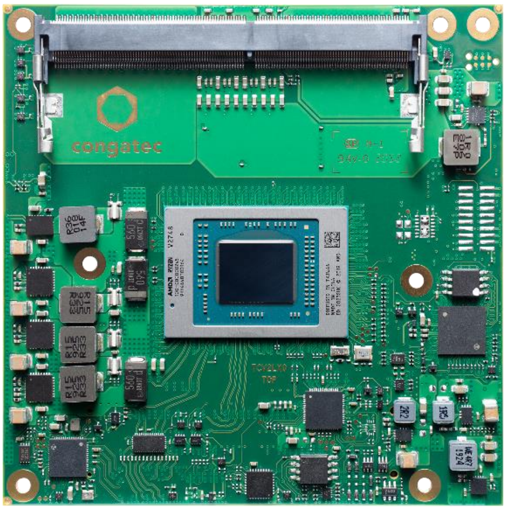
AMD RYZEN™ EMBEDDED V2000

conga-TCV2



COM Express®

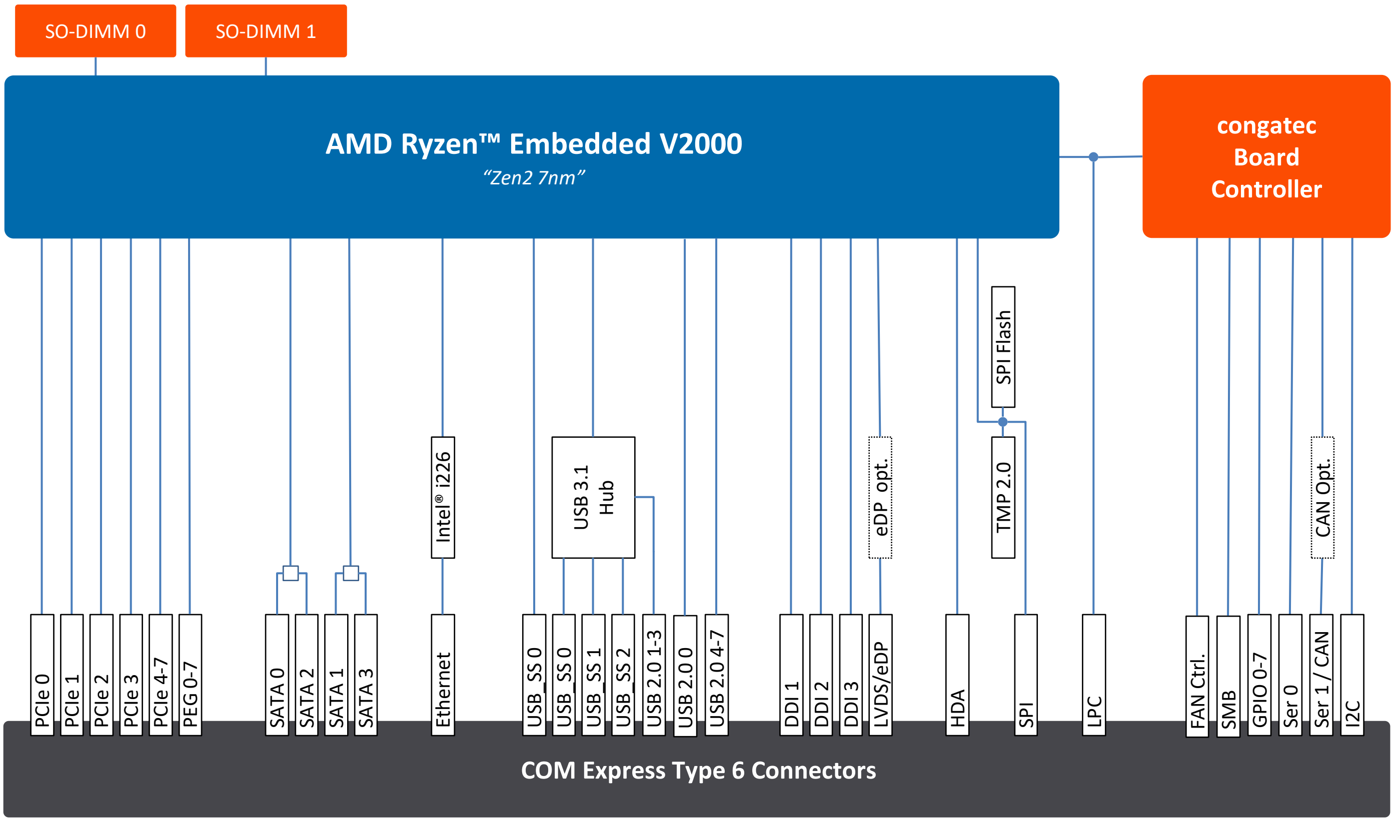
- High-performance Zen 2 CPU & VEGA GPU
- TDP Range 10-54W
- Supporting 4 simultaneous 4K displays
- Up to 64GByte dual channel DDR4 3200MT/s
- AMD Secure Processor with AMD Memory Guard

