

Hitachi and TRW Join Forces to Develop Indium Phosphide Power Amplifier Modules for 3G Wireless Telecommunications

Industry leaders partner to develop next-generation power amplifier modules for 3G wireless handsets

REDONDO BEACH, CALIF. — May 22, 2001; TOKYO, JAPAN — May 23, 2001 — Hitachi, Ltd. (NYSE:HIT) and TRW's (NYSE:TRW) new semiconductor company, Velocium, have signed a joint development agreement to design and develop very high efficiency power amplifier modules for 3G wireless handsets and other wireless devices. Hitachi, the world leader in power amplifier modules for cell phones, will manufacture the modules using Velocium's technology leading indium phosphide (InP) semiconductors.

The new power amplifiers are integral to the development of wideband CDMA (W-CDMA) handsets for 3G, the next generation of wireless communications enabling Internet access, high-speed data communications and other high-data-rate applications. According to Gartner Dataquest, shipments of wireless handsets will exceed 700 million units by 2005. 3G is estimated to capture nearly 10 percent of these shipments.

InP is an advanced compound semiconductor that offers a number of performance improvements over currently available semiconductors for power amplification in mobile handsets. These performance improvements result in excellent power efficiency of more than 50 percent and provide the signal quality improvements needed for W-CDMA applications. Together with Hitachi's module technologies, this will translate to a higher performance, cost-competitive power module. For consumers, this capability means longer talk-time and improved service quality.

"TRW is extremely pleased to be joining forces with Hitachi, a very successful market leader for handset components, in the development of power amplifier modules for the 3G wireless market," said Dwight Streit, Velocium's president. "Their manufacturing capability, coupled with our advanced InP technology, will enable the volume manufacture of wireless handsets with talk times and performance never before available."

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“Velocium provides us with InP technology that will enhance the leadership position of the Hitachi power amplifier modules,” said Hideo Inayoshi, senior group executive, System Solution Division, Semiconductor & Integrated Circuits Group of Hitachi. “Combining our modules with Velocium’s technology will realize high performance and reduce cost.”

Both companies will participate in the design and development of the modules, contributing existing proprietary designs and developing new designs. The first InP-based power amplifier modules should be available for handset OEM sampling early next year. TRW’s substantial investments in high-volume InP production and Hitachi’s sophisticated module design and manufacturing capability will assure the availability and power amplifier module performance OEMs need for volume production of 3G handset in the second half of 2002.

Velocium is located in Manhattan Beach, CA. TRW Inc. provides advanced technology products and services for the global aerospace, telecommunications, information systems and automotive markets. TRW and Velocium news releases are available on the corporate Web site: <http://www.trw.com>.

Hitachi, Ltd., headquartered in Tokyo, Japan, is one of the world’s leading global electronics companies, with fiscal 2000 (ended March 31, 2001) consolidated sales of 8,417 billion yen (\$67.9 billion*). The company manufactures and markets a wide range of products, including computers, semiconductors, consumer products and power and industrial equipment. For more information on Hitachi, Ltd., please visit Hitachi’s Web site at <http://global.hitachi.com>.

* At an exchange rate of 124 yen to the dollar.