

# **Agilent N6430A Series WiMAX™ Protocol Test Software**

## **Installation and Getting Started Guide**



**Agilent Technologies**

# Notices

© Agilent Technologies UK Ltd. 2008

No part of this manual may be reproduced in any form or by any means (including electronic storage and retrieval or translation into a foreign language) without prior agreement and written consent from Agilent Technologies, Inc. as governed by United States and international copyright laws.

## Manual Part Number

5972-3402

## Edition

First Edition, February 2008

Printed in Malaysia

Agilent Technologies UK Ltd.  
Station Road, South Queensferry  
West Lothian EH30 9TG, UK

Microsoft<sup>®</sup> and Windows<sup>®</sup> are U.S. registered trademarks of Microsoft Corporation.

WiMAX<sup>™</sup> and WiMAX Forum<sup>™</sup> are trademarks of the WiMAX Forum.

Pentium<sup>®</sup> is a U.S. registered trademark of Intel Corporation.

Java<sup>™</sup> is a U.S. trademark of Sun Microsystems, Inc.

TTworkbench<sup>®</sup> is a registered trademark of Testing Technologies IST GmbH

## Warranty

**The material contained in this document is provided “as is,” and is subject to being changed, without notice, in future editions. Further, to the maximum extent permitted by applicable law, Agilent disclaims all warranties, either express or implied, with regard to this manual and any information contained herein, including but not limited to the implied warranties of merchantability and fitness for a particular purpose. Agilent shall not be liable for errors or for incidental or consequential damages in connection with the furnishing, use, or performance of this document or of any information contained herein. Should Agilent and the user have a separate written agreement with warranty terms covering the material in this document that conflict with these terms, the warranty terms in the separate agreement shall control.**

## Technology Licenses

The hardware and/or software described in this document are furnished under a license and may be used or copied only in accordance with the terms of such license.

## Restricted Rights Legend

U.S. Government Restricted Rights. Software and technical data rights granted to the federal government include only those rights customarily provided to end user customers. Agilent provides this customary commercial license in Software and technical data pursuant to FAR 12.211 (Technical Data) and 12.212 (Computer Software) and, for the Department of Defense, DFARS 252.227-7015 (Technical Data - Commercial Items) and DFARS 227.7202-3 (Rights in Commercial Computer Software or Computer Software Documentation).

## Safety Notices

### CAUTION

A **CAUTION** notice denotes a hazard. It calls attention to an operating procedure, practice, or the like that, if not correctly performed or adhered to, could result in damage to the product or loss of important data. Do not proceed beyond a **CAUTION** notice until the indicated conditions are fully understood and met.

---

### WARNING

A **WARNING** notice denotes a hazard. It calls attention to an operating procedure, practice, or the like that, if not correctly performed or adhered to, could result in personal injury or death. Do not proceed beyond a **WARNING** notice until the indicated conditions are fully understood and met.

---

## In This Guide...

This guide introduces you to the components of the Agilent N6430A Series WiMAX Protocol Test. It also shows you how to install and configure your Agilent N6430A Series WiMAX Protocol Test Software.

It defines the requirements of your computer(s). It shows you a step-by-step procedure for the installation of the required applications and how to inter-connect the computer(s) and E6651A Test Set.

The Agilent N6430A Series Help on the supplied CD contains more information about the Agilent N6430A Series website, and operation of the N6431A TTCN-3 environment.

It contains the following Chapters:

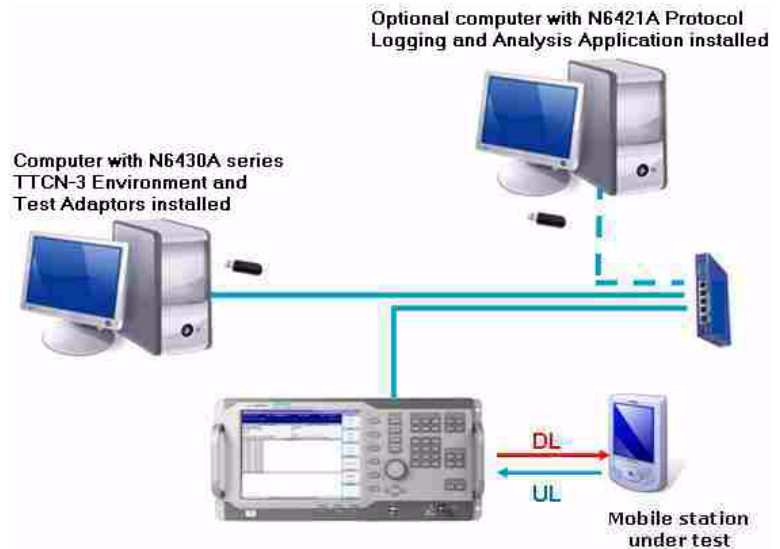
- 1 About the Protocol Test System**
- 2 Installation**
- 3 Additional Information**

## The Agilent N6430A Series WiMAX Protocol Test Overview

An example of the Agilent Mobile WiMAX Protocol Test System is shown in Figure 1. Depending on the configuration purchased, the system includes the N6430A Series WiMAX Protocol Test Software, and one or more E6651A Mobile WiMAX Test Sets.

The N6430A Series software includes the N6431A TTCN-3 Environment, together with N6432A, N6433A, N6442A and/or N6443A adaptors depending on the configuration selected. These components allow TTCN-3 Test cases to be executed.

The E6651A contains RF and MAC layer emulation functions. The E6651A can emulate a WiMAX base station or mobile station, providing an RF interface to the user-supplied equipment under test.



**Figure 1** Example WiMAX IUT Protocol Test Implementation

The N6430A Series software provides logging within the TTCN-3 environment. For more detailed MAC/PHY layer protocol logging, it is also possible to connect the Agilent N6421A Protocol Logging and Analysis software to the E6651A.

It is recommended that the N6430A Series software and the N6421A protocol logging application should be loaded and run on separate computers and connected to the E6651A using a private Ethernet network. Separate Ethernet ports can be added to the computers if necessary to provide connection to a public or corporate Ethernet network while maintaining connection to the E6651A.

Many protocol test scenarios can be emulated using a single E6651A. For some handover test scenarios, it may be necessary to emulate more than one WiMAX cell. Additional E6651As can be added to the system and controlled by a single instance of N6430A Series software to build up multi-cell systems.

The currently supported WiMAX protocol testing methodologies require user control of the equipment under test. In the future, the WiMAX standard will expand to enable future revisions of the N6430A Series software to control the equipment under test by means of a standardized Test Interface (TI).

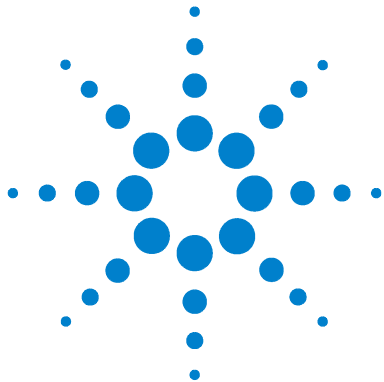


# Contents

<b>1</b>	<b>About the Protocol Test System</b>	<b>9</b>
	About the Protocol Test System	10
	Block Diagram Implementation	10
<b>2</b>	<b>Installation</b>	<b>15</b>
	Overview	16
	Please Check	16
	Minimum Computer Requirements	17
	Requirements	17
	Installation	18
	Step 1 - License Redemption	18
	Step 2 - Installing the N6431A TTCN-3 Environment	22
	Step 3 - Installing N6432A Mobile Station Test Adaptor (if ordered)	25
	Step 4 - Installing N6442A Base Station Test Adaptor (if ordered)	28
	Step 5 - Redeem License for Developers' Contract (if ordered)	31
	Step 6 - Redeem License for Wave 1 Validated Release and Contract (if ordered)	34
	Step 7 - E6651A Test Set Firmware	37
	Step 8 - Connecting the System	41
	Step 9 - Start and Configure the Workbench Application	48
	Step 10 - Integrating the N6421A Protocol and Logging application	59
<b>3</b>	<b>Additional Information</b>	<b>67</b>
	Responsibilities of the Customer	68
	The Agilent N6430A Series Support Web Site	69
	Agilent Sales and Service Offices	70

**Contents**





# 1 About the Protocol Test System

About the Protocol Test System	10
Block Diagram Implementation	10



## About the Protocol Test System

This section provides some background to the Agilent implementation of a Protocol Test System. It shows you a block diagram of a Protocol Test System and how that is implemented with the Agilent N6430A Series and N6421A applications, and the E6651A WiMAX Test Set.

### Block Diagram Implementation

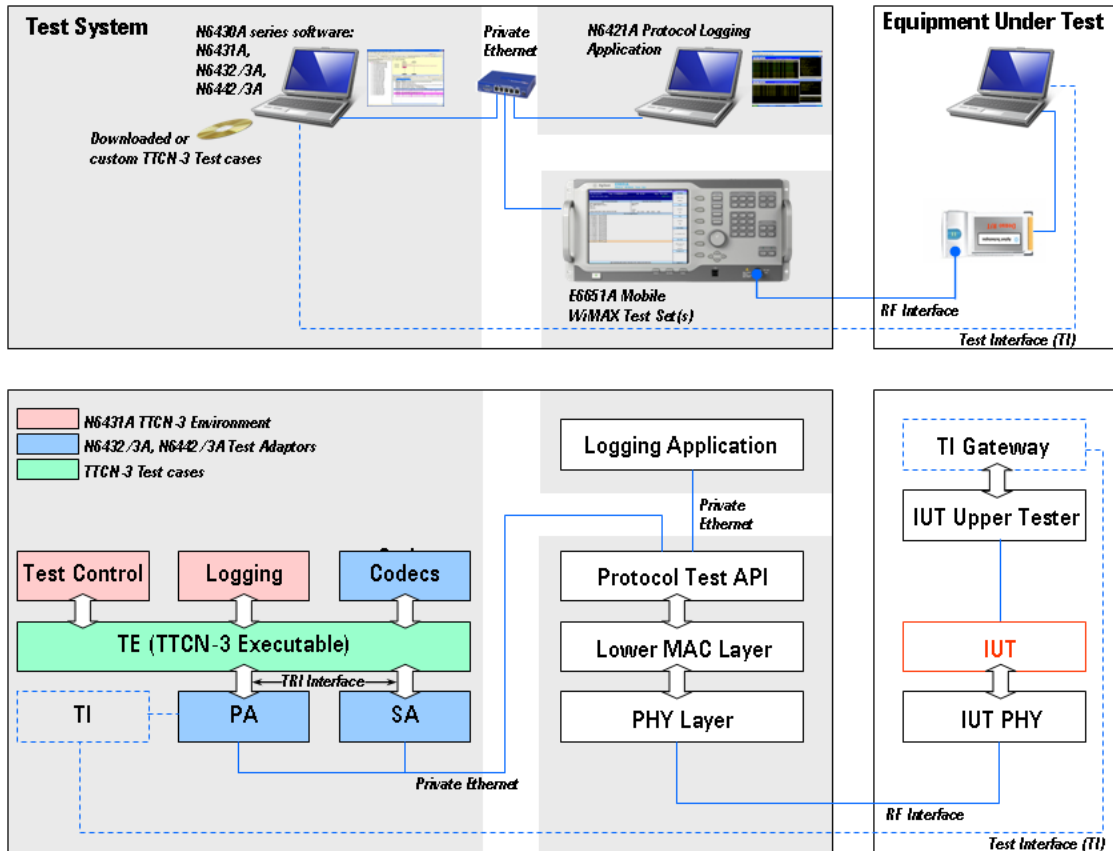
The protocol test system block diagram is based closely on TTCN-3 (Test and Testing Control Notation version 3) industry standards.

The N6431A TTCN-3 Environment provides a graphic user interface and software framework for other components of the system. The tool enables TTCN-3 test cases to be loaded, edited or created, compiled and executed. It includes logging functions and the ability to automate sequences of tests or campaigns. The N6431A is based on Testing Technologies IST GmbH's TTWorkbench product.

