

## Product Bulletin

# WLAN IP Phone Solution TNETV1600

Texas Instruments' new Wireless LAN (WLAN) IP Phone Platform offers a complete, fully integrated solution that supports a wide range of WLAN IP phones, from fully featured phones to simple, lower cost solutions. The full featured enterprise WLAN IP Phone market includes products with a graphical LCD display, a rich feature set and GUI. The lower cost and complexity residential WLAN IP Phone market includes enterprise DECT phone replacements and consumer cordless phone replacement products.

TI's flexible solution, along with a comprehensive product and architectural roadmap, will allow customers to move smoothly and quickly from WLAN IP Phone solutions today to dual/converged mode phones in the future. With TI's expertise in VoIP, broadband and wireless technologies, this WLAN IP Phone platform provides the highest performance and integration with the lowest power consumption available. The TNETV1600 is a fully integrated, complete solution which includes everything needed to design a WLAN IP Phone:

- TNETV1600 VoIP application processor
- TNETW1230 WLAN MAC/Baseband processor
- TNETW2522/2326 WLAN radio
- TI's Tology Software™ for VoIP
- TLV320AIC22C dual codec
- TPS65010 power and battery management IC

- Fully supported software development platform

### **TI WLAN IP Phone Solution TNETV1600 VoIP Processor**

TI's TNETV1600 is based on the industry leading OMAP™ 16xx architecture and provides high performance, ultra low power consumption processing power for single-chip VoIP, control and signaling functions:

- 150-MHz TMS320C55x™ DSP for VoIP processing functions
- 150-MHz ARM926 microprocessor for control and signaling functions
- Low power mode
- Java™ hardware acceleration
- Improved graphics performance
- NOR Flash and DDR support
- LCD controller

### **TNETW1230 WLAN MAC/Baseband Processor**

The TNETW1230 provides a single-chip 802.11b/g MAC/Baseband processor solution. With a greatly reduced bill of materials, the TNETW1230 offers the best silicon solution available with the most features for cost and size:

- MAC/Baseband device supports 802.11b/g
- QoS support with EDCA WME (without TSPECS). Support for 802.11e after ratification.
- Support for WPA 1.0 and WEP
- Optional support for Cisco Compatible Extensions (CCX) Version 1.0 and Version 2.0 (Mobile ASD)

### **Key Features:**

- Complete, fully integrated WLAN IP Phone solution reduces time to market
- Fully supported development platform
- Ultra-low power consumption
- Proven power efficient OMAP™ architecture used by wireless market leaders around the world
- Industry leading WLAN technology including support for ELP™ and Power Save Enhanced (PSE) modes
- Advanced power management software
- Industry leading voice processing

### **TLV320AIC22C Dual Codec**

TI's TLV320AIC22C provides the most highly integrated dual codec available today with interfaces to handset, headset, microphone and speaker with on-chip drivers, reducing the bill-of-materials.

