

Product Brief

TNETC530: DOCSIS® 2.0 Voice Cable Modem Reference Design



The TNETC530 cable modem from Texas Instruments (TI) provides cable modem developers with quick time-to-market and low-risk certification for a DOCSIS® 1.0/1.1/2.0 and PacketCable™ 1.0/1.5 voice cable modem solution. The TNETC530 combines a data cable modem with two telephone ports, providing an economical solution for today's voice-over-IP (VoIP) market needs.

The cable modem is fully DOCSIS and Euro-DOCSIS 1.0/1.1/2.0, PacketCable 1.0/1.5 and Euro-PacketCable-compliant and comes with both 10/100 BaseT Ethernet and USB 1.1 ports for easy installation. Industry-leading VoIP service is supplied through two analog RJ-11 phone ports with TI's renowned Telyogy Software™ voice quality.

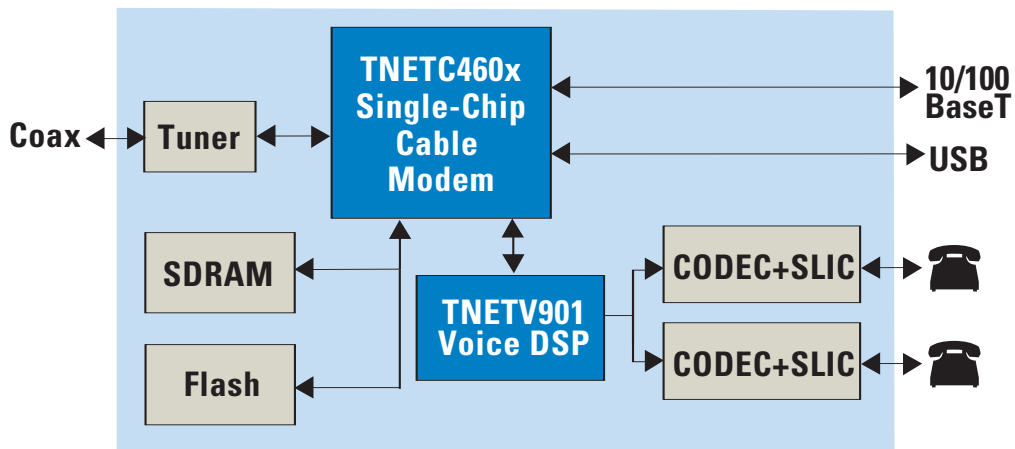
The TNETC530 is a complete hardware and software reference platform including schematics, bill-of-materials (BOM), circuit board layout files and TI's

DOCSIS/PacketCable software. The TNETC530 offers manufacturers a complete solution, allowing faster time-to-market with products that meet the growing demand for IP telephony over cable. In addition, the TNETC530's flexible architecture enables the easy addition of voice lines to support four or more lines of VoIP.

Key Benefits

- Fully supports DOCSIS® and Euro-DOCSIS 2.0 standards
- Enables high confidence in deployability due to the solution's robust and field-proven hardware and software technology
- Enables quick time-to-market with a complete hardware and software reference design kit
- Provides low-development cost platform for the modem provider
- Enables deployment of mature, market-ready PacketCable™ 1.0/1.5 solution based on field-proven Telyogy Software™ products for voice over IP
- Enables easy customization and product differentiation with highly optimized, modular software drivers and application program interfaces (APIs)
- Maintains the full speed potential of the broadband connection and improves the consumer experience with TurboDOX™ bandwidth acceleration software

The TNETC530 platform is based on TI's TNETC460x integrated cable modem device and the TNETV901 Voice DSP. The TNETC460x runs TI's DOCSIS and PacketCable software



TNETC530 Block Diagram

stacks while a single Voice DSP performs all of the necessary processing required for up to four channels of voice. The software stacks are layered, modular and based on an open architecture enabling smooth adaptation and migration to residential gateway and CableHome® applications. In addition, the TNETC530 supports TI's optional TurboDOX™ bandwidth acceleration software package, which provides enhanced data throughput.

Key Features

- Compliant with DOCSIS® 1.0/1.1/2.0 and PacketCable™ 1.0/1.5 standards
- Compliant with Euro-DOCSIS 1.0/1.1/2.0 and Euro-PacketCable 1.0 standards
- Mature PacketCable and VoIP software stack handles all telephony features
- Complete hardware and software reference design kit (RDK) including documentation, board schematics, production files and complete software
- Two RJ-11 phone line interfaces
- 10/100 BaseT Ethernet and USB 1.1 interfaces
- Supports optional TurboDOX™ software for enhanced data throughput

Items Included in Software Design Kit (SDK)

Item	Description
Software Files	DOCSIS® 1.0/1.1/2.0 source code, PacketCable™ 1.0/1.5 source code, IPSEC library sublicensed from Ashley Laurent and ASN compiler and library sublicensed from Objective Systems
Collateral	Software user's guide, installation guide, release note and test reports

Items Included in Hardware Design Kit (HDK)

Item	Description
Packaged Modem	Includes all packing material, wrapping and CD
Cables	Serial cable and adaptor
Power Supply	9-V DC external power supply
Collateral	User's guide, device documentation and test reports
Board Design	Board schematics and PCB production files

Additional (Optional) Software Packages

Item	Description
TurboDOX™	Bandwidth acceleration software package for boosting modem performance; runs on top of TI DOCSIS software stack
Residential Gateway Drivers	Feature includes NAT (Network Address Translation), firewall, dynamic host configuration protocol (DHCP) and Web-based management; available through third-party partners

Important Notice: The products and services of Texas Instruments Incorporated and its subsidiaries described herein are sold subject to TI's standard terms and conditions of sale. Customers are advised to obtain the most current and complete information about TI products and services before placing orders. TI assumes no liability for applications assistance, customer's applications or product designs, software performance, or infringement of patents. The publication of information regarding any other company's products or services does not constitute TI's approval, warranty or endorsement thereof.

A042605

Technology for Innovators, the black/red banner and TurboDOX are trademarks of Texas Instruments. Telogy Software is a trademark of Telogy Networks, a Texas Instruments Company. DOCSIS, PacketCable and CableHome are trademarks of Cable Television Laboratories, Inc. All other trademarks are the property of their respective owners.