

# Intel® Core™ processor (Series 2)

# conga-HPC/cBLS



## COM+HPC®



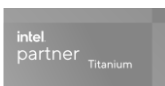
### VIRTUALIZATION READY

- Intel® hybrid design combines Performance-cores with Efficient-cores
- Up to Intel® UHD Graphics 770 driven by Xe Architecture
- PCI Express Gen 4 and 5 | USB 3.2 Gen 2x2
- AI Acceleration based on Intel® Deep Learning Boost (VNNI)

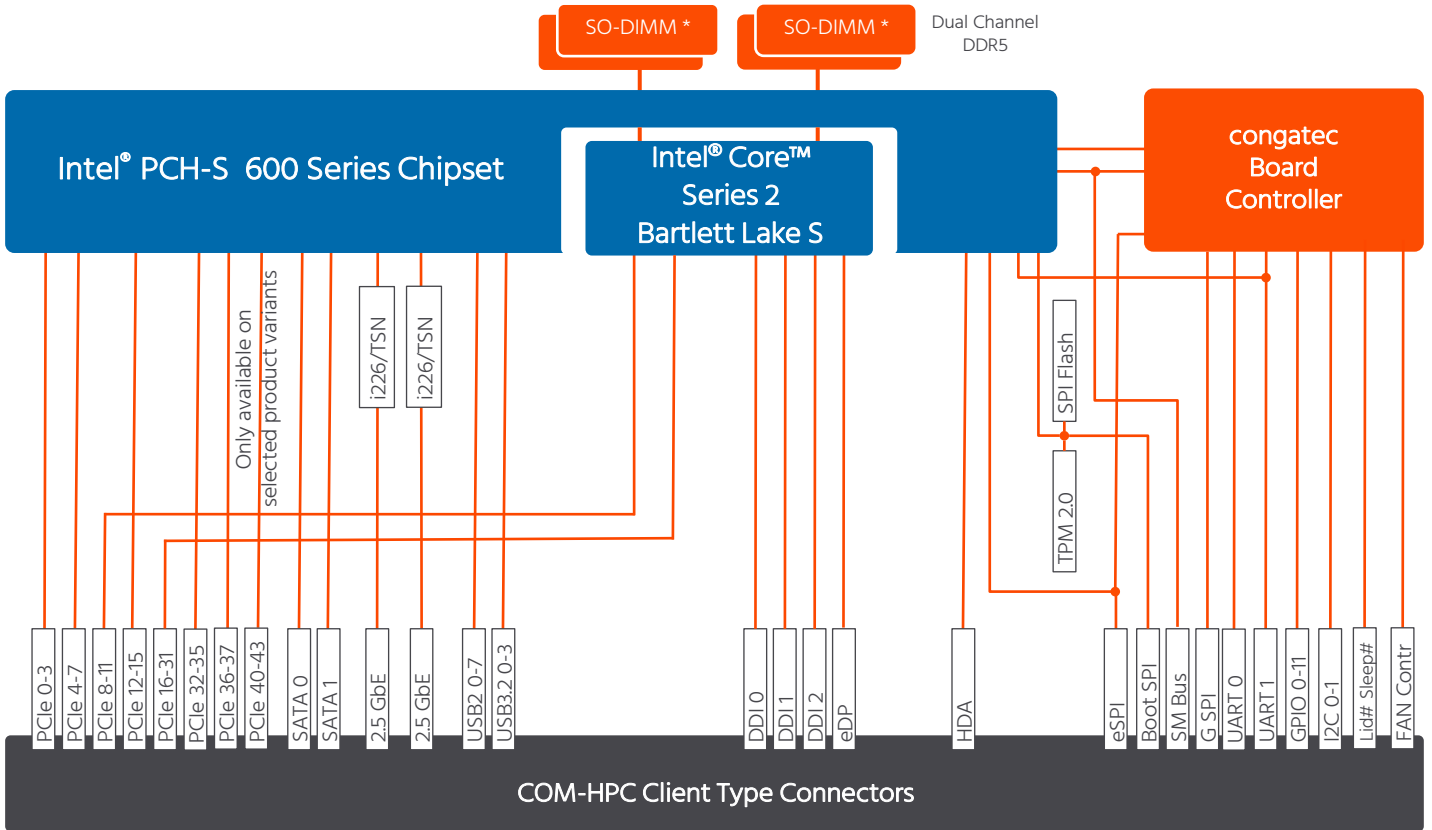
<b>Form factor</b>	COM-HPC Client Size C   Client Connector Pinout	
<b>CPUs</b>	Intel® Core™ processor (Series 2) – formerly codenamed: Bartlett Lake S	
<b>Processor Socket</b>	FCLGA 1700	
<b>Chipset</b>	R680E   Q670E	
<b>DRAM</b>	4 SO-DIMM sockets for DDR5 memory modules up to 32 GByte each   max. 128 GByte RAM system capacity   up to 4.000 MT/s   ECC Support on selected product variants	
<b>Graphics</b>	Up to Intel® UHD Graphics 770 driven by X <sup>e</sup> Architecture   up to 32 EU	
<b>Display</b>	3x DDI   eDP	
<b>Ethernet</b>	2x 2.5 GbE with TSN support via Intel® i226 Ethernet controller series	
<b>I/O Interfaces</b>	1x16 PCIe Gen 5 (PEG port)   3x4 PCIe Gen 4   up to 3x4 PCIe Gen 3   1x2 PCIe Gen3   4x USB 3.2 Gen2x2 (including 4x USB 2.0) + 4x USB2.0   2x SATA   2x UART   12x GPIO	
<b>Audio</b>	High-Definition Audio	
<b>congatec Board controller</b>	Multi-Stage Watchdog   non-volatile User Data Storage   Manufacturing and Board Information   Board Statistics   I <sup>2</sup> C bus (fast mode, 400 kHz, multi-master)   Power Loss Control   Hardware Health Monitoring   POST Code redirection	
<b>Embedded BIOS Feature</b>	AMI Aptio® UEFI firmware   32 Mbyte serial SPI with congatec Embedded BIOS feature   OEM Logo   OEM CMOS default settings   LCD Control   Display Auto Detection   Backlight Control   Flash Update	
<b>Security</b>	Trusted Platform Module (TPM 2.0)	
<b>Power Management</b>	ACPI 5.0a with battery support	
<b>Operating Systems</b>	Microsoft® Windows 11   Microsoft® Windows 11 IoT Enterprise   Microsoft® Windows 10   Microsoft® Windows 10 IoT Enterprise   Linux   Yocto	
<b>Hypervisor</b>	RTS Real-Time Hypervisor	
<b>Temperature Range</b>	Operation: 0°C to 60°C	Storage: -20°C to 80°C
<b>Humidity</b>	Operation: 10% to 85% r. H. non cond.	Storage: 5% to 85% r. H. non cond.
<b>Size</b>	120 x 160 mm	



