

AR8021

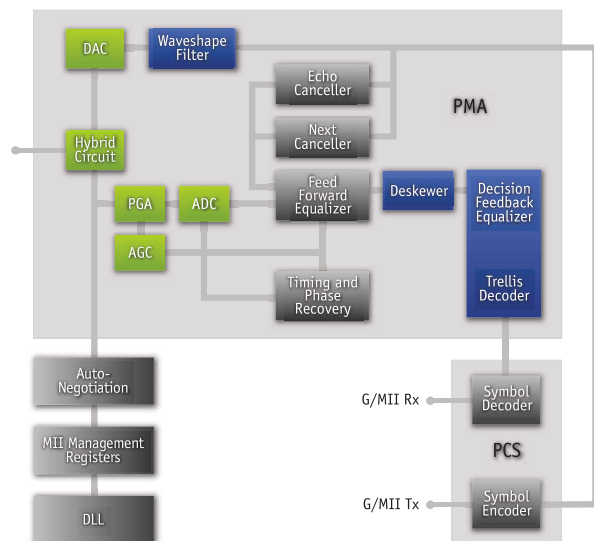
The Industry's Smallest Single Port Gigabit Ethernet PHY Footprint



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)

AR8021 Architecture



Technology Overview

Atheros ETHOS® technologies provide customers with industry-leading low-power and solution size to enable Fast or Gigabit Ethernet connectivity in networking equipment, consumer electronics and computing platforms. Our PHY, controller and switch solutions support the IEEE 802.3az standard for Energy Efficient Ethernet, to extend battery-charges on computing platforms and deliver power-efficiencies in networking equipment. Atheros also enables incremental power-saving techniques to offer our customers the very lowest power Ethernet in the industry today. The unmatched efficiency and advanced carrier-class features of Atheros ETHOS solutions give customers a competitive edge when designing products for energy-conscious consumers and businesses.



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:

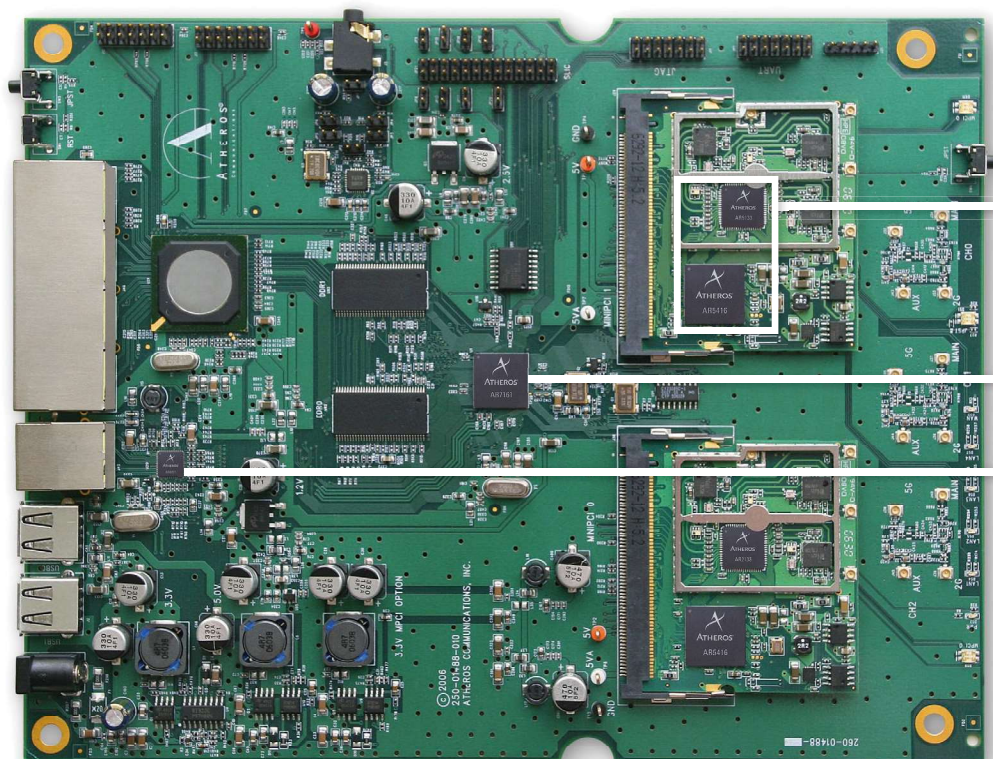
- 10/100/1000 Mbps triple-speed transceiver with an RGMII interface
- Low power mode that leverages internal DSP power-saving schemes
- Easy-to-use Cable Diagnostic Test

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.

There is Here.™

AR8021

The Industry's Smallest Single Port
Gigabit Ethernet PHY Footprint



**Atheros 802.11n
or 802.11g chipset
solutions**

**Atheros AR7100
Wireless Network
Processor**

**Atheros AR8021
Gigabit Ethernet PHY**

Atheros Communications is a global leader in innovative technologies for wireless and wired communications. 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.

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