



Research & Vehicle Technology
“Infotainment Systems Product Development”

Feature – EECS Display Client
(eCall)

Infotainment Subsystem Part Specific
Specification (SPSS)

Version 1.0

UNCONTROLLED COPY IF PRINTED

Version Date: March 16, 2018

FORD CONFIDENTIAL



Revision History

Date	Ver	Notes	
March 16, 2018	1.0	Initial Release	



Table of Contents

REVISION HISTORY	2
1 OVERVIEW	4
1.1 Introduction.....	4
1.1.1 Purpose	4
1.1.2 Feature Background.....	4
1.1.3 Terminology and Abbreviations.....	4
1.2 Feature Overview	5
1.2.1 Goals	5
1.2.2 General Assumptions	6
2 ARCHITECTURAL DESIGN.....	7
2.1 EECS-SV-REQ-284999/A-IBD_EECSSystem.....	7
2.2 EECS-CLD-REQ-284426/A-EECS Server.....	7
2.3 EECS-CLD-REQ-284430/A-EECS Display Client	7
2.4 Physical Mapping of Classes	7
2.5 EECSDisplayClient Interface.....	8
2.5.1 EECS-IIR-REQ-285006/A-EECSDisplayClient_Rx.....	8
3 FUNCTIONAL DEFINITION	10
3.1 EECS-FUN-REQ-285009/A-GNSS Receiver Requirements	10
3.1.1 Requirements	10
3.2 EECS-FUN-REQ-285029/A-EECS Emergency Event Behavior	12
3.2.1 Use Cases	12
3.2.2 Requirements	13
3.2.3 White Box View	15
4 APPENDIX: REFERENCE DOCUMENTS.....	18



1 Overview

1.1 Introduction

1.1.1 Purpose

This document specifies the requirements for the Pan-European eCall in-vehicle system, specifically the modules defined by the EECSDisplayClient.

1.1.2 Feature Background

Pan-European eCall is a European commission initiative which mandates (per regulation EU 2015/758) all vehicles be equipped with an in-vehicle system that calls emergency services if an automatic eCall event is triggered by detection of a serious road accident or a manual eCall event is triggered by the user. Upon activation of an eCall event, the in-vehicle system will connect to a public cellular network and initiate a call to emergency services. Upon connection to emergency services, the in-vehicle system will send a minimum set of data (MSD) which is a data package that includes information about the vehicle and its location. Once the minimum set of data has been transmitted, voice communication is opened up between the in-vehicle occupants and the public safety answering point (PSAP) using the vehicle's audio system.

1.1.3 Terminology and Abbreviations

The following table lists terminologies that are used in this document along with a brief description.



Term	Description
112	European Union (and others) Primary Wireless Emergency Number
ACM	Audio Control Module
AHU	Audio Head Unit
AL-ACK	Application-Layer Acknowledgement
B&A	Body and Assembly
BCM	Body Control Module
CAN	Controller Area Network (General Network)
DSP	Digital Signal Processing Module
ECU	Electronic Control Unit
EECS	Embedded Emergency Calling System
EGNOS	European Geostationary Navigation Overlay Service
EOL	End of Line
ERA-GLONASS	Russian Accident Emergency Response System
EU	European Union
GLONASS	GLOBAL NAVigation Satellite System
GPS	Global Position System
GNSS	Global Navigation Satellite System
GSM	Global System for Mobile Communications
HMI	Human Machine Interface
HS-CAN	High Speed Controller Area Network
I-CAN	Infotainment Controller Area Network
LED	Light Emitting Diode
LL-ACK	Link-layer Acknowledgement
MSD	Minimum Set of Data
NAD	Network Access Device
PSAP	Public Safety Answering Point
RCM	Restraints Control Module
TCU	Telematics Control Unit
UMTS	Universal Mobile Telecommunications System (3 rd Generation)
VIN	Vehicle Identification Number
Voice Prompt	A pre-recorded audio message that can be played to the occupant or operator

1.2 Feature Overview

1.2.1 Goals

- 1) Comply with the requirements outlined by the European Union in regulation EU 2015/758 and its supplemental material.
- 2) Provide assistance in contacting emergency services for vehicle occupants involved in a qualified crash event (with airbag deployment or fuel pump shut off as determined by the RCM).
- 3) Provide assistance in contacting emergency services for vehicle occupants if desired by providing a manual push button which initiates an eCall.
- 4) Provide notification of an accident event and vehicle information including location, VIN, propulsion type, and vehicle type to local public safety answering points.
- 5) Provide an appropriate in-vehicle user experience utilizing LED status indicator, display and/or voice prompts.
- 6) Provide hands-free voice communication between vehicle occupants and public safety answering point during an eCall.
- 7) Provide means for public safety answering point to make a follow-up call back to the vehicle's occupants after an eCall event.
- 8) Provide customer with information which fully explains the purpose and function of the eCall feature.
- 9) Provide indication to the customer if there is something wrong with their vehicle's eCall in-vehicle system.



