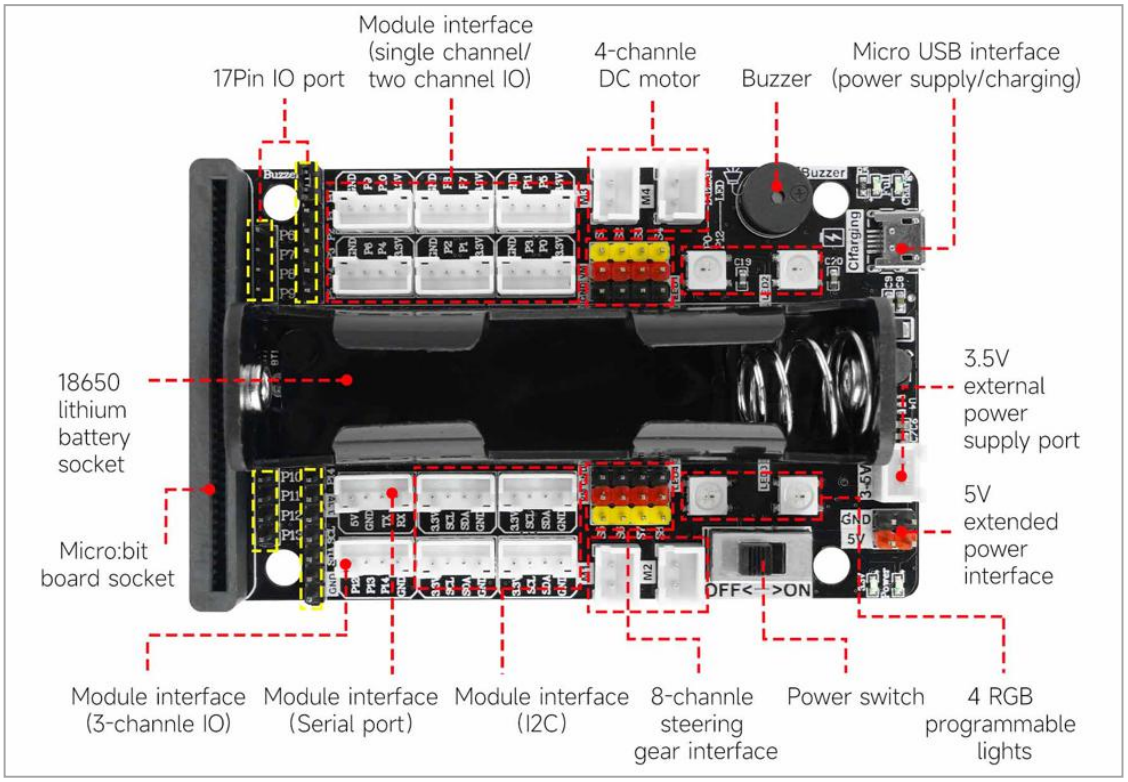
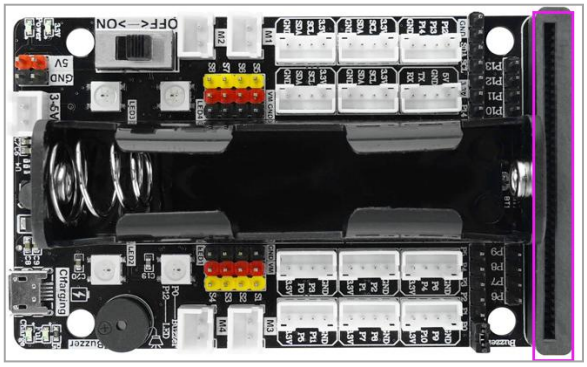
Introduction of Super:bit expansion board



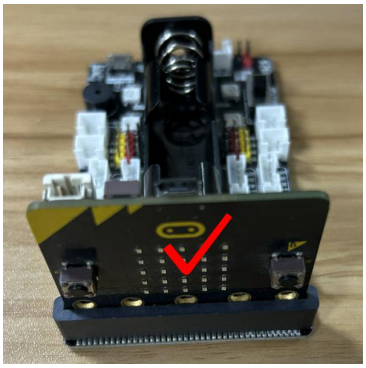
MakeCode extension package: **https://github.com/YahboomTechnology/SuperBitLibV2**

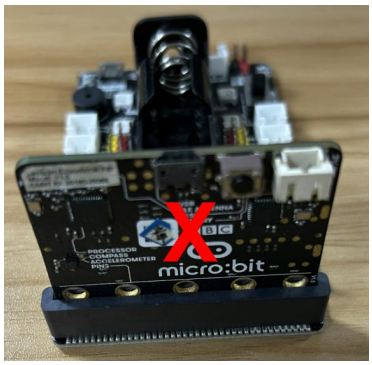
1. Micro:bit socket



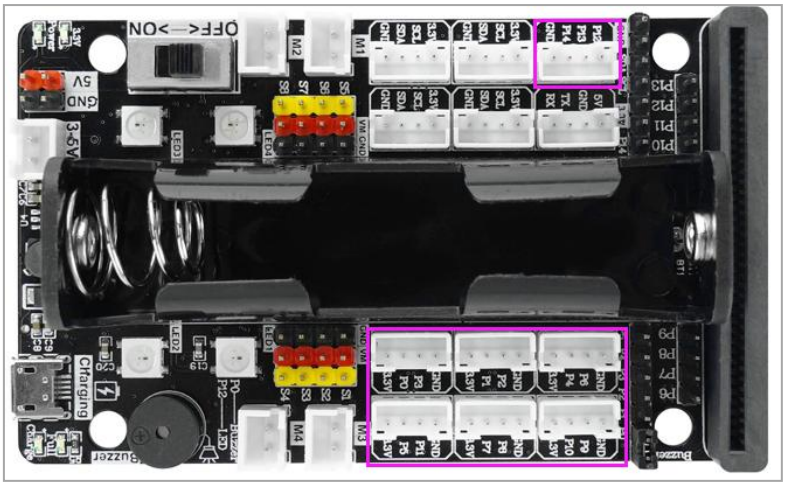
We can insert micro:bit board in here. As shown below.

