

AR8030

Ultra low-power single RMII
Fast Ethernet PHY

Qualcomm® ETHOS®

The Need. Hunger for bandwidth
on today's media rich networks.
The Feed. Ethernet.
Qualcomm Engineered.



Qualcomm ETHOS

Qualcomm 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. Qualcomm 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 Qualcomm ETHOS solutions give customers a competitive edge when designing products for energy-conscious consumers and businesses.

Solution Highlights

- General purpose PHY targeting computing, home networking, consumer electronics and infrastructure
- Qualcomm ETHOS-Designed Green Ethernet (EDGE™) power-saving technology
- Integrated MDI termination resistors
- Power saving based on cable length and link status
- RMII MAC interface
- Full IEEE 802.3az support
- Qualcomm proprietary SmartEEE support
- Hardware Wake-on-LAN (WoL) Support
- Cable Diagnostics Technology (CDT) with
- Support up to 10K Bytes Jumbo Frame
- Single 3.3V supply
- Co-layout support with 802.3az 10/100/1000Base-T Gigabit PHY, AR8035

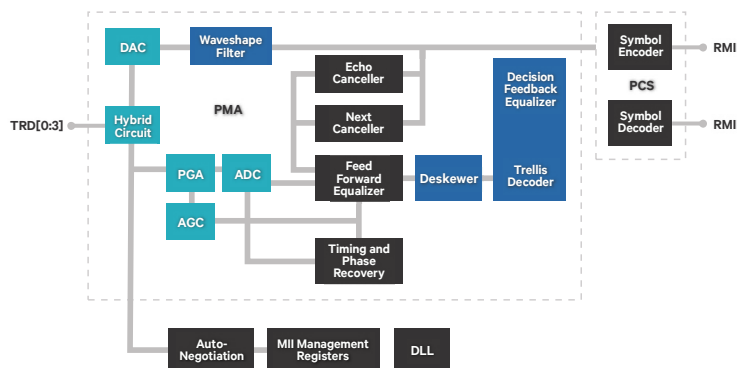
AR8030 Product Overview

The AR8030 is part of the Arctic family of PHYs – which also includes the AR8031, AR8033, and the AR8035. It is Qualcomm's 4th generation, single port 10/100 Mbps Ethernet PHY. It supports an RMII interface to the MAC with wide RGMII I/O voltage support from 1.5V to 3.3V.

The AR8030 integrates Qualcomm latest ETHOS-Designed Green Ethernet (EDGE) power-saving technologies and significantly saves power in all operating and idle modes.

Qualcomm EDGE power-savings include ultra-low-power in cable-unplugged mode or port power-down mode, and automatic optimized power-saving based on cable length. The AR8035 supports the latest IEEE 802.3az-2010, Energy Efficient Ethernet (EEE) standard with proprietary SmartEEE technology to improve energy efficiency in systems using legacy MAC devices without 802.3az support – enabling customers to fully realize the energy benefits of the new standard by just replacing the PHY devices in their designs.

AR8030 System Architecture



The AR8030 supports Wake-on-LAN (WoL), embeds CDT (Cable Diagnostics Test) technology on-chip and integrates a voltage regulator on chip, enabling it to operate from a single 3.3V supply. It reduces the termination R/C circuitry on both the MAC interface (RMII) and line side. The AR8030 provides a low-power, low BOM (bill-of-materials) solution for a wide range of applications – including consumer, enterprise, carrier and home network products such as set-top box, connected TV, printer, game console, xDSL/xPON CPE, telecom embedded system, voice and video phone, digital media player/eReader devices, and LAN-on-motherboard.

The AR8030 supports co-layout with the AR8035 Gigabit Ethernet PHY.

AR8030 Specifications

10/100Base-T IEEE 802.3 compliant

Supports RMI interface to MAC devices with a broad I/O voltage level options including 3.3V, 2.5V, 1.8V and 1.5V.

Error-free operation up to 140 meters of CAT5 cable

Atheros latest ETHOS-Designed Green Ethernet (EDGE) power saving modes with internal automatic DSP power saving scheme

Supports 802.3az (Energy Efficient Ethernet) and Proprietary Smart EEE

Fully integrated digital adaptive equalizers, echo cancellers, and near end crosstalk (NEXT) cancellers

IEEE 802.3u compliant Auto-Negotiation

Software programmable LED modes

Multiple Loopback modes for diagnostics

Single power supply: 3.3V

Qualcomm Atheros is a wholly owned subsidiary of Qualcomm Technologies, Inc. and a leading provider of wireless and wired technologies for the mobile, networking, computing and consumer electronics markets. We're focused on inventing technologies that connect and empower people in ways that are elegant and accessible to all.

Our broad connectivity portfolio allows us to offer our global customer base high-performance, end-to-end solutions, featuring Wi-Fi®, GPS, Bluetooth®, FM, Ethernet, HomePlug™ Powerline and PON technologies. By leveraging substantial expertise in RF, signal processing, software and networking we can deliver highly-integrated, low-power, system-level solutions that enable developers to create high-performance, differentiated products.

For more information, please visit us online @ qca.qualcomm.com

