

Getting Started Guide

Anritsu Company LANTest Control Package for TI WiLink™ 4.0 Devices



Chapter 1 — Introduction

In partnership with TI, Anritsu has developed a control package that provides a fully automated test solution for WiLink™ 4.0 devices - TNETW1251 and TNETW1253. The control package uses a DLL containing commands that enable LANTest to configure the chipsets from within a test plan. These commands are sent to the device via a host processor interface. When the test plan is executed, both the MT8860B/C and device are simultaneously controlled, allowing the test plan to proceed to completion in a fully automated manner.

1-1 Software Requirements

Please ensure that the following applications are installed:-

- LANTest 4.0
- Texas Instruments MAPI software version 4.21 installed in the location C:\Program Files\TI

1-2 DUT Control Package Change History

Table 1-1. Change History

Control Package Version	System Requirements	Support Functionality
0.07	LANTest 3.0 TI MAPI 4.21 MT8860B or MT8860C fitted with firmware 8.02 or greater	First release Supports 802.11b and 802.11g Tx/Rx validation using MT8860B. Supports 802.11a/b/g Tx/Rx validation using MT8860C.
0.15	LANTest 4.0 TI MAPI 4.21 MT8860B or MT8860C fitted with firmware 8.02 or greater	Supports 802.11b/g Tx/Rx validation using MT8860B. Supports 802.11a/b/g Tx/Rx validation using MT8860C.

Chapter 2 — Installation

2-1 Installing the Control Package

1. Unzip the control package installation files and run setup.exe to open the Welcome dialog.

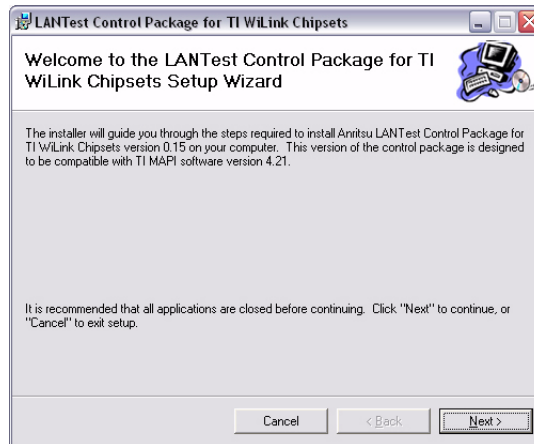


Figure 2-1. Welcome Dialog

Ensure that the control package and TI MAPI software versions detailed in the dialog are the same as those in use. Click [Next] to continue.

2. Read the license agreement. If you accept the terms of the agreement select "I Agree" and click [Next]. Click [Cancel] if you do not accept the terms.

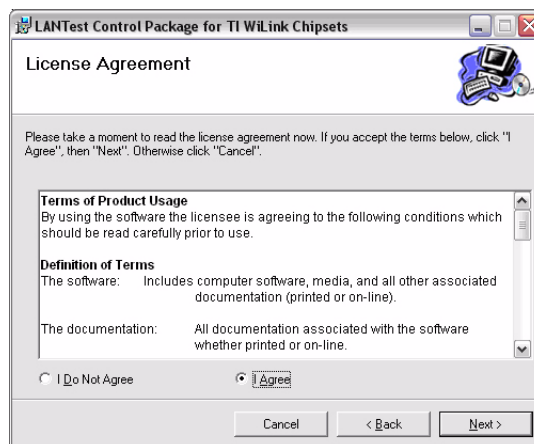


Figure 2-2. License Agreement

3. The control package will be installed to the location C:\Program Files\TI. To ensure correct operation the TI software must also be installed to this location. Click [Next] to continue.

