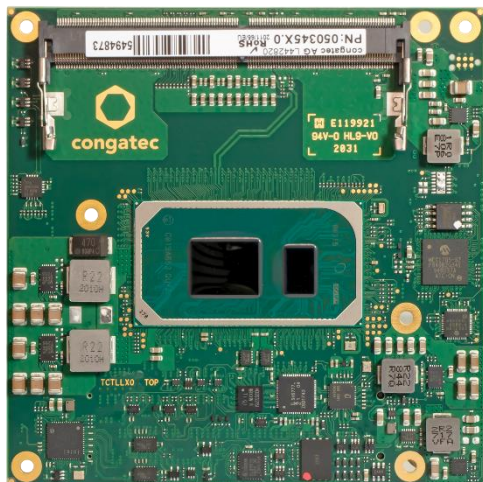# 11TH GEN INTEL® CORE™ PROCESSORS
conga-TC570

- ⬡ 11th Generation Intel® Core™ SOC processor
- ⬡ Intel® Iris® Xe Graphics with up to 96 EU
- ⬡ Industrial Extended Temperature options
- ⬡ AI / DL Instruction Sets including VNNI
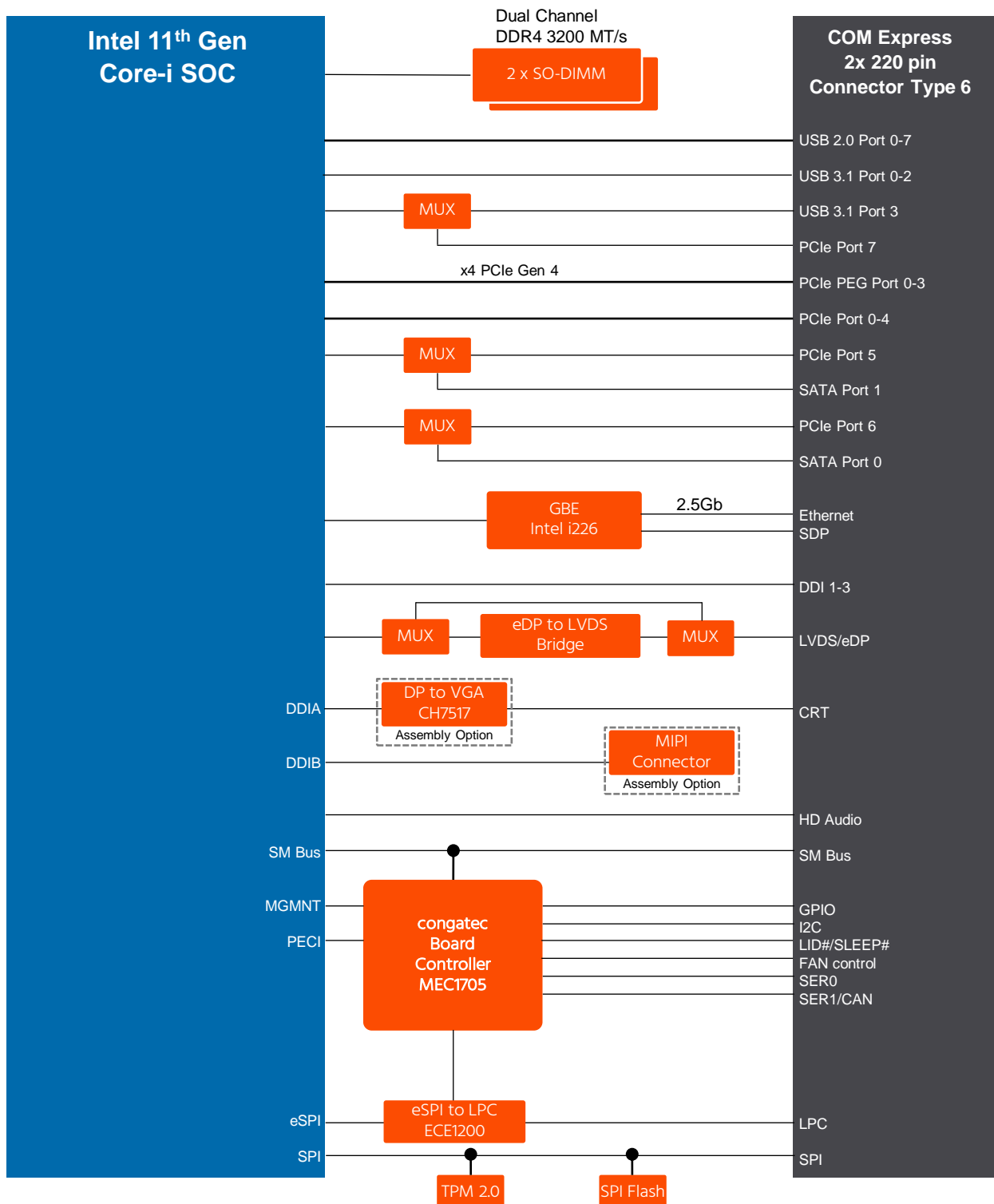- ⬡ PCI Express Gen 4

