

MODIFICATION RECOMMENDED

**E4431B-02B**

**S E R V I C E**

**N O T E**

Supersedes:  
E4431B-02A

## ESG-B Signal Generator E4431B

Serial Numbers: [0000A00000 / 9999Z99999]

**Family Reference Board Module Replacement due to failure of 1 GHz VCO causing front panel display error 513 "Het band VCO Unlock" and frequency inaccuracy below 250 MHz.**

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

### Parts Required:

P/N	Description	Qty.
E4400-60010	Bd Ay-Reference, TCXO(New)	1
or		
E4400-60009	Bd Ay-Reference, OCXO(Option 1E5)(New)	1

## ADMINISTRATIVE INFORMATION

SERVICE NOTE CLASSIFICATION:			
<b>MODIFICATION RECOMMENDED</b>			
ACTION CATEGORY:	<input type="checkbox"/> IMMEDIATELY X ON SPECIFIED FAILURE : <input type="checkbox"/> AGREEABLE TIME	STANDARDS LABOR: 1.0 Hours	
LOCATION CATEGORY:	<input type="checkbox"/> CUSTOMER INSTALLABLE X ON-SITE <input type="checkbox"/> SERVICE CENTER	SERVICE <input type="checkbox"/> RETURN INVENTORY: X SCRAP <input type="checkbox"/> SEE TEXT	USED <input type="checkbox"/> RETURN PARTS: X SCRAP <input type="checkbox"/> SEE TEXT
AVAILABILITY:	PRODUCT'S SUPPORT LIFE		
NO CHARGE AVAILABLE UNTIL: SUPPORT LIFE			
AUTHOR: PY		PRODUCT LINE: 15	
ADDITIONAL INFORMATION:			

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**Agilent Technologies**

**Situation:**

The ESG E4431B instrument Het band VCO unlocks due to a non-linearity in the tuning characteristics of the surface acoustic wave oscillator used to generate the heterodyne band (below 250 MHz) in the ESG. This VCO is located on the Reference Board Assembly Module (A11). Instrument front panel error 513 results from this failure and frequency inaccuracy below 250 MHz. Information from the VCO vendor indicates an expected failure rate of 8% to 12% may be experienced over the specific ESG population.

**Solution/Action:**

The resolution plan is to repair on failure. Replace the reference board assembly and recalibrate the ESG A/D RF Signal Generator in accordance to the Post-Repair Procedures; located in the ESG Service Guide (P/N: E4400-90335). Ship failed units to Agilent Technologies service center as described in the routing guide. Otherwise, post-repair may be performed using the ESG Service Software along with the ESG A/D Calibration Guide (P/N: E4400-90325).