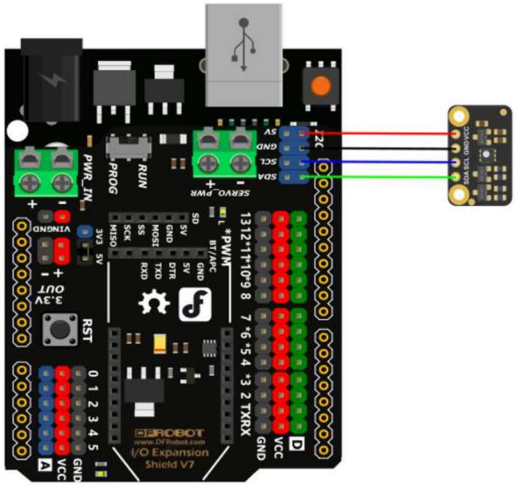
1. Test Sensor_SGP40.ino

Connect the SGP40 sensor to the Arduino by referring to the following wiring diagram and upload the Sensor_SGP40.ino from the current folder to the Arduino.

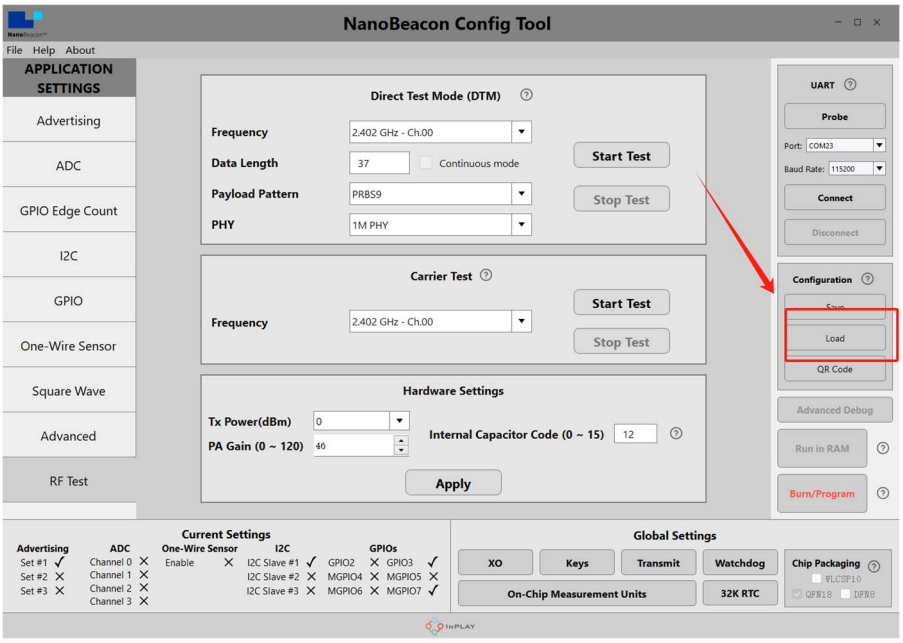


When the VOC index appears normally in the serial monitor, the sensor is normal. The sensor can be connected to a Beacon for testing.

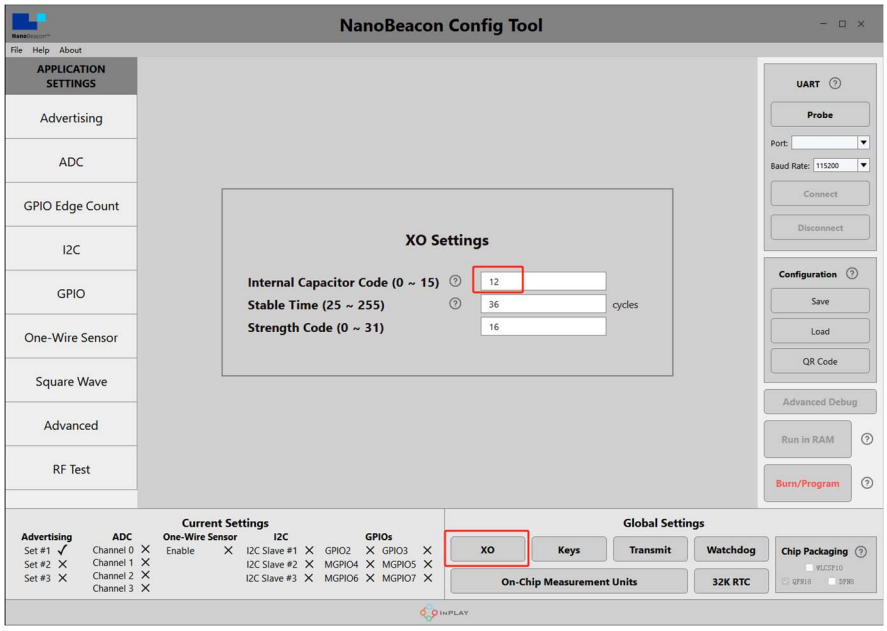
2. Burning Beacon and Connecting Sensors

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

NanoBeacon Config Tool can Load the SGP40.cfg file in this folder.



Check that the XO capacitor configuration is 12

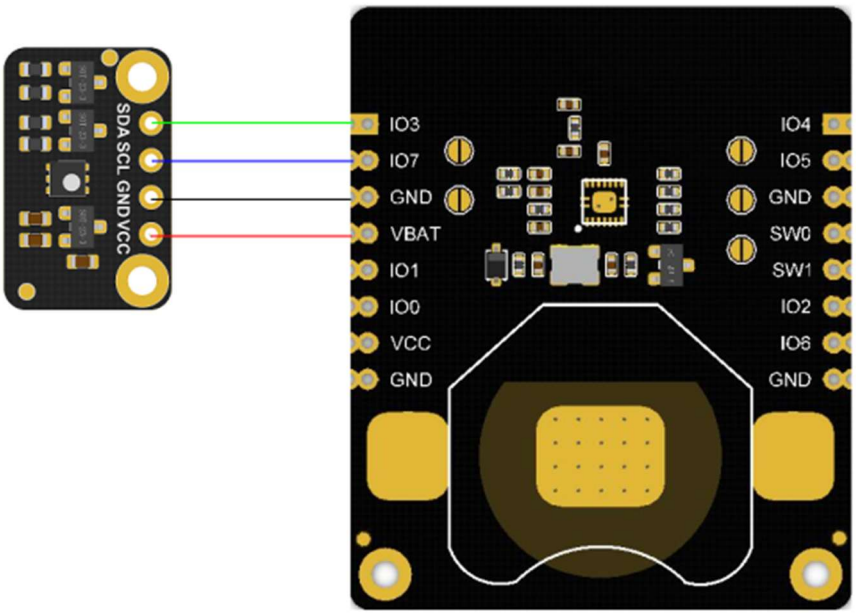


Please refer to Beacon's wiki for the burn-in process.:

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 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_SGP40.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.

Note：Since the VOC algorithm of SGP40 needs to collect a lot of base data for calculation and Beacon_SGP40.ino is set to fetch once in 5 seconds. So after powering up the Beacon and SGP40. You will need to wait 5-10 minutes before you can see the VOC data.