

# Rockchip RK3588

## 8K Ultra HD



### Processor

Processor	Rockchip RK3588 processor
Core	ARM Cortex-A76 2.4 GHz
GPU	ARM Mali-G610 MC4 OpenGL ES 1.1/2.0/3.1/3.2 Vulkan 1.1 1.2 OpenCL 1.1 1.2 2.0
NPU	6 TOPS (int4/int8/int16/FP16/BF16/TF32)
Cache	4x LPDDR4X (2x 32GB)
IO	802.11 ax/ac/a/b/g/n
USB	12 USB ports
Other	5.0

### Connectivity

Storage	1x C (12GB/2TB)
Expansion	1x TF
Network	1x PCIe
Wireless	1x Wi-Fi
Bluetooth	Bluetooth CR1220
Serial	2x UART
Ethernet	1x 10/100/1000 RJ45
Power	802.11 ax/ac/a/b/g/n
USB	1x USB3.0 1x USB2.0 1x USB2.0 (4 ports)
LED	1x LED
Display	1x MIPI 32 lanes * 1 EDP 30 lanes
Video	1x HD 2.1 8K 60fps * 1 DP DP1.4 4K 60fps
Camera	1x MIPI-CSI (4 lanes) * 1 HD 2.0 4K@60fps
Audio	1x L/R (3.5mm) * 1
GPIO	7x GPIO 3.3V
I2C	4x I2C 3 pins
Other	* 1 * 2 * 5

### Other Features



# High-Performance AI Development Board

The RK3588 is a flagship AIoT chip built on 8nm LP process, featuring an octa-core CPU (up to 2.4GHz), ARM Mali-G610 MP4 GPU, and a 6TOPs NPU for AI acceleration. It also integrates a 48MP ISP with HDR & 3DNR, supporting major deep learning frameworks for enhanced AI performance.



**RK3588**  
Octa-core CPU



**Mali-G610**  
MC4 1GHz GPU

**6Tops**  
NPU

**8K**

**8K Codec**  
H.265 HEVC



**4~32GB RAM**  
**8~128GB ROM**



**WIFI6**  
**1000M LAN**



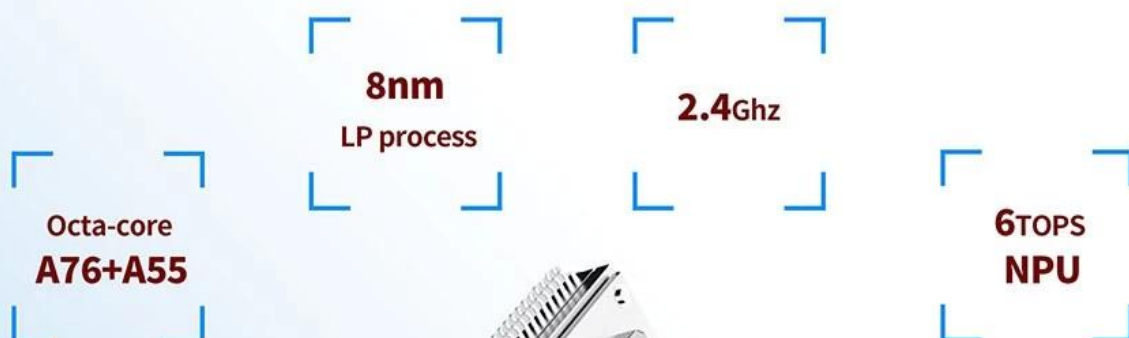
**BT5.x**



**Android/Linux**

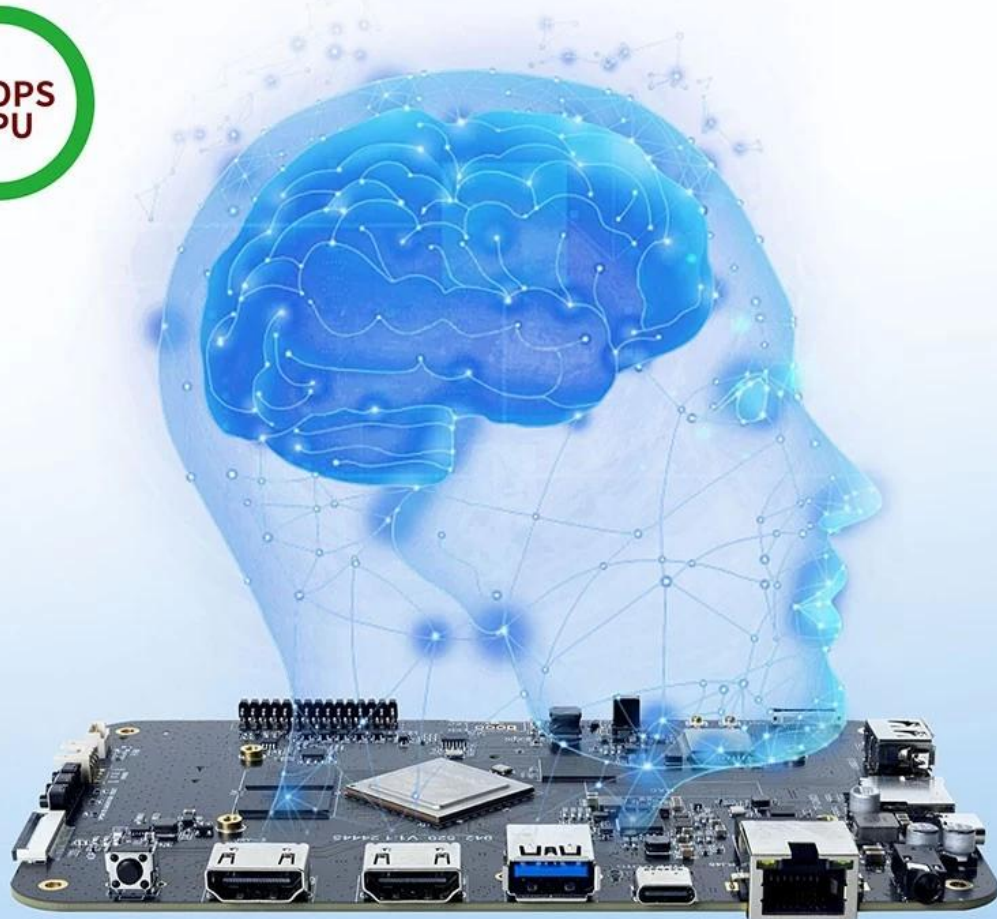
# RK3588---Next-Generation Flagship AIoT CPU

