

1 Installation

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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
- A computer meeting the requirements specified in “[Minimum Computer Requirements - N6430A](#)” on [page 3](#).
- Ethernet hub or switch and LAN cables
- N6431A entitlement certificate for license redemption
- N6432A and/or N6442A Test Adaptor USB license keys
- Entitlement certificate for mobile or base station test developer’s solution, or
- Entitlement certificate for mobile or base station test developer and conformance solution
- For Base Station test only, an entitlement certificate for E6653A is required

(refer to the *Configuration Guide* using the **Options** tab at <http://www.agilent.com/find/pct> for more details of the developer’s, and developer and conformance software suites)

Minimum Computer Requirements - N6430A

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

Operating System	Computer running Windows XP.
Communication with Test Set(s)	Ethernet.
RAM (Memory)	Minimum 2 GB RAM.
Processor	3.0 GHz Intel Pentium® or equivalent, dual core preferred.
Disc Space	N6431A TTCN-3 Environment - at least 170 MB Java Runtime Environment - at least 300 MB N6432A/33A/34A/42/43A Test Adaptors - at least 50 MB
NOTE	Consideration for storage space should also be given for subsequent downloaded releases of N6432A/33A/34A/42A/43A 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.

Minimum Computer Requirements - For Authentication Server (optional)

If an authentication server is part of your test configuration, a Linux operating system such as Ubuntu, and a radius server such as freeRadius are suitable.

Typical Minimum System Requirements

Operating System	Linux - Redhat 9.x, Ubuntu 8.x
Processor	Intel® Pentium® 2.8GHz or equivalent
Communication	Ethernet.
RAM (Memory)	Minimum 512 MB RAM.
Disc Space	4GB for Linux installation
Network Interface Cards	(NIC) or adaptors for connection to network.

For more detailed requirements and installation instructions, refer to the documentation at <http://www.ubuntu.com>, <http://www.redhat.com>, and <http://freeradius.org>.

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 TTCN-3 Environment
- N6431A-2FP TTCN-3 Environment, developer license

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, N6434A, 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.

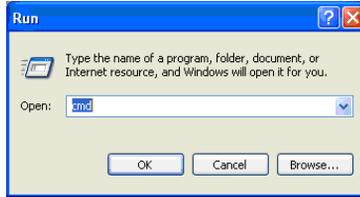


Figure 1 Run Window

- 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 2**, the host name is “ipsc1046” and the MAC Address is 00-04-76-4E-26-40.

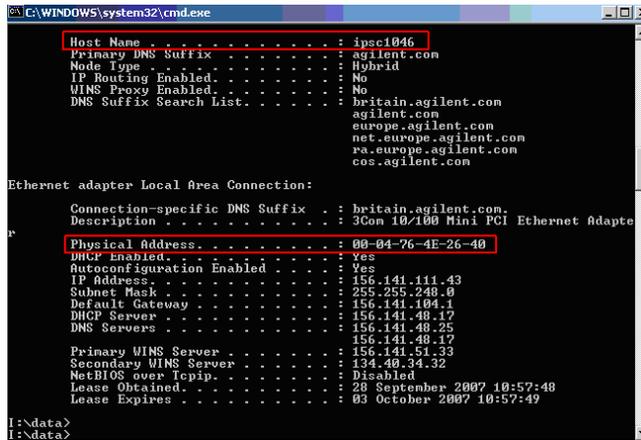


Figure 2 Command Window

- 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

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 3](#).

NOTE

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

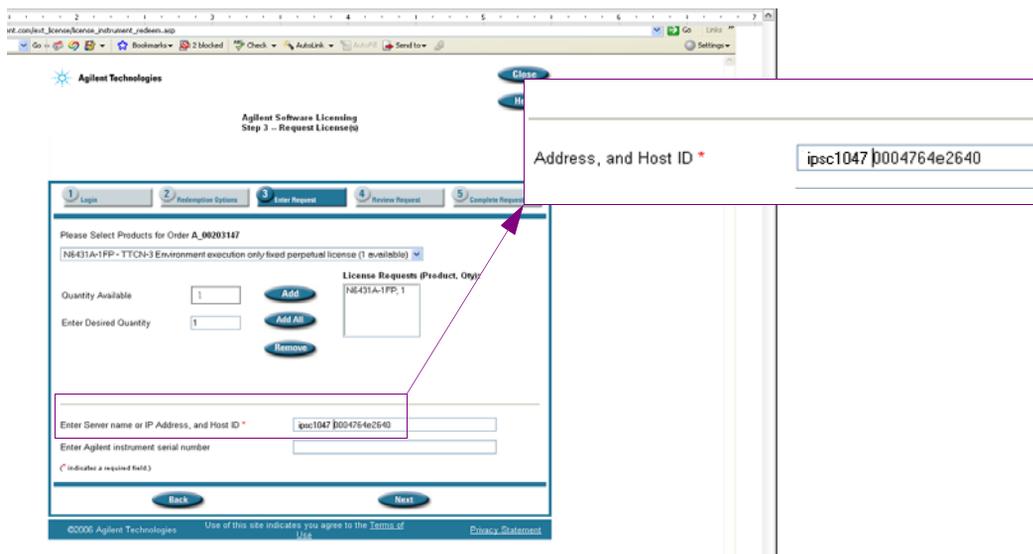


Figure 3 Entering Hostname and MAC Address

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, N6434A, N6442A, and N6443A License Redemption

Entitlement certificates are also required for each of the N6432A, N6433A, N6434A, 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/N6434A 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. An access code for the Agilent N6430A software download site is also supplied. This should be retained for use in subsequent download and update procedures.

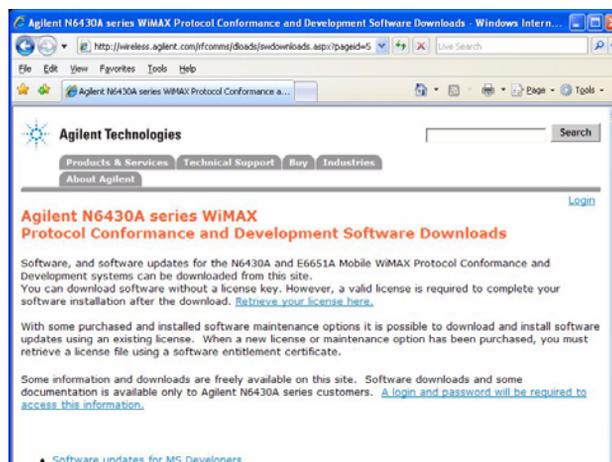
Step 2 - Determine Required Software Versions

Software, and software updates for the N6430A and E6651A Mobile WiMAX Protocol Conformance and Development systems are released frequently to align with ETSI script releases and validation processes. For successful operation it is important to ensure compatibility between the E6651A Test Set firmware and N6432A/3A/4A and N6442A/3A Test Adaptor is maintained.

