

MYD-J335X Product Manual

Version History

Version	Des.	Date
V1.0	Initial version	2014.04.01
V1.1	Delete SPI driver	2014.07.22
V2.0	Document format unification	2016.12.26

According to the lasted naming rules of MYIR Product.

- ◆ Daughter board (CPU module board)have a prefix “MYC”
- ◆ Motherboard (baseboard) have a prefix “MYB”
- ◆ The Hardware Kits have a prefix “MYD”
- ◆ MYC-AM335X is renamed to MYC-C335X according to the naming rules.
- ◆ MCC-AM335X-J is renamed to MYC-J335X according to the naming rules.
- ◆ MCC-AM335X-Y is renamed to MYC-Y335X according to the naming rules.

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1.Product Introduction

1.1 Product Abstract.

MYD-J335X consists of MYC-J335X and MYB-J335X. It provides many kinds of interfaces as follows: USB2.0, Audio In, Audio Out, SPI, I2C, LCD, CAN, RS485, UART, TP, ADC, TF card, JTAG debug interface and so on.

1.2 Product Show

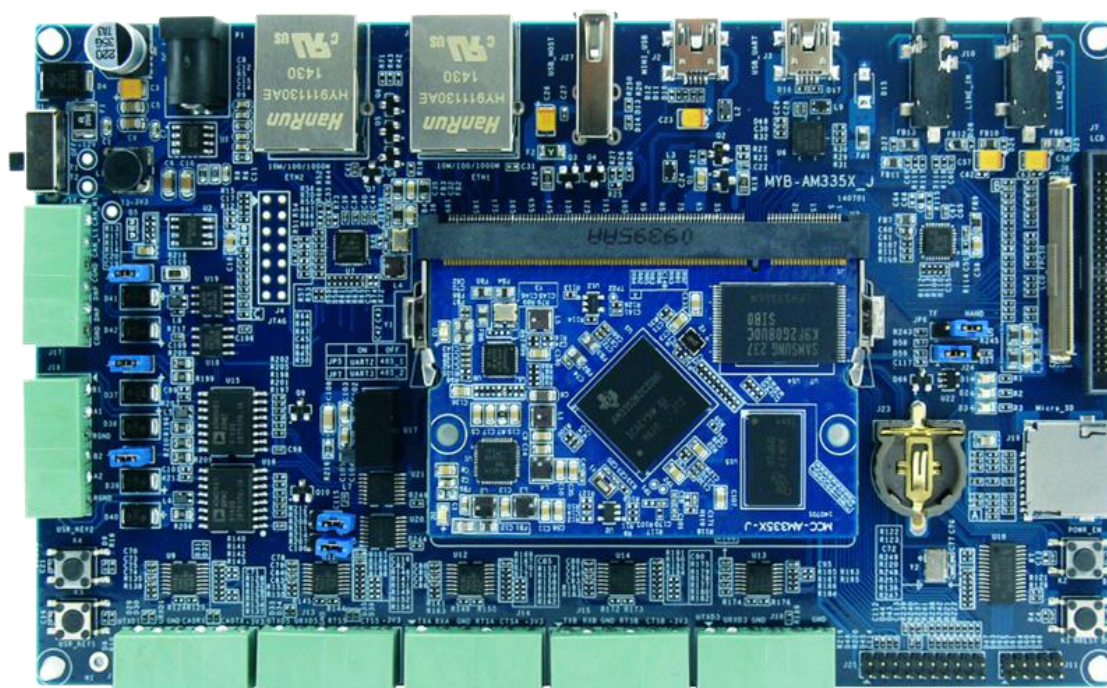


Figure 1-1 MYD-J335X Development Board

2. Hardware Parameter

2.1 Resource on CPU Module Board

The resource on the CPU module board shows in figure 2-1.

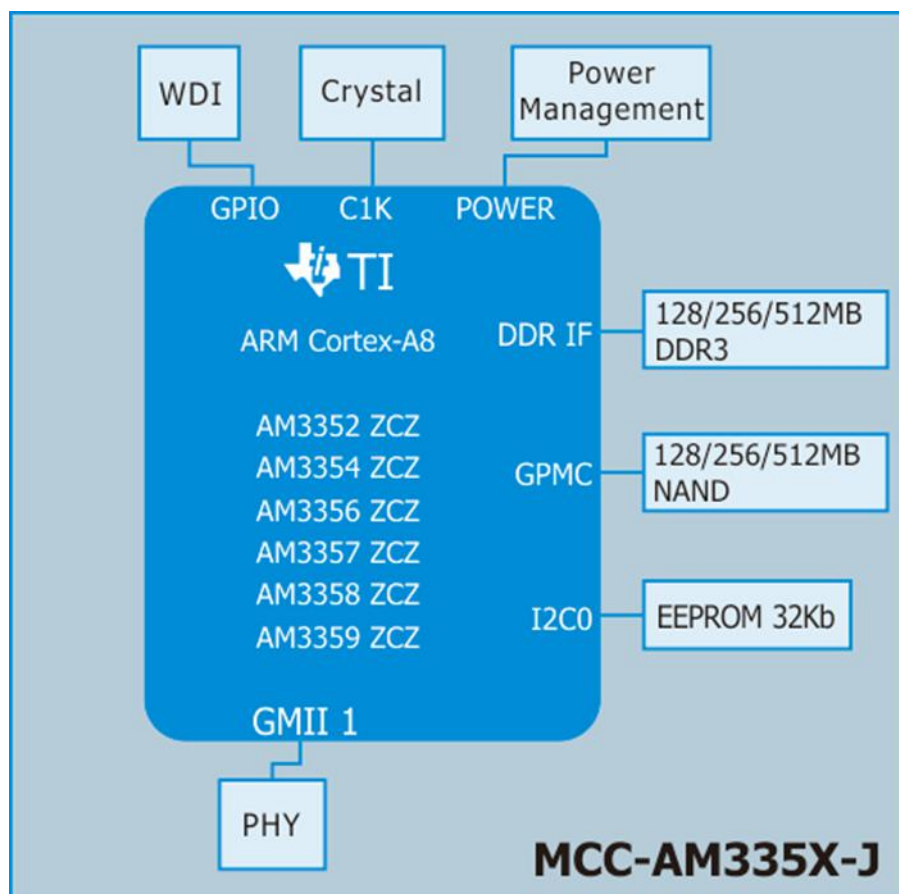


Figure 2-1 MYC-AM335X CPU Module Board

- ◆ 256MB DDR3 SDRAM
- ◆ 256MB NAND FLASH
- ◆ 32Kbit EEPROM
- ◆ 10M/100M/1000M bps Ethernet PHY
- ◆ Power LED and User LED
- ◆ Connector for interface: 200-Pin SO-DIMM

2.2 Interface about Baseboard

The resource on the baseboard shows in figure 2-2.

