PE210G2I40-T

Dual Port Copper 10 Gigabit Ethernet PCI Express Server Adapter Intel® x540 Based

Product Description



Silicom's 10 Gigabit Ethernet PCI Express server adapters are designed for Servers and high-end network appliances. The Silicom 10 Gigabit Ethernet PCI Express Server adapter offers simple integration into any PCI Express X8 to UTP 10GBase-T Gigabit Networks.

The Silicom's 10 Gigabit Ethernet PCI Express server adapters are based on Intel X540. The Intel X540 10 Gigabit Ethernet controller includes two fully integrated Ethernet Media Access Control (MAC) and two fully integrated 10GBASE-T copper PHYs .



The Intel X540 10 Gigabit Ethernet controllers includes hardware acceleration that can offloads tasks from the host, such as TCP/UDP/IP checksum calculations and TCP segmentation. Silicom's 10 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

Copper 10 Gigabit Ethernet 10GBASE-T :

- Integrated 10 Gigabit Copper PHY supports 10GBASE-T, 1000 BASE- T and 100BASE- TX
- Triple speed 10Gbps (10GBase-T), 1000Mbps (1000Base-T) and 100 Mbps (100Base-Tx)
- RJ-45 connector supports CAT 6A cable

Performance Features:

- Support for jumbo frame up to 15.5KB
- Flow control support
- Statistics management and RMON
- 802.1q VLAN support
- TCP segmentation offload: up to 256KB
- IPV6 Supports for IP/ TCP and IP/UDP Receive Checksum offload

- Fragmented UDP checksum offload for Packet Reassembly
- Message Signal interrupts (MSI)
- Message Signal interrupts (MSI-X)
- Interrupt throttling control to limit maximum interrupt rate and improve CPU usage
- Multiple Receive Queues (RSs) 8×8 & 16×4
- 32 Transmit queues
- Support for 16 Virtual Device Queues (VMDq) per port
- Support Direct Cache Access (DCA)
- Large on chip receive packet buffer (384 KB)
- Large on chip transmit packet buffer (160KB)

Host Interface:

- PCI Express X8 lanes
- Support PCI Express Base Specification 2.1 (5GT/s)

Technical Specifications

10GBASE-T Copper Ethernet Adapters Technical Specifications:	
IEEE Standard / Network topology:	Copper 10Gigabit Ethernet, 10GBASE-T, IEEE 802.3an Gigabit Ethernet, 1000Base-T 100 Mb Ethernet: 100BASE- TX
Data Transfer Rate:	20 Gb/s, 2000Mb/s and 200 Mb/s in full duplex mode per port
Cables and Operating distance:	100Base-Tx Category 5 maximum 100m 1000Base-T Category 5E maximum 100m 10GBase-T Category 6A maximum 100m
Operating Systems Support	
Operating system support:	Windows Linux
General Technical Specifications	
Interface Standard:	PCI-Express Base Specification Revision 2.1 (5GT/s)
Board Size:	Low profile add-in card: 152.4mm X 68.91mm (6.0”X 2.713”)

PCI Express Card Type:	X8 Lane
PCI Express Voltage:	+12V +- 8%
PCI Connector:	Gold Finger: X8 Lane
Controller:	Intel x540
I/O:	RJ45
Weight:	130g
Power Consumption:	14.28 W, 1.19 A at 12V: Typical all ports operate at 10Gb/s, (Normal Mode). 7.92 W, 0.66 A at 12V: Typical all ports operate at 1Gb/s, (Normal Mode). 5.04 W, 0.42 A at 12V: Typical all ports operate at 100Mb/s, (Normal Mode). 7.26 W, 0.605 A at 12V: Typical No link at all ports
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)
EMC Certifications:	FCC Part 15, Subpart B Class A Conducted Emissions Radiated Emissions CE EN 55022: 1998 Class A Amendments A1: 2000; A2: 2003 Conducted Emissions Radiated Emissions CE EN 55024: 1998 Amendments A1: 2000; A2: 2003 Immunity for ITE Amendment A1: 2001 CE EN 61000-3-2 2000, Class A Harmonic Current Emissions CE EN 61000 3-3 1995, Amendment A1: 2001 Voltage Fluctuations and Flicker CE IEC 6100-4-2: 1995 ESD Air Discharge 8kV. Contact Discharge 4kV. CE IEC 6100-4-3:1995 Radiated Immunity (80-1000Mhz), 3V/m 80% A.M. by 1kHz CE IEC 6100-4-4:1995 EFT/B: Immunity to electrical fast transients 1kV Power Leads, 0.5Kv Signals Leads CE IEC 6100-4-5:1995

	Immunity to conductive surges COM Mode; 2kV, Dif. Mode 1kV CE IEC 6100-4-6:1996 Conducted immunity (0.15-80 MHz) 3VRMS 80% A.M. By 1kHz CE IEC 6100-4-11:1994 Voltage Dips and Short Interruptions V reduc >95%, 30% >95% Duration 0.5per, 25per, 250per
MTBF*:	177 (Years) *According to Telcordia SR-332 Issue 1 Environmental condition – GB (Ground, Fixed, Controlled). Ambient temperature – 25°C. Temperature rise of 10°C above the system ambient temperature was assumed for the cards components
LEDs	
LEDs:	(2) LED per port Speed LED: Link of 1Gb/s: Turns on link (yellow) Link of 10Gb/s: Turns on link (green) Link /ACT LED : Turns on link , blinks on activity (green)
LEDs location:	LEDs are located in the RJ45 connector port
Connectors:	(2) Shielded RJ-45

Order Information

P/N	Description	Notes
PE210G2i40-T	Dual Port Copper 10 Gigabit Ethernet PCI Express Server Adapter	X8 Gen 2.1, Based on Intel X540, RoHS compliant
PE210G2i40E-T	Dual Port Copper 10 Gigabit Ethernet PCI Express Server Adapter	X8 Gen 2.1, Based on Intel X540, PXE enabled, RoHS compliant

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