



# Xplorer® X1600P-Q PCIe Accelerator

## PRODUCT BRIEF

### Accelerate low-latency edge AI inference with higher efficiency and lower power vs. CPU, GPU and FPGA solutions

The Blaize® Xplorer® X1600P-Q accelerator is designed for AI inference at the edge via an easy plug-in PCIe interface enabling industrial PCs, servers and other products to easily integrate AI inference. The X1600P-Q accelerator is based on the Blaize Graph Streaming Processor® (GSP®) architecture that enables new levels of processing power with energy efficiency ideal for AI inferencing workloads at the edge.

The X1600P-Q comes in two form factors, a half-height, half-length (HHHL) PCIe form factor and a full-height, full-length (FHFL) PCIe form factor suitable for many different industrial PC and server systems. With low power, low latency, and more efficient use of memory, the X1600P-Q can be used for computer vision applications and new AI inferencing solutions across a range of edge smart vision use cases.

### Programmability to Build Complete AI Apps, Keep Pace with Rapid Evolution of AI Models

The X1600P-Q, is a software defined AI inference accelerator, making it easy to update and maintain

after it is deployed. The X1600P-Q Graph Streaming Process (GSP) architecture is designed to run efficiently in a streaming fashion and is fully programmable via the Blaize® Picasso® SDK and Blaize AI Studio software. The hardware and software are purpose-built to enable developers to build entire edge AI inference applications optimized for both deployment and consistent updates by end users.

### Edge and Enterprise AI Inference Applications

- Smart Parking & Traffic Management
- Smart Retail
- Industrial PCs
- Warehouse and Factory Safety
- Autonomous Optical Inspection
- Network Video Recorders, Security Systems



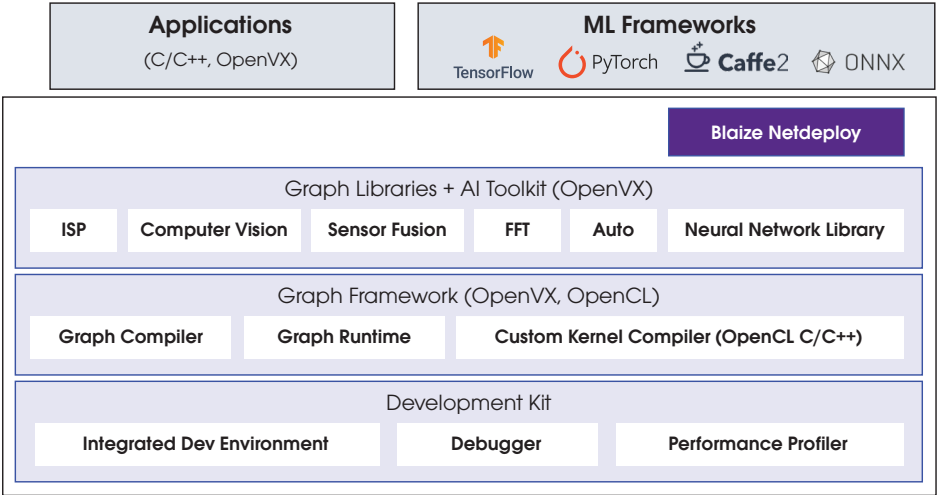
Xplorer® X1600P-Q PCIe Accelerator Platform

### Features

- Four Blaize 1600 SoCs each with 16 GSP cores, providing 64-80 TOPs
- Soft ISP available to run on Blaize 1600 SoC
- 16 GB LPDDR4
- PCIe Gen 3.0, 16 lanes

Blaize® Picasso® Software  
Development Kit Accelerates AI  
Development Cycle

- Extensive support for Machine Learning frameworks and modern neural networks
- NetDeploy toolkit to automatically quantize, compress and optimize neural networks for resource-constrained environments
- Extensive libraries to build end-to-end AI applications, integrate soft ISP, Tracker, Sensor Fusion and FFT
- Standard Languages: OpenVX extended, OpenCL C/C++ kernels to build custom layers



Specifications

Features	Description	Enterprise
Blaize GSP	Four Blaize GSP 1600 SoCs Data formats INT8, INT16, BF16, FP16, FP32, FP64	64 TOPS
ISP	Programmable GSP accelerated Soft ISP	●
Memory	LPDDR4 distributed for each Blaize X1600P SoC	16GB
Power	Typical / Max	40W / 75W
Storage Configuration	Quad SPI NOR Flash dedicated for each Blaize 1600 SoC	4x 1MB
Communication Interface	PCIe Gen 3.0, 16 lanes	HHHL single slot
Temperature Range	Ambient temperature operating mode	+10°C to +35°C
Thermal	Type of thermal solution provided	Passive
Compliance	RoHS, WEE, CE, FCC	●



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