



**LEOPARD**  
IMAGING

# 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 ADI GMSL2 MAX96712. This product supports up to 8 GMSL2 cameras which are equipped with ADI GMSL2 MAX9295A/B/D, MAX96717G/F serializers.

## KEY FEATURES

- Pre-integrated with NVIDIA Jetson AGX Orin 64GB / 32GB SOM
- Arm Cortex-A78AE CPU  
8-core Arm® Cortex®-A78AE v8.2 64-bit CPU 2MB L2 + 4MB L3 (AGX Orin 32GB)  
  
12-core Arm® Cortex®-A78AE v8.2 64-bit CPU 3MB L2+ 6MB L3 (AGX Orin 64GB)
- GPU:  
1792-core NVIDIA Ampere with 56 Tensor Cores (AGX Orin 32GB)  
  
2048-core NVIDIA Ampere with 64 Tensor Cores (AGX Orin 64GB)
- AI Performance  
200 TOPs (AGX Orin 32GB)  
  
275 TOPs (AGX Orin 64GB)
- Memory: 32GB, 64GB
- 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
- Expansion Storage on the carrier board  
1 x M.2 Key-M PCIe slot for SSD  
1 x Micro SD card slot
- Display Output: 1 x Display port
- Cameras inputs: 8 x GMSL2 cameras equipped with ADI MAX9295A/B/D
- DeSerializer: 2x ADI MAX96712
- Single Coax Cable transmits up to 12 meters PoC (Power over Cable)

## Electrical and Mechanical

- Input power supply range: 12 ~ 19 VDC
- Power Consumption(BOX + 8x FAKRA cameras): ~ 32.2 W (each FAKRA camera consumption: ~ 1.5 W (19 fps @ 2880 x 1860 ) )
- Operating temperature: -25°C ~ +65°C
- Weight: ~ 1445 g
- Dimensions: 145.0 (L) x 127.6 (W) x 83 (H) mm

## INTERFACES

- 2 x MINI Quad FAKRA connectors for camera connection (support up to eight cameras)

Connector: FAKRA Z TYPE

- 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
- 2 x USB3.0 Type-A interfaces (stacked)
- 1 x RJ45 Gigabit Ethernet interfaces (supported 10/100/1000 BASE-T Ethernet )
- 1 x M.2 Key-E interface for WIFI & Bluetooth
- 1 x M.2 Key-M interface for SSD
- REC, RST and PWR buttons included
- 2 x ANT interfaces (optional)

### **NOTE:**

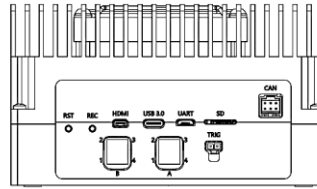
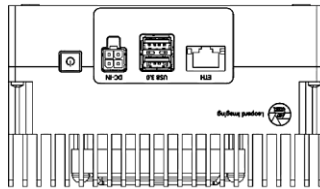
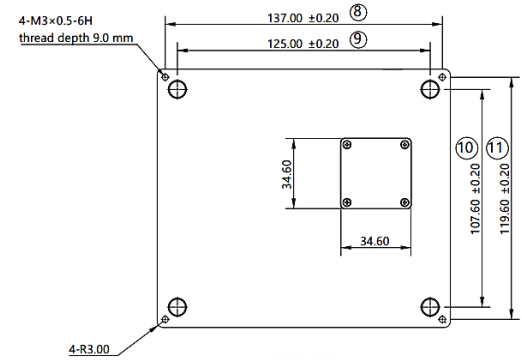
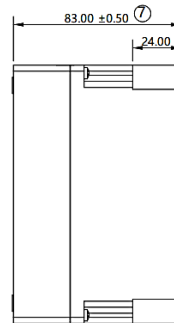
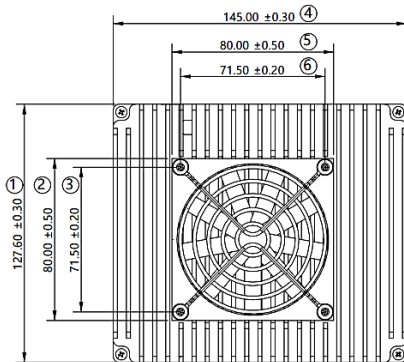
- The ANT interfaces are not used in default.



