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
AMD V1807B 4x 3.35 .. 3.75 GHz L2 cache 2MB shared
AMD V1756B 4x 3.25 .. 3.6 GHz L2 cache 2MB shared
AMD V1605B 4x 2.0 .. 2.6 GHz L2 cache 2MB shared
AMD V1202B 2x 2.5 .. 3.4 GHz L2 cache 1MB shared
AMD V1404I tbd

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 | PC bus (fast mode, 400 kHz, multi-master) | SD | LPC Bus | SPI | SM-Bus | 2x UART

Graphics
Integrated AMD Radeon™ Graphics supports DirectX 12 | OpenGL 4.6 and OpenGL™ 2.1 | up to 4 simultaneous Displays
Unified Video Decoder 6 (H.265, H.264, MVC, MPEG4, MPEG2, VC-1, WMV and MPEVG)
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 EDD/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
PC bus (fast mode, 400 kHz, multi-master) | Power Loss Control | Backlight

Embedded BIOS Features
AMI Aptio® 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")

www.congatec.com
TR4/HSP-HP-B 041651 Standard heatspreader for high performance COM Express module conga-TR4 with integrated heat pipes. All standoffs 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 standoffs 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 standoffs 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 standoffs 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 standoffs 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 standoffs are M2.5mm thread.

Accessories

<table>
<thead>
<tr>
<th>Article</th>
<th>PN</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>DDR4-SODIMM-2400 (4GB) 068790</td>
<td>4 GByte DDR4 SODIMM memory module</td>
<td>2400 MT/s</td>
</tr>
<tr>
<td>DDR4-SODIMM-2400 (8GB) 068791</td>
<td>8 GByte DDR4 SODIMM memory module</td>
<td>2400 MT/s</td>
</tr>
<tr>
<td>DDR4-SODIMM-2400 (16GB) 068792</td>
<td>16 GByte DDR4 SODIMM memory module</td>
<td>2400 MT/s</td>
</tr>
<tr>
<td>DDR4-SODIMM-2400 ECC (4GB) 068795</td>
<td>4 GByte ECC DDR4 SODIMM memory module</td>
<td>2400 MT/s (PC4-2400)</td>
</tr>
<tr>
<td>DDR4-SODIMM-2400 ECC (8GB) 068796</td>
<td>8 GByte ECC DDR4 SODIMM memory module</td>
<td>2400 MT/s (PC4-2400)</td>
</tr>
<tr>
<td>DDR4-SODIMM-2400 ECC (16GB) 068797</td>
<td>16 GByte ECC DDR4 SODIMM memory module</td>
<td>2400 MT/s (PC4-2400)</td>
</tr>
<tr>
<td>conga-TEVAL 065800</td>
<td>Evaluation carrier board for Type 6 COM Express modules</td>
<td></td>
</tr>
<tr>
<td>conga-LDVI/EPI 011115</td>
<td>LVDS to DVI converter board for digital flat panels with onboard EEPROM</td>
<td></td>
</tr>
<tr>
<td>COM-Express-Carrier-Socket-5 400007</td>
<td>Connector for COM Express carrier boards</td>
<td>height 5mm</td>
</tr>
<tr>
<td>COM-Express-Carrier-Socket-8 400004</td>
<td>Connector for COM Express carrier boards</td>
<td>height 8mm</td>
</tr>
</tbody>
</table>