

E22/E32/E220系列LORA无线模块

EBYTE串口模组Arduino库驱动使用说明





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简介:

使用Arduino IDE进行编程时都希望越简单越好,一般驱动外设都是调用库文件。 我们亿佰特的E22、E32、E220系列 Lora串口模组也具有Arduino库文件,可以使用Arduino/esp32/esp8266 三种类型设备以Arduino库文件的方式来驱动这几 种Lora串口模块。

第一步 下载安装库文件

1、打开Arduino IDE,选择Tools-->Manage Libraries

💿 sk	ketch_jan16a Ard	luino IDE 2.0.3		
File	Edit Sketch To	ools Help		
•	€ €	Auto Format Archive Sketch	Ctrl+T	
P	LIBRARY	Manage Libraries	Ctrl+Shift+I	
	Filter you	Serial Monitor	Ctrl+Shift+M	de here, to run once:
1_] Type:	Serial Plotter		
	Topic:	WiFi101 / WiFiNINA Firmware Updater		
	Arduino Example	Upload SSL Root Certificates		
	Examples	Board: "ESP32-WROOM-DA Module"	•	e here, to run repeatedly:
\$	cloud pro	Port: "COM34"	•	
	More info	Get Board Info		
Q	1.2.0 •			-

2、在库管理中分别搜索E22、E220、E32,选择名字为EBYTE LoRa E22/E32/E220 library by Renzo Mischianti的库安装



第二步 E22例程使用分析

1、连接方式

E22与Arduino、ESP32、ESP8266连接方式如下: ①按下表顺序连接E22模块和Arduino Copyright ©2012-2020,成都亿佰特电子科技有限公司

E22	Arduino
MO	7
M1	6
RX	4
ТХ	5
AUX	3
VCC	3.3V/5V
GND	GND

②按下表顺序连接E22模块和esp32

E22	ESP32
MO	19
M1	21
RX	TX2 (17)
ТХ	RX2 (16)
AUX	18
VCC	3.3V/5V
GND	GND

③按下表顺序连接E22模块和esp8266

E22	ESP8266
MO	D7
M1	D6
RX	D3
ТХ	D4
AUX	D5
VCC	3.3V/5V
GND	GND

2、读取模块参数

①打开Arduino IDE,

arduino选择file->Examples->Ebyte LoRa E22 library->Arduino_e22_getConfiguration, esp32选择file->Examples->Ebyte LoRa E22 library->esp32_e22_getConfiguration, esp8266选择file->Examples->Ebyte LoRa E22 library->esp32_e22_getConfiguration。

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File Edit Sketch	Tools Help			
New Sketch	Ctrl+N	-		
New Remote S	ketch Alt+Ctrl+N			
Open	Ctrl+O			
Open Recent				
Examples	•	Built-in examples		
Close	Ctrl+W	01.Basics	• >	
Save	Ctrl+S	02.Digital	<pre>ries/ebyte-lora-e22-devices/</pre>	
Save As	Ctrl+Shift+S	03.Analog	•	
Preferences	Ctrl+逗号	04.Communication	•	
	85.000 00	05.Control	•	
Advanced	•	06.Sensors	*	
Quit	Ctrl+Q	07.Display	*	
13	* VCC	08.Strings	•	
14	* GND	09.USB	Arduino_e22_04_SendFixedTransmission	
15	*	10.StarterKit_BasicKit	Arduino_e22_05_SendFixedTransmissionStructure	
16	#include "Arduing	11.ArduinoISP	Arduino_e22_06_WakeUpFromWOR	
18	#include "LoRa E:	Examples for Arduine Unc	Arduino e22 07 sendBroadcastMessage	
19	_		Arduino e22 08 receiveMessage	
20	// est	EEPROM	Arduino e22 getConfiguration Arduino	
21	//LoRa_E22 e22tt	Ethernet	Arduino_cc2_geteeningaration	
22	// LORA_E22 e22t	Firmata	Arduino_e22_serianansparent	91
24	,, LUND_LEE LEELL	Keyboard	Arduino_MKP_Nano_22_o22_01_actCarGauratian	
25	//#include <soft< th=""><th>LiquidCrystal</th><th>Arduino_MKR_Nano_33_e22_01_setConfiguration</th><th></th></soft<>	LiquidCrystal	Arduino_MKR_Nano_33_e22_01_setConfiguration	
26	//SoftwareSerial	SD	Arduino_MKR_Nano_33_e22_05_sendStructurePartial	
27	//LoRa_E22 e22tt	Servo	Arduino_MKR_Nano_33_e22_sendFixedTransmissionWOR	
28	//	SoftwareSerial	esp32_06_SendFixedTransmissionWOR	
30	// Ar(SPI	esp32_e22_03_SendTransparentStructure	
31	//LoRa_E22 e22tt	Stepper	esp32_e22_04_SendFixedTransmission	
32	//LoRa_E22 e22tt	TFT	esp32_e22_05_SendFixedTransmissionStructure	
33	Minaluda (Calleria	Wire	esp32_e22_05_sendFixedTransmissionStructurePartial	
Output		Freedow Contract 17	esp32_e22_getConfiguration esp32	
Sketc	h uses 10828 bytes	Examples from Custom Libraries	s esp32_e22_sendBroadcastMessage	
Globa	l variables use 38	EByte LoRa E22 library	esp32_e22_SendTransparent	m is 2048 bytes.
		EByte LoRa E220 library	esp32_e22_setConfiguration	
		EByte LoRa E32 library	esp8266_e22_02_SendTransparent	
		U8g2	▶ esp8266_e22_03_SendTransparentStructure	
			esp8266_e22_04_SendFixedTransmission	
			esp8266 e22 05 SendFixedTransmissionStructure	
			esp8266 e22 06 WakeUpFromWOR	
			esp8266 e22 07 sendBroadcastMessage	
			esp8266 e22 getConfiguration esp8266	
			esp8266 e22 setConfiguration	
			coporco_czr_accomgaration	

