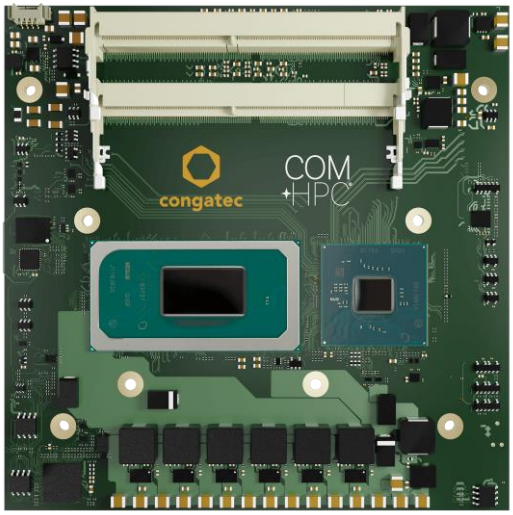
11TH GEN INTEL® CORE™ PROCESSORS

conga-HPC/cTLH



COM-HPC®

VIRTUALIZATION READY

- PCI Express Gen 4 | USB 4.0
- AI/DL Instruction Sets including VNNI
- Integrated Xe (Gen 12) graphics with 32 EU
- Up to 128 Gbyte DDR4-3200 MT/s
- Extended temperature options available

Form Factor	COM-HPC Size B, (120 x 120 mm) | Client connector pinout

CPU

Processor	Cores/Threads	Base Frequency/max. Turbo	TDP	Graphics	Intel Use Condition
i7-11850HE	8C / 16T	2.6GHz / 4.7GHz	45W/35W	Intel® UHD 32	General Embedded
i5-11500HE	6C / 12T	2.6GHz / 4.5GHz	45W/35W	Intel® UHD 32	General Embedded
i3-11100HE	4C / 8T	2.4GHz / 4.4GHz	45W/35W	Intel® UHD 16	General Embedded
6600HE	2C / 2T	2.6GHz	35W	Intel® UHD 16	General Embedded
W-11865MRE	8C / 16T	2.6GHz / 4.7GHz	45W/35W	Intel® UHD 32	Industrial
W-11555MRE	6C / 12T	2.6GHz / 4.5GHz	45W/35W	Intel® UHD 32	Industrial
W-11155MRE	4C / 8T	2.4GHz / 4.4GHz	45W/35W	Intel® UHD 16	Industrial
W-11865MLE	8C / 16T	1.5GHz / 4.5GHz	25W	Intel® UHD 32	Industrial
W-11555MLE	6C / 12T	1.9GHz / 4.4GHz	25W	Intel® UHD 32	Industrial
W-11155MLE	4C /8T	1.8GHz / 3.1GHz	25W	Intel® UHD 16	Industrial

Chipset	RM590E | QM580E | HM570E
DRAM	Up to 4 SO-DIMM sockets for DDR4 ECC memory modules up to 32 GByte each (128 GByte total) with 3200 MT/s
Graphics	Integrated Xe (Gen 12) graphics engine with up to 32 EU (Execution Units) | Supporting 4 independent display units (4x 4k/2x 8K) | Enhanced media (AV1/12b) with up to 2 VDBox | Next Gen IPU6 (Image Processing Unit) with DPHY2.1 | DP 1.4
Display	3x DP/DP++ | 1x eDP/LVDS
Ethernet	2x 2.5 GbE with TSN support via Intel® i226 Ethernet controller series
I/O Interfaces	4x PCIe Gen4 | PEG support x16 Gen4 | 20x PCIe Gen3 | 2x USB 4.0 | 2x USB 3.2 | 8x USB 2.0 | 2x SATA III (6Gb/s) | eSPI | 2x UART | 12x GPIO | I2C | 4x MIPI-CSI
Audio	1x HDA | I2S | 2x Soundwire
congatec Board controller	Multi-stage Watchdog | non-volatile User Data Storage | Manufacturing and Board Information | Board Statistics I²C 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
Hypervisor	RTS Real-Time Hypervisor
Temperature Range	Commercial: Operating Temperature: 0 to +60°C Storage Temperature: -20 to +80°C Industrial: Operating Temperature: -40 to +85°C Storage Temperature: -20 to +80°C
Humidity	Operating: 10 to 90% r. H. non cond. Storage: 5 to 95% r. H. non cond.
Size	120 x 120 mm²