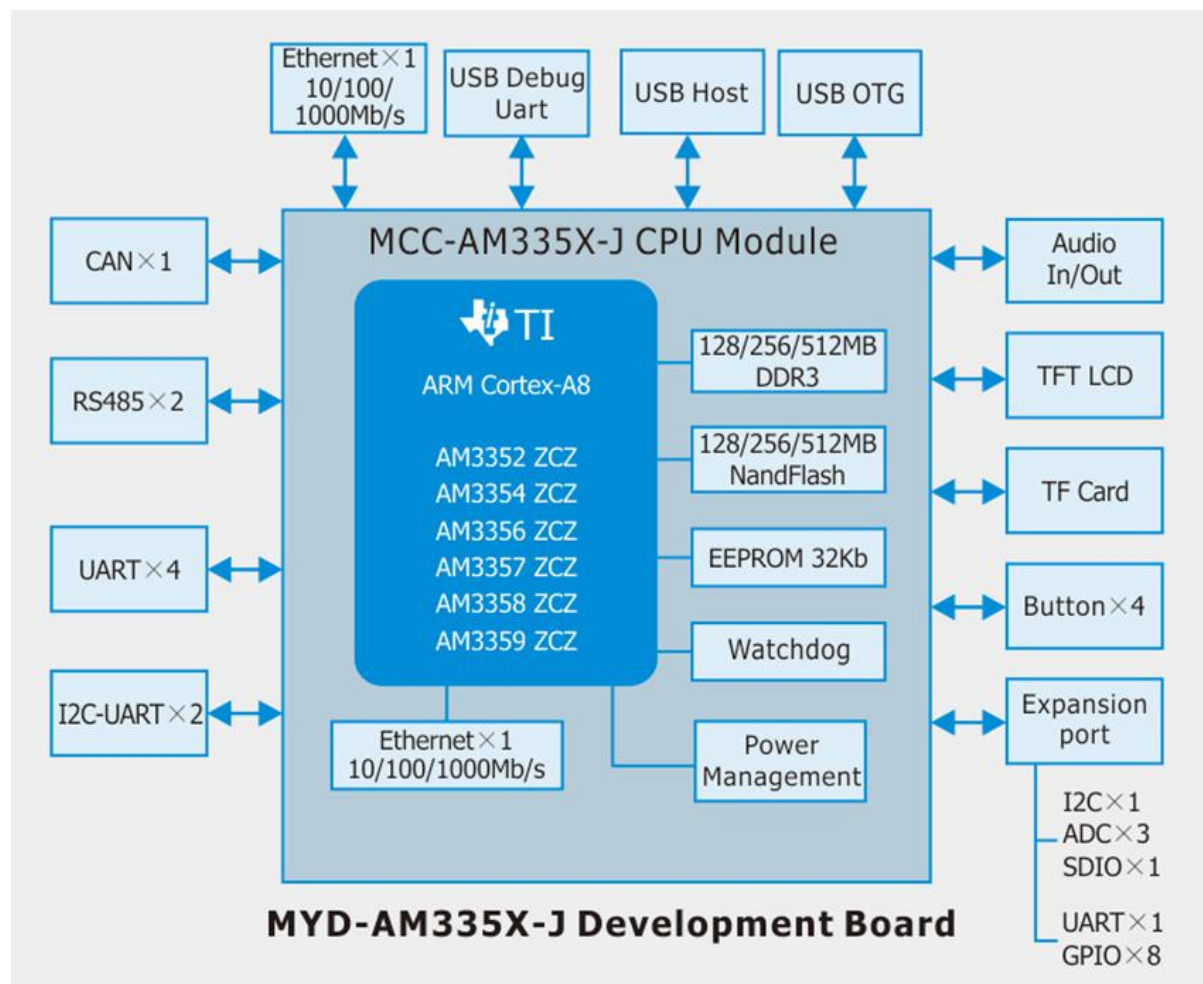


Figure 2.2 MYD-J335X Baseboard

- ◆ A 14-PIN JTAG Interface
- ◆ Two 10/100/1000Mb/s Ethernet Interface
- ◆ One USB Host
- ◆ One USB OTG
- ◆ One USB Interface for debugging.
- ◆ Six application serial port (Two I2C to UART)
- ◆ Two 485 interface
- ◆ One CAN interface
- ◆ One 20 PIN Extended interface, include ADC,SDIO,I2C,UART
- ◆ One TF Card Interface

- ◆ LCD
 - ❖ 16 Bits True Color.
 - ❖ Supports up to 2048x2048 resolution.
- ◆ One Audio input interface, 3.5mm socket
- ◆ One Audio output interface, 3.5mm socket
- ◆ One Power LED indicators ,Two User LEDs.
- ◆ Four keys(one for Reset , one for Power, two User keys,)

3. Interface

3.1 Connector On CPU Module Board

Please refer to the document *MYC-J335X PIN LIST*.

3.2 Signals on The Connector

The resource provided by MYD-J335X shows in figure 3-1.

