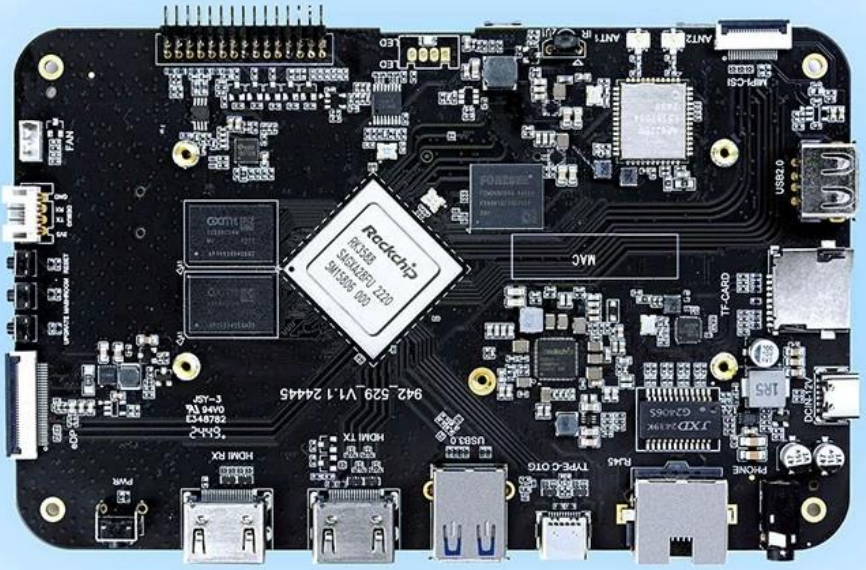
Best Android TV Box with AI-Powered Rockchip RK3588 Processor

Specifications	
Model No.	Rockchip RK3588 Best Android TV Box
CPU	Rockchip RK3588 Octa-Core ARM, Quad-Core Cortex-A76 @2.4GHz and Quad-Ccore 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 Embedded high performance 2D image acceleration module
NPU	6 TOPS (Supports int4/int8/int16/FP16/BF16/TF32 Acceleration)
RAM	4GB LPDDR4X (2GB*2, Supports up to 32GB)
ROM	32G
WiFi	Built-in WiFi Module, 802.11 ax/ac/a/b/g/n
OS	Android 12
Bluetooth	Bluetooth 5.0
Hardware Interface	
Power input	Type-C Port (12V/2A)
Storage Extension	1*TF Card Slot 1*PCIE Hard Disk Data Port
Remote Control	1* Infrared Remote Control Receiver
RTC Battery	CR1220 Button Battery Onboard
Serial Port	2*UART Serial Port
Ethernet	1* 10/100/1000 Mbps RJ45 Port
WiFi	Built-in WiFi Module, 802.11 ax/ac/a/b/g/n
USB Port	1*USB3.0 Port 1*USB2.0 Port 1* USB2.0 Port Reserved 4-Pin socket
LED Indicator	1*Three-Color LED Indicator
LCD Interface	1*Four-Channel 32-Pin Sequential MIPI interface 1*Dual-cChannel 30-Pin Sequential EDP interface
Video Output Interface	1*HD Output Port, Support HD 2.1 up to 8K@60Hz output 1*DP Output Port, Support DP1.4 up to 4K@60Hz output
Video input	1*MIPI-CSI (dual-channel) 1*HD input Port, Supports up to HD 2.0 4K@60Hz input
Audio interface	1*MIC 1*L/R, Left and Right Sound Channel Output (3.5mm Headset Port) 1*SPK
Other interfaces	7*GPIO, 3.3V Voltage 4*I2C, 3V Voltage, Support Touch Screen 1*ADC 2*PWM 1*5V Cooling Fan
Software Performance	

