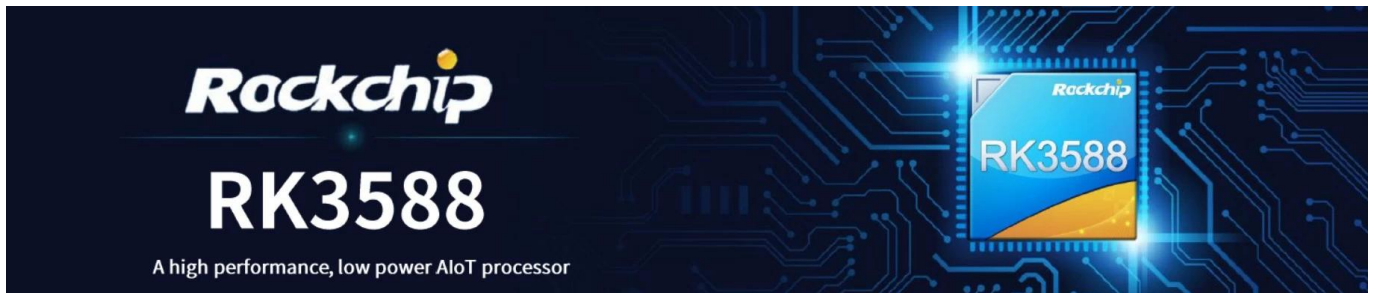


# RK3588 Android TV Box: Combining Power, Speed, and Ultra HD Streaming



## Specifications

Model No.	Rockchip RK3588 Smart TV Box
CPU	Rockchip RK3588 8nm process, quad-core Cortex-A76 + quad-core Cortex-A55
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)
RAM	4GB/8GB (64bit LPDDR4/LPDDR4x)
ROM	32G/64G/128G/256G (eMMC5.0/ 5.1)
WiFi	Type IEEE 802.11a/b/g/n/ac/ax Frequency Wi-Fi6 2.4GHz/5.8GHz ( PCIe v3.0) Antenna Type 2T2R
OS	Android 12 and Multi-Language
Bluetooth	Bluetooth 5.0

