AR5002G

ATHEROS COMMUNICATIONS

802.11b/g WLAN Solution

Provides a 2.4 GHz data-centric upgrade path from legacy 802.11b networks.

AR2112
2.4 GHz Radio-on-a-Chip

AR5212
Multiprotocol
MAC/baseband processor

AR5002G Solution Highlights

- Support for IEEE 802.11b, 802.11g
- Uses digital CMOS technology exclusively, minimizing power consumption and cost while maximizing reliability
- Highly integrated 2-chip set
- 2.4 GHz Radio-on-a-Chip (RoC)
- Multiprotocol MAC/baseband processor that supports the RoC
- Wireless Multimedia Enhancements Quality of Service support (QoS)
- Super G™ mode delivers 108 Mbps raw data rate and 90 Mbps TCP/IP throughput
- 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, and i standards
- Third-generation OFDM radio provides best-in-class range, throughput, and power consumption

AR2112 Radio-on-a-Chip for 2.4 GHz WLAN

- 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 third-generation power amplifier (PA) and 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

AR5212 Multiprotocol MAC/baseband processor

- Supports both 2.4 GHz and 5 GHz RoCs
- Super A/G™ mode includes dynamic 108 Mbps capability, real-time hardware data compression, dynamic transmit optimization and standards-compliant bursting
- No external FLASH or RAM memory needed
- PCI 2.3 and PC Card 7.1 host interfaces with DMA support
- Integrated analog-to-digital and digital-to-analog converters
- Serial EEPROM, LEDs, GPIOs peripheral interfaces
- Low power operational and sleep modes

AR5002G WLAN System Architecture