WiMAX PCT TTCN-3 test cases can be portable from one test platform to another. To enable test case portability, the functions available to a TTCN-3 programmer through the TRI (TTCN-3 Run Time Interface) have been standardized by ETSI and the WiMAX Forum™.

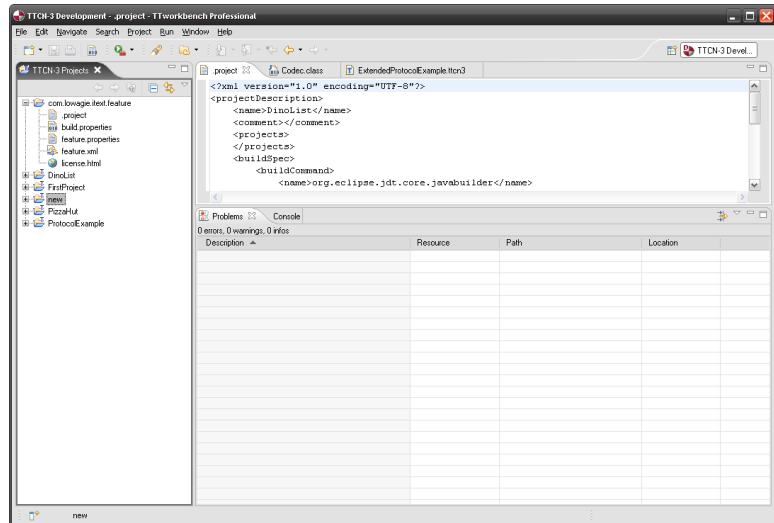
N6432/3A and N6442/3A include adaptors that connect the standardized TRI interface available to programmers to the unique implementations of MAC and PHY contained within the E6651A Mobile WiMAX Test Set. The SA (System Adaptor) provides a message portal to enable TTCN-3 programs to send and receive protocol messages directly to the MAC layer within the E6651A. The PA (Platform Adaptor) provides TTCN-3 programs with a selection of External Functions. External Functions are defined by ETSI and implemented by a combination of unique software components within the PA and the E6651A. N6432/3A and N6442/3A also contain the message coder/decoder (Codec).

The Codec uses information from the IEEE 802.16 standards to encode and decode MAC messages using parameters with values defined within the TTCN-3 test cases to a form that can be utilized directly by the protocol stack within the E6651A.



**Figure 2** Agilent N6430A Series Implementation

Test cases written in the TTCN-3 language are compiled to form the TE (TTCN-3 Executable). WiMAX conformance test cases are created for the WiMAX Forum by ETSI. You can also create your own TTCN-3 test cases.



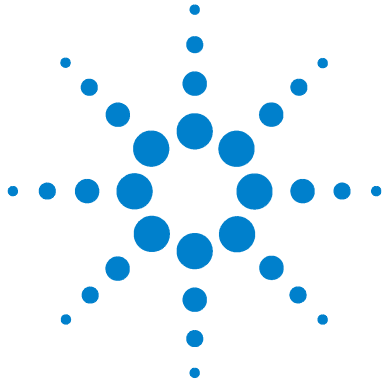
**Figure 3** TTCN-3 Environment

The E6651A Mobile WiMAX Test Set exchanges messages with the SA and PA in the N6430A Series PC-based system using a proprietary protocol carried over a private Ethernet connection. The Test Set contains an implementation of the IEEE 802.16 protocol MAC (Media Access Control) layer and PHY (Physical) layer that includes an RF interface that can be used to connect to the equipment under test. When operated as a stand-alone Test Set, the E6651A MAC layer operates autonomously to emulate a WiMAX base station. When operated in TTCN-3 mode, and connected to the external N6430A Series system, the Test Set's upper MAC is disabled and replaced by the functionality of the TTCN-3 script being executed within the N6430A Series environment. In this mode, the system can emulate either a Mobile Station or a Base Station.

The N6421A Protocol Logging Application can be connected to the E6651A Mobile WiMAX Test Set to capture MAC and PHY message exchange. The Protocol Logging Application



**1 About the Protocol Test System**



## 2 Installation

Overview	16
Minimum Computer Requirements	17
Installation	18
Step 1 - License Redemption	18
Step 2 - Installing the N6431A TTCN-3 Environment	22
Step 3 - Installing N6432A Mobile Station Test Adaptor (if ordered)	25
Step 5 - Redeem License for Developers' Contract (if ordered)	31
Step 6 - Redeem License for Wave 1 Validated Release and Contract (if ordered)	34
Step 7 - E6651A Test Set Firmware	37
Step 8 - Connecting the System	41
Step 9 - Start and Configure the Workbench Application	48
Step 10 - Integrating the N6421A Protocol and Logging application	59



## Overview

Several software products and components are required to complete the Agilent N6430A Series WiMAX Protocol Test and Development System.

This chapter provides a step-by-step guide to the installation of the N6430A Series software and also shows you how to ensure your Agilent E6651A WiMAX Test Set has the required firmware.

### NOTE

These Installation instructions are for both Mobile and Base Station Test.

## Please Check

Before proceeding, please confirm you have the following:

- Agilent E6651A WiMAX Test Set with the appropriate firmware revision. (Refer to [“Step 7 - E6651A Test Set Firmware”](#) on page 37)
- A computer meeting the requirements specified in [“Minimum Computer Requirements”](#) on page 17
- Ethernet hub or switch and LAN cables
- N6431A CD-ROM for installation of the TTCN-3 environment.
- N6431A entitlement certificate for license redemption
- N6432A Test Adaptor installation CD-ROM
- N6432A/N6442A Test Adaptor USB license key
- Entitlement certificate for developer contract (if ordered):
  - N6432A/N6442A-1TY 12 month developers contract for Wave 1 updates and Wave 2 upgrades
- Entitlement certificate for Wave 1 validated release and contract (if ordered):
  - N6433A/N6443A-1TP Wave 1 validated release, and N6433AN6443A-1TY 12 months maintenance contract for Wave 1 validation updates.



## Minimum Computer Requirements

The N6430A Series installation computer should meet the minimum requirements specified for successful operation of the software.

## Requirements

Processing large amounts of time critical data is an inherent requirement of the conformance test system. A high performance desk-top style computer with expansion capacity for additional Network Interface Cards (NIC) or adaptors is recommended.

### Minimum System Requirements

<b>Operating System</b>	Computer running Windows XP or Windows 2000.
<b>Communication with Test Set(s)</b>	Ethernet.
<b>RAM (Memory)</b>	Minimum 2 GB RAM.
<b>Processor</b>	2.0 GHz Intel Pentium® or equivalent, dual core preferred.
<b>Disc Space</b>	N6431A TTCN-3 Environment - at least 170 MB Java Runtime Environment - at least 300 MB N6432A/N6442A Test Adaptors - at least 50 MB

#### NOTE

Consideration for storage space should also be given for subsequent downloaded releases of N6432A/N6442A updates, development and validated scripts, and all supporting documentation,

### Optional

Additional Network Interface Cards (NIC) or adaptors if connection to public or corporate network is required.

## Installation

The N6432A/N6442A software requires that the N6431A TTCN-3 environment is installed. If you have not already done so, install the N6431A on your selected computer using the instructions below.

### Step 1 - License Redemption

#### N6431A TTCN Environment License Redemption

The N6431A TTCN-3 environment software (TTworkbench) is provided through collaboration with Testing Technologies IST GmbH. Agilent provide two options for TTworkbench products:

- N6431A-1FP TTCN-3 Environment, execution only
- N6431A-2FP TTCN-3 Environment, developer

An entitlement certificate for one of these options is required to redeem your license. License information is required during the installation process.

Entitlement certificates are also required for each of the N6432A, N6433A, N6442A, and N6443A product you have purchased.

#### Redeeming your Licenses

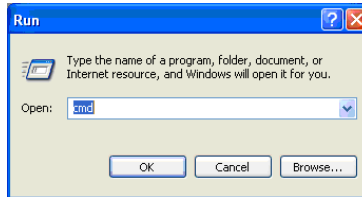
The license redemption procedure is similar for all products and requires that you have all or some of the following information readily available:

- Installation computer Hostname and LAN adaptor MAC address
- Order Number for your N6431A license

### Determine Hostname and MAC Address

To find the Hostname and MAC address of the LAN adaptor on your computer proceed as follows:

- 1 Click **Start > Run** and enter **cmd** in the **Run** window as shown.



**Figure 5** Run Window

- 2 In the command window, enter `ipconfig /all` to list information about your network adaptors, including the Host Name and MAC address (known as the physical address), a 12 digit hexadecimal number.

In the example shown in **Figure 6**, the host name is “ipsc1046” and the MAC Address is 00-04-76-4E-26-40.

```

C:\WINDOWS\system32\cmd.exe
Host Name . . . . . : ipsc1046
Primary DNS Suffix . . . . . : agilent.com
Node Type . . . . . : Hybrid
IP Routing Enabled. . . . . : No
WINS Proxy Enabled. . . . . : No
DNS Suffix Search List. . . . . : britain.agilent.com
                                agilent.com
                                europe.agilent.com
                                net.europe.agilent.com
                                ra.europe.agilent.com
                                cos.agilent.com

Ethernet adapter Local Area Connection:

    Connection-specific DNS Suffix  . : britain.agilent.com
    Description . . . . . : 3Com 10/100 Mini PCI Ethernet Adapte
    Physical Address. . . . . : 00-04-76-4E-26-40
    DHCP Enabled. . . . . : Yes
    Autoconfiguration Enabled . . . . : Yes
    IP Address . . . . . : 156.141.141.43
    Subnet Mask . . . . . : 255.255.248.0
    Default Gateway . . . . . : 156.141.104.1
    DHCP Server . . . . . : 156.141.48.17
    DNS Servers . . . . . : 156.141.48.25
                                156.141.48.17
    Primary WINS Server . . . . . : 156.141.51.33
    Secondary WINS Server . . . . . : 134.40.34.32
    NetBIOS over Tcpip. . . . . : Disabled
    Lease Obtained. . . . . : 28 September 2007 10:57:49
    Lease Expires . . . . . : 03 October 2007 10:57:49

I:\data>
I:\data>

```

**Figure 6** Command Window

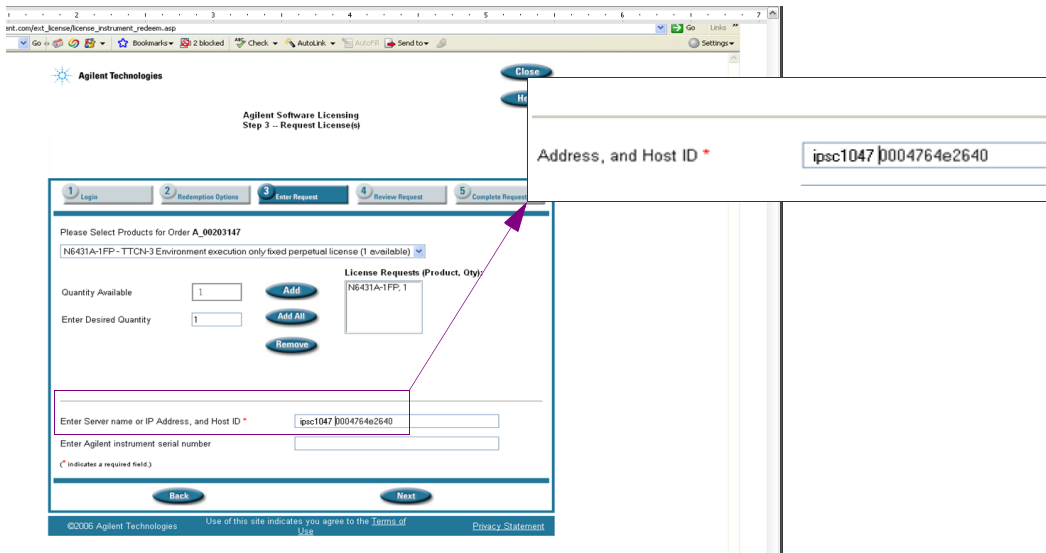
- 3 To redeem your license, go to the following web site:  
**<http://www.agilent.com/find/softwarelicense>**. Enter your order number and certificate entitlement number. Follow the

## 2 Installation

on-screen instructions. When prompted, enter your hostname, a single character space, and your 12 digit MAC address with no spaces between the hexadecimal numbers as shown in [Figure 7](#).

