



### PE2G2B18

#### Dual Port Copper Gigabit Ethernet PCI Express Server Adapter Broadcom® BCM5718 Based

##### Product Description

Silicom's Dual Port Copper Gigabit Ethernet PCI Express Server adapter is PCI Express x2 lane, Gen-1 Copper Gigabit Ethernet network interface card that contains two Gigabit copper ports on a PCI Express adapter.

The Silicom's Dual Port Copper Gigabit Ethernet PCI Express Server adapter is based on BCM5718 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 Dual 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 Dual 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.

##### Key Features

- X2 at 2.5 GT/s
- MSI and MSI-Capabilities – up to 17 MS-X vectors
- I/O Virtualization support for VMWare® NetQueue® and Microsoft® VMQ
- 17 receive queues and 16 transmit queues
- Receive Side Scaling (RSS) with per queue MSI-X vector support.
- Transmit Side scaling ( TSS) and multi-Tx queue with per queue MSI-X vector support
- Jumbo frame support 9.6 KB
- Virtual LAN – 802.1q VLAN tagging

##### Copper Gigabit Ethernet 1000Base-T :

- Independently copper Gigabit Ethernet channels support four 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

## Technical Specifications

Copper Gigabit Ethernet Technical Specifications – (1000Base-T) Adapters:	
<b>IEEE Standard / Network topology:</b>	Gigabit Ethernet, 1000Base-T Fast Ethernet, 100Base-TX Ethernet, 10Base-T
<b>Full duplex / Simplex:</b>	Support both Simplex & Full duplex operation in all operating speeds
<b>Auto negotiation:</b>	Auto-negotiation between Full duplex and simplex operations and between 10Mb/s 100Mb/s speeds and duplex 1000Mb/s
<b>Data Transfer Rate:</b>	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
Operating Systems Support	
<b>Operating system support:</b>	Windows Linux
General Technical Specifications	
<b>Interface Standard:</b>	PCI-Express Base Specification Revision 2.0 ( 2.5 GTs)
<b>Board Size:</b>	Low profile short add-in card: 127 mm X 68.91mm (5.0"X 2.713")
<b>PCI Express Card Type:</b>	X2 Lane , Gen-1, Mechanical format X4
<b>PCI Express Voltage:</b>	+12V +- 8%
<b>PCI Connector:</b>	Gold Finger: X4
<b>Controller:</b>	Broadcom BCM5718
<b>Product IDs</b>	VID: 0x14e4, PID: 0x1656, Sub-VID:0x14e4, Sub-PID:0x1656

<b>I/O:</b>	Dual RJ45 located on edge of the board
<b>Weight:</b>	80 gram (2.822 oz)
<b>Power Consumption:</b>	<p>2.52W, 0.21A at 12V: Typical all ports operate at 1000Mb/s.</p> <p>1.92W,0.16A at 12V: Typical all ports operate at 100Mb/s.</p> <p>1.80W. 0.15A at 12V: Typical all ports operate at 10Mb/s.</p> <p>1.44W, 0.12A at 12V: Typical No link at all ports</p>
<b>Power Consumption (Max):</b>	2.87W: all ports operate at 1000Mb/s.
<b>Holder:</b>	Metal Bracket: Full Height/Low profile Height
<b>Operating Humidity:</b>	0%–90%, non-condensing
<b>Operating Temperature:</b>	0°C – 45°C (32°F – 113°F)
<b>Storage:</b>	-20°C–65°C (-4°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,</p>

	<p>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 &gt;95%, 30% &gt;95% Duration 0.5per, 25per, 250per</p>
<b>MTBF:</b>	<p>237 (Years)  *According to Telcordia SR-332 Issue 1  Environmental condition – GB (Ground, Fixed, Controlled). Ambient temperature – 25°C.  Temperature rise of 15°C above the system ambient temperature was assumed for the cards components</p>
<b>LEDs</b>	
<b>LEDs:</b>	<p>(3) LEDs per port  Link / Act: Turn on any Link (1000, 100 or 10), Blinks on Activity (green)  100: Turns on 100Mb/s Link (green)  1000: Turns on 1000 Mb/s Link (green)</p>
<b>LEDs location:</b>	LEDs are located on the PCB, visible via holes in the metal bracket holder
<b>Connectors:</b>	(2) Shielded RJ-45

## Order Information

P/N	Description	Notes
<b>PE2G2B18-R</b>	Dual Port Copper Gigabit Ethernet PCI Express Server Adapter	X2 lane Gen-1 , Based on Broadcom BCM5718 /B0, Low-Profile, RoHS compliant, Mechanical format X4

Model P/N -LP / -RoHS

-R: RoHS Compliant / Lead free adapter.

-LP: Assemble Low Profile Metal Bracket, available in dual or single port only

1V5