S E R V I C E N O T E

SUPERSEDES: E5515B-04

E5515B Wireless Communications Test Set

Serial Numbers: US39460000/US40359999
GB40100000/GB40359999

Inaccurate RF Source Output Level Requires Replacement of RF Interface

To Be Performed By: Agilent Technologies-Qualified Personnel

Parts Required: E5515-61804 RF Interface Repair Kit

Situation:

The Test Set's RF Interface requires replacement to resolve inaccurate RF source output levels. Failure of incorrectly biased GaAs FET switches in the RF source output path will decrease the output level from 2 dB to greater than 10 dB.

Continued

DATE: May 2001

ADMINISTRATIVE INFORMATION

SERVICE NOTE CLASSIFICATION:

MODIFICATION RECOMMENDED

ACTION CATEGORY:	☐ IMMEDIATELY ■ ON SPECIFIED FAILURE ☐ AGREEABLE TIME	STANDARDS: LABOR 1.5 Hours		
LOCATION CATEGORY:	☐ CUSTOMER INSTALLABLE ☐ ON-SITE ■ SERVICE CENTER	SERVICE INVENTORY:	■ RETURN ☐ SCRAP ☐ SEE TEXT	USED PARTS: ■ RETURN ☐ SCRAP ☐ SEE TEXT
AVAILABILITY: PRODUCT'S SUPPORT LIFE		AGILENT RESPONSIBLE UNTIL: May 2004		
AUTHOR: EK	ENTITY: PL13	ADDITIONAL INFORMATION:		

Agilent Technologies

This problem has only been noted on Test Sets with the original RF Interface, P/Ns E5515-61170 (all module serial numbers) and E5515-61212 (module serial numbers 200044xxxxx and below). Use one of the following two methods to determine which RF Interface is currently installed in the Test Set:

1) Remove the external and bottom internal covers and physically identify the module part number and serial number of the RF Interface (located underneath the display). The label on the module looks like this:

```
E5515-61xxx-xxxx-xx-200xxx-xxxxx
^^^^p/n^^^^          ^^^^s/n^^^^^
```

2) Send the following GPIB commands to the Test Set:

```
OUTPUT 714; "PL13:LATCH:RFINT:EEPROM:PART_NUMBER?"
ENTER 714; PART_NUMBER$
DISP PART_NUMBER$
```

Note: This command will return a 10-digit value (E551561xxx).

```
OUTPUT 714; "PL13:LATCH:RFINT:EEPROM:SERIAL_NUM?"
ENTER 714; SERIAL_NUM$
DISP SERIAL_NUM$
```

Note: This command will return an 11-digit value (200xxxxxxxx).

Solution / Action:

Replace the original RF Interface (module part numbers and serial numbers noted above). Use the following procedure to verify that the replacement RF Interface meets specifications (±1.0 dB). Upgrade of Test Application(s) may be required. Refer to the E1980U Media Kit and instructions which are included with the repair kit. Use proper anti-static protection to remove and replace this module.

RF Source Output Level Accuracy Verification Procedure:

Required Test Equipment:

Instrument	Critical Specifications	Recommended Models
Power Meter	±0.02 dB Instrument Accuracy	Agilent EPM Series Agilent 438A
Power Sensor	>+14 dBm maximum input ±4% linearity	Agilent E-Series Agilent 8482A

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Procedure:

1) If necessary, enter the power sensor calibration factors into the power meter.

2) Zero and calibrate the power meter and power sensor.

3) On the Test Set, using one of the following Test Applications [TA]:

   a) Press System Config key, set RF IN/OUT Amplitude Offset State to Off (F2, F5, Value=Off).

   b) Perform a full preset (SHIFT, Preset)

   c) [GSM]: Under Call Control set Operating Mode to Test and Test Function to CW.
   [AMPS/136]: Under Call Control set Operating Mode to CW.

   d) [GSM]: Under Call Parms set RF Gen Power to -15 dBm, Cell Band to PGSM, and RF Gen Channel to 20.
   [AMPS/136]: Under Control Parms set Cell Power to -15 dBm, RF Gen Freq to 939 MHz.

4) Connect the power sensor to the Test Set's RF IN/OUT connector.

5) The power meter should read between -16 and -14 dBm.