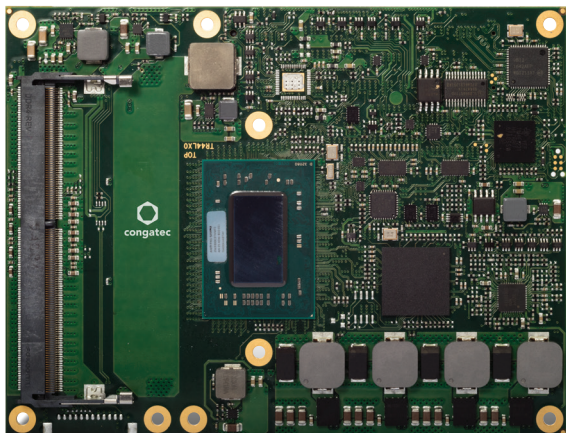


# HIGH SPEED GRAPHICS

## conga-TR4

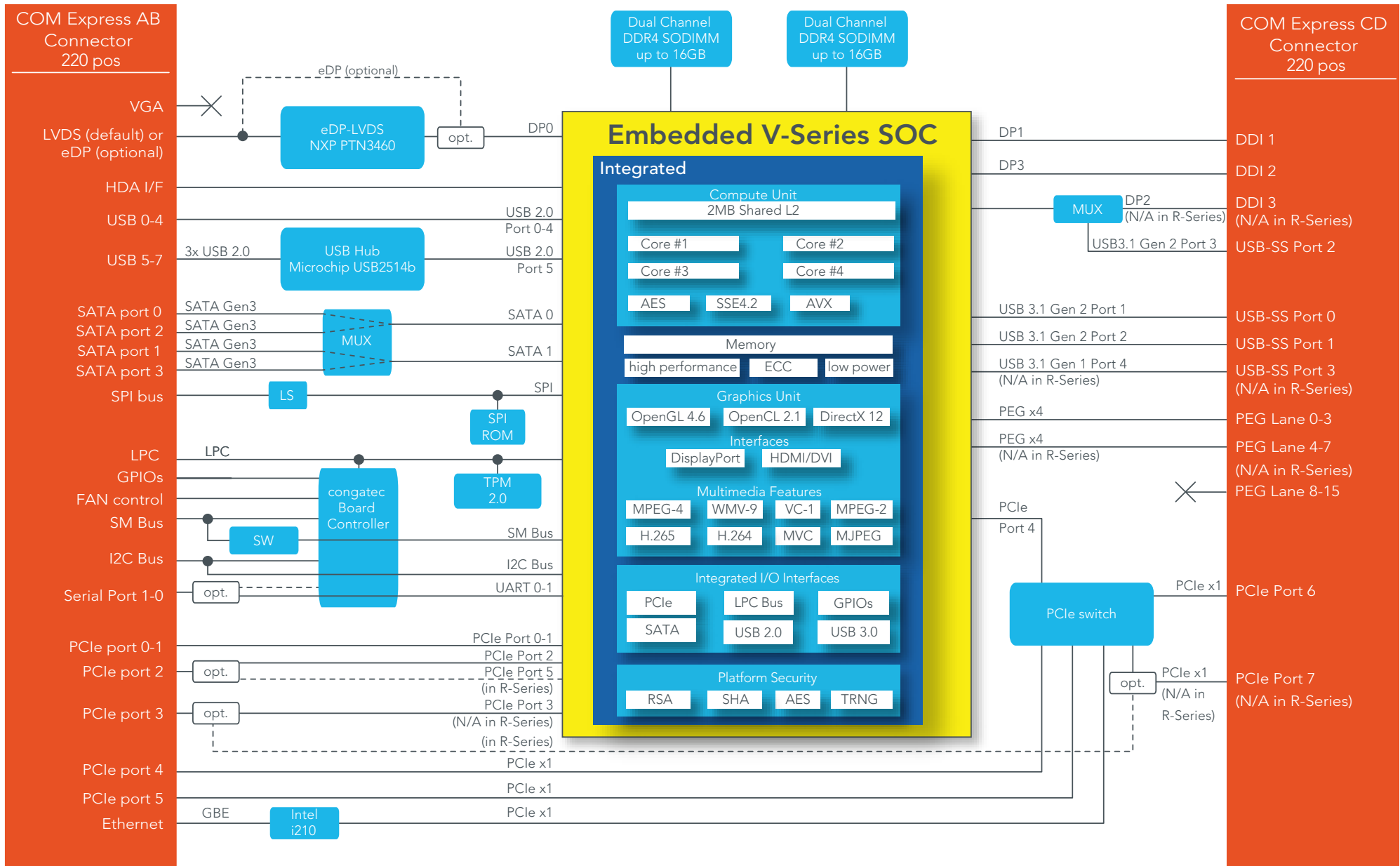


- AMD's Next Gen V1000 processor Series
- "Zen" core architecture with up to 4 cores
- Improved graphic performance with "Vega" GPU
- Up to 32GByte dual channel DDR4 3200MT/s memory
- TDP scalable down to 12W
- up to 4 x 4K DP / eDP



