

# User Guide

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W54U Wireless USB Adapter

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## Chapter 1 Introduction

W54U Wireless USB Adapter complies with IEEE 802.11g and IEEE 802.11b standards, providing up to 54Mbps wireless transmission rate which is 5 times the common 802.11b products. It supports 64/128-bit WEP, WPA/WPA-PSK, WPA2/WPA2-PSK encryption and 802.1x security authentication mechanism to protect your network security. Besides, built-in omni-directional smart antenna frees you from wired cables, which allow you to share the Internet access anywhere, files and fun, easily and securely.

### 1.1 Product Features

- Supports IEEE 802.11g and IEEE 802.11b standards
- Provides two work modes: Ad Hoc Mode and Infrastructure Mode
- Provides up to 54Mbps transmission rate and up to 300 meters transmission distance
- Detects the wireless network and changes the wireless transmission rate automatically
- Supports 64/128-bit WEP, WPA/WPA-PSK, WPA2/WPA2-PSK data encryption, and 802.1x security mechanism to protect your network security
- Provides easy configuration utility and monitor program, and supports Wireless Roaming function
- Easy-to-use and UPnP supported

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## 1.2 Product Deployment

54Mbps wireless USB Adapter offers fast, reliable and cost-effective solution for wireless access. Deployment as follows:

1. For staff who requires higher mobility in the office, they want to have access to traditional wired or wireless network in any place of the company
2. Enterprise or individual who requires often changes in layout of network cables
3. Companies or places which are not suitable for LAN cable laying out because of budget or objective building, including places of great interests, rent places or places for short-term usage
4. Company or individual who avoids using expensive cables, renting cables or renting rights for access.

## 1.3 Package Contents

Unpack the packets, and please find the following items:

- One 54M Wireless USB Adapter
- One CD-ROM

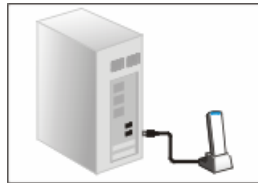
# Tenda® 54M Wireless USB Adapter User Guide

## Chapter 2 Installation Guide

This chapter is to assist you how to use included the CD-ROM which comprises the Setup Wizard and the Client Configuration Software.

The following steps on Setup Wizard are taken the Windows XP as example.

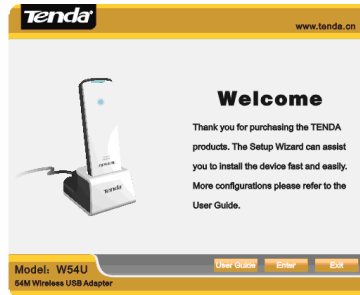
1. Please insert the Wireless USB Adapter into the USB port of your computer.



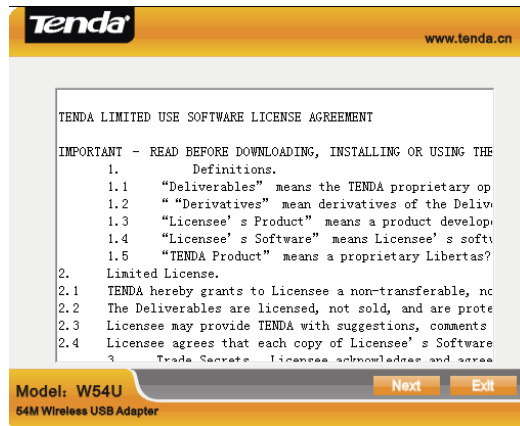
2. "Found New Hardware" system dialogue appears, and selects "Cancel".



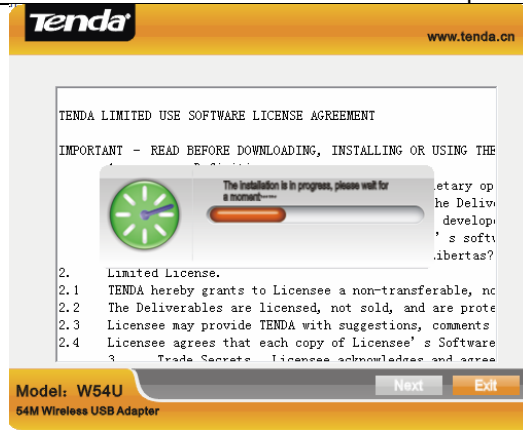
3. Insert the included CD-ROM into the CD-ROM drive of your computer, and the Welcome screen appears. (If not appear, double click the "Setup" icon.)



