

LW004-CT

APP Guide

Version 2.1

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1 About this Manual

The purpose of this manual is to outline how to use MKLoRa APP for LW004-CT.

2 MKLoRa APP

For the detailed operation of the MKLoRa app to configure and read device information, please refer to the following instructions:

2.1 Install MKLoRa APP

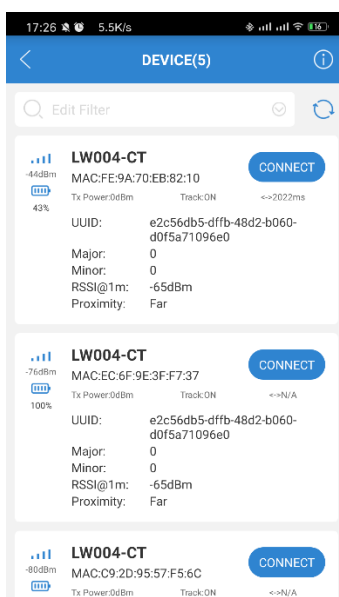
User can get the APP download link by search “MKLoRa” in your phone APP store: Please allow Bluetooth to be enabled during the installation process. This APP communicates with the device via Bluetooth, and it only supports above android 4.4 and IOS 9.0 system.

Note: After the successful installation of the APP, the APP will request some mobile phone permissions, such as Bluetooth access permissions. Please click "OK", otherwise the APP will not work well.

2.2 Connect to LW004-CT

After the device is turned on, the device Bluetooth will start broadcasting. Open the MKLoRa APP and choose LW003-B, then you can search the LW003-B device by click the refresh icon. The default broadcast name of the device: LW004-CT.

The Edit Filter at the top can help user filter the keywords and RSSI. RSSI ranges from -100dBm to 0dBm;



The distance between the phone and the device should be kept within 10m without wall obstruction. Otherwise, the device will not be searched. After searching for the device, click the “CONNECT” to connect the device that you want to configure. Then you should enter the password, the default password is “Moko4321”.

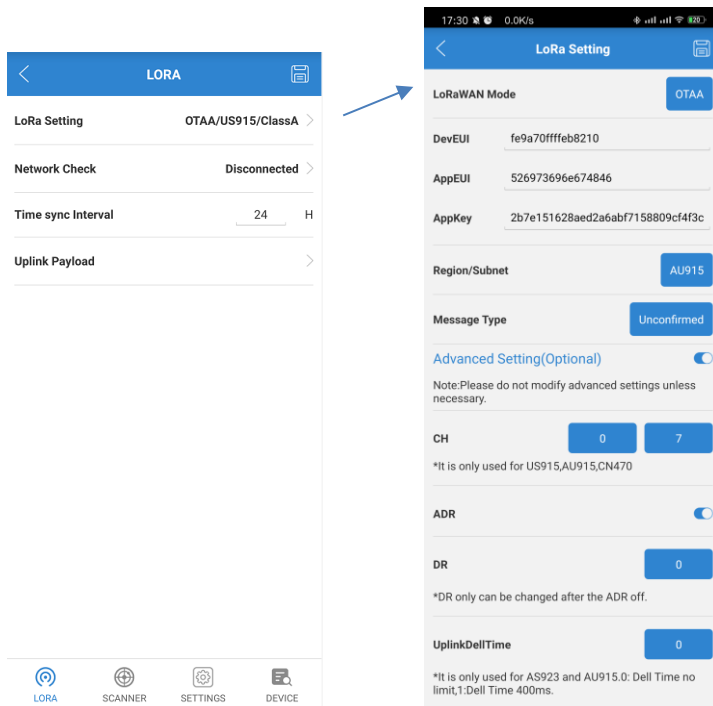
Note: If a password is not entered within one minute, the login box will disappear, you should click “CONNECT” again.

2.3 Configure LW004-CT Parameters

When you log into the device successfully, you will enter the main page. There are four parts of the parameter configuration: LORA, SCANNER, SETTING and DEVICE.

