MYD-YT113X Mass Production Guidance Note

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CONTENT

1. Overview

For engineering mass production, a fast programming method can save a significant amount of labor and time costs. This article will discuss how to create a TF card writer for the MYD-YT113X series products from MYiR and quickly program the system's eMMC or Spinand.

Burning tool can use "*PhoenixCard*"tool, the following will start to explain how to use PhoenixCard software for mass production of mass production card, the specific production steps in accordance with the following to complete:

- ➢ SD card (no less than 8GB)

- ➢ All images in the "*02-Images directory*"

- ➢ Windows host(win7/10/11)

- ➢ Burn Image Tool PhoenixCard.zip (Path: Software

Information"*/03-Tools/PhoenixCard*").

1.1. Image Acquisition

This section primarily provides guidance on programming all images located in the "*02-Images*" directory of the release materials. Therefore, before proceeding with the following operations, you need to download the corresponding image materials for your specific model from the release documents.

For the MYD-YT113-I model, you need to download all the image materials from the "*02-Images/MYD-YT113-I/eMMC*" directory. For the MYD-YT113-S3 model, you need to download all the image materials from the "*02-Images/MYD-YT113-S3/eMMC*" directory. The list of corresponding image

materials is as follows:

Table 1-2. Image Materials for Each Model

Model Type	Image File Name	Description
eMMC	myir-image-yt113i-full.img	The full image of eMMC is used for PhoenixCard tool to burn to TF card and create a flashcard, which is then inserted into the development board and burned into eMMC. (Only applicable to MYD-YT113-I model development board)
	myir-image-yt113i-core.img	The core image of eMMC is used for PhoenixCard tool to burn TF cards into flashcards, which are then inserted into the development board and burned into eMMC. (Only applicable to MYD-YT113-I model development board)
	myir-image-yt113s3-emmc-full.img	The full image of eMMC is used for PhoenixCard tool to burn to TF card and create a flashcard, which is then inserted into the development board and burned into eMMC. (Only applicable to MYD-YT113-S3 model development board)
	myir-image-yt113s3-emmc-core.img	The core image of eMMC is used for PhoenixCard tool to burn TF cards into flashcards, which are then inserted into the development board and burned into eMMC. (Only applicable to MYD-YT113-S3 model development board)
Spinand	myir-image-yt113s3-nand.img	The initial image of Spinand is used to burn the Phoenix Card tool onto a TF card to create a flashcard, which is then inserted into the development board and burned into Spinand. (Only applicable to MYD-YT113-S3 model development board)

2. PhoenixCard Tool for Burning

2.1. Introduction to PhoenixCard Tool

"*PhoenixCard*"software is used to write firmware to be mass-produced into an SD card (Secure Digital Memory Card, abbreviated as SD card) through an SD card reader. Users can choose different modes to burn the SD card into production mode, and after burning, they can use the burned SD card for device production or startup.

This article introduces the GUI operation method under Windows.

2.1.1. Obtaining the PhoenixCard Tool

"*PhoenixCard*"can be obtained through the following methods.

● **Obtain through MYiR Documentation**

Visit the Developer Center on the "*MYD-YT113X Quick Start Guide*", register and log in, and enter the PN and SN codes of the purchased MYD-YT113X development board to access all of our resources. Alternatively, you can obtain the "*PhoenixCard*"tool through our Baidu Cloud Drive. The compressed files for "*PhoenixCard*"tools can generally be found in the "*03-Tools/PhoenixCard*" directory.

