

## HopeDuino Platform Construction Guideline

First of all, thank you for choosing HopeDuino evaluation board of HOPERF Micro-electronics! The evaluation board is compatible with Arduino UNO R3, so the IDE platform is the same. We recommend using the Arduino 1.0.5 version. This paper will guide you how to construct a good development environment.

### 1. Tools and software needed to be prepared

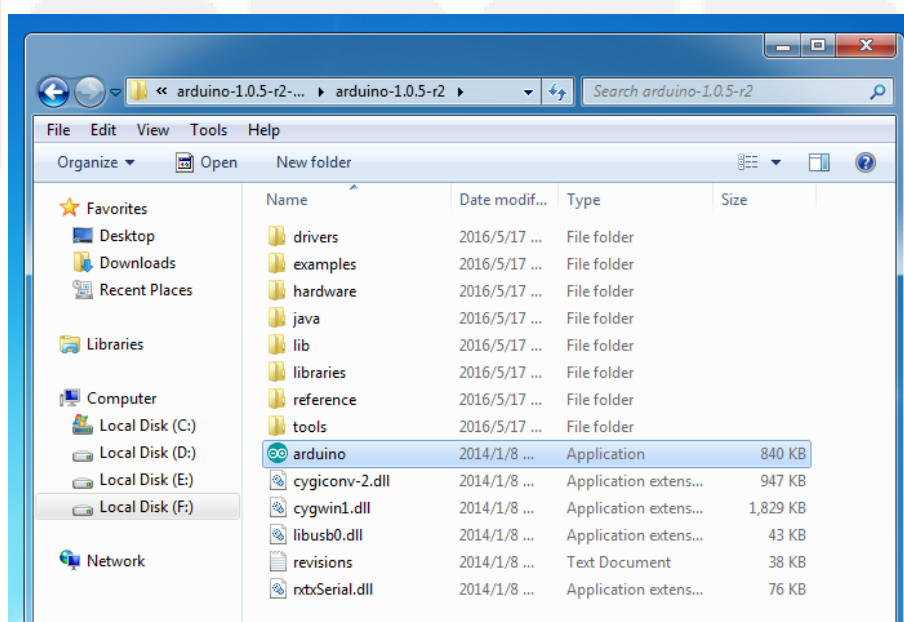
- Arduino IDE version 1.0.5
- Silabs CP2102 Driver Package
- HSP hardware service package  
(The three compressed files can be downloaded from the official website of HopeRF)
- USB cable (Type A to Type B)
- HopeDuino board



### 2. Installation process

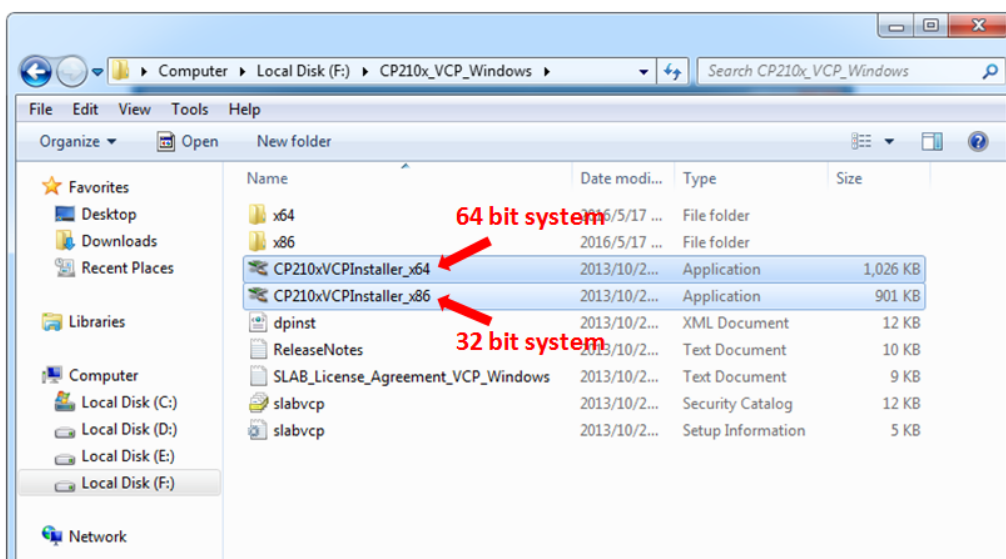
#### ➤ Install Arduino IDE

Decompress directly the Arduino 1.0.5 compressed package downloaded from the HopeRF official website into the path to be placed. This version is not installed, as shown below:



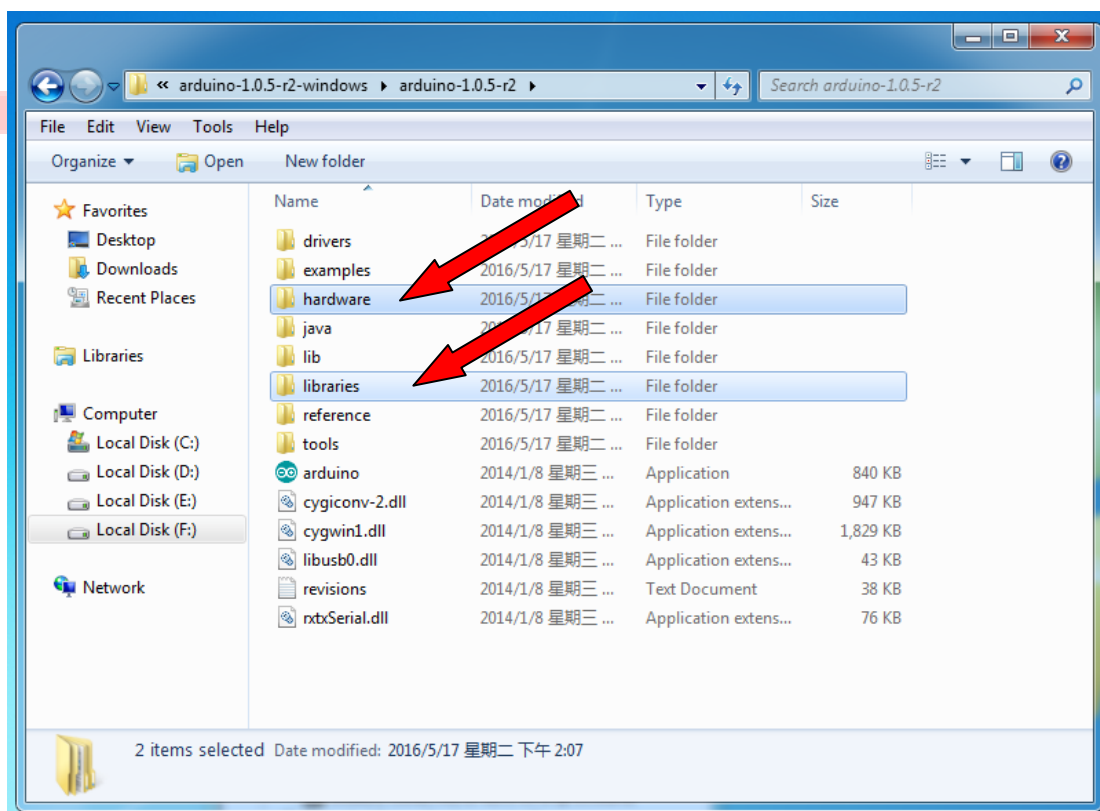
#### ➤ Install chip CP2102 driver

Decompress the "CP210x\_VCP\_Windows" downloaded from the HopeRF official website, select 64 or 32 bit driver according to your computer system, double click to install, as shown below:



### ➤ Install HSP (hardware service package)

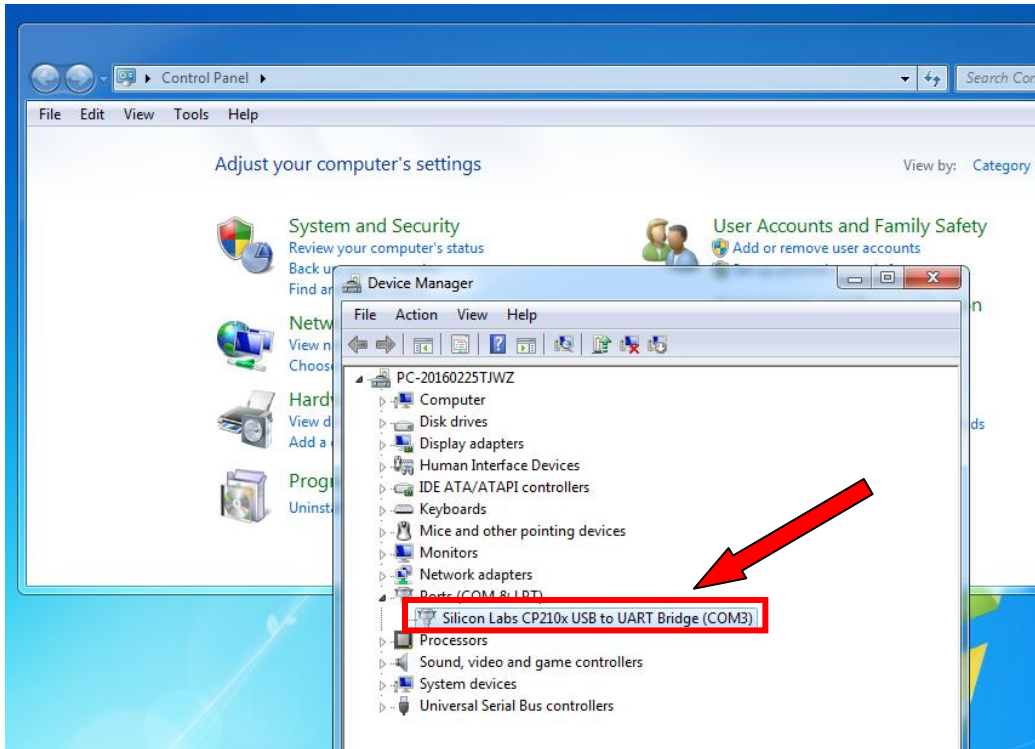
Decompress the "HSP\_Vx.x" downloaded from the HoperF official website (with the version upgrade, V number will be updated). There are mainly "hardware" and "libraries" folders. Copy the contents of the two folders into the same name folders of Arduino 1.0.5 that you just installed, as shown below:



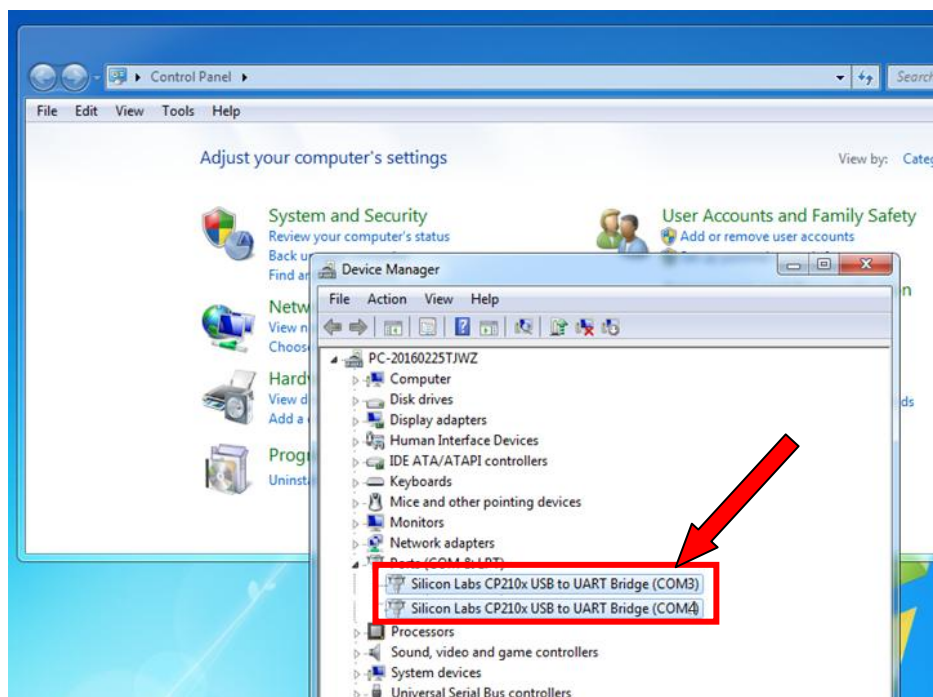
⚠ Notice: Please pay attention to the latest version of the HoperF official website and update it with the product and document updated.

