



### PE2G2I35

#### Dual Port Copper Gigabit Ethernet PCI Express Server Adapter Intel® i350AM2 Based

##### Product Description

Silicom's Dual Port Copper Gigabit Ethernet PCI Express Server adapter is PCI-Express X4 Copper Gigabit Ethernet network interface card that contain Multiple Gigabit ports on a PCI-Express adapter.



Silicom's Dual 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 Dual 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 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.



Silicom's Dual Port Copper Gigabit Ethernet server adapter is based on Intel i350 Dual port Gigabit Ethernet MAC+PHY of Intel Controller.

##### 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 two 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 Dual 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:	
<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/sec in simplex mode per port. 2000Mb/s 200 and 20 Mb/s in full duplex mode per port.
<b>Cables and Operating distance:</b>	10Base-T Category 3, 4, or 5 maximum 100m * 100Base-Tx Category 5 maximum 100m * 1000Base-T Category 5E maximum 100m *
Operating Systems Support	
<b>Operating system support:</b>	Linux Windows FreeBSD VMware
General Technical Specifications	
<b>Interface Standard:</b>	PCI-Express Base Specification Revision 2.1 ( 5 GTs)
<b>Board Size:</b>	Low profile short add-in card: 127mm X 68.91mm (5"X 2.713")
<b>PCI Express Card Type:</b>	X4 Lane
<b>PCI Express Voltage:</b>	+3.3V +-9%, +12V +- 8%
<b>PCI Connector:</b>	Gold Finger: X4
<b>Controller:</b>	Intel i350AM2
<b>I/O:</b>	Dual RJ45 located on edge of the board
<b>Weight:</b>	110g (3.88 oz)
<b>Power Consumption:</b>	3.36W, 0.28A at 12V: Typical all ports operate at 1000Mbit/s. 2.64 W, 0.22A at 12V:

	<p>Typical all ports operate at 100Mbit/s.  2.4 W, 0.2 at 12V:  Typical all ports operate at 10Mbit/s.  2.28 W, 0.19A at 12V:  Typical No link at all ports</p>
<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 B  Conducted Emissions  Radiated Emissions  CE EN 55022: 1998 Class B 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 &gt;95%, 30% &gt;95% Duration 0.5per, 25per, 250per</p>
<b>MTBF:</b>	316 Years

	*According to Telcordia SR-332 Issue 2. Environmental condition – GB (Ground, Fixed, and Controlled). Ambient temperature 40°C
<b>LEDs</b>	
<b>LEDs:</b>	(3) Led's 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)
<b>LEDs location:</b>	Led's are located on the PCB, visible via holes in the metal bracket holder
<b>Connectors:</b>	(4) Shielded RJ-45

### Order Information

P/N	Description	Notes
<b>PE2G2i35</b>	Dual Port Copper Gigabit Ethernet PCI Express Server Adapter	X4, Based on Intel i350AM2, 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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