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**#Functional Safety:** Some process specific explanation

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[Table 5‑53: Output Signal mappings of “Rear Inner Handle Control” 34](#_Toc60743428)

[Table 5‑54: Parameter mappings of “Rear Inner Handle Control” 34](#_Toc60743429)

[Table 5‑55: Component Specific Requirements of “Rear Inner Handle Control” 35](#_Toc60743430)

[Table 5‑56: Inherited Requirements of “Rear Inner Handle Control” 35](#_Toc60743431)

[Table 5‑57: Input Signal mappings of “Rear Inner Handle Control” 35](#_Toc60743432)

[Table 5‑58: Output Signal mappings of “Rear Inner Handle Control” 35](#_Toc60743433)

[Table 5‑59: Parameter mappings of “Rear Inner Handle Control” 36](#_Toc60743434)

[Table 5‑60: Component Specific Requirements of “Rear Inner Handle Control” 36](#_Toc60743435)

[Table 5‑61: Inherited Requirements of “Rear Inner Handle Control” 36](#_Toc60743436)

[Table 5‑62: Input Signal mappings of “Rear Audio Device Control” 36](#_Toc60743437)

[Table 5‑63: Output Signal mappings of “Rear Audio Device Control” 36](#_Toc60743438)

[Table 5‑64: Parameter mappings of “Rear Audio Device Control” 37](#_Toc60743439)

[Table 5‑65: Component Specific Requirements of “Rear Audio Device Control” 37](#_Toc60743440)

[Table 5‑66: Inherited Requirements of “Rear Audio Device Control” 37](#_Toc60743441)

[Table 5‑67: Input Signal mappings of Function “Rear Climate Device Control” 37](#_Toc60743442)

[Table 5‑68: Output Signal mappings of Function “Rear Climate Device Control” 37](#_Toc60743443)

[Table 5‑69: Parameter mappings of Function “Rear Climate Device Control” 37](#_Toc60743444)

[Table 5‑70: Component Specific Requirements 38](#_Toc60743445)

[Table 5‑71: Inherited Requirements 38](#_Toc60743446)

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[Table 5‑73: Output Signal mappings of “Central Gateway” 38](#_Toc60743448)

[Table 5‑74: Parameter mappings of “Central Gateway l” 38](#_Toc60743449)

[Table 5‑75: Component Specific Requirements of “Central Gateway” 39](#_Toc60743450)

[Table 5‑76: Inherited Requirements of “Central Gateway” 39](#_Toc60743451)

[Table 6‑1: Open Concerns 41](#_Toc60743452)

# Introduction

## Document Purpose

The Feature Implementation Specification (FIS) is the feature owners view of the allocation of logical functions to technology components (usually ECUs), along with signals between components and requirements derived from the physical solution.

The FIS should list the allocation of logical functions and signals to their electrical counter parts and provide lists of each E/E component, connections, function allocation and signal/parameter mapping for each variant to be considered.

## Document Scope

This FIS describes the deployment of the feature Rear Seat Controls Lockout to the following electrical architecture(s):

| **Electrical Architecture Name** | **Owner** | **Reference** |
| --- | --- | --- |
| GE2 FNV3 |  | [CDX 746](https://www.vsemweb.ford.com/tc/launchapp?-attach=true&-s=226TCSession&-o=C1T91RpJx3NrTDAAAAAAAAAAAAA&servername=Production_Server) VSEM |
|  |  | [CDX 747](https://www.vsemweb.ford.com/tc/launchapp?-attach=true&-s=226TCSession&-o=iOU91RpJx3NrTDAAAAAAAAAAAAA&servername=Production_Server) VSEM |

Table 1‑1: Electrical Architecture(s) referenced in this document

## Document Audience

***#Hint:*** *All Stakeholders listed in the stakeholder list, i.e., all people who have a valid interest in the feature implementation should read and review the FIS. It needs to be guaranteed, that all stakeholders have access to the currently valid version of the FIS.*

***#Link:*** *Refer to* [*Ford RE Wiki – Stakeholder List*](http://wiki.ford.com/display/RequirementsEngineering/Stakeholder+Analysis) *on how to create a stakeholder list*

Refer to <*link to the VSEM “General Data Artifacts” pseudo folder of the feature*> for the list of stakeholders for this FIS and their roles & responsibilities.

## Document Organization

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

***#Hint****: This chapter may be used to explain document specific notations.*

## References

### Ford Documents

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

| **Reference** | **Title** | **Doc. ID** | **Revision** | **Document Location** |
| --- | --- | --- | --- | --- |
| FD | FD F003110 Rear Seat Controls Lockout (RSCL)- draft |  | draft | VSEM |
| FGS | FGS\_F003110 Rear Seat Controls Lockout (RSCL)- draft |  | draft | VSEM |
|  |  |  |  |  |

Table 1‑2: Ford internal Documents

### External Documents and Publications

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

***#Hint:*** *You may refer to* [*IEEE Citation Reference*](http://www.ieee.org/documents/ieeecitationref.pdf) *on how to format a reference.*

| **Reference** | **Document / Publication** |
| --- | --- |
| E2EProfile1A\_Spec | AUTOSAR end-to-end protection specification, R20-11 |

Table 1‑3: External documents and publications

## Glossary

### Definitions

| **Definition** | **Description** |
| --- | --- |
|  |  |
|  |  |
|  |  |

Table 1‑4: Definitions used in this document

### Abbreviations

| **Abbr.** | **Stands for** | **Description** |
| --- | --- | --- |
| FS |  |  |
| E/E | Electrical and Electronics |  |
|  |  |  |
|  |  |  |

Table 1‑5: Abbreviations used in this document.

# Feature Implementation Overview

## Description

**#Hint:** Give a short overview on what E/E systems / platforms the feature is implemented and what special considerations have to be taken into account for E/E systems / platforms.

The first implementation of this feature is CDX 746/7 GE2 FNV3 platform.

## Input Requirements/Documents

**#Hint:** *The table below helps the feature owner to collect relevant input* (requirements, documents, mails, models, …) *while writing the spec. When finalizing the spec, the feature owner should check, if all inputs have been properly considered by derived/outgoing requirements* in chapter “Feature Implementation Requirements” *or the architectural elements.*

*Note:* It is not required to list each input requirement individually in this table, referencing the input document is enough (if relevant document section is indicated).

|  |  |  |  |
| --- | --- | --- | --- |
| **Reference**  (Reference as listed in ch. “References”) | **Section/Requirement** | **Description** | **Derived Requirement**  (optional – reference to requirement in ch. “Feature Implementation Requirements”) |
| **Feature/Function Requirements** | | | |
| Feature Document |  |  |  |
| Feature Group Specification |  |  |  |
| **Ford Engineering Standards** | | | |
|  | <Example: some SDS (requirement)> |  |  |
|  |  |  |  |
| **Legal Regulations** | | | |
|  | <Example: some excerpt from ECE or FMVSS> |  |  |
|  |  |  |  |
| **Industry Standards** | | | |
| E2EProfile1A\_Spec | Definition of AUTOSAR Profile 1A | Ford platform decision is, to follow AUTOSAR profile 1A for | * R\_CMP\_RSCL\_00009 * R\_CMP\_RSCL\_00010 |
|  |  |  |  |
| **Other Sources** | | | |
|  | <Example: some stakeholder document> |  |  |
|  |  |  |  |

Table 6: Input Requirements/Documents

## Lessons Learned

**#Classification**: Optional

**#Hint:** Additional information and lessons learned from previous development or related features. A typical source for Lessons Learned is the FMA Quality History.

## Assumptions

**#Classification**: Optional

**#Hint:** A list of assumptions concerning the effects/dependencies of the feature’s deployment as well as (e.g. known limitations). During the course of the feature development most of those assumptions are typically either converted into actual requirements or discarded at some point – such that this chapter ideally remains mostly empty.

# Feature Implementation Architecture

## Functional Architecture

### Description

**#Hint**: Provide some informal description of the characteristics of the chosen Functional Architecture. Also give some graphical representation of the Functional Architecture. Either SysML activity diagrams or [Data Flow Diagrams](http://wiki.ford.com/display/RequirementsEngineering/Data+Flow+Diagram?src=contextnavpagetreemode) could be used to depict such a Functional Architecture.

**#Link:** [*SysML - Activity Diagrams*](https://pd3.spt.ford.com/sites/SystemsEngineering/SEC/sysml-teamsite/SysML%20Wiki/Activity%20Diagram%20Basics.aspx) or [*RE Wiki - Data Flow Diagrams*](http://wiki.ford.com/display/RequirementsEngineering/Data+Flow+Diagram?src=contextnavpagetreemodehttp://wiki.ford.com/display/RequirementsEngineering/Data+Flow+Diagram?src=contextnavpagetreemode)

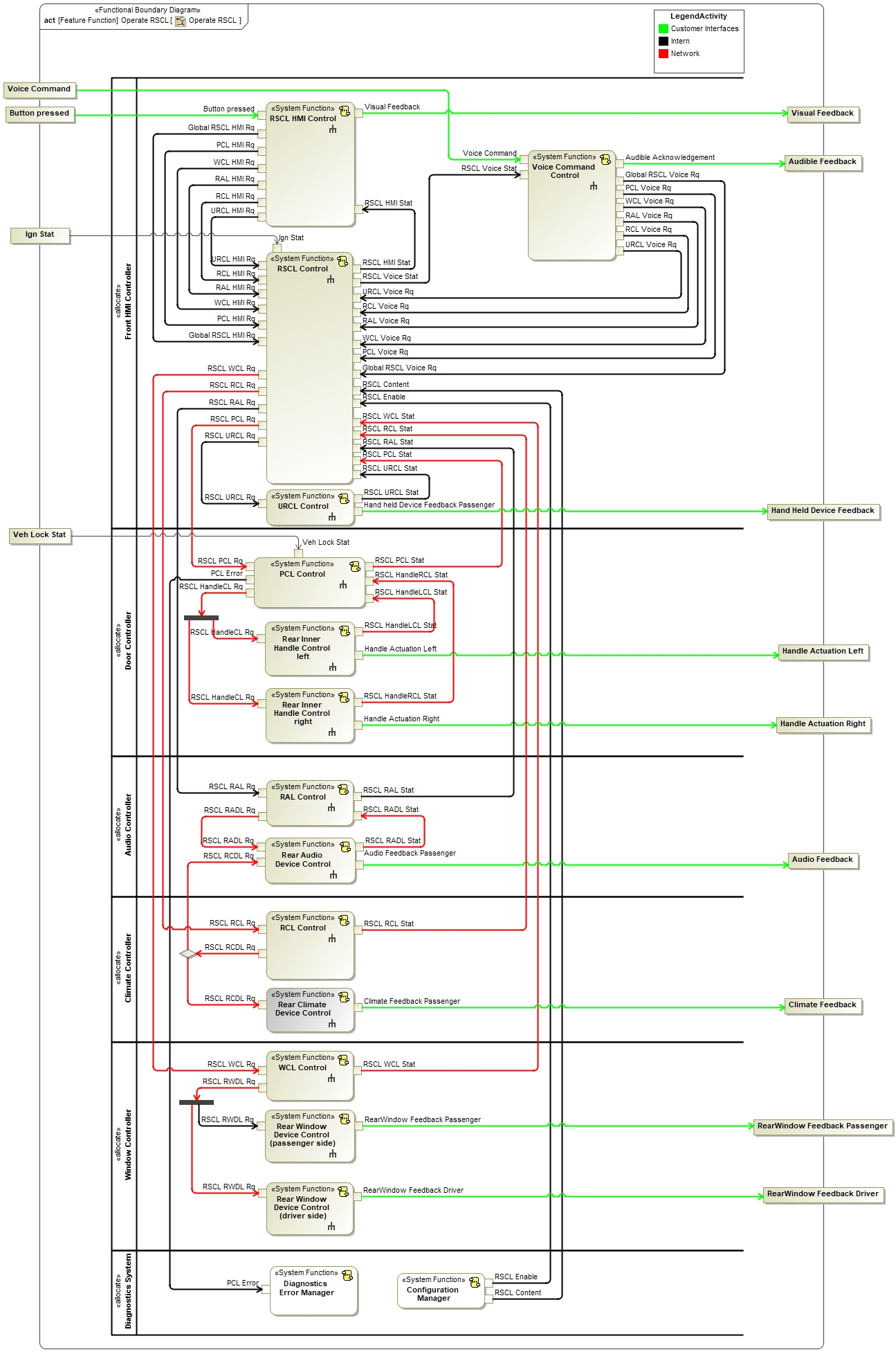


Figure 3‑1: Functional Architecture

### 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 Name** | Description | Comments |
| --- | --- | --- |
| *(activity)* URCL Control | *(activity)* Controls URCL on rear connected mobile devices  RSCL URC status feedback |  |
| *(activity)* Diagnostics Error Manager | *(activity)* Handles error information relevant for diagnostics. |  |
| *(activity)* WCL Control | *(activity)* Controls WCL on rear window switches  RSCL WCL status feedback |  |
| *(activity)* PCL Control | *(activity)* Controls PCL on rear inner door handles  RSCL PCL status feedback |  |
| *(activity)* Rear Inner Handle Control | *(activity)* Controls useability of rear inner door handles.  Actual rear inner door handle status feedback. |  |
| *(activity)* RCL Control | *(activity)* Controls RCL on rear climate controls  RSCL RCL status feedback |  |
| *(activity)* Voice Command Control | *(activity)* Provides voice controls for RSCL options and converts voice commands into logical signals for further processing by RSCL control.  Provides audible feedback to the user about feature status |  |
| *(activity)* Configuration Manager | *(activity)* Provides vehicle configuration settings to configure feature logic or functions. |  |
| *(activity)* RSCL Control | *(activity)* Central state management of RSCL feature.  Reads RSCL HMI control input and provides commands / requests for PCL, WCL, RAL, RCL and URCL control. |  |
| *(activity)* Rear Climate Device Control | *(activity)* Read lock/unlock signal and enable / disable rear climate interfaces for rear passenger. Provide status feedback |  |
| *(activity)* Rear Window Device Control | *(activity)* Enable / Disable rear window position control interface for rear passenger.  Instantiated two times, rear passenger and rear driver side. |  |
| *(activity)* RSCL HMI Control | *(activity)* Provides HMI controls for RSCL options and converts user input (e.g. physical button press) into logical signals for further processing by RSCL control.  Provides feedback to the user about feature status. |  |
| *(activity)* Rear Audio Device Control | *(activity)* Read lock/unlock signal and enable / disable rear audio interfaces for rear passenger. Provide status feedback. |  |
| *(activity)* RAL Control | *(activity)* Controls RAL on rear audio controls  RSCL RAL status feedback |  |

Table 3‑1: List of Functions

### Signal List

*#Hint: Refer to the Data Dictionary - Logical Signals.*

## Physical Architecture

### E/E Architecture

#### E/E Architecture Variants

**#Classification:** Mandatory – State “No Variants defined”, if not used.

**#Hint:** If different variants of the E/E architecture are specified in this section, list those variants in the table below.

Variants can be expressed based on Variant Options. Typical Variant Options (think of them as Logical Parameters) driven by architecture are e.g. “Network Topology” (e.g. FNV2 or AV) or “Powertrain Type” (e.g. “Electrical Vehicle” vs. “conventional powertrain”. “Conventional Powertrain” might be further split into “ECM+TCM” vs. “PCM”). The optional column “Variant condition” allows to express the dependency of a Variant based on Variant Options/Logical Parameters.

If requirements or certain architectural elements (signals, interfaces, components) are not applicable for all variants, those requirements/elements should state explicitly, which E/E architecture variant they apply to.

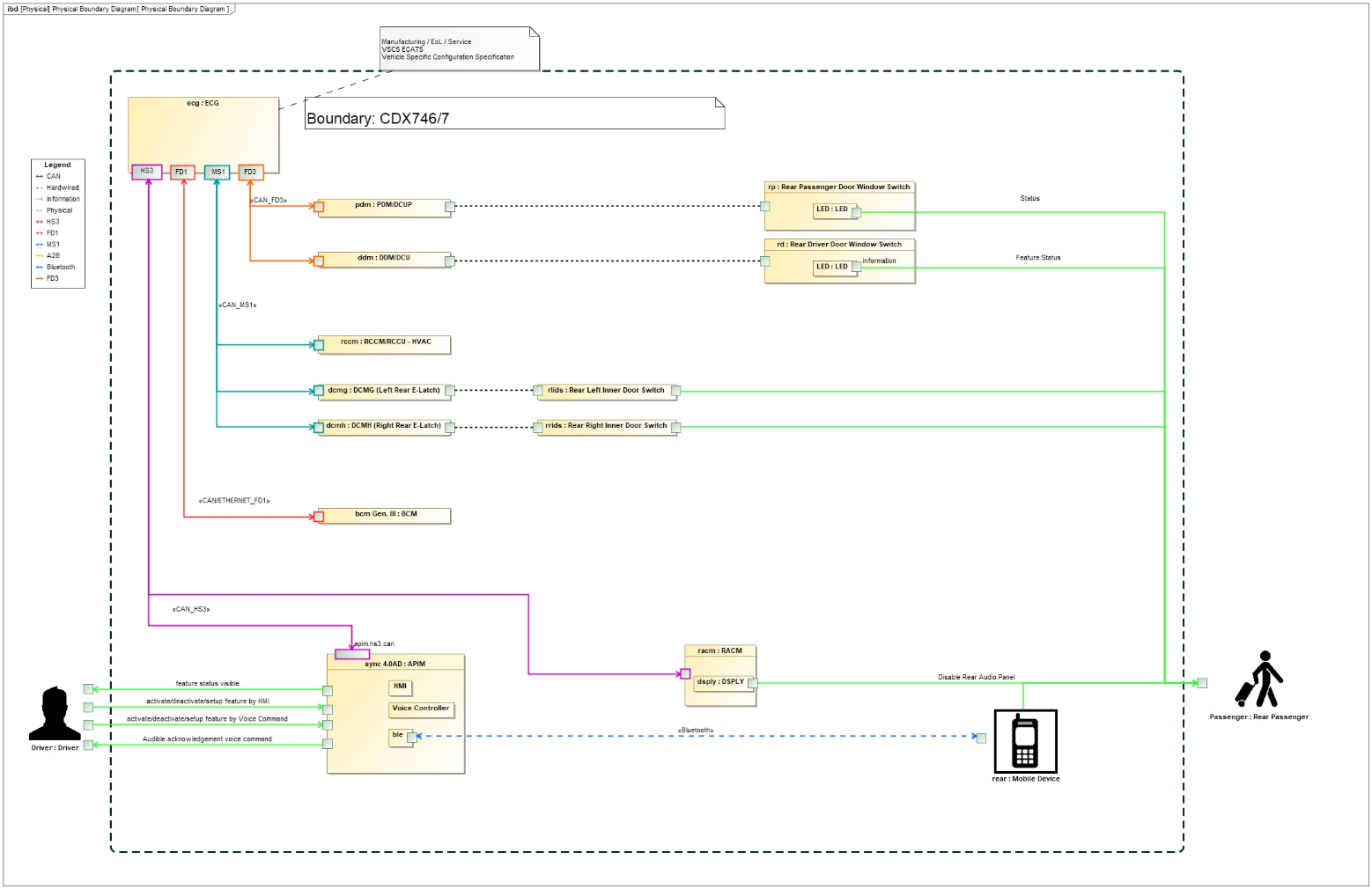
**#Link:** [RE Wiki – Variant Management](http://wiki.ford.com/display/RequirementsEngineering/Variant+Management).

|  |  |  |
| --- | --- | --- |
| E/E Architecture Variant Name | Variant Description | Variant Condition (optional) |
| GE2 FNV3 | Switch Reductive Design CDX 746/7 |  |

##### E/E Architecture “GE2 FNV3”

**#Classification:** Mandatory

**#Hint:** Place a diagram of high level E/E architecture here. Optionally the allocated functions could be shown in the diagram. Either use some SysML like diagram or enhanced the network topology, which Netcom generates from its master Excel sheet diagrams (refer to Figure 3‑2 E/E Architecture (Network Topology Style)) according to the needs of the feature.



