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**Oki Electric and Peregrine Semiconductor Form Partnership for  
UTSi<sup>®</sup> CMOS-on-Sapphire Technology**

**Tokyo Japan, San Diego California - December 9, 2002** -- Oki Electric Industry Co., Ltd. (TSE: 6703) and Peregrine Semiconductor today announced an alliance to design, manufacture, and market LSIs based on a UTSi<sup>®</sup> CMOS-on-Sapphire technology. The partnership will combine Oki's extensive production technologies in the area of communications LSIs, including fully depleted SOI (silicon-on-insulator), with Peregrine's advanced UTSi<sup>®</sup> technology.

The agreement covers various aspects from technology licensing to joint product development. As part of the agreement, Oki will undertake production as a second source. The two companies intend to set the direction of the personal and mobile markets by offering ultra low power consumption and high performance RF technologies based on UTSi<sup>®</sup>. The partnership will also offer competing products in the area of wireless.

"As a pace-setter in technologies related to fully-depleted SOI-based LSI products, we must work with partners who possess the most advanced technologies, such as Peregrine," said Katsuhiko Sano, President of Silicon Solutions Company at Oki Electric. "Oki's collaboration with Peregrine will give us the capacity to further strengthen our industry-leading SOI business operations."

"We are proud to have an industry leader such as Oki Electric Industry recognize the inherent value of UTSi<sup>®</sup> in RF systems and adopt the technology," said Jim Cable, Peregrine's President and CEO. "We are very much looking forward to the collaborative efforts that will result from our agreement and the future process innovations we will embark upon together."

The partnership between the two companies covers broad areas, from UTSi<sup>®</sup> technology licensing to joint technology development to product marketing. The agreement calls for the following:

- Oki's licensing of Peregrine's UTSi<sup>®</sup> technology
- Joint development of UTSi<sup>®</sup> products
- Oki's role as a second source/foundry of Peregrine's UTSi<sup>®</sup> products

- Sales and marketing of Peregrine's products with chipsets provided by Oki
- Sharing of IP (intellectual property)

UTSi<sup>®</sup> technology enables the development of high quality RF semiconductors used in a variety of applications ranging from mobile radio to cellular telephony to cable television. The basic UTSi<sup>®</sup> patent is for a fabrication technique that allows the construction of CMOS transistors on insulating sapphire substrates and results in a high-yield, low cost, high performance RF circuits. This feature will allow mobile radio smaller and lighter, much higher performance and much longer battery life.

Oki offers expertise in volume production with fully depleted SOI LSI technology, which is well-suited to low power-consumption LSIs. It is currently leveraging its SOI business operations into the personal and mobile markets. The UTSi<sup>®</sup> technology licensed from Peregrine further strengthens Oki's position in the area of high frequency technology and low power consumption SOI LSIs, which represent the core building blocks of the wireless and broadband era.

Peregrine intends to expand its high-performance UTSi<sup>®</sup> technology operation worldwide by partnering with Oki, which complements Peregrine by providing experiences in world personal and mobile markets, and experience as a leading player in communications LSIs. The partnership includes product marketing by Oki as well as a second-source agreement that will enable Peregrine offer a consistent supply of UTSi<sup>®</sup> based products in volume to the personal and mobile markets.

Under the agreement, Oki will market chipsets which combine OKI LSI with Peregrine's UTSi<sup>®</sup> products such as RF switches and high-performance mixer and PLL (phase locked loop) components, starting in 2003. Oki will also divert production capacity to manufacture UTSi<sup>®</sup> LSIs for Peregrine. Based on UTSi<sup>®</sup> technology, the two companies plan to undertake joint development of wireless communications LSIs, such as RF front ends for mobile phones and GPS (global positioning system) receivers. Product introduction is slated to begin in late 2003.

**Notes:**

- CMOS-on-Sapphire:  
An SOI technology, involving the formation of integrated CMOS circuits on silicon layers developed on a sapphire substrate. The technology is used to manufacture transistors on a completely insulated substrate, transistors that provide has less impact to parasitic capacity, ultra low power consumption, and excellent high frequency characteristics.
- UTSi<sup>®</sup> (ultra-thin silicon):  
A technology used to form silicon layers on sapphire substrates without defects. Peregrine's unique production method enables the development of very thin silicon layers with fewer crystal defects on sapphire substrates than conventional silicon-on-sapphire methods.
- SOI (silicon-on-insulator):  
Substrates with a thin silicon layer on an insulation film, or devices built on these substrates.

MOS transistors produced with SOI have superior performance in low operation voltage. There are fully depleted SOIs and partially depleted SOIs. Fully depleted SOIs realize both low operation voltage and low load capacitance simultaneously, but require a very thin silicon layer for forming transistors, which is 50 nm or less.

- UTSi<sup>®</sup> is a registered trademark of Peregrine Semiconductor Corp. in the US.
- Other names of companies and products are trademarks or registered trademarks of the respective companies.

***About Oki Electric Industry Co., Ltd.***

Founded more than a century ago in 1881, Oki Electric Industry Co., Ltd. is Japan's first telecommunications manufacturer, headquartered in Tokyo, Japan. Oki Electric provides customers with top-quality products, technologies and solutions for telecommunications systems, information systems and electronic devices through its corporate vision, "Oki, Network Solutions for a Global Society." Visit Oki's global web site at <http://www.oki.com/>.

***About Peregrine Semiconductor Corp.:***

Peregrine Semiconductor Corporation designs, manufactures, and markets high-speed communications integrated circuits for the wireless, satellite, and broadband cable communications markets. Using its patented UTSi<sup>®</sup> (ultra-thin-silicon) CMOS process, Peregrine Semiconductor has launched a series of radio frequency IC products for high-growth wireless applications (including CDMA and GSM digital cellular), space and defense radiation hard IC's, and switching functions for video applications. Today it uses the technology to offer a wide variety of industry leading RF integrated circuits such as PLL synthesizers, RF pre-scalars, RF switches and broadband mixers. The devices are distinguished by their outstanding linearity and isolation characteristics. Headquartered in San Diego, California, the company has established design centers and satellite operations in Chicago, Ill., and Sydney, Australia. Visit Peregrine's global web site at <http://peregrine-semi.com>.

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