- 10) Ensure customers personal data and privacy is not compromised or violated.
- 11) Provide option for customer to disable the eCall automatic functions if desired.

1.2.2 General Assumptions

- 1) eCall is required on all new-type N1/M1 vehicles after March 31st 2018.
- 2) eCall is to be provided with no added cost to the customer.
- 3) eCall is to be compatible with all equipment levels of the vehicle.
- 4) All eCall telematics functions to comply with European Union standards.
- 5) eCall shall be resistant to severe crash events (e.g. ECE R94 and ECE R95).
- 6) The critical components of the eCall system shall function regardless of the vehicle's power status after a severe crash event (e.g. ECE R94 and ECE R95).
- 7) eCall system is to be compatible with the Galileo, EGNOS, GPS and GLONASS Global Navigation Satellite Systems.
- 8) eCall system is to be compatible with all European GSM and UMTS cellular networks.
- 9) eCall system is to provide audio voice prompts to in-vehicle occupants in their pre-selected in-vehicle language.
- 10) All eCall sub-system components shall be diagnosable as faulty.
- 11) eCall has priority over all non-safety features equipped on the vehicle.
- 12) eCall system is to incorporate dead reckoning to supplement GNSS location.
- 13) The eCall Client shall be responsible for providing vehicle location to the eCall system if equipped with a GNSS receiver.



2 Architectural Design

2.1 EECS-SV-REQ-284999/A-IBD_EECSSystem

EECS System Block Diagram

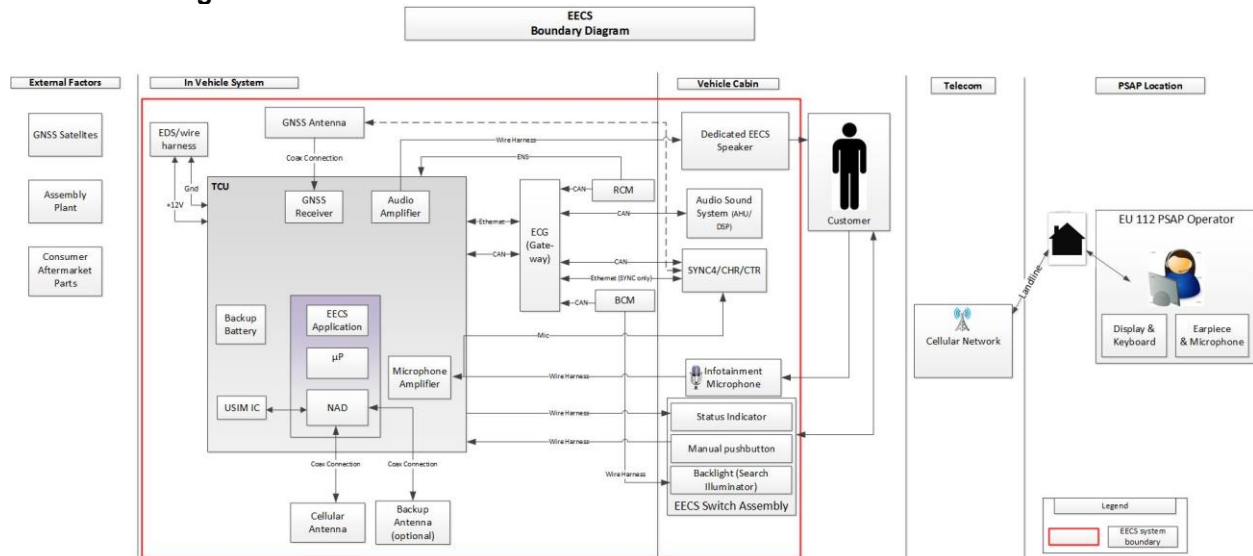


Figure: EECS System Block Diagram

2.2 EECS-CLD-REQ-284426/A-EECS Server

Responsibility: The EECS Server is responsible for determining when to place an emergency call. The EECS Server communicates on the vehicle system interface bus with other system parts to perform operations associated with the emergency calling process, such as audio muting and feedback to the vehicle occupant.

The EECS Server also has direct interaction with the vehicle occupant through a microphone and speaker interface.

Review the implementation guide/static view/block diagram to locate the EECS Server object.

2.3 EECS-CLD-REQ-284430/A-EECS Display Client

Responsibility: The EECS Display Client is the interface of the EECS Emergency Calling feature. The EECS Display Client has the following roles for the EECS feature:

1. Provide visual EECS HMI to customer during an EECS event
2. Disable all phone connection methods prior to EECS event
3. Suppress non-emergency EECS Display Client features during an EECS event

Review the implementation guide/static view/block diagram to locate the EECS Display Client object.

2.4 Physical Mapping of Classes

The table below shows an example of how the two logical classes that make up the EECS feature can be mapped into physical modules. This mapping example is specific to the FNV2 architecture and does not necessarily carryover to other vehicle architectures.

