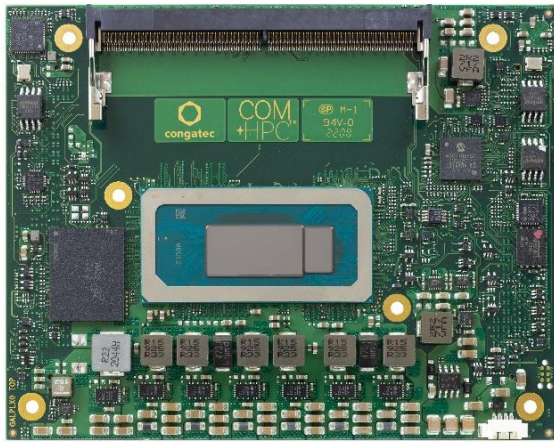


# 13<sup>th</sup> Gen Intel® Core™ Embedded mobile Processors

## conga-HPC/cRLP

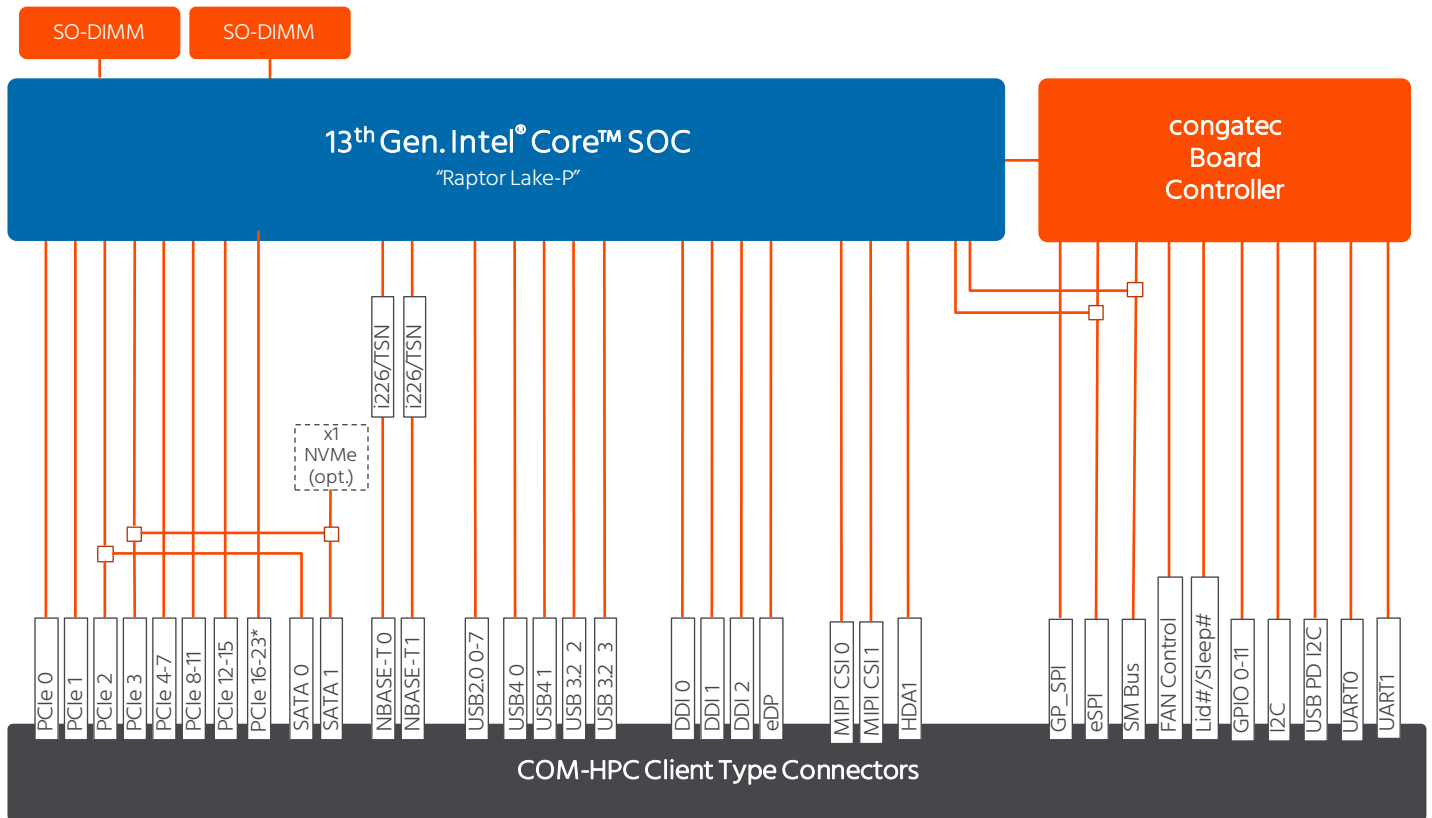


### COM-HPC®

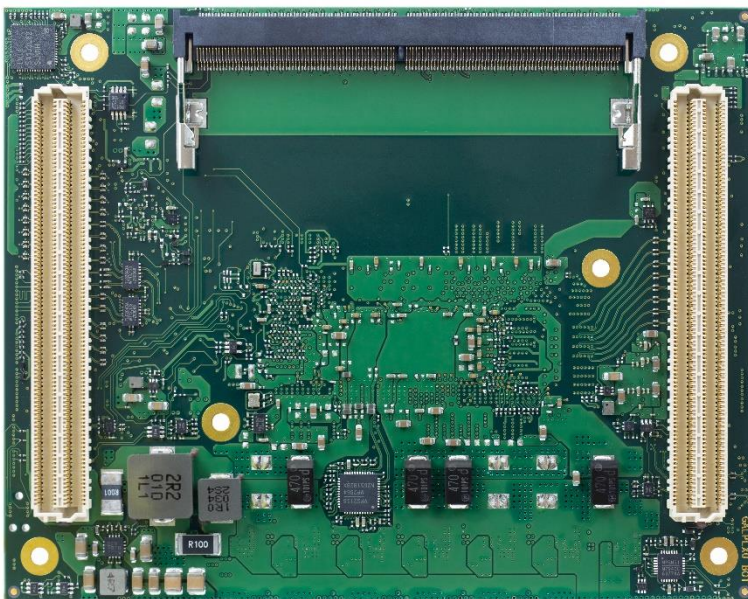
- Intel® hybrid design combines Performance-cores with Efficient-cores
- UP to Intel® Iris® Xe Graphics architecture with up to 96 EUs
- Up to PCI Express Gen 5 | Thunderbolt
- AI Acceleration with Intel® Deep Learning Boost (VNNI)
- Options for Industrial Temperature Range -40°C up to +85°C

<b>Form factor</b>	COM-HPC Client Size A   Client Connector Pinout
<b>CPUs</b>	Intel® Core™ 13 <sup>th</sup> Gen Processors Raptor Lake-P (H-Series, P-Series, U-Series)
<b>DRAM</b>	2 SO-DIMM sockets for DDR5 memory modules up to 32 GB RAM each (max. 64 GB RAM system capacity)   up to 4800 MT/s
<b>Mass Storage</b>	NVMe x1 SSD (optional)
<b>Graphics</b>	Intel® UHD Graphics or Intel® Iris® X <sup>e</sup> Graphics architecture   up to 96 EUs
<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>	x8 PCIe Gen5 (only available on variants based on RPL-P H series   2 x4 PCIe Gen4   up to 8 PCIe Gen3   2x USB4   2x USB 3.2 Gen2x1   8x USB2.0   up to 2x SATA   2x UART   2x MIPI-CSI   12x GPIO   eSPI   SM Bus   I2C   GP_SPI
<b>Audio</b>	HDA
<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>	Modern Standby
<b>Operating Systems</b>	Microsoft® Windows 11 IoT Enterprise   Microsoft® Windows 10   Microsoft® Windows 10 IoT Enterprise   Linux   Yocto
<b>Hypervisor</b>	RTS Real-Time Hypervisor
<b>Temperature</b>	Commercial Variants: Operation 0°C to 60°C      Storage -20°C to 80°C Industrial Variants:    Operation -40°C to 85°C      Storage -40°C to 85°C
<b>Humidity</b>	Operation 10% to 90% r. H. non cond. Storage 5% to 95% r. H. non cond.
<b>Size</b>	120 x 95 mm

