



# Agenda

## Outline

**Advantech's ePaper Solution**

**EPD solution Architecture**

**EPD-662 Network Topology**

**Hands on**

# Wireless ePaper Solution Suites



Device Management



EPD Content Delivery



EPD Content Design



Edge Event Feedback



## DeviceOn/ePaper

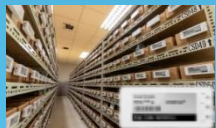


台灣精品  
2022

Full sizes of Solution Suites

2.9"

Inventory Management



Smart Factory

5.6"

Production Cart



Clinic Information Board



Smart Hospital

13.3"

Bedside Card



Ubiquitous Interactive Device



Smart Building

5.6"

Scheduling Card



26"

Bus Stop



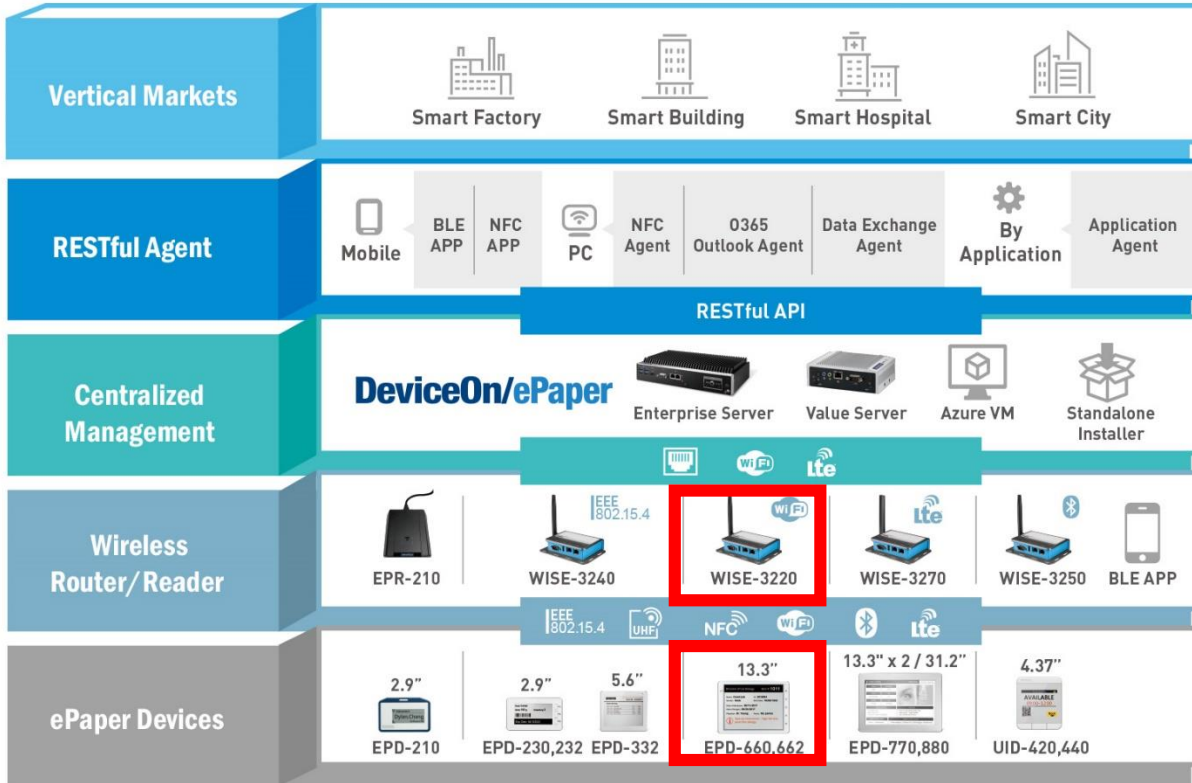
Smart City

31.2"

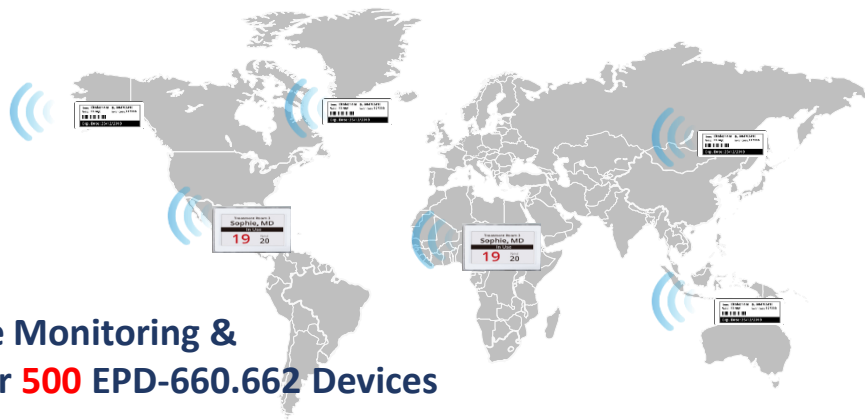
Smart Lighting



# EPD Solution Suite Architecture



# Content Management Software



Real-Time Monitoring & Firmware OTA for over **500** EPD-660.662 Devices

## Device Management

- Device monitoring
- Battery/Status Report
- Task report
- Remote control

## Service Management

- FW/image to device
- Scheduling execution
- Event management

## Image Generator

- Drag & Drop the image design component
- Image preview
- Data field setting to receive restful API
- Image file transform to system format