Logical Class	Physical Module (ECU)
EECS Server	TCU
EECS Display Client	SYNC



2.5 EECSDisplayClient Interface

2.5.1 EECS-IIR-REQ-285006/A-EECSDisplayClient_Rx

The EECSDisplayClient_Rx represents all the EECS feature related signals received by the EECSDisplayClientobject. The below table represents the mapping of the logical signal names (as described in this specification) to the global GSDB signal names.

Logical Signal Name	Parameter Name	GSDB Signal Name
EmergencyCallHMI_St	Status	EmgcyCallHmi_D_Stat
EmergencyCallCancelTimer_St	EECS_Timer	EmgcyCallCancL_T_Actl
EmergencyCall_St	Status	EmgcyCall_D_Stat

Note: GSDB signal names are reference only. The Global Signal Database (GSDB) is the master for all signals. If there is a conflict bring to the module D&R's attention.

2.5.1.1 MD-REQ-205432/B-EmergencyCallHMI_St

Message Type: Status

This signal is used to indicate the state of an emergency call process to the vehicle display.

Name	Literals	Value	Description
Status	-	-	Status of Emergency Call Process.
	Null	0x0	
	NoEvent	0x1	
	CallCancelTimer	0x2	
	CallDial	0x3	
	CallMsdTransfer	0x4	
	CallInProgress	0x5	
	CallConnected	0x6	
	CallRetry	0x7	
	CallCancelled	0x8	
	CallNotPossible	0x9	
	CallDisconnected	0xA	
	CallCompleted	0xB	
	Malfunction	0xC	
	Disabled	0xD	
	Standby	0xE	
	NotUsed_1	0xF	

2.5.1.2 MD-REQ-300055/A-EmergencyCallCancelTimer_St

Message Type: Status

This signal is used to indicate the cancellation time to display to the vehicle display.

Name	Literals	Value	Description
EECS_Timer	-	-	Status of Emergency Call Cancellation Timer (in seconds).
	0 sec	0x0	
	1 sec	0x1	
	...		
	31 sec	0x1F	

**2.5.1.3 MD-REQ-300652/A-EmergencyCall_St**

Message Type: Status

This signal is used to determine the status of the EECS system.

Name	Literals	Value	Description
Status	-	-	Signal to determine EECS system status.
	Null	0x0	
	EmgcyCallNotSupported	0x1	
	NoEvent	0x2	
	AutoEmgcyCall	0x3	
	ManualEmgcyCall	0x4	
	NotUsed_1	0x5	
	NotUsed_2	0x6	
	NotUsed_3	0x7	



3 Functional Definition

3.1 EECS-FUN-REQ-285009/A-GNSS Receiver Requirements

3.1.1 Requirements

3.1.1.1 GNSS Receiver Basic Requirements

3.1.1.1.1 EECS-FUR-REQ-285010/A-GNSS Infotainment Unit Source

If the EECSDisplayClient is equipped with a GNSS receiver, the EECSDisplayClient shall be responsible for providing vehicle location to the EECS system continuously, at least once per second, while the Ignition is set to RUN/START per the specified CAN signals. Please refer to the Location Service SPSS for details for this feature and any location related CAN signals.

3.1.1.1.2 EECS-FUR-REQ-285011/A-GNSS Compatibility

The GNSS receiver shall be compatible with all of the following Global Navigation Satellite System Constellations:

1. Galileo
2. European Geostationary Navigation Overlay Service (EGNOS)
3. Global Positioning System (GPS)
4. Global Navigation Satellite System (GLONASS)

3.1.1.1.3 EECS-FUR-REQ-285012/A-GNSS Constellation Usage

The GNSS receiver shall be capable of determining the vehicle's location via any of the individual compatible GNSS constellation and any combination of those constellations. Missing individual GNSS constellations shall not prevent the GNSS receiver from determining the vehicle's location.

3.1.1.1.4 EECS-FUR-REQ-285013/A-GNSS Location Format

The vehicle location provided by the GNSS receiver shall use the WGS84 standard.

3.1.1.1.5 EECS-FUR-REQ-285014/A-Dead-Reckoning Usage

The GNSS receiver module shall have dead reckoning capability to supplement the GNSS receiver in determining the vehicle's location. The dead reckoning algorithm shall not store more than the 3 last GNSS locations sampled. Supplier shall review dead reckoning strategy and accuracy with Ford for approval.

3.1.1.1.6 EECS-FUR-REQ-285015/A-NMEA-0183 Output

The GNSS receiver shall be able to output the navigation solution in a NMEA-0183 protocol format (All parameters in RMC, GGA, VTG, GSA and GSV messages).

3.1.1.1.7 EECS-FUR-REQ-285016/A-EMC

The effectiveness of EECS GNSS receiver shall not be adversely affected by magnetic or electrical fields. This shall be demonstrated by compliance with the technical requirements and transitional provisions of UN ECE Regulation No. 10, 04 series of amendments or any later series of amendments.

