Wireless USB Device User Guide

DRAFT

http://www.3com.com/
http://www.3com.com/productreg

Published April 2001

Version 1.1.1

SL-1020, SL-1021

3Com Corporation ■ 5400 Bayfront Plaza ■ Santa Clara, California ■ 95052-8145

3Com Corporation reserves the right to revise this documentation and to make changes in content from time to time without obligation on the part of 3Com Corporation to provide notification of such revision or change.

3Com Corporation provides this documentation without warranty, term, or condition of any kind, either implied or expressed, including, but not limited to, the implied warranties, terms or conditions of merchantability, satisfactory quality, and fitness for a particular purpose. 3Com may make improvements or changes in the product(s) and/or the program(s) described in this documentation at any time.

If there is any software on removable media described in this documentation, it is furnished under a license agreement included with the product as a separate document, in the hard copy documentation, or on the removable media in a directory file named LICENSE.TXT or !LICENSE.TXT. If you are unable to locate a copy, please contact 3Com and a copy will be provided to you.

UNITED STATES GOVERNMENT LEGEND

If you are a United States government agency, then this documentation and the software described herein are provided to you subject to the following:

All technical data and computer software are commercial in nature and developed solely at private expense. Software is delivered as "Commercial Computer Software" as defined in DFARS 252.227-7014 (June 1995) or as a "commercial item" as defined in FAR 2.101(a) and as such is provided with only such rights as are provided in 3Com's standard commercial license for the Software. Technical data is provided with limited rights only as provided in DFAR 252.227-7015 (Nov 1995) or FAR 52.227-14 (June 1987), whichever is applicable. You agree not to remove or deface any portion of any legend provided on any licensed program or documentation contained in, or delivered to you in conjunction with, this User Guide.

Unless otherwise indicated, 3Com registered trademarks are registered in the United States and may or may not be registered in other countries.

3Com and DynamicAccess are registered trademarks and the 3Com logo is a trademark of 3Com Corporation.

XTNDConnect PC is a registered trademark of Extended Systems.

Microsoft and Windows are registered trademarks of Microsoft Corporation.

All other company and product names may be trademarks of the respective companies with which they are associated.

CONTENTS

1 INTRODUCTION TO WIRELESS TECHNOLOGY

Overview

wireless technology allows you to make short-range wireless connections to devices such as cellular phones, personal digital assistants (PDA), and desktop and notebook computers. Because wireless technology uses radio transmission, voice and data transmission are immediate. The mode of transmission that wireless technology uses ensures both protection from interference and secure data transfers.

You might use wireless technology in these ways:

- Dial up to the Internet on your notebook over your cellular phone
- Send a fax from your notebook over your cellular phone
- Synchronize your PDA with your notebook
- Send your business card to anyone in a meeting who has a device
- Send or receive files from anyone in a meeting who has a notebook or PDA
- Chat with anyone in a meeting who has a notebook
- Play a one-on-one serial game without a cable
- Send an e-mail from your training session without being wired to the network

Wireless USB Device

The USB device uses a reliable radio frequency to transmit data wirelessly.

Optimized Antenna

The antenna provides powerful performance in all directions.

Software and Firmware Upgradeable

Current software and firmware upgrades are available on the 3Com Web site at:

www.support.3com.com

2 INSTALLING YOUR USB DEVICE AND CONNECTION MANAGER

Installation CD

The *Installation CD* contains the following:

- Microsoft Windows 98 Second Edition (SE), 2000, and Millennium Edition (Me) setup programs and drivers

Connection Manager by 3Com

- XTNDConnect PC mobile synchronization and management software
- 3Com Mobile Connection Manager
- README.TXT file with updated information about your USB device
- This Wireless USB Device User Guide
- Adobe Acrobat Reader

Installing Your External USB Device and Virtual COM Ports

NOTE: *If you are accessing this manual as part of the installation of your USB device, skip to step 3 below.*

1. With the computer on and Windows 98 SE, 2000, or Me running,insert the *Installation CD* into the CD-ROM drive. The auto-start feature starts the installation. If auto-start is disabled on your computer, click *Start>Run* and type *D:\SETUP.EXE* (where D: is your CD-ROM drive).
2. Select *Install Hardware*.
3. Attach the USB device to the USB port (see the first illustration below). You are prompted to "Add new Hardware."

