E5070B-08C

S E R V I C E   N O T E

E5070B ENA Series Network Analyzer, 300 kHz to 3 GHz

Serial Numbers: **JP1KKxxxxx, MY421xxxx, MY422xxxxx**
                         MY42300502 to MY42300613

When a measurement trace or output power shows troubles between 1.3 GHz and 2.1 GHz, replace A1 module with the latest one (E5071-6x571), and update E5070B Operating system at the same time.

To Be Performed By: Agilent-Qualified Personnel

Parts Required: See Solution/Action

ADMINISTRATIVE INFORMATION

SERVICE NOTE CLASSIFICATION:			
MODIFICATION RECOMMENDED			
ACTION CATEGORY:	[[]] IMMEDIATELY X ON SPECIFIED FAILURE [[]] AGREEABLE TIME	STANDARDS: LABOR: 2.0 Hours	
LOCATION CATEGORY:	[[]] CUSTOMER INSTALLABLE [[]] ON-SITE X SERVICE CENTER	SERVICE [[]] RETURN INVENTORY: X SCRAP [[]] SEE TEXT	USED [[]] RETURN PARTS: X SCRAP [[]] SEE TEXT
AVAILABILITY: PRODUCT'S SUPPORT LIFE		AGILENT RESPONSIBLE UNTIL: May 2007	
AUTHOR: KW PRODUCT LINE: WN			
ADDITIONAL INFORMATION:			

Agilent Technologies

May 26, 2006

Situation:

The E5070B and E5071B's A1 source board E5071-6x551 and E5071-6x561 module had high-failure rate component parts problem, thus it was re-designed to improve its reliability as E5071-6x571.

When the high-failure rate part has defective, the unit cannot output correct power level source or local signal, between 1.3 GHz and 2.1 GHz frequency range.

Typical symptoms are as follows:

- The trace shows spike at 1.3 GHz or 2.1 GHz at the preset situation.
- The trace between 1.3 GHz to 2.1 GHz is more noisy than other frequency ranges.
- The power level of 1.3 GHz to 2.1 GHz is lower than other frequency ranges.
- Internal test of A1 ALC shows fail at SOP (f=1.3G) or LOP (f=1.3G) as Figure 2.

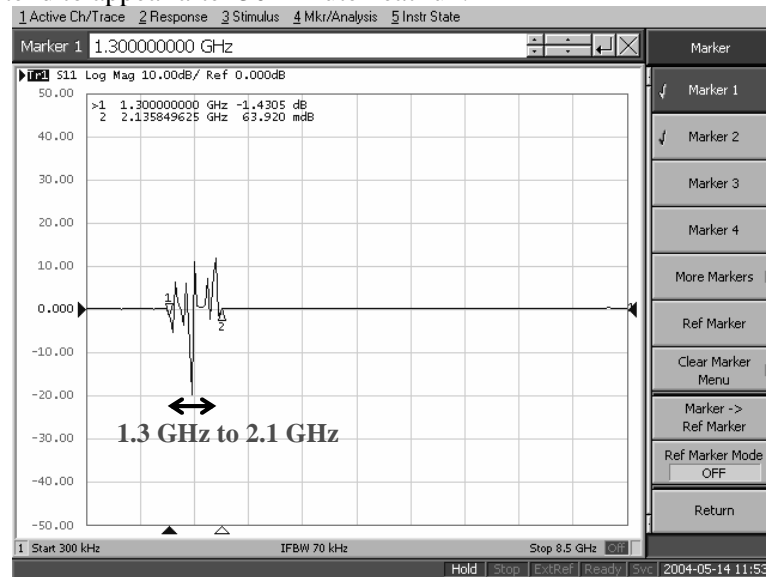Above symptoms tend to appear after 30-minute heat run.

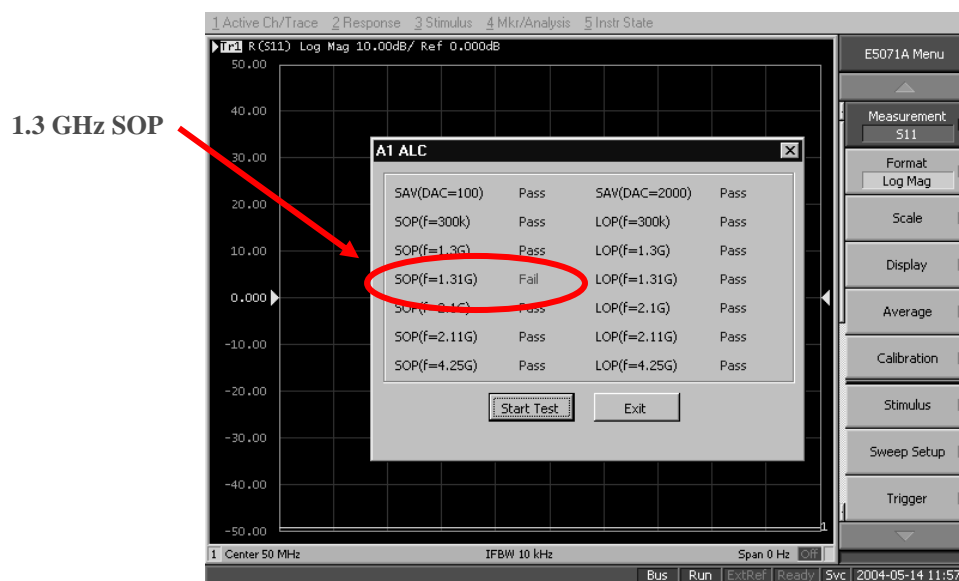Figure 1. Trace shows noise around 1.3 GHz to 2.1 GHz at preset setting.

