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# WLAN 22Mbps PCI Card

## 1. Product General Information



### 1.1. Product Description

WL-PCI+, the wireless Ethernet adapter for PCI standard version 2.2 compliant desktop PCs, is fully compatible with IEEE 802.11b standard and supporting higher data rate to 22Mbps. Using Direct Sequence spread spectrum technology for immunity from interference, it will automatically fallback to lower data rate in the environment of interference.

22Mbps data rate is designed by the Packet Binary Convolution Code (PBCC) modulation technique. The software supports Windows OS such as Win98, Win2000, WinME, WinXP. The PCI card for your desktop PCs is designed with an integrated swivel antenna, which would increase the receiving and transmitting sensitivity.

### 1.2. Product Feature

- IEEE 802.11b Direct Sequence high rate compatible.
- Based on DSSS Technology and support the modulation of PBCC mode
- High-Speed wireless connection up to 22Mbps data rate, and supports 11/5.5/2/1 Mbps 802.11b standard
- Advanced Power Management supports power saving mode
- Auto fallback data rate in the environment of interference
- 64/128/256 Bits WEP Encryption function
- High through-put supports multi-media data bandwidth requirement
- Support PCI standard v2.2

### 1.3. Product Application

- Wireless Networking in Enterprise, SOHO and Home environment
- Wireless Networking Access in Hot Spot area such as Airport, Hotel, School, Convention center, Coffee shop, ... etc.
- Build system in Ad-Hoc for Host-Client appliance or Infrastructure mode for multi-access

## **2. PRODUCT GENERAL**

### **2.1. General Specifications**

Standards:	IEEE802.11b with PBCC Compliant PCI Standard Version 2.2
Data Rate:	22Mbps / 11Mbps / 5.5 Mbps / 2Mbps / 1 Mbps auto fallback
Security:	64/128/256 bit Wired Equivalent Privacy (WEP)
Dimension:	133 x 121 x 22.05 mm

### **2.2. LED Indicators**

Power/Status	Unlighted: Power Off Green color LED steady on: Power on Green color LED blinking: TX/RX activity
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### **2.3. Interface**

PCI	PC Standard Version 2.2
Antenna Connector	SMA Reverse Connector Type

## **3. PRODUCT HARDWARE SPECIFICATIONS**

### **3.1. RF Specification**

#### **3.1.1 General**

Emission Type	Direct Sequence Spread Spectrum (DSSS)
RF Frequency	2400MHz – 2497 MHz – Japan Band 2400MHz – 2483.5MHz – North America, Europe 2455MHz – 2475MHz – Spain 2446.5MHz – 2483.5MHz – France
Operating Channel	11 Channels (US, Canada) 13 Channels (Europe) 14 Channels (Japan)
Radio Chipset:	RFMD
Media Access Protocol	CSMA/CA (Collision Avoidance) with ACK

#### **3.1.2 Transmitter**

RF Output Power	18 dBm
Frequency Stability	Within $\pm 25$ ppm
Data modulation type	BPSK / QPSK / CKK / PBCC
Data modulation speed	22/11/5.5/2/1 Mbps with auto fallback

### 3.1.3 Receiver

Sensitivity -80 dBm (Typically @25 ±5 )  
(Less than 8% of FER packet sizes is 1024 bytes)

### 3.1.4 Antenna Type

Antenna Type External Dipole Antenna  
Antenna Gain 2 dBi max.

### 3.1.5. Typical Operation Range

22Mbps	100M
11Mbps	150M
5.5Mbps	250M
2Mbps	300M
1Mbps	350M

## 3.2 Hardware Specification

### 3.2.1 Bus Interface

PCI I/O port 32Bit

### 3.2.1 MAC controller

MAC TI ACX100

### 3.2.2 Memory

EEPROM 8Kbytes

### 3.2.3 Power

Power Voltage 3.3 or 5 Volt ± 5%  
Power Consumption 650mA by TX (Max)  
350mA by RX

## 4. PRODUCT SOFTWARE SPECIFICATION

### 4.1. Driver

NDIS5.0 LAN driver for Win98, Win2000, WinME, WinXP

### 4.2. Configuration Utility

Configuration Utility software program for Win98, Win2000, WinME, WinXP

Configurable Parameters	Description
Networking Type	Infrastructure / Ad-Hoc
Channel	Channel number setting (14 channels available)
ESSID	ESSID setting
Rx Rate	Current Receiving data rate

TX Rate	Current Transmitting rate
WEP	Disable, 64 bit, 128 bit and 256 bit
Link Quality	Receiving AP link quality on infrastructure networking mode
Signal Strength	Receiving AP signal strength on infrastructure networking mode

## **5. REGULATION COMPLIANCE**

Compliant with

FCC Part 15 Class B and C

ETSI EN 300 328-2 and ETSI EN 301 489-1, -17, EN60950, CE-Mark

Telec (Japan, Customized)

WiFi Compliant

## **6. Environmental Requirement**

### **6.1. Drop and Vibration**

#### **6.1.1. Anti-Static Voltage**

Static voltage tests by 4 kV in card frame should not cause system fail

#### **6.1.2. Vibration Test**

The vibration test is under the frequency and amplitude 10-25 Hz 1mm in vertical and horizontal direction by 30 minutes that should not cause any damage on product.

