EMI Measurement Receiver
PSA Series Spectrum Analyzers
Option 239

Quick-Start Guide

Agilent Technologies

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EMI Measurement Receiver

This document provides the basic information needed to configure and start taking measurements on the EMI Measurement Receiver System.

You can refer to the following procedures:

NOTE   If you purchased a new PSA, Option 239 was installed at the factory.

If you purchased Option 239 as an upgrade to be installed in a pre-existing PSA, refer to the PSA *EMI Measurement Receiver Guide* for information on how to install the option and license key.

Instrument Configuration

This setup procedure uses Option 010, network switch and cables, for LAN communication without connecting to an existing network. For other types of communication connections, see the PSA *EMI Measurement Receiver Guide*. If you are going to connect through an existing network, check with your IT department for any additional requirements.

This Quick-Start guide assumes the use of the N5181A signal source. If you are using another source, see the PSA *EMI Measurement Receiver Guide* for more information.
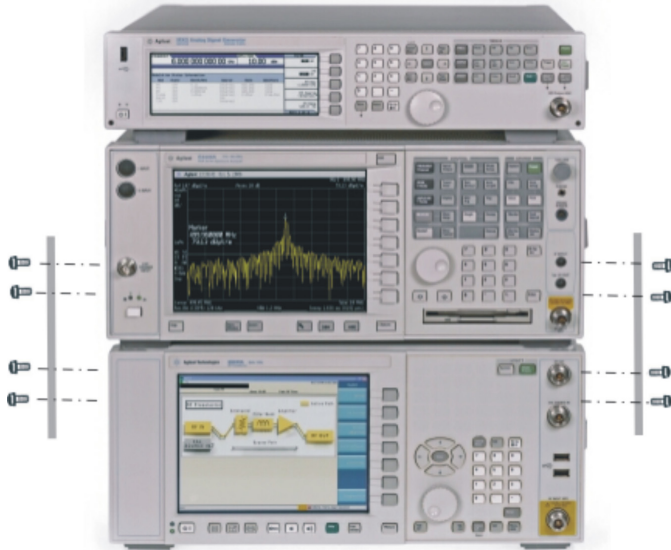
The following instruments are required to configure a CISPR–16 compliant measurement receiver:

- N5181A, N5182A, 8648B, E4438C, or E8257D signal source
  The signal source is used only during system alignment.
- PSA Series Spectrum Analyzer

  — Serial Prefix of US4430, MY4430, SG4430 or greater
  — Firmware version A10.xx or later

- N9039A RF Preselector

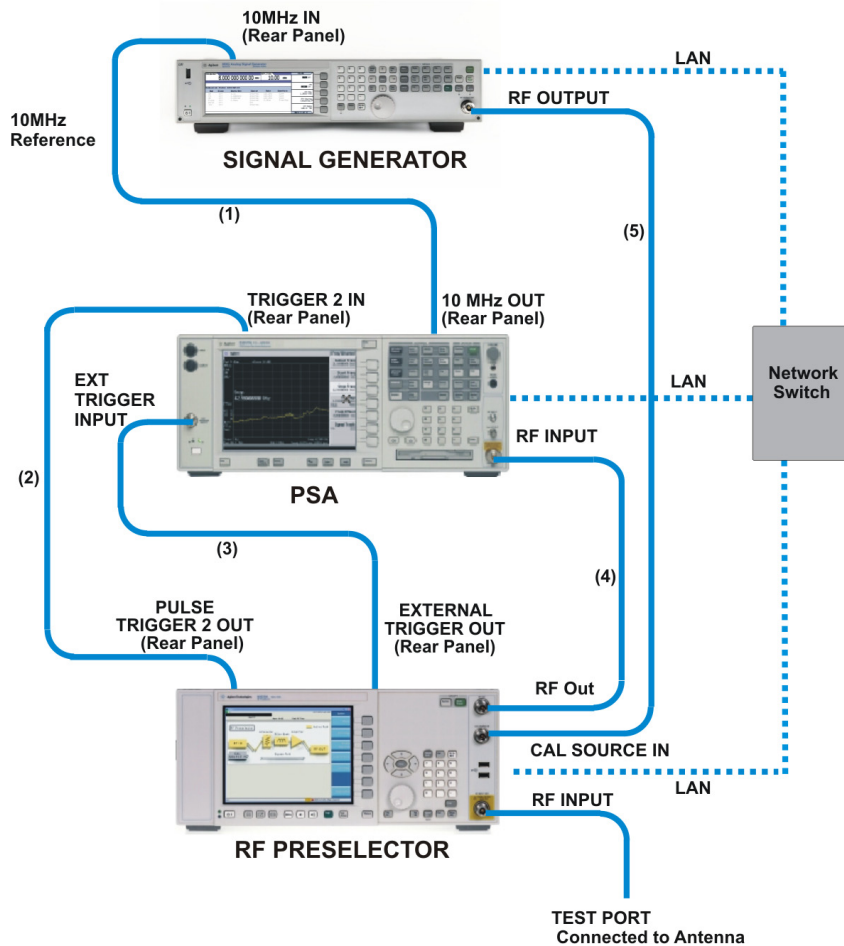1. Stack the instruments as shown in the following graphic:

2. Attach the support brackets when the system is not rack
   mounted.

3. Configure the cables as shown in the following graphic.

- 1, 2, 3 – BNC cables
- 4 – semi-rigid cable (2 are supplied: 1 for stacking, 1 for rack mounting)
- 5 – flexible Type N cable.

4. Turn on the PSA and source and ensure they have an adequate warm-up time.

5. On the PSA, press **System**, **More**, **More**, **Personality**. Verify that Option 239 appears in the PSA Personality Information list, and that it says Yes under the Licensed column.

6. Connect a USB keyboard and mouse to the RF Preselector.

7. Press the power switch (located in the lower left-hand corner of

the RF Preselector's front panel) to turn the RF Preselector on.

NOTE	Allow the RF Preselector to warm-up for 30 minutes before making a calibrated measurement. To meet its specifications, the RF Preselector must meet the operating temperature requirements.

8. If you have previously turned on the RF Preselector, skip the rest of this section and go to "Instrument Communication" on page 9.

Accepting the End-User License Agreement (EULA) Screen

The License Agreement screen asks you to accept the terms of the End-User License Agreement for Windows XP. You must accept this agreement to continue the Windows XP installation and configuration. If you do not accept this agreement, the instrument shuts down and the next time you turn it on the Windows XP Setup Wizard starts from the beginning again.

• Position the cursor appropriately and use the left mouse button to navigate the License Agreement screen.

Setting System Date and Time

The Date and Time Settings screen is used to set the appropriate date, time and time zone If you have connected a USB mouse, position the cursor and use the left mouse button to navigate the Date and Time Settings screen.
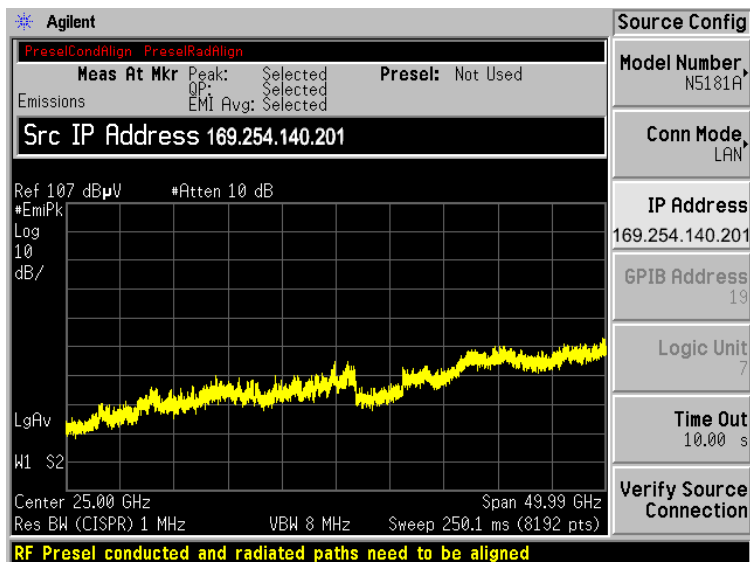
Anti-virus Software and Firewalls

No anti-virus software is shipped with the instrument. It is recommended that you install anti-virus software if your instrument will be connected to the LAN. Check with your IT department for their recommendations.

The instrument is shipped with the Windows XP firewall enabled. Do not modify the default network settings as this may cause the instrument to not operate properly.

Instrument Communication

1. On the signal source, press **Utility**, **GPIB/LAN**, **LAN Setup**. The **Subnet Mask** should be set to 255.255.0.0. record the IP address. 169.254._____._____

2. On the RF Preselector, press **System**, **Show**, **System**. Record the IP address. 169.254._____._____

3. On the PSA, press **System**, **Config I/O**, **IP Address**, **169.254.xxx.yyy**, **Enter**. Where xxx.yyy are not the same as the source or the RF Preselector.

