



PBlaze6 6920 Series NVMe™ SSD

PCIe 4.0, Superb Sustained Performance
for I/O-intensive Data Center



PBlaze6 6920 Series
NVMe SSD

PBlaze6 6920 Series is developed based on Memblaze's self-developed MUF (Memblaze Unified Framework Platform), a unified framework platform for the development of all subsequent products of the firm. PBlaze6 6920 Series SSDs feature the PCIe4.0 and 96-layer 3D NAND and support the NVMe 1.4, spans a wide range of user capacity including 3.84TB, 7.68TB, 15.36TB at 1.7DWPD over 5years and 3.2TB, 6.4TB, 12.8TB at 3.6DWPD over 5 years (under JESD219 workload). All models come in 2.5"U.2 form factor.

Superb Sustained Performance for Data Access Acceleration

PBlaze6 6920 Series SSDs offer stable performance up to 1600K random read IOPS, up to 7GB/s sequential read bandwidth, up to 6.8GB/s sequential write bandwidth, and up to 11µs in write latency. Build-in Scheduler Mechanism realizes Quality of Service (QoS) control to guarantee the consistent performance.

Proven Data Reliability for Mission Critical Business

After years of market-proven, from NAND to link path layer, PBlaze6 6920 series is implemented with patent data protection technology, fully protect enterprise data in a safe and reliable storage environment. Including LDPC error correction, Dynamic RAID among Dies, AES-256bit Data Encryption, Full Data Path Protection, Enhanced Power Failure Protection and etc. Newly added feature device self-test provides S.M.A.R.T and capacitor health check for diagnostic testing of drive functionality on PBlaze6 6920 series.

WRR provides differentiated I/O services

PBlaze6 6920 Series supports Weighted Round Robin (WRR), meaning that the SSD can process commands depending on the priority of I/O commands set and assigned by the host, including urgent, high, medium and low. For traditional round-robin, commands are processed in each queue in turn with equal priority, while WRR processes the applications I/O with different priorities and ensuring balanced business loads. WRR provides differentiated I/O services for the scenarios where applications with different performance requirements share storage devices.

Collect internal data logs with Telemetry

PBlaze6 6920 Series supports the collection of logs via the Telemetry standard interface. The users can collect the log required by the SSD provider with a standard nvmecli command before sending for further analysis. This function drastically reducing the complexity of log collection and lowering the operation and maintenance costs.

Sanitize help enhance the security

PBlaze6 6920 Series features Enhanced Secure Erase (Sanitize). If NVMe SSD is repurposed or is decommissioned after depreciation, the standard nvmecli command can be triggered to perform Sanitize to completely wipe out the users' data and prevent the recovery of old data with certain tools, protecting the information security of users.

Key Features

- Support PCIe 4.0, backward-compatible
- Up to 1.6 Million IOPS, 7GB/s throughput
- 3.2TB ~ 15.36TB User Capacity with 96L 3D NAND
- 3 DWPD /5 years Ultra-long Write Endurance
- 10W-35W Flexible Power Management
- Weighted Round Robin
- Latency Statistics & High Latency Logging
- Telemetry
- Device Self-test
- Firmware Upgrade without Reset
- Support NVMe-MI for Out-of-band Management
- Support up to 32 Multi-namespaces
- Up to 8TB/s Enterprise TRIM

Applications & Workloads

- Database
- Searching, Indexing, CDN
- Cloud and Hyper-scale Computing
- High Performance Software-defined Storage
- Deep Learning and Big Data Analytics
- High Performance Storage System
- ERP, SAP HANA
- BOSS, Banking, Taxing
- High Frequency Trading
- Online Payment

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NOTES:

- [1] Performance may vary due to different system configurations and firmware version.
- [2] PBlaze6 6920 series supports 10W~35W flexible power management and 25W power mode by default. If changes the power mode to 35W, please refer to airflow requirement in product spec.
- [3] Measurement is performed at Steady State follow SNIA SSS-PTS-E test specification.
- [4] Average latency measured with 4KB random I/O pattern.
- [5] DWPD, Drive Writes per Day for 5 years.

PBlaze6 6920 Series ^[1]	D6920			D6926		
User Capacity (TB)	3.84	7.68	15.36	3.2	6.4	12.8
User Capacity	2.5-inch U.2			2.5-inch U.2		
Interface	PCIe 4.0 x 4			PCIe 4.0 x 4		
128KB Sequential Read (GB/s)	6.7	7.0	7.0	6.7	7.0	7.0
128KB Sequential Write (GB/s,25W) ^[2]	3.9	5.7	5.2	3.9	5.8	5.3
128KB Sequential Write (GB/s,35W) ^[2]	3.9	6.8	6.6	3.9	6.8	6.7
Sustained Random Read (4KB) IOPS	900K	1600K	1600K	900K	1600K	1600K
Sustained Random Write (4KB) IOPS Steady State ^[3]	165K	260K	310K	345K	480K	500K
Latency Read/Write (μs) ^[4]	78 / 11			78 / 11		
Lifetime Endurance ^[5]	1 DWPD			3 DWPD		
Operating Temperature	Ambient: 0°C-35°C; Case:0°C-70°C					
Uncorrectable Bit Error Rate	< 10 ⁻¹⁷					
Mean Time Between Failures	2 million hours					
Protocol	NVMe 1.4					
NAND Flash Memory	96L 3D NAND					
Operation System	RHEL, SLES, CentOS, Ubuntu, Windows Server, VMware ESXi					
Power Consumption	25 W					
Basic Feature Support	Power Failure Protection, Hot Pluggable, Full Data Path Protection, S.M.A.R.T, Flexible Power Management					
Basic Feature Support	TRIM, Multi-namespace, AES 256 Data Encryption & Crypto Erase, EUI64/NGUID, Firmware Upgrade without Reset, Flexible Power Management, Device Self-test, Weighted Round Robin (WRR), Sanitize, Telemetry					
Software Support	Open source management tool, CLI debug tool OS in-box driver (Easy system integration)					

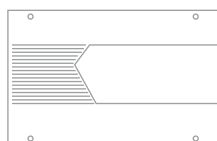


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