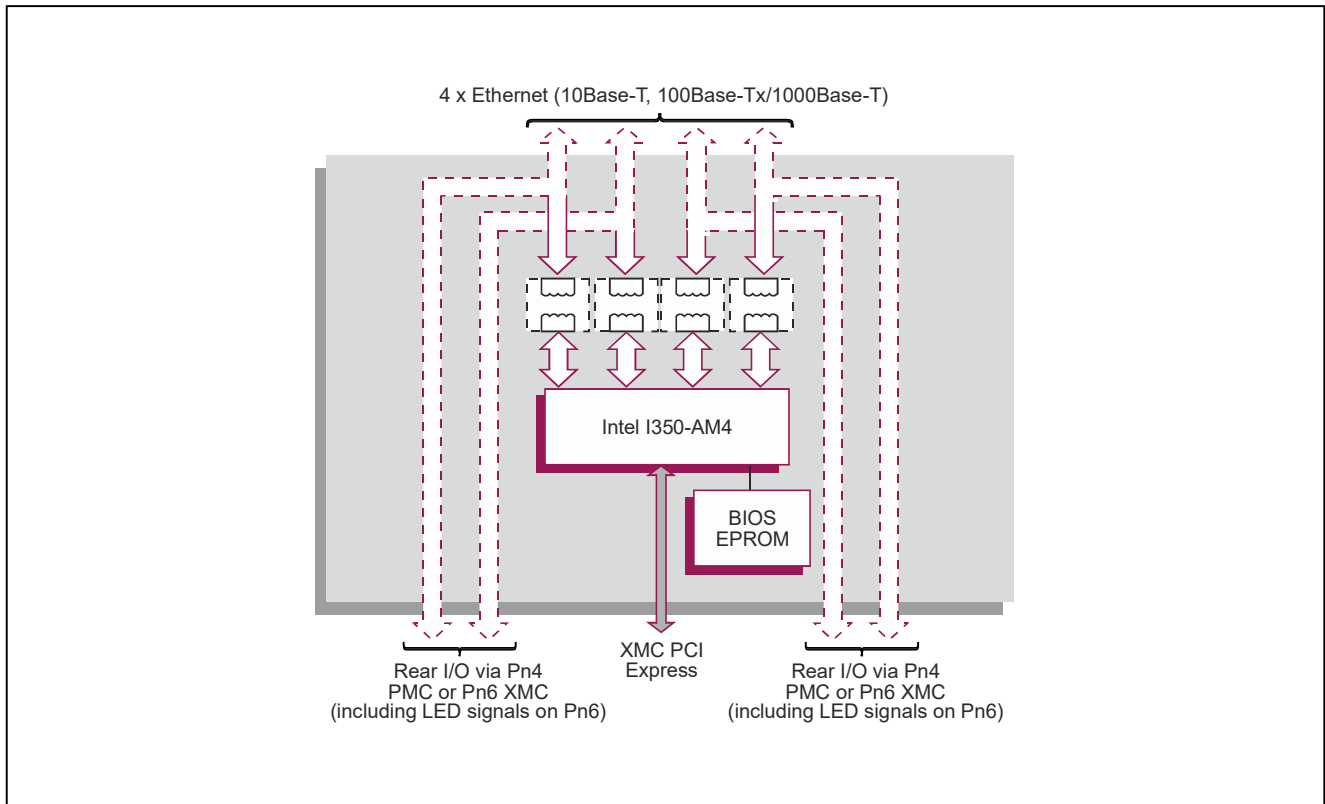# Quad-port Gigabit Ethernet XMC Module

Key Features

XM 515/x24 is an XMC module for applications that need multiple Gigabit Ethernet connectivity. It is suitable for use on any board with an XMC expansion slot and is available with either front or rear I/O. Support is provided for common operating systems. To support challenging environments XM 515/x24 extended temperature and rugged variants are available
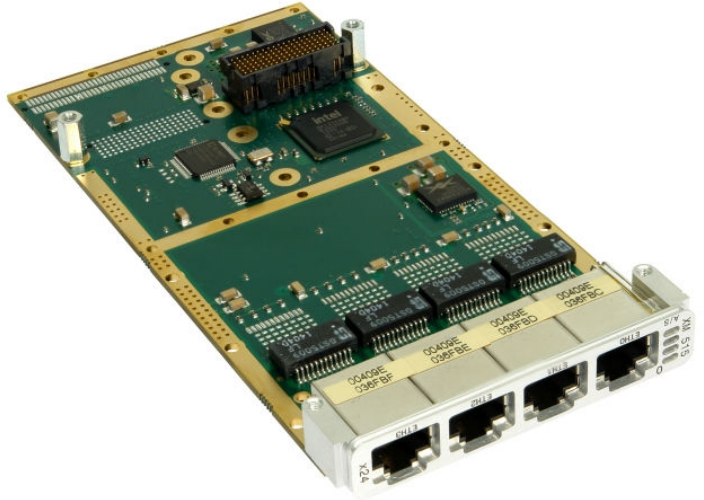
- 4 x Gigabit Ethernet interfaces with auto-negotiation for use with lower speed Ethernet ports

- Front or rear I/O variants

- Suitable for use on any board with an XMC expansion slot

- Extended temperature and rugged versions available

- Support for Linux®, Windows® and VxWorks®

4 x Ethernet (10Base-T, 100Base-Tx/1000Base-T)

Intel I350-AM4

BIOS EPROM

XMC PCI Express

Rear I/O via Pn4 PMC or Pn6 XMC (including LED signals on Pn6)

Rear I/O via Pn4 PMC or Pn6 XMC (including LED signals on Pn6)

CONCURRENT TECHNOLOGIES

Gigabit Ethernet Interfaces

- 4 x 1000BASE-T/100BASE-Tx/10BASE-T interfaces
- factory build options for:
  - 4 x Ethernet via PMC Pn4 or XMC Pn6 connector (with or without magnetics) or
  - 4 x RJ45 connectors on front panel
- utilizes Intel® Ethernet Controller I350-AM4:
  - supports IEEE 802.3ab for 1000BASE-T over Category 5e/6 UTP Cable
  - supports IEEE 802.3/802.3u for 10BASE-T and 100BASE-Tx over Category 5 UTP cable
  - supports Jumbo frames
- individual MAC and frame Controllers supporting the following features:
  - transmit and receive IP, TCP and UDP checksum off-loading
