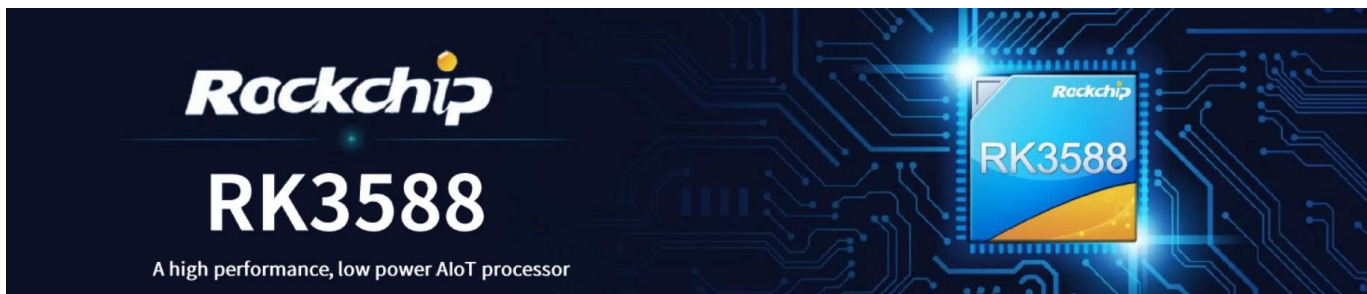


Rockchip RK3588 4 32



Rockchip RK3588

Rockchip RK3588	Rockchip RK3588
ARM Cortex-A76	ARM Cortex-A76 2.4
ARM Mali-G610 MC4	ARM Mali-G610 MC4 Vulkan 1.1 1.2 OpenCL 1.1 1.2 2.0
6 TOPS	6 TOPS (int4/int8/int16/FP16/BF16/TF32)
4 LPDDR4X	4 LPDDR4X (2 32 2*LPDDR4X)
32	32
802.11	802.11 ax/ac/a/b/g/n
12	12
5.0	5.0

Rockchip RK3588

12	12 C (12 2/)
1 * TF	1 * TF
1 * PCIE	1 * PCIE
1 * CR1220	1 * CR1220
2 * UART	2 * UART
1*10/100/1000 RJ45	1*10/100/1000 RJ45
802.11 ax/ac/a/b/g/n	802.11 ax/ac/a/b/g/n
1 * USB3.0	1 * USB3.0
1 * USB2.0	1 * USB2.0
1 * USB2.0 4	1 * USB2.0 4
1 * LED	1 * LED
1 * MIPI 32	1 * MIPI 32
* 1 EDP 30	* 1 EDP 30
1 * HD 2.1 8K 60	1 * HD 2.1 8K 60
* 1 DP 4K 60	* 1 DP 4K 60
1 * MIPI-CSI	1 * MIPI-CSI
* 1 HD 2.0 4K@60	* 1 HD 2.0 4K@60
1 * L/R	1 * L/R
3.5	3.5
* 1	* 1

7*GPIO 3.3
4 * I2C 3
* 1
* 2
5*1

GPIO

Media

:
MPEG-1 MPEG-2 MPEG-4 H.263 H.264 H.265 VC-1 VP9 VP8
MVC AV1@MMU
H.264 AVC/MVC Main10 L6.0: 8 K@30fps(7680*4320);
VP9 0/2 L6.1: 8 K@60 4320*7680);
H.265 HEVC/MVC Main10 L6.1: 8 K@60fps(7680*4320);
AVS2 0/2 L10.2.6: 8 K@60 (4320*7680)
AV1 8/10 L5.3: 4 K@60 (2160*3840)
MPEG-2 MP: 1080 (1088*1920) 60
MPEG-1 MP: 1080p@60fps(1920*1088)
VC-1 AP 3: 1080p@60fps(1920*1088)
VP82 : 1080p@60fps(1920*1088)
MP3 AAC FLAC WAV

Media

Audio

RTL8111HS
10/100/1000
.
AP6275P

Network

:
802.11 ax/ac/a/b/g/n 2.4
.
5 2.4
MU-MIMO
BT 5.0 BT
BT

Display

HDMI_TX 8 K@60 7680) x4320).
EDP 4 K@60 3840) x2160).
MIPI_CSI 4 K.(2160 x 3840) 60
DP(type-c) 4 K@60 3840) x2160).
HDMI_RX 4 K@60 2160*3840)