### NOTE

An instrument serial number is not required for this type of license. You can leave the instrument serial number field empty.



**Figure 7** Entering Hostname and MAC Address

On completion of this process an e-mail is sent to you with an **“order\_number\_xyz.lic”** attachment. This file is the license file and is required during the installation if the TTCN-3 environment and should be saved to a suitable location.

### NOTE

It is recommended that you save all license files to a convenient but secure location.

### Alternative Process

If you cannot access your e-mail account, you can:

- 1 Complete Steps 1 to 3 as above.
- 2 On the License website, click **Redemption Options**.
- 3 Right click the license file and select **Save As...**
- 4 Save the license file to a suitable location.

### N6432A, N6433A, N6442A, and N6443A License Redemption

Entitlement certificates are also required for each of the N6432A, N6433A, N6442A, and N6443A product you have purchased.

Repeat the procedure for each required license.

#### Redeeming your Licenses

The license redemption procedure is similar for all products and requires that you have all or some of the following information readily available:

- Order Number for each product license
  - USB license key serial number (for N6432A/N6433A or N6442A/N6443A)
- 1 To redeem your licenses, go to the following web site:  
**<http://www.agilent.com/find/softwarelicense>**.
  - 2 Enter your order number and certificate entitlement number. Follow the on-screen instructions.
  - 3 When prompted, enter your USB license key serial number.

On completion of this process an e-mail is sent to you with an “**order\_number\_xyz.lic**” attachment. This file is the license file and is required during the installation if the TTCN-3 environment and should be saved to a suitable location.

#### NOTE

It is recommended that you save all license files to a convenient but secure location. Copy files to **C:\Program Files\Agilent\N6430A Series Utilities\USB License Key Utilities** only when required for updates. Remove the files from the update location afterwards.

## Step 2 - Installing the N6431A TTCN-3 Environment

The latest N6431A TTCN-3 Environment installation is available for download from the [www.agilent.com/find/pctdownloads](http://www.agilent.com/find/pctdownloads) website. This website is protected by password. Your unique access code can be found in the e-mail you received containing your N6432A, N6433A, N6442A, or N6443A license file.

### NOTE

The Agilent WiMAX MS Protocol Test application uses a specific version of TWorkbench. Even if you already have TWorkbench installed, installation of the N6431A is required.

### Procedure

- 1 Browse to [www.agilent.com/find/pctdownloads](http://www.agilent.com/find/pctdownloads) and select **Other Software Updates**.
- 2 Use the access code supplied in the e-mails received following “[N6432A, N6433A, N6442A, and N6443A License Redemption](#)” on page 21 to access the downloads page.
- 3 Download version 1.1.1.1.2 of the N6431A. The installation file is **setup\_N6431A-2FP\_1.1.1.1.2.exe**.
- 4 When the download is complete, run the downloaded setup file.
- 5 Follow the displayed instructions.
- 6 When prompted by the license window, **Browse** to the “**order\_number\_xyz.lic**” file previously delivered to you by e-mail during the license redemption procedure.

### NOTE

If you have been supplied with a demonstration “license.dat” file this should be selected here by changing the **File Type** to **All Files** in the license window.

Both the TWorkbench and N6432A/N6433A/N6442A/N6443A software require the installation of JDK (Java™ SE Development kit). Version 6 Update 3 is installed. The first

step in the install process is the installation of the Java™ software.

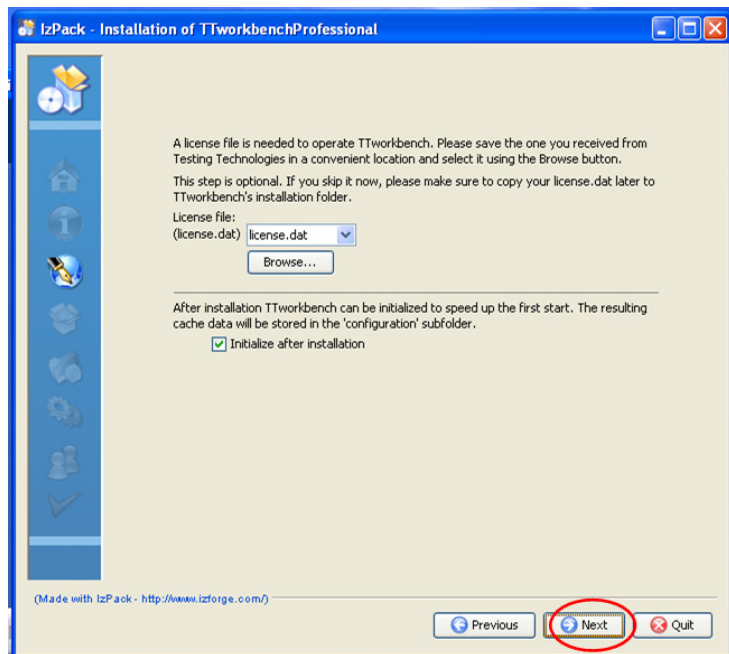
**NOTE**

This installation may add another version of JDK to your Add/Remove Programs if you already have a different version installed.

**7** Click **Next** to continue with the installation.

The installation proceeds by first installing the Java Development environment followed by the TTCN-3 environment.

**8** When the license entry window is displayed for the second time the **license file** field has already been populated with the license information selected in step 3.



**9** Click **Next** to continue.

**10** Click **Finish** to complete the installation.

### Un-installation

If un-installation is required, proceed as follows:

- a The Java JDK software can be un-installed using Add/Remove Programs in Windows.
- b The TTworkbench can be un-installed by pressing:  
**Start > All Program > Testing Technologies > TTworkbench > TTworkbenchuninstaller.**



## Step 3 - Installing N6432A Mobile Station Test Adaptor (if ordered)

The N6432A Mobile Station Protocol Test Adaptor requires that the N6431A TTCN-3 Environment is installed. If you have not already done so, refer to “[Step 2 - Installing the N6431A TTCN-3 Environment](#)” on page 22

### N6432A Installation Components

The N6432A installation installs the following items on your computer:

- USB License Key driver and utilities (available from the **Start** menu)
- N6432A Protocol Conformance Test Adaptor

### Procedure

The N6432A Test Adaptor may have been delivered to you on CD-ROM. For the most up-to-date version Agilent recommends that you download it from the PCT download website as follows:

- 1** Browse to [www.agilent.com/find/pctdownloads](http://www.agilent.com/find/pctdownloads) and select **Software Updates for MS Developers**.
- 2** Use the access code supplied in the e-mails received from “[N6432A, N6433A, N6442A, and N6443A License Redemption](#)” on page 21 to access the downloads page.
- 3** Download the most recent qualified or beta version of the N6432A. The installation file is **N6432A\_A.5.0.1.0.exe** or later.
- 4** When the download is complete, run the downloaded setup file.

#### NOTE

Before proceeding, please ensure you have your USB license key and redeemed license details available.

- 5** When prompted, enter your details and click to accept the license agreement.

- 6 Follow the displayed instructions.
- 7 One of the first steps of the process is the installation of the SUT (system under test) adaptors. You are asked to confirm the root directory which you would like to use for saving the adaptor software. The default root directory is:

C:\Program Files\Agilent\WiMAX MS Protocol Test

- 8 The program installs the adaptor.

Depending on the purchased products and options, your license enables use of one or both the development and/or conformance releases. The directory structure for the individual releases is as follows:

- **Developer versions** - root\_directory\N6432A Development Releases\N6432A\_A.w.x.y.z
- **Conformance versions** - root\_directory\N6433A Conformance Releases\N6433A\_V.w.x.y.z

### NOTE

The install program only installs a development release.

The releases are numbered as follows:

- A.w.x.y.z releases are qualified developers releases
- X.w.x.y.z releases are pre-qualified developers releases
- V.w.x.y.z releases are WiMAX Forum® validated releases.

- 9 The N6432A install program also installs the drivers for your USB license key. Check the USB License key install box to perform the installation of the Sentinel Protection Installer software.
- 10 Plug in your USB license key and check the installation has worked.
  - If your key shows a green light it is successfully installed.
  - If a window showing “**Welcome to the Found New Hardware Wizard**” appears, the installation has not been successful. Un-install and re-install the N6432A software.

## **Uninstallation**

The Agilent N6432A Test Adaptor and Sentinel Protection Installer software can be un-installed using Add/Remove Programs in Windows.

## Step 4 - Installing N6442A Base Station Test Adaptor (if ordered)

The N6442A Base Station Protocol Test Adaptor requires that the N6431A TTCN-3 Environment is installed. If you have not already done so, refer to “[Step 2 - Installing the N6431A TTCN-3 Environment](#)” on page 22.

### N6442A Installation Components

The N6442A installation installs the following items on your computer:

- USB License Key driver and utilities (available from the **Start** menu)
- N6442A Protocol Conformance Test Adaptor

### Procedure

The N6442A Test Adaptor may have been delivered to you on CD-ROM. For the most up-to-date version Agilent recommends that you download it from the PCT download website as follows:

- 1 Browse to [www.agilent.com/find/pctdownloads](http://www.agilent.com/find/pctdownloads) and select **Software Updates for BS Developers**.
- 2 Use the access code supplied in the e-mails received from “[Step 1 - License Redemption](#)” to access the downloads page.
- 3 Download the most recent qualified or beta version of the N6442A. The installation file is **N6442A\_A.5.0.1.2.exe** or later.
- 4 When the download is complete, run the downloaded setup file.

#### NOTE

Before proceeding, please ensure you have your USB license key and redeemed license details available.

- 5 When prompted, enter your details and click to accept the license agreement.

- 6** Follow the displayed instructions.
- 7** One of the first steps of the process is the installation of the SUT (system under test) adaptors. You are asked to confirm the root directory which you would like to use for saving the adaptor software. The default root directory is:
- C:\Program Files\Agilent\WiMAX BS Protocol Test

- 8** The program installs the adaptor.

Depending on the purchased products and options, your license enables use of one or both the development and/or conformance releases. The directory structure for the individual releases is as follows:

- **Developer versions** - root\_directory\N6442A Development Releases\N6442A\_A.w.x.y.z
- **Conformance versions** - root\_directory\N6443A Conformance Releases\N6443A\_V.w.x.y.z

**NOTE**

The install program only installs a development release.

The releases are numbered as follows:

- A.w.x.y.z releases are qualified developers releases
- X.w.x.y.z releases are pre-qualified developers releases
- V.w.x.y.z releases are WiMAX Forum® validated releases.

- 9** The N6442A install program also installs the drivers for your USB license key. Check the USB License key install box to perform the installation of the Sentinel Protection Installer software.
- 10** Plug in your USB license key and check the installation has worked.
- If your key shows a green light it is successfully installed.
  - If a window showing “**Welcome to the Found New Hardware Wizard**” appears, the installation has not been successful. Un-install and re-install the N6442A software.

### **Un-installation**

The Agilent N6442A Test Adaptor and Sentinel Protection Installer software can be un-installed using Add/Remove Programs in Windows.

