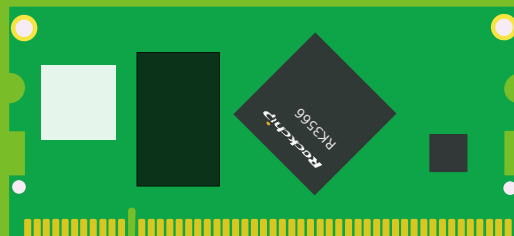

Radxa ROCK 3 Compute Module SODIMM

A rich feature embedded system-on-module

Revision 1.1



ROCKPi Trading Limited

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1 Introduction

Radxa ROCK3 Compute Module SODIMM(Radxa CM3 SODIMM) is an SoM(System on Module) by Radxa based on Rockchip RK3566 SoC in a small laptop dram form factor, integrating CPU/PMU/DRAM/STORAGE/Wireless. Radxa CM3 SODIMM offers out of box cost-effective solution for multiple applications, accelerates customer's product development. It comes with the following features:

1.1 Quad core 64 bits High Performance Solution

Radxa CM3 SODIMM is powered by Rockchip RK3566 SoC with 64bits Quad Cortex A55 low power core up to 2.0Ghz, up to 8GB RAM and up to 128GB eMMC. With a simple carrier board(2 layer base board is possible with all functions), the customer can quickly put the product into production.

1.2 Rich interfaces

Support I2C, SPI, UART, ADC, PWM, GPIO, Ethernet, PDM, USB2, USB3, I2S, MIPI, SATA, eDP as well as PCIe 2.0 high bandwidth buses.

1.3 Display capability

Dual Video Output Processor, support dual display output to any two of HDMI, eDP, MIPI, DP, resolution up to one 4K x 2K with one 2.5K.

1.4 Powerful multimedia utility

Support 4K VP9 and 4K 10bits H264/H265 video decoding, up to 60FPS

Support multiple 1080P video formats decoding including VC-1, MPEG-1/2/4, VP8

Support 1080P encoding to H.264, VP8 formats

1.5 Small size and low power

Industrial standard compatible 200PIN golden finger edge connector(DDR2 SODIMM form factor) at 32mm x 67.6mm size, saving board space. An additional 100P B2B connector for extra features such as USB3 and PCIe.

1.6 Support multiple OS

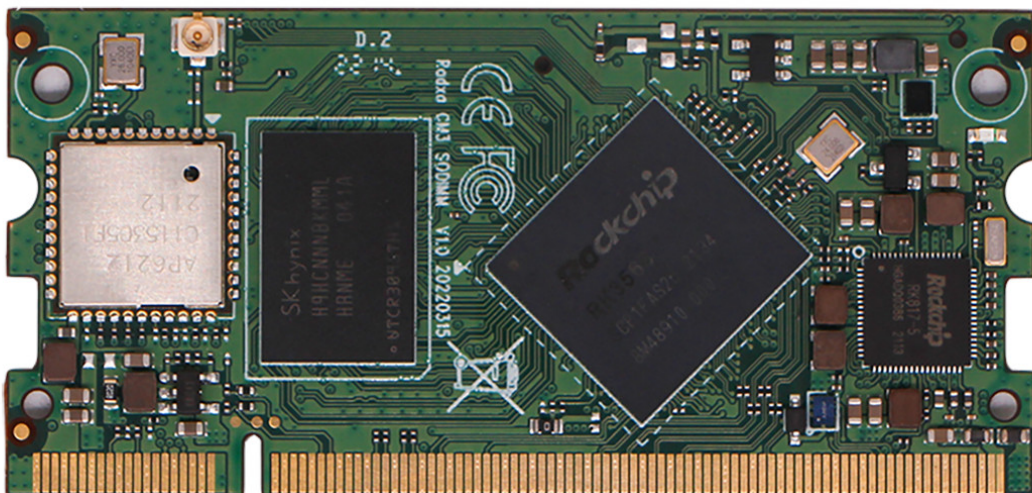
Support Ubuntu 20.04 / Debian 10 / Buildroot / Yocto / Android.

