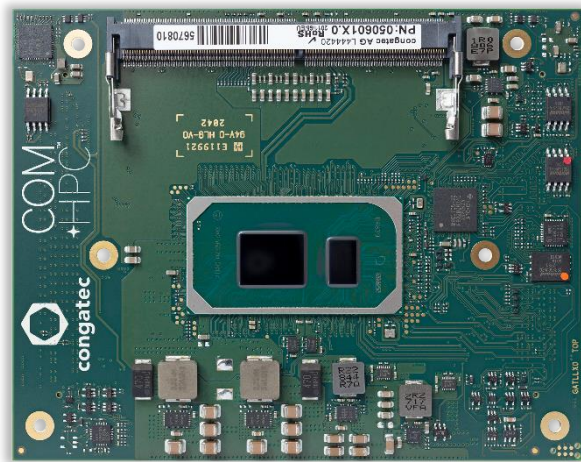


# 11<sup>TH</sup> GEN INTEL® CORE™ PROCESSORS

## conga-HPC/cTLU

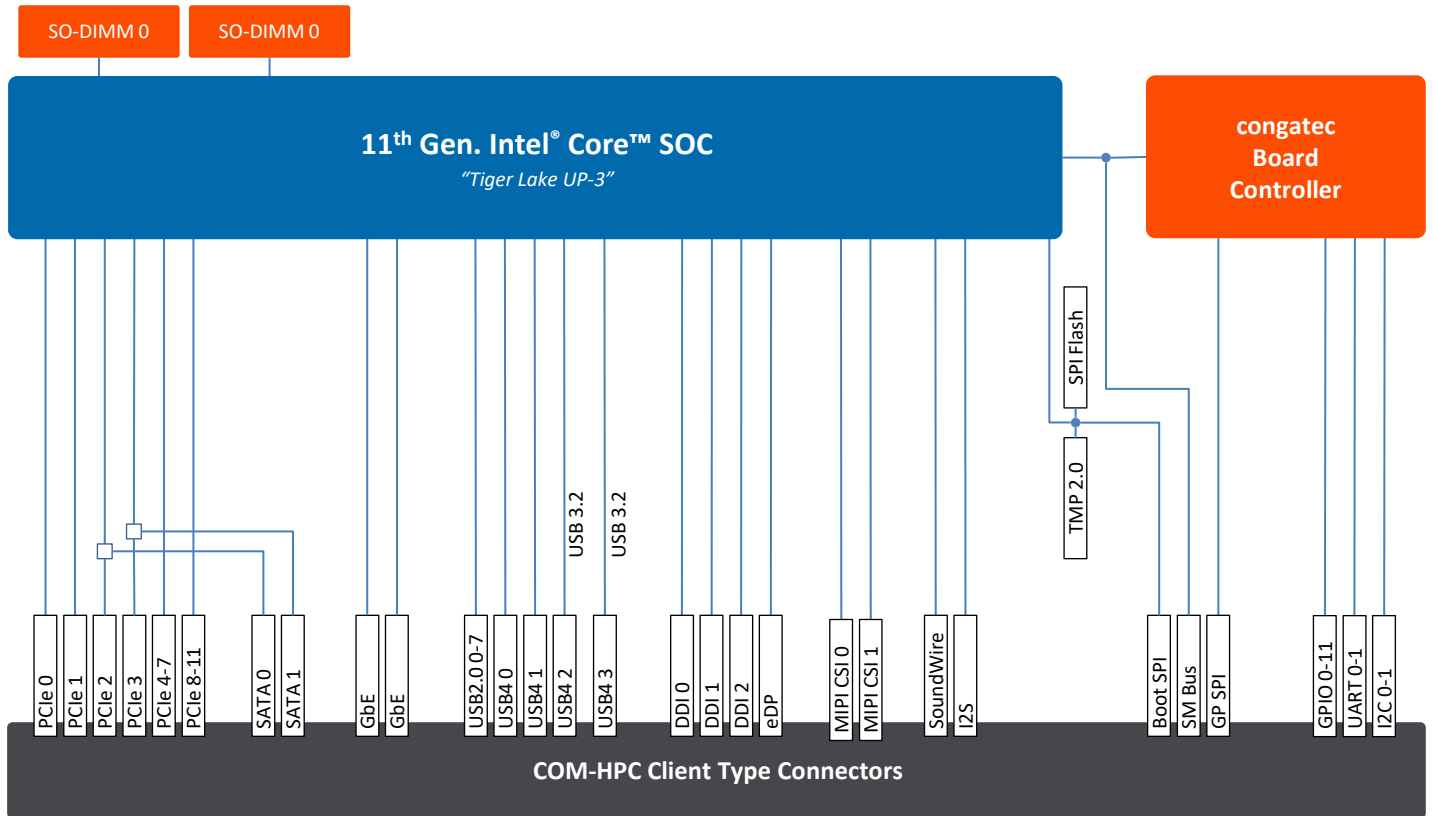


## COM+HPC®

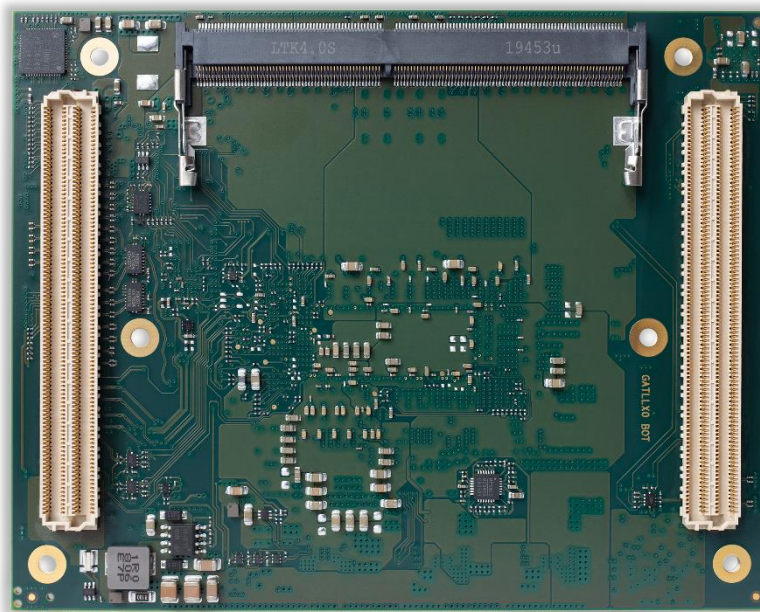
- Embedded/Industrial use condition
- Extended temperature options available
- PCI Express Gen 4
- Integrated high performance Xe (Gen 12) graphics with 96 EU
- AI/DL Instruction Sets including VNNI

<b>Form Factor</b>	COM-HPC, Size A (95 x 120 mm), Client Connector Pinout					
<b>CPU</b>	<b>Processor</b>	<b>Cores/Threads</b>	<b>Base Frequency/max. Turbo</b>	<b>TDP</b>	<b>Graphics</b>	<b>Intel Use Condition</b>
	Core™ i7-1185G7E	4C/8T	1.80 GHz / 4.40 GHz	12-28W	96EU	Embedded Broad Market
	Core™ i5-1145G7E	4C/8T	1.50 GHz / 4.40 GHz	12-28W	80EU	Embedded Broad Market
	Core™ i3-1115G4E	2C/4T	2.20 GHz / 3.90 GHz	12-28W	48EU	Embedded Broad Market
	Celeron 6305E	2C/2T	1.80 GHz / --	15W	48EU	Embedded Broad Market
	Core™ i7-1185GRE	4C/8T	1.80 GHz / 4.40 GHz	12-28W	96EU	Industrial
	Core™ i5-1145GRE	4C/8T	1.50 GHz / 4.10 GHz	12-28W	80EU	Industrial
	Core™ i3-1115GRE	2C/4T	2.20 GHz / 3.90 GHz	12-28W	48EU	Industrial
<b>DRAM</b>	Up to 2x SO-DIMM sockets for DDR4 memory modules up to 32 GByte each (64 GByte total) with 3200 MT/s					
