Smart Set Top Box for Android Operating Systems: 8K Streaming and WiFi 6

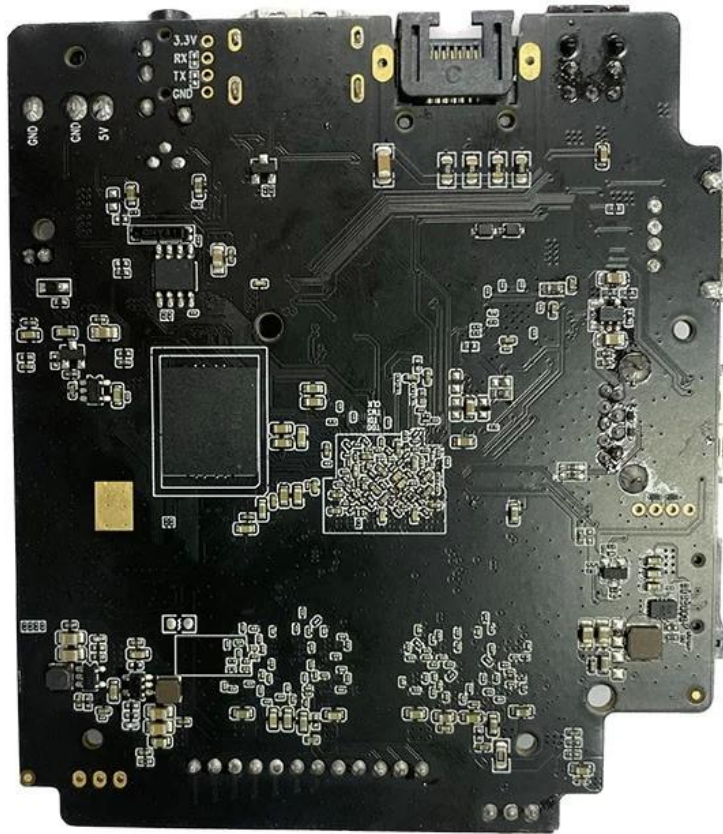| Specifications	
Model No.	Amlogic S928X-J Smart Set Top Box
CPU	Amlogic S928X-J ARM Cortex-A76+Quad-Core ARM Cortex-A55
GPU	ARM Mali-G57 MC2, 4K GUI OpenGL ES 3.2, Vulkan 1.2 and OpenCL 2.0
NPU	3.2 TOPS
RAM	64-bit DDR4, LPDDR4/4X UP to 8GB DDR4266
eMMC	eMMC 5.1, SLC NAND Flash
Decoding resolution	Amlogic Video Engine (AVE) with dedicated hardware decoders and encoders Decoding AV1 MP-10 @ L6.1 up to 8Kp60 VP9 Profile-2 @ 6.1 up to 8Kp60 H.265 HEVC MP-10 @ L6.1 up to 8Kp60 AVS3 Phase 1 up to 8Kp60 AVS2-P2 Profile up to 8Kp60 H.264 AVC HP @ L5.2 up to 4Kp60 MPEG-4, WMV/VC-1, AVS, MPEG-2, MPEG-1 up to 1080p60 MJPEG and JPEG unlimited pixel resolution decoding (ISO/IEC-10918) Support multi-video decoder up to 4x 4Kp60 Encoding JPEG image encoding up to 4Kp60 H.265 video encoding up to 4Kp60 with low latency H.264 video encoding up to 4Kp60 with low latency 8th Generation Advanced Amlogic TruLife Image Engine with support for Dolby Vision (optional), HDR10+, HDR10, HLG, and HDR Vivid processing
AI accelerator	Up to 3.2 TOPS Neural Network Accelerator (NNA) with Tensor Processing Unit (TPU) architecture, supports TensorFlow and Caffe
Video output	HDMI 2.1a transmitter including both controller and PHY supporting CEC, Dynamic HDR, and HDCP 2.2/2.3, up to 8Kp60 max resolution output with support for eARC, VRR, QMS, QFT, ALLM, DSC & SBTM
Audio ouput	Support for MP3, AAC, WMA, RM, FLAC, Ogg Vorbis, Opus, SRS Truvolume, Dolby Audio (optional), DTS (optional), and programmable with 7.1/5.1 down-mixing Low-power VAD Built-in SPDIF input/output up to 192KHz 16/24/32bit stereo 3x built-in TDM/PCM/I2S ports with TDM/PCM mode up to 48kHz x 32bits x 32ch or 192kHz x 16bits x 16ch and I2S mode up to 384kHz x 32bits x 16ch Digital microphone PDM input with programmable CIC, LPF, HPF, support up to 8 DMICs Built-in stereo audio DAC
Network interface	10/100/1000 MAC
USB2.0 interface	1x USB XHCI OTG 2.0, 2x USB 2.0 host, 1x USB 3.0 (5 Gbps) multiplexed with PCIe 2.0