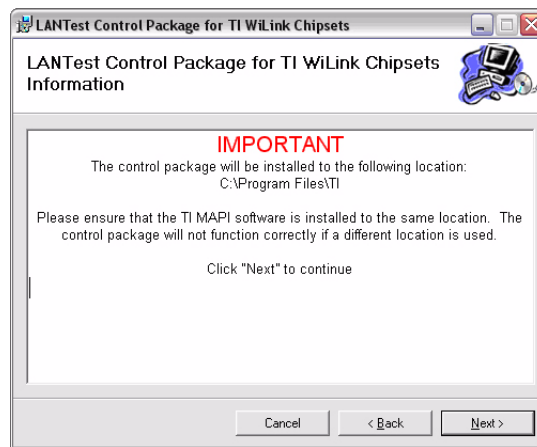


Figure 2-3. Install Location

4. Click [Next] to commence the installation.

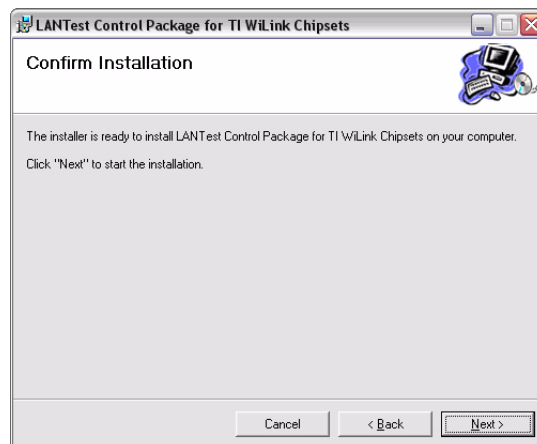


Figure 2-4. Confirm Installation

5. The installation begins and the status is shown in the progress bar.

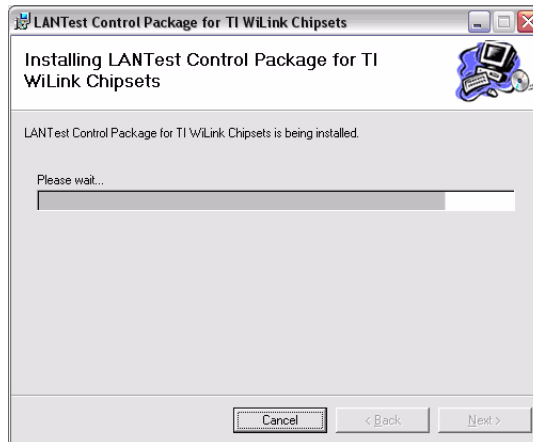


Figure 2-5. Installing LANTest

6. When the installation is complete click [Close].

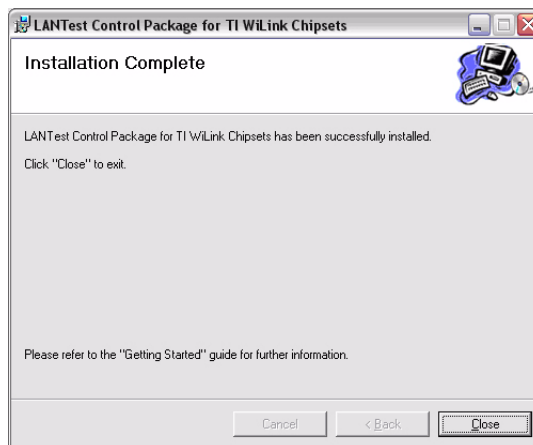


Figure 2-6. Installation Complete

Chapter 3 — Registration

3-1 Registering the DLL in LANTest

1. Launch LANTest.
 2. Select [Registered DUTs] from the [Tools] menu.
-

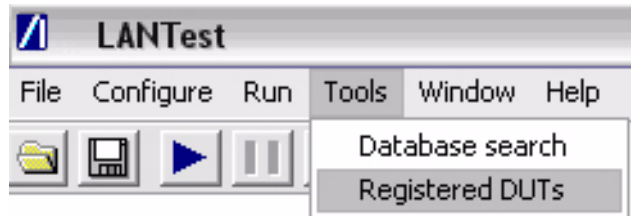


Figure 3-1. Select [Registered DUTs]

3. Click [Add...].
-

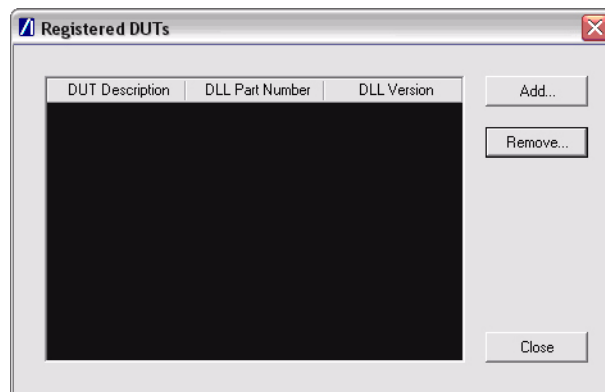


Figure 3-2. [Registered DUTs] Dialog

- 4. Navigate to the location C:\Program Files\TI, select the file "TI_WiLink_Control.dll" and click [Open].

