



LI-AGO-BOX-GM2B



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INTRODUCTION

The LI-AGO-BOX-GM2B consists of NVIDIA Jetson AGX Orin SOM, LI AGX Orin carrier board, and De-Serializer adapter board with Maxim GMSL2 MAX96712. This product supports up to 8 GMSL2 cameras which are equipped with Maxim GMSL2 MAX9295A/B/D, MAX96717G/F serializers.

KEY FEATURES

- NVIDIA Jetson AGX Orin SOM: included
- Arm Cortex-A78AE CPU
 - 8 x Arm Cortex-A78AE cores | 2 CPU clusters (4 cores/cluster) | 177 SPECint_rate2006
 - Arm® v8.2 (64-bit) | Symmetric multi-processing (SMP) | NEON SIMD | High-performance coherent interconnect fabric
 - L1 Cache: 64 KB Instruction Cache (I) + 64 KB Data Cache (D) per CPU core
 - L2 Cache: 256 KB per CPU core
 - L3 Cache: 2 MB per CPU cluster
- NVIDIA Ampere GPU:
 - Includes CUDA cores, Ray-Tracing (RT) cores and 3rd Generation Tensor cores | Enhanced compute capability
 - 2 GPC | 7 TPC | Up to 108 INT8 Sparse TOPS or 54 FP16 TFLOPS | Up to 3.365 FP32 TFLOPS or 6.73 FP16 TFLOPS (CUDA cores)
- Vision and DNN Accelerators
 - 2x Deep Learning Accelerator (DLA) | 2MB dedicated SRAM
 - Up to 98 INT8 TOPS (Deep Learning Inference) Programmable Vision Accelerator (PVA) | Up to 512 INT16 GMACS or 2048 INT8 GMACS | 2MB dedicated SRAM
- Platform Security Controller (PSC)
 - RISC-V subsystem, PKC crypto (RSA3K)
- Sensor Processing Engine (SPE)
 - Arm Cortex R5 processor | Always-on (AON) cluster
- On-Chip Memory: 4MB system cache
- Memory Subsystem
 - Memory Type: 256-bit LPDDR5
 - Maximum Memory Bus Bandwidth (up to) : 204.8 GB/s
 - Maximum Capacity: 32 GB
 - Memory encryption support | 2-stage CPU MMU and SMMU, GPU MMU | Lossless memory bandwidth compression for GPU R/W
- Imaging
 - 16x lanes total | D-PHY v2.1 (40 Gbps)
 - 16x trio links total | C-PHY v2.0 (164 Gbps)
- Multi-Stream HD Video and JPEG
 - Video Decode: H.265 (HEVC), H.264, AV1, VP9, VP8, MPEG-4, MPEG-2, VC-1
 - Video Encode: H.265 (HEVC), H.264, AV1
 - JPEG (Decode & Encode)
 - Optical Flow Accelerator:
 - Optical Flow
 - Stereo Disparity Estimation
- Audio Subsystem (APE)
 - Dedicated programmable audio processor | ARM Cortex A9 with NEON | PDM in/out | Industry-standard High-Definition Audio (HDA) controller provides a multi-channel audio path to the HDMI® interface
- Storage
 - 64GB internal eMMC 5.1 | Bus Width: 8-bit | Maximum Bus Frequency: 200 MHz (HS400 or HS533)
 - 64 MB NOR Boot Flash (QSPI)
 - 8 MB NOR Secure Key Flash
 - 1 x M.2 PCIe interface
 - 1 x Micro SD card interface
- Wireless: 1 x M.2 PCIe interface
- Ethernet: 10/100/1000 BASE-T Ethernet
- Camera: two 4T1 Fakra connectors for 8 cameras maximally 4T1 mating connector: 2298721-9
- Connector: FAKRA Z TYPE
- DeSerializer: Maxim MAX96712
- Single Coax Cable transmits up to 12 meters PoC (Power over Cable)
- Input power supply range: 12 ~ 36 VDC
- Operating temperature: -25°C ~ +65°C
- Weight: ~ 1445 g
- Dimensions: 132.0 (L) x 127.6 (W) x 84.5 (H) mm
- Part#: **LI-AGO-BOX-GM2B**

INTERFACES

- 2 x 4T1 Fakra connectors for camera connection (support up to eight cameras)
- 1 x Micro HDMI connector
- 1 x USB 3.0 Type-C interface
- 1 x USB 2.0 Micro-B interface (UART)
- 1 x Micro SD card interface
- 1 x CAN connector
- 1 x TRIG connector
- 1 x Power socket (DC 19V)
- 2 x USB3.0 Type-A interfaces (stacked)
- 2 x RJ45 Gigabit Ethernet interfaces (stacked)

NOTE: Currently , only the interface at the bottom is developed for use, as shown in the following figure.

- 2 x M.2 PCIe interfaces (one for wireless, one for SSD)

NOTE: These two interfaces are inside the box, which require to open the outer case to install.

- REC, RST and PWR buttons included



BOM

#	Items	QTY	Unit
1	LI-AGO-BOX-GM2B	1	Piece
2	19 VDC power supply: 1 x 19V power adapter + 1 x cable adapter NOTE: The cable adapter is for testing only	1	Set

● REVISION HISTORY

Revision	Description	Release Date
1.0	First release.	19 May 2023

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