Video&Audio CODEC	Decoding Performance: Supports MPEG-1, MPEG-2, MPEG-4, H.263, H.264, H.265, VC-1, VP9, VP8, MVC and AV1@MMU embedded real-time video decoding; Multi-channel parallel decoding, supporting lower resolutions; H.264 AVC/MVC Main10 L6.0: support 8K@30fps(7680*4320); VP9 Profile0/2 L6.1: Support 8K@60fps(7680*4320)); H. 265 HEVC/MVC Main10 L6.1: support 8K@60fps(7680*4320); AVS2 Profile 0/2 L10.2.6: Support 8K@60fps(7680*4320); AV1 main configuration file 8/10bit L5.3: Support 4K@60fps(3840*2160); The MPEG-2 supports up to MP: 1080p@60fps(1920*1088); The MPEG-1 supports up to MP: 1080p@60fps(1920*1088); VC-1 supports up to AP level3: 1080p@60fps(1920*1088); VP8 version2□1080p@60fps(1920*1088) Multi-Channel Audio Decoding: MP3,AAC,FLAC,WAV and other mainstream audio formats.
Ethernet	Module: RTL8111HS Performance: Support 10/100/1000 Mbps, providing stable and fast wired connection performance. Function: Support auto-negotiation function to automatically identify and configure network speed and duplex mode.
WiFi & BT	Module: AP6275P WiFi specifications: Support 802.11ax/ac/a/b/g/n for high-speed wireless network connectivity of up to 2.4 Gbps. Support 2.4GHz and 5GHz dual frequency bands, optimize signal intensity and interference minimize. Support MU-MIMO technology to improve the data transmission efficiency during multi-user connection. BT specifications: □BT 5.0, support all traditional BT features and high-speed transmission. □Support BLE (bluetooth low energy) technology. □Support multiple BT devices to connect simultaneously, ensuring stable connections and efficient communication..
Display Output	HDMI_TX supports up to 8K@60fps(7680x4320). EDP supports up to 4K@60fps(3840x2160). MIPI_CSI supports up to 4K@60fps(3840x2160). DP(type-c) supports up to 4K@ 60fps(3840x2160). Can be applied scene multi-screen display, different screen multi-display. HDMI_RX supports up to 4K@60fps(3840*2160).
Input source	MIPI_DSI(for camera) Suitable for PIP (picture-in-picture),conference machines and embedded external input source applications.
RTC	Chipset: HYM8563 This chip can maintain time operation through an external battery when the system is powered off, making it suitable for any application scenario that requires continuous tracking of time after power failure. It has basic alarm and timer functions, allowing you to set wake-up commands, which can be applied to timed on/off operations.

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.



CPU
RK3588
0cta-core CPU

GPU
Mali-G610
MC4 1GHz GPU

6Tops
NPU
6Tops
NPU

8K
8K Codec
H.265 HEVC

4~32GB RAM
8~128GB ROM

WIFI6
1000M LAN

BT5.x

OS
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.

8nm
LP process

2.4 Ghz

Octa-core
A76+A55

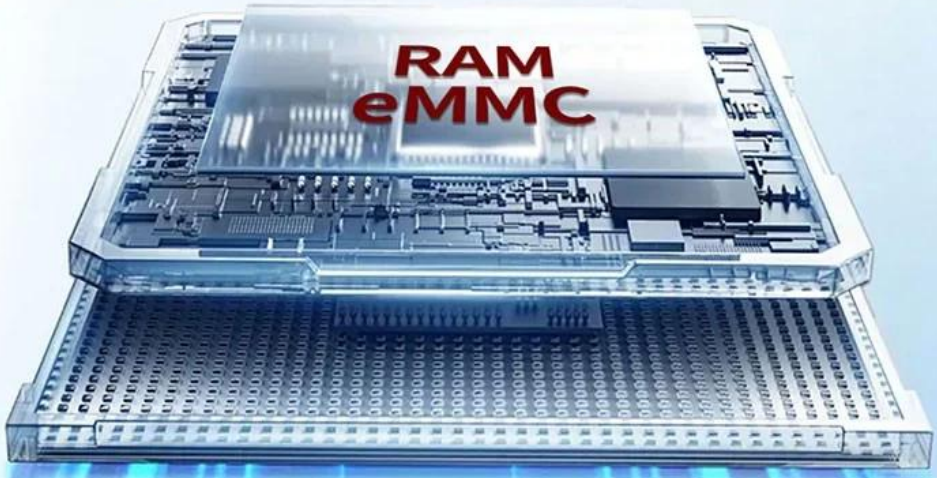
6TOPS
NPU

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.