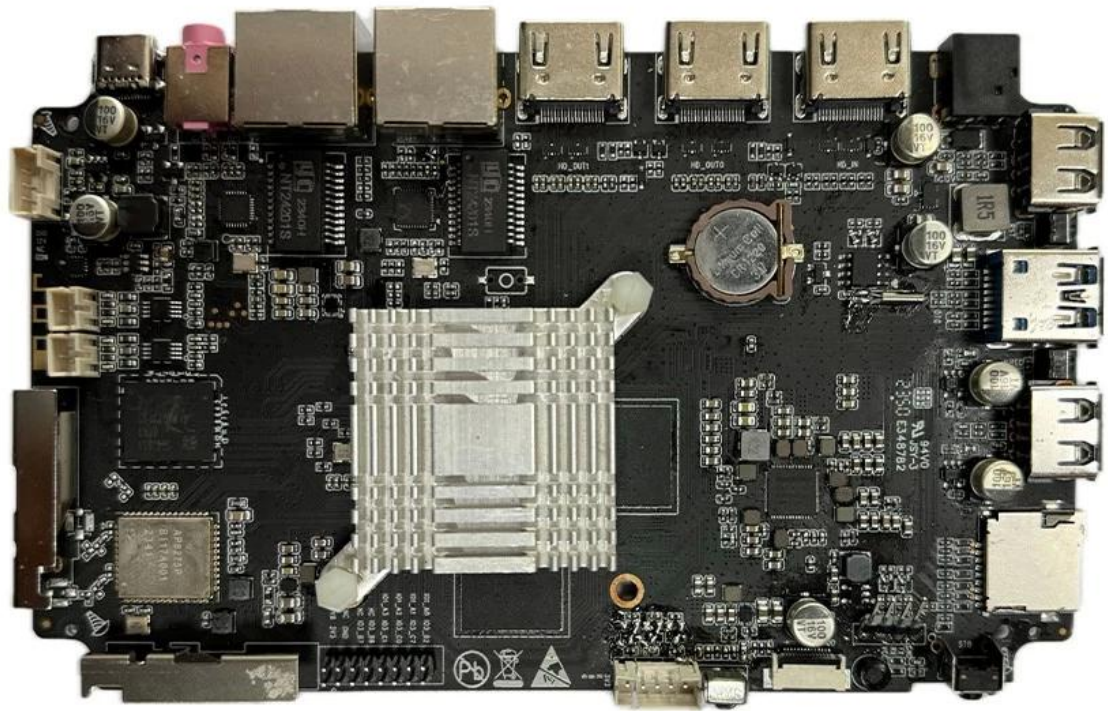
## Video&Audio CODEC

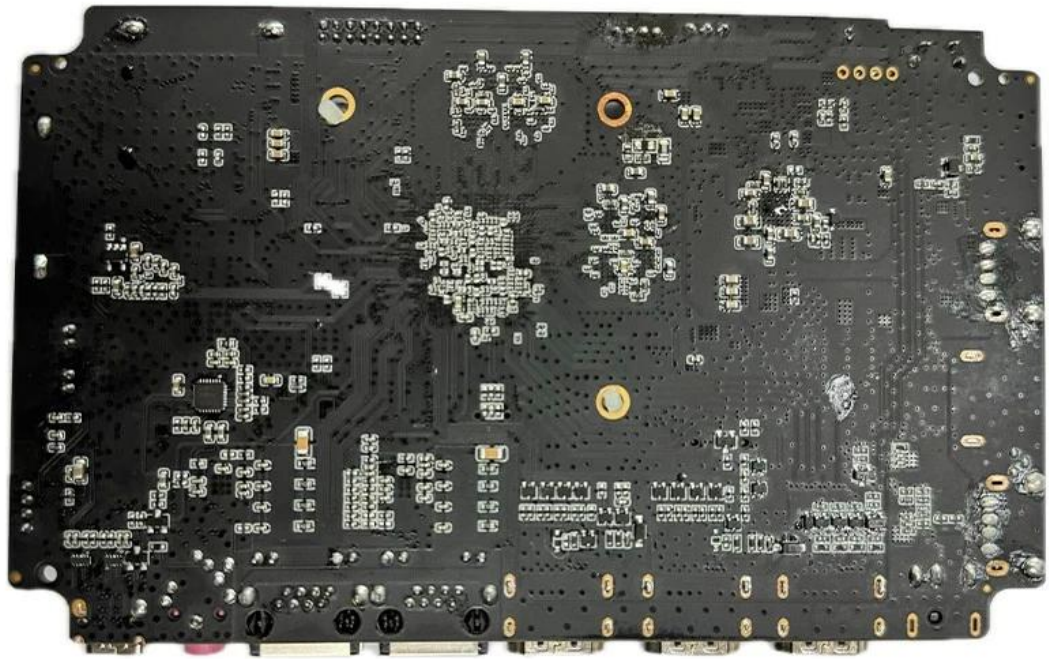
Video Codec	<ul style="list-style-type: none"><li>* Real-time video decoder of MPEG-1,MPEG-2,MPEG-4,H.263,H.264,H.265,VC-1,VP9,VP8 MVC,AV1</li><li>* MMU Embedded</li><li>* Multi-channel decoder in parallel for less resolution</li><li>* H.264 AVC/MVC Main10 L6.0 : 8K@30fps (7680x4320)</li><li>* VP9 Profile0/2 L6.1 : 8K@60fps (7680x4320)</li><li>* H.265 HEVC/MVC Main10 L6.1 : 8K@60fps (7680x4320)</li><li>* AVS2 Profile0/2 L10.2.6 : 8K@60fps (7680x4320)</li><li>* AV1 Main Profile 8/10bit L5.3 : 4K@60fps (3840x2160)</li><li>* MPEG-2 up to MP : 1080p@60fps (1920x1088)</li><li>* MPEG-1 up to MP : 1080p@60fps (1920x1088)</li><li>* VC-1 up to AP level 3 : 1080p@60fps (1920x1088)</li><li>* VP8 version2 : 1080p@60fps (1920x1088)</li></ul>
Audio Codec	<p>Video Encoder</p> <ul style="list-style-type: none"><li>* Real-time H.265/H.264 video encoding</li><li>* Support up to 8K@30fps</li><li>* Multi-channel encoder in parallel for less resolution</li><li>* Dual 16M Pixel ISP with HDR&amp;3DNR</li></ul> <p>I2S0 with 8 channels</p> <ul style="list-style-type: none"><li>* Up to 8 channels TX and 8 channels RX path</li><li>* Audio resolution from 16bits to 32bits</li><li>* Sample rate up to 192KHz</li></ul> <p>I2S1 with 8 channels</p> <ul style="list-style-type: none"><li>* Provides master and slave work mode, software configurable</li><li>* Support 3 I2S formats (normal, left-justified, right-justified)</li><li>* Support 4 PCM formats (early, late1, late2, late3)</li><li>* Support TDM normal, 1/2 cycle left shift, 1 cycle left shift, 2 cycle left shift, right shift mode serial audio data transfer</li><li>* I2S, PCM and TDM mode cannot be used at the same time</li></ul>

