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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

congatec COM Express Type 7 module with
AMD EPYC™ Embedded 3000 processor

**Performance boost for rugged edge computing markets**

**Deggendorf/Nuremberg, Germany, 26 February 2019 \* \* \*** congatec – a leading vendor of standardized and customized embedded computer boards and modules – introduces its first Server-on-Module with AMD embedded server technology. The new conga-B7E3 Server-on-Module with AMD EPYC™ Embedded 3000 processor is currently the cutting edge of embedded server technologies, offering up to 52% more instructions per clock compared to legacy architectures. As Server-on-Modules form the technology basis for complementary rugged server designs, developers can use the new conga-B7E3 modules as a drop-in replacement to boost performance within their closed loop engineering design cycles in manifold rugged edge applications. Use cases include Industry 4.0, smart robot cells with collaborative robotics, autonomous robotic and logistics vehicles, as well as virtualized on-premise equipment in harsh environments to perform functions such as industrial routing, firewall security, and VPN technologies – optionally in combination with various real-time controls and neural network computing for Artificial Intelligence (AI).

“Embedded edge servers must always meet highest performance requirements for harsh environmental conditions,” explains Martin Danzer, Director Product Management at congatec. “Customers who design with Server-on-Modules can implement these features fairly easily in their edge server platforms through closed loop migrations, these modules are highly software compatible with competing solutions and address the various functions of our continuously growing Server-on-Module portfolio thanks to standardized APIs.”

Also attractive for edge server deployments is the support of the extended temperature range (-40 to 85 °C) for selected versions and the comprehensive RAS (reliability, availability and serviceability) features common to all versions. They enable the same efficient remote system monitoring, management and maintenance capabilities to optimize the total cost of ownership (TCO) in distributed deployments as known from commercial-grade data centers. Edge applications benefit from the hardware-integrated virtualization and comprehensive security package that includes Secure Boot System, Secure Memory Encryption (SME) and Secure Encrypted Virtualization (SEV), as well as a secure migration channel between two SEV-capable platforms. Support is also given for IPsec with integrated crypto acceleration. As a consequence, even the server administrator does not have access to such an encrypted Virtual Machine (VM). This is very important for the high security required by many edge server services, which must enable multi-vendor applications in Industry 4.0 automation while effectively warding off sabotage attempts by hackers.

**The feature set of the new Server-on-Modules in detail**

The new conga-B7E3 COM Express Type 7 modules are equipped with AMD EPYC Embedded 3000 processors with 4, 8, 12, or 16 high-performance cores, support simultaneous multi-threading (SMT) and up to 96 GB of DDR4 2666 RAM in the COM Express Basic form factor and up to 1TB in full custom designs. Measuring just 125 x 95 mm, the COM Express Basic Type 7 module supports up 4x 10 GbE and up to 32 PCIe Gen 3 lanes. For storage the module even integrates an optional 1 TB NVMe SSD and offers 2x SATA Gen 3.0 ports for conventional drives. Further interfaces include 4x USB 3.1 Gen 1, 4x USB 2.0 as well as 2x UART, GPIO, I2C, LPC and SPI. Attractive features also include seamless support of dedicated high-end GPUs and improved floating-point performance, which is essential for emerging AI and HPC applications. congatec also offers advanced cooling solutions for its COM Express Type 7 Server-on-Modules that match the processor, support fanless cooling even beyond 65 W TDP, and can be adapted to customers’ housings, if required. This allows OEMs to integrate maximum processor performance into their designs, as performance is often limited by the system’s cooling capacity. OS support is provided for Linux and Yocto, as well as Microsoft Windows 10 and Windows Server.

The new conga-B7E3 COM Express Type 7 Server-on-Modules can be ordered in the following standard configurations:

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| **Processor** |  | **Cores/Threads** |  | **Clock [GHz] (Base/Boost)**  |  | **L3 Cache (MB)**  |  |  | **TDP [W]**  |
| AMD EPYC™ Embedded 3451 |  | 16 / 32 |  | 2.15 / 3.00 |  | 32 |  |  | 100 |
| AMD EPYC™ Embedded 3401 |  | 16 / 16 |  | 1.85 / 3.00 |  | 32 |  |  | 85 |
| AMD EPYC™ Embedded 3351 |  | 12 / 24 |  | 1.90 / 3.00 |  | 32 |  |  | 80 |
| AMD EPYC™ Embedded 3301 |  | 12 / 12 |  | 2.00 / 3.00 |  | 32 |  |  | 65 |
| AMD EPYC™ Embedded 3255 |  | 8 / 16 |  | 2.00 / 3.10 |  | 16 |  |  | 30-55 |
|  AMD EPYC™ Embedded 3251 |  | 8 / 16 |  | 2.50 / 3.10 |  | 16 |  |  | 55 |
| AMD EPYC™ Embedded 3201 |  | 8 / 8 |  | 1.50 / 3.10 |  | 16 |  |  | 30 |
| AMD EPYC™ Embedded 3151 |  | 4 / 8 |  | 2.70 / 2.90 |  | 16 |  |  | 40 |
| AMD EPYC™ Embedded 3101 |  | 4 / 4 |  | 2.10 / 2.90 |  | 8 |  |  | 35 |

More information about the new conga-B7E3 high-performance COM Express Type 7 Server-on-Modules is available at: <https://www.congatec.com/en/products/com-express-type-7/conga-b7E3.html>

**About congatec**congatec is a leading supplier of industrial computer modules using the standard form factors COM Express, Qseven and SMARC as well as single board computers and customizing services. congatec’s products can be used in a variety of industries and applications, such as industrial automation, medical, entertainment, transportation, telecommunication, test & measurement and point-of-sale. Core knowledge and technical know-how includes unique extended BIOS features as well as comprehensive driver and board support packages. Following the design-in phase, customers are given support via extensive product lifecycle management. The company’s products are manufactured by specialist service providers in accordance with modern quality standards. Headquartered in Deggendorf, Germany, congatec currently has entities in USA, Taiwan, China, Japan and Australia as well as United Kingdom, France, and the Czech Republic. More information is available on our website at [www.congatec.com](http://www.congatec.com) or via [Facebook](http://www.facebook.com/Congatec), [Twitter](https://mobile.twitter.com/congatecAG) and [YouTube](http://www.youtube.com/congatecAE).

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