

# 8K Octa-Core RK3588



Processor	Rockchip RK3588
CPU	Rockchip RK3588 ARM Cortex-A76 @2.4GHz Quad-Core Cortex-A55@1.8GHz
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
Cache	6 (int4/int8/int16/FP16/BF16/TF32)
RAM	4GB LPDDR4X (2GB-2 32B)
Storage	32G
Wireless	802.11 ax/ac/a/b/g/n
Bluetooth	12
USB	5.0

Connectivity	Type-C (12V/2A)
Storage	1 - TF 1 - PCIe
Display	1 - CR1220
Serial	2 - UART
Network	1-10/100/1000 Mbps RJ45
Wireless	802.11 ax/ac/a/b/g/n
USB	1 - USB3.0 1 - USB2.0 1 - USB2.0 4
LED	1 - LED
Video	1 - MIPI 32 1 - EDP Dual-cChannel 30
Display	1 - HD 2.1 8K @ 60Hz 1 - DP DP1.4 4K @ 60Hz
Video	1 - MIPI-CSI 1 - HD 2.0 4K @ 60Hz
GPIO	1 - L/R, 3.5
GPIO	1 - 3.3V
I2C	4 - I2C, 3V
Power	1- 2- 1-5V

Video	<p>MPEG-1, MPEG-2, MPEG-4, H.263, H.264, H.265, VC-1, VP9, VP8, MVC AV1@MMU</p> <p>H.264 AVC/MVC Main10 L6.0: 8K@30fps(7680-4320);</p> <p>VP9/2 L6.1: 8K@60fps(7680-4320);</p> <p>H.265 HEVC/MVC Main10 L6.1: 8K@60fps(7680-4320);</p> <p>AVS2 0/2 L10.2.6: 8K@60fps(7680-4320);</p> <p>AV1 8/10 L5.3: 4K@60fps(3840-2160);</p> <p>MPEG-2 MP 1080p@60fps(1920-1088);</p> <p>MPEG-1 MP 1080p@60fps(1920-1088);</p> <p>VC-1 AP 3: 1080p@60fps(1920-1088);</p> <p>VP8 2 - 1080p@60fps(1920-1088)</p> <p>MP3,AAC,FLAC,WAV</p>
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晶片: RTL8111HS

網路規格

網路規格: 支援 10/100/1000 Mbps 網路規格

晶片:

晶片: AP6275P

晶片: WiFi:

晶片: 802.11ax/ac/a/b/g/n

晶片: 2.4 GHz 及 5GHz

晶片: MU-MIMO

晶片: BT:

晶片: BT:

晶片: BT

晶片: BLE (低功耗藍牙)

晶片: BT

晶片: BT

HDMI TX 晶片: 8K@60fps(7680x4320)

EDP 晶片: 4K@60fps(3840x2160)

MIPI\_CSI 晶片: 4K@60fps(3840x2160)

DP(type-c) 晶片: 4K@ 60fps(3840x2160)

晶片: 4K@60fps(3840-2160)

HDMI RX 晶片: 4K@60fps(3840-2160)

MIPI\_DSI (晶片)

晶片: PIP (晶片)

晶片: HYM8563

晶片: HYM8563

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晶片: HYM8563

網路規格

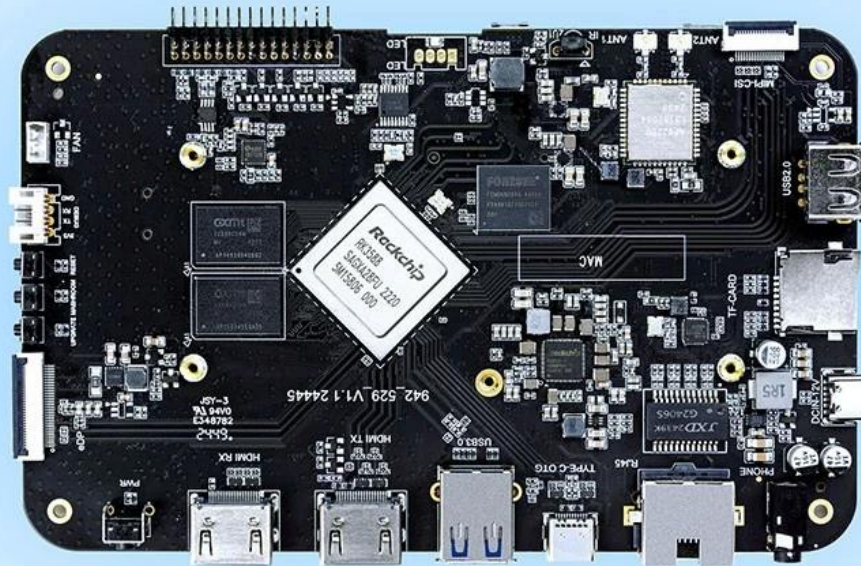
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# High-Performance AI Development Board

