

Amlogic A311D2 Quad Core Android TV Box

Specifications

Model No.	Amlogic A311D2 Android TV Box
CPU	Amlogic A311D2 Quad Core ARM Cortex A73 and Dual Core ARM Cortex A53 1.98Ghz
GPU	ARM Mali-G52 MP4 (6EE) OpenGL ES 3.2, Vulkan 1.1 and OpenCL 2.0
RAM	DDR4 2GB/4GB
ROM	16GB eMMC (Expandable up to 128GB)
OS	Android 9.0

Video&Audio CODEC

Decoding resolution	Support 4K H265 10Bit, H.264, AVS, MPEG-2 and many other formats
Multimedia Support	Support MPEG1, MPEG2, MPEG4, H.264, WMV, MKV, TS, flv and other video formats; Support MP3 and other audio formats; support JPG, JPEG, BMP, PNG, GIF and other photo formats

Port

Video output	1 channel LVDS 40-pin 2.0mm double-pin, can support 8bit, 10bit screen; 1 channel HDMI output; 1 channel AV output
Video input	x1, MIPI CSI
Audio output	4-pin 2.5mm socket 25W@2 amplifier and 3W@2 speaker
Network interface	x1, 10M/100M Ethernet WIFI+BT, 2.4G single band or 2.4G/5G dual band for options PCIE slot (4G) x1 or M.2 slot (4G) x1 for options
USB2.0 interface	USB OTG x1 (available for HOST) USB HOST x7
Backlight interface	x2, 6-pin 2.0mm socket
Infrared interface	x1, 7-pin 2.0mm socket, supports both red and green LED indicators
Function expansion port	Serial ports x4
TF card slot	x1
SIM card slot	x1
RTC	Supports time synchronization

Power

Power Supply	12V, 2.5DC Connector
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S922X



