

# ADSL – Wireless Access Point Router Solution

CX82340

# ADSL Router with Integrated 802.11b MAC/Baseband

Conexant's broadband communications portfolio includes a comprehensive suite of semiconductor solutions that enable the digital home and information network. The Conexant AccessRunner CX82340 ADSL – Wireless Access Point Router solution is optimized to address the growing demand for the sharing of ADSL access over wireless networks. By integrating an 802.11b Media Access Controller (MAC) and baseband processor, the CX82340 only requires an external radio to complete a cost effective ADSL – Wireless AP Router.

The CX82340 not only includes an 802.11b radio interface, but also a 10/100 Mbps Ethernet Media Access Controller (MAC) and a USB interface, enabling a full range of connectivity options and allowing for a full featured solution that can use all interfaces simultaneously. The 802.11b radio interface can be connected to an Intersil PRISM<sup>®</sup> 3.0 radio to complete the 2.4 GHz wireless subsystem. By eliminating the flash memory that is typically required by 802.11b solutions, the CX82340 design reduces system cost.

The CX82340 is built upon a scalable architecture and is fully compliant with the ADSL standards: T1.413 Issue 2, G.dmt, G.lite including Annex A (ADSL over POTS) and Annex B (ADSL over ISDN), as well as interoperable with all major DSLAMs. This broad level of compliance ensures that products based on the AccessRunner can address the existing installed base and continued deployment of ADSL lines.

The CX82340 allows an "always on" high-speed broadband connection to the Internet. It uses existing twisted-pair telephone lines to deliver data rates at more than 100 times the speed of conventional dial-up modems, and without the interruptions that can plague telephone services. Additionally, with wireless connectivity, a CX82340 Access Point Router solution can allow multiple users to share broadband access over an easy to use wireless network.

Typical Applications Include:

- ADSL Wireless LAN Router
- ADSL Wireless Access Point
- ADSL Wireless Bridge



# CX82340 Distinguishing Features

- T1.413, G.dmt, G.lite ADSL Compliant - Annex A and Annex B Support
- 168MHz ARM940T Processor
- Integrated 802.11b MAC and Baseband Processor
- 2.4 GHz DSSS Radio Interface
- 802.11 MAC compliant
- Up to 11Mbps data rate
- Integrated ADSL Transceiver, AFE, and Line Driver
- 10/100 Mbps Ethernet Media Access Controller (MAC)
  - MII Interface
- USB 1.1 Interface
- Complete Firmware for Advanced Applications
- Web-based Management and Provisioning

# Part Number CX82340

Description ADSL – Wireless Access Point Router Solution

# CX82340 Features

### ADSL Compliance

- Compliant with ADSL standards
- Full-rate ANSI TI.413 Issue 2 and ITU G.dmt (G.992.1) standards
- Splitterless ITU G.lite (G.992.2) specification
- Annex A (ADSL over POTS) and Annex B (ADSL over ISDN)
- DMT modulation and demodulation
- Full-rate adaptive modem
- Maximum downstream rate of 8 Mbps
- Maximum upstream rate of 1 Mbps
- Tone detection for low power mode
- Supports splitterless ADSL implementation
- Supports Dying Gasp
- Interoperable with all major DSLAM equipment

#### • 802.11b MAC/Baseband

- Complete DSS baseband processor
- 802.11 compliant MAC
- Interface to Intersil PRISM® 3.0 Radio
- RAKE receiver with decision feedback equalizer
- Processing gain: FCC compliant
- Programmable data rates: 1, 2, 5.5, and 11 Mbps
- DBPSK, DQPSK, and CCK Modulation
- Supports full or half duplex operations
- On-chip A/D and D/A converters for I/Q data, AGC, and adaptive power control
- Supports short preamble and antenna diversity
- Interoperable with IEEE 802.11b (DSSS) 2.4 GHz compliant equipment

### ATM Protocols

- WAN mode support: PPP over ATM (RFC 2364) and PPP over Ethernet (RFC 2516)
- LAN mode support: bridged/routed
- Ethernet over ATM (RFC 1483) and classical IP over ATM (RFC 1577)
- ATM Forum UNI 3.1/4.0 PVC
- Up to 8 VCs (virtual circuits)
- ATM SAR (segmentation and reassembly)
- ATM AAL5 (adaption layer type 5)
- OAM F4/F5

#### Bridge Mode

- Ethernet to ADSL self learning Transparent Bridging (IEEE 802.1D)
- Supports up to 128 MAC learning addresses
- Router Mode
  - IP routing-RIPv2
  - Static routing
- DNS Proxy
- Port Forwarding
- DHCP (dynamic host configuration protocol) server and client
- NAT (network address translation)
- NAPT (network address and port translation)
- ICMP (Internet control message protocol)
- Simultaneous USB, Ethernet and wireless operation
- Security
  - Upgradeable for WPA compliance
  - 802.1x Access Control
  - WEP Encryption capable
  - User authentication for PPP
  - PAP (password authentication protocol)
- CHAP (challenge authentication protocol)
- Password protected system management

#### Ethernet Interface

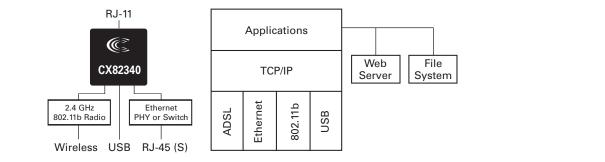
- IEEE 802.3 compliant
- 10/100 Mbps
- Media Independent Interface (MII)

#### USB Interface

- Compliant with USB Specification, Revision 1.1
- USB full speed (12 Mbps)
- Vendor-specific descriptors

#### HTTP Web-Based Management

- Firmware upgrade via FTP
- Customizable Web pages
- WAN and LAN side connection statistics
- Configuration of static routes and routing table
- Configuration of NAT/NAPT
- Password protected access
- Selection of bridge or router mode
- PPP user ID and password
- Configuration of VCs (virtual circuits)



# **CX82340 ADSL - Wireless Access Point Router Solution and Embedded Firmware**

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