

DENSO INTERNATIONAL AMERICA, INC.  
5770 Armada Avenue  
Carlsbad, CA 92008-4608  
760 929 3300

**This Report Concerns:** ☐ Original Grant: X ☐ Class II Change:

**Equipment Type:** ☐ Eagle-10 PCS CDMA Handset, Model E-100

**Deferred grant requested per 47 CFR 0.457(d)(1)(ii)?** ☐ Yes: ☐ No: X  
☐ Defer until:

**Company Name** agrees to notify the Commission by: ☐ N/A  
**of the intended date of announcement of the product so that the grant can be issued on that date.**

**Transition Rules Request per 15.37?** ☐ Yes: ☐ \*No:

(\*) FCC Part 2, Paragraphs 2.985, 2.987, 2.989, 2.991, 2.993, and 2.995; and Part 24, Paragraph 24.238

**Report Prepared by:**

**TÜV PRODUCT SERVICE**  
**10040 Mesa Rim Road**  
**San Diego, CA 92121-2912**  
**Phone: 619 546 3999**  
**Fax: 619 546 0364**

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## **1 GENERAL INFORMATION**

### **1.1 Product Description**

**Eagle-10 PCS CDMA Handset, Model E-100**

**1 GENERAL INFORMATION (continued)**

**1.2 Related Submittal/Grant**

None

**1.3 Tested System Details**

The FCC IDs for all equipment, plus descriptions of all cables used in the tested system are:

None

**1.4 Test Methodology**

Purpose of Test: To demonstrate compliance with the ANSI C63.4 setup.

Test Performed:

- x 1. Conducted Emissions, FCC Part 2, Paragraphs 2.985, 2.989, 2.991 & Part 24, Paragraph 24.238
- 2. Radiated Emissions, EN55022: 1992 Class B limit, 30 - 1,000 MHz, 10 meters
- x 3. Radiated Emission per FCC Part 2, Paragraph 2.993, 1 - 20 GHz
- 4. Engineering evaluations
- x 5. Frequency Stability, Part 2, Paragraph 2.995

**1.5 Test Facility**

The open area test site and conducted measurement data were tested by:

TÜV PRODUCT SERVICE  
10040 Mesa Rim Road  
San Diego, CA 92121-2912  
Phone: 619 546 3999  
Fax: 619 546 0364

The Test Site Data and performance comply with ANSI 63.4 and are registered with the FCC, 7435 Oakland Mills Rd, Columbia Maryland 21046. All Measurement Data is acquired according to the content of FCC Measurement Procedure and ANSI C63.4, unless supplemented with additional requirements as noted in the test report.

### **3. SYSTEM TEST CONFIGURATION**

#### **3.1 Justification**

The Eagle-10 PCS CDMA Handset, Model E-100 was initially tested for FCC emission in the following configuration:

See Block Diagram, paragraph 4.1 and 4.1a.

#### **3.2 EUT Exercise Software**

None

3.3 Special Accessories

None

3.4 Modification

None

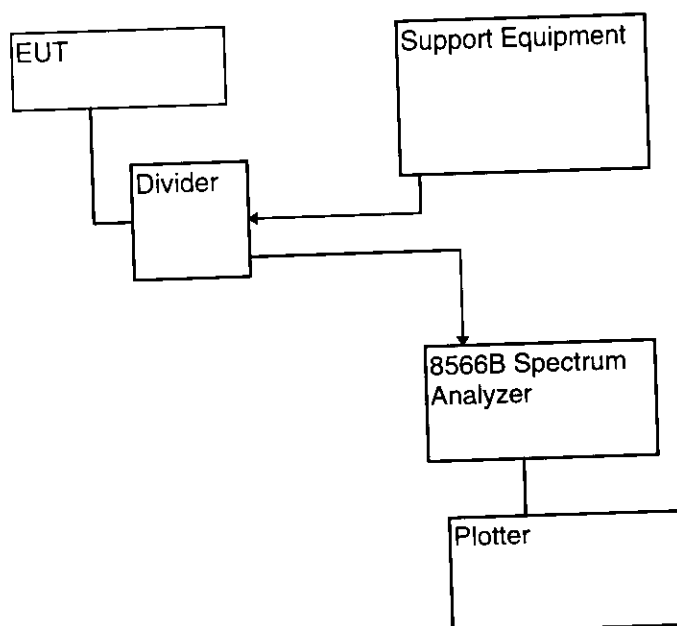
### 3.5 Configuration of Tested System

See Block Diagram, paragraph 4.1 and 4.1a.

**Figure 3.1      Configuration of Tested System**

See Block Diagram, paragraph 4.1 and 4.1a.

## 5 CONDUCTED MEASUREMENT TEST SETUP



# **Emissions Test Conditions: CONDUCTED EMISSIONS (Interference Voltage)**

The **CONDUCTED EMISSIONS (INTERFERENCE VOLTAGE)** measurements were performed at the following test location:

☐ - Test not applicable

- ☐ - SR-2, Shielded Room, 12' x 24' x 10', Metal Chamber
- ☒ - SR-3, Shielded Room, 12' x 20' x 8', Metal Chamber
- ☐ - SR-4, Shielded Room, 10' x 17' x 8', Copper Screen Chamber
- ☐ - SR-5, Shielded Room, 16' x 28' x 15', Metal, Semi-Anechoic Chamber
- ☐ - CSR-1, Shielded Room, 10' x 7' x 7', Metal Chamber

## **Test Equipment Used :**

| Model No.                                                                                                                                                                                 | Prop. No.          | Description                                                                  | Manufacturer                        | Serial No.<br>(multiple) |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|------------------------------------------------------------------------------|-------------------------------------|--------------------------|
| <input type="checkbox"/> - NM-7A, NM-17/27, NM-37/57, NM-67, CCA-7, & H/P 9836 HP-1B Computer                                                                                             | 156, 162-166       | Automated RFI Measurement System (ARMS), NO. 1                               | Eaton/Ailtech                       | (multiple)               |
| <input type="checkbox"/> - NM-17/27, NM-37/57, CA-7, and H/P 9826 Computer                                                                                                                | 168, 170, 177, 178 | Automated RFI Measurement System (ARMS), NO. 2                               | Eaton/Ailtech                       | (multiple)               |
| <input type="checkbox"/> - H/P Spectrum Analyzer, Model 8568B; Display Section RF Analyzer Section; H/P 85650A, Quasi-Peak Adapter H/P Computer System, Model 310 with HP 85869A Software | 187, 188           | Automated RFI Measurement System (ARMS)                                      | Various                             | (multiple)               |
| <input type="checkbox"/> - LISN-3, 50 A                                                                                                                                                   | 262-263            | Power Mains Network (LISN), 50 $\mu$ H/250 $\mu$ H/50 $\Omega$ /0.25 $\mu$ F | Fischer Custom Communications, Inc. | 3-4                      |
| <input type="checkbox"/> - LISN-3, 50 A                                                                                                                                                   | 264, 265           | Power Mains Network (LISN), 50 $\mu$ H/250 $\mu$ H/50 $\Omega$ /0.25 $\mu$ F | Fischer Custom Communications, Inc. | 5-6                      |
| <input checked="" type="checkbox"/> - 8566B                                                                                                                                               | Hewlett Packard    | Spectrum Analyzer                                                            | 2311A02209                          | 407                      |
| <input checked="" type="checkbox"/> - 85662B                                                                                                                                              | Hewlett Packard    | Spectrum Analyzer Display                                                    | 2309A04682                          | 406                      |
| <input type="checkbox"/> - FCC-LISN-50-25-2                                                                                                                                               | 553                | Power Mains Network (LISN), 50 $\mu$ H/250 $\mu$ H/50 $\Omega$ /0.25 $\mu$ F | Fischer Custom Communications, Inc. | 112                      |
| <input type="checkbox"/> - FCC-LISN-50-25-2                                                                                                                                               | 552                | Power Mains Network (LISN), 50 $\mu$ H/250 $\mu$ H/50 $\Omega$ /0.25 $\mu$ F | Fischer Custom Communications, Inc. | 113                      |
| <input type="checkbox"/> - 8012-50-R-12-BNC                                                                                                                                               | 266                | LISN, 50 $\mu$ H/50 $\Omega$ /0.1 $\mu$ F                                    | Solar Electronics Co.               | --                       |
| <input type="checkbox"/> - 9252-50-R-24-BNC                                                                                                                                               | 458                | LISN, 50 $\mu$ H /250 $\mu$ H/50 $\Omega$ /0.25 $\mu$ F                      | Solar Electronics Co.               | 941719                   |
| <input type="checkbox"/> - 9252-50-R-24-BNC                                                                                                                                               | 457                | LISN, 50 $\mu$ H /250 $\mu$ H/50 $\Omega$ /0.25 $\mu$ F                      | Solar Electronics Co.               | 941720                   |
| <input type="checkbox"/> - MDS-21                                                                                                                                                         | 277                | Absorbing Clamp                                                              | Rohde & Schwarz                     | 821023                   |
| <input type="checkbox"/> - ESHS 20                                                                                                                                                        | 428                | EMI Test Receiver                                                            | Rohde & Schwarz                     | 837055/001               |
| <input type="checkbox"/> - ESHS 30                                                                                                                                                        | 459                | EMI Test Receiver                                                            | Rohde & Schwarz                     | 832354/004               |
| <input type="checkbox"/> - CAT-20                                                                                                                                                         | 598                | 20 dB Attenuator                                                             | Mini-Circuits                       | --                       |
| <input type="checkbox"/> - CAT-20                                                                                                                                                         | 615                | 20 dB Attenuator                                                             | Mini-Circuits                       | --                       |

Remarks: \_\_\_\_\_

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Rev.No 1.0

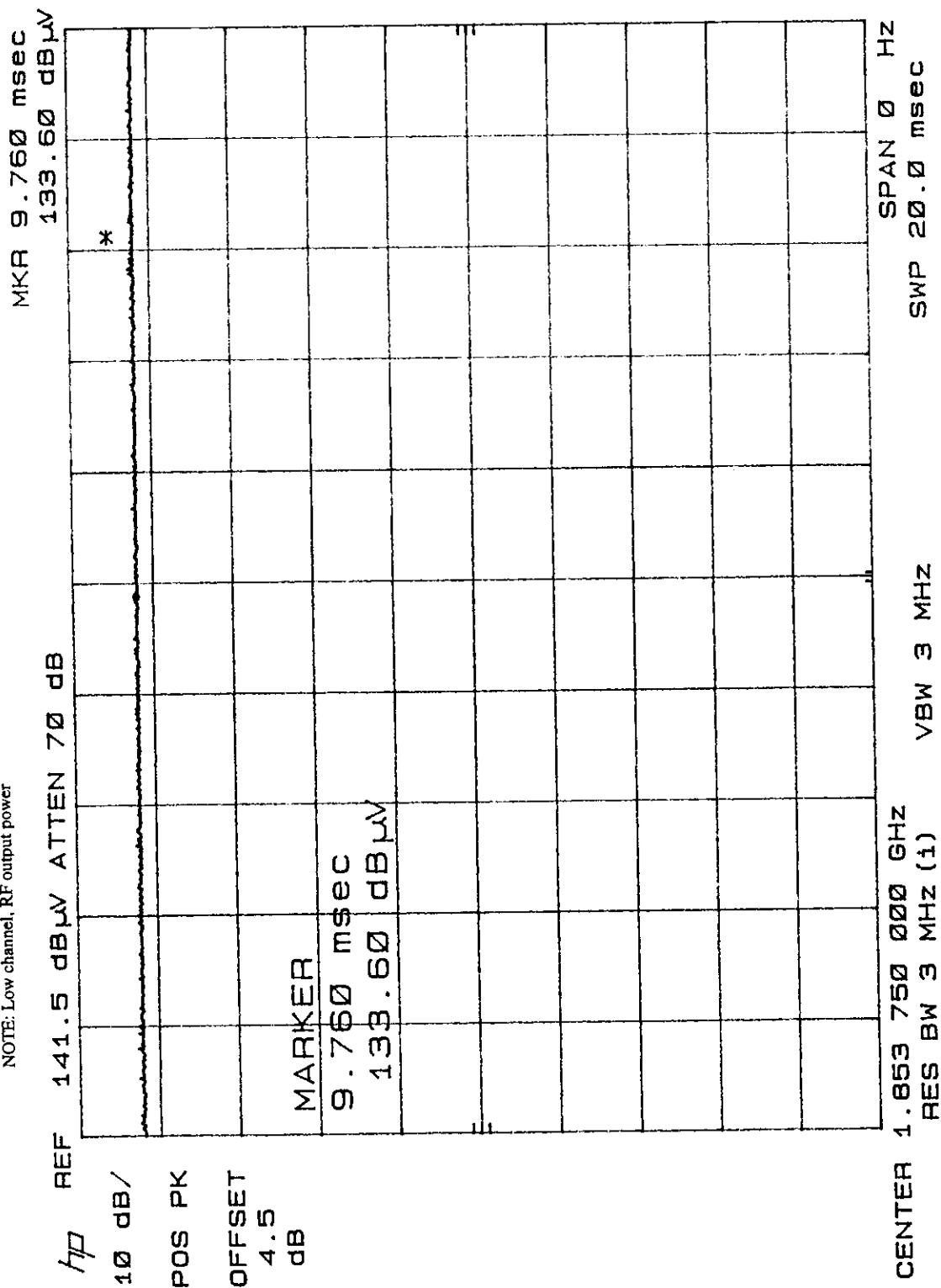
**6 CONDUCTED EMISSION DATA**

**DENSO INTERNATIONAL AMERICA**  
Eagle-10 PCS CDMA Handset, Model E-100

See following page(s).

DATE: 03/26/98  
SPECIFICATION: FCC Part 2, Paragraph 2.985

CUSTOMER: DENSO INTERNATIONAL AMERICA  
EUT: Eagle-10 PCS CDMA Handset, Model E-100  
NOTE: Low channel, RF output power

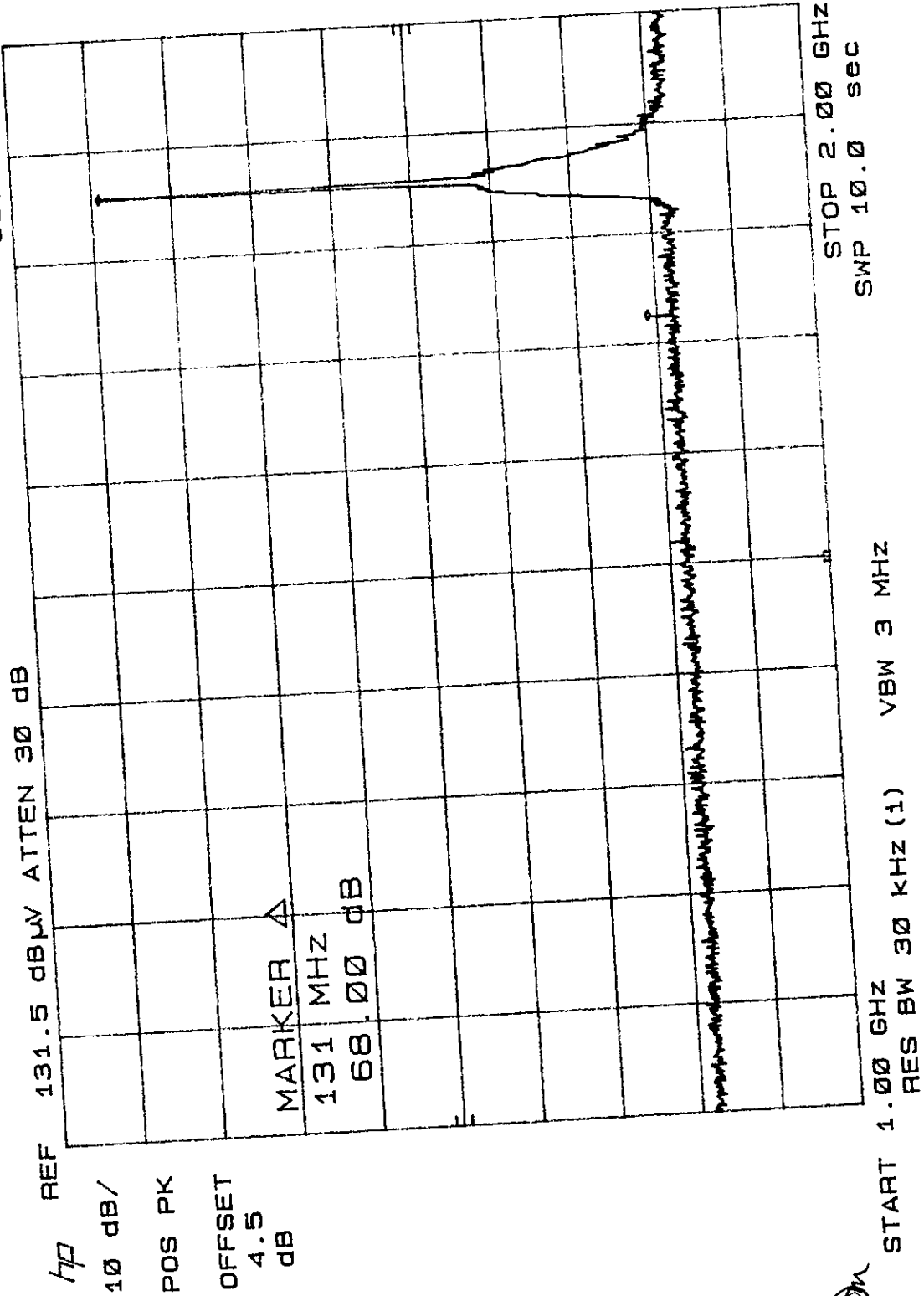


*Q*

DATE: 03/26/98  
SPECIFICATION: FCC Part 2, Paragraph 2.991

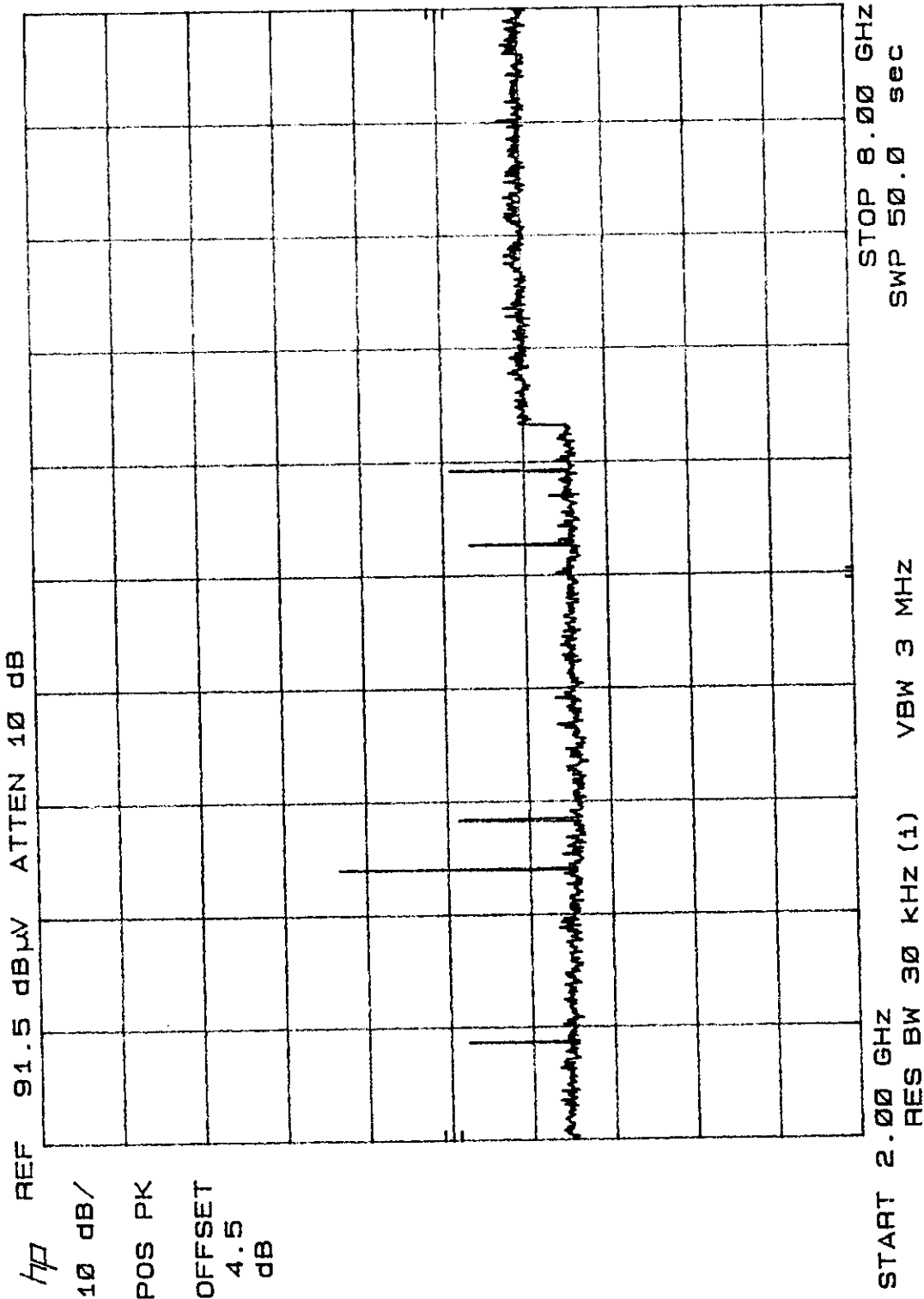
CUSTOMER: DENSO INTERNATIONAL AMERICA  
EUT: Eagle-10 PCS CDMA Handset, Model E-100  
NOTE: Low channel, spurious emission at antenna terminals.