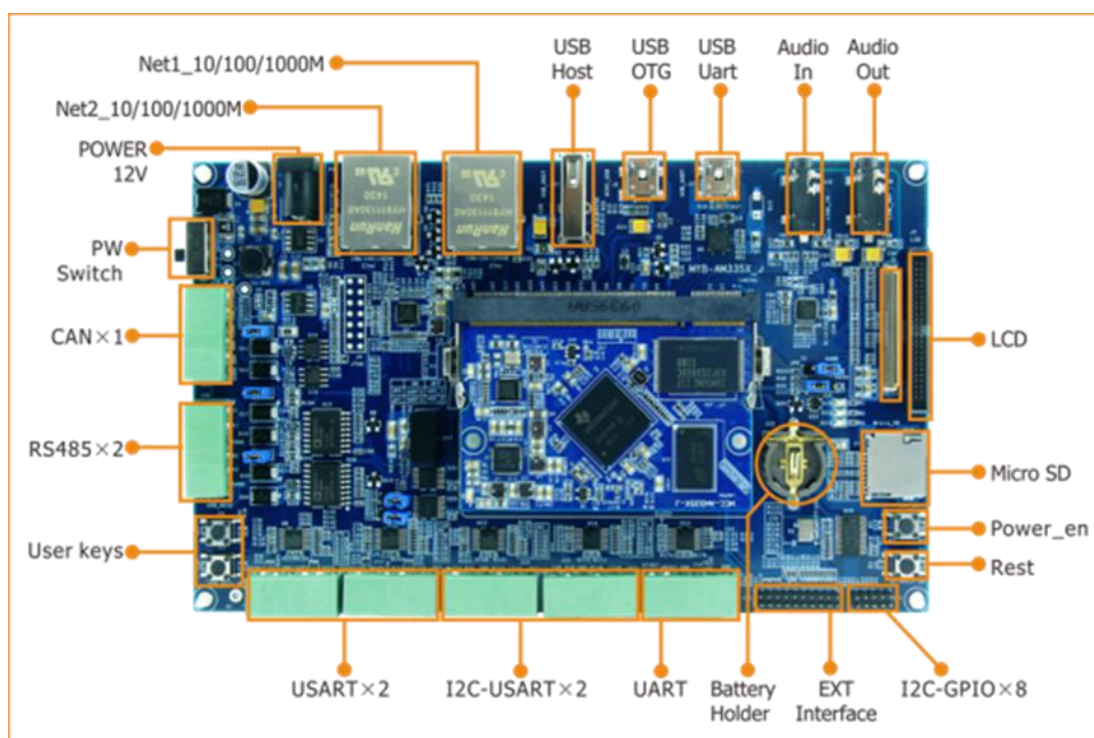


Figure 3-1 MYD-J335X Resources

4. Hardware Design

4.1 Hardware Design About CPU Module board

Please refer to the file named *MYC-AM335X Product Manual*.

4.2 Hardware Design About Baseboard

4.2.1 Power supply

MYD-J335X needs DC 12V to power the whole board. Power tree shows in figure 4-1.

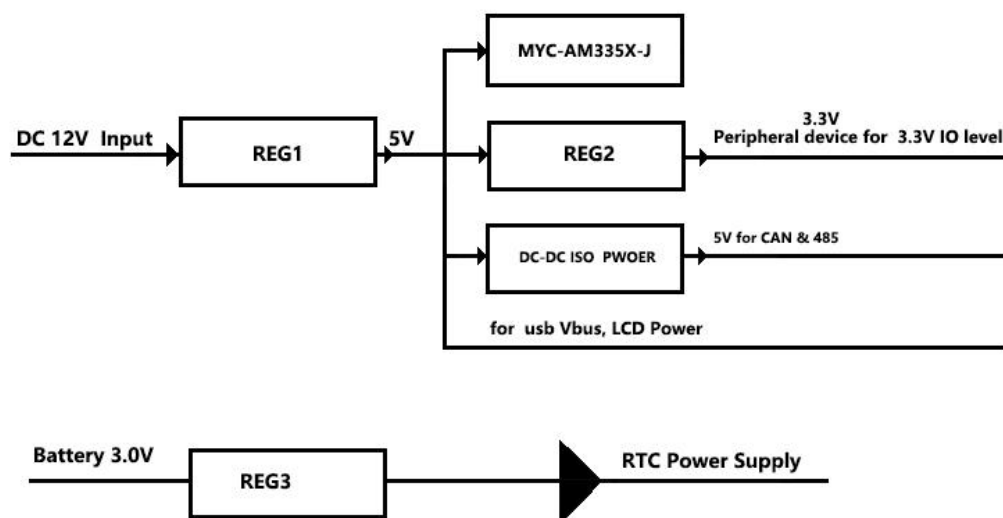


Figure 4-1 MYD-J335X Power Tree

4.2.2 Ethernet

MYD-J335X supports two Ethernet ports on the board. The interface circuit shows in figure 4-2.

