HighPoint Announces Rocket 1604L: The World's Most Compact PCIe Gen5 x16 Retimer AIC for AI and Industrial Edge

MILPITAS, CA — March 2026 — HighPoint Technologies, Inc., a pioneer in high-performance PCIe storage and connectivity solutions for over three decades, is proud to announce the **Rocket 1604L**, our first Retimer-based PCIe M.2 Add-In-Card (AIC). This 4-M.2 PCIe Gen5 x16 solution is powered by Astera Labs' industry-leading Gen5 Retimer technology, specifically engineered to meet the extreme signal integrity demands of next-generation AI and high-velocity compute environments.

Strategic Performance for the AI Edge

The Rocket 1604L defines a new "Performance-First" category in HighPoint's ecosystem. While HighPoint's established PCIe Switch-based solutions lead the market in universal connectivity and enterprise storage management, the Rocket 1604L is a specialized tool for architects who prioritize deterministic, near-zero latency and uninterrupted data velocity for dense accelerator clusters.

By focusing on Physical-Layer (Layer 1) optimization, the 1604L provides a streamlined and cost-effective path to harness the full 32GT/s bandwidth of PCIe Gen5 for specialized AI processing and high-frequency data acquisition.

"The Rocket 1604L represents a strategic expansion of our Gen5 portfolio," said May Hwang, VP of Marketing at HighPoint Technologies, Inc. "While our Switch-based solutions continue to lead in universal compatibility and advanced storage management, the Rocket 1604L is engineered for a different mission: pure data velocity. By leveraging Astera Labs' Retimer technology, we provide AI Architects with a streamlined, near-zero latency path that is ideal for high-density accelerator clusters where every nanosecond of inference performance is critical."

Architectural Flexibility Without Compromise

As industrial chassis become more compact and high-speed accelerators like GPUs drive thermal loads to new heights, the need for architectural flexibility has never been greater. The Rocket 1604L can be directly integrated into a standard bifurcated (x4/x4/x4/x4) PCIe slot to host up to four high-speed M.2 modules within its compact 167mm footprint, or serve as a high-integrity signal hub for remote MCIO connectivity.

"As AI workloads move from the data center to the industrial edge, maintaining signal integrity at 32GT/s becomes the primary barrier to performance," said Aanchal Sharma, Senior Director of Product Management, Signal Connectivity Group at Astera Labs. "We are pleased to see HighPoint utilize our Aries PCIe®/CXL® Smart DSP Retimers to overcome these physical-layer challenges."

The Intelligence Layer: Smart Firmware Management

HighPoint's Smart Firmware Layer transforms the Rocket 1604L from a "black box" into a self-aware infrastructure hub, providing critical oversight for mission-critical deployments:

*Precision Telemetry***:** IT Architects can monitor power consumption and thermal health in real-time, ensuring the stability of the entire AI data path.

*Lane Verification***:** Instantly confirms that every AI accelerator or NVMe drive has successfully negotiated its full Gen5 x4 bandwidth. This ensures your TOPS (Tera Operations Per Second) never drop due to link-training issues or signal degradation.

Active Signal Conditioning: Performance Meets Efficiency

Unlike passive AICs that act as simple pass-through devices, the Rocket 1604L features an **Active Signal Conditioning Engine** that solves the conflict between distance and speed:

*Remote Reach, Full Speed***:** Whether your M.2 AIPUs or NVMe drives are mounted directly or situated remotely via MCIO cables to avoid GPU heat zones, the Rocket 1604L's Retimer architecture re-clocks and regenerates the signal. This ensures zero performance degradation and absolute signal integrity at 32GT/s.

*Compact Industrial Footprint***:** Measuring only 167mm in length, the 1604L is 50% shorter than standard 4-port cards, providing the physical flexibility to fit into tight industrial enclosures.

Thermally Insured: By combining our field-proven PCIe Gen5 active cooling solution with the ability to "disaggregate" storage and compute from heat-heavy zones via MCIO connectivity, the Rocket 1604L eliminates thermal throttling in 24/7 AI server environments.

Product Positioning: A New Category of Power

The Rocket 1604L defines a **"Performance-First"** category. It is a streamlined, cost-effective alternative to our feature-rich Switch-based series, designed specifically for AI-heavy workloads that prioritize Phy-level latency and uninterrupted data velocity over complex storage management. By bridging the gap between raw power and signal stability, HighPoint continues to lead the frontier of PCIe Gen5 infrastructure.

Learn More

[HighPoint PCIe Gen5 Retimer AICs](#)

[Rocket 1604L PCIe Gen5 x16 4x M.2 NVMe Retimer AIC](#)

About HighPoint Technologies, Inc.

For over 30 years, HighPoint Technologies has been at the forefront of storage and connectivity innovation. By delivering professional-grade PCIe RAID and connectivity solutions to the global market, HighPoint empowers organizations to unlock the full potential of high-performance computing through standards-driven, architecturally superior hardware.