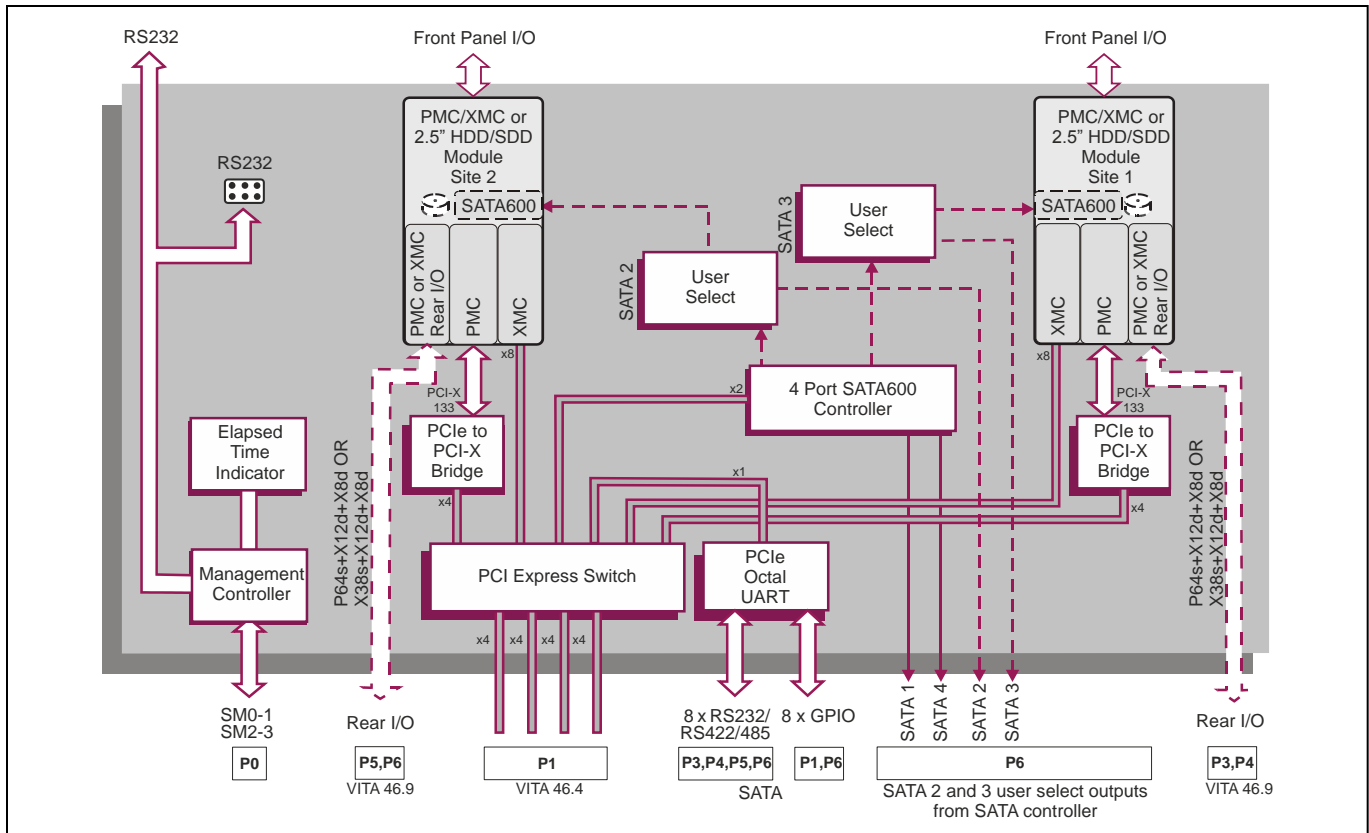
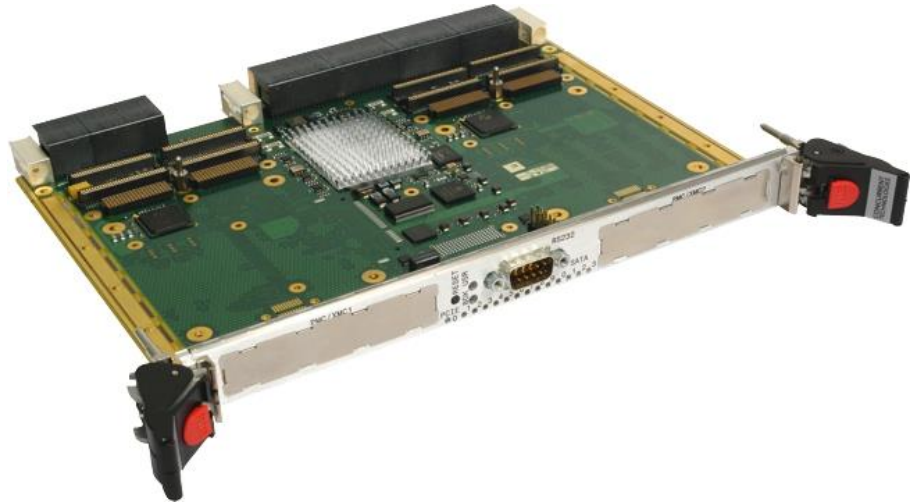


6U VPX Dual XMC/PMC Carrier and Mass Storage Board

Key Features

VR XMC/x01 provides a flexible solution for adding modular I/O functionality and storage to a 6U VPX system.

