



# XPMC-6710 Power PC PMC Processor Module

## Overview

Xembedded offers the **XPMC-6710** a PrPMC (Processor PCI Mezzanine Card) with a high performance PowerPC® 7448 processor which is the fastest PPC in its class. The XPMC-6710 offers advantages over other solutions due to its flexibility to update the CPU at ease while maintaining the rest of the subsystem I/O. The XPMC-6710 is well suited for applications requiring additional processing power! When used with our XVME-6520 7448 Power PC VME processor module or our XCPC-9100 CompactPCI dual PMC carrier board with 8 port switch. The XPMC-6710 works well for applications such as communication, Defense/Aerospace, Industrial controls, DSP, FPGA, etc.

The XPMC-6710 elite grade Compute engine gives OEMs blazing Compute density to do leading edge pervasive computing. The PPC7448 includes 128-bit AltiVec vector execution unit as found in previous PPC74xx devices, but with the enhanced support for out-of-order instructions.

The XPMC-6710 utilizes the XPIM-710 PMC I/O Module to convert the rear I/O signals to standard connectors. J1-A and J1-B of the XPIM710 are the RJ-45 Gigabit Ethernet connectors, while J1-C and J1-D are RJ-45 connectors for the two RS-232 interfaces. The PIM710 is sold separately, Contact the factory for details.



## Features

- 1.4GHz PPC7448 PowerPC
- Single width PrPMC compliant Standard PMC Processor form factor
- Tundra Semiconductor Tsi109 bridge for faster bus speeds.
- PCI-X @133Mhz
- DDR2 Memory @ 400Mhz w/ECC
- On board Temperature Sensors
- Battery Backed Real Time Clock
- Two 10/100/1000 Gigabit Ethernet, one out the front or both out the back.
- Two RS-232 Serial Ports, one out the front or both out the back.
- VxWorks® and Linux UBoot Support.

# XPMC-6710 Power PC PMC Processor Module

## Processors

- Freescale PPC7448
- e600 core 1.4GHz
- 2.3 MIPS/MHz
- L1: 32KB Instruction/Data
- L2: 1MB
- MPx bus @200MHz
- Full data and I/O coherency

## Bridge chip

- Tundra Semiconductor Tsi109

## PCI Interface

- PCI 2.3 and PCI-X 1.0 modes
- PCI-X 64-bit @133MHz
- PCI agent or PCI Host

## Module I/O Subsystem

- Dual 10/100/1000 Ethernet
- Dual RS232
- Four independent DMA/XOR channels
- Real Time Clock Battery backed
- Thermal sensor
- JTAG Header (optional), jTAG Signals out P4

## Memory

- 1GBytes of DDR2 @400MHz w/ECC
- 64Mbytes of User Flash
- Boot Flash
- Two 256 bytes of I2C EEPROM

## Face panel connectivity

- Single 10/100/1000
- LNK/Activity LED
- Single RS232
- User defined I/O LED

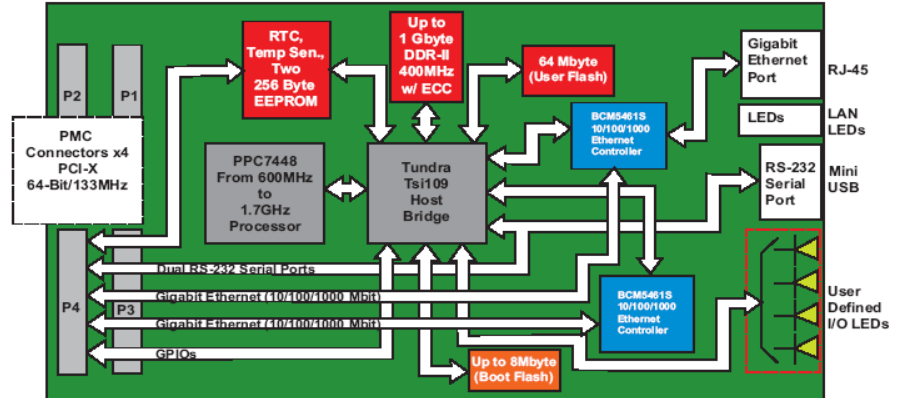
## Rear I/O (J4)

- Dual 10/100/1000
- Dual RS232
- User defined I/O
- LNK/Activity LED
- I2C bus

## Rear I/O Connectivity

### Per PMC Interface specification - XPIM710 (purchase separately)

- Two RJ-45 for the Gigabit Ethernet
- Two RJ-45 for the RS232
- LNK/Activity Led
- User defined switch
- Optional JTAG Port



XPMC-6710 functional block diagram.

## Environmental

**Single Width, CMC Format:** Width 2.91 in. (74 mm) Depth 5.86 in. (149 mm) Thickness 0.8 in. (20.3 mm)

**Power Requirements:** 3.3 V signaling, 5 V tolerant, auto-VIO 64-bit PCI-X bus, 133 MHz maximum, 20W max at 1.75GHz, Minimum Battery Voltage: +2.2V

**Operating Temperature:** 0° to 55° C (Air flow requirement as measured with heatsink is to be greater than 200 LFM)

**Vibration:** .05Gs RMS (20 - 2000 Hz) random, Operating 6Gs RMS per Hz spectrum

**Shock:** 30Gs each axis

**Storage Temperature:** -25° to 80° C

**Relative Humidity:** 5 to 95 percent, non-condensing

**MTBF:** MIL Spec 217-F@ 105,000 Hrs.

## Compliance

IEEE 1386.1 (CMC Standard), VITA 32 (PrPMC Standard)

## Ordering Information

XPMC-6710-ABCDEG

A = Processor

4 = 1.4GHz MPC7448 PPC Processor

B = Memory Size

2 = 1GB with ECC

C = Boot Flash

1 = 2Mbyte

2 = 4Mbyte

3 = 8Mbyte

D = JTAG

1 = No JTAG header (JTAG out P4)

2 = JTAG header installed

E = Conformal Coating

0 = No Coating

1 = Humiseal 1A33 Polyurethane Conformal Coating

2 = Humiseal 1B31 Acrylic Conformal Coating

G = Extended Temperature

C = Standard 0° to 55°

E = Extended Temperature -25° to 70°

XPIM-710PIM Module to convert the rear I/O signals to standard connectors. (requires a PIM carrier board)