Figure 2. A1 ALC in Internal test has failure at SOP (f=1.3G) or LOP (f=1.3G)

And the A1 board (E5071-66571, E5071-69571) requires firmware version Rev.A.5.00 or later. If customer unit's firmware version is less than Rev.A.5.00, it should be updated by changing the operating system. With Rev A.03.60 or below version firmware, an error message "Power on test failed (A1 not found)" is shown at lower left part on a display at power on. With Rev A.03.62 or A.04.00 version firmware, any of messages "Power on test failed (A1 DC-bus, 0x00000010)", "Power on test failed (A1 DC-bus, 0x00000020)", or "Power on test failed (A1 DC-bus, 0x00000030)" is shown at power on.

Please refer to the service note E5070B-07C for the detail.

Solution/Action:

When customer's E5070B/71B shows any of the typical symptoms in "Situation" part, and the unit's original configurations are as follows:
- A1 source board part number is E5071-6x551 or E5071-6x561
- Firmware version is A.04.00 or below

Replace the defective board with E5071-6x571, new A1 module. Also, update the operating system in accordance with the service note E5070B-10A to implement the firmware revision 5.00 or later. *1

Parts Required

P/N	Description	Qty.
E5071-69571 (or E5071-66571)	A1 Source board module	1

After the installation, perform A1 "Source Board" in spot adjust menu in the E5070B/E5071B adjustment program.

Then execute the following programs to verify that the replacement has been successfully completed.
Internal/External Test
Performance test

At last, attach the last page of this note to the unit to inform customer that the firmware version has been updated.

*1 Refer to the E5070B/E5071B service manual chapter 6, A1 Source board replacement part for the detail procedure

When customer's E5070B/71B shows any of the typical symptoms in "Situation" part, and the unit's original configurations are as the followings:
- A1 source board part number is E5071-6x551 or E5071-6x561
- Firmware version is A.05.00 or later

Replace the defective board with E5071-6x571 only.

Parts Required

P/N	Description	Qty.
E5071-69571 (or E5071-66571)	A1 Source board module	1

After the installation, perform A1 "Source Board" in spot adjust menu in the program.
There is no need to update the operating system because customer's firmware is a higher version.
No need to attaché the last page.

When customer's E5070B/71B has a failure in A1 module, but the A1's part number is as the followings:
E5071-6x571 or a higher part number version.

The unit is not the eligible one for this service note, because it has already the latest A1 module and firmware.

Retrofit Time
Assembly Time: 0.5 hour
Adjustment Time: 0.5 hour
Performance Tests Time: 1.0 hour
Total Time: 2.0 hour

Note to Customer: Firmware Upgrade Notice

Your unit is recognized as being eligible for failure correction under the Agilent Technologies service note E5070B-08B. Therefore, we changed the source board module to the latest model to improve reliability, and this was done to update the operating system. Along with this operating system update, the firmware version was updated to Rev.A.05.00 or later in order to assure correct operation of the new source board.

This firmware upgrade adds some new features as listed below, and it might require some changes in operational procedures at your location; however, this firmware update is necessary for using the latest source board module. Accordingly, we would like you to use these new features, however if you do not need them kindly turn them off. Please refer to the latest user's guide for detailed information on new features. Thanks for your understanding.

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You can download the latest user's guide by going to www.agilent.com/find/ena and then selecting "Manuals & Guides" from the "Key library information" menu.

Additional features from Rev.A.04.00
Changes of A.05.00, and
- Add Limit line offsets
- Add Ripple limit line
- Add Bandwidth limit

Additional features from Rev.A.03.62
Changes of A.04.00, and
- Add Point trigger function
- Add Imbalance 3 and 4 parameters for SE-SE-Bal measurement (Fixture simulator)
- Add 7mm calibration kit such as 85031B and 85050C/D

Additional features from Rev.A.03.60
No new features

Additional features from Rev.A.03.54
- Add Auto Power Range set function

Additional features from Rev.A.03.53
Change of A.03.54, and
- Add Initial Source Port Control feature

Additional features from Rev.A.03.50
Changes of A.03.53, and
- Maximum output power limitation (-10 dBm)
- Add "SDEV" to CALC:SEL:FUNC:TYPE command parameter

Additional features from Rev.A.03.01
Changes of A.03.50, and
- VBA Usability Enhancement
- ECal Functionality Enhancement
- Embedding/De-embedding Enhancement

Additional features from Rev.A.03.00
Changes of A.03.01, and
- Add system characteristic impedance (Z0) set feature