

AR9285

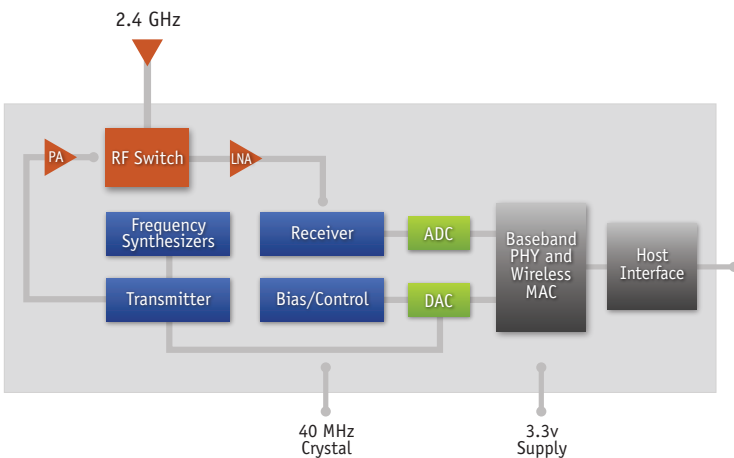
Single-chip PCIe based on 802.11n
1-stream specification



Solution Highlights

- Supports up to 150 Mbps
- Highly integrated single chip PCI Express CMOS solution with MAC/baseband processor and 2.4 GHz radio
- Backward-compatible to 802.11g; forward-compatible to multi-stream 802.11n
- Supports all mandatory IEEE 802.11n features:
 - including several IEEE 802.11n optional features such as HT40, half-guard interval in HT40 and Rx Space Time Block Coding
- Compliant with IEEE 802.11b, 802.11d, 802.11e, 802.11g standards and 802.11i specification

AR9285 Architecture



Technology Overview

The AR9285 single-chip PCI Express® solution features Atheros Align technology, which leverages the 802.11n 1-stream specification to provide the optimal upgrade path from legacy 802.11 solutions. The single-stream feature enables a new class of Wi-Fi devices that deliver performance enhancements over the existing 802.11g technology, at comparable price points. Align® solutions are forward compatible to higher-performance, multi-stream, MIMO-based 802.11n, and are available in reference designs to serve the networking, computing and consumer electronics markets. The enhanced throughput of Align 1-stream solutions improves network efficiency by occupying the wireless channel for shorter periods than slower 11g devices – reducing congestion and increasing capacity for additional wireless devices. Align employs all the mandatory and select optional features of the 11n specification, and Atheros' advanced radio design techniques, to effectively double the wireless coverage over legacy WLAN.



Product Overview

The Atheros AR9285, our 4th generation, highly integrated solution targeting the value computing market. The AR9285 integrates a complete WLAN solution—media access controller (MAC), baseband, and a high-performance 2.4 GHz radio in a low-cost digital CMOS design.

The Atheros AR9285 single-chip PCI Express (PCIe) solution is a highly integrated MAC/Baseband/Radio solution that is backward compatible to 802.11g and forward compatible to multi-stream 11n. It enables PC OEMs to cost-effectively migrate their 11g-based platforms to the enhanced, future-proofed performance of Align. Targeting the growing value computing products market segment with 150 Mbps PHY rate capability, Align is the ideal technology for computing users seeking robust throughput, enhanced range and extended battery life for data networking applications such as web surfing, instant messaging and e-mail.

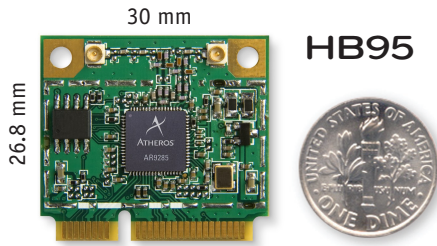
Single-Chip 802.11n-Compatible PCI Express CMOS MAC/Baseband/Radio

- Highly compact, small footprint package
- Fourth-generation solution with integrated power amplifier and low noise amplifier for best total solution cost
- PCI Express Based Specification 1.1 compliant
- Low power sleep modes supported

There is Here.™

AR9285

Single-chip PCIe based on 802.11n
1-stream specification



AR9285 Reference Design Highlights

- Low RBOM component count and cost
- Aggressive 2 layer, Half-Mini Card design for optimized PCB cost
- PCI Express Half-Mini Card 1.1 specification compliant
- Worldwide regulatory compliant (country list available on request)
- Single worldwide SKU
- Driver support on Windows Vista and XP as well as Linux

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 networking equipment, computing and consumer device manufacturers.

AR9285 Specifications

Frequency Band	2.4 GHz
Network Standard	802.11b, 802.11g, 802.11n
Modulation Modes	OFDM with BPSK, QPSK, 16 QAM, 64 QAM; DBPSK, DQPSK, CCK
FEC Coding Rate	1/2, 2/3, 3/4, 5/6
Hardware Security	AES, TKIP, WEP
Quality of Service	802.11e
Media Access Technique	CSMA/CA
Communication Interface	PCI Express
Peripheral Interface	GPIOs, LEDs
Supported Data Rates	
IEEE 802.11b	1 to 11 Mbps
IEEE 802.11g	6 to 54 Mbps
IEEE 1-stream 802.11n	6.5 to 150 Mbps
Operating Voltage	1.2V +/-5% 3.3V +/-10%
Package Dimensions	8 mm x 8 mm
Package	68-pin LPCC

For more information on the AR9285 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