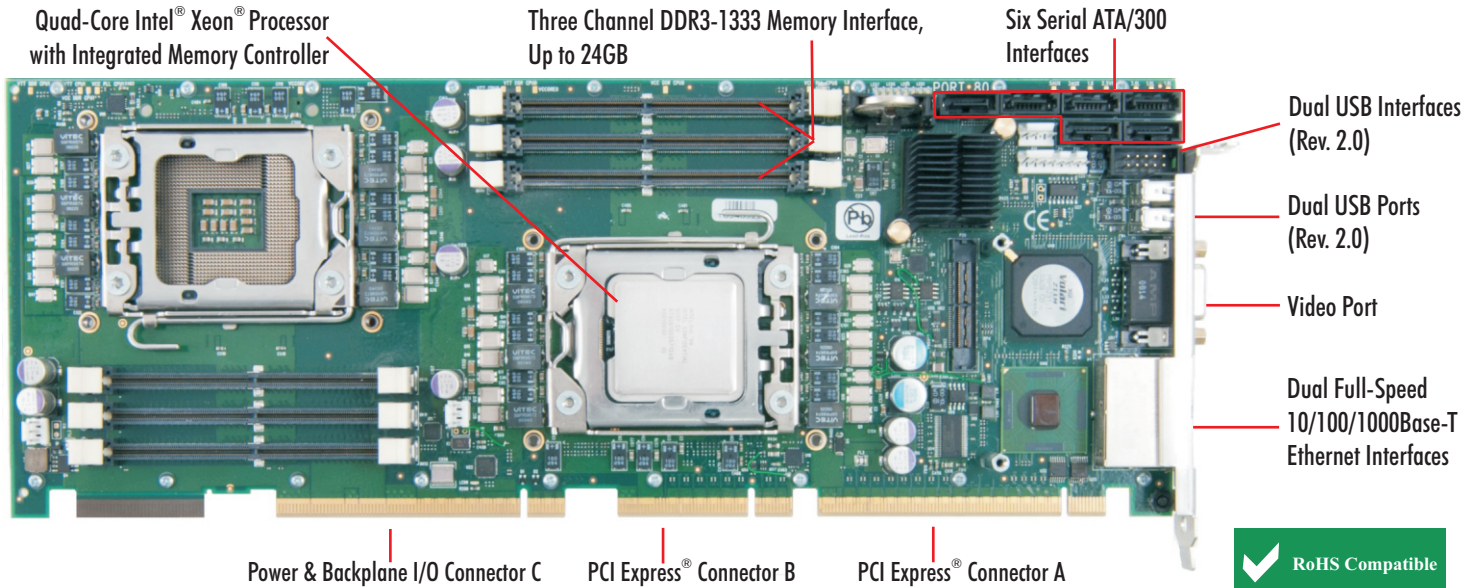


SYSTEM HOST BOARD WITH A MULTI-CORE PROCESSOR



Raising system performance levels while lowering new technology deployment risks and power consumption are key features of Trenton's JXTS6966 single board computer. Here's a brief list of the SBC highlights:

- System performance boost with Nehalem micro-architecture
- Deployment risks lowered with extended-life board design
- Single-processor SHB delivers fast memory performance
- New CPU core and chipset designs reduce power consumption
- 5-year product warranty maximizes system ROI
- Scalable SHB easily supports dual-CPU upgrades

PROCESSOR:

Quad-Core Intel® Xeon® C5500 Processor, 2.13GHz - 2.53GHz*
Processor Package: LGA1366

*Dual-core processor options available and higher speed processors as available

The DDR3 integrated memory controllers of the Intel® Xeon® EC5500 series processor provides an impressive speed increase in system memory processing compared to previous generation processors. The Intel® QuickPath Interconnect (QPI) between CPUs enables resource sharing for additional processing speed increases. Other processor features are:

- Extended-life, embedded components provide longevity
- Improved CPU thermal design saves power
- Quad-core micro-architecture with Intel® Hyper-Threading doubles core processing capability (LC5528 & EC5549)
- Intel® Virtualization Technology (VT-x2 & VT-d2)
- Integral PCI Express Gen 1.1 and Gen 2.0 links

PLATFORM CONTROLLER HUB (PCH):

The Intel® 3420 is a Platform Controller Hub or PCH that takes the place of the traditional multi-component chipset. The PCH design approach saves power while providing enhanced system host board I/O, PCI Express and Ethernet interface capabilities.

VIDEO:

Trenton's JXTS6966 SHB features a Graphics Processing Unit (GPU) driven with a x1 PCIe link from the PCH of the board. The GPU has 8MB of on-board video memory to support pixel resolutions up to 1920 x 1200 (WUXGA) with a 64K color depth.

