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MOKO MK106 Bluetooth Gateway Plug User Manual

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About This Manual

This document will briefly introduce the MK106 gateway plug and guide users how to operate the gateway using mobile APP.

Product Introduction

Overview

MK106 is an IOT Bluetooth gateway plug that integrates WIFI and Bluetooth Low Energy wireless technology. MK106 gateway is suitable for type I socket, and easy for installation. The plug works as a BLE scanner to gather Bluetooth broadcast data of surrounding BLE devices, and upload these data frames to MQTT server through 2.4Ghz WIFI. It is mainly used for position tracking and BLE sensors monitoring.

Applications

- Location tracking in room
- Health/fitness monitoring in hospital
- Environmental monitoring
- Temperature sensor monitoring
- Beacon & BLE Sensor & BLE device raw data collection

Button Operation

- Short pressing button: to set the Bluetooth status. For devices that not connected to network, short pressing button can set Bluetooth advertise/OFF, LED will flash GREEN/OFF.
- Holding the button for 10s: to restore factory settings. In any situation, after the device is powered up, long pressing the button for 10s, that will trigger device to reset. When LED flashes GREEN and BLUE alternately

once, that means device resets successfully.

APP Operation

APP Download

Scan the following QR code to download Mokoscanner APP, you can also search "Mokoscanner" in Google play or APP Store for download.


Configure Server Information

MK106 gateway supports multiple kinds of MQTT servers such as EMQTT, AWS IOT and Ali cloud IOT. This section will describe EMQTT connection and AWS connection using Android mobile phone.

EMQTT Server Configuration

1. Insert the gateway plug into any power socket and shortly press the button, the LED will flash green (Device is advertising data).
2. Run your Mokoscanner APP, tap the upper left icon to the "MQTT settings for APP" page, enter the configuration information and save it.
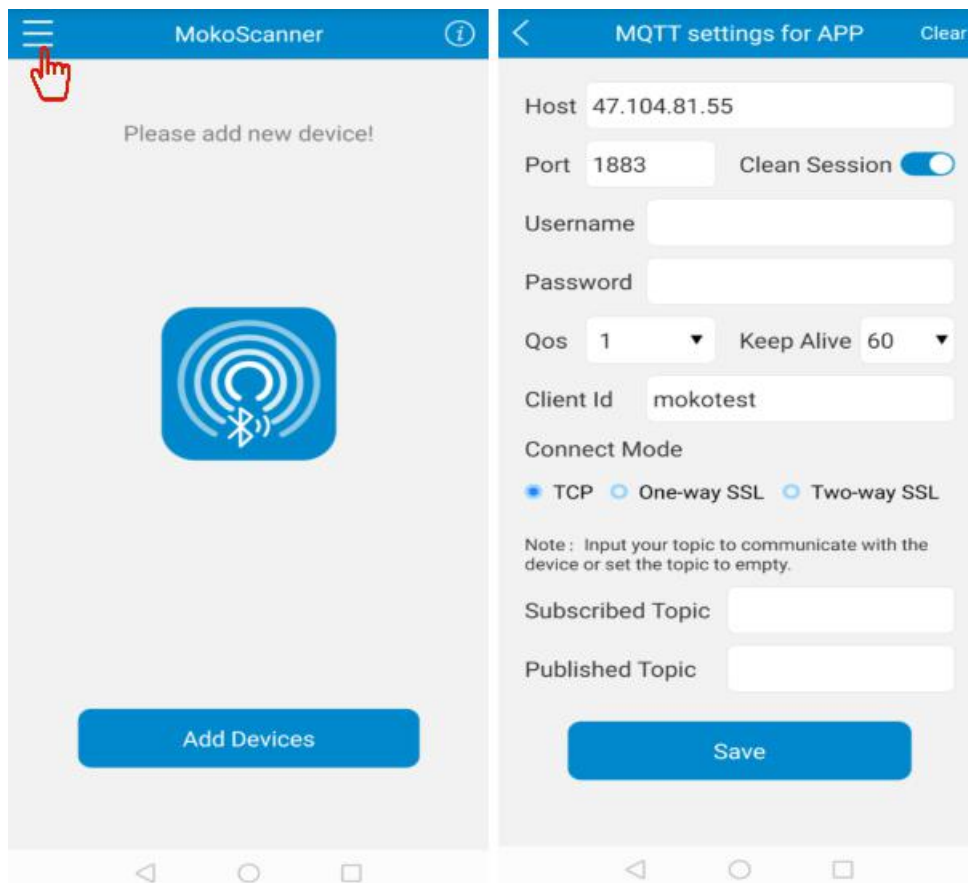
- **Host:** Your server IP address or domain name
- **Port:** 1883
- **Username & Password:** User authentication for connection
- **Client Id:** Unique client identity of APP connecting the server
- **Connect mode:** TCP
- Subscribed Topic and Published Topic here can be empty

