TV Box Android 9 Amlogic S922X Digital Signage

Specifications	
Model No.	Amlogic S922X TV Box Android
CPU	Amlogic S922X 64-bit quad core ARM® Cortex™ A73 CPU and dual core ARM® Cortex™ A53 CPU
GPU	ARM MaliTM-G52 MP4 GPU processor
ROM	2GB/4GB LPDDR4
Internal Storage	16GB/64GB eMMC
OS	Android 9.0
Video&Audio CODEC	
Video/Picture CODEC	Amlogic Video Engine (AVE) with dedicated hardware decoders and encoders HW UHD 4K H.265 75fps 10-bit video decoder & low latency 1080p H.265/H.264 60fps encoder Support multi-video decoder up to 4Kx2K@60fps+1x1080P@60fps Supports multiple “secured” video decoding sessions and simultaneous decoding and encoding Video/Picture Decoding VP9 Profile-2 up to 4Kx2K@60fps H.265 HEVC MP-10@L5.1 up to 4Kx2K@60fps AVS2-P2 Profile up to 4Kx2K@60fps H.264 AVC HP@L5.1 up to 4Kx2K@30fps H.264 MVC up to 1080P@60fps MPEG-4 ASP@L5 up to 1080P@60fps (ISO-14496) WMV/VC-1 SP/MP/AP up to 1080P@60fps AVS-P16(AVS+) /AVS-P2 JiZhun Profile up to 1080P@60fps MPEG-2 MP/HL up to 1080P@60fps (ISO-13818) MPEG-1 MP/HL up to 1080P@60fps (ISO-11172) RealVideo 8/9/10 up to 1080P@60fps H.265/H.264 video encoding up to 1080P@60fps with low latency Multiple language and multiple format sub-title video support MJPEG and JPEG unlimited pixel resolution decoding (ISO/IEC-10918) Supports JPEG thumbnail, scaling, rotation and transition effects Supports *.mkv,*.wmv,*.mpg, *.mpeg, *.dat, *.avi, *.mov, *.iso, *.mp4, *.rm and *.jpg file formats Supports Dolby VisionOptional, HDR10, HDR10+, HLG and PRIME HDR processing
Video/Picture Encoding	Independent JPEG and H.265/H.264 encoder with configurable performance/bit-rate JPEG image encoding H.265/H.264 video encoding up to 1080P@60fps with low latency
Video Output	Built-in HDMI 2.1 transmitter including both controller and PHY with CEC, Dynamic HDR and HDCP 2.2, 4Kx2K@60 max resolution output CVBS 480i/576i standard definition output Supports all standard SD/HD/FHD video output formats: 480i/p, 576i/p, 720p, 1080i/p and 4Kx2K 4-lane MIPI DSI interface, resolution up to 1920*1080 with rotation and panel calibration Supports MP3, AAC, WMA, RM, FLAC, Ogg and programmable with 7.1/5.1 down-mixing Built-in serial digital audio SPDIF/IEC958 input/output and PCM input/output 3 built-in TDM/PCM/I2S ports with TDM/PCM mode up to 84kHz x32bits x 8ch or 96kHz x 32bits x 32ch and I2S mode up to 384kHz x 32bitsx8ch Digital microphone PDM voice input with programmable CIC, LPF & HPF, support up to 8 DMICs Built-in stereo audio DAC Supports concurrent dual audio stereo channel output with combination of analog+PCM or I2S+PCM
Decoder Format	HD MPEG1/2/4, H.265/HEVC, HD AVC/VC-1, RM/RMVB, Xvid/DivX3/4/5/6, RealVideo8/9/10
Media Format	Avi/Rm/Rmvb/Ts/Vob/Mkv/Mov/ISO/wmv/asf/flv/dat/mpg/mpeg
Music Format	MP3/WMA/AAC/WAV/OGG/DDP/TrueHD/HD/FLAC/APE
Photo Format	HD JPEG/BMP/GIF/PNG/TIFF
Port	
USB host	USB2.0, Max480Mbps/USB3.0, Max5.1Gbps
SIM	MICRO SIM
HDMI	HDMI 2.2/1ch Lvds/1ch EDP
LAN	RJ45 wire Ethernet connection 100/1000M Ethernet support
WiFi/ Bluetooth	AP6398S(Wi-Fi+BT) 2.4G+5.8G