PCI EXPRESS® GEN 2.0 and GEN 1.1 INTERFACES:

Trenton's JXTS6966 SHB supports PICMG® 1.3 server or graphics-class systems with either a x16 or two x8 PCI Express® links on a PICMG 1.3 backplane. An additional x4 PCIe link and eight PCIe reference clocks are also supplied on edge connectors A & B of the SHB. Trenton's optional IOB33 module can be used on the board to provide additional x1 PCIe link to a backplane. The Trenton JXTS6966 automatically configures all of its PCIe links to operate as either PCIe Gen 2.0 or PCIe Gen 1.1 interfaces based on the type of PCI Express endpoints such as option cards, PCIe switches and bridge chips. The PCI Express auto-negotiation feature is fully supported on the SHB and enabling x1, x4, x8 and x16 PCI Express cards.

DDR3-1333 MEMORY INTERFACE:

The DDR3-1333 memory interface provides three channels on the an Intel® Xeon® EC5500 Series Processor. The SHB supports ECC registered, PC3-8500 or PC3-10600 DDR3 Mini-DIMMs. A maximum memory capacity of 24GB is supported when using 8GB DDR3 Mini-DIMMs and 12GB when using 4GB Mini-DIMMs. The peak memory interface bandwidth per channel is 32GB/s when using the PC3-10600 Mini-DIMMs. [Memory population rules](#) and other interface details are available in the downloads area of the JXTS6966 product detail web page.

THREE ETHERNET INTERFACES - 10/100/1000BASE-T:

The JXTS6966 SHB supports two Gigabit Ethernet ports on the board's I/O bracket. A third Gigabit Ethernet interface is routed to edge connector C of the SHB for use on PICMG 1.3 backplanes.

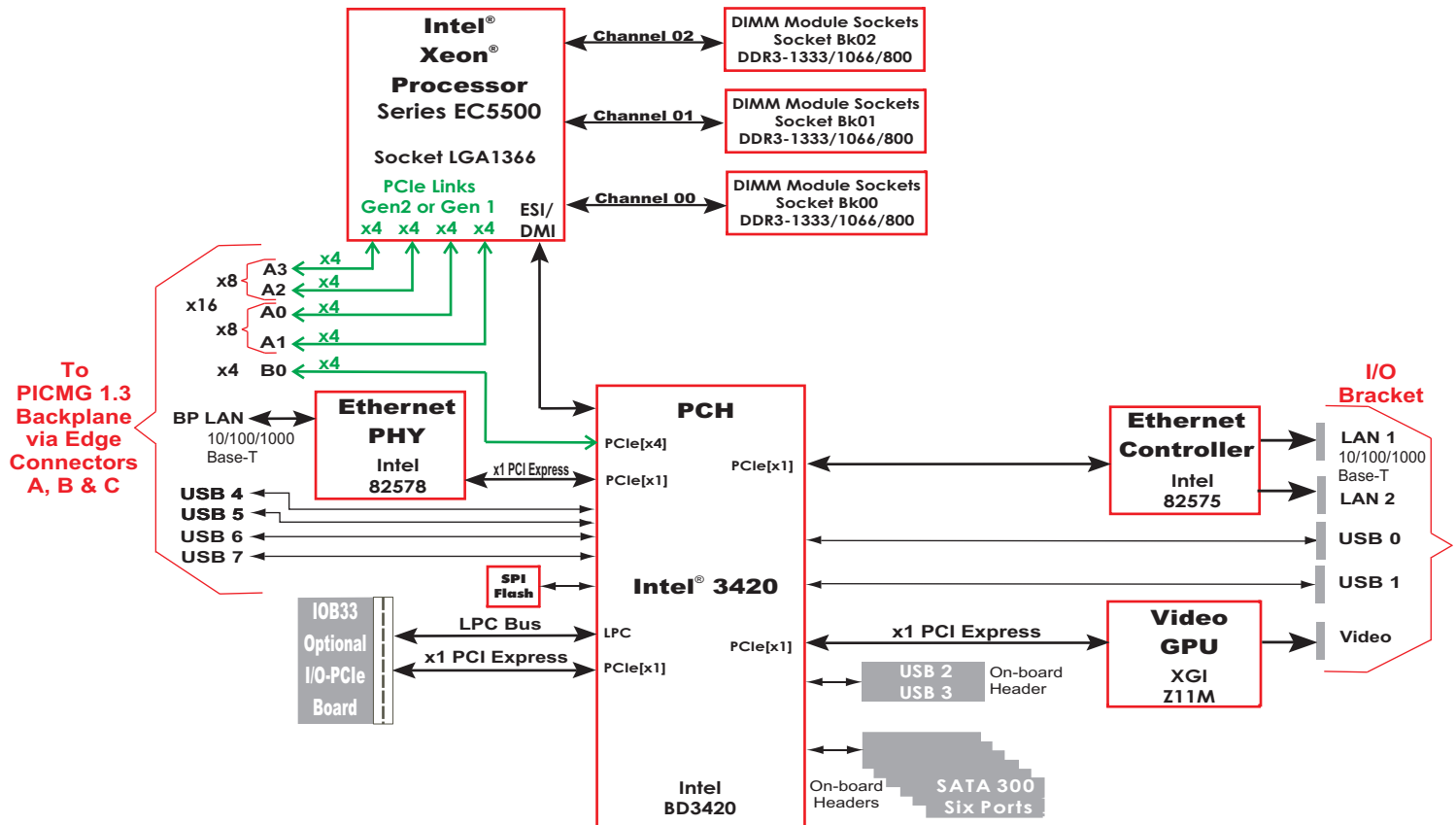
PCI EXPRESS® CONFIGURATION:

- PCI Express - Edge Connectors A & B - One x16 or two x8 links, plus one x4 link
- Eight reference clocks
- PCI Express - (IOB33/PCIe Expansion) - One x1 link
- PCI Express (on-board only) - Four x1 links

BOARD STIFFENER BARS:

The two stiffener bars located on the back of the JXTS6966 maximize system integrity by ensuring proper SHB alignment within the card guides of the computer chassis. The stiffeners provide reliable SHB operation by protecting sensitive board components from mechanical damage and assist in the safe insertion and removal of the SHB from the system.





SERIAL ATA/300 PORTS:

An integrated Serial ATA (SATA) controller in the Intel® 3420 provides six SATA ports with data transfer rates up to 300MB/s. Independent SATA drive operation and RAID drive array configurations are supported on the SHB. SATA drives reduce power consumption while simplifying system wiring.

UNIVERSAL SERIAL BUS INTERFACES (USB 2.0):

There are eight USB 2.0 interfaces on the JXTS6966 SHB. USB ports 0 and 1 are located on the I/O bracket, on-board headers contain ports 2 and 3, and USB ports 4, 5, 6 and 7 are routed to the SHB's edge connector C for use on backplanes that support the optional PICMG 1.3 USB interface capability.

BIOS (FLASH):

JXTS6966 board use Aptio™ 4.x BIOS from American Megatrends, Inc. (AMI). The board's BIOS resides in the SHB's SPI Flash device to simplify field upgrades and BIOS customization.

ADDITIONAL PRODUCT FEATURES:

I/O Features:

- Optional I/O and PCIe expansion board provides:
 - x1 PCIe link routing to backplane PCIe Expansion Slot
 - Enhanced bi-directional parallel interface
 - PS/2 mouse and keyboard interface (mini DIN connector)
 - Floppy drive interface and two high-speed serial ports

STANDARDS:

- PCI Express® Base Specifications 2.0 and 1.1
- SHB Express® System Host Board PCI Express Specification - PCI Industrial Computer Manufacturers Group (PICMG®) 1.3

APPLICATION CONSIDERATIONS:

Power Requirements:

Typical Values - Static Desktop (Idle) with 6GB of system memory

CPU	Intel® No.	+5V	+12V	+3.3V
2.53GHz	EC5549	0.71A	3.28A	2.10A
2.27GHz	EC5539 ^o	0.71A	3.02A	2.08A
2.0GHz	EC5509	0.71A	2.98A	2.09A
2.13GHz	LC5528	0.71A	2.90A	2.06A

Typical Values - 100% Stress State with 6GB of system memory

CPU	Intel® No.	+5V	+12V	+3.3V
2.53GHz	EC5549	0.72A	7.99A	2.12A
2.27GHz	EC5539 ^o	0.72A	5.15A	2.09A
2.0GHz	EC5509	0.72A	6.70A	2.11A
2.13GHz	LC5528	0.72A	6.33A	2.07A

D = Dual-core CPU

Temperature/Environment:

- Operating Temperature: 0° to 50° C.
- Air Flow Requirement: 350LFM continuous airflow
- Storage Temperature: -20° to 70° C.
- Humidity: 5% to 90% non-condensing

Mechanical:

The standard active cooling solution used on the JXTS6966 enables placement of option cards approximately 2.15" (54.61mm) away from the top component side of the SHB. Contact Trenton for a system engineering consultation if your application needs a lower profile cooling solution. The overall board dimensions are 13.330" (33.858cm) L x 4.976" (12.639cm) H.

ORDERING INFORMATION:

Model No.	CPU Speed	Intel® No.*
92-696616500000	2.53GHz	EC5549
92-696646500000	2.27GHz	EC5539 ^o #
92-696609300000	2.0GHz	EC5509 [#]
92-696626400000	2.13GHz	LC5528

* = All CPU options are embedded CPUs, # = CPU without Hyper-Threading

AGENCY APPROVALS:

UL60950, CAN/CSA C22.2 No. 60950-00, EN55022:1998 Class B, EN61000-4-2:1995, EN61000-4-3:1997, EN61000-4-4:1995, EN61000-4-5:1995, EN61000-4-6:1996, EN61000-4-11:1994

The stated processing, memory and communication interface speeds and bandwidths are component maximums; actual system performance may vary.

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