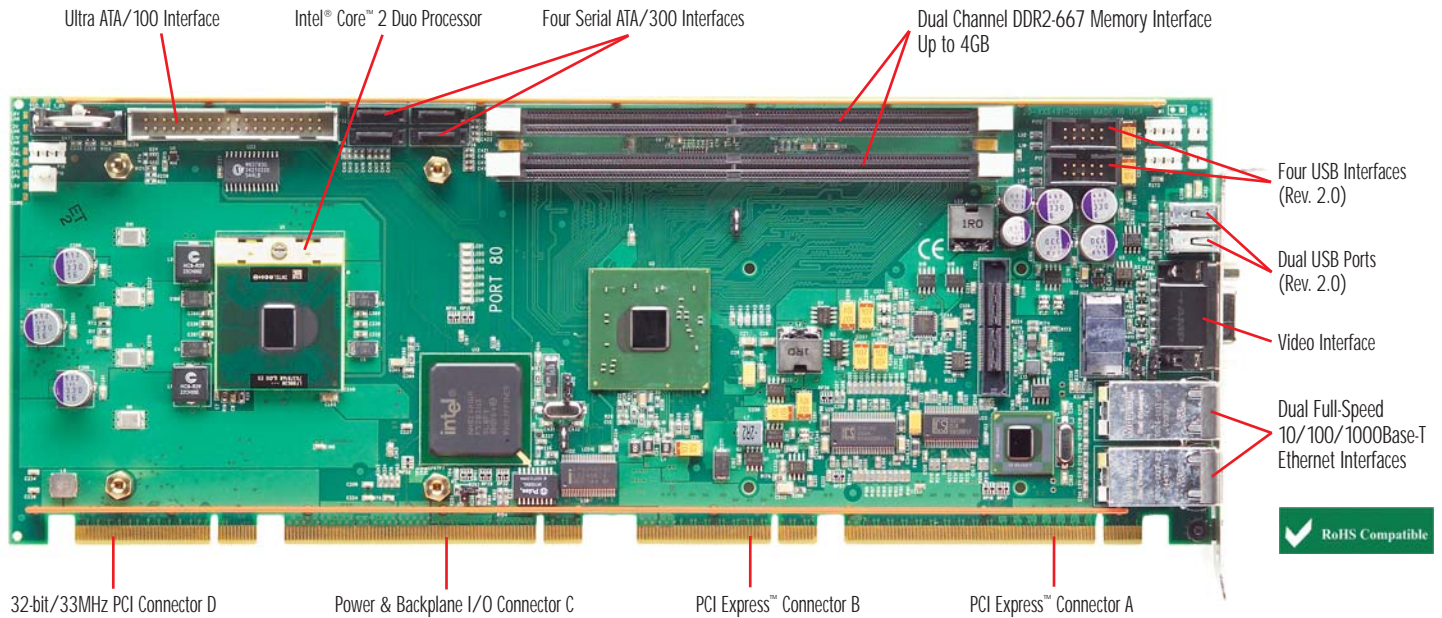


TML (SHB Express™) SYSTEM HOST BOARD



Trenton's TML is a graphics-class, PICMG® 1.3 system host board (SHB) that offers dual-core processor performance with a low profile passive heat sink. The SHB supports x16, x4 and x1 PCI Express™ links, and a 32-bit/33MHz PCI interface to a PICMG 1.3 backplane. The TML handles a wide range of system option cards, from the latest x16 PCI Express video cards to legacy 32-bit/33MHz PCI cards. The dual-core processor options feature shared 2MB or 4MB L2 cache memories. The Intel® 945G MCH and Intel® ICH7R ICH unlock the advanced capabilities of the TML SHB.