3. Tap "Add Devices" and select a device, then go into "MQTT settings for Device" page. Please enter the configuration information here and save.
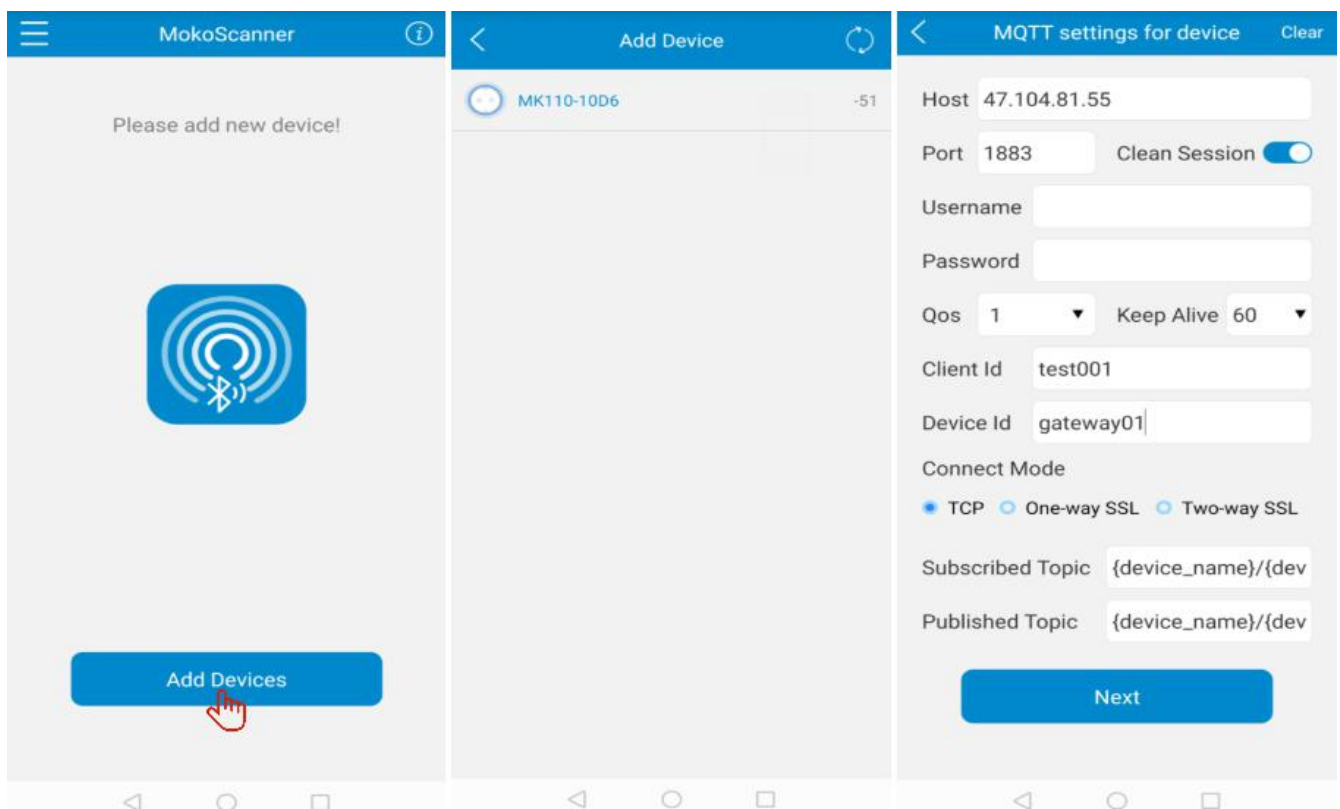
- Host and Port: The same as APP side.

