# HighPoint NVMe E1.S AICs vs. Samsung PM1735: A Comparative Analysis of Performance, Scalability, and Enterprise Flexibility

As **AI/ML, High-Performance Computing (HPC), and data-driven enterprise applications** continue to push the boundaries of **storage performance, density, and efficiency**, enterprises must carefully select storage solutions that offer both **high-speed, low-latency performance and long-term scalability**.

The **HighPoint RocketAIC E1.S NVMe Storage AIC Family** has emerged as a powerful alternative to the **Samsung PM1735**, delivering **greater storage density, enhanced flexibility, and enterprise-grade RAID capabilities**. Unlike the **Samsung PM1735**, which is a **standalone PCIe Gen4 NVMe SSD**, HighPoint's **RocketAIC solutions support up to 8x E1.S drives, providing an impressive 61.44TB of scalable storage**—offering **flexibility for RAID-based redundancy, software-defined storage (SDS), and enterprise-class reliability**.

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## Key Commonalities

Both solutions cater to **PCIe 4.0 enterprise storage** infrastructure designed to accommodate **AI, ML, HPC, and high-speed data processing**:

- ✓ **PCIe-based acceleration for low-latency, high-throughput computing**
- ✓ **Compact PCIe AIC form factors for seamless integration** into standard server architectures
- ✓ **Enterprise-class reliability, endurance, and 24/7 availability**

| Feature | Samsung PM1735 | HighPoint RocketAIC 7749EW | HighPoint Rocket 1749E |
|---|---|---|---|
| Host Interface | PCIe 4.0 (x8) | PCIe 4.0 (x16) | PCIe 4.0 (x16) |
| Architecture Support | x86 Intel/AMD | x86 Intel/AMD, ARM | x86 Intel/AMD, ARM |
| Form Factor | PCIe AIC (Single-Width) | PCIe AIC (Dual-Width) | PCIe AIC (Dual-Width) |
| Target Applications | Data Centers, Enterprise Servers, Performance-Driven Workloads | AI/ML, Enterprise RAID Storage, HPC, Data Analytics | Enterprise NVMe Storage, Software-Defined Storage |

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## Key Differences: Storage Density, Performance, and Scalability

While **both solutions are high-performance PCIe NVMe storage options**, HighPoint's **RocketAIC 7749EW and Rocket 1749E** offer **higher scalability, greater flexibility, and RAID integration**, making them more adaptable to **enterprise and cloud workloads**.

| Feature | Samsung PM1735 | HighPoint RocketAIC 7749EW | HighPoint Rocket 1749E |
|---|---|---|---|
| Architecture | Standalone PCIe Gen4 NVMe SSD | PCIe Gen4 NVMe RAID AIC | PCIe Gen4 NVMe Switch AIC |
| Storage Configuration | Integrated NAND SSD | Configured with 8x KIOXIA XD7P E1.S SSDs | Unconfigured (8x E1.S slots) |
| Capacity | Up to 12.8TB | Up to 61.44TB | Up to 61.44TB (Customer-Defined) |

| Feature | Samsung PM1735 | HighPoint RocketAIC 7749EW | HighPoint Rocket 1749E |
|---|---|---|---|
| Performance | 6,400K IOPS (Read), 3,800K IOPS (Write) | Up to 6 Million IOPS, Up to 32GB/s | Up to 6 Million IOPS, Up to 32GB/s |
| RAID Support | Non-RAID (single SSD) | RAID 0, 1, 10 | Supports 3rd-party SDS |
| Cooling & Thermal Management | Integrated heatsink | Advanced dual-wide cooling system with per-SSD health monitoring | Advanced dual-wide cooling system |
| Use Case | Low-latency standalone SSD for AI/ML, HPC, and virtualization | Enterprise RAID storage for scalability, redundancy, and performance tuning | Enterprise NVMe storage for scalability & SDS compatibility |

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**Choosing the Right Solution: Performance vs. Scalability**

