

MYD-YT507H Android SDK Release Note



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Revision History

VERSION	AUTHOR	PARTICIPANT	DATE	DESCRIPTION
V1.0[DOC]	Nico	Licy	2022.10.15	Initial version

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1. Overview

MYD-YT507H Android SDK is deeply customized based on the Android SDK of ALLWINNER T507H. It includes the underlying BSP source code, pre-compiled image files, Android10 (AOSP) system, the corresponding software evaluation and development documents, as well as some tools used in the development and debugging process. The corresponding hardware data is also released along with the SDK in the form of CD-ROM image. The complete CD-ROM content is as follows:

Table1-1. MYD-YT507H Android10 Data Release List

Catalog	Name	Description	Location
Document	Datasheet	Data manual for the chip used in MYD-YT507H	01-Document
	Hardware	MYB-YT507H hardware design data	
	User Manual	Product manuals, software documentation, etc	
File system	myir-image-android10	Compiled and constructed based on Android10SDK	02_Images
Tools	Development tools	Compile the cross toolchain	03_Tools
	Debugging tools	nothing	
	Tools for burning	PhoenixSuit, PhoenixCard	
Source code	Bootloader	U-boot 2018	04_Sources
	Kernel	Linux Kernel 4.9.170	
	Android 10 SDK	Android10	
	Linux SDK	Board-level underlying BSP source code package	

Users of the MYD-YT507H product can obtain the CD-ROM image file of the latest SDK version from the following address:

Download Address: <http://d.myirtech.com/MYD-YT507H/>

The current SDK is applicable to the development board model:

MYD-YT507H-8E1D-150-C/I

MYD-YT507H-8E2D-150-C/I

If you need to know the specific introduction of the board card, you can visit the official website of MYIR Electronic link to learn more:

<http://www.myirtech.com/>

2. Software Information

The Android10 system of MYD-YT507H is built with AOSP version project:

Table 2-1. MYD-YT507H Image file description

Image File Name	Description of Contents	Note
myir-image-android	buildroot builds an image with a GUI interface, complete hardware drivers, common system tools, debugging tools, etc. Support for development using Java	Use android instead in the following description

Note: If there are special package files not included in the image file, users can add them themselves or refer to the contact information in the appendix to contact us for support.

The following is a detailed comparison of the specific functions and features of the Android image, so as to facilitate the user's software evaluation and secondary development.

2.1. Functional Features

Table 2-2. MYD-YT507H List of android software functions

Catalog	Function	Description	Image File
			Android
Bootstrap program	U-boot	EMMC/TF card supports scanning, reading and writing	support
		EMMC/TF cards support fat file system access	support
		EMMC/TF cards support ext2/3/4 file system access	support
		The image is fully upgraded by TF card	support
		USB Mass storage	support
		Complete upgrade of image via USB port	support
		Memory read and write test, MDIO read and write, I2C read and write, reset	support
Kernel	Network Support	TCP/IP network protocol stack	support
		Ethernet protocol	support
		Net Bridge, IP Route, Netfilter	support
		PPP protocol and USB serial	support

Catalog	Function	Description	Image File
			Android
		CAN bus subsystem	support
		IrDA(infrared) subsystem	support
		Bluetooth subsystem	support
		Wireless protocol stack	support
		RF Switch subsystem	support
		IPV6	support
	File System support	DEVTMPFS	support
		Ext2/3/4 File System	support
		Overlay File System	support
		Network File System	support
		VFAT File System	support
	Multimedia module	Multimedia related modules, including platform supported video input modules, vpu, uvc, v4l2	support
	Sound module	Audio related modules, including alsa, platform support for audio I/O devices	support
	Graphics module	Display related modules, platform supported backlight, display, GPU, etc.	support
	Input subsystem	Buttons, HID, touch subsystem. Platform supported input devices	support
	USB gadget	Mass storage, serial	support
Android root file system	Kernel firmware	firmware, bcmwifi firmware	support
		Init(zygote)	support
	System tools	udev(Contains udev rules)	support
		Bash shell environment	support
		coreutils(chgrp,chmod,chown,kill,cp,...)	support
		util-linux(fdisk, fsck...)	support
		top	support
		e2fsck	support
		resize2fs	support
		gzip	support
	System Settings	Localized data (C en_US)	support
		Time zone Information (Asia/Shanghai)	support
		User and Password (Account root, password is empty)	support
	Test tools	memtester	support
		i2c-tools	support

