

MODIFICATION RECOMMENDED –  
CORRECTS MANUFACTURING OR DESIGN DEFECTS

**E7401A-06**

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

Supersedes:  
None

## E7401A 1.5 GHz EMC Analyzer

Serial Numbers US Manufactured: US39110101 / US41160525

**Firmware Update to Fix High Noise Floor on the Analyzer Screen.**

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

### Parts Required:

P/N	Description	Qty.
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<http://www.agilent.com/find/esa> (External website)

<http://mktwww.soco.agilent.com/field/service/signal/esa/firmware/> (Internal website)

\*Note: If the instrument has option B72, Expanded Memory the instrument can be upgraded to the latest and greatest firmware. Otherwise, A.07.05 is the highest revision allowed.

### Situation:

There is an integrated circuit (ASIC), which comprises the VCO on the 1.5 GHz RF assembly. This IC has a natural variation from batch to batch. The circumstance has been revealed that some batches of the VCO ‘slip clocking cycles’ when the VCO is set to its high extreme during the LO Alignment

## ADMINISTRATIVE INFORMATION

SERVICE NOTE CLASSIFICATION:			
<b>MODIFICATION RECOMMENDED</b>			
ACTION CATEGORY:	X IMMEDIATELY <input type="checkbox"/> ON SPECIFIED FAILURE <input type="checkbox"/> AGREEABLE TIME	STANDARDS:	LABOR: 0.1 Hours
LOCATION CATEGORY:	X CUSTOMER INSTALLABLE X ON-SITE X SERVICE CENTER	SERVICE INVENTORY:	<input type="checkbox"/> RETURN <input type="checkbox"/> SCRAP X SEE TEXT
AVAILABILITY:	PRODUCT'S SUPPORT LIFE	USED PARTS:	<input type="checkbox"/> RETURN <input type="checkbox"/> SCRAP X SEE TEXT
AUTHOR: bad	PRODUCT LINE: 12	AGILENT RESPONSIBLE UNTIL: End of GMS period	
ADDITIONAL INFORMATION:			

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and to its low extreme during a sweep. This can cause the auto alignment process to obtain and apply corrupt data, which can ultimately cause a high noise floor or an error message on the analyzer screen stating that the auto alignment process must be performed.

**Solution/Action:**

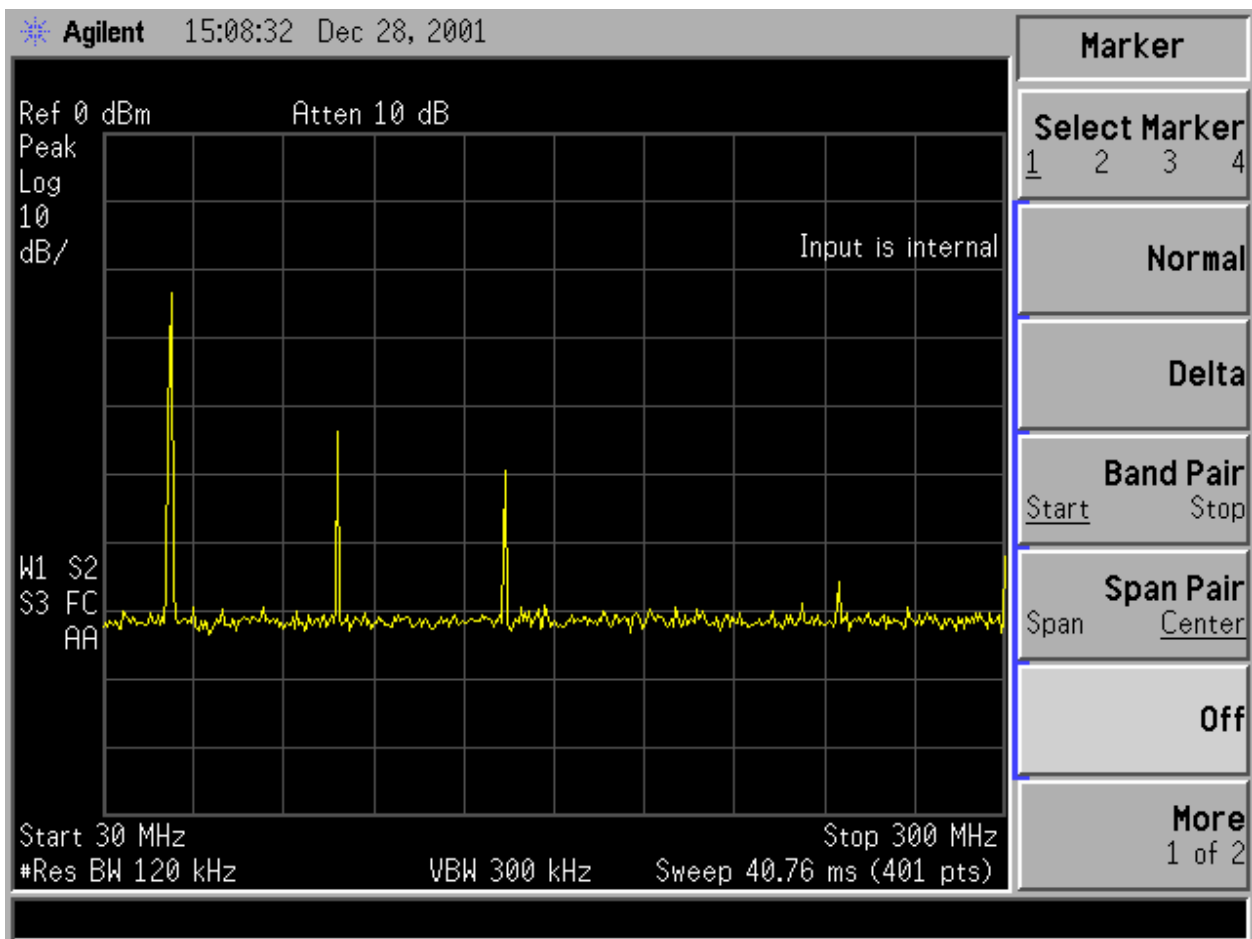
All 1.5 GHz ESA or EMC analyzer should be pre-screened using the screening test below. Not all instruments are going to fail this screen. The failure will manifest itself by one of two ways:

- 1) High noise floor displayed on the analyzer screen.
- 2) System, Alignments, Align Now, All Required message on the analyzer screen that does not go away even after performing the alignments process.

Perform the following screening test on the analyzer:

Press Preset, Frequency ->Start Freq 30 MHz, Stop Freq 300 MHz, BW/Avg. ->Resolution BW 120 kHz, Input ->Amptd. Ref ON.

You should see the Alignment signal (50 MHz) and harmonics on screen as shown below.



Press System, More 1 of 3, More 2 of 3, Service –2010 Enter, Service, Align, LO. If the instrument is affected, then either the Align signal & harmonics will disappear or they will move around quickly and erratically on screen. If this occurs, contact the customer and verify the latest shipping version of ESA firmware can be upgraded in their instrument. If the instrument has option B72, Expanded Memory the instrument can be upgraded to the latest and greatest firmware. Otherwise, A.07.05 is the highest revision allowed. If the customer cannot accept the new firmware, contact Agilent Customer Support At PGU, SA-SUPPORT or call us in the U.S. A. at (707) 577-6801.

