

ROM-5722

NXP i.MX8M Plus Cortex-A53 SMARC v2.1 核心模块



产品介绍

研华 ROM-5722 SMARC 2.1 核心模块采用 NXP i.MX8M Plus SOC, 该SOC包含多达 4 个 Arm Cortex-A53 内核、1 个 Cortex-M7 实时处理器和 Vivante GC7000UL 图形引擎。它提供 USB2.0、USB3.2 Gen1By1、千兆以太网、MIPI-CSI、PCI Express、与 MIPI DSI 共享的双通道 LVDS 用于嵌入式应用程序。

ROM-5722 与研华 SOM-DB2510 载板配合使用, 可实现更快的完成最终产品外围集成, 缩短上市时间。载板开发的参考示意图和布局检查表文档将与开源 Linux BSP、测试实用程序、硬件设计实用程序和参考驱动程序一起提供。

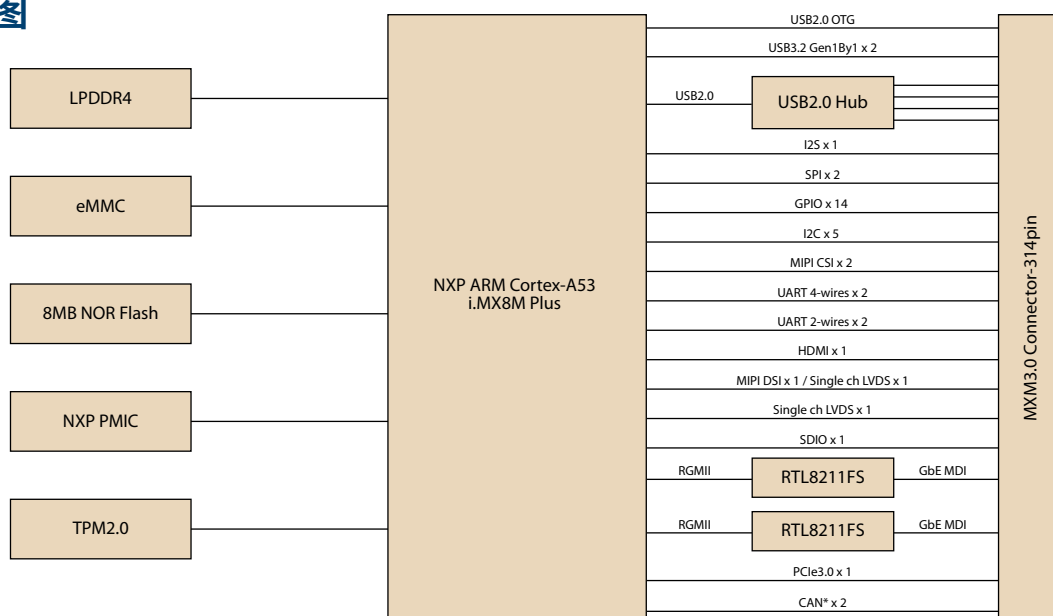
- 搭载 NXP ArmR CortexR-A53 i.MX8M Plus Quad/Dual up to 1.8 GHz
- 1 x Arm Cortex-M7 core
- 板载 LPDDR4 4GB/6GB, 4000MT/s 高速内存
- 1 x HDMI 2.0, 1 x 4 lane MIPI-DSI, 1 x 双通道 LVDS
- 2 x USB3.2 Gen1By1, 4 x USB2.0, 1 x USB 2.0 OTG, 4 x UART, 5 x I2C, 14 x GPIO, 1 x PCIe3.0, 2 x Gigabit LAN, 2 x CAN (CANBus for CQ, CAN-FD for WQ)
- Neural network accelerator 高达 2.3 TOPS
- 支持 Yocto Linux



规格

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	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
	Chipset	2 x NXP i.MX8M Plus integrated RGMII
Ethernet	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 ² S
	SPDIF	-
	SDIO	1
	Serial Port	2 x 4-wire UART and 2 x 2-wire UART
	SPI	2
	CAN	2 (CANbus for ROM-5722CQ, CAN-FD for ROM-5722WQ)
	GPIO	14
	I ² 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		Yocto Linux
Certifications		CE/FCC Class B

架构图



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

订货信息

Part No.	CPU	Memory	Flash Memory	UART	LAN	USB3.2 Gen1By1	USB 2.0	Display	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	2	5	3	-40 ~ 85 °C
ROM-5722CQ-REA1E	i.MX 8M Plus Quad	6GB	16GB	4	2	2	5		2	5	3	0 ~ 60 °C
ROM-5722WD-RFA1E	i.MX 8M Plus Dual	4GB	16GB	4	2	2	5		2	5	3	-40 ~ 85 °C
ROM-5722CD-RFA1E	i.MX 8M Plus Dual	4GB	16GB	4	2	2	5		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.

开发底板

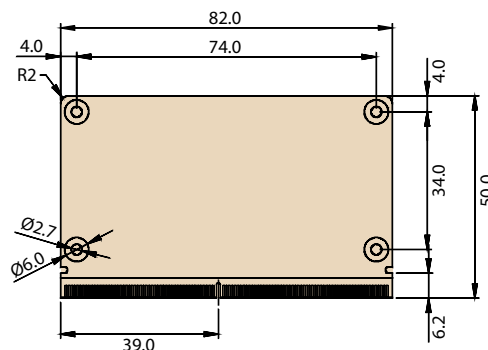
Part No.	Description
SOM-DB2510-R0A1	SMARC 2.1 Carrier Board

可选配件

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 180cm
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

尺寸图

Unit: mm



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