！！！ Note: Direction of micro: bit board



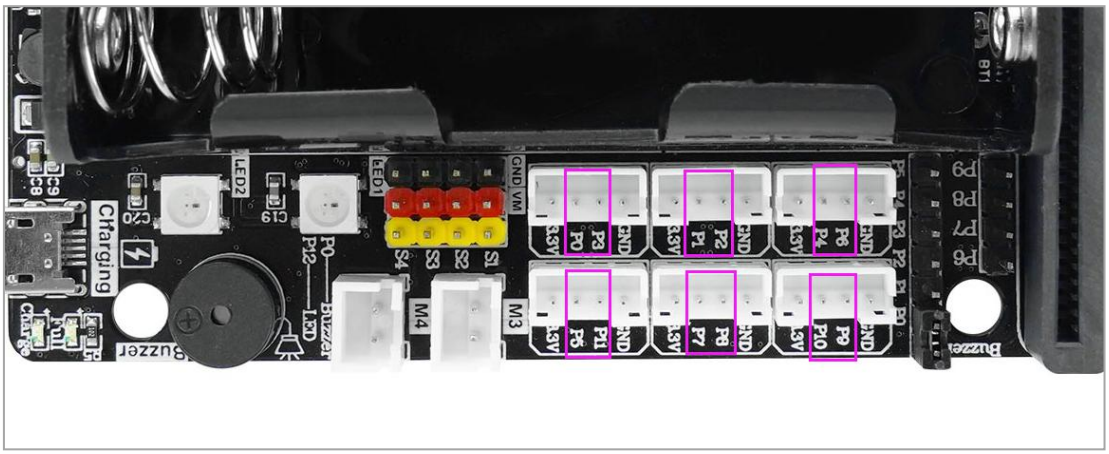


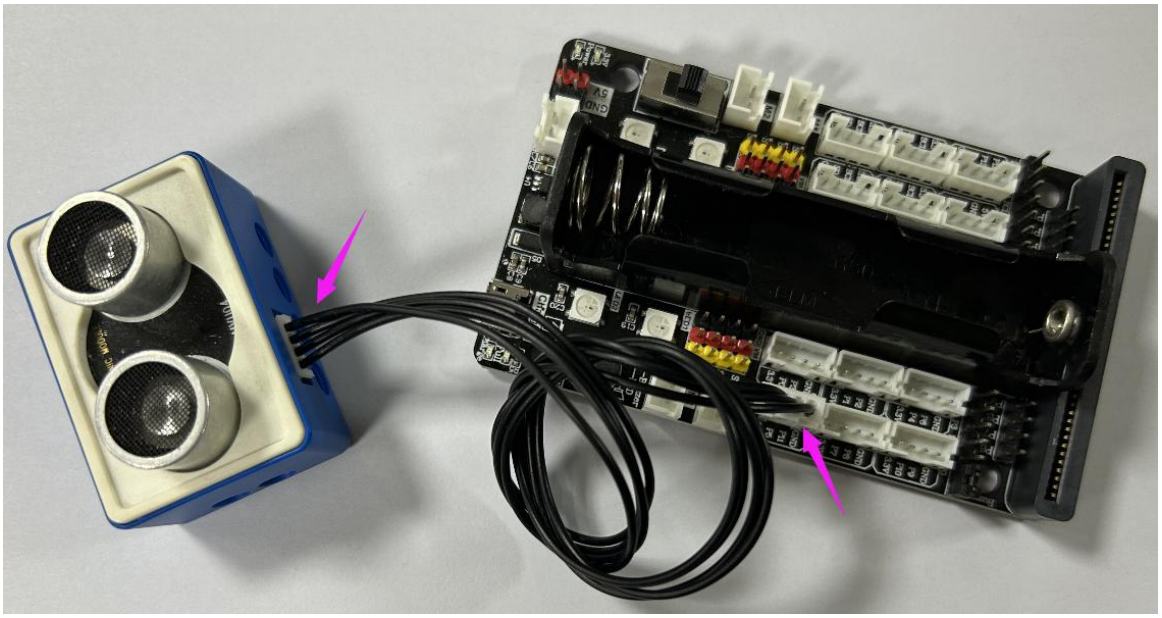
2. Sensor port



2.1 These port is PH2.0-4PIN.

2.2 When connecting modules, please pay attention to the pin order on the interface. As shown below.





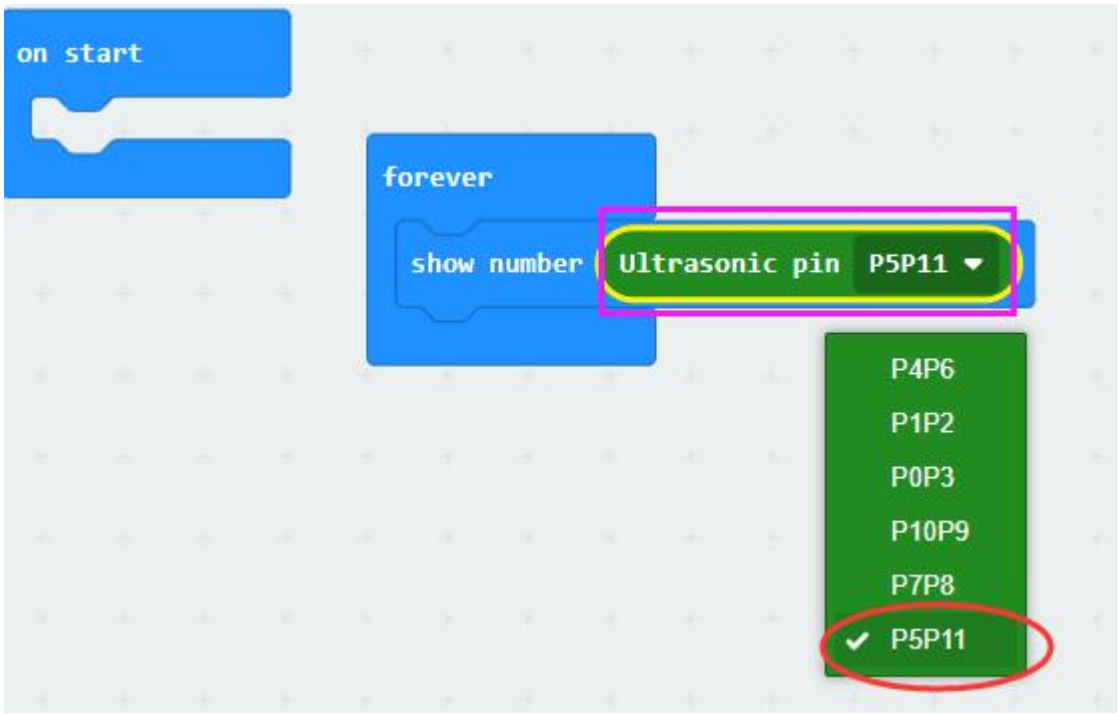
After connect sensor module.

You need to add extension package of corresponding module.

