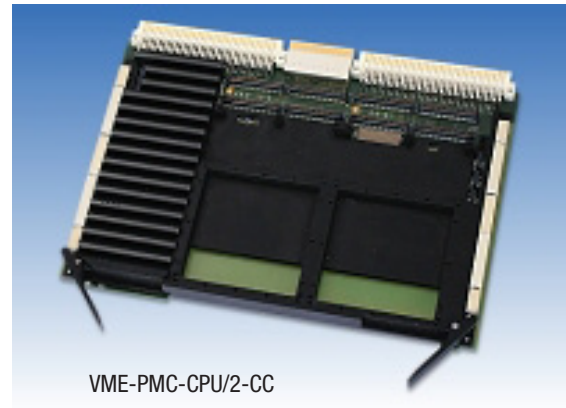




# VME-PMC-CPU/2-CC

VME PowerPC<sup>®</sup> Processor Board with 2 PMC Slots  
Conduction Cooled



## VMEbus Interface

- Master or slave functionality
- 4-level arbiter
- Address/data up to A64/D64
- VME64-extension connector
- 2eVME and 2eSST fast protocol

## PowerPC CPU

- Freescale MPC 8349
- 533 MHz
- 512 Mbyte DDR2 RAM ECC (optional up to 1 Gbyte)
- 128 Mbyte Flash (NOR)
- 2 Gbyte NAND Flash
- XC3S1600E FPGA (shared with NAND Flash interface)
- 1x Gbit Ethernet
- 2x RS-232 serial interface

## PMC Slots

- Slots according to IEEE Std 1386-2001 specified
- Two single size PMC modules insertable
- VME-PCI bridge Tundra Tsi148
- PMC I/Os applied to VMEbus P2, signals routed acc. to VITA 35 (P4V2-64ac, P4V0-64)
- Option '-32P2': different P2-pinning
- PPMC according to VITA 32
- One XMC according to VITA 42.3
- PCI 64 bit at 66 MHz, 3.3 V only

## VME-PCI Link

The VMEbus unit VME-PMC-CPU/2 is a VME64-base board which can carry up to two PMC modules of normal size. For the VMEbus connection, the VME-PCI bridge Tsi148 by Tundra is used.

## VMEbus Interface

The Tsi148 allows the board to operate either as slave or as master on the VMEbus. If the board operates as master, it supports a 4-level arbiter. Any of the seven interrupt request lines accepts application of the VMEbus interrupt, and the board connects to the VMEbus by two 160-pin VG-connectors (complementary to DIN41612) for VME64 systems.

## PowerPC<sup>®</sup> CPU

A high efficient PowerPC<sup>®</sup> MPC8349 powers the board at 533 MHz with the advantage of frugal power consumption. A type 603 fast floating-point unit allows complex algorithms at formidable speed. The memory enables ECC with a capacity of 512 Mbyte or optional 1 Gbyte DDR2-typed RAM. The flash memory of 2 Gbyte allows even complex and ambitious operating systems as well as user's application. The on-board FPGA controls the set-up of the board resources, including the complex Tsi148 VME interface and the PMC slots, but is

growing with the  
challenge

# VME-PMC-CPU/2-CC

## VME PowerPC<sup>R</sup> Processor Board with 2 PMC Slots - Conduction Cooled

mighty enough to enable a programming API for the programmers usage. Furthermore, the board comes with 1 Gbit Ethernet port and 2 RS-232 serial ports with access via P0 rear I/O pins.

### PMC Slots

Designed according to the IEEE STD 1386-2001 standard (except the standard I/O pin routing), both PMC slots allow insertion of all PMC modules, that use 3.3 V signaling only. In addition to the connectors for the PMC address/ data and control signals, every slot of the VME-PMC-CPU/2 has an I/O

connector that applies the I/O-signals of the PMC modules to VMEbus connector P2. Two different P2 pin assignments are available: In the standard configuration, each P2-pin connects to one I/O pin of the PMC-modules acc. to VITA 35 (P4V2-64ac, P4V0-64).

In the option '-32P' the pin assignment is acc. to IEEE STD 1386-2001, Table 8. This pin assignment offers the connection of the two PMC-modules via P2, because several PMC-I/O-signals are shorted at P2.

### Software

BSPs are available for VxWorks, Linux and QNX.

### Technical Specifications:

VMEbus:	
Controller:	TUNDRA Tsi148
VMEbus access:	Legacy protocols to protect existing VME investment VME64 extensions 2eVME and 2eSST protocols
Base address:	Geographical addressing
Address modifier:	Standard supervisory and non-privileged data access, extended supervisory and non-privileged data access, short supervisory and non-privileged access
VMEbus standard:	EEE 1014 Rev. D
VMEbus connector:	160-pole VG connector (complementary to DIN 41612), acc. to VME64 extension standard
PMC/XMC slots:	
Standard:	IEEE Std 1386-2001
Size:	Two single size modules
VME PCI Bridge:	Tundra Tsi148, 32/64 bit at 33/66 MHz
PCI Voltage level:	3.3 V (signal level) only
XMC:	Slot 1 with 4 lane XMC interface (J15) according to VITA 42.3 standard
Voltage option:	On-board 3.3V generation
General:	
Temperature:	-40...+85 /C
Humidity:	Max. 90 %, non-condensing

General cont'd	
Connector types:	P1, P2: VMEbus (160 pins) P0: VMEbus (114 pins) J11, J12, J21, J22: PMC address/data J13, J23: PCI 64 signals J14, J24: PMC I/O signals J15: XMC
Board size:	160 mm x 233 mm
VME dimensions:	6 U height, 4 HP width

### Order Information:

Designation		Order no.
VME-PMC-CPU/2-CC	VMEbus base board for two single PMC modules, P2-pin assignment acc. to VITA 35 (P4V2-64ac, P4V0-64), (no interconnection between PMC modules), conduction cooled, extended temperature range: -40...+85 C	V.1917.03
VME-PMC-CPU/2-CC-32P2	VMEbus base board for two single PMC modules, P2-pin assignment acc. to IEEE Std 1386-2001, Table 8 (interconnection between 16 pins of the PMC-modules), conduction cooled, extended temperature range: -40...+85 /C	TBD
VME-PMC-CPU/2-Linux	Linux BSP	V.1917.57
VME-PMC-CPU/2-VxWorks	VxWorks BSP	V.1917.58
VME-PMC-CPU/2-QNX	QNX BSP	V.1917.59

