

Atheros XSPAN® Technology

Atheros offers the industry's most innovative and complete portfolio of 802.11n wireless LAN chip solutions. The third-generation of Atheros' XSPAN 802.11n technology, consisting of the AR9280 and AR9281, builds upon the company's second-generation XSPAN products – with enhanced performance, higher integration, smaller form factors and lower overall cost – to meet the needs of the rapidly growing 802.11n market. Like the second-generation XSPAN products, the new third-generation solutions are compliant with the latest IEEE 802.11n specification.

Atheros third-generation XSPAN chips feature:

- **Leading Integration** that delivers end-product cost and form factors to drive broad market adoption of 802.11n products;
- **Single- and Dual-Band, and Multiple MIMO Configurations** that enable OEMs to balance product price and performance to satisfy application and market segment requirements;
- **Rich Media & Peripheral Interfaces** that address the requirements for advanced media networking applications and allow end-product feature differentiation;
- **Easy Network Setup via Atheros' JumpStart for Wireless**, the company's simple network configuration software which supports both the PIN and push-button setup methods supporting the Wi-Fi Protected Setup™ specification.

Product Overview

Introducing the AR9280, the single-chip, dual-band (2.4/5 GHz) solution for PCIe in XSPAN's third generation of products. The AR9280 is the most integrated, most compact 802.11n solution for dual-band PCIe on the market, featuring a Half-Mini Card form factor that is 30% smaller than the nearest competitive 11n. This breakthrough product will drive the transition of legacy Wi-Fi to 802.11n in the mainstream-priced PC market. It offers the optimal balance of performance, power and price with its dual-band, 2x2 MIMO configuration which features downshift to 1x1 MIMO with Dynamic MIMO Power Save.

With this dual-band design, consumers will enjoy universal connectivity to any 802.11 network, including legacy 802.11b/g and 802.11a/g. While the 2.4 GHz band readily performs less demanding data applications, the virtually interference-free 5 GHz band supports high-bandwidth, latency-sensitive applications like HD-quality video streams and wireless VoIP. Atheros is the leading provider of high-performance, dual-band WLAN solutions - in the retail, PC OEM, enterprise and metro Wi-Fi segments worldwide.

In addition, the AR9280 follows Atheros' drive toward integration as the company's eighth, single-chip, client solution on the market. The result is a superior package footprint that drives down cost and enhances design flexibility.



AR9280

Single-chip 2.4/5 GHz 802.11n
WLAN solution for PCI-Express™

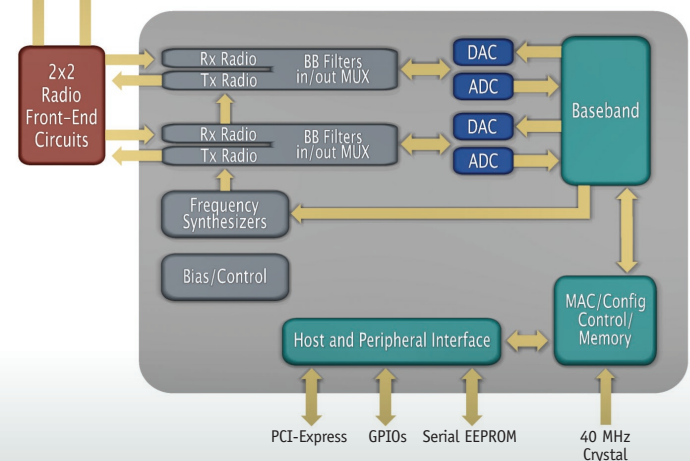


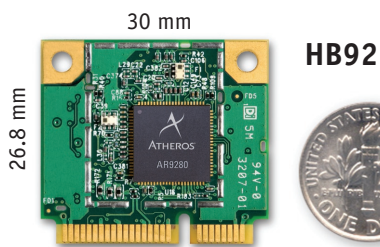
Solution Highlights

- Single-chip, 802.11n compliant wireless LAN client solution with integrated MAC, baseband and dual 2.4/5 GHz radios
- Based on third-generation 802.11n compliant technology
- Support for 2x2 MIMO with spatial multiplexing and MRC
- Features 1x1 Dynamic MIMO Power Save to conserve system power
- Enables PHY rate of up to 300 Mbps
- Compliant with IEEE 802.11a, 802.11b, 802.11g, 802.11d, 802.11e, 802.11h, 802.11i, and 802.11n
- Lead-free RoHS compliant

2.4/5 GHz

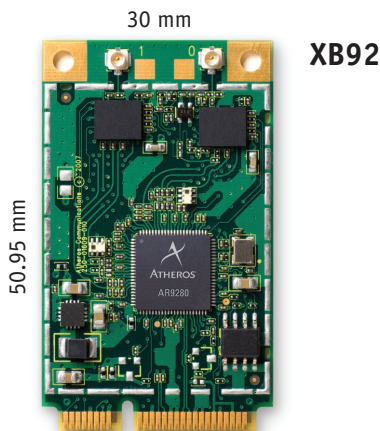
AR9280 Architecture





AR9280 Reference Design Highlights

- Support for both Half- and Full-Mini Card form factors
- Compliant with PCI-Express Mini Card 1.1 standard
- Line rate WLAN to LAN performance
- Interoperability with 802.11a, 802.11b, 802.11g and 802.11n compliant products
- Driver support for Windows XP, Vista and Linux operating systems
- Worldwide regulatory compliance



AR9280 Specifications

Frequency Band	2.4 and 5 Ghz
Network Standard	802.11a, 802.11b, 802.11g, 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-Express
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
IEEE 802.11n	6.5 - 300 Mbps

Atheros Communications is a leading developer of semiconductor system solutions for wireless and other network communications products. Atheros combines its wireless and networking systems expertise with high-performance radio frequency (RF), mixed signal and digital semiconductor design skills to provide highly integrated chipsets that are manufactured on low-cost, standard complementary metal-oxide semiconductor (CMOS) processes. Atheros technology is used by a broad base of leading customers, including personal computer, networking equipment and consumer device manufacturers.

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