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Press Release 17/2014

**Industrial reliability with Intel® Core™ Thin Mini-ITX from congatec**

**Munich, electronica, November 11, 2014 \* \* \*** congatec AG, a leading technology company for embedded computer modules, single board computers and EDM services, is expanding its successful product range with its first industrial Thin Mini-ITX motherboard. The conga-IC87 is based on 4th generation Intel® Core™ single-chip processors (codenamed Haswell) and features a low power consumption of just 15W TDP and long-term availability of 7+ years.

The flat design of Thin Mini-ITX – measuring 25mm in height with I/O-Shield – enables flat housings, such as those required for panel PCs. With the launch of the conga-IC87, congatec has risen to the challenge of supporting customers who need high quality SBCs with long term availability that can be customized to address common embedded requirements such as BIOS modifications, boot screen implementation, and compatibility for special displays and operating systems. The new professional SBC in Thin Mini-ITX form factor combines the advantages of congatec's extensive experience in integrating high-quality computer modules for harsh industrial applications, with the cost advantages of high-volume SBC production.

The Core i-series processors support AES-NI hardware encryption and AVX2 accelerated vector multiplications. The i5 and i7 processors additionally support Turbo Boost Technology 2.0 clock speed acceleration, AMT9.5 management functions and Trusted Execution Technology (TXT). While the Intel® Celeron™ HD Gen7 graphics only supports standard features, the powerful HD4400 (i3, i5) and HD5000 (i7) graphics enable demanding graphics processing up to frequencies of 1000 MHz (Celeron, i3) and 1100 MHz (i5, i7). All processors support up to three independent displays with up to 3840 x 2160 pixel resolution at 60 Hz by DisplayPort and 4096 x 2304 at 24 Hz, as well as 1920 x 1200 pixel at 60 Hz by HDMI, or full 4K resolution with 3840 x 2160 pixels for the Core i-series. The hardware supports or directly accelerates DirectX 11.1, OpenGL 3.2, OpenCL 1.2 plus high-performance, flexible hardware decoding to decode multiple high-resolution full HD videos in parallel. Two DisplayPort connections (DP++) are located on the back of the board; in compliance with the Thin Mini-ITX specification, an additional DisplayPort (eDP) and 2x24 Bit LVDS can be realized via an internal DISP connector.

The two SODIMM sockets can be equipped with up to 16 GB SODIMM DDR3L memory. Four USB 3.0 SuperSpeed ports (backward compatible with USB 2.0) are directly available on the I/O shield, four more USB 2.0 ports can be connected via an internal interface. A total of two 5 Gb/s PCI Express 2.0 lanes can be used as 1x mPCIe Half Size, 1x PCIe Full Size (shared with PCIe x1 and mSATA) and 1x PCIe x1 (shared with mSATA/mPCIe). Four SATA interfaces with up to 6 Gb/s (one of them also available as mSATA), plus a mini PCIe and SIM card slot allow quick and flexible system extensions. Two Intel I210 Gigabit Ethernet controllers each provide one Gigabit Ethernet LAN access via the two RJ45 sockets. ACPI 5.0, I2C bus and LPC bus allow easy integration of legacy I/O interfaces. An optional security module (TPM), real-time clock (RTC), Intel high-definition audio and a universal power source with 12 to 19 volts (optional 6 to 24 volts) complete the feature set.

Available processor variants:

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **Cores** | **Cache [M]** | **Clock [GHz]** | **Turbo Boost [GHz]** | **TDP [W]** | **Graphics** | **AES-NI** | **AVX** | **AMT** | **TXT** | **VT-x** | **VT-d** |
| **conga-IC87/i7-4650U** | **2** | **4** | **1.7** | **3.3** | **15** | **GT3** | ■ | ■ | **9.5** | ■ | ■ | ■ |
| **5000** |
| **conga-IC87/i5-4300U** | **2** | **3** | **1.9** | **2.9** | **15** | **GT2** | ■ | ■ | **9.5** | ■ | ■ | ■ |
| **4400** |
| **conga-IC87/i3-4010U** | **2** | **3** | **1.7** | **-** | **15** | **GT2** | ■ | ■ | **9.5** | **-** | ■ | **-** |
| **4400** |
| **conga-IC87/ Celeron 2980U** | **2** | **2** | **1.6** | **-** | **15** | **Intel** | **-** | **-** | **9.5** | **-** | ■ | **-** |
| **HD** |

AES-NI: Advanced Encryption Standard Instructions

AVX: Advanced Vector Extensions

AMT: Active Management Technology

TXT: Trusted Execution Technology

VT-x: Intel Virtualization Technology

VT-d: Intel Virtualization Technology for Directed I/O

 **About congatec AG**congatec AG has its head office in Deggendorf, Germany and is a leading supplier of industrial computer modules using the standard form factors Qseven, COM Express, XTX and ETX, 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 technology, automotive supplies, aerospace and transportation. 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 177 employees and 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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