HTIT series

Internet of things Development Kit

Support Arudino IDE

WIFI 802.11 b / g / n / e / i, Bluetooth BLE, LoRa, OLED,

lithium battery charge and discharge management

1. Introduction

WIFI_Kit_8　　　　HTIT-8266

WIFI_Kit_32　　　　HTIT-WB32

WIFI_LoRa_32　　　HTIT-WB32LA

HTIT is an abbreviation for Heltec Internet of things.

Small appearance, powerful computing functions, WIFI function, support Arduino, rich interface and other product features, the user can use standard library and simple development language programming, completing the program verification and product development rapidly. At the same time with OLED display and lithium battery interface, Can simply manage the lithium battery charge and discharge, and can be directly used as handheld device development.

The series of products are not directly used now more popular WIFI, LoRa modules, and directly based on chip-level development, on the one hand is to minimize the volume, on the other hand because the market is sold for the popular module Products that need to be compatible with the different needs of users, so their performance in one aspect is not optimal. We adjust the function according to our own products needs and better match our the product itself.

There are currently WIFI_Kit_8(HIIT-8266), WIFI_Kit_32(HIIT-WB32), WIFI_LoRa_32(HIIT-WB32LA) 3 board, followed by increasing performance. Note ...HIIT-8266 is an 8-bit MCU, the product's master chip is a 32-bit processor - ESP8266EX chip. HIIT-WB32, HIIT-WB32LA are based on the ESP32 chip, in addition to WIFI function, but also supports a complete standard Bluetooth 4.2. HIIT-WB32LA increased the powerful LoRa wireless communication function, the operating frequency of 137MHz ~ 1020MHz long-distance transmitter (this product only supports 433M, if the bulk of the need for other frequencies, please contact with me). In the open communication distance of up to 2.6Km, both as a gateway to things networking products can also be used as driving terminal products (such as sensors, stepper motors, etc.).

1.1 Version of the control

名称	WIFI KIT 8	WIFI KIT 32	WIFI LORA 32
INTERNAL MODEL	HTIT-W8266	HTIT-WB32	HTIT-WB32LA
MCU FREQUENCY	80/160 MHz	双核 240MHz	
FLASH SIZE	32Mbyte		

USB TO SERIAL CHIP	CP2104	CP2102	
IO PINS	10	29	
WIFI	802.11 b/g/n	802.11 b/g/n/e/i	
BLUTOOTH	--	4.2(支持 BLE)	
OLED SIZE	0.91 寸 128*32	0.96 寸 128*64	
LITHIUM BATTERY INTERFACE	2Pin-1.25mm 通用接口		
LORA FUNCTION	--		支持 433MHz
SIZE(NOT INCLUDE THE PIN HEADER)	51 * 18 * 8	50 * 25.4 * 10.3	52 * 25.4 * 10.3

2. Development environment installation

2.1 Driver installation

For Mac OS, Ubuntu, Windows 7 or above operating system, the driver is automatically installed, if not automatically installed or prompted error, please go to Silicon Labs official website to download and install the

latest version of the driver: CP210X version driver download address

To Windows operating system, for example, if the drive is installed, you can in the "Device Manager - port" to see a similar message:

(No English version)

2.2 Development environment installation

All the operations are based on that   your computer has been installed on the premise of the latest version of Arduino IDE. HTIT series development environment Download:

Http://pan.baidu.com/s/1dFcmSZf   Password: li75

After downloading and decompressing, copy the "heltec" folder to the * \ arduino \ hardware folder.

