

Intel® Core™ processor (Series 2)

conga-HPC/cBLS



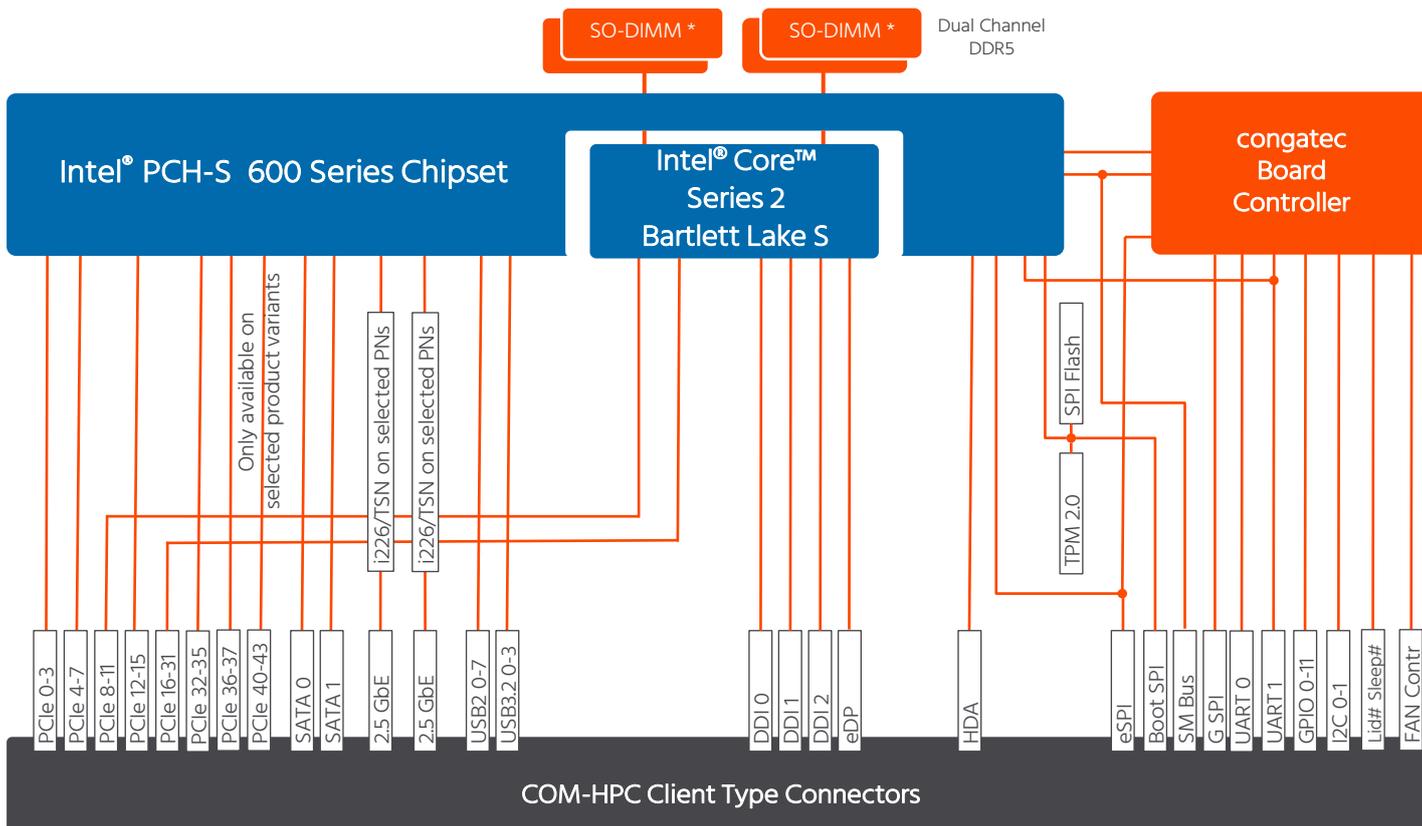
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- Product variants based on Intel® hybrid design and Intel® P-core only
- Up to Intel® UHD Graphics 770 driven by Xe Architecture
- PCI Express Gen 4 and 5 | USB 3.2 Gen 2x2
- AI Acceleration based on Intel® Deep Learning Boost (VNNI)

