Tenda

User Guide

Wireless USB Adapter
Applies to W311M/ W311Ma/W311Ml

Shenzhen Tenda Technology Co.,Ltd.

www.tendacn.com

Copyright Statement

Disclaimer

Contents

About this Manual

Thank you for purchasing our product. This manual applies to W311M, W311MI and W311Ma. W311M is taken as a guide to illustrate their functions and features. And their respective differences will be specially marked.

Before Installation

1. This user guide may instruct you to install and configure the device. Please read carefully before you start to use this product.

2. To avoid possible network conflicts between this Tenda network adapter and those of other manufactures, it's recommend that you first disable the network adapters of other manufacturers before installing the driver. See **Appendix 1 Disable Other Wireless Adapter** for details.

May you have a nice experience!

Chapter 1 Product Introduction

1.1 Overview

The Wireless USB Adapter of W311M series adopts 11n technology, which makes the wireless transmission speed up to 150Mbps. It supports soft AP function. That means you can use it as an AP. Installing this product with a desktop PC or a notebook establishes a cost-effective wireless network swiftly and conveniently. The compactness design makes you take it everywhere.

| W311M | W311Ma | W311MI |

1.2 Features

- Up to 150Mbps wireless speed
- Complies with IEEE 802.11b, IEEE 802.11g, and IEEE 802.11n standards
- Supports soft AP feature
- USB2.0 port
- Detects wireless network and adjusts transmitting rate automatically
- Provides two working modes: Infrastructure and Ad-Hoc
- Complies with Windows XP/ Windows 2000/ Windows 7/ Windows 8/ Windows Vista

1.3 LED

(W311M and W311Ma are equipped with a LED indicator, but W311MI is not.)

Solid: Indicates the wireless adapter works properly.

Blinking: Indicates the wireless adapter is transmitting data.

Off: Indicates the wireless adapter works improperly.

1.4 Button

(W311M and W311Ma are equipped with a WPS button, but W311MI is not.)

WPS button: Press it to do a WPS pair with a remote device (AP, router).

Chapter 2 Install Wireless USB Adapter

The installation steps below are described on Windows 7. You can take them for reference if you are using other system operations.

2.1 Physical Connection

Insert the Wireless USB Adapter into a USB port of your computer (desktop or laptop).

2.2 Driver and WLAN Utility Installation

After you have finished the physical installation, install the driver and Tenda WLAN Utility for a perfect experience.

1. Insert the included CD in your PC's CD-ROM drive, and the CD will run automatically; if not, double click **Tenda.exe** file attached to the CD. Click **RUN** to start setup.
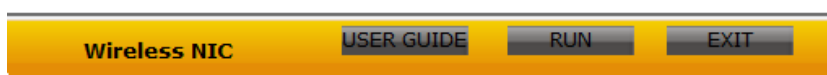
2. Check "**I accept the terms of the license agreement**" and click **Next**.
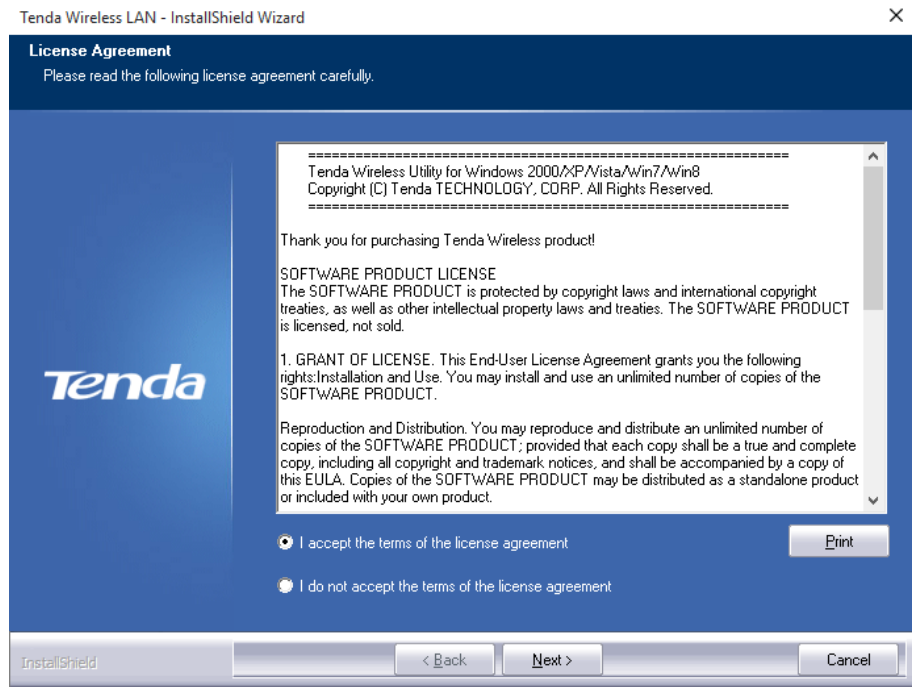
3. It is recommended to choose "Install driver and Tenda WLAN Utility" setup. And click **Next**.
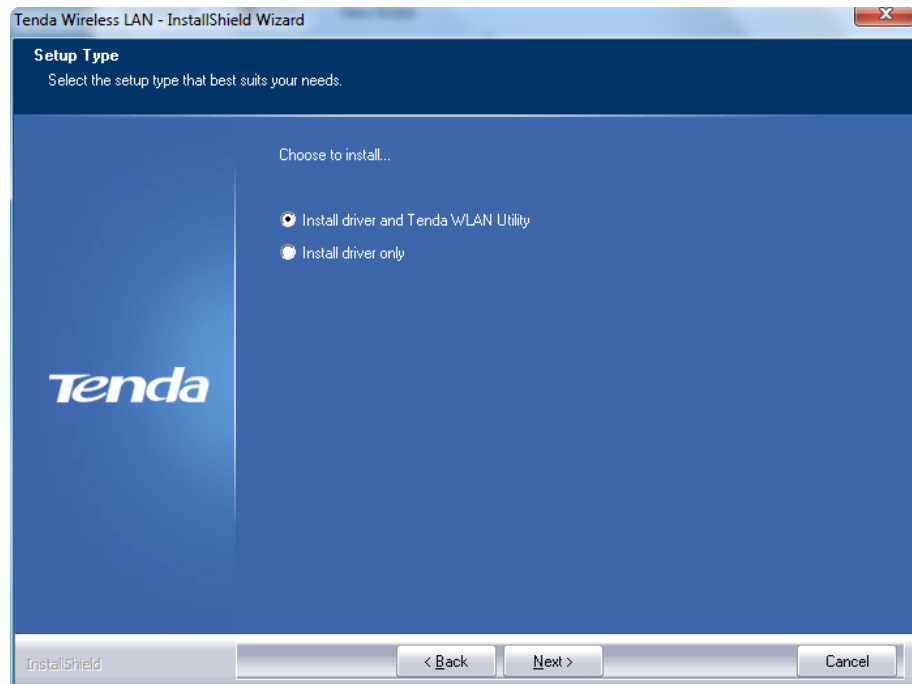
Installing…
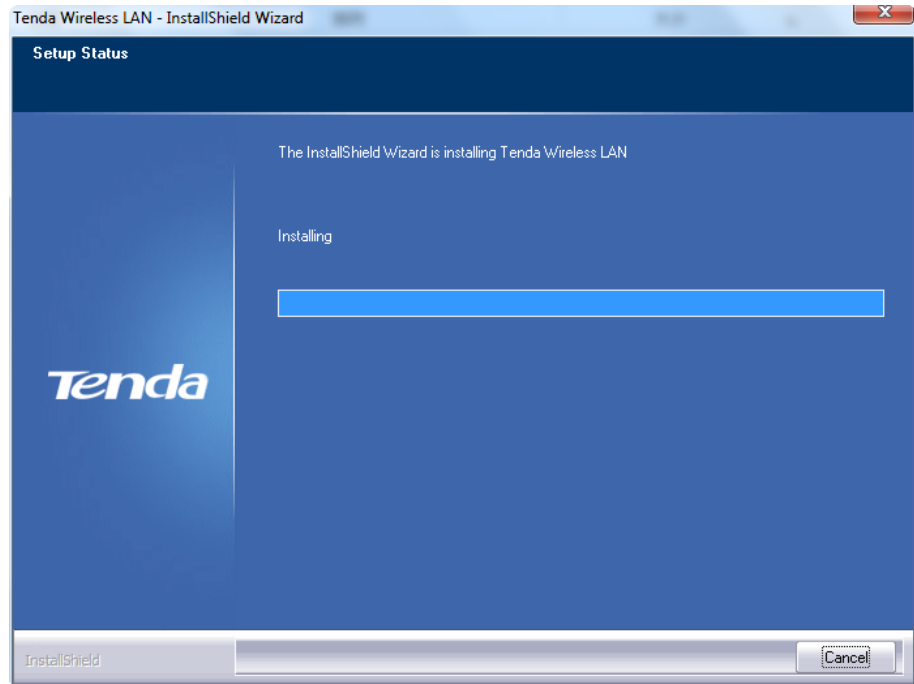
4. Install Shield Wizard
completely. Click **Finish**
to get setup done. To
activate the setup, it is
recommended to restart
your computer now.
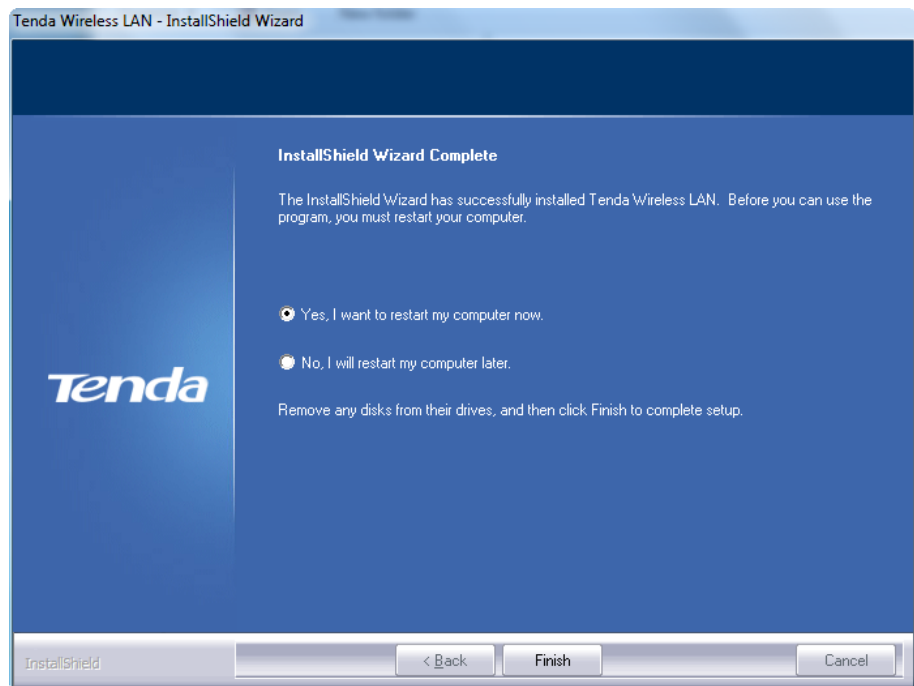
5. Tenda WLAN utility will run
automatically.
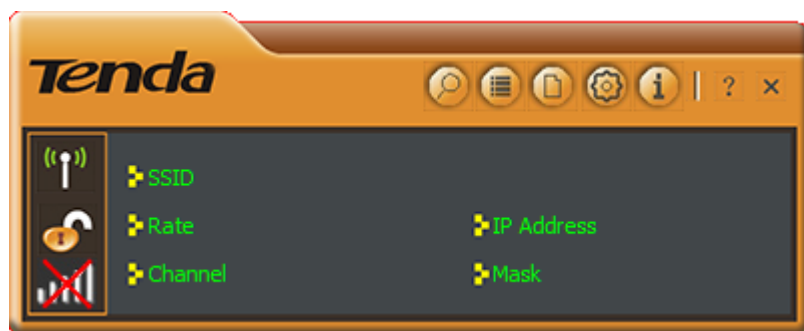
Chapter 3 Connect to WiFi

You can connect to WiFi via Tenda WLAN utility, Windows built-in WLAN program or WPS feature.