   After attaching the USB device, if auto-start is enabled and nothing happens within five seconds, restart your computer and log in to Windows. The installation process will begin when the computer restarts.
4. Respond to the prompts to add the new hardware.

   During the installation process, you may receive prompts for your Windows operating system installation CD. Insert the CD and indicate the correct path. The path for Windows 2000 is D:\DRIVERS.W2K. The path for Windows 98 SE is D:\DRIVERS.W98, and the path for Windows Me is D:\DRIVERS.WMe, where D: is your CD-ROM drive.
5. Your computer will go through a brief installation process during which it will display several windows indicating what is currently installing. THIS WILL TAKE SEVERAL MOMENTS.

EXHIBIT 8: User / Installation Manual

6 Restart the computer whenever you are prompted.

7 From the *Installation CD*, select Step 2: *Install Software*. This installs Connection Manager, which allows your wireless device to communicate with other devices

8 Follow the prompts.

During software installation, the business card creation window appears, giving you the opportunity to create your business card now or wait until later. We suggest that you create your business card now.

9 Restart your computer whenever you are prompted.

10 To install other software programs, select *Install Additional Software* and follow the prompts.

.<<<< NOTE TO REVIEWERS: ILLUSTRATIONS ARE STILL IN PROGRESS >>>

EXHIBIT 8: User / Installation Manual

DRAFT

Using Connection Manager

Refer to Connection Manager's online help for detailed information about how to use Connection Manager and troubleshoot your wireless product.

Confirming Device Installation

1. With your USB device attached to the computer, double-click the *My Computer* icon.
2. Double-click the *Control Panel* icon.
3. Double-click the *System* icon.

   The System Properties window appears, detailing your system setup.
4. If you are using Windows 2000, click the *Hardware* tab.
5. Click *Device Manager*. A list of devices appears, arranged by type.
6. Double-click *Universal Serial Bus controllers*.

   One entry appears: 3Com USB device.
7. Double-click the entry to see the device's current status. It should display "This device is working properly."
8. Click *Cancel* to return to System Properties.
9. While inside the Control Panel, if you are using Windows 98 SE or Windows Me, double-click *Modems*. If you are using Windows 2000, double-click *Ports*.

   Four entries appear: 3Com DUN Client, 3Com Fax Client, 3Com Serial Client, and 3Com Serial Host.
10. Double-click each entry to display a description of its current status. The device status should indicate "This device is working properly."
11. Click *Cancel* to return to System Properties.
12. Close the Control Panel.

Reinstalling Drivers for Your Embedded USB Device

In normal circumstances, you will not need to reinstall drivers for your internal USB device; however, the need may arise if your hard drive is rebuilt or if your USB device is dropped from your devices list. To reinstall the drivers, follow these steps:

1. Be sure the computer is on, Windows 98 SE, 2000, or Me is running, and the USB device is attached.
2. Double-click the *Control Panel* icon.
3. Double-click the *System* icon.

   The System Properties window appears, detailing your system setup.
4. If you are using Windows 2000, click the *Hardware* tab.
5. Click *Device Manager*. A list of devices appears, arranged by type.
6. Double-click *Universal Serial Bus controllers*.
7. Double-click *3Com USB device*.
8. Select *Driver*.
9. Select *Update Driver*.
10. Select *Next*.
11. If you are using Windows 98 SE or Windows Me, select *Search for a better driver than the one your device is using now*.

