

MODIFICATION RECOMMENDED

N5224A-01A

**S E R V I C E N O T E**

Supersedes:  
N5224A-01

N5224A PNA Series Microwave Network Analyzers

Serial Numbers: ALL

Some analyzers are exhibiting unlocked or unleveled errors or other unexpected digital control faults. Analyzers that experience any of the symptoms listed on page 2 of this document must be inspected for a possible return to Agilent to have the system motherboard replaced.

Parts Required:

P/N	Description	Qty.
N5247-60002	system motherboard	1

ADMINISTRATIVE INFORMATION

SERVICE NOTE CLASSIFICATION:		
<b>MODIFICATION RECOMMENDED</b>		
ACTION CATEGORY: ON SPECIFIED FAILURE	STANDARDS LABOR: 7.0 Hours (includes 4 hours calibration)	
LOCATION CATEGORY: SERVICE CENTER	SERVICE INVENTORY: SCRAP	USED PARTS: SCRAP
AVAILABILITY: PRODUCT'S SUPPORT LIFE	NO CHARGE AVAILABLE UNTIL: END OF PRODUCT'S SUPPORT LIFE	
Calibration Required	PRODUCT LINE: WN AUTHOR: MF	
ADDITIONAL INFORMATION: Models affected: N5241A, N5241AS, N5242A, N5242AS, N5244A, N5244AS, N5245A, N5245AS, N5247A, N5247AS, N5221A, N5222A, N5222AS, N5224A, N5225A, and N5227A. Service Note N5224A-01 created 5/22/12.		

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**Situation:**

Analyzers experiencing any of the following symptoms must be inspected for a possible return to Agilent to have the system motherboard replaced.

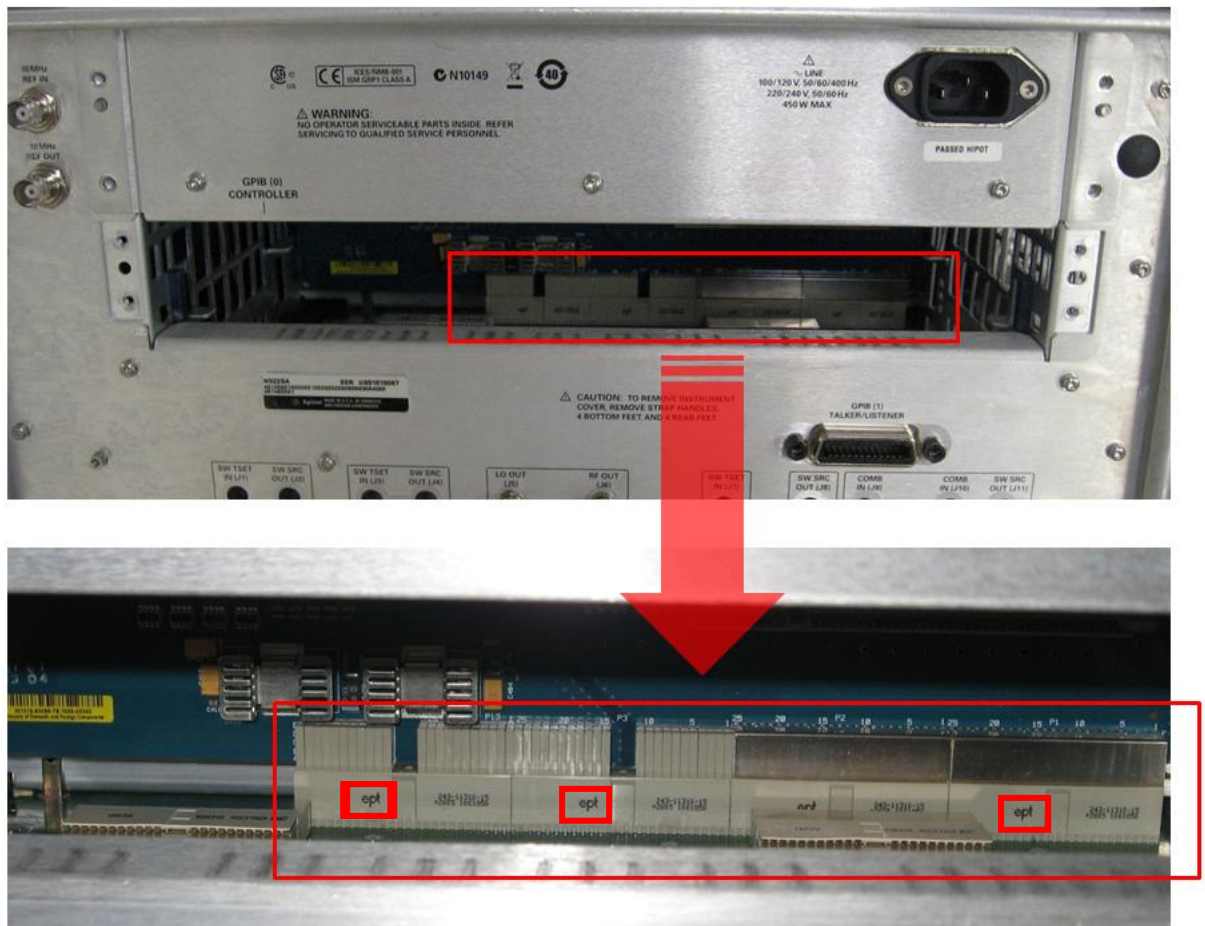
- One or more scrambled EEPROM board headers.
- Analyzer unable to self-identify either model number or serial number or both.
- Synthesizer Unleveled errors.
- Source Unleveled errors.
- Reseating or swapping top-side assemblies may make failure symptom(s) disappear.
- Analyzer display always blank (black).
- Various DSP errors.

