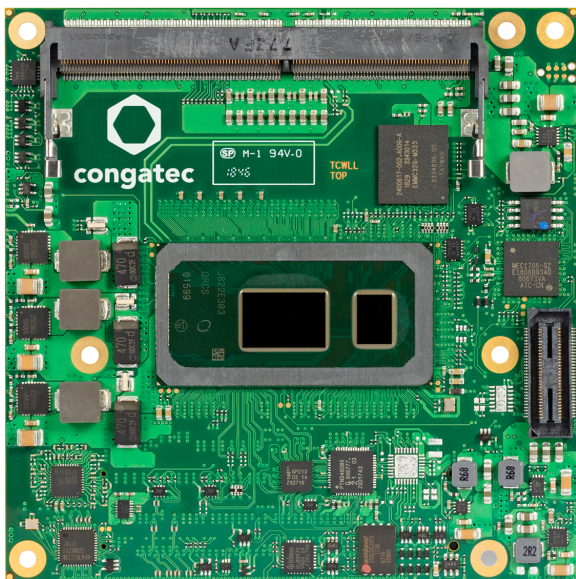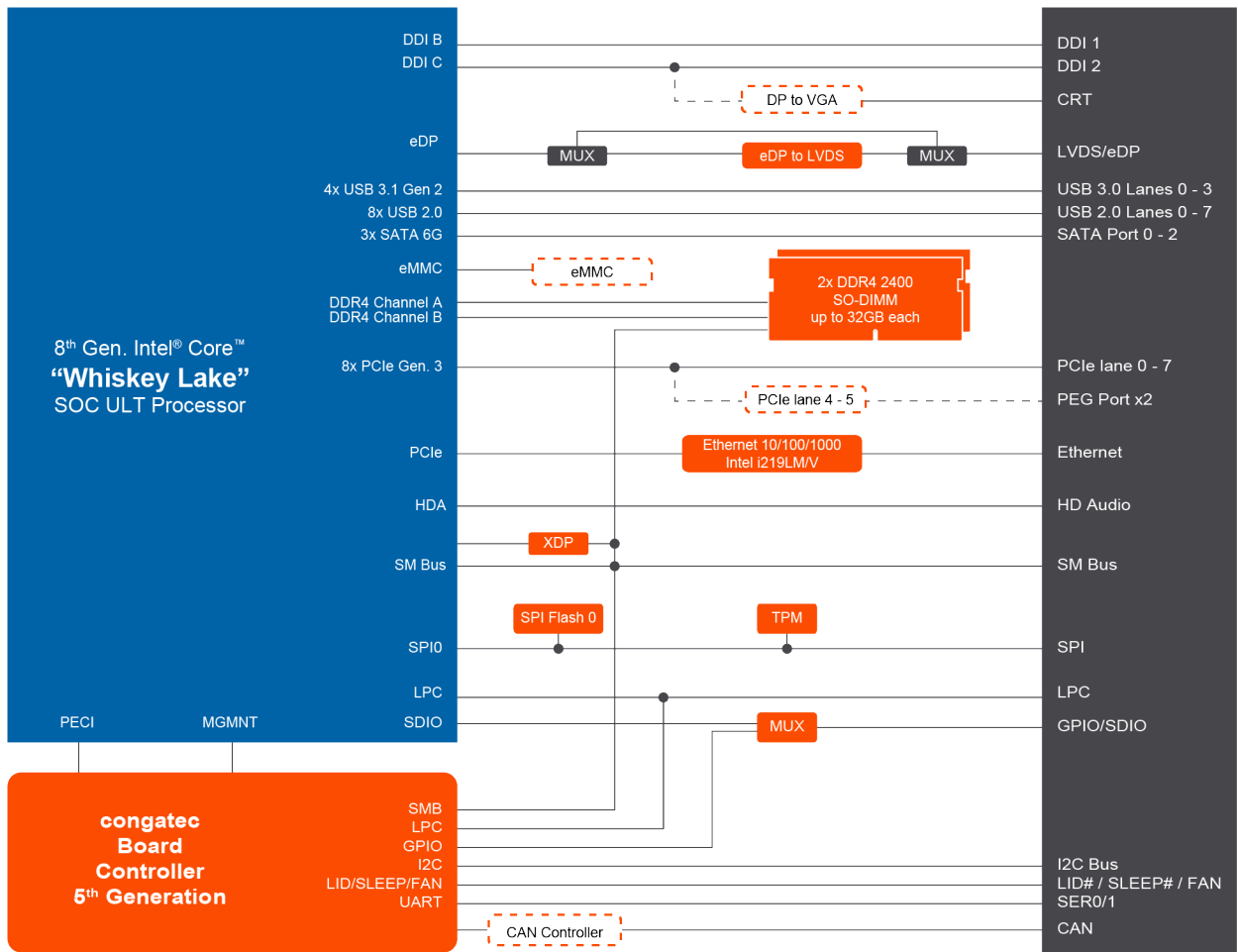# QUAD CORE COMPACT
conga-TC370

