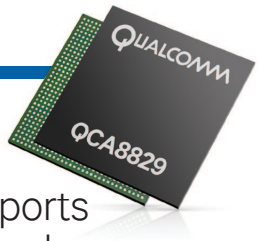
QUALCOMM®

QCA8829

1G EPON ONU SOC for FTTB and FTTH applications

QCA8829

1G EPON ONU SOC for FTTB and FTTH applications



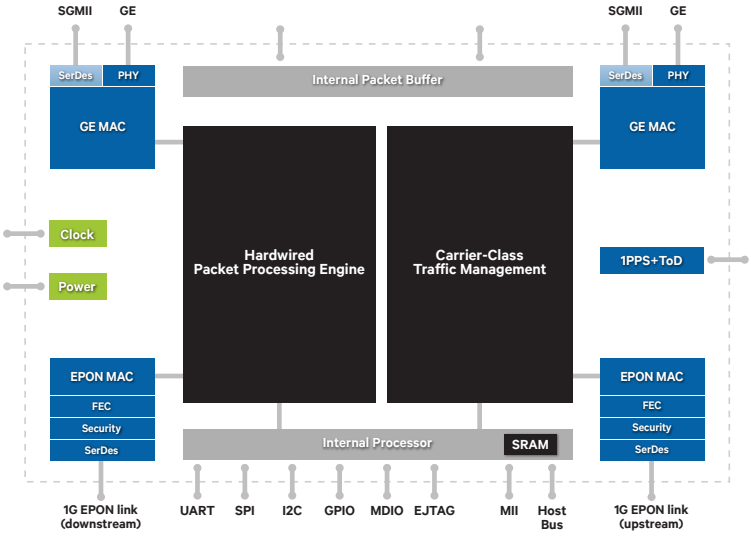
Qualcomm® PON

1G EPON ONU SOC that supports IEEE, CTC, China State Grid and DPoE specifications for FTTB and FTTH applications

Solution Highlights

- Supports IEEE 802.3ah and CTC EPON specifications
- Supports North America CableLabs DPoE specification 1.0
- Supports China State Grid EPON specifications
- Ultra low power dissipation of <200 mW when running smart grid applications (GE PHY sleep mode enabled)
- Ultra low power dissipation of <600 mW when running full throughput at 1 Gbps with GE PHY activated
- Extreme small package of 9x9 mm using QFN76
- Hardwired, high performance, low latency packet engine that enables carrier-class traffic management and QoS
- High level of integration including SerDes and GE PHY

QCA8829 System Architecture



Product Overview

The Qualcomm QCA8829 is the industry's smallest, most integrated, ultra-low power 1 Gigabit (1G) Ethernet passive optical networking (EPON) chip solution optimized to enable next-generation optical broadband access to homes and businesses. The QCA8829 is a first-of-its-kind system-on-chip (SOC) that advances the development of fiber-to-the-home (FTTH) by supporting multiple standards, including those supporting cable operators' optical broadband in North America, provisioning for smart grid applications over PON in China, and EPON infrastructures in markets worldwide.

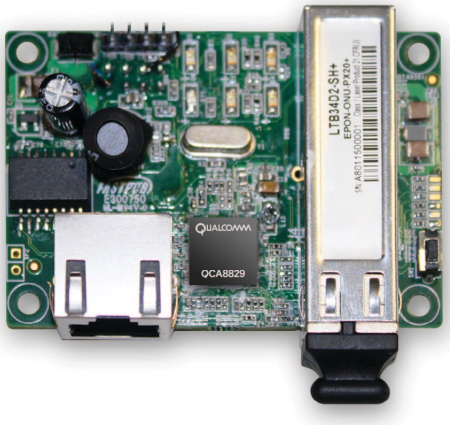
As the second generation EPON optical networking unit (ONU) within the Qualcomm PON device family, the QCA8829 is designed to fully implement IEE 802.3ah requirements and is compliant to the North American Data Over Cable Service Interface Specification (DOCSIS®) Provisioning of Ethernet (DPoE) 1.0 specification, the China State Grid EPON specification, and the China Telecom (CTC) EPON specification. The chip solution is specifically tailored to meet the evolving needs of telecom carriers, cable operators and utility providers.

The QCA8829 chip connects to the customer premises equipment through one Gigabit Ethernet (GE) PHY interface for packet data and links with the optical module through serial input and output interfaces, which transmit and receive data to and from a passive optical network. Compared to the first generation ONU SOC, the QCA8829 provides a more enhanced feature set. QCA8829 integrates more advanced functionalities into the functional blocks of CPU, PON MAC, packet processing engine, traffic management, and advanced power management, as well as packet buffer and GE PHY/SGMII.
The QCA8829 is a highly integrated and cost effective solution for EPON system manufacturers.

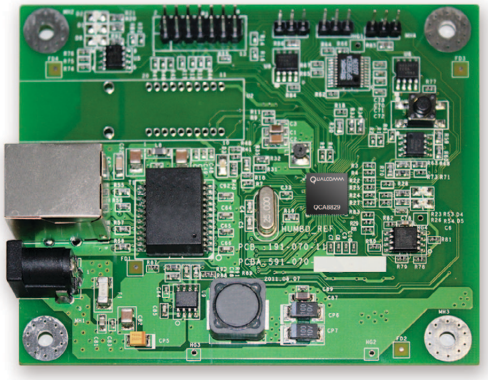
QCA8829

1G EPON ONU SOC for FTTB and FTTH applications

RDK for smart grid applications



RDK for EPON applications



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

© 2013 Qualcomm Atheros, Inc. All rights reserved. Qualcomm is a registered trademark of Qualcomm Incorporated. Atheros is a registered trademark of Qualcomm Atheros, Inc. All other registered and unregistered trademarks are the property of Qualcomm Incorporated, Qualcomm Atheros, Inc., or their respective owners and used with permission. Registered marks owned by Qualcomm Incorporated and Qualcomm Atheros, Inc. are registered in the United States and may be registered in other countries.

QCA8829-10-7-13