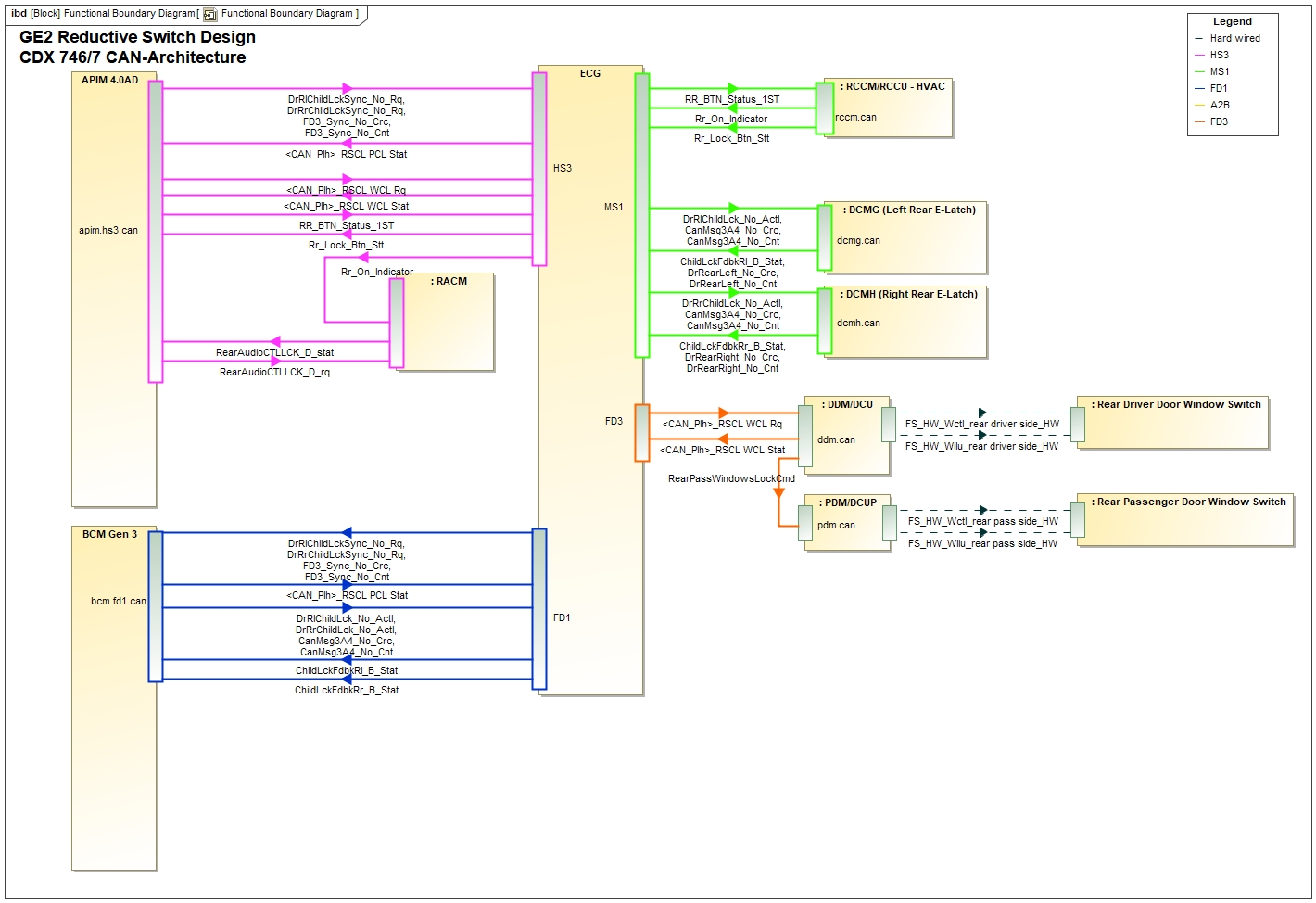


Figure 3‑2 E/E Architecture (Network Topology Style)

#### E/E Components

#Hint: Use component name/acronym as given in the [VSEM Global Core ECU & EE Devices Dictionary](https://www.vsemweb.ford.com/tc/launchapp?-attach=true&-s=226TCSession&-o=BleFgEP3x3NrTDAAAAAAAAAAAAA&servername=Production_Server) If not listed in that database, you may use the use PSF naming convention of the [EDAS signal database in VSEM](https://www.vsemweb.ford.com/tc/launchapp?-attach=true&-s=226TCSession&-o=gPXpSoIbx3NrTDAAAAAAAAAAAAA&servername=Production_Server).  
You may directly link to the corresponding VSEM entry. Refer to the examples below”.

#Links: [*PSF Translate*](https://pd3.spt.ford.com/sites/EESEC3P/PSF_Translate/SitePages/Home.aspx)r (a little utility to search for an EDAS component name in PSF notation)

|  |  |  |
| --- | --- | --- |
| **Component Name** | **Description** | **Requirements** |
| BCM | Body Control Module / BCM GenIII | Chapter “BCM Gen III” |
| ECG | Gateway Module | Chapter “ECG” |
| APIM | IVI Domain Controller / Phoenix | Chapter “APIM" |
| DCU | Door Control Unit | Chapter “DCU” |
| DCUP | Door Control Unit Passenger | Chapter “DCUP” |
| HVAC | Heating, Ventilation and Air Conditioning Module | Chapter “HVAC” |
| RACM | Rear Audio (&Climate) Control Module | Chapter “RACM” |
| DCMG | Rear left e-latch | Chapter “DCMG” |
| DCMH | Rear right e-latch | Chapter “DCMH” |

Table 3‑2: Electrical Components

#### E/E Connections

#Hint: Lists the E/E connections relevant for the feature and - for network connections - which *Messages* from the *Data Dictionary* are allocated to them. The ‘Connection Type’ is derived from the [*GDT/EDAS Signal Classification*](https://pd3.spt.ford.com/sites/fede/vsem-spls/Shared%20Documents/13-gdt/training/ppt/Signal_Classifications_v6.ppt?web=1). The ‘Protocol’ selection list might not be complete, yet. Add your protocol definition, if needed.

#Links: - [*GDT/EDAS Signal Classification*](https://pd3.spt.ford.com/sites/fede/vsem-spls/Shared%20Documents/13-gdt/training/ppt/Signal_Classifications_v6.ppt?web=1) (as reference for ‘Connection Type’ below)

* [*PSF Translate*](https://pd3.spt.ford.com/sites/EESEC3P/PSF_Translate/SitePages/Home.aspx)r (a little utility to search for an EDAS signal name in PSF notation)

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Connection Name** | **Description** | **Connection Type** | **Protocol**  Only if ‘Connection Type’ is “Network”/”RF-Digital” | **Allocated Messages**  Only if ‘Connection Type’ is “Network”/”RF-Digital” | **Connected Nodes** |
| HS3-CAN | High Speed CAN 3 | Network | CAN (High Speed) | [VSEM link to message database (CMDB) for FNV3](https://www.vsemweb.ford.com/tc/launchapp?-attach=true&-s=226TCSession&-o=DoQ53JTGx3NrTDAAAAAAAAAAAAA&servername=Production_Server) | APIM, RACM, ECG |
| FD1-CAN | CAN Flexible Data rate bus 1 | Network | CAN FD | BCM, ECG |
| FD3-CAN | CAN Flexible Data rate bus 3 | Network | CAN FD | DCU, DCUP |
| MS1-CAN | CAN Mid Speed bus 1 | Network | CAN (Mid Speed) | DCMG, DCMH, ECG, HVAC, Rear HVAC |
| *#Hint:*   * *For ‘Connection Type’ “Network” check with Netcom for naming conventions for busses/networks* * *For other ‘Connection Types’  use PSF naming convention of the* [*EDAS signal database in VSEM*](https://www.vsemweb.ford.com/tc/launchapp?-attach=true&-s=226TCSession&-o=gPXpSoIbx3NrTDAAAAAAAAAAAAA&servername=Production_Server)*. You may directly link* to the VSEM entry. Refer to the “Event Notification Signal” example below”. |  |  |  |  |  |

Table 3‑3: E/E Connections

#### Signal List

***#Hint:*** *Refer to the* [*Data Dictionary*](#_Data_Dictionary) *-* [*Technical Signals*](#_Technical_Signals)*.*

### Software Component Architecture

**#Classification:** Optional – For features with in-house SW development only (remove section otherwise)

***#Hint:*** *For Features with in-house SW development (specifically in an Agile Environment) it is required, that the development team documents and agrees on at least their SW interfaces to the outside world early in the process.*

#### Description

**#Hint**: Provide some informal description of the characteristics of the chosen Software Component Architecture. Also give some graphical representation of the Software Component Architecture. SysML Internal Block Diagrams or [AUTOSAR](http://wiki.ford.com/display/RequirementsEngineering/Data+Flow+Diagram?src=contextnavpagetreemode) Virtual Function Bus models could be used to depict such a Software Component Architecture.

**#Link:** [*SysML – Internal Block Diagrams*](https://pd3.spt.ford.com/sites/SystemsEngineering/SEC/sysml-teamsite/SysML%20Wiki/Internal%20Block%20Diagram%20Basics.aspx) and [*AUTOSAR*](https://www.autosar.org/)

This Software Component Architecture shows software partitioning in SYNC and ECG



Figure 3‑3: RSCL Software on SYNC/ECG

## Function Deployment

***#Hint:*** *This section lists and details the deployment variants of the feature.*

### Deployment Variants

**#Classification:** Mandatory – State “No Variants defined”, if not used.

**#Hint:** If there is more than 1 variant of deployment, the different variant should be listed and described below. Deployment variants are very much driven by E/E architecture variants (refer to section *E/E Architecture Variants*). Nevertheless, Feature/Function variant options might also drive additional deployment variants.

**#For Functional Safety:** Specify each deployment variant in a separate FIS.

|  |  |  |
| --- | --- | --- |
| **Deployment Variant Name** | Variant Description | Variant Condition (optional) |
| CDX 746/7 | Deployment of RSCL functions on GE2 FNV3 in CDX 746/7 |  |

#### Deployment “CDX746/7”

***#Classification:*** *Optional*

***#Hint:*** *Add a deployment diagram (e.g. a SysML Activity Diagram where the actions represent the Technology Functions and the swimlanes represent the components) and some explanatory text about the variant to this section. The naming of the Technology Functions should make clear, what Logical Function it had been derived from (e.g. VehicleSpeedCalculation(Wheelbased)\_ABS)*

This deployment variant adds Rear Seat Controls Lockout feature to CDX746/7. The vehicle has different trim levels which require the vehicle to be configurable.

PCL will only be available in CDX747. I will be standard.

WCL & URC will be standard on CDX746 & 7

RACM will only be available on CDX747 BASE & RESERVE NA and RESERVE CH

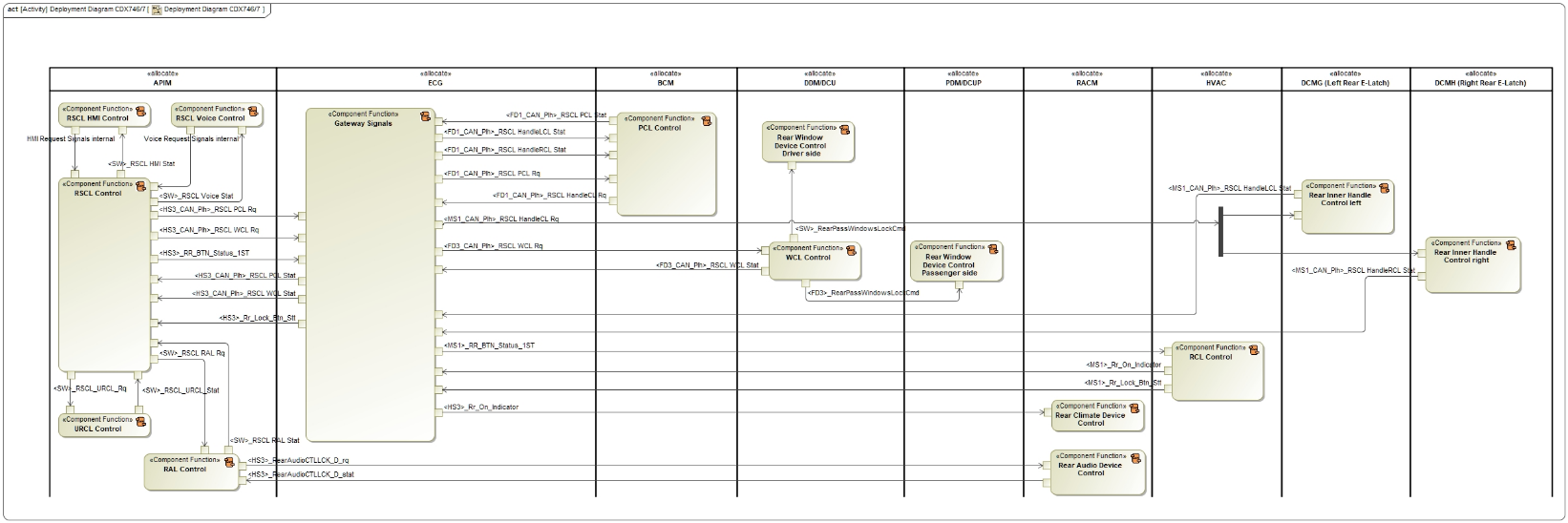


Table 3‑4: Deployment Diagram CDX746/7

### Function Allocation

***#Hint:*** *The “Function Allocation Table” shows the mapping of the Logical Functions and the corresponding Technology Functions of a feature to components of the physical architecture as also shown in the deployment diagrams. Typically, there is a 1:1 relationship between (Atomic) Logical and Technology Functions. For details refer to the* *RE Wiki pages* [*“Deriving Implemented Functions from Logical Functions”*](http://wiki.ford.com/display/RequirementsEngineering/Deriving+Implemented+Functions+from+Logical+Functions) *and “*[*Cascade Requirements*](http://wiki.ford.com/display/RequirementsEngineering/Cascade+Requirements%23CascadeRequirements-CascadingVsTraceability)*” When applying MBSE methods please refer to Guideline for Alignment of SW QoS with Ford Starting Model (SysML) for how Logical and Technology Functions in the Ford Starting Model align to Atomic Logical Functions and Technology Functions in RE.*

*For Functional Safety critical features the second table (“****Function Allocation Table (Functional Safety Extension)****”) has to be additionally filled in*

* *to map Technical Safety Requirements (TSRs) to Technology Functions and hence Components and*
* *to assign an ASIL level to Components and TSRs*

***#Link:***[*RE Wiki - Deriving Implemented Functions from Logical Functions*](http://wiki.ford.com/display/RequirementsEngineering/Deriving+Implemented+Functions+from+Logical+Functions)

[*RE Wiki - Cascade Requirements*](http://wiki.ford.com/display/RequirementsEngineering/Cascade+Requirements#CascadeRequirements-CascadingVsTraceability)

[*Functional Safety Sharepoint*](https://pd3.spt.ford.com/sites/GlobalFunctionalSafety/Pages/default.aspx)

[*Guideline for Alignment of SW QoS with Ford Starting Model (SysML)*](http://wiki.ford.com/display/RequirementsEngineering/Alignment+with+the+Ford+Starting+Model)

| Component | Technology Function Name | Logical Function Name |
| --- | --- | --- |
|
| BCM Gen III | PCL Control BCM Gen III **(CDX747 only)** | PCL Control |
| ECG | Central Gateway | n/a |
| APIM | * RSCL HMI Control APIM * RSCL Voice Control APIM * RSCL Control APIM * URCL Control APIM * RAL Control APIM | * RSCL HMI Control * RSCL Voice Control * RSCL Control * URCL Control * RAL Control |
| DCU | * WCL Control DCU * Rear Window Device Control DCU | * WCL Control * Rear Window Device Control **(Driver side)** |
| DCUP | Rear Window Device Control (Passenger side) DCUP | Rear Window Device Control **(Passenger side)** |
| HVAC | RCL Control HVAC | RCL Control |
| DCMG | Rear Inner Handle Control DCMG **(DX747 only)** | Rear Inner Handle Control |
| DCMH | Rear Inner Handle Control DCMH **(DX747 only)** | Rear Inner Handle Control |
| RACM | * Rear Audio Device Control RACM * Rear Climate Device Control RACM | * Rear Audio Device Control * Rear Climate Device Control |