3.1 Via Tenda WLAN Utility

1. Click ![icon] icon to display the available wireless networks.
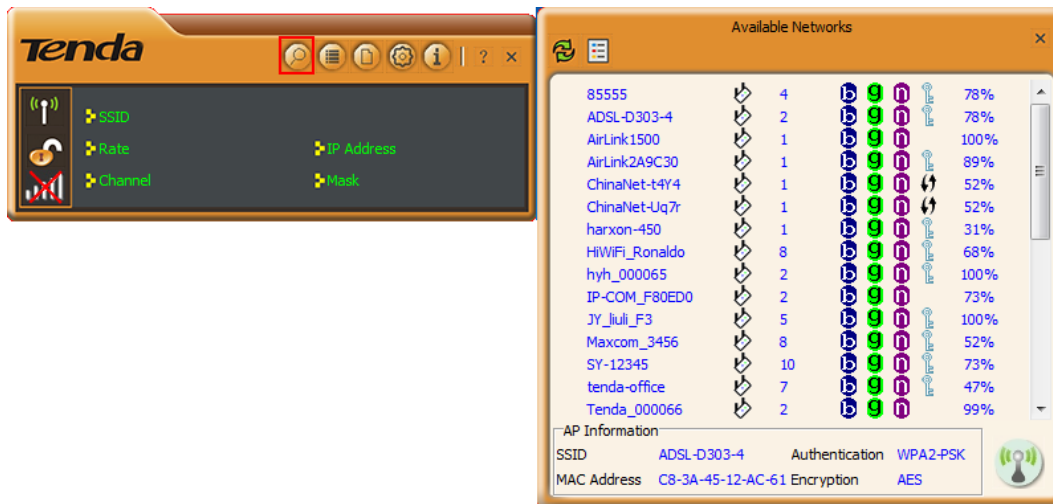
2. Double click the wireless network you will connect (**Or** select the wireless network and click ![icon] icon), and click ![icon] icon to continue.
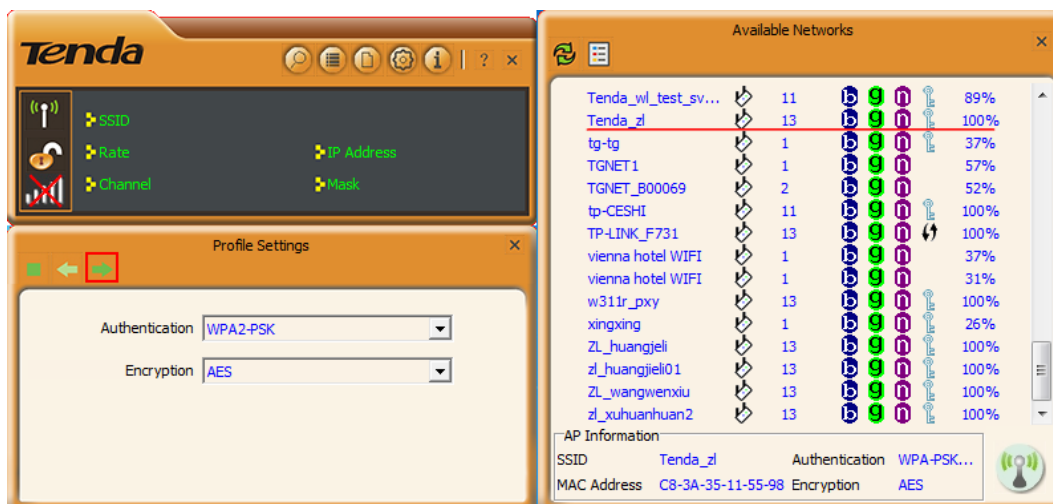
3. Do as the screen prompts. (The current wireless network requires wireless password. Input it and click icon to continue.)
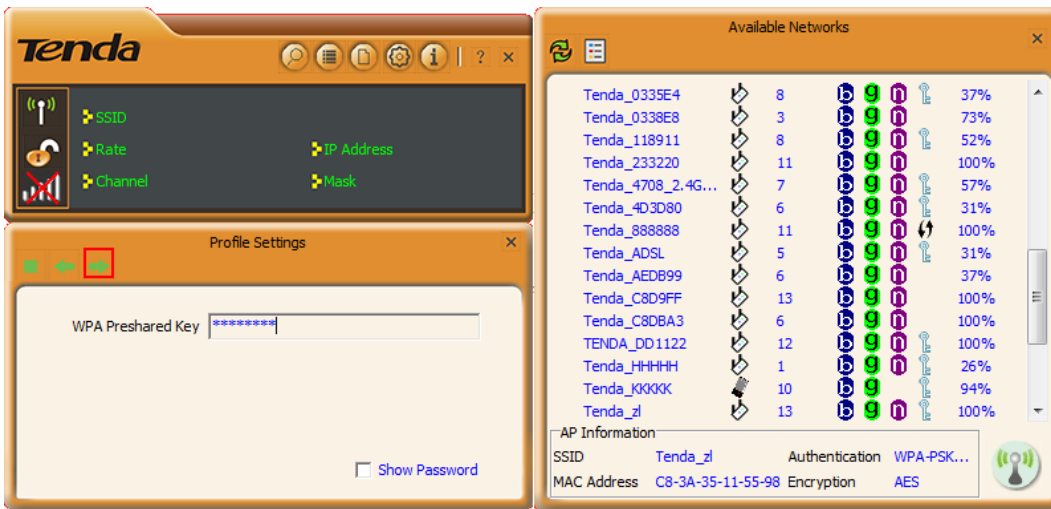
4. Connected successfully!
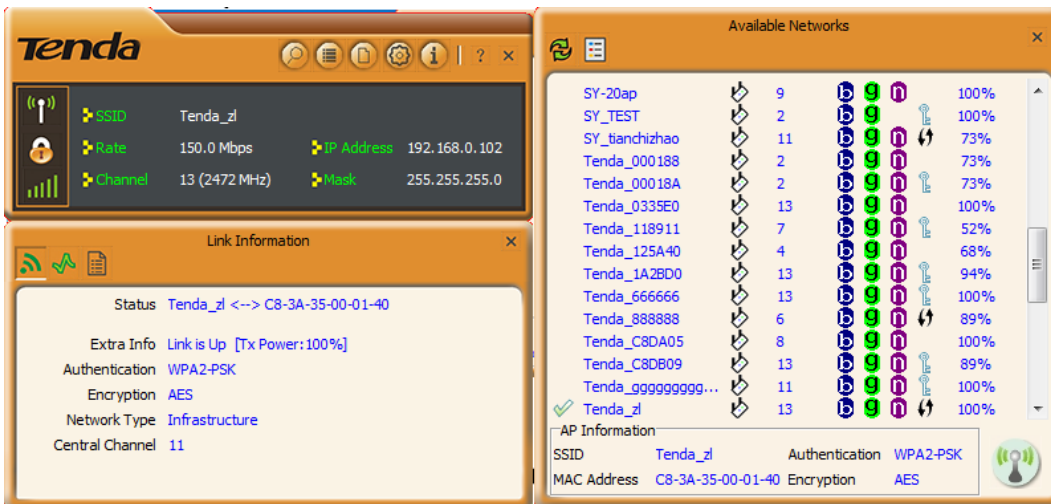
3.2 Via Windows Built-in WLAN Program

▪ **Windows 7**

1. Left click **Network** (or) icon on the lower right corner of desktop to display the available wireless networks.

2. Select a wireless network you want to connect, click **Conncet** and do as the screen prompts.
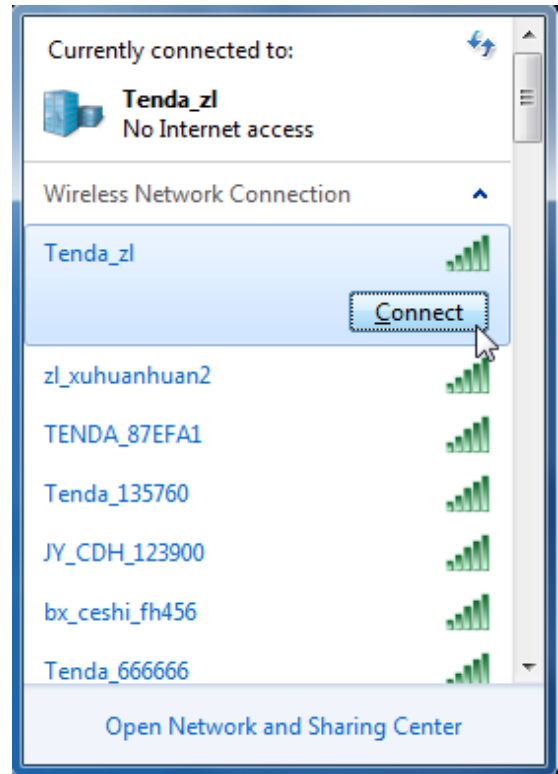
Connected successfully!
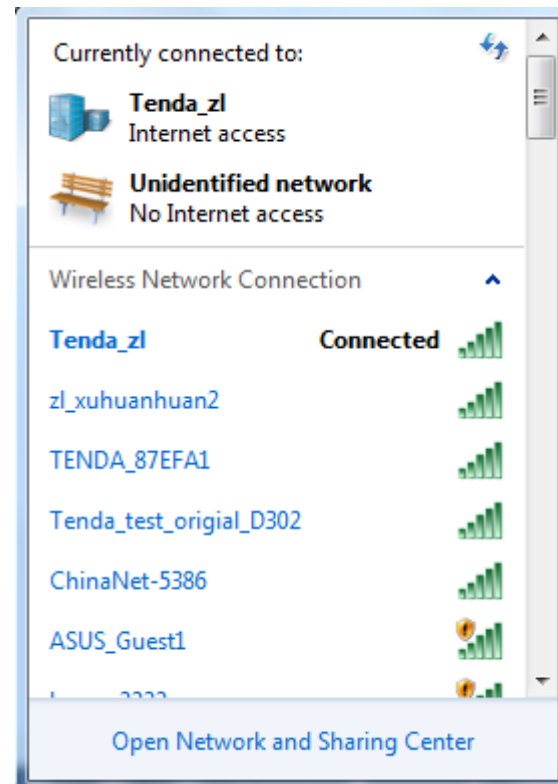
- **Windows 8**

Step 1: Click the icon [icon] on the bottom right corner of your desktop.

Step 2: Select your wireless network from the list, click **Connect** and then follow onscreen instructions.

