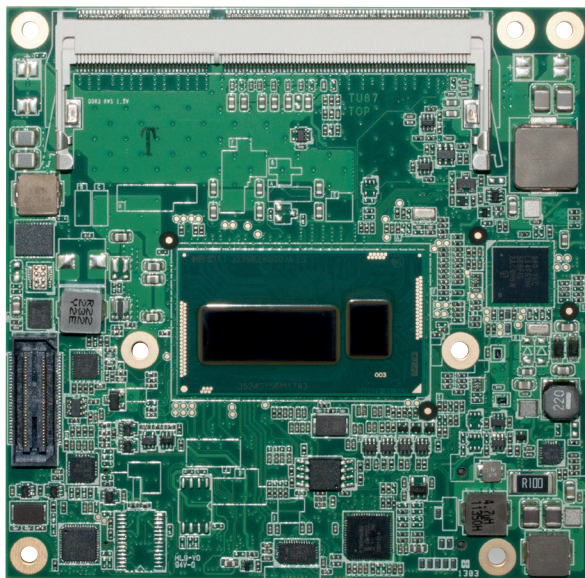


FAST AND COMPACT

conga-TC87

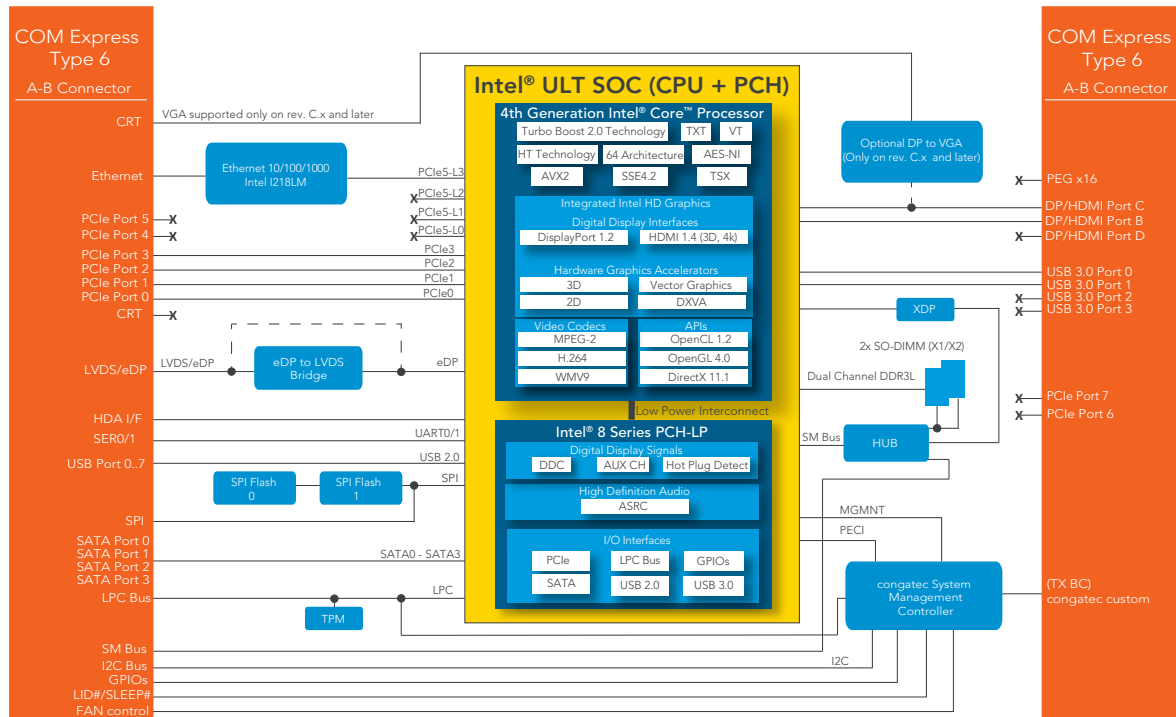


- 4th Gen. Intel® Core™ i7 dual core processor
- 3x DisplayPort 1.2, up to 4k resolution
- Intel® AVX 2.0 Vector extension for improved floating point computing
- COM Express Compact Type 6 module

