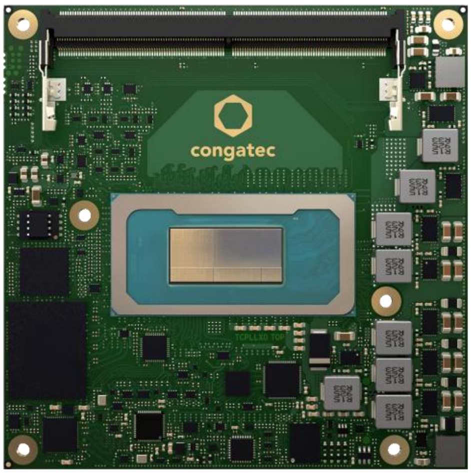
Intel® Core™ Ultra Processors Series 3

conga-TC1000



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- Intel® performance hybrid architecture with up to 16 cores
- Intel® Arc™ Graphics or Intel Graphics
- Integrated NPU with up to 50 TOPS and up to 180 TOPS total platform performance
- DDR5 SODIMM with up to 128 GB RAM system capacity

COM Express®

Form factor	COM Express® Compact | Type 6 connector pinout	
CPUs	Intel® Core™ Ultra Processors (Series 3) Panther Lake-H	
DRAM	2x SO-DIMM sockets for DDR5 memory modules up to 64 GB each | Max. 128 GB RAM system capacity | up to 7200 MT/s | in-band ECC (only on selected product variants)	
Mass Storage	NVMe x4 SSD (optional) up to 1 TB capacity	
Graphics	Intel® Arc Graphics with up to 12 X^e cores or Intel Graphics with up to 4 X^e cores | Intel® X^e Matrix Extensions	
AI Acceleration	Integrated NPU accelerator up to 50 TOPS | Up to 180 TOPS platform total	
Display	Up to 3x DDI (2x shared with USB4) | LVDS or eDP | 4x independent displays up to 8k	
Ethernet	2.5 GbE via Intel® i226 Ethernet controller series | Supporting TSN – Time Sensitive Networking (only on selected product variants) | Software Definable Pin (SDP) to be used for IEEE 1588	
I/O Interfaces	Up to 12x PCIe Gen4 PEG (H484) or up to 4x PCIe Gen4 PEG (H12Xe, H404) | up to 8x PCIe Gen4 Up to 2x USB4 | 3x USB 3.2 Gen2 (incl. USB 2.0) + 8x USB 2.0 | 2x SATA (flexible multiplexing) | 2x UART | GPIOs | GP SPI | LPC | SM Bus | I2C	
Audio	HDA | Soundwire (optional)	
congatec Board controller	Next Gen 6 congatec Board Controller | Multi Stage Watchdog | non-volatile User Data Storage | Manufacturing and Board Information | Board Statistics I^{2}C bus (fast mode, 400 kHz, multi-master) | Power Loss Control | Hardware Health Monitoring | POST Code Redirection	
Embedded BIOS Feature	AMI Aptio® UEFI firmware | 64 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) through Infineon SLB9672	
Power Management	ACPI 6.0 with battery support	
Operating Systems	Microsoft® Windows 11 IoT Enterprise | Microsoft® Windows 11 | Linux | Yocto	
Hypervisor	RTS Real-Time Hypervisor	
Temperature	Commercial Temp.: Operating 0°C to 60°C	Storage -20°C to 80°C
Humidity	Operating 10% to 85% r. H. non cond.	Storage 5% to 85% r. H. non cond.
Size	95 x 95 mm	