Tip

If you cannot find your wireless network from the list, ensure the Airplane Mode is not enabled on your PC.
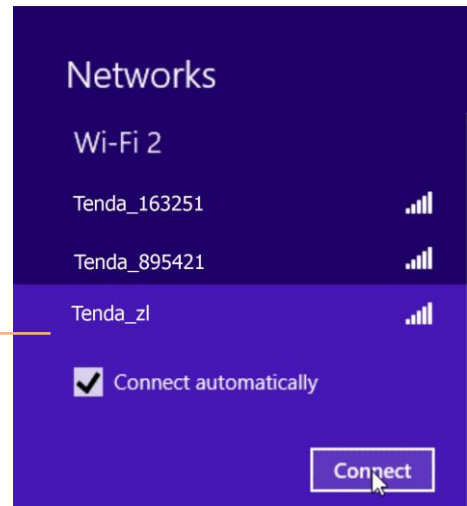
Step 3: When your wireless network is connected successfully, the following screen will appear.
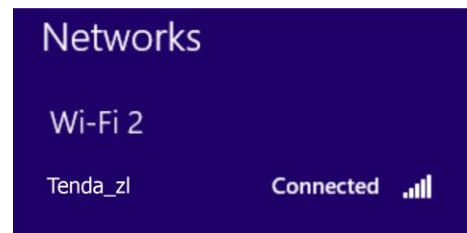
3.3 Via WPS

Or you can connect to an AP or wireless router via this wireless adapter (**STA Mode**) by WPS. WPS setting supports PBC and PIN code modes. The operations below are for references.

- **By WPS Button (Available for W311M/W311Ma)**

(W311M and W311Ma are equipped with a WPS button, W311MI is not.)

Process

1. Enable the WPS feature of the remote AP or router and press the WPS button on it.
2. In two minutes, press the WPS button on the wireless adapter.
3. Wait the wireless adapter for getting an IP address and then you can access the Internet.

▪ **PBC Connection**

Process

1. Enable the WPS (PBC) feature of the remote router. (The detailed operations see router manual.)

2. Double click [icon] icon on the desktop to enable Tenda WLAN utility. And click [icon] icon.
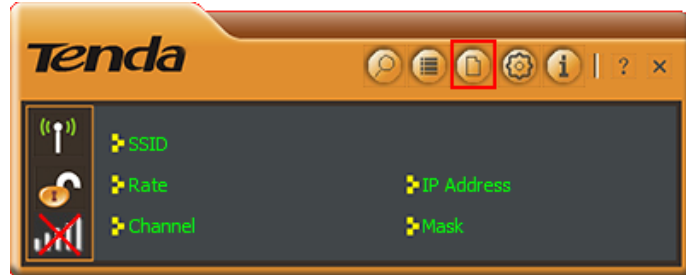
3. Click [icon] icon to add a WPS profile.

4. Select **Push-Button** of WPS Method and click [icon] icon.
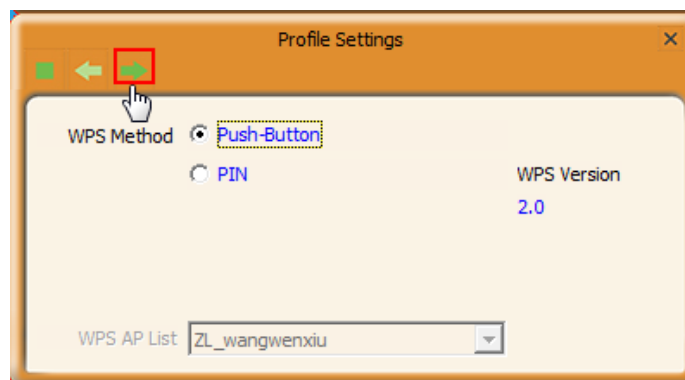
5. Click [Start PBC] button to start PBC connection.
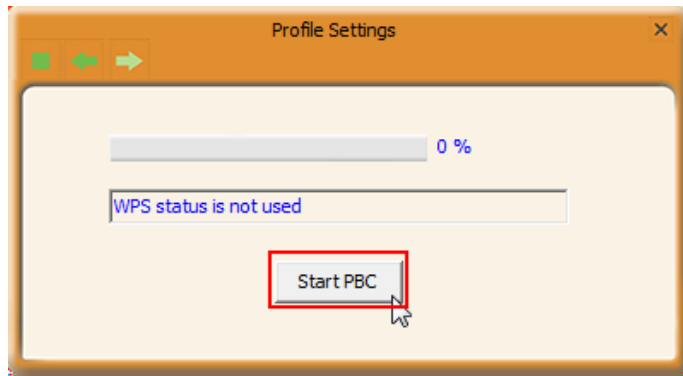
The wireless adapter gets an IP address from the remote AP/ router. Connection between the remote AP/ router and the wireless adapter is established successfully.

- **PIN Code Connection**

Process

1. Click icon.

2. Select **PIN** of WPS Method, select the remote AP you want to PIN from the **WPS AP List**. And click icon.
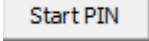
Here you have two options: **Type PIN in AP** and **Type PIN below**. Choose one you like to use.
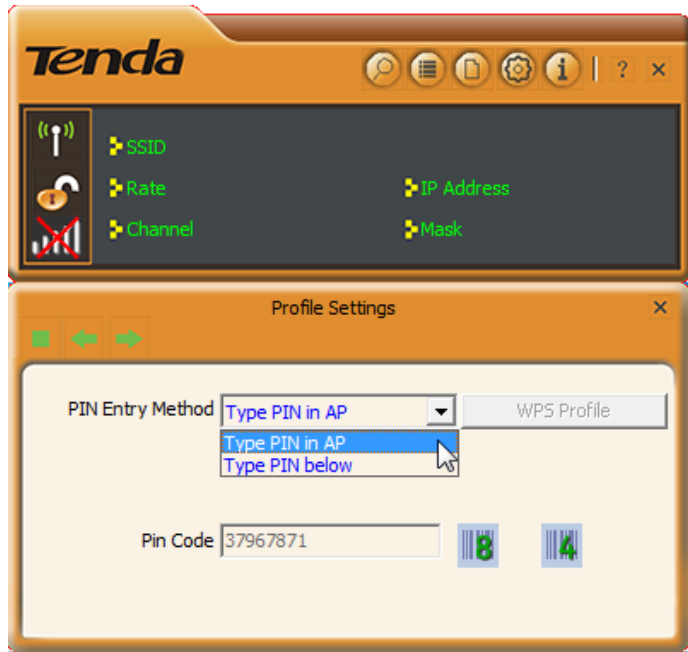
3. Type PIN in AP

Select **Type PIN in AP** and note down the Pin code number (here is **19559032**), and copy this group number to the remote AP (or router). (The detailed operation on the remote device see its manaul.)
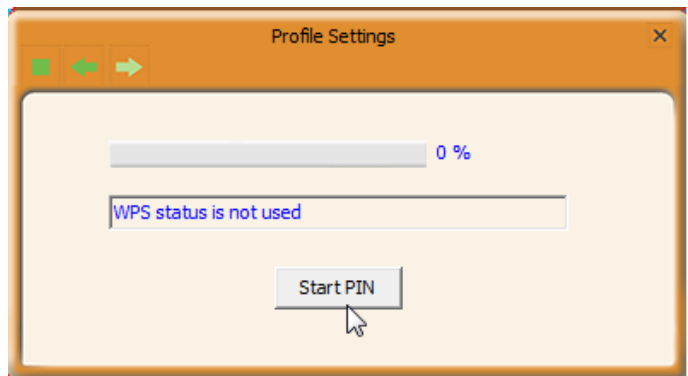
4. Click [Start PIN] button to PIN.

5. The wireless adapter gets an IP address from the remote AP/ router. Connection between the remote AP/ router and the wireless adapter is established successfully.

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3. **Type PIN below**

Select **Type PIN below** and copy the PIN code number from the remote AP (or router) into the Pin Code field of the wireless adapter. And click ![icon] icon.

> **WPS Profile**: If you click this button instead of clicking![ ], you can PIN to the remote device by customizing the encryption method. The details see **Appendix 2 WPS Profile**.
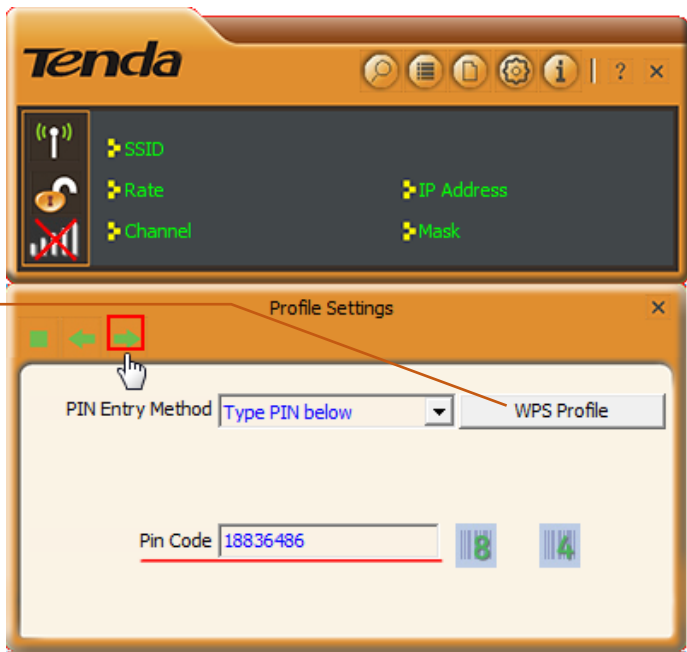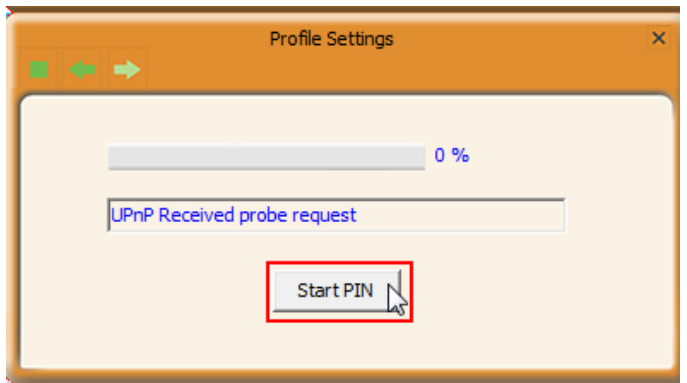
4. Click ![Start PIN] button to PIN.

The wireless adapter gets an IP address from the remote AP/ router. Connection between the remote AP/ router and the wireless adapter is established successfully.
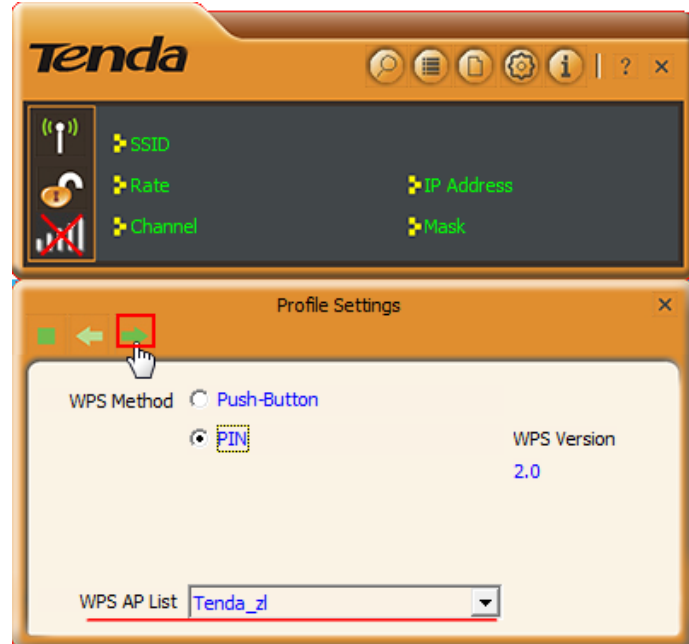
Note

1. Under the WPS connection mode, when multiple routers simultaneously enable the WPS function, it may cause connection failure.
2. If the router connects to the adapter using the WPS, only one client can be connected at one time, and so if the router needs to connect to multiple clients through WPS, you should repeat the WPS operation.