COM  **Express®**

Formfactor	COM Express® Compact, (95 x 95 mm), Type 6 Connector Layout				
CPU	Intel® Core™ i7-4650U	1.7 GHz Dual Core	Turbo Boost 3.3 GHz	cache 4MB	15W TDP configurable to 11.5W, AES-NI, AVX2, AMT 9.5, TXT
	Intel® Core™ i5-4300U	1.9 GHz Dual Core	Turbo Boost 2.9 GHz	cache 3MB	15W TDP configurable to 11.5W, AES-NI, AVX2, AMT 9.5, TXT
	Intel® Core™ i3-4010U	1.7 GHz Dual Core		cache 3MB	15W TDP AES-NI, AVX2
	Intel® Celeron® 2980U	1.6 GHz Dual Core		cache 3MB	15W TDP
	Intel® Turbo Boost Technology, Intel® Hyper-Threading Technology (Intel® HT Technology), Intel® Advanced Vector Extensions 2.0 (Intel® AVX2), Intel® Advanced Encryption Standard New Instructions (Intel® AES-NI), Integrated dual channel memory controller, up to 25.6 GByte/sec. memory bandwidth, Integrated Intel® HD Graphics 5000 series with dynamic frequency up to xxGHz, Intel® Clear Video HD Technology Intel® Virtualization Technology (Intel® VT), Intel® Trusted Execution Technology (Intel® TXT), Intel® Streaming SIMD Extensions 4.2 (Intel® SSE4.2), PCLMULQDQ Instruction, Intel® Secure Key, Intel® Transactional Synchronization Extensions (Intel® TSX)				
DRAM	2 Sockets, SO-DIMM DDR3L@1.35V up to 1600MT/s and 16GByte				
Chipset	Integrated mobile Intel® 8 Series Chipset: Intel® QM87 / HM86 @ planned Celeron variants				
Ethernet	Intel® I218-LM GbE LAN Controller with AMT 9.5 support				
I/O Interfaces	4x PCI Express™ GEN. 2.0 lanes, 4x Serial ATA® RAID 0/1/5/10 support, 2x ExpressCard®, 2x USB 3.0 (XHCI), 8x USB 2.0 (EHCI), LPC bus, I²C bus (fast mode, 400 kHz, multi-master)				
Sound	Digital High Definition Audio Interface with support for multiple audio codecs				
Graphics	Next Generation Intel® HD Graphics with OpenCL 1.2, OpenGL 4.0 and DirectX11.1 support; up to three independent displays: HDMI 1.4, DVI, DisplayPort 1.2; High performance hardware MPEG-2 decoding, WMV9 (VC-1) and H.264 (AVC) support Blu-ray support @ 40 MBit/s				
LVDS (eDP optional)	Dual channel LVDS transmitter, Supports flat panels 2x24 Bit interface, VESA mappings, resolutions up to 1920x1200, Automatic Panel Detection via EDID/EPI				
Digital Display Interface (DDI)	2x TMDS (HDMI) / DisplayPort 1.2a with daisy chaining, resolutions up to 4k				
congatec Board Controller	Multi Stage Watchdog, non-volatile User Data Storage, Manufacturing and Board Information, Board Statistics, BIOS Setup Data Backup, I²C bus (fast mode, 400 kHz, multi-master), Power Loss Control				
Embedded BIOS Features	AMI Aptio® UEFI 2.x firmware, 8 MByte serial SPI firmware flash				
Security	The conga-TC87 can be optionally equipped with a discrete "Trusted Platform Module" (TPM). It is capable of calculating efficient hash and RSA algorithms with key lengths up to 2,048 bits and includes a real random number generator. Security sensitive applications such as gaming and e commerce will benefit also with improved authentication, integrity and confidence levels.				
Power Management	ACPI 4.0 with battery support				
Operating Systems	Microsoft® Windows 10 Microsoft® Windows 10 IoT Enterprise Microsoft® Windows 8 Microsoft® Windows 7 Linux Microsoft® Windows embedded Standard				
Power Consumption	Typ. application: tbd., see User's Guide for full details, CMOS Battery Backup Ultra low standby power, support for CPU power states up to C10				
Temperature	Operating: 0 .. +60°C Storage: -20 .. +80°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")				

