

EKI-6332 & EKI-136x-BE USDG Setup Example

Revision Date	Revision	Description	Author
May/2018	V1.0	Initial release	ICG AE Jacky.Lin

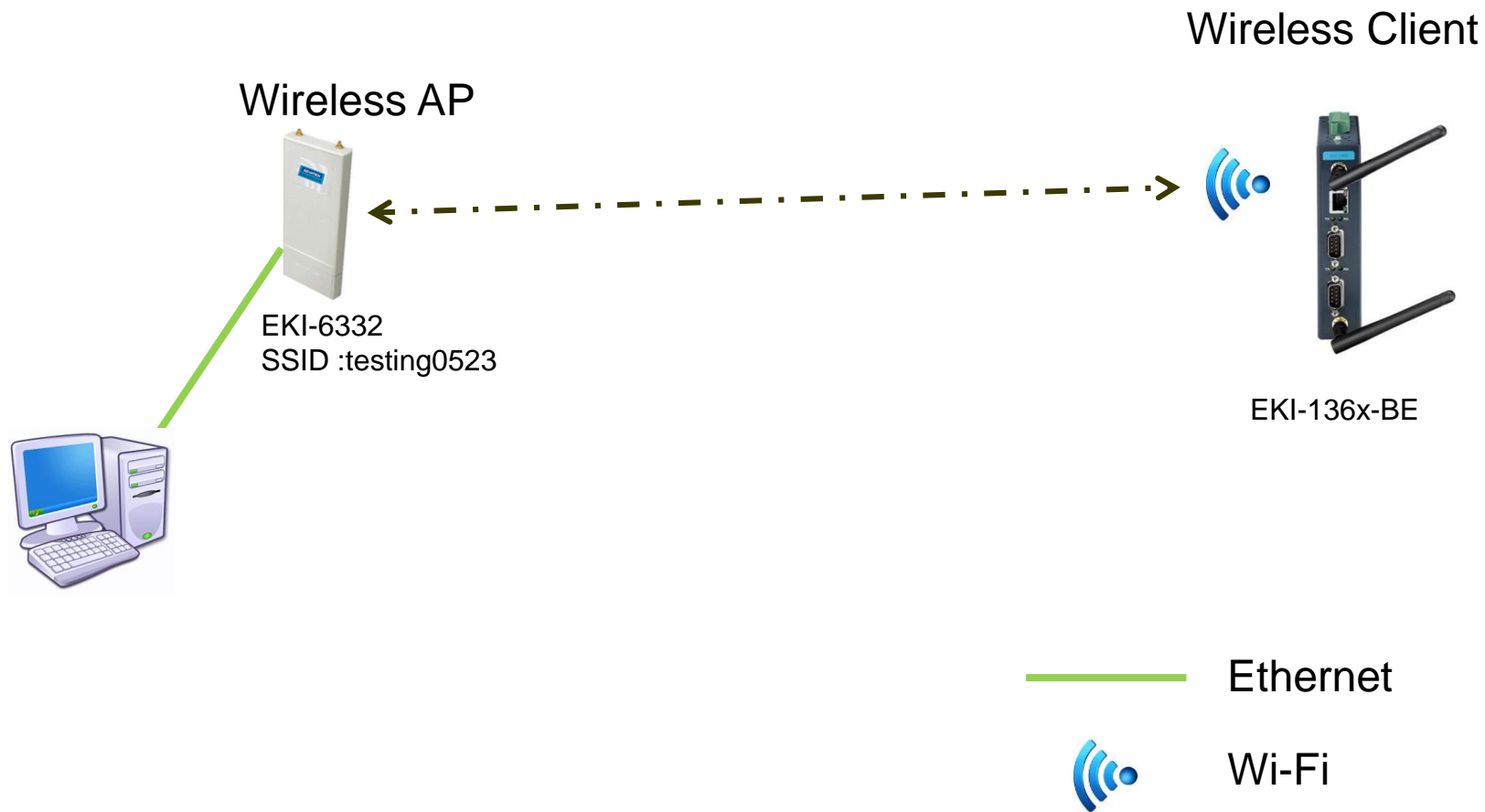
Abstract

- ❖ **Part1 :This SOP explains how to configure the EKI-6332 & EKI-136x-BE to build up the wireless connection**
- ❖ **Part 2: This SOP also shows how to set the USDG Client/Server mode on EKI-136x-BE for collecting data from the SCADA PC .**
- ❖ **Related products:**
EKI-6331, EKI-6332, EKI-136x-BE
- ❖ **Requirement:** EKI-6332, EKI-136x-BE, TestView tool (Third party tool)

