

3U VPX/VPX-REDI XMC/PMC Carrier Board



APPLICATIONS

The TR XMC/301 XMC/PMC carrier board provides a flexible solution for designers wishing to add modular I/O functionality to a 3U VPX or VPX-REDI 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. The TR XMC/301 VPX backplane fabric interface is configured as dual x4 PCIe.

A wide 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. There is an optional rear panel I/O Transition Module. The TR XMC/301-RCS is a VPX-REDI Type 1 Two Level Maintenance conduction-cooled board; Type 2 support is also an option. For non-rugged applications a VPX version, the TR XMC/301, is available.

HIGHLIGHTS

- 3U VPX based XMC/PMC Carrier supports one single width XMC or PMC module
- 3U VPX-REDI (VITA 48.0) RCx-Series XMC/PMC carrier:
 - conduction-cooled to VITA 48.2
 - conformally coated
 - supports a conduction-cooled XMC or PMC module conforming to ANSI/VITA 20
 - -40°C to +85°C operating temperature
 - RCS-Series supports VPX-REDI Type 1 Two Level Maintenance in 3U VPX-REDI 0.85-inch slot
 - RCT-Series supports VPX-REDI Type 2 in 3U VPX-REDI 0.85-inch slot
- 3U VPX (VITA 46.0) N-Series XMC/PMC carrier:
 - rear plug compatible with the VPX-REDI RCx-Series
 - 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
 - compatible with several OpenVPX module profiles
- CompactFlash™ Type-I site available
- 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:
 - 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)
- 3.3 Volt, 5 Volt, +12 Volt and -12 Volt provided for the XMC or PMC module via the VPX backplane

Ruggedized 3U VPX XMC or PMC Carrier

- 3U VPX-REDI XMC or XMC Carrier supports:-
 - one single size XMC or PMC module
 - supports non-Monarch Processor XMC modules
- complies with CMC (Common Mezzanine Card) standard IEEE 1386-2001 and PMC (PCI Mezzanine Card) standard IEEE 1386.1-2001
- conduction-cooled to VITA 48.2
- conformally coated
- compatible with several OpenVPX module profiles
- air-cooled VPX version, also available with:-
 - front panel interface aperture
 - optional rear panel transition module

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
- air-cooled VPX version 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-ST0-2U-16.5.1-1

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

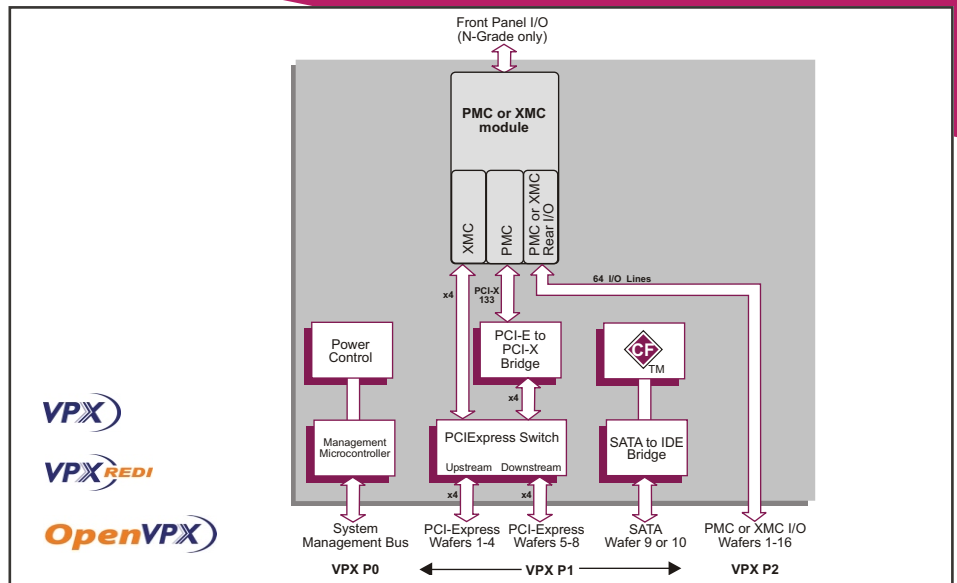
- System Management interface:-
 - implements the SMO-1 interface
- on-board System Management Controller
- supports 8 Kbytes of non-volatile memory

Electrical Specification

- typical current, without XMC or PMC module fitted:-
 - +5V@ 0.6 A, voltage +5% / -3%
 - +3.3V@ 1.2 A, voltage +5% / -3%
- +12V AUX and -12V AUX routed to the XMC site

