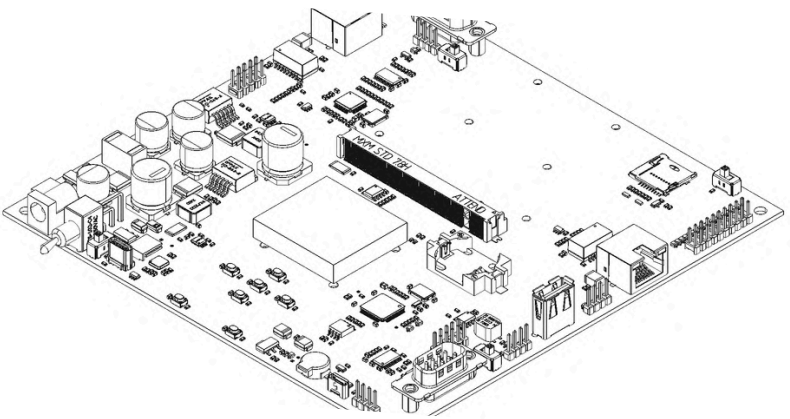
Brief Document

ATRONAX QSeven Development Kit

With ATRONAX µQSeven Computer Module

Featuring **Octavo Systems LLC** System in Package



QSeven Development Board
µQSeven Computer Module

Rev. 1.3. 03/26

COMPACT, POWERFUL, AND VERSATILE EMBEDDED SOLUTION

ATRONAX Development Kit with ATRONAX µQSeven Computer on Module is built around the OSD32MP157C/F System-in-Package (SiP), this custom development kit is designed for high-performance embedded applications while maintaining a compact form factor.

It integrates essential interfaces such as dual Ethernet, USB, CAN bus, UART, SPI, I²C, and GPIO, making it a robust platform for industrial and IoT applications.

At its core, the OSD32MP157C/F combines an STMicroelectronics STM32MP1 processor with dual Cortex-A7 cores for application processing and a Cortex-M4 for real-time control.

The development board also features an STM32F103 microcontroller, providing additional peripherals and I²C-based communication with the main processor.

READY FOR INDUSTRIAL APPLICATIONS

This embedded platform is engineered for flexibility and connectivity, supporting multiple communication protocols:

- Dual Ethernet interfaces for networking and industrial control
- USB connectivity for data transfer and peripheral integration
- RS-232/RS-485 and CAN bus interfaces for industrial automation and vehicle applications
- SPI and I²C interfaces for sensor and peripheral expansion
- GPIO access

MULTIPLE POWER OPTIONS & DEBUGGING INTERFACES ON DEVELOPMENT BOARD

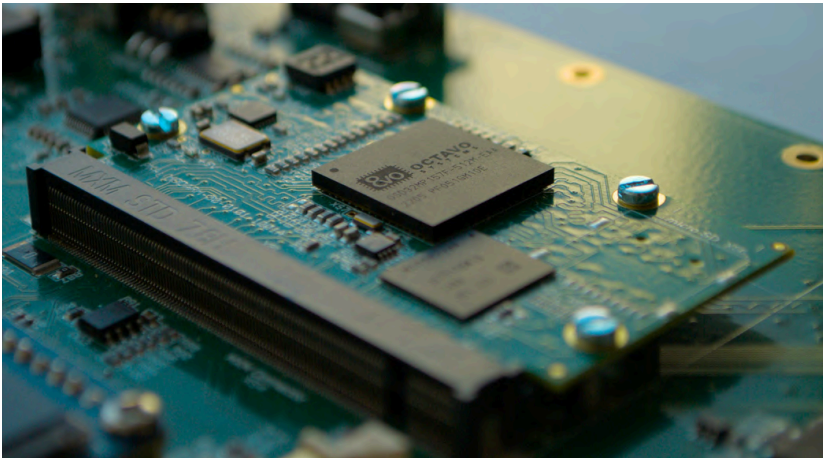
A flexible power control switch allows selection between different power sources, including a 12V power input and USB-C, which can also function as a serial console port. Debugging and development are streamlined with dual JTAG connectors, allowing programming of the STM32F103 via the µQSeven module or an external debugger.

DEVELOPED FOR RELIABILITY AND PERFORMANCE

Designed for embedded developers, this board offers a scalable and secure solution for applications ranging from industrial automation to IoT gateways and real-time data processing. Its high-performance processing, extensive connectivity options, and flexible power management make it a future-proof choice for embedded development.

