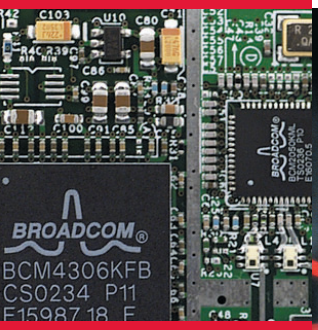
AirFORCE™

The Force in Wireless Networking



The AirForce family of wireless LAN chipsets from Broadcom offers unique advantages that help drive leading marketshare for our partners: superior performance, reliability, industry-leading roadmap and faster time to market.

BROADCOM®
Connecting everything®

The numbers are compelling. In 2002, more than 15 million wireless LAN nodes were purchased by consumers and businesses.

The consumer market for wireless LANs has grown at least 100% per year since 1999.

By 2005, more than 100 million nodes will be in use.

It takes an innovative, strong technology partner to keep up with this type of demand.

in the home

in public places

in the enterprise

54g™ is the new high-speed, compatible wireless LAN technology for home, office and public networks. The 54g logo ensures that products are completely interoperable with other 54g products and are compatible with the draft IEEE 802.11g specification. 54g will quickly become the next mainstream wireless LAN technology because it is faster, works farther, is backwards com-patible—and is affordable.

Faster

54 Mbps data rates, nearly five times faster than the current 802.11b standard of 11 Mbps.

Farther

Coverage of up to 200 meters from access points, 60% further than current 54 Mbps 802.11a networks.

Backwards-Compatible

Meets 802.11b specifications and works with any 802.11b product.

Broadcom Delivers

Broadcom is your one-stop-shop for wireless LAN solutions. With a solid track record of delivering highly integrated silicon solutions in wired environments, Broadcom announces AirForce™, the broadest line of wireless LAN reference design solutions in the industry.

Wireless technology is evolving rapidly. Future standards will include speeds of 54 Mbps and beyond, with features such as voice support, video support, and advanced security. Wireless technology will be required in everything from personal computers, access points and residential gateways, to handhelds, mobile telephones, printers, and web cameras. Eventually, even entertainment equipment, automobiles, and trains will be equipped with wireless connectivity.

Partnering with Broadcom gives you a competitive edge. We provide high-performance, full-featured, and flexible wireless technology for your product line, without adding prohibitive costs to the design, extending the product development cycle, or jeopardizing the core functionality of the product.

What is AirForce™?

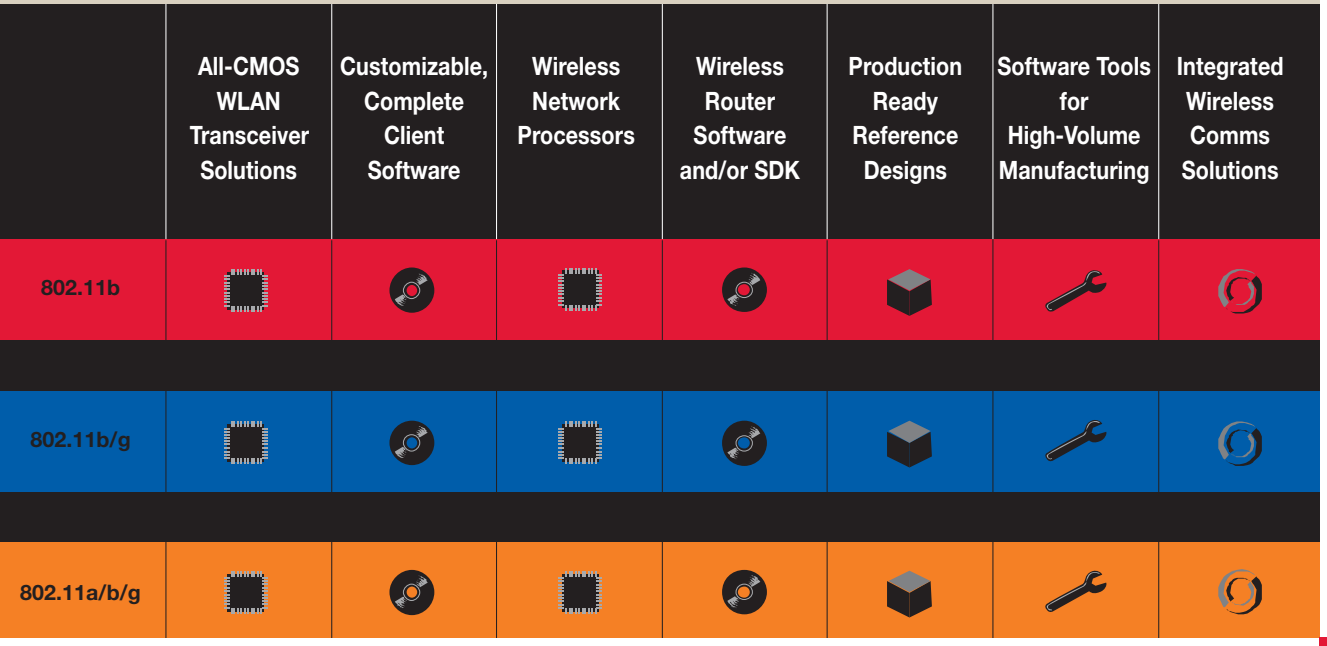
AirForce is the name of Broadcom's family of wireless LAN solutions. AirForce supports all of the mandatory 802.11 signaling standards, in a variety of client and infrastructure form factors for the home, business, and public network segments. AirForce solutions combine 802.11b, 802.11a, and new 54g™ (802.11g) wireless technologies with SmartRadio™ performance, first-to-market silicon integration and a common architecture that makes it easier to add wireless capabilities once and then leverage that investment efficiently as new technologies emerge.

