Integration Manual TrqArblim

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

### Da Vinci Parameter Configuration Changes

|  |  |  |
| --- | --- | --- |
| Parameter | Notes | SWC |
| TrqArblimGeneral/TrqArblimCPEnable | To enable checkpoints | TrqArblim |

### DaVinci Interrupt Configuration Changes

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

### Manual Configuration Changes

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

# Integration

## Required Global Data Inputs

LKACmd\_HwNm\_f32

LKAState\_State\_enum

MaxSecureVehicleSpeed\_Kph\_f32

PosServEnable\_Cnt\_lgc

PosSrvoCmd\_MtrNm\_f32

HwTorque\_HwNm\_f32

TrqOscCmd\_MtrNm\_f32

GMOSHOscillate\_State\_enum

ESCCmd\_HwNm\_f32

ESCState\_State\_enum

## Required Global Data Outputs

IqTrqOv\_HwNm\_f32

LKATorqueDelivered\_HwNm\_f32

AssistDDFactor\_Uls\_f32

DampingDDFactor\_Uls\_f32

OpTrqOv\_MtrNm\_f32

ReturnDDFactor\_Uls\_f32

ESCIsLimited\_Cnt\_lgc

ESCTorqueDelivered\_HwNm\_f32

## Specific Include Path present

No

# Runnable Scheduling

This section specifies the required runnable scheduling.

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

|  |  |  |
| --- | --- | --- |
| Runnable | Scheduling Requirements | Trigger |
| TrqArblim\_Per1 | Must execute after customer torque overlay function | RTE 2ms |

**.**

# Memory Mapping

## Mapping

|  |  |  |
| --- | --- | --- |
| Memory Section | Contents | Notes |
| TRQARBLIM\_START\_SEC\_VAR\_CLEARED\_32 |  |  |
|  |  |  |
| TRQARBLIM\_START\_SEC\_VAR\_CLEARED\_UNSPECIFIED |  |  |
| RTE\_START\_SEC\_AP\_ TRQARBLIM \_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 1: 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

# Revision Control Log

|  |  |  |  |
| --- | --- | --- | --- |
| **Rev #** | **Change Description** | **Date** | **Author** |
| 1 | Initial version | 21-Jan-14 | nzt9hv |
| 2 | Updated per CF-10 GM Torque Arbitrator v002 – 12180 | 23-Jul-14 | SB |
| 3 | Updated per CF-10 GM Torque Arbitrator v003 – 12541 | 15-Oct-14 | SB |