3.1.1.2 GNSS Receiver Diagnostics

3.1.1.2.1 EECS-FUR-REQ-285017/A-GNSS Antenna Diagnostics

The GNSS receiver shall be able to determine faults in the GNSS antenna system that would compromise the ability to determine vehicle location. The GNSS antenna system shall include the antenna module circuitry and the coax cable between the antenna module and GNSS receiver. Devices that prevent the antenna being diagnosed by the GNSS receiver (e.g. splitter) shall not be present on vehicles equipped with EECS. The GNSS antenna system shall be diagnosed by the GNSS receiver continuously while the ignition status is at 'Run'/'Start'.

3.1.1.2.2 EECS-FUR-REQ-285018/A-GNSS Receiver Diagnostics

The GNSS receiver shall be able to determine internal faults that would compromise the ability to determine vehicle location.



3.1.1.2.3 EECS-FUR-REQ-285019/A-Infotainment GNSS Receiver Fault Indication

The EECSDisplayClient's GNSS receiver shall indicate faults with the GNSS receiver and/or GNSS antenna via CAN signals upon qualification of the fault. Please refer to the Location Service SPSS for details on location related CAN signals.

3.1.1.3 **GNSS Receiver Performance**

3.1.1.3.1 EECS-FUR-REQ-285020/A-GNSS Receiver Accuracy Open Sky

Under open sky conditions the GNSS receiver's horizontal error shall not exceed 15 meters at confidence level of 95% with Position Dilution of Precision (PDOP) in the range from 2.0 to 2.5. Open sky shall be defined as all satellites above an altitude of 5 degrees with 0 dB attenuation.

3.1.1.3.2 EECS-FUR-REQ-285021/A-GNSS Receiver Accuracy Urban Canyon

Under urban canyon conditions the GNSS receiver's horizontal error shall not exceed 40 meters at confidence level of 95% with Position Dilution of Precision (PDOP) in the range from 3.5 to 4.0. Urban canyon satellite attenuation shall be defined by the table below, zones not listed in the table shall be assumed to have 0 dB attenuation.

Zone	Elevation (degrees)	Azimuth range (degrees)	Attenuation
A	0 - 5	0 - 360	-100 dB
B	5 - 30	210 - 330	-40 dB
C	5 - 30	30 - 150	-40 dB

3.1.1.3.3 EECS-FUR-REQ-285022/A-GNSS Receiver Acceleration and Speed Performance

The GNSS receiver shall be capable of providing the specified accuracy when the vehicle is travelling at speeds of 0 to 200 kph and/or accelerating at 0 to 20 m/s².

3.1.1.3.4 EECS-FUR-REQ-285023/A-GNSS Receiver Cold Start Times

The GNSS receiver shall attain a fix within 60 seconds after a cold start for a signal level of -130 dBm and within 300 seconds for a signal level of -140 dBm.

3.1.1.3.5 EECS-FUR-REQ-285024/A-GNSS Receiver Position Reacquisition Times

If the GNSS signal is lost for 60 seconds, the GNSS receiver shall attain a fix within 20 seconds after the signal is regained and has a signal level of -130 dBm.

3.1.1.3.6 EECS-FUR-REQ-285025/A-GNSS Receiver Accuracy Indication

The EECSDisplayClient's GNSS receiver shall indicate if the provided vehicle location is accurate via CAN. Locations defined as accurate shall not have a horizontal error greater than 150m from the actual location with a 95% degree of confidence. Please refer to the Location Service SPSS for details on location related CAN signals.

3.1.1.3.7 EECS-FUR-REQ-285026/A-GNSS Receiver Sensitivity Cold Start

GNSS signals detection (cold start) shall not exceed 3600 seconds at signal level on the antenna input of the EECS system of -144 dBm;

3.1.1.3.8 EECS-FUR-REQ-285027/A-GNSS Receiver Tracking and Navigation

GNSS signals tracking and navigation solution calculation shall be available for at least 600 seconds at signal level on the antenna input of the EECS system of -155 dBm;

3.1.1.3.9 EECS-FUR-REQ-285028/A-GNSS Receiver Re-acquisition

Re-acquisition of GNSS signals and calculation of the navigation solution shall be possible and shall not exceed 60 seconds at signal level on the antenna input of the EECS system of -150 dBm.



3.2 EECS-FUN-REQ-285029/A-EECS Emergency Event Behavior

3.2.1 Use Cases

3.2.1.1 EECS-UC-REQ-285030/A-EECS Event Initiated

Actors	Vehicle Occupant Infotainment System Telematics System
Pre-conditions	EECS is configured On (without faults) A phone is paired and connected to the Infotainment System Phone is in an active call
Scenario Description	An EECS event is triggered
Post-conditions	Active phone call is ended Phone is disconnected from Infotainment System (remains paired) All Phone Connection Methods are disabled in the Infotainment System Infotainment System is muted EECS event process is started
List of Exception Use Cases	
Interfaces	Infotainment System
Notes	Prior to the EECS event the phone will disconnect from the Infotainment System and the Phone Connection Method being used (Bluetooth, GAL, Carplay, etc.) will be disabled, however any pairing or device registration methods will remain intact.

