High-Performance 3U VPX SBC with NVIDIA Jetson AGX Orin 64GB

The Condor AGX-IOX is a rugged 3U VPX high-performance single board computer (SBC) designed for both autonomous and embedded edge systems. Designed with GPU & CPU compute capabilities supporting machine vision, AI inferencing, deep learning, and dedicated encode/decode engines.

The Condor AGX-IOX 3U VPX SBC supports advanced storage and networking capabilities, including 64GB eMMC internal storage and 10GbE (Gigabit Ethernet), and high-speed I/O such as USB 3.2, DisplayPort™, and RS-232 Serial. The card also includes dedicated HEVC (H.265)/AVC (H.264) NVENC and NVDEC engines with support for up to 4K-UHD encode resolution. The Condor AGX-IOX is designed to support both VITA 46/65 and the Sensor Open System Architecture (SOSA™) technical standards slot profile 14.2.16.
## Condor AGX-IOX 3U VPX Specifications

**Processor**  
NVIDIA® Jetson AGX Orin™

**Interface**  
3U VPX  
14.2.16 IO Intensive Slot Profile Support  
1.0” Pitch (Conduction Cooled)

**CPU**  
12-core Arm® Cortex®-A78AE v8.2 64-bit CPU L2 + 6MB L3  
2.2GHz

**Memory**  
64 GB LPDDR5  
256-bit Memory Interface up to 205 GB/s Memory Bandwidth

**Video Outputs**  
1x DisplayPort™ 1.4

**Storage**  
64GB eMMC 5.1 Internal Storage  
Optional NVMe Storage (up to 2TB)

**PCIe**  
4x PCIe Gen4 to P1A[1-4] Data Plane for Legacy Support  
4x PCIe Gen4 to P1A[5-8] Expansion Plane  
*Connections are Mutually exclusive and can’t be used simultaneously  
**Can be combined as an 8x PCIe connection.

**Operating Temperature (MIL-STD-810)**  
-40°C to 85°C (Rugged Conduction Cooled)

**Shock (MIL-STD-810)**  
40 g

**Power Consumption**  
Module: 15-60W  
Board Total: < 80W

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### Condor AGX-IOX 3U VPX Block Diagram

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