

# Esp32 - Lora



ESP32 (32 bits, 2 cores, 180 MHz)

- 1. -Connectivity
  - 1. -WiFi
  - 2. -BLE
  - 3. -LoRa (SX1276) 433MHz, 868MHz, 915MHz

## Brochage ESP32 Lora



## Liens web

[ESP32 WiFi LoRa](#)

[Diagram Pinout](#)

[Github](#)

## Configuration

Formatage automatique	☞T
Archiver le croquis	
Réparer encodage & recharger	
Moniteur série	☞M
Traceur série	☞L
WiFi101 Firmware Updater	
ArduBlock	
Type de carte: "WiFi_Kit_32"	▶
Flash Frequency: "80MHz"	▶
Upload Speed: "921600"	▶
Port: "/dev/cu.SLAB_USBtoUART"	▶
Get Board Info	
Programmeur: "AVRISP mkII"	▶
Graver la séquence d'initialisation	

## Programmes

### Carte1 (envoi)

Ouvrer et televerser le programme : Exemples > LoRaLibrary > OLED\_LoRa\_Sender

### Carte 2 (Reception)

Ouvrer et televerser le programme : Exemples > LoRaLibrary > OLED\_LoRa\_Receiver

## Ajouter la configuration LoRaWAN

Ajoutez les déclarations suivantes dans les 2 programmes.

[Lorawanconf.ino](https://github.com/Heltec-Aaron-Lee/WiFi_Kit_series/blob/master/esp32/libraries/LoRa/API.md)

```
...  
  
// LoRa API  
https://github.com/Heltec-Aaron-Lee/WiFi\_Kit\_series/blob/master/esp32/libraries/LoRa/API.md  
  
// LoRaWAN Parameters  
#define BAND 868100000 //you can set band here directly,e.g.  
868E6,915E6  
#define PABOOST false  
#define TXPOWER 14  
#define SPREADING_FACTOR 12  
#define BANDWIDTH 125000  
#define CODING_RATE 5  
#define PREAMBLE_LENGTH 8  
#define SYNC_WORD 0x34
```

```
void configForLoRaWAN()
{
  LoRa.setTxPower(TXPOWER);
  LoRa.setSpreadingFactor(SPREADING_FACTOR);
  LoRa.setSignalBandwidth(BANDWIDTH);
  LoRa.setCodingRate4(CODING_RATE);
  LoRa.setPreambleLength(PREAMBLE_LENGTH);
  LoRa.setSyncWord(SYNC_WORD);
  LoRa.crc();
}

String loraCfg = "Cfg:";
void displayLoRaConfig(int x, int y){
  loraCfg =
    "fr " + String(BAND/1000000, DEC)
    + " sf" + String(SPREADING_FACTOR, DEC)
    + " bw" + String(BANDWIDTH/1000, DEC)
    + " cr" + String(CODING_RATE, DEC) + "/4";
  display.drawString(x, y, loraCfg);
  loraCfg =
    + " pr" + String(PREAMBLE_LENGTH, DEC)
    + " pw" + String(TXPOWER, DEC)
    + " sw" + String(SYNC_WORD, HEX)
    ;
  display.drawString(x, y+10, loraCfg);
}

...

// should be done before LoRa.begin
configForLoRaWAN();

if (!LoRa.begin(BAND,PABOOST)) {
  display.drawString(0, 0, "Starting LoRa failed!");
  display.display();
  while (1);
}
displayLoRaConfig(0,20);
display.drawString(0, 0, "LoRa Initial success!");

...

display.display();

...
```

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