Both software (and updates) and compatibility matrices are available from the Agilent WiMAX PCT support web pages at: <http://www.agilent.com/find/pct>

To access the software and release information proceed as follows:

- Procedure**
- 1 Click **Technical Support > Drivers & Software**.
 - 2 Click the **N6430A series WiMAX Protocol Conformance and Development Software Downloads** link to display the software download page:



As stated on this page, you can download the appropriate

software for your application. To complete software installations, a valid license is required. A login and password are also required for some areas. Please refer to the displayed web page for the latest detailed information.

- 3 From the list displayed on the web page, select the topics you require - choose from:

PCT Software updates for MS Development and Conformance

(N6432A WiMAX TTCN-3 Test Adaptors)

Accesses links for supported configuration tables, software and updates and installation instructions for MS PCT test developers and conformance testing.

NCT Software updates for MS Development and Conformance

(N6434A WiMAX TTCN-3 Test Adaptors)

Accesses links for supported configuration tables, software and updates and installation instructions for MS NCT test developers and conformance testing.

PC Software updates for BS Development and Conformance

(N6442A WiMAX TTCN-3 Test Adaptors)

Accesses links for supported configuration tables, software and updates and installation instructions for BS PCT test developers and conformance testing.

Other Software Updates

(E6651A WiMAX Test Set, N6431A TTworkbench and other components)

Accesses links for E6651A firmware, N6431A software, and other component updates.

Other Information and Support

(N6432A WiMAX TTCN-3 Test Adaptors)

Accesses links to other information such as the WiMAX Forum and the ETSI Mantis system.

NOTE

It is recommended that you save all downloaded files to a secure location before unpacking any archives.

Step 3 - Installing the N6431A TTCN-3 Environment

The latest N6431A TTCN-3 Environment installation is available for download from the 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, N6434A, 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 and select the **Other Software Updates** link.
- 2 Use the access code supplied in the e-mails received following “N6432A, N6433A, N6434A, N6442A, and N6443A License Redemption” on page 8 to access the downloads page.
- 3 Download version 1.1.5.1.2 of the N6431A. The installation file is **setup_N6431A-2FP_1.1.5.1.2.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.

The TTworkbench and N6432A/33A/34A/42A/43A software require the installation of JDK (Java™ SE Development kit). Version 5 Update 14 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. Remove all other version of JDK and JRE before installing the N6431A.

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 Click **Finish** to complete the installation.

Un-installation

If un-installation is required, use **Add or Remove Programs** accessed from the Windows **Control Panel**. Click **Start > Control Panel > Add or Remove Programs**.

Step 4 - Installing N6432A PCT Mobile Station Test Adaptor (if ordered)

The N6432A PCT Mobile Station Protocol Test Adaptor requires that the N6431A TTCN-3 Environment is installed. If you have not already done so, refer to “[Step 3 - Installing the N6431A TTCN-3 Environment](#)” on page 11

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

- 1 Browse to 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, N6434A, N6442A, and N6443A License Redemption](#)” on [page 8](#) to access the downloads page.
- 3 Download the most recent qualified or tested beta version of the N6432A that is supported with the 1.1.5.1.2 version of the N6431A. Refer to the supported configurations document on the N6432A download site. The installation file is **N6432A_x.5.0.2.19.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 5 - Installing N6434A NCT Mobile Station Test Adaptor (if ordered)

The N6434A NCT Mobile Station Protocol Test Adaptor requires that the N6431A TTCN-3 Environment is installed. If you have not already done so, refer to “[Step 3 - Installing the N6431A TTCN-3 Environment](#)” on page 11

N6434A Installation Components

The N6434A installation installs the following items on your computer:

- USB License Key driver and utilities (available from the **Start** menu)
- N6434A Network Conformance Test Adaptor

Procedure

- 1 Browse to www.agilent.com/find/pctdownloads and select **Software Updates for MS Developers**.
- 2 Use the access code supplied in the e-mails received from “[Step - N6432A, N6433A, N6434A, N6442A, and N6443A License Redemption](#)” on page 8 to access the downloads page.
- 3 Download the most recent qualified or tested beta version of the N6434A that is supported with the 1.1.5.1.2 version of the N6431A. Refer to the supported configurations document on the N6434A download site. The installation file is **N6434A_x.5.1.0.10.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 Network Test

- 8 The program installs the adaptor.

The directory structure for the releases is as follows:

- **Release** - root_directory\N6434A Releases\
N6434A_A.w.x.y.z
- 9 The N6434A 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 N6434A software.

Uninstallation

The Agilent N6434A Test Adaptor and Sentinel Protection Installer software can be un-installed using Add/Remove Programs in Windows.

Step 6 - Installing N6442A PCT Base Station Test Adaptor (if ordered)

The N6442A PCT Base Station Protocol Test Adaptor requires that the N6431A TTCN-3 Environment is installed. If you have not already done so, refer to “[Step 3 - Installing the N6431A TTCN-3 Environment](#)” on page 11.

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

- 1 Browse to www.agilent.com/find/pctdownloads and select **Software Updates for BS Developers**.
- 2 Use the access code supplied in the e-mails received from “[License Redemption](#)” to access the downloads page.
- 3 Download the most recent qualified or tested beta version of the N6442A that is supported with the 1.1.5.1.2 version of the N6431A. Refer to the supported configurations document on the N6442A download site. The installation file is **N6442A_x.5.0.1.20.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 7 - 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 enabled 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 4](#) provides the serial number of your USB license key and licenses. The serial number is also printed on the key.



Read USB License Key		
Read License		
Category	Field	Value
Serial Number		50000119
Update Date		17/12/2007
License Expiry Date		N/A(Commercial)
System	MS PCT	
	BS PCT	
	MS NCT	
Application	Developer	
	Conformance	
Contract Expiry Date	Developer Expiry date	
	Conformance Expiry date	
	NCT Expiry date	
Conformance Option	Wave1	
	Wave2	

Figure 4 USB License Key Reader Display

Developers' License Redemption

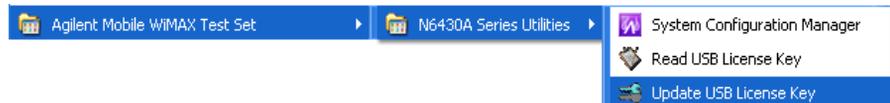
To redeem your License, proceed as follows:

- 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.



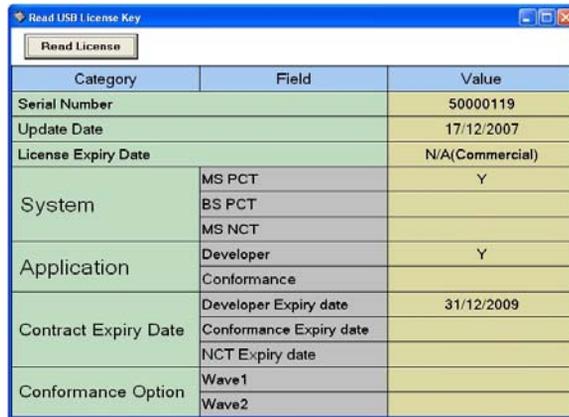
NOTE

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 5](#).



