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# Introduction

## Document Purpose

The Feature Implementation Specification (FIS) specifies the deployment of the logical functions of a feature to an electrical architecture. The FIS specifies all interactions between the ECUs of the electrical architecture required for the feature including the technical signals and the interfaces. It also gives interface and integration requirements, which are specific to the feature for the electrical architecture.

To get more information about the concept of feature, function and component level abstraction refer to the [Ford RE Wiki](http://wiki.ford.com/display/RequirementsEngineering/Requirements+Engineering+for+SW+Enabled+Features).

## Document Scope

This FIS describes the deployment of the feature ISC to the following electrical architecture(s):

*No Electrical Architecture found.*

## Document Audience

The FIS is authored by **Ishan Gupta / Michael Wohlfarter / Corey Minous / Darnell Fuller / Sivaram Dogiparthi / Ariana Moreno** . All Stakeholders, i.e., all people who have a valid interest in the feature implementation should read and, if possible, review the FIS. It needs to be guaranteed, that all stakeholders have access to the currently valid version of the FIS.

### Stakeholder List

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| Sai Prasanth Velusamy | svelusa2 | Electrical Architecture | Systems Engineer |
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| Hassan Halabian | hhalabia | ECG Team | Systems Engineer |
| John Ricks | jricks7 | Body Control | Systems Engineer |
| Kyaw Kyaw Soe | ksoe | SE Features CV/C2 | Systems Engineer |
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| Benjamin Rocci | brocci | Connectivity Strategy and Planning | Systems Engineer |
| Bruce Williams | bwilli28 | Physical Electrical Architecture | Systems Engineer |
| Jim Weinfurther | jweinfur | Body Control | Systems Engineer |

## Document Organization

### Document Context

Refer to the [Specification Structure page](http://wiki.ford.com/display/RequirementsEngineering/Specification+templates) in the [Ford RE Wiki](http://wiki.ford.com/display/RequirementsEngineering/Requirements+Engineering+for+SW+Enabled+Features) to understand how the FIS relates to other Ford Requirements Documents and Specifications.

### Document Structure

The structure of this document is explained below:

**Section 1** – Introduction – Giving an explanation how to use this document including responsibilities and the scope of the document. Additionally, it contains the revision history and a list of unsettled but known issues that have to be consolidated in future versions. It explains the terminology and gives a clarification of the definitions, concepts and abbreviations used in the document.

**Section 2** – Feature Implementation Description – Giving an overview of the platform and listing assumptions, constraints or dependencies

**Section 3** – Feature Implementation Architecture – Describing 3 Architecture Views:

* Functional Architecture – Showing the logical architecture of functions
* Physical Architecture – Showing the physical architecture (first of all the E/E Architecture), which the Logical Functions get allocated to.
* Software Architecture – Showing the software architecture relevant for the feature (for features with in-house development only)
* Function Deployment – Presenting the allocation of logical functions and signals to the electrical and other components

**Section 4** – Deployment Specific Modeling –Modeling techniques providing additional detail on e.g. interface behavior

**Section 5** – Deployment Specific Requirements – Deployment specific requirements for ECUs, Network Communication, and Process

**Section 6** – List of Open Concerns

**Section 7** – Revision History

**Section 8** – Appendix - Presenting additional data mainly in a tabular form, e.g., a data dictionary

## Document Conventions

### Requirements Templates

Refer to “[How to use the Specification Templates](http://wiki.ford.com/display/RequirementsEngineering/How+to+use+the+Specification+Templates?src=contextnavpagetreemode)” on how to use the specification templates and the VBA macros to create/edit the requirements in the specifications.

The VBA macro enable the import of the specification to VSEM (refer to ["How to import specifications into VSEM as separate requirements"](http://wiki.ford.com/pages/viewpage.action?pageId=104991616&src=contextnavpagetreemode)).

#### Identification of requirements

The unique requirement ID given in the headline of any requirement follows the requirement throughout the development process. The requirement ID format follows a well-defined syntax.

All identifiers in an FIS shall be composed of 4 parts:

* A leading prefix, which indicates the type of requirement (R=Requirement, UC=Use Case, SC=Scenario, …)
* A prefix, which indicates the abstraction level (F=Feature, FNC=Function, CMP = component).
* Followed by a name, indicating the scope, which the requirement belongs to (e.g. feature or function name )
* Ending with the actual requirement number

*Example:*

*R\_CMP\_LockArbitrator\_00004* This is the fourth requirement on component level for the function Lock Arbitrator.

#### Requirements Attributes

Additionally attributes can be added to each requirement. This helps to classify requirements. A [list of available attributes](http://wiki.ford.com/display/RequirementsEngineering/Requirements+Attributes?src=contextnavpagetreemode) is given in the RE Wiki.

## References

### Ford Documents

The list of all Ford internal documents, which are directly related.

| **Reference** | **Title** | **Revision** |
| --- | --- | --- |
| FeatureDocument\_MDVVC\_V6.1\_UPV1\_08092019 | As reference/name | MDVVC\_Feature\_Specification 27.60/35 |
| FeatureDocument\_MDVVC\_V.3\_FDJ\_01312020 | As reference/name |  |
| Ford GIS Standard | As reference/name |  |
| FunctionSpec\_MDVVC\_V6.2\_UPV2\_11152019 | As reference/name |  |
| modevi\_full\_sw\_reqs\_draft2.6.docx | As reference/name |  |
| modevi\_hmiflows.vsdx | As reference/name |  |
| Sentinel - Camera Manager | As reference/name |  |
| Sentinel - SPSS | As reference/name |  |
| Sent\_FD\_20210617a\_Phoenix.docx | Sentinel Feature Dociment - Phoenix Variants |  |
| Sent\_FD\_20210812a\_V710.docx | Sentinel Feature Document - V710 Variant |  |
| Sent\_FIS\_20210617b\_Phoenix.docx | Sentinel FIS - Phoenix Variants |  |
| Sent\_FIS\_20210813a\_V710.docx | Sentinel FIS - V710 Variant |  |
| Sent\_FS\_20210617a\_Phoenix.docx | Sentinel Functional Specification - Phoenix Variants |  |
| Sent\_FS\_20210812a\_V710.docx | Sentinel Functional Specification - V710 Variant |  |

Table 1‑1: Ford internal Documents

### External Documents and Publications

The list of external documents could include books, reports and online sources.

| **Reference** | **Document / Publication** | **Document Location** |
| --- | --- | --- |
| European General Data Protection Regulation GDPR (EU) 2016/679 | As reference/name |  |
| IEEE Std 1012-2004 IEEE Standard for Software Verification and Validation | As reference/name |  |
| ISO/IEC 19500-2:2003 | As reference/name  Information technology -- Open Distributed Processing -- Part 2 |  |
| UML Testing Profile (UTP), v1.2 | As reference/name |  |

Table 1‑2: External documents and publications

## Glossary

### Definitions

| **Definition** | **Description** |
| --- | --- |
| Kinesis | Amazon Kinesis Data Streams (KDS) is a massively scalable and durable real-time data streaming service. The data collected is available in milliseconds to enable real-time analytics use cases such as real-time dashboards, real-time anomaly detection, dynamic pricing, and more. |
| WebRTC | WebRTC is an open technology specification for enabling real-time communication (RTC) across browsers and mobile applications via simple APIs. |

Table 1‑3: Definitions used in this document

### Abbreviations

| **Abbr.** | **Stands for** |
| --- | --- |
| ADAS | Advanced Driver Assistance Systems |
| APCA & CCS Cloud | AppLink Policies Cloud Application & Customer Connectivity Settings |
| APP | Application (ie software application) |
| BCM | Body Control Module |
| CAN | Controller Area Network (CAN bus) |
| CSM | Central Security Module |
| CVFMA | Connected Vehicle Feature Management Application |
| DAT | Driver Assistance Technologies |
| DCM | Door Control Module |
| DDSM | Digital Data Storage Module |
| ECG | Enhanced Central Gateway |
| EM | Electro-Magnetic |
| FPA | Ford Pass App (application). The App on the mobile the customer uses to view different cameras available to monitor the vehicle |
| HU | Head Unit |
| iPDB | intelligent Power Distribution Box |
| IR | Infra Red, or Implementation Requirement |
| ISC | Integrated Security Camera |
| KDS | Kinesis Data Streams |
| LIN | Local Interconnect Network |
| MDVVC | Mobile Device Viewer for Vehicle Cameras |
| OTA | Over the Air Updates |
| RTC | Real Time Communications |
| RTP | Real-time Transport Protocol |
| SEM | Sensor Extension Module |
| SoC % | State of Charge percentage. Percentage of the vehicle battery charge that is available. |
| SoC QF | State of Charge Quality Factor. Determine the reliability of the vehicle battery information values. |
| SoC SF | State of Charge Sensor Fault. Determines the fault status of the state of charge sensor. |
| SSP | Subscription Services Platform |
| SYNC | In vehicle HMI including in car entertainment etc. |
| TCU | Telematics Control Unit |
| TMC | Transportation Mobility Cloud |
| US | Ultra Sonic |
| USB | Universal Serial Bus |
| VOE | Video Over Ethernet |
| VPSM | Vehicle Power State Manager / Variable Power Moding system |
| VRP | Video Recording and Playback |
| VRS | Video RecordierService |

Table 1‑4: Abbreviations used in this document.

# Feature Implementation Overview

## Description

ISC Item Physical

Monitoring of the area around a parked vehicle using onboard sensors. Sensors include :

vehicle tilt, vehicle acceleration, ultrasonic sensors in cabin, interior cameras (where fitted) and external cameras.

Video and threat data will be stored locally (USB jump-drive - where fitted).

## Input Requirements/Documents

|  |  |  |  |
| --- | --- | --- | --- |
| **Reference**  (Reference as listed in ch. “References”) | **Section/Requirement** | **Description** | **Derived Requirement**  (optional – reference to requirement in ch. “Feature Implementation Requirements”) |
| **Feature/Function Requirements** | | | |
|  |  |  |  |
|  |  |  |  |
| **Ford Engineering Standards** | | | |
|  |  |  |  |
|  |  |  |  |
| **Legal Regulations** | | | |
|  | Compliance with FMVSS101 | The Feature shall comply with FMVSS101. |  |
|  |  |  |  |
| **Industry Standards** | | | |
|  | ISO 26262 | The system should be developed according to Ford's implementation of Functional Safety. |  |
|  |  |  |  |
| **Other Sources** | | | |
|  |  |  |  |
|  | Remotely Monitor Vehicle | When requested by the user the ISC shall allow remote monitoring of the vehicle |  |
|  |  |  |  |

Table 2‑1: Input Requirements/Documents

## Lessons Learned

Quality History Items:

1. Limited to only one smart phone alert

2. Parking in Area with Poor Cellular Coverage

3. Sudden No Power or Lost communication

4. Sudden block or covering of camera lens

5. Cloud Failure no record of theft attack or recording stops prematurely

6. Poor quality image. Dark image, jerky image

7. Poor Detection performance in rain/snow/hail or adverse weather conditions

8. Road salt, grime, dust, foreign objects on Camera

9. Not Able To Connect Live View As It Is Happening

10. Does not power up

11. Does not respond quick enough for Crash Event

12. Difficult to set up Sentinel on my SmartPhone

13. Fleet User with Multiple Vehicles

## Assumptions



# Feature Implementation Architecture

## Functional Architecture

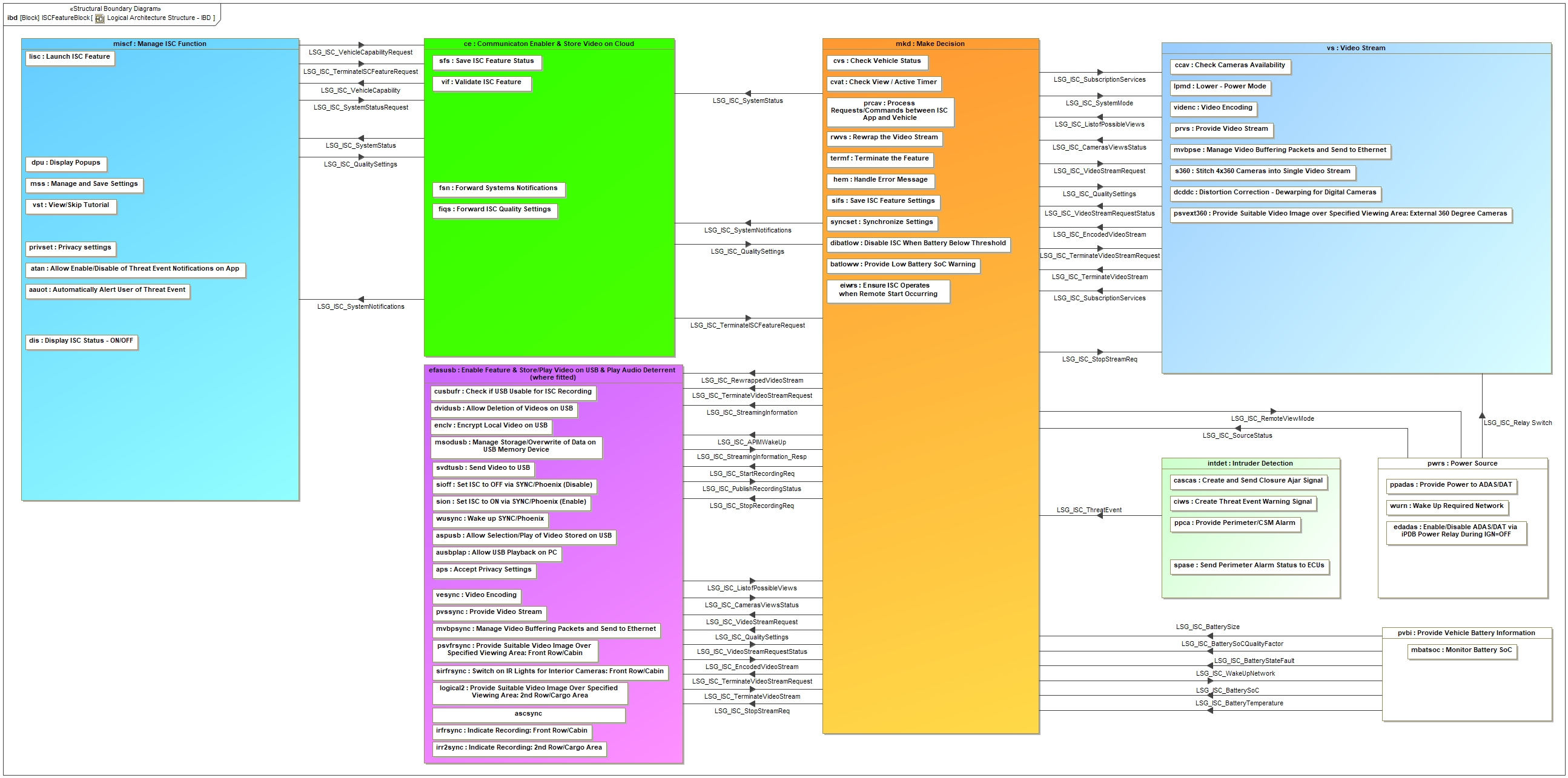


Figure 3‑1: Functional Architecture Internal Block Diagram (IBD)

### Description

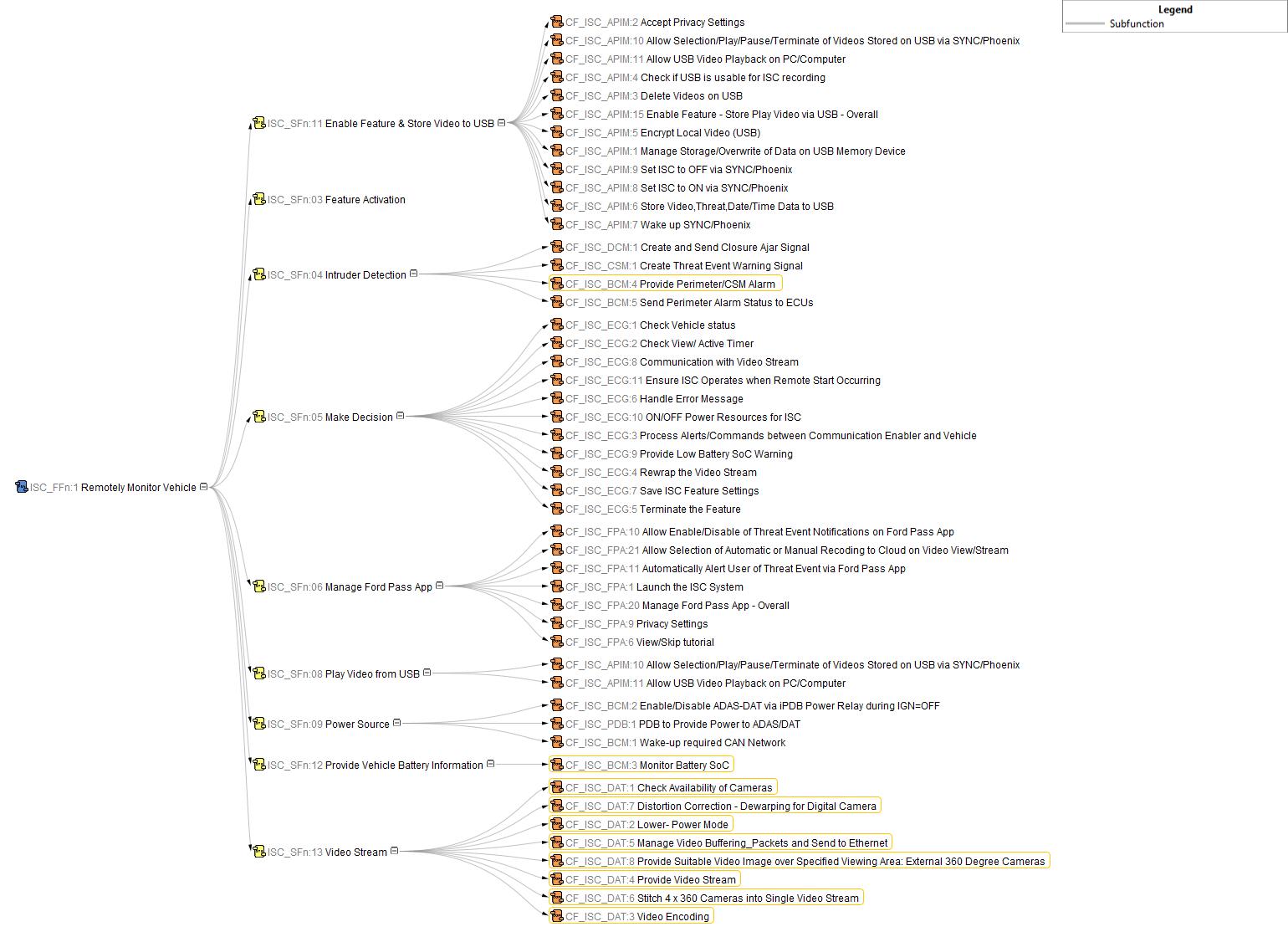


Figure 3‑2: Functional Decomposition

### Function List

The following functions from the [Global Feature & Function List](https://www.vsemweb.ford.com:443/tc/launchapp?-attach=true&-s=226TCSession&-o=ZmZNi0JHx3NrTDAAAAAAAAAAAAA) are referenced in this Feature Implementation Specification:

| **Function ID** | Function Name | Function Description |
| --- | --- | --- |
| ISC\_SFn:03 | -1740269517.jpg Feature Activation | To activate the feature |
| ISC\_SFn:04 | -1740269517.jpg Intruder Detection | To detect threat events at the vehicle |
| ISC\_SFn:05 | -1740269517.jpg Make Decision | The Make Decision Function handles all decisions at the vehicle side regarding the initiation and termination of the feature and handling the error messages regarding the feature depending on the user’s requests for the video stream |
| ISC\_SFn:06 | -1740269517.jpg Manage Ford Pass App | This function allows to:  - Launch the ISC system  - Display Available Cameras Views with their Status  - Request, display and terminate the video stream  - Display the pop-ups  - Manage and save the settings  - View/Skip tutorial  - Image Capture |
| ISC\_SFn:08 | -1740269517.jpg Play Video from USB | To play video (on the APIM/SYNC/Phoenix) that is stored on the USB memory device |
| ISC\_SFn:09 | -1740269517.jpg Power Source | This function provides power to Video Stream function. |
| ISC\_SFn:11 | -1740269517.jpg Enable Feature & Store Video to USB | To enable the feature and store video on the USB memory device |
| ISC\_SFn:12 | -1740269517.jpg Provide Vehicle Battery Information | The Vehicle Battery information Function provides the Vehicle Battery information to the Make Decision Function to evaluate if the video stream is possible or not. |
| ISC\_SFn:13 | -1740269517.jpg Video Stream | To "live" stream video from the vehicle cameras to the network (clouds and user's mobile and the USB memory device - note only to USB for China Variants) |

Table 3‑1: List of Logical Level System Functions

|  |  |  |  |
| --- | --- | --- | --- |
| **#** | **Id** | **Name** | **Documentation** |
| 1 | CF\_ISC\_APIM:1 | Manage Storage/Overwrite of Data on USB Memory Device | The manage and overwriting of Video, Threat & Date/Time data on the USB memory device (eg pen drive) must be controlled |
| 2 | CF\_ISC\_APIM:2 | Accept Privacy Settings | The APIM is used to allow acceptance of the privacy settings for the feature |
| 3 | CF\_ISC\_APIM:3 | Delete Videos on USB | Delete Videos on USB |
| 4 | CF\_ISC\_APIM:4 | Check if USB is usable for ISC recording | Check, warn and if required formatting of USB memory device |
| 5 | CF\_ISC\_APIM:5 | Encrypt Local Video (USB) | When requested by the user the feature shall be able to encrypt the data recorded onto the local (USB) storage |
| 6 | CF\_ISC\_APIM:6 | Store Video,Threat,Date/Time Data to USB | When triggered by the perimeter alarm (including radar if installed) from the BCM the SYNC/Phoenix shall read the video data from the designated Ethernet port and store to a USB memory device. The Ethernet port shall be supplied by the Camera Manager in the ECG. |
| 7 | CF\_ISC\_APIM:7 | Wake up SYNC/Phoenix | Trigger (from BCM): Perimeter\_Alarm\_Status=activated |
| 8 | CF\_ISC\_APIM:8 | Set ISC to ON via SYNC/Phoenix | Set ISC to ON via SYNC/Phoenix |
| 9 | CF\_ISC\_APIM:9 | Set ISC to OFF via SYNC/Phoenix | Set ISC to OFF via SYNC/Phoenix |
| 10 | CF\_ISC\_APIM:10 | Allow Selection/Play/Pause/Terminate of Videos Stored on USB via SYNC/Phoenix | Allow Selection/Play/Pause/Terminate of Videos Stored on USB via SYNC/Phoenix |
| 11 | CF\_ISC\_APIM:11 | Allow USB Video Playback on PC/Computer | Record video onto USB memory device in a suitable format for playback on a PC/Computer (in addition to on SYNC/Phoenix) |
| 12 | CF\_ISC\_APIM:15 | Enable Feature - Store Play Video via USB - Overall | To gather inputs and outputs for APIM functions |
| 13 | CF\_ISC\_BCM:1 | Wake-up required CAN Network | Wake-up required CAN Network |
| 14 | CF\_ISC\_BCM:2 | Enable/Disable ADAS-DAT via iPDB Power Relay during IGN=OFF | Enable/Disable ADAS/DAT power source during IGN=OFF |
| 15 | CF\_ISC\_BCM:3 | Monitor Battery SoC | The Vehicle Battery information Function provides the Vehicle Battery information to the Make Decision Function to evaluate if the video stream is possible or not. |
| 16 | CF\_ISC\_BCM:3 | Monitor Battery SOC | Monitor Battery SOC |
| 17 | CF\_ISC\_BCM:4 | Provide Perimeter/CSM Alarm | Provide Perimeter Alarm (CSM) |
| 18 | CF\_ISC\_BCM:4 | Power Source - Overall | To show all Power Source input/ouput signals |
| 19 | CF\_ISC\_BCM:5 | Send Perimeter Alarm Status to ECUs | The DAT shall request operation of the cameras when requested by the BCM or ECG |
| 20 | CF\_ISC\_CLOUD:12 | Communication Enabler - Overall | To gather the inputs and outputs for all Communication enabler functions |
| 21 | CF\_ISC\_CLOUD:13 | Allow OTA Functionality | Allow OTA software updates to occurr when required |
| 22 | CF\_ISC\_CSM:1 | Create Threat Event Warning Signal | Internal sensors trigger module to produce warming signal when intruder in vehicle |
| 23 | CF\_ISC\_DAT:1 | Check Availability of Cameras | Check Cameras Availability |
| 24 | CF\_ISC\_DAT:2 | Lower- Power Mode | Lower- Power Mode |
| 25 | CF\_ISC\_DAT:3 | Video Encoding | Video Encoding |
| 26 | CF\_ISC\_DAT:4 | Provide Video Stream | Provide Video Stream |
| 27 | CF\_ISC\_DAT:5 | Manage Video Buffering\_Packets and Send to Ethernet | Manage Video Buffering\_Packets and Send to Ethernet |
| 28 | CF\_ISC\_DAT:6 | Stitch 4 x 360 Cameras into Single Video Stream | Stitch 4 x 360 Cameras into Single Video Stream |
| 29 | CF\_ISC\_DAT:7 | Distortion Correction - Dewarping for Digital Camera | Distortion Correction - Dewarping for Digital Camera |
| 30 | CF\_ISC\_DAT:8 | Provide Suitable Video Image over Specified Viewing Area: External 360 Degree Cameras | The camera needs to supply a suitable quality output image (NTSC 720x420 , equivalent to 0.3MP), after processing. Note due to image cropping, a 1MP camera is required. |
| 31 | CF\_ISC\_DAT:16 | Video Stream Function - Overall | To capture all Video stream functionality inputs/outputs |
| 32 | CF\_ISC\_DCM:1 | Create and Send Closure Ajar Signal | When the perimeter alarm is active the closure ajar signal should be detetected and sent to the BCM |
| 33 | CF\_ISC\_ECG:1 | Check Vehicle status | Check Vehicle status |
| 34 | CF\_ISC\_ECG:2 | Check View/ Active Timer | Check View/ Active Timer |
| 35 | CF\_ISC\_ECG:3 | Process Alerts/Commands between Communication Enabler and Vehicle | Process Alerts/Commands between Communication Enabler and Vehicle |
| 36 | CF\_ISC\_ECG:4 | Rewrap the Video Stream | Rewrap the Video Stream. This includes passing Video to TCU (WebRTC or Kinesis format) |
| 37 | CF\_ISC\_ECG:5 | Terminate the Feature | Terminate the Feature, including: - Timeout Video Streaming from DAT/ADAS - ECG to Shut Down ADAS/DAT - Disable Streaming of Video to TCU from ECG - Warn SYNC/Phoenix and Cloud to Stop Recording (for USB variants)  - Put to Sleep CAN Network |
| 38 | CF\_ISC\_ECG:6 | Handle Error Message | Handle Error Message |
| 39 | CF\_ISC\_ECG:7 | Save ISC Feature Settings | Save ISC Feature Settings |
| 40 | CF\_ISC\_ECG:8 | Communication with Video Stream | Communication with Video Stream |
| 41 | CF\_ISC\_ECG:9 | Provide Low Battery SoC Warning | Provide Low Battery SoC Warning |
| 42 | CF\_ISC\_ECG:10 | ON/OFF Power Resources for ISC | ON/OFF Power Resources for ISC. MDVVC has Low/Medium severity, Sentinel Critical Severity. |
| 43 | CF\_ISC\_ECG:11 | Ensure ISC Operates when Remote Start Occurring | Ensure ISC Operates when Remote Start Occurring |
| 44 | CF\_ISC\_ECG:12 | Make Decision - Overall | Do define the inputs and outputs for the make decision functions |
| 45 | CF\_ISC\_FPA:1 | Launch the ISC System | Launch the ISC System |
| 46 | CF\_ISC\_FPA:6 | View/Skip tutorial | View/Skip tutorial |
| 47 | CF\_ISC\_FPA:9 | Privacy Settings | To control the privacy related functionality of the feature |
| 48 | CF\_ISC\_FPA:10 | Allow Enable/Disable of Threat Event Notifications on Ford Pass App | Allow Enable of Alerts of Threat Events on Ford Pass App |
| 49 | CF\_ISC\_FPA:11 | Automatically Alert User of Threat Event via Ford Pass App | Automatically Alert User of Threat Event via Ford Pass App |
| 50 | CF\_ISC\_FPA:20 | Manage Ford Pass App - Overall | To describe the inputs and outputs for the Ford Pass App functions |
| 51 | CF\_ISC\_FPA:21 | Allow Selection of Automatic or Manual Recoding to Cloud on Video View/Stream | Allow Selection of Automatic or Manual Recoding to Cloud on Video View/Stream |
| 52 | CF\_ISC\_PDB:1 | PDB to Provide Power to ADAS/DAT | ADAS/DAT required power for cameras/lights/processing |

Table 3‑2: List of Technology Level Component Functions

### Signal List

Also see later in document.

| **Signal Name** | **Description** |
| --- | --- |
| **LSG\_ISC\_APIMWakeUp** | To wake-up the APIM (SYNC/Phoenix) |
| **LSG\_ISC\_BatterySize** | Used to provide the vehicle Battery Size. |
| **LSG\_ISC\_BatterySoC** | Used to provide the Battery SoC |
| **LSG\_ISC\_BatterySoCQualityFactor** | Used to provide the vehicle Battery SoC QF (State of Charge Quality Factor). |
| **LSG\_ISC\_BatteryStateFault** | Used to provide the vehicle Battery State Fault. |
| **LSG\_ISC\_BatteryTemperature** | Used to provide the vehicle battery temperature. |
| **LSG\_ISC\_CamerasViewsStatus** | Used to provide information on the status of the camera views |
| **LSG\_ISC\_EncodedVideoStream** | Used to provide the encoded video stream. |
| **LSG\_ISC\_ListofPossibleViews** | Used to provide a list of possible camera views |
| **LSG\_ISC\_PublishRecordingStatus** | Used to provide the VRP status when recording is in progress |
| **LSG\_ISC\_PublishStreamStatus** | Used to provide the information about the ongoing streams |
| **LSG\_ISC\_PublishStreamStatusReq** | Used to request the information about the ongoing streams |
| **LSG\_ISC\_QualitySettings** | Used to provide the quality settings of the video stream. |
| **LSG\_ISC\_Relay Switch** | Used to control the power to the ADAS/DAT |
| **LSG\_ISC\_RemoteViewMode** | Used to notify that the vehicle is in a remote viewing mode while in a key of state |
| **LSG\_ISC\_RewrappedVideoStream** | Used for the rewrapped video stream from the ADAS/DAT |
| **LSG\_ISC\_SourceStatus** | Used to provide status of ADAS/DAT module |
| **LSG\_ISC\_StartRecordingReq** | Used to send a start recording request to VRP |
| **LSG\_ISC\_StopRecordingReq** | Used to send a stop recording request to VRP |
| **LSG\_ISC\_StopStreamReq** | Used to stop the ongoing stream |
| **LSG\_ISC\_StreamingInformation** | Used to provide the streaming credential information to ECG |
| **LSG\_ISC\_StreamingInformation\_Resp** | Used to provide the streaming credential information to Cloud |
| **LSG\_ISC\_SubscriptionServices** | Used to provide the status of subscription details |
| **LSG\_ISC\_SystemMode** | Used to provide the status of ISC feature ON/OFF |
| **LSG\_ISC\_SystemNotifications** | Used to provide the vehicle status (e.g. battery, ignition or connectivity etc..) when feature is in use |
| **LSG\_ISC\_SystemStatus** | Used to provide the system status of ISC feature ON/OFF |
| **LSG\_ISC\_SystemStatusRequest** | Used to request the system status of ISC feature ON/OFF when feature in use |
| **LSG\_ISC\_TerminateISCFeatureRequest** | Used to request the termination of the feature |
| **LSG\_ISC\_TerminateVideoStream** | Used to terminate the video stream |
| **LSG\_ISC\_TerminateVideoStreamRequest** | Used to request termination of the video stream |
| **LSG\_ISC\_ThreatEvent** | Signal indicating that a threat event has occurred at the vehicle |
| **LSG\_ISC\_VehicleCapability** | Used to provide the capability status of the VIN for ISC feature |
| **LSG\_ISC\_VehicleCapabilityRequest** | Used to request the capability status of the VIN for ISC feature |
| **LSG\_ISC\_VideoStreamRequest** | Used to request the video stream |
| **LSG\_ISC\_VideoStreamRequestStatus** | Used to provide the status of the video stream request |
| **LSG\_ISC\_WakeUpNetwork** | Used to wake-up the required CAN network |

Table 3‑3: List of Logical Signals



Table 3‑4: Logical to Technology Level Signal Realization

## Physical Architecture

### E/E Architecture

#### E/E Architecture Variants

*No E/E Architecture Variant found.*

##### E/E Architecture “Architecture Variant 1”

|  |  |  |
| --- | --- | --- |
| **[8] U718 China** | MY25 - FNV3 - nonBEV  Live Video Streaming  No Manual Recording - Automatic Recording to USB Only  Not Capable of View/Store Video to Cloud  No Internal Cabin Cameras  No Truck Bed/Aux Camera  360degree External Camera View  1 CSM Unit  No Truck Bed Radar  No Audio Deterrent - No Audio detect in Truck Bed  Duer OS  USB Video Storage/Play Capability | **SCOPE OF THIS DOCUMENT – VARIANT 8 ONLY** |

##### E/E Architecture “Architecture Variant 2”

#### E/E Components

|  |  |
| --- | --- |
| Component Name | **Description** |

Table 3‑5: Electrical Components

#### E/E Connections

*No E/E Connections found.*

#### Signal List

Table 3‑6: List of Technical Signals

### Software Component Architecture

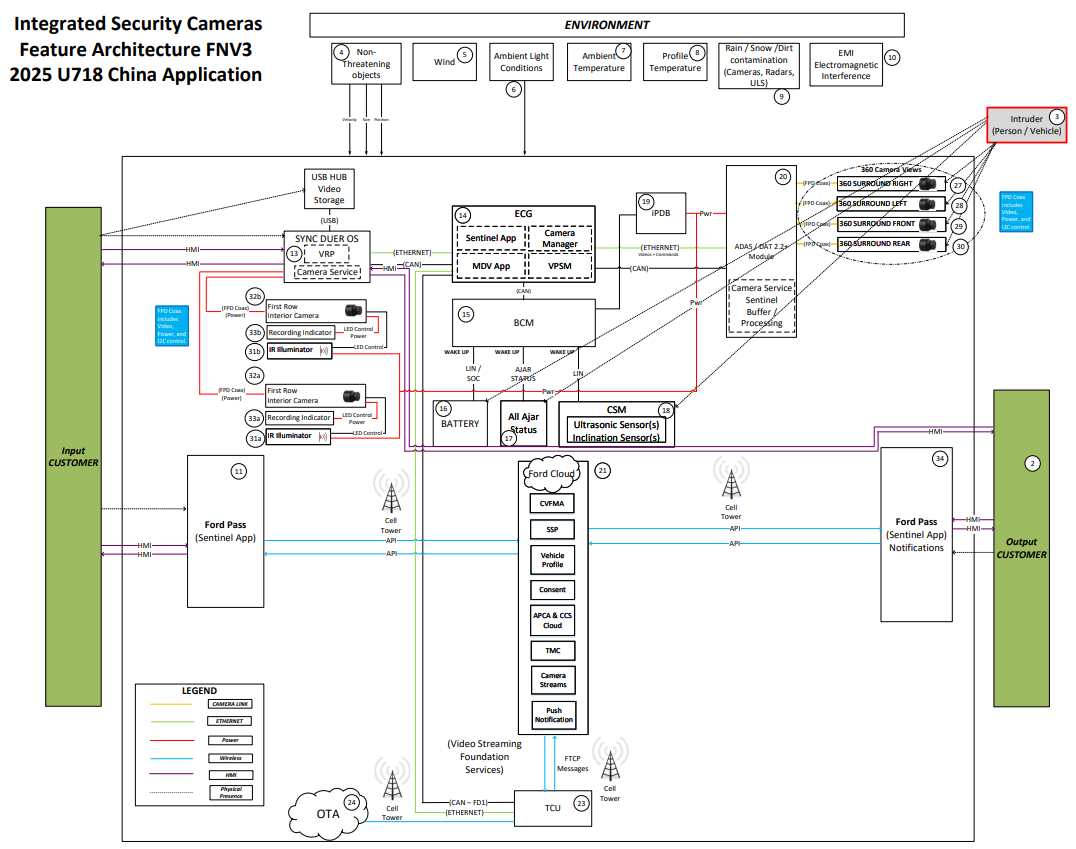


Figure 3‑3 E/E Architecture – U718 China Boundary Diagram – Visio Version

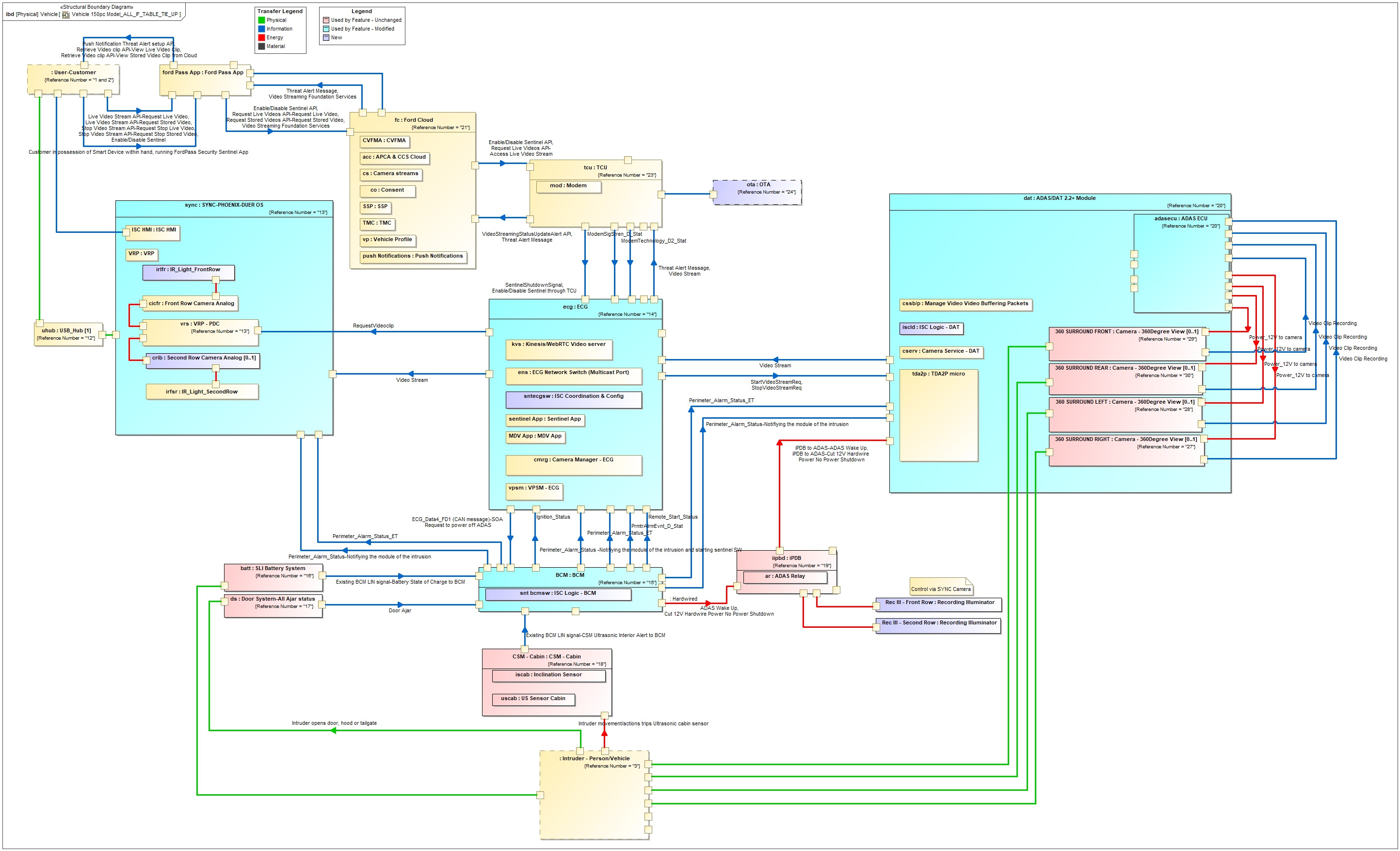


Figure 3‑4 E/E Architecture – U718 china Boundary Diagram – MagicDraw Version

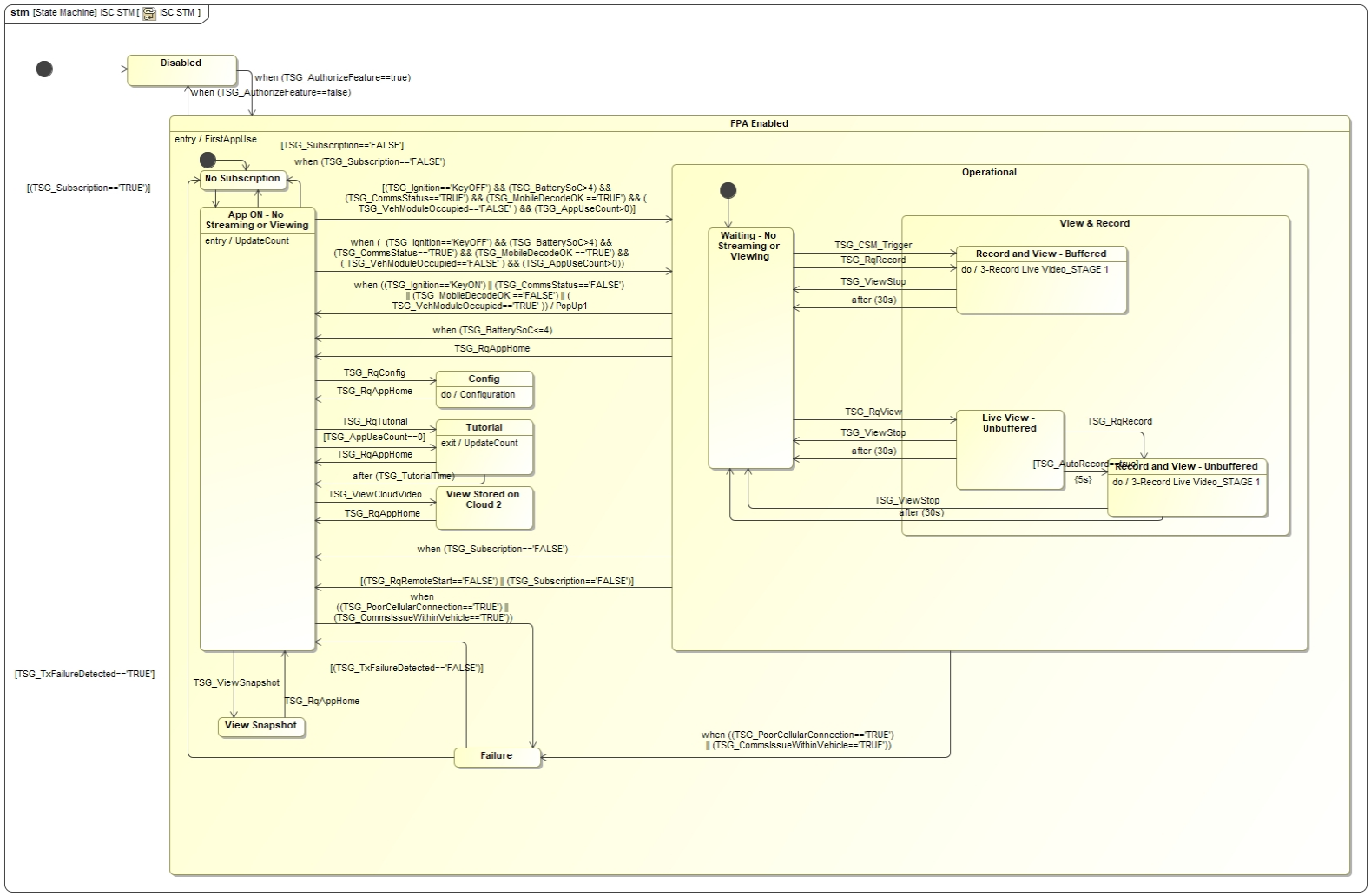


Figure 5: ISC Feature State Machine – NOTE: This diagram includes live video streaming (and recording) to the Cloud – this is NOT APPLICABLE FOR CHINA MARKET VARIANT

