Nano
Teaching documents

V1.0

更新日志

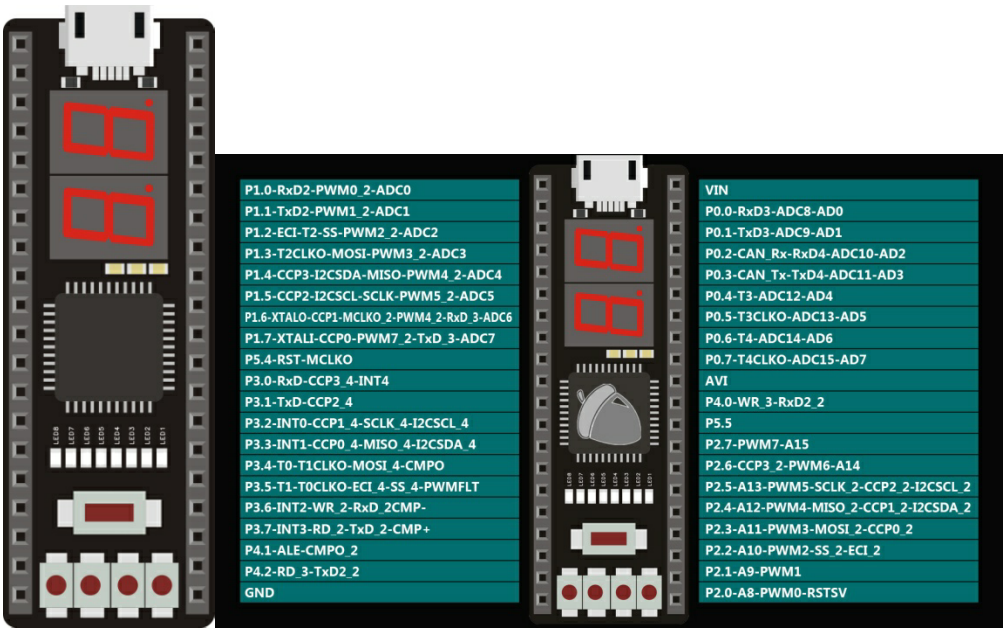
2018.12.21	Finish Document	Chensen	V1.0

catalogue

一.First Saw Nano

1.What is PineconePi Nano?

PineconePi Nano is a development board that meets all the good ideas of 8051 MCU enthusiasts and creators: low cost, small size, size only 52 mm x 18 mm (DIP40); faster core: ultra-high speed 8051 core (1T), 12 times faster than traditional 8051; wide range of use: working voltage: 2.0V ~ 5.5V (built-in LDO), working temperature: - 40 ~85 (℃); rich peripherals and hardware resources. Source: One-button cold start, 8-channel LED, two SMT digital tubes, onboard Ch330N; 64K Flash, 5-way TIM, 8-way Pwm, 15-way high-speed ADC; easy to use, support C language, assembly, direct insertion breadboard; multi-expansion, a variety of peripheral modules.



PinCard

2.What can I do with PineconePi Nano?

A Magic Development Board for Initial 8051 Single Chip Microcomputer

A portable Maker artifact

A core board to help you realize electronic miniaturization

... (More than that)

二.Love Nano

1. Development Environment Configuration

NANO currently uses KEIL4 (or KEIL5) as its development environment. STC-ISP is used as program to download software. Follow the steps in this chapter to complete the configuration of the development environment.

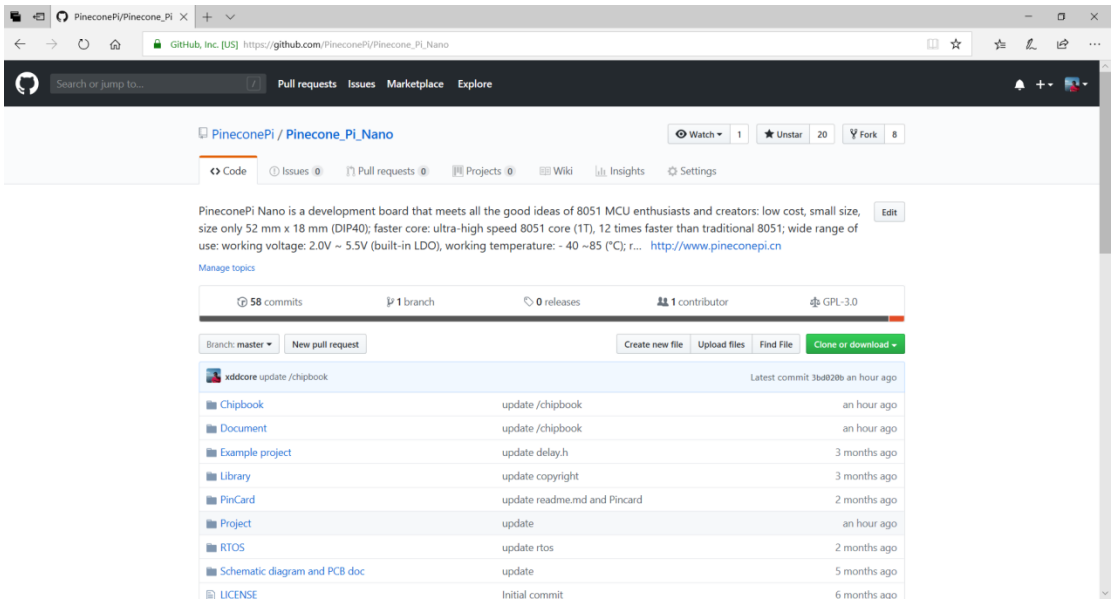
STEP 1:

Download the KEIL4 (or KEIL5) software installation package and complete the activation. **(if the activation is not completed, KEIL can only compile projects below 2K)**

