

SanDisk Announces iNAND Embedded Flash Drive Line

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SanDisk Corporation today announced that the SanDisk iNAND Embedded Flash Drive (EFD) product line offers new performance enhancement features that go beyond the existing e.MMC 4.4 specification. The new features improve system responsiveness and accelerate the implementation of consolidated boot and storage code within a single device without affecting the consumer experience.

The e.MMC 4.4 standard interface is designed for embedded, non-volatile [memory storage](#) devices made up of both [NAND flash memory](#) and a flash memory controller. This latest specification is designed to meet the requirements for a flexible program code and user data storage solution for mobile phones, global positioning systems (GPS), digital music players and other portable consumer electronics devices. SanDisk iNAND EFDs exceed the existing e.MMC 4.4 standard interface to offer unique features that enhance system responsiveness and bridge the gap between e.MMC's plain boot solution and its practical implementation.

SanDisk's iNAND EFDs are designed specifically for high end smartphones that deliver an increasing array of applications and advanced multimedia functions. The drives consolidate system code and user storage into a single embedded device, thus conserving scarce board space, reducing handset design complexity and power consumption, and saving OEMs the cost of an otherwise needed separate boot device. With almost 10 years of booting mobile handsets from multi-level cell (MLC) NAND, SanDisk has the history of innovation and technical expertise

needed to consolidate boot and storage functions in a single package.

iNAND's optimal balance between system code and user data storage is achieved by implementing unique [NAND](#) capabilities and architecture. A reliable high random performance area is designated for the smartphone operating system, with a cost-effective high-sequential performance area dedicated to user storage. iNAND architecture is developed based on in-depth analyses of actual smartphone usage, and supports highly aggressive mobile system and usage scenarios.

As smartphone applications proliferate, the ability to multitask requires a greater degree of responsiveness from the [storage device](#). In addition to fully supporting the e.MMC 4.4 specification, the latest generation of SanDisk iNAND EFDs introduces new features that improve performance by enhancing the level of control the mobile host is given over the storage device.

Flexible read prioritization functionality in iNAND empowers the mobile host to temporarily suspend storage device operations in favor of high priority ones, substantially reducing storage device latency. System latency is further reduced by performing common background flash maintenance operations during system idle time. Allowing iNAND background operations to be scheduled by the host ensures that the storage device is not busy when it's needed most.

"SanDisk's ability to provide a viable boot solution comes from an intimate knowledge of both flash and system technologies together with the experience gained in almost ten years of booting mobile handsets with embedded MLC flash," said Amir Lehr, vice president, mobile business, SanDisk. "This allows SanDisk to quickly offer advanced mobile system solutions to its customers, and to turn innovative thinking into industry standards."

SanDisk iNAND EFDs come in a wide range of storage capacities, ranging from 2 gigabytes (GB) to 64GB and utilizing e.MMC standard interfaces and packages for quick integration into handset designs. With managed physical partitions, advanced caching technology, customizable attributes and advanced power failure immunity, SanDisk iNAND features highly reliable boot code and application storage device capabilities in addition to being a mass storage solution. iNAND devices are based on both 2 bits-per-cell (X2) and 3 bits-per-cell (X3) technologies.

Source: SanDisk

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