PC11B2, MS-6828
Wireless 11b PCI Card

User's Guide

FEDERAL COMMUNICATIONS COMMISSION

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. This equipment generates, uses and can radiated 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.

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

FCC Radiation Exposure Statement

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. In order to avoid the possibility of exceeding the FCC radio frequency exposure limits, human proximity to the antenna shall not be less than 20cm (8 inches) during normal operation.

Important Safety Precautions

Always read and follow these basic safety precautions carefully when handling any piece of electronic component.

1. Keep this User's Manual for future reference.
2. Keep this equipment away from humidity.
3. Lay this equipment on a reliable flat surface before setting it up.
4. The openings on the enclosure are for air convection hence protects the equipment from overheating.
5. All cautions and warnings on the equipment should be noted.
6. Never pour any liquid into the opening that could damage or cause electrical shock.
7. If any of the following situations arises, get the equipment checked by a service personnel:

    ❏ Liquid has penetrated into the equipment

    ❏ The equipment has been exposed to moisture

    ❏ The equipment has not work well or you can not get it work according to User's Manual

    ❏ The equipment has dropped and damaged

    ❏ If the equipment has obvious sign of breakage

8. DO NOT LEAVE THIS EQUIPMENT IN AN ENVIRONMENT UNCONDITIONED, STORAGE TEMPERATURE ABOVE 60°C OR BELOW -20°C, IT MAY DAMAGE THE EQUIPMENT.
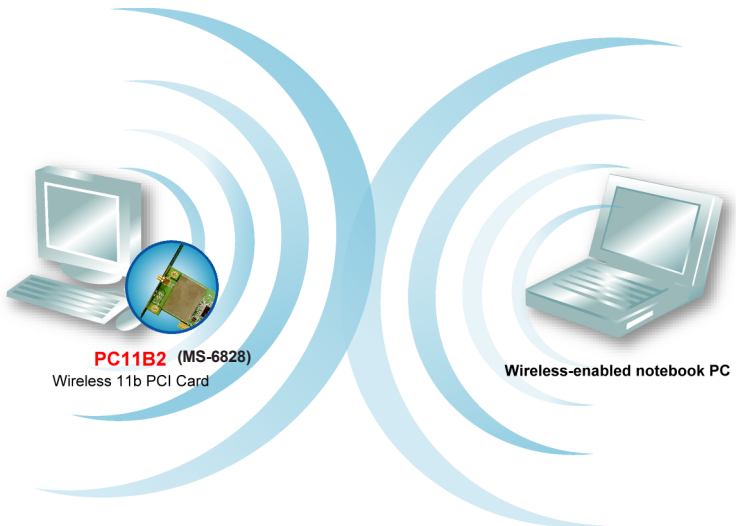
① Introduction

PC11B2 (MS-6828) Wireless 11b PCI Card is a cost-effective wireless networking solution for desktop PCs. It complies with IEEE802.11b standard and provides up to 11Mbps data rate. The PC11B2 (MS-6828) enables any desktop PC to share a broadband connection, files and printers over the network without the time and expense of Ethernet cabling. In addition, with its 64-/128-bit WEP key and IEEE802.11i TKP, your network connection is highly secured.

Based on the DSSS (Direct Sequence Spread Spectrum) technology operating in the 2.4GHz Industrial, Science and Medical band, the PC11B2 (MS-6828) complies with Wi-Fi, ensuring interoperability with other compliant wireless LAN devices.
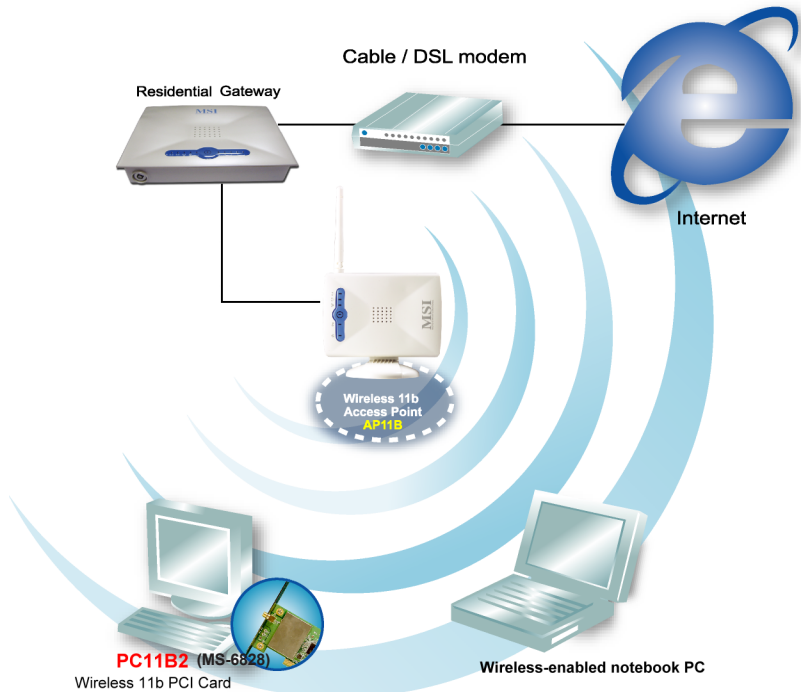
The PC11B2 (MS-6828) is available to Microsoft Windows operating systems (Windows® XP/2000/ME/98SE) and can be integrated into networking with either **Ad-hoc mode** (computer-to-computer, without an Access Point) or **Infrastructure mode** (computer-to-access point, an Access Point is required).