AirForce Key Benefits

Best-in-class performance—Broadcom is the first vendor to deliver products that support the full suite of 802.11b, 802.11a, and 54g™ wireless technologies. The AirForce SmartRadio™ design delivers higher throughput, greater range, and lower CPU utilization than competitors, giving your customers the best wireless LAN experience available.

Leading-edge features—AirForce goes beyond raw speed to provide support for today's and tomorrow's applications, such as multi-layer quality-of-service support, support for the global configuration and management. Security concerns are met with hardware encryption (WEP 128, AES OCB, and AES CCM) as well as WPA and 802.1x software support. AirForce products are designed for seamless interoperability with Broadcom's Bluetooth™ and GPRS solutions.

AirForce provides the industry's broadest wireless LAN technology portfolio



Lowest-cost approach—Broadcom extends its established silicon leadership to wireless LAN, with highly-integrated, standard all CMOS process, two-chip 11 Mbps and 54 Mbps 2.4 GHz solutions and a three-chip 54 Mbps dual band solution that provides low unit costs and low power consumption. This architecture allows highly manufacturable, single-sided reference designs and puts Broadcom on the path to AirForce OneChip™ wireless LAN solutions.

Built for the future—AirForce is built to provide manufacturers with the simplest deployment and migration path in the industry. Microsoft® WHQL certification, SmartRadio™ continuous calibration and a fully digital CMOS process assure a fast deployment and production ramp. The use of a common MAC architecture and OneDriver™ software across the family provides manufacturers a seamless, low-cost migration to new technologies. AirForce architecture supports upgradeability to future IEEE standards such as security and quality of service.

The AirForce Wireless Reference Design Architecture

The AirForce family of reference designs produces highly integrated solutions.

- **Client**

  BCM20XX Series direct conversion single-chip radios provide leading receiver sensitivity, throughput and range. BCM43XX Series Baseband/MAC chips use a common MAC architecture and OneDriver™ software to create a highly leverageable wireless platform. The BCM43XX Baseband/MAC, a BCM20XX radio, an antenna, and a minimum of external components create client devices such as Mini PCI, CardBus, or USB.

- **Infrastructure**

  BCM47XX Series Wireless Network Processors, BCM33XX Series Broadband Gateway Cable Modems, and BCM63XX Single Chip ADSL CPE Modems combine with wireless client solutions to create wireless LAN infrastructure devices such as access points or broadband residential gateways.

- **Software**

  OneDriver™ software provides maximum stability and flexibility. For both client and infrastructure products, customers can use the identical software across wireless LAN technologies. AirForce client software requires zero configuration and includes advanced utilities for Microsoft XP operating systems and provides a common user interface for legacy operating systems. In addition, AirForce software is customizable for performance and differentiation.

SmartRadio™

SmartRadio is Broadcom's suite of radio and signal processing innovations that improve the performance of AirForce™ wireless LAN devices, including:

- Continuous Calibration, which tunes the wireless LAN radio on-the-fly, providing optimal performance.
- Wireless Echo Reduction, which uses sophisticated equalization techniques to improve delay spread tolerance and 802.11b range in environments with complex surfaces, such as partitioned office spaces, airports, warehouses, and homes.
- Advanced OFDM, which improves throughput in 54g and 802.11a systems by dynamically adapting to radio noise conditions during the signal decoding process.