## 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<br><b>NOTE:</b> The cable adapter is for testing only | 1   | Set   |

## DIMENSIONS

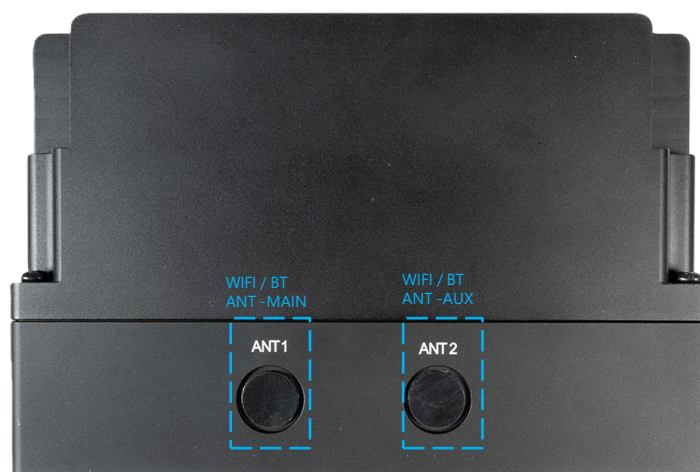
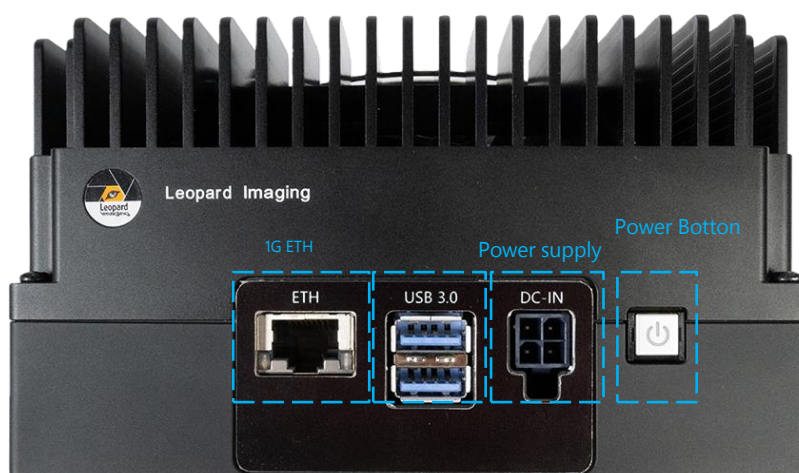
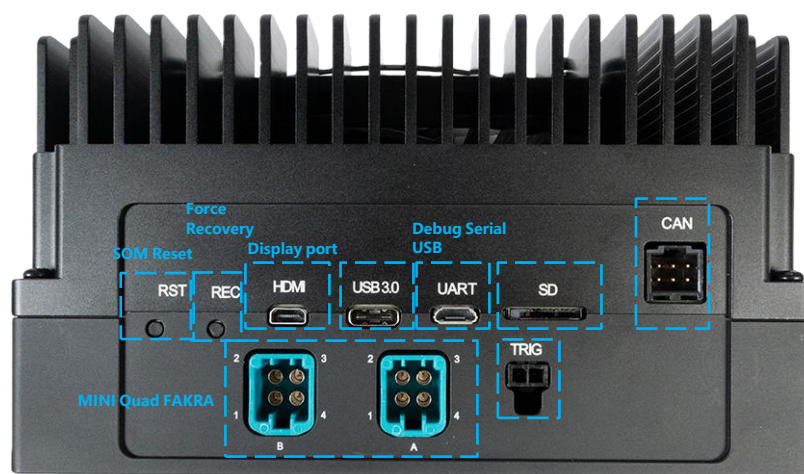


### NOTE:

- ⊗ marked are important sizes.
- Tolerances for others unmarked refer to the Tolerance table.
- Unit: mm

| TOLERANCE TABLE  |           |                   |           |                 |           |
|------------------|-----------|-------------------|-----------|-----------------|-----------|
| LENGTH TOLERANCE |           | CHAMFER TOLERANCE |           | ANGLE TOLERANCE |           |
| Size X           | Tolerance | Size X            | Tolerance | Size X          | Tolerance |
| 0.5 < X ≤ 3      | ±0.1      | 0.5 < X ≤ 3       | ±0.2      | X ≤ 10          | ±1°       |
| 3 < X ≤ 6        | ±0.1      | 3 < X ≤ 6         | ±0.5      | 10 < X ≤ 50     | ±30'      |
| 6 < X ≤ 30       | ±0.2      | 6 < X ≤ 30        | ±1        | 50 < X ≤ 120    | ±20'      |
| 30 < X ≤ 120     | ±0.3      | X > 30            | ±2        | 120 < X ≤ 400   | ±10'      |
| 120 < X ≤ 400    | ±0.5      |                   |           | X > 400         | ±5'       |
| 400 < X ≤ 1000   | ±0.8      |                   |           |                 |           |
| X > 1000         | ±1.2      |                   |           |                 |           |

