# Redes de datos LPWA

**RFC** https://tools.ietf.org/wg/lpwan/
https://github.com/sftcd/lpwan-ov/blob/master/draft-farrell-lpwan-overview.txt lo otro es que deberia estar ak https://www.lora-alliance.org/what-is-lora al final de la pagina dice que mande un correo pa que se lo envien . . ..
https://docs.wixstatic.com/ugd/eccc1a_20fe760334f84a9788c5b11820281bd0.pdf es como un resumen muy completo los modulos chinos son OTAA y los sigfox ABP por eso se comportan diferente ak mas humano el RFC https://tools.ietf.org/id/draft-ietf-lpwan-overview-04.html

## Sigfox

https://partner.sigfox.com/
https://backend.sigfox.com/device/2885103/messages
https://backend.sigfox.com/apidocs/event-callback?configSource=0
Workshop Sigfox

20170628_-_smt_bogota_workshop.pdf

## LoRaWan

Explicación del protocolo → https://revspace.nl/DecodingLora

https://www.lora-alliance.org/technology

**Fabricante chino RAK - Gateway RAK831**
https://www.aliexpress.com/store/product/RAK831-LoRa-LoRaWAN-Gateway-Module-base-on-SX1301-433-868-915MHz-range-of-up-to-49200ft/2805180_32821411294.html?spm=2114.12010612.0.0.5bdadf47Uf6gic
http://www.rakwireless.com/en/WisKeyOSH/RAK831
https://github.com/RAKWireless/RAK831_LoRaGateway
http://docs.rakwireless.com/en/RAK831%20LoRa%20Gateway/Software%20Development/RAK831%20Datasheet%20V1.2.pdf
http://docs.rakwireless.com/en/RAK831%20LoRa%20Gateway/Software%20Development/RAK831%20Quick%20Start%20GuideV1.0.pdf
http://docs.rakwireless.com/en/RAK831%20LoRa%20Gateway/Application%20Notes/Getting%20started%20with%20the%20RAK%20831%20Lora%20Gateway%20and%20RPi3.pdf

**Configuración**

https://www.hackster.io/naresh-krish/getting-started-with-the-rak-831-lora-gateway-and-rpi3-e3351d

$ git clone -b spi https://github.com/ttn-zh/ic880a-gateway.git ~/ic880a-gateway $ cd ~/ic880a-gateway $ sudo ./install.sh spi

https://www.thethingsnetwork.org/docs/gateways/packet-forwarder/semtech-udp.html
https://github.com/TheThingsNetwork/packet_forwarder/blob/master/docs/INSTALL_INSTRUCTIONS/IM

ST_RPI.md

**Conexión a raspberry pi 3**
https://www.hackster.io/naresh-krish/getting-started-with-the-rak-831-lora-gateway-and-rpi3-e3351d

https://github.com/TheThingsNetwork/gateway-conf

| RAK 831 Pin | Description on silk screen | RPi physical pin |
|---|---|---|
| | +5V | 2 |
| | GND | 6 |
| 9 | RST (Resent pin) | 22 |
| 8 | SCK (SPI Clock) | 23 |
| 7 | MISO | 21 |
| 6 | MOSI | 19 |
| 5 | CSN (Chip Select) | 24 |

rpi v3 to rak 831 pin connection

**Módulo RAK811**
http://wiki.rakwireless.com/doku.php?id=wisnode_series:wisnode-lora&s[]=rak811
http://wiki.rakwireless.com/lib/exe/fetch.php?media=rak811_lora_at_command_v1.2.pdf
http://wiki.rakwireless.com/lib/exe/fetch.php?media=wisnode-lora_evb_quick_start_guide.pdf

Compilando herramientas del repositorio https://github.com/RAKWireless/RAK831_LoRaGateway

en archlinux instalar libftdi_compat
+#include <sys/types.h> –>
https://www.linuxquestions.org/questions/slackware-14/what-include-am-i-missing-for-types-like-u_int8_t-4175454407/
PATH_MAX –>
https://stackoverflow.com/questions/9449241/where-is-path-max-defined-in-linux#9449307

**Lora con RF96 y esp8266**

**Dragino** https://encrypted.google.com/search?hl=es&q=dragino %2B esp8266

https://www.youtube.com/watch?v=hMOwbNUpDQA&list=PL3XBzmAj53Rkkogh-lti58h_GkhzU1n7U
https://github.com/hallard/NodeMCU-Gateway
https://www.thethingsnetwork.org/forum/t/single-channel-gateway-part-1/798/339
https://github.com/squix78/esp8266-oled-ssd1306
https://github.com/things4u/ESP-1ch-Gateway-v2.0
https://github.com/things4u/ESP-1ch-Gateway-v3.0
https://github.com/JaapBraam/LoRaWanGateway
http://www.hoperf.com/upload/docs/rf/AN2003-LoRa%20communication%20example.pdf

## LoRa Server

https://www.loraserver.io/
http://piratas.cu.cc/doku.php?id=iot:lorawan:server

https://github.com/ttn-zh/packet_forwarder

## RN2903

http://blog.trifork.com/2016/03/04/from-the-trenches-lora-lorawan-with-the-lorabee/
http://ww1.microchip.com/downloads/en/DeviceDoc/40001784B.pdf
https://github.com/alinmechenici/LoRa-projects
https://github.com/HF0/LoRaWAN-for-Arduino-RN2483
https://www.thethingsnetwork.org/labs/

- sys get ver
- radio set freq 903000000 a 928000000
- radio get freq
- radio set pwr 14
- mac pause
- radio tx <a random number>
- radio rx 0

## Amplificadores de bajo ruido

http://lna4all.blogspot.com.co/

## Otras aplicaciones

https://ukhas.org.uk/guides:ssdv
http://www.timzaman.nl/?page_id=1106
https://www.youtube.com/watch?v=BfugrVBCA98
https://www.rtl-sdr.com/creating-a-fsk-video-data-system-for-high-altitude-balloons/

From:
https://wiki.unloquer.org/ -

Permanent link:
**https://wiki.unloquer.org/personas/brolin/proyectos/redes_lpwa?rev=1531357106**

Last update: **2018/07/12 00:58**