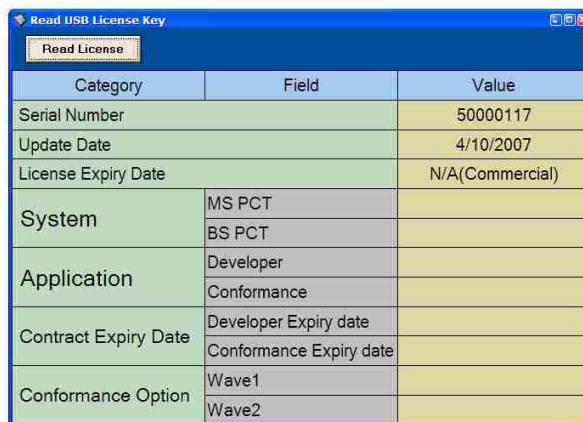
## Step 5 - Redeem License for Developers' Contract (if ordered)

If, as a developer, you plan to write and compile scripts, you require an N6432A-1TY or N6442A-1TY license redemption certificate. This entitles you to access the web and use development releases for a period of 12 months. The licensing of this entitlement is via the USB license key.

### Check Entitlement Status

You can check the current entitlement status of your USB license key using installed utilities found in the **Start** menu. Click **Start > Agilent Mobile WiMAX Test Set > N6430A Series Utilities > Read USB License Key** to view the USB license key contents.

A window similar to that shown in [Figure 8](#) provides the serial number of your USB license key and licenses. The serial number is also printed on the key.



Category	Field	Value
Serial Number		50000117
Update Date		4/10/2007
License Expiry Date		N/A(Commercial)
System	MS PCT	
	BS PCT	
Application	Developer	
	Conformance	
Contract Expiry Date	Developer Expiry date	
	Conformance Expiry date	
Conformance Option	Wave1	
	Wave2	

**Figure 8** USB License Key Reader Display

### Developers' License Redemption

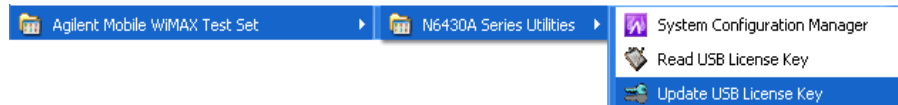
To redeem your License, proceed as follows:

- 1 Go to the following secure web site:  
**<http://www.agilent.com/find/softwarelicense>**.
- 2 Enter your order number and certificate entitlement number.
- 3 Follow the displayed instructions, entering your USB License key serial number when prompted.
- 4 On completion of this process, an E-mail with an order\_number\_identity\_number.lic attachment is sent to you. This is the license file

#### NOTE

It is recommended that you save all license files to a convenient but secure location. Copy files to **C:\Program Files\Agilent\N6430A Series Utilities\USB License Key Utilities** only when required for updates. Remove the files from the update location afterwards.

- 5 Ensure the USB license key is inserted and click **Start > Agilent Mobile WiMAX Test Set > N6430A Series Utilities > Update USB License Key** to update your entitlement in the USB license key.



#### NOTE

For Mobile Station test, ensure that only your N6432A License key is in the computer. No other license key should be connected. Likewise, for Base Station test ensure that only the N6442A License key is connected.

- 6 When updated, the USB License Key update window is displayed:





- 7 Click **Start > Agilent Mobile WiMAX Test Set > N6430A Series Utilities > Read USB License Key** to check that you now have entitlement to use the developer's web releases. After updating your USB key, confirm the information is similar to that shown in [Figure 9](#).



The screenshot shows a window titled "Read USB License Key" with a "Read License" button. Below the button is a table with three columns: Category, Field, and Value.

Category	Field	Value
Serial Number		50000116
Update Date		18/10/2007
License Expiry Date		N/A(Commercial)
System	MS PCT	Y
	BS PCT	
Application	Developer	Y
	Conformance	
Contract Expiry Date	Developer Expiry date	
	Conformance Expiry date	
Conformance Option	Wave1	
	Wave2	

**Figure 9** Updated USB License Key Information

Developer's releases are available at <http://www.agilent.com/find/pctdownloads>. This site is password protected. A unique password is provided to you with your software license e-mail.

## Step 6 - Redeem License for Wave 1 Validated Release and Contract (if ordered)

If, as a conformance tester, you plan to run pre-compiled scripts for conformance testing, you require entitlement certificates for both N6433A-1TP and N6433A-1TY or N6443A-1TP and N6443A-1TY. This entitles you to access the web and use validated conformance releases for a period of 12 months. The licensing of this entitlement is done via the USB license key.


### NOTE

Check the download web site (<http://www.agilent.com/find/pctdownloads>) for availability of a validated release before redeeming this license. The password for the website is shown on your entitlement certificate. You do not need to redeem your license until there is a validated release available.

### Check Entitlement Status

To check the current entitlement status of your USB license key, click **Start > Agilent Mobile WiMAX Test Set > N6430A Series Utilities > Read USB License Key**.

A window similar to that in [Figure 10](#) shows the serial number of your USB license key. The serial number is also printed on the key.



Category	Field	Value
Serial Number		50000117
Update Date		4/10/2007
License Expiry Date		N/A(Commercial)
System	MS PCT	
	BS PCT	
Application	Developer	
	Conformance	
Contract Expiry Date	Developer Expiry date	
	Conformance Expiry date	
Conformance Option	Wave1	
	Wave2	

**Figure 10** USB License Key Reader Display

### Wave 1 Validated Release License Redemption

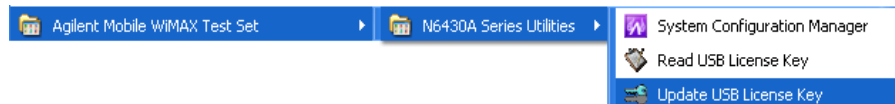
To redeem your License, proceed as follows:

- 1 Go to the following secure web site:  
**<http://www.agilent.com/find/softwarelicense>**.
- 2 Enter your order number and certificate entitlement number.
- 3 Follow the displayed instructions, entering your USB License key serial number when prompted.
- 4 On completion of this process, an E-mail with an order\_number\_identity\_number.lic attachment is sent to you. This is the license file.

#### NOTE

It is recommended that you save all license files to a convenient but secure location. Copy files to **C:\Program Files\Agilent\N6430A Series Utilities\USB License Key Utilities** only when required for updates. Remove the files from the update location afterwards.

- 5 Ensure the USB license key is inserted and click **Start > Agilent Mobile WiMAX Test Set > N6430A Series Utilities > Update USB License Key** to update your entitlement in the USB license key.



#### NOTE

For Mobile Station test, ensure that only your N6432A License key is in the computer. No other license key should be connected. Likewise, for Base Station test ensure that only the N6442A License key is connected.

- 6 When updated, the USB License Key update window is displayed:



- 7 Click **Start > Agilent Mobile WiMAX Test Set > N6430A Series Utilities > Read USB License Key** to check that you now have entitlement to use the validated web releases. After updating your USB key, confirm the information is similar to that shown in **Figure 11**.



Category	Field	Value
Serial Number		50000116
Update Date		18/10/2007
License Expiry Date		N/A(Commercial)
System	MS PCT	Y
	BS PCT	
Application	Developer	
	Conformance	Y
Contract Expiry Date	Developer Expiry date	
	Conformance Expiry date	1/1/2009
Conformance Option	Wave1	Y
	Wave2	

**Figure 11** Updated License Information

Wave 1 Conformance releases are available at **<http://www.agilent.com/find/pctdownloads>**. This site is password protected. A unique password is provided to you with your software license e-mail.

## Step 7 - E6651A Test Set Firmware

The E6651A WiMAX Test Set must have a version of firmware installed that supports the N6430A Series applications for both Base and Mobile Station test. Additionally, firmware updates may be essential to meet the requirements of new scripts released in the N6432A/N6442A software updates.

### NOTE

You should always check the required configuration of software and firmware for each release of N6430A series applications by referring to the release notes supplied with the new release. Or, refer to the supported configurations matrix linked from the pct-downloads website for each N6430A series application.

### Mobile Station and Base Station test require different firmware

The E6651A WiMAX Test Set is normally configured in Base Station Emulation mode for mobile station test using the N6432A/N6433A test adapters.

For Base Station test with the N6442A/N6443A adapters the Test Set must have the E6653A Mobile Station Emulation firmware installed and enabled.

### Mobile Station Test

#### Test Set firmware for N6432A/N6433A Test Adaptors

To check the version of the firmware installed on your E6651A, proceed as follows:

- 1 Ensure the Test Set has completed its start up sequence and the WiMAX Application has started.
- 2 Check the version - it is displayed in the Firmware and Profile bar at the base of the display.

E6651A Firmware version later than 5.1.0.11 is required to support the N6430A Series software.

### Download Firmware (if required)

Please ensure that you check the N6430A Series release notes at [www.agilent.com/find/pctdownloads](http://www.agilent.com/find/pctdownloads) for information about E6651A Test Set firmware requirements. Downloads are available from the same website, [www.agilent.com/find/pctdownloads](http://www.agilent.com/find/pctdownloads).

### Base Station Test

#### Test Set firmware for N6442A/N6443A Test Adaptors

To enable Mobile Station Emulation, an E6653A-1FP license must be redeemed and installed in the E6651A Test Set. E6653A Mobile Station Emulation firmware must also be installed in the Test Set and enabled.

#### E6653A-1FP License Redemption

To redeem your License, proceed as follows:

- 1 Go to the following secure web site:  
<http://www.agilent.com/find/softwarelicense>.
- 2 Enter your order number and certificate entitlement number.
- 3 Follow the displayed instructions, entering your E6651A serial number when prompted. The serial number can be found on the rear panel label or from the Service Screen on firmware versions 5.3.1.0 or 6.3.1.0 or later.
- 4 On completion of this process, an E-mail with an order\_number\_identity\_number.lic attachment is sent to you. This is the license file

#### NOTE

It is recommended that you save all license files to a convenient but secure location.

### E6653A-1FP License Installation

To install the License in the E6651A proceed as follows:

- 1 On a USB flash memory stick, create a folder called **setup.inno** as the root directory.
- 2 Copy the license file to the **setup.inno** folder on the memory stick.
- 3 In the **setup.inno** folder, rename the license file as **license.lic**.
- 4 Ensure you have E6651A firmware version 5.2.1.1 or later installed in your E6651A Test Set. (Refer to [step 2](#) on [page 37](#).)
- 5 Insert the memory stick into one of the USB ports on your E6651A.
- 6 On the E6651A, press the **System** key followed by the **Service** key and select **Update License** from the softkey menu. Navigating to a second page of softkeys in the **System** menu may be required to access the **Service** key.
- 7 Wait approximately 10 seconds for the license to be installed successfully before installing the E6653A Mobile Station emulation firmware.

### E6653A Mobile Station Emulation Firmware Installation

Install the E6653A firmware as follows:

- 1 Go to the following secure web site:  
**<http://www.agilent.com/find/pctdownloads>** and select **Other Software Updates**.
- 2 Use the access code supplied in the e-mails received from
- 3 **“N6432A, N6433A, N6442A, and N6443A License Redemption”** on page 21 to access the downloads page.
- 4 Download E6653A version 5.2.0.8 (the installation file is **E6653A\_5.2.0.8.zip**).
- 5 When the download is complete, browse to the “E6651A Software update procedure” located in the **Other Information and Support** section of the **<http://www.agilent.com/find/pctdownloads>** website to find

## 2 Installation

the procedure to install the E6653A in the E6651A Test Set.

### NOTE

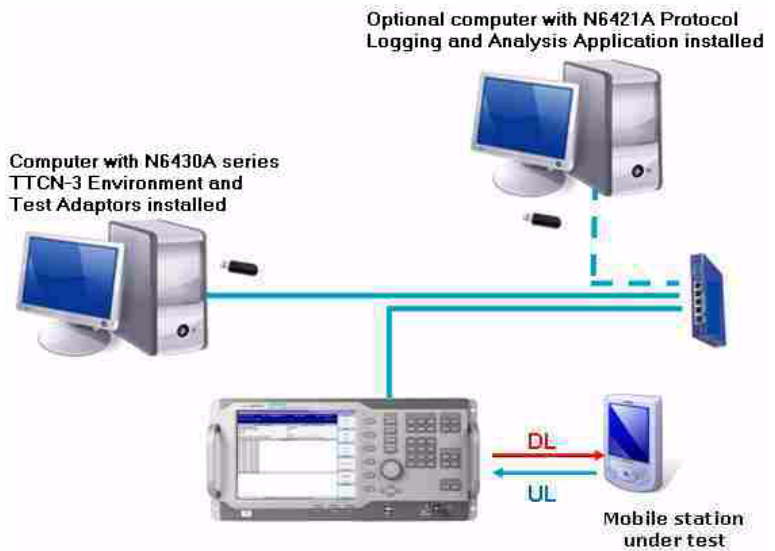
Before proceeding, please ensure you have your USB license key and redeemed license details available.