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		50000119
Update Date		17/12/2007
License Expiry Date		N/A(Commercial)
System	MS PCT	Y
	BS PCT	
	MS NCT	
Application	Developer	Y
	Conformance	
Contract Expiry Date	Developer Expiry date	31/12/2009
	Conformance Expiry date	
	NCT Expiry date	
Conformance Option	Wave1	
	Wave2	

Figure 5 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 8 - 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 enabled 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 6](#) shows the serial number of your USB license key. The serial number is also printed on the key.



Category	Field	Value
Serial Number		50000119
Update Date		17/12/2007
License Expiry Date		N/A(Commercial)
System	MS PCT	
	BS PCT	
	MS NCT	
Application	Developer	
	Conformance	
Contract Expiry Date	Developer Expiry date	
	Conformance Expiry date	
	NCT Expiry date	
Conformance Option	Wave1	
	Wave2	

Figure 6 USB License Key Reader Display

Wave 1 Validated Release License Redemption

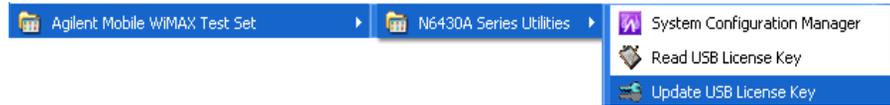
To redeem your License, proceed as follows:

- 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

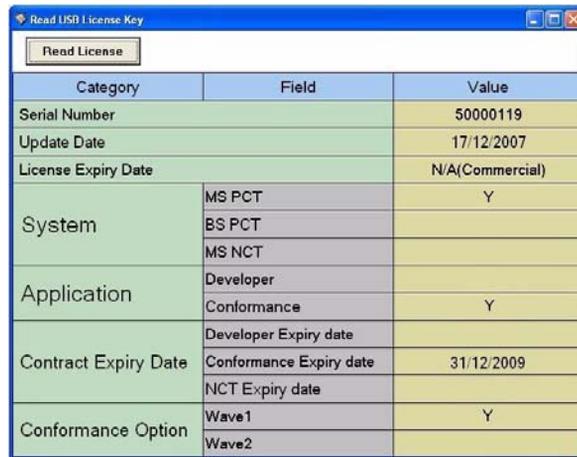
For Mobile Station test, ensure that only your N6432A License key is in the computer. No other license key should be connected. Likewise, for Base Station test ensure that only the N6442A License key is connected.

- 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 7](#).



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		50000119
Update Date		17/12/2007
License Expiry Date		N/A(Commercial)
System	MS PCT	Y
	BS PCT	
	MS NCT	
Application	Developer	
	Conformance	Y
Contract Expiry Date	Developer Expiry date	
	Conformance Expiry date	31/12/2009
	NCT Expiry date	
Conformance Option	Wave1	Y
	Wave2	

Figure 7 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 9a - Redeem License for NCT Test Adaptor (if ordered)

The licensing of the NCT Tets Adaptor is enabled 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 8](#) shows the serial number of you USB license key. The serial number is also printed on the key.

Read USB License Key		
Read License		
Category	Field	Value
Serial Number		50000119
Update Date		17/12/2007
License Expiry Date		N/A(Commercial)
System	MS PCT	
	BS PCT	
	MS NCT	
Application	Developer	
	Conformance	
Contract Expiry Date	Developer Expiry date	
	Conformance Expiry date	
	NCT Expiry date	
Conformance Option	Wave1	
	Wave2	

Figure 8 USB License Key Reader Display

License Redemption

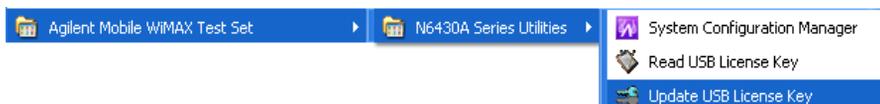
To redeem your License, proceed as follows:

- 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.

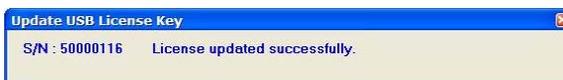
- 5 Ensure the USB license key is inserted and click **Start > Agilent Mobile WiMAX Test Set > N6430A Series Utilities > Update USB License Key** to update your entitlement in the USB license key.



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 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		50000119
Update Date		17/12/2007
License Expiry Date		N/A(Commercial)
System	MS PCT	
	BS PCT	
	MS NCT	Y
Application	Developer	
	Conformance	
Contract Expiry Date	Developer Expiry date	
	Conformance Expiry date	
	NCT Expiry date	
Conformance Option	Wave1	
	Wave2	

Figure 9 Updated License Information

Step 9b - Redeem License for NCT Contract (if ordered)

This entitles you to access the web and use releases for a period of 12 months. The licensing of this entitlement is enabled 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 you USB license key. The serial number is also printed on the key.



Category	Field	Value
Serial Number		50000119
Update Date		17/12/2007
License Expiry Date		N/A(Commercial)
System	MS PCT	
	BS PCT	
	MS NCT	
Application	Developer	
	Conformance	
Contract Expiry Date	Developer Expiry date	
	Conformance Expiry date	
	NCT Expiry date	
Conformance Option	Wave1	
	Wave2	

Figure 10 USB License Key Reader Display

Wave 1 Validated Release License Redemption

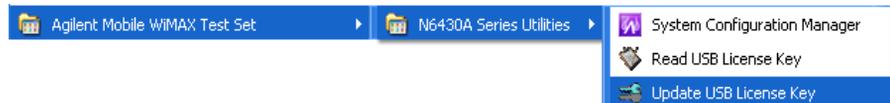
To redeem your License, proceed as follows:

- 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.



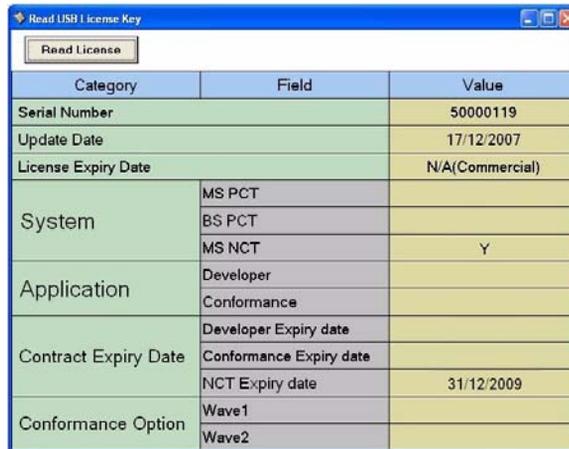
NOTE

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](#).



