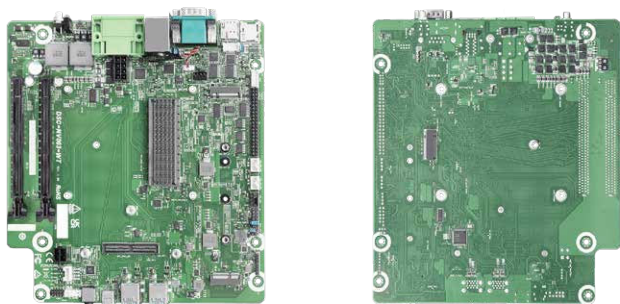




## KEY FEATURES

- NVIDIA Jetson AGX Orin Industrial (JAOi) SOM support, up to 248 TOPs (INT8)
- NVIDIA Jetson AGX Orin 64GB (JAO 64GB) SOM support, up to 275 TOPs (INT8)
- NVIDIA Jetson AGX Orin 32GB (JAO 32GB) SOM support, up to 200 TOPs (INT8)
- Wide Range Operating Temperature  
(-25 to 45°C for WO/PoE SKU) (-25 to 35°C for W/PoE SKU)
- 12-48V Phoenix type DC IN support
- Carrier board support MIPI 120-pin connector and support up to 4 × 4 lane MIPI cameras or support up to 4 × 4 lane GMSLII cameras via FARKA connector
- 2 x PCIe Gen4 x8 signal on 2 x PCIe x16 Connectors
- 1 x M.2 Key M 2280 (PCIe Gen4x4) and 1x Micro SD card for Storage
- 1 x M.2 Key B 3042/3052/2280 (USB3.2 Gen2/ USB2.0 x1 / PCIe Gen3x1) w/ Nano SIM Socket for 4G LTE/5G, POE or storage
- 1 x M.2 Key E Type 2230/2260 (PCIe Gen3x1 + USB2.0) for Wifi or POE, PCIe signal share with LAN2 I226IT
- Up to 12\*POE support via M.2 E Key and B Key module, and PCIe-2.5GPOE-4P add on cards. (each port support up to IEEE 802.3af)
- 1 x SPEAKER-OUT-L/R Wafer with 2W/2W design and 1 x MIC IN

## SPECIFICATIONS

### Processor System

|                  |                                                                                                                                                                                                                                                                                                                   |
|------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| System on Module | -Jetson AGX Orin Industrial (JAOi):Ampere GPU + Arm Cortex-A78AE CPU + 64GB LPDDR5 (+ECC) + 64GB eMMC 5.1<br>-Jetson AGX Orin 64GB (JAO 64GB):Ampere GPU + Arm Cortex-A78AE CPU + 64GB LPDDR5 + 64GB eMMC 5.1<br>-Jetson AGX Orin 32GB (JAO 32GB):Ampere GPU + Arm Cortex-A78AE CPU + 32GB LPDDR5 + 64GB eMMC 5.1 |
| Video            | 1 x HDMI 2.0                                                                                                                                                                                                                                                                                                      |
| Memory           | -JAOi: 64GB 256-bit LPDDR5 DRAM with ECC Support<br>-JAO 64GB: 64GB 256-bit LPDDR5 DRAM<br>-JAO 32GB: 32GB 256-bit LPDDR5 DRAM                                                                                                                                                                                    |
| TPM              | TPM2.0                                                                                                                                                                                                                                                                                                            |

### I/O Interface

|              |                                                                                                                                                                        |
|--------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Ethernet     | 2 x RJ-45 connector with transformer inside & LED<br>-LAN1: Marvell 88E1512-A0-NNP2C000 Gigabit Ethernet PHY<br>-LAN2: I226IT(PCIe Ethernet Controller)                |
| PoE (Option) | Up to 12*POE support via M.2 E Key and B Key module, and PCIe-2.5GPOE-4P add on cards.<br>(each port support up to IEEE 802.3af)                                       |
| Serial Port  | 2 x RS-232/422/485 (1*DB9 connector, 1*on board wafer)                                                                                                                 |
| USB          | 4 x USB3.2 Gen2x1 Type A (options:2 x USB3.2 Gen2x1 Type A with lock and 2 x USB3.2 Gen2x1 Type A without lock),<br>1x Type C USB 2.0 (Device mode only, for OS Flash) |
| Audio        | 1 x MIC IN connector<br>SPEAKER-OUT-L+SPEAKER-OUT-R Wafer*1: 2W+2W output<br>1x audio panel header reserved for MIC IN/LINE OUT                                        |
| MIPI         | 120-pin (2 × 60, 0.5 mm pitch) camera expansion connector                                                                                                              |