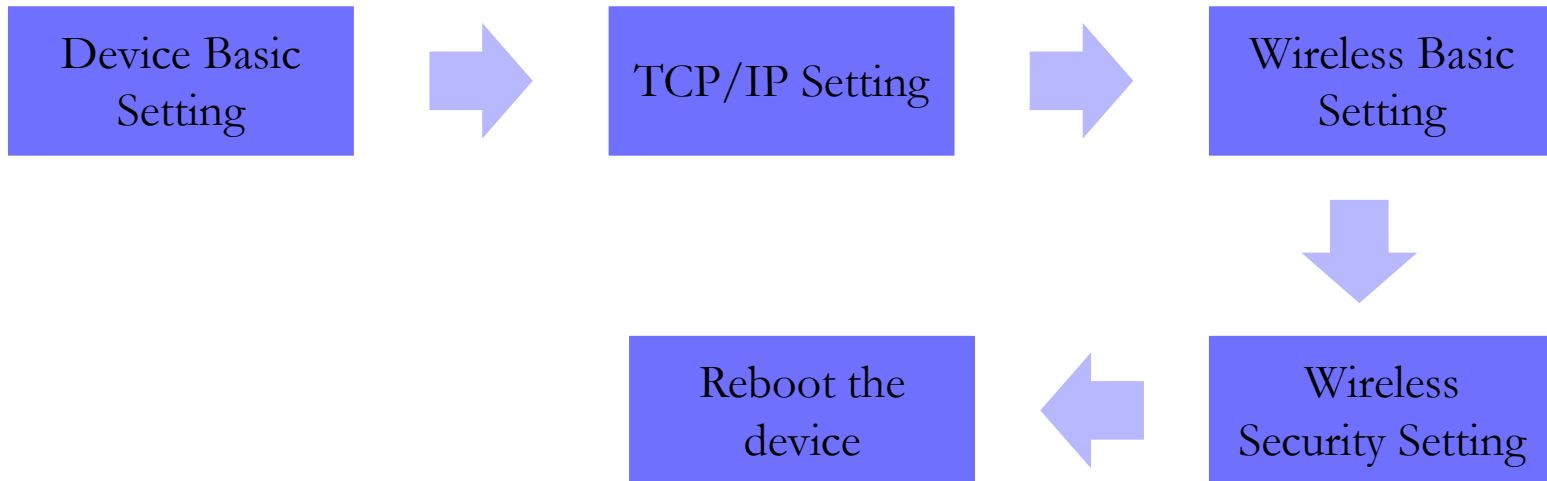


Wi-Fi connection Setup Between EKI-6332 & EKI-136x-BE

EKI-6332 --- EKI-136x-BE wireless connection setting Topology



EKI-6332 Configuration Flow chart



Device Basic Setting

ADVANTECH Industrial Wireless EKI-6332GN-AE

Status

System

Wireless

Management

Tools

Basic Settings

Network Settings ✕

Time Settings

RADIUS Settings

Network Settings

This page configures the IP address, subnet mask, DHCP, and other parameters for your local area network that is connected to the LAN port of the device.

Basic Settings

Network Mode:

Bridge

Use Default "Bridge" mode

Spanning Tree:

Enabled Disabled

STP Forward Delay:

1 (1~30 seconds)

Enable 802.1Q VLAN

Management VLAN ID:

0 (0~4094)

IP Address Assignment

DHCP Client

Static IP

IP Address:

192.168.1.1

Subnet Mask:

255.255.255.0

Gateway IP Address:

0.0.0.0

TCP/IP Setting

ADVANTECH Industrial Wireless EKI-6332GN-AE

Status

System

Wireless

Management

Tools

Basic Settings

Network Settings ✕

Time Settings

RADIUS Settings

Basic Settings

Network Mode:

Spanning Tree: Enabled Disabled

STP Forward Delay: (1~30 seconds)

Enable 802.1Q VLAN

Management VLAN ID: (0~4094)

IP Address Assignment

DHCP Client
 Static IP

IP Address:

Subnet Mask:

Gateway IP Address:

DNS 1:

DNS 2:

IP Setting

Apply

Cancel

Wireless Basic Setting

Status

System

Wireless

Management

Tools

Basic Settings ✕

Profile Settings

Advanced Settings

Traffic Shaping

Access Control

WDS Settings

Basic Settings

Use this page to change the wireless mode as well as configure any associated wireless network parameters.

Disable Wireless LAN Interface

Operation Mode:

AP

Site Survey

Set to AP mode
Give SSID

SSID:

testing0523

(more...)

Broadcast SSID:

Enabled

Disabled

802.11 Mode:

802.11B/G/N

Channel Mode:

20 MHz

Channel:

2437MHz (6)

Select channel based on site survey result.

Extension Channel:

None

Data Rate:

Auto

HT Protect:

Enabled

Disabled

Antenna Gain:

0

8

0 dBi

Adjust the value as same as your Antenna gain (default antennas 5dBi)

Output Power:

12

20

12 dBm

Adjust the output power

Apply

Cancel

Wireless Basic Setting

Status

System

Wireless

Management

Tools

Basic Settings

Profile Settings ✕

Advanced Settings

Traffic Shaping

Access Control

WDS Settings

Profile Settings

Define each VAP's attribute.

Select the security profile

#	Enabled	Profile Name	SSID	Security	VLAN ID
1	<input checked="" type="checkbox"/>	Profile1	abcde	WPA2-PSK	0
2	<input type="checkbox"/>	Profile2	Wireless	Open System	0
3	<input type="checkbox"/>	Profile3	Wireless	Open System	0
4	<input type="checkbox"/>	Profile4	Wireless	Open System	0
5	<input type="checkbox"/>	Profile5	Wireless	Open System	0
6	<input type="checkbox"/>	Profile6	Wireless	Open System	0
7	<input type="checkbox"/>	Profile7	Wireless	Open System	0
8	<input type="checkbox"/>	Profile8	Wireless	Open System	0

Apply

Reset

WiFi Security Setting

ADVANTECH Industrial Wireless EKI-6332GN-AE

Status

System

Wireless

Management

Tools

Basic Settings

Profile Settings ✕

Advanced Settings

Traffic Shaping

Access Control

WDS Settings

Define the VAP's basic settings and security settings.

Basic Settings

Profile Name:

SSID:

Broadcast SSID: Enabled Disabled

Wireless Separation: Enabled Disabled

WMM Support: Enabled Disabled

IGMP Snooping: Enabled Disabled

Max. Station Num: (1-32)

Kick STA RSSI: (1~96)

Security Settings

Network Authentication:

Data Encryption:

WPA Passphrase:

Security setting

Reboot the Device

AP_192.168.1.1

Status System Wireless **Management** Tools

Configuration File

This page allows you to save current settings to a file or load the settings from the file which was saved previously. You may also reset the current configuration to factory default or reboot the device.

Save Settings to File:

Load Settings from File: 未選擇任何檔案

Reset Settings to Default:

Reboot The Device:

Reboot the device and wait for starting the WiFi service

Youtube 登入 Google 地圖 Facebook ICIBA Adv... ch AD employee AD mail Yahoo 奇摩 Agile Product Lifec...