Chapter 4 Tenda WLAN Utility

When you are installing the driver, select "Install driver and Tenda WLAN Utility" and the adapter driver and client utility will be installed. All functions of this adapter can be configured via Tenda's utility interface (In the following text it is abbreviated as **UI**). Click shortcut on your PC's desktop to start the UI.

Click the Tenda UI icon located in the task bar to shift between **STA** (Station) mode and **AP** mode, and to exit UI.
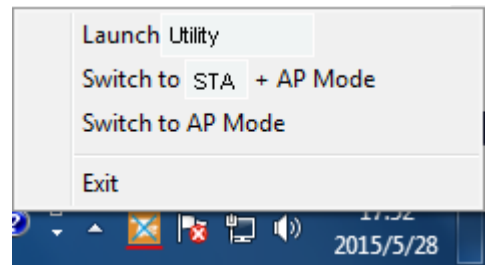
Main icons description:

① RF ON/OFF button, which is used to turn on/off the radio feature of the wireless adapter. It may be like or .

② Key mark. Unlocked means the current wireless network is unsecured. It may be like or .

③ This icon indicates the current status of wireless connection in **STA** (Station mode). It may be like , or . (indicates the wireless adapter works in **AP** mode.)
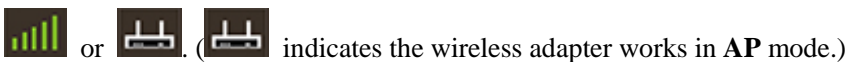
4.1 STA Mode

In STA (Station) mode, the wireless adapter serves as a wireless single receiver. A desktop computer installed with it can get a WiFi connection request, and connect to a wireless network freely.

The main interface of STA mode is shown as below:
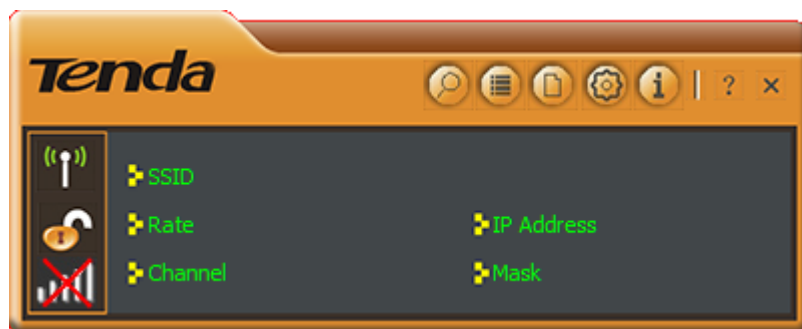
Description about the function icons on the interface:

Icon	Description
	Available Networks Click this icon to display list of the avaliable netwroks.
	Link Information Click this icon to display the current client link status.
	Profile Settings Click this icon to go to profile configuration interface.
	Advanced Click this icon to go to the wireless mode (band) configuration interface.
	About Click this icon to read more info about this driver.
	Help Click this icon to read the user guide of this wireless USB adapter.

⊚ Available Networks

The available networks that the wireless adapter scanning are displayed here. Select a wireless network and the details of the network will be displayed in "AP Information".

🔁 : Rescan button. Click it to update the network list.

🗎 : Add to a Profile. Clcik it to add a wireless network to a profile.
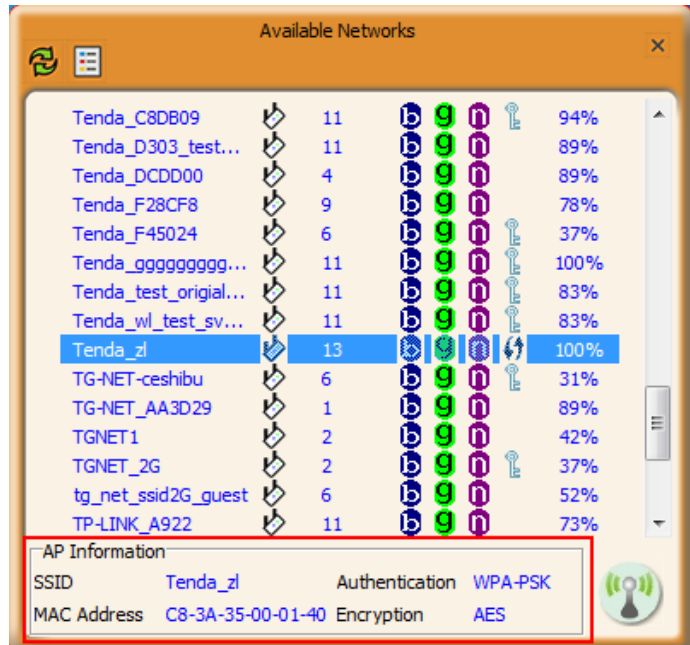
How to connect to an open (unencrypted) wireless network?

Select a wireless network which is unencrypted and click 📶 icon to connect it.

🔑 Key mark, which means the wireless network is secured.
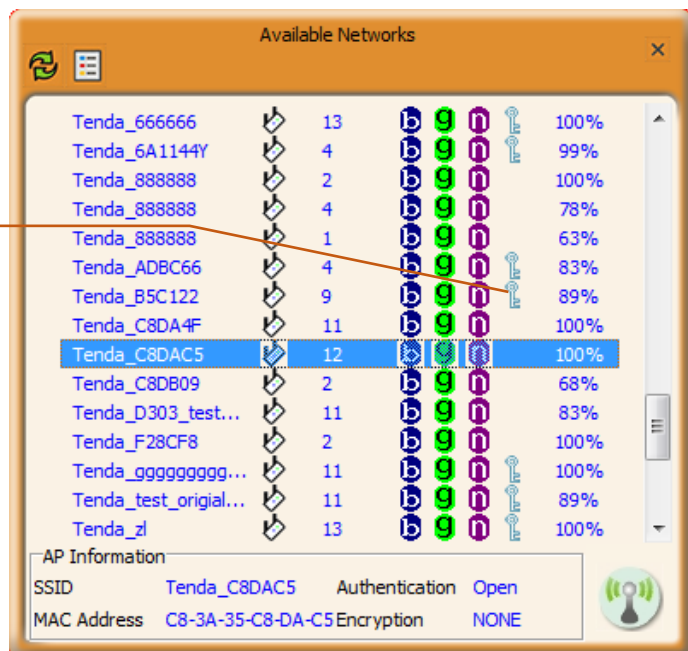
How to connect to an encrypted wireless network?

1. Select a wireless network (encrypted) from the available networks list and click icon. It will direct you to the interface below.
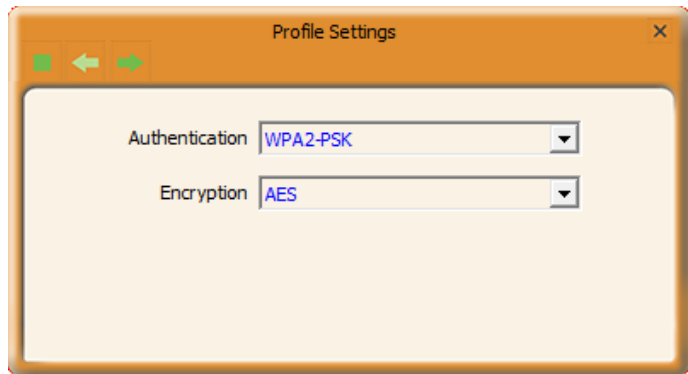
> **Authentication Knowledge:**
>
> **WEP:** Supports 10/26-bit Hex characters and 5/13-bit ASCII.
>
> **WPA-PSK:** Supports 8-63-bit ASCII and 8-64-bit Hex characters.
>
> **WPA2-PSK:** Supports 8-63-bit ASCII and 8-64-bit Hex characters.
>
> **WPA-PSK/WPA2-PSK:** Supports 8-63-bit ASCII and 8-64 -bit hex characters.
>
> The Hex characters consist of numbers 0~9 and letters a-f.
> ASCII characters consist of any Arabic digitals/letters and characters.

2. Click inco to enter the screen below where you are required to input wireless password.
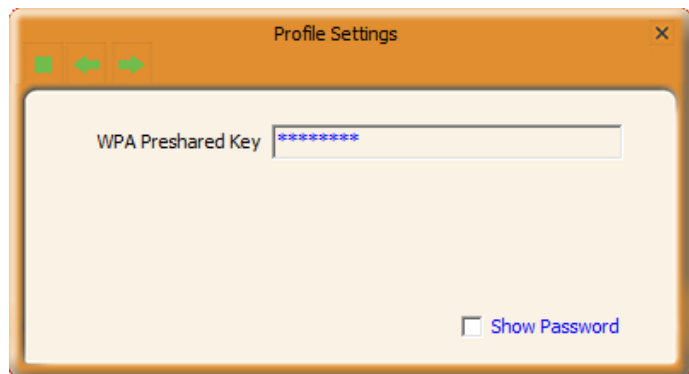
Connected successfully!

Indicates the current wireless network is encrypted.
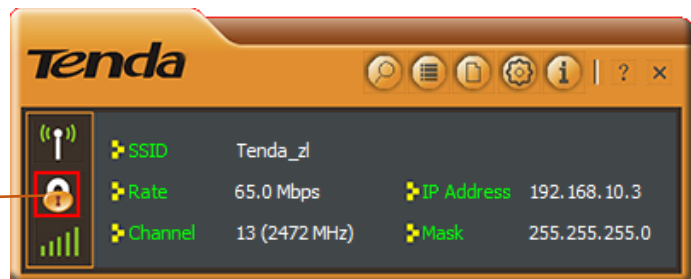
▦ Link Information

Link information displays the connection info of the linked wireless network.

📶: **Link Status**. Click it to view the linked wireless network info (SSID, MAC address, authentication, encryption, network type and channel). See below.

📈: **Throughput**. Click it view the link quality, link speed, throughput and the signal strength that the wireless adapter receiving.
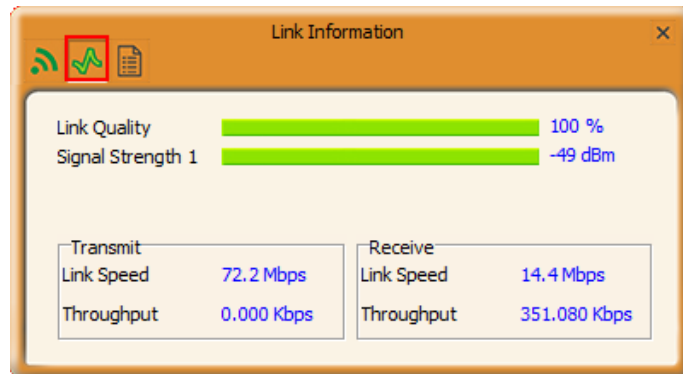
📄: **Statistics**. Statistics screen displays the total Rx and Tx data packets, including transmitted, retransmitted and fail to receive ACK after all retries.
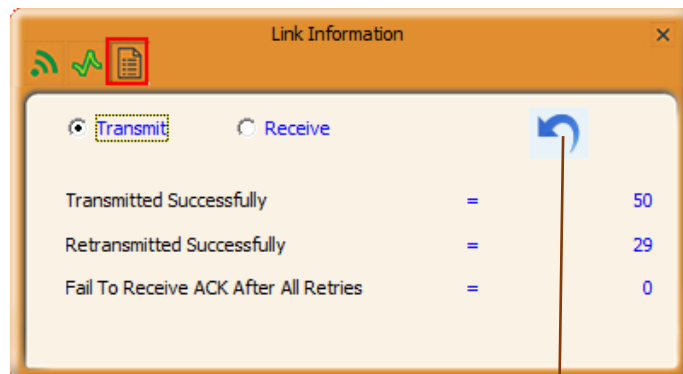
Reset counter. Click this icon to clear statistics.