2.1.2. PhoenixCard tool burns images

1) **Launch PhoenixCard tool**

After obtaining the "*PhoenixCard*"tool according to section 2.1.1, double-click the PhoenixCard.exe file to start it directly.
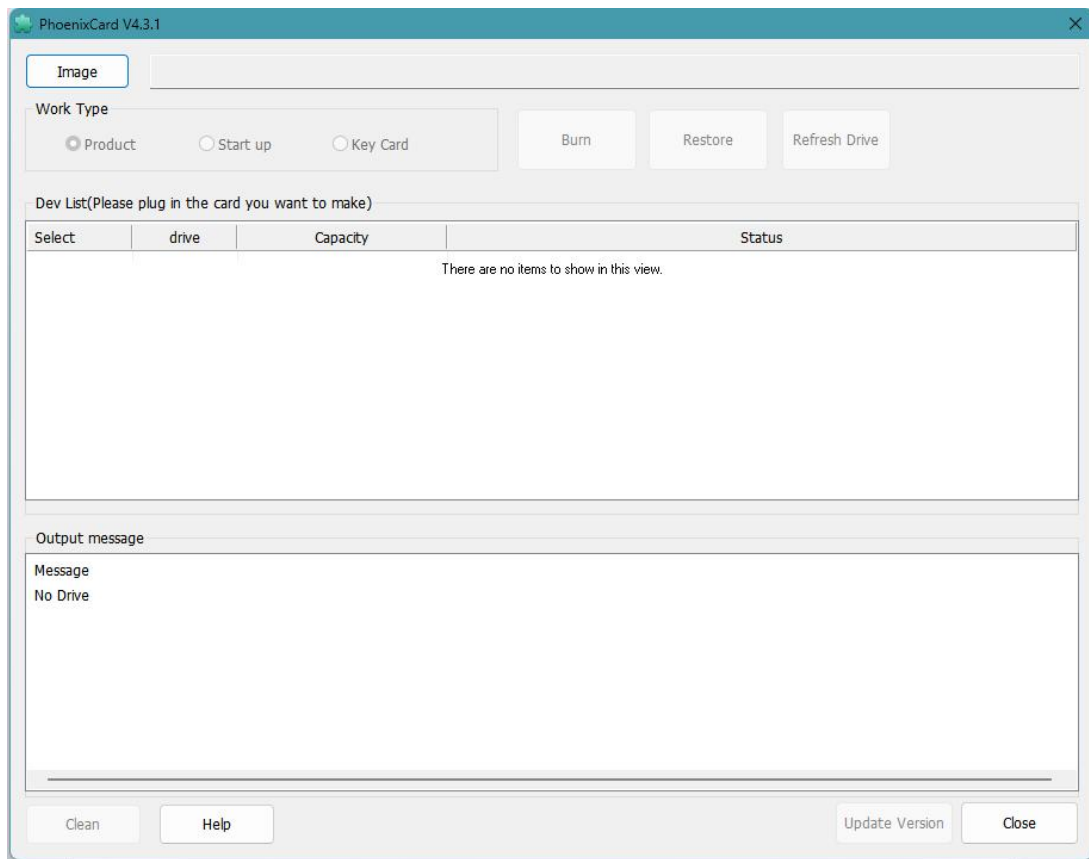
Figure 2-1. PhoenixCard tool interface

2) Creating mass production burn cards

This section applies to all models of MYD-YT113X series development boards and is applicable to the following images:The compressed files for "*PhoenixCard*"tools can generally be found in the "*03-Tools/PhoenixCard*" directory.

- ➤ myir-image-yt113i-full.img

- ➤ myir-image-yt113i-core.img

- ➤ myir-image-yt113s3-emmc-full.img

- ➤ myir-image-yt113s3-emmc-core.img

- ➤ myir-image-yt113s3-nand.img

Note: All MYD-YT113X models have the same procedure for making mass production

burn-in cards.

● **Select Image**

First get the image file according to section 1.1 and store the image file in the Windows directory. The following is a demonstration of burning myir-image-yt113i-full.img image as an example:

First of all, users need to insert the SD card into the card reader, then insert the card reader into the PC computer, wait for "*PhoenixCard*" software to recognize the SD card, when the disk symbol appears, the SD card is recognized successfully.
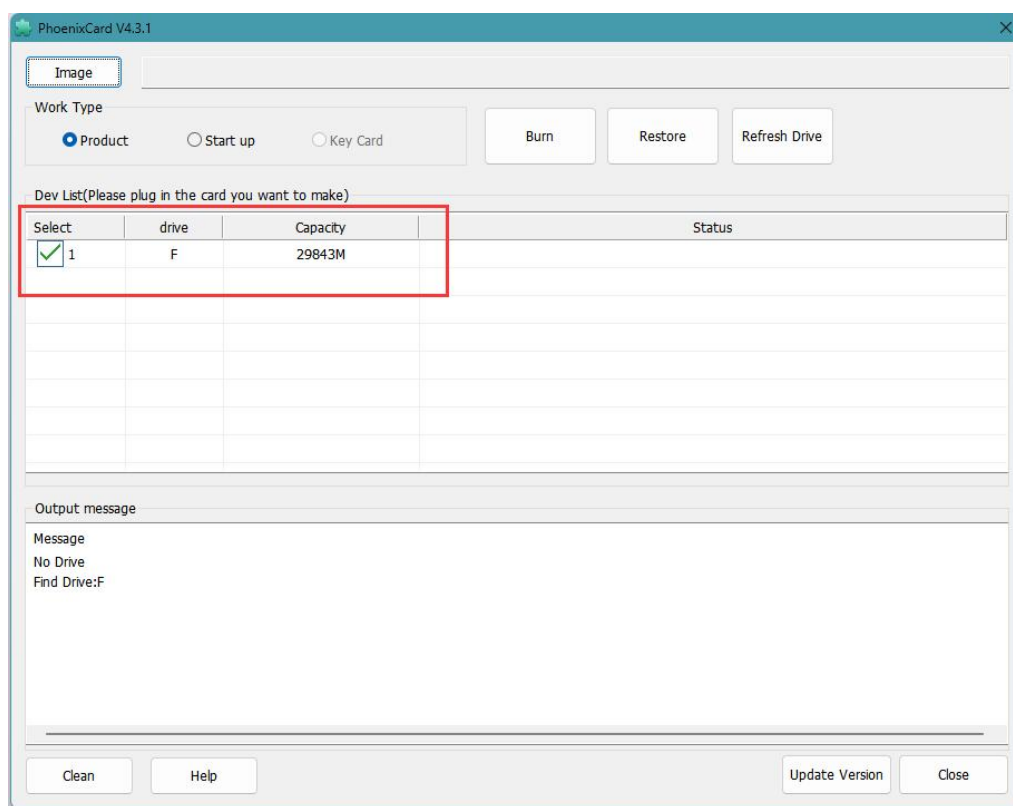

Figure 2-2. PhoenixCard recognizes the SD card

Then click on "*Produce*", and finally click on "*Image*" to select the image that needs to be burned. Here, choose "*myrir-image-yt113i-full.img*" as an example.
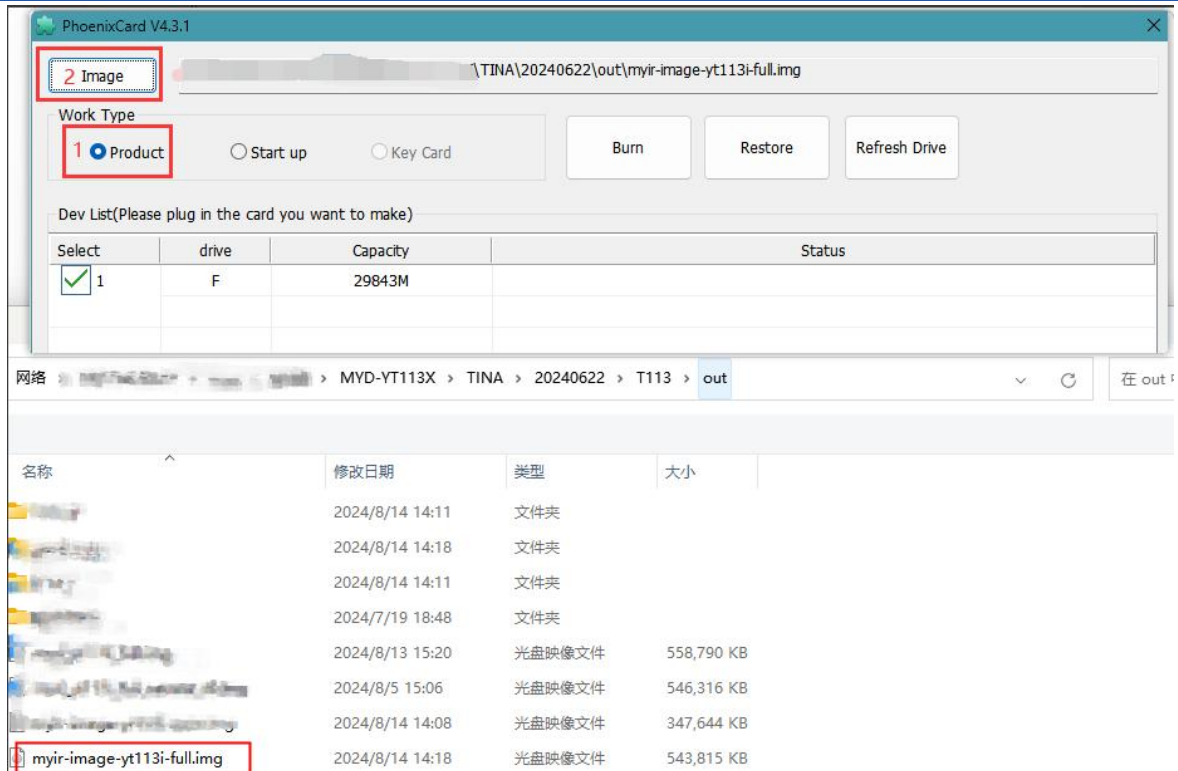
Figure 2-3. Select Image