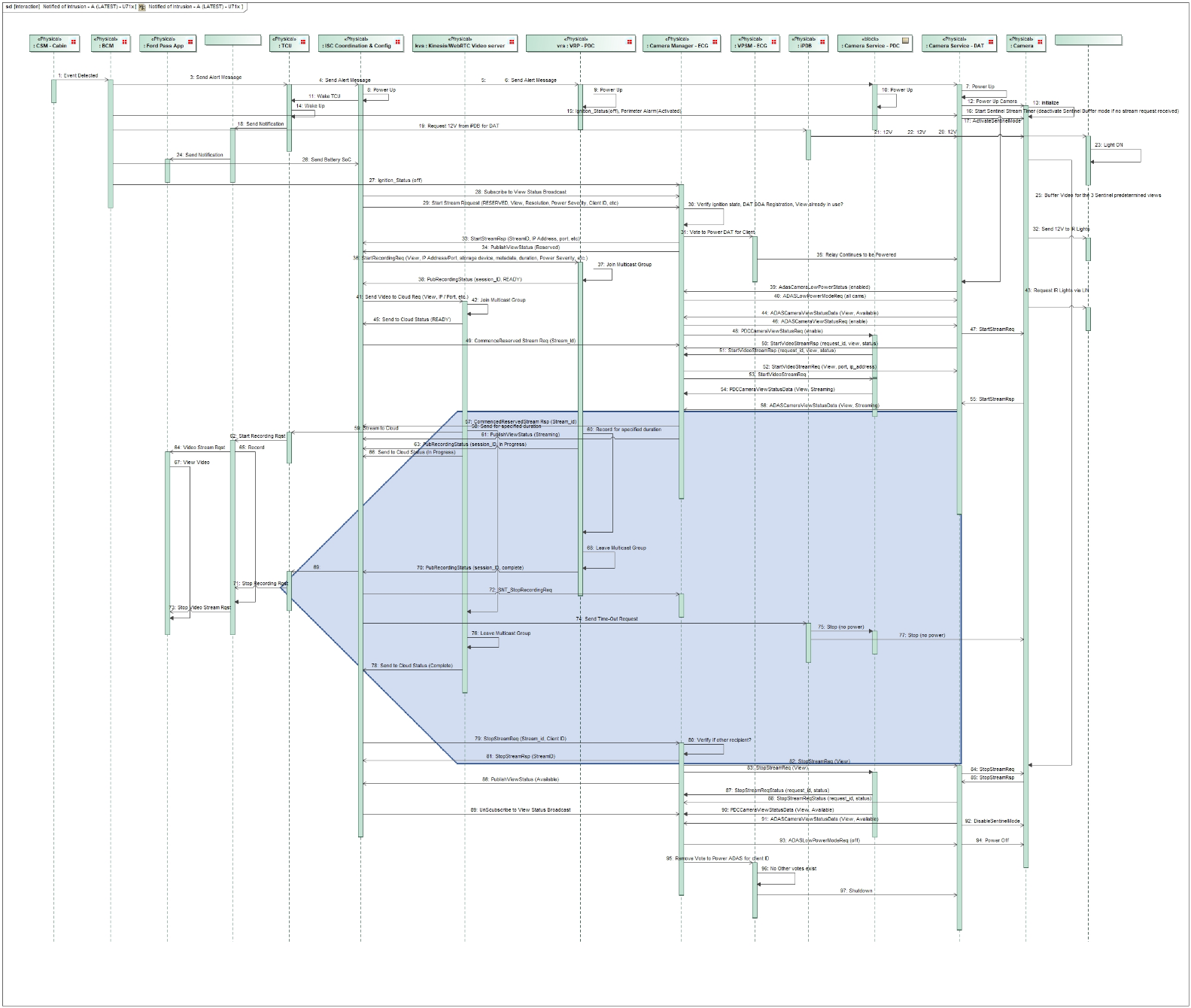


Figure 6: Sequence Diagram for Record Live Video Machine – NOTE: This diagram includes live video streaming (and recording) to the Cloud – this is NOT APPLICABLE FOR CHINA MARKET VARIANT

## Function Deployment

### Deployment Variants

#### Deployment Vehicle System Behavior

This deployment variant … <add some explanatory text here>

### Function Allocation

| Component | Technology Function Name | Logical Function Name |
| --- | --- | --- |
|
| -1623006167.jpg Camera Manager – ECG | -1733286227.jpg reserveStream | *No logical function Realized by this Technology function.* |
| -1733286227.jpg receiveCommenceVideoStream | *No logical function Realized by this Technology function.* |
| -1733286227.jpg StopStreaming | *No logical function Realized by this Technology function.* |
| -1623006167.jpg OTA | -1733286227.jpg Allow OTA Functionality | *No logical function Realized by this Technology function.* |
| -1623006167.jpg CSM – Cabin | -1733286227.jpg Create Threat Event Warning Signal | * -211413277.jpg Intruder Detection * -211413277.jpg Process Intruder Signals |
| -1623006167.jpg ADAS ECU | -1733286227.jpg Control Internal Camera(s) View | *No logical function Realized by this Technology function.* |
| -1733286227.jpg Stitch 4 x 360 Cameras into Single Video Stream | *No logical function Realized by this Technology function.* |
| -1733286227.jpg Request Camera Stream | *No logical function Realized by this Technology function.* |
| -1733286227.jpg Manage Video Buffering\_Packets and Send to Ethernet | *No logical function Realized by this Technology function.* |
| -1733286227.jpg Distortion Correction – Dewarping for Digital Camera | *No logical function Realized by this Technology function.* |
| -1733286227.jpg Request IR Lighting | * -211413277.jpg Provide Additioinal Lighting (Infra Red) |
| -1623006167.jpg SYNC-PHOENIX-DUER OS | -1733286227.jpg Allow Selection/Play/Pause/Terminate of Videos Stored on USB via SYNC/Phoenix | * -211413277.jpg Play Video from USB |
| -1733286227.jpg Encrypt Local Video (USB) | * -211413277.jpg Enable Feature & Store Video to USB |
| -1733286227.jpg Play Video from USB on SYNC | * -211413277.jpg Access videos in USB * -211413277.jpg Play video in USB * -211413277.jpg Allow USB Video Playback on SYNC/Phoenix |
| -1733286227.jpg Enable Feature – Store Play Video via USB – Overall | *No logical function Realized by this Technology function.* |
| -1733286227.jpg Accept Privacy Settings | * -211413277.jpg Enable Feature & Store Video to USB |
| -1733286227.jpg Stop Video Playback from USB on SYNC/Phoenix | * -211413277.jpg Stop video in USB |
| -1733286227.jpg Set ISC to OFF via SYNC/Phoenix | * -211413277.jpg Enable Feature & Store Video to USB |
| -1733286227.jpg Set Sentinel via SYNC to ON | * -211413277.jpg Send enable signal * -211413277.jpg Display enable-disable sentinel feature status * -211413277.jpg Set Sentinel feature to ON or OFF |
| -1733286227.jpg Allow USB Video Playback on PC/Computer | * -211413277.jpg Allow USB Video Playback on PC/Computer * -211413277.jpg Play Video from USB |
| -1733286227.jpg Check if USB is usable for ISC recording | * -211413277.jpg Check to see if USB memory device installed and inform user if not * -211413277.jpg Enable Feature & Store Video to USB |
| -1733286227.jpg Wake up SYNC/Phoenix | * -211413277.jpg Enable Feature & Store Video to USB |
| -1733286227.jpg Store Video,Threat,Date/Time Data to USB | * -211413277.jpg Enable Feature & Store Video to USB |
| -1733286227.jpg Manage Storage/Overwrite of Data on USB Memory Device | * -211413277.jpg Manage Overwrite of USB Memory * -211413277.jpg Enable Feature & Store Video to USB |
| -1733286227.jpg Set ISC to ON via SYNC/Phoenix | * -211413277.jpg Enable Feature & Store Video to USB |
| -1733286227.jpg Inform user via SYNC\_Phoenix of poor internet access when parked and USB pen-drive required | *No logical function Realized by this Technology function.* |
| -1733286227.jpg Pause Video Playback from USB on SYNC/Phoenix | * -211413277.jpg Pause video in USB |
| -1733286227.jpg Allow Selection of Videos Stored on USB | * -211413277.jpg Access videos in USB * -211413277.jpg Filter locally stored videos-time based |
| -1733286227.jpg Delete Videos on USB | * -211413277.jpg Enable Feature & Store Video to USB * -211413277.jpg Delete video in USB |
| -1733286227.jpg Set Sentinal via SYNC to OFF | * -211413277.jpg Set Sentinel feature to ON or OFF |
| -1623006167.jpg Camera – 360Degree View | -1733286227.jpg Provide Suitable Video Image over Specified Viewing Area: External 360 Degree Cameras | * -211413277.jpg Selected camera streams video * -211413277.jpg Video Stream |
| -1623006167.jpg Ford Pass App | -1733286227.jpg Allow User to Adjust Time/date of Start of Video Viewing via App | * -211413277.jpg Set all sentinel settings |
| -1733286227.jpg Automatically Alert User of Threat Event via Ford Pass App | * -211413277.jpg Manage Ford Pass App |
| -1733286227.jpg Privacy Settings | * -211413277.jpg Manage Ford Pass App |
| -1733286227.jpg Accept Privacy Settings | * -211413277.jpg Enable Feature & Store Video to USB |
| -1733286227.jpg Allow Launch of Tutorial on First Time Use on App | * -211413277.jpg Launch sentinel tutorial * -211413277.jpg Get user request |
| -1733286227.jpg Allow Selection of Automatic or Manual Recoding to Cloud on Video View/Stream | * -211413277.jpg Manage Ford Pass App |
| -1733286227.jpg Inform user via FordPass App of poor internet access when parked and USB pen-drive required | *No logical function Realized by this Technology function.* |
| -1733286227.jpg View/Skip tutorial | * -211413277.jpg Manage Ford Pass App |
| -1733286227.jpg Notfication of camera contamination | *No logical function Realized by this Technology function.* |
| -1733286227.jpg Launch the ISC System | * -211413277.jpg Manage Ford Pass App |
| -1733286227.jpg Allow Skip of Tutorial on First Time Use on App | * -211413277.jpg Launch sentinel tutorial |
| -1733286227.jpg Manage Ford Pass App – Overall | * -211413277.jpg Manage Ford Pass App |
| -1733286227.jpg Allow Enable/Disable of Threat Event Notifications on Ford Pass App | * -211413277.jpg Set variable value or group of variables value to modify * -211413277.jpg Display notifications * -211413277.jpg Set Sentinel feature to ON or OFF * -211413277.jpg Filter videos in cloud-intrusion method based * -211413277.jpg Manage Ford Pass App * -211413277.jpg Set all sentinel settings |
| -1733286227.jpg Allow User to Select Threat Event Video Clip to View Via App | * -211413277.jpg Filter videos in cloud-intrusion method based |
| -1733286227.jpg Allow Play/Pause/Stop of Sales Demo Video on App | *No logical function Realized by this Technology function.* |
| -1733286227.jpg Allow Launch of Tutorial on App | * -211413277.jpg Launch sentinel tutorial |
| -1623006167.jpg VRP | -1733286227.jpg receiveVideoForRecording | *No logical function Realized by this Technology function.* |
| -1733286227.jpg receiveTimeout | *No logical function Realized by this Technology function.* |
| -1733286227.jpg stopRecordRequest | *No logical function Realized by this Technology function.* |
| -1623006167.jpg IR\_Light\_FrontRow | -1733286227.jpg Provide IR Lighting and Indicate Recording: Cabin | * -211413277.jpg Provide Additioinal Lighting (Infra Red) * -211413277.jpg DAT\_Warn When Recording |
| -1623006167.jpg Inclination Sensor | -1733286227.jpg Create Threat Event Warning Signal | * -211413277.jpg Intruder Detection * -211413277.jpg Process Intruder Signals |
| -1623006167.jpg ADAS Relay | -1733286227.jpg Request Camera Stream | *No logical function Realized by this Technology function.* |
| -1733286227.jpg Request IR Lighting | * -211413277.jpg Provide Additioinal Lighting (Infra Red) |
| -1623006167.jpg ADAS/DAT 2.2+ Module | -1733286227.jpg Lower- Power Mode | * -211413277.jpg Video Stream |
| -1733286227.jpg Control Internal Camera(s) View | *No logical function Realized by this Technology function.* |
| -1733286227.jpg Provide Diagnostics for IR Lights | * -211413277.jpg Provide Diagnostics for IR Lights |
| -1733286227.jpg Video Stream Function – Overall | *No logical function Realized by this Technology function.* |
| -1733286227.jpg Request IR Lighting | * -211413277.jpg Provide Additioinal Lighting (Infra Red) |
| -1733286227.jpg Distortion Correction – Dewarping for Digital Camera | * -211413277.jpg Video Stream |
| -1733286227.jpg Manage Video Buffering\_Packets and Send to Ethernet | * -211413277.jpg Video Stream |
| -1733286227.jpg Stitch 4 x 360 Cameras into Single Video Stream | *No logical function Realized by this Technology function.* |
| -1733286227.jpg Request Camera Stream | *No logical function Realized by this Technology function.* |
| -1733286227.jpg Stitch 4 x 360 Cameras into Single Video Stream | * -211413277.jpg Video Stream |
| -1733286227.jpg Provide Video Stream | * -211413277.jpg Video Stream |
| -1733286227.jpg Manage Video Buffering\_Packets and Send to Ethernet | *No logical function Realized by this Technology function.* |
| -1733286227.jpg Distortion Correction – Dewarping for Digital Camera | *No logical function Realized by this Technology function.* |
| -1733286227.jpg Check Availability of Cameras | * -211413277.jpg Video Stream |
| -1733286227.jpg Video Encoding | * -211413277.jpg Video Stream |
| -1623006167.jpg BCM | -1733286227.jpg Sentinel Operates when Remote Start Occurring | * -211413277.jpg Allow Sentinel Operation with Remote Start |
| -1733286227.jpg Wake-up required CAN Network | * -211413277.jpg Power Source |
| -1733286227.jpg Enable/Disable ADAS-DAT via iPDB Power Relay during IGN=OFF | * -211413277.jpg Power Source |
| -1733286227.jpg Disable ADAS-DAT via iPDB Power Relay | * -211413277.jpg Send disable signal * -211413277.jpg Set Sentinel feature to ON or OFF |
| -1733286227.jpg Send Perimeter Alarm Status to ECUs | * -211413277.jpg Intruder Detection |
| -1733286227.jpg Wake up required ECUs | *No logical function Realized by this Technology function.* |
| -1733286227.jpg Monitor Battery SOC | * -211413277.jpg Inform user of low battery SoC * -211413277.jpg Cancel operation with low battery SoC |
| -1733286227.jpg Monitor Battery SOC | *No logical function Realized by this Technology function.* |
| -1733286227.jpg sendTriggerPerimeterAlarm | *No logical function Realized by this Technology function.* |
| -1733286227.jpg Monitor Battery SoC | * -211413277.jpg Provide Vehicle Battery Information |
| -1733286227.jpg Enable ADAS-DAT via iPDB Power Relay when Perimeter Alarm Status = Activated | *No logical function Realized by this Technology function.* |
| -1733286227.jpg receiveStartRecordRequest | *No logical function Realized by this Technology function.* |
| -1733286227.jpg Provide Perimeter/CSM Alarm | * -211413277.jpg Intruder Detection * -211413277.jpg Process Intruder Signals |
| -1733286227.jpg Power Source – Overall | *No logical function Realized by this Technology function.* |
| -1733286227.jpg Allow user to exit vehicle without activating intruder notification | * -211413277.jpg Set Sentinel feature to ON or OFF * -211413277.jpg Allow exit from vehicle after requesting Sentinel operation |
| -1623006167.jpg TCU | -1733286227.jpg TCU Accelerometer Analysis | *No logical function Realized by this Technology function.* |
| -1733286227.jpg Assess Connectivity Quality | * -211413277.jpg Provide Door Ajar Data |
| -1623006167.jpg iPDB | -1733286227.jpg PDB to Provide Power to ADAS/DAT | * -211413277.jpg Power Source * -211413277.jpg Forward selected camera transmission |
| -1623006167.jpg Door System-All Ajar status | -1733286227.jpg Create and Send Closure Ajar Signal | * -211413277.jpg Provide Door Ajar Data * -211413277.jpg Intruder Detection |
| -1623006167.jpg ECG | -1733286227.jpg Save ISC Feature Settings | * -211413277.jpg Make Decision |
| -1733286227.jpg Check Vehicle status | * -211413277.jpg Make Decision |
| -1733286227.jpg requestReserveStream | *No logical function Realized by this Technology function.* |
| -1733286227.jpg Enable Activation of ECG Module | *No logical function Realized by this Technology function.* |
| -1733286227.jpg checkReceivedVideoStreamStatusStreaming | *No logical function Realized by this Technology function.* |
| -1733286227.jpg Check View/ Active Timer | * -211413277.jpg Make Decision |
| -1733286227.jpg Terminate the Feature | * -211413277.jpg Make Decision |
| -1733286227.jpg Communication with Video Stream | * -211413277.jpg Set Sentinel feature to ON or OFF * -211413277.jpg Make Decision |
| -1733286227.jpg receiveStartVideoStreamRequest | *No logical function Realized by this Technology function.* |
| -1733286227.jpg Process Alerts/Commands between Communication Enabler and Vehicle | * -211413277.jpg Make Decision |
| -1733286227.jpg receivePerimeterAlarm | *No logical function Realized by this Technology function.* |
| -1733286227.jpg Send Notification to User | *No logical function Realized by this Technology function.* |
| -1733286227.jpg setInitiateTimer | *No logical function Realized by this Technology function.* |
| -1733286227.jpg monitorPublishStreamStatus | *No logical function Realized by this Technology function.* |
| -1733286227.jpg sendVideoStreamingStatusUpdateAlert | *No logical function Realized by this Technology function.* |
| -1733286227.jpg notifyIntrusionDetection | *No logical function Realized by this Technology function.* |
| -1733286227.jpg Handle Error Message | * -211413277.jpg Make Decision |
| -1733286227.jpg Make Decision – Overall | *No logical function Realized by this Technology function.* |
| -1733286227.jpg timeoutRecordTimer | *No logical function Realized by this Technology function.* |
| -1733286227.jpg Disable Arming of Sentinel Monitoring | * -211413277.jpg Terminate selected camera video stream |
| -1733286227.jpg Disable Activation of ECG Module | * -211413277.jpg Terminate selected camera video stream |
| -1733286227.jpg receiveIPAddressPortId | *No logical function Realized by this Technology function.* |
| -1733286227.jpg Determine Availability of Sentinel Cloud via TCU and Inform SYNC/Phoenix and App | *No logical function Realized by this Technology function.* |
| -1733286227.jpg Provide Low Battery SoC Warning | * -211413277.jpg Make Decision * -211413277.jpg Inform user of low battery SoC |
| -1733286227.jpg Arm Sentinel Monitoring and Decide if Notification Required | *No logical function Realized by this Technology function.* |
| -1733286227.jpg Request Signal Quality Status | * -211413277.jpg Check for internet signal |
| -1733286227.jpg Detect when vehicle parked | *No logical function Realized by this Technology function.* |
| -1733286227.jpg Rewrap the Video Stream | * -211413277.jpg Make Decision |
| -1733286227.jpg requestCommenceVideoStream | *No logical function Realized by this Technology function.* |
| -1733286227.jpg ECG to Shut Down TCU | * -211413277.jpg Terminate selected camera video stream |
| -1733286227.jpg requestStopStreaming | *No logical function Realized by this Technology function.* |
| -1733286227.jpg Ensure ISC Operates when Remote Start Occurring | * -211413277.jpg Make Decision |
| -1733286227.jpg setRecordingTimer | *No logical function Realized by this Technology function.* |
| -1733286227.jpg receiveReadyBroadcastMessage | *No logical function Realized by this Technology function.* |
| -1733286227.jpg ON/OFF Power Resources for ISC | * -211413277.jpg Make Decision * -211413277.jpg Terminate selected camera video stream * -211413277.jpg Cancel operation with low battery SoC |
| -1623006167.jpg ISC Logic – BCM | -1733286227.jpg Wake-up required CAN Network | * -211413277.jpg Power Source |
| -1733286227.jpg Enable/Disable ADAS-DAT via iPDB Power Relay during IGN=OFF | * -211413277.jpg Power Source |
| -1733286227.jpg PDB to Provide Power to ADAS/DAT | * -211413277.jpg Power Source * -211413277.jpg Forward selected camera transmission |
| -1623006167.jpg Cabin Interior Camera\_analog | -1733286227.jpg Distortion Correction – Dewarping for Internal (Analogue Output) Cameras: Cabin | * -211413277.jpg Selected camera streams video |
| -1623006167.jpg US Sensor Cabin | -1733286227.jpg Create Threat Event Warning Signal | * -211413277.jpg Intruder Detection * -211413277.jpg Process Intruder Signals |
| -1623006167.jpg Inclination Sensor Cargo | -1733286227.jpg Create Threat Event Warning Signal | * -211413277.jpg Intruder Detection * -211413277.jpg Process Intruder Signals |
| -1623006167.jpg IR\_Light\_SecondRow | -1733286227.jpg Provide IR Lighting and Indicate Recording: Cargo | * -211413277.jpg Provide Additioinal Lighting (Infra Red) * -211413277.jpg DAT\_Warn When Recording |
| -1623006167.jpg SLI Battery System | -1733286227.jpg Supply Power with IGN OFF | * -211413277.jpg Supply Power to Radar with IGN=OFF * -211413277.jpg Set power mode in ignition off |
| -1733286227.jpg Monitor Battery SoC | * -211413277.jpg Provide Vehicle Battery Information |
| -1623006167.jpg Cargo Interior Camera / CHMSL Bed Interior Camera\_analog | -1733286227.jpg Distortion Correction – Dewarping for Internal (Analogue Output) Cameras: Cargo | * -211413277.jpg Selected camera streams video |

Table 3‑7: Function Allocation Table (Basic)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Component | | Technology Function Name | TSR | |
| Name | ASIL |  | ID | ASIL |

Table 3‑8: Function Allocation Table (Functional Safety Extension)

# Feature Implementation Modeling

## Component Interaction Diagrams

**No Component Interaction Diagrams identified.**

## Component Interface Behavior Diagrams

**No Component Interface Diagrams identified.**

*See Appendix Section 8.1.9 for Technology State Machines*

# Feature Implementation Requirements

## Functional Safety

### ASIL Decomposition of Technical Safety Requirements

ASIL Decompositions not specified.

## Requirements on Components

### CSM – Cabin

CSM – Cabin

#### Technology Function -1733286227.jpg Create Threat Event Warning Signal

Internal sensors trigger module to produce warming signal when intruder in vehicle

##### Function Interfaces

###### Inputs

(No inputs have been defined)

###### Outputs

(No outputs have been defined)

###### Parameters

(No parameters have been defined)

###### Interface Requirements

No Interface Requirements identified for Function Create Threat Event Warning Signal

##### Function Requirements

###### Component Specific Requirements

No Requirements with Status “Approved” or “Ready for Review” satisfied by this function.

### IR\_Light\_FrontRow

IR\_Light\_FrontRow

#### Technology Function -1733286227.jpg Provide IR Lighting and Indicate Recording: Cabin

To allow visible video images from the cameras under low light conditions. Also indicate that Video/audio Recording is in progress (market dependent)

##### Function Interfaces

###### Inputs

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Inputs: | | | | | | |
| **Logical Signal Name** | **Technical Signal Name** | | | **Mapping Details** *(Conditional)* | **Subscriber Interface** | **Connection**  (*Optional)* |
| No logical signals Realized by this Technology signal. | 1905649852.jpg SNT\_SwitchOnIRLightsCabin\_LIN | | |  | Not supported by Magicdraw generation. |  |
| No logical signals Realized by this Technology signal. | 1905649852.jpg SNT\_12V\_Camera\_to\_Light\_Cabin | | |  | Not supported by Magicdraw generation. |  |
| [Req. Template](http://wiki.ford.com/display/RequirementsEngineering/Requirements+Attributes) Version | | 6.1 | End of Inputs | | | |

Table 5‑1: Input Signal mappings of Function

###### Outputs

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Outputs: | | | | | | |
| **Logical Signal Name** | **Technical Signal Name** | | | **Mapping Details** *(Conditional)* | **Publisher Interface** | **Connection**  (*Optional)* |
| No logical signals Realized by this Technology signal. | 1905649852.jpg SNT\_IR\_LightOutput: Cabin | | |  | Not supported by Magicdraw generation. |  |
| [Req. Template](http://wiki.ford.com/display/RequirementsEngineering/Requirements+Attributes) Version | | 6.1 | End of Outputs | | | |

**Table 5‑2: Output Signal mappings of Function**

###### Parameters

(No parameters have been defined)

###### Interface Requirements

No Interface Requirements identified for Function Provide IR Lighting and Indicate Recording: Cabin

##### Function Requirements

###### Component Specific Requirements

No Requirements with Status “Approved” or “Ready for Review” satisfied by this function.

### Camera Manager – ECG

Camera Manager – ECG

#### Technology Function -1733286227.jpg reserveStream

##### Function Interfaces

###### Inputs

(No inputs have been defined)

###### Outputs

(No outputs have been defined)

###### Parameters

(No parameters have been defined)

###### Interface Requirements

No Interface Requirements identified for Function reserveStream

##### Function Requirements

###### Component Specific Requirements

No “Approved” or “Ready for Review” requirements identified for this function.

#### Technology Function -1733286227.jpg receiveCommenceVideoStream

##### Function Interfaces

###### Inputs

(No inputs have been defined)

###### Outputs

(No outputs have been defined)

###### Parameters

(No parameters have been defined)

###### Interface Requirements

No Interface Requirements identified for Function receiveCommenceVideoStream

##### Function Requirements

###### Component Specific Requirements

No “Approved” or “Ready for Review” requirements identified for this function.

#### Technology Function -1733286227.jpg StopStreaming

##### Function Interfaces

###### Inputs

(No inputs have been defined)

###### Outputs

(No outputs have been defined)

###### Parameters

(No parameters have been defined)

###### Interface Requirements

No Interface Requirements identified for Function StopStreaming

##### Function Requirements

###### Component Specific Requirements

No “Approved” or “Ready for Review” requirements identified for this function.

### SYNC-PHOENIX-DUER OS

SYNC-PHOENIX-DUER OS

#### Technology Function -1733286227.jpg Manage Storage/Overwrite of Data on USB Memory Device

The manage and overwriting of Video, Threat & Date/Time data on the USB memory device (eg pen drive) must be controlled

##### Function Interfaces

###### Inputs

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Inputs: | | | | | | |
| **Logical Signal Name** | **Technical Signal Name** | | | **Mapping Details** *(Conditional)* | **Subscriber Interface** | **Connection**  (*Optional)* |
| No logical signals Realized by this Technology signal. | -307256063.jpg LSG\_ISC\_RewrappedVideoStream | | |  | Not supported by Magicdraw generation. |  |
| [Req. Template](http://wiki.ford.com/display/RequirementsEngineering/Requirements+Attributes) Version | | 6.1 | End of Inputs | | | |

Table 5‑3: Input Signal mappings of Function

###### Outputs

(No outputs have been defined)

###### Parameters

(No parameters have been defined)

###### Interface Requirements

No Interface Requirements identified for Function Manage Storage/Overwrite of Data on USB Memory Device

##### Function Requirements

###### Component Specific Requirements

No Requirements with Status “Approved” or “Ready for Review” satisfied by this function.

#### Technology Function -1733286227.jpg Accept Privacy Settings

The APIM is used to allow acceptance of the privacy settings for the feature

##### Function Interfaces

###### Inputs

(No inputs have been defined)

###### Outputs

(No outputs have been defined)

###### Parameters

(No parameters have been defined)

###### Interface Requirements

No Interface Requirements identified for Function Accept Privacy Settings

##### Function Requirements

###### Component Specific Requirements

No Requirements with Status “Approved” or “Ready for Review” satisfied by this function.

#### Technology Function -1733286227.jpg Delete Videos on USB

Delete Videos on USB

##### Function Interfaces

###### Inputs

(No inputs have been defined)

###### Outputs

(No outputs have been defined)

###### Parameters

(No parameters have been defined)

###### Interface Requirements

No Interface Requirements identified for Function Delete Videos on USB

##### Function Requirements

###### Component Specific Requirements

No Requirements with Status “Approved” or “Ready for Review” satisfied by this function.

#### Technology Function -1733286227.jpg Check if USB is usable for ISC recording

Check, warn and if required formatting of USB memory device

##### Function Interfaces

###### Inputs

(No inputs have been defined)

###### Outputs

(No outputs have been defined)

###### Parameters

(No parameters have been defined)

###### Interface Requirements

No Interface Requirements identified for Function Check if USB is usable for ISC recording

##### Function Requirements

###### Component Specific Requirements

No Requirements with Status “Approved” or “Ready for Review” satisfied by this function.

#### Technology Function -1733286227.jpg Encrypt Local Video (USB)

When requested by the user the feature shall be able to encrypt the data recorded onto the local (USB) storage

##### Function Interfaces

###### Inputs

(No inputs have been defined)

###### Outputs

(No outputs have been defined)

###### Parameters

(No parameters have been defined)

###### Interface Requirements

No Interface Requirements identified for Function Encrypt Local Video (USB)

##### Function Requirements

###### Component Specific Requirements

No Requirements with Status “Approved” or “Ready for Review” satisfied by this function.

#### Technology Function -1733286227.jpg Store Video,Threat,Date/Time Data to USB

When triggered by the perimeter alarm (including radar if installed) from the BCM the SYNC/Phoenix shall read the video data from the designated Ethernet port and store to a USB memory device. The Ethernet port shall be supplied by the Camera Manager in the ECG.

##### Function Interfaces

###### Inputs

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Inputs: | | | | | | |
| **Logical Signal Name** | **Technical Signal Name** | | | **Mapping Details** *(Conditional)* | **Subscriber Interface** | **Connection**  (*Optional)* |
| No logical signals Realized by this Technology signal. | -307256063.jpg LSG\_ISC\_RewrappedVideoStream | | |  | Not supported by Magicdraw generation. |  |
| No logical signals Realized by this Technology signal. | -307256063.jpg LSG\_ISC\_StopRecordingReq | | |  | Not supported by Magicdraw generation. |  |
| [Req. Template](http://wiki.ford.com/display/RequirementsEngineering/Requirements+Attributes) Version | | 6.1 | End of Inputs | | | |

Table 5‑4: Input Signal mappings of Function

###### Outputs

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Outputs: | | | | | | |
| **Logical Signal Name** | **Technical Signal Name** | | | **Mapping Details** *(Conditional)* | **Publisher Interface** | **Connection**  (*Optional)* |
| No logical signals Realized by this Technology signal. | -307256063.jpg LSG\_ISC\_PublishRecordingStatus | | |  | Not supported by Magicdraw generation. |  |
| [Req. Template](http://wiki.ford.com/display/RequirementsEngineering/Requirements+Attributes) Version | | 6.1 | End of Outputs | | | |

**Table 5‑5: Output Signal mappings of Function**

###### Parameters

(No parameters have been defined)

###### Interface Requirements

No Interface Requirements identified for Function Store Video,Threat,Date/Time Data to USB

##### Function Requirements

###### Component Specific Requirements

No Requirements with Status “Approved” or “Ready for Review” satisfied by this function.

#### Technology Function -1733286227.jpg Wake up SYNC/Phoenix

Trigger (from BCM): Perimeter\_Alarm\_Status=activated

##### Function Interfaces

###### Inputs

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Inputs: | | | | | | |
| **Logical Signal Name** | **Technical Signal Name** | | | **Mapping Details** *(Conditional)* | **Subscriber Interface** | **Connection**  (*Optional)* |
| No logical signals Realized by this Technology signal. | -307256063.jpg LSG\_ISC\_APIMWakeUp | | |  | Not supported by Magicdraw generation. |  |
| [Req. Template](http://wiki.ford.com/display/RequirementsEngineering/Requirements+Attributes) Version | | 6.1 | End of Inputs | | | |

Table 5‑6: Input Signal mappings of Function

###### Outputs

(No outputs have been defined)

###### Parameters

(No parameters have been defined)

###### Interface Requirements

No Interface Requirements identified for Function Wake up SYNC/Phoenix

##### Function Requirements

###### Component Specific Requirements

No Requirements with Status “Approved” or “Ready for Review” satisfied by this function.

#### Technology Function -1733286227.jpg Set ISC to ON via SYNC/Phoenix

Set ISC to ON via SYNC/Phoenix

##### Function Interfaces

###### Inputs

(No inputs have been defined)

###### Outputs

(No outputs have been defined)

###### Parameters

(No parameters have been defined)

###### Interface Requirements

No Interface Requirements identified for Function Set ISC to ON via SYNC/Phoenix

##### Function Requirements

###### Component Specific Requirements

-1830622569.jpg ISC\_IR\_APIM\_14 – Confirmation ON Prompt Response = CANCEL

When Make Decision Function receives LSG\_ISC\_ConfirmationONPromptResponse = CANCEL from Feature Activation Function , then Make Decision Function shall

- Send LSG\_ISC\_SystemStatus=Disabled to Feature Activation Function.

Satisfied by:

* -1733286227.jpg Set ISC to ON via SYNC/Phoenix

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Requirement ID: ISC\_IR\_APIM\_14 | | | | | | | |
| **Rationale** | To send system status – disabled | | | | | | |
| **Acceptance Criteria** | system setup failure | | | | | | |
| **Notes** |  | | | | | | |
| **Source** |  | | | | | **Owner** | Ishan Gupta (igupta1), Michael Wohlfahter (mwohlfah), Corey Minous (cminous), Sivaram Dogiparthi (sdogipar) |
| **Source Req.** | * -2121996746.jpg ISC\_SR\_APIM\_7 Manage System | | | | | **V&V Method** | See Test Plan |
| **Type** |  | | | **Priority** | 1 – High | **Status** | Ready for Review |
| [Req. Template](http://wiki.ford.com/display/RequirementsEngineering/Requirements+Attributes) Version | | 6.0c | End of Requirement | | | | |

#### Technology Function -1733286227.jpg Set ISC to OFF via SYNC/Phoenix

Set ISC to OFF via SYNC/Phoenix

##### Function Interfaces

###### Inputs

(No inputs have been defined)

###### Outputs

(No outputs have been defined)

###### Parameters

(No parameters have been defined)

###### Interface Requirements

No Interface Requirements identified for Function Set ISC to OFF via SYNC/Phoenix

##### Function Requirements

###### Component Specific Requirements

-1830622569.jpg ISC\_IR\_APIM\_15 – System Request OFF

When Make Decision Function receives LSG\_ISC\_SystemRequest = OFF from Feature Activation Function, then Make Decision Function shall

- Send LSG\_ISC\_ConfirmationPrompt = DISABLED to the Feature Activation Function

to confirm the disabling the feature.

Satisfied by:

* -1733286227.jpg Set ISC to OFF via SYNC/Phoenix

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Requirement ID: ISC\_IR\_APIM\_15 | | | | | | | |
| **Rationale** | To send system request OFF message | | | | | | |
| **Acceptance Criteria** | user being able to set the system off | | | | | | |
| **Notes** |  | | | | | | |
| **Source** |  | | | | | **Owner** | Ishan Gupta (igupta1), Michael Wohlfahter (mwohlfah), Corey Minous (cminous), Sivaram Dogiparthi (sdogipar) |
| **Source Req.** | * -2121996746.jpg ISC\_SR\_APIM\_7 Manage System | | | | | **V&V Method** | See Test Plan |
| **Type** |  | | | **Priority** | 1 – High | **Status** | Ready for Review |
| [Req. Template](http://wiki.ford.com/display/RequirementsEngineering/Requirements+Attributes) Version | | 6.0c | End of Requirement | | | | |

-1830622569.jpg ISC\_IR\_APIM\_16 – Confirmation OFF Prompt Response = CONTINUE

When Make Decision Function receives LSG\_ISC\_ConfirmationOFFPromptResponse = CONTINUE from Feature Activation Function , then Make Decision Function shall

- Send LSG\_ISC\_SystemStatus= Disabled to Feature Activation Function.

