

AIRFORCE™ 2.4-GHZ 11-MBPS WIRELESS LAN CLIENT REFERENCE DESIGN

END USER FEATURES

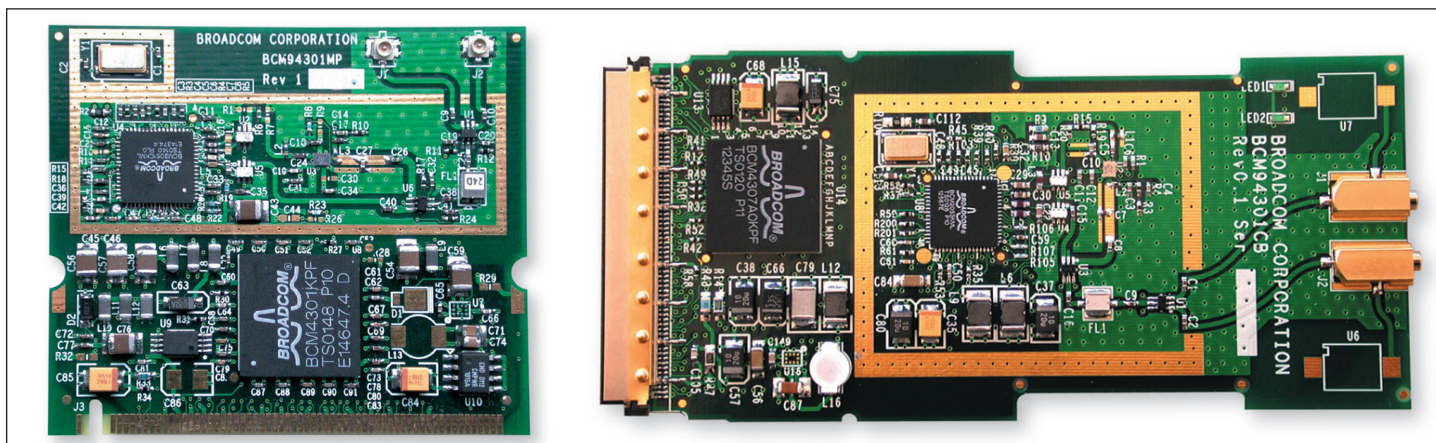
- Best-in-class range due to excellent receiver sensitivity
- Highly interoperable IEEE 802.11b compliance and Wi-Fi™ certified
- Industry leading throughput—achieves maximum Wi-Fi performance
- AirForce™ OneDriver™ software is forward compatible with future wireless standards
- Robust performance in real-world operating environments, even in the presence of wireless LAN, Bluetooth™ devices, and other 2.4-GHz devices
- Lowest CPU utilization design that leaves system resources available for other functions
- Extended battery life due to low-power, all-CMOS design, and comprehensive power management
- High-performance security through hardware support for 64/128 WEP, weak key avoidance, TKIP, 802.11i, and 802.1x
- Zero configuration and seamless integration with Microsoft® Windows® XP operating system and advanced utilities and common GUI for legacy operating systems
- SmartRadio™ wireless echo reduction greatly improves 802.11b delay spread tolerance and performance
- SmartRadio advanced OFDM improves high-speed wireless throughput by dynamically adapting to radio noise conditions during the signal decoding process

MANUFACTURING FEATURES

- Lowest system cost through direct conversion radio architecture that uses few external components and eliminates the need for flash and costly external RF filters
- Simple 2-chip design with fully integrated VCO using standard CMOS process technology
- Low manufacturing cost due to single-sided assembly
- Fast time-to-market with production-quality board reference design, comprehensive BOM support, and a complete suite of manufacturing test tools
- SmartRadio™ continuous calibration reduces test time and improves manufacturability
- Forward compatible NDIS driver that works with next-generation wireless LAN standards such as the 802.11g draft standard
- Flexible single-function or multifunction capability for PCI, Mini PCI, CardBus, PCMCIA, and compact flash form factors
- Advanced high-performance MAC architecture supports future QoS and security enhancements
- Convenient software integration tools to enable routers, gateways, and other products for wireless LAN
- Global products supported with world-wide homologated design and single SKU
- Easy to use with WHQL certified drivers for Microsoft Windows XP, 2000, Me, and 98SE operating systems