4G	PCIE Port
TF	microSD(Max 128G)
HDD	Support SATA Max2TB(Not included)
Power	
Power Supply	12V DC/3AΦ5.5*Φ2.5mm

This product is the network Android system motherboard, which is suitable for intelligent display terminal equipment, industrial automation terminal, computer vision/algorithm, 3D experience, game/entertainment equipment, high-performance Face Recognition calculation/storage, AI intelligence with high performance requirements. It can be widely used as the high-end demand intelligent mainboard of finance, advertising, security, transportation, public transportation and other industries.

This product adopts the latest generation of 12 nm ultra-low power AI chip s922x of Amlogic. It is an advanced application processor, integrating a powerful CPU, GPU subsystem, secure 4K video codec engine and first-class HDR image processing. The CPU of S922x main system adopts large and small architecture, which integrates four core arm cortex-a73 CPU cluster and dual core cortex-a53 cluster with unified secondary cache to improve system performance. Each CPU core includes a separate neon SIMD coprocessor to improve the software media processing capacity. Ave-10 can decode 4kx2k resolution video at a speed of 75 frames/second, and has a complete trusted video path (TVP) for security applications, supporting complete formats, including: MVC, MPEG-1/2/4, vc-1/WMV, AVS, AVS +, avs2 realvideo, MJPEG stream, H.264, h265-10, VP9 and JPEG pictures without size restrictions. The independent encoder can encode JPEG or h.265/h.264 format, up to 1080p, 75 frames per second. It supports 4kx2k @ 60fp (3840 * 2160) output of hdmi2.2 interface and 4K point screen of V by one interface. It supports HDCP 2.2, stereo audio DAC, CVBS output, 4-channel Mipi DSI interface, multi TDM, PCM, I2S and SPDIF digital audio I/O interface, 8-Channel far-field PDM digital microphone (dmic) input and DVP camera interface. The product comes with 2x2 WiFi (supporting 2.4G and 5.8G dual frequency) + 4.1 wireless network module, supporting Gigabit Ethernet interface and infrared remote control, keyboard and mouse operation.

Highlights

- Amlogic 64-bit quad core ARM® Cortex™ A73 CPU and dual core ARM® Cortex™ A53 CPU
- ARM Mali-G52 MP4 GPU processor
- HW UHD 4KH.265 75fps 10-bit video decoder & low latency 1080p H.265/H.264 60fp sencoder
- Dolby Visionand HDR10, HDR10+, HLG and PRIME HDR video processing
- Build in Cortex-M4 core for always on processing
- TrustZone based security for DRM video streaming
- WIFI, BT,USB, SD, Ethernet, Analog Audio
- Power management auxiliary processor

Amlogic S922X is an advanced application processor designed for Android hybrid OTT/IPTV Set Top Box(STB) and high-end media box applications. It integrates a powerful CPU, GPU subsystem, a secured 4K video CODEC engine and a best-in-class HDR image processing pipeline withall major peripherals to form the ultimate high-performance multimedia AP.

The main system CPU is based on Big. Little architecture which integrates a quad-core ARM Cortex-

A73 CPU cluster and a dual-core Cortex-A53 cluster with united L2 cache to improve systemper formance. Each CPU core includes the separate NEON SIMD co- processor toimprove software media processing capability.

