



## Comparing Edge2, Orange Pi 5 Pro, Radxa ROCK 5A, and ROC-RK3588S-PC

	Orange Pi 5 Pro	Radxa ROCK 5A	ROC-RK3588S-PC	Edge2
CPU	4-core Cortex-A76 and 4-core Cortex-A55, big core cluster is 2.4GHz, and little core cluster is 1.8GHz frequency	Octa-core processor with 4x Cortex-A76 cores @ up to 2.2-2.4 GHz, 4x Cortex-A55 cores @ up to 1.8 GHz	4xCortex-A76+4xCortex-A55, frequency up to 2.4GHz	2.25GHz <sup>1</sup> Quad Core ARM Cortex-A76 + 1.8GHz Quad Core Cortex-A55 CPU
GPU	ARM Mali-G610 MP4 GPU up to 1GHz	ARM Mali-G610 MP4 GPU up to 1GHz	ARM Mali-G610 MP4 GPU up to 1GHz	ARM Mali-G610 MP4 GPU up to 1GHz
NPU	6 TOPS Performance	6 TOPS Performance	6 TOPS Performance	6 TOPS Performance
RAM	LPDDR5 496PIN: 4GB/8GB/16GB	4/8/16/32GB 64bits LPDDR4x RAM	4GB/8GB/16GB 64bit LPDDR4/LPDDR4x/LPDDR5	8/16GB LPDDR4X 2112MHz, 64-bit
MCU	-	-	-	STM32G031K6
eMMC	-	-	16GB/32GB/64GB/128GB	32GB/64GB
SPI Flash	-	16MB	-	32MB
MicroSD	1	1	1	Edge2 IO Module(optional)
USB-A	USB3.1 Gen1 * 1,USB2.0 *1, USB HUB,USB2.0 *2 (TYPE A) +UAB2.0*2 row of pins	2x USB2 Type A HOST ports 1x USB3 Type A HOST port 1x USB3 Type A OTG/HOST port	1 x USB3.0 (Limit 1A) 3 x USB2.0 (Limit 500mA) (2 of them are connected to 20 pin header)	x1 USB 3.1(1500mA) + x1 USB 2.0(1300mA)
USB-C	-	1x USB Type-C™ port for power supporting USB PD 2.0 and QC 2.0	1 x USB-C multi-function interface (USB3.0 OTG / DPL4) (Limit 2A)	x1 PD (Power Deliver) Only x1 USB 3.1 + PD + DP 1.4, up to 4K@60fps
HDMI	1x HDMI2.1, 1x HDMI2.0 HDMI2.1 up to 8K @60Hz HDMI2.0, up to 4K @60Hz	2x micro HDMI 2.1 ports, one up to 8Kp60, the other up to 4Kp60	1 x HDMI2.1 (8K@60fps or 4K@120fps) 2 x MIPI-DSI (4K@60fps) 1 x DPL1.4 (8K@30fps)	1x Type-A Female, 8K@60fps HDMI2.1, Dynamic HDR, CEC, DSC 1.2a and HDCP 2.3
Media	Video decoding: 8K@60fps H.265/VP9/AVS2 8K@30fps H.264 AVC/MVC 4K@60fps AV1 1080P@60fps MPEG-2/-1/VC-1/VP8 Video encoding: 8K@30fps encoding, support H.265 / H.264	Video decoding: 8K@60fps H.265/VP9/AVS2 8K@30fps H.264 AVC/MVC 4K@60fps AV1 1080P@60fps MPEG-2/-1/VC-1/VP8 Video encoding: 8K@30fps encoding, support H.265 / H.264	Video decoding: 8K@60fps H.265/VP9/AVS2 8K@30fps H.264 AVC/MVC 4K@60fps AV1 1080P@60fps MPEG-2/-1/VC-1/VP8 Video encoding: 8K@30fps encoding, support H.265 / H.264	Video decoding: 8K@60fps H.265/VP9/AVS2 8K@30fps H.264 AVC/MVC 4K@60fps AV1 1080P@60fps MPEG-2/-1/VC-1/VP8 Video encoding: 8K@30fps encoding, support H.265 / H.264
MIPI	1x MIPI 4 Lane, up to 4K @60Hz 2x MIPI 4 Lane	1x MIPI DSI supporting up to 1080p60 1x Camera port (1x four-lane MIPI CSI or 2x two-lane MIPI CSI)	2 x MIPI-DSI (4K@60fps) 2 x 2 lane MIPI-CSI input or 1x4 lane MIPI-CSI	x1 30-Pin 0.5mm FPC Connector 4-lane MIPI-DSI Interface, Resolution up to 4K@60Hz x1 40-Pin 0.5mm FPC Connector 4-lane MIPI-DSI Interface, Resolution up to 4K@60Hz I2C and GPIO for Touch Panel x3 30-Pin 0.5mm FPC Connectors 4-lane MIPI-CSI Interface per Connector ISP Resolution up to 48MP