---



## Step 8 - Connecting the System

For operation with the N6430A Series applications the E6651A and application host computer must be connected via an Ethernet hub or switch.



**Figure 12** Example Interconnection

### Procedure

Before connecting the set-up, check and configure the IP address of your computer. Settings are required as follows:

- IP Address: **10.253.18.111**
- Subnet mask: **255.255.0.0**

You can check the IP address details on your PC by opening a command window.

1 Click **Start > Run** and enter **cmd** at the prompt.

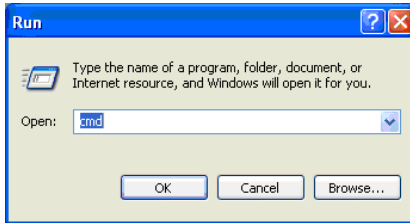


Figure 13 Run Window

2 In the command window, enter: **ipconfig**

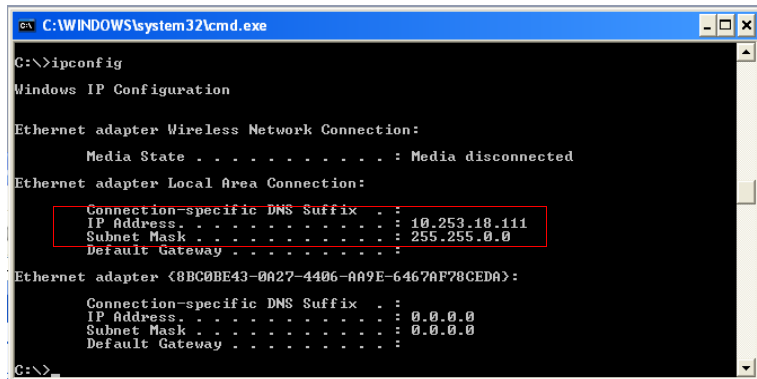
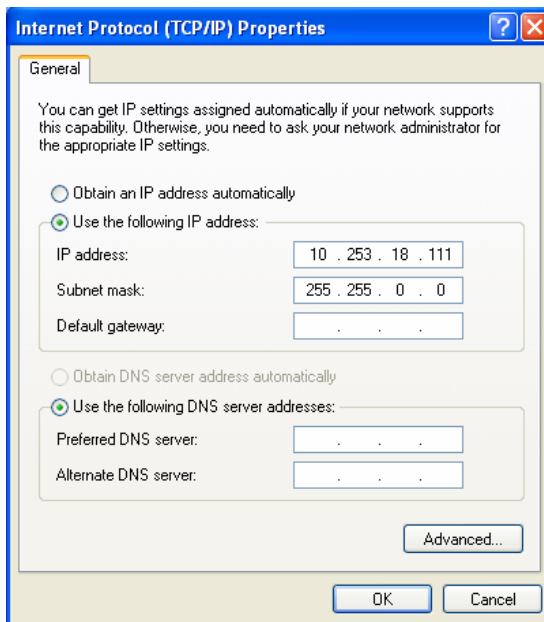


Figure 14 IP Address and Subnet Mask Check

- 3 If the IP settings are not as defined at the beginning of the procedure, change them by clicking **Start > Control Panel > Network Connections**.
- 4 Right click on your **Local Area Connection** and select **Properties**.
- 5 Scroll down to find and click to highlight **Internet protocol (TCP/IP)**
- 6 Click the **Properties** button.

- 7 Check “**Use the following IP address**” and enter the numbers shown in [Figure 14](#).



**Figure 15** IP Address and Subnet Mask Entry

- 8 Connect the E6651A to your PC using the following diagram for guidance.

**NOTE**

Note this must be done to set the IP address in the E6651A.

- 9 For N6432A/N6433A Base Station test, switch the E6651A to BSE mode to check the network settings. When ready, return to MSE mode.

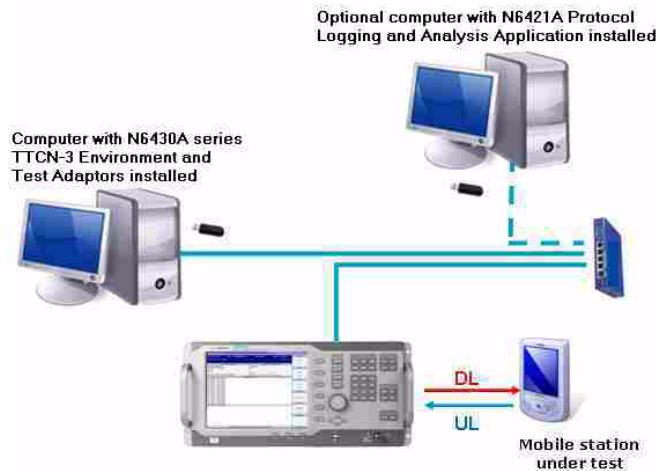


Figure 16 Interconnections

**E6651A Test Set LAN Settings**

**10** Check the IP address on your E6651A by pressing **System, More 2/2**. The IP address and subnet mask values are displayed in the **Network Setting** field.

<p>Amp: -50.00 dBm</p> <p>0</p> <p>Fiber Station Information</p> <p>- dBm TxPwr: --- dBm CQICH: ---</p> <p>-13.40]</p> <p>7:-10.35]</p> <p>1:-7.03]</p> <p>3:-4.84]</p> <p>11:-2.23]</p> <p>22: 1.78]</p> <p>19: 1.75]</p> <p>18: 1.74]</p> <p>3.31]</p> <p>4.76]</p> <p>19.94]</p> <p>16.44]</p> <p>000.3028</p>		<p>SYSTEM</p> <p>Update</p> <p>Application Update</p> <p>TTCN Mode</p> <p>[ON]/OFF</p> <p>Profile Manager &gt;</p> <p>Capture Screen</p> <p>Network Setting &gt;</p> <p>IP : 10.253.18.79</p> <p>Subnet: 255.255.255.0</p> <p>Gateway: 10.253.18.1</p> <p>more 2/2</p>
---	--	--

<p>Amp: -50.00 dBm</p> <p>0</p> <p>ation</p> <p>dBm CQICH: ---</p>		<p>NETWORK SETTING</p> <p>IP Address</p> <p>[10],253.18.79</p> <p>Subnet Mask</p> <p>[255],255.255.0</p> <p>Gateway</p> <p>[10],253.18.1</p> <p>Apply</p>
--	--	---

Figure 17 Test Set IP Address and Subnet Mask

11 The following LAN settings are required:

- **IP Address - 10.253.18.79**
- **Subnet mask - 255.255.0.0**
- **Gateway - 10.253.18.1**

12 If you need to change the settings, proceed as follows:

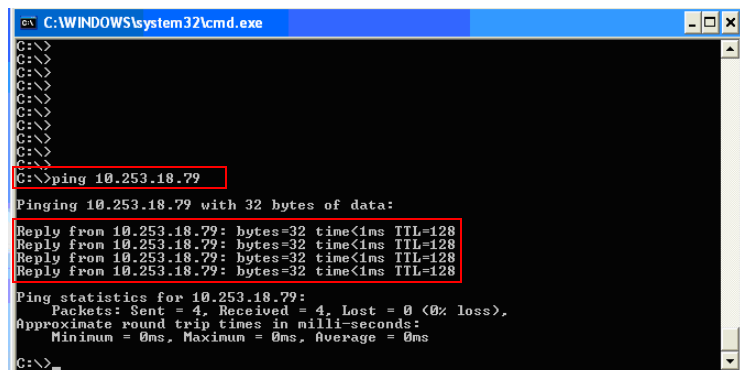
- a Press the **Network Setting** softkey.
- b Press the softkey associated with the parameter you need to change.
- c Use the **numeric keys** to enter the required value and press **Enter**.
- d Use the **Arrow** keys to select the next value to be changed and repeat the previous steps.
- e When you have configured all the settings press **Apply**.

### Check the Connection

13 Check the connection by opening a command prompt window on the computer connected to the E6651A Test Set - click **Start > Run** and type **cmd** into the **Run** Window.

14 Enter **ping 10.253.18.79** at the command prompt.

Confirm lines displayed starting with the text - **Reply from 10.253.18.79** as shown in [Figure 18](#). Your computer and E6651A's network settings have been configured correctly and your computer can transfer packets to the E6651A successfully.



```

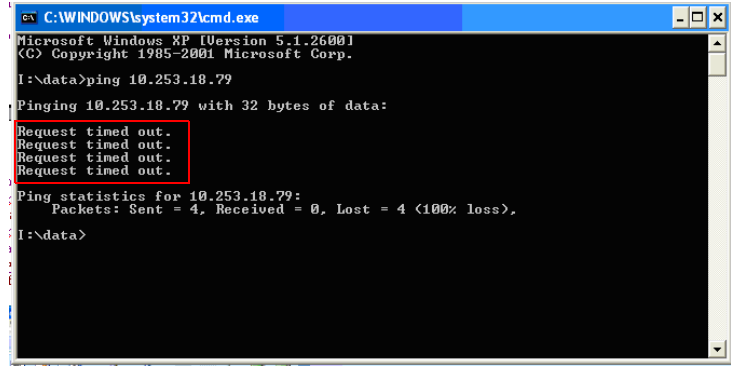
C:\WINDOWS\system32\cmd.exe
C:\>
C:\>
C:\>
C:\>
C:\>
C:\>
C:\>
C:\>
C:\>
C:\>
C:\>ping 10.253.18.79
Pinging 10.253.18.79 with 32 bytes of data:
Reply from 10.253.18.79: bytes=32 time<1ms TTL=128
Reply from 10.253.18.79: bytes=32 time<1ms TTL=128
Reply from 10.253.18.79: bytes=32 time<1ms TTL=128
Reply from 10.253.18.79: bytes=32 time<1ms TTL=128
Ping statistics for 10.253.18.79:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 0ms, Average = 0ms
C:\>

```

**Figure 18** Successful Ping Command and Return

## 2 Installation

If the computer and Test Set LAN configurations are incorrect, the Ping command results in a time out.

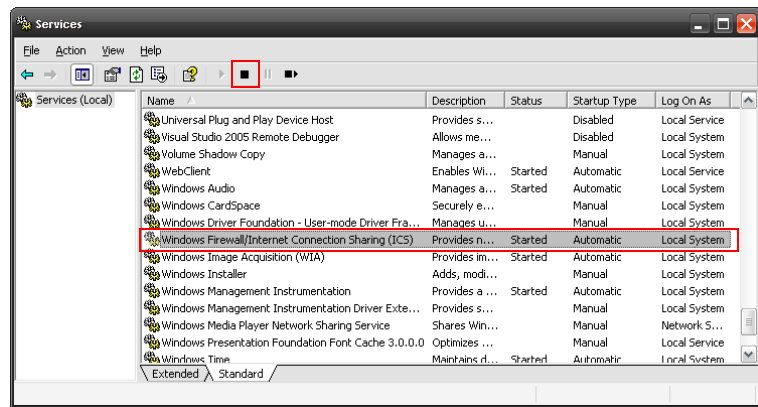


```
C:\WINDOWS\system32\cmd.exe
Microsoft Windows XP [Version 5.1.2600]
(C) Copyright 1985-2001 Microsoft Corp.
I:\data>ping 10.253.18.79
Pinging 10.253.18.79 with 32 bytes of data:
Request timed out.
Request timed out.
Request timed out.
Request timed out.
Ping statistics for 10.253.18.79:
    Packets: Sent = 4, Received = 0, Lost = 4 (100% loss),
I:\data>
```

**Figure 19** Ping Time-out

- Final Steps**
- 15 If you are performing Base Station tests return the E6651A Test Set to Mobile Station Emulation mode.
  - 16 To complete the installation process, make the following settings in the E6651A:
    - a Press **System > TTCN mode [ON]**
  - 17 The Firewall in your computer must be disabled. You can do this by pressing:
 

**Start > Control Panel > Administrative Tools > Services** to display the **Services** window.




**Figure 20** Service Window

- 18 Select **Windows Firewall/Internet Connection Sharing** and click the **Stop** button in the Tool Bar.

