

HIGH SPEED GRAPHICS

conga-TR3

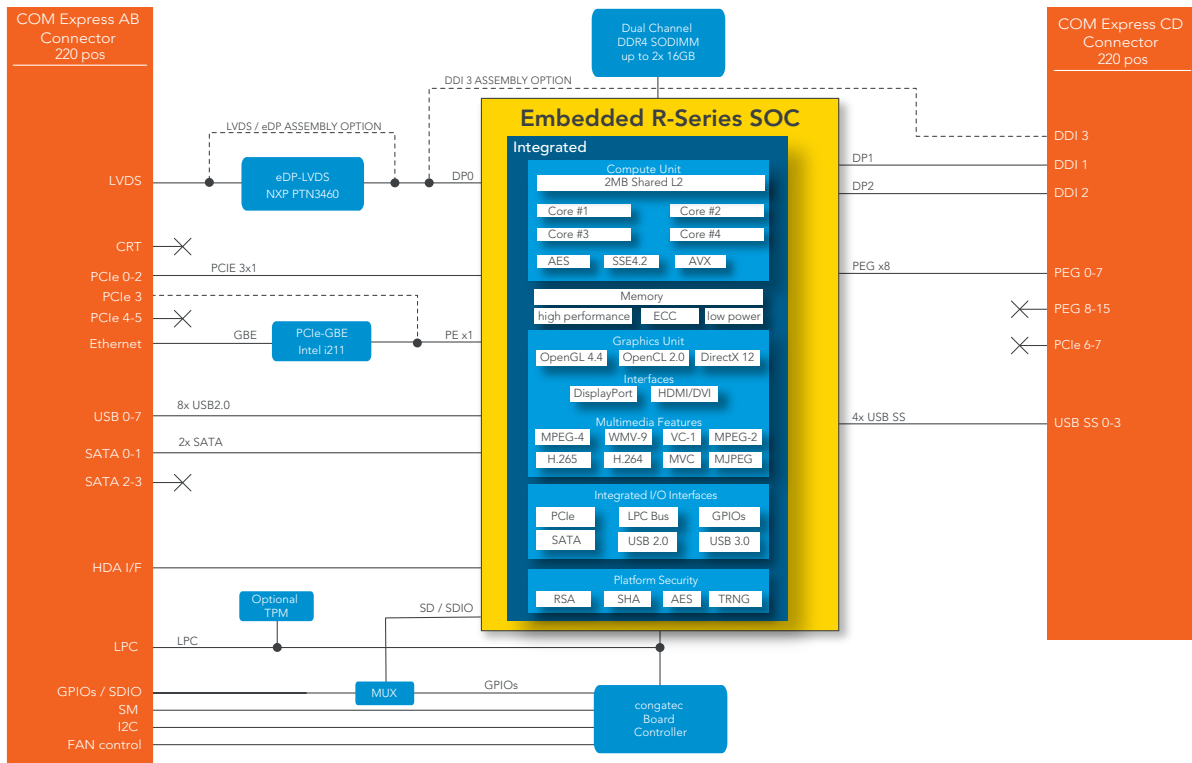


- AMD Embedded R-Series SOC
- Up to 4 "Excavator" Cores
- High performance integrated 3rd Gen. GCN graphics with up to 512 stream processors
- Unified Video Decoder (UVD 6) supporting HEVC/H.265 4K@60Hz
- ECC protected DDR4 memory up to 32 GByte
- Full HSA 2.0 compliant (Heterogenous System Architecture)
- TDP scalable down to 12W



