



MLSoC™ Dual M.2 Evaluation Kit

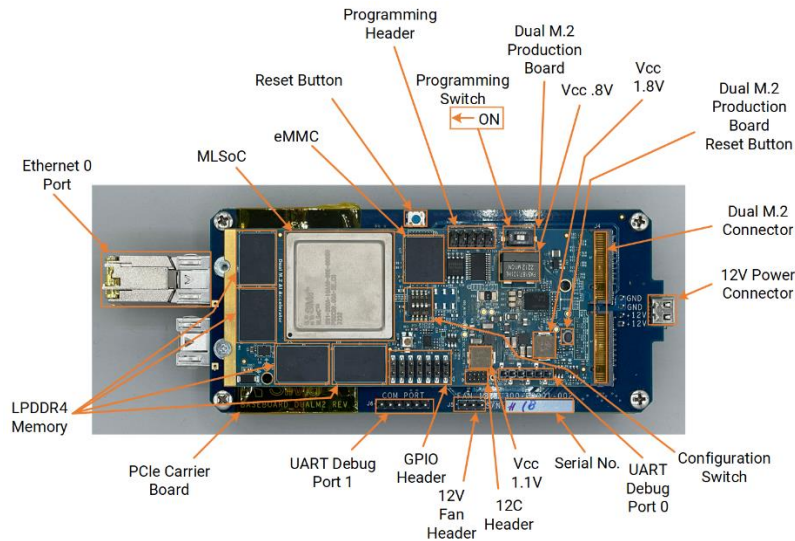


Figure 1. Dual M.2 Production Board Mounted on PCIe Carrier Card

Features and Highlights

The MLSoC Dual M.2 Evaluation Kit has a versatile production board that uses the SiMa.ai Machine Learning System on Chip (MLSoC) device. It is combined with a carrier card and Palette Software.

Some of the key features are:

- Dual M.2 form factor (46 mm x 110mm).
- Low power board. Typical workloads 18-15W.
- Supports PCIe Gen 4.0 up to x8 lanes, LPDDR4 x4, eMMC, QSPI-8 x1, UART x1.
- Machine learning accelerator (MLA) – providing up to 50 tera operations per second (50 TOPS) for neural network computation.
- Application processing unit (APU) – a cluster of four Arm Cortex-A65 dual threaded processors operating up to 1.15 GHz to deliver up to 15K Dhrystone MIPS.
- Video encoder/decoder – supports the H.264 compression standards HEVC (High Efficiency Video Coding) with support for baseline/main/high profiles, 4:2:0 pixels and 8-bit precision. The encoder supports rates up to 4K P30, while the decoder supports up to 4K P60.
- Computer vision unit (CVU) – consists of a four-core Synopsys ARC EV74 video processor supporting up to 600 16-bit GOPS.
- Designed to offer the highest performance for low power embedded edge machine learning applications.

- The MLSoC features low operating power and high ML processing capacity, making it ideal as a standalone edge-based system controller, or to

add a machine learning offload accelerator for processors, ASICs, and other devices.

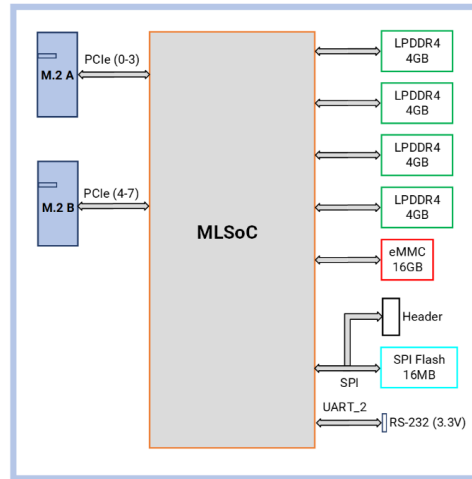


Figure 2. MLSoC Dual M.2 Production Board Functional Block Diagram

- The SiMa.ai MLSoC device offers heterogeneous cores for processing **any** computer vision ML workload. Quad Arm A65 cores, a Machine Learning Accelerator (MLA) block that provides up to 50 TOPS for ML acceleration along with a Computer Vision Processor (CVP) to **any** ML computational needs for **any** framework.
- 12V power input.
- The SiMa.ai MLSoC DevKit combines:
 - Dual M.2 production board
 - PCIe carrier board (Part # MLSoC-Carrier-112-AB)
 - Palette SW release (Part #MLSoC-Palette-Beta)
- Main configuration support:
 - To function as an ML co-processor with software to support KPI measurements.

- Ordering information
 - MLSoC-DevKit-16GB-112-AB

Find the Edge and Go Beyond

The SiMa.ai MLSoC device delivers high-performance effortless machine-learning for computer vision based embedded edge applications in markets such as smart vision, robotics, industry 4.0, autonomous vehicles, drones, and the government sector.

It is designed to meet the challenges of integrating machine learning into next generation edge applications.

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