

Exor embedded is launching uS02 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 Altera® CV SoC platform and programmed by JMobile Studio (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 Powerful Video Controller 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)

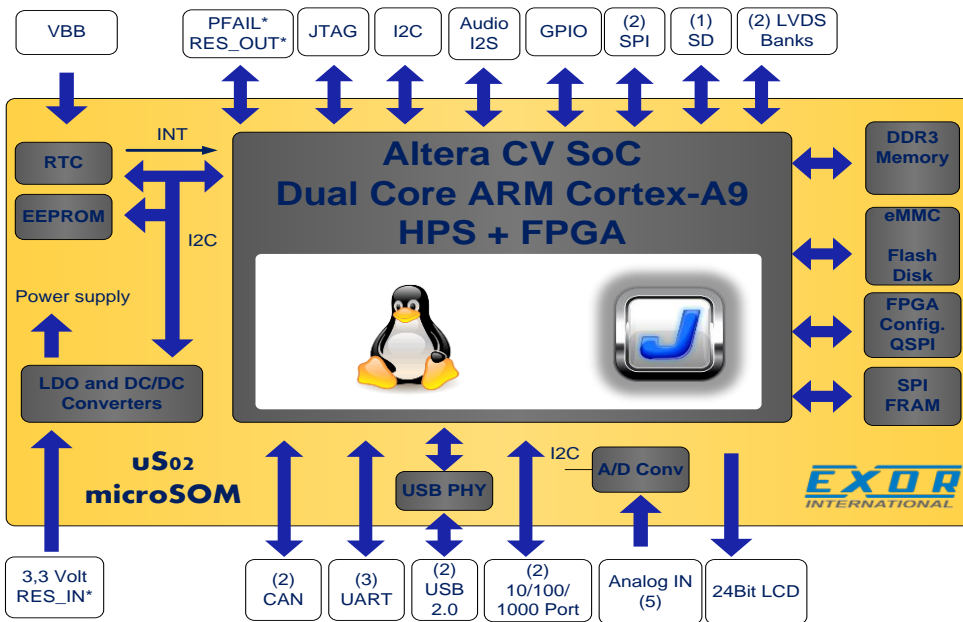
Main Applications

- Factory Automation
- Building & Home Automation
- Marine Automation
- Mobile Industry
- Transportation e-Vehicle
- Medical
- Vending Systems & Kiosk
- Energy Smart Systems
- Embedded Industry

Technical data

CPU/FPGA	Altera 5C5EBA2 (A6) Dual ARM Cortex-A9 925 MHz Integrated with FPGA up to 110K LEs
Memory	1GByte DDR3 / 4GByte Flash disk
EEPROM / FRAM	4Kbytes / 64Kbytes
Comms Ports	Ethernet (2) / Serial (3) / CAN (2) / SPI (2) / I2C (1)
Expansions	USB 2.0 (2) / SD Port / GPIO
RTC	Yes, battery or SuperCAP backup.
LCD	24 bit TFT Interface
Analog IN	5 Analog Input
Optional IP Cores:	
Video Input	Optional
Audio	Optional
Other IP Cores	Exor Ultilogic Library

uS02 microSOM schematic block

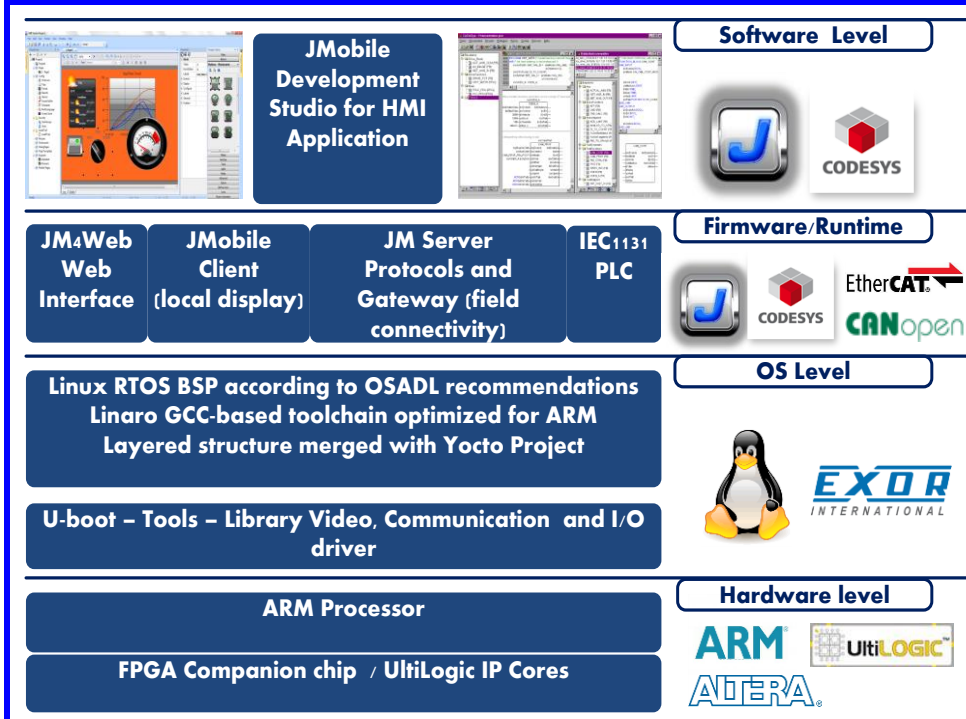


Ordering code

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

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

microSOM JMSoC Software Architecture



Deliverables

- JMSoC Linux Runtime**
ARM DS5 Toolkit Altera CV SoC - Linux RTOS BSP (OSADL)
- JMobile Studio (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)

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