New 1 GHz DSP Delivers Performance and Flexibility to Support Multiple 3G Wireless Standards

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Addressing the need for robust wireless networks capable of providing consumers with the latest applications, Texas Instruments Incorporated (TI) (NYSE:TXN) today announced a next generation programmable DSP capable of handling multiple 3G air interface standards and a range of base station form factors on a single chip.

The 1 GHz TMS320TCI6482 DSP performs at nearly twice the clock speed of other available solutions, yet consumes only three watts of power, making it the industry's most power efficient DSP for wireless infrastructure systems. The TCI6482's unique combination of high performance and low power provides infrastructure OEMs with a platform to upgrade current systems easily and expand product portfolios efficiently.

With this best-in-class performance/power ratio, the TCI6482 reduces the power consumed per channel, delivering more processing headroom for increased user density, as well as new features, while remaining within the system's power budget. The new device also simplifies system-level thermal management, contributing to improved system reliability.

Built on TI´s industry leading 90nm process, this new wireless infrastructure-optimized DSP offers several enhancements on the previous TMS320C64xTM-based products. The TCI6482 features 28 new DSP instructions that offer specific capabilities that enable more

applications such as High Speed Download Packet Access (HSDPA). In addition, the TCI6482 is the first DSP to offer a serial Rapid I/OTM interconnect for scalable connectivity, higher system bandwidth, and reduced latency and overhead for packet data processing.

"The introduction of the TCI6482 will help to meet the needs of OEMs looking to deploy universal baseband solutions that easily adapt to current 2G and 3G, and emerging wireless standards," said Brian Glinsman, general manager of TI's wireless infrastructure products group." As DSPs continue to evolve as the 'heart' of next generation base stations, TI will push the capabilities of our processors to meet the customer's demands for the most complete wireless infrastructure product portfolio that guarantees solutions for hardware, software or a combined platform."

Universal Baseband Approach Lowers Investment for Product Line Expansion

As deployed 3G networks begin to mature, new base station form factors will emerge to solve specific network capacity and coverage problems. Within pico, micro and small form factor environments, the TCI6482 allows OEMs to offer carriers a cost effective solution for improving coverage in campus environments, elevators, basements and other areas where access to the wireless network is traditionally limited. For example, TI´s universal baseband DSP is an excellent candidate for UMTS-based in-building applications that demand high performance for baseband processing yet, have more extreme power constraints than typically exist in standard base stations. Analyst group ABI Research predicts that such in-building coverage will become a differentiator for wireless carriers as consumers and enterprise customers become less tolerant of poor coverage and lost signals.

"It goes without saying, hardware prices are continuing to drop at a rapid rate placing extreme pressure on manufactures to produce a wide variety

of products at the lowest possible cost," said Ray Jodoin, Principal Analyst, Wireless Infrastructure Research, ABI. ABI Research believes that one of the most important growth areas for 3G will be indoor coverage, because of the lower propagation at the higher frequencies used. A universal baseband product that is suitable for 2G or 3G applications as well as future emerging standards will ease the transition between standards.

As OFDM (Orthogonal Frequency Domain Multiplexing) technologies, like 802.16 (WiMAX), gain traction in the market, wireless carriers will look to their equipment suppliers to provide OFDM-based infrastructure products as an alternative for deploying wide area high-speed data services to consumers. TI's universal baseband approach makes it easier for OEMs to quickly and cost-effectively extend their infrastructure product line to support these emerging technologies.

The high DSP performance and low-power attributes are also a benefit to OEMs producing equipment for the next generation core network, as well as the radio network. With advanced communications peripherals like a Gigabit Ethernet Media Access Controller (MAC), the TCI6482 makes a good platform for evolving the media gateway to handle higher wireless codec channel densities.

"Siemens chose TI's latest DSP due to its high performance and full programmability, which enabled us to design and ramp our wireless media gateway quickly," said Peter Dependahl, Vice President of Siemens Communications Mobile Networks MediaGateway Project. "We have achieved leading-edge results with our product, largely due to the TCI6482, and believe our carrier customers will benefit as a result."

Through its code compatibility with the C64x family of devices, the TCI6482 can also help to reduce the development and design costs associated with expanding an OEM's infrastructure product line to

support multiple standards and form factors. Tapping into design investments already made on the C64x family, OEMs can maximize technology reuse from previous generations and focus on extending product lines, rather than redesigning systems.

In addition to providing high performance wireless infrastructure optimized DSPs, only TI can offer a complete signal chain solution for wireless infrastructure OEMs. Complementing the TMS320TCI6482, TI offers ASIC technology and high performance analog components that are optimized for the wireless infrastructure market.

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