



Rocket 1608A

PCIe 5.0 x16 to 8-M.2x4 NVMe Switch AIC

Revolutionize NVMe Storage Performance with Highpoint PCIe Gen5 Switch Technology

Rocket 1600 PCIe Gen5 NVMe Switch Series AICs & Adapters

HighPoint Rocket 1600 series switch AICs & Adapters provide enterprise-class NVMe storage connectivity and administrative capability and are suitable for use with a wide range of industry-standard x86 server and workstation platforms. These versatile, high-performance AICs and Adapters are equipped with our revolutionary PCIe Gen5 Switch Architecture and are capable of directly supporting up to eight NVMe SSDs, or as many as 32 NVMe devices via backplane connectivity.

NVMe media hosted by Rocket 1600 Switch AIC/Adapters will be automatically recognized by any OS platform with Native NVMe driver support. This makes them an ideal for businesses and organizations seeking to enhance critical workflows with flexible, robust and easily managed Gen5 NVMe storage performance.

Rocket 1608A PCIe Gen5 x16 to 8-M.2x4 NVMe Switch AIC

The Rocket 1608 8-Channel NVMe Switch AIC is an ultra-compact high-density, M.2 NVMe storage connectivity solution capable of delivering up to 64GB/s of transfer bandwidth and 56GB/s of real-world transfer performance for industry-standard x86 workstation and server platforms. Each AIC can directly host up to eight 2280 form factor M.2 SSDs, which removes the need for internal drive bays and cabling accessories.

48 Lanes of Dedicated PCIe Gen5 Bandwidth

HighPoint's high-performance PCIe Gen5 switching architecture integrates Broadcom's 48-Channel PEX89048 switch IC to provide x16 lanes of dedicated PCIe Gen5 upstream bandwidth and x4 lanes of dedicated downstream bandwidth to each device channel. The innovative architecture enables the Rocket 1608A to deliver up to 64GB/s of transfer bandwidth, minimize latency, and facilitate consistent, robust I/O throughput.

The Architecture employs a technique known as a "Synthetic Hierarchy" to isolate the host system's OS from any PCIe topology changes. This enables the Rocket 1608A to directly manage resource allocation to the downstream PCIe channels by facilitating a more efficient interaction between the host CPU and PCIe switch.

Engineered to Enhance the Efficiency & Serviceability of Datacenter & Server Applications

The Rocket 1608A incorporates a wide range of features designed to enhance the efficiency of day-to-day operations of Datacenter and Edge Server platforms. First and foremost, the adapter has been built to the highest standards of quality and reliability, and is fully compliant with PCIe Card Electromechanical (CEM) specifications. The Rocket 1608A is a field replaceable unit (FRU); the VPD (vital product data) stored on each adapter enables customers and service providers to easily procure replacements with the correct firmware/driver combination.

Advanced PCIe Gen5 Cooling Solution

The Rocket 1608A AICs Advanced PCIe Gen5 cooling solution employs a Full-Length Aluminum Heatsink with copper SSD contacts, two layers of thermal padding, and a powerful low-decibel cooling fan to ensure hosted M.2 SSDs always operate within their recommended temperature threshold to maximize lifespan and transfer performance.

Intelligent Self-Diagnostic LEDs

HighPoint PCIe Gen5 AICs and Adapters feature Built-In Early Warning LED Indicators. Simple color coding and flash-patterns enable administrators to instantly assess the operational status and condition of hosted SSDs and RAID arrays, the strength of the PCIe connection, and temperature of the PCIe switch hardware.

Feature Highlights

- 8-Dedicated PCIe 5.0 device channels
- Directly Supports up to 8x M.2 NVMe SSDs (up to 2280 FF)
- High-Performance 48-Lane Gen5 Switch Architecture: x16 lanes of dedicated upstream & x4 lanes of downstream bandwidth for each device channel
- Delivers 64GB/s of Bandwidth & Real-world Sustained transfer speeds up to 56,000MB/s
- Advanced PCIe Gen5 Cooling Solution
- Comprehensive Storage Health Monitoring, Management & Analysis Suite
- Hardware Secure Boot

Product Model	Rocket 1608A (R1608A)
Hardware Features	
Bus Interface	PCIe 5.0 x16
Number of Channel / Port	8x Device Channels / 8x NVMe Ports (Dedicated PCIe 5.0 x4 per port)
Connector Type	M.2
Number of devices	8
SSD Form Factor	2242, 2260, 2280
External Power Support	Yes (uses PCIe Standard 2x3 Power Connector)
SRIS and REFCLK Support	TBA; please contact Sales for more information
Downstream port containment	Yes
Read tracking	Yes
Synthetic Hierarchy	Yes
LED Indication	Intelligent, Self-Diagnostic LEDs
Audible Alarm	Yes
Power Measurement	N/A
FRU Support	Yes
OOB Management	Yes (BMC and MCTP over PCIe)
Storage Security Suite	
SED Support	N/A
Hardware Secure Boot	Yes

Mechanical Specifications	
Form Factor	Full-Height, Single-Width
Card Dimensions	284mm x 110mm
Card Weight	0.75 lbs.
PCIe Bracket	Full-Height Ventilated Bracket
Cooling Solution	Advanced PCIe Gen5 Cooling Solution
	<ul style="list-style-type: none"> • Full-Length Aluminum Heatsink with Low-Decibel Cooling Fan & 2 layers of thermal padding • Copper contact for SSDs accelerates heat dissipation • Compliant with PCIe Specifications
Toolless SSD mounting system	Yes
Supported Systems	
OS	Compatible with all operating systems that have native NVMe driver support
Secure Boot	Yes (Windows Only)
Operating Environment	
Working Temp.	0°C ~ +55°C
Storage Temp.	-20°C ~ +80°C
Operating Voltage	PCIe: 12V(+/- 8%), 3.3V (+/- 8%)
Power	82.64W
MTBF	920,585 Hours
Kit Contents	
Kit Contents	R1608A NVMe Switch AIC
	QIG
	0.75mm thickness Thermal PAD (K=8, Grey)
	8x additional rubber twist-pins for M.2 SSDs

Rocket 7608A



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