4. Verify that the **Subnet Mask** is **255.255.0.0**.

5. On the PSA, press **MODE**, **EMC Analyzer**, **Preset**, **Mode Setup**, **Config EMI Receiver**, **RF Presel Config**, **IP Address**. Enter the IP address recorded in step 2.

6. Press **Verify RF Presel Connection**.

7. Press **Return**, **Source Config**, and select the correct source **Model Number**.

8. Press **IP Address**, and enter the IP address recorded in step 1.

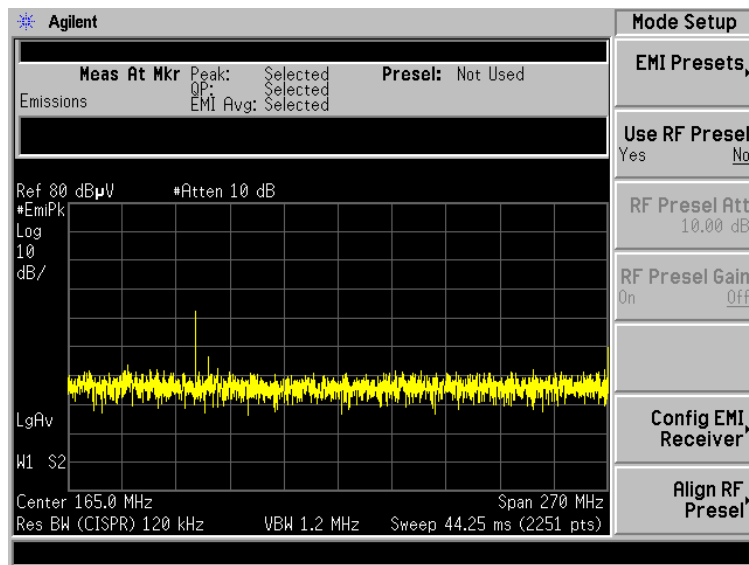9. Press **Verify Source Connection**.

RF Preselector Alignment

- On the PSA, press **Mode Setup**, **Align RF Presel**, **Align 9 kHz - 1 GHz**. This alignment will take around 15 minutes to complete. Once this is done, the system will be ready for use.
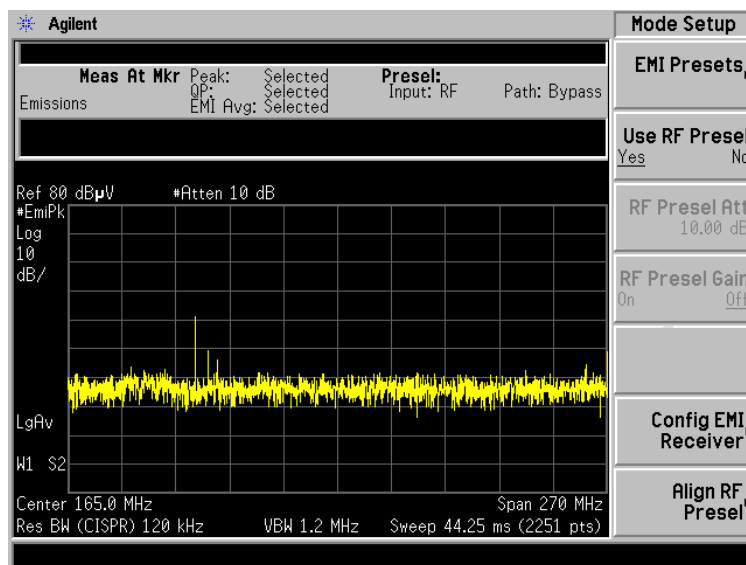

