

For Immediate Release:

Everspin ST-MRAM Incorporated For Cache Memory Into Buffalo Memory SSD

Buffalo Memory's innovative SATA III SSD is first to implement Spin Torque MRAM as cache memory

CHANDLER, ARIZONA – NOVEMBER 18, 2013 – Everspin Technologies today announced that Buffalo Memory is introducing a new industrial SATA III SSD that incorporates Everspin's Spin-Torque MRAM (ST-MRAM) as cache memory. In addition to breaking new ground as a SATA III SSD, this product is also the first to specify ST-MRAM for its cache. Buffalo Memory will showcase the new product at its booth (B-05) at the Embedded Technology 2013 conference held in Yokohama, Japan on November 20-22.

Buffalo's SS6 series SATA III SSD with Everspin ST-MRAM cache improves tolerance for sudden power loss and reduces power consumption. SATA III runs up to 6.0 Gigabits per second, twice the rate of SATA II, which improves quality of service in high data rate applications.

SS6 series SATA III SSD with Everspin ST-MRAM cache improves:

- Tolerance for sudden power off
- Access time (saving some process steps which volatile memories need)
- Power consumption (MRAM doesn't require cell refresh like DRAM)

"In the area of Embedded flash storage, we Buffalo Memory, have an advantage in firmware development that provides additional value for customers like tolerance for sudden power off using backup battery and DRAM as a cache memory," said Shuichiro Azuma, General Manager, R&D Division of Buffalo Memory. "Today we introduce our brand new platform of SATA III SSD, and we have started to develop the SSD with MRAM cache using this platform. We believe that it realizes the best Industrial SSD for customers and we have pursued this innovation aggressively."

The new Buffalo SSD is designed with Everspin Technologies' 64Mb DDR3 ST-MRAM that performs as a persistent cache, with full DDR3 speed and non-volatility. Using ST-MRAM instead of traditional DRAM has eliminated the need for a backup battery or super capacitor to power the DRAM in the event of a power failure. An ST-MRAM cache

is inherently non-volatile, so it retains cached data during a power failure, and it does not require the drive to flush the cached contents to NAND flash during a power loss.

“As an early adopter of ST-MRAM, Buffalo Memory is taking a bold step to continue as an innovator in the SSD market,” said Phill LoPresti, president and CEO of Everspin. “Spin-Torque MRAM technology will give Buffalo Memory a strong differentiator in the market for high-performance industrial SSDs.”

The Everspin EMD3D064M 64Mb ST-MRAM is functionally compatible with the industry standard JEDEC specification for the DDR3 interface, providing designers the ability to quickly adopt ST-MRAM in storage and embedded systems.

About Everspin Technologies

Everspin Technologies is the leading developer and manufacturer of magnetic RAM (MRAM), offering stand-alone and embedded Toggle and Spin-Torque MRAM products. As the world's first volume MRAM supplier, Everspin has established itself as “The MRAM Company” with an intellectual property portfolio of more than 600 active patents and applications, many of which are fundamental and essential for MRAM technologies. Today Everspin delivers MRAM products to broad applications in the data center and storage, energy and infrastructure, and automotive and transportation markets.

www.everspin.com

About Buffalo Memory

Buffalo Memory, a subsidiary of Buffalo, makes digital appliances and PC peripherals, and develops and sells semiconductor-related products such as SSDs, memory cards and memory modules for the industrial equipment industry. Buffalo Memory surely meet the needs of customers by our fine responses through our own design technology of hardware and firmware.

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