LI-OA8000-MB

Address:
48820 Kato Road
Suite 100B
Fremont, CA 94538
USA

Phone: +1 (408)263-0988
Fax: +1 (408)217-1960

Sales: sales@leopardimaging.com
Support: support@leopardimaging.com
**TECHNICAL FEATURES**

- Main board for OmniVision OA8000 artificial intelligence video processor
- CPU: Quad-core ARM® Cortex® A5 CPU with NEON® and NPU, 32KB I-cache, 32KB D-cache for each core
- Storage:
  - 256Mb serial flash memory with Quad SPI/QPI
  - 1Gb serial NAND flash memory
  - 1 Micro SD card interface
- Video encoder:
  - High-profile advanced video encoder
  - JPEG encoder for still pictures
- Neural network accelerator:
  - 1K MAC NPU
  - SIMD pixel processor
- Audio codec: built-in 16-bit sigma delta ADC and 16-bit mono DAC, with full-duple audio, AGC and echo/noise cancellation
- Camera interfaces:
  - 4-lane or 2-lane MIPI CSI-2
  - Supports up to 5MP image sensor
- Wireless: 2.4GHz and 5GHz WIFI
- Size: 88.0 (L) x 60.0 (W) mm
- Operating temperature: -20°C ~ +70°C
- Weight: ~ 28 g
- Part#: LI-OA8000-MB

**INTERFACES**

- 1 x 4-lane MIPI CSI-2 RX port
- 1 x 2-lane MIPI CSI-2 TX port
- 1 x USB2.0 Micro-B interface
- 1 x Micro SD card interface
- 1 x UART & JTAG interface
- WIFI Antenna chip included for wireless communication
**DIMENSIONS**

**NOTE:**
- ☉ marked are important sizes.
- The tolerance for others unmarked is ±0.3 mm.

*Unit: mm*

**BOM**

<table>
<thead>
<tr>
<th>#</th>
<th>Items</th>
<th>QTY</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>LI-OA8000- MB V1.0 board</td>
<td>1</td>
</tr>
<tr>
<td>2</td>
<td>USB 2.0 Type A - Micro B cable</td>
<td>1</td>
</tr>
</tbody>
</table>
**INTERFACE J1 (To Main Board)**

- Part#: 20525-030E-02
- Number of Positions: 30
- Pitch: 0.4 mm
- Mating I-PEX Cable: FAW-1233-xx

![Interface J1 Diagram]

**INTERFACE J2 (To Sensor)**

- Part#: 20525-030E-02
- Number of Positions: 30
- Pitch: 0.4 mm
- Mating I-PEX Cable: FAW-1233-xx

![Interface J2 Diagram]
### INTERFACE CN1 & CN8 (To Sensor)

- **Part#:** FX12B-40P-0.4SV
- **Number of Positions:** 40
- **Number of Rows:** 2
- **Pitch:** 0.4 mm
- **Mating Connector:** FX12B-40S-0.4SV

**NOTE:** Identical with OVT evaluation board.

### INTERFACE CN4 (IR-Cut Driver)

- **Part#:** 0532610271
- **Number of Positions:** 2
- **Pitch:** 1.25 mm
**INTERFACE CN5 (UART & JTAG Port)**

- Part#: 62101021021
- Number of Positions: 10
- Number of Rows: 2
- Pitch: 1.27 mm

---

**OA8000 UART & JTAG port**

<table>
<thead>
<tr>
<th>Boot Mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPI NOR Flash (000)</td>
<td>Default</td>
</tr>
<tr>
<td>USB boot (100)</td>
<td>Press button SW5</td>
</tr>
<tr>
<td>UART boot (010)</td>
<td>Press button SW4</td>
</tr>
</tbody>
</table>

---

**Boot Mode Selection (SW3, SW4, SW5)**

**Boot Mode**

- USB boot (100): Press button SW4
- UART boot (010): Press button SW5
**WPS Button & Front Door Button (SW1, SW6)**

- Part#: EVQ-P2202M

**NOTE**: The two buttons are located on the opposite side of the LI-OA8000-MB.

---

**INTERFACE J3 & J13**

**NOTE**: The interface is covered with jumper by default. Don’t unplug it as it will stop the whole board from working.

- Part#:
  - Jumper: 86730-001lf
  - Header: M22-2010205
- Number of Positions for Jumper or Header: 2
- Number of Rows for Jumper or Header: 1
- Pitch for Jumper or Header: 2 mm
### INTERFACE J10 (MCU & Reset)

**NOTE:** The interface is covered with jumper by default. Don’t unplug it as it will stop the whole board from working.

- **Part#:**
  - Jumper: 86730-001lf
  - Header: M22-2010205
- **Number of Positions for Jumper or Header:** 2
- **Number of Rows for Jumper or Header:** 1
- **Pitch for Jumper or Header:** 2 mm

---

### INTERFACE J12

**NOTE:** The interface is covered with jumper by default. Don’t unplug it as it will stop the whole board from working.

- **Part#:**
  - Jumper: 86730-001lf
  - Header: M22-2010205
- **Number of Positions for Jumper or Header:** 2
- **Number of Rows for Jumper or Header:** 1
- **Pitch for Jumper or Header:** 2 mm
### INTERFACE J16

**NOTE:** The interface is covered with jumper by default. Don’t unplug it as it will stop the whole board from working.

- **Part#:**
  - Jumper: 86730-001lf
  - Header: M22-2010205
- **Number of Positions for Jumper or Header:** 2
- **Number of Rows for Jumper or Header:** 1
- **Pitch for Jumper or Header:** 2 mm

### INTERFACE J14 & J17

**NOTE:** The interface is covered with jumper by default. Don’t unplug it as it will stop the whole board from working.

- **Part#:**
  - Jumper: 86730-001lf
  - Header: M22-2010205
- **Number of Positions for Jumper or Header:** 2
- **Number of Rows for Jumper or Header:** 1
- **Pitch for Jumper or Header:** 2 mm
## REVISION HISTORY

<table>
<thead>
<tr>
<th>Revision</th>
<th>Description</th>
<th>Release Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.0</td>
<td>First release.</td>
<td>24 Mar 2022</td>
</tr>
</tbody>
</table>

48820 Kato Rd, Suite 100B, Fremont, CA 94538, USA
Phone: +1 (408)263-0988
Fax: +1 (408)217-1960
Email: sales@leopardimaging.com
Website: www.leopardimaging.com