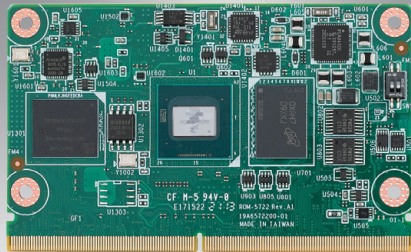


# ROM-5722

## NXP i.MX8M Plus Cortex®-A53 SMARC 2.1 Computer-on-Module

NEW



### Introduction

ROM-5722 SMARC 2.1 Computer-on-Module is powered by NXP i.MX8M Plus SOC which includes up to 4 Arm Cortex-A53 cores in combination with one Cortex-M7 real time processor and Vivante GC7000UL graphics engine. It provides USB2.0, USB3.2 Gen1By1, Gigabit Ethernet, MIPI-CSI, PCI Express, Dual channel LVDS for embedded applications.

ROM-5722 is paired with SOM-DB2510 carrier board for faster end product peripheral integration and time-to-market. The reference schematics and layout checklists documentations for carrier board development will be provided along with the open-sourced Linux BSP, test utilities, hardware design utilities and reference drivers.



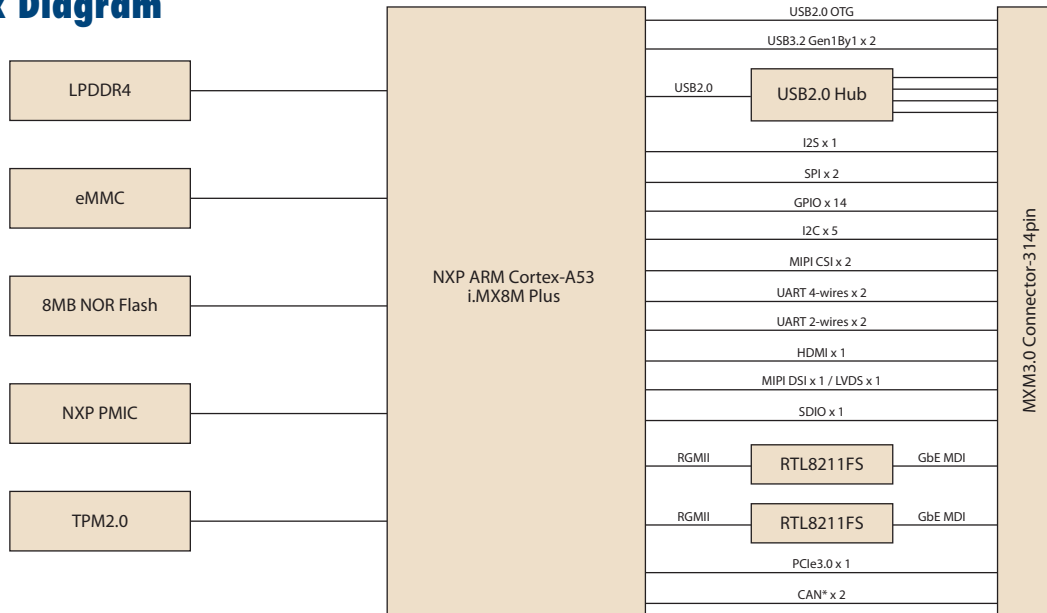
### Features

- NXP Arm® Cortex®-A53 i.MX8M Plus Quad/Dual up to 1.8 GHz
- 1 x Arm Cortex-M7 core
- Onboard LPDDR4 4 GB/6 GB, 4000MT/s memory
- 1 x HDMI 2.0, 1 x 4 lane MIPI-DSI, 1 x Dual channel LVDS
- 2 x USB3.2 Gen1By1, 4 x USB2.0, 1 x USB 2.0 OTG, 4 x UART, 5 x I2C, 14 x GPIO, 1 x PCIe3.0, 2 x Gigabit LAN, 2 x CAN (CANBus for CQ, CAN-FD for WQ)
- Neural network accelerator up to 2.3 TOPS
- Supports Yocto Linux and Android

