MYD-YT113X SDK Release Notes

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CONTENT

1. Overview

MYD-YT113X Linux SDK software is based on the Allwinner T113 chip design and development,（Currently MYD-YT113-S3 and MYD-YT113-I models） which includes the underlying BSP source code, pre-compiled image files, Linux software evaluation and development documentation, and some tools used in the development and debugging process. The corresponding hardware information is also released in the form of a CD-ROM image along with the SDK, the complete CD-ROM content is as follows:

Table 1-1.MYD-YT113X SDK CD Content Description

Claass	Name	Description	Location
Document	Datasheet	Datasheet for MYD-YT113X	01-Document
	Hardware	MYB-YT113X Hardware Design Information	
	User_Manual	Product manuals, software documentation, etc.	
File Systems Tools	myir-image-yt113s3-emmc-full	Full-featured system built on myir's HMI2.x(Applicable to EMMC storage device model MYD-YT113-S3)	02_Images
	myir-image-yt113s3-emmc-core	Base system based on buildroot build (for EMMC storage model MYD-YT113-S3)	
	myir-image-yt113s3-nand	Base system based on buildroot build (for MYD-YT113-S3 model NAND storage)	
	myir-image-yt113i-full	Full-featured system built on myir's HMI2.x(Applicable to EMMC storage device model MYD-YT113-I)	
	myir-image-yt113i-core	Base system based on buildroot build (for EMMC storage model MYD-YT113-I)	
Tools	Development Tools	cross compile toolchain	03_Tools
	Debugging tools	None	
	Burning Tools	PhoenixCard	
Source code	Bootloader	U-boot 2018	04_Sources
	Kernel	Linux Kernel 5.4.61	

buildroot	Buildroot 2019
Sample Code	MEasy-utils MYiR-MEasy_hmi 2.x
Development of linux SDK	The entire SDK source package

MYD-YT113X product users can obtain the latest version of the SDK CD image file from the following address:

website: http://d.myirtech.com/MYD-YT113

Current SDK for development board models:

MYD-YT113-S3

MYD-YT113-I

You can learn more about by visiting the MYIR:

website: https://www.myirtech.com/

2. Software Information

The Linux system of MYD-YT113X is built using the buildroot project, and we have built two models, MYD-YT113-S3 and MYD-YT113-I, for different types of usage scenarios, and two different types of image files, core and full, have been created for these two models, and the descriptions of core and full are shown in the table below.

Table 2-1.MYD-YT113X images Description

Image Files Name	Content Description	Notes
myir-image-yt113s3-emmc-core	A mirror built with buildroot without a GUI interface, includes complete hardware drivers, common system tools, debugging tools, etc. Support development with Shell, C/C++, Python.	Acronyms for "S3_CORE" are given below
myir-image-yt113s3-emmc-full	Image with GUI interface built with buildroot, includes all complete hardware drivers in CORE, common system tools, debugging tools, etc. Includes GUI runtime library and HMI interface. Support application development using Shell, C/C++, QML, Python.	Acronyms for "S3_FULL" are given below
myir-image-yt113s3-nand	A mirror built with buildroot without a GUI interface, includes complete hardware drivers, common system tools, debugging tools, etc. Support development with Shell, C/C++, Python.	Acronyms for "NAND" are given below
myir-image-yt113i-core	A mirror built with buildroot without a GUI interface, includes complete hardware drivers, common system tools, debugging tools, etc. Support development with Shell, C/C++, Python.	Acronyms for "I_CORE" are given below
myir-image-yt113i-full	Image with GUI interface built with buildroot, includes all complete hardware drivers in CORE, common system tools, debugging tools, etc. Includes GUI runtime library and HMI interface. Support application development using Shell, C/C++, QML, Python.	Acronyms for "I_FULL" are given below

The MYD-YT113-S3 model NAND image is not differentiated between core and full systems.

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

Below is a detailed comparison of the specific functional characteristics of the core and full images, in order to facilitate user evaluation and secondary development of the software.

