

Product Bulletin

TNETV1700 Wireless LAN IP Phone Solution

TI's new Wireless LAN (WLAN) IP Phone platform offers a complete, fully integrated solution for a wide range of WLAN IP phones—from full-featured phones to simple, lower cost instruments. For the full-featured enterprise WLAN IP phone market, a device based on the WLAN IP Phone platform could include a graphical LCD display, a rich feature set and a Graphical User Interface (GUI). For lower cost and less complex IP phones, the platform supports products for the enterprise DECT phone and residential cordless phone replacement marketplace.

The flexibility of TI's WLAN IP Phone platform, as well as a comprehensive product and architectural roadmap, allows manufacturers to move smoothly and quickly from today's WLAN IP phones to dual/converged mode phones in the future. Drawing on TI's expertise in Voice over IP (VoIP) broadband and wireless technology, the TNETV1700 provides the highest performance and integration with the lowest power consumption available. TI's WLAN IP Phone platform is a fully integrated, complete platform that includes the following:

- TNETV1700 Voice over WLAN (VoWLAN) processor
- TNETW1230 WLAN MAC/baseband processor
- TNETW2522/2326 WLAN radio
- TI's Telogy Software™ for VoIP and Embedded Station WLAN
- TLV320AIC21C dual codec

- TPS65013 power and battery management device
- Fully supported software development platform

TNETV1700 VoWLAN Processor

The TNETV1700 is based on the industry-leading OMAP17xx architecture. As a single-chip VoIP solution, TI's TNETV1700 provides high performance, ultra-low power consumption, as well as VoIP control and signaling functions.

Features of the TNETV1700 include:

- TMS320C55x™ DSP for VoIP processing functions
- ARM926 microprocessor for control and signaling functions
- Low-power mode
- NOR flash and support for double data rate (DDR) memory
- LCD controller

WLAN Software MAC/Baseband

Features Include:

- QoS support with EDCA WME Lite
- TSPECS Support
- Support for WPA 1.0 and WPA 2.0
- Support for Cisco Compatible Extensions (CCX) Version 1.0 and Version 2.0 (Mobile ASD)
- Advanced Voice Power Save Modes for use with WMM-capable access points
 - Unscheduled Automatic Power Save Delivery (U-APSD)
 - TI Voice Power Save Mode for access points that do not yet support U-APSD

Key Features:

- Complete, fully integrated Wireless LAN (WLAN) IP Phone solution reduces time-to-market
- Proven, power efficient OMAP™ architecture used by worldwide wireless leaders
- Industry-leading WLAN functionality includes Enhanced Low Power (ELP™) technology
- Field-proven Telogy Software™ for VoIP
- Advanced power management software for ultra-low power consumption
- Supports up to 9.5 hours of talk-time and 185 hours of standby-time
- Development platform complete with hardware and software tools

Benefits Summary

- Broad Voice Codec Offering
- Low Power Consumption
- Extended Talk Time
- Enhanced QoS Functionality
- Enhanced Security

TLV320AIC21C Dual Codec

To reduce Bill-of-Materials (BOM) costs, the TLV320AIC21 provides the most highly integrated dual codec available today with interfaces to handset, headset, speaker-phone and microphone, as well as on-chip drivers.

TPS65013 Power and Battery Management IC for Li-Ion Powered Systems

The TPS65013 prolongs battery life by providing world-class power and battery management. The device can reduce power to various components or completely power-down partitions in the WLAN IP Phone during periods of call inactivity.

Telogy Software for VoIP

The robust Telogy Software suite leads the industry in DSP voice processing. It includes the following:

- Industry standards
G.711, G.729AB, G.723.1, G.722, G.722.2 (WB-AMR), GSM AMR, iLBC
- Three-way conferencing
- RTP or SRTP with 128bit AES
- Audio Mode for speech play out, music or polyphonic ring back
- VAD, Jitter/Delay Compensation, Packet Loss Concealment
- Improved Acoustic Echo Cancellation with NLP Attenuation and Comfort Noise Generation
- Voice Quality Monitoring (VQMON)

