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| **Reader enquiries:** | **Press contact:** |
| **congatec AG** | **SAMS Network**  |
| Christian Eder | Michael Hennen |
| Phone: +49-991-2700-0 | Phone: +49-2405-4526720 |
| info@congatec.com[www.congatec.com](http://www.congatec.com/) | info@sams-network.com[www.sams-network.com](http://www.sams-network.com) |



*congatec Qseven and COM Express modules with latest Intel low-power processors (code name Apollo Lake)*

*Text and photograph available at:* [*http://www.congatec.com/press*](http://www.congatec.com/press)

**New product introduction:**

**congatec presents new Qseven and COM Express Compact modules based on Intel’s new low-power processors (Codename Apollo Lake)**

**One a great fit for the entry level, the other a perfect choice for the high end**

**Deggendorf, Germany, October 25, 2016 \* \* \*** congatec – a leading technology company for embedded computer modules, single board computers and embedded design and manufacturing services – has released new COM Express Compact and Qseven Computer-on-Modules in time with the launch of Intel’s new low-power processors (code name Apollo Lake). The modules with Intel® Atom™, Celeron® and Pentium® processors feature the powerful Intel Gen 9 graphics and deliver an impressive performance per watt improvement, enabling the implementation of even more powerful designs with even lower energy consumption. This, combined with long-term availability of 10 years, makes the new high-end low-power modules a perfect fit for both entry level COM Express Compact designs and high-end Qseven platforms.

Application areas for the new congatec Computer-on-Modules can be found in many highly specific embedded and IoT systems that require a customized high-performance design and a fanless low-power envelope of 5W to 12W. These include IoT gateways and industrial control systems, machine and device GUIs, medical devices, digital signage systems, vending machines and eMobility stations as well as the entire range of rugged mobile devices, handhelds and in-vehicle systems. Even some standard embedded motherboards use modules to speed up Time-to-Market with system upgrades where only the modules need to be changed.

“congatec’s new designs address the entire range of low-power embedded and IoT applications. The two new modules are the spearheads of congatec’s comprehensive roadmap for the latest Intel® Atom™, Celeron® and Pentium® processors based on the highly optimized new 14nm microarchitecture from Intel. A range of standard products such as SMARC 2.0, Pico-ITX and Mini-ITX boards as well as customized carrier boards and full custom designs – of which some are already commissioned – will be released throughout the year,” says Martin Danzer, Director Product Management at congatec AG. “With this extensive range of complementary form factor standards as well as our embedded design and manufacturing services we significantly simplify the development of highly integrated, feature-rich and powerful small form factor applications.”

Both form factors will support real-time applications. Those applications will benefit from the hardware integrated IEEE 1588 compliant Precision Time Protocol that can deliver nanosecond synchronization accuracy. Alternative software implementations need microseconds. There is also a hardware integrated audio DSP that can be used for new applications with speech recognition. Another convenient feature is the ability to switch from a static, hardware-based PCIe lane configuration to a flexible software-based setup which makes it possible to use the predefined GbE lanes of the modules also for other purposes.

**The feature sets at a glance**

The new real-time capable congatec Qseven and COM Express Compact modules come with particularly energy-saving Intel® Atom™ processors E3930, E3940 and E3950 for the industrial-grade extended temperature range of -40° C to +85° C, or are fitted with the more powerful low-power dual-core Intel® Celeron® N3350 and quad-core Intel® Pentium® N4200 processors. A highlight is that the industrial-grade module variants with Intel Atom processors have a lidded cooling interface which connects directly to the processor. Therefore, no additional copper heat stack is required for most simple implementations and heat dissipation. All modules host the high-performance Intel Gen 9 graphics which provides up to 18 execution units and supports up to 4k decode and encode capabilities for HEVC4, H.264, VP8, SVC and MVC.

**What’s special about the new Qseven module**

Hosting up to 8 GByte low-voltage DDR3 RAM onboard, the new conga-QA5 supports 4k on up to three displays which can be controlled via dual channel LVDS, eDP, DP 1.2 and/or HDMI 1.4. For IoT connectivity and generic extensions, there are 1x Gigabit Ethernet interface, 4 PCIe lanes and 6 USB ports, one of which is provided as USB 3.0. Additional peripherals can be connected via 1x SPI and 1x serial interface. Two MIPI CSI camera inputs are further provided. For the integration of storage media, up to 64 GB of flash memory with fast eMMC 5.5, or 2x 6 Gbps SATA and 1x SDIO are on offer. Audio signals are carried via HDA.

**What’s special about the new COM Express Compact module**

Supporting up to 8 GByte low-voltage SODIMM memory, the new conga-TCA5 also supports 4k on up to three displays which can be controlled via dual channel LVDS, eDP, DP 1.2 and/or HDMI 1.4. For IoT connectivity and generic extensions, there are 1x Gigabit Ethernet interface, 4 PCIe 2.0 lanes and 6 USB ports, three of which are provided as USB 3.0 and one is a host and client capable USB OTG interface. Additional peripherals can be connected via 2x SPI, 1x LPC and 2x serial UART interfaces. Two MIPI CSI camera inputs are further provided. For the integration of storage media, up to 64 GB of flash memory with fast eMMC 5.1, or 2x 6 Gbps SATA and 1x SDIO are an option. Audio signals are carried via HDA. An optional TPM 2.0 rounds of the feature set of the COM Express Compact Module.

For all modules, software support is provided for Microsoft Windows 10, including the Microsoft Windows 10 IoT versions and all current Linux operating systems. The Board Support Packages will also include support for the latest Wind River IDP 3.1. Customized integration support, a comprehensive range of accessories and optional Embedded Design & Manufacturing services for application specific carrier board and system designs are also available.

Both computer module series support the following CPU versions:

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| **Processor** |  | **Cores** |  | **Intel® Smart Cache [MB]** |  | **Clock/ Burst****[GHz]** |  | **TDP [W]** |  | **Graphics Execution Units** |
| **Intel® Pentium® N4200** |  | **4** |  | **2** |  | **1.1 / 2.5** |  | **6** |  | **18** |
| **Intel® Celeron® N3350** |  | **2** |  | **1** |  | **1.1 / 2.4** |  | **6** |  | **12** |
| **Intel® Atom™ x7-E3950** |  | **4** |  | **2** |  | **1.6 / 2.0** |  | **12** |  | **18** |
| **Intel® Atom™ x5-E3940** |  | **4** |  | **2** |  | **1.6 / 1.8** |  | **9**  |  | **12** |
| **Intel® Atom™ x5-E3930** |  | **2** |  | **1** |  | **1.3 / 1.8** |  | **6.5** |  | **12** |

For more information about the new conga-QA5 Qseven computer module visit: <http://www.congatec.com/en/products/qseven/conga-qa5.html>

For more information about the new conga-TCA5 COM Express Compact computer module visit: <http://www.congatec.com/en/products/com-express-type6/conga-tca5.html>

**About congatec AG**Headquartered in Deggendorf, Germany, congatec AG 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 EDM 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. Currently congatec has entities in Taiwan, Japan, China, USA, Australia 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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