

Keysight Technologies Signal Studio Waveform Licenses

N5172B EXG X-Series RF Vector Signal Generator

N5182A MXG Vector Signal Generator

N5182B MXG X-Series RF Vector Signal Generator

E4438C ESG Vector Signal Generator

E6607 EXT Wireless Communications Test Set

User's
Guide

Notices

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Using Signal Studio Waveform Licenses

Introduction

This document describes how to:

- Use the Signal Studio software to configure, generate, and download waveform files to your instrument.
- Play back waveforms for evaluation and permanently license the ones you want to keep.

Before using this document, you must install a Keysight 5- or 50-pack waveform license in your instrument. For license installation instructions, go to <http://rfmw.em.keysight.com/wireless/helpfiles/license>.

The following instruments support waveform licensing:

- N5172B EXG X-Series RF vector signal generator
- N5182B MXG X-Series RF vector signal generator
- N5182A MXG vector signal generator
- E4438C ESG vector signal generator
- E6607 EXT wireless communications test set
- M9381A PXIe vector signal generator (not described here—refer to the M9381A documentation)
- M9420A VXT PXIe vector transceiver (not described here—refer to the M9420A documentation)
- E6630A wireless connectivity test set (not described here—refer to the E6630A documentation)
- E6640A EXM wireless test set (not described here—refer to the E6640A documentation)
- E6650A EXF wireless test set for femtocel (not described here—refer to the E6650A documentation)

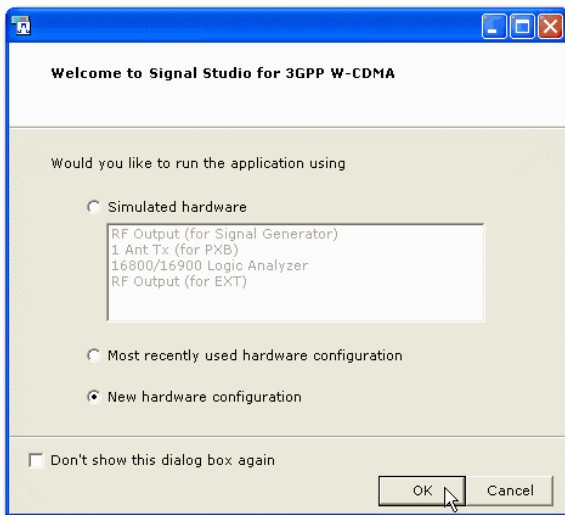
Using Signal Studio to Create and Download a Waveform

Method 1: Live connection via LAN (EXG, MXG, ESG, EXT)

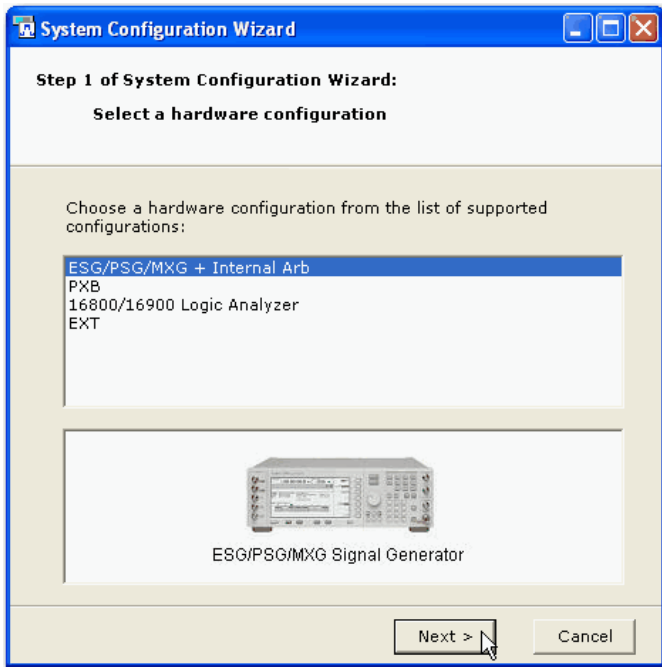
NOTE

Some Signal Studio products do not support a live connection to the EXT. In these cases, use **Method 2: Export waveform files to a USB storage device (EXG, MXG, EXT)** on page 11.

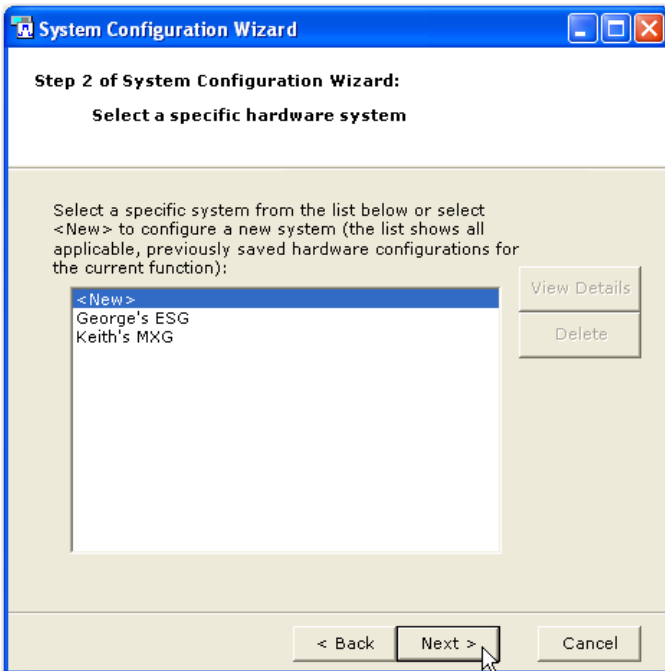
1. From the Keysight website, www.keysight.com/find/signalstudio, download and install the N76xxB Signal Studio software of your choice.
2. Open the software. The system configuration wizard appears.
3. Select **New hardware configuration** and click **OK**. If your software was previously connected to the instrument, choose **Most recently used hardware configuration**.



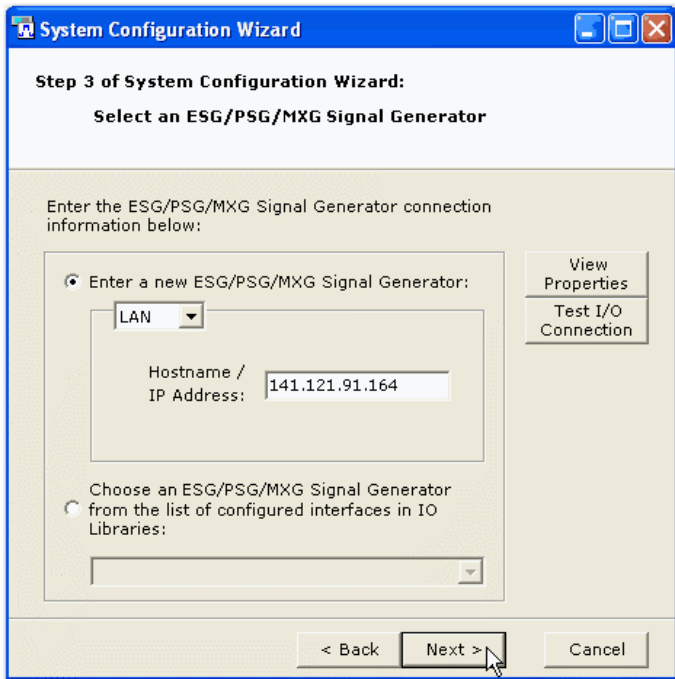
4. Select your instrument and click **Next**.



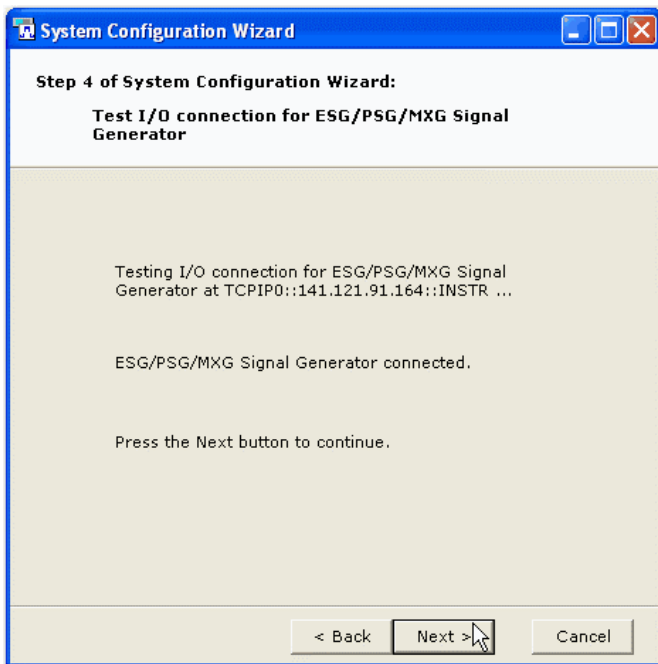
5. Click **Next**.



