



Micron First to Production of 200+ Layer QLC NAND in Client and Data Center

April 16, 2024 at 9:02 AM EDT

Micron's 2500 SSD outperforms rivals with cutting-edge QLC NAND

BOISE, Idaho, April 16, 2024 (GLOBE NEWSWIRE) -- Micron Technology, Inc. (Nasdaq: MU), today demonstrated its continued NAND technology leadership by announcing that its [232-layer QLC NAND](#) is now in mass production and shipping in select Crucial® SSDs, in volume production to enterprise storage customers and sampling to OEM PC manufacturers in the Micron 2500 NMVe™ SSD.

Micron 232-layer QLC NAND delivers unparalleled performance for use cases across mobile, client, edge and data center storage by leveraging these important capabilities:

- Industry-leading bit-density, up to 28% more compact than leading competitors¹ latest products
- Industry-leading NAND I/O speeds of 2400 MT/s,¹ a 50% improvement over the prior generation²
- 24% better read performance over the prior generation²
- 31% better programming performance over the prior generation²

"Micron's 232-layer QLC NAND is a key enabler of our high-capacity DirectFlash® Module," said Bill Cerreta, general manager of Hyperscale at [Pure Storage®](#). "Thanks to Micron's NAND innovation, Pure Storage can take one more step on its quest to replace all HDDs in the data center by 2028."

¹ Leading competitors are defined as SK Hynix, Solidigm, Kioxia, WD and Samsung.

² Comparisons are based on Micron 232-layer QLC NAND vs. previous Micron 176-layer QLC NAND generation.

Micron 2500 Client SSD

The Micron 2500 raises the bar for everyday computing with its best-in-class performance to significantly enhance the PC user experience. For the second generation in a row, Micron is first to ship QLC-based client NVMe SSDs with the highest NAND layer count. The Micron 2500 SSD stands alone as the world's first client SSD to integrate 200+ layer QLC NAND.

"We are impressed with the capabilities of the Micron 2500 SSD, so we are excited to qualify it for our mainstream platform storage options. With its leadership user experience, it is the perfect match for our high-performance AMD Ryzen™ processors," said Joe Macri, senior vice president and corporate fellow at AMD.

The 2500 SSD enables a user experience that surpasses competitive TLC- and QLC-based SSDs while also setting a new storage standard for productivity in daily PC applications and computing tasks. It has demonstrated superior PCMark® 10 experience benchmark results, outperforming the average scores of QLC and TLC competitors in the value SSD segment by up to 45%.³

"Micron continues its leadership and innovation in the client SSD market as the industry shifts to QLC-based storage," said Prasad Alluri, vice president and general manager of Micron's Client Storage Group. "We anticipate that the 2500 SSD will further accelerate QLC adoption in PCs as it delivers a world-class user experience and value proposition."

"By integrating the Micron 2500 QLC SSD into our PCs, we're ensuring a superior user experience. Micron's innovations in QLC NAND mean our customers enjoy the benefits of reliable storage without compromise," said Y.C. Chen, associate vice president of ASUS Group. "Additionally, the compact form factor and 2TB density allow us to create class-leading thin and light devices."

The Micron 2500 SSD is breaking new ground as the world's first QLC SSD that approaches PCIe® Gen 4 theoretical saturation performance, boasting up to 7.1 GB/s sequential read speeds. It outperforms TLC-based NAND and QLC-based NAND SSDs in the value segment, with superior performance to competitor offerings:⁴

| Micron 2500 SSD performance | | |
|-----------------------------|------------------------|------------------------|
| Performance Metric | Versus TLC Client SSDs | Versus QLC Client SSDs |
| Sequential read | Up to 48% better | Up to 72% better |
| Sequential write | Up to 32% better | Up to 97% better |
| Random read | Up to 38% better | Up to 131% better |
| Random write | Up to 25% better | Up to 85% better |

Enhancing the performance of the Micron 2500 SSD is its accelerated caching feature which ensures the fastest read and write performance under most applications. The Micron 232-layer QLC NAND enables a robust SSD write endurance specification. Even the smallest capacity Micron 2500 512GB SSD has enough endurance to support thirteen 4K movie downloads per day, every day for three years.⁵

The Micron 2500 SSD is available in 22 x 30mm, 22 x 42mm and 22 x 80mm form factors, in 512GB up to 2TB capacities. Notably, it features a

compact 2TB 22 x 30mm option that is perfect for handheld gaming devices. The single-sided design of these SSDs provides greater flexibility for OEMs to integrate into systems that range from ultra-thin devices to workstations. For more information, visit: www.micron.com/2500.

³ PCMark 10 testing in Micron labs using the Full System Drive Benchmark. For details see: <https://benchmarks.ul.com/pcmark10>. Competitive value SSDs tested as noted in footnote 1.

⁴ Performance comparisons are based on publicly available data sheet information per footnote 1.

⁵ Estimated 14GB per 2-hour 4K movie. The Micron 2500 (512GB) is rated for 200TB TBW (total bytes written), which provides enough endurance for a daily average of over 182 GB per day of data written over its 3-year warranty. The 1TB and 2TB capacities have higher TBW ratings respectively.

Resources

- [Micron 2500 SSD product webpage](#)
- [QLC NAND flash memory webpage](#)
- [Micron 2500 product brief](#)
- [Micron 2500 SSD launch blog](#)
- [Image gallery](#)

About Micron Technology, Inc.

We are an industry leader in innovative memory and storage solutions transforming how the world uses information to enrich life for all. With a relentless focus on our customers, technology leadership, and manufacturing and operational excellence, Micron delivers a rich portfolio of high-performance DRAM, NAND and NOR memory and storage products through our Micron® and Crucial® brands. Every day, the innovations that our people create fuel the data economy, enabling advances in artificial intelligence and 5G applications that unleash opportunities — from the data center to the intelligent edge and across the client and mobile user experience. To learn more about Micron Technology, Inc. (Nasdaq: MU), visit micron.com.

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