MARKER  $\Delta$  131 MHz  
68.00 dB



DATE: 03/26/98  
SPECIFICATION: FCC Part 2, Paragraph 2.991

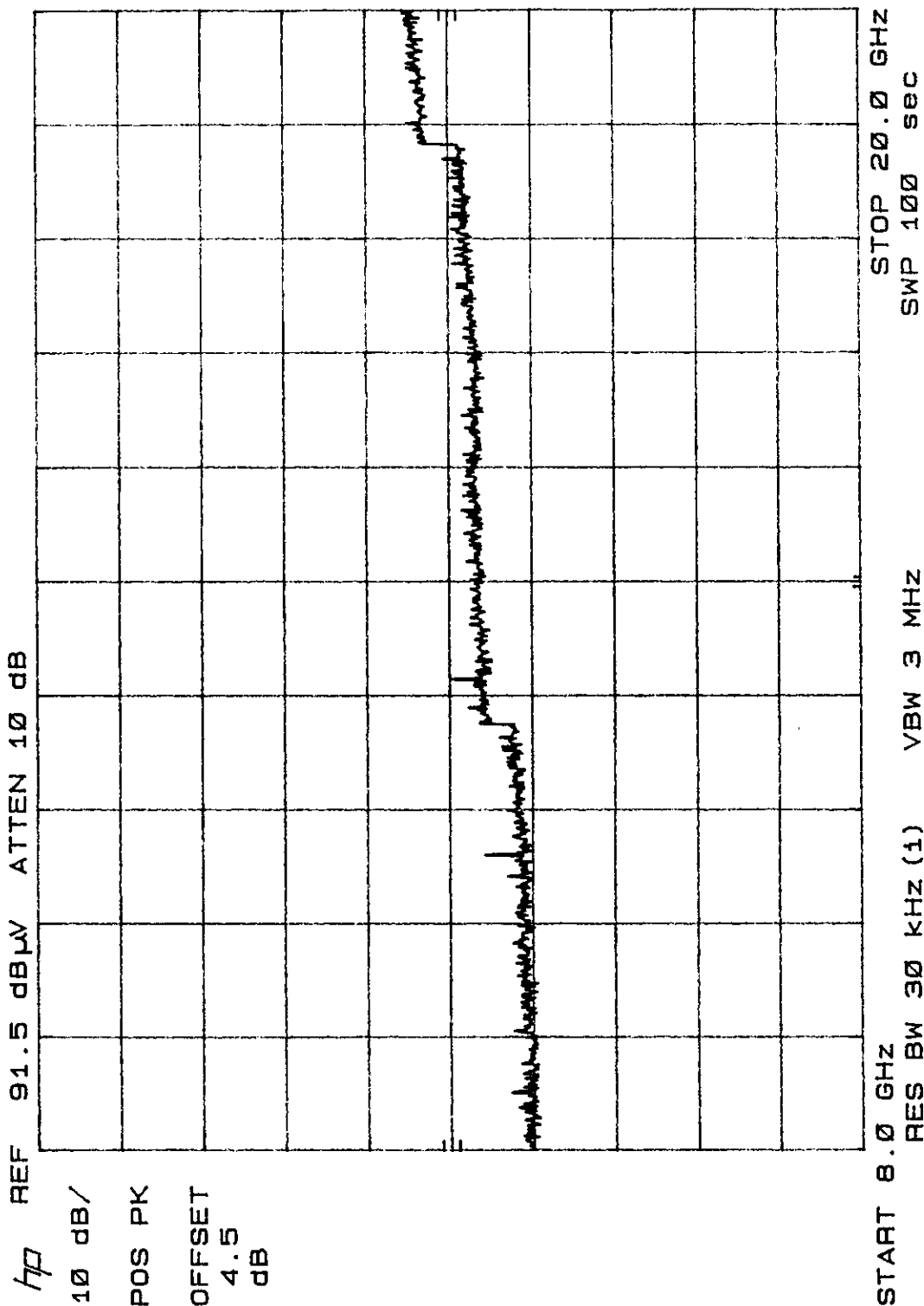
CUSTOMER: DENSO INTERNATIONAL AMERICA  
EUT: Eagle-10 PCS CDMA Handset, Model E-100  
NOTE: Low channel, spurious emission at antenna terminals



*On*

CUSTOMER: DENSO INTERNATIONAL AMERICA  
EUT: Eagle-10 PCS CDMA Handset, Model E-100  
DATE: 03/26/98  
SPECIFICATION: FCC Part 2, Paragraph 2.991

NOTE: Low channel, spurious emission at antenna terminals



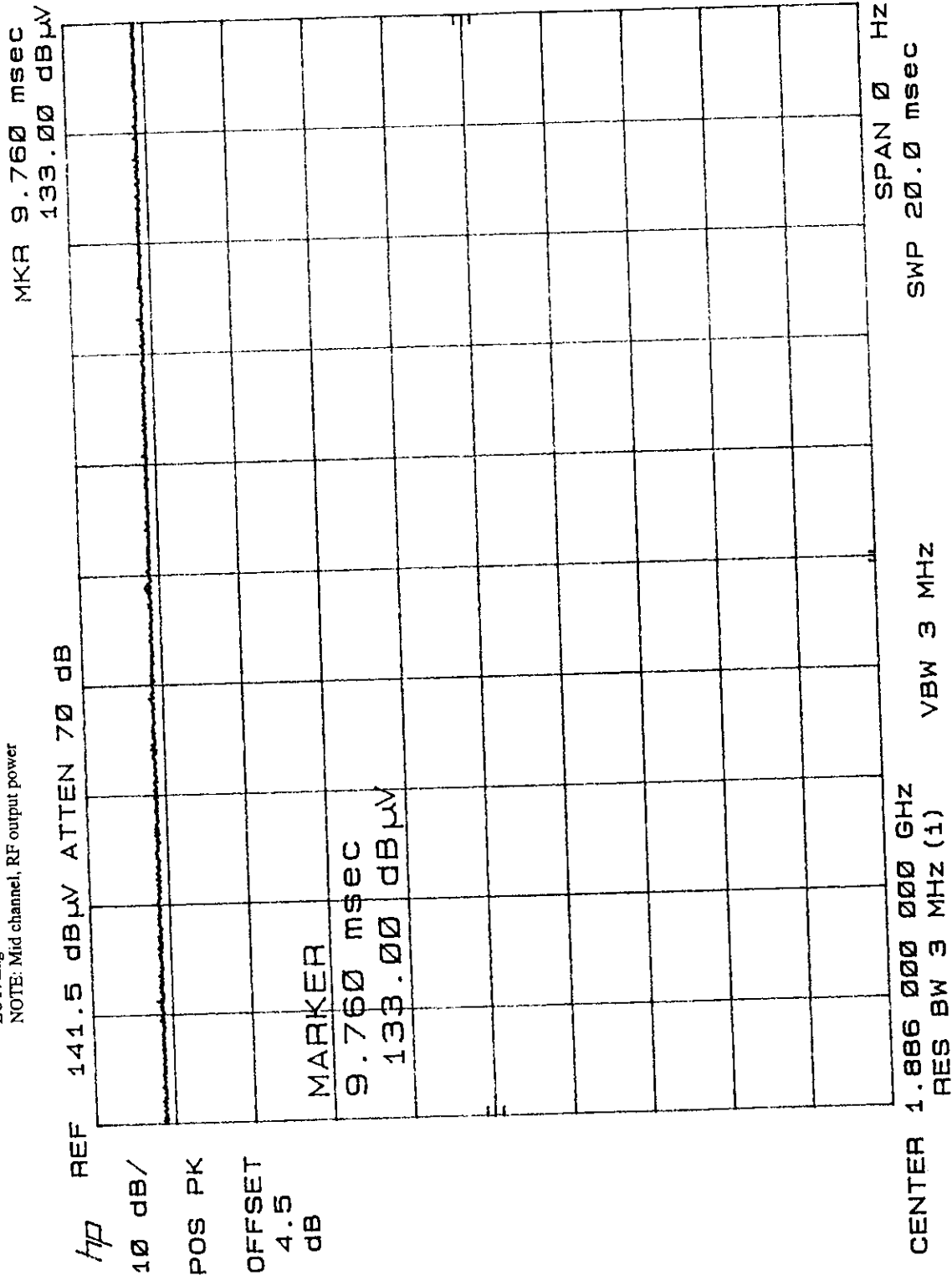
Page TD49 of TD76

Rev.No 1.0



DATE: 03/26/98  
SPECIFICATION: FCC Part 2, Paragraph 2.985

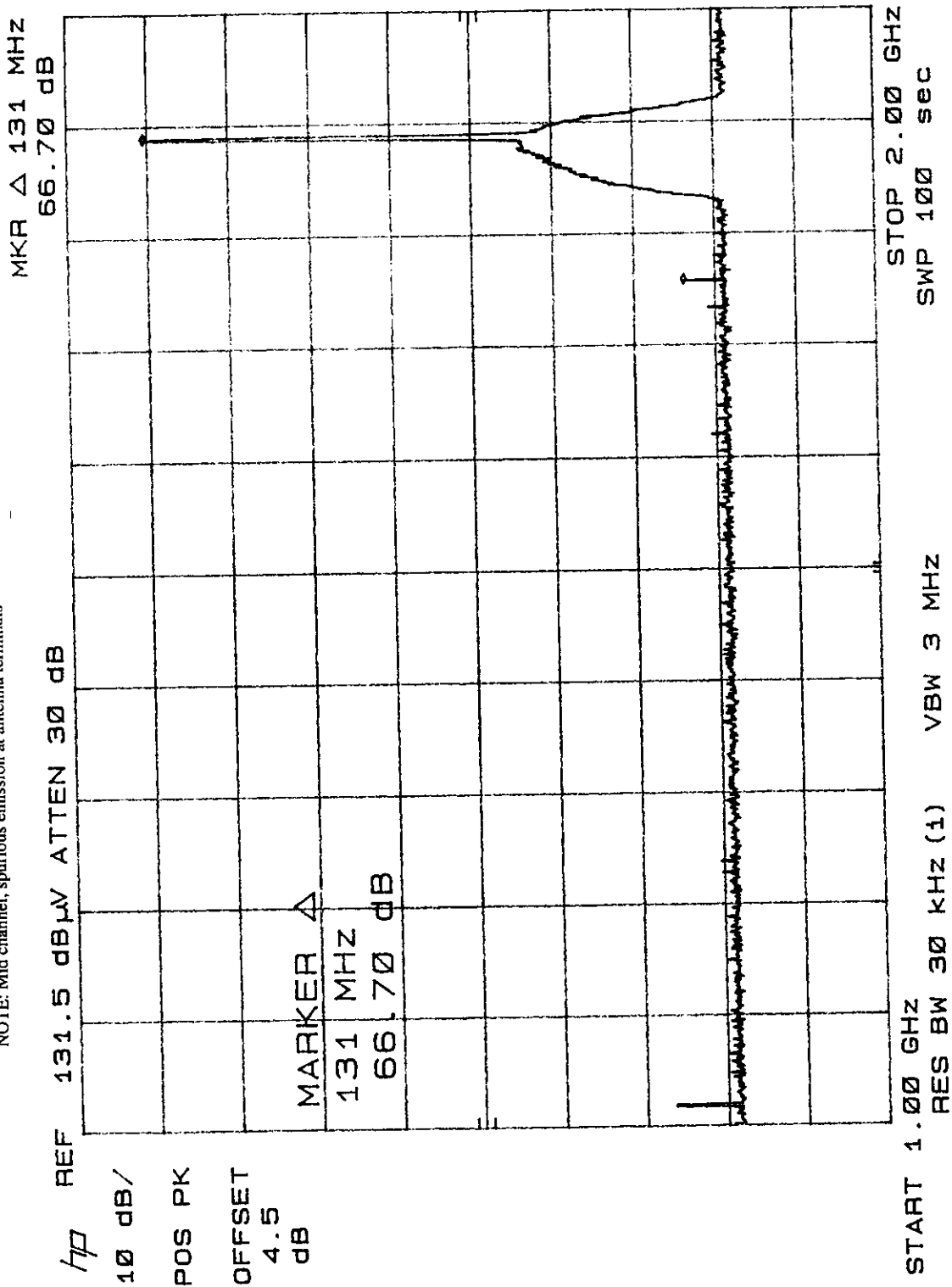
CUSTOMER: DENSO INTERNATIONAL AMERICA  
EUT: Eagle-10 PCS CDMA Handset, Model E-100  
NOTE: Mid channel, RF output power



Page TD50 of TD76  
Rev.No 1.0

DATE: 03/26/98  
SPECIFICATION: FCC Part 2, Paragraph 2.991

CUSTOMER: DENSO INTERNATIONAL AMERICA  
EUT: Eagle-10 PCS CDMA Handset, Model E-100  
NOTE: Mid channel, spurious emission at antenna terminals

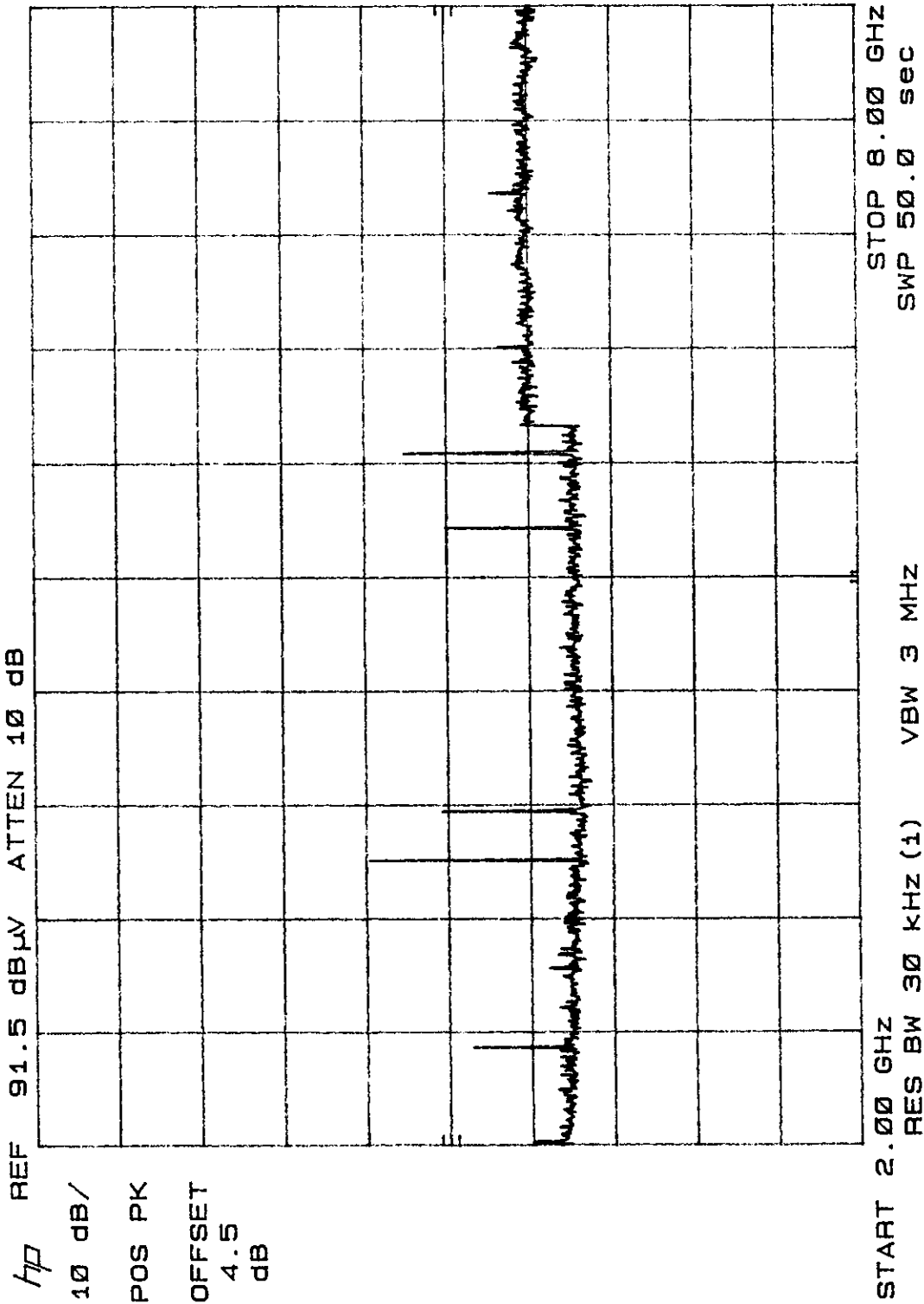


*Dr*

CUSTOMER: DENSO INTERNATIONAL AMERICA  
EUT: Eagle-10 PCS CDMA Handset, Model E-100  
NOTE: Mid channel, spurious emission at antenna terminals

DATE: 03/26/98

SPECIFICATION: FCC Part 2, Paragraph 2.991

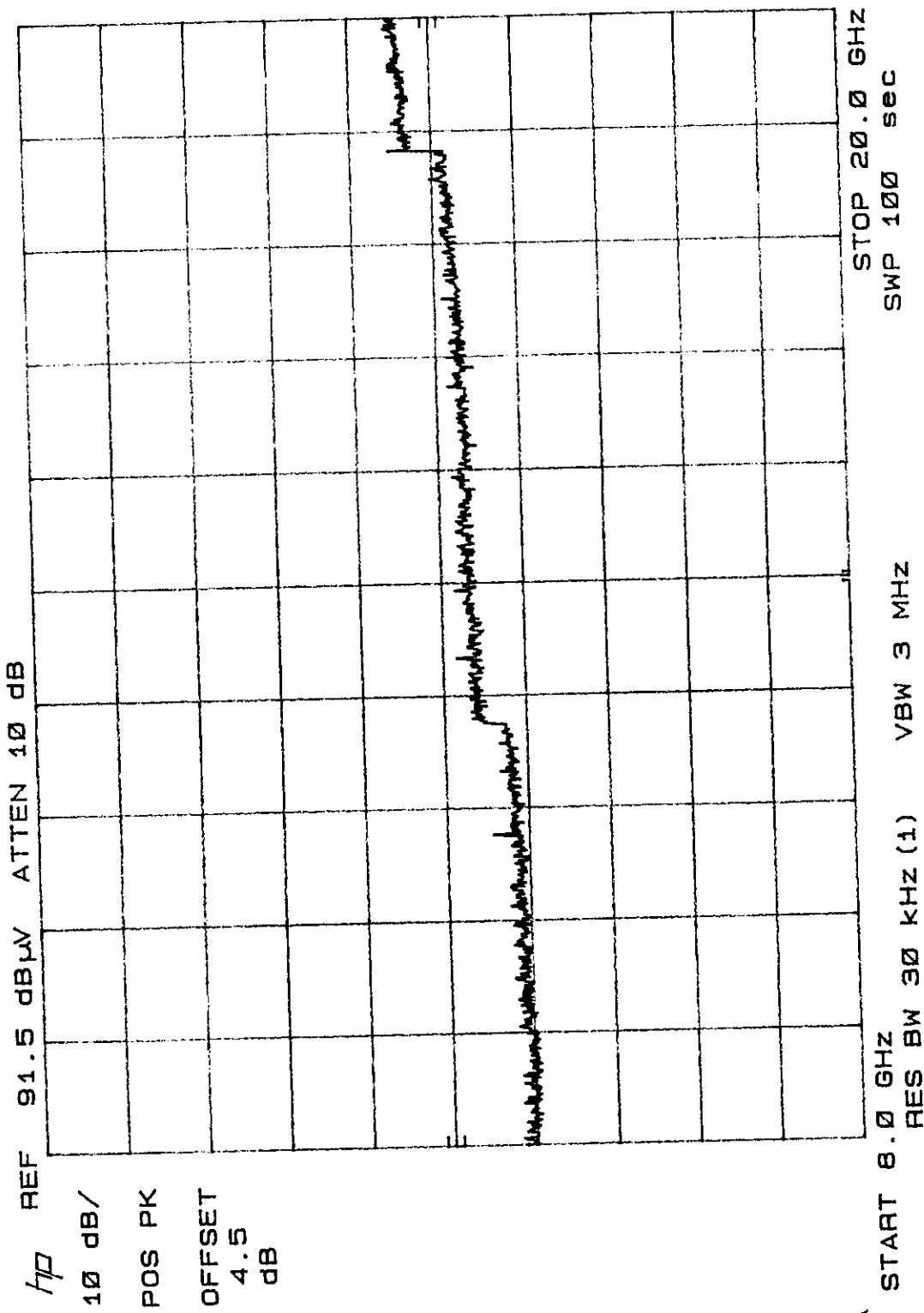


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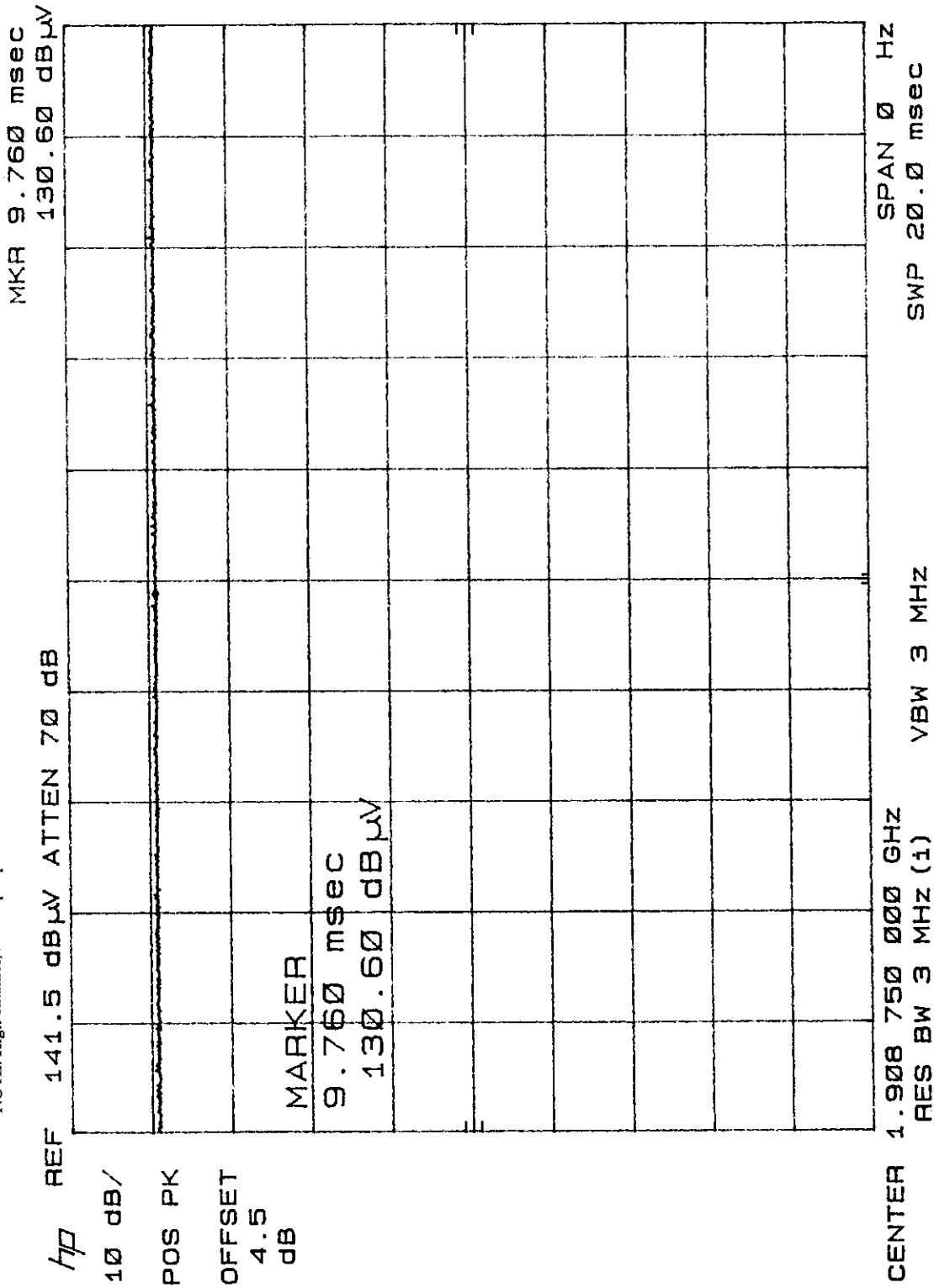
CUSTOMER: DENSO INTERNATIONAL AMERICA  
EUT: Eagle-10 PCS CDMA Handset, Model E-100  
NOTE: Mid channel, spurious emission at antenna terminals

DATE: 03/26/98  
SPECIFICATION: FCC Part 2, Paragraph 2.991



DATE: 03/26/98  
SPECIFICATION: FCC Part 2, Paragraph 2.985

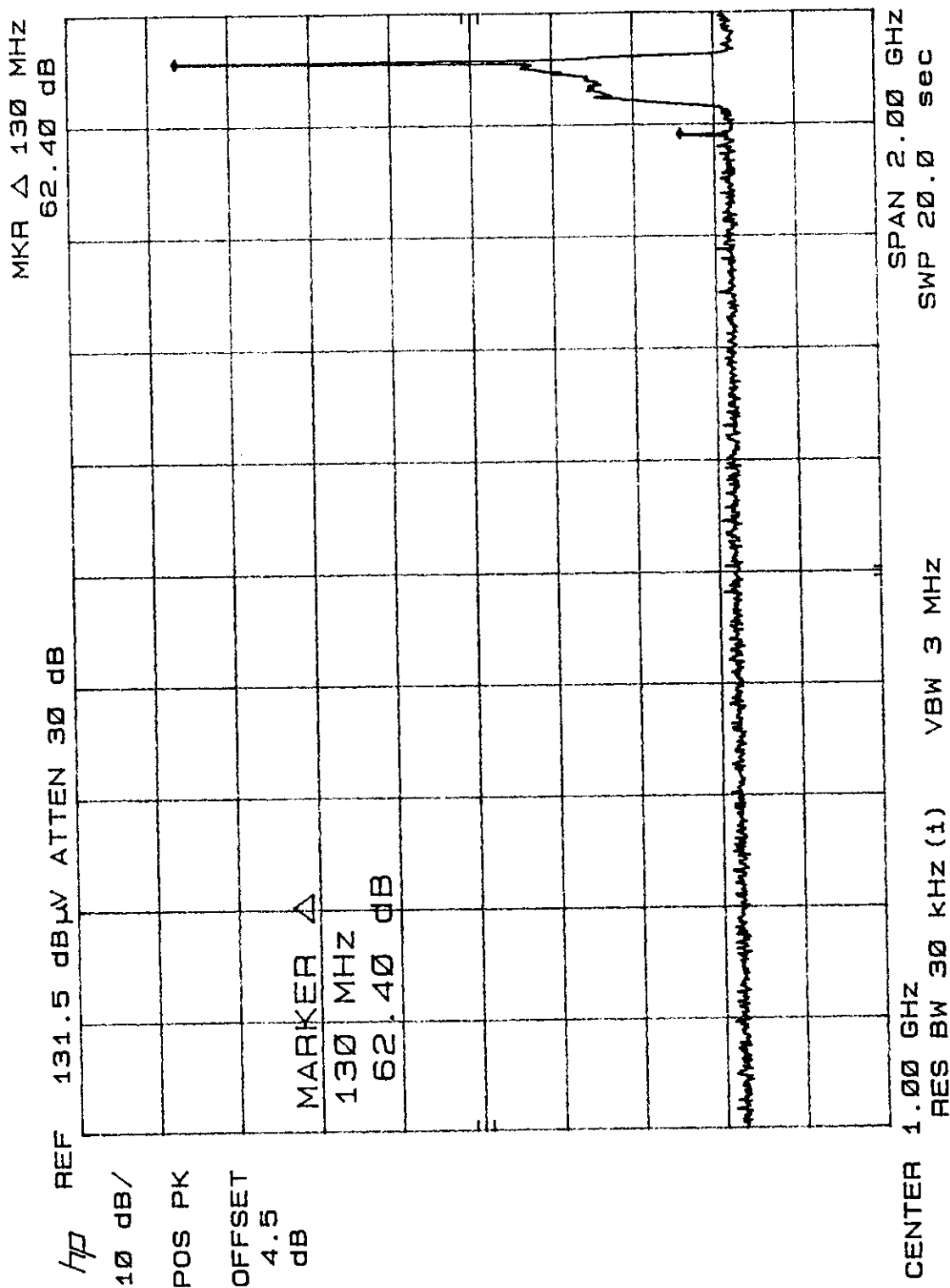
CUSTOMER: DENSO INTERNATIONAL AMERICA  
BUT: Eagle-10 PCS CDMA Handset, Model E-100  
NOTE: High channel, RF output power



*Om*

DATE: 03/26/98  
SPECIFICATION: FCC Part 2, Paragraph 2.991

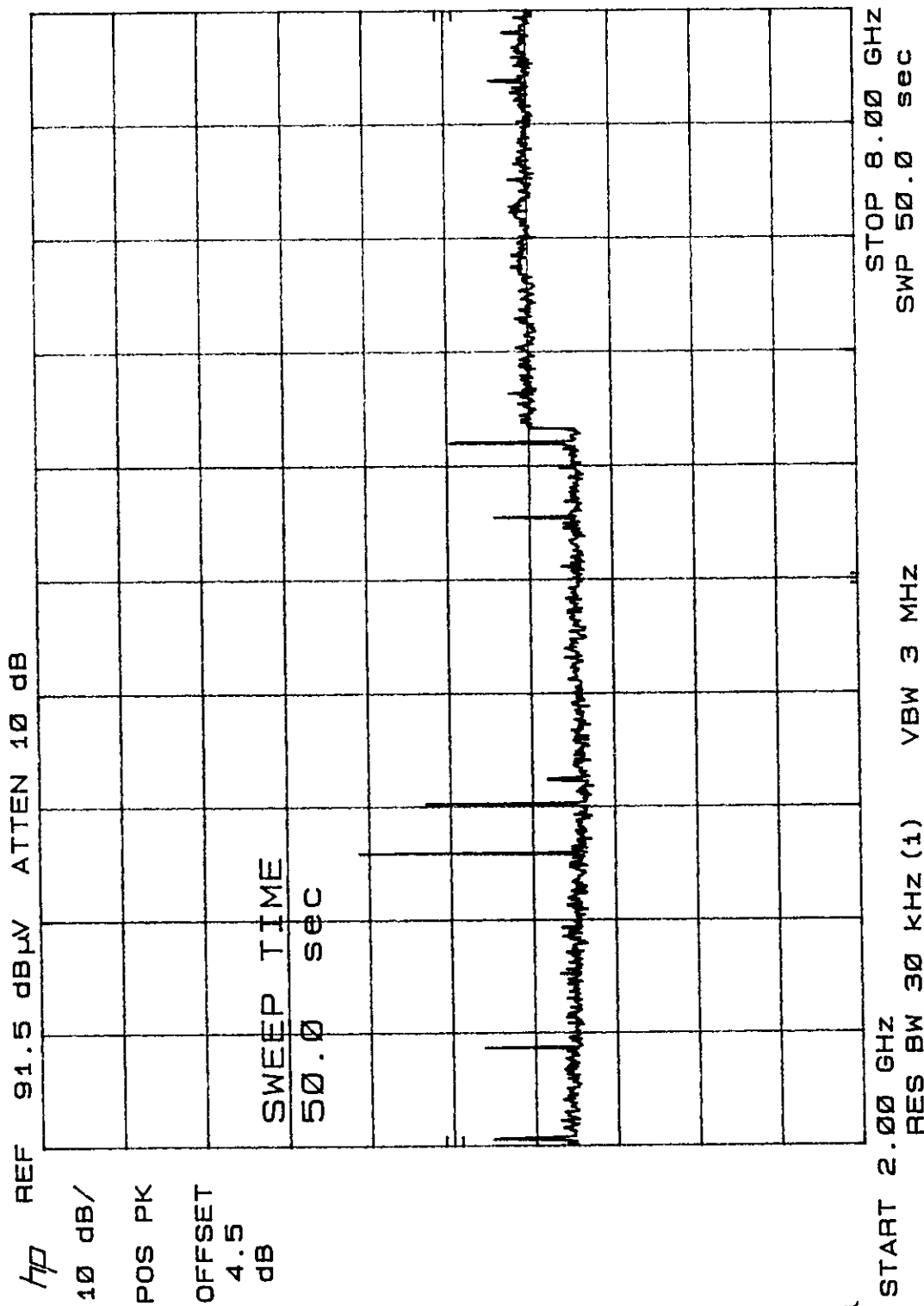
CUSTOMER: DENSO INTERNATIONAL AMERICA  
EUT: Eagle-10 PCS CDMA Handset, Model E-100  
NOTE: High channel, spurious emission at antenna terminals



*An*

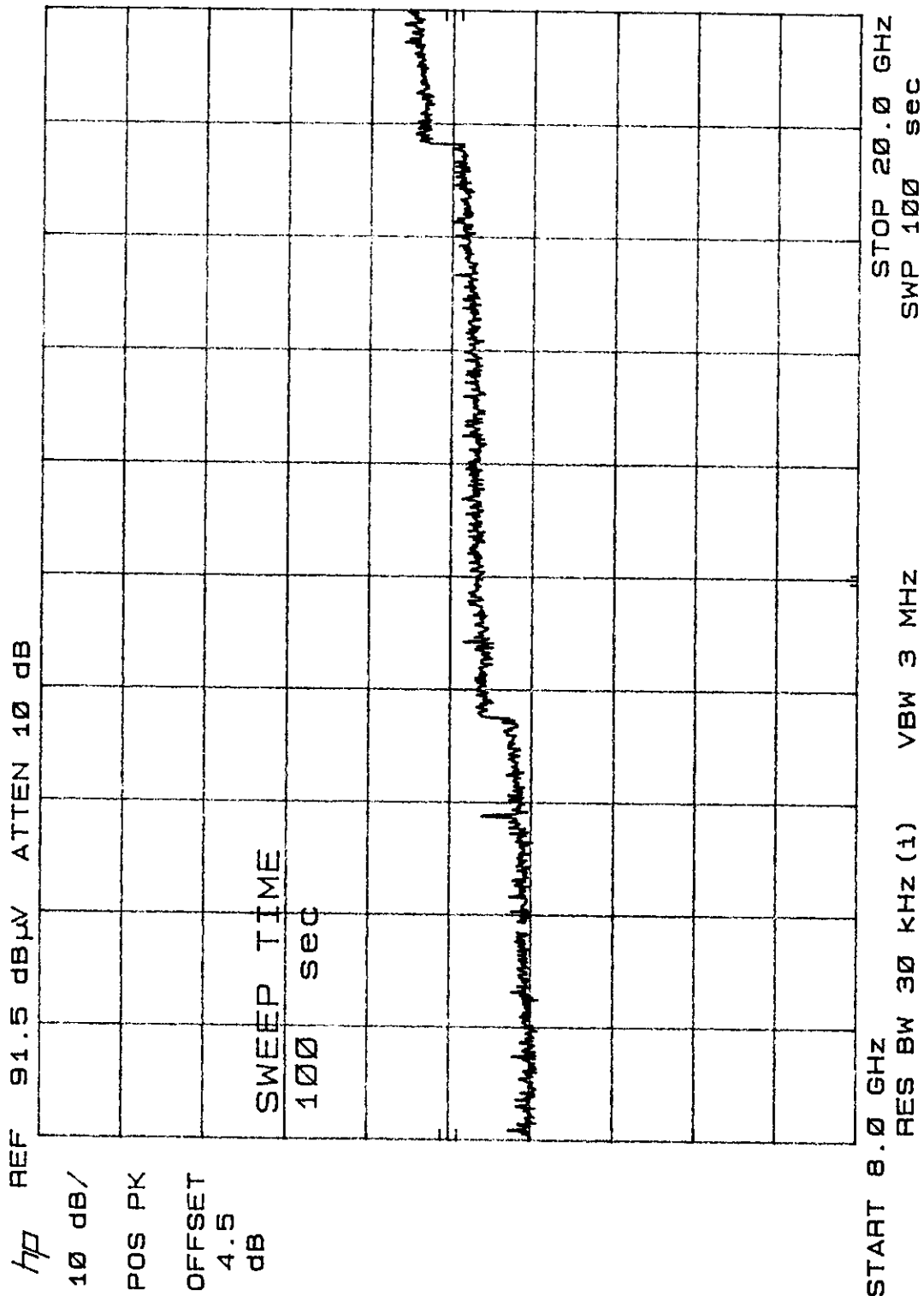
DATE: 03/26/98  
SPECIFICATION: FCC Part 2, Paragraph 2.991

CUSTOMER: DENSO INTERNATIONAL AMERICA  
EUT: Eagle-10 PCS CDMA Handset, Model E-100  
NOTE: High channel, spurious emission at antenna terminals



DATE: 03/26/98  
SPECIFICATION: FCC Part 2, Paragraph 2.991

CUSTOMER: DENSO INTERNATIONAL AMERICA  
EUT: Eagle-10 PCS CDMA Handset, Model E-100  
NOTE: High channel, spurious emission at antenna terminals



## **8 RADIATED EMISSION DATA**

The following data lists the significant emission frequencies, measured levels, correction factor (which includes cable and antenna corrections), the corrected reading, and the limit.

See following page(s).

no emissions detected above 4th harmonic

[illegible]

82.2

**Emissions Test Conditions: RADIATED EMISSIONS (Electric Field)**

The *EQUIVALENT RADIATED EMISSIONS* measurements in the frequency range 1 GHz - 20 GHz were performed in a horizontal and vertical polarization at the following test location :

☐ - Test not applicable

- - Roof (Small Open Area Test Site)
- ☐ - Canyon #1 (10- and 30-Meter Open Area Test Site), Carroll Canyon, San Diego
- ☐ - Canyon #2 (3- and 10-Meter Open Area Test Site), Carroll Canyon, San Diego

**Testing was performed at a test distance of:**

- ☐ - 1 meters
- - 3 meters
- ☐ - 10 meters

**Test Equipment Used :**

| Model Number                                      | Manufacturer    | Description                                | Serial Number | Prop. No. |
|---------------------------------------------------|-----------------|--------------------------------------------|---------------|-----------|
| ■ - 8566B                                         | Hewlett Packard | Spectrum Analyzer                          | 2311A02209    | 407       |
| ■ - 85662B                                        | Hewlett Packard | Spectrum Analyzer Display                  | 2309A04682    | 406       |
| <input type="checkbox"/> - 3115                   | EMCO            | Antenna, Double Ridge Guide                | 9412-4363     | 453       |
| ■ - 3115                                          | EMCO            | Antenna, Double Ridge Guide                | 2495          | 251       |
| <input type="checkbox"/> - AFD3-0102-13-ST        | Miteq, Inc.     | Pre-Amplifier (38 dB gain),<br>1 to 2 GHz  | 16429         | 366       |
| ■ - AFD3-0208-40-ST                               | Miteq, Inc.     | Pre-Amplifier (30 dB gain),<br>2 to 8 GHz  | 155382        | 367       |
| <input type="checkbox"/> - AFS4-08001800-70-10P-4 | Miteq, Inc.     | Pre-Amplifier (22 dB gain),<br>8 to 18 GHz | 167           | 368       |
| <input type="checkbox"/> - 91888-2                | Eaton           | Horn Antenna (1 to 2 GHz)                  | 101           | 252       |
| <input type="checkbox"/> - 91889-2                | Eaton           | Horn Antenna (2 to 3.6 GHz)                | 101           | 253       |
| ■ - 91892-1                                       | Eaton           | Reflector Antenna (3.6 to 18 GHz)          | --            | 254       |
| ■ - 94613-1                                       | Eaton           | Horn Antenna (3.6 to 7.6 GHz)              | --            | 255       |
| <input type="checkbox"/> - 91891-2                | Eaton           | Horn Antenna (7.3 to 12 GHz)               | --            | 256       |
| <input type="checkbox"/> - 94614-1                | Eaton           | Horn Antenna (12 to 18 GHz)                | --            | 257       |

Remarks: Equipment for 2.993 data and Part 24, Paragraph 24.238.

## 8.2 Field Strength Calculation

If a preamplifier was used during the Radiated Emission Testing, it is required that the amplifier gain must be subtracted from the Spectrum Analyzer (Meter) Reading. In addition, a correction factor for the antenna, cable used and a distance factor, if any, must be applied to the Meter Reading before a true field strength reading can be obtained. In the automatic measurement, these considerations are automatically presented as a part of the print out. In the case of manual measurements and for greater efficiency and convenience, instead of using these correlation factors for each meter reading, the specification limit was modified to reflect these correlation factors at each frequency value so that the meter readings can be compared directly to the modified specification limit. This modified specification limit is referred to as the "Corrected Meter Reading Limit" or simply the CMRL, which is the actual field strength present at the antenna. The quantity can be derived in the following manner:

$$\text{Corrected Meter Reading Limit (CMRL)} = \text{SAR} + \text{AF} + \text{CL} - \text{AG} - \text{DC}$$

Where, SAR = Spectrum Analyzer Reading

AF = Antenna Factor

CL = Cable Loss

AG = Amplifier Gain (if any)

DC = Distance Correction (if any)

Assume the following situation: A meter reading of 29.4 dBuV was obtained from a Class A computing device measured at 83 MHz. Assume an antenna factor of 9.2 dB, a cable loss of 1.4 dB and amplifier gain of 20.0 dB at 83 MHz. The final field strength would be determined as follows:

$$\text{CMRL} = 29.4 \text{ dBuV} + 9.2 \text{ dB} - 1.4 \text{ dB} - 20 \text{ dB/M} - 0.0 \text{ dB}$$

$$\text{CMRL} = 20.0 \text{ dBuV/M}$$

This result is well below the FCC and CSA Class A limit of 29.5 dBuV/m at 83 MHz.

For the manual mode of measurement, a table of corrected meter reading limit was used to permit immediate comparison of the meter reading to determine if the measure emission amplitude exceeded the specification limit at that specific frequency.