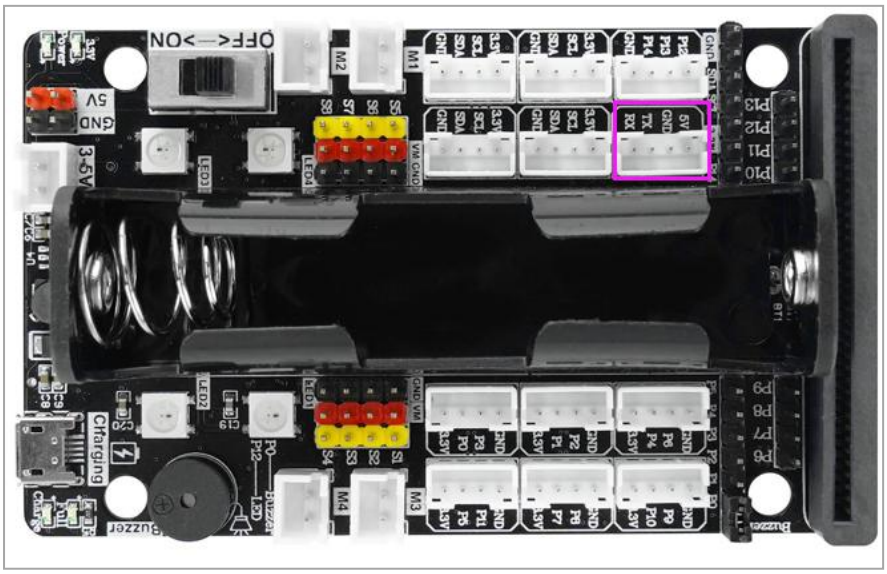
Eg: We use Yahboom Ultrasonic module.

Extension package link: **https://github.com/YahboomTechnology/SuperBitLibV2**

Then, you can use the following building blocks to control these modules. And choose correct pin。



3. Serial Port

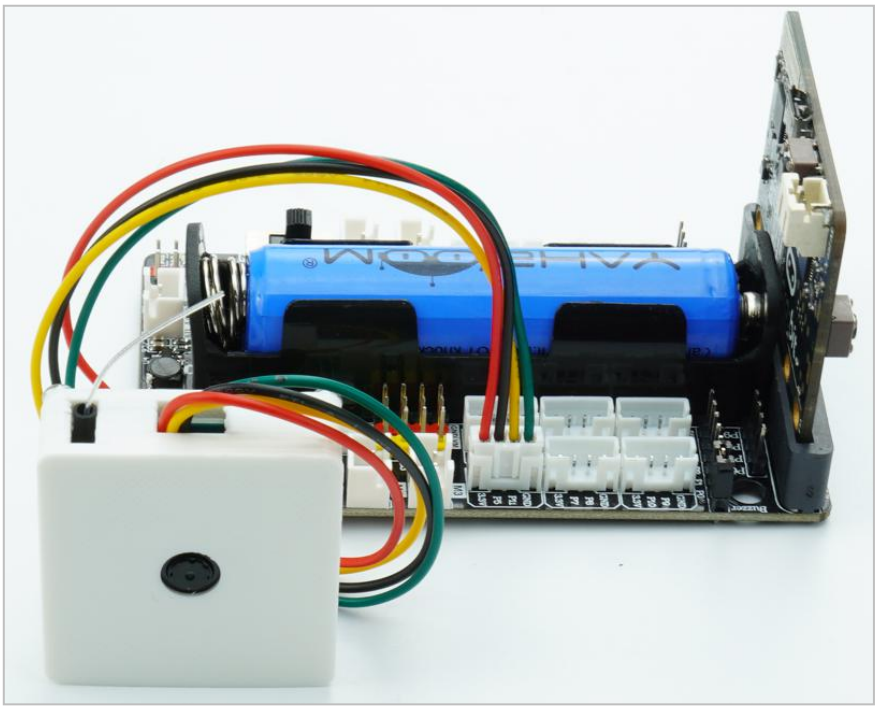


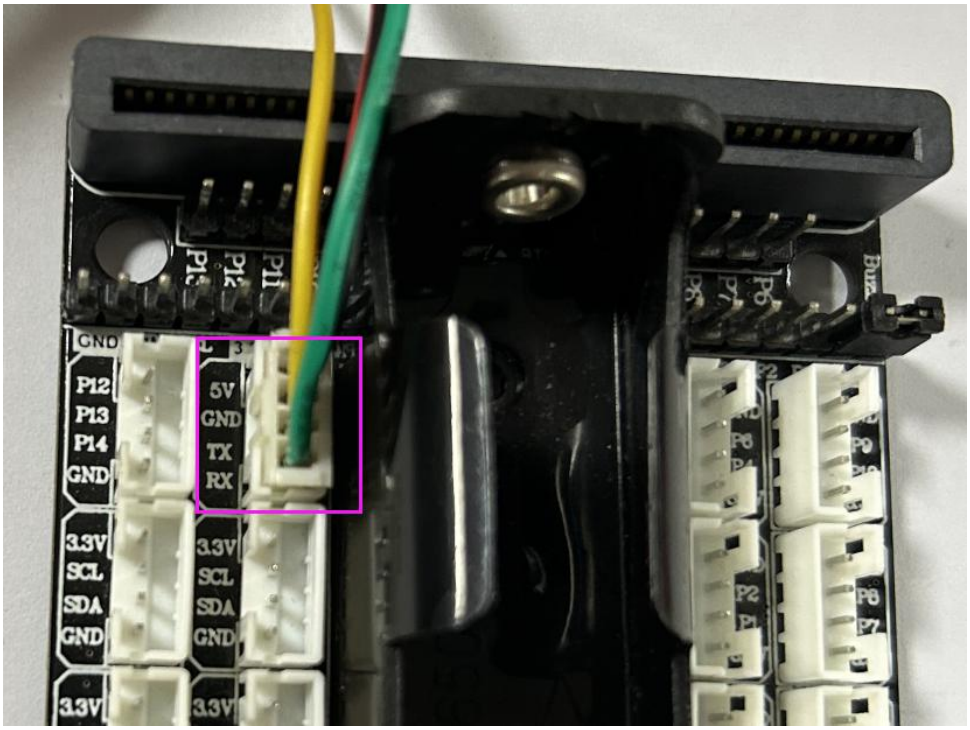
3.1 These port is PH2.0-4PIN.

3.2 This interface possess 4 pin: 5v, GND, TX, RX.

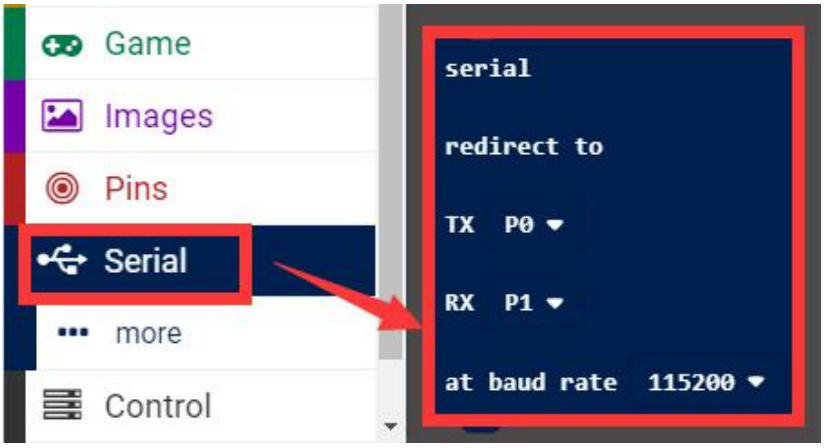
You can connect some module with Serial port communication. (For example: Wifi camera)

As shown below.





