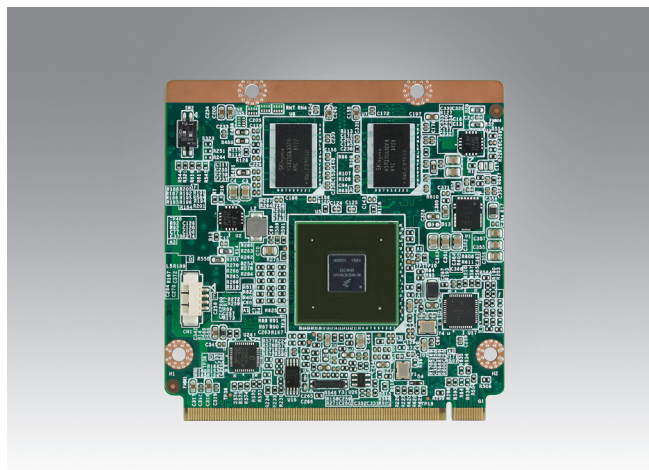


# ROM-7420

## NXP ARM® Cortex®-A9 i.MX6 Qseven Module



### Introduction

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

ROM-7420 offers an Advantech ROM-DB7500 Evaluation Carrier Board for easy integration and design reference; we also offer 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.

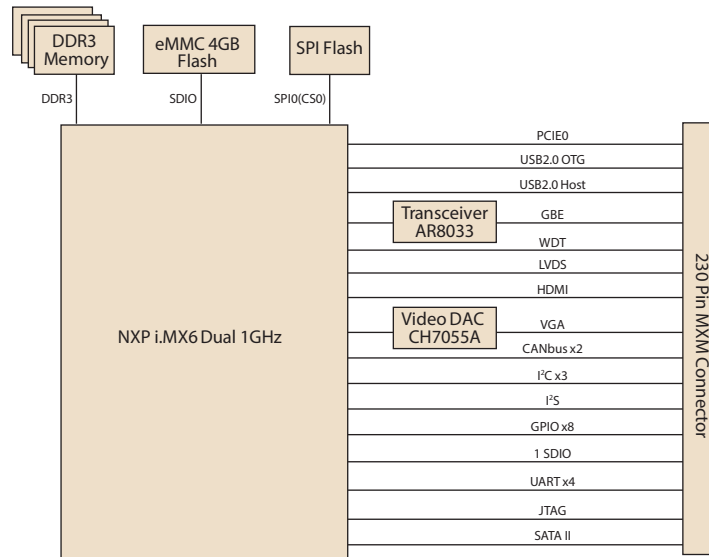
### Specifications

Form Factor		Qseven 1.2
Processor System	CPU	NXP ARM Cortex-A9 i.MX6 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 24-bit LVDS, 1366 x 768 for 1ch; 1920 x 1080 for 2ch
	HDMI	1920 x 1080 at 60Hz
	Parallel RGB	-
	VGA	1920 x 1080 at 60Hz
	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	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)
Environment	Operating Temperature	0 ~ 60 °C
	Operating Humidity	0% ~ 90% relative humidity, non-condensing
Mechanical	Dimensions (W x D)	70 x 70 mm
Operation System		Linux & Android
Certifications		CE/FCC Class B

### Features

- NXP ARM® Cortex®-A9 i.MX6 Dual / Quad 1 GHz high performance processor
- Onboard DDR3 memory 1 GB and eMMC Flash 4 GB
- HDMI, VGA, LVDS, up to 4 displays
- Compact in size 70 x 70mm
- Rich I/O with 2 CAN, 4 UART, Giga LAN, PCIe and SATA
- Low power consumption, fanless design
- Supports Linux and Android BSP

### 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-7420CQ-MEA1E	i.MX6 Quad 1 GHz	2GB	4GB	4	1	1	1	2 x 24bit LVDS 1 x VGA	1	1	1	1	2	3	1	70 x 70 x 5mm	5V	0 ~ 60 °C
ROM-7420WQ-MEA1E	i.MX6 Quad 1 GHz	2GB	4GB	4	1	1	1	2 x 24bit LVDS 1 x VGA	1	1	1	1	2	3	1	70 x 70 x 5mm	5V	-40 ~ 85 °C
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	1	2	3	1	70 x 70 x 5mm	5V	0 ~ 60 °C
ROM-7420WD-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	1	2	3	1	70 x 70 x 5mm	5V	-40 ~ 85 °C
ROM-7420CS-MCA1E	i.MX6 Solo 1 GHz	512 MB	4 GB	4	1	1	1	LVDS or VGA	-	1	1	1	2	3	1	70 x 70 x 5mm	5V	0 ~ 60 °C

### Development Board

Part No.	Description
ROM-DB7500-SCA1E	Development Board for Qseven v1.2 RISC Module

### Optional Accessories

Part No.	Description
1700020442-01	Debug Port Cable for ROM-7420
9696ED2000E	Debug Port Adapter for ROM-7420
96PSA-A36W12R1	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
1700008921	Power Cord 3P PSE 183cm
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	Heat spreader O-NXP-S-5W 70x63x8-SC ROM-7420

### Dimensions