<b>Graphics</b>	Integrated Xe (Gen 12) graphics engine with up to 96 EU (Execution Units) Supporting 4 independent display units (4x 4k/2x 8K)   Enhanced media (AV1/12b) with up to 2 Vdbox Next Gen IPU6 with DPHY2.1   DP 1.4					
<b>Display</b>	3x DP/DP++   1x eDP					
<b>Ethernet</b>	2x 2.5 GbE TSN Ethernet					
<b>I/O Interfaces</b>	4x PCIe Gen4   8x PCIe Gen3 2x USB 4.0   2x USB 3.2   8x USB 2.0 2x SATA III (6Gb/s)   SPI   2x UART   12x GPIO   8x MIPI-CSI					
<b>Audio</b>	1x I2S   2x SoundWire					
<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 Defaults   LCD Control   Display Auto Detection   Backlight Control   Flash Update					
<b>Security</b>	Trusted Platform Module (TPM 2.0)					
<b>Power Management</b>	ACPI 5.0 with battery support					
<b>Operating Systems</b>	Microsoft® Windows 10   Microsoft® Windows 10 IoT Enterprise   Microsoft® Windows IoT 10 Core Linux   Android   Yocto   RTS Hypervisor					
<b>Temperature Range</b>	Commercial: Operating Temperature: 0 to +60°C		Storage Temperature: -20 to +80°C			
	Industrial: Operating Temperature: -40 to +85°C		Storage Temperature: -40 to +85°C			
<b>Humidity</b>	Operating: 10 to 90% r. H. non cond. Storage: 5 to 95% r. H. non cond.					
<b>Size</b>	95 x 120 mm <sup>2</sup>					

