Silicom Connectivity Solutions

PE2G2SFPI35

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

Product Description

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

Silicom's Dual Port SFP 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 SFP Gigabit Ethernet Server adapter is based on Intel i350 Dual 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

SFP Gigabit Ethernet:

- Gigabit Ethernet Adapters with SFP cage support:
  - 1000Base-LX Fiber Gigabit Ethernet with 1000Base-LX SFP transceiver
  - 1000Base-SX Fiber Gigabit Ethernet with 1000Base-SX SFP transceiver
  - Small Form Factor Pluggable (SFP) Cage for SFP LC connectors
- 2PortLink synchronization
- Optional SGMII mode (future support)

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

SFP Gigabit Ethernet Technical Specifications – (SFP) Adapters:	
SFP (Small Form Factor Pluggable) supports:	1Gb SERDES interfaces supports 1000Base-X in order to connect with SFP to 1000Base-SX / 1000Base-LX / 1000Base-T SFP transceivers.
IEEE Standard / Network topology: with 1000Base-T SFP	Gigabit Ethernet (1000Mb/s only), 1000Base-T
IEEE Standard / Network topology: with 1000Base-SX SFP	Fiber Gigabit Ethernet, 1000Base-SX (850nM)

IEEE Standard / Network topology: with 1000Base-LX SFP	Fiber Gigabit Ethernet, 1000Base-LX (1310nM)
SFP Gigabit Ethernet Technical Specifications – (SFP 1000Base-SX) Adapters:	
IEEE Standard / Network topology: with 1000Base-SX S	Fiber Gigabit Ethernet, 1000Base-SX (850nM)
Cables and Operating distance:	Multimode fiber: 220m at 62.5 um 550m at 50 um
Optical Output Power:	Minimum: -9 dBm
Optical Receive Sensitivity:	Maximum: -18 dBm
SFP Gigabit Ethernet Technical Specifications – (SFP 1000Base-LX) Adapters:	
IEEE Standard / Network topology: with 1000Base-LX SFP	Fiber Gigabit Ethernet, 1000Base-LX (1310nM)
Cables and Operating distance:	Single-Mode: 5000m at 9um Multimode fiber: 550m at 50 um 550m at 62.5 um
Optical Output Power:	Minimum: -3 dBm
Optical Receive Sensitivity:	Maximum: -20 dBm
Operating Systems Support	
Operating system support:	Linux Windows VMware
General Technical Specifications	
Interface Standard:	PCI-Express Base Specification Revision 2.1 (5 GTs)
Board Size:	Low profile short add-in card: 127mm X 68.91mm (5.0”X 2.713”)
PCI Express Card Type:	X4 Lane
PCI Express Voltage:	+12V +- 8%
PCI Connector:	Gold Finger: X4
Controllers:	Intel i350AM2
I/O:	2 x SFP Transceivers located on internal bracket
Weight:	100gr (3.528 oz)

Power Consumption (-SX):	Both ports at 1G: 3.12W, 0.26A @12V
Power Consumption (-LX):	Both ports at 1G: 3.6W, 0.30A @12V
Power Consumption (-T):	Both ports at 1G: 3.6W, 0.30A @12V
Holder:	Metal Bracket: Full Height/Low profile 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)
Regulation:	FCC 47CFR Part 15:2015, Subpart B, Class B Conducted Emissions Radiated Emissions ICES-003: 2012 Issue 5, ClassB VCCI V-3/2015.04, Class B AS/NZS CISPR 22:2009 + A1(10), Class B CE EN 55022: 2010 + AC(11), Class B Conducted Emissions Radiated Emissions CE EN 55024: 2010 Amendments A1: 2000; A2: 2003 Immunity for ITE Amendment A1: 2001 CE EN 61000-3-2 2014 Harmonic Current Emissions CE EN 61000 3-3 2013 Voltage Fluctuations and Flicker CE IEC 61000-4-2: 2009 ESD Air Discharge 8kV. Contact Discharge 4kV. CE IEC 6100-4-3:2006+A1(08)+A2(10) Radiated Immunity (80-1000Mhz), 3V/m 80% A.M. by 1kHz CE IEC 6100-4-4:2004+A1(10) EFT/B: Immunity to electrical fast transients 1kV Power Leads, 0.5Kv Signals Leads CE IEC 6100-4-5:2006 Immunity to conductive surges COM Mode; 2kV, Dif. Mode 1kV CE IEC 6100-4-6:2009 Conducted immunity (0.15-80 MHz) 3VRMS 80% A.M. By 1kHz CE IEC 6100-4-11:2004 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 LEDs per port Left LED : Link: Turns on Yellow 1G Link Turns on Green 100M Link Right LED: Link / Act: Turn on Link (Green), Blinks on Activity (Green)
LEDs location:	LEDs are located on the PCB, visible via holes in the metal bracket holder
Connectors:	(2) Small Form Factor Pluggable (SFP) Cage

Order Information

P/N	Description	Notes
PE2G2SFPI35	Dual Port SFP Gigabit Ethernet PCI Express Server Adapter	X4, Based on Intel i350AM2, Low-Profile, RoHS compliant
PE2G2SFPI35-SX	Dual Port SFP (SX) Gigabit Ethernet PCI Express Server Adapter	X4, Based on Intel i350AM2, Low-Profile, with 1000Base-SX SFP, RoHS compliant
PE2G2SFPI35-LX	Dual Port SFP (LX) Gigabit Ethernet PCI Express Server Adapter	X4, Based on Intel i350AM2, Low-Profile, with 1000Base-LX SFP, RoHS compliant
PE2G2SFPI35-T	Dual Port SFP (T) Gigabit Ethernet PCI Express Server Adapter	X4, Based on Intel i350AM2, Low-Profile, with 1000Base-T SFP, RoHS compliant

Model P/N -LP

-LP: Assemble Low Profile Metal Bracket

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