# conga-HPC/cRLP | Block Diagram



# conga-HPC/cRLP | Bottom Side View



# conga-HPC/cRLP | Modules Order Information

Article	PN	Description
conga-HPC/cRLP-i7-13800HE	045500	COM-HPC Size A module based on Intel® Core™ i7-13800HE processor with 6 P-cores 2.5GHz up to 5.0GHz Turbo and 8 E-cores 1.8GHz up to 4.0GHz Turbo   24MB Intel® Smart Cache   Intel® Iris® X <sup>e</sup> Graphics architecture with 96 EUs   Dual channel DDR5 4800 MT/s memory interface   Intel® code name Raptor Lake-P (H-Series)
conga-HPC/cRLP-i7-1370PE	045501	COM-HPC Size A module based on Intel® Core™ i7-1370PE processor with 6 P-cores 1.9GHz up to 4.8GHz Turbo and 8 E-cores 1.2GHz up to 3.7GHz Turbo   24MB Intel® Smart Cache   Intel® Iris® X <sup>e</sup> Graphics architecture with 96 EUs   Dual channel DDR5 4800 MT/s memory interface   Intel® code name Raptor Lake-P (P-Series)
conga-HPC/cRLP-i7-1365UE	045502	COM-HPC Size A module based on Intel® Core™ i7-1365UE processor with 2 P-cores 1.7GHz up to 4.9GHz Turbo and 8 E-cores 1.2GHz up to 3.7GHz Turbo   12MB Intel® Smart Cache   Intel® Iris® X <sup>e</sup> Graphics architecture with 96 EUs   Dual channel DDR5 4800 MT/s memory interface   Intel® code name Raptor Lake-P (U-Series)
conga-HPC/cRLP-i5-1340PE	045504	COM-HPC Size A module based on Intel® Core™ i5-1340PE processor with 4 P-cores 1.8GHz up to 4.5GHz Turbo and 8 E-cores 1.3GHz up to 3.3GHz Turbo   12MB Intel® Smart Cache   Intel® Iris® X <sup>e</sup> Graphics architecture with 80 EUs   Dual channel DDR5 4800 MT/s memory interface   Intel® code name Raptor Lake-P (P-Series)
conga-HPC/cRLP-i7-13800HRE	045510	COM-HPC Size A module based on Intel® Core™ i7-13800HRE processor with 6 P-cores 2.5GHz up to 5.0GHz Turbo and 8 E-cores 1.8GHz up to 4.0GHz Turbo   24MB Intel® Smart Cache   Intel® Iris® X <sup>e</sup> Graphics architecture with 96 EUs   Dual channel DDR5 4800 MT/s memory interface   Industrial grade temperature range from -40°C to +85°C   Intel® code name Raptor Lake-P (H-Series)
conga-HPC/cRLP-i7-1370PRE	045511	COM-HPC Size A module based on Intel® Core™ i7-1370PRE processor with 6 P-cores 1.9GHz up to 4.8GHz Turbo and 8 E-cores 1.2GHz up to 3.7GHz Turbo   24MB Intel® Smart Cache   Intel® Iris® X <sup>e</sup> Graphics architecture with 96 EUs   Dual channel DDR5 4800 MT/s memory interface   Industrial grade temperature range from -40°C to +85°C   Intel® code name Raptor Lake-P (P-Series)
conga-HPC/cRLP-i7-1365URE	045512	COM-HPC Size A module based on Intel® Core™ i7-1365URE processor with 2 P-cores 1.7GHz up to 4.9GHz Turbo and 8 E-cores 1.2GHz up to 3.7GHz Turbo   12MB Intel® Smart Cache   Intel® Iris® X <sup>e</sup> Graphics architecture with 96 EUs   Dual channel DDR5 4800 MT/s memory interface   Industrial grade temperature range from -40°C to +85°C   Intel® code name Raptor Lake-P (U-Series)
conga-HPC/cRLP-i5-1350PRE	045514	COM-HPC Size A module based on Intel® Core™ i5-1350PRE processor with 4 P-cores 1.8GHz up to 4.6GHz Turbo and 8 E-cores 1.3GHz up to 3.4GHz Turbo   12MB Intel® Smart Cache   Intel® Iris® X <sup>e</sup> Graphics architecture with 80 EUs   Dual channel DDR5 4800 MT/s memory interface   Industrial grade temperature range from -40°C to +85°C   Intel® code name Raptor Lake-P (P-Series)

# conga-HPC/cRLP | Accessories Order Information

Article	PN	Description
conga-HPC/cRLP-CSA-HP-B	049550	Standard active cooling solution for COM-HPC module conga-HPC/cRLP with integrated heat pipes, 29mm height and integrated 12V fan. All standoffs are with 2.7mm bore hole.
conga-HPC/cRLP-CSA-HP-T	049551	Standard active cooling solution for COM-HPC module conga-HPC/cRLP with integrated heat pipes, 29mm height and integrated 12V fan. All standoffs are M2.5mm threaded.
conga-HPC/cRLP-CSP-HP-B	049552	Standard passive cooling solution for COM-HPC module conga-HPC/cRLP with integrated heat pipes, 28.2mm height. All standoffs are with 2.7mm bore hole.
conga-HPC/cRLP-CSP-HP-T	049553	Standard passive cooling solution for COM-HPC module conga-HPC/cRLP with integrated heat pipes, 28.2mm height. All standoffs are M2.5mm threaded.
conga-HPC/cRLP-HSP-HP-B	049554	Standard heatspreader for COM-HPC module conga-HPC/cRLP with integrated heat pipes, 13mm height. All standoffs are with 2.7mm bore hole.
conga-HPC/cRLP-HSP-HP-T	049555	Standard heatspreader for COM-HPC module conga-HPC/cRLP with integrated heat pipes, 13mm height. All standoffs are M2.5mm threaded.
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 (8GB) / i-temp	068921	DDR5 SODIMM memory module with up to 4800 MT/s and 8GB RAM, industrial temp -40°C to +85°C
DDR5-SODIMM-4800 (16GB) / i-temp	068922	DDR5 SODIMM memory module with up to 4800 MT/s and 16GB RAM, industrial temp -40°C to +85°C
DDR5-SODIMM-4800 (32GB) / i-temp	068923	DDR5 SODIMM memory module with up to 4800 MT/s and 32GB RAM, industrial temp -40°C to +85°C