

MODIFICATION RECOMMENDED –  
CORRECTS MANUFACTURING OR DESIGN DEFECTS

**E4426B-02**

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

## ESG “B” AP/DP Series RF Signal Generator

Serial Numbers: **E4426B MY41000325 – MY41000335**  
**MY43350095 – MY43350105**

**Flux contamination on the Sampler Board (A23) may cause ionic residue migration and possibly causing short circuits.**

**To Be Performed By: Agilent-Qualified Personnel or Customer**

**Parts Required:**

**P/N: E4423-60020    Description: Sampler Assembly                      Qty. 1**

## ADMINISTRATIVE INFORMATION

SERVICE NOTE CLASSIFICATION:		
<b>MODIFICATION RECOMMENDED</b>		
ACTION CATEGORY:	<input checked="" type="checkbox"/> IMMEDIATELY <input type="checkbox"/> ON SPECIFIED FAILURE <input type="checkbox"/> AGREEABLE TIME	STANDARDS: LABOR: 1.0 Hours
LOCATION CATEGORY:	<input type="checkbox"/> CUSTOMER INSTALLABLE <input type="checkbox"/> ON-SITE <input checked="" type="checkbox"/> SERVICE CENTER	SERVICE INVENTORY: <input checked="" type="checkbox"/> RETURN <input type="checkbox"/> SCRAP <input type="checkbox"/> SEE TEXT
AVAILABILITY:	PRODUCT'S SUPPORT LIFE	USED PARTS: <input checked="" type="checkbox"/> RETURN <input type="checkbox"/> SCRAP <input type="checkbox"/> SEE TEXT
AGILENT RESPONSIBLE UNTIL: December 2006		
AUTHOR: SR                      PRODUCT LINE: 15		
ADDITIONAL INFORMATION:		

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**Situation:**

The ESG-B AP/DP Family of Signal Generators has been experiencing failures in the Sampler board assemblies. This is due to a wash process problem at the supplier of this board where not all the flux was completely washed to Agilent specifications on boards that go through the SMT2 process. All ESG-B AP/DP units with the serial numbers mentioned above may experience short circuits or other related problems on the Sampler board assembly. If this occurs, the A23 Sampler Assembly (E4423-60020) needs to be replaced. This assembly should be ordered using part number E4423-69020 and should be treated as a warranty repair. The defective assembly should then be returned to the address below with documentation referencing this service note as "Flux Contamination":

Agilent Technologies (M) Sdn Bhd  
Bayan Lepas Free Industrial Zone  
11900 Penang  
Malaysia  
Atten: Factory Repair Coordinator

**Solution/Action:**

The resolution plan consists of the following:

1. Repair on failure.
2. Prevent future occurrences of short circuit problems or other problems related to the Sampler board due to a contaminated board (A23) by repairing the ESG-AP/DP in advance. When the ESG-AP/DP is returned for service or calibration, check the following:
  - a) ESG-AP/DP's serial number falls within the above range.
  - b) ESG's sampler board number is E4423-60020 that has either one of these date codes: 0332 or 0333. Example: E4423-60020-01-30332-00013 or E4423-60020-01-30333-00007. This code is within the barcode located on the shield of the assembly.

If (a) and (b) are true, replace the A23 Sampler assembly. Otherwise, no prevention is necessary.

Replace the contaminated Sampler assembly and perform the following performance tests:

- Internal FM Accuracy and Distortion
- FM Frequency Response
- Phase Modulation Accuracy and Distortion
- DCFM Frequency Offset Relative to CW
- Harmonic, Subharmonic and Nonharmonic Spurious Signals
- Power Level Accuracy
- Measuring Phase Noise and Residual FM
- Sampler/YO Driver Check

Ensure that the defective A23 Assembly is documented referencing this service note, re-assembled and returned.

**Removal:**

1. Remove Sampler board assembly A23 (refer to “Daughterboard Card Cage Boards” replacement procedure in the service guide).
2. Use the T-15 Torx screwdriver to remove the sixteen A23 cover screws. Remove the top and bottom covers.

**Replacement:**

1. Reassemble the top and bottom covers and torque screws to 9 in-lbs.
  - Make sure EMI gasket is properly fitted between covers.
  - Use care not to damage the circuit board.
3. 2. Replace the Sampler board assembly A23 (refer to “Daughterboard Card Cage Boards” replacement procedure in the service guide).

**Verification:**

1. Perform the performance test listed above using the Agilent ESG Service Software.