Profile

Profile is used to save particular wireless network parameters. When the adapter is successfully connected to a network, the name of this network will automatically be added here, which helps the adapter to quickly connect to this wireless network again. However, there is one exception, when you have set to the hidden SSID, the SSID that cannot be scanned, then you must manually connect by adding the profile name. The main interface is as shown below.

: **Add**. To create a new profile.

: **Delete**. To delete the existing profile.

: **Edit**. To modify the existing profile settings.

: **Add WPS Profile**. It requires that the connecting wireless device supports the WPS function. WPS helps you to initiate wireless encryption and secure your wireless network quickly. See Connect to WiFi (Via WPS) for the detailed process.

Two network modes are available: **Infrastructure (Connect to AP)** and **Ad-Hoc (Connect to other computers)**.
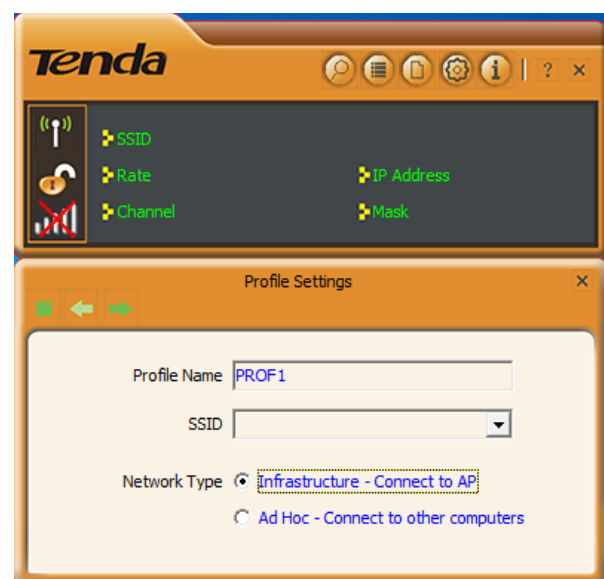
Infrastructure

Infrastructure is an application mode that integrates the wired and wireless LAN architectures.

When you are connecting the wireless adapter to an AP or a wireless router, select **Infrastructure** mode.

1. Click .

2. Select the network type as "Infrastructure".
3. Define the profile. (Optional)
4. Enter/Select the SSID you want to add it to a profile.
5. Click .

6. Select the authentication and encryption of the SSID added above. And click .
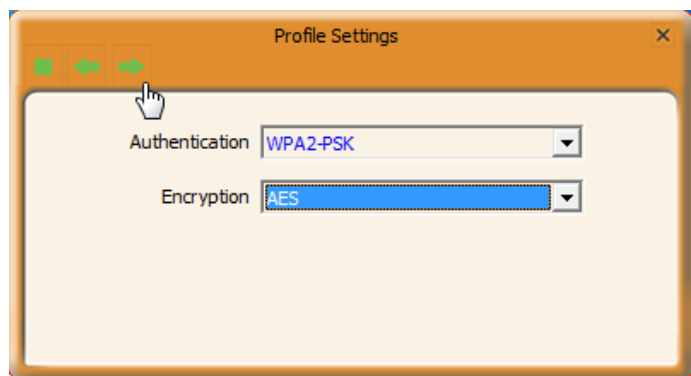
7. Enter the wireless password of the SSID and click .
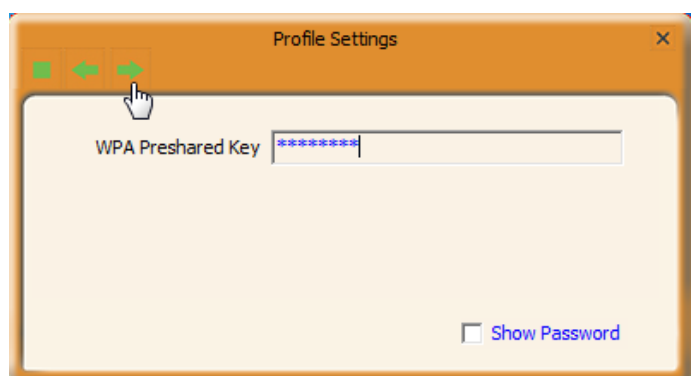
Added successfully!

Now you can click to connect the wireless network via the profile.
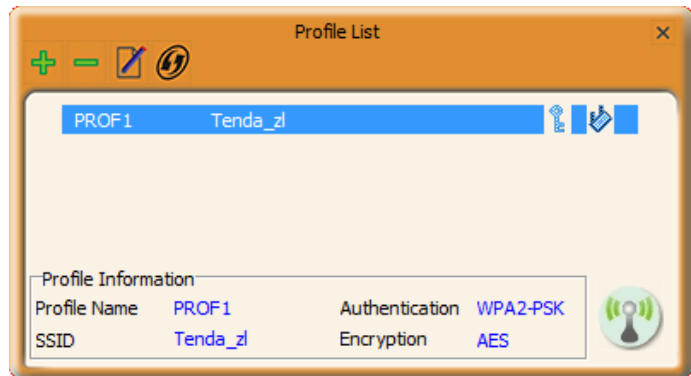
Ad-Hoc

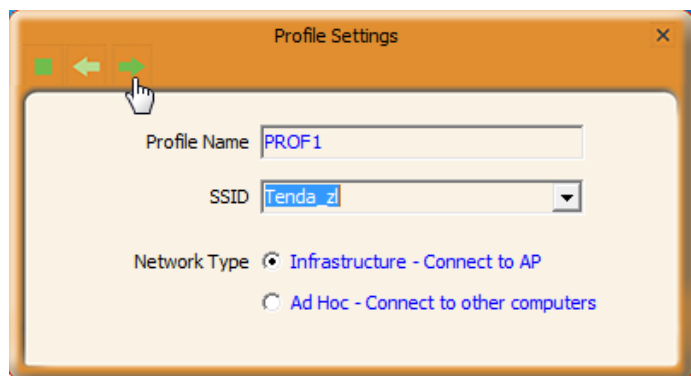Ad-Hoc is a special wireless mobile network application mode. All nodes in the network are equal. Usually it is used to do a resource sharing between LAN computers.

Using the Ad-hoc mode to establish a wireless network requires that each computer should be equipped with a wireless network adapter. By connecting these wireless adapters, computers are able to share the resources.

Note that Ad-Hoc feature is unavailable for Windows 8.

Instance

PC1 (Desktop) is sharing some files with PC2 (Desktop or Laptop). Now Ad-Hoc mode is working.

Process

1) Create a new Ad-hoc profile on the wireless adapter of PC1.

a. Click [+].
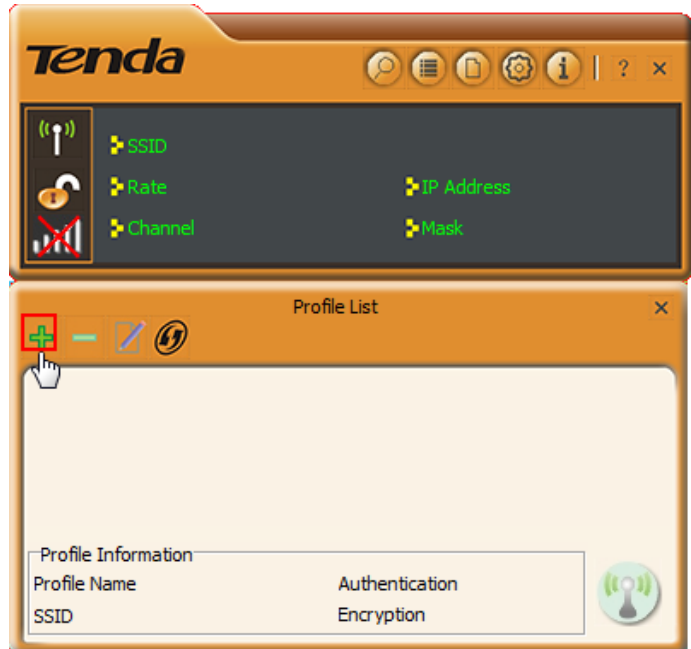
b. Select Ad-Hoc Network Type.

c. Define the profile. (**Optional**)

d. Specify a network name in the SSID field to identify the wireless network, like **Tenda**.

e. Configure the channel.

f. Click [→].
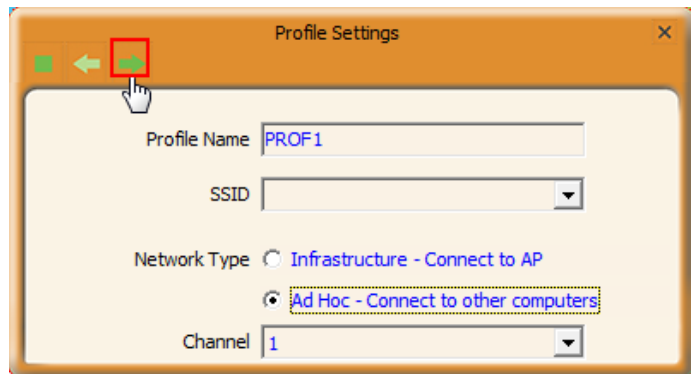
g. Configure the authentication and encryption type and click [→].
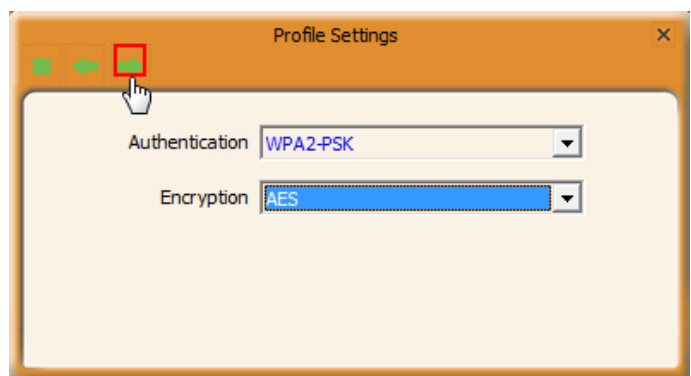
h. Configure the password for connection, and click ![arrow icon].
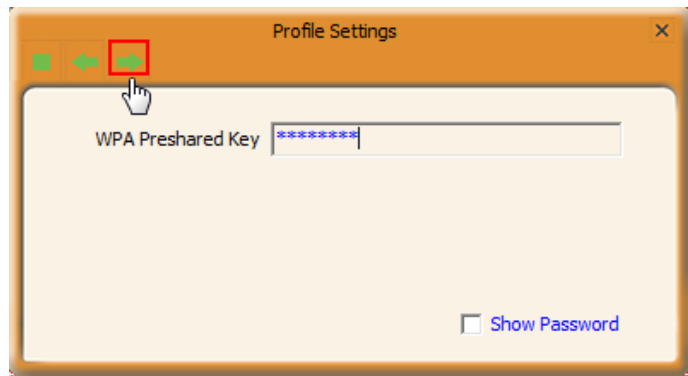
After a profile is successfully added, the profile can be seen on the profile list, select it and ![icon] icon on the lower right corner.
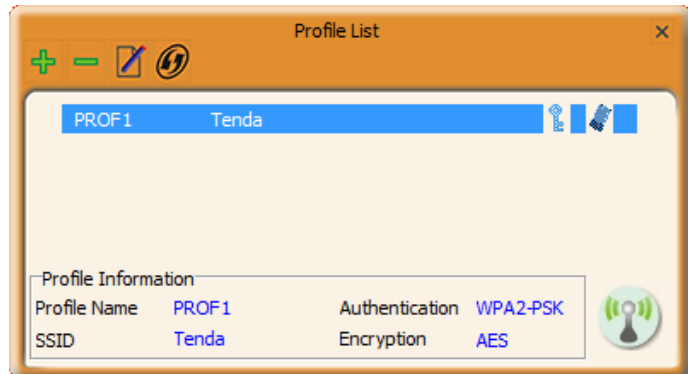
2) Configure a static IP address for the wireless adapter of PC1.

