



PCIe Host Adapter Card

Overview

Ustorage PCIe Host/Target adapter cards introduce Microsemi PCIe Gen3 switch PFX8532 and PFX8531. The Switchtec fanout switch is PCI Express Base 3.1 Specification-compliant, integrated hot and surprise – plug controllers per port, less than 170 nanoseconds bidirectional non-blocking cut-through latency.

US-PM304E implements one x4 MiniSAS-HD SFF8644 connector, US-PM304I implements two x2 MiniSAS-HD SFF8643 connectors, US-PM302EI supports one x2 MiniSAS-HD SFF8644 and one x2 MiniSAS-HD SFF8643 connectors. it intends to provide user more flexible connectivity in various of applications, such as connecting to 2U24bays dual port NVMe JBOF for high-density storage array or direct attached for NVMe drives.

All cards are half length and half height standard PCIe add-in card form factor, it is able to install into 2U height server enclosure.



Dual Port NVMe JBOF



SFF8644 cables



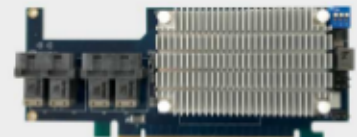
US-PM304E



NVMe SSD



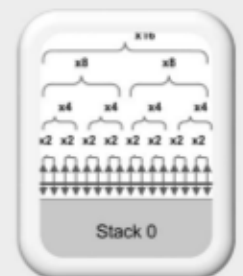
PCI-4339 cables



US-PM304I

Port Bifurcation


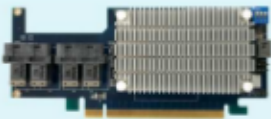
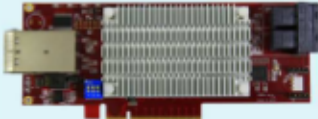
- US-PM304E and US-PM304I are PCIe Gen3 x16 128Gb/s bandwidth in upstream (Host) port. Downstream (Device) port is configurable to 1 x16, 2 x8, 4 x4 and 8 x2 ports by on-board slide switch.
- US-PM302EI is PCIe Gen3 x8 64Gb/s bandwidth in upstream, downstream supports 2x8, 4x4 and 8x2 port bifurcation.
- US-PM304E supports Host and Target mode, All of mode configuration are changed by on-board slide switch.



Features

- LEDs indication for port bifurcation and port failure.
- Features PCIe reference clock delivery in SFF8644 and SFF8643 connectors, flexible for user to connect devices support SRIS/SRNS or none. The clock domain in upstream port which connects to host support both of CFC or SSC.
- External or internal MiniSAS-HD connector has more connectivity to connect outer enclosure for storage space extension or direct attached NVMe drive.
- Excellent signal integrity quality in cards, supports up to 6 meters length of MiniSAS-HD SFF8644 and SFF8643 cables.
- Implements micro-controller for card managements and Switchtec MRPC commands support.

Specifications

			
Product Part Number	<u>US-PM304E</u>	<u>US-PM304I</u>	<u>US-PM302EI</u>
PCIe Switch	Microsemi Switchtec PFX PM8532		Microsemi Switchtec PFX PM8531
Card dimension	166mm (L) x 67mm (W)	156mm (L) x 67mm (W)	162mm (L) x 67mm (W)
PCB information	PCI Express add-in card standard, Thickness .063" +/- 0.008" (1.6mm +/- 0.2mm)		
Power consumption	<18W at 32 active Gen3 links	<18W at 32 active Gen3 links	<16.5W at 24 active Gen3 links
MiniSAS-HD connectors	One x4 MiniSAS-HD SFF8644	Two x2 MiniSAS-HD SFF8643	One x2 MiniSAS-HD SFF8644 One x2 MiniSAS-HD SFF8644
LEDs indication	System Health (Red) System Power (Blue) Switch heartbeat (Blue) Downstream port configure as one x16 (Blue) Downstream ports configure as two x8 (Green) Downstream ports configure as four x4 (Orange) Downstream ports configure as Eight x2 (Blue+Green+Orange) Port status (Red)		System Health (Red) System Power (Blue) Switch heartbeat (Blue) Downstream ports configure as two x8 (Green) Downstream ports configure as four x4 (Orange) Downstream ports configure as Eight x2 (Blue+Green+Orange) Port status (Red)
Host/Target mode	Host and Target mode	Host mode	Host mode
Bandwidth	PCIe Gen3 x16 128GT/s in Upstream PCIe Gen3 x16 128GT/s in Downstream		PCIe Gen3 x8 64GT/s in Upstream PCIe Gen3 x16 128GT/s in Downstream
Port Bifurcation	1x16, 2x8, 4x4, 8x2		2x8, 4x4, 8x2
Environment conditions	Operating Temperature: 0C to 50C Storage Temperature: -40C to 85C Operating Humidity: 10% to 90% relative humidity non-condensing Storage Humidity: 5% to 95% relative humidity non-condensing		
Warranty	1 year warranty		