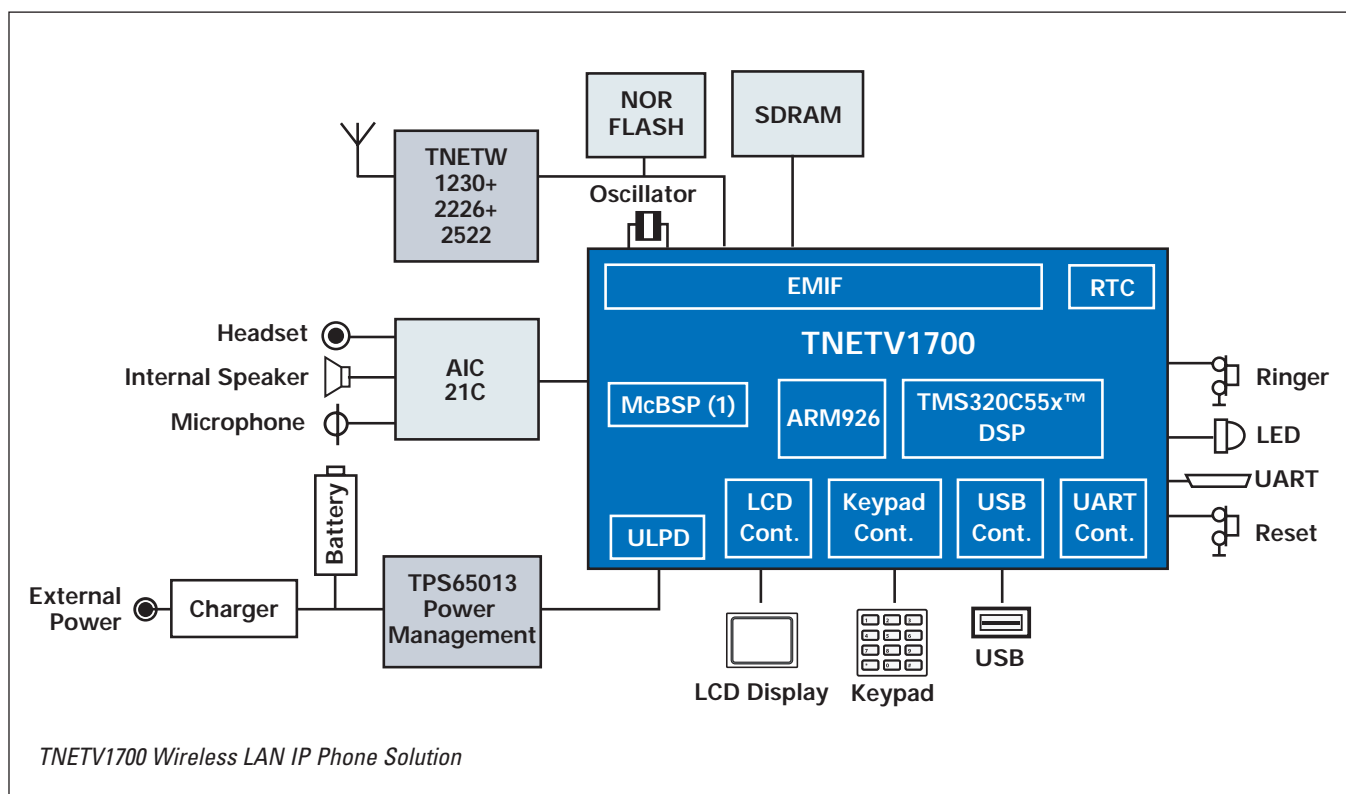
In addition to the DSP software suite, microprocessor software for control and signaling functionality also provides the following:

- Protocol Support
 - Pre-integrated Radvision SIP IP Phone Toolkit v1.3 (signaling/ call control)
 - Supplementary Services - Hold/Mute/2line/Transfer/Conference/Redial/Pre-dial
 - Applications Services Framework to add custom-supplied signaling stack
- Pre-integrated real-time operating system—MontaVista Linux® (Consumer Electronics Edition version 3.1)
- Support for Microwindows graphical library

Power Management Module

An advanced and comprehensive hardware and software Power Management Module (PMM) is an integral part of the WLAN IP Phone. The PMM monitors call control inputs such as the states of calls, number of active calls and the voice codecs in use. Based on this information, the PMM optimizes battery life by shifting the TNETV1700 VoWLAN processor and/or the TNETW1230 MAC/baseband chips into low-power modes when appropriate.

As a part of the PMM, the TPS65013 power and battery management device is critical to prolonging battery life by reducing the power delivered to some components and by powering down certain components that are not capable of low-power modes on their own.



