

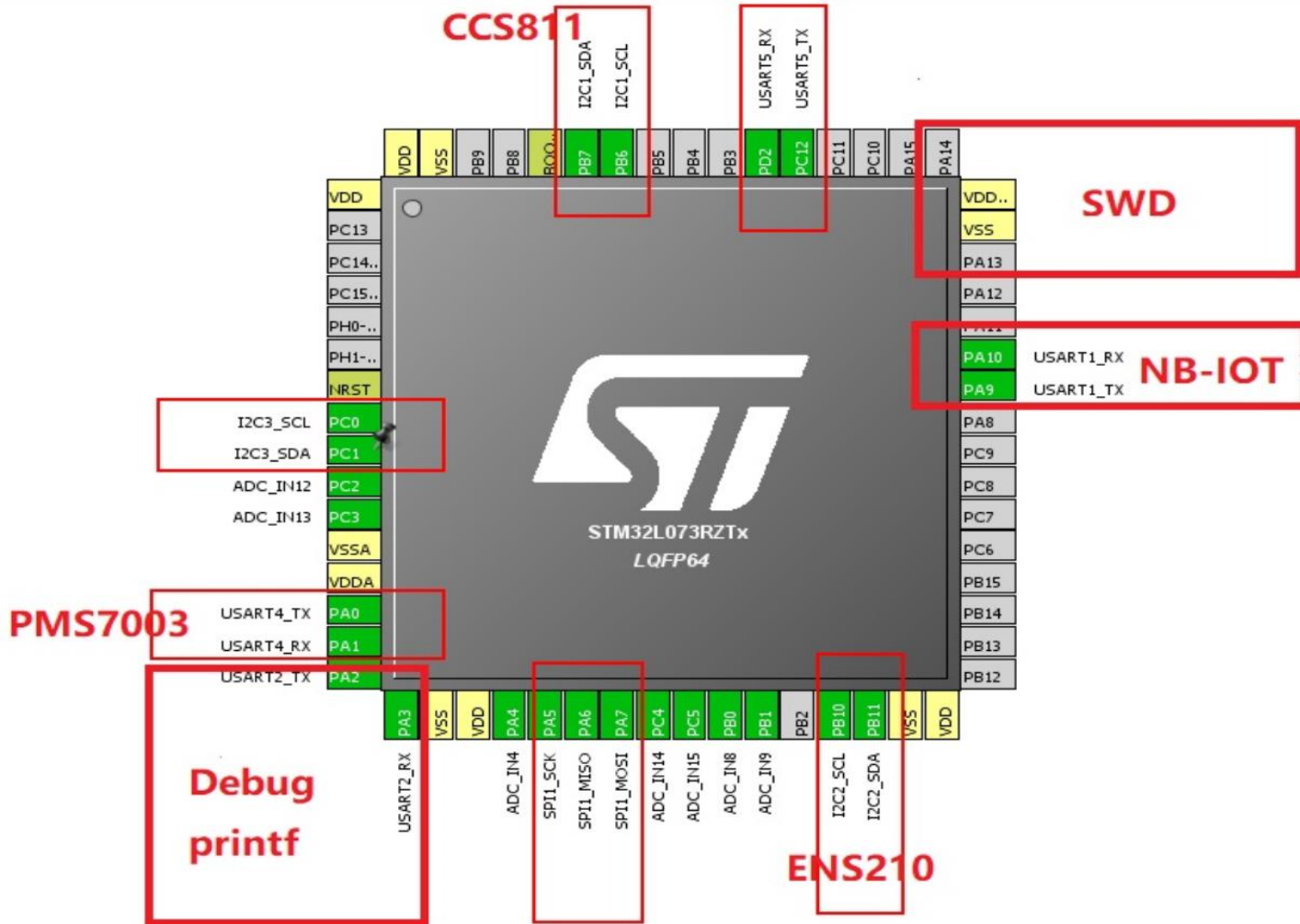


2018大聯大創新大賽 開發板使用說明- (Neoway NB-IoT N20)

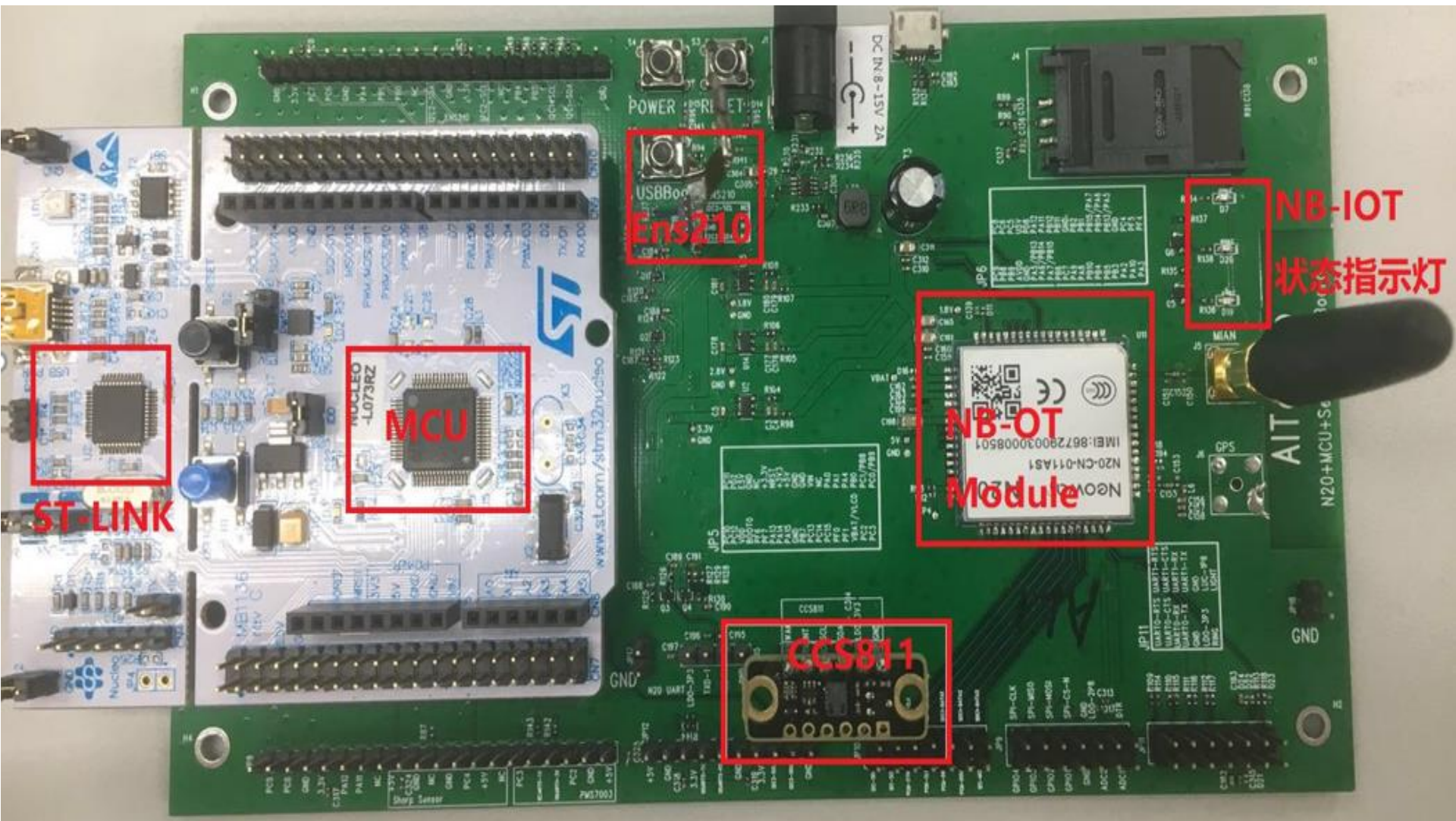
AITg team of 2018 WPG i-Design

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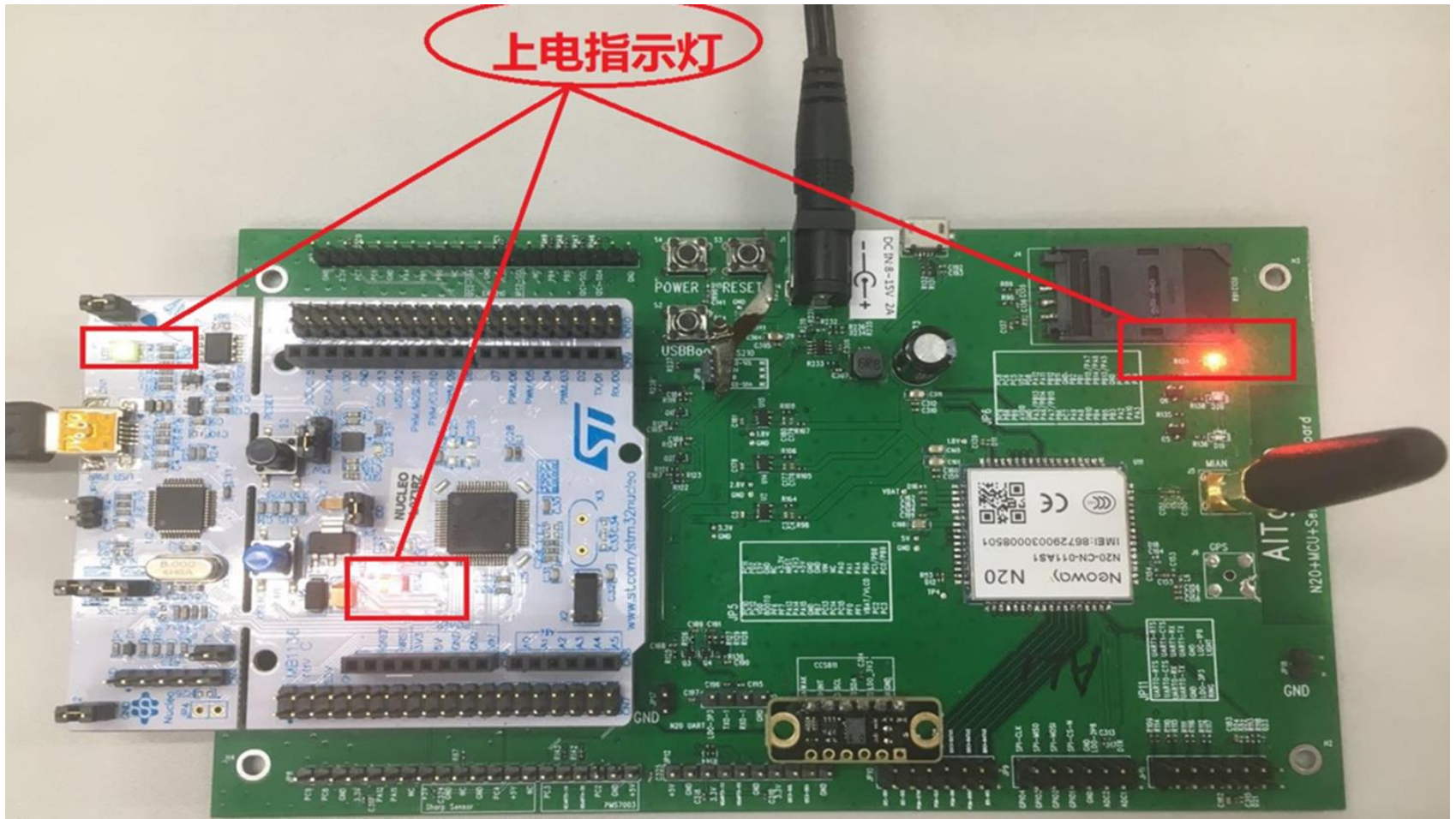
开发之MCU



开发板功能简介



上电



开机



外设sensor软件调试说明



1, ENS210 初始化, 打印测试温湿度数据

```
if(ENS210_Init())
{
    //Print Measurement
    ENS210_Print_Measurement();
}
else
{
    printf("ENS210 initialization failed.\n");
}
```

外设sensor调试说明



CCS811初始化

```
init_ccs811();
void HAL_GPIO_EXTI_Callback(uint16_t GPIO_Pin) //中断回调
{
    switch(GPIO_Pin)
    {
        case button_Pin:
            pushbutton = 1;
            break;
        case GPIO_PIN_5: //CCS811 中断触发
            CCS811_Measurement();
            break;
        default:
            break;
    }
}
```

外设sensor调试说明



CCS811 挥发气体数据读取

```
void CCS811_Measurement()
{
    int16_t eCO2,TVOC;
    i2c1_write(CCS_811_ADDRESS, ALG_RESULT_DATA, i2c1_buff, 0);
    i2c1_read(CCS_811_ADDRESS,ALG_RESULT_DATA, i2c1_buff, 4);
    eCO2 = (int16_t)i2c1_buff[0];
    TVOC = (int16_t)i2c1_buff[2];
    printf("\n \n\n \nCCS811..... \n");
    printf("eCO2: %d \n",eCO2);
    printf("TVOC: %d \n",TVOC);
}
```




NB-IOT

```
module_init(); //设置初始状态
void HAL_GPIO_EXTI_Callback(uint16_t GPIO_Pin) //中断回调函数
{
    switch(GPIO_Pin)
    {
        case button_Pin: //按键
            pushbutton = 1;
            break;
        case GPIO_PIN_5: //CCS811 中断触发
            CCS811_Measurement();
            break;
        default:
            break;
    }
}
```

