PE310G2T10-T

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

Product Description

The Silicom 10Gigabit PCI Express TOE server adapters provide a fully integrated solution up to Layer 5 along with a complete 10 Gigabit Ethernet port/s based on Broadcom BCM57810S.

Silicom 10Gigabit Ethernet PCI Express TOE server adapters are Silicom's fifth -generation solution for high performance server network application. Silicom 10Gigabit Ethernet PCI Express TOE server adapters are based on Broadcom's convergence Network Interface card (C-NIC) off load technology for iSCSI*, FcOE*, TOE* and RDMA*

TCP Offload Engine

Silicom 10Gigabit Ethernet TOE server adapters include dedicated hardware and processors to process the frame that traverse it functionality.On the transmit path, the TOE controller Copied the data directly from the highest hierarchy of buffers available, execute the TCP/IP, adds lower level headers. On the receive, path, the TOE controller process frame up to the highest layer supported present in the frame, removes lower level headers, posts the data directly to application to application buffers.

The transmit and receive TOE functionality relieves the host CPI from the from these time consuming operations.

Convergence NIC

The Silicom TOE server adapter is a convergence networking interface card and allows one network connection to provide access to all information types.

Silicom TOE Gigabit Ethernet server adapters can simultaneously support the following functions: TOE* Chimney- enabled network accelerator, iSCSI* controller, RDMA* network interface controller.

Reliability, Availability, Serviceability

Silicom 10Gigabit Ethernet PCI Express TOE server adapters enables fault-tolerant via teaming. Traffic from the failed port is routed through up to seven other members of the team. Silicom 10 Gigabit Ethernet PCI Express TOE 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

TCP offload Engine

- Full fast path TCP offload for IPV4 and IPV6
- Microsoft* TCP chimney compliant

iSCSI Controller*

- iSCSI initiator
- iSER (iSCSI over RDMA)

RDMA Controller (RNIC)*

- RDMA over TCP (iWARP) – RDMAC 1.0 compliant
- Hardware-based data placement in application buffers without CPU intervention (user and kernel modes
- Receive Side Scaling (RSS)
- TCP, IP checksum offload
- TCP segmentation offload
- Message Signal Interrupts (MSI/MSI-X)
- High performance, reliability, and low power use in Broadcom BCM57810S TOE controller
- LEDs indicators for link/Activity and speed status

Host Interface:

- PCI Express x8 lanes

- Support PCI Express Base Specification 2.1 (5GT/s)
- Low-Profile Adapter

Technical Specifications

Copper Gigabit Ethernet Technical Specifications – (10GBase-T) Adapters:	
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: 167.65mm X 68.91mm (6.60”X 2.713”)
PCI Express Card Type:	X8 Lane
PCI Express Voltage:	+12V +- 8%
PCI Connector:	Gold Fingers: X8 Lane
Controller:	Broadcom BCM57810S (version B0)+ BCM84833 (version B1)
Holder:	Metal Bracket
I/O:	RJ45
Weight:	120 gram (4.233 oz)

Power Consumption:	16.56 W, 1.38 A at 12V: Typical all ports operate at 10Gb/s, 10.92 W, 0.91 A at 12V: Typical all ports operate at 1Gb/s, 9.36 W, 0.78 A at 12V: Typical all ports operate at 100Mb/s, 8.22 W, 0.685 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*:	128 (Years) According to Telcordia SR-332 Issue 2 Environmental condition – GB (Ground, Fixed, and Controlled). Ambient temperature 40°C.

LEDs	
LEDs:	(2) LED per port Speed LED: Link of 100Mb/s: Turns on link (yellow) Link of 1Gb/s: Turns on link (yellow) Link of 10Gb/s: Turns on link (green) ACT LED : 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
PE310G2T10-T	Dual Port Copper 10 Gigabit Ethernet PCI Express Server Adapter	X8 Gen2 , Based on Broadcom BCM57810S, 10GBase-T Low-profile, RoHS compliant

Model P/N -LP

-LP: Assemble Low Profile Metal Bracket

* iSCSI*, FcOE*, TOE* and RDMA* are not released

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