Silicom Connectivity Solutions

PE2G4I35L

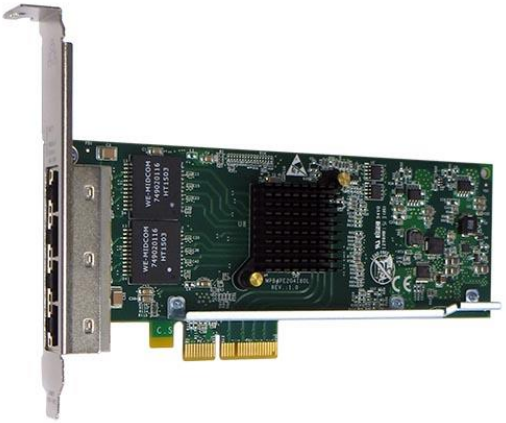
Quad Port Copper Gigabit Ethernet PCI Express Network Interface Card Intel® i350AM4 Based

Product Description



Silicom's Quad Port Copper Gigabit Ethernet PCI Express Server adapter is PCI-Express X4 Copper Gigabit Ethernet network interface card that is based on a single chip, non-Bridged quad port GBE controller.

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 Intel i350 Quad port Gigabit Ethernet MAC+PHY of Intel Controller.

The Silicom i350 support PCI-SIG Single-Root I/O virtualization and sharing specification (SR-IOV).

Key Features

Performance Features:

- 8 Transmit and 8 Receive queues per port
- Up to 8 queues of Receive Side Scaling (RSS) minimize CPU utilization across multiple processor systems
- Support PCI-SIG Single-Root I/O virtualization Rev 1.1.
- Support for up to 8 virtual function (VFs)
- Partial replication of PCI Configuration space
- Support for 8 pools (single queue) of virtual machine Device Queues (VMDq) per port
    - Support Direct Cache Access (DCA)
- Support Intel I/O Acceleration Technology v3.0.
- TSO interleaving for reduced latency
- Minimized device I/O interrupts using MSI and MSI-X
- UDP, TCP and IP checksum offload
- UDP and TCP transmit segmentation offload (TSO). machine

- SCTP receive and transmit checksum offload
- Packet interrupt coalescing timers (packet timers) and absolute-delay interrupt timers for both transmit and receive operation
- EEE (IEEE 802.3az) for reduced power consumption during low link utilization periods

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

Common Key features:

- Support PCI Express Base Specification 2.1 (5 GTs)
- High performance, reliability, and low power use in Intel i350 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
- Server class reliability, availability and performance features:
  - Link Aggregation and Load Balancing
- Priority queuing – 802.1p layer 2 priority encoding
- Virtual LANs –802.1q VLAN tagging
- Jumbo Frame (9.5KB)
- 802.x flow control
- Multicast/ broadcast Packet replication
- Supports Vital Product Data (VPD)
- 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/sec 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:	Linux Windows FreeBSD VMware
General Technical Specifications	
Interface Standard:	PCI-Express Base Specification Revision 2.1 (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:	+3.3V +-9%, +12V +- 8%
PCI Connector:	Gold Finger: X4
Controller:	Intel i350AM4
I/O:	Quad RJ45 located on edge of the board
Weight:	105g (3.704 oz)
Power Consumption:	5.04 W, 0.42A at 12V: Typical all ports operate at 1000Mb/s. 3.60 W, 0.30A at 12V: Typical all ports operate at 100Mb/s. 2.88 W, 0.24A at 12V: Typical all ports operate at 10Mb/s.

	2.52 W, 0.21A at 12V: Typical No link at all ports
Holder:	Metal Bracket: Full Height/Low profile Height
Operating Humidity:	0%–90%, non-condensing
Operating Temperature:	0°C – 55°C (32°F – 131°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 Clas 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:	286 Years. *According to Telcordia SR-332 Issue 2. Environmental condition – GB (Ground, Fixed, and Controlled). Ambient temperature 40°C

LEDs	
LEDs:	(2) LEDs per port Link / Act Led: Turn on any Link speed , Blinks on Activity (green) Speed (Bi-color) Led: 1000Mbit/s: Turns on Yellow 100Mbits/s: Turns on Green 10Mbit/s: Turns off
LEDs location:	LEDs are integrated on RJ-45 connector
Connectors:	(4) Shielded RJ-45

Order Information

P/N	Description	Notes
PE2G4I35L	Quad Port Copper Gigabit Ethernet PCI Express Server Adapter	X4, Based on Intel i350AM4, Low-Profile, RoHS compliant

Model P/N -LP

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

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