

Instructions



WCA2UP-02 & RSA3UP-02
256 MB Data Memory with Frequency Mask Trigger

WCA230A & WCA280A
Portable Wireless Communication Analyzers
RSA3303A & RSA3308A
Real-Time Spectrum Analyzers

075-1267-02

Warning

The servicing instructions are for use by qualified personnel only. To avoid personal injury, do not perform any servicing unless you are qualified to do so. Refer to all safety summaries prior to performing service.

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Kit Description

This kit provides parts and instructions to install the A30 trigger board and add Option 02 (256 MB data memory with frequency mask trigger) to your WCA230A and WCA280A Portable Wireless Communication Analyzers or RSA3303A and RSA3308A Real-Time Spectrum Analyzers.

This document supports Tektronix modification ECR30645.

Products

WCA230A and WCA280A without Option 02
RSA3303A and RSA3308A without Option 02

Minimum Tool and Equipment List

Required tools and equipment	Description
Screwdriver handle	Accepts Phillips-driver bits
#2 Phillips tip	Phillips-driver bit for #2 size screw heads

Kit Parts List

Fig. & index number	Quantity	Part number	Description
WCA2UP-02, RSA3UP-02			
1-1	1 ea	671-B162-50	CIRCUIT BD ASSY:A30
1-2	1 ea	334-1377-50	MARKER,IDENT
1-3	1 ea	075-1267-02	INSTRUCTION MANUAL WCA2UP-02 & RSA3UP-02

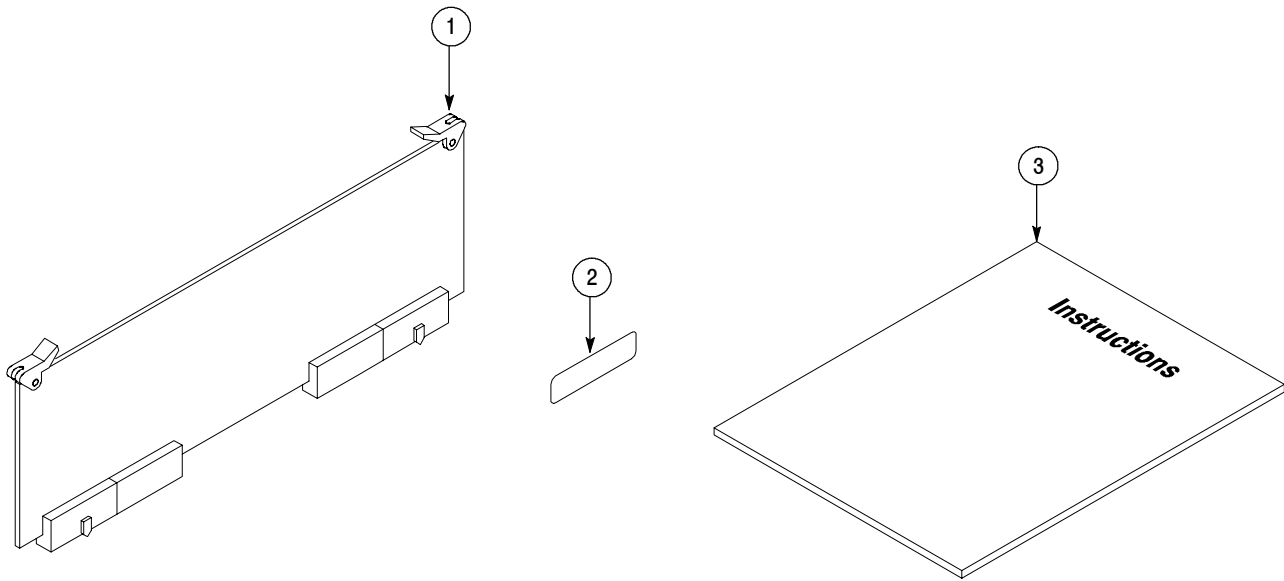


Figure 1: Kit parts

Installation Instructions

These instructions are for personnel who are familiar with servicing the product. If you need further details for disassembling or reassembling the product, refer to the *WCA230A and WCA280A Service Manual* (Tektronix part number 071-1257-XX) or the *RSA3303A and RSA3308A Service Manual* (Tektronix part number 071-1412-XX).