**9 CONDUCTED MEASUREMENT EQUIPMENT & SETUPS (DENSO INTERNATIONAL AMERICA)**

Test Equipment utilized for FCC type approval testing

HP8924C CDMA Mobile Test Set (Serial # US37522711)

HP83236B PCS Interface (Serial # 3711J02863)

HP8563E Spectrum Analyzer (Serial # 3738A07763)—Receiver Conducted Spurious Emissions

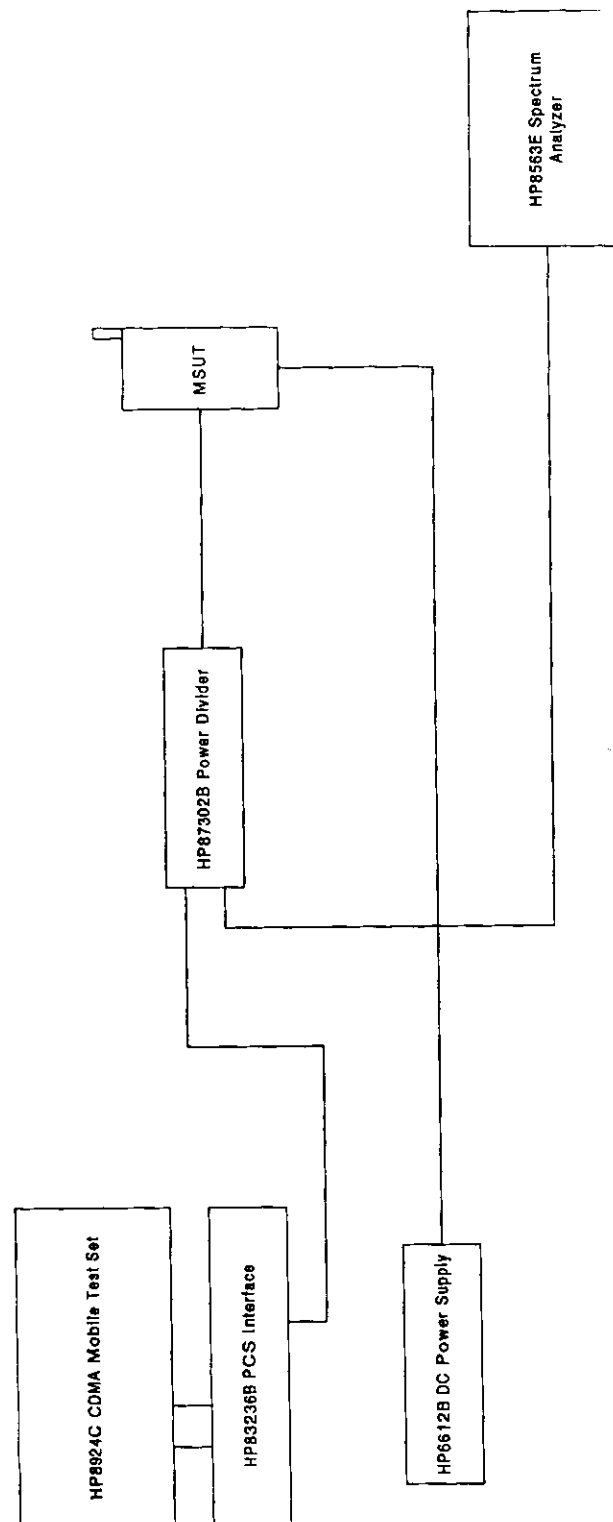
HP87302B Power Divider (Serial # 3239A00323)—Receiver Conducted Spurious Emissions

HP6612B DC Power Supply

HP8593E Spectrum Analyzer (Serial # 3710A03187)—Occupied Bandwidth Test

HP85725C CDMA Measurement Personality (used with the HP8593E)

**Part 2, Paragraph 2.987**



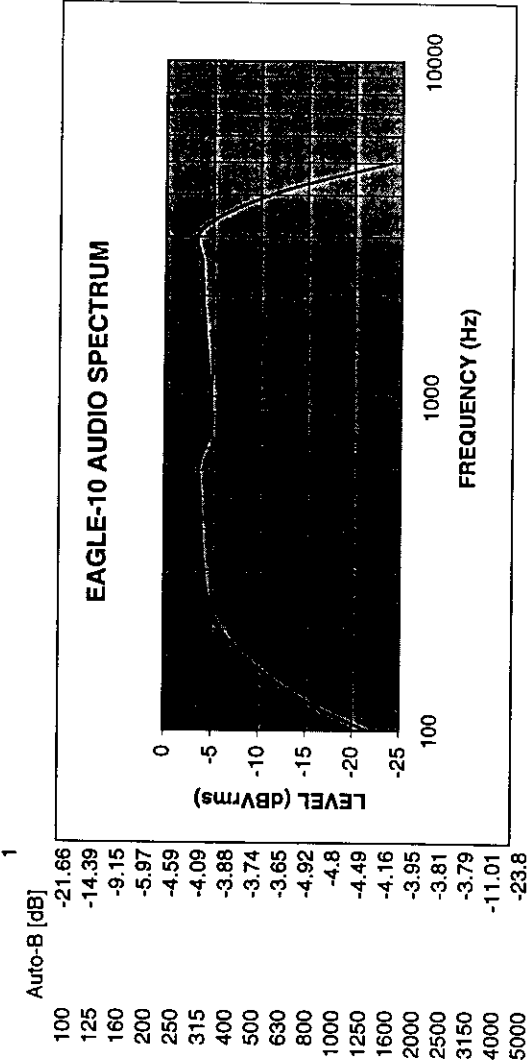
Configuration of Test Equipment for Receiver Conducted Spurious Emissions

## 10 CONDUCTED EMISSION DATA (DENSO INTERNATIONAL AMERICA)

Tested by DENSO INTERNATIONAL AMERICA.

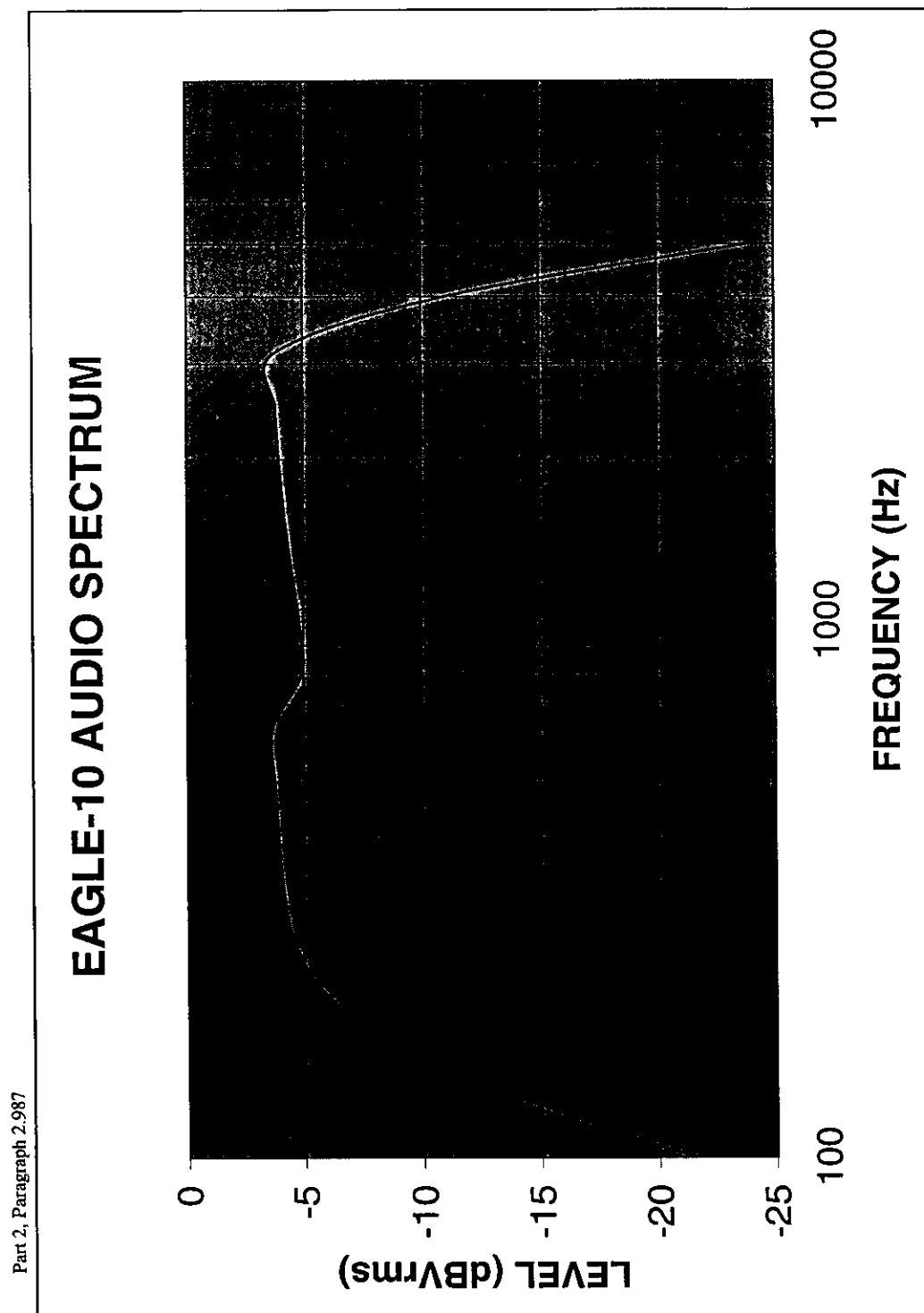
Part 2, Paragraph 2.987

|                       |                                                        |
|-----------------------|--------------------------------------------------------|
| Instrument            | B&K-7667, VP7506,V1.21,148,106,113,165,109,118,135     |
| File no.              | 18                                                     |
| Measured              | 98-03-04 13:55:56                                      |
| Measurement text      |                                                        |
| Measurement type      | 2 Channel Auto Spectra Analysis (dual)                 |
| Input ch. A           | PROBE/PREAMP, HP 0.7 Hz, Max. 123 dB, ref. 2.0E-05 Pa. |
| Input ch. B           | DIRECT, HP 0.7 Hz, Max. 4 dB, ref. 1.0E+00 Unit        |
| No. of spectra        | 1                                                      |
| Bandwidth             | 1/3 oct., 11.2E+3 Hz upper freq. real time.            |
| Averaging             | Exponential, 1/16s                                     |
| Spectrum weight ch. A | Add to spectrum : B, Add to W-Ch : LIN.                |
| Spectrum weight ch. B | Add to spectrum : LIN., Add to W-Ch : LIN.             |
| Hold                  | Active                                                 |
| Applications          | Inactive                                               |
| ( Start of Data )     |                                                        |
| Spectrum no.          |                                                        |
| Frequency [Hz]        |                                                        |

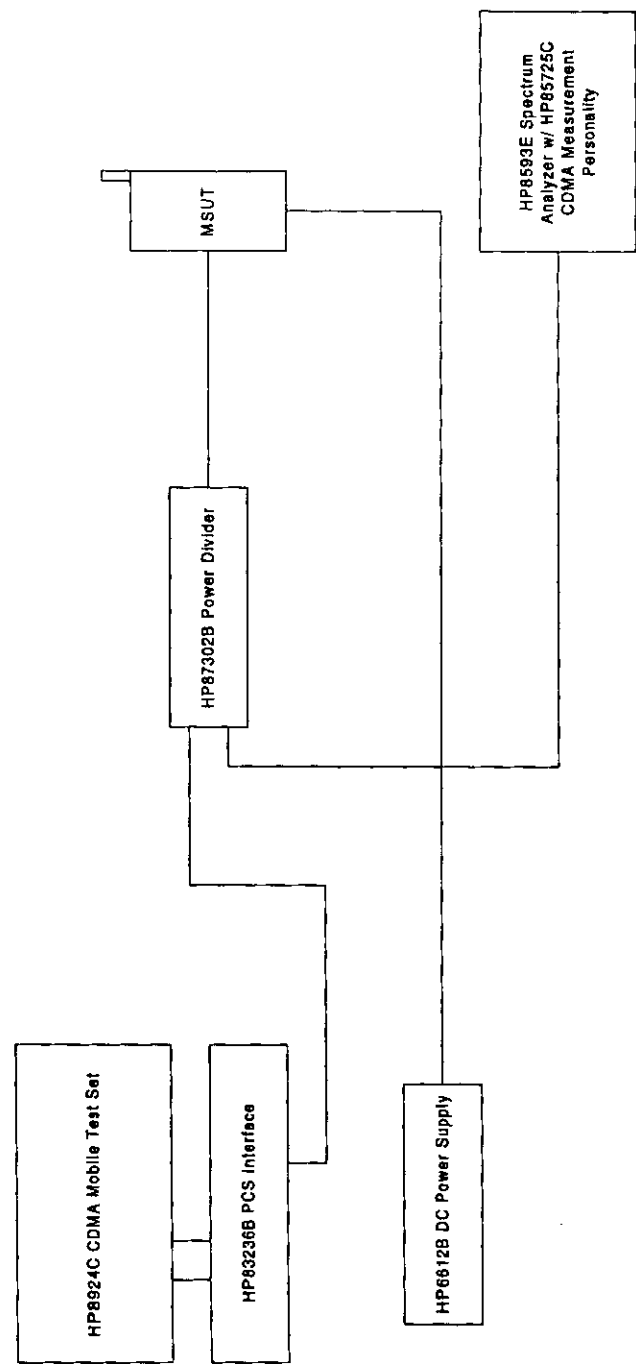


INPUT SIGNAL= 100 TO 5kHz at 100 mVrms swept logarithmically

Tested by DENSO INTERNATIONAL AMERICA.



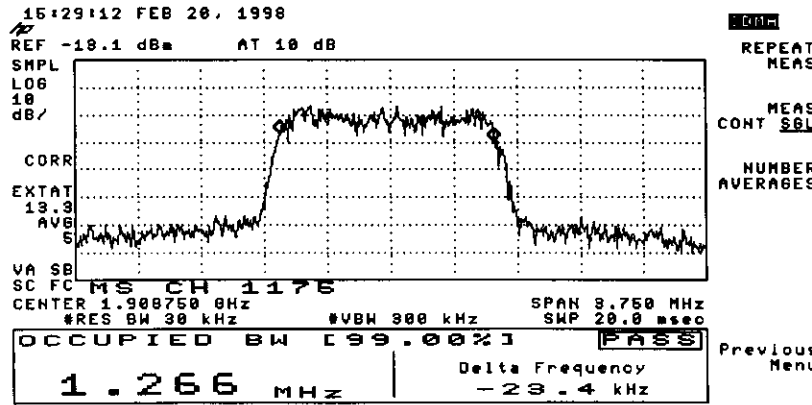
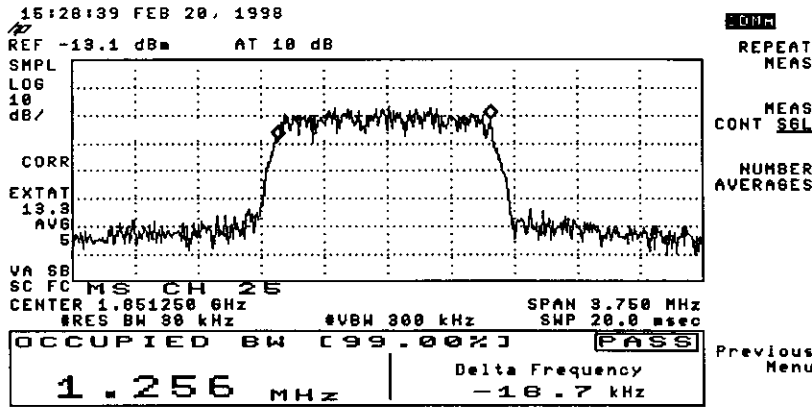
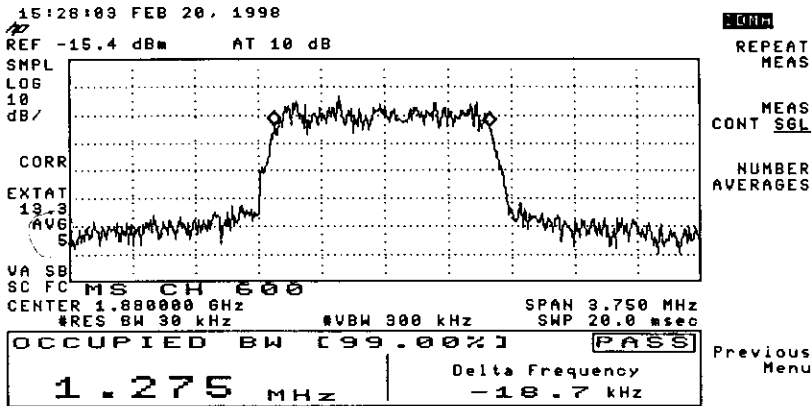
**CONDUCTED MEASUREMENT SETUP (Part 2, Paragraph 2.989)**



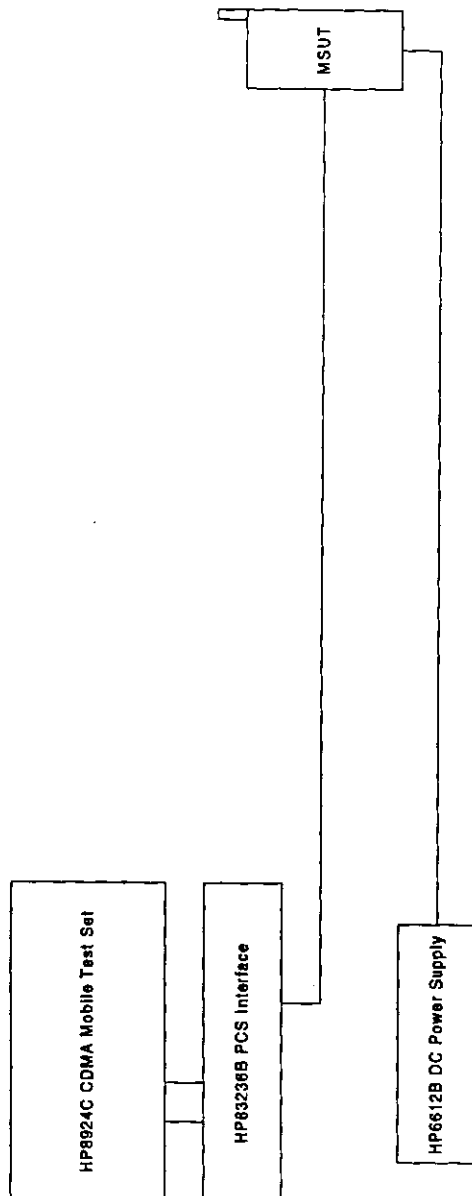
Configuration of Test Equipment for Occupied Bandwidth

Tested by DENSO.

Part 2, Paragraph 2.989



**11 FREQUENCY STABILITY MEASUREMENT SETUP (Part 2, Paragraph 2.995)**



Configuration of Test Equipment for Frequency Accuracy

## 12 FREQUENCY STABILITY EQUIPMENT AND DATA (DENSO INTERNATIONAL AMERICA)

Test Equipment utilized for FCC type approval testing

HP8924C CDMA Mobile Test Set (Serial # US37522711)

HP83236B PCS Interface (Serial # 3711J02863)

HP8563E Spectrum Analyzer (Serial # 3738A07763)—Receiver Conducted Spurious Emissions

HP87302B Power Divider (Serial # 3239A00323)—Receiver Conducted Spurious Emissions

HP6612B DC Power Supply

HP8593E Spectrum Analyzer (Serial # 3710A03187)—Occupied Bandwidth Test

HP85725C CDMA Measurement Personality (used with the HP8593E)

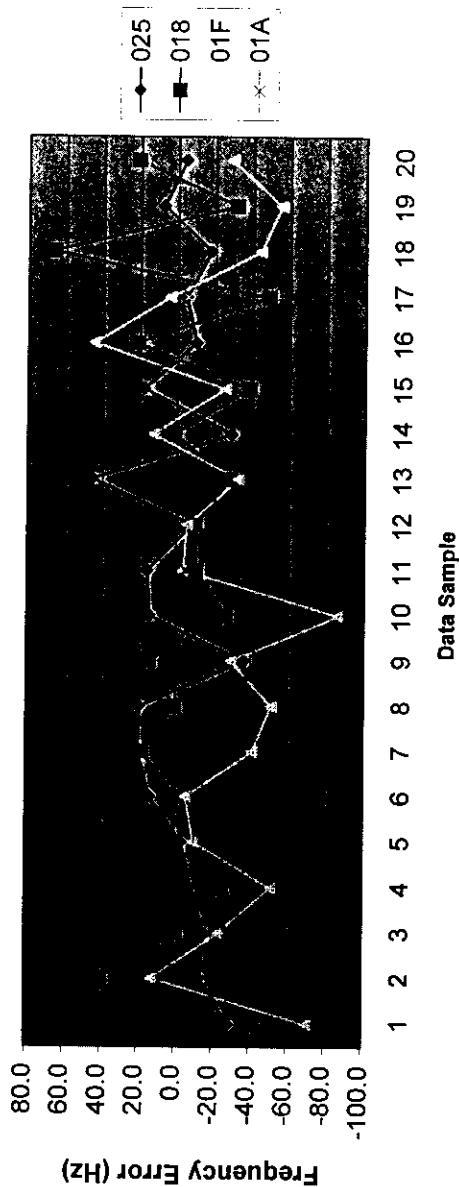
Tested by DENSO INTERNATIONAL AMERICA.

Part 2, Paragraph 2.995

Frequency Stability Test @ +25C

| Phone | 025   | 018   | 01F   | 01A   |
|-------|-------|-------|-------|-------|
|       | -29.1 | -42.2 | -70.8 | -35.9 |
|       | -13.7 | 39.9  | 12.3  | -10.3 |
|       | -16.0 | -0.8  | -23.8 | -29.2 |
|       | -9.0  | -25.1 | -51.3 | -12.3 |
|       | -3.5  | 1.3   | -10.2 | 40.9  |
|       | 13.7  | -0.6  | -5.7  | 47.2  |
|       | 20.0  | 18.2  | -41.2 | -11.6 |
|       | 19.4  | 0.7   | -51.4 | -19.6 |
|       | -36.5 | 14.3  | -29.4 | -50.3 |
|       | 14.2  | -26.4 | -86.5 | -9.5  |
|       | 15.6  | -10.4 | -3.6  | -5.1  |
|       | -8.8  | -9.7  | -5.6  | -39.3 |
|       | 45.3  | -28.4 | -33.0 | -4.4  |
|       | -29.2 | 1.3   | 12.3  | 22.7  |
|       | 17.5  | -38.7 | -25.6 | 33.6  |
|       | -10.2 | 21.4  | 44.3  | -18.9 |
|       | -4.6  | -48.8 | 3.9   | -5.5  |
|       | -17.6 | 66.3  | -44.2 | 8.5   |
|       | 7.4   | -31.4 | -55.3 | -12.2 |
|       | -4.4  | 21.2  | -28.7 | 13.5  |
|       | 19.4  | 28.4  | 30.6  | 15.5  |

Frequency Stability Test @ +25C

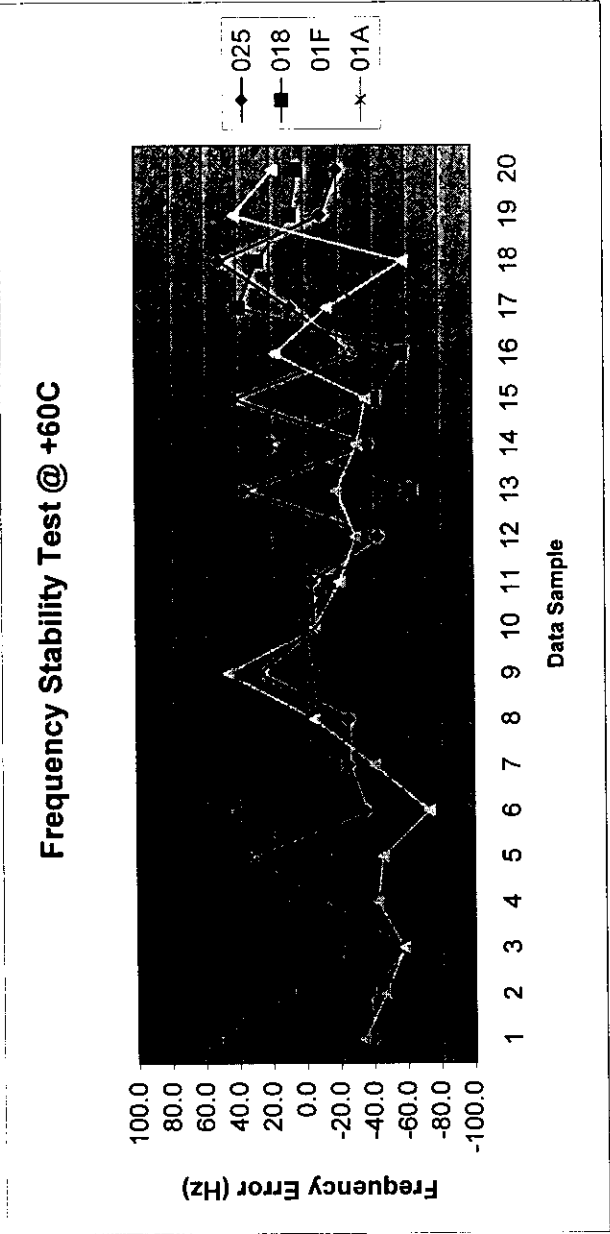


Average -8.7  
Standard Deviation 28.0

Tested by DENSO INTERNATIONAL AMERICA.

Part 2, Paragraph 2.995  
Frequency Stability Test @ +60C

| Phone | Data Samples                                                                                                      | StdDev |
|-------|-------------------------------------------------------------------------------------------------------------------|--------|
| 025   | -38.8 -36.5 -57.7 -8.5 35.0 -35.3 -25.5 -25.8 26.9 -5.3 -4.0 -43.8 35.6 -37.9 41.6 -27.9 7.5 49.7 -10.4 -20.1     | 31.1   |
| 018   | 55.6 11.7 -17.6 15.7 -10.0 49.0 -14.8 -4.8 -3.4 1.1 -14.6 24.2 -62.9 22.3 -40.8 -57.7 38.7 27.4 7.7 3.7           | 30.9   |
| 01F   | -34.5 -47.4 -58.2 -42.6 -45.8 -73.9 -40.9 -5.5 45.5 -6.0 -20.8 -30.5 -19.3 -31.3 -36.6 16.7 -14.3 -59.1 40.9 17.9 | 31.7   |
| 01A   | -9.5 -8.3 7.4 -23.3 -28.9 32.4 8.7 -52.1 51.7 -5.9 -71.3 80.1 10.3 5.3 22.3 -27.8 -31.6 -11.8 53.4 49.7           | 37.0   |

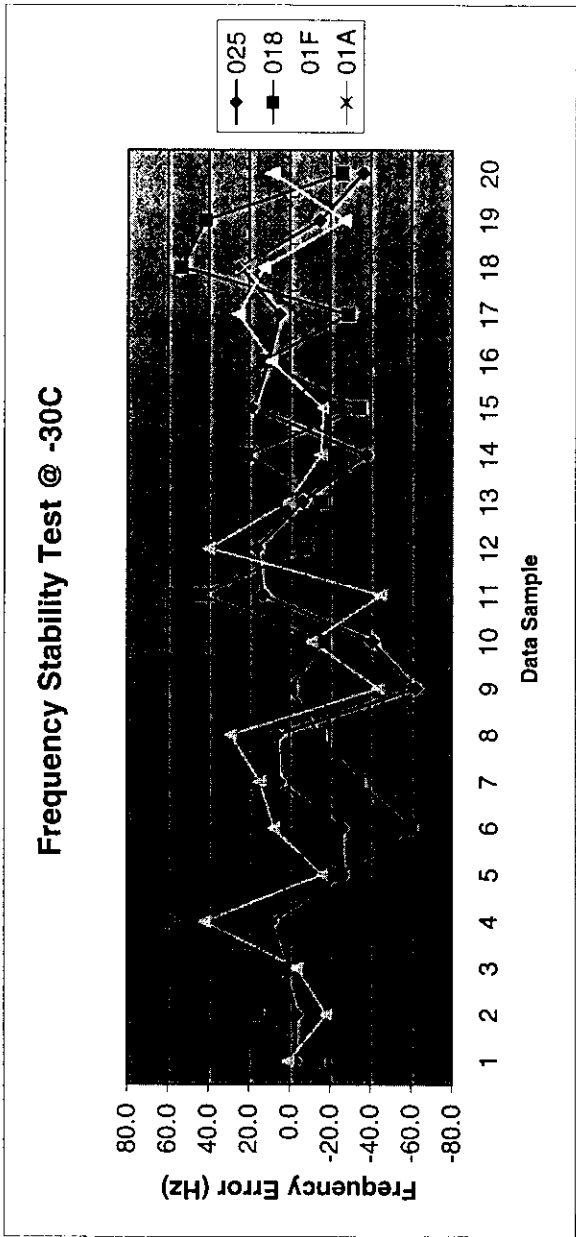


Average -6.8  
Standard Deviation 34.3

Tested by DENSO INTERNATIONAL AMERICA.

Part 2, Paragraph 2.995  
Frequency Stability Test @ -30C

| Phone | Data Samples |       |      |      |       |       |       |       |       |       |       |       |       |       |       |       |       |      |       |       | StdDev |
|-------|--------------|-------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|------|-------|-------|--------|
| 025   | -2.5         | -3.4  | 2.1  | 9.1  | -26.3 | -25.9 | 5.2   | 6.2   | -62.2 | -41.1 | 13.0  | 16.2  | -6.4  | -37.8 | 18.0  | 10.6  | 5.2   | 24.4 | -14.8 | -36.3 | 22.9   |
| 018   | -13.9        | 15.9  | 2.2  | 60.1 | -24.4 | -59.7 | -34.0 | -14.9 | -0.3  | -16.1 | 44.3  | -8.1  | -15.7 | 21.3  | -34.5 | 13.1  | -29.0 | 53.7 | 41.7  | -25.9 | 31.7   |
| 01F   | 0.6          | -18.4 | -3.9 | 41.9 | -16.3 | 7.7   | 14.6  | 29.0  | -44.0 | -11.1 | -45.3 | 39.8  | 0.3   | -15.5 | -16.5 | 9.0   | 25.2  | 12.6 | -27.0 | 8.4   | 23.8   |
| 01A   | 72.3         | 1.3   | 23.4 | -2.0 | 4.2   | -22.9 | 0.2   | -31.1 | -10.8 | 5.5   | -1.9  | -15.8 | 6.5   | -48.2 | 14.9  | -41.8 | -4.4  | 22.3 | -8.0  | 14.0  | 25.3   |



Average -2.5  
Standard Deviation 26.3

**13 SUMMARY:**

All tests according to the regulations cited on page 1 were

☒ - Performed

☐ - **Not** Performed

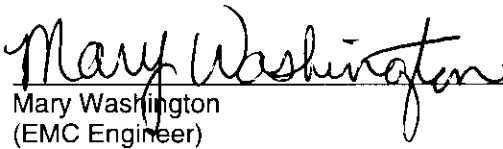
The Equipment Under Test

☒ - **Fulfills** the general approval requirements cited on page 1.

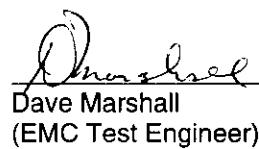
☐ - **Does not** fulfill the general approval requirements cited on page 1.

- TÜV PRODUCT SERVICE, INC. -

Responsible Engineer:

  
Mary Washington  
(EMC Engineer)

Responsible Test Engineer:

  
Dave Marshall  
(EMC Test Engineer)

## **Appendix A**

### Photographs

## PHOTOS OF TESTED EUT

The following photos are attached:

|            |                                                                                                                        |
|------------|------------------------------------------------------------------------------------------------------------------------|
| Figure A1  | Front of Handset                                                                                                       |
| Figure A2  | Back of Handset                                                                                                        |
| Figure A3  | Back of Handset with back removed showing the RF sub board and main board and RF shields removed from the RF sub board |
| Figure A4  | Front of Handset with antenna                                                                                          |
| Figure A5  | Back of Handset with back removed and antenna in place                                                                 |
| Figure A6  | Back of Handset showing board with RF shields and antenna in place                                                     |
| Figure A7  | Main Board Front                                                                                                       |
| Figure A8  | Main Board Back                                                                                                        |
| Figure A9  | RF Subboard                                                                                                            |
| Figure A10 | RF Main Board Shield                                                                                                   |
| Figure A11 | RF Subboard Front with shields off                                                                                     |
| Figure A12 | RF Subobard Back with shields off                                                                                      |

**FAX**TÜV PRODUCT SERVICE  
10040 Mesa Rim Rd  
San Diego, CA 92121

|                                       |          |
|---------------------------------------|----------|
| Date                                  | 06/25/98 |
| Number of pages including cover sheet | 12       |

|            |                |
|------------|----------------|
| To: FCC    |                |
|            | Greg Czumak    |
| CC:        |                |
|            |                |
|            |                |
| Fax Number | (301) 344-2050 |

|                        |                 |
|------------------------|-----------------|
| From: TÜV PS San Diego |                 |
|                        | Mary Washington |
|                        |                 |
|                        |                 |
| Phone                  | (619) 546-3999  |
| Fax Number             | (619) 546-0364  |

## REMARKS

☒ Urgent
 ☐ For your review
 ☐ Reply ASAP
 ☐ Please comment

Hi Greg,

Following is the additional information per your request for FCC ID: LXC-D100 [Correspondence]. I am faxing this information; because, I have not had success in sending it electronically. If you have any questions, please contact me.

Have a great day!

Mary

1424

08:27:29 JUN 24, 1998  
*hp*

REF 26.6 dBm AT 20 dB

PEAK

LOG

10

dB/

OFFST

20.0

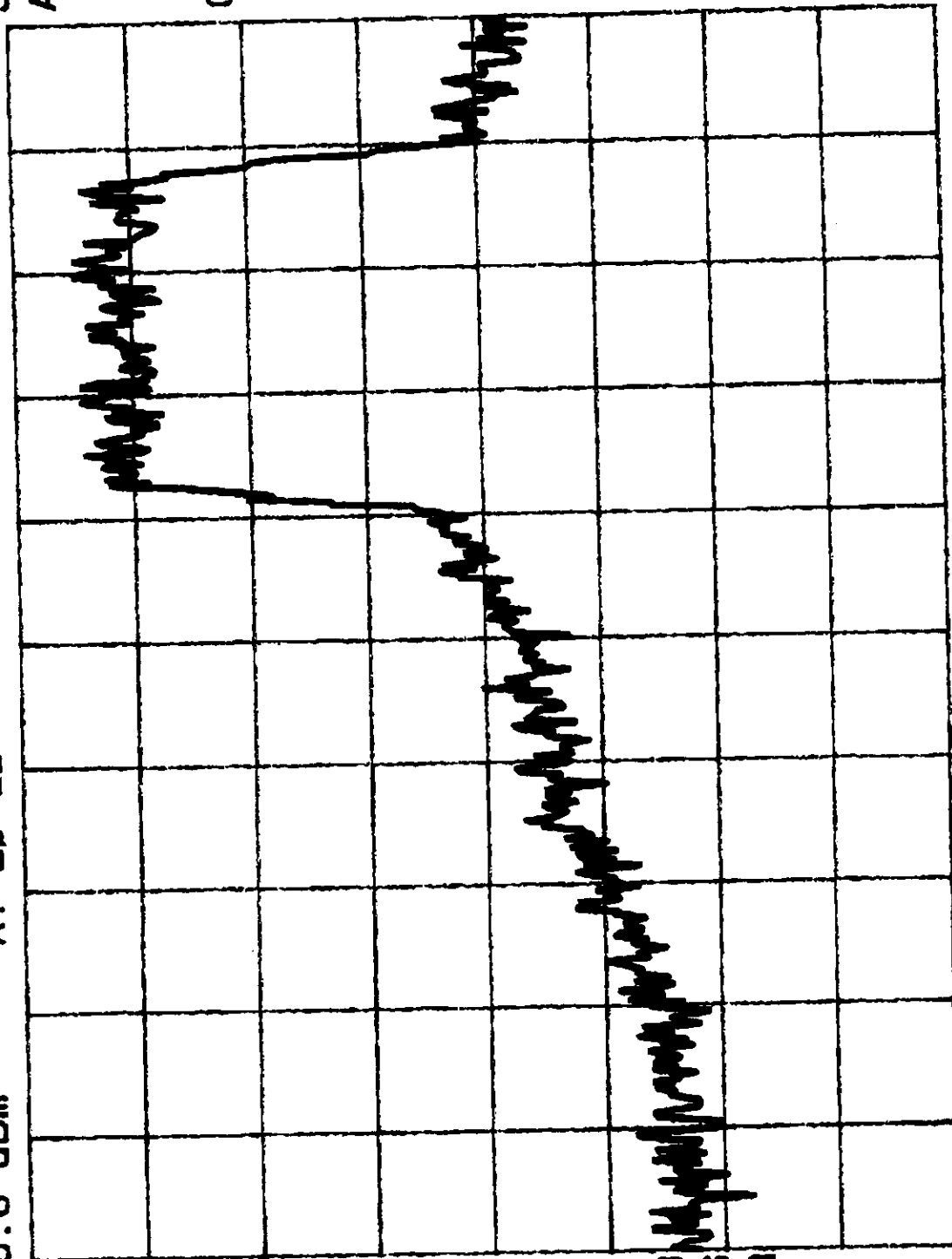
dB

SWP TIME  
AUTO MAN

SWEEP  
CONT SGL

GATE  
ON OFF

Gate  
Control



WA SB  
SC FS  
CORR

CENTER 1.850000 GHZ  
RES BW 30 KHZ  
SPAN 5.000 MHZ  
#SWP 50.0 msec  
VBW 30 KHZ

15:14:46 JUN 23, 1998

170

REF 30.0 dBm AT 20 dB

CENTER  
FREQ

START  
FREQ

STOP  
FREQ

CF STEP  
AUTO MAN

FREQ  
OFFSET

Band  
Lock

SMPL

LOG

10

dB/

OFFST

20.0

dB

DL

-13.0

dBm

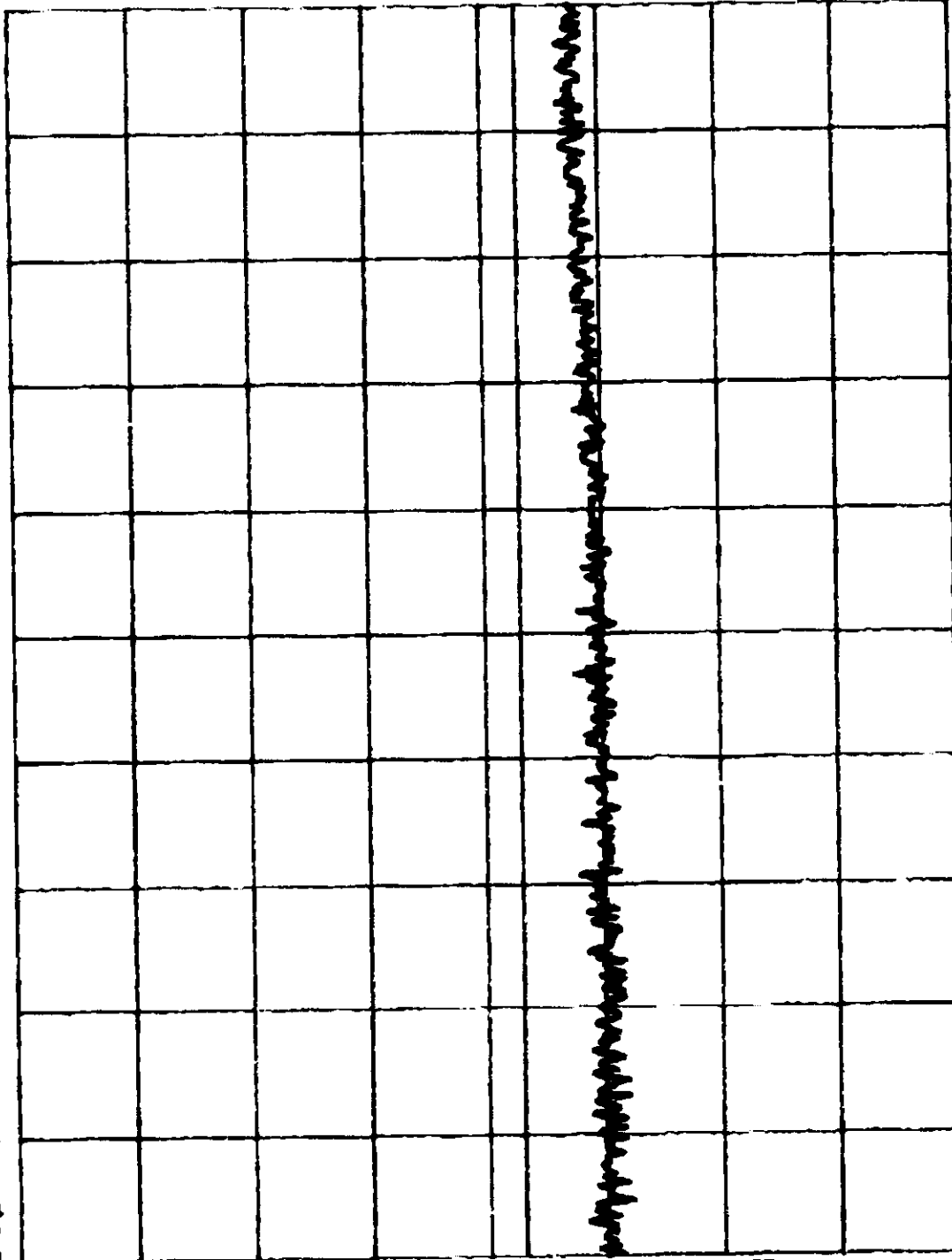
AVG

10

WA SB

SC FC

CORR



START 1.846500 GHz STOP 1.847500 GHz  
#RES BW 1.0 MHz #VBW 1 MHz #SWP 20.0 msec

15:21:50 JUN 23, 1998

AP

REF 30.0 dBm AT 20 dB

CENTER  
FREQ

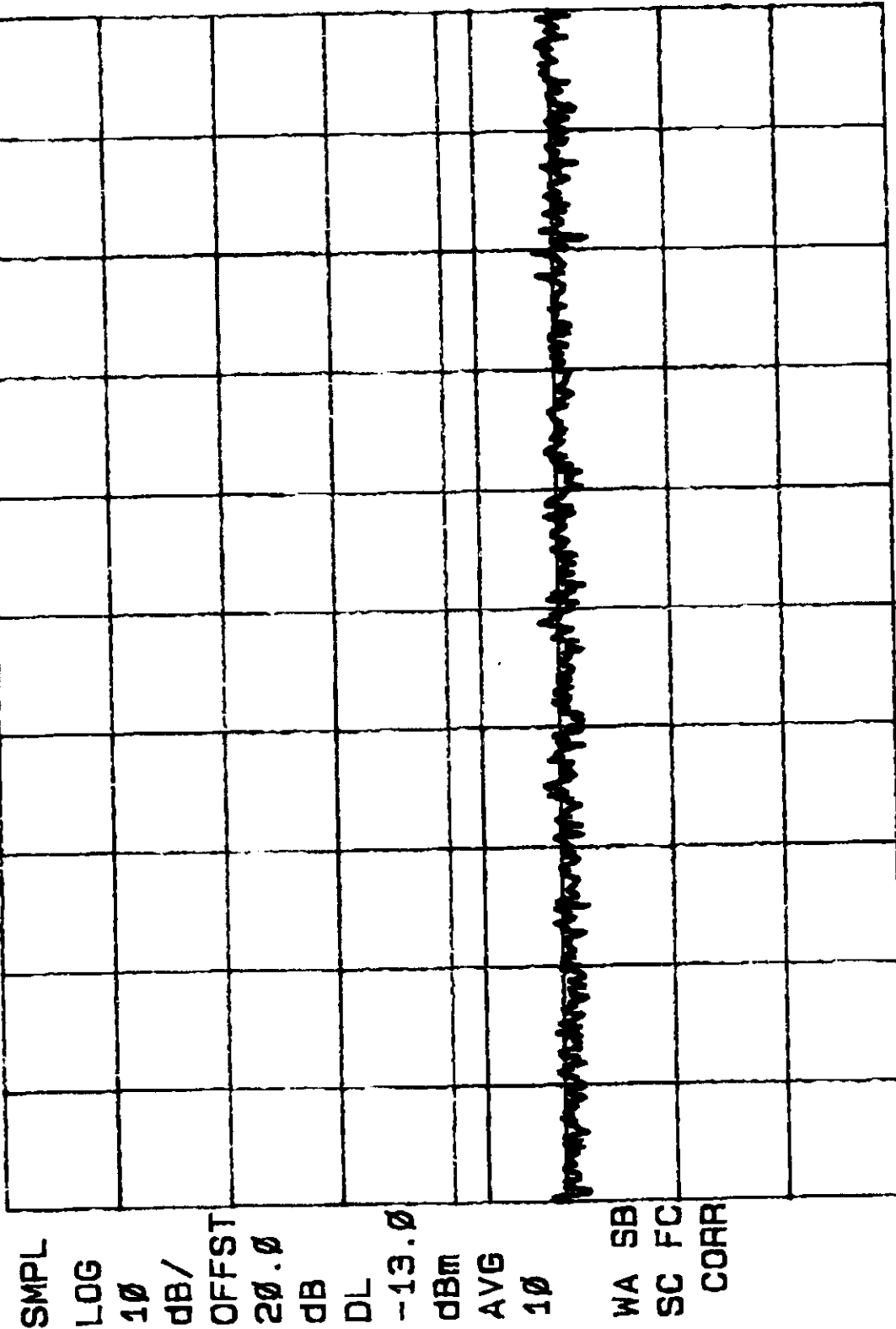
START  
FREQ

STOP  
FREQ

CF STEP  
AUTO MAN

FREQ  
OFFSET

Band  
Lock



START 1.845500 GHZ STOP 1.846500 GHZ  
#RES BW 1.0 MHZ #VBW 1 MHZ #SWP 20.0 msec

15:25:39 JUN 23, 1998

*hp*

REF 30.0 dBm AT 20 dB

SMPL

LOG

10

dB/

OFFST

20.0

dB

DL

-13.0

dBm

AVG

10

WA SB

SC FC

CORR

CENTER  
FREQ

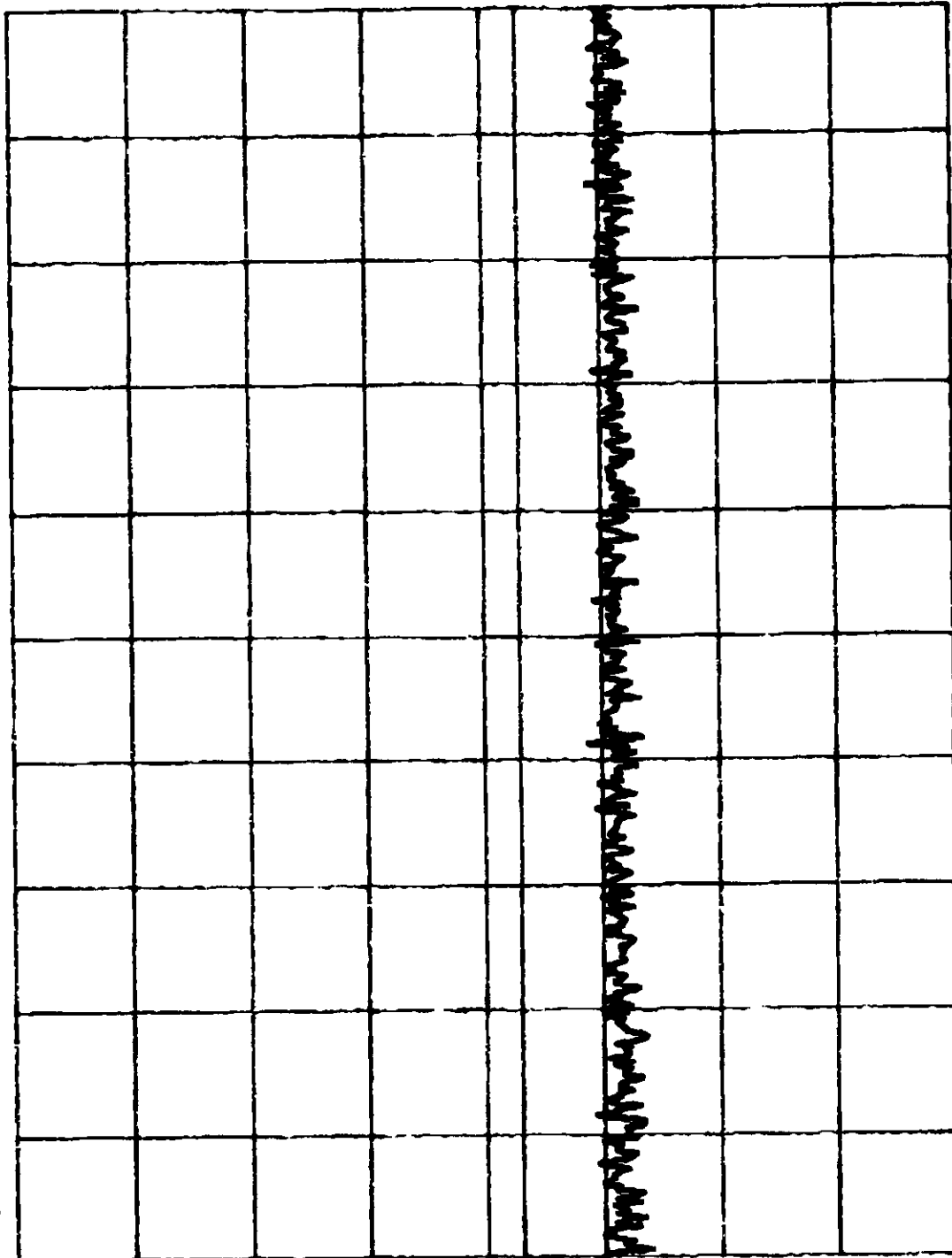
START  
FREQ

STOP  
FREQ

CF STEP  
AUTO MAN

FREQ  
OFFSET

Band  
Lock



START 1.844500 GHZ STOP 1.845500 GHZ  
#RES BW 1.0 MHz #VBW 1 MHz #SWP 20.0 msec

15:29:02 JUN 23, 1998

REF 30.0 dBm AT 20 dB

**THIS**

LOG

10

89

**TEST**

22. 23.

20

三

-13.0

**FOR**

**AVG**

5

WA SB

33 35

**COM**

**CENTER**  
**FREQ**

**START**  
**FREQ**

**STOP  
FREE**

CF STEP  
AUTO MAN

**FAEG  
OFFSET**

# Band Lock

START 1.843500 GHz

#RES BW 1.0 MHZ

**STOP 1.844500 GHz**

#V8W 1 MHz #SWP 20.0 msec

08:30:56 JUN 24, 1998

REF 26.6 dBm AT 20 dB

PEAK

LOG

10

dB/

OFFST

20.0

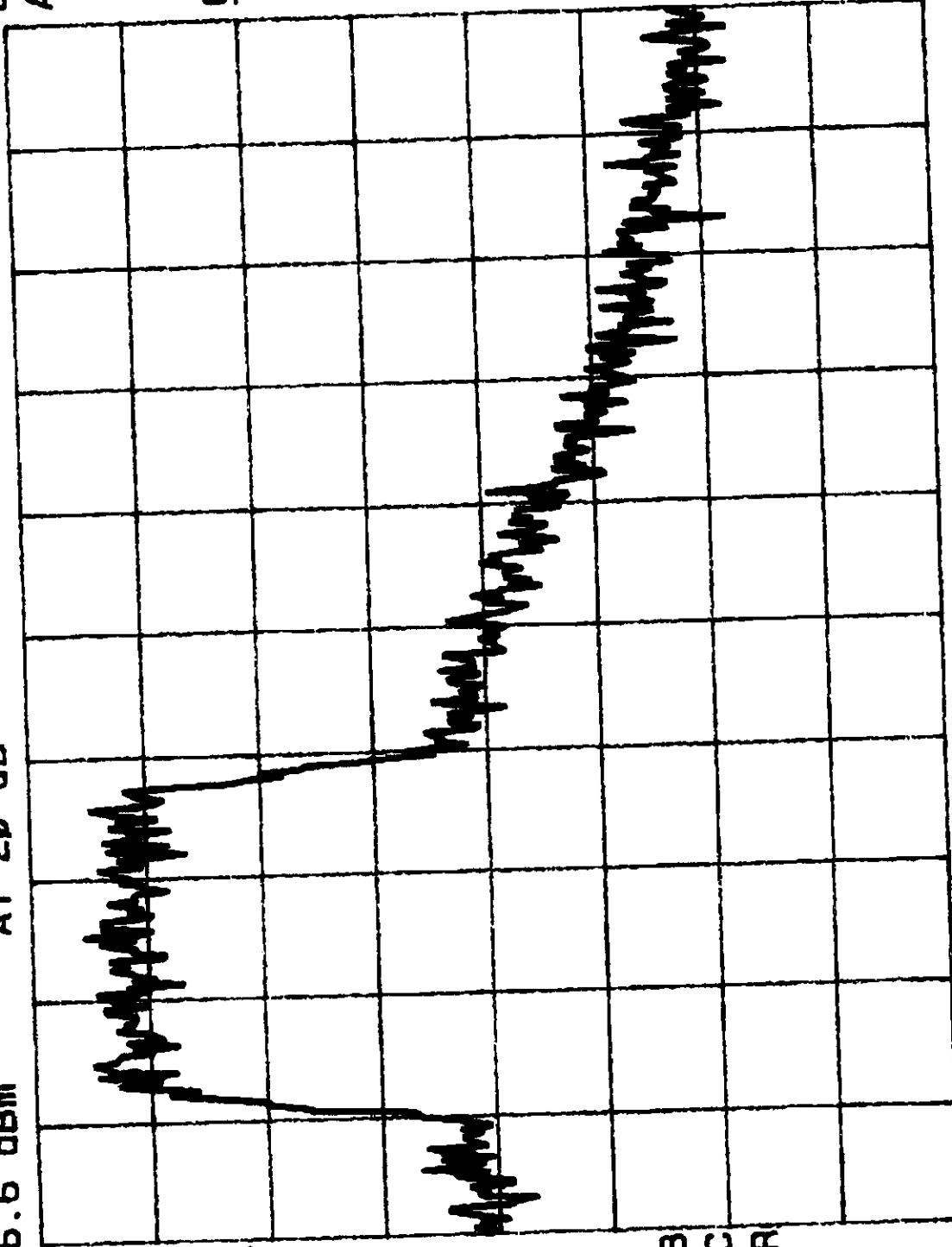
dB

SWP TIME  
AUTO MAN

SWEEP  
CONT SGL

GATE  
ON OFF

Gate  
Control

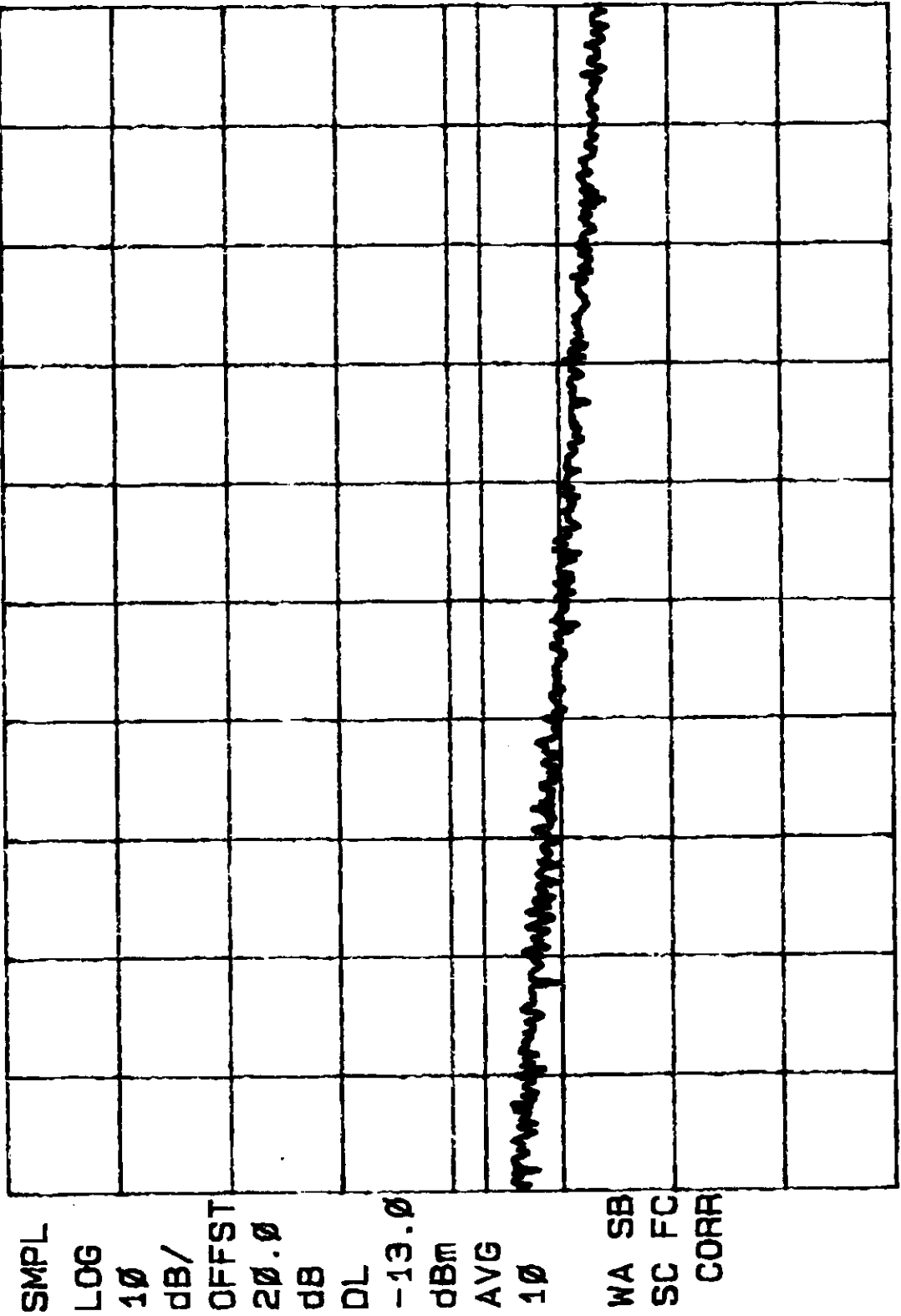


WA SB  
SC FC  
CORR

CENTER 1.910000 GHZ  
RES BW 30 KHZ  
SPAN 5.000 MHZ  
#SWP 50.0 msec  
VBW 30 KHZ

14:58:33 JUN 23, 1998  
/p

REF 30.0 dBm AT 20 dB



CENTER  
FREQ

START  
FREQ

STOP  
FREQ

CF STEP  
AUTO MAN

FREQ  
OFFSET

Band  
Lock

START 1.912500 GHz STOP 1.913500 GHz  
#RES BW 1.0 MHz #VBW 1 MHz #SWP 20.0 msec

15:02:06 JUN 23, 1998  
*hp*

REF 30.0 dBm AT 20 dB

CENTER  
FREQ

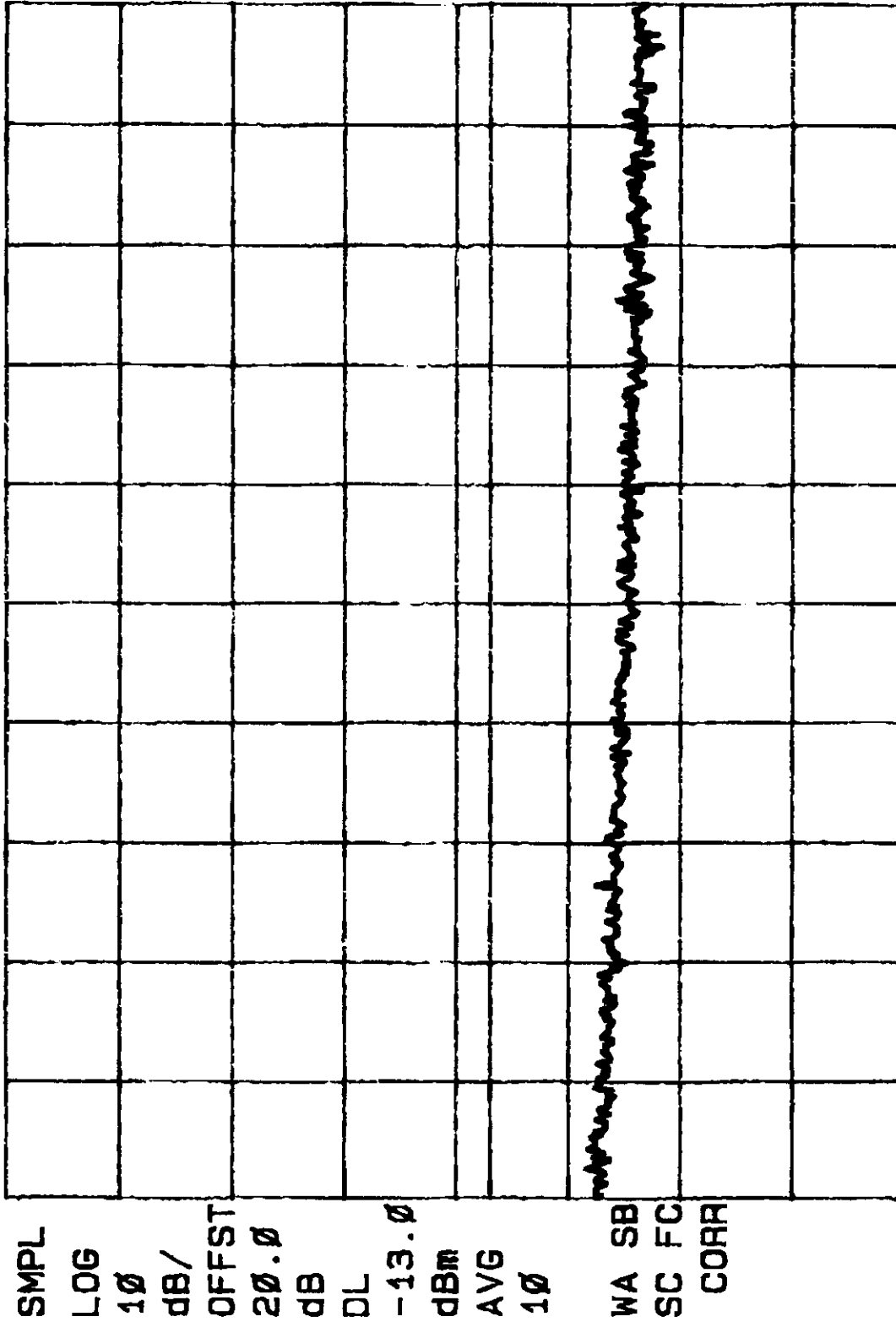
START  
FREQ

STOP  
FREQ

CF STEP  
AUTO MAN

FREQ  
OFFSET

Band  
Lock



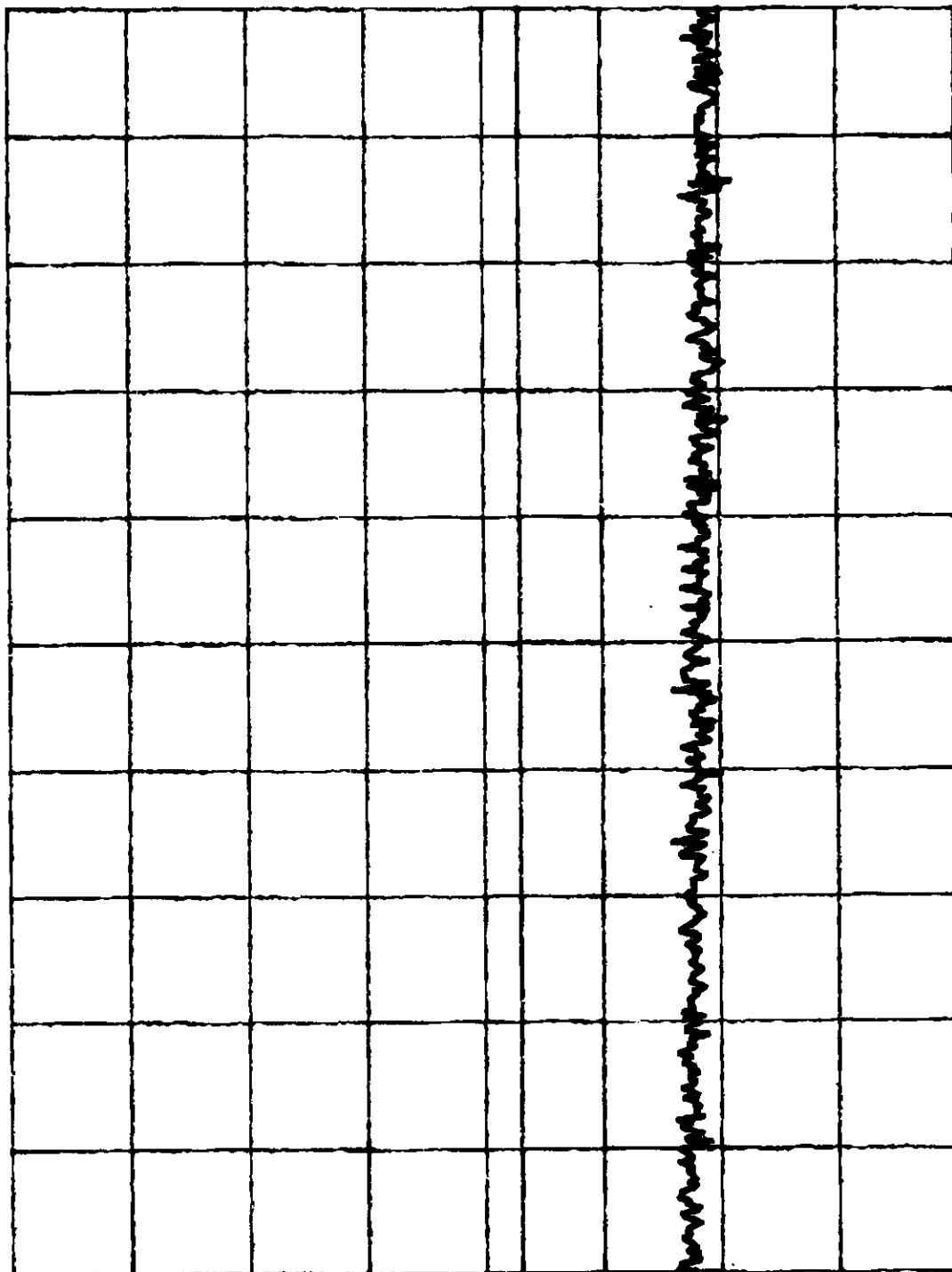
START 1.913500 GHz STOP 1.914500 GHz  
 #RES BW 1.0 MHz #VSW 1 MHz #SWP 20.0 msec

15:05:38 JUN 23, 1998  
/77

REF 30.0 dBm AT 20 dB

SMPL  
LOG  
10  
dB/  
OFFST  
20.0  
dB  
DL  
-13.0  
dBm  
AVG  
10  
WA SB  
SC FC  
CORR

CENTER  
FREQ  
  
START  
FREQ  
  
STOP  
FREQ  
  
CF STEP  
AUTO MAN  
  
FREQ  
OFFSET  
  
Band  
Lock



START 1.914500 GHZ STOP 1.915500 GHZ  
#RES BW 1.0 MHz #VBW 1 MHz #SWP 20.0 msec

686 P12 JUN 25 '98 06:59

15:08:58 JUN 23, 1998

REF 30.0 dBm AT 20 dB

**SMPL**

507

10

DB/

**OFFST**

20.0

০২

70

**-13-**

உயர்

**AVG**

15

WA SB

0705

**COAR**

**CENTER**  
**FREQ**

START  
FREQ

**STOP  
FREE**

CF STEP  
AUTO MAN

LESS  
FRO

# Band Lock

```

START 1.915500 GHz          STOP 1.916500 GHz
#RES BW 1.0 MHz             #VBW 1 MHz
                             #SWP 20.0 msec

```

**FAX**TÜV PRODUCT SERVICE  
10940 Mesa Rim Rd  
San Diego, CA 92121

|                                       |          |  |
|---------------------------------------|----------|--|
| Date                                  | 06/25/98 |  |
| Number of pages including cover sheet | 12       |  |

FCC ID: LXC-D100

|            |                |
|------------|----------------|
| To: FCC    |                |
|            | Greg Czumak    |
| CC:        |                |
|            |                |
|            |                |
| Fax Number | (301) 344-2050 |

|                        |                 |
|------------------------|-----------------|
| From: TÜV PS San Diego |                 |
|                        | Mary Washington |
|                        |                 |
|                        |                 |
| Phone                  | (619) 546-3999  |
| Fax Number             | (619) 546-0364  |

## REMARKS

☒ Urgent
 ☐ For your review
 ☐ Reply ASAP
 ☐ Please comment

Hi Greg,

Following is the additional information per your request for FCC ID: LXC-D100 [Correspondence] <sup>1424</sup>. I am faxing this information; because, I have not had success in sending it electronically. If you have any questions, please contact me.

Have a great day!

Mary

08:27:29 JUN 24, 1998

REF 26.6 dBm AT 20 dB

PEAK  
LOG  
10  
dB/  
OFFST  
20.0  
dB

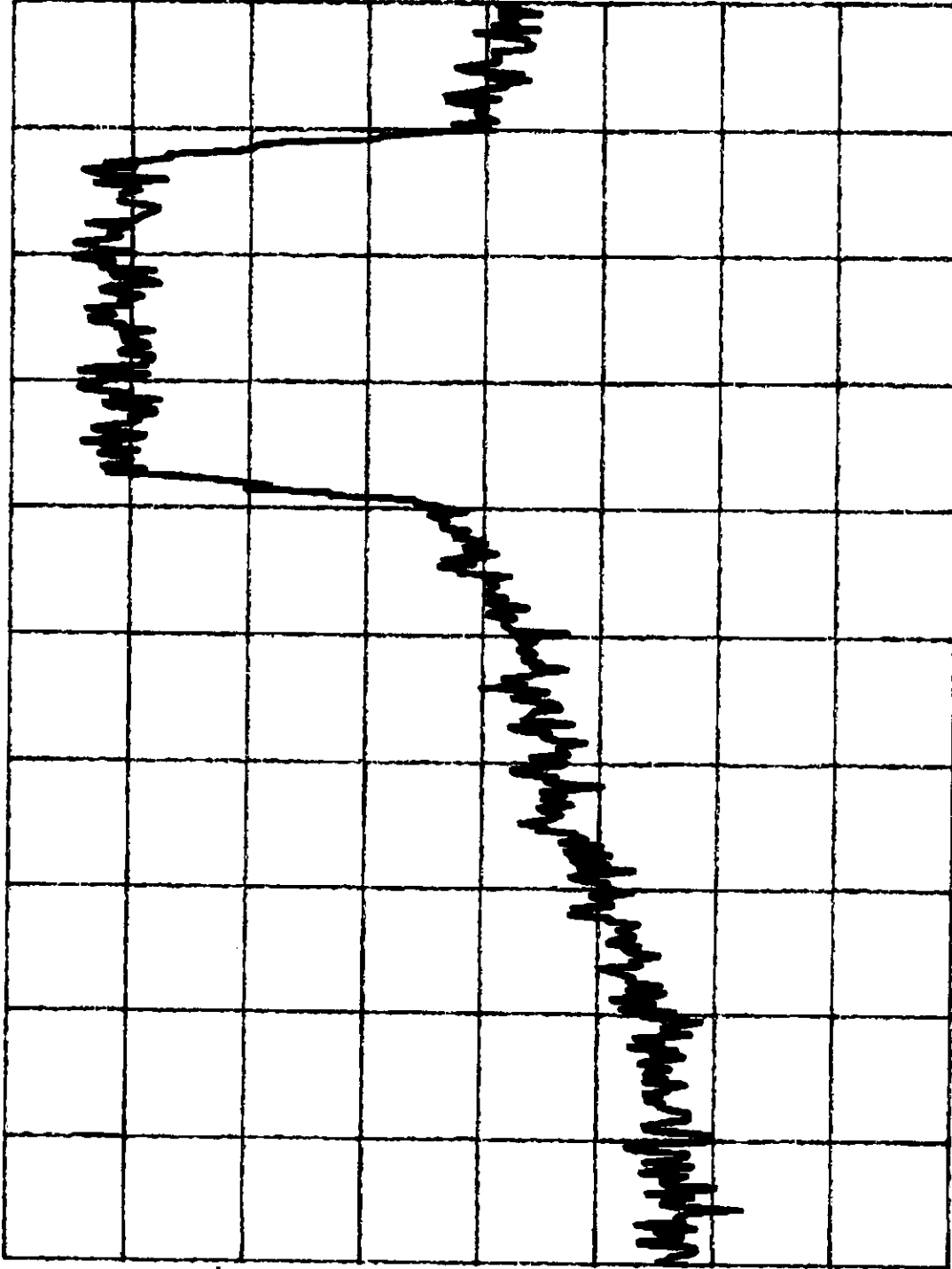
SWP TIME  
AUTO MAN

SWEEP  
CONT SGL

GATE  
ON OFF

Gate  
Control

FCC ID: LXC-D100



CENTER 1.850000 GHZ  
RES BW 30 KHZ  
SPAN 5.000 MHZ  
#SWP 50.0 msec  
VBW 30 KHZ

15:14:46 JUN 23, 1998

REF 30.0 dBm AT 20 dB

SMPL

LOG

10

dB/

OFFST

20.0

dB

DL

-13.0

dBm

AVG

10

WA SB

SC FC

CORR

CENTER  
FREQ

START  
FREQ

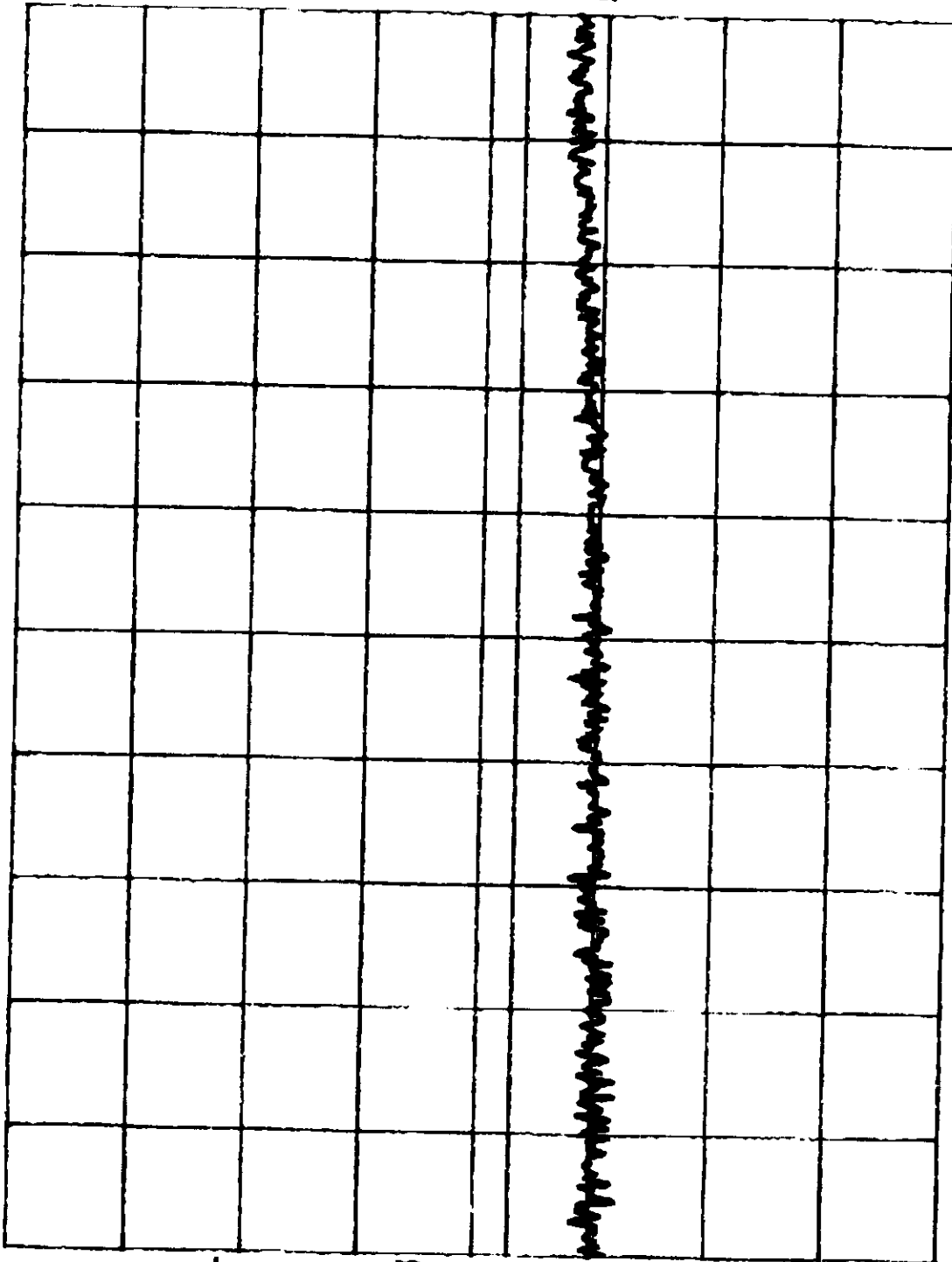
STOP  
FREQ

CF STEP  
AUTO MAN

FREQ  
OFFSET

Band  
Lock

FCC ID: LXC-D100



START 1.846500 GHz

#RES BW 1.0 MHz

STOP 1.847500 GHz

#SWP 20.0 msec

#VBW 1 MHz

15: 21: 50 JUN 23, 1998

REF 30.0 dBm AT 20 dB

SMPL

LOG

10

dB/

OFFST

20.0

dB

DL

-13.0

dBm

AVG

10

WA SB

SC FC

CORR

CENTER  
FREQ

START  
FREQ

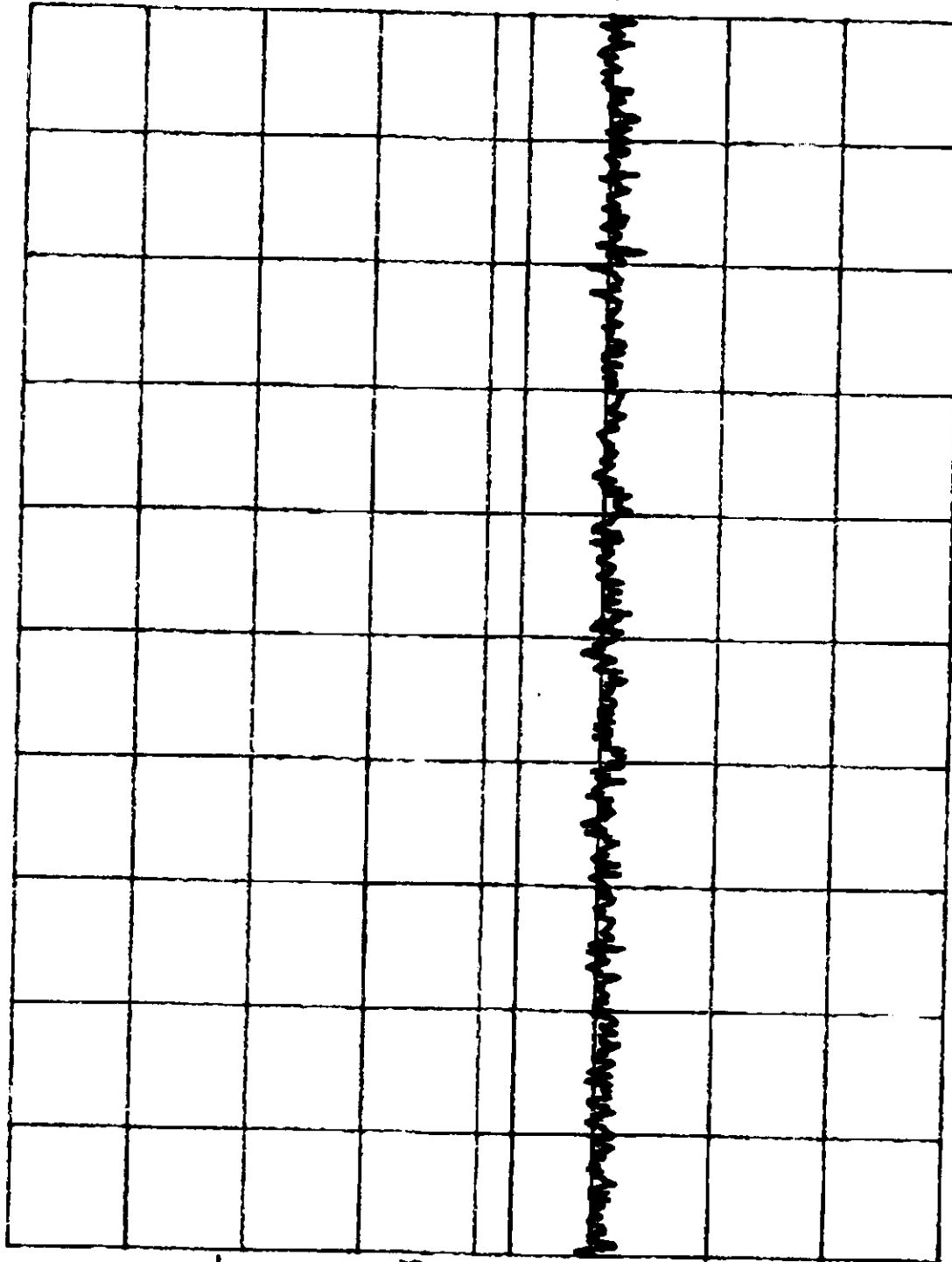
STOP  
FREQ

CF STEP  
AUTO MAN

FREQ  
OFFSET

Band  
Lock

FCC ID: LXC-D100



START 1.845500 GHz

#RES BW 1.0 MHz

#VBW 1 MHz

STOP 1.846500 GHz  
#SWP 20.0 msec

15: 25: 39 JUN 23, 1998

REF 30.0 dBm AT 20 dB

SMPL

LOG

10

dB/

OFFST

20.0

dB

DL

-13.0

dBm

AVG

10

WA SB

SC FC

CORR

CENTER  
FREQ

START  
FREQ

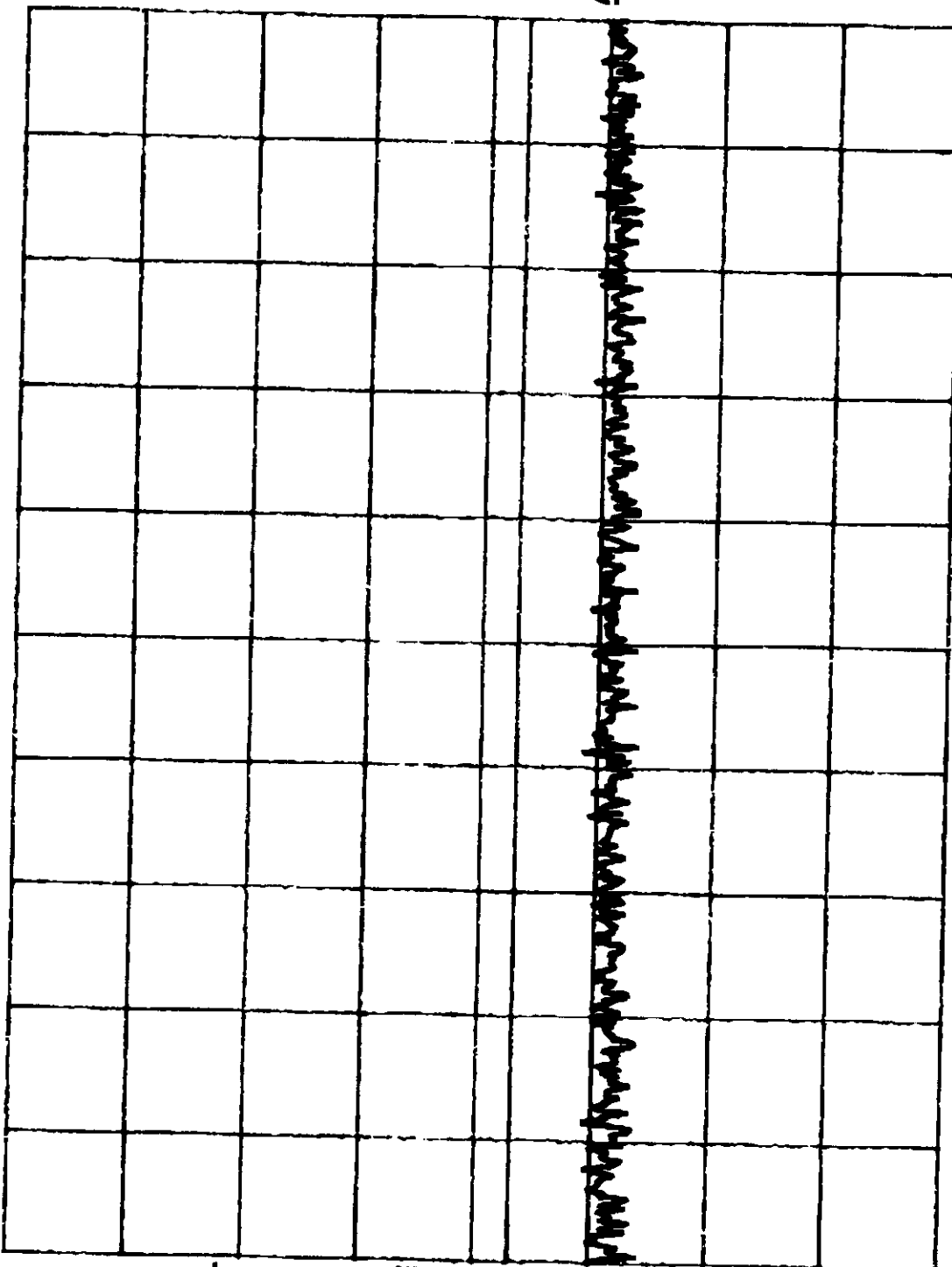
STOP  
FREQ

CF STEP  
AUTO MAN

FREQ  
OFFSET

Band  
Lock

FCC ID: LXC-D100



START 1.844500 GHZ

#RES BW 1.0 MHz

#VBW 1 MHz

STOP 1.845500 GHZ  
#SWP 20.0 msec

15:29:02 JUN 23, 1998

REF 30.0 dBm AT 20 dB

**SMPL**

**LOG**

15

89

**OSF30**

22. 22.

82

10

-13-

**E  
C  
T**

AVG

10

1

NA SB

100

COB

**CENTER**  
**FREQ**

START  
FREQ

**FREE  
DOGS**

CF STEP  
AUTO MAN

LEST  
FREE

**Band**  
**Lock**

FCC ID: LXC-D100

```
START 1.843500 GHZ
#RES BW 1.0 MHZ
#VBW 1 MHZ
STOP 1.844500 GHZ
#SWP 20.0 msec
```

FCC ID: LXC-D100

08:30:56 JUN 24, 1998

REF 26.6 dBm AT 20 dB

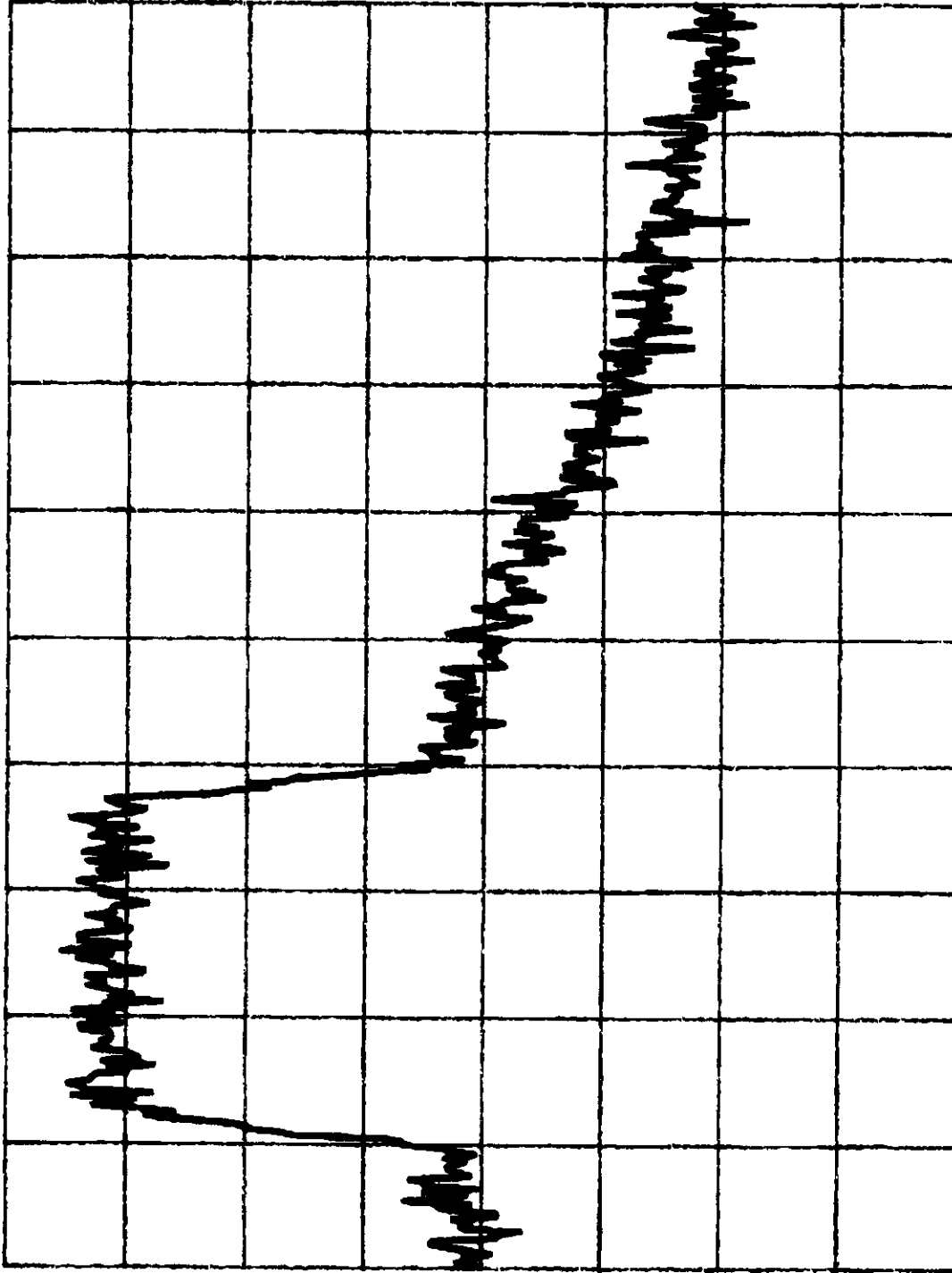
PEAK  
LOG  
10  
dB/  
OFFST  
20.0  
dB

SWP TIME  
AUTO MAN

SWEEP  
CONT SGL

GATE  
ON OFF

Gate  
Control



WA SB  
SC FC  
CORR

CENTER 1.910000 GHZ

RES BW 30 KHZ

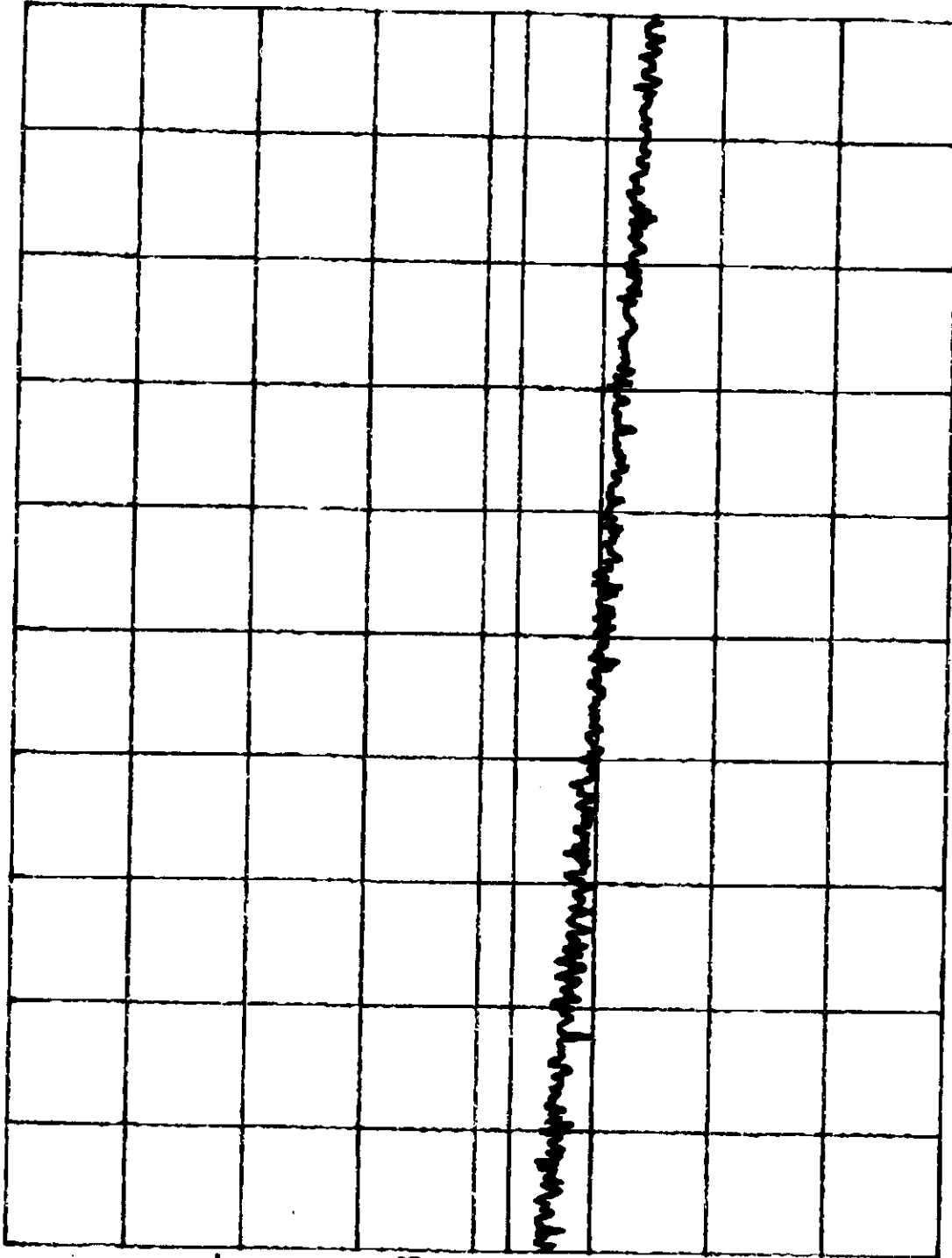
SPAN 5.000 MHZ  
#SWP 50.0 msec

VBW 30 KHZ

14:58:33 JUN 23, 1998

REF 30.0 dBm AT 20 dB

SMPL  
LOG  
10  
dB/  
OFFST  
20.0  
dB  
DL  
-13.0  
dBm  
AVG  
10  
WA SB  
SC FC  
CORR



START 1.912500 GHZ  
#RES BW 1.0 MHz

STOP 1.913500 GHZ  
#VBW 1 MHz  
#SWP 20.0 msec

CENTER  
FREQ

START  
FREQ

STOP  
FREQ

CF STEP  
AUTO MAN

FREQ  
OFFSET

Band  
Lock

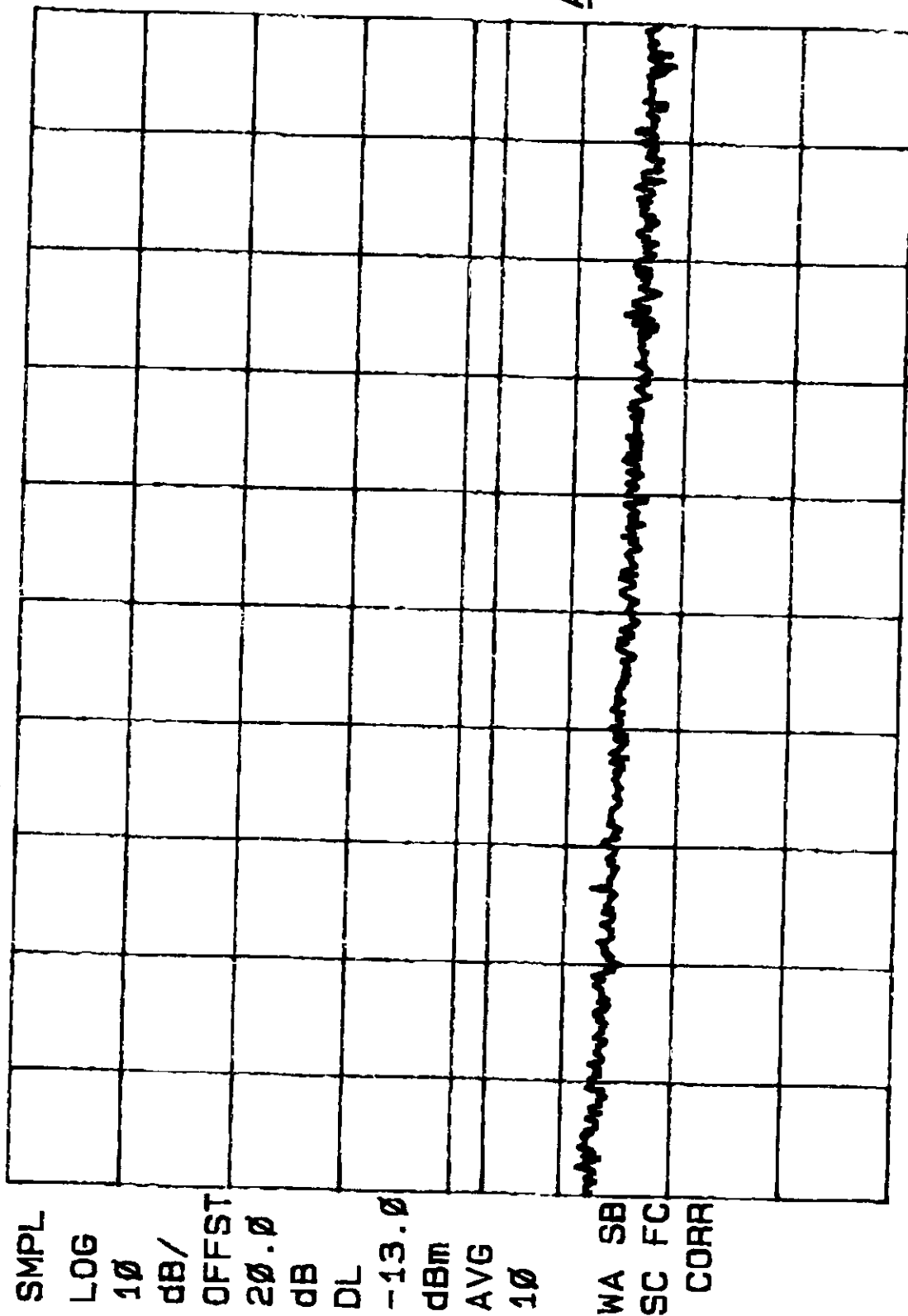
FCC ID: LXC-D100

695 P09

JUN 26 '98 07:15

15:02:06 JUN 23, 1998

REF 30.0 dBm AT 20 dB



START 1.913500 GHZ STOP 1.914500 GHZ  
#RES BW 1.0 MHz #VBW 1 MHz #SWP 20.0 msec

CENTER  
FREQ

START  
FREQ

STOP  
FREQ

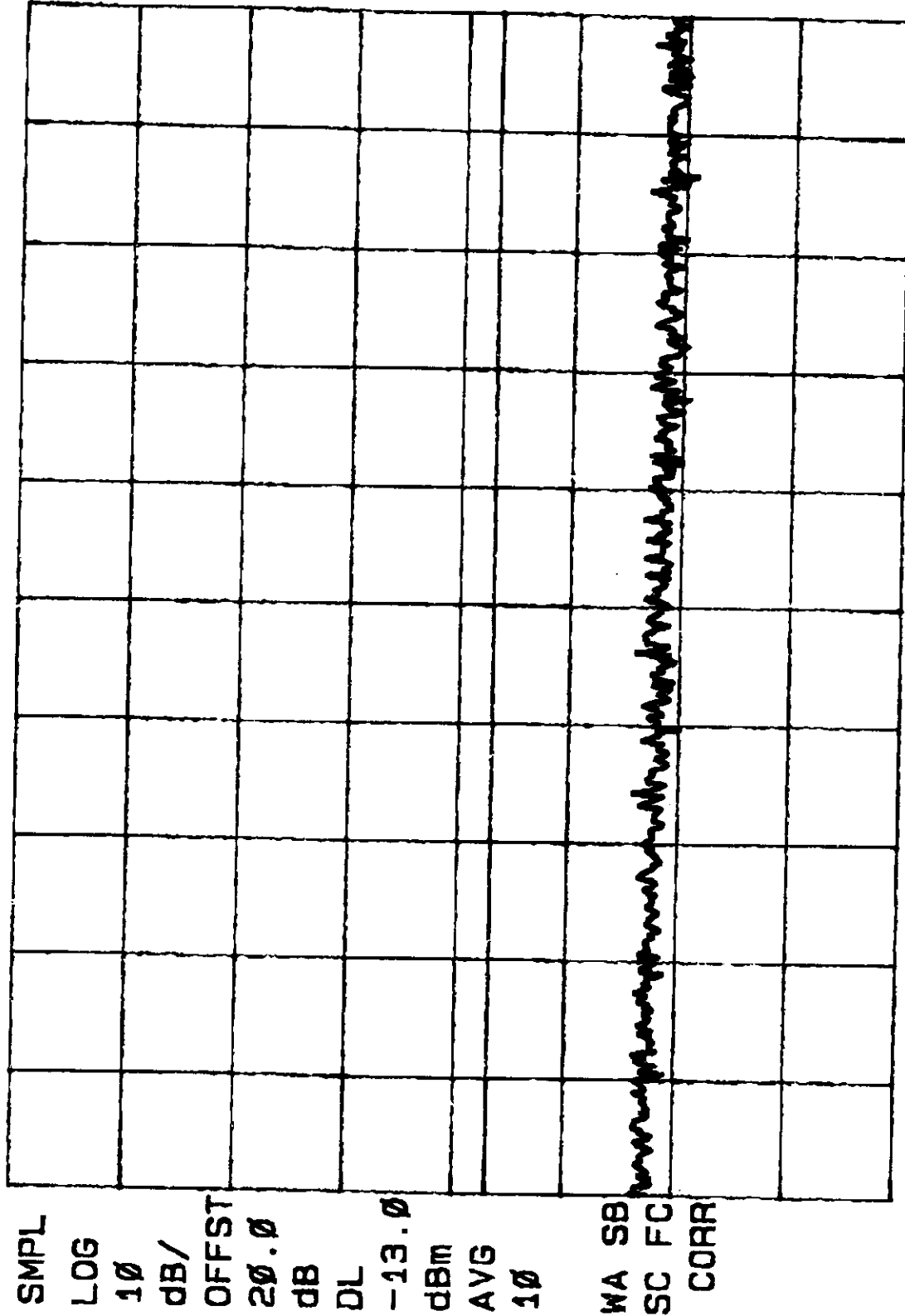
CF STEP  
AUTO MAN

FREQ  
OFFSET

Band  
Lock

15:05:38 JUN 23, 1998

REF 30.0 dBm AT 20 dB



CENTER FREQ  
START FREQ  
STOP FREQ  
CF STEP  
AUTO MAN  
FREQ OFFSET  
Band Lock

FCC ID: LXC-D100

START 1.914500 GHZ  
#RES BW 1.0 MHZ  
STOP 1.915500 GHZ  
#SWP 20.0 msec  
#VBW 1 MHZ

15:08:58 JUN 23, 1998

REF 30.0 dBm AT 20 dB

SMPL

LOG

10

dB/

OFFST

20.0

dB

DL

-13.0

dBm

AVG

10

WA SB

SC FC

CORR

CENTER  
FREQ

START  
FREQ

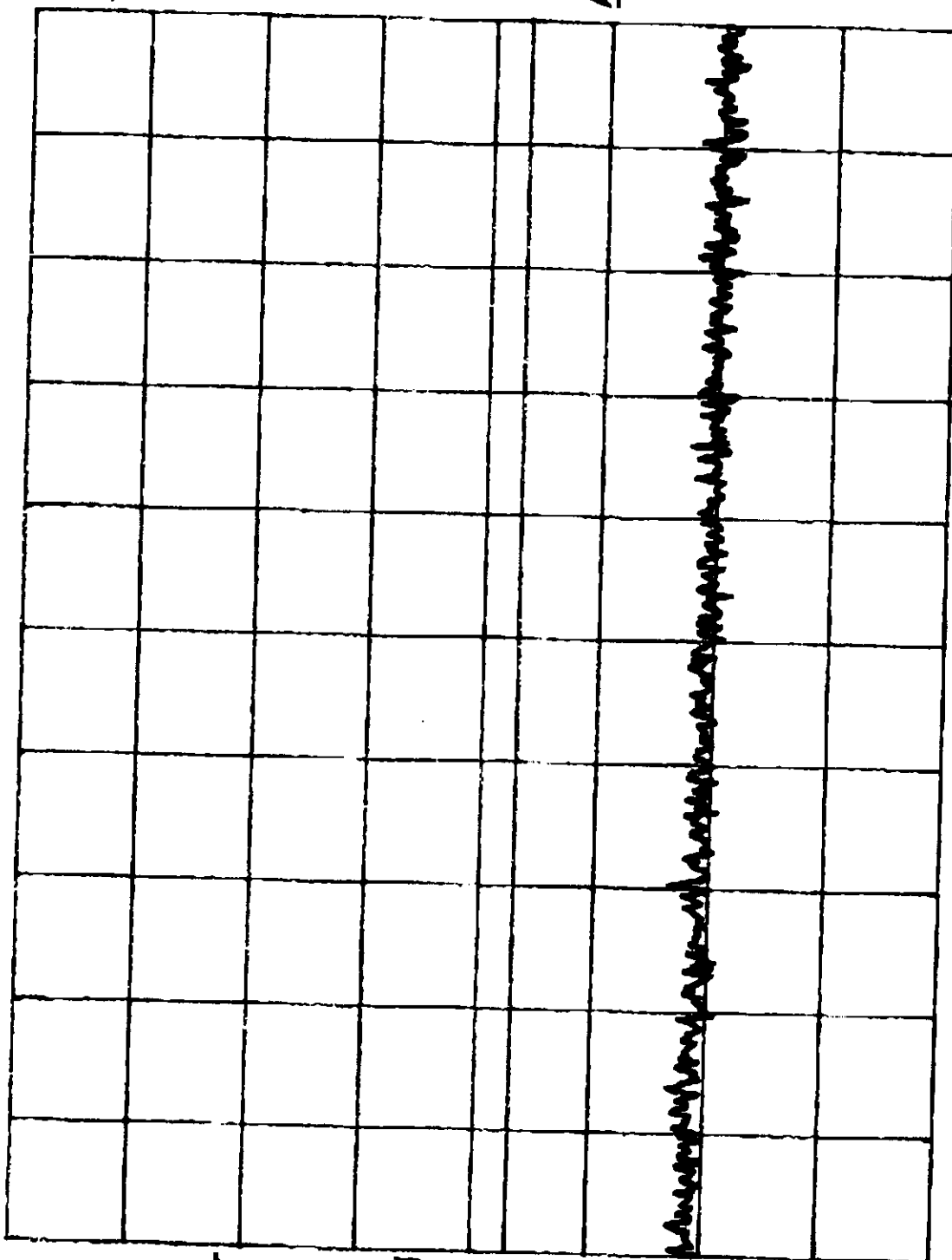
STOP  
FREQ

CF STEP  
AUTO MAN

FREQ  
OFFSET

Band  
Lock

FCC ID: LXC-D100



START 1.915500 GHZ

#RES BW 1.0 MHz

STOP 1.916500 GHZ

#SWP 20.0 msec

#VBW 1 MHz

1.6 Part 2 Requirements

Estimated production quantity (over the product life) of the handset will be: 175,000 units.