



Product Specification

MerryloT Hotspot Miner V1

BROWAN COMMUNICATIONS INC.

Revision History

Revision	Date	Description
1.0	Aug. 26, 2021	1 st Release
1.1	Sep. 08, 2021	Block diagram modified
1.2	Oct. 27, 2021	US band added
1.3	Nov. 03, 2021	EU and AS923 band added

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Chapter 1 – Introduction

Purpose

MerryIoT Hotspot Miner V1 is designed for edge computing applications in IoT, Smart Manufacturing, Automation, Blockchain and etc, to support high performance, high reliability and high throughput for the heavy data processing demand.

MerryIoT Hotspot Miner V1 is targeting at AIoT applications with quad A55 cores, G52 GPU hardware, based on Linux distribution. IoT solution providers can easily integrate advanced and stable functions for their application-centric development on their own IoT projects.

Reference

Document	Author
LoRaWAN Regional Parameters	LoRa Alliance
LoRaWAN Specification	LoRa Alliance

Chapter 2 – Hardware Specification

General Specification

No.	Item	Description
1	CPU	- Rockchip RK3566 - Quad-core Cortex-A55 up to 1.8GHz
2	Memory	- DDR3/4 4GB
3	Storage	- eMMC 32GB
4	LoRa radio	- US 915 /EU868/ AS923 SKU - External SMA antenna
5	W-Fi radio	- 2.4GHz 1Tx/1Rx 802.11 b/g/n - Built-in antenna
6	BLE radio	- 2.4GHz BLE 5.2 - Built-in antenna
7	Crypto chip	- I2C control - Microchip ATECC608A/B in SOIC-8 and UDFN-8
8	LAN interface	- RJ45 1Gbps x 1
9	TF	- External TF card slot - Supports SDXC or higher speed
10	USB	- External USB-A 2.0 connector - Reserved for future use
11	LEDs	- Logo - Single colored LED indicator (green) x 4 <ul style="list-style-type: none"> ■ Power ■ Status ■ System ■ Wi-Fi
12	Button	- Push button (GPIO)
13	Console	- Debug UART console
14	Environment	- Temp. operating -10°C ~ +40°C ambient - Storage -20°C ~ +70°C ambient - Humidity operating 5%RH ~ 95%RH (non-condensed relative humidity) - Altitude operating 0 ~ 3000 Meters
15	IP ratings	- IP42 (plastic enclosure)
16	Size	- 140x110x20 mm
17	Power	- DC jack - DC12V 1~1.5A
Note		

LoRa RF Specification – US915

No.	Item	Description																																																																												
1	Channels	US915 (known as US902-928)																																																																												
2	Bandwidth	125KHz/ 500KHz																																																																												
3	Power	5VDC, 500mA (typical)																																																																												
4	Antenna	1 ipex connector on board for external antenna																																																																												
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		<ul style="list-style-type: none"> ■ 926.9 SF7BW500 to SF12BW500 (RX1) ■ 927.5 SF7BW500 to SF12BW500 (RX1) ■ 923.3 SF12BW500 (RX2)
Note		

