

SAGEM Wi-Fi 11g USB ADAPTER

Quick Start Guide

About this guide

This Quick Start Guide describes how to install and operate your SAGEM Wi-Fi 11g USB ADAPTER. Please read this manual before you install the product.

Introduction

The SAGEM Wi-Fi 11g USB ADAPTER is a network adapter with a rate of 54 Mbps to 1 Mbps operating in the 2.4 GHz band implementing the IEEE 802.11b/g standard.

Its USB port is USB 2.0 compliant

It fully supports wireless networking under Windows 98SE/ME/2000/XP.

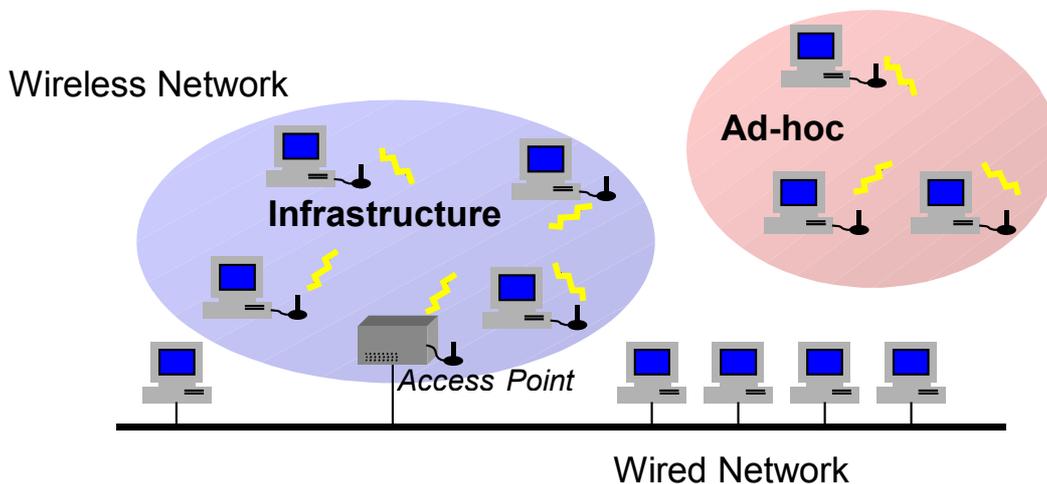
The Wireless LAN (Local Area Network) USB adapter can be operated in one of the two following networking configurations :

1. Infrastructure Networking

In this mode, the radio links are coordinated by an **Access Point** enabling to access an existing wired network and/or enabling to access to network resources such as Internet, email, file transfer...

2. Ad-hoc Networking

Also known as a peer to peer network, this mode allows wireless to wireless connection, enabling all workstations to act as servers to all others. This mode can be used to share a printer or for file transfer.

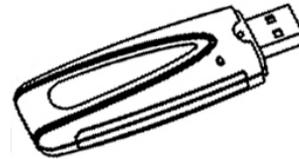


Package Content

These are the items included in the package:

- ◆ One SAGEM Wi-Fi 11g USB ADAPTER

- ◆ One USB Cable
- ◆ One Quick Start Guide
- ◆ One installation CD-ROM



Minimum System Requirements

- ◆ PC Computer with an available USB port.
- ◆ Compatible with USB 1.1 port
- ◆ Microsoft Windows 98 Second Edition, Windows Millennium, Windows 2000 or Windows XP installed on the PC.

Installation of the Wireless LAN Software

The installation of your LAN USB adapter requires three steps:

- ◆ Installation of the software
- ◆ Installation of the hardware
- ◆ Configuration of the wireless connection

Installation of the software



Warning: It is necessary to install the Wireless LAN Software **BEFORE** to insert the USB adapter in the appropriate USB port of your computer.

