

Broadcom BCM60321 200 Mbps HomePlug AV1.1 Powerline Adapter

Connecting
everything®



200 MBPS INTELLIGENT MULTI-PHY SWITCH

Overview

The small-size 200 Mbps Powerline adapter, AVNANO, has been developed to demonstrate the type of high-performance, low-power, extremely small-size wall plug form factor, power line communication products made possible by the BCM60321 device. The BCM60321 is a single-chip implementation of a 200 Mbps intelligent multi-PHY switch for in-home networking over existing power lines. By fully integrating all functions into a single 76-lead QFN package, the BCM60321 provides a compact and cost-effective solution for HomePlug® AV version 1.1 adapters and embedded applications. The BCM60321 has been designed to be compliant with the IEEE 1901 power line standard.

The AVNANO provides mechanisms to reduce power consumption in active, standby, and idle modes, setting a standard in the industry. It also provides the lowest product cost and size by means of its high level of integration. The AVNANO ensures maximum coverage and performance by using Broadcom's exclusive Xtendnet™ mesh repeating technology combined with improved silicon and hardware design.

The smart switching engine inside all Broadcom devices enables intelligent routing amongst each of the existing ports based on network performance, ensuring maximum reliability and transparency on the network. An internal analog front end with two line drivers provides power levels that meet regulations from around the world and provides performance levels suited to every home.



Features

- Frequency Band: 2 to 28 MHz
- Modulation: OFDM 1024/256/64/16/8 QAM, QPSK, BPSK
- Maximum PHY Rate: 200 Mbps
- Scheduling: CSMA/CA and TDMA
- Xtendnet Mesh repeating technology
- Security: 128-bit AES encryption
- Configurable QoS
- Ethernet: Single 10/100, IEEE 802.3u, IEEE 802.3ab, Auto crossover
- Multicast support via IGMP and MLD snooping
- Simple Connect, Standby, and Factory Reset buttons
- Powerline link LED
- Two Ethernet status indicators
- Power indicator
- Board Dimensions: 51.4 x 37.8 x 19 mm
- Enclosure Dimensions: 58 x 45 x 29 mm
- Compliant with European Code of Conduct requirements for standby and active power consumption modes
- Compliant with global EMC regulations

Benefits

- Compact and cost-effective solution
- Low power consumption
- Very high performance throughout the home
- Dual line driver architecture for maximum coverage
- Plug and Play installation
- LEDs for at-a-glance status and activity monitoring
- HomePlug AV/IEEE 1901 compatibility for interoperability with existing HomePlugAV devices

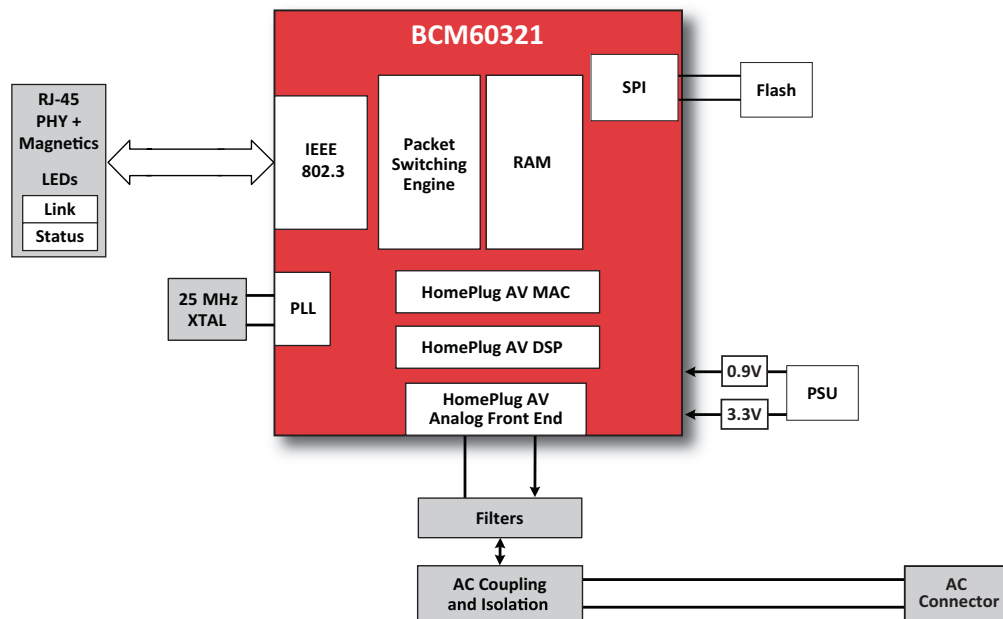
Highlights

- Compact and cost-effective solution for in-home networking over existing power lines.
- HomePlug® AV1.1-compliant; designed for compliance with the IEEE 1901 standard.
- Up to 200 Mbps raw PHY rate.
- Xtendnet™ Mesh repeating technology allows each device to act as a repeater, extending the range of the home network to every socket.
- Energy Efficient and low power consumption modes

BCM60321	
Whole Home (HD Content Distribution)	●
Small Office	◐
Home Office	◐

◐ Supported

● Best Choice



Typical BCM60321 AVNANO Application

Target Applications

- PC broadband network connections
- Wi-Fi router linking to extend coverage
- Multiroom DVR networking
- Home multimedia and HD content distribution
- Online and networked console and PC video game connections
- VoIP installations

Interfaces

- Single RJ-45 connector
- Three LEDs to display system status
- A single button combining the Simple Connect pairing mechanism and Factory Reset

Reference Designs

The BCM60321 is supported by a suite of hardened reference designs demonstrating the use of the BCM60321 in embedded applications and in external power line modems. The reference designs, together with detailed application notes and design notes, enable product developers and manufacturers to reduce test and integration costs and minimize time-to-market.

Ordering Information

200 Mbps Intelligent Multi-PHY Switch AV NANO

Part Number

BCM960321AVNANO_US

About Broadcom

Broadcom Corporation is a major technology innovator and global leader in semiconductors for wired and wireless communications. Broadcom® products enable the delivery of voice, video, data and multimedia to and throughout the home, the office and the mobile environment. We provide the industry's broadest portfolio of state-of-the-art system-on-a-chip and software solutions to manufacturers of computing and networking equipment, digital entertainment and broadband access products, and mobile devices.

These solutions support our core mission: Connecting everything®.

Broadcom, one of the world's largest fabless communications semiconductor companies, with 2010 revenue of \$6.82 billion, holds more than 4,800 U.S. and 2,000 foreign patents, and has more than 7,800 additional pending patent applications, and one of the broadest intellectual property portfolios addressing both wired and wireless transmission of voice, video, data and multimedia.

A FORTUNE 500® company, Broadcom is headquartered in Irvine, Calif., and has offices and research facilities in North America, Asia and Europe. Broadcom may be contacted at +1.949.926.5000 or at www.broadcom.com.