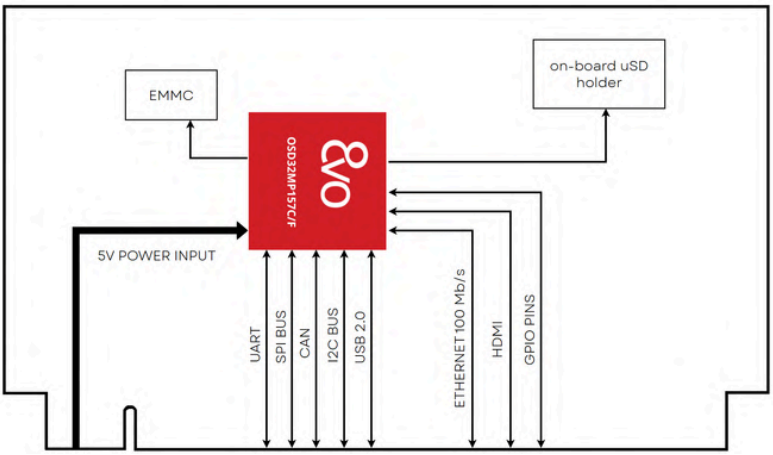
ATRONAX FLEXIBLE SOLUTION

ATRONAX µQSeven Computer Module



Specification	Details
Form Factor	**µQSeven**
System in Package	Octavo OSD32MP15x based on STM32MP157C/F
CPU	dual Arm® Cortex®-A7 Arm® Cortex®-M4: 209MHz
GPU	3D OpenGL 533MHz
Memory	DDR3L 512 MB
Storage	eMMC 8GB Flash + 4KB EEPROM+ µSD card slot
Ethernet	Dual 10/100 Mbps Ethernet interfaces
USB	USB 2.0
Debugging	JTAG
I/O Interfaces	UART, SPI, I²C, GPIO, CAN, HDMI support (developing phase)
Security	Secure Boot supported
Operating System	Yocto based OpenSTLinux
Power Supply	+5V (4.75 to 5.25) Main Power Supply
Dimensions	40 mm x 70 mm (1.58 in x 2.75 in)

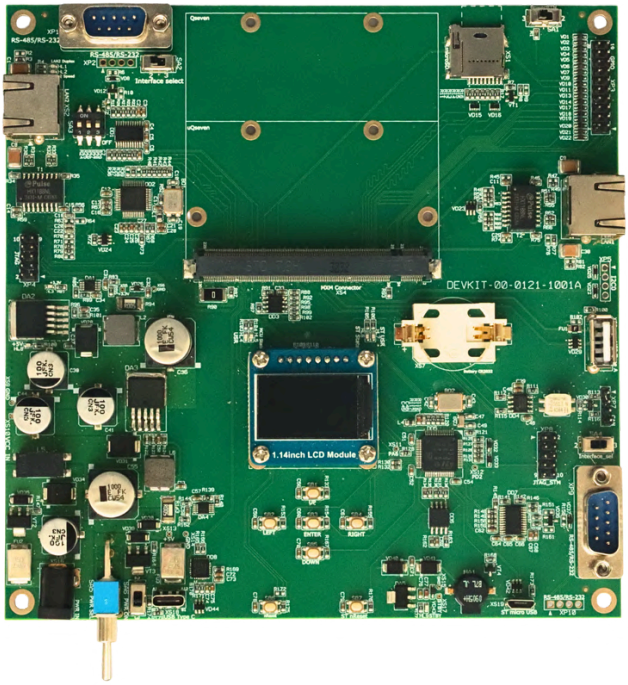
ATRONAX
FLEXIBLE SOLUTION



ATRONAX µQSeven Computer Module block diagram
and available configuration options

Features	MODARM-2131-1001A	MODARM-2132-1001A	MODARM-2135-1001A	MODARM-2136-1001A
System in Package	OSD32MP157F512MEAA	OSD32MP157C512MIAA	OSD32MP157F512MEAA	OSD32MP157C512MIAA
CPU	STM32MP157F Dual Arm® Cortex®-A7 and Arm® Cortex®-M4	STM32MP157C Dual Arm® Cortex®-A7 and Arm® Cortex®-M4	STM32MP157F Dual Arm® Cortex®-A7 and Arm® Cortex®-M4	STM32MP157C Dual Arm® Cortex®-A7 and Arm® Cortex®-M4
CPU Max Frequency	800MHz	650MHz	800MHz	650MHz
SPI, CAN, I2C, UART	YES	YES	YES	YES
HDMI support	**YES**	**YES**	**NO**	**NO**
Temperature Range	**Extended: -20 to 80 C**	**Industrial: -40 to 80 C**	**Extended: -20 to 80 C**	**Industrial: -40 to 80 C**