- 8th Generation Intel® Core™ SOC processor up to 4 cores
- Configuration of display mode by software (LVDS/eDP)
- Low power consumption (TDP 15W, cTDP 10W)
- Up to 64 GByte dual channel DDR4 2400 MT/s
- Optional eMMC 5.1 on board mass storage
- Trusted Platform Module (TPM 2.0)
- COM Express Compact Type 6 module 95x95 mm²

COM ✦ Express®

Formfactor	COM Express® Compact, (95 x 95 mm), Type 6 Connector Layout				
CPU	Intel® Core™ i7-8665UE	4.40 GHz (Burst) | 1.7 GHz Clock	Quad Core, 8 Threads	L2 cache 8MB	15W TDP (configurable to 10/25W
	Intel® Core™ i5-8365UE	4.10 GHz (Burst) | 1.6 GHz Clock	Quad Core, 8 Threads	L2 cache 6MB	15W TDP (configurable to 10/25W
	Intel® Core™ i3-8145UE	3.90 GHz (Burst) | 2.2 GHz Clock	Dual Core, 4 Threads	L2 cache 4MB	15W TDP (configurable to 10/25W
	Intel® Celeron® 4305UE	2.00 GHz (Burst) | 2.0 GHz Clock	Dual Core, 2 Threads	L2 cache 2MB	15W TDP

DRAM	Dual channel DDR4 up to 2.400 MT/s | 2x SO-DIMM | max. 2x 32 Gbyte
Chipset	Integrated Intel® 300 Series
Ethernet	1x Gigabit Ethernet | Intel i219LM
Sound	Digital High Definition Audio Interface with support for multiple audio codecs
Graphics	Intel® Gen9 HD Graphics Engine with OpenCL 2.1, OpenGL 4.5 and DirectX12 (for Windows 10) support | up to three independent displays | High performance hardware MPEG-2 decoding | WMV9 (VC-1) and H.265 (HEVC) support Blu-ray support @ 40 MBit/s | HEVC and VP9 encoding
Display Interface	2x DDI | 18/24bit single/dual channel LVDS or eDP | optional VGA interface | LVDS interface with optional eDP overlay. Configuration of display mode by software
I/O Interfaces	8x PCI Express Gen 3.0 lanes | 3x Serial ATA Gen 3 (can be configured as RAID) | 4x USB 3.1 Gen 2 | 8x USB 2.0 | LPC bus (no DMA) | I²C bus (fast mode, 400 kHz, multi-master) | 2x UART
Storage	optional eMMC 5.1 on board mass storage
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 Features	AMI Aptio® 2.X (UEFI) BIOS | SM-BIOS | BIOS Update | Logo Boot | Quiet Boot | HDD Password
Security	Trusted Platform Module (TPM 2.0) | Secure Root of Trust | Secure Memory Encryption | Secure Encrypted Virtualization
Power Management	ACPI compliant with battery support | Suspend to RAM (S3) support | S5 enhanced support | Intel AMT 12.0 support
Operating Systems	Microsoft® Windows 10 (64bit only) | Microsoft® Windows 10 IoT Enterprise (64bit only) | Linux
Power Consumption	See user's guide for full details
Temperature	Operating: 0 .. +60°C Storage: -20 .. +70°C
Humidity	Operating: 10 - 90% r. H. non cond. Storage: 5 - 95% r. H. non cond.
Size	95 x 95 mm (3.74" x 3.74")

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conga-TC370 | Block diagram

8th Gen. Intel® Core™
"Whiskey Lake"
SOC ULT Processor

DDI B
DDI C
eDP
4x USB 3.1 Gen 2
8x USB 2.0
3x SATA 6G
eMMC
DDR4 Channel A
DDR4 Channel B
8x PCIe Gen. 3
PCIe
HDA
SM Bus
SPI0
LPC
SDIO

