

# SIMPLIFIED SOLUTIONS

## e.MMC for Automotive, Industrial, Consumer

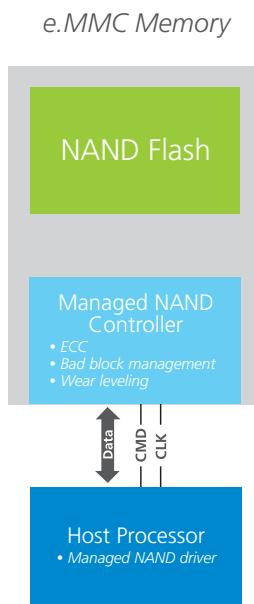
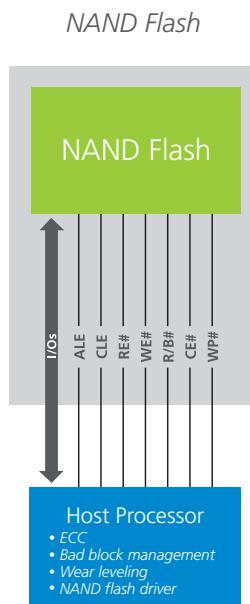


### Micron® e.MMC Memory

For system designs with mass storage needs, developers must keep up with the increasingly complex error correction code (ECC) implementation and data management requirements of MLC NAND flash devices. Micron's e.MMC memory can help developers overcome these challenges, offering quick system integration suited for a wide range of automotive, industrial and consumer applications.

### How e.MMC Memory Works

Micron's e.MMC memory combines a NAND flash memory device with a JEDEC-compliant controller in an industry-standard BGA package. This single-package solution manages operations internally—such as wear leveling, bad block management and device mapping—simplifying system development work. e.MMC also implements error handling internally, which removes the burden from the host processor, thereby optimizing system performance.



### 4 Ways e.MMC Can Benefit Your Design

#### 1. Broad Portfolio

Choose from automotive-, industrial- and consumer-grade e.MMC solutions to meet your specific needs.

#### 2. Superior Endurance

Build products that last with our superior e.MMC endurance.

#### 3. Flexibility

Pick the package that's right for you:

- Industry-standard 153- and 169-ball BGAs
- JEDEC-compliant 100-ball BGA; enables easier routing, lower board cost and better signal integrity

#### 4. Automotive Qualification

Get the best quality and product longevity for automotive applications from our automotive-qualified e.MMC memory.



# Micron e.MMC Memory for Embedded

## Automotive Applications

- Advance driver assistance systems
- Cluster/dashboard
- Infotainment
- Drive data recorder

## Industrial Applications

- Factory/building automation
- Point of sales
- Energy
- Transportation
- Aerospace and defense
- Surveillance
- Medical equipment

## Consumer Applications

- Digital TVs (DTV)
- Set-top boxes (STB)
- Home automation
- Digital video cameras (DVC)
- Digital still cameras (DSC)
- Augmented reality/virtual reality (AR/VR)
- Wearables

## Micron e.MMC Memory Performance Summary

Specs	e.MMC v4.41/v4.51 Value	e.MMC v5.0/v5.1 Performance
Density	2GB up to 64GB	4GB up to 128GB
Ballout and package	Industry-standard 153-/169-ball BGA	
	JEDEC-standard 100-ball BGA for easy routing	
Sequential write	Up to 20/23 MB/s	Up to 90/120 MB/s
Sequential read	Up to 44/130 MB/s	Up to 270/320 MB/s
Random write	Up to 100/1000 IOPS	Up to 5000/15,000 IOPS
Random read	Up to 1100/3500 IOPS	Up to 5000/15000 IOPS
Temperature	Industrial (-40°C to 85°C) Automotive (-40°C to 105°C)	

## Easing the Design Process With Partner-Validated Solutions

To ease customer design-in activities, we engage with chipset vendors to proactively validate Micron's memory on chipset platforms. To find out more about Micron's e.MMC memory chipset-enabling activities, visit [micron.com/ecosystem](http://micron.com/ecosystem) or contact your Micron representative.

## Contact Us

Get the e.MMC solutions and support you need to speed your embedded design to market from a world-class flash supplier. Visit [micron.com/emmc](http://micron.com/emmc) to learn more about product specifications and availability.

[micron.com](http://micron.com)

Products are warranted only to meet Micron's production data sheet specifications. Products, programs and specifications are subject to change without notice. Dates are estimates only.

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