



QLE7280

InfiniBand 4X DDR to PCI Express Host Channel Adapter

Benefits

- Provides application scaling to 1000s of CPUs, increasing cluster efficiency and overall productivity
- Accelerates application run times for faster time-to-solution
- Increases utilization of computing infrastructure and increases ROI of computing assets

High Performance

- Exceptionally low point-to-point latency of 1.2 μ s essential for High Performance Computing (HPC)^{1, 2, 3}
- For bandwidth-intensive applications, delivers 1930 MBps (unidirectional)^{1, 2}

Superior Scalability

- 26M messages/sec delivers high I/O transfers for clustering applications^{2, 4}
- Comprehensive Linux[®] operating system support

Enhanced Reliability

- Advanced management capabilities with InfiniBand Fabric Suite (IFS) toolset
- Ideal for high volume server deployments, the Host Channel Adapter (HCA) consumes 6.0W of power (typical)
- 3-year hardware warranty



QLE7280 Host Channel Adapter. The QLE7280 InfiniBand (IB) Double Data Rate (DDR) HCA delivers industry-leading performance for a cluster interconnect and allows organizations to gain maximum advantage and return from their investment in clustered systems. As a result, organizations relying on clustered systems for critical computing tasks will experience a significant increase in productivity.

High Performance Computing (HPC). The QLE7280, with its low latency, high messaging rate, and increased bandwidth, provides the key building block for HPC clustering systems.

Data Center and Enterprise. The supporting software includes standards-based high performance sockets, a Linux TCP/IP stack, an OpenFabrics (OFED) stack, and QLogic's value added Upper Layer Protocols (ULPs) over OFED. For data center applications, the QLE7280 supports storage and networking.

With three different stacks available, the high performance sockets and the Linux TCP/IP stack can be used simultaneously with the OFED stack. QLogic also provides management features such as IFS tools and subnet management.

Interoperability. InfiniBand ecosystem partner certifications, combined with agency and regulatory testing, ensures all products meet industry compliance with hardware and software specifications. All HCAs are tested extensively with third-party hardware, along with multiple software applications, to ensure best-in-class InfiniBand interoperability and compatibility.

Investment Protection. For over 15 years, QLogic has been a technological leader with products that address the current needs of customers, yet provide strong investment protection to support emerging technologies and standards. QLogic stands alone in the industry with its product portfolio depth and experience in successfully delivering technological solutions that address the needs of today and tomorrow.

¹ Ping-pong latency, unidirectional bandwidth, and message rate are based on the Ohio State University MPI benchmarks.

² Actual performance may vary depending on the system process and chip set.

³ An additional 150–160 ns is expected per switch hop.

⁴ On eight processes per node (ppn)

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Host Bus Interface Specifications

Bus interface

- PCI Express v1.1 x16

Hardware platforms

- Intel® EM64T
- AMD™ Opteron64

Compliance

- *PCI Express Base Specification 1.1*

InfiniBand Interfaces and Specifications

Data rate

- DDR: 4X and 1X speeds
- SDR: 4X and 1X speeds

Performance

- Latency: 1.2 µs one-way MPI^{1,2,3}
- Bandwidth: 1930 MBps unidirectional^{1,2}
- Message rate: 26M messages/sec^{2,4}

Message size

- Configurable MTU size (4096 maximum)

Connectivity

- Compatible with InfiniBand switches from QLogic, Cisco®, Flextronics, Mellanox, and Voltaire®
- Interoperable with other HCAs certified with the OpenFabrics (OFED) software stack

Compliance

- InfiniBand 1.2 compliant

Physical Specifications

Ports

- Single DDR 4X IB

Connections

- CX4 connector with support of active external media modules and cables

Form factor

- Available in PCI half height, short-form factors

Bracket size

- Standard: 1.84 cm × 12.08 cm (.73 in. × 4.76 in.)
- Low-profile: 1.84 cm × 8.01 cm (.73 in. × 3.15 in.)

Environment and Equipment Specifications

Power consumption

- Less than 6.0 Watts (typical)

Temperature

- 0 to 55°C (operating)
- -40 to 70°C (non-operating)

Humidity

- 10% to 95% (operating, non-condensing)
- 5% to 100% (non-operating, non-condensing)

RoHS compliance

- RoHS 6

Agency Approvals—EMI and EMC

US/Canada

- FCC Part 15, Subpart B, Class A; ICES-003, Class A

Europe

- EN55022:1994+A1+A2; EN55024:1998+A1+A2; EN61000-3-2:2000 (Harmonic Current); EN61000-3-3:1995+A1 (Voltage Fluctuation & Flicker)

Japan

- VCCI V-3/2004.4, Class A

New Zealand/Australia

- AN/NZS CISPR 22:2002, Class A

Korea

- MIC (KN22, KN24), Class A

Taiwan

- BSMI (CSN 13438), Class A

China

- CCC, Class A

Agency Approvals—Safety

US/Canada

- UL; CSA/UL 60590-1; CB Scheme: IEC 60950-1

Europe

- TUV: EN60950:2001+A11

Tools and Utilities

Host driver/Upper Level Protocol (ULP) support

- MPI: MPI, OpenMPI, MVAPICH, HP-MPI, Scali-MPI, Intel MPI, MPICH
- Sockets: standard Linux TCP/IP, IPoIB, SDP
- File systems: GPFS, Lustre, NFS, Panasas
- 32- and 64-bit application ready
- VirtualHBA (FC)
- VirtualNIC (Ethernet)

Management tools

- QLogic InfiniBand Fabric Suite
- InfiniBand 1.2 compliant SMA (Subnet Management Agent)
- Interoperable with management solutions from OpenFabrics (OFED OpenSM), Cisco, Mellanox, and Voltaire

Operating environments

- Red Hat Enterprise Linux 4, 5
- SuSE Linux Enterprise Server 10
- Scientific Linux 4, 5
- Fedora Core 6
- CentOS 4, 5

Ordering Information

QLE7280-CK

- Ships in an individually packed box with a standard size bracket and a spare low-profile bracket, and Quick Start Guide

QLE7280-BK

- Ships in a bulk box in quantities of 20 with standard size brackets



Corporate Headquarters QLogic Corporation 26650 Aliso Viejo Parkway Aliso Viejo, CA 92656 949.389.6000

www.qlogic.com

Europe Headquarters QLogic (UK) LTD. Quatro House Lyon Way, Frimley Camberley Surrey, GU16 7ER UK +44 (0) 1276 804 670

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