CAUTION. *To prevent static discharge damage, service the product only in a static-free environment. Observe standard handling precautions for static-sensitive devices while installing this kit. Always wear a grounded wrist strap, grounded foot strap, and static resistant apparel while installing this kit.*

These installation instructions consist of three main processes:

- Installing the A30 trigger board
- Enabling 256 MB data memory and frequency mask trigger
- Verifying operation

Installing the A30 Trigger Board

Complete the following procedures to install the A30 trigger board.

Removing the Cabinet

1. Disconnect all external cables and the power cord from the analyzer.
2. Remove the one screw securing the rear foot over the cabinet to the rear panel at each corner.
3. Remove the center two screws securing the cabinet to the rear panel.
4. Slide the cabinet backward. As you remove the cabinet, take care not to bind or snag it on the analyzer's internal cabling.

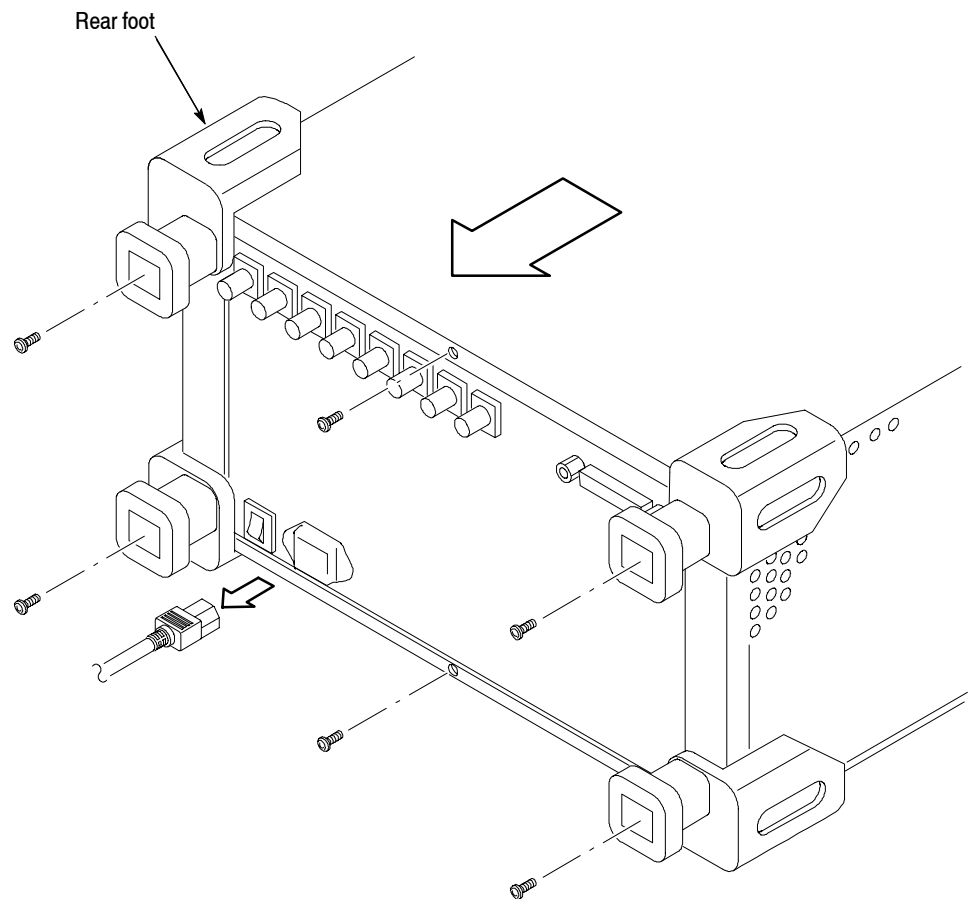


Figure 2: Cabinet removal

Installing the A30 Board

1. Locate the A30 trigger board slot in Figure 3 (top view of the card cage).

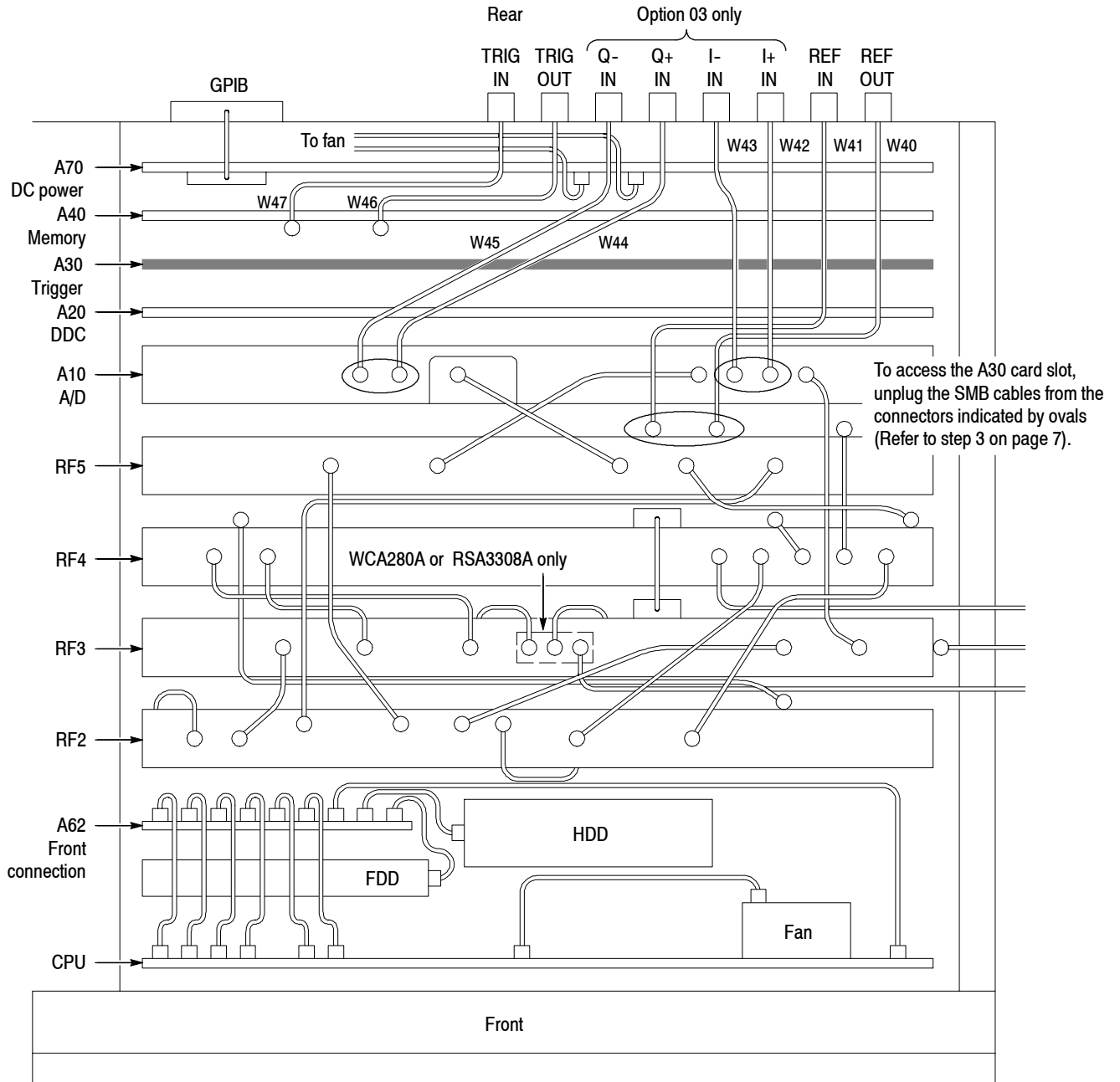


Figure 3: Top view of the card cage

2. *Remove the board support bracket:* (See Figure 4 below.)
Remove the two screws securing the board support bracket to the rear support bracket and the RF5 module. Lift the board support bracket away.