②主程序简要分析

// ----- Arduino pins ----- /*指定Ardunio 的软件串口引脚、AUX、M0、M1的引脚号*/ LoRa_E22 e22ttl(4, 5, 3, 7, 6); // Arduino RX <-- e22 TX, Arduino TX --> e22 RX AUX M0 M1

// ----- esp32 pins ----//LoRa_E22 e22ttl(&Serial2, 18, 21, 19); // RX AUX M0 M1

// ----- esp8266 pins -----

//LoRa_E22 e22ttl(RX, TX, AUX, M0, M1); // Arduino RX <-- e22 TX, Arduino TX --> e22 RX LoRa_E22 e22ttl(D3, D4, D5, D7, D6); // Arduino RX <-- e22 TX, Arduino TX --> e22 RX AUX M0 M1 //使用Arduino/esp32/esp8266的时候各自的引脚初始化不同 void setup() {

Serial.begin(9600); //初始化打印信息的串口
while(!Serial){};
delay(500);

Serial.println();
// Startup all pins and UART

e22ttl.begin(); //初始化与模块连接的串口

```
ResponseStructContainer c;
c = e22ttl.getConfiguration(); //获取E22模块的配置参数,该函数内部实现了工作模式切换
// It's important get configuration pointer before all other operation
Configuration configuration = *(Configuration*) c.data;
Serial.println(c.status.getResponseDescription()); //配置模块参数状态
Serial.println(c.status.code);
```

```
printParameters(configuration); //打印模块参数
```

```
ResponseStructContainer cMi;
cMi = e22ttl.getModuleInformation();
// It's important get information pointer before all other operation
ModuleInformation mi = *(ModuleInformation*)cMi.data;
```

```
Serial.println(cMi.status.getResponseDescription());
Serial.println(cMi.status.code);
```

```
printModuleInformation(mi);//打印模块产品信息
}
```

```
③下载程序查看结果,下载时根据自己的开发板选择对应的型号
Note:该驱动库显示打印配置信息时是以400频段为标准的,如果是900频段的模块打印信息会不正确
```



AN2023002

~

```
RX: Success
HEAD : C1 0 9
AddH : O
AddL : O
NetID : O
Chan : 23 -> 433MHz
                 : 0 \rightarrow 8N1 (Default)
SpeedParityBit
                   : 11 -> 9600bps (default)
SpeedVARTDatte
SpeedAirDataRate : 10 -> 2.4kbps (default)
OptionSubPacketSett: 0 -> 240bytes (default)
OptionTranPower
                  : 0 -> 22dBm (Default)
OptionRSSIAmbientNo: 0 -> Disabled (default)
TransModeWORPeriod : 11 -> 2000ms (default)
TransModeTransContr: 0 -> WOR Receiver (default)
TransModeEnableLBT : O -> Disabled (default)
TransModeEnableRSSI: 0 -> Disabled (default)
TransModeEnabRepeat: 0 -> Disabled (default)
TransModeFixedTrans: O -> Transparent transmission (default)
[2023-01-29 16:52:54.283]
RX: Success
HEAD: C1 80 7
Model no.: 16
Version : A
Features : O
```

```
3、配置模块参数
```