3.2.1.2 EECS-UC-REQ-285031/A-EECS Event Completed

Actors	Vehicle Occupant Infotainment System Telematics System
Pre-conditions	EECS is configured On (without faults) A phone was paired and connected to the Infotainment System prior to EECS event EECS event is active
Scenario Description	EECS event is completed
Post-conditions	All prior Phone Connection Methods are enabled (only if they were originally enabled before the EECS event occurred) in the Infotainment System Infotainment System is unmuted
List of Exception Use Cases	
Interfaces	Infotainment System
Notes	After the EECS event has completed the Phone Connection Method that was used (Bluetooth, GAL, Carplay, etc.) will be re-enabled, and any pairing or device registration methods will remain intact. Please see the the appropriate SPSS (Bluetooth, GAL, Carplay, etc.) for the connection attempts/steps taken after the method has been enabled.



3.2.2 Requirements

3.2.2.1 Infotainment EECS Initialization

3.2.2.1.1 EECS-FUR-REQ-285032/A-EECS Event Initialization

When an EECS event occurs, the EECS Server shall send *EmergencyCall_St* to the EECSDisplayClient with a state of 'AutoEmgcyCall' or 'ManualEmgcyCall'.

3.2.2.1.2 EECS-FUR-REQ-285033/A-Connected Phone Call Termination

Upon indication of an EECS event, if there is a phone connected to the EECSDisplayClient and that connected phone is currently conducting a call, the EECSDisplayClient shall end that phone call within 1 second of receiving indication of an EECS event.

3.2.2.1.3 EECS-FUR-REQ-285034/A-Connected Phone Termination

Upon indication of an EECS event, if there is a phone connected to the EECSDisplayClient, the EECSDisplayClient shall disconnect the phone within 3 seconds of receiving indication of an EECS event and after any ongoing call has been ended. The EECSDisplayClient shall disable all phone connection methods (e.g. Bluetooth) throughout an EECS event.

3.2.2.1.4 EECS-FUR-REQ-285035/A-Releasing Audio Resources

The EECSDisplayClient shall request to release all audio resources, as it currently does for system shutdown (as defined by AUMGNT-SR-REQ-014562-Audio Request System Shutdown (TcSE ROIN-40945-2)), within 1 second of receiving indication of an EECS event.

3.2.2.1.5 EECS-FUR-REQ-285036/A-Power Moding

Throughout an EECS event, the EECSDisplayClient shall remain powered and fully functional regardless of the vehicle's ignition status.

3.2.2.2 EECS Event Infotainment HMI Lockout

3.2.2.2.1 EECS-FUR-REQ-285037/A-Infotainment System HMI Lockout

Any and all user input to the infotainment system shall have no effect on the EECSDisplayClient, system, or process during an EECS event.

3.2.2.2.2 EECS-FUR-REQ-285038/A-Display Priority Over Non-Safety HMI

Throughout an EECS event, the EECSDisplayClient shall have priority over all non-safety HMI on the EECSDisplayClient display. Refer to the EECSDisplayClient's designated HMI specifications for implementation details regarding priority.

3.2.2.2.3 EECS-FUR-REQ-285039/A-Display Priority Over Safety HMI

Safety related HMI items shall be prioritized over the EECS HMI depending on whether the event is an automatic or manual EECS event. The differentiation between automatic or manual EECS events shall be indicated to the EECSDisplayClient via *EmergencyCall_St* where a value of 'AutoEmgcyCall' or 'ManualEmgcyCall' indicates an automatic or manual EECS event respectively.

During an automatic EECS event, the EECS HMI shall have priority over all safety HMI. During a manual EECS event, safety HMI shall have priority over all EECS HMI (see table below). Safety HMI shall include Rear View Camera and Park Assist features. The priority of future safety feature's HMI over the EECS HMI shall be reviewed with Ford before being implemented. Refer to the EECSDisplayClient's designated HMI specifications for implementation details regarding priority.

	Automatic EECS Event (AutoEmgcyCall)	Manual EECS Event (ManualEmgcyCall)
Highest Priority	EECS HMI	Safety HMI (Rear View Camera, Park Assist, etc.)
Lower Priority	All non-EECS HMI	EECS HMI



3.2.2.3 Infotainment EECS Event HMI

3.2.2.3.1 EECS-FUR-REQ-285040/A-EECS Infotainment HMI

During an EECS event, the EECSDisplayClient shall indicate to the user that there is an ongoing EECS event. The EECS event shall be indicated via text on the EECSDisplayClient's display (example text: 'Emergency Call System'). Refer to the EECSDisplayClient's designated HMI specifications for implementation details regarding the EECS statuses and their corresponding HMI text.

