

## AIRFORCE™ WIRELESS AP/ROUTER

### WIRELESS FEATURES

- IEEE 802.11a/b/g and 54g™ compatible access point and router
- SmartRadio™ continuous calibration reduces test time and improves manufacturability
- Superior performance in real-world operating environments where interference is present
- Routing between 10/100 WAN, 10/100 LAN, and wireless LAN
- Upgradeable to future wireless LAN standards
- Capable of simultaneous dual-band wireless LAN communication
- Support for 802.11 requirements worldwide
- High-performance security through platform support for WEP weak key avoidance, MAC filtering, closed networks, TKIP, AES, 802.11i, and 802.1x

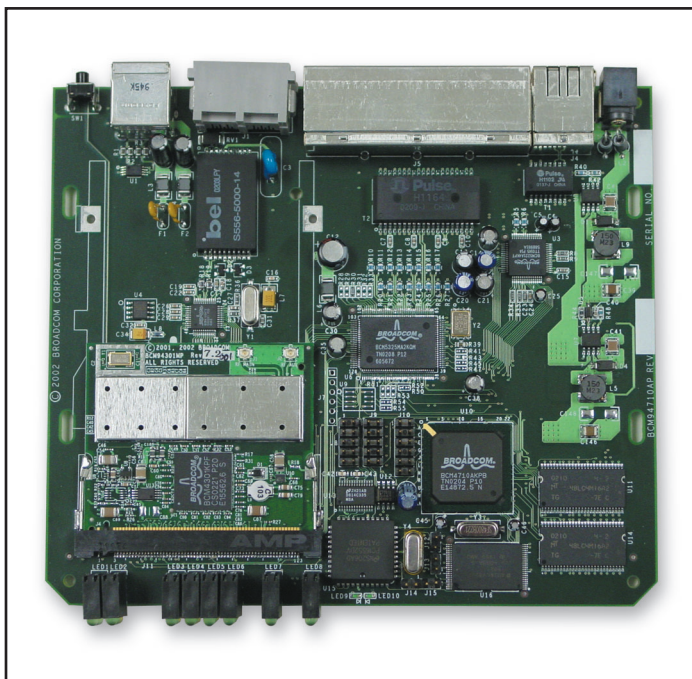
### HARDWARE FEATURES

- Turnkey access point and router configurations
- 10/100 Ethernet WAN port
- 4-port 10/100 Ethernet LAN
- External 2.4-GHz antenna
- Dual Mini PCI supports dual-band 802.11a/b/g wireless communication
- USB 1.1 host support
- HPNA 2.0 32-Mbps LAN port (available only with BCM94710AP)
- VPN acceleration via Mini PCI and BCM5802 IPSec accelerator
- 4-MB flash/16-MB SDRAM default configuration
- Footprint support for 2-MB flash/8-MB SDRAM
- CardBus footprint

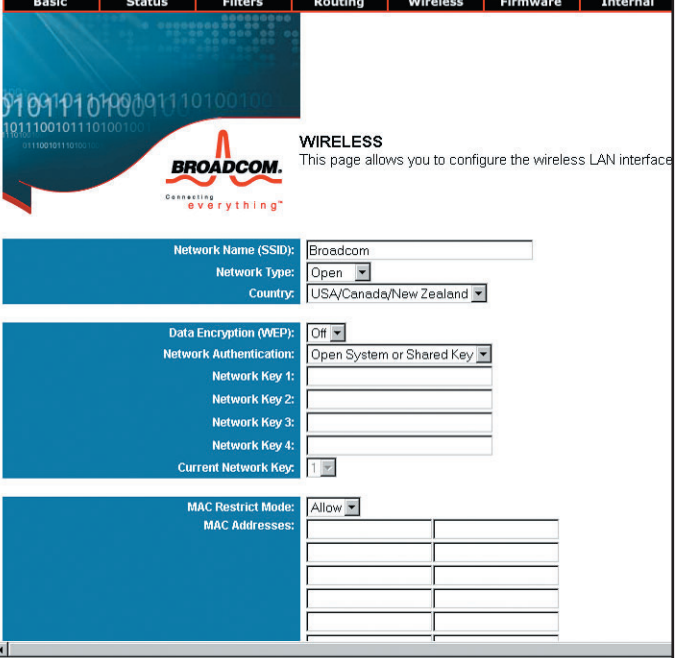
### SOFTWARE FEATURES

- Production quality AP and router reference code provides an easily customized turnkey solution
- AirForce OneDriver™ software is forward compatible with future wireless LAN standards
- Network processor performance supports concurrent bridging of 802.11a, 802.11b, and 802.11g
- High-performance routing between 10/100 WAN and 10/100 LAN
- Software support for Linux™ and VxWorks® operating systems yields fast time-to-market
- Fully tested kernel, BSP, and driver packages enable custom OEM differentiation
- Intuitive browser-based configuration and management tools are intuitive to the end user
- Memory requirement as low as 1 MB of flash and 4 MB of SDRAM

