



PICMG® 2.16 PSB System/Peripheral Processor Blade

CompactPCI



Diversified Technology's CPB4811 PICMG® 2.16-compliant packet switched backplane (PSB) processor blade combines high performance with low power for telecom and Internet IP-based applications.

The CPB4811 features the high performance Intel® Core 2 Duo processor at speeds up to 2.16GHz with 4MB L2 cache. The CPB4811 is based on the Intel® 3100 chipset with 667MHz front side bus. System memory of up to 4GB is supported via two DDR2-400 SO-DIMMs. Onboard are dual Gigabit Ethernet ports routed according to PICMG 2.16, two 10/100/1000Mbps Ethernet port available at the front panel, one XMC/PMC site (64-bit/133MHz and x4 PCIe) with PIM, ATI ES1000 graphics controller, VGA connector, High Speed USB, serial ports, and a SATA hard drive connector. The CPB4811 also includes a two-stage watchdog timer for enhanced system reliability.

The CPB4811 can operate in any slot of a PICMG® 2.16-compliant Packet Switched Backplane (PSB). It can function as the System host when in the System slot, and it operates in Drone mode when in a Peripheral slot. PICMG® 2.9 system management is also supported via a satellite management controller.

The CPB4811 system/peripheral processor blade is a cost effective choice for application developers addressing high performance, converging Telecom and Internet IP-based markets such as VPN switches, media gateways, 2.5G/3G wireless, server clusters, IP DSLAM and voice/video/data servers.

Product Features

Form Factor

PICMG 2.16 CompactPCI CPU Blade

CPU/Cache

Intel® Core 2 Duo processor with max speed of 2.16GHz and up to 4MB L2 cache

Bus Interface

- Intel® 3100 Chipset
- 667MHz Front Side Bus

Memory

- (2) SO-DIMM sockets
- 512MB to 8GB of DDR2-400 memory

I/O

- (2) Gigabit Ethernets on 2.16 Switched Fabric
- (2) 10/100/1000 ENET Interface on Front Panel
- (2) Serial ATA ports to RTM
- (1) XMC/PMC Site with PIM I/O to RTM
- (2) USB 2.0 ports on Front Panel
- (2) USB 2.0 port to RTM
- (1) Serial port on Front Panel
- (1) Serial port to RTM
- (2) x1 PCIe ports to RTM
- SFF SATA Hard drive connector
- 2D VGA selectable to RTM or Front Panel

Physical Dimensions:

- 9.2" x 6.3" x 0.8"
- 6U CompactPCI 2.16 form factor

OS Support

64-bit and 32-bit support for:
Windows Vista, Windows XP,
Windows 2008 Server R2, Enterprise Linux

Warranty

Parts and labor covered for 2 years

CPU/Cache

- Intel® Core 2 Duo processor (up to 2.16GHz)
- 32KB on-die L1 cache; up to 4MB on-die L2 cache

Bus Interface

- Intel® 3100 Chipset • 667MHz Front Side Bus
- System/Drone mode selectable
- 5V/3.3V CompactPCI signaling in System mode
- Supports one onboard 64-bit/133MHz 3.3V PMC cards
- Supports one onboard x4 PCIe XMC card

Memory

- Two DDR2 SO-DIMM sockets
- Supports registered and ECC modules
- 512MB to 8GB of total memory
- DDR2-400 memory speed

Data Path

- 64-bit/667MHz on CPU and memory bus
- 64-bit/133MHz on onboard PCI bus
- x4 PCIe

Flash Memory

- 1MB Flash for BIOS
- Supports a 2.5" SATA Drive via onboard SFF header

Ethernet

- Two Gigabit Ethernet Interfaces on 2.16 Switched Fabric
- Two 10/100/1000 Ethernet Interface on Front Panel

Peripherals and I/O Interfaces

- Two SATA interfaces to RTM
- One 64-bit/133MHz PMC sites with PIM
- One x4 PCIe XMC site with PIM
- Hardware Monitor

I/O Interface

I/O Interface	Front Panel	Rear Panel
COM 1	RJ45	N/A
COM 2	N/A	J5
USB #1	USB2.0 Type A	N/A
USB #2	USB2.0 Type A	N/A
2.16 GbE	N/A	J3
2.16 GbE	N/A	J3
GbE #1	RJ45	N/A
GbE #2	RJ45	N/A
Serial ATA (2)	N/A	J5
PCIe x1	N/A	J5
Video	HD15 -(selectable)-	J5
USB #3	N/A	J5
USB #4	N/A	J5

Note: Rear Panel I/O accessible with DTI's Rear Transition Modules.