3.2.2.3.2 EECS-FUR-REQ-285041/A-EECS Status Infotainment HMI

The EECSDisplayClient shall update the EECS status HMI on the display within 100ms of receiving an updated status via *EmergencyCallHMI_St* from the EECS Server.

The following table shall be used as reference only. Refer to the EECSDisplayClient's designated HMI specifications for implementation details regarding the EECS statuses and their corresponding HMI text.

EmergencyCallHMI_St	HMI Text
Null	{display nothing}
NoEvent	
CallCancelTimer	To cancel the emergency call, press the SOS button. Calling in [<i>EmergencyCallCancelTimer_St</i>] seconds
CallDial	Calling Emergency Services...
CallMsdTransfer	Call Connected. Please wait for operator.
CallInProgress	
CallConnected	Line Open. You are connected with an emergency operator.
CallRetry	Calling Emergency Services...
CallCancelled	Emergency Call Cancelled
CallNotPossible	Unable to Place an Emergency Call.
CallDisconnected	Emergency Call Ended
CallCompleted	Emergency Call Complete

3.2.2.3.3 EECS-FUR-REQ-285042/A-EECS Cancellation Timer HMI

Whenever the EECS Server sends *EmergencyCallHMI_St* to the EECSDisplayClient with a value of 'CallCancelTimer', the EECSDisplayClient shall display to the user the remaining time on the cancellation timer.

The EECSDisplayClient shall receive this timer value from the EECS Server via *EmergencyCallCancelTimer_St* where each value indicates the remaining time in seconds.

Refer to the EECSDisplayClient's designated HMI specifications for implementation details regarding the EECS cancellation timer HMI.

3.2.2.3.4 EECS-FUR-REQ-285043/A-EECS Infotainment Display Language

The language used for the EECS HMI text shall be the same language as the currently active EECSDisplayClient display language.



3.2.2.4 Infotainment EECS Event Completion

3.2.2.4.1 EECS-FUR-REQ-285044/A-EECS Complete Phone Reconnection

Upon completion of an EECS event, the EECSDisplayClient shall enable all phone connection methods (e.g. Bluetooth) that were disabled at the initiation of the EECS event (only if they were originally enabled prior to the EECS event). The completion of an EECS event shall be indicated when the EECS Server sends *EmergencyCall_St* to the EECSDisplayClient with a value transition to a state other than 'AutoEmgcyCall' or 'ManualEmgcyCall' or if the signal has been missing for more than 5 seconds.

3.2.2.4.2 EECS-FUR-REQ-285045/A-EECS Complete Released Audio Resources

Upon completion of an EECS event, the EECSDisplayClient shall not automatically re-allocate any audio resource that was released at the initiation of the EECS event (see [EECS-FUR-REQ-285035-Releasing Audio Resources](#)). All sources shall remain deallocated.

3.2.2.4.3 EECS-FUR-REQ-285046/A-User Privacy

Any internal log files or data in the memory that includes evidence that an EECS event has occurred shall be permanently deleted from the EECSDisplayClient if either of the following conditions are met:

1. The vehicle's ignition status has transitioned from 'Off' to 'Run' 3 times since the EECS event has concluded and the standby period has ended. The end of an EECS event and standby period will be indicated to the EECSDisplayClient via *EmergencyCallHML_St* transitioning to a value of 'NoEvent', 'Null', or if the CAN signal has been missing for more than 5 seconds.
2. 2 hours has elapsed since the EECS event has concluded and standby period has concluded

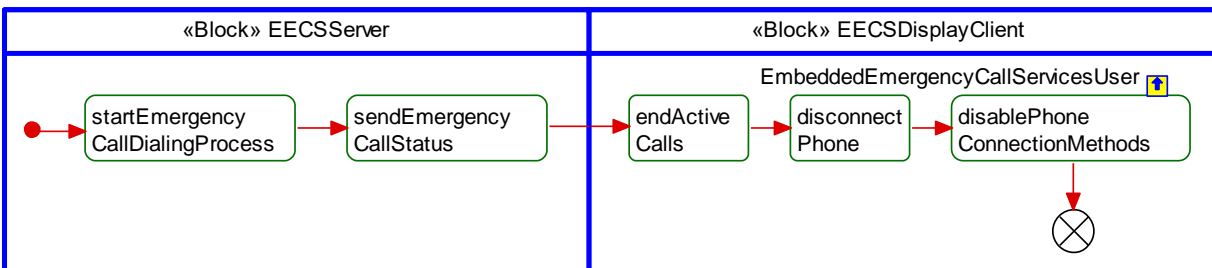
This requirement is to ensure the user's privacy is not violated.