Micro:bit supports serial port redirection. If you want to use this serial port socket on the super:bit expansion board, Just set TX to P1 and RX to P2.
As shown below.



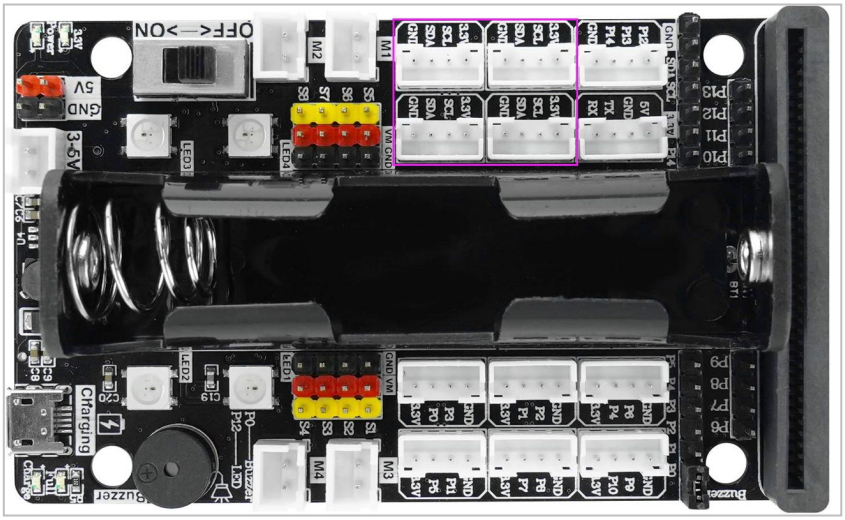
4. I2C Port

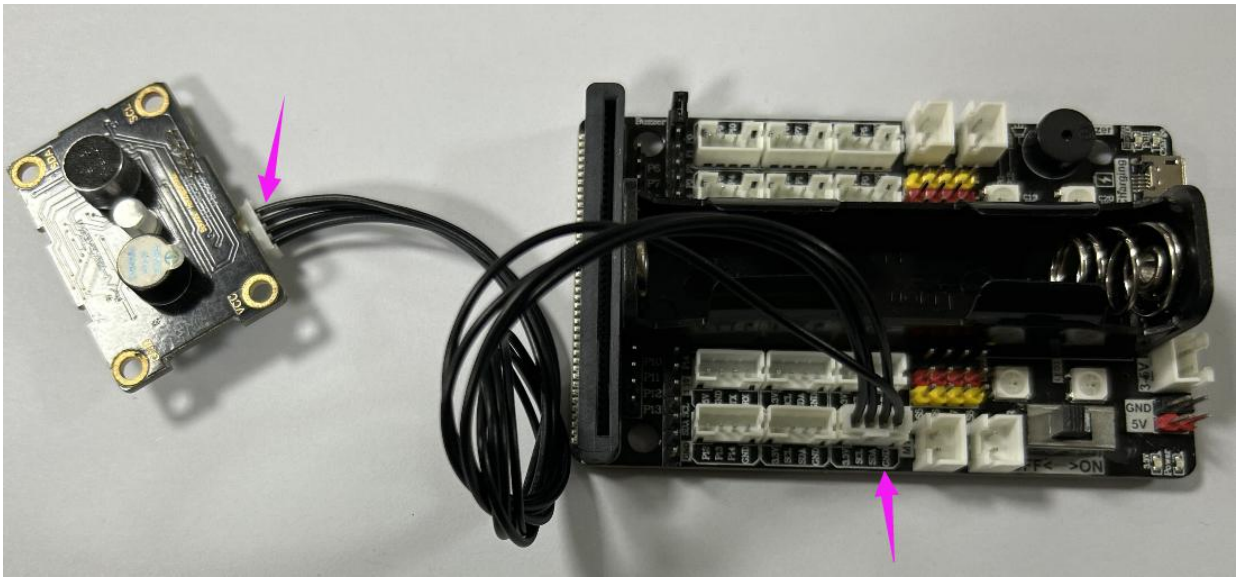
4.1 This interface possess 4 pin: 3.3v,SCL, SDA, GND.

4.2 The type is PH2.0 4PIN.

You can connect some module with I2C communication.

As shown below.





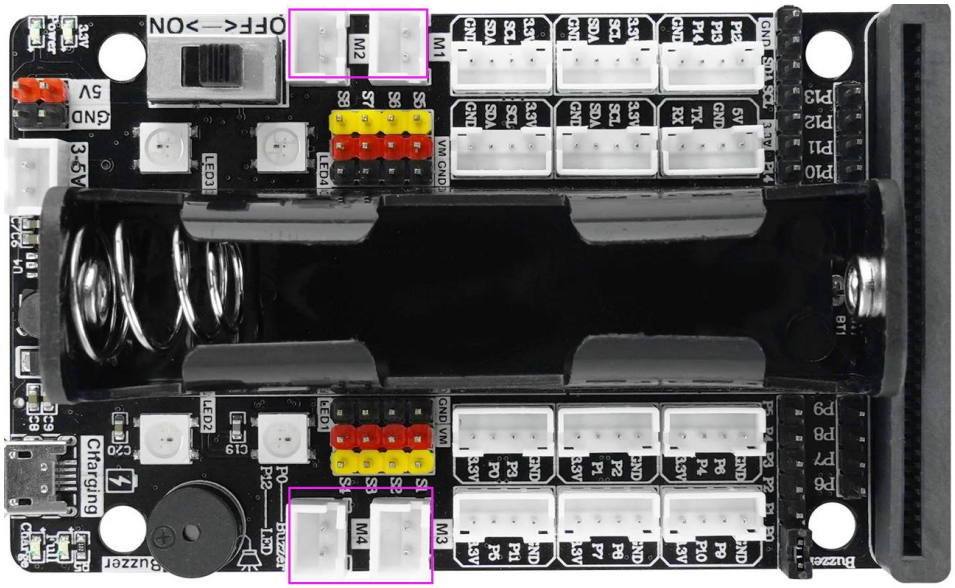
You need to add extension package of corresponding module.

Eg: We use Yahboom Voice module.

