1. Introduction to Testing Platform
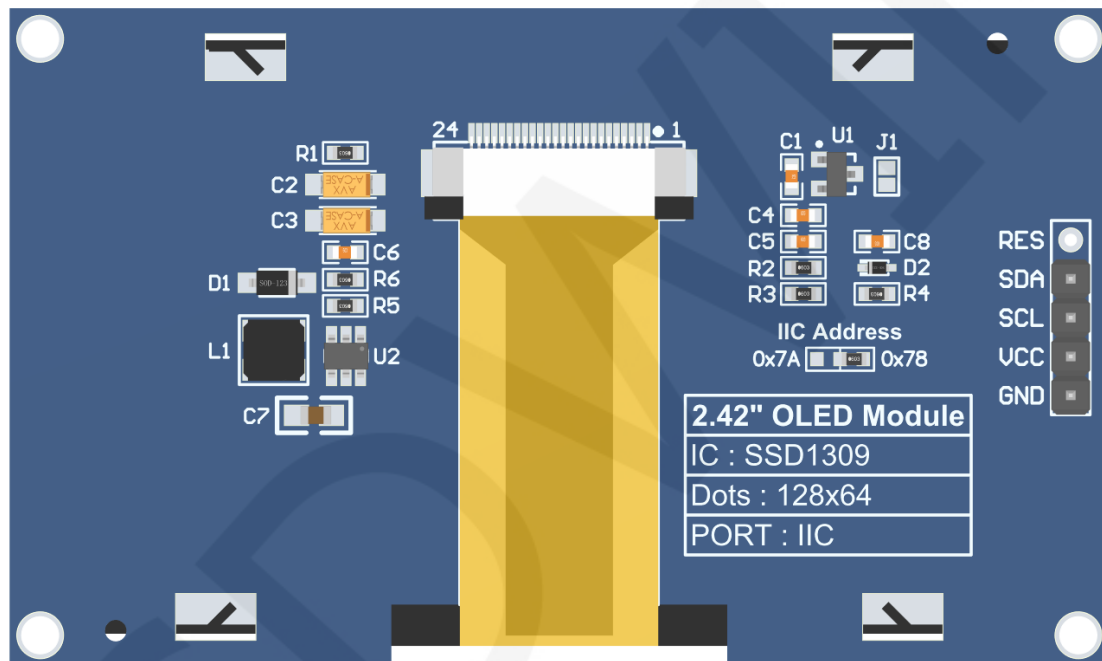
Development board: Arduino UNO/MEGA2560

MCU: AVR_ATmega328P/AVR_ATmega2560

Frequency: 16MHz/16MHz

2. Pin connection instructions

The display module is connected to the microcontroller using a DuPont cable, with specific instructions as follows:

Module Back Pins

NOTE:

A. The **IIC Address** resistor is used to select the IIC slave device address. If it is soldered on the 0x78 side, select the 0x78 slave device address. If it is soldered on the 0x7A side, select the 0x7A slave device address;

B. The RES pin row is not soldered by default. If the reset function needs to be controlled in the program, it needs to be soldered;

		Corresponding to development board wiring pin			
Number	**Module Pin**	**Hardware IIC**		**SoftWare IIC**	**Remarks**
		UNO	**Mega 2560**		
1	GND	GND			OLED screen power supply ground
2	VCC	5V/3.3V			OLED screen power supply positive
3	SCL	A5	21	A5	IIC bus clock signal
4	SDA	A4	20	A4	IIC bus data signal
5	RES	Not welded			The pin arrangement is not soldered by default. If the reset function needs to be controlled in the program, it needs to be soldered

3. Demo Function Description

This set of testing programs includes two MCU programs, Arduino UNO and Mega2560. Each MCU program includes iic testing programs, and each testing program includes hardware and software functional testing, which is located in **Demo_ UNO_ Mega2560** directory, as shown in the following figure:

✧ **Description of sample program content**

The testing program includes the following test items:

A. Example01-graph_ Test is a graphical display test

B. Example02 string_ Test is a character display test;

C. Example03 show_ BMP is a BMP bitmap display test;

✧ **Example program IIC slave device address modification instructions**

    The IIC slave device address has been modified in hardware, and corresponding modifications need to be made in software.First open any IIC sample program and locate the **setup** function. If using the 0x7A slave device address, there is no need to annotate the line of code **u8g2.setI2CAddress(0x7A)** (to make them effective). If using the 0x78 slave device address, the line of code **u8g2.setI2CAddress(0x7A)** need to be annotated (to make them ineffective), as shown in the following figure:

```
void setup(void) {
  /*When using 0x7A slave device address, please use the following definition*/
  //u8g2.setI2CAddress(0x7A);
  u8g2.begin();
```

4. Demo Usage Instructions

✧ **Installing development tool software**

Download the installation package from the Arduino official website.

Download address:https://www.arduino.cc/en/software

    Download the corresponding installation package according to your PC system, as shown in the following figure (the version in the picture may not be the latest version, and the download interface may not be the latest):


After the download is completed, unzip and click Install.

✧ **Installing software library**

After the development environment is set up, the software library used by the sample program needs to be copied to the project library directory so that the sample program can be called. The software library is located in the **Demo_UNO_Mega2560\Install libraries** directory, as shown in the following figure:
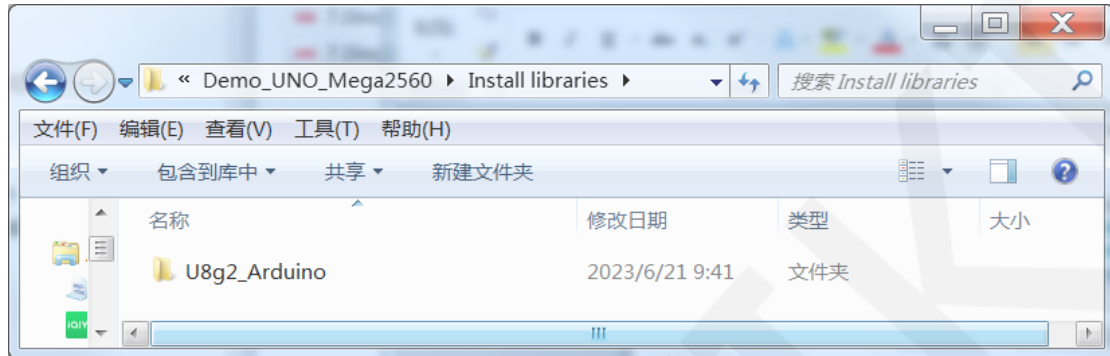
You can also download the latest software library from Github and unzip it (for easy differentiation, you can rename the unzipped folder, as shown in the Install libraries directory), and then copy it to the engineering library directory. The download address is as follows:

https://github.com/olikraus/U8g2_Arduino

The default path for the engineering library directory is **C: Users\Administrator \Documents\Arduino\libraries**. You can also change the project library directory: open the Arduino IDE software, click **File ->Preferences**, and reset the **Sketchbook location** in the pop-up interface, as shown in the following figure:
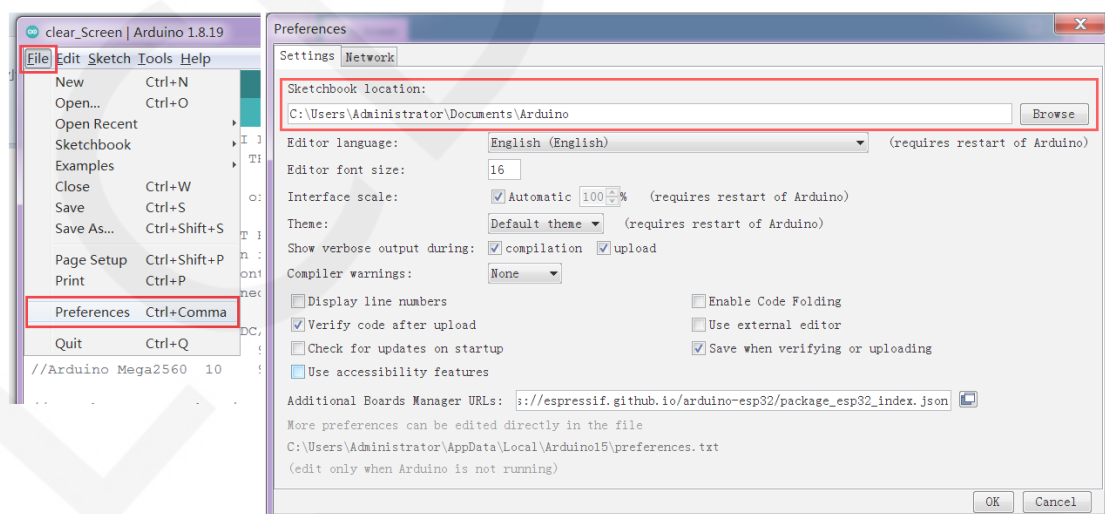

