



# QLE3142

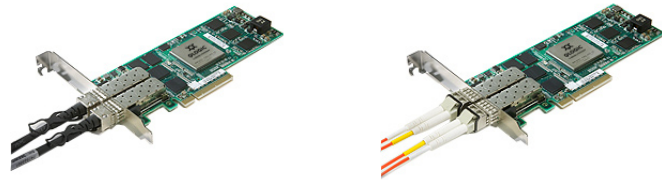
## Dual Port 10GbE to PCIe® Intelligent Ethernet Adapter

### Benefits

- Low profile PCI Express® (PCIe) form factor enables usage in all server form factors including 1U rack servers
- Direct attach copper interface for cost-effective in-rack connectivity (QLE3142-CU)
- Increased application throughput and reduced host CPU utilization
  - Stateless offloads
  - Complete protocol offloads (TOE)
- Reduced cabling and support costs with 10-Gigabit Ethernet (GbE) links
- Optimal use of I/O slots
- Performance scalability for consolidated server environments
- Improved reliability and error handling benefits of PCI Express
- Common drivers across all Ethernet Adapters in the family — reducing TCO

### Features

- Stateless and stateful offloads
- NetSlice™ I/O virtualization support
- Single Root I/O Virtualization (SR-IOV)
- Dynamic power management



**QLE3142 Intelligent Ethernet Adapter.** The QLE3142 is a dual port 10GbE Intelligent Ethernet adapter designed for various applications such as virtualization; network security appliances; cluster computing; IP content delivery systems; grid computing; database clustering; Network Attached Storage (NAS); and storage and backup servers.

**Performance Optimized.** The QLE3142 is a high-performance Intelligent Ethernet adapter that can support offload of TCP/IP tasks, significantly improving throughput of servers, server appliances, and storage platforms, all while reducing host CPU utilization. This allows overall system performance to scale dramatically.

**Advanced Features.** In the dynamic data center environment, managers need flexible solutions that can evolve along with the technology to protect current investments in virtualization and server consolidation. The QLogic NetSlice architecture addresses these requirements by incorporating a unique degree of programmable support for virtualization. The NetSlice architecture creates a platform that exports a number of independent virtual interfaces, with each virtual interface utilizing a share of the existing (hardware) resources. Each virtual interface is serviced in a fair manner. Optionally, each interface can be assigned a priority that determines how much of a share of the underlying resources are allocated to that interface. Strong isolation is built around each interface to ensure that one interface does not adversely affect another. Dynamic power management modulates core frequency and core voltage to keep the controller operating at its ideal thermal and performance profile, increasing the reliability and uptime of the network. This feature provides a built-in warning and shutdown mechanism to protect the adapter in case of an extreme thermal condition. The QLE3142 also uses Single Root I/O Virtualization (SR-IOV), which provides broad interoperability and ease of device configuration/management in a virtualized environment.

**Investment Protection.** The QLE3142 is built around QLogic's revolutionary Protocol Processing Engine architecture and allows for the support of performance enhancements on the same hardware. QLogic also uses common drivers across all Intelligent Ethernet (10GbE and 1GbE) adapters, which reduces Total Cost of Ownership (TCO).

**Unmatched Expertise.** QLogic is a leading supplier of high performance network infrastructure solutions including Fibre Channel, Ethernet, iSCSI, InfiniBand, and Converged Network adapters.

## QLE3142 Dual Port 10GbE to PCIe® Intelligent Ethernet Adapter

## Host Bus Interface Specifications

## Bus interface

- PCIe Gen2 x8
- Interrupts
  - Message based INTx
  - MSI; MSI-X (up to 2K unique interrupts)

## Ethernet Specifications

## High-performance network mode

- Checksum offload
  - TCP, UDP, IP
  - Tx, Rx, IPv4, IPv6
- Advanced stateless offloads
  - Large Send Offload (LSO)
  - Large Receive Offload (LRO)
  - TCP Segmentation Offload (TSO)
  - Receive Side Scaling (RSS)
- Jumbo frames
- 802.1p – priority
- 802.1q – VLAN – up to 4K
- Teaming (load balancing/failover): 802.3ad/LACP
- 802.3x pause frame
- IPv6, IPv4
- Interrupt coalescing

## Tools and Utilities

## Management tools and device utilities

- 64-bit MAC statistics for management
  - MIB, MIB2, RMON, RMON2

## Remote boot support

- PXE

## Operating systems

- Microsoft® Windows Server® 2003, 2008
- Red Hat® Linux 4/5
- Novell® SLES 9/10/11
- VMware® ESX 3.5 and ESX/ESXi 4.0 (vSphere)
- Citrix® XenServer™ 5.2
- Solaris® 10 (x86/x64)

## Advanced Features

- NetSlice I/O virtualization support
- Dynamic power management
- Single Root I/O Virtualization (SR-IOV)
- Stateful TCP/IP offload

## Physical Specifications

## Ports

- Dual 10GbE

## Form factor

- Low-profile PCIe (6.6 in × 2.54 in)

## Environment and Equipment Specifications

## Airflow

- 250 LFM (minimum)

## Temperature

- Operating: 0°C/32°F to 55°C/131°F
- Storage: -20°C/-4°F to 70°C/158°F

## Humidity

- Relative: 10% to 90%; Storage: 5% to 95%

## RoHS compliance

- RoHS 6

## Medium

- Passive SFP+ direct attach copper (QLE3142-CU)<sup>1</sup>
- Multi-mode fiber (QLE3142-SR)
- Single-mode fiber (QLE3142-LR)

## Transceiver

- 850nm SR (QLE3142-SR)
- 1310nm LR (QLE3142-LR)

## Distance (maximum)

- 10m (QLE3142-CU)<sup>1</sup>
- 300m (QLE3142-SR)
- 10km (QLE3142-LR)

<sup>1</sup> Ships with empty SFP+ cages. User must purchase passive SFP+ 10GbE direct attach copper cable separately.

## Agency Approvals—Product Safety

## US/Canada

- UL60950-1, 1st edition, 2007-10-31
- CSA C22.2 60950-1-03, 1st edition, 2006-07

## Europe

- EN60950-1:2001; IEC 60950-1:2001, 1st edition

## Agency Approvals—EMI and EMC

## US/Canada

- FCC CFR 47 Part 15, Subpart B; ICES-003, Class B

## Europe

- EN55022:2006 Class B;
- EN55024-1998 + A1: 2001 + A2:2003

## Australia/New Zealand

- AS/NZS CISPR22: 2006 Class B

## Japan

- VCCI V-3 ITE Class B

## Korea

- KCC (RRL)

## Taiwan

- BSMI CNS 13438: 2006

## Ordering Information

QLE3142-CU-CK<sup>1</sup>

- Ships in an individually packed box with empty SFP+ cages, standard size bracket, spare low-profile bracket, and Quick Start Guide.

## QLE3142-SR-CK

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

## QLE3142-LR-CK

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



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