

Unit LoRaWAN915

I 案例程序

配置 LoRaWAN915 并连接网络

The diagram shows a Scratch-style block diagram for configuring and connecting a LoRaWAN915 module. It is divided into two main sections: Setup and Loop.

Setup Section:

- LoRaWAN915_0 Set join mode** (OTA)
- LoRaWAN915_0 Config** (OTA mode)
 - device eui * (" ")
 - app key * (" ")
 - app eui (" ")
- LoRaWAN915_0 Config** (LoRaWAN915_0)
 - frequency band mask (0 ~ 7 (freqs 915.2 ~ 916.6))
 - RX window param
 - RX1 offset (0)
 - RX2 datarate (SF12) BW125
 - RX2 freq (Hz) (923300000)
 - class mode (classC)
 - uplink downlink (same frequency) mode
- LoRaWAN915_0 Start join LoRaWAN network**
 - open (auto join)
 - period (seconds) (8)
 - maximum number of attempts (8)
- set flag** to false

Loop Section:

- if** not flag and LoRaWAN915_0 Check join status
 - do**
 - set flag to true
 - print "Joined"
- if** flag
 - do**
 - LoRaWAN915_0 Send data payload (" M5STACK ") confirm try times (5) (1 ~ 15)
 - print LoRaWAN915_0 Check and receive downlink data
- Wait** (10) s

```

from m5stack import *
from m5ui import *
from uiflow import *
import time
import unit

setScreenColor(0x222222)
LoRaWAN915_0 = unit.get(unit.LoRaWAN, unit.PORTC)

flag = None

LoRaWAN915_0.set_join_mode(0)
LoRaWAN915_0.config_OTAA('', '', '')
LoRaWAN915_0.set_frequency_band_mask('0001')
LoRaWAN915_0.set_rx_window_param(0, 0, 923300000)
LoRaWAN915_0.set_class_mode(2)
LoRaWAN915_0.set_uplink_downlink_mode(1)
LoRaWAN915_0.join(1, 1, 8, 8)
flag = False
while True:
    if not flag and LoRaWAN915_0.check_join_status():
        flag = True
        print('Joined')
    if flag:
        LoRaWAN915_0.send_data('M5STACK', 1, 5)
        print(LoRaWAN915_0.check_downlink_data())
    wait(10)
    wait_ms(2)

```

功能说明

LoRaWAN915_0 Set core uart ID num 1

```
LoRaWAN915_0.uart_port_id(1)
```

- 设置核心 UART ID

LoRaWAN915_0 Check and receive downlink data

```
print((str('ckeck downlink data:') + str(LoRaWAN915_0.check_downlink_data())))
```

- 检查并接收下行链路数据

LoRaWAN915_0 Check join status

```
print((str('status:') + str(LoRaWAN915_0.check_join_status())))
```

- 检查加入状态

LoRaWAN915_0 Check uplink data status

```
print((str('uplink data status:') + str(LoRaWAN915_0.check_uplink_status())))
```

- 检查上行链路数据状态

Config LoRaWAN915_0

frequency band mask 0 ~ 7 (freqs 915.2 ~ 916.6)

RX window param

RX1 offset 0

RX2 datarate SF12 BW125

RX2 freq (Hz) 923300000

class mode classA

uplink downlink same frequency mode

```
LoRaWAN915_0.set_frequency_band_mask('')
LoRaWAN915_0.set_rx_window_param(0, 0, 869525000)
LoRaWAN915_0.set_class_mode(0)
LoRaWAN915_0.set_uplink_downlink_mode(1)
```

- 配置 Config 参数
 - frequency band mask: 频段掩码
 - RX window param: 接收窗口参数
 - RX1 offset: RX1窗口偏移
 - RX2 datarate SF12 BW125: RX2窗口的数据速率 (扩频因子12, 带宽125kHz)
 - RX2 freq(H1): RX2窗口频率
 - class mode classA: 设备模式 (Class A)
 - uplink downlin same frequency mode: 上行下行同频模式

LoRaWAN915_0

Config OTAA mode

device eui *

app key *

app eui

```
LoRaWAN915_0.config_OTAA('afeafe53453453adsfsdf423', 'gffgfd5-546fgdg-ggfd', '33453453-4564-54')
```

- Config OTAA mode
 - device eui
 - app key
 - app eui

LoRaWAN915_0 ▾ Get ABP config

```
print((str('ABP Config:') + str(LoRaWAN915_0.get_ABP_config())))
```

- 获取 ABP 配置

LoRaWAN915_0 ▾ Get OTAA config

```
print((str('OTAA Config:') + str(LoRaWAN915_0.get_OTAA_config())))
```

- 获取 OTTA 配置

LoRaWAN915_0 ▾ Start join LoRaWAN network

open ▾ auto join	
period (seconds)	8
maximum number of attempts	1

```
LoRaWAN915_0.join(1, 1, 8, 1)
```

- 加入 LoRaWAN 网络配置
 - open auto join
 - period (seconds)
 - maximum number of attempts

LoRaWAN915_0 ▾ Stop join LoRaWAN network

```
LoRaWAN915_0.join(0)
```

- 停止加入 LoRaWAN 网络

LoRaWAN915_0 ▾ Receive downlink data from buffer

```
print((str('downlink data:') + str((LoRaWAN915_0.receive_data()))))
```

- 从缓冲区接收下行链路数据

LoRaWAN915_0 ▾ Send data payload “ ” unconfirm ▾

```
LoRaWAN915_0.send_data('')
```

- 发送数据负载

LoRaWAN915_0 ▾ Set join mode OTAA ▾

```
LoRaWAN915_0.set_join_mode(0)
```

- 设置加入模式
 - OTTA
 - ABP

LoRaWAN915_0 ▾ Set uplink app port 1 (1 ~ 233)

```
LoRaWAN915_0.set_uplink_app_port(1)
```

- 设置上行链路应用端口 (1~233)