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*Text and photograph available at:* [*https://www.congatec.com/en/congatec/press-releases.html*](https://www.congatec.com/en/congatec/press-releases.html)

Press release

AMD Ryzen™ based congatec COM Express module
for the industrial temperature range

**Ultra-rugged quad core module**

**Deggendorf, Germany, 30 April 2020 \* \* \*** congatec – a leading vendor of embedded computing technology – introduces its new conga-TR4 COM Express Type 6 module with AMD Ryzen™ Embedded V1000 Series processors for the industrial temperature range from ‑40°C to +85°C. It is available with optional burn-in & cold-soak stress screening service for highest reliability. The most demanding graphics and compute workloads benefit from the modules’ 4 cores, 8 threads and 8 GPU compute units delivering the well-reputed massive processing throughput of AMD’s Zen microarchitecture in an ultra-rugged shape. The TDP is scalable from 12W to 25W enabling truly immersive 4k UHD system designs with passive cooling only. Typical applications for the new industrial-grade COM Express modules can be found in rugged edge computing with embedded vision and artificial intelligence (AI), autonomous vehicles, railcars and wagons, outdoor equipment in the oil and gas industries, mobile ambulance equipment, broadcasting vans, or in security and video surveillance, as well as base station equipment for 5G, to name just a few.

The maximum performance of the new conga-TR4 COM Express Type 6 module depends on the environmental conditions and is specified with 1.6 GHz to 2.8 GHz turbo boost in the sub-zero temperature range, and 2.0 GHz to a maximum of 3.6 GHz in the positive temperature range. The impressive performance of the ultra-rugged conga-TR4 Computer-on-Modules has been made available in a real-time capable design and also includes real-time hypervisor support by Real-Time Systems for virtual machine deployments and workload consolidation in edge computing scenarios.

**The feature set in detail**

The new conga-TR4 high-performance module with COM Express Type 6 pinout is based on the latest AMD Ryzen™ Embedded V1404I multi-core processor for the industrial temperature range. It supports up to 32GB energy-efficient and fast dual-channel DDR4 memory with up to 2400 MT/s and optional ECC for maximum data security. The integrated AMD Radeon™ Vega graphics with 8 compute units marks the cutting edge of embedded graphics. It supports up to four independent displays with up to 4k UHD resolution and 10-bit HDR, as well as DirectX 12 and OpenGL 4.4 for 3D graphics. The integrated video engine enables hardware-accelerated streaming of HEVC (H.265) video in both directions. Thanks to HSA and OpenCL 2.0 support, deep learning workloads can be assigned to the GPU. In safety-critical applications, the integrated AMD Secure Processor helps with hardware-accelerated RSA, SHA, and AES encryption and decryption.

The new conga-TR4 allows a complete USB-C implementation on the carrier board including USB 3.1 Gen 2 with 10 Gbit/s, Power Delivery and DisplayPort 1.4, for example to connect external touchscreens with a single cable. Further performance-oriented interfaces include 1x PEG 3.0 x8, 4x PCIe Gen 3 and 4x PCIe Gen 2, 3x USB 3.1 Gen 2, 1x USB 3.1 Gen 1, 8x USB 2.0, 2x SATA Gen 3, and 1x Gbit Ethernet. I/Os for SD, SPI, LPC, I²C as well as 2x legacy UART from the CPU and High Definition Audio round off the range of interfaces. The supported operating systems include Linux, Yocto 2.0 and Microsoft Windows 10, or optionally Windows 7.

The conga-TR4 COM Express Type 6 Computer-on-Modules can be ordered in the following variants, with standard temperature range configurations also available:

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| **Processor** |  | **Cores/Threads** |  | **Clock [GHz] (Base/Boost)**  |  | **L2/L3 Cache (MB)**  |  | **GPU Compute Units** |  | **TDP [W]**  |
| **New:** AMD Ryzen Embedded V1404I |  | 4 / 4 |  | 2.0 /3.6 (<0°C: 1.6/2.8) |  | 2 / 4 |  | 8 |  | 12 - 25 |
| AMD Ryzen Embedded V1807B |  | 4 / 8 |  | 3.35 / 3.75 |  | 2 / 4 |  | 11 |  | 35 - 54 |
| AMD Ryzen Embedded V1756B |  | 4 / 8 |  | 3.25 / 3.60 |  | 2 / 4 |  | 8 |  | 35 - 54 |
| AMD Ryzen Embedded V1605B |  | 4 / 8 |  | 2.0 / 3.6 |  | 2 / 4 |  | 8 |  | 12 - 25 |
| AMD Ryzen Embedded V1202B |  | 2 / 4 |  | 2.5 / 3.4 |  | 1 / 2 |  | 3 |  | 12 - 25 |

More information about the new conga-TR4 high-performance COM Express Type 6 module is available at: <http://www.congatec.com/en/products/com-express-type6/conga-tr4.html>

**About congatec**

congatec is a rapidly growing technology company focusing on embedded computing products. The high-performance computer modules are used in a wide range of applications and devices in industrial automation, medical technology, transportation, telecommunications and many other verticals. congatec is the global market leader in the computer-on-modules segment with an excellent customer base from start-ups to international blue chip companies. Founded in 2004 and headquartered in Deggendorf, Germany, the company reached sales of 133 million US dollars in 2018. More information is available on our website at [www.congatec.com](http://www.congatec.com) or via [LinkedIn](https://www.linkedin.com/company/455449), [Twitter](https://mobile.twitter.com/congatecAG) and [YouTube](http://www.youtube.com/congatecAE).

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