Radiated Emissions Measurement Example

1. On the PSA, press **MODE**, **EMC Analyzer**, **Preset**, **Mode Setup**, **EMI Presets**.
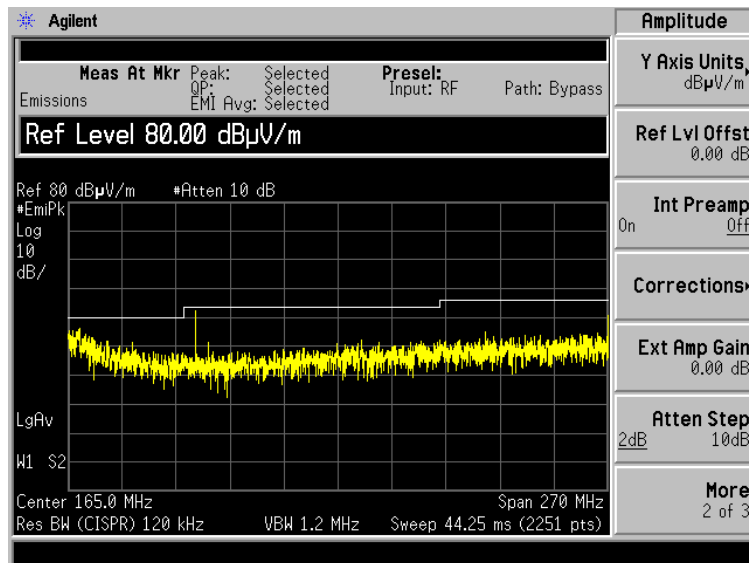
2. Press **CISPR C** or the desired band.

3. Press **Mode Setup**, **Use RF Presel** and toggle to underline **Yes**.
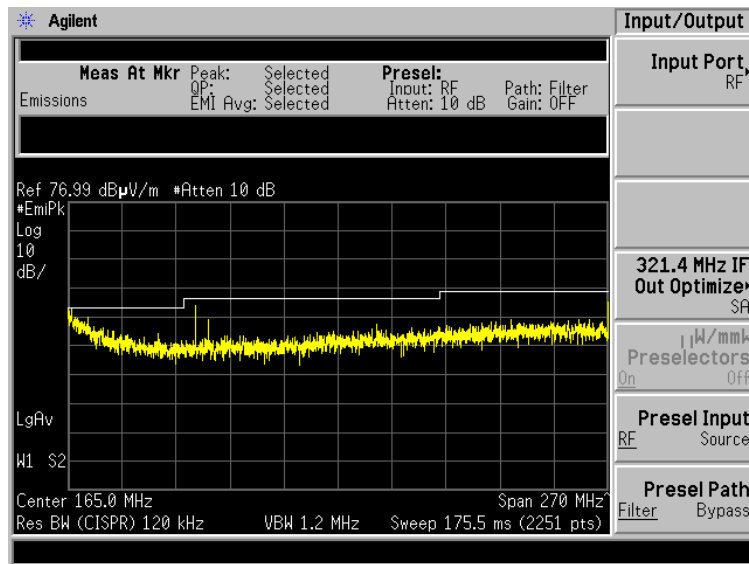
**Using Limit
Lines and
Correction
Factors**

A floppy disk was shipped inside the back cover of the *EMI Measurement Receiver Guide*. This disk contains limit lines and typical transducer factors that can be used to determine whether the equipment under test meets its requirements or not.
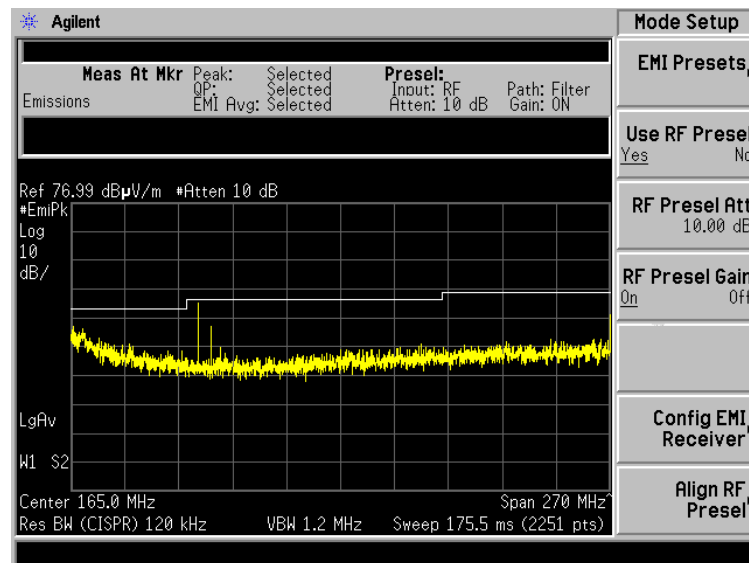
1. Insert the disk into the floppy drive on the PSA and press **File**,
   Load,
   Dir Up.