The first step consists in copying on your hard disk all the necessary files for your new equipment. For that, please follow the next instructions:

1. Insert the Product CD-ROM into the CD-ROM drive of your computer.

2. An Auto-run is automatically executed and the following screen comes up. If not, run the **Autorun.exe** on the CD-ROM

The menu offers the following choices :

Install the Wireless LAN Utility and driver

Read the present manual

To launch the installation, click **Wi-Fi adapter install**



A first screen shows up. Click **Continue** to continue. Follow the on-screen instructions to install the Wireless LAN Utility.

When this screen shows up, go to the next chapter to execute the hardware installation of your SAGEM Wi-Fi 11g USB ADAPTER, then click on **OK**.



Hardware Installation

After having copied all necessary files in the previous step, we will now connect the Wireless LAN.

Insert the USB connector of the adapter in an USB port  on your computer or use the USB cable included in your package, if it is impossible to connect the USB adapter directly on your computer.

Important remark under Windows 98SE

- ◆ If the **Please insert the disk labeled Windows 98SE/ME CD-ROM**, and then click **OK** Window appears, insert your Windows CD-ROM and enter the path corresponding to the CD-ROM drive then click **OK**. Click **Finish** to complete the installation, which will restart Windows.

Configuration of your Wireless LAN USB to access to Internet

After the two previous steps completion, your Wireless USB LAN adapter is now installed. You now have to configure your connection to be able to access via an access as seen below.



To do that, you will have to:

- ◆ Launch the WLAN Utility management software
- ◆ Configure your adapter in Infrastructure Mode
- ◆ Set the SSID of the wireless network on which you want to attach
- ◆ Configure the encryption parameters if you want to protect your wireless network

Internet access configuration

At first, you must verify that the computer, where you have installed your USB adapter is configured in DHCP (dynamic address) :

- ◆ In the **Network Connection** tab of the **Control Panel** menu, click on the **TCP/IP protocol** of the Wireless network connection (SAGEM Wi-Fi 11g USB ADAPTER).
- ◆ Select **Obtain an IP address automatically** in the IP Address tab.

Open the WLAN utility

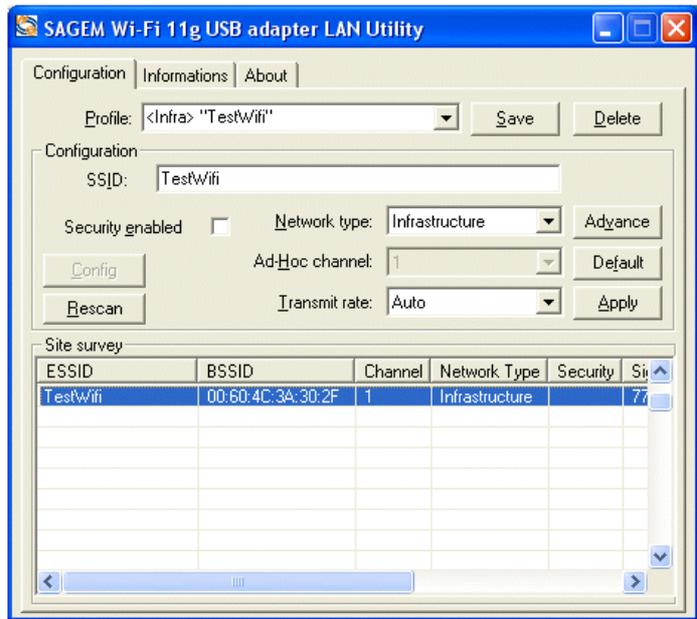
To open the WLAN utility, you have two possible choices:

- ◆ Select the **SAGEM Wi-Fi 11g USB adapter LAN Utility** from the **Start Menu** of Windows,
- ◆ Or double-click the corresponding icon laying on the Windows desktop :



The icon then appears in the System Tray (in the bottom right corner of your task bar).

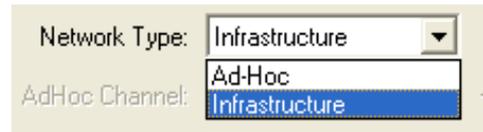
Double-click this icon and the main screen of the Utility shows up as seen opposite.



Configuration of your Wireless LAN adapter in Infrastructure Mode

To access Internet your Wireless LAN adapter must be set in Infrastructure Mode as seen below.