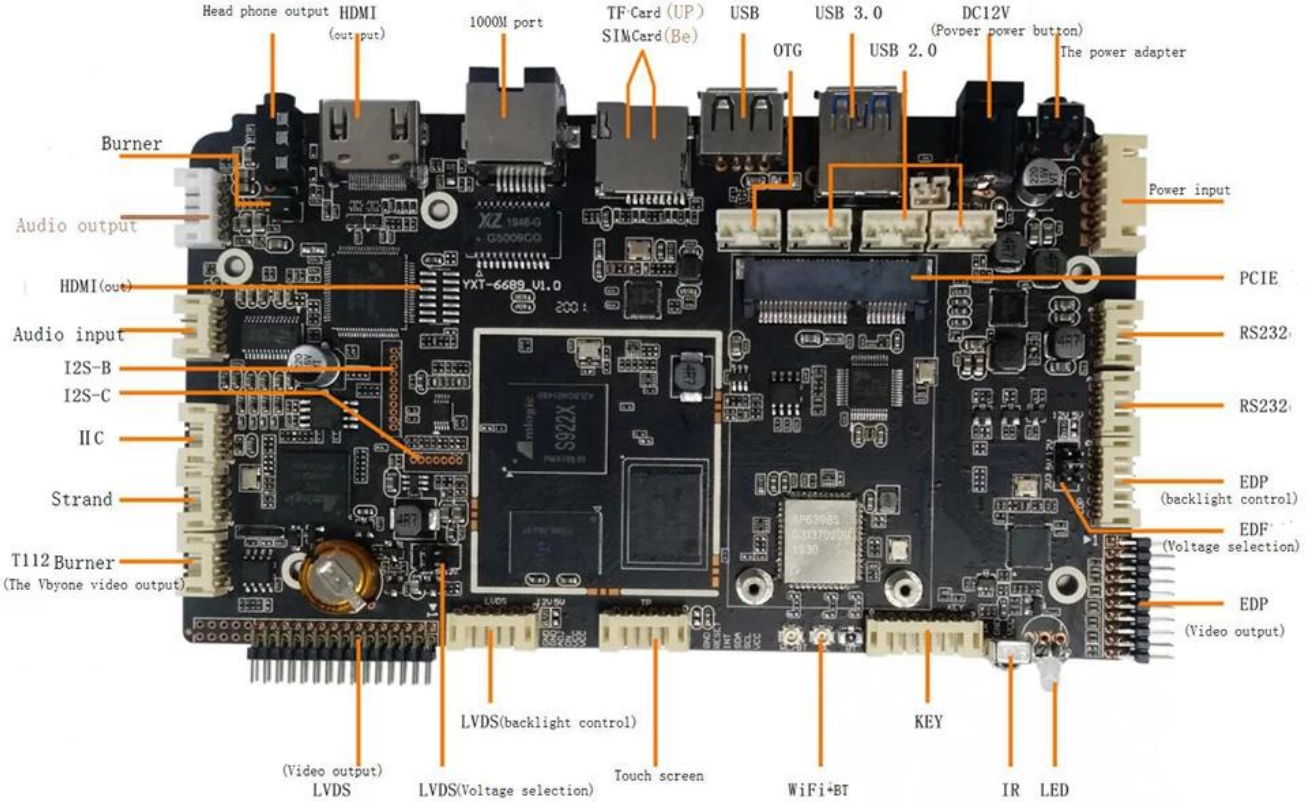
The graphic subsystem consists of twographic engines and a flexible video/graphic output pipeline. The ARM Mali-G52 MP4 GPU handles all OpenGL ES 3.2 Vulkan 1.0 and OpenCL 2.0 graphic programs, while the 2.5D graphics processor handles additional scaling, alpha, rotation and color space conversion operations. Together, the CPU and GPU handle all operating system, networking, user-interface and gaming relatedtasks. The video output pipeline includes Dolby Visionoptional HDR10, HDR10+,HLG and PRIME HDR processing, REC709/BT2020 processing, motion adaptive edgee nhancing de-interlacing, flexible programmable scalar, and manypicture enhancement filters before passing the enhanced image to the video outputports.