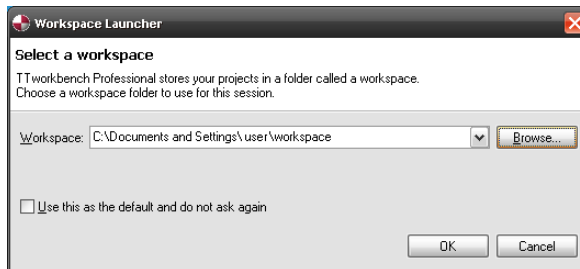
## Step 9 - Start and Configure the Workbench Application

To check your installation, start and configure the TT Workbench application, proceed as follows:

- 1 Insert your N6432A or N6442A USB License Key in your computer.
- 1 Double click the TTworkbench icon  on your desktop.
- 2 The TTworkbench **Workspace Launcher** window asks you for a path to use as the workspace folder.

### NOTE

The workspace folder is used by the Workbench application. It is recommended that you create folders for each test adapter, for example N6432A or N6442A. You should also create a folder for each new release within each test adapter folder.



**Figure 21** Workspace Launcher

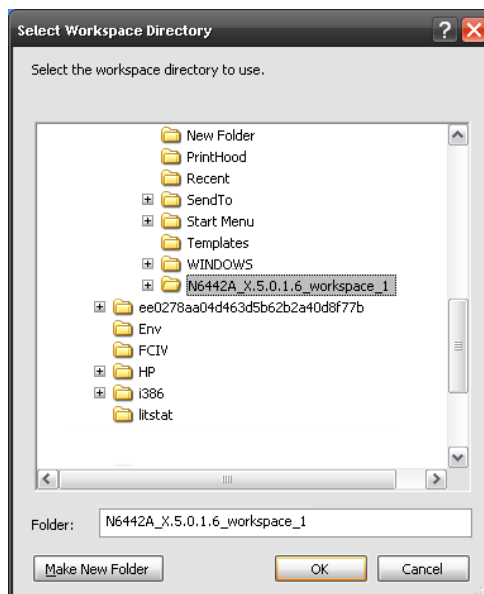
- 3 Click **Browse...** to open the Select Workspace Directory window.
- 4 Navigate to and highlight the your own <user> folder and click **Make New Folder**.



- 5 Enter the required folder name, for example;  
**N6442A\_X.5.0.1.6\_workspce\_1.**

**CAUTION**

Attention is required when creating workspace folders. It is strongly recommended that you use the paths and folders shown in this procedure. DO NOT select the installation folders of the test adaptors as the workspace.



**Figure 22** Adding a New Workspace Folder Example

6 Click OK to continue.

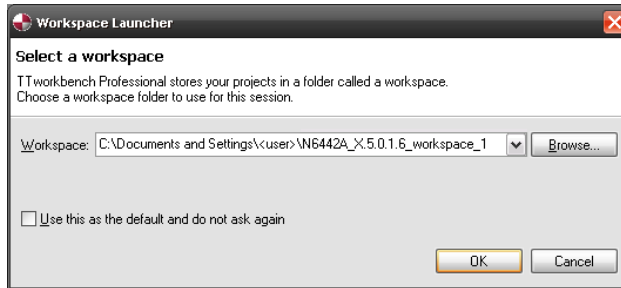


Figure 23 New Workspace Selected

7 The TTworkbench application starts and displays a welcome screen.

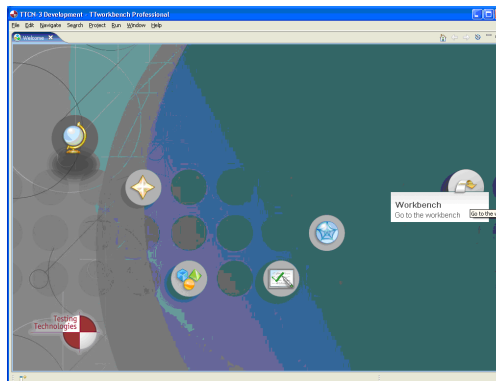
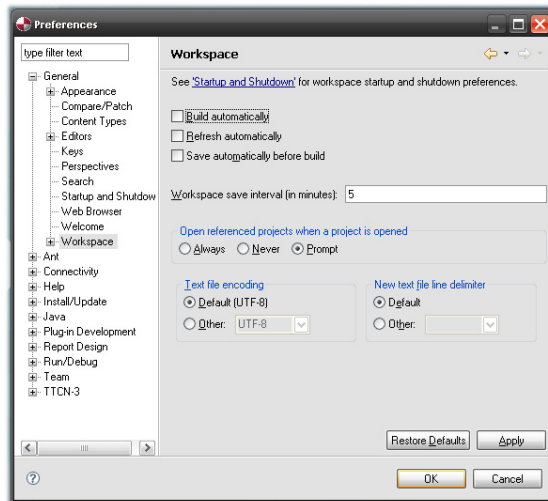


Figure 24 Workbench Welcome Window

8 Now turn off the Build Automatically feature. Click **Window > Preferences... >** and click the '+' beside **General**. Click **Workspace** and click on **Build Automatically** to deselect it (no ✓ displayed in the check box as shown).



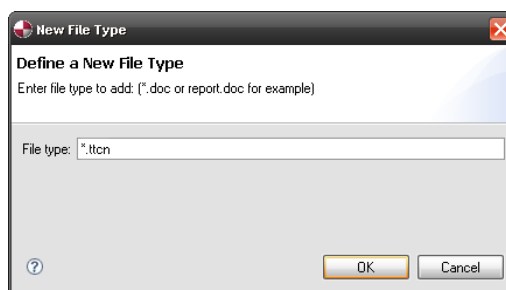
**Figure 25** Preferences Workspace Window

**9** Click **Apply**.

**10** Click **Window > Preferences > Expand “General” and “Editors”**.

**11** Click **Editors > File Associations**.

**12** Click **Add...** and enter **\*.ttcn** in the entry window and click **OK**.



13 Click on \*.ttn and Add... the **TTCN-3 Core Language Editor** and **TTCN-3 Core Language Viewer** as associated editors for \*.ttn files.

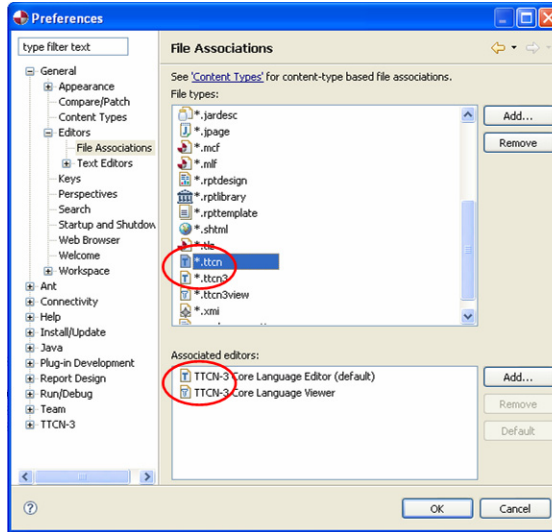
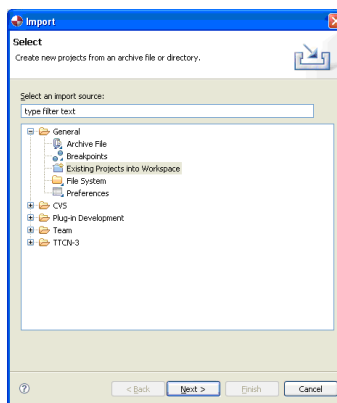


Figure 26 Associating Editors

14 Click on **File > Import > General** (double-click to expand this icon) > **Existing Projects into Workspace > Next**.



### For N6432A/N6433A Mobile Station test

- 1 Browse to find the directory for installed release. For example, the N6432A:- **c:\Program Files\Agilent\WiMAX MS Protocol Test\N6432A Development Releases \N6432A\_A.5.0.1.0**  
(Note this is not the TT workspace directory, but the location of the N6432A software when installed in “[Step 3 - Installing N6432A Mobile Station Test Adaptor \(if ordered\)](#)” on page 25).
- 2 Check **Copy projects into workspace**.
- 3 Click **Finish**.

### For N6442A/N6443A Base Station test

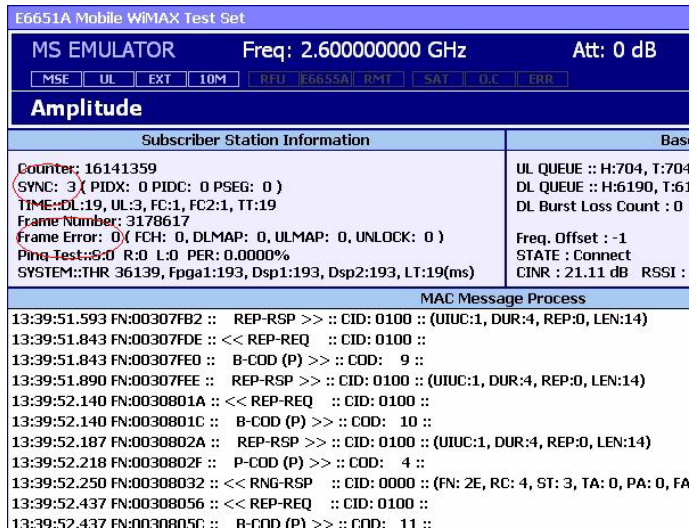
- 1 Browse to find the directory for installed release. For example, the N6442A:- **c:\Program Files\Agilent\WiMAX BS Protocol Test\N6442A Development Releases \N6442A\_A.5.0.1.2**  
(Note this is not the TT workspace directory, but the location of the N6442A software when installed in “[Step 4 - Installing N6442A Base Station Test Adaptor \(if ordered\)](#)” on page 28).
- 2 Check **Copy projects into workspace**.
- 3 Click **Finish**.

### Connect to the DUT

Prior to running the test case, you should connect your DUT to the E6651A Test Set and ensure you complete the following:

- 1 Load the correct profile for your DUT (The profile manager is located under the Test Set **system** menu).
  - 2 Establish an RF connection between your DUT and the Test Set.
  - 3 Turn both the RF power and modulation ON.
- Base Station Test Only**
- 4 For N6442A and N6443A Base Station test only:
    - a Ensure that the Base Station under test is operating
    - b Press **Frequency** and adjust the frequency of the E6651A Test Set to match the frequency of the BS under test

- c Press **Mode > Mobile Station Emulator**
- d Press **Emulator Start**
- e Press **Amplitude** and adjust the Test Set source amplitude to be within range of the input power level requirements of the BS under test
- f Adjust the receiver attenuation until the “**SYNC**” field displays “**3**” and the “**Frame Error**” field shows “**0**”



- g If desired, verify correct RF parameters by pressing **Mode > Mobile Station Emulator > Connect** to perform network entry
  - h Press **Mode > Mobile Station Emulator > Emulator Stop**
- Both MS and BS Test** 5 For both MS and BS Test, turn TTCN mode ON (located under the Test Set **system** menu).

**For N6432A/N6433A Mobile Station Test**

- 1 Click the **Go to the workbench** icon.
- 2 Within the TTworkbench development perspective, expand the N6432A\_A.5.0.1.0 directory, and then expand the ttcn3 directory.
- 3 Double click the **SampleScript\_IR.clf** file.

