PE425G4i81L 25G Ethernet PCIe Server Adapter
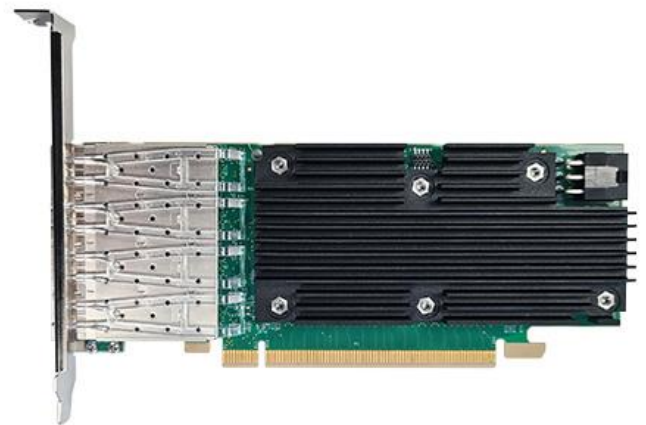
Quad Port Fiber SFP28 25 Gigabit Ethernet PCI Express Server Adapter Intel® Based

Product Description

Silicom's PE425G4i81L 25 Gigabit Ethernet PCI Express server adapter is designed for Servers and high-end appliances. The Silicom PE425G4i81L 25 Gigabit Ethernet PCI Express Server adapter offer simple integration into PCI Express x16 to 25Gigabit Networks. The performance is optimized so that system I/O is not the bottleneck in high-performance networking applications.

The Silicom PE425G4i81L 25 Gigabit Ethernet PCI Express server adapters is based on Intel E810-CAM1 Ethernet controller with fully integrated 25 Gigabit Ethernet Media Access Control (MAC), and SFI Interface. In addition to managing MAC and PHY Ethernet layer functions, the controller manages PCI Express packet traffic across its transaction, link, and physical/logical layers. Using hardware acceleration, the controller offloads tasks from the host, such as TCP/UDP/IP checksum calculations and TCP segmentation.

Silicom's 25 Gigabit Ethernet PCI-Express Server adapters are the ideal solution for implementing multiple network segments, mission-critical high-powered networking applications and environments within high performance servers.

Key Features

SFP28 25Gigabit Ethernet:
25Gigabit Ethernet Adapter with SFP cage supports:

- **-ZS: Fiber 25 Gigabit Ethernet 25GBASE-SR:**
  - o 25GBase-SR with 25G 850nM Small Form Factor Pluggable (SFP28)

- **-ZL: Fiber 25 Gigabit Ethernet 25GBASE-LR:**
  - o 25GBase-LR with 25G 1310nM Small Form Factor Pluggable (SFP28)

- **-SR: Fiber 10 Gigabit Ethernet 10GBASE-SR:**

  o   10GBASE-SR with 10Gigabit 850nM Small form Factor Pluggable (SFP+)

- **-LR: Fiber 10 Gigabit Ethernet 10GBASE-LR:**

  o   10GBASE-LR with 10Gigabit 1310nM Small form Factor Pluggable (SFP+)

-ZS: Fiber 25 Gigabit Ethernet 25GBASE-SR:

- 25 Gigabit Fiber Ethernet port supports 25GBASE-SR (850nM LAN PHY)

- 25Gigabit 850nM Small form Factor Pluggable (SFP28)

-ZL: Fiber 25 Gigabit Ethernet 25GBASE-LR:

- 25 Gigabit Fiber Ethernet port supports 25GBASE-LR (1310nM LAN PHY)

- 25Gigabit 1310nM Small form Factor Pluggable (SFP28)

-SR: Fiber 10 Gigabit Ethernet 10GBASE-SR:

- 10 Gigabit Fiber Ethernet port supports 10GBASE-SR (850nM LAN PHY)

- 10Gigabit 850nM Small form Factor Pluggable (SFP+)

-LR: Fiber 10 Gigabit Ethernet 10GBASE-LR:

- 10 Gigabit Fiber Ethernet port supports 10GBASE-LR (1310nM LAN PHY)

- 10Gigabit 1310nM Small form Factor Pluggable (SFP+)

LAN and Virtualization Features:

- Unified Networking Providing a single wire for LAN and storage: NAS (SMB, NFS) and SAN (iSCSI, FCoE)

- Remote SAN boot with data path intelligent offload

- VEB (Virtual Ethernet Bridge) & Edge Virtual Bridging / 802.1Qbg

- VMDq for VMware Netqueue* and Microsoft DVMQ*

- SR-IOV (Single Root I/O Virtualization): up to 256 Virtual Functions

- iSCSI and PXE boot (legacy and UEFI)