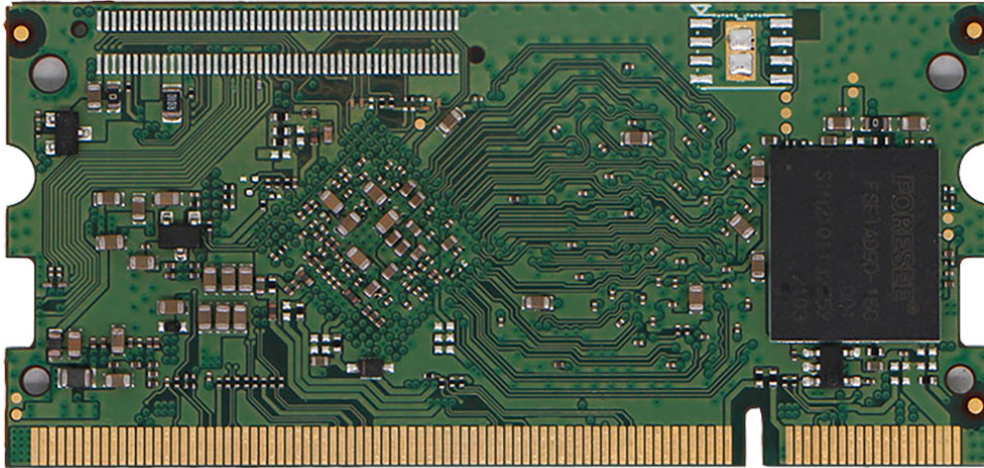
1.7 Open documents and source code

Source code, documents, tools and utilities are freely available, community and commercial support to help you put prototype into production.

1.8 Widely used in varies applications

Ideal SoM for Robotics, HMI, Vending Machines, Smart Home, IOT Gate Way, Industrial Controls, Medical Equipments etc.





2 Specification

Specification

Form factor: 67.6 mm × 32 mm

Processor: Rockchip RK3566, Quad core Cortex-A55 (ARM v8) 64-bit SoC @ **2.0GHz**

Memory: 1GB, 2GB, 4GB, 8GB LPDDR4 (depending on variant)

Connectivity:

- Optional wireless LAN, 2.4GHz IEEE 802.11b/g/n wireless, Bluetooth 4.2, BLE with external antenna support
- 1 x Gigabit Ethernet MAC
- 1 × USB 2.0 port (highspeed), 1 x USB 3.0 port (5Gbps)
- 1 × PCIe 1-lane Host, Gen 2 (5Gbps)
- 2 x SATA ports, one shared with USB 3, one shared with PCIe
- 50 × GPIO supporting

Video:

- 1x HDMI up to 4K x 2K@60HZ
- 1x eDP four lanes, 2.7Gps per lane
- 2x MIPI DSI four lanes, 1.6Gbps per lane
- 1x LVDS four lanes(muxed with MIPI DSI0)

Audio:	<ul style="list-style-type: none"> • LINEOUT • I2S • PDM, support mic array
Multimedia:	<ul style="list-style-type: none"> • VP9/H.264/H.265 decode 4K@60HZ • H.264/H.265 encode 1080P@100HZ • OpenGL ES 3.2/OpenCL 2.0/Vulkan 1.1 GPU
Input power:	5V DC
Connector	200P edge golden finger + 100P 0.5 pitch B2B connector
Production lifetime:	Radxa CM3-SODIMM will remain in production until at least Sep 2029

