BlueBox 3.0 THIRD-GENERATION, AUTOMOTIVE HIGH PERFORMANCE COMPUTE (AHPC) DEVELOPMENT PLATFORM

OVERVIEW

The BlueBox 3.0 embedded development platform series prototypes existing and future automated driving (AD) and new EE architectures like zonal and central EE architectures.

Based on the high-performance LX2 automotive microprocessor and S32G gateway microprocessor, the BlueBox 3.0 system provides the enhanced performance required to prototype AD and central compute workloads in a modular and scalable open platform with system-level safety implementation and a software SDK.

KEY FEATURES

- High-performance LX2160A automotive processor with up to 16 Arm® Cortex®-A72 cores

- S32G274 gateway processor with ASIL D Functional Safety

- Supports Kalray MPPA for Math and Neural Network acceleration with SW integration

- SJA1110 automotive Ethernet switch with TSN support

- Modular and scalable open platform supporting rich expansion options to prototype various configurations and connections to multiple ECUs and sensors

  – Up to 6 PCIe® expansion slots

- Up to 8 Ethernet ports

- True automotive embedded platform featuring end-to-end automotive-grade system-on-chip ICs

- System-level safety implementation with the device-level safety collaterals


Bluebox3 platform

EASE OF DEVELOPMENT

- BlueBox 3.0 SDK: Complete AD and central compute software development kit package including the intercommunication framework and Linux® BSP

- Supports Robot Operating System (ROS) and fast data distribution service (DDS) intercommunication framework

- Easily customizable

- Development environment for mainstream vehicles

TARGET APPLICATIONS

- AD L2+ applications

  – Highway autopilot

  – Automated parking

- High performance compute for zonal and central EE architectures

BlueBox 3.0 BLOCK DIAGRAM (T2 CONFIGURATION)
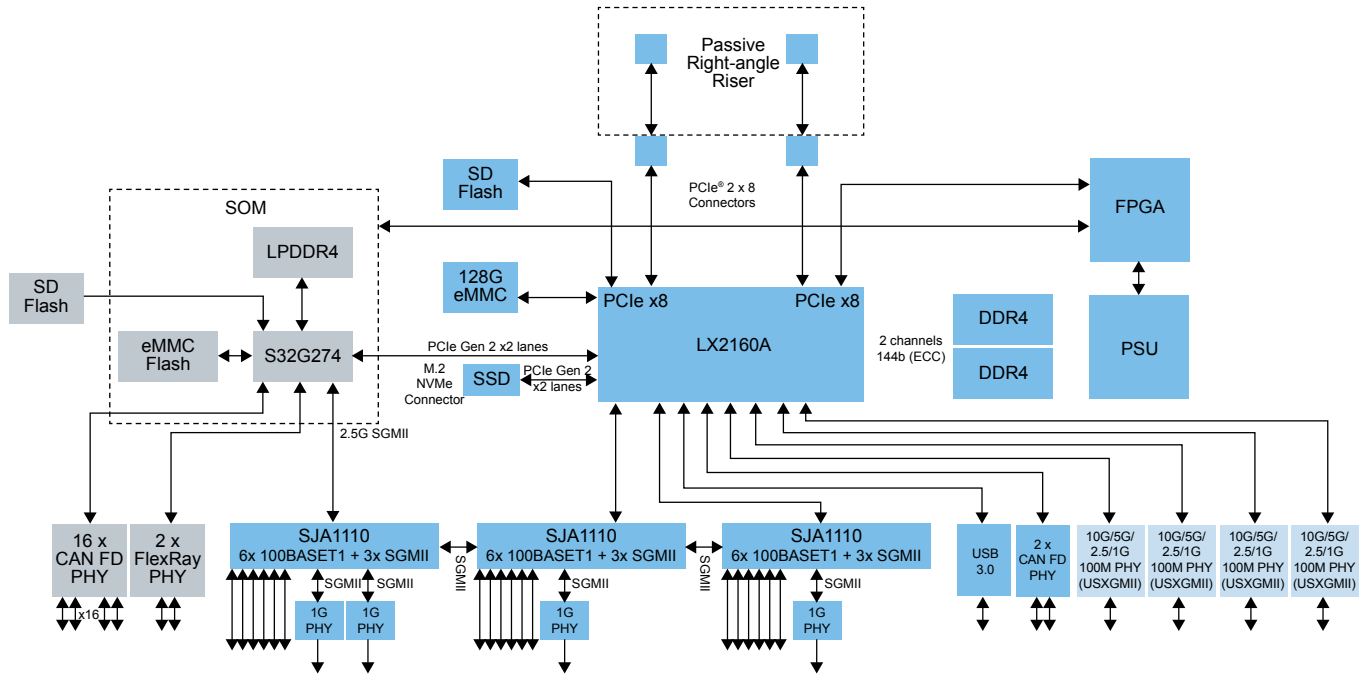
LX2160A AND BlueBox 3.0 SPECIFICATIONS

Core	16 x Arm® Cortex®-A72	Package	40 x 40 FCBGA (1517 pins)
Frequency	Up to 2.2 GHz	Power	Support safety architecture w/ auto PMICs
DDR	2 x 72b DDR4 w ECC	Front Panel	From LX2: USB 3.0, MicroSD slot, MicroUSB UART debug (shared)
Cache	16 MB L2 and platform		From S32G: MicroSD slot, MicroUSB UART debug (shared)
PCIe®	6 x Gen3	Rear Panel	From LX2: 4 x 10G, 2 x 1G, auto connectors for CAN
Ethernet	Multiple MACs (up to 100G)		From S32G: 2 x 1G, auto connectors for CAN and FlexRay

Part Number	PCIe® slots	Kit Contains
BLBX3-T2	2 PCIe slots	Full system, including the chassis and accessories
BLBX3-T6	6 PCIe slots	Full system, including the chassis and accessories

For more information, please visit:
www.nxp.com/bluebox