Gateway

Specifications

Overview

The gateway provides LoRaWAN coverage to the surrounding area. The gateway comes in multiple models including ethernet backhauled (must be plugged into ethernet, or cellular. The gateway comes preconfigured and only needs to be plugged in to work.

LoRa/LongFi Node

Weight:

- 187g

Dimensions:

- Device Size: 12 x 12 x 3 cm
- Package Size: 14.5 x 13.5 x 6 cm

LoRa specifications

- 1 x SX1302 + 2 x 1250 LoRa Tranceiver
- Up to -140 dBm sensitivity
- 70 dB CW interferer rejection at 1 MHz offset
- Able to operate with negative SNR, CCR up to 9dB
- Emulates 49 x LoRa demodulators 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

Power

- Power Input: 5V DC, 2A, Type C

Ethernet

- 10M/100M RJ45 Ports x 1

Range

The range is highly dependent upon:

- Hotspot antenna height
- Antenna gain: a 9 dB roof-mounted antenna will increase the range over stock (2 dB) hotspot in a 2nd story window by 65%
- Increasing hotspot antenna height from 6 m to 12 m will give a 40% increase in range
- Node antenna height
- Intervening obstructions
- Terrain Example: Urban environment with antenna at 6 M and node in stone foundation basement has 500 m of range.

Models

- Etherenet - Requires ethernet to send data to the internet.
- Cellular - Only requires wall power to operate, automatically connects to the internet through a cellular connection.
- Outdoor - Cellular based gateway with an enclosure that can be placed outdoor. Best when there are no indoor options. Outdoor gateways also have much larger ranges.