

# EKI-6332 & EKI-136x-AE USDG Setup Example

Revision Date	Revision	Description	Author
April/2018	V1.0	Initial release	ICG AE Jacky.Lin
May/2018	V2.0	Modify the TestView testing description	ICG AE Jacky.Lin

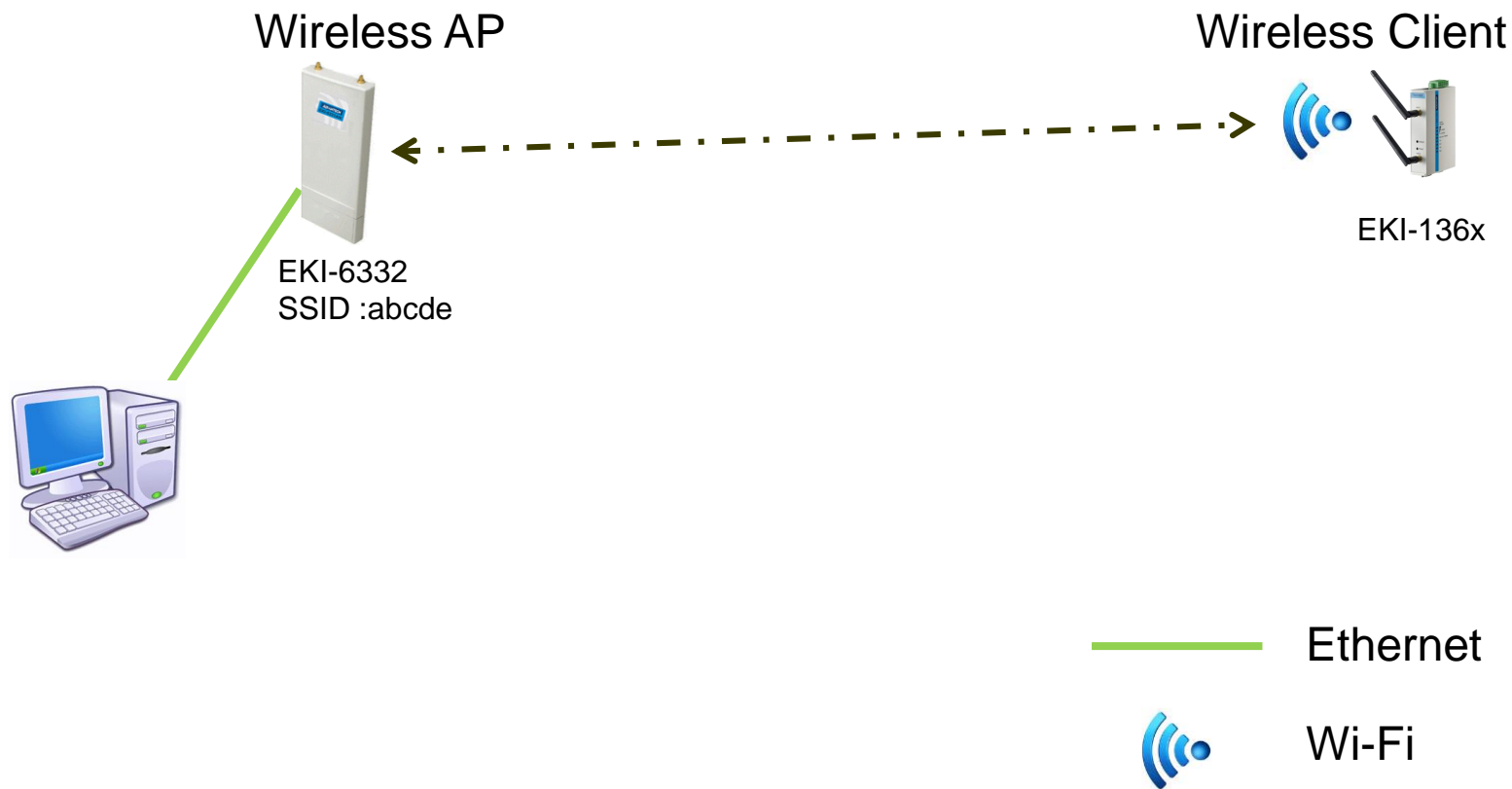
# Abstract

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

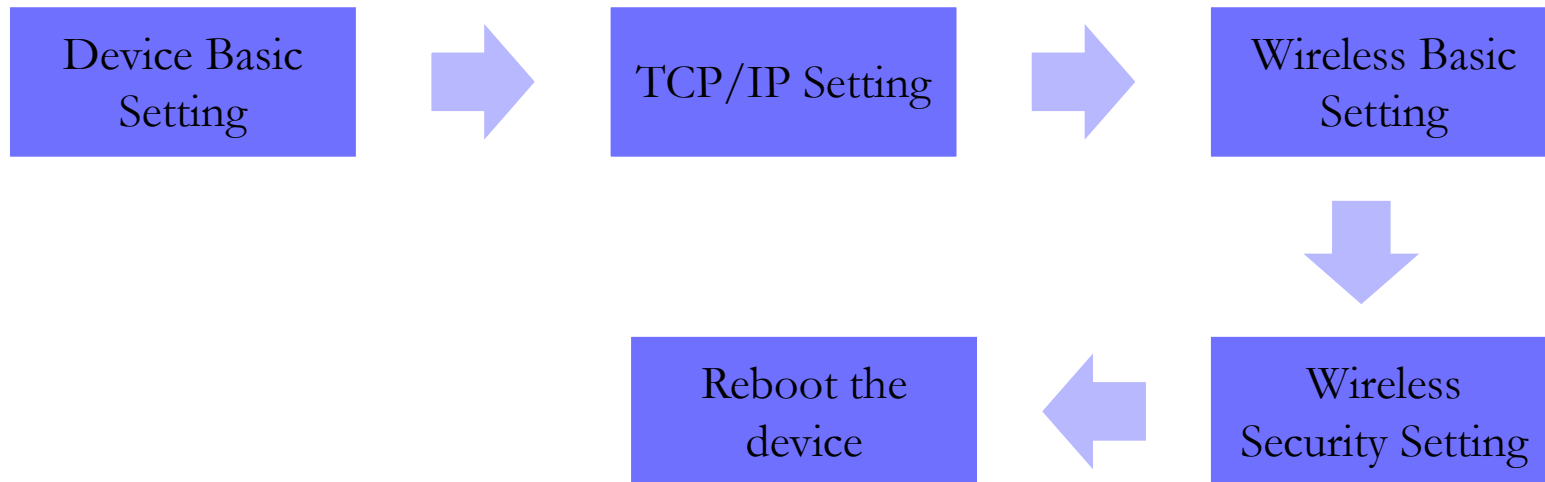


# Wi-Fi connection Setup Between EKI-6332 & EKI-136x-AE

# EKI-6332GN --- EKI-136x wireless connection setting Topology



# EKI-6332GN 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

Spanning Tree:

☐

Enabled

☒

Disabled

STP Forward Delay:

1

(1~30 seconds)

☐

Enable 802.1Q VLAN

Management VLAN ID:

0

(0~4094)

Use Default "Bridge" mode

#### 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

## ADVANTECH Industrial Wireless EKI-6332GN-AE

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:

abcde

(more...)

