



HT-M2802

Indoor LoRa Gateway





Document version

Version	Time	Description	Remark
Rev. 1.0	2023-11-16	Preliminary version	Richard

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1. Description

1.1 Overview

[HT-M2802](#) is an indoor edge computing LoRaWAN® gateway that is preloaded with the Linux (4.19.219 Kernel, aarch64) Debian 10 operating system. Encased in aluminum and acrylic shell, the gateway features wide-range coverage and strong signal output capability. Additionally, it supports connection to various network servers.

HT-M2802 gateway is widely employed in an array of LoRaWAN® applications, including smart building, smart agriculture, industrial information, and environmental monitoring systems.

[HT-2802](#) are available in the following product variants:

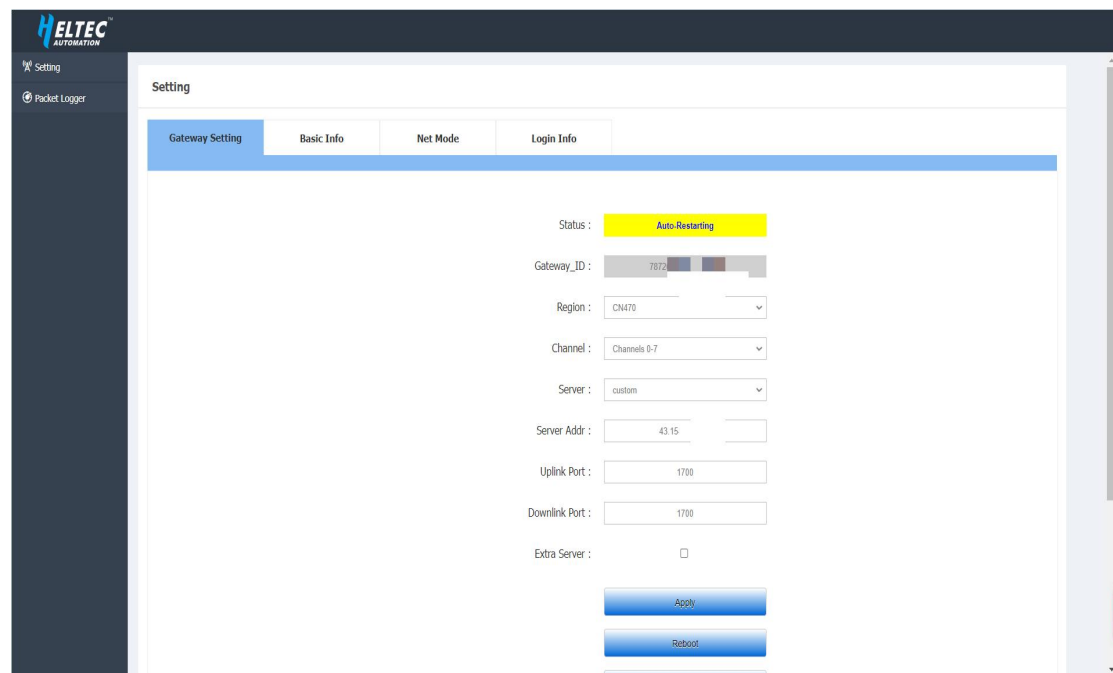
Table 1.1 Product model list

No.	Model	Description
1	HT-M2802-470-510	433~510MHz working LoRa frequency, used for China mainland (CN470) LPW band.
2	HT-M2802-863-870	863~870MHz working LoRa frequency, used for EU868, IN865 LPW bands.
3	HT-M2802-902-923	902~923MHz working frequency, used for AS923, US915, AU915, KR920 LPW bands.



1.2 Product features

- CPU: ROCKCHIP Quad-core Cortex-A55 64-bit 1.8GHz processor.
- LoRa chipset: SX1303 + SX1250.
- Linux (4.19.219 Kernel, aarch64) Debian 10 operating system, docker is pre-installed.
- Ethernet: 10M/100M/1000M.
- WiFi: 2.4GHz/5GHz.
- Bluetooth: BT V4.0 (HS) and BLE.
- Working temperature: - 40 ~ 85 ° C.
- A keyhole is reserved, which can be used for anti-theft.
- Easy configuration via LAN.





