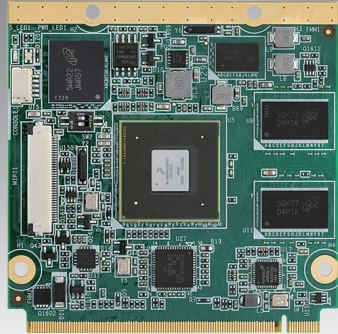


ROM-7421

NXP ARM Cortex-A9 i.MX6 Qseven 2.0 Module

NEW



Features

- NXP ARM Cortex-A9 i.MX6 Dual/Quad Plus 1 GHz high performance processor
- Onboard DDR3 memory 1 GB/2 GB
- Onboard eMMC NAND Flash 4 GB
- Supports OpenGL ES 2.0 and OpenVG 1.1 hardware accelerators, full HD 1080p video codec
- HDMI, Dual Channel 24bit LVDS
- 1 CAN, 2 UART, 2 I²C, 8 GPIO, 1 I²S
- 4 USB, 1 SDIO, 1 SATA II
- 1 10/100/1000 Mbps Ethernet; 1 PCIe x1 Gen2
- Optional thermal solution



Introduction

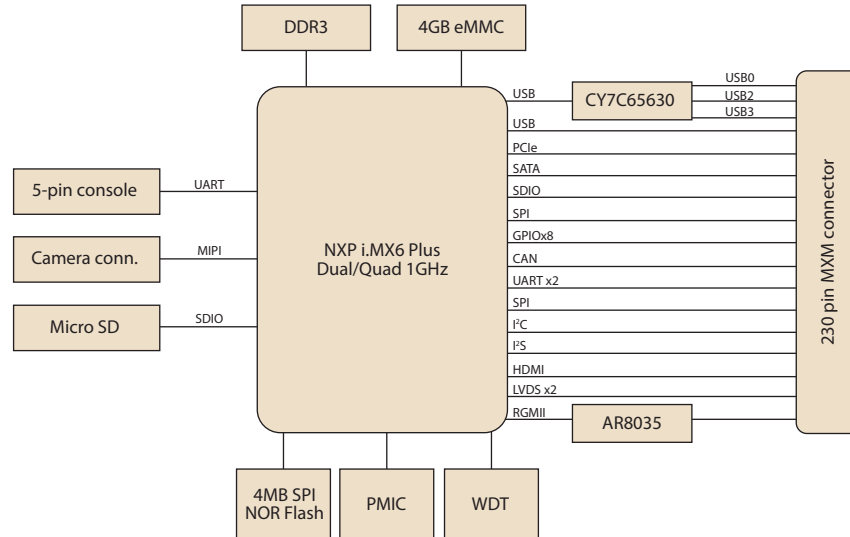
ROM-7421 Qseven Module integrates ARM Cortex-A9 NXP i.MX6 series ultra low power SoC and I/O solution chips to be Linux support ready. NXP i.MX6 supports 2D, 3D graphics acceleration, full HD 1080p video decoding and an HD 1080p video encoding hardware engine.

ROM-7421 has Advantech ROM-DB7501 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 2.0 |
| Processor System | CPU | NXP ARM Cortex-A9 i.MX6 Dual/Quad Plus 1 GHz |
| Memory | Technology | DDR3 1066 MHz |
| | Capacity | On-board DDR3 1 GB/2 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 |
| | 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 | | HW Watchdog Timer |
| I/O (Edge finger) | PCIe | 1 PCIe, 1 x Lane |
| | SATA | 1 SATA II |
| | USB | 4 USB 2.0 (1 USB OTG) |
| | Audio | I ² S |
| | SPDIF | - |
| | SDIO | 1 |
| | Serial Port | 2 UART (4 wire) |
| | SPI | 1 |
| | CAN | 1 |
| | GPIO | 8 |
| | I ² C | 2 |
| | System Bus | - |
| | Touch | - |
| Keypad | - | |
| I/O (On board) | UART | 1 (for console) |
| | SD | 1 microSD |
| | Camera | 1 MIPI Video Capture Port |
| Power | Power Supply Voltage | 5 V |
| | Power Consumption | 4.4 Watts (Max) |
| 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 v3.14.52 |
| Certifications | | CE/FCC Class B |

Block Diagram



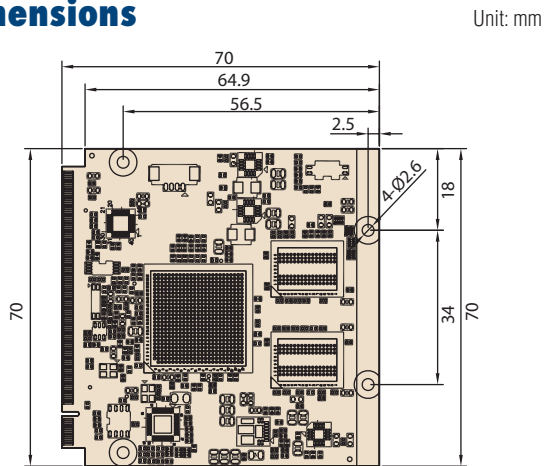
Ordering Information

| 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-7421CE-MDA1E | i.MX6 Dual Plus 1 GHz | 1 GB | 4 GB | 2 | 1 | 4 | 1 | 2 x 24-bit LVDS | 1 | 1 | 1 | 1 | 1 | 2 | 1 | 70 x 70 x 5mm | 5V | 0 ~ 60° C |
| ROM-7421CU-MEA1E | i.MX6 Quad Plus 1 GHz | 2 GB | 4 GB | 2 | 1 | 4 | 1 | 2 x 24-bit LVDS | 1 | 1 | 1 | 1 | 1 | 2 | 1 | 70 x 70 x 5mm | 5V | 0 ~ 60° C |

Development Board

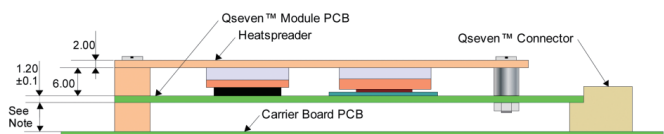
| Part No. | Description |
|------------------|--|
| ROM-DB7501-SCA1E | Development board for RISC Qseven 2.0 module |

Dimensions



Optional Accessories

| Part No. | Description |
|------------------|--|
| 1700022373-01 | Debug Port Cable for ROM-7421 |
| 9696ED2000E | Debug Port Adapter for ROM-7421 |
| 96PSA-A36W12R1 | ADAPTER 100-240V 36W 12V 3A |
| 1700001524 | Power Cord 3P UL 10A 125V 180cm |
| 170203183C | Power Cord 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) |
| 968EMW0093 | Telit HE910-D 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 O-Freescale-S-5W 70x63x8-SC ROM-7420-60 |



Note: Dimension is dependent on connector height used

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