4. Click "Next".



5. After you read the Copyright Statement, click "Next".



6. If there is no wireless USB adapter or incorrect connection, the “No wireless USB Adapter detected” appears. Please follow the figure shown to connect the USB.

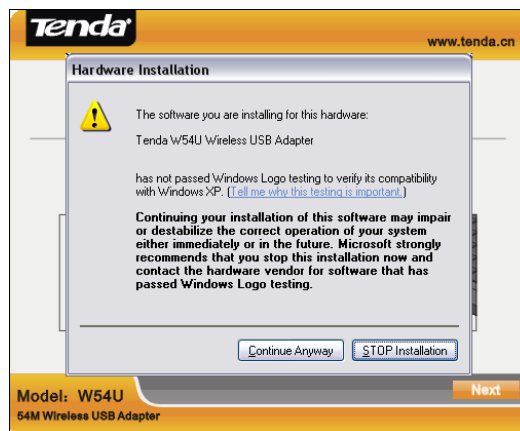


7. Click “Next”, and the installation is in progress.

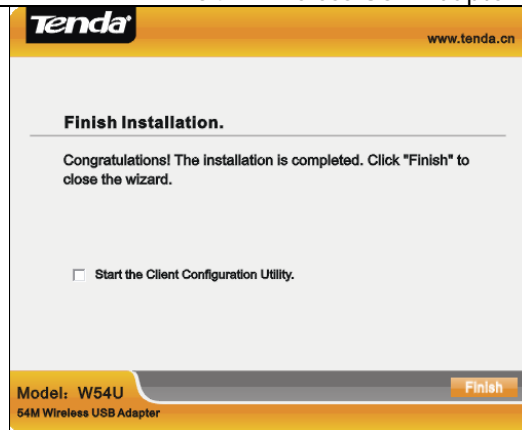




8. During the installation, the following dialogue maybe appears. Click the "Continue Anyway" to continue. There is no security threat to your computer.



9. Click "Finish" to complete the installation.

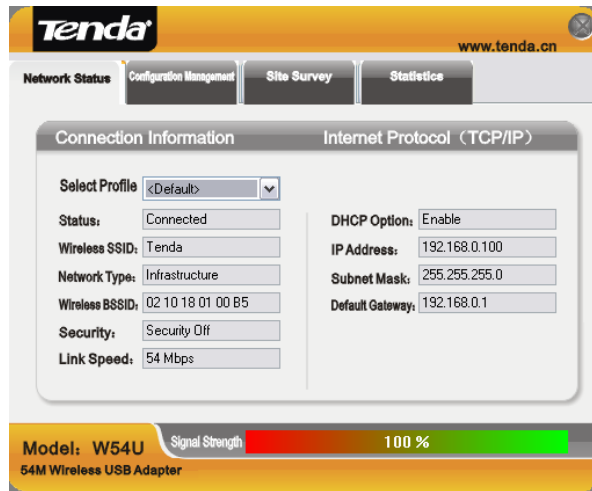
**Note :**

If your operating system is Windows 98 or Vista, you need select the corresponding driver file on CD-ROM to install it manually.

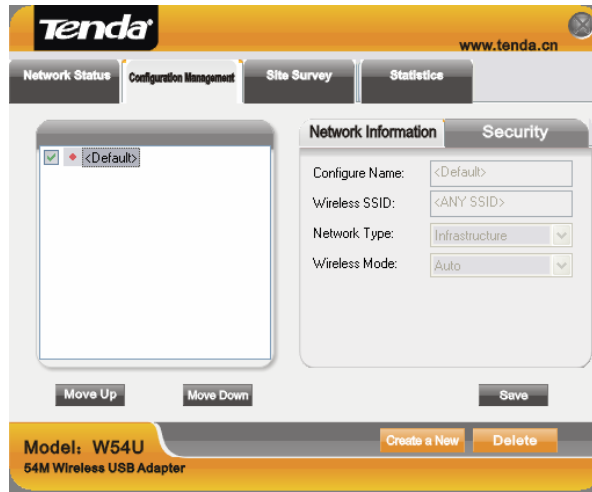
## Chapter 3 Client Configuration Software

This software is for the W54U Wireless USB Adapter management. If it does not appear, select “Start”—“All Programs”—“TENDA”—“W54U”.