Copy the software library to the project library directory, as shown in the following
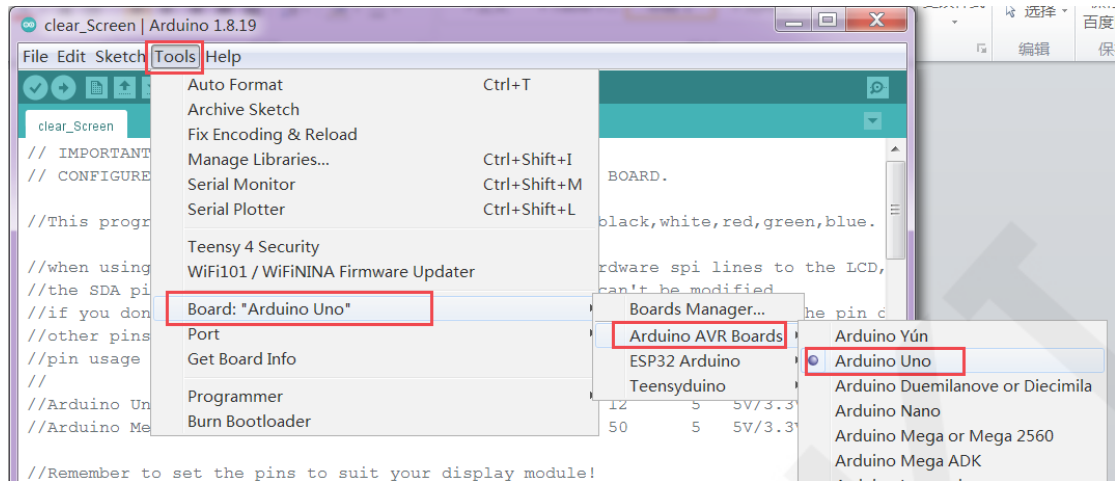
figure:
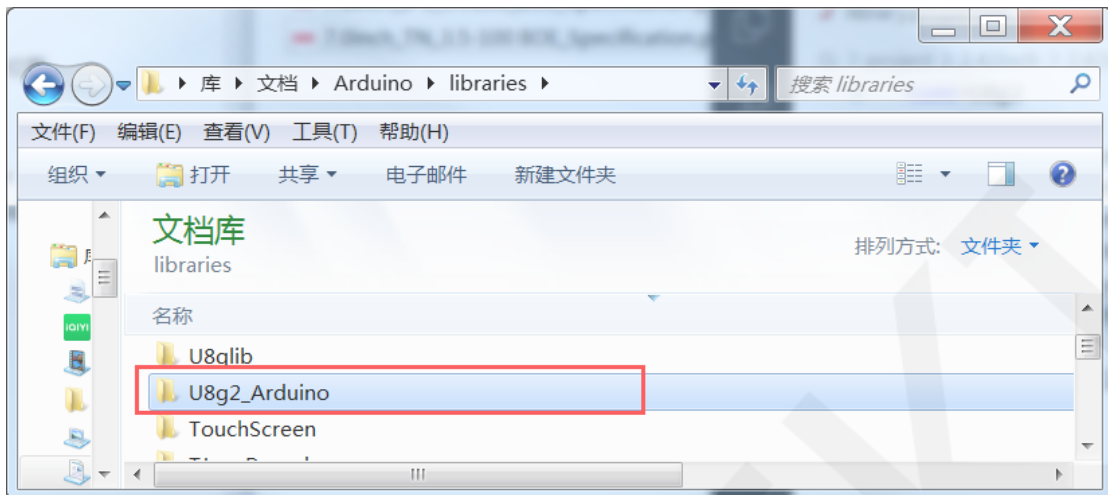
✧ **Compile and Run Programs**

A. Connect the display module to the UNO or Mega2560 development board, and

then power up the development board.