- Save LSG\_ISC\_SystemStatus= Disabled in Make Decision Function

- Send LSG\_ISC\_SystemStatus= Disabled to Communication Enabler Function

Satisfied by:

* -1733286227.jpg Set ISC to OFF via SYNC/Phoenix

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Requirement ID: ISC\_IR\_APIM\_16 | | | | | | | |
| **Rationale** | To confirm OFF prompt response – continue | | | | | | |
| **Acceptance Criteria** | See Test Plan | | | | | | |
| **Notes** |  | | | | | | |
| **Source** |  | | | | | **Owner** | Ishan Gupta (igupta1), Michael Wohlfahter (mwohlfah), Corey Minous (cminous), Sivaram Dogiparthi (sdogipar) |
| **Source Req.** | * -2121996746.jpg ISC\_SR\_APIM\_7 Manage System | | | | | **V&V Method** | See Test Plan |
| **Type** |  | | | **Priority** | 1 – High | **Status** | Ready for Review |
| [Req. Template](http://wiki.ford.com/display/RequirementsEngineering/Requirements+Attributes) Version | | 6.0c | End of Requirement | | | | |

-1830622569.jpg ISC\_IR\_APIM\_17 – Confirmation OFF Prompt Response = CANCEL

When Make Decision Function receives LSG\_ISC\_ConfirmationOFFPromptResponse = CANCEL from Feature Activation Function, then Make Decision Function shall

- Send LSG\_ISC\_SystemStatus=Enabled to Feature Activation Function.

Satisfied by:

* -1733286227.jpg Set ISC to OFF via SYNC/Phoenix

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Requirement ID: ISC\_IR\_APIM\_17 | | | | | | | |
| **Rationale** | To confirm OFF prompt response – cancel | | | | | | |
| **Acceptance Criteria** | See Test Plan | | | | | | |
| **Notes** |  | | | | | | |
| **Source** |  | | | | | **Owner** | Ishan Gupta (igupta1), Michael Wohlfahter (mwohlfah), Corey Minous (cminous), Sivaram Dogiparthi (sdogipar) |
| **Source Req.** | * -2121996746.jpg ISC\_SR\_APIM\_7 Manage System | | | | | **V&V Method** | See Test Plan |
| **Type** |  | | | **Priority** | 1 – High | **Status** | Ready for Review |
| [Req. Template](http://wiki.ford.com/display/RequirementsEngineering/Requirements+Attributes) Version | | 6.0c | End of Requirement | | | | |

#### Technology Function -1733286227.jpg Allow Selection/Play/Pause/Terminate of Videos Stored on USB via SYNC/Phoenix

Allow Selection/Play/Pause/Terminate of Videos Stored on USB via SYNC/Phoenix

##### Function Interfaces

###### Inputs

(No inputs have been defined)

###### Outputs

(No outputs have been defined)

###### Parameters

(No parameters have been defined)

###### Interface Requirements

No Interface Requirements identified for Function Allow Selection/Play/Pause/Terminate of Videos Stored on USB via SYNC/Phoenix

##### Function Requirements

###### Component Specific Requirements

No Requirements with Status “Approved” or “Ready for Review” satisfied by this function.

#### Technology Function -1733286227.jpg Allow USB Video Playback on PC/Computer

Record video onto USB memory device in a suitable format for playback on a PC/Computer (in addition to on SYNC/Phoenix)

##### Function Interfaces

###### Inputs

(No inputs have been defined)

###### Outputs

(No outputs have been defined)

###### Parameters

(No parameters have been defined)

###### Interface Requirements

No Interface Requirements identified for Function Allow USB Video Playback on PC/Computer

##### Function Requirements

###### Component Specific Requirements

No Requirements with Status “Approved” or “Ready for Review” satisfied by this function.

#### Technology Function -1733286227.jpg Enable Feature – Store Play Video via USB – Overall

To gather inputs and outputs for APIM functions

##### Function Interfaces

###### Inputs

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Inputs: | | | | | | |
| **Logical Signal Name** | **Technical Signal Name** | | | **Mapping Details** *(Conditional)* | **Subscriber Interface** | **Connection**  (*Optional)* |
| No logical signals Realized by this Technology signal. | -307256063.jpg LSG\_ISC\_RewrappedVideoStream | | |  | Not supported by Magicdraw generation. |  |
| No logical signals Realized by this Technology signal. | -307256063.jpg LSG\_ISC\_TerminateVideoStream | | |  | Not supported by Magicdraw generation. |  |
| No logical signals Realized by this Technology signal. | -307256063.jpg LSG\_ISC\_StreamingInformation | | |  | Not supported by Magicdraw generation. |  |
| No logical signals Realized by this Technology signal. | -307256063.jpg LSG\_ISC\_APIMWakeUp | | |  | Not supported by Magicdraw generation. |  |
| No logical signals Realized by this Technology signal. | -307256063.jpg LSG\_ISC\_StopRecordingReq | | |  | Not supported by Magicdraw generation. |  |
| No logical signals Realized by this Technology signal. | -307256063.jpg LSG\_ISC\_StartRecordingReq | | |  | Not supported by Magicdraw generation. |  |
| [Req. Template](http://wiki.ford.com/display/RequirementsEngineering/Requirements+Attributes) Version | | 6.1 | End of Inputs | | | |

Table 5‑7: Input Signal mappings of Function

###### Outputs

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Outputs: | | | | | | |
| **Logical Signal Name** | **Technical Signal Name** | | | **Mapping Details** *(Conditional)* | **Publisher Interface** | **Connection**  (*Optional)* |
| No logical signals Realized by this Technology signal. | -307256063.jpg LSG\_ISC\_StreamingInformation\_Resp | | |  | Not supported by Magicdraw generation. |  |
| No logical signals Realized by this Technology signal. | -307256063.jpg LSG\_ISC\_PublishRecordingStatus | | |  | Not supported by Magicdraw generation. |  |
| [Req. Template](http://wiki.ford.com/display/RequirementsEngineering/Requirements+Attributes) Version | | 6.1 | End of Outputs | | | |

**Table 5‑8: Output Signal mappings of Function**

###### Parameters

(No parameters have been defined)

###### Interface Requirements

No Interface Requirements identified for Function Enable Feature – Store Play Video via USB – Overall

##### Function Requirements

###### Component Specific Requirements

No “Approved” or “Ready for Review” requirements identified for this function.

#### Technology Function -1733286227.jpg Set Sentinel via SYNC to ON

Sentinel can be enabled/disabled from inside the vehicle using the SYNC by the user

##### Function Interfaces

###### Inputs

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Inputs: | | | | | | |
| **Logical Signal Name** | **Technical Signal Name** | | | **Mapping Details** *(Conditional)* | **Subscriber Interface** | **Connection**  (*Optional)* |
| No logical signals Realized by this Technology signal. | 1905649852.jpg SNT\_SYNC\_SoftButtonON | | |  | Not supported by Magicdraw generation. |  |
| [Req. Template](http://wiki.ford.com/display/RequirementsEngineering/Requirements+Attributes) Version | | 6.1 | End of Inputs | | | |

Table 5‑9: Input Signal mappings of Function

###### Outputs

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Outputs: | | | | | | |
| **Logical Signal Name** | **Technical Signal Name** | | | **Mapping Details** *(Conditional)* | **Publisher Interface** | **Connection**  (*Optional)* |
| No logical signals Realized by this Technology signal. | 1905649852.jpg SNT\_SentinelSetToON | | |  | Not supported by Magicdraw generation. |  |
| [Req. Template](http://wiki.ford.com/display/RequirementsEngineering/Requirements+Attributes) Version | | 6.1 | End of Outputs | | | |

**Table 5‑10: Output Signal mappings of Function**

###### Parameters

(No parameters have been defined)

###### Interface Requirements

No Interface Requirements identified for Function Set Sentinel via SYNC to ON

##### Function Requirements

###### Component Specific Requirements

No Requirements with Status “Approved” or “Ready for Review” satisfied by this function.

#### Technology Function -1733286227.jpg Allow Selection of Videos Stored on USB

List the videos stored on the USB, ordered by date/time and or threat type.

##### Function Interfaces

###### Inputs

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Inputs: | | | | | | |
| **Logical Signal Name** | **Technical Signal Name** | | | **Mapping Details** *(Conditional)* | **Subscriber Interface** | **Connection**  (*Optional)* |
| No logical signals Realized by this Technology signal. | 1905649852.jpg SNT\_UserSoftButtonPress | | |  | Not supported by Magicdraw generation. |  |
| No logical signals Realized by this Technology signal. | 1905649852.jpg SNT\_CombinedStream | | |  | Not supported by Magicdraw generation. |  |
| [Req. Template](http://wiki.ford.com/display/RequirementsEngineering/Requirements+Attributes) Version | | 6.1 | End of Inputs | | | |

Table 5‑11: Input Signal mappings of Function

###### Outputs

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Outputs: | | | | | | |
| **Logical Signal Name** | **Technical Signal Name** | | | **Mapping Details** *(Conditional)* | **Publisher Interface** | **Connection**  (*Optional)* |
| No logical signals Realized by this Technology signal. | 1905649852.jpg SNT\_SYNC\_SelectedVideo | | |  | Not supported by Magicdraw generation. |  |
| [Req. Template](http://wiki.ford.com/display/RequirementsEngineering/Requirements+Attributes) Version | | 6.1 | End of Outputs | | | |

**Table 5‑12: Output Signal mappings of Function**

###### Parameters

(No parameters have been defined)

###### Interface Requirements

No Interface Requirements identified for Function Allow Selection of Videos Stored on USB

##### Function Requirements

###### Component Specific Requirements

No Requirements with Status “Approved” or “Ready for Review” satisfied by this function.

#### Technology Function -1733286227.jpg Stop Video Playback from USB on SYNC/Phoenix

Stop Video Playback from USB on SYNC/Phoenix

##### Function Interfaces

###### Inputs

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Inputs: | | | | | | |
| **Logical Signal Name** | **Technical Signal Name** | | | **Mapping Details** *(Conditional)* | **Subscriber Interface** | **Connection**  (*Optional)* |
| No logical signals Realized by this Technology signal. | 1905649852.jpg SNT\_SYNC\_SelectedVideo | | |  | Not supported by Magicdraw generation. |  |
| [Req. Template](http://wiki.ford.com/display/RequirementsEngineering/Requirements+Attributes) Version | | 6.1 | End of Inputs | | | |

Table 5‑13: Input Signal mappings of Function

###### Outputs

(No outputs have been defined)

###### Parameters

(No parameters have been defined)

###### Interface Requirements

No Interface Requirements identified for Function Stop Video Playback from USB on SYNC/Phoenix

##### Function Requirements

###### Component Specific Requirements

No Requirements with Status “Approved” or “Ready for Review” satisfied by this function.

#### Technology Function -1733286227.jpg Play Video from USB on SYNC

Play Video from USB on SYNC. As well as play functionality, this will include functionality to allow the user to select when the video clip starts, rewind/fast forward and skip

##### Function Interfaces

###### Inputs

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Inputs: | | | | | | |
| **Logical Signal Name** | **Technical Signal Name** | | | **Mapping Details** *(Conditional)* | **Subscriber Interface** | **Connection**  (*Optional)* |
| No logical signals Realized by this Technology signal. | 1905649852.jpg SNT\_SYNC\_SelectedVideo | | |  | Not supported by Magicdraw generation. |  |
| No logical signals Realized by this Technology signal. | 1905649852.jpg SNT\_UserSoftButtonPress | | |  | Not supported by Magicdraw generation. |  |
| [Req. Template](http://wiki.ford.com/display/RequirementsEngineering/Requirements+Attributes) Version | | 6.1 | End of Inputs | | | |

Table 5‑14: Input Signal mappings of Function

###### Outputs

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Outputs: | | | | | | |
| **Logical Signal Name** | **Technical Signal Name** | | | **Mapping Details** *(Conditional)* | **Publisher Interface** | **Connection**  (*Optional)* |
| No logical signals Realized by this Technology signal. | 1905649852.jpg SNT\_SYNC\_SelectedVideo | | |  | Not supported by Magicdraw generation. |  |
| [Req. Template](http://wiki.ford.com/display/RequirementsEngineering/Requirements+Attributes) Version | | 6.1 | End of Outputs | | | |

**Table 5‑15: Output Signal mappings of Function**

###### Parameters

(No parameters have been defined)

###### Interface Requirements

No Interface Requirements identified for Function Play Video from USB on SYNC

##### Function Requirements

###### Component Specific Requirements

No Requirements with Status “Approved” or “Ready for Review” satisfied by this function.

#### Technology Function -1733286227.jpg Set Sentinal via SYNC to OFF

Disable Sentinel via SYNC/Pheonix

##### Function Interfaces

###### Inputs

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Inputs: | | | | | | |
| **Logical Signal Name** | **Technical Signal Name** | | | **Mapping Details** *(Conditional)* | **Subscriber Interface** | **Connection**  (*Optional)* |
| No logical signals Realized by this Technology signal. | 1905649852.jpg SNT\_SYNC\_SoftButtonOFF | | |  | Not supported by Magicdraw generation. |  |
| [Req. Template](http://wiki.ford.com/display/RequirementsEngineering/Requirements+Attributes) Version | | 6.1 | End of Inputs | | | |

Table 5‑16: Input Signal mappings of Function

###### Outputs

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Outputs: | | | | | | |
| **Logical Signal Name** | **Technical Signal Name** | | | **Mapping Details** *(Conditional)* | **Publisher Interface** | **Connection**  (*Optional)* |
| No logical signals Realized by this Technology signal. | 1905649852.jpg SNT\_SentinelSetToOFF | | |  | Not supported by Magicdraw generation. |  |
| [Req. Template](http://wiki.ford.com/display/RequirementsEngineering/Requirements+Attributes) Version | | 6.1 | End of Outputs | | | |

**Table 5‑17: Output Signal mappings of Function**

###### Parameters

(No parameters have been defined)

###### Interface Requirements

No Interface Requirements identified for Function Set Sentinal via SYNC to OFF

##### Function Requirements

###### Component Specific Requirements

No Requirements with Status “Approved” or “Ready for Review” satisfied by this function.

#### Technology Function -1733286227.jpg Pause Video Playback from USB on SYNC/Phoenix

Pause Video Playback from USB on SYNC/Phoenix

##### Function Interfaces

###### Inputs

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Inputs: | | | | | | |
| **Logical Signal Name** | **Technical Signal Name** | | | **Mapping Details** *(Conditional)* | **Subscriber Interface** | **Connection**  (*Optional)* |
| No logical signals Realized by this Technology signal. | 1905649852.jpg SNT\_SYNC\_SelectedVideo | | |  | Not supported by Magicdraw generation. |  |
| [Req. Template](http://wiki.ford.com/display/RequirementsEngineering/Requirements+Attributes) Version | | 6.1 | End of Inputs | | | |

Table 5‑18: Input Signal mappings of Function

###### Outputs

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Outputs: | | | | | | |
| **Logical Signal Name** | **Technical Signal Name** | | | **Mapping Details** *(Conditional)* | **Publisher Interface** | **Connection**  (*Optional)* |
| No logical signals Realized by this Technology signal. | 1905649852.jpg SNT\_SYNC\_SelectedVideo | | |  | Not supported by Magicdraw generation. |  |
| [Req. Template](http://wiki.ford.com/display/RequirementsEngineering/Requirements+Attributes) Version | | 6.1 | End of Outputs | | | |

**Table 5‑19: Output Signal mappings of Function**

###### Parameters

(No parameters have been defined)

###### Interface Requirements

No Interface Requirements identified for Function Pause Video Playback from USB on SYNC/Phoenix

##### Function Requirements

###### Component Specific Requirements

No Requirements with Status “Approved” or “Ready for Review” satisfied by this function.

#### Technology Function -1733286227.jpg Inform user via SYNC\_Phoenix of poor internet access when parked and USB pen-drive required

When the vehicle is parked, internet access is poor and the Feature enabled, inform the user via SYNC that data may not be collected on the cloud when vehicle is parked, so to ensure that a jump-drive is installed to store sensor data

##### Function Interfaces

###### Inputs

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Inputs: | | | | | | |
| **Logical Signal Name** | **Technical Signal Name** | | | **Mapping Details** *(Conditional)* | **Subscriber Interface** | **Connection**  (*Optional)* |
| No logical signals Realized by this Technology signal. | 1905649852.jpg SNT\_PoorSignalMsgToDriver | | |  | Not supported by Magicdraw generation. |  |
| [Req. Template](http://wiki.ford.com/display/RequirementsEngineering/Requirements+Attributes) Version | | 6.1 | End of Inputs | | | |

Table 5‑20: Input Signal mappings of Function

###### Outputs

(No outputs have been defined)

###### Parameters

(No parameters have been defined)

###### Interface Requirements

No Interface Requirements identified for Function Inform user via SYNC\_Phoenix of poor internet access when parked and USB pen-drive required

##### Function Requirements

###### Component Specific Requirements

No Requirements with Status “Approved” or “Ready for Review” satisfied by this function.

### Ford Pass App

Ford Pass App

#### Technology Function -1733286227.jpg Accept Privacy Settings

The APIM is used to allow acceptance of the privacy settings for the feature

##### Function Interfaces

###### Inputs

(No inputs have been defined)

###### Outputs

(No outputs have been defined)

###### Parameters

(No parameters have been defined)

###### Interface Requirements

No Interface Requirements identified for Function Accept Privacy Settings

##### Function Requirements

###### Component Specific Requirements

No Requirements with Status “Approved” or “Ready for Review” satisfied by this function.

#### Technology Function -1733286227.jpg Launch the ISC System

Launch the ISC System

##### Function Interfaces

###### Inputs

(No inputs have been defined)

###### Outputs

(No outputs have been defined)

###### Parameters

(No parameters have been defined)

###### Interface Requirements

No Interface Requirements identified for Function Launch the ISC System

##### Function Requirements

###### Component Specific Requirements

No “Approved” or “Ready for Review” requirements identified for this function.

#### Technology Function -1733286227.jpg View/Skip tutorial

View/Skip tutorial

##### Function Interfaces

###### Inputs

(No inputs have been defined)

###### Outputs

(No outputs have been defined)

###### Parameters

(No parameters have been defined)

###### Interface Requirements

No Interface Requirements identified for Function View/Skip tutorial

##### Function Requirements

###### Component Specific Requirements

No “Approved” or “Ready for Review” requirements identified for this function.

#### Technology Function -1733286227.jpg Privacy Settings

To control the privacy related functionality of the feature

##### Function Interfaces

###### Inputs

(No inputs have been defined)

###### Outputs

(No outputs have been defined)

###### Parameters

(No parameters have been defined)

###### Interface Requirements

No Interface Requirements identified for Function Privacy Settings

##### Function Requirements

###### Component Specific Requirements

No “Approved” or “Ready for Review” requirements identified for this function.

#### Technology Function -1733286227.jpg Allow Enable/Disable of Threat Event Notifications on Ford Pass App

Allow Enable of Alerts of Threat Events on Ford Pass App

##### Function Interfaces

###### Inputs

(No inputs have been defined)

###### Outputs

(No outputs have been defined)

###### Parameters

(No parameters have been defined)

###### Interface Requirements

No Interface Requirements identified for Function Allow Enable/Disable of Threat Event Notifications on Ford Pass App

##### Function Requirements

###### Component Specific Requirements

No Requirements with Status “Approved” or “Ready for Review” satisfied by this function.

#### Technology Function -1733286227.jpg Automatically Alert User of Threat Event via Ford Pass App

Automatically Alert User of Threat Event via Ford Pass App

##### Function Interfaces

###### Inputs

(No inputs have been defined)

###### Outputs

(No outputs have been defined)

###### Parameters

(No parameters have been defined)

###### Interface Requirements

No Interface Requirements identified for Function Automatically Alert User of Threat Event via Ford Pass App

##### Function Requirements

###### Component Specific Requirements

No “Approved” or “Ready for Review” requirements identified for this function.

#### Technology Function -1733286227.jpg Manage Ford Pass App – Overall

To describe the inputs and outputs for the Ford Pass App functions

##### Function Interfaces

###### Inputs

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Inputs: | | | | | | |
| **Logical Signal Name** | **Technical Signal Name** | | | **Mapping Details** *(Conditional)* | **Subscriber Interface** | **Connection**  (*Optional)* |
| No logical signals Realized by this Technology signal. | -307256063.jpg LSG\_ISC\_VehicleCapability | | |  | Not supported by Magicdraw generation. |  |
| No logical signals Realized by this Technology signal. | -307256063.jpg LSG\_ISC\_SystemStatus | | |  | Not supported by Magicdraw generation. |  |
| No logical signals Realized by this Technology signal. | -307256063.jpg LSG\_ISC\_ListofAvailableViews | | |  | Not supported by Magicdraw generation. |  |
| No logical signals Realized by this Technology signal. | -307256063.jpg LSG\_ISC\_Status ofAvailableViews | | |  | Not supported by Magicdraw generation. |  |
| No logical signals Realized by this Technology signal. | -307256063.jpg LSG\_ISC\_StreamingInformation | | |  | Not supported by Magicdraw generation. |  |
| No logical signals Realized by this Technology signal. | -307256063.jpg LSG\_ISC\_RewrappedVideoStream | | |  | Not supported by Magicdraw generation. |  |
| No logical signals Realized by this Technology signal. | -307256063.jpg LSG\_ISC\_SystemNotifications | | |  | Not supported by Magicdraw generation. |  |
| [Req. Template](http://wiki.ford.com/display/RequirementsEngineering/Requirements+Attributes) Version | | 6.1 | End of Inputs | | | |

Table 5‑21: Input Signal mappings of Function

###### Outputs

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Outputs: | | | | | | |
| **Logical Signal Name** | **Technical Signal Name** | | | **Mapping Details** *(Conditional)* | **Publisher Interface** | **Connection**  (*Optional)* |
| No logical signals Realized by this Technology signal. | -307256063.jpg LSG\_ISC\_VehicleCapabilityRequest | | |  | Not supported by Magicdraw generation. |  |
| No logical signals Realized by this Technology signal. | -307256063.jpg LSG\_ISC\_TerminateISCFeatureRequest | | |  | Not supported by Magicdraw generation. |  |
| No logical signals Realized by this Technology signal. | -307256063.jpg LSG\_ISC\_SystemStatusRequest | | |  | Not supported by Magicdraw generation. |  |
| No logical signals Realized by this Technology signal. | -307256063.jpg LSG\_ISC\_VideoStreamRequest | | |  | Not supported by Magicdraw generation. |  |
| No logical signals Realized by this Technology signal. | -307256063.jpg LSG\_ISC\_QualitySettings | | |  | Not supported by Magicdraw generation. |  |
| No logical signals Realized by this Technology signal. | -307256063.jpg LSG\_ISC\_ListofAvailableViewsRequest | | |  | Not supported by Magicdraw generation. |  |
| No logical signals Realized by this Technology signal. | -307256063.jpg LSG\_ISC\_SystemNotificationsRequest | | |  | Not supported by Magicdraw generation. |  |
| No logical signals Realized by this Technology signal. | -307256063.jpg LSG\_ISC\_VideoStreamRequest | | |  | Not supported by Magicdraw generation. |  |
| [Req. Template](http://wiki.ford.com/display/RequirementsEngineering/Requirements+Attributes) Version | | 6.1 | End of Outputs | | | |

**Table 5‑22: Output Signal mappings of Function**

###### Parameters

(No parameters have been defined)

###### Interface Requirements

No Interface Requirements identified for Function Manage Ford Pass App – Overall

##### Function Requirements

###### Component Specific Requirements

No “Approved” or “Ready for Review” requirements identified for this function.

#### Technology Function -1733286227.jpg Allow Selection of Automatic or Manual Recoding to Cloud on Video View/Stream

Allow Selection of Automatic or Manual Recoding to Cloud on Video View/Stream

##### Function Interfaces

###### Inputs

(No inputs have been defined)

###### Outputs

(No outputs have been defined)

###### Parameters

(No parameters have been defined)

###### Interface Requirements

No Interface Requirements identified for Function Allow Selection of Automatic or Manual Recoding to Cloud on Video View/Stream

##### Function Requirements

###### Component Specific Requirements

No “Approved” or “Ready for Review” requirements identified for this function.

#### Technology Function -1733286227.jpg Allow Launch of Tutorial on App

Allow Launch of Tutorial on App

##### Function Interfaces

###### Inputs

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Inputs: | | | | | | |
| **Logical Signal Name** | **Technical Signal Name** | | | **Mapping Details** *(Conditional)* | **Subscriber Interface** | **Connection**  (*Optional)* |
| No logical signals Realized by this Technology signal. | 1905649852.jpg SNT\_UserSoftButtonPress | | |  | Not supported by Magicdraw generation. |  |
| [Req. Template](http://wiki.ford.com/display/RequirementsEngineering/Requirements+Attributes) Version | | 6.1 | End of Inputs | | | |

Table 5‑23: Input Signal mappings of Function

###### Outputs

(No outputs have been defined)

###### Parameters

(No parameters have been defined)

###### Interface Requirements

No Interface Requirements identified for Function Allow Launch of Tutorial on App

##### Function Requirements

###### Component Specific Requirements

No Requirements with Status “Approved” or “Ready for Review” satisfied by this function.

#### Technology Function -1733286227.jpg Allow Play/Pause/Stop of Sales Demo Video on App

Allow Launch of Sales Demo on App

##### Function Interfaces

###### Inputs

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Inputs: | | | | | | |
| **Logical Signal Name** | **Technical Signal Name** | | | **Mapping Details** *(Conditional)* | **Subscriber Interface** | **Connection**  (*Optional)* |
| No logical signals Realized by this Technology signal. | 1905649852.jpg SNT\_UserDemoSoftButton | | |  | Not supported by Magicdraw generation. |  |
| [Req. Template](http://wiki.ford.com/display/RequirementsEngineering/Requirements+Attributes) Version | | 6.1 | End of Inputs | | | |

Table 5‑24: Input Signal mappings of Function

###### Outputs

(No outputs have been defined)

###### Parameters

(No parameters have been defined)

###### Interface Requirements

No Interface Requirements identified for Function Allow Play/Pause/Stop of Sales Demo Video on App

##### Function Requirements

###### Component Specific Requirements

No “Approved” or “Ready for Review” requirements identified for this function.

#### Technology Function -1733286227.jpg Allow Skip of Tutorial on First Time Use on App

Allow Skip of Tutorial on First Time Use on App

##### Function Interfaces

###### Inputs

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Inputs: | | | | | | |
| **Logical Signal Name** | **Technical Signal Name** | | | **Mapping Details** *(Conditional)* | **Subscriber Interface** | **Connection**  (*Optional)* |
| No logical signals Realized by this Technology signal. | 1905649852.jpg SNT\_UserSoftButtonPress | | |  | Not supported by Magicdraw generation. |  |
| [Req. Template](http://wiki.ford.com/display/RequirementsEngineering/Requirements+Attributes) Version | | 6.1 | End of Inputs | | | |

Table 5‑25: Input Signal mappings of Function

###### Outputs

(No outputs have been defined)

###### Parameters

(No parameters have been defined)

###### Interface Requirements

No Interface Requirements identified for Function Allow Skip of Tutorial on First Time Use on App

##### Function Requirements

###### Component Specific Requirements

No Requirements with Status “Approved” or “Ready for Review” satisfied by this function.

#### Technology Function -1733286227.jpg Allow Launch of Tutorial on First Time Use on App

Allow Launch of Tutorial on First Time Use on App

##### Function Interfaces

###### Inputs

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Inputs: | | | | | | |
| **Logical Signal Name** | **Technical Signal Name** | | | **Mapping Details** *(Conditional)* | **Subscriber Interface** | **Connection**  (*Optional)* |
| No logical signals Realized by this Technology signal. | 1905649852.jpg SNT\_UserSoftButtonPress | | |  | Not supported by Magicdraw generation. |  |
| [Req. Template](http://wiki.ford.com/display/RequirementsEngineering/Requirements+Attributes) Version | | 6.1 | End of Inputs | | | |

Table 5‑26: Input Signal mappings of Function

###### Outputs

(No outputs have been defined)

###### Parameters

(No parameters have been defined)

###### Interface Requirements

No Interface Requirements identified for Function Allow Launch of Tutorial on First Time Use on App

##### Function Requirements

###### Component Specific Requirements

No Requirements with Status “Approved” or “Ready for Review” satisfied by this function.

#### Technology Function -1733286227.jpg Allow User to Select Threat Event Video Clip to View Via App

Allow User to Select Threat Event Video Clip to View Via App

##### Function Interfaces

###### Inputs

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Inputs: | | | | | | |
| **Logical Signal Name** | **Technical Signal Name** | | | **Mapping Details** *(Conditional)* | **Subscriber Interface** | **Connection**  (*Optional)* |
| No logical signals Realized by this Technology signal. |  | | |  | Not supported by Magicdraw generation. |  |
| [Req. Template](http://wiki.ford.com/display/RequirementsEngineering/Requirements+Attributes) Version | | 6.1 | End of Inputs | | | |

Table 5‑27: Input Signal mappings of Function

###### Outputs

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Outputs: | | | | | | |
| **Logical Signal Name** | **Technical Signal Name** | | | **Mapping Details** *(Conditional)* | **Publisher Interface** | **Connection**  (*Optional)* |
| No logical signals Realized by this Technology signal. | 1905649852.jpg SNT\_UserReqStoredVideoApp | | |  | Not supported by Magicdraw generation. |  |
| [Req. Template](http://wiki.ford.com/display/RequirementsEngineering/Requirements+Attributes) Version | | 6.1 | End of Outputs | | | |

**Table 5‑28: Output Signal mappings of Function**

###### Parameters

(No parameters have been defined)

###### Interface Requirements

No Interface Requirements identified for Function Allow User to Select Threat Event Video Clip to View Via App

##### Function Requirements

###### Component Specific Requirements

No “Approved” or “Ready for Review” requirements identified for this function.

#### Technology Function -1733286227.jpg Allow User to Adjust Time/date of Start of Video Viewing via App

Allow User to Adjust Time/date of Start of Video Viewing via App

##### Function Interfaces

###### Inputs

(No inputs have been defined)

###### Outputs

(No outputs have been defined)

###### Parameters

(No parameters have been defined)

###### Interface Requirements

No Interface Requirements identified for Function Allow User to Adjust Time/date of Start of Video Viewing via App

##### Function Requirements

###### Component Specific Requirements

No Requirements with Status “Approved” or “Ready for Review” satisfied by this function.

#### Technology Function -1733286227.jpg Inform user via FordPass App of poor internet access when parked and USB pen-drive required

To inform the user vis the FordPass app that data may not be collected on the cloud via the vehicle cellular connection, so to ensure that a jump-drive is installed to store sensor data

##### Function Interfaces

###### Inputs

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Inputs: | | | | | | |
| **Logical Signal Name** | **Technical Signal Name** | | | **Mapping Details** *(Conditional)* | **Subscriber Interface** | **Connection**  (*Optional)* |
| No logical signals Realized by this Technology signal. | 1905649852.jpg SNT\_InformUserUSBNeeded | | |  | Not supported by Magicdraw generation. |  |
| [Req. Template](http://wiki.ford.com/display/RequirementsEngineering/Requirements+Attributes) Version | | 6.1 | End of Inputs | | | |

Table 5‑29: Input Signal mappings of Function

###### Outputs

(No outputs have been defined)

###### Parameters

(No parameters have been defined)

###### Interface Requirements

No Interface Requirements identified for Function Inform user via FordPass App of poor internet access when parked and USB pen-drive required

##### Function Requirements

###### Component Specific Requirements

No Requirements with Status “Approved” or “Ready for Review” satisfied by this function.

#### Technology Function -1733286227.jpg Notfication of camera contamination

Allow notfication when a camera is unavailable (eg environmental contamination)

##### Function Interfaces

###### Inputs

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Inputs: | | | | | | |
| **Logical Signal Name** | **Technical Signal Name** | | | **Mapping Details** *(Conditional)* | **Subscriber Interface** | **Connection**  (*Optional)* |
| No logical signals Realized by this Technology signal. |  | | |  | Not supported by Magicdraw generation. |  |
| [Req. Template](http://wiki.ford.com/display/RequirementsEngineering/Requirements+Attributes) Version | | 6.1 | End of Inputs | | | |

Table 5‑30: Input Signal mappings of Function

###### Outputs

(No outputs have been defined)

###### Parameters

(No parameters have been defined)

###### Interface Requirements

No Interface Requirements identified for Function Notfication of camera contamination

##### Function Requirements

###### Component Specific Requirements

No Requirements with Status “Approved” or “Ready for Review” satisfied by this function.

### Inclination Sensor

Inclination Sensor

#### Technology Function -1733286227.jpg Create Threat Event Warning Signal

Internal sensors trigger module to produce warming signal when intruder in vehicle

##### Function Interfaces

###### Inputs

(No inputs have been defined)

###### Outputs

(No outputs have been defined)

###### Parameters

(No parameters have been defined)

###### Interface Requirements

No Interface Requirements identified for Function Create Threat Event Warning Signal

##### Function Requirements

###### Component Specific Requirements

No Requirements with Status “Approved” or “Ready for Review” satisfied by this function.

### BCM

BCM

#### Technology Function -1733286227.jpg sendTriggerPerimeterAlarm

##### Function Interfaces

###### Inputs

(No inputs have been defined)

###### Outputs

(No outputs have been defined)

###### Parameters

(No parameters have been defined)

###### Interface Requirements

No Interface Requirements identified for Function sendTriggerPerimeterAlarm

##### Function Requirements

###### Component Specific Requirements

No “Approved” or “Ready for Review” requirements identified for this function.

#### Technology Function -1733286227.jpg receiveStartRecordRequest

##### Function Interfaces

###### Inputs

(No inputs have been defined)

###### Outputs

(No outputs have been defined)

###### Parameters

(No parameters have been defined)

###### Interface Requirements

No Interface Requirements identified for Function receiveStartRecordRequest

##### Function Requirements

###### Component Specific Requirements

No “Approved” or “Ready for Review” requirements identified for this function.

#### Technology Function -1733286227.jpg Wake-up required CAN Network

Wake-up required CAN Network

##### Function Interfaces

###### Inputs

(No inputs have been defined)

###### Outputs

(No outputs have been defined)

###### Parameters

(No parameters have been defined)

###### Interface Requirements

No Interface Requirements identified for Function Wake-up required CAN Network

##### Function Requirements

###### Component Specific Requirements

No Requirements with Status “Approved” or “Ready for Review” satisfied by this function.

#### Technology Function -1733286227.jpg Enable/Disable ADAS-DAT via iPDB Power Relay during IGN=OFF

Enable/Disable ADAS/DAT power source during IGN=OFF

##### Function Interfaces

###### Inputs

(No inputs have been defined)

###### Outputs

(No outputs have been defined)

###### Parameters

(No parameters have been defined)

###### Interface Requirements

No Interface Requirements identified for Function Enable/Disable ADAS-DAT via iPDB Power Relay during IGN=OFF

##### Function Requirements

###### Component Specific Requirements

No Requirements with Status “Approved” or “Ready for Review” satisfied by this function.

#### Technology Function -1733286227.jpg Monitor Battery SOC

Monitor Battery SOC

##### Function Interfaces

###### Inputs

(No inputs have been defined)

###### Outputs

(No outputs have been defined)

###### Parameters

(No parameters have been defined)

###### Interface Requirements

No Interface Requirements identified for Function Monitor Battery SOC

##### Function Requirements

###### Component Specific Requirements

No “Approved” or “Ready for Review” requirements identified for this function.

#### Technology Function -1733286227.jpg Monitor Battery SoC

The Vehicle Battery information Function provides the Vehicle Battery information to the Make Decision Function to evaluate if the video stream is possible or not.

##### Function Interfaces

###### Inputs

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Inputs: | | | | | | |
| **Logical Signal Name** | **Technical Signal Name** | | | **Mapping Details** *(Conditional)* | **Subscriber Interface** | **Connection**  (*Optional)* |
| No logical signals Realized by this Technology signal. | -307256063.jpg LSG\_ISC\_WakeUpNetwork | | |  | Not supported by Magicdraw generation. |  |
| [Req. Template](http://wiki.ford.com/display/RequirementsEngineering/Requirements+Attributes) Version | | 6.1 | End of Inputs | | | |

Table 5‑31: Input Signal mappings of Function

###### Outputs

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Outputs: | | | | | | |
| **Logical Signal Name** | **Technical Signal Name** | | | **Mapping Details** *(Conditional)* | **Publisher Interface** | **Connection**  (*Optional)* |
| No logical signals Realized by this Technology signal. | -307256063.jpg LSG\_ISC\_BatterySize | | |  | Not supported by Magicdraw generation. |  |
| No logical signals Realized by this Technology signal. | -307256063.jpg LSG\_ISC\_BatterySoCQualityFactor | | |  | Not supported by Magicdraw generation. |  |
| No logical signals Realized by this Technology signal. | -307256063.jpg LSG\_ISC\_BatteryStateFault | | |  | Not supported by Magicdraw generation. |  |
| No logical signals Realized by this Technology signal. | -307256063.jpg LSG\_ISC\_BatterySoC | | |  | Not supported by Magicdraw generation. |  |
| No logical signals Realized by this Technology signal. | -307256063.jpg LSG\_ISC\_BatteryTemperature | | |  | Not supported by Magicdraw generation. |  |
| [Req. Template](http://wiki.ford.com/display/RequirementsEngineering/Requirements+Attributes) Version | | 6.1 | End of Outputs | | | |

**Table 5‑32: Output Signal mappings of Function**

###### Parameters

(No parameters have been defined)

###### Interface Requirements

No Interface Requirements identified for Function Monitor Battery SoC

##### Function Requirements

###### Component Specific Requirements

No Requirements with Status “Approved” or “Ready for Review” satisfied by this function.

#### Technology Function -1733286227.jpg Provide Perimeter/CSM Alarm

Provide Perimeter Alarm (CSM)

##### Function Interfaces

###### Inputs

(No inputs have been defined)

###### Outputs

(No outputs have been defined)

###### Parameters

(No parameters have been defined)

###### Interface Requirements

No Interface Requirements identified for Function Provide Perimeter/CSM Alarm

##### Function Requirements

###### Component Specific Requirements

No Requirements with Status “Approved” or “Ready for Review” satisfied by this function.

#### Technology Function -1733286227.jpg Power Source – Overall

To show all Power Source input/ouput signals

##### Function Interfaces

###### Inputs

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Inputs: | | | | | | |
| **Logical Signal Name** | **Technical Signal Name** | | | **Mapping Details** *(Conditional)* | **Subscriber Interface** | **Connection**  (*Optional)* |
| No logical signals Realized by this Technology signal. | -307256063.jpg LSG\_ISC\_RemoteViewMode | | |  | Not supported by Magicdraw generation. |  |
| [Req. Template](http://wiki.ford.com/display/RequirementsEngineering/Requirements+Attributes) Version | | 6.1 | End of Inputs | | | |

Table 5‑33: Input Signal mappings of Function

###### Outputs

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Outputs: | | | | | | |
| **Logical Signal Name** | **Technical Signal Name** | | | **Mapping Details** *(Conditional)* | **Publisher Interface** | **Connection**  (*Optional)* |
| No logical signals Realized by this Technology signal. | -307256063.jpg LSG\_ISC\_SourceStatus | | |  | Not supported by Magicdraw generation. |  |
| No logical signals Realized by this Technology signal. | -307256063.jpg LSG\_ISC\_Relay Switch | | |  | Not supported by Magicdraw generation. |  |
| [Req. Template](http://wiki.ford.com/display/RequirementsEngineering/Requirements+Attributes) Version | | 6.1 | End of Outputs | | | |

**Table 5‑34: Output Signal mappings of Function**

###### Parameters

(No parameters have been defined)

###### Interface Requirements

No Interface Requirements identified for Function Power Source – Overall

##### Function Requirements

###### Component Specific Requirements

No “Approved” or “Ready for Review” requirements identified for this function.

#### Technology Function -1733286227.jpg Send Perimeter Alarm Status to ECUs

The DAT shall request operation of the cameras when requested by the BCM or ECG

##### Function Interfaces

###### Inputs

(No inputs have been defined)

###### Outputs

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Outputs: | | | | | | |
| **Logical Signal Name** | **Technical Signal Name** | | | **Mapping Details** *(Conditional)* | **Publisher Interface** | **Connection**  (*Optional)* |
| No logical signals Realized by this Technology signal. | -307256063.jpg LSG\_ISC\_ThreatEvent | | |  | Not supported by Magicdraw generation. |  |
| [Req. Template](http://wiki.ford.com/display/RequirementsEngineering/Requirements+Attributes) Version | | 6.1 | End of Outputs | | | |

**Table 5‑35: Output Signal mappings of Function**

###### Parameters

(No parameters have been defined)

###### Interface Requirements

No Interface Requirements identified for Function Send Perimeter Alarm Status to ECUs

##### Function Requirements

###### Component Specific Requirements

No Requirements with Status “Approved” or “Ready for Review” satisfied by this function.

