

## Atheros XSPAN™ Technology

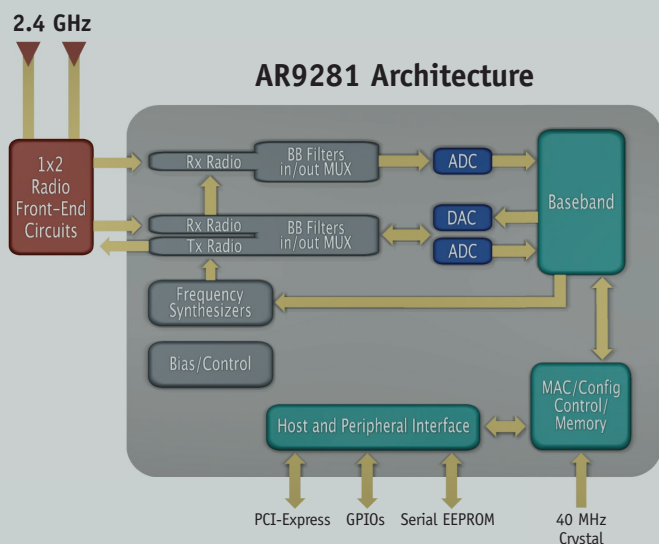
Atheros offers the industry's most innovative and complete portfolio of 802.11n wireless LAN chip solutions. The third-generation of Atheros' XSPAN 802.11n technology, consisting of the AR9280 and AR9281, builds upon the company's second-generation XSPAN products – with enhanced performance, higher integration, 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 to the networking the latest IEEE draft 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/performance for specific application and market segment requirements;
- **Rich Media & Peripheral Interfaces** that anticipate 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 Atheros AR9281, the single-chip, single-band (2.4GHz) solution for PCIe in XSPAN's third generation of products, The AR9281 is the most integrated and most compact 802.11n solution for single-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 single-band, 1x2 MIMO configuration which features downshift to 1x1 MIMO with Dynamic MIMO Power Save. The AR9281 follows in Atheros' drive towards integration - and is the eighth single-chip client solution to be introduced.



Expanding Performance. Expanding Possibilities.

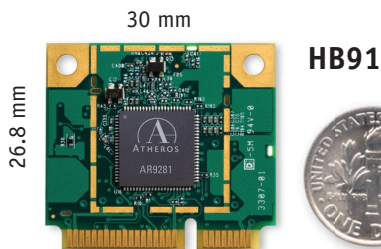
# AR9281

*Single-chip 2.4 GHz draft 802.11n  
WLAN solution for PCI-Express™*



## Solution Highlights

- Single-chip, 802.11n draft compliant wireless LAN client solution with integrated MAC, baseband and 2.4 GHz radios
- Based on third-generation 802.11n draft compliant technology
- Support for 1x2 MIMO
- Conserves power with 1x1 downshift using Dynamic MIMO Power Save
- Enables PHY rate of up to 300 Mbps on downlink
- Compliant with IEEE 802.11b, 802.11g, 802.11d, 802.11e, 802.11i, and draft 802.11n
- Lead-free RoHS compliant



## AR9281 Reference Design Highlights

- New, compact half- and full Mini Card form factors
- Compliant with PCI-Express Mini Card 1.1 standard
- Line rate WLAN to LAN performance
- Interoperability with 802.11b, 802.11g and draft 802.11n products
- Driver support for Windows XP, Vista, Mac and Linux operating systems
- Worldwide regulatory compliance

## AR9281 Specifications

Frequency Band	2.412 to 2.484 GHz
Network Standard	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-Express
Peripheral Interface	GPIOs, LEDs
Memory Interface	EEPROM
Supported Data Rates	
IEEE 802.11b	1 - 11 Mbps
IEEE 802.11g	6 - 54 Mbps
XSPAN	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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AR9281-11-5-07