



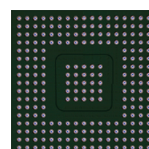
**ATHEROS®**  
COMMUNICATIONS

## AR5006AP-GS Solution Highlights

- Highly integrated single chip access point solution, including integrated 32-bit MIPS R4000-class processor, multiprotocol MAC/baseband, and Radio
- Support for IEEE 802.11b, 802.11g
- Uses digital CMOS technology exclusively, minimizing power consumption and cost while maximizing reliability
- Power-saving design improvements reduce power consumption by 98%
- Next-generation OFDM radio provides best-in-class range, throughput and power consumption
- Atheros XR™ eXtended Range technology to give Wi-Fi products twice the range of existing designs
- Super G® delivers up to 108 Mbps data link rates with typical end-user throughput exceeding 60 Mbps
- 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
- Wireless multimedia Quality of Service support (QoS)

# AR5006AP-GS

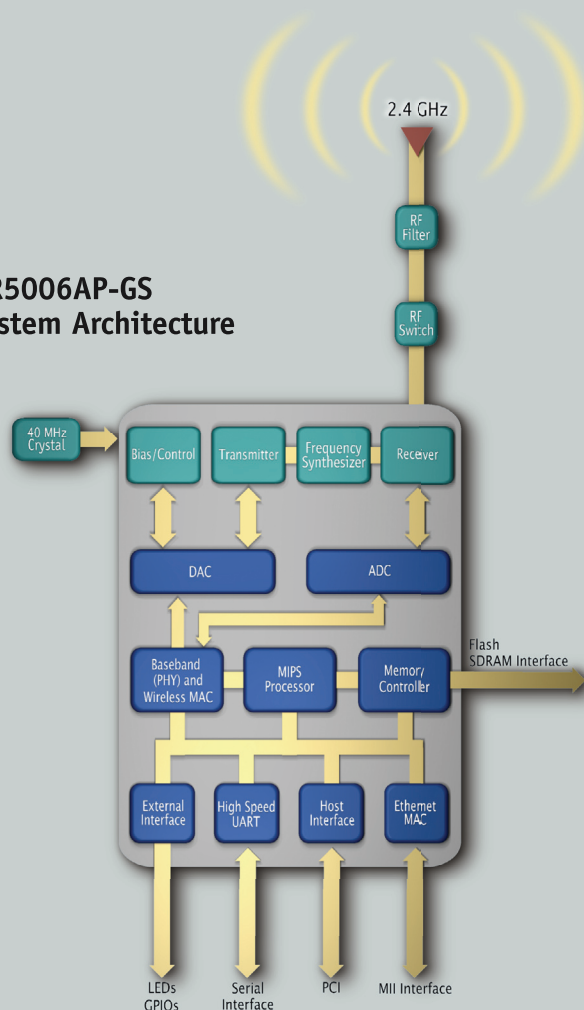
*First single chip 802.11b/g solution for  
2.4 GHz access points and routers*



## AR2316

*Delivers a low power single chip solution  
for access points with Atheros Super G  
enhanced throughput*