**Solution/Action:**

**NOTE:** The PNA contains extremely sensitive components that can be ruined if mishandled. The person performing the work accepts responsibility for the full cost of the repair or replacement of damaged components.

All cables, including wire harnesses and ribbon cables, that are removed should be labeled for reconnection later. Follow instructions carefully when making cable connections, especially wire harness connections.

1. Remove the CPU assembly from the analyzer's rear panel. Refer to the PNA Service Guide chapter 7 section titled, "Removing and Replacing the CPU Board Assembly" for removal and reinstallation procedures. To view the online Service Guide, see the numbered list on the next page for instructions.
2. As per the photo below, inspect the system motherboard connector to see if it has one or more "ept" logos.



3. If the connector has one or more “ept” logos, return the analyzer to Agilent for replacement of the system motherboard. If the connector does not have one or more “ept” logos, email [ctd-soco\\_support@agilent.com](mailto:ctd-soco_support@agilent.com), providing the analyzer model and serial number and details of the malfunction symptoms.
4. *For Agilent Service Technicians only:* Only new boards without “ept” logos should be installed. Before installing the new board, look to see if it has one or more “ept” logos. If so, email [ctd-soco\\_support@agilent.com](mailto:ctd-soco_support@agilent.com), providing the analyzer model and serial number. Wait for further instructions in an email reply. New boards without “ept” logos can be installed. For installation instructions, refer to the PNA Service Guide chapter 7 section titled, “Removing and Replacing the System Motherboard.” To view the online Service Guide, see the numbered list on the next page for instructions.
5. After the analyzer has been fully reassembled, perform the post-repair procedures detailed in the PNA Service Guide chapter 7 section titled, “Post-Repair Procedures.” To view the online Service Guide, see the numbered list below for instructions.

Refer to the PNA Service Guide for instructions on removing/replacing assemblies, post-repair adjustments/procedures, and verification/performance tests. To view this Service Guide information, use the following steps:

1. Go to <http://www.agilent.com>.
2. Enter your PNA model number (Ex: N5245A) in the Search box and click **Search**.
3. Click **Manuals**.
4. Scroll down and click on the title/hyperlink for the Service Guide.
5. When the PDF of the Service Guide is displayed, use the bookmarks in the left column to find the appropriate “Removing & Replacing the ... xxx Assembly” section in Chapter 7.
6. Follow the instructions for removing and replacing the assembly.
7. Successful completion of the post-repair adjustments/procedures and verification/performance tests will set the analyzer to its pre-repair condition. All pre-repair certification still applies.

#### Revision History:

Revision Number	Date	Author	Reason For Change
1.0	7/16/12	MF	As published
1.1	5/28/13	MF	Revised Agilent Support email address