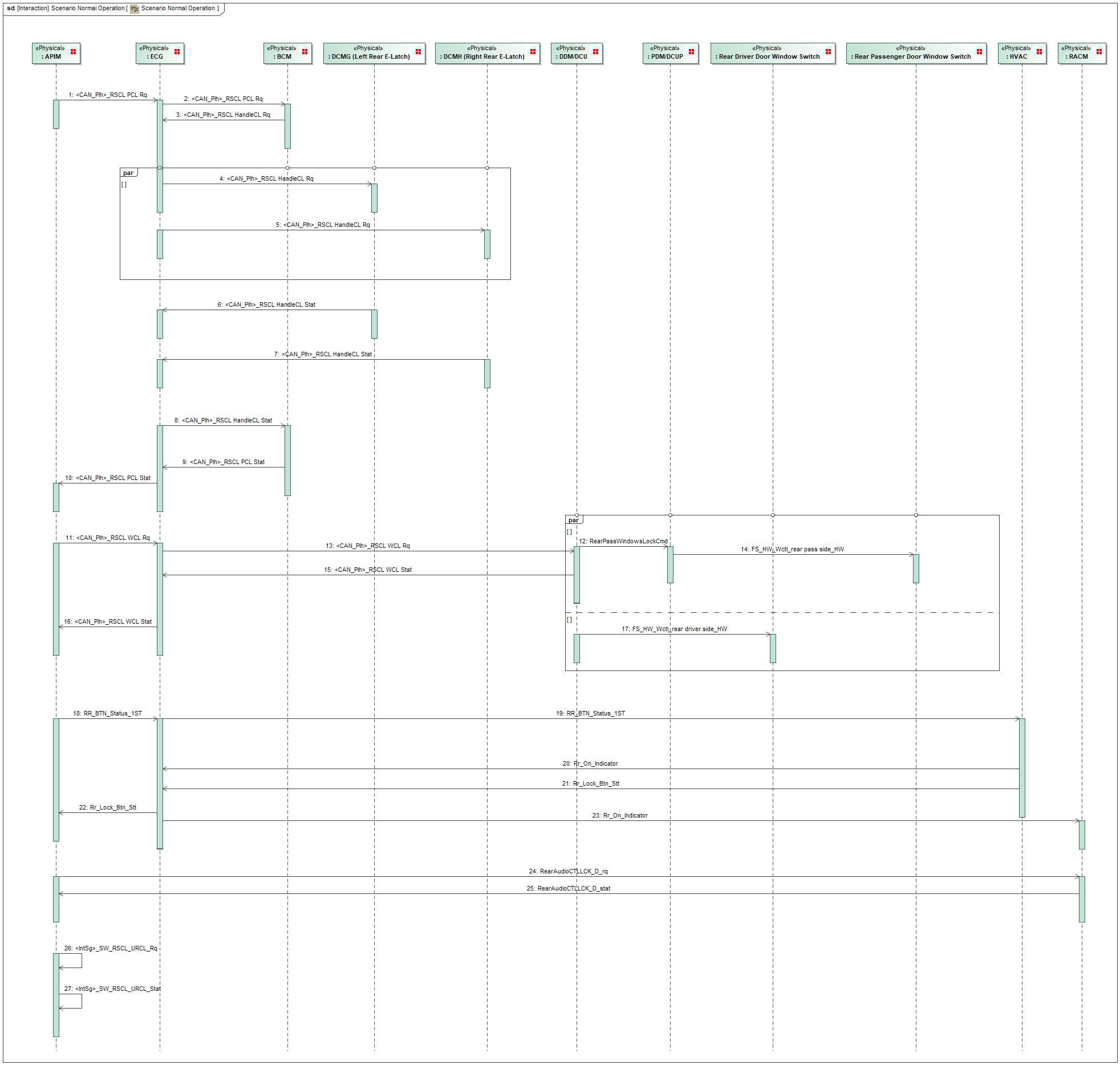
Table 3‑5: Function Allocation Table (Basic)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Component | | Technology Function Name | TSR | |
| Name | ASIL |  | ID | ASIL |
| BCM Gen III | A | PCL Control BCM Gen III | TSR1.1.7 BCM shall receive Power Child Lock activation request via CAN | A |
| TSR1.1.10 PCL request E2E evaluation and fault handling | A |
| TSR1.2.1 Double lock control shall not disable PCL | A |
| TSR1.3.1 BCM shall verify preconditions to activate and deactivate PCL | A |
| TSR1.3.3 TSR1.3.3 Request Power Child Lock activation / deactivation via CAN | A |
| TSR1.3.7 Fault handling for eLatch control CAN signal | A |
| TSR1.3.8 BCM PCL configuration protection | A |
| TSR1.4.3 TSR1.4.3 Provide valid Power Child Lock status to DDM, PSD ECU, E-latch an APIM/IPC | A |
| TSR1.4.4 TSR1.4.4 Provide Power Child Lock warning status when fault is detected to IPC/APIM | A |
| TSR1.4.9 TSR1.4.9 Fault handling for mismatch on PCL feedback status | A |
| APIM/Phoenix | A | RSCL HMI Control APIM/Phoenix |  |  |
| RSCL Voice Control APIM |  |  |
| RSCL Control APIM | TSR1.1.5 APIM shall receive Power Child Lock activation request | A |
| TSR1.1.6 APIM shall send validated PCL request to BCM | A |
| TSR1.4.4 TSR1.4.4 Provide Power Child Lock warning status when fault is detected to IPC/APIM | A |
| URCL Control APIM |  |  |
| RAL Control APIM |  |  |
| DCU | QM | Rear Window Device Control (Driver side) DCU |  |  |
| QM | WCL Control DCU |  |  |
| DCUP | QM | Rear Window Device Control (Passenger side) DCUP |  |  |
| HVAC | QM | RCL Control HVAC |  |  |
| DCMG/H | A | Rear Inner Handle Control DCMG/H | TSR1.3.7 Fault handling for eLatch control CAN signal | A |
| TSR1.4.3 TSR1.4.3 Provide valid Power Child Lock status to DDM, PSD ECU, E-latch an APIM/IPC | A |
| TSR1.2.3 E-Latch control when PCL is activated | A |
| RACM | QM | Rear Audio Device Control RACM |  |  |
| Rear Climate Device Control RACM |  |  |
| ECG | tbd | Central Gateway |  |  |

Table 3‑6: Function Allocation Table (Functional Safety Extension)

# Feature Implementation Modeling

## Component Interaction Diagrams



**Figure 12:** Scenario “Normal Lock Operation”

## Component Interface Behavior Diagrams

*#Hint: For complex (application level) interface protocols a protocol state machine would be more appropriate than a bunch of sequence diagrams to illustrate the interactions between components. So, this section would typically show a (protocol) state machine.*

# Feature Implementation Requirements

***#Hint:*** *The Feature Implementation Specification is first of all an architecture document. It shows the Functional and the E/E architecture as well as the deployment of the Functional one to the E/E one.*

## Functional Safety

**#Classification**: Functional Safety only – If not used, remove content and state “Not Applicable”

***#Hint:*** *If feature is not Functional Safety critical, remove subsections from this chapter and state “Feature is not Functional Safety critical”*

Timing will happen during UPV0 starting October 12th, 2020 until March 12th, 2021.

### ASIL Decomposition of Technical Safety Requirements

**#Classification**: Functional Safety only – If not used, remove content and state “Not Applicable”

***#Hint:*** *Sometimes an ASIL decomposition of Technical Safety Requirements (TSRs) is required. The (input) TSRs, which are to be decomposed, are derived from FSRs. Those input TSRs are to be specified in this chapter (right above the corresponding ASIL decomposition table). For each input TSR add one “ASIL Decomposition Table”. In the “ASIL Decomposition Table” the derived, decomposed TSRs are referenced by ID and Title. Those TSRs are however not specified in the FIS but in the ECU Functional Specfication.*

**#Macro:** [Add Ins -> Add Requirement macro](http://wiki.ford.com/pages/viewpage.action?pageId=174654231) (select “**Func./Tech. Safety Requirement**” as type)

***#Link:***[*Functional Safety Sharepoint*](https://pd3.spt.ford.com/sites/GlobalFunctionalSafety/Pages/default.aspx) *- Functional Safety Concept*

All requirements only up to ASIL A. Decomposition not required.

<Place the input TSR here above the decomposition table>

| **Input TSR** | <Provide the ID of the TSR which shall be decomposed. That TSR is given above> | |
| --- | --- | --- |
| **Decomposition Rationale** | <Give a reason why the decomposition was performed> | |
| **Method for Decomposition** | Choose a Method | |
| **TSR 1 after Decomposition** | **TSR ID** | <Provide the ID of the decomposed TSR> |
| **TSR Title** | <Provide the title of the decomposed TSR> |
| **ASIL** |  |
| **Rationale** | <Provide a reason and thought behind that particular requirement. Should include how the requirement is able to independently fulfill the needs of the parent requirement> |
| **Satisfied by** | <Provide an Technology Function, physical signal, or physical component satisfying the requirement. This element shall be independent of the element satisfied by the other half of the ASIL decomposition.> |
| **TSR 2 after Decomposition** | **TSR ID** | <Provide the ID of the decomposed TSR> |
| **TSR Title** | <Provide the title of the decomposed TSR> |
| **ASIL** |  |
| **Rationale** | <Provide a reason and thought behind that particular requirement. Should include how the requirement is able to independently fulfill the needs of the parent requirement> |
| **Satisfied by** | <Provide an Technology Function, physical signal, or physical component satisfying the requirement. This element shall be independent of the element satisfied by the other half of the ASIL decomposition.> |
| **TSR for Independence**  *Note: should consider commonly used input, output and processing*  *Note: additional row should be added if additional* *requirements for Independence are necessary* | **TSR ID** |  |
| **TSR Title** |  |
| **ASIL** |  |
| **Rationale** |  |

Table 5‑1: ASIL Decomposition Table

## Requirements on Components

### BCM Gen III

#### Technology Function “PCL Control”

***#Classification:*** *Mandatory*

***#Hint:*** *Technology Functions are split into two parts:*

* *subsection Function Interfaces: defines the mapping of the Logical Signals/Parameters to Technical (i.e. physical) Signals/Parameters, which is ECU/allocation specific. It also specifies interface details on how signals are published or subscribed*
* *subsection Function Requirements: defines, which requirements are reused/carried over unchanged from the Logical Function and which requirements are need to be modified due to deployment specific circumstances.*

**#Link:** [*RE Wiki – Deriving an Implemented Function*](http://wiki.ford.com/display/RequirementsEngineering/Deriving+Implemented+Functions+from+Logical+Functions)*#*

[*RE Wiki - Cascade Requirements*](http://wiki.ford.com/display/RequirementsEngineering/Cascade+Requirements#CascadeRequirements-CascadingVsTraceability)

*RE-Wiki – How to manage requirements in VSEM – Implemented Functions*

##### Function Interfaces

###### Inputs

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Logical Signal Name** | **Technical Signal Name** | **Mapping Details** | **Subscriber Interface** | **Connection** |
| RSCL\_PCL\_Rq  (dedicated request) | TSG\_CanPlh\_RSCL\_PCL\_Rq | SMP\_CanPlh\_RSCL\_PCL\_Rq | SIF\_CanPlh\_RSCL\_PCL\_Rq | FD1-CAN |
|  | TSG\_CanPlh\_RSCL\_PCL\_Rq\_EECRC |  |  |  |
| RSCL\_HandleLCL\_stat | [(GS-004860)-ChildLckFdbckRl\_B\_Stat](https://www.vsemweb.ford.com/tc/launchapp?-attach=true&-s=226TCSession&-o=$1aNknHix3NrTDAAAAAAAAAAAAA&servername=Production_Server) | SMP\_ChildLckFdbckRl\_B\_Stat | SIF\_ChildLckFdbckRl\_B\_Stat | FD1-CAN |
|  | TSG\_ChildLckFdbckRl\_B\_Stat\_EECRC | n/a | TSR1.1.10 |  |
| RSCL\_HandleLCL\_Crc | DrRearLeft\_No\_Crc |  |  |  |
| RSCL\_HandleLCL\_Cnt | DrRearLeft\_No\_Cnt |  |  |  |
| RSCL\_HandleRCL\_stat | [(GS-004858)-ChildLckFdbckRr\_B\_Stat](https://www.vsemweb.ford.com/tc/launchapp?-attach=true&-s=226TCSession&-o=B9SNknHix3NrTDAAAAAAAAAAAAA&servername=Production_Server), | SMP\_ChildLckFdbckRr\_B\_Stat | SIF\_ChildLckFdbckRr\_B\_Stat | FD1-CAN |
|  | TSG\_ChildLckFdbckRr\_B\_Stat\_EECRC | n/a | TSR1.1.10 |  |
| RSCL\_HandleRCL\_Crc | DrRearRight\_No\_Crc |  |  |  | FD1-CAN |
| RSCL\_HandleRCL\_Cnt | DrRearRight\_No\_Cnt |  |  |  | FD1-CAN |
| Vehicle\_Lock\_stat | Veh\_Lock\_Status | tbd | tbd | tbd |

Table 5‑2: Input Signal mappings of Function “PCL Control”

###### Outputs

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Logical Signal Name** | **Technical Signal Name** | **Mapping Details**  *(Conditional)* | **Publisher Interface** | **Connection**  *(Optional)* |
| RSCL\_PCL\_Stat | TSG\_CanPlh\_RSCL\_PCL\_Stat | SMP\_CanPlh\_RSCL\_PCL\_Stat | PIF\_CanPlh\_RSCL\_PCL\_Stat | FD1-CAN |
| TSG CAN Plh E2E |  | TSR tbd |
| RSCL\_HandleCL\_Rq | TSG\_CanPlh\_RSCL\_HandleCL\_Rq | SMP\_CanPlh\_RSCL\_HandleCL\_Rq | PIF\_CanPlh\_RSCL\_HandleCL\_Rq | FD1-CAN |
| E2E |  |  |

Table 5‑3: Output Signal mappings of Function “PCL Control”

###### Parameters

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Logical Parameter Name** | **Technical Parameter Name** | **Mapping Details** *(Conditional)* | **Method** | **Method Details** |
| n/a |  |  |  |  |

Table 5‑4: Parameter mappings of Function “PCL Control”

###### Interface Requirements

***#Hint:*** *This section provides a place where to specify interface specific requirements of the Technology Function, if Interface objects from* *Technical Interfaces* *and Mappings objects cannot be used (e.g. requirement is not covered by AIS attribute). Deployment specific requirements, which are not related to the interface directly, should be specified in section Function Requirements.*

*Naming Convention for interface requirements:*

*“PubIfReq\_TechnicalSignalName: InterfaceAttribute” (e.g. “PubIfReq\_Veh\_V\_ActlBrk: Timing”)*

*“SubIfReq\_TechnicalSignalName: InterfaceAttribute” (e.g. “SubIfReq\_Veh\_V\_ActlBrk: Missing/Invalid Signal”)*

*“MapReq\_LogicalSignalName\_TechnicalSignalName” (e.g. “MapReq\_LSG\_VehicleSpeed\_Veh\_V\_ActlBrk”)*

*For a selection of interface attributes refer to the list below*

*List of possible interface attribute groups/attributes of a signal subscriber:*

|  |  |
| --- | --- |
| *Timing* | *Signal refresh rate, Publishing Interval (ms), Publisher Latency Requirements, Signal Transmit Cycle Time, End-to-End Latency Requirements* |
| *Wakeup / Sleep* | *Publishing Network Sleep Inhibitor, Updates Signal while asleep, Network Wake Up, fresh data on Network wakeup, Max latency before signal is valid on Network wakeup* |
| *Reset* | *Fresh data on ECU Reset, Max latency before signal is valid on reset* |
| *Robustness/Integrity* | *Checksum, Counter, Quality Factor, MAC, Functional Safety Relevant,* |
| *Functional* | *ECU Power Mode, Functional Voltage Range (Min, Max), Performance Voltage Range (Min, Max), CAN Node Type, Standardization Category, Fault Type,* |

*List of possible interface attributes/attribute groups of a signal publisher:*

|  |  |
| --- | --- |
| *Timing* | *Subscribing Interval (ms), Subscriber Latency Requirements, End-to-End Latency Requirements* |
| *Missing/Invalid Signals Strategy* | *Missing Message Strategy, Use Last Signal Value when Missing Message, Timeout period when Last Signal Value cannot be used for missing message, Use Default Value when Missing Message, Missing Message Default Value, Missing Message DTC, Update Bit, Update Bit Signal Logic* |
| *Robustness/Integrity* | *Checksum, Counter, MAC, Quality Factor, Functional Safety Relevant, ASIL Rating* |
| *Wakeup / Sleep* | *Network Wake Up, Subscribing Network Sleep Inhibitor* |
| *Routing* | *Gateway Required, Gateway Message Type, Max Gateway Latency* |
| *Functional* | *ECU Power Mode, Functional Voltage Range (Min, Max), Performance Voltage Range (Min, Max), CAN Node Type* |

##### Function Requirements

***#Hint:*** *The table “Component Specific Requirements” below lists those requirements of the Logical Function, which are removed/modified/added in context of the specific component, which the Technology Function is allocated to. If “Modification” is set to “Replaced” or “Added” specify the new requirement in subsection “Component Specific Requirements”. Ideally, the table should remain empty (100% reuse/carry over of the Logical Function requirements). That is, modifications of the requirement set in context of the FIS should be kept to a minimum.*

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Requirement ID**  (of Logical Function) | **Requirement Title** | **Modification** | **Requirement ID**  (of Technology Function) | **Comment** |
|  | PCL request E2E evaluation and fault handling | Added | TSR1.1.10 | Derived by Technical Safety Concept |

Table 5‑5: Component Specific Requirements

***#Hint:*** *Optionally, the table “Inherited Requirements” below defines which requirements of the corresponding Logical Function are reused without change by the ECU. This table is optional, because the set of unchanged requirements can be derived implicitly from the list of requirements of the Logical Function and those listed in the table “Component Specific Requirements”.*

|  |  |  |
| --- | --- | --- |
| **Requirement ID**  (of Logical Function) | **Requirement Title** | **Comment** |
| R\_FNC\_RSCL\_00010 | PCL Behavior in Crash |  |
| R\_FNC\_RSCL\_00011 | Interdependency with Double Lock |  |
| R\_FNC\_RSCL\_00012 | Inhibit PCL Activation/Deactivation in Double Lock |  |
| R\_FNC\_RSCL\_00013 | Exterior Door Handle in Vehicle Locked State |  |
| R\_FNC\_RSCL\_00014 | PCL Error Message Info to RSCL HMI Control |  |
| R\_FNC\_RSCL\_00015 | PCL State Mismatch |  |
| R\_FNC\_RSCL\_00018 | PCL Error Detection |  |
| R\_FNC\_RSCL\_00022 | PCL State Mismatch DTC |  |

Table 5‑6: Inherited Requirements

###### Component Specific Requirements

***#Hint:*** *If in table “Component Specific Requirements” requirements of the Logical Function are marked as modified/added place the modified/added requirements in this section.*

### APIM

#### Technology Function “RSCL HMI Control”

###### Inputs

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Logical Signal Name** | **Technical Signal Name** | **Mapping Details** *(Conditional)* | **Subscriber Interface** | **Connection**  (*Optional)* |
| Button\_pressed | n/a  Physical button press by user | For info only | | |
| RSCL\_HMI\_stat | internal signal |  |  |  |

Table 5‑7: Input Signal mappings of Function “RSCL HMI Control”

###### Outputs

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Logical Signal Name** | **Technical Signal Name** | **Mapping Details**  *(Conditional)* | **Publisher Interface** | **Connection**  *(Optional)* |
| Visual\_Feedback | n/a  visual picture of HMI to user | For info only | | |
| Global\_RSCL\_HMI\_rq | internal signal |  |  |  |
| PCL\_HMI\_rq | internal signal |  |  |  |
| WCL\_HMI\_rq | internal signal |  |  |  |
| RAL\_HMI\_rq | internal signal |  |  |  |
| RCL\_HMI\_rq | internal signal |  |  |  |
| URCL\_HMI\_rq | internal signal |  |  |  |

Table 5‑8: Output Signal mappings of Function “RSCL HMI Control”

###### Parameters

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Logical Parameter Name** | **Technical Parameter Name** | **Mapping Details** *(Conditional)* | **Method** | **Method Details** |
|  |  |  |  |  |

Table 5‑9: Parameter mappings of Function “RSCL HMI Control”

###### Interface Requirements

##### Function Requirements

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Requirement ID**  (of Logical Function) | **Requirement Title** | **Modification** | **Requirement ID**  (of Technology Function) | **Comment** |
|  |  |  |  |  |

