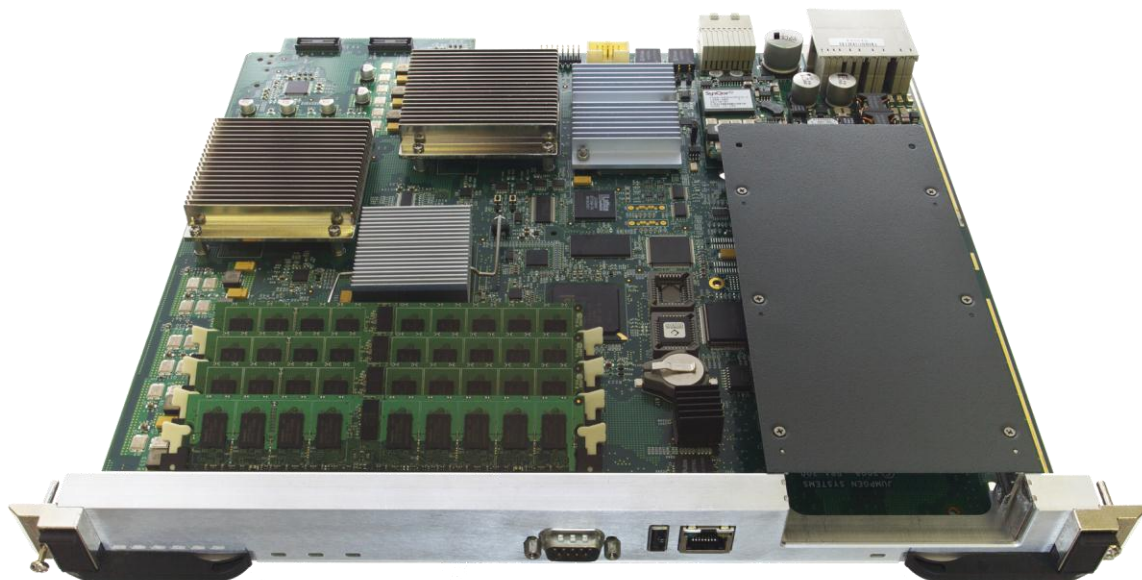




**Product Brief**  
**PRA-200 ATCA**  
**Processor Node Blade**  
Rev 0.9



**Order Code:**

900-001-601	Dual Intel LS5408 aTCA Node Board with 2.13 GHz Processors, 16G DDR2, 4GB SSD and single AMC site
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## Summary:

The PRA-200 is a high-performance processor blade designed for single-slot operation in the ATCA form-factor and operating environment. This product is designed to catapult system performance to the next level while providing sufficient configuration options, such as CPU type and memory configuration, to allow deployment at several different tiers of service. This powerful and flexible ATCA blade features 2 LGA771 sockets and can be delivered with two dual or quad core processors with all cores operating in full SMP mode, plus it supports up to 32GB of dual channel DDR2 ECC memory on four full height RDIMMs with up to 1333 MT/s FSB. It also features PMC/XMC/AMC and hard disk expansion as well as SSD storage.

