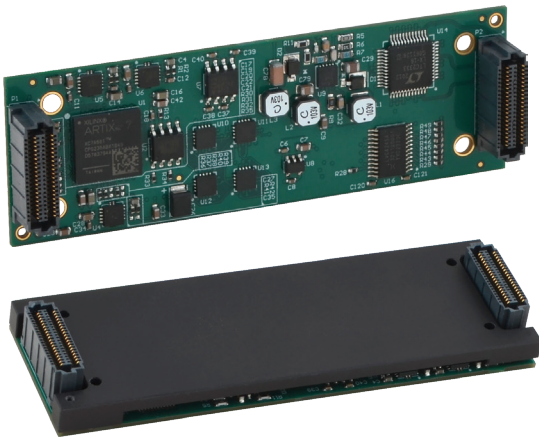


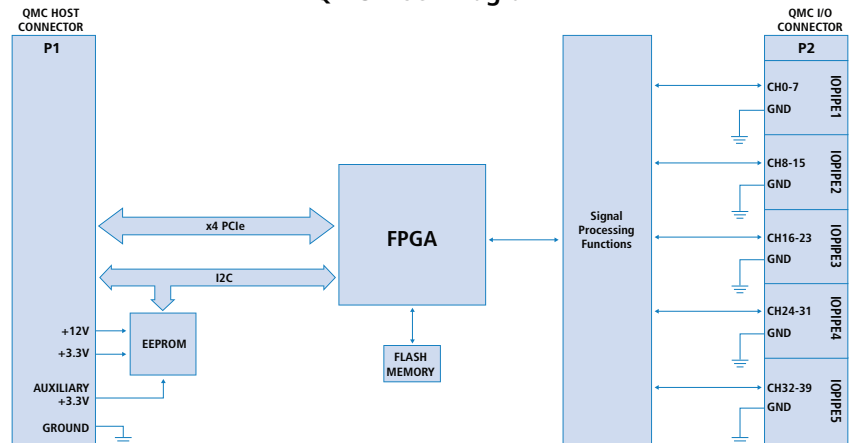
# VITA 93 QMC Modules

COMING SOON

## QMCxxx Series I/O Modules



### QMC Block Diagram



High-density I/O capabilities ♦ High-speed PCIe interface ♦ Compact, rugged design ♦ Convection or conduction-cooled

### Description

QMC modules follow the VITA 93 standard for small form factor (SFF) mezzanine modules. Two high-performance 80-pin connectors provide an I/O interface and a host interface supporting high-speed serial data links. Modules are deployable on a variety of carrier card platforms including 3U/6U Eurocards such as VPX and CompactPCI, VNX+ SFF cards, PCIe expansion cards, and many other architectures. The rugged design is well-suited for use in aerospace, defense, industrial, and laboratory applications.

QMC modules can support a variety of I/O functions. Mezzanine modules are commonly used to provide analog input/output operations with A/D and D/A conversion. Other popular I/O functions include measurement and control of discrete events, serial communication, high-speed Ethernet, and signal processing capabilities. The ability to combine sensor and actuator interfaces with FPGA and GPU processors, plus avionics and industrial protocol transceivers offer unlimited possibilities.

QMC modules have a much smaller footprint than PMC/XMC modules. Single-width QMC modules are only 26 x 78.25mm which facilitates mixing and matching of multiple functions on a single carrier card for high-density I/O solutions. Their compact size and flexibility make QMCs ideal for embedded computing systems with strict size, weight, power and cost (SWAP-C) limitations.

Typical applications involve monitoring sensors and controlling equipment levels in deployed systems or for lab test and simulation projects. Other common operations include signal or protocol conversion, image processing, adaptive filtering, and sensor fusion. With powerful FPGAs, GPUs and other processors, QMCs can provide artificial intelligence and machine learning capabilities.

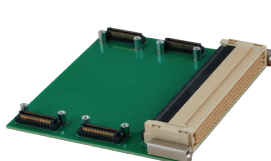
An Intelligent Platform Management Interface (IPMI) facilitates system management of field replaceable units (FRU). An EEPROM on the QMC stores module information and sensor data. Smart carrier cards with an IPMC controller can read the EEPROM over an I2C interface to manage the modules and access sensor data such as temperature and voltage levels.

### Key Features & Benefits

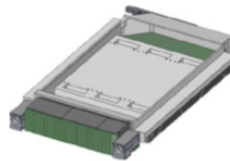
- Compact 26 x 78.25 mm module
- Two 80-pin connectors rated for up to PAM4 64Gbps data rates
  - one connector for host interface
  - one connector for I/O signals
- Supports PCIe Gen 4 x4 interface
- Up to 40 single-ended or 20 differential pairs arranged as five IOPipe ports
- Scalable for dual, triple, and quad-width modules providing up to 160 I/O channels and PCIe x16 for advanced performance
- Standardized skyline heat sink for conduction-cooled applications
- Supports IPMI allowing system to identify, supervise, and manage QMC modules
  - EEPROM holds module and sensor data
  - I2C interface to IPMC on carrier card
- Four 3.3V and three 12V power pins available to drive high-performance ICs
- JTAG interface for diagnostics and presence detection



PCIe expansion carrier card.



VITA 90 VNX+ carrier card.



3U/6U VPX, CompactPCI, Eurocard carrier.

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