#### Technology Function -1733286227.jpg Monitor Battery SOC

Monitor vehicle battery SoC

##### Function Interfaces

###### Inputs

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Inputs: | | | | | | |
| **Logical Signal Name** | **Technical Signal Name** | | | **Mapping Details** *(Conditional)* | **Subscriber Interface** | **Connection**  (*Optional)* |
| No logical signals Realized by this Technology signal. | 1905649852.jpg BSBattSOC | | |  | Not supported by Magicdraw generation. |  |
| [Req. Template](http://wiki.ford.com/display/RequirementsEngineering/Requirements+Attributes) Version | | 6.1 | End of Inputs | | | |

Table 5‑36: Input Signal mappings of Function

###### Outputs

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Outputs: | | | | | | |
| **Logical Signal Name** | **Technical Signal Name** | | | **Mapping Details** *(Conditional)* | **Publisher Interface** | **Connection**  (*Optional)* |
| No logical signals Realized by this Technology signal. | 1905649852.jpg BSBattSOC | | |  | Not supported by Magicdraw generation. |  |
| [Req. Template](http://wiki.ford.com/display/RequirementsEngineering/Requirements+Attributes) Version | | 6.1 | End of Outputs | | | |

**Table 5‑37: Output Signal mappings of Function**

###### Parameters

(No parameters have been defined)

###### Interface Requirements

No Interface Requirements identified for Function Monitor Battery SOC

##### Function Requirements

###### Component Specific Requirements

No Requirements with Status “Approved” or “Ready for Review” satisfied by this function.

#### Technology Function -1733286227.jpg Enable ADAS-DAT via iPDB Power Relay when Perimeter Alarm Status = Activated

Enable ADAS/DAT power relay in PDB when Perimeter Alarm is active and the Sentinel is configured on the vehicle

##### Function Interfaces

###### Inputs

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Inputs: | | | | | | |
| **Logical Signal Name** | **Technical Signal Name** | | | **Mapping Details** *(Conditional)* | **Subscriber Interface** | **Connection**  (*Optional)* |
| No logical signals Realized by this Technology signal. | 1905649852.jpg SNT\_BCM\_PerimAlarm | | |  | Not supported by Magicdraw generation. |  |
| [Req. Template](http://wiki.ford.com/display/RequirementsEngineering/Requirements+Attributes) Version | | 6.1 | End of Inputs | | | |

Table 5‑38: Input Signal mappings of Function

###### Outputs

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Outputs: | | | | | | |
| **Logical Signal Name** | **Technical Signal Name** | | | **Mapping Details** *(Conditional)* | **Publisher Interface** | **Connection**  (*Optional)* |
| No logical signals Realized by this Technology signal. | 1905649852.jpg SNT\_BCM\_12V\_trigger\_iPDB | | |  | Not supported by Magicdraw generation. |  |
| [Req. Template](http://wiki.ford.com/display/RequirementsEngineering/Requirements+Attributes) Version | | 6.1 | End of Outputs | | | |

**Table 5‑39: Output Signal mappings of Function**

###### Parameters

(No parameters have been defined)

###### Interface Requirements

No Interface Requirements identified for Function Enable ADAS-DAT via iPDB Power Relay when Perimeter Alarm Status = Activated

##### Function Requirements

###### Component Specific Requirements

No Requirements with Status “Approved” or “Ready for Review” satisfied by this function.

#### Technology Function -1733286227.jpg Wake up required ECUs

Wake up of required ECUs by sending Perimeter\_alarm\_status CAN signal to ECG (Gateway to ADAS, TCU and APIM)

##### Function Interfaces

###### Inputs

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Inputs: | | | | | | |
| **Logical Signal Name** | **Technical Signal Name** | | | **Mapping Details** *(Conditional)* | **Subscriber Interface** | **Connection**  (*Optional)* |
| No logical signals Realized by this Technology signal. | 1905649852.jpg SNT\_BCM\_PerimAlarm | | |  | Not supported by Magicdraw generation. |  |
| [Req. Template](http://wiki.ford.com/display/RequirementsEngineering/Requirements+Attributes) Version | | 6.1 | End of Inputs | | | |

Table 5‑40: Input Signal mappings of Function

###### Outputs

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Outputs: | | | | | | |
| **Logical Signal Name** | **Technical Signal Name** | | | **Mapping Details** *(Conditional)* | **Publisher Interface** | **Connection**  (*Optional)* |
| No logical signals Realized by this Technology signal. | 1905649852.jpg SNT\_BCMWakeCAN | | |  | Not supported by Magicdraw generation. |  |
| [Req. Template](http://wiki.ford.com/display/RequirementsEngineering/Requirements+Attributes) Version | | 6.1 | End of Outputs | | | |

**Table 5‑41: Output Signal mappings of Function**

###### Parameters

(No parameters have been defined)

###### Interface Requirements

No Interface Requirements identified for Function Wake up required ECUs

##### Function Requirements

###### Component Specific Requirements

No Requirements with Status “Approved” or “Ready for Review” satisfied by this function.

#### Technology Function -1733286227.jpg Disable ADAS-DAT via iPDB Power Relay

Disable ADAS/DAT power relay in PDB when not requested to by ECG signal (existing MDVCC signal from ECG to BCM)

##### Function Interfaces

###### Inputs

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Inputs: | | | | | | |
| **Logical Signal Name** | **Technical Signal Name** | | | **Mapping Details** *(Conditional)* | **Subscriber Interface** | **Connection**  (*Optional)* |
| No logical signals Realized by this Technology signal. | 1905649852.jpg RmtViewMde\_B\_Rq | | |  | Not supported by Magicdraw generation. |  |
| [Req. Template](http://wiki.ford.com/display/RequirementsEngineering/Requirements+Attributes) Version | | 6.1 | End of Inputs | | | |

Table 5‑42: Input Signal mappings of Function

###### Outputs

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Outputs: | | | | | | |
| **Logical Signal Name** | **Technical Signal Name** | | | **Mapping Details** *(Conditional)* | **Publisher Interface** | **Connection**  (*Optional)* |
| No logical signals Realized by this Technology signal. | 1905649852.jpg SNT\_BCM\_12V\_trigger\_iPDB | | |  | Not supported by Magicdraw generation. |  |
| [Req. Template](http://wiki.ford.com/display/RequirementsEngineering/Requirements+Attributes) Version | | 6.1 | End of Outputs | | | |

**Table 5‑43: Output Signal mappings of Function**

###### Parameters

(No parameters have been defined)

###### Interface Requirements

No Interface Requirements identified for Function Disable ADAS-DAT via iPDB Power Relay

##### Function Requirements

###### Component Specific Requirements

No Requirements with Status “Approved” or “Ready for Review” satisfied by this function.

#### Technology Function -1733286227.jpg Allow user to exit vehicle without activating intruder notification

Useful if the user activates Sentinel whilst in the vehicle.

##### Function Interfaces

###### Inputs

(No inputs have been defined)

###### Outputs

(No outputs have been defined)

###### Parameters

(No parameters have been defined)

###### Interface Requirements

No Interface Requirements identified for Function Allow user to exit vehicle without activating intruder notification

##### Function Requirements

###### Component Specific Requirements

No Requirements with Status “Approved” or “Ready for Review” satisfied by this function.

#### Technology Function -1733286227.jpg Sentinel Operates when Remote Start Occurring

The feature shall operate when a remote start event is initiated via the FordPass App

##### Function Interfaces

###### Inputs

(No inputs have been defined)

###### Outputs

(No outputs have been defined)

###### Parameters

(No parameters have been defined)

###### Interface Requirements

No Interface Requirements identified for Function Sentinel Operates when Remote Start Occurring

##### Function Requirements

###### Component Specific Requirements

No Requirements with Status “Approved” or “Ready for Review” satisfied by this function.

### ECG

ECG

#### Technology Function -1733286227.jpg requestReserveStream

##### Function Interfaces

###### Inputs

(No inputs have been defined)

###### Outputs

(No outputs have been defined)

###### Parameters

(No parameters have been defined)

###### Interface Requirements

No Interface Requirements identified for Function requestReserveStream

##### Function Requirements

###### Component Specific Requirements

No “Approved” or “Ready for Review” requirements identified for this function.

#### Technology Function -1733286227.jpg checkReceivedVideoStreamStatusStreaming

##### Function Interfaces

###### Inputs

(No inputs have been defined)

###### Outputs

(No outputs have been defined)

###### Parameters

(No parameters have been defined)

###### Interface Requirements

No Interface Requirements identified for Function checkReceivedVideoStreamStatusStreaming

##### Function Requirements

###### Component Specific Requirements

No “Approved” or “Ready for Review” requirements identified for this function.

#### Technology Function -1733286227.jpg receiveStartVideoStreamRequest

##### Function Interfaces

###### Inputs

(No inputs have been defined)

###### Outputs

(No outputs have been defined)

###### Parameters

(No parameters have been defined)

###### Interface Requirements

No Interface Requirements identified for Function receiveStartVideoStreamRequest

##### Function Requirements

###### Component Specific Requirements

No “Approved” or “Ready for Review” requirements identified for this function.

#### Technology Function -1733286227.jpg receivePerimeterAlarm

##### Function Interfaces

###### Inputs

(No inputs have been defined)

###### Outputs

(No outputs have been defined)

###### Parameters

(No parameters have been defined)

###### Interface Requirements

No Interface Requirements identified for Function receivePerimeterAlarm

##### Function Requirements

###### Component Specific Requirements

No “Approved” or “Ready for Review” requirements identified for this function.

#### Technology Function -1733286227.jpg setInitiateTimer

##### Function Interfaces

###### Inputs

(No inputs have been defined)

###### Outputs

(No outputs have been defined)

###### Parameters

(No parameters have been defined)

###### Interface Requirements

No Interface Requirements identified for Function setInitiateTimer

##### Function Requirements

###### Component Specific Requirements

No “Approved” or “Ready for Review” requirements identified for this function.

#### Technology Function -1733286227.jpg monitorPublishStreamStatus

##### Function Interfaces

###### Inputs

(No inputs have been defined)

###### Outputs

(No outputs have been defined)

###### Parameters

(No parameters have been defined)

###### Interface Requirements

No Interface Requirements identified for Function monitorPublishStreamStatus

##### Function Requirements

###### Component Specific Requirements

No “Approved” or “Ready for Review” requirements identified for this function.

#### Technology Function -1733286227.jpg sendVideoStreamingStatusUpdateAlert

##### Function Interfaces

###### Inputs

(No inputs have been defined)

###### Outputs

(No outputs have been defined)

###### Parameters

(No parameters have been defined)

###### Interface Requirements

No Interface Requirements identified for Function sendVideoStreamingStatusUpdateAlert

##### Function Requirements

###### Component Specific Requirements

No “Approved” or “Ready for Review” requirements identified for this function.

#### Technology Function -1733286227.jpg notifyIntrusionDetection

##### Function Interfaces

###### Inputs

(No inputs have been defined)

###### Outputs

(No outputs have been defined)

###### Parameters

(No parameters have been defined)

###### Interface Requirements

No Interface Requirements identified for Function notifyIntrusionDetection

##### Function Requirements

###### Component Specific Requirements

No “Approved” or “Ready for Review” requirements identified for this function.

#### Technology Function -1733286227.jpg timeoutRecordTimer

##### Function Interfaces

###### Inputs

(No inputs have been defined)

###### Outputs

(No outputs have been defined)

###### Parameters

(No parameters have been defined)

###### Interface Requirements

No Interface Requirements identified for Function timeoutRecordTimer

##### Function Requirements

###### Component Specific Requirements

No “Approved” or “Ready for Review” requirements identified for this function.

#### Technology Function -1733286227.jpg receiveIPAddressPortId

##### Function Interfaces

###### Inputs

(No inputs have been defined)

###### Outputs

(No outputs have been defined)

###### Parameters

(No parameters have been defined)

###### Interface Requirements

No Interface Requirements identified for Function receiveIPAddressPortId

##### Function Requirements

###### Component Specific Requirements

No “Approved” or “Ready for Review” requirements identified for this function.

#### Technology Function -1733286227.jpg requestCommenceVideoStream

##### Function Interfaces

###### Inputs

(No inputs have been defined)

###### Outputs

(No outputs have been defined)

###### Parameters

(No parameters have been defined)

###### Interface Requirements

No Interface Requirements identified for Function requestCommenceVideoStream

##### Function Requirements

###### Component Specific Requirements

No “Approved” or “Ready for Review” requirements identified for this function.

#### Technology Function -1733286227.jpg requestStopStreaming

##### Function Interfaces

###### Inputs

(No inputs have been defined)

###### Outputs

(No outputs have been defined)

###### Parameters

(No parameters have been defined)

###### Interface Requirements

No Interface Requirements identified for Function requestStopStreaming

##### Function Requirements

###### Component Specific Requirements

No “Approved” or “Ready for Review” requirements identified for this function.

#### Technology Function -1733286227.jpg setRecordingTimer

##### Function Interfaces

###### Inputs

(No inputs have been defined)

###### Outputs

(No outputs have been defined)

###### Parameters

(No parameters have been defined)

###### Interface Requirements

No Interface Requirements identified for Function setRecordingTimer

##### Function Requirements

###### Component Specific Requirements

No “Approved” or “Ready for Review” requirements identified for this function.

#### Technology Function -1733286227.jpg receiveReadyBroadcastMessage

##### Function Interfaces

###### Inputs

(No inputs have been defined)

###### Outputs

(No outputs have been defined)

###### Parameters

(No parameters have been defined)

###### Interface Requirements

No Interface Requirements identified for Function receiveReadyBroadcastMessage

##### Function Requirements

###### Component Specific Requirements

No “Approved” or “Ready for Review” requirements identified for this function.

#### Technology Function -1733286227.jpg Check Vehicle status

Check Vehicle status

##### Function Interfaces

###### Inputs

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Inputs: | | | | | | |
| **Logical Signal Name** | **Technical Signal Name** | | | **Mapping Details** *(Conditional)* | **Subscriber Interface** | **Connection**  (*Optional)* |
| No logical signals Realized by this Technology signal. | -307256063.jpg LSG\_ISC\_SubscriptionServices | | |  | Not supported by Magicdraw generation. |  |
| [Req. Template](http://wiki.ford.com/display/RequirementsEngineering/Requirements+Attributes) Version | | 6.1 | End of Inputs | | | |

Table 5‑44: Input Signal mappings of Function

###### Outputs

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Outputs: | | | | | | |
| **Logical Signal Name** | **Technical Signal Name** | | | **Mapping Details** *(Conditional)* | **Publisher Interface** | **Connection**  (*Optional)* |
| No logical signals Realized by this Technology signal. | -307256063.jpg LSG\_ISC\_SubscriptionServices | | |  | Not supported by Magicdraw generation. |  |
| [Req. Template](http://wiki.ford.com/display/RequirementsEngineering/Requirements+Attributes) Version | | 6.1 | End of Outputs | | | |

**Table 5‑45: Output Signal mappings of Function**

###### Parameters

(No parameters have been defined)

###### Interface Requirements

No Interface Requirements identified for Function Check Vehicle status

##### Function Requirements

###### Component Specific Requirements

877876026.jpg ISC\_IR\_ECG\_1 – Vehicle Key ON

When the vehicle is in Key ON or OFF mode the Make Decision Function shall send an Alert to Communication Enabler function via LSG\_ISC\_SystemNotifications with the below values.

V\_KeyON

v\_KeyOFF

Satisfied by:

* -1733286227.jpg Check Vehicle status

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Requirement ID: ISC\_IR\_ECG\_1 | | | | | | | |
| **Rationale** | To send a vehicle Key ON message | | | | | | |
| **Acceptance Criteria** | See Test Plan | | | | | | |
| **Notes** |  | | | | | | |
| **Source** |  | | | | | **Owner** | Ishan Gupta (igupta1), Michael Wohlfahter (mwohlfah), Corey Minous (cminous), Sivaram Dogiparthi (sdogipar) |
| **Source Req.** | * -1578777561.jpg ISC\_SR\_ECG\_9 Vehicle Status | | | | | **V&V Method** | See Test Plan |
| **Type** |  | | | **Priority** | 1 – High | **Status** | Ready for Review |
| [Req. Template](http://wiki.ford.com/display/RequirementsEngineering/Requirements+Attributes) Version | | 6.0c | End of Requirement | | | | |

877876026.jpg ISC\_IR\_ECG\_50 – Deep Sleep Mode

The Make Decision Function shall send to the Communication Enabler Function before Key OFF, the status of the vehicle status via LSG\_SystemNotifications with the following value:

- vehicle in Deep sleep mode with v\_DeepSleepMode

- Vehicle in Ignition On with v\_KeyON

Satisfied by:

* -1733286227.jpg Check Vehicle status

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Requirement ID: ISC\_IR\_ECG\_50 | | | | | | | |
| **Rationale** | To send a deep sleep mode message | | | | | | |
| **Acceptance Criteria** | See Test Plan | | | | | | |
| **Notes** |  | | | | | | |
| **Source** |  | | | | | **Owner** | Ishan Gupta (igupta1), Michael Wohlfahter (mwohlfah), Corey Minous (cminous), Sivaram Dogiparthi (sdogipar) |
| **Source Req.** | * -1578777561.jpg ISC\_SR\_ECG\_1 Make Decision Function | | | | | **V&V Method** | See Test Plan |
| **Type** |  | | | **Priority** | 1 – High | **Status** | Ready for Review |
| [Req. Template](http://wiki.ford.com/display/RequirementsEngineering/Requirements+Attributes) Version | | 6.0c | End of Requirement | | | | |

#### Technology Function -1733286227.jpg Check View/ Active Timer

Check View/ Active Timer

##### Function Interfaces

###### Inputs

(No inputs have been defined)

###### Outputs

(No outputs have been defined)

###### Parameters

(No parameters have been defined)

###### Interface Requirements

No Interface Requirements identified for Function Check View/ Active Timer

##### Function Requirements

###### Component Specific Requirements

No Requirements with Status “Approved” or “Ready for Review” satisfied by this function.

#### Technology Function -1733286227.jpg Process Alerts/Commands between Communication Enabler and Vehicle

Process Alerts/Commands between Communication Enabler and Vehicle

##### Function Interfaces

###### Inputs

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Inputs: | | | | | | |
| **Logical Signal Name** | **Technical Signal Name** | | | **Mapping Details** *(Conditional)* | **Subscriber Interface** | **Connection**  (*Optional)* |
| No logical signals Realized by this Technology signal. | -307256063.jpg LSG\_ISC\_ThreatEvent | | |  | Not supported by Magicdraw generation. |  |
| [Req. Template](http://wiki.ford.com/display/RequirementsEngineering/Requirements+Attributes) Version | | 6.1 | End of Inputs | | | |

Table 5‑46: Input Signal mappings of Function

###### Outputs

(No outputs have been defined)

###### Parameters

(No parameters have been defined)

###### Interface Requirements

No Interface Requirements identified for Function Process Alerts/Commands between Communication Enabler and Vehicle

##### Function Requirements

###### Component Specific Requirements

877876026.jpg ISC\_IR\_ECG\_13 – Vehicle Wake Up Request and Response

When the LSG\_ISC\_VehicleWakeUpRequest is received, the Make Decision Function shall reply with LSG\_ISC\_VehicleWakeUp to establish the connection with the Communication Enabler Function.

Else send notification to SDN that the vehicle is unable to wake up.

Satisfied by:

* -1733286227.jpg Process Alerts/Commands between Communication Enabler and Vehicle

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Requirement ID: ISC\_IR\_ECG\_13 | | | | | | | |
| **Rationale** | To send a wake up message | | | | | | |
| **Acceptance Criteria** | See Test Plan | | | | | | |
| **Notes** |  | | | | | | |
| **Source** |  | | | | | **Owner** | Ishan Gupta (igupta1), Michael Wohlfahter (mwohlfah), Corey Minous (cminous), Sivaram Dogiparthi (sdogipar) |
| **Source Req.** | * -1578777561.jpg ISC\_SR\_ECG\_10 Vehicle Wake Up | | | | | **V&V Method** | See Test Plan |
| **Type** |  | | | **Priority** | 1 – High | **Status** | Ready for Review |
| [Req. Template](http://wiki.ford.com/display/RequirementsEngineering/Requirements+Attributes) Version | | 6.0c | End of Requirement | | | | |

877876026.jpg ISC\_IR\_ECG\_45 – Camera Unavailable when video streaming

When ISC Flag = ON ,Make Decision Function is streaming video and if detects LSG\_ISC\_CamerasViewStatus = v\_Unavailble then Make Decision Function shall send LSG\_ISC\_SystemNotifications = v\_CameraUnavailable to Communication Enabler Function and send

LSG\_ISC\_TerminateVideoStreamRequest to Video streaming Function.

[RE\_Marker\_RemoveLines]

Satisfied by:

* -1733286227.jpg Handle Error Message
* -1733286227.jpg Process Alerts/Commands between Communication Enabler and Vehicle

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Requirement ID: ISC\_IR\_ECG\_45 | | | | | | | |
| **Rationale** | To send notification of camera unavailable when streaming video | | | | | | |
| **Acceptance Criteria** | See Test Plan | | | | | | |
| **Notes** |  | | | | | | |
| **Source** |  | | | | | **Owner** | Ishan Gupta (igupta1), Michael Wohlfahter (mwohlfah), Corey Minous (cminous), Sivaram Dogiparthi (sdogipar) |
| **Source Req.** | * -1578777561.jpg ISC\_SR\_ECG\_3 Cameras View Status | | | | | **V&V Method** | See Test Plan |
| **Type** |  | | | **Priority** | 1 – High | **Status** | Ready for Review |
| [Req. Template](http://wiki.ford.com/display/RequirementsEngineering/Requirements+Attributes) Version | | 6.0c | End of Requirement | | | | |

#### Technology Function -1733286227.jpg Rewrap the Video Stream

Rewrap the Video Stream. This includes passing Video to TCU (WebRTC or Kinesis format)

##### Function Interfaces

###### Inputs

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Inputs: | | | | | | |
| **Logical Signal Name** | **Technical Signal Name** | | | **Mapping Details** *(Conditional)* | **Subscriber Interface** | **Connection**  (*Optional)* |
| No logical signals Realized by this Technology signal. | -307256063.jpg LSG\_ISC\_EncodedVideoStream | | |  | Not supported by Magicdraw generation. |  |
| [Req. Template](http://wiki.ford.com/display/RequirementsEngineering/Requirements+Attributes) Version | | 6.1 | End of Inputs | | | |

Table 5‑47: Input Signal mappings of Function

###### Outputs

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Outputs: | | | | | | |
| **Logical Signal Name** | **Technical Signal Name** | | | **Mapping Details** *(Conditional)* | **Publisher Interface** | **Connection**  (*Optional)* |
| No logical signals Realized by this Technology signal. | -307256063.jpg LSG\_ISC\_RewrappedVideoStream | | |  | Not supported by Magicdraw generation. |  |
| [Req. Template](http://wiki.ford.com/display/RequirementsEngineering/Requirements+Attributes) Version | | 6.1 | End of Outputs | | | |

**Table 5‑48: Output Signal mappings of Function**

###### Parameters

(No parameters have been defined)

###### Interface Requirements

No Interface Requirements identified for Function Rewrap the Video Stream

##### Function Requirements

###### Component Specific Requirements

No Requirements with Status “Approved” or “Ready for Review” satisfied by this function.

#### Technology Function -1733286227.jpg Terminate the Feature

Terminate the Feature, including:

- Timeout Video Streaming from DAT/ADAS

- ECG to Shut Down ADAS/DAT

- Disable Streaming of Video to TCU from ECG

- Warn SYNC/Phoenix and Cloud to Stop Recording (for USB variants)

- Put to Sleep CAN Network

##### Function Interfaces

###### Inputs

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Inputs: | | | | | | |
| **Logical Signal Name** | **Technical Signal Name** | | | **Mapping Details** *(Conditional)* | **Subscriber Interface** | **Connection**  (*Optional)* |
| No logical signals Realized by this Technology signal. | -307256063.jpg LSG\_ISC\_TerminateVideoStream | | |  | Not supported by Magicdraw generation. |  |
| [Req. Template](http://wiki.ford.com/display/RequirementsEngineering/Requirements+Attributes) Version | | 6.1 | End of Inputs | | | |

Table 5‑49: Input Signal mappings of Function

###### Outputs

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Outputs: | | | | | | |
| **Logical Signal Name** | **Technical Signal Name** | | | **Mapping Details** *(Conditional)* | **Publisher Interface** | **Connection**  (*Optional)* |
| No logical signals Realized by this Technology signal. | -307256063.jpg LSG\_ISC\_TerminateVideoStreamRequest | | |  | Not supported by Magicdraw generation. |  |
| [Req. Template](http://wiki.ford.com/display/RequirementsEngineering/Requirements+Attributes) Version | | 6.1 | End of Outputs | | | |

**Table 5‑50: Output Signal mappings of Function**

###### Parameters

(No parameters have been defined)

###### Interface Requirements

No Interface Requirements identified for Function Terminate the Feature

##### Function Requirements

###### Component Specific Requirements

No Requirements with Status “Approved” or “Ready for Review” satisfied by this function.

#### Technology Function -1733286227.jpg Handle Error Message

Handle Error Message

##### Function Interfaces

###### Inputs

(No inputs have been defined)

###### Outputs

(No outputs have been defined)

###### Parameters

(No parameters have been defined)

###### Interface Requirements

No Interface Requirements identified for Function Handle Error Message

##### Function Requirements

###### Component Specific Requirements

-1023533446.jpg ISC\_IR\_ECG\_15 – Communication Faults System Notification

When Make Decision Function receives LSG\_ISC\_ListofAvailableViewsRequest and if it detects communication faults between the Make Decision Function components , then Make Decision Function shall send LSG\_ISC\_SystemNotifications=Communication Faults to Communication Enabler Function.

Satisfied by:

* -1733286227.jpg Handle Error Message

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Requirement ID: ISC\_IR\_ECG\_15 | | | | | | | |
| **Rationale** | To send communication system fault notofications | | | | | | |
| **Acceptance Criteria** | See Test Plan | | | | | | |
| **Notes** |  | | | | | | |
| **Source** |  | | | | | **Owner** | Ishan Gupta (igupta1), Michael Wohlfahter (mwohlfah), Corey Minous (cminous), Sivaram Dogiparthi (sdogipar) |
| **Source Req.** | * 2037441292.jpg ISC\_SR\_ECG\_6 ISC System Status | | | | | **V&V Method** | See Test Plan |
| **Type** |  | | | **Priority** | 1 – High | **Status** | Ready for Review |
| [Req. Template](http://wiki.ford.com/display/RequirementsEngineering/Requirements+Attributes) Version | | 6.0c | End of Requirement | | | | |

877876026.jpg ISC\_IR\_ECG\_45 – Camera Unavailable when video streaming

When ISC Flag = ON ,Make Decision Function is streaming video and if detects LSG\_ISC\_CamerasViewStatus = v\_Unavailble then Make Decision Function shall send LSG\_ISC\_SystemNotifications = v\_CameraUnavailable to Communication Enabler Function and send

LSG\_ISC\_TerminateVideoStreamRequest to Video streaming Function.

[RE\_Marker\_RemoveLines]

Satisfied by:

* -1733286227.jpg Handle Error Message
* -1733286227.jpg Process Alerts/Commands between Communication Enabler and Vehicle

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Requirement ID: ISC\_IR\_ECG\_45 | | | | | | | |
| **Rationale** | To send notification of camera unavailable when streaming video | | | | | | |
| **Acceptance Criteria** | See Test Plan | | | | | | |
| **Notes** |  | | | | | | |
| **Source** |  | | | | | **Owner** | Ishan Gupta (igupta1), Michael Wohlfahter (mwohlfah), Corey Minous (cminous), Sivaram Dogiparthi (sdogipar) |
| **Source Req.** | * -1578777561.jpg ISC\_SR\_ECG\_3 Cameras View Status | | | | | **V&V Method** | See Test Plan |
| **Type** |  | | | **Priority** | 1 – High | **Status** | Ready for Review |
| [Req. Template](http://wiki.ford.com/display/RequirementsEngineering/Requirements+Attributes) Version | | 6.0c | End of Requirement | | | | |

#### Technology Function -1733286227.jpg Save ISC Feature Settings

Save ISC Feature Settings

##### Function Interfaces

###### Inputs

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Inputs: | | | | | | |
| **Logical Signal Name** | **Technical Signal Name** | | | **Mapping Details** *(Conditional)* | **Subscriber Interface** | **Connection**  (*Optional)* |
| No logical signals Realized by this Technology signal. | -307256063.jpg LSG\_ISC\_QualitySettings | | |  | Not supported by Magicdraw generation. |  |
| [Req. Template](http://wiki.ford.com/display/RequirementsEngineering/Requirements+Attributes) Version | | 6.1 | End of Inputs | | | |

Table 5‑51: Input Signal mappings of Function

###### Outputs

(No outputs have been defined)

###### Parameters

(No parameters have been defined)

###### Interface Requirements

No Interface Requirements identified for Function Save ISC Feature Settings

##### Function Requirements

###### Component Specific Requirements

No Requirements with Status “Approved” or “Ready for Review” satisfied by this function.

#### Technology Function -1733286227.jpg Communication with Video Stream

Communication with Video Stream

##### Function Interfaces

###### Inputs

(No inputs have been defined)

###### Outputs

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Outputs: | | | | | | |
| **Logical Signal Name** | **Technical Signal Name** | | | **Mapping Details** *(Conditional)* | **Publisher Interface** | **Connection**  (*Optional)* |
| No logical signals Realized by this Technology signal. | -307256063.jpg LSG\_ISC\_PublishStreamStatusReq | | |  | Not supported by Magicdraw generation. |  |
| [Req. Template](http://wiki.ford.com/display/RequirementsEngineering/Requirements+Attributes) Version | | 6.1 | End of Outputs | | | |

**Table 5‑52: Output Signal mappings of Function**

###### Parameters

(No parameters have been defined)

###### Interface Requirements

No Interface Requirements identified for Function Communication with Video Stream

##### Function Requirements

###### Component Specific Requirements

-1023533446.jpg ISC\_IR\_ECG\_28 – List of Possible Views – Update

When Make Decision Function receives LSG\_ISC\_ListofPossibleViews from Video Stream Function, the Make Decision Function shall compare and save the camera views to storage on change.

Satisfied by:

* -1733286227.jpg Communication with Video Stream

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Requirement ID: ISC\_IR\_ECG\_28 | | | | | | | |
| **Rationale** | To compare and save the list of possible camera views | | | | | | |
| **Acceptance Criteria** | See Test Plan | | | | | | |
| **Notes** |  | | | | | | |
| **Source** |  | | | | | **Owner** | Ishan Gupta (igupta1), Michael Wohlfahter (mwohlfah), Corey Minous (cminous), Sivaram Dogiparthi (sdogipar) |
| **Source Req.** | * -1578777561.jpg ISC\_SR\_ECG\_3 Cameras View Status | | | | | **V&V Method** | See Test Plan |
| **Type** |  | | | **Priority** | 1 – High | **Status** | Ready for Review |
| [Req. Template](http://wiki.ford.com/display/RequirementsEngineering/Requirements+Attributes) Version | | 6.0c | End of Requirement | | | | |

#### Technology Function -1733286227.jpg Provide Low Battery SoC Warning

Provide Low Battery SoC Warning

##### Function Interfaces

###### Inputs

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Inputs: | | | | | | |
| **Logical Signal Name** | **Technical Signal Name** | | | **Mapping Details** *(Conditional)* | **Subscriber Interface** | **Connection**  (*Optional)* |
| No logical signals Realized by this Technology signal. | -307256063.jpg LSG\_ISC\_SourceStatus | | |  | Not supported by Magicdraw generation. |  |
| [Req. Template](http://wiki.ford.com/display/RequirementsEngineering/Requirements+Attributes) Version | | 6.1 | End of Inputs | | | |

Table 5‑53: Input Signal mappings of Function

###### Outputs

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Outputs: | | | | | | |
| **Logical Signal Name** | **Technical Signal Name** | | | **Mapping Details** *(Conditional)* | **Publisher Interface** | **Connection**  (*Optional)* |
| No logical signals Realized by this Technology signal. | -307256063.jpg LSG\_ISC\_RemoteViewMode | | |  | Not supported by Magicdraw generation. |  |
| [Req. Template](http://wiki.ford.com/display/RequirementsEngineering/Requirements+Attributes) Version | | 6.1 | End of Outputs | | | |

**Table 5‑54: Output Signal mappings of Function**

###### Parameters

(No parameters have been defined)

###### Interface Requirements

No Interface Requirements identified for Function Provide Low Battery SoC Warning

##### Function Requirements

###### Component Specific Requirements

No Requirements with Status “Approved” or “Ready for Review” satisfied by this function.

#### Technology Function -1733286227.jpg ON/OFF Power Resources for ISC

ON/OFF Power Resources for ISC. MDVVC has Low/Medium severity, Sentinel Critical Severity.

##### Function Interfaces

###### Inputs

(No inputs have been defined)

###### Outputs

(No outputs have been defined)

###### Parameters

(No parameters have been defined)

###### Interface Requirements

No Interface Requirements identified for Function ON/OFF Power Resources for ISC

##### Function Requirements

###### Component Specific Requirements

-1023533446.jpg ISC\_IR\_ECG\_23 – Source Status ON\_RemoteView

When Make Decision Function sends LSG\_ISC\_RemoteViewMode = v\_ON to the Power Source Function, it shall receive LSG\_ISC\_SourceStatus = v\_ON ( indicating that Power Source Function has powered on the Video Stream Function)

Satisfied by:

* -1733286227.jpg ON/OFF Power Resources for ISC

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Requirement ID: ISC\_IR\_ECG\_23 | | | | | | | |
| **Rationale** | To send the power source ON status message | | | | | | |
| **Acceptance Criteria** | See Test Plan | | | | | | |
| **Notes** |  | | | | | | |
| **Source** |  | | | | | **Owner** | Ishan Gupta (igupta1), Michael Wohlfahter (mwohlfah), Corey Minous (cminous), Sivaram Dogiparthi (sdogipar) |
| **Source Req.** | * 2037441292.jpg ISC\_SR\_ECG\_5 ISC Status | | | | | **V&V Method** | See Test Plan |
| **Type** |  | | | **Priority** | 1 – High | **Status** | Ready for Review |
| [Req. Template](http://wiki.ford.com/display/RequirementsEngineering/Requirements+Attributes) Version | | 6.0c | End of Requirement | | | | |

#### Technology Function -1733286227.jpg Ensure ISC Operates when Remote Start Occurring

Ensure ISC Operates when Remote Start Occurring

##### Function Interfaces

###### Inputs

(No inputs have been defined)

###### Outputs

(No outputs have been defined)

###### Parameters

(No parameters have been defined)

###### Interface Requirements

No Interface Requirements identified for Function Ensure ISC Operates when Remote Start Occurring

##### Function Requirements

###### Component Specific Requirements

No “Approved” or “Ready for Review” requirements identified for this function.

#### Technology Function -1733286227.jpg Make Decision – Overall

Do define the inputs and outputs for the make decision functions

##### Function Interfaces

###### Inputs

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Inputs: | | | | | | |
| **Logical Signal Name** | **Technical Signal Name** | | | **Mapping Details** *(Conditional)* | **Subscriber Interface** | **Connection**  (*Optional)* |
| No logical signals Realized by this Technology signal. | -307256063.jpg LSG\_ISC\_StreamingInformation | | |  | Not supported by Magicdraw generation. |  |
| No logical signals Realized by this Technology signal. | -307256063.jpg LSG\_ISC\_VehicleWakeUpRequest | | |  | Not supported by Magicdraw generation. |  |
| No logical signals Realized by this Technology signal. | -307256063.jpg LSG\_ISC\_VideoStreamRequest | | |  | Not supported by Magicdraw generation. |  |
| No logical signals Realized by this Technology signal. | -307256063.jpg LSG\_ISC\_ListofAvailableViewsRequest | | |  | Not supported by Magicdraw generation. |  |
| No logical signals Realized by this Technology signal. | -307256063.jpg LSG\_ISC\_QualitySettings | | |  | Not supported by Magicdraw generation. |  |
| No logical signals Realized by this Technology signal. | -307256063.jpg LSG\_ISC\_TerminateVideoStreamRequest | | |  | Not supported by Magicdraw generation. |  |
| No logical signals Realized by this Technology signal. | -307256063.jpg LSG\_ISC\_TerminateISCFeatureRequest | | |  | Not supported by Magicdraw generation. |  |
| No logical signals Realized by this Technology signal. | -307256063.jpg LSG\_ISC\_ListofPossibleViews | | |  | Not supported by Magicdraw generation. |  |
| No logical signals Realized by this Technology signal. | -307256063.jpg LSG\_ISC\_CamerasViewsStatus | | |  | Not supported by Magicdraw generation. |  |
| No logical signals Realized by this Technology signal. | -307256063.jpg LSG\_ISC\_VideoStreamRequestStatus | | |  | Not supported by Magicdraw generation. |  |
| No logical signals Realized by this Technology signal. | -307256063.jpg LSG\_ISC\_EncodedVideoStream | | |  | Not supported by Magicdraw generation. |  |
| No logical signals Realized by this Technology signal. | -307256063.jpg LSG\_ISC\_TerminateVideoStream | | |  | Not supported by Magicdraw generation. |  |
| No logical signals Realized by this Technology signal. | -307256063.jpg LSG\_ISC\_SubscriptionServices | | |  | Not supported by Magicdraw generation. |  |
| No logical signals Realized by this Technology signal. | -307256063.jpg LSG\_ISC\_PublishStreamStatus | | |  | Not supported by Magicdraw generation. |  |
| No logical signals Realized by this Technology signal. | -307256063.jpg LSG\_ISC\_StreamingInformation\_Resp | | |  | Not supported by Magicdraw generation. |  |
| No logical signals Realized by this Technology signal. | -307256063.jpg LSG\_ISC\_PublishRecordingStatus | | |  | Not supported by Magicdraw generation. |  |
| No logical signals Realized by this Technology signal. | -307256063.jpg LSG\_ISC\_ThreatEvent | | |  | Not supported by Magicdraw generation. |  |
| No logical signals Realized by this Technology signal. | -307256063.jpg LSG\_ISC\_SourceStatus | | |  | Not supported by Magicdraw generation. |  |
| [Req. Template](http://wiki.ford.com/display/RequirementsEngineering/Requirements+Attributes) Version | | 6.1 | End of Inputs | | | |

Table 5‑55: Input Signal mappings of Function

###### Outputs

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Outputs: | | | | | | |
| **Logical Signal Name** | **Technical Signal Name** | | | **Mapping Details** *(Conditional)* | **Publisher Interface** | **Connection**  (*Optional)* |
| No logical signals Realized by this Technology signal. | -307256063.jpg LSG\_ISC\_SystemStatus | | |  | Not supported by Magicdraw generation. |  |
| No logical signals Realized by this Technology signal. | -307256063.jpg LSG\_ISC\_VehicleWakeUp | | |  | Not supported by Magicdraw generation. |  |
| No logical signals Realized by this Technology signal. | -307256063.jpg LSG\_ISC\_ListofAvailableViews | | |  | Not supported by Magicdraw generation. |  |
| No logical signals Realized by this Technology signal. | -307256063.jpg LSG\_ISC\_Status ofAvailableViews | | |  | Not supported by Magicdraw generation. |  |
| No logical signals Realized by this Technology signal. | -307256063.jpg LSG\_ISC\_SystemNotifications | | |  | Not supported by Magicdraw generation. |  |
| No logical signals Realized by this Technology signal. | -307256063.jpg LSG\_ISC\_RewrappedVideoStream | | |  | Not supported by Magicdraw generation. |  |
| No logical signals Realized by this Technology signal. | -307256063.jpg LSG\_ISC\_SubscriptionServices | | |  | Not supported by Magicdraw generation. |  |
| No logical signals Realized by this Technology signal. | -307256063.jpg LSG\_ISC\_SystemMode | | |  | Not supported by Magicdraw generation. |  |
| No logical signals Realized by this Technology signal. | -307256063.jpg LSG\_ISC\_VideoStreamRequest | | |  | Not supported by Magicdraw generation. |  |
| No logical signals Realized by this Technology signal. | -307256063.jpg LSG\_ISC\_QualitySettings | | |  | Not supported by Magicdraw generation. |  |
| No logical signals Realized by this Technology signal. | -307256063.jpg LSG\_ISC\_TerminateVideoStreamRequest | | |  | Not supported by Magicdraw generation. |  |
| No logical signals Realized by this Technology signal. | -307256063.jpg LSG\_ISC\_PublishStreamStatusReq | | |  | Not supported by Magicdraw generation. |  |
| No logical signals Realized by this Technology signal. | -307256063.jpg LSG\_ISC\_StopStreamReq | | |  | Not supported by Magicdraw generation. |  |
| No logical signals Realized by this Technology signal. | -307256063.jpg LSG\_ISC\_RemoteViewMode | | |  | Not supported by Magicdraw generation. |  |
| No logical signals Realized by this Technology signal. | -307256063.jpg LSG\_ISC\_RewrappedVideoStream | | |  | Not supported by Magicdraw generation. |  |
| No logical signals Realized by this Technology signal. | -307256063.jpg LSG\_ISC\_TerminateVideoStreamRequest | | |  | Not supported by Magicdraw generation. |  |
| No logical signals Realized by this Technology signal. | -307256063.jpg LSG\_ISC\_StreamingInformation | | |  | Not supported by Magicdraw generation. |  |
| No logical signals Realized by this Technology signal. | -307256063.jpg LSG\_ISC\_APIMWakeUp | | |  | Not supported by Magicdraw generation. |  |
| No logical signals Realized by this Technology signal. | -307256063.jpg LSG\_ISC\_StopRecordingReq | | |  | Not supported by Magicdraw generation. |  |
| No logical signals Realized by this Technology signal. | -307256063.jpg LSG\_ISC\_StartRecordingReq | | |  | Not supported by Magicdraw generation. |  |
| [Req. Template](http://wiki.ford.com/display/RequirementsEngineering/Requirements+Attributes) Version | | 6.1 | End of Outputs | | | |

**Table 5‑56: Output Signal mappings of Function**

###### Parameters

(No parameters have been defined)

###### Interface Requirements

No Interface Requirements identified for Function Make Decision – Overall

##### Function Requirements

###### Component Specific Requirements

No “Approved” or “Ready for Review” requirements identified for this function.

