



Main Features

- Built-in NVIDIA Jetson Orin[™] NX 8GB/16GB SoM, up to 117/157 TOPS in Super Mode
- 1024-core NVIDIA[®] Ampere architecture with 32 Tensor Cores
- 4 x LAN port for optional PoE
- 1 x M.2 Key M 2280 for storage
- 1 x M.2 Key B 3042/3052 for 5G/LTE
- 1 x Full-size Mini PCIe for Wi-Fi/BT
- 1 x HDMI[®], 2 x COM port, 4 x USB, 1 x Micro-USB OTG
- Extended operating temperature -20°C~60°C
- DC 24V power input with 3-pin Phoenix terminal block

Product Overview

Powered by NVIDIA Jetson Orin[™] NX System-on-Module (SoM), the AIEdge-X[®]80-NX-S supports multiple AI application pipelines with NVIDIA[®] Ampere architecture GPU for deep learning and vision acceleration. The AIEdge-X[®]80-NX-S is a fan-cooling edge AI computer that delivers from 117 to 157 TOPS of AI inference acceleration performance. It offers one HDMI[®] 2.0, two COM ports, two USB 3.2 ports, two USB 2.0 ports, and four LAN ports for optional PoE. Thus, the AIEdge-X[®]80-NX-S is dedicated for image AI processing system on object detection which can be utilized in sorting machines, security management, parcel tracking systems, and traffic enforcement.

Specifications

NVIDIA Jetson Orin[™] NX SoM

- Jetson Orin[™] NX 8GB
 - CPU: 6-core Arm[®] Cortex[®]-A78AE v8.2 64-bit, 1.5MB L2 + 4MB L3
 - GPU: 1024-core NVIDIA[®] Ampere architecture with 16 Tensor Cores
 - Memory: 8GB 128-bit LPDDR5 102.4 GB/s
 - AI performance: 117 INT8 Sparse TOPS, Super Mode
- Jetson Orin[™] NX 16GB
 - CPU: 6-core Arm[®] Cortex[®]-A78AE v8.2 64-bit, 1.5MB L2 + 4MB L3
 - GPU: 1024-core NVIDIA[®] Ampere architecture with 32 Tensor Cores
 - Memory: 16GB 128-bit LPDDR5 102.4 GB/s
 - AI performance: 157 INT8 Sparse TOPS, Super Mode
- OpenGL 4.6, OpenGL ES 3.2, CUDA[®] 10 and Vulkan 1.1
- 260-pin SO-DIMM form factor compatible with Orin[™] NX
- NVIDIA JetPack[™] 6.2

Storage

- 1 x M.2 Key M 2280 128GB SSD (PCIe 3.0 x4)

Expansion Slot

- 1 x Full-size Mini PCIe slot
 - Support a Wi-Fi/BT module
- 1 x M.2 Key B 3042/3052
 - Support a 5G/LTE module

I/O Interface Front

- 1 x Power button
- 1 x HDD LED
- 1 x COM port (COM 1), supports RS-232/422/485
- 1 x COM port (COM 2), supports RS-232 (only Tx/Rx)
- 1 x Micro-USB OTG
- 3 x Antenna hole

I/O Interface Rear

- 1 x 3-pin Phoenix terminal block
- 2 x USB 2.0, Type-A
- 2 x USB 3.2 Gen 1x1, Type-A
- 4 x 1GbE RJ45 port (optional PoE)
 - Support IEEE 802.3af, Class 3, 15W
- 1 x HDMI[®] 2.0, up to 3840x2160@60Hz