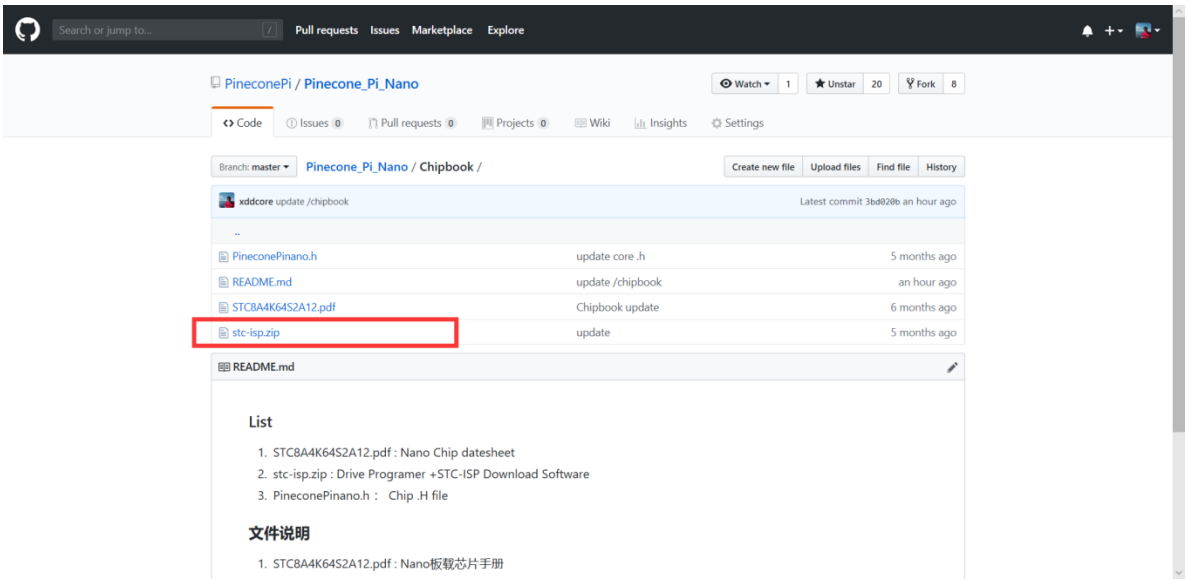
STEP 2：

1. **Visit Github home page:**

(https://github.com/PineconePi/Pinecone_Pi_Nano)