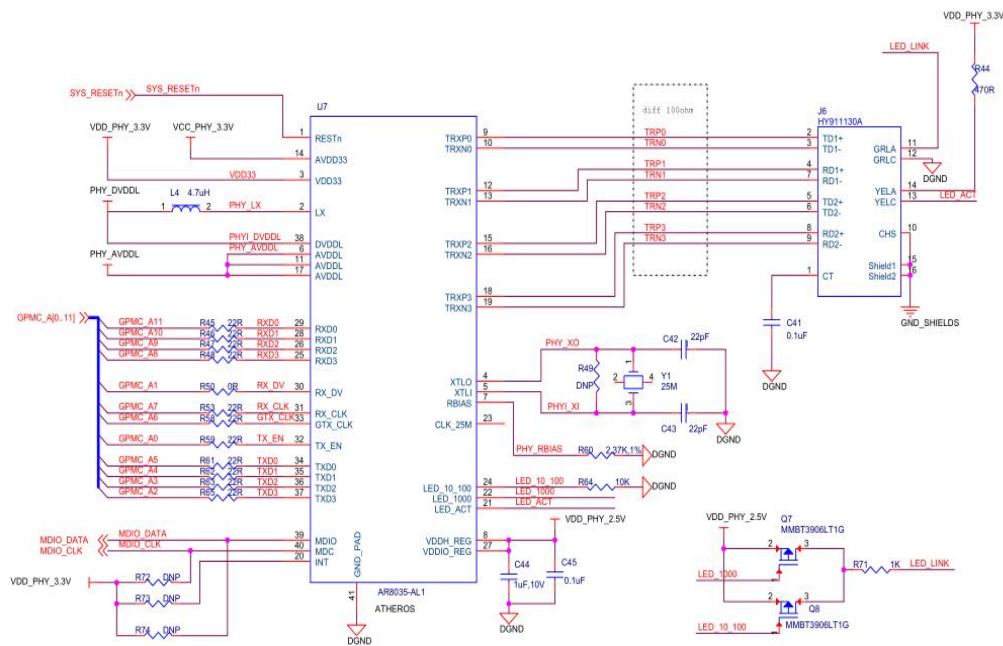


Figure 4-2 Ethernet

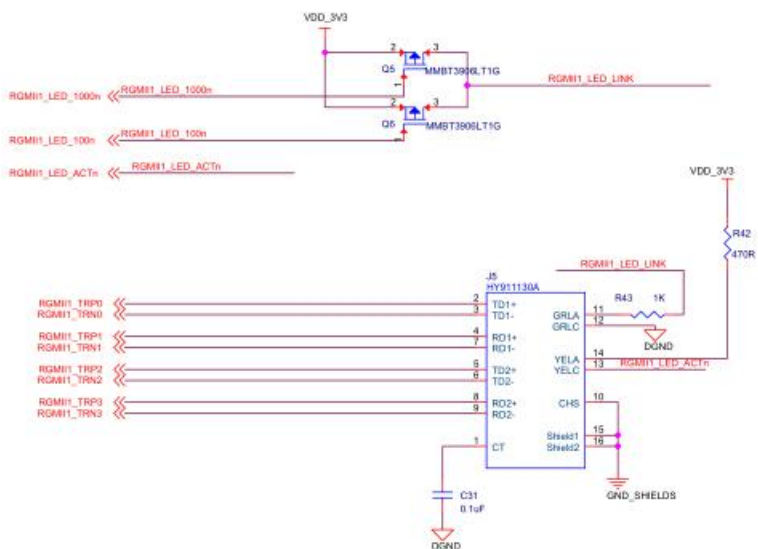


Figure 4-3 The other RJ45 Port

4.2.3 LCD

AM335X LCDC supports up to 2048x2048 resolution. The interface circuit shows as follows.

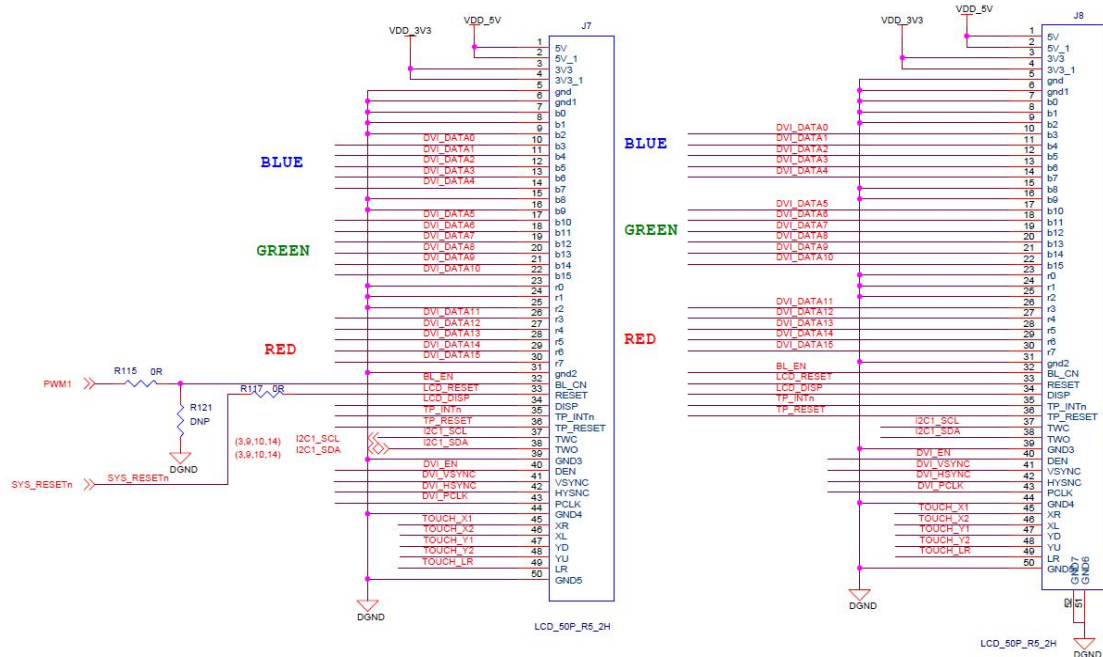


Figure 4-4 LCD Interface

4.2.4 USB

MYD-J335X has one USB Host port, one USB OTG port, and one MINI USB port. The MINI USB port is used for debugging in development stage. The interface circuit shows as follows.

