

Siguro B.it

HNT Gateway

MANUAL

01 Introduction

The SyncroB.it HNT Gateway supports the LoRa™ physical layer technology and complies with the LoRaWAN specification defined by the LoRa Alliance™ to provide LPWA (Low Power Wide Area) wireless connectivity for low data rate, battery-powered devices and sensors. Through unlicensed sub-GHz radio, a wide variety of Internet of Things (IoT) endpoints that require low power operation or long-range transmission distances can now be connected and located more economically than ever before. Example use cases include asset tracking, water and gas metering, environmental monitoring, waste management, smart street lighting, smart agriculture, and many others.



02 Solution Overview

Helium LongFi

1

Helium LongFi combines the LoRaWAN wireless protocol with the Helium Blockchain so any compatible LoRaWAN device can transfer data on The People's Network. LongFi delivers roaming capabilities and supports micropayment transactions so customers only pay based on network usage without needing to deploy gateways or network servers.

LoRa

2

LoRa is a disruptive RF physical layer modulation technology that offers long-distance wireless connectivity, excellent power efficiency, very high receiver sensitivity, robust spectrum spreading, and securely encrypted transmissions. It operates on unlicensed Industrial, Scientific, and Medical (ISM) frequencies, for which 863 - 870 MHz spectrum and spectrum subsets are available for Europe, the Middle East, Africa, and India, and 902 - 928 MHz spectrum and spectrum subsets can be utilized in the Americas and in Asia-Pacific countries.

LoRaWAN

3

LoRaWAN is a MAC (Media Access Control) protocol specification defined by the LoRa Alliance that complements the LoRa physical layer. It is supported by an established ecosystem of LoRaWAN compliant devices that are available from multiple vendors, and which can be certified for interoperability by the LoRa Alliance.



03 Hotspot Miner

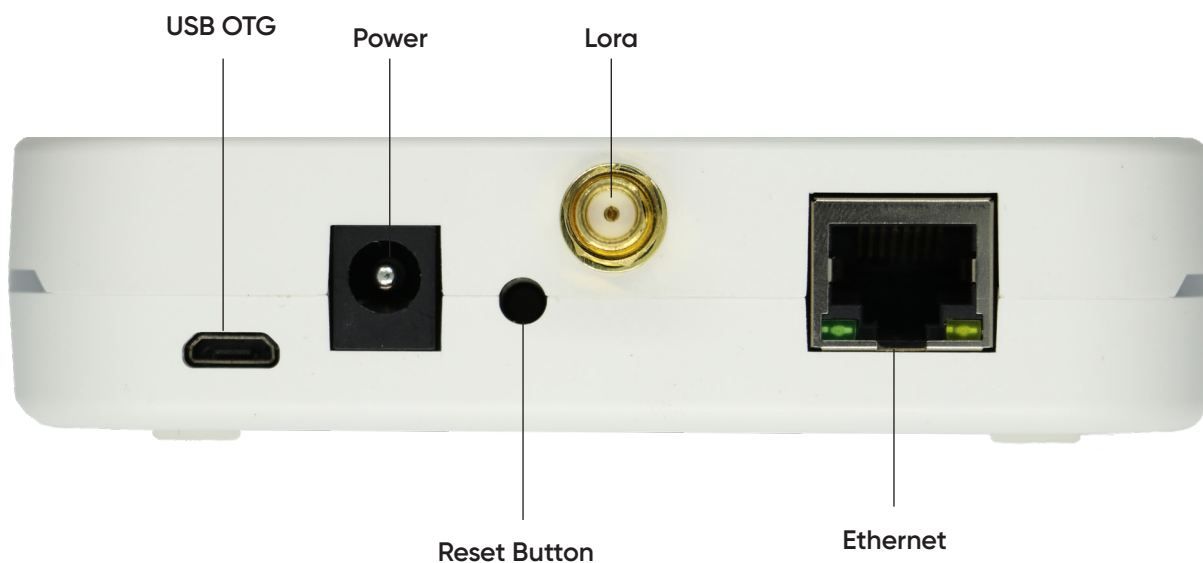
- 1 Proof-of-Coverage (POC)**

Hotspots on the network are randomly and automatically assigned Proof-of-Coverage tests to complete. Passing and witnessing tests earns HNT.
- 2 Relay Device Data**

Hotspots earn HNT for transferring device data over the network. The more device data a Hotspot transfers, the more it earns.
- 3 Consensus Groups**

Trusted Hotspots are elected to the Consensus Group and earn HNT by validating transactions and adding blocks to the blockchain.