- Username & Password: User authentication for connection

- Client Id: Unique client identity of device connecting the server

- Device Id: Use a random device id

- Connect Mode: TCP

- Subscribed Topic and Published Topic: Use the default topics directly, or set them as random characters.

Note: The DEMO host 47.104.81.55 can be used directly if you need, just available for test.

AWS Server Configuration

1. Compared with EMQTT connection, the port uses 8883 not 1883, and AWS connection needs AWS certificates, including CA root certificate, client CA certificate and client private key. Please choose "Two-way SSL" as the Connect Mode.

2. MQTT settings for device also need choose Two-way SSL mode and attach AWS certificates.
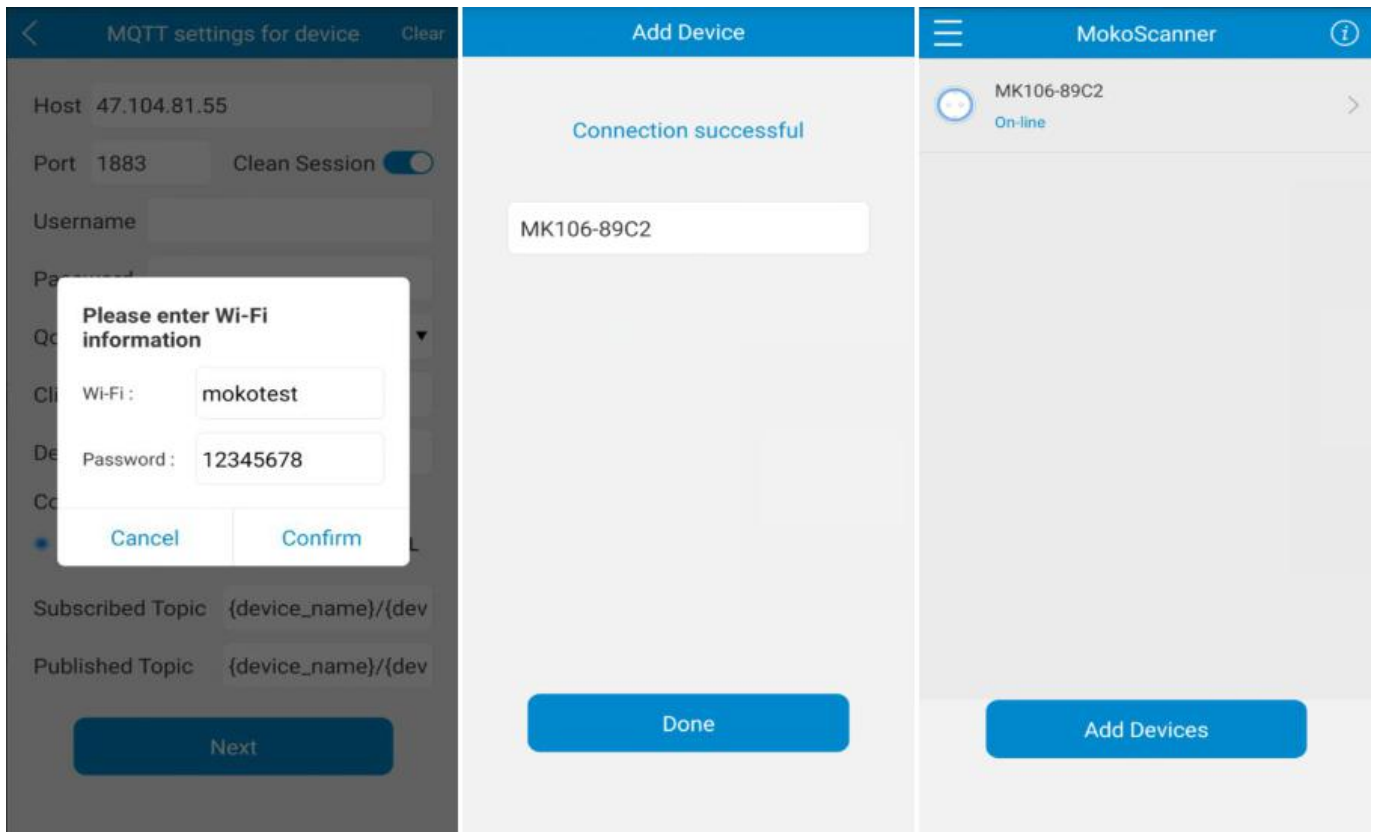

Connect to Router

After server information is configured, you can set an available router SSID and password for the device, then device will connect to the specified network and server.
When device connects to network successfully, LED will turn solid blue. Then you can rename your device, and you can set the gateway through APP.