COM ✦ Express®

Form Factor	COM Express® Compact (95 x 95 mm) | Type 6 connector pinout				
CPU	Processor	Cores / Threads	Base freq. / max. Turbo freq.	TDP	Graphics
	Core™ i7-1185G7E	4C / 8T	1.80 GHz / 4.40 GHz	12 - 28W	96 EU
	Core™ i5-1145G7E	4C / 8T	1.50 GHz / 4.40 GHz	12 - 28W	80 EU
	Core™ i3-1115G4E	2C / 4T	2.20 GHz / 3.90 GHz	12 - 28W	48 EU
	Celeron 6305E	2C / 2T	1.80 GHz / --	15W	48 EU
	Core™ i7-1185GRE	4C / 8T	1.80 GHz / 4.40 GHz	12 - 28W	96 EU
	Core™ i5-1145GRE	4C / 8T	1.50 GHz / 4.10 GHz	12 - 28W	80 EU
	Core™ i3-1115GRE	2C / 4T	2.20 GHz / 3.90 GHz	12 - 28W	48 EU
DRAM	Up to 2 SODIMM sockets for DDR4 memory modules up to 32 GByte each (64 GByte total) with 3200 MT/s | IBECC				
Graphics	Integrated Intel® Iris® Xe Graphics Gen 12 with up to 96 EU (Execution Units) | Supporting up to 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				
Display	3x DP/DP++ | 1x eDP				
Ethernet	1x 2.5 GbE with TSN support via Intel® i226 Ethernet controller series				
I/O Interfaces	8x PCIe Gen3 | PEG support x4 (PCIe Gen4) 4x USB 3.1 Gen 2 | 8x USB 2.0 2x SATA III (6Gb/s) | SPI | 2x UART | 8x GPIO				
Audio	HDA interface				
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 Defaults | LCD Control | Display Auto Detection | Backlight Control | Flash Update				
Security	Trusted Platform Module (TPM 2.0)				
Power Management	ACPI 5.0 with battery support				
Operating Systems	Microsoft® Windows 10 | Microsoft® Windows 10 IoT Enterprise | Microsoft® Windows IoT 10 Core | Linux | Android | 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: -40 to +85°C				
Humidity	Operating: 10% to 85% r. H. non cond. Storage: 5% to 85% r. H. non cond.				
Size	95 x 95 mm² (3.74" x 3.74")				

