

MYD-LT527 Android SDK Release Notes



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|--|-----------------|-------------------------------|
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1. Overview

MYD-LT527 Android SDK software is based on Allwinner's T5 series chipset design and development, which includes the underlying BSP source code, pre-compiled image files, Android system software evaluation and development documents, as well as development and debugging process of some of the tools used in the process. Corresponding hardware information is also released with the SDK in the form of CD-ROM image, the complete CD-ROM content is as follows:

Table 1-1. MYD-LT527 SDK CD Content Description

| Class | Name | Description | Location |
|-----------------------|-------------------------|--|------------|
| Document | Hardware | MYD-LT527 Designed for Chip Datasheet MYB-LT527X Hardware Design Documentation | Hardware |
| | Software | Software Development Guide Software Evaluation Guide Application Notes | Software |
| | Product | Product manuals | Product |
| File Systems Tools | myir-image-android | Compiled and built based on the Android 13 SDK | 02_Images |
| Tools | cross compile toolchain | gcc-arm-10.3-2021.07-x86_64-aarch64-none-linux-gnu.tar.xz | 03_Tools |
| | Development Tools | none | |
| | Debugging Tools | none | |
| | Burning Tools | phoenixsuit_V1.1.0_20150325.rar (USB to OTG Burning) PhoenixCard_V4.1.9_20190227.zip(SD card Burning) | |
| Source code | Bootloader | U-boot 2018 | 04_Sources |
| | Kernel | Linux Kernel 5.15 | |
| | Android 10 SDK | Android 13 | |
| | SDK | SDK source code package | |



Users of the MYD-LT527 product can obtain the latest version of the SDK on CD-ROM image file from the following address:

website: <http://d.myirtech.com/MYD-LT527/>

For a detailed description of the boards, you can learn more by visiting the MYIR website link: <https://www.myirtech.com/>



2. Software Information

The Android system of MYD-LT527 is built using the AOSP version project, and the description about the image file is shown in the table below:

Table 2-1. MYD-LT527 images Description

| Image Files Name | Content Description | Notes |
|--------------------|--|--|
| myir-image-android | Includes complete hardware drivers, commonly used system tools, debugging tools and so on. Support the use of Java for application development | Acronyms for "android" are given below |

Note: For anything not included in the image file, users can add it themselves or contact us for support by referring to the contact information in the appendix.

The following is a detailed description of the specific functional characteristics of the mirror to facilitate the evaluation and secondary development of the user software.

2.1 Functional Characteristics Table

Table 2-2. MYD-LT527 android software feature list

| Class | Class | Class | Image File android |
|----------|--------|--|-----------------------|
| bootload | U-boot | EMMC/TF card support for scanning, reading and writing | support |
| | | EMMC/TF card support fat file system access | not support |
| | | EMMC/TF card support ext2/3/4 file system access | support |
| | | Full upgrade of image via TF card | not support |
| | | USB Mass storage | not support |
| | | Full upgrade of mirrors via USB port | not support |
| | | Device Tree FIT | 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 |
| | | qmi_wwan and USB serial | support |
| | | CAN bus | support |
| | | IrDA(infrared) | not support |
| | | Bluetooth | support |
| | | Wireless | support |
| | | RF Switch | support |
| | | IPV6 | support |
| | File system support | DEVTMPFS | not support |
| | | Ext2/3/4 File System | support |
| | | Overlay File System | support |
| | | Network File System | not support |
| | | VFAT File System | support |
| | Multimedia module | Multimedia related modules | support |
| | Sound module | Audio related modules, including Alsa, platform supported audio output devices | support |
| | Graphicsmodule | Display related modules, platform supported backlight, display, etc. | support |
| | Input subsystem | Key,HID, HID, touch subsystem. Platform supported input devices | support |
| | USB gadget | Mass storage, rndis, serial | support |
| Android root file system | Kernel firmware | rtlwifi firmware, bcmwifi firmware | support |
| | Initial subsystem | Systemd/systemV/busybox | not support |
| | | Init(zygote) | support |
| | | ueventd | support |
| | System tools | Bash shell | support |
| | | coreutils(chgrp,chmod,chown,kill,cp,dd...) | support |
| | | util-linux(fdisk, fsck...) | support |
| | | tar with long options | support |
| | | top | support |
| | | e2fsck | support |



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|--|----------------------|---|-------------|
| | | resize2fs | support |
| | | genext2fs | not 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 |
| | | mmc-utils | not support |
| | | microcom | support |
| | | hwclock | support |
| | | gdbserver | support |
| | | getevent | support |
| | | tslib,ts_test, ts_calibrate, | support |
| | | hexdump | support |
| | | | |
| | Development Language | JAVA | support |
| | | C/C++ | support |
| | | Kotlin | support |
| | Data Base | sqlite3 | support |
| | Network Application | scp | support |
| | | ethtool | not support |
| | | netstat | support |
| | | iptables | support |
| | | iperf | support |
| | | iproute2 (iproute) | support |
| | | Dns (dnsmasq) | not support |
| | | udhcpc | support |
| | | pppd | support |
| | | ifconfig | support |
| | | openssh server(sshd) | support |
| | | openssh client(ssh) | support |
| | | wpa-supPLICant | support |
| | | wpa-supPLICant-cli (wpa_cli) | support |
| | | wpa-supPLICant-passphrase(wpa_passphrase) | not support |
| | | tcpdump | support |
| | | bluez-utils(blueoothctl) | not support |



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|------------|---|---------------|-------------|
| | | bridge-utils | not support |
| | | telnet | not support |
| | | route | support |
| | | avahi | not support |
| | Safety | openssl-devel | support |
| | Word Processing | grep | support |
| | | Sed | support |
| | | Awk | support |
| | Multimedia | v4l-utils | not support |
| | | alsa-utils | support |
| | | ffmpeg | not support |
| | Other | bc | support |
| SDK | Toolchain: gcc-arm-10.3-2021.07-x86_64-aarch64-none-linux-gnu | | support |
| | C function library:glibc | | support |
| | C++ function library:libstdc++ | | support |
| | qmake: | | support |
| | libasound | | support |
| | libssl-dev | | support |

2.2 Software List

MYD-LT527's u-boot, kernel and android file system as well as all parts of the application are fully open source.