Camera

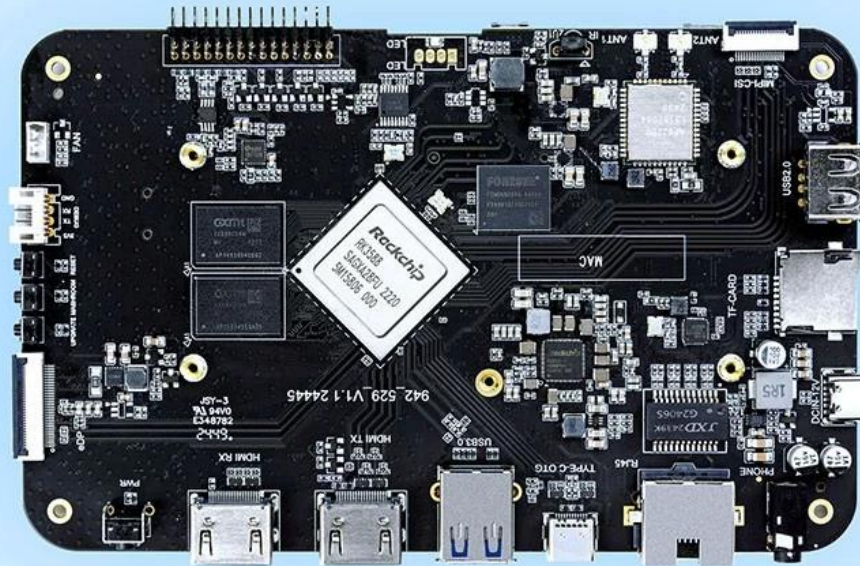
MIPI_DSI ((
PIP ((
HYM8563

RTC

RTC

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

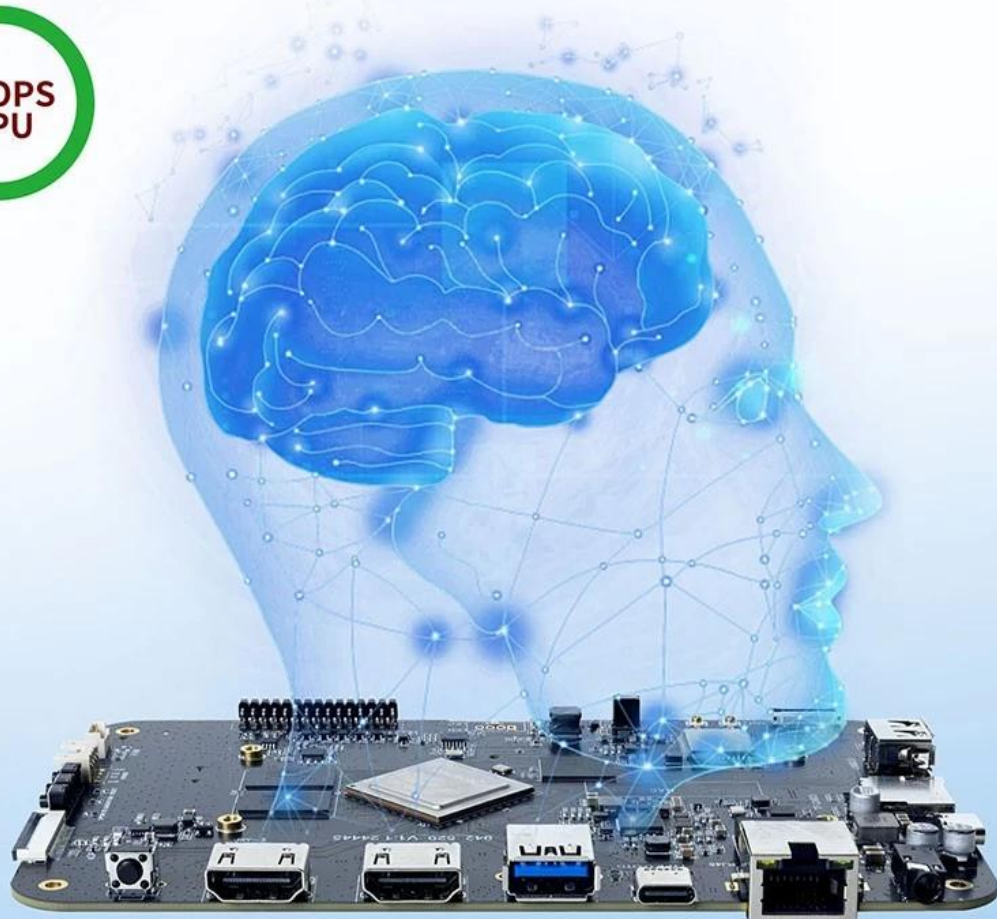
RK3588---Next-Generation Flagship AIoT CPU