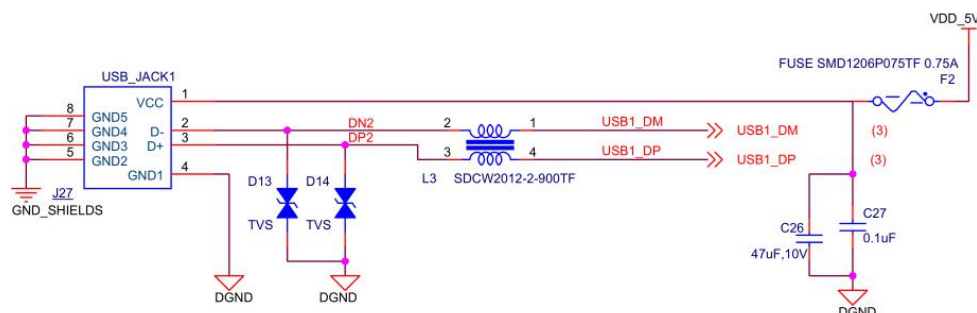


Figure 4-5 USB Host

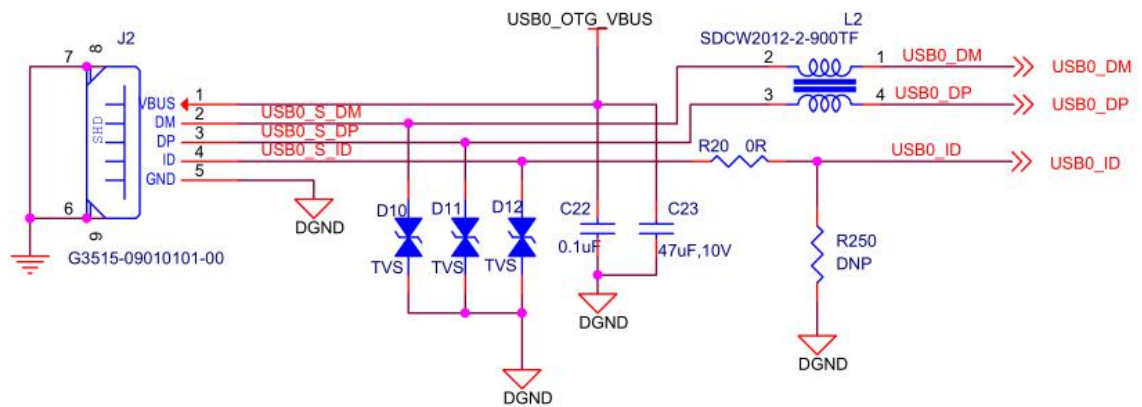


Figure 4-6 USB OTG

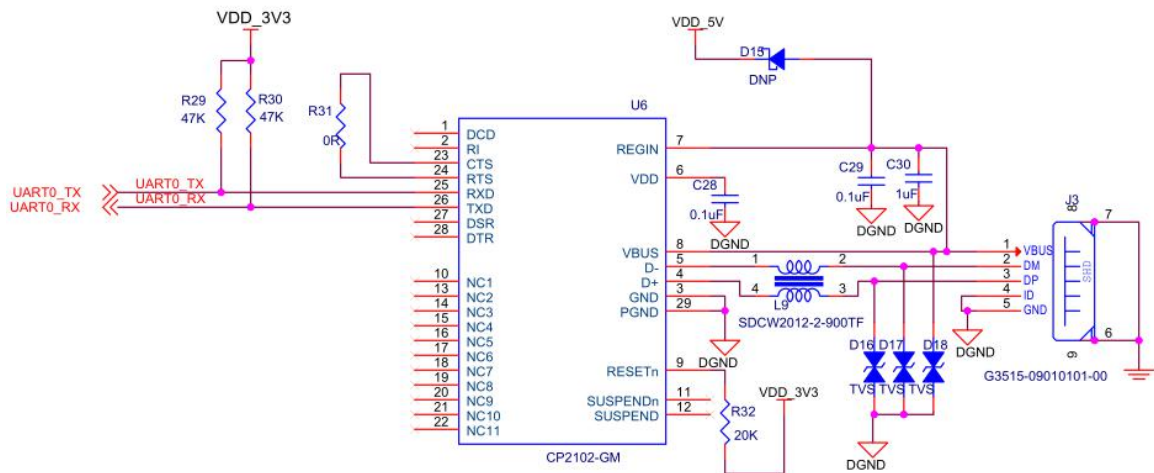


Figure 4-7 CP2102

4.2.5 RS232 / RS485

MYD-J335X has five RS232 ports, two RS485 port. The interface circuit shows as follows.