2. Using the up arrow, select **[-A-]** and press **Dir Select**.

3. Press **Type**, **Limits**.

4. Using the arrow keys, select **FCC15B3** (FCC Part 15 Class B, 3 meter) and press **Load Now**.

5. Press **Load**, **Type**, **Corrections**.

6. Using the arrow keys, select **11966P3G** (Broadband Antenna) and press **Load Now**.

7. Press **Amplitude**, **More**, **Y Axis Units**, **dBuV/m**.

8. Press **Input/Output**, **Presel Path** and toggle to underline **Filter**.

9. Press **Mode Setup**, **RF Presel Gain** and toggle to underline **On**.

Saving and Recalling Setups

This measurement setup can be saved for future use on the C: drive.

1. Press **File**, **Save**, **Dir Up**. Use the up or down arrow key to select **[-C-]** and press **Dir Serlect**.

2. Press **Type**, **More**, **Setup**.

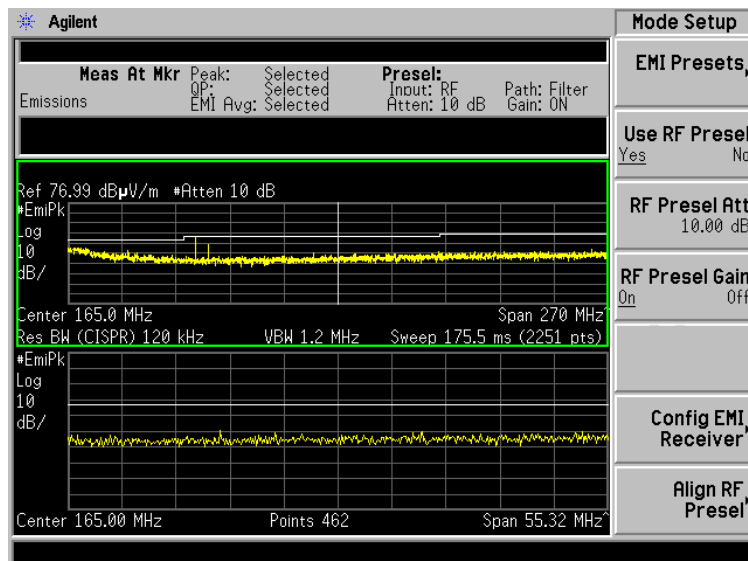3. Press **Name** and use the alpha editor to name the file. Press **Return**,
   Save Now.

To recall the file, press **File**, **Load**, **Type**, **More**, **Setup** and use the arrow keys to select the file name. Press **Return**, **Return**, **Load Now**.

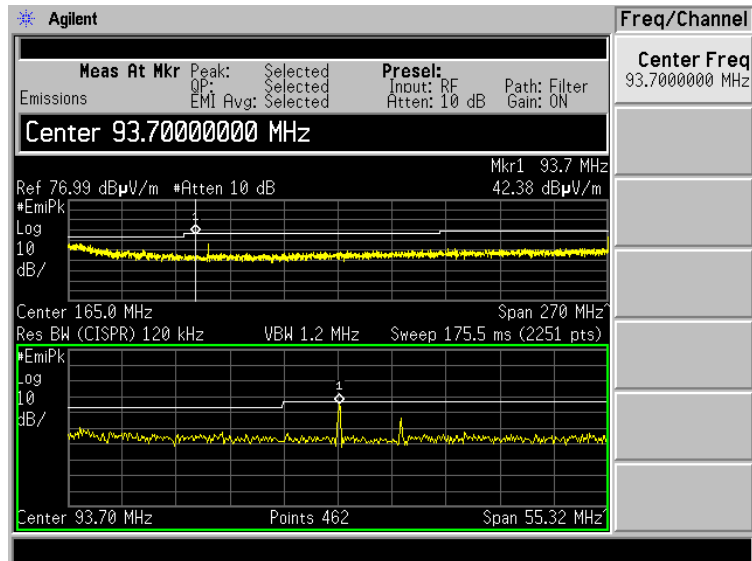**Using the Synchronized Zoom Function**

1. Press the **Zoom** key.

A split screen shows the original trace on the top and the zoomed trace on the bottom. The active window has a green border.

2. Press **Peak Search**.

3. Press the **Next Window** key $\boxed{\begin{smallmatrix}\text{Next}\\\text{Window}\end{smallmatrix}}$ to move the active window to the zoomed display.

4. Press **FREQUENCY Channel**, **Center Freq** and enter the frequency of the marker readout.

Making a Measurement

Press **Marker Fctn**, **Measure at Marker**.

The results of the measurement with Peak, Quasi-Peak, and

EMI Average detectors are shown at the top of the display.