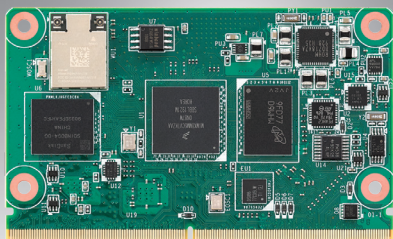


ROM-5721

NXP i.MX8M Mini Cortex®-A53 SMARC 2.0/2.1 Computer-on-Module

NEW



Features

- NXP i.MX 8M Mini processor with up to 4 Arm Cortex A53 cores
- 1 x Arm Cortex-M4 cores
- Onboard LPDDR4 memory and eMMC
- 1 x 4 lane MIPI-CSI, 1 x Dual channel LVDS or 1 x Display Port
- 4 x USB2.0, 1 x USB 2.0 OTG, 4 x UART, 4 x I2C, 12 x GPIO, 1 x PCIe2.0, 1x Gigabit LAN
- Support OpenGL ES 2.0/1.1 by hardware accelerators
- Low power consumption design
- Support Linux and Android BSP



Introduction

Advantech ROM-5721 SMARC 2.0/2.1 Computer-on-Module is powered by NXP i.MX8M Mini SOC which includes up to 4 Arm Cortex-A53 cores in combination with one Cortex-M4 real time processor and Vivante GC320 , GC NanoUltra 3D graphics engine. It provides USB2.0, Gigabit Ethernet, MIPI-CSI, PCI Express, Dual channel LVDS shared with MIPI-DSI for embedded applications.

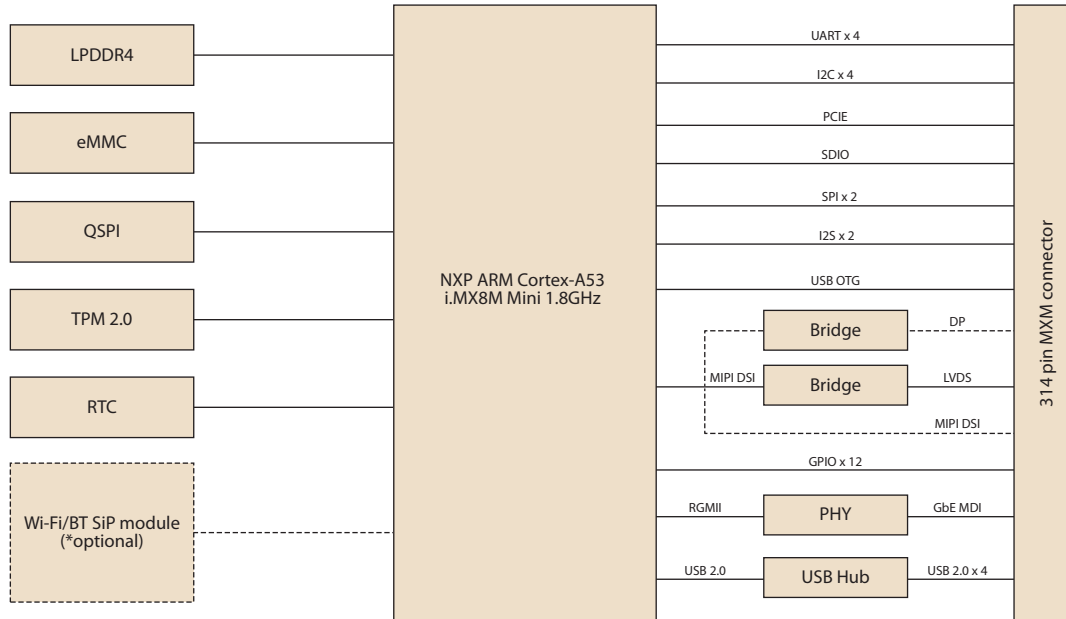
ROM-5721 is paired with Advantech ROM-DB5901 carrier board for faster end product peripheral integration and time-to-market. The reference schematics and layout checklists documentations for carrier board development will be provided along with the open-sourced Linux BSP, test utilities, hardware design utilities and reference drivers.



Specifications

Form Factor		SMARC2.0 & SMARC2.1 compliance
Processor System	CPU	NXP i.MX 8M Mini up to 4 Arm Cortex A53 cores, up to 1.8GHz
	MCU	1 x Arm Cortex-M4 core
Memory	Technology	LPDDR4-1866
	Capacity	Onboard 1GB/2GB LPDDR4
	Flash	8/16 GB eMMC NAND Flash for O.S. and 8 MB QSPI NOR Flash for board information
Graphics	LVDS/MIPI DSI	1 x 4 lane MIPI-CSI, 1 x Dual channel LVDS or 1 x Display Port up to 1080P
	HDMI	-
	Parallel RGB	-
	VGA	-
	Graphics Engine	Vivante GC320, GC NanoUltra 3D GPU Support OpenGL ES 2.0, VG 1.1
	H/W Video Codec	Decoder: H.265, H.264, VP8/9 1080p Encoder: H.264, VP8 1080p
Ethernet	Chipset	1 x NXP i.MX8M Mini GbE controller
	Speed	10/100/1000 Mbps
RTC	RTC	Yes
WatchDog Timer		Yes
Security		TPM 2.0
I/O	PCIe	1 x PCIe 2.0
	SATA	-
	USB	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	-
	GPIO	12
	I ² C	4
	Camera Input	1 x 4-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 & Android
Certifications		CE/FCC Class B

Block Diagram



Ordering Information

Part No.	CPU	Memory	Flash Memory	UART	LAN	USB 2.0	Display	PCle	SD	I2S	I2C	SPI	WiFi/BT	Size	Power input	Operating Temperature
ROM-5721CQ-REA1E	i.MX8M Mini Quad	2GB	16GB	4	1	5	1 x Dual ch LVDS	1	1	2	4	2	-	82 x 50 x 5 mm	3 ~ 5.25V	0 ~ 60 °C
ROM-5721CD-RDA1E	i.MX8M Mini Dual	1GB	8GB	4	1	5	1 x MIPI DSI	1	1	2	4	2	-	82 x 50 x 5 mm	3 ~ 5.25V	0 ~ 60 °C
ROM-5721CS-RDA1E	i.MX8M Mini Solo	1GB	N/A	4	1	1	1 x MIPI DSI	1	1	2	4	2	-	82 x 50 x 5 mm	3 ~ 5.25V	0 ~ 60 °C

Development Board

Part No.	Description
ROM-DB5901-SWA1	Development Board for SMARC 2.0 Module

Optional Accessories

Part No.	Description
1701100300	Debug port cable for ROM-5721
1700019474	D-SUB 9P(F)/D-SUB 9P(F) RS232/RS485 100c
1970004648T001	Heat Spreader
1960063089N001	Semi Heat Sink
193B021490	Screw 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
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 AN0727-64SP6B5M
1750006009	Antenna Cable SMA (F) to MHF 1.32 25cm

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

Dimensions

Unit: mm