### Specifications

Form Factor		SMARC2.0 & SMARC2.1 compliance
Processor System	CPU	NXP i.MX8M Plus Cortex-A53 Quad/Dual core (up to 1.8GHz)
	MCU	1 x Arm Cortex-M7 core
Memory	Technology	LPDDR4 4000MT/s
	Capacity	On-board 4GB/6GB LPDDR4
	Flash	16 GB eMMC NAND Flash for O.S. and 8 MB QSPI NOR Flash for board information
NPU		2.3 TOP/s Neural Network performance
Graphics	LVDS/MIPI DSI	1 x 4 lane MIPI-DSI, 1 x Single channel LVDS or 1x Dual channel LVDS
	HDMI	1 x HDMI up to 3840 x 2160 at 30Hz
	Parallel RGB	-
	VGA	-
	Graphics Engine	GC7000UL with 2D/3D Graphic Acceleration supporting 1G Pixel/s, OpenVG 1.1, Open GL ES3.1, Vulkan, and Open CL 1.2 FP.
Ethernet	H/W Video Codec	Decoder: H.265, H.264, VP8/9 1080p Encoder:H.264, VP8 1080p
	Chipsset	2 x NXP i.MX8M Plus integrated RGMII
	Speed	2 x 10/100/1000 Mbps
RTC	RTC	Yes
WatchDog Timer		Yes (1-6553s, power on/off 4s)
Security		TPM 2.0
I/O	PCIe	1 x PCIe 3.0
	SATA	-
	USB	2 USB3.2 Gen1By1 4 USB 2.0 1 USB 2.0 OTG
	Audio	2 x I <sup>2</sup> S
	SPDIF	-
	SDIO	1
	Serial Port	2 x 4-wire UART and 2 x 2-wire UART
	SPI	3
	CAN	2 (CANbus for ROM-5722C*, CAN-FD for ROM-5722W*)
	GPIO	14
	I <sup>2</sup> C	5
	Camera Input	1 x 4-lane MIPI CSI, 1 x 2-lane MIPI CSI
	System Bus	-
	Touch	-
Keypad	-	
Power	Power Supply Voltage	Fixed 5V DC source and allow 3.3 V ~ 5.25 V operates directly from single level Lithium Ion cells
	Power Consumption	4W
Environment	Operating Temperature	0 ~ 60 °C/ -40 ~ 85 °C
	Operating Humidity	5 ~ 95% relative humidity, non-condensing
Mechanical	Dimensions (W x D)	82 x 50 mm
Operation System		Linux & Android
Certifications		CE/FCC Class B

## Block Diagram



\*Support CAN-FD in wide temp. SKU: ROM-5722W\*

## Ordering Information

Part No.	CPU	Memory	Flash Memory	UART	LAN	USB3.2 Gen1By1	USB 2.0	Display	PCIe	SD	I2S	I2C	SPI	Operating Temperature
ROM-5722WQ-REA1E	i.MX 8M Plus Quad	6GB	16GB	4	2	2	5	1 x HDMI, 1 x MIPI DSI, 1 x Single ch LVDS or 1 x Dual ch LVDS	1	1	2	5	3	-40 ~ 85 °C
ROM-5722CQ-REA1E	i.MX 8M Plus Quad	6GB	16GB	4	2	2	5		1	1	2	5	3	0 ~ 60 °C
ROM-5722WD-RFA1E	i.MX 8M Plus Dual	4GB	16GB	4	2	2	5		1	1	2	5	3	-40 ~ 85 °C
ROM-5722CD-RFA1E	i.MX 8M Plus Dual	4GB	16GB	4	2	2	5		1	1	2	5	3	0 ~ 60 °C

\*QUAD-Lite SoC, DRAM and eMMC of other capacity are available through project-based support. Please contact sales for details.

## Development Board

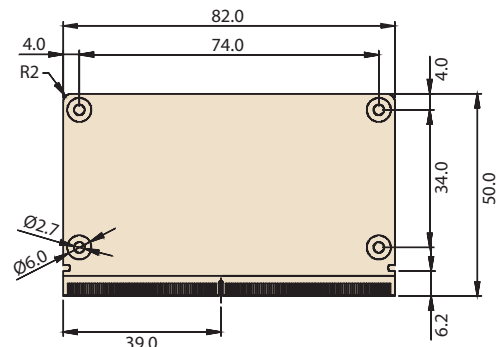
Part No.	Description
SOM-DB2510-R0A1	SMARC 2.1 Carrier Board

## Optional Accessories

Part No.	Description
1701200220	Debug port cable
1700019474	D-SUB 9P(F)/D-SUB 9P(F) RS232/RS485 100c
1970005258N001	Heat Spreader
1970005259T001	Semi Heat Sink (0 ~ 60 °C)
1970005260T001	Semi Heat Sink (-40 ~ 85 °C)
96PSA-A36W12R1-3	ADAPTER 100-240V 36W 12V 3A
1700001524	Power Cord 3P UL 10A 125V 183cm
170203183C	Power Cord 3P Europe (WS-010+WS-083) 183cm
1700019146	Power Cord CCC 3P 10A 250V 183cm
170203180A	Power Cord 3P UK 2.5A/3A 250V 1.83M
1700008921	Power Cord 3P PSE 183cm
SQF-ISDM1-16G-21C	SQF SD Card I-SD UHS-I MLC 16G (0~70°C)
SQF-ISDM1-16G-21E	SQF I-SD UHS-I MLC 16G (-40~85°C)
EWM-W163M201E	802.11 a/b/g/n/ac, QCA6174A, 2T2R, w/BT4.1, M.2 2230
1750008717-01	Dipole Ant. D.B 2.4/5G WIFI 3dBi SMA/M-R BLK
1750007965-01	Antenna Cable R/P SMA (M) to MHF4, 300mm
EWM-C117FL06E*	LTE 4G,3G WCDMA/DC-HSPA+, 2G module, MPC1-L280H
1750008303-01	Antenna AN0727-64SP6BSM
1750006009	Antenna Cable SMA (F) to MHF 1.32 25cm

## Dimensions

Unit: mm



\*Please contact us for suggesting suitable cellular module for your region.