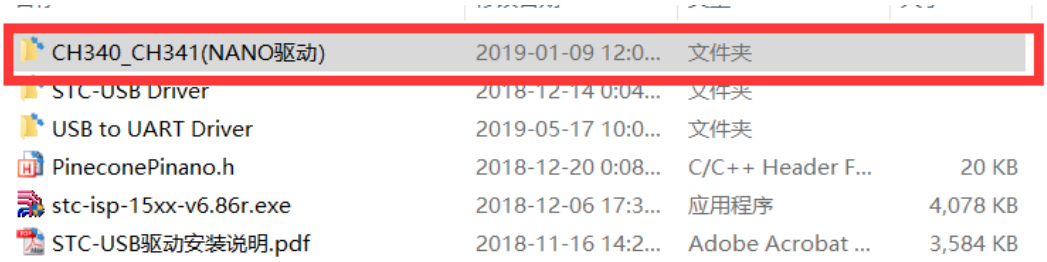


2. Click into the Chipbook folder and download STC-ISP.ZIP.



3. Decompression stc-isp.zip

4. Open “CH340_CH341(NANO 驱动）” folder.

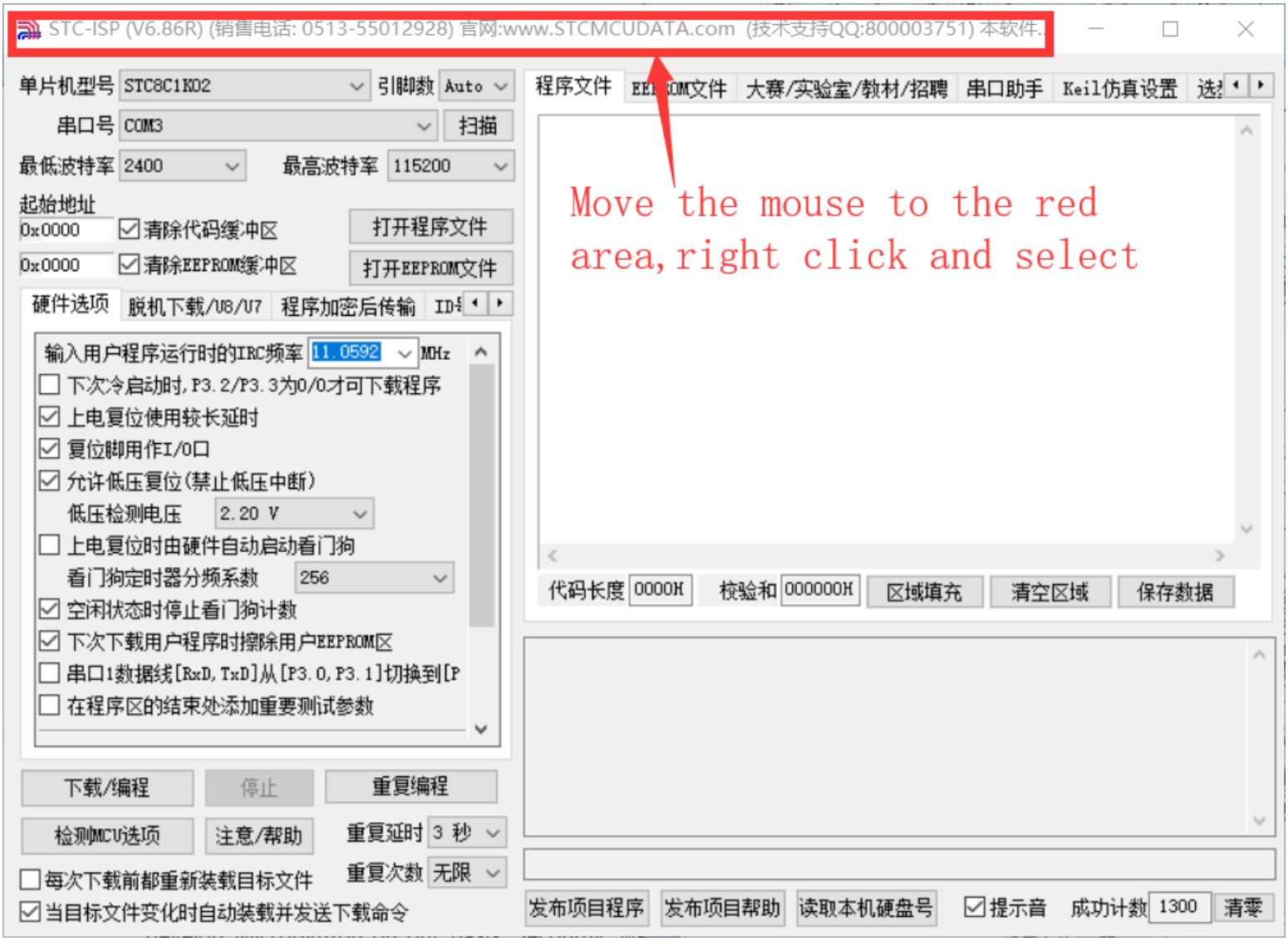


5. Open the ch341ser.exe

