# WL6207

## SDIO Wireless LAN Card

User Manual

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# FCC WARNING

Changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user authority to operate the equipment.

**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.**

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 needed.

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



**CAUTION:**
1. To comply with FCC RF exposure compliance requirements, a separation distance of at least 20 cm must be maintained between the antenna of this device and all persons.
2. This Transmitter must not be co-located or operating in conjunction with any other antenna or transmitter

# PACKAGE CONTENTS & SYSTEM REQUIREMENTS

## Package

1. Manual (this document)

2. Drivers and configuration utilities on CD-ROM

3. Quick Install Guide

If you miss any of these items please contact your reseller.

## System Requirements

- PDA with Windows® Pocket PC 2002 and 2003 with at least 32 MB memory
- Secure Digital (SD) slot (Assuming SDIO host controller and driver are already installed)
- Microsoft® Active Sync® should be installed
- An IEEE802.11b or Wi-Fi approved Access Point/Base station

# INTRODUCING SDIO WIRELESS LAN CARD

The WL6207 is a wireless network card that complies with the IEEE 802.11b standard on wireless LANs (Revision B).

## WL6207 features and benefits

- Wi-Fi (Wireless Fidelity) certified.

- Supports data rates up to 11 Mbps.

- Fully compatible with any other wireless LAN system based on Direct Sequence Spread Spectrum (DSSS) radio technology that complies with the "IEEE 802.11b standard on wireless LANs (Revision B)".

- Automatic Transmit Rate Select mechanism in the transmit range of 11, 5.5, 2 and 1 Mbps.

- 128 bit Wired Equivalent Privacy (WEP) data encryption and WPA support.

- Efficient Power Management.

- Roaming over multiple channels.

- Working range up to 400 meters in an open environment.

- Supports Ad-hoc and infrastructure modes for easy wireless communication.

## WL6207 Wireless Network Scenarios

- The WL6207 enables you to:
- Connect your computer to a Peer-to-Peer workgroup of wireless computing devices
- Connect your computer to a Small Office/Home Office (SOHO) network that includes Wi-Fi access points.
- Connect your computer to a Local Area Network (LAN) Infrastructure that includes the WL6207, or other IEEE 802.11b compliant LAN systems

Wireless stations can be equipped with the WL6207, but also with other WLAN PC Cards. Both the WL6207 and the WLAN PC Card share the same wireless functionality.

## Peer-to-Peer (Ad-hoc) Workgroup

The Peer-to-Peer workgroup configuration enables you to quickly set up a small wireless workgroup, where the workgroup participants can exchange files using features like "Files and Printer Sharing" as supported by Microsoft® Networking.

You can use this option to setup a temporary or Ad-hoc network in environments where no access points are available (for example in Small Office/Home Office "SOHO" environments). As long as the stations are within range of one another, this is the easiest and least expensive way to set up a wireless network.

## Home Networking

With WL6207, wireless access to the Internet or other devices is at your fingertips. All you need to do is connect the SDIO Wireless LAN Card to an existing access point that may be connected to the external Cable TV or xDSL modems and you are ready to:

- Share files and printers, and
- Access the Internet.

## 2-2-3 Enterprise Networking

With the Wi-Fi certified Access Point in the corporate network system, you can connect to a corporate Local Area Network (LAN) infrastructure to have wireless access to all network facilities. LAN Infrastructures may either be:

- Stand-alone wireless LANs.
- Wireless network infrastructures connected to an existing Ethernet network.

