Integration Manual –AstLmt

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

### Da Vinci Parameter Configuration Changes

|  |  |  |
| --- | --- | --- |
| Parameter | Notes | SWC |
| AstLmtGeneral/AstLmtCPEnable | To enable checkpoints | AstLmt |

### DaVinci Interrupt Configuration Changes

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

### Manual Configuration Changes

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

# Integration

## Required Global Data Inputs

|  |
| --- |
| AssistCmd\_MtrNm\_f32 |
| AssistEOTDamping\_MtrNm\_f32 |
| AssistEOTGain\_Uls\_f32 |
| AssistEOTLimit\_MtrNm\_f32 |
| AssistStallLimit\_MtrNm\_f32 |
| AssistVehSpdLimit\_MtrNm\_f32 |
| CombinedDamping\_MtrNm\_f32 |
| DefeatLimitService\_Cnt\_lgc |
| LimitedReturn\_MtrNm\_f32 |
| LrnPnCtrCCDisable\_Cnt\_lgc |
| LrnPnCtrEnable\_Cnt\_lgc |
| LrnPnCtrTCmd\_MtrNm\_f32 |
| OpTrqOvr\_MtrNm\_f32 |
| OutputRampMult\_Uls\_f32 |
| PosServCCDisable\_Cnt\_lgc |
| PowerLimitPerc\_Uls\_f32 |
| PrkAssistCmd\_MtrNm\_f32 |
| PullCompCmd\_MtrNm\_f32 |
| TSMitCommand\_MtrNm\_f32 |
| ThermalLimitPerc\_Uls\_f32 |
| ThermalLimit\_MtrNm\_f32 |
| VehSpd\_Kph\_f32 |
| WheelImbalanceCmd\_MtrNm\_f32 |

## Required Global Data Outputs

|  |
| --- |
| LimitPercentFiltered\_Uls\_f32 |
| PreLimitForStall\_MtrNm\_f32 |
| PreLimitTorque\_MtrNm\_f32 |
| SumLimTrqCmd\_MtrNm\_f32 |
| TrqLimitMin\_MtrNm\_f32 |

## Used for TrqReasonable dianostics

## Specific Include Path present

No

# Runnable Scheduling

This section specifies the required runnable scheduling.

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

|  |  |  |
| --- | --- | --- |
| Runnable | Scheduling Requirements | Trigger |
| AstLmt\_Per1 | None | RTE 2ms |
| AstLmt\_Scom\_ManualTrqCmd | None | Server invocation for OperationPrototype <ManualTrqCmd> |

**.**

# Memory Mapping

## Mapping

|  |  |  |
| --- | --- | --- |
| Memory Section | Contents | Notes |
| ASTLMT\_START\_SEC\_VAR\_CLEARED\_32 |  |  |
| ASTLMT\_START\_SEC\_VAR\_CLEARED\_BOOLEAN |  |  |
| RTE\_START\_SEC\_AP\_ASTLMT\_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 |
| <NVM block used Non RTE functions > |

Note : Size of the NVM block if configured in developer

## RTE NvM Blocks

|  |
| --- |
| Block Name |
| Rte\_Pim\_SteerAsstDefeat |

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 | 22-Nov-13 | Selva |
| 2 | Updated to SF-04B version 006 | 25-Aug-14 | SB |