ATHEROS®
COMMUNICATIONS

AR7100

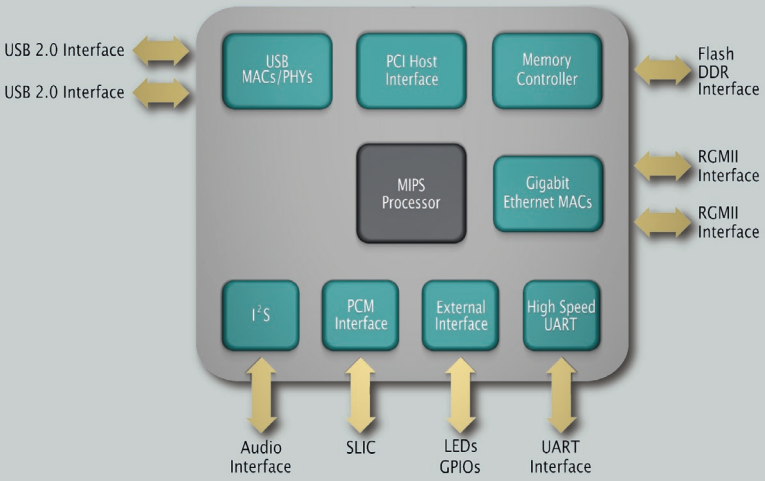
High performance, low cost & scalable wireless network processor family

AR7100 Product Overview

The AR7100 is Atheros' family of high performance, cost effective and scalable wireless network processors that enable efficient design of solutions that address triple play services like voice, video and data. When combined with the Atheros IEEE 802.11a, 802.11b, 802.11g and draft 802.11n wireless chipsets, the AR7100 provides customers with best in class WLAN solutions for home and enterprise access points, routers and gateway applications.

The Atheros AR7100 wireless network processors offer a rich array of interfaces to support next-generation multimedia applications, such as dual USB 2.0 ports for wireless network storage and printing, a PCM interface for analog and VoIP telephony, and an I^2S interface for audio streaming through the router. In addition, the AR7100 supports the PCI 2.3 interface to connect to WLAN modules, dual 10/100/1000 ethernet interfaces to support LAN and WAN connectivity up to gigabit rates with a DDR controller to support large bandwidth applications.

AR7100 System Architecture



AR7100 Product Family Highlights

- Wireless LAN processors for home and enterprise access points, routers and gateways
- 32 bit MIPS 24K processor core
- Two 10/100/1000 ethernet MACs
- High speed UART and GPIOs
- DDR and serial FLASH memory interface
- 32 bit, 33/66 MHz PCI 2.3 host interface
- Two integrated USB 2.0 MAC/PHYs
- PCM interface for glueless SLIC support
- I^2S interface to directly support an external audio codec
- Available in commercial and industrial temperature grades
- Lead-free RoHS compliant option

WIRELESS FUTURE. **UNLEASHED NOW.**™

AR7100 Applications

The AR7100 is optimized for WLAN applications. It offers a high performance solution that can be designed at cost points required for mass market adoption. Some of the common applications that can be designed using the AR7100 are:

High Performance 802.11a/b/g and 802.11b/g Access Points and Routers

802.11a/b/g access points and routers require extra processing power to support both the 2.4 GHz and 5 GHz spectrums. The AR7100 provides extra processing power to enable the design of high performance products. The AR7141, a 400 MHz processor, allows the design of access points and routers with gigabit ethernet WAN and LAN interfaces.

For 802.11b/g access points and routers the AR7130, which is a 300MHz processor, provides the required processing power while enabling the products to meet cost points for mass market adoption.

Draft 802.11n Access Points and Routers

Draft 802.11n is the next generation of high-speed wireless LAN technology. With draft 802.11n chipsets that have the capability of reaching over 300 Mbps, it is essential that the wireless LAN processor employed in draft 802.11n access points and routers assure full performance. The AR7100 family through its 300MHz, 400MHz and 600MHz solutions allows draft 802.11n products to realize their full potential. In addition, interfaces such as dual USB, I^2S and SLIC allow customers to design solutions supporting printing, audio and VoIP applications.

Dual-Band Access Points and Routers

Dual-band access points and routers have multiple uses in the home and enterprise. The dual concurrent architecture allows customers to design solutions for high definition video streaming via the 5GHz radio while enabling users to continue using e-mail, VoIP functionality etc... via the 2.4 GHz radio. The Atheros AR7161 provides a dual-concurrent AP/Router solution which provides up to 2x the throughput when compared to single-band (2.4GHz only) AP/Routers. Thus the AR7161 wireless network processor enables robust solutions for the enterprise and retail segments.

Development Kit Highlights

- Development platform to speed time-to-market. Atheros Access Point Software Development Kit available for Atheros WLAN-based solutions.
- Linux driver available

AR7100 Specifications

Processor Core	MIPS 24k
Processor Speeds	300 MHz (AR7130) 400 MHz (AR7141) 600 MHz (AR7161)
Communication Interfaces	PCI, GMII/RGMII/MII, High Speed UART, USB 2.0, I^2S, PCM
Peripheral Interfaces	GPIOs, LEDs
Memory Interfaces	FLASH, DDR DRAM
Package Dimensions	13mm x 13mm
Package	384 TFBGA lead-free package

Contact your local Atheros representative and ask about the AR7100 as well as other technology solutions from Atheros:

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