

TPMB2

64-bit/66MHz PCI Based Multi-PMC Carrier/Tester



Features

Two PMC Sites

64-bit/66MHz Busses Throughout

Third PMC Site for Development

PCI 2.2 Compliant

Twin Fans for PMC Cooling

64-bit PCI Bridge

VME P2 PMC I/O Compatible Routing

Standalone Mode

JTAG Header

CompactPCI Test Site

The TPMB2 is a modular PCI based card with two primary PMC module sites. This makes the TPMB2 ideal for both PMC development & testing and as a flexible processor card. One module site has front panel I/O for external connections. The TPMB2 is built on a 64-bit backbone and incorporates a PCI-PCI bridge. This ensures full PCI 2.2 compliance and the ability to use the TPMB2 in the most up-to-date PCI backplanes



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Overview

Multiple PMC Sites

The TPMB2's architecture provides up to three PMC sites on a 64-bit PCI card isolated by a PCI-PCI bridge device. The use of a bridge ensures that the TPMB2 is fully PCI 2.2 compliant. As such, the TPMB2 is a low cost solution for developing and testing PMC modules.

64-bit PCI Interface

Throughout the system, a 64-bit/66MHz PCI backbone is used. The PCI bus is connected to a PCI backplane using an Intel 21154 PCI-PCI bridge.

The TPMB2 can be used in a 32-bit or 64-bit backplanes as required by PCI 2.2.

PMC/VME User I/O

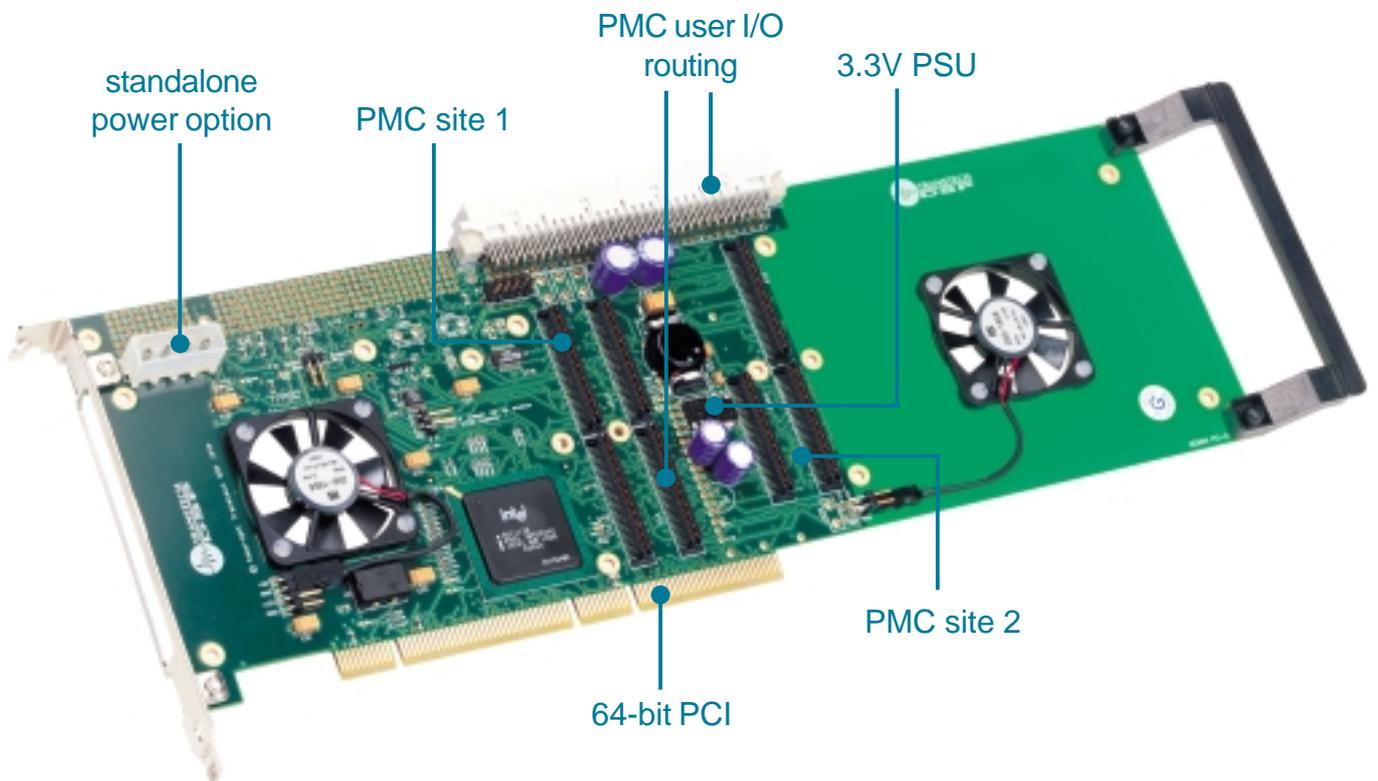
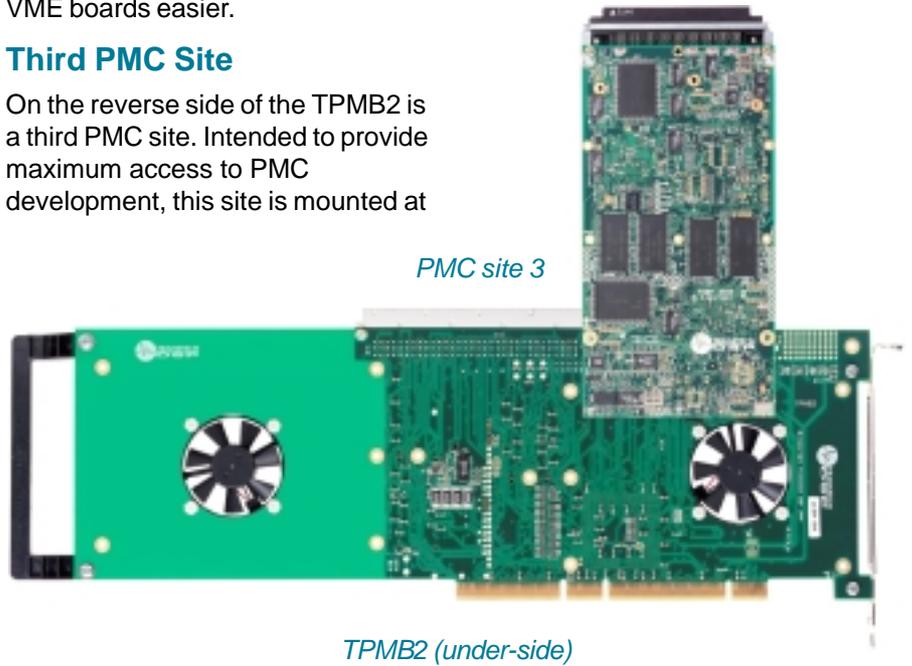
The generic IEEE P1386 CMC specification defines a recommended routing strategy for PMC module's user I/O on VME carrier boards. The TPMB2 follows these recommendations by connecting the

