

Master 2012

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Analysis of Embedded Linux as suitable platform for SIDIS-VCI (Vehicle Communication Interface)

ABSTRACT - Masterthesis

The goal of this thesis is to carry out analysis that how much suitable the embedded Linux hardware platform for Vehicle Communication Interfaces of SIDIS product family. To validate this COBRA5329 BSP (board support package) based on embedded Linux MCF5329 ColdFire architecture is used. It has CAN controller on the board which allows more support in troubleshooting and to test developed application. In the first stage, the board will be tested for general communication (TCP/IP). To get know-how about the installation and configuration procedure of the target board, developing and debugging application with the COBRA5329 starter kit and how applications behaves in real time situation and under certain conditions.

Later TCP/IP communication between the windows-PC environment and embedded Linux hardware (COBRA5329 board) is established with further performance test to be carried out by using CAN controller on the board to communicate with different CAN devices like CAN analyzer, CANcaseXL and ECU Simulator etc.

Integration of the whole communication link (Windows-PC to target board (TCP/IP Communication) and from board to CAN devices (CAN Communication)) as last step to develop further specific test applications. Performance needs to be measured at this time e.g. What is the limitation and how much fast is the overall communication link. Based on these test cases and measurements on overall final report with the recommendation for the future use will be published.