

AIRFORCE™ 2.4-GHZ 54 AND 11-MBPS WIRELESS LAN CLIENT REFERENCE DESIGN

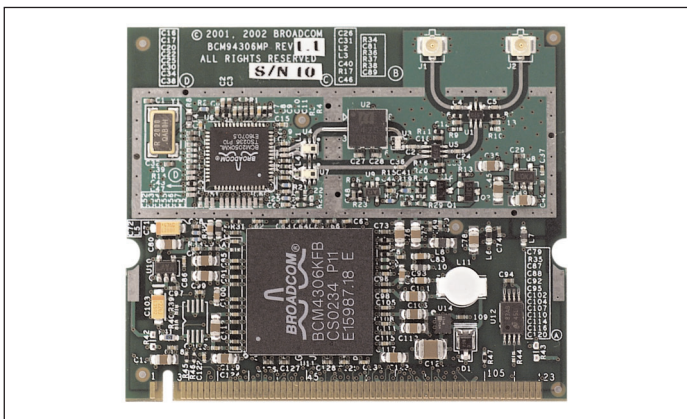
END USER FEATURES

- First available 54-Mbps solution in the 2.4-GHz band, compatible with the IEEE 802.11b standard and the 802.11g draft standard
- Best-in-class range due to superior receiver sensitivity
- Industry leading throughput—achieves maximum performance within each standard
- AirForce™ OneDriver™ software is forward-compatible with future wireless LAN standards
- Robust performance in real-world operating environments even in the presence of wireless LAN, Bluetooth™ and other 2.4-GHz devices
- Lowest CPU utilization design leaves system resources available for other functions
- Extended battery life due to low power and CPU requirements, all-CMOS design, and comprehensive power management
- High-performance security through WEP weak key avoidance; TKIP; hardware AES supporting CCM and OCB, WPA, 802.1x, and 802.11i
- Zero configuration with Microsoft® XP operating system and advanced utilities and common GUI for legacy operating systems
- SmartRadio™ advanced OFDM improves high-speed wireless throughput by dynamically adapting to radio noise conditions during the signal decoding process
- SmartRadio wireless echo reduction greatly improves 802.11b delay spread tolerance and performance

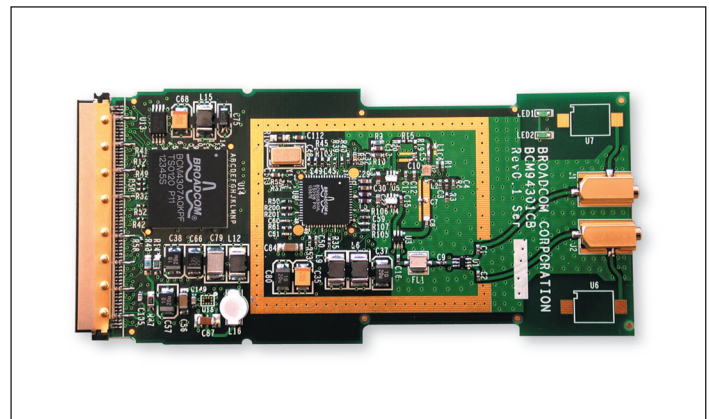
MANUFACTURING FEATURES

- Lowest system cost through direct conversion radio architecture that uses few external components and eliminates the need for flash and costly RF filters
- Simple 2-chip design with fully integrated VCO using standard CMOS process technology
- Low manufacturing cost from single-sided assembly optimized for DFM and DTM
- 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
- Compatible with existing 2.4-GHz IEEE 802.11b test and support equipment
- Flexible single-function or multifunction capability for PCI, Mini PCI, and CardBus 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 integrate into end systems with WHQL certified Windows drivers and embedded drivers for Linux™ and VxWorks® operating systems