    If you are using Windows 2000, select *Search for a suitable driver for my device*.
12. Insert the *Installation CD* from 3Com into the CD ROM drive.
13. When you are prompted, select *Specify a Location*.
14. Check the *Specify a Location* checkbox.
15. When prompted, enter the path to the drivers:

    Windows 2000: *D:\DRIVERS\W2K*

    Windows 98 SE and Me: *D:\DRIVERS\W98*

    where D:\ is the CD-ROM drive.
16. If you are using Windows 98 SE or Windows Me:
    a. Select *View List*.
    b. Select a driver.
    c. Select *Install one of the other drivers*.
    d. Click *Ne xt*.
    e. Click *Finish*.
17. While inside the Control Panel, if you are using Windows 98 SE or Windows Me, double-click *Modems*. If you are using Windows 2000, double-click *Ports*.

    Four entries appear—3Com DUN Client, 3Com Fax Client, 3Com Serial Client, and 3Com Serial Host.
18. Double-click one entry.
19. Select the *Drivers* tab.
20. Click *Update Driver*.
21. Click *Next*.

22 If you are using Windows 2000, select *Search for a suitable driver for my device*.

If you are using Windows 98 SE or Windows Me, select *Search for a better driver than the one your device i s using now*.

23 Insert the Installation CD from 3Com into the CD-ROM drive.

24 When prompted, select *Specify a Location*.

25 Check the *Specify a Location* checkbox and enter the path to the drivers.

The path to the drivers for Windows 2000 is D:\DRIVERS.W2K; for Windows 98 SE is D:\DRIVERS.W98; and for Windows Me D:\DRIVERS.WME.

26 If you are using Windows 98 SE or Windows Me follow these steps:

a Select View List.

b Select a driver.

c Select Install one of the other drivers.

27 Click *Next.*

28 Click *Finish*.

29 Repeat steps 18 through 28 for each of the other three drivers.

30 Close the Control Panel.

Uninstalling Your USB Device and Virtual COM Ports

1 With your USB device inserted in the computer, double-click the *My Computer* icon.

2 Double-click the *Control Panel* icon.

3 Double-click the *System* icon.

The System Properties window appears, detailing your system setup.

4 If you are using Windows 2000, click the *Hardware* tab.

5 Click *Device Manager.*

A list of devices appears, arranged by type.

6 Double-click *Universal Serial Bus controllers*.

7 If you are using Windows 2000, double-click *3Com USB device*, select the *Drivers* tab, click *Uninstall* and *OK*.

If you are using Windows 98 SE or Me, select elect *3Com USB device*. Click *Remove* followed by *Cancel*.

8 While inside the Control Panel, in Windows 2000, double-click *Ports*. In Windows 98 SE and Me, double-click *Modems*.

Four entries appear—3Com DUN Client, 3Com Fax Client, 3Com Serial Client, and 3Com Serial Host.

9 If you are using Windows 2000, double-click one entry. Select the *Drivers* tab, click *Uninstall* and *OK*. Repeat this step for the other three entries.

If you are using Windows 98 SE or Me, select one entry. Click *Remove*. Repeat this step for the other three entries.

10 Select *Cancel* to return to System Properties.

11 Close the Control Panel.

Technical Support

For support for your internal USB device, contact your notebook manufacturer.

For support for your external USB device or for Connection Manager by 3Com, check the 3Com support Web site at

www.support.3com.com

REGULATORY INFORMATION

NOTE: *This product contains encryption. It is unlawful to export out of the U.s. without obtaining a U.S. Export License.*

FCC PART 15 NOTICE (APPLICABLE TO USE WITHIN THE USA)

UNINTENTIONAL RADIATOR

Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

The user may find the following booklet prepared by the Federal Communications Commission helpful: *The Interference handbook*.

This booklet is available from the U.S. Government Printing Office,Washington, D.C. 20402. Stock No. 004-000-00345-4.