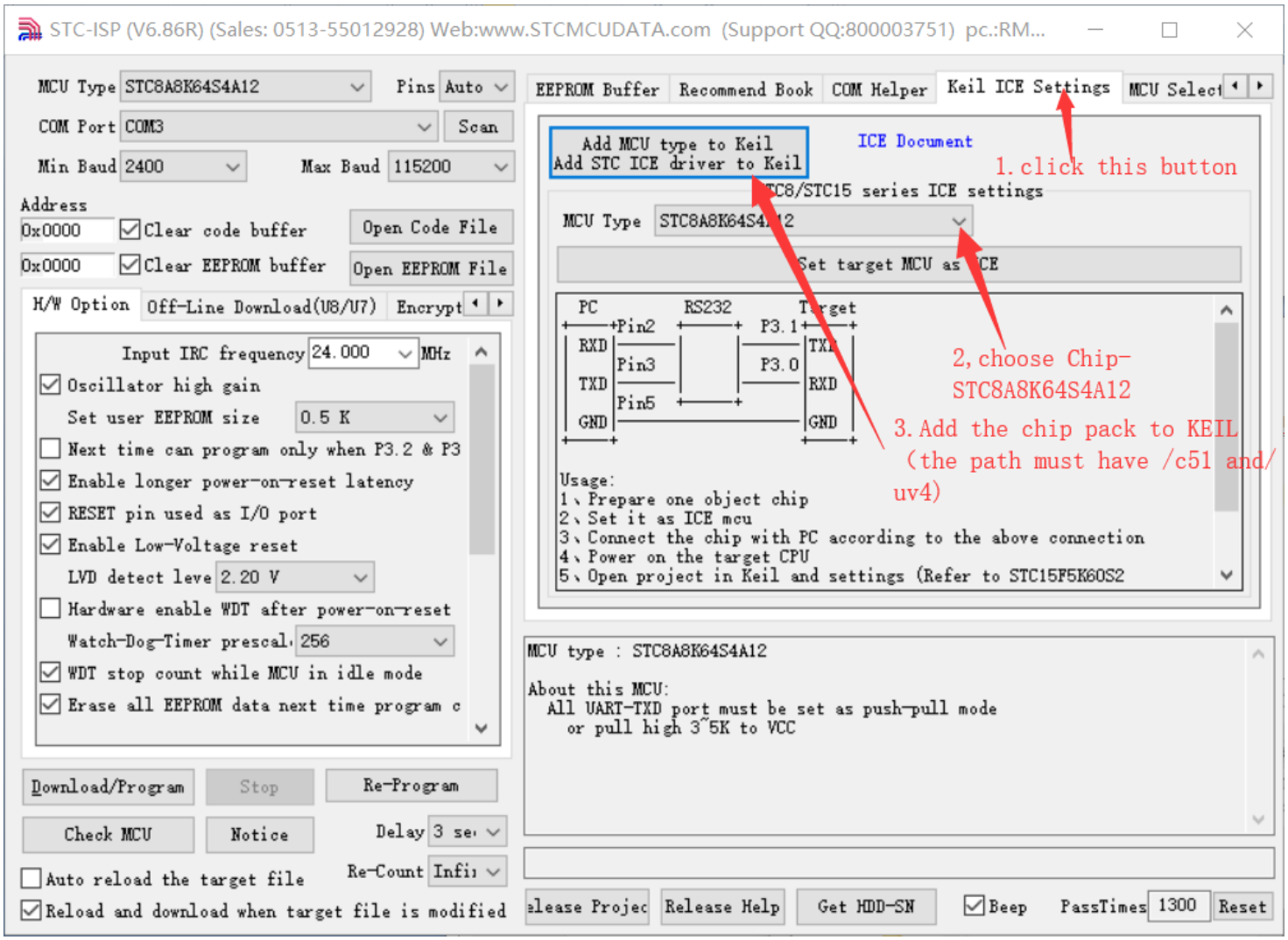
1. Open ch341ser.exe

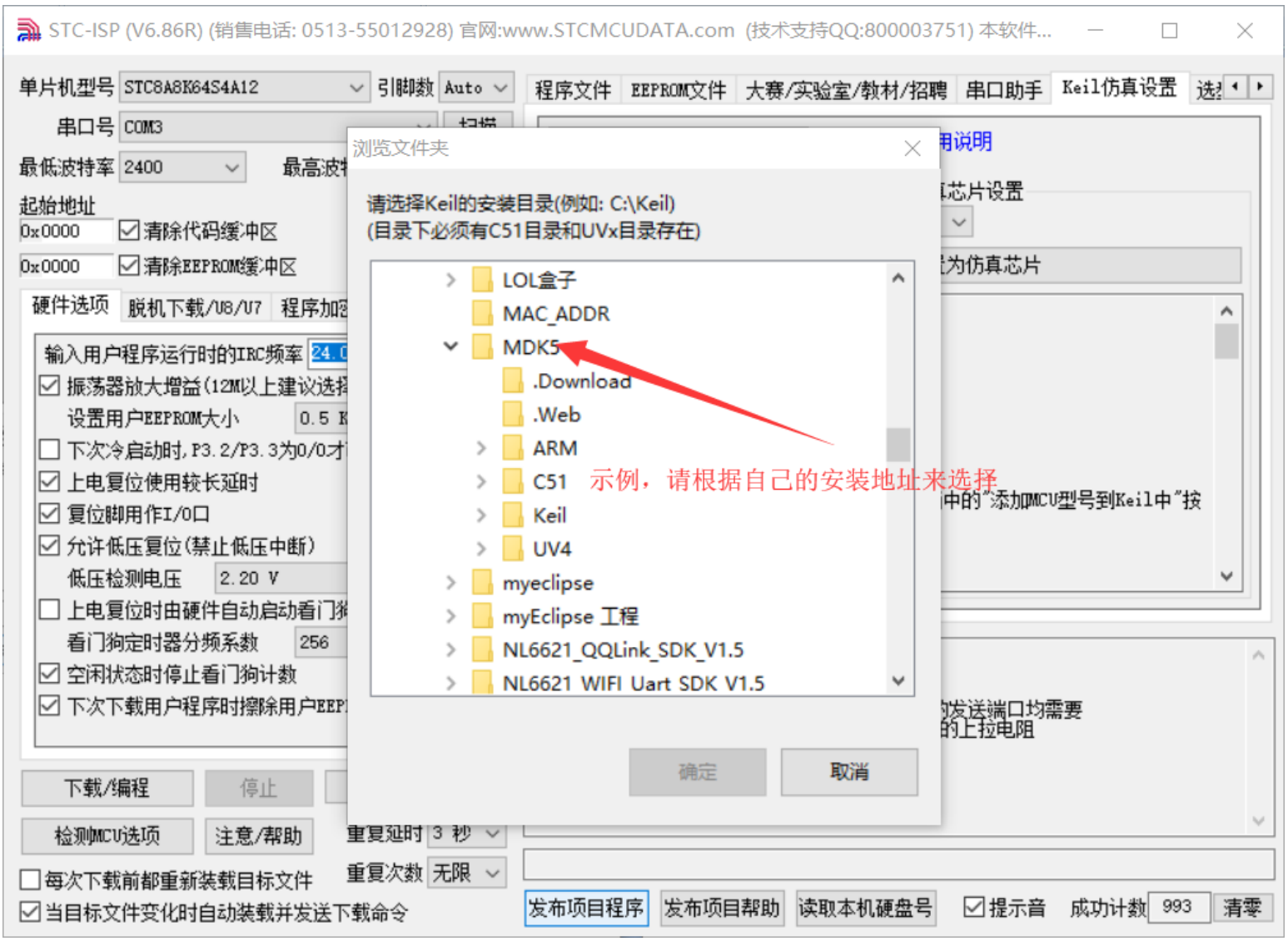
And then,We have completed the installation of USB-TTL chip driver! Next, we need to import the chip Pack into KEIL through STC-ISP.

