

# A38X MicroSom

[a38x](#), [usom](#), [microsom](#), [SR-uSOM](#)



## Description

SolidRun's leading System on a Module (38x-MicroSoM™) family is designed for embedded systems product developers and OEMs. SolidRun has packed a Marvell ARMADA 38x SoC (System-on-Chip), memory subsystem, I/O and interconnected subsystems into a single ultra-compact System-on-Module sized at 35mm x 50mm. The MicroSoM is available in a variety of power, memory and storage configurations, offering engineers a unique set of off-the-shelf design features and benefits such as faster time to market, lowers design costs and reduced risks.

## Hardware specification

- Detailed Hardware specification of the A38X MicroSom can be found here:  
A38X MicroSom Specs
- Detailed Clearfog specification can be found here:  
Clearfog Specs
- Detailed A38X Carrierboard specification can be found here:  
A38X Carrierboard
- Additional Documents: A38X MicroSom Documents

## Comparison Table

SolidRun offers several MicroSOMs with varying capability, differentiated primarily by processing cores, network capability, and integrated memory amount.

Description/Model	MicroSom A388
<b>System on Chip</b>	Marvell Armada 388 (88F6828)
<b>Processor Core</b>	Dual core ARM Cortex-A9
<b>Processor Speed</b>	Up to 1.6GHz commercial, Up to 1.3GHz industrial grade
<b>Floating Point</b>	✓
<b>SIMD</b>	Neon
<b>L1 Cache</b>	32KB per core

Description/Model	MicroSom A388
<b>L2 Cache</b>	1MB shared
<b>Memory Type</b>	32 bit DDR3L
<b>ECC</b>	Optional
<b>Memory Capacity</b>	1GByte (up to 2GB)
<b>SPI Flash</b>	Optional
<b>eMMC</b>	Optional
<b>Connectivity</b>	
<b>10/100/1000 Mbps MAC</b>	3 Ports
<b>On uSOM GE PHY</b>	1
<b>SDIO</b>	✓
<b>I2S / SPIDF / TDM</b>	✓
<b>USB 2.0</b>	3
<b>RTC Support (battery on carrier)</b>	✓
<b>GPIO pins</b>	✓
<b>Power Managements Signaling</b>	✓
<b>JTAG</b>	✓
<b>Connectivity - MUXED SERDES Interfaces</b> <sup>2</sup>	6
<b>mSATA</b>	4xGen III
<b>PCIE 2.0 x1</b>	4xGen II
<b>USB 3.0 Requires USB 2.0 port too)</b>	2
<b>QSGMII</b>	1xQSGMII (3 MACs)
<b>OS Support</b>	U-boot, Linux Kernel 3.x, OpenWRT, Yocto
<b>Mechanical and Electronic specifications</b>	
<b>Temperature Range</b>	Commercial / Industrial
<b>Supply Voltages</b>	3.3V - 5V
<b>I/O Voltage</b>	3.3V, 1.8V
<b>SOM Interface</b>	Hirose DF40 connectors 1.5mm to 3mm mating height
<b>Dimensions (W x L)</b>	49mm x 32.5mm

<sup>1</sup> Not supported by default. Can be supported per customer's request

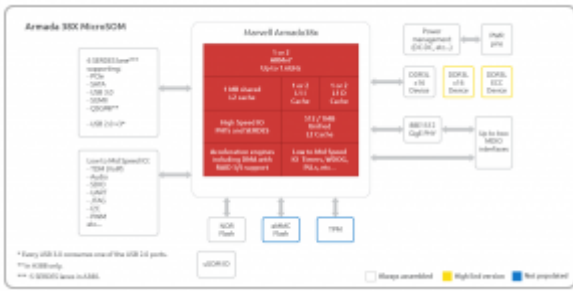
<sup>2</sup> Refer to the SR-Armada-uSOM-Reference-Manual for complete table

MicroSom available in Commercial (0°C ~ 70°C ambient) and Industrial grade (-40°C ~ 85°C ambient).

ARMADA 38x SoC maximum die temperature must be below 115°C in both Commercial and Industrial grades.

ARMADA 38x SoC processor maximum speed for industrial grade devices is 1.3GHz

## Block Diagrams



### Connectors

- \* SoM connector part number is "DF40C-80DP-0.4V(51)" from HIROSE.
- \* Carrier board connector part number that we use (1.5mm mating height) is "DF40C-80DS-0.4V(51)" from HIROSE.

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