- Support for standard and custom network headers

- Partially Programmable Pipeline and Advanced Traffic Steering

- Intel® Ethernet Flow Director – 8000 On-Die perfect match filters

- 1536 queues/Physical Function (PF), >64 RSS/PF and 256 VMDq/PF

- Data Center Bridging (DCB) up to 8 traffic classes

Host Interface:

- PCIe x16 lanes from/to host via gold fingers of edge card

- Support PCI Express Base Specification Revision 4.0, 16GT/s, 8GT/s, 5GT/s or 2.5GT/s

Technical Specifications

SFP28 25Gigabit Ethernet Technical Specifications Adapters:	
SFP28 (Small Form Factor Pluggable) supports:	SFI interfaces supports 25GBase-R PCS and 25 Gigabit PMA in order to connect with SFP28 to 25GBase-SR
25GBase-SR SFP28: IEEE Standard / Network topology:	Fiber 25Gigabit Ethernet, 25GBASE-SR (850nM LAN PHY).
25GBase-SR SFP28: Data Transfer Rate :	25.78125Gbps
25GBase-LR SFP28: IEEE Standard / Network topology:	Fiber 25Gigabit Ethernet, 25GBASE-LR (1310nM LAN PHY)
25GBase-LR SFP28: Data Transfer Rate:	25.78125Gbps
25GBase-LR SFP28: Cables and Operating distance Up to:	Single-Mode: 10000m at 9um
-ZS: Fiber 25GBASE-SR Technical Specifications:	
Output Transmit Power (25G):	Minimum: -1.42 dBm
Optical Receive Sensitivity (25G):	Maximum: -5.98 dBm
Operating Systems Support	
Operating system support:	Windows Linux FreeBSD VMware
General Technical Specifications	
Description:	Quad Port SFP28 25/10/1 Gigabit Ethernet PCI Express Server Adapter
Interface Standard:	PCI-Express Base Specification Revision 4.0 (16 GTs)
Board Size:	Low profile short add-in card: 167.64mm X 64.39mm (6.6"X 2.535")
PCI Express Card Type:	X16 Lane
On Board Connector Voltage	+12V +/-8%
PCI Connector:	Gold Finger: X16 Lane
Controllers:	Intel E810-CAM1
Holder:	Metal Bracket
Operating Temperature:	0°C – 45°C (32°F – 113°F)
Weight:	157 g (5.538 oz)

Power Consumption:	16.07 W
Air Flow Requirements:	200 ft./min
Storage:	-40°C–65°C (-40°F–149°F)
Regulation:	Card shall meet CE, FCC Class B, ROHS requirements.
Cabling Type:	SFP28 ports, DAC, Optics, AOC
Data Rate per port:	25/10/1 GbE
Form Factor:	LPHL, Low-Profile, Half-Length
LEDs	
LEDs:	Each Port has 2 LEDs to indicate link status and speed. Link: Physical link Speed: Green stay on – physical link on with 25G Speed (Max speed) Yellow stay on – physical link on with 10G / 1G / 100M (Not max Speed) Off – physical link off. Link /ACT: Logic Link/Activity, Green Green stay on – logic link up, no activity Green blinking – logic link up, activity Off – logic link off
LEDs location:	LEDs are located on the PCB, visible via holes in the metal bracket
Connectors:	Quad Port SFP28 / zSFP+ Cage

Order Information

P/N	Description	Notes
PE425G4i81L-XR	Quad Port SFP28 25 Gigabit Ethernet PCI Express Server Adapter	X16 Gen4, Low Profile, Based on Intel E810-CAM1, Support Direct Attached Copper cable, Support Silicom SFP28 approved transceiver. RoHS compliant
PE425G4i81L-ZS	Quad Port Fiber (SR) 25 Gigabit Ethernet PCI Express Server Adapter	X16 Gen4, Based on Intel E810-CAM1, Low-profile, on board support for Fiber SR, RoHS compliant
PE425G4i81L-ZL	Quad Port Fiber (LR) 25 Gigabit Ethernet PCI Express Server Adapter	X16 Gen4, Based on Intel E810-CAM1, Low-profile, on board support for Fiber LR, RoHS compliant
PE425G4i81L-SR	Quad Port Fiber (SR) 10 Gigabit Ethernet PCI Express Server Adapter	X16 Gen4, Based on Intel E810-CAM1, Low-profile, on board support for Fiber SR, RoHS compliant

PE425G4i81L-LR	Quad Port Fiber (LR) 10 Gigabit Ethernet PCI Express Server Adapter	X16 Gen4, Based on Intel E810-CAM1, Low-profile, on board support for Fiber LR, RoHS compliant

Order information: Model P/N -LP /

-LP: Assemble Low Profile Metal Bracket

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