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		50000119
Update Date		17/12/2007
License Expiry Date		N/A(Commercial)
System	MS PCT	
	BS PCT	
	MS NCT	Y
Application	Developer	
	Conformance	
Contract Expiry Date	Developer Expiry date	
	Conformance Expiry date	
	NCT Expiry date	31/12/2009
Conformance Option	Wave1	
	Wave2	

Figure 11 Updated License Information

Step 10 - 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/N6434A 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 PCT/NCT Test

Test Set firmware for N6432A/N6433A/N6434A 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 or 6.3.1.0 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 for information about E6651A Test Set firmware requirements. Downloads are available from the same website, 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 5.3.3.0, 6.3.3.0, or later installed in your E6651A Test Set. (Refer to [step 2 on page 34](#).)
- 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 “N6432A, N6433A, N6434A, N6442A, and N6443A License Redemption” to access the downloads page.
- 3 Download required version of E6653A firmware. Refer to the supported configuration matrix document on the N6442A download site.
- 4 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 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 11 - 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.

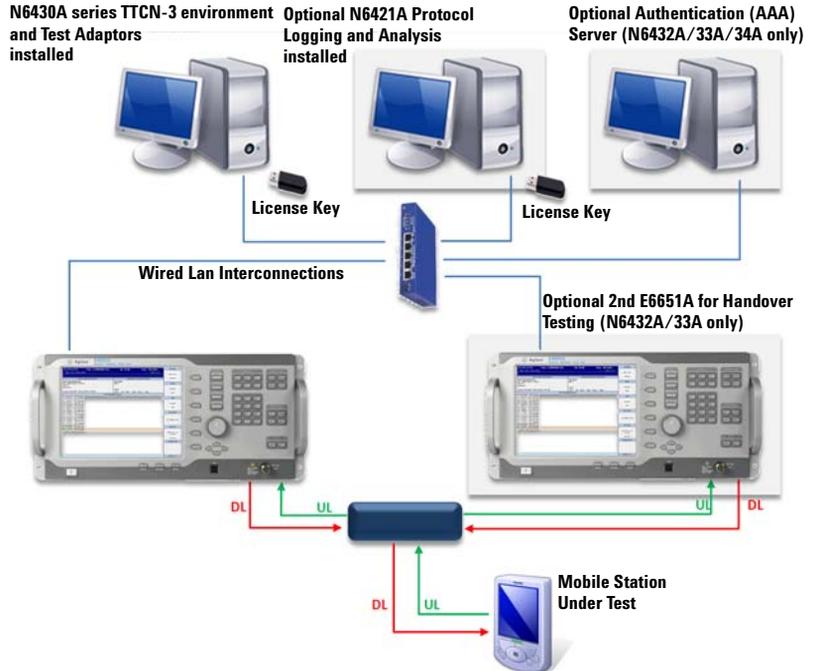


Figure 12 Example Interconnection

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.

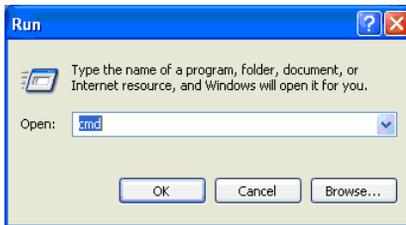


Figure 13 Run Window

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

```

C:\WINDOWS\system32\cmd.exe
C:\>ipconfig
Windows IP Configuration

Ethernet adapter Wireless Network Connection:

    Media State . . . . . : Media disconnected
Ethernet adapter Local Area Connection:

    Connection-specific DNS Suffix  . : 
    IP Address . . . . . : 10.253.18.111
    Subnet Mask . . . . . : 255.255.0.0
    Default Gateway . . . . . : 

Ethernet adapter {8BC0BE43-0A27-4406-AA9E-6467AF78CEDA}:

    Connection-specific DNS Suffix  . : 
    IP Address . . . . . : 0.0.0.0
    Subnet Mask . . . . . : 0.0.0.0
    Default Gateway . . . . . : 

C:\>

```

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](#).

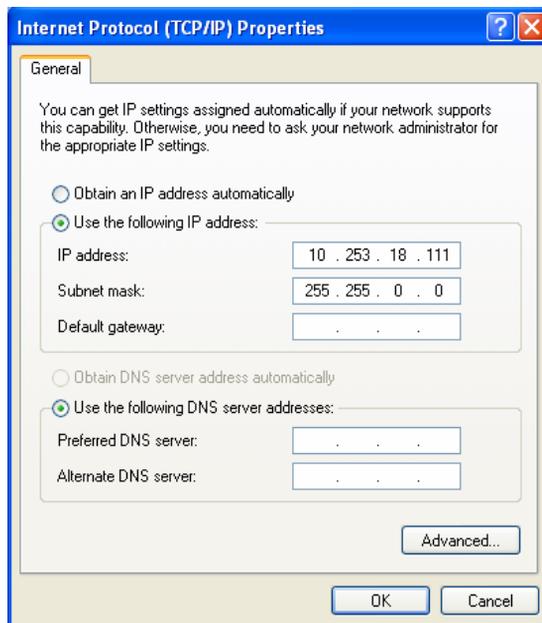


Figure 15 IP Address and Subnet Mask Entry

- 8 Connect the E6651A to your PC using [Figure 12](#) on page 38 for guidance.

NOTE

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

E6651A Test Set LAN Settings

- 9 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.



Figure 16 Test Set IP Address and Subnet Mask

- 10 The following LAN settings are required:

- **IP Address - 10.253.18.79**
- **Subnet mask - 255.255.0.0**
- **Target BSE for Handover Testing Address - 10.253.18.179**

- 11 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

- 12 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**.
- 13 Enter **ping 10.253.18.79** at the command prompt (and **ping 10.253.18.179** for the second E6651A if required).

Confirm lines displayed starting with the text **-Reply from 10.253.18.79** as shown in [Figure 17](#). Your computer and E6651A's network settings have been configured correctly and your computer can transfer packets to the E6651A successfully.