# conga-HPC/cTLU | Block Diagram



# conga-HPC/cTLU | Bottom Side View



# conga-HPC/cTLU | Order Information

Article	PN	Description
conga-HPC/cTLU-i7-1185G7E	050600	COM-HPC Size A module based on Intel® Core™ i7-1185G7E 4-core processor with 1.8GHz up to 4.4GHz turbo boost, 12MB cache, Intel® Iris® Xe Graphics with 96EU and dual channel DDR4 3200 MT/s memory interface (Intel Tiger Lake-UP3). Commercial temperature range.
conga-HPC/cTLU-i5-1145G7E	050601	COM-HPC Size A module based on Intel® Core™ i5-1145G7E 4-core processor with 1.5GHz up to 4.1GHz turbo boost, 8MB cache, Intel® Iris® Xe Graphics with 80EU and dual channel DDR4 3200 MT/s memory interface (Intel Tiger Lake-UP3). Commercial temperature range.
conga-HPC/cTLU-i3-1115G4E	050602	COM-HPC Size A module based on Intel® Core™ i3-1115G4E 2-core processor with 2.2GHz up to 3.9GHz turbo boost, 6MB cache, Intel® Graphics with 48EU and dual channel DDR4 3200 MT/s memory interface (Intel Tiger Lake-UP3). Commercial temperature range.
conga-HPC/cTLU-6305E	050603	COM-HPC Size A module based on Intel® Celeron® 6305E 2-core processor with 1.8GHz, 4MB cache, Intel® Graphics with 48EU and dual channel DDR4 3200 MT/s memory interface (Intel Tiger Lake-UP3). Commercial temperature range.
conga-HPC/cTLU-i7-1185GRE	050610	COM-HPC Size A module based on Intel® Core™ i7-1185GRE 4-core processor with 1.8GHz up to 4.4GHz turbo boost, 12MB cache, Intel® Iris® Xe Graphics with 96EU and dual channel DDR4 3200 MT/s memory interface (Intel Tiger Lake-UP3). Industrial temperature range.
conga-HPC/cTLU-i5-1145GRE	050611	COM-HPC Size A module based on Intel® Core™ i5-1145GRE 4-core processor with 1.5GHz up to 4.1GHz turbo boost, 8MB cache, Intel® Iris® Xe Graphics with 80EU and dual channel DDR4 3200 MT/s memory interface (Intel Tiger Lake-UP3). Industrial temperature range.
conga-HPC/cTLU-i3-1115GRE	050612	COM-HPC Size A module based on Intel® Core™ i3-1115GRE 2-core processor with 2.2GHz up to 3.9GHz turbo boost, 6MB cache, Intel® Graphics with 48EU and dual channel DDR4 3200 MT/s memory interface (Intel Tiger Lake-UP3). Industrial temperature range.
conga-HPC/cTLU-CSA-HP-B	050658	Standard active cooling solution for high performance COM-HPC module conga-HPC/cTLU with integrated heatpipe, 29mm height and integrated 12V fan. All standoffs are with 2.7mm bore hole.
conga-HPC/cTLU-CSA-HP-T	050659	Standard active cooling solution for high performance COM-HPC module conga-HPC/cTLU with integrated heatpipe, 29mm height and integrated 12V fan. All standoffs are M2.5mm thread.
conga-HPC/cTLU-CSP-HP-B	050660	Standard passive cooling solution for high performance COM-HPC module conga-HPC/cTLU with integrated heatpipe, 28mm height. All standoffs are with 2.7mm bore hole.
conga-HPC/cTLU-CSP-HP-T	050661	Standard passive cooling solution for high performance COM-HPC module conga-HPC/cTLU with integrated heatpipe, 28mm height. All standoffs are with M2.5mm thread.
conga-HPC/cTLU-HSP-HP-B	050662	Standard heatspreader for high performance COM-HPC module conga-HPC/cTLU with integrated heatpipe, 13mm height. All standoffs are with 2.7mm bore hole.
conga-HPC/cTLU-HSP-HP-T	050663	Standard heatspreader solution for high performance COM-HPC module conga-HPC/cTLU with integrated heatpipe, 13mm height. All standoffs are with M2.5mm thread.
conga-HPC/EVAL-Client	065600	Evaluation Carrier Board for COM-HPC Client type Modules.

© 2021 congatec GmbH.  
All rights reserved.

All data is for information purposes only. Although all the information contained within this document is carefully checked, no guarantee of correctness is implied or expressed. Product names, logos, brands, and other trademarks featured or referred are the property of their respective trademark holders. These trademark holders are not affiliated with congatec GmbH. Product not yet released for mass production.  
Revision 2.1 – August 3<sup>rd</sup> 2021