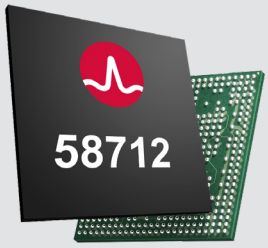
BROADCOM®

Product Brief

BCM958712D4XMC

ARMv8-based High-Performance XMC Form Factor Daughtercard



Key Features

- The BCM58712 communications processor:
  - Quad-core 2-GHz ARM Cortex-A57 CPU
  - On-chip hardware accelerators
  - 16 GB Crypto block increases the speed of secure packet transfers
  - Line-rate packet transfers
- High-speed SerDes:
  - Two 10G high-speed Ethernet ports (HiGig™ compatible)
  - Two 2.5G 10/100/1000 ports and one RGMII management port
  - Eight lanes of PCIe Gen2
  - USB 3.0, 1x USB 2.0
  - 2x SATA 3.0
- Memory controller:
  - 72-bit DDR4-2400 with ECC support
  - NAND flash with ECC support
  - eMMC
- BroadSAFE® security
  - SecureBoot
  - Tamper proof detection
- Standard I/F
  - UART (1), I²C, GPIO (32), WDT, selectable I²S/TDM/SPDIF, and SDIO 3.0
- XMC daughtercard for XGS switch reference platforms

Description

The Broadcom® BCM958712D4XMC daughtercard provides a high-performance platform for evaluating and performing early software development on the StrataGX® BCM58712 communications processor for control-plane applications when used in conjunction with Broadcom's market-leading StrataXGS® switches. The card easily plugs into the BCM956XXX XGS switch SVK reference platforms.

Based on a quad-core ARM Cortex-A57 CPU running at 2 GHz, the BCM58712 features on-chip support for packet-processing, which allows the device to have significant processing throughput available for other control-plane tasks. Furthermore, with high-speed interfaces such as DDR4, PCIe Gen2, 10GbE Ethernet MAC, hardware-based crypto acceleration, and a programmable accelerator, the BCM58712 delivers high system-level performance while still being power efficient.

The switch control reference platform comes with extensive support for hardware and software development resources, and comprehensive documentation.

The reference platform is preloaded with the Broadcom Linux Development Kit (LDK), which includes the U-boot utility, Linux operating system, device drivers, and integrated with the StrataXGS switch driver software development kit (SDK).

Benefits

- Highly integrated SoC for complex control-plane applications
- Feature-rich FlexSPARX™ hardware accelerator
- Programmable accelerator for implementing crypto and network protocols
- 16 Gb/s of hardware-based crypto encrypt/decrypt
  - BroadSAFE secure architecture
  - Secure Boot, IPsec, and TrustZone support
- Complete and easy-to-use switch control-plane platform
  - XMC daughtercard supports Broadcom's latest XGS switch reference designs
- 16-GB DDR4-2400 SODIMM for many enterprise networking applications
- Integration of switch SDK and Broadcom LDK for rapid prototyping and development

Target Applications

- Enterprise switches
- Mobile fronthaul
- Microwave backhaul
- Carrier access
- Edge computing
- Data centers

Figure 1: BCM958712 Block Diagram

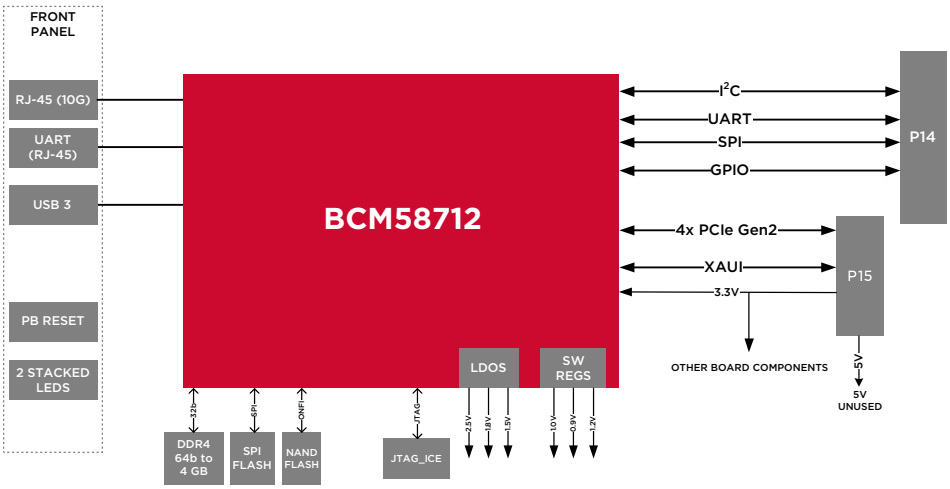


Figure 2: BCM958712D4XMC Board Photo

Ordering Information

Description	Device ID
BCM58712-based XMC daughtercard	BCM958712D4XMC

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