①打开Arduino IDE, arduino选择file->Examples->Ebyte LoRa E22 library->Arduino e22 setConfiguration, esp32选择file->Examples->Ebyte LoRa E22 library->esp32_e22_setConfiguration, esp8266选择file->Examples->Ebyte LoRa E22 library->esp32_e22_setConfiguration。

```
②主程序简要分析
// ----- Arduino pins -----
/*指定Ardunio 的软件串口引脚、AUX、M0、M1的引脚号*/
LoRa_E22 e22tt1(4, 5, 3, 7, 6); // Arduino RX <-- e22 TX, Arduino TX --> e22 RX AUX M0 M1
// ----- esp32 pins -----
//LoRa_E22 e22ttl(&Serial2, 18, 21, 19); // RX AUX M0 M1
// ----- esp8266 pins -----
//LoRa_E22 e22ttl(RX, TX, AUX, M0, M1); // Arduino RX <-- e22 TX, Arduino TX --> e22 RX
LoRa_E22 e22ttl(D3, D4, D5, D7, D6); // Arduino RX <-- e22 TX, Arduino TX --> e22 RX AUX M0 M1
//使用Arduino/esp32/esp8266的时候各自的引脚初始化不同
void setup() {
 Serial.begin(9600);
 while(!Serial){};
  delay(500);
  Serial.println();
  // Startup all pins and UART
  e22ttl.begin();
  ResponseStructContainer c;
  c = e22ttl.getConfiguration(); //获取配置参数
  // It's important get configuration pointer before all other operation
```

```
Configuration configuration = *(Configuration*) c.data;
 Serial.println(c.status.getResponseDescription());
 Serial.println(c.status.code);
 printParameters(configuration);//打印配置参数
 configuration.ADDL = 0x03; //设置模块地址低位
 configuration.ADDH = 0x00; //设置模块地址高位
 configuration.NETID = 0x00; //设置模块网络号
 configuration.CHAN = 23; //设置模块信道
// ----- DEFAULT TRANSPARENT -----
 configuration.ADDL = 0 \times 03;
 configuration.ADDH = 0 \times 00;
 configuration.NETID = 0x00;
 configuration.CHAN = 23;
 configuration.SPED.uartBaudRate = UART_BPS_9600; //设置模块波特率
 configuration.SPED.airDataRate = AIR_DATA_RATE_010_24; //设置空速
 configuration.SPED.uartParity = MODE_00_8N1; //设置模块波特率极性
 configuration.OPTION.subPacketSetting = SPS_240_00; //设置模块分包长度
 configuration.OPTION.RSSIAmbientNoise = RSSI AMBIENT NOISE DISABLED; //设置环境rssi是否开启
 configuration.OPTION.transmissionPower = POWER 22; //设置模块发送功率
 configuration.TRANSMISSION_MODE.enableRSSI = RSSI_DISABLED; //设置数据rssi 是否开启
 configuration.TRANSMISSION_MODE.fixedTransmission = FT_TRANSPARENT_TRANSMISSION; //设置是否为定点模式
 configuration.TRANSMISSION_MODE.enableRepeater = REPEATER_DISABLED; //设置是否为中继模式
 configuration.TRANSMISSION_MODE.enableLBT = LBT_DISABLED; //设置是否开启LBT功能
 configuration.TRANSMISSION_MODE.WORTransceiverControl = WOR_RECEIVER; //设置WOR模式
 configuration.TRANSMISSION_MODE.WORPeriod = WOR_2000_011; //设置WOR周期
  // Set configuration changed and set to not hold the configuration
 ResponseStatus rs = e22ttl.setConfiguration(configuration, WRITE CFG PWR DWN SAVE);//将配置完成的参数写入模块
 Serial.println(rs.getResponseDescription()); //打印设置模块参数的结果
 Serial.println(rs.code);
 //将配置后的参数打印出来
 c = e22ttl.getConfiguration();
 // It's important get configuration pointer before all other operation
 configuration = *(Configuration*) c.data;
 Serial.println(c.status.getResponseDescription());
 Serial.println(c.status.code);
 printParameters(configuration);
}
③在Arduino IDE 中的 Tools--> Board根据自己的开发板选择对应型号, 然后下载验证程序
```

