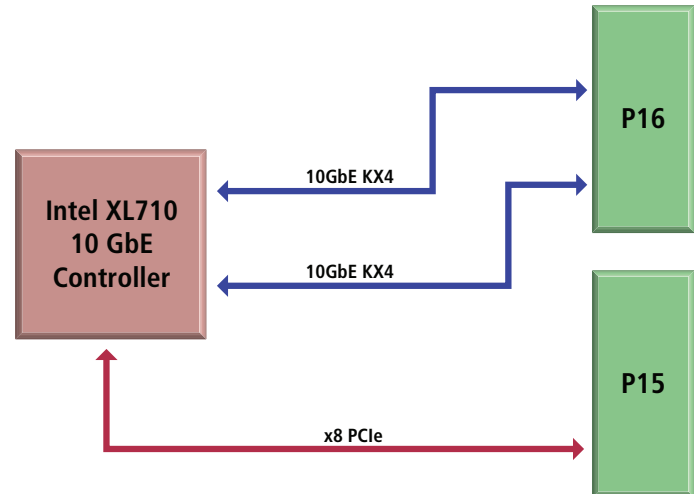
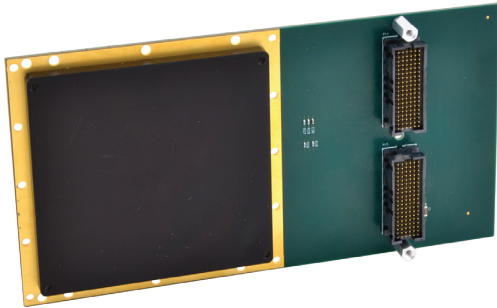


XMC Modules

XMC633 10-Gigabit Ethernet Network Interface Card (NIC)



Dual 10GBASE-KX4 ports ◆ Intel® XL710 Controller ◆ PCIe Gen 3 x8 interface ◆ Conduction-cooled

Description

Acromag's XMC633 module provides up to two 10-GbE KX4 interface ports. Different models are available for VITA 42/61 connector options to support a PCIe Gen 3 interface. The rugged, rear I/O design is ready for use in conduction-cooled systems for extreme temperature environments.

Intel's XL710 quad-port 10-gigabit Ethernet controller delivers high-performance and offers many powerful networking capabilities. Advanced virtualization, intelligent offload and accelerator technologies optimize network performance.

Combining the intelligent off-loading features of the XL710 controller with the processing power of a Xeon-D processor can deliver outstanding performance levels. Together, the two Intel devices provide a balanced hybrid solution of compute and off-load to achieve optimal performance and efficiency in an embedded system.

Designed for COTS applications, these rugged XMC mezzanine modules offer a high-density, high-performance solution for network interface applications. They are ideal for use in defense, aerospace, industrial, and scientific research computing systems.

Key Features & Benefits

- Industry-leading Intel XL710 controller with four independent 10-GbE interfaces
- Two 10GBASE-KX4 interfaces available as rear I/O via the P16 connector
- PCIe x8 Gen 3 interface
- IEEE 1588 and 802.1AS precision timing
- IEEE 802.3az Energy Efficient Ethernet (EEE)
- Advanced traffic steering capability increases transaction rates and reduces latency
- VMDq for emulated path
- Dynamic load balancing
- Flexible port partitioning (PCI-SIG SR-IOV)
- Tx/Rx IP, TCP/UDP/SCTP, IPv4/IPv6 checksum offloads lower processor usage
- Jumbo frame packet support up to 9.5KB
- Up to -40 to 85°C operation
- Linux® and Windows® support
- CE compliant.

Acromag 
THE LEADER IN INDUSTRIAL I/O

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XMC633 10-Gigabit Ethernet Network Interface Card (NIC)



Performance Specifications

■ Communication

Ethernet Controller
Intel® XL710

Network Interface

Two KX4 10-Gigabit Ethernet interfaces.

Complies with IEEE 802.3-2008 standard for Ethernet.

Complies with IEEE 802.3ae-2002 amendment for 10 Gb/s Ethernet.

Throughput

10,000 MB/s (10GB/s) per port, full-duplex.

Total aggregate rate limited by PCIe host interface.

■ XMC Host Interface

XMC Compliance

Complies with ANSI/VITA 42.0 specification for XMC module mechanicals and connectors.

Complies with ANSI/VITA 42.3 specification for XMC modules with PCI Express interface.

Complies with ANSI/VITA 42.6 specification for XMC 10 Gigabit Ethernet 4-Lane Protocol Layer Standard.

PCI Express

Conforms to PCI Express Base Specification, Rev. 3.1.

PCIe 8-lane (x8) Gen 3 interface operates at a bus speed of 8 Gbps per lane per direction.

Gen 3 PCIe interface requires VITA 61 connectors.

Gen 2 PCIe interface supported w/ VITA 42 connectors

■ Electrical / Mechanical

XMC Connectors

P15 for PCIe bus via eight high-speed serial lanes.

P16 for two 10GbE KX4 interfaces.

Available as VITA 42 standard or VITA 61 upgrade for PCIe Gen 3 applications.

Power Requirement

3.3V: 220mA idle, 220mA active, 330mA max.

5.5V: 450mA idle, 500mA active, 1025mA max.

12V: 215mA idle, 235mA active, 455mA max.

Power: 2.8W idle, 3.1W active, 5.7W max.

Dimensions

Single-width XMC. 149 x 74 x 10 mm.

Unit weight: 76.9 g.

■ Environmental

Operating Temperature Range

Operation: -40 to 85°C (conduction-cooled).

Storage: -55 to 125°C.

Relative Humidity

5 to 95% non-condensing.

Shock

Designed to comply with VITA 47 Class OS1.

Vibration

Designed to comply with VITA 47 Class V1.

Certifications

CE compliant.

■ Software Support

Linux® and Windows® Systems

Intel XL710 Ethernet Controller drivers available at www.intel.com.

Ordering Information

■ XMC Modules

[Go to on-line ordering page >](#)

XMC633-42-50

10GbE NIC with dual KX4 rear I/O, VITA 42

XMC633-61-50

10GbE NIC with dual KX4 rear I/O, VITA 61

■ Carrier Cards

[PCIe Carriers - go to on-line ordering page >](#)

[VPX Carriers - go to on-line ordering page >](#)

