RF MICRO·DEVICES

RD5400

RD5400 802.11a Wireless LAN PC Card Adapter

User Guide

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Revision History

Document and Revision	Revision Description	Date	Author
RD5400-PCCARD-UG Preliminary	First draft		Ron Rome
RD5400-PCCARD-UG	Updated, reformatted; not publicly released	11/12/2003	Bert Koehler
RD5400-PCCARD-UG	minor edit	11/20/2003	Bert Koehler

Regulatory Information

Declaration Of Conformity

RF Micro Devices, Incorporated,

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declares, under our sole responsibility, that the product

RD5400 802.11a WLAN PC Card
Reference Design Board

complies with Part 15 of the FCC Rules. Operation is subject to the following conditions: (1) This device may not cause harmful interference; (2) This device must accept any interference received, including interference that may cause undesired operation.

Caution: Changes or modifications made to this device which are not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Exposure to Radio Frequency Radiation

The radiated output power of the RD5400 IEEE 802.11a WLAN PC Card is far below the FCC radio frequency exposure limits. Nevertheless, this device shall be used in such a manner that the potential for human contact during normal operation is minimized.

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 device complies with part 15 of the FCC Rules. Operation is subject to the following three conditions: (1) this device may not cause interference; (2) this device must accept any interference received, including interference that may cause undesired operation

This device is restricted to indoor use only so as to avoid interference with other services operating in the 5150-5250 MHz band.

This equipment generates, uses, and can radiate radio frequency energy. If not installed and used in accordance with the instructions, it 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 distance between the equipment and the 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 or TV technician for help.

RF Micro Devices, Inc. is not responsible for any radio or television interference caused by unauthorized modification of the devices included in this kit, or the substitution or attachment of connecting cables and equipment other then specified by RF Micro Devices, Inc. The correction of interference caused by such unauthorized modification, substitution or attachment will be the responsibility of the user.

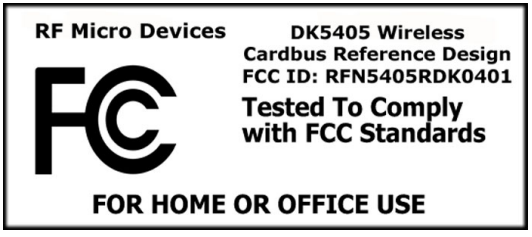
Canada - Industry Canada (IC)

This Class B digital apparatus meets all requirements of the Canadian Interference-Causing Equipment Regulations.

Cet appareil de la class B respecte toutes les exigences du Reglement sur le matereil brouiller du Canada.

Digital Device Label

In conformance with FCC Rules for radio frequency devices, Part 2 and Part 15, and specifically since the RF Micro Devices RD5400 801.11 WLAN CardBus Reference Design Board is too small to contain an additional label, the following label is Included in this User Manual to demonstrate that the RF Micro Devices RD5400 801.11 WLAN CardBus Reference Design Board has been tested and found in compliance with FCC Class B limits.



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Preface

This document is the user guide for RFMD's Model RD5400 802.11a Wireless LAN PC Card Adapter Reference Design Board.

Audience

The audience is engineers, designers, and managers evaluating the RD5400 board.

Applicability

This document applies to the RD5400 802.11a WLAN PC Card Reference Design Board, which is shipped with RFMD's DK5405 Demonstration Kit for the RFCS5400 Chipset. This chipset is comprised of the RF5401 WLAN MAC and the RF5405 WLAN RF transceiver.

Related Documents

- RF5401 802.11a Wireless LAN Client Baseband/Media Access Controller Data
- RF5405 RF5405 802.11a Wireless LAN 5 GHz Transceiver Data Sheet
- PC Card CardBus Standard Specification, Rev 8.0
- ANSI/IEEE Standard 802.11 Specification, 1999 Edition
- ANSI/IEEE Standard 802.11a Supplement

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Introduction

The RF Micro Devices DK5405 Demonstration Kit provides the RD5400 801.11a WLAN PC Card Reference Board and a CD-ROM containing support materials including software drivers for Windows.

RD5400 Reference Board

The RD5400 is a self-contained wireless LAN 801.11a adapter complete with diversity antennas. It is a fully-functioning implemention of the RFMD RD5400 reference design which uses the RFCS5400 WLAN chipset.

