

HighPoint Launches RocketAIC 7608AW — Industry's Fastest & densest 64TB PCIe Gen5 NVMe Storage AIC

Fremont, CA – December 2025 — HighPoint Technologies, a global leader in advanced PCIe storage architectures, announces the **RocketAIC 7608AW-64T**, a groundbreaking PCIe Gen5 NVMe AIC SSD engineered to push single-slot storage systems into an entirely new performance class. Delivering nearly **60GB/s of sustained real-world transfer throughput** and consolidating **64TB of high-speed Gen5 NVMe media** into a single expansion card, the RocketAIC 7608AW-64T delivers a turnkey, zero-integration overhead storage solution for organizations that require uncompromising performance density.

Purpose-built for next-generation industrial, AI/ML, scientific, M&E, and high-throughput workload environments, the RocketAIC architecture converges high-speed switching, thermal engineering, intelligent management, and direct NVMe integration into a compact, self-contained platform that installs like a standard PCIe device—but behaves like a complete storage subsystem.

High-Bandwidth Switching Architecture: 48 Lanes of PCIe Gen5, Zero Bottlenecks

At the core of the RocketAIC 7608AW-64T is HighPoint's **Gen5 PCIe switching architecture**, powered by **Broadcom's PEX89048 x48-lane switch IC**, engineered to maximize the speed and responsiveness of all hosted NVMe devices—regardless of load or workload distribution.

Architecture Breakdown:

- **48 lanes of internal PCIe Gen5 bandwidth**
- **x16 lanes** routed to the host interface for maximum upstream bandwidth
- **8 independent x4 Gen5 device channels**—one for each installed NVMe SSD
- **Non-blocking switch fabric** ensures each SSD operates at full Gen5 x4 performance
- **Internal latency minimized** through optimized routing paths and signal integrity tuning

This architecture ensures that peak performance is not a synthetic benchmark scenario—it is available in real-world workloads that involve sustained ingestion, massive sequential writes, and high-frequency parallel read operations.

Real-World Throughput

The switch architecture enables the RocketAIC platform to deliver up to **64GB/s of aggregate bandwidth**, with the RocketAIC 7608AW-64T consistently achieving **58–60GB/s** in sustained cross-channel transfer workloads.

Precision Thermal Engineering for Gen5 NVMe

PCIe Gen5 NVMe SSDs are thermally demanding, and throttling can appear within seconds under 100% load. The 7608AW-64T solves this at the hardware level.

Thermal Design Highlights:

- **Direct SSD-to-heatsink contact interface** with optimized pressure zones
- **Active, high-static-pressure cooling module** engineered specifically for Gen5 thermals
- **Dedicated airflow tunnel** ensuring equal cooling distribution across all SSDs
- **Smart fan control** governed by thermal sensors on both the AIC PCB and the SSD array

This ensures that all eight Samsung 9100 Gen5 NVMe drives run within optimal temperature windows during extended write sessions, eliminating performance oscillation and reclaiming full device bandwidth that is lost to throttling in conventional designs.

Active Sensor Logging: Real-Time NVMe Analytics

RocketAIC and Rocket 7600-series adapters employ **HighPoint's Active Sensor Logging engine**, a real-time telemetry and historical data capture system designed for environments where predictable, sustained performance is mission critical.

Telemetry Tracked:

- Per-SSD temperature & power consumption
- AIC fan speed
- PCIe slot power draw
- Channel-level thermal trends

The system captures up to **five working days** of rolling data and presents it via intuitive line-graph telemetry charts in the HighPoint management suite. All data can be exported for offline analysis or long-term workflow profiling.

Operational Advantages

- Identify cooling inefficiencies before thermal throttling begins
- Detect aging SSDs through abnormal electrical signatures
- Accelerate root-cause analysis and reduce troubleshooting scope
- Maintain optimal RAID array performance during continuous 24/7 loads

This level of visibility is critical in labs, imaging systems, AI data pipelines, and industrial environments where workloads must remain deterministic.

Intuitive Management, Flexible RAID Technology & Seamless Platform Integration

The RocketAIC 7608AW-64T integrates with HighPoint's **unified NVMe Management Suite**, enabling administrators to configure RAID arrays, view telemetry, monitor health, adjust cooling profiles, and export logs.

Supported Modes & Features:

- RAID 0, 1, 10, JBOD / Passthrough
- **Optional Boot-RAID** for Linux and Windows
- SafeStorage **SED encryption** for secure media handling
- Rapid RAID reconfiguration for workload-specific tuning

This allows the card to transition seamlessly from workstation environments to server, lab, and high-throughput automation infrastructure.

Built for today's most demanding AI, ML and HPC Workloads Workloads

The RocketAIC 7608AW-64T is optimized for workloads that require extreme storage bandwidth, minimal latency variance, and predictable thermal behavior, including:

- AI/ML dataset staging
- Multi-camera machine vision and industrial inspection
- 8K/12K RAW video acquisition & finishing
- HPC/Scientific data ingestion
- Real-time analytics pipelines
- Large-scale simulation and modeling
- High-frequency sustained ingest (telemetry, sensor arrays, microscopy)

In Summary

With unmatched performance, massive capacity, and intelligent real-time management, the RocketAIC 7608AW-64T delivers the simplicity of a turnkey device with the capability of an entire storage subsystem. Whether deployed for AI, imaging, scientific research, or advanced media production, it provides a new standard for single-slot NVMe acceleration—powerful, efficient, and ready for the next generation of high-speed workflows.

Shipping and Availability:

The Rocket 7608AW-64T is available direct from HighPoint's eStore and can be shipped worldwide.

[RocketAIC 7608AW-64T – 64TB PCIe Gen5 NVMe Drive](#)

About HighPoint Technologies

HighPoint Technologies stands as a global leader in PCIe connectivity solutions and a premier manufacturer of high-performance, high-density NVMe Switch and RAID AIC & Adapter solutions. With a rich history spanning nearly three decades, our dedication to delivering innovative, reliable, and high-performance storage solutions has consistently set us ahead in the marketplace.