6. Enter your instrument's IP address and click **Next**.

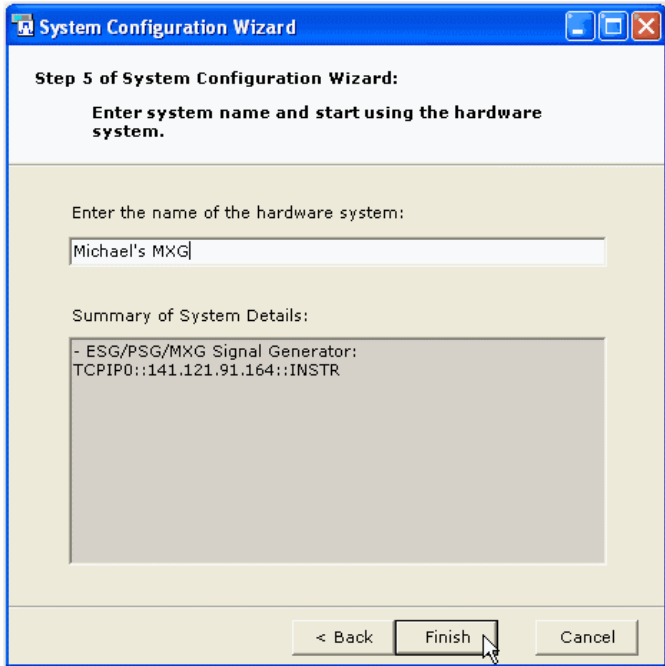


7. Click **Next**.

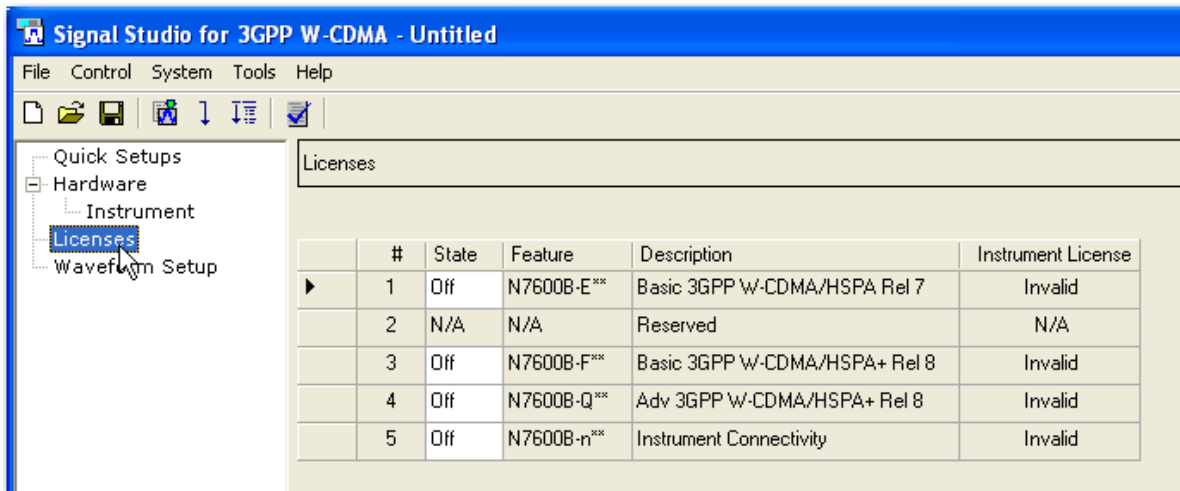


Using Signal Studio to Create and Download a Waveform

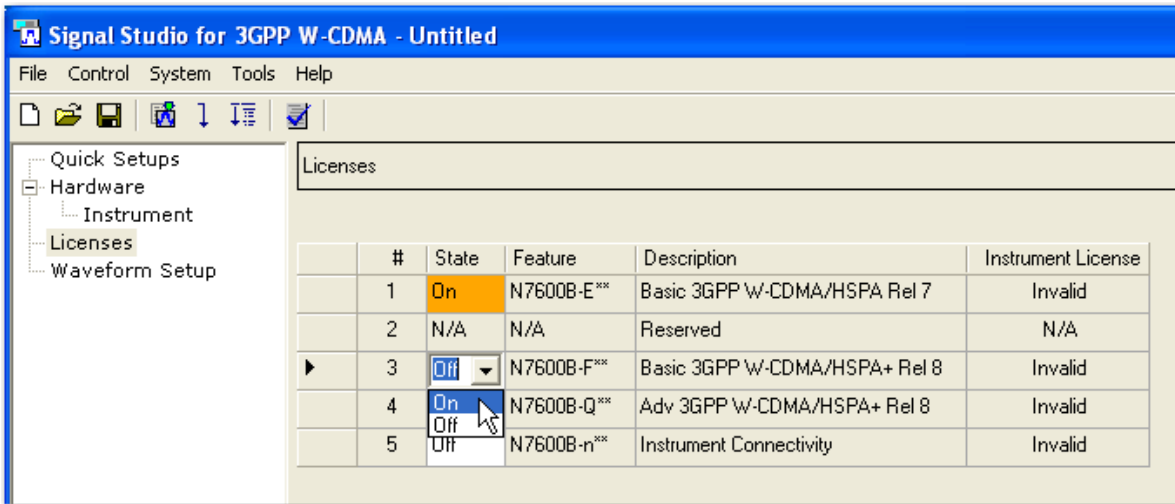
8. Enter a name for your instrument and click **Finish**.



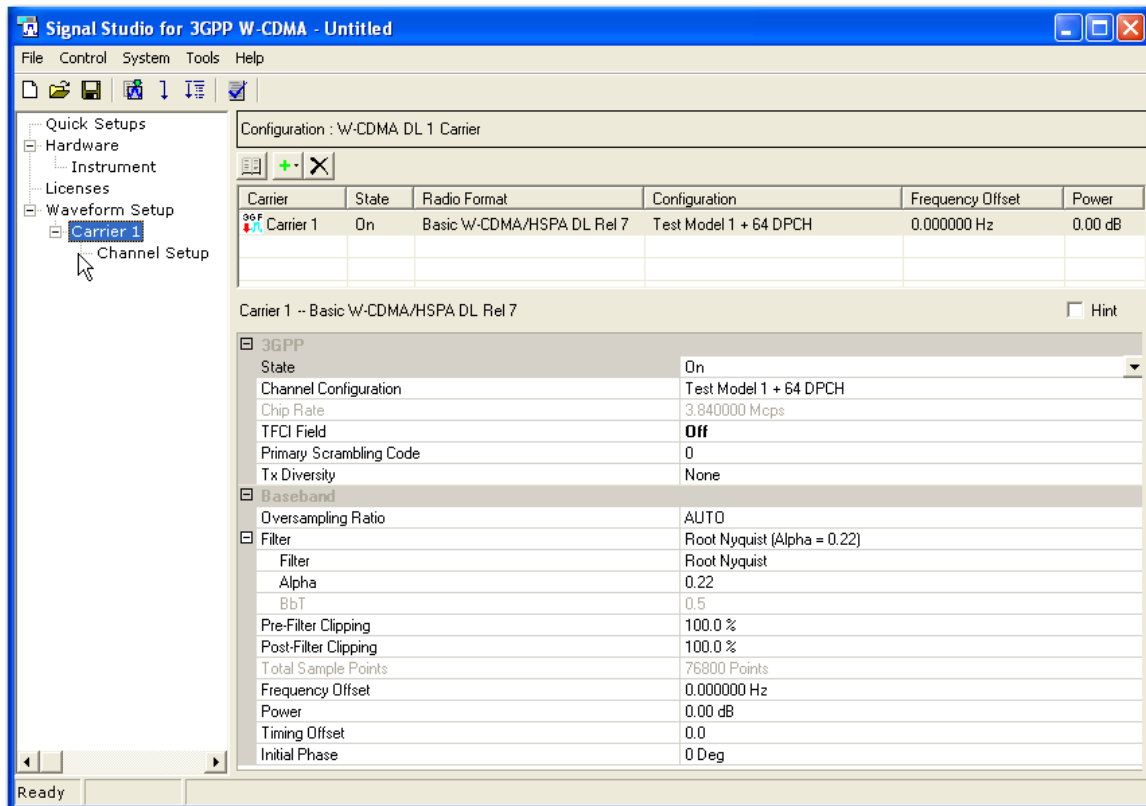
9. From the software's tree view, select **Licenses**. Notice that the state of each license is set to **Off** and displays **Invalid**. If you are using the software's 14-day free trial or have previously purchased a basic capability option, those licenses will be valid and already set to **On**.



