**Description**

Acromag's APCe8670 carrier card interfaces a PMC mezzanine module to a PCI Express bus in a PC-based desktop computer system.

The APCe8670 is a PCIe bus adapter board that allows a PC (PCIe bus master) to control and communicate with the hosted PMC module. It simply acts as an adapter to route signals between the system's PCIe bus and the PMC module connectors.

The I/O signals are accessible via rear connectors and though the front mounting bracket. Cables are available to connect the carrier's rear I/O to a front panel connector in an adjacent slot.

Select PMC modules from Acromag's offering of high-performance FPGA and I/O solutions or use any third-party ANSI/VITA 20 compliant mezzanine modules.

**Key Features & Benefits**

- One PMC module slot
- 4-lane PCIe Express interface
- PCI-X interface supports 32/64-bit addressing, 32/64-bit data bus at up to 100MHz operation
- Carrier routes 32 differential pairs to rear connector for LVDS I/O from the PMC module
- JTAG connector supports Xilinx programmer for use with hosted FPGA modules
- Cooling fan
- Auxilliary power connection for 12V source
- Diagnostic LEDs indicate communication speed
# PMC/XMC Module Carriers

## APCe8670  PCI Express Carrier Card for PMC Modules

### Performance Specifications

- **PMC Compliance**
  - PMC Module
  - Conforms to CMC/PMC Specification, P1386.1.

- **PCI/X Bridge**
  - Compliant to the following specifications:
    - PCI Express Base Specification (Rev. 1.1)
    - PCI Express-to-PCI/PCI-X Bridge Specification (Rev. 1.0)
    - PCI-to-PCI Bridge Specification (Rev. 1.2)
    - PCI Local Bus Specification (Rev. 3.0)
    - PCI-X Addendum to PCI Local Bus Specification (Rev. 2.0, mode 1 only)
    - PCI Bus Power Management Interface Specification (Rev. 1.2)
  - **Addressing**
    - 32/64-bit.
  - **Data bus**
    - 32/64-bit.
  - **Interface**
    - Supports up to 100MHz operation.

- **PCI Express Interface**
  - PCI Express interface
    - 4 lane, Gen 1 capable.
  - **PCIe bus compliance**
    - This device meets or exceeds all written PCI Express specifications per revision 1.1 dated March 28, 2005.

- **I/O Interface**
  - Rear I/O (J6)
    - Connector: MD68 (internal SCSI), male.
    - 32 LVDS pairs routed from the PMC P4 connector.

### Environmental

- Operating temperature
  - 0 to 70°C.
- Storage temperature
  - -55 to 125°C.
- Relative humidity
  - 5 to 95% non-condensing.
- **Power**
  - The carrier provides +3.3V, +5V, +12V and -12V power to the PMC module. The +12V power source is jumper-selectable from the PCIe bus +12V supply or the PCIe graphics power connector. DC/DC converters generate a +5V or -12V supply from the +12V source.
  - +3.3V (±10%): 0mA.
  - +12V (±5%): 0mA, typical with fan operating.
  - Currents specified are for the carrier board only. For the total current required from each supply, add the PMC module currents.
- **MTBF**
  - Contact the factory.

### Physical

- **Dimensions**
  - Length: 9.342 inches (237.3 mm).
  - Height: 4.376 inches (111.2 mm).
  - Width: Occupies two slots with fan installed (fan is mounted on solder side, height is 10 mm). Occupies one slot with fan removed.
  - Board thickness: 0.062 inches (1.59 mm).
- **Connectors**
  - J1, J2, J3: PMC PCI-X signals.
  - J4: PMC user signals (rear I/O).
  - J5: Auxiliary power connector (PCIe graphics).
  - J6: Board-to-board connection of J4 user signals.
  - P1: PCI Express V1.1 x4 lanes card edge.
  - P3: Fan power.
  - P4: JTAG (Xilinx programming adapter).

### Ordering Information

#### Carrier Cards
- **APCe8670**
  - PCI Express carrier card for PMC modules

#### Accessories
- **5025-913**
  - CS Electronics internal SCSI cable with PCI bracket-mounted HD68 female connector. Brings the PMC J4 rear I/O signals to back panel of the PC.

#### PMC Modules
- See [www.acromag.com](http://www.acromag.com) for more information.