## Integration

- Provide API for device update
- Provide sample code for SI integration

# EPD-662 Network Topology



## “Hands-on for DeviceOn/ePaper”



# Agenda

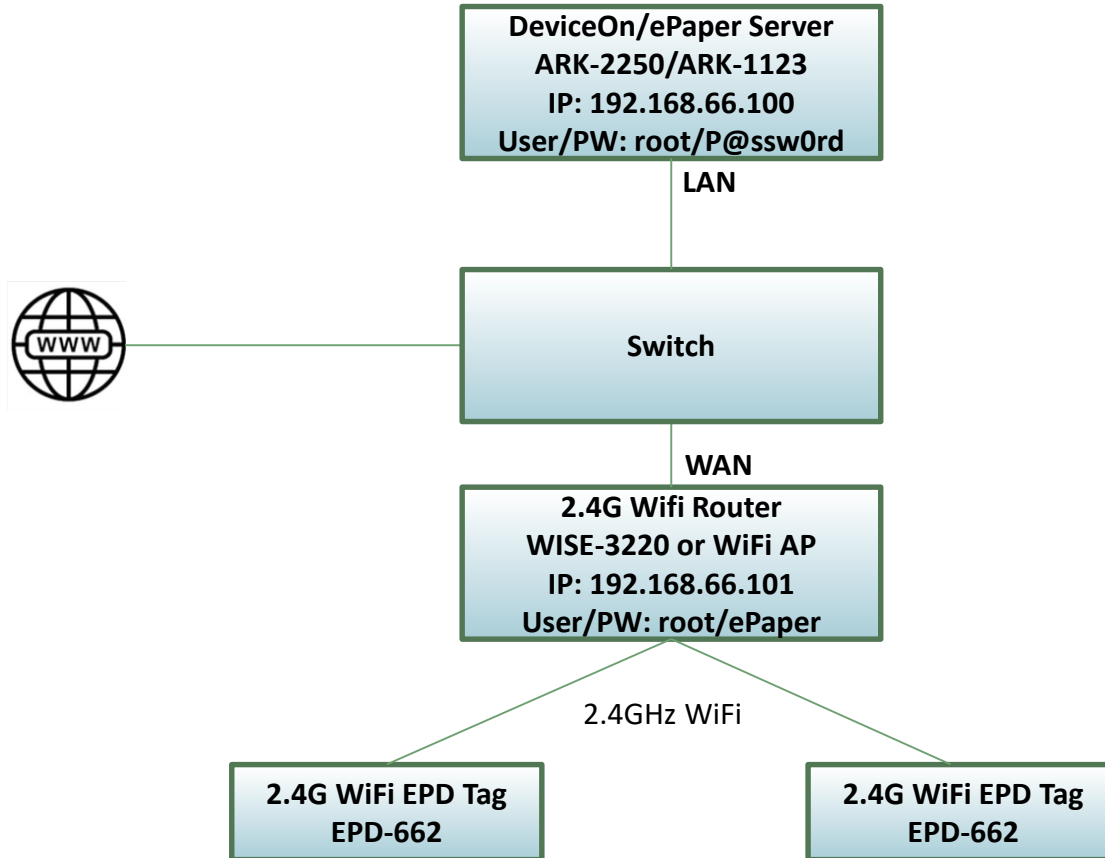
- **Preparation**
  - Hardware Equipment
  - Network Architecture
- **Tag Devices Deployment**
  - Add tag devices into ePaper Manager
- **Image Generation**
  - Template generation
  - Data Binding
- **Refresh Tag Devices**
  - Image Refresh /Transmit (Device,Group)
- **Firmware upgrade**
- **Resful API & SampleCode**



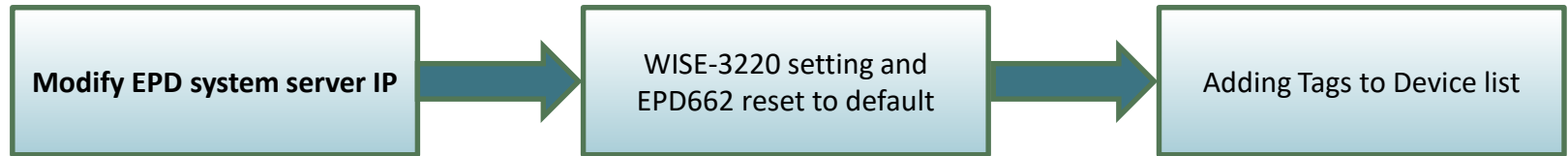
# Preparation- Hardware Equipment

- EPD-662 x1
- WISE-3220 or other AP
- ARK-1123H DeviceOn/ePaper Server x1
- WiFi Hub x1

# EPD DemoKit's Network Architecture



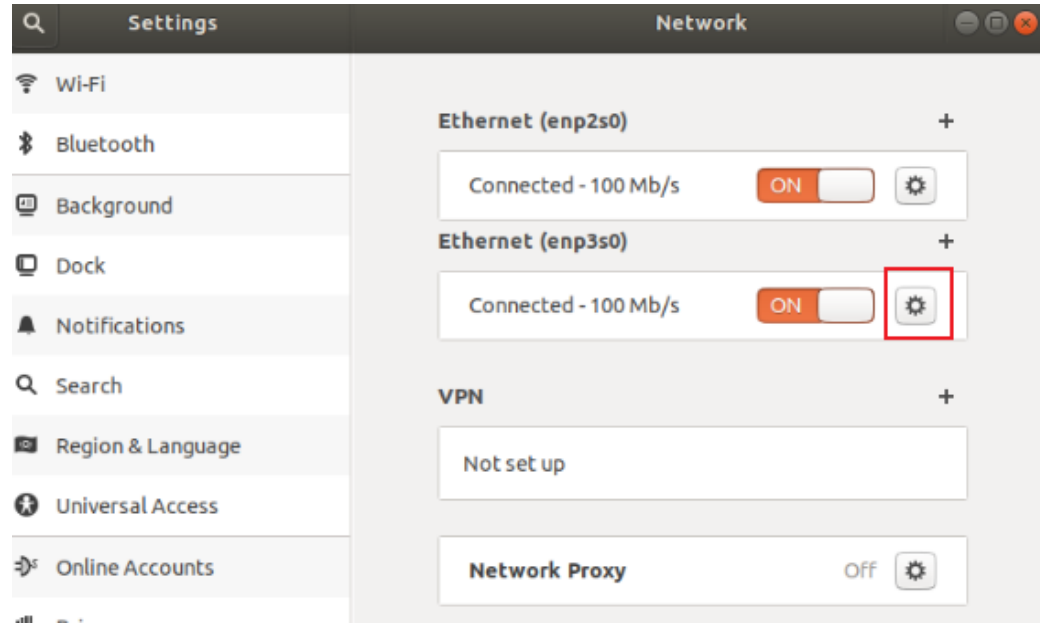
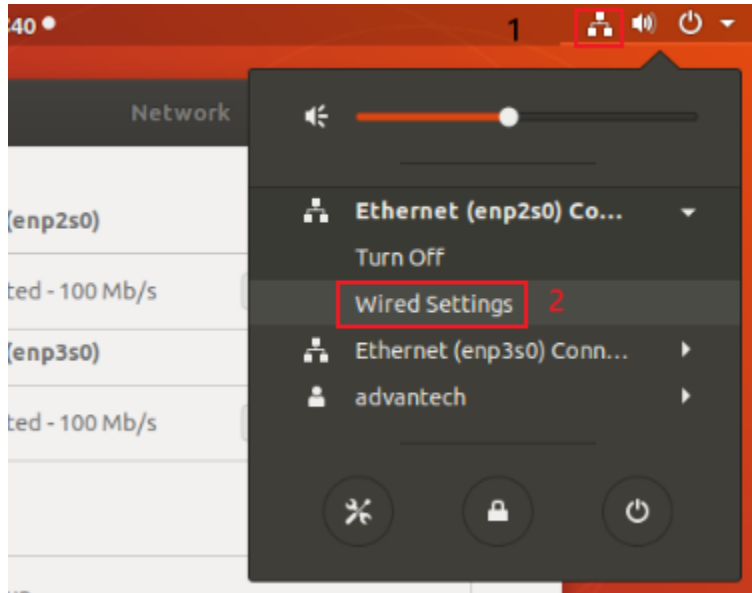
# EPD System setting workflow



