



# **ideaPairingX**

**(App for Pairing with Wi-Fi)**

## **User Manual**

**Rev. 1.00 - February 21, 2024**

# Revision

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Date	Version	Changes
February 21, 2024	1.00	Initial release

# Copyright

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Chapter

1

# Overview

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## 1.1 Overview

The ideaPairingX is a mobile application designed to make the Wi-Fi commissioning process easy for IEI ePaper devices. With the ideaPairingX, users can pair your IEI ePaper devices with Wi-Fi access point (AP) and log into the IRM.

IEI's ePaper devices come with a convenient built-in Wi-Fi connection function, making it easy to connect and configure the device to your network. By using the ideaPairingX app and connecting the ePaper device to your mobile phone via Bluetooth, you can seamlessly pair the device with the network. During the pairing process, you'll be prompted to provide the SSID and password of the Wi-Fi access point, as well as the IP address and IP port of the iRM. This streamlined Wi-Fi commissioning process is especially useful for IT staff when deploying a large number of devices, saving time and effort.

## 1.2 System Requirements

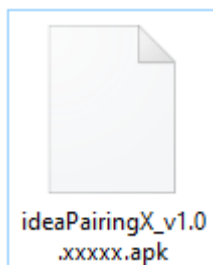
The mobile phone requirement for installing the ideaPairingX is as following:

- OS: Android 10 or latter

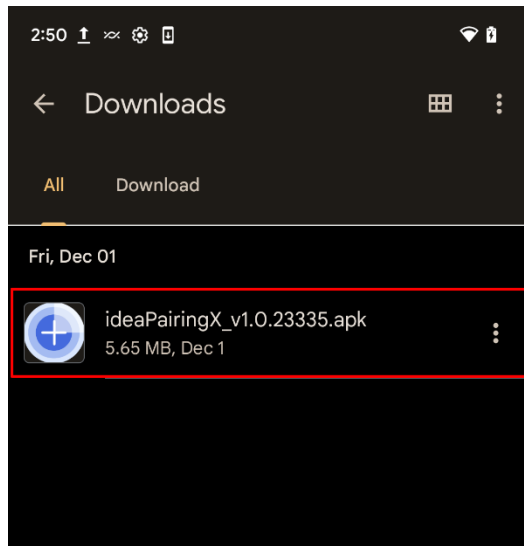
## 1.3 Installing ideaPairingX

**Step 1:** Save the **ideaPairingX\_v1.0.xxxxx.apk** ("xxxxx" denotes the version of the application) file to your computer.

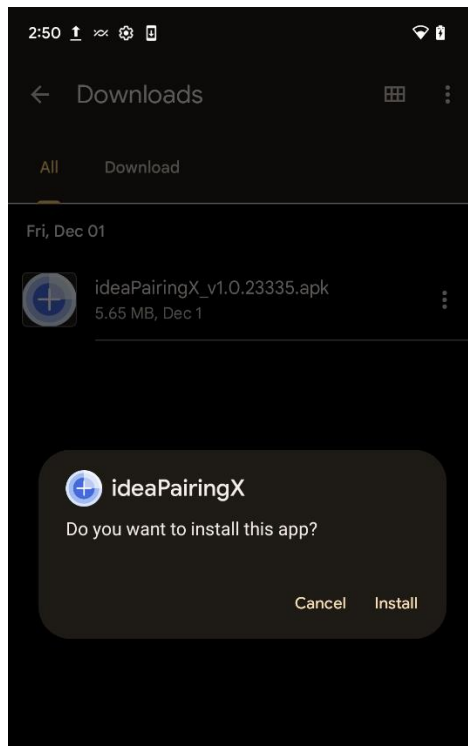
**Step 2:** Connect your Android mobile phone to the computer using a USB cable, and move the APK file to the "Downloads" folder on your mobile phone.



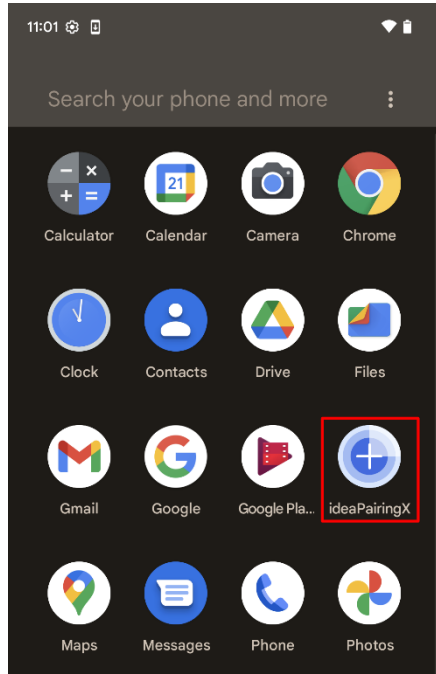
**Step 3:** In your mobile phone, go to **Files** → **Downloads**. Tap the APK file.