In the main screen of the Utility, click the down arrow at the right of the **Network Type** field and select **Infrastructure**



Selection of the SSID

The SSID is a string of characters identifying a wireless network (it is the name of this network). To belong to a same wireless network, the client stations and the access point (connected to the Internet) have to use the same SSID.

If you keep the SSID field to empty (default value), your adapter will attach itself to the nearest access point (or to the one sending the higher radio signal).



If you know the name of the access point you want to associate with, enter this SSID in the corresponding field and then click **Apply** button to make the setting take effect. Or double click on **Site Survey** line where your access point appear.

The SSID can be set up to 32 characters. It is case sensitive (please take great attention to that).

Configuration of the Encryption parameters

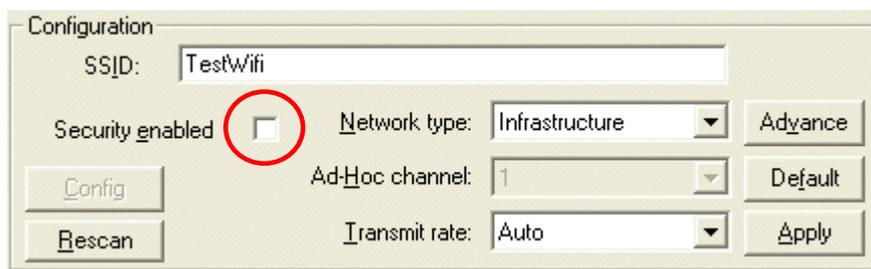
To prevent unauthorized wireless station from accessing data transmitted over your network, the Wireless LAN adapter offers secures data encryption, like open and shared Key authentication with WEP (Wired Equivalent Privacy) encryption or WPA-PSK (Wi-Fi Protected Access – Pre Shared Key) authentication with TKIP (Temporal Key Integrity Protocol) encryption. The activation or not of the security has to be set on the same way on the Access Point and on your LAN USB adapter (client station).

Your network can only be operated in the 2 following conditions:

- ◆ No security activated, neither in the Access Point, neither in the client stations
- ◆ Security activated (recommended for securing your data) in the Access Point and on all client stations with the same characteristics of encryption.

1) Security disabled on Access Point.

If your Access Point works without security, your wireless LAN adapter also has to be set without WEP. Check in the main screen of the Utility that the **Security Enabled** check box is unchecked.



2) Security enabled on Access Point.

Beware that if you enable security on your adapter, you necessarily have to enable the type of security on the Access Point side, as well, if you want your adapter to be able to associate with it. Go the Configuration tab in the main screen of the Utility and activate the **Security Enabled** check box. The **Security** window then shows up.

Here we will explain how to configure open security with WEP and WPA-PSK security with TKIP.

2.1) WEP encryption :

In the window **Security**, you will have to :

- ◆ select authentication : Open
- ◆ encryption is fix to WEP
- ◆ disable IEEE 802.1X authentication mode
- ◆ select the WEP type : 64 bits or 128 bits
- ◆ select the index key
- ◆ select the way to generate the encryption keys (from a passphrase or manually)

Length of the WEP keys

WEP protocol offers two levels of encryption: encryption based on 40 or 64 bits key length and more secure encryption based on 104 or 128 bits key length.

The 40 bits keys and the 64 bits keys are the same, if their effective length is 64 bits, only 40 bits are selected by the user, the others bits are automatically calculated. Speak about 40 bits keys or 64 bits keys is the same thing. It is identical for the 104 and 128 bits keys.

The principle of management is identical for both 64 bits and 128 bits.