*6.Open"*stc-isp-15xx-v6.86r.exe"

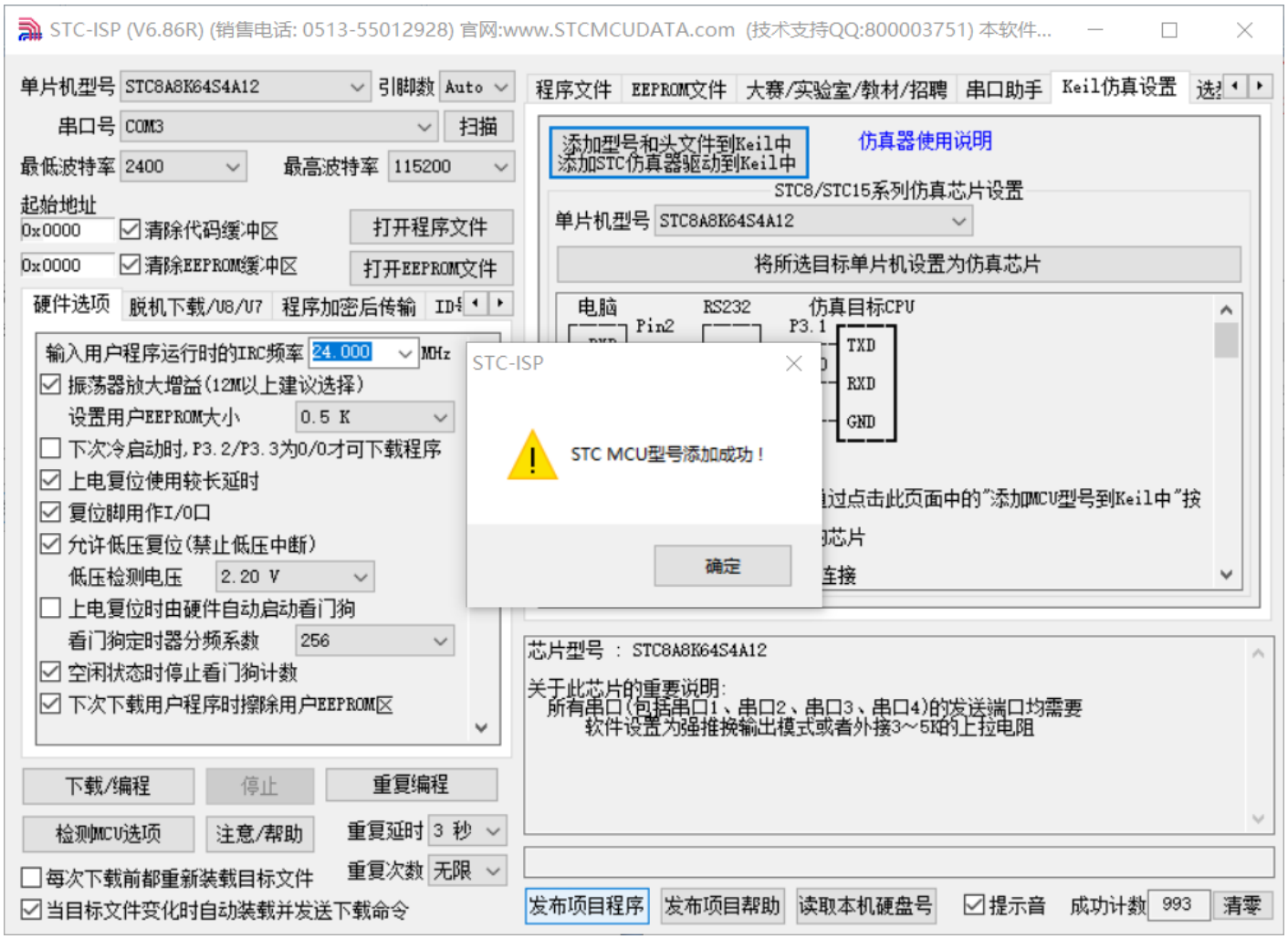


7. Next, we need to import the chip library into KEIL through STC-ISP.

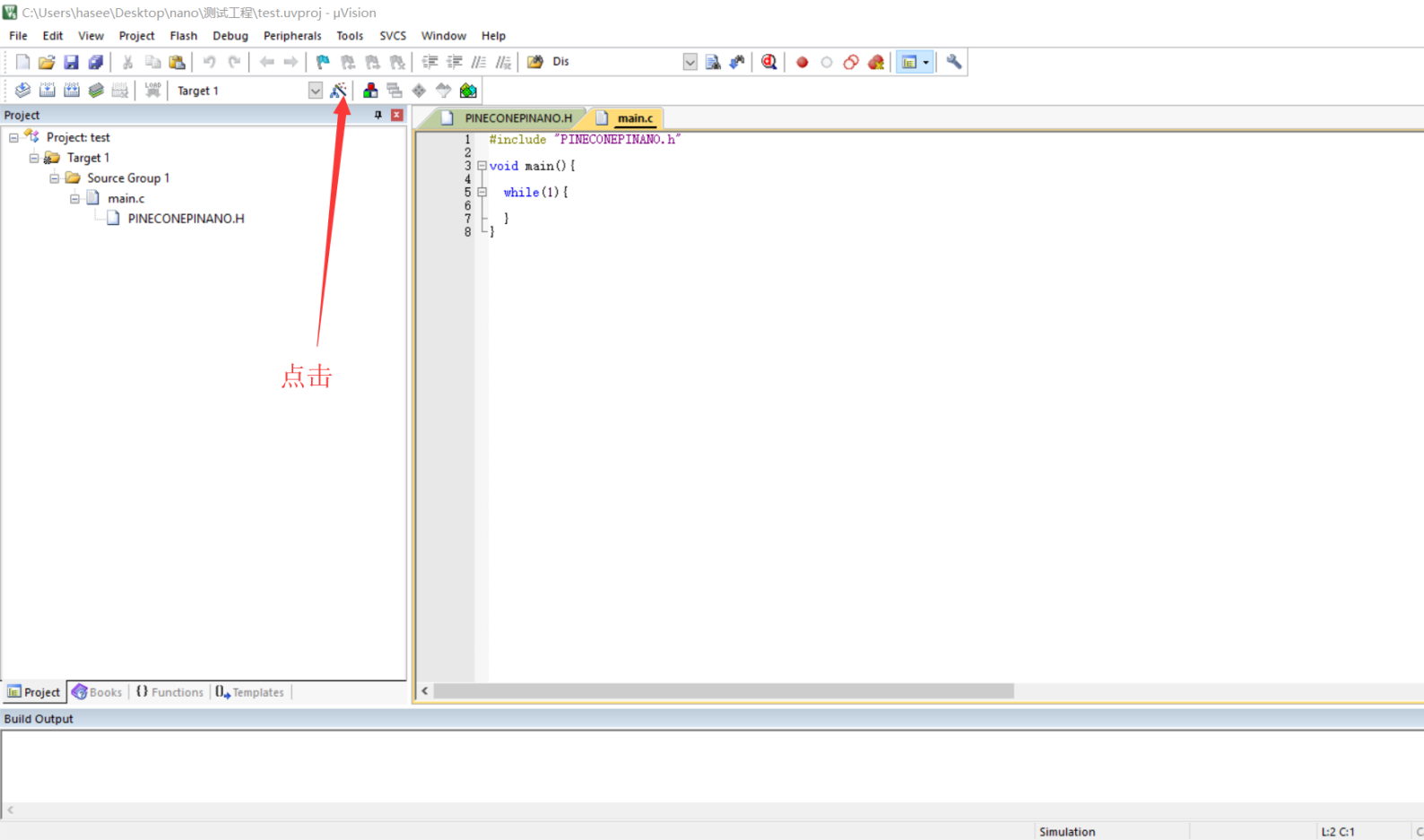



STC-ISP (V6.86R) (销售电话: 0513-55012928) 官网:www.STCMCUDATA.com (技术支持QQ:800003751) 本软件...
单片机型号 STC8A8K64S4A12
引脚数 Auto
串口号 COM3
最低波特率 2400
起始地址
0x0000
0x0000
清除代码缓冲区
清除EEPROM缓冲区
硬件选项
脱机下载/U8/U7
输入用户程序运行时的IRC频率
振荡器放大增益(12M以上建议选择
设置用户EEPROM大小
下次冷启动时,P3.2/P3.3为0/0才
上电复位使用较长延时
复位脚用作I/O口
允许低压复位(禁止低压中断)
低压检测电压 2.20 V
上电复位时由硬件自动启动看门狗
看门狗定时器分频系数 256
空闲状态时停止看门狗计数
下次下载用户程序时擦除用户EEP
下载/编程
停止
检测MCU选项
注意/帮助
每次下载前都重新装载目标文件
当目标文件变化时自动装载并发送下载命令
重复延时 3 秒
重复次数 无限
程序文件
EEPROM文件
大赛/实验室/教材/招聘
串口助手
Keil仿真设置
发布项目程序
发布项目帮助
读取本机硬盘号
提示音
成功计数 993
清零
浏览文件夹
请选择Keil的安装目录(例如: C:\Keil)
(目录下必须有C51目录和UVx目录存在)
LOL盒子
MAC_ADDR
MDK5
.Download
.Web
ARM
C51
Keil
UV4
myeclipse
myEclipse 工程
NL6621_QQLink_SDK_V1.5
NL6621 WIFI Uart SDK V1.5
确定
取消
示例，请根据自己的安装地址来选择

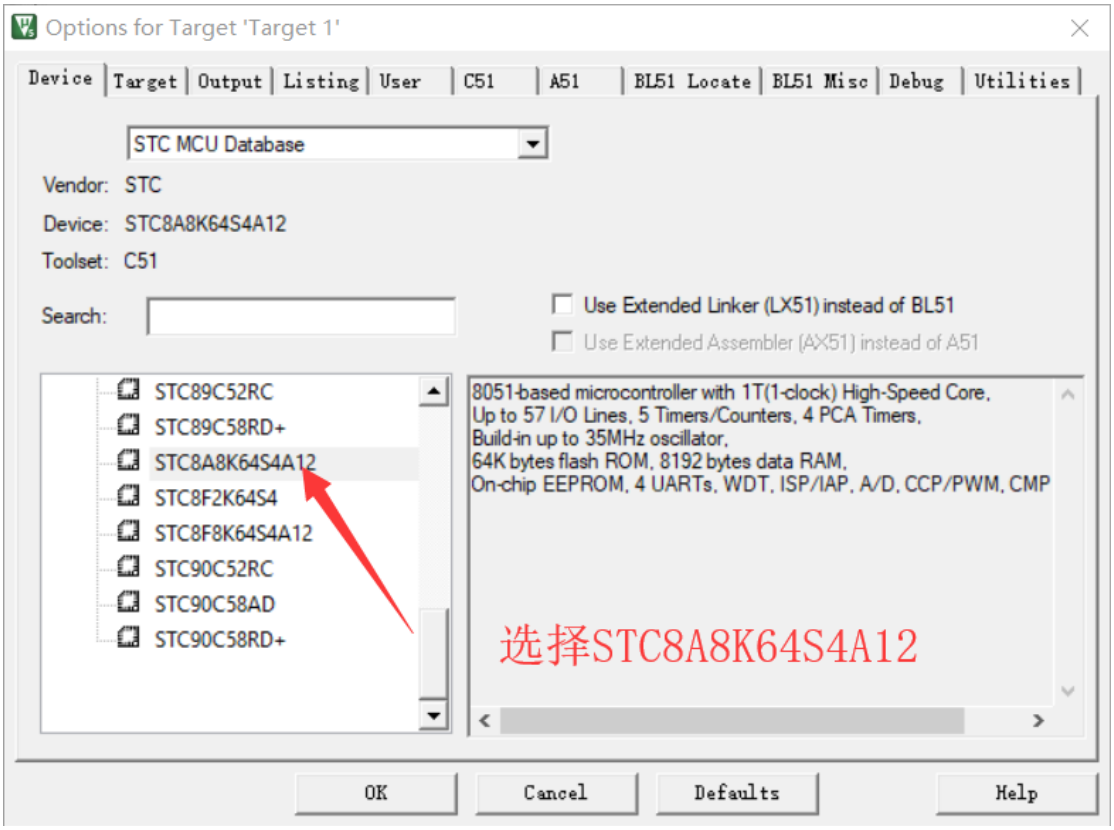
（The import succeeds when the following prompt appears）



