micron

Data hungry, not power hungry

6550 ION NVMe SSD

The Micron® 6550 ION delivers massive capacities and class-leading performance.

Accelerate exascale AI workloads

Best-in-class 60TB read and write bandwidth delivers faster data collection, loading, pre-processing, checkpointing, ingesting, and more for better networked artificial intelligence (AI) data lake performance.

Outperform the 60TB competition

The Micron 6550 ION needs just 20W to achieve its rated performance versus competing 60TB QLC SSDs, which need to run at 25W to achieve rated performance.

Powering sustainable data centers

Sustainable data centers thrive with power-efficient, ultra-dense servers and storage. Better performance with lower power consumption can help reduce power and cooling requirements and carbon footprint through server footprint reduction (which can also decrease license costs). This is achieved while meeting real-world workload goals for high capacity NVMe SSDs, such as networked AI data lakes, object stores, all-flash arrays, software-defined storage, public cloud storage, general-purpose storage, analytics, NoSQL databases, content delivery, and more.

Product Highlights

- Enhanced performance and efficiency[1]
  - 14,000 MB/s sequential read
  - 8,000 MB/s sequential write
  - 2,000 KIOPS random read
- Outperforms the competition[2]
  - Up to 147% better for Nvidia GDS
  - Up to 30% better performance for DLIO/Unet 3D
- Superior power efficiency for AI workloads[2]
  - Up to 179% better sequential read bandwidth per watt
  - Up to 213% better sequential write bandwidth per watt
  - Up to 99% better random read IOPS per watt
  - Up to 141% better random write IOPS per watt

Product Features

Vertical integration	Broad range of capacities and form factors	Open standard support	Security features built in[7]	Warranty
Fully integrated Micron IP and components	30TB to 60TB capacity	Compliance with the Open Compute Standard Project (OCP) 2.5 standards	SPDM 1.2 device security	5-year limited warranty[3]
Micron 232-layer 3D TLC NAND	U.2, E1.S, and E3.S standard form factors	Support for OCP 2.5 telemetry	Self-encrypting drive (SED) options	
Micron-designed SSD controller ASIC			Micron Secure Execution Environment (SEE)	
Micron-produced and validated SSD firmware			FIPS 140-3 Level 2	
			TAA-compliant options	

Micron® 6550 ION NVMe SSD competitive comparison

	Micron 6550 ION	Samsung BM1743	Solidigm D 5-P5336	WD UltraStar SN655
Seq Rd	**14,000**	7,500	7,000	4,300
Seq Wr	**8,000**	2,000	3,000	3,150
Rnd Rd	**2,000**	1,600	1,005	890
Rnd WR	**70**	110	42.6	29
End	**0.37**	0.26	0.58	1
MTTF	**2.5**	2.5	2	NA
Warranty	**5**	5	5	5

1. Sequential performance based on a 128KB transfer size and a queue depth of 128. Random read performance based on 4KB transfer size and a queue depth of 512.
2. Among 60TB (61.44TB advertised capacity. Unformatted capacity, 1GB = 1 billion bytes, formatted capacity is less) NVMe data center SSDs from Solidigm, Samsung, and Western Digital. Performance and other comparison statements based on public information available as of the date of this document's publication and Micron engineering testing. Power efficiency refers to units of work done divided by power consumed in doing that work. Examples of units of work included, but are not limited to, IOPS, MB/s, operations per second, sample rates, and similar data center storage-related activities.
3. Warranty valid for 5 years from the original date of purchase or before writing the maximum total bytes written (TBW) as published in the product datasheet and as measured in the product's SMART data, whichever comes first.