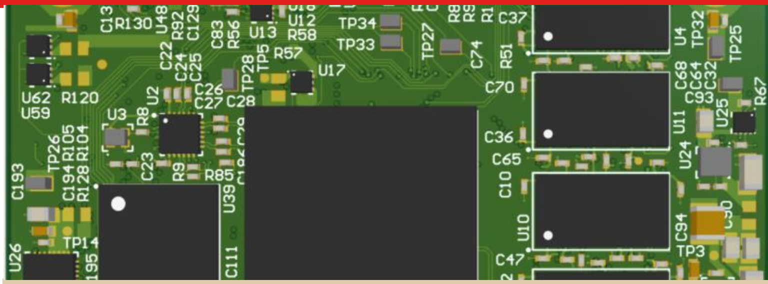
ASTROBOTIC SYSTEM ON MODULE

A NEW STANDARD FOR ROBOTIC COMPUTATION



SCALABLE COMPUTING MODULE

Reliable computing hardware represents a massive engineering hurdle for lunar missions. Using Astrobotic's system on module (SOM) allows an engineering team to quickly integrate computational power into any system.

A single SOM can serve as a robust computer platform for small, teleoperated robots. Missions such as autonomous navigation, and large robots that are more complex can benefit from additional processing nodes. With the SOM's programmable logic and integrated gigabit transceivers, a high-bandwidth data bus and hardware backplane can support many modules in parallel.

TAILORED TO YOUR MISSION'S NEEDS

FASTER TIME TO FLIGHT

Astrobotic engineers will guide you through the hardware and software integration in your system. This allows for quick and easy scaling from COTS prototyping to Radiation Hardened flight models.

HIGHLY CONFIGURABLE

The SOM has a wide range of built-in peripherals, FPGA and high-density board to board connector. This allows it to connect directly to nearly any sensor, camera, actuator or communication bus.

KEY BENEFITS

Rapid Development & Integration
Astrobotic support and documented processes allow rapid integration.

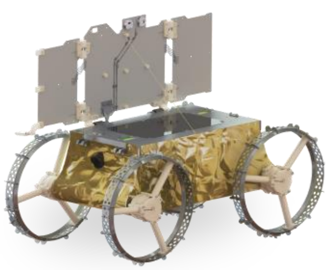
Configurable
With an extremely high pin-count and built-in FPGA, SOM users can interface to nearly any other systems.

Durable
Radiation hardened versions available for missions in harsh environments.

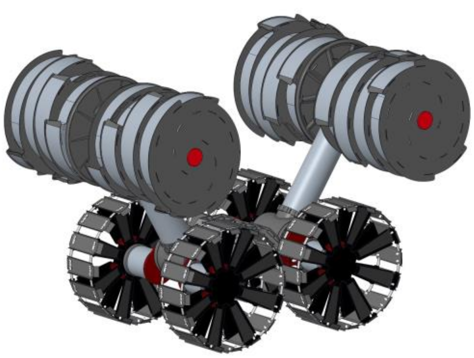
Modular
Multiple SOMs can work together in parallel to support complicated projects.

First Flight Scheduled for Q1 2026

NUMEROUS APPLICATIONS



ROVERS



IN-SITU RESOURCE UTILIZATION

SURFACE INFRASTRUCTURE

ASTROBOTIC | 1016 N. Lincoln Ave, Pittsburgh, PA 15233 | contact@astrobotic.com

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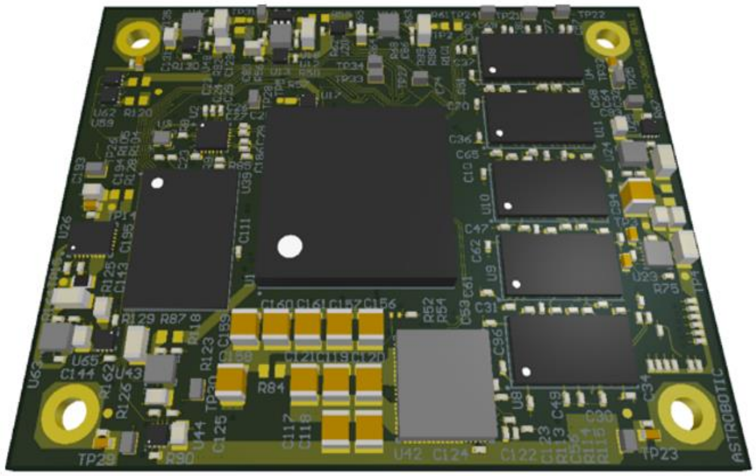
PROCESSOR & MEMORY SPECIFICATIONS

Main Processor	Quad-core ARM Cortex - 1.5GHZ
Real-time processor	Dual-core Arm Cortex - 600MHZ
FPGA	256K Logic Cells
Memory	4GB – Application Storage Space 2GB – DDR4 SDRAM 64MB – Boot-loader & File system Storage 256KB - Embedded Memory with ECC
Graphics Processing	Mali-400 MP2 – 667MHz



INTERFACE & PERIPHERAL SPECIFICATIONS

High-Speed Interfaces	16 x Dedicated IO 1-4 Lane - PCIe Gen3 – 1-4 Lane 2 x Serial ATA 3.1 2 x Display Port 1.2a 2 x USB 3.0
Multiplexed IO Interface	50 x Dedicated IO 2 x UART 2 x CAN 2 x I2C 2 x SPI 2 x SD / SDIO 2.0 2 x USB 2.0
General IO	134
Watch-Dog Timer	1
Real-Time Clock	1
Triple Timer Counter	2

SOFTWARE SPECIFICATIONS

Supported Operating Systems	Xilinx PetaLinux generated Linux Ubuntu – Linux Distribution Yacto – Linux Distribution FreeRTOS Bare Metal Applications

MECHANICAL SPECIFICATIONS

Dimensions	78 x 61 x 9.3 mm
Mass	90g
Mounting	4 x M3 Mounting Holes
Operating Temperature Range	0C to 85C
Storage Temperature Range	-40C to 85C
Shock Rating	450 G's
Random Vibration	10 Grms
TVAC Testing	-20C to 60C x 4 Cycles

ELECTRICAL SPECIFICATIONS

Estimated Power	0.5W – Sleep 10W – Operational
Connector	4 x 160-Pin Micro Blade
Voltage	Single 3.3V Supply Voltage
Part Selection Guidelines	INST-EEE-002

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