Table 5‑10: Component Specific Requirements

|  |  |  |
| --- | --- | --- |
| **Requirement ID**  (of Logical Function) | **Requirement Title** | **Comment** |
| R\_FNC\_RSCL\_00004 | HMI individual settings screen |  |
| R\_FNC\_RSCL\_00006 | PCL activation/deactivation feedback |  |
| R\_FNC\_RSCL\_00008 | User Notification for manual PCL |  |
| R\_FNC\_RSCL\_00017 | PCL Error Indication |  |
| R\_FNC\_RSCL\_00003 | HMI global settings screen |  |
| R\_FNC\_RSCL\_00007 | RSCL Status Indicators |  |

Table 5‑11: Inherited Requirements

###### Component Specific Requirements

#### Technology Function “RSCL Voice Command Control”

##### Function Interfaces

###### Inputs

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Logical Signal Name** | **Technical Signal Name** | **Mapping Details** *(Conditional)* | **Subscriber Interface** | **Connection**  (*Optional)* |
| Voice\_Command | n/a  Audible command by user | For info only | | |
| RSCL\_Voice\_stat | internal signal |  |  |  |

Table 5‑12: Input Signal mappings of Function “RSCL Voice Command Control”

###### Outputs

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Logical Signal Name** | **Technical Signal Name** | **Mapping Details**  *(Conditional)* | **Publisher Interface** | **Connection**  *(Optional)* |
| Audible Acknowledgement | n/a  audible feedback of HMI to user | For info only | | |
| Global\_RSCL\_Voice\_rq | internal signal |  |  |  |
| PCL\_Voice\_rq | internal signal |  |  |  |
| WCL\_Voice\_rq | internal signal |  |  |  |
| RAL\_Voice\_rq | internal signal |  |  |  |
| RCL\_Voice\_rq | internal signal |  |  |  |
| URCL\_Voice\_rq | internal signal |  |  |  |

Table 5‑13: Output Signal mappings of Function “RSCL Voice Command Control”

###### Parameters

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Logical Parameter Name** | **Technical Parameter Name** | **Mapping Details** *(Conditional)* | **Method** | **Method Details** |
|  |  |  |  |  |

Table 5‑14: Parameter mappings of Function “RSCL Voice Command Control”

###### Interface Requirements

##### Function Requirements

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Requirement ID**  (of Logical Function) | **Requirement Title** | **Modification** | **Requirement ID**  (of Technology Function) | **Comment** |
|  |  |  |  |  |

Table 5‑15: Component Specific Requirements

|  |  |  |
| --- | --- | --- |
| **Requirement ID**  (of Logical Function) | **Requirement Title** | **Comment** |
| R\_FNC\_RSCL\_00005 | Voice Control Commands |  |

Table 5‑16: Inherited Requirements

###### Component Specific Requirements

#### Technology Function “RSCL Control”

##### Function Interfaces

###### Inputs

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Logical Signal Name** | **Technical Signal Name** | **Mapping Details** *(Conditional)* | **Subscriber Interface** | **Connection**  (*Optional)* |
| Global\_RSCL\_HMI\_rq | internal signal |  |  |  |
| PCL\_HMI\_rq | internal signal |  |  |  |
| WCL\_HMI\_rq | internal signal |  |  |  |
| RAL\_HMI\_rq | internal signal |  |  |  |
| RCL\_HMI\_rq | internal signal |  |  |  |
| URCL\_HMI\_rq | internal signal |  |  |  |
| Global\_RSCL\_Voice\_rq | internal signal |  |  |  |
| PCL\_Voice\_rq | internal signal |  |  |  |
| WCL\_Voice\_rq | internal signal |  |  |  |
| RAL\_Voice\_rq | internal signal |  |  |  |
| RCL\_Voice\_rq | internal signal |  |  |  |
| URCL\_Voice\_rq | internal signal |  |  |  |
| RSCL\_RAL\_stat | internal signal |  |  |  |
| RSCL\_URCL\_stat | internal signal |  |  |  |
| RSCL\_WCL\_stat | TSG\_CanPlh\_RSCL\_WCL\_stat | SMP\_CanPlh\_RSCL\_WCL\_stat |  | HS3-CAN |
| RSCL\_PCL\_Stat | TSG\_CanPlh\_RSCL\_PCL\_Stat | SMP\_CanPlh\_RSCL\_PCL\_Stat |  | HS3-CAN |
| RSCL\_RCL\_stat | [(GS-006435)-Rr\_Lock\_Btn\_Stt](https://www.vsemweb.ford.com/tc/launchapp?-attach=true&-s=226TCSession&-o=aSQh$NXyx3NrTDAAAAAAAAAAAAA&servername=Production_Server) | SMP\_Rr\_Lock\_Btn\_Stt |  | HS3-CAN |
| Ign\_stat | [(GS-001322)-Ignition\_Status](https://www.vsemweb.ford.com/tc/launchapp?-attach=true&-s=226TCSession&-o=FVOxO$qCx3NrTDAAAAAAAAAAAAA&servername=Production_Server) | SMP\_Ignition\_Status |  | HS3-CAN |

Table 5‑17: Input Signal mappings of Function “RSCL Control”

###### Outputs

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Logical Signal Name** | **Technical Signal Name** | **Mapping Details**  *(Conditional)* | **Publisher Interface** | **Connection**  *(Optional)* |
| RSCL\_HMI\_stat | internal signal |  |  |  |
| RSCL\_Voice\_stat | Internal signal |  |  |  |
| RSCL\_URCL\_rq | internal signal |  |  |  |
| RSCL\_RAL\_rq | internal signal |  |  |  |
| RSCL\_WCL\_rq | TSG\_CanPlh\_RSCL\_WCL\_rq | SMP\_CanPlh\_RSCL\_WCL\_rq |  | HS3-CAN |
| RSCL\_PCL\_Rq | TSG\_CanPlh\_RSCL\_PCL\_Rq | SMP\_CanPlh\_RSCL\_PCL\_Rq |  | HS3-CAN |
| TSG\_CanPlh\_RSCL\_PCL\_Rq\_EECRC |  |  |  |
| RSCL\_RCL\_rq | [(GS-002555)-RR\_Btn\_Status\_1ST](https://www.vsemweb.ford.com/tc/launchapp?-attach=true&-s=226TCSession&-o=TcUhj8kXx3NrTDAAAAAAAAAAAAA&servername=Production_Server) | SMP\_RR\_Btn\_Status\_1ST |  | HS3-CAN |

Table 5‑18: Output Signal mappings of Function “RSCL Control”

###### Parameters

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Logical Parameter Name** | **Technical Parameter Name** | **Mapping Details** *(Conditional)* | **Method** | **Method Details** |
| RSCL\_Content | TSG\_VscsPlh\_RSCL\_Content | SMP\_VscsPlh\_RSCL\_Content |  |  |
| RSCL\_Enable | TSG\_VscsPlh\_RSCL\_Enable | SMP\_VscsPlh\_RSCL\_Enable |  |  |

Table 5‑19: Parameter mappings of Function “RSCL Control”

###### Interface Requirements

##### Function Requirements

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Requirement ID**  (of Logical Function) | **Requirement Title** | **Modification** | **Requirement ID**  (of Technology Function) | **Comment** |
|  |  |  |  |  |

Table 5‑20: Component Specific Requirements

|  |  |  |
| --- | --- | --- |
| **Requirement ID**  (of Logical Function) | **Requirement Title** | **Comment** |
| R\_FNC\_RSCL\_00001 | RSCL disable |  |
| R\_FNC\_RSCL\_00002 | RSCL enable |  |
| R\_FNC\_RSCL\_00050 | Vehicle configuration |  |
| R\_FNC\_RSCL\_00039 | Reset |  |
| R\_FNC\_RSCL\_00049 | Engine restart |  |
| R\_FNC\_RSCL\_00019 | Vehicle Mode Dependency |  |
| R\_FNC\_RSCL\_00045 | Delayed accessory timer |  |
| R\_FNC\_RSCL\_00028 | RSCL Feature Status feedback |  |
| R\_FNC\_RSCL\_00046 | Global RSCL HMI rq activation |  |
| R\_FNC\_RSCL\_00047 | Global RSCL HMI rq deactivation |  |
| R\_FNC\_RSCL\_00040 | RSCL WCL rq activation / deactivation |  |
| R\_FNC\_RSCL\_00041 | RSCL PCL rq activation / deactivation |  |
| R\_FNC\_RSCL\_00043 | RSCL RAL rq activation / deactivation |  |
| R\_FNC\_RSCL\_00044 | RSCL RCL rq activation / deactivation |  |
| R\_FNC\_RSCL\_00042 | RSCL URCL rq HHD lock/unlock |  |
| R\_FNC\_RSCL\_00048 | PCL Error |  |

Table 5‑21: Inherited Requirements

###### Component Specific Requirements

#### Technology Function “URCL Control”

##### Function Interfaces

###### Inputs

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Logical Signal Name** | **Technical Signal Name** | **Mapping Details** *(Conditional)* | **Subscriber Interface** | **Connection**  (*Optional)* |
| RSCL\_URCL\_rq | internal signal |  |  |  |

Table 5‑22: Input Signal mappings of Function “URCL Control”

###### Outputs

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Logical Signal Name** | **Technical Signal Name** | **Mapping Details**  *(Conditional)* | **Publisher Interface** | **Connection**  *(Optional)* |
| RSCL\_URCL\_stat | internal signal |  |  |  |

Table 5‑23: Output Signal mappings of Function “URCL Control”

###### Parameters

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Logical Parameter Name** | **Technical Parameter Name** | **Mapping Details** *(Conditional)* | **Method** | **Method Details** |
|  |  |  |  |  |

Table 5‑24: Parameter mappings of Function “URCL Control”

###### Interface Requirements

##### Function Requirements

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Requirement ID**  (of Logical Function) | **Requirement Title** | **Modification** | **Requirement ID**  (of Technology Function) | **Comment** |
|  |  |  |  |  |

Table 5‑25: Component Specific Requirements

|  |  |  |
| --- | --- | --- |
| **Requirement ID**  (of Logical Function) | **Requirement Title** | **Comment** |
| R\_FNC\_RSCL\_00025 | Lock URC Functionalities |  |
| R\_FNC\_RSCL\_00051 | URC Rear Audio lock/unlock |  |
| R\_FNC\_RSCL\_00052 | URC Rear Climate lock/unlock |  |
| R\_FNC\_RSCL\_00026 | Provide URC feature feedback |  |

Table 5‑26: Inherited Requirements

###### Component Specific Requirements

#### Technology Function “RAL Control”

##### Function Interfaces

###### Inputs

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Logical Signal Name** | **Technical Signal Name** | **Mapping Details** *(Conditional)* | **Subscriber Interface** | **Connection**  (*Optional)* |
| RSCL\_RAL\_rq | internal signal |  |  |  |
| RSCL\_RADL\_stat | [(GS-005554)-RearAudioCTLLCK\_D\_stat](https://www.vsemweb.ford.com/tc/launchapp?-attach=true&-s=226TCSession&-o=rgddCksWx3NrTDAAAAAAAAAAAAA&servername=Production_Server) | SMP\_RearAudioCTLLCK\_D\_stat |  | HS3-CAN |

Table 5‑27: Input Signal mappings of Function “RAL Control”

###### Outputs

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Logical Signal Name** | **Technical Signal Name** | **Mapping Details**  *(Conditional)* | **Publisher Interface** | **Connection**  *(Optional)* |
| RSCL\_RADL\_rq | [(GS-005553)-RearAudioCTLLCK\_D\_rq](https://www.vsemweb.ford.com/tc/launchapp?-attach=true&-s=226TCSession&-o=SFfdCksWx3NrTDAAAAAAAAAAAAA&servername=Production_Server) | SMP\_RearAudioCTLLCK\_D\_rq |  | HS3-CAN |
| RSCL\_RAL\_stat | internal signal |  |  |  |

Table 5‑28: Output Signal mappings of Function “RAL Control”

###### Parameters

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Logical Parameter Name** | **Technical Parameter Name** | **Mapping Details** *(Conditional)* | **Method** | **Method Details** |
|  |  |  |  |  |

Table 5‑29: Parameter mappings of Function “RAL Control”

###### Interface Requirements

##### Function Requirements

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Requirement ID**  (of Logical Function) | **Requirement Title** | **Modification** | **Requirement ID**  (of Technology Function) | **Comment** |
|  |  |  |  |  |

Table 5‑30: Component Specific Requirements

|  |  |  |
| --- | --- | --- |
| **Requirement ID**  (of Logical Function) | **Requirement Title** | **Comment** |
|  | c/o requirements, Function not affected by RSCL |  |

Table 5‑31: Inherited Requirements

###### Component Specific Requirements

### DCU

#### Technology Function “WCL Control”

##### Function Interfaces

###### Inputs

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Logical Signal Name** | **Technical Signal Name** | **Mapping Details** *(Conditional)* | **Subscriber Interface** | **Connection**  (*Optional)* |
| RSCL\_WCL\_rq  (dedicated request) | TSG\_CanPlh\_RSCL\_WCL\_rq | SMP\_CanPlh\_RSCL\_WCL\_rq |  | FD3-CAN |
| E2E |  |  |

Table 5‑32: Input Signal mappings of “WCL Control”

###### Outputs

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Logical Signal Name** | **Technical Signal Name** | **Mapping Details**  *(Conditional)* | **Publisher Interface** | **Connection**  *(Optional)* |
| RSCL\_WCL\_stat | TSG\_CanPlh\_RSCL\_WCL\_stat | SMP\_CanPlh\_RSCL\_WCL\_stat |  | FD3-CAN |
| RSCL\_RWDL\_rq | [(GS-002708)-RearPassWindowLockCmd](https://www.vsemweb.ford.com/tc/launchapp?-attach=true&-s=226TCSession&-o=$YWBI5h5x3NrTDAAAAAAAAAAAAA&servername=Production_Server) | SMP\_RearPassWindowLockCmd |  | FD3-CAN |
| RSCL\_RWDL\_rq | internal signal |  |  |  |

Table 5‑33: Output Signal mappings of “WCL Control”

###### Parameters

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Logical Parameter Name** | **Technical Parameter Name** | **Mapping Details** *(Conditional)* | **Method** | **Method Details** |
| n/a |  |  |  |  |

Table 5‑34: Parameter mappings of “WCL Control”

###### Interface Requirements

##### Function Requirements

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Requirement ID**  (of Logical Function) | **Requirement Title** | **Modification** | **Requirement ID**  (of Technology Function) | **Comment** |
|  |  |  |  |  |

Table 5‑35: Component Specific Requirements of “WCL Control”

|  |  |  |
| --- | --- | --- |
| **Requirement ID**  (of Logical Function) | **Requirement Title** | **Comment** |
|  | c/o requirements function not affected by RSCL |  |
|  | Store WCL status | New requirment due to WCL being independent of PCL and not routed through BCM |
|  | Send Feedback to APIM/Phoenix | New requirment due to WCL being independent of PCL and not routed through BCM |

Table 5‑36: Inherited Requirements of “WCL Control”

###### Component Specific Requirements

#### Technology Function “Rear Window Device Control DCU”

##### Function Interfaces

###### Inputs

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Logical Signal Name** | **Technical Signal Name** | **Mapping Details** *(Conditional)* | **Subscriber Interface** | **Connection**  (*Optional)* |
| RSCL\_RWDL\_rq | Internal signal |  |  |  |

Table 5‑37: Input Signal mappings of “Rear Window Device Control DCU”

###### Outputs

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Logical Signal Name** | **Technical Signal Name** | **Mapping Details**  *(Conditional)* | **Publisher Interface** | **Connection**  *(Optional)* |
|  |  |  |  |  |

Table 5‑38: Output Signal mappings of “Rear Window Device Control DCU”

###### Parameters

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Logical Parameter Name** | **Technical Parameter Name** | **Mapping Details** *(Conditional)* | **Method** | **Method Details** |
|  |  |  |  |  |

Table 5‑39: Parameter mappings of “Rear Window Device Control DCU”

###### Interface Requirements

##### Function Requirements

|  |  |  |
| --- | --- | --- |
| **Requirement ID**  (of Logical Function) | **Requirement Title** | **Comment** |
|  | c/o requirements, Function not affected by RSCL |  |

Table 5‑40: Inherited Requirements of “Rear Window Device Control DCU”

###### Component Specific Requirements

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Requirement ID**  (of Logical Function) | **Requirement Title** | **Modification** | **Requirement ID**  (of Technology Function) | **Comment** |
|  |  |  |  |  |

Table 5‑41: Component Specific Requirements of “Rear Window Device Control DCU”

###### Component Specific Requirements

### DCUP

#### Technology Function “Rear Window Device Control DCUP”

##### Function Interfaces

###### Inputs

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Logical Signal Name** | **Technical Signal Name** | **Mapping Details** *(Conditional)* | **Subscriber Interface** | **Connection**  (*Optional)* |
| RSCL\_RWDL\_rq | [RearPassWindowLockCmd](https://www.vsemweb.ford.com/tc/launchapp?-attach=true&-s=226TCSession&-o=$YWBI5h5x3NrTDAAAAAAAAAAAAA&servername=Production_Server) | SMP\_RearPassWindowLockCmd |  | FD3-CAN |

Table 5‑42: Input Signal mappings of “Rear Window Device Control DCUP”

###### Outputs

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Logical Signal Name** | **Technical Signal Name** | **Mapping Details**  *(Conditional)* | **Publisher Interface** | **Connection**  *(Optional)* |
|  |  |  |  |  |

Table 5‑43: Output Signal mappings of “Rear Window Device Control DCUP”

###### Parameters

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Logical Parameter Name** | **Technical Parameter Name** | **Mapping Details** *(Conditional)* | **Method** | **Method Details** |
|  |  |  |  |  |

Table 5‑44: Parameter mappings of “Rear Window Device Control DCUP”

###### Interface Requirements

##### Function Requirements

|  |  |  |
| --- | --- | --- |
| **Requirement ID**  (of Logical Function) | **Requirement Title** | **Comment** |
|  | c/o requirements, Function not affected by RSCL |  |

Table 5‑45: Inherited Requirements of “Rear Window Device Control DCUP”

###### Component Specific Requirements

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Requirement ID**  (of Logical Function) | **Requirement Title** | **Modification** | **Requirement ID**  (of Technology Function) | **Comment** |
|  |  |  |  |  |

Table 5‑46: Component Specific Requirements of “Rear Window Device Control DCUP”

###### Component Specific Requirements

### HVAC

#### Technology Function “RCL Control”

##### Function Interfaces

###### Inputs

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Logical Signal Name** | **Technical Signal Name** | **Mapping Details** *(Conditional)* | **Subscriber Interface** | **Connection**  (*Optional)* |
| RSCL\_RCL\_rq | [(GS-002555)-RR\_Btn\_Status\_1ST](https://www.vsemweb.ford.com/tc/launchapp?-attach=true&-s=226TCSession&-o=TcUhj8kXx3NrTDAAAAAAAAAAAAA&servername=Production_Server) | SMP\_RR\_Btn\_Status\_1ST |  | MS1-CAN |

