

# XMCspan

## XMC Expansion Mezzanine

### DATA SHEET

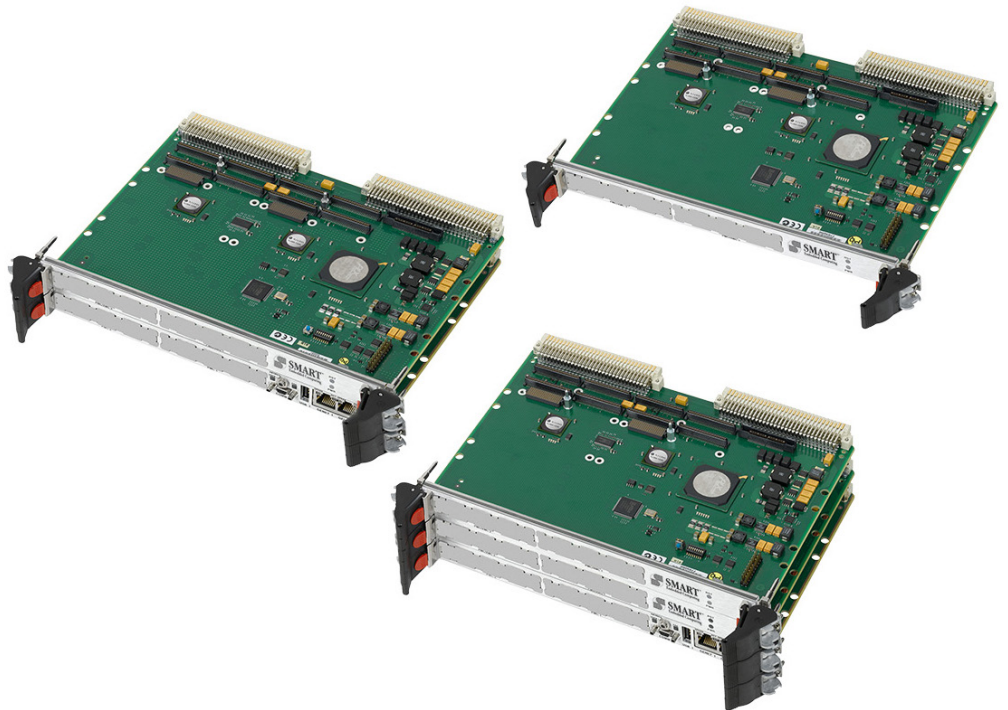
*The XMCspan board provides flexible, scalable expansion framework compatible with the newest SMART EC VMEbus single-board computers*

- Single-slot 6U VMEbus format
- PLX PEX8533 PCI Express 6-port switch
- Tundra Tsi384 PCI Express to PCI-X interface bridges
- Support for two single-wide, or one double-wide XMC or PMC per XMCspan
- Stacking capability
- Front-panel I/O
- Single 4-lane interface with P15 connector for XMCs
- Injector/ejector handles per VME64 extensions
- Compatible with the SMART EC MVME7100 and MVME4100 VMEbus SBCs



The SMART Embedded Computing XMCspan board allows users to customize and expand I/O options when coupled with SMART EC's MVME7100 and MVME4100 single-board computers (SBCs). When two XMCspan boards are coupled with an Emerson MVME7100 or MVME4100, the XMCspan boards add up to four single-wide XMC slots, or four single-wide PCI Mezzanine Cards (PMCs) slots, or two double-wide XMC slots, or two double-wide PMC slots, or a combination of both XMC modules and PMC modules. (Note: This is in addition to the two single-wide PMC slots or one double-wide PMC slot on the SBC board.) This feature allows for flexibility in design and a path for future scalability.

The XMCspan is a standard 6U single-slot VMEbus module that connects to its VMEbus SBC board via a PCI Express expansion connector. It supports front panel I/O access for customer supplied XMCs and/or PMCs. Additionally, the XMCspan supports a single 4-lane interface with the P15 connector for XMCs.