Supervisory

- Two-stage programmable watchdog timer drives interrupt on 1st stage and hardware reset on 2nd stage

Management

- Integrated IPMI 1.5-compliant satellite management controller
- Communicates with system management BMC or host processor
- Compliant with PICMG 2.9

Interoperability

- Validated to operate in a PICMG 2.16-compliant system platform such as DTI's PlexSys-4D
- 3rd party PSB products

OS Compatibility

- 64-bit and 32-bit support for: Windows Vista, Windows XP, Windows 2008 Server R2, Enterprise Linux

BIOS

- AMI BIOS
- PCI 2.2
- ACPI 1.0b and 2.0
- SMBIOS 2.3.1
- PnP 1.0a

BIOS cont'd

- Serial console redirection
- Multi-boot Support (Floppy, HD, CD, USB, Network)
- Legacy USB Support
- S.M.A.R.T. Support
- Pop-up Boot Menu
- PXE 2.1 Boot Rom
- Enhanced Intel® SpeedStep® Technology
- PnP 1.0a
- Serial console redirection
- Multi-boot Support (Floppy, HD, CD, USB, Network)
- Legacy USB Support
- S.M.A.R.T. Support
- Pop-up Boot Menu
- PXE 2.1 Boot Rom
- Enhanced Intel® SpeedStep® Technology

Clock / Calendar

- Real-time clock with battery backup CMOS RAM

Mechanical

- 9.2 in. x 6.3 in. 0.8 in. (233.35 mm x 160 mm x 20.32 mm)
- 6U x 4HP
- Conforms to PICMG 2.0 R3.0 (Core), 2.9 (Management) 2.12 (SW interoperability), 2.15 (PTMC) and 2.16 R1.0 (PSB) specifications

Power Requirements

Board Version	Max Power	Typical Power
1.06GHz Core 2	29W	27W
1.50GHz Core 2	35W	33W
2.16GHz Core 2	45W	40W

Environmental

Operating

- Temperature: -5° to 55°C
- *Call for Extended Range Support
- Humidity (RNC): 10% to 85% non-condensing
- Altitude: 4,000m / 13,000 ft @40°C
- Shock: 10g 11ms half-sine
- Vibration: 5-100Hz @ 1g sine sweep
- Random 5-20Hz @ 0.01g2/Hz; 20-500 -3dB slope

Storage and Transit (in approved packaging)

- Temperature: -40° to 70°C
- Humidity (RNC): 10% to 90% non-condensing
- Altitude: 12,192m / 40,000 ft
- Shock: 40g 6ms half-sine, 500/axis
- Vibration: 5-50Hz @ ½g 50-100Hz @ 3g sine sweep
- Random 5-20Hz @ 0.01g2/Hz; 20-500 -3dB slope

Reliability and Serviceability

- MTBF: 230,296 hours @ 25°C
- Calculated using Telcordia Issue 1, Method I, Case 3
- 2 year limited warranty

Regulatory Compliance (pending)

- Designed for NEBS/ETSI Compliance
- CE Certification with national deviations
- Safety (pending): UL/cUL 60950-1:2007; EN/IEC 60950-1:2006
- EMI/EMC: FCC 47 CFR Part 15 Class A; EN 55022:2006; EN 50024:1998

Ordering Information

CPB4811/1060
CPU Blade with 1.06GHz Intel Core 2 Duo processor, 2MB L2 cache

CPB4811/1500
CPU Blade with 1.50GHz Intel Core 2 Duo processor, 4MB L2 cache

CPB4811/2160
CPU Blade with 2.16GHz Intel Core 2 Duo processor, 4MB L2 cache

* All provide long life-cycle support

Options

Rear Transition Module *Contact your Sales Representative
PMC/PIM Integration

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