2.1. Functional CharacteristicsTable

2-2. MYD-YT113X Software Features List

Class	Function	Description	Image File	
			FULL	CORE
bootload	U-boot	NAND supports read write, erase	Support	Support
		NAND supports fat and ubi file system mount access	Support	Support
		EMMC/TF card support scanning, reading and writing	Support	Support
		EMMC/TF card support fat file system access	Support	Support
		EMMC/TF card support ext2/3/4 file system access	Support	Support
		Full upgrade of image via TF card	Support	Support
		USB Mass storage	Support	Support
		USB RNDIS	Support	Support
		USB fastboot	Support	Support
		USB DFU	Support	Support
		Device Tree FIT	Support	Support
		Memory read and write test, MDIO read and write, I2C read and write, reset	Support	Support
Kernel	Network support	TCP/IP network protocol stack	Support	Support
		EtherNet Protocol	Support	Support
		Net Bridge, IP Route, Netfilter	Support	Support
		PPP,USB serial	Support	Support
		CAN bus	Support	Support
		Wireless	Support	Support
		IPV6	Support	Support
	File system support	DEVTMPFS	Support	Support
		Ext2/3/4 File System	Support	Support
		UBIFS File System	Support	Support
		VFAT File System	Support	Support

		MSDOS File System	Support	Support
	Multimedia module	Multimedia related modules	Support	Not supported
	Sound module	Audio related modules, including Alsa, platform supported audio output devices	Support	Support
	Graphics module	Display related modules, platform supported backlight, display, etc.	Support	Not supported
	Input subsystem	Key,HID, HID, touch subsystem. Platform supported input devices	Support	Not supported
	USB gadget	Mass storage	Support	Support
Root File System	Initial subsystem	Systemd/systemV/busybox（select systemV）	Support	Support
		udev (contains udev rules)	Support	Support
		login	Support	Support
	System Tools	Bash shell environment	Support	Support
		coreutils(chgrp,chmod,chown,kill,cp,dd...)	Support	Support
		util-linux(fdisk, fsck...)	Support	Support
		tar with long options	Support	Support
		top	Support	Support
		e2fsck	Support	Support
		resize2fs	Support	Support
		genext2fs	Support	Support
		gzip	Support	Support
	System Setup	Localized data (C en_US)	Support	Support
		Time zone information (Asia/Shanghai)	Support	Support
		User and password (account root, password is empty)	Support	Support
	Testing Tools	memtester	Support	Support
		i2c-tools	Support	Support
		mmc-utils	Support	Support
		can-utils	Support	Support
		microcom	Support	Support
		minicom	Support	Support
		hwclock	Support	Support
		spidev_test	Support	Support

		gdbserver	Support	Support
		evtest	Support	Support
		tslib,ts_test, ts_calibrate	Support	Not supported
		hexdump	Support	Support
	Development Languages	Python 2.7 and above (including pip)	Support	Support
		c/c++	Support	Support
		perl	Support	Support
	Database	sqlite3	Support	Support
	Web Applications	scp	Support	Support
		ethtool	Support	Support
		netstat	Support	Support
		iptables	Support	Support
		iperf3	Support	Support
		iproute2（iproute）	Support	Support
		dns	Support	Support
		udhcpc	Support	Support
		tftp	Support	Support
		pppd	Support	Support
		ifconfig	Support	Support
		openssh server(sshd)	Support	Support
		openssh client(ssh)	Support	Support
		wpa-supplicant	Support	Support
		wpa-supplicant-cli （wpa_cli）	Support	Support
		wpa-supplicant-passphrase(wpa_passphrase)	Support	Support
		tcpdump	Support	Support
		bridge-utils	Support	Support
		telnet	Support	Support
		route	Support	Support
	Security	openssl-devel	Support	Support
	Word Processing	grep	Support	Support
		Sed	Support	Support
		awk	Support	Support
		vim(vi)	Support	Support
	Graphics System	qt5.12.5(qtbase, qtwidget, qtquick2.0, qtmultimedia, qtvirtualkeyboard) Chinese and English font, etc.	Support	Not supported

		fbinit	Support	Not supported
	Multimedia	alsa-utils	Support	Support
	Other	bc	Support	Support
		dbus	Support	Support
SDK	Toolchain: gcc-linaro-5.3.1-2016.05-x86_64_arm-linux-gnueabi		Support	Support
	C library: glibc		Support	Support
	C++ library: libstdc++		Support	Support
	qmake:		Support	Not supportet
	libasound		Support	Support
	libssl-dev		Support	Support
	libxml2		Support	Support
	libcedarx		Support	Support

2.2. Software Information

The MYD-YT113X bootloader,kernel and file system and the source code of each part of the application are completely open. In addition to obtaining from the CD image, users can also obtain real-time updated versions through the code hosting platform. The code information of each part is as follows.