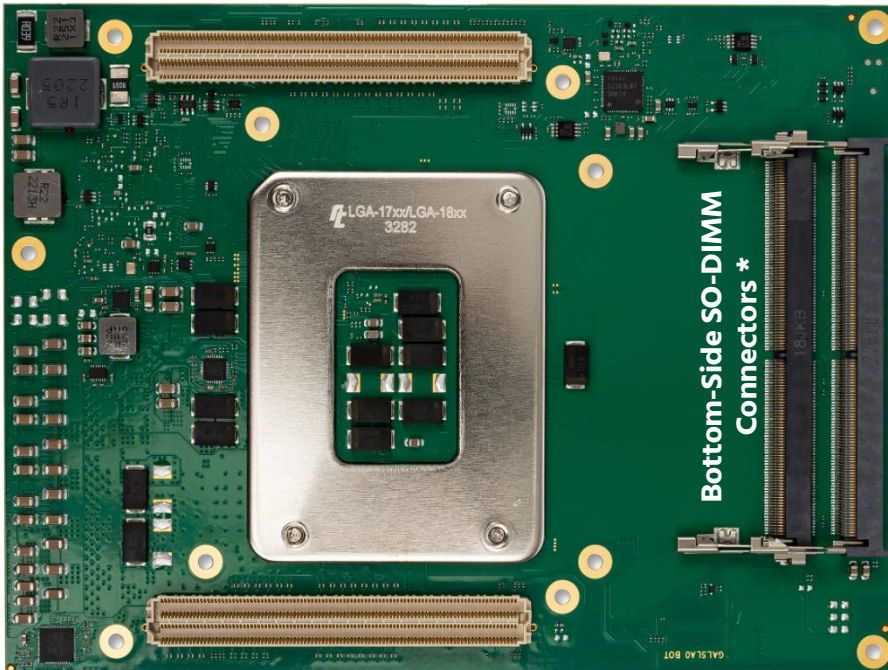
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# conga-HPC/cBLS | Block Diagram