3 Dimension

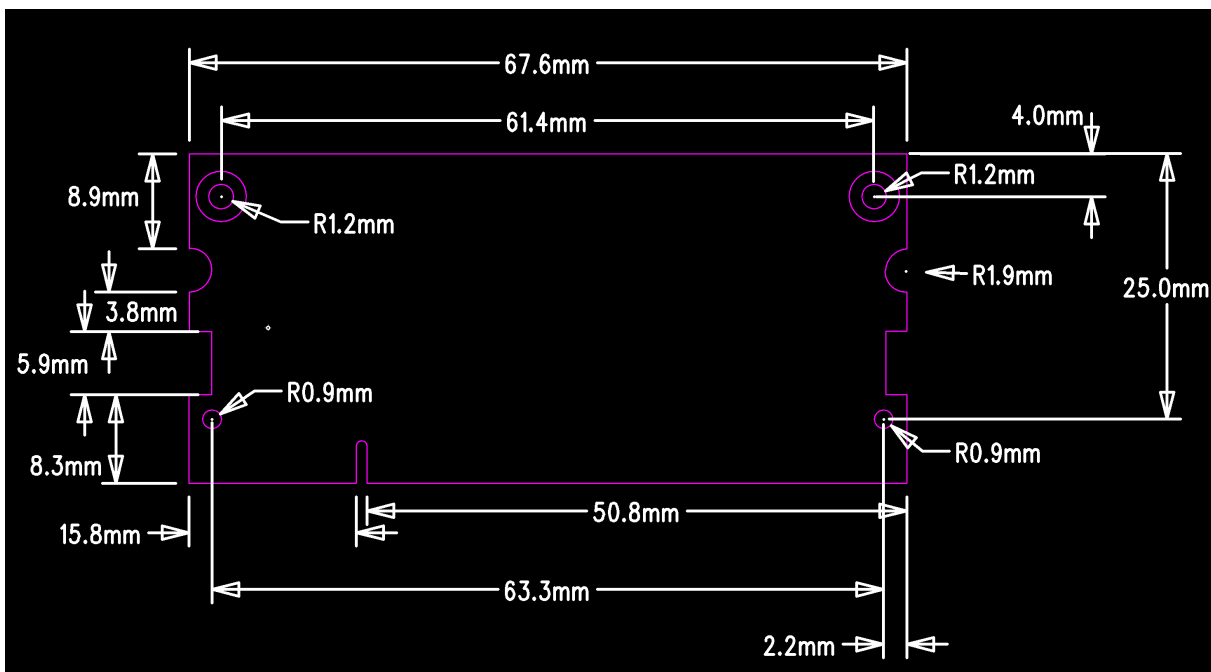


Figure 1: Radxa CM3 SODIMM Dimension

4 Availability

Radxa guarantees availability Radxa CM3 SODIMM until at least September 2029.

5 Order Info

Wireless	RAM	eMMC	SKU
No	1G	-	RM117-D1E0W0
		8G	RM117-D1E8W0
		16G	RM117-D1E16W0
		32G	RM117-D1E32W0
No	2G	-	RM117-D2E0W0
		8G	RM117-D2E8W0
		16G	RM117-D2E16W0
		32G	RM117-D2E32W0
No	4G	-	RM117-D4E0W0
		8G	RM117-D4E8W0
		16G	RM117-D4E16W0
		32G	RM117-D4E32W0
		64G	RM117-D4E64W0
		128G	RM117-D4E128W0
No	8G	-	RM117-D8E0W0
		8G	RM117-D8E8W0
		16G	RM117-D8E16W0
		32G	RM117-D8E32W0
		64G	RM117-D8E64W0
		128G	RM117-D8E128W0

Wireless	RAM	eMMC	SKU
Yes	1G	-	RM117-D1E0W3
		8G	RM117-D1E8W3
		16G	RM117-D1E16W3
		32G	RM117-D1E32W3
Yes	2G	-	RM117-D2E0W3
		8G	RM117-D2E8W3
		16G	RM117-D2E16W3
		32G	RM117-D2E32W3
Yes	4G	-	RM117-D4E0W3
		8G	RM117-D4E8W3
		16G	RM117-D4E16W3
		32G	RM117-D4E32W3
		64G	RM117-D4E64W3
		128G	RM117-D4E128W3
Yes	8G	-	RM117-D8E0W3
		8G	RM117-D8E8W3
		16G	RM117-D8E16W3
		32G	RM117-D8E32W3
		64G	RM117-D8E64W3
		128G	RM117-D8E128W3

6 Support

For support please see the hardware documentation section of the [Radxa Wiki](#) website and post questions to the [Radxa forum](#).