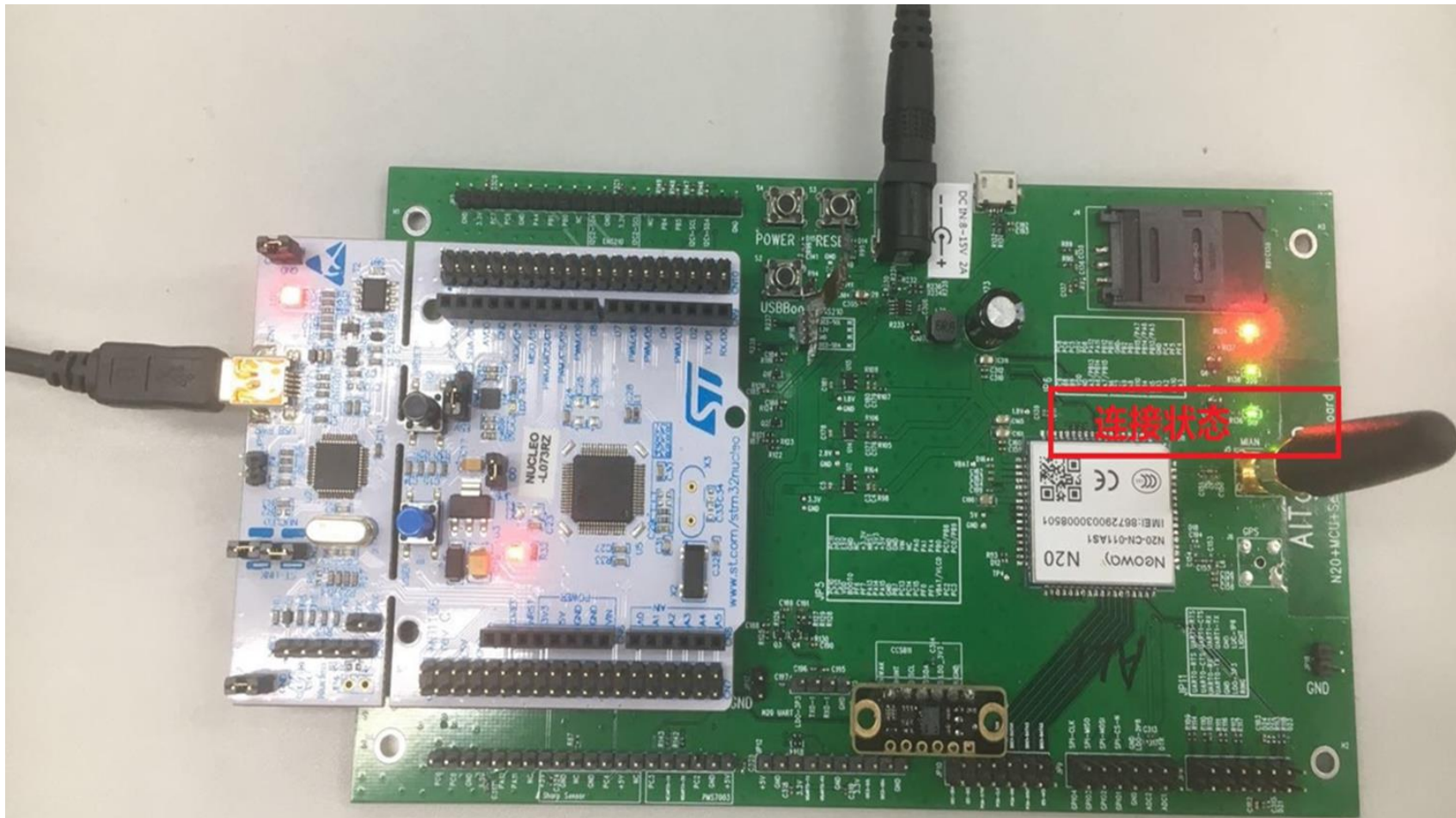


NB-IOT

```
while(1)
{
    if(recv_ok)
    {

        if(rx_len > 0)
        {
            rx_len = 0 ;
            set_response(AT_CMD_SUCCESS);
            recv_ok = 0;
            start_parse_response();
        }
    }
    if(pushbutton == 1)
    {
        pushbutton = 0 ;
        cloud_auth();
    }
}
```

网络连接





参考文档

[STM32L073数据手册.pdf](#)

[STM32L0x3RM-寄存器手册.pdf](#)

[STM32L0 series programming manual.pdf](#)

[MB1136.pdf](#)

[ENS210 Doc cDesign-Guidelines AN000391 v1-03.pdf](#)

[PMS7003颗粒物传感器中文说明书 V2.2 .pdf](#)

[CCS811 Doc cAppNote-Programming-Interfacing-Guide AN000369 v6..pdf](#)