user I/O from one PMC to a DIN41618 plug (as used on a VME P2 connector) mounted on the top edge of the board. This allows VME P2 based I/O modules to be used with the TPMB2 and makes development of PMCs targeted at VME boards easier.

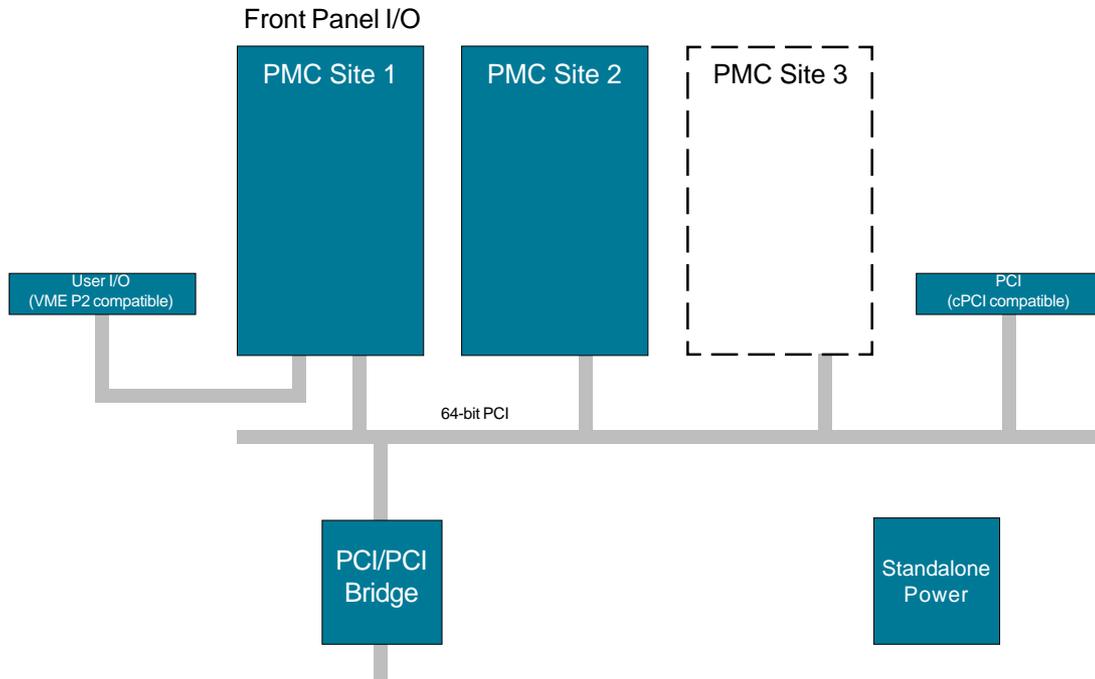
Third PMC Site

On the reverse side of the TPMB2 is a third PMC site. Intended to provide maximum access to PMC development, this site is mounted at

a right-angle to the normal PMC positions. This allows unrestricted access to a PMC's front panel I/O and part of its circuit-side when mounted on a TPMB2 in a PC backplane.



