

APX03 SSD

The BIWIN APX03 SSD exemplifies cutting-edge performance and reliability, powered by advanced 6nm process technology and 3D TLC NAND flash. Leveraging the PCIe Gen5x4 interface and NVMe 2.0, it unlocks the full potential of next-gen storage systems. With a compact M.2 2280 form factor, the APX03 delivers sequential read and write speeds up to 10000 MB/s and is available in capacities from 512 GB to 2 TB. Built to meet the needs of premium laptops, gaming systems, and professional workflows, the APX03 offers exceptional performance while optimizing thermal efficiency and power consumption for longer battery life, delivering enhanced user experience across a variety of applications.



Key Features

Powerful Gen5x4 Performance

Powered by PCIe Gen5x4 interface and NVMe 2.0, the BIWIN APX03 delivers read and write speeds up to 10000 MB/s for faster load times and smoother performance, even under heavy workloads.

Advanced Thermal Management

Featuring a single-sided NAND design and an intelligent thermal management algorithm, the APX03 efficiently dissipates heat and regulates power. This design minimizes the risk of thermal throttling, enabling sustained performance for extended periods, even under heavy data load or intensive gaming sessions.

Optimized Power Efficiency

The BIWIN APX03 integrates a 6nm controller and intelligent power management technology, balancing high performance with low energy consumption. With NVMe power management and firmware optimizations, the APX03 delivers low power usage during both active and idle states, extending battery life in mobile devices without sacrificing performance.

Hardware-Based Encryption for Better Data Integrity

The BIWIN APX03 supports TCG Pyrite 2.0 and the optional Opal 2.0 encryption, offering hardware-based security that adheres to Trusted Computing Group (TCG) standards. These robust encryption protocols offer enhanced data protection, secure initialization, and lifecycle management to safeguard critical data from unauthorized access.

Built for Endurance

The APX03 SSD incorporates advanced features such as dynamic wear leveling, TRIM, and S.M.A.R.T. technology, offering long-lasting reliability and durability. These features work in tandem to maintain peak performance over time and optimizing the drive's lifespan. The APX03 is built to deliver reliable performance as a dependable choice for long-term use.

Premium Quality Assurance

Using premium NAND flash, the BIWIN APX03 undergoes rigorous testing, including electrical, application, and compatibility assessments to ensure superior quality and performance. Backed by a 3-year warranty, the APX03 provides users with peace of mind and long-term reliability.

Technologies

Modern Standby

Modern Standby

ATA Encryption

End-to-End Data Protection

S.M.A.R.T.

Garbage Collection

TRIM Command

Wear Leveling

In-drive RAID

Bad Block Management

Read Scrub

SLC Cache Acceleration

Intelligent Thermal Throttling

ESD Protection

Read Disturbance

Firmware Update

Applications



Desktop



Laptop



Tablet



All-in-One PC



Thin Client



Mini PC

Model Name	APX03
Interface	PCIe Gen5x4, NVMe 2.0
Form Factor	M.2 2280
Flash Type	3D TLC
Firmware	SLC Cache
DRAM Cache	DRAM-less
Capacity	512 GB / 1 TB / 2 TB
Sequential Read (Up to)	10000 MB/s
Sequential Write (Up to)	10000 MB/s
Random Read 4K (Up to)	1700K IOPS
Random Write 4K (Up to)	1700K IOPS
Read Power Consumption (Max.)	5.1 W
Write Power Consumption (Max.)	5.3 W
Idle Power Consumption (Max.)	20 mW
Dimensions	22.00±0.15 × 80.00±0.15 × 2.43 (Max.) mm
Operating Temperature	0°C to + 70°C
Storage Temperature	-40°C to + 85°C
MTBF	>1,500,000 hours
Certifications	CE, UKCA, VCCI, KCC, FCC, RCM, BSMI, ICSE, CB, UL, RoHS, HF, REACH, WEEE
TBW (Up to)	1500 TBW
Warranty	3-Year Limited

Order Information

Capacity	Part Number
512 GB	CEA80D81THP-512
1 TB	CEA80D81THP-1TB
2 TB	CEA80D81THP-2TB

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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