Product Brief

Radxa CM3 User Manual

2022-09-01

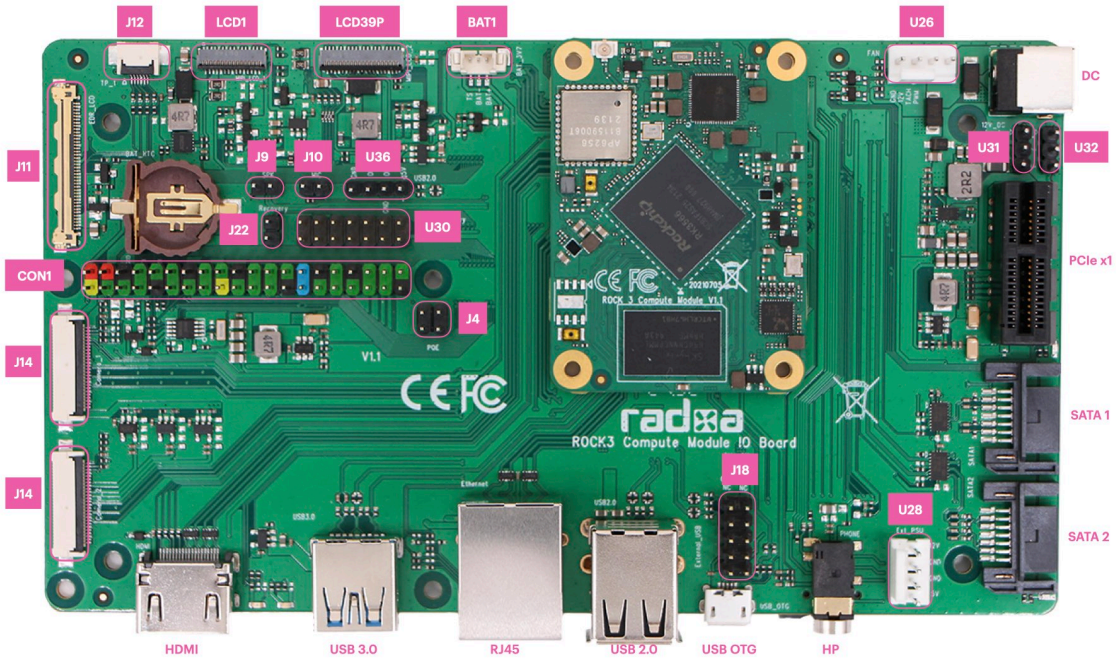
Radxa Computer

Contents

1 Introduction

Radxa ROCK3 Compute Module(Radxa CM3) is an SoM(System on Module) by Radxa based on Rockchip RK3566 SoC in a small form factor at 55mm x 40mm size, integrating CPU/PMU/-DRAM/STORAGE/Wireless. Radxa CM3 offers out of box cost-effective solution for multiple purpose applications, accelerates customer’ s product development.

ROCK3 Compute Module IO Board is a cost-effective, high-performance, interface-rich compatible carrier board, providing SD card slot, SATA interface, PCIe, HDMI, MIPI, Ethernet, TP interface, eDP screen, USB3.0, USB2.0, RTC, SCI, GPIO, headphone jack, fan and other rich peripheral interfaces. Dimensions: 160mm × 90mm This guide is written for using Radxa CM3 SoM with the CM3 IO board. The purpose is to learn the details of the boards as well as how to prepare and set up for basic use.



2 What you need

2.1 Necessary

- Radxa CM3(any variant) + CM3 IO board
- If the CM3 doesn’ t have eMMC, a micro SD card larger than 8GB is required for OS
- Power supply: The main PSU input (DC) is a 2.1mm DC tip positive +12V(only) input.
- Monitor and HDMI Cable
  - CM3 IO board is equipped with a full sized HDMI connector. HDMI capable monitor is recommended.
  - HDMI EDID display data is used to determine the best display resolution. On monitors and TVs that support 1080p (or 4K) this resolution will be selected. If 1080p is not supported the next available resolution reported by EDID will be used. This selected mode will work with MOST but not all monitors/TVs.
- USB to TTL serial cable
  - CM3 IO board exports a dedicated serial console for CPU, which can access the low level debug message.
- Micro USB cable
  - If you want write image to CM3 eMMC from USB OTG port or use fastboot/adb commands you need a micro USB cable to connect CM3 IO board and PC.

