

congatec presents high-end Mini-ITX motherboard that scales across all processor sockets

One for all: the embedded motherboard that suits all high-end applications

Deggendorf, Germany, 30 January 2018 * * * congatec - a leading technology company for embedded computer modules, single board computers and embedded design and manufacturing services - introduces the conga-IT6, a Mini-ITX embedded motherboard for high-end applications that offers high scalability across all suitable embedded processor sockets thanks to its COM Express Type 6 slot. Users of the new motherboard can scale their applications across all relevant processor generations and manufacturers as required, thereby keeping up-to-date with the latest developments in high-end embedded computing. This scalability allows flexible high-end performance classes from Intel® Core™ i7™ and Intel® Xeon® E3 processors to future designs - for instance, based on the AMD Zen architecture. The new embedded motherboard also extends the long-term use of existing Mini-ITX motherboard designs, since discontinued processor modules are easily updated by swapping in new modules without any board modifications.



Specially developed for the needs of the high-end sector's constantly increasing performance demands, the new conga-IT6 Mini-ITX motherboard will also support all future processor offerings from congatec for the COM Express Type 6 form factor. The current performance range includes the Intel® Atom™, Celeron® and Pentium® processors, the AMD Embedded G- and R-Series, as well as 7th generation Intel® Core™ i7 and Xeon® E3 processors. Support for the latter turns the new conga-IT6 into an extremely powerful Mini-ITX board with a long-term availability that no other embedded computing manufacturer offers. In total, customers can choose between 11 different processor versions.

"Next to our standard product portfolio of industrial Mini-ITX boards with soldered processors, there are a number of customers who prefer function-identical embedded motherboards with a much more flexible processor design, because they always want to integrate the highest performance possible. If they further require long-term availability or want to develop highly scalable product families, they are best served by our new embedded Mini-ITX board," explains Jürgen Jungbauer, Product Manager for Single Board Computers at congatec. "Examples of such high-end embedded applications include broadcasting equipment and



congatec

infotainment systems as well as medical workstations that thanks to the modular design also benefit from simplified certification as medical computers.”

“A modular Mini-ITX platform is also a great starting point for customized Mini-ITX designs, as our Embedded Design & Manufacturing Service only needs to adapt the existing Mini-ITX board and can re-use our application ready Computer-on-Modules off-the-shelf, accelerating time to market and reducing costs for customer specific Mini-ITX based platforms,” adds Christian Eder, Director Marketing at congatec.

The COM Express standard specifies cooling solutions that offer individual thermal interfaces to the Computer-on-Module, but have a uniform system footprint and height. This means that the combination of COM Express module and cooling solution is also mechanically compatible and interchangeable within a system design. congatec supplies suitable passive and active cooling solutions for its modules.

The feature set in detail

The industrial-grade conga-IT6 Mini-ITX motherboard for COM Express Type 6 modules combines standard embedded interfaces with performance features from the IT world to meet the requirements of even the most demanding graphic workstations and mini servers. For the connection of high-performance graphics cards and GPGPUs, a PCIe graphics slot is available with up to 16 lanes depending on the module. For additional peripherals, 4x USB and a miniPCIe port are provided. Monitors can be connected via 2x DP, 2x HDMI, eDP, LVDS and VGA output. 2x 1 GbE, one executed via a dedicated Intel® i211 network controller, as well as a micro-SIM slot offer flexible networking options. As for storage media, there are 2x SATA Gen3 as well as a microSD and M.2 type B socket supporting fast Intel® Optane™ memory. As for embedded interfaces, the motherboard provides 4x COM (232/422/485), 1x GPIO (4x GPIs, 4x GPOs and 16x GPIOs) and 1x I²C bus. A wide range of external and internal input voltages (12 VDC to 24 VDC) makes for a very flexible power supply, and thanks to Smart Battery Management Support even battery-powered mobile applications are possible. A comprehensive range of accessories - such as I/O shields, cable kits and video adapters - is also available to simplify the design-in.

The following assembly variants are available:

Module	Processor	Cores (max)	Max. Clock [GHz]	TDP Range [W]
conga-TS175	Intel® Core™	4	4.3	25 - 45
	Intel® Xeon®			
conga-TS170	Intel® Core™	4	4.28	25 - 45
	Intel® Xeon®			
conga-TS97	Intel® Core™	4	2.7	47
	Intel® Xeon®		2.0	
conga-TR3	AMD G-Series	2	2.0	12 - 15
	AMD R-Series	4	3.4	12 - 35
conga-TC175	Intel® Celeron®	2	2.2	15
	Intel® Core™		3.9	
conga-TC170	Intel® Celeron®	2	2.0	15
	Intel® Core™		3.4	
conga-TC97	Intel® Celeron®	2	1.9	15
	Intel® Core™		2.2	
conga-TCA5	Intel® Atom™	4	2.0	6 - 12
	Intel® Pentium™		2.5	
conga-TCA4	Intel® Atom™	4	1.0	4 - 6
	Intel® Pentium™		1.6	
conga-TCA3	Intel® Atom™	4	1.91	4.3 - 10
	Intel® Celeron®		2.0	
conga-TCG	AMD G-Series	4	2.4	6 - 25

For more information about the new conga-IT6 Mini-ITX motherboard for COM Express Type 6 modules visit <http://www.congatec.com/en/products/mini-itx-single-board-computer/conga-it6.html>