Pi Zero LoRa Configuration

Setup per:

<https://circuitdigest.com/microcontroller-projects/raspberry-pi-with-lora-peer-to-peer-communication-with-arduino>

See also:

<https://pypi.org/project/pyLoRa/#files>  
<https://store.uputronics.com/index.php?route=product/product&product_id=99>

By way of explanation for some of the comments below, I generally work on a Mac, running SSH to work on the Raspberry Pi. In this process, I generally do any file editing on the Mac (BBEdit) and transfer files between the Mac and Pi as required (via SFTP using Transmit).

Installation notes:

Enable SPI:

sudo raspi-config  
 [enable SPI]

Install pip:

sudo apt install python3-pip -y

There were a couple of problems reported during execution of this commend, with the recommendation (provided in the instructions) to execute the following:

sudo apt-get update

Still had trouble, execute following:

sudo apt install python-pip python3-pip

Still had trouble, execute following:

sudo apt install python-pip python3-pip —-fix-missing

Seemed to be OK at this point…

pip install RPi.GPIO

Returned:

Looking in indexes: https://pypi.org/simple, https://www.piwheels.org/…  
Requirement already satisfied: RPi.GPIO in /usr/lib/python2.7/dist-pac…

Install spidev:

pip install spidev  
 [successfully installed spider-3.4]

Install the pyLoRa package:

pip install pyLoRa  
 [successfully installed pyLoRa-0.3.1]

Not sure what was going on there, because the next thing we’re instructed to do is effectively download all that stuff again…

sudo apt-get install python-rpi.gpio python3-rpi.gpio  
sudo apt-get install python-spidev python3-spidev

A couple more bits and pieces…

sudo apt-get install git  
sudo git clone https://github.com/rpsreal/pySX127x

Note that there is now an SX127x folder in the pi home folder.

Use SFTP (via Transmit) to transfer files (downloaded from the CircuitDigest website) from Mac to Pi—transfer the downloaded .zip file contents from the Mac to the pi user home directory.

Modify LoRa.py to reflect local configuration:

Freq: 917MHz

This didn’t seem to have the desired effect, so had to modify actual Python script (LORA\_PI\_RX.py) to explicitly set the frequency:

lora.set\_freq(917)

Everything else seems to be OK with the default settings, except for the sync word, which was explicitly set to 0x12 in LoRa.py:

@setter(REG.LORA.SYNC\_WORD)  
def set\_sync\_word(self, sync\_word=0x12):  
 return sync\_word

Also had to do a bit of a fiddle to get the output as a hex string rather than whatever it was originally (LORA\_PI\_RX.py):

print(bytes(payload).hex())