### 3.1 Network Status



The current Network Status of the Wireless USB Adapter



In this screen, you allow to create new profiles for different network requirements and save them.

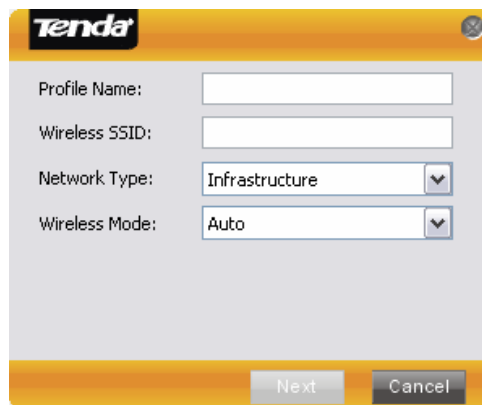
**Create a New:** click this button to create new profiles for Infrastructure mode and Ad-Hoc mode.

**Ad-hoc Mode:** allows joining one BSS (Basic Service Set) (Usually Point to Point) and do not need access point.

**Infrastructure Mode:** allows joining one ESS (Extended Service Set) and needs access point.

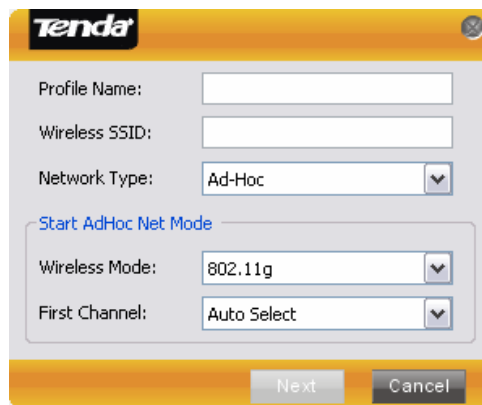
**Delete:** select one configuration profile to delete it.

**Save:** click to save any modification and setting for the configuration profile.



The screenshot shows a configuration window titled 'Tenda' with a yellow header. It contains four input fields: 'Profile Name' (text box), 'Wireless SSID' (text box), 'Network Type' (dropdown menu set to 'Infrastructure'), and 'Wireless Mode' (dropdown menu set to 'Auto'). At the bottom, there are two buttons: 'Next' and 'Cancel'.

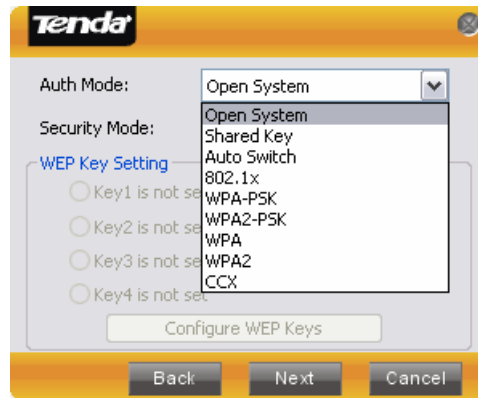
Infrastructure Mode



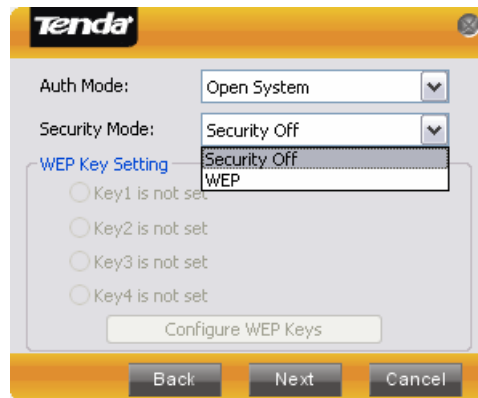
The screenshot shows a configuration window titled 'Tenda' with a yellow header. It contains five input fields: 'Profile Name' (text box), 'Wireless SSID' (text box), 'Network Type' (dropdown menu set to 'Ad-Hoc'), 'Wireless Mode' (dropdown menu set to '802.11g'), and 'First Channel' (dropdown menu set to 'Auto Select'). A blue link 'Start AdHoc Net Mode' is located above the 'Wireless Mode' field. At the bottom, there are two buttons: 'Next' and 'Cancel'.