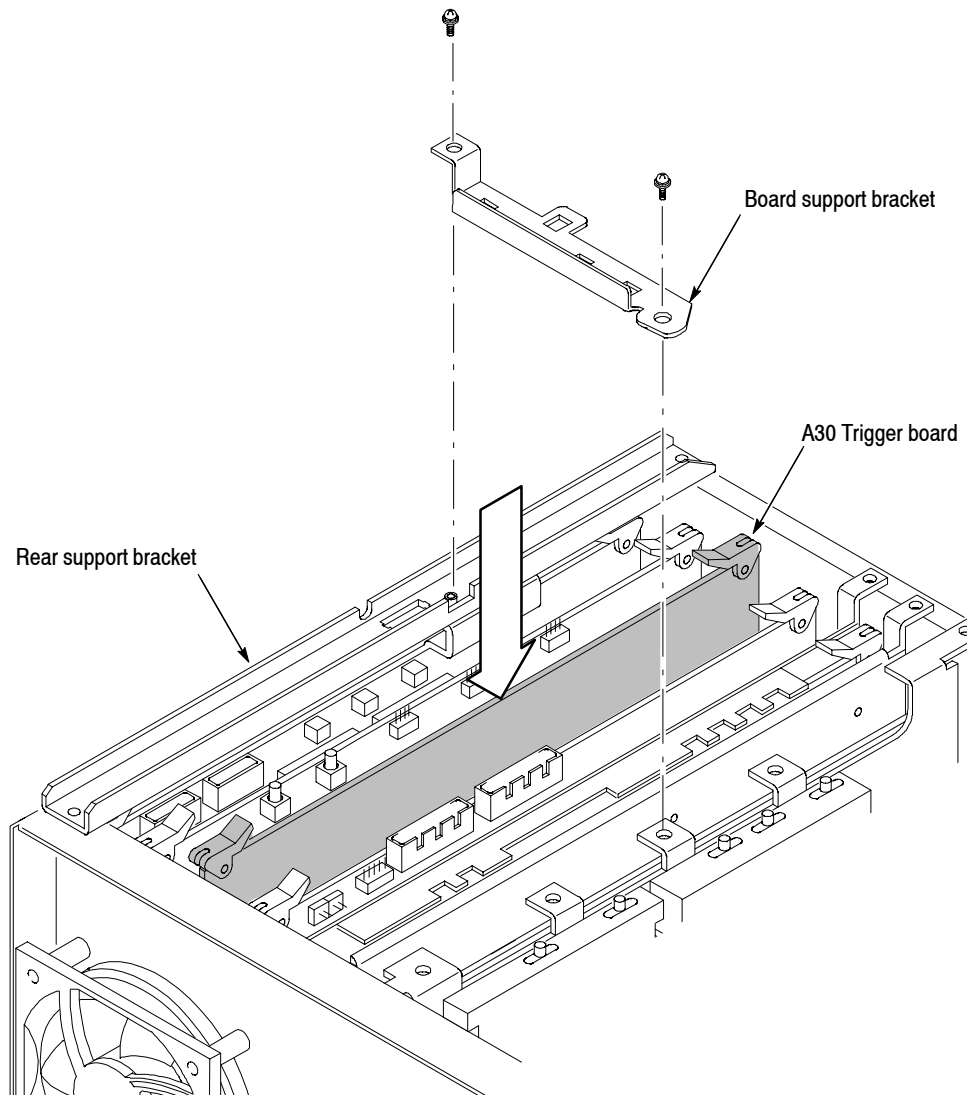


Figure 4: Installing the A30 trigger board

3. *Disconnect cables to access the A30 trigger board slot:*
(See Figure 3 on page 5.)
 - a. Unplug the SMB cables W40 (RF OUT) and W41 (RF IN) from the RF5 module.
 - b. *Option 03 only.* Unplug the SMB cables W42 (I+), W43 (I-), W44 (Q+), and W45 (Q-) from the A10 A/D board.
4. Insert the A30 trigger board in the slot properly.

Reassembling Modules

1. Reconnect the cables by reversing step 3 above on this page.
2. Reinstall the board support bracket by reversing step 2 on page 6.
3. Reinstall the cabinet by reversing steps 1 through 4 on page 4.

Attaching the ID Label

After you finish the board installation, attach the ID label (supplied with this upgrade kit) onto the rear panel of the analyzer. Figure 5 shows the location for the label.