## Features:

Central Processing Units (CPUs)	<p>Multiple Intel® Xeon® processor configurations supported</p> <ul style="list-style-type: none"> <li>• Two (2) LGA771 sockets, supporting multiple types of Xeon-class CPUs (see table below) all with 64 bit Extension and Intel VT</li> </ul> <p>Multi-core CPUs supported in full SMP mode</p> <p>Front-side bus (FSB) runs at 1066 or 1333MT/s</p>
Memory Controller Hub (MCH)	<p>Intel® 5100 Memory Controller Hub</p> <p>Up to 32GB of dual-channel DDR2 memory running at 667MHz</p> <ul style="list-style-type: none"> <li>• Separate ECC per channel</li> <li>• Four (4) RDIMM sockets (two per channel) using JEDEC-standard RDIMMs</li> <li>• 25° sockets allow full-height RDIMMs to be used</li> <li>• Can operate in single-channel mode for power-reduced configurations</li> </ul> <p>Multiple PCI-E ports available for high-speed I/O direct to main memory</p>
I/O Controller Hub (ICH)	<p>Intel® ICH9R I/O Controller Hub</p> <p>Features numerous integrated peripherals</p> <ul style="list-style-type: none"> <li>• USB (1.1 and 2.0)</li> <li>• SATA (including RAID support)</li> <li>• 10/100/1000 Ethernet MAC, routed to the front panel</li> <li>• Provides conventional PCI interfaces for other peripherals</li> </ul>
Mass Storage and Firmware Hubs	<p>SST NAND Drive</p> <ul style="list-style-type: none"> <li>• 1-8 GB capacity SSD (flash-based storage)</li> </ul> <p>Optional 2.5" SATA HD carrier available</p> <p>Dual 1MB Firmware Hubs with BIOS support for USB, SSD, SATA, and PXE boot</p>
Regulatory	<p>Designed and manufactured to meet the following requirements:</p> <p>FCC Class A / CE / IEC 60950 / NEBS Level 3</p> <p>Company will get certifications as required to meet specific customer requirements</p>

Ethernet Controllers	<p>Intel® 82575 dual-port Gigabit Ethernet</p> <ul style="list-style-type: none"> <li>• Checksum offload supported</li> <li>• Interrupt coalescing supported</li> <li>• VLAN tag insertion, stripping, and packet filtering supported</li> </ul> <p>Intel® 82598 dual-port 10 Gigabit Ethernet</p> <ul style="list-style-type: none"> <li>• Checksum offload supported</li> <li>• Interrupt coalescing supported</li> <li>• VLAN tag insertion, stripping, and packet filtering supported</li> </ul> <p>All ports routed to the backplane connectors</p> <ul style="list-style-type: none"> <li>• Two (2) ports as 1000BaseT (Base)</li> <li>• Two (2) ports at XAUI (ATCA 3.1 option 1 and Option 9, 10 Gige over Fabric)</li> </ul>
IPMI Controller	<p>All ATCA required management incorporated CPU access via KCS standard interface</p>
Environmental	<p>Operating temperature range: 0 to 55 °C Humidity: 0 to 95% (non-condensing) Worst-case power consumption</p> <ul style="list-style-type: none"> <li>• Baseboard only (no CPU, HDD, or expansion card): 75W</li> <li>• CPU: 2 CPUS, 40W max each, total 80W max or 1 CPU, 50W max</li> <li>• SATA HDD: 3W per drive</li> </ul>
Expansion (options are mutually exclusive)	<p>PMC slot</p> <ul style="list-style-type: none"> <li>• 64-bit, 133MHz PCI-X capable slot</li> </ul> <p>XMC slot</p> <ul style="list-style-type: none"> <li>• Supports PCIe up to x8 lanes and 1 SATA</li> </ul> <p>AMC Slot</p> <ul style="list-style-type: none"> <li>• Supports AMC.1 PCIe up to x8 lanes and AMC.3 SATA</li> </ul> <p>HDD carrier</p> <ul style="list-style-type: none"> <li>• Supports 2.5” form factor SATA or SAS drive</li> <li>• Solid state drives (SSD) also supported</li> </ul>

### Intel® Xeon® Processor Options:

Processor Number	# of Cores	Core (GHz)	FSB (MHz)	TDP (Watt)	High Tcase for ATCA/NEBS	Process
5128	2	1.86	1066	40	No	65nm
5138	2	2.13	1066	35	YES	65nm
5148	2	2.33	1333	40	No	65nm
L5215	2	1.6	1066	20	YES	45nm
L5238	2	2.66	1333	35	YES	45nm
L5318	4	1.6	1066	40	YES	65nm
L5408	4	2.13	1066	40	YES	45nm
L5410	4	2.33	1333	50	No	45nm

### Block Diagram:

