

MSPM0-IO Method

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Experimental preparation

1. TI's MSPM0G3507 motherboard
2. 8-channel patrol module
3. Several Dupont cables

MSPM0G3507 board needs to download the I2C communication source code provided in the document**

Experimental purpose

The content of this experiment is mainly to use the MSPM0G3507 master control to receive the data of the 8-channel patrol module through I2C.

Experimental wiring

MSPM0G3507 connected to the serial port assistant

If the type-c port of the msp does not have the function of downloading programs, you need to use a USB to TTL module to connect to the computer. The wiring is described in the following table

MSPM0G3507	usb to ttl
PA10	TX
PA11	RX
VCC	VCC
GND	GND
If the MSPM0G3507 MCU type has a download function, you can directly use the type-c to connect to the computer's serial port assistant	

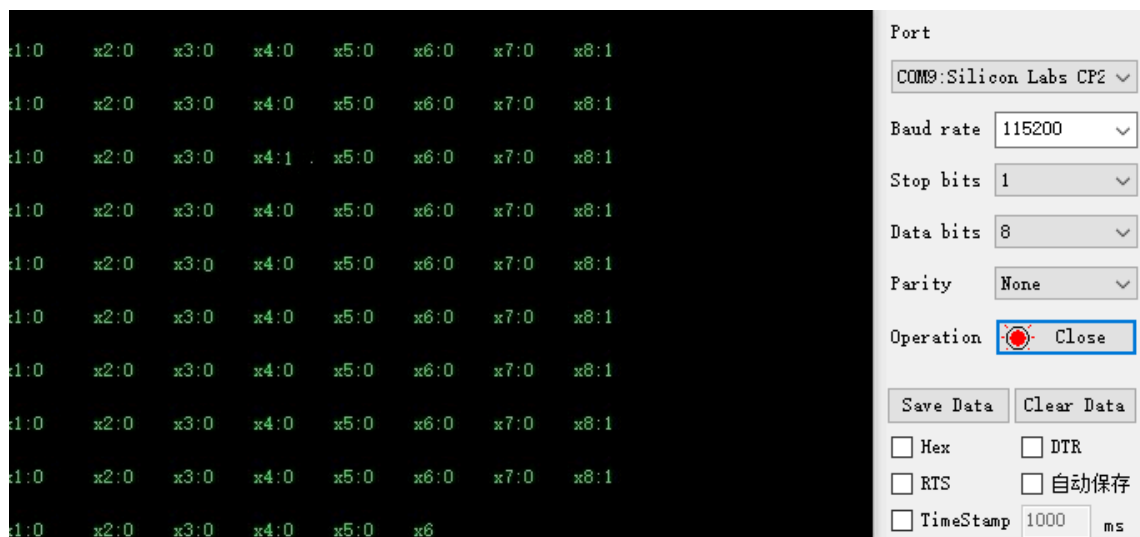
MSPM0G3507	8-channel line patrol module
PA0	SDA
PA1	SCL
5v	5v

MSPM0G3507	8-channel line patrol module
GND	GND

Experimental steps and phenomena

1. After connecting the wires, open the serial port assistant and you can see the numerical data of the infrared module. Set the baud rate to 115200.

As shown in the figure below



MSPM0 developers need to build the environment before compiling and running the project

Environment building tutorial:

<https://wiki.lckfb.com/zh-hans/dmx/beginner/install.html>

Experimental source code

```
//Main function
int main(void)
{
    SYSCFG_DL_init();

    //wait for the infrared module to be normal
    delay_ms(1000);
    delay_ms(1000);

    //Clear the serial port interrupt flag
    NVIC_ClearPendingIRQ(MYUART_INST_INT_IRQN);
    //Enable serial port interrupt
    NVIC_EnableIRQ(MYUART_INST_INT_IRQN);

    printf("start\r\n");

    IRI2C_WriteByte(0x01,1);//Control access calibration
    delay_ms(200);
    IRI2C_WriteByte(0x01,0);//Control exit calibration
```

```
    delay_ms(200);

    printf("okok\r\n");

    while (1)
    {

        printf_i2c_data();
        delay_ms(500);

    }
}
```

Before powering on, press and hold the reset pin of mspM0, wait for the infrared module to work normally, and then release the reset button of MSP, otherwise it is easy to cause i2c deadlock.

The main function of the source code is very simple, reading the probe pins of 8-way patrol line and printing them out.