nvNITRO™ Accelerator Card (MRAM NVMe PCIe SSD)

The nvNITRO Accelerator Card is a revolutionary MRAM based SSD that has the high speed and high endurance of DRAMs combined with the non-volatility of Flash, all without the need for power backup.

Powered by Everspin, nvNITRO, this product can be used for metadata caching to dramatically accelerate write performance without the need for battery backup. SMART’s new nvNITRO Accelerator Card is the first in an emerging lineup of MRAM-based persistent memory products. SMART Modular Technologies is a member of NVM Express.

Features & Benefits
- Amazingly fast performance - 1.5 Million+ IOPS (4K Random Read/Write)
- Consistent, ultra-low latency with a short tail (as low as 2μS, end to end)
- Two access modes - NVMe SSD and Direct Access (MMIO)
- Persistent, non-volatile, no need for batteries or supercapacitors

Specifications
- Form Factor: PCIe HHHL (Half Height Half Length)
- Interface: PCIe Gen3 x8
- Capacity: 1GB
- NVME 1.2.1 (MMIO Block Mode)
- Protocol/Access Modes: Block Mode (NVMe), Direct Access Mode (MMIO)
- Performance IOPs (R/W) (4K random R/W): 1.5M/1.5M (x8 PCIe)
- Latency (R/W) QD = 1: 6μs (Read)/<7μs (Write)
- Customer Defined Features: Customers may optionally program onboard FPGA with their own RTL to extend features/functions
- Endurance: Unlimited uniform endurance

Applications
- Storage arrays
- File systems
- Tiering and OLTP log cache
- Remote, shared persistent memory

MRAM Ordering Information

<table>
<thead>
<tr>
<th>nvNITRO Storage Accelerator</th>
<th>SMART Part Number</th>
<th>Density</th>
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<tbody>
<tr>
<td>SSPE8NILXAM36BEV</td>
<td>1GB</td>
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