Single-Chip Solutions from TI Drive VoWLAN into Mainstream Mobile Phones

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Texas Instruments Incorporated (TI) today introduced the WiLinkTM mobile Wireless LAN (mWLAN) platform, which includes single-chip solutions to drive Voice over WLAN (VoWLAN) into mainstream mobile phones. With single-chip solutions based on TI's innovative DRPTM technology, the WiLink mWLAN platform underscores TI's leadership in enabling seamless wireless connectivity to mobile devices. Comprised of hardware and software optimized for mobile phones, TI´s WiLink solution will provide consumers with on-the-go voice access over a WLAN or cellular network using their mobile phone.

"VoWLAN is becoming the emerging driver of WLAN technology integration into mobile phones and requires advanced technology for improved battery-life and talk-times," said Marc Cetto, general manager of TI's Mobile Connectivity Solutions Business. "As VoWLAN services become mainstream, TI's WiLink mobile WLAN platform will allow manufacturers to deliver a lower cost VoWLAN-enabled platform for consumer use. This becomes increasingly important to make the 'one phone' or 'universal phone' concept a reality. We expect consumers will soon be able to use only one phone for their mobile, office and home phones."

Today, WLAN and VoWLAN capabilities have only been found in high-end mobile phones primarily aimed at enterprise users. However, the WiLink solution delivers the performance, small size and price-point required by OEMs to provide cellular-WLAN phones and converged devices to consumers.

A complete hardware and software solution announced today, the WiLink 4.0 mWLAN platform, TI's fourth generation mWLAN solution, consists of two different options to meet a variety of marketplace needs. Manufacturers can choose between the TNETW1251 WiLink 4.0 802.11b/g single-chip or the TNETW1253 WiLink 4.0 802.11a/b/g single-chip depending on their product requirements. The platform includes a robust software package, the WiLink 4.X Software Development Kit (SDK) to deliver VoWLAN capabilities for mainstream mobile phones.

The WiLink 4.0 TNETW1251 and TNETW1253 single-chip solutions are the industry´s first WLAN products manufactured in a 90nm advanced RF-CMOS process and leverage TI´s DRP technology. As a result, both chips offer smaller size at a lower cost and longer battery life than current solutions. The WiLink 4.0 platform also leverages TI´s expertise in providing battery-saving low power modes including TI´s ELPTM technology.

"VoWLAN penetration in homes and businesses is expected to propel the mobile WLAN market to new heights, offering consumers more choices in connectivity," said Allen Nogee, principal analyst, of In-Stat. "Texas Instruments has been a pioneer in the mobile WLAN space and is continuing that tradition by leveraging its single-chip expertise and DRP technology to provide their WiLink mobile WLAN solutions for cell phones. Mobile WLAN has been a natural fit and success for TI and has led to many customer design-wins with major OEMs over the past three years."

The WiLink 4.0 mWLAN solution leverages TI´s expertise gained from the company´s three previous generations of mobile WLAN solutions being shipped in over 20 wireless terminals products today. The single-chips join the company´s already sophisticated and integrated single-chip roadmap, including Bluetooth® wireless technology and a single-chip

solution for mobile phones. TI´s integrated wireless technology roadmap also includes a single-chip solution for digital TV for mobile phones, as well as future single-chip solutions for GPS, UMTS and other air interfaces, paving the way for further integration with the cellular modem and TI´s OMAPTM processors.

Through TI's expertise in mobile connectivity, the WiLink 4.0 platform was designed to provide coexistence and interoperability throughout the mobile phone. This includes enhancing TI's WLAN-Bluetooth coexistence capabilities without sacrificing call quality or performance, including sharing common resources such as the antenna.

TI's WiLink SDK 4.X includes a "Thick MAC" architecture which off-loads some of the host processing functions to the single-chips which enables WLAN support on low-end CPU host processors commonly found in low-end mobile phones. The WiLink 4.0 solution supports CCx3.0 and CCx4.0, Unlicensed Mobile Access (UMA) and the emerging 3GPP IMS and SIP standards. The solution also includes enhancements to provide WLAN handoff between access points (APs) within a WLAN network. The 802.11b/g and 802.11a/b/g solutions support IEEE and industry standards for security and quality of service including 802.11i, 802.11d, 802.11k, WPA2.0, and WME/WSM. The 802.11a/b/g solution also includes support for 802.11h and 802.11j for 802.11a operation.

The WiLink 4.0 TNETW1251 and TNETW1253 single-chips include the MAC, baseband and RF transceiver functions in one 6x6mm BGA package which enables the most competitive board area design. Since the two chips are pin-for-pin compatible, TI provides OEMs with the flexibility to populate either 802.11a/b/g or 802.11b/g in the same board design which allows manufacturing time adjustments to meet specific market demands or easy migration to 802.11a/b/g products from 802.11b/g designs.