HighPoint Unveils the MCIO-PCIEX16-G5: The Bridge to High-Performance PCIe Gen5 Expansion

Fremont, CA — November 2025 - HighPoint Technologies, Inc., a global leader in PCIe Gen5 storage and connectivity innovation, proudly announces the launch of the MCIO-PCIEX16-G5 Bridge Card — a high-performance expansion component that enhances the flexibility and scalability of HighPoint's Rocket Series PCIe Switching Expansion Adapters.

This innovative device converts two high-density MCIO 8i ports into a full-sized PCIe 5.0 x16 slot, enabling customers to seamlessly install an additional GPU, FPGA, I/O accelerator, or any high-performance PCIe Gen5 device into the scalable switching fabric created by HighPoint's Rocket Gen5 adapters. This capability enables the bridge card to serve as a flexible and modular hardware platform, enabling solution providers, system integrators and enterprise IT design, build and deploy next-generation expansion solutions to unify compute and NVMe storage through a single, high-bandwidth architecture.

Building the Foundation for Scalable, High-Bandwidth PCIe Gen5 Architectures

HighPoint's Rocket PCIe Switching Expansion Adapters, when used in conjunction with the MCIO-PCIEx16-G5 bridge card, can be deployed to operate as centralized switch hubs for modern PCIe Gen5 hardware ecosystems. The modular, reconfigurable hardware platform allows integrators and enterprise IT architects to tailor NVMe storage and I/O device configurations for specialized workflows:

- **Implement NVIDIA GPUDirect Storage (GDS)** to consolidate compute and NVMe storage through a unified, single-adapter topology.
- **Expand host computation** with additional GPUs or Gen5 PCIe I/O devices for AI training, inference, simulation, and visualization workloads.
- **Maximize bandwidth utilization** and eliminate PCIe lane contention in data-intensive environments such as LLM training, edge inference, and multi-GPU rendering.

This flexible, unified PCIe Gen5 expansion platform enables system architects to design non-blocking, peer-to-peer PCIe infrastructures capable of sustaining the throughput and low latency required by modern AI, HPC, and data center workloads.

Driving Simplified PCIe Expansion and Integration

"Our goal is to simplify the design and implementation of high-performance PCIe expansion infrastructure," said **May Hwang**, Marketing Director of HighPoint Technologies, Inc.
"By standardizing MCIO connectivity across our Gen5 adapter family, we're enabling integrators and OEMs to build scalable and customizable device and storage expansion solutions that maximize bandwidth and streamline the path between compute and storage."

Key Benefits of HighPoint's MCIO Connectivity and Expansion Architecture

HighPoint's MCIO standardization strategy provides a robust, future-proof hardware foundation for data-centric and AI-driven environments—empowering integrators, OEMs, and enterprise IT engineers to scale with confidence.

Universal Compatibility: The architecture has been standardized across all HighPoint Gen5 NVMe and Switch Adapters for seamless scalability with x86 (Intel/AMD) and ARM platforms, fully supported by all major operating systems.

Dedicated Bandwidth: Proven PCIe Switching technology ensures non-blocking, dedicated throughput. Each MCIO x8 port provides up to 64 GB/s (Gen5 x8) — preventing I/O contention and maintaining predictable performance.

High Signal Integrity: Optimized for the demanding PCIe Gen5 32 GT/s signaling rate, the architecture ensures minimal signal loss across 1-meter certified MCIO cabling for reliable high-speed communication between PCIe devices and NVMe storage media.

Compact & Efficient: The low-profile form factors and standardized MCIO connectivity interface make it an ideal expansion platform for dense rackmount, edge, and embedded systems where space, airflow, and modularity are critical.

Flexible, Modular Approach to PCIe & Storage Expansion: The architecture is fully compatible with UBM/VPP storage backplanes, U.2/U.3/E3.S drive bays, MCIO mobile racks, and HighPoint MCIO-PCIEX16-G5 Bridge Cards, delivering a cohesive, open, and interoperable Gen5 hardware ecosystem.