Evaluation and Development Platform

The evaluation platform for TI's TNETV1700 solution comes as a handset form factor that includes everything designers need to begin software development immediately. The full-equipped evaluation platform allows a design team to begin developing application software and the man-machine interface in advance of hardware delivery. Key features of the evaluation platform include the following:

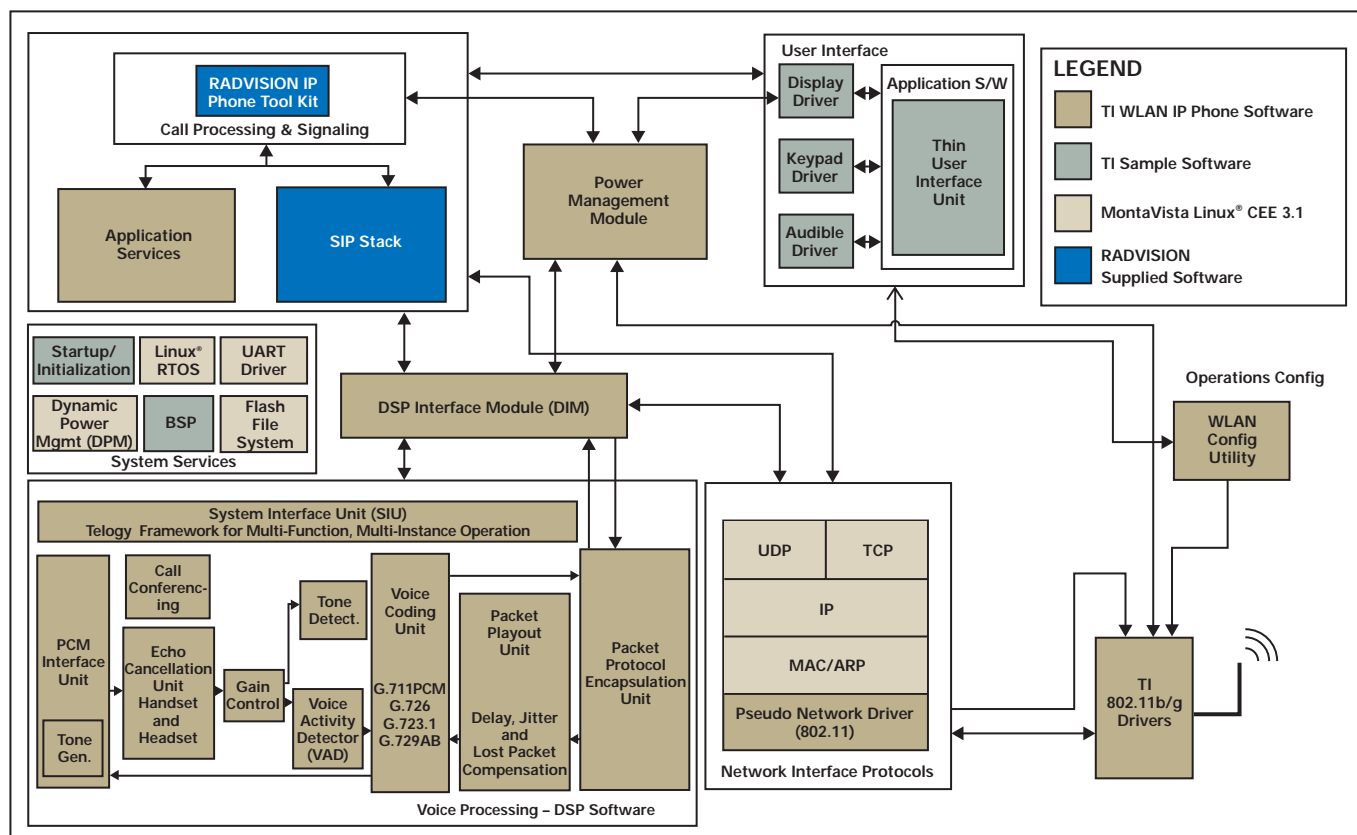
- Color LCD display (176 x 220 Portrait Mode)
- Handset and detachable headset support
- 12-key telephony keypad
- Function keys (power/end, send, clear, volume up and down)
- Two soft keys for implementing a programmable display menu
- Four-way navigation key(s) with action input key
- Vibrating call notification mode
- LED incoming call notification
- Caller ID display

- Call timer and time-of-day and date stamp on display
- Detachable and rechargeable Li-Ion battery with power gauge indication
- WLAN RF signal-level indicator
- USB host and USB device

For more information,

Please contact your TI sales representative or call 972-644-5580, www.ti.com/voip

TNETV1700 Wireless LAN IP Phone Software Architecture



TNETV1700 Wireless LAN IP Phone Software Architecture

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