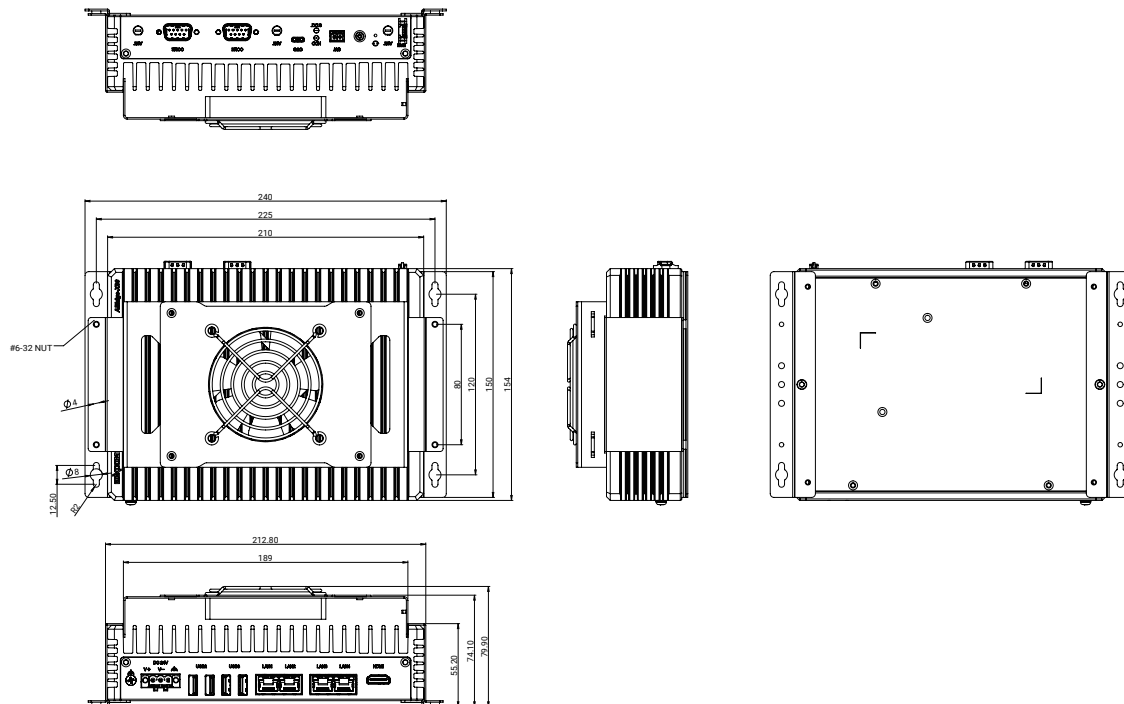
Power Management

- DC 24V input, $\pm 20\%$

Environment

- Temperature:
 - Ambient with air flow: -20°C~60°C
 - Storage temperature: -20°C~80°C
- Relative humidity: 10%~95% (non-condensing)
- Vibration protection:
 - Random: 2Grms@5Hz~500Hz, IEC 60068-2-64
 - Sinusoidal: 2G@5Hz~500Hz, IEC 60068-2-6

Dimension Drawing



Mechanical

- Dimensions: 240mm (W) x 154mm (D) x 79.9mm (H) (w/ mount bracket)
- Net weight: 2.36 kg

Package Information

- Carton dimensions: 320mm (W) x 245mm (D) x 127mm (H)
- Gross weight: 2.8kg, 1 unit per carton

Operating System

- NVIDIA Jetpack™ 6.2, supports Super Mode

Certifications

- CE (EMC EN 55032 + EN 55035)
- FCC Class A (EMI Part 15B)

Ordering Information

- ♦ **AIEdge-X®80-NX8-S (P/N: 10W200X8004X0)**
Edge AI computer with NVIDIA Jetson Orin™ NX 8GB
- ♦ **AIEdge-X®80-NX16-S (P/N: 10W200X8005X0)**
Edge AI computer with NVIDIA Jetson Orin™ NX 16GB
- ♦ **AIEdge-X®80-PoE-NX8-S (P/N: 10W200X8006X0)**
Edge AI computer with NVIDIA Jetson Orin™ NX 8GB
- ♦ **AIEdge-X®80-PoE-NX16-S (P/N: 10W200X8007X0)**
Edge AI computer with NVIDIA Jetson Orin™ NX 16GB