Integration Manual – MtrTempEst

Table of Contents

[1 Dependencies 3](#_Toc366068308)

[1.1 SWCs 3](#_Toc366068309)

[1.2 Global Functions(Non RTE) to be provided to Integration Project 3](#_Toc366068310)

[2 Configuration 4](#_Toc366068311)

[2.1 Build Time Config 4](#_Toc366068312)

[2.2 Configuration Files to be provided by Integration Project 4](#_Toc366068313)

[2.2.1 Da Vinci Parameter Configuration Changes 4](#_Toc366068314)

[2.2.2 DaVinci Interrupt Configuration Changes 4](#_Toc366068315)

[2.2.3 Manual Configuration Changes 4](#_Toc366068316)

[3 Integration 5](#_Toc366068335)

[3.1 Required Global Data Inputs 5](#_Toc366068336)

[AmbTemp\_DegC\_f32 5](#_Toc366068337)

[CtrlTempFinal\_DegC\_f32 5](#_Toc366068338)

[EngTemp\_DegC\_f32 5](#_Toc366068339)

[EstPkCurr\_AmpSq\_f32 5](#_Toc366068340)

[HwVel\_HwRadpS\_f32 5](#_Toc366068341)

[ScomAMDefeat\_Cnt\_lgc 5](#_Toc366068342)

[ScomTempDataRcvd\_Cnt\_lgc 5](#_Toc366068343)

[3.2 Required Global Data Outputs 5](#_Toc366068344)

[AssistMechTempEst\_DegC\_f32 5](#_Toc366068345)

[CuTempEst\_DegC\_f32 5](#_Toc366068346)

[MagTempEst\_DegC\_f32 5](#_Toc366068347)

[SiTempEst\_DegC\_f32 5](#_Toc366068348)

[3.3 Specific Include Path present 5](#_Toc366068349)

[4 Runnable Scheduling 6](#_Toc366068360)

[5 Memory Mapping 7](#_Toc366068361)

[5.1 Mapping 7](#_Toc366068362)

[5.2 Usage 7](#_Toc366068363)

[5.3 Non RTE NvM Blocks 7](#_Toc366068364)

[5.4 RTE NvM Blocks 7](#_Toc366068365)

[6 Compiler Settings 7](#_Toc366068366)

[6.1 Preprocessor MACRO 7](#_Toc366068367)

[6.2 Optimization Settings 7](#_Toc366068368)

[7 Revision Control Log 8](#_Toc366068369)

# Dependencies

## SWCs

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

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

< Global function (except the ones that are defined in RTE modules) that is defined in this component but used by other function>

None

# Configuration

## Build Time Config

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

## Configuration Files to be provided by Integration Project

Ap\_MtrTempEst\_Cfg.h generated by Ap\_MtrTempEst\_Cfg.h.tt

### Da Vinci Parameter Configuration Changes

|  |  |  |
| --- | --- | --- |
| Parameter | Notes | SWC |
| MtrTempEstGeneral/MtrTempEstCPEnable | To enable checkpoints | MtrTempEst |

### DaVinci Interrupt Configuration Changes

|  |  |  |  |
| --- | --- | --- | --- |
| ISR Name | VIM # | Priority Dependency | Notes |
| <None> |  |  |  |

### Manual Configuration Changes

|  |  |  |
| --- | --- | --- |
| Constant | Notes | SWC |
| <None> |  |  |







# Integration

## Required Global Data Inputs

## AmbTemp\_DegC\_f32

## CtrlTempFinal\_DegC\_f32

## EngTemp\_DegC\_f32

## EstPkCurr\_AmpSq\_f32

## HwVel\_HwRadpS\_f32

## ScomAMDefeat\_Cnt\_lgc

## ScomTempDataRcvd\_Cnt\_lgc

## Required Global Data Outputs

## AssistMechTempEst\_DegC\_f32

## CuTempEst\_DegC\_f32

## MagTempEst\_DegC\_f32

## SiTempEst\_DegC\_f32

## Specific Include Path present

< No >

# Runnable Scheduling

This section specifies the required runnable scheduling.

|  |  |  |
| --- | --- | --- |
| Init | Scheduling Requirements | Trigger |
| MtrTempEst\_Init1 | Call from RTE before first call of component periodic functions | RTE init |

|  |  |  |
| --- | --- | --- |
| Runnable | Scheduling Requirements | Trigger |
| MtrTempEst\_Per1 | None | RTE 100ms |



# Memory Mapping

## Mapping

|  |  |  |
| --- | --- | --- |
| Memory Section | Contents | Notes |
| MTRTEMPEST\_START\_SEC\_VAR\_CLEARED\_UNSPECIFIED |  |  |
| MTRTEMPEST\_START\_SEC\_VAR\_CLEARED\_BOOLEAN |  |  |
| MTRTEMPEST\_START\_SEC\_VAR\_CLEARED\_32 |  |  |
| RTE\_START\_SEC\_AP\_MTRTEMPEST\_APPL\_CODE |  |  |

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

## Usage

|  |  |  |
| --- | --- | --- |
| Feature | RAM | ROM |
|  |  |  |

Table 1: ARM Cortex R4 Memory Usage

## Non RTE NvM Blocks

|  |
| --- |
| Block Name |
| <NVM block used Non RTE functions > |

Note : Size of the NVM block if configured in developer

## RTE NvM Blocks

|  |
| --- |
| Block Name |
| <NVM block used in RTE functions > |

Note : Size of the NVM block if configured in developer

# Compiler Settings

## Preprocessor MACRO

<Define all the preprocessor Macros needed and conditions when needed>.

## Optimization Settings

<Define Optimization levels that are needed and conditions when needed>.

# Revision Control Log

|  |  |  |  |
| --- | --- | --- | --- |
| **Rev #** | **Change Description** | **Date** | **Author** |
| 1 | Initial version | 25-Mar-13 | Selva |
| 2 | Updated to latest integration manual template | 4-Sep-13 | KMC |