

## Product Brief

# TNETC731 DOCSIS® 2.0 VoCable Gateway Reference Design

The TNETC731 reference design for a DOCSIS® 2.0 VoCable gateway from Texas Instruments (TI) offers manufacturers a complete package to deliver high speed data, Voice over Internet Protocol (VoIP), and wireless LAN (WLAN), speeding time-to-market and reduces certification after risk.

The TNETC731 combines a Voice over Cable (VoCable) modem with the ease and convenience of WLAN home networking in one product. The reference design shortens development cycles by incorporating TI's TNETC460x integrated cable modem SoC, TNETV901 Voice DSP, and its proven DOCSIS 1.0/1.1/2.0 and PacketCable™ 1.0/1.5 software, with TI's 802.11b/g TNETW1350A silicon and Access Point driver. In addition, the TNETC460x's high-performance MIPS processor increases throughput for CableHome® and WLAN applications.

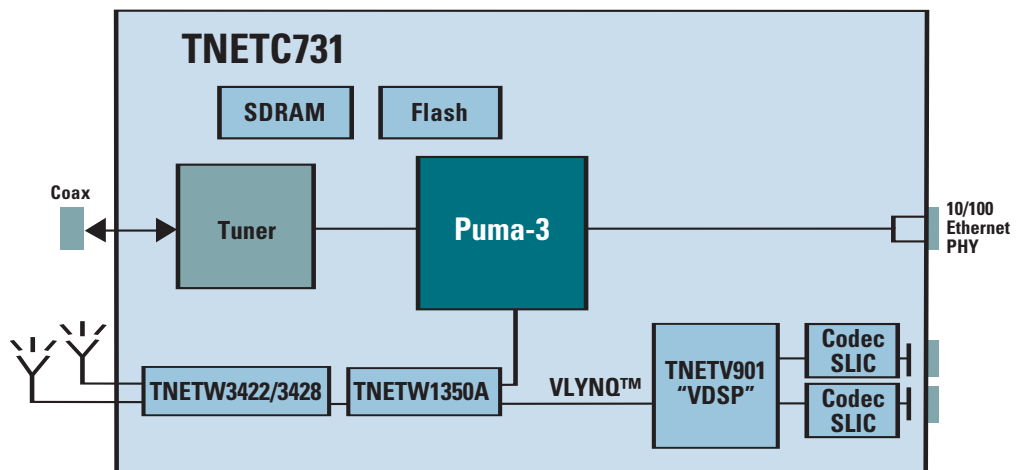
The TNETC731's DOCSIS 2.0-compliant cable interface supports speeds of up to 38 Mbps downstream and 30 Mbps upstream. This VoCable gateway reference design is Wi-Fi CERTIFIED™, ensuring

manufacturers that the integrated Wi-Fi® access point will interoperate with other Wi-Fi CERTIFIED products in the marketplace.

The TNETC731 includes a hardware design kit (HDK) and a software design kit (SDK). The HDK includes TI's TNETC460x, TNETV901-based voice cable modem, and TI's TNETW1350A 802.11b/g (Wi-Fi) single-chip MAC/baseband processor. The HDK specifies a high performance, standards-compliant WLAN interface on a mini-PCI card.

### Key Benefits

- First VoCable gateway to support PacketCable 1.5 requirements
- Based on TI's latest generation TNETC460x DOCSIS® SoC providing increased throughput for CableHome® with WLAN applications
- Software customizable to support fixed mobile convergence
- MIB framework enabling customizable primary line battery backup support
- Wi-Fi® certified, Mini-PCI WLAN 802.11b/g card ensures fast time to market
- Fully supports DOCSIS® 2.0
- Quickly deployable because of robust and proven hardware and software
- Modular software drivers and easy-to-use APIs ensure efficient and rapid development of differentiating features
- Ensures user satisfaction by delivering full speed potential of broadband channel with TurboDOX™ acceleration software



TNETC731 Block Diagram

## Key Features

- Fully compliant with DOCSIS® 1.0, 1.1 and 2.0
- Complete hardware and software reference design kits (RDK)
- Pre-integrated third-party residential gateway / CableHome software components
- Wi-Fi CERTIFIED™ cable modem design
- Software upgradeable to the CableHome® specification
- 802.11b/g (Wi-Fi®) interface with extended data rate and range
- Integrated 10/100 BaseT Ethernet interface
- Integrated USB 1.1 interface
- 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, access point software drivers, 802.11b/g access point drivers, PacketCable™ software, third-party sample code images already integrated. Features include: NAT (Network Address Translation), firewall, dynamic host configuration protocol (DHCP), and Web-based management.
Collateral	Software user's guide, installation guide, release note and test reports. Complete access point software and residential gateway integration documentation.

## Items Included in Hardware Design Kit (HDK)

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

## Additional (optional) Software Packages

Item	Description
TurboDOX™ Software	Bandwidth optimization software package for boosting modem performance. Runs on top of TI's DOCSIS software stack.

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