Powered by the RK3588 octa-core 64-bit chipset, with ARM Mali-G610 MP4 GPU and 6TOPs AI NPU for superior AI performance and expanded possibilities.



# 6 TOPS Powerful Computing Boosts AI Applications

Powerful NPU with 6TOPS performance, supporting INT4/INT8/INT16 operations. Compatible with TensorFlow, MXNet, PyTorch, Caffe, and more. Efficiently accelerates convolution and traditional image processing operations like Gaussian filter, median filter, Laplacian, and Sobel, ideal for edge computing and vision control applications.



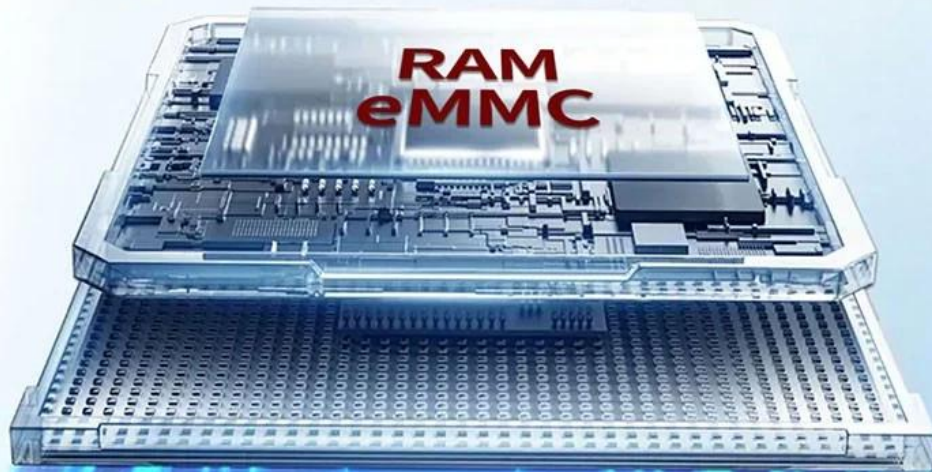
## 8K Video Encoding & Decoding

Supports 8K@60fps H.265/VP9 decoding and 8K@30fps H.265/H.264 encoding, with up to 32x 1080P@30fps decoding and 16x 1080P@30fps encoding. Delivers stunning 8K video quality.



## 32GB Large RAM & 128GB EMMC

Up to 32GB RAM and 128GB eMMC storage, surpassing previous memory limits for faster response and meeting the demands of high-memory, high-storage applications.



**32GB**  
**128GB**

# Rich Expansion Interfaces

Multiple video output and input interfaces support simultaneous 8K@60fps video output and 4K@60fps video input. It also supports quad-screen display for high-definition interactive scenarios. The board offers rich expansion interfaces for diverse industry applications.





# Powerful Network

Onboard Gigabit Ethernet, dual-band WiFi 6 (2.4GHz/5GHz), and Bluetooth 5.3 ensure seamless network connectivity and flexible support for various application needs.



# Open System Architecture

Multi-system compatibility supporting Android 12 and Debian 11, with deep customization of the Linux kernel for remote upgrades and management, enhancing operational efficiency and ease.



Rockchip RK3588

Rockchip RK3588 processor ARM (Cortex-A76 Cortex-A55) Mali-G610 NPU 6 TOPs LP.

\*LCD: MIPI EDP I2C.

\*TF PCIE UART GPIO

UART GPIO

12

Rockchip RK3588

Rockchip RK3588 processor, Mali-G610 MP4 8-core GPU, and Cortex-A76/A55 CPUs. It also features a 5.0-inch display, 6GB RAM, and 64GB storage. The device is powered by a 5000mAh battery and runs on Android 11. It is available in black and white colors.

### 8GB RAM, 64GB Storage

The device is equipped with 8GB of RAM and 64GB of storage. It features a 5.0-inch display with a resolution of 1080x2340 pixels. The device is powered by a 5000mAh battery and runs on Android 11. It is available in black and white colors.

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