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 124 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 operating 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**
  - Processor: Supporting NVIDIA® Jetson Orin™ NX system-on-module (SOM), comprising NVIDIA® Ampere GPU and ARM Cortex CPU
  - Memory: 8GB / 16GB LPDDR5 @ 1600 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: 1x Gen2 PCI Express
  - PoE: 4x PoE+ 2.5 GbE ports with a 50W total power budget for 4 ports
  - Ethernet: 4x 2.5GBASE-T Ethernet ports
  - 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)
  - 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: TBD

- **Environmental**
  - Operating Temperature: -25°C to 60°C with airflow (20W TDP mode) *
  - Storage Temperature: -40°C ~ 85°C
  - Humidity: 10%–90%, non-condensing
  - EMC: CE Class A, according to EN 55032/55035 (pending)
    - FCC Class A, according to FCC Part 15, Subpart B (pending)

* For sub-zero and over 60°C operating temperature, a wide temperature NVMe is required.
## Ordering Information

<table>
<thead>
<tr>
<th>Model No.</th>
<th>Product Description</th>
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<tbody>
<tr>
<td>PCIe-NX154-JON8</td>
<td>100 TOPS Intelligent Frame Grabber with 4x PoE+ GbE ports by Jetson Orin NX (8GB)</td>
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<tr>
<td>PCIe-NX154-JON16</td>
<td>100 TOPS Intelligent Frame Grabber with 4x PoE+ GbE ports by Jetson Orin NX (16GB)</td>
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<th>Part No.</th>
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<tr>
<td>PA-60W-OW</td>
<td>60W AC/DC power adapter 12W 5A; cord end terminals for terminal block, operating temperature: -30 to 60°C</td>
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