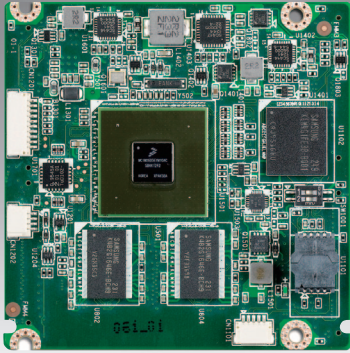


ROM-3420

Freescale ARM Cortex-A9 i.MX6 RTX2.0 Module



Features

- Freescale ARM Cortex-A9 i.MX6 Dual 1 GHz high performance processor
- Onboard DDR3 1 GB memory / 4 GB Flash
- Supports wide range power input 5V-24V
- Supports OpenGL ES 2.0 and OpenVG 1.1 hardware accelerators
- Supports full HD 1080p video decode and HD 1080p video encode hardware engine
- Supports 1 PCIe, 1 GbE, 1 USB 2.0, 1 USB OTG2.0, 1 SATAII, 4 I²C, 1 I³S, 1 Camera in, 2 CANbus, 10 GPIO, System bus
- Optional thermal solution

Introduction

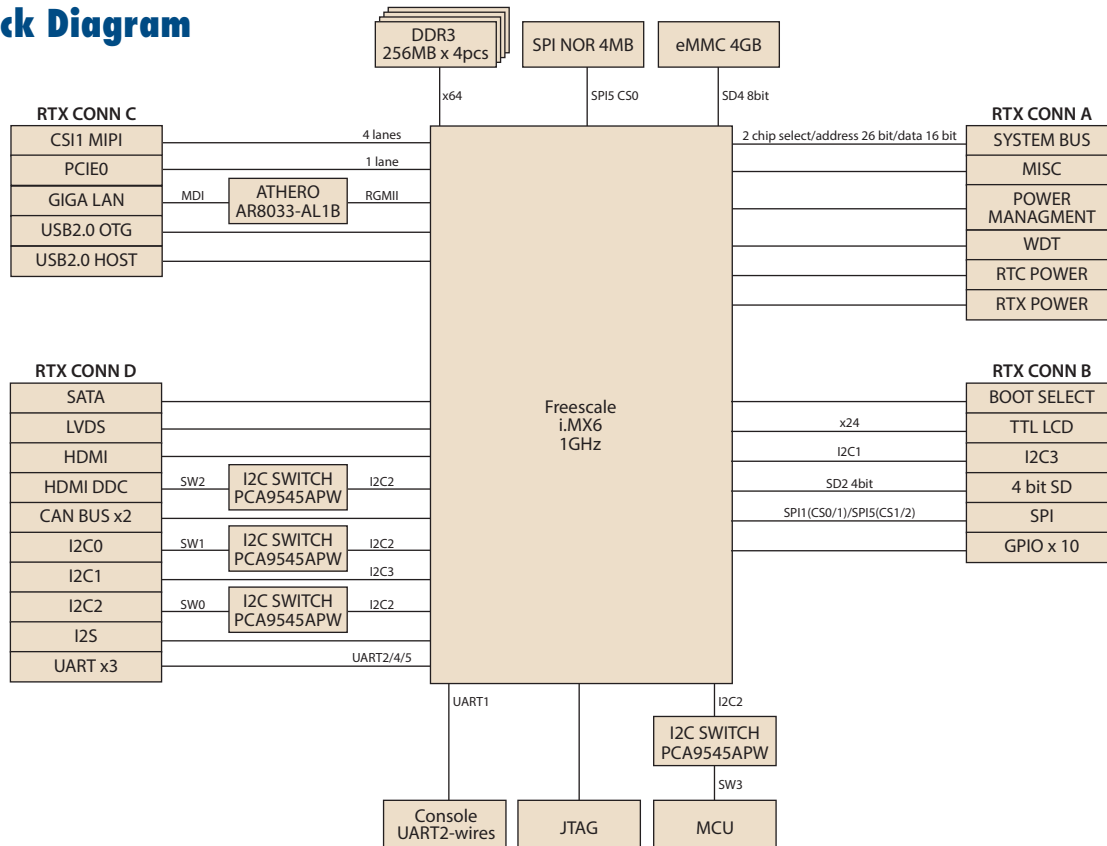
ROM-3420 RTX2.0 module integrates an ARM Cortex A9 Dual 1 GHz Freescale i.MX6 series ultra low power SoC and I/O solution chips to be Linux solution-ready! Freescale i.MX6 supports 2D, 3D graphics acceleration, full HD 1080P video decoding encoding hardware engine. ROM-3420 supports 5V-24V wide range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

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

Specifications

Form Factor		RTX2.0
Processor System	CPU	Freescale ARM Cortex-A9 i.MX6 Dual/Quad 1 GHz
Memory	Technology	DDR3 1066 MHz
	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 18/24-bit LVDS, 1366 x768
	HDMI	1 HDMI, 1920 x1080
	Parallel RGB	1 24-bit TTL, 2048 x 1536
	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	Freescale i.MX6 integrated RGMII
	Speed	1 x 10/100/1000 Mbps
RTC	RTC	Yes
WatchDog Timer		S/W WDT, 256-level timer interval from 0 ~ 128 sec
I/O	PCIe	1 PCIe, 1 x Lane
	SATA	1 SATA II
	USB	1 USB 2.0, 1 USB 2.0 OTG
	Audio	I ³ 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 ² C	4
	Camera Input	1 MIPI V1.0 (x 4 Lane)
	System Bus	Address: 26 bits, Data: 16 bits
	Touch	-
Keypad	-	
Power	Power Supply Voltage	5 ~ 24 V
	Power Consumption	1.7W (Kernel idle mode) 3.3W (CPU max-loading) 6.1W (Max mode, OpenGL open)
Environment	Operational Temperature	0 ~ 60° C / -40 ~ 85° C
	Operating Humidity	0% ~ 90% relative humidity, non-condensing
Mechanical	Dimensions (W x D)	68 x 68 mm
Operating System		Ltlib Linux Kernel v3.0.35/Android v4.3
Certifications		CE/FCC Class B

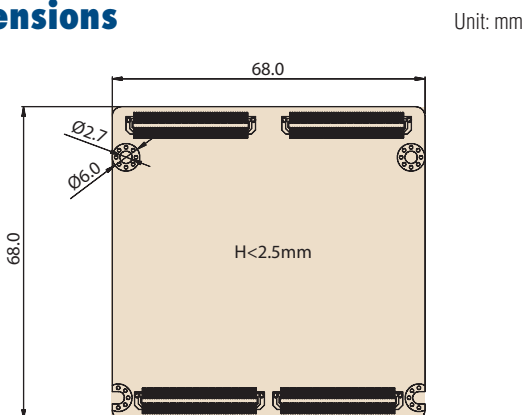
Block Diagram



Ordering Information

Part No.	CPU	Memory	Flash Memory	UART	LAN	USB Host	USB OTG	Display	SATA	PCIe	HDMI	SD	CANbus	I ² 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

Dimensions



Development Board

Part No.	Description
ROM-DB3900-SWA1E	Development board for RTX2.0 module
ROM-DK3420-F0A1E	RTX v2.0 EVK kit

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	Screw for Heatsink