

Eurotech announces CPU-180-02, a SIL2-enabled module with the 11th Gen Intel® Core™ processors

Powered by the 11th Gen Intel® Core™ processors and based on the new COM-HPC standard with FuSa extensions, the CPU-180-02 enables Functional Safety applications at the Edge

Amaro (Italy), October 7th, 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-180-02](#), a high performance fanless module designed to enable Functional Safety (FuSa) applications at the Edge.

The CPU-180-02 is a rugged module based on the COM-HPC Client and provides additional capabilities, such as Functional Safety signals via proprietary extensions.

Designed for fanless applications in harsh environments where long term reliability is a must, the CPU-180-02 features the 11th Gen Intel® Core™ processors with up to 4 processor cores, the integrated Intel® Iris® Xe graphics with up to 96 execution units and in-band ECC LPDDR4. It comes with an all-soldered down design to improve resilience and thermal coupling and comes with a -40 to +85°C operating temperature and a 15 to 28W TDP. The CPU-180-02 is very compact: at just 95x120mm (Size A) is the smallest module with a COM-HPC form factor.

The CPU-180-02 is suitable for Functional Safety applications and is certifiable according to IEC 61508-2:2010 SIL2 / ISO 13849-1 Cat 3 PL = d. FuSa specific signals are provided to the carrier board via a proprietary extension that allows the customer implementation of a safety agent.

Both the CPU and the integrated GPU deliver great performance improvements compared to the previous generation of processors and offer AI and Deep Learning inference acceleration. Video encoding and decoding capabilities are also brought to the next level with support for simultaneous 1080p streams and four independent displays.

The CPU-180-02 brings novel capabilities: it features Time Sensitive Networking (TSN) on a 2.5 Gb Ethernet port, and Time Coordinated Computing (TCC) enabling soft Real Time applications with microsecond accuracy. 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.

The CPU-180-02 features the latest high-speed interfaces: PCIe Gen 4, with a bandwidth that is twice the previous generation and Thunderbolt™ 4 / USB 4 that enables PCIe, Video, USB and Power Delivery over a single, standard connector.

“The CPU-18-02 is based on the new COM-HPC standard, which allows fully exploiting the wide range of capabilities and interfaces offered by the the 11th Gen Intel® Core™ processors” commented Giuseppe Surace, Eurotech’s Chief Product and Marketing Officer “We are also adding FuSa-specific interfaces for the benefit of system designers that need to tap into the set of signals required for the implementation of SIL2 devices”.

The COM-HPC Client standard offers unprecedented capabilities in a compact, rugged modular format. Defined by PICMG, the same non-profit consortium that created the hugely successful COM Express standard, COM-HPC targets Server-On-Module use cases. Supporting two pinouts (Server and Client) and multiple form factors, it is designed to provide a large number of PCIe Gen5 lanes (65 or 49), very high-speed Ethernet (8x25 or 2x 25), USB4 and up to 4 video ports (Client only).

Supported operating systems include Everyware Linux (based on Yocto), Linux and Windows 10 IoT Enterprise and bare metal hypervisors for Functional Safety applications. Additionally, the CPU-180-02 supports [Everyware Software Framework \(ESF\)](#), a commercial, enterprise-ready edition of Eclipse Kura, the open source Java/OSGi middleware for IoT gateways.

The CPU-180-02 is offered in a range of configurations; additional personalization is available through Eurotech Professional Services.

For information about CPU-180-02 availability, please [contact us](#).

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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