#### Technology Function -1733286227.jpg Determine Availability of Sentinel Cloud via TCU and Inform SYNC/Phoenix and App

Connectivity to Ford Cloud Services is required before streaming can begin to the cloud

##### Function Interfaces

###### Inputs

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Inputs: | | | | | | |
| **Logical Signal Name** | **Technical Signal Name** | | | **Mapping Details** *(Conditional)* | **Subscriber Interface** | **Connection**  (*Optional)* |
| No logical signals Realized by this Technology signal. | 1905649852.jpg SNT\_Signal\_at\_Park | | |  | Not supported by Magicdraw generation. |  |
| [Req. Template](http://wiki.ford.com/display/RequirementsEngineering/Requirements+Attributes) Version | | 6.1 | End of Inputs | | | |

Table 5‑57: Input Signal mappings of Function

###### Outputs

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Outputs: | | | | | | |
| **Logical Signal Name** | **Technical Signal Name** | | | **Mapping Details** *(Conditional)* | **Publisher Interface** | **Connection**  (*Optional)* |
| No logical signals Realized by this Technology signal. | 1905649852.jpg SNT\_PoorSignalMsgToDriver | | |  | Not supported by Magicdraw generation. |  |
| [Req. Template](http://wiki.ford.com/display/RequirementsEngineering/Requirements+Attributes) Version | | 6.1 | End of Outputs | | | |

**Table 5‑58: Output Signal mappings of Function**

###### Parameters

(No parameters have been defined)

###### Interface Requirements

No Interface Requirements identified for Function Determine Availability of Sentinel Cloud via TCU and Inform SYNC/Phoenix and App

##### Function Requirements

###### Component Specific Requirements

No “Approved” or “Ready for Review” requirements identified for this function.

#### Technology Function -1733286227.jpg ECG to Shut Down TCU

ECG to Shut Down TCU

##### Function Interfaces

###### Inputs

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Inputs: | | | | | | |
| **Logical Signal Name** | **Technical Signal Name** | | | **Mapping Details** *(Conditional)* | **Subscriber Interface** | **Connection**  (*Optional)* |
| No logical signals Realized by this Technology signal. | 1905649852.jpg SNT\_LiveStreamingReqStop | | |  | Not supported by Magicdraw generation. |  |
| [Req. Template](http://wiki.ford.com/display/RequirementsEngineering/Requirements+Attributes) Version | | 6.1 | End of Inputs | | | |

Table 5‑59: Input Signal mappings of Function

###### Outputs

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Outputs: | | | | | | |
| **Logical Signal Name** | **Technical Signal Name** | | | **Mapping Details** *(Conditional)* | **Publisher Interface** | **Connection**  (*Optional)* |
| No logical signals Realized by this Technology signal. | 1905649852.jpg SNT\_LiveStreamingReqStop | | |  | Not supported by Magicdraw generation. |  |
| [Req. Template](http://wiki.ford.com/display/RequirementsEngineering/Requirements+Attributes) Version | | 6.1 | End of Outputs | | | |

**Table 5‑60: Output Signal mappings of Function**

###### Parameters

(No parameters have been defined)

###### Interface Requirements

No Interface Requirements identified for Function ECG to Shut Down TCU

##### Function Requirements

###### Component Specific Requirements

No Requirements with Status “Approved” or “Ready for Review” satisfied by this function.

#### Technology Function -1733286227.jpg Send Notification to User

Send Notification of threat event to User via TCU/Cloud/App

##### Function Interfaces

###### Inputs

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Inputs: | | | | | | |
| **Logical Signal Name** | **Technical Signal Name** | | | **Mapping Details** *(Conditional)* | **Subscriber Interface** | **Connection**  (*Optional)* |
| No logical signals Realized by this Technology signal. | 1905649852.jpg SNT\_BCM\_Trigger\_DAT\_via\_CAN | | |  | Not supported by Magicdraw generation. |  |
| [Req. Template](http://wiki.ford.com/display/RequirementsEngineering/Requirements+Attributes) Version | | 6.1 | End of Inputs | | | |

Table 5‑61: Input Signal mappings of Function

###### Outputs

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Outputs: | | | | | | |
| **Logical Signal Name** | **Technical Signal Name** | | | **Mapping Details** *(Conditional)* | **Publisher Interface** | **Connection**  (*Optional)* |
| No logical signals Realized by this Technology signal. | 1905649852.jpg SNT\_NotificationToUser | | |  | Not supported by Magicdraw generation. |  |
| [Req. Template](http://wiki.ford.com/display/RequirementsEngineering/Requirements+Attributes) Version | | 6.1 | End of Outputs | | | |

**Table 5‑62: Output Signal mappings of Function**

###### Parameters

(No parameters have been defined)

###### Interface Requirements

No Interface Requirements identified for Function Send Notification to User

##### Function Requirements

###### Component Specific Requirements

No “Approved” or “Ready for Review” requirements identified for this function.

#### Technology Function -1733286227.jpg Request Signal Quality Status

When informed that vehicle is at Park, the ECG will request a connectivity signal quality status from the TCU

##### Function Interfaces

###### Inputs

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Inputs: | | | | | | |
| **Logical Signal Name** | **Technical Signal Name** | | | **Mapping Details** *(Conditional)* | **Subscriber Interface** | **Connection**  (*Optional)* |
| No logical signals Realized by this Technology signal. | 1905649852.jpg SNT\_ParkDetected | | |  | Not supported by Magicdraw generation. |  |
| No logical signals Realized by this Technology signal. | 1905649852.jpg SNT\_Signal\_at\_Park | | |  | Not supported by Magicdraw generation. |  |
| [Req. Template](http://wiki.ford.com/display/RequirementsEngineering/Requirements+Attributes) Version | | 6.1 | End of Inputs | | | |

Table 5‑63: Input Signal mappings of Function

###### Outputs

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Outputs: | | | | | | |
| **Logical Signal Name** | **Technical Signal Name** | | | **Mapping Details** *(Conditional)* | **Publisher Interface** | **Connection**  (*Optional)* |
| No logical signals Realized by this Technology signal. | 1905649852.jpg SNT\_Signal\_at\_Park | | |  | Not supported by Magicdraw generation. |  |
| [Req. Template](http://wiki.ford.com/display/RequirementsEngineering/Requirements+Attributes) Version | | 6.1 | End of Outputs | | | |

**Table 5‑64: Output Signal mappings of Function**

###### Parameters

(No parameters have been defined)

###### Interface Requirements

No Interface Requirements identified for Function Request Signal Quality Status

##### Function Requirements

###### Component Specific Requirements

No Requirements with Status “Approved” or “Ready for Review” satisfied by this function.

#### Technology Function -1733286227.jpg Arm Sentinel Monitoring and Decide if Notification Required

Arm Sentinel – sensors active

##### Function Interfaces

###### Inputs

(No inputs have been defined)

###### Outputs

(No outputs have been defined)

###### Parameters

(No parameters have been defined)

###### Interface Requirements

No Interface Requirements identified for Function Arm Sentinel Monitoring and Decide if Notification Required

##### Function Requirements

###### Component Specific Requirements

No “Approved” or “Ready for Review” requirements identified for this function.

#### Technology Function -1733286227.jpg Detect when vehicle parked

Part of the “inform user of poor internet access” functionality

##### Function Interfaces

###### Inputs

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Inputs: | | | | | | |
| **Logical Signal Name** | **Technical Signal Name** | | | **Mapping Details** *(Conditional)* | **Subscriber Interface** | **Connection**  (*Optional)* |
| No logical signals Realized by this Technology signal. | 1905649852.jpg SNT\_IgnitionStatus | | |  | Not supported by Magicdraw generation. |  |
| [Req. Template](http://wiki.ford.com/display/RequirementsEngineering/Requirements+Attributes) Version | | 6.1 | End of Inputs | | | |

Table 5‑65: Input Signal mappings of Function

###### Outputs

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Outputs: | | | | | | |
| **Logical Signal Name** | **Technical Signal Name** | | | **Mapping Details** *(Conditional)* | **Publisher Interface** | **Connection**  (*Optional)* |
| No logical signals Realized by this Technology signal. | 1905649852.jpg SNT\_ParkDetected | | |  | Not supported by Magicdraw generation. |  |
| [Req. Template](http://wiki.ford.com/display/RequirementsEngineering/Requirements+Attributes) Version | | 6.1 | End of Outputs | | | |

**Table 5‑66: Output Signal mappings of Function**

###### Parameters

(No parameters have been defined)

###### Interface Requirements

No Interface Requirements identified for Function Detect when vehicle parked

##### Function Requirements

###### Component Specific Requirements

No Requirements with Status “Approved” or “Ready for Review” satisfied by this function.

#### Technology Function -1733286227.jpg Enable Activation of ECG Module

ECG needs to be enabled

##### Function Interfaces

###### Inputs

(No inputs have been defined)

###### Outputs

(No outputs have been defined)

###### Parameters

(No parameters have been defined)

###### Interface Requirements

No Interface Requirements identified for Function Enable Activation of ECG Module

##### Function Requirements

###### Component Specific Requirements

No Requirements with Status “Approved” or “Ready for Review” satisfied by this function.

#### Technology Function -1733286227.jpg Disable Activation of ECG Module

ECG needs to be disabled

##### Function Interfaces

###### Inputs

(No inputs have been defined)

###### Outputs

(No outputs have been defined)

###### Parameters

(No parameters have been defined)

###### Interface Requirements

No Interface Requirements identified for Function Disable Activation of ECG Module

##### Function Requirements

###### Component Specific Requirements

No Requirements with Status “Approved” or “Ready for Review” satisfied by this function.

#### Technology Function -1733286227.jpg Disable Arming of Sentinel Monitoring

Disable sentinel arming

##### Function Interfaces

###### Inputs

(No inputs have been defined)

###### Outputs

(No outputs have been defined)

###### Parameters

(No parameters have been defined)

###### Interface Requirements

No Interface Requirements identified for Function Disable Arming of Sentinel Monitoring

##### Function Requirements

###### Component Specific Requirements

No Requirements with Status “Approved” or “Ready for Review” satisfied by this function.

### ADAS Relay

ADAS Relay

#### Technology Function -1733286227.jpg Request Camera Stream

DAT to request the cameras to record

##### Function Interfaces

###### Inputs

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Inputs: | | | | | | |
| **Logical Signal Name** | **Technical Signal Name** | | | **Mapping Details** *(Conditional)* | **Subscriber Interface** | **Connection**  (*Optional)* |
| No logical signals Realized by this Technology signal. | 1905649852.jpg SNT\_BCM\_Trigger\_DAT\_via\_CAN | | |  | Not supported by Magicdraw generation. |  |
| [Req. Template](http://wiki.ford.com/display/RequirementsEngineering/Requirements+Attributes) Version | | 6.1 | End of Inputs | | | |

Table 5‑67: Input Signal mappings of Function

###### Outputs

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Outputs: | | | | | | |
| **Logical Signal Name** | **Technical Signal Name** | | | **Mapping Details** *(Conditional)* | **Publisher Interface** | **Connection**  (*Optional)* |
| No logical signals Realized by this Technology signal. | 1905649852.jpg SNT\_DAT\_Req\_Cameras\_via\_LIN | | |  | Not supported by Magicdraw generation. |  |
| [Req. Template](http://wiki.ford.com/display/RequirementsEngineering/Requirements+Attributes) Version | | 6.1 | End of Outputs | | | |

**Table 5‑68: Output Signal mappings of Function**

###### Parameters

(No parameters have been defined)

###### Interface Requirements

No Interface Requirements identified for Function Request Camera Stream

##### Function Requirements

###### Component Specific Requirements

No “Approved” or “Ready for Review” requirements identified for this function.

#### Technology Function -1733286227.jpg Request IR Lighting

The DAT/ADAS will request lighting of the cabin area to enable good image quality under low lux levels of lighting

##### Function Interfaces

###### Inputs

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Inputs: | | | | | | |
| **Logical Signal Name** | **Technical Signal Name** | | | **Mapping Details** *(Conditional)* | **Subscriber Interface** | **Connection**  (*Optional)* |
| No logical signals Realized by this Technology signal. | 1905649852.jpg SNT\_BCM\_Trigger\_DAT\_via\_CAN | | |  | Not supported by Magicdraw generation. |  |
| [Req. Template](http://wiki.ford.com/display/RequirementsEngineering/Requirements+Attributes) Version | | 6.1 | End of Inputs | | | |

Table 5‑69: Input Signal mappings of Function

###### Outputs

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Outputs: | | | | | | |
| **Logical Signal Name** | **Technical Signal Name** | | | **Mapping Details** *(Conditional)* | **Publisher Interface** | **Connection**  (*Optional)* |
| No logical signals Realized by this Technology signal. | 1905649852.jpg SNT\_DAT\_Req\_Lights\_via\_LIN | | |  | Not supported by Magicdraw generation. |  |
| [Req. Template](http://wiki.ford.com/display/RequirementsEngineering/Requirements+Attributes) Version | | 6.1 | End of Outputs | | | |

**Table 5‑70: Output Signal mappings of Function**

###### Parameters

(No parameters have been defined)

###### Interface Requirements

No Interface Requirements identified for Function Request IR Lighting

##### Function Requirements

###### Component Specific Requirements

No “Approved” or “Ready for Review” requirements identified for this function.

### TCU

TCU

#### Technology Function -1733286227.jpg TCU Accelerometer Analysis

The TCU shall supply accelerometer data to detect vehicle collisions

##### Function Interfaces

###### Inputs

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Inputs: | | | | | | |
| **Logical Signal Name** | **Technical Signal Name** | | | **Mapping Details** *(Conditional)* | **Subscriber Interface** | **Connection**  (*Optional)* |
| No logical signals Realized by this Technology signal. | 1905649852.jpg SNT\_IntruderPhysicalInput | | |  | Not supported by Magicdraw generation. |  |
| [Req. Template](http://wiki.ford.com/display/RequirementsEngineering/Requirements+Attributes) Version | | 6.1 | End of Inputs | | | |

Table 5‑71: Input Signal mappings of Function

###### Outputs

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Outputs: | | | | | | |
| **Logical Signal Name** | **Technical Signal Name** | | | **Mapping Details** *(Conditional)* | **Publisher Interface** | **Connection**  (*Optional)* |
| No logical signals Realized by this Technology signal. | 1905649852.jpg SNT\_TCUAccelEventDetected | | |  | Not supported by Magicdraw generation. |  |
| No logical signals Realized by this Technology signal. | 1905649852.jpg SNT\_TCUAccelEventDetected | | |  | Not supported by Magicdraw generation. |  |
| [Req. Template](http://wiki.ford.com/display/RequirementsEngineering/Requirements+Attributes) Version | | 6.1 | End of Outputs | | | |

**Table 5‑72: Output Signal mappings of Function**

###### Parameters

(No parameters have been defined)

###### Interface Requirements

No Interface Requirements identified for Function TCU Accelerometer Analysis

##### Function Requirements

###### Component Specific Requirements

No Requirements with Status “Approved” or “Ready for Review” satisfied by this function.

#### Technology Function -1733286227.jpg Assess Connectivity Quality

Access the quality of the internet connectivity between the vehicle and the cloud. If the connectivity is poor, then streaming of data to the cloud will be disabled and a warning sent to the driver of the vehicle.

##### Function Interfaces

###### Inputs

(No inputs have been defined)

###### Outputs

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Outputs: | | | | | | |
| **Logical Signal Name** | **Technical Signal Name** | | | **Mapping Details** *(Conditional)* | **Publisher Interface** | **Connection**  (*Optional)* |
| No logical signals Realized by this Technology signal. | 1905649852.jpg SNT\_Signal\_at\_Park | | |  | Not supported by Magicdraw generation. |  |
| [Req. Template](http://wiki.ford.com/display/RequirementsEngineering/Requirements+Attributes) Version | | 6.1 | End of Outputs | | | |

**Table 5‑73: Output Signal mappings of Function**

###### Parameters

(No parameters have been defined)

###### Interface Requirements

No Interface Requirements identified for Function Assess Connectivity Quality

##### Function Requirements

###### Component Specific Requirements

No Requirements with Status “Approved” or “Ready for Review” satisfied by this function.

### iPDB

iPDB

#### Technology Function -1733286227.jpg PDB to Provide Power to ADAS/DAT

ADAS/DAT required power for cameras/lights/processing

##### Function Interfaces

###### Inputs

(No inputs have been defined)

###### Outputs

(No outputs have been defined)

###### Parameters

(No parameters have been defined)

###### Interface Requirements

No Interface Requirements identified for Function PDB to Provide Power to ADAS/DAT

##### Function Requirements

###### Component Specific Requirements

No Requirements with Status “Approved” or “Ready for Review” satisfied by this function.

### Door System-All Ajar status

Door System-All Ajar status

#### Technology Function -1733286227.jpg Create and Send Closure Ajar Signal

When the perimeter alarm is active the closure ajar signal should be detetected and sent to the BCM

##### Function Interfaces

###### Inputs

(No inputs have been defined)

###### Outputs

(No outputs have been defined)

###### Parameters

(No parameters have been defined)

###### Interface Requirements

No Interface Requirements identified for Function Create and Send Closure Ajar Signal

##### Function Requirements

###### Component Specific Requirements

No Requirements with Status “Approved” or “Ready for Review” satisfied by this function.

### Cabin Interior Camera\_analog

Cabin Interior Camera\_analog

#### Technology Function -1733286227.jpg Distortion Correction – Dewarping for Internal (Analogue Output) Cameras: Cabin

To remove distortion from the very wide angle lens required for use inside the vehicle.

##### Function Interfaces

###### Inputs

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Inputs: | | | | | | |
| **Logical Signal Name** | **Technical Signal Name** | | | **Mapping Details** *(Conditional)* | **Subscriber Interface** | **Connection**  (*Optional)* |
| No logical signals Realized by this Technology signal. | 1905649852.jpg SNT\_InternalCamera1Output | | |  | Not supported by Magicdraw generation. |  |
| [Req. Template](http://wiki.ford.com/display/RequirementsEngineering/Requirements+Attributes) Version | | 6.1 | End of Inputs | | | |

Table 5‑74: Input Signal mappings of Function

###### Outputs

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Outputs: | | | | | | |
| **Logical Signal Name** | **Technical Signal Name** | | | **Mapping Details** *(Conditional)* | **Publisher Interface** | **Connection**  (*Optional)* |
| No logical signals Realized by this Technology signal. | 1905649852.jpg SNT\_InternalCameraDewarped1 | | |  | Not supported by Magicdraw generation. |  |
| [Req. Template](http://wiki.ford.com/display/RequirementsEngineering/Requirements+Attributes) Version | | 6.1 | End of Outputs | | | |

**Table 5‑75: Output Signal mappings of Function**

###### Parameters

(No parameters have been defined)

###### Interface Requirements

No Interface Requirements identified for Function Distortion Correction – Dewarping for Internal (Analogue Output) Cameras: Cabin

##### Function Requirements

###### Component Specific Requirements

No “Approved” or “Ready for Review” requirements identified for this function.

### US Sensor Cabin

US Sensor Cabin

#### Technology Function -1733286227.jpg Create Threat Event Warning Signal

Internal sensors trigger module to produce warming signal when intruder in vehicle

##### Function Interfaces

###### Inputs

(No inputs have been defined)

###### Outputs

(No outputs have been defined)

###### Parameters

(No parameters have been defined)

###### Interface Requirements

No Interface Requirements identified for Function Create Threat Event Warning Signal

##### Function Requirements

###### Component Specific Requirements

No Requirements with Status “Approved” or “Ready for Review” satisfied by this function.

### IR\_Light\_SecondRow

IR\_Light\_SecondRow

#### Technology Function -1733286227.jpg Provide IR Lighting and Indicate Recording: Cargo

To allow visible video images from the cameras under low light conditions. Also indicate that Video/audio Recording is in progress (market dependent)

##### Function Interfaces

###### Inputs

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Inputs: | | | | | | |
| **Logical Signal Name** | **Technical Signal Name** | | | **Mapping Details** *(Conditional)* | **Subscriber Interface** | **Connection**  (*Optional)* |
| No logical signals Realized by this Technology signal. | 1905649852.jpg SNT\_SwitchOnIRLightsCargo\_LIN | | |  | Not supported by Magicdraw generation. |  |
| No logical signals Realized by this Technology signal. | 1905649852.jpg SNT\_12V\_Camera\_to\_Light\_Cargo | | |  | Not supported by Magicdraw generation. |  |
| [Req. Template](http://wiki.ford.com/display/RequirementsEngineering/Requirements+Attributes) Version | | 6.1 | End of Inputs | | | |

Table 5‑76: Input Signal mappings of Function

###### Outputs

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Outputs: | | | | | | |
| **Logical Signal Name** | **Technical Signal Name** | | | **Mapping Details** *(Conditional)* | **Publisher Interface** | **Connection**  (*Optional)* |
| No logical signals Realized by this Technology signal. | 1905649852.jpg SNT\_IR\_LightOutput: Cargo | | |  | Not supported by Magicdraw generation. |  |
| [Req. Template](http://wiki.ford.com/display/RequirementsEngineering/Requirements+Attributes) Version | | 6.1 | End of Outputs | | | |

**Table 5‑77: Output Signal mappings of Function**

###### Parameters

(No parameters have been defined)

###### Interface Requirements

No Interface Requirements identified for Function Provide IR Lighting and Indicate Recording: Cargo

##### Function Requirements

###### Component Specific Requirements

No Requirements with Status “Approved” or “Ready for Review” satisfied by this function.

### OTA

OTA

#### Technology Function -1733286227.jpg Allow OTA Functionality

Allow OTA software updates to occurr when required

##### Function Interfaces

###### Inputs

(No inputs have been defined)

###### Outputs

(No outputs have been defined)

###### Parameters

(No parameters have been defined)

###### Interface Requirements

No Interface Requirements identified for Function Allow OTA Functionality

##### Function Requirements

###### Component Specific Requirements

No “Approved” or “Ready for Review” requirements identified for this function.

### ADAS ECU

ADAS ECU

#### Technology Function -1733286227.jpg Manage Video Buffering\_Packets and Send to Ethernet

Video buffering must be managed. The video will be streamed via the Ethernet connection to the ECG and Sync/Phoenix.

##### Function Interfaces

###### Inputs

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Inputs: | | | | | | |
| **Logical Signal Name** | **Technical Signal Name** | | | **Mapping Details** *(Conditional)* | **Subscriber Interface** | **Connection**  (*Optional)* |
| No logical signals Realized by this Technology signal. |  | | |  | Not supported by Magicdraw generation. |  |
| No logical signals Realized by this Technology signal. | 1905649852.jpg SNT\_InternalCamera1Output | | |  | Not supported by Magicdraw generation. |  |
| No logical signals Realized by this Technology signal. | 1905649852.jpg SNT\_InternalCamera2Output | | |  | Not supported by Magicdraw generation. |  |
| No logical signals Realized by this Technology signal. | 1905649852.jpg SNT\_ECGSendPortDAT | | |  | Not supported by Magicdraw generation. |  |
| [Req. Template](http://wiki.ford.com/display/RequirementsEngineering/Requirements+Attributes) Version | | 6.1 | End of Inputs | | | |

Table 5‑78: Input Signal mappings of Function

###### Outputs

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Outputs: | | | | | | |
| **Logical Signal Name** | **Technical Signal Name** | | | **Mapping Details** *(Conditional)* | **Publisher Interface** | **Connection**  (*Optional)* |
| No logical signals Realized by this Technology signal. |  | | |  | Not supported by Magicdraw generation. |  |
| No logical signals Realized by this Technology signal. |  | | |  | Not supported by Magicdraw generation. |  |
| No logical signals Realized by this Technology signal. |  | | |  | Not supported by Magicdraw generation. |  |
| [Req. Template](http://wiki.ford.com/display/RequirementsEngineering/Requirements+Attributes) Version | | 6.1 | End of Outputs | | | |

**Table 5‑79: Output Signal mappings of Function**

###### Parameters

(No parameters have been defined)

###### Interface Requirements

No Interface Requirements identified for Function Manage Video Buffering\_Packets and Send to Ethernet

##### Function Requirements

###### Component Specific Requirements

No Requirements with Status “Approved” or “Ready for Review” satisfied by this function.

#### Technology Function -1733286227.jpg Stitch 4 x 360 Cameras into Single Video Stream

# signals combined into one

##### Function Interfaces

###### Inputs

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Inputs: | | | | | | |
| **Logical Signal Name** | **Technical Signal Name** | | | **Mapping Details** *(Conditional)* | **Subscriber Interface** | **Connection**  (*Optional)* |
| No logical signals Realized by this Technology signal. | 1905649852.jpg SNT\_360CameraDewarped4 | | |  | Not supported by Magicdraw generation. |  |
| No logical signals Realized by this Technology signal. | 1905649852.jpg SNT\_360CameraDewarped3 | | |  | Not supported by Magicdraw generation. |  |
| No logical signals Realized by this Technology signal. | 1905649852.jpg SNT\_360CameraDewarped2 | | |  | Not supported by Magicdraw generation. |  |
| No logical signals Realized by this Technology signal. | 1905649852.jpg SNT\_360CameraDewarped1 | | |  | Not supported by Magicdraw generation. |  |
| [Req. Template](http://wiki.ford.com/display/RequirementsEngineering/Requirements+Attributes) Version | | 6.1 | End of Inputs | | | |

Table 6‑1: Input Signal mappings of Function

###### Outputs

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Outputs: | | | | | | |
| **Logical Signal Name** | **Technical Signal Name** | | | **Mapping Details** *(Conditional)* | **Publisher Interface** | **Connection**  (*Optional)* |
| No logical signals Realized by this Technology signal. |  | | |  | Not supported by Magicdraw generation. |  |
| [Req. Template](http://wiki.ford.com/display/RequirementsEngineering/Requirements+Attributes) Version | | 6.1 | End of Outputs | | | |

**Table 6‑2: Output Signal mappings of Function**

###### Parameters

(No parameters have been defined)

###### Interface Requirements

No Interface Requirements identified for Function Stitch 4 x 360 Cameras into Single Video Stream

##### Function Requirements

###### Component Specific Requirements

No Requirements with Status “Approved” or “Ready for Review” satisfied by this function.

#### Technology Function -1733286227.jpg Request Camera Stream

DAT to request the cameras to record

##### Function Interfaces

###### Inputs

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Inputs: | | | | | | |
| **Logical Signal Name** | **Technical Signal Name** | | | **Mapping Details** *(Conditional)* | **Subscriber Interface** | **Connection**  (*Optional)* |
| No logical signals Realized by this Technology signal. | 1905649852.jpg SNT\_BCM\_Trigger\_DAT\_via\_CAN | | |  | Not supported by Magicdraw generation. |  |
| [Req. Template](http://wiki.ford.com/display/RequirementsEngineering/Requirements+Attributes) Version | | 6.1 | End of Inputs | | | |

Table 6‑3: Input Signal mappings of Function

###### Outputs

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Outputs: | | | | | | |
| **Logical Signal Name** | **Technical Signal Name** | | | **Mapping Details** *(Conditional)* | **Publisher Interface** | **Connection**  (*Optional)* |
| No logical signals Realized by this Technology signal. | 1905649852.jpg SNT\_DAT\_Req\_Cameras\_via\_LIN | | |  | Not supported by Magicdraw generation. |  |
| [Req. Template](http://wiki.ford.com/display/RequirementsEngineering/Requirements+Attributes) Version | | 6.1 | End of Outputs | | | |

**Table 6‑4: Output Signal mappings of Function**

###### Parameters

(No parameters have been defined)

###### Interface Requirements

No Interface Requirements identified for Function Request Camera Stream

##### Function Requirements

###### Component Specific Requirements

No “Approved” or “Ready for Review” requirements identified for this function.

#### Technology Function -1733286227.jpg Distortion Correction – Dewarping for Digital Camera

To remove distortion from the very wide angle lens required for use inside the vehicle.

##### Function Interfaces

###### Inputs

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Inputs: | | | | | | |
| **Logical Signal Name** | **Technical Signal Name** | | | **Mapping Details** *(Conditional)* | **Subscriber Interface** | **Connection**  (*Optional)* |
| No logical signals Realized by this Technology signal. | 1905649852.jpg SNT\_360CameraOutput4 | | |  | Not supported by Magicdraw generation. |  |
| No logical signals Realized by this Technology signal. | 1905649852.jpg SNT\_360CameraOutput3 | | |  | Not supported by Magicdraw generation. |  |
| No logical signals Realized by this Technology signal. | 1905649852.jpg SNT\_360CameraOutput2 | | |  | Not supported by Magicdraw generation. |  |
| No logical signals Realized by this Technology signal. | 1905649852.jpg SNT\_360CameraOutput1 | | |  | Not supported by Magicdraw generation. |  |
| [Req. Template](http://wiki.ford.com/display/RequirementsEngineering/Requirements+Attributes) Version | | 6.1 | End of Inputs | | | |

Table 6‑5: Input Signal mappings of Function

###### Outputs

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Outputs: | | | | | | |
| **Logical Signal Name** | **Technical Signal Name** | | | **Mapping Details** *(Conditional)* | **Publisher Interface** | **Connection**  (*Optional)* |
| No logical signals Realized by this Technology signal. | 1905649852.jpg SNT\_360CameraDewarped4 | | |  | Not supported by Magicdraw generation. |  |
| No logical signals Realized by this Technology signal. | 1905649852.jpg SNT\_360CameraDewarped3 | | |  | Not supported by Magicdraw generation. |  |
| No logical signals Realized by this Technology signal. | 1905649852.jpg SNT\_360CameraDewarped2 | | |  | Not supported by Magicdraw generation. |  |
| No logical signals Realized by this Technology signal. | 1905649852.jpg SNT\_360CameraDewarped1 | | |  | Not supported by Magicdraw generation. |  |
| [Req. Template](http://wiki.ford.com/display/RequirementsEngineering/Requirements+Attributes) Version | | 6.1 | End of Outputs | | | |

**Table 6‑6: Output Signal mappings of Function**

###### Parameters

(No parameters have been defined)

###### Interface Requirements

No Interface Requirements identified for Function Distortion Correction – Dewarping for Digital Camera

##### Function Requirements

###### Component Specific Requirements

No Requirements with Status “Approved” or “Ready for Review” satisfied by this function.

#### Technology Function -1733286227.jpg Control Internal Camera(s) View

When camera operation is requested, the DAT/ADAS shall send a signal via LIN to the internal cameras to select the most appropriate view

##### Function Interfaces

###### Inputs

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Inputs: | | | | | | |
| **Logical Signal Name** | **Technical Signal Name** | | | **Mapping Details** *(Conditional)* | **Subscriber Interface** | **Connection**  (*Optional)* |
| No logical signals Realized by this Technology signal. | 1905649852.jpg SNT\_BCM\_Trigger\_DAT\_via\_CAN | | |  | Not supported by Magicdraw generation. |  |
| [Req. Template](http://wiki.ford.com/display/RequirementsEngineering/Requirements+Attributes) Version | | 6.1 | End of Inputs | | | |

Table 6‑7: Input Signal mappings of Function

###### Outputs

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Outputs: | | | | | | |
| **Logical Signal Name** | **Technical Signal Name** | | | **Mapping Details** *(Conditional)* | **Publisher Interface** | **Connection**  (*Optional)* |
| No logical signals Realized by this Technology signal. | 1905649852.jpg SNT\_IntCameraViewSettingCabin\_LIN | | |  | Not supported by Magicdraw generation. |  |
| No logical signals Realized by this Technology signal. | 1905649852.jpg SNT\_IntCameraViewSettingCargo\_LIN | | |  | Not supported by Magicdraw generation. |  |
| [Req. Template](http://wiki.ford.com/display/RequirementsEngineering/Requirements+Attributes) Version | | 6.1 | End of Outputs | | | |

**Table 6‑8: Output Signal mappings of Function**

###### Parameters

(No parameters have been defined)

###### Interface Requirements

No Interface Requirements identified for Function Control Internal Camera(s) View

##### Function Requirements

###### Component Specific Requirements

No “Approved” or “Ready for Review” requirements identified for this function.

#### Technology Function -1733286227.jpg Request IR Lighting

The DAT/ADAS will request lighting of the cabin area to enable good image quality under low lux levels of lighting

##### Function Interfaces

###### Inputs

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Inputs: | | | | | | |
| **Logical Signal Name** | **Technical Signal Name** | | | **Mapping Details** *(Conditional)* | **Subscriber Interface** | **Connection**  (*Optional)* |
| No logical signals Realized by this Technology signal. | 1905649852.jpg SNT\_BCM\_Trigger\_DAT\_via\_CAN | | |  | Not supported by Magicdraw generation. |  |
| [Req. Template](http://wiki.ford.com/display/RequirementsEngineering/Requirements+Attributes) Version | | 6.1 | End of Inputs | | | |

Table 6‑9: Input Signal mappings of Function

###### Outputs

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Outputs: | | | | | | |
| **Logical Signal Name** | **Technical Signal Name** | | | **Mapping Details** *(Conditional)* | **Publisher Interface** | **Connection**  (*Optional)* |
| No logical signals Realized by this Technology signal. | 1905649852.jpg SNT\_DAT\_Req\_Lights\_via\_LIN | | |  | Not supported by Magicdraw generation. |  |
| [Req. Template](http://wiki.ford.com/display/RequirementsEngineering/Requirements+Attributes) Version | | 6.1 | End of Outputs | | | |

**Table 6‑10: Output Signal mappings of Function**

###### Parameters

(No parameters have been defined)

###### Interface Requirements

No Interface Requirements identified for Function Request IR Lighting

##### Function Requirements

###### Component Specific Requirements

No “Approved” or “Ready for Review” requirements identified for this function.

### Camera – 360Degree View

Camera – 360Degree View

#### Technology Function -1733286227.jpg Provide Suitable Video Image over Specified Viewing Area: External 360 Degree Cameras

The camera needs to supply a suitable quality output image (NTSC 720x420 , equivalent to 0.3MP), after processing. Note due to image cropping, a 1MP camera is required.

##### Function Interfaces

###### Inputs

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Inputs: | | | | | | |
| **Logical Signal Name** | **Technical Signal Name** | | | **Mapping Details** *(Conditional)* | **Subscriber Interface** | **Connection**  (*Optional)* |
| No logical signals Realized by this Technology signal. |  | | |  | Not supported by Magicdraw generation. |  |
| [Req. Template](http://wiki.ford.com/display/RequirementsEngineering/Requirements+Attributes) Version | | 6.1 | End of Inputs | | | |

Table 6‑11: Input Signal mappings of Function

###### Outputs

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Outputs: | | | | | | |
| **Logical Signal Name** | **Technical Signal Name** | | | **Mapping Details** *(Conditional)* | **Publisher Interface** | **Connection**  (*Optional)* |
| No logical signals Realized by this Technology signal. | 1905649852.jpg SNT\_IntCameraNTSC | | |  | Not supported by Magicdraw generation. |  |
| [Req. Template](http://wiki.ford.com/display/RequirementsEngineering/Requirements+Attributes) Version | | 6.1 | End of Outputs | | | |

**Table 6‑12: Output Signal mappings of Function**

###### Parameters

(No parameters have been defined)

###### Interface Requirements

No Interface Requirements identified for Function Provide Suitable Video Image over Specified Viewing Area: External 360 Degree Cameras

##### Function Requirements

###### Component Specific Requirements

No Requirements with Status “Approved” or “Ready for Review” satisfied by this function.

### VRP

VRP

#### Technology Function -1733286227.jpg receiveVideoForRecording

##### Function Interfaces

###### Inputs

(No inputs have been defined)

###### Outputs

(No outputs have been defined)

###### Parameters

(No parameters have been defined)

###### Interface Requirements

No Interface Requirements identified for Function receiveVideoForRecording

##### Function Requirements

###### Component Specific Requirements

No “Approved” or “Ready for Review” requirements identified for this function.

#### Technology Function -1733286227.jpg receiveTimeout

##### Function Interfaces

###### Inputs

(No inputs have been defined)

###### Outputs

(No outputs have been defined)

###### Parameters

(No parameters have been defined)

###### Interface Requirements

No Interface Requirements identified for Function receiveTimeout

##### Function Requirements

###### Component Specific Requirements

No “Approved” or “Ready for Review” requirements identified for this function.

#### Technology Function -1733286227.jpg stopRecordRequest

##### Function Interfaces

###### Inputs

(No inputs have been defined)

###### Outputs

(No outputs have been defined)

###### Parameters

(No parameters have been defined)

###### Interface Requirements

No Interface Requirements identified for Function stopRecordRequest

##### Function Requirements

###### Component Specific Requirements

No “Approved” or “Ready for Review” requirements identified for this function.

### ADAS/DAT 2.2+ Module

ADAS/DAT 2.2+ Module

#### Technology Function -1733286227.jpg Check Availability of Cameras

Check Cameras Availability

##### Function Interfaces

###### Inputs

(No inputs have been defined)

###### Outputs

(No outputs have been defined)

###### Parameters

(No parameters have been defined)

###### Interface Requirements

No Interface Requirements identified for Function Check Availability of Cameras

##### Function Requirements

###### Component Specific Requirements

-1023533446.jpg ISC\_IR\_DAT\_10 – Error Detected During Ongoing Stream

When error is detected during the ongoing stream, ADAS/PDC shall:

- Not stream the video.

- send StartStreamResp\_Sup with specified failure:

o 0x1 FAILED, if there is an error during encoding or view faulted

o 0x5 ERROR\_CPU\_LOAD, if the stream request would exceed the CPU load in the ADAS (The CPU Error threshold is 90%).

O 0x6 ERROR\_BANDWIDTH\_LOAD if the stream request would exceed the Ethernet bandwidth (Bandwidth load threshold is 80% (48 Mbps)).

O 0x8 CONFIG\_ERROR, if client configuration error is detected

- send StartStreamResp\_ReqID\_Sup

And

Retry for LPR\_FAULT\_MATURITY\_TIME to resolve the error only in case of (Error in CPU(0x5) or Bandwidth (0x6) or Client configuration error (0x8))

If the error is resolved within LPR\_FAULT\_MATURITY\_TIME time, the ADAS will:

- send the video stream using the defined protocol

- send StartStreamResp\_Sup with 0x0 SUCCESS

- send StartStreamResp\_ReqID\_Sup with the last request ID

Else (the error is not resolved within LPR\_FAULT\_MATURITY\_TIME time),

- send StartStreamResp\_Sup with 0x10 Retry\_Failed

- send StartStreamResp\_ReqID\_Sup with the last request ID

- send StartStreamResp\_View\_Sup with the View ID

Satisfied by:

* -1733286227.jpg Check Availability of Cameras

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Requirement ID: ISC\_IR\_DAT\_10 | | | | | | | |
| **Rationale** | To control video streaming when an error is detected during an ongoing stream | | | | | | |
| **Acceptance Criteria** | See Test Plan | | | | | | |
| **Notes** |  | | | | | | |
| **Source** |  | | | | | **Owner** | Benhamouche, Fatima (F.), Midde, Vijaya Kumar (V.) |
| **Source Req.** | * 2037441292.jpg ISC\_SR\_DAT\_1 Video Stream Function | | | | | **V&V Method** | See Test Plan |
| **Type** |  | | | **Priority** | 1 – High | **Status** | Ready for Review |
| [Req. Template](http://wiki.ford.com/display/RequirementsEngineering/Requirements+Attributes) Version | | 6.0c | End of Requirement | | | | |

-1023533446.jpg ISC\_IR\_DAT\_18 – HU and VOE Request

If a view is being streamed on HU and VOE requests a view, ADAS/PDC shall stream the same view which is being streamed in HU to VOE.

