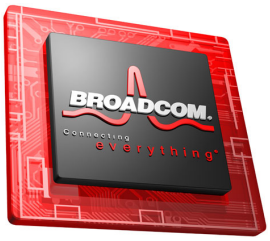
BROADCOM®
Connecting everything®

BCM94318E PRODUCT Brief



AIRFORCE ONE™ SINGLE-CHIP 802.11 REFERENCE DESIGN

FEATURES

- **Third-generation single-chip 54g™ with advanced DSP, designed to increase receive sensitivity and extend range up to 50%. (Replaces BCM4306 54g MAC/Baseband and BCM2050 2.4-GHz radio.)**
- **IEEE 802.11a/g CMOS MAC/Baseband with integrated 2.4-GHz Direct Conversion Radio**
  - Simply add 5-GHz 802.11a radio BCM2060 for two-chip a/g solution
- **Programmable MAC with advanced DMA architecture and 32-bit bus interface**
- **Includes BroadRange™ signal processing for industry-leading receive sensitivity and extended range:**
  - –74 dBm at 54 Mbps
  - –76 dBm with external LNA
- **Highly integrated chipset provides low cost, low power, and small footprint for integration in a broad range of devices**
- **WHQL-certified drivers for Windows® XP, Windows® Me, Windows® 2000, Windows® 98SE, and Windows® 98 operating systems, portable to Linux® and Windows® CE**
- **Support for Bluetooth™ Coexistence Algorithm**
- **Flexible support for a variety of system bus interfaces including: PCI, Mini PCI, CardBus, PCMCIA/Compact Flash, and SDIO (4-wire, 1-wire, and SPI)**

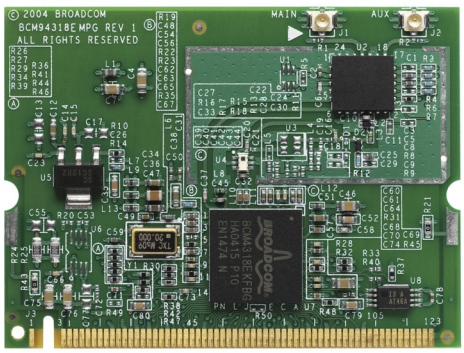
SUMMARY OF BENEFITS

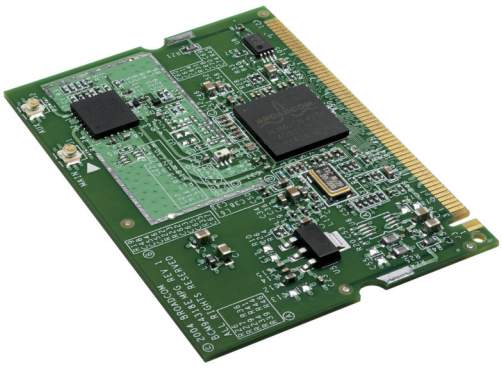
- **DSP architecture reduces the power required to transmit data by 30%.**
- **Low power consumption improves battery life of Wi-Fi devices, including handheld devices and consumer electronics.**
- **Meets PCI Power Management Interface version 1.1 (ACPI).**
- **Designed for low CPU usage to ensure CPU resources are available for handheld applications.**
- **Dynamic power management under driver control.**

AIRFORCE FEATURES SET

- **SmartRadio™: Continuous calibration reduces test time and improves manufacturability.**
- **Xpress™ Technology: Standards-based frame bursting improves overall network efficiency.**
- **125 High Speed Mode™: Standards-plus performance enhancement delivers best real-world performance when both client and AP support High Speed Mode.**
- **BroadRange Technology: Standards-compliant feature increases receive sensitivity to improve range at the higher data rates.**
- **Security:**
  - WPA- and WPA2-CERTIFIED for powerful encryption and authentication
  - AES in hardware for faster data encryption and 802.11i compatibility
  - Cisco® Compatible Extensions (CCX, CCX 2.0) certified
  - SecureEZSetup™ for simple Wi-Fi setup and WPA security configuration
- **Worldwide support: Global products supported with worldwide homologated design.**
- **OneDriver™: Single driver across all platforms—802.11a/b/g—simplifies driver update process and improves customer satisfaction.**

