Photon is the Jetson carrier board specifically designed to support smart camera applications.

This Jetson platform provides a PoE PD Gigabit Ethernet uplink for data and power and has various I/O connectors positioned for easy packaging into off the shelf camera housings. Additional key features include expansion for WiFi/BT, Cellular and NVMe as well as dual MIPI (sterro) inputs.

Since Photon is compatible with the Jetson Nano, TX2 NX, and Xavier NX modules, users can seamlessly transition between modules depending on their AI processing requirements.

FEATURES

- Dimensions: 145mm x 64.5mm
- PoE PD (NGX002) capable, power via separate input or over Ethernet (IEEE 802.3af-2003 and IEEE 802.3 at 2009 compatible)
- For applications that don’t require PoE PD, ask about our lower cost options

SPECIFICATIONS WHEN USED WITH JETSON XAVIER NX MODULE

| Front I/O (Camera End) MIPI  |
| Camera Inputs               |
| 2x 2-lane MIPI CSI-2        |
| • 15-pin FPC 1mm Pitch Connector |
| • Same MIPI connector used on Nano Dev Kit |

| Front I/O (Camera End) USB |
| 1x USB 3.1 (Gen 2) (Connector: USB Type-C) |

| Internal I/O Fan            |
| 1x 4-pin PWM Fan Connector  |

| Rear I/O - USB OTG          |
| 1x USB 2.0 OTG for Flashing Capability (Micro USB) |

| Rear I/O - Power Input      |
| 1x 2mm DC Barrel Jack       |
| +12V DC +/-5%               |

| Rear I/O - Button           |
| Dual RESET + FLASH Enable Functionality |

| Wireless Expansion          |
| 1x WiFi Module (M.2 2230 E-Key) (PCIe and USB)\[1] |
| 1x LTE Module (M.2 3042 B-Key) w/ SIM Card Slot |

| Dimensions                  |
| 145mm x 64.5mm (5.7” x 2.53”) |

| Specification changes when used with Jetson Nano |
| NVMe PCIe x4 (Gen 2) (M.2 M-Key)\[1] |
| 1x USB 3.1 (Gen 1) (Connector: USB Type-C) |

| Front I/O (Camera End) Camera MISC Interface |
| 1x I2C (can be used for Lens Control) |
| 4x GPIO (can be used for Additional Camera Control) |
| 1x Power Output (can be used for IR LEDs) |

| Internal I/O Display Output |
| 1x HDMI (Type-A Vertical) |

| Rear I/O - Ethernet |
| 1x 1000BASE-T Uplink |
| PoE IEEE 802.3af-2003 (15.4W) PD |
| PoE+ IEEE 802.3at-2009 (25.5W) PD |
| Capable of operating on either network |
| Lower-cost PoE Bypass Option Available |

| Rear I/O - USB UART |
| 1x USB FTDI UART (Micro USB) |
| • Console Debug |

| Rear I/O - User Feedback |
| 1x RGB LED |
| I2C controlled |

| Storage |
| 1x microSD Card Slot |
| 1x NVMe PCIe x4 (Gen 3) (M.2 M-Key)\[1] |

| Operating Temperature |
| -25°C to +85°C (-13°F to +185°F) |

| Warranty and Support |
| 1 Year Warranty and Free Support |

| Specification changes when used with Jetson TX2 NX |
| NVMe PCIe x2 (Gen 2) (M.2 M-Key)\[1] |
| 1x USB 3.1 (Gen 1) (Connector: USB Type-C) |

[1] Either NVMe OR WiFi module can be used. They cannot be used at the same time.

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