Note 1: ADAS/PDC cannot support different views on HU and Video Over Ethernet simultaneously (2 channel output only which is already being used).

Note 2: ADAS/PDC cannot support different landscape/portrait views on HU and VOE simultaneously (Due to CPU load limitations)

Note 3: On vehicles with running PSMD (360 camera system) simultaneous streaming onto HU and VOE is not possible. (CPU load restrictions)

Note 4: ADAS cannot stream raw video over VOE and HU simultaneously. (2 channel output only which is already being used)

Satisfied by:

* -1733286227.jpg Check Availability of Cameras

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Requirement ID: ISC\_IR\_DAT\_18 | | | | | | | |
| **Rationale** | To request HU and VOE | | | | | | |
| **Acceptance Criteria** | See Test Plan | | | | | | |
| **Notes** |  | | | | | | |
| **Source** |  | | | | | **Owner** | Benhamouche, Fatima (F.), Midde, Vijaya Kumar (V.) |
| **Source Req.** | * 2037441292.jpg ISC\_SR\_DAT\_9 Encoded Video Stream | | | | | **V&V Method** | See Test Plan |
| **Type** |  | | | **Priority** | 1 – High | **Status** | Approved |
| [Req. Template](http://wiki.ford.com/display/RequirementsEngineering/Requirements+Attributes) Version | | 6.0c | End of Requirement | | | | |

-1023533446.jpg ISC\_IR\_DAT\_19 – VOE Error

ADAS/PDC shall continue with HU streaming even if any VOE error is detected.

Satisfied by:

* -1733286227.jpg Check Availability of Cameras

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Requirement ID: ISC\_IR\_DAT\_19 | | | | | | | |
| **Rationale** | The required functionality during VOE errors needs to be defined | | | | | | |
| **Acceptance Criteria** | See Test Plan | | | | | | |
| **Notes** |  | | | | | | |
| **Source** |  | | | | | **Owner** | Benhamouche, Fatima (F.), Midde, Vijaya Kumar (V.) |
| **Source Req.** | * 2037441292.jpg ISC\_SR\_DAT\_1 Video Stream Function | | | | | **V&V Method** | See Test Plan |
| **Type** |  | | | **Priority** | 1 – High | **Status** | Approved |
| [Req. Template](http://wiki.ford.com/display/RequirementsEngineering/Requirements+Attributes) Version | | 6.0c | End of Requirement | | | | |

#### Technology Function -1733286227.jpg Lower- Power Mode

Lower- Power Mode

##### Function Interfaces

###### Inputs

(No inputs have been defined)

###### Outputs

(No outputs have been defined)

###### Parameters

(No parameters have been defined)

###### Interface Requirements

No Interface Requirements identified for Function Lower- Power Mode

##### Function Requirements

###### Component Specific Requirements

-1023533446.jpg ISC\_IR\_DAT\_1 – ADAS Low Power Mode Response

When ADAS is in OFF and low power mode request is received for Image Processer, ADAS shall:

- Send AdasCameraLowPowerStatus\_Sup with 0x0 Disable if the Low power mode is not enabled

OR

- Switch to low power mode and send AdasCameraLowPowerStatus\_Sup with 0x1 Enable

Note: Enable mean switched to low power mode and ready to stream

Satisfied by:

* -1733286227.jpg Lower- Power Mode

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Requirement ID: ISC\_IR\_DAT\_1 | | | | | | | |
| **Rationale** | To control the ADAS/DAT low power mode response | | | | | | |
| **Acceptance Criteria** | See Test Plan | | | | | | |
| **Notes** |  | | | | | | |
| **Source** |  | | | | | **Owner** | Benhamouche, Fatima (F.), Midde, Vijaya Kumar (V.) |
| **Source Req.** | * 2037441292.jpg ISC\_SR\_DAT\_6 Low Power Mode | | | | | **V&V Method** | See Test Plan |
| **Type** |  | | | **Priority** | 1 – High | **Status** | Approved |
| [Req. Template](http://wiki.ford.com/display/RequirementsEngineering/Requirements+Attributes) Version | | 6.0c | End of Requirement | | | | |

#### Technology Function -1733286227.jpg Video Encoding

Video Encoding

##### Function Interfaces

###### Inputs

(No inputs have been defined)

###### Outputs

(No outputs have been defined)

###### Parameters

(No parameters have been defined)

###### Interface Requirements

No Interface Requirements identified for Function Video Encoding

##### Function Requirements

###### Component Specific Requirements

-1023533446.jpg ISC\_IR\_DAT\_3 – Video Stream Using RTP Protocol

ADAS/PDC shall send the encoded video stream via Ethernet (as multicast) using:

- The IP port specified in StartStreamCmdReq\_Ipport\_Sup

- The IP address StartStreamCmdReq\_Ipadress1\_Sup, StartStreamCmdReq\_Ipadress2\_Sup, StartStreamCmdReq\_Ipadress3\_Sup, StartStreamCmdReq\_Ipadress4\_Sup

- RTP Protocol

The list of multicast IP and MAC address are as follows:

- The IP address StartStreamCmdReq\_Ipadress1\_Sup, StartStreamCmdReq\_Ipadress2\_Sup, StartStreamCmdReq\_Ipadress3\_Sup, StartStreamCmdReq\_Ipadress4\_Sup shall be compare with the IP address in the below table and select the MAC Address.

IP Address Port MAC Address

235.10.1.1 5000 01-00-5e-0a-01-01

235.10.1.2 5000 01-00-5e-0a-01-02

235.10.1.3 5000 01-00-5e-0a-01-03

235.10.1.4 5000 01-00-5e-0a-01-04

235.10.1.5 5000 01-00-5e-0a-01-05

235.10.1.6 5000 01-00-5e-0a-01-06

235.10.1.7 5000 01-00-5e-0a-01-07

235.10.1.8 5000 01-00-5e-0a-01-08

235.10.1.9 5000 01-00-5e-0a-01-09

Satisfied by:

* -1733286227.jpg Video Encoding

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Requirement ID: ISC\_IR\_DAT\_3 | | | | | | | |
| **Rationale** | To send the video stream using RTP Protocol | | | | | | |
| **Acceptance Criteria** | See Test Plan | | | | | | |
| **Notes** |  | | | | | | |
| **Source** |  | | | | | **Owner** | Benhamouche, Fatima (F.), Midde, Vijaya Kumar (V.) |
| **Source Req.** | * 2037441292.jpg ISC\_SR\_DAT\_9 Encoded Video Stream | | | | | **V&V Method** | See Test Plan |
| **Type** |  | | | **Priority** | 1 – High | **Status** | Ready for Review |
| [Req. Template](http://wiki.ford.com/display/RequirementsEngineering/Requirements+Attributes) Version | | 6.0c | End of Requirement | | | | |

#### Technology Function -1733286227.jpg Provide Video Stream

Provide Video Stream

##### Function Interfaces

###### Inputs

(No inputs have been defined)

###### Outputs

(No outputs have been defined)

###### Parameters

(No parameters have been defined)

###### Interface Requirements

No Interface Requirements identified for Function Provide Video Stream

##### Function Requirements

###### Component Specific Requirements

-1023533446.jpg ISC\_IR\_DAT\_2 – Video Stream Request

When the following signals are received :

- StartStreamCmdReq\_View\_Sup with the specified camera view

- StartStreamCmdReq\_ReqID\_Sup with the specified Request ID,

- UpdateConfigCmdReq\_Res\_Sup with specified Resolution

- UpdateConfigCmdReq\_FR\_Sup with specified Framerate

- UpdateConfigCmdReq\_BR\_Sup with specified Bitrate

ADAS/PDC shall encode and stream the video.

Note:

Please refer to input signals for Video Stream Request Signals.

Satisfied by:

* -1733286227.jpg Provide Video Stream

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Requirement ID: ISC\_IR\_DAT\_2 | | | | | | | |
| **Rationale** | To encode and stream video | | | | | | |
| **Acceptance Criteria** | See Test Plan | | | | | | |
| **Notes** |  | | | | | | |
| **Source** |  | | | | | **Owner** | Benhamouche, Fatima (F.), Midde, Vijaya Kumar (V.) |
| **Source Req.** | * 2037441292.jpg ISC\_SR\_DAT\_1 Video Stream Function * 2037441292.jpg ISC\_SR\_DAT\_5 Subscribe to required services * 2037441292.jpg ISC\_SR\_DAT\_8 Video Stream Request | | | | | **V&V Method** | See Test Plan |
| **Type** |  | | | **Priority** | 1 – High | **Status** | Approved |
| [Req. Template](http://wiki.ford.com/display/RequirementsEngineering/Requirements+Attributes) Version | | 6.0c | End of Requirement | | | | |

-1023533446.jpg ISC\_IR\_DAT\_4 – Status of Video Stream Request

When the are received, ADAS/PDC shall:

- Stream the video and send StartStreamResp\_Sup with 0x0 SUCCESS, if the stream request is successful

- Not stream the video and send StartStreamResp\_Sup with 0x1 FAILED, if there is an error during encoding

- Not stream the video and send StartStreamResp\_Sup with 0x2 INVALID\_REQUEST, if the requested camera view is not valid.

- Stream the video with ADAS/PDC Default valid Configuration and send StartStreamResp\_Sup with 0x3 VALIDATION\_FAILED, if the configuration is an unsupported configuration value.

- Not stream the video and send StartStreamResp\_Sup with 0x5 ERROR\_CPU\_LOAD, if the stream request would exceed the CPU load in the ADAS (The CPU Error threshold is 90%).

- Not stream the video and send StartStreamResp\_Sup with 0x6 ERROR\_BANDWIDTH\_LOAD if the stream request would exceed the Ethernet bandwidth (Bandwidth load threshold is 80% (48 Mbps))

- Not Stream the video and send StartStreamResp\_Sup with 0x7 BUFFERING\_VIDEO\_ERROR, if buffering error detected (Not Applicable for ISC Feature)

- Not Stream the video and send StartStreamResp\_Sup with 0x8 CONFIG\_ERROR, if client configuration error is detected

And

- Specify the request ID via StartStreamResp\_ReqID\_Sup

- send StartStreamResp\_View\_Sup with the View ID

Note:

- Please refer to input signals for Video Stream Request Signals

Satisfied by:

* -1733286227.jpg Provide Video Stream

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Requirement ID: ISC\_IR\_DAT\_4 | | | | | | | |
| **Rationale** | To provide information on the status of the video stream request | | | | | | |
| **Acceptance Criteria** | See Test Plan | | | | | | |
| **Notes** |  | | | | | | |
| **Source** |  | | | | | **Owner** | Benhamouche, Fatima (F.), Midde, Vijaya Kumar (V.) |
| **Source Req.** | * 2037441292.jpg ISC\_SR\_DAT\_10 Video Stream Request Status | | | | | **V&V Method** | See Test Plan |
| **Type** |  | | | **Priority** | 1 – High | **Status** | Ready for Review |
| [Req. Template](http://wiki.ford.com/display/RequirementsEngineering/Requirements+Attributes) Version | | 6.0c | End of Requirement | | | | |

-1023533446.jpg ISC\_IR\_DAT\_5 – New Video Stream Request During Ongoing Video Stream

If New are received during ingoing stream, ADAS/PDC shall process as following:

- Stream the video of the new request and send StartStreamResp\_Sup with 0x0 SUCCESS, if the new video stream request is successful

- Not Stream the video of the new request and send StartStreamResp\_Sup with 0x1 FAILED, if there is an error during encoding of the new video stream request

- Not Stream the video of the new request and send StartStreamResp\_Sup with 0x2 INVALID\_REQUEST for the new video stream request, if the specified camera or view is not valid.

- Stream the video of the new request with the ADAS/PDC Default valid configuration and send StartStreamResp\_Sup with 0x3 VALIDATION\_FAILED, if the configuration is an unsupported value.

- Not stream the video of the new request and send StartStreamResp\_Sup with 0x4 ACCESS\_DENIED, if the new requested camera or view is part of an ongoing stream

- Not Stream the video the video of the new request and send StartStreamResp\_Sup with 0x5 ERROR\_CPU\_LOAD, if the new video stream request would exceed the CPU load in the ADAS (The CPU Error threshold is 90%)

- Not Stream the video of the new request stream and send StartStreamResp\_Sup with 0x6 ERROR\_BANDWIDTH\_LOAD, if the new video stream request would exceed the Ethernet pipeline bandwidth (Bandwidth load threshold is 80% (48 Mbps))

- Not Stream the video and send StartStreamResp\_Sup with 0x7 BUFFERING\_VIDEO\_ERROR, if buffering error detected (Not Applicable for ISC Feature)

- Not Stream the video and send StartStreamResp\_Sup with 0x8 CONFIG\_ERROR, if client configuration error is detected.

And

- Specify the request ID via StartStreamResp\_ReqID\_Sup

- Send StartStreamResp\_View\_Sup with the View ID.

Note:

- The “Request ID: in the response shall be the same as in the request

- Please refer to input signals for Video Stream Request Signals

Satisfied by:

* -1733286227.jpg Provide Video Stream

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Requirement ID: ISC\_IR\_DAT\_5 | | | | | | | |
| **Rationale** | To process a new video stream request during an ongoing video stream | | | | | | |
| **Acceptance Criteria** | See Test Plan | | | | | | |
| **Notes** |  | | | | | | |
| **Source** |  | | | | | **Owner** | Benhamouche, Fatima (F.), Midde, Vijaya Kumar (V.) |
| **Source Req.** | * 2037441292.jpg ISC\_SR\_DAT\_1 Video Stream Function | | | | | **V&V Method** | See Test Plan |
| **Type** |  | | | **Priority** | 1 – High | **Status** | Ready for Review |
| [Req. Template](http://wiki.ford.com/display/RequirementsEngineering/Requirements+Attributes) Version | | 6.0c | End of Requirement | | | | |

-1023533446.jpg ISC\_IR\_DAT\_6 – Update Video Stream with the new Configuration

During the video stream process if the followings signals are received Change Configuration signals>:

- ChangeViewConfigReq\_View\_Sup with the specified camera view

- ChangeViewConfigReqt\_ReqID\_Sup with the specified Request ID

- UpdateConfigCmdReq\_Res\_Sup with specified Resolution

- UpdateConfigCmdReq\_FR\_Sup with specified Framerate

- UpdateConfigCmdReq\_BR\_Sup with specified Bitrate

ADAS/PDC shall update the video stream with the specified configuration.

Note:

Please refer to input signals for Change Configuration signals

Satisfied by:

* -1733286227.jpg Provide Video Stream

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Requirement ID: ISC\_IR\_DAT\_6 | | | | | | | |
| **Rationale** | To update the video stream with a new configuration | | | | | | |
| **Acceptance Criteria** | See Test Plan | | | | | | |
| **Notes** |  | | | | | | |
| **Source** |  | | | | | **Owner** | Benhamouche, Fatima (F.), Midde, Vijaya Kumar (V.) |
| **Source Req.** | * 2037441292.jpg ISC\_SR\_DAT\_1 Video Stream Function | | | | | **V&V Method** | See Test Plan |
| **Type** |  | | | **Priority** | 1 – High | **Status** | Approved |
| [Req. Template](http://wiki.ford.com/display/RequirementsEngineering/Requirements+Attributes) Version | | 6.0c | End of Requirement | | | | |

-1023533446.jpg ISC\_IR\_DAT\_7 – Status of the Updated Video Stream

When the are received, ADAS/PDC shall:

- Send the video stream with new configuration and report ChangeViewConfigRsp\_Sup with 0x0 SUCCESS, if the configuration is successfully updated.

- Send the current video stream (with last valid configuration) and report ChangeViewConfigRsp\_Sup with 0x1 FAILED, if the configuration is an unsupported value

- Send the current video stream (with last valid configuration) and report ChangeViewConfigRsp\_Sup with 0x2 INVALID\_REQUEST, if the requested camera view is not valid.

And

Specify the request ID via ChangeViewConfigRsp\_ReqID\_Sup

Note:

- The “Request ID: in the response shall be the same as in the request

- Please refer to input signals for

Satisfied by:

* -1733286227.jpg Provide Video Stream

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Requirement ID: ISC\_IR\_DAT\_7 | | | | | | | |
| **Rationale** |  | | | | | | |
| **Acceptance Criteria** | See Test Plan | | | | | | |
| **Notes** |  | | | | | | |
| **Source** |  | | | | | **Owner** | Benhamouche, Fatima (F.), Midde, Vijaya Kumar (V.) |
| **Source Req.** | * 2037441292.jpg ISC\_SR\_DAT\_7 Updated Camera View Status | | | | | **V&V Method** | See Test Plan |
| **Type** |  | | | **Priority** | 1 – High | **Status** | Ready for Review |
| [Req. Template](http://wiki.ford.com/display/RequirementsEngineering/Requirements+Attributes) Version | | 6.0c | End of Requirement | | | | |

-1023533446.jpg ISC\_IR\_DAT\_8 – Stop Video Stream Request

When the following signals are received :

- StopStreamCmdReq\_View\_Sup with the specified camera view

- StopStreamCmdReq\_ReqID\_Sup with the specified the Request ID

ADAS/PDC shall stop the video stream of the specified Camera view.

Note:

- Please refer to input signals for

Satisfied by:

* -1733286227.jpg Provide Video Stream

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Requirement ID: ISC\_IR\_DAT\_8 | | | | | | | |
| **Rationale** | To stop the video stream request | | | | | | |
| **Acceptance Criteria** | See Test Plan | | | | | | |
| **Notes** |  | | | | | | |
| **Source** |  | | | | | **Owner** | Benhamouche, Fatima (F.), Midde, Vijaya Kumar (V.) |
| **Source Req.** | * 2037441292.jpg ISC\_SR\_DAT\_11 Terminate Request | | | | | **V&V Method** | See Test Plan |
| **Type** |  | | | **Priority** | 1 – High | **Status** | Approved |
| [Req. Template](http://wiki.ford.com/display/RequirementsEngineering/Requirements+Attributes) Version | | 6.0c | End of Requirement | | | | |

-1023533446.jpg ISC\_IR\_DAT\_9 – Stop Video Stream Response

When are received, ADAS/PDC shall send StopStreamResp \_Sup with:

- 0x0 SUCCESS if the stream is successfully stopped

- 0x1 FAILED if the stream is not stopped

- 0x2 INVALID\_REQUEST, if the requested camera view is not valid.

And

Specify the request ID via StopStreamResp\_ReqID\_Sup

Note:

-The “Request ID: in the response shall be the same as in the request

- please refer to Input Signals for

Satisfied by:

* -1733286227.jpg Provide Video Stream

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Requirement ID: ISC\_IR\_DAT\_9 | | | | | | | |
| **Rationale** | To stop the video stream response | | | | | | |
| **Acceptance Criteria** | See Test Plan | | | | | | |
| **Notes** |  | | | | | | |
| **Source** |  | | | | | **Owner** | Benhamouche, Fatima (F.), Midde, Vijaya Kumar (V.) |
| **Source Req.** | * 2037441292.jpg ISC\_SR\_DAT\_10 Video Stream Request Status | | | | | **V&V Method** | See Test Plan |
| **Type** |  | | | **Priority** | 1 – High | **Status** | Ready for Review |
| [Req. Template](http://wiki.ford.com/display/RequirementsEngineering/Requirements+Attributes) Version | | 6.0c | End of Requirement | | | | |

-1023533446.jpg ISC\_IR\_DAT\_11 – Supported Camera Views and Raw Camera

ADAS/PDC shall support the following:

- Camera View:

OFF = 0

FRONTNORMAL = 1

REARNORMAL = 2

FRONT360 = 3

REAR360 = 4

FRONTSPLIT = 12

REARSPLIT = 13

REARZOOM = 14

CHMSL = 15

CHMSLZOOM = 16

AUX = 17

TBA2\_STRAIGHT\_BACK = 20

TADZOOM = 21

V5050 = 22

LEFT = 24

RIGHT = 26

TBA2\_REARSPLIT = 27

TBA2\_REAR360 = 28

TBA2\_CHMSL = 29

TBA2\_AUX = 30

TBA2\_REARNORMAL = 31

REAR\_FWD\_OFFSET = 33

REAR\_RWD\_OFFSET = 34

FRONT\_FWD\_OFFSET = 35

FRONT\_RWD\_OFFSET = 36

REAR\_FL\_CORNER = 37

REAR\_FR\_CORNER = 38

REAR\_RL\_CORNER = 39

REAR\_RR\_CORNER = 40

FRONT\_FL\_CORNER = 41

FRONT\_FR\_CORNER = 42

FRONT\_RL\_CORNER = 43

FRONT\_RR\_CORNER = 44

FRONT\_ROCK\_CRAWL = 45

REAR\_ROCK\_CRAWL = 46

HITCH = 47

AH\_REARNORMAL = 48

TRAILER360 = 59

TRAILERREARNORMAL = 60

TRAILERINTERIOR\_VIEW1 = 61

TRAILERINTERIOR\_VIEW2 = 62

TRAILERLEFT = 63

TRAILERRIGHT = 64

TBA2\_TRAILER360 = 65

TBA2\_TRAILERREARNORMAL = 66

TBA2\_TRAILERINTERIOR\_VIEW1 = 67

TBA2\_TRAILERINTERIOR\_VIEW2 = 68

TBA2\_TRAILERLEFT = 69

TBA2\_TRAILERRIGHT = 70

IVV = 74

AH\_REARZOOM = 81

INTCAM1 = 82

INTCAM2 = 83

NORMAL\_360 = 84

AUX\_CAM = 85

CHMSL\_CAM = 86

FRONT\_CAM = 87

REAR\_CAM = 88

SIDE\_L\_CAM = 89

SIDE\_R\_CAM = 90

FRONT\_ROW\_SEAT = tbe

SECOND\_ROW\_SEAT = tbe

Note: Some of the Camera View are kept as placeholders for future protection (360 Normal, Aux – 2, Aux – 3)

Satisfied by:

* -1733286227.jpg Provide Video Stream

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Requirement ID: ISC\_IR\_DAT\_11 | | | | | | | |
| **Rationale** | The list of supported camera views | | | | | | |
| **Acceptance Criteria** | See Test Plan | | | | | | |
| **Notes** |  | | | | | | |
| **Source** |  | | | | | **Owner** | Benhamouche, Fatima (F.), Midde, Vijaya Kumar (V.) |
| **Source Req.** | * 2037441292.jpg ISC\_SR\_DAT\_2 Send List of Possible Views * 2037441292.jpg ISC\_SR\_DAT\_3 Camera View Status * 2037441292.jpg ISC\_SR\_DAT\_4 Send List of Available Cameras Views | | | | | **V&V Method** | See Test Plan |
| **Type** |  | | | **Priority** | 1 – High | **Status** | Ready for Review |
| [Req. Template](http://wiki.ford.com/display/RequirementsEngineering/Requirements+Attributes) Version | | 6.0c | End of Requirement | | | | |

-1023533446.jpg ISC\_IR\_DAT\_12 – Supported Resolution

ADAS/PDC shall support the following Resolution values for the video stream:

a. 0x0 – 1280x800

b. 0x1 – 640x480

c. 0x2 – 480x360

d. 0x3 – 800x1280 (Portrait)

e. 0x4 – 480x640 (Portrait)

f. 0x5 – 368x480 (Portrait)

Any scaling or stretching of the image to follow the resolution is Reviewed.

Satisfied by:

* -1733286227.jpg Provide Video Stream

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Requirement ID: ISC\_IR\_DAT\_12 | | | | | | | |
| **Rationale** | The list of supported camera resolutions | | | | | | |
| **Acceptance Criteria** | See Test Plan | | | | | | |
| **Notes** |  | | | | | | |
| **Source** |  | | | | | **Owner** | Benhamouche, Fatima (F.), Midde, Vijaya Kumar (V.) |
| **Source Req.** | * 2037441292.jpg ISC\_SR\_DAT\_14 Resolutions | | | | | **V&V Method** | See Test Plan |
| **Type** |  | | | **Priority** | 1 – High | **Status** | Approved |
| [Req. Template](http://wiki.ford.com/display/RequirementsEngineering/Requirements+Attributes) Version | | 6.0c | End of Requirement | | | | |

-1023533446.jpg ISC\_IR\_DAT\_13 – Supported Framerate

ADAS/PDC shall support the following Framerate values for the video stream:

a. 0x0 – 30 fps

b. 0x1 – 15 fps

c. 0x2 – 10 fps

Satisfied by:

* -1733286227.jpg Provide Video Stream

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Requirement ID: ISC\_IR\_DAT\_13 | | | | | | | |
| **Rationale** | The list of supported video stream framerates | | | | | | |
| **Acceptance Criteria** | See Test Plan | | | | | | |
| **Notes** |  | | | | | | |
| **Source** |  | | | | | **Owner** | Benhamouche, Fatima (F.), Midde, Vijaya Kumar (V.) |
| **Source Req.** | * 2037441292.jpg ISC\_SR\_DAT\_13 Framerates | | | | | **V&V Method** | See Test Plan |
| **Type** |  | | | **Priority** | 1 – High | **Status** | Approved |
| [Req. Template](http://wiki.ford.com/display/RequirementsEngineering/Requirements+Attributes) Version | | 6.0c | End of Requirement | | | | |

-1023533446.jpg ISC\_IR\_DAT\_14 – Supported Bit Rate

ADAS/PDC shall support the following Bit Rate values for the video Stream:

a. 0x0 – 10000 kbps

b. 0x1 – 5000 kbps

c. 0x2 – 1000 kbps

d. 0x3

e. 0x4

f. 0x5

ADAS/PDC use Variable Bit Rate encoding and the above bit rates value will be the average bit rate values. The maximum and minimum bitrate values should be within 50% of the average values.

Satisfied by:

* -1733286227.jpg Provide Video Stream

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Requirement ID: ISC\_IR\_DAT\_14 | | | | | | | |
| **Rationale** | The list of supported video stream Bit Rates | | | | | | |
| **Acceptance Criteria** | See Test Plan | | | | | | |
| **Notes** |  | | | | | | |
| **Source** |  | | | | | **Owner** | Benhamouche, Fatima (F.), Midde, Vijaya Kumar (V.) |
| **Source Req.** | * 2037441292.jpg ISC\_SR\_DAT\_9 Encoded Video Stream | | | | | **V&V Method** | See Test Plan |
| **Type** |  | | | **Priority** | 1 – High | **Status** | Approved |
| [Req. Template](http://wiki.ford.com/display/RequirementsEngineering/Requirements+Attributes) Version | | 6.0c | End of Requirement | | | | |

-1023533446.jpg ISC\_IR\_DAT\_15 – Default Configuration

ADAS/PDC shall use the following values as ADAS/PDC Default Configuration:

Resolution:

- 0x2 – 640x480 (under review – 6May2022)

Framerate:

- 0x0 – 30 fps

Bitrate:

- 0x0 – 5000 kbps (under review – may be lower – 6May2022)

Satisfied by:

* -1733286227.jpg Provide Video Stream

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Requirement ID: ISC\_IR\_DAT\_15 | | | | | | | |
| **Rationale** | A default configuration is required | | | | | | |
| **Acceptance Criteria** | See Test Plan | | | | | | |
| **Notes** |  | | | | | | |
| **Source** |  | | | | | **Owner** | Benhamouche, Fatima (F.), Midde, Vijaya Kumar (V.) |
| **Source Req.** | * 2037441292.jpg ISC\_SR\_DAT\_1 Video Stream Function | | | | | **V&V Method** | See Test Plan |
| **Type** |  | | | **Priority** | 1 – High | **Status** | Approved |
| [Req. Template](http://wiki.ford.com/display/RequirementsEngineering/Requirements+Attributes) Version | | 6.0c | End of Requirement | | | | |

-1023533446.jpg ISC\_IR\_DAT\_16 – Encoding Type

ADAS/PDC shall support the H.264 High profile codec type, with Chroma 4:2:0 and 8bit color sampling, every- one second sends I-Frame, SPS and PPS for the video stream.

Satisfied by:

* -1733286227.jpg Provide Video Stream

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Requirement ID: ISC\_IR\_DAT\_16 | | | | | | | |
| **Rationale** | A defined encoding type is required | | | | | | |
| **Acceptance Criteria** | See Test Plan | | | | | | |
| **Notes** |  | | | | | | |
| **Source** |  | | | | | **Owner** | Benhamouche, Fatima (F.), Midde, Vijaya Kumar (V.) |
| **Source Req.** | * 2037441292.jpg ISC\_SR\_DAT\_9 Encoded Video Stream * 2037441292.jpg ISC\_SR\_DAT\_12 Video Streaming Vehicle Server | | | | | **V&V Method** | See Test Plan |
| **Type** |  | | | **Priority** | 1 – High | **Status** | Ready for Review |
| [Req. Template](http://wiki.ford.com/display/RequirementsEngineering/Requirements+Attributes) Version | | 6.0c | End of Requirement | | | | |

-1023533446.jpg ISC\_IR\_DAT\_17 – Feature Priority

ADAS/PDC shall do the following arbitration:

- VOE and PSMD being requested simultaneously, PSMD takes priority.

- VOE and HU being requested simultaneously, HU takes priority

- PSMD, HU and VOE being requested simultaneously, PSMD and HU takes priority

Satisfied by:

* -1733286227.jpg Provide Video Stream

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Requirement ID: ISC\_IR\_DAT\_17 | | | | | | | |
| **Rationale** | A defined feature priority is required | | | | | | |
| **Acceptance Criteria** | See Test Plan | | | | | | |
| **Notes** |  | | | | | | |
| **Source** |  | | | | | **Owner** | Benhamouche, Fatima (F.), Midde, Vijaya Kumar (V.) |
| **Source Req.** | * 2037441292.jpg ISC\_SR\_DAT\_1 Video Stream Function | | | | | **V&V Method** | See Test Plan |
| **Type** |  | | | **Priority** | 1 – High | **Status** | Approved |
| [Req. Template](http://wiki.ford.com/display/RequirementsEngineering/Requirements+Attributes) Version | | 6.0c | End of Requirement | | | | |

#### Technology Function -1733286227.jpg Manage Video Buffering\_Packets and Send to Ethernet

Manage Video Buffering\_Packets and Send to Ethernet

##### Function Interfaces

###### Inputs

(No inputs have been defined)

###### Outputs

(No outputs have been defined)

###### Parameters

(No parameters have been defined)

###### Interface Requirements

No Interface Requirements identified for Function Manage Video Buffering\_Packets and Send to Ethernet

##### Function Requirements

###### Component Specific Requirements

No Requirements with Status “Approved” or “Ready for Review” satisfied by this function.

#### Technology Function -1733286227.jpg Stitch 4 x 360 Cameras into Single Video Stream

Stitch 4 x 360 Cameras into Single Video Stream

##### Function Interfaces

###### Inputs

(No inputs have been defined)

###### Outputs

(No outputs have been defined)

###### Parameters

(No parameters have been defined)

###### Interface Requirements

No Interface Requirements identified for Function Stitch 4 x 360 Cameras into Single Video Stream

##### Function Requirements

###### Component Specific Requirements

No Requirements with Status “Approved” or “Ready for Review” satisfied by this function.

#### Technology Function -1733286227.jpg Distortion Correction – Dewarping for Digital Camera

Distortion Correction – Dewarping for Digital Camera

##### Function Interfaces

###### Inputs

(No inputs have been defined)

###### Outputs

(No outputs have been defined)

###### Parameters

(No parameters have been defined)

###### Interface Requirements

No Interface Requirements identified for Function Distortion Correction – Dewarping for Digital Camera

##### Function Requirements

###### Component Specific Requirements

No Requirements with Status “Approved” or “Ready for Review” satisfied by this function.

#### Technology Function -1733286227.jpg Video Stream Function – Overall

To capture all Video stream functionality inputs/outputs

##### Function Interfaces

###### Inputs

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Inputs: | | | | | | |
| **Logical Signal Name** | **Technical Signal Name** | | | **Mapping Details** *(Conditional)* | **Subscriber Interface** | **Connection**  (*Optional)* |
| No logical signals Realized by this Technology signal. | -307256063.jpg LSG\_ISC\_SubscriptionServices | | |  | Not supported by Magicdraw generation. |  |
| No logical signals Realized by this Technology signal. | -307256063.jpg LSG\_ISC\_SystemMode | | |  | Not supported by Magicdraw generation. |  |
| No logical signals Realized by this Technology signal. | -307256063.jpg LSG\_ISC\_VideoStreamRequest | | |  | Not supported by Magicdraw generation. |  |
| No logical signals Realized by this Technology signal. | -307256063.jpg LSG\_ISC\_QualitySettings | | |  | Not supported by Magicdraw generation. |  |
| No logical signals Realized by this Technology signal. | -307256063.jpg LSG\_ISC\_TerminateVideoStreamRequest | | |  | Not supported by Magicdraw generation. |  |
| No logical signals Realized by this Technology signal. | -307256063.jpg LSG\_ISC\_PublishStreamStatusReq | | |  | Not supported by Magicdraw generation. |  |
| No logical signals Realized by this Technology signal. | -307256063.jpg LSG\_ISC\_StopStreamReq | | |  | Not supported by Magicdraw generation. |  |
| No logical signals Realized by this Technology signal. | -307256063.jpg LSG\_ISC\_Relay Switch | | |  | Not supported by Magicdraw generation. |  |
| [Req. Template](http://wiki.ford.com/display/RequirementsEngineering/Requirements+Attributes) Version | | 6.1 | End of Inputs | | | |

Table 6‑13: Input Signal mappings of Function

###### Outputs

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Outputs: | | | | | | |
| **Logical Signal Name** | **Technical Signal Name** | | | **Mapping Details** *(Conditional)* | **Publisher Interface** | **Connection**  (*Optional)* |
| No logical signals Realized by this Technology signal. | -307256063.jpg LSG\_ISC\_ListofPossibleViews | | |  | Not supported by Magicdraw generation. |  |
| No logical signals Realized by this Technology signal. | -307256063.jpg LSG\_ISC\_CamerasViewsStatus | | |  | Not supported by Magicdraw generation. |  |
| No logical signals Realized by this Technology signal. | -307256063.jpg LSG\_ISC\_VideoStreamRequestStatus | | |  | Not supported by Magicdraw generation. |  |
| No logical signals Realized by this Technology signal. | -307256063.jpg LSG\_ISC\_EncodedVideoStream | | |  | Not supported by Magicdraw generation. |  |
| No logical signals Realized by this Technology signal. | -307256063.jpg LSG\_ISC\_TerminateVideoStream | | |  | Not supported by Magicdraw generation. |  |
| No logical signals Realized by this Technology signal. | -307256063.jpg LSG\_ISC\_SubscriptionServices | | |  | Not supported by Magicdraw generation. |  |
| No logical signals Realized by this Technology signal. | -307256063.jpg LSG\_ISC\_PublishStreamStatus | | |  | Not supported by Magicdraw generation. |  |
| [Req. Template](http://wiki.ford.com/display/RequirementsEngineering/Requirements+Attributes) Version | | 6.1 | End of Outputs | | | |

**Table 6‑14: Output Signal mappings of Function**

###### Parameters

(No parameters have been defined)

###### Interface Requirements

No Interface Requirements identified for Function Video Stream Function – Overall

##### Function Requirements

###### Component Specific Requirements

No “Approved” or “Ready for Review” requirements identified for this function.

#### Technology Function -1733286227.jpg Manage Video Buffering\_Packets and Send to Ethernet

Video buffering must be managed. The video will be streamed via the Ethernet connection to the ECG and Sync/Phoenix.

##### Function Interfaces

###### Inputs

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Inputs: | | | | | | |
| **Logical Signal Name** | **Technical Signal Name** | | | **Mapping Details** *(Conditional)* | **Subscriber Interface** | **Connection**  (*Optional)* |
| No logical signals Realized by this Technology signal. |  | | |  | Not supported by Magicdraw generation. |  |
| No logical signals Realized by this Technology signal. | 1905649852.jpg SNT\_InternalCamera1Output | | |  | Not supported by Magicdraw generation. |  |
| No logical signals Realized by this Technology signal. | 1905649852.jpg SNT\_InternalCamera2Output | | |  | Not supported by Magicdraw generation. |  |
| No logical signals Realized by this Technology signal. | 1905649852.jpg SNT\_ECGSendPortDAT | | |  | Not supported by Magicdraw generation. |  |
| [Req. Template](http://wiki.ford.com/display/RequirementsEngineering/Requirements+Attributes) Version | | 6.1 | End of Inputs | | | |

Table 6‑15: Input Signal mappings of Function

###### Outputs

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Outputs: | | | | | | |
| **Logical Signal Name** | **Technical Signal Name** | | | **Mapping Details** *(Conditional)* | **Publisher Interface** | **Connection**  (*Optional)* |
| No logical signals Realized by this Technology signal. |  | | |  | Not supported by Magicdraw generation. |  |
| No logical signals Realized by this Technology signal. |  | | |  | Not supported by Magicdraw generation. |  |
| No logical signals Realized by this Technology signal. |  | | |  | Not supported by Magicdraw generation. |  |
| [Req. Template](http://wiki.ford.com/display/RequirementsEngineering/Requirements+Attributes) Version | | 6.1 | End of Outputs | | | |

**Table 6‑16: Output Signal mappings of Function**

###### Parameters

(No parameters have been defined)

###### Interface Requirements

No Interface Requirements identified for Function Manage Video Buffering\_Packets and Send to Ethernet

##### Function Requirements

###### Component Specific Requirements

No Requirements with Status “Approved” or “Ready for Review” satisfied by this function.

#### Technology Function -1733286227.jpg Stitch 4 x 360 Cameras into Single Video Stream

# signals combined into one

##### Function Interfaces

###### Inputs

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Inputs: | | | | | | |
| **Logical Signal Name** | **Technical Signal Name** | | | **Mapping Details** *(Conditional)* | **Subscriber Interface** | **Connection**  (*Optional)* |
| No logical signals Realized by this Technology signal. | 1905649852.jpg SNT\_360CameraDewarped4 | | |  | Not supported by Magicdraw generation. |  |
| No logical signals Realized by this Technology signal. | 1905649852.jpg SNT\_360CameraDewarped3 | | |  | Not supported by Magicdraw generation. |  |
| No logical signals Realized by this Technology signal. | 1905649852.jpg SNT\_360CameraDewarped2 | | |  | Not supported by Magicdraw generation. |  |
| No logical signals Realized by this Technology signal. | 1905649852.jpg SNT\_360CameraDewarped1 | | |  | Not supported by Magicdraw generation. |  |
| [Req. Template](http://wiki.ford.com/display/RequirementsEngineering/Requirements+Attributes) Version | | 6.1 | End of Inputs | | | |

Table 7‑1: Input Signal mappings of Function

###### Outputs

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Outputs: | | | | | | |
| **Logical Signal Name** | **Technical Signal Name** | | | **Mapping Details** *(Conditional)* | **Publisher Interface** | **Connection**  (*Optional)* |
| No logical signals Realized by this Technology signal. |  | | |  | Not supported by Magicdraw generation. |  |
| [Req. Template](http://wiki.ford.com/display/RequirementsEngineering/Requirements+Attributes) Version | | 6.1 | End of Outputs | | | |

**Table 7‑2: Output Signal mappings of Function**

###### Parameters

(No parameters have been defined)

###### Interface Requirements

No Interface Requirements identified for Function Stitch 4 x 360 Cameras into Single Video Stream

##### Function Requirements

###### Component Specific Requirements

No Requirements with Status “Approved” or “Ready for Review” satisfied by this function.

