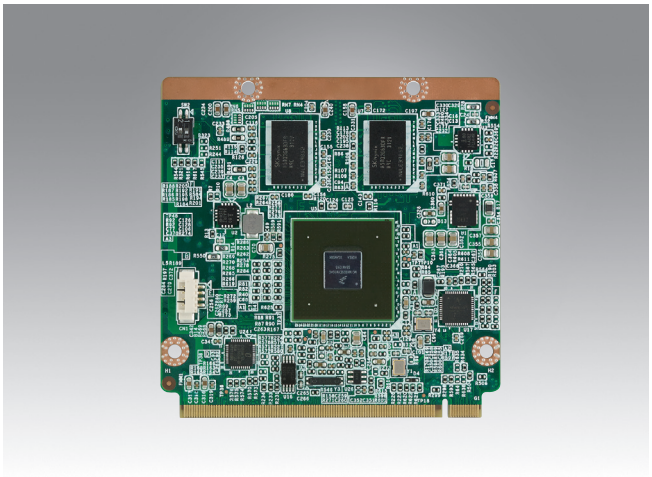
ROM-7420

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



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

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.

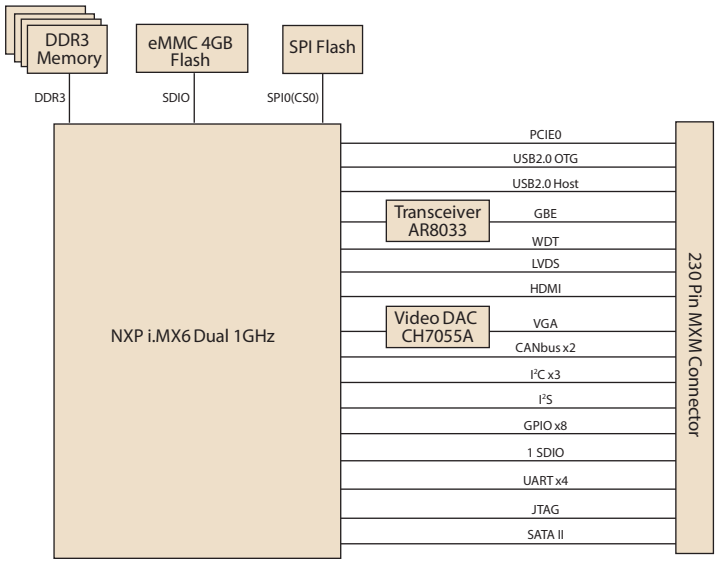
Specifications

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, BitBlt 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	I²S
	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
	I²C	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

昱研伟科技 15323776600

All product specifications are subject to change without notice.

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

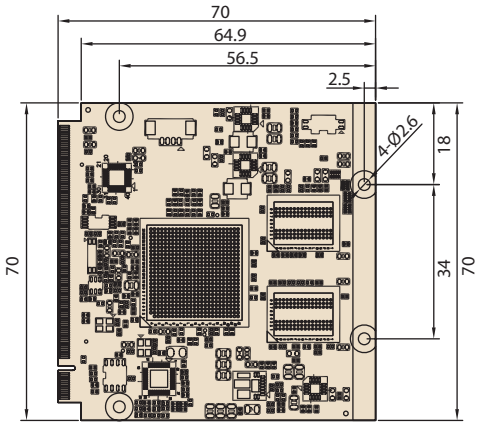
Optional Accessories

Part No.	Description
1700020442-01	Debug Port Cable for ROM-7420
9696ED2000E	Debug Port Adapter for ROM-7420
96PSA-A36W12R1-3	ADP A/D 100-240V 36W 12V C6 DC PLUG 90°
1700001524	Power Cord 3P UL 10A 125V 180cm
1700019146	Power Cord CCC 3P 10A 250V 183cm
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-MSDM1-8G-21C	SQF MICRO SD C10 MLC 8G (-25 ~ 85 °C)
EWM-W135F01E	802.11 a/b/g/n,AR9382,2T2R,Full size Mini PCIe
1750006043	Cable R/P SMA (F) to MHF 1.32 150mm
1750008717-01	Dipole Ant. D.B 2.4/5G WIFI 3dBi SMA/M-R BLK
EWM-C117FL06E*	LTE 4G,3G WCDMA/DC-HSPA+, 2G module, MPCIL280H
1750006264	Antenna cable SMA(F)/MHF 15cm
1750008303-01	Antenna AN0727-64SP6BSM
1960061913N001	Heat spreader O-NXP-S-5W 70x63x8-SC ROM-7420

* Please contact us to get suitable cellular module for your region.

Dimensions

Unit: mm



Embedded Linux Support and Design-in Services

Hardware Certified Ubuntu and Yocto with Eco Partner Services

Linux is the most popular embedded OS for transportation, outdoor services, factory automation, and mission critical applications. Its open source and kernel reliability features ease security updates, and make it particularly adaptable to new AI and Edge computing technology. Advantech has cooperated with Canonical and other software partners to provide hardware certified Ubuntu image and Yocto BSP as Linux offerings. The Advantech, Embedded Linux, and Android Alliance (ELAA) delivers local software services and consultation.

Features

Certified OS and BSP

- Platform compatibility tests
- Preloaded functional driver and software stacks

Licensed Services

- License authorized Canonical delivers 10-years of bug fixes and security updates
- In-house bundled service

Numerous AI and Edge Resources

- Containerized technology for service provision and deployment
- AI resources from Caffe, TensorFlow, and mxnet

Local Partner Alliance

- Embedded Linux and Android Alliance (ELAA)

WISE-DeviceOn

Massive IoT Device Management Utility

IoT deployment and management typically involves numerous disparate devices installed on multiple sites. These devices require effective monitoring, managing, and tracking. Advantech's easy-to-use WISE-DeviceOn interface enables users to remotely monitor device health, troubleshoot problems, and send software/firmware updates over-the-air (OTA). In sum, DeviceOn empowers quick real-time responsiveness to emerging problems.

Features

Comprehensive Management

- Devices status
- Peripherals/firmware
- Open for extension

Remote Access

- Real-time monitoring
- Remote controls
- Troubleshooting

Efficient Operations

- Zero-touch on-boarding
- OTA updates
- Batch control

Product Highlights

SOM-6883

High-performance 11th Gen Intel® COMe Type 6 Module

MIO-5375

Compact 11th Gen Intel® Outdoor Focused 3.5" SBC

EPC-B5587

10th Gen Intel® Xeon® based Edge server

EPC-R3220

Arm based IoT Edge Gateway