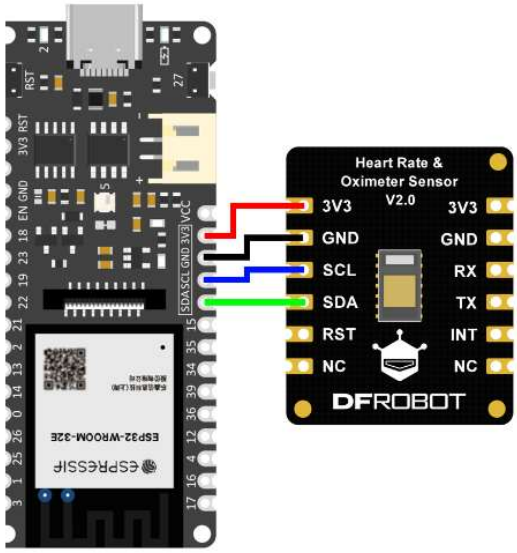
1. Test Sensor_MAX30102.ino

Connect the MAX30102 sensor to the I2C interface of the ESP32 with reference to the following wiring diagram, and upload the Sensor_MAX30102.ino in the current folder to the ESP32.

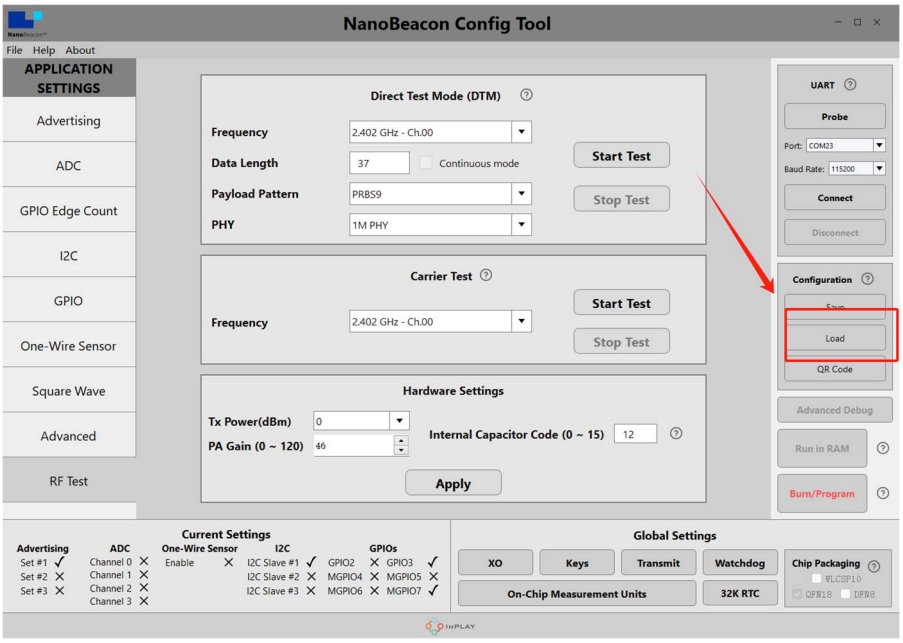


When there is a normal reading in the serial monitor, the sensor is normal. The sensor can be connected to the Beacon test

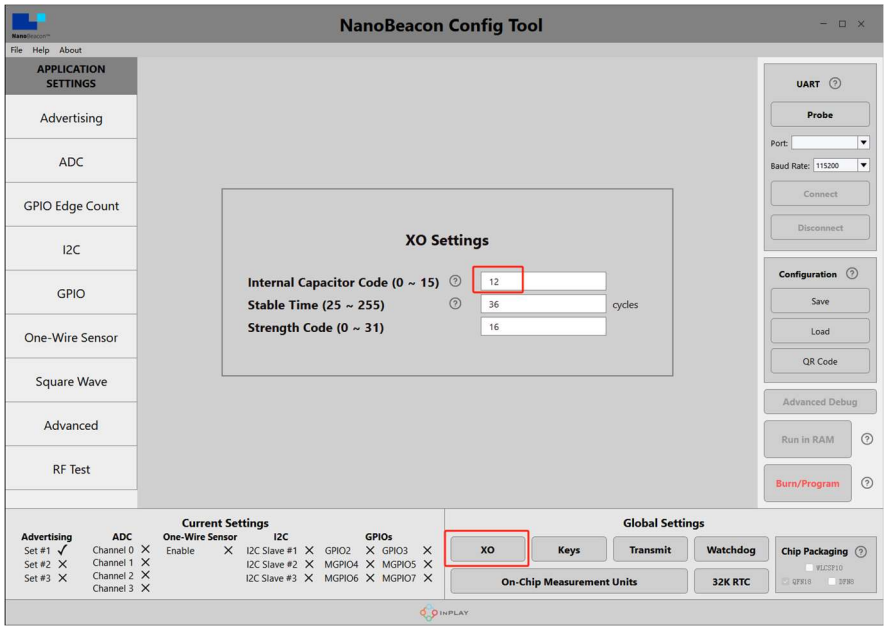
2. Burning Beacon and Connecting Sensor

Please use a USB-TTL converter to burn the .cfg file into the Beacon.