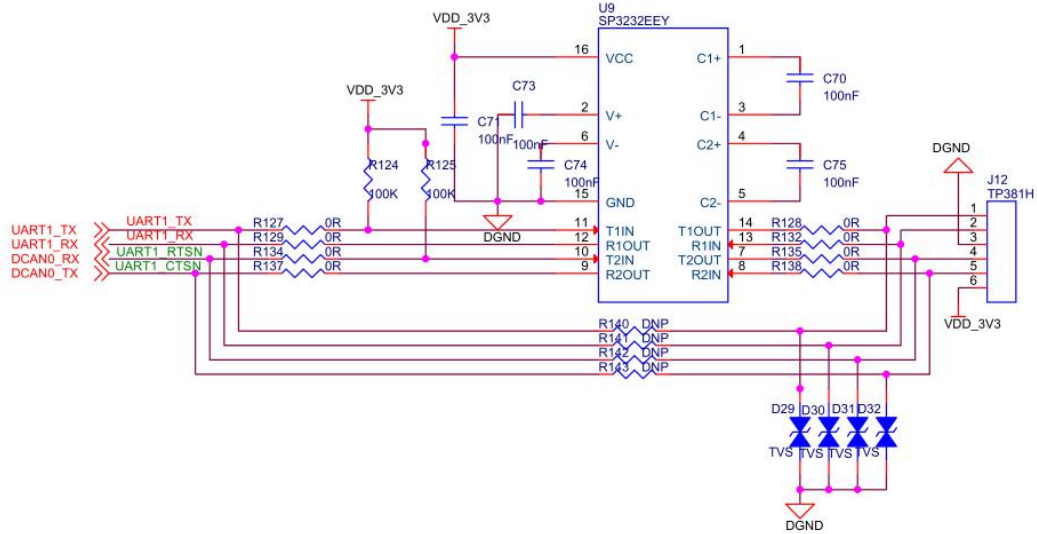


Figure 4-8 RS232

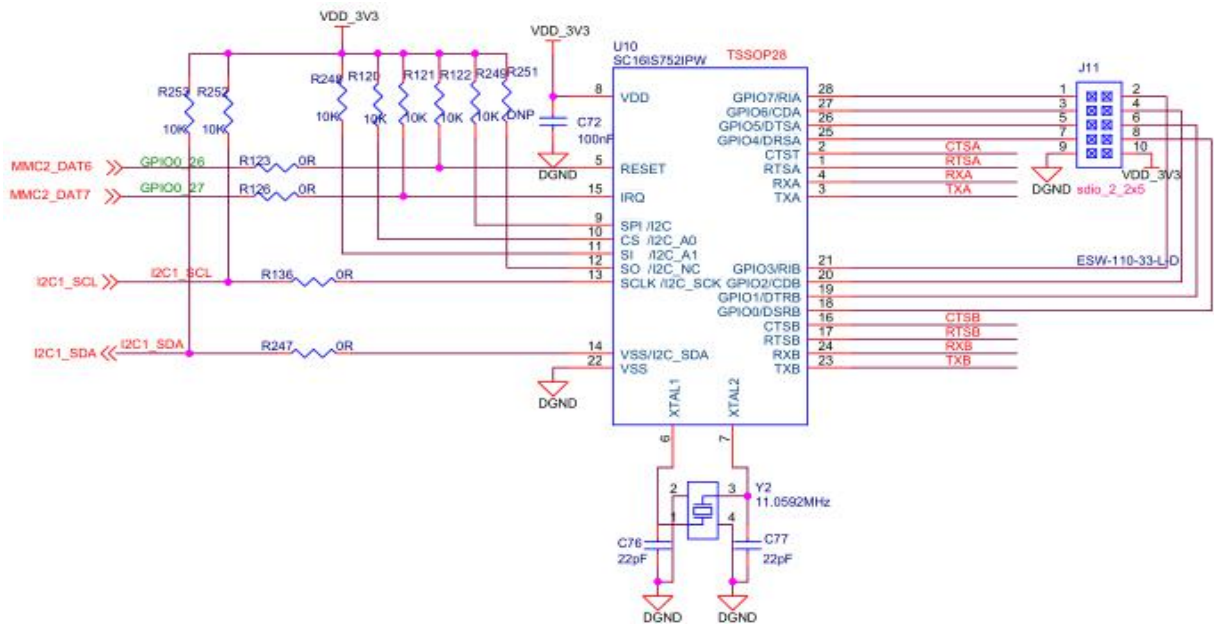
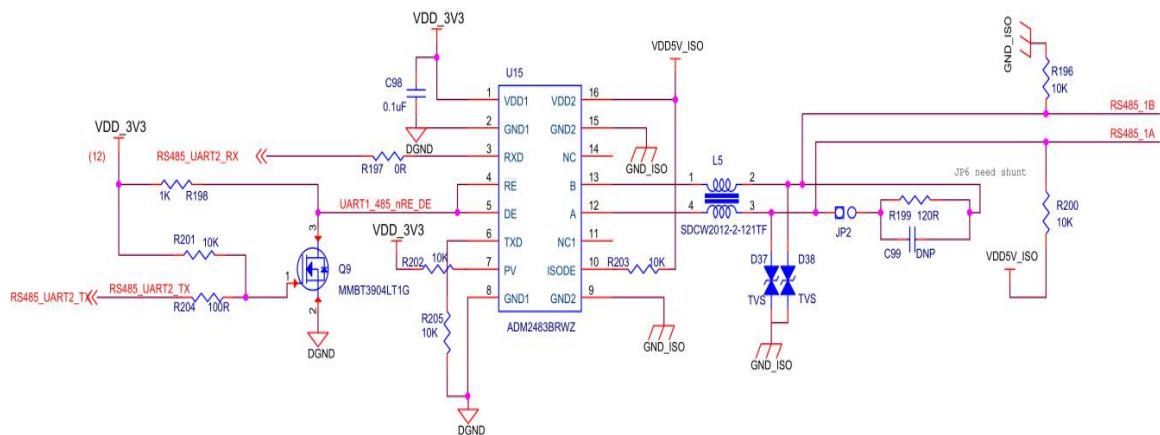


Figure 4-9 SPI Convert to Uart Interface



4.2.6 CAN

MYD-J335X has one CAN port with signals isolation. The interface circuit shows as follows.

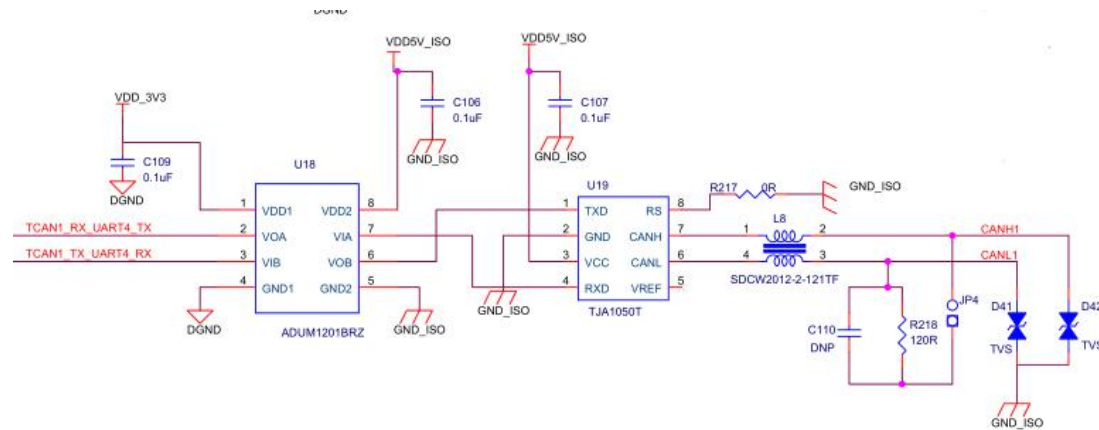
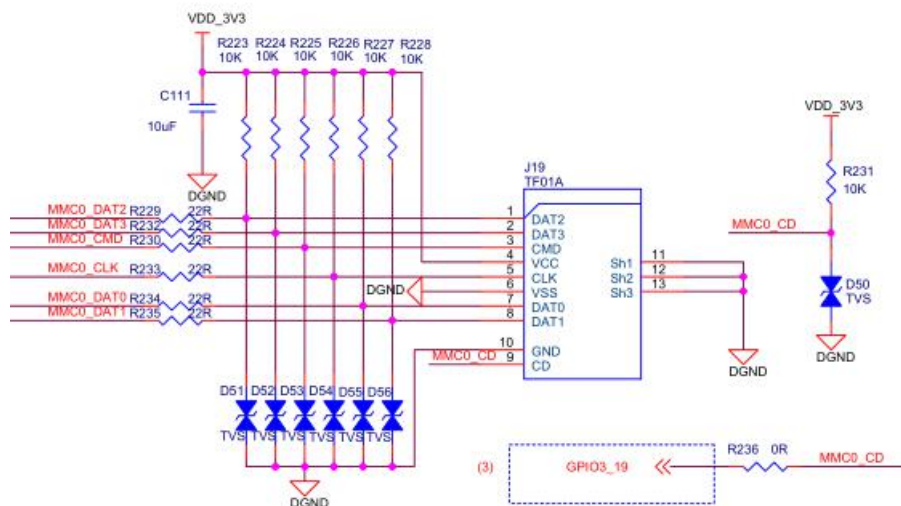


Figure 4-11 CAN

4.2.7 TF Card

The interface circuit shows as follows.