- Click the **State** field for each **Off** license and set to **On**. These licenses will continue to display **Invalid**.



- Configure the Signal Studio waveform using the various parameter selections and settings available under the **Waveform Setup** node in the tree view. This example shows the carrier settings for the N7600B Signal Studio software. Waveform parameters vary among Signal Studio products, so refer to your software's help system for more information.

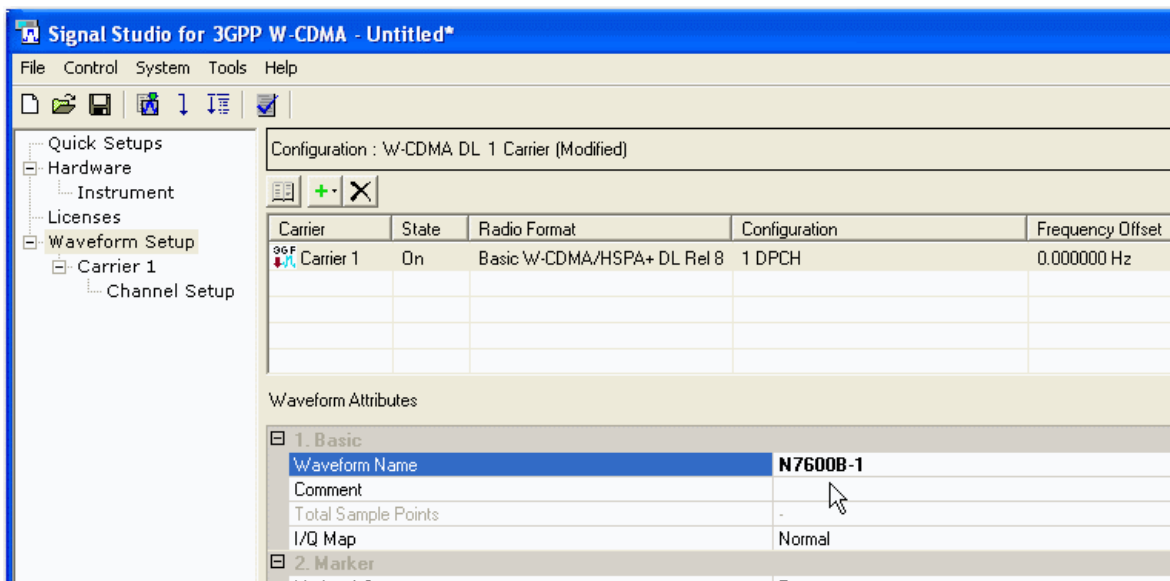


Using Signal Studio to Create and Download a Waveform

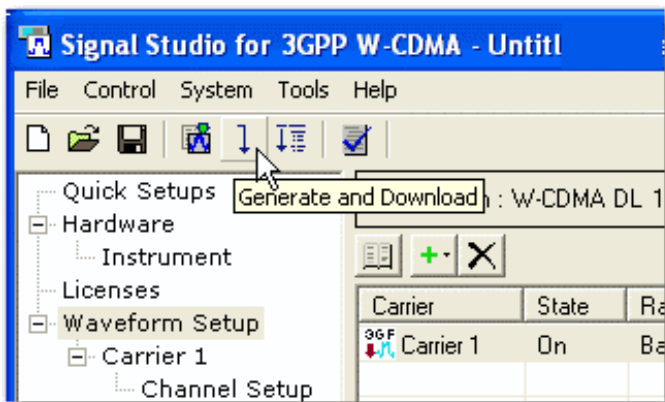
12. From the tree view, select **Waveform Setup** and enter a **Waveform Name**.

NOTE

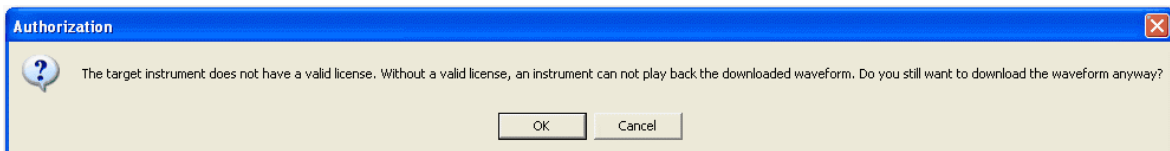
Some Signal Studio applications do not allow waveform file names greater than eight characters.



13. Click the **Generate and Download** button.



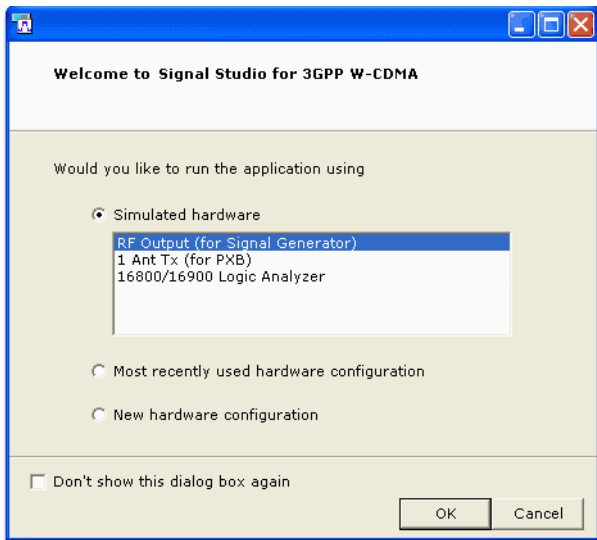
14. The following message appears. Click **OK**.



The waveform file now resides in the volatile memory of your instrument.

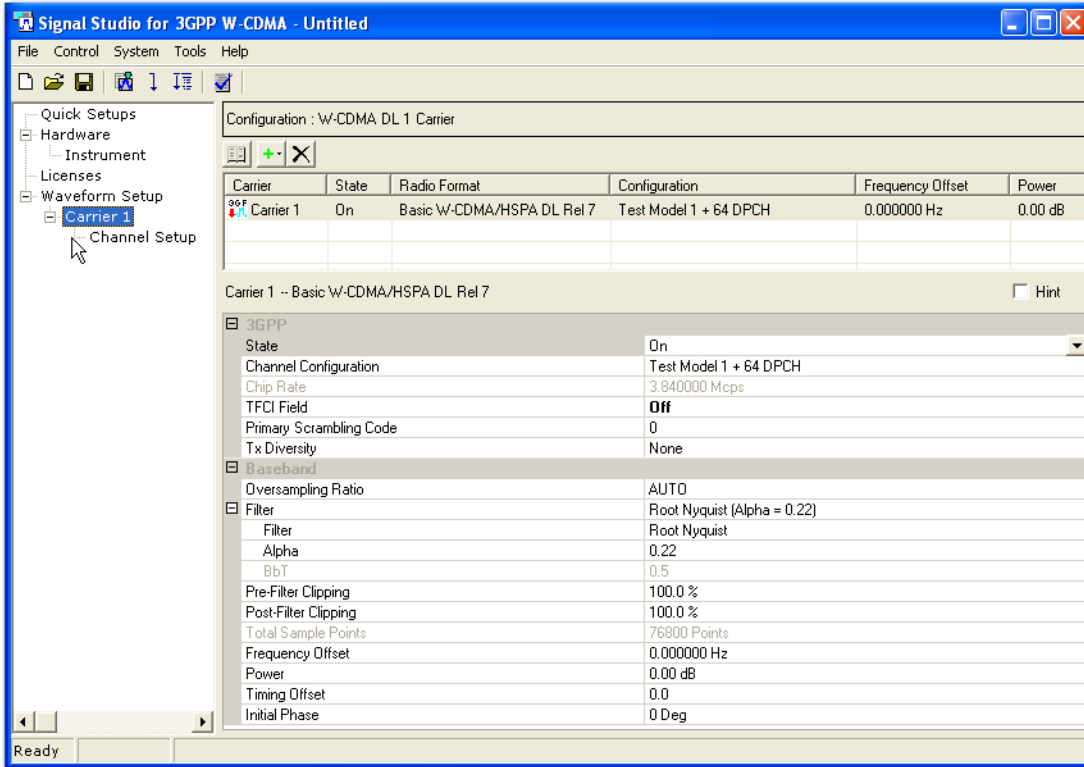
Method 2: Export waveform files to a USB storage device (EXG, MXG, EXT)

1. From the Keysight website, www.keysight.com/find/signalstudio, download and install the N76xxB Signal Studio software of your choice.
2. Open the software. The system configuration wizard appears.
3. Select **Simulated hardware** and make sure RF Output (for Signal Generator) is highlighted. Click **OK**.