Supported configuration: PCIe2.0 port + USB2.0 Host, or USB3.0 without PCIe

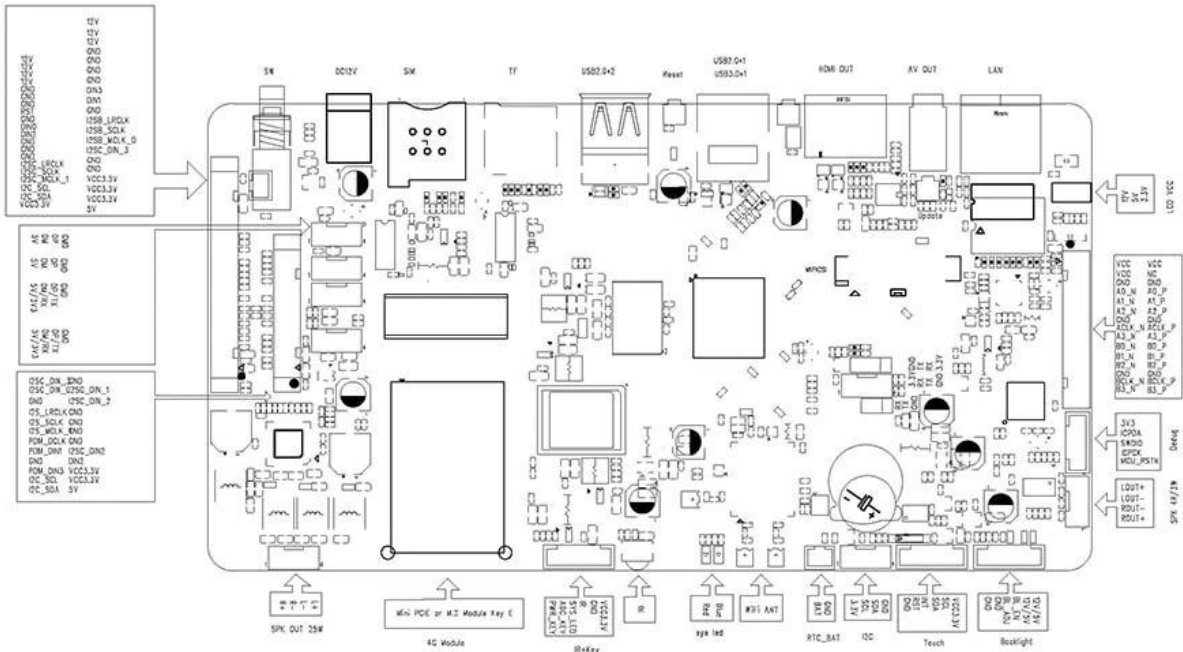
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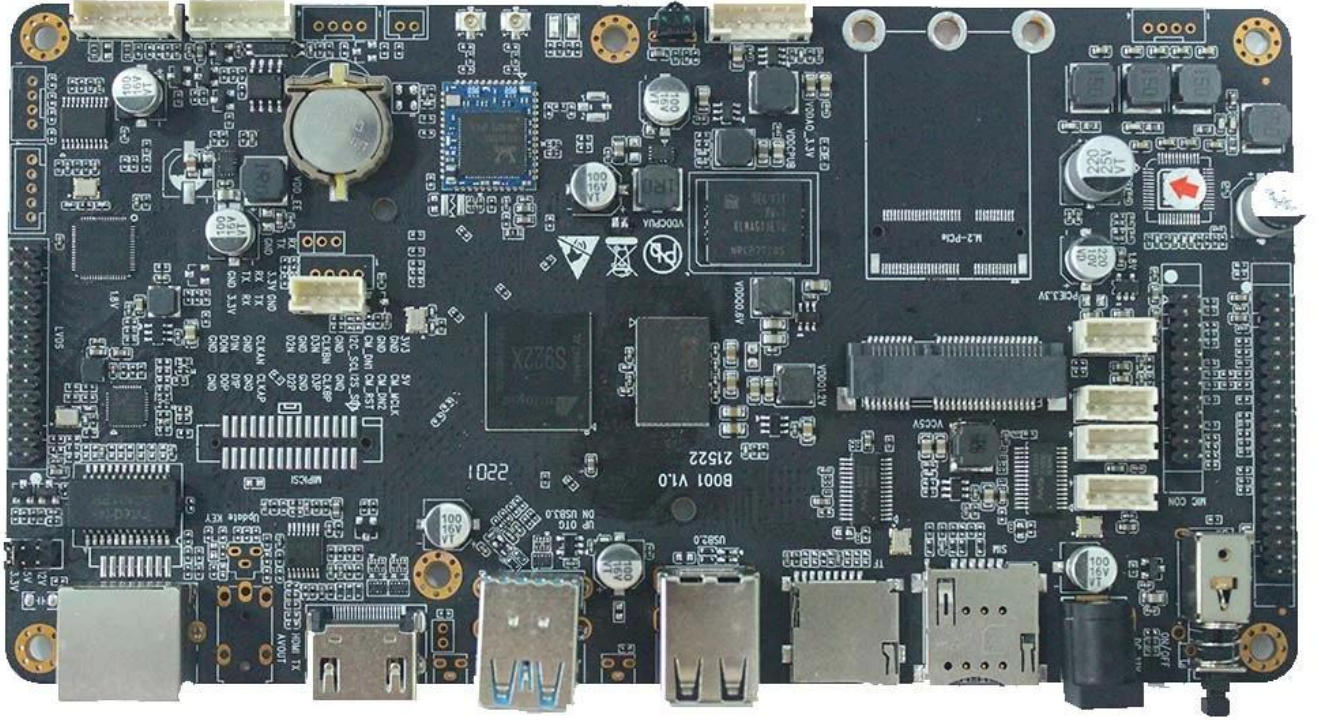


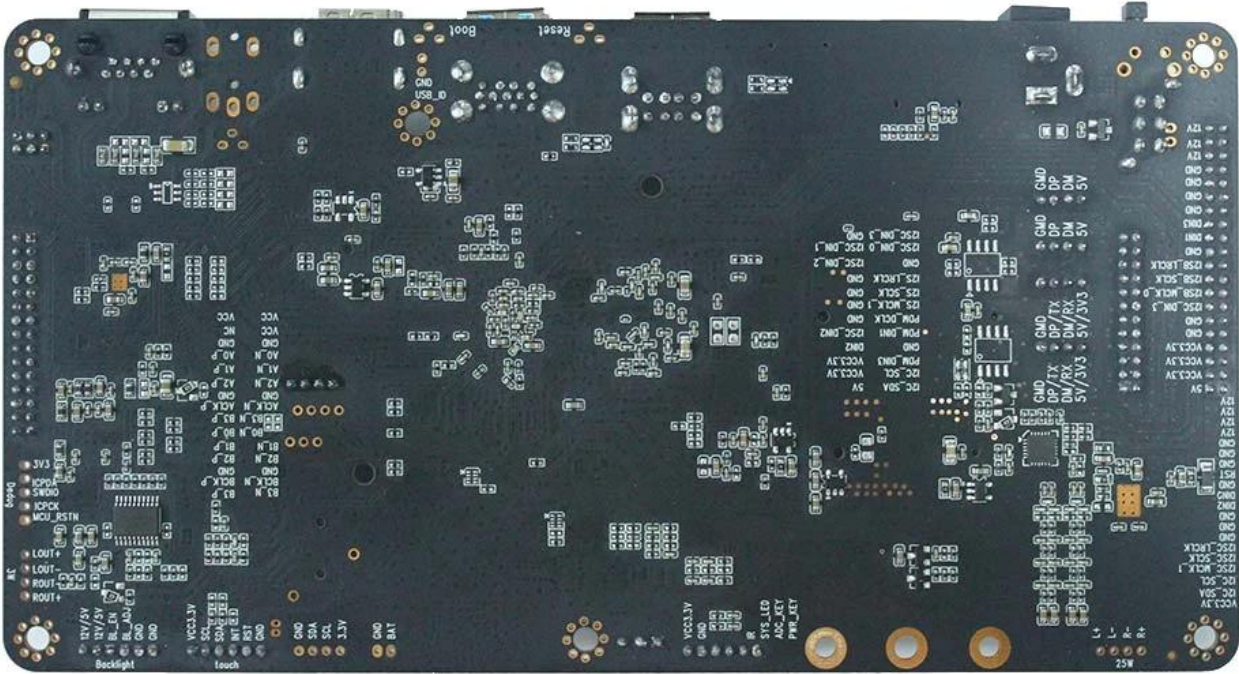
180mm

95mm

180mm*95mm*20mm







Board Introduction

Amlogic A311D2 Android Development Board multimedia network player-LCD driver integrated board adopts Amlogic A311D2 12nm high-end chip, which supports UHD 4K@60fps hardware video decoding. It also supports supports H.265 10-bit, H.264 and AVS+ and many other formats. Support HDR10 and HLG high dynamic range processing, with multi-channel UART and USB interfaces. Support Bluetooth, WIFI, 4G and Ethernet functions. Support AV serial use, SD card expansion. Perfectly supports all kinds of touch screens, suitable for high-performance intelligent display terminal equipment, industrial automation terminal, computer vision/algorithm, 3D experience, game/amusement equipment, high-performance face recognition computing/storage, AI intelligence, etc. It can be widely used as a high-end intelligent motherboard for various industries such as finance, advertising, security, transportation, and public transportation.

(1) With various interfaces

- 1 channel LVDS video output (40pins)
- 1 channel HDMI video output
- 5 channels USB2.0
- 4 channels RS232 (can be modified to USB2.0 by patch)
- 1 channel MIPI CSI

- 1 channel AV output
- 1 channel I2C
- I2SC/IS2B
- 1 channel 25W super power amplifier and 3W speaker interface
- (2) Hybrid networking to break through network constraints
- Support wired, WiFi and 4G access, can realize multi-network hybrid networking
- (3) Easy to operate & fast maintenance
- Support breakpoint playback
- Super multi-period timing switch function
- Support U disk loading or direct playback
- Support automatic repair, remote upgrade, intelligent domain name resolution

Chip Performance

CPU Sub-system

- (1) Quad Core ARM Cortex-A73 and Dual Core ARM Cortex-A53 CPU
- (2) ARMv8-A architecture with Neon and Crypto extensions
- (3) Unified system L2 cache
- (4) Build-in Cortex-M4 core for always on processing
- (5) Advanced TrustZone security system
- (6) Application based traffic optimization using internal QoS-based switching fabrics