- ❖ MIC Bias Provided (5.0 x 5.0 mm QFN, 3.0 x 3.0 mm QFN TA2)
- ❖ ADC - 85 dB SNR (-60 dB Input) and -73 dB THD+N
- ❖ Programmable MIC Gain
- ◆ Analog Outputs
 - ❖ HP Output - 100 dB SNR (-60 Db Input) and -80 dB THD+N (VDDA = 1.8 V, 16 ohm Load, DAC to Headphone)
 - ❖ Line Out - 100 dB SNR (-60 dB Input) and -85 dB THD+N (VDDIO = 3.3 V)
- ◆ Integrated Digital Processing
 - ❖ Parameters Equalizer
 - ❖ Graphic Equalizer Clocking
 - ❖ Standard Audio Clocks Are Derived from PLL
 - ❖ PLL Allows Input of an 8.0 MHz to 27 MHz System Clock

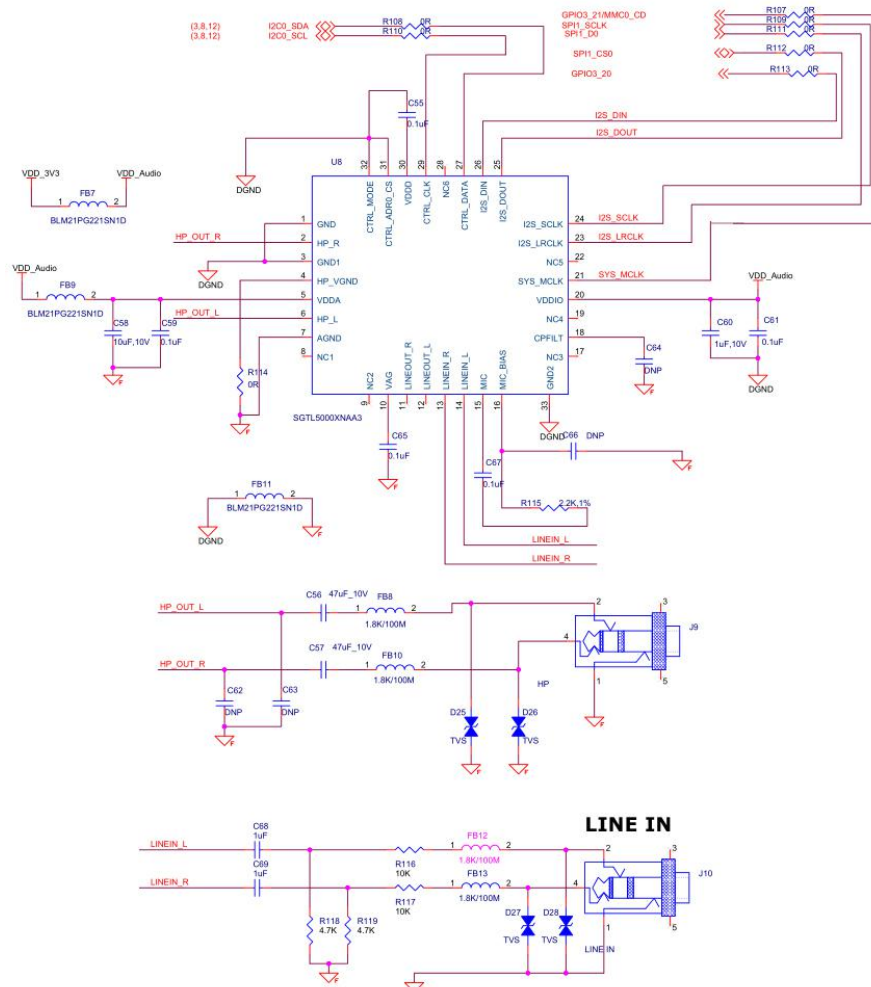


Figure 4-13 Audio

4.2.9 Expand Port

MYD-J335X has two connectors for expand signals. Take attention when use the IO reuse function.

J25 Can provide UART, SDIO, ADC, I2C signals.

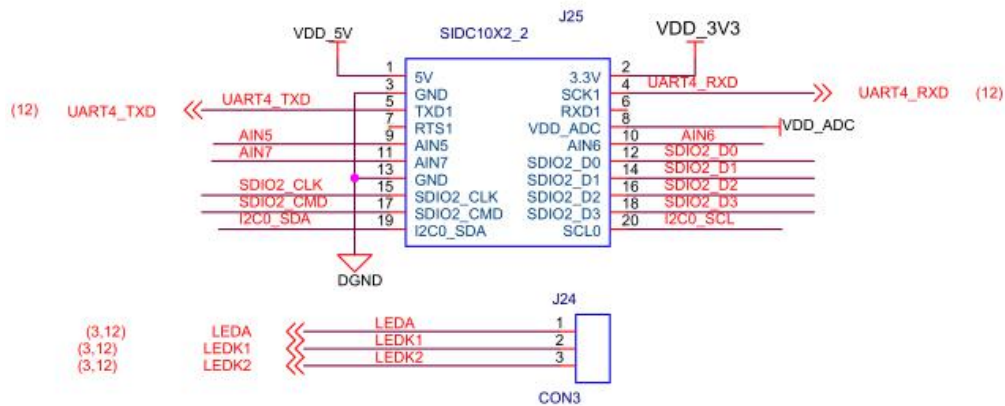


Figure 4-14

4.2.10 Boot Mode

The interface circuit shows as follows.