Table 5‑47: Input Signal mappings of “RCL Control”

###### Outputs

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Logical Signal Name** | **Technical Signal Name** | **Mapping Details**  *(Conditional)* | **Publisher Interface** | **Connection**  *(Optional)* |
| RSCL\_RCDL\_rq | [(GS-002565)-Rr\_On\_Indicator](https://www.vsemweb.ford.com/tc/launchapp?-attach=true&-s=226TCSession&-o=BCBxu2a_x3NrTDAAAAAAAAAAAAA&servername=Production_Server) | SMP\_Rr\_On\_Indicator |  | MS1-CAN |
| RSCL\_RCL\_stat | [(GS-006435)-Rr\_Lock\_Btn\_Stt](https://www.vsemweb.ford.com/tc/launchapp?-attach=true&-s=226TCSession&-o=aSQh$NXyx3NrTDAAAAAAAAAAAAA&servername=Production_Server) | SMP\_Rr\_Lock\_Btn\_Stt |  | MS1-CAN |

Table 5‑48: Output Signal mappings of “RCL Control”

###### Parameters

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Logical Parameter Name** | **Technical Parameter Name** | **Mapping Details** *(Conditional)* | **Method** | **Method Details** |
|  |  |  |  |  |

Table 5‑49: Parameter mappings of “RCL Control”

###### Interface Requirements

##### Function Requirements

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Requirement ID**  (of Logical Function) | **Requirement Title** | **Modification** | **Requirement ID**  (of Technology Function) | **Comment** |
|  |  |  |  |  |

Table 5‑50: Component Specific Requirements of “RCL Control”

|  |  |  |
| --- | --- | --- |
| **Requirement ID**  (of Logical Function) | **Requirement Title** | **Comment** |
|  | c/o requirements, Function not affected by RSCL |  |

Table 5‑51: Inherited Requirements of “RCL Control”

###### Component Specific Requirements

### DCMG

#### Technology Function “Rear Inner Handle Control DCMG”

##### Function Interfaces

###### Inputs

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Logical Signal Name** | **Technical Signal Name** | **Mapping Details** *(Conditional)* | **Subscriber Interface** | **Connection**  (*Optional)* |
| RSCL\_HandleCL\_Rq | TSG\_CanPlh\_RSCL\_HandleCL\_Rq | SMP\_CanPlh\_RSCL\_HandleCL\_Rq |  |  |

Table 5‑52: Input Signal mappings of “Rear Inner Handle Control”

###### Outputs

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Logical Signal Name** | **Technical Signal Name** | **Mapping Details**  *(Conditional)* | **Publisher Interface** | **Connection**  *(Optional)* |
| RSCL\_HandleLCL\_stat | [(GS-004860)-ChildLckFdbckRl\_B\_Stat](https://www.vsemweb.ford.com/tc/launchapp?-attach=true&-s=226TCSession&-o=$1aNknHix3NrTDAAAAAAAAAAAAA&servername=Production_Server) | SMP\_ChildLckFdbckRl\_B\_Stat | SIF\_ChildLckFdbckRl\_B\_Stat | FD1-CAN |
| TSG\_ChildLckFdbckRl\_B\_Stat\_EECRC | n/a | R\_CMP\_RSCL\_00010 |
| RSCL\_HandleLCL\_Crc | DrRearLeft\_No\_Crc |  |  | FD1-CAN |
| RSCL\_HandleLCL\_Cnt | DrRearLeft\_No\_Cnt |  |  | FD1-CAN |

Table 5‑53: Output Signal mappings of “Rear Inner Handle Control”

###### Parameters

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Logical Parameter Name** | **Technical Parameter Name** | **Mapping Details** *(Conditional)* | **Method** | **Method Details** |
|  |  |  |  |  |

Table 5‑54: Parameter mappings of “Rear Inner Handle Control”

###### Interface Requirements

###R\_CMP\_RSCL\_00009### E2E Protection of Signal TSG\_ChildLckFdbckRl\_B\_Stat

The DCMx shall calculate a CRC checksum for E2E protection according to AUTOSAR profile 1A for the signal TSG\_ChildLckFdbckRl\_B\_Stat and send the checksum together with that signal.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Requirement ID: ###R\_CMP\_RSCL\_00009### | | | | | | | |
| **Rationale** |  | | | | | | | |
| **Acceptance Criteria** |  | | | | | | | |
| **Notes** | Reference: AUTOSAR profile 1A spec | | | | | | | |
| **Source** | ASIL rating of Logical Signal RSCL\_HandleCL\_stat | | | | | **Owner** |  | |
| **Source Req.** |  | | | | | **V&V Method** |  | |
| **Type** | Choose an item. | | | **Priority** | Choose an item. | **Status** | Choose an item. | |
| [Req. Template](http://wiki.ford.com/display/RequirementsEngineering/Requirements+Attributes) Version | | 6.1a | End of Requirement | | | | |

##### Function Requirements

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Requirement ID**  (of Logical Function) | **Requirement Title** | **Modification** | **Requirement ID**  (of Technology Function) | **Comment** |
|  |  |  |  |  |

Table 5‑55: Component Specific Requirements of “Rear Inner Handle Control”

|  |  |  |
| --- | --- | --- |
| **Requirement ID**  (of Logical Function) | **Requirement Title** | **Comment** |
| R\_FNC\_RSCL\_00023 | Provide actual handle PCL status |  |
| R\_FNC\_RSCL\_00024 | Enable/disable rear inner door handles |  |
| … |  |  |

Table 5‑56: Inherited Requirements of “Rear Inner Handle Control”

###### Component Specific Requirements

### DCMH

#### Technology Function “Rear Inner Handle Control DCMH”

##### Function Interfaces

###### Inputs

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Logical Signal Name** | **Technical Signal Name** | **Mapping Details** *(Conditional)* | **Subscriber Interface** | **Connection**  (*Optional)* |
| RSCL\_HandleCL\_Rq | TSG\_CanPlh\_RSCL\_HandleCL\_Rq | SMP\_CanPlh\_RSCL\_HandleCL\_Rq |  |  |

Table 5‑57: Input Signal mappings of “Rear Inner Handle Control”

###### Outputs

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Logical Signal Name** | **Technical Signal Name** | **Mapping Details**  *(Conditional)* | **Publisher Interface** | **Connection**  *(Optional)* |
| **RSCL\_HandleRCL\_st**at | [(GS-004858)-ChildLckFdbckRr\_B\_Stat](https://www.vsemweb.ford.com/tc/launchapp?-attach=true&-s=226TCSession&-o=B9SNknHix3NrTDAAAAAAAAAAAAA&servername=Production_Server), | SMP\_ChildLckFdbckRr\_B\_Stat | SIF\_ChildLckFdbckRr\_B\_Stat | FD1-CAN |
| TSG\_ChildLckFdbckRr\_B\_Stat\_EECRC | n/a | R\_CMP\_RSCL\_00010 |
| RSCL\_HandleRCL\_Crc | DrRearRight\_No\_Crc |  |  | FD1-CAN |
| RSCL\_HandleRCL\_Cnt | DrRearRight\_No\_Cnt |  |  | FD1-CAN |

Table 5‑58: Output Signal mappings of “Rear Inner Handle Control”

###### Parameters

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Logical Parameter Name** | **Technical Parameter Name** | **Mapping Details** *(Conditional)* | **Method** | **Method Details** |
|  |  |  |  |  |

Table 5‑59: Parameter mappings of “Rear Inner Handle Control”

###### Interface Requirements

###R\_CMP\_RSCL\_00010### E2E Protection of Signal TSG\_ChildLckFdbckRr\_B\_Stat

The DCMx shall calculate a CRC checksum for E2E protection protection according to AUTOSAR profile 1A for the signal TSG\_ChildLckFdbckRr\_B\_Stat and send the checksum together with that signal.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Requirement ID: ###R\_CMP\_RSCL\_00010### | | | | | | | |
| **Rationale** | It has been decided on platform level, that all E2E protection needs to comply to AUTOSAR profile 1a | | | | | | | |
| **Acceptance Criteria** |  | | | | | | | |
| **Notes** | Reference: AUTOSAR profile 1A spec | | | | | | | |
| **Source** |  | | | | | **Owner** |  | |
| **Source Req.** | TSR … | | | | | **V&V Method** |  | |
| **Type** | Choose an item. | | | **Priority** | Choose an item. | **Status** | Choose an item. | |
| [Req. Template](http://wiki.ford.com/display/RequirementsEngineering/Requirements+Attributes) Version | | 6.1a | End of Requirement | | | | |

##### Function Requirements

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Requirement ID**  (of Logical Function) | **Requirement Title** | **Modification** | **Requirement ID**  (of Technology Function) | **Comment** |
|  |  |  |  |  |

Table 5‑60: Component Specific Requirements of “Rear Inner Handle Control”

|  |  |  |
| --- | --- | --- |
| **Requirement ID**  (of Logical Function) | **Requirement Title** | **Comment** |
| R\_FNC\_RSCL\_00023 | Provide actual handle PCL status |  |
| R\_FNC\_RSCL\_00024 | Enable/disable rear inner door handles |  |
| … |  |  |

Table 5‑61: Inherited Requirements of “Rear Inner Handle Control”

###### Component Specific Requirements

### RACM

#### Technology Function “Rear Audio Device Control”

##### Function Interfaces

###### Inputs

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Logical Signal Name** | **Technical Signal Name** | **Mapping Details** *(Conditional)* | **Subscriber Interface** | **Connection**  (*Optional)* |
| RSCL\_RADL\_rq | [(GS-005553)-RearAudioCTLLCK\_D\_rq](https://www.vsemweb.ford.com/tc/launchapp?-attach=true&-s=226TCSession&-o=SFfdCksWx3NrTDAAAAAAAAAAAAA&servername=Production_Server) | SMP\_RearAudioCTLLCK\_D\_rq |  |  |

Table 5‑62: Input Signal mappings of “Rear Audio Device Control”

###### Outputs

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Logical Signal Name** | **Technical Signal Name** | **Mapping Details**  *(Conditional)* | **Publisher Interface** | **Connection**  *(Optional)* |
| RSCL\_RADL\_stat | [(GS-005554)-RearAudioCTLLCK\_D\_stat](https://www.vsemweb.ford.com/tc/launchapp?-attach=true&-s=226TCSession&-o=rgddCksWx3NrTDAAAAAAAAAAAAA&servername=Production_Server) | SMP\_RearAudioCTLLCK\_D\_stat |  |  |

Table 5‑63: Output Signal mappings of “Rear Audio Device Control”

###### Parameters

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Logical Parameter Name** | **Technical Parameter Name** | **Mapping Details** *(Conditional)* | **Method** | **Method Details** |
|  |  |  |  |  |

Table 5‑64: Parameter mappings of “Rear Audio Device Control”

###### Interface Requirements

##### Function Requirements

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Requirement ID**  (of Logical Function) | **Requirement Title** | **Modification** | **Requirement ID**  (of Technology Function) | **Comment** |
|  |  |  |  |  |

Table 5‑65: Component Specific Requirements of “Rear Audio Device Control”

|  |  |  |
| --- | --- | --- |
| **Requirement ID**  (of Logical Function) | **Requirement Title** | **Comment** |
|  | c/o requirements, Function not affected by RSCL |  |

Table 5‑66: Inherited Requirements of “Rear Audio Device Control”

###### Component Specific Requirements

#### Technology Function “Rear Climate Device Control”

##### Function Interfaces

###### Inputs

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Logical Signal Name** | **Technical Signal Name** | **Mapping Details** *(Conditional)* | **Subscriber Interface** | **Connection**  (*Optional)* |
| RSCL\_RCDL\_rq | [(GS-002565)-Rr\_On\_Indicator](https://www.vsemweb.ford.com/tc/launchapp?-attach=true&-s=226TCSession&-o=BCBxu2a_x3NrTDAAAAAAAAAAAAA&servername=Production_Server) | SMP\_Rr\_On\_Indicator |  |  |

Table 5‑67: Input Signal mappings of Function “Rear Climate Device Control”

###### Outputs

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Logical Signal Name** | **Technical Signal Name** | **Mapping Details**  *(Conditional)* | **Publisher Interface** | **Connection**  *(Optional)* |
|  |  |  |  |  |

Table 5‑68: Output Signal mappings of Function “Rear Climate Device Control”

###### Parameters

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Logical Parameter Name** | **Technical Parameter Name** | **Mapping Details** *(Conditional)* | **Method** | **Method Details** |
|  |  |  |  |  |

Table 5‑69: Parameter mappings of Function “Rear Climate Device Control”

###### Interface Requirements

##### Function Requirements

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Requirement ID**  (of Logical Function) | **Requirement Title** | **Modification** | **Requirement ID**  (of Technology Function) | **Comment** |
|  |  |  |  |  |

Table 5‑70: Component Specific Requirements

|  |  |  |
| --- | --- | --- |
| **Requirement ID**  (of Logical Function) | **Requirement Title** | **Comment** |
|  | c/o requirements, Function not affected by RSCL |  |

Table 5‑71: Inherited Requirements

###### Component Specific Requirements

### ECG

#### Technology Function “Central Gateway”

##### Function Interfaces

###### Inputs

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Logical Signal Name** | **Technical Signal Name** | **Mapping Details** *(Conditional)* | **Subscriber Interface** | **Connection**  (*Optional)* |
|  |  |  |  |  |
|  |  |  |  |  |

Table 5‑72: Input Signal mappings of Function “Rear Audio Device Control”

###### Outputs

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Logical Signal Name** | **Technical Signal Name** | **Mapping Details**  *(Conditional)* | **Publisher Interface** | **Connection**  *(Optional)* |
|  |  |  |  |  |

Table 5‑73: Output Signal mappings of “Central Gateway”

###### Parameters

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Logical Parameter Name** | **Technical Parameter Name** | **Mapping Details** *(Conditional)* | **Method** | **Method Details** |
|  |  |  |  |  |

Table 5‑74: Parameter mappings of “Central Gateway l”

###### Interface Requirements

##### Function Requirements

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Requirement ID**  (of Logical Function) | **Requirement Title** | **Modification** | **Requirement ID**  (of Technology Function) | **Comment** |
|  |  |  |  |  |

Table 5‑75: Component Specific Requirements of “Central Gateway”

|  |  |  |
| --- | --- | --- |
| **Requirement ID**  (of Logical Function) | **Requirement Title** | **Comment** |
|  |  |  |

Table 5‑76: Inherited Requirements of “Central Gateway”

###### Component Specific Requirements

## Requirements on Connections

No special requirements to any Network Connection caused by RSCL

### Networks

#### FD1-CAN

#### FD3-CAN

#### MS1-CAN

#### HS3-CAN

***#Hint:*** *For CAN most requirements are defined by Netcom and referenced in* [*VSEM “Multiplexing Specifications” section*](https://www.vsemweb.ford.com/tc/launchapp?-attach=true&-s=226TCSession&-o=xcbJ6OwAx3NrTDAAAAAAAAAAAAA&servername=Production_Server)*. Put in this section only those requirements, which deviate from that standard specification.*

*The CAN messages relevant for this feature are listed in the section “Messages” of the “Data Dictionary”.*

##### Protocol Requirements

**#Hint:** *For CAN Ford currently mandates FNOS as SW implementation for the CAN protocol stack. This includes the CAN Network Management and Transport Protocol. If you deviate from this assumption or if you have specific requirements on FNOS, which are not contained in the standard package, put requirements in this section. F*or details the FNOS user guide and application notes could be referenced.

##### Electrical Requirements

**#Hint:** List requirements here, only if they deviate from the SDS CAN.

#### “LIN Bus xxx”

**#Hint:** Place requirements here, which are common to all LIN nodes, but not covered by some SDS LIN.

*The LIN messages relevant for this feature are listed in the section “Messages” of the “Data Dictionary”.*

##### Protocol Requirements

###### Schedule Table

***#Hint:*** *The LIN Schedule Table should be documented in the LDF file. The LDF file could be referenced here*

##### Electrical Requirements

***#Hint:*** *The LIN Schedule Table should be documented in the LDF file. The LDF file could be referenced here*

#### “Ethernet xxx”

***#Hint:*** *On Ethernet (wired or wireless) we will see most likely the DoIP, MQTT or V2x protocols. Those protocols are described in separate specifications and are implemented in the Ford AUTOSAR stack. While DoIP might be not that relevant in this scope, MQTT (together with the Google Protocol Buffer (GPB) serialization of the payload) will become important for all features, which are mapped to a Service Oriented Architecture/Communcation (SoC). Application data (SOA APIs), which is transmitted via MQTT, are listed in the data dictionary section “AUTOSAR Interfaces*

#Hint: Those AUTOSAR Classic (Sender/Receiver and Client/Server) Interfaces, which are used by the feature but not managed in a central repository yet, should be listed here.

SOA Service *”.*

***#Link:***[*http://www.mqtt.org*](http://www.mqtt.org)*, https://developers.google.com/protocol-buffers/docs/proto*

### HW I/Os

**#Hin**t: This section lists all hardwired signals relevant for the feature deployment. Those get typically mapped to VSEM EDAS signals – refer to list of connections in corresponding table in chapter ”E/E Architecture → E/E Connections”. If any specific protocol is used to send/receive signal information or multiplex/demultiplex signals on the HW circuit.

#### “HW I/O xxx”

## Requirements on Development Process

# Open Concerns

***#Hint:*** *The following list presents known issues that have to be discussed or clarified over the course of the on-going requirements engineering.*

| ID | Concern Description | e-Tracker Reference | Status | Solution |
| --- | --- | --- | --- | --- |
| 1 | WCL CDX746:  No “DCU controlled one touch up” on rear doors.  Need solution to disable rear window switch by signals. | Discussion just started 18.9.2020 | Analysis ongoing | Open |
| 2 | Storage of WCL status and feedback to APIM/Phoenix | Jira DCS-785 | Awaiting feedback |  |
| 3 | Use case for PCL status changes with vehicle switched off and driver door open | Impact discussions ongoing |  |  |
| 4 | CDX 747 only: APIM / Phoenix to handle ASIL A rated feature | Discussions ongoing | Awaiting feedback |  |
| 5 | CDX747 only: need of cyber secure e-latches | Discussions ongoing |  |  |

Table 6‑1: Open Concerns

Next steps:

Follow up with stake holders on signals

Update signal mapping detail columns

# Revision History

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Revision | Date | Description | Approved by | Responsible |
| A | 09/23/2020 | Initial version for PSC Milestone |  | mhirschm |
|  |  | Populate technical signal names (APIM relevant) |  |  |

## Template Revisions

*#Important: Do not change this section*

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 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

**#Hint:** Logical Signals are managed in VSEM in the [*RE Data Dictionary*](https://www.vsemweb.ford.com/tc/launchapp?-attach=true&-s=226TCSession&-o=SoYl_k7px3NrTD&servername=Production_Server).

