

3U VPX XMC/PMC Carrier Board



APPLICATIONS

The TR XMC/301 XMC/PMC carrier board provides a flexible solution for adding modular I/O functionality to a 3U VPX system. The carrier accommodates one single width XMC or PMC 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® (PCIe) interfaces and PMC modules supporting up to PCI-X 133MHz can be used. Support is included for a CompactFlash™ card. The TR XMC/301 backplane fabric interface is configured as dual x4 PCIe.

A range of commercial and proprietary designed modules can be supported such as SAS, LAN, WAN, Graphics and Communications Controllers. The carrier provides rear I/O via either a PMC Pn4 or XMC Pn6 connector, where the rear I/O signals are routed to the VPX P2 connector (to an optional Rear Transition Module). For rugged applications two VPX-REDI conduction-cooled versions are available, the TR XMC/301-RCS is a VPX-REDI Type 1 Two-Level Maintenance conduction-cooled board and the TR XMC/301-RCT is VPX-REDI Type 2.

HIGHLIGHTS

- 3U VPX based XMC/PMC Carrier supports one single width XMC or PMC module
- 3U VPX (VITA 46.0) N-Series XMC/PMC carrier:
 - air-cooled
 - 0°C to +55°C operating temperature
 - use in commercial (non-rugged) applications
 - 3U VPX 0.8 inch slot
 - front panel I/O
 - optional rear transition module available
- P1 and P2 VPX interfaces compatible with OpenVPX module profiles
- VPX backplane fabric interface supports PCI Express (PCIe):
 - up to x4 PCIe upstream and up to x4 PCIe downstream
 - support for Gen 1 and Gen 2
 - compatible with several OpenVPX module profiles
- XMC interface supports:
 - x1, x2 or x4 PCI Express®
- PMC interface supports:
 - 32/64-bit, 33/66MHz PCI
 - 64-bit, up to 133MHz PCI-X
- 64-bit rear I/O via VPX P2 connector:
 - rear I/O options for an XMC Pn6 or PMC Pn4 connector
 - P2 pinout conforms to P2w1-X24s+X8d+X12d or P2w1-P64s (VITA 46.9)
- CompactFlash™ Type-I site available
- 3.3 Volt, 5 Volt, +12 Volt and -12 Volt provided for the XMC or PMC module via the VPX backplane
- Ruggedized VPX-REDI versions (RCx-Series):
 - conduction-cooled to VITA 48.2, conformally coated
 - -40°C to +85°C operating temperature (at card edge)
 - rear plug compatible with the air-cooled versions (N-Series)
- Concurrent Technologies also provide a range of 3U VPX single board computers supporting Intel® Core™ i7, Intel® Core™ 2 Duo and Intel® Atom™ processors

VPX XMC or PMC Carrier

- 3U VPX XMC or XMC Carrier supports:-
 - one single size XMC or PMC module
 - supports End-Point Processor XMC modules
 - supports non-Monarch Processor PMC modules
- complies with CMC (Common Mezzanine Card) standard IEEE 1386-2001 and PMC (PCI Mezzanine Card) standard IEEE 1386.1-2001
- compatible with several OpenVPX module profiles
- front panel interface aperture
- optional rear panel transition module
- for ruggedized VPX-REDI (RCx-Series) versions:-
 - conduction-cooled to VITA 48.2
 - -40°C to +85°C at card edge
 - conformally coated
 - see TR XMC/301-RCx datasheet

XMC/PMC Data/IO Interfaces

- XMC module interface:-
 - supports x1, x2 or x4 PCI Express®
- PMC interface supports:
 - 32/64-bit, 33/66MHz PCI
 - 64-bit, 66/100/133MHz PCI-X
- supports front panel I/O
- 64-bit rear I/O via VPX P2 connector:-
 - option for rear I/O is via an XMC Pn6 or PMC Pn4 connector
 - P2 pinout conforms to P2w1-X24s+X8d+X12d or P2w1-P64s (VITA 46.9)
- optional rear transition module