**Samsung PM1735:**
- ✓ **Best for applications that require ultra-fast single-drive storage** where **low latency and high IOPS are essential**
- ✓ **Ideal for AI, ML, and HPC applications that do not require RAID or multi-drive scalability**
- ✓ **Compact, single-width PCIe AIC form factor** makes it easy to deploy in space-constrained systems

**HighPoint RocketAIC 7749EW:**
- ✓ **Enterprise-class RAID-enabled NVMe storage** with **up to 61.44TB per PCIe slot**
- ✓ **RAID 0, 1, 10 support** enhances **redundancy, fault tolerance, and speed optimization**
- ✓ **Ideal for hyperscale data centers, AI model training, and real-time analytics**

**HighPoint Rocket 1749E:**
- ✓ **Flexible, non-RAID NVMe storage; supports up to 8x industry-standard E1.S SSDs**
- ✓ **Seamless integration with third-party SDS solutions**, enabling **advanced data management features**
- ✓ **Plug-and-play functionality** with **native OS support and zero software installation requirements**

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**Why Enterprises Choose HighPoint RocketAIC NVMe Solutions**

While **Samsung's PM1735 is an excellent standalone PCIe SSD**, **HighPoint's RocketAIC series provide superior flexibility, capacity, and enterprise-grade integration**, making it ideal for **scalable AI, HPC, and cloud storage architectures**.

*Key Advantages of HighPoint RocketAIC Over Samsung PM1735*
- ✓ **Scalable Storage Density** – **61.44TB per PCIe slot vs. 12.8TB (Samsung PM1735)**
- ✓ **RAID & Fault Tolerance** – **RAID 0, 1, 10 for redundancy & performance optimization**
- ✓ **Software-Defined Storage Ready** – **Rocket 1749E is natively compatible with enterprise SDS platforms**
- ✓ **Flexible Drive Compatibility** – Supports **E1.S SSDs from KIOXIA, Solidigm, Micron, and more**
- ✓ **Advanced Thermal Management** – **Dual-wide cooling system with per-SSD health monitoring**

For businesses seeking **high-density, RAID-powered, or SDS-integrated storage solutions**, HighPoint's **RocketAIC NVMe family is the optimal choice**.

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### Final Verdict: Future-Proof Your NVMe Storage Infrastructure

As **enterprises transition to PCIe Gen4 & Gen5 NVMe storage**, selecting the right solution depends on **whether single-drive performance or RAID-based scalability takes priority**.

- ✓ **For compact, ultra-fast single-drive NVMe storage:** Choose **Samsung PM1735**
- ✓ **For high-performance, RAID-enabled NVMe storage:** Choose **HighPoint RocketAIC 7749EW**
- ✓ **For flexible, software-defined NVMe storage expansion:** Choose **HighPoint Rocket 1749E**

With **PCIe Gen4/Gen5 adoption accelerating**, HighPoint's RocketAIC series offers unmatched **scalability, performance, and reliability for next-generation AI, ML, and enterprise storage infrastructures**.

*Discover HighPoint's RocketAIC E1.S NVMe solutions at [HighPoint-tech.com](HighPoint-tech.com)*

**RocketAIC 7749EW:** [https://www.highpoint-tech.com/rocketaic/ra7749ew](https://www.highpoint-tech.com/rocketaic/ra7749ew)

**Rocket 1749E:** [https://www.highpoint-tech.com/nvme-switch-aic/gen4/rocket-1749e](https://www.highpoint-tech.com/nvme-switch-aic/gen4/rocket-1749e)

### About HighPoint Technologies, Inc.

HighPoint Technologies stands at the forefront of storage innovation as the industry's -premier manufacturer of high-performance, high-density NVMe Switch and RAID AIC & Adapter solutions for off-the-shelf x86 AMD/Intel and ARM platforms. 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. HighPoint's NVMe storage solutions are powered by industry-proven PCIe Switching technology, and are designed to address the dynamic requirements of AI/ML/LLM applications, Data Centers, Edge Servers, and high-performance workstations, enabling customers to keep pace with today's rapidly evolving technology landscape.