MOKO SMART

LW003-B

APP Guide

MOKO TECHNOLOGY LTD.

Version 1.0

www.mokosmart.com

Contents

1 About This Manual

The purpose of this manual is to outline how to use MKLoRa APP for LW003-B.

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 LW003-B

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: LW003-B-XXXX, XXXX is the last 4 bits of device MAC addresses.

The Edit Filter at the top can help user filter the keywords and RSSI. RSSI ranges from -100dBm to 0dBm;
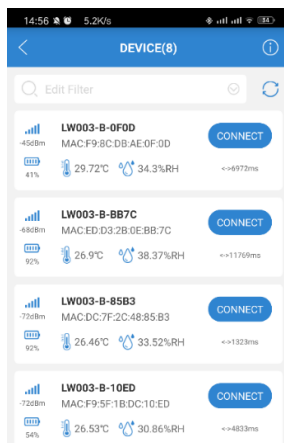
The distance between the phone and the device should be kept within 10m without wall obstruction. Otherwise, the device will not be searched. After searching for the device, click the "CONNECT" to connect the device that you want to configure. Then you should enter the password, the default password 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 LW003-B 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.
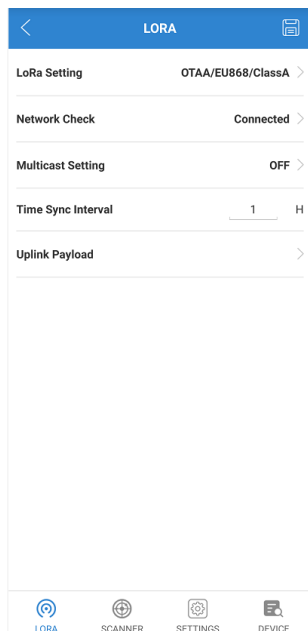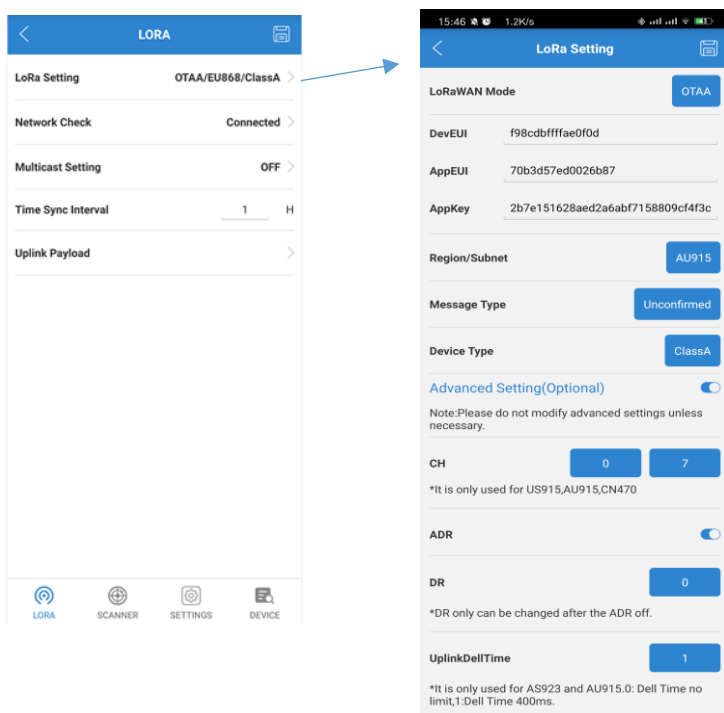

At the bottom of the main page, you can enter the interface by touching the corresponding interface name.

Note: If there is no action within two minutes after login, the system will automatically login out.

