QUALCOMM®

AR8236

6-port low-power,
Fast Ethernet Switch

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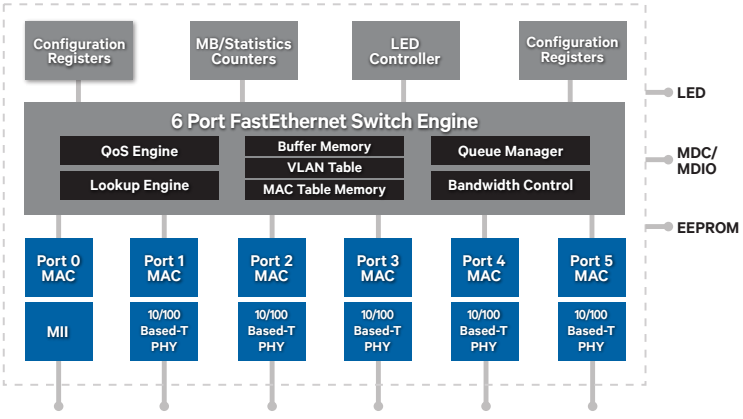
Qualcomm® ETHOS®

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

Solution Highlights

- Single 3.3V power source with built in LDO to reduce RBOM
- Industry's smallest package 8 mm x 8 mm QFN package
- Support Qualcomm ETHOS-Designed Green Ethernet (EDGE™) power when in no link or 10Base-T Idle modes
- Support Spanning Tree Protocol and BPDU handling
- One MII or two RMII MAC interfaces
- 5 Integrated 10/100Base-T PHYs
- Power saving based on cable length and link status
- QoS support with four traffic classes based on port, IEE802.1p, IPV4 TOS, IPV6 TC and MAC addresses
- Full VLAN support including QinQ and VLAN tag insertion and removal
- IGMP V1/2/3 and MLD V1/2 support with hardware snooping and fast leave
- Ingress and egress rate limiting, and broadcast storm compression
- Support port mirroring

AR8236 System Architecture



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.

AR8236 Product Overview

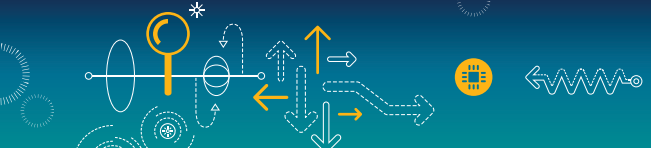
The AR8236 is a fast Ethernet switch solution that offers low power, very small form factor, enhanced features and competitive RBOM. It is well-suited for broadband networking products such as xDSL routers, HomePlug powerline bridges and 5-port switches.

The AR8236 features an internal power-saving mechanism which enables automatic standby and link detection modes to meet the European Code of Conduct specification for low-power and on states. The low-power state provides 80% power saving over "on" state.

Enhanced features such as QoS, VLAN, double-tagging, hardware IGMP v1/v2/v3 and MLD 1/2 snooping features function without burdening the host processor. Hardware Looping Detection provides the system CPU with the option of using these blocks to increase performance and video quality. The AR8236 supports 9K byte jumbo frames to enable connectivity to Gigabit-enabled devices that also support jumbo frames.

AR8236 package is a 68-pin QFN, the industry's smallest package for a switch offering these features. The small package can give a customer the option of easily fitting the solution into a small housing. The device can also integrate multiple functions, such as Wi-Fi and VoIP, so that the PCB size and cost can also be reduced, while maintaining the small housing made possible by the AR8236's compact package size.

Single 3.3V power source and built-in LDO regulator further reduces the RBOM Power Circuit cost compared to other solutions.



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AR8236 Specifications

10/100Base-T IEEE 802.3 compliant

Supports GMII, RGMII, MII and TMII interfaces

RGMII timing modes support internal delay and external delay on both Rx and Tx paths

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

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

All-digital baseline wander correction

Automatic channel swap (ACS)

Automatic MDI/MDIX crossover

Automatic polarity correction

IEEE 802.3u compliant Auto-Negotiation

Jumbo Frame support up to 9K Bytes (full duplex)

Software programmable LED modes

Qualcomm Cable Diagnostic Test (CDT) Technologies

IEEE 802.3 remote fault indication and fault propagation in fiber mode

IEEE 802.1D spanning tree support

IEEE 802.3x flow control for full duplex and back pressure for half duplex

Support 40 MIB counters per port and Autocast MIB counters to CPU port

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.

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