● **Start Burning**

After the above preparations are completed, click "*Burn*" to start making the mass production burn-in card.

Note: If you click "Burn" and it shows failure, you can try to burn the card again, or click "Recover" and then click "Burn" again, if the recovery card also fails, you can If recovering the card also fails, you can perform the "Recover" operation several times, and then re-execute the "Burn", if it still fails, it is recommended to replace the SD card to burn.
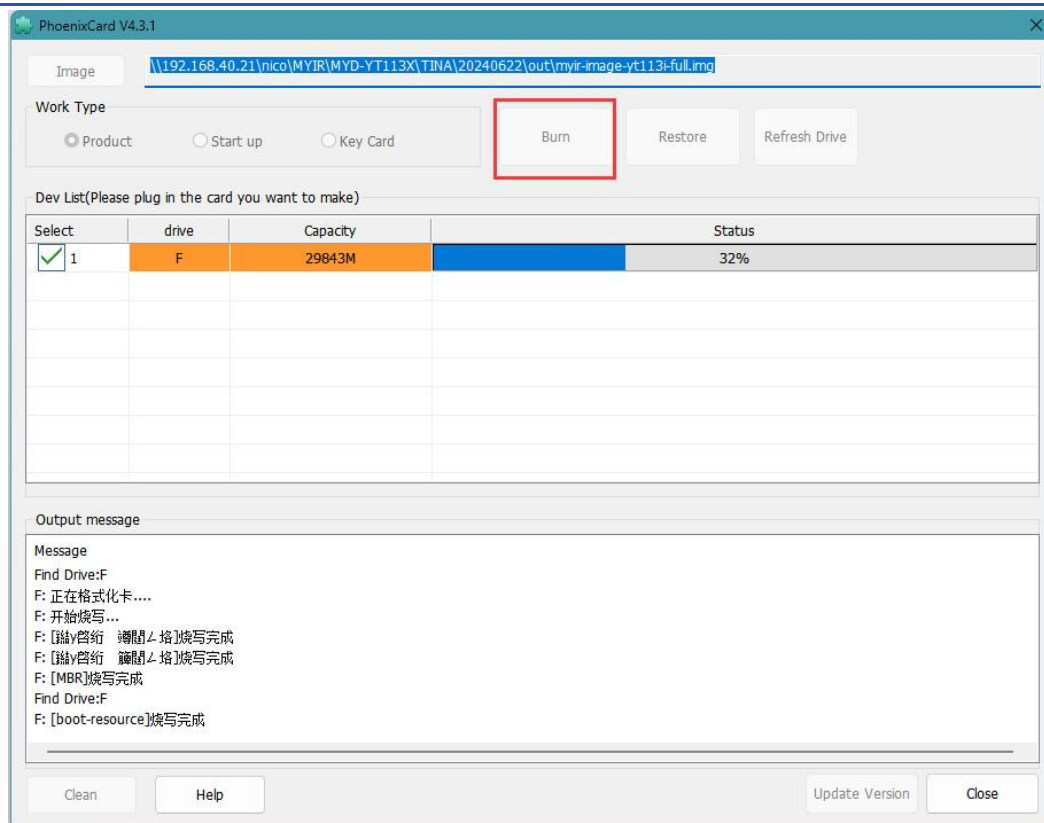
Figure 2-4. Creating mass production burn cards

At this point, you only need to wait for the write to complete, which takes about 2-4 minutes to complete. This speed depends on the read and write speed of the SD card.

2.1.3. Burn the image into eMMC

The above production burn card inserted into the SD card slot on the development board (J5), plug in the power supply, toggle the power switch (SW1) to the upper power state (the power light is always red), the system starts to automatically burn the image to the eMMC, at this time, the user can open the serial port to view the burning information, or to observe the development of the board's blue light status (burning will be completed blinking) to confirm that the burning is complete.

