



**STACCATO**  
COMMUNICATIONS

**WLX-2007**

**For FCC Certification Testing**

## **WLX-2007 User Guide**



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## Revision History

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Date	Revision	Description
11/2/06	0.3	Initial release.

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## Regulatory Notices

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.

THIS DEVICE MUST BE INSTALLED IN A LOCATION THAT IS NOT ACCESSIBLE TO THE GENERAL PUBLIC. INSTALL THE DEVICE SO THAT THE ANTENNA IS MORE THAN 20 CM FROM UNSUSPECTING PERSONNEL. FAILURE TO INSTALL THIS DEVICE AS DESCRIBED WILL RESULT IN A FAILURE TO COMPLY WITH FCC RULES FOR RF EXPOSURE AND IS DISCOURAGED. ONLY ANTENNAS APPROVED WITH THE DEVICE MAY BE USED. THIS DEVICE MAY NOT BE CO-LOCATED WITH OTHER TRANSMITTERS WITHOUT FURTHER APPROVAL BY THE FCC.

The device is compliant with 47 CFR 15.519(a)(1):

"A UWB device operating under the provisions of this section shall transmit only when it is sending information to an associated receiver. The UWB intentional radiator shall cease transmission within 10 seconds unless it receives an acknowledgement from the associated receiver that its transmission is being received. An acknowledgement of reception must continue to be received by the UWB intentional radiator at least every 10 seconds or the UWB device must cease transmitting."

Note: Any intentional or unintentional modifications not expressly approved by Staccato Communications or the FCC will void the warranty of the device and the authority of the user to operate the device.

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## 1.0 Introduction

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### 1.1 Purpose

This guide functions as a user guide for the installation and operation of the WLX-2007 with regards to FCC certification testing.

### 1.2 Intended Audience

This reference is intended for technicians or engineers working with the WLX-2007.

### 1.3 Conventions

The following conventions are used throughout this document.

- **Blue text** indicates a link that can be clicked on when viewing the electronic Portable Document Format (PDF) version of this manual. The PDF version is formatted for use using Adobe Acrobat version 4.0 or above. A free viewer can be downloaded from the Adobe website at <http://www.adobe.com>.



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**Note:**

Notes provide extra information on a subject or give specific tips.

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**Caution:**

Cautions provide information to the reader about possible situations that could result in damage to equipment or loss of data.

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### 1.4 Document Structure and Use

The organization of this reference guide is optimized for finding appropriate information quickly.

- Section 1 provides an introduction of this document
- Section 2 provides an overview of the WLX-2007
- Section 3 provides an installation guide
- Section 4 provides an operation guide

A list of acronyms used, document references, and contact information are provided at the end of this document.

### 1.5 Technical Support

Staccato Communications provides a support team to help debug any issues that may arise including any deviations from the installation or operation of the WLX-2007 as listed in this document.

For assistance, please e-mail [support@staccatocommunications.com](mailto:support@staccatocommunications.com) or call 1-858-812-1000 and ask to be transferred to the Solutions Delivery team.

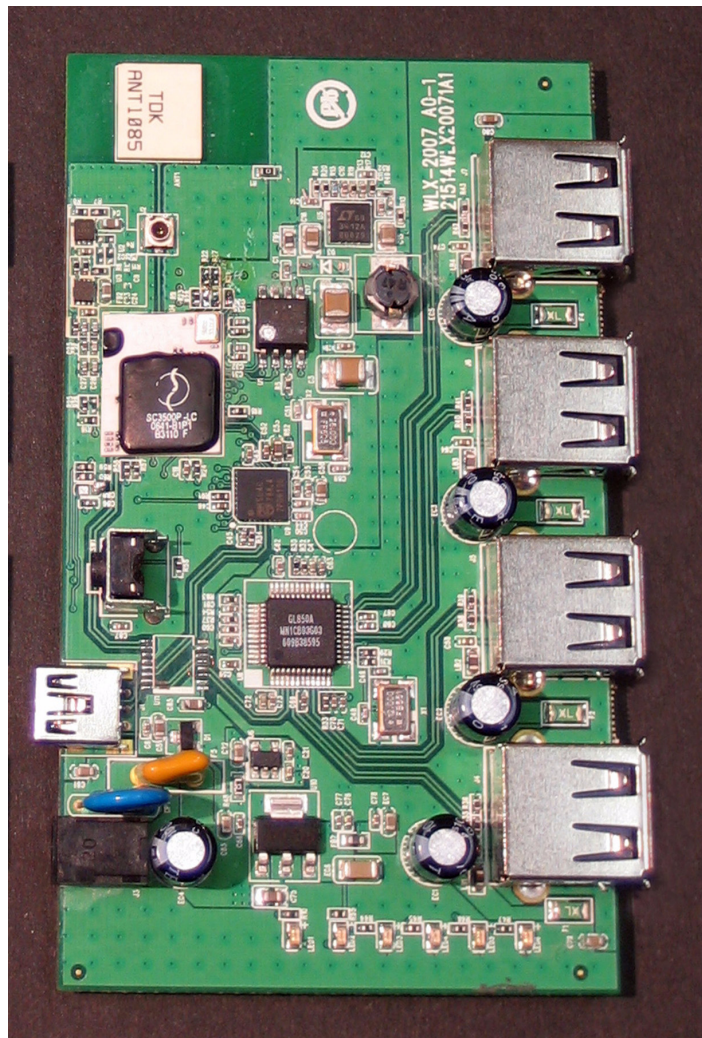
## 2.0 Overview

The WLX-2007 Certified Wireless USB DWA Hub provides a 4-port hub connected to a device wire adapter for use with legacy USB products. The Hub is intended to be wirelessly connected to an HWA or embedded Certified Wireless USB host to function correctly.

