

MODIFICATION RECOMMENDED –
CORRECTS MANUFACTURING OR DESIGN DEFECTS

E4440A-02A

S E R V I C E N O T E

Supersedes:
E4440A-02

Agilent PSA Series Spectrum Analyzer

Serial Numbers: **US00000000 / US41421559**
MY00000000 / MY41000420

Firmware Upgrade to Correct for Amplitude Accuracy Problems at Band Break Points (Firmware Versions A.02.07 and Earlier)

To Be Performed By: Agilent-Qualified Personnel or Customer

Parts Required:

P/N	Description	Qty.
E4440AU-UE2	FIRMWARE KIT	1

*NOTE: This kit is only required if there is not access to the internet.
The firmware is available from: www.agilent.com/find/psa_firmware

ADMINISTRATIVE INFORMATION

SERVICE NOTE CLASSIFICATION:			
MODIFICATION RECOMMENDED			
ACTION CATEGORY:	X IMMEDIATELY <input type="checkbox"/> ON SPECIFIED FAILURE <input type="checkbox"/> AGREEABLE TIME	STANDARDS:	LABOR: 0.5 Hours
LOCATION CATEGORY:	X CUSTOMER INSTALLABLE X ON-SITE X SERVICE CENTER	SERVICE INVENTORY:	<input type="checkbox"/> RETURN <input type="checkbox"/> SCRAP <input type="checkbox"/> SEE TEXT
AVAILABILITY:	PRODUCT'S SUPPORT LIFE	USED PARTS:	<input type="checkbox"/> RETURN <input type="checkbox"/> SCRAP <input type="checkbox"/> SEE TEXT
AGILENT RESPONSIBLE UNTIL:	End of GMS		
AUTHOR: BNN	PRODUCT LINE: 12		
ADDITIONAL INFORMATION:			

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Situation:

It was discovered that amplitude accuracy issues occurred at band break points. The following is a detailed description of the issues:

Issue 1.

E4440A instruments with firmware revision A.01.09 and earlier

Amplitude inaccuracies may occur when using linear amplitude scale. Log scale is unaffected and measurements performed in all log settings meet specifications. The maximum error in linear scale occurs at the frequency transition between the PSAs low band to high band at 3 GHz.

Solution: Issue corrected in firmware version A.02.07.

Issue 2.

E4440A instruments with firmware revision A.01.09 and earlier

Amplitude inaccuracies may occur at the PSAs frequency band break points (3 GHz, 6.7 GHz, 13.2 GHz and 19.2 GHz) when sweeping any two bands simultaneously with the resolution bandwidth and sweep time in “auto coupled” mode (default settings).

Solution: Issue corrected in firmware version A.02.07.

Issue 3.

E4440A, E4443A and E4445A instruments with firmware revision A.02.04

Amplitude inaccuracies may occur when sweeping any two bands simultaneously. The PSA may display a loss of amplitude when the resolution bandwidth is narrowed. This is due to incorrect auto couple settings for sweep time in narrow resolution bandwidths. This problem can be seen at any frequency when two bands are swept simultaneously.

Solution: Issue corrected in firmware version A.02.07.

Issue 4.

E4440A, E4443A and E4445A instruments with firmware revision A.02.04 or earlier

Amplitude inaccuracies may occur when sweeping three to five frequency bands (The band break frequency points are 3, 6.7, 13.2 and 19.2 GHz) with the sweep time “auto coupled” when the sweep rate is faster than 100 MHz per millisecond. The 10 MHz to 26.5 GHz instrument preset span is an example of an instrument setting where more than three frequency bands are swept. This error WILL NOT occur if the instrument sweep rate remains below 100 MHz per millisecond. The sweep rate is equal to the span divided by the sweep time.

Solution: This issue is resolved in firmware version A.03.03 (Any release).

Issue 5.

Switching quickly between modes or measurements in power suite or a measurement personality while the auto alignments are running can cause the instrument to hang-up and display the following message:

```
/users/e4440a/.xintrc: 65 memory fault
```

```
Hostname is pkbe4440a
```

```
Firmware exited, cycle power
```

This can occur in firmware version A.02.04 or A.02.05.

Solution: To prevent this from occurring, either turn Auto Align to Alert by pressing the following keys:

System, Alignments, Autoalign, Underline Alert

This issue is resolved in firmware version A.03.03 (Any release).

Solution/Action:

Upgrade the instrument firmware if the current version of firmware is less than A.03.03 to the current version of firmware. Do not upgrade instrument firmware if the version of firmware is equal to or greater than version A.03.03.

To verify the current version of firmware, press the SYSTEM key followed by the SHOW SYSTEM softkey. The firmware version and release is displayed as one of the items.

The current shipping firmware is available from www.agilent.com/find/psa_firmware
Instructions for performing the upgrade are available from this site as well.