**Integration Manual**

**For**

**McuDiagc**

**VERSION: 4.0**

**DATE: 10-Dec-2016**

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**Location:** The official version of this document is stored in the Nexteer Configuration Management System.

**Revision History**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Sl. No.** | **Description** | **Author** | **Version** | **Date** |
| 1 | Initial version | Selva | 1.0 | 29-Mar-2016 |
| 2 | Added diagnostic for 2 milli second to Motor Control | Avinash James | 2.0 | 22-Jun-2016 |
| 3 | Optimized the diagnostic and removed periodic 3 | Avinash James | 3.0 | 28-Sep-2016 |
| 4 | Added micro diag error injection build config param | Avinash James | 4.0 | 10-Dec-2016 |

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# Abbrevations And Acronyms

|  |  |
| --- | --- |
| **Abbreviation** | **Description** |
| DFD | Design functional diagram |
| MDD | Module design Document |
| FDD | Functional Design Document |
|  |  |
|  |  |

# 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 – ES002A McuDiagc | See Synergy subproject version |
| 2 | Software Naming Conventions | Process 04.02.01 |
| 3 | Software Coding Standards | Process 04.02.01 |

# Dependencies

## SWCs

|  |  |
| --- | --- |
| **Module** | **Required Feature** |
| **None** |  |
|  |  |
|  |  |
|  |  |

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** |  |
| **MCUDIAGCERRINJ** | STD\_OFF for other builds  STD\_ON for uDiag test builds |  |

## 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** |  |  |

# Integration DATAFLOW REQUIREMENTS

## Required Global Data Inputs

Refer DataDict.m file

## Required Global Data Outputs

Refer DataDict.m file

## Specific Include Path present

Yes

# Runnable Scheduling

This section specifies the required runnable scheduling.

|  |  |  |
| --- | --- | --- |
| **Init** | **Scheduling Requirements** | **Trigger** |
| **McuDiagcInit1** | **None** | **RTE (Init)** |

|  |  |  |
| --- | --- | --- |
| **Runnable** | **Scheduling Requirements** | **Trigger** |
| **McuDiagcPer1** | **None** | **MotorControl ISR\*2** |
| **McuDiagcPer2** | **None** | **RTE (2 ms)** |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |

# Memory Map REQUIREMENTS

## Mapping

|  |  |  |
| --- | --- | --- |
| **Memory Section** | **Contents** | **Notes** |
| **MotCtrl\_START\_SEC\_CODE** | Code section for Motor Control scheduled functions | Constants are defined at function level. Memory mapping need to be adjusted accordingly. |
|  |  |  |

\* 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 1: ARM Cortex R4 Memory Usage

## NvM Blocks

None

# Compiler Settings

## Preprocessor MACRO

None

## Optimization Settings

None

# Appendix

*None*