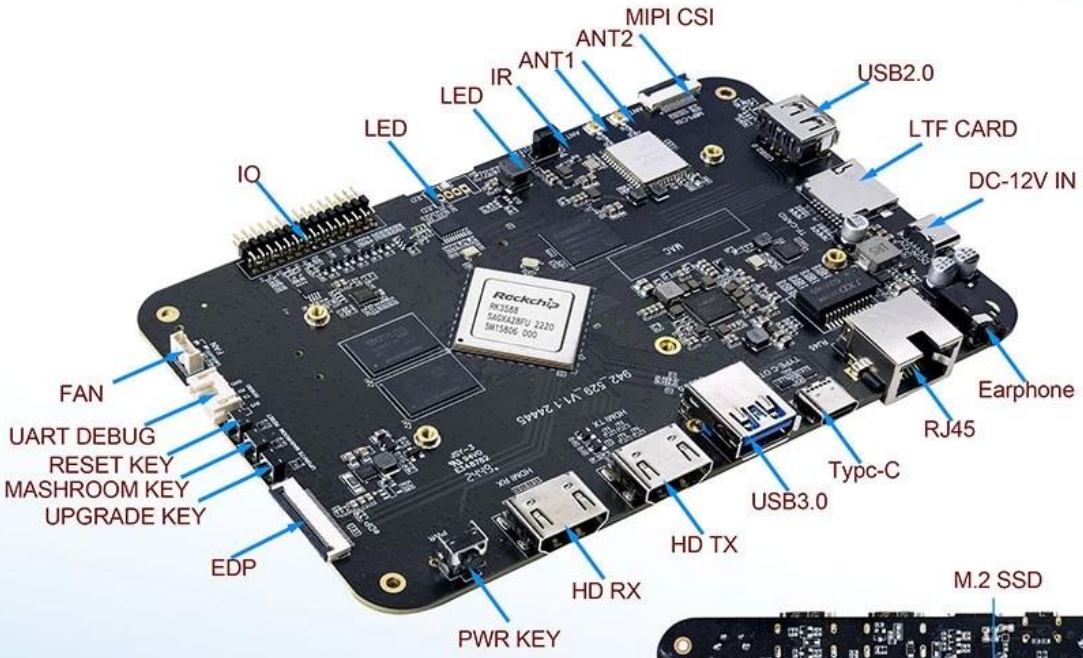


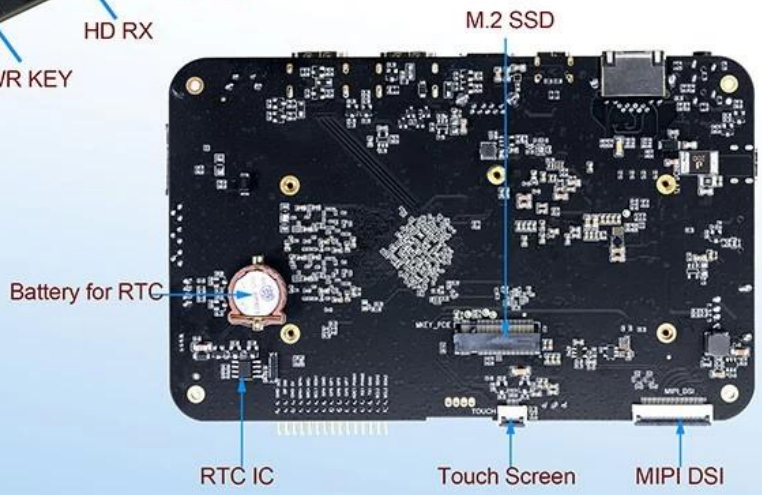
32GB

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.