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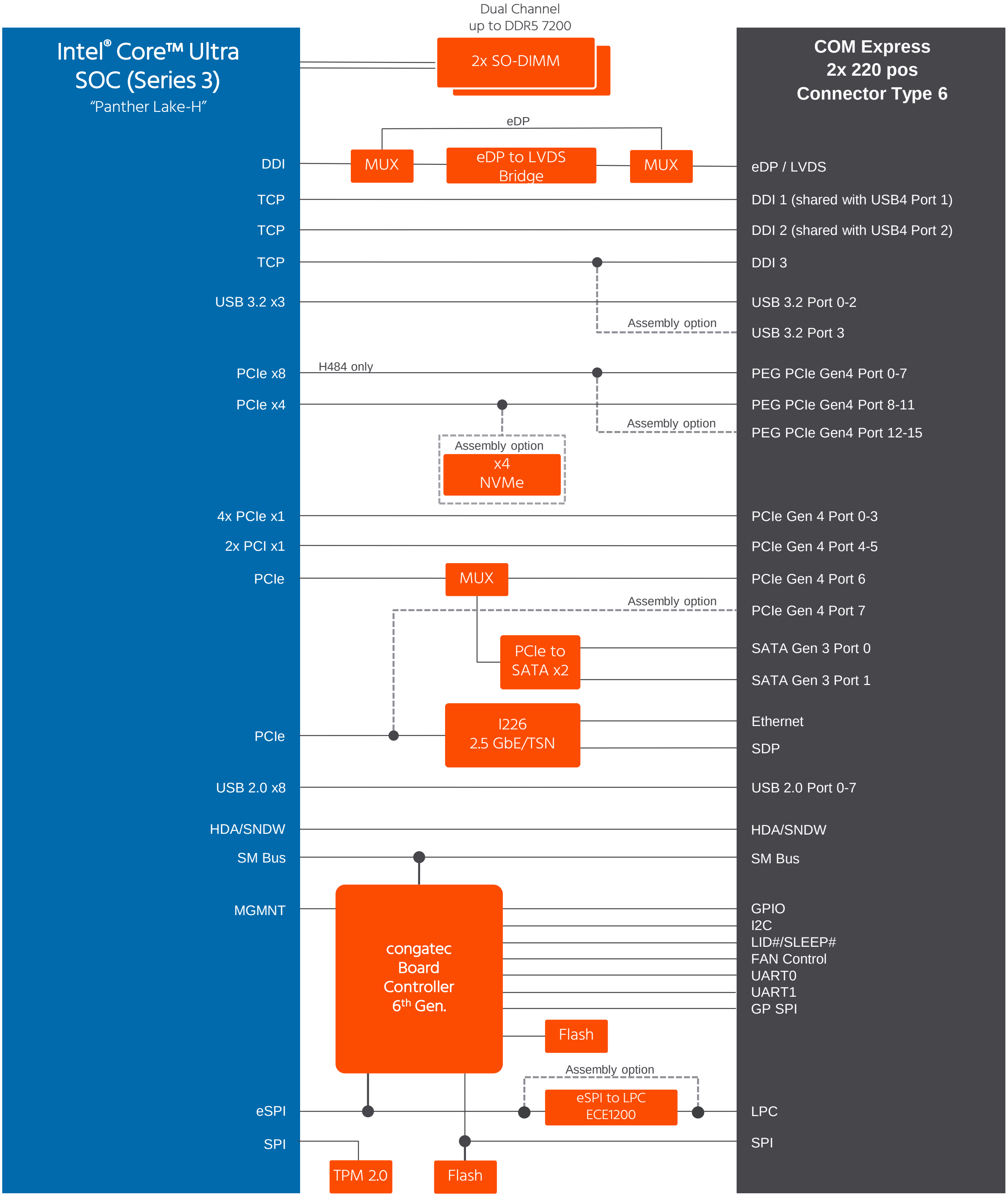
intel partner Titanium

www.congatec.com

conga-TC1000 | Block Diagram



NOTES

⬚ ¦ Assembly option
Only available on request

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conga-TC1000 | Modules Order Information