You must allocate a static IP for each wireless adapter to be connected in Ad-hoc mode.

a. Right click ![icon] on the lower right corner of your computer's desktop and click **Open Network and Sharing Center**.
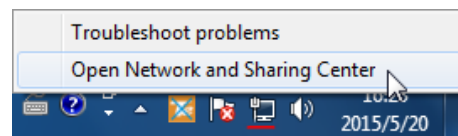
b. Click **Change adapter settings**.

29
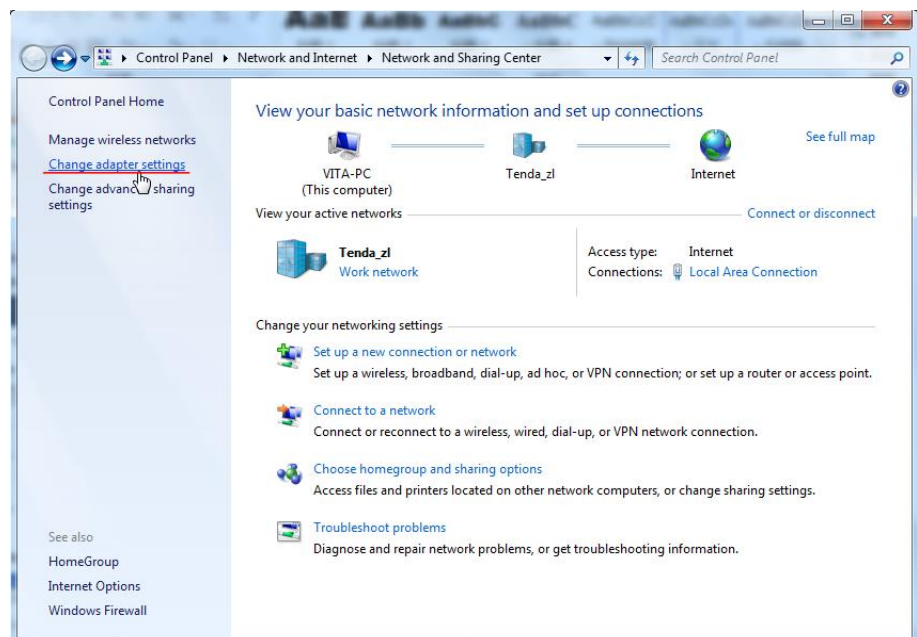
c. Right click **Wireless Network Connection** and select **Properties**.
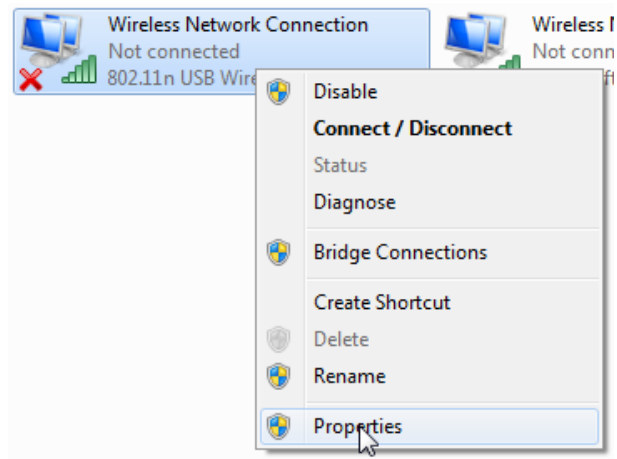
d. Double click Internet Protocol Version 4 (TCP/IPv4).
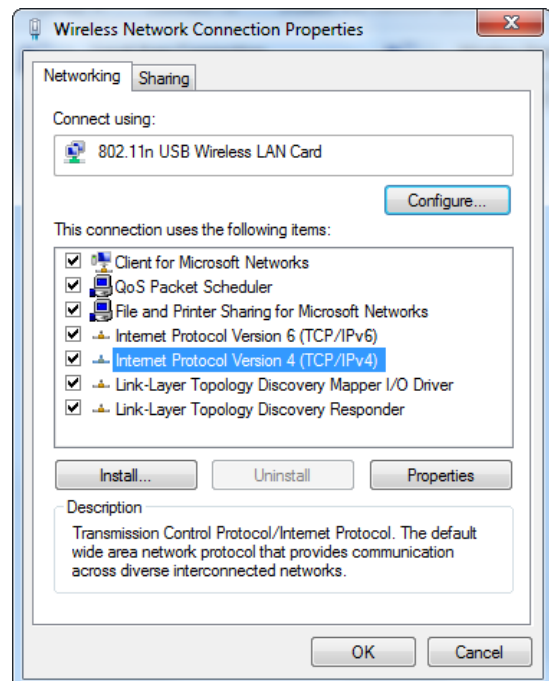
e. Configure an IP address as you like, such as 192.168.1.6. And click **OK** to save.
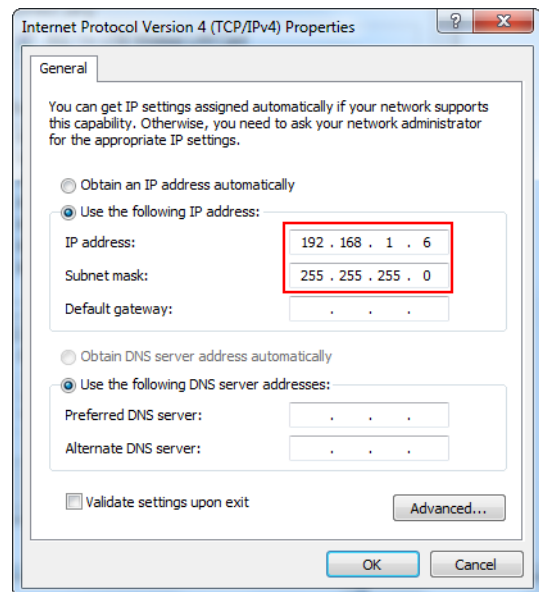
3) Configure a static IP address for wireless adapter of PC2. Configure the wireless adapter of PC2 a static IP address which is in the same network segment with that of PC1. For example, IP address of PC1's wireless adapter is 192.168.1.6; then you should set that of PC2 to be 192.168.1.x (x can be any number from 2~255).

4) Connect the SSID you have set to PC1's wireless adapter. (Windows 7)

1. Left click **Network** (or) icon on the lower right corner of desktop to display the available wireless network.

2. Select the wireless network you set (Here is **Tenda**), click **Conncet** and do as the screen prompts.
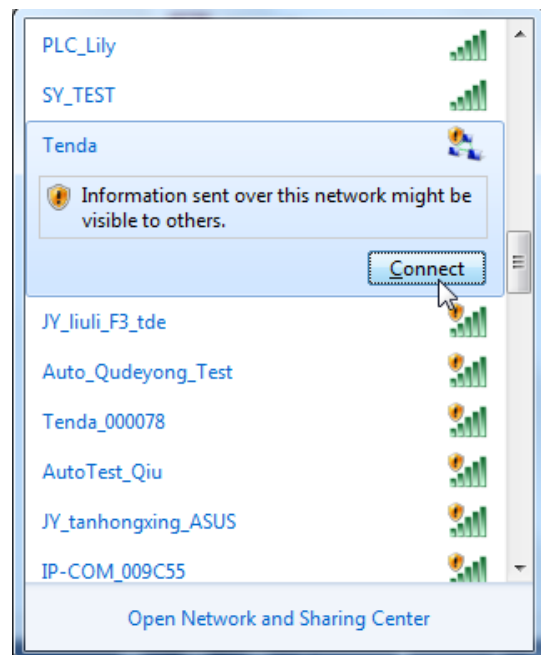
Connected successfully! And you can share the file with PC1.
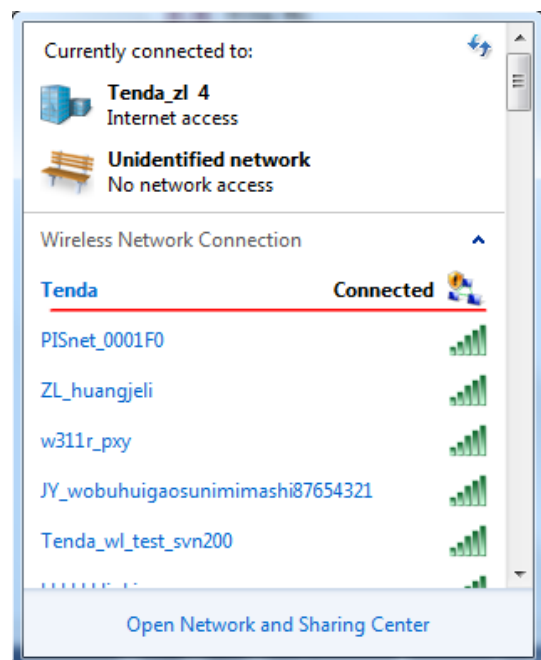
 Advanced

This wireless adapter supports 2.4GHz.

