

Press release

First SMARC Computer-on-Module from eCOUNT embedded with Intel® Cyclone® V SoC

SMARC module for Industrial Ethernet



Munich, Germany, 27 February 2018 – eCOUNT embedded presents the ES-1XXX, its first Computer-on-Module family to support the SMARC 2.0 standard from the SGET. The modules are equipped with ARM Cortex-A9 based Intel® Cyclone® V SoCs (formerly Altera), which integrate a configurable FPGA. By integrating the Intel® Cyclone® V SoCs on SMARC Computer-on-Modules customers benefit from an application-ready ultra-low-power platform for extremely cost-efficient custom IIoT designs. Compared to full-custom designs, the development and certification effort is significantly reduced by up to 50 to 90 percent thanks to the provision of complete BSPs, carrier boards, accessories and FPGA IP as well as comprehensive documentation.

Target markets for eCOUNT embedded's new SMARC modules with Intel Cyclone V SoCs are low-power applications in harsh environments such as industrial automation, medical technology, test and measurement systems, as well as transportation and aviation. Thanks to the configurable FPGA, the new SMARC modules can be used in very different configurations. Core FPGA IP, for example for standard industrial Ethernet protocols such as Profinet and EtherCAT, is available off-the-shelf. This makes the new SMARC modules an ideal platform for industrial automation. Additionally there are also many other possible configurations: as I/O controllers, big data loggers with data acquisition, network controllers or extremely energy-efficient HMIs with solar power supply as well as generic configurations, for example, with several PCIe lanes.

“The IIoT trend, which requires more and more intelligence in the connected devices, opens the potential for us to set the same board-level standards for ultra-low-power ARM application processors as were established about 15-20 years ago with Computer-on-Modules for x86 technology,” explains Dirk Finstel, Managing Partner and CTO of eCOUNT embedded. “I am convinced that eCOUNT embedded is predestined to take on a pioneering role in the IIoT ARM segment. Our developers already have extensive ARM know-how, and with my career background and as the initiator of the SMARC standard, I possess all the expertise to generate the essential market acceptance and penetration.”

The feature set in detail

The new ES-1XXX modules for the extended temperature range (-40°C to 85°C) offer a life cycle of at least 10 years and are available in dual and single-core Intel Cyclone V SoC configurations (SE and SX) with up to 110KLE and 925 MHz and up to 2 GB of DDR3 RAM. They each integrate up to 128MB NOR flash and 128GB eMMC storage, while also providing one NEON™ SIMD per core for graphics. The interface offering includes: 1x Gbit Ethernet, two Fast Ethernet ports with PHY, two USART ports, up to two CAN and two USB 2.0 interfaces, or alternatively a USB OTG interface for mobile devices. Further extensions can be connected via 2x SD card and 2x I2C interfaces, up to two SPI ports, and up to 102 GPIOs. Six transceivers for up to 3.125 Gbps as well as a VfPv.3 floating point unit predestine the module for compute and bandwidth intensive applications. Other interface constellations are always possible thanks to the Cyclone V SoCs' configurable FPGA – for instance, real-time control of servomotors, a VGA LCD controller, EtherCAT or Profinet master/slave with Softing firmware, or full PCIe x1/x4 support. Watchdog and a real-time clock as well as real-time Ethernet support complete the feature set, along with operating system support for Linux Kernel 4.7, Yocto 2.0 Jethro and Debian 7.0.

For more information about the SMARC module and the available evaluation carrier boards, visit www.ecount-embedded.com/smarc

About eCOUNT embedded

eCOUNT embedded is a manufacturer of flatpanel controllers, RFID readers and BLE to WiFi gateway platforms and accessories with optional IIoT and cloud connectivity. The company focuses on application-ready solution platforms for OEMs and embedded computer manufacturers that can be individually adapted to customer-specific requirements. Custom development and production include the design of customized monitor, display and control panels, RFID solutions and their assembly.

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