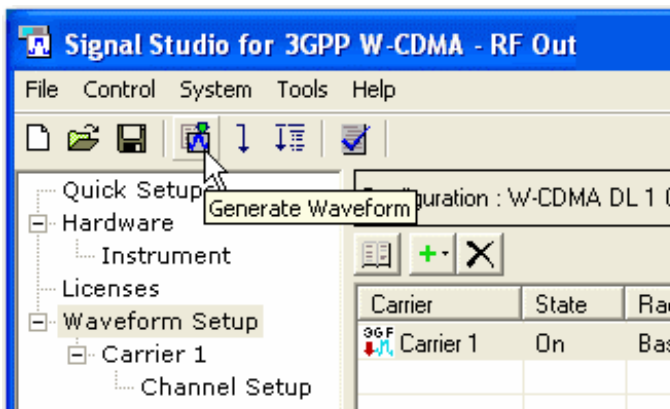


Using Signal Studio to Create and Download a Waveform

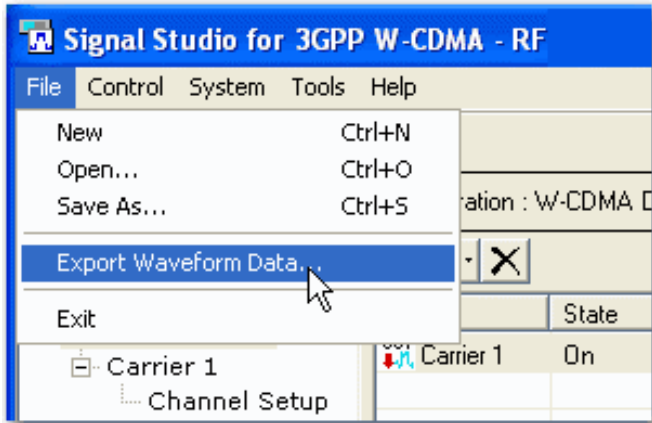
4. Configure the Signal Studio waveform using the various parameter selections and settings available under the **Waveform Setup** node in the tree view. This example shows the carrier settings for the N7600B Signal Studio software. Waveform parameters vary among Signal Studio products, so refer to your software's help system for more information.



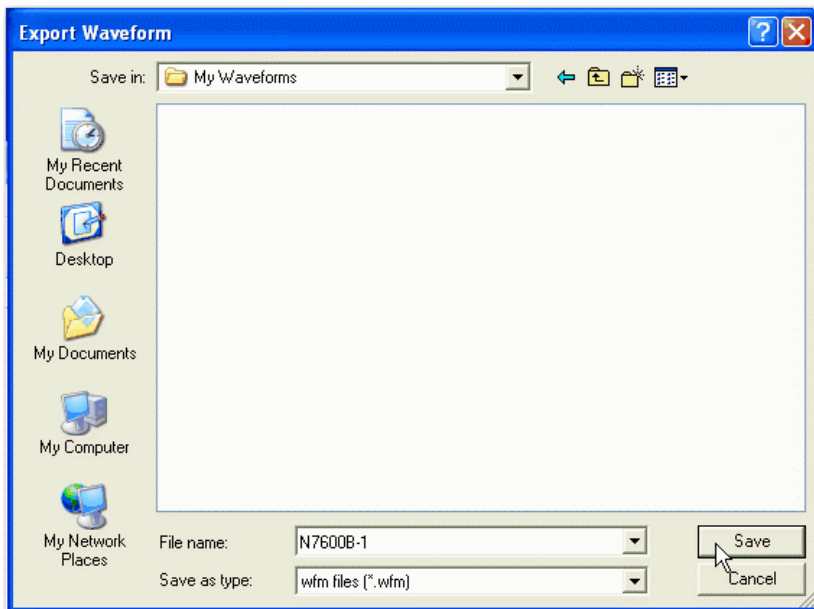
5. Click the **Generate Waveform** button.



6. Under the File menu, select **Export Waveform Data**.



7. Name the waveform file and save it to your PC.



8. Copy the waveform file to a portable USB storage device.
9. Insert the USB storage device into the instrument's front panel USB port. Proceed to the appropriate step for your instrument model.

Using Signal Studio to Create and Download a Waveform

10. For the EXT. Make sure the EXT user interface is the active window and press **File > File Explorer**. Then locate the USB storage device and copy your waveform file to D:\NVARB. You can navigate to this folder by selecting **My Computer > User Data > NVAR**.

11. For the EXG/MXG. The USB file directory appears. Use the front panel knob to highlight your waveform file. Press **Copy File to Instrument > Waveform > BBG Memory** (volatile memory).

| FREQUENCY | | AMPLITUDE | | USB Media | |
|---|-------|------------|----------------|------------------|--|
| 900.000 000 00 MHz | | -10.00 dBm | | Use as ▶ | |
| I/Q AMGN | | | | | |
| USB Directory: / (This path is the default path) | | | 3.73GB Free | | |
| File Name | Type | Size | Modified | | |
| Documents/ | <DIR> | | 11/30/08 10:09 | | |
| System/ | <DIR> | | 11/30/08 10:09 | | |
| LaunchU3.exe | | 1.27MB | 10/23/07 09:45 | | |
| N7500B-1.WFM | | 375kB | 05/21/10 14:22 | | |
| RestoreU3.exe | | 1.62MB | 11/01/07 16:34 | | |
| *** PROTO CODE ** NOT FOR CUSTOMER USE *** | | | | 05/27/2010 16:01 | |
| | | | | Page 1 of 2 | |

Evaluating and Locking Waveforms to License Slots

On the EXG/MXG

1. Press **Local** (same key as **Cancel/(ESC)**) to unlock the instrument from remote operation.
2. Press **Mode > Dual ARB > More > Waveform Licensing**. The following screen appears, showing occupied and available waveform slots for your instrument's 5- or 50-pack license.

| FREQUENCY | | RF OFF | WFM Licensing |
|--|----------------------------|------------------|--------------------------------------|
| 6.000 000 000 00 GHz | | -144.00 dBm | Add Waveform To First Available Slot |
| | | | Replace Waveform In Slot |
| | | | Clear Waveform From Slot |
| | | | Lock Waveform In Slot |
| | | | Goto Slot |
| Waveform Slot | Licensing Status | Filename | Licenses Used: 3/50 |
| 1 | Locked 03/30/2010 | 50PK3GPP | |
| 2 | Remaining Trial Time 20:40 | PK50A | |
| 3 | Remaining Trial Time 22:33 | | |
| 4 | Available | | |
| 5 | Available | | |
| 6 | Available | | |
| 7 | Available | | |
| 8 | Available | | |
| 9 | Available | | |
| 10 | Available | | |
| *** PROTO CODE ** NOT FOR CUSTOMER USE *** | | 03/31/2010 14:32 | Page 1 of 2 |

3. Press **Add Waveform To First Available Slot**. You can also use the arrow keys or front panel knob to select an occupied waveform slot and then press **Replace Waveform In Slot**. This allows you to use the remaining trial time for that slot on your waveform.

In either case, a screen appears, showing the available files stored in volatile BBG memory. The waveform file you created and downloaded with the Signal Studio software should now reside here.

| FREQUENCY | | RF OFF | Add To Slot |
|--|-------------------------------|---------------------|-----------------------------|
| 6.000 000 000 00 GHz | | -144.00 dBm | Add Waveform |
| | | | Catalog Type (BBG Segments) |
| Waveform | Status | Licenses Used: 6/50 | |
| GSM_1C_CONT_WFM | Waveform License Not Required | | |
| GSM_BURST_WFM | Waveform License Not Required | | |
| N7600B-1.WFM | | | |
| N7601B-1 | Waveform Licensed | | |
| PAUL_1 | Waveform License Not Required | | |
| QAM16_WFM | Waveform License Not Required | | |
| QPSK_WFM | Waveform License Not Required | | |
| RAMP_TEST_WFM | Waveform License Not Required | | |
| SINE_TEST_WFM | Waveform License Not Required | | |
| TESTWAVE | Waveform License Not Required | | |
| *** PROTO CODE ** NOT FOR CUSTOMER USE *** | | 06/01/2010 14:49 | |

Evaluating and Locking Waveforms to License Slots

- Use the arrow keys or front panel knob to find your waveform file and press **Add Waveform**. Notice that you have 48 hours remaining to fully evaluate the waveform. The trial time applies to individual slots. Once a waveform is added to a slot, the trial time for that slot begins counting down and cannot be reset. During the trial time, you can replace and evaluate waveforms in a slot as many times as you like. At the end of the trial time, however, you can no longer play the waveform in that slot unless you license (lock) it to that slot. You can, however, still replace files in an expired, unlocked slot.

| FREQUENCY | | RF OFF | UFI Licensing |
|--|---|---------------------|--------------------------------------|
| 6.000 000 000 00 GHz | | -144.00 dBm | Add Waveform To First Available Slot |
| Waveform Licensing | | Licenses Used: 7/50 | Replace Waveform In Slot |
| Slot | Status | Filename | Clear Waveform From Slot |
| 1 | Locked 03/30/2010 | 50PK3GPP | Lock Waveform In Slot |
| 2 | Lock Required | PK50A | |
| 3 | Lock Required | | Goto Slot |
| 4 | Locked 03/31/2010 | N7601B-1 | |
| 5 | Locked 04/19/2010 | 41910B | |
| 6 | Lock Required | TRIAL4_0 | |
| 7 | Remaining Trial Time 48:00 N7600B-1.WFM | | |
| 8 | Available | | |
| 9 | Available | | |
| 10 | Available | | |
| *** PROTO CODE ** NOT FOR CUSTOMER USE *** | | 06/01/2010 14:58 | Page 1 of 2 |

- To playback the waveform for evaluation, press **Mode > Dual ARB > Select Waveform** and use the arrow keys or front panel knob to find your waveform.