Broadcast SSID:

☒ Enabled

☐ Disabled

802.11 Mode:

802.11B/G/N

Channel Mode:

20 MHz

Channel:

2462MHz (11)

Select channel based on site  
survey result.

Extension Channel:

None

Data Rate:

Auto

HT Protect:

☐ Enabled

☒ Disabled

Antenna Gain:

0

3

0

dBi

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

Output Power:

12

15

15

dBm

Adjust the output power

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# Wireless Basic Setting

## ADVANTECH Industrial Wireless EKI-6332GN-AE

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

Password Settings

Firmware Upgrade

Configuration File

User Certificates

Remote Services

SNMP Settings

## 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:

Save...

Load Settings from File:

選擇檔案

未選擇任何檔案

Reset Settings to Default:

Reset

Reboot The Device:

Reboot

Reboot the device and wait for starting the WiFi service

Youtube

登入

Google 地圖

Facebook

ICIBA

Advantech

AD employee

AD mail

Yahoo 奇摩

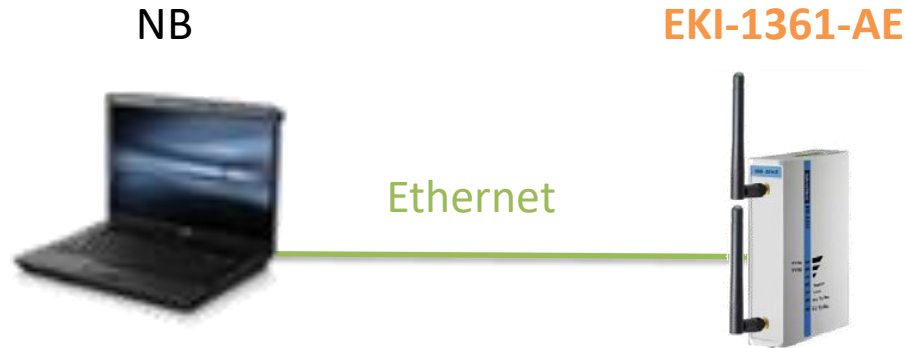
Agile Product Lifec...

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

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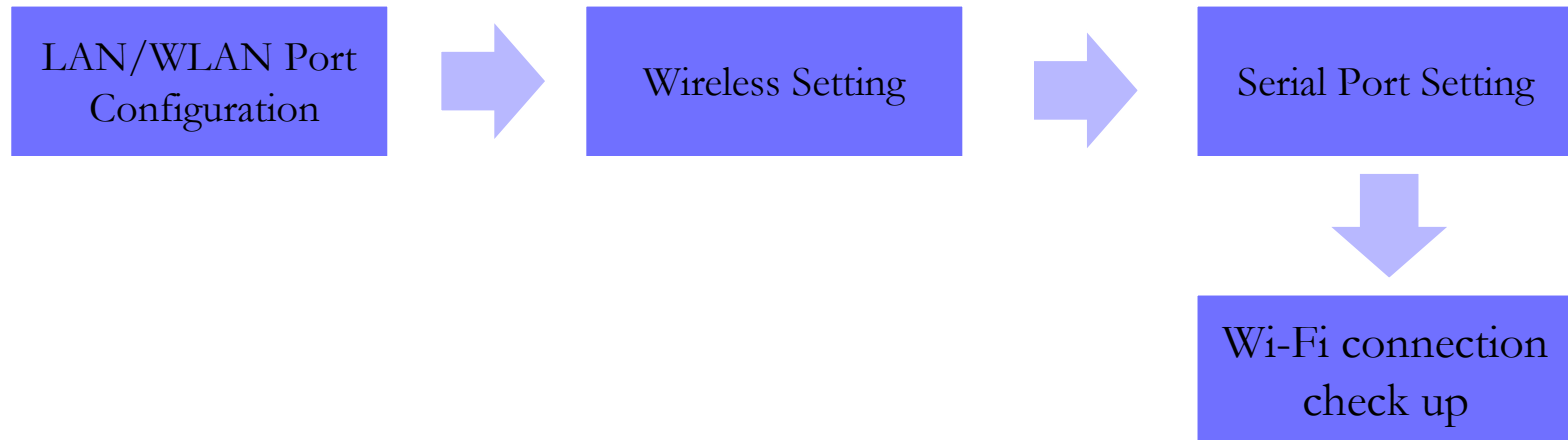
ADVANTECH

# EKI-1361-AE Setting flow chart



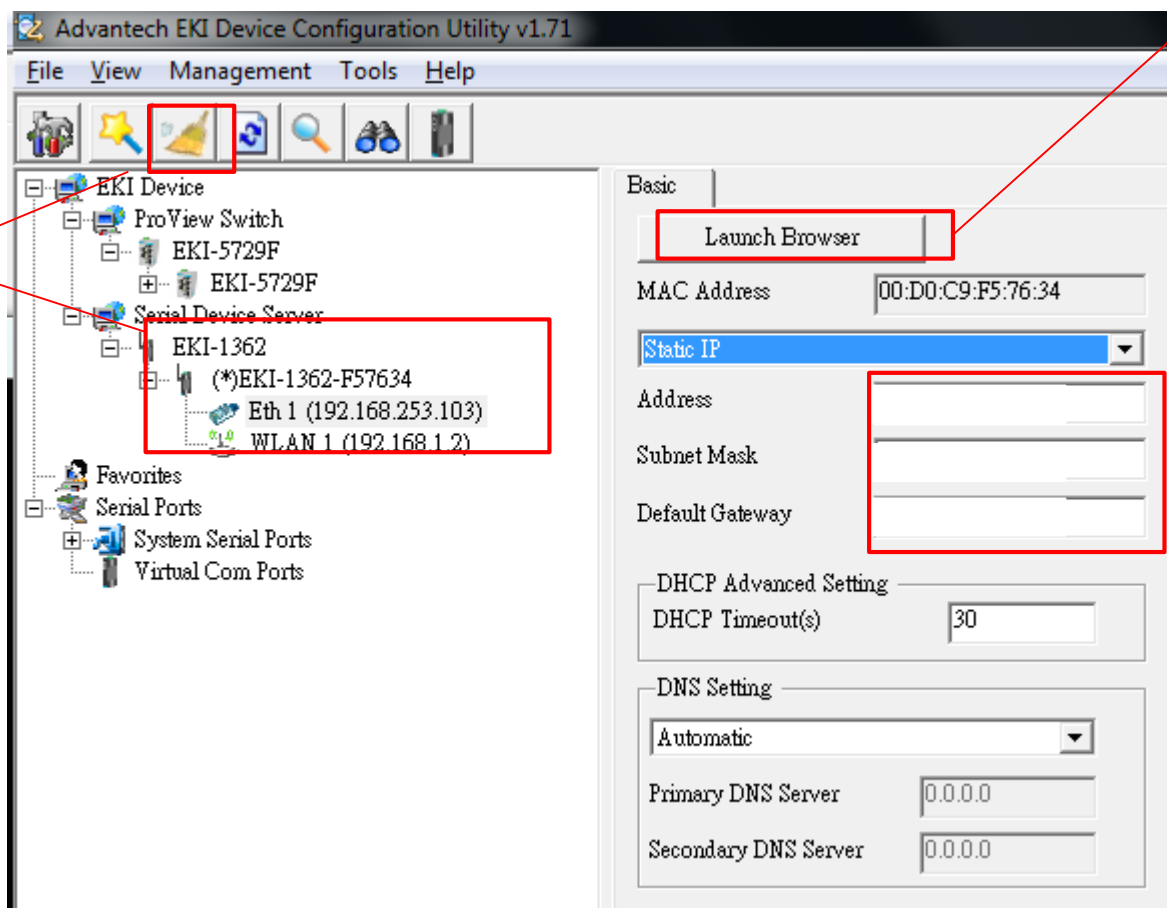
Step 1 : Connect the EKI-1361 via Ethernet cable