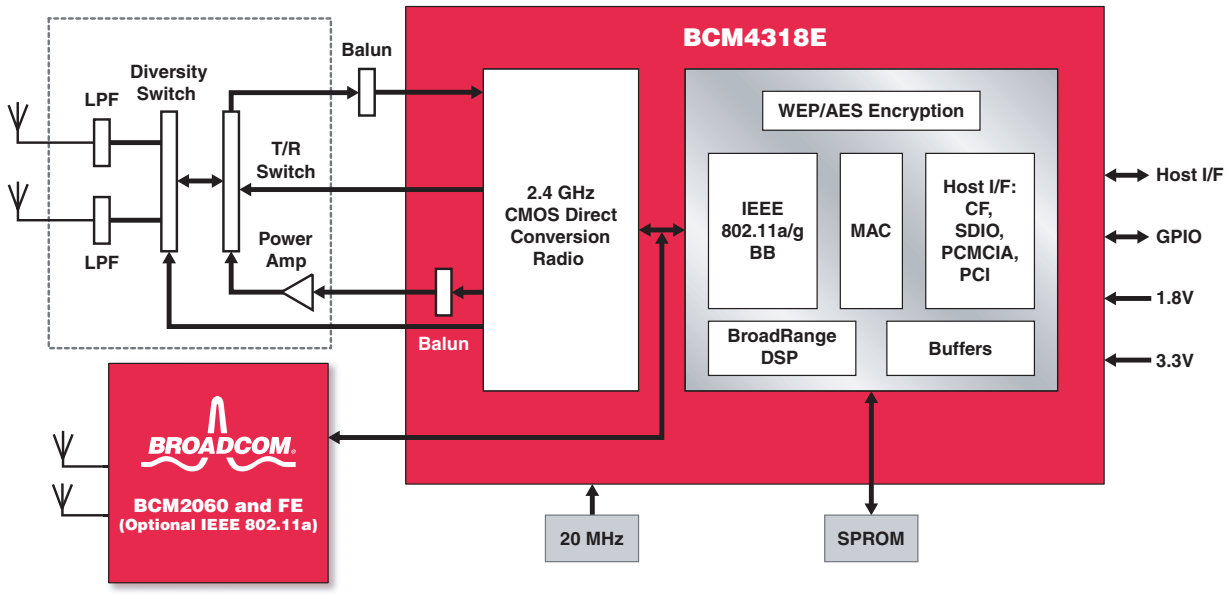
BCM94318E Reference Design





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OVERVIEW



BCM94318E Integration

BCM94318E Specifications	
Interface	PCI, SDIO/SPI
System Bus Support	PCI, CardBus, Compact Flash, EBI
Standard	IEEE 802.11g, 802.11a with external radio BCM2060
Data Rate	802.11g: 54, 48, 36, 24, 18, 12, 9, 6 Mbps; 802.11b, 11, 5.5, 2, 1 Mbps
Modulation	OFDM, CCK, DQPSK, DBPSK
Network Architectures	Infrastructure and ad hoc
Operating Frequencies	2.4 GHz—2.497 GHz, 4.9 GHz —5.85 GHz with 2060 option
Operating Channels	11 for North America; 13 for Europe, and 14 for Japan
RF Output Power	20 dBm maximum
Antenna Connectors	Hardware diversity support - Transmit and Receive
Power Requirements	1.8V (3.3V for ref designs)
Power Consumption	Average Standby < 20 mW
Security	802.1x; WEP; WEP2; WPA, WPA2; TKIP; Weak-key avoidance; CCX, CCX 2.0; 128-bit OCB mode AES, 802.11i
Dimensions	12mm x 12mm 196-pin pkg., 10mm x 10mm 144-pin pkg
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

Ordering Information

- BCM94318E: 196-pin package (adds UART, PCI/CardBus, and BCM2060 interfaces)
- BCM94318E: 144-pin package

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