# EPC-R4680

## Rockchip RK3288 Cortex-A17 ARM Based Box Computer

## Features

- Rockchip ARM Cortex-A17 RK3288 Quad core up to 1.6GHz
- Onboard 2GB DDR3L memory and 8GB eMMC
- Support 4K H.264/H.265 Video decoding, OpenVG1.1, OpenGL ES1.1/2.0/3.0, OpenCL1.1, DrectX11.
- Support HDMI 3840 x 2160 at 60Hz, VGA 1920 x 1200 at 60Hz
- 6 UART, 5 USB2.0, 1 USB OTG, 1GbE, 8GPIO
- Support M.2 slot for WIFI/BT module, Mini-PCIe slot for 4G module
- Support Linux and Android

## Introduction

EPC-R4680 is an ARM based Box Computer powered by Rockchip ARM Cortex-A17 RK3288 Quad core high performance processor, which supports 4K display and 4Kx2K multi-format video decoding via HDMI. It also features M.2, Mini-PCIe and SIM card slots for WIFI, BT and 4G connectivity. EPC-R4680 also offers rich interfaces such as 6 USB2.0, 6 UART, 1 GbE and 8 GPIO. It is an ideal solution for Kiosk,Vending machine and Digital signage application.

## Specifications

| | | |
|---|---|---|
| Form Factor | | ARM-based Box Computer |
| Processor | CPU | Rockchip ARM® Cortex® A17 RK3288 Quad-core, up to 1.6 GHz |
| Memory | Technology | DDR3L 1333MHz |
| | Capacity | On-board 2GB DDR3L |
| | Flash | 8GB eMMC NAND Flash for OS and Advantech boot loader<br>4MB SPI NOR Flash |
| Graphics | HDMI | 1 HDMI, 3840 x 2160 at 60Hz |
| | VGA | 1 VGA, up to 1920 x 1200 at 60Hz |
| | H/W Video Codec | Encode: H.264 (BP@level4.0, MP, HP@level4.0), MVC and VP8<br>Decode: MPEG-1, MPEG-2, MPEG-4,H.263, H.264, AVS, VC-1, VP8, MVC, HEVC/H.265 decoder, 4k@60FPS |
| Ethernet | Chipset | TI DP83867 |
| | Speed | 1 10/100/1000 Mbps |
| RTC | | Yes |
| WatchDog Timer | | Yes |
| Expansion | SD socket | 1 x Micro SD slot |
| | M.2 | 1 x M.2 2230 Key.E |
| | mini PCIe | 1 x Full size mini PCIe slot (USB signal only) |
| | SIM | 1 x SIM slot |
| I/O | SATA | - |
| | SATA Power | - |
| | USB | 5 x USB Type A, 1 x USB OTG |
| | Audio | 1 x line-out, 1 x mic-in |
| | SPDIF | - |
| | Serial Port | 1 x 4-wire RS-232/485<br>1 x 2-wire RS-232/Debug port, pin header selected by jumper<br>4 x 4-wire RS-232 |
| | SPI | 1 x SPI by pin header |
| | CAN | - |
| | GPIO | 8 x GPIO via D-SUB 9 (3.3V TTL level) |
| | I²C | 1 x I²C by pin header |
| | System Bus | - |
| | Touch | - |
| | I/R | - |
| | LED | 1 x Power LED, 1 x 4G LED |
| | Button | 1 x Power button, 1 x Reset button |
| Power | Power Supply Voltage | 12V |
| | Power Type | DC-in |
| | Power Consumption | TBD |
| Environment | Operational Temperature | 0 ~ 55 °C/-20 ~ 70 °C |
| | Operating Humidity | 5% ~ 95% |
| Mechanical | Dimensions (W x D) | 190 x 150 x 43 mm |
| Operating System | | Android/Linux |
| Certifications | | CCC/CE/FCC Class B |

