

CH. 40 MOD. CARRIER OCCUPIED BANDWIDTH  
h<sub>p</sub> REF 144.6 dBμV ATTEN 20 dB MKR Δ-4.00 KHZ -51.10 dB

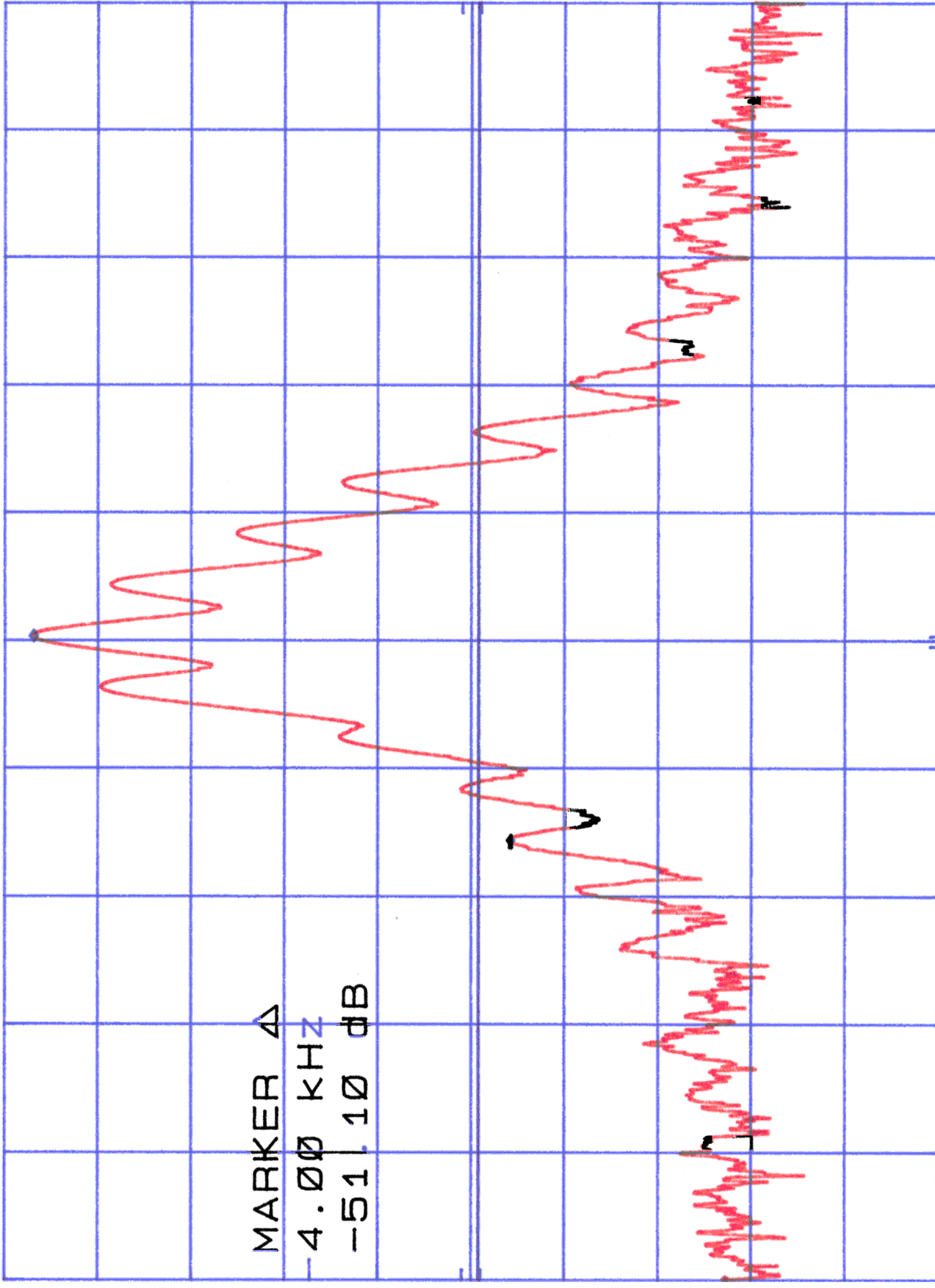
10 dB/

OFFSET  
29.6  
dB

DL  
93.8  
dBμV

MARKER Δ  
-4.00 KHZ  
-51.10 dB

CORR'D



CENTER 27.405 0 MHZ  
RES BW 300 Hz  
SPAN 25.0 KHZ  
SWP 1.00 sec

## **SECTION 10**

### **2.1051 SPURIOUS EMISSIONS AT ANTENNA TERMINALS**

**TEST PROCEDURES**  
**2.1051 SPURIOUS EMISSIONS AT ANTENNA**  
**TERMINALS**

**REPORT # 20221**  
**FCC D: JOFRS9803UD**

This test was performed to show the magnitude of each spurious and harmonic emissions that can be detected when the equipment is operated under the conditions specified in 2.1049.