The WLX-2007 includes the following features:

- Fully integrated, single-chip all CMOS ultra-wideband solution compliant with Certified Wireless USB as defined by the USB implementers Forum, WiMedia PHY specification V1.1 and WiMedia MAC specification v1.0.
- Support for all Wireless USB mandatory and optional datarate modes including 53.3, 80, 106.7, 160, 200, 320, 400, and 480 Mbps
- Integrated 4-port Hub
- Low power consumption
- Small form factor
- Integrated antenna

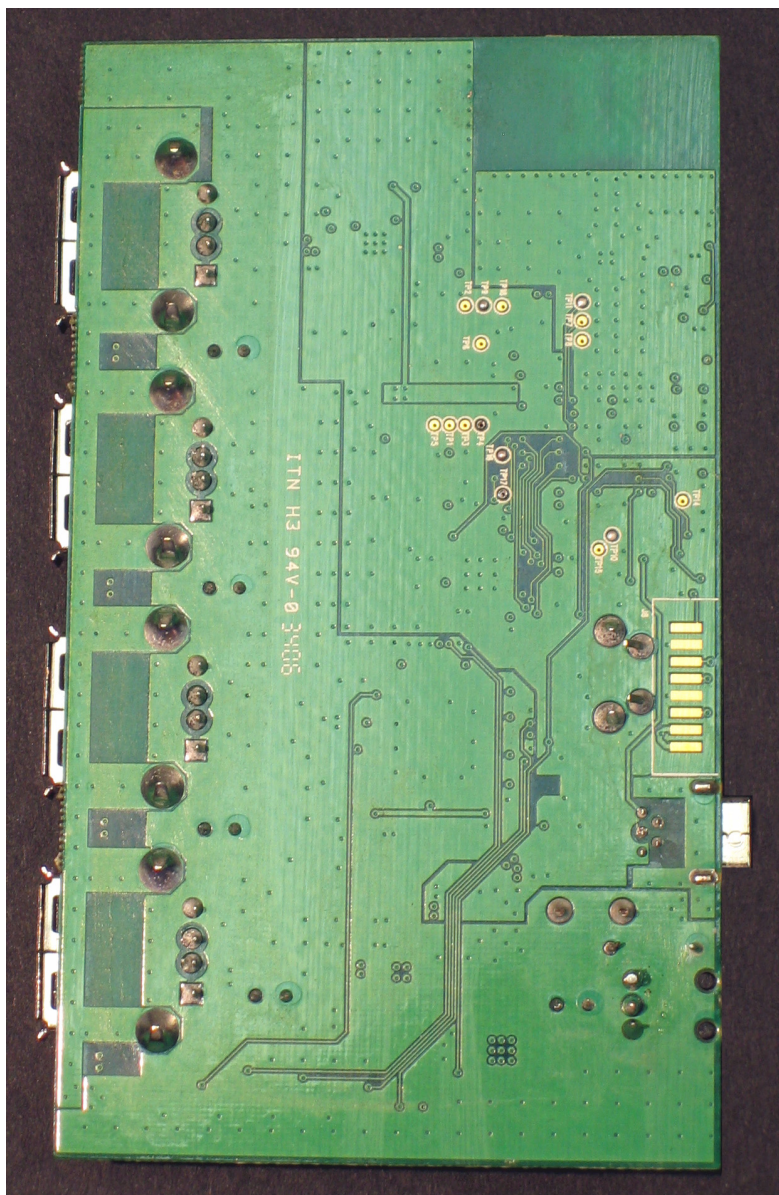
Figure 2-1 shows a photo of the WLX-2007.



*Figure 2-1 WLX-2007*



Figure 2-2 shows the back of the WLX-2007.



**Figure 2-2 WLX-2007 Back**

## 2.1 System Requirements

The WLX-2007 software requires a computer system that meets the following minimum requirements:

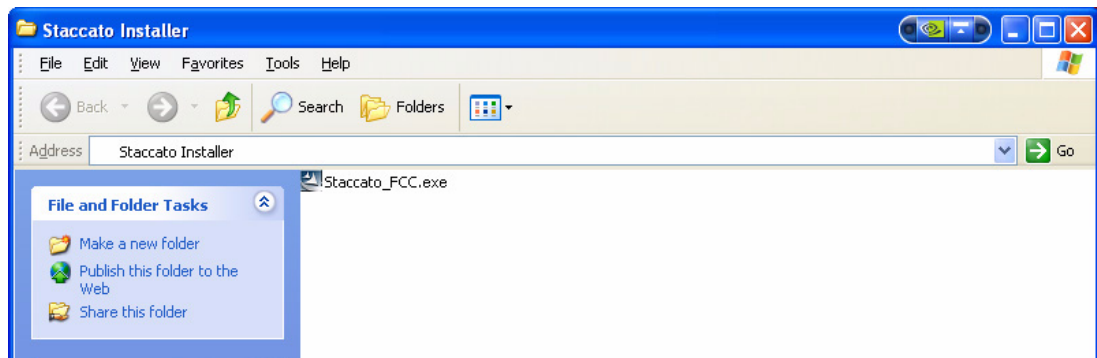
- 1 GHz PC
- Windows XP operating system with SP2 (service pack 2) installed
- One available USB 2.0 port

## 3.0 Installation

The following steps are required for installation of the software associated with the WLX-2007.

### 3.1 Software Installation

Locate the "Staccato\_FCC.exe" installer and double click. This will initiate the installation process. See [Figure 3-1](#) below.



*Figure 3-1 Staccato\_FCC.exe*

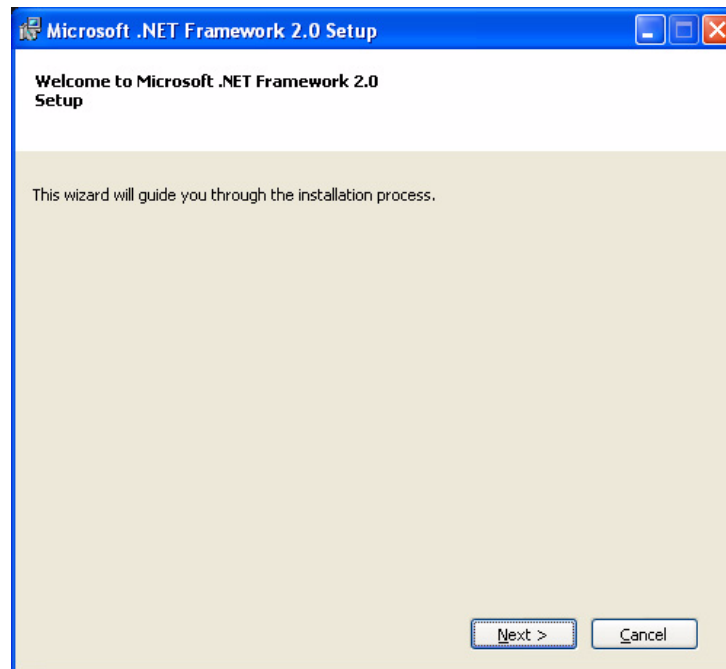
Depending on the software installed on the PC used, Microsoft .Net framework may need to be installed. The installer will prompt the user for this installation. Click "Yes" to continue. See [Figure 3-2](#) below.



*Figure 3-2 .Net Framework Installation*

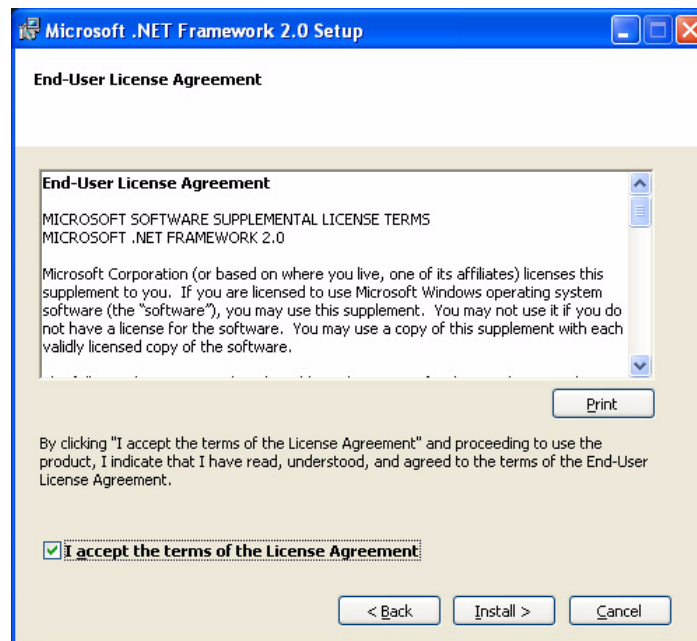


The .NET framework installer will open and guide the user through the installation process. Click "next" to begin the installation of .NET framework. See [Figure 3-3](#) below.