## Connector Summary & Locations

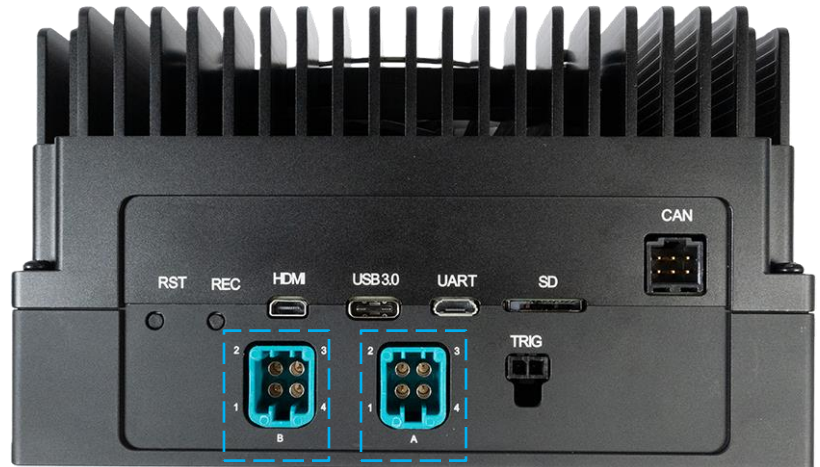


### **NOTE:**

- The ANT interfaces are not used in default.

## Mini Quad FAKRA Connector

- Part#: 0-2304168-9//2304168-9
- Number of Positions: 4
- Mating Connector Part#: 2298721-9
- Current Rating for each port: 600mA



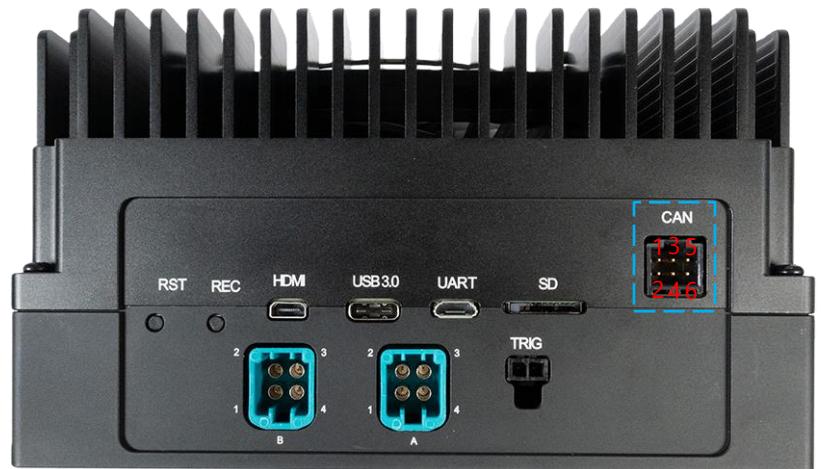
## Micro HDMI Video Output

- Type: Micro HDMI connector
- Mating Cable : Standard HDMI to Micro HDMI adapter or cable
- Current limit: 1A @ 5VDC



## CAN Interface

- Part#: 0901303206
- Number of Positions: 6



## Pinout Details

| Pin No | Pin Name   | Description         | Pin Type | Voltage Level |
|--------|------------|---------------------|----------|---------------|
| 1      | VDD5V_ISO  | Power supply output | Power    | 5V            |
| 2      | CAN0_H_OUT | H signal of CAN0    | Bidir    | 5V            |
| 3      | CAN0_L_OUT | L signal of CAN0    | Bidir    | 5V            |
| 4      | GND        | GND                 | -        | -             |
| 5      | CAN1_H_OUT | H signal of CAN1    | Bidir    | 5V            |
| 6      | CAN1_L_OUT | L signal of CAN1    | Bidir    | 5V            |

## SD Card Interface

- SD Card Memory: Supports up to 2TB



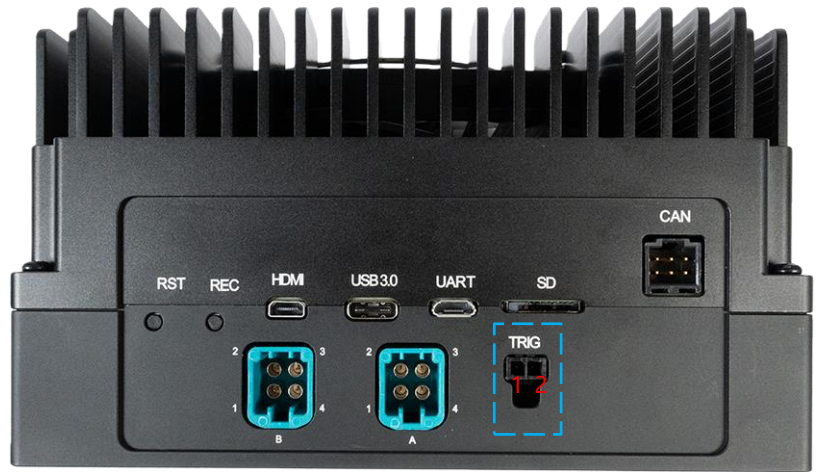
## USB 3.0 Type C Interface

- Type: USB3.0 Type C
- Mating Cable : Standard USB 3.0 Type C cable
- Current limit: 1A @ 5VDC