**Set the Gateway via APP**

Scan BLE Devices

Click the switch button to set the gateway start/stop scanning. The default scanning time is 65535s, that means the device will scan all the time. And the scanning time is settable, it can be set from 10 to 65535. When the scanning time expires, the gateway will automatically stop scanning.
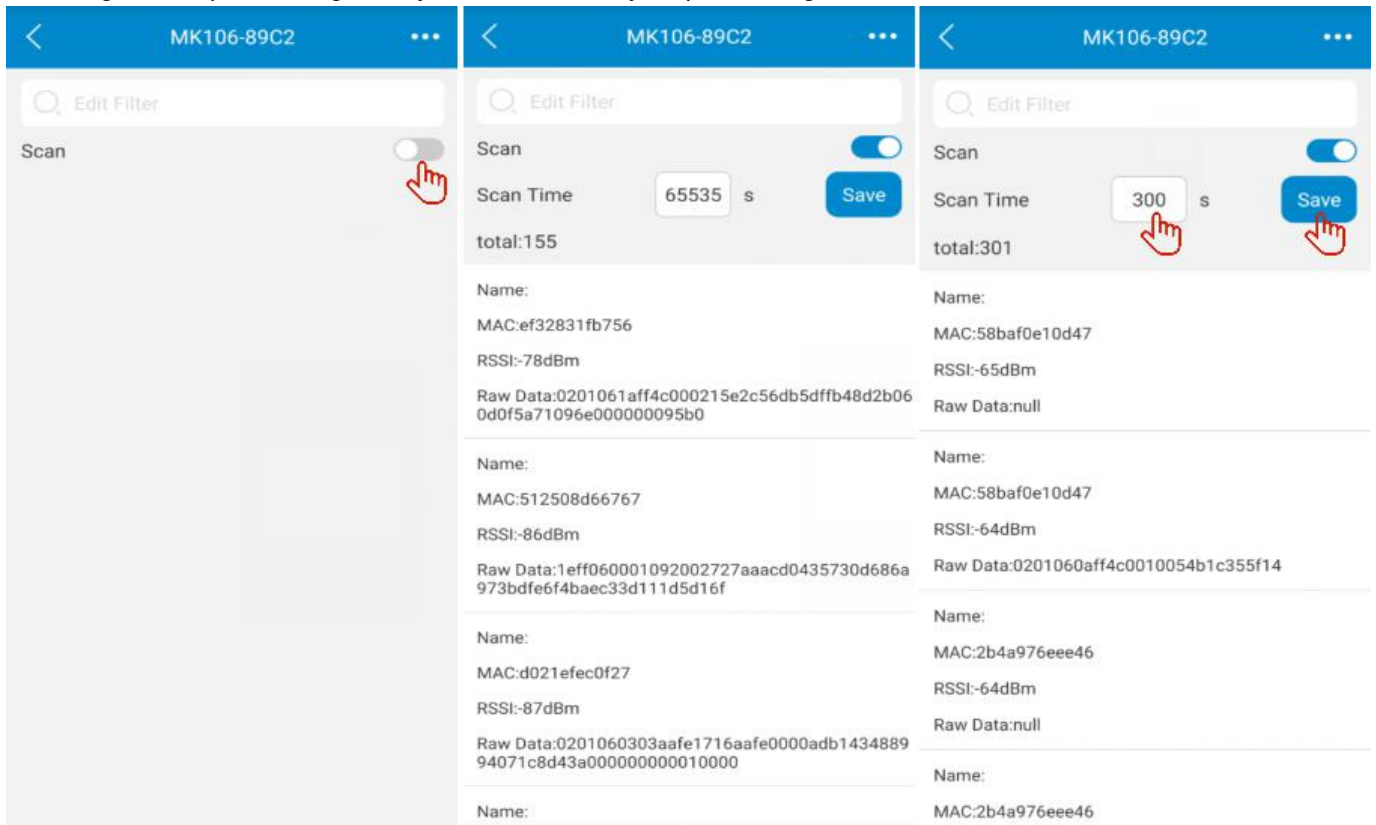
Set Filter Parameters

Click the "Edit Filter" to enter the edition page. Defaultly, the name filter, MAC filter and raw data filter are all disabled, you can enable these options according to the actual needs.