PECI   MGMNT

congatec
Board
Controller
5th Generation

SMB
LPC
GPIO
I2C
LID/SLEEP/FAN
UART

DP to VGA
MUX   eDP to LVDS   MUX
eMMC
2x DDR4 2400
SO-DIMM
up to 32GB each
PCIe lane 4 - 5
Ethernet 10/100/1000
Intel i219LM/V
XDP
SPI Flash 0   TPM
MUX
CAN Controller

DDI 1
DDI 2
CRT
LVDS/eDP
USB 3.0 Lanes 0 - 3
USB 2.0 Lanes 0 - 7
SATA Port 0 - 2

PCIe lane 0 - 7
PEG Port x2
Ethernet
HD Audio
SM Bus

SPI
LPC
GPIO/SDIO

I2C Bus
LID# / SLEEP# / FAN
SER0/1
CAN

- - - - Optional - Not available by default

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conga-TC370 | Order Information

Article	PN	Description
conga-TC370/i7-8665UE	048800	COM Express Type 6 Compact module with Intel® Core™ i7-8665UE quad core processor with 1.7GHz, 8MB L2 cache, GT2 graphics and 2400MT/s dual channel DDR4 memory interface (15W).
conga-TC370/i5-8365UE	048801	COM Express Type 6 Compact module with Intel® Core™ i5-8365UE quad core processor with 1.6GHz, 6MB L2 cache, GT2 graphics and 2400MT/s dual channel DDR4 memory interface (15W).
conga-TC370/i3-8145UE	048802	COM Express Type 6 Compact module with Intel® Core™ i3-8145UE dual core processor with 2.2GHz, 4MB L2 cache, GT2 graphics and 2400MT/s dual channel DDR4 memory interface (15W).
conga-TC370/4305UE	048804	COM Express Type 6 Compact module with Intel® Celeron® Processor 4305UE, dual core with 2.0GHz, 2MB L2 cache, GT1 graphics and 2400MT/s dual channel DDR4 memory interface (15W).
conga-TC370/CSA-HP-B	048850	Standard active cooling solution for COM Express Compact modules conga-TC370 with integrated heat pipes, 25.5mm overall cooling height and integrated 12V fan. Through hole mounting with bore hole standoffs Ø2.7mm.
conga-TC370/CSA-HP-T	048851	Standard active cooling solution for COM Express Compact modules conga-TC370 with integrated heat pipes, 25.5mm overall cooling height and integrated 12V fan. Threaded mounting with threaded standoffs M2.5.
conga-TC370/CSP-HP-B	048852	Standard passive cooling solution for COM Express Compact modules conga-TC370 with integrated heat pipes and 24.3mm overall cooling height. Through hole mounting with bore hole standoffs Ø2.7mm.
conga-TC370/CSP-HP-T	048853	Standard passive cooling solution for COM Express Compact modules conga-TC370 with integrated heat pipes and 24.3mm overall cooling height. Threaded mounting with threaded standoffs M2.5.
conga-TC370/HSP-HP-B	048854	Standard heatspreader for COM Express Compact modules conga-TC370 with integrated heat pipes and 11mm overall cooling height. Through hole mounting with bore hole standoffs Ø2.7mm.
conga-TC370/HSP-HP-T	048855	Standard heatspreader for COM Express Compact modules conga-TC370 with integrated heat pipes and 11mm overall cooling height. Threaded mounting with threaded standoffs M2.5.
DDR4-SODIMM-2400 (4GB)	068790	DDR4 SODIMM memory module with 2400 MT/s and 4GB RAM
DDR4-SODIMM-2400 (8GB)	068791	DDR4 SODIMM memory module with 2400 MT/s and 8GB RAM
DDR4-SODIMM-2400 (16GB)	068792	DDR4 SODIMM memory module with 2400 MT/s and 16GB RAM
DDR4-SODIMM-2400 (32GB)	068809	DDR4 SODIMM memory module with 2400 MT/s and 32GB RAM
DDR4-SODIMM-2666 (4GB)	067780	DDR4 SODIMM memory module with 2666 MT/s and 4GB RAM
DDR4-SODIMM-2666 (8GB)	067781	DDR4 SODIMM memory module with 2666 MT/s and 8GB RAM
DDR4-SODIMM-2666 (16GB)	067782	DDR4 SODIMM memory module with 2666 MT/s and 16GB RAM
DDR4-SODIMM-2666 (32GB)	068806	DDR4 SODIMM memory module with 2666 MT/s and 32XGB RAM

Accessories

Article	PN	Description
conga-TEVAL	065810	Evaluation carrier board for Type 6 COM-Express-modules
conga-LDVI/EPI	011115	LVDS to DVI converter board for digital flat panels with onboard EEPROM

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