NOTE

The instrument's user interface uses the term segment to refer to a waveform file.

| FREQUENCY | | RF OFF | Arb Waveform |
|--|---------|-----------------------|------------------------------|
| 6.000 000 000 00 GHz | | -144.00 dBm | Select Waveform (*NONE*) |
| Select Pg 2/3 | | Sequence On Int Media | Display Waveform And Markers |
| Segment On BBG Media | Points | Seqs | Waveform Segments |
| GSM_1C_CONT_WFM | 250000 | | Goto Row |
| GSM_BURST_WFM | 1950000 | | |
| N7600B-1.WFM | 76800 | | |
| N7601B-1 | 76800 | | |
| PAUL 1 | 1432 | | |
| QAM16_WFM | 65536 | | |
| QPSK_WFM | 65536 | | |
| RAMP_TEST_WFM | 200 | | |
| SINE_TEST_WFM | 200 | | |
| TESTWAVE | 1000 | | |
| *** PROTO CODE ** NOT FOR CUSTOMER USE *** | | 06/01/2010 15:03 | |

- Press **Select Waveform > ARB Off On to On**. Set your frequency and amplitude for the carrier as you like and then press **RF On/Off to On**. You can now evaluate the waveform in your specific test scenario.

- Prior to licensing (locking) your waveform file, you must save it to the instrument's non-volatile internal storage. Press **Mode > Dual ARB > Select Waveform > Waveform Segments > Load Store to Store** and use the arrow keys or front panel knob to select your waveform. Then press **Store Segment to Int Media**. If you do not save your waveform file to internal storage, you will be prompted to do so when you attempt to license the waveform file.

| FREQUENCY | | | AMPLITUDE | | | Arb Segments | |
|--|---------------------|----------------------|------------------|-------------------|----------------------|----------------------------|--|
| 2.000 000 000 00 GHz | | | -10.00 dBm | | | Load Store | |
| I/Q | | | ARB | | | | |
| BBG Memory | | | Int Storage | | | Store Segment To Int Media | |
| Pg 2/3 | Segment | ~57.1MSa free Points | Pg 1/3 | Segment | ~89.9MSa free Points | Store All To Int Media | |
| | GSM_1C_CONT_WFM | 250000 | | 12TONE_WFM | 2112 | Delete Segment ▶ | |
| | GSM_BURST_WFM | 1950000 | | 2TONE_WFM | 80 | Delete All Segments On ▶ | |
| | N7600B-1_WFM | 76800 | | 41910B | 76800 | BBG Memory | |
| | N7601B-1 | 76800 | | 50PK3GPP | 131072 | More 1 of 2 | |
| | PAUL_1 | 1432 | | CDMA2K_9CHAN_WFM | 262144 | | |
| | QAM16_WFM | 65536 | | CDMA2K_PILOT_WFM | 131072 | | |
| | QPSK_WFM | 65536 | | EDGE_1C_BURST_WFM | 250000 | | |
| | RAMP_TEST_WFM | 200 | | EDGE_1C_CONT_WFM | 250000 | | |
| | SINE_TEST_WFM | 200 | | EDGE_BURST_WFM | 1950000 | | |
| | TESTWAVE | 1000 | | GSM_1C_BURST_WFM | 250000 | | |
| *** PROTO CODE ** NOT FOR CUSTOMER USE *** | | | 06/01/2010 15:15 | | | | |

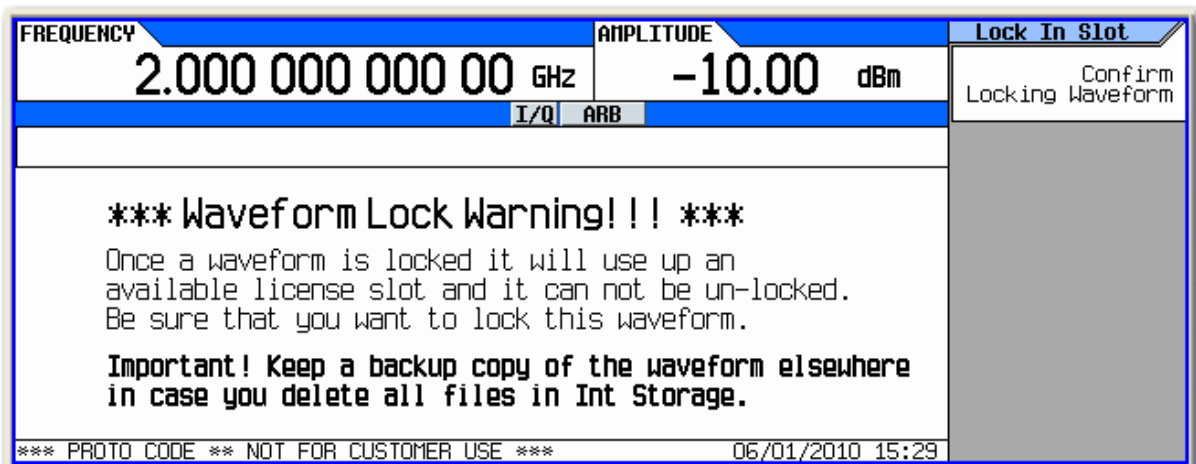
- To license the waveform into a 5- or 50-pack slot, press **Mode > Dual ARB > More > Waveform Licensing** and use the arrow keys or front panel knob to select your waveform file's slot.

| FREQUENCY | | | AMPLITUDE | | | WFM Licensing | |
|--|----------------------------|---------------------|---------------------|--|-------------------------|--|--|
| 2.000 000 000 00 GHz | | | -10.00 dBm | | | Add Waveform To First Available Slot ▶ | |
| I/Q | | | ARB | | | Replace Waveform In Slot ▶ | |
| Waveform Licensing | | | Licenses Used: 7/50 | | | Clear Waveform From Slot | |
| Slot | Status | Filename | | | Lock Waveform In Slot ▶ | | |
| 1 | Locked 03/30/2010 | 50PK3GPP | | | Goto Slot ▶ | | |
| 2 | Lock Required | PK50A | | | | | |
| 3 | Lock Required | | | | | | |
| 4 | Locked 03/31/2010 | N7601B-1 | | | | | |
| 5 | Locked 04/19/2010 | 41910B | | | | | |
| 6 | Lock Required | TRIAL4_0 | | | | | |
| 7 | Remaining Trial Time 47:37 | N7600B-1.WFM | | | | | |
| 8 | Available | | | | | | |
| 9 | Available | | | | | | |
| 10 | Available | | | | | | |
| *** PROTO CODE ** NOT FOR CUSTOMER USE *** | | | 06/01/2010 15:20 | | | More 1 of 2 | |

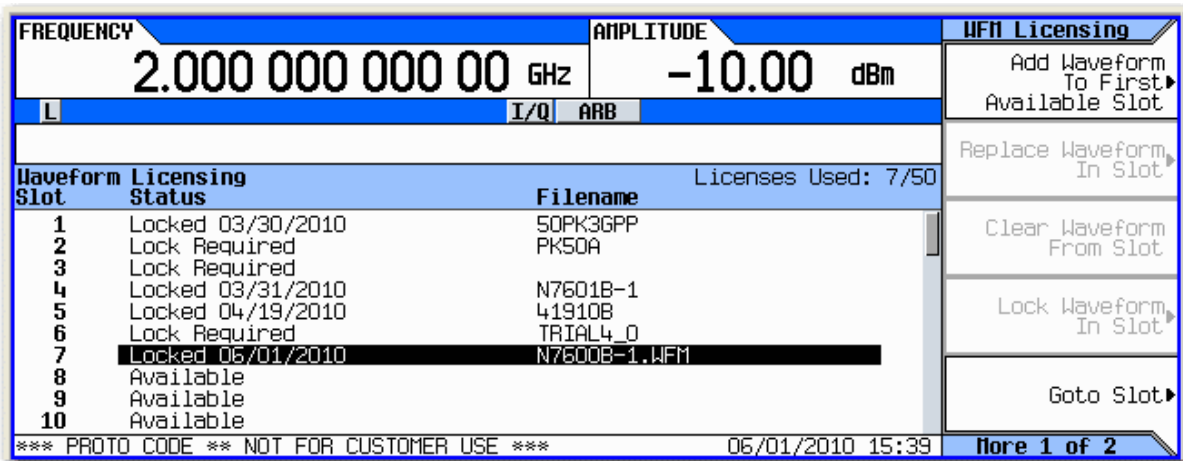
9. Press **Lock Waveform In Slot**. A warning message appears. Press **Confirm Locking Waveform**.