- **RSSI Filter:** Slide the icon to set a RSSI value.
- **Name Filter:** Set the switch on, and enter a device name that needs to be filtered.
- **MAC Filter:** Set the switch on, and enter a MAC address that needs to be filtered.
- **Raw Data Filter:** Set the switch on, tap the "+" icon to add a textbox (it allows to add up to 5 rules), enter the data type, data range (0~0 /1~29 is available), and raw data field (1~29bytes) that need to be filtered, then "Done".
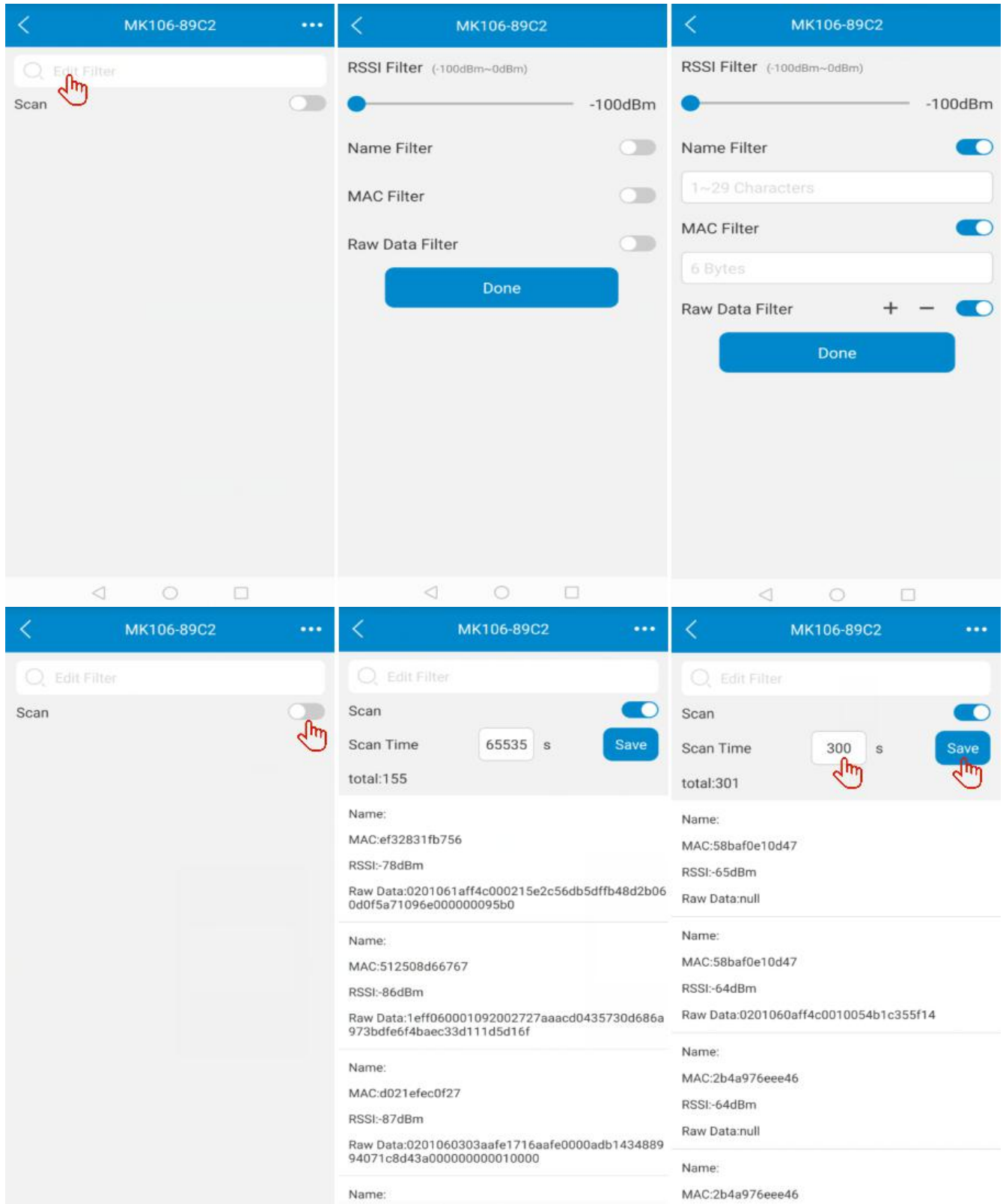
Note: If all filters have been set, device will execute each filter rule as "And" operation.

