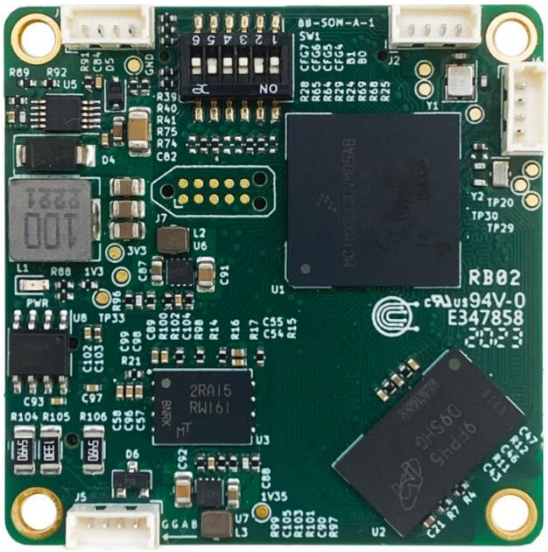
Rugged SOM

Ultra-Compact Embedded Computer Module



DESCRIPTION

The Amphenol Rugged SOM is an ultra-compact embedded computer module for managed switch functionality and multicast in harsh environments. We designed Rugged SOM to provide sophisticated networking in a form factor optimized for size, weight and power (SWaP) limited applications. This brings a new level of network management in a tiny form factor, enabling next generation airborne, robotic and imaging applications to achieve new functionalities.

Rugged SoM stacks onto the back of SwitchBlox Rugged through its RMII ethernet interface to provide full management and multicast capabilities in an ultra-compact, rugged form factor.

Rugged SOM runs a custom distro of embedded Linux and can be accessed via the onboard UART serial port, RS485/422 serial port or USB port in device mode.

HOW TO ORDER

Part Number	CF-02BBSOMSD	SD Card Memory
Part Number	CF-02BBSOMEMMC	eMMC Memory

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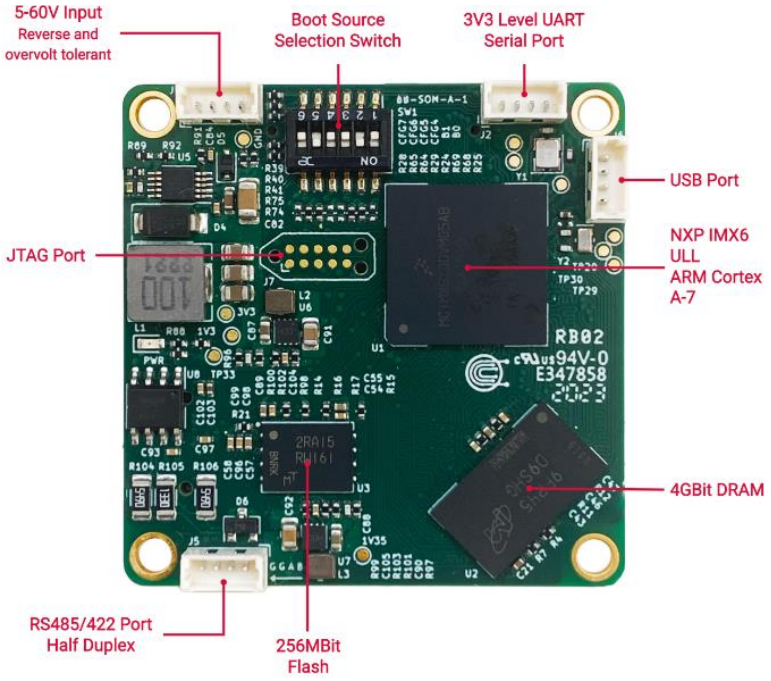
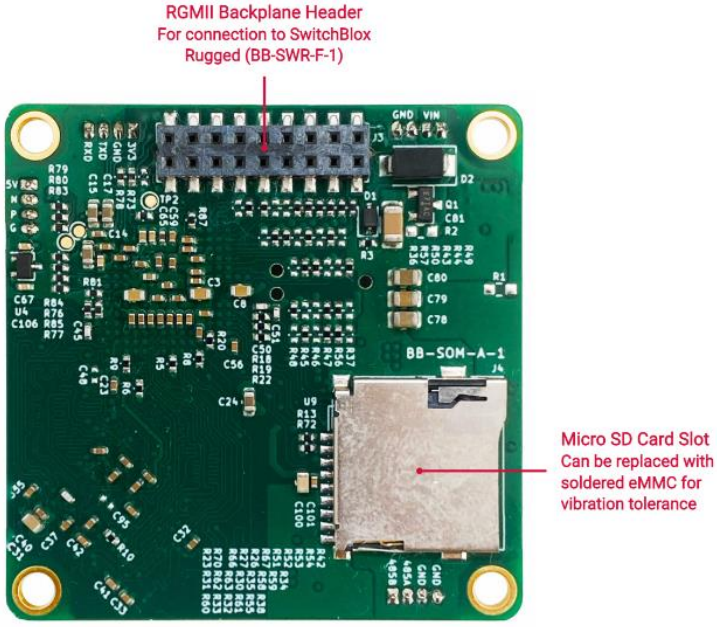
BOARD MAP





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RUNNING CUSTOM DISTRO OF LINUX, BUILT WITH YOCTO

Rugged SOM runs a custom distribution of Linux, built with the Yocto project, designed to achieve

- RSTP/STP
- VLAN (IEEE 802.1Q Tag Based or Port Based)
- Multicast routing (IGMP V2/V3 and MLD)
- QoS (IPv4/IPv6, QoS/CoS packet prioritization - 802.1p)
- Other basic switch management features
- Generic linux bridge functionality
- Generic linux access management features
- Tshark and TCPDump integrated for network debugging
- Firmware update over serial ports

These features are accessible via a command line interface (CLI) over the UART serial (UART1) or RS485/422 (UART2). We also aim to bring up the board in USB device mode for access via USB-OTG header.

HARDWARE

Rugged SOM is designed with the same environment specifications as our other Rugged boards, achieving a -40C to 85C operating range, and a maximum operating altitude of 30,000 feet. Rugged SOM can be powered from a wide, unprotected voltage range (5V to 60V), and can tolerate reverse voltage and overvoltage.

Rugged SOM itself is purely a compute module, housing only a single ethernet port on its stacking header on the back. It is designed to stack onto the back of SwitchBlox Rugged (CF-02BBSWR), our compact 5 port ethernet switch, achieve a fully managed network switch with Layer 2 functions.

SPECIFICATIONS

Input Voltage Range	5-60V (Reverse and overvoltage protected)
Power consumption	400mW (Max)
Ports	1 x 10/100MB Ports (RGMII), (5 x 10/100Mb ports when stacked with SwitchBlox rugged), UART serial, RS485/422 Half Duplex Serial, USB
Operating Temperature	-40°C to +85°C
Storage Temperature	-55°C to +125°C
Dimensions	45mm x 45mm x 18mm
HS Tariff Code	84719000
US ECCN	EAR99

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