

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 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 (2.4/5GHz) 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.



Expanding Performance. **Expanding Possibilities.**

AR9280

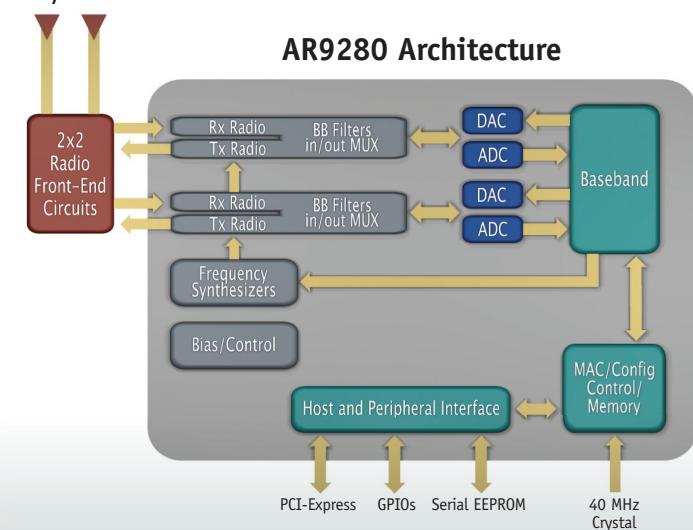
Single-chip 2.4/5 GHz draft 802.11n WLAN solution for PCI-Express™



Solution Highlights

- Single-chip, 802.11n draft compliant wireless LAN client solution with integrated MAC, baseband and dual 2.4/5 GHz radios
- Based on third-generation 802.11n draft 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, 802.11j and draft 802.11n
- Lead-free RoHS compliant

2.4/5 GHz



26.8 mm



HB92



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 draft compliant products
- Driver support for Windows XP, Vista, Mac and Linux operating systems
- Worldwide regulatory compliance

50.95 mm



XB92

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.



ATHEROS®

WIRELESS FUTURE. UNLEASHED NOW.™

AR9280 Specifications

Frequency Band	2.412 to 2.484 GHz and 4.9 to 5.825 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-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
XSPAN	6.5 - 300 Mbps

For more information on the AR9280 or other solutions from Atheros contact your local representative:

Atheros Communications, Inc.
t +1 408.773.5200
f +1 408.773.9940

Atheros Hong Kong Limited
t +852 8206.1131
f +852 8206.1301

Atheros Communications KK-Japan
t +81 3.5501.4100
f +81 3.5501.4129

Atheros (Shanghai) Co., Ltd.
t +86 21.5108.3626
f +86 21.5027.0100

Atheros Communications Intl, LLC-Taiwan
t +886 2.8751.6385
f +886 2.8751.6397

Atheros Korea
t +82 31.786.0428

For more information on Atheros and Atheros wireless technology please visit www.atheros.com
Specification subject to change © 2007 Atheros Communications, all rights reserved
Atheros and the Atheros logo are registered trademarks of Atheros Communications, Inc.
XSPAN and XSPAN the logo are trademarks of Atheros Communications, Inc.
All other trademarks mentioned in this document are the property of their respective owners.