WARNING: *This equipment has been tested and found to comply with the limits for a Class B digital device as applicable, 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 connected.*
- *Consult the dealer or an experienced radio/TV technician for help.*

MANUFACTURER'S DECLARATION OF CONFORMITY

3Com Corporation
3930 W. Parkway Blvd.
West Valley City, UT 84170
(800) 527-8677

Declares that the Product:

Date: 28 May 2001
Brand Name: 3Com Corporation
M/N: SL-1020, SL-1021
Equipment Type: Wireless device

3Com Corporation	SL-1020, SL-1021
FC	Tested To Comply With FCC Standards
FOR HOME OR OFFICE USE	

INTENTIONAL RADIATOR

This wireless product does not contain any user serviceable components. Any unauthorized product changes or modifications will invalidate 3Com's warranty and all applicable regulatory certifications and approvals.

INDUSTRY CANADA NOTICE (APPLICABLE FOR USE WITHIN CANADA)

This device complies with Canadian RSS-210.

To prevent radio interference to the licensed service, this device is intended to be operated indoors and away from windows to provide maximum shielding. Equipment (or its transmit antenna) that is installed outdoors is subject to licensing.

The installer of this radio equipment must ensure that the antenna is located or pointed such that it does not emit RF field in excess of Health Canada limits for the general population; consult Safety Code 6, obtainable from Health Canada's website www.hc-sc.gc.ca/rpb.

AVIS DE CONFORMITÉ À LA RÉGLEMENTATION D'INDUSTRIE CANADA

Cet appareil est conform à la norme CNR-210 du Canada.

Pour empêcher que cet appareil cause du brouillage au service faisant l'objet d'une licence, cet appareil doit être utilisé à l'intérieur seulement et devrait êtra placé loin des fenêtres afin de fournir un écran de blindage maximal.

L'installateur du présent matériel radio doit s'assurer que l'antenne est située ou pointée de manière à ce que cette derniére n'émette pas de champs radioélectriques supérieurs aux limites spécifiées par Santé Canada pour le grand public; condulter le Code de sécurité 6, disponible sur le site Web de Santé Canada, à l'adresse suivante: www.hc-sc.gc.ca/rpb.

SAFETY

This equipment has been evaluated according to the following safety standards and is intended for use only in Information Technology Equipment which has been evaluated to these or other equivalent standards:

UL Standard 60950 / CSA C22.2 No. 60950

IEC 60950

EUROPEAN COMMUNITY CE NOTICE

Marking by the symbol CE indicates compliance of this equipment to the R&TTE Directive 1999/5/EC.Such marking is indicative that this equipment meets or exceeds the following technical standards:

- ETS 300 328 — Electromagnetic compatibility and Radio spectrum Matters (ERM); Wideband Transmission systems; data transmission equipment operating in the 2,4GHz ISM band and using spread spectrum modulation techniques
- ETS 300 826 — Electromagnetic compatibility and Radio spectrum Matters (ERM); Electromagnetic Compatibility (EMC) standard for 3,4 GHz wideband transmission systems and High PErformance Radio Local Area Network (HIPERLAN) equipment
  - EN 55022 (1998) — Limits and Methods of Measurement of Radio Interference Characteristics of Information Technology Equipment. (CISPR 22 Class B).
  - EN 55024 (1998) — Information technology equipment - Immunity characteristics - Limits and methods of measurement.
- ES 59005 — Considerations for the evaluation of human exposure to electromagnetic fields (EMFs) from mobile telecommunication equipment (MTE) in the frequency range 30 MHZ - 6 GHz
- EN 60950 — Safety of information technology equipment, including electrical business equipment

This device may be used throughout the European Community.

User Guide version 1.1.0

Published April, 2001

INDEX

3COM WIRELESS USB DEVICE
DESIGN AND INSTALLATION GUIDE

Regulatory Considerations:

Introduction

The 3Com wireless USB device is a radio transceiver that transmits and receives radio signals in accordance with the spectrum regulations for the 2.4-GHz unlicensed frequency range. Each country throughout the world has regulations that govern where and how end-user operates the 3Com wireless USB device.