Catalog	Function	Description	Image File
			Android
		microcom	support
		hwclock	support
		gdbserver	support
		getevent	support
	Development language	JAVA	support
		C/C++	support
		Kotlin	support
	Database	sqlite3	support
		netstat	support
		iptables	support
		iperf	support
		iproute2 (iproute)	support
		pppd	support
		ifconfig	support
		wpa-suplicant	support
		wpa-suplicant-cli (wpa_cli)	support
		wpa-suplicant-passphrase(wpa_passphrase)	support
		tcpdump	support
		bluez-utils(bluetoothctl)	support
		bridge-utils	support
		telnet	support
		route	support
		avahi	support
	Security	openssl-devel	support
	Word processing	grep	support
		sed	support
		awk	support
	Multimedia	v4l-utils	support
		alsa-utils	support
		ffmpeg	support
	other	bc	support
SDK	Chain of tools: gcc-linaro-7.4.1-2019.02-x86_64_aarch64-linux-gnu		support
	C function library: glibc		support

Catalog	Function	Description	Image File
			Android
	C++ function library: libstdc++		support
	libasound		support
	libssl-dev		support
	libxml2		support
	libcedarx		support

2.2. List of Software

MYD-YT507H bootloader, kernel, android file system and the source code of each part of the application are completely open. Users can obtain the real-time updated version through the code hosting platform besides the CD-ROM image. The code information of each part is as follows:

Note: The CD-ROM has been rigorously tested and users can use it with confidence. If you want to get the code through github you need to apply to join the myir-allwinner organization. Technical support can be contacted through "Appendix I".

- U-boot:

version: V2018.02

URL: <https://github.com/MYIR-ALLWINNER/myir-t5-uboot.git>

branch: develop

- Linux Kernel:

version: V4.9.170

URL: <https://github.com/MYIR-ALLWINNER/myir-t5-kernel.git>

branch: develop

- Android:

version: V10.0

URL: <https://github.com/MYIR-ALLWINNER/myir-t5-android-manifest.git>

branch: master

In order to facilitate users to transplant the kernel and debug the system, the source path of each module of the kernel driver and common android software is sorted as follows:

Table 2-3. MYD-YT507H partial list of kernel drivers

Modules	Description	Source Code Path
SD/MMC	SD/emmc Driver program	drivers/mmc/card/ drivers/mmc/host/sunxi-*
SPI	SPI Driver program	drivers/spi/spi-sunxi.c
TWI	TWI Driver program	drivers/i2c/busses/i2c-sunxi.c
USB Host	USB Driver program	drivers/usb/storage/
4G	USB to virtual serial port	drivers/usb/serial/
Ethernet	100 and Gigabit network drivers	drivers/net/ethernet/allwinner/
GPADC	ADC Driver program	drivers/input/sensor/sunxi_gpadc.c
RS232/RS485/Uart	Serial port driver	drivers/tty/serial/sunxi-uart.c
GPIO LED	LED Driver program	drivers/leds/leds-gpio.c
Wifi&bt	Wifi and Bluetooth drivers	drivers/net/wireless/ drivers/bluetooth/
RTC	RTC Driver program	drivers/rtc/rtc-rx8025.c
PWM	PWM Driver program	drivers/pwm/pwm-sunxi.c
HDMI	HDMI Driver program	drivers/video/sunxi/disp2/disp/lcd/
LVDS	Ltcd Driver program	drivers/video/sunxi/disp2/disp/lcd/
Touch	Touch screen driver	drivers/input/touchscreen
CVBS out	TV Driver program	drivers/video/sunxi/disp2/disp/lcd/
Audio	Line out Driver program	sound/soc/sunxi
	Sgtl5000 Driver program	sound/soc/sunxi
	Spdif Driver program	sound/soc/sunxi
Camera	Mipi CSI ov5640 Driver program	drivers/media/platform/sunxi-vin/modules/sensor/ov5640_mipi.c

Modules	Description	Source Code Path
	DVPov5640 Driver program	drivers/media/platform/sunxi-vin/modules/sensor/ov5640.c
Watch dog	Watchdog driver	arch/arm/mach-sunxi/sun8i.c