Block Diagram



Standalone Mode (build option)

The TPMB2 can be used outside a workstation as a standalone board with all necessary PCI terminations and clock signals handled onboard. Power is supplied to the board via a PC style 4-pin power connector. This makes for a lower cost evaluation platform for PMC development since a PC host or PCI backplane is not necessary.

(Note: board built with the standalone option should not be plugged into a PCI backplane).

CompactPCI Test Site

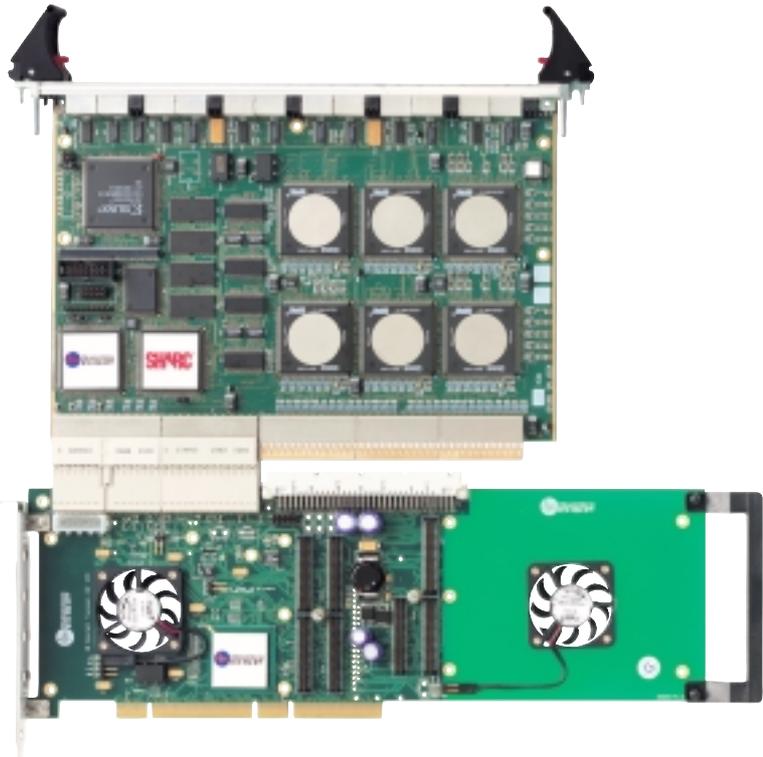
In addition to PMC modules, compactPCI cards can be developed and tested with the TPMB2. This is done by providing a PCI bus connection up to a set of compactPCI connectors on the top edge of the TPMB2. This reduces the need for expensive compactPCI backplanes for single board developments. This is a build option.

Example Configurations

The advantage of the TPMB2 is its multiple PMC sites. This permits a choice of processor modules to be

fitted and still have space for an I/O module - a single slot solution. For example, the TPMB2 can be fitted with a DSP PMC module in effect

turning the TPMB2 into a DSP based PCI card with a PMC site featuring front panel I/O and local user I/O routing.



Testing CompactPCI Boards

Technical Specification

Overview

PMC slots	3
PMC slot A	64-bit with front panel I/O and user I/O routing
PMC slot B	64-bit
PMC slot C	64-bit short site

PCI Interface

Type	64-bit, 66MHz (master/slave)
Compliance	PCI rev. 2.2

User I/O

Type	PMC user I/O to edge plug
Routing	IEEE P1386 recommendations
Connector	DIN41618

PCI-PCI Bridge

Type	Intel 21154
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Format

PMC	64-bit PCI long 74mm x 149mm
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Power

5V	0.5A + PMC module requirements
3.3V	N/A (generated onboard)
PMC switching voltage	5 or 3.3V generation for PMC sites (build option)

Ordering Information

TPMB2-xxx-yy-z

where xxx is: (blank) - no optional connectors fitted

V - with VME P2 connector

VC - with VME P2 and cPCI connectors

VP - with VME P2 and PMC 3rd site connectors

VPC - with VME P2, PMC 3rd site and cPCI connectors

yy is: (blank) - standard PCI operation

SA - standalone operation

Z is: (blank) - 5V PCI/PMC I/O

3 - 3V PCI/PMC I/O

Examples: TPMB2-V VME P2 connector fitted, 5V PCI operation (standard configuration)

TPMB2-VPC-3 VME P2, 3rd PMC site and cPCI connectors fitted with 3V PCI

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