PROCESSOR:

Intel® Core™ 2 Duo Processor at 2.0GHz to 2.33GHz*

Intel® Core™ 2 Duo Processor at 1.66GHz to 2.0GHz*

Processor Package: FCPGA6 plugs into an mPGA 478 socket

**Higher speeds as available*

The Intel® processor options on the TML support a 533MHz and 667MHz system bus. All processor options support 32-bit applications and the Intel® Core™ 2 Duo Processor T7400 supports 64-bit applications. Other processor features include:

- Dual Core, 2MB or 4MB L2 Cache
- Low thermal design power ratings
- Intel® Active Management Technology (Intel AMT 1.0)
- Enhanced Intel SpeedStep® Technology (EIST)

CHIPSET:

The Intel® 945G chipset combines advanced video and graphics capabilities with high-bandwidth interfaces such as a dual-channel DDR2-667, 667MHz FSB, PCI Express x16 graphics port and PCI Express x4 and x1 links to a PICMG 1.3 backplane. An Intel® ICH7R provides eight USB 2.0 and four SATA/300 ports. The ICH7R's SATA controller supports independent DMA, Advanced Host Controller Interface (AHCI) and integrated RAID level 0, 1, 5 and 10 functionality.

PCI EXPRESS™ INTERFACES:

Trenton's TML graphics-class system host board provides one x16 PCI Express link on the SHB's edge connectors A and B. This x16 PCIe link is designed to support PCI Express video/graphics cards on an SHB Express™ (PICMG 1.3) backplane. A x4 PCI Express link and five PCI Express reference clocks are also included on edge connectors A and B. An additional x1 PCI Express link between the TML and backplane can be provided by Trenton's optional IOB31 I/O Expansion Module. The x4 and x1 PCI Express links are used on SHB Express backplanes to support PCI Express option cards and the bridge chips that provide PCI/PCI-X card support. During system initialization the TML automatically negotiates with the PCI Express cards connected to the PCI Express links in order to set up communication between the devices. The net result is that the TML system host board supports communication to x1, x4, x8 and x16 PCI Express boards as well as PCI/PCI-X cards via PCI Express-to-PCI/PCI-X bridge chip technology. The TML also provides a 32-bit/33MHz PCI bus interface on edge connector D.

DDR2-667 MEMORY:

The DDR2-667 interface is a dual-channel interface originating at the Memory Controller Hub, with each channel terminating at a DIMM module socket. The TML supports system memory transfer rates of either 400, 533 or 667MHz using unbuffered, non-ECC, PC2-3200, PC2-4200 or PC2-5300 DIMMs. Maximum memory capacity is 4GB. When using a single PC2-5300 DIMM, the memory interface bandwidth is 5.4GB/s, and when using two PC2-5300 DIMMs with equal memory capacities the TML's peak memory bandwidth increases to 10.7GB/s.

VIDEO INTERFACE:

The TML supports three video connection options:

- Direct connection via the chipset's Intel® Graphics Media Accelerator 950 with faster graphics and 3D performance
- A x16 PCI Express graphics port that provides 3.5 times more bandwidth than an AGP 8X interface
- ADD2 video and graphic cards

PCI EXPRESS™ CONFIGURATION AND BUS SPEEDS:

PCI Express - Edge Connectors A & B - One x16 link, one x4 link
 - Five reference clocks
 PCI Express - (on-board only) - Two x1 links
 PCI - 32-bit/33MHz
 System or FSB - 533MHz or 667MHz

SERIAL ATA/300 PORTS (FOUR):

The primary and secondary Serial ATA (SATA) ports on the TML board support four independent SATA storage devices such as hard disks and CD-RW devices. SATA produces higher performance interfacing by providing data transfer rates up to 300MB per second on each port. The TML's ICH7R I/O Controller hub features Intel® Matrix Storage Technology, which allows the ICH7R's SATA controller to be configured as a RAID controller supporting RAID 0, 1, 5, and 10 implementations.

ETHERNET INTERFACES:

The TML uses an internal x1 PCI Express link to connect the I/O Controller hub to the dual-port Gigabit Ethernet controller chip. This design feature enables dual 10/100/1000Base-T Ethernet interfaces on LAN1 and LAN2. The LAN ports have RJ-45 connectors on the I/O bracket to provide the mechanical interfaces to the Ethernet networks. The ICH7R's internal LAN Interconnect Interface (LCI) provides an additional 10/100Base-T Ethernet interface for use on PICMG® 1.3 backplanes via the SHB's edge connector C.



Dependable, always.