#### Technology Function -1733286227.jpg Request Camera Stream

DAT to request the cameras to record

##### Function Interfaces

###### Inputs

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Inputs: | | | | | | |
| **Logical Signal Name** | **Technical Signal Name** | | | **Mapping Details** *(Conditional)* | **Subscriber Interface** | **Connection**  (*Optional)* |
| No logical signals Realized by this Technology signal. | 1905649852.jpg SNT\_BCM\_Trigger\_DAT\_via\_CAN | | |  | Not supported by Magicdraw generation. |  |
| [Req. Template](http://wiki.ford.com/display/RequirementsEngineering/Requirements+Attributes) Version | | 6.1 | End of Inputs | | | |

Table 7‑3: Input Signal mappings of Function

###### Outputs

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Outputs: | | | | | | |
| **Logical Signal Name** | **Technical Signal Name** | | | **Mapping Details** *(Conditional)* | **Publisher Interface** | **Connection**  (*Optional)* |
| No logical signals Realized by this Technology signal. | 1905649852.jpg SNT\_DAT\_Req\_Cameras\_via\_LIN | | |  | Not supported by Magicdraw generation. |  |
| [Req. Template](http://wiki.ford.com/display/RequirementsEngineering/Requirements+Attributes) Version | | 6.1 | End of Outputs | | | |

**Table 7‑4: Output Signal mappings of Function**

###### Parameters

(No parameters have been defined)

###### Interface Requirements

No Interface Requirements identified for Function Request Camera Stream

##### Function Requirements

###### Component Specific Requirements

No “Approved” or “Ready for Review” requirements identified for this function.

#### Technology Function -1733286227.jpg Provide Diagnostics for IR Lights

Diagnostics are required for the interior IR lights (short/open circuit detection)

##### Function Interfaces

###### Inputs

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Inputs: | | | | | | |
| **Logical Signal Name** | **Technical Signal Name** | | | **Mapping Details** *(Conditional)* | **Subscriber Interface** | **Connection**  (*Optional)* |
| No logical signals Realized by this Technology signal. |  | | |  | Not supported by Magicdraw generation. |  |
| [Req. Template](http://wiki.ford.com/display/RequirementsEngineering/Requirements+Attributes) Version | | 6.1 | End of Inputs | | | |

Table 7‑5: Input Signal mappings of Function

###### Outputs

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Outputs: | | | | | | |
| **Logical Signal Name** | **Technical Signal Name** | | | **Mapping Details** *(Conditional)* | **Publisher Interface** | **Connection**  (*Optional)* |
| No logical signals Realized by this Technology signal. | 1905649852.jpg SNT\_IRLight1\_Diagnostics | | |  | Not supported by Magicdraw generation. |  |
| No logical signals Realized by this Technology signal. | 1905649852.jpg SNT\_IRLight2\_Diagnotics | | |  | Not supported by Magicdraw generation. |  |
| [Req. Template](http://wiki.ford.com/display/RequirementsEngineering/Requirements+Attributes) Version | | 6.1 | End of Outputs | | | |

**Table 7‑6: Output Signal mappings of Function**

###### Parameters

(No parameters have been defined)

###### Interface Requirements

No Interface Requirements identified for Function Provide Diagnostics for IR Lights

##### Function Requirements

###### Component Specific Requirements

No “Approved” or “Ready for Review” requirements identified for this function.

#### Technology Function -1733286227.jpg Distortion Correction – Dewarping for Digital Camera

To remove distortion from the very wide angle lens required for use inside the vehicle.

##### Function Interfaces

###### Inputs

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Inputs: | | | | | | |
| **Logical Signal Name** | **Technical Signal Name** | | | **Mapping Details** *(Conditional)* | **Subscriber Interface** | **Connection**  (*Optional)* |
| No logical signals Realized by this Technology signal. | 1905649852.jpg SNT\_360CameraOutput4 | | |  | Not supported by Magicdraw generation. |  |
| No logical signals Realized by this Technology signal. | 1905649852.jpg SNT\_360CameraOutput3 | | |  | Not supported by Magicdraw generation. |  |
| No logical signals Realized by this Technology signal. | 1905649852.jpg SNT\_360CameraOutput2 | | |  | Not supported by Magicdraw generation. |  |
| No logical signals Realized by this Technology signal. | 1905649852.jpg SNT\_360CameraOutput1 | | |  | Not supported by Magicdraw generation. |  |
| [Req. Template](http://wiki.ford.com/display/RequirementsEngineering/Requirements+Attributes) Version | | 6.1 | End of Inputs | | | |

Table 7‑7: Input Signal mappings of Function

###### Outputs

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Outputs: | | | | | | |
| **Logical Signal Name** | **Technical Signal Name** | | | **Mapping Details** *(Conditional)* | **Publisher Interface** | **Connection**  (*Optional)* |
| No logical signals Realized by this Technology signal. | 1905649852.jpg SNT\_360CameraDewarped4 | | |  | Not supported by Magicdraw generation. |  |
| No logical signals Realized by this Technology signal. | 1905649852.jpg SNT\_360CameraDewarped3 | | |  | Not supported by Magicdraw generation. |  |
| No logical signals Realized by this Technology signal. | 1905649852.jpg SNT\_360CameraDewarped2 | | |  | Not supported by Magicdraw generation. |  |
| No logical signals Realized by this Technology signal. | 1905649852.jpg SNT\_360CameraDewarped1 | | |  | Not supported by Magicdraw generation. |  |
| [Req. Template](http://wiki.ford.com/display/RequirementsEngineering/Requirements+Attributes) Version | | 6.1 | End of Outputs | | | |

**Table 7‑8: Output Signal mappings of Function**

###### Parameters

(No parameters have been defined)

###### Interface Requirements

No Interface Requirements identified for Function Distortion Correction – Dewarping for Digital Camera

##### Function Requirements

###### Component Specific Requirements

No Requirements with Status “Approved” or “Ready for Review” satisfied by this function.

#### Technology Function -1733286227.jpg Control Internal Camera(s) View

When camera operation is requested, the DAT/ADAS shall send a signal via LIN to the internal cameras to select the most appropriate view

##### Function Interfaces

###### Inputs

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Inputs: | | | | | | |
| **Logical Signal Name** | **Technical Signal Name** | | | **Mapping Details** *(Conditional)* | **Subscriber Interface** | **Connection**  (*Optional)* |
| No logical signals Realized by this Technology signal. | 1905649852.jpg SNT\_BCM\_Trigger\_DAT\_via\_CAN | | |  | Not supported by Magicdraw generation. |  |
| [Req. Template](http://wiki.ford.com/display/RequirementsEngineering/Requirements+Attributes) Version | | 6.1 | End of Inputs | | | |

Table 7‑9: Input Signal mappings of Function

###### Outputs

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Outputs: | | | | | | |
| **Logical Signal Name** | **Technical Signal Name** | | | **Mapping Details** *(Conditional)* | **Publisher Interface** | **Connection**  (*Optional)* |
| No logical signals Realized by this Technology signal. | 1905649852.jpg SNT\_IntCameraViewSettingCabin\_LIN | | |  | Not supported by Magicdraw generation. |  |
| No logical signals Realized by this Technology signal. | 1905649852.jpg SNT\_IntCameraViewSettingCargo\_LIN | | |  | Not supported by Magicdraw generation. |  |
| [Req. Template](http://wiki.ford.com/display/RequirementsEngineering/Requirements+Attributes) Version | | 6.1 | End of Outputs | | | |

**Table 7‑10: Output Signal mappings of Function**

###### Parameters

(No parameters have been defined)

###### Interface Requirements

No Interface Requirements identified for Function Control Internal Camera(s) View

##### Function Requirements

###### Component Specific Requirements

No “Approved” or “Ready for Review” requirements identified for this function.

#### Technology Function -1733286227.jpg Request IR Lighting

The DAT/ADAS will request lighting of the cabin area to enable good image quality under low lux levels of lighting

##### Function Interfaces

###### Inputs

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Inputs: | | | | | | |
| **Logical Signal Name** | **Technical Signal Name** | | | **Mapping Details** *(Conditional)* | **Subscriber Interface** | **Connection**  (*Optional)* |
| No logical signals Realized by this Technology signal. | 1905649852.jpg SNT\_BCM\_Trigger\_DAT\_via\_CAN | | |  | Not supported by Magicdraw generation. |  |
| [Req. Template](http://wiki.ford.com/display/RequirementsEngineering/Requirements+Attributes) Version | | 6.1 | End of Inputs | | | |

Table 7‑11: Input Signal mappings of Function

###### Outputs

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Outputs: | | | | | | |
| **Logical Signal Name** | **Technical Signal Name** | | | **Mapping Details** *(Conditional)* | **Publisher Interface** | **Connection**  (*Optional)* |
| No logical signals Realized by this Technology signal. | 1905649852.jpg SNT\_DAT\_Req\_Lights\_via\_LIN | | |  | Not supported by Magicdraw generation. |  |
| [Req. Template](http://wiki.ford.com/display/RequirementsEngineering/Requirements+Attributes) Version | | 6.1 | End of Outputs | | | |

**Table 7‑12: Output Signal mappings of Function**

###### Parameters

(No parameters have been defined)

###### Interface Requirements

No Interface Requirements identified for Function Request IR Lighting

##### Function Requirements

###### Component Specific Requirements

No “Approved” or “Ready for Review” requirements identified for this function.

### ISC Logic – BCM

ISC Logic – BCM

#### Technology Function -1733286227.jpg Wake-up required CAN Network

Wake-up required CAN Network

##### Function Interfaces

###### Inputs

(No inputs have been defined)

###### Outputs

(No outputs have been defined)

###### Parameters

(No parameters have been defined)

###### Interface Requirements

No Interface Requirements identified for Function Wake-up required CAN Network

##### Function Requirements

###### Component Specific Requirements

No Requirements with Status “Approved” or “Ready for Review” satisfied by this function.

#### Technology Function -1733286227.jpg Enable/Disable ADAS-DAT via iPDB Power Relay during IGN=OFF

Enable/Disable ADAS/DAT power source during IGN=OFF

##### Function Interfaces

###### Inputs

(No inputs have been defined)

###### Outputs

(No outputs have been defined)

###### Parameters

(No parameters have been defined)

###### Interface Requirements

No Interface Requirements identified for Function Enable/Disable ADAS-DAT via iPDB Power Relay during IGN=OFF

##### Function Requirements

###### Component Specific Requirements

No Requirements with Status “Approved” or “Ready for Review” satisfied by this function.

#### Technology Function -1733286227.jpg PDB to Provide Power to ADAS/DAT

ADAS/DAT required power for cameras/lights/processing

##### Function Interfaces

###### Inputs

(No inputs have been defined)

###### Outputs

(No outputs have been defined)

###### Parameters

(No parameters have been defined)

###### Interface Requirements

No Interface Requirements identified for Function PDB to Provide Power to ADAS/DAT

##### Function Requirements

###### Component Specific Requirements

No Requirements with Status “Approved” or “Ready for Review” satisfied by this function.

### Inclination Sensor Cargo

Inclination Sensor Cargo

#### Technology Function -1733286227.jpg Create Threat Event Warning Signal

Internal sensors trigger module to produce warming signal when intruder in vehicle

##### Function Interfaces

###### Inputs

(No inputs have been defined)

###### Outputs

(No outputs have been defined)

###### Parameters

(No parameters have been defined)

###### Interface Requirements

No Interface Requirements identified for Function Create Threat Event Warning Signal

##### Function Requirements

###### Component Specific Requirements

No Requirements with Status “Approved” or “Ready for Review” satisfied by this function.

### SLI Battery System

SLI Battery System

#### Technology Function -1733286227.jpg Monitor Battery SoC

The Vehicle Battery information Function provides the Vehicle Battery information to the Make Decision Function to evaluate if the video stream is possible or not.

##### Function Interfaces

###### Inputs

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Inputs: | | | | | | |
| **Logical Signal Name** | **Technical Signal Name** | | | **Mapping Details** *(Conditional)* | **Subscriber Interface** | **Connection**  (*Optional)* |
| No logical signals Realized by this Technology signal. | -307256063.jpg LSG\_ISC\_WakeUpNetwork | | |  | Not supported by Magicdraw generation. |  |
| [Req. Template](http://wiki.ford.com/display/RequirementsEngineering/Requirements+Attributes) Version | | 6.1 | End of Inputs | | | |

Table 7‑13: Input Signal mappings of Function

###### Outputs

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Outputs: | | | | | | |
| **Logical Signal Name** | **Technical Signal Name** | | | **Mapping Details** *(Conditional)* | **Publisher Interface** | **Connection**  (*Optional)* |
| No logical signals Realized by this Technology signal. | -307256063.jpg LSG\_ISC\_BatterySize | | |  | Not supported by Magicdraw generation. |  |
| No logical signals Realized by this Technology signal. | -307256063.jpg LSG\_ISC\_BatterySoCQualityFactor | | |  | Not supported by Magicdraw generation. |  |
| No logical signals Realized by this Technology signal. | -307256063.jpg LSG\_ISC\_BatteryStateFault | | |  | Not supported by Magicdraw generation. |  |
| No logical signals Realized by this Technology signal. | -307256063.jpg LSG\_ISC\_BatterySoC | | |  | Not supported by Magicdraw generation. |  |
| No logical signals Realized by this Technology signal. | -307256063.jpg LSG\_ISC\_BatteryTemperature | | |  | Not supported by Magicdraw generation. |  |
| [Req. Template](http://wiki.ford.com/display/RequirementsEngineering/Requirements+Attributes) Version | | 6.1 | End of Outputs | | | |

**Table 7‑14: Output Signal mappings of Function**

###### Parameters

(No parameters have been defined)

###### Interface Requirements

No Interface Requirements identified for Function Monitor Battery SoC

##### Function Requirements

###### Component Specific Requirements

No Requirements with Status “Approved” or “Ready for Review” satisfied by this function.

#### Technology Function -1733286227.jpg Supply Power with IGN OFF

Supply Power with IGN OFF

##### Function Interfaces

###### Inputs

(No inputs have been defined)

###### Outputs

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Outputs: | | | | | | |
| **Logical Signal Name** | **Technical Signal Name** | | | **Mapping Details** *(Conditional)* | **Publisher Interface** | **Connection**  (*Optional)* |
| No logical signals Realized by this Technology signal. | 1905649852.jpg SNT\_12V Power\_SLI\_Batt | | |  | Not supported by Magicdraw generation. |  |
| [Req. Template](http://wiki.ford.com/display/RequirementsEngineering/Requirements+Attributes) Version | | 6.1 | End of Outputs | | | |

**Table 7‑15: Output Signal mappings of Function**

###### Parameters

(No parameters have been defined)

###### Interface Requirements

No Interface Requirements identified for Function Supply Power with IGN OFF

##### Function Requirements

###### Component Specific Requirements

No Requirements with Status “Approved” or “Ready for Review” satisfied by this function.

### Cargo Interior Camera / CHMSL Bed Interior Camera\_analog

Cargo Interior Camera / CHMSL Bed Interior Camera\_analog

#### Technology Function -1733286227.jpg Distortion Correction – Dewarping for Internal (Analogue Output) Cameras: Cargo

To remove distortion from the very wide angle lens required for use inside the vehicle.

##### Function Interfaces

###### Inputs

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Inputs: | | | | | | |
| **Logical Signal Name** | **Technical Signal Name** | | | **Mapping Details** *(Conditional)* | **Subscriber Interface** | **Connection**  (*Optional)* |
| No logical signals Realized by this Technology signal. | 1905649852.jpg SNT\_InternalCamera2Output | | |  | Not supported by Magicdraw generation. |  |
| [Req. Template](http://wiki.ford.com/display/RequirementsEngineering/Requirements+Attributes) Version | | 6.1 | End of Inputs | | | |

Table 7‑16: Input Signal mappings of Function

###### Outputs

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Outputs: | | | | | | |
| **Logical Signal Name** | **Technical Signal Name** | | | **Mapping Details** *(Conditional)* | **Publisher Interface** | **Connection**  (*Optional)* |
| No logical signals Realized by this Technology signal. | 1905649852.jpg SNT\_InternalCameraDewarped2 | | |  | Not supported by Magicdraw generation. |  |
| [Req. Template](http://wiki.ford.com/display/RequirementsEngineering/Requirements+Attributes) Version | | 6.1 | End of Outputs | | | |

**Table 7‑17: Output Signal mappings of Function**

###### Parameters

(No parameters have been defined)

###### Interface Requirements

No Interface Requirements identified for Function Distortion Correction – Dewarping for Internal (Analogue Output) Cameras: Cargo

##### Function Requirements

###### Component Specific Requirements

No “Approved” or “Ready for Review” requirements identified for this function.

## Requirements on Connections

### Networks

#### “CAN Bus xxx”

*Not supported by MagicDraw report generation.*

##### Protocol Requirements

*Not supported by MagicDraw report generation.*

##### Electrical Requirements

*Not supported by MagicDraw report generation.*

#### “LIN Bus xxx”

*Not supported by MagicDraw report generation.*

##### Protocol Requirements

*Not supported by MagicDraw report generation.*

###### Schedule Table

*Not supported by MagicDraw report generation.*

##### Electrical Requirements

*Not supported by MagicDraw report generation.*

#### “Ethernet xxx”

*Not supported by MagicDraw report generation.*

### HW I/Os

#### “HW I/O xxx”

*Not supported by MagicDraw report generation.*

## Requirements on Development Process

| ID | Name | Satisfied By |
| --- | --- | --- |
| IR\_Sent\_Core\_13 | Sentinel Fault Condition – If an OTA software update is in progress. | Disable ADAS-DAT via iPDB Power Relay |
| IR\_Sent\_App\_1 | Tutorial – On Request | Allow Launch of Tutorial on App |
| IR\_Sent\_App\_2 | Tutorial – First Use | Allow Launch of Tutorial on App  Allow Skip of Tutorial on First Time Use on App  Allow Launch of Tutorial on First Time Use on App |
| IR\_Sent\_App\_4 | Tutorial – Skip | Allow Launch of Tutorial on App |
| IR\_Sent\_App\_5 | Inform User Notifications – Camera Unavailable | Notfication of camera contamination |
| IR\_Sent\_App\_11 | Cloud storage – Filter Videos (time/date) | Allow User to Adjust Time/date of Start of Video Viewing via App |
| IR\_Sent\_App\_13 | Cloud Storage Video Stream – Play/Resume | Enable Activation of ECG Module  Enable ADAS-DAT via iPDB Power Relay when Perimeter Alarm Status = Activated |
| IR\_Sent\_App\_21 | Notifications | Allow Enable/Disable of Threat Event Notifications on Ford Pass App |
| IR\_Sent\_App\_33 | Low Battery Warning Message | Provide Low Battery SoC Warning |
| IR\_Sent\_App\_35 | Video Stream – Stop | Disable Arming of Sentinel Monitoring  Disable Activation of ECG Module |
| IR\_Sent\_App\_37 | Threat Event Notification Enable/Disable | Allow Enable/Disable of Threat Event Notifications on Ford Pass App |
| IR\_Sent\_App\_38 | Alert Poor Network Signal at Park to FordPass App | Detect when vehicle parked  Request Signal Quality Status  Assess Connectivity Quality  Inform user via FordPass App of poor internet access when parked and USB pen-drive required |
| IR\_Sent\_Camera\_1 | Cabin Area – Coverage | Provide Suitable Video Image over Specified Viewing Area: External 360 Degree Cameras |
| IR\_Sent\_Camera\_2 | Cargo Area – Coverage 2 | Provide Suitable Video Image over Specified Viewing Area: External 360 Degree Cameras |
| IR\_Sent\_Camera\_3 | Cabin Area – LEDs | Provide IR Lighting and Indicate Recording: Cabin |
| IR\_Sent\_Camera\_4 | Cargo Area – LEDs | Provide IR Lighting and Indicate Recording: Cabin |
| IR\_Sent\_Camera\_5 | Camera Start-Up Time | Provide Suitable Video Image over Specified Viewing Area: External 360 Degree Cameras |
| IR\_Sent\_Camera\_6 | Low Light Capability | Provide IR Lighting and Indicate Recording: Cargo  Provide IR Lighting and Indicate Recording: Cabin |
| IR\_Sent\_Camera\_7 | Video/Audio Recording Indicator | Provide IR Lighting and Indicate Recording: Cabin  Provide IR Lighting and Indicate Recording: Cargo |
| IR\_Sent\_Core\_1 | Notify User in Under 1s (TBE) | Send Perimeter Alarm Status to ECUs |
| IR\_Sent\_Core\_3 | Power Mode – Ignition Off | Supply Power with IGN OFF |
| IR\_Sent\_Core\_5 | Record Perimeter Alarm Trigger | Provide Perimeter/CSM Alarm |
| IR\_Sent\_Core\_12 | Allow User to Exit Vehicle Without Triggering Feature | Allow user to exit vehicle without activating intruder notification |
| IR\_Sent\_Core\_14 | Sentinel Disabled – Environmental Contamination | Notfication of camera contamination  Disable ADAS-DAT via iPDB Power Relay |
| IR\_Sent\_Core\_15 | Sentinel Fault Condition – No Sentinel Subscription | Disable ADAS-DAT via iPDB Power Relay |
| IR\_Sent\_Core\_16 | Sentinel Fault Condition – Low Battery | Disable ADAS-DAT via iPDB Power Relay  ON/OFF Power Resources for ISC |
| IR\_Sent\_Core\_17 | Allow Feature Operation During Remote Start | Sentinel Operates when Remote Start Occurring |
| IR\_Sent\_Core\_18 | Wake Up CAN | Wake up required ECUs |
| IR\_Sent\_Core\_19 | Battery SoC to BCM | Monitor Battery SOC |
| IR\_Sent\_Core\_22 | ECG to Shut Down TCU | ECG to Shut Down TCU |
| IR\_Sent\_DAT\_1 | Video Stream Stitching – 360 Degree External Cameras | Stitch 4 x 360 Cameras into Single Video Stream |
| IR\_Sent\_DAT\_2 | Video Stream Buffering | Manage Video Buffering\_Packets and Send to Ethernet |
| IR\_Sent\_DAT\_3 | Exterior 360 View – Image Distortion for Digital Cameras | Distortion Correction – Dewarping for Digital Camera  Provide Suitable Video Image over Specified Viewing Area: External 360 Degree Cameras |
| IR\_Sent\_DCM\_1 | Provide Door Ajar Data | Create and Send Closure Ajar Signal |
| IR\_Sent\_Detector\_1 | Intrusion Detection – Inclination Change | Provide Perimeter/CSM Alarm |
| IR\_Sent\_Detector\_2 | Intrusion Detection – Perimeter Alarm | Provide Perimeter/CSM Alarm |
| IR\_Sent\_Detector\_4 | Intrusion Detection – Inclination/acceleration Sensor | Create Threat Event Warning Signal  TCU Accelerometer Analysis |
| IR\_Sent\_iPDB\_1 | Supply Power to DAT/ADAS and Cameras/Lights | PDB to Provide Power to ADAS/DAT |
| IR\_Sent\_SYNC\_1 | Record Date/Time/Event Type of Video to SYNC/USB | Store Video,Threat,Date/Time Data to USB  Pass Audio Deterrent to PHOENIX from ECG  Wake up SYNC/Phoenix  Check if USB is usable for ISC recording |
| IR\_Sent\_SYNC\_2 | USB Storage Device | Check if USB is usable for ISC recording |
| IR\_Sent\_SYNC\_3 | Local Storage -Overwrite | Manage Storage/Overwrite of Data on USB Memory Device |
| IR\_Sent\_SYNC\_4 | Select Local Video Recording by Date/Time | Allow Selection of Videos Stored on USB |
| IR\_Sent\_SYNC\_4 | Alert Poor Network Signal at Park to SYNC | Assess Connectivity Quality  Inform user via SYNC\_Phoenix of poor internet access when parked and USB pen-drive required |
| IR\_Sent\_SYNC\_6 | Play/Pause/Resume/Stop USB Video on SYNC | Stop Video Playback from USB on SYNC/Phoenix  Play Video from USB on SYNC  Pause Video Playback from USB on SYNC/Phoenix  Allow Selection of Videos Stored on USB |
| IR\_Sent\_SYNC\_11 | Enable Disable from APIM | Set Sentinel via SYNC to ON  Communication with Video Stream  Set Sentinal via SYNC to OFF |
| IR\_Sent\_SYNC\_12 | PC (Computer) Playback of USB Video | Allow USB Video Playback on PC/Computer |
| IR\_Sent\_SYNC\_13 | Local Storage – Delete Videos | Delete Videos on USB |
| ISC\_IR\_APIM\_1 | Stored Video – USB – Metadata | Manage Storage/Overwrite of Data on USB Memory Device |
| ISC\_IR\_APIM\_2 | Stored Video – USB – Capability | Check if USB is usable for ISC recording |
| ISC\_IR\_APIM\_3 | Stored Video – USB – Overwrite | Manage Storage/Overwrite of Data on USB Memory Device |
| ISC\_IR\_APIM\_4 | Stored Video – USB – Capacity | Manage Storage/Overwrite of Data on USB Memory Device |
| ISC\_IR\_APIM\_5 | Stored Video – USB – PC Playback | Allow USB Video Playback on PC/Computer |
| ISC\_IR\_APIM\_6 | Stored Video – USB – Select by Date/Time and/or Threat Event Type | Allow Selection/Play/Pause/Terminate of Videos Stored on USB via SYNC/Phoenix |
| ISC\_IR\_APIM\_7 | Stored Video – USB – Play | Allow Selection/Play/Pause/Terminate of Videos Stored on USB via SYNC/Phoenix |
| ISC\_IR\_APIM\_8 | Stored Video – USB – Delete | Delete Videos on USB |
| ISC\_IR\_APIM\_11 | Record Video | Store Video,Threat,Date/Time Data to USB |
| ISC\_IR\_APIM\_12 | System Request ON | Set ISC to ON via SYNC/Phoenix  Accept Privacy Settings |
| ISC\_IR\_APIM\_13 | Confirmation ON Prompt Response = CONTINUE | Set ISC to ON via SYNC/Phoenix |
| ISC\_IR\_APIM\_18 | Encrypt Videos on USB | Encrypt Local Video (USB) |
| ISC\_IR\_APIM\_20 | Suspend to Ram – SYNC Phoenix | Wake up SYNC/Phoenix |
| ISC\_IR\_BCM\_1 | VarBpwMdeBus\_X\_RqstID | Enable/Disable ADAS-DAT via iPDB Power Relay during IGN=OFF |
| ISC\_IR\_BCM\_2 | VarBpwMdeBus\_X\_Type | Enable/Disable ADAS-DAT via iPDB Power Relay during IGN=OFF |
| ISC\_IR\_BCM\_3 | VarBpwMdeBusX\_D\_Rq | Enable/Disable ADAS-DAT via iPDB Power Relay during IGN=OFF |
| ISC\_IR\_BCM\_4 | VarBpwMdeBus\_X\_Source | Enable/Disable ADAS-DAT via iPDB Power Relay during IGN=OFF |
| ISC\_IR\_BCM\_5 | VarBpwMdeBus\_X\_RspID | Enable/Disable ADAS-DAT via iPDB Power Relay during IGN=OFF |
| ISC\_IR\_BCM\_6 | VarBpwMdeBus\_X\_Rsp | Enable/Disable ADAS-DAT via iPDB Power Relay during IGN=OFF |
| ISC\_IR\_BCM\_7 | VarBpwMdeBusX\_B\_Stat | Enable/Disable ADAS-DAT via iPDB Power Relay during IGN=OFF |
| ISC\_IR\_BCM\_8 | VarBpwMdeBus\_X\_Arb | Enable/Disable ADAS-DAT via iPDB Power Relay during IGN=OFF |
| ISC\_IR\_BCM\_9 | Feature Severity | Enable/Disable ADAS-DAT via iPDB Power Relay during IGN=OFF |
| ISC\_IR\_BCM\_10 | Engage relay | Enable/Disable ADAS-DAT via iPDB Power Relay during IGN=OFF |
| ISC\_IR\_BCM\_11 | Disengage Relay | Enable/Disable ADAS-DAT via iPDB Power Relay during IGN=OFF |
| ISC\_IR\_BCM\_12 | Relay ON | PDB to Provide Power to ADAS/DAT |
| ISC\_IR\_BCM\_13 | Relay OFF | PDB to Provide Power to ADAS/DAT |
| ISC\_IR\_BCM\_14 | Disengage Exception | Enable/Disable ADAS-DAT via iPDB Power Relay during IGN=OFF |
| ISC\_IR\_BCM\_15 | ADAS Relay Termination | Enable/Disable ADAS-DAT via iPDB Power Relay during IGN=OFF |
| ISC\_IR\_BCM\_16 | ADAS Relay during remote start event | Enable/Disable ADAS-DAT via iPDB Power Relay during IGN=OFF |
| ISC\_IR\_BCM\_17 | ADAS Relay after remote start event | Enable/Disable ADAS-DAT via iPDB Power Relay during IGN=OFF |
| ISC\_IR\_BCM\_18 | Wake-Up CAN | Wake-up required CAN Network |
| ISC\_IR\_BMS\_1 | Provide Battery SOC | Monitor Battery SoC |
| ISC\_IR\_CSM\_1 | Threat Event Signal to BCM | Send Perimeter Alarm Status to ECUs  Create Threat Event Warning Signal  Create and Send Closure Ajar Signal  Provide Perimeter/CSM Alarm |
| ISC\_IR\_DAT\_24 | Camera – Start-Up Time | Provide Video Stream |
| ISC\_IR\_DAT\_28 | Video Streaming – Stitched 360 Degree | Stitch 4 x 360 Cameras into Single Video Stream  Provide Suitable Video Image over Specified Viewing Area: External 360 Degree Cameras |
| ISC\_IR\_DAT\_29 | Video Streaming – Buffer | Manage Video Buffering\_Packets and Send to Ethernet |
| ISC\_IR\_DAT\_30 | Video Streaming – Distortion Correction | Distortion Correction – Dewarping for Digital Camera |
| ISC\_IR\_ECG\_2 | Feature Severity | Provide Low Battery SoC Warning |
| ISC\_IR\_ECG\_3 | Cameras View Status – Save | Save ISC Feature Settings |
| ISC\_IR\_ECG\_4 | Generate List of Available Views | Save ISC Feature Settings |
| ISC\_IR\_ECG\_5 | Battery Temperature | Provide Low Battery SoC Warning |
| ISC\_IR\_ECG\_6 | Battery Size | Provide Low Battery SoC Warning |
| ISC\_IR\_ECG\_11 | Battery SOC | Provide Low Battery SoC Warning |
| ISC\_IR\_ECG\_12 | Shut Down DAT/ADAS | Terminate the Feature |
| ISC\_IR\_ECG\_14 | Send Power Request for DAT/ADAS | Provide Low Battery SoC Warning |
| ISC\_IR\_ECG\_18 | Verify Battery SoC – Battery Calculation Logic | ON/OFF Power Resources for ISC |
| ISC\_IR\_ECG\_25 | Connection Authorization | Communication with Video Stream |
| ISC\_IR\_ECG\_26 | Connection Authorization Failure | Communication with Video Stream |
| ISC\_IR\_ECG\_27 | System Mode = ON | Communication with Video Stream |
| ISC\_IR\_ECG\_29 | Camera Views Status | Save ISC Feature Settings |
| ISC\_IR\_ECG\_31 | Send Cameras Views Status | Process Alerts/Commands between Communication Enabler and Vehicle |
| ISC\_IR\_ECG\_32 | Update List of Available Views and Status | Process Alerts/Commands between Communication Enabler and Vehicle |
| ISC\_IR\_ECG\_33 | Streaming Information Exchange | Process Alerts/Commands between Communication Enabler and Vehicle |
| ISC\_IR\_ECG\_34 | Set ISC Flag = ON | Save ISC Feature Settings |
| ISC\_IR\_ECG\_35 | Activity Timer Warning Time Notification | Process Alerts/Commands between Communication Enabler and Vehicle  Check View/ Active Timer  Terminate the Feature  Handle Error Message |
| ISC\_IR\_ECG\_36 | Inactivity Timer Expired | Handle Error Message  Terminate the Feature  Check View/ Active Timer  Process Alerts/Commands between Communication Enabler and Vehicle |
| ISC\_IR\_ECG\_37 | ISC Flag = OFF | Save ISC Feature Settings |
| ISC\_IR\_ECG\_38 | Video Stream Request before Inactivity Timer expired | Process Alerts/Commands between Communication Enabler and Vehicle |
| ISC\_IR\_ECG\_39 | Failure to Encode or Camera Not Available | Handle Error Message |
| ISC\_IR\_ECG\_40 | Rewrap Video Stream | Rewrap the Video Stream |
| ISC\_IR\_ECG\_41 | Key ON Notification when not video streaming | Process Alerts/Commands between Communication Enabler and Vehicle |
| ISC\_IR\_ECG\_42 | Key ON Notification when video streaming | Process Alerts/Commands between Communication Enabler and Vehicle |
| ISC\_IR\_ECG\_43 | Low Vehicle Battery when ISC Flag = ON | Process Alerts/Commands between Communication Enabler and Vehicle  ON/OFF Power Resources for ISC |
| ISC\_IR\_ECG\_46 | Terminate Video Stream by the User | Process Alerts/Commands between Communication Enabler and Vehicle  Terminate the Feature |
| ISC\_IR\_ECG\_47 | Terminate ISC Feature Request | Terminate the Feature |
| ISC\_IR\_ECG\_49 | Grace Time not expired Expired | Check View/ Active Timer  Process Alerts/Commands between Communication Enabler and Vehicle |
| ISC\_IR\_FPA\_34 | Notification – of Threat in Under 35s | Allow Enable/Disable of Threat Event Notifications on Ford Pass App |
| ISC\_IR\_IPDB\_1 | Power Supply at Key OFF | PDB to Provide Power to ADAS/DAT |

# Open Concerns

*Not supported by MagicDraw report generation.*

| ID | Concern Description | e-Tracker Reference | Status | Solution |
| --- | --- | --- | --- | --- |
| 1 | Technology level signals not aligned with Logical Signals fully | n/a | - | MBSE/FSE team to rectify. Excel sheet is available – but status unclear. |
| 2 |  |  |  |  |
| 3 |  |  |  |  |
| 4 |  |  |  |  |

Table 8‑1: Open Concerns

# Revision History

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Revision | Date | Description | Approved by | Responsible |
| 1 | 16-Dec-2020 | Initial version | I.Gupta |  |
| 1.9(V710) | 21-May-2021 | Updated, especially for Camera Team | I.Gupta |  |
| 2.3(V710) | 13-Aug-2021 | Updated requirements | I.Gupta |  |
| 2.5(V710) | 18-Nov-2021 | Major update for ISC (includes Sentinel/MDVVC & other updates) | I.Gupta |  |
| 2.6(CDX747) | 18-Nov-21 | As Revision 2.5, but for Phoenix variants | I.Gupta |  |
| 2.7(V710) | 09-Feb-22 | Minor updates for V710 variants | I.Gupta |  |
| 2.8(Phoenix) | 09-Feb-22 | Minor updates for Phoenix variants | I.Gupta |  |
| 2.9(U718 China) | 22-Feb-22 | Updates for China variant | I.Gupta |  |
| 3.0(V710) | 23-Feb-22 | Updates for V710 variants | I.Gupta |  |
| 3.1(Phoenix) | 23-Feb-22 | Updates for Phoenix variants | I.Gupta |  |
| 3.2(V710) | 12-Apr-22 | Updates for V710 variants | M.Wohlfarter |  |
| 3.3(U71x FNA) | 22-Apr-22 | Updates for U71x FNA variants | I.Gupta |  |
| 3.4(U718 China) | 22-Apr-22 | Updates for U718 China variant | I.Gupta |  |
| 3.5(U71x FNA) | 16-May-22 | Updates for U71x FNA variants | I.Gupta |  |
| 3.6(U718 China) | 16-May-22 | Updates for U718 China variant | I.Gupta |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |

## Template Revisions

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Version | Rev. | Date | Description | Responsible |
| 0 | 2 | 2015-08-05 | * TOC corrected * Document Properties adapted to match needs of VBA macros | Awegman1 |
| 1 | 0 | 2015-11-16 | * Revision History moved to chapter 7 * Table-Styles removed | Awegman1 |
| 1 | 1 | 2016-03-02 | * Rework according to PCL example | Jbaden1 |
| 1 | 2 | 2016-03-22 | * V1.3: Footer formating corrected (Issue 19) * “Constraints” chapter renamed to “Input Requirements” (Issue 20) | Jbaden1 |
| 1 | 3 | 2016-04-20 | * Broken Wiki links repaired | Jbaden1 |
| 2 | 0 | 2016-05-23 | * Prepared for Specification\_Macros.dotm v2.0 * Additional explanations added to ch. 2.2 “Input Requirements” (ARL and SDS requirements often go here) | Jbaden1 |
| 2 | 1 | 2016-07-08 | * Template version added to footer | Jbaden1 |
| 2 | 2 | 2016-07-15 | * Sample SysML diagrams added * Data Dictionary reworked * Alignment with relevant sections in SRD templated | Jbaden1 |
| 3 | 0 | 2016-09-05 | * Lessons learned from IPRB incorporated | Jbaden1 |
| 4 | 0 | 2016-09-27 | * Alignment with QPIP Feature Function Ownership workstream. Platform Spec renamed to Feature Implementation Spec | Jbaden1 |
| 4 | 1 | 2016-11-04 | * Chapters “Purpose” and “Scope” reworked. | Jbaden1 |
| 4 | 1 | 2016-11-10 | * Subsection for “Logical Service Interfaces” added. | Jbaden1 |
| 5 | 0 | 2017-01-13 | * Meta data updated for specification macros, version 3.1 * SW Unit chapter removed for the time being * Green boxes added for user hints | Jbaden1 |
| 5 | 1 | 2017-01-18 | * Minor editorial changes (e.g. hyperlinks highlighted in comments) | Jbaden1 |
| 5 | 1b | 2017-01-20 | * Some editorial corrections * Substructure of old Network Communication (now Connections) moved to Requirements on Connections | Jbaden1 |
| 6 | 0 | 2018-07-24 | * CR53: * Add new cover sheet * Add disclaimer section * Add the following meta-data to the doc properties for the the new cover sheet   + DocGis1ItemNumber   + DocGis2Classification   + DocType   + DocStatus   + DocIssueDate   + DocReleaseDate * CR63: Update FuSa sharepoint references in templates | Jbaden1 |
| 6 | 0 | 2018-08-06 | * CR81: Incorporate lessons learned from System Service Spec pilot (Vehicle Speed) into AFS and FIS | Jbaden1 |
| 6 | 0 | 2018-09-28 | * Broken links to RE Wiki repaired | Jbaden1 |
| 6 | 0 | 2018-10-31 | * Minor corrections on cover sheet and in footer to be more GIS compliant and VSEM aligned * “Overview” and “Description” exchanged in headings (following common sense) | Jbaden1 |
| 6 | 0 | 2018-11-30 | * Update of Functional Safety sections after review by Functional Safety Team * Initial support for variant handling | Jbaden1 |
| 6 | 0 | 2018-12-01 | * Variant condition fields added consistently * Links updated | Jbaden1 |
| 6 | 0 | 2018-12-11 | * Variant condition fields removed from mapping/allocation tables * Mapping tables simplified * Explanatory text for “Variants” sections revised | Jbaden1 |
| 6 | 0a | 2019-01-04 | * Chapter heading “Inherited Function Requirements” removed. Corresponding table renamed to “Requirements not cascaded”. * E/E Connection table got another column for allocated messages * Naming conventions for Implemented Functions corrected (FncName\_CmpName instead of FncName\_on\_CmpName) * Editorial corrections on the cover sheet * Explanatory text added to “Ethernet” section in chapter “Requirements on Connections” * AIS templates updated. Linked to Wiki page | Jbaden1 |
| 6 | 0a | 2019-01-04 | * Minor restructuring in FuSa chapter – after aligning with ECU Functional Spec * Bugfix: table 13 renamed from FTTI table to FHT table, includes a bug fix: each FSR is allocated to only one ECU/component | Jbaden1 |
| 6 | 0b | 2019-02-04 | * Change: Chapter “Interface Requirements” added to “Implemented Function xxx” section (to have a single chapter for to collect subscriber/publisher interface and mapping requirements which to not conform to the corresponding Data Dictionary objects) * Change: “CAN Interface” subsection renamed to “AIS Interfaces” again. Although several Subscriber/Publisher interface attributes are probably CAN bus specific, other attributes seem to be well suited for other networks than CAN. * Change: Chapter “ECU Specific Requirements” renamed to “Component Specific Requirements” in chapter “Implemented Function xxx”. Table “Requirements not cascaded” renamed to “Component Specific Requirements” and refined to describe changes from Logical Function requirements set more formally. This is also to help during VSEM import to identify those requirements of the Logical Function which cannot be simply carried over to the ECU. * Change: Explanatory text in section “Implemented Function xxx” improved. | Jbaden1 |
| 6 | 0c | 2019-02-05 | * Change: Layout of AIS Interfaces in Data Dictionary reworked to enable Excel Import | Jbaden1 |
| 6 | 0c | 2019-02-20 | * Bugfix: In AIS Interfaces none-picklist fields formatted as invisible | Jbaden1 |
| 6 | 1a | 2019-02-05 | Functional Safety related changes:   * Table “Architectural Redundancy Summary” updated * Section “Functional Flows for FTTI ‘xyz’” added to chapter “Component Interaction Diagrams” * Fault Tolerant Time Summary section added to Functional Safety chapter * Chapter “HW Metrics” added | Jbaden1 |
| 6 | 1a | 2019-04-02 | Headings of “Architectural Redundancy Summary” table clarified | Jbaden1 |
| 6 | 1a | 2019-04-10 | * ASIL Decomposition table moved from Function Spec into the Feature Implementation Spec (ASIL Decomposition of Technical Safety Requirements) * 2 alternative versions of the Function Allocation Table (Standard variant vs. Functional Safety variant) placed next to each other. | Jbaden1 |
| 6 | 1a | 2019-05-31 | * Function Allocation Table split into a base (non FuSa) part and a FuSa part to allow a more flexible mapping of MBSE functions (Logical and Technology) to RE functions (Atomic Logical and Implemented). | Jbaden1 |
| 6 | 1a | 2019-05-31 | * “Input Requirement” section reworked (symmetrically to all other templates). * Sections “Functional Flows for FTTI xyz” and “Fault Tolerant Time Summary” removed, because guidance is not available yet. * “Reference” and “Glossary” section moved back to introduction, i.e., to the very beginning of the document (such that also section 2 can already rely on it). * Some mostly editorial changes per request from FuSa team. | Jbaden1 |
| 6 | 1a | 2019-07-02 | * "Important" box added on cover sheet which points to the macros * “Input Requirements” section renamed to Input Information (after discussion with FuSa team) | Jbaden1 |
| 6 | 1a | 2019-07-17 | * Chapter “Message List” removed from CAN and LIN specific chapters of section “Requirements on Connections” | Jbaden1 |
| 6 | 1a | 2019-10-08 | * Chapter “ASIL Decomposition of Technical Safety Requirements”: Input TSRs are specified in the chapter right above the decomposition table. | Jbaden1 |
| 6 | 1a | 2019-10-09 | * Chapter “Service Oriented Communication” moved to section “Messages” in the Data Dictionary. Details from Central SW Wiki about FNV2 SOA added | Jbaden1 |
| 6 | 1a | 2019-10-25 | * Minor updates for HW IOs/Signals * Subsection “Functional Safety” removed from chapter “Feature Implementation Modeling”. Per requrest from FuSa team since no guidance is available how to model e.g. FHT timing diagram. | Jbaden1 |
| 6 | 1a | 2019-05-11 | * Copyright notice shortened and moved to cover sheet and added to footer (to be compliant [with Ford copyright guidelines](http://www.fgti.ford.com/client/NewFGTI/CopyrightNotice.html)) * Term “Disclaimer” no longer used for what is actually only a copyright notice | Jbaden1 |
| 6 | 1a | 2019-22-11 | * Some minor modifications for the SOA APIs/MQTT Messages in the section “Messages” of the Data Dictionary (section references Service Contracts via the API name) * Some minor updates of the Input/Output mapping tables in section “Requirements on Components” for mappings to SOA APIs and EDAS signals. | Jbaden1 |
| 6 | 1a | 2019-12-05 | * Upstream Documents section added to “Input Requirements/Documents” table * Custom style table formatting removed | Jbaden1 |
| 6 | 1a | 2020-01-07 | * Some fine tuning for naming conventions of E/E components and connections. * List of HW I/O signal types reduced to RF-A, RF-D, D, A, Networked and PWM. * Protocol column added to the E/E connection table | Jbaden1 |
| 6 | 1a | 2020-01-07 | * “HW Metric” and “Architecture Redundancy Summary” sections removed per request from the Functional Architecture Team (based on Governance Board decision [FSTGB-97](mailto:TrackLite%20%23%20FSTGB-97:%20https://www.tracklite.ford.com/prweb/PRAuth/TrackLiteSSO?pyActivity=@baseclass.RedirectAndRunWraper&ThreadName=WorkLinkThread&bPurgeTargetThread=true&AccessGroupName=FSTGB:ProjectAdministrators&Location=pyActivity%3DWork-.Open%26Action%3DReview%26HarnessPurpose%3DReview%26InsHandle%3DFORD-FSTGB-WORK+FSTGB-97)) * “Functional Safety” chapter moved to “Feature Implementation Requirements” section. “Function Allocation” chapter seemed no longer appropriate. | Jbaden1 |
| 6 | 1a | 2020-01-07 | * Ordering of fields in AIS interfaces tables modified to conform with the Macro Template and the Importer Sheet * Page Header: no longer in bold letters | Jbaden1 |
| 6 | 1a | 2020-03-09 | * Missing doc property “LatestSigMappingID” and “LatestAisInterfaceID” added * doc property “CopyrightDate” re-formatted to text and copyright date field in footer corrected * Version numbering re-initialized as 0.1 * Init value of version/revision date set to “yyyy/mm/dd” instead of “yyyy-mm-dd” to be in line with the “Edit Document Property” dialog * Type of “Latest….ID” doc properties changed from Text to Number | Jbaden1 |
| 6 | 1a | 2020-03-11 | * “Mapping” table removed from template. Has been migrated to macro. | Jbaden1 |
| 6 | 1a | 2020-03-13 | * Separate chapter “Technical Safety Requirements” removed. Content already covered by Allocation Table in chapter Function Allocation. * “Implemented Function” replaced by term “Technology Function” | Jbaden1 |