**#Link**: [*RE Wiki – Adding a Logical Signal or Parameter*](http://wiki.ford.com/display/RequirementsEngineering/Adding+a+Logical+Signal+or+Parameter)

**#Macro**: Add Ins -> Add Requirement macro (select “Logical Signal” as type)

* + - 1. Request Signals

**###LSG\_RSCL\_00004###** **Global\_RSCL\_HMI\_rq**

Signal between RSCL HMI Control and RSCL Control describing the user request for feature status.

|  |  |  |
| --- | --- | --- |
| **ASIL** | | Choose an item. |
| **Encoding Type Name** | | n/a |
| **Value**  (Discrete  Encoding) | Lock all | Lock all RSCL functions   * WCL * PCL * RAL * RCL * URCL |
| Unlock all | Unlock all RSCL functions   * WCL * PCL * RAL * RCL * URCL |
| **Unit** | | n/a |

**###LSG\_RSCL\_00005###** **PCL\_HMI\_rq**

Signal between RSCL HMI Control and RSCL Control describing the user request for PCL status

|  |  |  |
| --- | --- | --- |
| **ASIL** | | A |
| **Encoding Type Name** | | n/a |
| **Value**  (Discrete  Encoding) | Lock | Request to enable PCL. Disable rear inner door handles. |
| Unlock | Request to disable PCL. Enable rear inner door handles. |
| **Unit** | | n/a |

**###LSG\_RSCL\_00030###** **WCL\_HMI\_rq**

Signal between RSCL HMI Control and RSCL Control describing the user request for WCL status

|  |  |  |
| --- | --- | --- |
| **ASIL** | | QM |
| **Encoding Type Name** | | n/a |
| **Value**  (Discrete  Encoding) | Lock | Request to disable rear window switches |
| Unlock | Request to enable rear window switches |
| **Unit** | | n/a |

**###LSG\_RSCL\_00031###** **RAL\_HMI\_rq**

Signal between RSCL HMI Control and RSCL Control describing the user request for RAL status

|  |  |  |
| --- | --- | --- |
| **ASIL** | | QM |
| **Encoding Type Name** | | n/a |
| **Value**  (Discrete  Encoding) | Lock | Request to disable rear audio devices |
| Unlock | Request to enable rear audio devices |
| **Unit** | | n/a |

**###LSG\_RSCL\_00032###** **RCL\_HMI\_rq**

Signal between RSCL HMI Control and RSCL Control describing the user request for RCL status

|  |  |  |
| --- | --- | --- |
| **ASIL** | | QM |
| **Encoding Type Name** | | n/a |
| **Value**  (Discrete  Encoding) | Lock | Request to disable rear climate devices |
| Unlock | Request to enable rear climate devices |
| **Unit** | | n/a |

**###LSG\_RSCL\_00033###** **URCL\_HMI\_rq**

Signal between RSCL HMI Control and RSCL Control describing the user request for URCL status

|  |  |  |
| --- | --- | --- |
| **ASIL** | | QM |
| **Encoding Type Name** | | n/a |
| **Value**  (Discrete  Encoding) | Lock | Request to disable all URC HHD |
| Unlock | Request to enable all URC HHD |
| **Unit** | | n/a |

**###LSG\_RSCL\_00037###** **Global\_RSCL\_Voice\_rq**

Signal between Voice Command Control and RSCL Control describing the user request for feature status.

|  |  |  |
| --- | --- | --- |
| **ASIL** | | Choose an item. |
| **Encoding Type Name** | | n/a |
| **Value**  (Discrete  Encoding) | Lock all | Lock all RSCL functions   * WCL * PCL * RAL * RCL * URCL |
| Unlock all | Unlock all RSCL functions   * WCL * PCL * RAL * RCL * URCL |
| **Unit** | | n/a |

**###LSG\_RSCL\_00038###** **PCL\_Voice\_rq**

Signal between Voice Command Control and RSCL Control describing the user request for PCL status

|  |  |  |
| --- | --- | --- |
| **ASIL** | | A |
| **Encoding Type Name** | | n/a |
| **Value**  (Discrete  Encoding) | Lock | Request to enable PCL. Disable rear inner door handles. |
| Unlock | Request to disable PCL. Enable rear inner door handles. |
| **Unit** | | n/a |

**###LSG\_RSCL\_00039###** **WCL\_Voice\_rq**

Signal between Voice Command Control and RSCL Control describing the user request for WCL status

|  |  |  |
| --- | --- | --- |
| **ASIL** | | QM |
| **Encoding Type Name** | | n/a |
| **Value**  (Discrete  Encoding) | Lock | Request to disable rear window switches |
| Unlock | Request to enable rear window switches |
| **Unit** | | n/a |

**###LSG\_RSCL\_00040###** **RAL\_Voice\_rq**

Signal between Voice Command Control and RSCL Control describing the user request for RAL status

|  |  |  |
| --- | --- | --- |
| **ASIL** | | QM |
| **Encoding Type Name** | | n/a |
| **Value**  (Discrete  Encoding) | Lock | Request to disable rear audio devices |
| Unlock | Request to enable rear audio devices |
| **Unit** | | n/a |

**###LSG\_RSCL\_00041###** **RCL\_Voice\_rq**

Signal between Voice Command Control and RSCL Control describing the user request for RCL status

|  |  |  |
| --- | --- | --- |
| **ASIL** | | QM |
| **Encoding Type Name** | | n/a |
| **Value**  (Discrete  Encoding) | Lock | Request to disable rear climate devices |
| Unlock | Request to enable rear climate devices |
| **Unit** | | n/a |

**###LSG\_RSCL\_00042###** **URCL\_Voice\_rq**

Signal between Voice Command Control and RSCL Control describing the user request for URCL status

|  |  |  |
| --- | --- | --- |
| **ASIL** | | QM |
| **Encoding Type Name** | | n/a |
| **Value**  (Discrete  Encoding) | Lock | Request to disable all URC HHD |
| Unlock | Request to enable all URC HHD |
| **Unit** | | n/a |

**###LSG\_RSCL\_00007###** **RSCL\_PCL\_Rq**

Signal generated by RSCL Control based on user request.

|  |  |  |
| --- | --- | --- |
| **ASIL** | | A |
| **Encoding Type Name** | | n/a |
| **Value**  (Discrete  Encoding) | No action |  |
| activate | PCL activate requested |
| deactivate | PCL deactivate requested |
| **Unit** | | n/a |

**###LSG\_RSCL\_00015###** **RSCL\_WCL\_rq**

Signal sent from RSCL Control requesting to enable/disable WCL on rear door window switches

|  |  |  |
| --- | --- | --- |
| **ASIL** | | QM |
| **Encoding Type Name** | | n/a |
| **Value**  (Discrete  Encoding) | lock | Request to disable rear window switches |
| unlock | Request to enable rear window switches |
| **Unit** | | n/a |

**###LSG\_RSCL\_00019###** **RSCL\_RAL\_rq**

Signal received from RSCL Control requesting to lock/unlock rear audio devices

|  |  |  |
| --- | --- | --- |
| **ASIL** | | Choose an item. |
| **Encoding Type Name** | | n/a |
| **Value**  (Discrete  Encoding) | Lock | Request to disable rear audio devices |
| Unlock | Request to enable rear audio devices |
| **Unit** | | n/a |

**###LSG\_RSCL\_00023###** **RSCL\_RCL\_rq**

Signal generated by RSCL Control requesting to disable/enable rear climate user interfaces

|  |  |  |
| --- | --- | --- |
| **ASIL** | | QM |
| **Encoding Type Name** | | n/a |
| **Value**  (Discrete  Encoding) | Lock | Request to disable rear climate devices |
| Unlock | Requet to enable rear climate devices |
| **Unit** | | n/a |

**###LSG\_RSCL\_00013###** **RSCL\_URCL\_rq**

Signal generated by RSCL Control to request locking/unlocking of URC functionalities individually or globally

|  |  |  |
| --- | --- | --- |
| **ASIL** | | QM |
| **Encoding Type Name** | | n/a |
| **Value**  (Discrete  Encoding) | Lock all | Lock all URC HHD |
| Unlock all | Unlock all URC HHD |
| Lock Audio | Lock Audio |
| Lock Climate | Lock Climate |
| Unlock Audio | Unlock Audio |
| Unlock Climate | Unlock Climate |
| **Unit** | | n/a |

**###LSG\_RSCL\_00001###** **RSCL\_HandleCL\_Rq**

Signal requesting to enable/disable rear inner door handles based on user request.

|  |  |  |
| --- | --- | --- |
| **ASIL** | | A |
| **Encoding Type Name** | | n/a |
| **Value**  (Discrete  Encoding) | deactivate | Unlock request for rear inner door handles |
| activate | Lock request for rear inner door handles |
| **Unit** | | n/a |

**###LSG\_RSCL\_00017###** **RSCL\_RWDL\_rq**

Signal generated by WCL Control based on RSCL WCL rq to enable/disable rear window switches.

|  |  |  |
| --- | --- | --- |
| **ASIL** | | QM |
| **Encoding Type Name** | | n/a |
| **Value**  (Discrete  Encoding) | Lock | Disable rear window switches |
| Unlock | Enable rear window switches |
| **Unit** | | n/a |

**###LSG\_RSCL\_00021###** **RSCL\_RADL\_rq**

Signal generated by RAL Control based on RSCL RAL rq requesting to lock/unlock rear audio devices.

|  |  |  |
| --- | --- | --- |
| **ASIL** | | QM |
| **Encoding Type Name** | | n/a |
| **Value**  (Discrete  Encoding) | Null | Null |
| Lock | Lock Rear Audio Devices |
| Unlock | Unlock Rear Audio Devices |
| **Unit** | | n/a |

**###LSG\_RSCL\_00025###** **RSCL\_RCDL\_rq**

Signal generated by RCL Control requesting activation/deactivation of rear climate control interfaces to user

|  |  |  |
| --- | --- | --- |
| **ASIL** | | Choose an item. |
| **Encoding Type Name** | | n/a |
| **Value**  (Discrete  Encoding) | Lock | Disable rear climate devices |
| Unlock | Enable rear climate devices |
| **Unit** | | n/a |

**###LSG\_RSCL\_00010###** **Button\_pressed**

Physical user input requesting feature status by pressing softbutton on HMI

|  |  |  |
| --- | --- | --- |
| **ASIL** | | Choose an item. |
| **Encoding Type Name** | | n/a |
| **Value**  (Discrete  Encoding) | Global Lock | Lock all RSCL functions   * WCL * PCL * RAL * RCL * URCL |
| Global Unlock | Unlock all RSCL functions   * WCL * PCL * RAL * RCL * URCL |
| PCL Lock | Request to enable PCL. Disable rear inner door handles. |
| PCL Unlock | Request to disable PCL. Enable rear inner door handles. |
| WCL Lock | Request to disable rear window switches |
| WCL Unlock | Request to enable rear window switches |
| RAL Lock | Request to disable rear audio devices |
| RAL Unlock | Request to enable rear audio devices |
| RCL Lock | Request to disable rear climate devices |
| RCL Unlock | Requet to enable rear climate devices |
| URCL Lock | Lock all URC HHD |
| URCL Unlock | Unlock all URC HHD |
| **Unit** | | n/a |

**###LSG\_RSCL\_00011###** **Voice\_Command**

Acoustical user input requesting feature status by speaking out voice command

|  |  |  |
| --- | --- | --- |
| **ASIL** | | Choose an item. |
| **Encoding Type Name** | | n/a |
| **Value**  (Discrete  Encoding) | Global Lock | Lock all RSCL functions   * WCL * PCL * RAL * RCL * URCL |
| Global Unlock | Unlock all RSCL functions   * WCL * PCL * RAL * RCL * URCL |
| PCL Lock | Request to enable PCL. Disable rear inner door handles. |
| PCL Unlock | Request to disable PCL. Enable rear inner door handles. |
| WCL Lock | Request to disable rear window switches |
| WCL Unlock | Request to enable rear window switches |
| RAL Lock | Request to disable rear audio devices |
| RAL Unlock | Request to enable rear audio devices |
| RCL Lock | Request to disable rear climate devices |
| RCL Unlock | Requet to enable rear climate devices |
| URCL Lock | Lock all URC HHD |
| URCL Unlock | Unlock all URC HHD |
| **Unit** | | n/a |

#### Status Signals

###LSG\_RSCL\_00028### Ign\_stat

Signal describing the ignition status of the vehicle

|  |  |  |
| --- | --- | --- |
| **ASIL** | | QM |
| **Encoding Type Name** | | n/a |
| **Value**  (Discrete  Encoding) | Off |  |
| Acc |  |
| Run |  |
| Start |  |
| **Unit** | | n/a |

###LSG\_RSCL\_00029### Vehicle\_Lock\_stat

Signal describing the outer handle lock status and double lock status

|  |  |  |
| --- | --- | --- |
| **ASIL** | | QM |
| **Encoding Type Name** | | n/a |
| **Value**  (Discrete  Encoding) | Unlock all | All doors unlocked |
| Unlock driver | Driver door unlocked |
| Lock all | All doors locked |
| Lock double | All doors double locked |
| **Unit** | | n/a |

###LSG\_RSCL\_00006### RSCL\_HMI\_stat

Signal between RSCL HMI Control and RSCL control describing the feature status incl. error detection.

|  |  |  |
| --- | --- | --- |
| **ASIL** | | A |
| **Encoding Type Name** | | n/a |
| **Value**  (Discrete  Encoding) | All different conditions | TBD |
|  | … |
| Error | … |
| Error PCL | No feedback signal from PCL system |
| Error WCL | No feedback signal from WCL system |
| Error RAL | No feedback signal from RAL system |
| Error RCL | No feedback signal from RCL system |
| Error URCL | No feedback signal from URCL system |
| **Unit** | | n/a |

###LSG\_RSCL\_00043### RSCL\_Voice\_stat

Signal between RSCL Voice Control and RSCL control describing the feature status incl. error detection.

|  |  |  |
| --- | --- | --- |
| **ASIL** | | A |
| **Value**  (Discrete  Encoding) | All different conditions | TBD |
| Value 2 | … |
| … | … |
|  |  |
| Error |  |
| **Unit** | | n/a |

###LSG\_RSCL\_00008### RSCL\_PCL\_Stat

Signal generated by PCL control showing status of rear inner door handles incl. error detection and comparison with RSCL PCL Rq.

|  |  |  |
| --- | --- | --- |
| **ASIL** | | A |
| **Encoding Type Name** | | n/a |
| **Value**  (Discrete  Encoding) | activated | Both rear inner handles disabled |
| deactivated | Both rear inner handles enabled |
| Error | User request does not match rear inner door handle status |
| **Unit** | | n/a |

###LSG\_RSCL\_00016### RSCL\_WCL\_stat

Signal generated by WCL Control based on RSCL RWDL stat from Rear Window Device Control

|  |  |  |
| --- | --- | --- |
| **ASIL** | | QM |
| **Encoding Type Name** | | n/a |
| **Value**  (Discrete  Encoding) | Locked | Rear Window switches disabled |
| Unlocked | Rear Window switches enabled |
| Error | Left switch different to right switch condition |
| **Unit** | | n/a |

###LSG\_RSCL\_00020### RSCL\_RAL\_stat

Signal generated by RAL Control providing RAL status based on RSCL RADL stat

|  |  |  |
| --- | --- | --- |
| **ASIL** | | QM |
| **Encoding Type Name** | | n/a |
| **Value**  (Discrete  Encoding) | locked | Rear Audio devices disabled |
| unlocked | Rear Audio devices enabled |
| **Unit** | | n/a |

###LSG\_RSCL\_00024### RSCL\_RCL\_stat

Signal generated by RCL Control showing the RCL status>

|  |  |  |
| --- | --- | --- |
| **ASIL** | | QM |
| **Encoding Type Name** | | n/a |
| **Value**  (Discrete  Encoding) | Locked | Rear Climate Devices disabled |
| Unlocked | Rear Climate Devices enabled |
| **Unit** | | n/a |

###LSG\_RSCL\_00014### RSCL\_URCL\_stat

Signal from URCL Control providing the actual URCL status

|  |  |  |
| --- | --- | --- |
| **ASIL** | | QM |
| **Encoding Type Name** | | n/a |
| **Value**  (Discrete  Encoding) | all locked | All URC HHD locked |
| all unlocked | All URC HHD unlocked |
| Audio locked | Audio locked |
| Climate locked | Climate locked |
| Audio unlocked | Audio unlocked |
| Climate unlocked | Climate unlocked |
| **Unit** | | n/a |

###LSG\_RSCL\_00022### RSCL\_RADL\_stat

Feedback signal from Rear Audio Devices on locking status of rear audio devices

|  |  |  |
| --- | --- | --- |
| **ASIL** | | Choose an item. |
| **Encoding Type Name** | | n/a |
| **Value**  (Discrete  Encoding) | Null | Null |
| Locked | Rear Audio Panel disabled |
| Unlocked | Rear Audio Panel enabled |
| **Unit** | | n/a |

**###LSG\_RSCL\_00035###** **RSCL\_HandleLCL\_stat**

Signal generated by rear left inner handle control showing the actual left rear inner door handle status

|  |  |  |
| --- | --- | --- |
| **ASIL** | | A |
| **Encoding Type Name** | | n/a |
| **Value**  (Discrete  Encoding) | Deactivated | rear inner door handle enabled |
| Activated | Rear inner door handle disabled |
| **Unit** | | n/a |

**###LSG\_RSCL\_00046###** **RSCL\_HandleRCL\_stat**

Signal generated by rear right inner handle control showing the actual right rear inner door handle status

|  |  |  |
| --- | --- | --- |
| **ASIL** | | A |
| **Encoding Type Name** | | n/a |
| **Value**  (Discrete  Encoding) | Deactivated | rear inner door handle enabled |
| Activated | Rear inner door handle disabled |
| **Unit** | | n/a |

###LSG\_RSCL\_00012### Visual\_Feedback

Visual feedback to user on feature status incl. tell tale for PCL activation

|  |  |  |
| --- | --- | --- |
| **ASIL** | | QM |
| **Encoding Type Name** | | n/a |
| **Value**  (Discrete  Encoding) | All conditions | TBD |
|  |  |
|  |  |
|  |  |
|  |  |
| **Unit** | | n/a |

###LSG\_RSCL\_00044### Audible\_Feedback

Audible feedback to user on feature status incl. tell tale for PCL activation

|  |  |  |
| --- | --- | --- |
| **ASIL** | | Choose an item. |
| **Encoding Type Name** | | n/a |
| **Value**  (Discrete  Encoding) | All conditions | TBD |
| Value 2 | … |
| … | … |
|  |  |
|  |  |
| **Unit** | | n/a |

###LSG\_RSCL\_00036### PCL\_Error

Error signal to diagnostics

|  |  |  |
| --- | --- | --- |
| **ASIL** | | Choose an item. |
| **Value**  (Discrete  Encoding) | Error present |  |
| Error not present |  |
| **Unit** | | n/a |

### Logical Parameters

**#Hint:** Logical Parameters are managed in VSEM in the [*RE Data Dictionary*](https://www.vsemweb.ford.com/tc/launchapp?-attach=true&-s=226TCSession&-o=SoYl_k7px3NrTD&servername=Production_Server).