# EPD system IP setting

Account: advantech

Password: P@ssw0rd

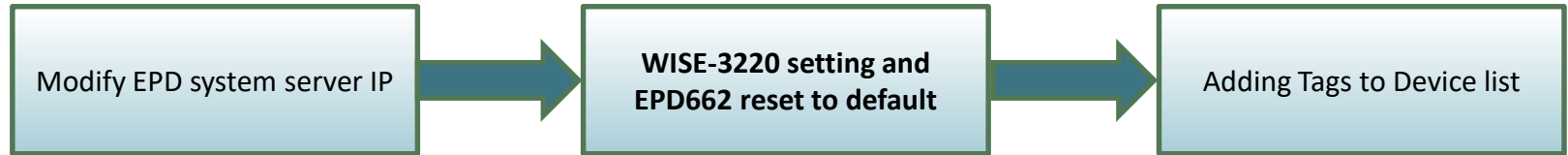


# EPD system IP setting

The screenshot displays the 'Wired' network configuration window. The 'IPv4' tab is selected and highlighted with a red box. Under 'IPv4 Method', the 'Manual' option is selected with a red radio button. The 'Addresses' section contains a table with two rows. The first row is highlighted with a red box and contains the IP address '192.168.66.100' and the netmask '255.255.255.0'. The 'DNS' section at the bottom has the 'Automatic' toggle switch turned 'ON'.

| Address        | Netmask       | Gateway |
|----------------|---------------|---------|
| 192.168.66.100 | 255.255.255.0 |         |
|                |               |         |

# EPD System setting workflow

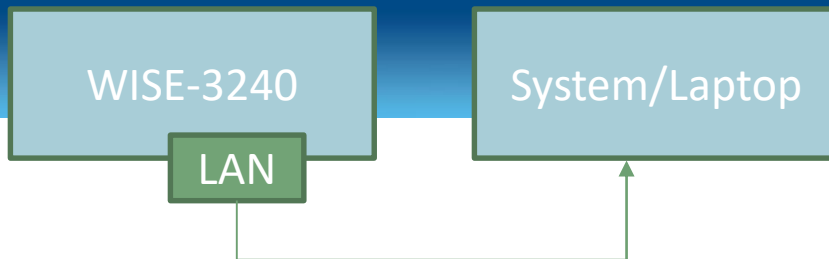


# Login WISE-3240

IP: 192.168.1.1

Account: root

Password: ePaper



Browser address bar: 192.168.1.1/cgi-bin/luci

ADVANTECH

### Authorization Required

Please enter your username and password.

Username:

Password:

Browser address bar: 192.168.1.1/cgi-bin/luci/stok=...

ADVANTECH Status System Security Network ePaper Manager Logout **AUTO REFRESH ON**

WAN LAN

Network menu: Ethernet (highlighted), Wifi, Diagnostics

### Interfaces

#### Interface Overview

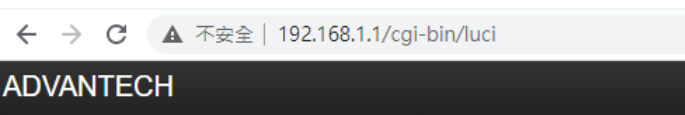
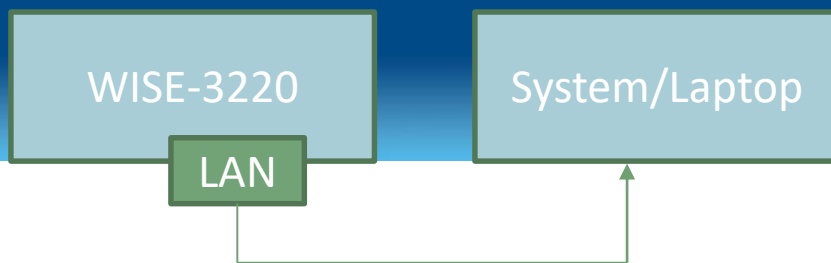
| Network              | Status  | Actions  |
|----------------------|---|--|
| <b>LAN</b><br>br-lan | Uptime: 25d 5h 54m 57s<br>MAC-Address: 74:FE:48:55:69:C8<br>RX: 1.29 MB (13517 Pkts.)<br>TX: 1.57 MB (11802 Pkts.)<br>IPv4: 192.168.1.1/24          | <input type="button" value="Connect"/> <input type="button" value="Stop"/> <input type="button" value="Edit"/> <input type="button" value="Delete"/> |
| <b>WAN</b><br>eth0   | Uptime: 25d 5h 54m 57s<br>MAC-Address: 74:FE:48:55:69:C9<br>RX: 1.50 GB (4329781 Pkts.)<br>TX: 602.95 MB (3840117 Pkts.)<br>IPv4: 192.168.66.101/24 | <input type="button" value="Connect"/> <input type="button" value="Stop"/> <input type="button" value="Edit"/> <input type="button" value="Delete"/> |

# WISE-3220 setting

IP: 192.168.1.1

Account: root

Password: ePaper



## Authorization Required

Please enter your username and password.

Username

Password

The screenshot shows the ADVANTECH ePaper Manager interface. The navigation menu includes Status, System, Security, Network, ePaper Manager, and Logout. The ePaper Manager menu is expanded, showing Node Configuration, Node Import, and EPD Deployment. The EPD Deployment page displays instructions for node deployment and a table of EPD nodes.

**Node deployment lead node connect to server through different WIFI AP router. It's for model of EPD-660**  
Users have to set up EPD node's MAC address · WIFI AP's SSID, Password · ePaper Manager's server IP address and port number.

**EPD Node**

Show 10 entries

| # | EPD MAC Address | AP SSID    | AP Password  | Server IP                       | Server Port |
|---|-----------------|------------|--------------|---------------------------------|-------------|
| 1 | e04f4302dadc    | ADV-ePaper | ePaperePaper | 192.168.66.100<br>172.22.15.114 | 5853        |

Showing 1 to 1 of 1 entries



# WISE-3220 setting

**EPD MAC address:** Please check the back of EPD device

**AP SSID:** ADV-ePaper

**AP Password:** ePaperePaper


**Server IP:** Depends on your server IP address

**Server Port:** 1883

ADVANTECH Status System Security Network ePaper Manager Logout

## EPD660/EPD662 node configuration

General Settings

|                 |  |
|-----------------|--|
| EPD MAC address | <input type="text" value="e04f4302dad"/>   |
| AP SSID         | <input type="text" value="ADV-ePaper"/>  |
| AP Password     | <input type="password" value="*****"/>  |
| Server IP       | <input type="text" value="192.168.66.100"/>  |
| Server Port     | <input type="text" value="1883"/>  |

[Back to Overview](#) [Save & Apply](#) [Save](#) [Reset](#)

# WISE-3220 setting

When you click “Save & Apply”, please reset EPD-660 and EPD-662 to default.