As part of 3Com's solution for USB wireless technology, 3Com will provide regulatory approvals for certain countries in the form of a modular approval grant, which can be utilized by manufacturers. A modular grant allows the OEM to insert an approved device, with its antenna interconnection and antenna, into a laptop without the need for additional device certification. Where many models of host equipment may utilize the same 3Com wireless USB device, this form of certification can represent a significant savings in terms of cost and time.

The countries that can accept this form of approval include the US, Canada, and certain European counties. The conditions for approval for each of these countries are described below. Obtaining a modular approval is not a requirement. If a 3com customer uses a unique antenna or antenna interconnect design, that customer may file for standard type approval in the country of interest. This method will require the testing of the entire end product, and hence may be more time consuming expensive.

The modular approval is only valid in countries that have accepted the process. For countries that have not accepted the modular approval process, manufacturers must submit their device for a conventional radio transmitter type approval in each country of interest. Manufacturers may disregard the requirements of this section if they accept the full responsibility for regulatory type approval of their device with an integral Com wireless USB device.

User Guide Information

Manufacturers are required to place specific information in the regulatory section of the user's guide for the host device. The information may be segmented by geographic world region if desired, but the text shown below or its equivalent must be maintained. The user's guide must contain the following information:

General Requirements

The following text must be copied exactly into the product's user's manual:

"This product contains a radio transmitter which has been tested and found to be compliant with the applicable regulations governing a radio transmitter in the 2.400 GHz to 2.4835 GHz frequency range. The countries where this product is authorized for sale and use by the supplier are as follows:

US
Germany
UK
France
Canada
Italy
Netherlands
Sweden
Spain
Belgium
Denmark
Finland"

NOTE: This list will be updated in future revisions based on the grants that 3Com obtains.

NOTE: Japan has no form of modular approval available at this time. Regulatory certification for Japan can only be obtained through standard type approval procedures and you are responsible for obtaining that approval.

Topics Not Covered

Topics not covered in this manual include:

•Details of requirements for standard type approval filing (Neither US nor other countries)

•Japan regulatory approvals

•Unintentional emissions requirements for FCC or other countries

United States Regulatory Approval

User Manual Statements

The following information must appear in the user manual:

"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
(2) This device must accept any interference received, including interference that may cause undesired operation."

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

FCC Modular Approval

The requirements for FCC modular approval were released in June 2000 in the FCC's Public Notice FCC Public Notice DA 00-1407, Part 15 Unlicensed Modular Transmitter Approval.

General Installation Criteria

To fully comply with modular approval requirements the following conditions must be met:

1. Non- modification of the module or additions to circuitry
2. Adherence to the design criteria, including antennas and transmission line interconnect
3. Testing of the final configuration to insure emissions compliance

The 3com wireless USB device may not be altered or modified in any way upon receipt. Additionally, no external component can be added which changes the radio frequency (RF) characteristics of the transmitted signals. This includes all components both passive and active such as RF filters, RF amplifiers, RF switches, etc. RF components may not be placed between the output pin of the 3Com wireless USB device and the antennas, except the RF transmission line that interconnects them.

Antennas

Only antennas bearing specific part numbers and qualified with 3Coms modular approval may be used with 3Com's wireless USB device. These antennas are designed to be compatible with the RF transmission line impedance and frequency range of 3Com's wireless USB device and may not be modified in any way from the design baseline as indicated by the antenna data sheets from the manufacturer.

The antennas selected by 3Com have been specifically tested with the 3Com wireless USB device, and they are certified through the regulatory agencies in the US, Canada, and European Union for authorized use. The selection and use of antennas other than the antennas selected by 3Com voids 3Com's modular approval grant.

