

# Android 10 Allwinner Quad Core H313 Multi-Core G31 GPU X96Q TV Box

Specifications	
Model No.	X96Q TV Box
CPU	Allwinner H313 Quad Core ARM Cortex A53
GPU	G31 MP2 Supports OpenGL ES 3.2/2.0/1.0, Vulkan 1.1, OpenCL 2.0
RAM	DDR3:1GB (Option:2GB)
Internal Storage	eMMC:8GB(Option:16GB)
OS	Android 10.0
WiFi	IEEE 802.11 b/g/n
Video&Audio CODEC	
Video	<ul style="list-style-type: none"> <li>• H.265 Main10@L5.1 decoder up to 4K@60fps</li> <li>• VP9 Profile 2 decoder up to 4K@30fps</li> <li>• AVS2 JiZhun 10bit decoder up to 4K@30fps</li> <li>• H.264 BP/MP/HP@L4.2 decoder up to 4K@30fps</li> <li>• Multi-format 1080p@60fps video playback formats, including H.264 BP/MP/HP, H.263 BP, VP8, MPEG-1 MP/HL, MPEG-2 MP/HL, MPEG-4 SP/ASP@L5, AVS+/AVS JiZhun, WMV9/VC1, etc</li> <li>• H.264 BP/MP/HP encoder up to 1080p@60fps</li> <li>• JPEG snapshot performance of 1080p@60fps</li> </ul>
Audio	<ul style="list-style-type: none"> <li>• Two DAC channels</li> <li>• Supports 1 audio output interface (differential LINEOUTP/N or single-end LINEOUTL/LINEOUTR)</li> <li>• One Audio HUB, supporting internal mixing function</li> <li>• Embedded 3 I2S/PCM (I2S0 for extended audio codec, I2S2 for BT, I2S3 for digital power amplifier)</li> <li>• Supports Left-justified, Right-justified, Standard I2S mode, PCM mode, and TDM mode</li> <li>• I2S mode supports 8 channels, and 32-bit/192kbit sample rate</li> <li>• I2S and TDM modes support maximum 16 channels, and 32-bit/96kbit sample rate</li> <li>• One OWA OUT interface, supporting 16-/20-/24-bit inputs and outputs</li> <li>• Integrated digital microphone(DMIC), supporting maximum 8 digital PDM microphones</li> </ul>
I/O	
1*HDMI	4K*2K UHD Output, HDMI 2.0a up to 4K@60fps
1*AV OUT	480i/576i standard definition output
2*USB	1*USB Host Port, 1*USB Device
1*IR Reciver	Remote Reciver Connect
1*RJ45	Ethernet Interface
1*TF CARD	Support 4GB/8GB/16GB/32GB/64GB
Power	DC 5V/2A[LED indicator. Working: blue
Others	
Image	HD JPEG, BMP, GIF, PNG, TIF
Language	English French German Spanish Italian etc multilateral languages
Option	Browse all video websites, support Netflix,Hulu,Fixster,Youtube, etc. Apps download freely form android market, amazon app store etc. Local Media playback, Support HDD, U Disk , TF Card.

allwinner H313 is a new-generation high picture quality 64-bit 4K@60fps decoding SoC provided by Allwinner for the OTT and IPTV markets. It integrates the quad core 64-bit Cortex™-A53 processor, and the new G31 GPU engine of ARM that supports OpenGL ES 3.2/Vulkan 1.1. Besides, H313 supports H.265 4K@60fps 10-bit ultra-HD video decoding, Allwinner self-developed SmartColor3.3™ picture enhancement engine, Dolby, and DTS audio processing.

## Highlights:

- Quad Core ARM Cortex™-A53, 64-bit architecture
- High performance multi-core G31 GPU, supporting OpenGL ES 3.2/Vulkan 1.1
- H.265 4K@60fps decoding
- Low latency H.264 1080p@60fps video encoding
- Supports HDR10, HLG
- SmartColor™ 3.3 picture enhancement engine