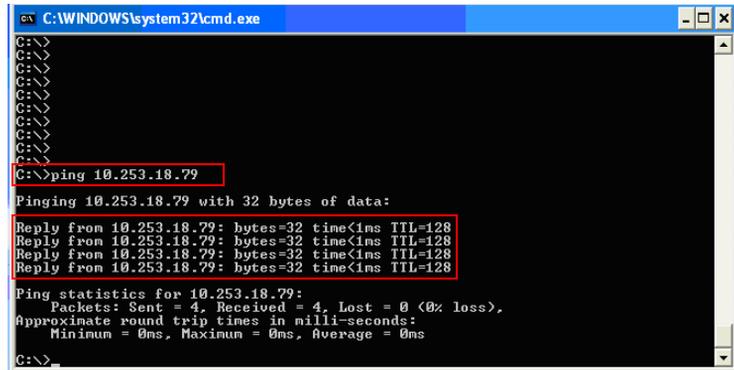
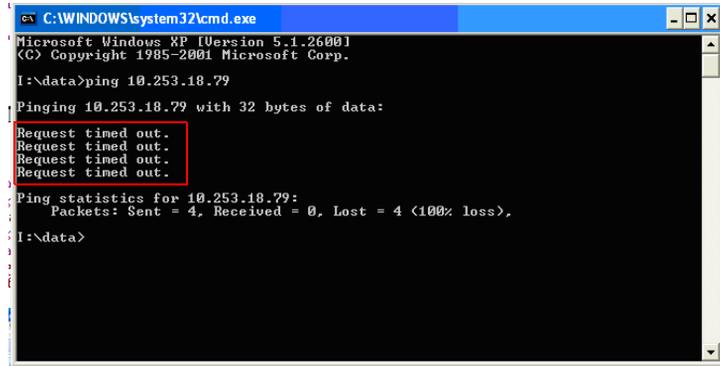


Figure 17 Successful Ping Command and Return

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 18 Ping Time-out

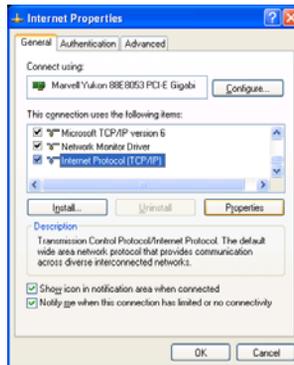
Step 12 - Integrating the N6421A Protocol Logging and Analysis Application

System Configuration Manager

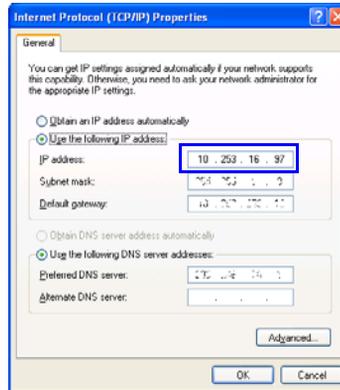
- 1 On the N6421A installation computer, click **Control Panel > Network Connections**.



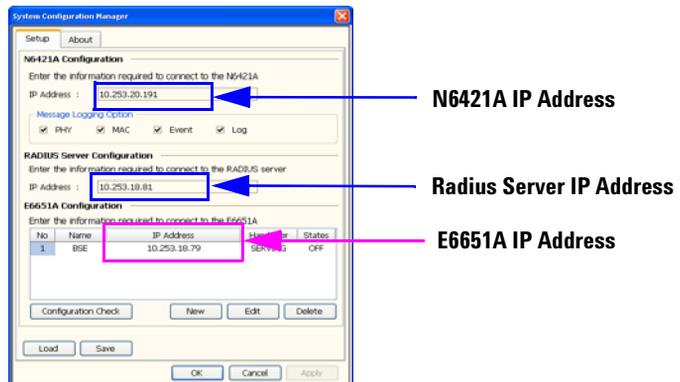
- 2 Right-click the required connection to display the Properties.



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



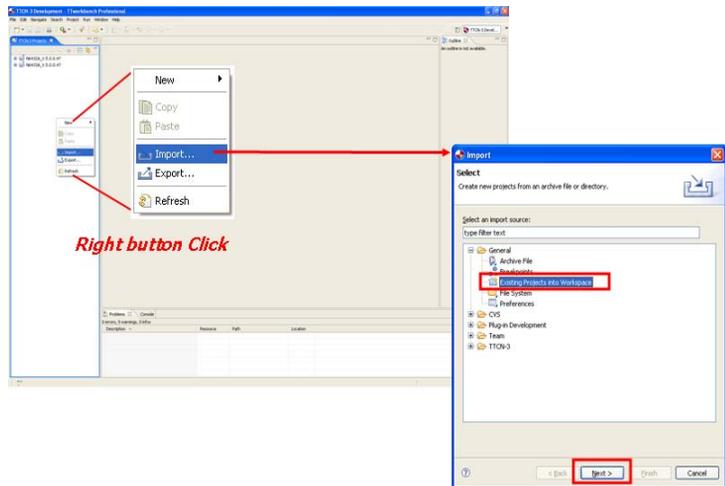
4 On the N6430A Series installation computer click **Start > All Programs > Agilent Mobile WiMAX Test Set > N6430A Series Utilities > System Configuration Manager** to open the following window. Ensure the IP address displayed in [step 3](#) matches the N6421A IP address on the **System Configuration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



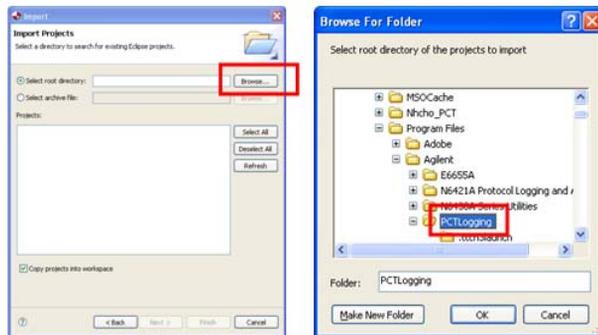
5 Open the N6421A Protocol Logging application and click **File, Port Open**. Ensure the E6651A IP address in the **Port Open** window matches that displayed in the System Configuration Manager. Double click to edit the IP Address if it is incorrect.

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**.

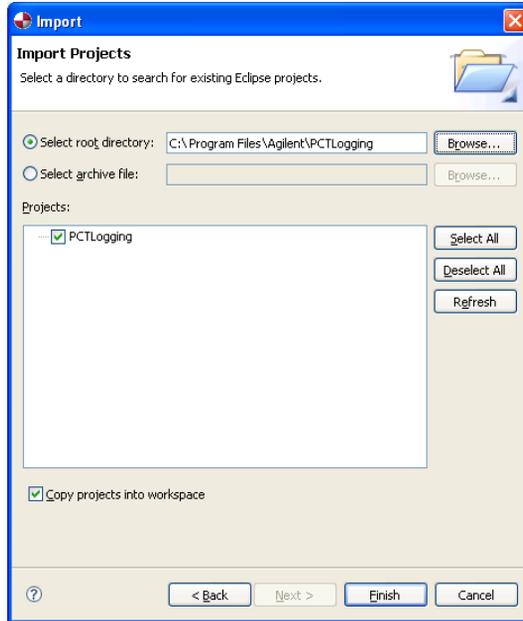


- 2 Click on **Next**, then **Browse** to open the Browse window.

