



PE2G4B19L

Quad Port Copper Gigabit Ethernet PCI Express Server Adapter Broadcom® BCM5719 Based

Product Description

Silicom's Quad Port Copper Gigabit Ethernet PCI Express Server adapter is PCI-Express X4 Copper Gigabit Ethernet network interface card that contain Multiple / Single Gigabit port/s on a PCI-Express adapter.



Silicom's Quad Port Copper Gigabit Ethernet PCI Express Server adapter is designed for Servers and high-end appliances. The performance is optimized so that system I/O is not the bottleneck in high-performance networking applications.

Silicom's Quad Port Copper Gigabit Ethernet PCI Express Server adapter enable fault-tolerant via teaming. Traffic from the failed port is routed through other members of the team. Silicom's Quad Port Copper Gigabit Ethernet PCI Express Server adapter has an integrated hardware acceleration that performs TCP/UDP/IP checksum offload and TCP segmentation.

The host processing offloads accelerators frees CPU for application processing. Silicom's Quad Port Copper 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.

Silicom's Quad Port Copper Gigabit Ethernet server adapter is based on Broadcom BCM5719 Quad port Gigabit Ethernet MAC+PHY of Broadcom Controller.

Key Features

Performance Features:

- 16 Transmit and 17 Receive queues per port.
- Up to 17 queues of Receive Side Scaling (RSS) minimize CPU utilization across multiple processor systems
- TSO interleaving for reduced latency
- UDP TSO
- Minimized device I/O interrupts using MSI and MSI-X
- Offload of TCP / IP / UDP checksum calculation and TCP segmentation



Copper Gigabit Ethernet 1000Base-T :

- Independently copper Gigabit Ethernet channels support Single Gigabit Ethernet (1000Base-T), Fast Ethernet (100Base-Tx) and Ethernet (10Base-T)
- Triple speed 1000Mbps (1000Base-T), 100 Mbps (100Base-Tx) and 10 Mbps (100Base-T) operation
- Nway auto negotiation automatic sensing and switching between 1Gbps full duplex and 100 / 10 Mbps operations Simplex or Full Duplex
- RJ-45 female connectors

Common Key features:

- Host Interface standard support PCI-Express Base Specification Revision 2.0
- High performance, reliability, and low power use in Broadcom BCM5719 Quad integrated MAC + PHY and SERDES chip Controllers.
- Ultra deep, packet buffer per channel lowers CPU utilization
- Hardware acceleration that can offload tasks from the host processor. The Controllers can offload TCP/UDP/IP checksum calculations and TCP segmentation.
- Virtual LANs –802.1q VLAN tagging
- Jumbo Frame (9.6KB)
- 802.3x flow control
- PCI-SIG SR IOV
- Statistics for SNMP MIB II, Ethernet like MIB, and Ethernet MIB (802.3z, Clause 30)
- LEDs indicators for Link/Activity/Speed status

Technical Specifications

Copper Gigabit Ethernet Technical Specifications – (1000Base-T) Adapters:	
IEEE Standard / Network topology:	Gigabit Ethernet, 1000Base-T Fast Ethernet, 100Base-TX Ethernet, 10Base-T
Full duplex / Simplex:	Support both Simplex & Full duplex operation in all operating speeds
Auto negotiation:	Auto-negotiation between Full duplex and simplex operations and between 10Mb/s 100Mb/s speeds and duplex 1000Mb/s.
Data Transfer Rate:	1000 Mb/s, 100 Mb/s and 10 Mb/s in simplex mode per port 2000Mb/s 200 and 20 Mb/s in full duplex mode per port

Cables and Operating distance:	10Base-T Category 3, 4, or 5 maximum 100m 100Base-Tx Category 5 maximum 100m 1000Base-T Category 5E maximum 100m
Operating Systems Support	
Operating system support:	Windows Linux
General Technical Specifications	
Interface Standard:	PCI-Express Base Specification Revision 2.0 (5 GTs)
Board Size:	Low profile short add-in card: 167.64mm X 68.91mm (6.60"X 2.713")
PCI Express Card Type:	X4 Lane
PCI Express Voltage:	+12V +- 8%
PCI Connector:	Gold Finger: X4
Controller:	Broadcom BCM5719
Weight:	110 g (3.88 Oz)
Power Consumption:	4.32 W, 0.36 A at 12V: Typical all ports operate at 1000Mb/s. 2.64 W, 0.22 A at 12V: Typical all ports operate at 100Mb/s. 2.16 W, 0.18 A at 12V: Typical all ports operate at 10Mb/s. 1.56 W, 0.13 A at 12V: Typical No link at all ports
Holder:	Metal Bracket: Full Height
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 B Amendments A1: 2000; A2: 2003 Conducted Emissions Radiated Emissions

	<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 >95%, 30% >95% Duration 0.5per, 25per, 250per</p>
MTBF:	<p>323 (Years)</p> <p>* According to Telcordia SR-332 Issue 2. Environmental condition – GB (Ground, Fixed, and Controlled). Ambient temperature 40°C</p>
LEDs	
LEDs:	<p>(2) LEDs per port</p> <p>Link / Act Led:</p> <p>Turn on any Link speed , Blinks on Activity (green)</p> <p>Speed (Bi-color) Led:</p> <p>1000Mbit/s: Turns on Yellow</p> <p>100Mbits/s: Turns on Green.</p> <p>10Mbit/s: Turns off</p>
LEDs location:	LEDs are integrated on RJ-45 connector
Connectors:	(4) Shielded RJ-45

Order Information

P/N	Description	Notes
PE2G4B19L	Quad Port Copper Gigabit Ethernet PCI Express Server Adapter	X4, Based on BCM5719, Ver A1, low profile

Model P/N -RoHS

-RoHS: RoHS Compliant / Lead free adapter.

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