

QUALCOMM®

QCA7500

Gigabit-Class Speeds Everywhere
HomePlug AV2 MIMO IC



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Qualcomm® AMP™

This old house has a few new tricks. With connectivity utilizing existing infrastructure, we've got performance wired-in.



Solution Highlights

- Gigabit-class speeds over electrical wiring
- 2X coverage boost over current HomePlug AV products
- Integrated 2X2 MIMO Analog Front End (AFE) Line Driver
- TR 069 Remote Management Support
- Gigabit Ethernet Support
- MIMO with optimized Beamforming coefficients for expanded coverage
- Efficient Power Management Engine optimizes power consumption
- QCA7500 meets powerline regulatory requirements including EuP Lot 6 and EN50561-1
- Interoperable with tens of millions of installed Homeplug solutions

HomePlug AV2 Standard Features

Key features of the HomePlug AV2 standard include improved peak data rates and expanded coverage enabled by MIMO with beamforming and use of additional spectrum to increase application throughput for multiple HD streams and other applications. The AV2 standard includes mechanisms to efficiently notch tones to comply with various regulatory requirements and at the same time optimize performance. Additionally, power control and power save features manage transmission power and optimize power consumption.

Product Overview

The QCA7500 is a highly integrated powerline solution optimized for high performance in a small form factor. This HomePlug AV2 MIMO IC is the latest addition to a long line of HomePlug based solutions from Qualcomm Atheros and was designed with the growing needs of service providers in mind.

Whole home coverage with Gigabit-class speeds

Significant coverage improvements to ensure high speeds in more locations for whole home IPTV/OTT/VoD video distribution.

High speed Wi-Fi extension

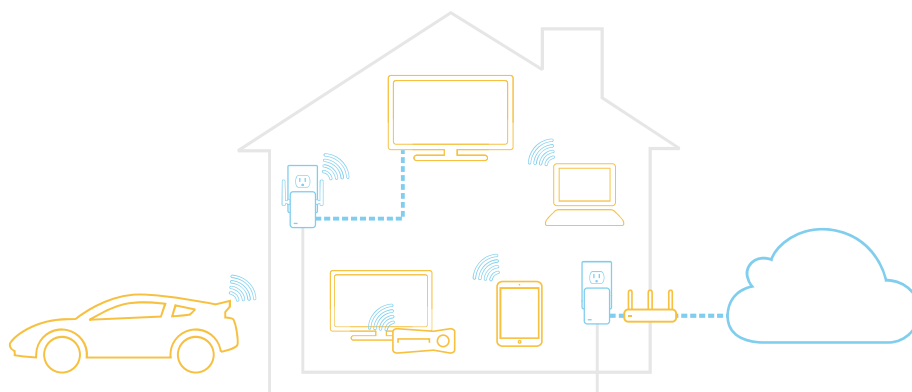
The QCA7500 serves as a high bandwidth backbone ideal for extending carrier-grade Wi-Fi connections everywhere in the home.

Remote Management support with TR 069

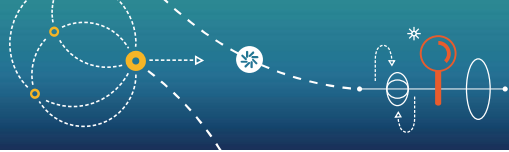
Provides Service Providers the tools to run remote diagnostics and manage customer networks effectively.

Interoperability with field deployed products

The QCA7500 is based on the HomePlug AV2 standard which ensures interoperability with HomePlug AV and Green PHY products in the market.



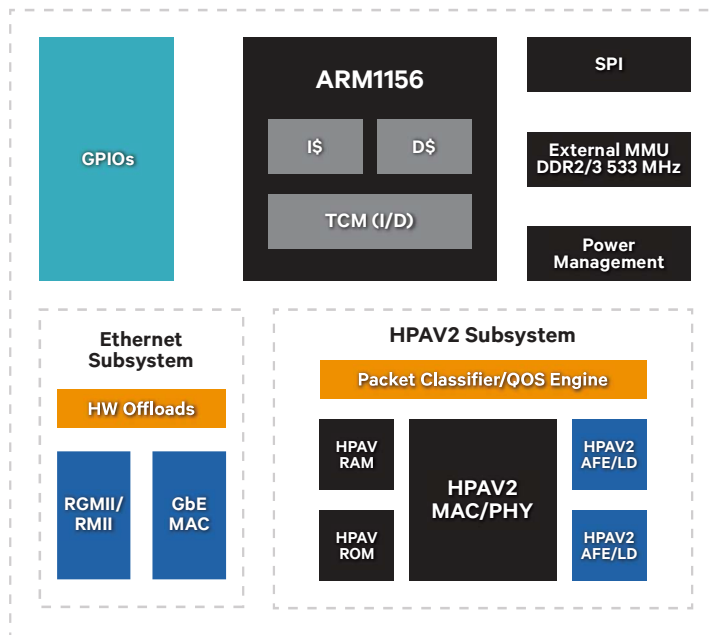
AMP Powerline: extending the network to places Wi-Fi can't reach



The Qualcomm Powerline Advantage

- QCA solutions set the bar for whole home coverage validated by real world testing and product deployments.
- Media-class powerline solutions optimized for video delivery with packet aggregation, dynamic buffer allocation, Low PHY Block Error Rate and Multimedia QoS.
- Designed with Neighbor Networks in mind with AVLN noise mitigation and “rate adaptive” powerline performance.
- Unmatched integration with Wi-Fi in the Qualcomm Hy-Fi product line for whole home wired and wireless connectivity.
- Qualcomm® Hy-Fi using QCA7500 along with our Qualcomm® VIVE 11ac solutions will be in compliance with the nVoy/IEEE 1905.1 hybrid networking standard.
- Qualcomm solutions for HomePlug AV2 build on our powerline leadership in HomePlug AV and HomePlug Green PHY to deliver Gigabit-class performance and best-in-class coverage numbers.

QCA7500 System Architecture



QCA7500 Specifications

Frequency Band	2-68 MHz
Network Standard	IEEE 1901, HomePlug AV, HomePlug AV2 pre-compliant
Modulation Technology	Windowed OFDM
FEC Coding	Turbo Code
Hardware Encryption	AES 128-bit
Quality of Service	VLAN/TOS/Packet Classifier/Quasi Error Free Delivery for IPTV service
Communications Interface	RGMII/RMII
Peripheral Interface	SPI/GPIO
Memory Interface	External DDR2/3
Supported Data Rates	Greater than 1 Gbps
Low Power Design	Supports EuP Low Power Directive
Customization Functionality	LED and Programmable Switches also via Hosted Apps API and configurable parameter options (PIB)
Security	Supports “Simple Connect” with Push-Button Encryption, Network Management Key and configuration security feature to secure the NVM
Diagnostic and Management Interface	HomePlug AV generic and vendor-specific Management Message Entries (MME). Remote TR-069 management support
Worldwide Regulatory Support	Programmable power amplitude adjustments
Tools	Qualcomm Powerline Toolkit Supports Linux/Windows/RTOS, with a complete Software Development Kit

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