Formfactor	COM Express® Compact, (95 x 95 mm) | Type 6 connector pinout

CPU	**General Embedded Versions**				
	AMD Ryzen™ Embedded V2748	8 Cores | 16 Threads	4 MB L2 | 8 MB L3 cache	7 GPU CU	35-54 W TDP
	AMD Ryzen™ Embedded V2718	8 Cores | 16 Threads	4 MB L2 | 8 MB L3 cache	7 GPU CU	10-25 W TDP
	AMD Ryzen™ Embedded V2546	6 Cores | 12 Threads	3 MB L2 | 8 MB L3 cache	6 GPU CU	35-54 W TDP
	AMD Ryzen™ Embedded V2516	6 Cores | 12 Threads	3 MB L2 | 8 MB L3 cache	6 GPU CU	10-25 W TDP

DRAM	Up to 2 SO-DIMM sockets for DDR4 memory modules up to 32 GByte each (64 GByte total) with 3200 MT/s and ECC support
Graphics	Integrated Radeon™ graphics engine with up to 7 Compute Units | Supporting 4 independent display units (4x 4K) | DirectX 12 support | VCN2.2 (H.264/AVC HW 8b | H.265/HEVC HW 8/10b | VP9 HW 8/10b) | DP 1.4
Display	3x DP/DP++ | LVDS up to FullHD 1920x1200@60Hz| eDP (optional)
Ethernet	1x Gigabit Ethernet via Intel® i226
I/O Interfaces	5x PCIe Gen3 (8 lanes) | PEG support x8 | 4x USB 3.1 Gen 2 | 8/4x USB 2.0 | 2x SATA III (6Gb/s) | 2x UART | 8x GPIO | LPC
Audio	HD-Audio over DP++ ports | HDA interface
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 Features	AMI Aptio® UEFI firmware | 16 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) | AMD Secure Processor | AMD Memory Guard
Power Management	ACPI 5.0 with battery support
Operating Systems	Microsoft® Windows 10 | Microsoft® Windows 10 IoT Enterprise | Ubuntu Linux LTS
Hypervisor	RTS Real-Time Hypervisor
Temperature Range	Commercial: Operating Temperature: 0 to +60°C Storage Temperature: -20 to +80°C
Humidity	Operating: 10 - 90% r. H. non cond. Storage: 5 - 95% r. H. non cond.
Size	95 x 95 mm

conga-TCV2 | Block Diagram



conga-TCV2 | Bottom Side View

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conga-TCV2 | Order Information

Article	PN	Description
conga-TCV2/V2748	050500	COM Express Type 6 Compact module based on AMD Ryzen™ Embedded V2748 8-core processor with 2.9GHz up to 4.25GHz boost freq., 4MB L2 cache, Radeon™ Vega Graphics with 7 CU and dual channel DDR4 3200 MT/s memory interface with ECC support. Commercial temperature range 0 to +60°C.
conga-TCV2/V2546	050501	COM Express Type 6 Compact module based on AMD Ryzen™ Embedded V2546 6-core processor with 3.0GHz up to 3.95GHz boost freq., 3MB L2 cache, Radeon™ Vega Graphics with 6 CU and dual channel DDR4 3200 MT/s memory interface with ECC support. Commercial temperature range 0 to +60°C.
conga-TCV2/V2718	050502	COM Express Type 6 Compact module based on AMD Ryzen™ Embedded V2718 8-core processor with 1.7GHz up to 4.15GHz boost freq., 4MB L2 cache, Radeon™ Vega Graphics with 7 CU and dual channel DDR4 3200 MT/s memory interface with ECC support. Commercial temperature range 0 to +60°C.
conga-TCV2/V2516	050503	COM Express Type 6 Compact module based on AMD Ryzen™ Embedded V2516 6-core processor with 2.1GHz up to 3.95GHz boost freq., 3MB L2 cache, Radeon™ Vega Graphics with 6 CU and dual channel DDR4 3200 MT/s memory interface with ECC support. Commercial temperature range 0 to +60°C.
conga-TCV2/CSA-HP-B	050550	Standard active cooling solution for high performance COM Express module conga-TCV2 with integrated heat pipes, 25.5mm overall heat sink height and integrated 12V fan. All standoffs are with 2.7mm bore hole.
conga-TCV2/CSA-HP-T	050551	Standard active cooling solution for high performance COM Express module conga-TCV2 with integrated heat pipes, 25.5mm overall heat sink height and integrated 12V fan. All standoffs are M2.5mm thread.
conga-TCV2/CSP-HP-B	050552	Standard passive cooling solution for high performance COM Express module conga-TCV2 with integrated heat pipes, 24.3mm overall heat sink height. All standoffs are with 2.7mm bore hole.
conga-TCV2/CSP-HP-T	050553	Standard passive cooling solution for high performance COM Express module conga-TCV2 with integrated heat pipes, 24.3mm overall heat sink height. All standoffs are M2.5mm thread.
conga-TCV2/HSP-HP-B	050554	Standard heatspreader for high performance COM Express module conga-TCV2 with integrated heat pipes, 11mm overall heat sink height. All standoffs are with 2.7mm bore hole.
conga-TCV2/HSP-HP-T	050555	Standard heatspreader for high performance COM Express module conga-TCV2 with integrated heat pipes, 11mm overall heat sink height. All standoffs are M2.5mm thread.
conga-TEVAL/COMe 3.0	65810	Evaluation Carrier Board for COM Express Type 6 modules.

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