# About the WL6207 CD-ROM

The WL6207 CD-ROM contains both software and documentation for the WL6207 card.
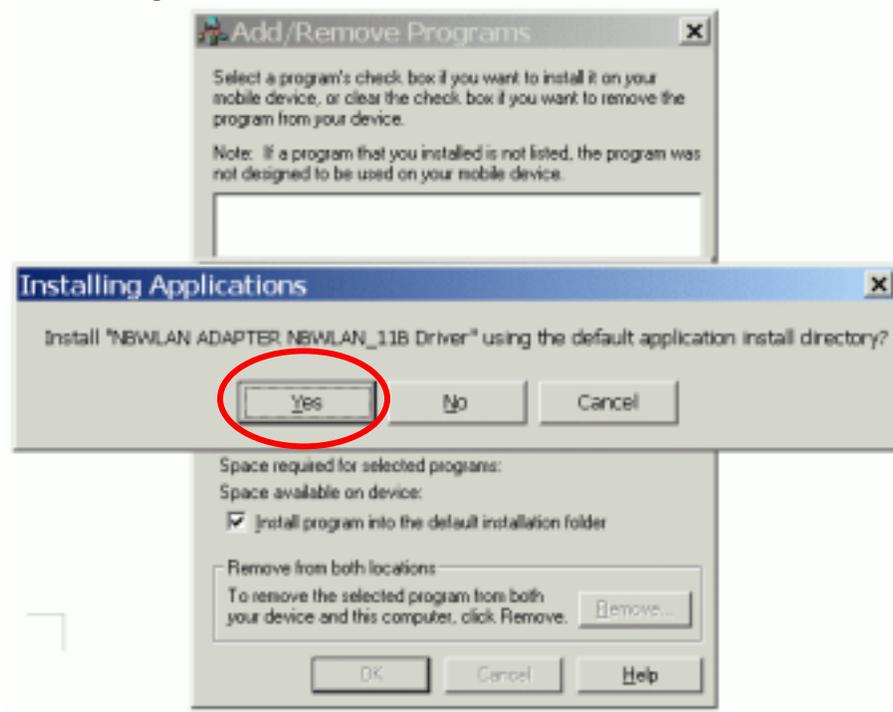
# INSTALLING THE DRIVER

# Installation of the WL6207 Driver to the Pocket PC using Microsoft Active Sync®

1. Connect your PDA to your computer and make sure Active-Sync® has established for a connection between the two devices.
2. Insert the CD ROM to your PC. The following screen will apeear, click **Install Driver** to start driver installation. After driver installation is complete, clik **Install Utility** to start utility installation.

**Note: Do not insert the WL6207 into the card slot of your PDA until the Install Driver (Step 1) and Install Utility (Step 2) have been performed.**

Step 1
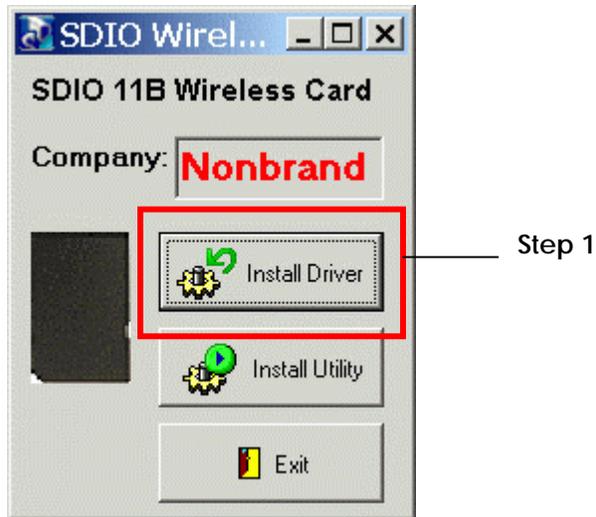
3. Click **"YES"** to proceed the installation.