- Dual XMC/PMC carrier
- High performance mass storage interfaces are utilized with 2x optional 2.5-inch mass storage drives available, along with an option for up to 4xSATA600 interfaces via the P6 connector
- This carrier is designed for non-rugged applications, but a rugged conduction-cooled variant is available



6U VPX Dual XMC/PMC Carrier

- 6U VPX dual XMC/PMC carrier supports:
 - 2 single width XMC or PMC modules
 - a single XMC and a single PMC module can be used simultaneously
 - up to 40 Watts per XMC/PMC module
 - supports single end-point PrXMC modules and non-Monarch PrPMC modules
 - PCI Express® fabric backplane operation
 - commercial air-cooled
- compatible with OpenVPX™ (VITA 65)
- for rugged VPX-REDI (RCx-Series) versions:
 - conduction-cooled to VITA 48.2
 - -40°C to +85°C at card edge
 - conformally coated
 - see VR XMC/001-RCx datasheet

XMC and PMC Interfaces

- complies with XMC (Switched Mezzanine Card) VITA 42 standard
- XMC/PMC I/O via front and rear
- XMC interfaces support:
 - x1, x2, x4 or x8 PCI Express® on site 1 and site 2
 - VPWR +5V or +12V (build option)
- XMC connector type (build option) determines the maximum PCIe operational speed:
 - up to Gen 2, VITA 42 XMC (color black)
 - up to Gen 3, VITA 61 XMC 2.0 (color white)
- PMC interface supports:
 - 32/64-bit, 33/66MHz PCI
 - 64-bit, up to 133MHz PCI-X
 - 5V tolerant PCI signaling
- build option 1 (X38s+X12d+X8d):
 - site 1 rear I/O: P16 = X38s+X12d+X8d
 - site 2 rear I/O: P26 = X38s+ X12d+X8d
 - XMC I/O complies with VITA 46.9
 - P14 and P24 fitted but not connected
- build option 2 (P64s+X12d+X8d):
 - site 1 rear I/O: P14 = P64s, P16 = X12d+X8d
 - site 2 rear I/O: P24 = P64s, P26 = X12d+X8d
 - XMC I/O complies with VITA 46.9
 - PMC I/O routed as differential pairs

System Management

- Elapsed Time Indicator for Scheduled Maintenance:
 - logs accumulated mission duration
 - records number of system power cycles
- System Management on VPX:
 - implements the SM0-1 and SM2-3 interface
 - IPMI Version 1.5 via SM0-1 and SM2-3
- on-board Baseboard Management Controller
- monitors board voltages and status indicators
- supports 512 Kbytes of non-volatile memory
- RS232 Management Port for board management:
 - available via front panel
 - available via on-board header

Serial Interfaces

- 8x serial ports PCIe-to-UART controller supporting:
 - RS232/RS422/485 modes
 - RS422/485 full-duplex mode
 - accessed via P3/P4/P5/P6
 - Tx/Rx and CTS/RTS signals
 - 16550 compatible UARTs

VPX Backplane Interface

- PCI Express (PCIe)® backplane fabric interface supports:
 - 4 x4 PCIe ports, 2 x4 & 1 x8 PCIe ports, 2 x8 PCIe ports or 1 x16 PCIe ports
 - Gen 1, Gen 2 and Gen 3
- any two ports can be configured as non-transparent
- compatible with OpenVPX module profiles:
 - MOD6-PER-4F-12.3.1-2,
 - MOD6-PER-4F-12.3.1-3,
 - MOD6-PER-2F-12.3.2-1,
 - MOD6-PER-2F-12.3.2-2
 - MOD6-PER-1F-12.3.4-1
 - MOD6-PER-1F-12.3.4-2
- option to work with PCIe clock (25MHz or 100MHz) from backplane (common reference clock)
- 4-channel DMA engine for fast data block moves

Mass Storage Interfaces

- 2 x optional on-board 2.5-inch SATA600 mass storage drive (MSD), either HDD or SSD, interfaces:
 - using the on-board PCIe to SATA controller
- on-board SATA controller provides four SATA600 interfaces (two configured by user selection):
 - SATA1 always connects to P6
 - SATA2 user selected via P6 or via on-board MSD
 - SATA3 user selected via P6 or via on-board MSD
 - SATA4 always connects to P6

Other Peripheral Interfaces

- 8 x GPIO signals via P1 and P6:
 - derived from the eight port PCIe-to-UART controller

Compatible Processor Boards

- compatible with Concurrent Technologies 6U VPX processor boards supporting a PCIe data plane
- supported operating systems depend on the processor board used
- contact your local sales office for further information

Electrical Specification

- all current figures are typical (without XMC/PMC modules or HDD/SSD fitted)
- +5V (VS3) @ 3.0A; voltage +5%/-2.5%
- +3.3V (AUX) @ 0.1A; voltage +5%/-5%
- +12V and -12V not used on-board (routed to XMC sites)

Safety

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

Environmental Specification

- operating temperature (air-cooled):
 - VITA 47 Class AC1, 0°C to +55°C (N-Series)
 - -25°C to +70°C (E-Series)
 - -40°C to +85°C (K-Series)
- non-operating temperature:
 - VITA 47 Class C1, -40°C to +85°C
- operating altitude:
 - 0 to 15,000 feet (0 to 4,572 meters)
- relative humidity:
 - 5% to 95%, non condensing
 - K-Series includes humidity sealant

Mechanical Specification

- 6U VPX form-factor (VITA 46.0, VITA 48.0)
- 9.2 inches x 6.3 inches (233mm x 160mm)
- alternative slot widths:
 - 0.8-inch (VITA 46.0)
 - 1.0-inch (VITA 48.0 as per VITA 65)
- connectors to VITA 46.0: P0, P3 through to P6
- operating mechanical:
 - shock - VITA 47 Class OS1, 20g
 - random vibration - 0.002g²/Hz

