



AIRFORCE ONE™ CHIP 802.11 REFERENCE DESIGN

KEY FEATURES

- Industry's smallest IEEE 802.11b solution makes wireless LAN connectivity practical for pocket-sized electronic devices
- Extreme integration includes radio, baseband, MAC, power amplifier, and all other radio frequency (RF) components found on a typical wireless LAN board—making small mobile devices easier, less expensive and faster to manufacture
- Innovative power management reduces power consumption by up to 97% in standby mode, providing greatly extended battery life for mobile devices
- Cost-effective architecture with single-sided all-CMOS design eliminates over 100 components, providing more affordable wireless connectivity for consumer electronics
- High-performance features standard across the AirForce product line:
 - OneDriver™
 - SmartRadio™
 - WPA
 - CCX
 - AES in hardware
 - Xpress™ technology
- Reference designs include Secure Digital I/O, Secure Digital I/O with a Bluetooth™ option, and Compact Flash.

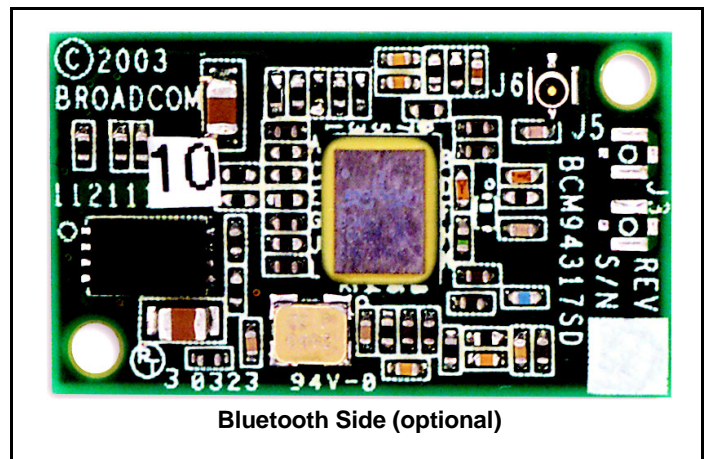
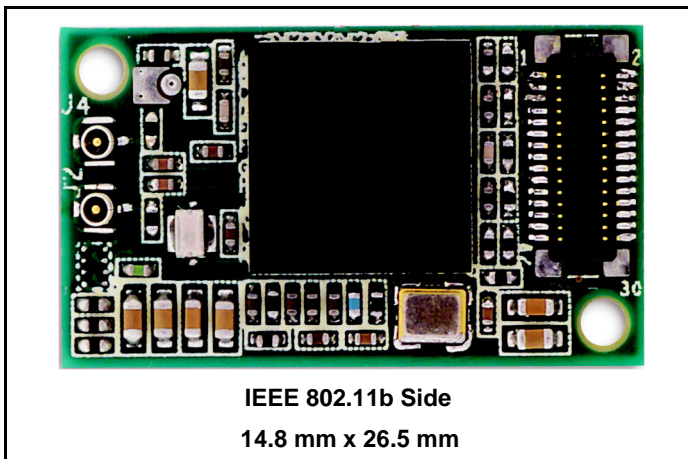
POWER MANAGEMENT

- Innovative power management techniques improve battery life by creating deep sleep state when device is in stand-by mode
- Designed for low CPU utilization to ensure CPU resources are available for handheld applications

