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## Semiconductor News and Publications

### TI Extends Wireless LAN Coverage Area by 70 Percent with New IEEE 802.11b Chip and Reference Designs

DALLAS (June 4, 2001) -- Answering market demands for better performing and more highly integrated IEEE 802.11b consumer products, Texas Instruments Incorporated (TI) (NYSE: TXN) today announced a new wireless LAN chip which will be available for use in reference designs for PC card, mini-PCI and USB applications. Increasing the deployment of Wi-Fi(tm) technology in broadband homes and offices, TI's new chip increases WLAN coverage area by 70 percent versus competitive solutions in real life environments, the result of a 30 percent linear reach improvement. This reach/area improvement is vital for the growth of the home user market since it means consumers only need to purchase one access point or gateway to cover their entire home. (See: <http://www.ti.com/sc/wirelessethernet>).

The new chip, the ACX100, is comprised of an integrated Media Access Controller (MAC) and baseband processor, combined with on-chip PCI, CardBus and USB interfaces, thus eliminating the need for external bridging components. The chip supports both the CCK (Complementary Code Keying) and newer Packet Binary Convolutional Code™ of the current IEEE 802.11b standard. With PBCC™ modulation, end-to-end solutions using TI's ACX100 offer a coding gain advantage of 3dB over current CCK-only 802.11b solutions, allowing for the 70 percent coverage area improvement.

Since it utilizes an embedded microprocessor for implementing much of the MAC layer protocol, the ACX100 is firmware upgradable, which facilitates support of evolving IEEE standards such as the forthcoming 802.11e (quality of service) and 802.11i (security enhancements). The device is fully compatible with the IEEE 802.11b standard and also supports a 22Mbit/sec high rate mode that doubles the throughput over today's existing 802.11b networks.

"By offering cost optimized reference designs and a new generation technology that can enable a sub \$80 retail price for better performing PC cards, TI's ACX100 will help increase wireless LAN penetration in homes and offices," said Allen Nogee, senior analyst at Cahners In-Stat Group. "The extended range achievable by the ACX100 will also impact the growth of wireless networking in the home environment since consumers will now be able to easily experience broadband Internet sharing through a single access point, which has not been always the case today."

#### Complete Reference Designs Speed Time to Market

To help manufacturers achieve a faster time to market, TI is offering three reference designs using the ACX100 for PC Card, mini-PCI and USB applications. The reference designs include a complete hardware development kit (HDK), which reduces engineering resource requirements by providing schematics, layout, Gerber files and bill of material requirements. These same reference designs also support the 22Mbit/sec high rate extension.

Network driver interface specification (NDIS) 4/5 drivers, including configuration and site survey tools, that are Microsoft® Windows® Hardware Quality Labs (WHQL) certified are also included. TI expects to take each reference design through WECA certification of Wi-Fi interoperability to further improve time-to-market for customers. To prepare for the fall arrival of Windows XP, TI is also developing NDIS 5.1 drivers required for this platform. WHQL certified Windows XP drivers for the ACX100 are scheduled to be available by 4Q01.

The ACX100 was also designed with considerations for access point development. Leveraging a 32-bit PCI/CardBus or 16-bit slave interface, the ACX100 can easily connect to a network processor to provide a highly effective solution for access points. TI has created an ACX100 driver development kit (DDK) offering an easy way for developers to create customized drivers often required for access point applications.

"TI strongly believes that 802.11 will reshape the Local Area Networking landscape," said Marc Cetto, general manager of TI's Home Networking Business Unit. "With our new ACX100 solution we will be able to drive wireless networking into more broadband homes, offices and public places by offering a solution with extended reach and range at the right price point for more consumers to adopt the technology. We will continue adding technology enhancements while targeting system cost discontinuities for all our forthcoming wireless LAN products "

#### **Availability**

ACX100 based reference designs are available today. Production shipments of customers' systems based upon the ACX100 are expected in 4Q01.

#### **About TI Broadband**

For OEM's developing broadband communications solutions, only TI's advanced signal processing-based silicon and software platforms deliver the optimal performance, lower power consumption, and system level integration required to rapidly deploy differentiated next generation products for cable modems, digital subscriber line (xDSL) modems, integrated access devices (IADs), Voice over Internet Protocol (VoIP) gateways, carrier infrastructure, and home and office wireless networking.

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