# High Definiton Picture **4K STB**



# Product comparison

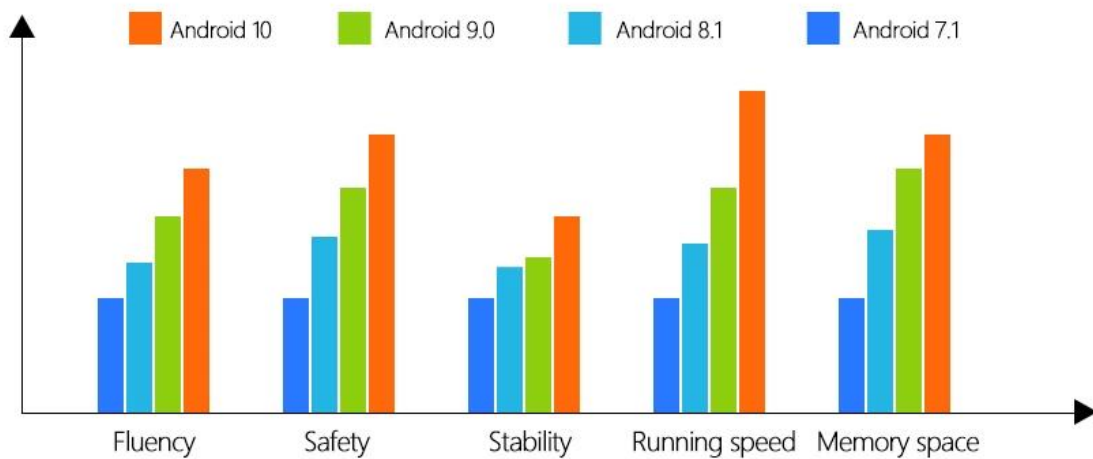
Chip Parameter	H313	RK3229 / RK3228A	H3	S905W
CPU	Quad Core Cortex-A53	Quad core Cortex-A7	Quad-core Cortex-A7	Quad Core Cortex-A53
GPU	Mali G31 OPenGL 1.0/2.0/3.2	Mali 400 OpenGL ES 1.1/2.0	Mali 400 OpenGL 2.0	Mali-450 OpenGL ES 2.0
H.265 decoding	4K@60fps	4K@30fps	4K@30fps	4K@30fps
OS	Android 10	Android 7.1	Android 9.0	Android 7.1
Frequency	1.35GHz	1GHz	1GHz	1.2GHz
Run Score	42417	15503	19165	17193

\* The running score data is only a single test result of professionals

# Android 10

First to support Google 's new system Android 10, and greatly optimized for the system, can support a minimum of 1GB of memory

feature	IOS	Android 10
Fluency		The system natively supports Vulkan 3D technology. Android 10 UI preferentially uses Vulkan for drawing, which has higher efficiency and lower load.
Safety		File encryption technology based on Google Adiantum algorithm, enabled by default to avoid data leakage caused by Flash
Stability		Smarter background memory management technology (LMKD-PSI), small memory application, faster killing process, foreground process is less affected by background process
Running speed		Virtual machine code optimization to improve execution efficiency
Memory space		New dynamic partitioning technology, flexible allocation of Flash partitions, saving storage space



\* Data analysis chart is for reference only

# GPU low power consumption, high performance density, no pressure to play games

GPU: support Vulkan, support OpenGL ES3.2

Mali-G31: Exceptional User Experience in the Smallest Area

GPU

Bringing the Bifrost architecture to Ultra Efficient devices.

20%

Smaller total area

20%

Better performance density

12%

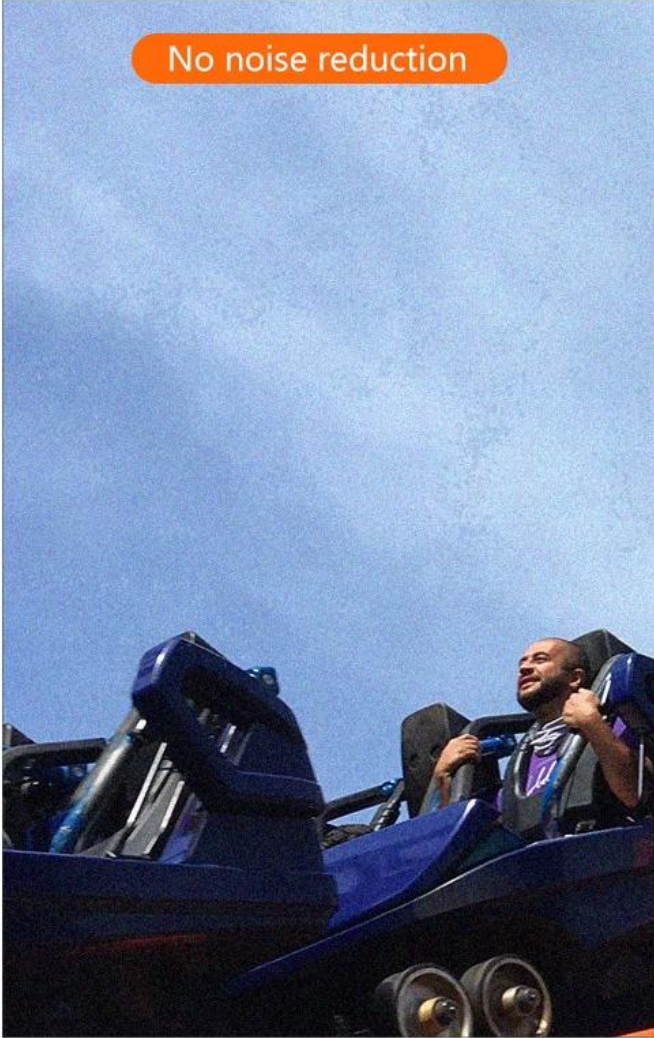
Better UI performance

CPU	H313	RK3318	S905W	RK3229/RK3228A	H3
GPU framework support	Vulkan OpenGL3.2	OpenGL2.0	OpenGL ES2.0	OpenGL ES1.1/2.0	OpenGL2.0



## 3D noise reduction, more thorough image, more delicate and pure picture

No noise reduction



Noise reduction



# Debounce, more stable image and smoother viewing



# HDR to SDR

SmartColor™ optimized HDR dynamic curve for better HDR video experience.