**Step 4:** When prompted with the following message, tap **Install**.

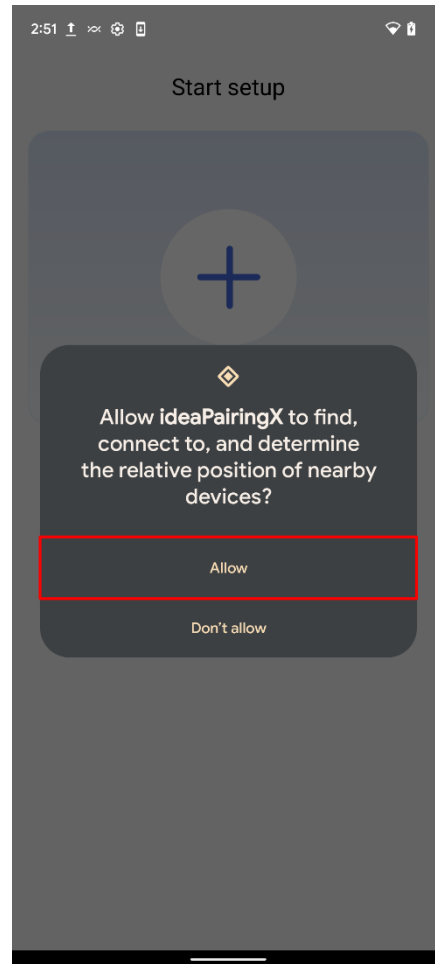
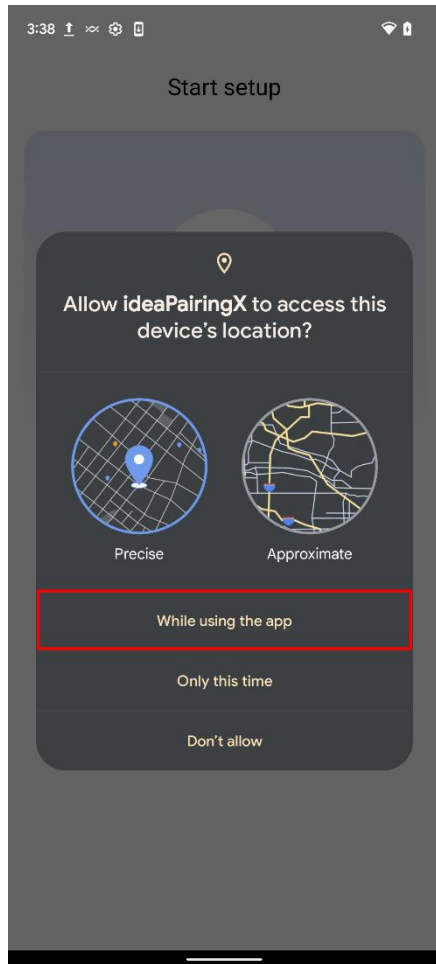


**Step 5:** When installation completes, you can find the ideaPairingX in the app drawer. Tap the icon to launch it.





**Step 6:** When you opens the app for the first time, you will see the following messages. Be sure to allow the ideaPairingX to access the device location and to find nearby devices.



Chapter

**2**

# Using ideaPairingX

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**WARNING:**

The ideaPairingX utilizes the Wi-Fi mode of the ePaper device for communication. However, activating the Wi-Fi mode on the ePaper device results in the deletion of all data saved through the ditherPrint application (UART mode). In other words, switching between Wi-Fi mode and UART mode on the ePaper device erases data saved in the other mode. It is to ensure a clean storage environment for the ePaper's smooth operation. Be aware of this limitation to prevent accidental data deletion.

## 2.1 Pairing ePaper Device – Online Mode

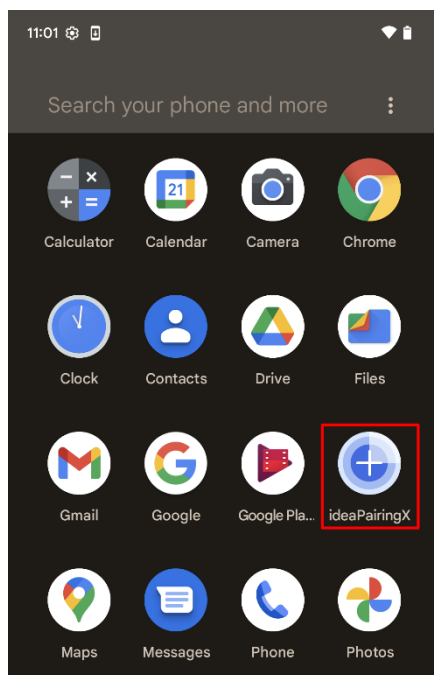
**Step 1:** Press the Bluetooth button on the rear panel of the IEI ePaper device. **Note:** the ePaper device must be provided with battery or USB power.