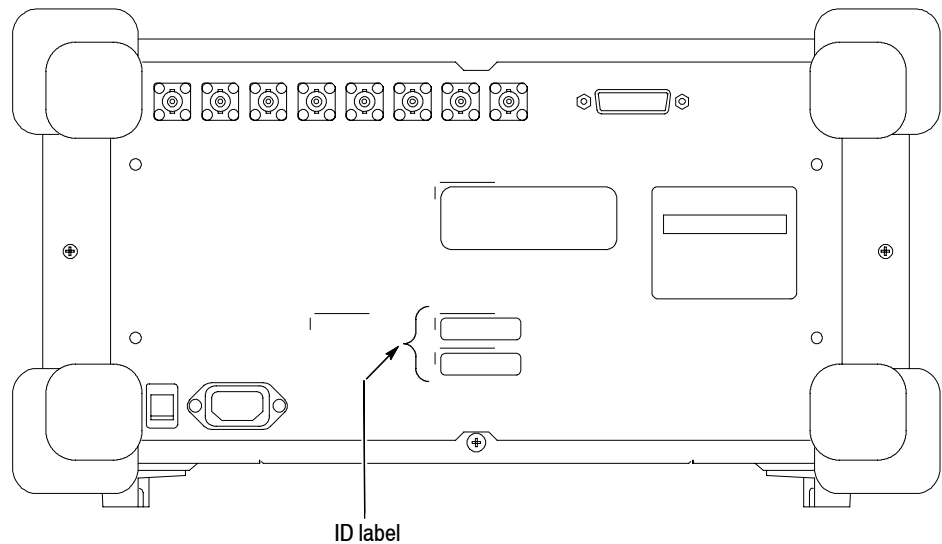


Figure 5: ID label location (rear panel)

Enabling 256 MB Data Memory and Frequency Mask Trigger

Edit the *Option.cal* file on the analyzer to enable 256 MB data memory and frequency mask trigger using the following procedure.

1. Turn on the analyzer.
2. Connect a USB mouse and a USB keyboard to the USB ports on the analyzer side panel. You can connect them to either or both ports. You can also connect the mouse to the USB port on the keyboard.

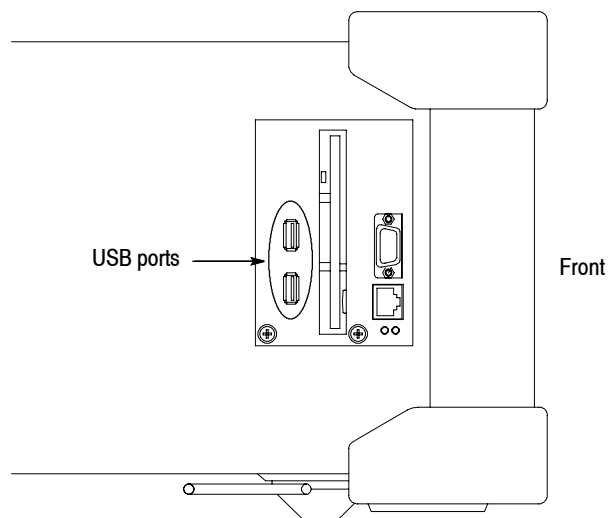
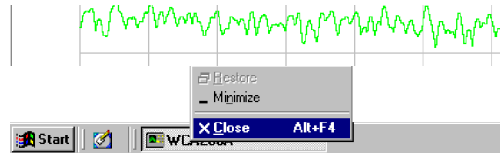


Figure 6: USB ports (side panel)

3. *Display the Windows desktop on the analyzer screen:*

- a. With the mouse, move the pointer to the bottom of screen. The task bar appears.
- b. Right-click on the task bar icon that indicates the analyzer model name (WCA230A, WCA280A, RSA3303A or RSA3308A). A menu opens.



- c. Select **Close** from the menu.

The analyzer system program stops, and the Windows desktop displays.

4. *Edit the Option.cal file:*

- a. Open the file called `D:_RtsaCalData_Option.cal` using Windows Notepad.
- b. Add these two lines just below the top line:

```
Option:LongDataMemory=On
Option:ExtendedTrigger=On
```

- c. Add “02” to the “Option=” line as in the following examples:

Examples:

Change: “Option=” to: “Option=02”

Change: “Option=03,1R” to: “Option=03,1R,02”

- d. Save the *Option.cal* file.
5. Close all the windows on the desktop.
6. Turn off the analyzer.