A Unified Hardware Backbone for the PCIe Gen5 Era

HighPoint's MCIO Connectivity Architecture establishes a robust, scalable, and standards-driven foundation for PCIe Gen5 storage, I/O, and compute ecosystems. Every HighPoint Gen5 Switch Adapter leverages this unified MCIO framework—empowering system integrators, OEMs, and enterprise IT engineers to design and deploy high-bandwidth, low-latency compute and storage infrastructures for AI, HPC, cloud, and edge computing workloads.

The introduction of the MCIO-PCIEX16-G5 Bridge Card extends this architecture even further by enabling direct, high-integrity GPU and accelerator expansion from any MCIO-equipped HighPoint adapter. This bridge card transforms the MCIO architecture into a truly modular, end-to-end Gen5 ecosystem, allowing builders to seamlessly integrate additional GPUs, FPGAs, or specialized PCIe Gen5 devices without redesigning their system topology. Together, the Rocket PCIe Switching Adapters and MCIO-PCIEX16-G5 Bridge Card create a unified, flexible hardware backbone that scales from high-density NVMe storage to GPU-accelerated computing with uncompromised bandwidth, reliability, and design efficiency.

HighPoint PCIe Gen5 MCIO Solutions (Select Models & Components)

Model	Ports / Interface	Description
Rocket 1628A	4 × MCIO Ports	PCIe Gen5 x16 Switch Adapter
Rocket 1624A	2 × MCIO Ports	PCIe Gen5 x16 Switch Adapter
Rocket 7638D	1 × External CDFP + 2 × Internal MCIO 8i	External PCIe Gen5 x16 Switch Adapter

HighPoint PCIe Gen5 MCIO Connectivity Solutions and certified cabling products — including the new MCIO-PCIEX16-G5 Bridge Card — are now available through HighPoint's global distribution network.

Model	Description	Supported Devices	Key Applications
MCIO-PCIEX16-G5	Dual MCIO 8i to PCIe Gen5 x16 Bridge Card	Supports up to 1x PCIe 5.0 x16 or 2x PCIe 5.0 x8 devices	Edge & Enterprise PCIe and NVMe storage expansion
CIO8-8639-110	MCIO x8 (Host) to Dual SFF-8639 (Device)	Directly supports to up to 2× U.2/U.3 NVMe SSDs (x4 lane per device)	Internal enterprise or workstation storage
CIO8-1002-110	MCIO x8 (Host) to Dual SFF-8639 (E3.S Device)	Directly supports to up to 2× E3.S NVMe SSDs	High-density Edge and datacenter applications
CIO8-CIO8-110	MCIO x8 (Host) to MCIO Backplane Cable	Up to 8x NVMe or PCIe devices via UBM or MCIO backplanes	Modular rackmount or system integration use

For more information about HighPoint MCIO Connectivity Architecture, please visit www.highpoint-tech.com or contact sales@highpoint-tech.com .

About HighPoint Technologies

HighPoint Technologies, Inc. is a global leader in high-performance storage and connectivity solutions. Backed by 30 years of industry experience, we specialize in pioneering PCIe connectivity and storage expansion technologies, including NVMe, SAS/SATA, USB, and Thunderbolt. Our unwavering commitment to innovation has enabled us to deliver reliable, high-density solutions that meet the evolving demands of today's marketplace.

Our Expertise & Solutions Powered by proven PCIe switching technology, our product portfolio includes scalable NVMe Switch and RAID AICs & Adapters, PCIe expansion platforms, and external storage and GPU connectivity solutions. We leverage decades of combined software and hardware expertise to engineer solutions that deliver exceptional performance and reliability for mission-critical applications.

Target Markets & Applications Our technology is employed by enterprises and professionals across the globe to address today's most demanding applications. HighPoint solutions are the foundation for data-intensive workloads in AI/ML/LLM, data centers, edge servers, and high-performance workstations, supporting both x86 (AMD/Intel) and ARM platforms. For more information, please visit HighPoint Technologies.