**Step 2:** The following screen shows, and the blue LED on the front panel starts flashing.



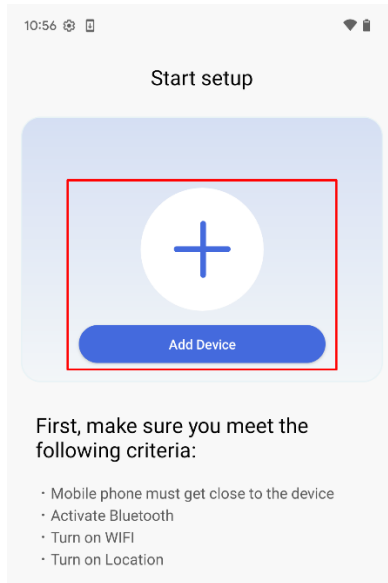
**Step 3:** On the mobile phone, tap the icon of the ideaPairingX application to launch it.



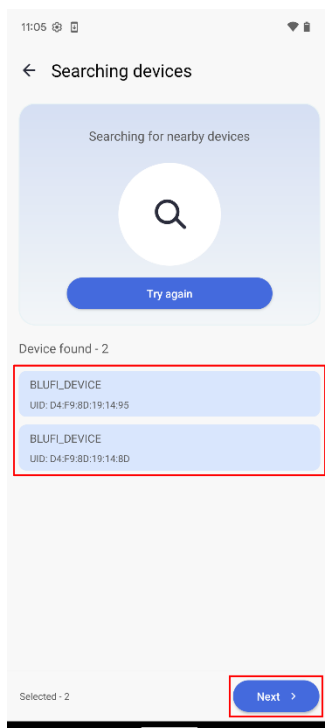
**Step 4:** Before starting pairing with the Wi-Fi, make sure you meet the following criteria:

- The mobile phone must get close to the ePaper device
- Turn on Bluetooth and Wi-Fi connection of the mobile phone
- Allow access to the mobile phone's location

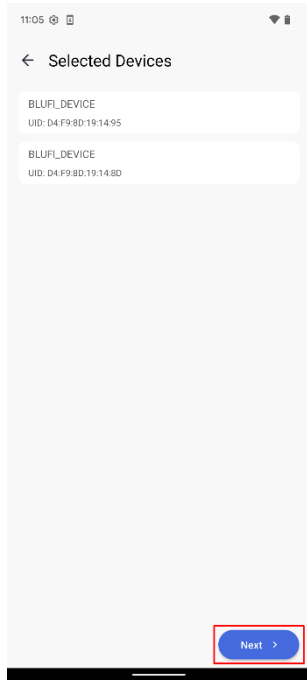
**Step 5: Tap Add Device**



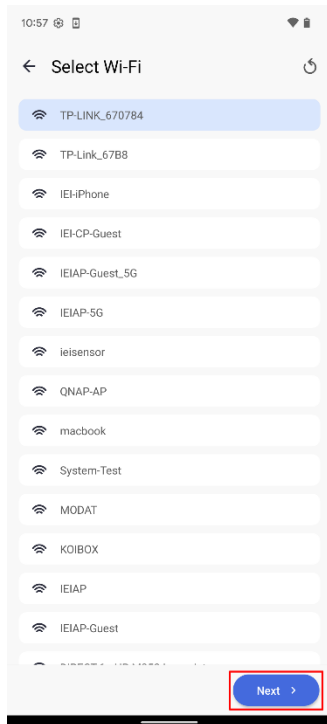
**Step 6:** The ideaPairingX shows a list of nearby ePaper device. Identify the ePaper device using the UID number (MAC address). Tap one or multiple devices to start pairing with the network. Up to 7 devices can be selected each time. Click **Next** to continue.



**Step 7:** The following screen appears, click **Next** to continue.



**Step 8:** A list of Wi-Fi AP shows. Choose the Wi-Fi AP that the computer, which is currently connected to the IRM, is using. Click **Next**.