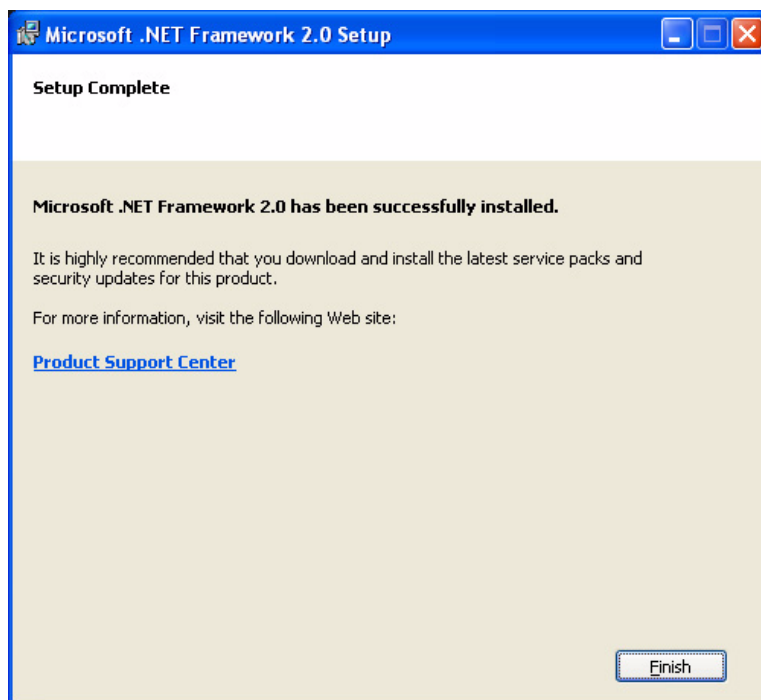
**Figure 3-3 .Net Framework Installation**

In order to install Microsoft .NET framework, the End-User license agreement must be accepted. Click the checkbox to accept the license agreement and click the "Install>" button to continue. See [Figure 3-4](#) below.



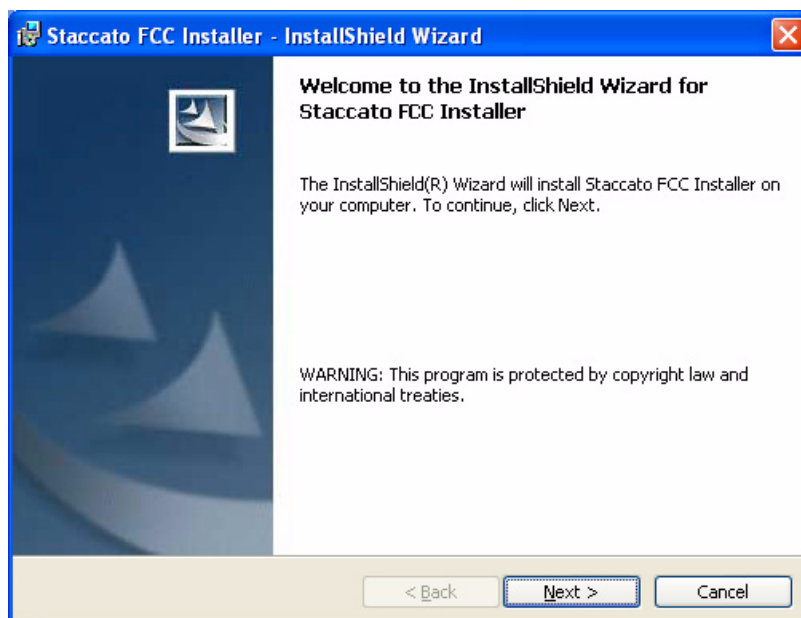
**Figure 3-4 .Net Framework License Agreement**

Once the installation of the .NET framework is complete the image will look like [Figure 3-5](#) shown below. Click "Finish" to close the .NET installer and return to the Staccato Communications installer to continue the installation process.



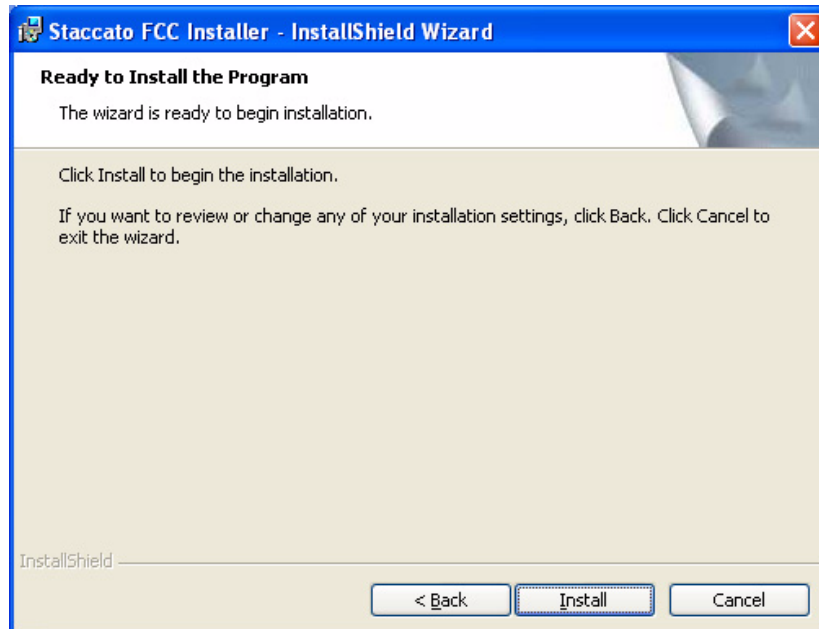
*Figure 3-5 .Net Framework Setup Complete*

The Staccato FCC Installer will now load. Click "Next" to continue. See [Figure 3-6](#) below.