Article	PN	Description
conga-TC1000/ultraX9-388H	052000	COM Express Compact module based on Intel® Core™ Ultra X9 388H processor with 4 P-cores, 8 E-cores and 4 LPE-cores | Integrated NPU | 18MB Intel® Smart Cache LLC | Intel® Arc™ B390 Graphics with 12X^e cores | Dual channel SODIMM DDR5 memory interface with up to 7200 MT/s and up to 128 GB system memory capacity | Commercial grade temperature range from 0°C to 60°C
conga-TC1000/ultra9-386H	052001	COM Express Compact module based on Intel® Core™ Ultra 9 386H processor with 4 P-cores, 8 E-cores and 4 LPE-cores | Integrated NPU | 18MB Intel® Smart Cache LLC | Intel Graphics with 4X^e cores | Dual channel SODIMM DDR5 memory interface with up to 7200 MT/s and up to 128 GB system memory capacity | Commercial grade temperature range from 0°C to 60°C
conga-TC1000/ultraX7-358H	052002	COM Express Compact module based on Intel® Core™ Ultra X7 358H processor with 4 P-cores, 8 E-cores and 4 LPE-cores | Integrated NPU | 18MB Intel® Smart Cache LLC | Intel® Arc™ B390 Graphics with 12X^e cores | Dual channel SODIMM DDR5 memory interface with up to 7200 MT/s and up to 128 GB system memory capacity | Commercial grade temperature range from 0°C to 60°C
conga-TC1000/ultra7-356H	052003	COM Express Compact module based on Intel® Core™ Ultra 7 356H processor with 4 P-cores, 8 E-cores and 4 LPE-cores | Integrated NPU | 18MB Intel® Smart Cache LLC | Intel Graphics with 4X^e cores | Dual channel SODIMM DDR5 memory interface with up to 7200 MT/s and up to 128 GB system memory capacity | Commercial grade temperature range from 0°C to 60°C
conga-TC1000/ultra7-355	052004	COM Express Compact module based on Intel® Core™ Ultra 7 355 processor with 4 P-cores and 4 LPE-cores | Integrated NPU | 12MB Intel® Smart Cache LLC | Intel Graphics with 4X^e cores | Dual channel SODIMM DDR5 memory interface with up to 6400 MT/s and up to 128 GB system memory capacity | Commercial grade temperature range from 0°C to 60°C
conga-TC1000/ultra5-336H	052005	COM Express Compact module based on Intel® Core™ Ultra 5 336H processor with 4 P-cores, 4 E-cores and 4 LPE-cores | Integrated NPU | 18MB Intel® Smart Cache LLC | Intel Graphics with 4X^e cores | Dual channel SODIMM DDR5 memory interface with up to 7200 MT/s and up to 128 GB system memory capacity | Commercial grade temperature range from 0°C to 60°C
conga-TC1000/ultra5-325	052006	COM Express Compact module based on Intel® Core™ Ultra 5 325 processor with 4 P-cores and 4 LPE-cores | Integrated NPU | 12MB Intel® Smart Cache LLC | Intel Graphics with 4X^e cores | Dual channel SODIMM DDR5 memory interface with up to 6400 MT/s and up to 128 GB system memory capacity | Commercial grade temperature range from 0°C to 60°C
conga-TC1000/ultra7-366H	052007	COM Express Compact module based on Intel® Core™ Ultra 7 366H processor with 4 P-cores, 8 E-cores and 4 LPE-cores | Integrated NPU | 18MB Intel® Smart Cache LLC | Intel Graphics with 4X^e cores | Dual channel SODIMM DDR5 memory interface with up to 7200 MT/s and up to 128 GB system memory capacity | Commercial grade temperature range from 0°C to 60°C

conga-TC1000 | Accessories Order Information

Article	PN	Description
conga-TC1000/CSA-HP-B	052050	Standard active cooling solution for high performance COM Express module conga-TC1000 with integrated heat pipes, 25.5mm height and integrated 12V fan. All standoffs are with 2.7mm bore hole.
conga-TC1000/CSA-HP-T	052051	Standard active cooling solution for high performance COM Express module conga-TC1000 with integrated heat pipes, 25.5mm height and integrated 12V fan. All standoffs are M2.5mm threaded.
conga-TC1000/CSP-HP-B	052052	Standard passive cooling solution for high performance COM Express module conga-TC1000 with integrated heat pipes, 24.7mm height. All standoffs are with 2.7mm bore hole.
conga-TC1000/CSP-HP-T	052053	Standard passive cooling solution for high performance COM Express module conga-TC1000 with integrated heat pipes, 24.7mm height. All standoffs are M2.5mm threaded.
conga-TC1000/HSP-HP-B	052054	Standard heatspreader for high performance COM Express module conga-TC1000 with integrated heat pipes, 11mm height. All standoffs are with 2.7mm bore hole.
conga-TC1000/HSP-HP-T	052055	Standard heatspreader for high performance COM Express module conga-TC1000 with integrated heat pipes, 11mm height. All standoffs are M2.5mm threaded.
conga-TEVAL/COMe 3.1	065820	Evaluation carrier board for COM Express Type 6 revision 3.1 modules.
DDR5-SODIMM-7200 (8GB)	068960	DDR5 SODIMM memory module with up to 7200 MT/s and 8GB RAM, commercial temp 0°C to +60°C
DDR5-SODIMM-7200 (16GB)	068961	DDR5 SODIMM memory module with up to 7200 MT/s and 16GB RAM, commercial temp 0°C to +60°C
DDR5-SODIMM-7200 (32GB)	068962	DDR5 SODIMM memory module with up to 7200 MT/s and 32GB RAM, commercial temp 0°C to +60°C
DDR5-SODIMM-7200 (48GB)	068963	DDR5 SODIMM memory module with up to 7200 MT/s and 48GB RAM, commercial temp 0°C to +60°C
DDR5-SODIMM-7200 (64GB)	068964	DDR5 SODIMM memory module with up to 7200 MT/s and 64GB RAM, commercial temp 0°C to +60°C

Revision 0.5 – December 2025