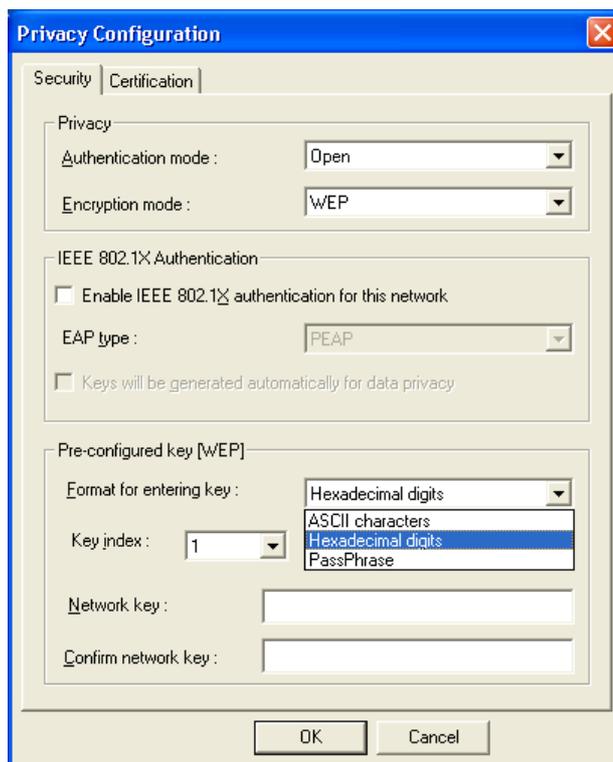
The key length has to be set at the same value on the Access Point and on the client station (Wireless LAN adapter in our case).

Creation of the WEP keys

It is possible to manually enter the WEP key you want to use. However, this entry being rather tedious, especially for 128 bit keys, it is possible to have them generated automatically. To do that, you will have to enter a string of characters called "Passphrase".

Create Encryption Keys by Using a Passphrase

- 1- Select first the **64 bits** or **128 bits** length of the key.
- 2- Select in key format : **Passphrase**.
- 3- Select index key
- 4- Enter the string in **Network key** and **Confirm network key**. The key is generated from your string.
- 5- Finally click the **Apply** button in the **Configuration** tab to save the configuration.

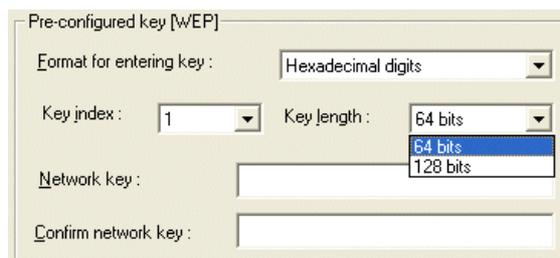


Warning: when **Create Key with Passphrase** is enabled, the wireless device's Key number with PassPhrase must match the Key number with PassPhrase used by the access point with which wireless devices are going to communicate.

Create Encryption Keys Manually

You can also create up a encryption key.

1. Select first the **64 bits** or **128 bits** length of the key to generate
2. Select **ASCII** or **Hexadecimal**
3. Select index key
4. Enter manually the key you want in the key field taking in account the remarks here after specifying the authorized characters
5. Finally click the **Apply** button in the **Configuration** tab to save the configuration and make setting take effect.



For 64 bits encryption you may choose:

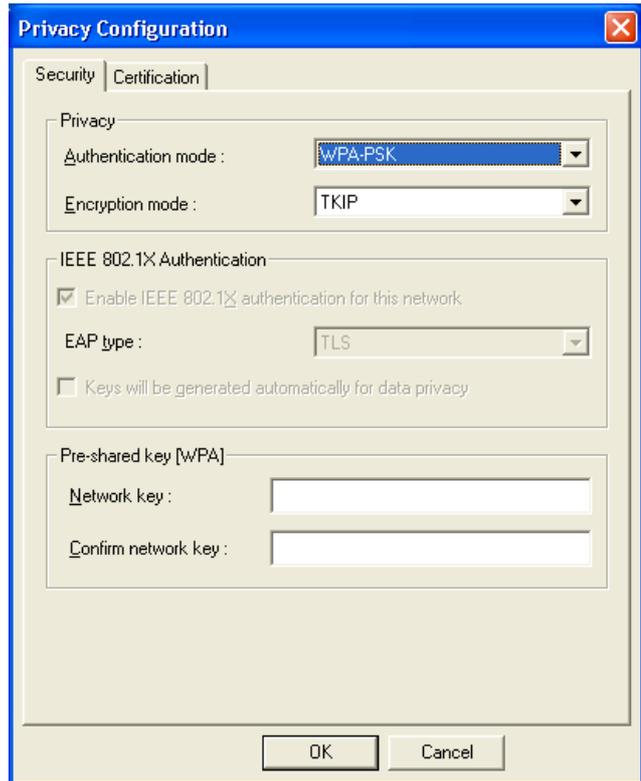
- **Alphanumeric: 5 characters** (case sensitive) ranging from a-z, A-Z and 0-9 (e.g. MyKey)
- **Hexadecimal: 10 hexadecimal digits** in the range of A-F, a-f and 0-9 (e.g. 11AA22BB33)