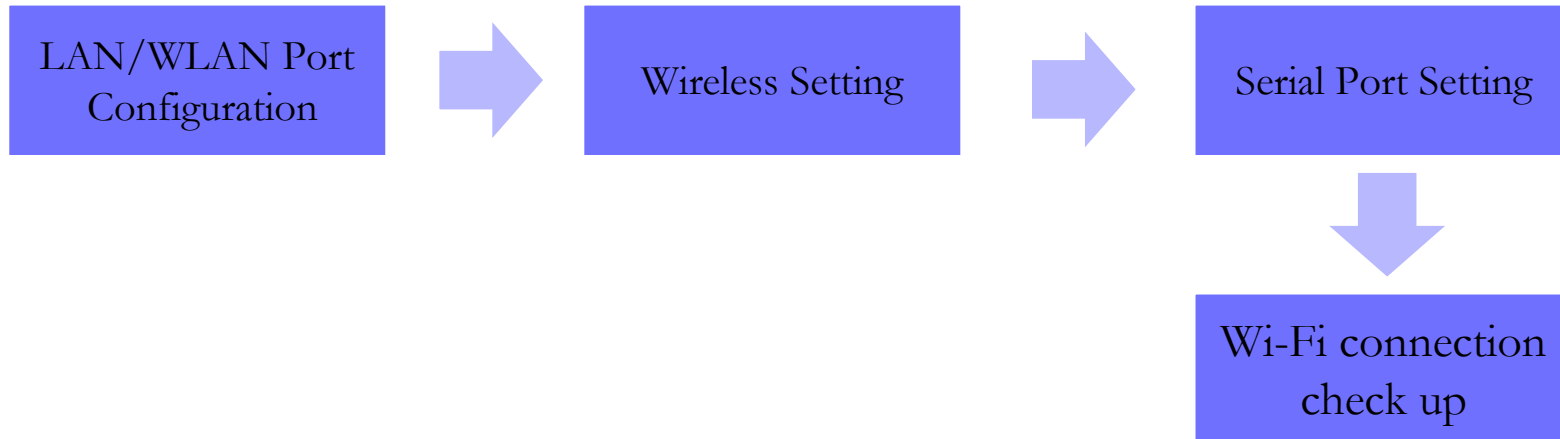
This device has been reboot, you have to login again.
Please wait for 36 seconds before attempting to access the device again...

EKI-136x-BE Setting flow chart



Step 1 : Connect the EKI-136x-BE via Ethernet cable

Step 2 : follow the flow chart to set up EKI-136x-BE step by step.



LAN/WLAN configuration on Utility

1. EKI Utility will be able to scan the EKI-136x-BE

2. Config LAN/WLAN IP to be the same subnet as the PC. Then, press "apply" button.

3. Click on Launch browser to go the WebGUI.

- Note: Please make sure the Utility version is 3.01 upper. You can refer the following link for latest FW version information.
http://support.advantech.com/support/DownloadSRDetail_New.aspx?SR_ID=1-1FLDMSV&Doc_Source=Download
- Note: The LAN IP interface & WLAN IP interface are bridge together in the EKI-136x-BE. Therefore, there is only one IP (LAN Interface) you could set on the EKI utility. You won't see the WLAN IP setting interface.

LAN/WLAN Configuration on WebGUI

ADVANTECH EKI-1362-BE web configuration interface Logout

Overview Network Settings LAN Wireless Settings Port Configuration Monitor Alarm Administration

Home / Network Settings / LAN

LAN Interface Setup

Local Hostname

Network mode Static IP

IP Address 192.168.1.62

Subnet Mask 255.255.255.0

Default Gateway 0.0.0.0

DNS Automatic Specific

MAC Address 00:D0:C9:FC:A7:3B

Apply

Set static IP for the LAN/WLAN interface

Click apply on every config change,
Note: config will only be activated after device reboot

Wireless basic setting

ADVANTECH

EKI-1362-BE web configuration interface

Overview

Network Settings

Wireless Settings

Basic

Advanced

Security

Statistics

Site Survey

Log

Port Configuration

Monitor

Alarm

Administration

Home / Wireless Settings / Basic

Basic Wireless Settings

Wireless Network

Operation Mode

Client

Set it to Client mode.

SSID

testing0523

Make sure the SSID is as same as AP

BSSID

00:D0:C9:FC:A7:3C

Operation frequency

Country Code

US (United States)

Channel Selection

Auto

Apply

WiFi Security Setting

The screenshot displays the 'Wireless Security/Encryption Settings' page in the Advantech web configuration interface. The left sidebar shows the 'Security' menu item highlighted. The main content area is titled 'Security Policy' and contains the following settings:

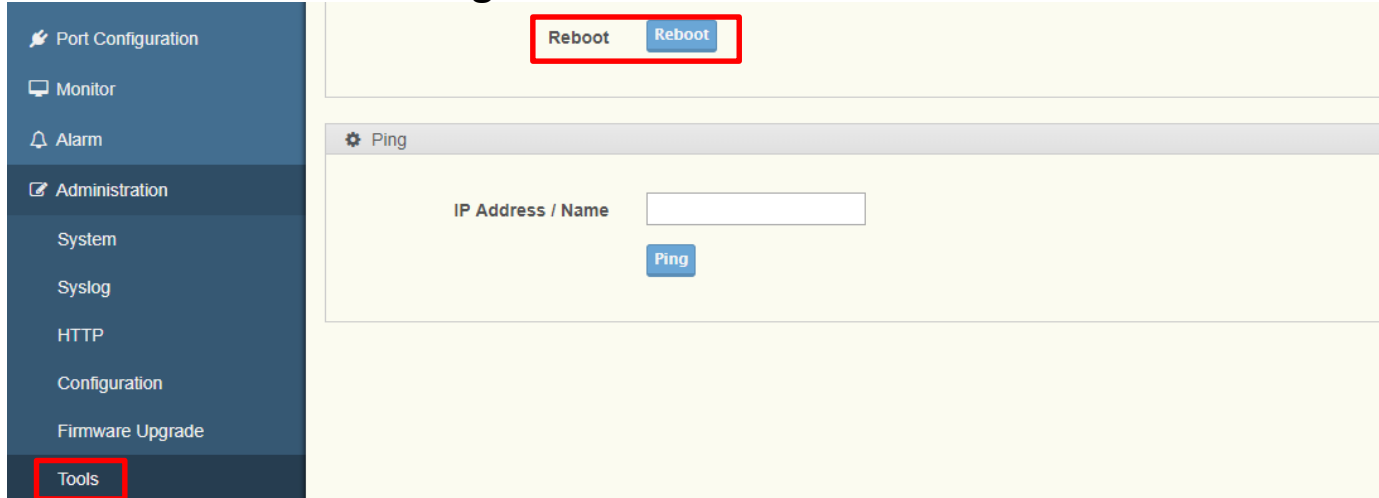
- Security Mode:** WPA-Personal
- WPA Pre-shared Key:**
 - WPA Version:** WPA2
 - WPA Cipher:** TKIP+AES
 - Pass Phrase:** password
- Unmask
-

