3U CompactPCI XMC Carrier Board

APPLICATIONS

The TP CR1/XMC 3U XMC carrier board provides a flexible solution for designers wishing to add XMC I/O functionality to a CompactPCI® 32-bit 33/66MHz system. The carrier accommodates one single width XMC module conforming to the IEEE 1386 Common Mezzanine Card standard, with front panel I/O and 64-bit rear I/O. XMC modules supporting up to x4 PCI Express® interfaces can be used. A wide range of commercial and proprietary designed XMC modules can be supported such as SAS,

LAN, WAN, Graphics and Communications Controllers. The XMC site provides XMC rear I/O via the PMC Pn4 connector, where the rear I/O signals are routed to the CompactPCI J2 connector. There is an optional rear panel I/O Transition Module. Options to operate in temperatures ranging from -40°C to +85°C are available. This board is rear I/O plug compatible with the ruggedized conduction-cooled versions.

HIGHLIGHTS

- 3U CompactPCI XMC Carrier supports one single size XMC module
- XMC PCI Express interface supports:
  - x1, x2 or x4 PCI Express
- Front panel I/O
- 64-bit rear I/O via J2 connector:
  - conforms to PICMG 2.3 R1.0 pinouts
  - rear I/O routed as differential pairs
  - rear I/O for optional PMC Pn4 connector
- 3.3 Volt, 5 Volt, +12 Volt and -12 Volt provided for XMC modules via CompactPCI backplane
- Occupies one 3U CompactPCI slot:
  - 32-bit 33/66 MHz PCI bus
  - 5 Volt or 3.3 Volt signaling

- IPMI (Intelligent Platform Management Interface):
  - PICMG 2.9 (System Management Specification)
- Extended temperature version planned:
  - -25°C to +70°C (E-Series)
  - -40°C to +85°C (K-Series, includes humidity sealant)
- Ruggedized conduction-cooled version (RC-Series):
  - conduction cooled to ANSI/VITA 20-2001 (R2005)
  - -40°C to +85°C, conformally coated
  - see separate TP CR1/XMC-RC datasheet
- Occupies one 3U CompactPCI slot
- A Rear Transition Module is available

3U CompactPCI XMC Carrier
- 3U CompactPCI® XMC Carrier supports:
  - ➔ one single size XMC module
  - ➔ supports non-Monarch Processor XMC modules
- for ruggedized conduction-cooled versions, see separate datasheet:
  - ➔ rear plug compatible
  - ➔ conduction cooled: TP CR1/XMC-RC