- U-boot:

Version:V2018.02

URL:https://github.com/MYIR-ALLWINNER/myir-t1-uboot.git

Branch:develop-yt113x-v2018

- Linux Kernel:

Version:V5.4.61

URL:https://github.com/MYIR-ALLWINNER/myir-t1-kernel.git

Branch:develop-yt113x-L5.4

- Buildroot:

Version:V2019.02

URL:https://github.com/MYIR-ALLWINNER/myir-t1-buildroot.git

Branch:develop-yt113x-v2019.2

- MEasy HMI:

Version:V2.0

URL:https://github.com/MYiR-Dev/mxapp.git

Branch:hmi-yt113x

- Examples:

Version:V1.0

URL:https://github.com/MYiR-Dev/MEasy-utils.git

Branch:develop-yt113x

In order to facilitate the user to migrate the kernel, the source code path of each module of the kernel driver is arranged as follows:

Table 2-3. MYD-YT113X Kernel driver list

Module	Description	Source Path
SD/MMC	SD/emmc driver	drivers/mmc/host/sunxi-*
SPI	SPI driver	drivers/spi/spi-sunxi.c
TWI	TWI driver	drivers/i2c/busses/i2c-sunxi.c
USB Host	USB driver	drivers/usb/storage/
4G、5G	USB to virtual serial port	drivers/usb/serial/
Ethernet	Gigabit Network driver	drivers/net/ethernet/allwinner/
GPADC	ADC driver	drivers/input/sensor/sunxi_gpadc.c
RS232/RS485/Uart	Serial port driver	drivers/tty/serial/sunxi-uart.c
GPIO LED	LED driver	drivers/leds/leds-gpio.c
RTC	RTC driver	drivers/rtc/rtc-rx8025.c
PWM	PWM driver	drivers/pwm/pwm-sunxi.c
LVDS	Ltdc driver	drivers/video/sunxi/disp2/disp/lcd/
Touch	Touch screen driver	drivers/input/touchscreen
Audio	spdif driver	sound/soc/sunxi
Watch dog	Watchdog driver	arch/arm/mach-sunxi/sun8i.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, freguently 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 freguently 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-YT113X SDK List of documents

Use Phase	Document Name	Notes
Primary Stage	*MYD-YT113X Quick Start Guide*	Product package contains a quick start guide
Evaluation stage	*MYD-YT113X Linux Software Evaluation Guide*	
Development stage	*MYD-YT113X_Linux Software Development Guide*	
	MYD-YT113X_MEasy HMI Software Development Guide	Not released

Support	*MYD-YT113X Software FAQ*	Not released
Release Notes	*MYD-YT113X SDK Release Notes*	

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3. Version History

Table 3-1. MYD-YT113X SDK Version History

Version	Status	Description	Download Path
V1.0.0[SDK]	RC	U-boot version:2018.05 Linux Kernel version:5.4.61 Buildroot version:2019.02 QT version:5.12.5	http://d.myirtech.com/MYD-YT113
V1.1.0[SDK]	RC	U-boot version:2018.05 Linux Kernel version:5.4.61 Buildroot version:2019.02 QT version:5.12.5 1. The new "MYD-YT113-I" model includes the following images "myir-image-yt113i-full" "myir-image-yt113i-core" 2. Fixed the problem that the system image of "MYD-YT113-S3" model could not accurately obtain the CPU frequency 3. Fixed the problem that the "MYD-YT113-S3" model system image xplayerdemo tool works abnormally.	http://d.myirtech.com/MYD-YT113

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	HMI	Audio and video in HMI2.0 program cannot be played temporarilyc	Wait for subsequent version update and repair
2	network driver	Ethtool does not work	Wait for subsequent version update and repair

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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