

## PrPMC880

### AltiVec ENABLED PROCESSOR PMC MODULE



#### Processing Core Design

- 1 GHz MPC7447 microprocessor
- 128-bit AltiVec technology

#### Memory Subsystem

- Up to 1GB on-board DDR SDRAM
- 72-bit ECC memory controller
- 64MB Flash

#### Interface Features

- Single-wide PMC with a 66/33 MHz PCI interface
- Up to 133 MHz PCI-X support
- Dual 10/100/1000BaseT Ethernet interface
- 64-bit PCI host bridge
- Async serial debug port

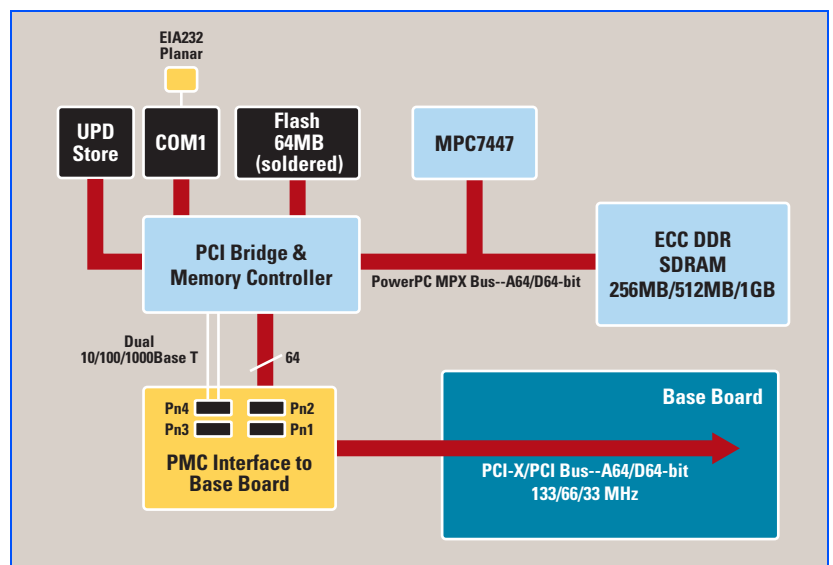
#### Other Features

- Four 32-bit timers
- Two watchdog timers
- Real time clock
- Optional front panel or rear Pn4 I/O

The PrPMC880 gives you another leap in performance with a PowerPC® processor at 1 GHz. Motorola's fastest processor mezzanine to date, the PrPMC880 has internal L2 cache and a maximum size heat sink, packaged in a standard single-width PMC form factor. This module is compatible with the recently approved VITA 32 processor PMC standard.

With AltiVec™ technology, high-performance vector parallel processing operations are performed on multiple data elements by a single instruction. This support is especially useful for SIMD (single instruction, multiple data) and vector-capable applications. DDR memory up to 1GB and an excellent thermal profile means the PrPMC880 can address the computational needs of most applications. Also defense and aerospace, telecom and industrial automation applications can benefit from the front-panel access to the Ethernet and the serial port.

A PrPMC is a small board-level module with a low-profile processor and memory subsystem that uses an industry-standard interface to plug on to an I/O base board. With 64MB of Flash memory, up to 1GB of on-board memory, dual Gigabit Ethernet I/O and up to a 133 MHz PCI-X interface, the PrPMC880 is ideal for proprietary architectures requiring a performance upgrade.



## SPECIFICATIONS

### Processor

<b>Microprocessor:</b>	MPC7447
<b>Clock Frequency:</b>	1 GHz
<b>On-chip L2 Cache:</b>	512KB

### Memory

<b>ECC Protected Main Memory:</b>	266 MHz DDR SDRAM
<b>Memory Protection:</b>	ECC
<b>On-board Capacity:</b>	256MB, 512MB or 1GB
<b>Read Burst Mode:</b>	8-1-1-1 idle; 3-1-1-1 aligned page hit (CL3)
<b>Write Burst Mode:</b>	4-1-1-1 idle; 3-1-1-1 aligned page hit

### Asynchronous Serial Port

<b>Controller:</b>	Integrated
<b>Number of Ports:</b>	One
<b>Async Baud Rate, b/s max.:</b>	38.4K EIA-232, 115Kb/s raw

### IEEE P1386.1 Interface

<b>Address/Data:</b>	A32/D32/A64/D64, PMC Pn1, Pn2, Pn3, Pn4 connectors
<b>PCI Bus Clock:</b>	33 MHz or 33/66 MHz; 100/133 MHz (PCI-X)
<b>Signaling:</b>	3.3V output; VIO input
<b>Power:</b>	+3.3V
<b>Height:</b>	13.5 mm from top of carrier board (one slot)
<b>Module Type:</b>	Single-wide

### Ethernet

<b>Controller:</b>	Integrated
<b>Connector:</b>	10/100/1000BaseT routed to Pn4 connector for carrier board I/O with optional routing to front panel

### Real-Time Clock

<b>Controller:</b>	MAX 6900
<b>Configuration:</b>	Real-time clock via I2C with super capacitor for up to 12 hours of backup power

### Counters/Timers

<b>Real-Time Timers/Counters:</b>	Four 32-bit programmable
<b>Watchdog Timers:</b>	Two, time-out generates interrupt or reset

### Miscellaneous

- Reset and JTAG/COP via on-board debug connector
- Two planar LEDs for Fail, CPU

### Power Requirements

	<b>+ 3.3V ±5% @ 20° C</b>
<b>PrPMC880-x2x1:</b>	5.8 A typ.,
<b>VIO:</b>	PCI buffer diode clamping voltage

### Environmental

	<b>Operating</b>	<b>Nonoperating</b>
<b>Temperature:</b>	0° C to +55° C, forced air cooling	−40° C to +85° C
<b>Humidity (NC):</b>	10% to 90%	10% to 90%
<b>Vibration:</b>	0.5 G RMS, 20–2000 Hz random	6 Gs RMS, 20–2000 Hz random

### Safety

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

### Electromagnetic Compatibility (EMC)

Intended for use in systems meeting the following regulations:

**U.S.:** FCC Part 15, Subpart B, Class A (non-residential)

**Canada:** ICES-003, Class A (non-residential)

Motorola Computer Group board products are tested in a representative system to the following standards:

CE Mark per European EMC Directive 89/336/EEC with Amendments; Emissions: EN55022 Class \* (see note below); Immunity: EN55024

**\*Note:** Class A (non-residential) for front Ethernet versions and Class B for rear Ethernet versions.

## ORDERING INFORMATION

Part Number	Description
<b>PrPMC880-2261</b>	1 GHz MPC7447 processor, 256MB DDR SDRAM, front and rear Gigabit Ethernet and serial port
<b>PrPMC880-2271</b>	1 GHz MPC7447 processor, 512MB DDR SDRAM, front and rear Gigabit Ethernet and serial port
<b>PrPMC880-3261</b>	1 GHz MPC7447 processor, 256MB DDR SDRAM, dual rear Gigabit Ethernet and rear serial port
<b>PrPMC880-3271</b>	1 GHz MPC7447 processor, 512MB DDR SDRAM, dual rear Gigabit Ethernet and rear serial port
<b>Related Products</b>	
<b>PRPMC-CABLE-005</b>	Front Ethernet and serial to RJ-45 connector
<b>Documentation</b>	
<b>PPMC880A/IH</b>	PrPMC880 Installation and Use manual
<b>PPMC880A/PG</b>	PrPMC880 Programmer's Reference Guide
Documentation is available for online viewing and ordering at <a href="http://www.motorola.com/computer/literature">http://www.motorola.com/computer/literature</a>	

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