4、透传发送

①打开Arduino IDE, arduino选择file->Examples->Ebyte LoRa E22 library->Arduino_e22_SendTransparent, esp32选择file->Examples->Ebyte LoRa E22 library->esp32_e22_SendTransparent, esp8266选择file->Examples->Ebyte LoRa E22 library->esp32_e22_SendTransparent。

②主程序简要分析 //demo中默认定义RSSI宏定义,如果模块没有配置rssi则需要注释掉,不然会把正常数据的最后一字节作为rssi值

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#define ENABLE_RSSI true

```
// ----- Arduino pins -----
/*指定Ardunio 的软件串口引脚、AUX、M0、M1的引脚号*/
LoRa_E22 e22ttl(4, 5, 3, 7, 6); // Arduino RX <-- e22 TX, Arduino TX --> e22 RX AUX M0 M1
// ----- esp32 pins -----
//LoRa_E22 e22ttl(&Serial2, 18, 21, 19); // RX AUX M0 M1
// ----- esp8266 pins -----
//LoRa_E22 e22ttl(RX, TX, AUX, M0, M1); // Arduino RX <-- e22 TX, Arduino TX --> e22 RX
LoRa_E22 e22ttl(D3, D4, D5, D7, D6); // Arduino RX <-- e22 TX, Arduino TX --> e22 RX AUX M0 M1
//使用Arduino/esp32/esp8266的时候各自的引脚初始化不同
void setup() {
 Serial.begin(9600);
 delay(500);
 // Startup all pins and UART
 e22ttl.begin();
// If you have ever change configuration you must restore It
// ResponseStructContainer c;
// c = e22ttl.getConfiguration();
// Configuration configuration = *(Configuration*) c.data;
// Serial.println(c.status.getResponseDescription());
// configuration.CHAN = 0x17;
// configuration.OPTION.fixedTransmission = FT_TRANSPARENT_TRANSMISSION;
// e22ttl.setConfiguration(configuration, WRITE_CFG_PWR_DWN_SAVE);
 Serial.println("Hi, I'm going to send message!");
 // Send message
 ResponseStatus rs = e22ttl.sendMessage("Hello, world?");
 // Check If there is some problem of succesfully send
 Serial.println(rs.getResponseDescription());
}
void loop() {
 // If something available
 if (e22ttl.available()>1) {
   // read the String message
//如果定义RSSI,则把最后一个字节作为rssi强度值
#ifdef ENABLE_RSSI
 ResponseContainer rc = e22ttl.receiveMessageRSSI();
#else
 ResponseContainer rc = e22ttl.receiveMessage();
#endif
 // Is something goes wrong print error
 if (rc.status.code!=1){
   Serial.println(rc.status.getResponseDescription());
 }else{
   // Print the data received
   Serial.println(rc.status.getResponseDescription());
   Serial.println(rc.data);
#ifdef ENABLE RSSI
   Serial.print("RSSI: "); Serial.println(rc.rssi, DEC);
#endif
 }
 }
//将串口收到的数据发送出去
 if (Serial.available()) {
   String input = Serial.readString();
```

```
e22ttl.sendMessage(input);
}
```

③在Arduino IDE 中的 Tools--> Board根据自己的开发板选择对应型号,然后下载验证程序。 效果如下图,两个Arduino透传通信。



5、定点发送

①打开Arduino IDE,

arduino选择file->Examples->Ebyte LoRa E22 library->Arduino_e22_04_SendFixedTransmission, esp32选择file->Examples->Ebyte LoRa E22 library->esp32_e22_04__SendFixedTransmission, esp8266选择file->Examples->Ebyte LoRa E22 library->esp8266_e22_04_SendFixedTransmission。

```
②主程序简要分析
// With FIXED RECEIVER configuration
#define DESTINATION_ADDL 2
```

// ------ Arduino pins ------ /*指定Ardunio 的软件串口引脚、AUX、M0、M1的引脚号*/ LoRa E22 e22tt1(4, 5, 3, 7, 6); // Arduino RX <-- e22 TX, Arduino TX --> e22 RX AUX M0 M1

```
// ----- esp32 pins -----
//LoRa_E22 e22ttl(&Serial2, 18, 21, 19); // RX AUX M0 M1
```