#### **6.1.3. Package Drop Test**

Dropping the package from the height of 50cm for each of the six(6) faces onto the hard-wood floor should not cause any damage on product.

### **6.2. Operation Environment**

#### **6.2.1. Temperature Range**

Operating:                    -0    - +55    (Except RF output power and sensitivity)

Storage:                      -20    - +70

#### **6.2.2. Reliability Test**

One cycle of reliability test is keeping at -30    by 2 hours, switching temperature up to +60    within one hour , and testing at +60    by 2 hours, and switching temperature to -30    within one hour. Three cycle should be tested and without any product fail.

### 6.2.3. Humidity

Operating:	0% to 70%
Storage	0% to 95% Non-condensing

## 7. INSTALLATION AND CONFIGURATION

### 7.1. Installation

1. Start the computer
2. Insert 22Mbps driver CD into the CD-ROM
3. Select “PC Card/PCI Card”



4. Click “Install “ button.
5. Click “Next” button.



6. Click “Finish” button to restart computer.




7. Shut down the computer then insert PCI Card into the PCI slot of computer.



8. Restart computer

## 7.2. Configuration



1. Double Click “” icon in the right hand corner of the screen.

2. The window of “Link Information” show the current status of wireless PCI Card.



3. Click the “Configuration”, select wireless network SSID and the BSS Type. Default is “infrastructure”, then click “Apply”.

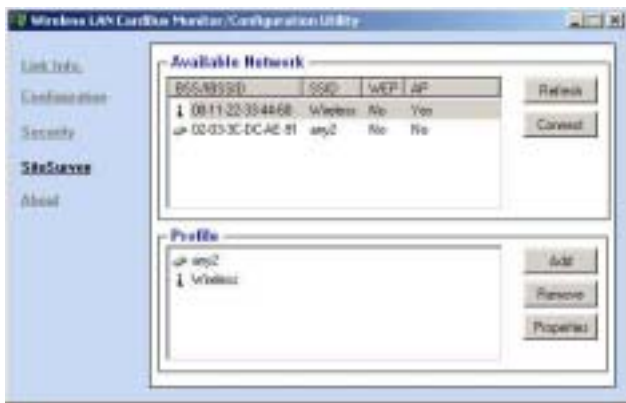
If you do not know your SSID, please refer to “Sitesurvey” page.



- Click the “Security”. You can set the Wired Equivalent Privacy (WEP) encryption by clicking the “Data Encryption”. Then change the “Key Format” to “HEX” or “ASC II” format. Select the “Key Length” with 64 bites or 256 bits, and click “Apply”.



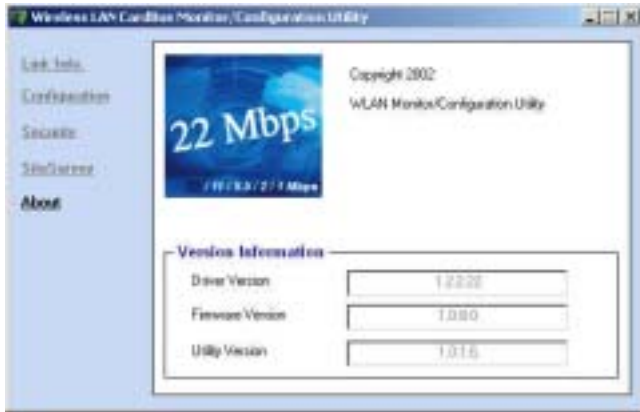
- About “Site Survey”, select one of SSID from “Available Network” block. Click “Connect” button then Profile page will appear.



- You can set all parameters or click “OK” to back to Link Info page, meanwhile you already finished configuration steps.



7. Click "About". It will display Software Version of wireless PCI Card.



**Notice : Our company reserves the right to change specifications detailed in this document at any time without notice, and assumes no responsibility for any errors within this document.**

#### Federal Communication Commission Interference Statement

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 to 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.

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.

#### IMPORTANT NOTE:

##### FCC Radiation Exposure Statement

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 2.5cm between the radiator and your body.

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

**Caution:** This device includes a module which can emit RF energy. For compliance with FCC exposure rule, the user has to keep at least 2.5cm separation distance between the radiator and the body of the user.

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