



# Black Opal NV3500 SSD



PCIe 3.0



3D TLC  
NAND



Graphene  
Thermal Pad



HMB

Biwin NV3500 M.2 SSD offers a read speed up to 3500 MB/s and write speed up to 3000 MB/s, utilizing the PCIe Gen 3x4 interface and the NVMe 1.4 protocol. NV3500 is equipped with a graphene thermal pad and supports a temperature control algorithm to maintain the SSD in optimal condition. It supports the L1.2 low-power mode, with a standby power consumption of less than 4 mW, significantly saving energy and extending standby time.

## ► Product Features

### Advanced PCIe 3.0 Interface

The NV3500 offers read speeds up to 3500 MB/s by taking advantage of the increased PCIe 3.0 bandwidth, achieving more efficient data transfer at a speed of 7 times faster than SATA SSD.

### Premium 3D TLC NAND

The NV3500 is built with high-quality 3D TLC NAND, offering exceptional durability with a Total Bytes Written (TBW) rating of up to 1200 TB. The superior endurance of the NV3500 guarantees reliable performance and longevity, ideal for demanding tasks and long-term use.

### Intelligent Temperature Control

Equipped with a graphene thermal pad and an intelligent temperature control algorithm, the NV3500 effectively dissipates heat, maintaining stable performance during intense workloads. This advanced cooling solution prevents overheating and extends the lifespan, ensuring long-term reliability.

### Enhanced System Stability

The NV3500 delivers stable performance for demanding applications. Enhanced by Host Memory Buffer (HMB) technology, it ensures stable operation even under heavy workloads. The integration of Smart Cache optimizes data retrieval, while Zip data compression maximizes storage efficiency.

## ► Biwin Storage Black Opal Series

For decades, Biwin has made the critical storage and memory in many of the leading digital devices that have defined our digital world. The Biwin consumer brand offers the best of Biwin's experience, a range of SSDs, DRAM, memory cards and related accessories that will help you get the most out of your devices.

Biwin Black Opal is especially designed for gamers, enthusiasts, modders and overclockers seeking top-tier performance. It is the result of years of experience in SSDs and DRAM manufacturing. The durability matches the more strenuous needs of gamers, content providers and professional users.

## ► Specifications

Model Name	Biwin Black Opal NV3500		
Form Factor	M.2 2280		
Interface	PCIe Gen 3×4, NVMe1.4		
DRAM Cache	DRAM-less		
Capacity	512 GB	1 TB	2 TB
Sequential Read Speed (Up to)	3500 MB/s	3500 MB/s	3500 MB/s
Sequential Write Speed (Up to)	2500 MB/s	3000 MB/s	3000 MB/s
Random Read Speed (Up to)	300K IOPS	350K IOPS	350K IOPS
Random Write Speed (Up to)	280K IOPS	280K IOPS	280K IOPS
TBW	300 TBW	600 TBW	1200 TBW
Dimensions	80.00 × 22.00 × 2.45 mm (single-sided)		
Weight (Max)	≤ 9g		
Operating Temperature	0°C to +70°C		
Storage Temperature	-40°C to +85°C		
MTBF	1,500,000 hours		
Certifications	CE, FCC, RoHS, CB, KCC, BSMI, VCCI, RCM, UKCA		
Warranty	5-Year Limited		

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 life cycle. 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. Measured using the MobileMark™ 2012 benchmark with DIPM (Device Induced Power Management) enabled.
7. MTBF = Mean Time Between Failures based on internal testing using Telcordia stress testing standard.
8. For more details, please visit [www.biwintech.com](http://www.biwintech.com).

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