

Test platform introduction:

Development board: MiniSTM32, Elite STM32, Explorer STM32F4, Apollo STM32F4/F7

MCU: STM32F103RCT6, STM32F103ZET6, STM32F407ZGT6, STM32F429IGT6

STM32F767IGT6, STM32H743IIT6

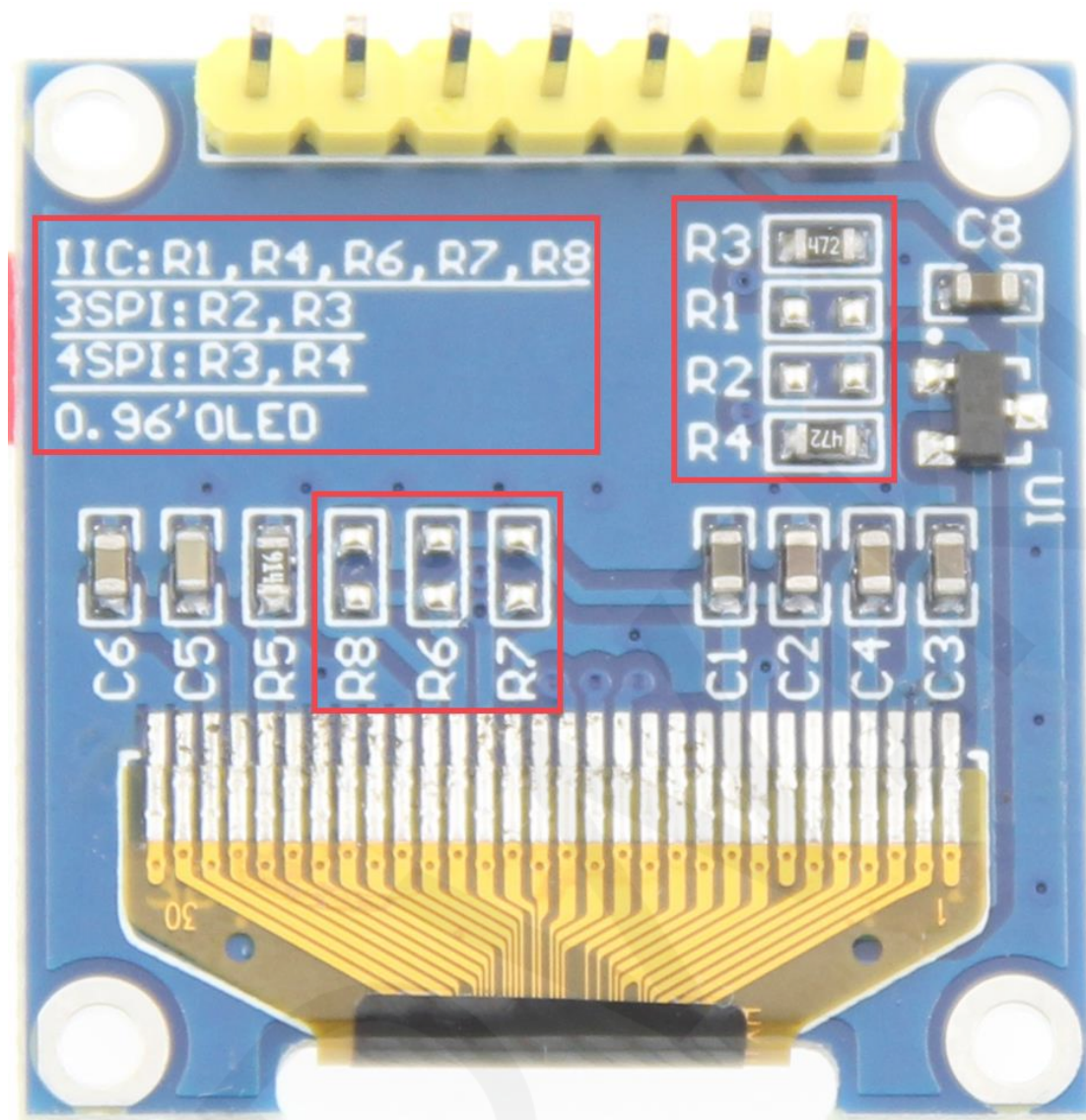
Main frequency: 72MHz, 72MHz, 168MHz, 180MHz, 216MHz, 400MHz (Corresponding to the above MCU)

Crystal frequency: 8MHz, 8MHz, 8MHz, 25MHz, 25MHz, 25MHz (Corresponding to the above MCU)

Wiring instructions:



Picture1. Pin silkscreen picture



Picture 2. Rear view of the module

NOTE:

1. This module supports IIC, 3-wire SPI and 4-wire SPI interface bus mode switching (shown in red box in Figure 2). The details are as follows:
 - A. Using 4.7K resistance to solder only R3 and R4 resistors, then choose 4-wire SPI bus interface (default);
 - B. Using 4.7K resistance to solder only R2 and R3 resistors, then select the 3-wire SPI bus interface;
 - C. Using 4.7K resistance to solder only R1, R4, R6, R7 and R8 resistors, then select the IIC bus interface;

2. After the interface bus mode is switched, you need to select the corresponding software and the corresponding wiring pins (as shown in Figure 1) for the module to operate normally. The corresponding wiring pins are described as follows:
- A. select the 4-wire SPI bus interface, all pins need to be used;
 - B. select the 3-wire SPI bus interface, only the DC pin does not need to be used(it can not be connected), other pins need to be used;
 - C. select the IIC bus interface, only need to use the four pins GND, VCC, D0, D1, At the same time, the RES pin is connected to the high level (can be connected to the VCC), the DC and CS pins are connected to the power GND;

important:

1. The following pin numbers 1~7 refer to the module pin number of our company with PCB backplane. If you purchase a bare screen, please refer to the pin definition of the bare screen specification, refer to the wiring according to the signal type instead of directly according to the following. The module pin number is used for wiring. For example: CS is 7 feet on our module. It may be x pin on different size bare screen. The following wiring instructions tell you that the CS signal is connected to the PB11 pin of the MCU. of.
2. About VCC supply voltage: The OLED display module can be connected to 3.3V or 5V.

