

Amlogic S922X Quad Core Android 9.0 TV Box

Multifunctional intelligent industrial control board
Amlogic S922X / S905D3 / T972



V-By-One; Direct 4K Dot Screen; Android 9.0 Or Above
www.sztomato.com

Specifications	
Model No.	Amlogic S922X Quad Core Android 9.0 TV Box
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

- o Amlogic 64-bit quad core ARM® Cortex™ A73 CPU and dual core ARM® Cortex™ A53 CPU
- o ARM Mali-G52 MP4 GPU processor
- o HW UHD 4KH.265 75fps 10-bit video decoder & low latency 1080p H.265/H.264 60fp sencoder
- o Dolby Visionand HDR10, HDR10+, HLG and PRIME HDR video processing
- o Build in Cortex-M4 core for always on processing
- o TrustZone based security for DRM video streaming
- o WIFI, BT,USB, SD, Ethernet, Analog Audio
- o 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 system performance. Each CPU core includes the separate NEON SIMD co-processor to improve software media processing capability.

The graphic subsystem consists of two graphic 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 related tasks. The video output pipeline includes Dolby Vision optional HDR10, HDR10+, HLG and PRIME HDR processing, REC709/BT2020 processing, motion adaptive edge enhancing de-interlacing, flexible programmable scalar, and many picture enhancement filters before passing the enhanced image to the video output ports.

Amlogic Video Engine (AVE-10) offloads the Cortex-A53 CPUs from all video CODEC processing. It includes dedicated hardware video decoder and encoder. AVE-10 is capable of decoding 4Kx2K resolution video at 75fps with complete Trusted Video Path (TVP) for secure applications and supports full formats including MVC, MPEG-1/2/4, VC-1/WMV, AVS, AVS+, AVS2 RealVideo, MJPEG streams, H.264, H.265-10, VP9 and also JPEG pictures with no size limitation. The independent encoder is able to encode in JPEG or H.265/H.264 up to 1080p at 60fps.

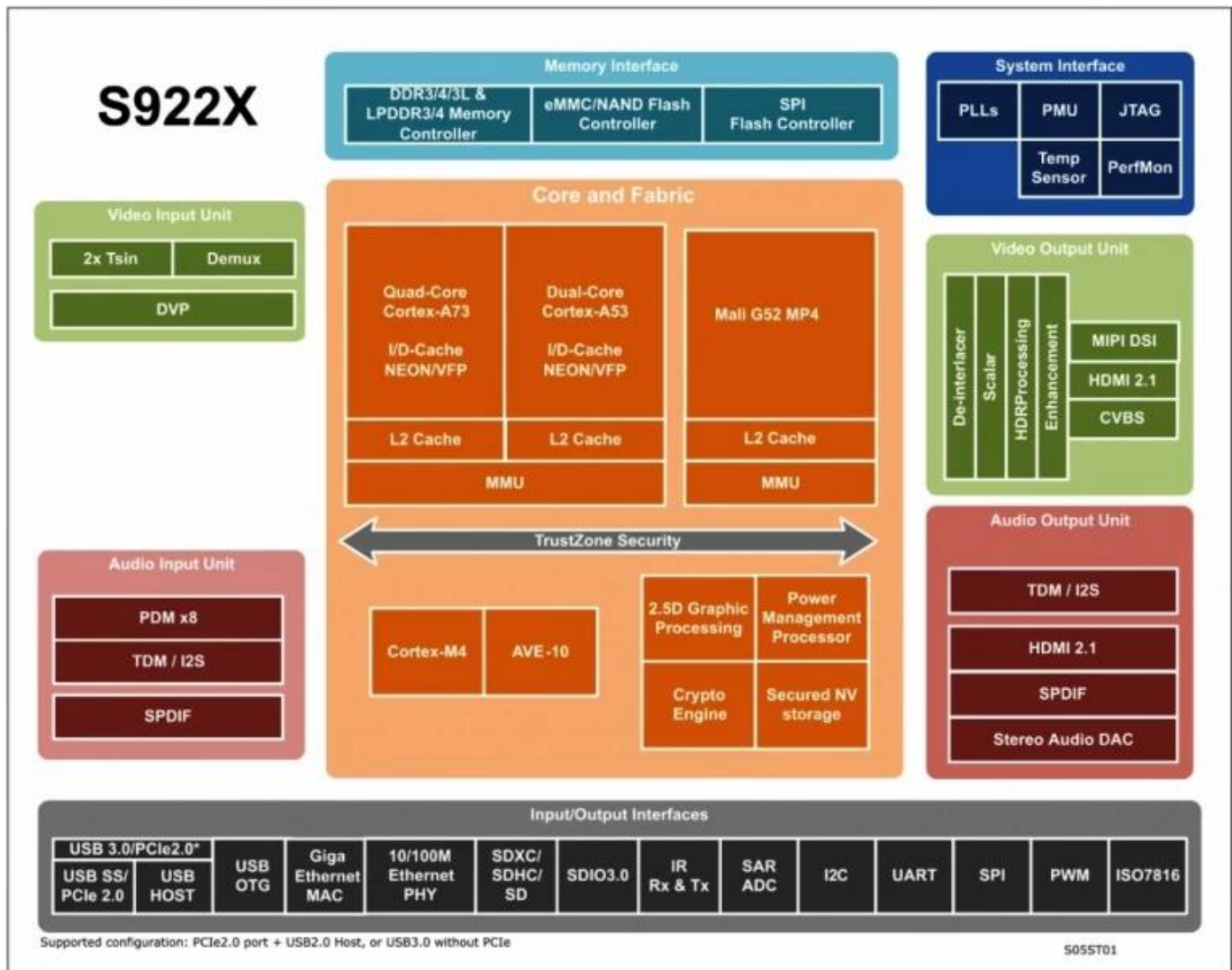
Amlogic S922X integrates all standard audio/video input/output interfaces including a HDMI 2.1 transmitter with 3D, Dynamic HDR, CEC and HDCP 2.2 support, stereo audio DAC, a CVBS output, 4-lane MIPI DSI interface, multiple TDM, PCM, I2S and SPDIF digital audio input/output interfaces, 8 channel far-field PDM digital microphone (DMIC) inputs and a DVP camera interface.