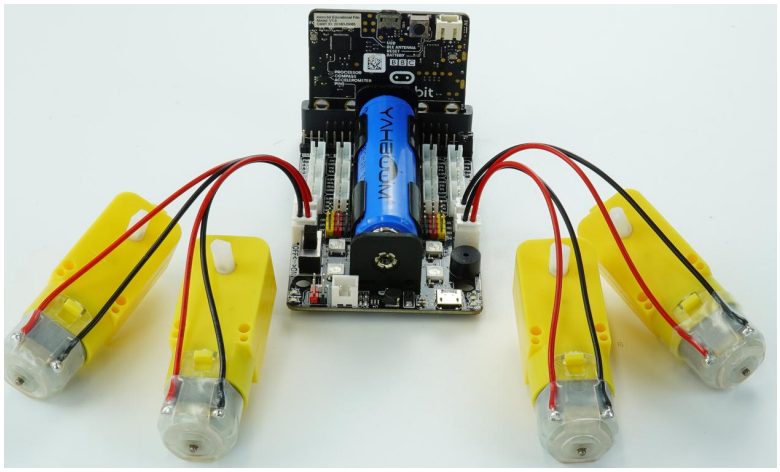
Extension package link: **https://github.com/YahboomTechnology/Speech**

```
on start
    SetVolume volume 5
    SetArticulation articulation_type Articulation_Word
    SetReader reader_type Reader_XiaoPing
    Speech_Text speech_text "Hello Yahboom"
    Wait XFS Status status ChipStatus_Idle
    SetReader reader_type Reader_XuJiu
    Speech_Text speech_text "Welcome"
    Wait XFS Status status ChipStatus_Idle
```

5. Motor interface

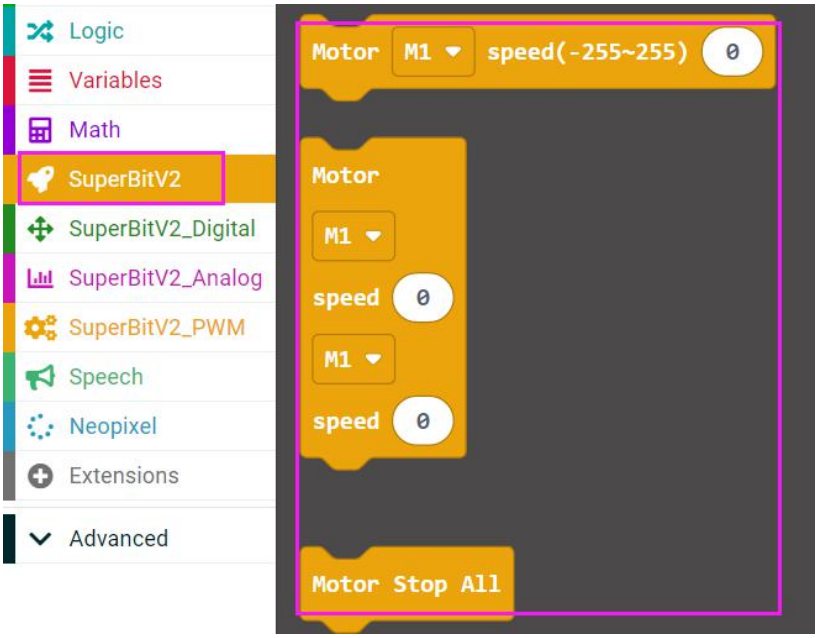


This interface can connect to TT DC motor or Building block motor. **Type is XH2.54-2PIN.**

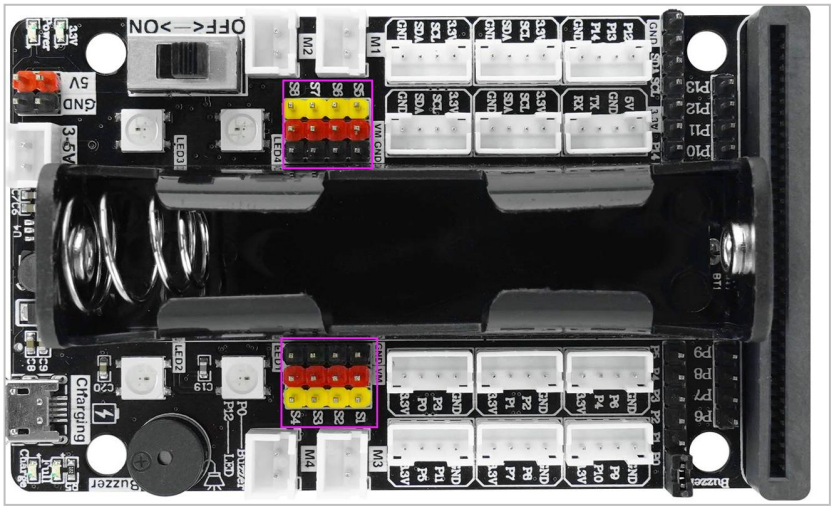


Note: The red line of the motor needs to be connected to +, The black line of the motor needs to be connected to -.

You need to add extension package: **https://github.com/YahboomTechnology/SuperBitLibV2** , then you can use the following building blocks to control these motor.



6. Servo interface



Super:bit expansion board possess 8 servo interfaces(3 pin) . It can connect servo or building block servo.

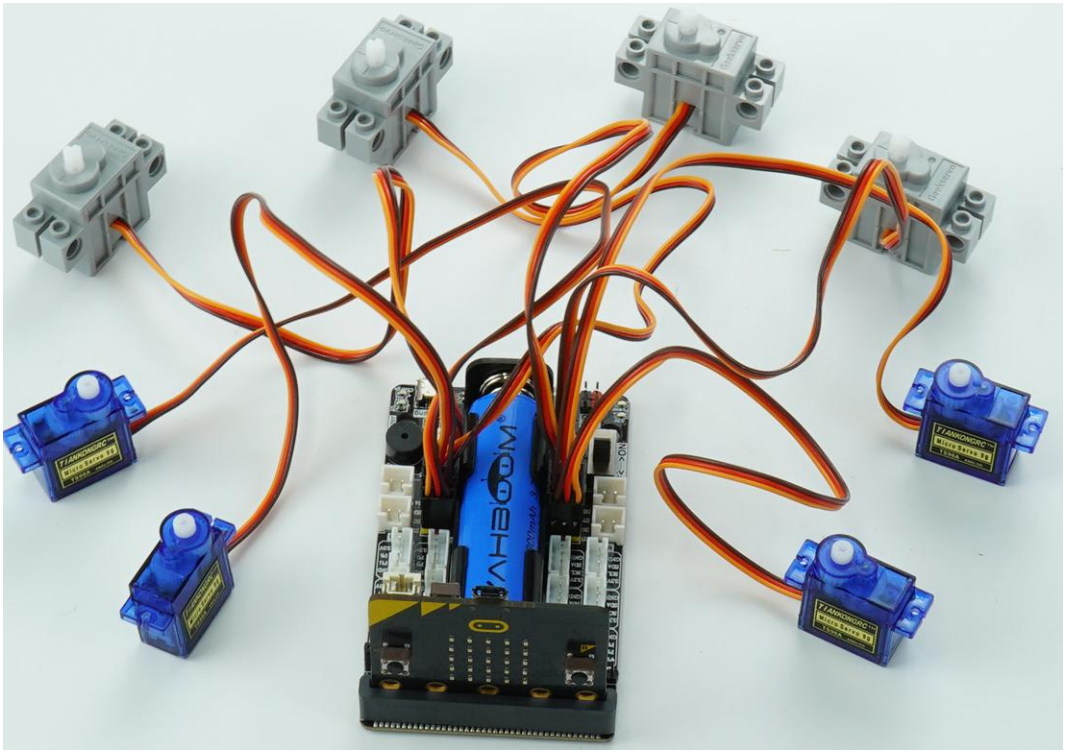
Note:

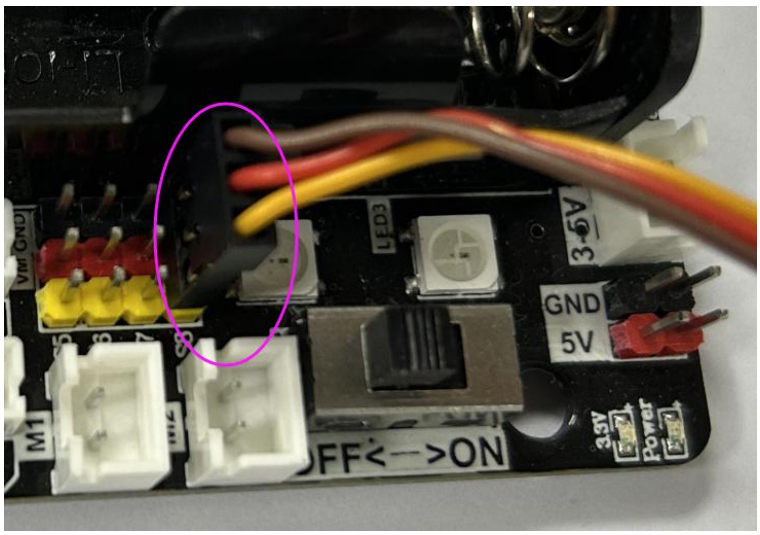
Red line of servo connect to red pin of servo interface on the super:bit expansion board.

Orange line of servo connect to yellow pin of servo interface on the super:bit expansion board.

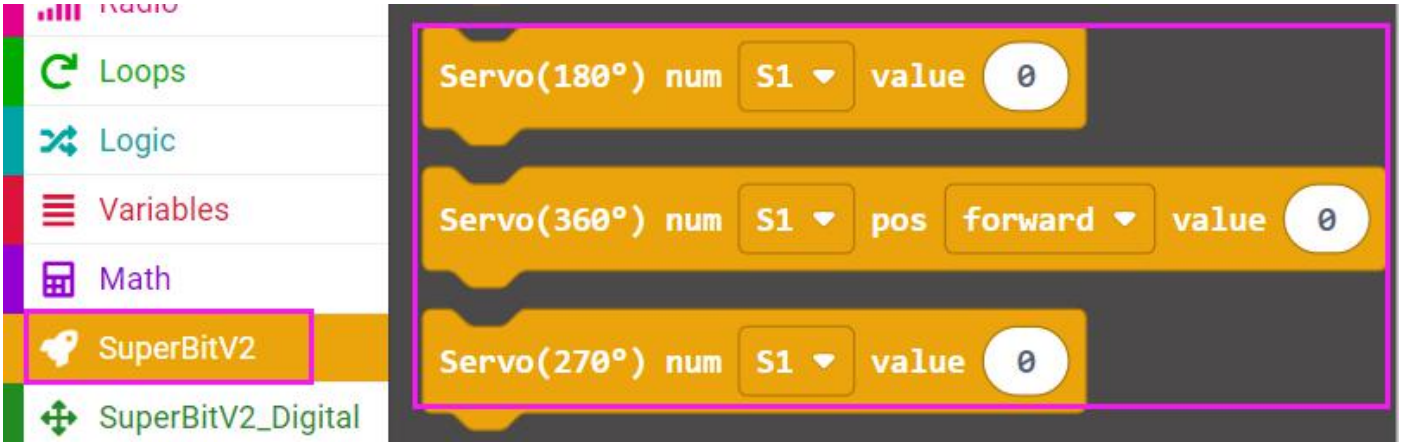
Brown line of servo connect to black pin of servo interface on the super:bit expansion board.

As shown below.

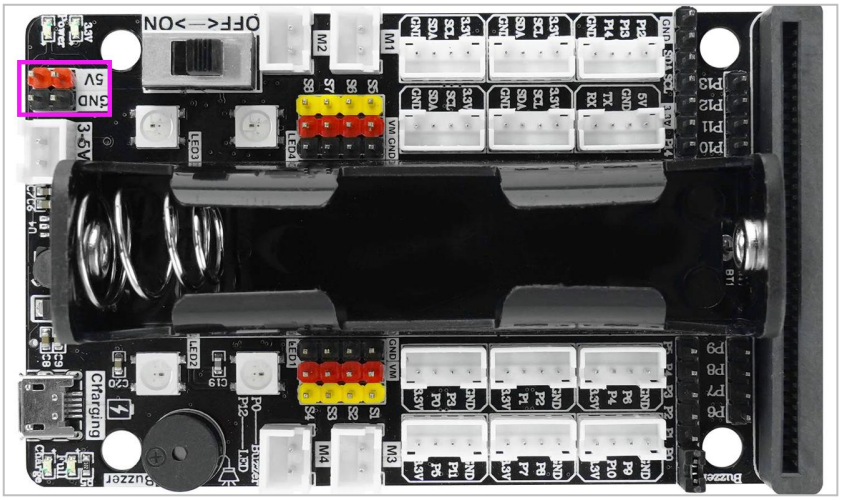




You need to add extension package: **https://github.com/YahboomTechnology/SuperBitLibV2**, then you can use the following building blocks to control these servo.

