

ROM-5720

NXP i.MX8M Cortex-A53 SMARC v2.1 核心模块



产品介绍

研华ROM-5720 SMARC 2.0 / 2.1核心模块搭载NXP i.MX8M SOC, 包含双核和四核Arm Cortex-A53处理器, 以及一个Cortex-M4实时处理器和Vivante GC7000 Lite 3D图形引擎。同时提供USB3.0、2个千兆以太网接口、2个MIPI-CSI、PCI Express和HDMI2.0 (在60 Hz时高达4096x 2160) 和MIPI-DSI, 支持嵌入式应用。该模组是运输、信息娱乐、自动售货以及医疗领域的理想解决方案。

ROM-5720搭载研华ROM-DB5901 SMARC2.0开发底板, 能够加快最终产品外设集成速度和上市。同时提供用于载板开发的参考电路和布线检查表, 以及开源Linux BSP、实用测试工具、硬件设计工具和参考驱动器。



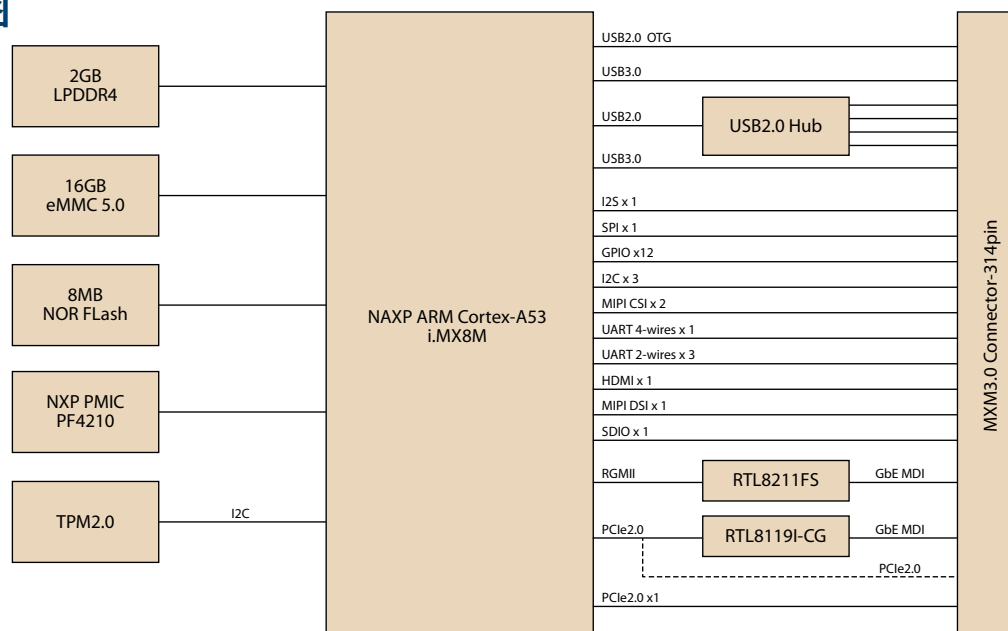
特点

- NXP i.MX 8M处理器, 双核或四核Arm Cortex-A35
- 1个Arm Cortex-M4F核
- 2GB LPDDR4 内存和16GB eMMC 闪存
- 1个HDMI2.0, 高达 4096x2160解析度, 1个4通道MIPI DSI
- 2个USB3.0、4个USB2.0、4个UART、4个I2C、12个GPIO、1个PCIe2.0、1个4通道MIPI CSI摄像头输入、1个2通道MIPI CSI摄像头输入和2个Gigabit LAN
- 支持 OpenGL ES 3.1/3.0/2.0/1.1, Open CL 1.2, 和Vulkan硬件加速器
- 支持HDR 4Kp60 HEVC/H.265解码
- 低功耗设计
- 支持 Linux 和 Android BSP系统

