HighPoint Technologies, Inc.

RocketAIC 7749EW

PCIe Gen 4 x16 NVMe AIC SSD - Up to 61TB of DC Class Storage

61TB

Blazing Fast, and Ultra-Dense, HighPoint's RocketAIC 7749EW tackles today's most challenging data workloads with ease and efficiency.

Maximizing Performance with the RocketAIC 7749E: The Ultimate NVMe AIC SSD Solution for AI, Data Center and Edge Servers & Workstations!

Designed to meet the rigorous demands of AI Edge Servers, Data Centers and High-Performance Workstations, this state-of-the-art NVMe storage device leverages KIOXIA XD7P DC Class E1.S SSDs and HighPoint's industry leading RAID technology to deliver an unbeatable combination of ultra-dense storage capacity and blazing-fast transfer speeds efficiently packaged into a robust, compact PCIe AIC form factor.

Engineered for performance-hungry industrial and business applications, RocketAIC 7749EW AIC SSDs utilize HighPoint's ground breaking dual-wide PCB architecture and Broadcom's industry leading PCIe switch ICs to maximize the density, performance and reliability of E1.S storage media. The AIC's robust aluminum casing fully encloses and protects the NVMe media and sensitive hardware from high-stress working environments, and incorporates a purpose-built cooling system designed to mitigate performance bottlenecks imposed by thermal throttling.

RocketAIC 7749E NVMe AIC SSDs are available with up to 61TB of storage capacity, and deliver an unprecedented 28,000MB/s of sustained transfer bandwidth, all from a single PCIe 4.0 x16 slot.

Comprehensive Compatibility & Installation Guides

HighPoint's has extensive experience with Dell, HP and Supermicro computing platforms, encompassing the integration of our storage AICs as well as the development and maintenance of device driver and management software for these solutions. As a result, RocketAIC NVMe AIC SSDs are seamlessly compatible with a wide range of HP Z and ProLiant Workstations and Servers, and Dell Precision and PowerEdge platforms. HighPoint has conducted intensive research to identify each compatible platform, analyze their capabilities, and provide clear, concise installation guides for each supported RocketAIC NVMe AIC SSD. All reports follow the same easy to read format and are continuously updated to ensure the latest information and testing data is readily available.

Performance-Focused Hardware Architecture

HighPoint RocketAIC NVMe AIC SSDs incorporate Broadcom industry-leading PCIe switch chipsets, to optimize signal integrity, reduce latency and maximize transfer throughput. The highly flexible, performance-focused hardware architecture is unique to our NVMe solutions and ensures bandwidth is never wasted.

Feature Highlights

- Robust, Blazing-Fast High-Density Dual-Width PCIe Gen4 x16 NVMe AIC SSD
- Seamless Compatibility with a wide-range of Dell, HP and Supermicro Server & Workstation Platforms
- Performance Focused Hardware Architecture: x16 lanes of dedicated upstream and x4 lanes of downstream bandwidth for each NVMe port
- Sustained transfer speeds up to 28,000MB/s
- Equipped with eight of KIOXIA's XD7P Series Data Center class E1.S SSDs & up to 61.44TB of Storage Capacity
- Precision Engineered Dual-Wide Cooling Solution Prevents Thermal Throttling
- Quick & Intuitive Management Suite: Easily Reconfigure storage for your target application and platform
- Optional Boot-RAID Capability for Linux & Windows
- SafeStorage TCG SED Solution

RocketAIC 7749EW series NVMe AIC SSDs allocate a dedicated x16 lanes of Upstream bandwidth, and x4 lanes of downstream bandwidth to each device port. This enables each AIC to deliver up to 28,000MB/s of real-world sustained transfer bandwidth; the maximum possible from a single PCIe Gen4 slot!

Equipped with KIOXIA XD7P Series Datacenter Class E1.S SSDs

RocketAIC 7749EW series NVMe AIC SSDs leverage our industry leading NVMe hardware and eight KIOXIA's XD7P Series Datacenter Class E1.S SSDs to deliver enterprise grade reliability, endurance and transfer performance.

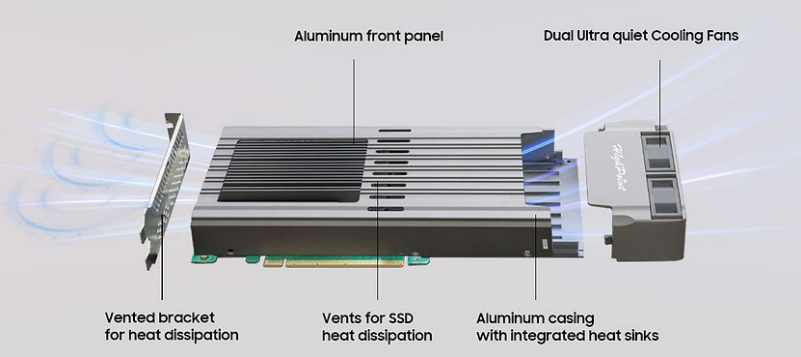
SafeStorage NVMe SSD Encryption Solution

RocketAIC 7749EW AIC SSDs are compatible with HighPoint's SafeStorage, a comprehensive NVMe Hardware Encryption Solution designed to accommodate large-scale RAID arrays and individual SSDs. Developed in line with leading SED technology and based on OPAL SSC TCG specifications, SafeStorage is designed to safeguard critical assets by preventing access to stored data when physical disks are misplaced or stolen. Volumes encrypted with SafeStorage activate each disk member's self-encryption capabilities, providing robust data protection.