### ➤ Confirm hardware connection and serial port

When the installation is completed, connect the PC and the HopeDuino board with the USB cable. Due to the successful installation of the previous CP2102 driver, so you can see the corresponding serial port in the device manager, as shown below:

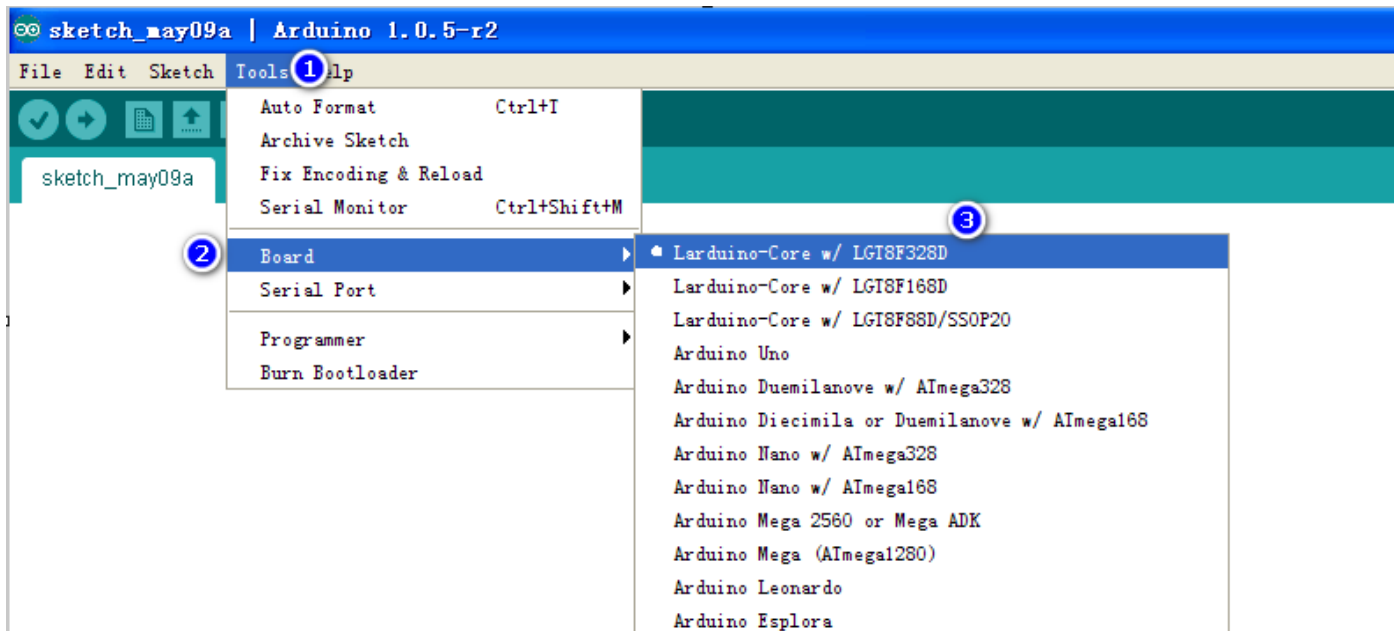


Connect the two boards at the same time. The corresponding two serial ports are displayed, as shown below:

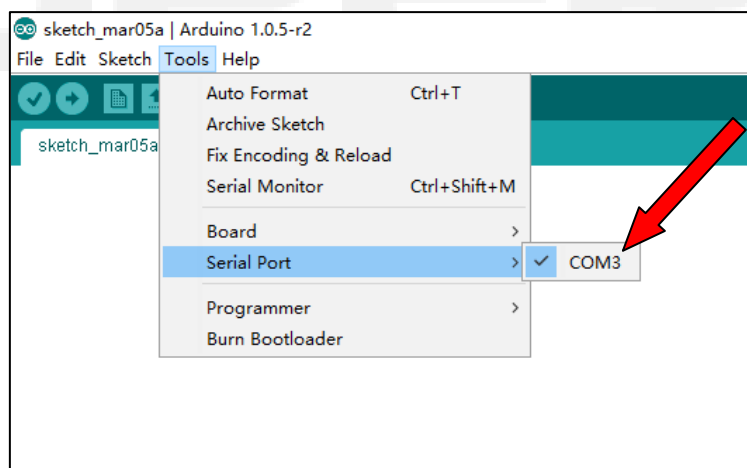


## ➤ Configure board and serial port

Double-click the “arduino.exe” , open the Arduino IDE interface, select [Tools] → [Board] → [Larduino core w/LGT8F328D] (HopeDuino kernel) in the interface, as shown below:

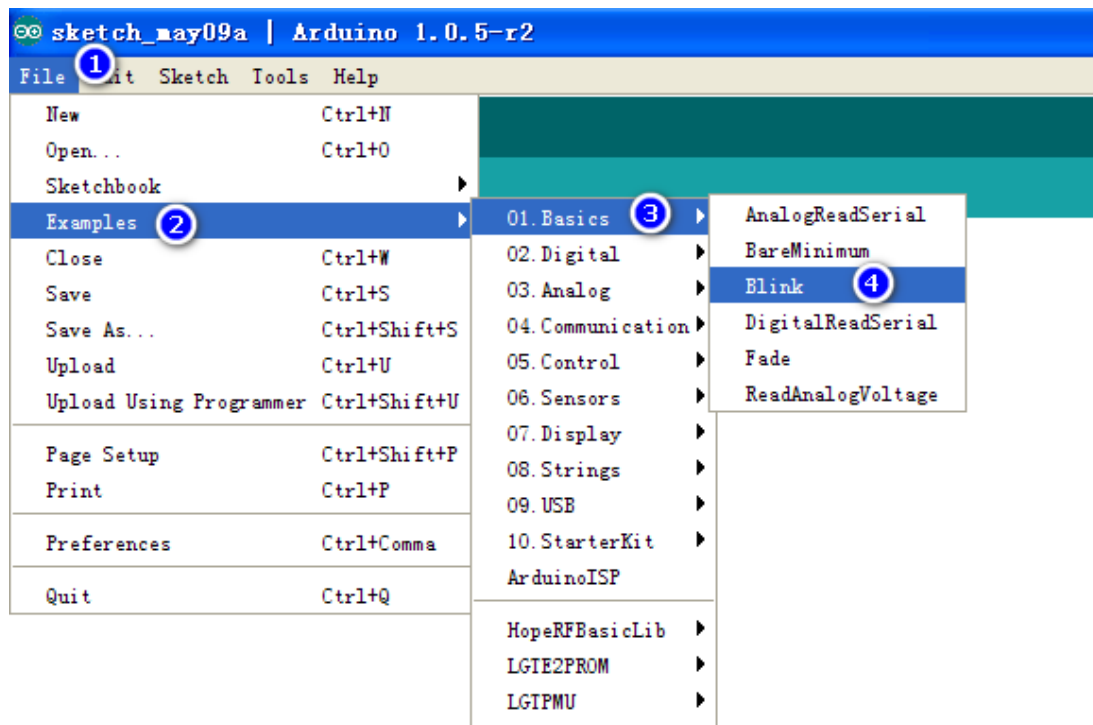


In addition, select [Tools] → [Serial Port] → [COMx] in the interface.

