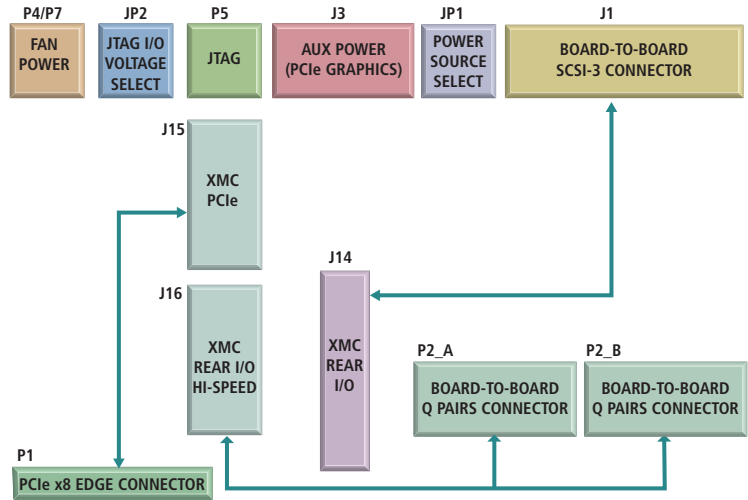
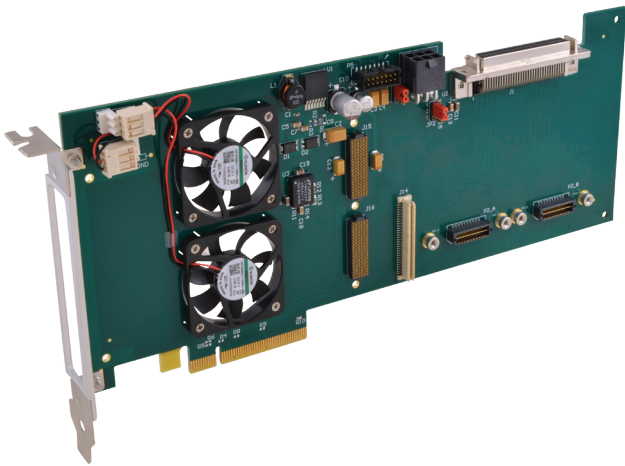


XMC Module Carriers

APCe8775 PCI Express Carrier Card for XMC Modules



One XMC mezzanine module slot ◆ 3/4-length ◆ Non-Intelligent carrier card ◆ PCIe x8 interface

Description

Acromag's APCA8775 carrier card interfaces an XMC mezzanine module to a PCI Express bus in a PC-based desktop computer system.

The APCA8775 is a PCIe bus adapter board that allows a PC (PCIe bus master) to control and communicate with the hosted XMC module. It simply acts as an adapter to route signals between the system's PCIe bus and the XMC module connector.

The I/O signals are accessible via rear connectors and through the front mounting bracket. To simplify wiring, Acromag offers cables to connect the carrier's rear I/O signals to other carrier cards in adjacent slots. Cables are also available to connect the carrier's rear I/O to a front panel connector in an adjacent slot.

Select XMC modules from Acromag's offering of high-performance FPGA and I/O solutions or use any third-party ANSI/VITA 42 compliant mezzanine modules.

Key Features & Benefits

- One XMC module slot
- 8-lane PCI Express interface
- Two cooling fans
- Supports high-speed serial interface between neighboring cards using protocols such as XAUI or Aurora
- Routes 20 high speed differential pairs and 38 additional signals from the XMC Q Pairs® connectors
- Routes 32 differential pairs to SCSI-3 rear connector for LVDS I/O from the XMC module
- JTAG programming connector supports Xilinx programmer for use with hosted FPGA modules
- Auxiliary power connection for 12V source



Tel 844-878-2352 ■ solutions@acromag.com ■ www.acromag.com ■ 30765 Wixom Rd, Wixom, MI 48393 USA

XMC Module Carriers

APCe8775 PCI Express Carrier Card for XMC Modules



Performance Specifications

XMC Compliance

XMC Module
Complies with ANSI/VITA 42.0-2008.
Contact factory for VITA 61 or 88 compatibility.

I/O Interface

Serial Rear I/O (P2_A, P2_B)
Connector: Samtec QSH-DP 0.50 mm Q Pairs® high speed ground plane socket strip, differential pair.

These ports provide the ability to connect to left and right neighbor carrier cards using high speed serial protocols such as XAUI or Aurora.

Supports up to five transmit and five receive high speed (5Gb/s) differential pairs or five LVDS pairs when used with Samtec QPairs® High Speed Twinax cables.

Rear I/O (J1)

Connector: MD68 (internal SCSI), male.
32 LVDS pairs routed from the XMC J14 connector.

PCI Express Interface

PCI Express interface
8-lane edge connector. Uses matched length impedance controlled PCIe card edge connector to XMC connector. PCIe Gen 1-3 capable. PCIe Gen 3 support dependent on system variables.

PCIe bus compliance

This device meets or exceeds all written PCI Express specifications per revision 2.0 dated April 11, 2007.

Environmental

Operating temperature
-10°C to 70°C.

Storage temperature
-40°C to 70°C.

Relative humidity
5 to 95% non-condensing.

Power

The carrier provides +3.3V, +12V and -12V power to the XMC module. The +12V power source is jumper-selectable from the PCIe bus +12V supply or the PCIe graphics power connector. The DC/DC converter generates a -12V supply from the +12V source.

+3.3V (±10%): 5.7mA.

+12V (±5%): 110mA, typical with fan operating.

Currents specified are for the carrier board only. For the total current required from each supply, add the XMC module currents.

MTBF

Temperature	MTBF (Hours)	MTBF (Years)	Failure Rate (FIT ¹)
25°C	5,119,096	584.37	195.3
40°C	4,393,866	501.58	227.6

Physical

Dimensions
Length: 10.00 inches (252.0 mm).
Height: 4.200 inches (106.68 mm).
Width: Occupies one slot.
Board thickness: 0.062 inches (1.59 mm).

Connectors

J1: Board-to-board connection of J14 user signals.
JP1: Power source select jumper.
J3: Auxiliary power connector (PCIe graphics).
JP2: JTAG I/O voltage select jumper.
J14, J16: XMC user signals (rear I/O).
J15: XMC PCIe signals.
P1: PCI Express V1.1 x8 lanes card edge.
P2.A, P2.B: Board-to-board connection of J16 user signals.
P4/P7: Fan power.
P5: JTAG (Xilinx programming adapter).

Approvals

CE marked, FCC Part 15, Class A.

Ordering Information

Carrier Cards

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

APCe8775

PCI Express carrier card for XMC modules

APCe8775-61

PCI Express carrier card for XMC modules. VITA 61.

Accessories

ACC1013

Samtec Q Pairs® high speed twinax cable for board-to-board connections. 7 inches long, 20 differential pairs. Connects carrier cards in adjacent slots between P2.A or P2.B connectors. High-speed serial signals originate from XMC J16 rear I/O.

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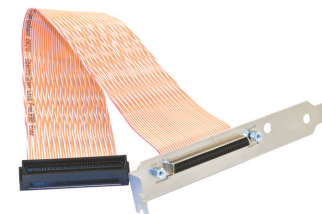
CS Electronics internal SCSI cable with PCI bracket-mounted HD68 female connector. Brings the XMC J14 rear I/O signals to back panel of the PC.

XMC Modules

See www.acromag.com for more information.



ACC1013



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