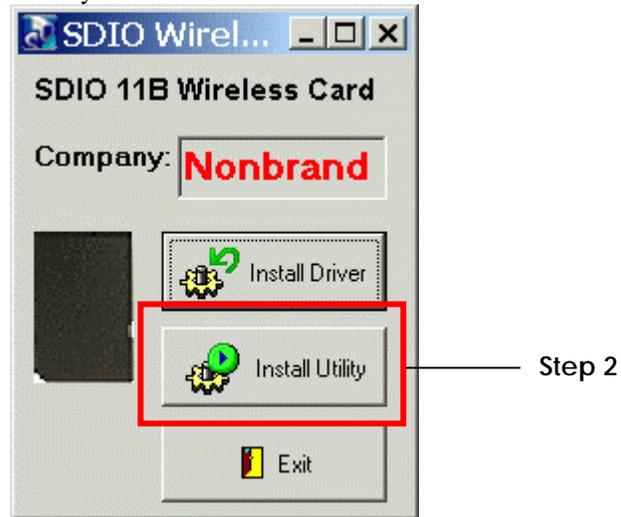4. Click **"OK"** to complete the driver installation.

## To verify if the installation of the driver was completed successfully:

1. Soft reset the PDA (push Soft-reset Button of PDA)
   * Some PDA may not require resetting but it should be safer to reset.
2. Insert the WL6207 into the PDA
3. Check the LED on the WL6207. If steady **Blue** light is seen, the WL6207 is active.
4. (Optional) To check the quality of the network connection, you should use the WL6207 configuration utility program as described in the next section
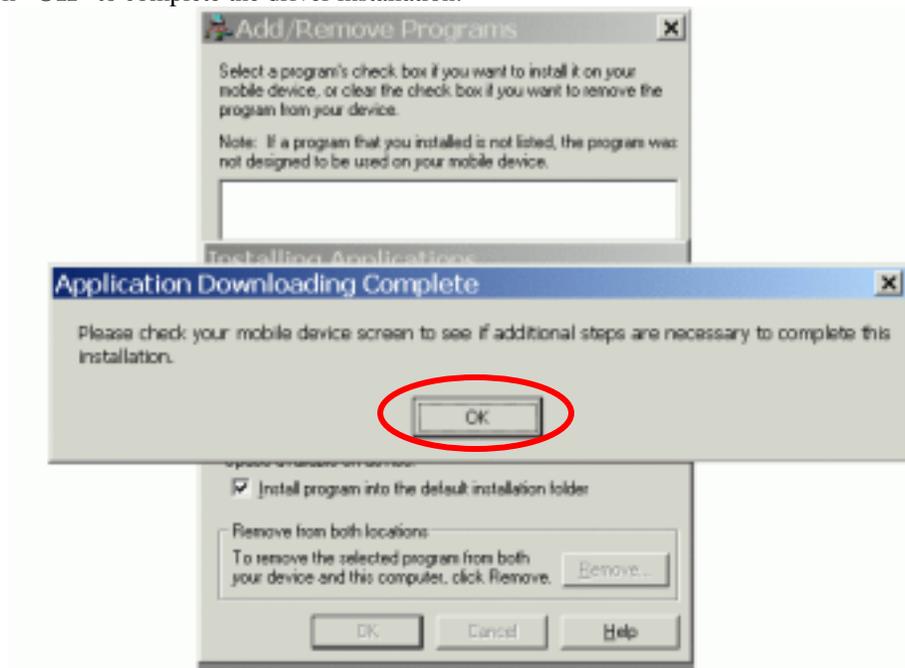
## WL6207 CONFIGURATION UTILITY