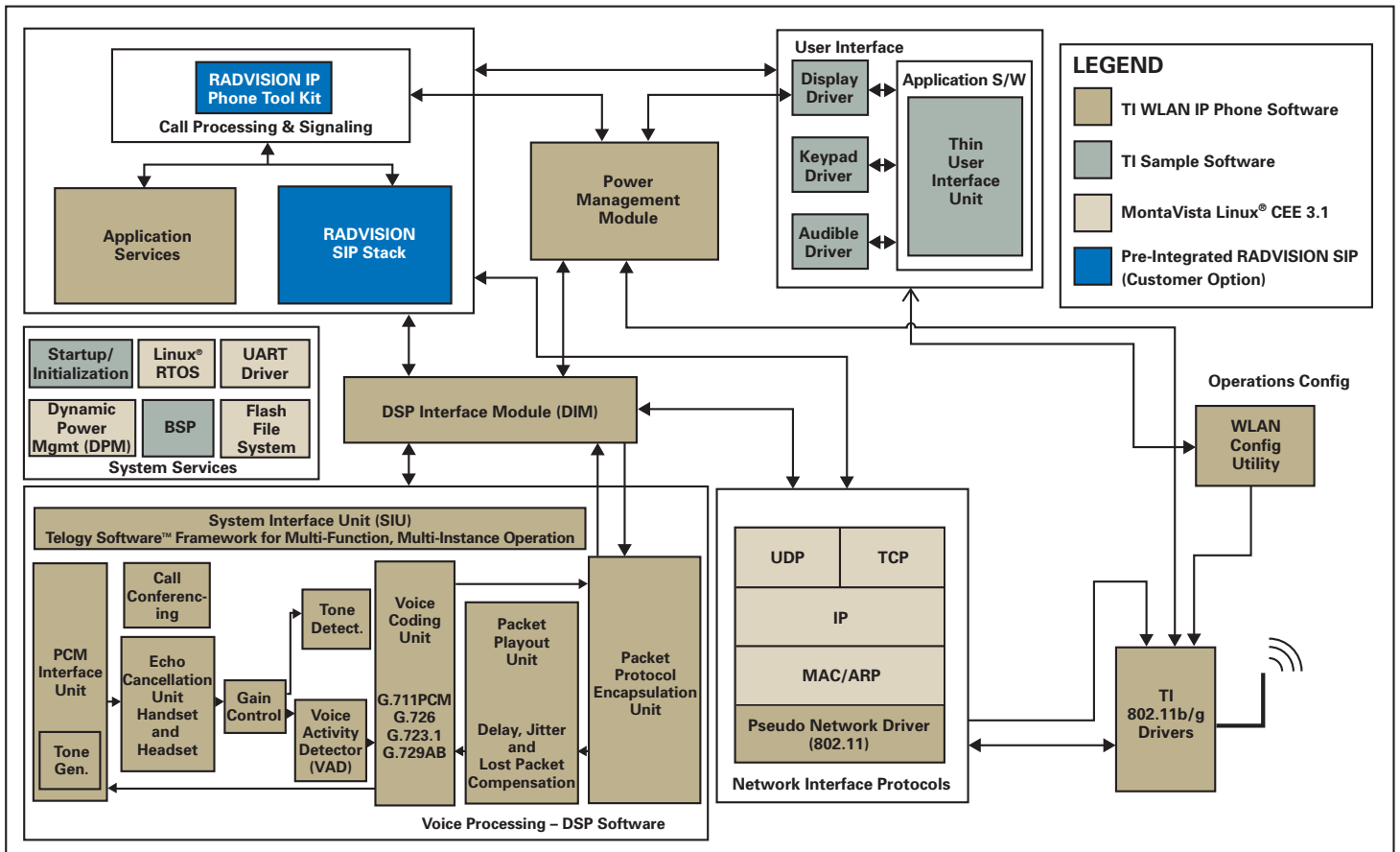
### **TPS65010 Power and Battery Management IC for Li-Ion Powered Systems**

The TPS65010 provides world-class power and battery management, including the capability to reduce power to and power down various components in the WLAN IP Phone solution during periods of call inactivity in order to prolong battery life.

