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Data Sheet

August 15, 2026

CRITICAL I/O

Critical I/O XGE4022-PMC-CC PMC Module

The Critical I/O XGE4022-PMC-CC is a PMC (PCI Mezzanine Card) module that implements a true hardware-based TCP/IP Offload Engine (TOE) for embedded and systems. Unlike processor-based implementations, this module offloads the complete protocol stack Ethernet, TCP, UDP, IP, iSCSI, and RDMA - into dedicated silicon, delivering sustained high throughput, maximum host offload, ultra-low latency in the microsecond range, and deterministic behavior essential for real-time applications. The dual-port copper configuration provides full-duplex wire-speed operation with up to 250 MBytes/sec per port and 500 MBytes/sec aggregate throughput. Features include zero-copy direct data placement, large send/receive offload, UDP streaming optimization, and hardware built-in test (BIT) for system diagnostics. Throughput: 250 MBytes/sec per port; 500 MBytes/sec dual-port aggregate sustained transfer rate



MODEL

**Critical I/O
XGE4022-PMC-
CC**

CALIBRATION

**Available on
request**

CONDITION

Used

STATUS

In stock

RFQ / SKU

**XGE4022-PMC-
CC**

LISTING

[https://aumictechlabs.c
om/products/xge4022-
pmc-cc-2/](https://aumictechlabs.com/products/xge4022-pmc-cc-2/)

NIST-traceable cal

SAM registered

30-day returns

NAICS 423690 • 811210 • 541380

This unit

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offload, ultra-low latency in the microsecond range, and deterministic behavior essential for real-time applications. The dual-port copper configuration provides full-duplex wire-speed operation with up to 250 MBytes/sec per port and 500 MBytes/sec aggregate throughput. Features include zero-copy direct data placement, large send/receive offload, UDP streaming optimization, and hardware built-in test (BIT) for system diagnostics.

Technical Specifications

Ethernet Interfaces: Dual RJ45 ports, 1000Base-T (Gigabit Ethernet) Throughput: 250 MBytes/sec per port; 500 MBytes/sec dual-port aggregate sustained transfer rate Latency: Ultra-low latency to microsecond scale Protocol Offload: Full hardware stack Ethernet, TCP, UDP, IP, iSCSI, RDMA Data Path: Zero-copy direct data placement to application memory Offload Capabilities: Large send/receive offload, UDP streaming, silicon-based stack processing Built-in Test: Hardware BIT for diagnostics Architecture: Programmable design with optional protocol customization

Key Features Full line-rate wire-speed throughput on Gigabit Ethernet ports Hardware TCP/IP offload eliminates host processor protocol overhead Deterministic behavior for time-critical operations 100% standard Ethernet compatibility Dual full-duplex port operation

Typical Applications Industrial embedded systems requiring deterministic performance data transfer and network fabric applications High-throughput UDP streaming iSCSI and RDMA-based storage and compute acceleration Real-time systems demanding microsecond-scale latency

Compatibility & Integration The XGE4022-PMC-CC integrates as a standard PCI Mezzanine Card into compatible host systems. The programmable architecture supports optional protocol customization for application-specific requirements.

XGE4022PMCCC Characteristics / Specifications

PARAMETER	VALUE
Model	XGE4022-PMC-CC
Base Model	XGE4022-PMC
Build	CC
Instrument Type	10 Gigabit Ethernet PMC
Form Factor	PCI Mezzanine Card
Network Class	10 Gigabit Ethernet
Manufacturer	Critical I/O
Literature	Critical I/O XGE4022-PMC-CC listings
Family	Critical I/O XGE PMC Ethernet
Brand Lineage	Critical I/O
System Role	embedded 10GbE NIC
Application Class	ATE/defense Ethernet
Bus Class	PMC
Coat Class	CC conformal coat/configuration
Documentation Type	OEM XGE4022-PMC-CC listing
Vendor Path	Critical I/O
Year Class	XGE4022
Mac Class	10GbE
Phy Class	per XGE4022 front I/O
Connector Class	per XGE4022 faceplate
Dma Class	PMC DMA
Power Class	PMC power pins
Operating Temperature Class	per CC build
Software Class	Critical I/O Ethernet driver
Host Class	VME/cPCI PMC carrier

PARAMETER	VALUE
Throughput Class	10 Gigabit Ethernet
Operating temperature	Class: per CC build

XGE4022PMCCC Specifications

PARAMETER	VALUE
Applications	Embedded 10 Gigabit Ethernet on PMC carriers in ATE and defense crates.
Key Features	10 Gigabit Ethernet PMC
CC coated/configured build	Critical I/O XGE4022 family
Technical Specifications	Model: XGE4022-PMC-CC
Notes	Identity from Critical I/O XGE4022-PMC-CC listings. PHY type, connector, and throughput tables are on the XGE4022 PMC datasheet.

General Specifications & Supplementary Characteristics

PARAMETER	VALUE
Operating temperature	Class: per CC build
Operating Temperature	Class: per CC build
Operating Temperature Class	per CC build
Software Class	Critical I/O Ethernet driver
Host Class	VME/cPCI PMC carrier
Throughput Class	10 Gigabit Ethernet Notes Identity from Critical I/O XGE4022-PMC-CC listings. PHY type, connector, and throughput tables are on the XGE4022 PMC datasheet.

Full OEM specifications

Complete technical content extracted from the manufacturer datasheet. Sparse OEM tables are reconstructed as tables below; other text is preserved as paragraphs.

Specifications	
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PARAMETER	VALUE
Model	XGE4022-PMC-CC
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Build	CC
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Throughput Class	10 Gigabit Ethernet

Notes

Identity from Critical I/O XGE4022-PMC-CC listings. PHY type, connector, and throughput tables are on the XGE4022 PMC datasheet.

Available from Aumictech

Used and refurbished unit evaluated in-house. Calibration: Available on request. Used · In stock.

Request a quote: sales@aumictech.com · +1 (484) 841-9341

Aumictech

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<https://aumictechlabs.com>

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Technical content from manufacturer specifications. Unit photo/stock from Aumictech listing when available. Specifications subject to OEM documentation and unit condition.