



P4CG2I81 Dual port 100G Ethernet PCIe Card

Dual port 100G Ethernet PCIe Gen 4.0 Server Adapter Intel® based

Product Description

Silicom's P4CG2I81 100 Gigabit Ethernet PCI Express server adapters IS designed for Servers and high-end appliances. The Silicom 100 Gigabit Ethernet PCI Express Server adapters offer simple integration into any PCI Express X16 to 100Gigabit Networks. The performance is optimized so that system I/O is not the bottleneck in high-performance networking applications.



The Silicom P4CG2I81 100 Gigabit Ethernet PCI Express server adapters is based on Intel E810-CAM2 Ethernet controller with fully integrated two 100G

Ethernet Ports, enhanced programmable packet processing pipeline, virtualization (Enhanced SR-IOV support with up to 256 VFs, backward compatibility VF driver support), new features for the communications market (fine grained scheduler, transmit head drop support, adjustment of credits according to different headers, enhanced QoS, enhanced burst control) and RDMA (iWARP and RoCEv2).

Silicom's P4CG2i81 100 Gigabit Ethernet PCI-Express Server adapter is the ideal solution for implementing multiple network segments, mission-critical high-powered networking applications and environments within high performance servers.



Key Features

Network Interface:

- SERDES capable of 25G NRZ
- Supports up to 8 ports
- 100Gb/s total BW, 2x100G (SR4/LR4) /8x10G (SR/ LR)
- 2x QSFP28
- Auto-negotiation with auto-detect.
- IEEE1588

LAN and Virtualization Features:

- 100Gbps throughput (each of Tx and Rx)
- Parses up to 504B from packet header
- 768 switch ports (VSIs)
- Programmable forwarding rules
- Virtualization
 - Host virtualization via VMQ and SR-IOV
 - 256 SR-IOV Virtual Functions
 - Stateless offloads for tunneled packets (network virtualization support)
 - Malicious VF protection
- **RDMA**
 - iWARP and RoCE v2
 - 256K Queue Pairs (QPs)
 - Send Queue Push Mode
- **QoS**
 - WFQ Transmit scheduler with 9 programmable layers
 - Pipeline sharing and starvation avoidance
 - Up to 32 Congestion Domains in the Tx and Rx paths
 - QoS via 802.1p PCP or Differentiated services DSCP value
 - Rx Packet buffer supports at least 3 no-drop flow control events, shared among ports

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 Compliance with PCIe spec 4.0 currently at draft 0.9

Technical Specifications

– QX4: QSFP28 100Gigabit Ethernet Technical Specifications Adapters:	
QSFP28 (Quad Small Form-factor Pluggable) supports:	100GBASE: CAUI-4 interfaces according IEEE 802.3bm and IEEE 802.3bj standards , to support 100GBase-SR4, 100GBase-LR4 and 100GBase-CR4 interfaces.
– ZS4: Fiber 100GBASE-SR4 Ethernet Technical Specifications:	
IEEE Standard / Network topology:	Fiber Gigabit Ethernet, 100GBase-SR4 (850nM)
Data Transfer Rate:	103.125GBd
Cables and Operating distance: Up to:	Multimode fiber: 62.5um, (OM4) 100m
Optical Output Power:	Typical: -1.55 dBm Minimum: -8.4 dB * being defined by IEEE 802.3bm

Optical Receive Sensitivity:	Typical: -8.94 dBm Maximum: -5.2 dBm * being defined by IEEE 802.3bm
– ZL4: Fiber 100GBASE-LR4 Ethernet Technical Specifications:	
IEEE Standard / Network topology:	Fiber 100Gigabit Ethernet, 100GBASE-LR4 (1310nm)
Data Transfer Rate:	103.1GBd
Cables and Operating distance: Up to:	Single-Mode: 10km
Optical Output Power:	Minimum: -4.3 dBm
Optical Receive Sensitivity:	Maximum: -10.6 dBm
Operating Systems Support	
Operating system support:	Windows Linux FreeBSD VMware
General Technical Specifications	
Interface Standard:	PCI-Express Base Specification Revision 4.0 (16 GTs)
Board Size:	Low profile short add-in card 167.64mm X 68.91mm (6.60"X 2.713")
PCI Express Card Type:	X16 Lane
PCI Express Voltage:	+12V ± 8%
PCI Connector:	Gold Finger: X16 Lane
Controller:	Intel E810-CAM2
SRIOV Capable:	Yes
Holder:	Metal Bracket
Power Consumption:	23.040W
Operating Humidity:	0%–90%, non-condensing

Operating Temperature:	0°C – 45°C (32°F – 113°F)
Storage:	-40°C–65°C (-40°F–149°F)
Regulation:	Card shall meet CE, FCC Class B, ROHS requirements.
LEDs	
LEDs:	Two LEDs per port (1) Link 100/25/10Gbps LED: Turns on – link 100Gbps (Green) <100Gbps (Yellow) (1) Link/Act 100/25/10Gbps LED (Green): Turns on – link, Blink – ACT
LEDs location:	LEDs are located on the PCB, visible by light guide in the metal bracket
Connectors:	(2) MPO/LC

Order Information

P/N	Description	Notes
P4CG2I81-QX4	Dual port (QSFP28) 100 Gigabit Ethernet PCI Express Gen 4.0 Server Adapter	RoHS Compliant, Gen4 x 16, based on Intel E810-CAM2
P4CG2I81-ZS4	Dual port Fiber (SR4) 100 Gigabit Ethernet PCI Express Gen 4.0 Server Adapter	RoHS Compliant, Gen4 x 16, based on Intel E810-CAM2
P4CG2I81-ZL4	Dual port Fiber (LR4) 100 Gigabit Ethernet PCI Express Gen 4.0 Server Adapter	RoHS Compliant, Gen4 x 16, based on Intel E810-CAM2

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