For 128 bits encryption you may choose:

- **Alphanumeric: 13 characters** (case sensitive) ranging from a-z, A-Z and 0-9 (e.g. MyKey12345678)
- **Hexadecimal: 26 hexadecimal digits** in the range of A-F, a-f and 0-9 (e.g. 00112233445566778899AABBCC).

2.2) WPA-PSK / TKIP encryption:

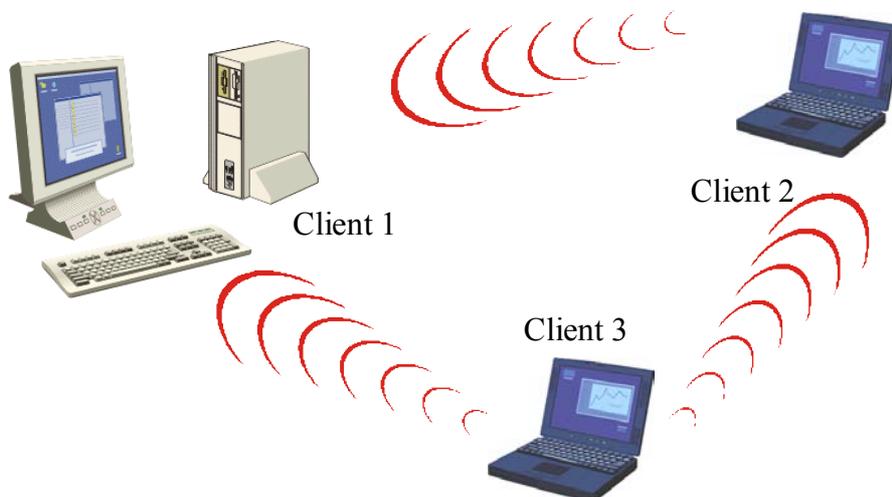
- 1 - Select authentication mode : **WPA-PSK**
- 2 – Select encryption mode : **TKIP**.
- 3 – Enter a string from 8 to 63 characters or a 64 hexadecimal characters key in **Network key** and **Confirm network key**.
- 4 - Select **OK** to close **Privacy configuration**.
- 5 - select **Apply button** in the **Configuration** tab to save the configuration and make setting take effect.



The configuration of your Wireless LAN adapter to access to Internet under Windows is finished

Configuration of your Wireless LAN adapter in Ad Hoc mode

Also known as a peer to peer network, this mode allows wireless to wireless connection, enabling all workstations to act as servers to all others. This mode can be used to share a printer or for file transfer.



Configuration of Network Type

To set your Wireless LAN adapter in the Ad Hoc mode, click the down arrow at the right of the **Network Type** field and select **Ad Hoc** in the main screen of the WLAN utility.

Configuration of the SSID

The SSID is a string of characters identifying your wireless network (it is the name of this network). To be part of a same network, wireless clients must have the same SSID. This SSID is the name of this network.

If you want to associate to an existing Ad Hoc network, enter the SSID of this network in the corresponding field (replacing **ANY**) and click the **Apply** button on the **Configuration** tab to make the setting take effect.

SSID:

If you want to create a new Wireless Ad Hoc network, enter an unused SSID to identify your own network.