Formfactor	COM Express® Basic   (95 x 125 mm)   Type 6 Connector Layout																									
CPU	AMD V1000 processor variants <table border="0"> <tr> <td>AMD V1807B</td> <td>4x 3.35 .. 3.75 GHz</td> <td>L2 cache 2MB shared</td> <td>AMD Radeon™ Vega with 11 CU</td> <td>conf. TDP range 35 W up to 54 W</td> </tr> <tr> <td>AMD V1756B</td> <td>4x 3.25 .. 3.6 GHz</td> <td>L2 cache 2MB shared</td> <td>AMD Radeon™ Vega with 8 CU</td> <td>conf. TDP range 35 W up to 54 W</td> </tr> <tr> <td>AMD V1605B</td> <td>4x 2.0 .. 3.6 GHz</td> <td>L2 cache 2MB shared</td> <td>AMD Radeon™ Vega with 8 CU</td> <td>conf. TDP range 12 W up to 25 W</td> </tr> <tr> <td>AMD V1202B</td> <td>2x 2.5 .. 3.4 GHz</td> <td>L2 cache 1MB shared</td> <td>AMD Radeon™ Vega with 3 CU</td> <td>conf. TDP range 12 W up to 25 W</td> </tr> <tr> <td>AMD V1404I</td> <td>tbd</td> <td>L2 cache 2MB shared</td> <td>AMD Radeon™ Vega with 6 CU</td> <td>TDP 15 W</td> </tr> </table>	AMD V1807B	4x 3.35 .. 3.75 GHz	L2 cache 2MB shared	AMD Radeon™ Vega with 11 CU	conf. TDP range 35 W up to 54 W	AMD V1756B	4x 3.25 .. 3.6 GHz	L2 cache 2MB shared	AMD Radeon™ Vega with 8 CU	conf. TDP range 35 W up to 54 W	AMD V1605B	4x 2.0 .. 3.6 GHz	L2 cache 2MB shared	AMD Radeon™ Vega with 8 CU	conf. TDP range 12 W up to 25 W	AMD V1202B	2x 2.5 .. 3.4 GHz	L2 cache 1MB shared	AMD Radeon™ Vega with 3 CU	conf. TDP range 12 W up to 25 W	AMD V1404I	tbd	L2 cache 2MB shared	AMD Radeon™ Vega with 6 CU	TDP 15 W
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DRAM	2 Sockets, SO-DIMM DDR4 up to 32 GByte with ECC																									
Chipset	Integrated in SOC (single-chip)																									
Ethernet	Gigabit Ethernet																									
I/O Interfaces	4x PCI Express™ 3.0 lanes   4x PCI Express™ 2.0 lanes   1x PEG 3.0 x8   3x USB 3.1 Gen2   1x USB 3.1 Gen1   8x USB 2.0 2x SATA® 6 Gb/s   I²C bus (fast mode, 400 kHz, multi-master)   SD   LPC Bus   SPI   SM-Bus   2x UART																									
Sound	High Definition Audio Interface																									
Graphics	Integrated AMD Radeon™ Graphics supports DirectX 12   OpenGL 4.6 and OpenCL™ 2.1   up to 4 simultaneous Displays Unified Video Decoder 6 (H.265, H.264, MVC, MPEG4, MPEG2, VC-1, WMV and MJPEG) Video Compression Engine 3.1 (dual, H.264, SVC)																									
LVDS / eDP	18/24-bit Single/Dual Channel LVDS Interface (default Resolutions up to 1920X1200@60Hz) or 1x opt. eDP (Resolutions up to 4K) VESA standard or JEIDA data mapping   Automatic Panel Detection via EDID/EPI																									
Digital Display Interface	3x DisplayPort 1.2/ HDMI 2.0 supporting 4K @60Hz																									
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   Backlight																									
Embedded BIOS Features	AMI AptioV® UEFI 2.x firmware   8 MByte serial SPI firmware flash																									
Security	The conga-TR4 offers a discrete TPM 2.0 (Infineon SLB9665). This TPM includes coprocessors to calculate efficient hash and RSA algorithms with key lengths up to 2048 bits as well as a real random number generator. Security sensitive applications like gaming and e-commerce will benefit also with improved authentication, integrity and confidence levels. The conga-TR4 also offers AMD Secure Processor™.																									
Power Management	ACPI 5.0 with battery support																									
Operating Systems	Microsoft® Windows 10   Microsoft® Windows 10 IoT Enterprise   Microsoft® Windows 10 Core Pro   Linux   Yocto   opt. Microsoft® Windows 7																									
Temperature	Commercial : Operating: 0 to +60°C   Operating industrial: -40 .. +85°C   Storage: -20 to +80°C																									
Humidity	Operating: 10 - 90% r. H. non cond.   Storage: 5 - 95% r. H. non cond.																									
Size	95 x 125 mm (3.74" x 4.92")																									

