M1E2G8i80

Eight Port Copper Gigabit Ethernet Express Module Server Adapter

Product Description



Silicom's Eight Port Copper Gigabit Ethernet ExpressModule Server adapter is PCI-Express X8 Eight Copper Gigabit Ethernet network interface card that can fit into a 3.5" HD form factor.

The Silicom Eight Port Copper ExpressModule is the front I/O module in Silicom Server to Network Appliance Converter (SETAC) architecture.

Silicom's Eight Port Copper Gigabit Ethernet ExpressModule 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 Eight Port Copper Gigabit Ethernet ExpressModule server adapters are based on Intel 82580EB Ethernet controller with quad fully integrated Gigabit Ethernet Media Access Control (MAC) and PHY.

Silicom's Eight Port Copper Gigabit Ethernet ExpressModule server adapters are the ideal solution for implementing multiple network segments, mission-critical high-powered networking applications and environments within high performance servers.

Key Features

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

Performance Features:

- Supports Intel I/O ® Acceleration Technology v3.0
- Stateless offloads (header split, RSS)
- Direct Cache access
- UDP, TCP, and IP Checksum offload
- UDP and TCP transmit checksum offload
- SCTP receive and transmit checksum offload

Virtualization Ready:

- 8 Transmit and Receive queues per port
- Support up to 8 VMs per port (1 queue allocated to each VM)
- Packet interrupt coalescing timers (packet timers) and absolute- delay interrupt timers for both transmit and receive operation

Common Key features:

- PCI Express ExpressModule Electromechanical Specification Revision 1.0
- PCI Express Base Specification 2.0 (5 GTs)
- High performance, reliability, and low power use in Intel 82580 Quad integrated MAC + PHY and SERDES chip Controllers
- 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
- Switch dependent: 802.3ad (LACP), Generic Trunking (GEC / FEC)
- Switch and NIC Independent
- Failover
- 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 on receive
- Statistics for SNMP MIB II, Ethernet like MIB, and Ethernet MIB (802.3z, Clause 30)
- Supports Vital Product Data (VPD)
- Supports End to End CRC (ECRC)
- Supports Latency Tolerance Reporting (LTR)
- LEDs indicators for link/Activity status
- Hot Plug not supported. Can be supported by assembly change

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 Mbit/s, 100 Mbit/s and 10 Mbits/sec in simplex mode per port. 2000Mbit/s 200 and 20 Mbit/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 VMware
General Technical Specifications	
Interface Standard:	PCI ExpressModule Specification revision 1.0 Silicom SETAC PCI-Express Base Specification Revision 2.0 (5 GTs)
Board Size:	168.2mm x 98mm (6.62”X3.858”)
PCI Express Card Type:	X8
PCI Express Voltage:	+12V +- 8%
PCI Connector:	Gold Finger: X8
Controller:	Intel 82580EB
Holder:	Not included
I/O:	8 x RJ45 (4X2) located on edge of the board

Weight:	230 gr (8.1333 oz)
Power Consumption:	12.36 W, 1.03 A at 12V: Typical all ports operate at 1000Mbit/s. 10.08 W, 0.84 A at 12V: Typical all ports operate at 100Mbit/s. 9.96 W, 0.83 A at 12V: Typical all ports operate at 10Mbit/s. 12.36 W, 1.03 A at 12V: Typical all ports Link 1000Mbit/s. 8.28 W, 0.69 A at 12V: Typical No link at all ports
Operating Temperature:	-5°C – 45°C (23°F – 133°F)
Storage:	-20°C–65°C (-4°F–149°F)
EMC Certifications:	FCC Part 15, Subpart B Class A Conducted Emissions Radiated Emissions CE EN 55022: 1998 Class A 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
LEDs	
LEDs:	(2) LEDs per port Left LED: Link/Act :

	Turns on link (Green), Blinks on activity (Green) Right LED : Link Speed: Turns on Yellow 1G Link. Turns on Green 100M Link
LEDs location:	LEDs are integrated with the RJ-45 connector. Each port has 2 Leds: one in each side: left: link-act, right: speed
Connectors:	(1) Shielded Octal RJ-45 4X2

Order Information

P/N	Description	Notes
M1E2G8I80-R	Eight Port Copper Gigabit Ethernet ExpressModule Server Adapter	X8, Based on Intel 82580EB, PCI-E ExpressModule, RoHS compliant

-R: RoHS Compliant / Lead free adapter

Advanced features may require driver software support

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