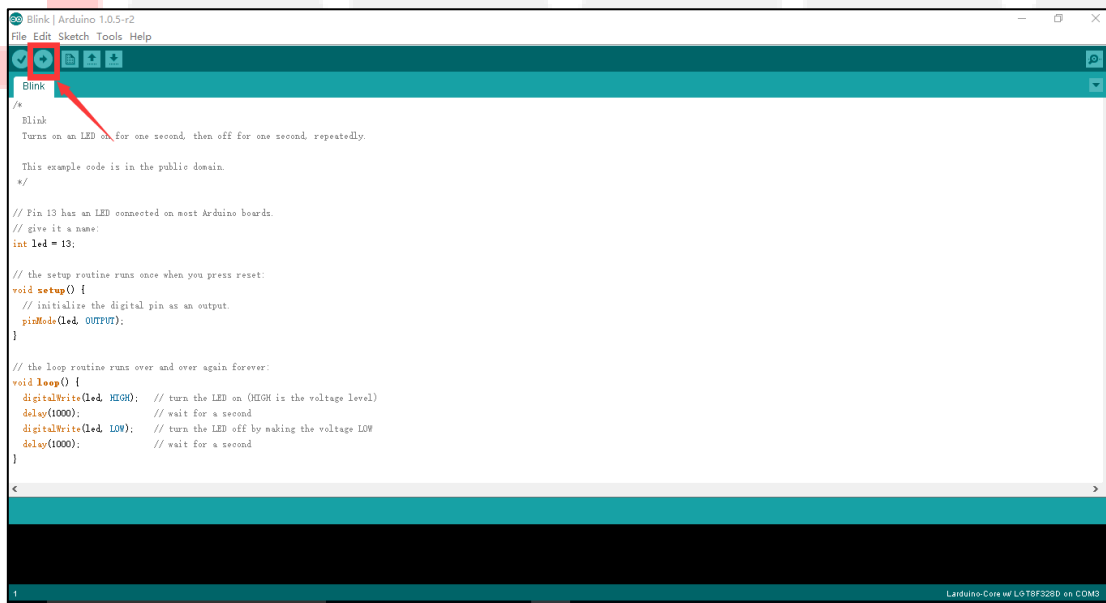


## ➤ Classic LED Blink

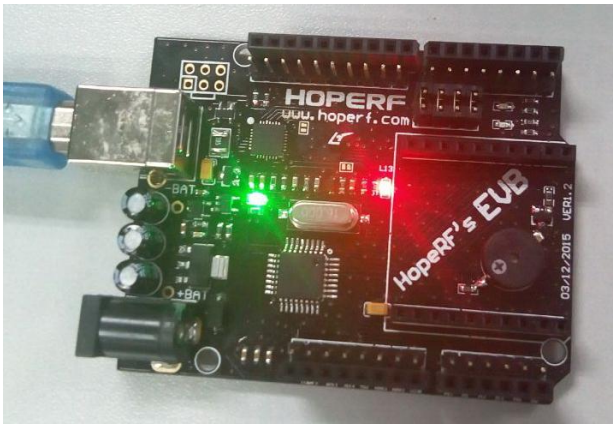
We complete the platform configuration basically by now. Exciting time is coming. We need to run a simple blink program to verify if the platform can be successful. Select [File] → [Examples] → [01.Basics] → [Blink], as shown below:



And then reopen the sample file of Blink, as shown below. Click the “compile and download” as shown in the following figure that the arrow points to the right.

