Edge AI GPU Computing
Al at the Edge: The “Eye of IoT”

Artificial intelligence (AI) is everywhere these days. In order to meet the needs of various AI applications, Axiomtek has developed a series of edge AI embedded systems with various form factors and configurations: from the low power consumption yet high-performance embedded systems to server-grade industrial PCs. Developers and system integrators can utilize pre-trained inference models to build a variety of computer vision programs with their datasets, encompassing the tasks of image classification, object detection, facial recognition, people counting, surveillance video analytics, license plate recognition, vehicle tracking, industrial machine vision inspection, and so on.
Axiomtek & NVIDIA Partnership

As an NVIDIA Preferred Partner, Axiomtek has been in close collaboration with NVIDIA in driving AI innovation at the edge. Combining its strong edge computing expertise with NVIDIA’s AI and deep learning technologies, Axiomtek delivers a full portfolio of GPU-optimized hardware platforms and data communication solutions for deploying AI to the edge, helping customers speed up the implementation of deep learning capabilities into their IoT devices and turn Artificial Intelligence of Things (AIoT) into reality. Axiomtek has rolled out a series of edge AI embedded systems specifically built around NVIDIA® Jetson Supercomputer-on-Modules, with integrated NVIDIA GPUs to deliver exceptional computing performance for processing AI data at the edge. These edge AI systems come bundled with NVIDIA JetPack SDK to provide convenient access the most advanced tools, making it quick and easy to set up development environments for running AI and deep learning algorithms.
Axiomtek’s Edge AI Solutions

- Axiomtek AI Suite (AIS)*
- 3rd party AI package

UTILITY

TOOLKITS/SDKS

AIE900  AIE800  AIE100  eBOX  IPC  + All Accelerators

PLATFORMS

Reasons for Choosing NVIDIA Jetson Modules

- Comprehensive Product Portfolio
- Complete Ecosystem
- Tech Support Forum
- A Variety of Software Stack

*Axiomtek AI Suite (AIS):
Based on Intel® Edge Software Hub for Industrial, implementing from deep-learning training to inference. It comes with web apps design and intuitive user interfaces, helping the users deploy AI without coding.
NVIDIA® Jetson AGX Orin™
AGX Orin – 8-core CPU, 1792 CUDA-core GPU, up to 275 TOPS
- M.2 Key M PCIe SSD slot
- Dual 2.5GbE LAN & 8 PoE
- M.2 Key B slot for 5G/LTE
- M.2 Key E slot for Wi-Fi 6(E)
- -30°C to +50°C
- 24 VDC with ignition power control

AIE900A-AO
AIE900-XNX

NVIDIA® Jetson Xavier™ NX
Xavier NX - 6-core CPU, 348-core GPU
- M.2 Key B slot for 5G/LTE
- 4 PoE for GigE cameras & LiDAR
- -30°C to +60°C
- 9 to 36 VDC
- Optional SerDes FPD-LINK III
- Device management & Out-of-band service

AIE800-904-FL/-DC

NVIDIA® Jetson Xavier™ NX
Xavier NX – 6-core CPU, 348-core GPU
- Up to 1 HDMI, 2 USB, 1 GbE PoE
- -30°C to +50°C
- 100 to 240 VAC for AIE800-904-FL
- 9 to 36 VDC for AIE800-904-FL-DC
- 4 N-jack antenna openings
- M12 lockable I/Os
**AIE100**

**NVIDIA® Jetson Nano™, TX2 NX & Xavier™ NX**

Nano - 4-core CPU, 128-core GPU  
TX2 NX - 6-core CPU, 256-core GPU  
Xavier NX - 6-core CPU, 348-core GPU

- Ideal for edge AI smart city  
- 15W GbE PoE for camera  
- Up to -30°C to +60°C  
- Supports Alloxon Device Management Solutions

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**AIE110 Developer Kit**

**NVIDIA® Jetson Xavier™ NX**  
Xavier NX - 6-core CPU, 348-core GPU

- 15W PoE for camera & sensor  
- 2 USB, 1 GbE & 8CH DIO  
- -10°C to +60°C  
- Supports Alloxon Device Management Solutions

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**Icons**

- Smart City  
- Semi-outdoor Design  
- Remote Management (Alloxon)