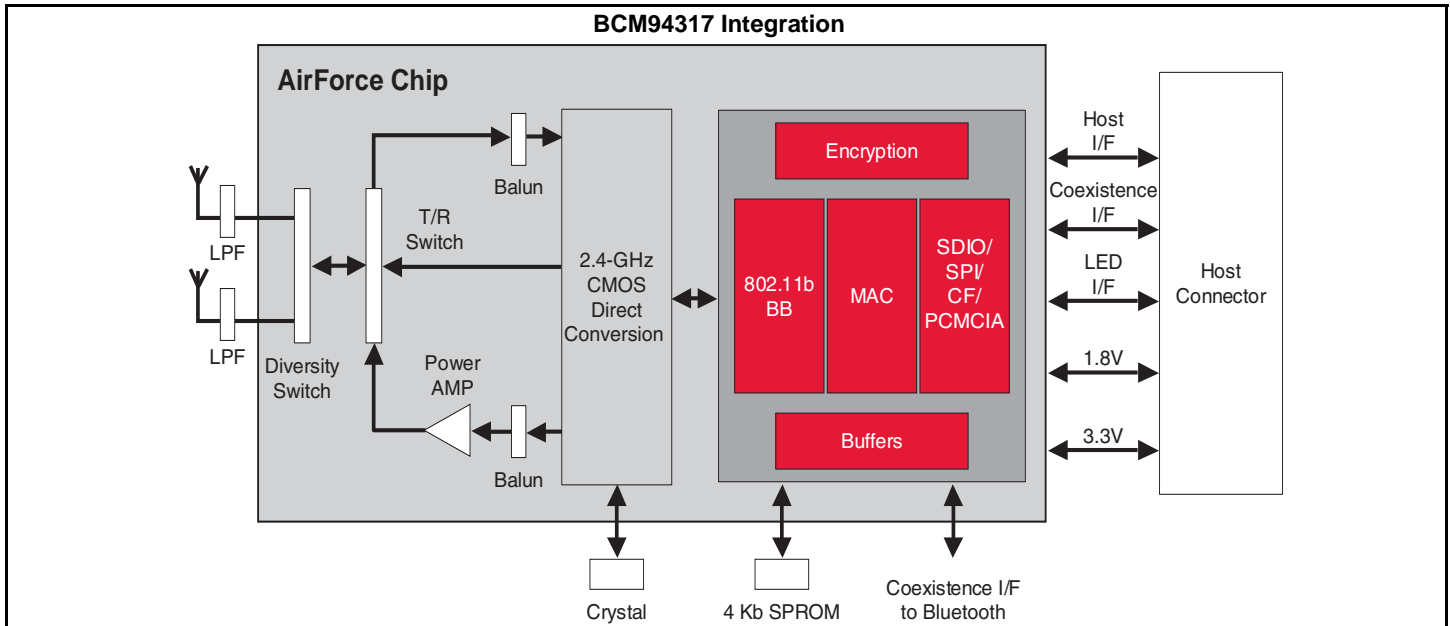
AIRFORCE FEATURE SET

- **SmartRadio:** Continuous calibration reduces test time and improves manufacturability
- **Xpress Technology:** Standards-based frame bursting improves overall network efficiency
- **Security:**
 - WPA CERTIFIED for powerful encryption and authentication
 - -AES in hardware future-proofed for 802.11i security standard
 - Cisco Compatible Extensions (CCX) Certified
- **Worldwide Support:** Global products supported with worldwide homologated design
- **OneDriver:** Single driver across all platforms 802.11a, b, and g simplifies driver update process and improves customer satisfaction

BCM94317 Reference Design



OVERVIEW



BCM94317 Specifications

Interface	SPI, 1-wire SD/IO, 4-wire
System Bus Support	PCMCIA, EBI, Compact Flash
Standard	IEEE 802.11b
OFDM Data Rate, Mbps	1, 2, 5.5, 11
Modulation	CCK (11 Mbps, 5 Mbps); DQPSK (2 Mbps), DBPSK (1 Mbps)
Network Architectures	Infrastructure and ad hoc
Operating Frequencies	2.4 GHz—2.497 GHz
Operating Channels	11 for North America; 13 for Europe, and 14 for Japan
RF Output Power	12.5 dBm maximum
Antenna Connectors	Hardware diversity support
Power Requirements	1.8V supply
Power Consumption	Average Standby = 6 mW
Security	802.1x; WEP; WEP2; WPA; TKIP; Weak-key avoidance; CCX; 128-bit OCB mode AES
Dimensions	14.8 x 26.5 x 3.6 mm
Software Support	Microsoft WHQL certified for Windows XP, Windows 2000, Windows Me, and WindowsSE operating systems. Embedded drivers for Linux and VxWorks operating systems
Certifications	IEEE 802.11 compliant; Wi-Fi CERTIFIED; ACPI power management
Optional Bluetooth Support	Dual-technology functionality; Based on BCM2035 Bluetooth single-chip; Interface support: SD/IO, UART, USB 1.1; Coexistence interface for optimal simultaneous performance; PCM support for audio applications

Ordering Information:

- BCM94317 SD (2.4 GHz 802.11b Secure Digital Client Production Design)
- BCM94317 CF (2.4 GHz 802.11b Compact Flash Client Production Design)

Rev: October 2003. Specifications are subject to change without notice.

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