S928X

Memory Interface

DDR4/ LPDDR4/LPDDR4X Memory Controller	eMMC Flash Controller

System Interface

PLLs	PMU	JTAG
	Temp Sensor	PerfMon

Video Input Unit

4x TS in	Demux

Core and Fabric

Core 1

Cortex-A76	NEON
	VFP
64KB I-Cache	64KB D-Cache
L2 Cache	

Core 1

Cortex-A55	NEON
	VFP
32KB I-Cache	32KB D-Cache
L2 Cache	

2 3 4

Mali G57 MC2

L2 Cache

MMU

L3 Cache

MMU

TrustZone Security

NPU	2.5D Graphic Processing	RISC-V Core
AVE-10	Crypto Engine	Secured NV Storage

Video Output Unit

De-interlacer	Scaler	HDR Processing	Enhancement	HDMI 2.1a

Audio Input Unit

PDM x 8	VAD
TDM/I2S	
SPDIF	
eARC	

Audio Output Unit

TDM/I2S
HDMI 2.1a
SPIDF
Stereo Audio DAC

Input/Output Interfaces

USB 3.0/PCIe 2.0*		USB 3.0	USB OTG	Giga Ethernet MAC	SDXC/ SDHC/ SD	SDIO3.0	IR Rx&Tx	I2C	SAR ADC	UART	SPI	PWM	ISO7816
USB SS/ PCIe2.0	USB HOST												

* Supported configuration: PCIe 2.0 port + USB 2.0 Host, or USB3.0 port without PCIe.

IR

TF_CARD

USB 2.0

USB 3.0

DDR0

DDR1

JSY-3
94V0
E343782
2309

VDD_DDR

Amlogic
S928X
M5A348.03
B12302N01100

XIZ 1948-G
G5009CG
RJ45

HDMI

Audio

220
16V
VT

Amlogic S928X-J is the first 8K UHD smart STB SoC integrating ARM Cortex-A76, ARM Cortex-A55 and self-developed neural network processor. It supports 8Kp60 video decoding function of global mainstream video formats——AV1, H.265, VP9, AVS3, AVS2, etc. Meanwhile, 4K GUI, intelligent SR and other functions are viable as well, thus providing an outstanding hardware engine for customized high-end applications.

As the demand for high-performance multimedia entertainment continues to rise, Amlogic has once again delivered an innovative solution with the launch of its latest S928X-J chip. Designed to deliver a seamless, immersive multimedia experience, the S928X-J chip boasts a range of impressive features that are sure to impress tech enthusiasts and consumers alike.

One of the key selling points of the S928X-J chip is its powerful processing capabilities. The chip is equipped with an eight-core ARM Cortex-A53 CPU, which provides lightning-fast speeds and delivers exceptional performance for a wide range of multimedia applications. Whether you're streaming 4K content, playing high-definition games, or running multiple apps at once, the S928X-J chip ensures that you enjoy a smooth and uninterrupted experience.

Another standout feature of the S928X-J chip is its support for high-quality audio and video output. The chip supports up to 4K resolution at 60 frames per second, which means that you can enjoy your favorite movies and TV shows with breatJhtaking clarity and detail. Additionally, the chip supports HDR10 and HLG technologies, which provide a wider color gamut and better contrast, making your viewing experience more immersive than ever before.