Then click the **Apply** button on the **Configuration** tab to make the setting take effect.

Configuration of the Channel

To be part of a same network, wireless clients must use the same channel. If you want to associate to an existing Ad Hoc network, select the channel of this network in the corresponding field **AdHoc Channel** in the main screen of the WLAN utility. Then click the **Apply** button on the **Configuration** tab to make the setting take effect.

If you want to create a new Wireless Ad Hoc network, select an unused channel, then click the **Apply** button on the **Configuration** tab to make the setting take effect.

Configuration of WEP encryption

The configuration of WEP encryption in Ad Hoc mode is similar to the one in Infrastructure Mode. Please refer to the above explanations.

The configuration of your Wireless LAN adapter in Ad-Hoc mode is finished.

About Status Information on your Wireless LAN USB

adapter LED Indicator

The SAGEM Wi-Fi 11g USB ADAPTER has one LED indicator giving the following informations on the link status:

- ◆ Solid Green: Connected to an Access Point or Ad-Hoc wireless workstation and transmitting data.
- ◆ Blinking Green: Attempting connection to the Access Point or Ad-Hoc wireless workstation

Icon of the WLAN utility



The color behind the system tray icon indicates the link status :



Blue indicates a good or excellent link.



Red indicates very poor link quality.



Yellow indicates a usable but weak link.



Red and exclamation mark indicates no link.

Status field on the Configuration Menu of the WLAN utility

The Status field on the **Configuration** menu provides more detailed information.

Status

State : <Infrastructure> - TestWifi - 00:03:C9:54:C2:57

Current channel : 1 Current Tx rate : 54 Mbps

Throughput(Packets/sec): TX: 2 RX: 1

Link quality : Excellent(100%)

Signal strength : Excellent(91%)

Rescan

- State :** When operating in Infrastructure mode, this field shows the MAC address of the Access Point with which the SAGEM Wi-Fi 11g USB ADAPTER is communicating. When operating in Ad-Hoc mode, it shows the virtual MAC address used by computers participating in the Ad-Hoc network.
- Current Channel :** Shows the radio channel on which the connection is made.
- Current Tx Rate :** Shows the highest transmit rate of the current 54 Mbps to 1 Mbps.
- Throughput :** Shows the short term transmit and receive throughput in packets/second, and is continuously updated.
- Link Quality :** Based on the quality of the received signal
- Signal Strength :** Based on the received radio signal strength.

Uninstall the Wireless LAN adapter

1. To remove the Wireless LAN Utility from your computer, go to the Start menu and select **Uninstall SAGEM Wi-Fi 11g USB adapter LAN Utility** .
2. Follow the instructions on the different screens to uninstall the Wireless Utility then click **Finish**.
3. Now you can disconnect your SAGEM Wi-Fi 11g USB ADAPTER.

Troubleshooting

If you experience any difficulty resolving the problem while installing or using the SAGEM Wi-Fi 11g USB ADAPTER, please contact the supplier for support.

Problem	Solution
At SAGEM Wi-Fi 11g USB ADAPTER installation, Windows was unable to locate the driver for this device.	<ul style="list-style-type: none"> Restart your PC and follow the screens showed up.
The Wireless LAN adapter LED does not come on.	<ul style="list-style-type: none"> Check that the Wireless LAN adapter is correctly connected. Plug out the Wireless LAN adapter, then plug in it into the same USB port on your computer. Under Windows check the Wireless LAN adapter driver is correctly installed. If this is not the case uninstall then reinstall the driver.
The Wireless LAN adapter LED flashes and you cannot access to your Access Point or to the other client stations of your network.	<ul style="list-style-type: none"> Check that the SSID and the WEP encryption keys are the same on the computers and the access point which are on the same network. Check that the wireless network is operational.
After a restart of your computer (PC or Mac), the system cannot detected the Wireless LAN adapter plug into it.	<ul style="list-style-type: none"> Plug out the Wireless LAN adapter, then plug in it into the same USB port on your computer.

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