## XMCspan Details

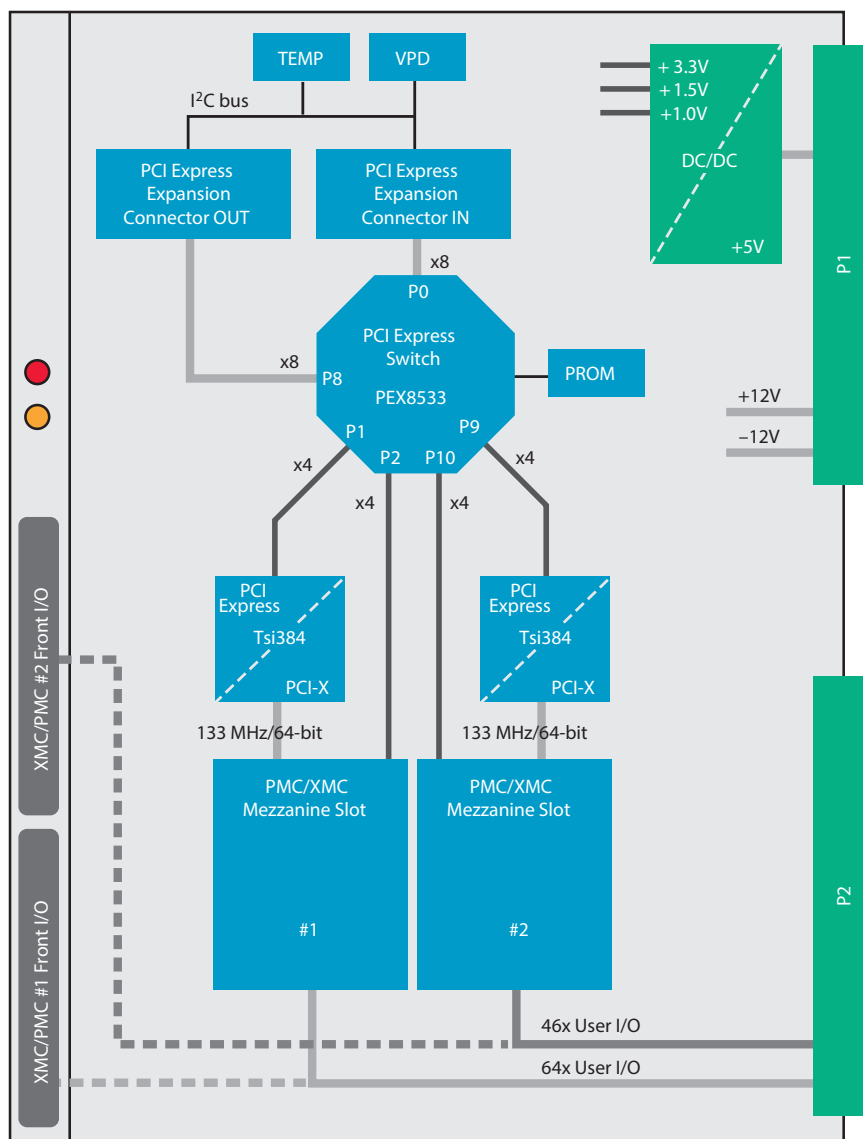
### CARRIER BOARDS

SMART EC offers a full line of PowerPC® microprocessor-based VMEbus products which can be custom configured for specific applications via on-board PMC slots. The XMCspan expands this capability by providing additional XMC slots and/or additional PMC slots. It is compatible with Emerson's MVME7100 and the MVME4100 VMEbus single-board computers. For further information on these VMEbus SBCs, please contact your local sales representative.

### PRODUCT OFFERING

The XMCspan utilizes a PCI Express port and then using a PLX PEX8533 PCI Express switch, it creates four x4 lanes for the XMC/PMC slots and another x8 port for the addition of a second XMCspan board. Two of these x4 lanes are routed to Tundra Tsi384 PCI Express to PCI-X bridges while the other two x4 lanes go directly to the XMC connectors. The PCI Express to PCI-X interface bridges support 133 MHz/64 bits. The XMCspan mates directly with the host CPU via a separate PCI Express expansion connector.

### XMCspan Block Diagram





## Hardware Specifications

### FORM FACTOR

- Single-slot 6U VMEbus format

### PCI-TO-PCI INTERFACE

- Switch: PLX PEX8533 PCI Express 6-port
- Frequency: PCI Express 2.5 GHz
- Mating Connector: 76-pin PCI Express expansion connector; still allows use of host CPUs original PMCs

### XMC SLOTS

- Connector: XMC PN15
- Interface: Single x4 lane
- Power: +3.3 V, +5 V,  $\pm 12$  V, 7.5 Watts max. per XMC
- Module Types: Two single-wide or one doublewide, front-panel I/O

### IEEE P1386.1 PCI MEZZANINE CARD SLOTS

- Controller: Tundra Tsi384 PCI Express to PCI-X interface bridge
- Address/Data: A32/D32, PMC PN1, PN2, PN3, PN4 connectors
- PCI: 33/66 MHz/64-bit
- PCI-X: 50/66/100/133 MHz/64-bit
- Signaling: 3.3 V
- Power: +3.3 V, +5 V,  $\pm 12$  V, 7.5 Watts max. per PMC
- Module Types: Two single-wide or one doublewide, front-panel or P2 I/O
- P2 PMC I/O: 64 I/O signals from first PMC routed to VMEbus P2 connector module

### POWER REQUIREMENTS (NO PMCS INSTALLED)

- Power:
  - +5V @ 0.44 ampere (max.)
  - +12V @ 0 ampere (max.)
  - 12V @ 0 ampere (max.)

### BOARD SIZE

- Height: 233.4 mm (9.2 in.)
- Depth: 160.0 mm (6.3 in.)
- Front Panel Height: 261.8 mm (10.3 in.)
- Width: 19.8 mm (0.8 in.)

### ENVIRONMENTAL

	Operating	Non-operating
Temperature	0 °C to +55 °C forced air cooling	-40 °C to +85 °C
Altitude	5,000 m	15,000 m
Humidity (NC)	5%-95% at +40 °C	5%-95% at +40 °C
Vibration	2 G RMS, 20 - 20,000 Hz random	6 G RMS, 20 - 20,000 Hz random

### ELECTROMAGNETIC COMPATIBILITY (EMC)

- Intended for use in systems meeting the following regulations:
  - U.S.: FCC Part 15, Subpart B, Class B
  - Canada: ICES-003, Class B
- This product was tested in a representative system to the following standards:
  - CE Mark per European EMC Directive 89/336/EEC with Amendments; Emissions: EN55022 Class B; Immunity: EN55024

### SAFETY

All printed wiring boards (PWBs) are manufactured with a flammability rating of 94V-0 by UL recognized manufacturers.



Ordering Information	
Part Number	Description
<b>XMCSPAN-001</b>	XMC/PMC w/IEEE handles, 6E
Documentation	
<b>PMCSPANA/IH</b>	PMC Carrier Installation and Use Manual

## SOLUTION SERVICES

SMART Embedded Computing provides a portfolio of solution services optimized to meet your needs throughout the product lifecycle. Design services help speed time-to-market. Deployment services include worldwide technical support. Renewal services enable product longevity and technology refresh.

## CONTACT DETAILS

+1 602-438-5720

[Info@smartembedded.com](mailto:Info@smartembedded.com)

[www.smartembedded.com/ec/contact](http://www.smartembedded.com/ec/contact)

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