OTA

The Host, Port, and Catalogue is the file path where the upgrade packet is located, then click "Start Update", device will update the firmware over the air, and the LED will flash green. When update successfully, the LED will become solid green, and device will reboot once.

Note: The OTA server (Host: 47.104.172.169, port: 8080) in the above picture is just available for your test. If you need, MOKO can provide the lasted firmware upgrade packet, and then you can paste the file to your server to operate OTA.
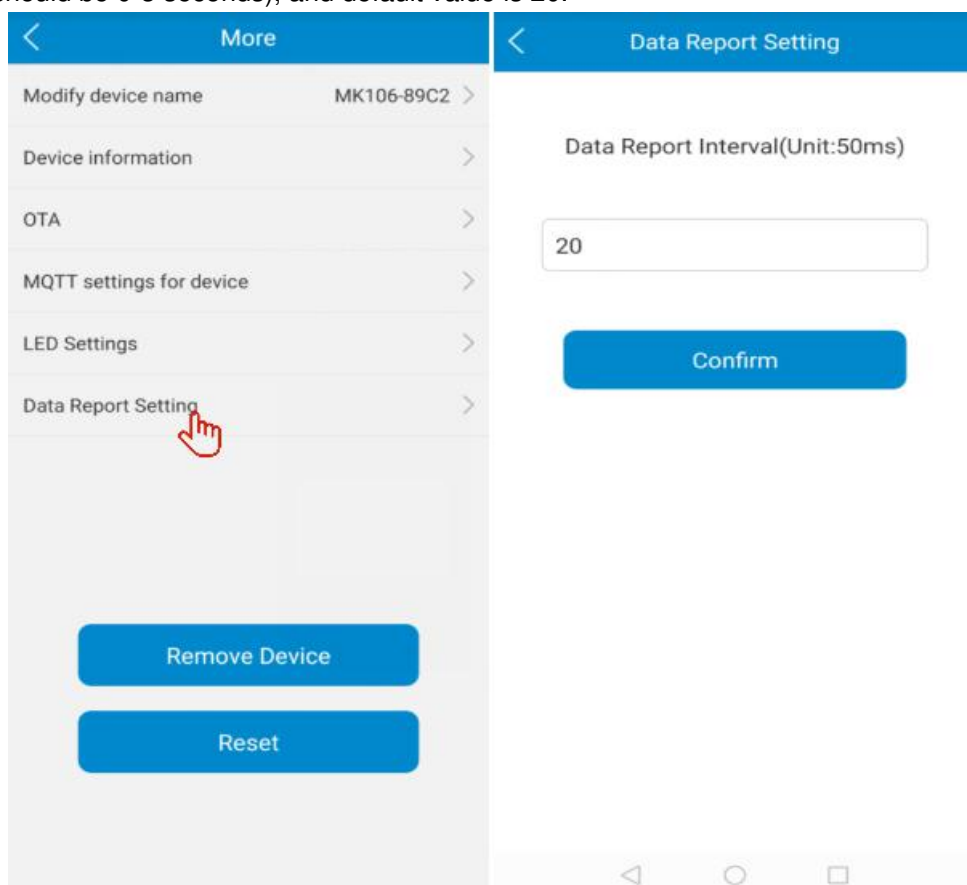
LED Settings