Amlogic Video Engine (AVE-10) offloads the Cortex-A53 CPUs from all video CODEC processing. It includes dedicated hardwarevideo decoder and encoder. AVE-10 is capable of decoding 4Kx2K resolution videoat 75fps with complete Trusted Video Path (TVP) for secure applications andsupports full formats including MVC, MPEG- 1/2/4, VC-1/WMV, AVS, AVS+, AVS2 RealVideo, MJPEG streams, H.264, H265-10, VP9 and also JPEG pictures with nosize limitation. The independent encoder is able to encode in JPEG orH.265/H.264 up to 1080p at 60fps.

Amlogic S922X integrates all standard audio/video input/output interfaces including a HDMI2.1 transmitter with 3D, Dynamic HDR, CEC and HDCP 2.2 support, stereo audio DAC, a CVBS output, 4-lane MIPI DSI interface, multiple TDM, PCM, I2S and SPDIF digital audio input/outputinterfaces, 8 channel far-field PDM digital microphone (DMIC) inputs and a DVPcamera interface.

Amlogic S922X also integrates a set offunctional blocks for digital TV broadcasting streams. The built-in two demuxcan process the TV streams from the serial and parallel transport stream inputinterface, which can connect to external tuner/demodulator.

The processor has rich advanced network andperipheral interfaces, including a 10/100/1000M Ethernet MAC with RGMII,10/100M Ethernet PHY, one USB XHCI OTG 2.0 port, one USB3.0 and PCIe


Head phone output
HDMI
(output)
1000M port
TF Card (UP)
SIMCard(Be)
USB
OTG
USB 3.0
USB 2.0
DC12V
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The power adapter
Burner
Audio output
HDMI(out)
Audio input
I2S-B
I2S-C
IIC
Strand
T112 Burner
(The Vbyone video output)
Power input
PCIE
RS232
RS232
EDP
(backlight control)
EDF
(Voltage selection)
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Touch screen
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KEY
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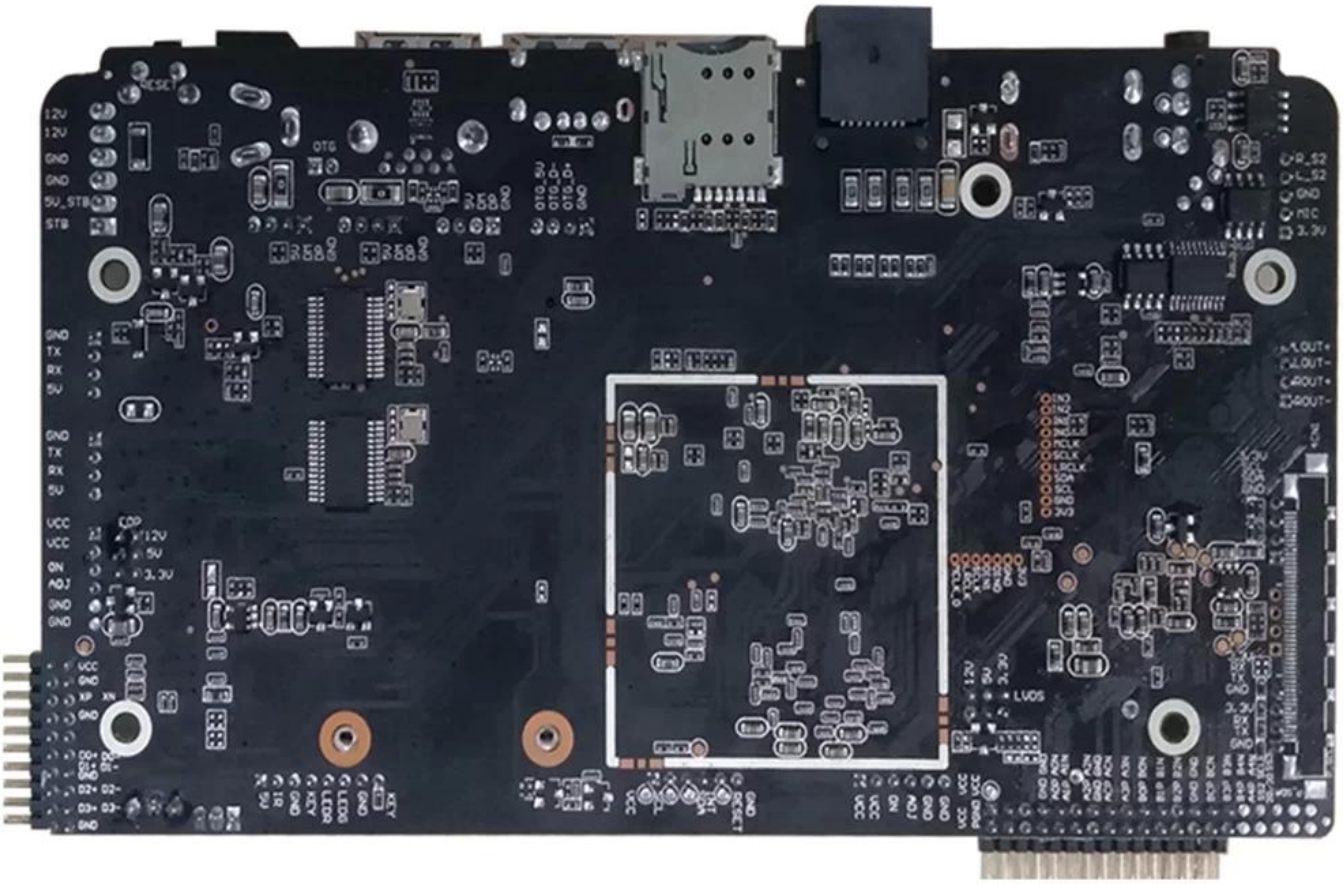

