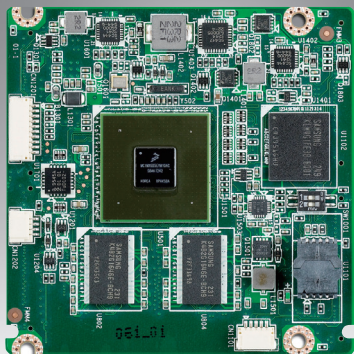


# ROM-3420

## NXP ARM® Cortex®-A9 i.MX6 RTX v2.0 module



### Introduction

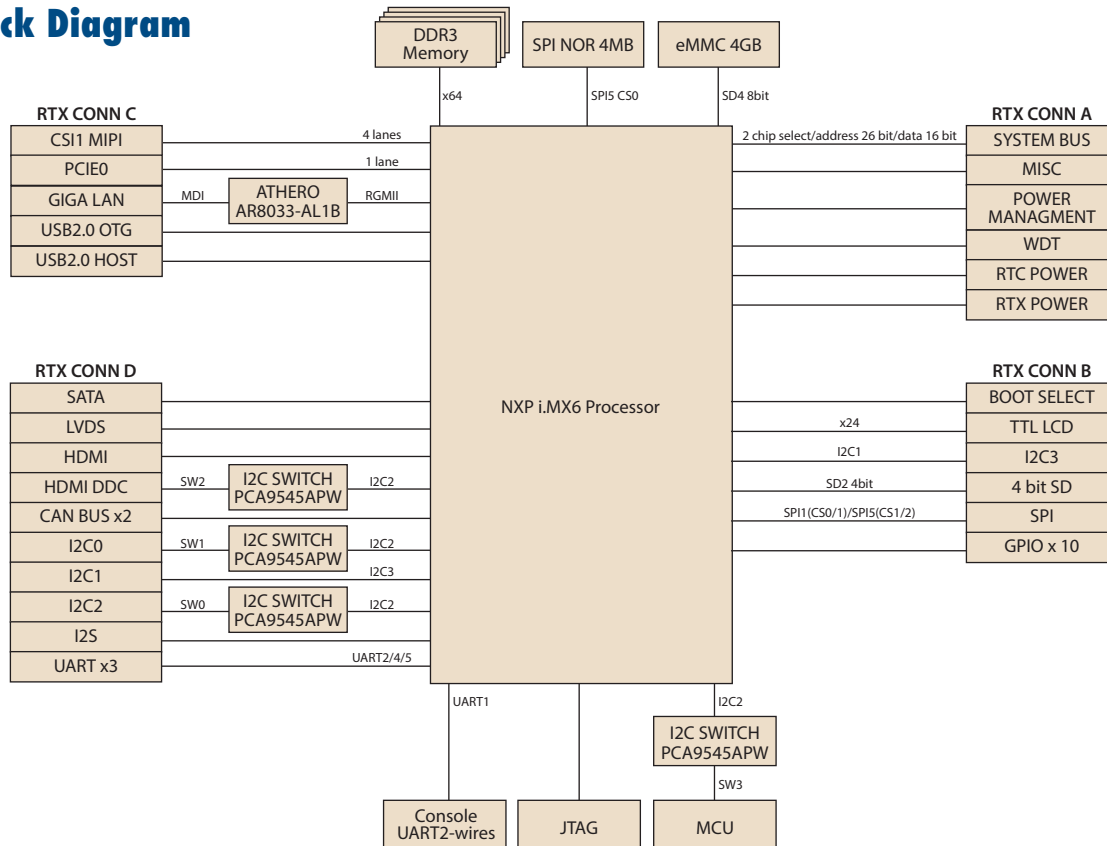
ROM-3420 RTX2.0 module integrates an ARM Cortex A9 Dual 1 GHz NXP i.MX6 series ultra low power SoC and I/O solution with Linux. NXP i.MX6 supports 2D, 3D graphics acceleration, and a full HD 1080P video decoding encoding hardware engine. ROM-3420 supports 5V~24V wide range power inputs and a wide temperature design for industrial applications.

ROM-3420 RTX2.0 module offers an Advantech ROM-DB3900 evaluation carrier board for easy integration and hardware design reference, and also provides a Linux BSP utility and reference codes for application development and device integration.

### Specifications

Form Factor		RTX v2.0
Processor System	CPU	NXP ARM Cortex-A9 i.MX6 1 GHz
	Technology	DDR3 1066 MHz
Memory	Capacity	On-board DDR3 1 GB
	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>2</sup> S
	SPDIF	-
	SDIO	1
	Serial Port	3 UART (3 x 4 wire w / 3.3V)
	SPI	2
	CAN	2 CAN bus 2.0B
	GPIO	10
	I <sup>2</sup> C	4
	Camera Input	1 MIPI v1.0, 4 x Lane
	System Bus	Address: 26 bits, Data: 16 bits
	Touch	-
Keypad	-	
Power	Power Supply Voltage	5 ~ 24 V
	Power Consumption	6.25W (Max)
Environment	Operating Temperature	0 ~ 60 °C / -40 ~ 85 °C
	Operating Humidity	0% ~ 90% relative humidity, non-condensing
Mechanical	Dimensions (W x D)	68 x 68 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	I <sup>2</sup> C	SPI	Size	Power input	Operating Temperature
ROM-3420CD-MDA1E	i.MX6 Dual 1GHz	1 GB	4 GB	3	1	1	1	1 x 24bit LVDS 1 x 24bit TTL 1 x HDMI	1	1	1	1	2	4	2	68 x 68 x 7 mm	5 V ~ 24 V	0 ~ 60 °C
ROM-3420WD-MDA1E	i.MX6 Dual 1GHz	1 GB	4 GB	3	1	1	1	1 x 24bit LVDS 1 x 24bit TTL 1 x HDMI	1	1	1	1	2	4	2	68 x 68 x 7 mm	5 V ~ 24 V	-40 ~ 85 °C

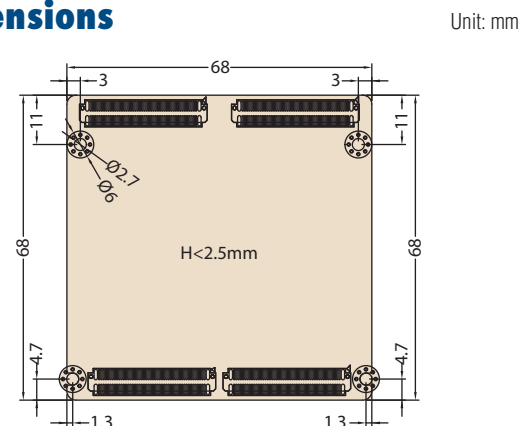
## Development Board

Part No.	Description
ROM-DB3900-SWA1E	Development board for RTX2.0 module
ROM-DK3420-FOA1E	ROM-3420 EVK Kit (RTX v2.0)

## Optional Accessories

Part No.	Description
1700022373-01	Debug port cable for ROM-3420/5420
9696ED2000E	Debug adapter board
1960065189N001	Semi-Heatsink for ROM-3420
1930004835	Screws for heatsink

## Dimensions



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