conga-TC87 | Block diagram



conga-TC87 | Order Information

Article	PN	Description
conga-TC87/i7-4650U	046901	COM Express Type 6 Compact module with Intel® Core™ i7-4650U dual core processor with 1.7GHz, 4MB L2 cache and 1600MT/s dual channel DDR3L memory interface.
conga-TC87/i5-4300U	046902	COM Express Type 6 Compact module with Intel® Core™ i5-4300U dual core processor with 1.9GHz, 3MB L2 cache and 1600MT/s dual channel DDR3L memory interface.
conga-TC87/i3-4010U	046903	COM Express Type 6 Compact module with Intel® Core™ i3-4010U dual core processor with 1.7GHz, 3MB L2 cache and 1600MT/s dual channel DDR3L memory interface.
conga-TC87/2980U	046904	COM Express Type 6 Compact module with Intel® Celeron® Processor 2980U dual core processor with 1.6GHz, 2MB L2 cache and 1600MT/s dual channel DDR3L memory interface.
conga-TC87/i5-4300U VGA	046906	COM Express Type 6 Compact module with Intel® Core™ i5-4300U dual core processor with 1.9GHz, 3MB L2 cache and 1600MT/s dual channel DDR3L memory interface. Features legacy VGA display interface.
conga-TC87/i3-4010U VGA	046907	COM Express Type 6 Compact module with Intel® Core™ i3-4010U dual core processor with 1.7GHz, 3MB L2 cache and 1600MT/s dual channel DDR3L memory interface. Features legacy VGA display interface.
conga-TC87/2980U VGA	046908	COM Express Type 6 Compact module with Intel® Celeron® Processor 2980U dual core processor with 1.6GHz, 2MB L2 cache and 1600MT/s dual channel DDR3L memory interface. Features legacy VGA display interface.
TC87/HSP-B	046953	Standard heatspreader for COM Express module conga-TC87. All standoffs are with 2.7mm bore hole.
TC87/HSP-T	046954	Standard heatspreader for COM Express module conga-TC87. All standoffs are M 2.5 threaded.
TC87/CSP-B	046951	Standard passive cooling solution for COM Express module conga-TC87. All standoffs are with 2.7mm bore hole.
TC87/CSP-T	046952	Standard passive cooling solution for COM Express module conga-TC87. All standoffs are M 2.5 threaded
DDR3L-SODIMM-1600 (2GB)	068755	DDR3L SODIMM memory module with 1600 MT/s (PC3L-12800S) and 2GB RAM
DDR3L-SODIMM-1600 (4GB)	068756	DDR3L SODIMM memory module with 1600 MT/s (PC3L-12800S) and 4GB RAM
DDR3L-SODIMM-1600 (8GB)	068757	DDR3L SODIMM memory module with 1600 MT/s (PC3L-12800S) and 8GB RAM

Accessories

conga-TEVAL	065800	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
COM-Express-carrier-board-Socket-5	400007	Connector for COM-Express carrier boards, height 5mm, packing unit 4 pieces
COM-Express-carrier-board-Socket-8	400004	Connector for COM-Express carrier boards, height 8mm, packing unit 4 pieces

© 2018 congatec AG. 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 AG. Rev. Jan 29, 2018 MR