A red box highlights the Security Mode, WPA Version, WPA Cipher, and Pass Phrase fields. A red arrow points from a text box to the Pass Phrase field.

Make sure the security type and passphrase is as same as AP.

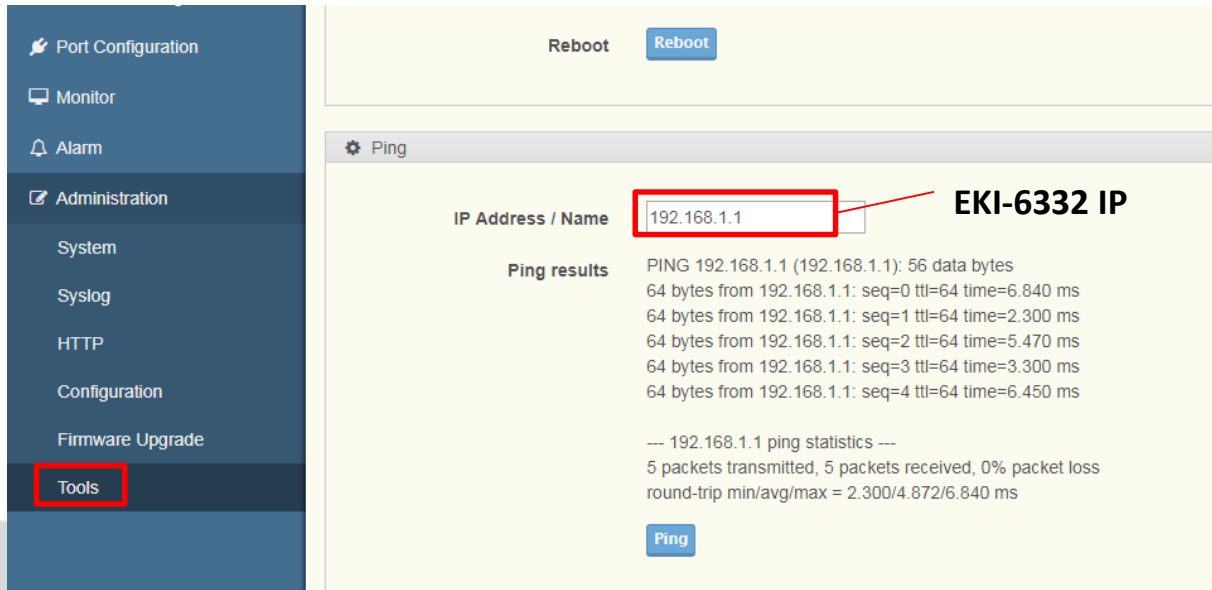
Reboot and Run the ping test

Step 1 :Reboot device after all setting done



The screenshot shows the left-hand navigation menu with the 'Tools' option highlighted in red. The main content area displays a 'Reboot' button, also highlighted in red, and a 'Ping' section with an input field for 'IP Address / Name' and a 'Ping' button.

Step 2 : ping EKI-6332 to make sure the wireless connection is established



The screenshot shows the 'Tools' option highlighted in red in the navigation menu. The main content area displays the 'Reboot' button and the 'Ping' section. The 'IP Address / Name' field is filled with '192.168.1.1', which is highlighted in red and labeled 'EKI-6332 IP'. Below this, the 'Ping results' section shows the following output:

```
Ping results
PING 192.168.1.1 (192.168.1.1): 56 data bytes
64 bytes from 192.168.1.1: seq=0 ttl=64 time=6.840 ms
64 bytes from 192.168.1.1: seq=1 ttl=64 time=2.300 ms
64 bytes from 192.168.1.1: seq=2 ttl=64 time=5.470 ms
64 bytes from 192.168.1.1: seq=3 ttl=64 time=3.300 ms
64 bytes from 192.168.1.1: seq=4 ttl=64 time=6.450 ms

--- 192.168.1.1 ping statistics ---
5 packets transmitted, 5 packets received, 0% packet loss
round-trip min/avg/max = 2.300/4.872/6.840 ms
```

The 'Ping' button is visible at the bottom of the section.

Wi-Fi connection check up

You may also check the Wi-Fi signal for AP/client on Web GUI

EKI-6332

System Wireless Management Tools

Information
Connections ✕
Statistics
ARP Table
Bridge Table

Association List

This table shows the MAC Address, 802.11 Mode, Signal Strength and Connected Time for each associated device(s).

