Installation Note

Extended Frequency Range Upgrade Kit

Upgrade Kit Number: N5230-60110

For ALL N5230A/C 40 GHz PNA-L

Agilent Technologies

N5230-90012

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Safety Notes

The following safety notes are used throughout this document. Familiarize yourself with each of these notes and its meaning before performing any of the procedures in this document.

WARNING	**Warning denotes a hazard. It calls attention to a procedure which, if not correctly performed or adhered to, could result in injury or loss of life. Do not proceed beyond a warning note until the indicated conditions are fully understood and met.**

CAUTION	Caution denotes a hazard. It calls attention to a procedure that, if not correctly performed or adhered to, could result in damage to or destruction of the instrument. Do not proceed beyond a caution sign until the indicated conditions are fully understood and met.

Getting Assistance from Agilent

By internet, phone, or fax, get assistance with all your test and measurement needs.

Contacting Agilent

Assistance with test and measurements needs and information on finding a local Agilent office are available on the Web at:
http://www.agilent.com/find/assist

If you do not have access to the Internet, please contact your Agilent field engineer.

NOTE   In any correspondence or telephone conversation, refer to the Agilent product by its model number and full serial number. With this information, the Agilent representative can determine whether your product is still within its warranty period.

Description of the Upgrade

This upgrade adds Option F50 which extends the upper frequency limit of your PNA to 50 GHz.

About Installing the Upgrade

Products affected.	N5230A/C; 40 GHz microwave network analyzers
Installation to be performed by	Agilent service center or personnel qualified by Agilent
Estimated installation time	15 minutes
Estimated adjustment time	45 minutes
Estimated full instrument calibration time	4.5 hours

Items Included in the Upgrade Kit

Check the contents of your kit against the following list. If any item is missing or damaged, contact Agilent Technologies. Refer to .

Table 1   Contents of Upgrade Kit N5230-60110

Quantity	Description	Part Number
1	Installation note (this document)	N5320-90012
1	License key certificate	5964-5136
1	Model number nameplate (for 50 GHz analyzer, N5230A)	N5230-80004
1	Model number nameplate (for 50 GHz analyzer N5230C)	N5230-80024

Installation Procedure for the Upgrade

Installation Requirements

- The network analyzer must be in proper working condition prior to installing this option. Any necessary repairs must be made before proceeding with this installation.

- This installation does not require removal of the analyzer's protective outer covers.

- The analyzer must be powered up and operating to perform this installation. The Network Analyzer program must be running.

- This installation requires that a keyboard and a mouse be connected to the network analyzer.

Step 1. Verify the Serial and Option Numbers

Refer to the License Key Certificate obtained:

- Verify that the analyzer's model and serial numbers match those on the certificate.

- Verify that the option number on the certificate matches the option number described in this installation note.

If the model number, serial number, or option number do not match the expected results, you will not be able to install the option. If this is the case, contact Agilent for assistance. Refer to "Getting Assistance from Agilent" on page 3.

Step 2. Enable Option F50

1. On the analyzer's **System** menu, point to **Service**, and then click **Option Enable**.

2. In the **Select Desired Option** list, click **F50 - 50 GHz Operation**.

3. Using the keyboard, enter the keyword in the box provided. The keyword is printed on the License Key Certificate. Enter this keyword *exactly* as it is printed on the certificate.

4. Click **Enable**.

5. Click **Yes** in answer to the displayed question in the **Restart Analyzer?** box.

6. When the installation is complete, click **Exit**.

Step 3. Verify that Option F50 Is Enabled

Once the analyzer has restarted and the Network Analyzer program is again running:

1. On the analyzer's **Help** menu, click **About Network Analyzer**.

2. Verify that "F50" is listed after "Options:" in the display. Click **OK**.

NOTE   If Option F50 has not been enabled, perform the "Step 2. Enable Option F50" procedure again. If the option is still not enabled, contact Agilent Technologies. Refer to "Getting Assistance from Agilent" on page 3.

Step 4. Replace the Nameplate

Refer to Figure 1 for this procedure. New parts are listed in Table 1 on page 4.
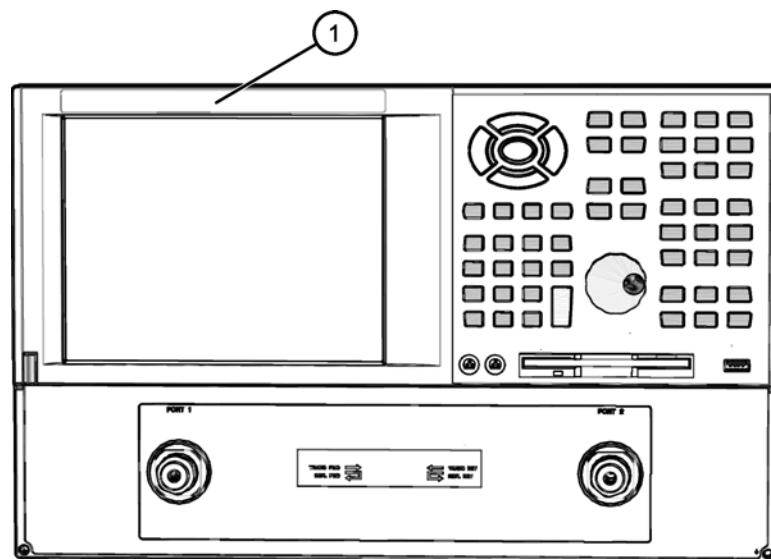
Remove the Old Nameplate

1. Using a sharp object such as a knife blade, lift one end of the old nameplate (item ①). Be careful not to scratch the painted surface.

2. Using your fingers, pull the nameplate completely off of the front panel and discard it.

3. If any adhesive remains on the front panel surface, it can be removed by rubbing it with your finger. Do not use a sharp object to remove this adhesive. If necessary, the surface can be cleaned with isopropyl alcohol.

Install the New Nameplate

1. Remove the protective backing from the new nameplate to expose the adhesive. Avoid touching the adhesive with your fingers as this may affect its ability to adhere to the front panel surface.

2. *Loosely* align the new nameplate over the recess in the front panel and apply lightly.

3. Once the nameplate is properly aligned, press it firmly onto the surface to secure it.

Figure 1   Nameplate Replacement

n5230_012_01

NOTE   The figure above shows the N5230A front panel and floppy disk drive. The N5230C front panel has a slightly different appearance and does not include a floppy disk drive.

Step 5. Perform Post-Upgrade Adjustments and Calibration

Adjustments

The following adjustments must be made due to the hardware changes of the analyzer.

- LO power
- source calibration
- receiver calibration

These adjustments are described in the PNA service guide and in the PNA on-line HELP. A list of equipment required to perform these adjustments can be found at "Equipment Required for Post-Upgrade Adjustments" on page 7.

Calibration

The analyzer should now operate and phase lock over its entire frequency range.

If you experience difficulty with the basic functioning of the analyzer, contact Agilent. Refer to "Getting Assistance from Agilent" on page 3.

- Although the analyzer functions, its performance relative to its specifications has not been verified.
- It is recommended that a full instrument calibration be performed using the PNA performance test software.
- Refer to the analyzer's service guide for information on the performance test software.

Equipment Required for Post-Upgrade Adjustments

Equipment Type	Model or Part Number	Alternate Model or Part Number
Power meter	E4418B/E4419B	E4418A/E4419A
Power sensor, 2.4 mm	8487A	None
Adapter, 2.4 mm (f) to 2.4 mm (f)	11900B	85056-60007
RF cable, 2.4 mm (f) to 2.4 mm (f)	85133C	85133E