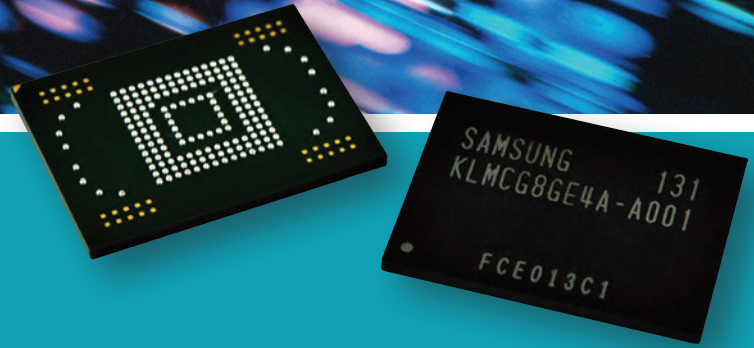




SAMSUNG

SAMSUNG eMMC

Capacities up to 128GB



Samsung's leading-edge eMMC™ solution continues to transform the industry in high-performance, low power, and reliability for performance and power sensitive mobile computing devices; from smartphones, tablets and e-readers to Smart TVs, set-top boxes and digital video cameras.

Featuring Samsung eMMC	
Capacities	From 2GB to 64GB in MP (128GB — Coming soon!)
MMC Version	MMC v4.41/4.5
MLC NAND	32Gb & 64Gb
Small FBGA Package (JEDEC standard)	11.5x13mm/12x16mm
Sequential R/W	Up to 150/60 MB/s
Random R/W	Up to 3500/1500 IOPS

eMMC Overview

eMMC is an embedded storage solution with an MMC interface, flash memory and controller, all in a small BGA package. It is based upon the JEDEC industry-standard MMC System Specification v4.41/4.5 and JEDEC BGA packaging standards. With interface speeds of up to 200 MB per second, eMMC provides fast scalable performance.

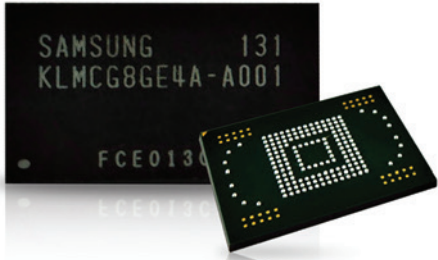
eMMC provides a flexible, industry-standard architecture that simplifies mass storage designs for portable consumer electronics products. With eMMC, a host system can now gain access to all major classes of mass-storage memory subsystems, including embedded memory (eMMC), memory cards or even hard disk drives (via ATA-on-MMC specification) with one common MMC Interface Protocol Bus.

Easy to Use

- Simple read/write memory using JEDEC-standard eMMC interface
- Fully managed NAND solution

Cost-Effective Solution

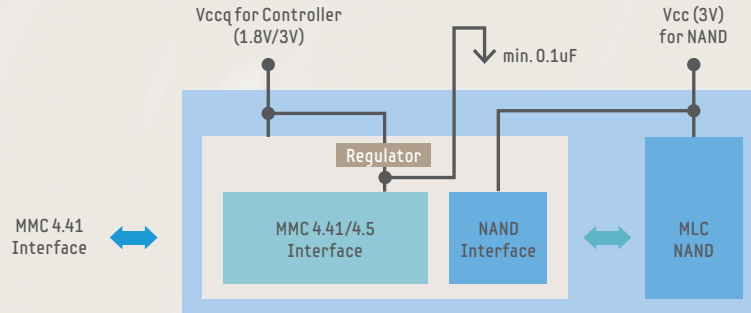
- Faster product development & TTM
- Common solution for embedded & external flash memory
- Backwards compatibility with older MMC versions
- Unified solution for boot & mass storage
- High-density, compact packaging ideal for sleek & thin mobile designs



Samsung's new 64GB eMMC provides the industry's highest performance and thinnest profile available, utilizing leading-edge 64Gb NAND with a Toggle DDR 2.0 interface and the company's latest 20nm-class process technology.



eMMC Architecture



The standardized eMMC protocol interface offers designers high performance and makes technology complexity, such as NAND Flash functional differences among suppliers, invisible to the host. This differs from the conventional architecture, where a host system must contend with generational process geometry shrinks and technical complexities such as Multi-Level Cell (MLC) technology while supporting the company-specific functions of individual flash memory suppliers to achieve the necessary performance.

The benefits of eMMC to host manufacturers are a simpler product design and qualification process and shorter time-to-market solution.

eMMC Features

	eMMC4.41	eMMC4.5
Bus Width	x1/x4/x8	x1/x4/x8
Clock Frequency	~52MHz	~200MHz
Alternative Boot	Yes	Yes
Max bandwidth	104MB/s	200MB/s
H/W reset	Yes	Yes
DDR Interface	Yes	Yes
Multi-Partition	Yes	Yes
Enhanced mode (SLC + MLC)	Yes	Yes
Security feature (Trim, RPMB, Secure Erase, Secure Trim)	Yes	Yes
Secure Trim Refinement	Yes	Yes
High Priority Interrupt	Yes	Yes
Back Ground Operation	Yes	Yes
Packed Command	No	Yes
Cache Handling	No	Yes
Discard	No	Yes
Dynamic Capacity	No	Yes
Sanitize	No	Yes

For more info, please visit: samsung.com/us/oem-solutions



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