The CB antenna output connector was connected to an HP 8498A 30 dB attenuator, which was connected to an HP 8568B spectrum analyzer. The CB was powered on and channel 1 was selected. The microphone was then keyed under normal operating conditions and the level of the highest spurious or harmonic emission was recorded. This procedure was then performed on channels 19 and 40.

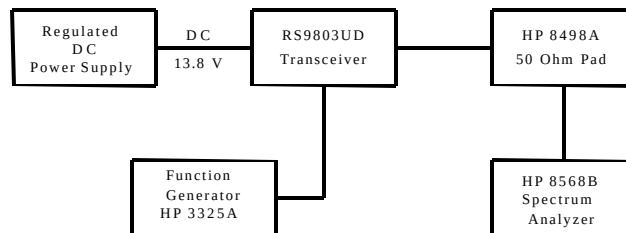
Note: In order to measure the harmonic emissions an additional Texscan Tunable Bandpass filter was connected between the HP 8498A 30 dB attenuator and the analyzer in order to eliminate overloading the S.A. front end.

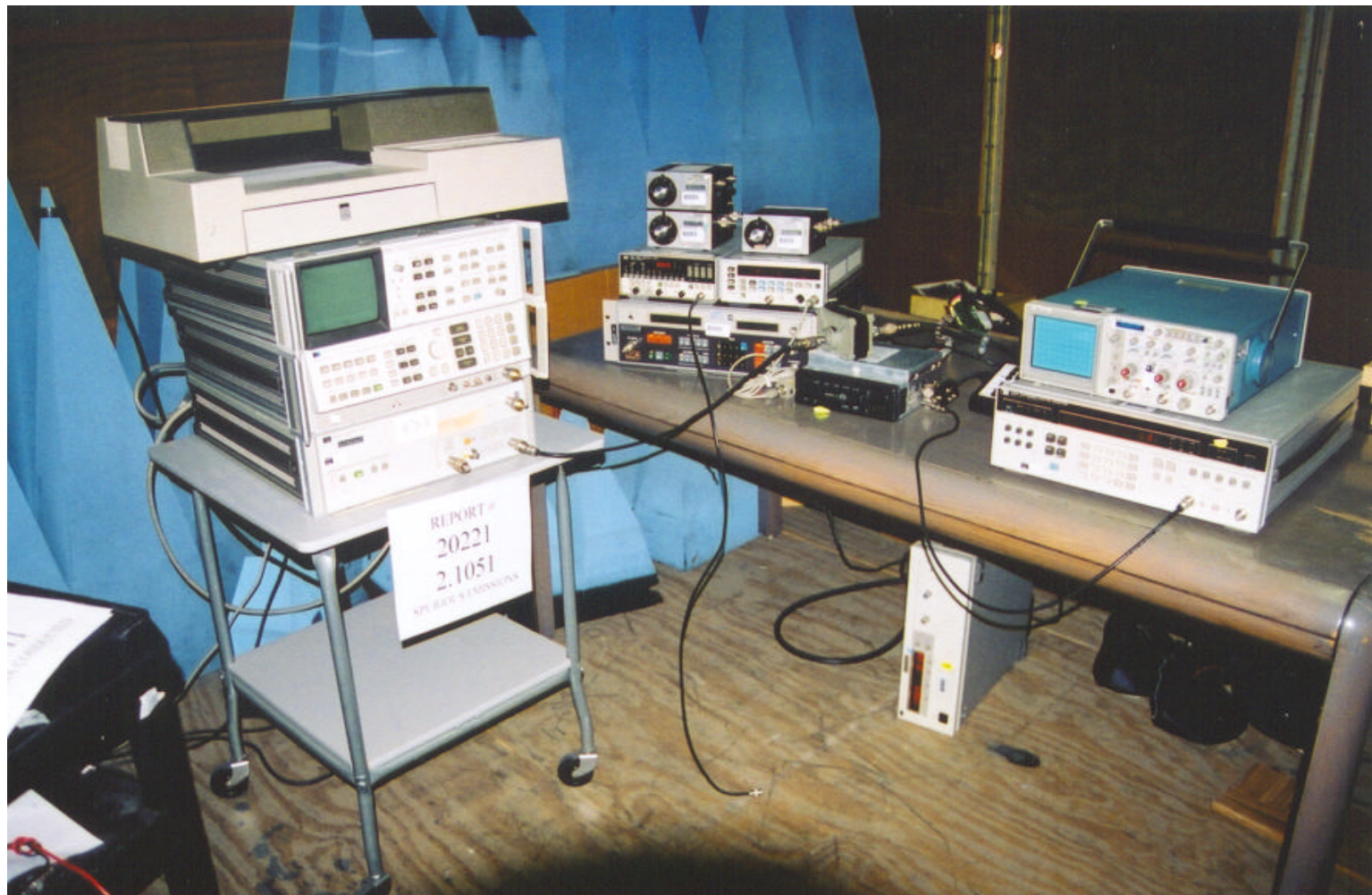
## 2.1051 SPURIOUS EMISSIONS AT ANTENNA TERMINALS

**REPORT # 20221**  
**FCC D: JOFRS9803UD**

### 2.1051 SPURIOUS EMISSIONS

#### TEST SET UP





## 2.1051 SPURIOUS EMISSIONS AT ANTENNA TERMINALS

**REPORT # 20221**  
**FCC D: JOFRS9803UD**

**Channel 19 = 27.18508 MHz    Transmit Level = 141.5 dB $\mu$ V**

| HARMONIC    |  | LEVEL              |  | LIMIT           |
|-------------|--|--------------------|--|-----------------|
| 54.37 MHz   |  | 73.75 dB $\mu$ V   |  | 82.5 dB $\mu$ V |
| 81.56 MHz   |  | 66.65 dB $\mu$ V   |  | 82.5 dB $\mu$ V |
| 108.740 MHz |  | >20dB Below Limit  |  | 82.5 dB $\mu$ V |
| 135.930 MHz |  | >20 dB Below Limit |  | 82.5 dB $\mu$ V |
