

SOM i.MX8M

Datasheet

NXP i.MX8M based System on Module | Rev. 2.0



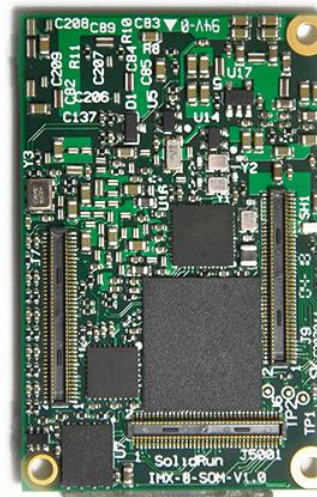
Overview

SolidRun's [i.MX8M](#) based System on Module (SOM) harnesses NXP's powerful i.MX8M in a flexible & compact SOM including a memory subsystem, power management subsystem, networking and system interconnectivity.

The i.MX8 SOM will allow developers and OEMs to simplify the production cycle and reduce time-to-market drastically.

SOM i.MX8M Highlighted Features

- ❖ Based on NXP's i.MX8M dual/quad-core Arm Cortex A53 processor, Cortex M4 general purpose processor
- ❖ 4K UltraHD, full HDR, 20 audio channels & Dolby Vision
- ❖ Up to 4GB LPDDR4 3200
- ❖ Tiny footprint (47mm x 30mm)