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intel partner Titanium

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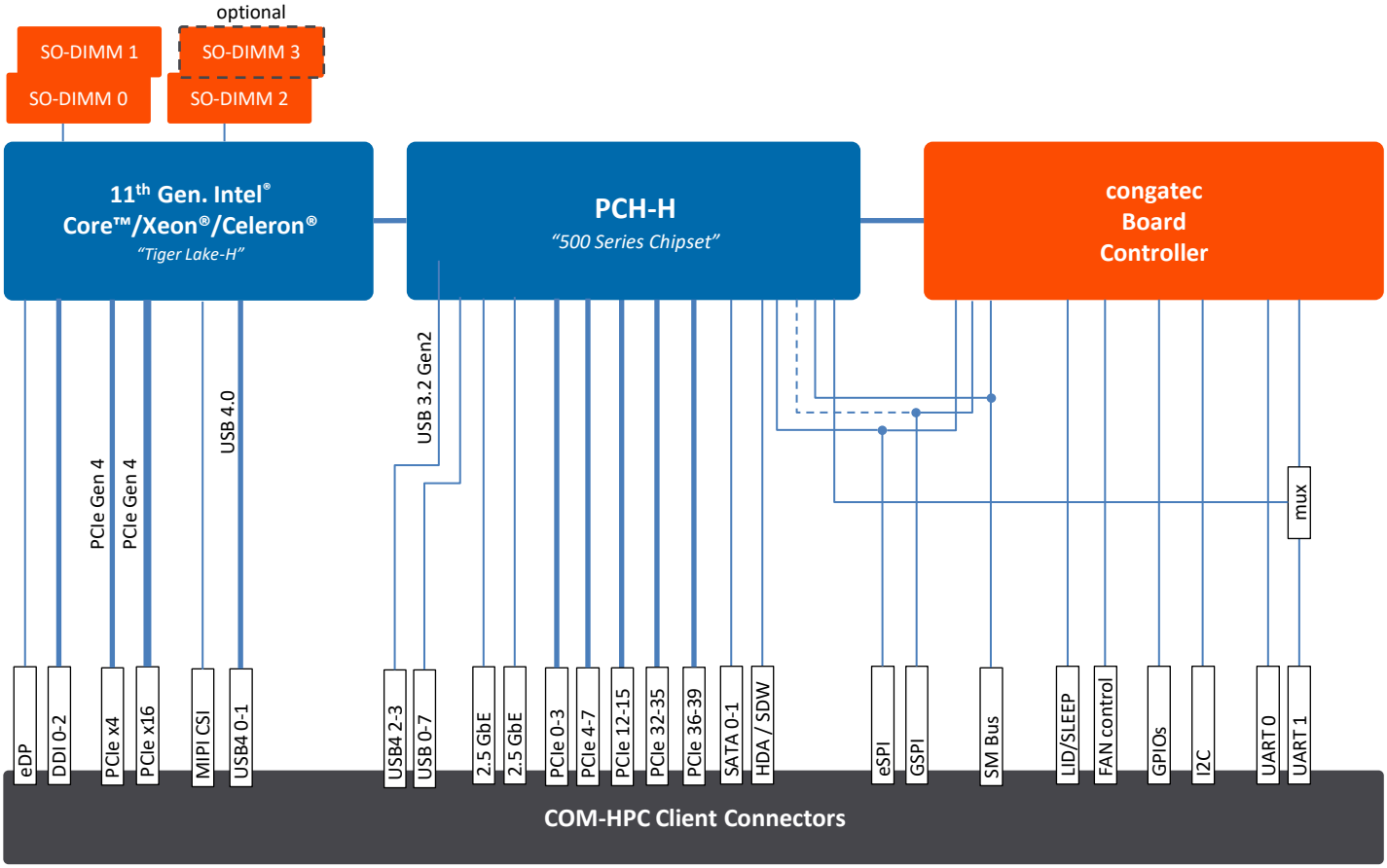
conga-HPC/cTLH | Block Diagram