**Step 9:** Configure the device settings.

1. Enter the password of the selected Wi-Fi AP.
2. Enter the IP address of the IRM.
3. Configure the MQTT port: 1883 (unencrypted) or 8883 (encrypted)
4. Optional: give a brief description of the ePaper device; it will be shown in the “Note” column on the Electronic Paper Device page of the IRM
5. Optional: Check “Set as default value” to save the settings as default

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× Device Settings

Wi-Fi

Wi-Fi Name  
TP-LINK\_670784

1 Wi-Fi Password  0/63

Device

2 IRM IP

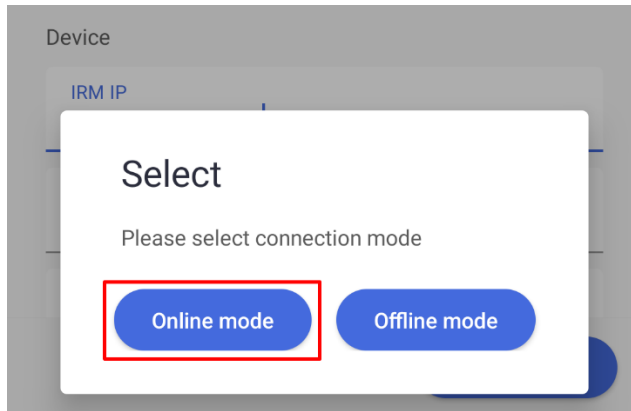
3 MQTT Port  
8883

4 Note  
0/256

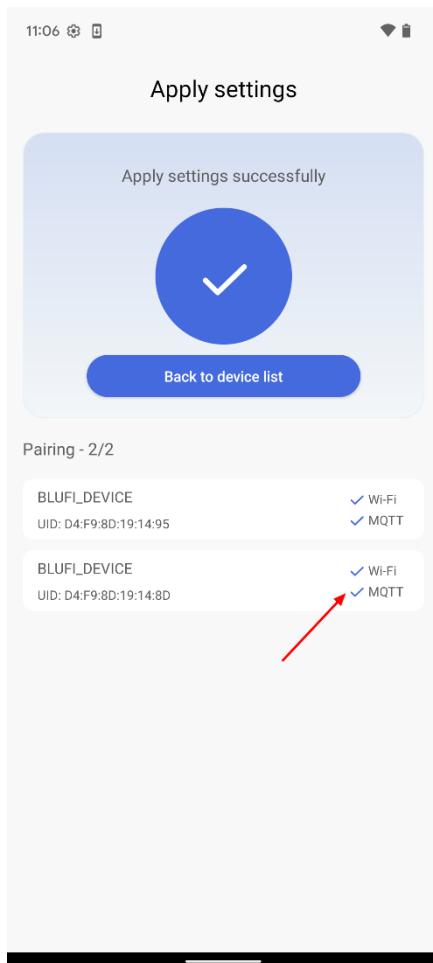
Set as default value  5

Confirm >

**Step 10:** Tap **Confirm** to continue**Step 11:** When prompted with the following message, select **Online mode** as the connection mode.

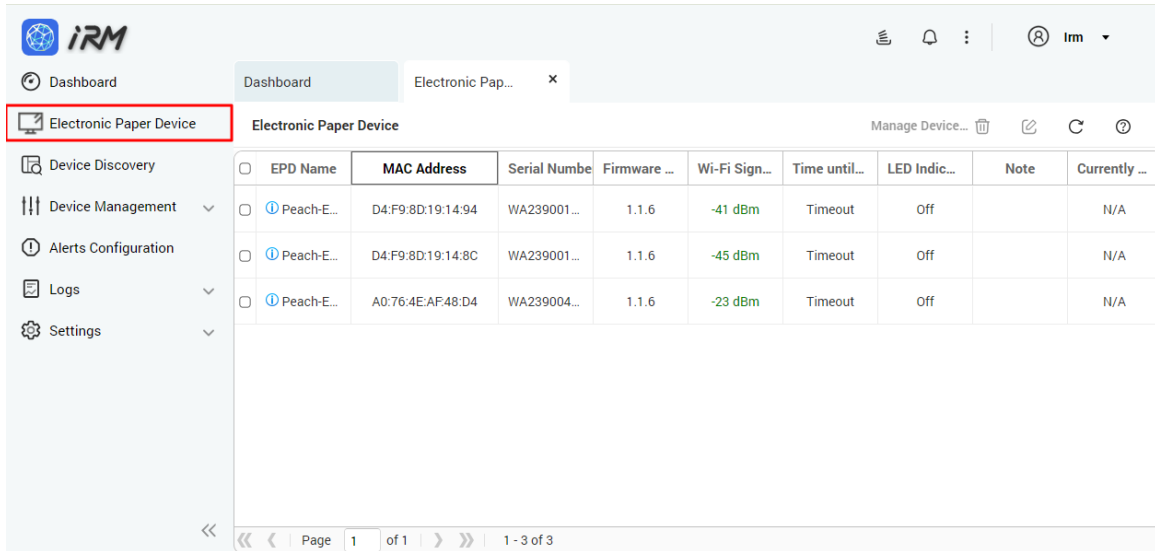


**Step 12:** The ePaper flashes the screen, and the following screen shows with the successful message indicated by the blue check marks for both Wi-Fi and MQTT.