Step 2 : follow the flow chart to set up EKI-1361 step by step.



# LAN port configuration

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



3. Click on Launch browser after "reboot". To Enter port configuration

2. Config LAN IP to be the same subnet as the PC.

# Wireless LAN (WLAN) Configuration

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Home

- System
- Ethernet Configuration
  - Eth 1
  - Wlan 1
- Wireless Configuration
  - Wlan 1
- Port Configuration
- Monitor
- Alarm
- Tools
- Management

## Wlan1 Configuration

Mode	Static IP
MAC Address	00-D0-C9-F5-76-35
IP Address	192.168.1.2
Subnet Mask	255.255.255.0
Default Gateway	
DNS	<input checked="" type="radio"/> Automatic <input type="radio"/> Specific
Current Status	
IP 1	192.168.1.2

Save

Set static IP for the WLAN interface

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

# Wireless basic setting

**ADVANTECH iCom** www.advantech.com

Home  
System  
Ethernet Configuration  
  Eth 1  
  Wlan 1  
Wireless Configuration  
  Wlan 1  
Port Configuration  
Monitor  
Alarm  
Tools  
Management

## Wireless Configuration

Mode	<input checked="" type="radio"/> Client <input type="radio"/> Ad-hoc
SSID	abcde <a href="#">Site survey</a>
Country code	United States ▼
Channel	11 - 2.462 GHz ▼
Encryption	WPA/WPA2-Personal ▼
WPA key	1234567890

## Advanced Wireless Setting

RTS threshold	2347
Fragment threshold	2346
Preamble	<input checked="" type="radio"/> Short <input type="radio"/> Long
Roaming	<input type="radio"/> Enable <input checked="" type="radio"/> Disable

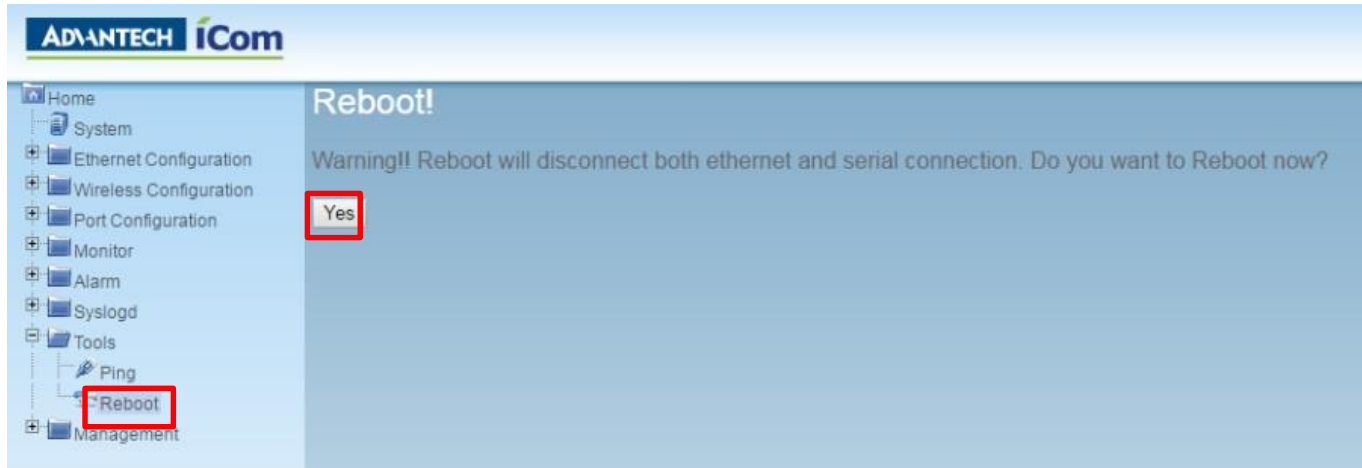
Set it to Client mode.

Make sure the SSID & encryption type & password is as same as AP

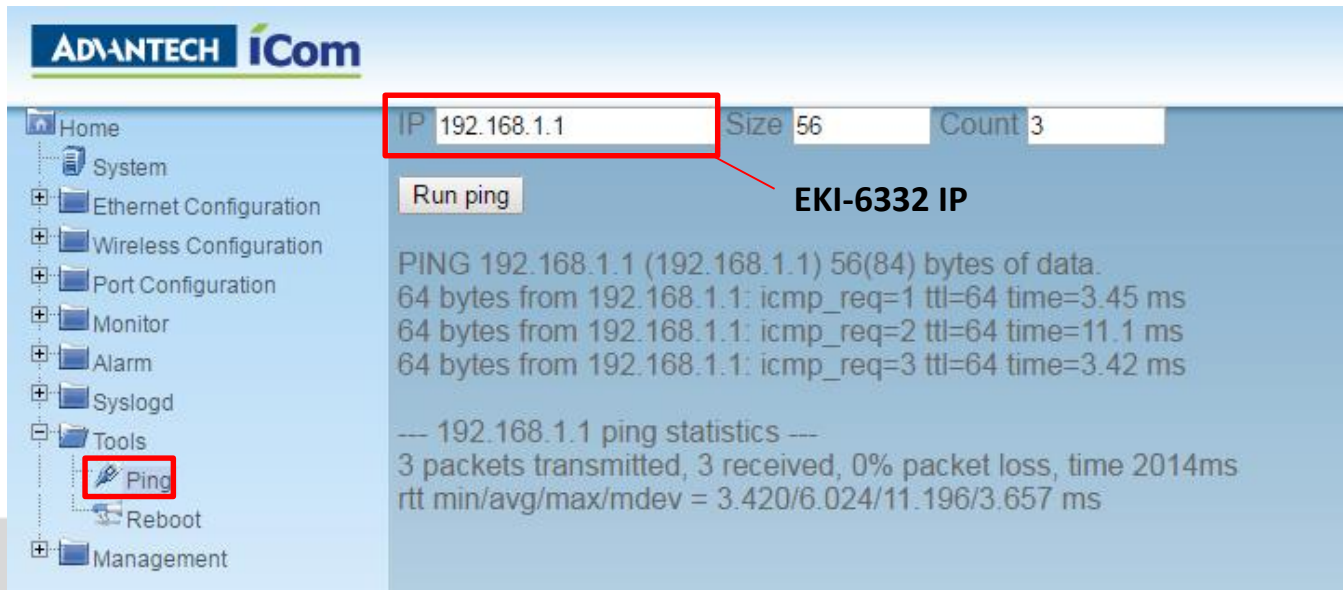
Save and reboot.