conga-HPC/cTLH | Modules Order Information

Article	PN	Description
conga-HPC/cTLH-i7-11850HE	050800	COM-HPC Size B module based on Intel® Core™ i7-11850HE 8-core processor with 2.6GHz up to 4.7GHz turbo boost, 24MB Intel® Smart Cache, Intel® UHD Graphics with 32EU and dual channel DDR4 3200 MT/s memory interface. | Chipset QM580E | Intel® Tiger Lake-H | Commercial temperature range
conga-HPC/cTLH-i5-11500HE	050801	COM-HPC Size B module based on Intel® Core™ i5-11500HE 6-core processor with 2.6GHz up to 4.5GHz turbo boost, 12MB Intel® Smart Cache, Intel® UHD Graphics with 32EU and dual channel DDR4 3200 MT/s memory interface. | Chipset QM580E | Intel® Tiger Lake-H | Commercial temperature range
conga-HPC/cTLH-i3-11100HE	050802	COM-HPC Size B module based on Intel® Core™ i3-11100HE 4-core processor with 2.4GHz up to 4.4GHz turbo boost, 8MB Intel® Smart Cache, Intel® UHD Graphics with 16EU and dual channel DDR4 3200 MT/s memory interface. | Chipset HM570E | Intel® Tiger Lake-H | Commercial temperature range
conga-HPC/cTLH-6600HE	050803	COM-HPC Size B module based on Intel® Celeron 6600HE 2-core processor with 2.6GHz base frequency, 8MB Intel® Smart Cache, Intel® UHD Graphics with 16EU and dual channel DDR4 3200 MT/s memory interface. | Chipset HM570E | Intel® Tiger Lake-H | Commercial temperature range
conga-HPC/cTLH-W-11865MRE	050810	COM-HPC Size B module based on Intel® Xeon® W-11865MRE 8-core processor with 2.6GHz up to 4.7GHz turbo boost, 24MB Intel® Smart Cache, Intel® UHD Graphics with 32EU and dual channel DDR4 3200 MT/s memory interface. | Chipset RM590E | Intel® Tiger Lake-H | Industrial temperature range
conga-HPC/cTLH-W-11555MRE	050811	COM-HPC Size B module based on Intel® Xeon® W-11555MRE 6-core processor with 2.6GHz up to 4.5GHz turbo boost, 12MB Intel® Smart Cache, Intel® UHD Graphics with 32EU and dual channel DDR4 3200 MT/s memory interface. | Chipset RM590E | Intel® Tiger Lake-H | Industrial temperature range
conga-HPC/cTLH-W-11155MRE	050812	COM-HPC Size B module based on Intel® Xeon® W-11155MRE 4-core processor with 2.4GHz up to 4.4GHz turbo boost, 8MB Intel® Smart Cache, Intel® UHD Graphics with 16EU and dual channel DDR4 3200 MT/s memory interface. | Chipset RM590E | Intel® Tiger Lake-H | Industrial temperature range
conga-HPC/cTLH-W-11865MLE	050813	COM-HPC Size B module based on Intel® Xeon® W-11865MLE 8-core processor with 1.5GHz up to 4.5GHz turbo boost, 24MB Intel® Smart Cache, Intel® UHD Graphics with 32EU and dual channel DDR4 3200 MT/s memory interface. | Chipset RM590E | Intel® Tiger Lake-H | Commercial temperature range
conga-HPC/cTLH-W-11555MLE	050814	COM-HPC Size B module based on Intel® Xeon® W-11555MLE 6-core processor with 1.9GHz up to 4.4GHz turbo boost, 12MB Intel® Smart Cache, Intel® UHD Graphics with 32EU and dual channel DDR4 3200 MT/s memory interface. | Chipset RM590E | Intel® Tiger Lake-H | Commercial temperature range
conga-HPC/cTLH-W-11155MLE	050815	COM-HPC Size B module based on Intel® Xeon® W-11155MRE 4-core processor with 1.8GHz up to 3.1GHz turbo boost, 8MB Intel® Smart Cache, Intel® UHD Graphics with 16EU and dual channel DDR4 3200 MT/s memory interface. | Chipset RM590E | Intel® Tiger Lake-H | Commercial temperature range

conga-HPC/cTLH | Accessories Order Information

Article	PN	Description
conga-HPC/cTLH-CSA-HP-B	050850	Standard active cooling solution for high performance COM-HPC module conga-HPC/cTLH with integrated heat pipe, 29mm height and integrated 12V fan. All standoffs are with 2.7mm bore hole.
conga-HPC/cTLH-CSA-HP-T	050851	Standard active cooling solution for high performance COM-HPC module conga-HPC/cTLH with integrated heat pipe, 29mm height and integrated 12V fan. All standoffs are M2.5mm thread.
conga-HPC/cTLH-CSP-HP-B	050852	Standard passive cooling solution for high performance COM-HPC module conga-HPC/cTLH with integrated heat pipe, 29mm height. All standoffs are with 2.7mm bore hole.
conga-HPC/cTLH-CSP-HP-T	050853	Standard passive cooling solution for high performance COM-HPC module conga-HPC/cTLH with integrated heat pipe, 29mm height. All standoffs are with M2.5mm thread.
conga-HPC/cTLH-HSP-HP-B	050854	Standard heat spreader for high performance COM-HPC module conga-HPC/cTLH with integrated heat pipe, 13mm height. All standoffs are with 2.7mm bore hole.
conga-HPC/cTLH-HSP-HP-T	050855	Standard heat spreader solution for high performance COM-HPC module conga-HPC/cTLH with integrated heat pipe, 13mm height. All standoffs are with M2.5mm thread.
conga-HPC/EVAL-Client	065600	Evaluation Carrier Board for COM-HPC Client type Modules.

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Mouser Electronics

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