NOTE

Be sure to keep a backup copy of the waveform.

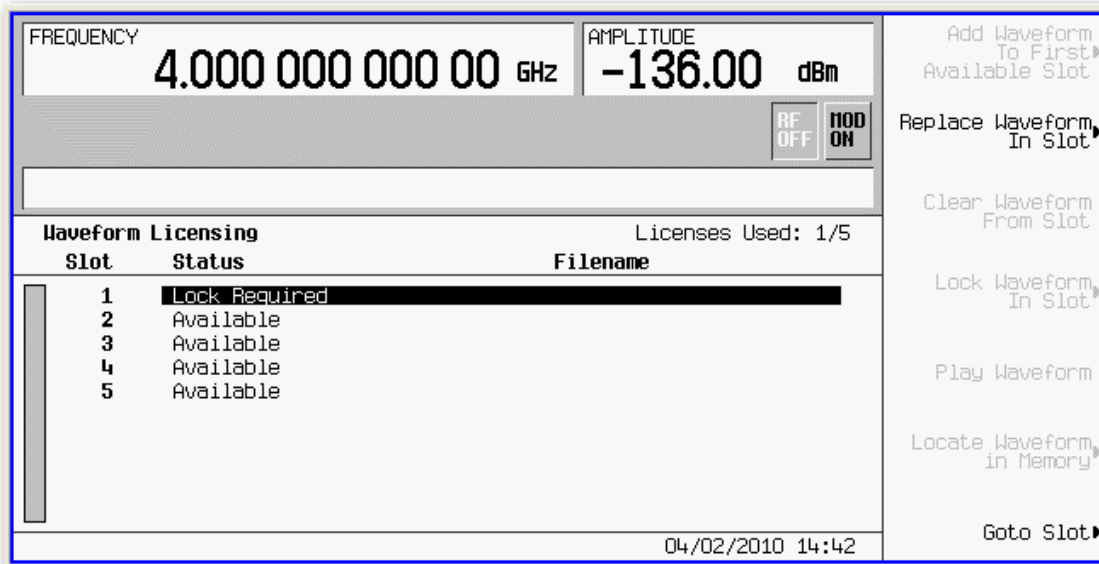


10. Your waveform file is now locked to a 5- or 50-pack slot and permanently licensed to your instrument.



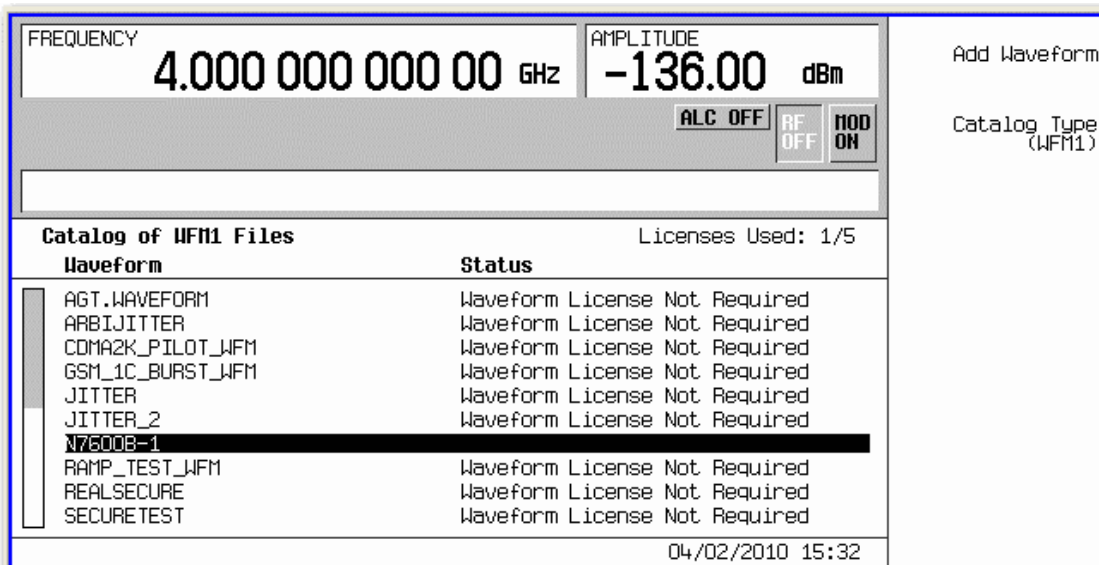
On the ESG

1. Press **Local** to unlock the instrument from remote operation.
2. Press **Mode > Dual ARB > More > Waveform Licensing**. The following screen appears, showing occupied and available waveform slots for your instrument's 5- or 50-pack license.



3. Use the arrow keys or front panel knob to highlight the first available slot and press **Add Waveform To First Available Slot**. You can also select an occupied waveform slot and then press **Replace Waveform In Slot**. This allows you to use the remaining trial time for that slot on your waveform.

In either case, a screen appears, showing the available files stored in volatile waveform memory (WFM1). The waveform file you created and downloaded with the Signal Studio software should now reside here.



Evaluating and Locking Waveforms to License Slots

- Use the arrow keys or front panel knob to find your waveform file and press **Add Waveform**. Notice that you have 48 hours remaining to fully evaluate the waveform. The trial time applies to individual slots. Once a waveform is added to a slot, the trial time for that slot begins counting down and cannot be reset. During the trial time, you can replace and evaluate waveforms in a slot as many times as you like. At the end of the trial time, however, you can no longer play the waveform in that slot unless you license (lock) it to that slot. You can, however, still replace files in an expired, unlocked slot.

| Slot | Status | Filename |
|------|----------------------------|----------|
| 1 | Lock Required | |
| 2 | Remaining Trial Time 48:00 | N7600B-1 |
| 3 | Available | |
| 4 | Available | |
| 5 | Available | |

- To playback the waveform for evaluation, press **Mode > Dual ARB > Select Waveform** and use the arrow keys or front panel knob to find your waveform.

NOTE

The instrument's user interface uses the term segment to refer to a waveform file.

| Segment | Points | Sequence | Segs |
|------------------|--------|----------------|-------|
| AGT.WAVEFORM | 224000 | 256_SEQ_TEST | 256 |
| ARBIJITTER | 50000 | BAD_SEQ2 | 1 |
| CDMA2K_PILOT_WFM | 131072 | BIG_SEQ_TEST | 1 |
| GSM_1C_BURST_WFM | 312564 | GSM_EDGE_BASIC | 1 |
| JITTER | 50000 | LONG_SEQ | 31744 |
| JITTER_2 | 50000 | NEW PATTERN 1 | 2 |
| N7600B-1 | 153600 | NEW PATTERN 2 | 4 |
| RAMP_TEST_WFM | 200 | RECURSE_TEST | 1 |
| REALSECURE | 200 | RECURSE_TEST1 | 1 |
| SECURETEST | 200 | RECURSE_TEST10 | 1 |

6. Press **Select Waveform > ARB Off On to On**. Set your frequency and amplitude for the carrier as you like and then press **RF On/Off to On**. You can now evaluate the waveform in your specific test scenario.
7. Prior to licensing (locking) your waveform file, you must save it to the instrument's non-volatile waveform memory (NVWFM). Press **Mode > Dual ARB > Select Waveform > Waveform Segments > Load Store to Store** and use the arrow keys or front panel knob to select your waveform. Then press **Store Segment to NVWFM**. If you do not save your waveform file to internal storage, you will be prompted to do so when you attempt to license the waveform file.