B. Open any example under Demo_UNO_Mega2560 directory (Here is the

Example01-graph_test of the hardware SPI testing program as an example), as
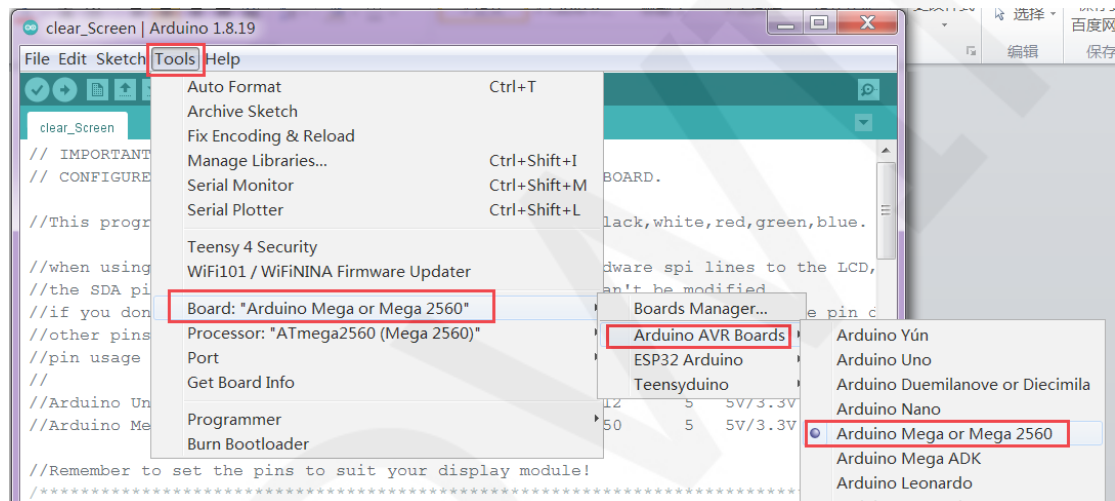
shown in the following figure:
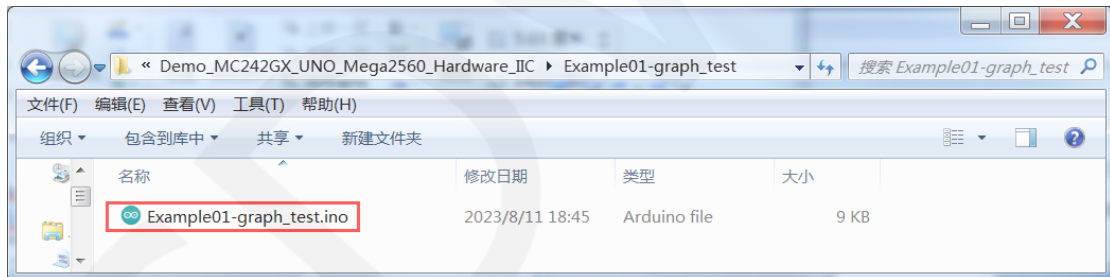
C. After opening the sample project, select the UNO or Mega2560 device, as shown
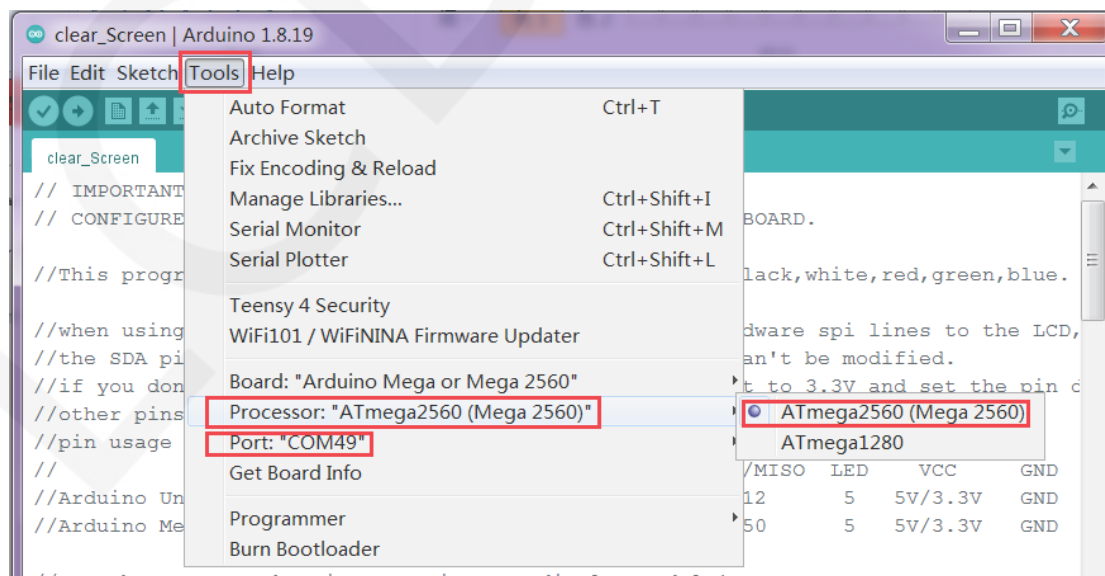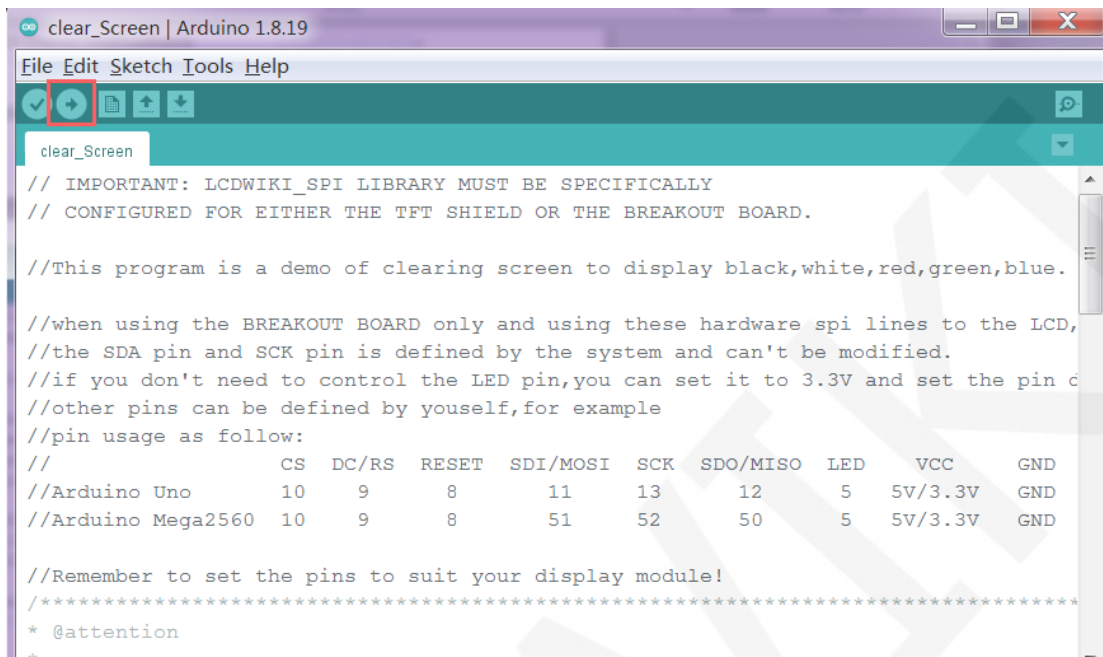
in the following figure:

Select UNO:

Select Mega2560：

D. Set the **port**. If you choose Mega2560, you also need to set the processor based on the development board used, as shown in the following figure:

E. Click the upload button to compile and download the program, as shown in the following figure:

F. If the following prompt appears, it indicates that the program has been compiled and downloaded successfully, and has already been run:
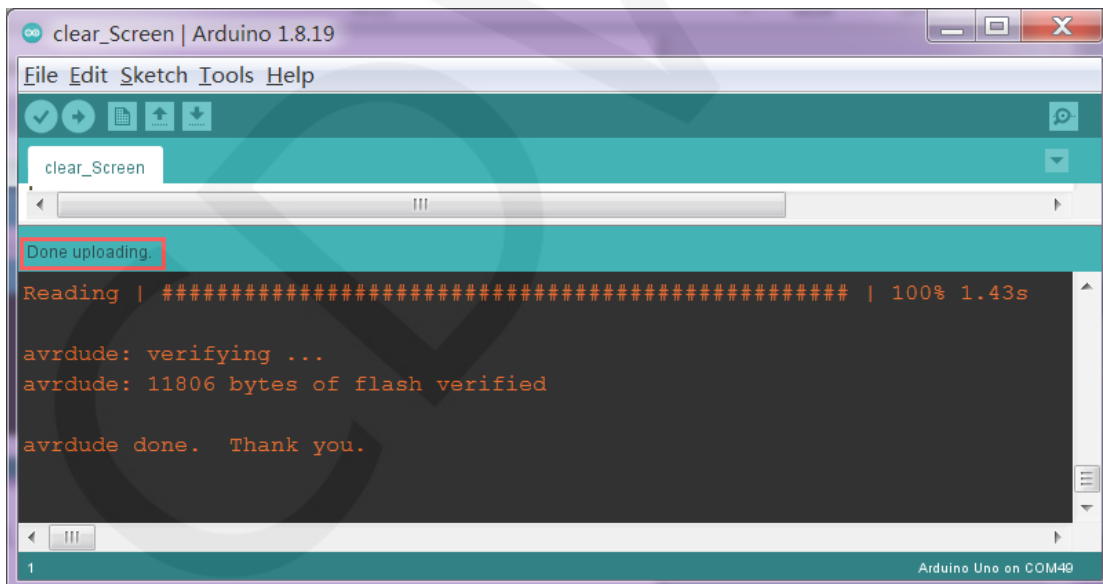
G. If the display module displays content, it indicates that the program has run successfully.