Verifying Operation

The verification involves these tasks:

- Checking installed option
- Checking memory
- Checking trigger

Refer to the *WCA230A and WCA280A User Manual* or the *RSA3303A and RSA3308A User Manual* for details on operating the analyzer.

Checking Installed Option

1. Power on the analyzer.
2. Press the **SYSTEM** key on the front panel.
3. Press the **Versions and Installed Options...** side key.
4. Check that Option 02 is added in the installed options list on screen (see Figure 7 below).

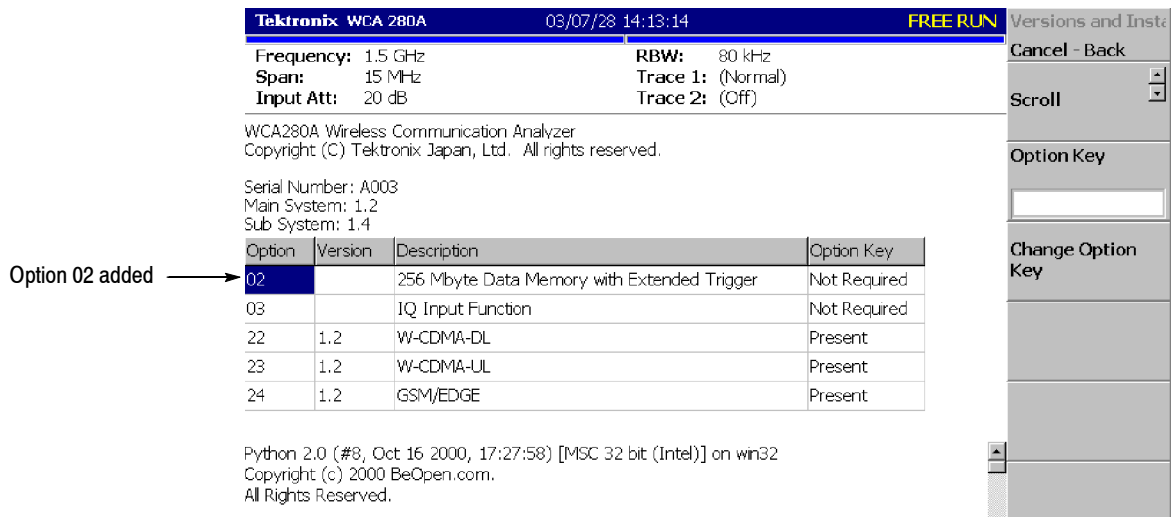
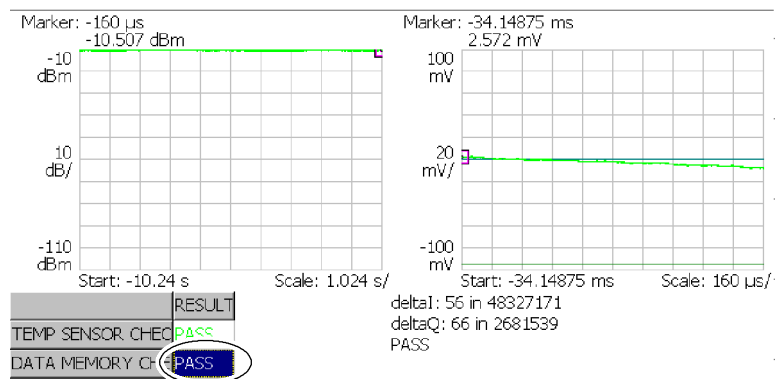


Figure 7: Checking the installed option

Checking Memory

1. Press the **CAL** key on the front panel.
2. Press the side key **Service...** → **Password**.
3. Enter **270833** and then press the **ENTER** key using the numeric keypad.
4. Press the side key **DIAG** → **Data Memory**.
5. Check that the result shown in the lower left view is Pass (see Figure 8).

**Figure 8: Diagnostic screen**

Checking Trigger Create a trigger mask and check that the trigger functions properly.

Equipment needed:

You will need the following equipment to perform this procedure:

- One signal generator
Minimum requirements: Frequency of 1.5 GHz and amplitude of -10 dBm.
- One 50 Ω N-N cable

1. *Prepare for the test:*

a. *Set the signal generator controls:*

Frequency 1.5 GHz
Amplitude -10 dBm
RF output Off

NOTE. Turn the RF output off initially.

b. *Hook up the generator:* Connect the generator output through a 50 Ω N-N coaxial cable to the analyzer **INPUT**. See Figure 9.