- PoE for Camera Deployment  
- Palm-size  
- Remote Management (Alloxon)
IPC972

2 PCIe x16 Gen3 slots Dual NVIDIA® GeForce GPU cards
- Intel® Xeon® or 10th gen Intel® Core™
- Intel® W480E chipset
- Supports NVIDIA® RTX/Quadro GPU
- M.2 Key B slot for 5G
- M.2 Key E slot for Wi-Fi
- Supports RAID 0, 1, 5
- Supports power-on delay function
- Supports TPM 2.0

IPC962-525

1 PCIe x16 Gen3 slot NVIDIA® A2 Tensor Core GPU card
- LGA1151 socket 9th/8th gen Intel® Core™ processor, up to 65W NVIDIA® GPU card, up to 125W
- Supports NVIDIA® A2/Quadro GPU
- M.2 Key B slot for 5G (optional)
- Supports RAID 0,1 (Intel® Q370)
- Supports power-on delay function
- Supports TPM 2.0
- Supports AMT 12 (Intel® Q370)
## Edge AI Systems Selection Guide

### NVIDIA Solution

<table>
<thead>
<tr>
<th>Model</th>
<th>AI Accelerator</th>
<th>I/O Connectivity</th>
</tr>
</thead>
<tbody>
<tr>
<td>AIE100-903-FL</td>
<td>NVIDIA® Jetson Nano™</td>
<td>2 USB, 1 GbE &amp; 1 PoE</td>
</tr>
<tr>
<td>AIE100-903-FL-NX</td>
<td>NVIDIA® Jetson Xavier™ NX</td>
<td>2 USB, 1 GbE &amp; 1 PoE</td>
</tr>
<tr>
<td>AIE100-T2NX</td>
<td>NVIDIA® Jetson™ TX2 NX</td>
<td>2 USB, 1 GbE &amp; 1 PoE</td>
</tr>
<tr>
<td>AIE100A-ONX</td>
<td>NVIDIA® Jetson Orin™ NX</td>
<td>2 USB, 1 GbE &amp; 1 PoE</td>
</tr>
<tr>
<td>AIE500-901-FL</td>
<td>NVIDIA® Jetson™ TX2/TX2i</td>
<td>2 USB, 2 GbE &amp; 2 COM or 2 CAN</td>
</tr>
<tr>
<td>AIE800-904-FL(-DC)</td>
<td>NVIDIA® Jetson Xavier™ NX</td>
<td>1 HDMI, 1 PoE &amp; 1 USB</td>
</tr>
<tr>
<td>AIE900-XNX</td>
<td>NVIDIA® Jetson Xavier™ NX</td>
<td>2 USB, 1 GbE, 4 PoE, 5G &amp; MIPI</td>
</tr>
<tr>
<td>AIE900-902-FL</td>
<td>NVIDIA® Jetson AGX Xavier™</td>
<td>6 USB, 2 GbE, 4 PoE &amp; 2 COM or 2 CAN</td>
</tr>
<tr>
<td>AIE900A-AO</td>
<td>NVIDIA® Jetson AGX Orin™</td>
<td>6 USB, 2 2.5GbE, 8 PoE, 8CH DIO &amp; MIPI</td>
</tr>
</tbody>
</table>

### Intel Solution

<table>
<thead>
<tr>
<th>Model</th>
<th>CPU &amp; AI Accelerator</th>
<th>I/O Connectivity</th>
</tr>
</thead>
<tbody>
<tr>
<td>eBOX671-521-FL</td>
<td>9/8th Gen Intel® Core™ Processor with NVIDIA® MXM/Hailo-8™ Supported</td>
<td>2 USB, 1 GbE &amp; 1 PoE</td>
</tr>
<tr>
<td>eBOX671A</td>
<td>9/8th Gen Intel® Core™ Processor with Intel® Movidius™ Myriad™ X VPU Supported</td>
<td>2 USB, 1 GbE &amp; 1 PoE</td>
</tr>
<tr>
<td>IPC970</td>
<td>Intel® Xeon® or 10th Gen Core™ Processor with NVIDIA® RTX/Quadro supported</td>
<td>8 USB, 2 GbE &amp; 3 PCIe slots</td>
</tr>
<tr>
<td>IPC962-525</td>
<td>9th/8th gen Intel® Core™ processor with NVIDIA® A2/Quadro GPU Supported</td>
<td>4 USB, 2GbE, 1 COM &amp; 2 PCIe/PCI slots</td>
</tr>
</tbody>
</table>
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