

SP406 Enterprise SSD

The BIWIN SP406 is a high-performance enterprise NVMe 1.4 SSD built on the PCIe 4.0x4 interface in a 2.5-inch U.2 form factor. It is available in capacities from 1.92 TB to 7.68 TB and is rated at 1 DWPD, providing reliability across read-intensive workloads, including large-scale data centers, cloud platforms, compute servers, and AI environments. With an innovative controller architecture, the SP406 delivers ultra-low, consistent read and write latency while maintaining high throughput at reduced power consumption. The SP406 helps maximize energy efficiency and delivers leading KIOPS-per-Watt performance. To meet modern data-center requirements, the SP406 integrates enterprise features such as AES-256 hardware encryption, sanitize, internal RAID, secure boot, and TCG Opal 2.0.



Key Features

Energy Efficiency

The BIWIN SP406 employs a RISC-V-based controller with hardware optimizations and firmware tuning to reduce power consumption while sustaining high throughput. This architecture delivers higher performance per watt than its counterparts and helps data centers move toward greener, more sustainable operations.

Capacity Options at 1 DWPD Endurance

Available in 1.92 TB, 3.84 TB, and 7.68 TB capacities, the SP406 provides endurance of 1 drive write per day (DWPD), meaning that the SSD can handle writing its entire capacity every single day over its 5-year warranty period. These options enable deployment flexibility across a range of read-intensive enterprise workloads.

Comprehensive Data Protection

The SP406 combines firmware and hardware optimizations for data reliability, including end-to-end data protection, power-loss protection, and advanced data scrubbing. It also supports internal RAID to provide recovery in the event of a single-die failure, safeguarding data integrity across demanding environments.

Operational Reliability

The SP406 achieves a Mean Time Between Failures (MTBF) of 2.5 million hours and an uncorrectable bit error rate (UBER) of less than $10^{-17.2}$. Backed by a five-year limited warranty, it meets the stringent reliability requirements of mission-critical workloads.

Technologies

OCP 1.0a

TCG Opal 2.0

NVMe-MI

Multiple Namespaces

Latency Monitoring

Internal RAID

Power Loss Protection

Intelligent Thermal Throttling

Intelligent Low-Power Management

S.M.A.R.T.

Secure Boot

TRIM Command

Telemetry Log

Firmware Backup

Applications



Data Center



Cloud Computing



AI Server



General-Purpose Server

Specifications

Model Name	SP406
Interface	PCIe Gen4x4, NVMe 1.4
Form Factor	U.2 2.5"
Flash Type	eTLC
DRAM Cache	DRAM-based
DWPD (Drive Writes Per Day)	1
Capacity	1.92 TB / 3.84 TB / 7.68 TB
Sequential Read (Up to)	7050 MB/s
Sequential Write (Up to)	4200 MB/s
Random Read 4K (Up to)	1350K IOPS
Random Write 4K (Up to)	200K IOPS
Read Power Consumption (Max.)	12.5 W
Write Power Consumption (Max.)	14.5 W
Idle Power Consumption (Max.)	3.5 W
Dimensions	100.20 x 69.85 x 15.00 mm
Operating Temperature	0°C to + 70°C
Storage Temperature	-40°C to + 85°C
MTBF	>2,500,000 hours
Certifications	CE, FCC, RoHS, REACH, WEEE, HF, China RoHS
Warranty	5-Year Limited

Order Information

Capacity	Part Number	Power Loss Protection
1.92 TB	CE9U2H6F410-1T9	Firmware-Based, Hardware-Based
3.84 TB	CE9U2H6F410-3T8	Firmware-Based, Hardware-Based
7.68 TB	CE9U2H6F410-7T6	Firmware-Based, Hardware-Based

1. Tested by BIWIN labs. Actual performance may vary due to systems, devices, or environment.
2. Maintenance and future updates are required throughout the product lifecycle. Specifications are subject to change without notice.
3. The pictures are for illustration only. Actual products may vary due to product enhancements or changes.
4. Not all products are sold in all regions of the world.
5. As used for storage capacity, one megabyte (MB) = one million bytes, one gigabyte (GB) = one billion bytes, and one terabyte (TB) = one trillion bytes. Total accessible capacity varies depending on the operating environment. As used for buffer or cache, one megabyte (MB) = 1,048,576 bytes. As used for transfer rate or interface, megabyte per second (MB/s) = one million bytes per second, and gigabyte per second (GB/s) = one billion bytes per second.
6. MTBF = Mean Time Between Failures based on internal testing using the Telcordia stress testing standard.
7. Please visit www.biwintech.com for warranty details in your region.

8. For more information, please contact sales@biwintech.com.

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