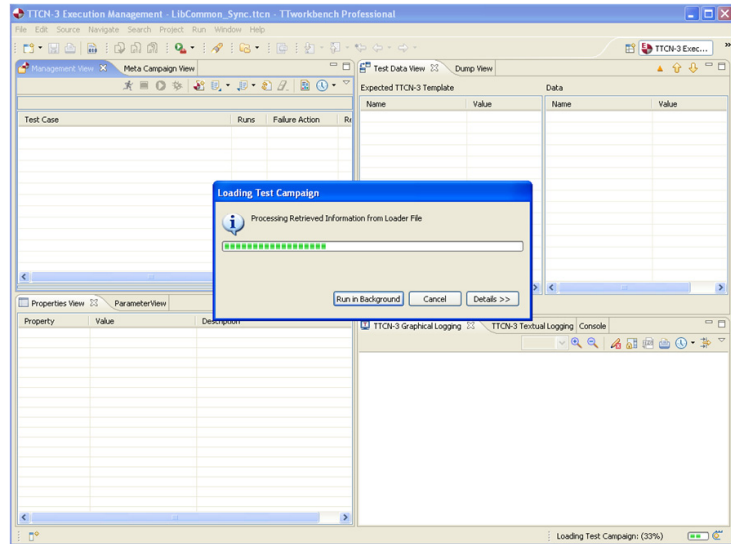
**For N6442A/N6443A Base Station test Base Station Test**

- 1 Click the **Go to the workbench** icon.
- 2 Within the TTworkbench development perspective, expand the N6442A\_A.5.0.1.2 directory, and then expand the ttcn3 directory.
- 3 Double click the **SampleScript\_IR\_1A\_8.75MHz.clf** or **SampleScript\_IR\_3A\_10MHz.clf** file as appropriate for DUT.

**Both MS and  
BS Test**

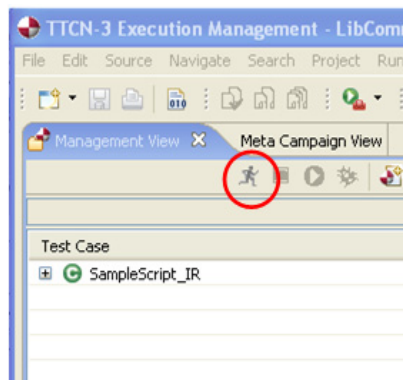
The TTworkbench application now changes to the execution pane and starts loading the test campaign (this may require a few minutes). During this process warnings are displayed if either you have failed to correctly connect with the E6651A or you have licensing issues.

## 2 Installation



When the test campaign is fully loaded the **SampleScript** campaign is listed in the test case window. Expand on the campaign to see the actual test case.

- 4 You can now run the Initial Ranging test case. To do this, click on the script running man at the top left corner of the management view.



**Figure 27** Run Test



- 5 After running the script, a screen similar to that below is displayed. This shows that the script has executed, and passed, with a graphical log of the message exchange in the lower right hand corner.

Software updates for both Developer and conformance customers are available at [www.agilent.com/find/pctdownloads](http://www.agilent.com/find/pctdownloads). To access the software releases, you need to enter the password which is included in your license redemption E-mail. Each release is provided as an .exe installation file which operates in the same way as the test adaptor install described in “Step 3 - Installing N6432A Mobile Station Test Adaptor (if ordered)” on page 25, or “Step 4 - Installing N6442A Base Station Test Adaptor (if ordered)” on page 28.

The screenshot displays the TPCN-3 Execution Management software interface. The main window shows a test case named 'WIMAX\_MS\_Initiaze\_Range\_Sample\_Script' with a status of 'pass'. The 'Properties' pane on the left shows the 'Verdict' as 'pass' and the 'Module' as 'SampleScript\_IR'. The 'Expected TPCN-3 Template' table is empty. The 'Data' table is also empty. The 'TTCN-3 Graphical Logging' pane shows a message sequence diagram (MSD) for the test case. The MSD shows a sequence of messages between the 'MTC' (Test Case) and the 'SYSTEM' (Test Adaptor). The messages are as follows:

```

sequenceDiagram
    participant MTC as MTC
    participant SYSTEM as SYSTEM
    Note over MTC: Start: 2007-10-25 10:39:50.549
    Note over MTC: End: 2007-10-25 10:40:45.659
    MTC->>SYSTEM: tcnInit with version "TTCN3_0007911"
    SYSTEM-->>MTC: guard(300.0)
    MTC->>SYSTEM: ftcStartInitReq_OFDMA: Info: Passed *****
    SYSTEM-->>MTC: pass
    MTC->>SYSTEM: tcnInit(60.0)
    SYSTEM-->>MTC: receive taPhy
    MTC->>SYSTEM: receive taPhy
    SYSTEM-->>MTC: phyEnd
    MTC->>SYSTEM: match
    MTC->>SYSTEM: tcnInit(33.31)
    SYSTEM-->>MTC: ftcFromCodeDomain: CDMA code is within the domain from Dto 3. *****
    MTC->>SYSTEM: ftcFromIRNGCodeDomain: CDMA code from Initial Ranging Domain *****
    SYSTEM-->>MTC: pass
    MTC->>SYSTEM: ftcCodeFromIRNGRegion: CDMA code received in Initial Ranging Region *****
    SYSTEM-->>MTC: pass
    MTC->>SYSTEM: tcnGuard(54.775)
    SYSTEM-->>MTC: pass
  
```

In addition, provided with each release is information about the TRI external functions and WiMAX TLVs (Type/Length/Value) which are supported. When you download the zip archive please extract all files into a

## 2 Installation

directory on your PC. This creates a directory with all of the T3 docs and allows you to view details regarding the external functions. Winzip is the recommended tool to extract files from this release information

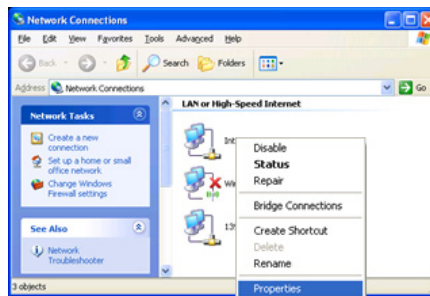
In addition, the web site also provides links for firmware updates, TTWorkbench downloads and downloads for the N6421A Protocol Logging and Analysis software.

## Step 10 - Integrating the N6421A Protocol and Logging application

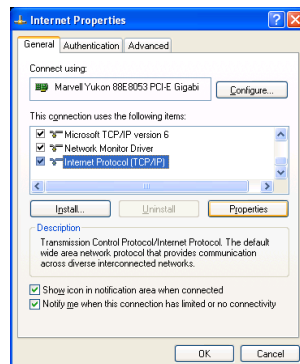
### System Configuration Manager

If you are using the N6421A Protocol Logging and Analysis Application to log and analyze message traffic, use the System Configuration Manager to help configure the required IP addresses.

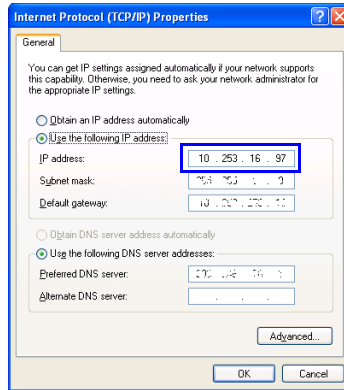
- 1 On the N6421A installation computer, click **Control Panel > Network Connections**.



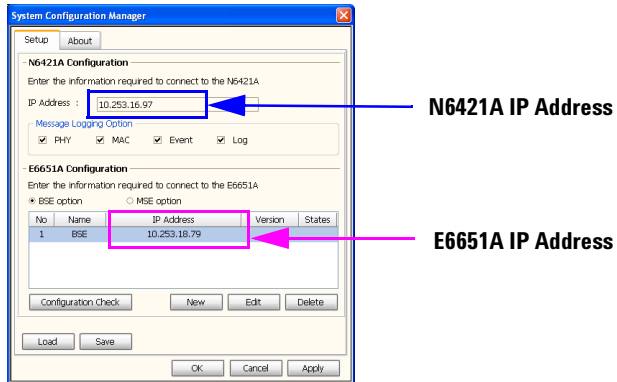
- 2 Right-click the required connection to display the Properties.



3 Highlight **Internet Protocol (TCP/IP)** and click **Properties**.



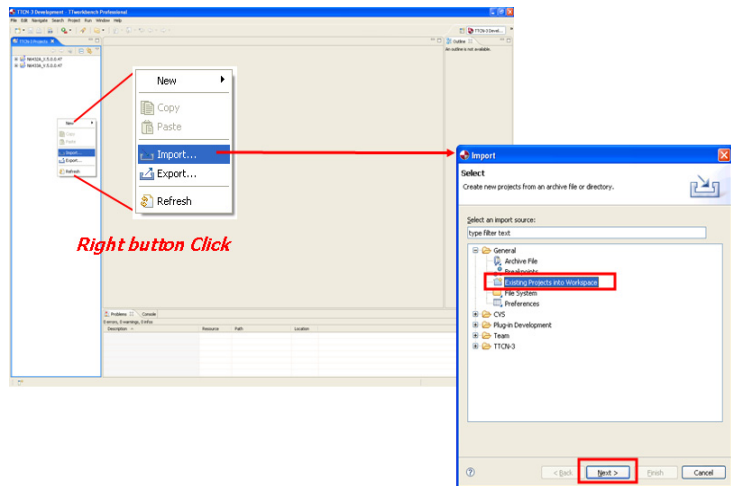
4 On the N6430A Series installation computer click **Start > All Programs > Agilent Mobile WiMAX Test Set > N6430A Series Utilities > System Configuration Manager** to open the following window. Copy the IP address displayed in [step 3](#) into the N6421A IP address on the **System Configuration Manager**.



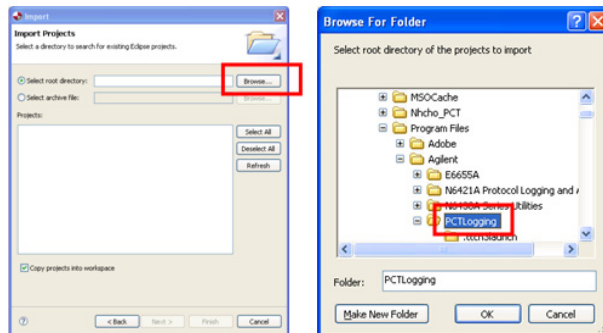
5 Open the N6421A Protocol Logging application and click **File, Port Open**. Ensure the E6651A IP address in the **Port Open** window matches that displayed in the System Configuration Manager. Double click to edit the IP Address if it is incorrect.

## Import PCT Message Logging into the TTCN-3 Environment

- 1 In the TTCN-3 Workbench application right-click in the TTCN-3 Projects window, select **Import...** and select **Existing Projects into Workspace**.

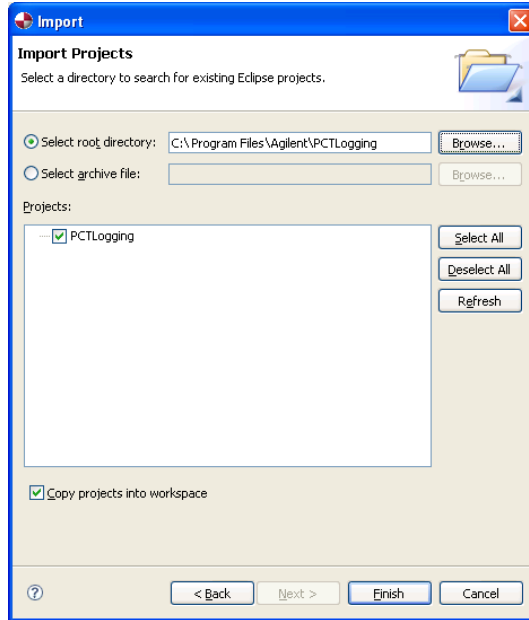


- 2 Click on **Next**, then **Browse** to open the Browse window.