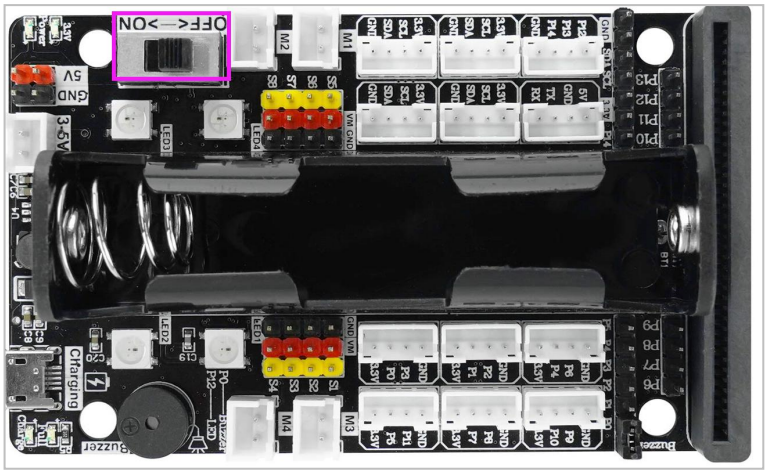


7. 5V/GND Pin header



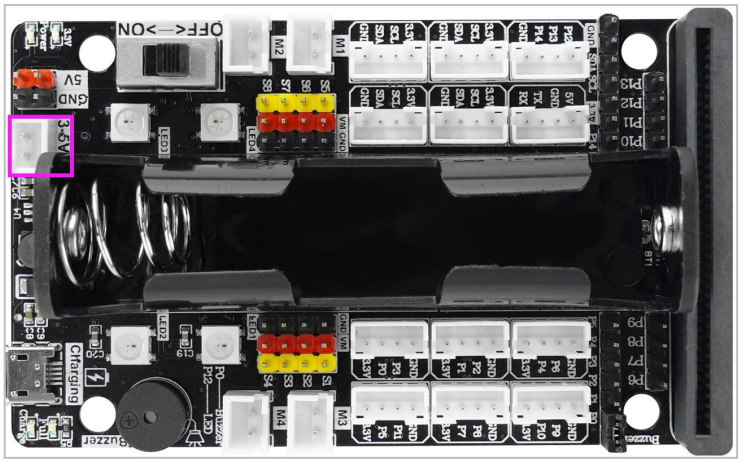
This is 5v/GND interface, which can connect the DuPont line to power other sensor modules.

8. Power switch



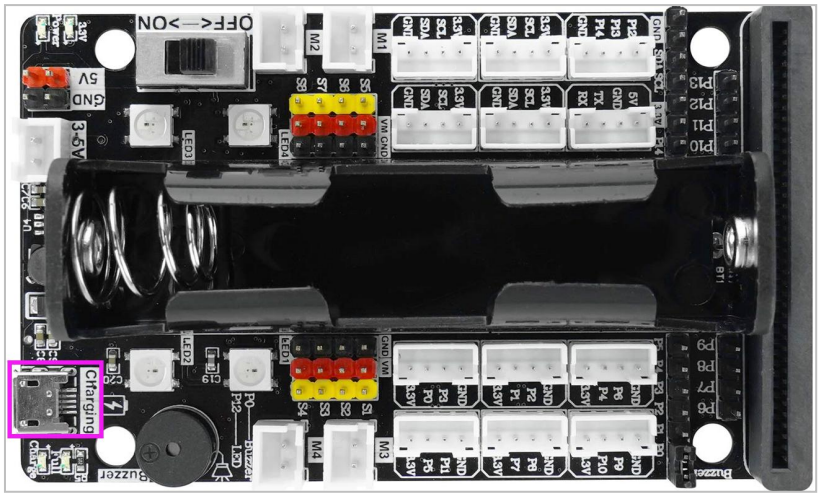
This is power switch of super:bit expansion board. When you want to use motor or servo, you must turn on this power switch to power supply .

9. 3V/5V external power supply port

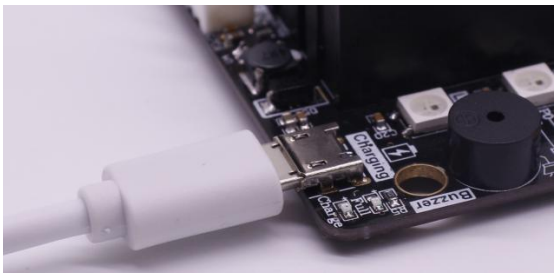


We can use this interface to power two AAA batteries.

10. Charging port



This is the interface for charging the 18650 battery. As shown below.

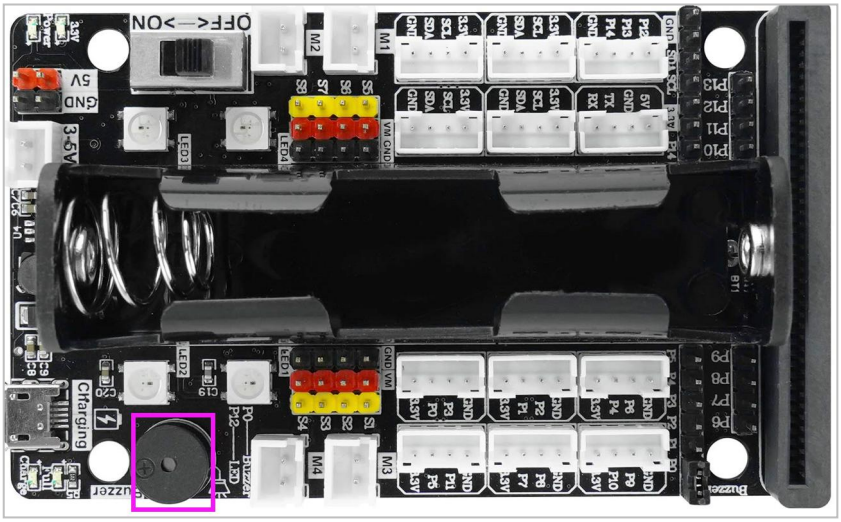


The other end of the charging cable needs to be connected to the USB interface of the computer.

About Battery and charging:

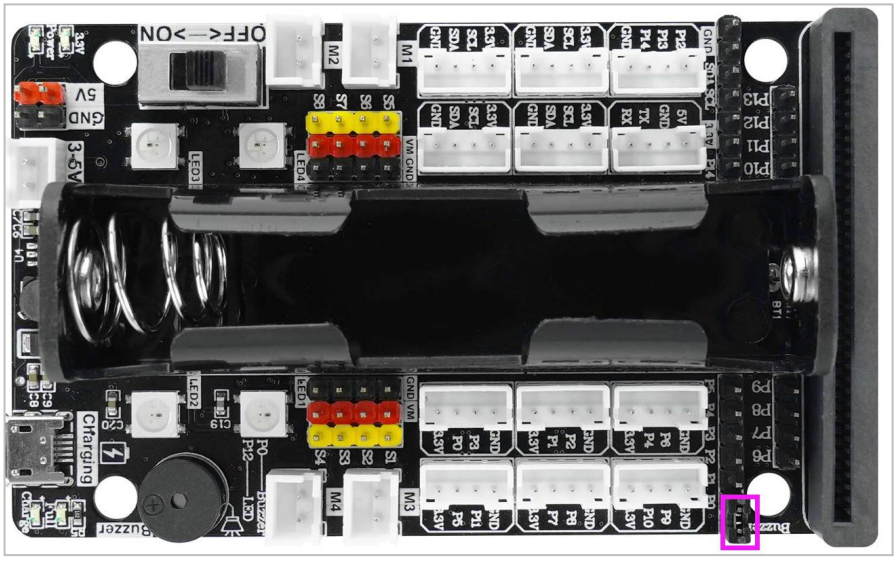
1) The battery needs to be charged in time at around **3.7V**. When the charging is completed, the battery voltage is about **4.2V**.
2) Turn off the power switch of the expansion board during charging.
3) The charging device indicator lights up red, and the indicator light turns green when fully charged.
4) If you do not use the it for a long time, you should unplug the battery cable . Because even if the it is in standby, the battery will be worn out.
5) If you have not used the it for a long time, you need to fully charge the battery before using it next time.
6) After charging is completed, the charger and power supply should be unplugged in time to avoid overcharging and damaging the battery.

