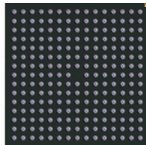


# AR5005GS

Single Chip 802.11b/g WLAN Solution with Super G™ Technology



The industry's most highly integrated, highest performance 802.11b/g solution

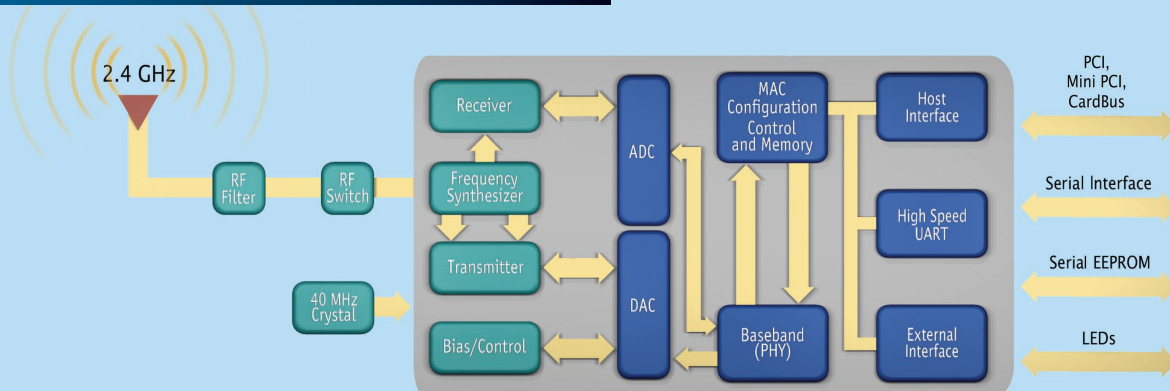
## AR5005GS Solution Highlights

- Highly integrated single chip CMOS solution with multiprotocol MAC/baseband processor and 2.4 GHz radio
- Uses digital CMOS technology exclusively, minimizing power consumption and cost while maximizing reliability
- Support for IEEE 802.11b, 802.11g
- Super G mode delivers up to 108 Mbps raw data rate with typical end user throughput exceeding 60 Mbps
- Super G utilizes Adaptive Radio to automatically identify clear channels for maximum throughput and standards compatible operation
- Wireless Multimedia Enhancements Quality of Service support (QoS)
- Hardware encryption for the Wi-Fi Protected Access (WPA) and IEEE 802.11i security specifications, provides Advanced Encryption Standard (AES), Temporal Key Integrity Protocol (TKIP) and Wired Equivalent Privacy (WEP) without performance degradation
- Support for draft IEEE 802.11e, h, i and j standards
- Atheros XR™ eXtended Range technology to give Wi-Fi products twice the range of existing designs
- Power-saving design improvements reduce system power consumption up to 98%

## AR2414 Single-Chip CMOS MAC/Baseband/Radio

- Support for IEEE 802.11b, 802.11g
- Operates from 2.300 - 2.500 GHz
- Advanced wideband receiver with best path sequencer for better range and multipath resistance than conventional equalizer-based designs
- Integrated low-noise amplifier (LNA)
- External PA and/or LNA can be used for special applications
- Eliminates all IF filters and most RF filters; no external voltage-controlled oscillators (VCOs) or surface acoustic wave (SAW) filters needed
- Enhanced transmit and receive chains
- No external FLASH or RAM memory needed
- PCI 2.3 and PC Card 7.1 host interfaces with DMA support
- Super G mode includes dynamic 108 Mbps capability, real-time hardware data compression, Fast Frames™ and standards-compliant bursting
- Integrated analog-to-digital and digital-to-analog converters
- High speed UART with DMA supports data rates up to 1 Mbps
- Serial EEPROM, LEDs, GPIOs peripheral interfaces
- Low power operational and sleep modes

## AR5005GS WLAN System Architecture



AR2414

## AR5005GS 802.11b/g CardBus Card

### AR5005GS Solution Specifications

Frequency Band	2.300 to 2.500 GHz
Network Standard	802.11b, 802.11g
Modulation Technology	OFDM with BPSK, QPSK, 16 QAM, 64 QAM; DBPSK, DQPSK, CCK
FEC Coding Rate	1/2, 1/3, 1/4
Hardware Encryption	AES, TKIP, WEP
Quality of Service	802.11e draft
Media Access Technique	CSMA/CA
Host Interface	Mini PCI, CardBus, PCI

Communication Interface	High speed UART
Peripheral Interface	GPIOs, LEDs
Memory Interface	EEPROM

#### Supported Data Rates

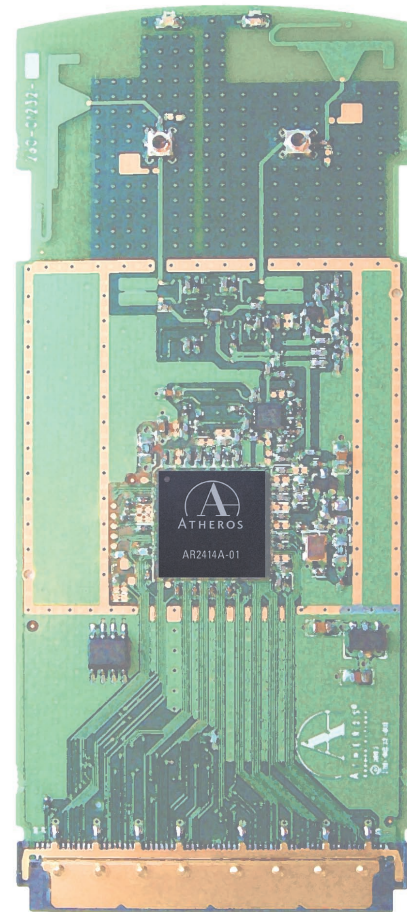
IEEE 802.11b	1 to 11 Mbps
IEEE 802.11g	1 to 54 Mbps
Atheros Super G Mode	Up to 108 Mbps

#### Chip Specifications

	AR2414
Operating Voltage	1.8V +/-5%
	3.3V +/-10%

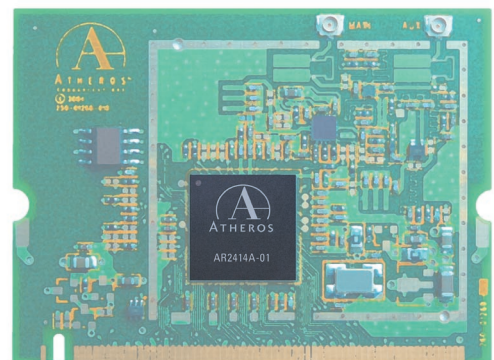
Package Dimensions	13mm x 13mm
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Package	224 Plastic Ball Grid Array
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- Windows® drivers for Windows XP, Windows 2000, Windows ME, Windows 98 SE and Windows NT 4.0
- A single driver and firmware code base supports all Atheros chipsets, and provides both backward and forward compatibility with Atheros previous and next-generation multi-standard designs.
- Integrated WPA supplicant supports Windows XP, Windows 2000, Windows ME, Windows 98 SE and Windows NT 4.0
- Client utility supports configuration profiles, current link status, statistics and diagnostics

## AR5005GS 802.11b/g Mini PCI



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For more information on Atheros and Atheros WLAN Technology please visit [www.atheros.com](http://www.atheros.com)  
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