

CLASSIC & ADAPTIVE AUTOSAR

Middleware development and integration: L3 Autopilot ECU

Overview

- Configuration and integration of Tata Elxsi's Classic AUTOSAR stack 4.2.2 & 4.3 in MCU and Adaptive AUTOSAR 19.03 components in SOC along with the application libraries in the development of the central decision system part of the autonomous drive controller ECU
- The central decision system comprises MCU (TC 397), SOC (R Car H3), and related systems (clock system, power system, data system, map positioning system)
- Software Development following ISO26262 ASIL D for MCU software development and ISO26262 ASIL B for SOC software development

Activities

- Development and Integration of Ethernet Switch driver, Coretest, Flashtest, RamTest, IOHAL, SRP, UART Driver, I2C Driver, GPS receiver handler, Power Management IC handler, and Can FD and Ethernet-based FBL in the MCU
- Development and Integration of FOTA, Non-platform Service (Camera & Media Handler – PCIE and MIPI) CAN FD driver in SOC
- Customize and integrate the bootloader (uboot) in SOC
- Configure and integrate the AUTOSAR Classic basic software in MCU and Adaptive Functional Clusters in SOC
- Third-party HSM and multicore OS Configuration and integration
- Application modelling & Integration for MCU (TC 397) & SoC (R Car H3) and Integration Testing

Scope

- IP Licensing: Tata Elxsi's Classic **AUTOSAR 4.2.2 & 4.3** and **Adaptive AUTOSAR 19.03** is provided
- Requirement Analysis
- High-Level Design
- Low-Level Design
- SWC Design
- Software Implementation
- Static Analysis of Code
- Unit Testing
- Configuration of MCU and SoC
- Integration
- Integration Testing

TOOLS

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|------------------------|-----------------------|-------------------|-------------|-------------|
| ▪ Enterprise Architect | ▪ Tasking Compiler | ▪ QAC, MISRA 2012 | ▪ Vecotcast | ▪ CANape |
| ▪ DOORS | ▪ Lauterbach debugger | ▪ JIRA | ▪ CANoE | ▪ EzyConfig |