LoRa RF Specification – EU868

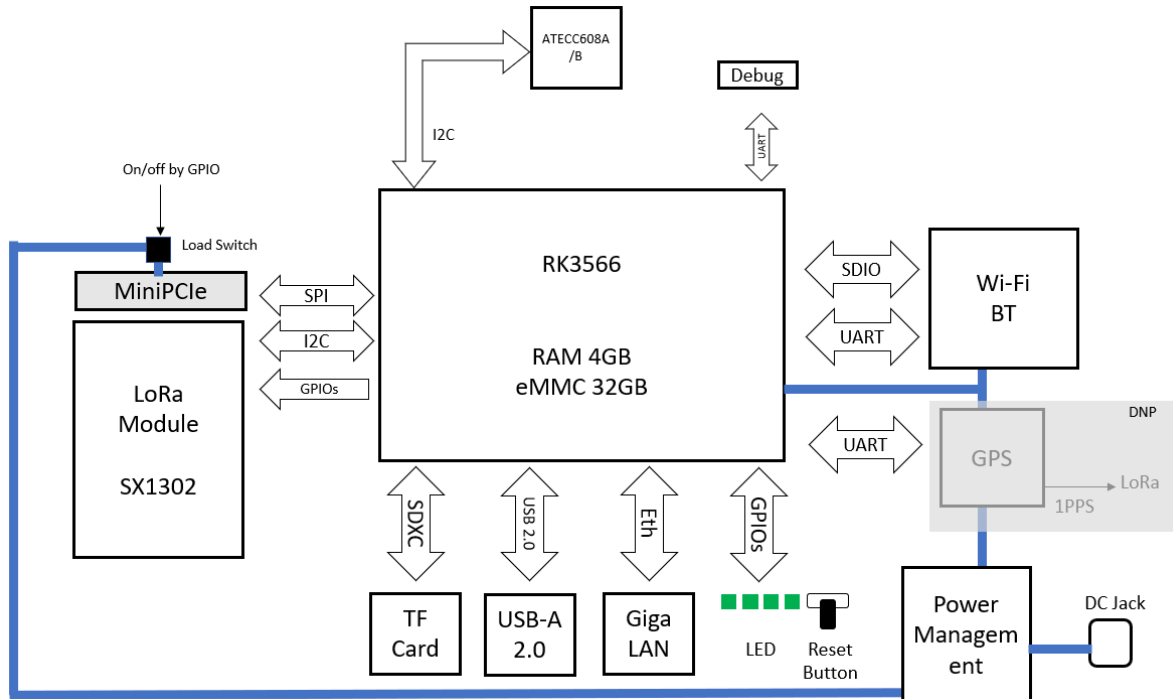
No.	Item	Description																										
1	Channels	EU868 (known as EU863-870)																										
2	Bandwidth	125KHz/ 250KHz																										
3	Power	5VDC, 500mA (typical)																										
4	Antenna	1 ipex connector on board for external antenna																										
5	Interface	SPI for data communication																										
6	GPIOs	To control SX1262 (chip select)																										
7	Form Factor	- Mini-PCle 40 x 50 (w/golden pins) x 3 mm																										
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Note																												

LoRa RF Specification – AS923

No.	Item	Description
1	Channels	- AS923-1 - AS923-2
2	Bandwidth	125KHz/ 250KHz
3	Power	5VDC, 500mA (typical)
4	Antenna	1 ipex connector on board for external antenna
5	Interface	SPI for data communication

No.	Item	Description
6	GPIOs	To control SX1262 (chip select)
7	Form Factor	- Mini-PCle 40 x 50 (w/golden pins) x 3 mm
8	Channel Plan -AS923-1	<p>- Upstream</p> <p>Frequency (MHZ) Spreading Factor</p> <ul style="list-style-type: none"> ■ 923.2 - SF7BW125 to SF12BW125 ■ 923.4 - SF7BW125 to SF12BW125 ■ 922.2 - SF7BW125 to SF12BW125 ■ 922.4 - SF7BW125 to SF12BW125 ■ 922.6 - SF7BW125 to SF12BW125 ■ 922.8 - SF7BW125 to SF12BW125 ■ 923.0 - SF7BW125 to SF12BW125 ■ 922.0 - SF7BW125 to SF12BW125 ■ 922.1 - SF7BW250 ■ 921.8 - FSK <p>- Downstream</p> <p>Frequency (MHZ) Spreading Factor</p> <ul style="list-style-type: none"> ■ Uplink channels 1-10 (RX1) ■ 923.2 - SF10BW125 (RX2)
9	Channel Plan -AS923-2	<p>- Upstream</p> <p>Frequency (MHZ) Spreading Factor</p> <ul style="list-style-type: none"> ■ 923.2 - SF7BW125 to SF12BW125 ■ 923.4 - SF7BW125 to SF12BW125 ■ 923.6 - SF7BW125 to SF12BW125 ■ 923.8 - SF7BW125 to SF12BW125 ■ 924.0 - SF7BW125 to SF12BW125 ■ 924.2 - SF7BW125 to SF12BW125 ■ 924.4 - SF7BW125 to SF12BW125 ■ 924.6 - SF7BW125 to SF12BW125 ■ 924.5 - SF7BW250 ■ 924.8 - FSK <p>- Downstream</p> <p>Frequency (MHZ) Spreading Factor</p> <ul style="list-style-type: none"> ■ Uplink channels 1-10 (RX1) ■ 923.2 - SF10BW125 (RX2)
Note		

System Diagram



Enclosure

