

13th Gen Intel® Core™ Embedded Desktop Processors

conga-HPC/cRLS

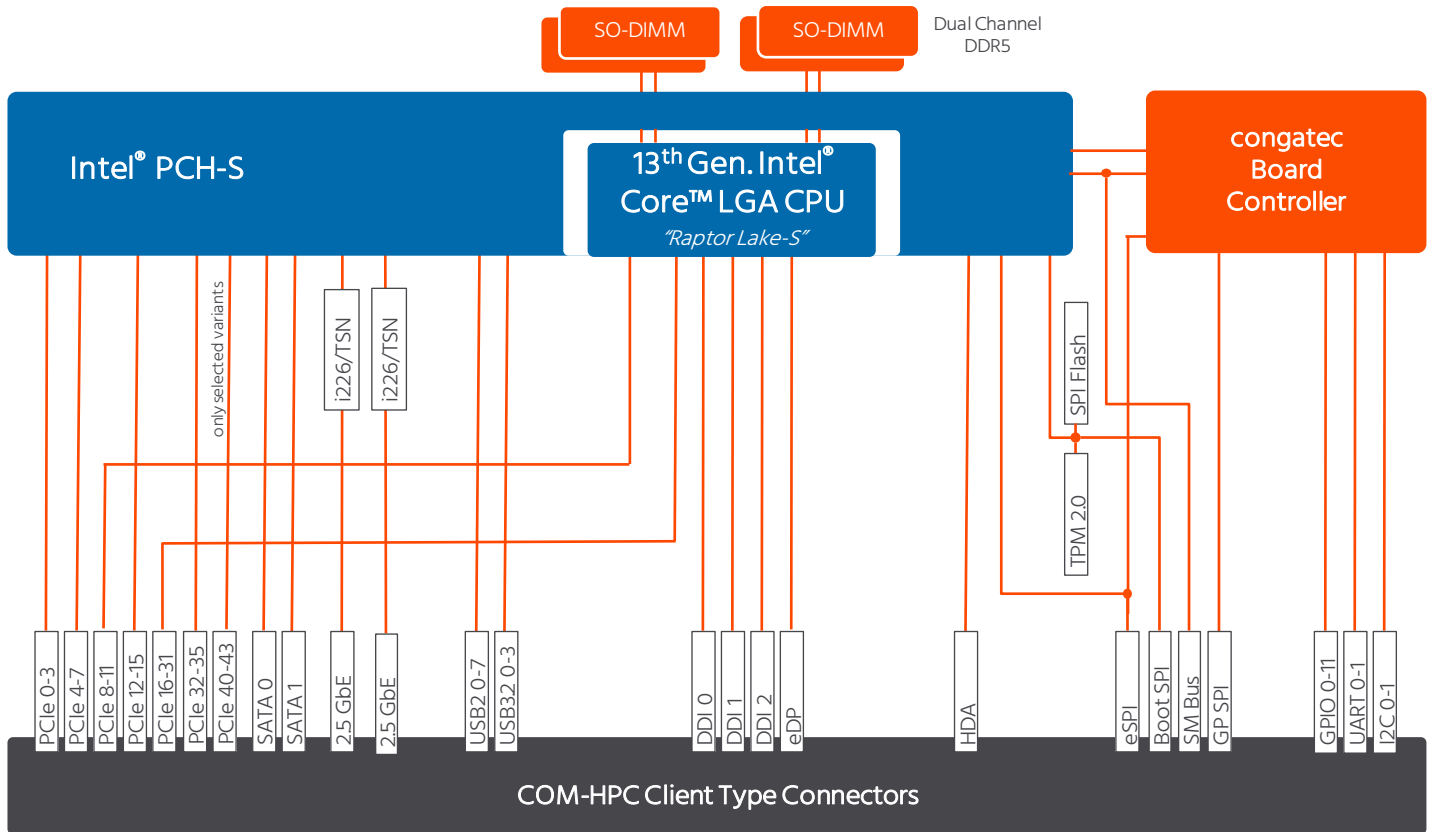


COM+HPC®

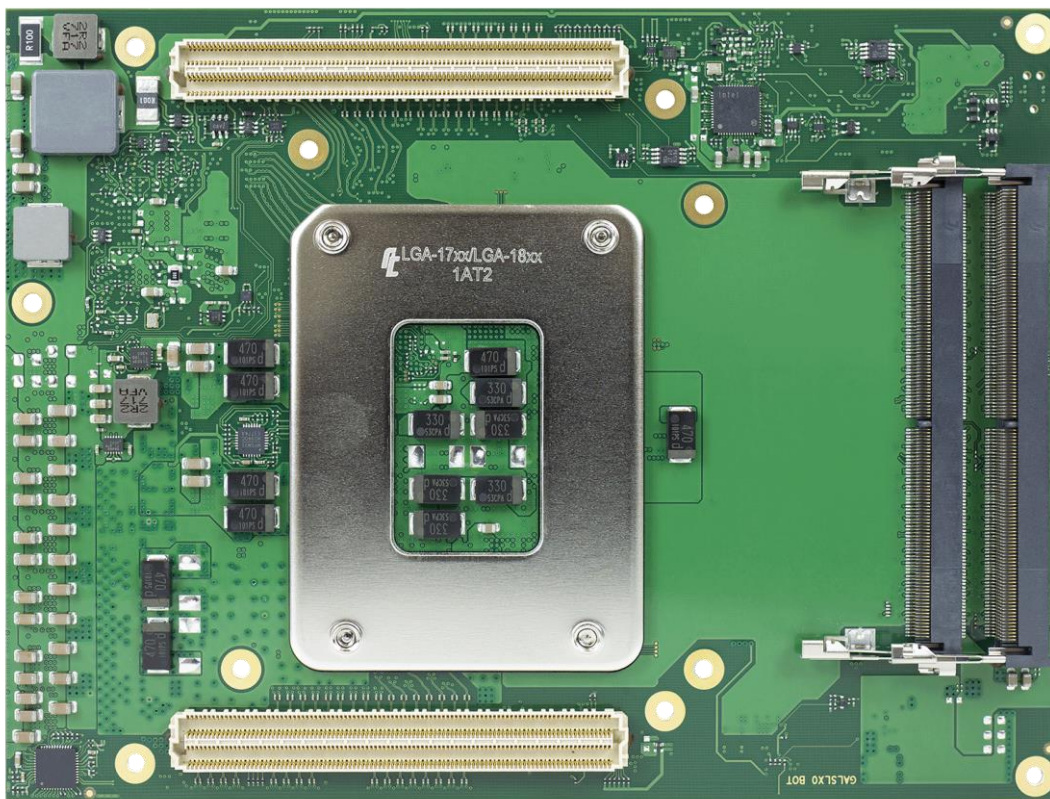
- Intel® hybrid design combines Performance-cores with Efficient-cores
- Intel® UHD Graphics 730/770 driven by X^e Architecture
- PCI Express Gen 4/5 | USB 3.2 Gen 2x2
- AI Acceleration based on Intel® Deep Learning
- Embedded Use Condition SKUs

| | | | | | | | |
|----------------------------------|---|----------------------|-------------------|-------------------------------------|-------------------|-------------------|---------------------|
| Form factor | COM-HPC Client Size C Client Connector Pinout | | | | | | |
| CPUs | CPU | Processor Base Power | Cores count (P+E) | Processor Threads | P-cores Freq. GHz | E-cores Freq. GHz | GfX Execution Units |
| | i9-13900E | 65W | 24 (8+16) | 32 | 18 / 5.2 | 13 / 4.0 | 32 EU |
| | i7-13700E | 65W | 16 (8+8) | 24 | 19 / 5.1 | 13 / 3.9 | 32 EU |
| | i5-13400E | 65W | 10 (6+4) | 16 | 2.4 / 4.6 | 15 / 3.3 | 24 EU |
| | i3-13100E | 65W | 4 (4+0) | 8 | 3.3 / 4.4 | - / - | 24 EU |
| Processor Socket | LGA 1700 | | | | | | |
| DRAM | 4 SO-DIMM sockets for DDR5 memory modules up to 32 GByte each up to 4800 MT/s max. 128 GByte RAM system capacity | | | | | | |
| Graphics | Intel® UHD Graphics 730/770 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 3x4 PCIe Gen 3 4x USB 3.2 Gen2x2 8x 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 6.0 with battery support | | | | | | |
| Operating Systems | Microsoft® Windows 10 Microsoft® Windows 10 IoT Enterprise Linux Yocto Real Time Systems Hypervisor | | | | | | |
| Temperature | Operating Temp.: 0°C ... +60°C | | | Storage Temp.: -20°C ... +70°C | | | |
| Humidity | Operating: 10% ... 90% r. H. non cond. | | | Storage: 5% ... 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

| 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-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. |
| 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 (8GB) | 068911 | DDR5 SODIMM memory module with up to 4800 MT/s and 8GB RAM with ECC, 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 |