2.3.1 LORA Parameters

In this page, you can set all the settings for LoRa Part:



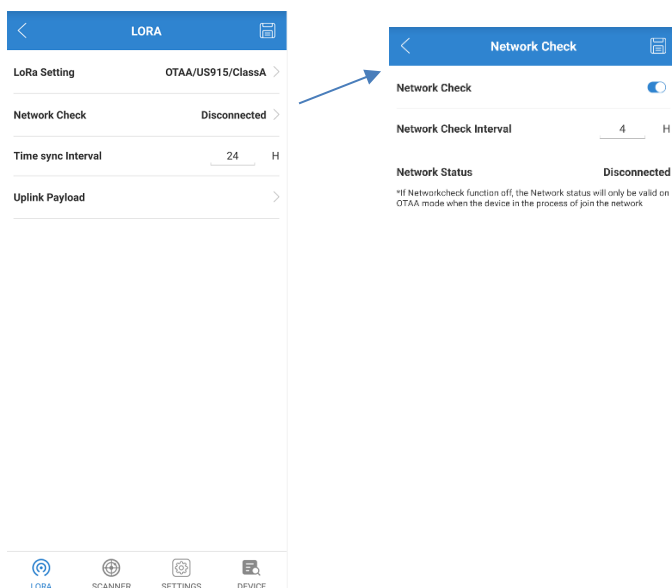
In the LoRa setting page, we can get and configure the LoRaWAN Mode, DevEUI, AppEUI, AppKey, DevAddr, AppSKey, NwksKey, Region/Subnet, Message Type, Device type.

Click the Advanced Setting (Optional) button, you can set some advanced parameters.

CH: Channel Setting, Generally, the default value is fine. When you are using TTN server and the frequency band is US915 or AU915, the CH should be set to 8-15.

DR: This is the DR setting for data transmission. The larger the DR, the smaller the transmission distance and the faster the transmission speed.

Note: Please do not modify advanced settings unless necessary.

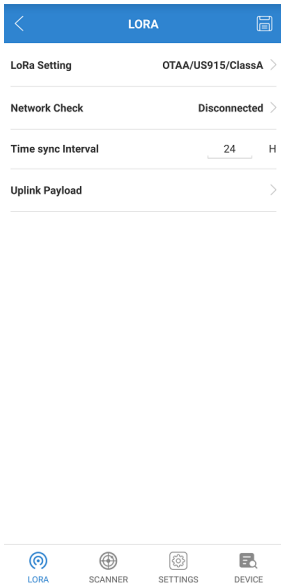


Network Check interval: It is used to check the status of the LoRaWAN network, if the device is detected to be offline, the device will try to rejoin the LoRaWAN network.

The default value is 4.

0 means disable.

The value ranges from 0 -254H.



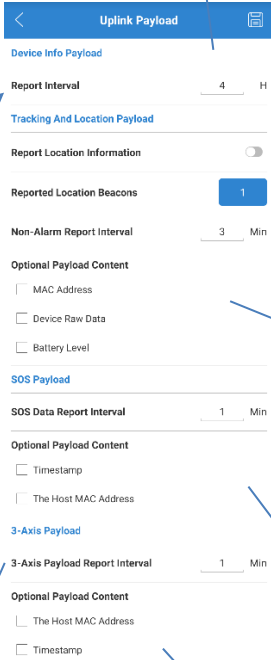
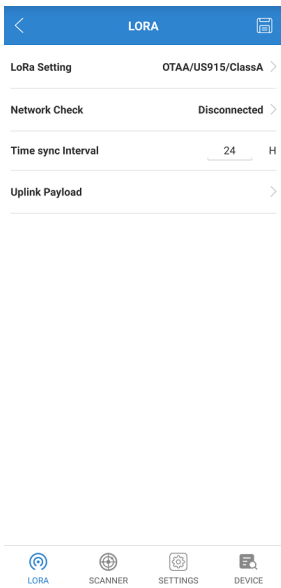
Time Sync interval: It is used to synchronize the time of the device from the LoRa server.

→ The default value is 24 H. The value ranges from 0-254 H.

If it is set to 0, it means that never synchronize the time of the device from the LoRa server.

Note: When the APP connect with the device successfully, the phone system time also sync to the device.

The report interval of device info payload. Default value is 4 H. The value ranges from 2 – 120 H.