In this page, you can set the LED disabled/enabled in the following four states independently. Defaultly, LED state should be all enabled.
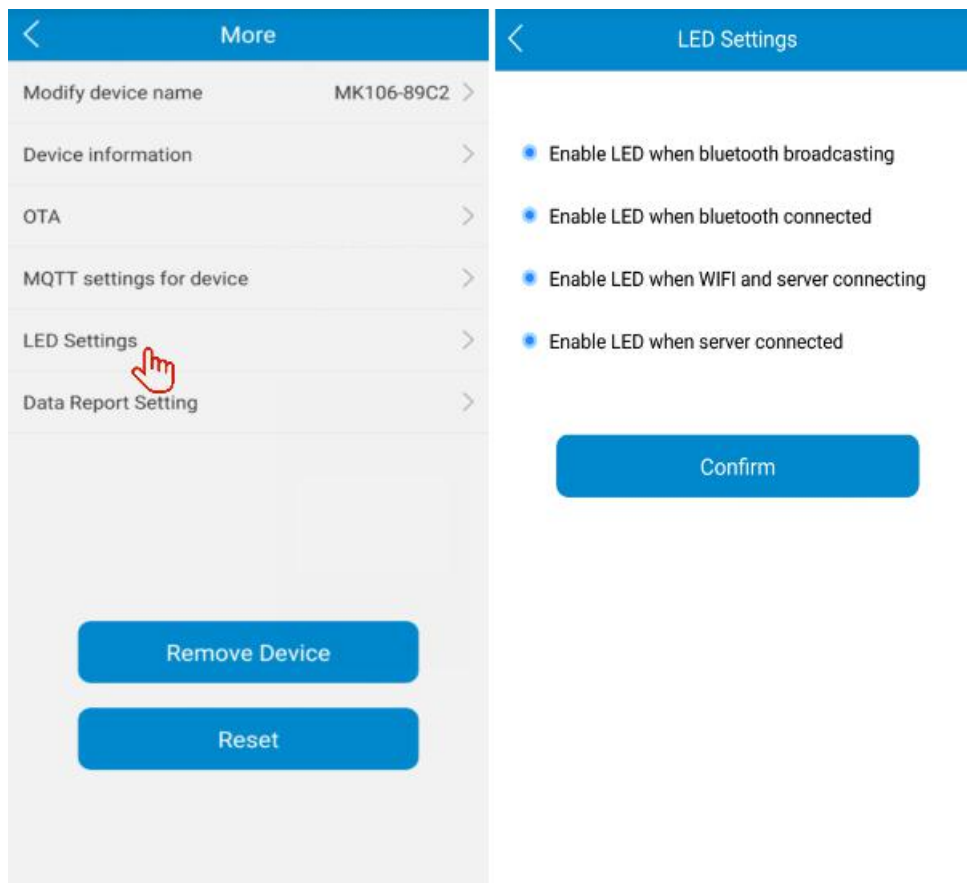
Data Reporting Setting

This parameter defines the time interval of device reporting data to server, you can set the value from 0 to 60 (interval range should be 0-3 seconds), and default value is 20.


Factory Reset
You can reset your gateway through the "Reset" button, then LED will flash blue and green alternately once, that means the gateway restores factory settings successfully. And you can also hold the button on the casing for 10

seconds to reset the plug.
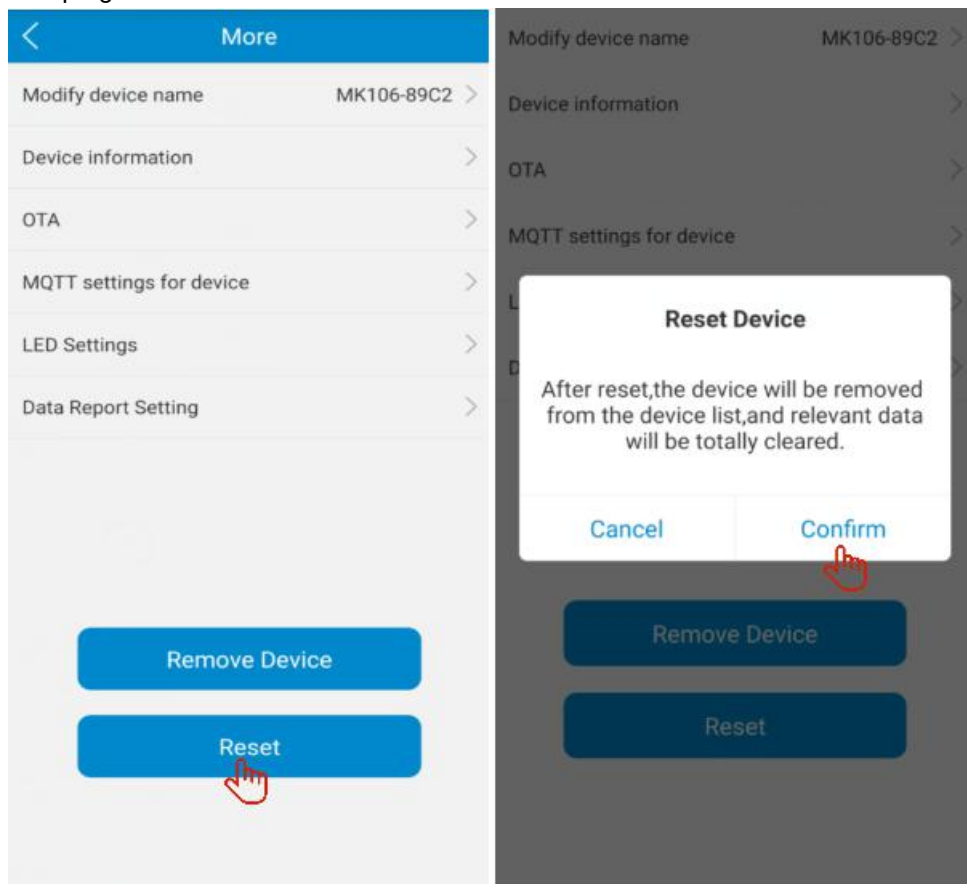
Remove Device