CompactFlash Site

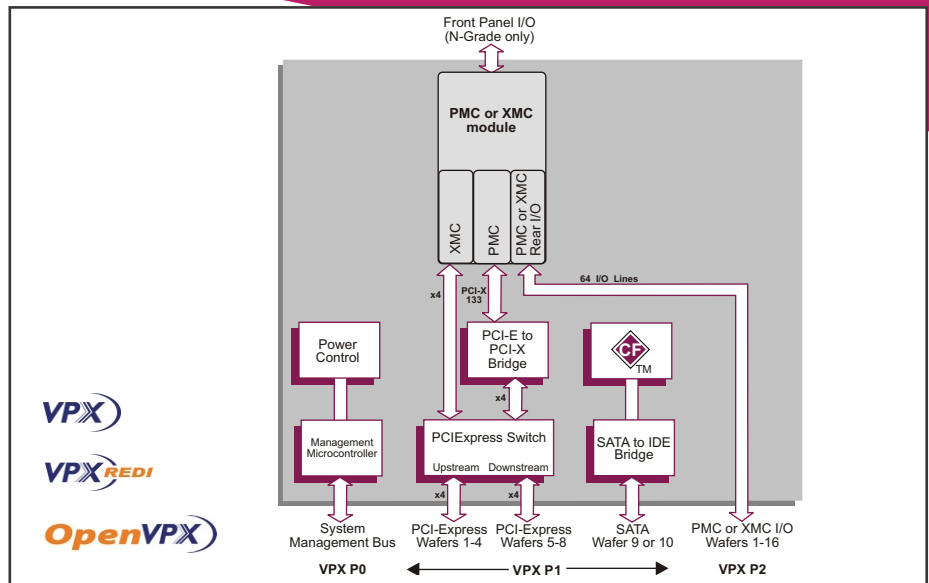
- CompactFlash® Type-I site available:-
 - implemented via SATA to EIDE interface connected to VPX P1 wafer 9 or 10
- available via VPX backplane:-
 - supports OpenVPX module profile MOD3-STO-2U-16.5.1-1

Compatible VPX System SBC

- 3U VPX Single Board Computer (SBC) examples:-
 - TR 80x/39x, Intel® Core™ i7 processor
 - TR 501/36x, Intel® Core™ 2 Duo processor
 - TR A40/30x, Intel® Atom™ processor Z530
- contact your local sales office for the latest range of boards supported
- supported operating systems depend on the 3U VPX system controller SBC used

VPX Backplane Interface

- P0, P1 and P2 support OpenVPX configuration
- configurable PCI Express® (PCIe) fabric interface supports:-
 - upstream a x4 PCIe port
 - downstream four x1 PCIe ports or a x4 PCIe port
 - PCI Express Gen 1 and Gen 2
- compatible with OpenVPX module (VITA 65) profiles:-
 - MOD3-PAY-2F-16.2.7-1
 - MOD3-PAY-2F-16.2.7-2
 - MOD3-PAY-1F4U-16.2.8-1
 - MOD3-PAY-1F4U-16.2.8-3
 - MOD3-PER-2F-16.3.1-2
 - MOD3-PER-2F-16.3.1-3
 - MOD3-PER-1F-16.3.1-1
 - MOD3-PER-1F-16.3.1-2



System Management

- System Management interface:-
 - implements the SM0-1 interface
- on-board System Management Controller
- supports 8 Kbytes of non-volatile memory

Electrical Specification

- maximum current, XMC or PMC module is not fitted
- +5V VS3 @ 1.2A, voltage +5% / -2.5%
- +3.3V VS2 @ 1.2A, voltage +5% / -2%
- +3.3V AUX @ 0.2A, voltage +5% / -5%
- +12V AUX and -12V AUX routed to the XMC site

Safety

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

Environmental Specification

- operating temperature:-
 - VITA 47 Class AC1, 0°C to +55°C
 - air-cooled
- storage temperature:-
 - VITA 47 Class C1, -40°C to +85°C
- operating altitude:-
 - 0 to 15,000 feet (0 to 4,572 meters)
- relative humidity (operating/storage):-
 - 5% to 95%, non condensing

Mechanical Specification

- 3U VPX form-factor (VITA 46.0, VITA 48.0)
- 3.9 inches x 6.3 inches (100mm x 160mm)
- slot width (VITA 46.0):-
 - 0.8 inches
- connectors to VITA 46.0 for P0, P1 and P2
- operating mechanical:-
 - shock - VITA 47 Class OS1, 20g
 - random vibration - 0.002g²/Hz



3U VPX XMC/PMC Carrier with Compact Flash card fitted (air-cooled version, XMC/PMC module omitted for clarity)

ORDERING INFORMATION

Order Number Product Description (Hardware)

For the order number suffix (-xy) options please contact your local sales office: where -xy = rear I/O connector (Pn4 or Pn6)

TR XMC/301-xy 3U VPX PMC/XMC Carrier, 64-bit rear I/O via PMC Pn4 or XMC Pn6 rear I/O connector, front panel aperture, N-Series

For accessories please contact your local sales office.

For further information on the VPX (N-Series) and VPX-REDI (RCx-Series) boards please contact your local sales office.