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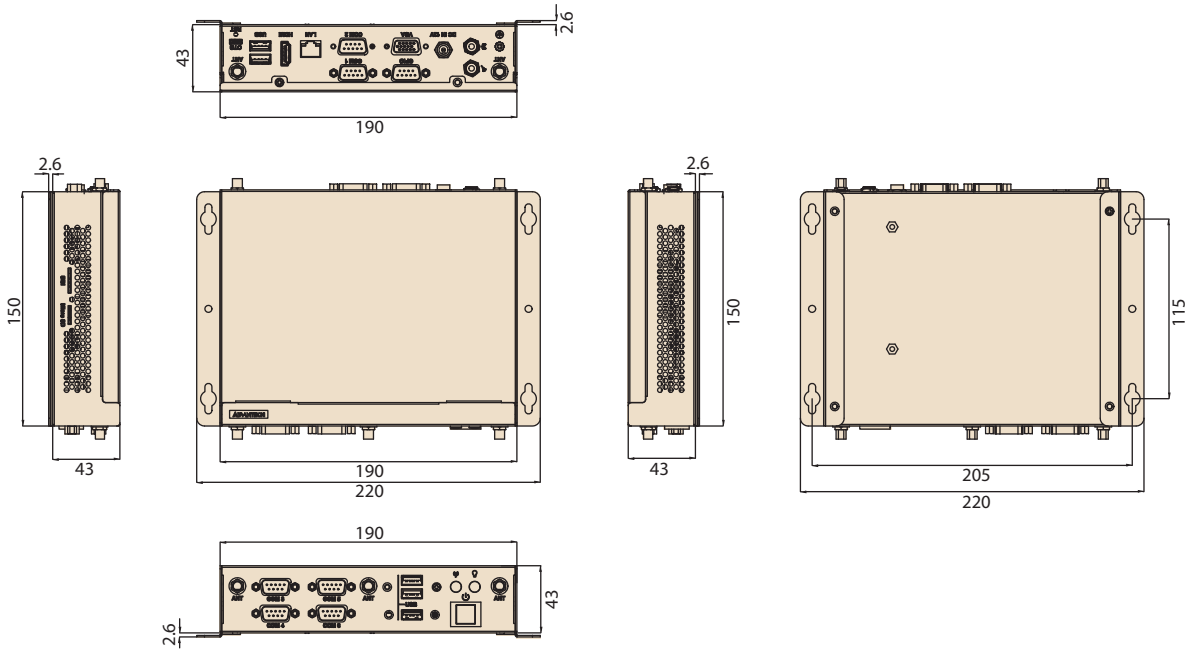
## Dimensions

Unit: mm




## Ordering Information

| Part Number | CPU | Memory | Flash | HDMI | LAN | Serial Port | USB Host | SD | Operating Temperature |
|---|---|---|---|---|---|---|---|---|---|
| EPC-R4680CQ-XAA1E | Rockchip RK3288 Quad Core 1.6GHz | 2GB | 8GB | 1 | 1 | 1 x 4-wire RS-232/485<br>1 x 2-wire RS-232/Debug port<br>4 x 4-wire RS-232 | 5 x USB Host<br>1 x USB OTG | 1 | 0 ~ 55 °C |
| EPC-R4680WQ-XAA1E | Rockchip RK3288K Quad Core 1.6GHz | 2GB | 8GB | 1 | 1 | 1 x 4-wire RS-232/485<br>1 x 2-wire RS-232/Debug port<br>4 x 4-wire RS-232 | 5 x USB Host<br>1 x USB OTG | 1 | -20 ~ 70 °C |

## Packing List

| Part Number | Description |
|---|---|
| EPC-R4680 | EPC-R4680 Box computer |

## Optional Accessories

| Port Number | Description |
|---|---|
| 96PSA-A36W12W7-5 | ADP A/D 100-240V 36W 12V C6 LOCK DC JACK 62368 |
| 170203183C | Power cord 3P Europe (WS-010+WS-083) 183 cm |
| 170203180A | Power cord 3P UK 2.5A/3A 250 V 1.83 M |
| 1700001524 | Power cord 3P UL 180cm |
| 1700008921 | Power Cord 3P PSE 183cm |
| 1700019146 | Power Cord CCC 3P 10A 250V 183cm |
| EWM-W172H01E | 802.11ac/a/b/g/n 2T2R WIFI BT 4.2 RTL8822BU-CG Half Mini PCIe Module |
| 1750005885 | Antenna L=23cm SMALFR8-3230A-00X00R |
| 1750008717-01 | Dipole Ant. D.B 2.4/5G WIFI 3dBi SMA/M-R BLK |
| 968AD00081* | Qucetel EC20CEFA Mini-PCIe 4G module for China |
| EWM-C117FL06E* | LTE 4G,3G WCDMA/DC-HSPA+, 2G module, MPCI-L280H |
| 1750006264 | Antenna cable SMA(F)/MHF 15cm |
| 1750008303-01 | Antenna AN0727-64SP6BSM |
| SQF-MSDM1-8G-21C | SQF MICRO SD C10 MLC 8G (-25 ~ 85 °C) |

* Please contat us to get suitiable celluar module for your region.

# 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 | Licensed Services | Numerous AI and Edge Resources | Local Partner Alliance |
|---|---|---|---|
| • Platform compatibility tests<br>• Preloaded functional driver and software stacks | • License authorized Canonical delivers 10-years of bug fixes and security updates<br>• In-house bundled service | • Containerized technology for service provision and deployment<br>• AI resources from Caffe, TensorFlow, and mxnet | • 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 | Remote Access | Efficient Operations |
|---|---|---|
| • Devices status<br>• Peripherals/firmware<br>• Open for extension | • Real-time monitoring<br>• Remote controls<br>• Troubleshooting | • Zero-touch on-boarding<br>• OTA updates<br>• 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