// ----- esp8266 pins -----

```
//LoRa_E22 e22ttl(RX, TX, AUX, M0, M1); // Arduino RX <-- e22 TX, Arduino TX --> e22 RX
LoRa_E22 e22ttl(D3, D4, D5, D7, D6); // Arduino RX <-- e22 TX, Arduino TX --> e22 RX AUX M0 M1
//使用Arduino/esp32/esp8266的时候各自的引脚初始化不同
```

```
void setup() {
   Serial.begin(9600);
   delay(500);
```

// Startup all pins and UART
e22ttl.begin();

```
/*获取模块参数配置并打印出来*/
```

```
ResponseStructContainer c;
c = e22ttl.getConfiguration();
// It's important get configuration pointer before all other operation
Configuration configuration = *(Configuration*) c.data;
Serial.println(c.status.getResponseDescription());
Serial.println(c.status.code);
```

```
printParameters(configuration);
c.close();
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```

```
Serial.println("Hi, I'm going to send message!");
  //以定点方式发送数据,指定地址和信道(模块需要先配置为定点模式)
  // Send message
  ResponseStatus rs = e22ttl.sendFixedMessage(0, DESTINATION_ADDL, 23, "Hello, world?");
  // Check If there is some problem of succesfully send
  Serial.println(rs.getResponseDescription());
}
/*循环读取接收数据buffer,把接收到的数据打印出来*/
void loop() {
  // If something available
  if (e22ttl.available()>1) {
    // read the String message
#ifdef ENABLE_RSSI
  ResponseContainer rc = e22ttl.receiveMessageRSSI();
#else
  ResponseContainer rc = e22ttl.receiveMessage();
#endif
  // Is something goes wrong print error
  if (rc.status.code!=1){
    Serial.println(rc.status.getResponseDescription());
  }else{
    // Print the data received
    Serial.println(rc.status.getResponseDescription());
    Serial.println(rc.data);
#ifdef ENABLE_RSSI
    Serial.print("RSSI: "); Serial.println(rc.rssi, DEC);
#endif
  }
  }
  if (Serial.available()) {
    String input = Serial.readString();
    e22ttl.sendFixedMessage(0, DESTINATION_ADDL, 23, input);
  }
③在Arduino IDE 中的 Tools-->Board根据自己的开发板选择对应型号,然后下载验证程序
```

```
6、剩余示例按照同样的方式使用。
```

第三步 E220例程使用

1、连接方式

	• • •			
E220	ESP32	Raspberrt Pi Pico	Stm32	Arduino UNO
MO	19	10	PB0	7
M1	21	11	PB10	6
RX	TX2	8	PA2 TX2	4
ТХ	RX2	9	PA3 RX2	5
AUX	18	2	2	3
VCC	3.3/5V	3.3/5V	3.3/5V	3.3/5V
GND	GND	GND	GND	GND

2、读取模块参数

```
①打开Arduino IDE,选择file->Examples->Ebyte LoRa E220 library->01_getConfiguration。
```

②主程序简要分析

// ------ Arduino pins ------/*指定Ardunio 的软件串口引脚、AUX、M0、M1的引脚号*/ LoRa_E220 e220ttl(4, 5, 3, 7, 6); // Arduino RX <-- e22 TX, Arduino TX --> e22 RX AUX M0 M1

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```
// ----- esp32 pins -----
//LoRa_E220 e220ttl(&Serial2, 18, 21, 19); // RX AUX M0 M1
// ----- esp8266 pins -----
//LoRa_E220 e220ttl(RX, TX, AUX, M0, M1); // Arduino RX <-- e22 TX, Arduino TX --> e22 RX
//LoRa_E220 e220ttl(D3, D4, D5, D7, D6); // Arduino RX <-- e22 TX, Arduino TX --> e22 RX AUX M0 M1
// ----- Raspberry PI Pico pins ------
// LoRa_E220 e220ttl(&Serial2, 2, 10, 11); // RX AUX M0 M1
// ----- STM32 -----
//HardwareSerial Serial2(USART2); // PA3 (RX) PA2 (TX)
//LoRa_E220 e220ttl(&Serial2, PA0, PB0, PB10); // RX AUX M0 M1
//使用Arduino/esp32/esp8266/Raspberry PI pico/STM32的时候各自的引脚初始化不同
void setup() {
  Serial.begin(9600);
  while(!Serial){};
  delay(500);
  Serial.println();
  // Startup all pins and UART
  e220ttl.begin();
  ResponseStructContainer c;
  c = e220ttl.getConfiguration();//获取E220模块的配置参数,该函数内部实现了工作模式切换
  // It's important get configuration pointer before all other operation
  Configuration configuration = *(Configuration*) c.data;
  Serial.println(c.status.getResponseDescription());
  Serial.println(c.status.code);
  printParameters(configuration);//打印模块的配置参数
 /*获取打印模块产品信息*/
  ResponseStructContainer cMi;
  cMi = e220ttl.getModuleInformation();
  // It's important get information pointer before all other operation
  ModuleInformation mi = *(ModuleInformation*)cMi.data;
  Serial.println(cMi.status.getResponseDescription());
  Serial.println(cMi.status.code);
  printModuleInformation(mi);
}
③在Arduino IDE 中的 Tools->Board根据自己的开发板选择对应型号,然后下载验证程序
3、E22/E32/E220 的驱动程序几乎一致,剩余示例按照同样的方式使用。
```