#	Interface	MAC Address	802.11 Mode	Signal Strength	Connected Time	Action
1	VAP1	00:d0:c9:f7:48:f0	802.11B/G/N	-32 dBm	24m:49s	Kick

EKI-1361

ADVANTECH EKI-1362-BE web configuration interface Logout

Home / Wireless Settings / Statistics

Network Settings
Wireless Settings
Basic
Advanced
Security
Statistics
Site Survey
Log
Port Configuration
Monitor

Overview

Information Name	Information Value
Mode	Client
SSID	testing0523
Channel / Frequency	channel 11 (2462 MHz)

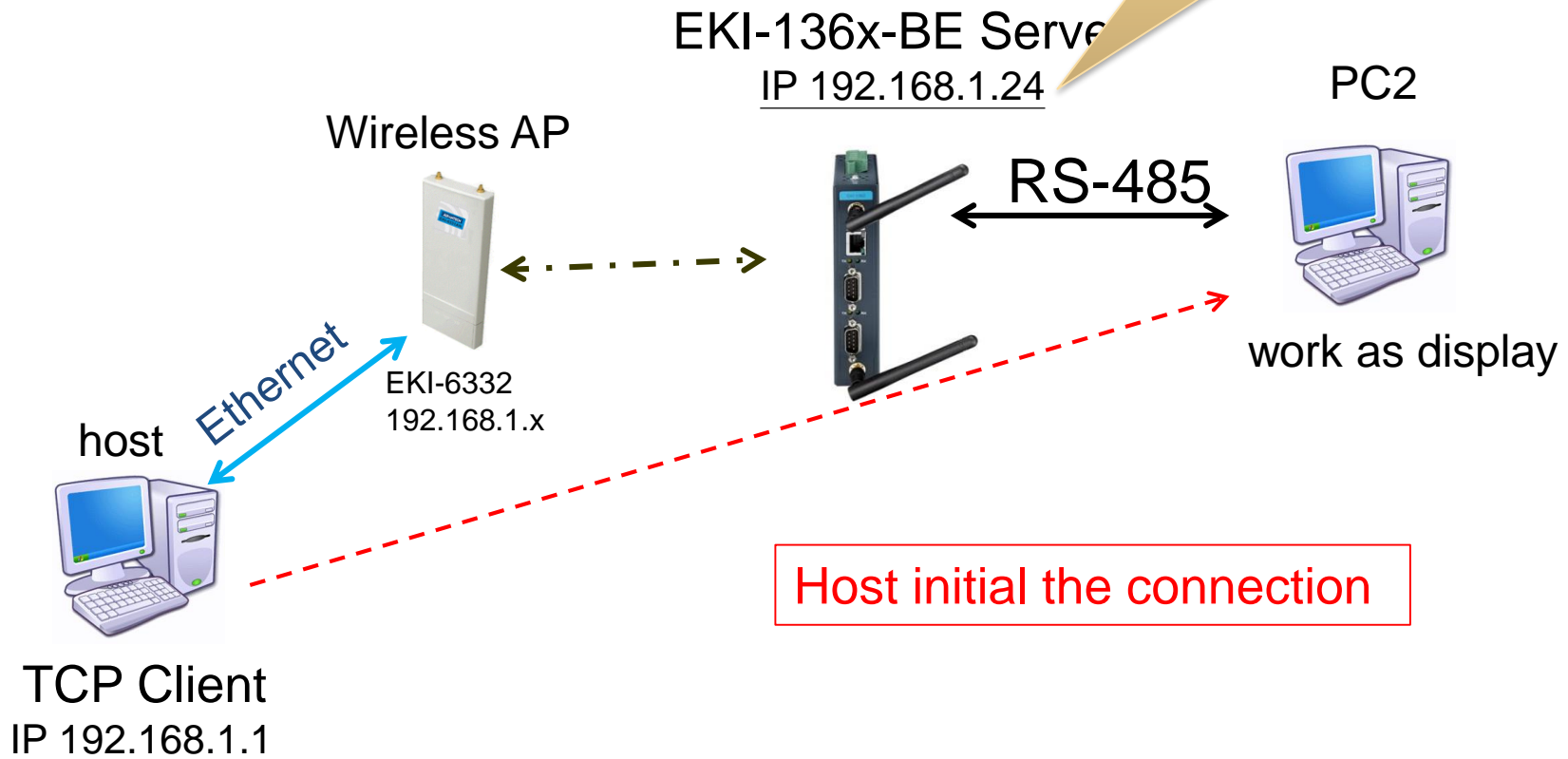
Receive Statistics

Information Name	Information Value
BSSID	00:D0:C9:F7:96:36
Signal Level	-35 dBm

Test USDG Server Mode by TestView

USDG Server Mode Operation Topology

Set the EKI-136x-BE in USDG server mode on serial port setting



Serial Port Setting (1/2)

The screenshot displays the ADVANTECH web configuration interface for the EKI-1362-BE device. The left sidebar contains navigation options: Overview, Network Settings, Wireless Settings, Port Configuration, Port 1 (highlighted with a red box), Port 2, Monitor, Alarm, and Administration. The main content area shows the 'Port Configuration / Port 1' page with three tabs: Basic (selected), Operation, and Advanced. Under the 'Basic' tab, the 'Port Basic Configuration' section is visible. The settings are as follows:

Parameter	Value
Type	RS485
Baud Rate	9600
Parity	None
Data Bits	8
Stop Bits	1
Flow Control	None

An 'Apply' button is located at the bottom of the configuration area, also highlighted with a red box. A red arrow points from the text 'Com port setting' to the configuration fields, and another red arrow points from the text 'Click save on every config change, but config will only be activated after device reboot' to the 'Apply' button.

Click save on every config change, but config will only be activated after device reboot

Serial Port mode setting (2/2)

USDG server mode

ADVANTECH EKI-1362-BE web configuration interface Logout

Home / Port Configuration / Port 1

Basic **Operation** Advanced

Port Operation Configuration

Mode	USDG Data Mode	
Protocol	TCP	
Data Idle Timeout(s)	60	(0 - 65535)
Data Listen Port	5300	(1 - 65535)
Command Listen Port	5400	(1 - 65535)
Response Timeout(ms)	0	(0 - 65535)
Frame Break(ms)	0	(0 - 65535)

TCP Mode Extra Options

USDG Data Mode

Device server will listen to TCP port 5300

Reboot the EKI-136x-BE device

Step 1 :Reboot device after all setting done

The screenshot displays the web management interface of the EKI-136x-BE device. On the left is a dark blue sidebar menu with the following items: Port Configuration, Monitor, Alarm, Administration, System, Syslog, HTTP, Configuration, Firmware Upgrade, and Tools. The 'Tools' menu item is highlighted with a red rectangular box. The main content area has a light yellow background. At the top of this area, there is a 'Reboot' button, also highlighted with a red rectangular box. Below this, there is a 'Ping' section with a gear icon, a text input field labeled 'IP Address / Name', and a 'Ping' button.

