

GATEWAY AUTOMOTIVE DATA LOGGER APPLICATION BASED ON NXP S32G2

The S32G2 vehicle network processor Applications

PREFACE

Each vehicle generates a vast amount of information, tapping into which would bring a value add for the customers, accompanied with safety opportunities. This data adds to the new revenue streams and business intelligence. With evolution of automotive ecosystem, this data would see conversion into products and services offered at multiple levels. All these opportunities bring a super integration of technologies like smart gateways, data processing at edge or cloud, applying big-data analytics, and more.

OVERVIEW

The NXP S32G2 vehicle network processor combines ASIL D safety, hardware security, high-performance real-time and application processing, and network acceleration for service-oriented gateways, domain controllers and safety co-processors.

As a center of messages exchange, it is an ideal platform for deploying system logger and brings many benefits for manufacturers.

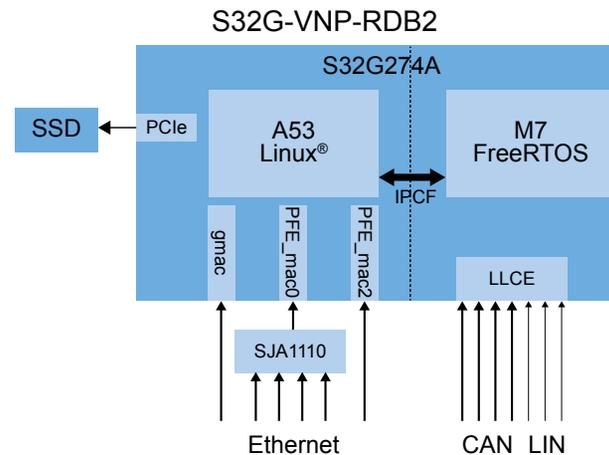
SPECIFICATIONS

- 12x CAN/CAN FD
- 3x LIN
- 6x 100BASE-T1
- 1x 100BASE-TX
- 4x 1000BASE-T
- PCIe X2 Gen3 M.2 slot for SSD

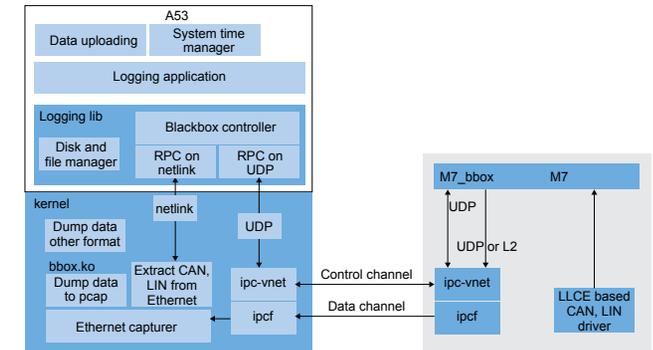
ENABLEMENT TOOLS AND STEPS

- NXP Linux BSP build host Ubuntu18.04 LTS.
- S32 Design Studio 3.2 or newer.
- Based on NXP BSP project add meta-cs-vnp for Linux application on Arm® Cortex®-A53, then build BSP image.
- Import project for Arm Cortex-M7 core to S32 DS and build to get binary image.
- With the python scripts in project merge the BSP image and M7 core binary into one single bootable image. Then program it to SD or EMMC.
- Mount an SSD to S32G-VNP-RDB2 and boot.

HARDWARE BLOCK DIAGRAM



SOFTWARE BLOCK DIAGRAM



APPLICATION WORKFLOW