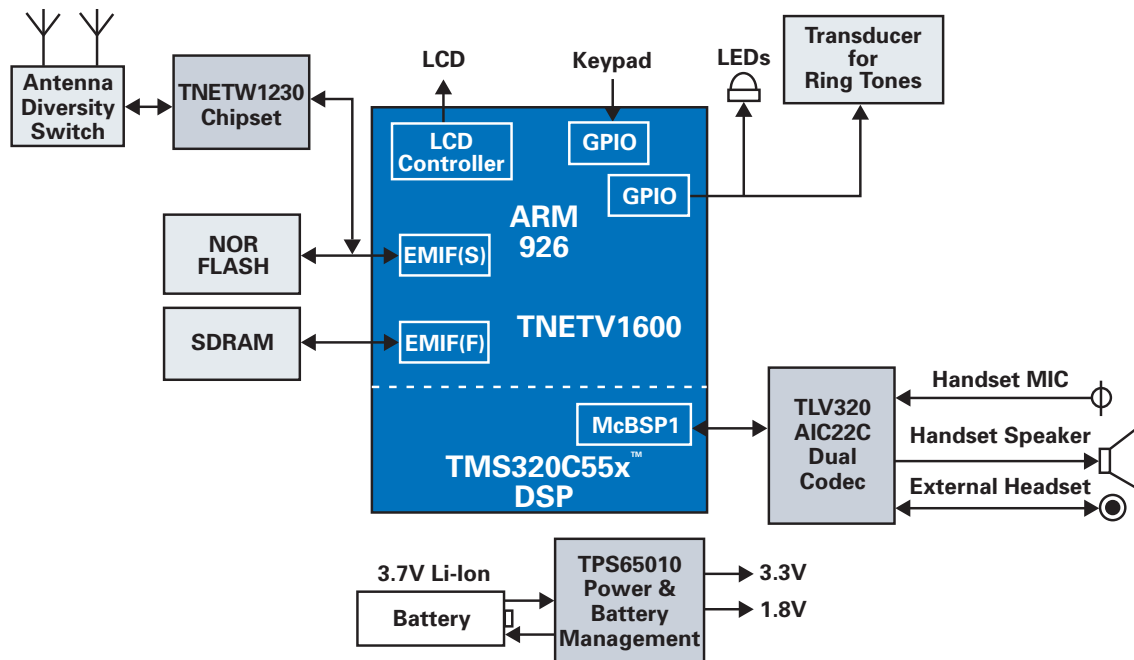
### **TI's Tology Software for VoIP**

TI provides industry leading DSP voice processing software:

- Industry standard G.711/G.729ab/G.723/G.722 voice codecs along with optional essential patent indemnification
- Voice activity detection



TNETV1600 Wireless LAN IP Phone Software Architecture



TNETV1600 Wireless LAN IP Phone Solution

- Adaptive jitter buffer
- Acoustic echo cancellation up to 60 ms

Along with the DSP software solution, TI also provides microprocessor software for control and signaling functions:

- Network Protocol Support: Pre-integrated SIP stack and well-defined framework that facilitates integration of customer provided network protocols and call control
- Call Control Support: SIP Toolkit with Supplementary Services. The SIP Toolkit also provides a framework that allows customers to support additional Supplementary Services.
- Real Time Operating System: Pre-integrated MontaVista Linux® (Consumer Electronics Edition version 3.1)
- Support for Microwindows graphical library

#### **Power Management Module**

TI provides an advanced and comprehensive hardware and software power management solution with the WLAN IP Phone product. The Power Management Module (PMM) monitors call control inputs such as call state, number of active calls, and voice codecs that are in use. Armed

with this information, the PMM controls the Low Power Mode of the TNETV1600 and ELP™ mode of the TNETW1230 WLAN to optimize battery life. The TPS65010 also provides an active role in the PMM, extending battery life by reducing power delivered to some components and powering down other active components that do not contain intrinsic low power modes.

#### **WLAN IP Phone Solution Tools**

TI's WLAN IP Phone evaluation platform is a handset form factor solution that includes everything needed for customer software development. The evaluation platform allows customers to develop their application software and man-machine interface in advance of hardware delivery. Key features supported include:

- Color LCD display (176 x 220 Portrait Mode)
- Handset and detachable headset support
- Standard 12 key telephony dial keypad
- Support for specific function keys (power/end, send, clear, volume up and down)
- Support for two soft keys for use with programmable menu on the display
- Support for four-way navigation

- key(s) with action input key
- Support for a vibrating call notification mode
- Support for LED incoming call notification
- Support for Caller ID Display
- Support for Call Timer and Time of Day and Date Stamp on display
- Support for a detachable and rechargeable Li-Ion Battery with power gage indication
- Support for WLAN RF signal level indication
- Support for USB OTG connector and generic client driver

For more information, please contact your TI sales representative or call 972-644-5580.

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

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