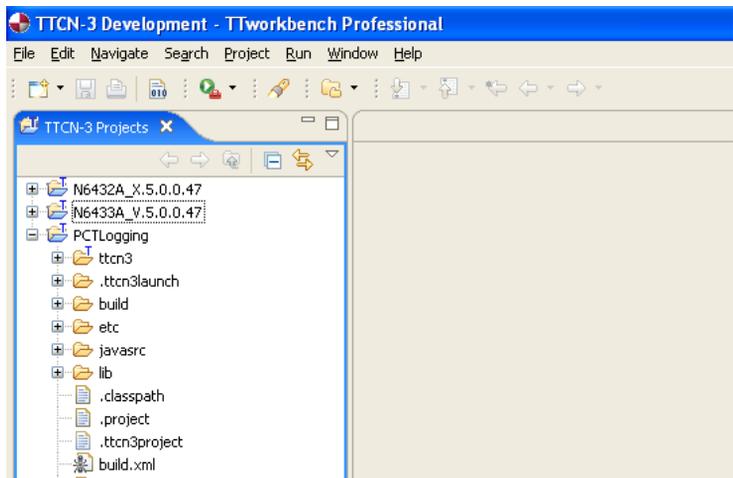


- 3 Locate and highlight the PCT Logging application directory. (Default **C:\Program Files\Agilent\PCTLogging**). Click **OK**.

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



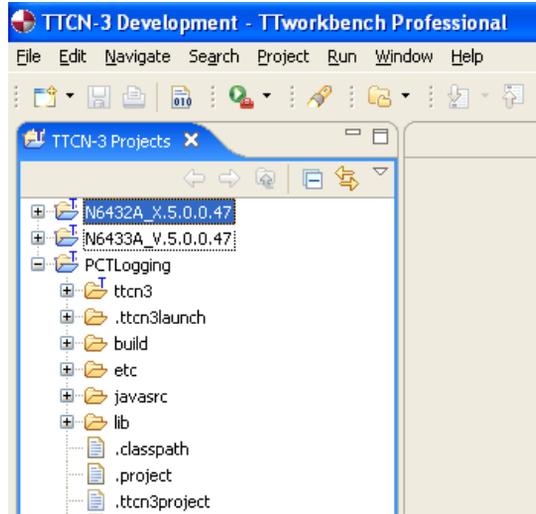
- 5 Confirm PCT Logging is displayed in the **Projects** list.



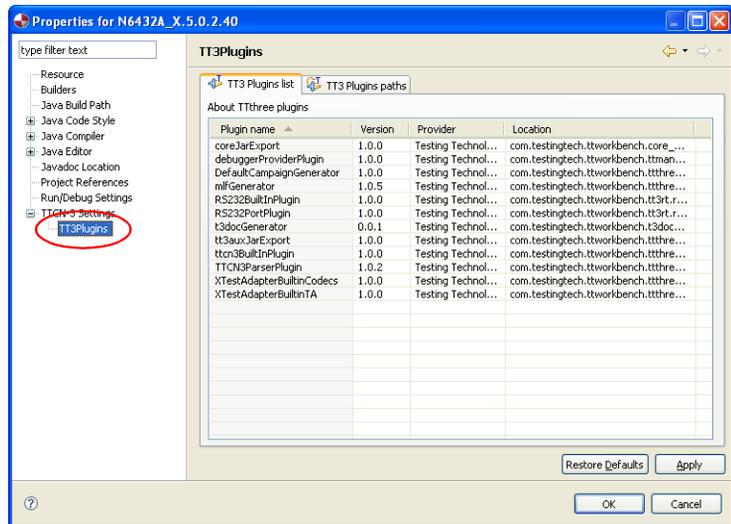
1 Installation

Add the PCT Logging plug-in to your project.

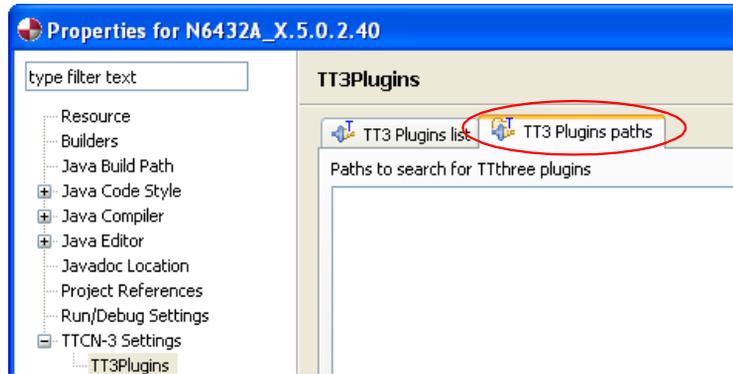
- 6 Highlight the required project in the Projects list. Right click and scroll to **Properties**.



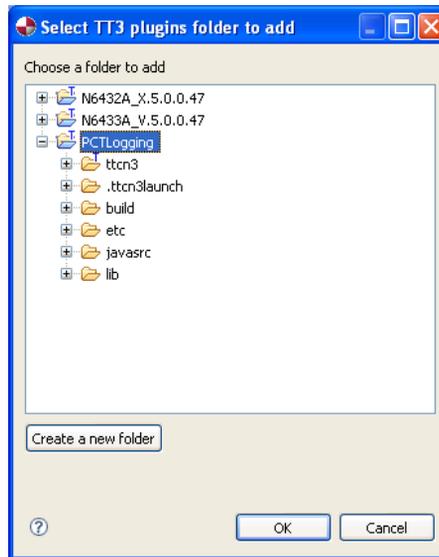
- 7 In the **Properties** window, highlight **TTCN-3 Settings** and select **TT3 plugins** on the left side folder tree.



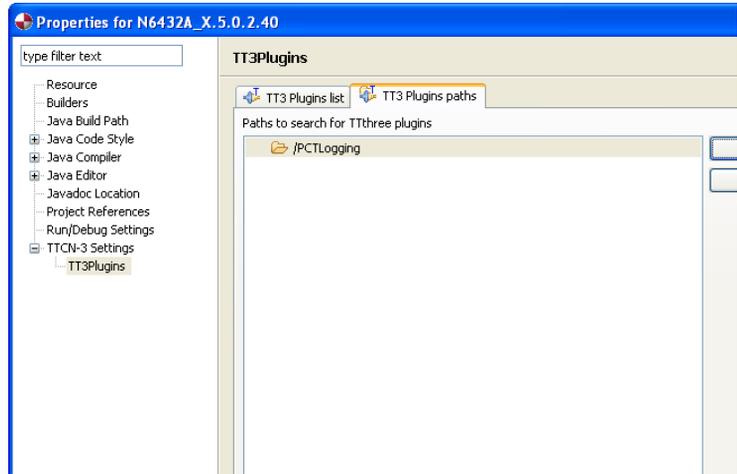
8 Select the **TT3 Plugins paths** tab.