>>> 1.2 How PC11B2 (MS-6828) works

○ **Ad-hoc Mode :** An Ad-hoc network is a local area network, especially one with wireless or temporary plug-in connections. Therefore, some of the network devices are part of the network only for the duration of a communications session. Users in the network can share files, print to a shared printer, and access the Internet with a shared Gateway or Access Point. In this kind of network, new devices can be quickly added; however, users can only communicate with other wireless LAN devices that are in this wireless LAN workgroup, and are within range.

PC11B2 **(MS-6828)**
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Wireless-enabled notebook PC

❑ **Infrastructure Mode :** The difference between Infrastructure network and Ad-hoc network is that the former one includes an Access Point. In network environment, the Access Point can manage the bandwidth to maximize bandwidth utilization. Moreover, the Access Point enables users on a wireless LAN to access an existing wired network, allowing wireless users to take advantage of the wired networks resources, such as Internet, email, file transfer, and printer sharing. The scale and range of the Infrastructure networking are larger and wider than that of the Ad-hoc networking.

Cable / DSL modem

Residential Gateway

Internet

Wireless 11b
Access Point
AP11B

PC11B2 (MS-6828)
Wireless 11b PCI Card

Wireless-enabled notebook PC

>>> 1.3 Specifications

❏ General
Operating system   Microsoft® Windows® 98SE/
                              ME/2000/XP

Compliance   - IEEE 802.11b
                              - WECA Wi-Fi
                              - WHQL (Windows ME/2000/
                                XP)

Operating Temperature   0 ~ 55°C

Operating Humidity   0 ~ 95%, non-condensing

❏ Physical
Form Factor   32-bit PCI v2.2

Dimensions (WxDxH)   127.3 X 77.6 X 18.4mm

Antenna   Dipole

Weight   29g

Operation Voltage   3.3V

❏ Radio
Frequency Range   2.4GHz to 2.4835GHz

Operating Channels   - 11 channels (US & Canada),
                                13 channels (Europe),
                                 4 channels (France),
                                 2 channels (Spain),
                                13 channels (Japan);
                              - maximum 3 non-overlapped
                                channels;
                              - 25MHz bandwidth per
                                channel

Data Rate and Modulation Types	- CCK @ 5.5 and 11Mbps. - DQPSK @ 2Mbps. - DBPSK @ 1Mbps.
Wireless Medium	Direct Sequence Spread Spectrum (DSSS) with ACK; Half-Duplex
Media Access Protocol	Carrier Sense Multiple Access with Collision Avoidance (CDMA/CA)
Transmitter Output Power	15dBm

❏ Performance
Range	Up to 150m.

❏ Security
Security Mechanism	- 64-/128-bit WEP - IEEE802.11i TKIP

>>> 1.4 System Requirements

Before installing the PC11B2 (MS-6828), your PC should meet the following:

- Desktop PC with standard PCI slot.

- Windows® 98SE/ME/2000/XP operating system.

- Minimum 5MB free disk space for installing the driver and utilities.

- CD-ROM drive, double speed or higher.

>>> 1.5 Package Contents

Unpack the package and check all the items carefully. If any item contained is damaged or missing, please contact your local dealer as soon as possible. Also, keep the box and packing materials in case you need to ship the unit in the future. The package should contain the following items:
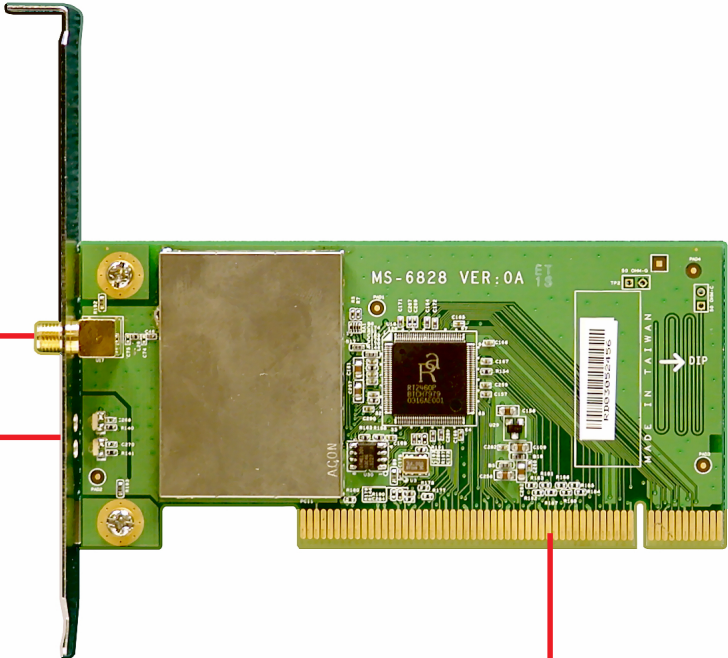
- One Wireless 11b PCI Card.

- One external antenna.

- One Quick Installation Guide.

- One CD title including drivers, utilities, user's manual and quick guide.

>>> 1.6 Product View

Antenna Connector - connecting the external antenna.

Golden Finger

ACT LED - GREEN, indicating the networking status by:
- ON - The PC11B2 (MS-6828) is connected.
- Flash - The PC11B2 (MS-6828) is searching for available Access Point or receiving/transmitting data over the wireless network.