OUTDOOR 4G LORAWAN GATEWAY

It is an **open source outdoor LoRaWAN Gateway.** It lets you bridge LoRa wireless network to an IP network via WiFi, Ethernet, 3G or 4G cellular. The LoRa wireless allows users to send data and reach extremely long ranges at low data-rates.

It supports Semtech packet forwarder and LoRaWAN Station connection, it is fully compatible with LoRaWAN protocol. It includes a SX1302 LoRaWAN concentrator.

It has pre-configured standard LoRaWAN frequency bands to use for different countries. User can also customize the frequency bands to use in their own LoRaWAN network.

It can communicate with ABP LoRaWAN end node without LoRaWAN server. System integrator can use it to integrate with their existing IoT Service without set up own LoRaWAN server or use 3rd party LoRaWAN service.

It supports auto-provision for mass deployment and long term maintain. System intergrator can easily change the settings.

Features

- Open-Source Embedded Linux system
- Managed by Web GUI, SSH via LAN or WiFi
- Support Semtech UDP packet forwarder
- Support LoRaWAN Station Connection
- Support MQTTS
- Cellular Failover connection (option)
- Direct Communication to LoRaWAN ABP Node
- LoRaWAN packet filtering
- Far seeing LED indicator
- Built-in GPS module for location & timing
- External fibre glass antenna
- Auto-Provision
- Remote Monitoring
- 802.3af PoE
- IP65
- Lighting Protection
- Power Consumption:12v ,300-500mA
- Operating Temperature：-20~85°C

Specifications

Hardware System:

Linux Part:

- 400Mhz ar9331 processor
- 64MB RAM
- 16MB Flash

Interface:

- 10M/100M RJ45 Ports x 1
- WiFi : 802.11 b/g/n
- LoRaWAN Wireless
- Power Input: 12 ~ 24 V DC, 2 A
- IEEE 802.3 af compliant PoE port (DC 37 ~ 57 v)
- USB 2.0 host connector x 1
- Mini-PCI E connector x 1
- SX1302 + 2 x SX1250

WiFi Spec:

- IEEE 802.11 b/g/n

- Frequency Band: 2.4 ~ 2.462GHz
- Tx power:
    - 11n tx power : mcs7/15: 11db   mcs0 : 17db
    - 11b tx power: 18db
    - 11g 54M tx power: 12db
    - 11g 6M tx power: 18db
- Wifi Sensitivity
    - 11g 54M : -71dbm
    - 11n 20M : -67dbm

LoRa Spec:

- Up to -140 dBm sensitivity with SX1250 Tx/Rx front-end
- 70 dB CW interferer rejection at 1 MHz offset
- Able to operate with negative SNR, CCR up to 9dB
- 8 x 8 channels LoRa packet detectors,8 x SF5-SF12 LoRa demodulators,8 x SF5-SF10 LoRa demodulators,125/250/500 kHz LoRa demodulator and 1 x (G)FSK demodulator
- Dual digital TX & RX radio front-end interfaces
- 10 programmable parallel demodulation paths
- Dynamic data-rate (DDR) adaptation
- True antenna diversity or simultaneous dual-band operation

Cellular 4G LTE (optional):

- Quectel: EC25 LTE module
- Standard Size SIM Slot
- 2 x 4G Sticker Antenna.
- Up to 150Mbps downlink and 50Mbps uplink data rates
- Worldwide LTE,UMTS/HSPA+ and GSM/GPRS/EDGE coverage
- MIMO technology meets demands for data rate and link reliability in modem wireless communication systems

Power over Ethernet:

- IEEE 802.3af compliant.
- Support wide input voltage range 37Vdc to 57Vdc.
- Thermal cut off.
- Short circuit protection.
- Over current protection
- Isolation level 4 KVrms.
- Enhanced surge protection

Applications:

- Smart Buildings & Home Automation
- Logistics and Supply Chain Management
- Smart Cities
- Smart Agriculture
- Smart Factory
- Smart Metering