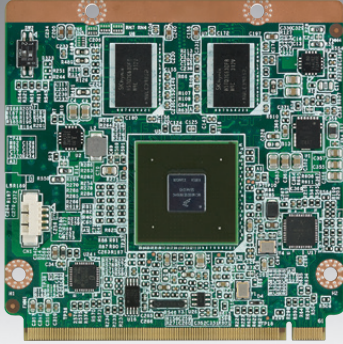


# ROM-7420

## Freescale ARM Cortex-A9 i.MX6 QSeven Module

**NEW**



### Features

- Freescale ARM Cortex-A9 i.MX6 Dual 1 GHz high performance processor
- Onboard DDR3 memory 1 GB
- Onboard eMMC NAND Flash 4 GB
- Supports OpenGL ES 2.0 and OpenVG 1.1 hardware accelerators, full HD 1080p video codec
- VGA, HDMI, 24-bit LVDS
- 2 CAN, 4 UART, 3 I<sup>2</sup>C, 8 GPIO
- 2 USB, 1 SD/MMC
- 1 10/100/1000 Mbps Ethernet; 1 PCIe x1 Gen2
- Optional thermal solution



### Introduction

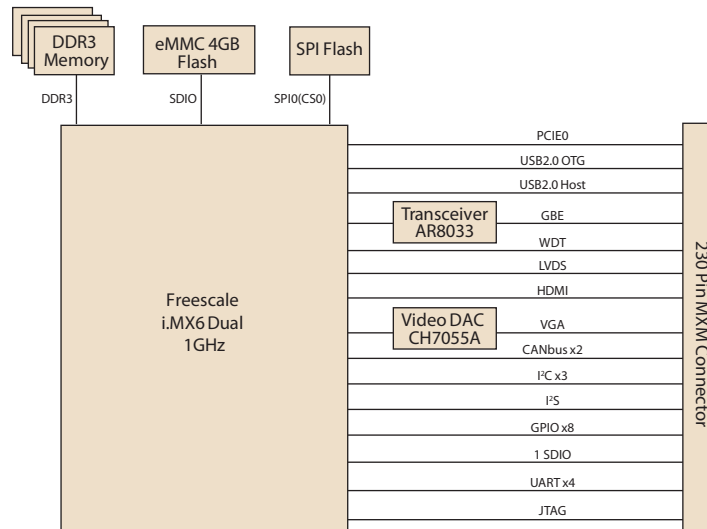
ROM-7420 QSeven Module integrates ARM Cortex-A9 Freescale i.MX6 series ultra low power SoC and I/O solution chips to be Linux support ready. Freescale i.MX6 supports 2D, 3D graphics acceleration, full HD 1080P video decoding and an HD 1080p video encoding hardware engine.

ROM-7420 QSeven module has Advantech ROM-DB7500 Evaluation Carrier Board for easy integration and design reference; we also offer referenced schematics and layout checklists for carrier board development. Additionally, Linux BSP, test utilities, HW design utilities and reference codes are ready for application development and device integration.

### Specifications

Form Factor		QSeven
Processor System	CPU	Freescale ARM Cortex-A9 i.MX6 Dual 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	2 x 24-bit LVDS, 1366 x 768 for 1ch; 1920 x 1080 for 2ch
	HDMI	1920 x 1080
	Parallel RGB	-
	VGA	1920 x 1080
	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
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, 1 x Lane
	SATA	-
	USB	1 USB 2.0, 1 USB 2.0 OTG
	Audio	I <sup>2</sup> S
	SPDIF	-
	SDIO	1
	Serial Port	4 UART (4 x 2 wire, w/ 3.3V)
	SPI	1
	CAN	2 x CAN bus 2.0B
	GPIO	8
	I <sup>2</sup> C	3
	Camera Input	-
	System Bus	-
	Touch	-
Keypad	-	
Power	Power Supply Voltage	5 V
	Power Consumption	3.16W (Max. load)
Environment	Operational Temperature	0 ~ 60° C
	Operating Humidity	0% ~ 90% relative humidity, non-condensing
Mechanical	Dimensions (W x D)	70 x 70 mm
Operating System		Linux Kernel v3.0.35
Certifications		CE/FCC Class B

## Board 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-7420CD-MDA1E	i.MX6 Dual 1 GHz	1 GB	4 GB	4	1	1	1	2 x 24-bit LVDS 1 x VGA	-	1	1	1	2	3	1	70 x 70 x 5mm	5V	0 ~ 60° C
ROM-7420CS-MCA1E	i.MX6 Solo 1 GHz	512 MB	4 GB	4	1	1	1	2 x 24-bit LVDS 1 x VGA	-	1	1	1	2	3	-	70 x 70 x 5mm	5V	0 ~ 60° C

## Development Board

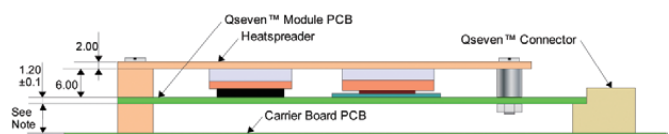
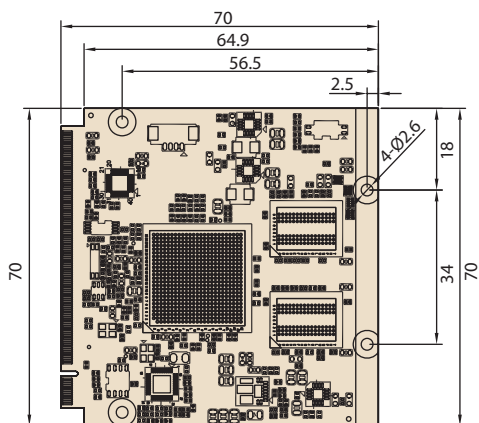
Part No.	Description
ROM-DB7500-SCA1E	Development board for RISC Q7 module

## Optional Accessories

Part No.	Description
1700020442-01	Debug Port Cable for ROM-7420
9696MED2000E	Debug Port Adapter for ROM-7420
1757003553	ADAPTER 100-240V 36W 12V 3A
1700001524	Power Cord 3P UL 10A 125V 180cm
170203183C	Power Code 3P Europe (WS-010+WS-083)183cm
170203180A	Power Cord 3P UK 2.5A/3A 250V 1.83M
SQF-ISDS1-2G-86E	SQFlash SD card SLC 2G, 1CH (-40 ~ 85° C)
EWM-W142F01E	802.11 b/g/n, AR9287, 2T2R, Full size Mini PCIe
1750007050-01	WiFi RP-SMA short SMA Jack(9.5mm) to U.FL_100mm (WiFi Cable)
1750000318	EMI Antenna 2DBI 2.4GHz SMA CONN for ARK-3384 (WiFi Antenna)
EWM-C106FT01E	Cellular, HSUPA/WCDMA/GPRS, Full Mini PCIe
1750007156-01	Cellular/GPS SMA Short JACK(9.5MM) L=100mm (3G Cable)
1750005865	Antenna L=10.9cm 500hm AN8921F-5701SM (3G Antenna)
1960061913N001	Heatsink 0-Freescale-S-5W 70x63x8-SC ROM-7420-60

## Dimensions

Unit: mm



Note: Dimension is dependent on connector height used

All measurements are in millimeters  
All dimensions without tolerance ±0.2mm