The S928X-J chip is also designed to deliver a high-quality gaming experience. The chip is equipped with a powerful Mali-G31 MP2 GPU, which provides exceptional graphics performance and supports OpenGL ES3.2, Vulkan 1.1, and OpenCL 2.0. This means that you can play the latest games with stunning graphics and enjoy smooth, lag-free gameplay.

In addition to its impressive hardware specs, the S928X-J chip also features advanced software optimizations that enhance its performance and usability. The chip is based on the Android TV 10 operating system, which provides a user-friendly interface and access to a wide range of apps and content. The chip also supports Google Assistant, which allows you to control your TV and other connected devices with your voice.

The S928X-J chJip is also designed with connectivity in mind. The chip supports dual-band Wi-Fi and Bluetooth 5.0, which ensure fast and reliable wireless connectivity. It also features a range of ports, including HDMI, USB, and Ethernet, which provide flexible connectivity options for a wide range of devices and peripherals.

Overall, the Amlogic S928X-J chip is a game-changing solution for high-performance multimedia entertainment. Its powerful processing capabilities, support for high-quality audio and video output, and advanced software optimizations make it a standout choice for tech enthusiasts and consumers who demand the best in multimedia entertainment. Whether you're streaming your favorite content, playing games, or using your TV for other applications, the S928X-J chip ensures that you enjoy a seamless, immersive experience.

The **Smart Set Top Box for Android Operating Systems** is an all-in-one solution for those looking to upgrade their home entertainment system with the latest technology. Designed with an emphasis on performance and connectivity, this set-top box provides seamless access to streaming platforms, games, and apps through the Android OS while delivering stunning 8K visuals.

At the core of this device is a powerful Octa-Core processor, which, combined with 4GB of RAM, ensures that multitasking, app launches, and content streaming remain fluid, even when dealing with high-resolution videos. The 32GB of internal storage is ample for installing all your favorite streaming apps like Netflix, Hulu, and Disney+, while still having room for games and other media files. Whether you're watching movies, playing games, or browsing the web, the device's Android platform ensures a user-friendly and intuitive experience.

What sets this set-top box apart is its support for **8K streaming**, offering a visual experience like no other. With an 8K-compatible TV, you'll notice more detail, vibrant colors, and stunning clarity that brings the content to life. For those without an 8K TV, the box also supports 4K streaming with Dolby Vision and HDR10+, ensuring that your viewing experience is always crisp, dynamic, and immersive.

The integration of **WiFi 6 technology** is another highlight of this device, significantly improving your internet connection's speed and stability, particularly in homes with multiple connected devices. WiFi 6 offers faster speeds and better bandwidth management, ensuring smooth streaming

without buffering or delays, even when accessing 8K content or heavy applications. It's ideal for households with demanding internet needs, allowing simultaneous usage of smart home devices, laptops, and gaming consoles without any network strain.

The set-top box is also designed with convenience in mind. **Voice control** with Google Assistant allows you to operate the device hands-free, making searching for movies, changing settings, or controlling smart home devices as easy as speaking a command. Simply say, "Hey Google," and let the assistant do the rest. This feature pairs well with the remote control, offering a seamless and personalized entertainment experience.

In terms of connectivity, the set-top box comes with HDMI 2.1, USB ports, and Bluetooth 5.0, ensuring you can connect various external devices like game controllers, sound systems, or external hard drives effortlessly. Additionally, it supports **AV1 decoding**, improving video quality while reducing data consumption, making it ideal for those streaming content over the internet.

The compact and sleek design makes it a stylish addition to any living room setup, blending well with modern or minimalist decor. Despite its small size, the box delivers powerful performance and ensures that your home entertainment system remains cutting-edge and future-proof.

In conclusion, the **Smart [Set Top Box](#) for Android Operating Systems** offers everything you need for a complete home entertainment experience. Whether you're streaming the latest movies in 8K, playing games, or simply browsing apps, this device delivers top-tier performance, enhanced connectivity, and future-proof technology for the ultimate in home entertainment.