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Spansion demos 4-bit-per-cell flash

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SAN FRANCISCO — Claiming the world's first 4-bit-per cell flash memory, Spansion Inc. said Monday (Sept. 25) it has demonstrated working silicon on its new MirrorBit Quad technology.

According to [Spansion](#) (Sunnyvale, Calif.) the technology will serve as the basis of a family of differentiated data storage solutions created for the integrated flash memory market by the company's newly formed media storage division.

Spansion said it also plans to partner with leading companies to bring digital media solutions to segments of the removable market. Production of MirrorBit Quad 512-megabyte, 1- and 2-gigabyte products on 90-nm is planned by year-end, Spansion said, followed by 1-, 2-, 4-, 8- and 16-Bg products on 65-nm in 2007.

MirrorBit Quad was created with [engineering and design support](#) licensed from Saifun Semiconductors Ltd., an Israel-based flash memory IP vendor.

"This is a significant milestone not only for Spansion, but for the entire flash memory industry," said Bertrand Cambou, Spansion president and CEO. "The increased storage capacity, small size and improved cost structure of MirrorBit Quad solutions will change the way consumers store and interact with their content—easily accessible within their devices—whether in cell phones, navigation systems, set top boxes or removable applications."

MirrorBit Quad technology stores charges in two distinct locations on a non-conducting nitride storage medium to deliver cost, quality and manufacturing advantages over floating-gate technology, according to Spansion. The company said MirrorBit Quad is capable of delivering up to 30 percent smaller effective cell size per bit than floating-gate MLC NAND flash memory technology at the same process technology node.

Spansion said it believes MirrorBit Quad technology is the next step for mass data storage within the integrated electronics market, with plans for a variety of different interfaces and capabilities that will expand the flash memory storage capabilities of devices with integrated flash memory.

"The implementation of 4-bit-per-cell technology will open up new avenues of applications," said Jim Handy, Semico Research Corp. analyst, in a statement released by Spansion. "Spansion's proven nitride-based MirrorBit technology, coupled with the industry-tested MLC approach to multiplying flash density, promises to drive flash costs to the next level of affordability."

Spansion said it has created a division to serve the mass storage segment of the integrated market as well as digital media applications in certain segments of the removable market. The

new media storage division will be led by Executive Vice President Hans Wildenberg, a 25-year-veteran of the wireless and semiconductor industries, Spansion said.