1. Click **Install Utility** to perform utility installation.



2. Click **"YES"** to proceed the installation.
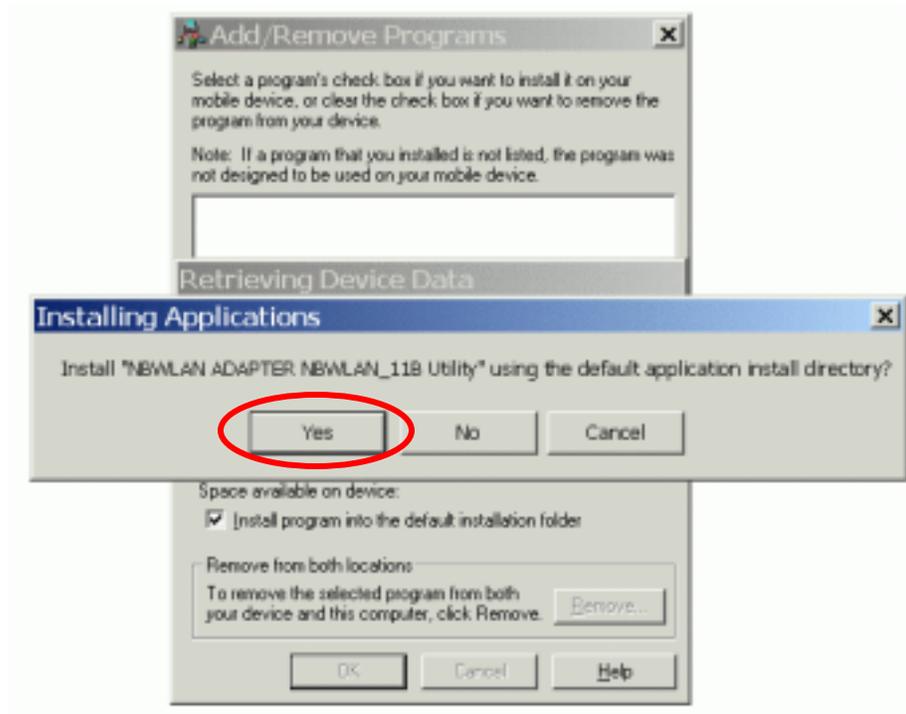
3. Click **"OK"** to complete the driver installation.

# CONFIGURING IPC WLAN UTILITY

## Status tab
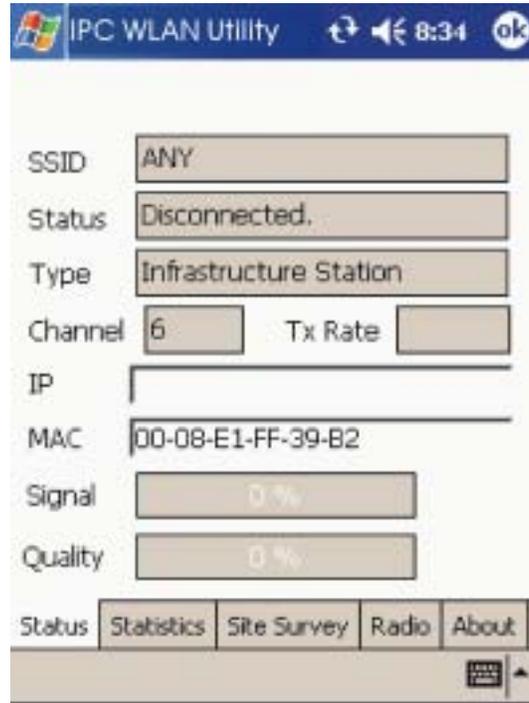


| SSID | The current access point name (ESS ID) |
|------|------|
| Status | The current connection status. |
| Type | The current connection mode. |
| Channel | The wireless radio channel currently used by the card. |
| Tx Rate | The current transmit rate. This can be 1 Mbps, 2 Mbps, 5.5 Mbps. |
| IP | The IP address of the card. |
| MAC | The MAC address of the card. |
| Signal | Shows the signal strength of the received signal. |
| Quality | Shows the signal quality of the received signal. |

## Statistics tab

| | |
|---|---|
| **Tx Success** | The number of successfully transmitted packets. |
| **Tx Error** | The number of unsuccessfully transmitted packets. |
| **Tx Throughput (kbps)** | The actual instantaneous transmit rates, in Kbps. |
| **Rx Success** | The number of successfully reveived packets. |
| **Rx CRC Success** | The number of successfully reveived CRC packets. |
| **Rx CRC Error** | The number of unsuccessfully reveived CRC packets. |
| **Rx Throughput (kbps)** | The actual instantaneous receive rates, in Kbps. |
| **Reset** | Click to clear the previously settings. |