AirForce™ Product Overview

CLIENT DESIGNS

Product	BCM94301	BCM94306	BCM94307	BCM94308	BCM94309	BCM94310
Description	802.11b Client Design	802.11b/54g Client Design	802.11b Client Design with Ethernet and V.92	802.11a AP Card	802.11b/a/54g Dual Band Client Design	802.11b USB Adaptor
Form Factors	CardBus, PCMCIA-3.3v, PCMCIA-5v, Mini PCI	CardBus, Mini PCI	Mini PCI	CardBus	CardBus, Mini PCI	USB
Chipset	4301, 2051	4306, 2050	4307, 2051	4308, 2060	4309, 2050, 2060	4310, 2050
Driver	OneDriver™ client OS support for Windows®XP, Windows®2000, Windows®ME, and Windows®98SE.					

ACCESS POINT/ROUTER DESIGNS

Product	BCM94702	BCM94710	BCM94711
Description	Retail 802.11x Router	Retail 802.11x Router + Home PNA	802.11b Integrated AP
Ports	1-10/100 WAN, 4-10/100 LAN, 1-USB host	1-10/100 WAN, 4-10/100 LAN, 1-USB host, 1-HPNA	1-10/100 Ethernet, 1-USB host
Chipset	4702, 4301, 5325, AC101L, 2051	4710, 4301, 5325, AC101L, 2051, 4100	4711, 2050, AC101L
Software	OneDriver™ infrastructure support for Linux and VxWorks.		

MODEM DESIGNS

Product	BCM96345	BCM93345
Description	Single Chip ADSL CPE Modem	Broadband Gateway Cable Modem
Ports	4-10/100 LAN 1-DSL/Phone line 1-USB	1-10/100 LAN 1-USB
Chipset	6345, 4301, 2051	3345, 3315, 4301, 2051

COMPONENTS

Chips-CMOS Radio	BCM2050	BCM2051	BCM2060
Description	802.11b/54g Radio Chip	802.11b Radio Chip	802.11a Radio Chip
Frequencies	2.4 - 2.4835 GHz	2.4 - 2.4835 GHz	4.90-5.09 GHz 5.15-5.35 GHz, 5.470-5.725 GHz, 5.725-5.825 GHz,
Package	8mm x 8mm 56L LPCC	8mm x 8mm 64L LPCC	8mm x 8mm 48L LPCC

Chips-Baseband/MAC	BCM4301	BCM4306	BCM4307	BCM4308	BCM4309	BCM4310
Description	802.11b Baseband/MAC	802.11b/54g Baseband/MAC	802.11b Baseband/MAC with 10/100 and V.92	802.11a Baseband/MAC with V.92	802.11b/a/54g Baseband/MAC with V.92	802.11b Baseband/MAC
Interfaces	PCI, PCMCIA	PCI, PCMCIA, UART*	PCI, PCMCIA	PCI, PCMCIA, UART*	PCI, PCMCIA, UART*	USB, UART*
Package	15mm x 15mm 196 BGA	17mm x 17mm 256 BGA	15mm x 15mm 196 BGA	17mm x 17mm 256 BGA	17mm x 17mm 256 BGA	15mm x 15mm 196 BGA

Chips-AP/Router	BCM4702	BCM4710	BCM4711
Description	32-bit MIPS™ Processor	32-bit MIPS™ Processor + Home PNA	32-bit MIPS™ Processor + Baseband/MAC
Interfaces	2-10/100 2-PCI 1-USB	2-10/100 2-PCI 1-USB 1-HPNA	1-10/100 1-PCI 1-USB
Package	23mm x 23mm 340 BGA	23mm x 23mm 340 BGA	15mm x 15mm or 23mm x 23mm 196 or 340 BGA

Chips-Modem	BCM6345	BCM3345
Description	MIPS™ 32-bit Processor + ADSL Modem	MIPS™ 32-bit Processor + Cable Modem
Interfaces	4-10/100 1-DSL/Phone line 1-EBI/PCMCIA 1-USB	1-10/100 1-EBI/PCMCIA 1-USB
Package	35mm x 35mm 352 BGA	35mm x 35mm 312 BGA

* AirForce wireless LAN Baseband/MACs designed with an interface to Broadcom's Bluetooth single-chip silicon (BCM2035, BCM2033) and GPRS silicon (BCM2122).

Connecting everything®

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