Node Configuration Node Import

This is for EPD-132B, EPD-132R node deployment lead node connect to server through different WIFI AP router.

Users have to set up EPD node's MAC address · WIFI AP's SSID, Password · ePaper Manager's server IP address and port number.

## EPD Node

Show 10 entries

Search:

| # | EPD MAC Address | AP SSID    | AP Password  | Server IP      | Server Port | Action   |
|---|-----------------|------------|--------------|----------------|-------------|--|
| 1 | e04f4302d84c    | ADV-ePaper | ePaperePaper | 192.168.66.100 | 5853        | <a href="#">Edit</a><br><a href="#">delete</a> |

Showing 1 to 1 of 1 entries

Previous 1 Next

Add EPD Node

Save & Apply

# EPD Device reset to default(With Button Model)

For with the button model, you can press wake up ping for 8 seconds. The LED will start to blink. Please wait for the LED doesn't blink and then release the button. You could reference below URL.

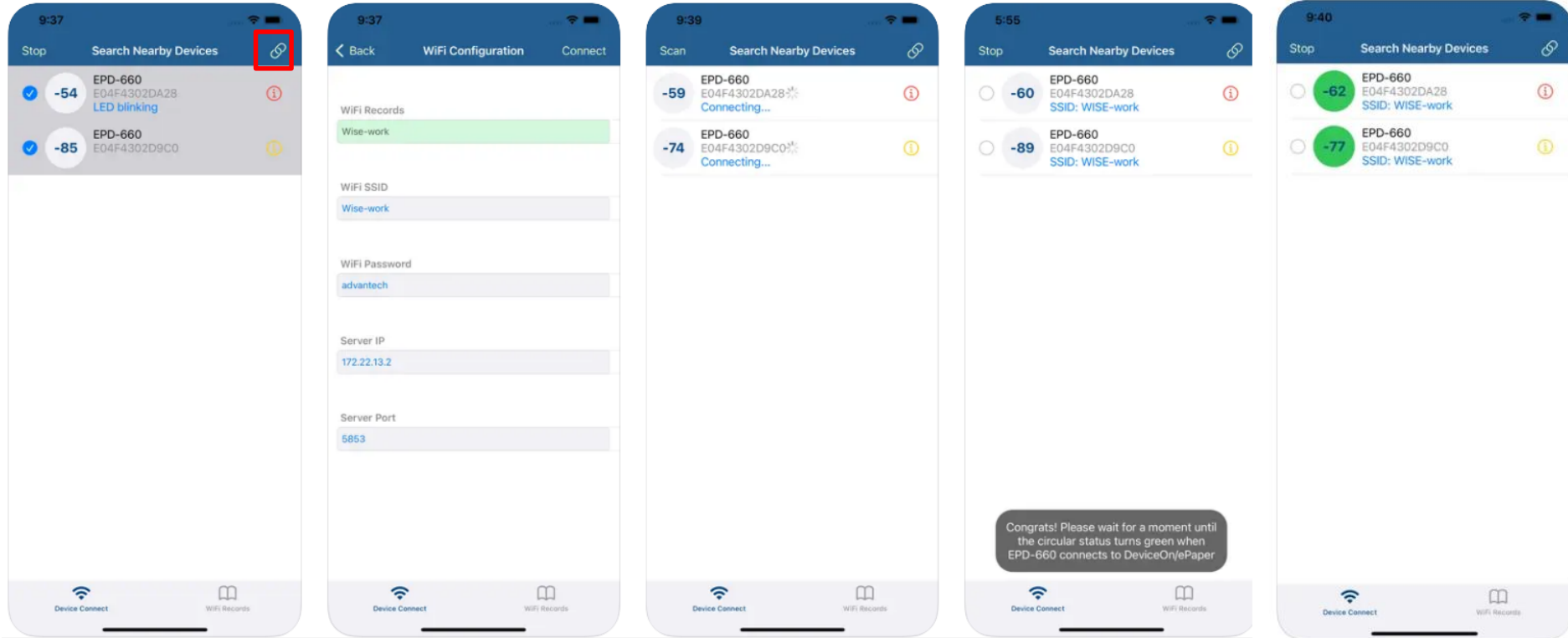
[EPD-662 reset to default.mp4](#)



# Use app to deploy connection(iphone)



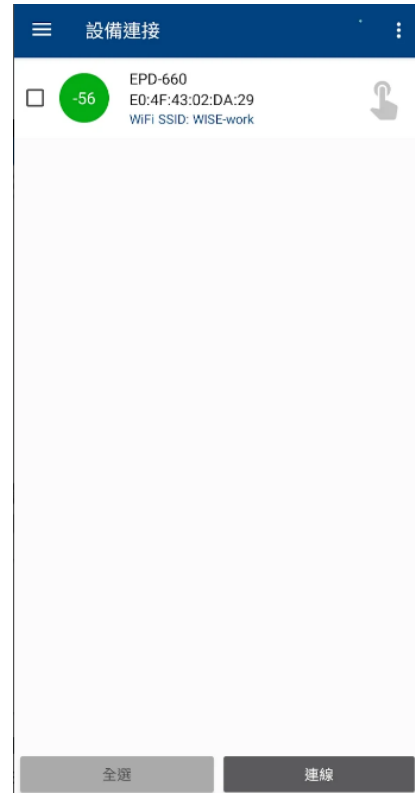
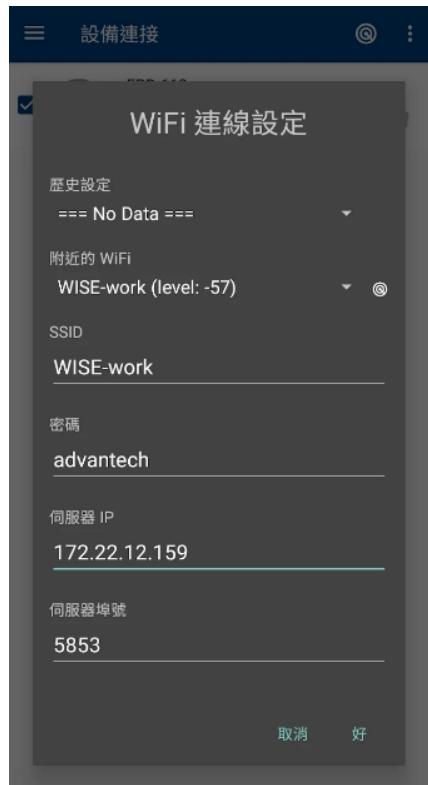
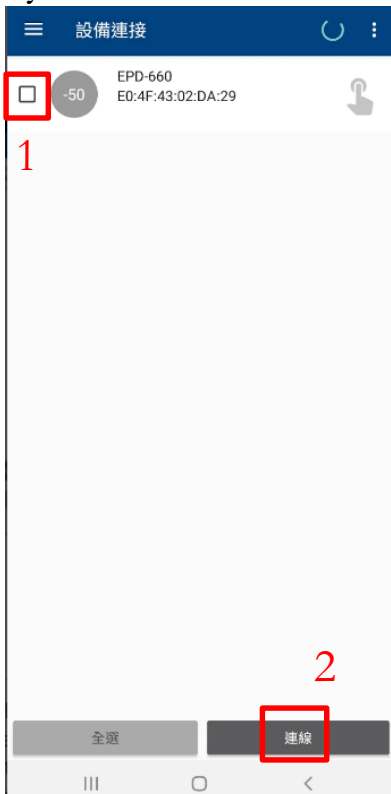
Download “EPD WiFi Connector” from your phone and install it. Follow below step to deploy your EPD device.