# conga-TR4 | Block diagram



# conga-TR4 | Order Information

Article	PN	Description
conga-TR4/V1807B	041600	COM Express Type 6 Basic module with AMD embedded V-Series V1807B (Great Horned Owl) quad core processor with 3.35 GHz up to 3.75 GHz core frequency, 2MB L2 cache and 3200MT/s DDR4 SODIMM memory interface for up to 32GB. Features AMD Radeon™ Vega integrated graphics core with 11 CU. TDP 35-54W.
conga-TR4/V1756B	041601	COM Express Type 6 Basic module with AMD embedded V-Series V1756B (Great Horned Owl) quad core processor with 3.25 GHz up to 3.6 GHz core frequency, 2MB L2 cache and 3200MT/s DDR4 SODIMM memory interface for up to 32GB. Features AMD Radeon™ Vega integrated graphics core with 8 CU. TDP 35-54W.
conga-TR4/V1605B	041602	COM Express Type 6 Basic module with AMD embedded V-Series V1605B (Great Horned Owl) quad core processor with 2.0 GHz up to 3.6 GHz core frequency, 2MB L2 cache and 2400MT/s DDR4 SODIMM memory interface for up to 32GB. Features AMD Radeon™ Vega integrated graphics core with 8 CU. TDP 12-25W.
conga-TR4/V1202B	041603	COM Express Type 6 Basic module with AMD embedded V-Series V1202B (Great Horned Owl) dual core processor with 2.5 GHz up to 3.4 GHz core frequency, 1MB L2 cache and 2400MT/s DDR4 SODIMM memory interface for up to 32GB. Features AMD Radeon™ Vega integrated graphics core with 3 CU. TDP 12-25W.
conga-TR4/i-V1404I	041610	COM Express Type 6 Basic module with AMD embedded V-Series V1404I (Great Horned Owl) quad core processor with TBD GHz up to TBD GHz core frequency, 2MB L2 cache and 2400MT/s DDR4 SODIMM memory interface for up to 32GB. Features AMD Radeon™ Vega integrated graphics core with 6 CU. Industrial temperature range from -40°C to 85°C. TDP 15W.

## Accessories

TR4/HSP-HP-B	041651	Standard heatspreader for high performance COM Express module conga-TR4 with integrated heat pipes. All standoff are with 2.7mm bore hole.
TR4/HSP-HP-T	041652	Standard heatspreader for high performance COM Express module conga-TR4 with integrated heat pipes. All standoff are M2.5mm thread.
TR4/CSP-HP-B	041653	Standard passive cooling solution for high performance COM Express module conga-TR4 with integrated heat pipes, 15mm fins and 20mm overall heat sink height. All standoff are with 2.7mm bore hole.
TR4/CSP-HP-T	041654	Standard passive cooling solution for high performance COM Express module conga-TR4 with integrated heat pipes, 15mm fins and 20mm overall heat sink height. All standoff are M2.5mm thread.
TR4/CSA-HP-B	041655	Standard active cooling solution for high performance COM Express module conga-TR4 with integrated heat pipes, 15mm fins, 20mm overall heat sink height and integrated 12V fan. All standoff are with 2.7mm bore hole.
TR4/CSA-HP-T	041656	Standard active cooling solution for high performance COM Express module conga-TR4 with integrated heat pipes, 15mm fins, 20mm overall heat sink height and integrated 12V fan. All standoff are M2.5mm thread.
DDR4-SODIMM-2400 (4GB)	068790	4 GByte DDR4 SODIMM memory module   2400 MT/s
DDR4-SODIMM-2400 (8GB)	068791	8 GByte DDR4 SODIMM memory module   2400 MT/s
DDR4-SODIMM-2400 (16GB)	068792	16 GByte DDR4 SODIMM memory module   2400 MT/s
DDR4-SODIMM-2400 ECC (4GB)	068795	4 GByte ECC DDR4 SODIMM memory module   2400 MT/s (PC4-2400)   260 pin   supply voltage 1,2V
DDR4-SODIMM-2400 ECC (8GB)	068796	8 GByte ECC DDR4 SODIMM memory module   2400 MT/s (PC4-2400)   260 pin   supply voltage 1,2V
DDR4-SODIMM-2400 ECC (16GB)	068797	16 GByte ECC DDR4 SODIMM memory module   2400 MT/s (PC4-2400)   260 pin   supply voltage 1,2V
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-Socket-5	400007	Connector for COM Express carrier boards   height 5mm   packing unit 4 pieces
COM-Express-Carrier-Socket-8	400004	Connector for COM Express carrier boards   height 8mm   packing unit 4 pieces