 About

This screen mainly displays the version information of the UI's different programs as well as Tenda's copyright statement.
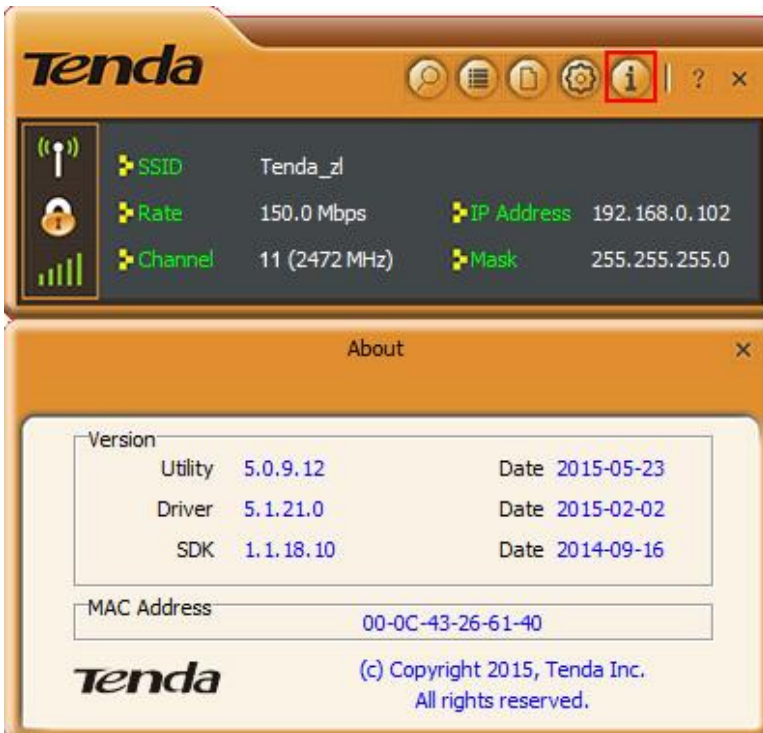
? Help

Click ? icon to read the user guide of this wireless adapter.
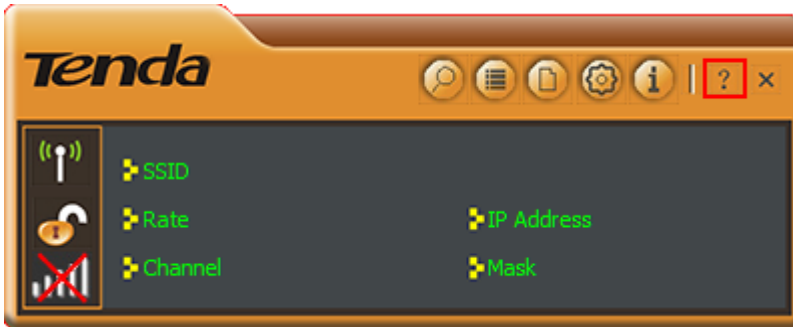
4.2 AP Mode

In AP mode, the wireless adapter servers as an access point to transmit wireless signal and create a wireless network, allowing other wireless clients to access the network.

Right click the UI icon on the taskbar of your computer desktop and select "Switch to AP Mode".
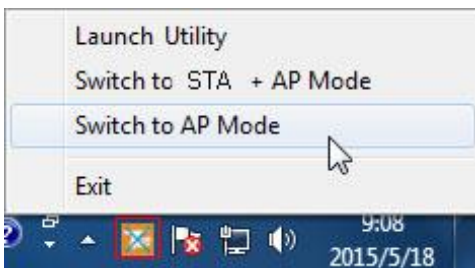
The main interface of AP mode is different from that of STA mode.
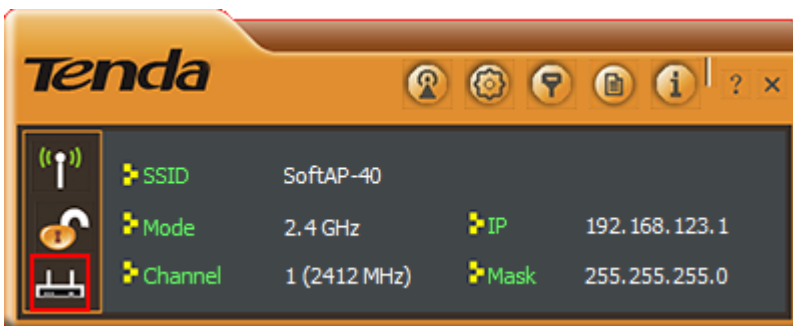
When it is switched to AP mode, the wireless adapter will automatically set its IP address as 192.168.123.1, and other clients that connected to this AP will automatically obtain the IP addresses of: 192.168.123.X (X is any integer from 2 to 254).

AP Setup

Here you can set the basic AP info of the wireless adapter, including SSID (Default: **SoftAPxx**), wireless mode, channel (Default: **1**), authentication type and encryption type.

: **Cancel**. Click this icon to cancel current operation.

: **Back**. Click this icon to return to the previous operation.
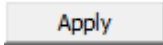
: **Next**. Click this icon to go to the next operation.
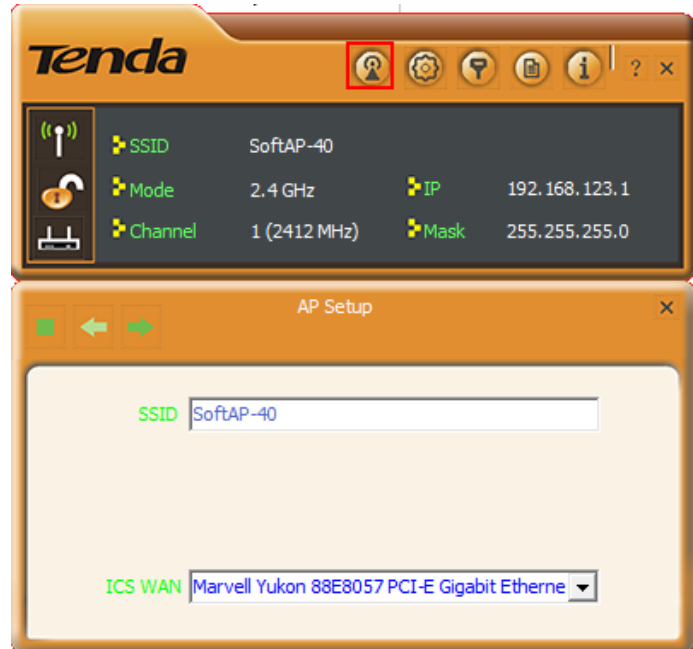
Advanced

Here you can set the advanced parameters of the wireless adapter when working in AP mode.

No forwarding among wireless clients: This feature isolates the communications among the wireless clients that are connected to the wireless adapter (in AP mode).

: Click this button to save and apply your settings.

⊕ Access Control

Access Control is based on the MAC address to allow or prohibit a specified client's access to this wireless network.

Access Policy:

- **Disable**: To disable the filter function.
- **Allow All**: To permit all hosts whose MAC addresses are included in the list to access the wireless network, other hosts whose MAC addresses have not been added to the list will be prohibited by default.
- **Reject All**: To prohibit all hosts whose MAC addresses are included in the list from accessing the wireless network, other hosts whose MAC addresses have not been added to the list will be permitted by default.

MAC Address: To input the client's MAC address you want to filter in this field.
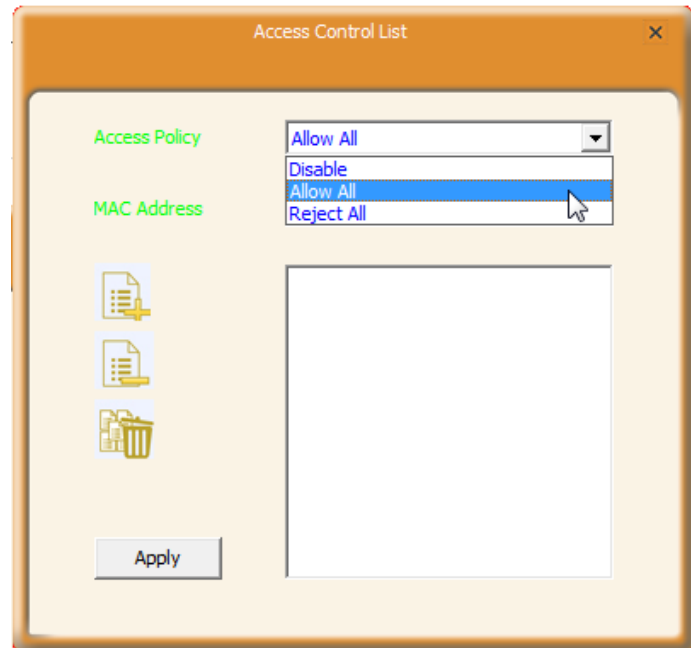
📄: **Add**. To add the MAC address to the list.

📄 : **Delete**. To delete an existing MAC address in the list.

🗑 : **Remove All**. To delete all clients' MAC address in the list.

How to set the wireless client access rights?

Instance

For your wireless network security, you set your own PC (whose MAC address is 44-37-E6-36-FB-25) to access the wireless network of the adapter.

Process

1. Enter the MAC address of your own PC into the MAC address field.
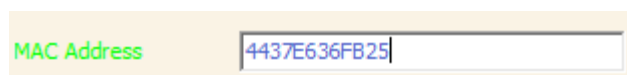
2. Click icon to add it into the list.

3. Click icon to save and apply your settings.

> If you want to do access control for multiple clients, just repeat **steps 1 to 3**.
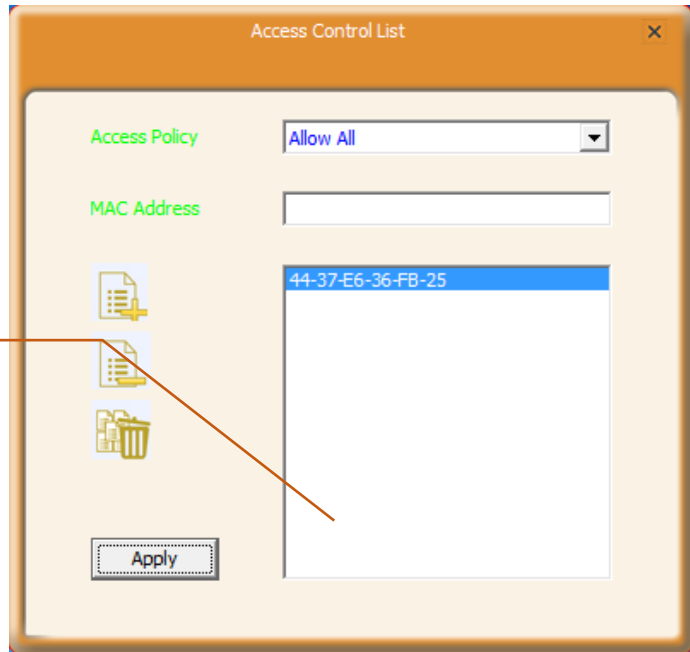
Connected Devices

When a client connects to this wireless adapter (AP mode) and has successfully obtained an IP address, the client's MAC address and Tx Rate can be recorded here.
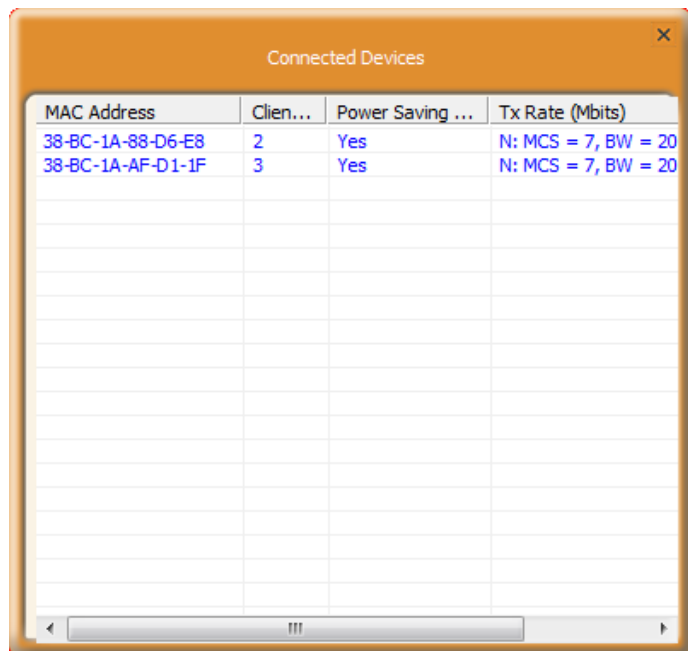
4.3 STA+AP Mode

In STA+AP mode, the wireless adapter can serve as a client to receive wireless signal from a wireless router or AP; also it can serve as an AP to send wireless signal for other wireless clients connecting. Note that this mode is available for **windows 7 or higher version OS**.