Safety

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

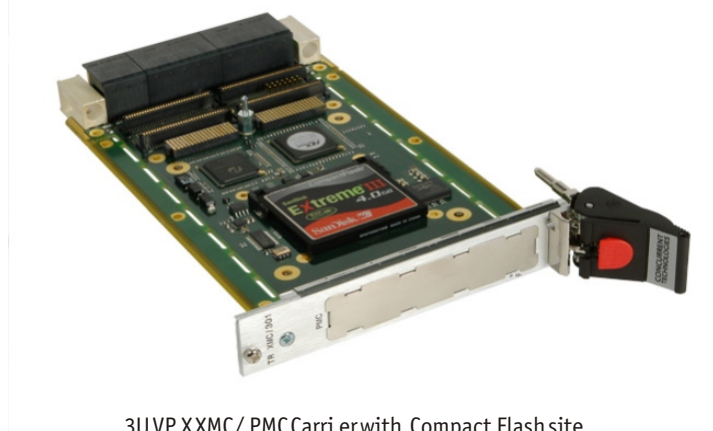


Environmental Specification

- operating temperature, VPX N-Series:-
 - VITA 47 Class AC1
 - useful for bench development
 - air-cooled
- storage temperature, VPX N-Series:-
 - VITA 47 Class C1
- operating altitude, VPX N-Series:
 - 0 to 15,000 feet (0 to 4,572 meters)
- operating temperature, VPX-REDI RCx-Series:-
 - VITA 47 Class CC4
 - conduction-cooled (VITA 48.2)
- storage temperature, VPX-REDI RCx-Series:-
 - VITA 47 Class C4
- operating altitude, VPX-REDI RCx-Series:
 - -1,000 to 50,000 feet (-305 to 15,240 meters)
- 5% to 95% Relative Humidity, non condensing (operating/storage for N-Series and RCx-Series)

Mechanical Specification

- 3U VPX form-factor (VITA 46.0, VITA 48.0):
 - 3.9 inches x 6.3 inches (100mm x 160mm)
- slot widths, N-Series and RCx-Series:-
 - 0.8 inches VPX N-Series (VITA 46.0)
 - 0.85 inches VPX-REDI Type 2, RCT-Series (VITA 48.0)
 - 0.85 inches VPX-REDI Type 1, RCS-Series (VITA 48.0). Where REDI Type 1 is Two Level Maintenance (VITA 48.2)
- connectors to VITA 46.0 for P0, P1 and P2
- operating mechanical, VPX N-Series:-
 - shock - VITA 47 Class OS1
 - vibration - VITA 47 Class V1
- operating mechanical, VPX-REDI RCx-Series:-
 - shock - VITA 47 Class OS2
 - vibration - VITA 47 Class V3



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

ORDERING INFORMATION

Order Number Product Description (Hardware)

Order Number	Product Description (Hardware)
TR XMC/301-10	3U VPX PMC/XMC Carrier, 64-bit rear I/O via PMC Pn4 rear I/O connector, air-cooled, with front panel aperture
TR XMC/301-20	3U VPX PMC/XMC Carrier, 64-bit rear I/O via XMC Pn6 rear I/O connector, air-cooled, with front panel aperture
TR XMC/301-10RCS	3U VPX-REDI PMC/XMC Carrier, 64-bit rear I/O via PMC Pn4 rear I/O connector, conduction cooled, with 2 Level Maintenance covers (Type 1)
TR XMC/301-10RCT	3U VPX-REDI PMC/XMC Carrier, 64-bit rear I/O via PMC Pn4 rear I/O connector, conduction cooled, without 2 Level Maintenance covers (Type 2)
TR XMC/301-20RCS	3U VPX-REDI PMC/XMC Carrier, 64-bit rear I/O via XMC Pn6 rear I/O connector, conduction cooled, with 2 Level Maintenance covers (Type 1)
TR XMC/301-20RCT	3U VPX-REDI PMC/XMC Carrier, 64-bit rear I/O via XMC Pn6 rear I/O connector, conduction cooled, without 2 Level Maintenance covers (Type 2)

AD TR1/00x-xy 3U VPX Rear Transition Module (optional, for use with TR XMC/301-10 or TR XMC/301-10 3U VPX)

For further information please contact your local sales office.

All companies and product names are trademarks of their respective organizations. Specification subject to change; E and OE. RoHS 2002/95/EC compliant.

Datasheet Code 1626/0110
© Concurrent Technologies 2010