**Module Design Document**

**For**

**MotAgArbn**

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**Prepared For:**

**Software Engineering**

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| **Description** | **Author** | **Version** | **Date** |
| Initial Version | SB | 1.0 | 05-Aug-2015 |

**Table of Contents**

[1 Introduction 5](#_Toc427002372)

[1.1 Purpose 5](#_Toc427002373)

[1.2 Scope 5](#_Toc427002374)

[2 MotAgArbn & High-Level Description 6](#_Toc427002375)

[3 Design details of software module 7](#_Toc427002376)

[3.1 Graphical representation of MotAgArbn 7](#_Toc427002377)

[3.2 Data Flow Diagram 7](#_Toc427002378)

[3.2.1 Component level DFD 7](#_Toc427002379)

[3.2.2 Function level DFD 7](#_Toc427002380)

[4 Constant Data Dictionary 8](#_Toc427002381)

[4.1 Program (fixed) Constants 8](#_Toc427002382)

[4.1.1 Embedded Constants 8](#_Toc427002383)

[5 Software Component Implementation 9](#_Toc427002384)

[5.1 Sub-Module Functions 9](#_Toc427002385)

[5.1.1 Init: MotAgArbnInit1 9](#_Toc427002386)

[5.1.1.1 Design Rationale 9](#_Toc427002387)

[5.1.1.2 Module Outputs 9](#_Toc427002388)

[5.1.2 Per: MotAgArbnPer1 9](#_Toc427002389)

[5.1.2.1 Design Rationale 9](#_Toc427002390)

[5.1.2.2 Store Module Inputs to Local copies 9](#_Toc427002391)

[5.1.2.3 (Processing of function)……… 9](#_Toc427002392)

[5.1.2.4 Store Local copy of outputs into Module Outputs 9](#_Toc427002393)

[5.2 Server Runables 9](#_Toc427002394)

[5.3 Interrupt Functions 9](#_Toc427002395)

[5.4 Module Internal (Local) Functions 9](#_Toc427002396)

[5.4.1 Local Function #1 9](#_Toc427002397)

[5.4.1.1 Design Rationale 10](#_Toc427002398)

[5.4.1.2 Processing 10](#_Toc427002399)

[5.5 GLOBAL Function/Macro Definitions 10](#_Toc427002400)

[6 Known Limitations with Design 11](#_Toc427002401)

[7 UNIT TEST CONSIDERATION 12](#_Toc427002402)

[Appendix A Abbreviations and Acronyms 13](#_Toc427002403)

[Appendix B Glossary 14](#_Toc427002404)

[Appendix C References 15](#_Toc427002405)

# Introduction

## Purpose

## Scope

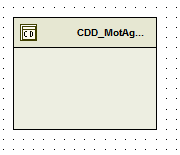
# MotAgArbn & High-Level Description

*Refer FDD.*

# Design details of software module

*<The Data Flow Diagrams should be created in the absence of this representation with the FDD.>*

## Graphical representation of MotAgArbn



## Data Flow Diagram

Refer FDD

### Component level DFD

Refer FDD

### Function level DFD

Refer FDD

# Constant Data Dictionary

## Program (fixed) Constants

### Embedded Constants

#### Local Constants

|  |  |  |  |
| --- | --- | --- | --- |
| Constant Name | Resolution | Units | Value |
| Refer .m file |  |  |  |
| CORRLNSTSMASKSIGA\_CNT\_U08 | 1 | Cnt | 0x01 |
| CORRLNSTSMASKSIGB\_CNT\_U08 | 1 | Cnt | 0x02 |
| MAXSTALLCNTR\_CNT\_U08 | 1 | Cnt | 255 |

# Software Component Implementation

## Sub-Module Functions

## Init: MotAgArbnInit1

## Design Rationale

Init1 function is created so that it will allow a RTE model to be created in the AUTOSAR tools which allows Per-Instance Memory and calibration definition needs. The initialization function is doing nothing