"Remove Device" button is used to remove a device from your APP. You can also operate it in the device list page.
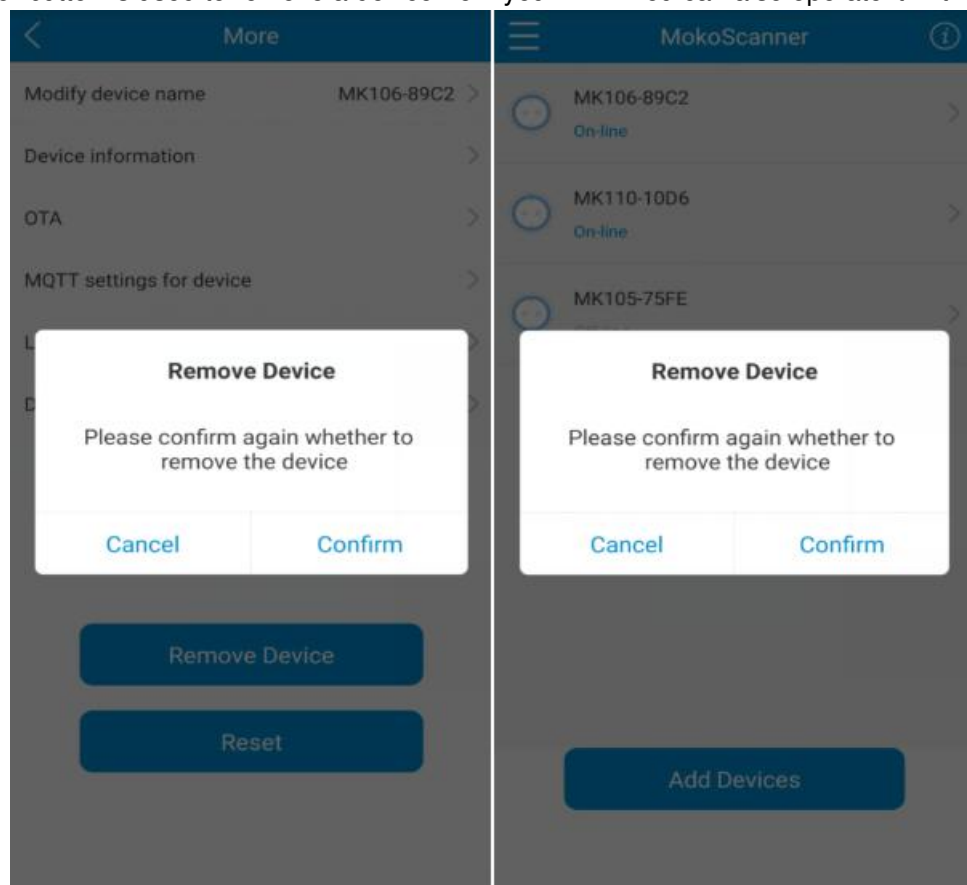
Revision History

Revision	Description	Editor	Date
V1.0	Initial Release	Weiguifen	2020.12.25

MOKO TECHNOLOGY LTD.

4F, Building2, Guanghui Technology Park, MinQing Rd, Longhua, Shenzhen, Guangdong, China
Tel: 86-755-23573370-829
sales@mokosmart.com
https://www.mokosmart.com

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