Select whether to report the location beacon information. It applies to all payloads that contain location beacon information.

If it is set from on to off, the switches for Location Beacon Condition A and Location Beacon Condition B will also be off.

If it is set from off to on, the switches for Location Beacon Condition A and Location Beacon Condition B will also be on.

Users can set the number of reported location beacons. The default value is 1. The value ranges from 1 ~ 4.

The report interval of Contact Tracing Payload. The default value is 3 minutes. The value ranges from 1 ~ 60 minutes.

Payload and Distance Alarm Payload. User can select all, multiple, or none of them.

The report interval of SOS Payload. The default value is 1 minutes. The value ranges from 1 ~ 10 minutes.

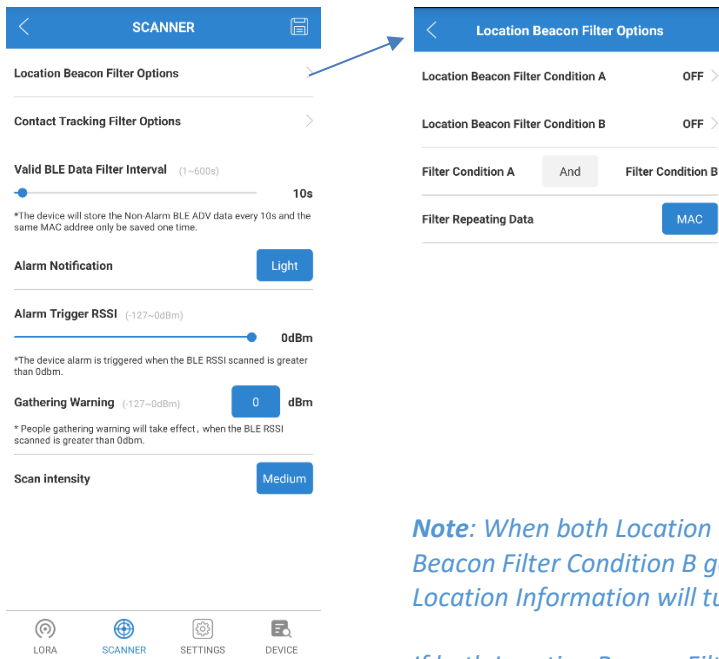
Select the optional content of *SOS Alarm Payload*. User can select all, multiple, or none of them.

Select the optional content of *3-Axis Payload*. User can select all, multiple, or none of them.

The report interval of 3-Axis Payload. The default value is 1 minute. The value ranges from 1 ~ 60 minutes.

2.3.2 SCANNER Parameters

In this page, you can set all the settings for SCANNER Part:



The relationship between Location Beacon Filter Condition A and Location Beacon Filter Condition B can be set OR or AND.

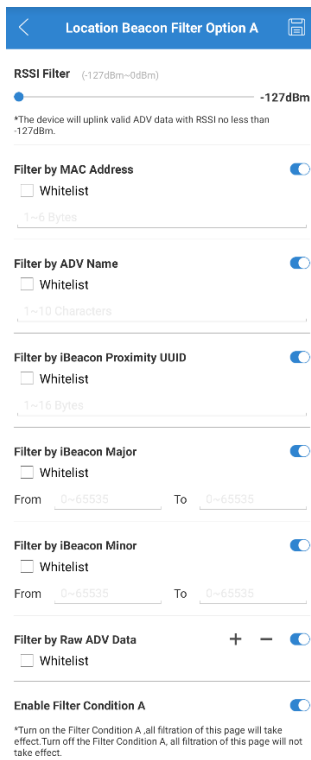
Filter Repeating Data: Filter out duplicate data within one scan period.

The default value is NO. It can be configured as one of the following data: NO, MAC, MAC+Data Type, MAC+Raw Data.

The contents of Location Beacon Filter Condition A and Location Beacon Filter Condition B are the same. They will be described in detail on the next page

Note: When both Location Beacon Filter Condition A and Location Beacon Filter Condition B go from on to off, the switch of Report Location Information will turn to on.

If both Location Beacon Filter Condition A and Location Beacon Filter Condition B are off, when one of them go from off to on, the switch of Report Location Information will turn to off.



