Atheros XSPAN™ Technology

Expanding performance. Expanding possibilities.

The Atheros AR5008 chipsets are Atheros' highest performance wireless LAN solutions to date. AR5008 products are compliant to the draft 802.11n specification, to deliver the ultimate wireless triple play experience for video, voice and data transmission throughout the home or office.

Video: With real world throughput levels up to 300 Mbps PHY rate, new wireless routers and gateways featuring Atheros XSPAN with Signal-Sustain Technology™ (SST) will readily accommodate multiple high-definition (HD) streams on a single home network.

Voice: Single-antenna wireless voice handsets and legacy devices networked to Atheros-based access points achieve range and robustness from Atheros' triple transmitter architecture. Atheros SST increases total transmit power and spatial redundancy, for dropout-free coverage.

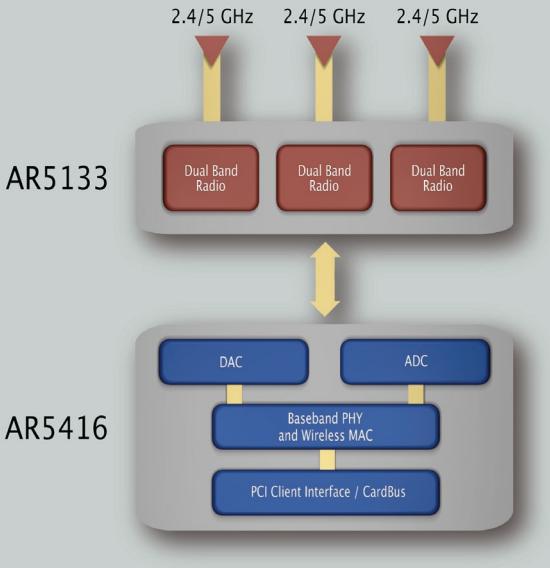
Data: The array of data applications ranging from simple network computing to transmission of large data, music or image files is enhanced through the high bandwidth provided by XSPAN products.

Product Overview

With the introduction of new bandwidth intensive applications and growth of Gigabit Ethernet ports, there is increasing demand for wireless LAN throughput. Featuring the Atheros AR5008-3NX and AR5008AP-3NX, our first 2.4/5 GHz IEEE draft 802.11n WLAN solutions. The Atheros AR5008-3NX and AR5008AP-3NX dramatically increase the overall throughput of the wireless LAN by supporting link rates as high as 300 Mbps - an improvement of nearly six times the throughput of standard 802.11a or 802.11g.

The AR5008-3NX and AR5008AP-3NX are interoperable with standard 802.11a, 802.11b and 802.11g devices and fully support industry standard compliant security and Quality of Service (QoS). Full reference design support is available.

AR5008-3NX & AR5008AP-3NX Architecture



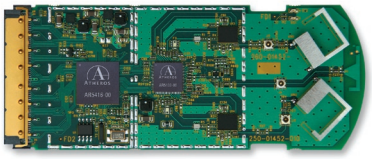
AR5008-3NX and AR5008AP-3NX

2.4/5 GHz client and access point solutions provide up to 300 Mbps throughput for maximum network bandwidth

Solution Highlights

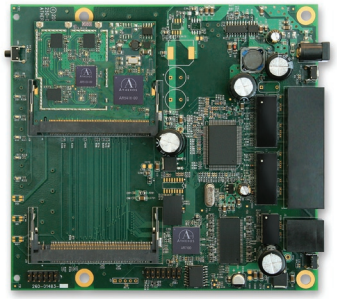
- Second generation ultra high-performance MIMO wireless LAN client and access point solution
- IEEE draft 802.11n wireless LAN client and AP technology
- Enhanced performance with Atheros XSPAN technology optimized for higher throughput at long range
- Support for up to 3x3 MIMO with spatial multiplexing
- Enables bandwidth of up to 300 Mbps PHY rate/link rate, six times the throughput of 802.11g and 802.11a
- WLAN MAC and baseband processing engine
- Three dual-band WLAN radios operate from 2.300 to 2.500 GHz and 4.9 to 5.925 GHz
- Compliant with IEEE 802.11a, 802.11b, 802.11g, 802.11d, 802.11e, 802.11h, 802.11i, 802.11j and draft 802.11n
- Available in commercial and industrial temperature grades
- Lead-free RoHS compliant

WIRELESS FUTURE. **UNLEASHED NOW.**™



AR5008-3NX Reference Design Highlights

- Compliant with CardBus 7.1 standard
- Line rate WLAN to LAN performance
- Support for 5, 10, 20 and 40 MHz channels
- Interoperability with standard 802.11a, 802.11b and 802.11g products
- Driver support for Windows XP and Windows 2000
- Supports the latest security and Quality of Service (QoS) standards
- Worldwide regulatory compliance



AR5008AP-3NX Reference Design Highlights

- Enables various WLAN applications such as access points, routers, and home gateways
- Line rate WLAN to LAN performance
- Support for 5, 10, 20 and 40 MHz channels
- Interoperability with standard 802.11a, 802.11b and 802.11g clients
- Atheros Access Point Software Development Kit to speed time-to-market
- Supports the latest security and Quality of Service (QoS) standards
- Worldwide regulatory compliance

AR5008-3NX and AR5008AP-3NX specifications

Frequency Band	2.300 to 2.500 GHz and 4.9 to 5.925 GHz
Network Standard	802.11a, 802.11b, 802.11g, draft 802.11n
Modulation Technology	OFDM with BPSK, QPSK, 16 QAM, 64 QAM; DBPSK, DQPSK, CCK
FEC Coding Rate	1/2, 2/3, 3/4, 5/6
Hardware Encryption	AES, TKIP, WEP
Quality of Service	802.11e
Communication Interface	PCI, CardBus
Peripheral Interface	GPIOs, LEDs
Memory Interface	EEPROM
Supported Data Rates	
IEEE 802.11a	6 - 54 Mbps
IEEE 802.11b	1 - 11 Mbps
IEEE 802.11g	6 - 54 Mbps
XSPAN	6.5 - 300 Mbps

The AR5008-3NX and AR5008AP-3NX consist of a 3x3 MIMO radio and a MAC/baseband processor. These combinations of chips deliver a complete high-performance draft 802.11n solution.

AR5133 3x3 MIMO Radio

- Three integrated dual-band 2.4/5 GHz radios
- Eliminates all IF filters and most RF filters; no external voltage-controlled oscillators (VCOs) or surface acoustic wave (SAW) filters needed
- Support for 5, 10, 20 and 40 MHz channels. Rx filter supports blocking specifications for half and quarter rate channels.

AR5416 MAC/Baseband Processor

- Intelligent MIMO spatial multiplexing techniques
- Backwards compatibility with legacy 802.11
- Hardware encryption engine to support WEP, TKIP and AES
- PCI 2.3 client interface
- Integrated analog-to-digital and digital-to-analog converters

ATHEROS® COMMUNICATIONS

Contact your local Atheros representative and ask about the AR5008 series of technologies or other solutions from Atheros:

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