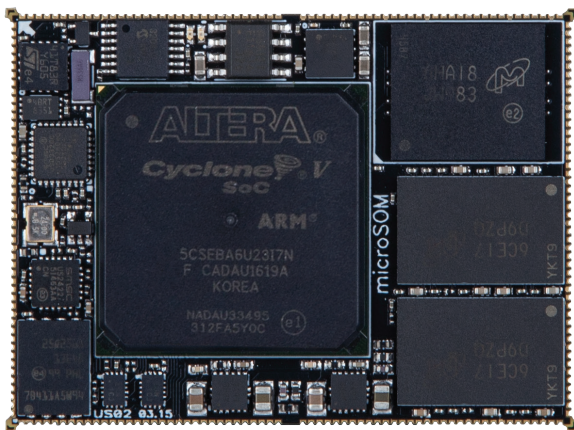


## microSOM uS02

Exor embedded is launching uS02 Intel Altera's Cyclone V SE SoC based new microSOM standard for the increased system performance requirements. The Dual ARM Cortex-A9 core with an integrated FPGA allows greater flexibility for the system designers and helps to lower the system cost and power consumption.



The microSOM is very compact smart System On Module and makes easier to design a new generation of PLC connecting equipment and HMI products with simple carrier board design. The microSOM includes Exor JMSoC runtime designed to optimize the performance and the memory size running the Embedded Linux on Intel Altera® CV SoC platform and programmed by JMobile Studio (Intel Altera edition) using optional CODESYS 3.x development tool for Motion / SoftPLC control applications.

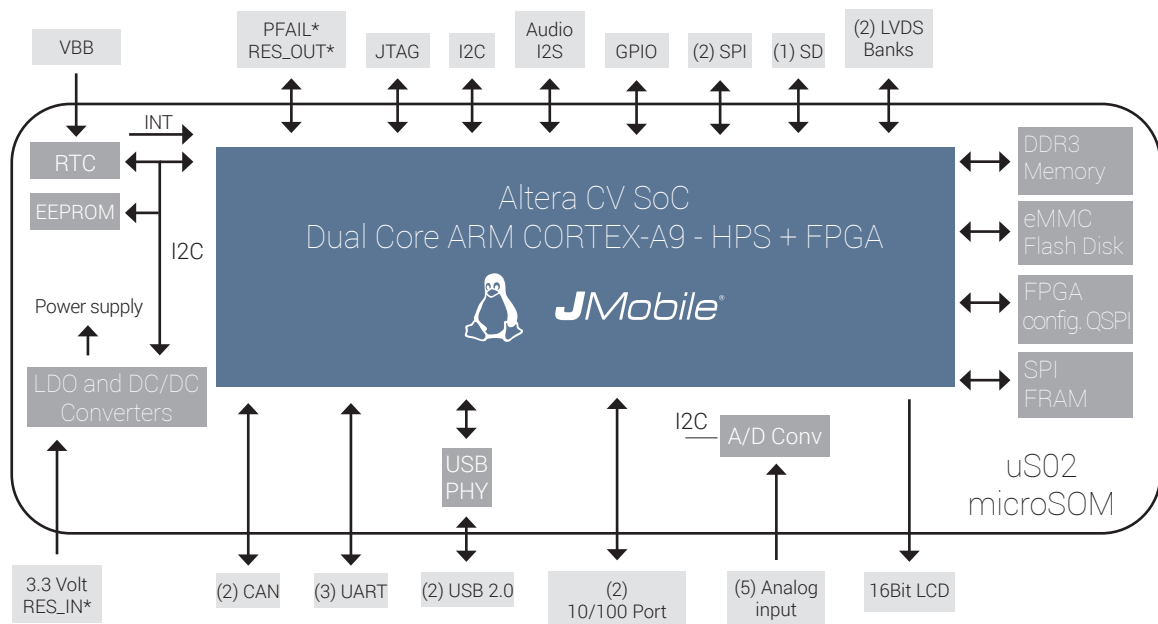
### Highlights

- The microSOM is soldered directly into the main carrier board without the use of expensive connectors that will reduce reliability of the system.
- With only 46x35x4 mm in height microSOM allows you to design products extremely compact and ultra-slim.
- The microSOM requires a single supply of 3.3 V with low power consumption (Max 0,9 Amp 110K LE)
- It provides the ultimate combination of hardened intellectual property (IP) for performance and power savings, but with the great flexibility assured by FPGA, that, together with a rich library of IP cores allows to configure different products.
- A Powerfull Video Contoller and JMobile HMI software enable to design a User-friendly and high quality vectorial graphic (SVG) rich-graphical GUI and assure a device connectivity with suite of +200 communication protocols.
- Optional IEC 61131-3 CODESYS 3.x for Control I/O and Motion control.
- Linux RTOS solution (OSADL)

# Technical Data

Dimensions	46x35 mm
Temperature Range	-40°C to +85°C
CPU	Altera 5CSEBA2 (A6) Dual ARM Cortex - A9 925 MHz
Integrated with FPGA up to 110K LEs	25/110 KLE
DDR	1 Gbyte DDR3
Flash Disk / QSPI	Up to 4 Gbytes eMMC / Up to 256 Mbits
EEPROM	4 Kbits
FRAM	64-Kbytes
Watchdog/RTC/Voltage monitor/JTAG	Yes
USB	2 (Host V2.0), 1 (OTG (selectable))
Ethernet	2 (port 0 - 10/100, port 1 - 10/100)
SD	1
Serial Port	3
SPI	2
I2C	1
CAN	2
Audio	1 (I2S Channel)
Video	(1) Video Out Controller 16 Bit Video Input: Digital Interface ITU656
Analog Input	5
GPIO	19 (GPIO), 2 (LVDS Link)

Software configurable. Not all selections can be combined



JMSoc Linux Runtime  
ARM DS5 Toolkit Intel Altera CV SoC - Linux RTOS BSP (OSADL)

JMobile Studio (Intel Altera edition)  
CODESYS Ethernet communication protocol.

3S CODESYS – IEC 61131-3 and Soft Motion including Ethercat Master Runtime (Optional)

User Manual and Application notes for microSOM integration

microSOM Evaluation Kit

microSOM versions:  
US02-0001: Full version (110K LE)  
US02-0002: Base version (25K LE)

+US02-0001 - Industrial Range	
SOC	5CSEBA6U23I7
FPGA	110K LE
DDR	1 GBytes
FLASH DISK	4 GBytes
FRAM	64 KBytes
EEPROM	4 Kbits
+US02-0002 - Industrial Range	
SOC	5CSEBA2U23I7
FPGA	25K LE
DDR	1 GBytes
FLASH DISK	4 GBytes
FRAM	64 KBytes
EEPROM	4 Kbits

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