XMC Interface
- XMC module interface implemented via PLX Technology PEX8114 PCI to PCI Express® bridge:
  - ➔ supports x1, x2 or x4 Gen 1 PCI Express
  - ➔ logical and electrical layer meets specification PCI Express 1.1
- complies with CMC (Common Mezzanine Card) standard IEEE 1386-2001 and PMC (PCI Mezzanine Card) standard IEEE 1386.1-2001
- front panel I/O
- 64-bit rear I/O via J2 connector:
  - ➔ conforms to PICMG 2.3 R1.0 pinouts
  - ➔ rear I/O routed as differential pairs
  - ➔ optional PMC Pn4 connector
  - ➔ Rear Transition Module available
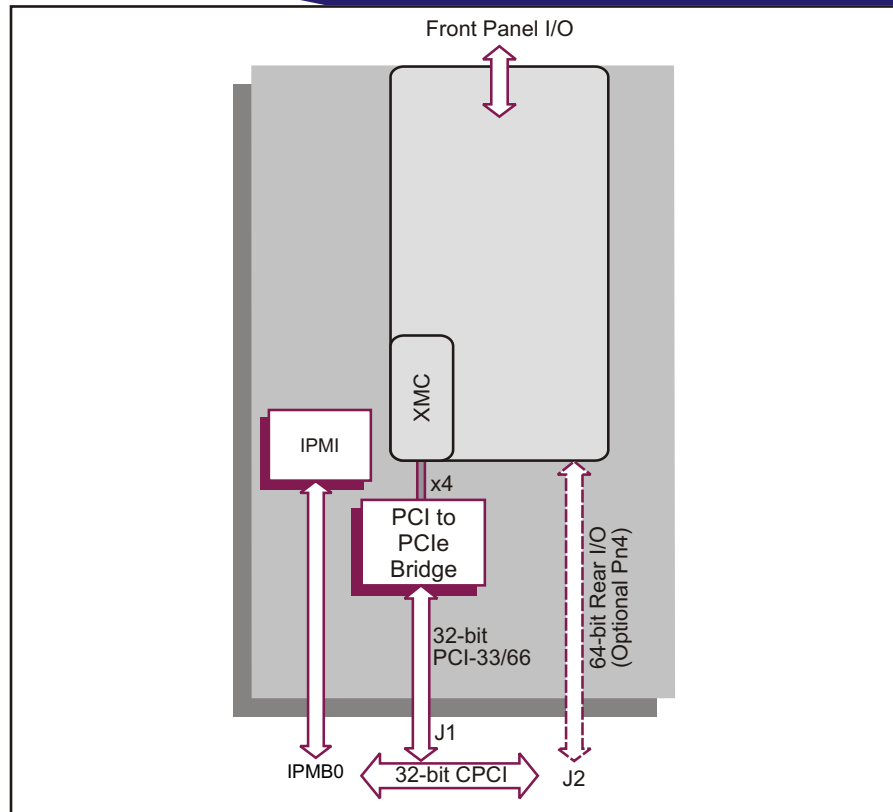
CompactPCI Bus Interface
- pinout conforms to PICMG 2.0 R3.0:
  - ➔ 32-bit 33/66 MHz PCI bus
  - ➔ supports 3.3V and 5V signaling
- CompactPCI bus interfaces to XMC site via a PCI to PCI Express bridge

IPMI
- PICMG 2.9 R1.0 (System Management Specification):
  - ➔ implements the IPMB0 interface
- on-board Baseboard Management Controller
- monitors board voltages and status indicators
- supports 8 Kbytes of non-volatile memory

Electrical Specification
- all power supply rails available to XMC site:
  - ➔ overall power consumption dependent on the XMC module fitted
  - ➔ maximum power for XMC module is 25 Watts
- typical current figures without XMC module fitted:
  - ➔ +5V@ 0.1A; voltage +5% / -3%
  - ➔ +3.3V@ 0.5A; voltage +5% / -3%
  - ➔ +12V@ 0.0A; voltage +5% / -5%
  - ➔ -12V@ 0.0A; voltage +5% / -5%

Front Panel I/O — XMC — IPMI — x4 — PCI to PCIe Bridge — 32-bit PCI-33/66 — 64-bit Rear I/O (Optional Pn4) — J1 — IPMB0 — 32-bit CPCI — J2

Safety
- PCB (PWB) manufactured with flammability rating of 94V-0

Environmental Specification
- operating temperatures:
  - ➔ 0°C to +55°C (N-Series)
  - ➔ -25°C to +70°C (E-Series)
  - ➔ -40°C to +85°C (K-Series)
- storage temperatures:
  - ➔ -40°C to +85°C
- Relative Humidity, non condensing (operating and storage):
  - ➔ 5% to 95%
  - ➔ K-Series includes humidity sealant

Mechanical Specification
- 3U form-factor: 3.9 inches x 6.3 inches (100mm x 160mm)
- single slot
- connectors: IEC-1076-4-101 for J1-J2
- shock:
  20g, 11ms, ½ sine (operating);
- vibration:
  5Hz-2000Hz at 2g, 0.38mm peak displacement (operating);

ORDERING INFORMATION

Order Number	Product Description (Hardware)
TP CR1/XMC-10	XMC Carrier Board for 3U 32-bit CPCI, with 64-bit rear I/O via PMC Pn4 rear I/O connector
TP CR1/XMC-20	XMC Carrier Board for 3U 32-bit CPCI, without rear I/O connector
AD TP1/103-00	3U Rear Transition Module with 68-way front panel I/O interface connector

For extended temperature E and K-Series, or ruggedized RC-Series, please contact your local sales office.