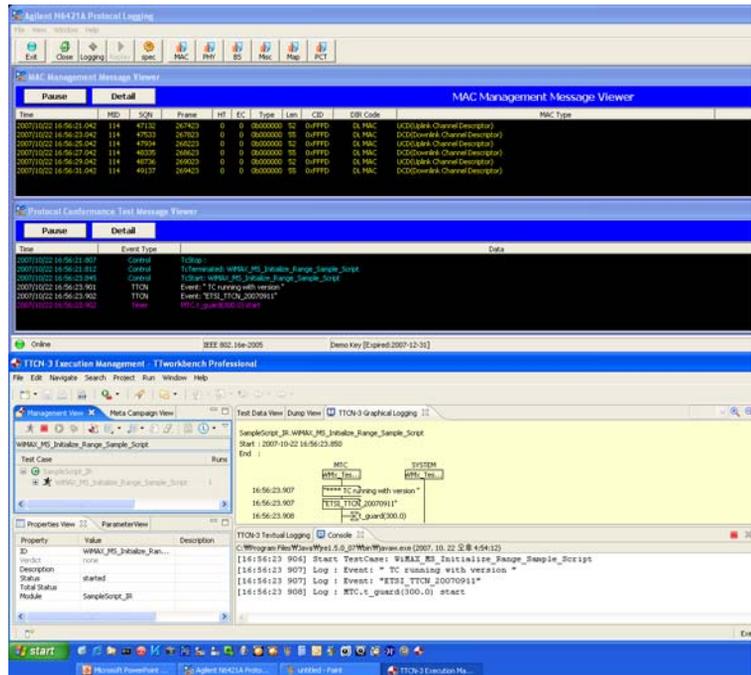
9 Click **Add Folder...**, select **PCT Logging** and click **OK**.



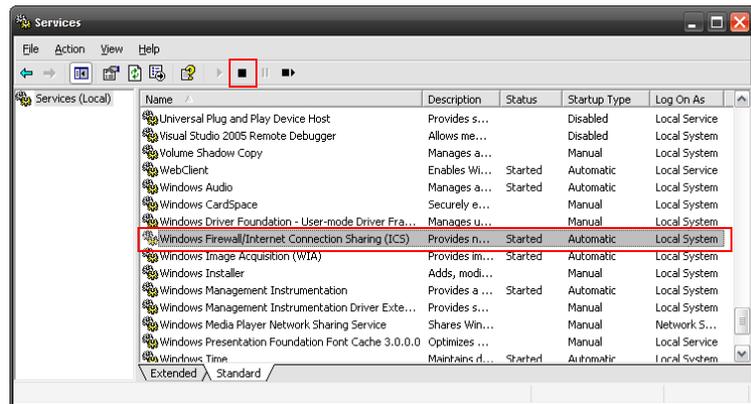
10 Confirm the PCT Logging folder is displayed and click **OK**.



Confirm the Logging operates whilst running the workbench environment.



- Final Steps**
- 11** To complete the installation process, make the following settings in the E6651A:
- a** Press **System > TTCN mode [ON]**
- 12** 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.



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

Step 13 - 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.

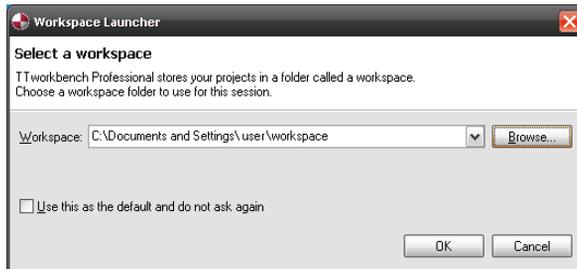


Figure 19 Workspace Launcher

- 3 Click **Browse...** to open the Select Workspace Directory window.
- 4 Navigate to and highlight your own <user> folder under the **C:\Documents and Settings** path and click **Make New Folder**.
- 5 Enter the required folder name, for example; **N6442A_X.5.0.1.6**

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.

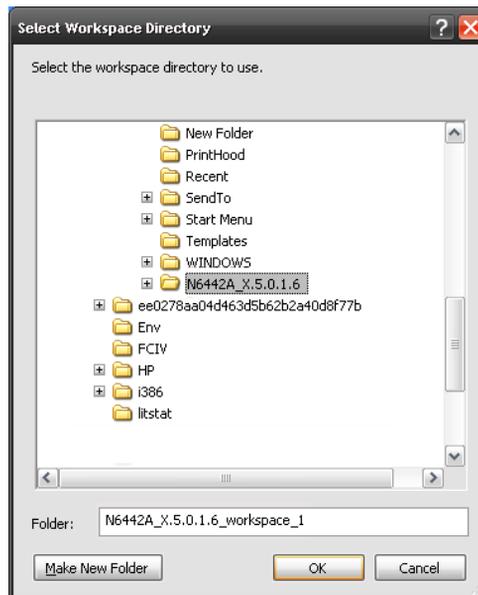


Figure 20 Adding a New Workspace Folder Example

6 Click OK to continue.

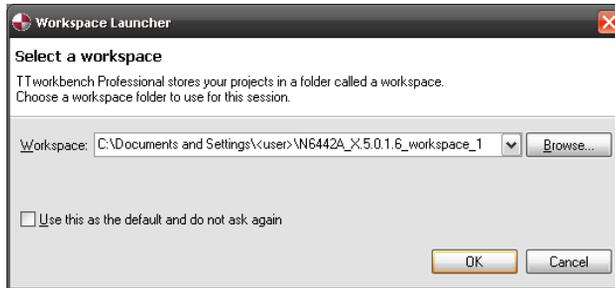


Figure 21 New Workspace Selected

7 The TTworkbench application starts and displays a welcome screen.



Figure 22 Wokbench Welcome Window

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



For N6432A/N6433A PCT Mobile Station protocol 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 TestingTech Workbench workspace directory, but the location of the N6432A software when installed in [“Step 4 - Installing N6432A PCT Mobile Station Test Adaptor \(if ordered\)”](#) on page 13).
- 2 Check **Copy projects into workspace**.
- 3 Click **Finish**.

For N6434A NCT Mobile Station protocol test

- 1 Browse to find the directory for installed release. For example, the N6434A:- **c:\Program Files\Agilent\WiMAX MS Network Test\N6434A Releases \N6434A_X.5.1.0.10** (Note this is not the TestingTech Workbench workspace directory, but the location of the N6434A software when installed in [“Step 5 - Installing N6434A NCT Mobile Station Test Adaptor \(if ordered\)”](#) on page 16).
- 2 Check **Copy projects into workspace**.
- 3 Click **Finish**.