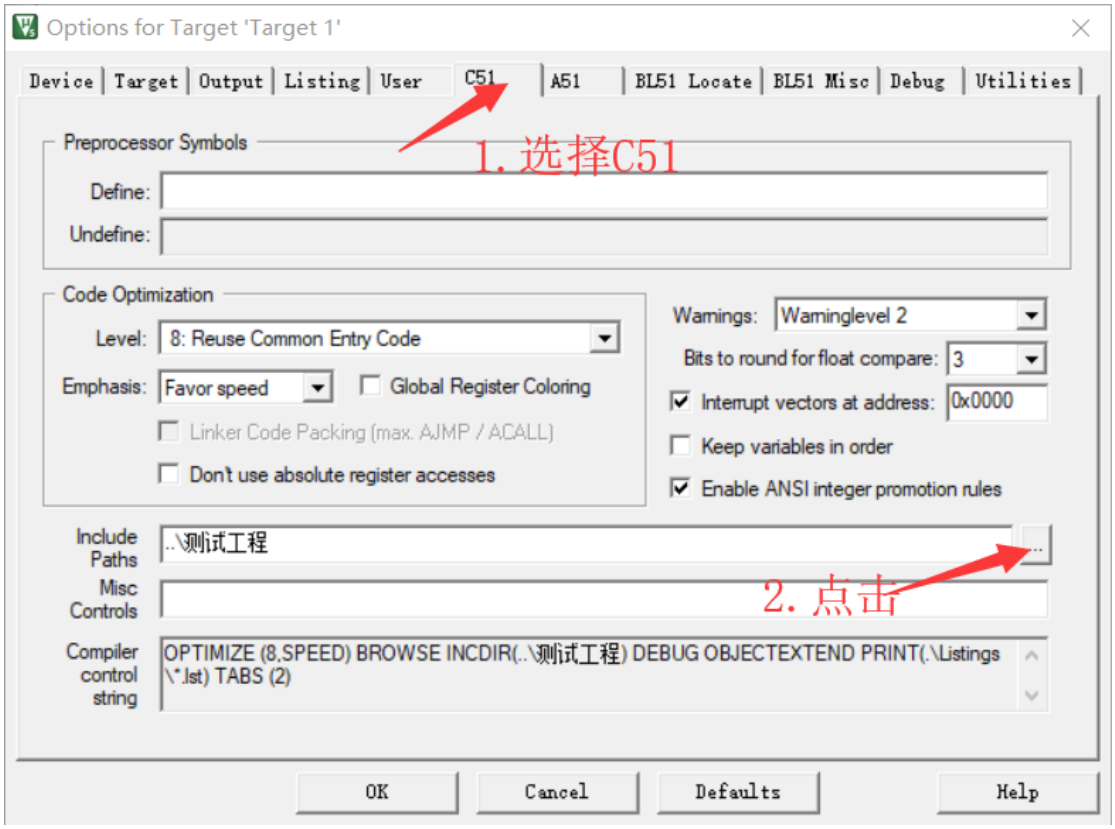
8. Open KEIL software and click



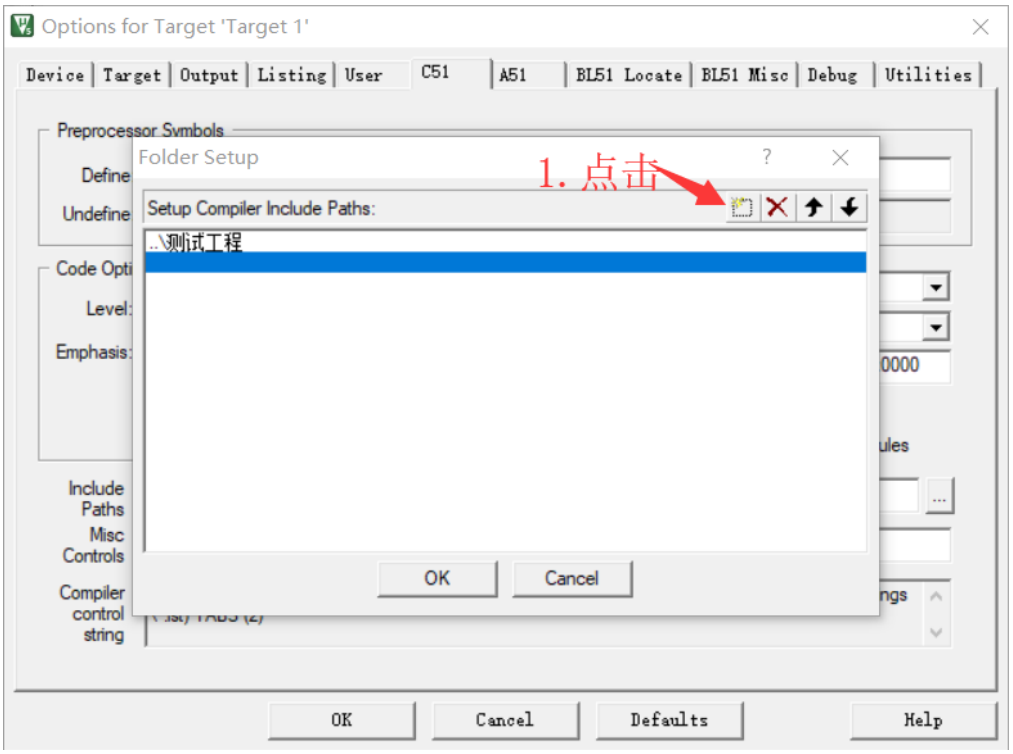
9. Select STC8A8K64S4A12 and click OK

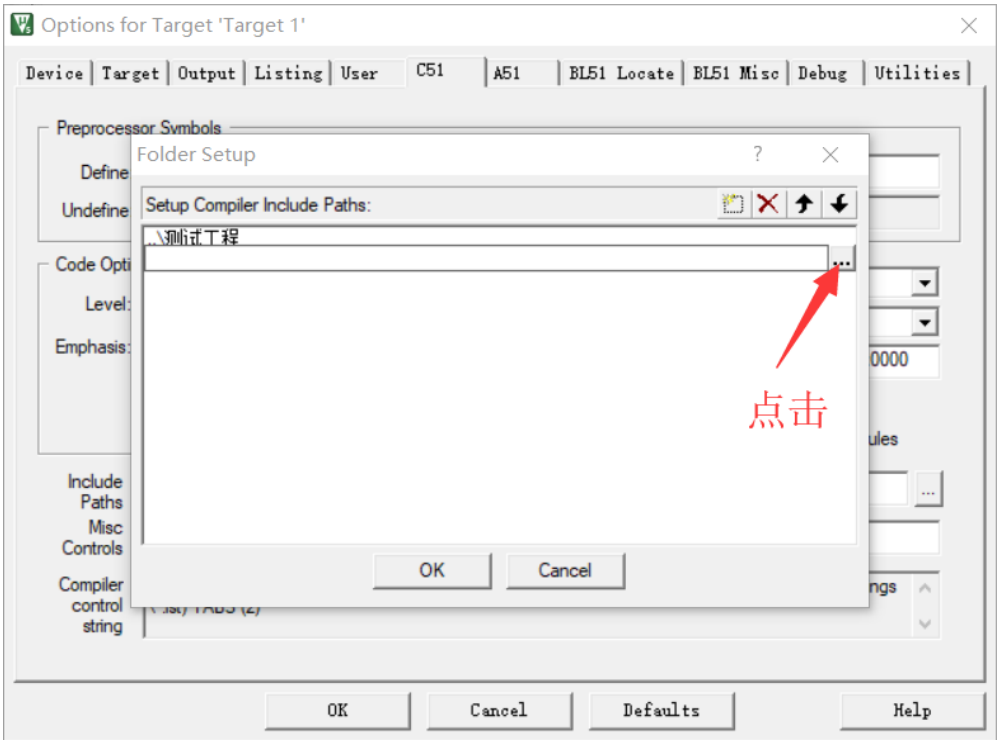