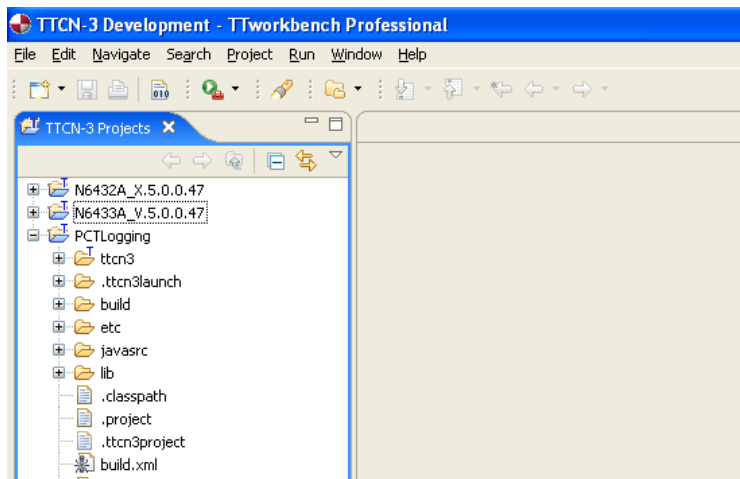
- 3 Locate and highlight the PCT Logging application directory. (Default **C:\Program Files\Agilent\PCTLogging**). Click **OK**.

- 4 Confirm the path has been selected in the **Import Projects** window and click **Finish**.



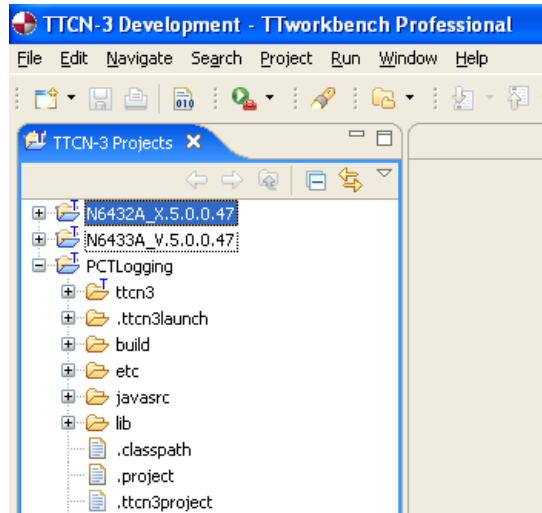
**Figure 28** PCT Logging folder selected.

- 5 Confirm PCT Logging is displayed in the **Projects** list.

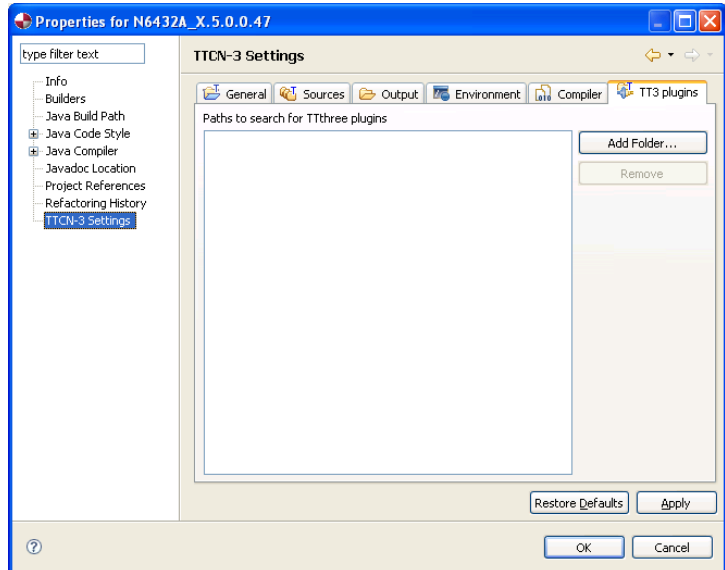


Add the PCT Logging plug-in to your project.

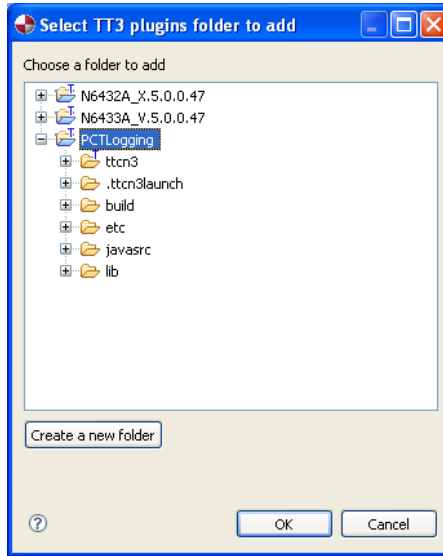
- 6 Highlight the required project in the Projects list. Right click and scroll to **Properties**.



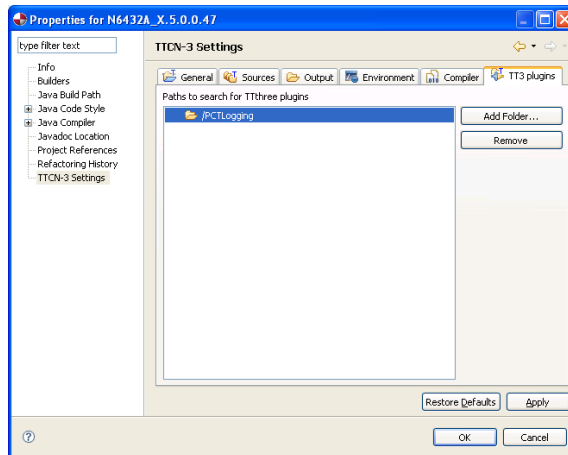
- 7 In the **Properties** window, highlight **TTCN-3 Settings** and select the **TT3 plugins** tab.



8 Click **Add Folder...**, select **PCT Logging** and click **OK**.

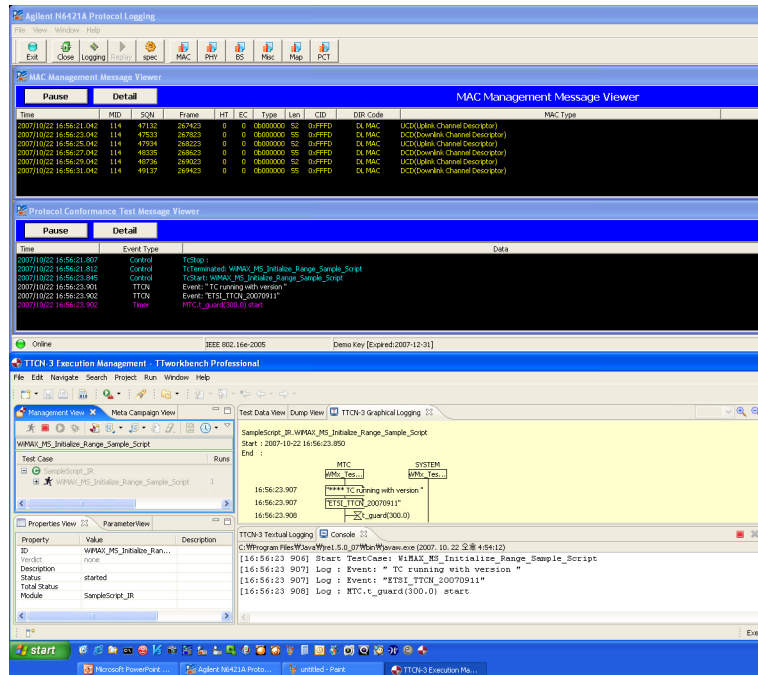


9 Confirm the PCT Logging folder is displayed and click **OK**.





Confirm the Logging operates whilst running the workbench environment.



## 2 Installation



### 3 Additional Information

Responsibilities of the Customer	68
The Agilent N6430A Series Support Web Site	69
Agilent Sales and Service Offices	70



## Responsibilities of the Customer

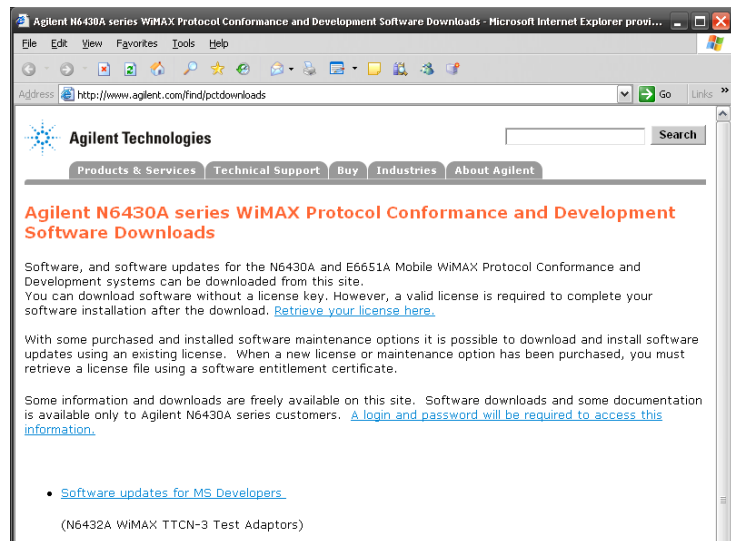
The customer shall provide:

- Access to the products during the specified periods of coverage to perform maintenance
- Adequate working space around the products for servicing by Agilent personnel.
- Access to and use of all information and facilities determined necessary by Agilent to service and/or maintain the products. (Insofar as these items may contain proprietary or classified information, the customer shall assume full responsibility for safeguarding and protection from wrongful use.)
- Routine operator maintenance and cleaning as specified in the Agilent Operating and Service Manuals.
- Consumables such as replacement fuses, etc.

## The Agilent N6430A Series Support Web Site

Refer to the Agilent N6430A Series WiMAX Protocol Test website, [www.agilent.com/find/pctdownloads](http://www.agilent.com/find/pctdownloads) for:

- License retrieval.
- Software updates.
- Installation Notes.
- Release Notes.
- E6651A Test Set firmware updates.
- Links to additional web sites such as ETSI Mantis system and the WiMAX Forum.



**Figure 29** Agilent N6430A Series website

### NOTE

Some information and downloads are freely available on this site. Software downloads and some documentation are available only to Agilent N6430A Series customers. A login and password is required to access this information. For login information please refer to the e-mail containing your license file(s).

## Agilent Sales and Service Offices

In any correspondence or telephone conversations, refer to the Test Set by its model number and full serial number. With this information, the Agilent representative can quickly determine whether your unit is still within its warranty period.

---

**UNITED STATES**

Agilent Technologies  
(tel) 1 800 829 4444

---

**CANADA**

Agilent Technologies Canada Inc.  
Test & Measurement  
(tel) 1 877 894 4414

---

**EUROPE**

Agilent Technologies  
Test & Measurement  
European Marketing Organization  
(tel) (31 20) 547 2000

---

**JAPAN**

Agilent Technologies Japan Ltd.  
(tel) (81) 426 56 7832  
(fax) (81) 426 56 7840

---

**LATIN AMERICA**

Agilent Technologies  
Latin America Region Headquarters, USA  
(tel) (305) 267 4245  
(fax) (305) 267 4286

---

**AUSTRALIA and  
NEW ZEALAND**

Agilent Technologies Australia Pty Ltd.  
(tel) 1-800 629 4852 (Australia)  
(fax) (61 3) 9272 0749 (Australia)  
(tel) 0-800 738 378 (New Zealand)  
(fax) (64 4) 802 6881 (New Zealand)

---

**ASIA PACIFIC**

Agilent Technologies, Hong Kong  
(tel) (852) 3197 7777  
(fax) (852) 2506 9284

You can visit our website: <http://www.agilent.com/find/assist>