  - transmit TCP segmentation
  - automatic retransmission
- physical interfaces (PHY) implemented internally by the Ethernet controller supporting:
  - 1000BASE-T/100BASE-Tx/10BASE-T auto-negotiation
  - automatic polarity and MDI/MDI-X selection
  - full and half-duplex operation
- status LEDs, front or onboard (for rear I/O variants):
  - status LED signals also on Pn6 connector

XMC Interface

- interface complies with PCI Express® 2.1:
  - x4 PCI Express port (Gen 1, Gen 2)

BIOS EEPROM

- 8-bit wide 128 Kbyte SPI Flash EEPROM with Intel® PXE BIOS Firmware
- in-circuit programmable

Software

- support for Linux®, VxWorks® and Windows®

Electrical Specification

- maximum current figures with quad 1000BASE-T operating:
  - +5V @ 1.7A
  - +12V @ 0.75A
  - VPWR voltage +5% / -5%
- +3.3V and -12V not utilized

Environmental Specification

- compatible with XMC host boards operating at:
  - 0°C to +55°C (N-Series)
  - -25°C to +70°C (E-Series)
  - -40°C to +85°C (K-Series)
- 5% to 95% Relative Humidity, non-condensing:
  - K-Series includes humidity sealant
- -40°C to +85°C (non-operating)
- rugged conduction-cooled versions supported

Mechanical Specification

- single-width CMC (Common Mezzanine Card) IEEE 1386 form factor: (74mm x 149mm)
- 10mm height stack module

Safety

- PCB (PWB) manufactured with flammability rating of UL94V-0

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Please contact your local Concurrent Technologies sales office for further details on board build options and accessories.

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