*Figure 3-6 Staccato FCC Installer*

Once prompted, click the "Install" button to begin the installation process. See [Figure 3-7](#) below.



*Figure 3-7 Staccato FCC Installer*

Currently Microsoft does not have testing facilities in place for Wireless USB drivers. As such, a warning message will appear warning the user that the driver has not undergone Windows Logo testing. Click "Continue Anyway" to continue the installation. See [Figure 3-8](#) below.



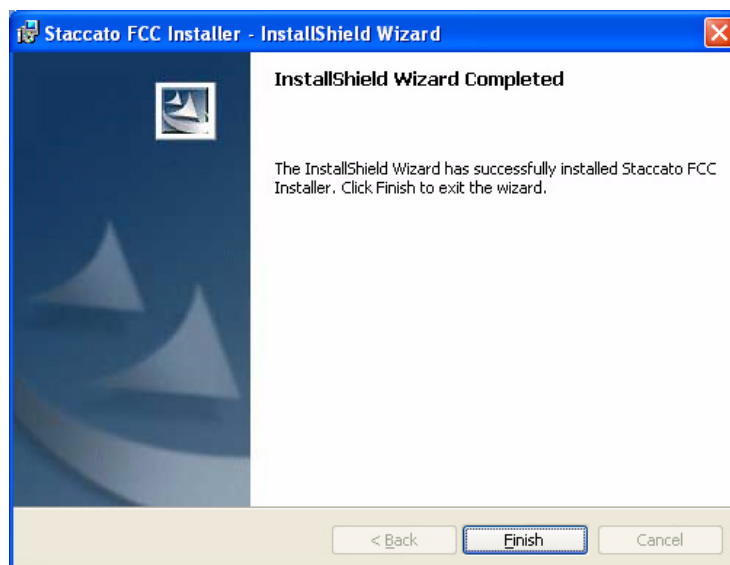
*Figure 3-8 Staccato FCC Installer Warning*

A second driver must be loaded in order for the software to function and as such, another warning will appear. Like before, click "Continue Anyway" to continue the installation. See [Figure 3-9](#) below.



*Figure 3-9 Staccato FFC Installer Warning*

Once the installer has completed, the following window will be shown. Click "Finish" to close the installer. At this point an icon will be placed on the desktop and in the start menu under the "Staccato FCC" folder. See [Figure 3-10](#) below.