2.3.1 LORA Parameter

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.
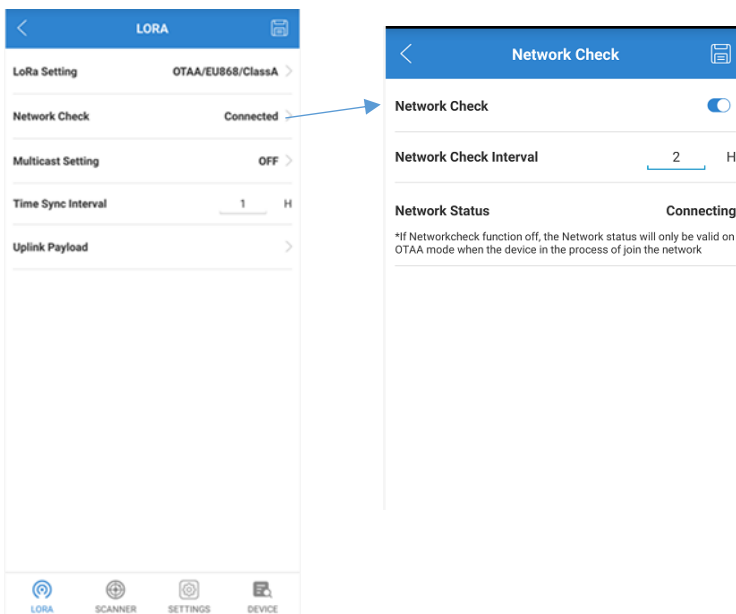
Network Check interval: It is used to check the status of the LoRaWAN network, if the device is detected to be offline, the device will try to rejoin the LoRaWAN network.
The default value is 0.
0 means disable.
The value ranges from 0 - 720H.
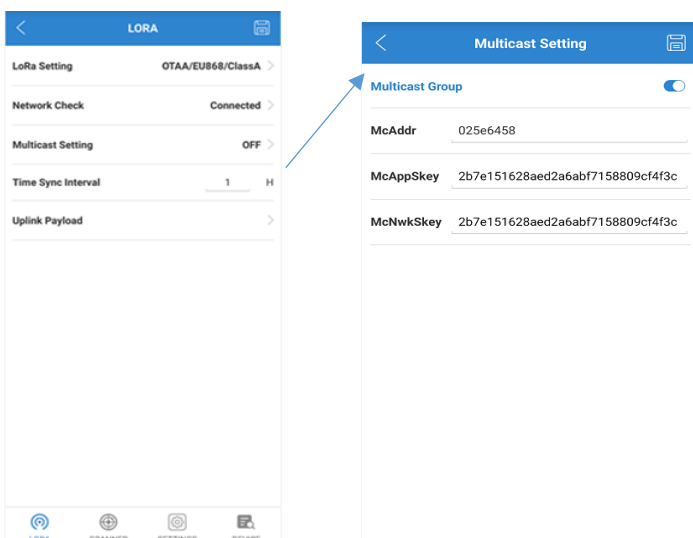
Multicast Switch: configure the multicast function on or off. The default setting is off.

Multicast Address: 4 bytes.
The default setting is 025e6458.

Multicast NwkSKey: 16 bytes.
The default setting is 2B7E151628AED2A6ABF7158809CF4F3C.

Multicast AppSKey: 16 bytes.
The default setting is 2B7E151628AED2A6ABF7158809CF4F3C.
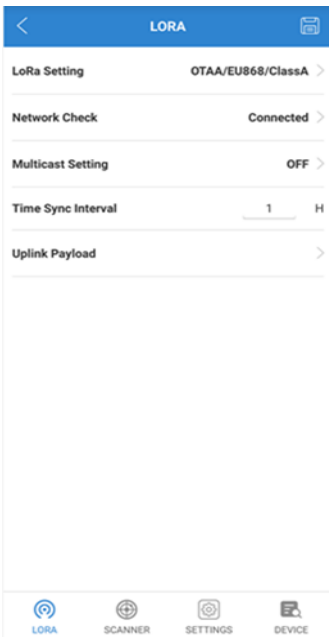
Time Sync Interval: It is used to synchronize the time of the device from the LoRa server.

The default value is 1H that means the device will send Device Time MAC Command to LoRa server get the system time every one hour. The value ranges from 0-240H.

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*
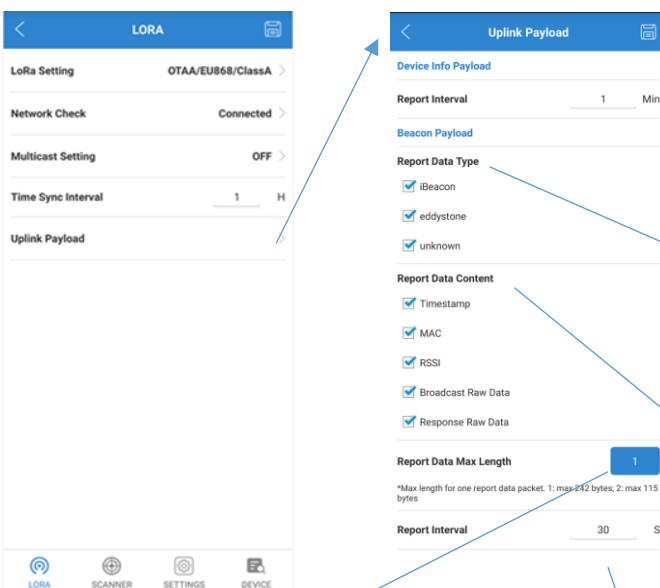
The report interval of device info payload. Default value is 720 mins. The value ranges from 1 – 14400 mins.

Each time a new payload is uploaded, the interval calculation needs to be restarted.

Select the type of data reported in beacon payload. It is multiple choice.