When HTIT series development environment installation is complete. If everything is OK, you can in the "Tools - Development Board" menu to find WIFI_Kit_8, WIFI_Kit_32, WIFI_LoRa_32 three development boards. As shown in Figure 2-1:
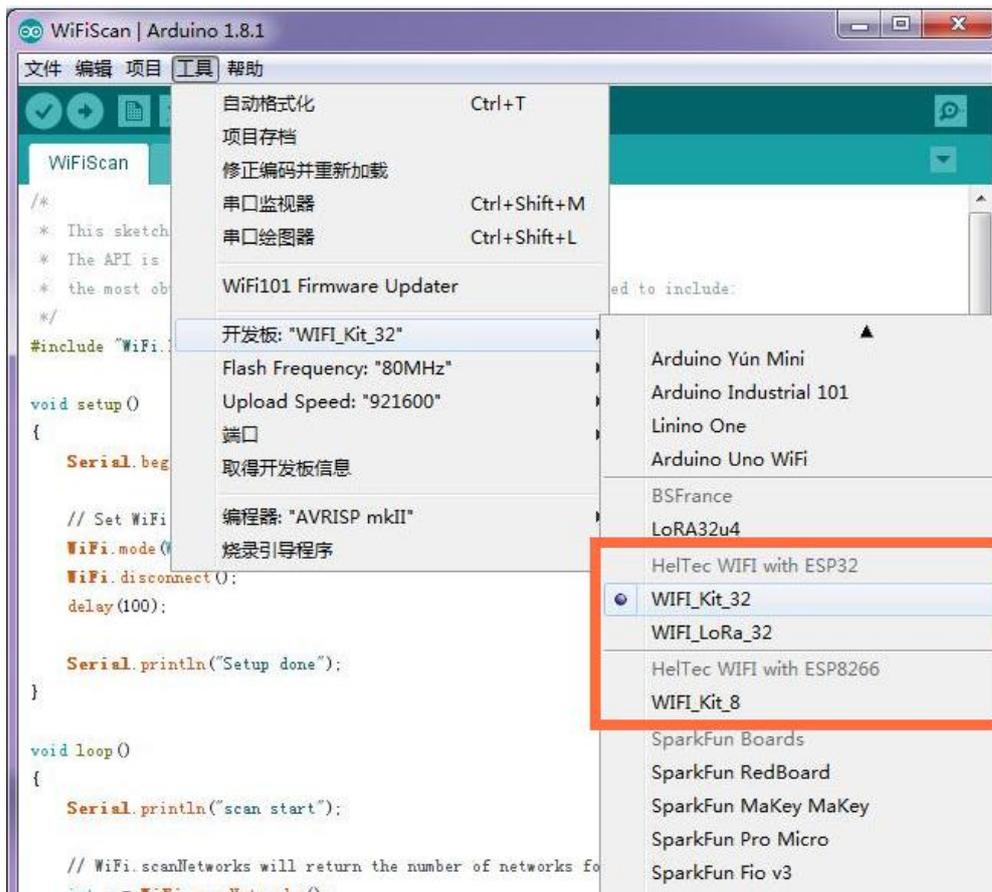

Figure 2-1 After the successful development of the installation environment

You can find the board Arduino routines for various resources in the "Examples" menu, which you can compile directly and download to your WIFI Kit development board. Attention to the corresponding development board model, choose the wrong model may lead to

