

# PM42100-KIT

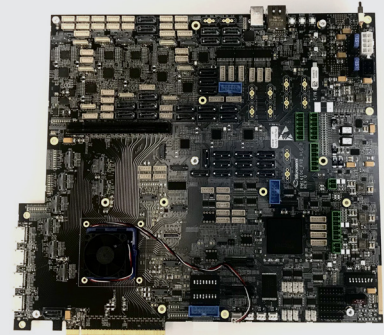
## Switchtec™ Gen 4 PCIe® Switch Evaluation Kit

### Summary

The PM42100-KIT Switchtec Gen 4 PCIe Switch Evaluation Kit is used to evaluate the Switchtec Gen 4 PCIe family of switches.

The kit contains an evaluation board, cables 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
- 16 ×4 PCIe OCuLink 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)

#### Serial Peripheral Interfaces (SPI)

- 2 quad SPI buses
- 128 Mb on-board SPI Flash for bootup and initialization

#### Peripheral I/O Interfaces

- 11 two-wire (TWI)/SMBus interfaces
- 128-Kbps EEPROM 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, OCuLink sideband and FPGA
- 110 GPIOs with 3 dedicated as GPIOs; 106 GPIOs are 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)
- 10/100 Mbps Ethernet supporting MII and RMII

#### FPGA Functionality

- Drive board status LEDs
- Monitor interrupts from I/O expanders and PCIe OCuLink cables
- Control and monitor power regulator output
- Manage board and switch reset

## Power Supply

- 0.82V and 1.8V power rails supplied by 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)

## 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 Requirements (Supplied Separately)

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

- Personal computer running Windows, Linux, or Mac OS
- ATX 750 W power supply, 1 × 6-pin PCIe connect and one 8-pin CPU power connector (we recommend a Corsair CX750M ATX power supply)

## 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 (Purchased Separately)

- ADP\_EDGE4: PCIe Gen 4 1x16 Edge to 4 x 4 OcuLink adapter card (Converts a x16 Edge PCIe interface to an OCuLink PCIe interface or vice-versa)
- ADP\_SLOT4: PCIe Gen 4 1x16 slot to 4 x 4 OcuLink adapter card (Converts a x16 slot PCIe interface to an OCuLink PCIe interface or vice-versa)

## Ordering Information

Part Number	Device	Ports	PCIe® Connector Interface			Max. USP NTB	Max. DSP
			PCIe Edge x16	PCIe Slot Logical x16	PCIe OCuLink x4		
PM42100-KIT	PFX 100xG4	52	1	1	17	48	51