

MitySOM-A10S System on Module and Development Kit

Production-ready, industrial performance SOM

Minimize risk and development time.

Maximize your resources.

The MitySOM-A10S is an Intel/Altera Arria 10 SoC System on Module designed for a wide range of industrial embedded applications. In addition to the A10 processor, the module includes on-board power supplies, two DDR4 RAM memory subsystems, micro SD card, a USB 2.0 on the go (OTG) port, and a temperature sensor. The MitySOM-A10S SOM provides a complete and flexible CPU infrastructure for highly integrated embedded systems.



A fully integrated System on Module built for high-performance applications:

- Intel Arria 10SX SoC up to 480K LE
- Combines FPGA fabric and dual ARM Cortex-A9's
- High-bandwidth interconnect
- DDR4 SDRAM
- 12 transceiver pairs up to 11.3Gbps
- Commercial and industrial temp options

Features:

Hard Processor System (HPS)

- Dual-core ARM Cortex – A9 MPCore processor
- Up to 1500MHz per core
- NEON coprocessor with double-precision FPU (one per core)
- 32KB/32KB L1 caches per core
- 512KB shared L2 cache

Memory

- 4GB DDR4 CPU/FPGA RAM x32 bits
- Optional 2GB DDR4 FPGA RAM x16 bits*

High-Bandwidth System Interfaces:

- Twelve 11.3Gbps transceiver pairs
- x8 PCIe Hard Core up to Gen3
- Up to 168 I/O, many supporting 740Mbps SerDes (T66 LVDS pairs)
- 3 Gigabit Ethernet interfaces

High-Bandwidth On-Chip Interfaces

- 8.5 Gbps to DDR4

Integrated Power Management

JTAG Connector On-Module
Board-to-Board Connector

High Level OS Support

- Embedded Linux
- Micrium uC/OS
- Android
- QNX

Applications:

- Test and Measurement
- Industrial Instrumentation
- Medical Instrumentation
- Embedded Imaging
- Machine Vision
- Broadcast
- Military & Defense
- Automotive

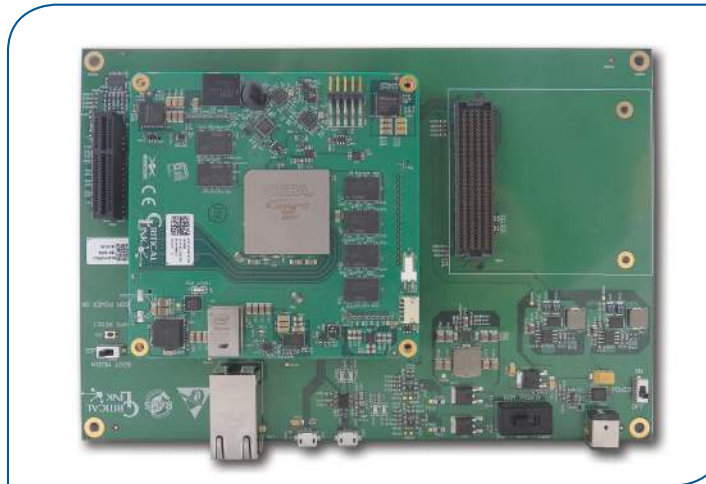
*Selecting this FPGA direct connect to DDR will reduce the number of I/O options available.

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High-Speed Interfaces and Interconnect

Integrating FPGA power with ARM flexibility poses a major challenge: data movement between the two. The MitySOM-A10S solves this with high-speed AXI bus interconnects between FPGA fabric and the Hard Processor System (HPS). The FPGA also has high-bandwidth access to HPS system memory, while maintaining cache coherency without processor intervention. The MitySOM-A10S's high-speed interfaces are configurable. By combining the high-speed interconnect with twelve 11.3Gbps transceivers, a PCIe hard core, 138 user I/O's, and triple gigabit Ethernet interfaces, the system supports high-bandwidth I/O, while efficiently processing data while onboard.

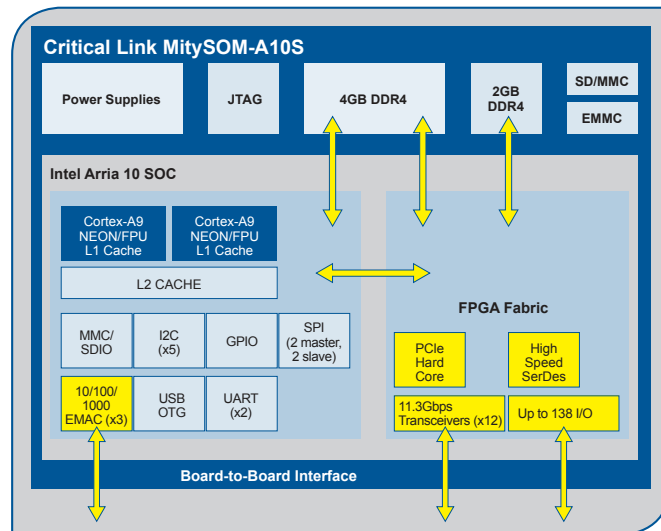


Features

- 5V to 12V switch
- Battery for real-time clock
- On/off, warm reset, cold reset switches
- Boot select switches
- Footprint for FPGA serial PROM

Interfaces

- Gigabit Ethernet
- PCIe, 4 lanes
- USB 2.0
- Console serial to USB converter
- SD card
- FMC



Growth Options

The MitySOM-A10S Family offers several upgrade options: various speed grades, memory configurations, and operating temperature.

The MitySOM-A10S DEVELOPMENT KIT

The MitySOM-A10S Development Kit has all the necessary hardware and software to begin product development immediately, including a base board reference design, Linux development environment, sample applications, and a design guide for customizing the base board for your specific requirements. Developers can also work with Critical Link engineers to handle any customizations. Full technical datasheets are available for the MitySOM-A10S, and other members of the Critical Link SOM family, at www.CriticalLink.com.

