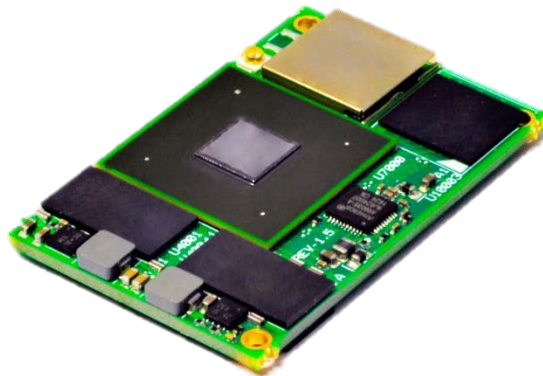# NXP-Freescale i.MX6

SOM i1

Single Core SOM (System-On-Module)
Rev 1.5

Simple. Robust. Computing Solutions

SolidRun Ltd.

7 Hamada st.,

Yokne'am Illit, 2495900, Israel

www.solid-run.com

Overview

The entry level SOM featuring a single core and 512 MByte of DRAM with a 1GHz processor and onboard storage.

SOM i1 Highlighted Features

- Based on NXP's iMX6 Single Core SoC

- 512MB DDR3

- Onboard 8GB eMMC

- Small size 47mm×30mm

- Variety of temperature grades:

  - Commercial 0°C...60°C

  - Industrial -40°C...85°C

  - Automotive -40°C...105°C

- Long longevity of 10 years
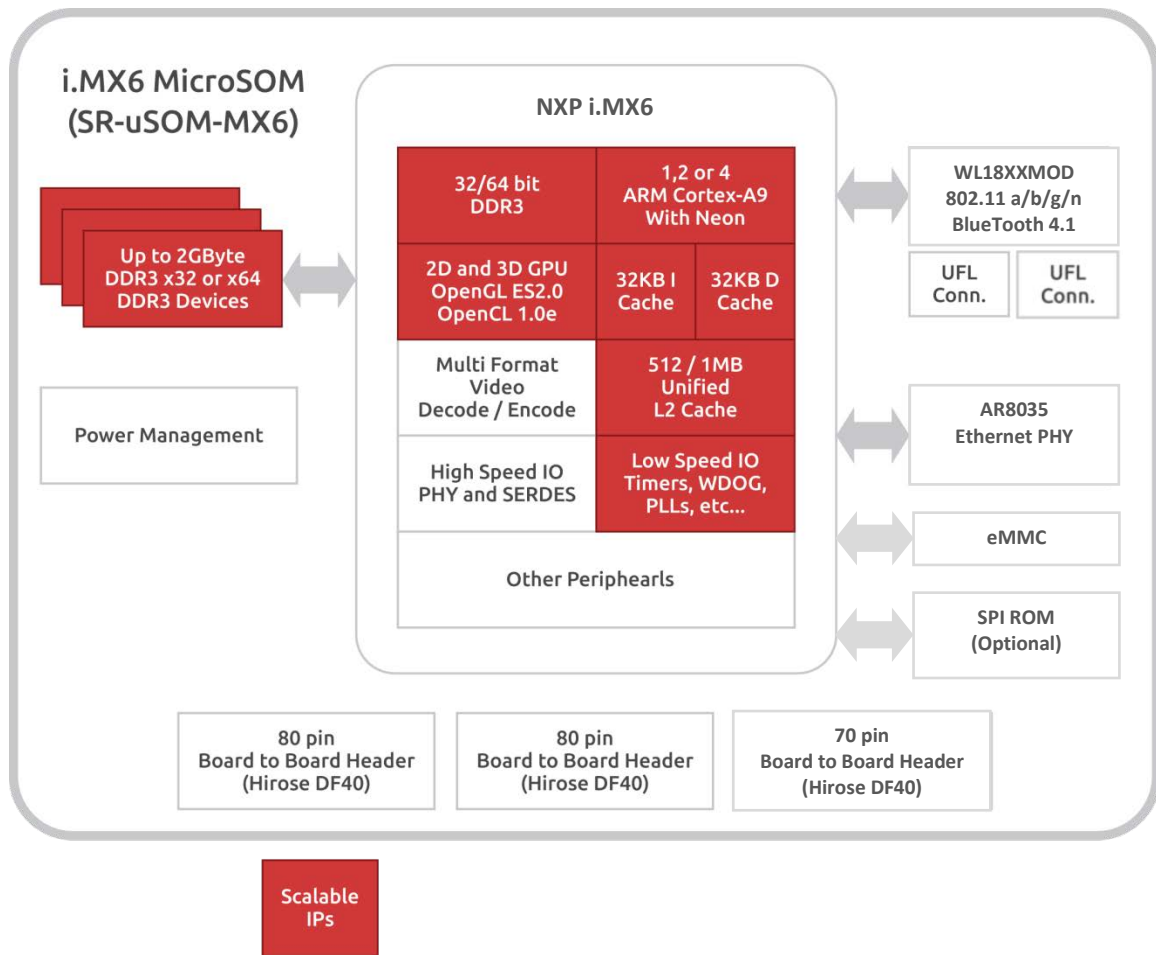
- Low power consumption

- Broad SW support (Linux)