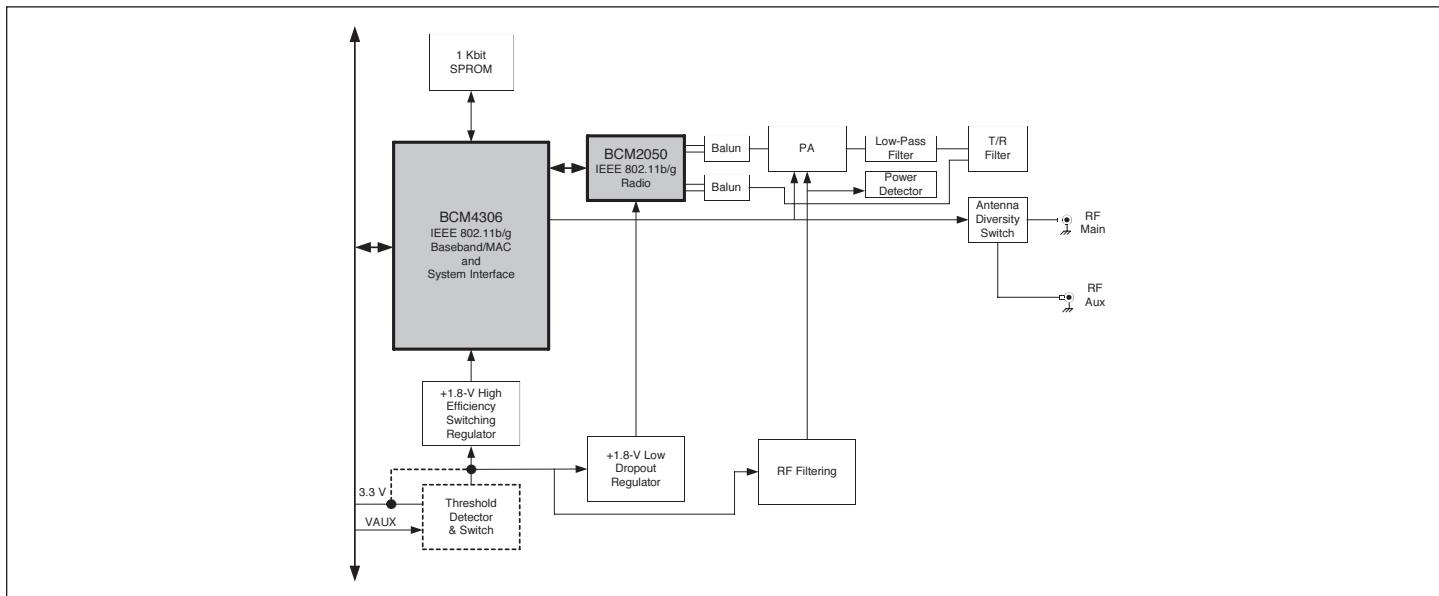
BCM94306MP
802.11b/g Mini PCI Reference Design



BCM94306CB
802.11b/g CardBus Reference Design



BCM94306 Block Diagram



BCM94306 Specifications

Host Interface	32-bit CardBus, PCI, Mini PCI
Network Standard	IEEE 802.11b and IEEE 802.11g draft standard
Data Rate	802.11g: 54, 48, 36, 24, 18, 12, 9, 6 Mbps; 802.11b: 11, 5.5, 2, 1 Mbps
Modulation	802.11g: OFDM; 802.11b: CCK (11 Mbps, 5.5 Mbps), DQPSK (2 Mbps), DBPSK (1 Mbps)
Network Architectures	Infrastructure and ad hoc
Operating Frequencies	2.4-2.497 GHz
Operating Channels	802.11g: 11 for North America, 13 for Europe (ETSI), 14 for Japan 802.11b: 11 for North America, 13 for Europe (ETSI), 14 for Japan
RF Output Power	15 dBm maximum
Antenna Connectors	Hardware diversity support. Transmit and receive on main and auxiliary antenna connectors.
Range	802.11g: 54 Mbps up to 50 m LOS, 20 m indoors; 18 Mbps up to 150 m LOS, 75 m indoors 802.11b: 11 Mbps up to 180 m LOS, 60 m indoors; 1 Mbps up to 570 m LOS, 125 m indoors
Power Consumption	TX peak: 550 mA @3.3 VDC; RX peak: 350 mA @3.3 VDC Idle: 225 mA @3.3 VDC; radio disabled: <10 mA @3.3 VDC
Security	Hardware 64/128-bit WEP engine; WEP weak key avoidance; TKIP; hardware AES engine supporting CCM and OCB, WPA, 802.1x, and 802.11i
Delay Tolerance	802.11b: Multipath RMS delay spread @ 1% FER: 11 Mbps > 250 nsec; 5.5 Mbps > 300 nsec
Client Utility	Automatic location profile, site monitor, current link status, and diagnostics
Software Support	Microsoft WHQL certified for Windows XP, 2000, and Me. Embedded drivers for Linux and VxWorks.
LED Indicators	WLAN activity monitor, WLAN radio state indicators
Switch	Manual radio on/off disables transmit and receive to comply with aviation inflight restrictions.
Temperatures	Operates from 0 to 70°C; Storage from -40 to 90°C
Humidity (noncondensing)	5 to 95%
Certifications	FCC part 15C/15.247; ETS 300 328-2; UL; IEC60950; EN 301 489-1,17; prEN50371; CE Mark; TELEC

Ordering Information

BCM94306CB (2.4-GHz Dual Mode CardBus Client Production Design)

BCM94306MP (2.4-GHz Dual Mode Mini PCI Client Production Design)

Rev: October 2002. Specifications are subject to change without notice.

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94306-PB02-R 12.02.02

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