3.2.3 White Box View

3.2.3.1 Activity Diagrams

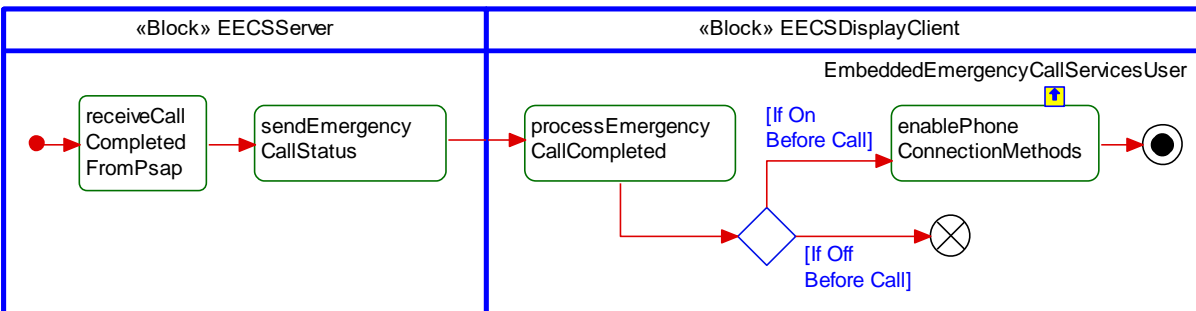
3.2.3.1.1 EECS-ACT-REQ-285047/A-EECS Event Initiated

Activity Diagram



3.2.3.1.2 EECS-ACT-REQ-285048/A-EECS Event Completed

Activity Diagram





3.2.3.2 Sequence Diagrams

3.2.3.2.1 EECS-SD-REQ-285049/A-EECS Event Initiated

Constraints

Pre-Condition

Ignition is in Run

EECS is configured On (without faults)

A phone is paired and connected to the Infotainment System and in an active call

Scenarios

Normal Usage

An EECS event is triggered (manual or automatic)