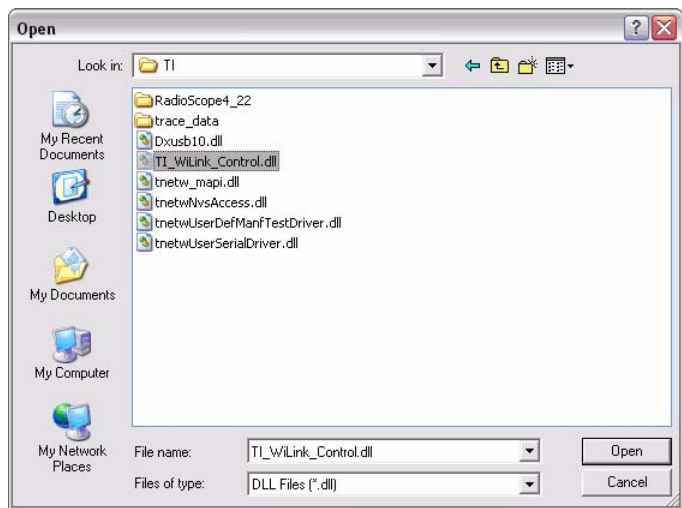


Figure 3-3. Select File

- 5. The selected file now displays in the [Registered DUTs] dialog. Click [close] to exit.

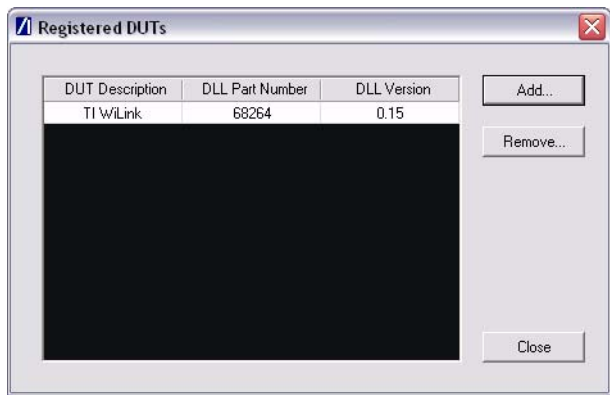


Figure 3-4. [Registered DUTs] Dialog

Chapter 4 — Selection

4-1 Selecting the Control Package

1. Within LANTest right-click the test plan name in the menu tree and select [Setup test mode] from the pop-up menu.

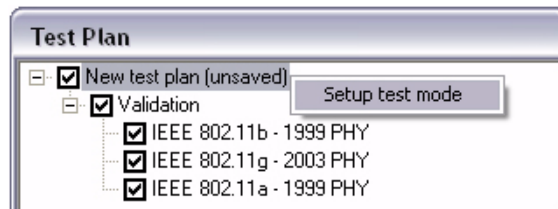


Figure 4-1.

2. From [Test Mode Setup] set “Test Mode” to “Direct” and select “TIWiLink” at “DUT Configuration”.

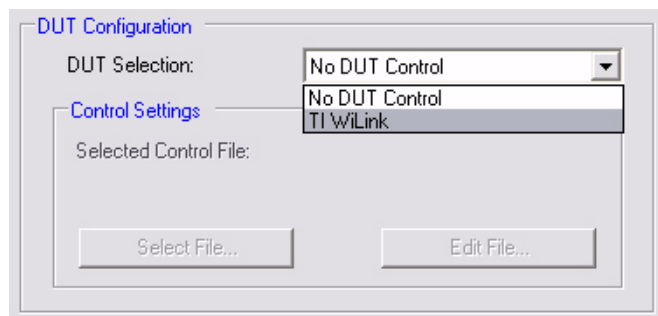


Figure 4-2.

3. Click [OK] to close the [Test Mode Setup] dialog.

4. An example test plan is included as part of the installation. To select the test plan, click the open icon, select the file "TI_WiLink_example_test_plan.ltp" and then click [Open].

