



BCM94704AGR

PRODUCT Brief



HIGH-SPEED 802.11A+G AP/ROUTER MIPS+VPN PROCESSOR

HARDWARE FEATURES

- IEEE 802.11a/b/g compatible access point and router
- 10/100 Ethernet WAN port and 4-port 10/100 Ethernet LAN
- Routing between 10/100 WAN, 10/100 LAN, and wireless LAN
- Capable of simultaneous dual-band wireless LAN communication and upgradeable to future wireless LAN standards
- Turnkey access point and router configurations
- USB 1.1 host/device support
- Mini-PCI and PCI expansion slots
- Integrated VPN hardware accelerator (only with BCM4704P)
- 4-MB flash/16-MB SDRAM default configuration plus footprint support for 2-MB flash/8-MB SDRAM

SOFTWARE FEATURES

- Production-quality AP and router reference code provides an easily customized turnkey solution
- Network processor performance supports concurrent bridging of 802.11a, 802.11b, and 802.11g and support for 802.11 requirements worldwide
- Software support for Linux™ and VxWorks® operating systems yields fast time-to-market
- Fully tested kernel, BSP, and driver packages enable custom OEM differentiation
- Browser-based configuration and management tools are intuitive to the end user

AIRFORCE FAMILY FEATURES

- Advanced high performance baseband processor with integrated medium access controller (MAC)
- SmartRadio Technology:** Improves wireless LAN throughput and range with advanced signal processing techniques. The all-CMOS solutions are capable of self-calibrating based on usage temperature and other environmental conditions, reconfiguring constantly for optimum performance.
- OneDriver™** works with all AirForce™ 802.11a/b/54g solutions, simplifying the upgrade/update process for customers and end users. Driver certification and extensive operating system support, including WHQL certified Microsoft® Windows® drivers, Zero configuration with Microsoft XP, and embedded drivers for Linux® and VxWorks®.
- Comprehensive security portfolio** including Wi-Fi Protected Access (WPA and WPA2) CERTIFIED, built-in hardware support for Advanced Encryption Standard (AES) protocol, Wired Equivalent Privacy (WEP), MAC filtering, closed networks.
- 125 High Speed Mode™:** Standards-plus performance enhancement delivers best real-world performance when both client and AP support High Speed Mode (HSM).
- BroadRange™ Technology:** Standards-compliant feature increases receive sensitivity to improve range at the higher data rates (with BCM94318EMPG card).
- Worldwide regulatory capability**
- SecureEasySetup™** for simple Wi-Fi setup and WPA security configuration.

BCM94704AGR OVERVIEW



The production-ready BCM94704AGR reference design includes the richest set of software features in the industry and 100% software compatibility with the AirForce product family. The turnkey, customizable software is code compatible with the BCM4702, BCM4712, BCM5350, BCM5351, and BCM5352 devices allowing OEMs to quickly migrate proprietary features built into IEEE 802.11a/b/g access points and routers into the BCM94704AGR. Software features include advanced security protocols such as WPA, WPA2, WEP, IEEE 802.11i, and IEEE 802.1x; browser-based network management tools, and the ability to simultaneously run WDS (wireless distribution system), Ethernet, and client functions.

BCM94704AGR Specifications

| | |
|-----------------------|--|
| Radio Standards | IEEE Std 802.11g 2003, IEEE Std 802.11b 1999, IEEE Std 802.11a 1999 |
| Radio Power | Transmit power configurable up to +18 dBm (802.11a/g), +20 dBm (802.11b) |
| Data Rates | 802.11a/g: 54, 48, 36, 24, 18, 12, 9, 6 Mbps; 802.11b, 5.5, 2, 1 Mbps |
| Frequencies Supported | 2.4-2.497 GHz, 4.9-5.8 GHz |
| Modulation | OFDM, CCK, DQPSK, DBPSK |
| Range | 54 Mbps: up to 50m LOS and 20m indoors; 11 Mbps: up to 200m LOS and 80m indoors; 1 Mbps: up to 425m LOS and 150m indoors |
| Antenna | Integrated antenna |
| Sensitivity | -74 dBm (11g @ 54Mbps) with BCM4318EMPG card |
| Delay Tolerance | >250-ns delay tolerance at 11 Mbps |
| Channels | 11 channels in US/Canada/New Zealand; 13 channels in Europe; 4 channels in France/Singapore; 14 channels in Japan |
| Available Ports | 10/100 Ethernet LAN/WAN, IEEE 802.11a/b/g, USB Host/Device |
| Processor Speed | 264 MHz |
| Memory | Flash: 1 MB to 4 MB; SDRAM: 4/8/16 MB |
| Security | Platform support for WPA, WPA2, WEP, MAC filtering, closed networks |
| Manageability | Link status, browser-based management, HTTP software upgrade, UPnP IGD 1.0 |
| Protocols | Roaming, DHCP client, DHCP server, logging, IEEE 802.11D bridging, spanning tree, TFTP, WDS, wireless Ethernet bridging |
| Operating System | Linux (kernel version 2.4), VxWorks Tornado 2.1 |
| LEDs | Power; WLAN: link/activity; LAN 10/100: link/activity |
| Power Supply | External 5V; less than 2W |
| Size | 55mm x 85mm |

Broadcom's superior technology and innovation benefit manufacturers with faster time-to-market, lower system costs, and end products that are differentiated from the competition through rich features and exceptional range and reliability. SmartRadio™ technology in the BCM2050/BCM2060 radio chips gives this product superior multipath performance, greater range and reliability, and tolerance to harsh system environments such as airports and other public access sites.

Ordering Information: BCM94704AGR IEEE 802.11a/g

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