USDG Server Mode

Test by TestView

1st.

TCP Client
IP 192.168.1.1
host



Ethernet

Wireless AP



EKI-6332



EKI-1362-BE TCP Server
IP 192.168.1.24

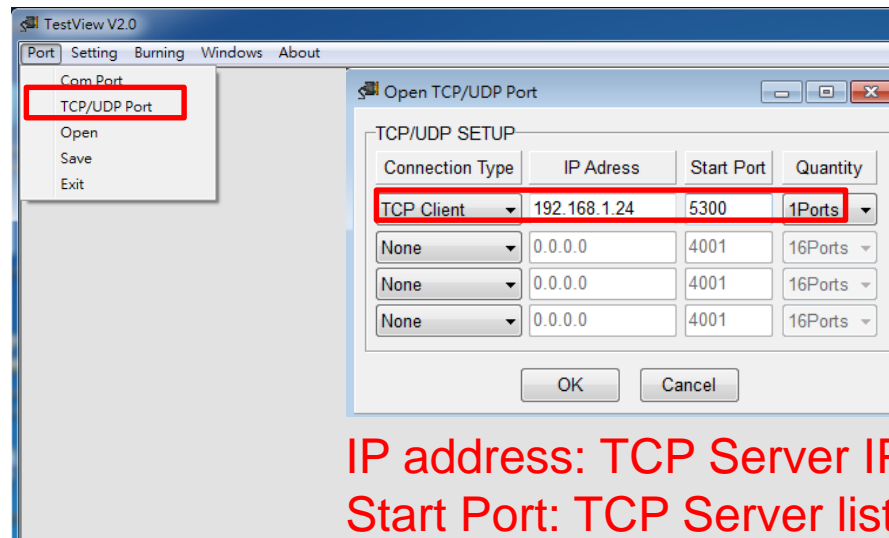


work as display

RS-485



use TestView to create a TCP Client



IP address: TCP Server IP (device server)
Start Port: TCP Server listen Port (device Server)

USDG Server Mode

Test by TestView

TCP Client
IP 192.168.1.1

host



Ethernet

Wireless AP



EKI-1362-BE TCP Server
IP 192.168.1.24



RS-485

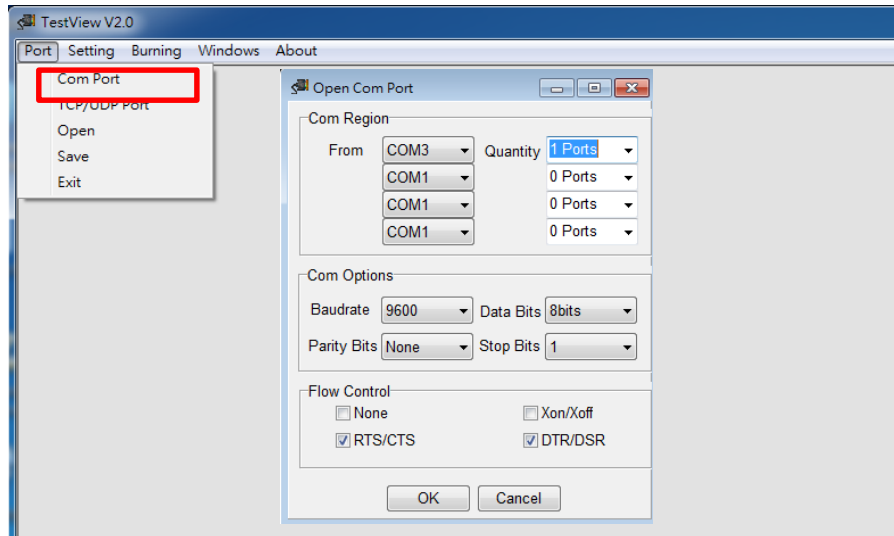


2nd.

work as display



use TestView to create a COM port



TCP Client
IP 192.168.1.1

host



Wireless AP EKI-1362-BE TCP Server
IP 192.168.1.24



work as display

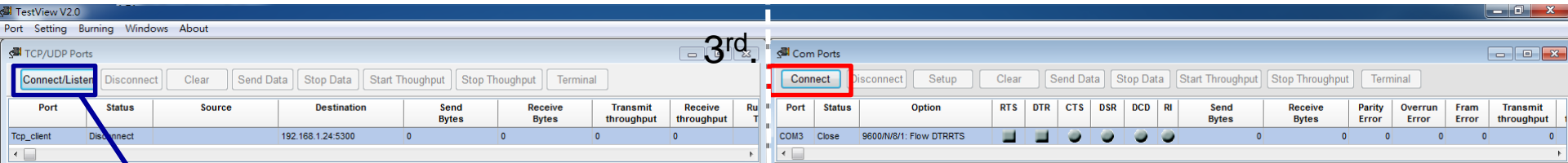


Ethernet

RS-485

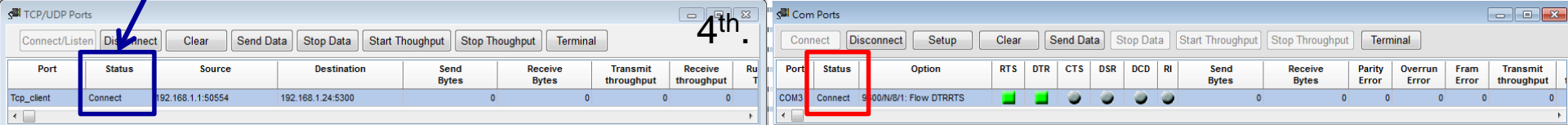
use TestView to create a TCP Client

use TestView to create a COM port



Press Connect to initial the connection

Host initial the connection



TCP Client
IP 192.168.1.1

Wireless AP EKI-1362-BE TCP Server
IP 192.168.1.24

work as display



Ethernet



RS-485



use TestView to create a TCP Client

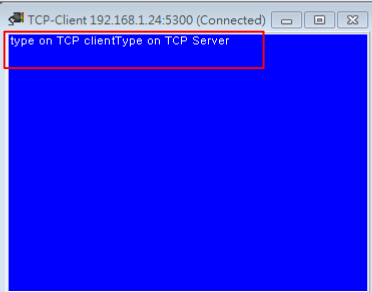
use TestView to create a COM port

after starting connection, data can be sent by both side

TCP/UDP Ports

Connect/Listen Disconnect Clear Send Data Stop Data Start Throughput Stop Throughput Terminal

