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PRESS RELEASE

Eurotech announces CPU-161-20, a SIL2-enabled module with Intel® Atom® x6000 Series

Powered by Intel® Atom® x6000 Series and based on the COM Express Type 6 Compact with FuSa extensions, the CPU-161-20 enables Functional Safety applications at the Edge

Amaro (Italy), October 15th, 2020 – Eurotech, a long-time leading provider of embedded systems and a global leader in Internet of Things (IoT) enablement, expands embedded module product portfolio with the CPU-161-20, a rugged fanless module designed to enable Functional Safety applications at the Edge.

The CPU-161-20 is based on COM Express Compact with Type 6 pinout and features the Intel® Atom® x6000 Series. It provides additional features via extensions on unused pins, delivering a range of novel interfaces that can greatly simplify the design of the carrier board and reduce its cost.

The CPU-161-20 is suitable for Functional Safety applications, and is certifiable according to IEC 61508-2:2010 SIL2 / ISO 13849-1 Cat 3 PL = d. An integrated, independent and specialized core oversees the semi-lockstep execution of critical workloads. On the 4 core versions of the CPU-161-20, critical and non-critical workloads can be executed simultaneously, via hypervisor separation of the FuSa and non-FuSa environments.

Designed for fanless applications in harsh environments where long term reliability is a must, the CPU-161-20 delivers up to 4 CPU cores and up to 32 graphic execution units and in-band ECC RAM. It features an all-soldered down design to improve resilience and thermal coupling and comes with a -40 to +85°C operating temperature. Both the CPU and the integrated GPU deliver great performance improvements compared to the previous Atom generation, while keeping the TDP at 12W or less.

The CPU-161-20 fully exploits a new capability of the Intel® Atom® x6000 Series: an embedded core provides an independent engine that manages a large number of native industrial interfaces, including Ethernet ports, ADCs, Quadrature Encoders, GPIOs, UARTs and CAN-FD. The combination of the independent engine with Time Sensitive Networking (TSN) and Time Coordinated Computing (TCC) enables soft Real Time applications. TSN is an evolution of the Ethernet standard that provides time determinism to networked communications, while staying completely compatible with the existing Ethernet infrastructures. TCC bridges the synchronization of the internal clocks with the network to achieve microsecond accuracy.

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"The CPU-161-20 is based on the very popular COM Express standard, which provides a familiar and proven reference" commented Giuseppe Surace, Eurotech's Chief Product & Marketing Officer "We are also adding FuSa-specific interfaces that bring out the set of signals required for the implementation of SIL2 devices, greatly simplifying and accelerating the development of carrier boards and systems".

Supported operating systems include Everyware Linux (based on Yocto); additionally, the CPU-161-20 supports Everyware Software Framework (ESF), a commercial, enterprise- ready edition of Eclipse Kura, the open source Java/OSGi middleware for IoT gateways. Professional Services are available for the CPU-161-20, starting from BIOS personalization and including carrier board design, system development and production. Deep module customization, such as feature changes are also available.

The CPU-161-20 is offered in a range of configurations; additional personalization is available through Eurotech Professional Services.

Contact us for further information about product availability.

About Eurotech

Eurotech (ETH:IM) is a multinational company that designs, develops and supplies Edge Computers and Internet of Things (IoT) solutions – complete with services, software and hardware – to system integrators and enterprises. By adopting Eurotech solutions, customers have access to IoT building blocks and software platforms, to Edge Gateway to enable asset monitoring and to High Performance Edge Computers (HPEC) conceived also for Artificial Intelligence (AI) applications. To offer increasingly complete solutions, Eurotech has activated partnerships with leading companies in their field of action, thus creating a global ecosystem that allows it to create "best in class" solutions for the Industrial Internet of Things. Learn more

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