| WF1M (1/2) | Points | NVWF1M (1/2) | Points |
|------------------|---------------|--------------------|---------------|
| AGT.WAVEFORM | 224000 | AGT.WAVEFORM | 224000 |
| ARBIJITTER | 50000 | ARBIJITTER | 50000 |
| CDMA2K_PILOT_WFM | 131072 | CDMA2K_PILOT_WFM | 131072 |
| GSM_1C_BURST_WFM | 312564 | GSM_1C_BURST_WFM | 312564 |
| JITTER | 50000 | JITTER | 50000 |
| JITTER_2 | 50000 | JITTER_2 | 50000 |
| N7600B-1 | 153600 | N7600B-1 | 153600 |
| RAMP_TEST_WFM | 200 | REALSECURE | 200 |
| REALSECURE | 200 | SECURETEST | 200 |
| SECURETEST | 200 | WCDMA3GPP_WAVEFORM | 268800 |

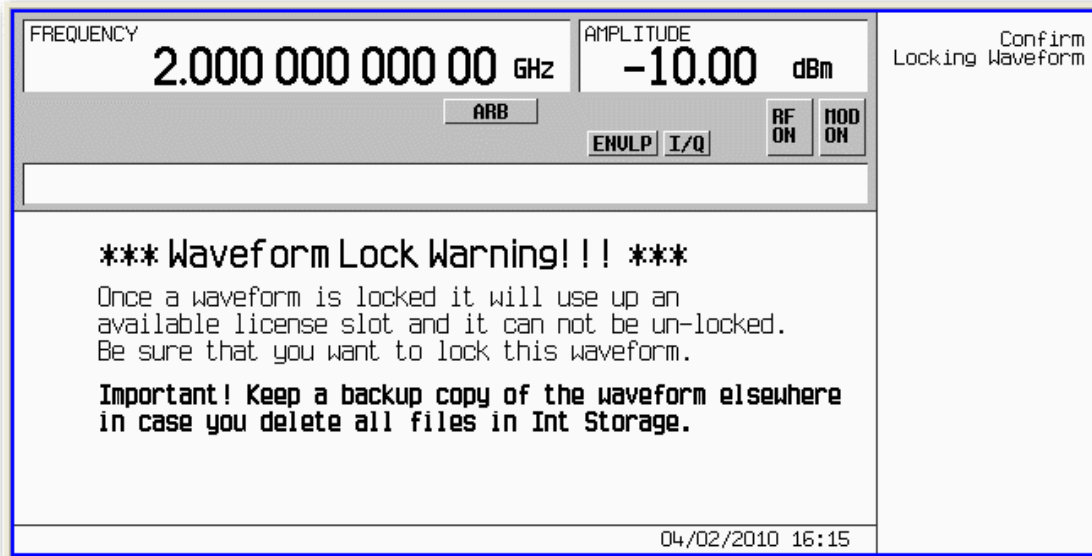
8. To license the waveform into a 5- or 50-pack slot, press **Mode > Dual ARB > More > Waveform Licensing** and use the arrow keys or front panel knob to select your waveform file's slot.

| Slot | Status | Filename |
|------|----------------------------|----------|
| 1 | Lock Required | |
| 2 | Remaining Trial Time 47:24 | N7600B-1 |
| 3 | Available | |
| 4 | Available | |
| 5 | Available | |

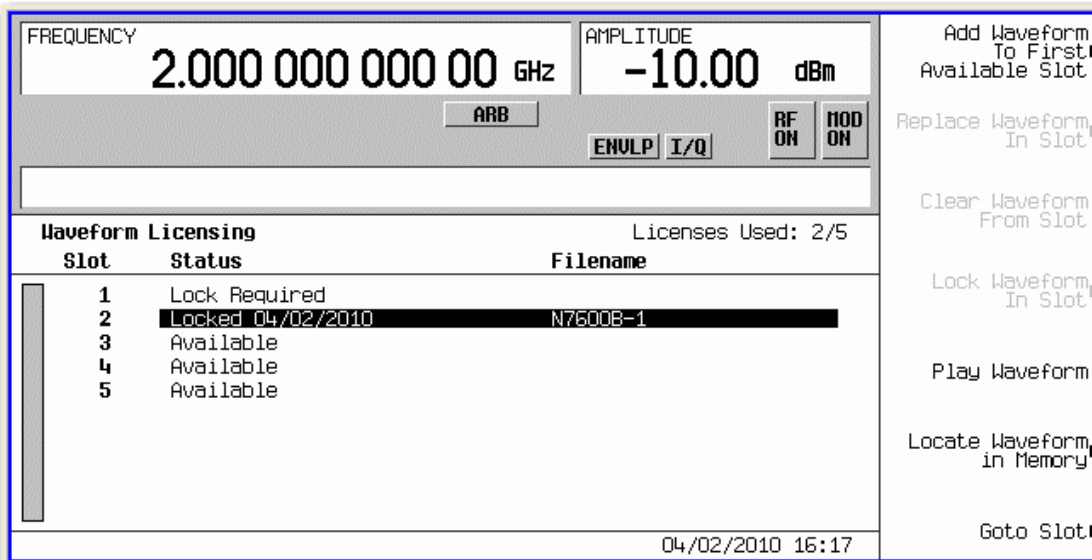
9. Press **Lock Waveform In Slot**. A warning message appears. Press **Confirm Locking Waveform**.

NOTE

Be sure to keep a backup copy of the waveform.

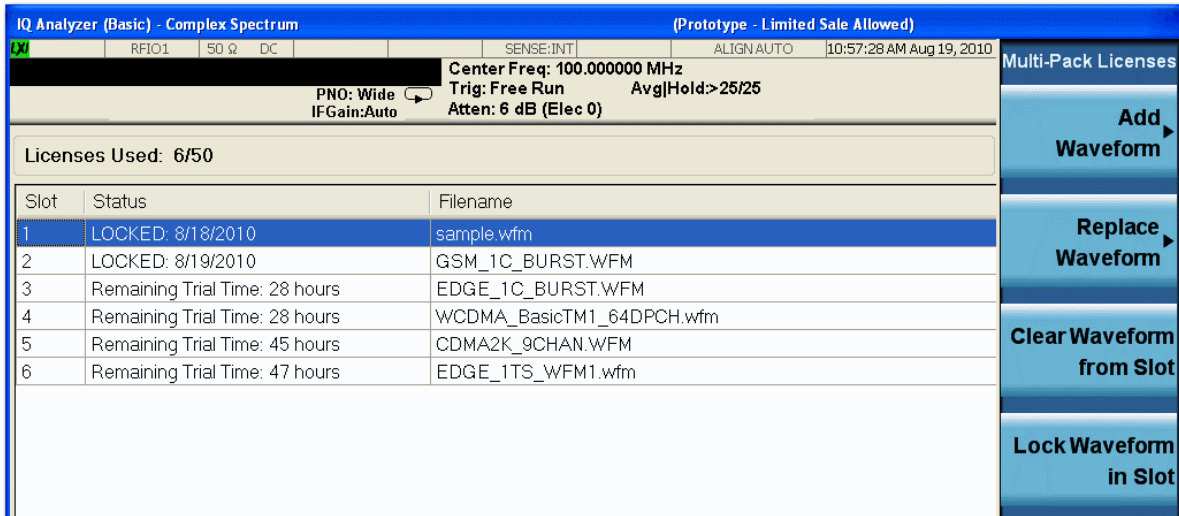


10. Your waveform file is now locked to a 5- or 50-pack slot and permanently licensed to your instrument.



On the EXT

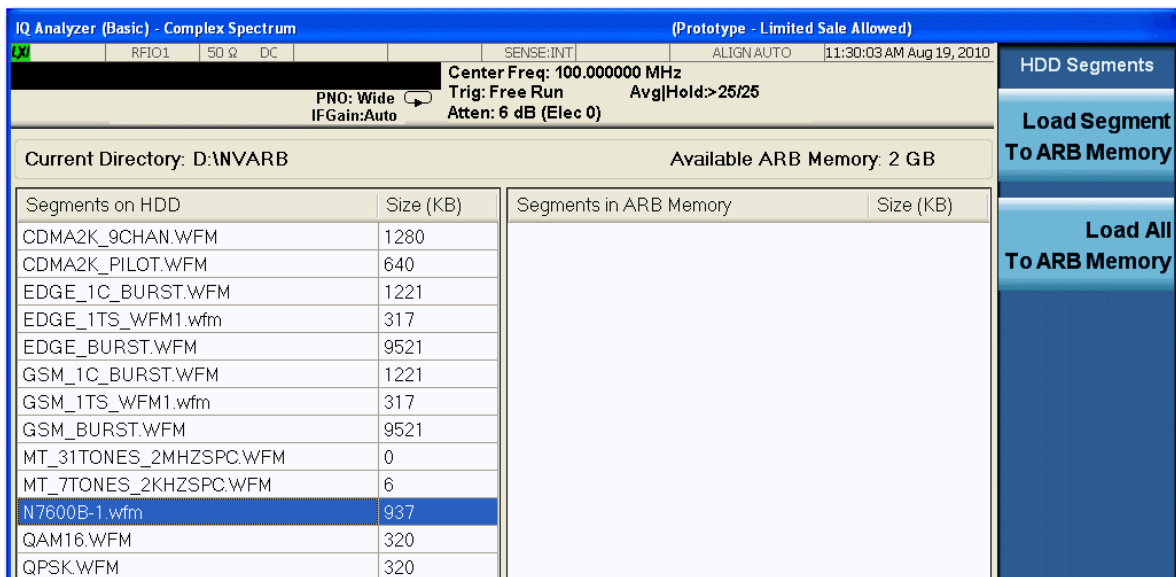
1. Press **Local** (same key as **Cancel/(ESC)**) to unlock the instrument from remote operation.
2. Press **Source > More 1 of 2 > Modulation Setup > ARB > More 1 of 2 > Waveform Utilities > Multi-Pack Licenses**. The following screen appears, showing occupied and available waveform slots for your instrument's 5- or 50-pack license.



