MOTOROLA

CPCI-745
PICMG 2.16 Processor Board

KEY FEATURES

1.8 GHz and 1.6 GHz Intel® Pentium® M processor variants

400 MHz frontside bus

Intel® E7501 dual channel 3.2GB/s memory controller

2GB ECC-protected DDR SDRAM

Dual on-board Gigabit Ethernet interfaces

Support for PICMG 2.16 CompactPCI Packet Switching Backplane specification

Full PICMG 2.1, R2.0 Hot Swap specification compliance

PICMG 2.9 System Management specification support

One PCI mezzanine card (PMC) site

On-board CompactFlash or hard disk drive accessory kits optional

Optional rear transition module in PICMG 2.16 and rear I/O variants
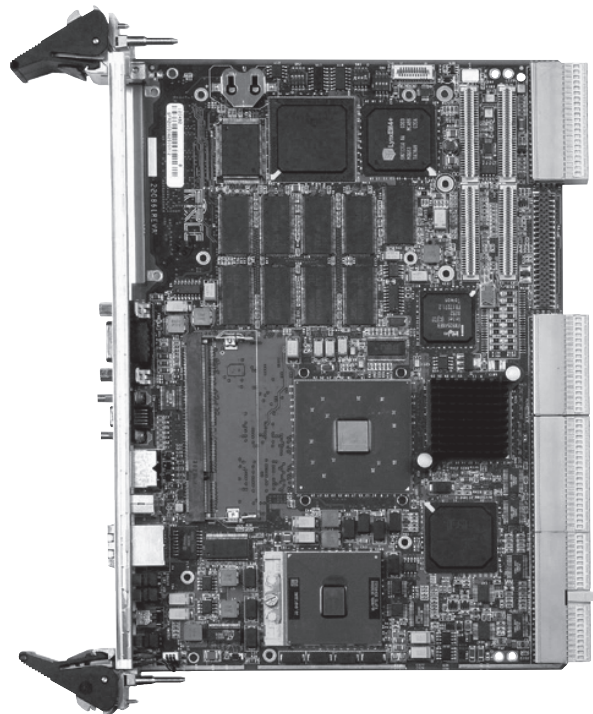
Sentinel64 PCI-to-PCI bridge technology

The CPCI-745 is a low-power, high-performance SBC that offers full hot swap compliance per PICMG® 2.1 and supports the PICMG 2.9 System Management and PICMG 2.16 CompactPCI® Packet Switching Backplane open specifications. In addition to the PICMG 2.16 variants, the CPCI-745 offers other value-added features including the Sentinel64 PCI-to-PCI bridge (PPB) for universal CompactPCI system- or peripheral-slot functionality.

Also, the CPCI-745 board supports the Intelligent Platform Management Interface (IPMI) specification for full board remote system and platform management as well as base-board management controller (BMC) and peripheral mode.

Overall, with the value-added Sentinel64 and Gigabit Ethernet/PICMG 2.16 features, the CPCI-745 board is a superior choice for telecom applications like softswitches, control plane media-transport nodes, wireless gateways, and control plane CompactPCI and PICMG 2.16 systems.

RoHS 0/6 NOT COMPLIANT

The Motorola CPCI-745 single-board computer (SBC) uses the Intel Pentium M processor and E7501 chipset and offers high speed, server-class performance for advanced telecom and control plane applications. The single-slot CPCI-745 SBC is ideal for thermally constrained environments and includes dual Gigabit Ethernet interfaces and dual channel 3.2GB/s high speed, double data rate (DDR) SDRAM.