# Appendix

## Data Dictionary

### Logical Signals

### Logical Parameters

### Technical Signals

|  |  |  |
| --- | --- | --- |
| **ASIL** | |  |
| **Value** | Encoding Name | -- |
| Value Range | [ - ] |
| Resolution |  |
| Unit |  |

Table: Signal Details of

1905649852.jpg BSBattSOC

Battery SoC (State of Charge)

|  |  |  |
| --- | --- | --- |
| **ASIL** | |  |
| **Value** | Encoding Name | -- |
| Value Range | [ - ] |
| Resolution |  |
| Unit |  |

Table: Signal Details of BSBattSOC

-307256063.jpg LSG\_ISC\_APIMWakeUp

To wake-up the APIM (SYNC/Phoenix)

|  |  |  |
| --- | --- | --- |
| **ASIL** | |  |
| **Value** | Encoding Name | -- |
| Value Range | [ - ] |
| Resolution |  |
| Unit |  |

Table: Signal Details of LSG\_ISC\_APIMWakeUp

-307256063.jpg LSG\_ISC\_BatterySize

Used to provide the vehicle Battery Size.

|  |  |  |
| --- | --- | --- |
| **ASIL** | |  |
| **Value** | Encoding Name | -- |
| Value Range | [ - ] |
| Resolution |  |
| Unit |  |

Table: Signal Details of LSG\_ISC\_BatterySize

-307256063.jpg LSG\_ISC\_BatterySoC

Used to provide the Battery SoC

|  |  |  |
| --- | --- | --- |
| **ASIL** | |  |
| **Value** | Encoding Name | -- |
| Value Range | [ - ] |
| Resolution |  |
| Unit |  |

Table: Signal Details of LSG\_ISC\_BatterySoC

-307256063.jpg LSG\_ISC\_BatterySoCQualityFactor

Used to provide the vehicle Battery SoC QF (State of Charge Quality Factor).

|  |  |  |
| --- | --- | --- |
| **ASIL** | |  |
| **Value** | Encoding Name | -- |
| Value Range | [ - ] |
| Resolution |  |
| Unit |  |

Table: Signal Details of LSG\_ISC\_BatterySoCQualityFactor

-307256063.jpg LSG\_ISC\_BatteryStateFault

Used to provide the vehicle Battery State Fault.

|  |  |  |
| --- | --- | --- |
| **ASIL** | |  |
| **Value** | Encoding Name | -- |
| Value Range | [ - ] |
| Resolution |  |
| Unit |  |

Table: Signal Details of LSG\_ISC\_BatteryStateFault

-307256063.jpg LSG\_ISC\_BatteryTemperature

Used to provide the vehicle battery temperature.

|  |  |  |
| --- | --- | --- |
| **ASIL** | |  |
| **Value** | Encoding Name | -- |
| Value Range | [ - ] |
| Resolution |  |
| Unit |  |

Table: Signal Details of LSG\_ISC\_BatteryTemperature

-307256063.jpg LSG\_ISC\_CamerasViewsStatus

Used to provide information on the status of the camera views

|  |  |  |
| --- | --- | --- |
| **ASIL** | |  |
| **Value** | Encoding Name | -- |
| Value Range | [ - ] |
| Resolution |  |
| Unit |  |

Table: Signal Details of LSG\_ISC\_CamerasViewsStatus

-307256063.jpg LSG\_ISC\_EncodedVideoStream

Used to provide the encoded video stream.

|  |  |  |
| --- | --- | --- |
| **ASIL** | |  |
| **Value** | Encoding Name | -- |
| Value Range | [ - ] |
| Resolution |  |
| Unit |  |

Table: Signal Details of LSG\_ISC\_EncodedVideoStream

-307256063.jpg LSG\_ISC\_ListofAvailableViews

Used to provide a list of the available camera views

|  |  |  |
| --- | --- | --- |
| **ASIL** | |  |
| **Value** | Encoding Name | -- |
| Value Range | [ - ] |
| Resolution |  |
| Unit |  |

Table: Signal Details of LSG\_ISC\_ListofAvailableViews

-307256063.jpg LSG\_ISC\_ListofAvailableViewsRequest

Used to request the list of available camera views.

|  |  |  |
| --- | --- | --- |
| **ASIL** | |  |
| **Value** | Encoding Name | -- |
| Value Range | [ - ] |
| Resolution |  |
| Unit |  |

Table: Signal Details of LSG\_ISC\_ListofAvailableViewsRequest

-307256063.jpg LSG\_ISC\_ListofPossibleViews

Used to provide a list of possible camera views

|  |  |  |
| --- | --- | --- |
| **ASIL** | |  |
| **Value** | Encoding Name | -- |
| Value Range | [ - ] |
| Resolution |  |
| Unit |  |

Table: Signal Details of LSG\_ISC\_ListofPossibleViews

-307256063.jpg LSG\_ISC\_PublishRecordingStatus

Used to provide the VRP status when recording is in progress

|  |  |  |
| --- | --- | --- |
| **ASIL** | |  |
| **Value** | Encoding Name | -- |
| Value Range | [ - ] |
| Resolution |  |
| Unit |  |

Table: Signal Details of LSG\_ISC\_PublishRecordingStatus

-307256063.jpg LSG\_ISC\_PublishStreamStatus

Used to provide the information about the ongoing streams

|  |  |  |
| --- | --- | --- |
| **ASIL** | |  |
| **Value** | Encoding Name | -- |
| Value Range | [ - ] |
| Resolution |  |
| Unit |  |

Table: Signal Details of LSG\_ISC\_PublishStreamStatus

-307256063.jpg LSG\_ISC\_PublishStreamStatusReq

Used to request the information about the ongoing streams

|  |  |  |
| --- | --- | --- |
| **ASIL** | |  |
| **Value** | Encoding Name | -- |
| Value Range | [ - ] |
| Resolution |  |
| Unit |  |

Table: Signal Details of LSG\_ISC\_PublishStreamStatusReq

-307256063.jpg LSG\_ISC\_QualitySettings

Used to provide the quality settings of the video stream.

|  |  |  |
| --- | --- | --- |
| **ASIL** | |  |
| **Value** | Encoding Name | -- |
| Value Range | [ - ] |
| Resolution |  |
| Unit |  |

Table: Signal Details of LSG\_ISC\_QualitySettings

-307256063.jpg LSG\_ISC\_Relay Switch

Used to control the power to the ADAS/DAT

|  |  |  |
| --- | --- | --- |
| **ASIL** | |  |
| **Value** | Encoding Name | -- |
| Value Range | [ - ] |
| Resolution |  |
| Unit |  |

Table: Signal Details of LSG\_ISC\_Relay Switch

-307256063.jpg LSG\_ISC\_RemoteViewMode

Used to notify that the vehicle is in a remote viewing mode while in a key of state

|  |  |  |
| --- | --- | --- |
| **ASIL** | |  |
| **Value** | Encoding Name | -- |
| Value Range | [ - ] |
| Resolution |  |
| Unit |  |

Table: Signal Details of LSG\_ISC\_RemoteViewMode

-307256063.jpg LSG\_ISC\_RewrappedVideoStream

Used for the rewrapped video stream from the ADAS/DAT

|  |  |  |
| --- | --- | --- |
| **ASIL** | |  |
| **Value** | Encoding Name | -- |
| Value Range | [ - ] |
| Resolution |  |
| Unit |  |

Table: Signal Details of LSG\_ISC\_RewrappedVideoStream

-307256063.jpg LSG\_ISC\_SourceStatus

Used to provide status of ADAS/DAT module

|  |  |  |
| --- | --- | --- |
| **ASIL** | |  |
| **Value** | Encoding Name | -- |
| Value Range | [ - ] |
| Resolution |  |
| Unit |  |

Table: Signal Details of LSG\_ISC\_SourceStatus

-307256063.jpg LSG\_ISC\_StartRecordingReq

Used to send a start recording request to VRP

|  |  |  |
| --- | --- | --- |
| **ASIL** | |  |
| **Value** | Encoding Name | -- |
| Value Range | [ - ] |
| Resolution |  |
| Unit |  |

Table: Signal Details of LSG\_ISC\_StartRecordingReq

-307256063.jpg LSG\_ISC\_Status ofAvailableViews

Used to provide the status of the available camera views

|  |  |  |
| --- | --- | --- |
| **ASIL** | |  |
| **Value** | Encoding Name | -- |
| Value Range | [ - ] |
| Resolution |  |
| Unit |  |

Table: Signal Details of LSG\_ISC\_Status ofAvailableViews

-307256063.jpg LSG\_ISC\_StopRecordingReq

Used to send a stop recording request to VRP

|  |  |  |
| --- | --- | --- |
| **ASIL** | |  |
| **Value** | Encoding Name | -- |
| Value Range | [ - ] |
| Resolution |  |
| Unit |  |

Table: Signal Details of LSG\_ISC\_StopRecordingReq

-307256063.jpg LSG\_ISC\_StopStreamReq

Used to stop the ongoing stream

|  |  |  |
| --- | --- | --- |
| **ASIL** | |  |
| **Value** | Encoding Name | -- |
| Value Range | [ - ] |
| Resolution |  |
| Unit |  |

Table: Signal Details of LSG\_ISC\_StopStreamReq

-307256063.jpg LSG\_ISC\_StreamingInformation

Used to provide the streaming credential information to ECG

|  |  |  |
| --- | --- | --- |
| **ASIL** | |  |
| **Value** | Encoding Name | -- |
| Value Range | [ - ] |
| Resolution |  |
| Unit |  |

Table: Signal Details of LSG\_ISC\_StreamingInformation

-307256063.jpg LSG\_ISC\_StreamingInformation\_Resp

Used to provide the streaming credential information to Cloud

|  |  |  |
| --- | --- | --- |
| **ASIL** | |  |
| **Value** | Encoding Name | -- |
| Value Range | [ - ] |
| Resolution |  |
| Unit |  |

Table: Signal Details of LSG\_ISC\_StreamingInformation\_Resp

-307256063.jpg LSG\_ISC\_SubscriptionServices

Used to provide the status of subscription details

|  |  |  |
| --- | --- | --- |
| **ASIL** | |  |
| **Value** | Encoding Name | -- |
| Value Range | [ - ] |
| Resolution |  |
| Unit |  |

Table: Signal Details of LSG\_ISC\_SubscriptionServices

-307256063.jpg LSG\_ISC\_SystemMode

Used to provide the status of ISC feature ON/OFF

|  |  |  |
| --- | --- | --- |
| **ASIL** | |  |
| **Value** | Encoding Name | -- |
| Value Range | [ - ] |
| Resolution |  |
| Unit |  |

Table: Signal Details of LSG\_ISC\_SystemMode

-307256063.jpg LSG\_ISC\_SystemNotifications

Used to provide the vehicle status (e.g. battery, ignition or connectivity etc..) when feature is in use

|  |  |  |
| --- | --- | --- |
| **ASIL** | |  |
| **Value** | Encoding Name | -- |
| Value Range | [ - ] |
| Resolution |  |
| Unit |  |

Table: Signal Details of LSG\_ISC\_SystemNotifications

-307256063.jpg LSG\_ISC\_SystemNotificationsRequest

Used to request the vehicle status from ECG when the feature is in use

|  |  |  |
| --- | --- | --- |
| **ASIL** | |  |
| **Value** | Encoding Name | -- |
| Value Range | [ - ] |
| Resolution |  |
| Unit |  |

Table: Signal Details of LSG\_ISC\_SystemNotificationsRequest

-307256063.jpg LSG\_ISC\_SystemStatus

Used to provide the system status of ISC feature ON/OFF

|  |  |  |
| --- | --- | --- |
| **ASIL** | |  |
| **Value** | Encoding Name | -- |
| Value Range | [ - ] |
| Resolution |  |
| Unit |  |

Table: Signal Details of LSG\_ISC\_SystemStatus

-307256063.jpg LSG\_ISC\_SystemStatusRequest

Used to request the system status of ISC feature ON/OFF when feature in use

|  |  |  |
| --- | --- | --- |
| **ASIL** | |  |
| **Value** | Encoding Name | -- |
| Value Range | [ - ] |
| Resolution |  |
| Unit |  |

Table: Signal Details of LSG\_ISC\_SystemStatusRequest

-307256063.jpg LSG\_ISC\_TerminateISCFeatureRequest

Used to request the termination of the feature

|  |  |  |
| --- | --- | --- |
| **ASIL** | |  |
| **Value** | Encoding Name | -- |
| Value Range | [ - ] |
| Resolution |  |
| Unit |  |

Table: Signal Details of LSG\_ISC\_TerminateISCFeatureRequest

-307256063.jpg LSG\_ISC\_TerminateVideoStream

Used to terminate the video stream

|  |  |  |
| --- | --- | --- |
| **ASIL** | |  |
| **Value** | Encoding Name | -- |
| Value Range | [ - ] |
| Resolution |  |
| Unit |  |

Table: Signal Details of LSG\_ISC\_TerminateVideoStream

-307256063.jpg LSG\_ISC\_TerminateVideoStreamRequest

Used to request termination of the video stream

|  |  |  |
| --- | --- | --- |
| **ASIL** | |  |
| **Value** | Encoding Name | -- |
| Value Range | [ - ] |
| Resolution |  |
| Unit |  |

Table: Signal Details of LSG\_ISC\_TerminateVideoStreamRequest

-307256063.jpg LSG\_ISC\_ThreatEvent

Signal indicating that a threat event has occurred at the vehicle

|  |  |  |
| --- | --- | --- |
| **ASIL** | |  |
| **Value** | Encoding Name | -- |
| Value Range | [ - ] |
| Resolution |  |
| Unit |  |

Table: Signal Details of LSG\_ISC\_ThreatEvent

-307256063.jpg LSG\_ISC\_VehicleCapability

Used to provide the capability status of the VIN for ISC feature

|  |  |  |
| --- | --- | --- |
| **ASIL** | |  |
| **Value** | Encoding Name | -- |
| Value Range | [ - ] |
| Resolution |  |
| Unit |  |

Table: Signal Details of LSG\_ISC\_VehicleCapability

-307256063.jpg LSG\_ISC\_VehicleCapabilityRequest

Used to request the capability status of the VIN for ISC feature

|  |  |  |
| --- | --- | --- |
| **ASIL** | |  |
| **Value** | Encoding Name | -- |
| Value Range | [ - ] |
| Resolution |  |
| Unit |  |

Table: Signal Details of LSG\_ISC\_VehicleCapabilityRequest

-307256063.jpg LSG\_ISC\_VehicleWakeUp

Used to wake-up the vehicle by using wake-up SMS

|  |  |  |
| --- | --- | --- |
| **ASIL** | |  |
| **Value** | Encoding Name | -- |
| Value Range | [ - ] |
| Resolution |  |
| Unit |  |

Table: Signal Details of LSG\_ISC\_VehicleWakeUp

-307256063.jpg LSG\_ISC\_VehicleWakeUpRequest

Used to request the wake-up of the vehicle by using wake-up SMS

|  |  |  |
| --- | --- | --- |
| **ASIL** | |  |
| **Value** | Encoding Name | -- |
| Value Range | [ - ] |
| Resolution |  |
| Unit |  |

Table: Signal Details of LSG\_ISC\_VehicleWakeUpRequest

-307256063.jpg LSG\_ISC\_VideoStreamRequest

Used to request the video stream

|  |  |  |
| --- | --- | --- |
| **ASIL** | |  |
| **Value** | Encoding Name | -- |
| Value Range | [ - ] |
| Resolution |  |
| Unit |  |

Table: Signal Details of LSG\_ISC\_VideoStreamRequest

-307256063.jpg LSG\_ISC\_VideoStreamRequestStatus

Used to provide the status of the video stream request

|  |  |  |
| --- | --- | --- |
| **ASIL** | |  |
| **Value** | Encoding Name | -- |
| Value Range | [ - ] |
| Resolution |  |
| Unit |  |

Table: Signal Details of LSG\_ISC\_VideoStreamRequestStatus

-307256063.jpg LSG\_ISC\_WakeUpNetwork

Used to wake-up the required CAN network

|  |  |  |
| --- | --- | --- |
| **ASIL** | |  |
| **Value** | Encoding Name | -- |
| Value Range | [ - ] |
| Resolution |  |
| Unit |  |

Table: Signal Details of LSG\_ISC\_WakeUpNetwork

1905649852.jpg RmtViewMde\_B\_Rq

TBE

|  |  |  |
| --- | --- | --- |
| **ASIL** | |  |
| **Value** | Encoding Name | -- |
| Value Range | [ - ] |
| Resolution |  |
| Unit |  |

Table: Signal Details of RmtViewMde\_B\_Rq

1905649852.jpg SNT\_12V Power\_SLI\_Batt

12V Power

|  |  |  |
| --- | --- | --- |
| **ASIL** | |  |
| **Value** | Encoding Name | -- |
| Value Range | [ - ] |
| Resolution |  |
| Unit | com.nomagic.uml2.ext.magicdraw.classes.mdkernel.impl.DataTypeImpl@dacc69f \_18\_0beta\_903028d\_1388650193114\_85607\_135836/40a49c1b-9d42-47f4-9d94-54185e600795 |

Table: Signal Details of SNT\_12V Power\_SLI\_Batt

1905649852.jpg SNT\_12V\_Camera\_to\_Light\_Cabin

|  |  |  |
| --- | --- | --- |
| **ASIL** | |  |
| **Value** | Encoding Name | -- |
| Value Range | [ - ] |
| Resolution |  |
| Unit |  |

Table: Signal Details of SNT\_12V\_Camera\_to\_Light\_Cabin

1905649852.jpg SNT\_12V\_Camera\_to\_Light\_Cargo

|  |  |  |
| --- | --- | --- |
| **ASIL** | |  |
| **Value** | Encoding Name | -- |
| Value Range | [ - ] |
| Resolution |  |
| Unit |  |

Table: Signal Details of SNT\_12V\_Camera\_to\_Light\_Cargo

1905649852.jpg SNT\_360CameraDewarped1

|  |  |  |
| --- | --- | --- |
| **ASIL** | |  |
| **Value** | Encoding Name | -- |
| Value Range | [ - ] |
| Resolution |  |
| Unit |  |

Table: Signal Details of SNT\_360CameraDewarped1

1905649852.jpg SNT\_360CameraDewarped2

|  |  |  |
| --- | --- | --- |
| **ASIL** | |  |
| **Value** | Encoding Name | -- |
| Value Range | [ - ] |
| Resolution |  |
| Unit |  |

Table: Signal Details of SNT\_360CameraDewarped2

1905649852.jpg SNT\_360CameraDewarped3

|  |  |  |
| --- | --- | --- |
| **ASIL** | |  |
| **Value** | Encoding Name | -- |
| Value Range | [ - ] |
| Resolution |  |
| Unit |  |

Table: Signal Details of SNT\_360CameraDewarped3

1905649852.jpg SNT\_360CameraDewarped4

|  |  |  |
| --- | --- | --- |
| **ASIL** | |  |
| **Value** | Encoding Name | -- |
| Value Range | [ - ] |
| Resolution |  |
| Unit |  |

Table: Signal Details of SNT\_360CameraDewarped4

1905649852.jpg SNT\_360CameraOutput1

360 degree camera output (camera 1 of 4)

|  |  |  |
| --- | --- | --- |
| **ASIL** | |  |
| **Value** | Encoding Name | -- |
| Value Range | [ - ] |
| Resolution |  |
| Unit |  |

Table: Signal Details of SNT\_360CameraOutput1

1905649852.jpg SNT\_360CameraOutput2

360 degree camera output (camera 2 of 4)

|  |  |  |
| --- | --- | --- |
| **ASIL** | |  |
| **Value** | Encoding Name | -- |
| Value Range | [ - ] |
| Resolution |  |
| Unit |  |

Table: Signal Details of SNT\_360CameraOutput2

1905649852.jpg SNT\_360CameraOutput3

360 degree camera output (camera 3 of 4)

|  |  |  |
| --- | --- | --- |
| **ASIL** | |  |
| **Value** | Encoding Name | -- |
| Value Range | [ - ] |
| Resolution |  |
| Unit |  |

Table: Signal Details of SNT\_360CameraOutput3

1905649852.jpg SNT\_360CameraOutput4

360 degree camera output (camera 4 of 4)

|  |  |  |
| --- | --- | --- |
| **ASIL** | |  |
| **Value** | Encoding Name | -- |
| Value Range | [ - ] |
| Resolution |  |
| Unit |  |

Table: Signal Details of SNT\_360CameraOutput4

1905649852.jpg SNT\_BCM\_12V\_trigger\_iPDB

|  |  |  |
| --- | --- | --- |
| **ASIL** | |  |
| **Value** | Encoding Name | -- |
| Value Range | [ - ] |
| Resolution |  |
| Unit |  |

Table: Signal Details of SNT\_BCM\_12V\_trigger\_iPDB

1905649852.jpg SNT\_BCM\_PerimAlarm

|  |  |  |
| --- | --- | --- |
| **ASIL** | |  |
| **Value** | Encoding Name | -- |
| Value Range | [ - ] |
| Resolution |  |
| Unit |  |

Table: Signal Details of SNT\_BCM\_PerimAlarm

1905649852.jpg SNT\_BCM\_Trigger\_DAT\_via\_CAN

Trigger DAT

|  |  |  |
| --- | --- | --- |
| **ASIL** | |  |
| **Value** | Encoding Name | -- |
| Value Range | [ - ] |
| Resolution |  |
| Unit |  |

Table: Signal Details of SNT\_BCM\_Trigger\_DAT\_via\_CAN

1905649852.jpg SNT\_BCMWakeCAN

Message from BCM to wake the CAN network.

|  |  |  |
| --- | --- | --- |
| **ASIL** | |  |
| **Value** | Encoding Name | -- |
| Value Range | [ - ] |
| Resolution |  |
| Unit |  |

Table: Signal Details of SNT\_BCMWakeCAN

1905649852.jpg SNT\_CombinedStream

Stream of data from all detectors to the cloud from the vehicle TCU. Also same information as sent to the SYNC/Phoenix ESB memory device.

|  |  |  |
| --- | --- | --- |
| **ASIL** | |  |
| **Value** | Encoding Name | -- |
| Value Range | [ - ] |
| Resolution |  |
| Unit |  |

Table: Signal Details of SNT\_CombinedStream

1905649852.jpg SNT\_DAT\_Req\_Cameras\_via\_LIN

Request camera.

|  |  |  |
| --- | --- | --- |
| **ASIL** | |  |
| **Value** | Encoding Name | -- |
| Value Range | [ - ] |
| Resolution |  |
| Unit |  |

Table: Signal Details of SNT\_DAT\_Req\_Cameras\_via\_LIN

1905649852.jpg SNT\_DAT\_Req\_Lights\_via\_LIN

Request lights.

|  |  |  |
| --- | --- | --- |
| **ASIL** | |  |
| **Value** | Encoding Name | -- |
| Value Range | [ - ] |
| Resolution |  |
| Unit |  |

Table: Signal Details of SNT\_DAT\_Req\_Lights\_via\_LIN

1905649852.jpg SNT\_ECGSendPortDAT

|  |  |  |
| --- | --- | --- |
| **ASIL** | |  |
| **Value** | Encoding Name | -- |
| Value Range | [ - ] |
| Resolution |  |
| Unit |  |

Table: Signal Details of SNT\_ECGSendPortDAT

1905649852.jpg SNT\_IgnitionStatus

Vehicle powertrain status regarding motive state/ignition

|  |  |  |
| --- | --- | --- |
| **ASIL** | |  |
| **Value** | Encoding Name | -- |
| Value Range | [ - ] |
| Resolution |  |
| Unit |  |

Table: Signal Details of SNT\_IgnitionStatus

1905649852.jpg SNT\_InformUserUSBNeeded

|  |  |  |
| --- | --- | --- |
| **ASIL** | |  |
| **Value** | Encoding Name | -- |
| Value Range | [ - ] |
| Resolution |  |
| Unit |  |

Table: Signal Details of SNT\_InformUserUSBNeeded

1905649852.jpg SNT\_IntCameraNTSC

|  |  |  |
| --- | --- | --- |
| **ASIL** | |  |
| **Value** | Encoding Name | -- |
| Value Range | [ - ] |
| Resolution |  |
| Unit |  |

Table: Signal Details of SNT\_IntCameraNTSC

1905649852.jpg SNT\_IntCameraViewSettingCabin\_LIN

Request interior camera view setting in cabin.

|  |  |  |
| --- | --- | --- |
| **ASIL** | |  |
| **Value** | Encoding Name | -- |
| Value Range | [ - ] |
| Resolution |  |
| Unit |  |

Table: Signal Details of SNT\_IntCameraViewSettingCabin\_LIN

1905649852.jpg SNT\_IntCameraViewSettingCargo\_LIN

Request interior camera view setting in cargo.

|  |  |  |
| --- | --- | --- |
| **ASIL** | |  |
| **Value** | Encoding Name | -- |
| Value Range | [ - ] |
| Resolution |  |
| Unit |  |

Table: Signal Details of SNT\_IntCameraViewSettingCargo\_LIN

1905649852.jpg SNT\_InternalCamera1Output

Internal camera output (camera 1 of 2max)

|  |  |  |
| --- | --- | --- |
| **ASIL** | |  |
| **Value** | Encoding Name | -- |
| Value Range | [ - ] |
| Resolution |  |
| Unit |  |

Table: Signal Details of SNT\_InternalCamera1Output

1905649852.jpg SNT\_InternalCamera2Output

Internal camera output (camera 2 of 2)

|  |  |  |
| --- | --- | --- |
| **ASIL** | |  |
| **Value** | Encoding Name | -- |
| Value Range | [ - ] |
| Resolution |  |
| Unit |  |

Table: Signal Details of SNT\_InternalCamera2Output

1905649852.jpg SNT\_InternalCameraDewarped1

|  |  |  |
| --- | --- | --- |
| **ASIL** | |  |
| **Value** | Encoding Name | -- |
| Value Range | [ - ] |
| Resolution |  |
| Unit |  |

Table: Signal Details of SNT\_InternalCameraDewarped1

1905649852.jpg SNT\_InternalCameraDewarped2

|  |  |  |
| --- | --- | --- |
| **ASIL** | |  |
| **Value** | Encoding Name | -- |
| Value Range | [ - ] |
| Resolution |  |
| Unit |  |

Table: Signal Details of SNT\_InternalCameraDewarped2

1905649852.jpg SNT\_IntruderPhysicalInput

Physical input to the vehicle from an intruder of from a threat event, eg vehicle collision

|  |  |  |
| --- | --- | --- |
| **ASIL** | |  |
| **Value** | Encoding Name | -- |
| Value Range | [ - ] |
| Resolution |  |
| Unit |  |

Table: Signal Details of SNT\_IntruderPhysicalInput

1905649852.jpg SNT\_IR\_LightOutput: Cabin

EM light output from IR light in cabin

|  |  |  |
| --- | --- | --- |
| **ASIL** | |  |
| **Value** | Encoding Name | -- |
| Value Range | [ - ] |
| Resolution |  |
| Unit |  |

Table: Signal Details of SNT\_IR\_LightOutput: Cabin

1905649852.jpg SNT\_IR\_LightOutput: Cargo

EM light output from IR light in cargo area/2nd row/ pick-up cargo bed area

|  |  |  |
| --- | --- | --- |
| **ASIL** | |  |
| **Value** | Encoding Name | -- |
| Value Range | [ - ] |
| Resolution |  |
| Unit |  |

Table: Signal Details of SNT\_IR\_LightOutput: Cargo

1905649852.jpg SNT\_IRLight1\_Diagnostics

Diagnostic information for IR light 1

|  |  |  |
| --- | --- | --- |
| **ASIL** | |  |
| **Value** | Encoding Name | -- |
| Value Range | [ - ] |
| Resolution |  |
| Unit |  |

Table: Signal Details of SNT\_IRLight1\_Diagnostics

1905649852.jpg SNT\_IRLight2\_Diagnotics

Diagnostic information for IR light 2

|  |  |  |
| --- | --- | --- |
| **ASIL** | |  |
| **Value** | Encoding Name | -- |
| Value Range | [ - ] |
| Resolution |  |
| Unit |  |

Table: Signal Details of SNT\_IRLight2\_Diagnotics

1905649852.jpg SNT\_LiveStreamingReqStop

|  |  |  |
| --- | --- | --- |
| **ASIL** | |  |
| **Value** | Encoding Name | -- |
| Value Range | [ - ] |
| Resolution |  |
| Unit |  |

Table: Signal Details of SNT\_LiveStreamingReqStop

1905649852.jpg SNT\_NotificationToUser

|  |  |  |
| --- | --- | --- |
| **ASIL** | |  |
| **Value** | Encoding Name | -- |
| Value Range | [ - ] |
| Resolution |  |
| Unit |  |

Table: Signal Details of SNT\_NotificationToUser

1905649852.jpg SNT\_ParkDetected

Signal denoting that vehicle park event has been detected

|  |  |  |
| --- | --- | --- |
| **ASIL** | |  |
| **Value** | Encoding Name | -- |
| Value Range | [ - ] |
| Resolution |  |
| Unit |  |

Table: Signal Details of SNT\_ParkDetected

1905649852.jpg SNT\_PoorSignalMsgToDriver

Message to driver informing of poor connectivity signal quality. "Poor Signal Quality - Please Ensure USB Memory Stick Installed"

|  |  |  |
| --- | --- | --- |
| **ASIL** | |  |
| **Value** | Encoding Name | -- |
| Value Range | [ - ] |
| Resolution |  |
| Unit |  |

Table: Signal Details of SNT\_PoorSignalMsgToDriver

1905649852.jpg SNT\_SentinelSetToOFF

Sentinel set to OFF

|  |  |  |
| --- | --- | --- |
| **ASIL** | |  |
| **Value** | Encoding Name | -- |
| Value Range | [ - ] |
| Resolution |  |
| Unit |  |

Table: Signal Details of SNT\_SentinelSetToOFF

1905649852.jpg SNT\_SentinelSetToON

Sentinel set to ON

|  |  |  |
| --- | --- | --- |
| **ASIL** | |  |
| **Value** | Encoding Name | -- |
| Value Range | [ - ] |
| Resolution |  |
| Unit |  |

Table: Signal Details of SNT\_SentinelSetToON

1905649852.jpg SNT\_Signal\_at\_Park

Signal defining the quality of the internet connectivity when a vehicle park event has been detected

|  |  |  |
| --- | --- | --- |
| **ASIL** | |  |
| **Value** | Encoding Name | -- |
| Value Range | [ - ] |
| Resolution |  |
| Unit |  |

Table: Signal Details of SNT\_Signal\_at\_Park

1905649852.jpg SNT\_SwitchOnIRLightsCabin\_LIN

|  |  |  |
| --- | --- | --- |
| **ASIL** | |  |
| **Value** | Encoding Name | -- |
| Value Range | [ - ] |
| Resolution |  |
| Unit |  |

Table: Signal Details of SNT\_SwitchOnIRLightsCabin\_LIN

1905649852.jpg SNT\_SwitchOnIRLightsCargo\_LIN

|  |  |  |
| --- | --- | --- |
| **ASIL** | |  |
| **Value** | Encoding Name | -- |
| Value Range | [ - ] |
| Resolution |  |
| Unit |  |

Table: Signal Details of SNT\_SwitchOnIRLightsCargo\_LIN

1905649852.jpg SNT\_SYNC\_SelectedVideo

|  |  |  |
| --- | --- | --- |
| **ASIL** | |  |
| **Value** | Encoding Name | -- |
| Value Range | [ - ] |
| Resolution |  |
| Unit |  |

Table: Signal Details of SNT\_SYNC\_SelectedVideo

1905649852.jpg SNT\_SYNC\_SoftButtonOFF

|  |  |  |
| --- | --- | --- |
| **ASIL** | |  |
| **Value** | Encoding Name | -- |
| Value Range | [ - ] |
| Resolution |  |
| Unit |  |

Table: Signal Details of SNT\_SYNC\_SoftButtonOFF

1905649852.jpg SNT\_SYNC\_SoftButtonON

User input via softbuttons on the SYNC/Phoenix unit

|  |  |  |
| --- | --- | --- |
| **ASIL** | |  |
| **Value** | Encoding Name | -- |
| Value Range | [ - ] |
| Resolution |  |
| Unit |  |

Table: Signal Details of SNT\_SYNC\_SoftButtonON

1905649852.jpg SNT\_TCUAccelEventDetected

Signal from the TCU defining a threat event. The input data is from one or more accelerometers on the vehicle (there is potential to use CSM accelerometers as well to improve the processing).

|  |  |  |
| --- | --- | --- |
| **ASIL** | |  |
| **Value** | Encoding Name | -- |
| Value Range | [ - ] |
| Resolution |  |
| Unit |  |

Table: Signal Details of SNT\_TCUAccelEventDetected

1905649852.jpg SNT\_UserDemoSoftButton

|  |  |  |
| --- | --- | --- |
| **ASIL** | |  |
| **Value** | Encoding Name | -- |
| Value Range | [ - ] |
| Resolution |  |
| Unit |  |

Table: Signal Details of SNT\_UserDemoSoftButton

1905649852.jpg SNT\_UserReqStoredVideoApp

|  |  |  |
| --- | --- | --- |
| **ASIL** | |  |
| **Value** | Encoding Name | -- |
| Value Range | [ - ] |
| Resolution |  |
| Unit |  |

Table: Signal Details of SNT\_UserReqStoredVideoApp

1905649852.jpg SNT\_UserSoftButtonPress

User enters information via FPA

|  |  |  |
| --- | --- | --- |
| **ASIL** | |  |
| **Value** | Encoding Name | -- |
| Value Range | [ - ] |
| Resolution |  |
| Unit |  |

Table: Signal Details of SNT\_UserSoftButtonPress

#### GSDB Signals

*Not supported by MagicDraw report generation.*

#### HW I/Os

*Not supported by MagicDraw report generation.*

#### Diagnostic Interfaces

##### DTCs

<Some Description of the DTC.

Refer to VSEM document “[Diagnostic Fault Coverage and DTC Numbers](https://www.vsemweb.ford.com/tc/launchapp?-attach=true&-s=226TCSession&-o=yAUtrNhnx3NrTDAAAAAAAAAAAAA&servername=Production_Server)

[Design Consideration](https://www.vsemweb.ford.com/tc/launchapp?-attach=true&-s=226TCSession&-o=yAUtrNhnx3NrTDAAAAAAAAAAAAA&servername=Production_Server)”, what to fill into the attributes below>

|  |  |
| --- | --- |
| **Test Period Time** |  |
| **Test Run Criteria,** |  |
| **Enable Criteria (EC)** |  |
| **Applicable** |  |
| **FailureTypeBytes** |  |
| **Test Period Time** |  |
| **Test Run Criteria,** |  |

##### DIDs

*Not supported by MagicDraw report generation.*

### Technical Parameters

### Mappings

### Technical Interfaces

*Not supported by MagicDraw report generation.*

#### AIS Interfaces

##### Publisher Interfaces

##### Subscriber Interfaces

#### AUTOSAR Ports

*Not supported by MagicDraw report generation.*

### Messages/APIs

#### CAN Bus “<Bus Name>”

*Not supported by MagicDraw report generation.*

#### LIN Bus “<Bus Name>”

*Not supported by MagicDraw report generation.*

#### AUTOSAR Interfaces

*Not supported by MagicDraw report generation.*

#### SOA Service Contracts

*Not supported by MagicDraw report generation.*

### Encoding Types

#### Logical Encoding Types

#### Technology Encoding Types

### Technology State Machines

Document ends here.