1. Right click icon on the taskbar and select **Switch to STA+AP Mode**.
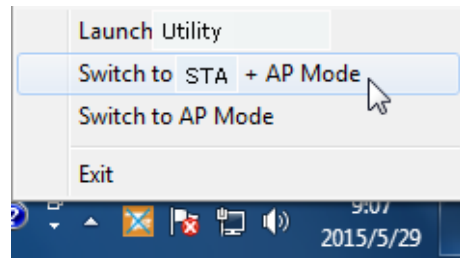
2. Set the SSID and its password if the wireless adapter works as an AP. And click **OK** to apply the settings.
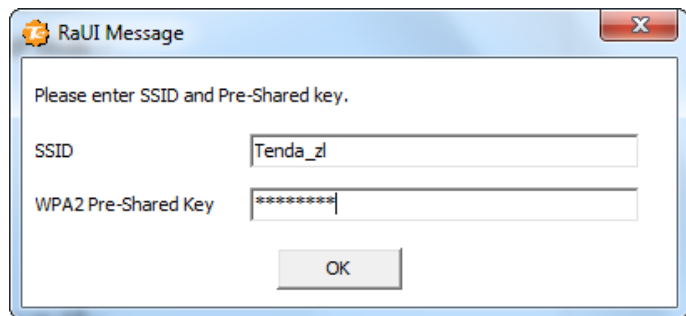
It comes to the main STA+AP mode interface.
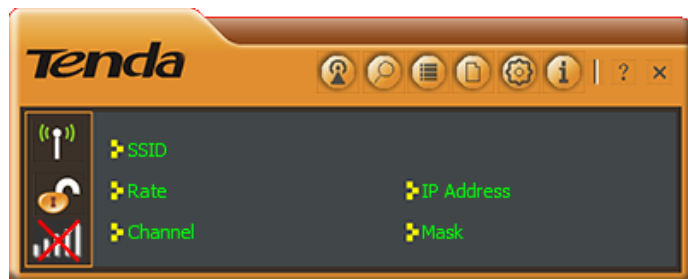
AP

Here you can configure AP parameters of this wireless adapter and check the connected wireless clients.

: **AP configuration**

SSID: Configure the wireless network name of AP.

WPA2 Pre-Shared Key: Configure the wireless password.

ICS WAN: Select a WAN for Internet sharing.

: **MAC Table**

BSSID is the wireless MAC address of the AP.

In MAC table, the MAC info of clients connecting

to the AP will be displayed here.
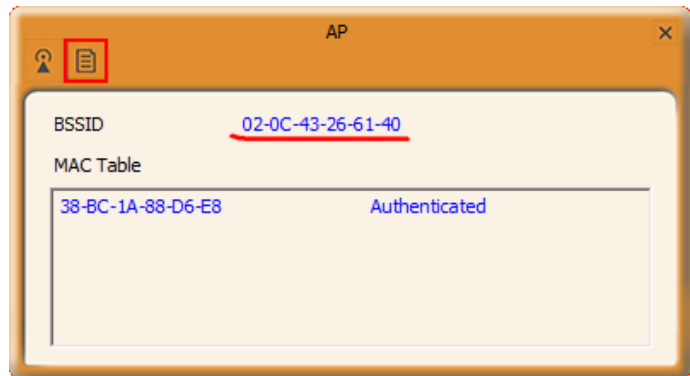
Note

Other icon features are most similar to that of STA

mode and AP mode. Please take the responding for

references.

Appendix 1 Disable Other Wireless Adapter

Windows 7 is used as a guide to illustrate details. If you are using other operation systems, take that of Windows 7 for reference.

1. Right click "Computer" and select "Manage".
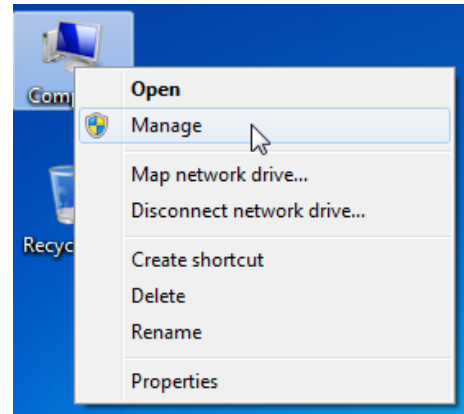
2. On the Computer Management screen, select "Device Manager" — "Network adapters", and right click the network adapter you want to disable and click "Disable".
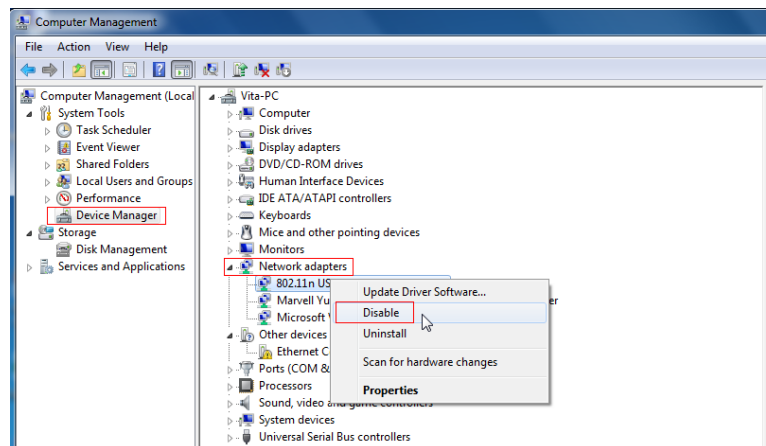
3. Click the "Yes" on the dialogue box to disable the network adapter.
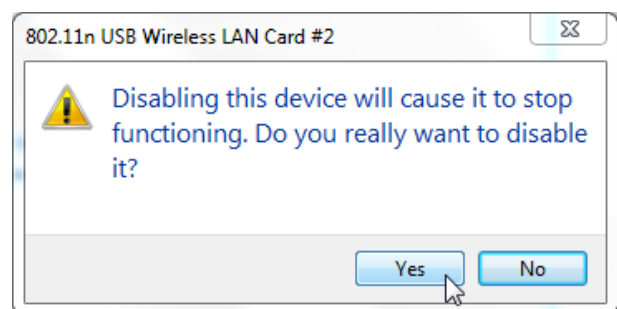
Appendix 2 WPS Profile

WPS Profile settings in **Type PIN below** Method can help customize a profile.
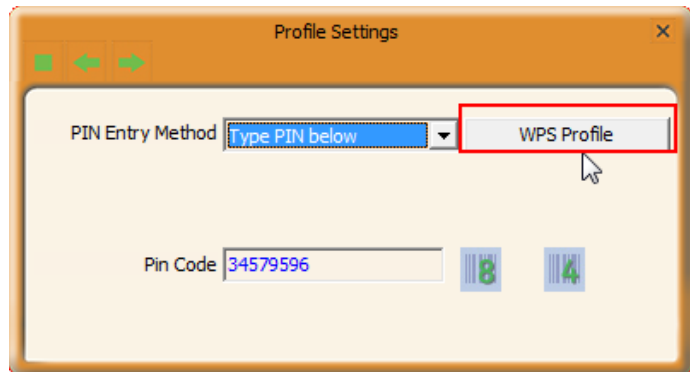
Customize the SSID as you like (Default SSID: ExRegNW266140); also, you can change the authentication and encryption.

Click ➡ to continue.
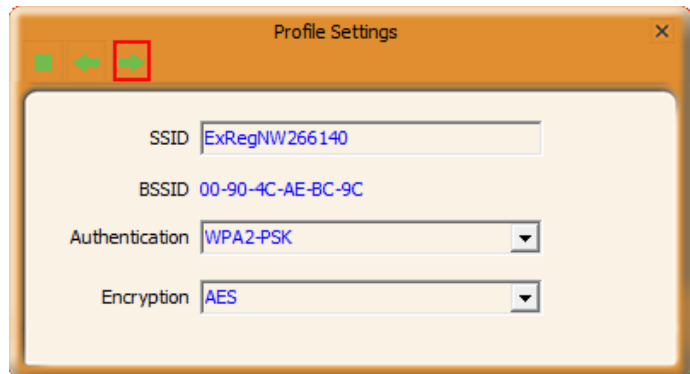
Customize the wireless password and click ➡ to continue.
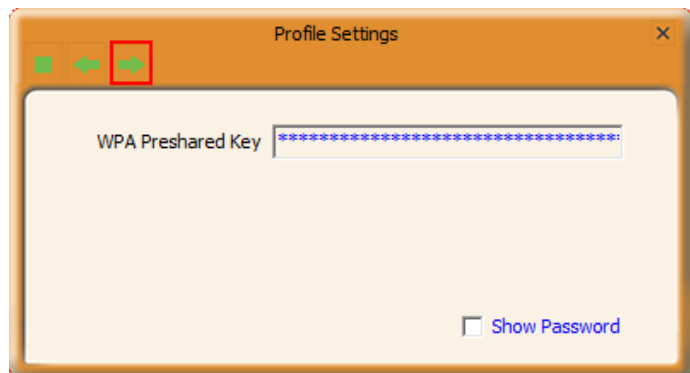
Click **Start PIN** to PIN.
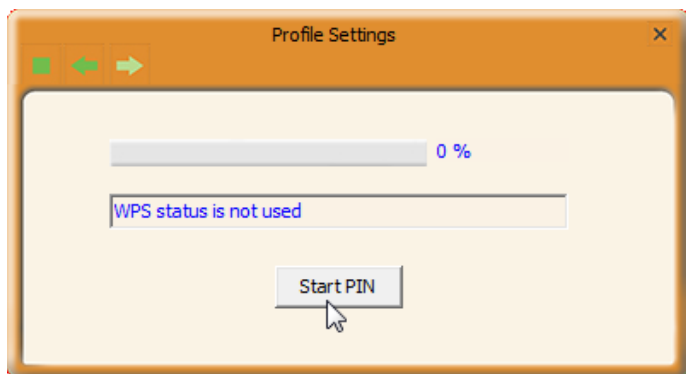
Connected successfully!

Note

Note that after you have set the WPS profile,
the wireless info you have customized above
will be applied to the remote AP (or router).

Appendix 3 Safety and Emission Statement

$C \in$

CE Mark Warning

This is a Class B product. In a domestic environment, this product may cause radio interference, in which case the user may be required to take adequate measures. This device complies with EU 1999/5/EC.

NOTE: (1) The manufacturer is not responsible for any radio or TV interference caused by unauthorized modifications to this equipment. (2) To avoid unnecessary radiation interference, it is recommended to use a shielded RJ45 cable.

FC

FCC Statement

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.
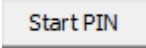
This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one of the following measures:

— Reorient or relocate the receiving antenna.

— Increase the separation between the equipment and receiver.

— Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

— Consult the dealer or an experienced radio/TV technician for help.

FCC Caution: Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

The manufacturer is not responsible for any radio or TV interference caused by unauthorized modifications to this equipment.

Radiation Exposure Statement

NOTE: (1) The manufacturer is not responsible for any radio or TV interference caused by unauthorized modifications to this equipment. (2) To avoid unnecessary radiation interference, it is recommended to use a shielded RJ45 cable.