3. Press **Add Waveform > Segments on Hard Disk**. Then use the arrow keys or mouse to select a waveform file from NVARB memory.

NOTE

The instrument's user interface uses the term segment to refer to a waveform file.



Evaluating and Locking Waveforms to License Slots

4. Press Load Segment to ARB Memory.

The screenshot shows the IQ Analyzer interface with the 'Load Segment to ARB Memory' dialog box open. The dialog box displays a table of segments on the HDD and a list of segments in ARB Memory.

| Segments on HDD | Size (KB) | Segments in ARB Memory | Size (KB) |
|------------------------|-----------|------------------------|-----------|
| CDMA2K_9CHAN.WFM | 1280 | N7600B-1.wfm | 9600 |
| CDMA2K_PILOT.WFM | 640 | | |
| EDGE_1C_BURST.WFM | 1221 | | |
| EDGE_1TS_WFM1.wfm | 317 | | |
| EDGE_BURST.WFM | 9521 | | |
| GSM_1C_BURST.WFM | 1221 | | |
| GSM_1TS_WFM1.wfm | 317 | | |
| GSM_BURST.WFM | 9521 | | |
| MT_31TONES_2MHZSPC.WFM | 0 | | |
| MT_7TONES_2KHZSPC.WFM | 6 | | |
| N7600B-1.wfm | 937 | | |
| QAM16.WFM | 320 | | |

5. Press Return and use the arrow keys or mouse to select your waveform. Then press Add Waveform. A dialog box appears. Click OK.

The screenshot shows the IQ Analyzer interface with the 'Add Waveform to License Slot' dialog box open. The dialog box displays a table of waveforms and a status column.

| Waveform | Status |
|--------------|--------|
| N7600B-1.wfm | |

The dialog box also displays a warning message: "Add Waveform to License Slot. This will assign the selected waveform to a multi-pack slot. Once the waveform is assigned to the slot it cannot be undone. Are you sure you want to do this? Press Enter to process or Esc to Cancel." The dialog box has OK and Cancel buttons.

- Notice that you have less than 48 hours (display shows 47 hours) remaining to fully evaluate the waveform. The trial time applies to individual slots. Once a waveform is added to a slot, the trial time for that slot begins counting down and cannot be reset. During the trial time, you can replace and evaluate waveforms in a slot as many times as you like. At the end of the trial time, however, you can no longer play the waveform in that slot unless you license (lock) it to that slot. You can, however, still replace files in an expired, unlocked slot.

The screenshot shows the 'Multi-Pack Licenses' section of the IQ Analyzer software. It includes a table with columns for Slot, Status, and Filename. The table lists seven slots with their respective trial times and filenames. To the right of the table are four control buttons: 'Add Waveform', 'Replace Waveform', 'Clear Waveform from Slot', and 'Lock Waveform in Slot'. The interface also displays various settings like Center Freq (1.000000000 GHz), Trig (Free Run), and Atten (6 dB).

| Slot | Status | Filename |
|------|--------------------------------|---------------------------|
| 1 | LOCKED: 8/18/2010 | sample.wfm |
| 2 | LOCKED: 8/19/2010 | GSM_1C_BURST.WFM |
| 3 | Remaining Trial Time: 27 hours | EDGE_1C_BURST.WFM |
| 4 | Remaining Trial Time: 27 hours | WCDMA_BasicTM1_64DPCH.wfm |
| 5 | Remaining Trial Time: 44 hours | CDMA2K_9CHAN.WFM |
| 6 | Remaining Trial Time: 47 hours | EDGE_1TS_WFM1.wfm |
| 7 | Remaining Trial Time: 47 hours | N7600B-1.wfm |

- To playback the waveform for evaluation, press **Source > More 1 of 2 > Modulation Setup > ARB > Select Waveform** and use the arrow keys or mouse to highlight your waveform.
- Press **Select Waveform > Return > ARB Off On to On**. Set your frequency and amplitude for the carrier as you like and then press **Source > RF On/Off to On**. You can now evaluate the waveform in your specific test scenario.
- To license the waveform into a 5- or 50-pack slot, press **Source > More 1 of 2 > Modulation Setup > ARB > More 1 of 2 > Waveform Utilities > Multi-Pack Licenses** and use the arrow keys or mouse to select your waveform file's slot.

This screenshot is similar to the previous one, but with the 7th slot in the 'Multi-Pack Licenses' table highlighted in blue. The remaining trial time for slot 7 is now 46 hours. The interface also shows the 'License Used' as 7/50.

| Slot | Status | Filename |
|------|--------------------------------|---------------------------|
| 1 | LOCKED: 8/18/2010 | sample.wfm |
| 2 | LOCKED: 8/19/2010 | GSM_1C_BURST.WFM |
| 3 | Remaining Trial Time: 26 hours | EDGE_1C_BURST.WFM |
| 4 | Remaining Trial Time: 26 hours | WCDMA_BasicTM1_64DPCH.wfm |
| 5 | Remaining Trial Time: 43 hours | CDMA2K_9CHAN.WFM |
| 6 | Remaining Trial Time: 46 hours | EDGE_1TS_WFM1.wfm |
| 7 | Remaining Trial Time: 46 hours | N7600B-1.wfm |

Evaluating and Locking Waveforms to License Slots

10. Press **Lock Waveform In Slot**. A dialog box appears, asking you to confirm your decision. Click **OK**.

NOTE

Be sure to keep a backup copy of the waveform.

The screenshot shows the Agilent IQ Analyzer interface. At the top, it displays 'Agilent IQ Analyzer (Basic) - Complex Spectrum' and '(Prototype - Limited Sale Allowed)'. The main display area shows a table of license slots. Slot 7 is selected, and a dialog box titled 'Lock Multi-Pack License Slot' is open over it. The dialog box contains a warning icon and the following text: 'This will lock the selected multi-pack slot. Once the slot is locked the waveform assigned to it cannot be changed. Are you sure you want to do this? Press Enter to process or Esc to Cancel'. There are 'OK' and 'Cancel' buttons at the bottom of the dialog box. The table below shows the current state of the license slots.

| Slot | Status | Filename |
|------|--------------------------------|---------------------------|
| 1 | LOCKED: 8/18/2010 | sample.wfm |
| 2 | LOCKED: 8/19/2010 | GSM_1C_BURST.WFM |
| 3 | Remaining Trial Time: 26 hours | EDGE_1C_BURST.WFM |
| 4 | Remaining Trial Time: 26 hours | WCDMA_BasicTM1_64DPCH.wfm |
| 5 | Remaining Trial Time: 43 hours | CDMA2K_9CHAN.WFM |
| 6 | Remaining Trial Time: 46 hours | EDGE_1TS_WFM1.wfm |
| 7 | Remaining Trial Time: 46 hours | LOCKED: 8/19/2010 |

11. Your waveform file is now locked to a 5- or 50-pack slot and permanently licensed to your instrument.

The screenshot shows the Agilent IQ Analyzer interface after the locking process. The dialog box is no longer present. The table below shows the updated state of the license slots, with Slot 7 now permanently locked to the file 'N7600B-1.wfm'.

| Slot | Status | Filename |
|------|--------------------------------|---------------------------|
| 1 | LOCKED: 8/18/2010 | sample.wfm |
| 2 | LOCKED: 8/19/2010 | GSM_1C_BURST.WFM |
| 3 | Remaining Trial Time: 26 hours | EDGE_1C_BURST.WFM |
| 4 | Remaining Trial Time: 26 hours | WCDMA_BasicTM1_64DPCH.wfm |
| 5 | Remaining Trial Time: 43 hours | CDMA2K_9CHAN.WFM |
| 6 | Remaining Trial Time: 46 hours | EDGE_1TS_WFM1.wfm |
| 7 | LOCKED: 8/19/2010 | N7600B-1.wfm |



This information is subject to change without notice.

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