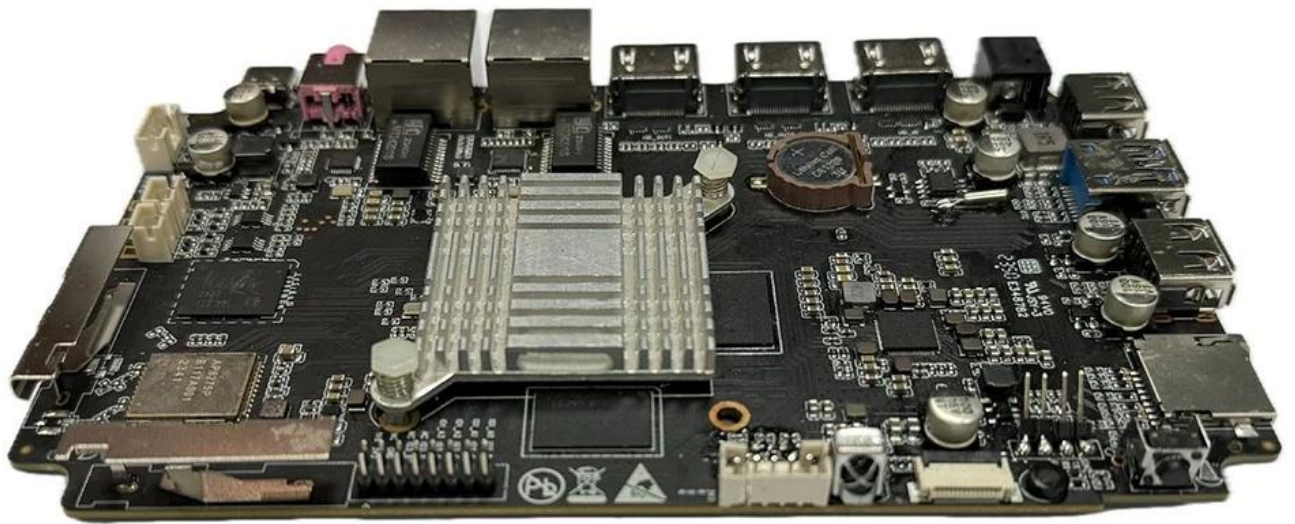
## I/O Port

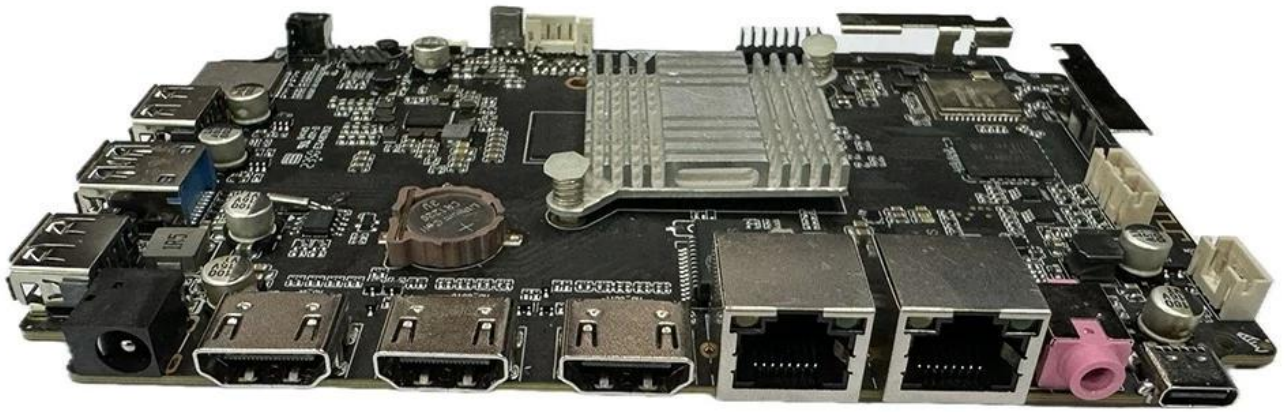
Power Supply	DC 12V/2A Power ON: Blue
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RTC	Support
IR	Infrared + BT Voice Remote
HDMI	HDMI OUT 1:HDMI 2.1/7680x4320@60Hz
	HDMI OUT 2:HDMI 2.1/4096x2304@60Hz
	HDMI IN:HDMI 2.0/HDMI 1.4b 4K x 2K video formats(3840x2160p@24Hz/25Hz/30Hz and 4096x2160p@24Hz)
Earphone	1*3.5mm Port
Ethernet	Ethernet 1:1*1000M(RGMII)
	Ethernet 2:1*1000M
TF Card	1*TF Card
USB port	2*USB 2.0 (Host)
	1*USB3.0 (Host)
Type-C	1*Type C 3.0 (Download Port) Supported Devices