**#Link**: [*RE Wiki – Adding a Logical Signal or Parameter*](http://wiki.ford.com/display/RequirementsEngineering/Adding+a+Logical+Signal+or+Parameter)

**#Macro:** Add Ins -> Add Requirement macro (select “Logical Parameter” as type)

###LPR\_RSCL\_00001### RSCL\_enable

Configuration Parameter to enable / disable RSCL feature

|  |  |  |
| --- | --- | --- |
| **Value**  (Discrete  Encoding) | Enable | Feature available for user |
| Disable | Feature not available for user |
| **Unit** | |  |

###LPR\_RSCL\_00002### RSCL\_content

Configuration Parameter to specify RSCL capabilities and ensure the proper HMI gets activated in SYNC.

|  |  |  |
| --- | --- | --- |
| **Value**  (Discrete  Encoding) | PCL on/off |  |
| WCL on/off |  |
| RAL on/off |  |
| RCL on/off |  |
| URCL on/off |  |
| **Unit** | |  |

### Technical Signals

**#Hint:** This section lists all GSDB + GDT + SW signals relevant for the feature deployment.

**#Link**: [*RE Wiki – Adding a Technical Signal or Parameter*](http://wiki.ford.com/display/RequirementsEngineering/Adding+a+Technical+Signal+or+Parameter)

**#Macro:** Add Ins -> Add Requirement macro (select “Technical Signal” as type)

#### CAN Signals

**#Hint:** This part of the Data Dictionary lists signals, which should go to the GSDB in VSEM, but do not exist in the GSDB in VSEM yet, but are or will be requested for the GSDB. Those would go temporarily to this section in the [*RE Data Dictionary*](https://www.vsemweb.ford.com/tc/launchapp?-attach=true&-s=226TCSession&-o=SoYl_k7px3NrTD&servername=Production_Server) in VSEM.

##### Signal Requests

###TSG\_ChildLckFdbckRl\_B\_Stat\_EECRC\_00003### TSG\_ChildLckFdbckRl\_B\_Stat\_EECRC

Checksum for E2E protection of signal ChildLckFdbckRl\_B\_Stat

|  |  |
| --- | --- |
| **ASIL** | A |
| **Init Default Value** |  |
| **Encoding Type Name** | [UnitlessValue8Bit\_ET](https://www.vsemweb.ford.com/tc/launchapp?-attach=true&-s=226TCSession&-o=KOJxua4Qx3NrTDAAAAAAAAAAAAA&servername=Production_Server) |

###TSG\_ChildLckFdbckRr\_B\_Stat\_EECRC\_00005### TSG\_ChildLckFdbckRr\_B\_Stat\_EECRC

<Signal Description>

|  |  |
| --- | --- |
| **ASIL** | A |
| **Init Default Value** |  |
| **Encoding Type Name** | [UnitlessValue8Bit\_ET](https://www.vsemweb.ford.com/tc/launchapp?-attach=true&-s=226TCSession&-o=KOJxua4Qx3NrTDAAAAAAAAAAAAA&servername=Production_Server) |

###TSG\_CanPlh\_RSCL\_PCL\_Rq\_00001### TSG\_CanPlh\_RSCL\_PCL\_Rq

New CAN signal for PCL only and from APIM. Acc. to generic spec with 3-bit event counter. See generic spec. for

dedicated requests (APIM to BCM).

|  |  |
| --- | --- |
| **ASIL** | A |
| **Init Default Value** | tbd |
| **Encoding Type Name** | ET\_CanPlh\_RSCL\_PCL\_Rq |

###TSG\_CanPlh\_RSCL\_PCL\_Rq\_EECRC\_00010### TSG\_CanPlh\_RSCL\_PCL\_Rq\_EECRC

Checksum signal according to Autosar E2E protection1A profile.

|  |  |
| --- | --- |
| **ASIL** | A |
| **Init Default Value** |  |
| **Encoding Type Name** | [UnitlessValue8Bit\_ET](https://www.vsemweb.ford.com/tc/launchapp?-attach=true&-s=226TCSession&-o=KOJxua4Qx3NrTDAAAAAAAAAAAAA&servername=Production_Server) |

###TSG\_CanPlh\_RSCL\_PCL\_Stat\_00002### TSG\_CanPlh\_RSCL\_PCL\_Stat

New CAN signal for PCL only & to SYNC! E2E. Currently together with window lock to DDM: ChildLck\_D\_Dsply

|  |  |  |
| --- | --- | --- |
| **ASIL** | | Choose an item. |
| **Init Default Value** | | <Default value after reset / initialization on sender side> |
| **Encoding Type Name** | |  |
| **Value**  (Discrete  Encoding) | Child Lock = 0x0 |  |
| Child Unlock = 0x1 |  |
| Error = 0x2 |  |
| **Unit** | | n/a |

###TSG\_CanPlh\_RSCL\_HandleCL\_Rq### TSG\_CanPlh\_RSCL\_HandleCL\_Rq

New Can signal for PCL only, E2E

e.g.

ChildLckRl\_No2\_Actl & ChildLckRr\_No2\_Actl instead of: Currently together with window lockout: WindowLockout\_B\_Stat

|  |  |  |
| --- | --- | --- |
| **ASIL** | | Choose an item. |
| **Init Default Value** | | <Default value after reset / initialization on sender side> |
| **Encoding Type Name** | |  |
| **Value**  (Discrete  Encoding) | unlock = 0x0 | PCL deactivated |
| Lock = 0x1 | PCL activated |
| **Unit** | | n/a |

###TSG\_CanPlh\_RSCL\_WCL\_stat\_00007### TSG\_CanPlh\_RSCL\_WCL\_stat

<Signal Description>

|  |  |  |
| --- | --- | --- |
| **ASIL** | | Choose an item. |
| **Init Default Value** | | <Default value after reset / initialization on sender side> |
| **Encoding Type Name** | |  |
| **Value**  (Discrete  Encoding) | Child Lock = 0x0 | Interpretation of value 1 |
| Child Unlock = 0x1 | … |
| Error = 0x2 | … |
| **Unit** | | n/a |

###TSG\_CanPlh\_RSCL\_WCL\_rq\_00008### TSG\_CanPlh\_RSCL\_WCL\_rq

see generic spec. for dedicated requests (APIM to BCM)

|  |  |  |
| --- | --- | --- |
| **ASIL** | | Choose an item. |
| **Init Default Value** | | <Default value after reset / initialization on sender side> |
| **Encoding Type Name** | |  |
| **Value**  (Discrete  Encoding) | Lock = 0x1 |  |
| Unlock = 0x0 |  |
|  |  |
| **Unit** | | n/a |

#### HW I/Os

**#Hint:** This chapter lists signals, which will be mapped to hardwired I/Os. Those get typically refer to VSEM EDAS signals (or input/output signals of device transmittals in VSEM GDT).

#### Diagnostic Interfaces

**#Hint:** This chapter lists Diagnostic Interfaces (DTCs and DIDs), which get mapped to Logical Parameters in context of the Technology Functions in chapter “Parameters” of the Function Interfaces. Those DTC/DID names should match the names in the diagnostics specification (Part 2).

**#ToDo:** Currently the template below is just a proposal. A macro still needs to be created

##### DTCs

###<DTC\_<ID>>### <DTC Name>

<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

**#Hint**: This section lists diagnostic DID which Technical Parameters get mapped to.

**#Todo**: A proper template derived from the Part 2 spec still needs to be created.

### Technical Parameters

**#Hint:** This section lists all Method 2, Method 3 and calibration parameters relevant for the feature deployment.

**#Link**: [*RE Wiki – Adding a Technical Signal or Parameter*](http://wiki.ford.com/display/RequirementsEngineering/Adding+a+Technical+Signal+or+Parameter)

**#Macro:** [Add Ins -> Add Requirement macro](http://wiki.ford.com/display/RequirementsEngineering/How+to+use+the+Specification+Templates#HowtousetheSpecificationTemplates-AddNewRequirement) (select “Technical Parameter” as type)

###TPR\_VscsPlh\_RSCL\_Enable\_00001### TPR\_VscsPlh\_RSCL\_Enable

<Parameter Description>

|  |  |  |
| --- | --- | --- |
| **Init Default Value** | | <Default value, if not configured yet> |
| **Encoding Type Name** | |  |
| **Value**  (Discrete  Encoding) | 0x1 = RSCL enabled |  |
| 0x0 = RSCL disabled |  |
| **Unit** | | n/a |

###TSG\_VscsPlh\_RSCL\_Content\_00009### TSG\_VscsPlh\_RSCL\_Content

Bit encoded value to enable RSCL sub-features individually

|  |  |  |
| --- | --- | --- |
| **ASIL** | | Choose an item. |
| **Init Default Value** | | <Default value after reset / initialization on sender side> |
| **Encoding Type Name** | |  |
| **Value**  (Continuous Encoding) | Min Value | 0 |
| Max Value | 31 |
| Resolution | 1 |
| Offset | 0 |
| Interpretation | * **Bit 0**:  0 = PCL off,  1 = PCL on * **Bit 1**:  0 = WCL off,  1 = WCL on * **Bit 2**:  0 = RAL off,  1 = RAL on * **Bit 3:**  0 = RCL off,  1 = RCL on * **Bit 4:**  0 = URCL off,  1 = URCL on |
| **Unit** | | n/a |

### Mappings

**#Hint**: This section lists mapping objects for Logical Signals / Parameters to their GSDB + GDT + SW counterparts (1:N mapping is supported). Mapping objects are managed in VSEM in the [*RE Data Dictionary*](https://www.vsemweb.ford.com/tc/launchapp?-attach=true&-s=226TCSession&-o=SoYl_k7px3NrTD&servername=Production_Server).

**#Link:** [RE Wiki – Adding a Signal or Parameter Mapping](http://wiki.ford.com/display/RequirementsEngineering/Adding+a+Signal+or+Parameter+Mapping)

**#Macro:** Add Ins -> Add Requirement macro (select “Mapping” as type)

#### Signals

##### Signal Requests

###SMP\_CanPlh\_RSCL\_PCL\_Rq\_00001### SMP\_CanPlh\_RSCL\_PCL\_Rq

|  |  |
| --- | --- |
| **Logical Signal** | **Technical Signal** |
| RSCL\_PCL\_Rq | TSG\_CanPlh\_RSCL\_PCL\_Rq |
| **Mapping Details** | |
| Encoding mapping:   |  |  | | --- | --- | | **Logical** | **Technical** | | No action | 000 | | Activate | Lock = next odd | | Deactivate | Unlock = next even | | |

###SMP\_CanPlh\_RSCL\_PCL\_Stat### SMP\_CanPlh\_RSCL\_PCL\_Stat

<Some Description of the Mapping>

|  |  |
| --- | --- |
| **Logical Signal** | **Technical Signal** |
| RSCL\_PCL\_Stat | TSG\_CanPlh\_RSCL\_PCL\_Stat |
| **Mapping Details** | |
| Encoding mapping:   |  |  | | --- | --- | | **Logical** | **Technical** | | Activated | Child Lock= 0x0 | | Deactivated | Child Unlock = 0x1 | | Error | Error = 0x2 | | |

###SMP\_CanPlh\_RSCL\_HandleCL\_Rq### SMP\_CanPlh\_RSCL\_HandleCL\_Rq

<Some Description of the Mapping>

|  |  |
| --- | --- |
| **Logical Signal** | **Technical Signal** |
| RSCL\_HandleCL\_Rq | TSG\_CanPlh\_RSCL\_HandleCL\_Rq |
| **Mapping Details** | |
| Encoding mapping:   |  |  | | --- | --- | | **Logical** | **Technical** | | deactivate | unlock = 0x0 | | activate | lock = 0x1 | |  |  | | |

###SMP\_RearAudioCTLLCK\_D\_rq\_00018### SMP\_RearAudioCTLLCK\_D\_rq

<Some Description of the Mapping>

|  |  |
| --- | --- |
| **Logical Signal** | **Technical Signal** |
| RSCL\_RADL\_rq | [(GS-005553)-RearAudioCTLLCK\_D\_rq](https://www.vsemweb.ford.com/tc/launchapp?-attach=true&-s=226TCSession&-o=SFfdCksWx3NrTDAAAAAAAAAAAAA&servername=Production_Server) |
| **Mapping Details** | |
| Encoding mapping:   |  |  | | --- | --- | | **Logical** | **Technical** | | Null | 0x0 = Null | | Lock | 0x1 = Lock | | Unlock | 0x2 = Unlock | | |

###SMP\_CanPlh\_RSCL\_WCL\_stat\_00014### SMP\_CanPlh\_RSCL\_WCL\_stat

<Some Description of the Mapping>

|  |  |
| --- | --- |
| **Logical Signal** | **Technical Signal** |
| RSCL\_PCL\_Stat | TSG\_CanPlh\_RSCL\_WCL\_stat |
| **Mapping Details** | |
| Encoding mapping:   |  |  | | --- | --- | | **Logical** | **Technical** | | Activated | Child Lock = 0x0 | | Deactivated | Child Unlock = 0x1 | | Error | Error = 0x2 | |  |  | | |

###SMP\_CanPlh\_RSCL\_WCL\_rq\_00016### SMP\_CanPlh\_RSCL\_WCL\_rq

<Some Description of the Mapping>

|  |  |
| --- | --- |
| **Logical Signal** | **Technical Signal** |
| RSCL\_WCL\_rq | TSG\_CanPlh\_RSCL\_WCL\_rq |
| **Mapping Details** | |
| Encoding mapping:   |  |  | | --- | --- | | **Logical** | **Technical** | | Lock | Lock = 0x1 | | Unlock | Unlock = 0x0 | |  |  | | |

##### Existing Signals

###SMP\_Ignition\_Status\_00013### SMP\_Ignition\_Status

<Some Description of the Mapping>

|  |  |
| --- | --- |
| **Logical Signal** | **Technical Signal** |
| Ign\_stat | [(GS-001322)-Ignition\_Status](https://www.vsemweb.ford.com/tc/launchapp?-attach=true&-s=226TCSession&-o=FVOxO$qCx3NrTDAAAAAAAAAAAAA&servername=Production_Server) |
| **Mapping Details** | |
| Encoding mapping:   |  |  | | --- | --- | | **Logical** | **Technical** | | Acc |  | | Run |  | | Off |  | | Crank |  | | |

###SMP\_ChildLckFdbckRl\_B\_Stat\_00006### SMP\_ChildLckFdbckRl\_B\_Stat

Mapping of logical signal RSCL\_HandleLCL\_stat to GSDB signal <[(GS-004860)-ChildLckFdbckRl\_B\_Stat](https://www.vsemweb.ford.com/tc/launchapp?-attach=true&-s=226TCSession&-o=$1aNknHix3NrTDAAAAAAAAAAAAA&servername=Production_Server)

|  |  |
| --- | --- |
| **Logical Signal** | **Technical Signal** |
| RSCL\_HandleLCL\_stat | [(GS-004860)-ChildLckFdbckRl\_B\_Stat](https://www.vsemweb.ford.com/tc/launchapp?-attach=true&-s=226TCSession&-o=$1aNknHix3NrTDAAAAAAAAAAAAA&servername=Production_Server) |
| **Mapping Details** | |
| Encoding mapping:   |  |  | | --- | --- | | **Logical** | **Technical** | | Activated | Lock = 0x1 | | Deactivated | Unlock = 0x0 | |  |  | | |

###SMP\_ChildLckFdbckRr\_B\_Stat\_00007### SMP\_ChildLckFdbckRr\_B\_Stat

Mapping of logical signal RSCL\_HandleRCL\_stat to GSDB signal [(GS-004858)-ChildLckFdbckRr\_B\_Stat](https://www.vsemweb.ford.com/tc/launchapp?-attach=true&-s=226TCSession&-o=xNWNknHix3NrTDAAAAAAAAAAAAA&servername=Production_Server)

|  |  |
| --- | --- |
| **Logical Signal** | **Technical Signal** |
| RSCL\_HandleRCL\_stat | [(GS-004858)-ChildLckFdbckRr\_B\_Stat](https://www.vsemweb.ford.com/tc/launchapp?-attach=true&-s=226TCSession&-o=xNWNknHix3NrTDAAAAAAAAAAAAA&servername=Production_Server) |
| **Mapping Details** | |
| Encoding mapping:   |  |  | | --- | --- | | **Logical** | **Technical** | | Activated | Lock = 0x1 | | Deactivated | Unlock = 0x0 | |  |  | | |

###SMP\_Rr\_Lock\_Btn\_Stt\_00015### SMP\_Rr\_Lock\_Btn\_Stt

<Some Description of the Mapping>

|  |  |
| --- | --- |
| **Logical Signal** | **Technical Signal** |
| RSCL\_RCL\_stat | [(GS-006435)-Rr\_Lock\_Btn\_Stt](https://www.vsemweb.ford.com/tc/launchapp?-attach=true&-s=226TCSession&-o=aSQh$NXyx3NrTDAAAAAAAAAAAAA&servername=Production_Server) |
| **Mapping Details** | |
| Encoding mapping:   |  |  | | --- | --- | | **Logical** | **Technical** | |  | 0x0 = enabled\_inactive | | unlocked | 0x1 = active | | locked | 0x2 = disabled | |  | 0x3 = not used | | |

###SMP\_RearAudioCTLLCK\_D\_stat\_00011### SMP\_RearAudioCTLLCK\_D\_stat

<Some Description of the Mapping>

|  |  |
| --- | --- |
| **Logical Signal** | **Technical Signal** |
| RSCL\_RADL\_stat | [(GS-005554)-RearAudioCTLLCK\_D\_stat](https://www.vsemweb.ford.com/tc/launchapp?-attach=true&-s=226TCSession&-o=rgddCksWx3NrTDAAAAAAAAAAAAA&servername=Production_Server) |
| **Mapping Details** | |
| Encoding mapping:   |  |  | | --- | --- | | **Logical** | **Technical** | | Null | 0x0 = Null | | Locked | 0x1 = Lock | | Unlocked | 0x2 = Unlock | | |

