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Press release

congatec presents ultra-powerful cooling solutions for 3.5-inch SBC

**The mass makes the difference**

**Deggendorf/Nuremberg, Germany, 25 February 2020 \* \* \*** congatec – a leading supplier of high-performance embedded computing products – introduces three new premium embedded cooling solutions for its 3.5-inch Single Board Computers (SBCs). Based on the PICMG specifications for standardized COM Express heatspreaders and thanks to their extra-large footprint, they offer a maximum cooling mass and surface area for extremely powerful 3.5-inch SBC designs. Heat dissipation is standardized and all solutions feature a massive heatspreader, made of light metal, which disperses waste heat from the CPU hotspots quickly and effectively. Depending on the TDP, the heatspreader can be expanded with passive finned heat sinks or active ventilation systems. With congatec also offering its three cooling solutions in a standardized height, OEMs can in future implement footprint-identical cooling solutions for comparable TDP requirements. This will make it significantly easier to scale 3.5-inch SBC based embedded systems across multiple processor generations. First configurations of the fully in-house developed new cooling solutions are optimized for the use with the new conga-JC370 3.5-inch SBCs based on 8th Generation Intel® Core™ processor series (codenamed Whiskey Lake).

“In order to make it easier for customers to design embedded systems, it has long been our strategy to also develop customized, ultra-rugged cooling solutions for all our form factors, which are standardized and – when cooling is activated – impress with an extra-long MTBF that not only meets but even exceeds all common industry standards. Continuing on this strategy, we have now also developed a unique new cooling solution for our 3.5-inch SBCs. It differs significantly from conventional 3.5-inch SBCs, where processor and I/Os are on the same side of the board. By mounting our solution on the underside of the board, we create significantly more space for massive cooling systems while at the same time making it easier for developers to design systems, since the connection of the housing as well as the internal system airflow are standardized,” says Martin Danzer, Director Product Management at congatec, explaining the advanced cooling concept for the new 3.5-inch SBCs, which utilizes almost the entire surface of the 146×102 mm footprint.

The three cooling systems are designed for 3.5-inch SBCs and have been developed with a view to future processors requiring up to 45 Watt cooling capacity in timely limited cTDP-up modes. They consist of a heatspreader without cooling fins that dissipates the waste heat to a housing, as well as a passive heat sink with cooling fins, and an active cooling variant with an integrated fan. When running high loads an external system fan is recommended for the passive cooling variant. The active cooling is designed for standalone operation. In order to make system integration easy and flexible each of the above cooling solutions is available in threaded and borehole variants.

The fan-based active cooling system, which is used for example in the 3.5-inch systems with 25 Watt 8th generation Intel® Core™ i7 processors (i7-8665UE / codename Whiskey Lake), is specifically designed for 24/7 operation in harsh industrial environments. In this complete cooling system the fans are not only mounted extra securely, but also specifically fixed to reduce wear and tear. In addition, the bearings are equipped with a special seal and additional cover to provide maximum protection for mechanics and lubricant. With a high-performance synthetic oil as lubricant, the fan has an MTBF of several decades – and this in the industrial temperature range from -45 to +85**°**C and with industrial-grade shock and vibration resistance.

For more information about congatec’s cooling solutions for the new 3.5-inch SBC ecosystem, please visit: <https://www.congatec.com/en/technologies/35-sbc-based-on-8th-generation-intel-core-mobile-processors.html>

**About congatec**

congatec is a rapidly growing technology company focusing on embedded computing products. The high-performance computer modules are used in a wide range of applications and devices in industrial automation, medical technology, transportation, telecommunications and many other verticals. congatec is the global market leader in the Computer-on-Module segment with an excellent customer base from start-ups to international blue chip companies. Founded in 2004 and headquartered in Deggendorf, Germany, the company reached sales of 133 million US dollars in 2018. More information is available on our website at [www.congatec.com](http://www.congatec.com) or via [LinkedIn](https://www.linkedin.com/company/455449), [Twitter](https://mobile.twitter.com/congatecAG) and [YouTube](http://www.youtube.com/congatecAE).

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