Quick Start Guide

S32G-VNP-EVB

S32G is a vehicle network processor delivering high levels of real-time and applications processing, supporting CAN/LIN/FlexRay networking and Gigabit Ethernet interfaces with hardware acceleration and delivering a high level of embedded security and ASIL D functional safety capabilities.

GET TO KNOW THE S32G-VNP-EVB

CAN 6x2 TJA1048T

Arduino Connectors

FlexRay x2 TJA1081

(P3) Power Jack

Power ON/OFF Switch

OpenSDA Port

PCIe Side Band Connector

SGMII Ethernet Port

LIN x4 TJA1024HG

CAN x2 TJA1044GT/3

CAN x2 TJA1044GT/3

S32G-PROCEVB-S

RGMII Ethernet Port

SJA1105Q

SABRE Connector (RGMII B)

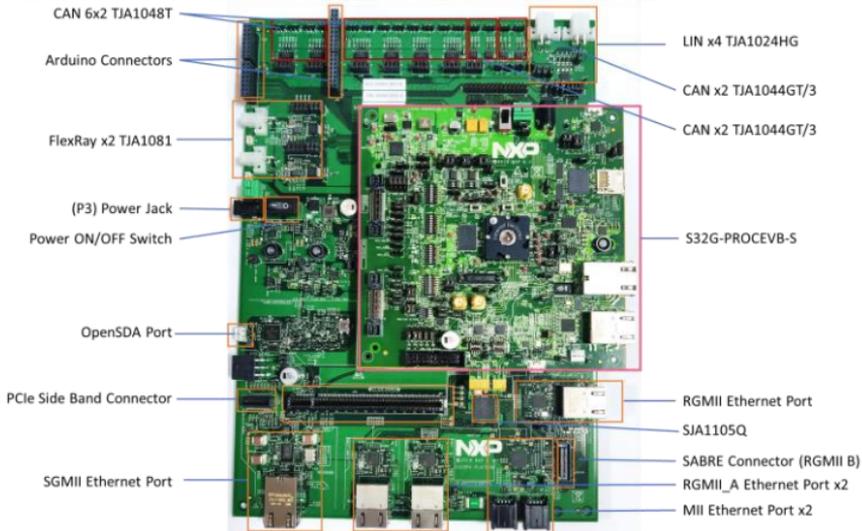RGMII_A Ethernet Port x2

MII Ethernet Port x2

Figure 1: S32G-VNP-EVB

S32G-VNP-EVB

The NXP S32G-VNP-EVB supports development, evaluation and demonstrations with the NXP S32G274A Vehicle Network Processor (VNP).

S32G targets applications such as:
• Central gateways, domain controllers, central compute nodes
• Firmware Over-The-Air (FOTA) updates
• Vehicle data analytics
• Secure key management
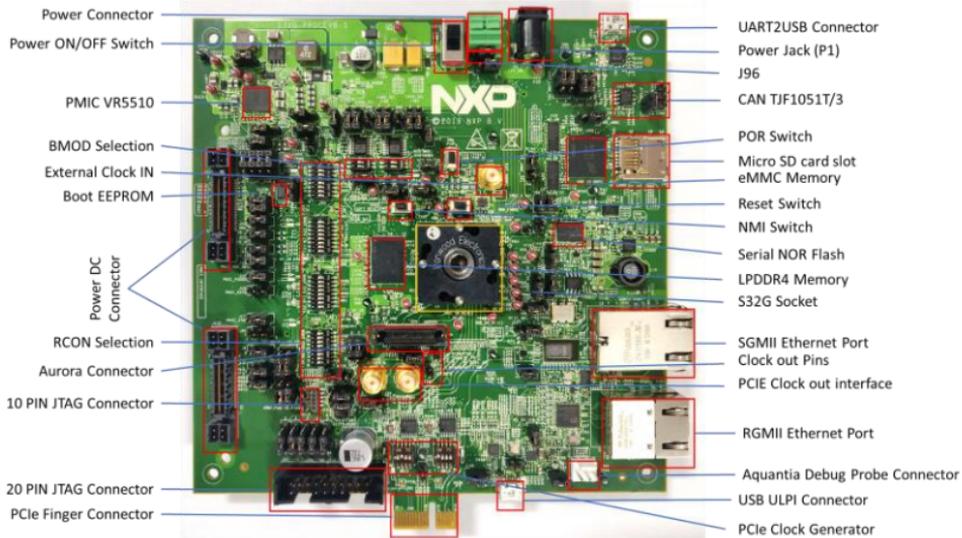
GET TO KNOW THE S32G PROCESSOR MODULE

Power Connector
Power ON/OFF Switch
PMIC VR5510
BMOD Selection
External Clock IN
Boot EEPROM
Power DC Connector
RCON Selection
Aurora Connector
10 PIN JTAG Connector
20 PIN JTAG Connector
PCIe Finger Connector

