

Press Release

Zurich, 13th July 2018

Enclustra Mars™ XU3 SoC module: a true heavy hitter

Mars XU3: The Xilinx® Zynq® UltraScale+™ MPSoC module able to deal with any circumstances

With the Mars XU3, Enclustra presents the most powerful SoC module based on the Xilinx Zynq UltraScale+ MPSoC in the Mars form factor. It features up to 6 ARM cores, a Mali 400MP2 GPU, up to 4 GByte of extremely fast DDR4 SDRAM, numerous standard interfaces, 108 user I/Os and up to 154,000 LUT4 equivalents.

The Mars XU3 SoC module from FPGA specialists Enclustra provides a quick and easy introduction to the Xilinx Zynq UltraScale+ MPSoC technology. It comes in the extremely compact and well-established SO-DIMM form factor and is optimised for applications that require the greatest processing power possible in the smallest of spaces, without having to make any compromises when it comes to functionality. The Mars XU3 series offers up to 154,000 systems logic cells, 108 user I/Os, up to 6 ARM processors, a Mali 400MP2 GPU (only EG variants), up to 4 GByte of ultra-fast DDR4 SDRAM, 64 MByte QSPI flash memory, 16 GByte eMMC flash memory as well as Gigabit Ethernet and USB 2.0/3.0 ports, all on a surface area measuring just 67.6 × 30 mm. A heat sink developed for the Mars XU3 is available for optimum heat dissipation. It's compact design (less than 7 mm in height) and a mounting slot in the centre of the heat sink makes it easy to attach fans of different sizes. The Mars XU3 SoC module has a planned availability of 10 years.

Reference design and Linux at the push of a button

Enclustra offers broad design-in support for their products. With the Mars EB1 base board, the Mars XU3 is a powerful development and prototyping platform.

Enclustra also offers a comprehensive ecosystem for the Mars XU3, offering all of the hardware, software and support materials required. Detailed documentation and reference designs make it easy to get started, in addition to the user manual, user schema, a 3D-model (STEP), PCB footprint (Altium®, OrCAD®, PADS®, EAGLE®) and differential I/O length tables.

The Enclustra Build Environment can be used to compile the Enclustra SoC modules with an integrated ARM processor very smoothly. The module and

base board are selected by a graphical interface. Afterwards, the Enclustra Build Environment downloads the appropriate Bitstream, First Stage Boot Loader (FSBL) and the required source code. Finally, U-Boot, Linux and the root file system, which is based on BusyBox, are compiled. Thanks to the family concept with compatible connectors, different types of modules can be used on the same base board. If, for example, an ARM processor is not required, the Mars AX3 FPGA module can be used on the same base board instead.



The Mars XU3 is the smallest Xilinx Zynq UltraScale+ MPSoC-based module from Enclustra. (Picture: Enclustra GmbH)

About Enclustra GmbH

Enclustra is an innovative and successful Swiss FPGA design company. With the FPGA Design Centre, Enclustra provides a portfolio of services covering the whole range of FPGA-based system development – from high-speed hardware or HDL firmware through to embedded software, and from specification and implementation through to prototype production. In the FPGA Solution Centre, Enclustra develops and markets highly-integrated FPGA modules and FPGA-optimised IP cores. By specialising in forward-looking FPGA technology, and with extensive application knowledge, Enclustra can offer ideal solutions at minimal expense in many areas. More information can be found at: www.enclustra.com

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