

# Intel Braswell IBX MicroSom

[ibx](#), [usom](#), [microsom](#), [SR-uSOM](#), [intel](#), [braswell](#)



## Description

Simplify the development process and move your product quickly to market with SolidRun's Micro-System on a Module (MicroSoM™) family. Embedded system product developers and OEMs can easily leverage the advanced capabilities of Intel's Pentium and Atom (Codename Braswell) line of 14 nm CPUs. With the MicroSoM's Windows IoT, Linux and Android support, sized at just 53mm x 40mm, no-sweat power management, power efficiency, and high-definition graphics capabilities, your time to market will be quicker than ever.

## Comparison Table

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

Description/Model	MicroSom IB8000	MicroSom IB3710
<b>System on Chip</b>	Intel Atom E8000	Intel Pentium N3710
<b>Processor Core</b>	4	4
<b>Memory (RAM)</b>	1GB/2GB/4GB/8GB	Up to 8GB (default size) <sup>1</sup>
<b>CPU HFM Clock (GHz)</b>	1.04, Burst 2.00	1.60, Burst 2.56
<b>Graphic GPU</b>	Intel Gen8 LP - 12EU	Intel Gen8 LP - 16EU
<b>GPU HFM Clock (MHz)</b>	320, Turbo Clock 600	400, Turbo Clock 700
<b>Max Resolution DP 1.1a, HDMI 1.4b)</b>	3840×2160 @30 Hz, 2560×1600 @60; 24 bpp. eDP 1.4 Max 2560×1600 @60; 24bpp	3840×2160 @30 Hz, 2560×1600 @60; 24 bpp. eDP 1.4 Max 2560×1600 @60; 24 bpp
<b>Junction temp. range</b>	0C-90C	0C-90C
<b>Dimensions</b>	52.8mm x 40mm	52.8mm x 40mm
<b>Max. height from carrier</b>	6.1mm to 8.6mm (depending on DF40 1.5-4.0 mm mating height on carrier board)	6.1mm to 8.6mm (depending on DF40 1.5-4.0 mm mating height on carrier board)
<b>Mechanical fastening</b>	3 x M1.8 mechanical holes	3 x M1.8 mechanical holes
<b>DDR-3L</b>	Onboard one channel (1GByte version) and dual channel (all other) DDR3L 1600Mbps , up to 8GByte total	Onboard one channel (1GByte version) and dual channel (all other) DDR3L 1600Mbps , up to 8GByte total

Description/Model	MicroSom IB8000	MicroSom IB3710
<b>Network</b>	Onboard 10/100/1000 Mbps (RTL8111G)	Onboard 10/100/1000 Mbps (RTL8111G)
<b>SPI flash (for BIOS)</b>	Onboard 64 Mbit - externally programmable via 8 pin header	Onboard 64 Mbit - externally programmable via 8 pin header
<b>eMMC</b>	Optional - from 8GB to 128GB	Optional - from 8GB to 128GB <sup>1</sup>
<b>PMIC</b>	Onboard - battery powered optimized	Onboard - battery powered optimized
<b>Vin (Vsys)</b>	Single 7v to 21v	Single 7v to 21v
<b>Voltages out for carrier</b>	MicroSoM™ provides voltage for carrier - V5S (2.8A), V3P3S (2.1A), V3P3A (2.8A), V1P8A (1.75A), V1P8S (1.05A)	MicroSoM™ provides voltage for carrier - V5S (2.8A), V3P3S (2.1A), V3P3A (2.8A), V1P8A (1.75A), V1P8S (1.05A)
<b>B2B Connectivity</b>	3x80 pin Hirose DF40 (1.5mm to 4mm mating)	3x80 pin Hirose DF40 (1.5mm to 4mm mating)
<b>Display</b>	4K30 DisplayPort / HDMI and 4K30 DisplayPort / embedded DisplayPort	4K30 DisplayPort / HDMI and 4K30 DisplayPort / embedded DisplayPort
<b>Camera</b>	Via Flex cable - One 4 lane MIPI CSI-2 and one 2 lane MIPI CSI-2	Via Flex cable - One 4 lane MIPI CSI-2 and one 2 lane MIPI CSI-2
<b>USB 3.0</b>	4 (one of them OTG)	4 (one of them OTG)
<b>PCIe Gen 2.0 1 lane</b>	3	3
<b>SATA 6 Gbps gen III</b>	2	2
<b>Full UART</b>	2	2
<b>I2C</b>	1	1
<b>HD Audio</b>	On carrier board	On carrier board
<b>MCU: STM32F042K4U6</b>	On board - 5 generic input/output, 1 x HDMI CEC, and 1 x IR input Connected by internal USB to main processor Reset and boot signals of MCU are processor-controlled to ease development	On board - 5 generic input/output, 1 x HDMI CEC, and 1 x IR input Connected by internal USB to main processor Reset and boot signals of MCU are processor-controlled to ease development
<b>SD interface</b>	4 data pins with programmable 3.3v / 1.8v voltage rail	4 data pins with programmable 3.3v / 1.8v voltage rail
<b>PMU</b>	2 wakeup signals and other power management indications	2 wakeup signals and other power management indications
<b>RTC Battery</b>	RTC switchover on MicroSoM, 3.3v battery on carrier	RTC switchover on MicroSoM, 3.3v battery on carrier
<b>GPIOs</b>	Multiplexed with multiple functions, including: UART, I2C, SATA DevSlp, PCIE CLKREQ, SDI	Multiplexed with multiple functions, including: UART, I2C, SATA DevSlp, PCIE CLKREQ, SDI

<sup>1</sup> Please note that the 8GB RAM configuration can not boot from eMMC. eMMC can only be used as storage in that configuration.

## External Links

- <https://www.solid-run.com/intel-braswell-family/braswell-som-system-on-module/>

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