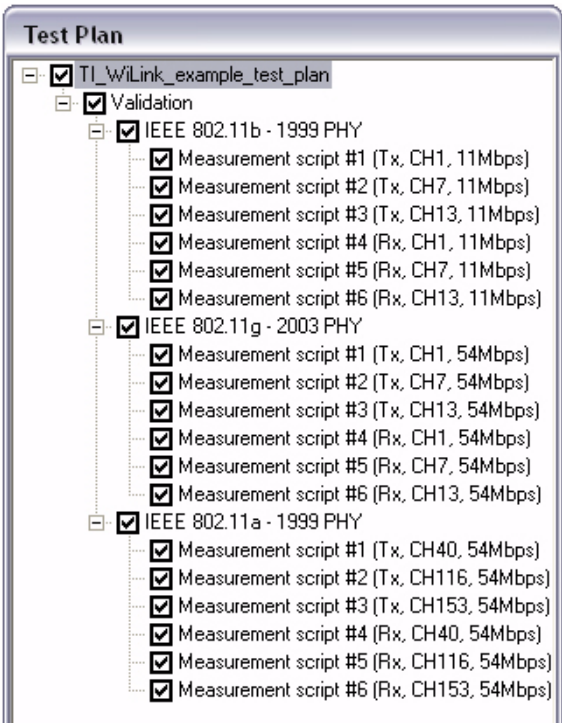


Figure 4-3. Example Test Case

Chapter 5 — DUT Control Settings File

As part of the control package installation process, a DUT control settings file, "TI_WiLink_Control_Settings.txt" is provided. This can be accessed from within the [Test mode setup] dialog by clicking [Edit File...].

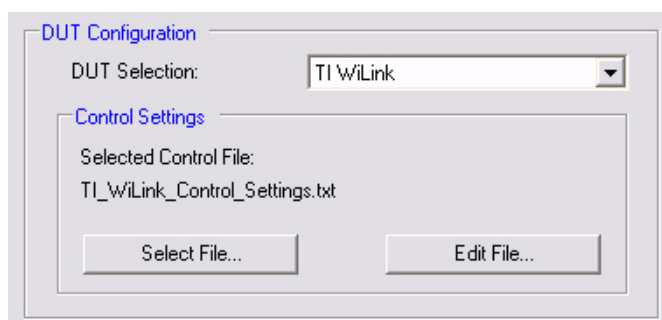


Figure 5-1. DUT Configuration

The DUT control settings file contain configuration settings that are specific to the WiLink 4.0 device. These settings allow a user to:

- Define how the device is initialized at the beginning of a test sequence
- Define settling times

Details of these settings are provided below.

5-1 Device Initialization parameters

BUS_ID, DRVR_ARGS

The TI Wilink 4.0 device is configured and controlled using commands that are communicated using a host processor interface (e.g. RS-232). This interface must be specified and initialized correctly so that a connection can be successfully established with the target device. The parameters BUS_ID and DRVR_ARGS are used by the API function "mapiConnectTarget" to specify the parameters that are appropriate for the test environment. Refer to the Texas Instruments html documentation "TNETW Manufacturing API description" for further details.

5-2 Test Plan execution parameters

TX_DELAY

This allows a settling time to be specified between the TI WiLink 4.0 device being configured to transmit mode and a Tx measurement being performed by the MT8860. The value is an integer in ms resolution.

RX_DELAY

This allows a settling time to be specified between the TI WiLink 4.0 device being configured to receive mode and MT8860 transmitting packets to the device. The value is an integer in ms resolution.

DEBUG

This parameter can be used for diagnostic purposes. When debug is turned on, pop-up messages are displayed during test execution. The messages contain the function calls (and related parameters) that are sent to the TI WiLink 4.0 device.

Note

Ensure that any changes are saved and the DUT control settings file is closed before running the test plan.

Chapter 6 — Script Configuration Guidelines

LANTest is designed to support the full configuration capabilities of the MT8860B and MT8860C WLAN Test Set. Any constraint / limitation imposed by the selected DUT must be taken into account by the user when creating a test plan. For WiLink™ 4.0 devices the following limitations apply.

6-1 Tx Measurements Scripts

When configuring the Tx characteristics of the TI WiLink 4.0 device, the “Packet Payload” and “Transmission Type” settings in the [Tx and Analysis Configuration] dialog must be set as shown in the table below.

Table 6-1. Configuration Settings

Parameter	Permitted Settings
Packet Payload	Count
Transmission Type	Framed

An example screen shot is shown below.