NanoBeacon Config Tool can Load the MAX30102.cfg file in this folder.



Check that the XO capacitor configuration is 12

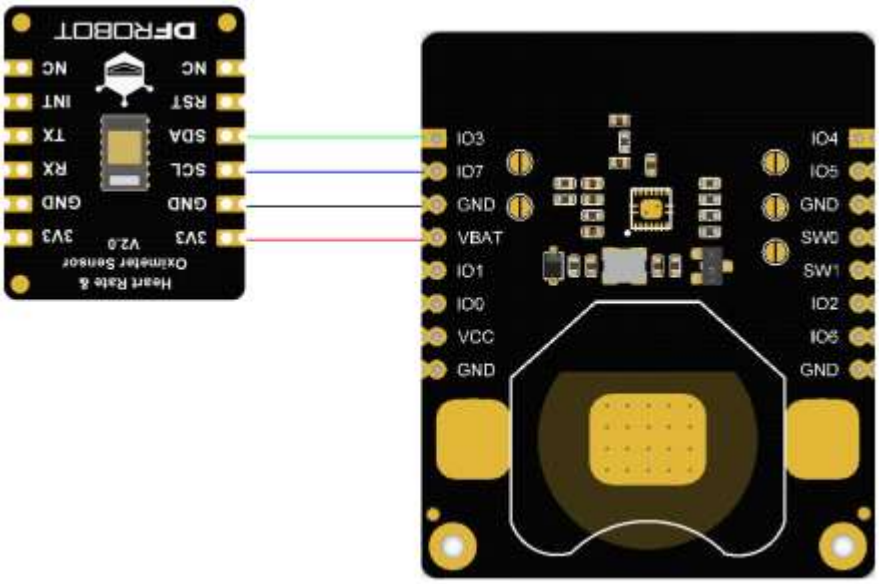


烧录流程请参考 Beacon 的 wiki:

https://wiki.dfrobot.com.cn/_SKU_TEL0168_Fermion_BLE_%E4%BC%A0%E6%84%9F%E5%99%A8%E4%BF%A1%E6%A0%87#target_4

After the burn-in is complete, refer to the diagram below to connect the Beacon and the sensor.

Note: Our .cfg example file defaults to SCL->GPIO7, SDA->GPIO3.



3. Upload ESP32 code and get readings

Upload the Beacon_MAX30102.ino in the same directory to the ESP32.

And power up the Beacon and sensors, the power supply can be selected from CR2032 coin cell battery, or VCC and GND input 3.3V.

You will see the relevant data printed in the serial monitor.


FireBeetle ESP32
Beacon_MAX30102.ino
#include <BLEBeacon.h>
#define ENDIAN_CHANGE_U16(x) ((((x)&0xFF00) >> 8) + (((x)&0xFF
//设置ESP32 5秒扫描一次蓝牙设备
int scanTime = 5; //In seconds
BLEScan* pBLEScan;
class MyAdvertisedDeviceCallbacks : public BLEAdvertisedDevice(
{
void onResult(BLEAdvertisedDevice advertisedDevice)
{
if (advertisedDevice.haveName()) {
if (String(advertisedDevice.getName().c_str()) == "MAX30
{
Serial.print("Device name: ");
Serial.println(advertisedDevice.getName().c_str());
std::string strManufacturerData = advertisedDevice.getM
uint8_t cManufacturerData[100];
strManufacturerData.copy((char*)cManufacturerData, strM
Serial.printf("strManufacturerData: %d ", strManufactur
for (int i = 0; i < strManufacturerData.length(); i++)
Serial.printf("[%x]", cManufacturerData[i]);
}
Output
Serial Monitor
Message (Enter to send message to 'FireBeetle ESP32' on 'COM23')
Device name: MAX30102
strManufacturerData: 9 [5][5][63][0][0][0][6d][22][7]
SPO2 is : 99%
heart rate is : 109Times/min
Temperature value of the board is : 34.07 ℃
Device name: MAX30102
strManufacturerData: 9 [5][5][63][0][0][0][6e][22][2]
SPO2 is : 99%
heart rate is : 110Times/min
Temperature value of the board is : 34.02 ℃