● **Burning and printing information**

================= (Partial burning process omitted) =============

sparse: bad magic

[05.322]successed in writting part env-redund

origin_verify value = 2da66665, active_verify value = 2da66665

[05.338]successed in verify part env-redund

[05.342]successed in download part env-redund

[05.346]begin to download part boot

partdata hi 0x0

partdata lo 0x65d000

sparse: bad magic

[05.799]successed in writting part boot

origin_verify value = d01e800a, active_verify value = d01e800a

[05.962]successed in verify part boot

[05.965]successed in download part boot

[05.969]begin to download part rootfs

partdata hi 0x0

partdata lo 0x1a8533f8

chunk 0(9981)

chunk 1(9981)

chunk 2(9981)

chunk 3(9981)

chunk 4(9981)

chunk 5(9981)

chunk 6(9981)

chunk 7(9981)

chunk 8(9981)

chunk 9(9981)

chunk 10(9981)

chunk 11(9981)

chunk 12(9981)

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chunk 27(9981)

chunk 28(9981)

chunk 29(9981)

chunk 30(9981)

chunk 31(9981)

chunk 32(9981)

chunk 33(9981)

chunk 34(9981)

chunk 35(9981)

chunk 36(9981)

chunk 37(9981)

chunk 38(9981)

chunk 39(9981)

chunk 40(9981)

=============== (Partial burning process omitted) =============

chunk 9949(9981)

chunk 9950(9981)

chunk 9951(9981)

chunk 9952(9981)

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chunk 9955(9981)

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chunk 9974(9981)

chunk 9975(9981)

chunk 9976(9981)

chunk 9977(9981)

chunk 9978(9981)

chunk 9979(9981)

chunk 9980(9981)

[87.339]successed in writting part rootfs

origin_verify value = fb253677, active_verify value = fb253677

[87.349]successed in verify part rootfs

[87.352]successed in download part rootfs

[87.356]begin to download part dsp0

partdata hi 0x0

partdata lo 0x4ecb0

sparse: bad magic

[87.389]successed in writting part dsp0

origin_verify value = 2e679ba6, active_verify value = 2e679ba6

[87.408]successed in verify part dsp0

[87.412]successed in download part dsp0

[87.422]successed in downloading part

uboot size = 0x15c000

storage type = 2

sunxi_sprite_deal_uboot ok

[87.560]successed in downloading uboot

[87.566][mmc]: write mmc 2 info ok

dram para[0] = 318

dram para[1] = 3

dram para[2] = 7b7bfb

dram para[3] = 1

dram para[4] = 10e2

dram para[5] = 1000000

dram para[6] = 1c70

dram para[7] = 42

dram para[8] = 18

dram para[9] = 0

dram para[10] = 4a2195

dram para[11] = 2423190

dram para[12] = 8b061

dram para[13] = b4787896

dram para[14] = 0

dram para[15] = 48484848

dram para[16] = 48

dram para[17] = 1620121e

dram para[18] = 0

dram para[19] = 0

dram para[20] = 0

dram para[21] = 770000

dram para[22] = 2

dram para[23] = b4056103

dram para[24] = 0

dram para[25] = 0

dram para[26] = 0

dram para[27] = 0

dram para[28] = 0

dram para[29] = 0

dram para[30] = 0

dram para[31] = 0

storage type = 2

[87.635]successed in downloading boot0

current bitmap buffer size is 0 and new bitmap size is 483.

pitch abs is 21 and glyph rows is 23.

current bitmap buffer size is 483 and new bitmap size is 529.

pitch abs is 23 and glyph rows is 23.

CARD OK

[87.657]sprite success

sprite_next_work=3

next work 3

```
SUNXI_UPDATE_NEXT_ACTION_SHUTDOWN

[90.665][mmc]: mmc exit start

[90.682][mmc]: mmc 2 exit ok

*** Flash Success ***

*** Flash Success ***

*** Flash Success ***
```

Flash Success" field appears, and the blue light of the development board for the flashing state, that has been burned to complete, at this time you need to power off the development board, and then unplug the SD card, and finally re-power to start the system can be, be sure to unplug the SD card and then re-power on the system, otherwise it will be re-entered into the burning state.

Note: MYD-YT113X all models are the same burning steps!

3. References

- "MYD-YT113X Linux Software Evaluation Guide"

- "MYD-YT113X Linux Software Development Guide"

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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