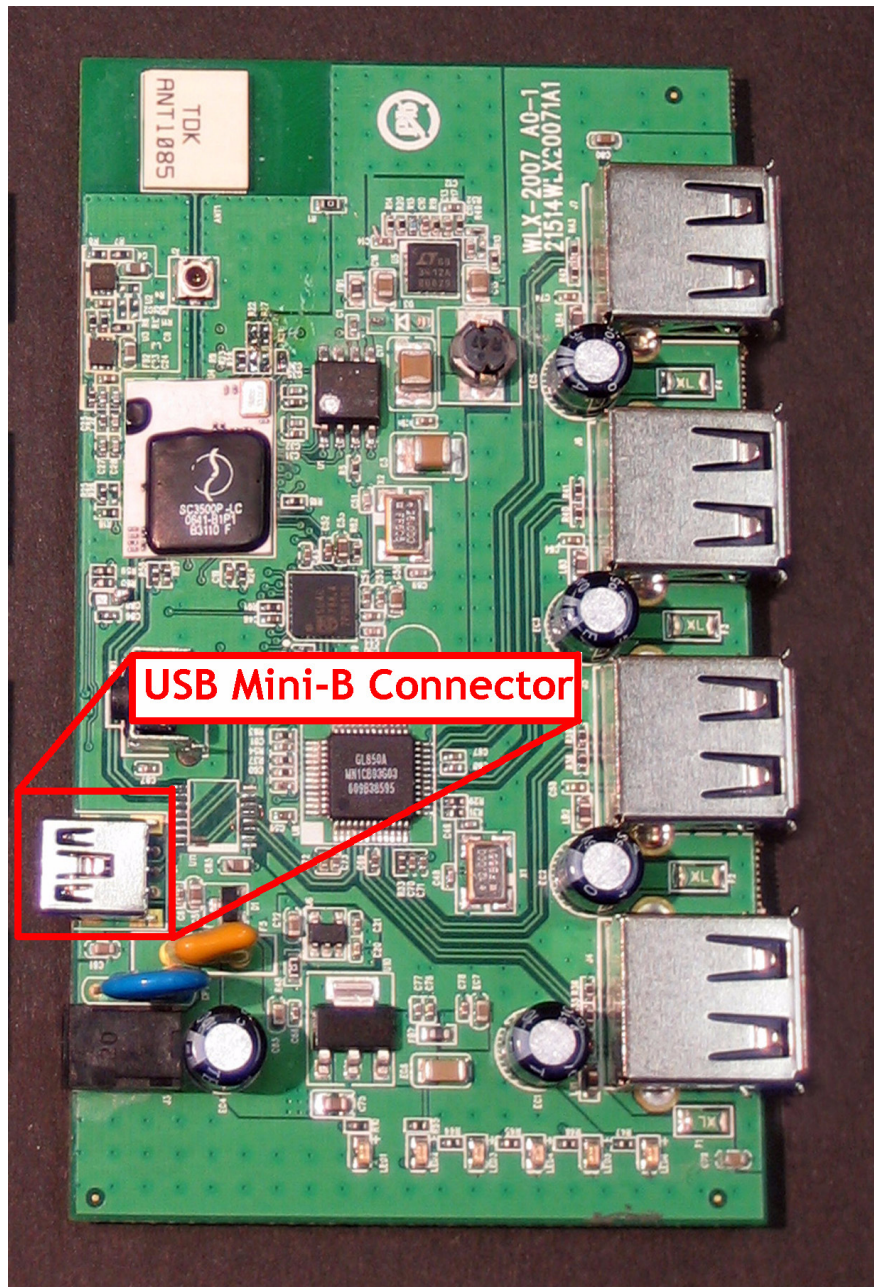


*Figure 3-10 Staccato FFC Installer Finished*

## 3.2 Hardware/Driver Installation

Power the WLX-2007 using the provided power adapter.

Using a USB A to mini-B cable, attach the mini-B side of the cable into the mini-B port on the WLX-2007 as shown in [Figure 3-11](#) below. Attach the A side of the cable to the host PC.



*Figure 3-11 WLX-2007 USB Mini-B Connector*

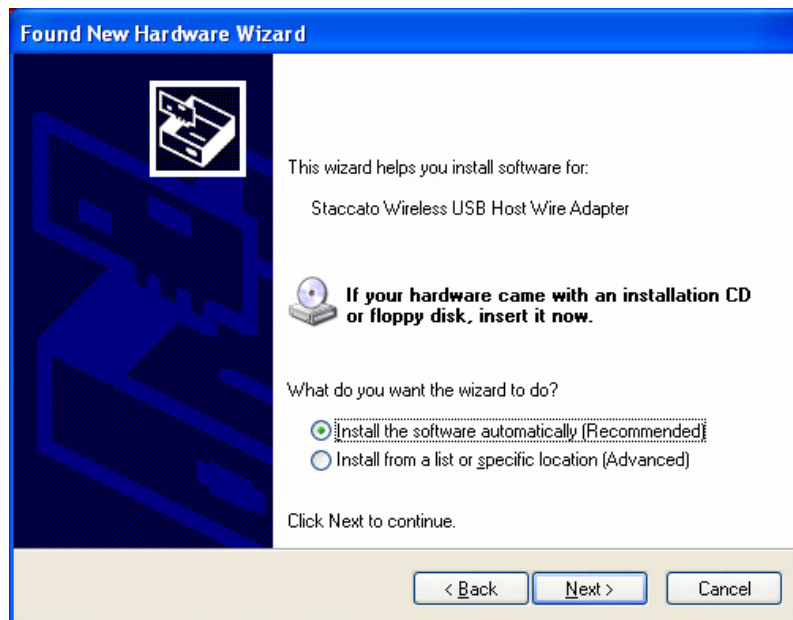


Windows will detect new hardware. There are two drivers that need to be loaded for the WLX-2007. The first of the two drivers is called the "Staccato Wireless USB Host Wire Adapter". When the found new hardware wizard is shown, select "No, not this time" in response to connecting to windows update then click "Next". See [Figure 3-12](#) below.



**Figure 3-12 Found New Hardware Wizard**

Choose to install the software automatically and click next. See [Figure 3-13](#) below.



**Figure 3-13 Found New Hardware Wizard**

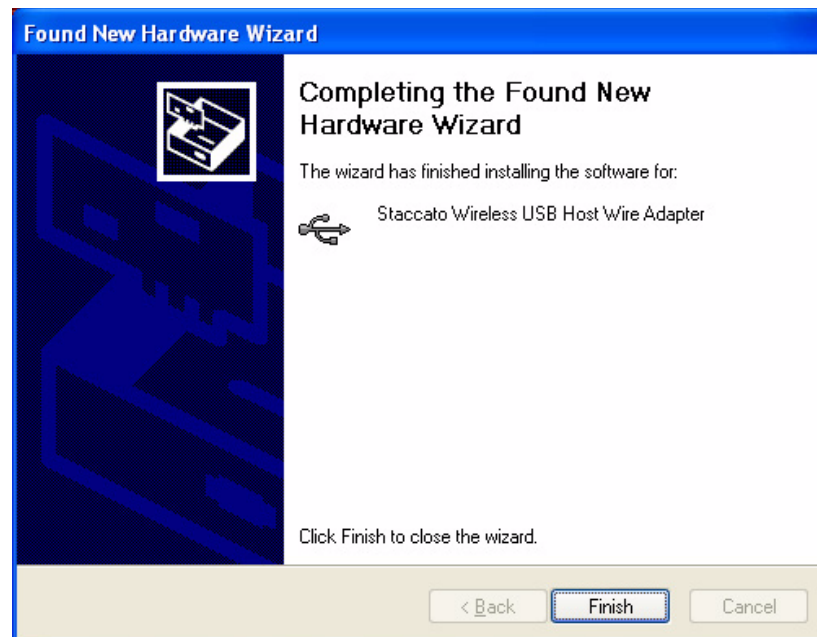


Currently there is no driver testing available for wireless USB drivers which results in the following error message. Click "Continue Anyway" to continue. See [Figure 3-14](#) below.