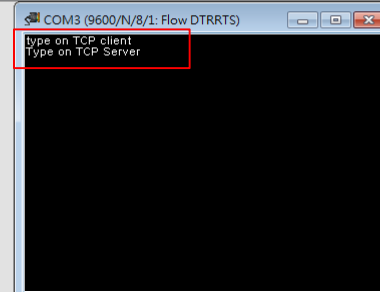
Port	Status	Source	Destination	Send Bytes	Receive Bytes	Transmit throughput	Receive throughput	Rt
Tcp_client	Connect	192.168.1.1:50554	192.168.1.24:5300	18	18	0	0	



Com Ports

Connect Disconnect Setup Clear Send Data Stop Data Start Throughput Stop Throughput Terminal

Port	Status	Option	RTS	DTR	CTS	DSR	DCD	RI	Send Bytes	Receive Bytes	Parity Error	Overrun Error	Fram Error	Transmit throughput
COM3	Connect	9600/N/8/1: Flow DTRRTS	Green	Green	Grey	Grey	Grey	Grey	18	18	0	0	0	0



Test USDG Client Mode by TestView

USDG Client Mode Operation Topology

Set the EKI-136x in USDG Client mode on serial port setting

EKI-1362 TCP client
IP 192.168.1.24

PC2

Wireless AP

RS-485

EKI-6332
192.168.1.x

work as display

host

Ethernet

EKI-136x initial the connection
Once the PC2 send the data to host

TCP Server
IP 192.168.1.1

Serial Port Setting (1/2)

The screenshot displays the web configuration interface for the EKI-1362-BE device. The left sidebar contains navigation options: Overview, Network Settings, Wireless Settings, Port Configuration, Port 1 (highlighted with a red box), Port 2, Monitor, Alarm, and Administration. The main content area shows the 'Port Configuration / Port 1' page with three tabs: Basic (selected), Operation, and Advanced. Under the 'Basic' tab, the 'Port Basic Configuration' section is visible. It includes a table of settings for 'Port 1' with the following values: Type (RS485), Baud Rate (9600), Parity (None), Data Bits (8), Stop Bits (1), and Flow Control (None). A red box highlights the 'Type', 'Baud Rate', 'Parity', 'Data Bits', 'Stop Bits', and 'Flow Control' rows, with a red arrow pointing to the text 'Com port setting'. Below the table is an 'Apply' button, which is also highlighted with a red box and a red arrow pointing to the text 'Click save on every config change, but config will only be activated after device reboot'.

Parameter	Value
Type	RS485
Baud Rate	9600
Parity	None
Data Bits	8
Stop Bits	1
Flow Control	None

Click save on every config change, but config will only be activated after device reboot

Serial Port mode setting (2/2)

USDG client mode

ADVANTECH EKI-1362-BE web configuration interface

Home / Port Configuration / Port 1

Basic **Operation** Advanced

Port Operation Configuration

Mode: USDG Data Mode

Protocol: TCP

Data Idle Timeout(s): 60 (0 - 65535)

Data Listen Port: 5300 (1 - 65535)

Command Listen Port: 5400 (1 - 65535)

USDG Data Mode

Peer for Receiving Data

Peer Number: 1

#	LocalPort	Peer IP address	Port
1	0	192.168.1.1	5000

Apply

Enter "0". Then, EKI will use an random TCP port to build up connection to Host PC

Host's IP and TCP port

Reboot the EKI-136x-BE device

Step 1 :Reboot device after all setting done

The screenshot displays the web interface of the EKI-136x-BE device. On the left is a dark blue sidebar menu with the following items: Port Configuration, Monitor, Alarm, Administration, System, Syslog, HTTP, Configuration, Firmware Upgrade, and Tools. The 'Tools' item is highlighted with a red rectangular box. The main content area has a light yellow background. At the top of this area, there is a 'Reboot' button, also highlighted with a red rectangular box. Below this, there is a 'Ping' section with a gear icon, an input field for 'IP Address / Name', and a 'Ping' button.

USDG Client Mode

Test by TestView

1st.

TCP Server
IP 192.168.1.1
port 5000
host



Ethernet

Wireless AP



EKI-1362-BE TCP Client
IP 192.168.1.24



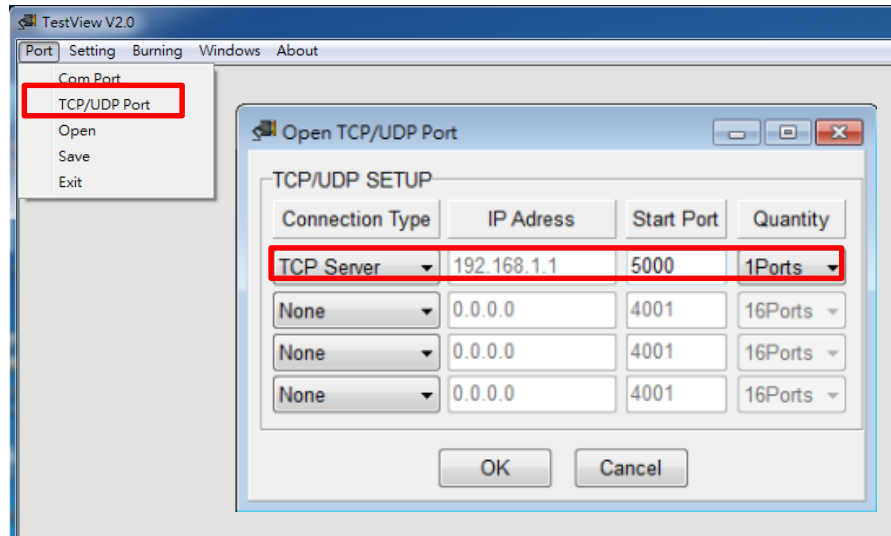
PC2 work as
display



RS-485



use TestView to create a TCP server



USDG Server Mode

Test by TestView

2nd .