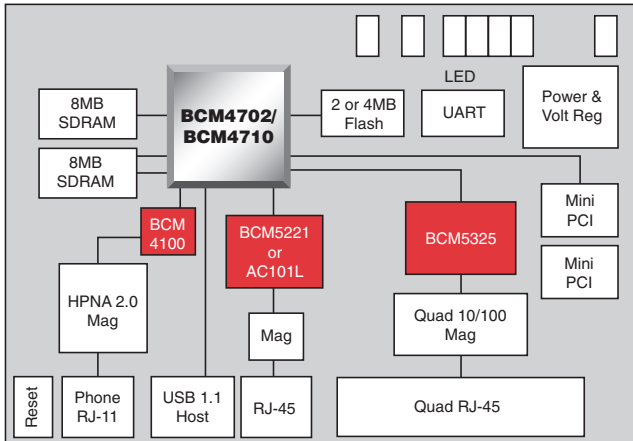
### BCM94710AP Reference Design



### Wireless Gateway Management Software

Basic	Status	Filters	Routing	Wireless	Firmware	Internal								
 <p><b>WIRELESS</b> This page allows you to configure the wireless LAN interface</p>														
Network Name (SSID): <input type="text" value="Broadcom"/>			Network Type: <input type="text" value="Open"/>											
Country: <input type="text" value="USA/Canada/New Zealand"/>			Data Encryption (WEP): <input type="text" value="Off"/>											
Network Authentication: <input type="text" value="Open System or Shared Key"/>			Network Key 1: <input type="text"/>											
Network Key 2: <input type="text"/>			Network Key 3: <input type="text"/>											
Network Key 4: <input type="text"/>			Current Network Key: <input type="text" value="1"/>											
MAC Restrict Mode: <input type="text" value="Allow"/>			MAC Addresses: <table border="1"> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> </table>											

**BCM94702AP System Diagram**



Broadcom's AirForce™ product family is the most complete product portfolio in the industry with single and multifunction integrated circuits that enable end-to-end wireless LAN solutions for both consumer and business wireless users.

AirForce reference design packages enable manufacturers to build high performance wireless LAN access points and routers on a platform that supports 802.11a, 802.11b, 802.11a/b and will support future IEEE 802.11 standards such as 802.11g.

These products build on the BCM4702 System-On-Chip which features a powerful MIPS32™ processor for performing data processing, routing security, network management, and communications controller functions for wireless access points and wireless routers. Because of this, these products are software scalable from simple APs to fully functional residential gateways and routers. The reference AP code is designed to be portable across Broadcom's entire range of broadband processors including the industry leading single-chip cable and DSL modem solutions.

The BCM94702AP and the BCM94710AP designs are pin-compatible and software-compatible. As a result, HPNA 2.0 can be added to an OEM product with only simple component substitutions. The BCM94710AP version is ideal for MSO trials requiring high reliability data/voice/video communication using HomePNA 2.0 or HomePNA-over-cable interfaces.

**BCM94702AP and BCM94710AP Specifications**

Radio Standards	IEEE 802.11b, IEEE 802.11a, and IEEE 802.11g draft standard, 54g™
Radio Power	Transmit power 15 dBm in 802.11b, 14 dBm in 802.11a, 15 dBm in 802.11g
Bandwidth	Up to 54 Mbps
Frequencies Supported	2.4–2.4835 GHz, 4.9–5.0 GHz, 5.03–5.091GHz, 5.15–5.25 GHz, 5.25–5.35 GHz, and 5.725–5.825 GHz
Modulation	CCK, DQPSK, DBPSK, OFDM
Range	802.11b: 11 Mbps up to 200 m LOS and 80 m indoors; 1 Mbps up to 425 m LOS and 150 m indoors 802.11a: 54 Mbps up to 30 m in line-of-sight (LOS) and 10 m indoors; 18 Mbps up to 100 m LOS and 50 m indoors
Antenna	Antenna diversity supported for 802.11a/b/g
Simultaneous Sessions	Supports up to 64 users
Available Ports	10/100 Ethernet WAN, 4-port 10/100 Ethernet LAN (RJ45), 802.11b and/or 802.11a, HPNA 2.0, USB Host
Processor Speed	125 MHz
Memory	Minimum: 1-MB flash/4-MB SDRAM; Maximum: 4-MB flash/16-MB SDRAM
Security	WEP 64/128, weak key avoidance, closed networks, MAC address filtering, IPSec, stateful firewall
Manageability	Link status, browser-based management, HTTP software upgrade, UPnP IGD 1.0
Protocols	Roaming, NAT, DHCP Client, DHCP Server, PPPoE, IPSec & PPTP passthrough, DNS, NTP, logging, 802.1D bridging, spanning tree, TFTP, MAC address cloning, DMZ, port forwarding, MAC/IP/port filters, and WDS
Operating Systems	Linux (kernel version 2.4.5), VxWorks Tornado 2.1
LEDs	Power; 802.11a and 802.11b/g: link and activity; LAN 10/100: link/activity, full-duplex; WAN 10/100: link/activity; HPNA: link/activity/collision
Power Supply	External 5 volt AC, 2.5 amp
Size	6.3 by 5.4 inches

**Ordering Information**

- BCM94702BR (4-port router with embedded 802.11b Access Point)
- BCM94702GR (4-port router with embedded 802.11g Access Point)
- BCM94702AGR (4-port router with embedded 802.11a/b/g Access Point)
- BCM94710BR (4-port router with embedded 802.11b Access Point and HPNA)
- BCM94710GR (4-port router with embedded 802.11g Access Point and HPNA)
- BCM94710AGR (4-port router with embedded 802.11a/b/g Access Point and HPNA)

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