# Use app to deploy connection(Android)

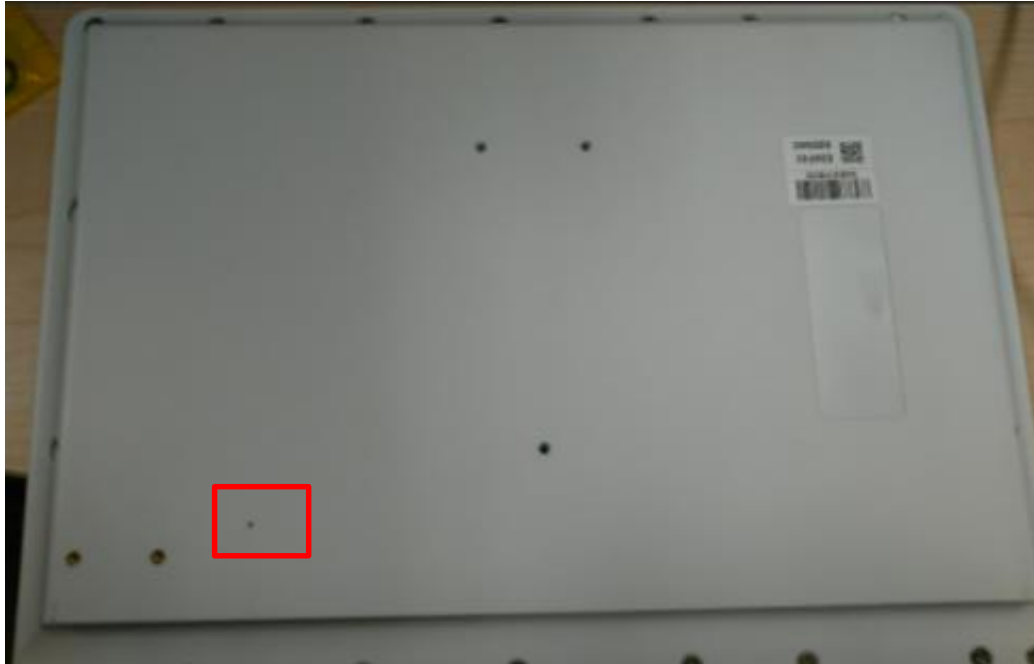


Download “EPD WiFi Connector” from your phone and install it. Follow below step to deploy your EPD device.

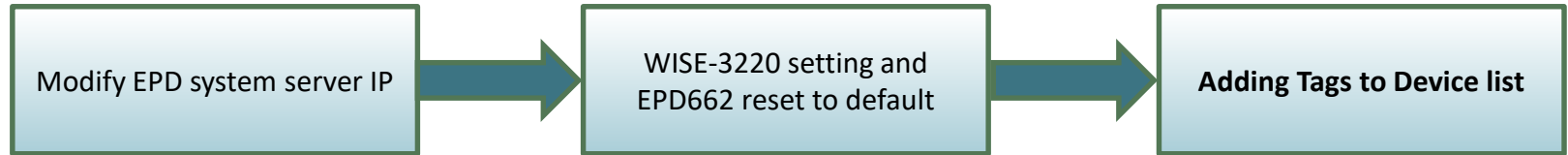


# EPD Device reset to default (Without Button Model)

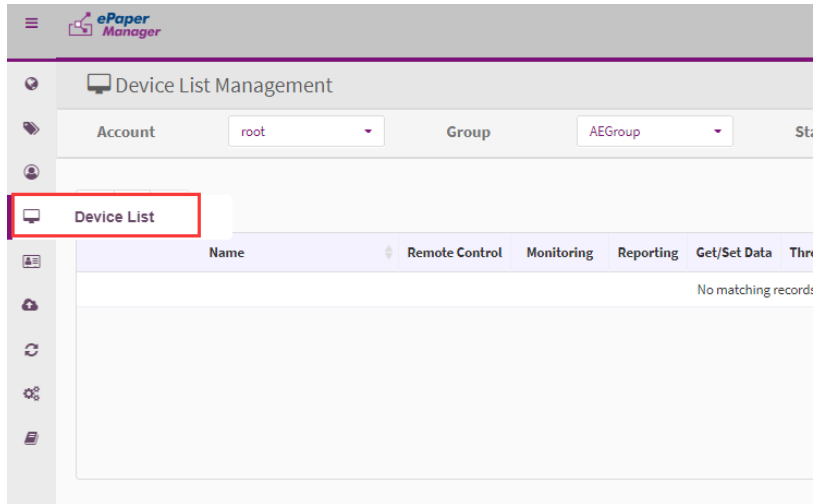
For without buttons model, there is a hole in the back. Please use a pin to wake the device



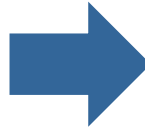
# EPD System setting workflow



# EPD Devices Deployment- Add tag devices



The screenshot shows the 'ePaper Manager' interface. The main heading is 'Device List Management'. Below it, there are dropdown menus for 'Account' (set to 'root') and 'Group' (set to 'AEGroup'). A 'Device List' tab is highlighted with a red box. Below the tab is a table with columns: 'Name', 'Remote Control', 'Monitoring', 'Reporting', 'Get/Set Data', and 'Thru'. The table is currently empty, with the text 'No matching records:' displayed below it.



This is a close-up view of the 'Add Device' button and the table header. The button is located in the top left corner of the table area, next to a '+' icon, a pencil icon, and a trash icon. A red arrow points to the '+' icon. The table header has columns: 'Name', 'Remote Control', 'Monitoring', and 'Reporting'.