*Figure 3-14 Found New Hardware Wizard*

At this point, the Staccato Wireless USB Host Wire Adapter should be installed. Click "Finish" to install the second driver. See [Figure 3-15](#) below.



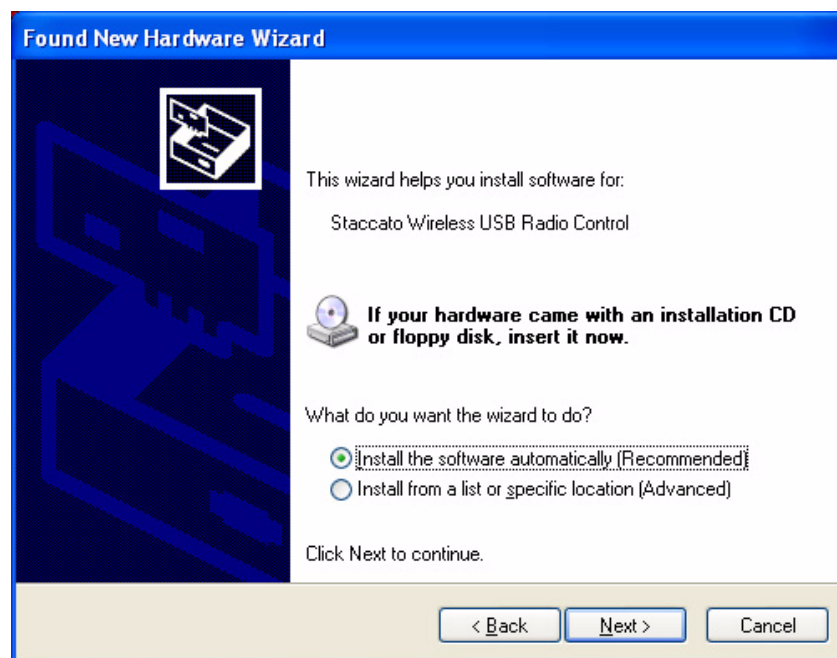
*Figure 3-15 Found New Hardware Wizard*

After the Staccato Wireless USB Host Wire Adapter driver is installed, windows will detect the second driver required. This driver is called Staccato Wireless USB Radio Control. If asked to connect to windows update to search for software select "No, not this time" and click next. See [Figure 3-16](#) below.



**Figure 3-16 Found New Hardware Wizard**

Choose to install the software automatically and click next. See [Figure 3-17](#) below.



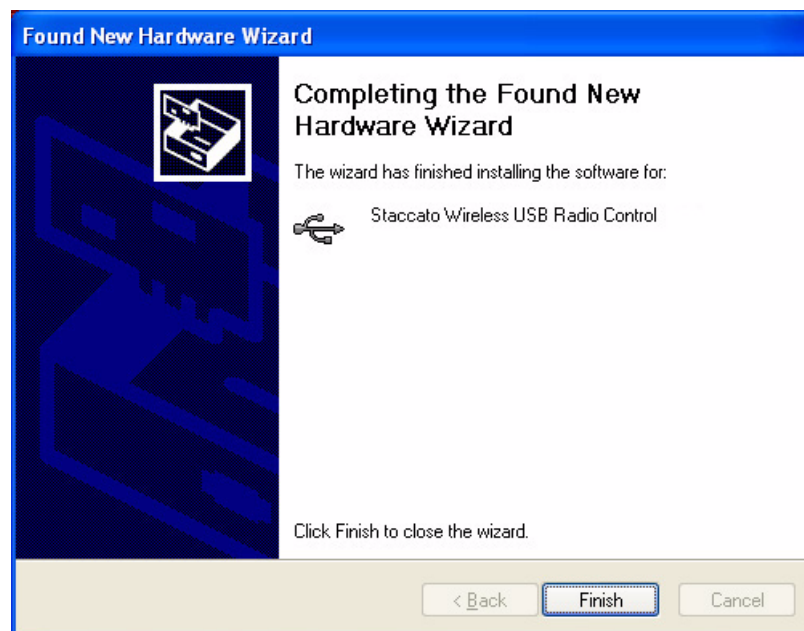
**Figure 3-17 Found New Hardware Wizard**

Currently there is no driver testing available for wireless USB drivers which results in the following error message. Click "Continue Anyway" to continue. See [Figure 3-18](#) below.



*Figure 3-18 Found New Hardware Wizard*

At this point, the Staccato Wireless USB Radio Control driver should be installed. Click "Finish" to complete the process. See [Figure 3-19](#) below.