**Step 13:** The ePaper successfully connects to the IRM, which can be identified by checking the MAC address.



The screenshot shows the IRM web interface. The 'Electronic Paper Device' menu item is highlighted with a red box. The main content area displays a table of Electronic Paper Devices. The table has the following columns: EPD Name, MAC Address, Serial Number, Firmware, Wi-Fi Signal, Time until, LED Indicator, Note, and Currently. There are three rows of data, each representing a device with a MAC address starting with D4:F9:8D:19:14.

EPD Name	MAC Address	Serial Number	Firmware	Wi-Fi Signal	Time until	LED Indicator	Note	Currently
Peach-E...	D4:F9:8D:19:14:94	WA239001...	1.1.6	-41 dBm	Timeout	Off		N/A
Peach-E...	D4:F9:8D:19:14:8C	WA239001...	1.1.6	-45 dBm	Timeout	Off		N/A
Peach-E...	A0:76:4E:AF:48:D4	WA239004...	1.1.6	-23 dBm	Timeout	Off		N/A

**Step 14:** After the ePaper device connects to the IRM, the ideaPairingX will disconnect the ePaper. Then the user can pair other devices with the network.

## 2.2 Pairing ePaper Device – Offline Mode

The ideaPairingX allows users to save the network information into the ePaper device by using the offline mode. IT personnel can greatly benefit from this function when they need to prepare a large number of ePaper devices at their office in advance. This not only saves time and effort but also allows for efficient management and deployment of the devices. To do this, follow the steps below:

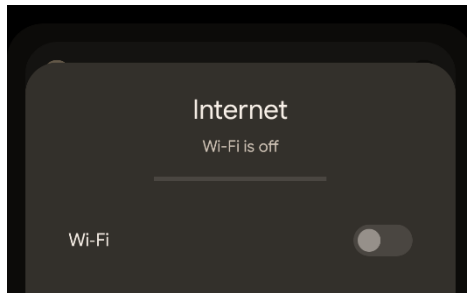
**Step 1:** Press the Bluetooth button on the rear panel of the IEI ePaper device. **Note: the ePaper device must be provided with battery or USB power.**



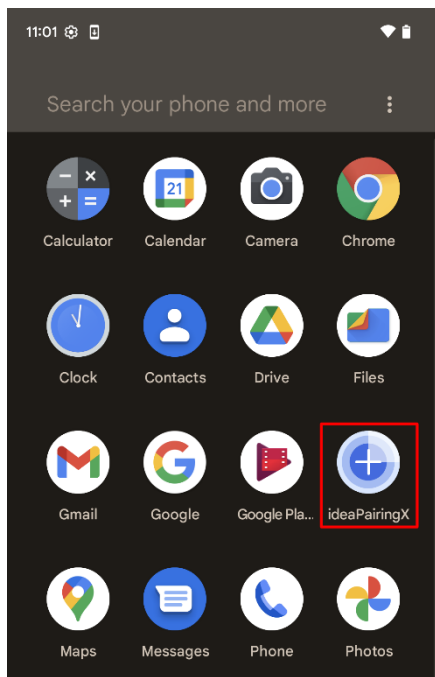
**Step 2:** The following screen shows, and the blue LED on the front panel starts flashing.



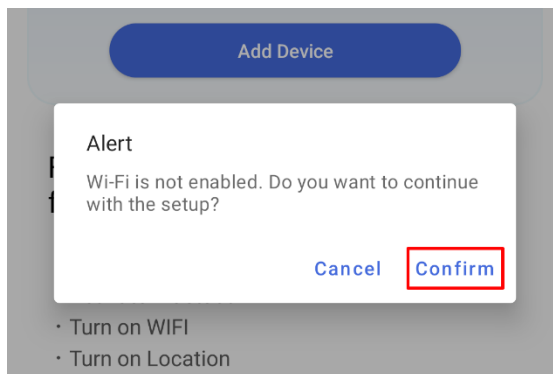
**Step 3:** Turn off the Wi-Fi connection on the mobile phone. **Note:** In the offline mode, the ideaPairingX transfers information to the ePaper device through Bluetooth.