Precision Engineered Dual-Width NVMe Cooling Solution

As NVMe technology continues to proliferate across vertical markets, the demand for a faster, denser storage solution that utilizes compact form-factor M.2 SSDs and new DC class E1.S media, is on the rise. However, such solutions require a much more robust and efficient cooling system. High-density PCIe Gen4 NVMe media generates a considerable volume of waste heat under load; successfully managing this heat is the key to unlocking the full performance potential of NVMe storage.

In response to this growing demand, HighPoint's product development team have engineered an entirely new double-width cooling solution for the RocketAIC 7749EW series AIC SSDs. Designed to drastically improve cooling performance over existing single-width solutions, this innovative new system mitigates the threat of thermal throttling and ensures high-density PCIe Gen4 E1.S media consistently deliver maximum throughput for extended I/O sessions.
Each RocketAIC 7749EW AIC SSD is fully enclosed by an anodized aluminum casing designed to optimize airflow:



The dual-width architecture's unique socket design enables the KIOXIA SSDs to be arranged vertically, similar to how memory is installed into a conventional motherboard. This ensures both sides of each SSD are exposed to the cool air ingested by a pair of powerful, low-decibel cooling fans. The cool air is then condensed and circulated throughout the casing, which then rapidly ejects waste heat via the ventilated PCIe bracket.

Quick & Intuitive Management Suite

Though RocketAIC NVMe AIC SSDs are designed to work right out of the box, customers are free to install HighPoint's intuitive WebGUI and CLI management software suite, which includes our SHI solution (Storage Health Inspector), which provides simple and quick real-time temperature monitoring and endurance tracking. Customers can easily reconfigure the RocketAIC drive and tailor RAID storage for a specific Target Application & Platform.

Striping - This mode delivers Maximum Performance and capacity by linking multiple NVMe SSDs together to act as a single storage unit.

Mirroring - This mode creates a hidden duplicate of the target SSD, and is ideal for applications that require an extra layer of data security, including bootable volumes.

Security & Speed –This mode offers the best of both worlds. Two mirrored arrays are striped together to maximize performance with a layer of data redundancy.

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Product feature	RA7749EW-K15T3-0A	RA7749EW-K30T7-0B	RA7749EW-K61T4-0C
Bus Interface	PCI-Express 4.0 x16		
Capacity	15.36TB	30.72TB	61.44TB
Data Transfer Rate	16GT/s		
Performance (sequential)	Up to 28,000MB/s		
Number of Channel / Port	8x PCIe 4.0 x4 E1.S Ports		
Number of Devices	8x KIOXIA XD7P Series E1.S NVMe SSDs		
AIC Form Factor	Full-Height, Full-Length, Dual-Width		
AIC Dimensions	11.18”(W) x 4.92” (H) x 1.53”(D)		
AIC Weight	3.99 lbs.		
Warranty	3 Years		
	Endurance (TBW)	Endurance (TBW)	Endurance (TBW)
	Total SSDs: 28PB	Total SSDs: 56PB	Total SSDs: 112PB
	Single SSD: 3.5PB	Single SSD: 7PB	Single SSD: 14PB
Supported Operating Systems *(only supports 64-bit operating systems)*			
Windows	Windows 11 ,10 / Windows Server 2022, 2019, 2016 / Microsoft Hyper-V Only supports 64-bit operating system.		
Linux	RHEL/Debian/Ubuntu/Fedora/Proxmox/Rocky Linux (Linux kernel 3.10 and later)		
Secure Boot(PC platforms)	Windows: Supports Secure Boot Disable & Enable (Please download the corresponding UEFI driver) Linux: Support Secure Boot Disable		
Cooling System	PCIe Gen4 Dual-Width Cooling Solution		
NVMe Configuration			
RAID Support	Single, RAID 0, 1, 10		
Storage Mode - NVMe			
Data RAID (Non-Bootable)	Windows, Linux		
Boot RAID	Windows: Windows 10, 11 / Windows Server 2016, 2019, 2022		
	Linux Kernel 3.10 and later		
Advanced RAID Features			
Flash ROM for Upgradeable UEFI	Yes		
Multiple RAID Partitions supported	Yes		
Online Array Roaming	Yes		
Global Hot Spare Disk support	Yes		
Automatic and configurable RAID Rebuilding Priority	Yes		
Auto resume incomplete rebuilding after powering on or rebooting system	Yes		
Single-RAID or Multi-RAID Arrays per Controller	Yes		
Event Log	Yes		
Configurable Temperature Thresholds	Yes		
S.M.A.R.T. support	Yes		
TCG SED support	Yes		

NVMe RAID Management			
Management Suites	WebGUI (Browser-Based management tool)		
	CLI (Command Line Interface- scriptable configuration tool)		
	API package		
	UEFI Tool & UEFI HII (BIOS interface via Human Interface Infrastructure Support)		
SMTP Email Alert Notification	Yes		
Alarm Buzzer	Yes		
Storage Health Inspector	Yes		
Operating Environment			
Work Temp	+5°C ~ + 55°C		
Storage Temp	-20°C ~ +80°C		
Operating Voltage	PCI-e: 12V, 3.3V		
Power	145.28W		
MTBF	2 million hours		
Kit Contents	**RA7749EW-K15T3-0A**	**RA7749EW-K30T7-0B**	**RA7749EW-K61T4-0C**
RocketAIC 7749EW	1x RA7749EW-K15T3-0A	1x RA7749EW-K30T7-0B	1x RA7749EW-K61T4-0C
	1x Quick Installation Guide	1x Quick Installation Guide	1x Quick Installation Guide

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