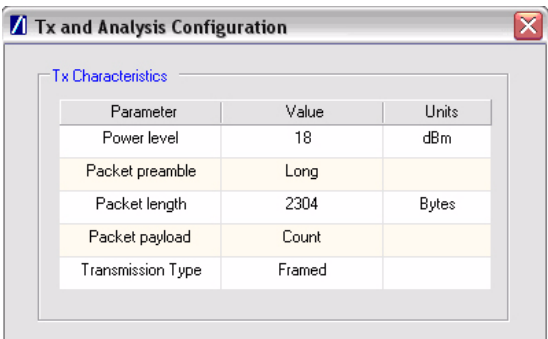


Figure 6-1. Tx and Analysis Configuration

Note

It is important that the Tx characteristics are set correctly when using the auto-configure function.

6-2 RF Carrier Suppression (IEEE 802.11b 18.4.7.7)

To evaluate the RF carrier suppression performance of a TI WiLink 4.0 device, the device must transmit a different signal characteristic to that used for the other Tx measurements.

In order for LANTest to configure the device correctly, a Tx measurement script must be created with only the RF carrier suppression measurement enabled.

In addition, the Tx and analysis parameters must match those in the table below.

Table 6-2. Parameter Settings

Parameter	Setting
Transmission Type	Continuous
Trigger Source	FR (Free Run)
Pre-trigger	0 ms

AUSTRALIA ANRITSU PTY. LTD. Unit 3, 170 Foster Road Mt Waverley, VIC 3149 Australia Telephone: +61-3-9558-8177 Fax: +61-3-9558-8255	BRAZIL ANRITSU ELETRONICA LTDA. Praca Amadeu Amaral, 27 - 1 Andar 01327-010-Paraiso-São Paulo- Brazil Telephone: +55-11-3283-2511 Fax: +55-11-3288-6940	CANADA 700 Silver Seven Road, Suite 120, Kanata, ON K2V 1C3, Canada Telephone: +1-613-591-2003 Fax: +1-613-591-1006
CHINA ANRITSU BEIJING SERVICE CENTER Room 1515, Beijing Fortune Building, No. 5, Dong-San-Huan Bei Road, Chao-Yang District, Beijing 10004, P.R. China Telephone: +86-10-6590-9230 Fax: +86-10-6590-9235	FINLAND Teknobulevardi 3-5, FI-01530 VANTAA, Finland Telephone: +358-20-741-8100 Fax: +358-20-741-8111	FRANCE 9, Avenue du Québec Z.A. de Courtabœuf 91951 Les Ulis Cedex, France Telephone: +33-1-60-92-15-50 Fax: +33-1-64-46-10-65
GERMANY Anritsu GmbH Nemetschek Haus Konrad-Zuse-Platz 1 81829 München Germany Telephone: +49 (0) 89 442308-0 Fax : +49 (0) 89 442308-55	HONG KONG ANRITSU LIMITED LTD. Units 4 & 5, 28th Floor, Greenfield Tower, Concordia Plaza, No. 1 Science Museum Road, Tsim Sha Tsui East, Kowloon, Hong Kong Telephone: +852-2301-4980 Fax: +852-2301-3545	ITALY ANRITSU Sp.A Via Elio Vittorini 129, 00144 Roma EUR, Italy Telephone: +39-06-509-9711 Fax: +39-06-502-24-25
JAPAN 5-1-1 Onna, Atsugi-shi, Kanagawa 243-8555 Japan Telephone: +81-46-223-1111 Fax: +81-46-296-1264	KOREA ANRITSU CORPORATION LTD. 8F Hyunjuk Building, 832-41, Yeoksam Dong, Kangnam-ku, Seoul, 135-080, Korea Telephone: +82-2-553-6603 Fax: +82-2-553-6604	SINGAPORE 60 Alexandra Terrace, # 02-08 The Comtech (Lobby A) Singapore 118502 Telephone: +65-6282 2400 Fax : +65-6282 2533
SWEDEN Anritsu AB Borgarfjordsgatan 13, 164 40 KISTA, Sweden Telephone: +46-8-534-707-00 Fax: +46-8-534-707-30	TAIWAN ANRITSU CO., LTD. 7F, NO.316, Sec.1 NeiHu Rd., Taipei, Taiwan, R.O.C Telephone: +886-2-8751-1816 Fax: +886-2-8751-1817	UNITED KINGDOM Anritsu LTD 200 Capability Green, Luton, Bedfordshire, LU1 3LU U.K. Telephone: +44-1582-433200 Fax: +44-1582-731303
UNITED STATES 1155 East Collins Blvd., Richardson, TX 75081, U.S.A. Toll Free: 1-800-ANRITSU (267-4878) Telephone: +1-972-644-1777 Fax: +1-972-671-1877		