



### PE310G2M3-T

#### Dual Port Copper 10 Gigabit Ethernet PCI Express Server Adapter

##### 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 Mellanox ConnectX-3 Pro EN. The Mellanox ConnectX-3 Pro EN 10 Gigabit Ethernet controller includes two fully integrated Gigabit Ethernet Media Access Control (MAC) and XFI ports.

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.

The Silicom's 10 Gigabit Ethernet PCI Express server adapter is positioned to address the I/O needs of new wave data centers that demand optimum use of multi-core CPU-based servers, service oriented architectures (SOA) for higher business performance, seamless acceleration of legacy applications, and virtualization for agility and better resource utilization.



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
- Dual speed 10Gbps (XFI) and 1000Mbps (SGMII) MAC
- RJ-45 connector supports CAT 6A cable

### **Performance Features:**

- IEEE 802.1bb Priority-based Flow Control
- IEEE 802.1q,.1p VLAN tags and priority
- Jumbo frame support (9.6KB)
- IEEE Std 802.3ad Link Aggregation and Failover
- IEEE Std 802.3ae 10 Gigabit Ethernet
- SRIOV – up to 127 virtual functions and up to 16 physical functions
- LEDs indicators for link/Activity and speed status

### **Overlay Networks:**

- VXLAN and NVGRE – A Framework for Overlaying Virtualized Layer 2 Networks over Layer 3 Networks
- Network Virtualization
- hardware offload engines

### **Hardware-based I/O Virtualization**

- Single-Root IOV
- Address translation and protection
- Dedicated adapter resources
- Multiple queues per virtual machine
- Enhanced QoS for vNICs
- VMware NetQueue support

### **Additional CPU OFFLOADS**

- RDMA over Converged Ethernet
- TCP/UDP/IP stateless offload
- Intelligent interrupt coalescence

## FLEXBOOT™ TECHNOLOGY

- Remote boot over Ethernet
- Remote boot over iSCSI

### Protocol support

- Open MPI, OSU MVAPICH, Intel MPI, MS
- MPI, Platform MPI
- TCP/UDP
- iSER, NFS RDMA
- uDAPL

### Host Interface:

- PCI Express x8 lanes
- Support PCI Express Base Specification 3.0 (8GT/s) with 2.0 (5.0GT/s) and 1.1 (2.5GT/s)
- Address Translation Services (ATS)
- Low-Profile Adapter

## Technical Specifications

Copper Gigabit Ethernet Technical Specifications – (10GBase-T) Adapters:	
<b>IEEE Standard / Network topology:</b>	Copper 10Gigabit Ethernet, 10GBASE-T, IEEE 802.3an Gigabit Ethernet and 1000Base-T
<b>Data Transfer Rate:</b>	20 Gb/s and 2000Mb/s in full duplex mode per port
<b>Cables and Operating distance:</b>	1000Base-T Category 5E maximum 100m 10GBase-T Category 6A maximum 100m

Operating Systems Support	
<b>Operating system support:</b>	Windows Linux
General Technical Specifications	
<b>Interface Standard:</b>	PCI-Express Base Specification Revision 3.0 (8GT/s)
<b>Board Size:</b>	Low profile add-in card: 167.65mm X 68.91mm (6.60"X 2.713")
<b>PCI Express Card Type:</b>	X8 Lane
<b>PCI Express Voltage:</b>	+12V ± 8%
<b>PCI Connector:</b>	Gold Fingers: X8 Lane
<b>Controller:</b>	Mellanox MT27528A0-FCCR-XE Broadcom BCM84833 (version B1)
<b>Holder:</b>	Metal Bracket
<b>I/O:</b>	RJ45
<b>Weight:</b>	140g
<b>Power Consumption:</b>	13.68W
<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>	<p>FCC Part 15, Subpart B Class A</p> <p>Conducted Emissions</p> <p>Radiated Emissions</p> <p>CE EN 55022: 1998 Class A Amendments A1: 2000; A2: 2003</p> <p>Conducted Emissions</p> <p>Radiated Emissions</p> <p>CE EN 55024: 1998 Amendments A1: 2000; A2: 2003</p> <p>Immunity for ITE Amendment A1: 2001</p> <p>CE EN 61000-3-2 2000, Class A</p> <p>Harmonic Current Emissions</p> <p>CE EN 61000 3-3 1995, Amendment A1: 2001</p> <p>Voltage Fluctuations and Flicker</p> <p>CE IEC 6100-4-2: 1995</p> <p>ESD Air Discharge 8kV. Contact Discharge 4kV.</p> <p>CE IEC 6100-4-3:1995</p> <p>Radiated Immunity (80-1000Mhz), 3V/m 80% A.M. by 1kHz</p> <p>CE IEC 6100-4-4:1995</p> <p>EFT/B: Immunity to electrical fast transients 1kV Power Leads, 0.5Kv Signals Leads</p> <p>CE IEC 6100-4-5:1995</p> <p>Immunity to conductive surges COM Mode; 2kV, Dif. Mode 1kV</p> <p>CE IEC 6100-4-6:1996</p> <p>Conducted immunity (0.15-80 MHz) 3VRMS 80% A.M. By 1kHz</p> <p>CE IEC 6100-4-11:1994</p> <p>Voltage Dips and Short Interruptions</p> <p>V reduc &gt;95%, 30% &gt;95% Duration 0.5per, 25per, 250per</p>
<b>LEDs</b>	
<b>LEDs:</b>	<p>(2) LED per port</p> <p>Speed LED:</p> <p>1Gb/s Link: Turns on yellow</p> <p>10Gb/s Link: Turns on green</p> <p>Link /ACT LED :</p>

	Turns on link , blinks on activity (green)
<b>LEDs location:</b>	LEDs are located in the RJ45 connector port
<b>Connectors:</b>	(2) Shielded RJ-45

## Order Information

P/N	Description	Notes
<b>PE310G2M3-T</b>	Dual Port Copper 10 Gigabit Ethernet PCI Express Server Adapter	X8 Gen3 , Based on Mellanox MT27528A0-FCCR-XE 10GBase-T Low-profile, RoHS compliant

Model P/N -LP

-LP: Assemble Low Profile Metal Bracket

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