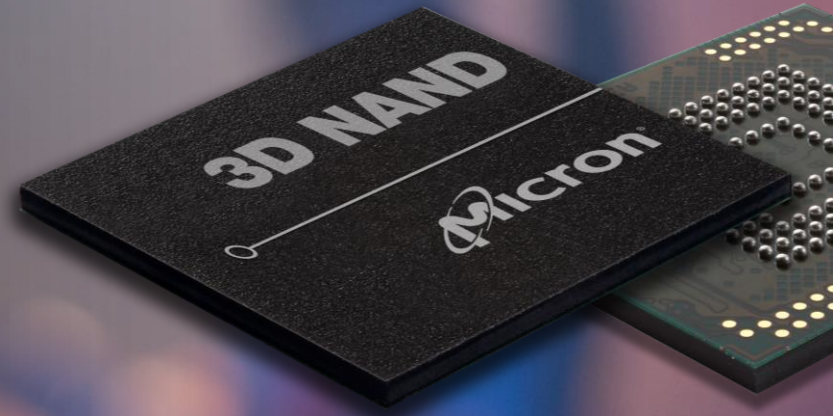


Introducing 2nd Generation Micron[®] Mobile TLC 3D NAND

Industry-leading storage solutions for flagship smartphones



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Top Mobile trends that impact memory

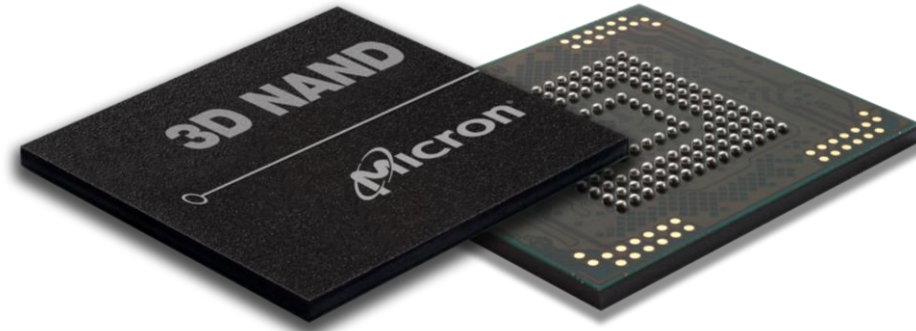
- 1. On-device AI and machine learning**
Dedicated AI engines and apps
- 2. Advanced user authentication**
Face ID, fingerprint sensors
- 3. Augmented reality**
More display pixels, new lens systems
- 4. Dual cameras on every phone**
Higher quality imaging, new effects

2nd Generation Micron® Mobile TLC 3D NAND



High Performance

Up to 150% faster sequential writes vs. previous TLC 3D NAND*; UFS 2.1 interface delivers 200% higher bandwidth vs. eMMC 5.1*



Enhanced Reliability

Unique floating gate architecture provides superior data retention compared to charge trap gates



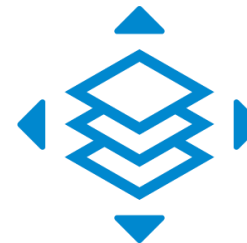
Power Efficiency

Significantly reduce peak power with Micron's Peak Power Management feature



Superior Mobile Experience

Faster boot up, seamless HD streaming, high-bandwidth data access for AI, and responsive camera performance