compile errors. As shown in Figure 1-2
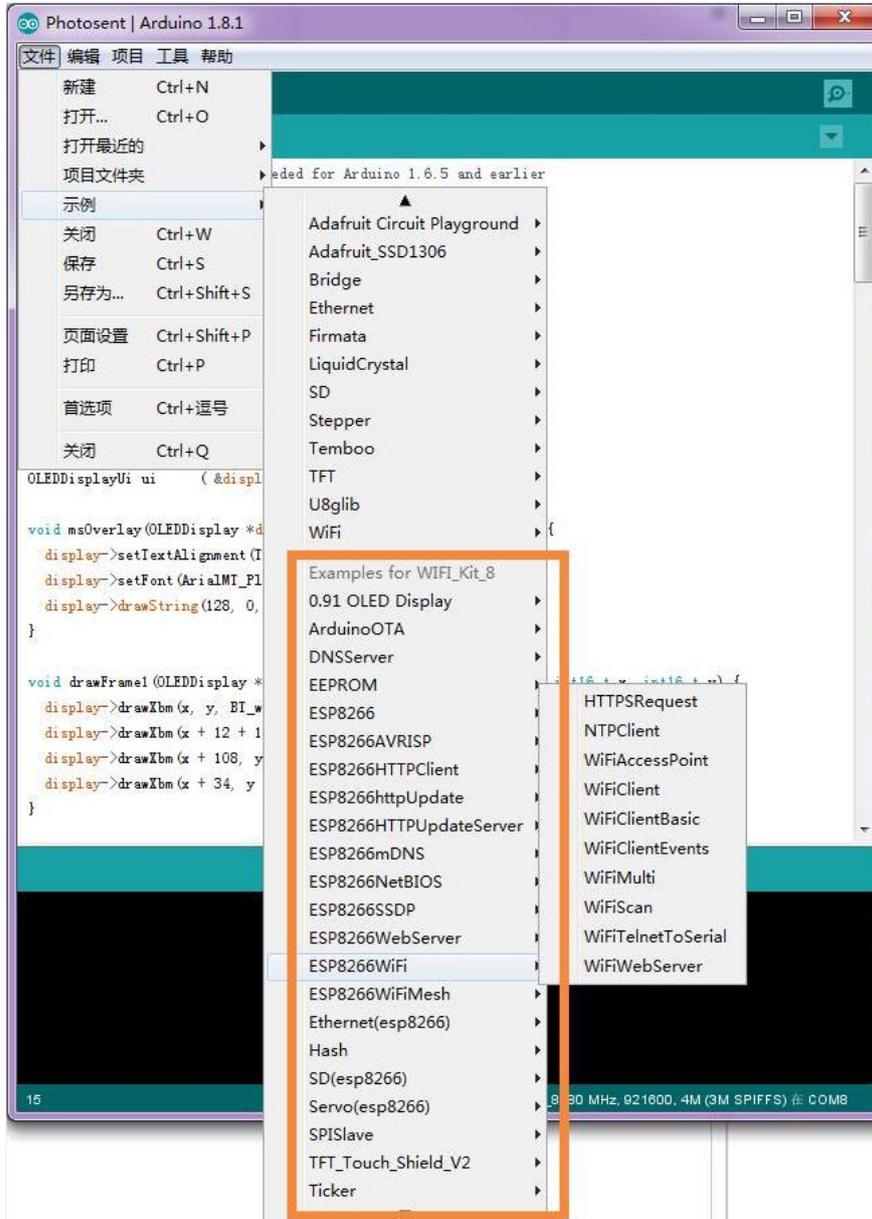
Figure 2-2 Directly available routines

This product routines, SDK and other information continue to update,

you can visit www.heltec.cn to obtain.

3. Summary of Frequently Asked Questions

 1)Each board has done at least two basic functional tests before

shipment, including "program download test", "WIFI scan test", "OLED screen dead pixels and display test", "charge and discharge function test" , That is, you get the board which is absolutely can download the program and work properly, if there can not download the program, please check the serial driver is normal, and download the board when the "PRG" button (start to download When released), or try to reduce the communication baud rate. If this is not normal download, please change a Micro USB data cable, because the communication speed, the data line requirements are very high! Regular Andrews mobile phone original data line is basically no problem.

2)ESP32 is a highly integrated chip QFN package, due to high frequency, small size and not easy to heat, so when used in the higher fever is normal, Our company has done a complete stability assessment of the circuit t,Pls no worry about it ,and if you very care about the head you can add heat sink by yourself.

3)Onboard lithium battery charge and discharge circuit, The orange LED lights will go out when the battery is full , only   provide the basic lithium battery charging and discharge function, can not monitor the battery temperature and power, if your battery is not purchased in our shop, Please   pay attention to the battery positive and negative, wrong operation may explode.

4) To use the on-board IO port with touch function as the touch signal input (WIFI Kit32 and LoRa 32 with this function), add a 100 nF pull-down capacitor to this pin.