For N6442A/N6443A PCT Base Station protocol test

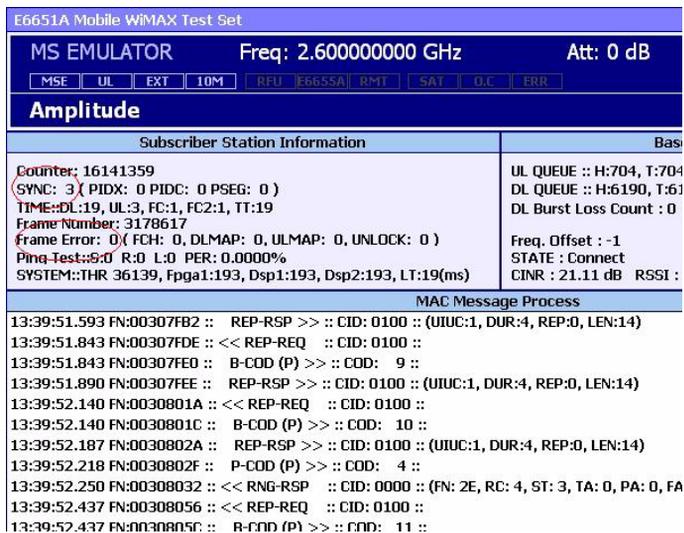
- 1 Browse to find the directory for installed release. For example, the N6442A:- **c:\Program Files\Agilent\WiMAX BS Protocol Test\N6442A Development Releases \N6442A_A.5.0.1.2**
(Note this is not the TT workspace directory, but the location of the N6442A software when installed in “[Step 6 - Installing N6442A PCT Base Station Test Adaptor \(if ordered\)](#)” on page 18).
- 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 PCT Mobile Station Test

- 1 Click the **Go to the workbench** icon.
- 2 Within the TTworkbench development perspective, expand the N6432A release directory, and then expand the ttcn3 directory.
- 3 Double click the **WMx_SsTestcases_16e_3A_10MHZ.clf** file.

NOTE

Use the appropriate CLF file for the profile of the IUT.

For N6434A NCT Mobile Station Test

- 1 Click the **Go to the workbench** icon.
- 2 Within the TTworkbench development perspective, expand the N6434A release directory, and then expand the ttcn3 directory.
- 3 Double click the **WMx_NCT_Testcases_3A_10MHZ.clf** file.

NOTE

Use the appropriate CLF file for the profile of the IUT.

For N6442A/N6443A PCTBase Station test Base Station Test

- 1 Click the **Go to the workbench** icon.
- 2 Within the TTworkbench development perspective, expand the N6442A release directory, and then expand the ttcn3 directory.
- 3 Double click the **WMx_BsTestcases_16e_3A_10MHZ.clf**.

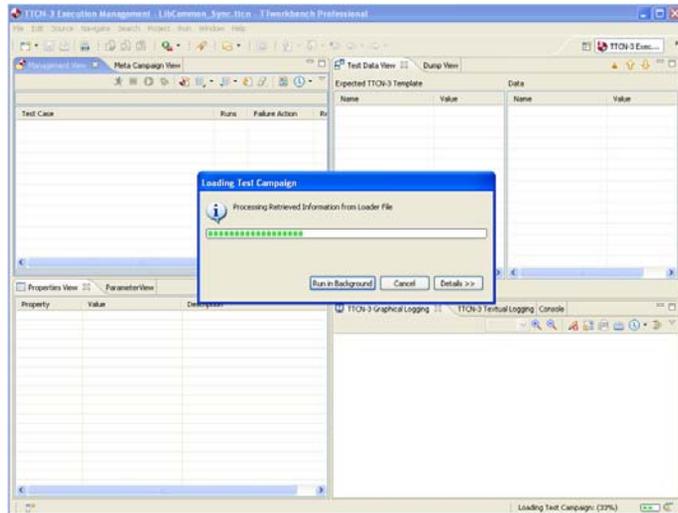
NOTE

Use the appropriate CLF file for the profile of the IUT.

**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.



When the test campaign is fully loaded it is listed in the test case window. Expand on the campaign to see the actual test case, **MEMLOAD**, if present in the CLF (campaign file). Run the Memload tests:

N6432A/33A **WiMAX_MS_MEM_LOAD**
WiMAX_MS_MEM_LOAD_PKM

N6432A/33A **WiMAX_BS_MEM_LOAD**

N6434A **WiMAX_MS_MEM_LOAD**
TC_MS_SEC_MEM_LOAD

- 4 You can now run one of the sample test cases. To do this, click on the **TC_SS_RLC_IRNG_BV_H015** test case (for N6432A), **TC_SS_RLC_IRNG_BV_H015** (for N6442A), **TC_MS_DHCP_BV_H000** (for N6434A, set MS IP settings to DHCP) then click on the script running man at the top left corner of the management view.

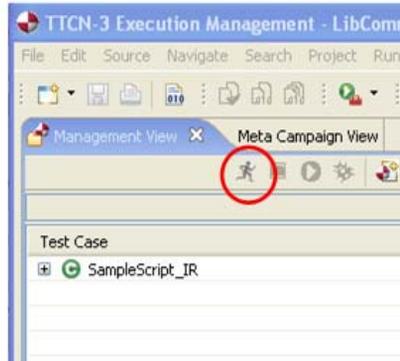
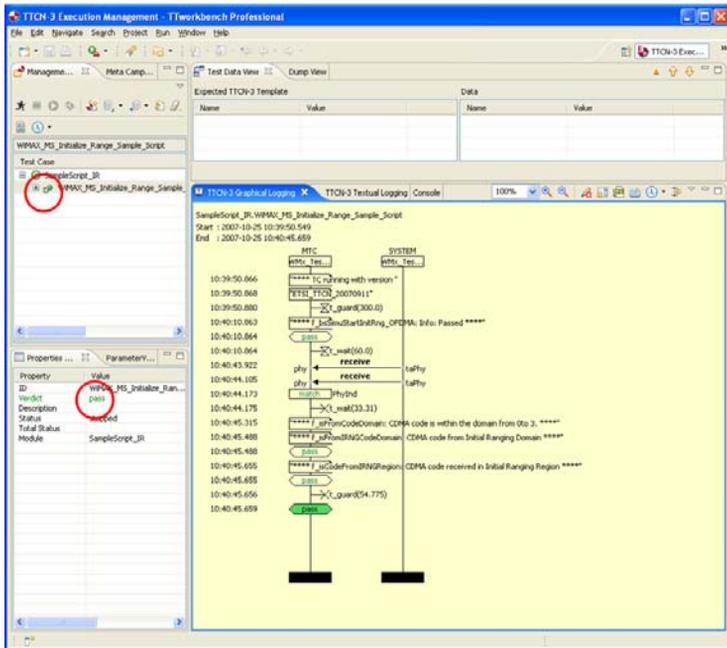


Figure 23 Run Test

- 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. 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 4 - Installing N6432A PCT Mobile Station Test Adaptor (if ordered)” on page 13, or “Step 6 - Installing N6442A PCT Base Station Test Adaptor (if ordered)” on

page 18.



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 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, T3Workbench downloads and downloads for the N6421A Protocol Logging and Analysis software.

1 Installation