

13th/14th Gen NEX Intel® Core™ S-Series Processors

conga-HPC/cRLS



COM+HPC®

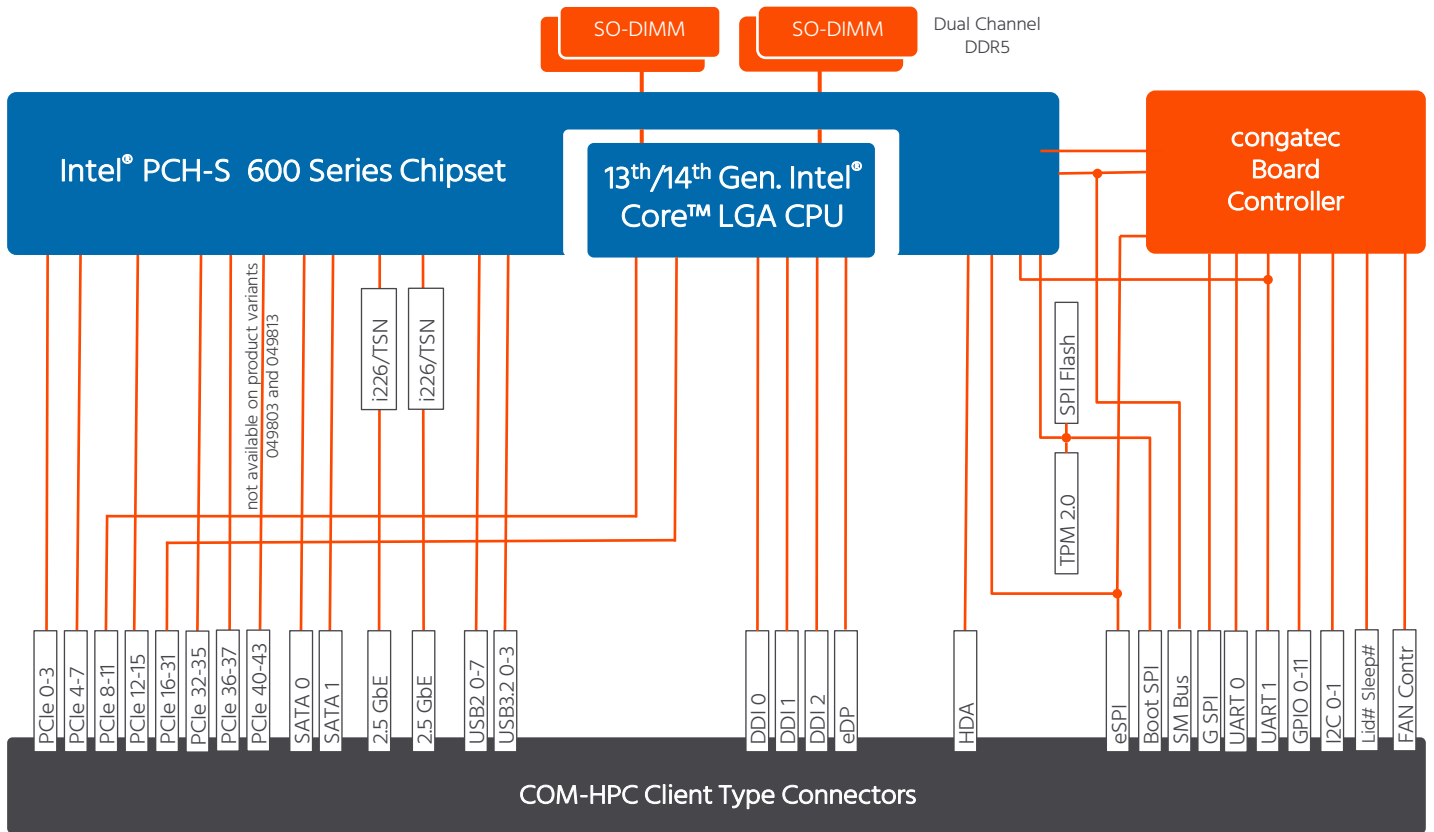


VIRTUALIZATION READY

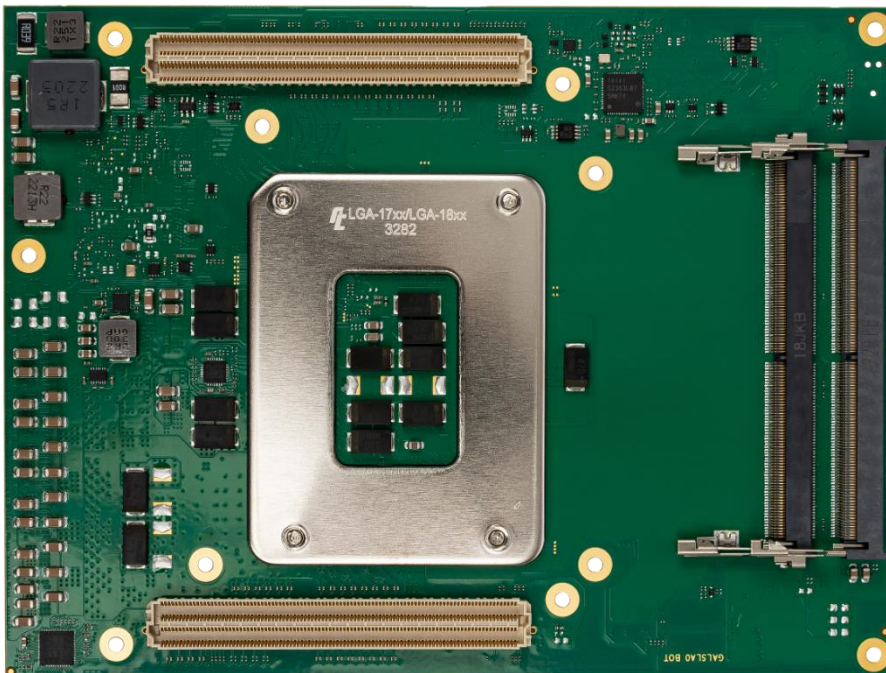
- Intel® hybrid design combining Performance-cores with Efficient-cores
- UP to Intel® UHD Graphics 770 driven by X^e Architecture
- PCI Express Gen 4 and 5 | USB 3.2 Gen 2x2
- AI Acceleration based on Intel® Deep Learning Boost (VNNI) | Int8 Support