# conga-HPC/cBLS | Bottom Side View



**\* Note:**  
The **two bottom-side SO-DIMM** connectors require implementation of 10 mm COM-HPC® carrier connector height stack option. Ensure that carrier components do not collide with the module's bottom-side SO-DIMM connectors, including during assembly.

# conga-HPC/cBLS | Order Information

Article	PN	Description
conga-HPC/cBLS-7-251E	049820	COM-HPC Client module based on Intel® Core™ 7-251E LGA 1700 processor with 8 P-cores 2.1GHz up to 5.6GHz Turbo and 16 E-cores 1.6GHz up to 4.4 GHz Turbo   36MB Intel® Smart Cache   Intel® UHD Graphics 770 with 32EUs   Dual channel DDR5 memory interface   Chipset R680E   Intel® code name: Bartlett Lake S
conga-HPC/cBLS-5-211E	049821	COM-HPC Client module based on Intel® Core™ 5-211E LGA 1700 processor with 6 P-cores 2.7GHz up to 4.9GHz Turbo and 4 E-cores 2.0GHz up to 3.7GHz Turbo   20MB Intel® Smart Cache   Intel® UHD Graphics 770 with 24EUs   Dual channel DDR5 memory interface   Chipset R680E   Intel® code name: Bartlett Lake S
conga-HPC/cBLS-3-201E	049822	COM-HPC Client module based on Intel® Core™ 3-201E LGA 1700 processor with 4 P-cores 3.6GHz up to 4.8GHz Turbo   12MB Intel® Smart Cache   Intel® UHD Graphics 730 with 24EUs   Dual channel DDR5 memory interface   Chipset Q670E   Intel® code name: Bartlett Lake S
conga-HPC/cRLS-CSA-HP-B	049650	Standard active cooling solution for COM-HPC module conga-HPC/cRLS with integrated heat pipes, 30mm overall height and two integrated 12V fans. All standoffs are with 2.7mm bore hole.
conga-HPC/cRLS-CSA-HP-T	049651	Standard active cooling solution for COM-HPC module conga-HPC/cRLS with integrated heat pipes, 30mm height and two integrated 12V fans. All standoffs are M2.5mm threaded.
conga-HPC/cRLS-HSP-HP-B	049652	Standard heatspreader for COM-HPC module conga-HPC/cRLS with integrated heat pipes, 13mm height. All standoffs are with 2.7mm bore hole.
conga-HPC/cRLS-HSP-HP-T	049653	Standard heatspreader for COM-HPC module conga-HPC/cRLS with integrated heat pipes, 13mm height. All standoffs are M2.5mm threaded.
conga-HPC/cRLS-HPA	049654	Standard heatpipe adapter for COM-HPC module conga-HPC/cRLS.
conga-HPC/EVAL-Client	065600	Evaluation Carrier Board for COM-HPC Client type Modules.
conga-HPC/uATX-Client	065620	COM-HPC Client µATX Application Carrier Board suitable for congatec COM-HPC modules with Size A,B and C.
DDR5-SODIMM-4800 (8GB)	068901	DDR5 SODIMM memory module with up to 4800 MT/s and 8GB RAM, commercial temp 0°C to +60°C
DDR5-SODIMM-4800 (16GB)	068902	DDR5 SODIMM memory module with up to 4800 MT/s and 16GB RAM, commercial temp 0°C to +60°C
DDR5-SODIMM-4800 (32GB)	068903	DDR5 SODIMM memory module with up to 4800 MT/s and 32GB RAM, commercial temp 0°C to +60°C
DDR5-SODIMM-4800 ECC (16GB)	068912	DDR5 SODIMM memory module with up to 4800 MT/s and 16GB RAM with ECC, commercial temp 0°C to +60°C
DDR5-SODIMM-4800 ECC (32GB)	068913	DDR5 SODIMM memory module with up to 4800 MT/s and 32GB RAM with ECC, commercial temp 0°C to +60°C

