There are over 5 billion smartphone subscriptions worldwide[1], making smartphones the largest and most popular Internet of Things (IoT) platform. The smartphone is now the hub of our everyday connected lives enabling immediate access to home, work, media, surveillance, gaming, photography & video, shopping, communications and many other uses.

To grow market share, device manufacturers, chipset makers and application developers are driving a variety of innovations at an accelerated pace to entice consumers to purchase their latest device. The new possibilities that 5G networks promise are bringing new enthusiasm as the ecosystem imagines novice applications and new usages to take advantage of 5G high speeds and low latency. In the race to the future of all things connected, Western Digital is leading by enabling mobile manufacturers with the latest advancement in storage technology, our deep engagement in the ecosystem with vertical integration and the unique understanding of the most important factor for success — delivering seamless user experiences with better, faster, greater storage solutions.

Western Digital.

- Decades of innovation in the flash memory industry
- All leading smartphone and tablet manufacturers use SanDisk flash memory
- Full portfolio for all market segments to drive innovations in a connected world
- Expertise in system-level architecture
- Partnership with all leading chipset vendors
- World-class fabs via joint ventures with Toshiba

Providing a Complete Data Solution

Western Digital has a complete portfolio of storage products, from end points to the cloud, which enable the new usages our digital world demands. Mobile devices, industrial solutions, automotive products, surveillance systems and connected home devices are among the many markets that benefit from Western Digital embedded flash devices, removeable cards and SSDs. Western Digital is a leader on 96-Layer 3D NAND technology to enable high capacity data solutions and our NAND storage solutions are on leading edge technology through our joint venture with Toshiba.

Empowering the Mobile Ecosystem

Western Digital optimizes our flash product lineup to enable next-generation devices through intense collaboration with industry partners. We collaborate with device manufacturers, operating system vendors, mobile network operators, system integrators, chipset providers and application developers to bring the best mobile experience to consumers. Western Digital's active participation with organizations such as JEDEC and the SD Association helps play a key role in defining industry standards that drive mobile applications.

A Trusted Partner

Our products can be found in all leading smartphone and computing platforms around the world. Western Digital is committed to developing and delivering leading storage solutions to enable emerging technologies, new applications and leading-edge devices.

Mobile

IoT & Commercial

Ready for 5G Devices

5G Networks are rolling out worldwide. These 5G networks will enable ultra-fast speeds, low latency, lower power, and high network capacities, transforming not only smartphones, but billions of interconnected Internet of Things (IoT) devices.

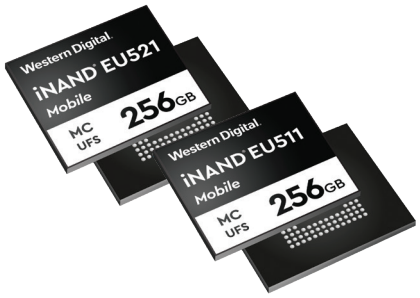
High performance and high capacity storage will play a key role for OEMs, hardware vendors, applications developers and consumers. Western Digital offers iNAND® with the latest UFS 3.1 specification to enable the performance demands of 5G devices and applications.

Artificial Intelligence (AI) is becoming a key differentiator for mobile devices as smartphone OEMs combine high resolution cameras with AI to enable a typical consumer to easily produce prosumer quality images with ease. Multiple high-resolution world facing cameras combined with high resolution 'selfie' cameras, enabled with AI editing, are producing larger image file sizes and driving a need for even higher capacity. Dedicated AI functionality in the smartphone not only enables photography but turns the smartphone into the central hub of the Internet of Things (IOT) revolution.

OEMs and hardware vendors are working closely with application developers to bring compelling augmented reality, virtual reality and high-end gaming experiences to smartphones. High quality games and expansive virtual environments require high capacity and high performance to build, map and display these interactive applications. High speed, low latency 5G networks will connect consumers, workers and game players to these immersive environments. Media will be transformed with 5G speeds allowing for fast download of movies and rapid upload of photos and videos.

Western Digital iNAND® products offer multiple interfaces and form factors, enabling OEMs and applications developers the flexibility to deliver a portfolio of products differentiated with performance and storage capacity at competitive price points. Western Digital's leading 96-layer 3D NAND technology delivers performance and capacities to empower the 5G data revolution.

UFS Embedded Flash Drive

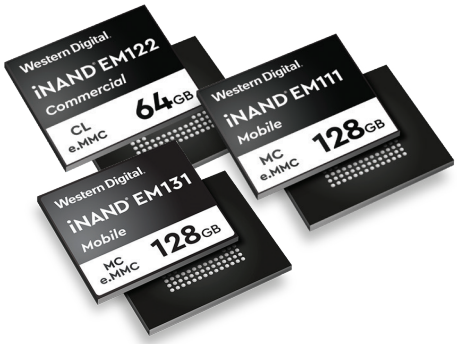


The iNAND® MC EU521, EU511 and EU311 are our most advanced flash storage solutions, built on the latest 3D NAND technology. These products are designed to deliver a fast, smooth user experience for the most data-intensive flagship mobile devices and tablets.