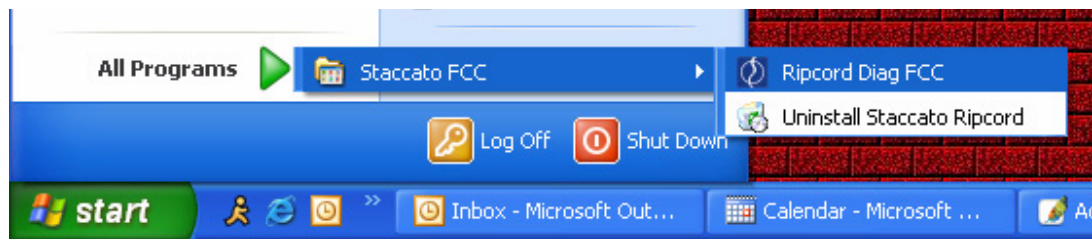
*Figure 3-19 Found New Hardware Wizard Finished*

## 4.0 Operation

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Prior to operation, the WLX-2007 should be powered and connected via USB cable to the PC. Ensure that the "Staccato Wireless USB Host Wire Adapter" and "Staccato Wireless USB Radio Control" drivers are properly loaded. These drivers are visible in the Windows Device Manager under "Universal Serial Bus Controllers" when viewing in "Devices by type" mode selected from the "View" dropdown menu.

In order to start the graphical user interface to control the operation of the WLX-2007, double click on the "Ripcord Diag FCC" icon on the desktop. Alternatively, Ripcord Diag FCC can be selected from the start menu. It is located in the "Staccato FCC" folder as shown in [Figure 4-1](#) below.



*Figure 4-1 Start Menu*

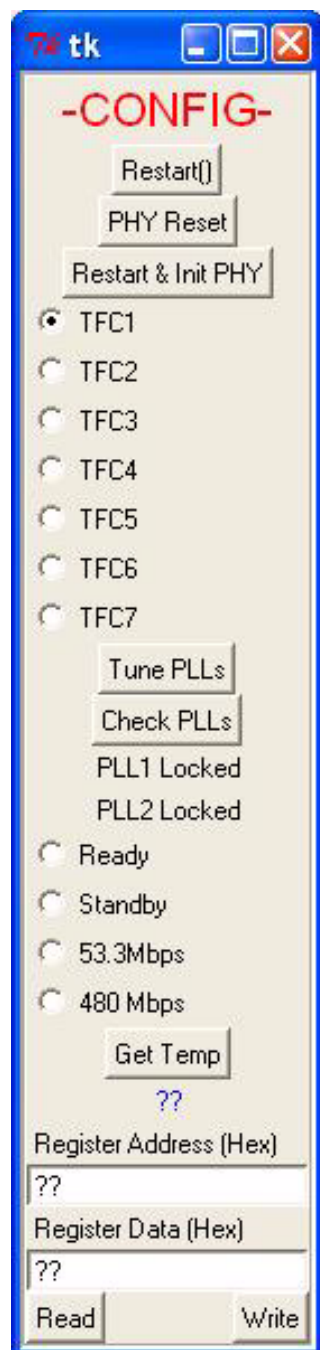


Figure 4-1 WLX-2007 Config Screen

Once the graphical user interface has loaded, the screen shown in [Figure 4-1](#) will be available to control the WLX-2007 in various test modes.

Initially, click on "Tune PLLs." Next, click "Check PLLs". This will check to see that the PLLs are locked and tuned correctly. If the PLLs are locked, the messages "PLL1 Locked" and "PLL2 Locked" will appear below the "Check PLLs" button.

After the PLLs have been tuned, the desired operational mode can be set. By default, the system should be in "Ready" mode at startup. Standby mode will put the system in a mode where it will not be capable of transmission, as such Ready mode is required to be set during transmit

Similarly, either 53.3 Mbps or 480 Mbps mode may be selected for any specific test. By default, 53.3 Mbps mode is used.

The buttons for "Restart", "Phy Reset", and "Restart and Init PHY" can be used to set the silicon into the modes specified. However, for ease of use and test repeatability it is recommended to close the FCC test application, remove the USB cable from the device, re-attach the USB cable and re-enumerate the WLX-2007, and start the operation process from the beginning.

The "Get Temp" button, "Read" button, "Write" button, and the two text fields for Register Address and Register Data are used for internal debug purposes and should not be used during any tests.





## Acronyms and Definitions

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RF	Radio Frequency
SiP	System-in-Package
USB	Universal Serial Bus
UWB	Ultrawideband
WiMedia	Standards group for Ultrawideband
W-USB	Wireless Universal Serial Bus

## Document References

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- [1] MultiBand OFDM Physical Layer Specification, *WiMedia Alliance*, Release 1.1, July 14, 2005
- [2] Wireless Universal Serial Bus Specification, *Agere, Hewlett-Packard, Intel, Microsoft, NEC, Philips, Samsung*, Revision 1.0, May 12, 2005
- [3] Distributed Medium Access Control (MAC) For Wireless Networks, *WiMedia Technical Specification*, WiMedia Draft MAC Version 0.98.9, October 3, 2005
- [4] Universal Serial Bus Specification, *Compaq, Hewlett-Packard, Intel, Lucent, Microsoft, NEC, Philips*, Revision 2.0 April 27, 2000
- [5] SC3501P SiP Datasheet, *Staccato Communications*
- [6] SC3502P SiP Datasheet, *Staccato Communications*

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