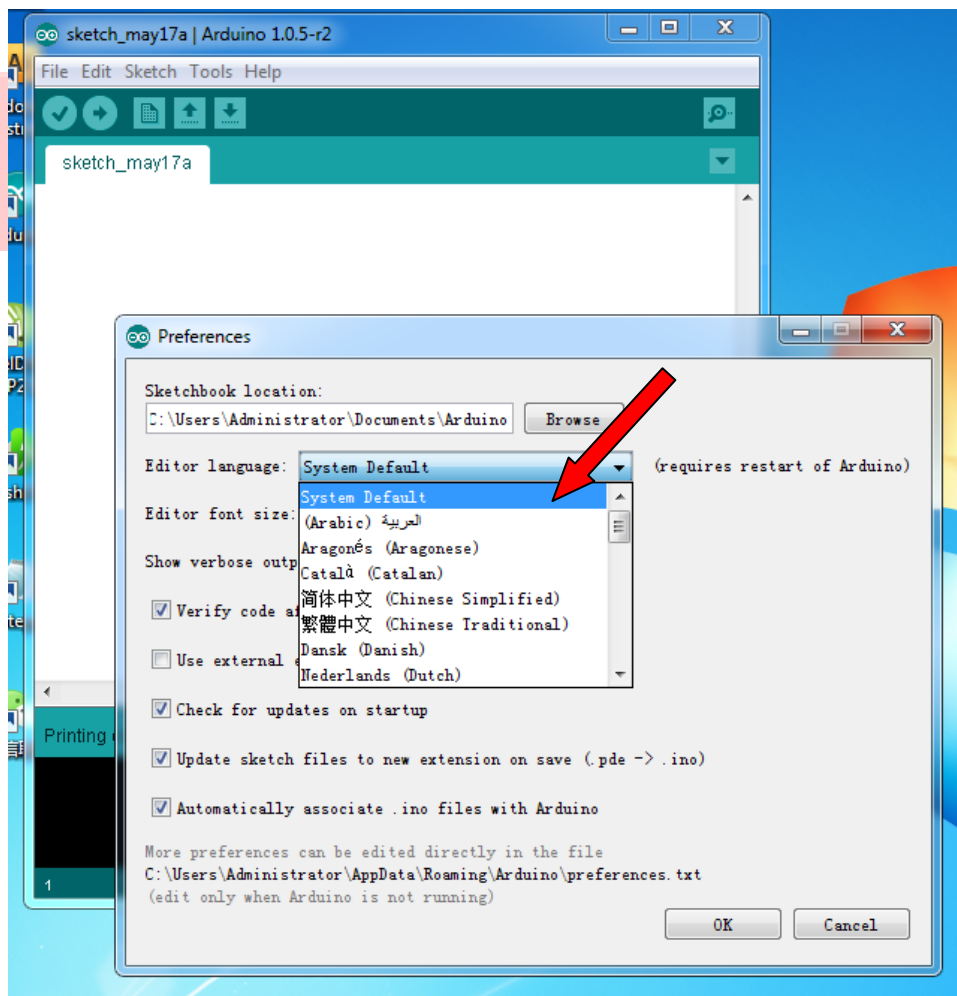


After clicking, ArduinoIDE will compile the code and download it through the USB cable to the HopeDuino board. After the download is completed, the red LED (L13) will blink in an interval of 1 second. It indicates that the program is downloaded successfully and the running is normal, as shown below:



So far, Congratulations on your success in the HopeDuino platform construction! You can continue to verify all kinds of corresponding examples provided by HoperRF for the test you needed. Thank you again for choosing HopeDuino!

⚠ Notice: Careful users may find that the above interface is simplified Chinese, but also the English version. In fact you can select the language category in the Arduino IDE. The specific way is selecting [File] → [Preferences]. Select the configuration as shown below.

