

## WiLink™ 4.0 single-chip mobile WLAN solutions



### Key features:

- Complete WLAN hardware and software solutions optimized for mobile IEEE 802.11b/g, IEEE 802.11a/b/g applications
- Single-chip 802.11 Media Access Controller/Baseband/RF transceiver WLAN solutions (TNETW1251 and TNETW1253) reduce BOM costs, save PCB space and extend standby and talk times
- Voice over WLAN (VoWLAN)-ready: Sophisticated power-saving sleep modes match the packet and traffic characteristics of VoWLAN applications
- First WLAN solutions using 90 nm manufacturing process and uses TI's Digital RF Processor (DRP™) technology to enable market leading physical size (6 mm x 6 mm BGA) and low power consumption
- Industry's lowest power consumption with TI's ELP™ technology extends battery life of handsets, wireless PDAs and other mobile devices
- *Bluetooth*® coexistence technology ensures high quality of service during simultaneous voice and data WLAN and *Bluetooth* operations

## P R O D U C T B U L L E T I N

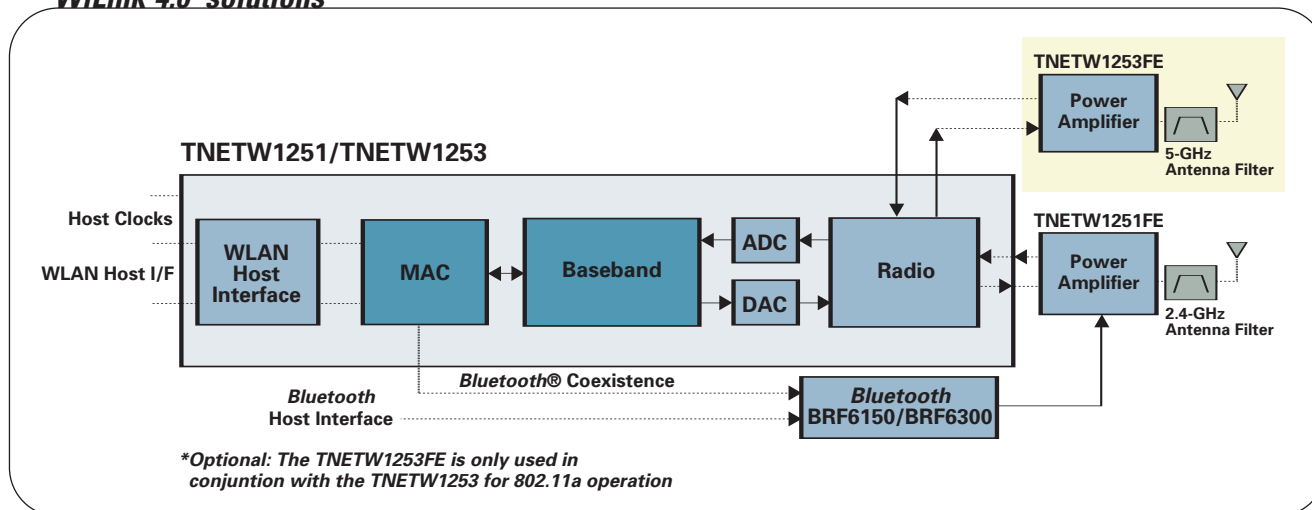
### Overview

Texas Instruments' (TI's) WiLink™ 4.0 mobile WLAN platform is a complete hardware and software offering optimized for mobile phones. TI's WiLink 4.0 platform offers two different hardware single-chip implementations to provide flexibility for OEMs to offer IEEE 802.11b/g or IEEE 802.11a/b/g operation. The TNETW1251 WiLink 4.0 802.11b/g solution and the TNETW1253 WiLink 4.0 802.11a/b/g solution are single chips which integrate the media access controller (MAC), baseband processor and RF transceiver. Additionally, both single chips support IEEE 802.11e/i/d/k and the TNETW1253 WiLink 4.0 802.11a/b/g solution also supports IEEE 802.11h/j.

The TNETW1251 and TNETW1253 WiLink 4.0 single-chip solutions are manufactured in 90 nm process technology and make extend TI's leadership in single-chip integrated solutions using TI's Digital RF Processor (DRP™) technology. Both single-chip solutions are pin-for-pin compatible to simplify manufacturers' product line strategies for 802.11b/g and 802.11a/b/g products. This compatibility enables just-in-time manufacturing options that are responsive to marketplace demand and design reuse to speed time-to-market of new products.

The WiLink Software Development Kit (SDK) 4.X included with the WiLink 4.0 platform is optimized for embedded applications. This includes support for Linux®, Windows® WinCE™, Symbian™ operating systems, as well as lab testing and manufacturing software. It is also partitioned to minimize host CPU loading and power consumption in mobile applications.

## WiLink 4.0 solutions



The WiLink 4.0 platform also includes support for Voice over WLAN (VoWLAN) applications which are driving WLAN adoption in mobile devices. As single-chip solutions with low cost, power and small size, the TNETW1251 and TNETW1253 WiLink 4.0 solutions are driving VoWLAN access into consumer cell phones. WiLink 4.0 solutions are VoWLAN-ready with support of:

- UMA (Unlicensed Mobile Access) technology
- VoIP over WLAN
- Quality of service, WPA, WPA2, CCX2.0, 3.0 and 4.0 for application specific devices
- Advanced roaming support enabling rapid migration between access points and between WLAN and cellular subsystems

The WiLink 4.0 mobile WLAN solutions have been optimized for low-power, battery-driven mobile wireless communications. As such, they support extended talk time as well as longer standby times by using TI's ELP™ technology for low power standby modes and other advanced technology to deliver maximum battery life.

Designed for interoperability and coexistence, the WiLink 4.0 mobile WLAN single-chip solutions are capable of cost-efficient collaboration and effective coexistence with short-range *Bluetooth* personal area networking (PAN). For instance, WLAN and *Bluetooth* technologies are able to share the same antenna and antenna filter, reducing bill of materials (BOM) costs and circuit board space. In addition, TI's WLAN/*Bluetooth* coexistence technology ensures effective simultaneous operations of voice and data.

[www.ti.com/wireless](http://www.ti.com/wireless)

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