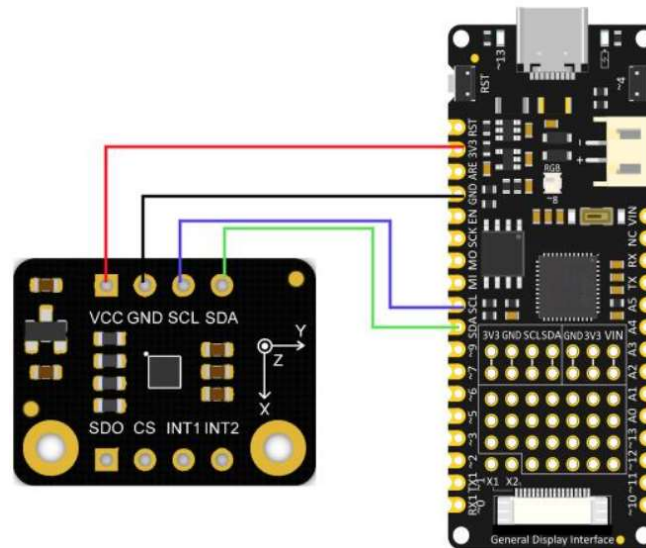


1. Test Sensor_LIS2DW12.ino

Connect the LIS2DW12 sensor to the I2C interface of the ESP32 with reference to the following wiring diagram, and upload the Sensor_LIS2DW12.ino in the current folder to the ESP32.



When the reading appears normally in the serial monitor, the sensor is normal.

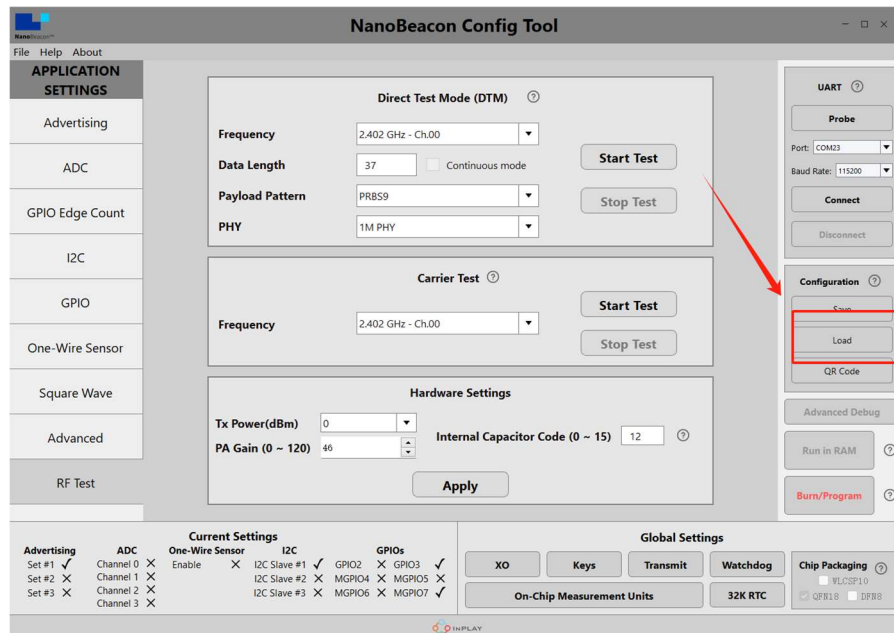
The sensor can be connected to a Beacon for testing.

```
Sensor_LIS2DW12 | Arduino IDE 2.2.1
File Edit Sketch Tools Help
Arduino Uno
Sensor_LIS2DW12.ino
1 #include <i2cdev.h>
2
3 #define MODULE_I2C_ADDRESS ((uint8_t)0x19) // 传感器的 I2C :
4
5 #define REG_CTRL_REG1 0x20 //control register 1
6 #define REG_CTRL_REG2 0x21 //control register 2
7 #define REG_CTRL_REG3 0x22 //control register 3
8 #define REG_CTRL_REG4 0x23 //control register 4
9 #define REG_CTRL_REG5 0x24 //control register 5
10 #define REG_CTRL_REG6 0x25 //control register 6
11 #define REG_CTRL_REG7 0x2F //control register 7
12 #define REG_STATUS_REG 0x27 //status register
13 #define REG_OUT_X_L 0x28 //the low order of the X-axis
14 #define REG_OUT_X_H 0x29 //the high point of the X-axis
15 #define REG_OUT_Y_L 0x2A //the low order of the Y-axis
16 #define REG_OUT_Y_H 0x2B //the high point of the Y-axis
17 #define REG_OUT_Z_L 0x2C //the low order of the Z-axis
18 #define REG_OUT_Z_H 0x2D //the high point of the Z-axis
19
20 int l = 3; // 读字节长度 in100 需 <= 5
21 float_range = 0; // 数据测量程 对应的精度值
22
23 void writeReg(uint8_t reg, void* pBuffer, size_t size)
24 {
25     // if (pBuffer == NULL) {
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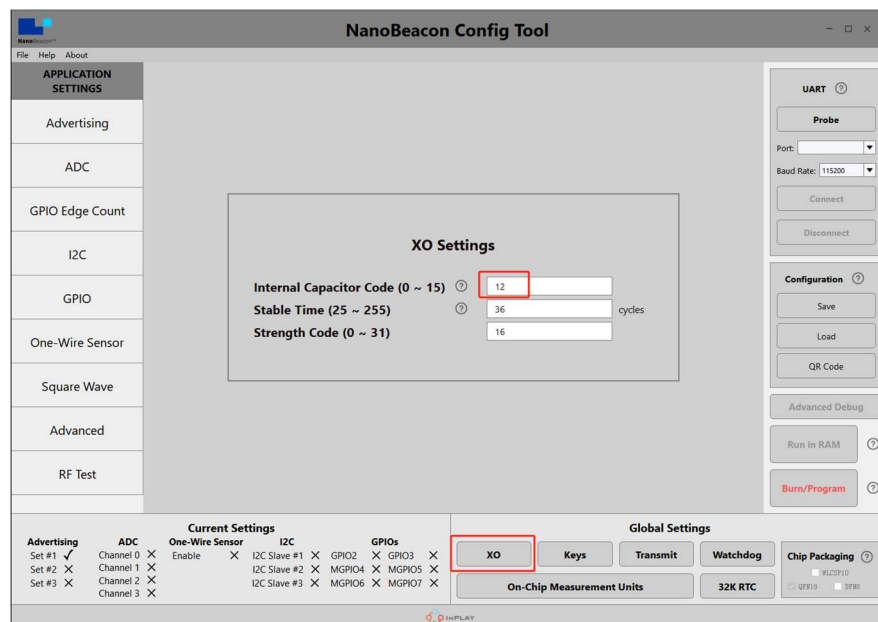
2. Burning Beacon and Connecting Sensor

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

NanoBeacon Config Tool can Load the LIS2DW12.cfg file in this folder.



Check that the XO capacitor configuration is 12

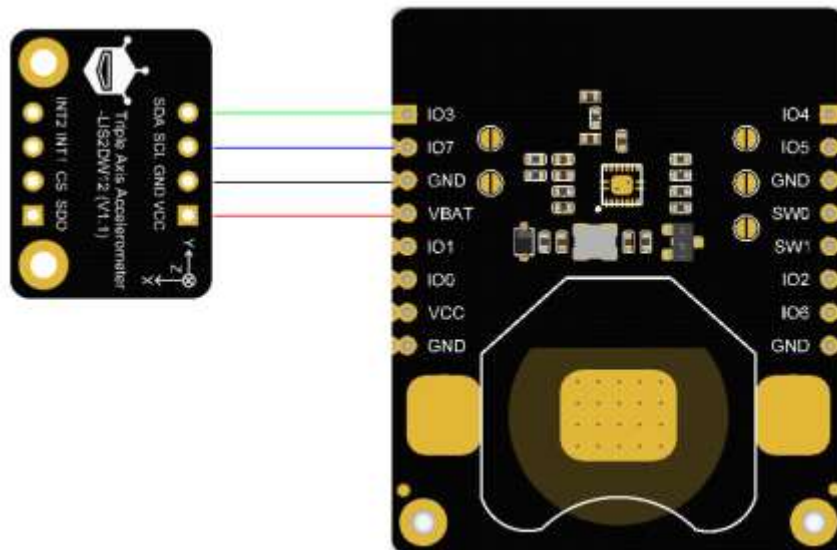


Please refer to Beacon's wiki for the burn-in process:

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 following diagram to connect the Beacon and the sensors.

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



3. Upload ESP32 code and get readings

Upload the Beacon_LIS2DW12.ino in the same directory to the ESP32 motherboard.

And power up the Beacon and sensors with optional CR2032 coin cell battery, or VCC and GND input 3.3V.

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



The screenshot shows the Arduino IDE interface. The top bar indicates the board is 'DFRobot Firebeetle 2 ...'. The code editor displays the file 'Beacon_LIS2DW12.ino' with the following code:

```
1  /*
2   * Based on Neil Kolban example for IDF: https://
3   * Ported to Arduino ESP32 by Evandro Copercini
4   * Changed to a beacon scanner to report iBeacon,
5   */
6
7  #include <Arduino.h>
8  #include <BLEDevice.h>
9  #include <BLEUtils.h>
10 #include <BLEScan.h>
11 #include <BLEAdvertisedDevice.h>
12 #include <BLEEddystoneURL.h>
13 #include <BLEEddystoneTLM.h>
14 #include <BLEBeacon.h>
15
16 #define ENDIAN_CHANGE_U16(x) (((x)&0xFF00) >> 8)
17
18 //设置ESP32 5秒扫描一次蓝牙设备
19 int scanTime = 5; //In seconds
20 BLEScan* pBLEScan;
21
22 class MyAdvertisedDeviceCallbacks : public BLEAdv
23 {
24     void onResult(BLEAdvertisedDevice advertisedDev
25     f
```

The Serial Monitor is open, showing the following output:

```
Device name: LIS
strManufacturerData: 8 [5][5][a0][2d][f0][2][f0][e2]
x: 712.48 mg    y: 45.87 mg    z: -453.84 mg
-----
Device name: LIS
strManufacturerData: 8 [5][5][0][29][c0][e][70][d5]
x: 640.26 mg    y: 230.34 mg    z: -664.66 mg
-----
Device name: LIS
strManufacturerData: 8 [5][5][20][39][10][f4][f0][e5]
x: 892.06 mg    y: -186.42 mg    z: -406.99 mg
-----
```