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

The processor has rich advanced network and peripheral interfaces, including a 10/100/1000M Ethernet MAC with RGMII, 10/100M Ethernet PHY, one USB XHCI OTG 2.0 port, one USB 3.0 and PCIe







Our Amlogic S922X Quad Core Android 9.0 TV Box is a feature-packed streaming entertainment solution designed to deliver an exceptional viewing experience. Equipped with advanced hardware and software, this device offers powerful performance and versatility for all your entertainment needs.

Powerful Performance: At the heart of the TV box is the Amlogic S922X Quad Core processor, delivering impressive performance and responsiveness for smooth multitasking, fast app launches, and seamless streaming. Whether you're streaming 4K content, playing games, or browsing the web, the S922X processor ensures a lag-free experience.

Android 9.0 Operating System: With Android 9.0 Pie, you'll enjoy the latest features and enhancements for a more intuitive and user-friendly experience. Navigate effortlessly through menus, access your favorite apps with ease, and enjoy seamless integration with Google services.

4K Ultra HD and HDR Support: Experience breathtaking visuals with support for 4K Ultra HD resolution and HDR imaging. Whether you're watching movies, TV shows, or gaming, the TV box delivers crisp, detailed images with vibrant colors and enhanced contrast.

Expandable Storage and Connectivity: The TV box comes with ample storage options, including built-in storage and expandable storage via USB or microSD card slots, allowing you to store your favorite apps, games, and media files. Plus, with built-in Wi-Fi and Ethernet connectivity, you can

easily connect to your home network for seamless streaming and browsing.

Wide Compatibility and Versatility: Compatible with a wide range of apps and services, the TV box offers endless entertainment possibilities. Access thousands of apps, games, and streaming services from the Google Play Store, including Netflix, YouTube, Hulu, and more. Plus, with support for popular streaming protocols like Miracast and AirPlay, you can cast content from your smartphone or tablet to your TV screen.

Sleek and Compact Design: Designed to complement any home entertainment setup, the TV box features a sleek and compact design that fits seamlessly into your living room or media center. Its minimalist design and small footprint make it easy to place discreetly next to your TV or entertainment system.

In conclusion, the Amlogic S922X Quad Core [Android 9.0 TV Box](#) offers a powerful and feature-rich streaming entertainment solution for your home. With its powerful performance, 4K Ultra HD support, wide compatibility, and sleek design, it's the perfect choice for enjoying your favorite content on the big screen.