System Specifications

i.MX6 Solo	
System On Chip	i.MX6 Solo
Processor core	Single core ARM A9
Processor speed	1GHz (up to 1.2GHz)
Floating Point	VFPv3
SIMD	NEON
Graphics Processing Unit	Vivante GC880
3D GPU Support	OpenGL ES1.1/2.0
HW Video Dec/Enc	Multi Format
Memory	32 bit, 512MB DDR3 @ 800Mbps
Wired Network	10/100/1000 Mbps* Mbps
Wireless Network	Optional (WL1831)
Bluetooth	Optional (WL1831)
Display Max resolution	HDMI: 1080p, LCD: WUXGA(1920 x 1200)
Display Interfaces	LVDS, HDMI 1.4, DSI, Parallel
Dual display support	✓
Supported Internal Storage	eMMC, SPI ROM (Optional)
Supported External Storage	NOR-Flash, eMMC, SD/microSD, PCIe SSD
SD/MMC	3
USB 2.0 host	1
USB OTG	1
Serial ports	3
Digital audio serial interface	1
Camera interface port	2 Lane CSI
CAN bus	✓
S-ATA	–
PCI-Express 2.0	x1
Second Ethernet	Via PCIe or USB NIC
I2C	3
SPI	3
PWM	4
GPIO	75
JTAG	Test Point Header
S/PDIF Input	✓
S/PDIF Output	✓
1-Wire	1-Wire Transceiver on carrier board
RTC	On Carrier
Linux Support	✓

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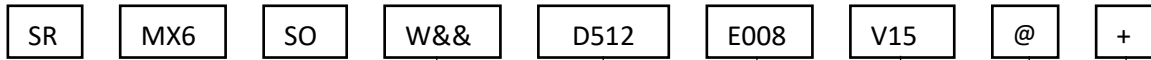|	
Temperature range	Commercial, Industrial, Automotive
Main Voltage	5V
IO Voltage	3.3V
SOM interface	Hirose DF40 connectors 1.5mm up to 4.0mm mating height
Dimensions (W x L)	47mm x 30mm

(*) Note that due to internal i.MX6 buses the 1000Mbps interface speed is limited to 470Mbps.

Block Diagram

i.MX6 MicroSOM (SR-uSOM-MX6) block diagram showing NXP i.MX6, Up to 2GByte DDR3 x32 or x64 DDR3 Devices, Power Management, 80 pin / 80 pin / 70 pin Board to Board Headers (Hirose DF40), Scalable IPs, WL18XXMOD 802.11 a/b/g/n BlueTooth 4.1, UFL Conn., AR8035 Ethernet PHY, eMMC, SPI ROM (Optional). NXP i.MX6 internal blocks: 32/64 bit DDR3; 1,2 or 4 ARM Cortex-A9 With Neon; 2D and 3D GPU OpenGL ES2.0 OpenCL 1.0e; 32KB I Cache; 32KB D Cache; Multi Format Video Decode / Encode; 512 / 1MB Unified L2 Cache; High Speed IO PHY and SERDES; Low Speed IO Timers, WDOG, PLLs, etc…; Other Periphearls.

Ordering Information

SKU Format

SR	MX6	SO	W&&	D512	E008	V15	@	+

WiFi/BT	W&&
W00	No WiFi/BT
WT1	Include WiFi/BT

Memory*	D512
D512	512MB DDR3

(*) Different configurations available for MOQ

Storage*	E008
E008	8GB eMMC

(*) Different configurations available for MOQ

Revision	V15
V15	Revision 1.5

Temperature	@
C	Commercial (0C…60C)
I	Industrial (-40C…85C)
A	Automotive (-40C…105C)

Fusing	+
0	Unfused
F	Fused (Boot from uSD)

Available* SKUs for SOM i1

SKU	Description
SRMX6SOW00D512E008V15C0	iMX6 Solo|No WiFi/BT|512MB DDR|8GB eMMC|Com. Temp|R1.5|Unfused
SRMX6SOWT1D512E008V15C0	iMX6 Solo|TI WiFi/BT|512MB DDR|8GB eMMC|Com. Temp|R1.5|Unfused
SRMX6SOW00D512E008V15I0	iMX6 Solo|No WiFi/BT|512MB DDR|8GB eMMC|Ind. Temp|R1.5|Unfused
SRMX6SOWT1D512E008V15I0	iMX6 Solo|TI WiFi/BT|512MB DDR|8GB eMMC|Ind. Temp|R1.5|Unfused
SRMX6SOW00D512E008V15A0	iMX6 Solo|No WiFi/BT|512MB DDR|8GB eMMC|Auto. Temp|R1.5|Unfused
SRMX6SOWT1D512E008V15A0	iMX6 Solo|TI WiFi/BT|512MB DDR|8GB eMMC|Auto. Temp|R1.5|Unfused

(*) Different configurations available for MOQ

Available Accessories and Carrier Boards

SKU	Description
HS00010	SOM Heatsink
AN00001	2.4Ghz WiFi UFL Antenna
SRHBCEE000CV14	HummingBoard Edge|No eMMC|Com. Temp|R1.4
SRHBCGE000CV14	HummingBoard Gate|No eMMC|Com. Temp|R1.4
SRHBCPE000CV35	HummingBoard Pro|Com. Temp|R3.5
SRHBCBE000CV35	HummingBoard Base|Com. Temp|R3.5
SRCBCBE000CV11	CuBox Base|Com. Temp|R1.1
SRCBCPE000CV11	CuBox Pro|Com. Temp|R1.1

Safety Notice

a. This device is to be used with Certified Power adaptor with output rated 5VDC, 3A. 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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Additional documentation available at:

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