## Module Outputs

*None*

## Per: MotAgArbnPer1

## Design Rationale

*None*

## Store Module Inputs to Local copies

*MotCtrlMotAgAMecl\_MotRev\_T\_u0p16 = MOTCTRLMGR\_MotCtrlMotAgAMecl;*

*MotCtrlMotAgBMecl\_MotRev\_T\_u0p16 = MOTCTRLMGR\_MotCtrlMotAgBMecl;*

*MotCtrlMotAgMeclCorrlnSt\_Cnt\_T\_u08 = MOTCTRLMGR\_MotCtrlMotAgMeclCorrlnSt;*

*MotCtrlMotAgAMeclRollgCntr\_Cnt\_T\_u08 = MOTCTRLMGR\_MotCtrlMotAgAMeclRollgCntr;*

*MotCtrlMotAgBMeclRollgCntr\_Cnt\_T\_u08 = MOTCTRLMGR\_MotCtrlMotAgBMeclRollgCntr;*

*MotCtrlMotAgAMeclQlfr\_T\_enum = MOTCTRLMGR\_MotCtrlMotAgAMeclQlfr;*

*MotCtrlMotAgBMeclQlfr\_T\_enum = MOTCTRLMGR\_MotCtrlMotAgBMeclQlfr;*

## (Processing of function)………

*Refer FDD*

## Store Local copy of outputs into Module Outputs

*MOTCTRLMGR\_MotCtrlMotAgMecl = MotCtrlMotAgMecl\_MotRev\_T\_u0p16*

## Server Runables

None

## Interrupt Functions

*None*

## Module Internal (Local) Functions

## Local Function #1

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Function Name** | SigAvlChkRev | Type | Min | Max |
| **Arguments Passed** | SigCorrChk\_Cnt\_T\_u08 | uint8 | 0 | 255 |
|  | SigRollgCnt\_Cnt\_T\_u08 | uint8 | 0 | 255 |
|  | SigQlfr\_Cnt\_T\_enum | SigQlfr1 | SIGQLFR\_NORES | SIGQLFR\_FAILD |
|  | \* LstRollgCnt\_Cnt\_T\_u08 | uint8 | 0 | 255 |
|  | \* StallCnt\_Cnt\_T\_u08 | uint8 | 0 | 255 |
| **Return Value** | SigAvl\_Cnt\_T\_lgc | boolean | 0 | 1 |

## Design Rationale

None

## Processing

Refer FDD SigAvlChkRev2 State flow Chart

## GLOBAL Function/Macro Definitions

None

# Known Limitations with Design

None

# UNIT TEST CONSIDERATION

None

Abbreviations and Acronyms

| **Abbreviation or Acronym** | **Description** |
| --- | --- |
|  |  |
|  |  |

Glossary

**Note**: Terms and definitions from the source “Nexteer Automotive” take precedence over all other definitions of the same term. Terms and definitions from the source “Nexteer Automotive” are formulated from multiple sources, including the following:

* ISO 9000
* ISO/IEC 12207
* ISO/IEC 15504
* Automotive SPICE® Process Reference Model (PRM)
* Automotive SPICE® Process Assessment Model (PAM)
* ISO/IEC 15288
* ISO 26262
* IEEE Standards
* SWEBOK
* PMBOK
* Existing Nexteer Automotive documentation

| **Term** | **Definition** | **Source** |
| --- | --- | --- |
| MDD | Module Design Document |  |
| DFD | Data Flow Diagram |  |

References

| **Ref. #** | **Title** | **Version** |
| --- | --- | --- |
| 1 | AUTOSAR Specification of Memory Mapping (Link:[AUTOSAR\_SWS\_MemoryMapping.pdf](http://www.autosar.org/download/R4.0/AUTOSAR_SWS_MemoryMapping.pdf)) | v1.3.0 R4.0 Rev 2 |
| 2 | MDD Guideline | EA4 01.00.00 |
| 3 | [Software Naming Conventions.doc](http://misagweb01.nexteer.com/eRoomReq/Files/erooms8/NextGeneration/0_fc55f/Software%20Naming%20Conventions%2003x(In%20Work).doc) | 1.0 |
| 4 | [Software Design and Coding Standards.doc](http://eroom1.nexteer.com/eRoomReq/Files/erooms8/NextGeneration/0_1a67a9/Software%20Design%20and%20Coding%20Standards.doc) | 2.0 |
| 5 | FDD – ES248A\_MotAgArbn\_Design | See Synergy Subproject verison |