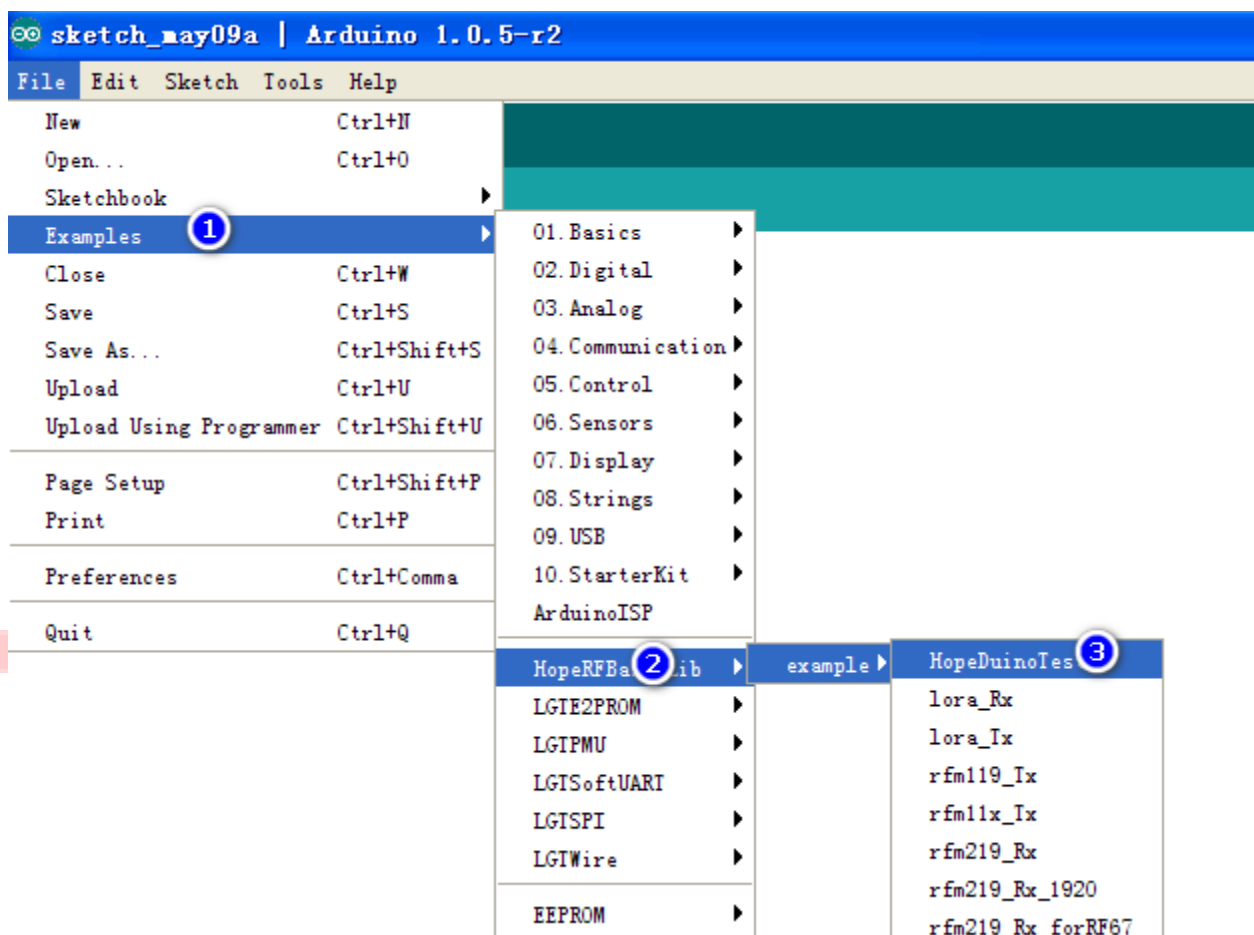




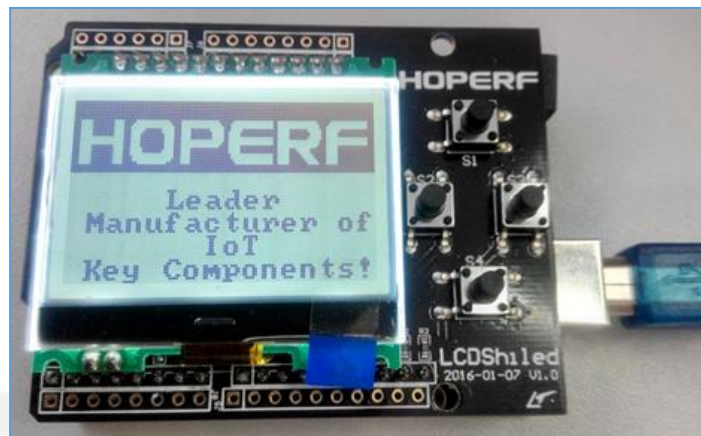
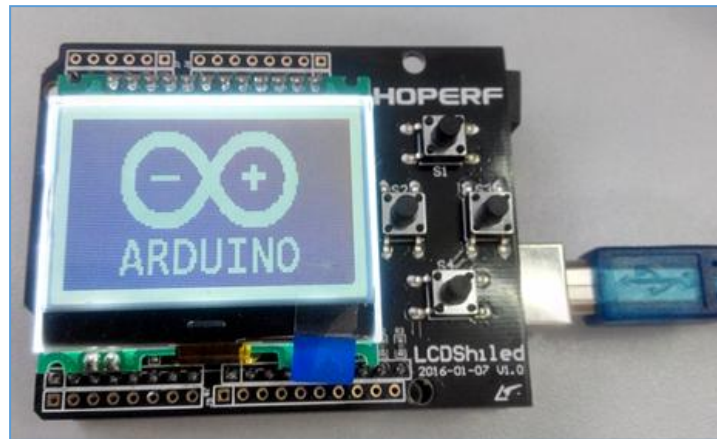
## ➤ Load HopeDuino factory test procedure

HopeDuino provides a set of HopeDuino boards. In addition, there is a matching LCD shield board (LCDShield). The LCD support 128 x 64 dot matrix display on the shield board. Be default, factory will load a HopeDuinoTest procedure, used to test HopeDuino boards. We also add this test program as an example to the Arduino (note the need to use the HSP1.1 version or above) . Specific operations are as follows.

1. Open Arduino IDE, select [File] → [Examples] → [HopeRFLib] → [example] → **【HopeDuinoTest】**.



2. Click to download:
3. The HopeDuino board buzzer will beep after you download the file, then the two interfaces will be displayed successively, as shown below:



- The display will be emptied after the two interfaces are shown, press the 4 button on the right side of the LCD, display the corresponding information in the display, by now the HopeDuino machine test is passed.

### 3. Version Records

Version	Revised Contents	Date
1.0	Initial version	2016-03-29
1.1	Revise text bug, add watermarks, program explanations and descriptions	2016-04-06