RSSI Filter: The default value is -127 dBm, the range of this value is from -127dBm to 0 dBm. For example, if user set this value to -100dBm, the device will store valid ADV data which's RSSI is bigger than -100dBm.

Whitelist: Checking this box means reverse filter.

Filter by MAC Address: The default status is off. When we click the button on the right, the status will be on and user can edit the Keyword that include part or all of MAC Address. The device will store valid ADV data that meets the filter content. For example, the Filter content is AA BB and whitelist is open. Suppose there is a beacon whose MAC is CC AA BB DD EE FF, then it does not meet the filter content and will not be saved and uploaded

Filter by ADV Name: The default status is off. When we click the button on the right, the status will be on and user can edit the Keyword that include part or all of ADV name. The device will store valid ADV data that meets the filter content.

Filter by iBeacon Proximity UUID: The default status is off. When we click the button on the right, the status will be on and user can edit the Keyword that include part or all of UUID. The device will store valid ADV data that meets the filter conditions.

Filter by iBeacon major: The default status is off. When we click the button on the right, the status will be on and user can set the min value and max value of iBeacon Major. Both of these values range from 0-65535, and the max value must be no less on the min value. The device will store valid ADV data whose major value meets the scope requirements.

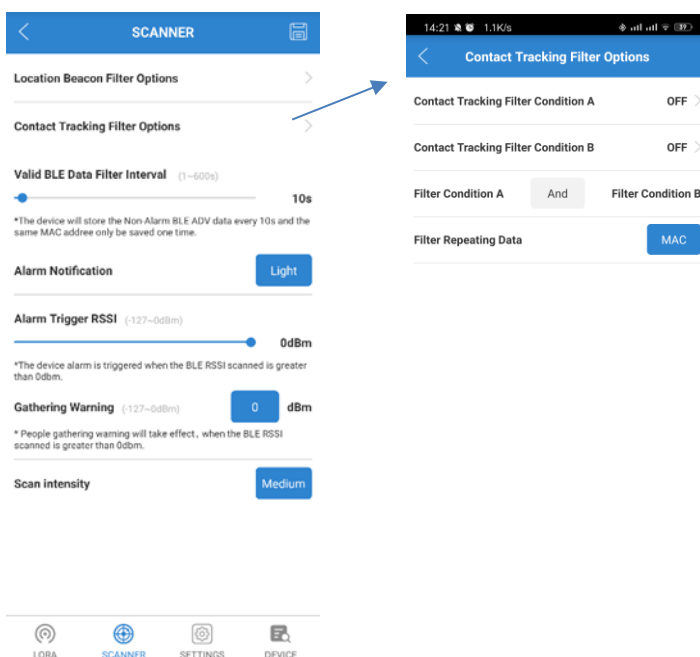
Filter by iBeacon minor: The default status is off. When we click the button on the right, the status will be on and user can set the min value and max value of iBeacon Minor. Both of these values range from 0-65535, and the max value must be no less on the min value. The device will store valid ADV data whose minor value meets the scope requirements.

Filter by Raw ADV Data: The default status is off. When we click the button on the right, the status will be on, and it can add five different filter data types in total when click "+", each with a length of 5 to 33 bytes.

Data Type: 1byte, the data type value should meet Bluetooth Generic Access Profile. Data type definitions please refer to <https://www.bluetooth.com/specifications/assigned-numbers/generic-access-profile/>.

Byte: the byte range under the data type, the max value is 62 bytes, the maximum byte range difference is 26.

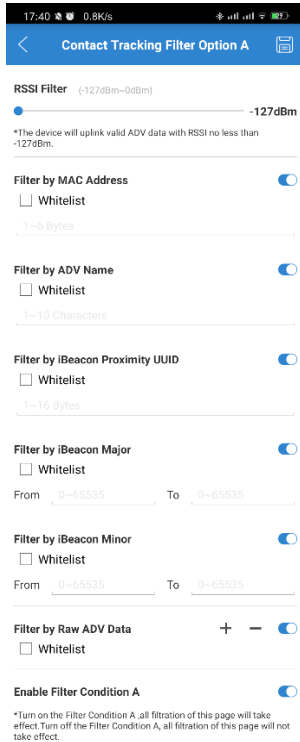
Raw data field: the length should match with the byte range.