Ad-Hoc Mode

If the Infrastructure mode is selected, give a name to the configuration profile and click "Next". The Security screen will appear.

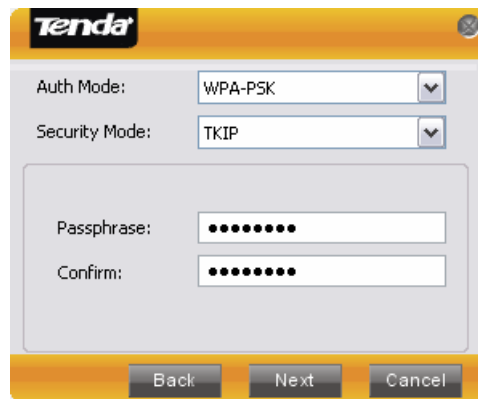


Select one authentication mode



Select one encryption method

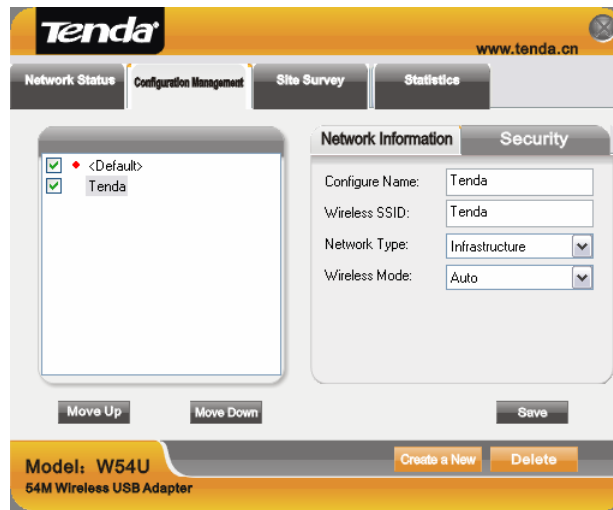
Take Infrastructure mode for example: select Authentication Mode/WPA-PSK, Encryption Method/TKIP, and enter the Passphrase.



Click "Next" and "Finish" to complete the configuration.



Back to “Configuration Management” screen and you can find the configured profile is displayed in the left textbox.



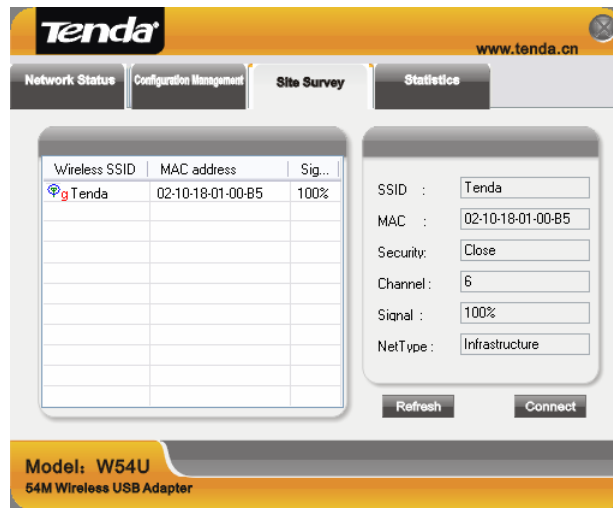
**Note:**

- 1. A SSID is the public name of a wireless network. Only the same SSID can communicate with each other on a WLAN.**
- 2. You need to know and keep the same authentication mode and encryption method on a WLAN.**



### 3.3 Site Survey

Site Survey lists other wireless device's status, including the SSID, Signal Strength, Channel and MAC Address and so on as shown below.



**Refresh:** click it to update the current wireless information scanned.

**Connect:** select one wireless network scanned in the list, and click "Connect" to start the wireless network connection.

### 3.4 Statistics

It is about the traffic statistics of wireless network. From this screen, you can know the general transmitted/received data information.