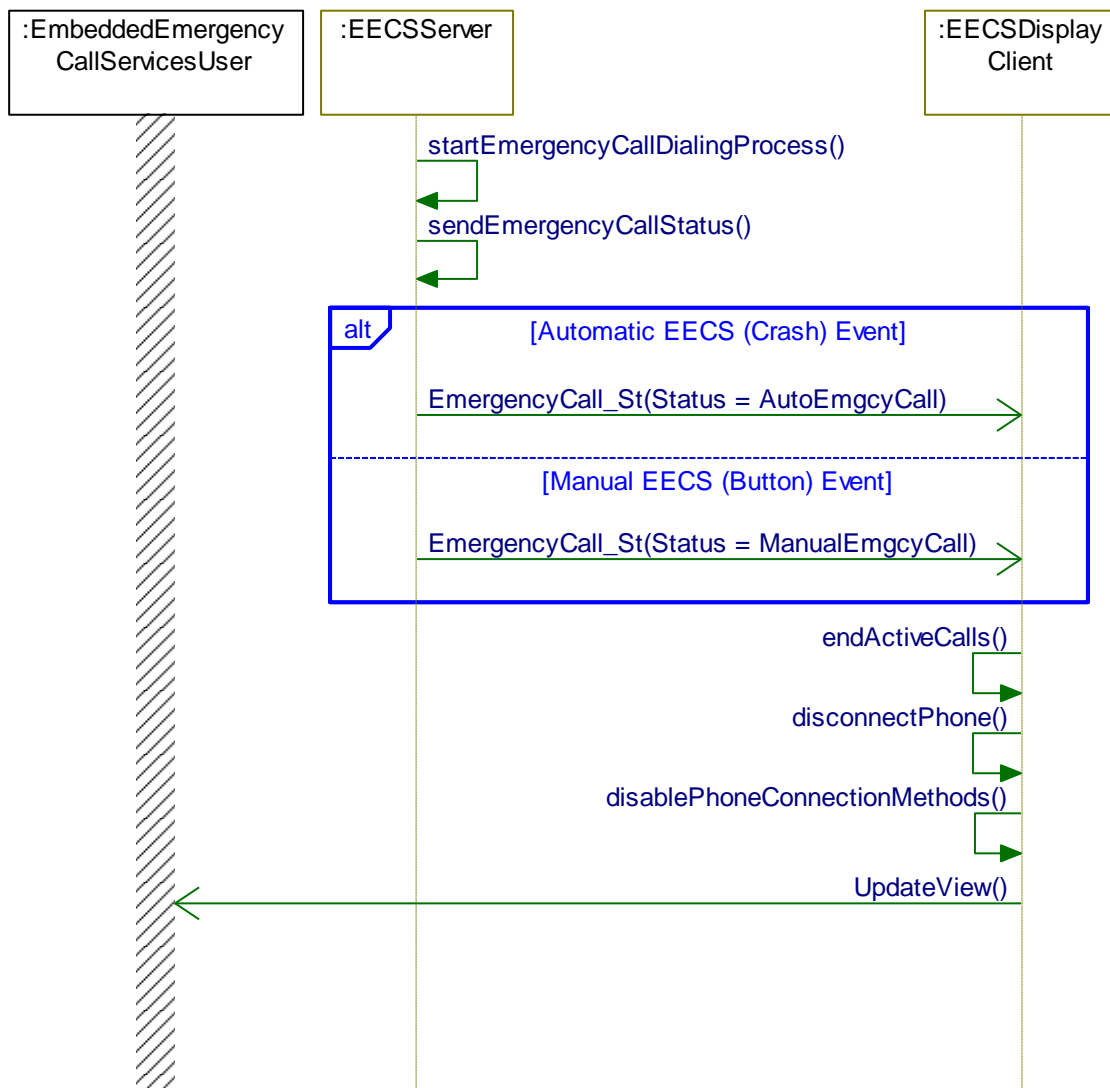
Post-Condition

The active phone call is ended and the phone is disconnected from Infotainment System (but still remains paired)

All Phone Connection Methods are disabled in the Infotainment System

Infotainment System is muted and the EECS process is started

Sequence Diagram





3.2.3.2.2 EECS-SD-REQ-285050/A-EECS Event Completed

Constraints

Pre-Condition

Ignition is in Run

EECS is configured On (without faults)

A phone was paired and connected to the Infotainment System prior to the currently active EECS event

Scenarios

Normal Usage

EECS event is completed

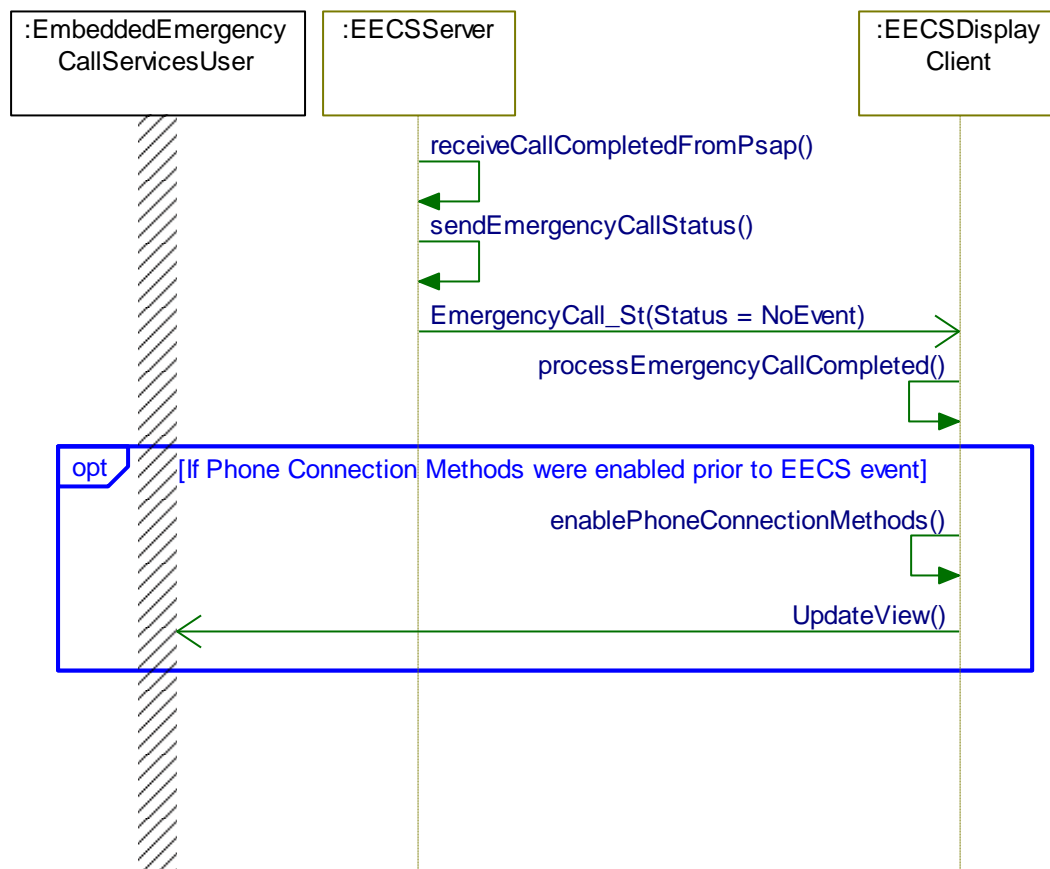
Post-Condition

Phone remains disconnected from the Infotainment System (but remains paired)

All Phone Connection Methods are enabled in the Infotainment System

Infotainment System is unmuted

Sequence Diagram





4 Appendix: Reference Documents

Reference #	Document Title
1	Location Service SPSS
2	Audio Management SPSS
3	EECS HMI Specification
4	Infotainment Diagnostics Specification
5	
6	
7	
8	
9	
10	