The relationship between Contact Tracking Filter Condition A and Contact Tracking Filter Condition B can be set OR or AND.

Filter Repeating Data: Filter out duplicate data within one scan period. The default value is NO. It can be configured as one of the following data: NO, MAC, MAC+Data Type, MAC+Raw Data.

The contents of Contact Tracking Filter Condition A and Contact Tracking Filter Condition B are the same. They will be described in detail on the next page



RSSI Filter: The default value is -127 dBm, the range of this value is from -127dBm to 0 dBm. For example, if user set this value to -100dBm, the device will store valid ADV data which's RSSI is bigger than -100dBm.

Whitelist: Checking this box means reverse filter.

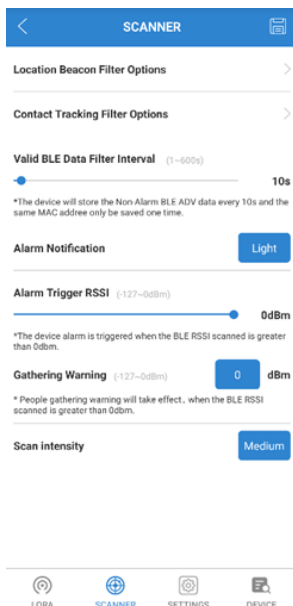
Filter by MAC Address: The default status is off. When we click the button on the right, the status will be on and user can edit the Keyword that include part or all of MAC Address. The device will store valid ADV data that meets the filter content. For example, the Filter content is AA BB and whitelist is open. Suppose there is a beacon whose MAC is CC AA BB DD EE FF, then it does not meet the filter content and will not be saved and uploaded

Filter by ADV Name: The default status is off. When we click the button on the right, the status will be on and user can edit the Keyword that include part or all of ADV name. The device will store valid ADV data that meets the filter content.

Filter by iBeacon Proximity UUID: The default status is off. When we click the button on the right, the status will be on and user can edit the Keyword that include part or all of UUID. The device will store valid ADV data that meets the filter conditions.

Filter by iBeacon major: The default status is off. When we click the button on the right, the status will be on and user can set the min value and max value of iBeacon Major. Both of these values range from 0-65535, and the max value must be no less on the min value. The device will store valid ADV data whose major value meets the scope requirements.

Filter by iBeacon minor: The default status is off. When we click the button on the right, the status will be on and user can set the min value and max value of iBeacon Minor. Both of these values range from 0-65535, and the max value must be no less on the min value. The device will store valid ADV data whose minor value meets the scope requirements.



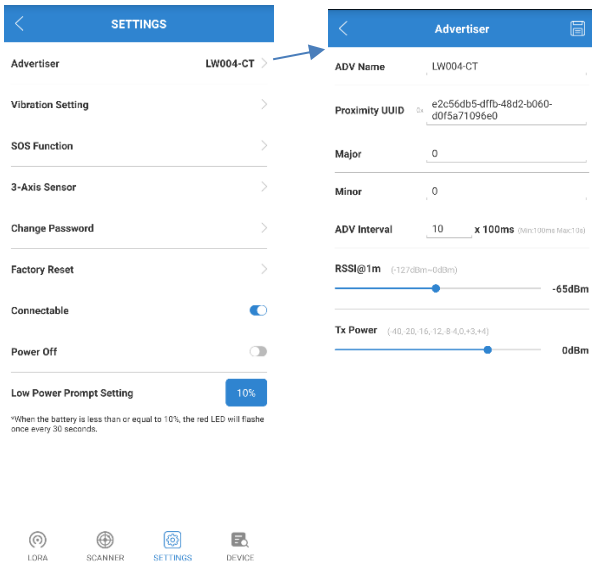
Valid BLE Data Filter Interval: The default value is 10, the range of this values is from 1 to 600. If we set this value to 10, the device will store the *Close Contact Data* every 10s and the same MAC address device will only be saved once every 10s.

Alarm Notification: The default option is Light + Vibration. There are four options: OFF, Light, Vibration and Light + Vibration.

