



OPTIMIZED 802.11G ROUTER WITH BROADRANGE™

HARDWARE FEATURES

- The BCM95352GR reference design implements a best in class 802.11g router with BroadRange™ technology, increasing receive sensitivity for greater range
- The BCM95352GR reference design uses the BCM5352E single-chip SoC which integrates a high performance MIPS32®, 5-port 10/100 Ethernet switch and Broadcom's 54g® wireless MAC/Baseband with BroadRange technology
- Achieves line-rate Ethernet routing using Broadcom's 200-MHz MIPS32-based packet processing architecture
- Built-in 54g® wireless on the mainboard with PCB and external antenna options
- One 10/100 Mbps Ethernet WAN port and four 10/100 Mbps Ethernet LAN ports
- The integrated Fast Ethernet switch supports 802.1q VLAN, IGMP snooping, and DiffServ/TOS
- IEEE 802.3 compliant and supports frame sizes up to 1536 bytes
- Two USB 1.1 hosts provided for Microsoft® Windows® Connect Now and Print Server support
- 16-bit or 32-bit SDRAM data bus with SDR SDRAM operating at 100 MHz and DDR SDRAM operating at 200 MHz (effective data bus)
- Memory configuration supports parallel or serial flash, low-cost SDRAM, and code size as small as 1-MB flash and 4-MB SDRAM.
- Sixteen GPIOs for attachment to various external devices
- JTAG and UART ports for debugging development and attaching Data Terminal Equipment (DTE)
- SecureEasySetup™ (SES) push-button for simple Wi-Fi setup and WPA security configuration

SOFTWARE FEATURES

- Production quality reference code 100% compatible with OEM value-added code shipping on the majority of 802.11g routers worldwide today
- Portable kernel, BSP, and driver packages
- Intuitive browser-based configuration and management tools
- Selected router features:
 - Built-in firewall
 - Static routing
 - PPPoE, DHCP client and static IP option on WAN
 - Wireless security including WPA2/WPA/WEP/802.1X
 - Wired and wireless MAC filtering
 - Port forwarding for application/game support
 - Network time protocol for time-based filtering and access control
 - UPnP IGD 1.0
 - DHCP server and DHCP client
 - 802.1D bridging with spanning tree support
 - Wireless Distribution System support
 - DMZ on 10/100 LAN port
 - Secure local administration password
 - Connection logging
 - Firmware upgrade over WAN or LAN

AIRFORCE™ FAMILY FEATURES

- 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 IEEE 802.11i compatibility
 - SecureEasySetup™ for simple Wi-Fi® setup and WPA security configuration
- SmartRadio™: Continuous calibration reduces test time and improves manufacturability
- Worldwide support: Global products supported with worldwide homologated design

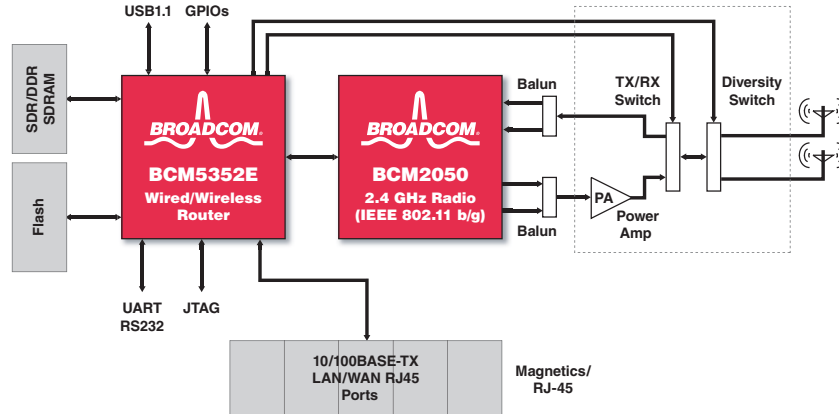
BCM95352GR Reference Design



Wireless Management Software



OVERVIEW



BCM95352GR Reference Design

The BCM95352GR reference design is a fully-integrated router system-on-a-chip with BroadRange technology, for use in residential, small business, and enterprise markets. When paired with Broadcom's popular BCM2050 radio, the BCM5352E offers the best price/performance ratio of any wireless network processor on the market, delivering wireless and wired performance and security in a cost effective package. The BCM5352E integrates a high-performance MIPS32 Broadcom processor, IEEE 802.11b/g MAC/Baseband, USB host controller, SDRAM controller and a configurable 5-port switch.

The production-ready BCM95352GR 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, BCM4704, BCM4712, and BCM5350 devices allowing OEMs to

quickly migrate proprietary features built into IEEE 802.11a/b/g access points and routers into the BCM95352GR. 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 run a turnkey wireless router.

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. The BCM95352GR, with BroadRange technology, is the most feature-rich router SOC that serves as the core for a variety of reliable, flexible, and competitive end products that carry low overall system costs.

BCM95352GR Specifications:

Radio Standards	IEEE Std 802.11g 2003, IEEE Std 802.11b 1999
Radio Power	Transmit power configurable up to +19 dBm (802.11g), +20 dBm (802.11b)
Data Rates	802.11g: 54, 48, 36, 24, 18, 12, 9, 6 Mbps; 802.11b, 11, 5.5, 2, 1 Mbps
Frequencies Supported	2.4-2.497 GHz
Modulation	OFDM, CCK, DQPSK, DBPSK
Antenna	Two external antennas, PCB antenna
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	4 x 10/100 Ethernet LAN, 1 x 10/100 Ethernet WAN, IEEE 802.11b/g, USB 1.1 Host
Processor Speed	200 MHz
Memory	Flash: 1 MB to 8 MB; SDRAM: 4/8/16/32 MB (ships with 4-MB flash, 8-MB SDR SDRAM)
Security	Platform support for WPA, WPA2, WEP, closed networks, MAC address filtering, SES
Manageability	Link status, browser-based management, HTTP software upgrade, UPnP IGD 1.0
Protocols	Routing, 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; WDS; WLAN: link/activity, Radio, SES; LAN/WAN: link/activity, Full Duplex, 100 Mbps
Power Supply	External 5V; less than 10W
Size	125 mm x 140 mm

Ordering Information: BCM95352GR Router System-On-A-Chip Reference Design

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BROADCOM CORPORATION
16215 Alton Parkway, P.O. Box 57013
Irvine, California 92619-7013

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95352GR-PB04-R 12/21/06

Phone: 949-450-8700
Fax: 949-450-8710
E-mail: info@broadcom.com
Web: www.broadcom.com