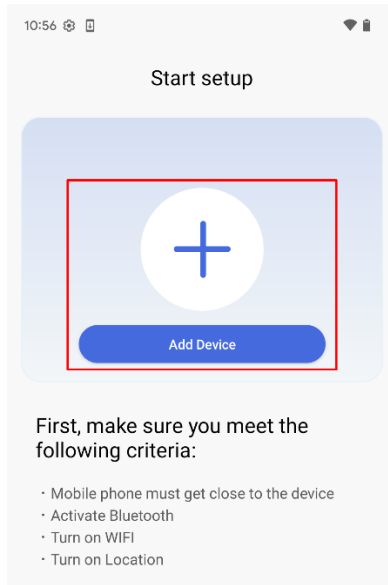
**Step 4:** On the mobile phone, tap the icon of the ideaPairingX application to launch it.



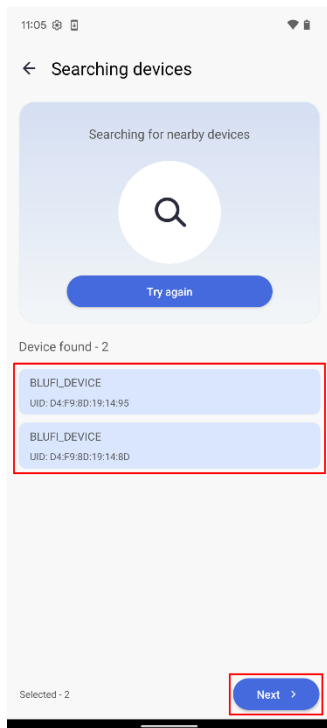
**Step 5:** An alert message appears. Tap **Confirm** to continue.



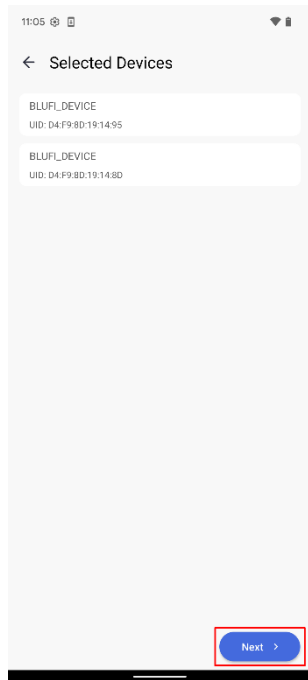
**Step 6: Tap Add Device**



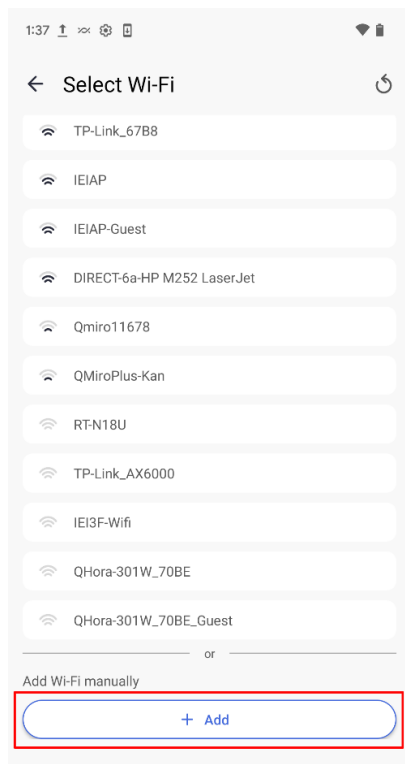
**Step 7:** The ideaPairingX shows a list of nearby ePaper device. Identify the ePaper device using the UID number (MAC address). Tap one or multiple devices to start pairing with the network. Up to 7 devices can be selected each time. Click **Next** to continue.



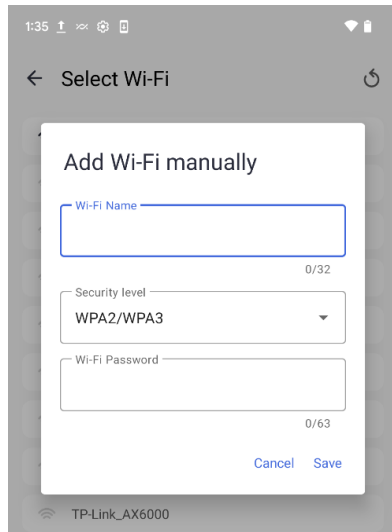
**Step 8:** The following screen appears, click **Next** to continue.