### I/O Interface

|                                                                                                                  |                                                                                                                                                                                                                                                                                                                                                                |
|------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Proprietary IO<br>-1 x 40-Pin Expansion Header: 2x20, 2.54mm pitch<br>-1 x Automation Header : 2x6, 2.54mm pitch | The 40-pin expansion connector includes<br>-Audio: I2S, Digital Mic, Clock and Control<br>-I2C (2x), SPI, UART, CAN(2x), and PWM (2x)<br>-GPIO<br><br>Automation Header includes:<br>-Force Recovery Strap<br>-System Reset<br>-Power Button On<br>-Auto-Power-On<br>-Carrier board sleep<br>-System Overcurrent indicator<br>-Wake on LAN (I226IT)<br>-Ground |
|------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

### Expansion

|                      |                                                                                                                                                                                                                                                                                                                                                                                                                        |
|----------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SIM                  | 1 x Nano SIM Card slot                                                                                                                                                                                                                                                                                                                                                                                                 |
| RF& Antenna (Option) | up to 4 x 5G/4G LTE antenna + 2 x Wi-Fi antenna                                                                                                                                                                                                                                                                                                                                                                        |
| M.2 Socket           | 1 x M.2 (Key B, 3042/3052/2280)<br>-For PCIe Gen3 x1 / USB3.2 Gen2x1 5G module (Option)<br>-For PCIe Gen3 x1 / USB3.2 Gen2x1 4G LTE module (Option)<br>-For PCIe Gen3 x1 M.2 B Key 3052 POE module (Option)<br>-For PCIe Gen3 x1 M.2 B Key 2280 SSD module (Option)<br>1 x M.2 (Key E, 2230) for PCIe Gen3 x1 Wi-Fi and USB2.0 Bluetooth module (Option) or 1 x M.2 (Key E, 2260) for PCIe Gen3 x1 POE module (Option) |
| PCIe x16 slots       | 2*PCIe Gen4 x8 signal on 2*PCIe x16 Connectors                                                                                                                                                                                                                                                                                                                                                                         |
| MIPI                 | Carrier board support MIPI 120-pin connector and support up to 4 × 4 lane MIPI cameras or support up to 4 × 4 lane GMSLII cameras via FARKA connector                                                                                                                                                                                                                                                                  |

### Power Requirements

|                           |                                                                                                                                                                    |
|---------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| DC Input                  | 12V~48V DC input, 80V Surge Protection. OVP, UVP, OCP, Reverse Protection, Phoenix type connector                                                                  |
| AC to DC Adaptor (Option) | 120W Adapter, AC input 100-240Vac, 1.8A 50~60Hz, DC output 19V, 6.32A<br>For POE/5G SKU:<br>330W Adapter, AC input 100-240Vac, 4.2A 50~60Hz, DC output 24V, 13.75A |

### Storage Device

|                    |                                                                                                                                                                                                                                                   |
|--------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| M.2 Socket         | 1 x M.2 (Key M, 2280) for wide temperature PCIe Gen3 x4 NVMe SSD module (System Operating temperature TBD) or 1 x M.2 (Key M, 2280) for wide temperature PCIe Gen4 x4 NVMe SSD module (System Operating temperature TBD) (w/ air flow 0.5~0.8m/s) |
| Micro SD Card slot | 1 x Micro SD Card Slot (UHS-I/SDR-50)                                                                                                                                                                                                             |

### Mechanical

|            |                                                                                                     |
|------------|-----------------------------------------------------------------------------------------------------|
| Dimensions | 190.32 (W) x 210.31(D) mm                                                                           |
| Indicator  | 1 x Storage LED<br>1 x User Define LED                                                              |
| Function   | Power on button with LED, OS Flash Button, Reset Tact Switch<br>Enable/Disable Auto power on jumper |
| Net Weight | TBD                                                                                                 |

### Environmental

|                       |                                                                                          |
|-----------------------|------------------------------------------------------------------------------------------|
| Operating Temperature | (-25 to 45°C for WO/PoE SKU) (-25 to 35°C for W/PoE SKU)<br>(w/ air flow 0.5~0.8m/s)*(e) |
| Storage Temperature   | -25°C to 80°C(-13°F~176°F)                                                               |
| Humidity              | Operating humidity 5% to 85% RH<br>Storage humidity 30% to 70% RH                        |

### OS Support

|            |                    |
|------------|--------------------|
| OS Support | NVIDIA JetPack 6.2 |
|------------|--------------------|

\*(e) means estimation.