



ATHEROS
COMMUNICATIONS

AR8021

The Industry's Smallest Single Port Gigabit Ethernet PHY Footprint



Atheros AR8021 Product Overview

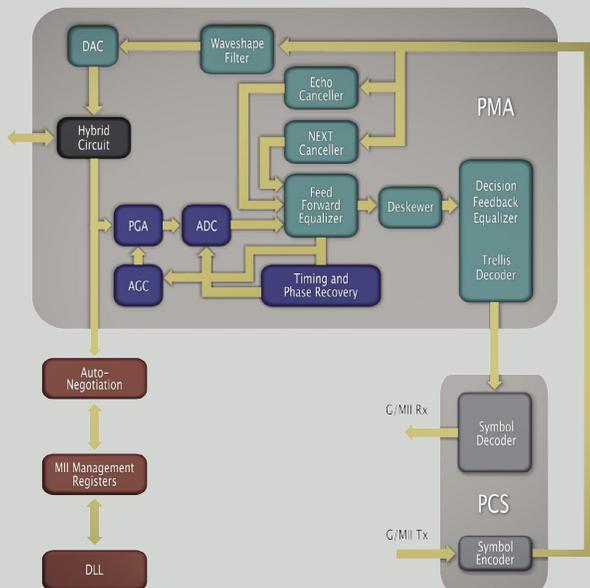
The Atheros AR8021 is the industry's smallest, single-port Gigabit Ethernet (GbE) PHY device. This highly integrated design offers a reduction of more than 60 percent in package size compared to competing solutions and features the industry's smallest footprint in a 48-pin QFN package (6mm x 6mm). This industry-leading GbE PHY footprint results in the lowest bill-of-materials (BOM) cost on the market, significantly reducing price barriers to widespread adoption of GbE PHY technology in a wide range of computing and networking applications.

Atheros brings the company's unmatched analog and mixed signal design expertise, to the GbE PHY market to achieve significant technical advantages. In addition to its compact size, the Atheros AR8021 delivers a rich set of features including:

- 10/100/1000 Mbps triple-speed transceiver with an RGMII interface
- Low power mode that leverages internal DSP power-saving schemes
- Easy-to-use Cable Diagnostic Test

The Atheros AR8021 GbE PHY serves a growing number of devices that benefit from Gigabit throughput including notebook and desktop PCs, wired and wireless routers, gateways, set-top boxes, printers, gaming platforms and network storage devices. The Gigabit performance effectively breaks the networking bottleneck caused by the increasing bandwidth requirements associated with converged triple-play applications – data, voice, and video – streaming throughout the home and business environments.

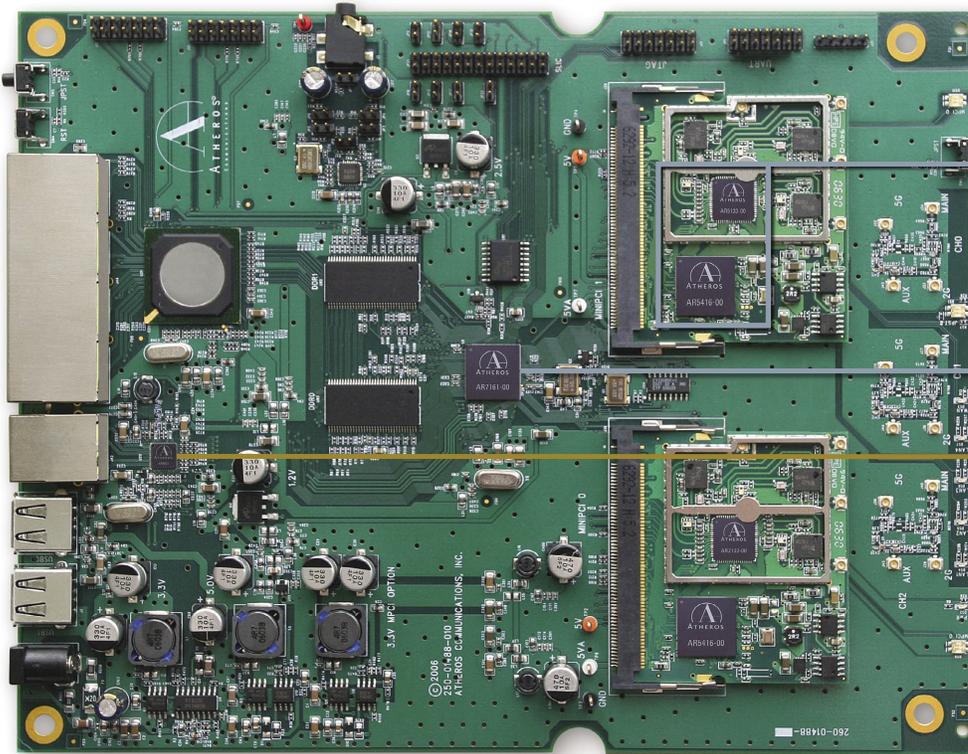
AR8021 System Architecture



AR8021 Solution Highlights

- 10/100/1000 Mbps triple speed transceiver
- Support 1000 BaseT PCS and auto-negotiation with next page support
- RGMII interface for MAC devices
- RGMII timing modes: support both internal delay and external delay on both Rx and Tx paths
- Support external 25 MHz clock source
- 10/100/1000 Mbps IEEE 802.3 compliant
- Low power modes: Internal automatic DSP power saving scheme
- Loop back modes for diagnostics
- Fully integrated Equalizers, Echo Cancellers, and NEXT Canceller
- Baseline wander correction
- Supports automatic MDI/MDIX function
- IEEE 802.3u Auto-Negotiation
- Software programmable LED
- Cable Diagnostic Test (CDT)
- Power supplies: 2.5, 1.8, and 1.2 volt
- Small package footprint: 48 pin QFN (6 mm x 6 mm)

The Atheros AR8021 is the industry's most competitive Gigabit Ethernet PHY



Atheros 802.11n or 802.11g chipset solutions

Atheros AR7100 Wireless Network Processor

Atheros AR8021 Gigabit Ethernet PHY

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