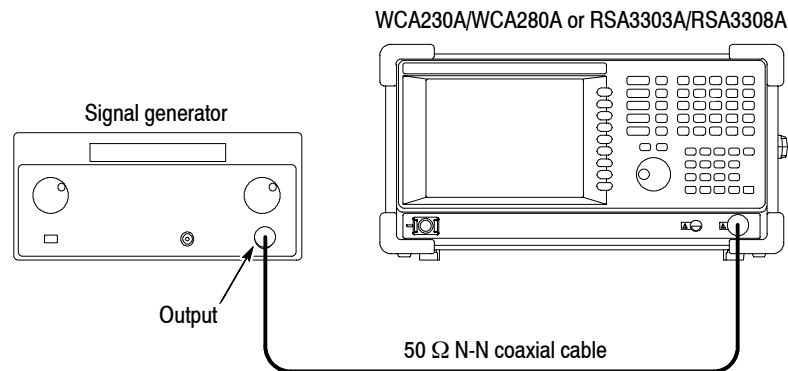


Figure 9: Initial test hookup

c. *Set the analyzer controls:*

- Press the **SYSTEM** key on the front panel.
- Press the **Reset All to Factory Defaults** side key.
- Press the **S/A** key on the front panel.
- Press the **Real Time S/A** side key.
- Press the **RUN/STOP** key to stop data acquisition.

2. *Create a trigger mask:*

Create a trigger mask shown in Figure 10 using the following sub-steps:

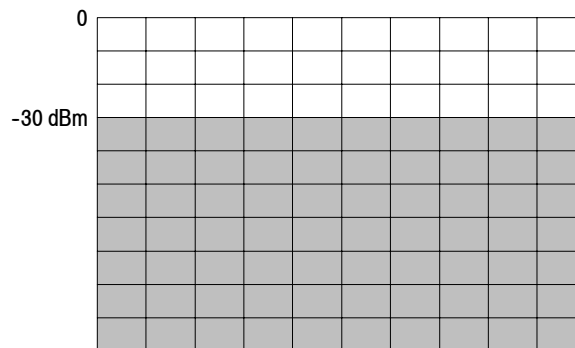


Figure 10: Trigger mask for the functional check

- a. Press the **TRIG** key on the front panel.
- b. Press the side key **Mode... → Triggered**.
- c. Press the side key **Source... → Freq Mask**.
- d. Press the **Define Mask...** side key.
The mask appears, covering the whole area in blue.
- e. Press the **Select Marker** side key to select Marker 1.
- f. Press the **Marker X Vertical** side key and set the vertical position of the marker to -30 dBm using the general purpose knob.
The marker appears at -30 dBm.
- g. Press the side key **Go to page 2 (bottom) → Draw Horizontal**.

The area below -30 dBm is filled in blue as shown in Figure 10 above. The trigger mask you created is written into the internal trigger register.

3. *Check the trigger:*

a. Press the **RUN/STOP** key to start data acquisition.

b. Turn the signal generator output on:

RF output On

c. Check that the trigger occurs. The analyzer stops data acquisition, showing the signal peak on the spectrum view as shown in Figure 11.

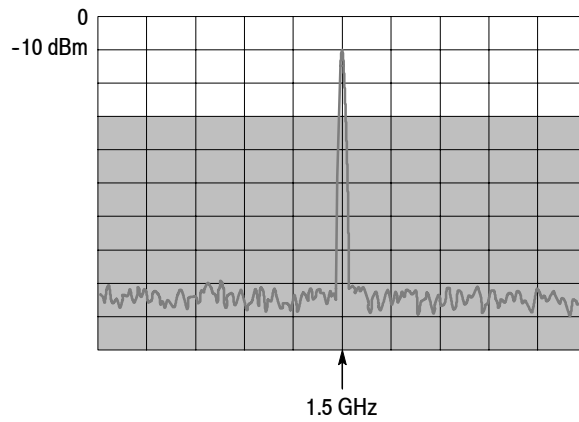


Figure 11: Spectrum display after the trigger event

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