# Add EPD devices (EPD-660/EPD-662)

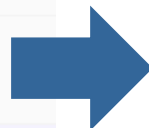
☰ **DeviceOn/ePaper**

🏠 < Back

🖨 Add Device - Normal View

| <input type="checkbox"/> | Status | Device Name    | Ag                                   |
|--------------------------|--------|----------------|--------------------------------------|
| <input type="checkbox"/> | ●      | EPD-Tag-02d9b0 | 00000001-0000-0000-0000-e04f4302d9b0 |

Showing 1 to 1 of 1 rows



✓

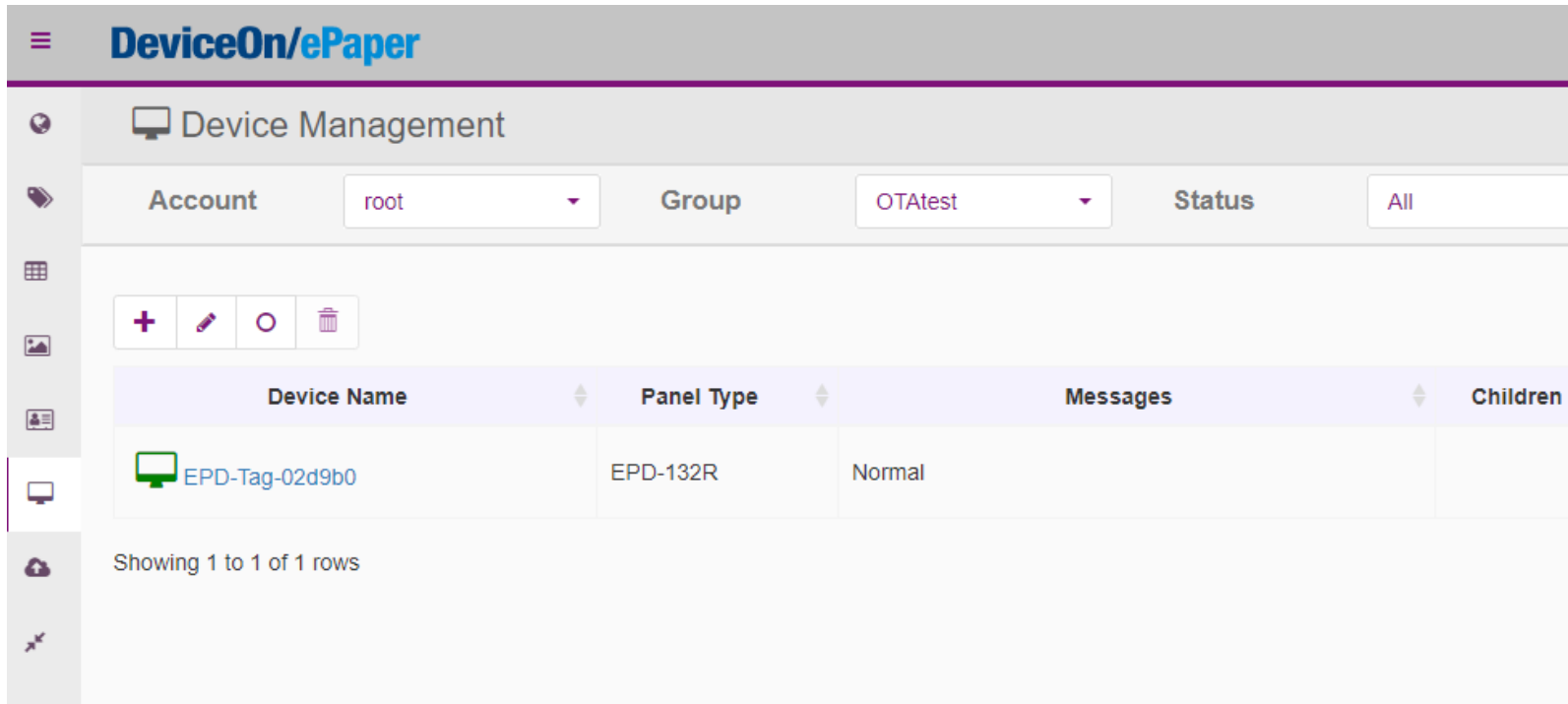
**Success**

Add device successfully


OK

# Device List

- When the color of device become green, it means you can control the device in the DeviceOn/ePaper



The screenshot displays the 'DeviceOn/ePaper' management interface. At the top, there is a navigation bar with a hamburger menu icon and the title 'DeviceOn/ePaper'. Below this is a 'Device Management' section with a sidebar on the left containing various icons. The main area features a filter bar with 'Account' set to 'root', 'Group' set to 'OTAtest', and 'Status' set to 'All'. Below the filter bar is a toolbar with icons for adding (+), editing (pencil), deleting (trash), and a circular refresh icon. The main content is a table with the following columns: 'Device Name', 'Panel Type', 'Messages', and 'Children I'. A single row is visible, representing a device with a green status icon, labeled 'EPD-Tag-02d9b0', with a 'Panel Type' of 'EPD-132R' and a status of 'Normal'. Below the table, it indicates 'Showing 1 to 1 of 1 rows'. The 'ADVANTECH' logo is located in the bottom right corner.

| Device Name  | Panel Type | Messages | Children I |
|--|------------|----------|------------|
|  EPD-Tag-02d9b0 | EPD-132R   | Normal   |            |

# Image Generation- Item Data imported

- Import existed Item Data from CSV file. [EPD demo4.zip](#)

The screenshot shows the 'DeviceOn/ePaper' application interface. The main heading is 'Item Data Management'. Below this, there are several tabs for different projects: EPD023DEMO, EPD053CAREPD, EPD123DEMO (selected), Warehouse, TestGraphic, Wistron AGV Project, end-210-demo, EPD Page Marker, Demotest, and MeetingRoom. Under the EPD123DEMO tab, there are sub-tabs: WholeDaySchedule\_OnSite, Demo1, 2022\_Auto\_TPE, and + Add. A file upload dialog is open, showing a file named 'BusDemo.csv' with the following content:

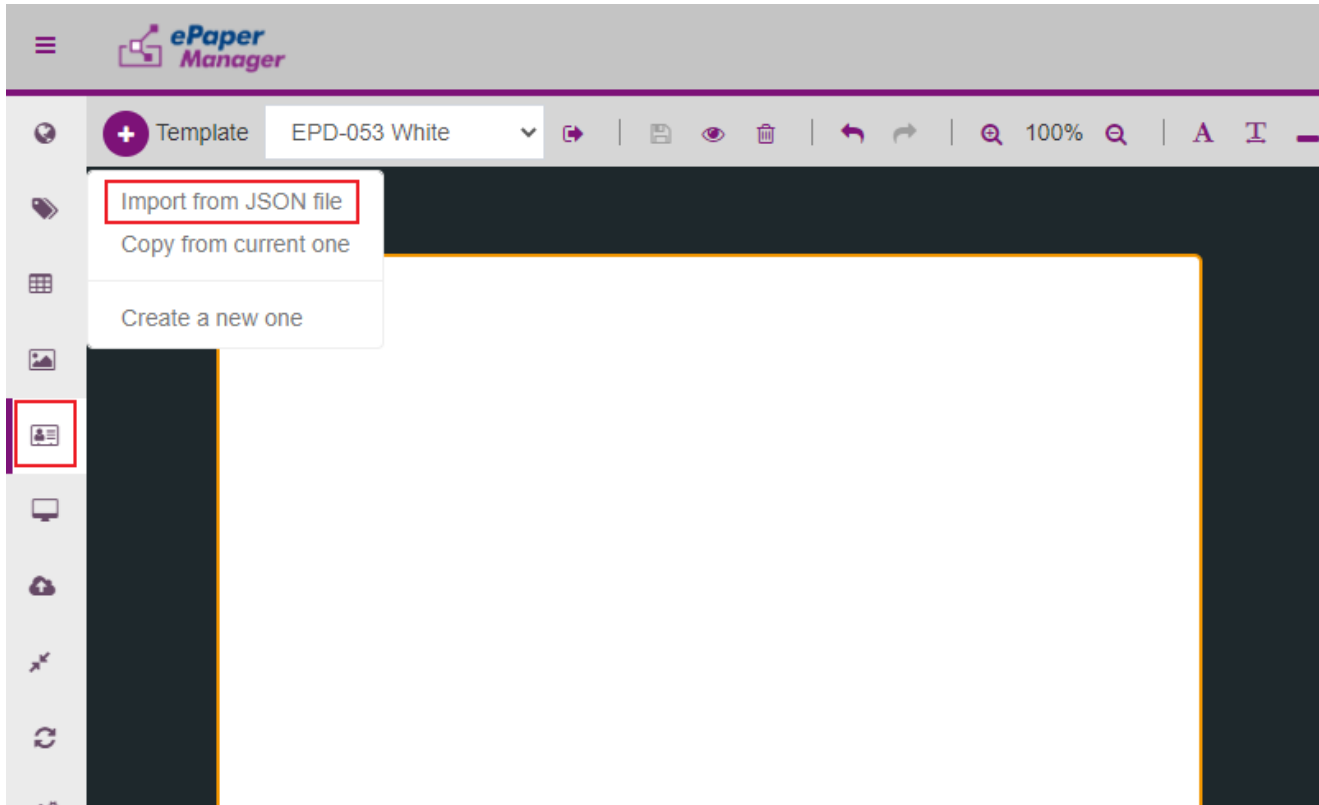
```
1 Stop_ID,Stop_Name,Route1 No,Route1 Name,Route1 Due,Rou
2 Stop0001,Taipei 101,22,Taipei 101,05 min,15 min,5,15,2
3 Stop0002,Taipei 101,22,Taipei 101,01 min,20 min,1,20,2
4 Stop0003,Taipei 101,22,Taipei 101,05 min,20 min,5,20,2
5
```

Below the dialog, there is a table with the following columns: Stop ID, Stop\_Name, Route1 No, Route1 Name, Route1 Due, Route1 Next, Route1 DueTime, Route1 NextTime, Route2 No, Route2 Name, Route2 Du. The table contains three rows of data:

| Stop ID  | Stop_Name  | Route1 No | Route1 Name | Route1 Due | Route1 Next | Route1 DueTime | Route1 NextTime | Route2 No | Route2 Name  | Route2 Du |
|----------|------------|-----------|-------------|------------|-------------|----------------|-----------------|-----------|--------------|-----------|
| Stop0001 | Taipei 101 | 22        | Taipei 101  | 05 min     | 15 min      | 5              | 15              | 28        | Yangmingshan | 10 min    |
| Stop0002 | Taipei 101 | 22        | Taipei 101  | 01 min     | 20 min      | 1              | 20              | 28        | Yangmingshan | 02 min    |
| Stop0003 | Taipei 101 | 22        | Taipei 101  | 05 min     | 20 min      | 5              | 20              | 28        | Yangmingshan | 10 min    |

# Image Generation- Template Generation

- Import existed template from JSON file



# Template Generation


DeviceOn/ePaper

Template EPD-132R BusDemo

3. Save the template

2. Edit template

1.

|  Stop_Name |             |            |             |
|---|-------------|------------|-------------|
| Route/Destination   |             | Due        | Next        |
| <b>Route1 No</b>  | Route1 Name | Route1 Due | Route1 Next |
| <b>Route2 No</b>  | Route2 Name | Route2 Due | Route2 Next |
| <b>Route3 No</b>  | Route3 Name | Route3 Due | Route3 Next |

# Data Binding

DeviceOn/ePaper

EPD Controlling Management

1 Account: root Group: OTAtest Status: All Mode: Device

Search

| Status  | Power  | RSSI   | Tag Name   | Bind                | Action                                       |
|---------|--------|--------|--|---------------------|--|
| Success | Normal | -48dBm | EPD-132R<br>EPD-Tag-02d9b0<br>00000001-0000-0000-0000-e04f4302d9b0 | 2 0001<br>132RPage1 | Preview Refresh Transmit Cancel Monitor More |