3 Power on

- Plug in the 12V DC, the Radxa CM3 should automatically boot. If the Radxa CM3 doesn’ t have eMMC or the eMMC is empty, plug in the micro USB to host PC, host PC should detect the Radxa CM3 in maskrom mode.

4 Install image to Radxa CM3

4.1 Install image to SD card

For support please see the hardware documentation section of the Install the image to microSD website

4.2 Install image to eMMC

For support please see the hardware documentation section of the Install Image to eMMC from USB port (Radxa CM3 IO) website

5 Support

For support please see the hardware documentation section of the Radxa Wiki website and post questions to the Radxa forum. Email: support@radxa.com

IC statement

This device contains licence-exempt transmitter(s)/receiver(s) that comply with Innovation, Science and Economic DevelopmentCanada's licence-exempt RSS(s). Operation is subject to the following two conditions:

(1)This device may not cause interference.

(2)This device must accept any interference, including interference that may cause undesired operation of the device.

The term "IC: " before the certification/registration number only signifies that the Industry Canada technical specifications were met.

This product meets the applicable Industry Canada technical specifications.

Cet appareil contient des émetteurs / récepteurs exemptés de licence conformes aux RSS (RSS) d'Innovation, Sciences etDéveloppement économique Canada. L'exploitation est autorisée aux deux conditions suivantes : (1) l'appareil ne doit pasproduire de brouillage,et (2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

L'émetteur/récepteur exempt de licence contenu dans le présent appareil est conforme auxCNR d'Innovation, Sciences et Développement économique Canada applicables aux appareils radio exempts de licence.

L'exploitation est autorisée aux deux conditions suivantes :

1)L'appareil ne doit pas produire de brouillage;

2)L'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre lefonctionnement.

Please notice that if the ISED certification number is not visible when the module is installed inside another device, then theoutside of the device into which the module is installed o display a label referring to the enclosed module. This exteriorlabel can use wording such as the following:

"Contains IC: 29530-RADXACM3" any similar wording that expresses the same meaningmay be used.

l'appareil hôte doit porter une étiquette donnant le numéro de certification du module d'Industrie Canada, précédé des mots «Contient un module d'émission », du mot « IC: 29530-RADXACM3 » ou d'une formulation similaireexprimant le même sens, comme suit

The device meets the exemption from the routine evaluation limits in section 2.5 of RSS 102 andcompliance with RSS-102 RF exposure, users can obtain Canadian information on RF exposure andcompliance.

Le dispositif rencontre l'exemption des limites courantes d'évaluation dans la section 2.5 de RSS 102 etla conformité

à l'expositionde RSS-102 rf, utilisateurs peut obtenir l'information canadienne surl'exposition et la conformité de rf.

This transmitter must not be co-located or operating in conjunction with any other antenna ortransmitter. This equipment should be installed and operated with a minimum distance of 20centimeters between the radiator and your body.
Cet émetteur ne doit pas être Co-placé ou ne fonctionnant en même temps qu'aucune autre antenne ouémetteur. Cet équipementdevrait être installé et actionné avec une distance minimum de 20 centimètres entre le radiateur et votre corps.
Operation of this device is restricted to indoor use only. (5180-5240MHz)
Le fonctionnement de cet appareil est limité à une utilisation en intérieur uniquement. (5180-5240MHz)

This radio transmitter 29530-RADXACM3 has been approved by Innovation, Science and Economic Development Canada to operate with the antenna types listed below, with the maximum permissible gain indicated. Antenna types not included in this list that have a gain greater than the maximum gain indicated for any type listed are strictly prohibited for use with this device.

ANT Type	Manufacturer	Model	Peak Gain	Frequency range	Impedance
FPC antenna	Shenzhenshi Jinlingyu Communication Technology CO.,Ltd	JLY100696	-7.23dBi	2400-2500MHz	50Ω
			4.1dBi	5150-5850MHz	