Form factor	COM-HPC Client Size C Client Connector Pinout	
CPUs	Intel® Core™ 13 th Gen Processors Raptor Lake-S and 14 th Gen Processors Raptor Lake-S Refresh	
Processor Socket	FCLGA 1700	
Chipset	R680E Q670E	
DRAM	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 (not supported on product variants 049803, 049812 and 049813)	
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	
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 IoT Enterprise Microsoft® Windows 10 Microsoft® Windows 10 IoT Enterprise Linux Yocto	
Hypervisor	RTS Real-Time Hypervisor	
Temperature	Operation: 0°C to 60°C	Storage: -20°C to 80°C
Humidity	Operation: 10% to 90% r. H. non cond.	Storage: 5% to 95% r. H. non cond.
Size	120 x 160 mm	

conga-HPC/cRLS | Block Diagram



conga-HPC/cRLS | Bottom Side View



conga-HPC/cRLS | Order Information (1/2)

Article	PN	Description
conga-HPC/cRLS-i9-13900E	049800	COM-HPC Client module based on Intel® Core™ i9-13900E LGA 1700 processor with 8 P-cores 1.8GHz up to 5.2GHz Turbo and 16 E-cores 1.3GHz up to 4.0GHz Turbo 36MB Intel® Smart Cache Intel® UHD Graphics 770 with 32EUs Dual channel DDR5 memory interface Chipset R680E Intel® code name: Raptor Lake-S
conga-HPC/cRLS-i7-13700E	049801	COM-HPC Client module based on Intel® Core™ i7-13700E LGA 1700 processor with 8 P-cores 1.9GHz up to 5.1GHz Turbo and 8 E-cores 1.3GHz up to 3.9GHz Turbo 30MB Intel® Smart Cache Intel® UHD Graphics 770 with 32EUs Dual channel DDR5 memory interface Chipset R680E Intel® code name: Raptor Lake-S
conga-HPC/cRLS-i5-13400E	049802	COM-HPC Client module based on Intel® Core™ i5-13400E LGA 1700 processor with 6 P-cores 2.4GHz up to 4.6GHz Turbo and 4 E-cores 1.5GHz up to 3.3GHz Turbo 20MB Intel® Smart Cache Intel® UHD Graphics 730 with 24EUs Dual channel DDR5 memory interface Chipset R680E Intel® code name: Raptor Lake-S
conga-HPC/cRLS-i3-13100E	049803	COM-HPC Client module based on Intel® Core™ i3-13100E LGA 1700 processor with 4 P-cores 3.3GHz up to 4.4GHz Turbo 12MB Intel® Smart Cache Intel® UHD Graphics 730 with 24EUs Dual channel DDR5 memory interface Chipset Q670E Intel® code name: Raptor Lake-S
conga-HPC/cRLS-i9-14900	049810	COM-HPC Client module based on Intel® Core™ i9-14900 LGA 1700 processor with 8 P-cores 2.0GHz up to 5.4GHz Turbo and 16 E-cores 1.5GHz up to 4.3GHz Turbo 36MB Intel® Smart Cache Intel® UHD Graphics 770 with 32EUs Dual channel DDR5 memory interface Chipset R680E Intel® code name: Raptor Lake-S Refresh
conga-HPC/cRLS-i7-14700	049811	COM-HPC Client module based on Intel® Core™ i7-14700 LGA 1700 processor with 8 P-cores 2.1GHz up to 5.3GHz Turbo and 12 E-cores 1.5GHz up to 4.2GHz Turbo 33MB Intel® Smart Cache Intel® UHD Graphics 770 with 32EUs Dual channel DDR5 memory interface Chipset R680E Intel® code name: Raptor Lake-S Refresh
conga-HPC/cRLS-i5-14400	049812	COM-HPC Client module based on Intel® Core™ i5-14400 LGA 1700 processor with 6 P-cores 2.5GHz up to 4.7GHz Turbo and 4 E-cores 1.8GHz up to 3.5GHz Turbo 20MB Intel® Smart Cache Intel® UHD Graphics 730 with 24EUs Dual channel DDR5 memory interface Chipset R680E Intel® code name: Raptor Lake-S Refresh
conga-HPC/cRLS-i3-14100	049813	COM-HPC Client module based on Intel® Core™ i3-14100 LGA 1700 processor with 4 P-cores 3.5GHz up to 4.7GHz Turbo 12MB Intel® Smart Cache Intel® UHD Graphics 730 with 24EUs Dual channel DDR5 memory interface Chipset Q670E Intel® code name: Raptor Lake-S Refresh

conga-HPC/cRLS | 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.