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

**New Product Introduction**

**congatec introduces new Thin Mini-ITX and
Pico-ITX boards with Intel’s next generation of
low-power processors (codename Apollo Lake)**

**30% more processing power and 45% more graphics performance in
100% industrial-grade congatec quality**

**Deggendorf/Munich, Germany, November 8, 2016 \* \* \*** congatec – a leading technology company for embedded computer modules, single board computers and embedded design and manufacturing services – presents the new conga-PA5 Pico-ITX single board computer (SBC) and the conga-IA5 Thin Mini-ITX motherboard, two industrial-grade, long-term available computing platforms featuring the latest Intel® Atom™, Celeron® and Pentium® processors (Codename Apollo Lake). System engineers can immediately deploy them to upgrade existing Pico-ITX and Mini-ITX designs and benefit from approximately 30% more processing power and 45% more graphics performance compared to the previous generations[[1]](#endnote-1). With improved performance per watt, they unleash more performance at a given thermal envelope or improve energy consumption and battery life for given performance requirements. Application areas for these new boards are numerous and range from small sized handheld devices, box PCs and IoT gateways to industrial-grade Thin Clients, slim HMIs and low-power GUIs. Markets can be found in smart homes and smart cities, digital signage and retail, medical technology, gaming and industrial automation, as well as in shop floor and logistic systems.

The new conga-PA5 Pico-ITX SBCs and conga-IA5 Mini-ITX motherboards feature impressive security enhancements, improved real-time computing capabilities as well as the ability to keep the embedded systems of IoT devices in sync. This is of great importance for connected applications such as digital video surveillance, vision based robotics, industry 4.0 connected devices, traffic control and smart energy grids, as well as various connected computing nodes on ships, planes, trains, automobiles and more.

“With the new boards, the extended temperature range of -40° C to +85° C is back again on the supported features list. Consequently, all older Bay Trail processor based designs can now switch to the significantly higher performing new processing cores with enhanced feature set. This makes this new generation of motherboards and single board computers far more attractive than its Braswell processor based forerunners,” explains Martin Danzer “For IoT designers, the new SIM card socket on our Thin Mini-ITX boards is of particular interest as it enables new and very fast cellular connectivity options with up to several hundreds of Mbit/s and even more with upcoming virtualized 4G/5G networks.”

**The feature sets in detail**

congatec’s new conga-IA5 Thin Mini-ITX boards and the comparably slim line conga-PA5 Pico-ITX SBCs are equipped with the 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 higher performing low-power dual-core Intel® Celeron® N3350 and quad-core Intel® Pentium® N4200 processors.

All variants offer the high-performance Intel Gen9 graphics with up to 18 execution units and support up to three independent high-resolution 4k displays via 2x DP++ with full 4k@60Hz and dual channel LVDS. The conga-IA5 comes with up to 8 GB DDR3L of power saving RAM for cost sensitive applications, whereas the conga-PA5 offers 8 GB LPDDR4 RAM onboard with up to 2,400 MT/s. For IoT connectivity and generic extensions, there are 2x Gigabit Ethernet interfaces, 1x mPCIe, 3x USB 3.0 and up to 3x USB 2.0 ports. Additional peripherals can be connected via 2 serial interfaces (RS232/RS422/RS485) and 8 GPIOs. Two MIPI CSI camera inputs are further provided. For the integration of storage media, both boards offer up to 2x SATA Gen 3.0 with 6 Gbps as well as a Micro SD card slot. Audio signals are carried via HDA. For security-sensitive applications both SBC families also offer TPM 2.0.

With its larger footprint, the conga-IA5 Thin Mini-ITX motherboard offers additional interfaces including a SIM card socket for direct WAN connections to cloud and IoT, a ccTalk interface and SPI required in many gaming and vending applications, as well as an additional M.2 slot for storage media and USB 3.0 OTG. The Pico-ITX SBC, which is designed for size-sensitive devices in harsh environments, comes with an USB 3.0 Type C supporting also Power Delivery and DP++.

The new Mini-ITX motherboards and Pico-ITX single board computers support Windows 10, including the Windows 10 IoT versions, Windriver VxWorks, Android and common Linux versions. To simplify the design-in of these new embedded boards, congatec also offers a comprehensive choice of add-ons including optimized cooling solutions, I/O panels and cable sets.

The new Mini-ITX motherboards and Pico-ITX single board computers 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-IA5 Thin Mini-ITX motherboard visit: <http://www.congatec.com/en/products/mini-itx-single-board-computer/conga-ia5.html>

For more information about the new conga-PA5 Pico-ITX single board computer visit: <http://www.congatec.com/products/pico-itx/conga-pa5.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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1. See: <http://www.intel.de/content/dam/www/public/us/en/documents/product-briefs/pentium-celeron-desktop-brief.pdf> [↑](#endnote-ref-1)