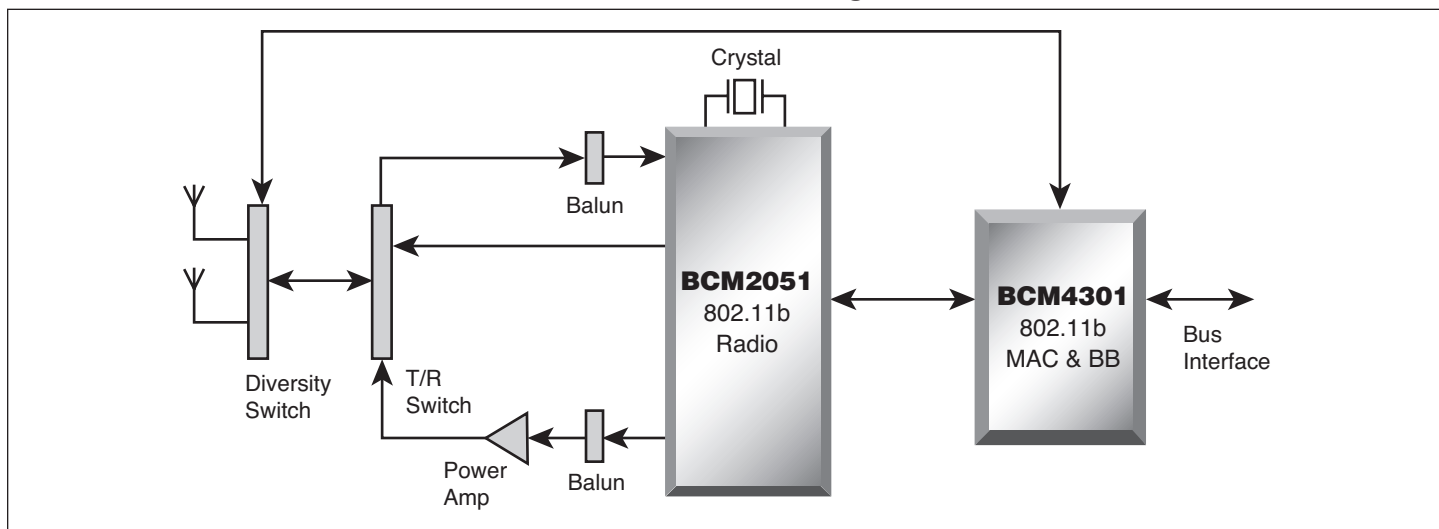
BCM94301MP
802.11b Mini PCI Reference Design

BCM94301CB
802.11b Cardbus Reference Design



BCM94301 OVERVIEW

BCM94301 Block Diagram



BCM94301 Specifications

Host Interface	32-bit Mini PCI interface, Type 3A, 3.3 V; 32-bit CardBus interface, 16-bit PCMCIA interface with 3.3-V and 5-V options
Network Standard	IEEE 802.11b (Wi-Fi™)
Data Rate	11, 5.5, 2, 1 Mbps
Modulation	CCK (11 Mbps, 5.5 Mbps), DQPSK (2 Mbps), DBPSK (1 Mbps)
Network Architectures	Infrastructure and ad hoc
Operating Frequencies	2.400–2.483 GHz (North America), 2.400–2.497 (Japan), 2.400–2.483 GHz (Europe ETSI), 2.446–2.475 GHz (France)
Operating Channels	1–13 for North America, 1–14 for Japan, 1–13 for Europe (ETSI), 10–13 for France
RF Output Power	15 dBm output power (consistent over temperature)
Antenna Connectors	Hardware diversity support. Main and auxiliary antenna connectors; transmit on main and receive on both.
Range	11-Mbps range in a typical office environment of up to 60 m and line-of-sight (LOS) up to 180 m. 1-Mbps range in a typical office environment of up to 125 m and LOS up to 570 m. Range differs by environment.
Receiver Sensitivity	PER <8% @ length 1024 octets—11 Mbps: –84 dBm; 5.5 Mbps: –88 dBm; 2 Mbps: –91 dBm; 1 Mbps: –93 dBm
Power Consumption	TX: 315 mA; RX: 235 mA
Security	Hardware 40/128-bit WEP; weak key avoidance algorithm, TKIP, AES, 802.1x
Client Utility	Automatic location profile, site monitor, current link status, and diagnostics
Software Support	WHQL certified for Windows® XP, Windows 2000, Me, and 98SE operating systems
LED Indicators	WLAN activity monitor, WLAN radio state indicator
Temperatures	Operates from 0 to 85°C; storage from –40 to 75°C
Humidity (noncondensing)	5 to 95%
Certifications	Wi-Fi; FCC Part 15C, Section 15.247; ETS 300 328; UL and CE marks; TELEC

Ordering Information

BCM94301MP (WLAN Mini PCI Client Production Design)

BCM94301CB (WLAN CardBus Client Production Design)

BCM94301PC3 (WLAN PCMCIA Client Production Design 3.3 V)

BCM94301PC5 (WLAN PCMCIA Client Production Design 5 V)

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