# Reboot and Run the ping test

Step 1 :Reboot device after all setting done



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





# Wi-Fi connection check up

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

EKI-6332

SystemWirelessManagementTools

InformationConnectionsStatisticsARP TableBridge 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

HomeSystemEthernet ConfigurationWireless ConfigurationWlan 1Port ConfigurationPort 1MonitorPort 1Wlan 1AlarmSyslogToolsManagement

## Wireless Status

SettingStatistic

### Wireless

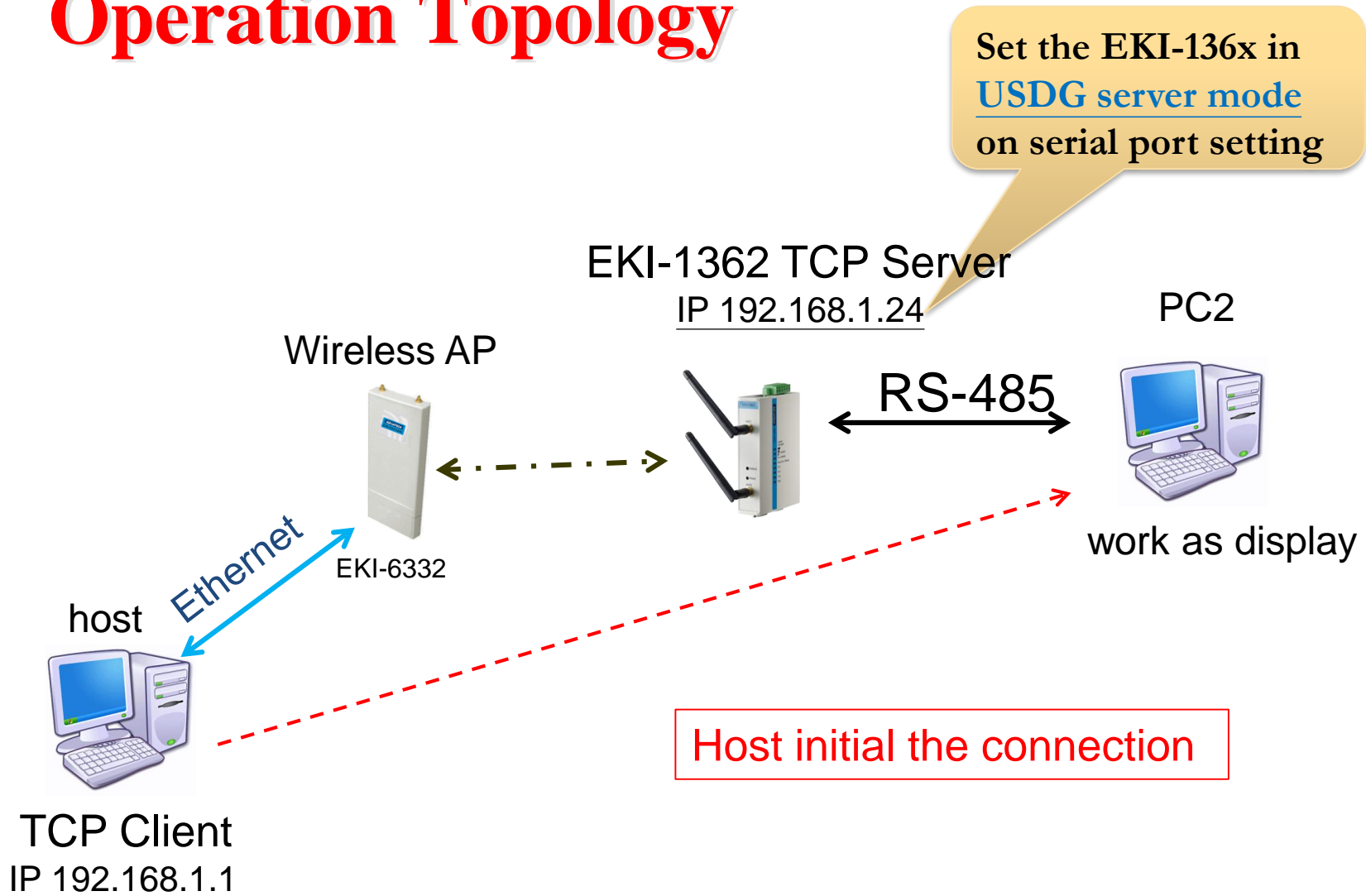
Mode	Client
SSID	testing
BSSID	00:19:70:C1:1E:5C
Channel/Frequency	2.437 GHz (Channel 6)
Bitrate	72.2 Mbps
Tx power	18
Signal Level	-28
RSSI	82

### WLAN status

IP address	192.168.1.2
Tx packets	814
Tx bytes	66626
Rx packets	1106
Rx bytes	119449

# Test USDG Server Mode by TestView

# USDG Server Mode Operation Topology



# Serial Port Setting (1/2)

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- Ethernet Configuration
  - Eth 1
  - Wlan 1
- Wireless Configuration
  - Wlan 1
- Port Configuration
  - Port 1
  - Port 2
- Monitor
- Alarm
- Tools
- Management

### Port 1 configuration

Basic	Operation	Advanced
Type	RS485	
Baud Rate	9600	
Parity	None	
Data Bits	8	
Stop Bits	1	
Flow Control	None	

Save

Com port setting

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

# Serial Port mode setting (2/2)

## USDG server mode

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Home

- System
- Ethernet Configuration
  - Eth 1
  - Wlan 1
- Wireless Configuration
  - Wlan 1
- Port Configuration
  - Port 1
  - Port 2
- Monitor
- Alarm
- Tools
- Management

### Port 1 configuration

Basic	Operation	Advanced
<b>Mode</b>		USDG Data Mode
<b>Protocol</b>		TCP
<b>Data Idle Timeout(s)</b>		60
<b>Data Listen Port</b>		5300
<b>Command Listen Port</b>		5400
<b>Response Timeout(ms)</b>		0
<b>Frame Break(ms)</b>		0
<b>TCP Mode Extra Options</b>		
<b>Auto Connect To Peer IP</b>		<input type="checkbox"/>
<b>Port Data Buffering</b>		
<b>Media</b>		NONE
<b>When Data Full</b>		Stop
<b>Maximum Buffer Size</b>		0 (Max: 1024, Unit: MiB)
<b>Pack conditions (Packet sent immediately when reach 1024 Bytes)</b>		
<input type="checkbox"/> By size	<input type="text"/> Bytes(1 ~ 1024 Bytes)	
<input type="checkbox"/> By interval	<input type="text"/> ms(1 ~ 60000 ms)	
<input type="checkbox"/> By end-character	Char Format <input type="text"/> HEX Char Value <input type="text"/>	
<input type="checkbox"/> By character-timeout	<input type="text"/>	
Peer for Receiving Data		
<b>Peer Number</b>		0
<input type="button" value="Save"/>		