###SMP\_RR\_Btn\_Status\_1ST\_00017### SMP\_RR\_Btn\_Status\_1ST

<Some Description of the Mapping>

|  |  |
| --- | --- |
| **Logical Signal** | **Technical Signal** |
| RSCL\_RCL\_rq | [(GS-002555)-RR\_Btn\_Status\_1ST](https://www.vsemweb.ford.com/tc/launchapp?-attach=true&-s=226TCSession&-o=TcUhj8kXx3NrTDAAAAAAAAAAAAA&servername=Production_Server) |
| **Mapping Details** | |
| Encoding mapping logical logical signal to [**GSDB encoding type Rr\_Btn\_Status\_ET2**](https://www.vsemweb.ford.com/tc/launchapp?-attach=true&-s=226TCSession&-o=R2UhwfuEx3NrTDAAAAAAAAAAAAA&servername=Production_Server)**)**   |  |  | | --- | --- | | **Logical** | **Technical (**[**Rr\_Btn\_Status\_ET2**](https://www.vsemweb.ford.com/tc/launchapp?-attach=true&-s=226TCSession&-o=R2UhwfuEx3NrTDAAAAAAAAAAAAA&servername=Production_Server)**)** | | unlock | ??? | | lock | ??? | |  | 0x0:None\_Pressed | |  | 0x1:Panel\_Pressed | |  | 0x2:Panel\_Floor\_Pressed | |  | 0x3:Floor\_Pressed | |  | 0x4:LHS\_Temp\_Inc\_Pressed | |  | 0x5:LHS\_Temp\_Dec\_Pressed | |  | 0x6:RHS\_Temp\_Inc\_Pressed | |  | 0x7:RHS\_Temp\_Dec\_Pressed | |  | 0x8:Blwr\_Inc\_Pressed | |  | 0x9:Blwr\_Dec\_Pressed | |  | 0xA:AUTO\_Pressed | |  | 0xB:Rear\_Power\_Pressed | |  | 0xC:LHS\_Htd\_Seat\_Pressed | |  | 0xD:RHS\_Htd\_Seat\_Pressed | |  | 0xE:LHS\_Cld\_Seat\_Pressed | |  | 0xF:RHS\_Cld\_Seat\_Pressed | |  | 0x10:Rear\_Lock\_Pressed | |  | 0x11:Third\_Blwr\_Inc\_Pressed | |  | 0x12:Third\_Blwr\_Dec\_Pressed | |  | 0x13:Third\_Panel\_Pressed | |  | 0x14:Third\_Floor\_Pressed | |  | 0x15:Third\_Pnl\_Flr\_Pressed | |  | 0x16:Third\_Auto\_Pressed | |  | 0x17:Third\_Rr\_Pwr\_Pressed | |  | 0x18:Third\_Synch\_Pressed | |  | 0x19 ... 0x1F: Not used | | |

###SMP\_RearPassWindowLockCmd\_00021### SMP\_RearPassWindowLockCmd

<Some Description of the Mapping>

|  |  |
| --- | --- |
| **Logical Signal** | **Technical Signal** |
| RSCL\_RWDL\_rq | [(GS-002708)-RearPassWindowLockCmd](https://www.vsemweb.ford.com/tc/launchapp?-attach=true&-s=226TCSession&-o=$YWBI5h5x3NrTDAAAAAAAAAAAAA&servername=Production_Server) |
| **Mapping Details** | |
| Encoding mapping:   |  |  | | --- | --- | | **Logical** | **Technical** | | unlock | 0x0 = disable | | Lock | 0x1 = enable | |  |  | | |

###SMP\_Rr\_On\_Indicator\_00022### SMP\_Rr\_On\_Indicator

<Some Description of the Mapping>

|  |  |
| --- | --- |
| **Logical Signal** | **Technical Signal** |
| RSCL\_RCDL\_rq | [(GS-002565)-Rr\_On\_Indicator](https://www.vsemweb.ford.com/tc/launchapp?-attach=true&-s=226TCSession&-o=BCBxu2a_x3NrTDAAAAAAAAAAAAA&servername=Production_Server) |
| **Mapping Details** | |
| Encoding mapping:   |  |  | | --- | --- | | **Logical** | **Technical** | | Lock | Off = 0x0 | | Unlock | On = 0x1 | |  |  | | |

#### Parameters

###SMP\_VscsPlh\_RSCL\_Enable\_00020### SMP\_VscsPlh\_RSCL\_Enable

<Some Description of the Mapping>

|  |  |
| --- | --- |
| **Logical Signal** | **Technical Signal** |
| RSCL\_Enable | TSG\_VscsPlh\_RSCL\_Enable |
| **Mapping Details** | |
| Encoding mapping:   |  |  | | --- | --- | | **Logical** | **Technical** | | Enable | 0x1 = RSCL enabled | | Disable | 0x0 = RSCL disabled | |  |  | | |

###SMP\_VscsPlh\_RSCL\_Content\_00019### SMP\_VscsPlh\_RSCL\_Content

<Some Description of the Mapping>

|  |  |
| --- | --- |
| **Logical Signal** | **Technical Signal** |
| RSCL\_Content | TSG\_VscsPlh\_RSCL\_Content |
| **Mapping Details** | |
| Encoding mapping:   |  |  | | --- | --- | | **Logical** | **Technical** | | PCL on/off | **Bit 0**:  0 = PCL on  1 = PCL off | | WCL on/off | **Bit 1:**  0 = WCL on  1 = WCL off | | RAL | **Bit 2:**  0 = RAL on  1 = RAL off | | RCL | **Bit 3:**  0 = RCL on  1 = RCL off | | URCL | **Bit 4:**  0 = URCL on  1 = URCL off | | |

### Technical Interfaces

**#Hint:** This section lists port/interface details, which define how network/SW/HW signals are published / subscribed.

**#Link:** [*RE Wiki – Adding a Technical Interface*](http://wiki.ford.com/display/RequirementsEngineering/Adding+a+Technical+Interface)

#### AIS Interfaces

**#Hint:** This chapter lists the AIS subscriber and publisher interface objects (managed in VSEM), which are needed to deploy the feature to the E/E architecture. If AIS interfaces do not yet exist in VSEM, those may temporarily be managed as a workaround in the [*RE Data Dictionary*](https://www.vsemweb.ford.com/tc/launchapp?-attach=true&-s=226TCSession&-o=SoYl_k7px3NrTD&servername=Production_Server).

**#Link:** [System Engineering Portal – AIS Release 3.2](https://pd3.spt.ford.com/sites/fede/vsem-spls/Shared%20Documents/02-ais/methods/AIS%20Methods%20Document.pptx?web=1)  
[RE Wiki - AIS Interfaces](http://wiki.ford.com/display/RequirementsEngineering/Adding+a+Technical+Interface#AddingaTechnicalInterface-AisInterfaces)

[*Publisher Interface AIS in VSEM*](https://www.vsemweb.ford.com/tc/launchapp?-attach=true&-s=226TCSession&-o=zjYtY3Jcx3NrTDAAAAAAAAAAAAA&servername=Production_Server)

[*Subscriber Interface AIS in VSEM*](https://www.vsemweb.ford.com/tc/launchapp?-attach=true&-s=226TCSession&-o=LSYtewY7x3NrTDAAAAAAAAAAAAA&servername=Production_Server)

**#Macro:** Add Ins -> Add Requirement macro (select “AIS Subscriber If” or “AIS Publisher If” as type)

##### Publisher Interfaces

|  |  |  |
| --- | --- | --- |
| Requirement ID: ###PIF\_CanPlh\_RSCL\_HandleCL\_Rq### | | |
| Interface Name | | PIF\_CanPlh\_RSCL\_HandleCL\_Rq | |
| Interface Description | | Publisher Interface for CAN signal CanPlh\_RSCL\_HandleCL\_Rq | |
| **Signal Robustness/Integrity** | | | |
| Functional Safety Relevant | | Yes | |
| Checksum | | Yes | |
| Counter | | Choose an item. | |
| **Network Timing** | | | |
| Publishing Interval (ms) | |  | |
| Publisher Latency (ms) | |  | |
| Signal Transmit Strategy | | Choose an item. | |
| Signal Send Type | | Choose an item. | |
| Signal Refresh Rate (ms) | |  | |
| **Network Management** | | | |
| Publishing Network Sleep Inhibitor | |  | |
| Network Wake Up | | Choose an item. | |
| Signal Update While Network Asleep | | Choose an item. | |
| Fresh data on Network wakeup | | Choose an item. | |
| Max latency before signal is valid on Network wakeup(ms) | |  | |
| **Reset Behavior** | | | |
| Fresh data on ECU Reset | | Choose an item. | |
| Max latency before signal is valid on reset (ms) | |  | |
| **Functional Characteristics** | | | |
| ECU Power Mode | | Choose an item. | |
| CAN Node Type | | Choose an item. | |
| [Req. Template](http://wiki.ford.com/display/RequirementsEngineering/Requirements+Attributes) Version | 6.1a | End of Requirement | |

|  |  |  |
| --- | --- | --- |
| Requirement ID: ###PIF\_CanPlh\_RSCL\_PCL\_Stat### | | |
| Interface Name | | PIF\_CanPlh\_RSCL\_PCL\_Stat | |
| Interface Description | | Publisher Interface for CAN signal CanPlh\_RSCL\_PCL\_Stat | |
| **Signal Robustness/Integrity** | | | |
| Functional Safety Relevant | | Yes | |
| Checksum | | Yes | |
| Counter | | Choose an item. | |
| **Network Timing** | | | |
| Publishing Interval (ms) | |  | |
| Publisher Latency (ms) | |  | |
| Signal Transmit Strategy | | Choose an item. | |
| Signal Send Type | | Choose an item. | |
| Signal Refresh Rate (ms) | |  | |
| **Network Management** | | | |
| Publishing Network Sleep Inhibitor | |  | |
| Network Wake Up | | Choose an item. | |
| Signal Update While Network Asleep | | Choose an item. | |
| Fresh data on Network wakeup | | Choose an item. | |
| Max latency before signal is valid on Network wakeup(ms) | |  | |
| **Reset Behavior** | | | |
| Fresh data on ECU Reset | | Choose an item. | |
| Max latency before signal is valid on reset (ms) | |  | |
| **Functional Characteristics** | | | |
| ECU Power Mode | | Choose an item. | |
| CAN Node Type | | Choose an item. | |
| [Req. Template](http://wiki.ford.com/display/RequirementsEngineering/Requirements+Attributes) Version | 6.1a | End of Requirement | |

##### Subscriber Interfaces

|  |  |  |  |
| --- | --- | --- | --- |
| Requirement ID: ###SIF\_CanPlh\_RSCL\_PCL\_Rq### | | | |
| Interface Name | | SIF\_CanPlh\_RSCL\_PCL\_Rq | |
| Interface Description | | Subscriber Interface for CAN signal CanPlh\_RSCL\_PCL\_Rq | |
| **Signal Robustness/Integrity** | | | |
| Functional Safety Relevant | | Choose an item. | |
| Checksum | | Choose an item. | |
| Counter | | Choose an item. | |
| **Network Timing** | | | |
| Subscribing Interval (ms) | |  | |
| Subscriber Latency (ms) | |  | |
| **Network Management** | | | |
| Subscribing Network Sleep Inhibitor | |  | |
| Network Wake Up | | Choose an item. | |
| **Network Routing** | | | |
| Gateway Required | | Choose an item. | |
| Max Gateway Latency (ms) | |  | |
| Gateway Message Type | | Choose an item. | |
| **Missing Message Strategy** | | | |
| Missing Message Strategy | | Choose an item. | |
| Time Period for Last Signal Value to be used | |  | |
| Missing Message Default Value | |  | |
| Missing Message DTC | |  | |
| Missing Message Strategy Details | |  | |
| **Functional Characteristics** | | | |
| ECU Power Mode | | Choose an item. | |
| [Req. Template](http://wiki.ford.com/display/RequirementsEngineering/Requirements+Attributes) Version | 6.1a | | End of Requirement |

|  |  |  |  |
| --- | --- | --- | --- |
| Requirement ID: ###SIF\_ChildLckFdbckRl\_B\_Stat\_00003### | | | |
| Interface Name | | SIF\_ChildLckFdbckRl\_B\_Stat | |
| Interface Description | | Subscriber Interface for CAN signal [(GS-004860)-ChildLckFdbckRl\_B\_Stat](https://www.vsemweb.ford.com/tc/launchapp?-attach=true&-s=226TCSession&-o=$1aNknHix3NrTDAAAAAAAAAAAAA&servername=Production_Server) | |
| **Signal Robustness/Integrity** | | | |
| Functional Safety Relevant | | Choose an item. | |
| Checksum | | Choose an item. | |
| Counter | | Choose an item. | |
| **Network Timing** | | | |
| Subscribing Interval (ms) | |  | |
| Subscriber Latency (ms) | |  | |
| **Network Management** | | | |
| Subscribing Network Sleep Inhibitor | |  | |
| Network Wake Up | | Choose an item. | |
| **Network Routing** | | | |
| Gateway Required | | Choose an item. | |
| Max Gateway Latency (ms) | |  | |
| Gateway Message Type | | Choose an item. | |
| **Missing Message Strategy** | | | |
| Missing Message Strategy | | Choose an item. | |
| Time Period for Last Signal Value to be used | |  | |
| Missing Message Default Value | |  | |
| Missing Message DTC | |  | |
| Missing Message Strategy Details | |  | |
| **Functional Characteristics** | | | |
| ECU Power Mode | | Choose an item. | |
| [Req. Template](http://wiki.ford.com/display/RequirementsEngineering/Requirements+Attributes) Version | 6.1a | | End of Requirement |

|  |  |  |  |
| --- | --- | --- | --- |
| Requirement ID: ###SIF\_ChildLckFdbckRr\_B\_Stat\_00004### | | | |
| Interface Name | | SIF\_ChildLckFdbckRr\_B\_Stat | |
| Interface Description | | Subscriber Interface for CAN signal [(GS-004858)-ChildLckFdbckRr\_B\_Stat](https://www.vsemweb.ford.com/tc/launchapp?-attach=true&-s=226TCSession&-o=xNWNknHix3NrTDAAAAAAAAAAAAA&servername=Production_Server) | |
| **Signal Robustness/Integrity** | | | |
| Functional Safety Relevant | | Choose an item. | |
| Checksum | | Choose an item. | |
| Counter | | Choose an item. | |
| **Network Timing** | | | |
| Subscribing Interval (ms) | |  | |
| Subscriber Latency (ms) | |  | |
| **Network Management** | | | |
| Subscribing Network Sleep Inhibitor | |  | |
| Network Wake Up | | Choose an item. | |
| **Network Routing** | | | |
| Gateway Required | | Choose an item. | |
| Max Gateway Latency (ms) | |  | |
| Gateway Message Type | | Choose an item. | |
| **Missing Message Strategy** | | | |
| Missing Message Strategy | | Choose an item. | |
| Time Period for Last Signal Value to be used | |  | |
| Missing Message Default Value | |  | |
| Missing Message DTC | |  | |
| Missing Message Strategy Details | |  | |
| **Functional Characteristics** | | | |
| ECU Power Mode | | Choose an item. | |
| [Req. Template](http://wiki.ford.com/display/RequirementsEngineering/Requirements+Attributes) Version | 6.1a | | End of Requirement |

|  |  |  |  |
| --- | --- | --- | --- |
| Requirement ID: ###SIF\_RearAudioCTLLCK\_D\_stat\_00008### | | | |
| Interface Name | | SIF\_RearAudioCTLLCK\_D\_stat | |
| Interface Description | | Subscriber Interface for CAN signal [(GS-005554)-RearAudioCTLLCK\_D\_stat](https://www.vsemweb.ford.com/tc/launchapp?-attach=true&-s=226TCSession&-o=rgddCksWx3NrTDAAAAAAAAAAAAA&servername=Production_Server) | |
| **Signal Robustness/Integrity** | | | |
| Functional Safety Relevant | | Choose an item. | |
| Checksum | | Choose an item. | |
| Counter | | Choose an item. | |
| **Network Timing** | | | |
| Subscribing Interval (ms) | |  | |
| Subscriber Latency (ms) | |  | |
| **Network Management** | | | |
| Subscribing Network Sleep Inhibitor | |  | |
| Network Wake Up | | Choose an item. | |
| **Network Routing** | | | |
| Gateway Required | | Choose an item. | |
| Max Gateway Latency (ms) | |  | |
| Gateway Message Type | | Choose an item. | |
| **Missing Message Strategy** | | | |
| Missing Message Strategy | | Choose an item. | |
| Time Period for Last Signal Value to be used | |  | |
| Missing Message Default Value | |  | |
| Missing Message DTC | |  | |
| Missing Message Strategy Details | |  | |
| **Functional Characteristics** | | | |
| ECU Power Mode | | Choose an item. | |
| [Req. Template](http://wiki.ford.com/display/RequirementsEngineering/Requirements+Attributes) Version | 6.1a | | End of Requirement |

#### AUTOSAR Ports

**#Hint:** Those AUTOSAR Classic (provided and required) ports, which are used by the feature but are not managed in a central repository yet, could be listed here.

### Messages/APIs

#### CAN Bus “<Bus Name>”

Refer to [VSEM link to message database (CMDB) for FNV3](https://www.vsemweb.ford.com/tc/launchapp?-attach=true&-s=226TCSession&-o=DoQ53JTGx3NrTDAAAAAAAAAAAAA&servername=Production_Server)

###<MSG\_MessageID### MessageName

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **CAN ID** | **Transmission Mode** | **Period** | **Signal Names** | **Transmitter(s)** | **Receiver(s)** |
|  |  |  |  |  |  |
|  |
|  |
|  |

#### LIN Bus “<Bus Name>”

#### AUTOSAR Interfaces

**#Hint:** Those AUTOSAR Classic (Sender/Receiver and Client/Server) Interfaces, which are used by the feature but not managed in a central repository yet, should be listed here.

#### SOA Service Contracts

**#Hint:** This part of the Data Dictionary lists Service APIs/MQTT messages and embedded data elements, which are used for the Service Oriented Architecture (SOA). If those APIs/MQTT messages already exist e.g. in the [*Central SW Service Catalog*](http://wiki.ford.com/display/CS/Service+Catalog), simply add a reference to those yet.

Information on FNV2 SOA can be found in the ECG wiki page

* MQTT Topic Naming: [*FNV2-SOA: MQTT Topic and Message Structure*](https://www.eesewiki.ford.com/display/ecg/FNV2-SOA%3A+MQTT+Topic+and+Message+Structure?src=sidebar)
* message syntax and proper naming can be found [*SOA API Messaging Guidelines*](https://www.eesewiki.ford.com/x/Q7rKAg)

For examples what to fill into the table fields below refer to [*Central SW Service Catalog*](http://wiki.ford.com/display/CS/Service+Catalog)

###<ServiceContractID>### Service Contract Name

<Service contract purpose/behavior>

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Messaging Pattern | Frequency  (For Data Broadcast Only) | Message Data Element(s)  (Must Match GPB) or applicable CAN signal | Description of Data Element(s) | Topic Name |
| Choose an item. |  | GBP Data element / CAN Signal name 1 | Detailed encoding of data element 1 |  |
| … |  |  |
| GBP Data element / CAN Signal name 1 | Detailed encoding of data element 3 |  |

### Encoding Types

**#Link:** [*RE Wiki – Adding Encoding Types*](http://wiki.ford.com/display/RequirementsEngineering/Adding+an+Encoding+Type)

**#Macro:** Add Ins -> Add Requirement macro (select “Encoding Type” as type)

###ET\_CanPlh\_RSCL\_PCL\_Rq\_00002### ET\_CanPlh\_RSCL\_PCL\_Rq

New Encoding of CAN signal for PCL only and from APIM. Acc. to generic spec with 3 bit event counter. Refer to see generic spec. for dedicated requests(APIM to BCM).

|  |  |  |
| --- | --- | --- |
| **Value**  (Discrete  Encoding) | 000 | Interpretation of value 1 |
| Lock = next odd | … |
| Unlock = next even | … |
| **Unit** | | n/a |

Document ends here.