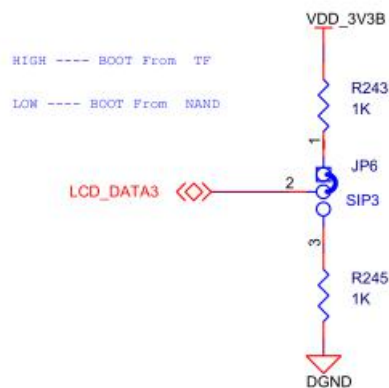


Figure 4-15 Boot Mode

5. Electrical Parameter

5.1 Operate Temperature

Application Scenarios	Parameter					Des.
	MIN	Nor.	Max	Unit		
Commercial Level	0	—	+70	°C		—
Industrial Level	-40	—	+85	°C		—

5.2 GPIO Voltage

GPIO Voltage	Label	Parameter				Des.
		MIN	Nor.	MAX	Unit	
Input High voltage	V _{IH}	2.0	—	3.6	V	—
Input Low voltage	V _{IL}	-0.3	—	0.8	V	—
Output High Voltage	V _{OH}	2.9	—	—	V	—
Input Low Voltage	V _{OL}	—	—	0.4	V	—

5.3 Power Supply

Voltage	Label	Parameter				Des
		MIN	Nor	MAX	Unit	
Input Voltage	V _{IN}	9	—	15	V	—
Input Current	I _{IN}	—	330	—	mA	

6. Mechanical Parameter

- ◆ Operate Temperature:
 - ❖ Industrial Level Temperature: -40~+85 Degree
 - ❖ Commercial Level temperature: 0~+70 Degree
- ◆ Humidity: 20%~90%, Non-Condensing
- ◆ PCB Information:
 - ❖ CPU module board: 8 Layers PCB, Immersion Gold Process, Lead-Free
67.6x45mmx1.6mm
 - ❖ Baseboard: 4 Layers PCB, Immersion Gold Process, Lead-Free
177x106mmx1.6mm
- ◆ Interface Type: 200-PIN SO-DIMM
- ◆ Mechanical Information shows as follows.

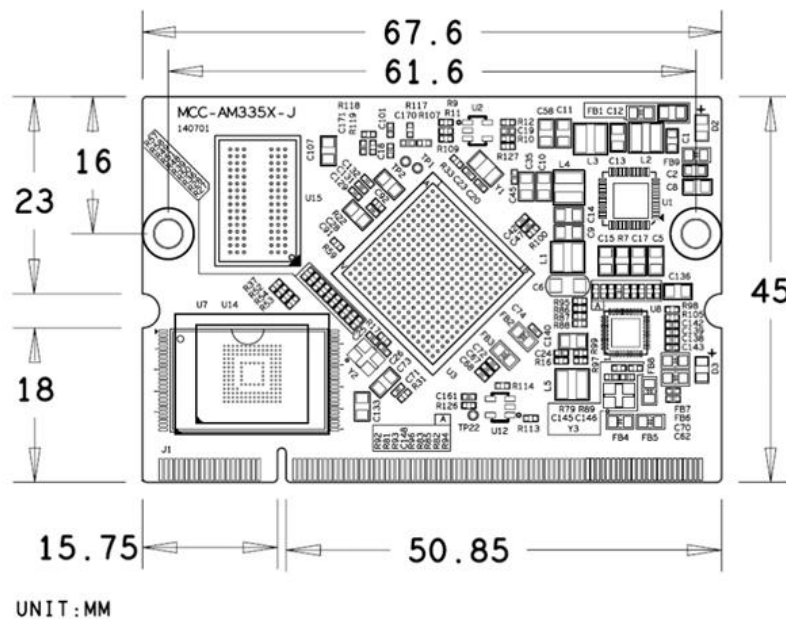


Figure 6-1 MYC-AM335X Board (unit: mm)

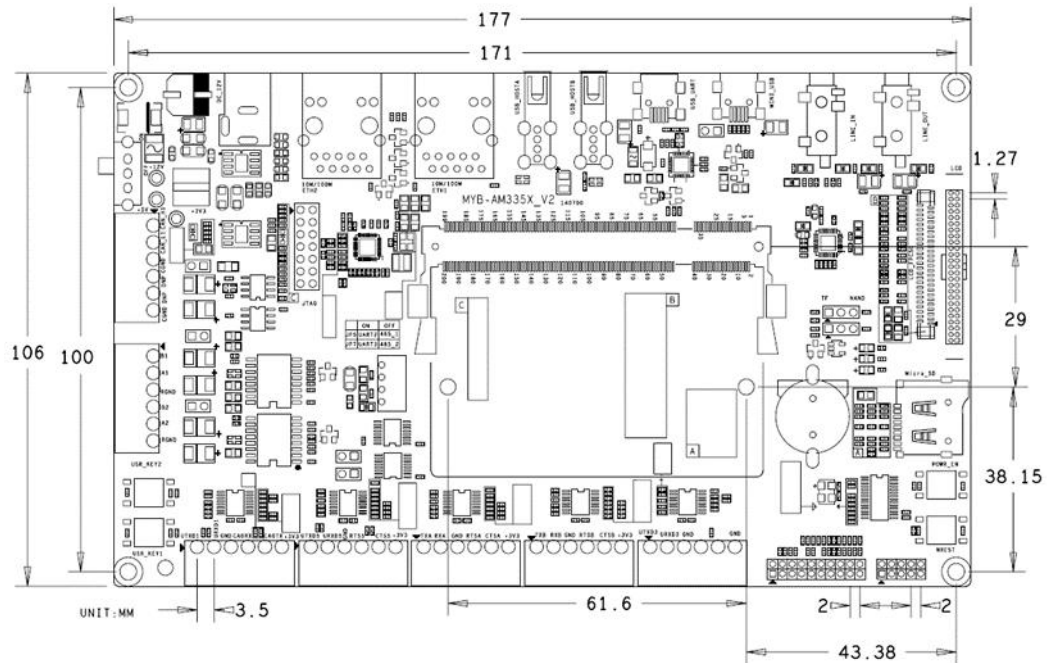


Figure 6-2 MYD-J335X Baseboard (unit: mm)

Appendix 1 Warranty & Technical Support Services

MYIR Tech 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:

1. Technical support service

- a) MYIR offers technical support for the hardware and software materials which have provided to customers;
- b) To help customers compile and run the source code we offer;
- c) To help customers solve problems occurred during operations if users follow the user manual documents;
- d) To judge whether the failure exists;
- e) To provide free software upgrading service.

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

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

2. 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:

- a) The warranty period is expired;
- b) The customer cannot provide proof-of-purchase or the product has no serial number;
- c) The customer has not followed the instruction of the manual which has caused the damage the product;
- d) Due to the natural disasters (unexpected matters), or natural attrition of the components, or unexpected matters leads the defects of appearance/function;

- e) 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;
- f) Due to unauthorized weld or dismantle parts or repair the products which has caused the damage of the products or defects of appearance;
- g) 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.

3. Maintenance period and charges

- a) 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.
- b) 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.

4. 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.

5. 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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