## Trig Interface

- Part#: 2-1445057-2
- Number of Positions: 2

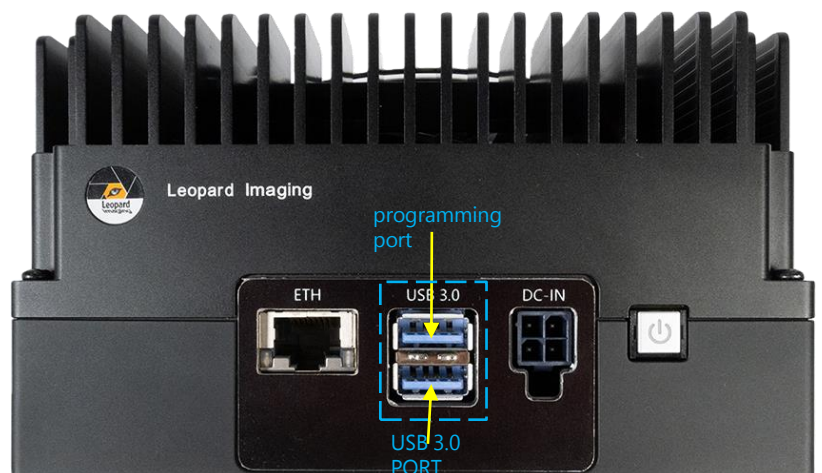


### Pinout Details

| Pin No | Pin Name | Description            | Pin Type | Voltage Level |
|--------|----------|------------------------|----------|---------------|
| 1      | TRIG_IN  | External Trigger input | Input    | 3.3V          |
| 2      | GND_EXT  | -                      | -        | -             |

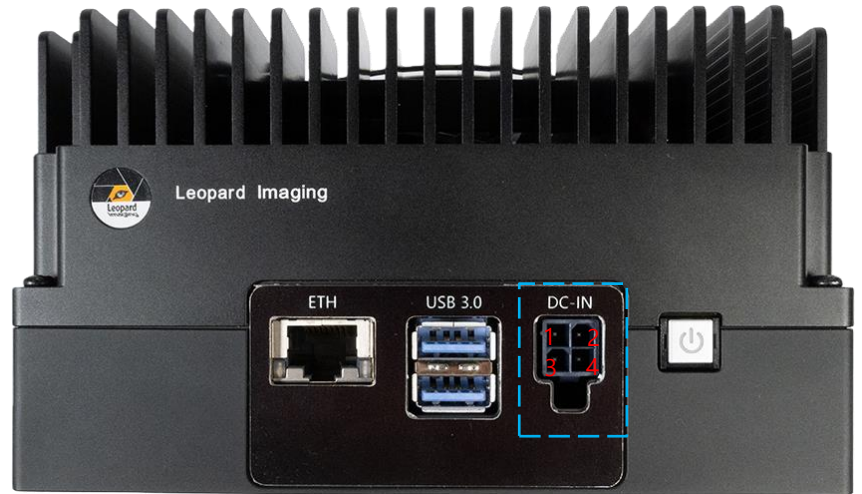
## Standard stacked USB3.0 Interface

- Type: Stacked USB3.0 Type A
- Description: USB 3.0 Type A device port and OTG programming port connector
- Mating Cable : Standard USB 3.0 Type A cable
- Current limit: 2A @ 5VDC



## Power Supply Interface

- Part#: 1724480004
- Number of Positions: 4



## Pinout Details

| Pin No | Pin Name | Description  | Pin Type | Voltage Level |
|--------|----------|--------------|----------|---------------|
| 1      | VCC_12V  | Power supply | Power    | 12V           |
| 2      | VCC_12V  | Power supply | Power    | 12V           |
| 3      | GND      | GND          | -        | -             |
| 4      | GND      | GND          | -        | -             |

## ● REVISION HISTORY

| Revision | Description                                                      | Release Date |
|----------|------------------------------------------------------------------|--------------|
| 1.0      | First release.                                                   | 19 May 2023  |
| 1.1      | 1. Updated pictures on the page 1 & 2.<br>2. Updated dimensions. | 20 Oct 2025  |

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