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**

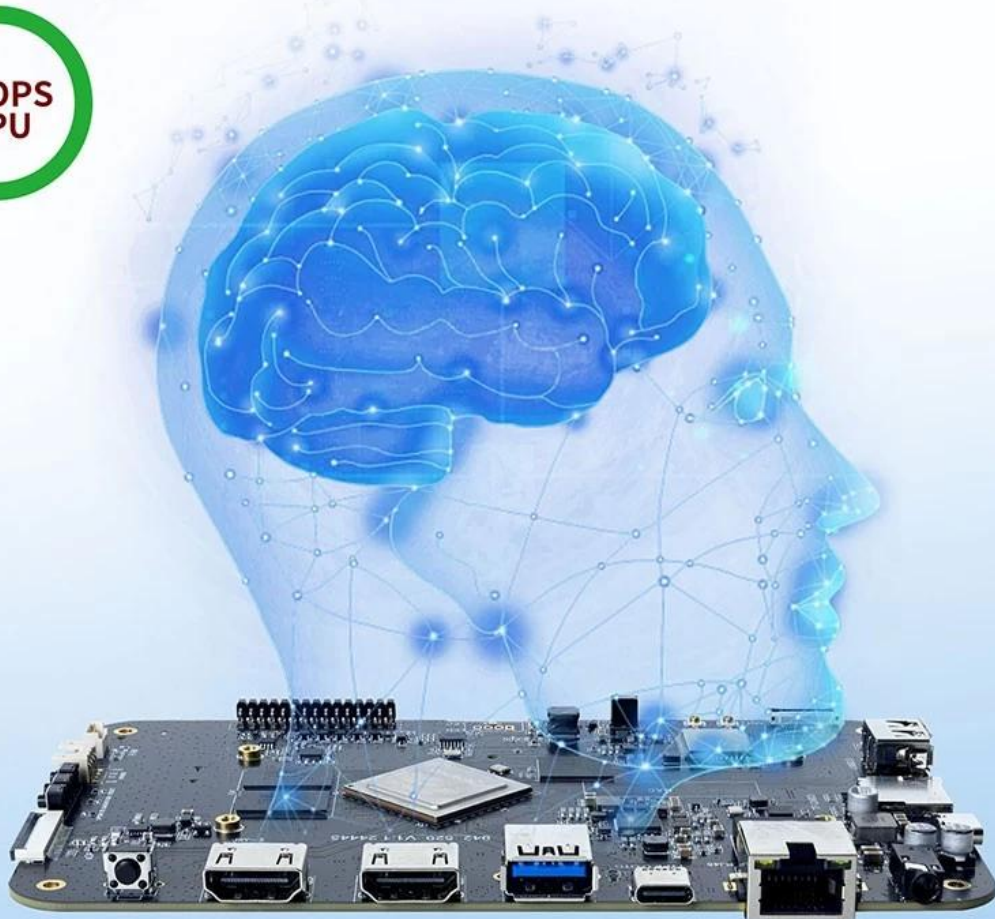
# RK3588---Next-Generation Flagship AIoT CPU