第四步 E32例程使用

1、连接方式

E32	ESP32	ESP8266	Arduino UNO
MO	19	D7	7
M1	21	D6	6
RX	TX2	D3	4

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ТХ	RX2	D4	5
AUX	18	D5	3
VCC	3.3/5V	3.3/5V	3.3/5V
GND	GND	GND	GND

2、以配置模块参数为例,简单使用,其余例程按照同样方法使用

①打开Arduino IDE,选择file->Examples->Ebyte LoRa E220 library->O1_setConfiguration。

②主程序简要分析

```
//该例程中没有连接m0,m1直接将其接到vcc处于配置模式
//LoRa_E32 e32ttl100(2, 3); // e32 TX e32 RX
//实际使用需要接上m0,m1
//LoRa_E32 e32ttl100((4, 5, 3, 7, 6); // Arduino RX <-- e22 TX, Arduino TX --> e22 RX AUX M0 M1
)
// ------ esp32 pins ------
//LoRa_E32 e32ttl100(&Serial2, 18, 21, 19); // RX AUX M0 M1
// ----- esp8266 pins -------
//LoRa E32 e32ttl100(RX, TX, AUX, M0, M1); // Arduino RX <-- e22 TX, Arduino TX --> e22 RX
```

```
LoRa_E32 e32ttl100(D3, D4, D5, D7, D6); // Arduino RX <-- e22 TX, Arduino TX --> e22 RX AUX M0 M1
```

void printParameters(struct Configuration configuration); void printModuleInformation(struct ModuleInformation moduleInformation);

```
void setup() {
   Serial.begin(9600);
   delay(500);
```

```
// Startup all pins and UART
e32ttl100.begin();
```

```
ResponseStructContainer c;
c = e32ttl100.getConfiguration();//获取配置参数
// It's important get configuration pointer before all other operation
Configuration configuration = *(Configuration*) c.data;
Serial.println(c.status.getResponseDescription());
Serial.println(c.status.code);
```

```
printParameters(configuration);//打印配置参数
//模块地址
configuration.ADDL = 0x0;
configuration.ADDH = 0x1;
//信道
```

```
configuration.CHAN = 0x19;
```

```
configuration.OPTION.fec = FEC_0_OFF; //是否开启前向纠错
configuration.OPTION.fixedTransmission = FT_TRANSPARENT_TRANSMISSION;//配置是否定点
configuration.OPTION.ioDriveMode = IO_D_MODE_PUSH_PULLS_PULL_UPS;//IO驱动方式
configuration.OPTION.transmissionPower = POWER_17;//功率,空速
configuration.OPTION.wirelessWakeupTime = WAKE_UP_1250;//WOR周期
```

```
configuration.SPED.airDataRate = AIR_DATA_RATE_011_48; //空速
configuration.SPED.uartBaudRate = UART_BPS_115200; //波特率
configuration.SPED.uartParity = MODE_00_8N1;
```

```
// Set configuration changed and set to not hold the configuration
ResponseStatus rs = e32ttl100.setConfiguration(configuration, WRITE_CFG_PWR_DWN_LOSE);
Serial.println(rs.getResponseDescription());
Serial.println(rs.code);
printParameters(configuration);//把配置后的参数打印出来
c.close();
```

③在Arduino IDE 中的 Tools--> Board根据自己的开发板选择对应型号,然后下载验证程序

3、其余例程也按照该方式使用。

修订历史

版本	修订日期	修订说明	维护人
1.0	2023-2-10	初始版本	Luo

关于我们



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