# RK3588 Smart TV Box: Revolutionizing Streaming with Android 12 and 8K Support



#### **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)

Type IEEE 802.11a/b/g/n/ac/ax

WiFi 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

\* Real-time video decoder of

MPEG-1,MPEG-2,MPEG-4,H.263,H.264,H.265,VC-1,VP9,VP8 MVC,AV1

\* MMU Embedded

\* Multi-channel decoder in parallel for less resolution \* H.264 AVC/MVC Main10 L6.0 : 8K@30fps (7680x4320)

\* VP9 Profile0/2 L6.1 : 8K@60fps (7680x4320)

\* H.265 HEVC/MVC Main10 L6.1 : 8K@60fps (7680x4320)

\* AVS2 Profile0/2 L10.2.6 : 8K@60fps (7680x4320)

\* AV1 Main Profile 8/10bit L5.3 : 4K@60fps (3840x2160)

\* MPEG-2 up to MP: 1080p@60fps (1920x1088) \* MPEG-1 up to MP: 1080p@60fps (1920x1088) \* VC-1 up to AP level 3: 1080p@60fps (1920x1088)

\* VP8 version2: 1080p@60fps (1920x1088)

Video Encoder

\* Real-time H.265/H.264 video encoding

\* Support up to 8K@30fps

\* Multi-channel encoder in parallel for less resolution

\* Dual 16M Pixel ISP with HDR&3DNR

I2S0 with 8 channels

 $\ast$  Up to 8 channels TX and 8 channels RX path

\* Audio resolution from 16bits to 32bits

\* Sample rate up to 192KHz

Audio Codec \* Provides master and slave work mode, software configurable

\* Support 3 I2S formats (normal, left-justified, right-justified)

\* Support 4 PCM formats (early, late1, late2, late3)

\* Support TDM normal, 1/2 cycle left shift, 1 cycle left shift, 2 cycle left shift, right

shift mode serial audio data transfer

\* I2S, PCM and TDM mode cannot be used at the same time

### I/O Port

Power Supply DC 12V/2A Power ON: Blue

RTC Support

HDMI

IR Infrared + BT Voice Remote

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(3840x

2160p@24Hz/25Hz/30Hz and 4096x2160p@24Hz)

Earphone 1\*3.5mm Port

Ethernet 1:1\*1000M(RGMII) Ethernet 2:1\*1000M Ethernet

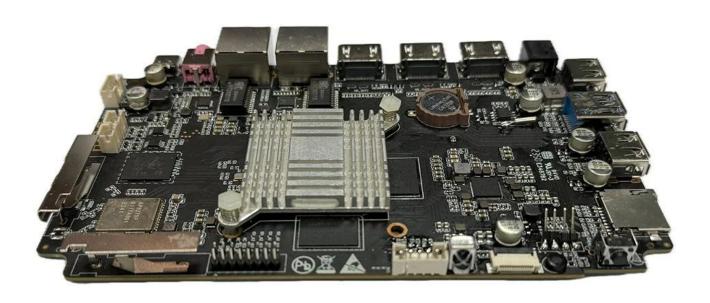
TF Card 1\*TF Card

2\*USB 2.0 (Host) USB port 1\*USB3.0 (Host)

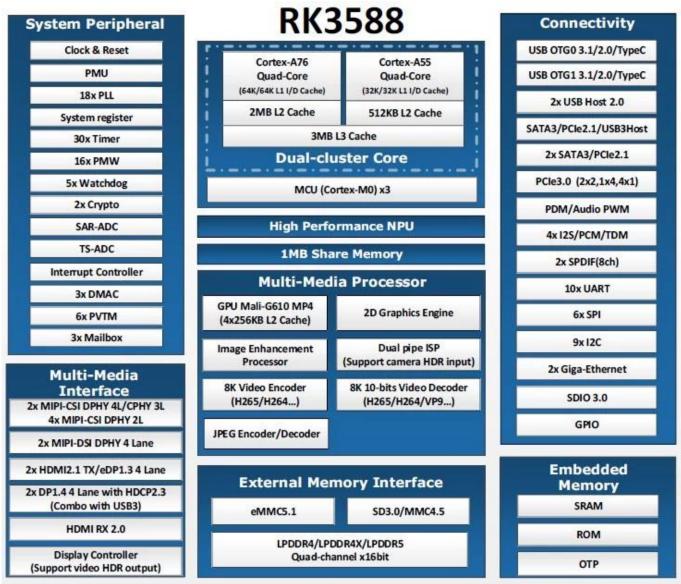
Type-C 1\*Type C 3.0 (Download Port) Supported Devices