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

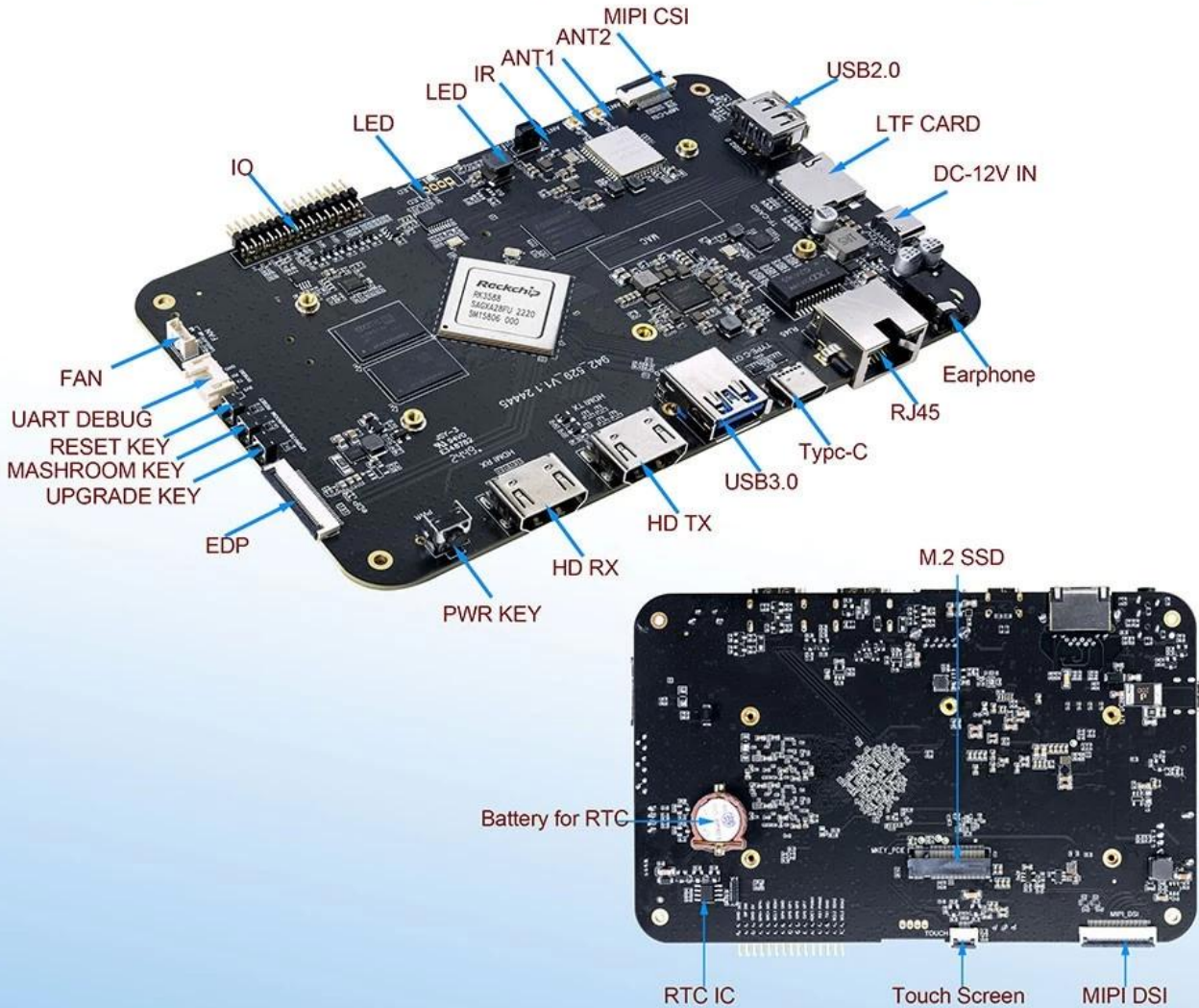
Up to 32GB RAM and 128GB eMMC storage, surpassing previous memory limits for faster response and meeting the demands of high-memory, high-storage applications.



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.



產品特點

- CPU 採用 ARM Octa-core RK3588 (Quad Core Cortex-A76 及 Quad Core Cortex-A55) 最高運行頻率可達 2.4 GHz 集成 GPU Mali-G610 四核
- 集成 NPU 算力 6TOPs
- 工藝: 8nm LP
- 顯示: LCD 接口: MIPI, EDP
- 接口: I2C
- 擴展: TF, PCIe
- 通訊: UART, GPIO
- 系統: Android 12

支持 8K Ultra HD 视频 CPU Octa-Core RK3588

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**CPU Octa-Core RK3588**

..... **Rockchip RK3588 Octa-Core** .....  
Cortex-A76 ..... Cortex-A55 .....  
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..... **-G610 MP4 GPU** ..... **8K**

**8K Ultra HD** .....

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**HDR10-** .....  
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- **HDMI2.1** ..... **8K**
- ..... **USB-C** ..... **USB 3.0**  
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