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# ADSL2plus Gateway CPE Platform with Integrated Voice and USB 2.0 CX94515

Conexant's portfolio includes a comprehensive suite of semiconductor solutions for broadband communications, enterprise networks, and the digital home. The CX94515 enables next generation DSL CPE systems such as bridge/routers, wireless DSL routers and DSL VoIP integrated access devices (IADs). The chipset includes a highly integrated analog front end (AFE) and a single-chip network processor/digital signal processor (NP/DSP) with all the interfaces to enable feature rich DSL CPE. Two 10/100 Ethernet MACs with MII interface are included for connection to an Ethernet PHY or external Ethernet switch, or a mixture of Ethernet and HomePlug®/HomePNA™. The USB 2.0 host/device port can be used to attach peripherals such as 802.11 WLAN devices and Bluetooth devices. These interfaces can also support applications for print servers, network attached storage, cameras, or other USB input devices. By providing USB 2.0 interface to connect WLAN, the overall system cost can be reduced compared to a PCI interface.

The PCM bus and SPI bus can be used to connect external codecs and SLICs to the internal voice DSP allowing a 2FXS/1FXO VoIP solution, running complex algorithms such as G.729ab on each channel. External DSPs can be added for more ports if desired. Up to 23 GPIOs are included for further expansion. The device interfaces to DDR SDRAM up to 1Gbit, using 8-bit or 16-bit wide memory for maximum performance and lowest cost. Conexant's convergent NP/DSP support multiple DSL standards including ADSL, ADSL2, ADSL2plus (Annexes A,B,L & M), using proven firmware to reduce time-to-market, and is fully programmable to give OEMs a secure, stable path for future upgrades and features.

The chipset includes a high performance RISC processor core using a 266 MHz ARM10® that supports Conexant's ISOS® software suite. This source code package implements all Layer 2 and Layer 3 protocols required for DSL bridges, routers and IADs including full DSLHome™ support and a comprehensive feature set for native VoIP solution via SIP or MGCP. ISOS provides optimal system performance and memory size allocation for the product family. To assist the processor, additional hardware engines are integrated to support compute intensive tasks, such as a VPN engine, hardware ATM SAR, WLAN PRISM Nitro™ XM engine. In addition to full ISOS support, the open architecture of the design can accommodate industry standard operating systems (OS) such as Linux.



## **Distinguishing Features**

- Converged ADSL/ADSL2/ADSL2plus **CPE** Platform
- Integrated high performance 266 MHz ARM10 NP
- Integrated 2 channel voice processing G.711, G.726, G.729ab
- Integrated USB 2.0 host/device support (x2)
- Integrated 10/100 Ethernet MAC with MII Interface (x2)
- Support for High Speed 802.11a/b/g WLAN
- WLAN PRISM Nitro XM accelerator allowing full compression support
- Integrated security coprocessor engine for VPN and WLAN encryption
- Support for High Speed DDR SDRAM
- Open OS support ISOS, Linux, 3rd Party
- Platform upgradeable to VDSL/VDSL2

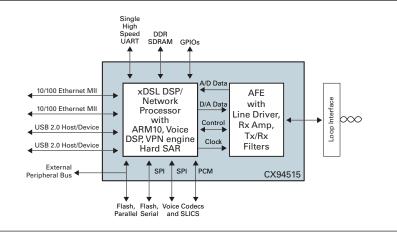
#### Part Number CX94515

Description

ADSL/ADSL2/ADSL2plus Gateway CPE Platform with Integrated Voice

#### **Conexant Product Portfolio**

The company's broad portfolio of semiconductor products also includes client-side DSL and cable modem solutions, home network processors, broadcast video encoders and decoders, digital set-top box components and systems solutions, and dial-up modems. In addition to its IEEE 802.11a/b/g-compliant WLAN chipsets, software, and reference designs, Conexant offers a suite of networking components that includes solutions for applications based on HomePlug and HomePNA. Additional products include a complete line of asymmetric and symmetric DSL central office solutions, which are used by service providers worldwide to deliver broadband data, voice, and video over copper telephone lines.



### Features

- Two chipset versions support for ADSL/ADSL2/ADSL2plus
- Solution for DSL router, Wireless DSL router, DSL IAD
- Integrated field-proven fourth generation xDSL DSP core
- DSP architecture enables software-upgradeable feature enhancements, performance improvements, and on-the-fly interoperability
- Software-selectable ADSL standards
- AFE optimized for ADSL/ADSL2plus applications, minimizes external analog filter requirements, TR-067 compliant
- Two integrated 10/100 Ethernet MACs with MII interface
- Integrated USB 2.0 Host/Device interface with integrated PHY
- PCM and SPI interface to external codecs/SLICs for VolP
- SPI interface to connect to SPI Flash
- DDR SDRAM interface addressing up to 1GBit devices
- Integrated ARM10 RISC processor core
- VPN engine supporting DES, 3DES, AES, SHA-1, MD5
- ATM SAR engine, has DSL-aware ATM shaper supports
- UBR, CBR and other service classes
- WLAN PRISM Nitro XM compression/decompression engine
- Integrated VoIP support for up to two channels of G.711, G.726, or G.729ab

- Support for DSLHome (TM) including LAN side (TR-064) and WAN side (TR-069) management
- Support for dying gasp
- Modular IP stack
- Bridging and routing capabilities
- PPP and tunneling features
- Comprehensive networking protocol support includes DHCP, PPPoE, PPPoA and RIP
- Flexible IMI
- SNMP agent and tools
- Embedded Web server
- USB 2.0 interface for WLAN, Print Server, and Network Attached Storage, and HID devices
- Stateful packet inspection (SPI) firewall and NAT security solution
- UPnP for seamless network interconnectivity
- ATM traffic management functions
- ATM protocol stack
- Drivers for Conexant's USB WLAN solutions
- Drivers for Conexant's Voice DSP
- MGCP and SIP stacks for VoIP
- Drivers for Legerity or Silicon Labs codecs and SLICs
- Customer development environment and tools
- Reference designs available for rapid prototyping

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