

# Vulcan

## ADSL2/2plus Bridge/Router Chipset

Conexant's portfolio includes a comprehensive suite of semiconductor solutions for broadband communications, enterprise networks, and the digital home. The highly integrated Vulcan Ethernet modem asymmetric digital subscriber line (ADSL) chipset offers original equipment manufacturers (OEMs) a complete full-rate, full bridging, and routing performance two-chip solution for ADSL Ethernet customer premises equipment (CPE) applications. This cost effective solution is based on Conexant's fully programmable multimode digital subscriber line (DSL) digital signal processor (DSP) that supports all standard compliant versions of ADSL, including: ITU G.992.5 (ADSL2plus), ITU G.992.1 (G.DMT), ITU G.992.2 (G.Lite), ITU G.992 Annex A, Annex B and ANSI T1.413 Issue 2.

A fully programmable solution ensures seamless upgradability to ADSL2 and ADSL2plus without hardware modifications and delivers complete interoperability with other chipsets and system vendors. The digital chip integrates a network processor, 10/100 Ethernet media access control (MAC), USB 1.1 compliant interface, DSP, and Reed-Solomon memory. The analog chip integrates an analog front end (AFE), line driver, and transmit and receive amplifiers. In addition, the Vulcan chipset family provides an option for a smaller memory footprint for bridge application. The combined integration in this two-chipset solution significantly reduces the overall system cost.

The Vulcan chipset family provides industry-leading performance. The multiple-line-code capability provides a single ADSL, ADSL2 and ADSL2plus solution for service providers regardless of regional digital subscriber line access multiplexer (DSLAM) deployments with industry leading interoperability.

As a comprehensive ADSL solutions provider, Conexant offers detailed turnkey reference designs, chipset data sheets, complete hardware specifications, schematics, gerber files, and network software for Ethernet modem applications. In addition, Conexant offers dedicated technical support to ensure ease of design and early time to market.



## **Distinguishing Features**

- Standards compliant: ITU G.992.5 (ADSL2plus), ITU G.992.3 (G.DMT.bis), G.992.1 (G.DMT), ITU G.992.2 (G.Lite), ITU G.992 Annex A, Annex B, and ANSI T1.413 Issue 2
- Firmware upgradable to ADSL2 and ADSL2plus
- Single topology supports both Annex A and Annex B
- Memory optimized solutions for SNMP managed bridge, 1/2 Bridge with ZIP-B or fully featured router
- Remote management over EOC, PVC or IP with auto detection of transport channel
- Turnkey Ethernet modem reference design

Part Number Vulcan

**Description** ADSL2/2plus Bridge/Router Chipset

### Features and Benefits

- Full rate DMT ADSL solution
- Fully integrated ADSL DSP network processor, integrated Reed-Solomon memory, 10/100 Ethernet MAC, USB 1.1 compliant interface
- Fully integrated AFE with line driver, receive amplifier, transmit amplifier
- Standards compliant: ITU G.992.5 (ADSL2plus), ITU G.992.3 (G.DMT.bis), G.992.1 (G.DMT), ITU G.992.2 (G.Lite), ITU G.992 Annex A, Annex B, and ANSIT1.413 Issue 2
- Firmware upgradeable to ADSL2 and ADSL2plus
- · Full-rate bridging and routing performance
- Turnkey Ethernet modem reference design
- Tested for: CSA, CE, FCC part 68 and part 15 Class B, UL1950, CISPR Class B, EN60950, and VCCI Class B
- Visual LED indicates network status
- Interoperable with other ADSL chipsets and DSLAM system vendors
- Optional smaller footprint memory configuration for bridge application
- Dying gasp support

- Simultaneous Ethernet and USB interfaces Microsoft Windows® 98 and 98SE, 2000, Millennium Edition (ME), and XP; Apple Macintosh®; and Linux' family of operating systems
- Supports point-to-point protocol over ATM (PPPoATM), point-to-point protocol over Ethernet (PPPoEthernet), Ethernet over ATM (EoATM), and Internet protocol over ATM (IPoATM)
- RFC 2684 multi-protocol encapsulation over AAL5
- RFC 2225 Classical IPoATM
- RFC 2516 PPPoEthernet
- RFC 2364 PPPoATM
- DSL ForumTR-37 compliant and single-ended auto configuration
- Asynchronous transfer mode (ATM)/unspecified bit rate (UBR)/variable bit rate (VBR)/constant bit rate (CBR) services
- Multiple virtual circuits (VCs) support
- Hypertext transfer protocol (HTTP) server and command line interface
- Supports zero installation PPP bridge mode (ZIPB)
- Supports management access over simple network management protocol (SNMP), HTTP, and command line interface (CLI) (overTelnet and RS-232)
- Remote management for SNMP over HDLC/EOC, PVC and IP

#### Conexant Product Portfolio

The company's broad portfolio of semiconductor products also includes client-side DSL, cable, and dial-up modem solutions; fiber optic system-on-chips; broadcast video encoders and decoders; digital set-top box components and systems solutions; and IEEE 802.11a/b/g/n-compliant WLAN chipsets. 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.

© 2004, Conexant Systems, Inc. All Rights Reserved. Conexant and the Conexant logo are registered trademarks of Conexant Systems, Inc. All other trademarks are owned by their respective owners. Although Conexant strives for accuracy in all its publications, this material may contain errors or omissions and is subject to change without notice. THIS MATERIAL IS PROVIDED AS IS AND WITHOUT ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NON-INFRINGEMENT. Conexant shall not be liable for any special, indirect, incidental or consequential damages as a result of its use.

#### www.conexant.com

Doc# PBR-201716

General Information: U.S. and Canada: (888) 855-4562 International: 1+ (949) 483-3000 Headquarters 4000 MacArthur Blvd. Newport Beach, CA 92660