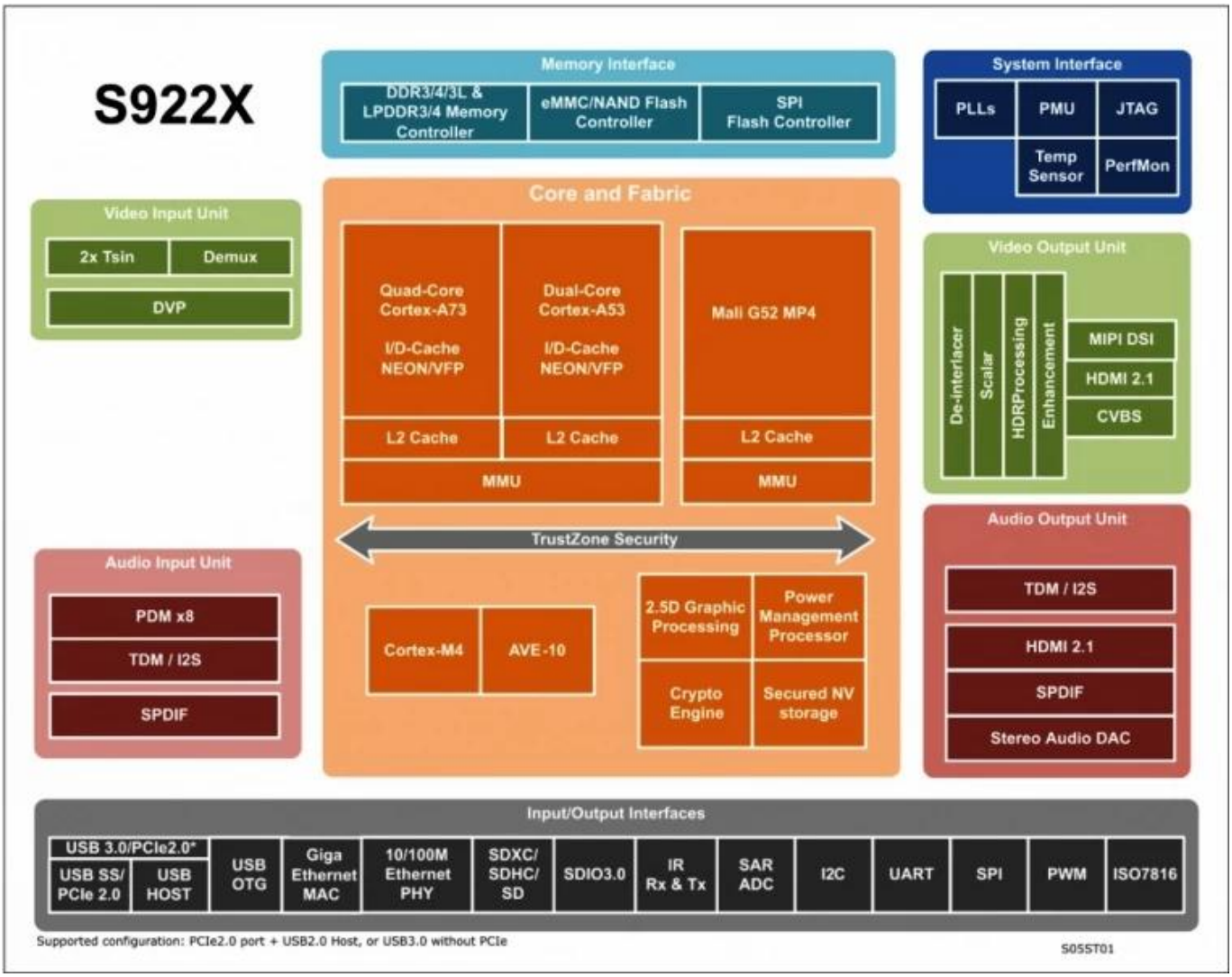

Transform your digital signage solutions with our Android 9 TV Box powered by the Amlogic S922X chipset. Here's why it's the ideal choice for dynamic digital signage displays:

1. **Powerful Performance**: Equipped with the Amlogic S922X chipset, our TV box delivers powerful performance, ensuring smooth playback of high-resolution content and seamless operation of signage applications.

2. **Android 9 Operating System**: With the latest Android 9 operating system, our TV box offers enhanced stability, security, and compatibility with a wide range of signage software and applications.

3. **Flexible Connectivity**: Featuring a variety of connectivity options including HDMI, USB, Ethernet, and Wi-Fi, our TV box offers flexible connectivity to accommodate different display setups and networking requirements.

4. **4K Ultra HD Output**: Enjoy stunning visual experiences with support for 4K Ultra HD resolution output. Whether displaying videos, images, or interactive content, our TV box ensures crisp, clear visuals that capture attention.

5. **Remote Management**: Simplify content management and device administration with remote management capabilities. Easily update content, schedule playlists, and monitor device status from anywhere with an internet connection.

6. **Multi-Display Support**: Our TV box supports multi-display setups, allowing you to create immersive digital signage experiences across multiple screens. Perfect for retail stores, restaurants, corporate offices, and more.

7. **Customizable Branding**: Tailor your digital signage displays to match your brand identity with customizable branding options. Add logos, brand colors, and custom graphics to create cohesive and engaging visuals that leave a lasting impression.

8. **Interactive Touchscreen Support**: Transform passive displays into interactive experiences with support for touchscreen displays. Engage customers and visitors with interactive content and immersive digital experiences.

9. **Energy-Efficient Design**: Designed with energy efficiency in mind, our TV box consumes minimal power while delivering maximum performance. Reduce energy costs and environmental impact without compromising on display quality.

10. **Easy Installation**: Our TV box is easy to install and set up, making it ideal for both temporary and permanent digital signage installations. Simply connect it to your display, configure the settings, and start showcasing your content.

Elevate your digital signage solutions with our Android 9 TV Box featuring the Amlogic S922X chipset. With powerful performance, flexible connectivity, and advanced features, it's the perfect choice for creating dynamic and engaging displays that captivate audiences.