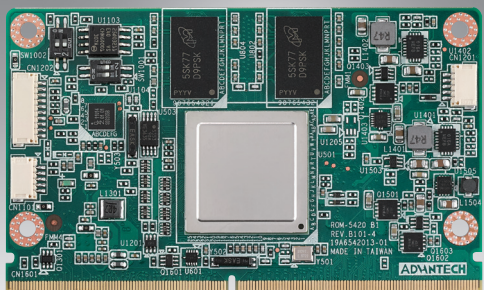


# ROM-5420

## NXP ARM® Cortex®-A9 i.MX6 SMARC v1.1 Module



### Introduction

ROM-5420 B1 compatible with SMARC v1.1 specification and has integrated NXP i.MX6 Cortex-A9 SoC. The i.MX6 supports powerful CPU performance and 2D/3D graphics accelerators. ROM-5420 B1 series supports rich interfaces such as camera, CAN, UART, I2C, GPIO and it is specially designed for portable applications.

ROM-5420 B1 also offered the optimized OS BSP, images, test utilities, schematic check tool and carrier board design guide for customer for their application development and device integration.



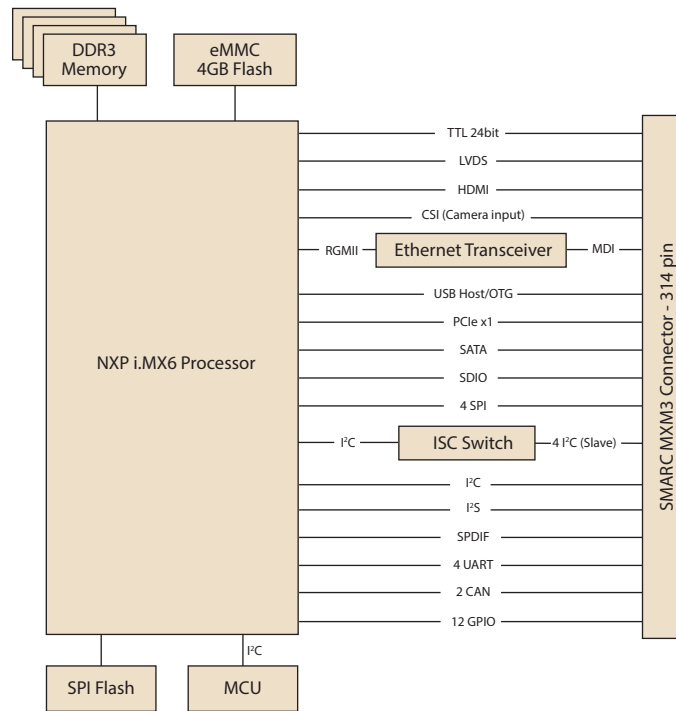
### Features

- NXP ARM® Cortex® -A9 i.MX6 high performance processor
- Onboard DDR3 memory and eMMC 4GB
- Parallel RGB, HDMI, single channel 18/24-bit LVDS, 1366 x 768
- 2 x CAN, 4 x UART, 5 x I<sup>2</sup>C, 12 x GPIO, 1 x PCIe, 1 x camera input and 1 x Gigabit LAN
- Supports OpenGL ES 2.0 and OpenVG 1.1 hardware accelerators
- Supports full HD hardware encode/decode engine
- Low power consumption, fanless design
- Supports Linux and Android BSP

### Specifications

Form Factor		SMARC v1.1
Processor System	CPU	NXP ARM Cortex-A9 i.MX6 1GHz
Memory	Technology	DDR3 1066 MHz up to 2GB
	Capacity	On-board DDR3
	Flash	4 GB eMMC NAND Flash for O.S. and 4 MB SPI NOR Flash for Advantech boot loader
Graphics	LVDS	1 Single 24-bit LVDS, 1366 x 768 at 60Hz
	HDMI	1920 x 1080 at 60Hz
	Parallel RGB	1 24-bit TTL, 1920 x 1200 at 60Hz
	VGA	-
	Graphics Engine	2 IPUs. OpenGL ES 2.0 for 3D, BitBlit for 2D and OpenVG 1.1
	H/W Video Codec	Decoder: MPEG-4 ASP, H.264 HP, H.263, MPEG-2 MP, MJPEG BP Encoder: MPEG-4 SP, H.264 BP, H.263, MJPEG BP
Ethernet	Chipset	NXP i.MX6 integrated RGMII
	Speed	1 x 10/100/1000 Mbps
RTC	RTC	Yes
WatchDog Timer		256-level timer interval, from 0 ~ 128 sec
I/O	PCIe	1 PCIe x 1
	SATA	1 SATA II
	USB	1 USB 2.0, 1 USB 2.0 OTG
	Audio	I <sup>S</sup>
	SPDIF	1
	SDIO	1
	Serial Port	4 UART (2 x 2 wire, 2 x 4 wire w/ 3.3V)
	SPI	4
	CAN	2 x CAN bus 2.0B
	GPIO	12
	I <sup>2</sup> C	5
	Camera Input	1 MIPI v1.0, 4x Lane
	System Bus	-
Touch	-	
Keypad	-	
Power	Power Supply Voltage	+3 ~ 5.25 V
	Power Consumption	3.1W (Max)
Environment	Operating Temperature	0 ~ 60 °C/ -40 ~ 85 °C
	Operating Humidity	0% ~ 90% 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 Host	USB OTG	Display	SATA	PCIe	HDMI	SD	CANbus	I²C	SPI	Size	Power input	Operating Temperature
ROM-5420WQ-MEB1E	i.mx6 Quad 800MHz	2GB	4 GB	4	1	1	1	1x 24bit LVDS 1x 24bit TTL 1x HDMI	1	1	1	1	2	5	4	82 x 50 x 5 mm	3 ~ 5.25V	-40 ~ 85 °C

### Development Board

Part No.	Description
ROM-DB5900-SWA2E	Development Board for SMARC v1.1

### Optional Accessories

Part No.	Description
1700022373-01	Debug port cable for ROM-3420/5420
9696ED2000E	Debug adapter board
coming soon	Heat spreader
1930005215	Screws for heat spreader
1960063089N001	Semi heat sink
1930004835	Screws for heat spreader and semi heat sink

### Dimensions

Unit: mm

