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.

### 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

### Specifications

#### System Core
- **Processor**: NVIDIA® Jetson Orin™ NX system-on-module (SoM), comprising NVIDIA® Ampere GPU and ARM Cortex CPU
- **Memory**: 8GB/16GB LPDDR5 @ 3200 MHz on SoM

#### Storage Interface
- **M.2 NVMe**: 1x M.2 2242 M key socket (PCIe Gen4 x2) for NVMe SSD

#### Deployment I/O Interface
- **Bus Interface**: x1, Gen2 PCI Express
- **PoE**: 4x IEEE 802.3at PoE+ Max 25.5W per port. Total 50W power budget for 4 ports
- **Ethernet**: 4x 2.5GBase-T Ethernet port[1]
- **Serial Port**: 1x RS-232 port and 1x isolated RS-485 port

#### Development I/O Interface
- **Ethernet port**: 1x Gigabit Ethernet
- **USB**: 2x USB 2.0 ports, 1x micro USB (OTG)

#### Development I/O Interface
- **Video Port**: 1x DisplayPort, supporting 3840x2160 at 60Hz
- **DC Input**: 12V DC power input (for standalone development, or when total power consumption is more than 66W)

#### Mechanical
- **Dimension**: 167.7 mm (W) x 111 mm (H)
- **Weight**: 0.4 kg

#### Environmental
- **Operating Temperature**: -25°C to 60°C with airflow (20W TDP mode)[2]
- **Storage Temperature**: -40°C to 85°C
- **Humidity**: 10% to 90%, non-condensing
- **EMC**: CE/ FCC Class A, according to EN 55032 & EN 55035

[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.

### Ordering Information

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

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