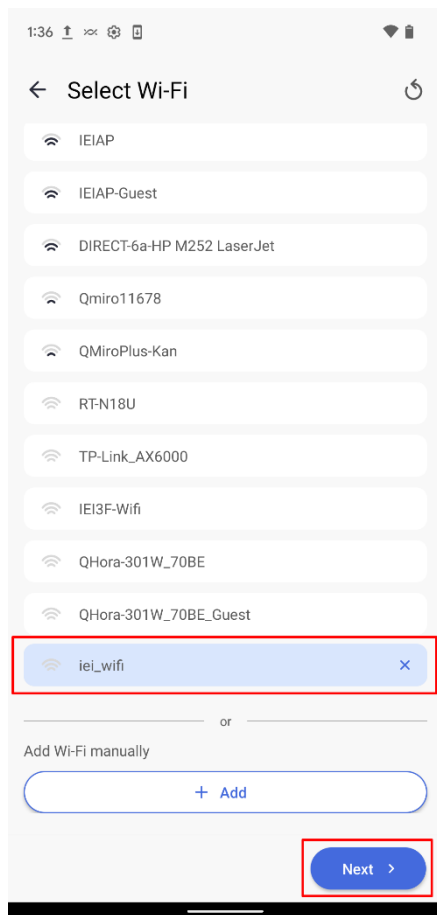
**Step 9:** A list of Wi-Fi AP shows. Scroll down until you see the **+Add** button. Tap **+Add** to add a Wi-Fi AP manually.



**Step 10:** In the following screen, enter the name and password of the Wi-Fi AP. Tap **Save** to save the settings.



**Step 11:** Tap the Wi-Fi AP you just created. Click **Next**.



**Step 12:** Configure the device settings.

1. Enter the password of the selected Wi-Fi AP.
2. Enter the IP address of the IRM.
3. Configure the MQTT port: 1883 (unencrypted) or 8883 (encrypted)
4. Optional: give a brief description of the ePaper device
5. Optional: Check “Set as default value” to save the settings as default