Other models: dark sky background



Our model: clear sky background



## **Clear is not enough, we need to be clearer**

The new-generation SmartColor™ 3.1 image quality engine and 14 image quality improvement algorithms bring consumers the best large screen experience. It can achieve 4K / 60fps video, vertical keystone correction, and does not occupy any CPU / GPU resources.

**Clear**



# Android 10, new dynamic partitioning technology, more user storage space

You can choose and install different applications according to your personal preferences to meet your diverse needs.



Faster & Safer response



Save 20% RAM in Space



More stable with applications





# ENJOY BIG SCREEN

SUPPORT DLNA, MIRACAST, AIRPLAY

You can play games and watch movies on the big screen

# Provide wired and wireless networks

Support WiFi and network cable connection, and support USB local playback, convenient and easy to use



**WiFi and network cable transmission signal is stable**



Supports the transmission and download of high-definition videos and big data files. Line installation application.



**USB supports local playback and installation of applications**

Connect a mobile hard disk or a USB flash drive to play local movies, and install applications such as games and videos.



# Suitable for various TVs

With AV interface & HDMI interface , support a variety of LCD TVs and old TVs.



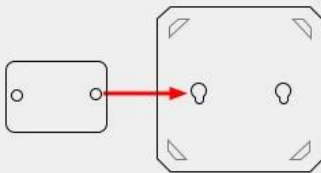
LCD TV



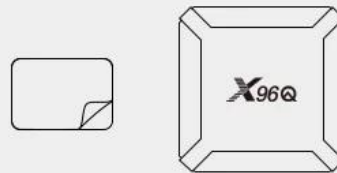
OTT TV BOX



Old TV



Hang the wall mount on the back of the device



Paste the device on the wall or the back of the TV

# Rich interface, simple connection

Small interface, big effect, can meet various entertainment needs.



- ① DC: Power line interface      ② ETHERNET: Network cable interface      ③ HDMI: HDMI cable interface  
④ AV: Plug in the AV cable and connect the old TV      ⑤ IR: IR cable interface  
⑥ USB: USB interface      ⑦ USB: USB interface      ⑧ CARD: Card slot

# Package Contents



Device



Remote Control  
(Battery not Included)



Power Supply



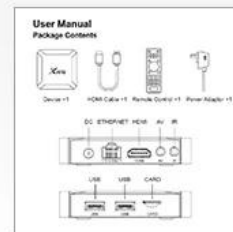
Wall Hanging



HD data cable



IR cable



User Manual

Discover a new level of entertainment with our Android 10 Allwinner Quad Core H313 TV Box. Powered by a high-performance quad-core processor and equipped with a multi-core G31 GPU, this TV box offers lightning-fast performance and stunning visuals for an immersive entertainment experience.

With support for Android 10, you'll have access to a wide range of apps, games, and streaming services right at your fingertips. Whether you're streaming your favorite movies and TV shows, playing the latest games, or browsing the web, the Android 10 operating system ensures smooth performance and effortless multitasking.

The multi-core G31 GPU delivers vibrant colors, crisp details, and smooth motion rendering, bringing your favorite content to life like never before. Whether you're watching movies in 4K resolution, playing graphics-intensive games, or browsing photos and videos, you'll enjoy stunning visuals with every frame.

In addition to its powerful performance, our Android 10 TV Box offers seamless connectivity options

for all your entertainment needs. With built-in WiFi and Ethernet support, you can easily connect to your home network and stream content from your favorite apps and services. Plus, with support for USB and HDMI connections, you can easily connect external storage devices, peripherals, and displays for added convenience and versatility.

Setting up your Android 10 Allwinner Quad Core H313 TV Box is quick and easy. Simply connect the TV box to your TV via HDMI, plug in the power adapter, and follow the on-screen instructions to get started. With its user-friendly interface and intuitive navigation, you'll be up and running in no time.

Upgrade your entertainment experience with our Android 10 Allwinner Quad Core H313 [TV Box](#). With its powerful performance, stunning visuals, and seamless connectivity options, it's the perfect choice for anyone looking to take their entertainment to the next level.