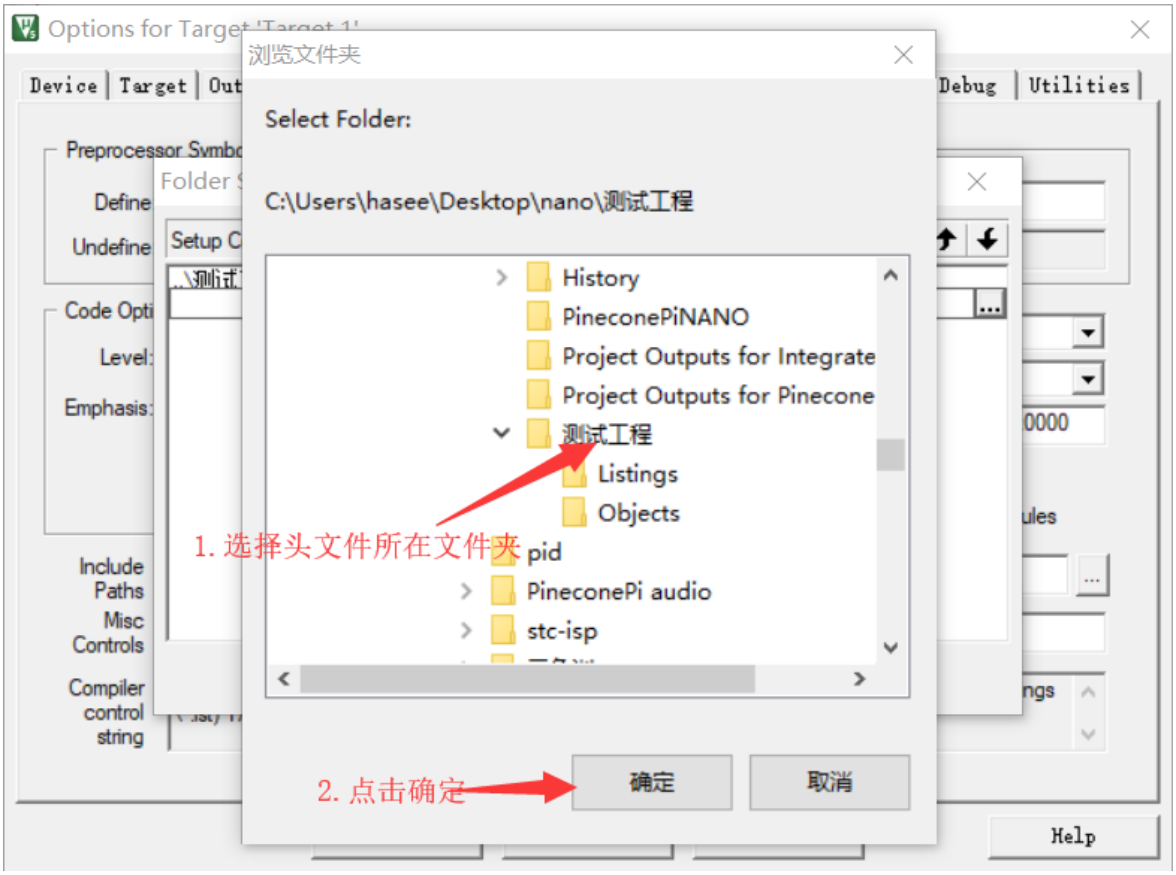
10.Click “C51”,and choose “Include Paths”.



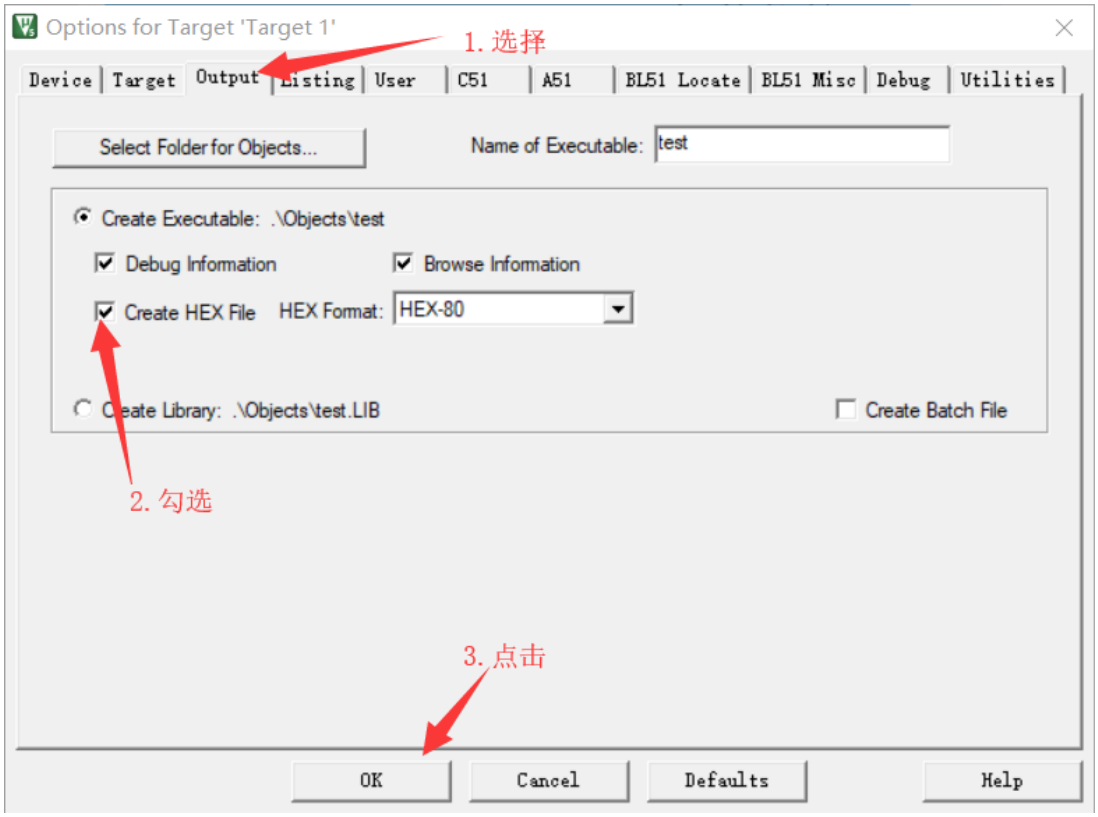
11.Select the folder where Pinecone Pinano. h is located (that is, complete Include Path settings)