10:58

× Device Settings

Wi-Fi

Wi-Fi Name  
TP-LINK\_670784

1 Wi-Fi Password  0/63

Device

2 IRM IP

3 MQTT Port  
8883

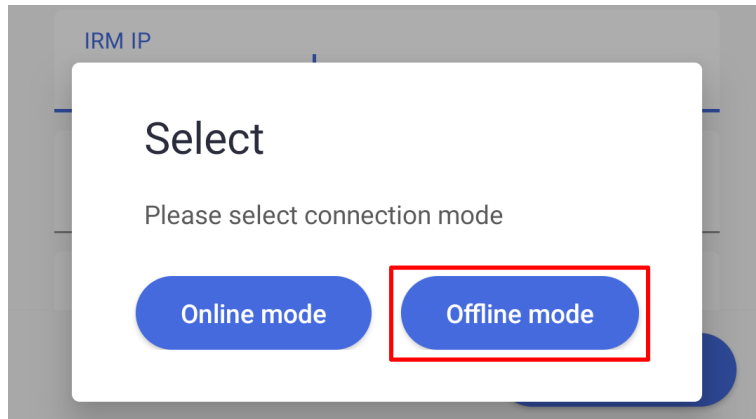
4 Note  0/256

Set as default value  5

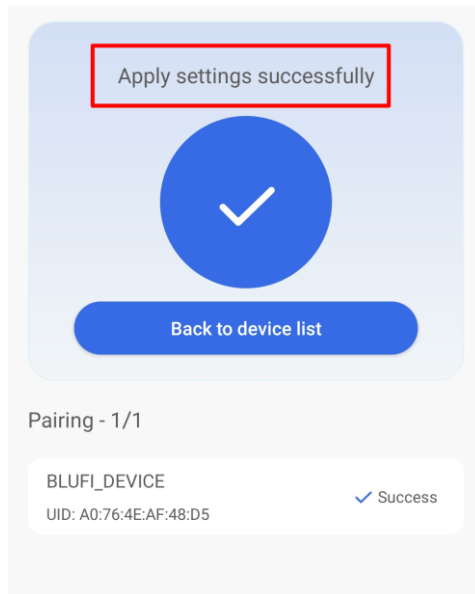
Confirm >

**Step 13:** Tap **Confirm** to continue

**Step 14:** When prompted with the following message, select **Offline mode** as the connection mode.



**Step 15:** The ePaper flashes the screen, and the following screen shows with the successful message.

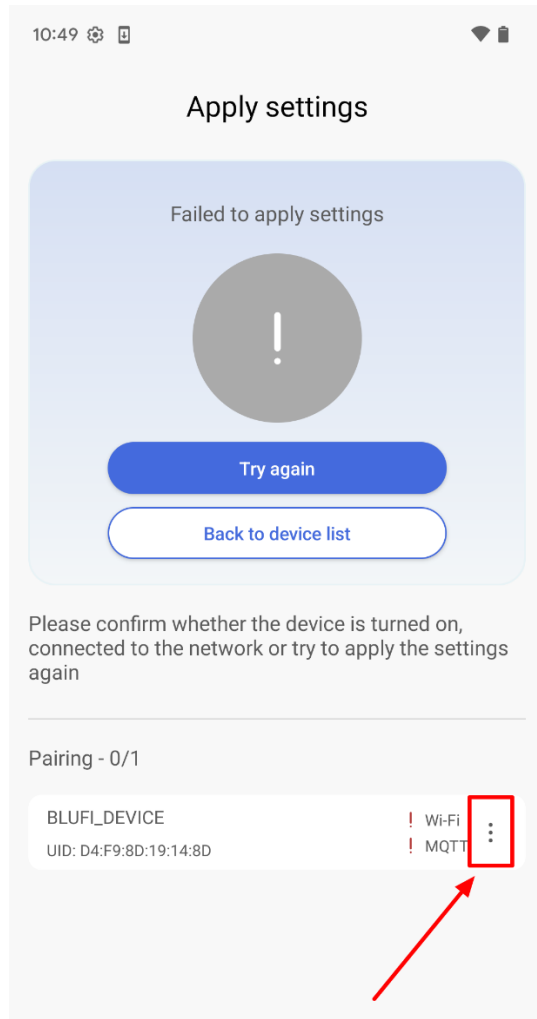




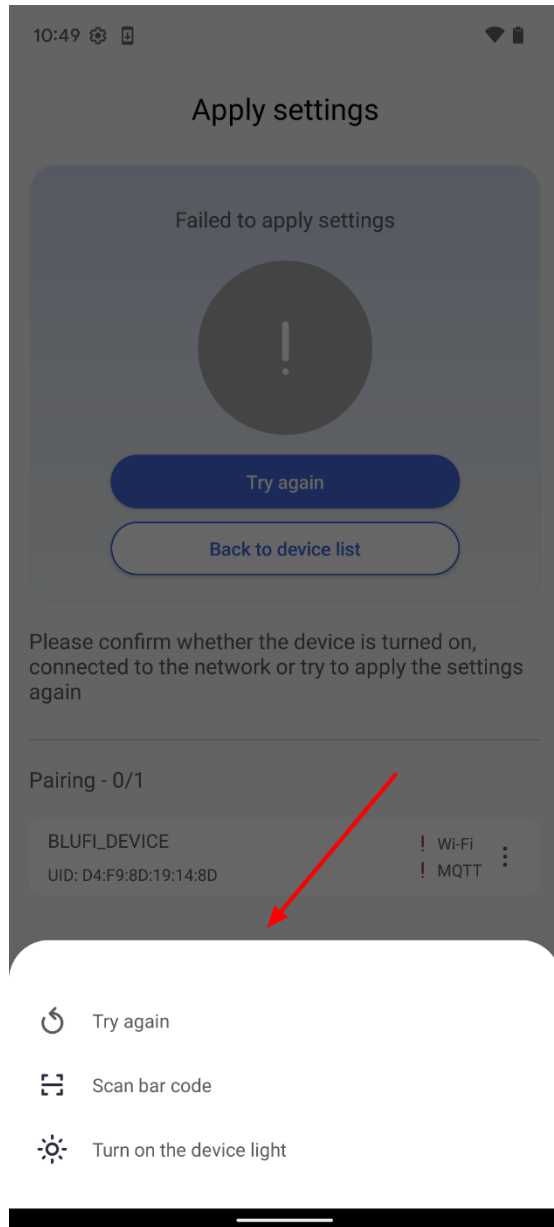
## 2.3 Troubleshooting

The ideaPairingX app can help users identify the ePaper device if it fails to pair with the network. Users can either scan the QR code on the ePaper device's front panel or turn on the LED indicator of the ePaper for identification. To do this, follow the steps below.

**Step 1:** The following screen will show when the ideaPairingX fails to pair the ePaper with the network. Tap the 3-dot icon to bring up more functions.



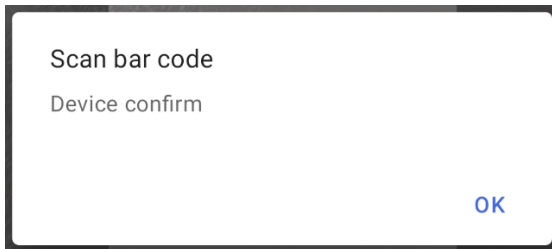
**Step 2:** The option menu appears at the bottom of the screen.



**Step 3:** a) Tap **Scan bar code**.



The mobile phone will launch the camera app. Use the camera to scan the QR code on the upper right corner of the ePaper's front panel. The QR code contains a unique MAC address which will be compared to the device ID obtained by the app through Bluetooth. If the MAC address matches the device ID, the following confirmation message will be displayed.



b) Tap **Turn on the device light**.



The LED indicator of that ePaper device will light on for you to identify.