DK5405 Design Kit CD-ROM

The information on this CD-ROM is confidential property of RF Micro Devices Inc. and is provided under a non-disclosure agreement. Do not copy or distribute this information to other parties.

The CD-ROM contains documentation and software. Please check the readme file for latest information on contents.

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Installation

This section describes the procedure for installing the RFMD RD5400 WLAN PC Card on a laptop or PC. Before proceeding, please verify that your computer satisfies the system requirements.

NOTE: This device must only be operated indoors to avoid services interference in the 5.15-5.25GHz band.

System Requirements

- PC card slot or PCI Cardbus bridge.
- PC or laptop with Windows XP, 2000, or 98.

NOTE: The software driver does not support Windows NT4.0.

Installation Instructions

1. Insert the RD5400 PC Card into a laptop or into the Cardbus bridge on a PC.
2. After the new hardware is detected, Windows displays the "**Found New Hardware Wizard**" dialog box.
3. Insert the DK5405 Demonstration Kit CD-ROM into the computer's CD-ROM drive.
4. Check "**Install from a list or specific location**" option and click "**Next**".
5. On the next dialog box, check "**Don't search. I will choose the driver to install**" option and click "**Next**".
6. On the "**Select Network Adapter**" dialog box, click "**Have disk**". Use the "**Browse**" button to select the CD-ROM drive; select the "**Software**" directory on the CD.
7. Select "**RFMD RF5401 802.11a PCI Card**".
8. Click "**OK**" to start the software installation.
9. Click "**Finish**" to finish the installation.

NOTE: During the installation process, a dialog box will appear to warn that the software being installed has not passed Windows Logo testing. Please ignore this warning and click "Continue Anyway" to proceed.

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Configuration

NOTE: Do not attempt to configure the PC Card until the Software Driver installation has completed successfully.

Setup Instructions

To begin configuration:

1. Right click on "**My Computer**" icon on the desktop and select "**Manage**".
2. Double click "**Device Manager**".
3. Double click "**Network adapters**" on the right panel to expand the adapter list.
4. Double click "**RFMD RF5401 802.11a PCI Card**".
5. Select "**Advanced**" tab at the top.
6. Configure the parameters as required for the network configuration. Click "**OK**" when done.

Network Configuration

To change IP address, follow the steps below:

1. Point and click Wireless Network Connection icon in system tray.
2. Click "**Advanced**".
3. Select "**General**" tab at the top.
4. Select "**Internet Protocol (TCP/IP)**".
5. Click "**Properties**" and set desired IP address.
6. Click "**OK**" when done.

Parameter Setting

Table 1 describes parameter settings. If 'Not Present' is selected, the default value will be used.

Table 1 Parameter Settings

Property	Meaning/Value
Authentication Mode	Select authentication mode to use when joining a network. **Auto Select:** When joining a BSS, Shared Mode is used if the AP supports WEP. Open Mode is used otherwise. **Open:** WEP is disabled. **Shared Mode:** WEP is used. *Default = **Open***
Encryption Key Index	Select one of the encryption key entries. *Default = **1***
Encryption Key Type	Select encryption key type. *Default = **Disable Encryption***
Encryption Key Value	Specify key value for selected type
Firmware File Name	For debug usage only
Fragmentation Threshold	Set threshold for packet fragmentation. *Default = 2346 (fragmentation is disabled)*
Network Mode Select	Network mode.
Network Name (SSID)	Specify **Service Set ID** Ad-hoc network.
Radio Frequency	Select operating radio frequency
Receive Antenna	Select antenna for Receive. *Default = **auto***
RTS Threshold	Set RTS threshold. *Default = 2347 (RTS is not used)*
Station Name	Set station name.
Transmit Antenna	Select antenna for Transmit.
Transmit Power Level	Select Transmit Power Level
Transmit Rate	Select TX rate. *Default = Auto rate selection is used.* NOTE: To select TX rate, **Transmit Rate Control** must be set to **Constant**.
Transmit Rate Control	Select **Constant** or **Variable** TX rate. **Constant:** Specified rate in **Transmit Rate** will be used. **Variable:** Variable rate up to specified rate in **Transmit Rate** will be used.