| | | | | | | | | | | | | | | | | |
|---------------------------|--|-----------------------|---------------------|-------------------------------|---------------------|-------------------------------|-----------------------|-------------------|---------------------|---------------------|-------------------------------|-----------------------|-------------------|---------------------|---------------------|-------------------------|
| Formfactor | COM Express® Basic (95 x 125 mm) Type 6 Connector Layout | | | | | | | | | | | | | | | |
| CPU | <p>AMD Embedded R-Series SOC</p> <table border="0"> <tr> <td>AMD Embedded RX-421BD</td> <td>4x 2.1 .. 3.4 GHz</td> <td>L2 cache 2MB shared</td> <td>Radeon™ R7 Graphics</td> <td>TDP 15 W, conf. to 12/25/35 W</td> </tr> <tr> <td>AMD Embedded RX-418GD</td> <td>4x 1.8 .. 3.2 GHz</td> <td>L2 cache 2MB shared</td> <td>Radeon™ R6 Graphics</td> <td>TDP 15 W, conf. to 12/25/35 W</td> </tr> <tr> <td>AMD Embedded RX-216GD</td> <td>2x 1.6 .. 3.0 GHz</td> <td>L2 cache 1MB shared</td> <td>Radeon™ R5 Graphics</td> <td>TDP 15 W, conf. to 12 W</td> </tr> </table> | AMD Embedded RX-421BD | 4x 2.1 .. 3.4 GHz | L2 cache 2MB shared | Radeon™ R7 Graphics | TDP 15 W, conf. to 12/25/35 W | AMD Embedded RX-418GD | 4x 1.8 .. 3.2 GHz | L2 cache 2MB shared | Radeon™ R6 Graphics | TDP 15 W, conf. to 12/25/35 W | AMD Embedded RX-216GD | 2x 1.6 .. 3.0 GHz | L2 cache 1MB shared | Radeon™ R5 Graphics | TDP 15 W, conf. to 12 W |
| AMD Embedded RX-421BD | 4x 2.1 .. 3.4 GHz | L2 cache 2MB shared | Radeon™ R7 Graphics | TDP 15 W, conf. to 12/25/35 W | | | | | | | | | | | | |
| AMD Embedded RX-418GD | 4x 1.8 .. 3.2 GHz | L2 cache 2MB shared | Radeon™ R6 Graphics | TDP 15 W, conf. to 12/25/35 W | | | | | | | | | | | | |
| AMD Embedded RX-216GD | 2x 1.6 .. 3.0 GHz | L2 cache 1MB shared | Radeon™ R5 Graphics | TDP 15 W, conf. to 12 W | | | | | | | | | | | | |
| DRAM | 2 Sockets, SO-DIMM DDR4 up to 32 GByte with ECC | | | | | | | | | | | | | | | |
| Chipset | Integrated in SOC (single-chip) | | | | | | | | | | | | | | | |
| Ethernet | Gigabit Ethernet | | | | | | | | | | | | | | | |
| I/O Interfaces | 3x PCI Express™ 2.0 lanes 1x PEG 3.0 x8 2x SATA® 6 Gb/s 4x USB 3.0/2.0 4x USB 2.0 I²C bus (fast mode, 400 kHz, multi-master) SD LPC Bus SPI SM-Bus 2x UART | | | | | | | | | | | | | | | |
| Sound | High Definition Audio Interface TrueAudio 2.1 | | | | | | | | | | | | | | | |
| Graphics | Integrated AMD Radeon™ Graphics supports DirectX 12 OpenGL 4.4 and OpenCL™ 2.0 up to 3 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 | 18/24-bit Single/Dual Channel LVDS Interface Resolutions up to 1920X1200@60Hz VESA standard or JEIDA data mapping Automatic Panel Detection via EDID/EPI | | | | | | | | | | | | | | | |
| Digital Display Interface | 2x 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-TR3 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 5.0 with battery support | | | | | | | | | | | | | | | |
| Operating Systems | Microsoft® Windows 10 Microsoft® Windows 8.1 Microsoft® Windows® 8 Embedded Standard Linux optional Microsoft® Windows 7 | | | | | | | | | | | | | | | |
| Temperature | Commercial : Operating: 0 to +60°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-TR3 | Block diagram



conga-TR3 | Order Information

| Article | PN | Description |
|------------------------------|--------|---|
| conga-TR3/RX421BD | 041300 | COM Express Basic Type 6 module AMD Embedded RX-421BD SOC AMD Radeon™ R7 Graphics TDP 15/12-35W Quad-core CPU freq. 2.1/3.4 GHz 8 GPU-CU GPU freq. 800 MHz |
| conga-TR3/RX418GD | 041301 | COM Express Basic Type 6 module AMD Embedded RX-418GD SOC AMD Radeon™ R6 Graphics TDP 15/12-35W Quad-core CPU freq. 1.8/3.2 GHz 6 GPU-CU GPU freq. 800 MHz |
| conga-TR3/RX216GD | 041302 | COM Express Basic Type 6 module AMD Embedded RX-216GD SOC AMD Radeon™ R5 Graphics TDP 15/12-15W Dual-core CPU freq. 1.6/3.0 GHz 4 GPU-CU GPU freq. 800 MHz |
| conga-TR3/HSP-HP-B | 041351 | Standard heatspreader for high performance COM Express module conga-TR3 with integrated heat pipes. All standoffs are with 2.7mm bore hole. |
| conga-TR3/HSP-HP-T | 041352 | Standard heatspreader for high performance COM Express module conga-TR3 with integrated heat pipes. All standoffs are M2.5mm thread. |
| conga-TR3/CSP-HP-B | 041355 | Standard passive cooling solution for high performance COM Express module conga-TR3 with integrated heat pipes, 15mm fins and 20mm overall heat sink height. All standoffs are with 2.7mm bore hole. |
| conga-TR3/CSP-HP-T | 041356 | Standard passive cooling solution for high performance COM Express module conga-TR3 with integrated heat pipes, 15mm fins and 20mm overall heat sink height. All standoffs are M2.5mm thread. |
| conga-TR3/CSA-HP-B | 041357 | Standard active cooling solution for high performance COM Express module conga-TR3 with integrated heat pipes, 15mm fins, 20mm overall heat sink height and integrated 12V fan. All standoffs are with 2.7mm bore hole. |
| conga-TR3/CSA-HP-T | 041358 | Standard active cooling solution for high performance COM Express module conga-TR3 with integrated heat pipes, 15mm fins, 20mm overall heat sink height and integrated 12V fan. All standoffs 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 |
| 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-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 |

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