Table 2-4. Devices android and framework

Modules	Description	Path
Display equipment	Display device hardware and frameworks code	frameworks/native/libs/gui/ frameworks/native/server/surfaceflinger/ hardware/aw/hwc2/ hardware/aw/gpu/mail-midgard/gralloc
Audio frequency equipment	Audio equipment hardware and frameworks code	android/frameworks/base 1.AudioManager.java 2.AudioService.java 3.AudioSystem.java 4.AudioDeviceManagerObserver.java 5.AudioManagerPolicy.java android/hardware/aw/audio/audio_hw.c
Camera equipment	Camera equipment hardware and frameworks code	frameworks/av/camera/ frameworks/av/include/camera/ frameworks/av/services/camera/libcameraservice/ android/device/software/common/hardware/camera/
Wifi/bt devices	Wifi/bt device hardware and frameworks code	packages/apps/Settings/src/com/android/settings/wifi frameworks/base/wifi hardware/libhardware_legacy/wifi external/wpa_supplicant_8 frameworks/base/core/jni/android_net_wifi_WifiNative.cpp hardware/interface/bluetooth packages/apps/Bluetooth frameworks/base/core/java/android/bluetooth hardware/xradio/bt/libbt-vendor

2.3. Document Information

In addition to this release, the SDK contains different types of documents and manuals, such as the introduction guide, evaluation guide, development guide, application notes, and frequently used Q&A, depending on the different stages of the user's use of the development board. The introduction guide is a booklet that tells users how to quickly connect the hardware and start the development board after they get the development board, and how to quickly obtain information for subsequent evaluation and development.

The evaluation guide focuses on introducing the use and experience of the development board, informing users of the specific software and hardware features of the development board, and making corresponding demonstrations to facilitate project evaluation. The development guide focuses on the whole process of operating system and application transplantation, informing users how to quickly transplant operating system and application based on our SDK to the hardware platform designed based on our core board.

In the development stage, we also provide detailed application notes for a specific function or module to guide users to develop; In addition, we have also sorted out and summarized some common questions in each stage to form a list of common questions and answers for users as reference. The complete document information is shown in the following table:

Table 2-5. MYD-YT507H SDK documentation list

Use Phase	Document Name	Note
Primary Stage	MYD-YT507H Quick Start Guide	Product package contains a quick start guide
Evaluation stage	MYD-YT507H_Android Software Evaluation Guide	
Development stage	MYD-YT507H_Android Software Development Guide	
	Application Notes	Contains numerous development guidelines(Most of them are original Chinese documents)
Release Note	MYD-YT507H SDK Release Note	

3. SDK Version History

Table 3-1. MYD-YT507H Android SDK Version History

Version	Status	Date	Description	Download Path
V1.0.0[SDK]	RC	2022-10-30	U-boot version:2018.05 Linux Kernel version:4.9.170 Android version: Q(10.0)	http://d.myirtech.com/MYD-YT507H/

4. Known Issues

The following table lists some of the known issues with this release. Please read the following list carefully to determine if you need to make any software and hardware changes before using. If you need help, please refer to the contact information in the appendix.

Table 4-1. Known Issues and Workarounds

ID	Scope of Affected	Description	Workaround

Appendix A

Warranty & Technical Support Services

MYIR Electronics Limited is a global provider of ARM hardware and software tools, design solutions for embedded applications. We support our customers in a wide range of services to accelerate your time to market.

MYIR is an ARM Connected Community Member and work closely with ARM and many semiconductor vendors. We sell products ranging from board level products such as development boards, single board computers and CPU modules to help with your evaluation, prototype, and system integration or creating your own applications. Our products are used widely in industrial control, medical devices, consumer electronic, telecommunication systems, Human Machine Interface (HMI) and more other embedded applications. MYIR has an experienced team and provides custom design services based on ARM processors to help customers make your idea a reality.

The contents below introduce to customers the warranty and technical support services provided by MYIR as well as the matters needing attention in using MYIR' s products.

Service Guarantee

MYIR regards the product quality as the life of an enterprise. We strictly check and control the core board design, the procurement of components, production control, product testing, packaging, shipping and other aspects and strive to provide products with best quality to customers. We believe that only quality products and excellent services can ensure the long-term cooperation and mutual benefit.

