

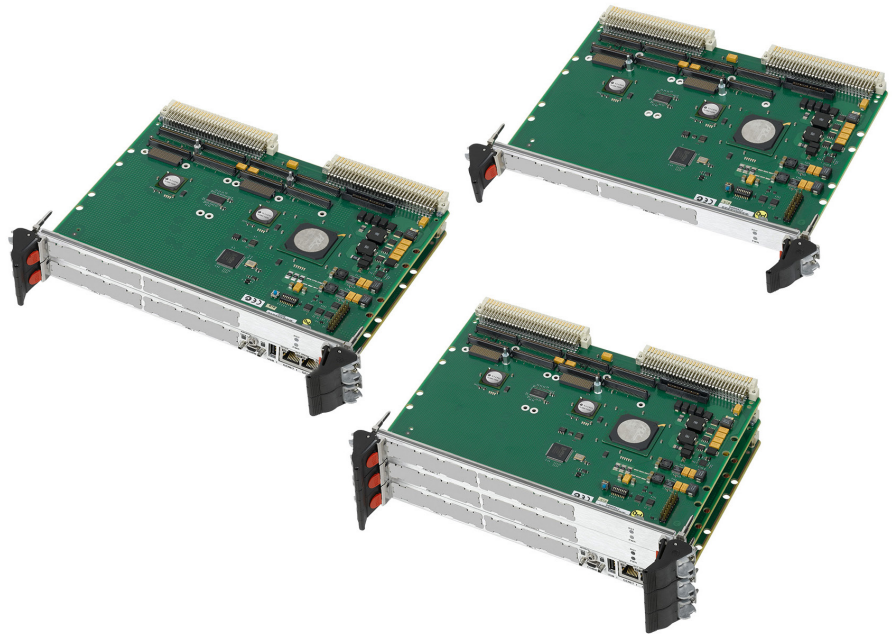
Penguin Edge[™] XMCspan

XMC Expansion Mezzanine

- ▶ 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 Penguin Edge MVME7100 and MVME4100 VMEbus SBC

The Penguin Edge[™] XMCspan board allows users to customize and expand I/O options when coupled with the Penguin Edge MVME7100 and MVME4100 single board computers (SBC). When two XMCspan boards are coupled with an 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.



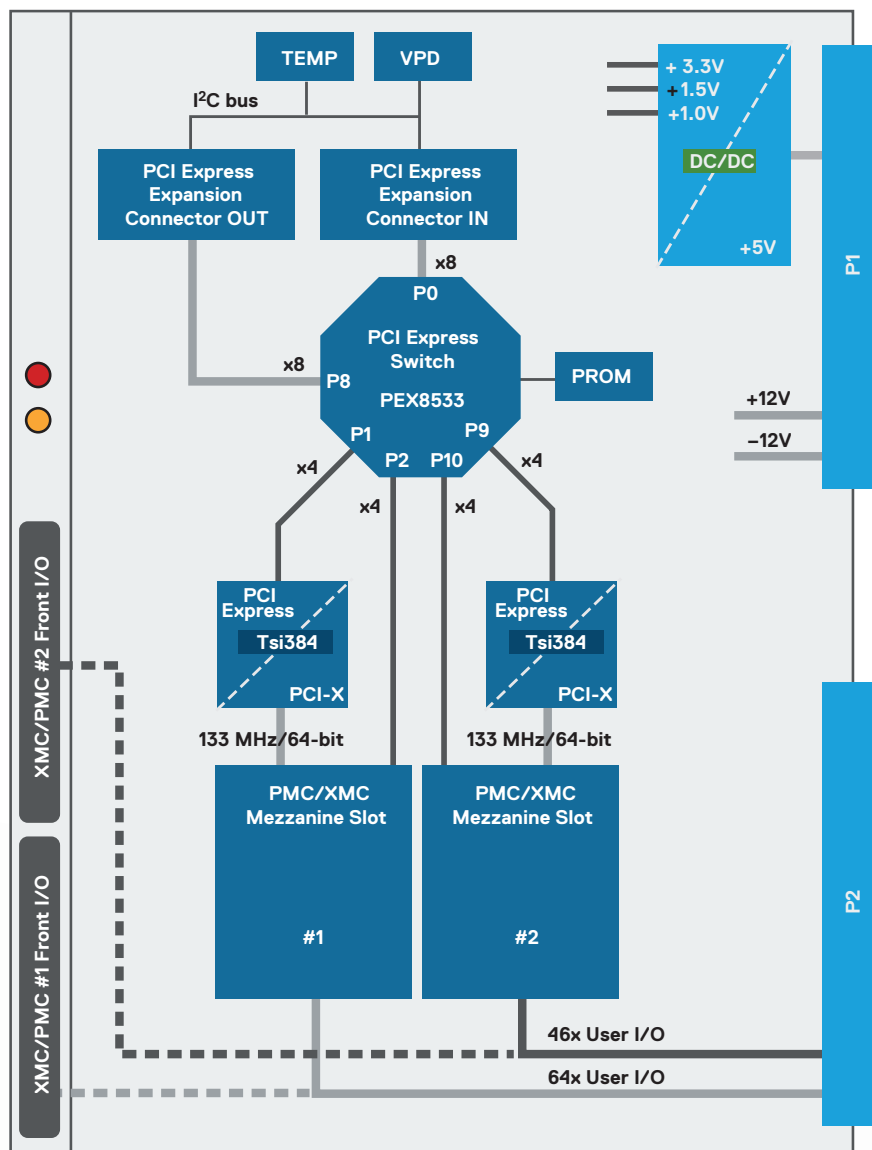
Penguin Edge XMCspan Details

Carrier Boards

Penguin Edge 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 MVME7100 and MVME4100 VMEbus single board computers. For further information on these VMEbus SBCs, please contact your local sales representative.

Product Offering

The Penguin Edge 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.



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: +3.3V, +5V, ±12V, 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: 3.3V
- ▶ Power: +3.3V, +5V, ±12V, 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
XMCSPAN-001	XMC/PMC w/IEEE handles, 6E

Contact Us

+1 602-438-5720

info@penguinsolutions.com

www.penguinsolutions.com/edge/

About Penguin Solutions

Penguin Solutions accelerates customers' digital transformation with the power of emerging technologies in HPC, AI, and IoT with solutions and services that span the continuum of edge, core, and cloud. The company designs highly advanced infrastructure, machines and networked systems that enable the world's most innovative enterprises and government institutions to build the autonomous future, drive discovery and amplify human potential. The Penguin Edge portfolio covers system on modules, single board computers and application-ready platforms that extend insight, intelligence, and analytical capabilities closer to where the data is generated - optimizing a range of use cases across industries and rugged environments.



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