Integration Manual – (Damping)

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# 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 refered. Developer should track the references.

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

None

# Configuration

## Build Time Config

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

## Configuration Files to be provided by Integration Project

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

### Da Vinci Parameter Configuration Changes

|  |  |  |
| --- | --- | --- |
| Parameter | Notes | SWC |
| DampingGeneral/DampingCPEnable | To enable checkpoints | Damping |

### DaVinci Interrupt Configuration Changes

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

### Manual Configuration Changes

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

# Integration

## Required Global Data Inputs

|  |
| --- |
| MotorVelCRF\_MtrRadpS\_f32 |
| HwTorque\_HwNm\_f32 |
| VehicleSpeed\_Kph\_f32 |
| DampingDDFactor\_Uls\_f32 |
| AssistMechTempEst\_DegC\_f32 |
| AssistCmp\_MtrNm\_f32 |
| DefeatDampingSvc\_Cnt\_lgc |
| CustomDamp\_MtrNm\_f32 |
|  |
|  |

## Required Global Data Outputs

|  |
| --- |
| DampingCmd\_MtrNm\_f32 |
|  |

## Specific Include Path present

No

# Runnable Scheduling

This section specifies the required runnable scheduling.

|  |  |  |
| --- | --- | --- |
| Init | Scheduling Requirements | Trigger |
| Damping\_Init1 | Called from RTE before any call to the periodic functions | RTE init |

|  |  |  |
| --- | --- | --- |
| Runnable | Scheduling Requirements | Trigger |
| Damping\_Per1 | None | RTE 2ms |
|  |  |  |

**.**

# Memory Mapping

## Mapping

|  |  |  |
| --- | --- | --- |
| Memory Section | Contents | Notes |
| DAMPING\_START\_SEC\_VAR\_CLEARED\_32 |  |  |
| DAMPING\_START\_SEC\_VAR\_CLEARED\_16 |  |  |
| DAMPING\_START\_SEC\_VAR\_CLEARED\_UNSPECIFIED |  |  |
| DAMPING\_START\_SEC\_VAR\_CLEARED\_BOOLEAN |  |  |
| RTE\_START\_SEC\_AP\_DAMPING\_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 |
| <Memmap usuage info> |  |  |

Table : 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

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Item #** | **Rev #** | **Change Description** | **Date** | **Author Initials** |
| 1 | 1 | Initial version | 2-May-13 | Jared |
| 2 | 2.0 | Updated for new template. Only input change (added new RTE) | 04-Oct-13 | Selva |