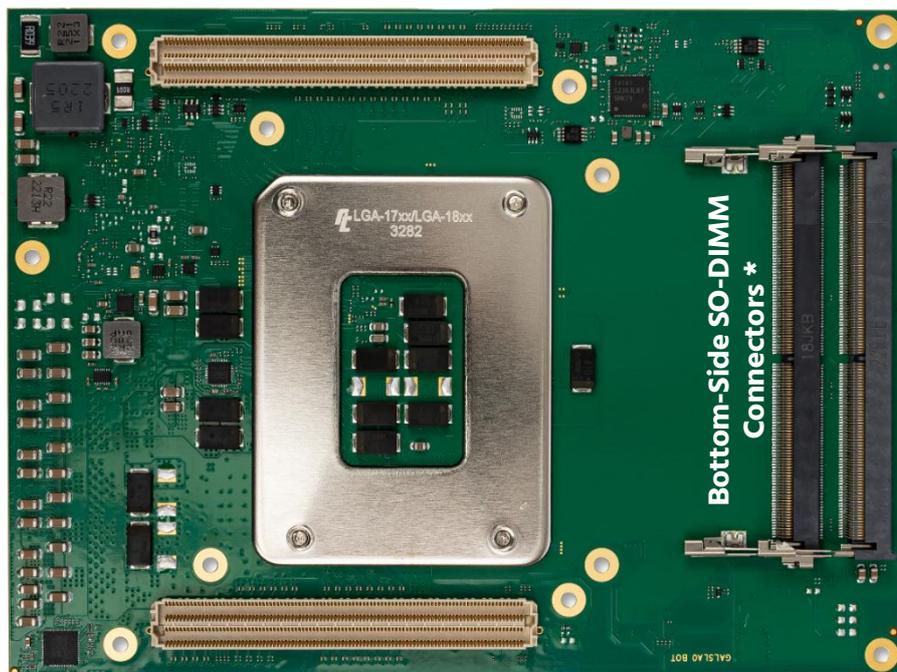
COM+HPC®

Form factor	COM-HPC Client Size C Client Connector Pinout	
CPUs	Intel® Core™ processor (Series 2) – formerly codenamed: Bartlett Lake S	
Processor Socket	FCLGA 1700	
Chipset	R680E Q670E	
DRAM	4 SO-DIMM sockets for DDR5 memory modules up to 48 GByte each max. 192 GByte RAM system capacity up to 4.000 MT/s ECC Support on selected product variants	
Graphics	Up to Intel® UHD Graphics 770 driven by X ^e Architecture up to 32 EU	
Display	3x DDI eDP	
Ethernet	2x 2.5 GbE with TSN support via Intel® i226 Ethernet controller series (TSN only on selected PNs)	
I/O Interfaces	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	
Audio	High-Definition Audio	
congatec Board controller	Multi-Stage Watchdog non-volatile User Data Storage Manufacturing and Board Information Board Statistics I ² C bus (fast mode, 400 kHz, multi-master) Power Loss Control Hardware Health Monitoring POST Code redirection	
Embedded BIOS Feature	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	
Security	Trusted Platform Module (TPM 2.0)	
Power Management	ACPI 5.0a with battery support	
Operating Systems	Microsoft® Windows 11 Microsoft® Windows 11 IoT Enterprise Microsoft® Windows 10 Microsoft® Windows 10 IoT Enterprise Linux Yocto	
Hypervisor	RTS Real-Time Hypervisor	
Temperature Range	Operation: 0°C to 60°C	Storage: -20°C to 80°C
Humidity	Operation: 10% to 85% r. H. non cond.	Storage: 5% to 85% r. H. non cond.
Size	120 x 160 mm	

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 (1/2)

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/cBLS-9-273PE	049830	COM-HPC Client module based on Intel® Core™ 9-273PE LGA 1700 processor with 12 P-cores 2.3GHz up to 5.7GHz Turbo 36MB Intel® Smart Cache 32EUs Dual channel DDR5 memory interface Chipset R680E Intel® code name: Bartlett Lake S
conga-HPC/cBLS-7-253PE	049831	COM-HPC Client module based on Intel® Core™ 7-253PE LGA 1700 processor with 10 P-cores 2.5GHz up to 5.5GHz Turbo 33MB Intel® Smart Cache 32EUs Dual channel DDR5 memory interface Chipset R680E Intel® code name: Bartlett Lake S
conga-HPC/cBLS-5-213PE	049832	COM-HPC Client module based on Intel® Core™ 5-213PE LGA 1700 processor with 8 P-cores 2.7GHz up to 5.2GHz Turbo 24MB Intel® Smart Cache 24EUs Dual channel DDR5 memory interface Chipset R680EE Intel® code name: Bartlett Lake S

conga-HPC/cBLS | Order Information (2/2)

Article	PN	Description
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 μ ATX 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