ATRONAX
FLEXIBLE SOLUTION



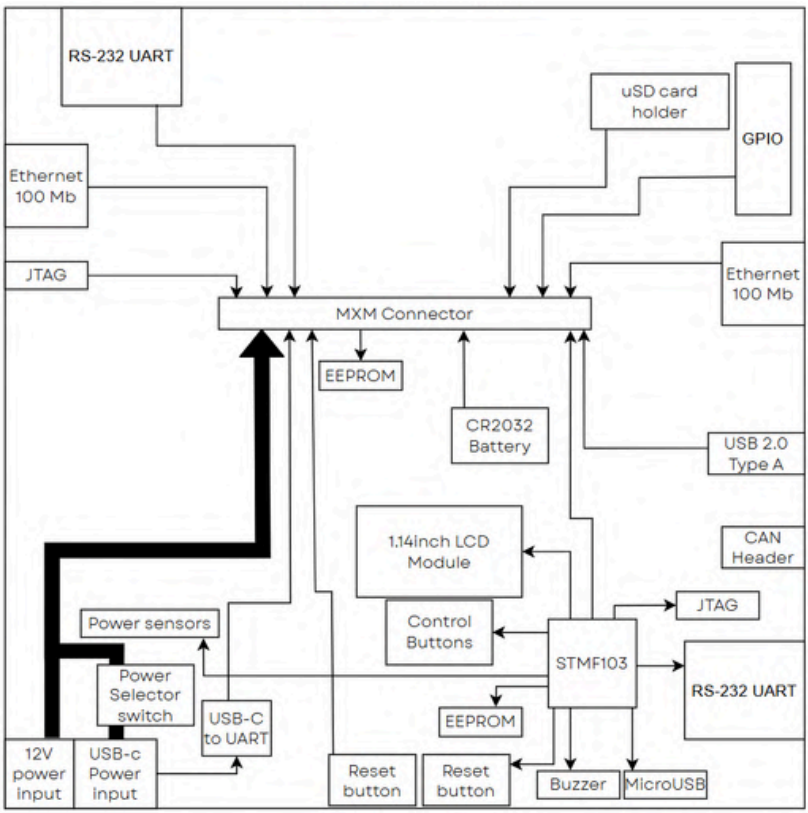
ATRONAX QSeven Development Board

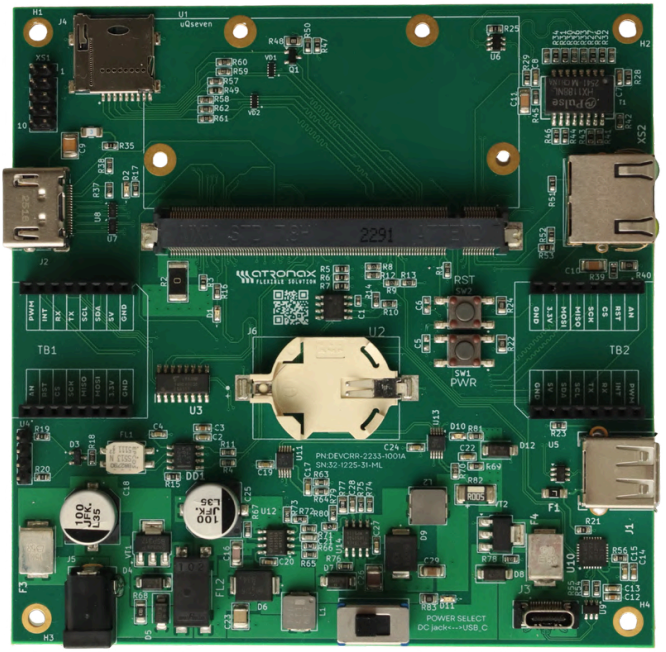
Specification	Details
Form Factor	**Micro-ITX**
Processor	STM32F103
Memory	Serial EEPROM 512 Kbit
Storage	uSD card slot
Debugging	JTAG, UART (RS232)
Connectors	USB 2.0 Type A USB 3.1 Type C Ethernet RJ45 DC Power Barrel Jack
I/O Interfaces	CAN Buttons LEDs
Power Supply Sources	12V DC, USB Type-C RTC Battery
Dimensions	170mm x 170mm

