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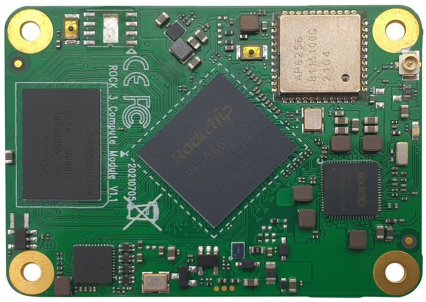

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The ROCK3 Compute Module from Radxa (Radxa CM3) is a SoM (System on Module), based on the Rockchip RK3566 SoC in a small form factor of 55mm x 40mm. It integrates CPU/PMU/DRAM/STORAGE and wireless

.

The CM3 from Radxa offers a ready-to-use, cost-effective solution for countless applications. It also simplifies and accelerates new product developments.

The module is compatible with the Raspberry CM4 baseboards from Raspberry, Seed etc.

Overview of the functions:

Quad-core 64-bit high-performance solution

Radxa CM3 is powered by the Rockchip RK3566 SoC, a 64-bit Quad Cortex A55 low-power core with up to 2.0Ghz. It is equipped with a maximum of 8 GB RAM and up to 128 GB eMMC memory

.

With a simple carrier board (a 2-layer base board is sufficient to gain access to all functions of the SoM), engineers can quickly develop solutions and prepare the boards for production.

Rich interfaces

I2C, SPI, UART, ADC, PWM, GPIO, Ethernet, CAN, PDM, USB2, USB3, I2S, MIPI,

SATA, eDP interfaces are available as well as PCIe 2.0 buses with high bandwidth.

Display capability

The dual video out processor supports the output of two displays via HDMI, eDP, MIPI, DP, with a resolution of up to 4K x 2K and a 2.5k

Powerful multimedia support

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

Decoding of multiple 1080P video formats, including VC-1, MPEG-1/2/4, VP8

1080P encoding to H.264 and VP8 formats

Small size and low power consumption

The 55mm x 40mm form factor and industry-compatible 3 x 100PIN board-to-board connectors save board space and provide standardised interfaces that save board space.

Support for multiple operating systems

Ubuntu 20.04 / Debian 10 / Buildroot / Android

Open documents and source code

Source code, documents, tools and utilities are freely available, community and commercial support is available to assist you in putting your prototype into production

Widely used in various applications

Perfect SoM for robotics, HMI, vending machines, smart home, IOT gateway, industrial control, medical devices, etc.

Detailed technical data:

Processor:

Rockchip RK3566, Quad-Core Cortex-A55 (ARM v8) 64-bit SoC @2.0GHz

Memory:

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

Connectivity:

- Optional wireless LAN, 2.4GHz and 5.0GHz IEEE 802.11b/g/n/ac
Wireless, Bluetooth 5.0, BLE with integrated and external antenna options
- Integrated Gigabit Ethernet PHY

- 1 × USB 2.0 port (high speed), 1 × USB 3.0 port (5 Gbit/s)
- 1 × PCIe 1-lane host, Gen 2 (5Gbps)
- 2 x SATA ports, one shared with USB 3, one shared with PCIe
- 50 × GPIO support

Video:

- 1x HDMI up to 4K x 2K@60HZ
- 1x eDP four lanes, 2.7Gps per lane
- 2x MIPI DSI four lanes, 1.6 Gbit/s per lane

Audio:

- LINEOUT
- I2S
- PDM, supports microphone array

Multimedia:

- VP9/H.264/H.265 decoding 4K@60HZ
- H.264/H.265 encodes 1080P@100HZ
- OpenGL ES 3.2/OpenCL 2.0/Vulkan 1.1 GPU

Input voltage: 5V DC

Connection: 3x 100P 0.5mm pitch B2B connection

Dimensions: 55 mm × 40 mm

Long-term availability: ROCK3 CM will continue to be produced until at least September 2029

Specification

	CM3	CM3 Plus
Form factor:	55 mm × 40 mm	70mm x 40mm
Processor:	Rockchip RK3566, Quad core Cortex-A55 (ARM v8) 64-bit SoC @ 2.0GHz	Rockchip RK3568, Quad core Cortex-A55 (ARM v8) 64-bit SoC @ 2.0GHz
Memory:	1GB, 2GB, 4GB or 8GB LPDDR4 (depending on variant)	
Storage:	8GB, 16GB, 32GB, 64GB, 128GB (depending on variant) high performance eMMC	
Connectivity:	- Optional wireless LAN, 2.4GHz and 5.0GHz IEEE 802.11b/g/n/ac wireless, Bluetooth 5.0, BLE with onboard and external antenna - Onboard Gigabit Ethernet PHY - 1 x USB 2.0 port (highspeed), 1 x	- Optional wireless LAN, 2.4GHz and 5.0GHz IEEE 802.11b/g/n/ac wireless, Bluetooth 5.0, BLE with onboard and external antenna - 1 x onboard Gigabit Ethernet PHY, **1x onboard GMAC**

	USB 3.0 port (5Gbps) - 1 x PCIe 1-lane host, Gen 2 (5Gbps) - 2 x SATA ports, one shared with USB 3, one shared with PCIe - 50 x GPIO supporting	- 2 x USB 2.0 port (highspeed), - 1 x USB 3.0 HOST port (5Gbps), 1 x USB 3.0 OTG port (5Gbps) - 1 x PCIe 1-lane host, Gen 2 (5Gbps) **- 1 x PCIe 2-lane(1x2, 1x1+1x1) host, Gen 3 (16Gbps)** - **3 x** SATA ports, one shared with USB 3 HOST, one shared with PCIe, one shared with USB 3 OTG - 50 x 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(mux with MIPI DSI0)	
Audio:	- LINEOUT - I2S - PDM, support mic array	
Multimedia:	- 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:	3x 100P 0.4mm pitch B2B connector	4x 100P 0.4mm pitch B2B connector
Production lifetime:	Radxa CM3(P) will remain in production until at least Sep 2029	

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