Main Features
*The CPU is RK3588 Octa-core ARM processor (Quad Core Cortex-A76 and Quad Core Cortex-A55), with na maximum main frequency up to 2.4 GHz. It features with quad core Mali-G610 GPU, NPU computing power reaches 6TOPs with powerful performance.
*Manufacturing process: 8nm LP.
*With various LCD screen interfaces: four-channel MIPI, dual-channel EDP.
*Touch screen supporting the I2C interface.
*Support for TF card or PCIE drives as an additional storage extension.
*With multiple input and output extension, dual-channel UART serial port and seven-channel GPIO for input and output.
*With Android 12 OS

The **Best Android TV Box with AI-Powered Rockchip RK3588 Processor** redefines smart

entertainment and professional displays with cutting-edge technology and unmatched performance. Designed to cater to diverse applications, this TV box is the perfect solution for users seeking advanced features and reliable operation in one sleek device.

Rockchip RK3588: The Power Behind the Performance
The Rockchip RK3588 processor is at the heart of this TV box, featuring an **Octa-Core architecture** with four Cortex-A76 and four Cortex-A55 cores. This combination delivers a perfect balance of power and energy efficiency, ensuring smooth operation for intensive tasks like 8K video playback, gaming, and AI-driven applications.

8K Ultra HD Visual Excellence
Experience unparalleled visual clarity with **8K Ultra HD support**, providing stunning detail, vibrant colors, and lifelike imagery. This TV box is perfect for streaming high-resolution content, video conferencing, or creating immersive digital signage. HDR10+ compatibility further enhances the visual experience by improving contrast, brightness, and color accuracy.

AI-Driven Capabilities
The AI integration in the RK3588 processor unlocks possibilities for intelligent applications. From facial recognition and voice control to real-time analytics and object detection, this TV box excels in delivering AI-powered functionality. Whether for home automation, retail environments, or professional use cases, the AI capabilities enhance efficiency and user engagement.

Versatile Android OS
Running on the **Android platform**, the TV box offers seamless access to a wide range of applications via the Google Play Store. It’s designed for customization, making it ideal for personal use, educational settings, and business operations. Developers can easily modify and integrate the system into specific workflows.

Advanced Connectivity for Endless Possibilities
With **dual-band WiFi**, **Bluetooth 5.0**, and **Gigabit Ethernet**, this TV box ensures fast and stable connections. The inclusion of multiple ports, such as HDMI, USB-C, and PCIe, allows for easy integration with peripherals like external storage, cameras, or additional displays. **WiFi 6 support** further enhances wireless connectivity, offering faster speeds and lower latency.

Applications Across Sectors
This Android TV box is not just a device for entertainment. Its advanced features make it suitable for:

- **Home Entertainment**: Enjoy movies, games, and streaming in stunning 8K clarity.
- **Digital Signage**: Create engaging advertisements and information displays in retail or public spaces.
- **AI Development**: Harness its AI processing capabilities for software development and testing.
- **Education**: Deliver interactive and immersive learning experiences.
- **Business Solutions**: Use it for video conferencing, presentations, and analytics-driven operations.

Compact and Durable Design
Despite its robust capabilities, the TV box features a sleek, compact design that fits seamlessly into any setup. Its durable construction ensures long-term reliability, making it a cost-effective choice for businesses and households.

Energy Efficiency

The energy-efficient design minimizes power consumption, reducing operational costs and environmental impact. This is especially advantageous for 24/7 applications like signage or AI-driven tasks.

Why Choose This Android TV Box?
Combining high-performance hardware with versatile software, the **AI-Powered Rockchip RK3588 Android TV Box** offers an unmatched user experience. Its ability to handle demanding tasks, deliver stunning visuals, and integrate seamlessly into various environments makes it a top choice for tech-savvy users and businesses alike.

Conclusion
Whether you need a powerful home entertainment hub, a reliable AI platform, or a professional digital display solution, this Android TV box has it all. Packed with cutting-edge technology and designed for versatility, it’s an investment in superior performance and functionality.