Expand IO	Dual-row pin: 2.54mm 40Pin Supports DC 5V and 3.3V power outputs Configurable UART, PWM, I2C, SPI, CAN, GPIO and other functional interfaces	-	1 x Debug (3P-2.0mm) 1 x 20P-2.0mm pin header (LINE-OUT, 2xUSB2.0, UART, SPI, GPIO, ADC, VCC (5V/3.3V/1.8V) )	x2 30-Pin 0.5mm FPC Connector CPU, I2C, UART, SPI, SD/MMC, I2S, ADC, PWM, USB MCU: SWDIO, SWCLK, UART
Audio	1x 3.5mm headphone jack audio input/output Input: onboard MIC	1x 4-ring 3.5mm Headphone Jack with mic input	Audio output: 1 x 3.5mm audio jack Audio input: 1 x Mic input (2P-1.25mm)	Audio input: x2 Stereo Digital Microphones Audio output: x1 3.5mm headphone jack(Edge2 Station)
Ethernet	10/100/1000Mbps Ethernet with PoE+ support (PoE+ HAT required)	1x Gigabit Ethernet port (supports PoE with add-on PoE HAT)	1 x 1000Mbps Ethernet (RJ45)	10/100M Ethernet Port(Edge2 Station)
Wi-Fi	Onboard Wi-Fi 5+BT 5.0/BLE module: AP6256	M2 E key WiFi 6(E) / BT 5 module	Support 2.4GHz, 5GHz dual-band WiFi, 802.11 a/b/g/n/ac protocol	Ampak AP6275P 2T2R Wi-Fi 6, IEEE 802.11 a/b/g/n
Bluetooth	-	-	Support Bluetooth 4.2 (BLE)	Bluetooth 5.0
M.2	M.2 M-Key slot supports access to NVMe SSD or SATA SSD	M.2 NVMe SSD, Support 2230/2242/2260/2280 NVMe SSD via Radxa M.2 Extension Board SATA: Support SATA SSD/HDD via Radxa M.2 E key to SATA Board or Radxa Penta SATA HAT	1 x M.2 interface, can be expanded with 2242 SATA3.0 SSD (default), compatible with 2242 PCIe2.0 NVMe SSD	-
Button	1 * MaskROM, 1-RESET, 1 * POWER	1x Power button 1x Recovery button	-	x3 (Reset / Func / Power)
LED	Power indicator: red Status indicator: green	1x Power LED, 1x User LED	-	x2 RGB LED
FAN	5V 2PIN 1.25mm socket	1x PWM fan connector	1 x Fan (5V/4P-1.25mm)	x1 4-Pin 0.8mm Header, PWM Speed Control
RTC	3V 2PIN 1.25mm socket	-	-	x1 3V 3mAh, Lithium Rechargeable Battery
Supported OS	OrangePi OS (Droid) 、OrangePi OS (Arch) 、Ubuntu、Debian、Android12	Radxa OS Ubuntu Android	Android: Android 12.0 Linux: Ubuntu Desktop, Ubuntu Server, Debian11, Buildroot, RTLinux Kylin Linux, UOS, etc.	Ubuntu 22.04, Android 12/13, Armbian, Batocera, openFyde
Operating Conditions	-	0-50°C	-20°C-60°C	-20°C-60°C
Board Dimensions	89mmx56mmx1.6mm	85 mm x 56 mm	90mm x 60mm	82.0 x 57.5 x 5.7 mm
Weight	62g	-	50g	25g
Khadar Only	-	-	-	7-Pin Pogo Pads: USB, UART, 5V Sensor: KXTJ3-1057 Tri-axis Digital Accelerometer Khadar TST Khadar KBI DOWOW Fenix
Compliances	-	FCC / CE	-	RoHS, CE, FCC, TELECOM, KC

Notes:

<sup>1</sup> According to the testing results at Khadas Lab, the Rockchip RK3588S can only run up to 2.25GHz, instead of 2.4GHz as specified by Rockchip. So we specify it as 2.25GHz here.

Edge2's advantages are highlighted in blue.

Source of the specs for Orange Pi 5 Pro, Radxa ROCK 5A, and ROC-RK3588S-PC: the official website of each product.