
LoRa Concentrator Card

GL5512 Quick Start Guild

Version: LoRa Concentrator_GL5512_Guild_V1.0.0

Date: 2018-08-31

Document Revision Record

Version	Date	Description	
V1.0.0	2018-08-31	Preliminary version	Liudh

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1. Required materials

- GL5512 LoRa Gateway board x1
- USB to MiniPCIE Socket x1
- UBUNTU PC x1

Note : The environment needs to use the entire Linux system to support, recommend the use of Ubuntu system, other Liunx system also can be achieved

2. Install and compile

2.1 You can download the open source code on Semtech official github:

`$ git clone https://github.com/Lora-net/lora_gateway`

`$ git clone https://github.com/Lora-net/packet_forwarder`

2.2 And compile and install dependcies :

Lora-gateway depends on libusb, libftdi1 and libmpsse, please install libusb-dev and libftdi1-dev:

`$ sudo apt install libusb-dev libftdi1-dev`

`$ wget https://storage.googleapis.com/google-code-archive-downloads/v2/code.google.com/libmpsse/libmpsse-1.3.tar.gz`

Before complie,first install build root:

`$ apt-get update`

`$ apt-get install -y sudo git-core subversion build-essential gcc-multilib \`
`libncurses5-dev zlib1g-dev gawk flex gettext wget unzip python`

`$ apt-get clean`

Unzip libmpsse-1.3.tar.gz

`$ tar -zxvf libmpsse-1.3.tar.gz`

`$ cd path-libmpsse-1.3`

Patch the file attaching 110-ftdi1-fix-bug to libmpsse-1.3

`$ patch -p0 < 110-ftdi1-fix-bug`

`$ cd src`

`$./configure`

`$ make`

`$ sudo make install`

2.3 compile lora-gateway

`$ cd lora-gateway`

Patch the file attaching 110-lora-pkt-fwd-adapter to lora-gatewarder

`$ patch -p0 < 110-lora-pkt-fwd-adapter`

`$ make`

`$ sudo make install`

2.4 compile packet-forwarder

`$ cd packet-forwarder`

`$ make`

`$ cd lora_pkt_fwd`

3. TEST



3.1 Plug lora combine component to Ubuntu PC.

3.2 Copy packet-forwarder/lora_pkt_fwd/cfg/global_conf.json.XXXX.basic to the directory of lora_pkt_fwd execute file.

3.3 run command

```
$ chmod 0755 lora_pkt_fwd
```

```
$ ./lora_pkt_fwd
```

```
lora_pkt_fwd.exe - 快捷方式
*** Beacon Packet Forwarder for Lora Gateway ***
Version: 4.0.1
*** Lora concentrator HAL library version info ***
Version: 5.0.1;
***
INFO: Little endian host
INFO: found local configuration file C:\Users\liudh\Desktop\pkt_fwd\global_conf.json, parsing it
INFO: C:\Users\liudh\Desktop\pkt_fwd\global_conf.json does contain a JSON object named SX1301_conf, parsing SX1301 parameters
INFO: lorawan_public 1, clksrc 1
INFO: LBT is disabled
INFO: antenna_gain 0 dBi
INFO: Configuring TX LUT with 16 indexes
INFO: radio 0 enabled (type SX1255), center frequency 470500000, RSSI offset -166.000000, tx enabled 1, tx_notch_freq 129000
INFO: radio 1 enabled (type SX1255), center frequency 471300000, RSSI offset -166.000000, tx enabled 0, tx_notch_freq 0
INFO: Lora multi-SF channel 0> radio 0, IF -200000 Hz, 125 kHz bw, SF 7 to 12
INFO: Lora multi-SF channel 1> radio 0, IF 0 Hz, 125 kHz bw, SF 7 to 12
INFO: Lora multi-SF channel 2> radio 0, IF 200000 Hz, 125 kHz bw, SF 7 to 12
INFO: Lora multi-SF channel 3> radio 1, IF -400000 Hz, 125 kHz bw, SF 7 to 12
INFO: Lora multi-SF channel 4> radio 1, IF -200000 Hz, 125 kHz bw, SF 7 to 12
INFO: Lora multi-SF channel 5> radio 1, IF 0 Hz, 125 kHz bw, SF 7 to 12
INFO: Lora multi-SF channel 6> radio 1, IF 200000 Hz, 125 kHz bw, SF 7 to 12
INFO: Lora multi-SF channel 7> radio 1, IF 400000 Hz, 125 kHz bw, SF 7 to 12
INFO: Lora standard channel 8 disabled
INFO: PSK channel 8 disabled
INFO: C:\Users\liudh\Desktop\pkt_fwd\global_conf.json does contain a JSON object named gateway_conf, parsing gateway parameters
INFO: gateway MAC address is configured to FFPB02426F96C926
INFO: server hostname or IP address is configured to "113.108.88.121"
INFO: upstream port is configured to "1703"
INFO: downstream port is configured to "1703"
INFO: downstream keep-alive interval is configured to 10 seconds
INFO: statistics display interval is configured to 30 seconds
INFO: upstream PUSH DATA time-out is configured to 100 ms
INFO: packets received with a valid CRC will be forwarded
INFO: packets received with a CRC error will NOT be forwarded
INFO: packets received with no CRC will NOT be forwarded
```