



### PE310G2I71-T 10G Server Adapter

Dual Port Copper 10 Gigabit Card Intel® based

#### Product Description

Silicom's 10 Gigabit Ethernet PCI Express server adapters are designed for Servers and high-end appliances. The Silicom 10 Gigabit Ethernet PCI Express Server adapters offer simple integration into any PCI Express X8 to 10GBase-T Gigabit Networks. The performance is optimized so that system I/O is not the bottleneck in high-performance networking applications.



The Silicom 10 Gigabit Ethernet PCI Express server adapters are based on Intel X710-AT2 Ethernet controller with fully integrated Gigabit Ethernet Media Access Control (MAC) and 10 GbE PHY. 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 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, 5GBASE-T, 2.5GBASE-T, 1000 BASE-T and 100BASE-TX.
- RJ-45 connector supports Category 6A, Category 5e up to 100m.

##### Host Interface:

- Number of lanes: x8, x4, x1.
- PCIe v3.0 (8GT/s or 5GT/s or 2.5GT/s).

### LAN and Virtualization Features:

- Network Virtualization offloads including VXLAN, GENEVE, NVGRE, MPLS, and VXLAN-GPE with Network Service Headers (NSH)
- Unified Networking LAN, SAN (iSCSI), NAS Remote SAN boot with data path intelligent offload iSCSI and PXE boot (legacy and UEFI)
- Edge Virtual Bridging (IEEE P802.1Qbg-2012).
- 1536 queues/Physical Function (PF), >64 RSS/PF and 256 VMDq/PF.
- VMDq for VMware Netqueue\* and Microsoft DVMQ\*.
- SR-IOV (Single Root I/O Virtualization): up to 128 Virtual Functions.
- Intel® Ethernet Adaptive Virtual Function for greater interoperability.
- TCP/IP/L2 features:
  - Receive Side Scaling (RSS)
  - Large Send Offload (LSO)
  - TCP/UDP/IP/SCTP Checksum Offload
  - IPV4, IPV6

### Additional Features:

- Support for jumbo frame up to 9.5KB
- Priority Flow Control (draft IEEE 802.1Qbb)
- Enhanced Transmission Selection (draft IEEE802.1az)
- Statistics management and RMON
- DCB/DCB-X support
- Message Signal interrupts (MSI-X)

## Technical Specifications

10GBASE-T Copper Ethernet Adapters Technical Specifications:	
IEEE Standard / Network topology:	10GBASE-T, NBASE-T, 1000BASE-T, 100BASE-TX
Data Transfer Rate:	10GbE/5GbE/2.5GbE/1GbE/100Mb 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
PE310G2I71-T: General Technical Specification	
Interface Standard:	PCI-Express Base Specification Revision 3.0 (8 GT/sec)

<b>Board Size:</b>	154.95 mm X 68.88 mm (6.1" X 2.712") PCB thickness is 0.062 inch
<b>PCI Express Card Type:</b>	X8 Lane
<b>PCI Express Voltage:</b>	+12V +- 8%
<b>PCI Connector:</b>	X8 Lane
<b>Controller:</b>	Intel X710-AT2
<b>Holder:</b>	Metal Bracket
<b>Weight:</b>	110 gr (3.88 oz)
<b>Power Consumption:</b>	8.28 W (0.69 A at 12v) – Full 10GBase-T traffic 6.6 W (0.55 A at 12v) – Full 5GBase-T traffic 6.48 W (0.54 A at 12v) – Full 2.5GBase-T traffic 5.52 W (0.46 A at 12v) – Full 1000Base-T traffic 4.56 W (0.38 A at 12v) – Full 100Base-T traffic 3.6 W (0.3 A at 12V) – No Link
<b>Operating Humidity:</b>	0%–90%, non-condensing
<b>Operating Temperature:</b>	0°C – 45°C (32°F – 113°F)
<b>Storage:</b>	-40°C–65°C (-40°F–149°F)
<b>EMC Certifications:</b>	FCC 47CFR Part 15:2013, Subpart B Class B Conducted emissions Radiated emissions EN 55022: 2010, Class B Conducted disturbance at mains terminals Conducted disturbance at telecommunication port Radiated disturbance EN 61000-3-2: 2006+A1(09)+A2(09) Harmonic current emissions EN 61000-3-3: 2008 Voltage fluctuations and flicker EN 55024: 2010 Immunity to electrostatic discharge (ESD) Radiated immunity to radio frequency electromagnetic field Conducted immunity to electrical fast transients / bursts (EFT/ B) Conducted immunity to voltage surges Conducted immunity to disturbances induced by radio frequency field Conducted immunity to voltage dips and short interruptions
<b>MTBF*:</b>	1118 (Years) *According to Telcordia SR-332 Issue 4 Environmental condition – GB (Ground, Fixed, Controlled). Ambient temperature – 40°C. Temperature rise of 10°C above the system ambient temperature was assumed for the cards components
<b>LEDs</b>	
<b>LEDs:</b>	(2) LED per port Speed LED(Left): Link of 10Gb/s: Turns on link (green) Link of 5Gb/s: Turns on link (yellow) Link of 2.5Gb/s: Turns on link (yellow) Link of 1Gb/s: Turns on link (yellow) Link of 100Mb/s: Turns off link Link /ACT LED(Right) : Turns on link , blinks on activity (green)
<b>LEDs location:</b>	LEDs are located in the RJ45 connector port.
<b>Connectors:</b>	(4) Shielded RJ-45

## Order Information

P/N	Description	Notes
PE310G2I71-T	Dual Port Copper 10GBE PCI-E G3 Server Adapter	X8 Gen3, Based on Intel X710-AT2, RoHS compliant
PE310G2I71EU-T	Dual Port Copper 10GBE PCI-E G3 Server Adapter with UEFI PXE	X8 Gen3, Based on Intel X710-AT2, RoHS compliant

Order information: Model P/N

1V1