2. Specifications

2.1 General specification

Table 2.1 General specification

Parameters	Description	
Master Chip	ROCKCHIP Quad-core Cortex-A55 64-bit 1.8GHz processors	
RAM	2G DDR4	
ROM	32G eMMC 5.1	
LoRa Chipset	SX1303 + SX1250	
ADC Resolution	14Bits	
Frequency	433~510 MHz	
	863~870 MHz	
	902~928 MHz	
Max. TX Power	433~510 MHz	21±1dBm
	863~870 MHz	26±1dBm
	902~928 MHz	
Max. Receiving sensitivity	-139 dBm@SF12, 125KHz	
Wi-Fi / Bluetooth (Optional)	802.11 b/g/n, 2.4GHz	
Interface	4.5~17V DC interface	
	100/1000M ethernet, RJ45 socket	
	SMA antenna socket (LoRa)	
Operating temperature	- 40 ~ 85 ° C	
Dimensions	120 * 115 * 35mm (120 * 122.5 * 40mm)	

2.2 Operating conditions

2.2.1 Power supply range

Table 2.2: Power supply range

Power supply mode	Minimum	Typical	Maximum	Company
DC powered (≥500mA)	4.5	12	17	V



2.2.2 Power consumption

Table 2.3: Working current

Condition	Min. ^①	Typical	Max. ^②
8 Channel Listening (Receive mode)		160mA	
LoRa 14dB Output		200mA	
LoRa 17dB Output		210mA	
LoRa 22dB Output		215mA	
LoRa 27dB Output		220mA	

2.3 LoRa RF characteristics

2.3.1 Transmit power

Table2.3.1: Transmit power

Operating frequency band	Maximum power value/[dBm]
433~510	21 ± 1
867~870	26 ± 1
902~928	

2.3.2 Receiving sensitivity

The following table gives typically sensitivity level of the HT-M2802 LoRa gateway.

Table 2.3.2: LoRa RF characteristics

Signal Bandwidth/[KHz]	Spreading Factor	Sensitivity/[dBm]
125	SF12	-139
125	SF10	-130
125	SF7	-124

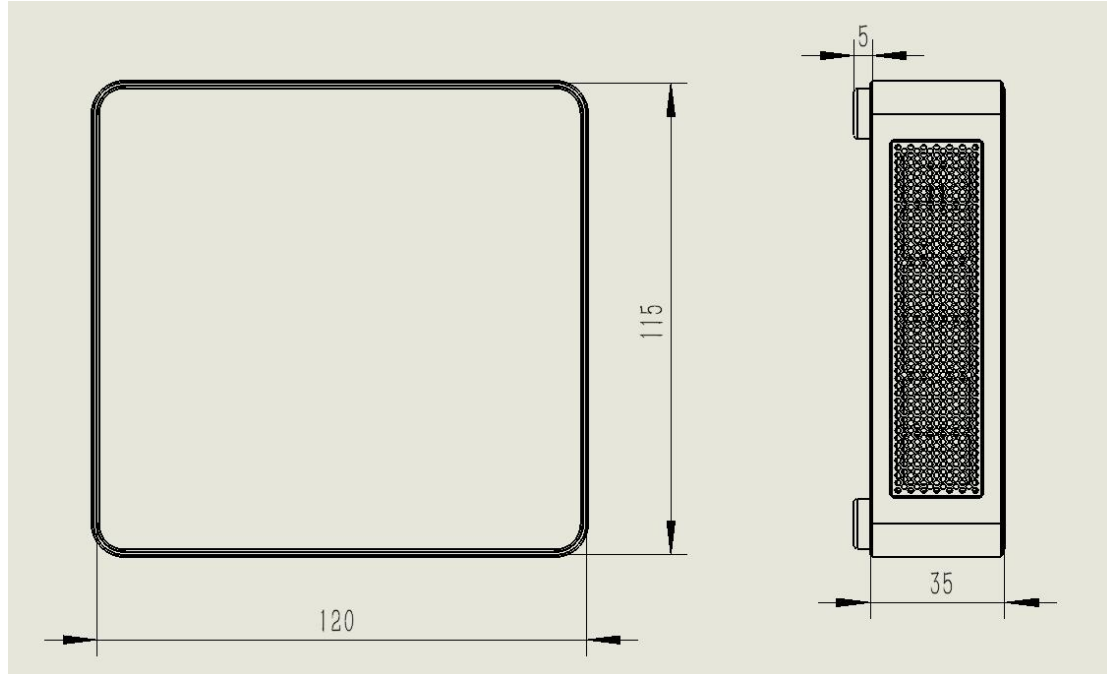
① Measured when connected to the Internet via Wi-Fi mode.

② Measured when connected to the Internet via ethernet mode.



3. Typical hardware connections

3.1 Physical dimensions



4. Resource

4.1 Relevant resource

- Downloadable Resource: resource.heltec.cn/download/HT-2802
- User Manual Document: docs.heltec.org/en/gateway/ht-m2802/index.html

4.2 Heltec Contact Information

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