, it expands the function to display in the log every time PSAP sends and receives In-band modem message.

- Decoding the Optional Data of MSD

- MSD decoding function has been expanded to support decoding of Optional Additional Data.

A.2 MX703330 v6.10 Additional Function Details (2/2)

▪ eCall Tester MX703330 v6.10 Added Functions

■ Multi-Cell Option

It has added function to control SmartStudio with 2 cell settings and perform Test Case such as Handover. The MX703330E-061 Multi-Cell Option is required to use this function.

Control Type	SmartStudio Status (UE Status)
GSM/GPRS – GSM/GPRS	Idle
	Communication ^{*1}
W-CDMA – GSM/GPRS	Idle
	Communication ^{*1}
W-CDMA – W-CDMA	Idle
	Communication ^{*1 *2}
LTE – GSM/GPRS	Communication ^{*3}
LTE – W-CDMA	Communication ^{*3}

*1: Only the voice communication is supported.

*2: Soft Handover and Hard Handover can be performed.

*3: Only the packet communication except VoLTE is supported.

A.3 MX703330 v6.20 Additional Function Details

- eCall Tester MX703330 v6.20 Added Functions

- EGTS Server Option

- Tests the EGTS messages of ERA GLONASS.

- Displays EGTS Server log:

- Displays the messages sent and received by the EGTS Server.

- EGTS command decode:

- Decodes the command including the message sent or received by the EGTS Server and displays it in the tree format.

- EGTS command encode:

- Encodes the EGTS command and sends it to the IVS module.

A.4 eCall / EN 16454 Support Status (1/3)

Supported Test Cases

Test Cases	Summary
CTP 1.1.0.2	Test for conformance to valid SIM/USIM - PE eCall
CTP 1.1.0.3	Automatic eCall triggering does not occur when ignition OFF - PE eCall IVS
CTP 1.1.1.2	IVS does not perform registration after power-up - PE eCall only IVS
CTP 1.1.2.1	eCall automatically activated - PE eCall IVS
CTP 1.1.2.2	Automatically triggered eCall in progress was not disconnected upon a new eCall trigger - PE eCall IVS
CTP 1.1.2.3	Post-side-crash performance of automatic trigger – IVS
CTP 1.1.2.4	Post-frontal-crash performance of automatic trigger – IVS
CTP 1.1.2.5	Performance of automatic trigger - different crash types – IVS
CTP 1.1.3.1	eCall manually activated - PE eCall IVS
CTP 1.1.3.2	Manually triggered eCall in progress was not disconnected upon a new eCall trigger - PE eCall IVS
CTP 1.1.4.1	Test eCall activated - PE eCall IVS
CTP 1.1.5.1	Network registration - PE eCall IVS
CTP 1.1.5.2	Manual termination of eCall by vehicle occupants not allowed (automatically triggered eCall) - PE eCall
CTP 1.1.5.3	Manual termination of eCall by vehicle occupants not allowed (manually triggered eCall) - PE eCall IVS
CTP 1.1.5.4	Automatically triggered eCall in progress was not disconnected when ignition is switched to OFF - PE eCall IVS
CTP 1.1.5.5	Manually triggered eCall in progress was not disconnected when ignition is switched to OFF - PE eCall IVS
CTP 1.1.5.6	Priority over conflicting communication - PE eCall IVS

A.4 eCall / EN 16454 Support Status (2/3)

Supported Test Cases

Test Cases	Summary
CTP 1.1.6.1	Mute IVS and vehicle audio - PE eCall IVS
CTP 1.1.7.1	Set-up TS12 call with eCall identifier (flag) set to 'automatic' - PE eCall IVS
CTP 1.1.8.1	Set-up TS12 call with eCall identifier (flag) set to 'manual' - PE eCall IVS
CTP 1.1.9.1	Set-up TS11 call to test number - PE eCall IVS
CTP 1.1.10.1	eCall is attempted when no networks are available (limited service condition) - PE eCall IVS
CTP 1.1.10.2	Re-dial attempt completed within 2 min after eCall is dropped - PE eCall IVS
CTP 1.1.10.3	Duration of eCall Initiation signal - PE eCall IVS
CTP 1.1.10.4	Verify that PLMN registration procedure is executed upon initiating an eCall - PE eCall only IVS
CTP 1.1.11.1	Send MSD with indicator set to 'Automatically Initiated eCall' (AleC) - PE eCall IVS
CTP 1.1.12.1	Send MSD with indicator set to 'Manually Initiated eCall' (MleC) - PE eCall IVS
CTP 1.1.13.1	Send MSD with indicator set to 'Test Call' - PE eCall IVS
CTP 1.1.14.1	Verify MSD transfer - PE eCall IVS
CTP 1.1.14.2	Un-mute IVS audio when AL-ACK received - PE eCall IVS
CTP 1.1.15.1	Establish voice link to PSAP - PE eCall IVS
CTP 1.1.15.2	MSD transfer request while eCall conversation in progress - PE eCall IVS
CTP 1.1.15.3	Call continuation when SEND MSD request not received (T5 expired) - PE eCall IVS
CTP 1.1.15.4	Call continuation when AL-ACK not received (T6 expired) - PE eCall IVS
CTP 1.1.15.5	MSD is transferred continuously until T7 expires and IVS reconnects loudspeaker and microphone on its expiry - PE eCall IVS
CTP 1.1.16.1	Clear down call automatically - PE eCall IVS
CTP 1.1.16.2	IVS clears down the eCall upon T2 expiry - PE eCall IVS
CTP 1.1.16.3	IVS registers recent eCalls - PE eCall IVS

A.4 eCall / EN 16454 Support Status (3/3)

Supported Test Cases

Test Cases	Summary
CTP 1.1.17.1	Call-back allowed by IVS - PE eCall
CTP 1.1.17.2	Call-back answered by IVS - PE eCall IVS
CTP 1.1.17.3	MSD transfer occurs upon PSAP request during call-back - PE eCall IVS
CTP 1.1.17.4	Remain registered for e"1 hr - PE eCall IVS
CTP 1.1.17.5	Remain registered for e"1 hr d"12 hr - PE eCall only IVS

Unsupported Test Cases

Test Cases	Summary
CTP 1.1.0.1	Conformance to ETSI TS 102 936-1 and ETSI TS 102 936-2 - PE eCall IVS