## Site Survey tab
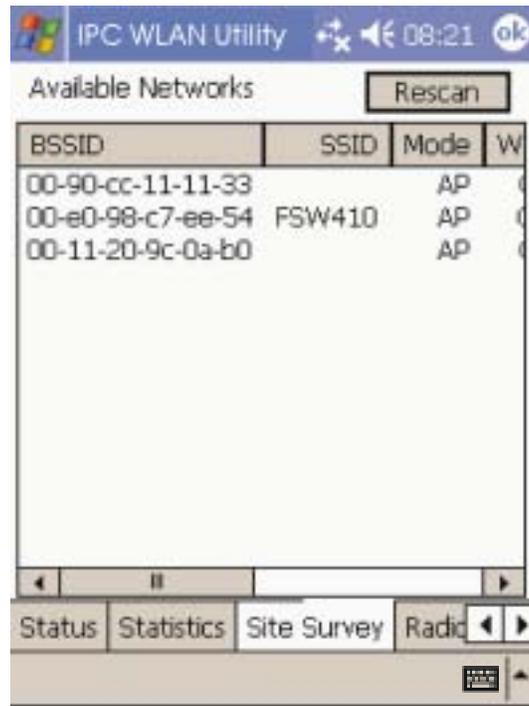


| Rescan | Searches for all available networks. Clicking on the button, the device will start to rescan and list all available sites. |
|---|---|
| **BSSID** | The MAC address for the Access Point or station. |
| **SSID** | The current access point name (ESS ID). |
| **Mode** | The currently connected device mode. |
| **WEP** | WEP (Wired Equivalent Privacy)shows the current WEP used in the AP. WEP can be enabled or disabled. |
| **CH** | The wireless radio channel currently used by the card. |

# Radio tab



| S/W Radio | Select **Off** or **On** to turn off/on Radio Frequency function. |
|---|---|
| Channel | Select from the pull-down list, there are 13 channels in the list. |
| Power Saving | **Disable**: Select to disable power saving function.<br>**Enable (Max) :** Select to enter power saving mode instantly.<br>**Enable (Fast) :** Select to enter power saving mode later (Under the circumstances of not receving/transitting packets, the system will enter Power Saving mode in 10 seconds. ) |

# About tab

Shows the driver version and the setup utility software version.
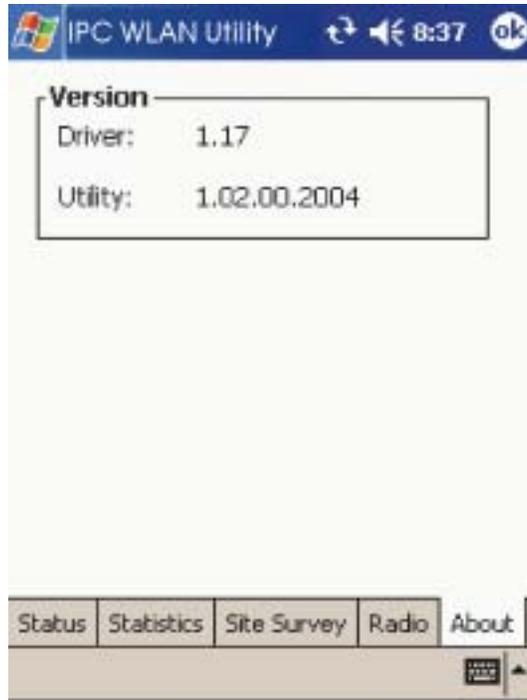
## SDIO WIRELESS LAN CARD SPECIFICATIONS