规格

Form Factor		SMARC 2.0
Processor System	CPU	NXP i.MX 8M Dual or Quad Arm Cortex A53 cores, up to 1.5GHz
	MCU	1 x Arm Cortex-M4 core
Memory	Technology	LPDDR4-1866
	Capacity	Onboard 2GB LPDDR4
	Flash	16 GB eMMC NAND Flash for O.S. and 8 MB QSPI NOR Flash for Advantech boot loader
Graphics	LVDS/MIPI DSI	1 x 4-lane MIPI DSI, up to 1920 x 1080 @ 60Hz
	HDMI	1 x HDMI2.0, up to 4096 x 2160 at 60 Hz
	Parallel RGB	-
	VGA	-
	Graphics Engine	Vivante GC7000 Lite. Support OpenGL ES 1.1, 2.0, 3.0, 3.1, Open CL 1.2, and Vulkan
	H/W Video Codec	Decoder: HEVC/H.265(4Kp60), VP9(4Kp60), H.264(4Kp30), MPEG-2, MPEG-4p2, VC-1, VP8, RV9, AVS, MJPEG, H.263
Ethernet	Chipset	1 x NXP i.MX8M GbE controller; 1 x RTL8119L-CG Giga LAN controller or 1 x PCIe x 1-lane(option)
	Speed	2 x 10/100/1000 Mbps
RTC	RTC	Yes
WatchDog Timer		PMIC integrated WDT
Security		TPM 2.0
I/O	PCIe	1 x PCIe 2.0
	SATA	-
	USB	2 USB3.0, 4 USB2.0, 1 USB2.0 OTG
	Audio	2 x IFS
	SPDIF	-
	SDIO	1
	Serial Port	1 x 4-wire UART (H/W flow control) and 3 x 2-wire UART
	SPI	2
	CAN	-
	GPIO	12
	I ² C	4 with interrupt
	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	TBD
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 Ubuntu 18.04 / Debian 10 / Yocto 2.5 & Android 9.0
Certifications		CE/FCC Class B

架构图



订货信息

Part No.	CPU	Memory	Flash Memory	UART	LAN	USB3.0/2.0	Display	PCIe 2.0	SD	CANbus	I ² C	SPI	Size	Power input	Operating Temperature
ROM-5720CD-PEA2E	i.MX 8M Dual	2GB	16GB	4	2	2 USB3.0, 4 USB2.0 1 USB2.0 OTG	1 x HDMI 2.0 1 x 4-lane MIPI DSI	1	1	—	4	1	82 x 50 x 5 mm	3 ~ 5.25V	0 ~ 60 °C
ROM-5720WD-OEA2E	i.MX 8M Dual	2GB	16GB	4	2	2 USB3.0, 4 USB2.0 1 USB2.0 OTG*	1 x HDMI 2.0 1 x 4-lane MIPI DSI	1	1	—	4	1	82 x 50 x 5 mm	3 ~ 5.25V	-40 ~ 85 °C
ROM-5720CQ-PEA2E	i.MX 8M Quad	2GB	16GB	4	2	2 USB3.0, 4 USB2.0 1 USB2.0 OTG	1 x HDMI 2.0 1 x 4-lane MIPI DSI	1	1	—	4	1	82 x 50 x 5 mm	3 ~ 5.25V	0 ~ 60 °C
ROM-5720WQ-OEA2E	i.MX 8M Quad	2GB	16GB	4	2	2 USB3.0, 4 USB2.0 1 USB2.0 OTG	1 x HDMI 2.0 1 x 4-lane MIPI DSI	1	1	—	4	1	82 x 50 x 5 mm	3 ~ 5.25V	-40 ~ 85 °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
ROM-DB5901-SWA1	Development board for SMARC v2.0 RISC Module series

可选配件

Part No.	Description
1701100300	Debug port cable for ROM-5720
1970004595T001	Heat Spreader
1970005259T001	Semi Heat Sink (0 ~ 60 °C)
1970004596T001	Semi Heat Sink (-40 ~ 85 °C)
1930004835	Screws for heat spreader and semi heat sink
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
1700008921	Power cord 3P PSE 183cm
170203180A	Power cord 3P UK 2.5A/3A 250V 1.83M
SQF-ISDM1-16G-21C	SQ Flash SD card UHS-I MLC 16GB (0 ~ 70 °C)
SQF-ISDM1-16G-21E	SQ Flash SD card UHS-I MLC 16GB (-40 ~ 85 °C)
EWM-W163M201E	802.11 a/b/g/n/ac, QCA6174A-5, 2T2R, with BT4.2, Full size Mini PCIe
1750008717-01	Dipole Ant. D.B 2.4/5G WIFI 3dBi SMA/M-R BLK
1750007965-01	Antenna cable, SMA (M) to MHF4, 300mm
EWM-C117FL06E*	LTE/HSPA+/GPRS module, w/ SIM Slot, for Taiwan
1750008303-01	Antenna AN0727-64SP6BSM
1750006009	Antenna Cable SMA (F) to MHF 1.32 25cm

*Please contact us to get suitable cellular module for your region.

尺寸图

Unit: mm