STM32F103RCT6 microcontroller test program wiring instructions			
Number	Module Pin	Corresponding to MiniSTM32 development board wiring pin	Remarks
1	GND	GND	OLED power ground
2	VCC	3.3V/5V	OLED power positive (3.3V~5V)

3	D0	PB13	OLED SPI and IIC bus clock signals
4	D1	PB15	OLED SPI and IIC bus data signals
5	RES	PB12	OLED reset signal, low level reset (this pin need to connected to the high level (can be connected to the VCC) when selecting IIC bus)
6	DC	PB10	OLED command / data input select signal, high level: data, low level: command (this pin is not required(it can not be connected) when selecting 3-wire SPI bus; this pin need to connected to the power GND when selecting IIC bus)
7	CS	PB11	OLED chip select signal, low level enable (this pin need to connected to the power GND when selecting IIC bus)

STM32F103ZET6 microcontroller test program wiring instructions

Number	Module Pin	Corresponding to Elite STM32 development board wiring pin	Remarks
1	GND	GND	OLED power ground
2	VCC	3.3V/5V	OLED power positive (3.3V~5V)
3	D0	PB13	OLED SPI and IIC bus clock signals
4	D1	PB15	OLED SPI and IIC bus data signals
5	RES	PB12	OLED reset signal, low level reset (this pin need to connected to the high level (can be connected to the VCC) when selecting IIC bus)
6	DC	PB10	OLED command / data input select signal, high level: data, low level: command (this pin is not required(it can not be connected) when selecting 3-wire SPI bus; this pin

			need to connected to the power GND when selecting IIC bus)
7	CS	PB11	OLED chip select signal, low level enable (this pin need to connected to the power GND when selecting IIC bus)

STM32F407ZGT6 microcontroller test program wiring instructions

Number	Module Pin	Corresponding to Explorer STM32F4 development board wiring pin	Remarks
1	GND	GND	OLED power ground
2	VCC	3.3V/5V	OLED power positive (3.3V~5V)
3	D0	PB3	OLED SPI and IIC bus clock signals
4	D1	PB5	OLED SPI and IIC bus data signals
5	RES	PB12	OLED reset signal, low level reset (this pin need to connected to the high level (can be connected to the VCC) when selecting IIC bus)
6	DC	PB14	OLED command / data input select signal, high level: data, low level: command (this pin is not required(it can not be connected) when selecting 3-wire SPI bus; this pin need to connected to the power GND when selecting IIC bus)
7	CS	PB15	OLED chip select signal, low level enable (this pin need to connected to the power GND when selecting IIC bus)

STM32F429IGT6 microcontroller test program wiring instructions

Number	Module Pin	Corresponding to Apollo	Remarks
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		STM32F4/F7 development board wiring pin	
1	GND	GND	OLED power ground
2	VCC	3.3V/5V	OLED power positive (3.3V~5V)
3	D0	PF7	OLED SPI and IIC bus clock signals
4	D1	PF9	OLED SPI and IIC bus data signals
5	RES	PD12	OLED reset signal, low level reset (this pin need to connected to the high level (can be connected to the VCC) when selecting IIC bus)
6	DC	PD5	OLED command / data input select signal, high level: data, low level: command (this pin is not required(it can not be connected) when selecting 3-wire SPI bus; this pin need to connected to the power GND when selecting IIC bus)
7	CS	PD11	OLED chip select signal, low level enable (this pin need to connected to the power GND when selecting IIC bus)

STM32F767IGT6 and STM32H743IIT6 microcontroller test program wiring instructions

Number	Module Pin	Corresponding to Apollo STM32F4/F7 development board wiring pin	Remarks
1	GND	GND	OLED power ground
2	VCC	3.3V/5V	OLED power positive (3.3V~5V)
3	D0	PB13	OLED SPI and IIC bus clock signals
4	D1	PB15	OLED SPI and IIC bus data signals
5	RES	PD12	OLED reset signal, low level reset (this pin need to connected to the high level (can be connected to the VCC) when selecting IIC bus)

6	DC	PD5	OLED command / data input select signal, high level: data, low level: command (this pin is not required(it can not be connected) when selecting 3-wire SPI bus; this pin need to connected to the power GND when selecting IIC bus)
7	CS	PD11	OLED chip select signal, low level enable (this pin need to connected to the power GND when selecting IIC bus)

Demo function description:

1. This test program contains six test procedures for STM32 MCU, namely:
STM32F103RCT6, STM32F103ZET6, STM32F407ZGT6, STM32F429IGT6,
STM32F767IGT6, STM32H743IIT6;
2. This test program uses two standard SPI buses (3-wire SPI and 4-wire SPI) to transmit data. Each standard SPI contains software spi and hardware spi function tests;
3. Please follow the above wiring instructions to find the corresponding development board and MCU for wiring;
4. This set of test procedures contains the following test items:
 - A. The main interface displays the test;
 - B. simple black and white brush screen test;
 - C. rectangular drawing and filling test;
 - D. circular drawing and filling test;
 - E. triangle drawing and filling test;
 - F. English display test;
 - G. number and symbol display test;
 - H. Chinese display test;

- I. BMP monochrome picture display test;
- J. menu 1 shows the test;
- K. menu 2 shows the test;