Transmitted		Received	
Element	Data	Element	Data
Total Packet	462	Total Packet	3568
Unicast Packet	462	Unicast Packet	3521
Multicast Packet	0	Multicast Packet	47
Single Retries	0	Duplicate Frame	42
Multiple Retries	0	Received Beacons	2979
Failed Count	0	Beacon Loss	3
RTS Success	0		
RTS Failure	0		
ACK Error	0		

Model: W54U  
54M Wireless USB Adapter

**Appendix One: Acronyms and Terms**

<b>WLAN</b>	Wireless Local Area Network
<b>802.11</b>	A family of specifications developed by the IEEE for WLAN technology.
<b>802.11a</b>	An extension to 802.11 WLAN standard that provides up to 54 Mbps transmission in the 5 GHz UNI radio band.
<b>802.11b</b>	An extension to 802.11 WLAN standard that provides up to 11 Mbps transmission in the 2.4 GHz ISM radio band. 802.11b uses DSSS modulation.
<b>802.11g</b>	An extension to 802.11 WLAN standard that provides up to 54 Mbps transmission in the 2.4 GHz ISM radio band. 802.11g uses OFDM modulation and is backwards compatible with 802.11b.
<b>Ad-Hoc</b>	A group of computers each with wireless adapters, connected as an independent WLAN.
<b>AES</b>	Advanced Encryption Standard
<b>BSSID</b>	Basic Service Set ID
<b>DHCP</b>	Dynamic Host Configuration Protocol
<b>DSSS</b>	Direct Sequence Spread Spectrum. DSSS is one of two types of spread spectrum radio. The other is frequency-hopping spread spectrum(FHSS).
<b>QoS</b>	Quality of Service

<b>OFDM</b>	Orthogonal Frequency Division Multiplexing
<b>RADIUS</b>	Remote Authentication Dial In User Service
<b>RTS</b>	Request to Send
<b>SSID</b>	Service Set Identifier. A 32-character unique identifier attached to the header of packets sent over a WLAN that acts as a password when a mobile device tries to connect to the BSS.
<b>TCP/IP</b>	Transmission Control Protocol/Internet Protocol
<b>TKIP</b>	Temporal Key Integrity Protocol
<b>WDS</b>	Wireless Distribution System
<b>WEP</b>	Wired Equivalent Privacy. A security protocol for WLANs defined in the IEEE 802.11 standard.
<b>WPA</b>	Wi-Fi Protected Access
<b>WPA2</b>	Wi-Fi Protected Access 2. The next generation of Wi-Fi security, based on the 802.11i standard.
<b>WPA2-PSK</b>	Wi-Fi Protected Access 2-Pre-shared Keys
<b>WPA-PSK</b>	Wi-Fi Protected Access-Pre-shared Keys

**Appendix Two: Product Specification**

Standard	IEEE802.11g, IEEE802.11b,
Port	USB1.1,USB2.0
Frequency Range	2.4 ~ 2.4835GHz
Transmission Rate	54 Mbps, 48 Mbps, 36 Mbps, 24 Mbps, 18 Mbps, 12 Mbps, 9 Mbps, 6 Mbps, 11 Mbps, 5.5 Mbps, 2 Mbps, 1 Mbps
Antenna Gain	2dbi
Transmission Power	Max. 20dbm
Modulation Method	OFDM, CCK
Working Temperature	0 ~ 55
Storage Temperature	-20 ~ 65
Working Humidity	10% ~ 90% RH non-condensing

## **statement**

The product has two parts which are wire stock and USB Dongle. They connect with each other by glue permanently and fixedly, customer cannot separate them. The length of USB line is 0.8 meter.

### **\*\*\* Caution \*\*\***

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.

Changes of modifications not expressly approved by the party responsible for compliance could void the user 's authority to operate the equipment.

## **FCC statement**

Note: 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 or more 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 RF Radiation Exposure Statement:**

This equipment complies with FCC RF radiation exposure limits set forth for an uncontrolled environment. This device and its antenna must not be co-located or operating in conjunction with any other antenna or transmitter.

“ To comply with FCC RF exposure compliance requirements, the antenna used for this transmitter must be installed to provide a separation distance of at least 20 cm from all persons and must not be co-located or operating in conjunction with any other antenna or transmitter”.