| | Item | Specification |
|---|---|---|
| 1 | Frequency Range | 2412 – 2484 MHz (ISM band) |
| 2 | Tx Modulation | Direct Sequence Spread Spectrum, DSSS |
| 3 | Coding Modulation | DBPSK (1Mbps),<br>DQPSK (2Mbps),<br>CCK (5.5 & 11Mbps) |
| 4 | Media Access Control Method | CSMA/CA |
| 5 | Bus Type | SD (by CG-100 SDIO controller) |
| 6 | Standard | IEEE802.11b |
| 7 | Approval | FCC, part 15.247 (USA)<br>EN 300.328 (Europe)<br>TELEC STD-T33 / ARIB STD-T66 (Japan) |
| 8 | Antenna | Single |
| 9 | Input Power | 3.3 VDC ± 0.2V |
| 10 | Tx Output Power | 12dBm ± 1 dB |
| 11 | Power Consumption | < 250 mA typical<br>< 280 mA receive<br>< 10 mA power save mode<br>< 1.5 mA deep sleep mode |
| 12 | Rx Sensitivity | -87 dBm @ 11 Mbps<br>-91 dBm @ 5.5 Mbps<br>-94 dBm @ 2 Mbps<br>-96 dBm @ 1 Mbps |
| 13 | Temperature | 0 - 40°C (operational)<br>-20 - 80°C (storage) |
| 14 | Dimension in mm | 55(L) x 24(W) x 2.1(T) |
| 15 | Weight | 7g |

# TROUBLESHOOTING

## Introduction

This chapter provides typical problems with their own specific troubleshooting tips.

## Common Troubleshooting Tips

### LED Activity

If you encounter difficulty using and/or installing your SDIO Wireless LAN Card product, the error may be related to various causes :
- Out-of range situation, which prevents the WL6207 from establishing a wireless connection with the network.
- Configuration mismatch, which prevents the WL6207 from establishing a wireless connection with the (correct) network.
- Absence of, or conflict of the WL6207 Driver .
- A problem or conflict with the WL6207 socket from powering on.
- A conflict of the WL6207 hardware with another device.
The starting point to troubleshoot problems with your WL6207 is looking at the LED activity of the WL6207.

**LED Activity**

❖ The power LED will be blank when the WL6207 is properly inserted but not transmitting/receving data.

❖ The Act LED will be blinking Blue when transmitting/receiving wireless data.

### Cannot Connect To Network

If your WL6207 seems to be working fine, but you are not able to connect to the network, this error might be due to a configuration mismatch.
For example if LED of your WL6207 lights, the problem is likely to be caused by a configuration mismatch of :
- Network Name (The WL6207 Network Name is case-sensitive).
- Encryption Key
Other causes may be :
- No driver loaded.
- Station not authorized to access network.
- WL6207 defect.
The most common cause is simple mistake. First check whether the card is inserted properly or not. Check whether any APs are available or not. If you see many APs, select any of one those APs and click connect. If you don't see any APs click Rescan Button. If you still don't see AP list after refscanning, it is possible that no active AP is nearby. You may be in the dead zone. Move around or change the PDA orientations. It may help.

### Cannot Find the AP

Check the available access point in the neighborhood by clicking the **Site Survey** tab in the utility. If the access point requires WEP key, input the same WEP key then try to connect again. If you do not know the WEP key, contact the system administrator to obtain the appropriate key.
For identifying the specific AP, check the wireless networks available in the neighborhood. If the AP shows ESSID, use the same ESSID to connect the AP. ESSID is assigned to the specific AP for that purpose.

## The System is Very Slow

Some devices with non-powerful CPU may suffer their performance significantly. If the system is very slow, check
- If you are opening many windows, close them
- Change the antenna orientation for better signal reception
- Check the signal strength if it is weak move toward the AP.

## WL6207 Does Not Operate After Returning From the Stand-by or Sleeping Mode

This may happen when the driver is not functioning. Reinstall the WL6207 driver again.