Antenna Interconnect

There are specific requirements that must be met when designing a transmission line

interconnection between 3Com's wireless USB device and the antenna. This wireless USB device has been specifically designed as a miniature component to be integrated into portable electronic devices. As such the RF connection is not a standard connector, but a ball grid array solder connection. The module must be mounted on the host PCB directly or placed in a specially designed socket that is mounted to a host PCB.

Transmission Line Impedance

The transmission line must be designed to be a 50 Ohm impedance.

Physical Implementation

The physical implementation of the RF transmission line must conform to the following guidelines. Any combination of microstrip, stripline, or coaxial cable is acceptable. However, the following guidelines must be adhered to:

1. Microstrip (conductor above ground plane): Lengths should be minimized to keep losses at a minimum. An impedance of 50 +/- 2 ohms must be maintained. For design formulae, the following web sites can be accessed for interactive design programs:
   Table http://www.mit.edu/~mcmahill/software/mstrip/mscalc.htm
   Table A http://www.polar.co.uk/

2. Stripline (conductor between ground planes on printed circuit board): Since stripline is non-radiating, any length of stripline can be used. However, lengths should be minimized to keep losses at a minimum. Either symmetric or asymmetric stripline may be used. For design formulae visit:
   Table B http://www.polar.co.uk/

3. Coaxial Cable: Since coaxial cable is non-radiating, any length may be used. The impedance must be 50 +/- 2 ohms.

In general, the lengths of all transmission lines should be kept at a minimum where possible. Microstrip is the most lossy, followed by stripline and then coax. These factors should be taken into account in design of the interconnect. Higher loss will reduce the range of the wireless USB device in the final implementation.

SAR Information

This device generates and radiates radio-frequency energy. In order to comply with FCC radio-frequency radiation exposure guidelines for an uncontrolled environment, this device must be installed and operated while maintaining a minimum body to antenna distance of 0.47 cm (0.185 inch), based on an antenna gain of 4 dBi.

Contact 3Com for additional information regarding minimum body to antenna distances based on antenna gains other than 4 dBi.

Intentional Emissions Compliance Testing

Although the module, including the interconnect and antenna, have been modular approved by the FCC the final configuration must meet emissions compliance. The final configuration must be tested in an FCC certified test laboratory to confirm that intentional radiated emissions continue to operate within the limits specified in the Part 15 rules. Applicable sections include:

1. Part 15 Section 15.247, Operation within the bands of 2400-2483 MHz

2. Part 15 Section 15.201 to 15.209, Intentional Emitter Restricted Bands and Radiated Emission Limits

For detailed document information, visit http://www.fcc.gov/oet/info/rules/. Other information may be found in the following documents:

FCC Public Notice DA 000-705, Filing and Measurement Guidelines for Frequency Hopping Spread Spectrum Systems.

FCC Public Notice DA 00-1407, Part 15 Unlicensed Modular Transmitter Approval.

Both of these documents may be found on the FCC web site. These intentional emissions tests can be conducted by the manufacturer if equipped with a certified test chamber or by contacting an accredited test facility. The results of these tests are not required to be submitted to the FCC or 3Com, but should be kept on file by the OEM.

Exterior Labeling Requirements

To satisfy FCC exterior labeling requirements, an FCC label, along with specific text, must be placed on the notebook PC that contains a 3Com wireless USB device. The following text or any similar wording that expresses the same meaning must be placed beneath the FCC label on the exterior of the laptop.

"Contains Transmitter Module FCC ID: SL-1021"

Canadian Regulatory Approval

Conditions of Grant

In general, Industry Canada follows the FCC in terms of emission levels and other regulatory requirements. Although Industry Canada's position is that the OEM has the first level of responsibility for insuring compliance for the end use configuration, 3Com as grantee is responsible as supplier of the module design.

Design Criteria

The same design criteria as described above should be followed for Canadian modular approval.