04 Connectors (EU Unit Pictured)



05 Package Content



1 x Lora Gateway

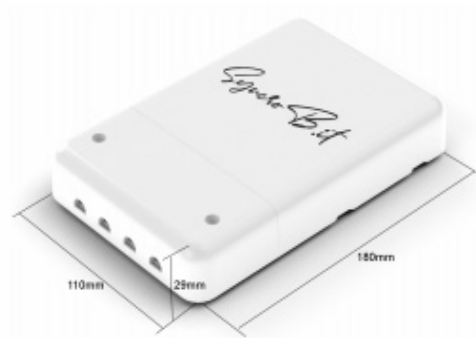


1x 3dBi Lora Antenna



1x Power Adapter

Provided in regional plug configuration



1 x Outdoor Enclosure

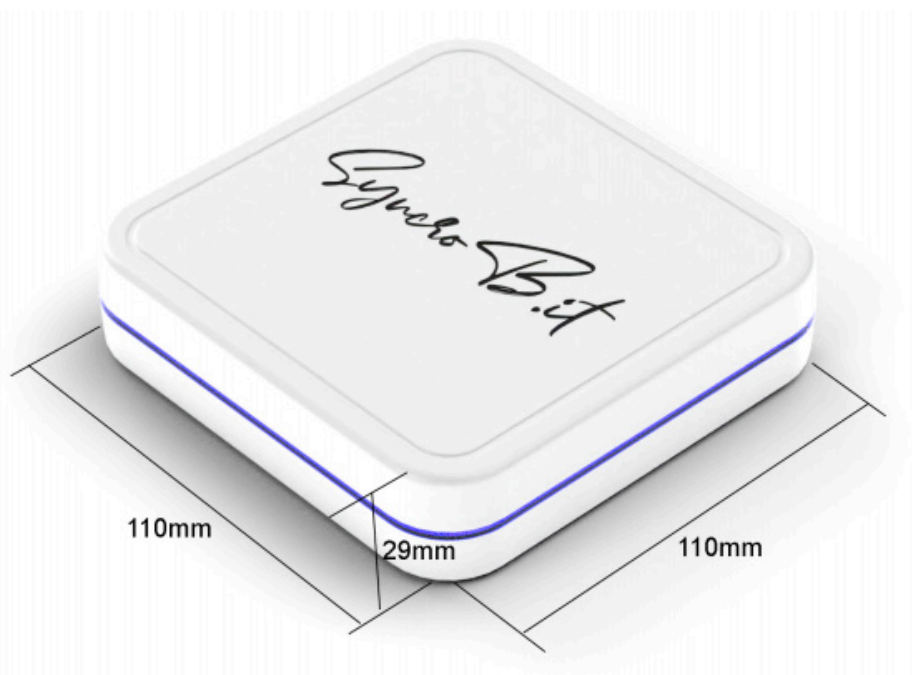
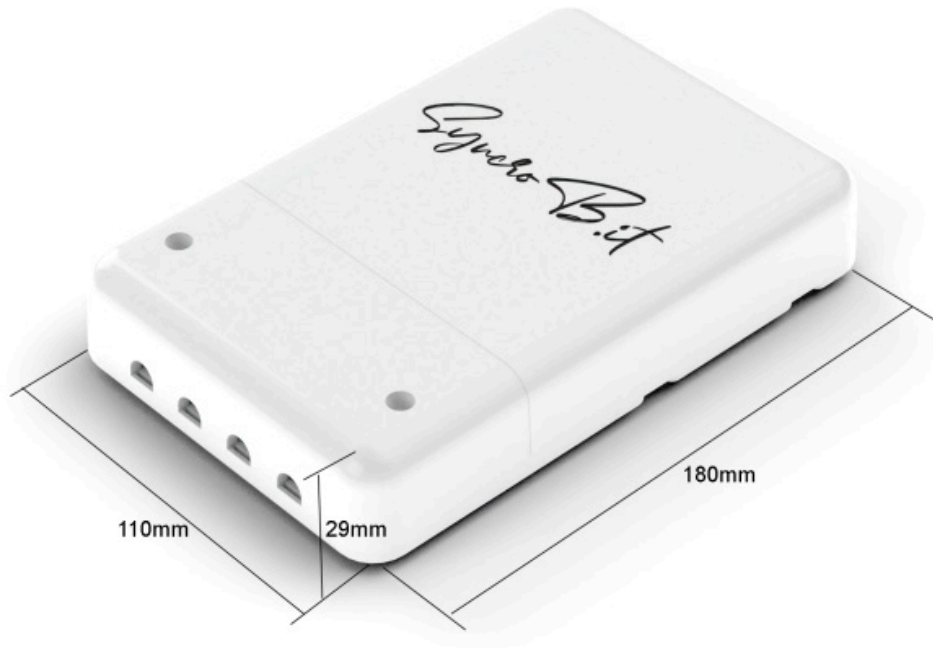


**1x 3ft cat5e
Ethernet Cable**



4x Metal Zip Ties

06 Product Dimension



07 Hardware Specifications

LoRa Specifications	
LoRa Frequency Band	915MHz/868MHz
LoRa Channel Plan	US915/EU868
Channel Capacity	8-channel uplink, 1-channel downlink
LoRa Output Power	27dBm Maximum output gain before antenna

Platform	
Processor	Broadcom BCM2711 quad-core Cortex-A72
RAM	Minimum of 2GB
Storage	Minimum of 32GB
Wi-Fi	IEEE 802.11b/g/n/ac
Bluetooth	5.0
Input Voltage	12-55 volts

Connectors	
Lora	EU – SMA Female / NA – RP-SMA Female
Wifi	IPEX Connector
Ethernet	RJ45 Ethernet jack (10/100/1000 port)
Power	2.5mm, 12 Volt power jack Passive PoE (12-55 volts)

Enclosure Description	
Indoor	
Dimensions (L x W x H)	110 x 110 x 29 mm
Chassis Type	PC-ABS
Chassis Material Temperature Range	0° to +60°C
IP Grade	IP30
Color	White
Outdoor	
Dimensions (L x W x H)	180 x 110 x 29 mm
Chassis Type	PC-ABS
Chassis Material Temperature Range	-40° to +85°C
IP Grade	IP65
Color	White

Enviromental	
Indoor	
Operating Temperature	0° to +60°C
Relative Humidity	20% to 90%, non-condensing
Heat Dissipation	Radiator Grille
Outdoor	
Operating Temperature	-40° to +85°C
Relative Humidity	20% to 90%, non-condensing
Heat Dissipation	Radiator Grille



Syncro Bit

P.O. Box 635
Shepherdsville,
Ky 40165 USA

support@syncrob.it
<https://syncrob.it/contact/>