**Integration Manual**

**For**

**LOSS OF ASSIST MANAGER**

**VERSION: 4.0**

**DATE: 16-FEB-2018**

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**Revision History**

|  |  |  |  |
| --- | --- | --- | --- |
| **Rev #** | **Change Description** | **Date** | **Author** |
| 1 | Initial version | 27-Mar-15 | SB |
| 2 | Anomaly fix EA3#1374 - LoaMgr Inverter Inputs | 23-Sep-15 | JK |
| 3 | Updated to SF049A\_LoaMgr v2 | 24-Nov-15 | SB |
| 5 | Added notes for exclusive areas (Issue with version 4, it contains same changes as 3) | 16-Feb-18 | ML |

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# Abbrevations And Acronyms

|  |  |
| --- | --- |
| **Abbreviation** | **Description** |
| DFD | Design functional diagram |
| MDD | Module design Document |
|  | <ADD more to the table if applicable> |
|  |  |
|  |  |

# References

This section lists the title & version of all the documents that are referred for development of this document

|  |  |  |
| --- | --- | --- |
| **Sr. No.** | **Title** | **Version** |
| 1 | FDD SF49A Loss of Assist Manager | 2.0.0 |

# Dependencies

## SWCs

|  |  |
| --- | --- |
| **Module** | **Required Feature** |
| **None** | <Addition of global data, function>\*. |

Note : Referencing the external components should be avoided in most cases. Only in unavoidable circumstance external components should be referred. Developer should track the references.

## Global Functions(Non RTE) to be provided to Integration Project

None

# Configuration REQUIREMeNTS

## Build Time Config

|  |  |  |
| --- | --- | --- |
| **Modules** | **Notes** |  |
| **None** |  |  |

## Configuration Files to be provided by Integration Project

None

## Da Vinci Parameter Configuration Changes

|  |  |  |
| --- | --- | --- |
| **Parameter** | **Notes** | **SWC** |
| **None** |  |  |

## DaVinci Interrupt Configuration Changes

|  |  |  |  |
| --- | --- | --- | --- |
| **ISR Name** | **VIM #** | **Priority Dependency** | **Notes** |
| **None** |  |  |  |

## Manual Configuration Changes

|  |  |  |
| --- | --- | --- |
| **Constant** | **Notes** | **SWC** |
| **None** |  |  |

Exclusive Area ‘EaLoaScaleAndRate’ must be configured to block OS interrupts.

# Integration DATAFLOW REQUIREMENTS

## Required Global Data Inputs

HwTqIdptSig\_Cnt\_u08

MotCurrIdptSig\_Cnt\_u08

MtrPosIdptSig\_Cnt\_u08

TloaAvail\_Cnt\_lgc

DiagcStsIvtr1Inactv\_Cnt\_lgc

DiagcStsIvtr2Inactv\_Cnt\_lgc

TloaDi\_Cnt\_lgc

## Required Global Data Outputs

HwTqLoaMtgtnEn\_Cnt\_lgc

IvtrLoaMtgtnEn\_Cnt\_lgc

LOASt\_State\_enum

LoaRateLimit\_UlspS\_f32

LoaScaleFctr\_Uls\_f32

MotAgLoaMtgtnEn\_Cnt\_lgc

MotCurrLoaMtgtnEn\_Cnt\_lgc

## Specific Include Path present

No

# Runnable Scheduling

This section specifies the required runnable scheduling.

|  |  |  |
| --- | --- | --- |
| **Init** | **Scheduling Requirements** | **Trigger** |
| **LOAMgr\_Init1** | Called from RTE before first call of periodic function | RTE at init |

|  |  |  |
| --- | --- | --- |
| **Runnable** | **Scheduling Requirements** | **Trigger** |
| **LOAMgr\_Per1** | triggered on TimingEvent | 4ms |

**.**

# Memory Map REQUIREMENTS

## Mapping

|  |  |  |
| --- | --- | --- |
| **Memory Section** | **Contents** | **Notes** |
| LOAMGR\_START\_SEC\_VAR\_CLEARED\_08 |  |  |
| LOAMGR\_START\_SEC\_VAR\_CLEARED\_BOOLEAN |  |  |

\* Each …START\_SEC… constant is terminated by a …STOP\_SEC… constant as specified in the AUTOSAR Memory Mapping requirements.

## Usage

|  |  |  |
| --- | --- | --- |
| **Feature** | **RAM** | **ROM** |
| **None** |  |  |

Table : ARM Cortex R4 Memory Usage

## Non RTE NvM Blocks

|  |
| --- |
| **Block Name** |
| **None** |

Note : Size of the NVM block if configured in developer

## RTE NvM Blocks

|  |
| --- |
| **Block Name** |
| **None** |

Note : Size of the NVM block if configured in developer

# Compiler Settings

## Preprocessor MACRO

None

## Optimization Settings

None

# Appendix

*EaLoaScaleAndRate exclusive area for Per1 added.*

*LoaRateLimit and LoaScaleFctr changed into direct write to allow exclusive area access.*