TCP Server
IP 192.168.1.1
port 5000
host



Ethernet

Wireless AP



EKI-6332

EKI-1362-BE TCP Client
IP 192.168.1.24

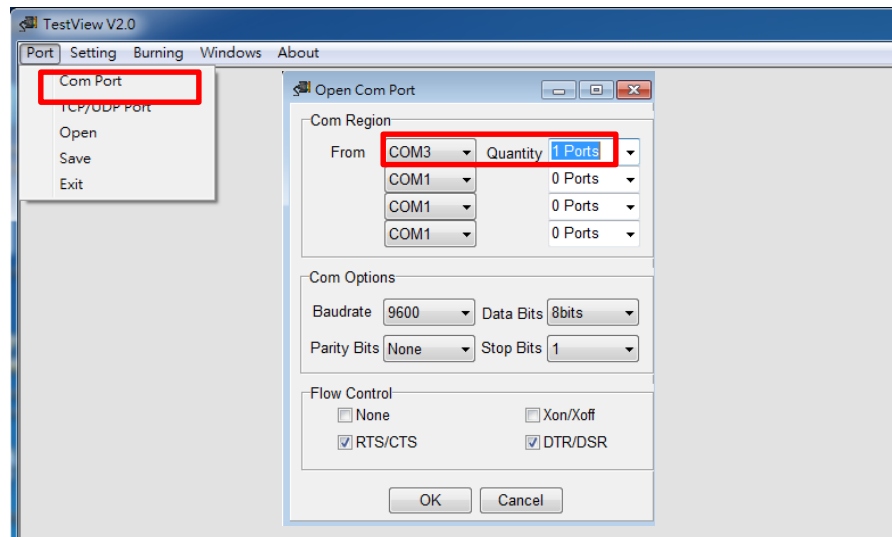


RS-485

PC2 work as
display



use TestView to create a COM Port on PC2



TCP Server
IP 192.168.1.1
port 5000
host



Wireless AP



EKI-6332

EKI-1362-BE TCP Client
IP 192.168.1.24



PC2 work as
display



Ethernet



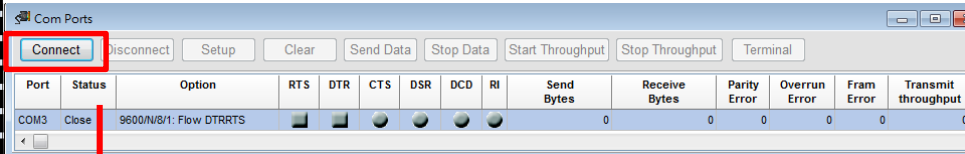
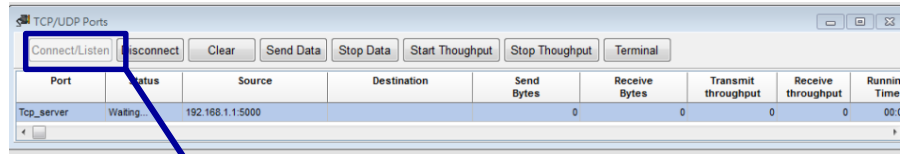
RS-485



use TestView to create a TCP Client

use TestView to create a COM port

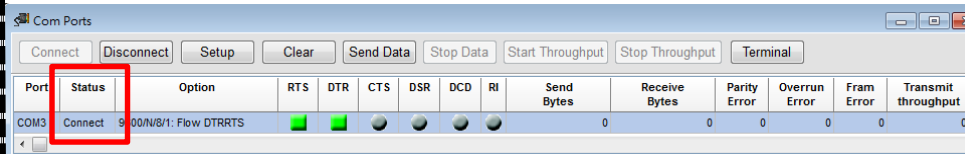
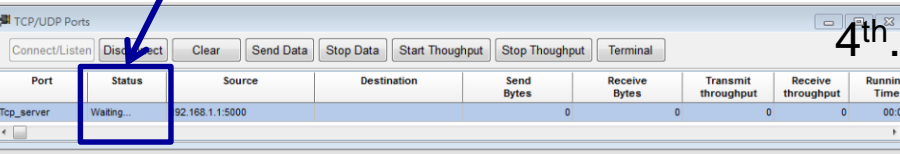
3rd



Press "Connect button" and
See the TCP Server is waiting for connection



4th



TCP Server
IP 192.168.1.1
port 5000
host



Ethernet

Wireless AP



EKI-1362-BE TCP Client
IP 192.168.1.24



PC2 work as
display



RS-485

Once the PC2 starting sending data, EKI will make the connection to Host PC

TestView V2.0

Port Setting Burning Windows About

TCP/UDP Ports

Port	Status	Source	Destination	Send Bytes	Receive Bytes	Transmit throughput	Receive throughput	Runni Tim
Tcp_server	Connect	192.168.1.1:5000	192.168.1.24:37257	0	5	0	0	00

Terminal

TCP Server:192.168.1.1:5000 (Connected)

```
11111
```

Receive the data

TestView V2.0

Port Setting Burning Windows About

Com Ports

Port	Status	Option	RTS	DTR	CTS	DSR	DCD	RI	Send Bytes	Receive Bytes	Parity Error	Overrun Error	Fram Error	Transmit throughput	Re thro
COM3	Connect	9600/N/8/1: Flow DTRRTS	■	■	●	●	●	●	5	0	0	0	0	0	0

Terminal

COM3 (9600/N/8/1: Flow DTRRTS)

```
111111
```

Key the data



Enabling an Intelligent Planet

Enabling an Intelligent Planet

ADVANTECH