Price

MYIR insists on providing customers with the most valuable products. We do not pursue excess profits which we think only for short-time cooperation. Instead, we hope to establish

long-term cooperation and win-win business with customers. So we will offer reasonable prices in the hope of making the business greater with the customers together hand in hand.

Delivery Time

MYIR will always keep a certain stock for its regular products. If your order quantity is less than the amount of inventory, the delivery time would be within three days; if your order quantity is greater than the number of inventory, the delivery time would be always four to six weeks. If for any urgent delivery, we can negotiate with customer and try to supply the goods in advance.

Technical Support

MYIR has a professional technical support team. Customer can contact us by email (support@myirtech.com), we will try to reply you within 48 hours. For mass production and customized products, we will specify person to follow the case and ensure the smooth production.

After-sale Service

MYIR offers one year free technical support and after-sales maintenance service from the purchase date. The service covers:

Technical support service

MYIR offers technical support for the hardware and software materials which have provided to customers;

- To help customers compile and run the source code we offer;
- To help customers solve problems occurred during operations if users follow the user manual documents;
- To judge whether the failure exists;
- To provide free software upgrading service.

However, the following situations are not included in the scope of our free technical support service:

- Hardware or software problems occurred during customers' own development;
- Problems occurred when customers compile or run the OS which is tailored by themselves;
- Problems occurred during customers' own applications development;
- Problems occurred during the modification of MYIR's software source code.

After-sales maintenance service

The products except LCD, which are not used properly, will take the twelve months free maintenance service since the purchase date. But following situations are not included in the scope of our free maintenance service:

- The warranty period is expired;
- The customer cannot provide proof-of-purchase or the product has no serial number;
- The customer has not followed the instruction of the manual which has caused the damage the product;
- Due to the natural disasters (unexpected matters), or natural attrition of the components, or unexpected matters leads the defects of appearance/function;
- Due to the power supply, bump, leaking of the roof, pets, moist, impurities into the boards, all those reasons which have caused the damage of the products or defects of appearance;
- Due to unauthorized weld or dismantle parts or repair the products which has caused the damage of the products or defects of appearance;
- Due to unauthorized installation of the software, system or incorrect configuration or computer virus which has caused the damage of products.

Warm tips

1. MYIR does not supply maintenance service to LCD. We suggest the customer first check the LCD when receiving the goods. In case the LCD cannot run or no display, customer should contact MYIR within 7 business days from the moment get the goods. 2. Please do not use finger nails or hard sharp object to touch the surface of the LCD.

3. MYIR suggests user purchasing a piece of special wiper to wipe the LCD after long time use, please avoid clean the surface with fingers or hands to leave fingerprint.
4. Do not clean the surface of the screen with chemicals.
5. Please read through the product user manual before you using MYIR' s products.
6. For any maintenance service, customers should communicate with MYIR to confirm the issue first. MYIR' s support team will judge the failure to see if the goods need to be returned for repair service, we will issue you RMA number for return maintenance service after confirmation.

Maintenance period and charges

- MYIR will test the products within three days after receipt of the returned goods and inform customer the testing result. Then we will arrange shipment within one week for the repaired goods to the customer. For any special failure, we will negotiate with customers to confirm the maintenance period.
- For products within warranty period and caused by quality problem, MYIR offers free maintenance service; for products within warranty period but out of free maintenance service scope, MYIR provides maintenance service but shall charge some basic material cost; for products out of warranty period, MYIR provides maintenance service but shall charge some basic material cost and handling fee.

Shipping cost

During the warranty period, the shipping cost which delivered to MYIR should be responsible by user; MYIR will pay for the return shipping cost to users when the product is repaired. If the warranty period is expired, all the shipping cost will be responsible by users.

Products Life Cycle

MYIR will always select mainstream chips for our design, thus to ensure at least ten years continuous supply; if meeting some main chip stopping production, we will inform customers in time and assist customers with products updating and upgrading.

Value-added Services

1. MYIR provides services of driver development base on MYIR' s products, like serial port, USB, Ethernet, LCD, etc.
2. MYIR provides the services of OS porting, BSP drivers' development, API software development, etc.
3. MYIR provides other products supporting services like power adapter, LCD panel, etc.
4. ODM/OEM services.

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