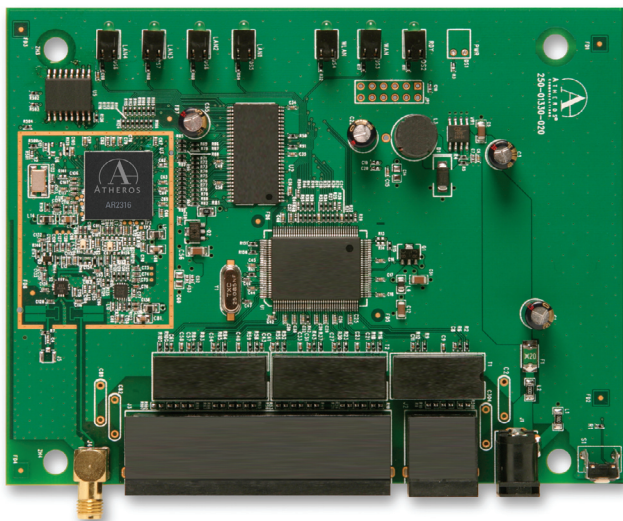
## AR5006AP-GS System Architecture



## AR2316 Single Chip 2.4 GHz Access Point Solution

- 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
- 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
- Integrated 32-bit MIPS R4000-class processor
- Wireless MAC and baseband processing engine
- Super G mode includes Dynamic Turbo 108 Mbps capability, standards-compliant data compression, fast frames and packet bursting
- 10/100 Ethernet MAC
- High speed UART
- 16-bit configurable local bus
- Integrated analog-to-digital and digital-to-analog converters
- SDRAM and serial FLASH memory interface
- PCI 2.3 host interface

## AR5006AP-GS Reference Design Highlights

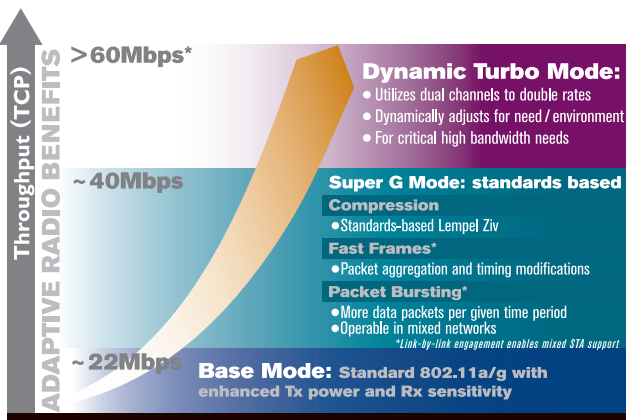


- Enables various WLAN applications such as access points, routers, and home gateways
- Highly integrated 802.11g access point with industry-leading optimization of cost, power and board area
- Atheros Access Point Software Development Kit to speed time-to-market. One unified SDK for all Atheros reference designs allows for one common code base across various access point products.
- Supports the latest security standards including IEEE 802.11i
- JumpStart for Wireless™ secure configuration tool
- Super G with Dynamic Turbo for twice the throughput of standard Wi-Fi
- Atheros eXtended Range supports twice the range of standard Wi-Fi
- Draft IEEE 802.11e support for Quality of Service (QoS)
- Worldwide regulatory compliance
- Support for IEEE 802.11d worldwide roaming

## Super G Technology

### Atheros Super G for the highest real world throughput and performance

- Streaming media: video, DVD, MPEG
- High-speed gaming
- Photo printing
- Large file transfers
- VoIP
- Support multiple users on a single WLAN with optimal speeds despite network demand



## AR5006AP-GS 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, 3/4                                           |
| Hardware Encryption     | AES, TKIP, WEP                                          |
| Quality of Service      | 802.11e                                                 |
| Communication Interface | PCI, MII, High Speed UART, Local Bus                    |
| Peripheral Interface    | GPIOs, LEDs                                             |
| Memory Interface        | FLASH, SDRAM                                            |
| Supported Data Rates    |                                                         |
| IEEE 802.11b            | 1 - 11 Mbps                                             |
| IEEE 802.11g            | 1 - 54 Mbps                                             |
| Atheros Super G mode    | up to 108 Mbps                                          |
| Chip Specifications     |                                                         |
| Operating Voltage       | 1.9V +/-5%<br>3.3V +/-10%                               |
| Package Dimensions      | 15mm x 15mm                                             |
| Package                 | 233 Plastic Ball Grid Array                             |

Contact your local Atheros representative and ask about the AR5006AP-GS or other technology solutions from Atheros:

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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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\* Theoretical wireless link rate based on applicable IEEE 802.11 standards. Actual user throughput will be lower than the theoretical link rate and will vary, as network conditions and environmental factors can lower actual throughput rate.