Showing 1 to 1 of 1 rows

# Data Binding

DeviceOn/ePaper

EPD Controlling Ma

Account root

Status Power RSSI

Success Normal -48dBm

Showing 1 to 1 of 1 rows

Template: EPD-132R BusDemo

Item Data: Stop0001

Preview

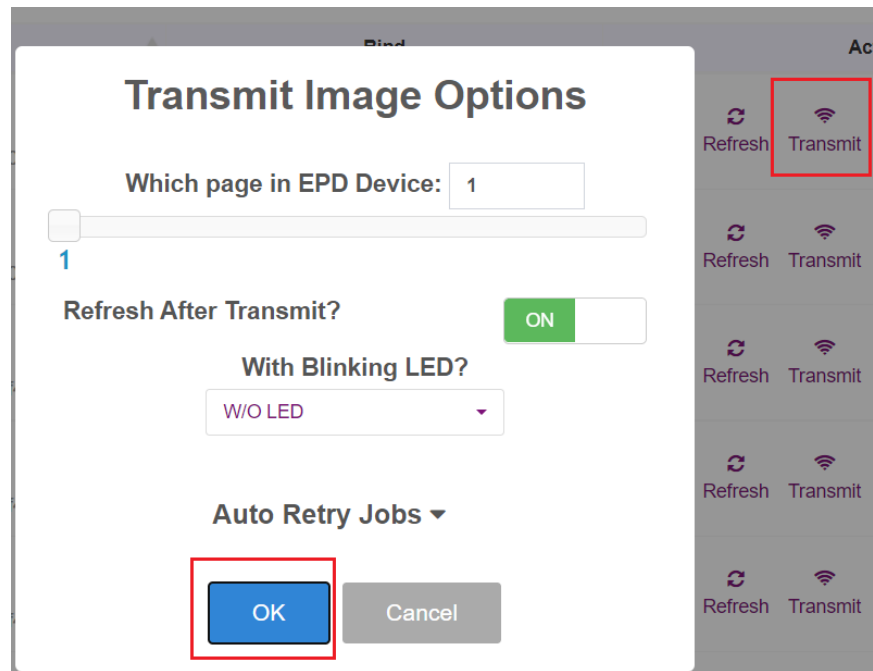
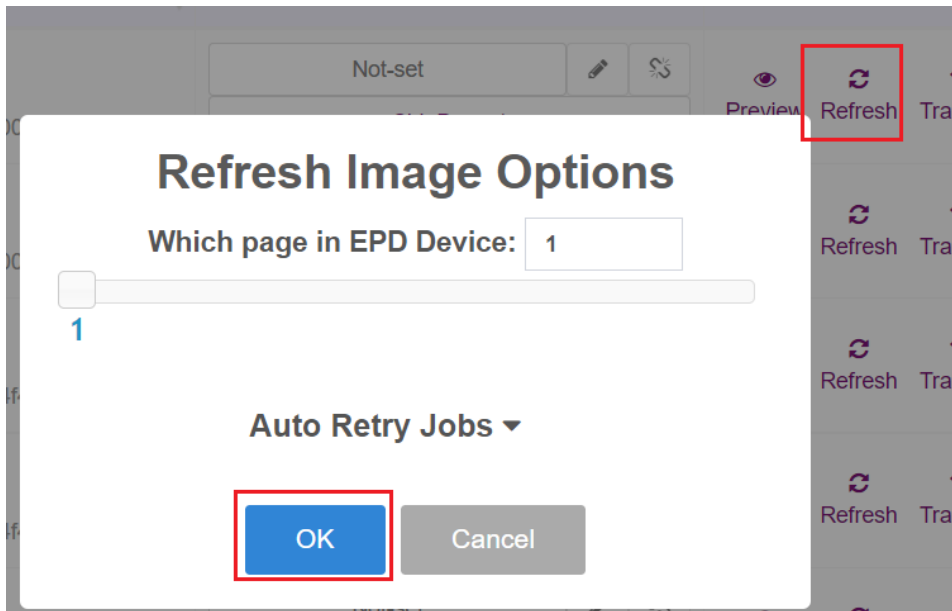
Taipei 101

| Route/Destination   | Due | Next   |
|---------------------|-----|--------|
| Taipei 101          |     | 15 min |
| Yangmingshan        |     | 20 min |
| Shilin Night Market |     | 25 min |
| Longshan Temple     |     | 29 min |

**Rider Alert**  
Temporary Bus Stop  
Route 2, 26, 906  
Effective December 31, 2020

OK Cancel

# Refresh Tag Device- Image Refresh & Transmit





# Firmware Upgrade- OTA

Upgrade Management

↑ Upgrade Operation

Choose Action

Upgrade  Download  Deploy

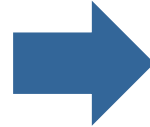
Choose Package

| EPD023B                                  |     |      |           |         |   |  |
|--|-----|------|-----------|---------|---|--|
| Version                                  | OS  | Arch | Optimized | Storage | Name  |  |
| <input checked="" type="radio"/> 0.7.7.0 | n/a | n/a  | false     | OTA     | EPD023B-v0.7.7.0-e14d7b9b7dd11e81476d262211cbb176.zip |  |

EPD053R

Back OK

Total 6 10/page < 1 >



Upgrade Processing Information - EPDGW\_023\_053

Downloading

| Name  | Stage       | Progress  | Cancel                                |
|---|-------------|---|---------------------------------------|
| EPD023B-v0.7.7.0-e14d7b9b7dd11e81476d262211cbb176.zip | Downloading | <div style="width: 100%;"><div style="width: 100%;"></div></div> 100% | <input type="button" value="Cancel"/> |

Deploying

| Name                              | Stage | Message |
|-----------------------------------|-------|---------|
| There are no ongoing deploy tasks |       |         |

Downloading

| Name                                | Stage | Progress | Cancel |
|-------------------------------------|-------|----------|--------|
| There are no ongoing download tasks |       |          |        |

Deploying

| Name   | Stage     | Message           |
|--|-----------|-------------------|
| EPD053R-v0.7.3.0-1a31b569527e6a540a2e46f89ba8b8e.zip | Deploying | Deploy task doing |

# Resful API & SampleCode

## Test Parameters

|   |                                      |   |
|---|--------------------------------------|---|
| Device Group  | AEGroup                              | ▼ |
| Your Device Group (unique ID)                                 |                                      |   |
| Agent ID  | 00000001-0000-0000-0000-e04f4302cb28 | ▼ |
| Your EPD tag agentid (unique ID)                              |                                      |   |
| Item Code   | Stop0001                             | ▼ |
| Your item data code (unique ID)                               |                                      |   |
| Template  | ADFDemo2                             | ▼ |
| Your template (unique ID)                                     |                                      |   |
| Refresh   | 1                                    |   |
| 1: with refresh action; 0: without refresh action             |                                      |   |
| Page  | 0                                    |   |
| Your EPD tag memory available space (from 0 to maxpagesize-1) |                                      |   |

## EPD Tag Transmit

Logs 1b83 - stop0001

```
-----  
Sending: {"Route1 Name":"Taipei 101","Route1 Due":"19 min","Route1 DueTime":"19","Route1 Next":"29 min","Route1 NextTime":"29","Route2 Name":"Yangmingshan","Route2  
Due":"04 min","Route2 DueTime":"","Route2 Next":"24 min","Route2 NextTime":"24","Route3 Name":"Shilin Night Market","Route3 Due":"09 min","Route3 DueTime":"","Route3  
Next":"29 min","Route3 NextTime":"29","Route4 Name":"Longshan Temple","Route4 Due":"04 min","Route4 DueTime":"4","Route4 Next":"13 min","Route4 NextTime":"13"}  
Response: Image Successfully Refresh!  
-----
```

# Resful API & SampleCode

Step 1. Sign In

Step 2. Single Page Transmit

Step 3. Transmit With LED

Step 4. Transmit Multiple Images

Step 4. Switch Page

Step 5. Update Information

Step 6. Bind Batch Data

## Single Tag Transmit

Test API **Source Code**

API URL:

**RUN**

Method:

Request Parameters:

Device group :

Which EPD device?

Which page?

Refresh or not?  Yes  No

```
{
  "agentid": "00000001-0000-0000-0012-4b0016562185",
  "page": "0",
  "refresh": 1
}
```

Response:

Status Code :