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intel. partner Titanium

conga-TC570 | Block Diagram

Intel 11ᵗʰ Gen Core-i SOC

Dual Channel
DDR4 3200 MT/s

2 x SO-DIMM

**COM Express
2x 220 pin
Connector Type 6**

USB 2.0 Port 0-7

USB 3.1 Port 0-2

MUX — USB 3.1 Port 3

PCIe Port 7

x4 PCIe Gen 4 — PCIe PEG Port 0-3

PCIe Port 0-4

MUX — PCIe Port 5

SATA Port 1

MUX — PCIe Port 6

SATA Port 0

GBE
Intel i226 — 2.5Gb — Ethernet
SDP

DDI 1-3

MUX — eDP to LVDS Bridge — MUX — LVDS/eDP

DDIA — DP to VGA CH7517 — CRT
Assembly Option

DDIB — MIPI Connector
Assembly Option

HD Audio

SM Bus — SM Bus

MGMNT — GPIO
I2C
PECI — LID#/SLEEP#

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Board
Controller
MEC1705

FAN control
SER0
SER1/CAN

eSPI — eSPI to LPC ECE1200 — LPC

SPI — SPI

TPM 2.0   SPI Flash

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Article	PN	Description
conga-TC570/i7-1185G7E	050300	COM Express Type 6 Compact 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). Commercial temperature range.
conga-TC570/i5-1145G7E	050301	COM Express Type 6 Compact 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). Commercial temperature range.
conga-TC570/i3-1115G4E	050302	COM Express Type 6 Compact module based on Intel® Core™ i3-1115G4E 2-core processor with 2.2GHz up to 3.9GHz turbo boost, 6MB cache, Intel® UHD Graphics with 48EU and dual channel DDR4 3200 MT/s memory interface (Intel Tiger Lake). Commercial temperature range.
conga-TC570/6305E	050303	COM Express Type 6 Compact module based on Intel® Celeron® 6305E 2-core processor with 1.8GHz, 4MB cache, Intel® UHD Graphics with 48EU and dual channel DDR4 3200 MT/s memory interface (Intel Tiger Lake). Commercial temperature range.
conga-TC570/i7-1185GRE	050310	COM Express Type 6 Compact 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). Industrial temperature range.
conga-TC570/i5-1145GRE	050311	COM Express Type 6 Compact 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). Industrial temperature range.
conga-TC570/i3-1115GRE	050312	COM Express Type 6 Compact module based on Intel® Core™ i3-1115GRE 2-core processor with 2.2GHz up to 3.9GHz turbo boost, 6MB cache, Intel® UHD Graphics with 48EU and dual channel DDR4 3200 MT/s memory interface (Intel Tiger Lake). Industrial temperature range.
conga-TC570/CSA-HP-B	050350	Standard active cooling solution for high performance COM Express module conga-TC570 with integrated heat pipes, 25.5 mm overall heat sink height and integrated 12V fan. All standoffs are with 2.7 mm bore hole.
conga-TC570/CSA-HP-T	050351	Standard active cooling solution for high performance COM Express module conga-TC570 with integrated heat pipes, 25.5 mm overall heat sink height and integrated 12V fan. All standoffs are M2.5 mm thread.
conga-TC570/CSP-HP-B	050352	Standard passive cooling solution for high performance COM Express module conga-TC570 with integrated heat pipes, 24.3 mm overall heat sink height. All standoffs are with 2.7 mm bore hole.
conga-TC570/CSP-HP-T	050353	Standard passive cooling solution for high performance COM Express module conga-TC570 with integrated heat pipes, 24.3 mm overall heat sink height. All standoffs are M2.5 mm thread.
conga-TC570/HSP-HP-B	050354	Standard heatspreader for high performance COM Express module conga-TC570 with integrated heat pipes, 11 mm overall heat sink height. All standoffs are with 2.7 mm bore hole.
conga-TC570/HSP-HP-T	050355	Standard heatspreader for high performance COM Express module conga-TC570 with integrated heat pipes, 11 mm overall heat sink height. All standoffs are M2.5 mm thread.
conga-TEVAL/COMe 3.0	65810	Evaluation Carrier Board for COM Express Type 6 modules.

Article	PN	Description
DDR4-SODIMM-3200 (4GB)	068793	DDR4 SODIMM memory module with 3200 MT/s and 4GB RAM
DDR4-SODIMM-3200 (8GB)	068794	DDR4 SODIMM memory module with 3200 MT/s and 8GB RAM
DDR4-SODIMM-3200 (16GB)	068798	DDR4 SODIMM memory module with 3200 MT/s and 16GB RAM
DDR4-SODIMM-3200 (32GB)	068835	DDR4 SODIMM memory module with 3200 MT/s and 32GB RAM
DDR4-SODIMM-3200 (4GB) / i-temp	068825	Industrial DDR4 SODIMM memory module with 3200 MT/s and 4GB RAM
DDR4-SODIMM-3200 (8GB) / i-temp	068826	Industrial DDR4 SODIMM memory module with 3200 MT/s and 8GB RAM
DDR4-SODIMM-3200 (16GB) / i-temp	068827	Industrial DDR4 SODIMM memory module with 3200 MT/s and 16GB RAM
DDR4-SODIMM-3200 (32GB) / i-temp	068837	Industrial DDR4 SODIMM memory module with 3200 MT/s and 32GB RAM

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