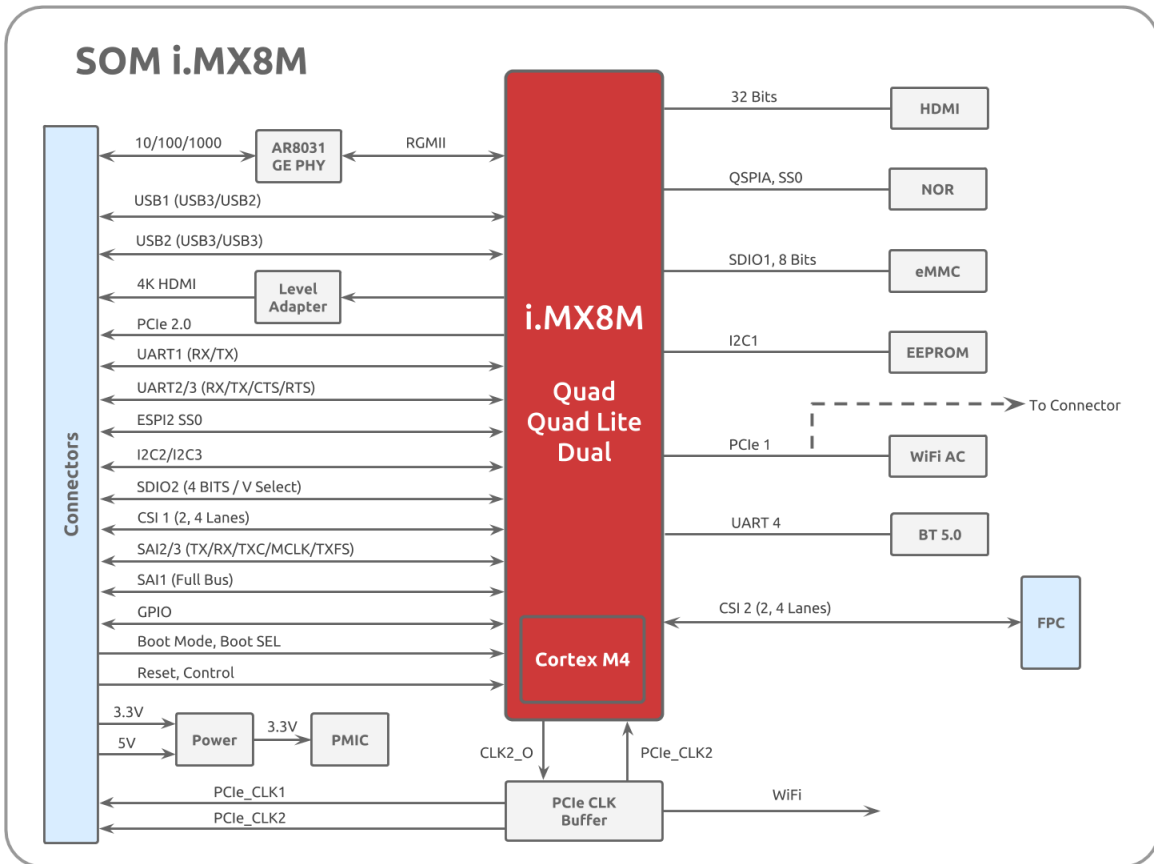
System Specifications

	SOM i.MX8M Dual	SOM i.MX8M Quad Lite	SOM i.MX8M Quad
Processor	NXP i.MX8M dual Arm Cortex A53	NXP i.MX8M Quad Arm Cortex A53	NXP i.MX8M Quad Arm Cortex A53
General Purpose Processor	Arm Cortex M4	Arm Cortex M4	Arm Cortex M4
Processor Speed	1.5GHz Commercial 1.3GHz Industrial	1.5GHz Commercial 1.3GHz Industrial	1.5GHz Commercial 1.3GHz Industrial
Floating Point	VFPv4	VFPv4	VFPv4
SIMD	NEON	NEON	NEON
Graphic Processing Unit	Vivante GC7000 Lite	Vivante GC7000 Lite	Vivante GC7000 Lite
3D GPU Support	OpenGL ES1.1/2.0/3.0/3.1, OpenCL 1.2 & Vulkan	OpenGL ES1.1/2.0/3.0/3.1, OpenCL 1.2 & Vulkan	OpenGL ES1.1/2.0/3.0/3.1, OpenCL 1.2 & Vulkan
HW Video Dec/Enc	Multi Format	Multi Format	Multi Format
Memory	32bit up to 3GB LPDDR4	32bit up to 3GB LPDDR4	32bit up to 3GB LPDDR4
Wired Network	10/100/1000Mbps	10/100/1000Mbps	10/100/1000Mbps
Wireless Network	802.11 ac/a/b/g/n (Optional)	802.11 ac/a/b/g/n (Optional)	802.11 ac/a/b/g/n (Optional)
Bluetooth	BT 5.0 (Optional)	BT 5.0 (Optional)	BT 5.0 (Optional)
Display Max Resolution	4K @60	4K @60	4K @60
Display Interfaces	HDMI 2.0, MIPI-DSI	HDMI 2.0, MIPI-DSI	HDMI 2.0, MIPI-DSI
Dual Display Support	✓	✓	✓
Supported External Storage	NOR-Flash SD/microSD PCIe SSD	NOR-Flash SD/microSD PCIe SSD	NOR-Flash SD/microSD PCIe SSD
Supported Internal Storage	eMMC, QSPI-NOR (Optional)	eMMC, QSPI-NOR (Optional)	eMMC, QSPI-NOR (Optional)
SD/MMC	2	2	2
USB 3.0	2	2	2
Serial Ports	2 (RTS/CTS/RX/TX) +1 (TX/RX)	2 (RTS/CTS/RX/TX) +1 (TX/RX)	2 (RTS/CTS/RX/TX) +1 (TX/RX)
Digital Audio Serial Interface	20 channels 32bits @384khz DSD512 SPDIF TX&RX HDMI ARC Dolby	20 channels 32bits @384khz DSD512 SPDIF TX&RX HDMI ARC Dolby	20 channels 32bits @384khz DSD512 SPDIF TX&RX HDMI ARC Dolby
Camera Interface Port	2x MIPI-CSI2 (4 Lane each)	2x MIPI-CSI2 (4 Lane each)	2x MIPI-CSI2 (4 Lane each)
PCIe 2.0	Up to 2	Up to 2	Up to 2
I2C	2	2	2
SPI	1	1	1
PWM	4	4	4
GPIO	75	75	75
JTAG	Test Point Header	Test Point Header	Test Point Header
RTC	✓	✓	✓
OS	Linux, Android	Linux, Android	Linux, Android
Temperature Range	Commercial, Industrial	Commercial, Industrial	Commercial, Industrial
Voltage	5V (3.3V IO Voltage)	5V (3.3V IO Voltage)	5V (3.3V IO Voltage)
Dimensions	47mm x 30mm	47mm x 30mm	47mm x 30mm

Available SKUs for SOM i.MX8M

SKU	Description
SRMX8DUWB1D01GE008V20C0	i.MX8M Dual 8GB eMMC 1GB RAM Inc. WiFi/BT R2.0
SRMX8DUW00D01GE008V20C0	i.MX8M Dual 8GB eMMC 1GB RAM R2.0
SRMX8QDWB1D02GE008V20C0	i.MX8M Quad 8GB eMMC 2GB RAM Inc. WiFi/BT R2.0
SRMX8QDWB1D03GE008V20C0	i.MX8M Quad 8GB eMMC 3GB RAM Inc. WiFi/BT R2.0
SRMX8QDW00D03GE008V20C0	i.MX8M Quad 8GB eMMC 3GB RAM R2.0
SRMX8QDW00D02GE008V20C0	i.MX8M Quad 8GB eMMC 2GB RAM R2.0

SOM i.MX8M Block Diagram



Safety Notice

- a. This device is to be used with Certified Power adaptor with output rated 5VDC, 1.5A. Power adapter must meet Limited power source (LPS) requirements.
- b. Power adapter must meet local safety standards and requirements based on product intended use.
- c. Power adapter must meet Operating environment conditions as specified above.

Disposal

Follow local regulations regarding disposal of the product. Dispose of your product in accordance with local regulations. In some areas, the disposal of these items in household or business trash may be prohibited.

Help us protect the environment- recycle!

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For technical support please visit:

Our Developer Resources – <http://developer.solid-run.com/>

Our Forums - <http://forum.solid-run.com/>

For direct support please contact us at: support@solid-run.com

Documentation

Additional documentation available at:

<https://developer.solid-run.com/products/i-mx8m-som/>