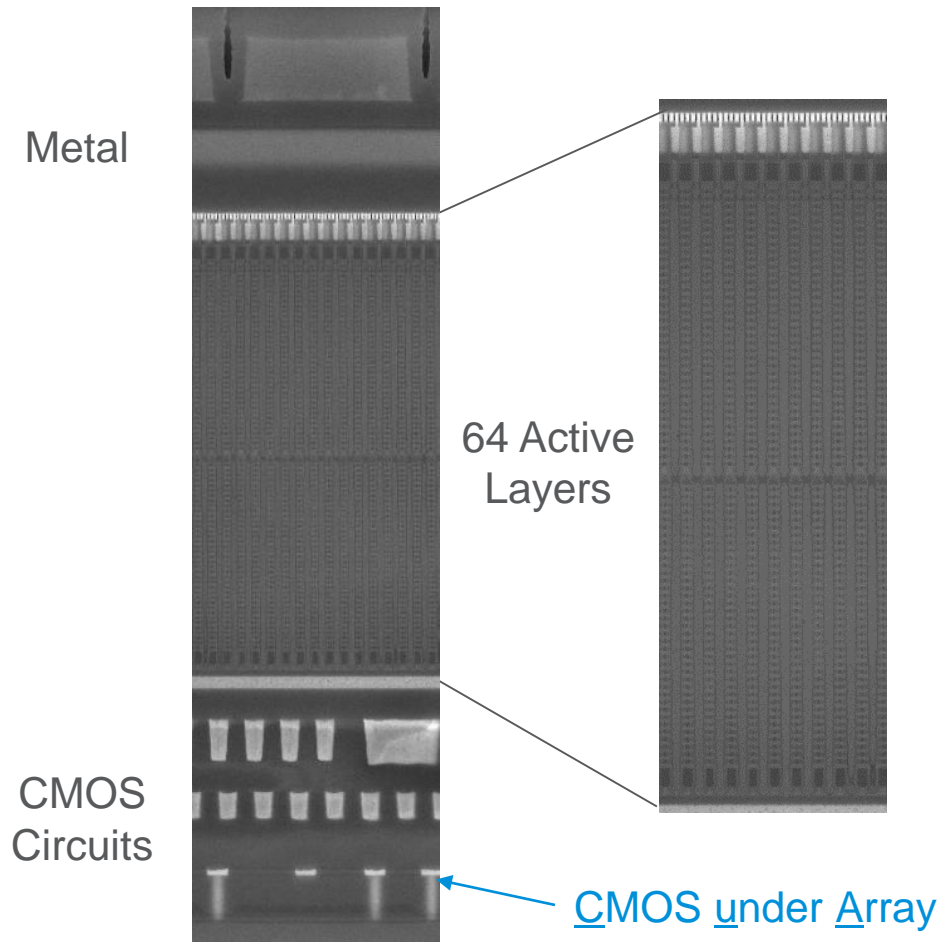
High Capacity

Higher storage capacity in a smaller space with Micron's 64-layer TLC 3D NAND architecture and CMOS under the Array technology

* Source: Micron. Performance comparison between Micron B16A UFS 3D NAND and Micron B05A eMMC 3D NAND.

CMOS under Array (CuA)

Higher storage capacity in a smaller space



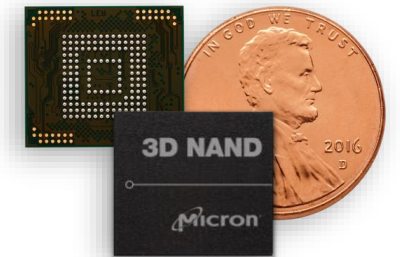
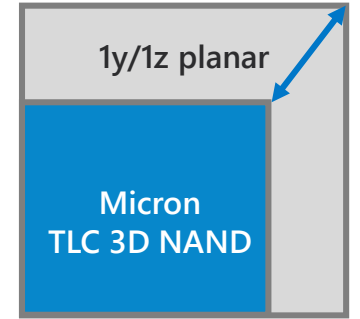
- Enables ~25% more die per wafer relative to competing 64-layer 3D NAND
- Industry's most dense mobile 3D NAND memory array*
- Highly efficient utilization of memory cell space

* Source: Micron. Internal measurements illustrate that floating gate technology with CuA has more memory cells per measure of space on a die than competing charge trap technology .

Micron: World's Smallest TLC 3D NAND Die



- Micron 32GB TLC 3D NAND die measures **59.341mm²**, making it the smallest TLC 3D NAND on the market*
 - ~44% smaller vs. 1y/1z planar NAND**
- Vertically tiered die packs up to 6X the capacity in a smaller space vs. planar NAND**
- Tiny memory packaging can free up space for additional battery size or enable smaller form factor devices



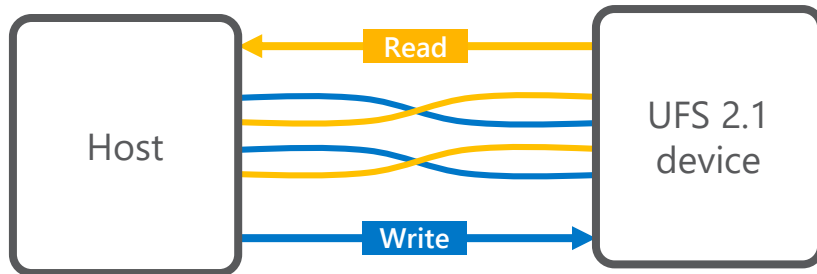
* Based on Micron internal competitive measurements

** Comparing Micron B16A 4.314Gb/mm² vs. Micron L94C 0.5967Gb/mm²

Universal Flash Storage (UFS) 2.1

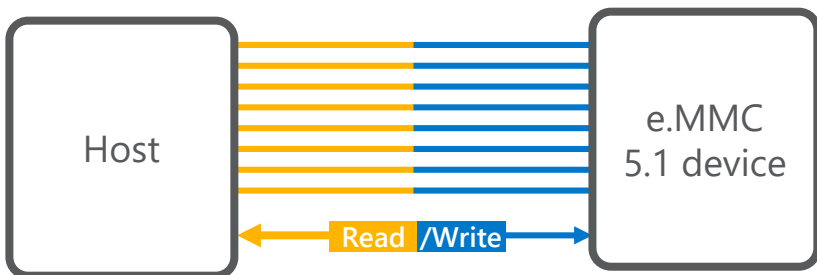
UFS 2.1 Serial Interface

Read AND Write



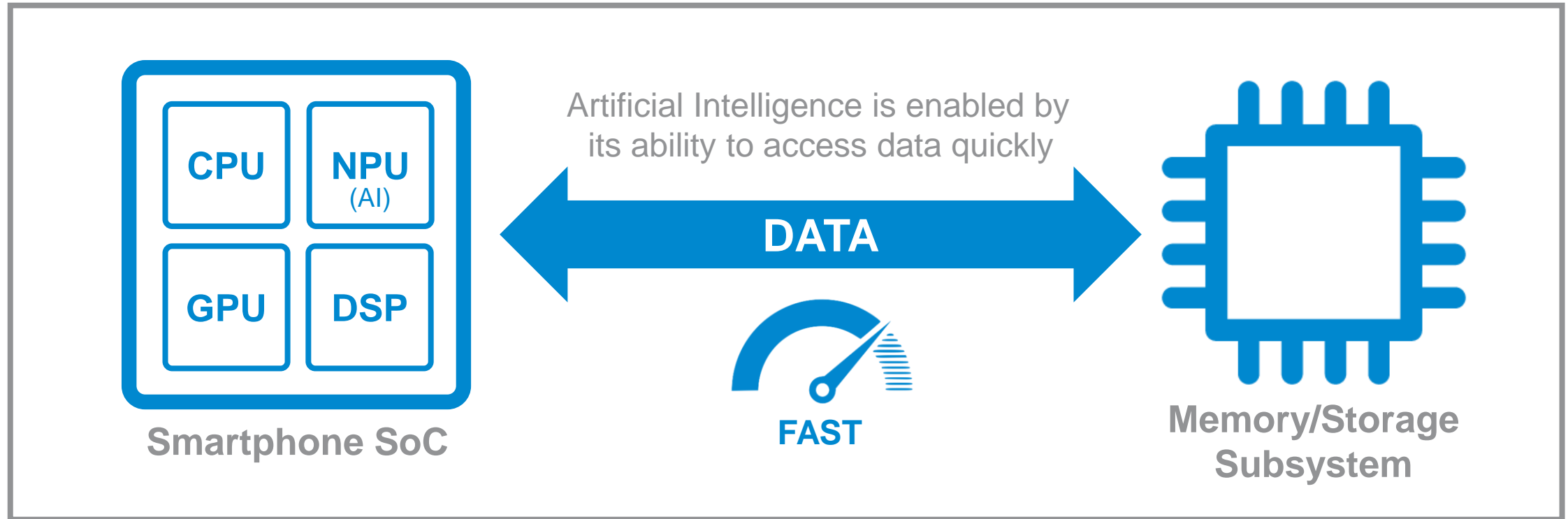
e.MMC 5.1 Parallel Interface

Read OR Write

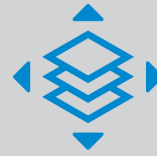


- UFS 2.1 delivers significantly faster random read speed performance than e.MMC 5.1
 - UFS uses a full duplex serial interface, allowing reading and writing at the same time, unlike e.MMC's half duplex parallel interface
- Increased IOPS and reduced read/write latencies provide additional performance improvements and security features that enhance multimedia transfer in mobile devices

Mobile AI Drives Need for Faster Storage Performance



Summary: 2nd Gen Micron Mobile TLC 3D NAND



New 64-layer TLC 3D NAND delivers up to 6X more storage than planar NAND



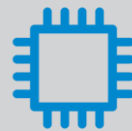
Industry's smallest 64GB TLC 3D NAND die, measuring 59.341mm²



Built on proven cell technology enabling better performance, quality and reliability



Up to 150% performance improvement vs. previous Micron mobile 3D NAND



High-capacity offerings of 256GB, 128GB and 64GB storage



Micron TLC 3D NAND now shipping to mobile customers for qualification