Alarm Trigger RSSI: The default value is -70dBm, the range of this value is from -127dBm to 0dBm. When a nearby Bluetooth device with RSSI greater than -70dBm is scanned, the device alarm will be triggered.

Gather Warning RSSI: The default value minus 3 from Alarm Trigger RSSI. The minimum is -127dBm.

2.3.3 SETTINGS Parameters



ADV Name: ADV Name: User can enter the customized device name that meet the requirements of the standard field in the input box (1-10 bytes).

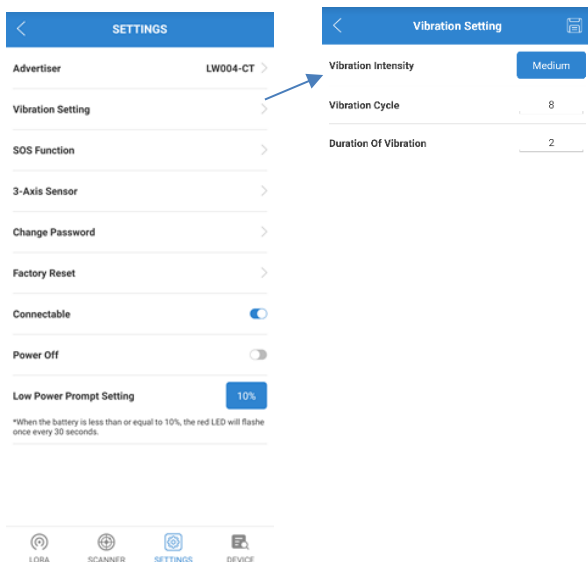
UUID: The default Value is E2C56DB5-DFFB-48D2-B060-D0F5A71096E0. User can enter the UUID values that meet the requirements of the standard field in the input box(16bytes).

Major & Minor: The default value is 0. User writes decimal digits to configure Major and Minor. The value ranges from 0 to 65535.

ADV interval: The default value is 1000ms.The adjustable interval of Advertising Interval is 100ms, and adjustable range of 100ms-10000ms.

RSSI@1m: RSSI@1m refers to Receiver device receives the signal strength in 1 meter (For iBeacon). This value shall be based on the actual environment test results and is usually set by the customer.

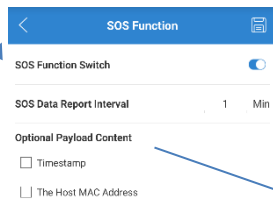
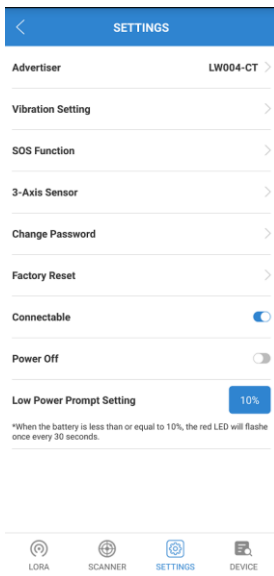
Tx Power: The default value is 0 dBm and Tx Power can be configured as one of the following data: -40dBm, -20dBm, -16dBm, -12dBm, -8dBm, -4dBm, 0dBm, 3dBm, 4dBm.



Vibration Intensity: The intensity of the motor vibration, it can be set to low, medium or high.

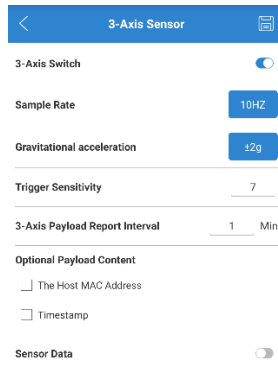
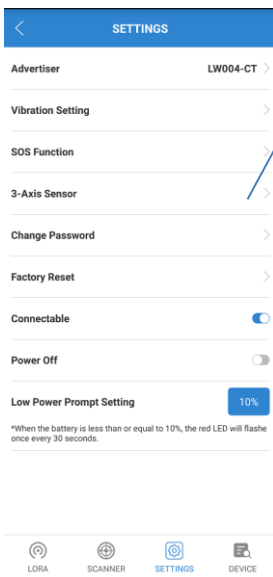
Vibration Cycle: Cycle of motor vibration. The default value is 8, unit is seconds. The value ranges from 1 ~ 600.