Example: If only iBeacon is selected, the device will only report the data of iBeacon.

Select the content of the beacon payload. The user can select the content to be reported according to their needs, in order to reduce the length of the payload, so that more beacons can be reported per piece of data.

The max length of each payload can be set 242bytes or 115 bytes. The longer the length, the more data can be reported per Payload, but the longer the reporting time will be.

The report interval of beacon payload. Default value is 10 s. The value ranges from 10 – 65535 s.

2.3.2 SCANNER Parameter
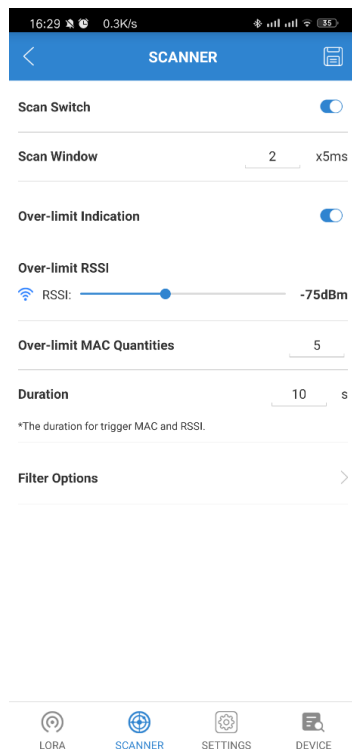
Scan Window: The larger the scanning window, the stronger the scanning function. The default value is 10, unit is 5ms. The value ranges from 1-16.

If the scan window is too large, it will affect the performance of Bluetooth broadcast.

Over-limit RSSI: The smaller the value, the bigger the coverage of the over-limit function. The default is -75dBm. The value ranges from 0 ~ -127 dBm.

Over-limit Quantities: The default value is 5. The value ranges from 1-255.

Duration: The duration for trigger MAC and RSSSI. The default value is 10, unit is s. The value ranges from 1-600.
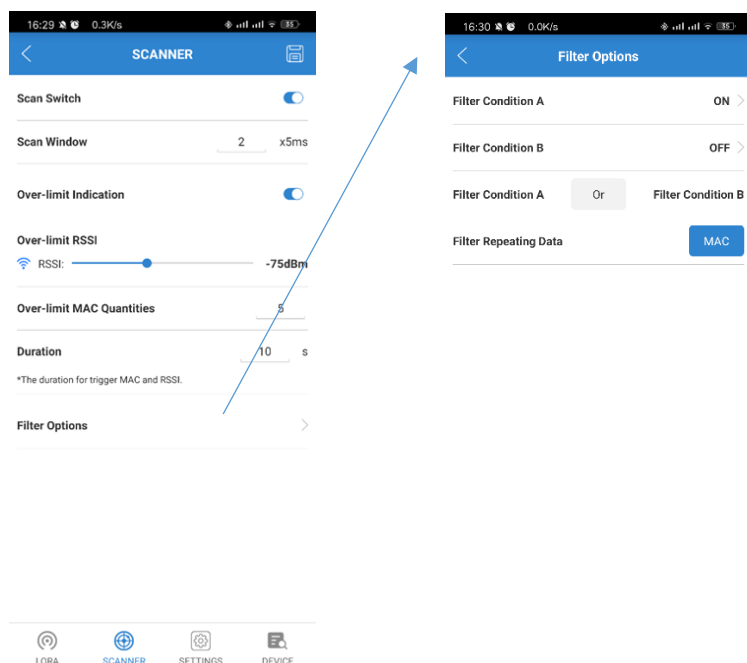
The relationship between Filter Condition A and Filter Condition B can be set OR or AND.

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

The contents of A and B are the same. They will be described in detail on the next page
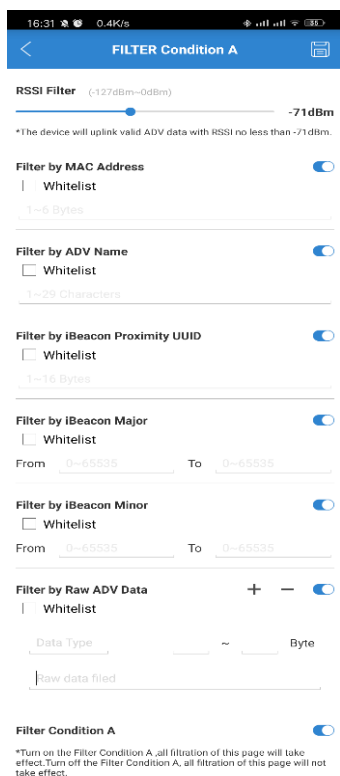
RSSI FILTER: The default value is -127 dBm, the range of this value is from -127dBm to 0 dBm. For example, if user set this value to -100dBm, the device will store valid ADV data which's RSSI is bigger than -100dBm.