Intentional Emissions Compliance testing

To ensure intentional emissions compliance, testing of the final configuration must be conducted per Industry Canada RSS-210 (Low Power License-Exempt Radio communication Devices). For detailed document information, visit:

http://strategis.ic.gc.ca/SSG/sf01375e.html-RadioStandardsSpecifications

These intentional emissions tests can be conducted by the manufacturer if equipped with a test chamber or by contacting an approved test facility. The results of these tests are not required to be submitted to Industry Canada or 3Com, but should be kept on file by the OEM.

Installation Instructions

This device has been designed to operate with an antenna having a maximum gain of 4.0 dB. Antenna having a higher gain is strictly prohibited per regulation of the FCC, Industry Canada, and other national regulatory agencies. The required antenna impedance is 50 ohms.

The installer of this radio equipment must ensure that the antenna is located or pointed such that it does not emit RF field in excess of Health Canada limits for the general population; consult Safety Code 6, obtainable from Health Canada's website www.hc-sc.gc.ca/rpb.

User Manual Statements

The following information must be placed in the user manual:

"This device contains a wireless transceiver that complies with Canadian RSS-210 as demonstrated by IC Grant No.: (TBD)."

Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device."

(This statement is a repeat of the FCC statement, and need appear in English only once in the manual.)

To prevent radio interference to the licensed service, this device is intended to be operated indoors and away from windows to provide maximum shielding. Equipment (or its transmit antenna) that is installed outdoors is subject to licensing.

The installer of this radio equipment must ensure that the antenna is located or pointed such that it does not emit RF field in excess of Health Canada limits for the general population; consult Safety Code 6, obtainable from Health Canada's website www.hc-sc.gc.ca/rpb.

Exterior Labeling Requirements

To satisfy Industry Canada exterior labeling requirements, the following text must be placed on the backside of the notebook PC that contains the 3Com wireless USB device:

"This product contains a 3Com wireless USB device with Canadian Cert No. (TBD)"

European Union

Conditions For Acceptability

Regulatory requirements for marketing in the EU are covered in the R&TTE Directive of April 8, 2000. This directive simplifies marketing by allowing self-certification for "harmonized" bands by conducting testing at their own manufacturing facility or test house.

To meet the requirements of the R&TTE directive a Technical Construction File is no longer required. However, frequency notification to countries within the EU is required. Article 6 of the R&TTE directive states, "the manufacturer or the person responsible for placing the apparatus on the market provides information for the user on the intended use of the apparatus, together with the declaration of conformity to the essential requirements". Although this implies that the OEM has the responsibility for insuring compliance of the end user configuration, 3Com does have a responsibility of supplier of the module and antenna interconnect design, having made its own declaration of conformity and frequency use notifications.

Design Criteria

The same design criteria as described above should be followed for continued compliance with the CE approval of this module.

Intentional Emissions Compliance Testing

In the European community regulatory compliance is based on the European standards ETSI 300-328 (Intentional Emissions) and ETSI 300-826 (Electromagnetic Compatibility). To insure compliance, radiated emissions testing of the final configuration must be conducted to insure that emissions meet the requirements of ETSI 300-328 (European Telecommunications Standard for 2.4 GHz ISM band). For detailed documents visit:

http://europa.eu.int/comm/enterprise/rtte/infor.htm

These emissions tests can be conducted by the manufacturer if equipped with a test chamber or by contacting an approved test facility. The results of these tests are not required to be submitted to the regulatory authorities (within each country) or 3Com, but should be kept on file by the OEM.

Exterior Labeling Requirements

The host device that has a3Com wireless USB device must be labeled "CE" on its exterior. The exclamation mark designates a non-harmonized frequency band. (See http://europa.eu.int/comm/enterprise/rtte/decision/classif.htm for text of this decision. For further details on labeling refer to the R&TTE Directive .See Web Site, above.).

The host device packaging and instructions may bear the same CE marking as described above although it is not mandatory. Additionally, the packaging and instructions must indicate any restrictions on the use of the product (i.e. countries where the operating frequency of a transmitting device is not allowed).