ATRONAX
FLEXIBLE SOLUTION

ATRONAX QSeven Development Board block diagram

Form factor: micro-ITX
Dimensions: 170mm X 170mm





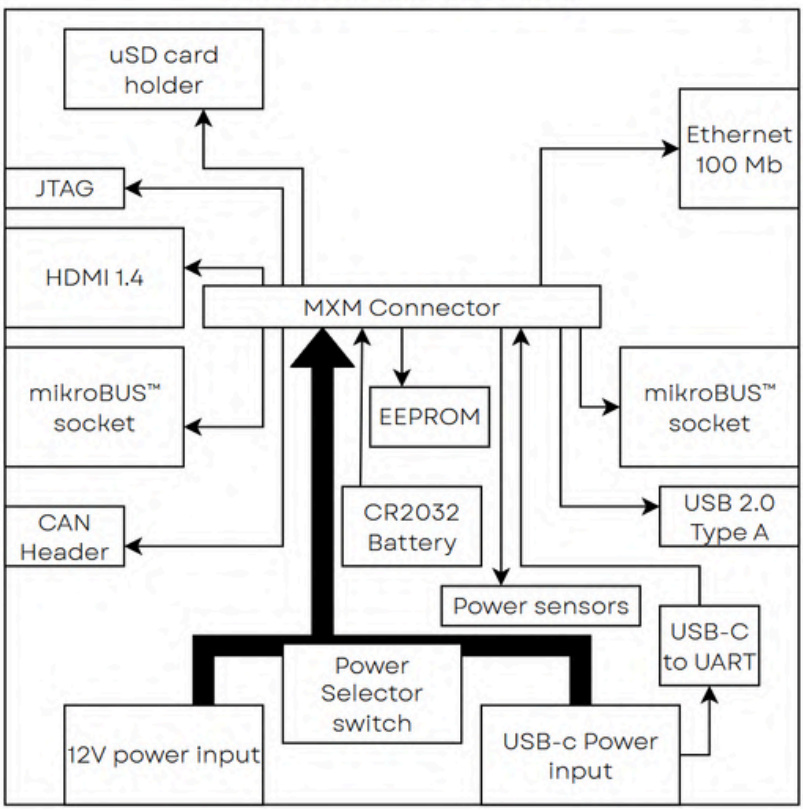
ATRONAX QSeven Development Board

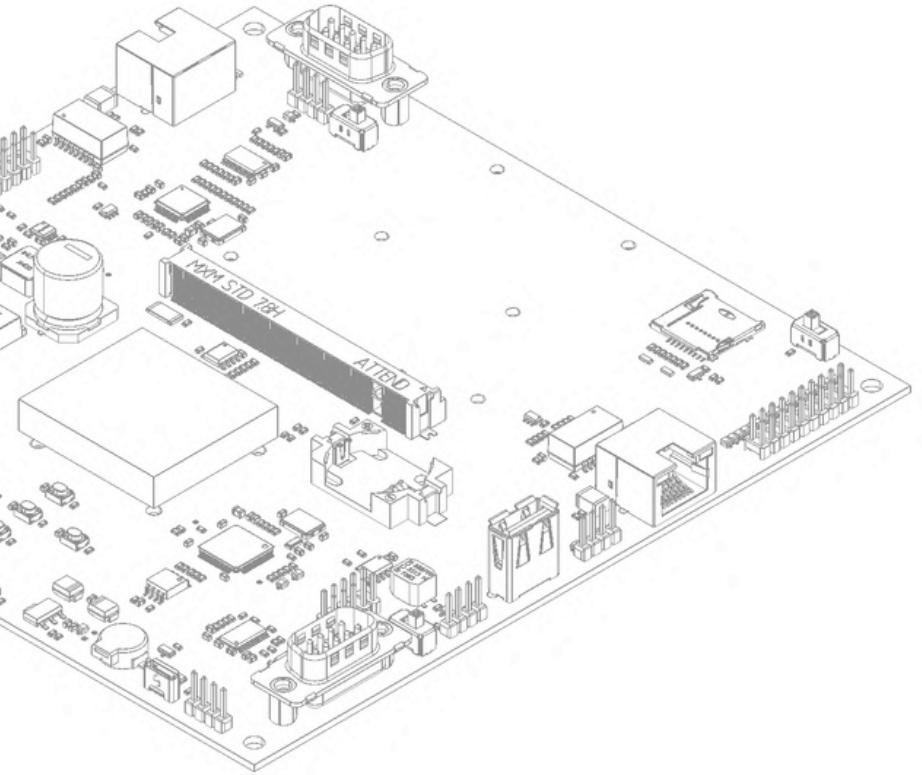
Specification	Details
Form Factor	**Nano-ITX**
Memory	Serial EEPROM 512 Kbit
Storage	uSD card slot
Debugging	JTAG, UART (RS232)
Connectors	USB 2.0 Type A USB 3.1 Type C Ethernet RJ45 DC Power Barrel Jack **HDMI**
I/O Interfaces	CAN Buttons LEDs
Power Supply Sources	12V DC, USB Type-C RTC Battery
Dimensions	120mm x 120mm

ATRONAX FLEXIBLE SOLUTION

ATRONAX QSeven Development Board block diagram

Form factor: nano-ITX
Dimensions: 120mm X 120mm





HS Devices d.o.o. Nis
Pantelejska 25,
18000 Nis, Serbia
www.hsdevices.com
info@hsdevices.com

www.atronax.com

info@atronax.com
sales@atronax.com
support@atronax.com

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