11. Buzzer



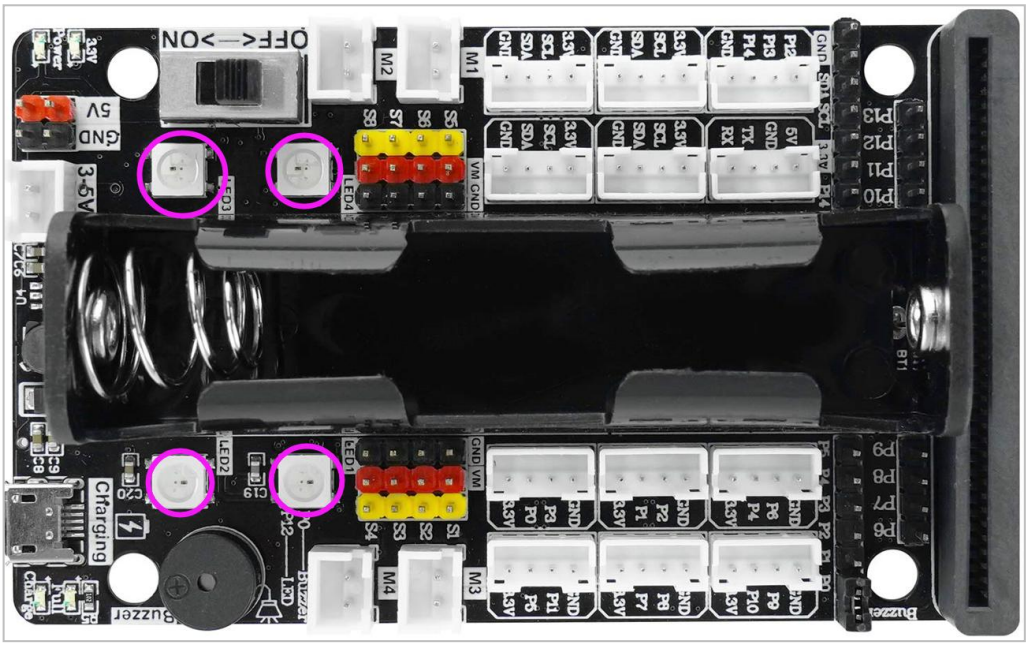
This is passive buzzer.

Note: If you want to use buzzer, you must connect this jumper cap. As shown below.



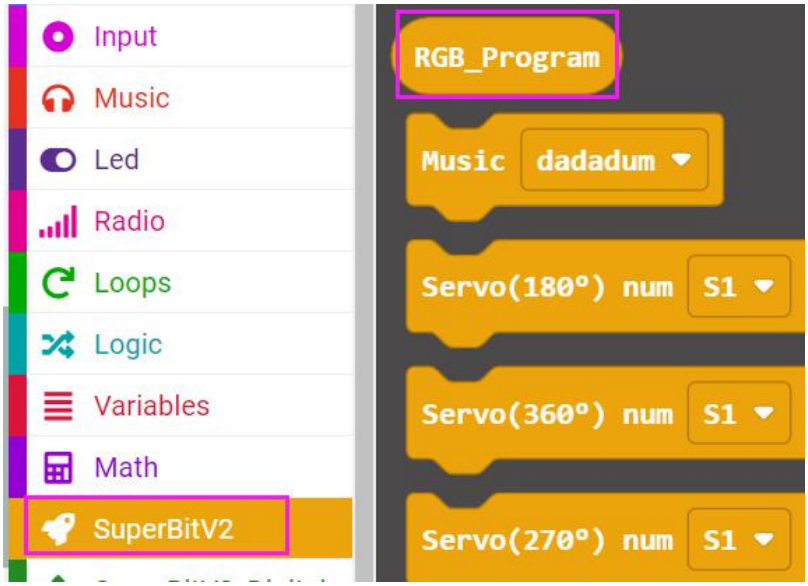
You need to add extension package: **https://github.com/YahboomTechnology/SuperBitLibV2**, then you can make buzzer play music.

12. LED light

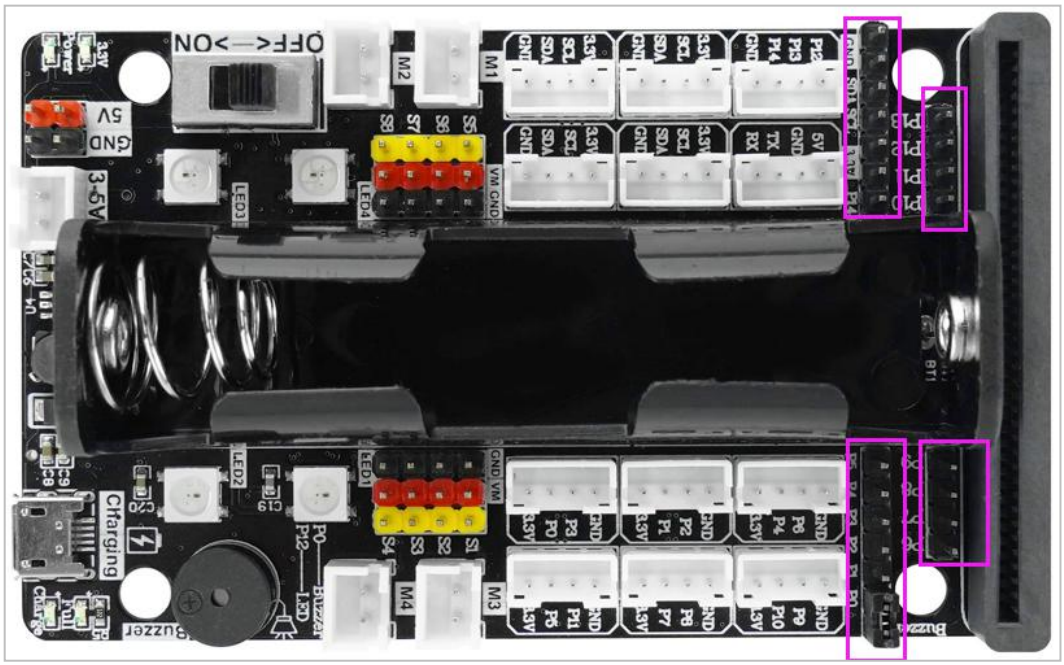


There are 4 LED light on the super:bit expansion board.

You need to add extension package:**https://github.com/YahboomTechnology/SuperBitLibV2**, then you can control 4 LED light.



13. 17pin GPIO



We expand 17 pin header IO ports to support our sensor modules.
p0, p1,p2,p3,p4,p5,p6,p7,p8,p9,p10,p11,p12,p13,p14,SCL,SDA.