PM52100-KIT

Switchtec™ Gen 5 PCIe® Switch Evaluation Kit

Summary

The PM52100-KIT Switchtec™ Gen 5 PCIe® Switch Evaluation Kit is used to evaluate the Switchtec family of Gen 5 PCIe switches.

The kit contains an evaluation board, cables, turnkey firmware and ChipLink Diagnostic Tools software. ChipLink is a convenient and easy-to-use Windows®/Mac®/Linux®-based GUI that provides access to all hardware functions and status information.

The kit operates with a PCIe host and supports the connection of multiple host entities to multiple endpoint devices.

Highlights

PCIe Interface

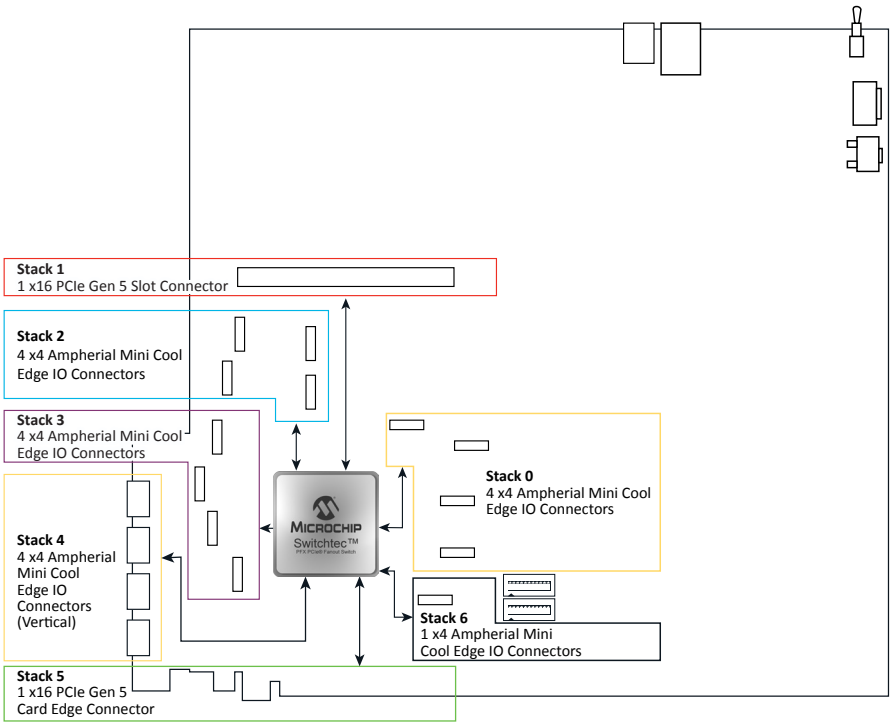
- 1 ×16 edge connector for connection to a host
- 1 ×16 slot connector for add-in cards
- 17 ×4 PCIe Amphenol Mini Cool Edge IO connectors to provide flexibility for a host or an end-point connection

PCIe Clock Interface

- Common reference clock with or without Spread Spectrum Clocking (SSC)
- Separate Reference Clock No SSC (SRNS)
- Separate Reference Clock With Independent SSC (SRIS)

Peripheral I/O Interfaces

- Two-wire (TWI)/SMBus interfaces
- SEEPROM for storage and PCIe switch configuration
- TWI bus access and connectivity to the temperature sensor, fan controller, voltage monitor, GPIO and TWI expanders, PCIe connectors, Amphenol Mini Cool Edge IO sideband and FPGA
- GPIOs multiplexed to provide TWI, SPI, SGPIO, Ethernet and UART interfaces
- UART access using USB type B and 3-pin connector header
- 14-pin EJTAG connector header for Green Hills Software probe connectivity (PSX only)
- 100 M/GE Ethernet



FPGA Functionality

- Drive board status LEDs
- Monitor interrupts from I/O expanders and PCIe Amphenol Mini Cool Edge IO cables
- Control and monitor power regulator output
- Manage board and switch reset

Power Supply

- On-board regulators
- PCIe switch sense points for monitoring and measuring power rail voltages
- 12V power provided through 8-pin CPU power connector or 6-pin PCIe connector or PCIe edge connector (add-in card)

PSX Software Development Kit

- The PSX software development kit allows development and test of custom PCIe switch functionality
- The PSX SDK relies on the Green Hills MULTI® development environment available directly from Green Hills Software
- The EJTAG debugger supports test and debug of custom PSX firmware

ChipLink Diagnostic Tools Features

- Access to registers in the PCIe switch
- Configuration of high-speed analog settings for signal integrity evaluation
- Monitoring of status and mode indicators

Kit Contents

The following contents are included with the PM52100-KIT:

Vendor	Vendor Part Number	Item Description
Microchip	PM52100-KIT	Switchtec™ PCIe® Gen 5 evaluation board
Molex	88750-5318	SATA-to-SATA Cable, 1 pc
LYNN	RADTY01 CBL-00128-01-A-R	3 pin Serial Cable, 1 pc
3M	923345-03-ND	Jumper wire, 1 pc
ATEN	UC232A	Aten USB-to-Serial Converter, 1 pc
EVGA	SuperNOVA 750 G3	ATX Power Supply, 1 pc
Keystone	8405	Standoff, 28 pcs
	TWI-CABLE	ASSY CBL TWI PROGRAMER, 1 pcs
Serial Cables	PCI5-4X-4X-0.5M	MCIO-Vert-Vert, 4 pcs
Amphenol	RMC38-0096	MCIO-Vert-Vert, 4 pcs
	RMC38-0113	MCIO-Vert-Vert-Cross, 2 pcs
	RMC38-0114	MCIO-SFF, 2 pcs
	RMC38-0129	MCIO_RC-OCu_EP, 2 pcs
	RMC38-0142	MCIO_EP-OCu_EP, 2 pcs

Kit Requirements (Supplied Separately)

Required for operation of the kit and must be supplied separately:

- Personal computer running Windows, Linux, or Mac OS

Optional (Supplied Separately)

- NVMe/PCIe SSD
- High-speed oscilloscope for performing eye-diagram measurements
- Jitter analyzer for analyzing jitter components
- For PSX only: Green Hills MULTI® development environment and EJTAG debugger for firmware development

Optional Evaluation Kit Adapter Cards (Buy Separately)

- ADP_EDGEG5: PCIe Gen 5 1x16 Edge to 4 x 4 Amphenol Mini Cool Edge IO adapter card (Converts a x16 Edge PCIe interface to an Amphenol Mini Cool Edge IO PCIe interface or vice-versa)
- ADP_SLOTG5: PCIe Gen 5 1x16 slot to 4 x 4 Amphenol Mini Cool Edge IO adapter card (Converts a x16 slot PCIe interface to an Amphenol Mini Cool Edge IO PCIe interface or vice-versa)

Ordering Information

Part Number	Device	Ports	PCIe® Connector Interface		
			PCIe Edge ×16	PCIe Slot Logical ×16	PCIe Amphenol Mini Cool Edge IO ×4
PM52100-KIT	PFX 100xG5	52	1	1	17

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