

# NEWS RELEASE



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## FOR IMMEDIATE RELEASE

### **Peregrine Semiconductor Expands PLL Frequency Synthesizer Portfolio**

*Rad-hard UltraCMOS™ devices deliver industry's lowest phase noise*

**San Diego, California, March 3, 2008** -- Peregrine Semiconductor Corporation, a leading supplier of high-performance RF CMOS and mixed-signal communications ICs, today announced the UltraCMOS™ PE97022 and PE97042 phase locked loop (PLL) frequency synthesizers are in production and available for satellite payload designs. The new pair of 3.5 GHz Integer-N PLLs boast an ultra-low normalized phase noise of -216 dBc/Hz, which is the lowest phase noise of any rad-hard PLL on the market today. Additionally, the two PLLs feature programmable counters, a phase comparator and +10/11 Dual Modulus Prescaler, allowing for backward compatibility to previous generation PLLs. The PE97042 offers direct or serial programming modes, while the PE97022 offers an additional parallel mode option. Phase-locked loop (PLL) are used for a variety of purposes, including skew suppression, frequency synthesis for local oscillators, signal modulation and demodulation, clock recovery, jitter reduction, regeneration of signals and pulse synchronization of signals from mass storage devices.

"Phase noise has traditionally been a challenge for any satellite application," stated Dale Robinette, director of space products marketing. "Satellite manufacturers have sourced Peregrine's PLLs for the most demanding applications, and with these new specs Peregrine has dramatically improved the performance to meet or exceed most of the satellite phase noise requirements," he added.

The UltraCMOS™ silicon-on-sapphire based devices are fully space qualified and immune to Single Event Latch-up (SEL). A superior resistance to Single Event Upset (SEU) of less than  $10^{-9}$  errors per bit-day and tolerance to total dose radiation of up to 100 Krads (Si) make these devices ideal for the demanding rigors of space applications. Further, because the PE97022 and PE97042 are manufactured on the UltraCMOS process, the devices utilize ultra-low power of approximately 45 mA to meet system-level requirements.

"The most fundamental benefit of UltraCMOS products for space applications is its inherent ability to integrate RF, mixed signal analog and digital on the same device," stated Ron Reedy, CTO.

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## **ADD ONE/PE97022\_42 UltraCMOS PLLs**

Both devices are offered in the 44-pin CQFJ package, while the PE97042 is also available in die form. The PE97022 is a drop-in replacement for the popular PE9702, while upgrading from the PE9704 to the PE97042 requires only minimal design modification. Pricing and lead-time are available by contacting Peregrine.

### **About UltraCMOS™ Technology For Space**

UltraCMOS™ mixed-signal process technology is a proprietary, patented variation of silicon-on insulator (SOI) technology on a sapphire substrate providing with high yields and competitive costs. It combines the RF, mixed-signal, and digital capabilities of any other CMOS process, yet is inherently rad-hard making it an ideal process for demanding space applications. Recent advancements on UltraCMOS have enabled significant new product performance in the rad-hard portfolio. These significant performance advantages exist over competing processes such as GaAs, SiGe, BiCMOS and bulk silicon CMOS in applications where RF performance, ultra-low power, reduced size and integration are paramount.

### **About Peregrine Semiconductor**

Peregrine Semiconductor Corporation designs, manufactures, and markets high-performance communications RF ICs for the wireless infrastructure and mobile wireless; broadband CATV/DTV; communications infrastructure; space and avionics markets. Manufactured on the Company's proprietary UltraCMOS™ mixed-signal process technology, Peregrine products are uniquely poised to meet the needs of a global RF design community for rad-hard space and defense programs, high-growth applications such as WCDMA, EDGE and GSM digital cellular, broadband and DTV/PCTV/DVR. Peregrine UltraCMOS devices are manufactured in its CMOS facility located in Sydney, Australia and in Tokyo, Japan through an alliance with OKI Electric Industry Co., Ltd. The Company, headquartered in San Diego, California, maintains global sales support operations and a worldwide technical distribution network. Additional information is available on the web at [www.psemi.com](http://www.psemi.com).

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