浏览文件夹
Select Folder:
C:\Users\hasee\Desktop\nano\测试工程
History
PineconePiNANO
Project Outputs for Integrate
Project Outputs for Pinecone
测试工程
Listings
Objects
pid
PineconePi audio
stc-isp
1. 选择头文件所在文件夹
2. 点击确定
确定
取消
Options for Target
Device
Target
Debug
Utilities
Preprocessor Symbo
Define
Undefine
Code Opti
Level:
Emphasis:
Include Paths
Misc Controls
Compiler control string
Help

12. Set up to generate HEX files (which will be exported to the Objects folder under the project directory)



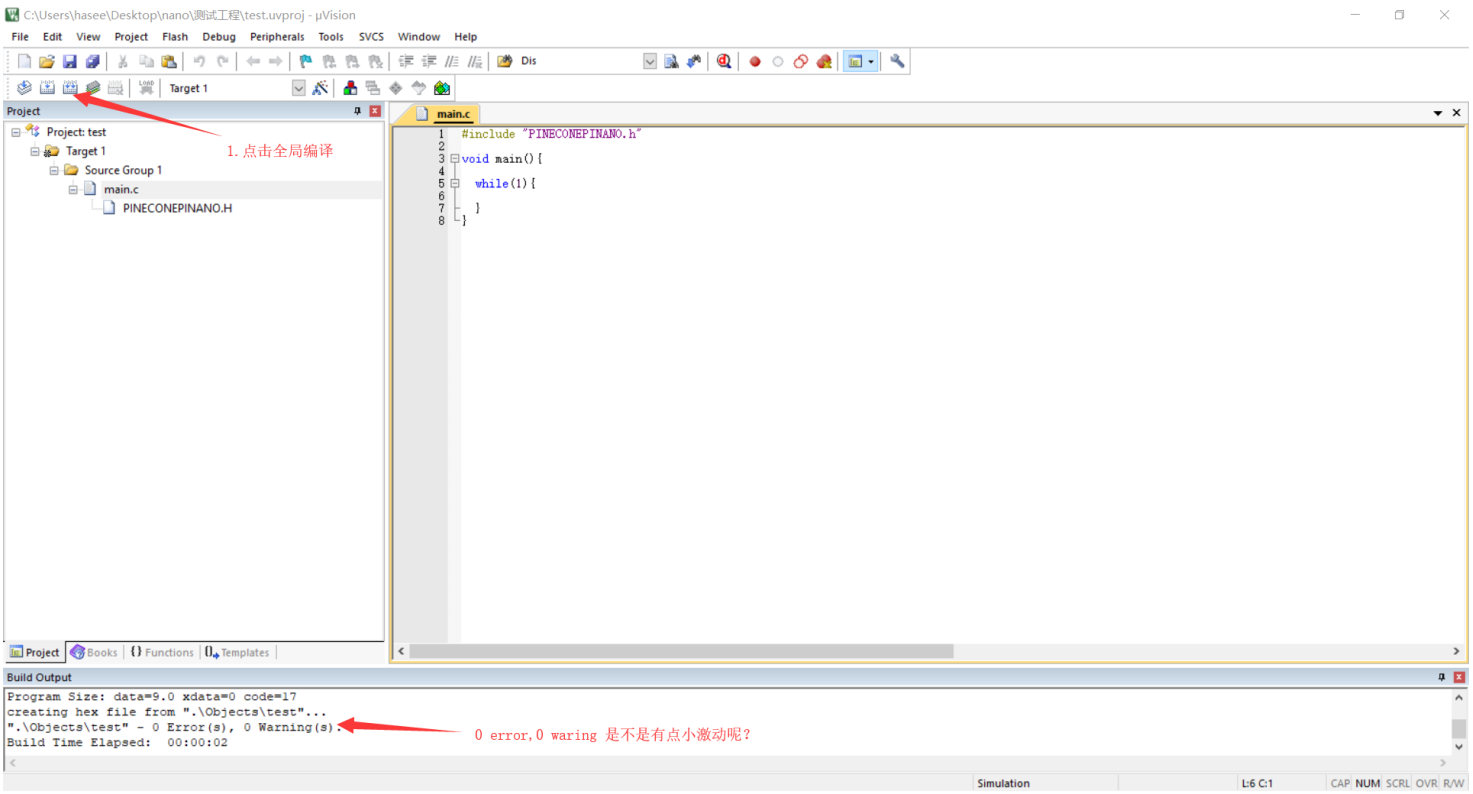
STEP 3：

Create main.c file in project directory and write code

```
#include "PINECONEPINANO.h"
void main(){
    while(1){
    }
}
```

Click the compiler button to observe the compiler log

The development environment is successfully configured with the following interfaces



2. Light a LED on the PineconePi Nano?

Code：

```
#include "PINECONEPINANO.h"
sbit led_onoff = P5^5;// LED cathode enabling pin
sbit led_1 = P1^0;// LED Anode Enabling Pin
void main(){
led_onoff = 0;//Enable
  while(1){
        led_1=0;//Light the LED1
  }
}
```

After compilation, HEX files will be generated in the Objects folder under the project directory and downloaded with STC-ISP software.

(When the download software appears to be testing the target MCU, click the NANO red button (one button download button) to complete the download of the program.)

Finally, the LED on the board is lit up!