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

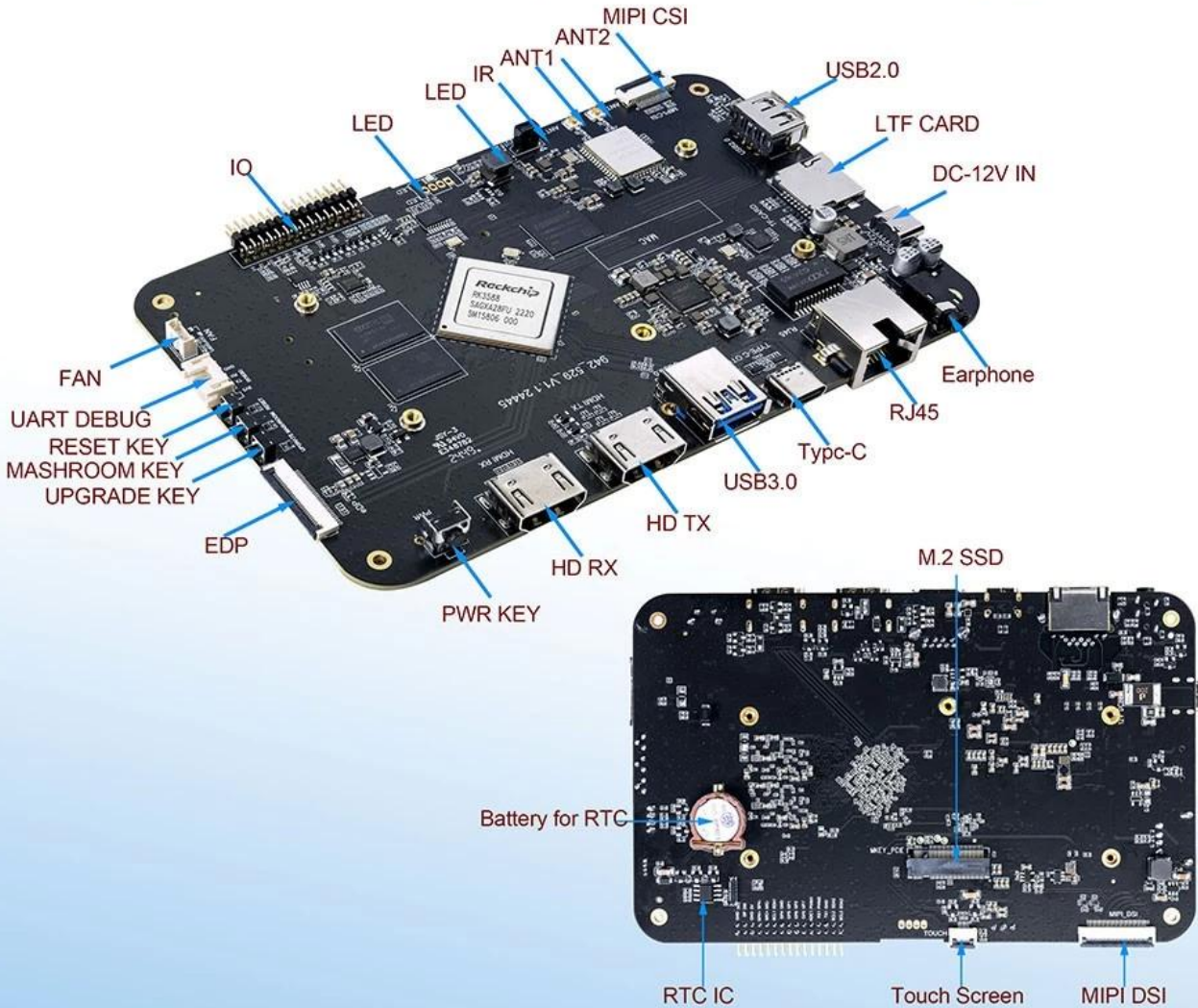
Up to 32GB RAM and 128GB eMMC storage, surpassing previous memory limits for faster response and meeting the demands of high-memory, high-storage applications.



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

8 Rockchip RK3588 32 4