3D Graphics Processing Unit

- (1) ARM Mali-G52 MP4 (4ppc) GPU
- (2) 8-wide warps, 2xdual texture pipe, 6x8-wide execution engines(EE)
- (3) Concurrent multi-core processing
- (4) OpenGL ES3.2, Vulkan 1.0 and OpenCL 2.0 support

Video/Picture CODEC

- (1) Amlogic Video Engine (AVE) with dedicated hardware decoders and encoders
- (2) Support multi-video decoder up to 4Kx2K@60fps+1x1080P@60fps
- (3) Supports multiple "secured" video decoding sessions and simultaneous decoding and encoding
- (4) Video/Picture Decoding
 - VP9 Profile-2 up to 4Kx2K@60fps
 - H.265 HEVCMP-10@L5.1 upto 4Kx2K@60fps
 - AVS2-P2 Profile up to 4Kx2K@60fps
 - H.264 AVCHP@L5.1 upto 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-1MP/HL upto 1080P@60fps(ISO-11172)
 - RealVideo 8/9/10 up to 1080P@60fps
- Multiple language and multiple format sub-title videosupport
- 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
- (5) 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

- (1) Built-in HDMI 2.1 transmitter including both controller and PHY with CEC, Dynamic HDR and HDCP 2.2, 4Kx2K@60 max resolution output

- (2) CVBS 480i/576i standard definition output
- (3) Supports all standard SD/HD/FHD video output formats: 480i/p, 576i/p, 720p, 1080i/p and 4Kx2K
- (4) 4-lane MIPI DSI interface, resolution up to 1920*1080 with rotation and panel calibration

Chip Performance

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- (11) Advanced TrustZone security system
- (12) Application based traffic optimization using internal QoS-based switching fabrics

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The Amlogic A311D2 Quad Core Android TV Box is a state-of-the-art device designed to transform your home entertainment experience. Powered by the robust Amlogic A311D2 chipset, this TV box

offers exceptional processing power, enabling it to handle a variety of demanding tasks with ease. Whether you're streaming 4K Ultra HD content, playing high-definition games, or running multiple apps simultaneously, the quad-core processor ensures everything runs smoothly and efficiently.

One of the key features of this TV box is its support for 4K Ultra HD resolution. With four times the detail of Full HD, 4K content provides a stunningly clear and lifelike viewing experience. The Amlogic A311D2 chipset is optimized for high-resolution content, ensuring that you enjoy vibrant colors, sharp contrasts, and fluid motion in every scene. Whether you're watching movies, sports, or documentaries, this TV box delivers an immersive experience that rivals the quality of a movie theater.

In addition to its impressive video capabilities, the Amlogic A311D2 Quad Core Android TV Box offers a wealth of connectivity options. It features multiple USB ports for external storage or peripherals, HDMI for high-definition output, and Ethernet for a stable and fast wired internet connection. The device also supports wireless connectivity, allowing you to connect to your home Wi-Fi network with ease. This versatility makes it easy to integrate the TV box into your existing home theater setup, ensuring that all your devices work together seamlessly.

Running on the latest Android operating system, the TV box provides a user-friendly interface that is both intuitive and customizable. With access to the Google Play Store, you can download a vast array of apps, from streaming services like Netflix, Hulu, and Amazon Prime Video to social media platforms, games, and productivity tools. The Android OS also allows you to customize your home screen, manage your apps, and access advanced settings to tailor your experience to your preferences.

The Amlogic A311D2 TV Box is also designed with future-proofing in mind. As streaming services continue to offer higher-quality content and apps become more demanding, the powerful hardware and up-to-date software ensure that this device will remain a capable and reliable entertainment hub for years to come. The combination of a quad-core processor, ample connectivity options, and a modern operating system makes this TV box an excellent choice for anyone looking to upgrade their home entertainment system.

In summary, the Amlogic A311D2 Quad Core [Android TV Box](#) offers everything you need for a superior entertainment experience. With its powerful processing capabilities, support for 4K Ultra HD content, and the versatility of the Android operating system, this device is ideal for streaming, gaming, and more. Whether you're a tech enthusiast or someone looking for an easy-to-use media device, the Amlogic A311D2 TV Box provides the performance, reliability, and features you need to enjoy the best of modern entertainment.