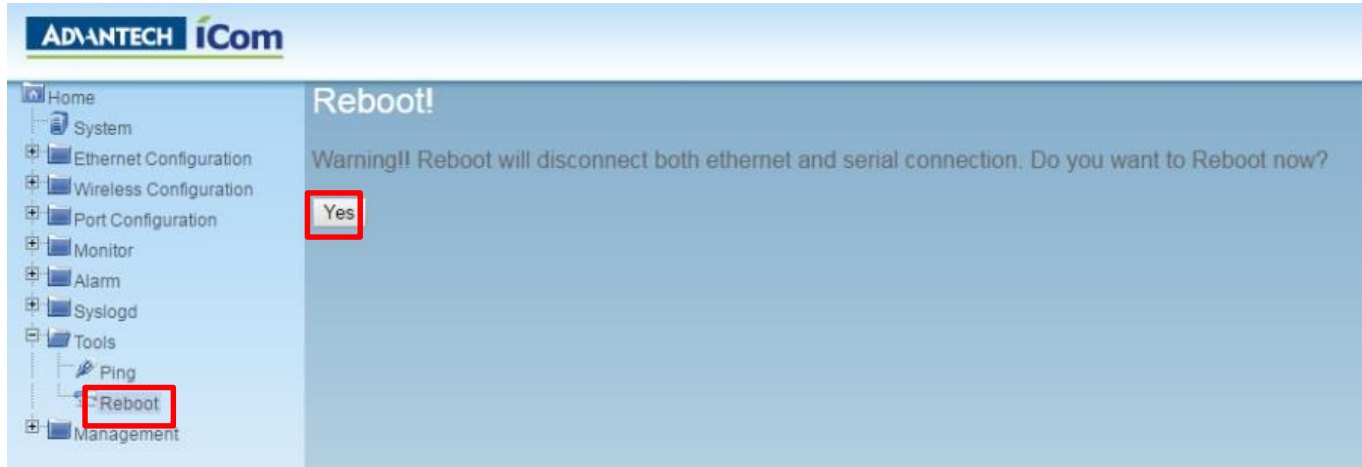
USDG Data Mode

Device server will listen to TCP port 5300

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

# Reboot the EKI-136x device

Step 1 :Reboot device after all setting done

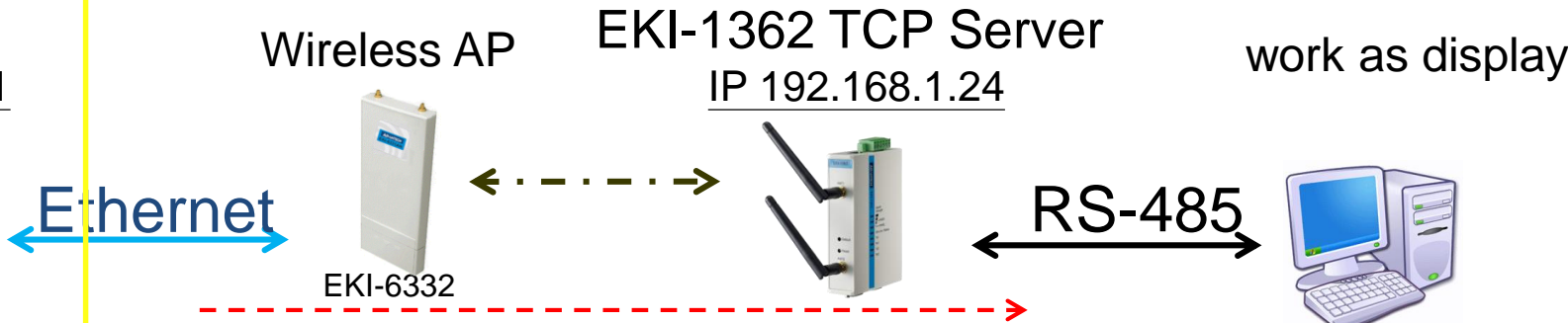


# USDG Server Mode

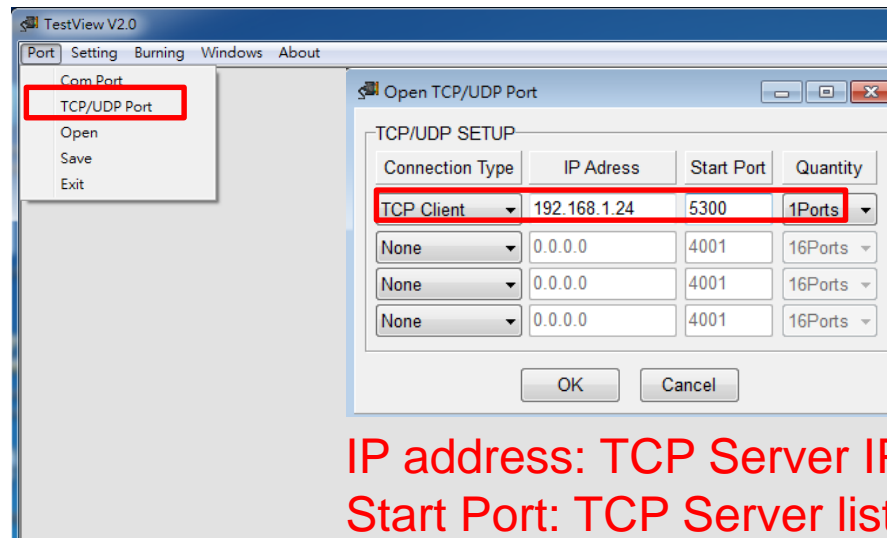
## Test by TestView

1<sup>st</sup>.

TCP Client  
IP 192.168.1.1  
host



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-6332



EKI-1362 TCP Server  
IP 192.168.1.24



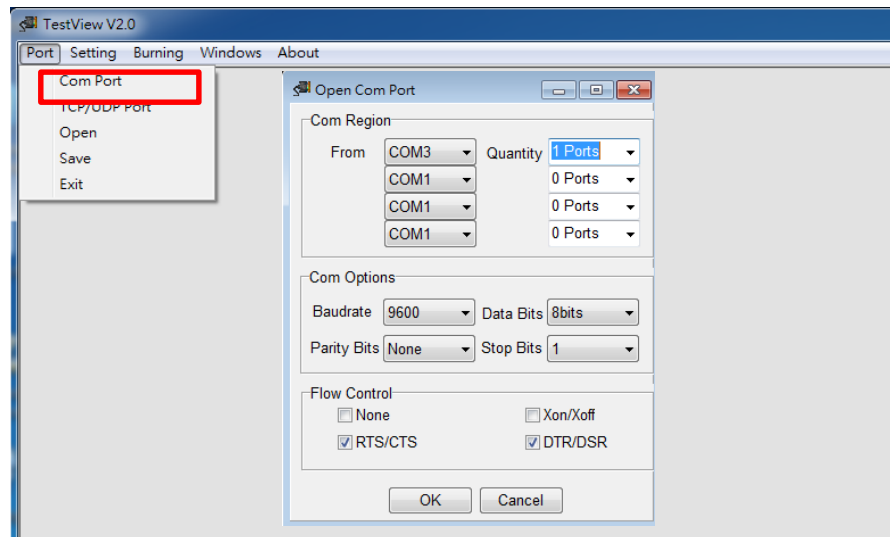
RS-485

2<sup>nd</sup>.