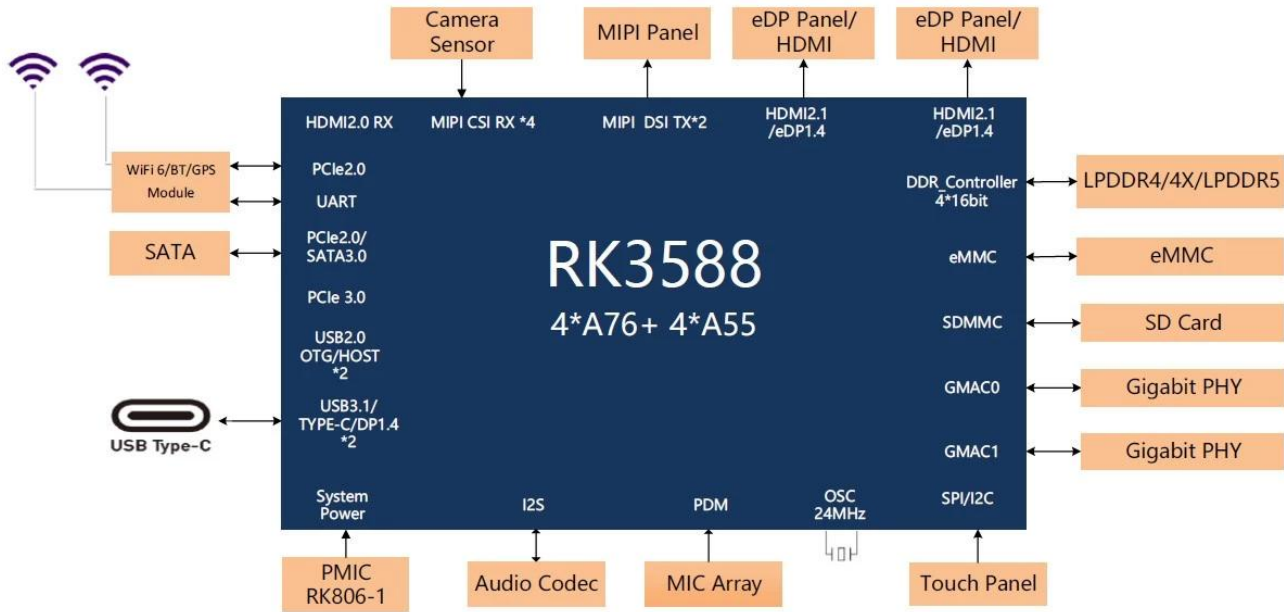








## Typical Application Diagram – AIoT



### Introduction

The RK3588 Android TV Box is a state-of-the-art device engineered to elevate your home entertainment experience to new heights. With its powerful hardware, advanced software, and cutting-edge features, this TV box is designed for users who refuse to compromise on performance or visual quality. Whether you're streaming the latest movies in stunning 8K resolution, gaming with minimal lag, or multitasking between apps, the RK3588 delivers an unmatched experience.

### Unmatched Processing Power

At the heart of the RK3588 Android TV Box is an Octa Core processor that ensures fast, responsive performance for all your entertainment needs. Coupled with 4GB of RAM, this device can handle even the most demanding applications with ease, from streaming high-definition content to running complex Android apps. The processor's architecture is optimized for efficiency, ensuring that you get powerful performance without unnecessary power consumption, making it both a high-performance and energy-efficient choice for your home.

### 8K Ultra HD Video Playback

One of the standout features of the RK3588 Android TV Box is its support for 8K Ultra HD video playback. As more 8K content becomes available, having a device that can handle this ultra-high-definition format is essential for enjoying the best possible picture quality. The RK3588 ensures that every movie, TV show, or video you watch is rendered with incredible detail, vibrant colors, and lifelike clarity. Whether you're watching action-packed blockbusters or serene nature

documentaries, the RK3588 brings every frame to life, providing an immersive viewing experience that is second to none.

### **Android 12: A Modern Operating System**

Running on Android 12, the RK3588 Android TV Box offers a smooth and intuitive user experience. Android 12 introduces a range of improvements, including enhanced privacy controls, faster performance, and better integration with smart home devices. The interface is clean and easy to navigate, allowing users of all ages to access their favorite apps and content with ease. With access to the Google Play Store, you can download a wide variety of apps, from streaming services and games to productivity tools, ensuring that your TV box can do much more than just stream videos.

### **WiFi 6: Next-Generation Connectivity**

In today's connected world, having fast and reliable internet is crucial for a smooth streaming experience. The RK3588 Android TV Box is equipped with WiFi 6, the latest wireless standard that offers faster speeds, greater capacity, and lower latency compared to previous generations. This means that whether you're streaming 8K content, playing online games, or downloading large files, your connection will remain stable and fast, minimizing buffering and ensuring that your entertainment is never interrupted.

### **Comprehensive Connectivity Options**

Beyond its core features, the RK3588 Android [TV Box](#) offers a wide range of connectivity options, including multiple USB ports, HDMI 2.1 for high-definition output, and Bluetooth support. This versatility allows you to connect a variety of peripherals, such as game controllers, external storage, or wireless keyboards, expanding the functionality of your TV box beyond traditional streaming.

### **Conclusion**

The RK3588 [Android TV Box](#) is more than just a streaming device; it's a comprehensive entertainment hub that combines power, speed, and stunning visual quality. With its Octa Core processor, 8K video support, Android 12 operating system, and WiFi 6 connectivity, this device is designed to meet the needs of even the most demanding users. Whether you're looking to upgrade your home theater setup or simply want a powerful device that can handle everything from gaming to streaming, the RK3588 Android TV Box is the perfect choice.