Users can obtain the "*MYD-LT527-SDK_V1.0.0.tar.gz*" and "*MYD-LT527-Android13-SDK_V1.0.0.tar.gz*" zip archives in the "*04_Sources*" directory of the CD-ROM image, and then unpack them:

- U-boot:

Version: V2018.02

Catalogs:MYD-LT527-SDK_V1.0.0/u-boot

- Linux Kernel:

Version: V5.15



Catalogs: MYD-LT527-SDK_V1.0.0/kernel

- Linux BSP:

Version: V5.15

Catalogs: MYD-LT527-SDK_V1.0.0/bsp

- Android:

Version: V13.0

Catalogs:MYD-LT527-Android13-SDK_V1.0.0/

In order to facilitate kernel porting, the source code paths of each driver module are organized as follows:

Table 2-3. MYD-LT527 Driver List

| module | descriptive | Source Path |
|------------------|------------------------|--|
| MMC | Emmc Driver | android/longan/bsp/drivers/mmc/sunxi-mmc.c |
| SPI | SPI Driver | kernel/linux-5.15/drivers/spi/spidev.c |
| I2C | i2c Driver | android/longan/bsp/drivers/twi/twi-sunxi.c |
| USB Host | USB Driver | android/longan/bsp/drivers/usb/sunxi_usb/manager/usb_manager.c |
| Ethernet | Gigabit Network Driver | android/longan/bsp/drivers/gmac/sunxi-gmac.c |
| RS232/RS485/Uart | Serial Driver | android/longan/bsp/drivers/uart/sunxi-uart.c |
| camera | Mipi Driver | android/longan/bsp/drivers/vin/modules/sensor/ov5640_mipi.c |
| GPIO key | Key Driver | /kernel/linux-5.15/drivers/input/keyboard/gpio_keys.c |
| RTC | RTC Driver | kernel/linux-5.15/drivers/rtc/rtc-pcf8563.c |
| Gpio Led | Led Driver | /kernel/linux-5.15/drivers/leds/leds-gpio.c |
| HDMI | LT8912 Driver | android/longan/bsp/drivers/video/sunxi/disp2/hdmi/drv_hdmi.c |
| Touch | Touch Screen Driver | kernel/linux-5.15/drivers/ input/touchscreen/edt-ft5x06.c |
| WIFI | WiFi Driver | android/longan/bsp/drivers/net/wireless/bcmdhd/ |
| audio | Audio Driver | longan/bsp/drivers/sound/platform |
| LVDS | LVDS Driver | longan/bsp/drivers/video/sunxi/disp2/disp/lcd/default_panel.c |
| bluetooth | Bluetooth Driver | android/longan/bsp/drivers/misc/sunxi-rf/sunxi-bluetooth.c |



2.3 Document Information

According to the different stages used in the development board, the SDK contains different categories of documents and manuals, such as quick start guide, evaluation guide, development Guide, application note, frequently asked questions, in addition to SDK Release Notes.

The quick start guide is a booklet that tells users how to quickly connect hardware, start the development board, and quickly access information for subsequent evaluation and development after getting the development board.

The evaluation guide focuses on the use and experience of the development board, informs the user of the specific hardware and software characteristics of the development board and makes the corresponding demonstration, which is convenient for the user to do the project evaluation.

The development guide focuses on the entire process of porting operating systems and applications, and tells users how to quickly port operating systems and applications to your own hardware platforms equipped with our CPU module based on our SDK .

In the development phase, we also provide detailed application notes to guide users to develop a specific function or module. In addition, we also summarize some common questions in each stage, and then form a list of frequently asked questions, which is provided to the user as a reference. The complete document information is shown in the following table :

Table 2-4. MYD-LT527 SDK Documentation List

| Use Phase | Document Name | Notes |
|---------------|--|-------|
| Primary Stage | MYD-LT527_Android Software Development Guide | |
| | MYD-LT527_Android Software Evaluation Guide | |
| Release Notes | MYD-LT527 SDK Release Notes | |



3. Version History

Table 3-1. MYD-LT527 Android SDK Version History

| Version | Date | State | Description | Download Path |
|---------|------------|-------|---|---|
| V1.0.0 | 2024.01.25 | RC | U-boot version:2018.02 Linux Kernel version:5.15 Android version: Q(13.0) | http://d.myirtech.com/MYD-LT527/ |



4. Remaining Problems

The following table lists some of the problems with this release package. Please read the following list carefully before using to determine if you want to make some hardware and software changes. For help, please contact us with the contact information in the appendix.

Table 4-1. Remaining Issues and Handling

| ID | Scope of influence | Description | Solution |
|----|--------------------|---|--|
| 1 | DSI Driver | DSI to HDMI not working for now | Waiting for subsequent version updates |
| 2 | CSI Driver | There is a probability of a black screen when opening CSI using the DVR app | Waiting for subsequent version updates |
| 3 | DVR applications | Cannot open CSI1 and CSI2 at the same time | Waiting for subsequent version updates |



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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