work as display



use TestView to create a COM port





TCP Client  
IP 192.168.1.1

host



Wireless AP



EKI-6332

EKI-1362 TCP Server  
IP 192.168.1.24



work as display



Ethernet

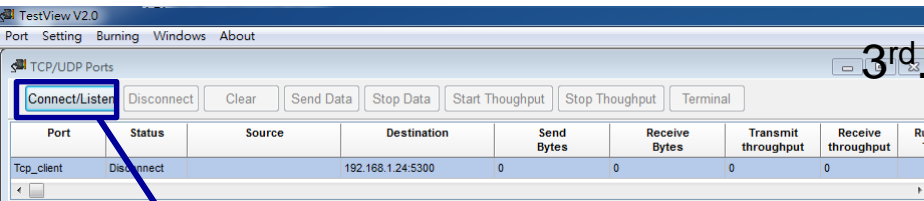


RS-485



use TestView to create a TCP Client

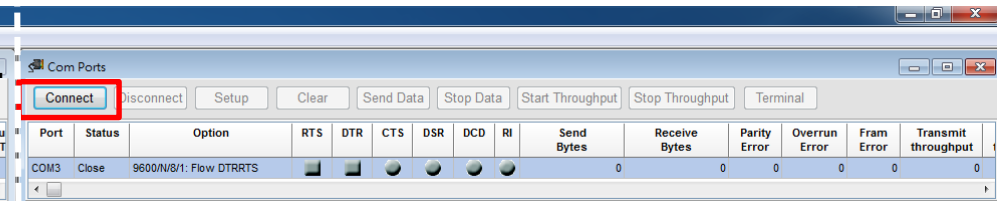
use TestView to create a COM port



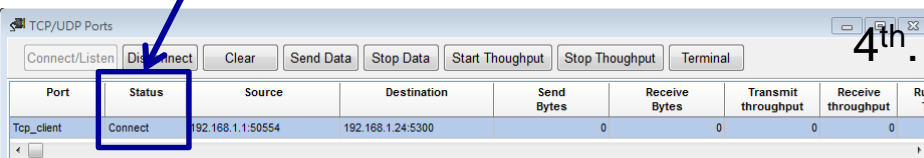
3rd.



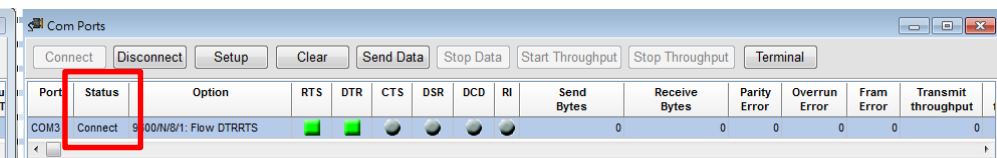
Press Connect to initial the connection



Host initial the connection



4th.



TCP Client  
IP 192.168.1.1

host



Ethernet

Wireless AP



EKI-6332



EKI-1362 TCP Server  
IP 192.168.1.24



RS-485

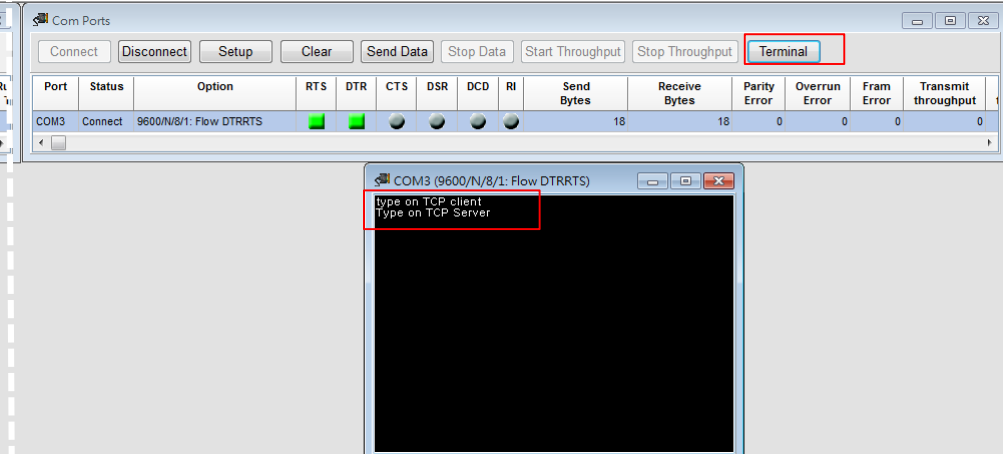
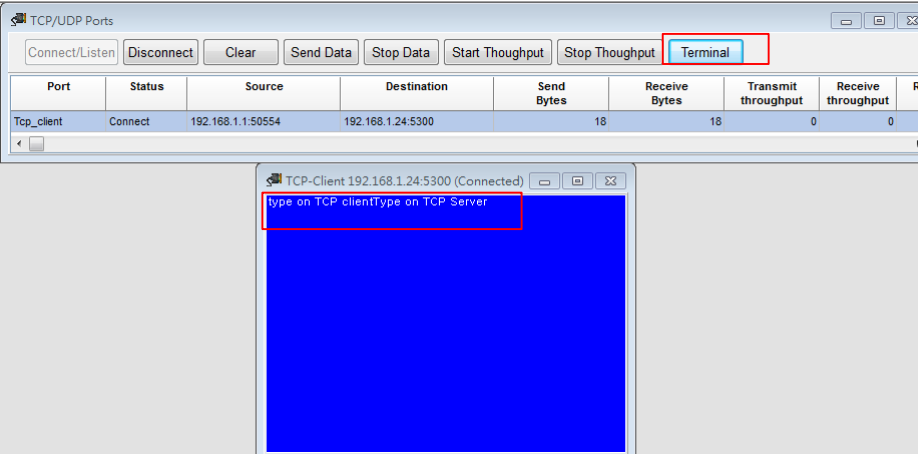
work as display



