



HP0D Full Hotspot for Helium User Manual

Document Version: 0.1

Firmware Version:

Version	Description	Date
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1 Introduction

1.1 What is HP0D

The HP0D is a full hotspot for Helium. User can connect their sensors to Helium network via HP0D.

1.2 Specifications

Hardware System:

Linux Part:

- Raspberry Pi 4

Interface:

- 10M/100M RJ45 Ports x 1
- LoRaWAN Wireless
- Power Input: 12V 1A, DC

Operating Condition:

- Work Temperature: -20 ~ 65° C
- Storage Temperature: -20 ~ 65° C
- Power Input: 12V 1A, DC

1.3 Features

- ✓ Open Source OpenWrt system
- ✓ Managed by Web GUI, SSH via WAN
- ✓ Remote access with Reverse-SSH
- ✓ Emulates 49x LoRa demodulators
- ✓ LoRaWAN Gateway
- ✓ 10 programmable parallel demodulation paths
- ✓ Pre-configure to support different LoRaWAN regional settings.
- ✓ Allow to customize LoRaWAN regional parameters.
- ✓ Support Local decode ABP end node info and transfer to MQTT server
- ✓ Support different level log in.

World Widely. Include US and EU

2 How to use

2.1 Get IP Address

Connect the HP0D Ethernet port to your router and HP0D will obtain an IP address from your router. In the router's management portal, you should be able to find what IP address the router has assigned to the HP0D. You can use this IP to connect the WEB UI or SSH access of HP0D.

2.2 SSH Access for Linux console

IP address: IP address of HP0D

Port: 22

User Name: **pi**

Password: **dragino** (default)

After logging in, you will be in the Linux console and can enter commands as shown below.

```
Linux raspberrypi 5.10.17-v8+ #1414 SMP PREEMPT Fri Apr 30 13:23:25 BST 2021 aarch64

The programs included with the Debian GNU/Linux system are free software;
the exact distribution terms for each program are described in the
individual files in /usr/share/doc/*/copyright.

Debian GNU/Linux comes with ABSOLUTELY NO WARRANTY, to the extent
permitted by applicable law.
Last login: Wed Aug 11 08:00:18 2021 from 10.130.2.230

wi-Fi is currently blocked by rfkill.
Use raspi-config to set the country before use.

pi@raspberrypi:~ $
```

2.3 Location of global_conf.json file.

/etc/lora/local_conf.json

/etc/lora/global_conf.json

2.4 Start / Stop miner

Miner auto start after power on. User can use the command to check miner status

`sudo docker ps`

User can start / stop miner by running:

`sudo systemctl start docker`

```
sudo systemctl stop docker
```

2.5 Location of Semtech packet forwarder.

draginofwd --> /usr/bin/fwd_sx1302

2.6 Start / stop pkt fwd

This is to stop/ start / restart the Semtech UDP packet forwarder:

```
sudo service draginofwd start
sudo service draginofwd stop
sudo service draginofwd restart
```

2.7 Check Location of miner data

```
/home/miner/miner_data
```

2.8 Test ECC Chip

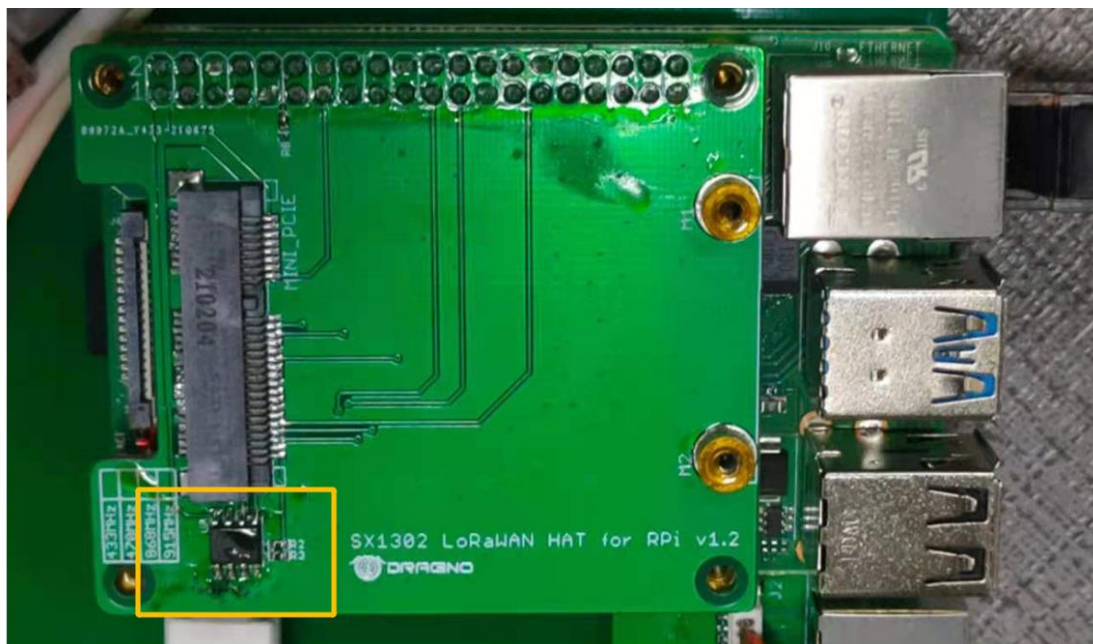
Command:

```
sudo gateway_mfr test
```

or

```
cd /home/pi/down/gateway_mfr/_build/prod/rel/gateway_mfr/
sudo ./bin/gateway_mfr start
sudo ./bin/gateway_mfr ecc test
```

2.9 Location of security module



3 Manufacturer Info

Shenzhen Dragino Technology Development co. LTD

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LongCheng Street, LongGang District ; Shenzhen 518116,China

4 FCC Warning

FCC WARNING

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation.

If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

To maintain compliance with FCC's RF Exposure guidelines, This equipment should be installed and operated with minimum distance between 20cm the radiator your body: Use only the supplied antenna.