UART2USB Connector
Power Jack (P1)
J96
CAN TJF1051T/3
POR Switch
Micro SD card slot
eMMC Memory
Reset Switch
NMI Switch
Serial NOR Flash
LPDDR4 Memory
S32G Socket
SGMII Ethernet Port
Clock out Pins
PCIE Clock out interface
RGMII Ethernet Port
Aquantia Debug Probe Connector
USB ULPI Connector
PCIe Clock Generator

Figure 2: S32G-PROCEVB-S Processor Module

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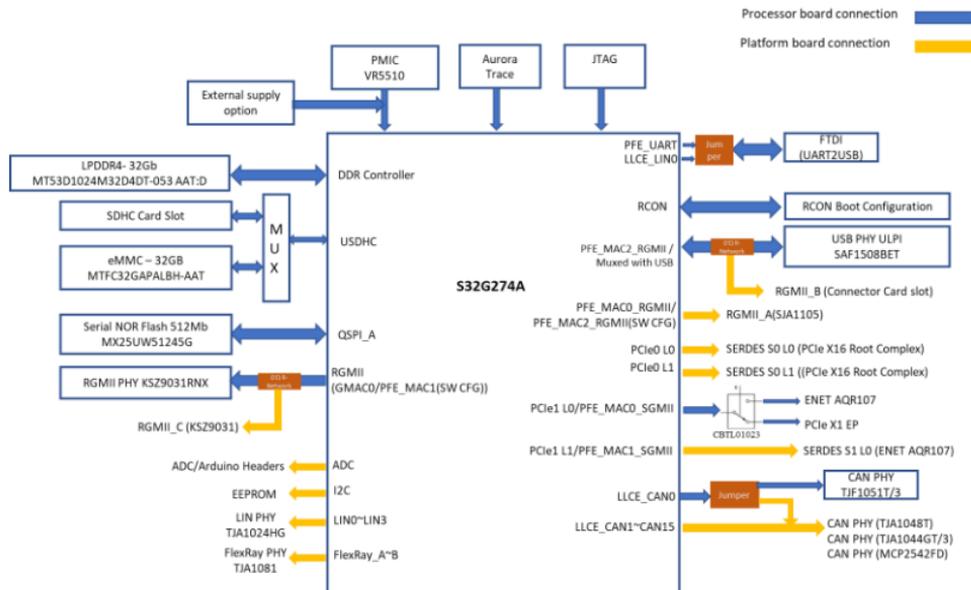# S32G-VNP-EVB Block Diagram

Figure 3 : S32G-VNP-EVB Block Diagram

STEP-BY-STEP INSTRUCTIONS

1 Install S32G and Heatsink

Follow the instructions in the [S32G Socket and Heat Sink User Guide](#) to install the S32G and heat sink.

You can watch this [video](#) (available in this [directory](#) if video doesn't play in browser) to see the installation process.

2 Connect the Power Supply

When the S32G-PROCEVB-S is stacked on the S32GRV-PLATEVB: Jumper J96 on the S32G-PROCEVB-S should be in position 1-2, and only the S32GRV-PLATEVB needs to be powered. Connect power supply to the 12V power jack P3 on S32GRV-PLATEVB.

When the S32G-PROCEVB-S is used standalone: Jumper 96 should be in position 2-3. Connect power supply to the 12V power jack P1 on S32G-PROCEVB-S.

3 Install Software

Install the following….
- ✓ [Tera Term](#)for console
- ✓ [FTDI CDM](#)v2.12.28 WHQL driver for serial configuration.
- ✓ [Win32 Disk Imager](#)
- ✓ [Packet Sender](#)Application

4 Setup Tera Term Console

Open Tera Term on Windows PC. Select the serial port to which the micro USB J58 of the S32G-PROCEVB-S is connected and click OK. Go to Setup→Serial Port and select 115200 as the baud rate.

STEP-BY-STEP INSTRUCTIONS

5 Power ON the S32G-VNP-EVB

Switch ON the power switch SW1 on the S32GRV-PLATEVB and power switch SW10 on the S32G-PROCEVB-S.

6 Diagnostics Utility

The Diagnostics Utility is auto-executed from the SD card. Console display on Tera Term shows the status of the diagnostic tests.

Reference Links for Useful Documents

1. S32G Socket and Heatsink User Guide

2. Video- Installing the S32G in the EVB Socket

3. S32 VNP EVB Platform Board design details

4. S32G-PROCEVB-S design details

5. S32G Hardware Design Guide

6. S32G Boot Process Application Note

7. S32G-VNP-EVB User Guide

8. SD card program image (in Diagnostics SW deliverable)

9. SD card image logs

SUPPORT

Visit **www.nxp.com/support** for a list of phonenumbers within your region.

WARRANTY

Visit **www.nxp.com/warranty** for complete warranty information.

Get Started

Download installation software and documentation under **"Jump Start Your Design"** at **nxp.com/S32G-VNP-EVB.**

www.nxp.com/S32G-VNP-EVB