use TestView to create a TCP Client

use TestView to create a COM port

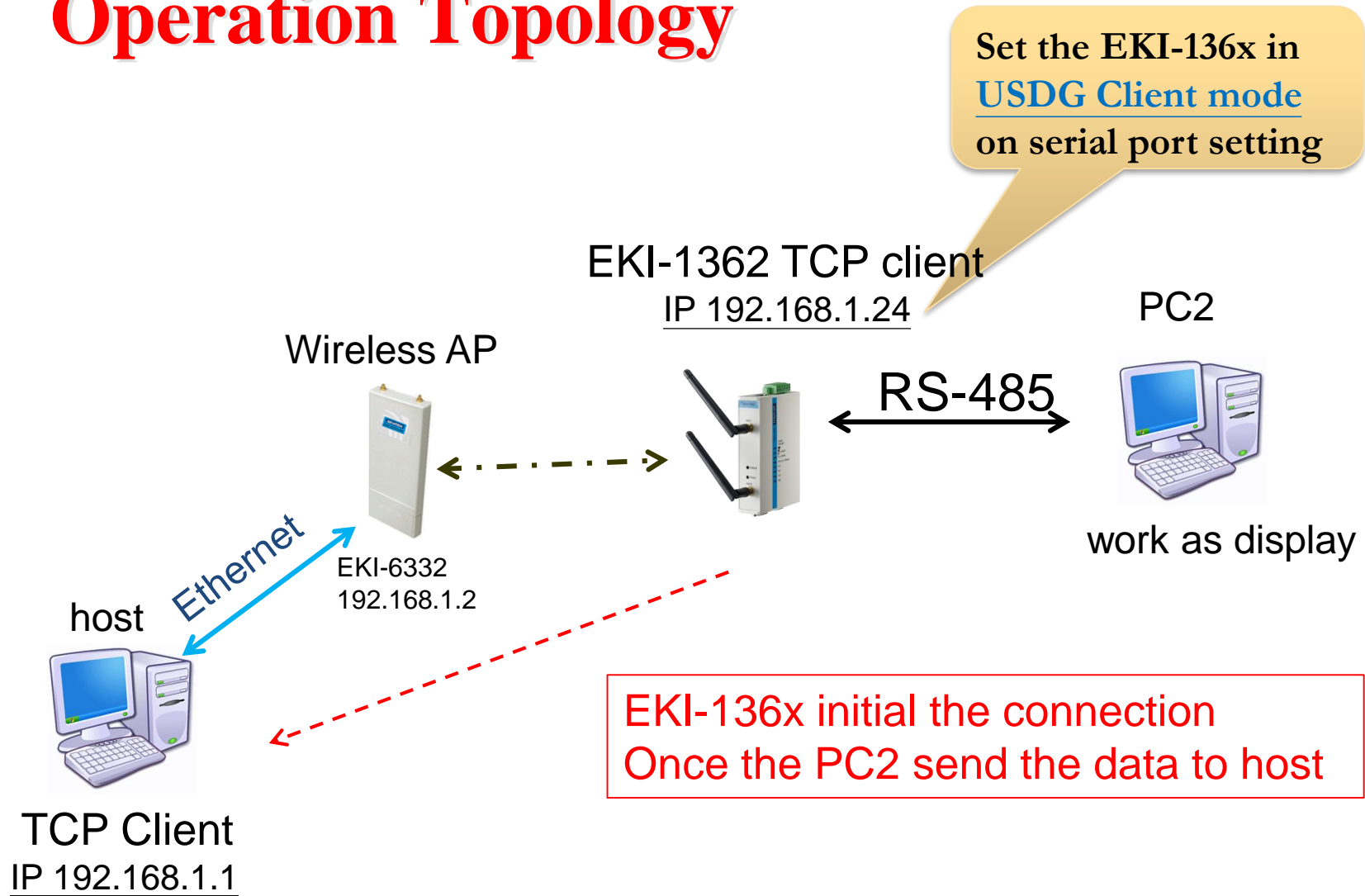
after starting connection, data can be sent by both side



# Test USDG Client Mode by TestView

# USDG Client Mode

## Operation Topology



# Serial Port Setting (1/2)

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- System
- Ethernet Configuration
  - Eth 1
  - Wlan 1
- Wireless Configuration
  - Wlan 1
- Port Configuration
  - Port 1
  - Port 2
- Monitor
- Alarm
- Tools
- Management

### Port 1 configuration

Basic	Operation	Advanced
Type	RS485	
Baud Rate	9600	
Parity	None	
Data Bits	8	
Stop Bits	1	
Flow Control	None	

Save

Com port setting

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

# Serial Port mode setting (2/2)

## USDG client mode

The screenshot shows the 'Port 1 configuration' window with the 'Advanced' tab selected. The 'Mode' is set to 'USDG Data Mode'. The 'Protocol' is 'TCP'. The 'Data Idle Timeout(s)' is 60, 'Data Listen Port' is 5300, 'Command Listen Port' is 5400, 'Response Timeout(ms)' is 0, and 'Frame Break(ms)' is 0. The 'Auto Connect To Peer IP' checkbox is unchecked. The 'Media' is 'NONE' and 'When Data Full' is 'Stop'. The 'Pack conditions' section shows 'By size' selected with a value of 1024 Bytes. The 'Peer Number' is 1. The 'Peer IP address 1' is 192.168.1.1 and 'Port 1' is 5000. The 'LocalPort' is 0.

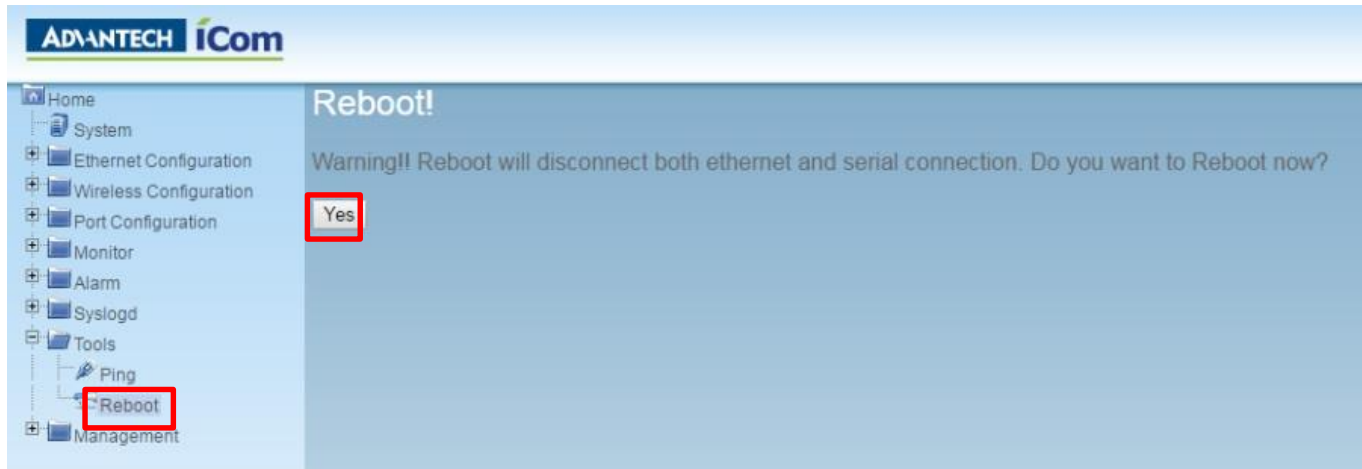
Port 1 configuration		
Basic	Operation	Advanced
Mode		USDG Data Mode
Protocol		TCP
Data Idle Timeout(s)		60
Data Listen Port		5300
Command Listen Port		5400
Response Timeout(ms)		0
Frame Break(ms)		0
TCP Mode Extra Options		
Auto Connect To Peer IP		<input type="checkbox"/>
Port Data Buffering		
Media		NONE
When Data Full		Stop
Pack conditions (Packet sent immediately when reach 1024 Bytes)		
<input type="checkbox"/> By size		1024 Bytes(1 ~ 1024 Bytes)
<input type="checkbox"/> By interval		ms(1 ~ 60000 ms)
<input type="checkbox"/> By end-character		Char Format ASCII Char Value
<input type="checkbox"/> By character-timeout		
Peer for Receiving Data		
Peer Number		1
1	LocalPort	0
Peer IP address 1		192.168.1.1
Port 1		5000
Save		

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 device

Step 1 :Reboot device after all setting done



# USDG Client Mode

## Test by TestView

1st.