Duration of Vibration: Duration of motor vibration in a single cycle. The default value is 2, unit is seconds. The value ranges from 0 ~ 10.



The report interval of SOS Payload. The default value is 1 minutes.
The value ranges from 1 ~ 10 minutes.

Select the optional content of *SOS Alarm Payload*. User can select all, multiple, or none of them.



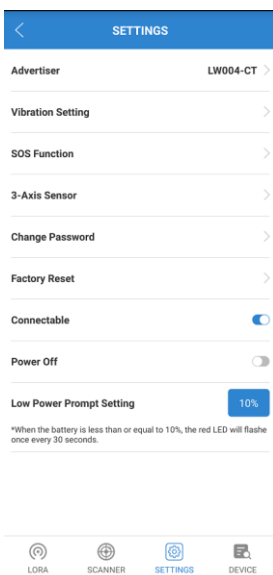
Sample Rate: Sampling frequency of 3-axis data. The default value is 10, unit is HZ. The value ranges from 1 ~ 600.

Vibration Cycle: Cycle of motor vibration. The default value is 8, unit HZ. It can be set to 1HZ, 10HZ, 25HZ, 50HZ, or 100HZ.

Gravitational acceleration: The maximum range of acceleration that can be measured. The default value is ±2, unit is g. It can be set to ±2, ±4, ±8, or ±16.

Trigger Sensitivity: Trigger thresholds for 3- axis sensor. The default value is 7. The value ranges from 7 ~ 255.

Sensor Data: When this function is turned on, the user can continuously obtain the 3-axis data from the APP interface.



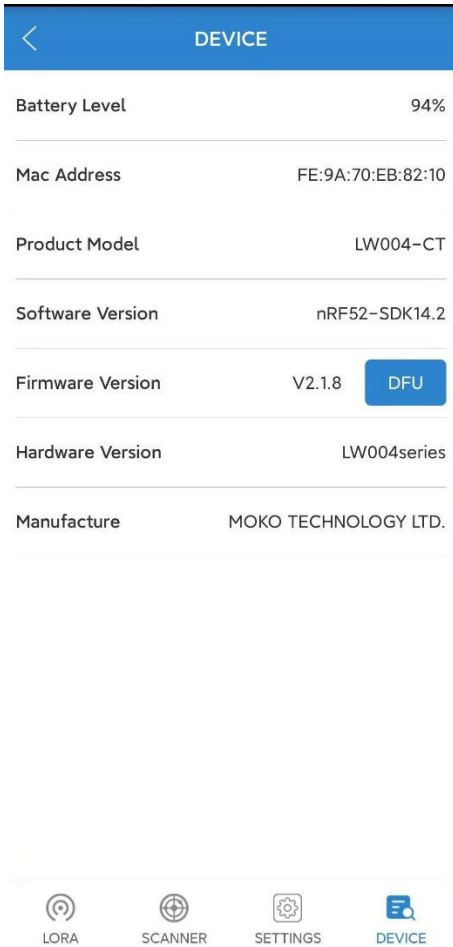
Connectable: The default connection mode is connectable. When the device status is unconnectable, the user can only connect the device and set parameters in the first minute after reboot the device.

Power off: User can use the APP to shut down the device.

Low Power Prompt Setting: Users can set thresholds for low power prompt. The default value is 10%. It can be set to 10%, 20%, 30%, 40%, 50% or 60%.

2.3.4 Device Information

In this page, user can read the device information here.





Update Firmware(DFU):To update the firmware via the DFU should use the upgrade package that MOKO provides with ZIP format.If you use an android phone, place the ZIP file of firmware upgrate package into the phone folder, select the upgrade package file from the OTA page of the APP, and click to upgrade.
IOS phones need to share the upgrade package file with Lora Tracker via computers and iTunes tools. and then select the upgrade package file from the OTA page of the APP, and click to upgrade.

3 Revision History

Version	Description	Editor	Date
2.1	Suitable for firmware version V2.1.8 &HW Version V1.5	Allen	2021-06-08

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