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,so 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 29.
Raw data field: the length should match with the byte range.

2.3.3 SETTINGS Parameter

You can set the parameter about general settings:
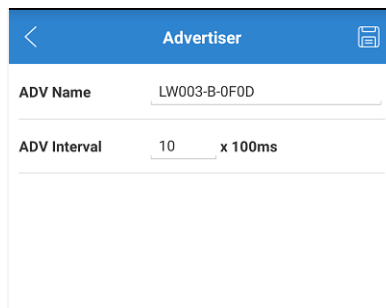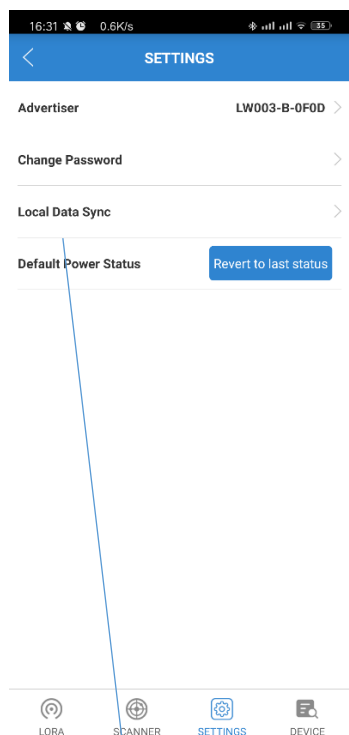
ADV Name: ADV Name: User can enter the customized device name that meet the requirements of the standard field in the input box(1-15 bytes).

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

Default Power Status: The state of the device when the device is powered back on, if it is "switch on", it means that the device will turn on automatically when the device is powered back on. The default value is "Revert to last status". The value can be configured as one of the following options: "Switch off", "Switch on" and "Revert to last status".
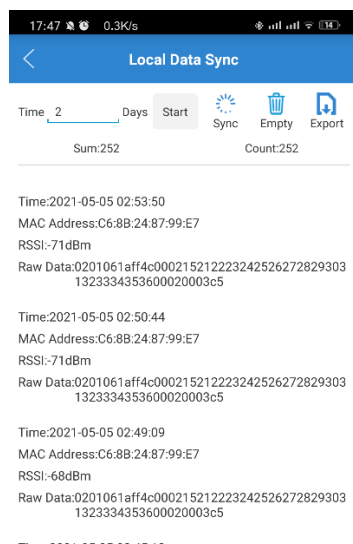
Local Data Sync: Users can read the last 1 to 65,536 days of stored data. After selecting the number of days, click Start, and the device will automatically read the data, and the Sync icon will rotate continuously. Users must manually click the Sync icon to stop data synchronization, and when the value of sum appear, it means that the data is synchronized completely.

After the data is synchronized completely and click the Sync icon to stop data synchronization, the user can delete and export the data.

2.3.4 DEVICE Parameter

You can check the device information in this page.
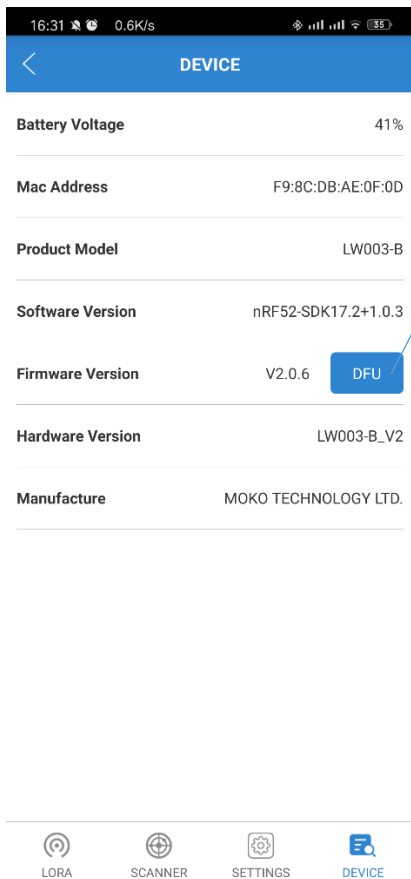
Update Firmware (DFU): To update the firmware via the DFU should use the upgrade package that MOKO provides with ZIP format. If you use an android phone, place the ZIP file of firmware upgrade package into the phone folder, select the upgrade package file from the OTA page of the APP, and click to upgrade.

IOS phones need to share the upgrade package file with MKLoRa 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

Version	Description	Editor	Date
2.0	Initial version. Suitable for firmware version V2.0.7 &HW Version V2.1.	Allen	2021.5.27

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