

OPTIMIZED 802.11G ROUTER WITH BROADRANGE™

FEATURES

- The BCM95352ELGR reference design implements a best-in-class 802.11g router with BroadRange™ technology, increasing receive sensitivity for greater range.
- The BCM95352ELGR reference design uses the BCM5352EL 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 (Smartbits2000).
- 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.
- Supports 802.1q VLAN, IGMP snooping, and DiffServ/TOS.
- 802.3 compliant and supports frame sizes up to 1536 bytes.
- Footprints for SDR100 or DDR200 SDRAM using x16 bit data bus.
- Memory configuration support for code size as small as 1-MB Flash and 4 MB SDRAM.
 - Footprints available for low-cost parallel flash and serial flash.
- Sixteen GPIOs for attachment to various external devices.
- JTAG and UART ports for debugging development and attaching Data Terminal Equipment (DTE).

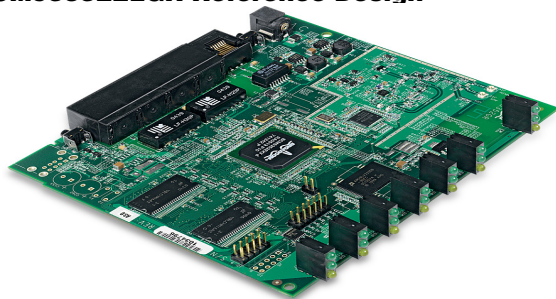
SOFTWARE FEATURES

- Production quality reference code 100% compatible with shipping 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
 - Routing configuration and management interface
- Selected router features:
 - Built-in firewall
 - Static routing
 - Multi-WAN support
 - PPPoE, DHCP client, and static IP option on WAN
 - Wireless security including WPA2/WPA/WEK/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 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.

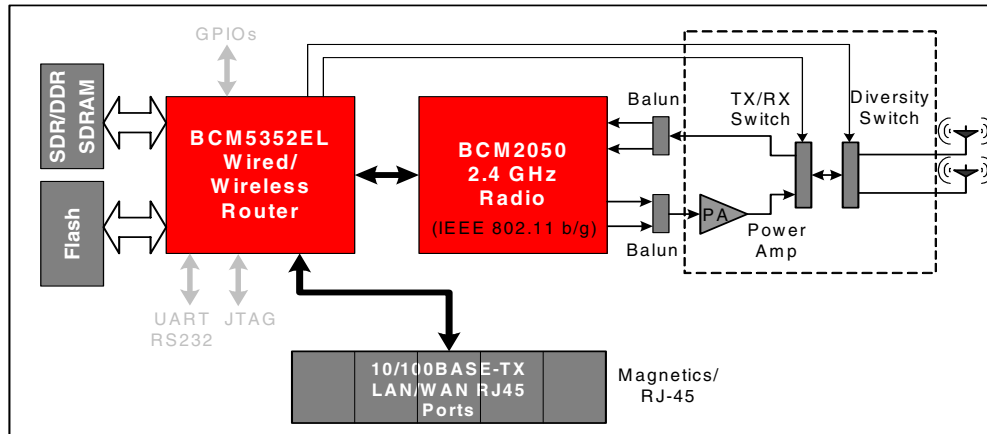
BCM95352ELGR Reference Design



Wireless Management Software



OVERVIEW



The BCM95352ELGR 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 BCM5352EL 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 BCM5352EL integrates a high-performance MIPS32 Broadcom processor, IEEE 802.11b/g MAC/Baseband, SDRAM controller and a configurable 5-port switch.

The production-ready BCM95352ELGR 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, BCM5350, and BCM5352/E devices allowing

OEMs to quickly migrate proprietary features built into IEEE 802.11b/g access points and routers into the BCM95352ELGR. 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 BCM95352ELGR, 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.

BCM95352ELGR 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	Integrated 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	4x 10/100 Ethernet LAN, 1x 10/100 Ethernet WAN, IEEE 802.11g
Processor Speed	200 MHz
Memory	Flash: 1 MB to 8 MB; SDRAM: 4/8/16/32 MB
Security	Platform support for WPA, WPA2, WEP, closed networks, MAC address filtering
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 2W
Size	125 mm x 140 mm

Ordering Information: BCM95352ELGR Router System-On-A-Chip Reference Design

Broadcom®, the pulse logo, **Connecting everything®**, and the Connecting everything logo are among the trademarks of Broadcom Corporation and/or its affiliates in the United States, certain other countries and/or the EU. Any other trademarks or trade names mentioned are the property of their respective owners.

Connecting
everything®



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

© 2006 by BROADCOM CORPORATION. All rights reserved.

95352ELGR-PB00-R02/15/06

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