BROADCOM®

Product Brief

BCM956670K

StrataXGS® 800 Gb/s Switch with Radio-over-Ethernet Mappers

Overview

The Broadcom® BCM956670K is a complete System Verification Kit (SVK) supporting up to 24x 25GbE Common Public Radio Interface (CPRI)/Ethernet ports (via SFP28), 6x 40GbE (via QSFP+), and 4x 100GbE ports (via QSFP28). It supports up to a maximum of 800 Gb/s including 4x 100GbE.
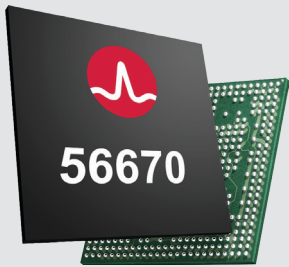
The ports can also be configured as follows:
- 64x 10GbE
- 24x 25GbE CPRI/Ethernet + 6x 40GbE
- 4x 100GbE + 6x 40GbE

The SVK is based on the BCM56670, a high-density 800 Gb/s switch on a single chip and a member of the StrataXGS® product family. The BCM56670 is a family of Ethernet switches with integrated Radio-over-Ethernet (RoE) mappers designed to address performance, capacity, and service requirements for next-generation base stations and cellular front-haul aggregation products. The BCM956670K also offers two options of host CPU subsystems capable of running advanced management software: ARM Cortex-A9-based StrataGX BCM58712 or comE Type 6 x86. The CPU subsystem connects to the main PCB via an internal XMC slot, supporting PCI Express.

Key Benefits
- Up to a maximum of 800 Gb/s.
- Native CPRI support via integrated RoE mappers.
- Native CAUI4 (100GbE) support.
- Platform for:
  – Integration of customer software applications to low-level driver and target hardware devices
  – Device performance validation
  – Device feature and thermal behavior validation
- Provides an example of a complete PCB schematic and design, offering valuable insight into PCB area requirements.
- Provides an evaluation vehicle for the radio-mapping and synchronization functionality supported by the BCM56670 switch.
- Enables software/hardware integration before PCBs are fabricated.
- Provides access to an advanced debug environment provided by the Broadcom Command Line Interface (CLI).

Key Benefits (continued)

- To accelerate manufacturing, complete design documentation is available, including PCB, schematics, Gerber files, and Application Programming Interface (API) source code.
- Layers 2–7 ContentAware™ traffic classifying switch.

Developing your Switch

The BCM956670K is a highly integrated kit for 800 Gb/s switches with built-in RoE mapping functionality. The BCM956670K provides a platform for accelerated development of the following types of products:

- High-density line cards with dual-mode CPRI/Ethernet interfaces for next-generation base stations
- Low-cost front-haul aggregation units with dual-mode CPRI/Ethernet radio connections and high-speed Ethernet transport links
- Embedded Ethernet switching fabrics for applications with traffic mixes dominated by large packet sizes

The BCM956760K SVK is equipped with all the software and hardware necessary to simulate a typical system environment. The SVK is preloaded with the latest version of Broadcom's Software Development Kit (SDK).

Documentation and Software

Documentation for the BCM56670 device, the latest SDK API, and the BCM956670K SVK are available online through the Broadcom Customer Support Portal (http://support.broadcom.com):

- Complete BCM956670K SVK files, including schematics, Gerber layout, and bill of materials (BOM)
- SVK user manual
- Latest SDK API source code and documentation including BCM56670 data sheet, programmer's reference guide, and theory of operations

BCM956670K System Verification Kit (SVK)

Ordering Information

Kit	Description	Part Number
BCM956670K_00	SVK with StrataGX BCM58712 (dual-core ARM Cortex-A9) CPU subsystem	BCM956670K_00
BCM956670K_01	SVK with comE Type 6 x86 CPU subsystem	BCM956670K_01
Accessories		
Optical Cable	Optical cable QSFP/4xSFP+, 3 meters	Molex (106283-5003) or Broadcom (BCM9QSFP_4XSFP)
Optical Cable	Optical cable QSFP28/4xSFP28, 3 meters	
Transceiver	QSFP optical XCVR	Avago (AFBR-79E4Z) or Broadcom (BCM9QSFP_XCVR)
Transceiver	QSFP28 optical XCVR	
Transceiver	SFP+ 9.8G CPRI	
Transceiver	SFP+ 10GbE	
Transceiver	SFP28 25GbE CPRI	
Transceiver	SFP28 25GbE	
DAC Cable	QSFP/QSFP, 0.5 meters	Elpeus CB22322-.5 (106283-5003) or Broadcom (BCM9QSFP_QSFP)
DAC Cable	QSFP28/QSFP28, 0.5 meters	
Optical Cable	QSFP MMF parallel active optical, 3 meters	Finisar (FCBG410QB1C03) or Broadcom (BCM9QSFP_MMF_PAOC)
Cable	Tyco Electronics 25G 30 AWG 1 meter	BCM9QSFP25_30_1M
Cable	Tyco Electronics 25G 33 AWG 0.5 meter	BCM9QSFP25_33_50CM
Rack Mount Kit	BCM956000	Broadcom (BCM9RACK_MOUNT)

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