**Typical Application Diagram - AIoT** 





#### Introduction

The RK3588 Smart TV Box is a cutting-edge device designed to deliver an unparalleled entertainment experience. With its powerful Octa Core processor, Android 12 operating system, and support for 8K video playback, this TV box stands out as a top choice for anyone looking to upgrade their home entertainment system. Whether you're a movie lover, a gamer, or simply someone who enjoys having the latest technology at your fingertips, the RK3588 Smart TV Box offers everything you need for a seamless, high-quality viewing experience.

## **Performance and Processing Power**

At the heart of the RK3588 Smart TV Box is a powerful Octa Core processor that ensures smooth and responsive performance, no matter the task. This processor, combined with 4GB of RAM, makes multitasking effortless, whether you're streaming high-definition content, playing demanding games, or switching between multiple apps. The 16GB of internal storage provides ample space for your apps, games, and media, with the option to expand storage using external drives or memory cards.

#### **Android 12: A Modern User Experience**

Running on Android 12, the RK3588 Smart TV Box offers a sleek and intuitive interface that is both user-friendly and highly customizable. Android 12 brings a range of new features and improvements, including enhanced privacy controls, faster performance, and better integration with smart home devices. With access to the Google Play Store, you can download and enjoy thousands of apps, games, and streaming services, transforming your TV into a versatile entertainment hub. Whether you're streaming your favorite shows, listening to music, or browsing the web, Android 12 provides a smooth and enjoyable user experience.

## **Stunning 8K Video Playback**

One of the standout features of the RK3588 Smart TV Box is its ability to support 8K video playback. As more 8K content becomes available, having a device that can handle this ultra-high-definition format is essential for staying ahead of the curve. The RK3588 ensures that you can enjoy movies, TV shows, and other content in the highest possible resolution, with stunning clarity and vibrant colors. Whether you're watching the latest blockbuster or streaming a nature documentary, the RK3588 delivers a viewing experience that is second to none.

# WiFi 6: Fast and Reliable Connectivity

In today's digital world, fast and reliable internet connectivity is crucial for a smooth streaming experience. The RK3588 Smart TV Box comes equipped with WiFi 6, the latest wireless standard that offers faster speeds, lower latency, and improved performance in crowded networks. This

means you can enjoy buffer-free streaming, faster downloads, and a more responsive gaming experience, even in homes with multiple connected devices. Whether you're streaming 8K content or playing online games, WiFi 6 ensures that your connection remains stable and fast.

# **Enhanced User Experience**

The RK3588 Smart TV Box isn't just about raw power and cutting-edge features; it's also designed to provide a user-friendly and enjoyable experience. The device comes equipped with multiple USB ports, HDMI 2.1 for high-definition output, and Bluetooth support, allowing you to connect a wide range of peripherals, from game controllers to external storage devices. The intuitive remote control and easy-to-navigate interface ensure that even less tech-savvy users can quickly get the most out of the device.

## **Conclusion**

The RK3588 Smart TV Box is the ultimate choice for anyone looking to enhance their home entertainment setup. With its powerful Octa Core processor, support for 8K video playback, and advanced connectivity features like WiFi 6, this device offers a future-proof solution that can handle all your streaming, gaming, and multimedia needs. Running on Android 12, it provides access to a vast ecosystem of apps, ensuring that you have endless entertainment options at your fingertips. Whether you're a tech enthusiast or simply someone who values high-quality performance, the RK3588 Smart TV Box is an investment in a superior home entertainment experience.