Features and Benefits

- UFS 3.1/3.0/2.1
- Capacities of 64GB[2] to 256GB within a unified small form factor package
- SmartSLC™ technology

e.MMC Embedded Flash Drive

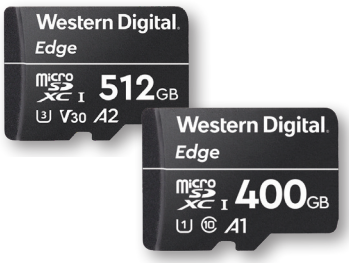


The iNAND® MC EM131, MC EM111 and CL EM122 portfolio provide mobile device manufacturers the freedom and agility to break new ground with high reliability, endurance, and scalability for mid to high-end mobile devices.

Features and Benefits

- e.MMC 5.1 HS400
- Capacities from 8GB to 256GB
- A wide range of price points to enable smartphones and tablets

Commercial microSD™ Card



The Commercial microSD™ cards for OEMs and Commercial are available across a spectrum of performance points to meet the needs of any mobile segment.

Features and Benefits

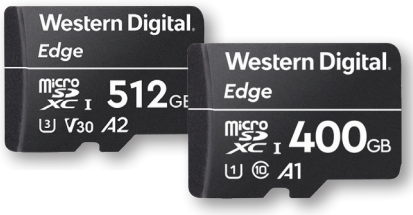
- UHS-I 104/50
- Capacities from 8GB to 400GB
- Popular choice to increase internal storage capacity and achieve faster read/write speeds for smartphones

	iNAND® UFS (Universal Flash Storage)			iNAND® e.MMC Embedded Flash Drives		
Name	MC EU521	MC EU511	MC EU311[d]	MC EM131[c]	MC EM121[b]	MC EM111[a]
Capacity[2]	128GB–256GB	64GB–256GB	32GB–256GB	32GB–256GB	8GB–64GB	16GB–128GB
Interface	UFS 3.1 Gear 4/2 Lane	UFS 3.0 Gear 4/2 Lane	UFS 2.1 Gear 3/2 Lane	e.MMC 5.1 HS400	e.MMC 5.1 HS400	e.MMC 5.1 HS400
Package (mm)						
8GB					11.5x13x1.0mm	
16GB					11.5x13x1.0mm	11.5x13x1.0mm
32GB			11.5x13x1.0mm	11.5x13x1.0mm	11.5x13x1.0mm	11.5x13x1.0mm
64GB		11.5×13×1.0mm	11.5x13x1.0mm	11.5x13x1.0mm	11.5x13x1.2mm	11.5x13x1.0mm
128GB	11.5×13×1.0mm	11.5×13×1.0mm	11.5x13x1.0mm	11.5x13x1.0mm		11.5x13x1.2mm
256GB	11.5×13×1.0mm	11.5×13×1.0mm	11.5x13x1.0mm	11.5x13x1.0mm		
Ordering Information						
8GB					SDINBDG4-8G	
16GB					SDINBDG4-16G	SDINADF4-16G-H
32GB			SDINDDH4-32G	SDINBDA4-32G	SDINBDG4-32G	SDINADF4-32G-H
64GB		SDINEDK4–64G	SDINDDH4-64G	SDINBDA4-64G	SDINBDG4-64G	SDINADF4-64G-H
128GB	SDINFDK4-128G	SDINEDK4–128G	SDINDDH4-128G	SDINBDA4-128G		SDINADF4-128G-H
256GB	SDINFDK4-256G	SDINEDK4–256G SDINEDK4–256G-P	SDINDDH4-256G	SDINBDA4-256G		

Commercial microSD™ Cards

A New Dimension of Mobile Application Performance

Western Digital Commercial microSD™ cards for OEMs and commercial are available across a spectrum of performance points to meet the needs of any mobile segment. The Commercial microSD™ cards are available up to Speed Class V30, C10 and U3. Western Digital also offers a 400GB microSD™ card with a Speed Class of C10, A1 or U1 that is a popular choice amongst consumers that want to increase the internal storage capacity and achieve faster read/write speeds for their smartphones.



Commercial microSD™ Cards			
	Speed Class V30, U3, C10, A2	Speed Class C10, U1, A1[4]	Speed Class C4
Product name	Commercial CL QD501	Commercial CL QD301	Commercial CL QD101
Formerly known as	SDSDQAE-xxxG	SDSDQAD-xxxG	SDSDQAB-xxxG
Capacity[2]	32GB to 512GB	16GB to 400GB	8GB to 64GB
Interface	UHS-1 104	UHS-I 104	UHS-I 50
Performance R/W[3]	Up to 95/90 MB/s	Up to 95/10 MB/s	Up to 20/5 MB/s
Operating Voltage	2.7V – 3.6V		
Operating Temperature	–25°C – 85°C	–25°C - 85°C	–25°C – 85°C

[1] Ericsson Mobility Report, November 2018

[2] 1GB = 1 billion bytes. Actual user capacity may be less depending on operating environment.

[3] Based on Western Digital internal testing. Performance based on e.MMC high speed interface, using an 8-bit bus. Read and write speeds may vary depending upon host device, usage conditions, drive capacity, and other factors. 1 MB/s = 1 million bytes per second.

[4] A1 = Application Performance Class. A1 is indicated by A1 logo marking. A1 is not available on 200GB configuration.

a: iNAND® 7232
b: iNAND® 7250
c: iNAND® 7550
d: iNAND® 8521

Western Digital.

Contact Information

For all inquiries, please email:
OEMProducts@WDC.com

For more information, please visit:
www.WesternDigital.com

Western Digital Corporation | 5601 Great Oaks Parkway | San Jose | CA 95119 | USA

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