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## **Mobius Microsystems Announces World's First Accurate, Fully-Integrated Frequency Source for Spread Spectrum Clocking Applications**

### **Monolithic CMOS IC lowers EMI and eliminates crystals and PLLs**

**Sunnyvale, Calif., April 3, 2008** — Mobius Microsystems Inc today announced the first product to utilize the company's patented CMOS Harmonic Oscillator (CHO™) technology. The MM8511 device is designed to fulfill the industry's need to address system-level EMI issues with a single, highly accurate frequency source.

Electromagnetic Interference (EMI) has been a long-standing concern for system designers. EMI occurs when an electronic device generates unwanted harmonics in the frequency spectrum, and impacts the operation and performance of nearby devices. Currently, design engineers spend significant effort minimizing EMI in their designs in order to achieve compliancy certification and reduce the RF interference within the system. Their task gets further complicated with each new design generation due to the increased wireless capability of today's products.

With its CHO technology, Mobius Microsystems offers a powerful tool to lower EMI. The MM8511 builds upon the standard Spread Spectrum Clock Generation (SSCG) technique, by far the most effective and most preferred method to control EMI. Unlike conventional SSCG implementations however, the MM8511 CHO replaces both the quartz crystal and the PLL ICs with a monolithic CMOS die, which generates Spread Spectrum Clocks without the need for an external resonator. The elimination of the quartz crystal improves reliability, eliminates bulky packages from the system, and lowers BOM count. The elimination of the PLL improves performance by reducing clock jitter, and lowering phase noise and power consumption.

"Building Spread Spectrum Clocks with CHO technology is a breakthrough solution to the EMI problem," said Tunc Cenger, Director of Marketing at Mobius Microsystems. "Our product, built entirely in a standard CMOS process, produces the lowest jitter clock signals, and offers significant space savings in today's designs."

Spread Spectrum Clocking is now used extensively in many electronic devices, from multi-function printers to digital TVs and monitors. It is a requirement for JEDEC's buffered memory modules and SATA-IO's Serial ATA specification. By utilizing SSCG, EMI can be reduced by up to 15 dB in the critical frequency bands deterministically, thereby reducing engineering iterations to ensure EMI compliancy considerably.

The MM8511 operates from a 3.3V supply and can be used as a fully integrated clock generator with output frequencies that range from 100s of kHz to 100s of MHz. The initial products will be factory programmed at common interface frequencies in the 10-100MHz range. The device offers a wide selection of Spread Spectrum Modulation percentages from 0 to 6 percent. The MM8511 is assembled in a small, proprietary 8-DFN (3x3x0.75mm) package and in an 8-pin TSSOP (3x6.4mm) package, which is designed to be a 'drop-in' replacement for leading Spread Spectrum PLL ICs. The evaluation board for MM8511 will be available to select customers in May 2008, and production samples of the product will be available in July 2008. The product is offered at \$1.35 for 1k quantities.

*About Mobius Microsystems Inc. ([www.mobiusmicro.com](http://www.mobiusmicro.com))*

Mobius Microsystems is an innovator in precision timing ICs, and is the first company to implement highly accurate timing generators entirely in standard CMOS. This is a significant technical breakthrough in timing generation, which up to now was served by quartz crystals and crystal oscillators. Mobius' patented CMOS Harmonic Oscillator (CHO) is produced on a single piece of silicon and offers system designers a frequency reference with excellent phase noise and jitter performance. In addition to size and reliability advantages over quartz crystals, CHO also significantly shortens the manufacturing cycle time to best respond to fluctuating demands of the consumer electronics market. Mobius Microsystems is funded by leading venture capital firms. Its headquarters are located at 111 W. Evelyn Avenue, Suite 210, Sunnyvale CA 94086; (408) 739-5400; [info@mobiusmicro.com](mailto:info@mobiusmicro.com).