CONEXANT

# Single-Chip WLAN 802.11b Baseband/MAC
CX85410

## First In A Family of Highly Integrated WLAN Solutions

Conexant's broadband communications portfolio includes a comprehensive suite of semiconductor solutions that enable the digital home and information network. Now, with the CX85410, WLAN system providers can bring to market secure, low-cost products that meet tomorrow's WLAN needs today.

The highly integrated CX85410 Baseband/MAC 802.11b can be offered as a stand-alone device, or used in conjunction with Conexant's home network processor, ADSL and cable modem semiconductor system solutions. The device supports data rates up to 11 Mbps, with automatic fallback to 5.5, 2 and I Mbps when needed and is compatible with existing IEEE 802.11b modulation schemes. The advanced radio interface with automatic gain control (ACG) supports multiple 2.4 GHz radios while the antenna diversity, which allows for multiple antennas in a system, continually monitors for the strongest signal.

Unique to the CX85410 is the necessary on-chip support to manage industry security standards including the Wired Equivalent Privacy (WEP) 64 and 128-bit standard, the Wi-Fi Protected Access™ (WPA) and the full IEEE 802.11i standard. Other Baseband/MAC offerings require hardware upgrades for this level of support. The CX85410 also contains on-chip SRAM, eliminating the need for external memory which results in further reducing the layout size and system cost. These features ensure designers the ability to create small footprint, single-sided designs resulting in lower overall system manufacturing costs.

For manufacturers of network interface cards, a variety of host interfaces are supported including PCI 2.2/2.3, MiniPCI and 32-bit Cardbus. All of these features can lead to increased throughput, greater range and an overall robust and lower cost WLAN solution.
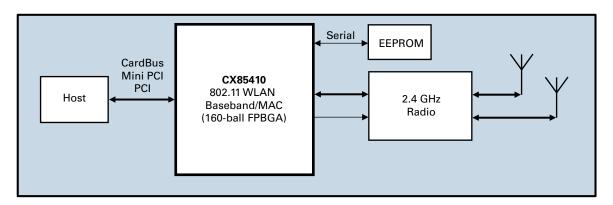


## Distinguishing Features

- Advanced 802.11i security
- 64 and 128-bit Wired Equivalent Privacy (WEP)
- Supports WPA (802.1x and TKIP)
- Integrated memory (no External SRAM needed)
- Antenna diversity, which allows for multiple antennas in a system
- On-chip A/D and D/A converters for radio interface
- Flexible radio interface with an automatic gain control (AGC)
- Data rates up to 11Mbps
- 160-ball FPBGA package

| Part Number | CX85410 |
| --- | --- |
| Description | Single-Chip WLAN 802.11b Baseband/MAC Client |

**CX85410 Simplified Hardware Interface**

## CX85410 Features

- Host interface for 32-bit CardBus, MiniPCI,
  or PCI 2.2/2.3
- Fully integrated IEEE 802.11b-compliant MAC
  and baseband
- Supports 11 Mbps with automatic fallback
  to 5.5, 2, and 1 Mbps
- DBPSK, DQPSK and CCK modulation with
  full-duplex MAC and half-duplex baseband
- Supports long and short preamble modes
- On-chip SRAM (no External SRAM needed)
- Resistant to adjacent channel and
  co-channel interference
- Compliant transmit modulation accuracy and
  transmit power spectral density
- Fully parameterized AGC design allows flexibility
  to interface to a variety of RF analog front end devices
- Supports 64 and 128-bit WEP
- Supports WPA (802.1x and TKIP)
- Software upgradeable to 802.11i security enhancements
- On-chip A/D and D/A converters
- 12mm x 12mm FPBGA

- Supports antenna selection diversity
- +3.3V power only required
- 160-ball FPBGA package

### Operating System Support
- Windows XP
- Windows 98
- Windows 2000
- Windows ME

### Production Software
- Configuration and monitoring utility
- Manufacturing utility

### Reference Material
- Mini PCI board
- PCI to mini PCI converter board
- Schematics
- Gerbers
- Data Sheet
- Application Notes

**www.conexant.com**
General Information:
U.S. and Canada: (800) 854-8099
International: (949) 483-6996
Headquarters – Newport Beach
4311 Jamboree Rd, P.O. Box C
Newport Beach, CA 92660-3095

Order# 102131A

CONEXANT

03-0804