TCP Server  
IP 192.168.1.1  
port 5000  
host



Ethernet

Wireless AP



EKI-1362 TCP client  
IP 192.168.1.24

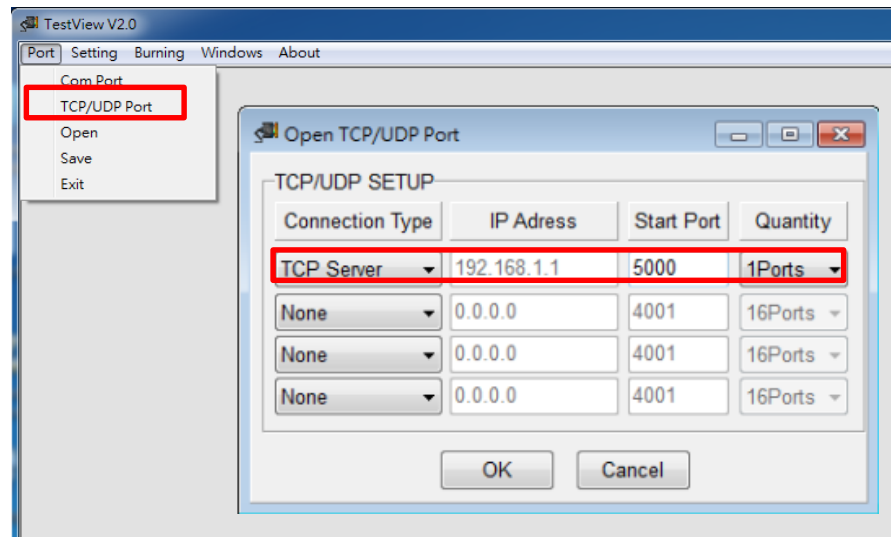


PC2 work as  
display



RS-485

use TestView to create a TCP server





# USDG Server Mode

## Test by TestView

TCP Server  
IP 192.168.1.1  
port 5000  
host



Ethernet

Wireless AP



EKI-6332



EKI-1362 TCP client  
IP 192.168.1.24

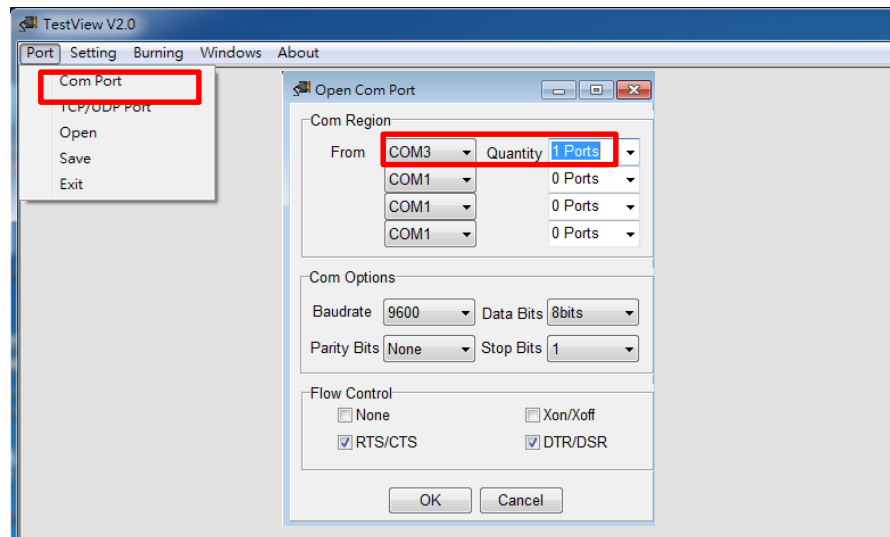


RS-485

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

Ethernet



EKI-1362 TCP client

IP 192.168.1.24



PC2 work as  
display

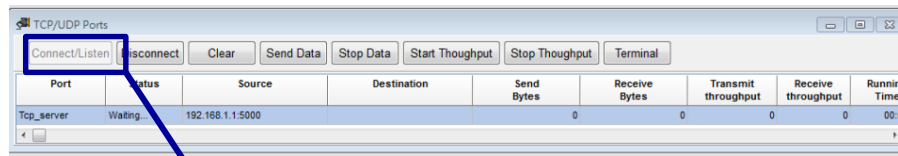
RS-485



use TestView to create a TCP Client

use TestView to create a COM port

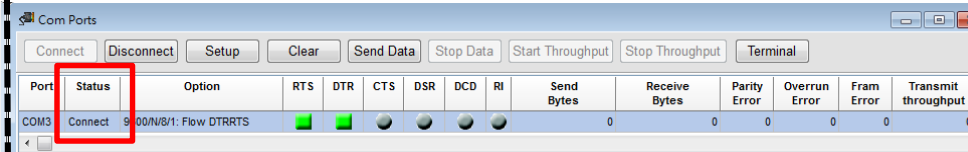
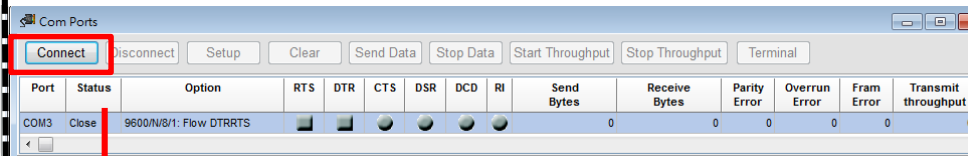
3<sup>rd</sup>.



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



4<sup>th</sup>.



TCP Server  
IP 192.168.1.1  
port 5000  
host



Ethernet

Wireless AP



EKI-6332



EKI-1362 TCP client  
IP 192.168.1.24



RS-485

PC2 work as  
display



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

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	Run Time
Tcp_server	Connect	192.168.1.1:5000	192.168.1.24:37257	0	5	0	0	00

TCP Server:192.168.1.1:5000 (Connected)

11111

Receive the data

TestView V2.0

Port Setting Burning Windows About

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	Re thro
COM3	Connect	9600/N/8/1: Flow DTRRTS	■	■	■	■	■	■	5	0	0	0	0	0	0

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

11111

Key the data



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