

PCIe-NX154PoE

100 TOPS Intelligent Frame Grabber Card with 4x PoE+ ports for IVA or AI Inspection



Key Features

- Powered by NVIDIA® Jetson Orin™ NX bundled with JetPack 5.1.1
- Single-slot half-length PCIe card form factor
- 4x PoE+ 2.5 GbE ports with a 50W total power budget
- 100 TOPS AI inference performance capable of up to four simultaneous streams of 4K@30FPS video decoding
- 1x isolated RS-485 and 1x RS-232
- x1 Gen2 PCI Express interface offering 2.5Gb/s total bandwidth
- -25°C to 60°C operating temperature with airflow (No throttling at 60°C with Orin NX 20W TDP mode)
- Compatible with Windows and Linux host computers

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Introduction

PCIe-NX154PoE is an intelligent 4-port 2.5GbE PoE+ frame grabber card fueling 100 TOPS AI inference performance for modern vision inspection, intelligent video analytics and surveillance/ security applications. Powered by NVIDIA's Jetson Orin NX system-on-module, PCIe-NX154PoE delivers 100 INT8 TOPS AI performance via its 1024 CUDA cores, 32 Tensor cores and 2 NVDLA® engines. It also features four 2.5GbE PoE+ ports with a 50W total PoE power budget to connect and power industrial GigE cameras or IP cameras.

With a standard single-slot half-length PCIe card form factor and utilizing 2.5GbE for host communication, PCIe-NX154PoE can be installed into a single PCIe x4 slot while operate on Gen2 x1 signals. This makes it an easy integration into any existing computer system, such as a 19" rack-mount IPC or commercial off-the-shelf box PC. When installed into a vision computer system, PCIe-NX154PoE provides necessary camera connectivity, and it also offloads the deep-learning image processing from host CPU/GPU since image capture, video streaming, pre-processing, and inference are all computed on PCIe-NX154PoE.

Wide temperature -25°C to 60°C operation capability, and compatibility with Windows and Linux operating systems make PCIe-NX154PoE the perfect upgrade for legacy machine vision systems to leverage deep learning-based image processing such as object detection, classification, tracking, facial recognition, etc. It's a revolutionary frame grabber card with intelligence for next-generation computer vision applications.

Specifications

System Core		Development I/O Interface	
Processor	NVIDIA® Jetson Orin™ NX system-on-module (SoM), comprising NVIDIA® Ampere GPU and ARM Cortex CPU	Video Port	1x DisplayPort, supporting 3840x2160 at 60Hz
Memory	8GB/ 16GB LPDDR5 @ 3200 MHz on SoM	DC Input	12V DC power input (for standalone development, or when total power consumption is more than 66W)
Storage Interface		Mechanical	
M.2 NVMe	1x M.2 2242 M key socket (PCIe Gen4 x2) for NVMe SSD	Dimension	167.7 mm (W) x 111 mm (H)
Deployment I/O Interface		Weight	0.4 kg
Bus Interface	x1, Gen2 PCI Express	Environmental	
PoE	4x IEEE 802.3at PoE+. Max 25.5W per port. Total 50W power budget for 4 ports	Operating Temperature	-25°C to 60°C with airflow (20W TDP mode) ^[1]
Ethernet	4x 2.5GBASE-T Ethernet port ^[1]	Storage Temperature	-40°C to 85°C
Serial Port	1x RS-232 port and 1x isolated RS-485 port	Humidity	10% to 90%, non-condensing
Development I/O Interface		EMC	CE/FCC Class A, according to EN 55032 & EN 55035
Ethernet port	1x Gigabit Ethernet	^[1] Due to I225-IT specification limitation, for systems running 2.5G Ethernet link speeds, please limit the operating temperature to 60°C. ^[2] For sub-zero and over 60°C operating temperature, a wide temperature NVMe is required.	
USB	2x USB 2.0 ports 1x micro USB (OTG)		

Ordering Information

Model No.	Product Description
PCIe-NX154-JON8	Intelligent Frame Grabber with 4x PoE+ GbE ports by Jetson Orin NX (8GB) and 128GB NVMe with pre-installed system image
PCIe-NX154-JON16	Intelligent Frame Grabber with 4x PoE+ GbE ports by Jetson Orin NX (16GB) and 128GB NVMe with pre-installed system image

Optional Accessories

PA-60W-OW	60W AC/ DC power adapter 12V/ 5A; cord end terminals for terminal block, operating temperature: -30 to 60°C
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