RISINGHF LORAWAN MODEM

RHF3M076 GUIDELINES

RHF3M076 INTRODUCTION

Key features:

Full Band (Sub-GHz) support with single port;

20dBm Max Output Power @Low Band [410MHz-510MHz];

14dBm Max Output Power @High Band [860MHz-960MHz];

3 Bi-color LEDs to show status;

Plug and play USB CDC device

AT Command interface

Application:

Full band LoRaWAN node/mote;

LoRaWAN protocol (Class A) study;

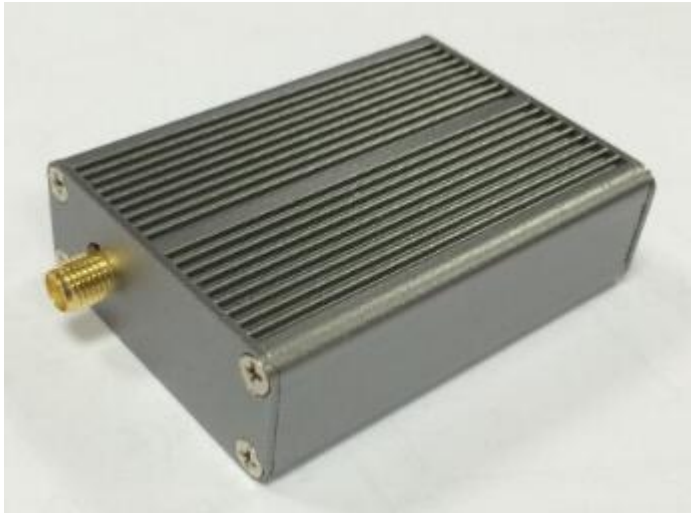
LoRaWAN system/network maintenance;

LoRa communication system evaluation (signal, distance etc.);

Environment RSSI (Floor noise) monitor;

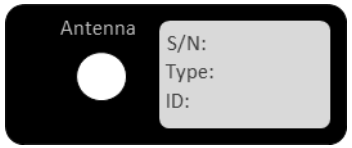
PRODUCT APPEARANCE

Size: 62 X 45 X 18 mm



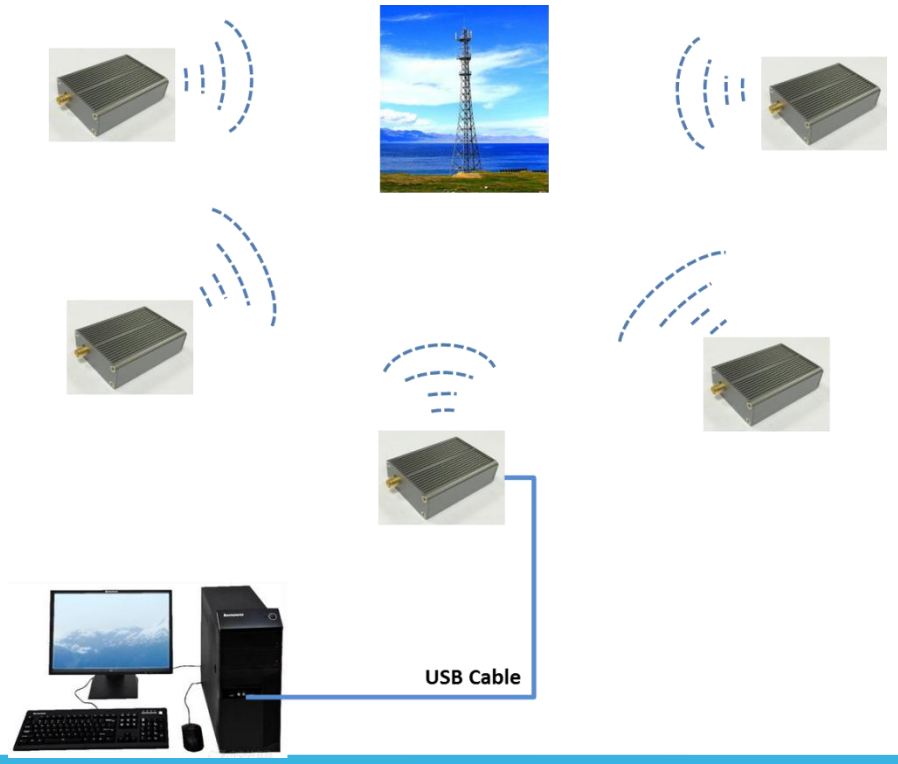
Back Side View

Front Side View



CASE1: AS A LORAWAN NODE OR PROTOCOL ANALYZER

- Connect the RHF3M076 modem to PC via micro USB cable;
- Open serial terminal (SSCOM/AccessPort), then you could operate AT Command to make the Modem work like a Node;
- Set frequency channel(0~15 channel, 16 channels total max):
- Set second RX window frequency and Data Rate:
- Set LoRaWAN related AES-128 KEY, NWKSKEY or APPSKEY :
- Set Data Rate or Spreading factor:
- Set TX output power:
- Send a string/hex format frame without being confirmed by server:
- Send a string/hex format frame need to be confirmed by server:



CASE2: RF PERFORMANCE MEASUREMENT

Use command “AT+Mode=Test”, the modem would access into Test mode;

Use command “AT+TEST=TXCW ” to measure the CW signal of the modem;

Use command “AT+TEST=TXCFG” and “AT+TEST=TXLRPKT ” to do LoRa signal output measurement;

Use command “AT+TEST=RXCFG” and “AT+TEST=RXLRPKT” to do LoRa receiver sensitivity measurement;

CASE3: PING PONG TEST WITH LORA

*You need **2** RHF3M076 LoRaWAN modem to do this test;*

Use command “AT+Mode=Test”, the modem would access into Test mode;

Configure the TX and RX side with the same parameters, same freq, same SF and same BW, keep the Preamble length of RX side equal to or bigger than TX side;

RisingHF
www.RisingHF.com

REFERENCE

- LoRaWAN Specification (http://lora-alliance.org)
- [RHF-PS01509] LoRaWAN AT Command Specification (support@risinghf.com)