HARDWARE PROCESSOR

1.8 GHz or 1.6 GHz Intel Pentium M processor

2MB or 1MB L2 cache; 32KB L1 cache

400 MHz frontside bus

Intel E7501/ICH3-S sever-class chipset

High performance P64H2 bridge with two independent 64-bit PCI busses

133 MHz PCI-X bus to Gigabit Ethernet

32-bit Sentinel64 CompactPCI interface

MEMORY

Dual channel 3.2GB/s memory architecture

2GB ECC-protected DDR SDRAM

USER FLASH MEMORY

6MB user flash (1MB BIOS, 1MB BIOS backup, and 14MB user)

I/O CAPABILITIES

Two Gigabit Ethernet interfaces

Variants with PICMG 2.16 and rear I/O routing

Fast Ethernet interface at front panel

One PMC site

IPMI remote platform and system management support (PICMG 2.9)

Dual ATA-66/100 interfaces

Two USB 1.1 interfaces

Two COM interfaces

Keyboard/mouse interface

FDD interface

COMPACTPCI INTERFACE

Universal Sentinel64 PPB

System- and peripheral-slot capability (32-bit/33 MHz)

OPTIONAL TRANSITION MODULES

CompactFlash socket (Type II), USB2, KB/MS, ICMB, COM2, COM1, Reset, IDE, FDD

CompactFlash socket (Type II), GbE x 2, USB2, KB/MS, ICMB, COM2, COM1, Reset, IDE, FDD

PMC I/O module (PIM), USB2, KB/MS, ICMB, COM2, COM1, Reset, IDE, FDD

PMC I/O module (PIM), GbE x 2, USB2, KB/MS, ICMB, COM2, COM1, Reset, IDE, FDD

On-board 1.8" ATA HDD, USB2, KB/MS, ICMB, COM2, COM1, Reset, IDE, FDD

On-board 1.8" ATA HDD, GbE x 2, USB2, KB/MS, ICMB, COM2, COM1, Reset, IDE, FDD

OTHER FEATURES

Watchdog unit

Status and user LEDs

Reset switch

Locking ejector handles

Power-up ramping and in-rush current protection

Hot swap support (PICMG 2.1, R2.0)

Optional on-board CompactFlash or 2.5-inch HDD

POWER REQUIREMENTS

Typical for 1.8 GHz, 2GB memory variant

– 3.3V 11.6W

– 5.0V 20.0W

Typical for 1.6 GHz, 2GB memory variant

– 3.3V 12.0W

– 5.0V 21.2W

MTBF

Calculation: SN 29500/99 (Non-mobile operation, Ground benign (Gb), 40°C mean ambient temperature, continuous operation 8760 hours per year)

138,504 hours (consult factory for variant dependencies)

ENVIRONMENTAL REQUIREMENTS

Operating temperature: 0° to +55°C

Relative humidity: 5% to 95% at +40°C (non-condensing)

Operating altitude: –300 m to +4500 m

Product complies with flammability ratings according to UL-94V0

Airflow: 300LFM = 1.54 m/s

Tested and certified to NEBS Criteria Level 3 requirements (Bellcore GR-1089-CORE; Issue 3, October 2003, and GR-63-CORE, Issue 2, April 2002)

Operating vibration: 5 to 500 Hz sinusoidal, 2 G (1 oct/min); 5-62 Hz,5 m/s; 62-500 Hz, 20 m/s

Operating shock: 5 G, 20 ms half sine x 3

ELECTROMAGNETIC COMPATIBILITY (EMC)

Intended for use in systems meeting the following regulations:

US: FCC Part 15, Subpart B, Class A (non-residential)

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

Motorola 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 B; Immunity: EN55024

DOCUMENTATION

Installation guide and technical reference manual

Hardware Release Notes

BIOS Release Notes

HDD Accessory Kit Installation Guide

CompactFlash Accessory Kit Installation Guide

Linux Installation and Programmer's Guides

VxWorks Installation Guide and Release Notes

SOLUTION SERVICES

Motorola provides a portfolio of solution services optimized to meet your needs throughout the product lifecycle. Design services help speed time-to-market. Deployment services include global 24x7 technical support. Renewal services enable product longevity and technology refresh. And solution extras include enhanced warranty and repairs.

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