| 163.110 MHz |  | >20 dB Below Limit |  | 82.5 dB $\mu$ V |
| 190.300 MHz |  | >20 dB Below Limit |  | 82.5 dB $\mu$ V |
| 217.480 MHz |  | >20 dB Below Limit |  | 82.5 dB $\mu$ V |
| 244.670 MHz |  | >20 dB Below Limit |  | 82.5 dB $\mu$ V |
| 271.850 MHz |  | >20 dB Below Limit |  | 82.5 dB $\mu$ V |
| 299.040 MHz |  | >20 dB Below Limit |  | 82.5 dB $\mu$ V |

## 2.1051 SPURIOUS EMISSIONS AT ANTENNA TERMINALS

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Channel 1 = 26.9652 MHz      Transmit Level = 141.2 dB $\mu$ V

| HARMONIC    |  | LEVEL              |  | LIMIT           |
|-------------|--|--------------------|--|-----------------|
| 53.93 MHz   |  | 70.0 dB $\mu$ V    |  | 82.5 dB $\mu$ V |
| 80.90 MHz   |  | 67.2 dB $\mu$ V    |  | 82.5 dB $\mu$ V |
| 107.860 MHz |  | 40.5 dB $\mu$ V    |  | 82.5 dB $\mu$ V |
| 134.830 MHz |  | >20 dB Below Limit |  | 82.5 dB $\mu$ V |
| 161.790 MHz |  | >20 dB Below Limit |  | 82.5 dB $\mu$ V |
| 188.760 MHz |  | >20 dB Below Limit |  | 82.5 dB $\mu$ V |
| 215.720 MHz |  | >20 dB Below Limit |  | 82.5 dB $\mu$ V |
| 242.690 MHz |  | >20 dB Below Limit |  | 82.5 dB $\mu$ V |
| 269.650 MHz |  | >20 dB Below Limit |  | 82.5 dB $\mu$ V |
| 296.620 MHz |  | >20 dB Below Limit |  | 82.5 dB $\mu$ V |

## 2.1051 SPURIOUS EMISSIONS AT ANTENNA TERMINALS

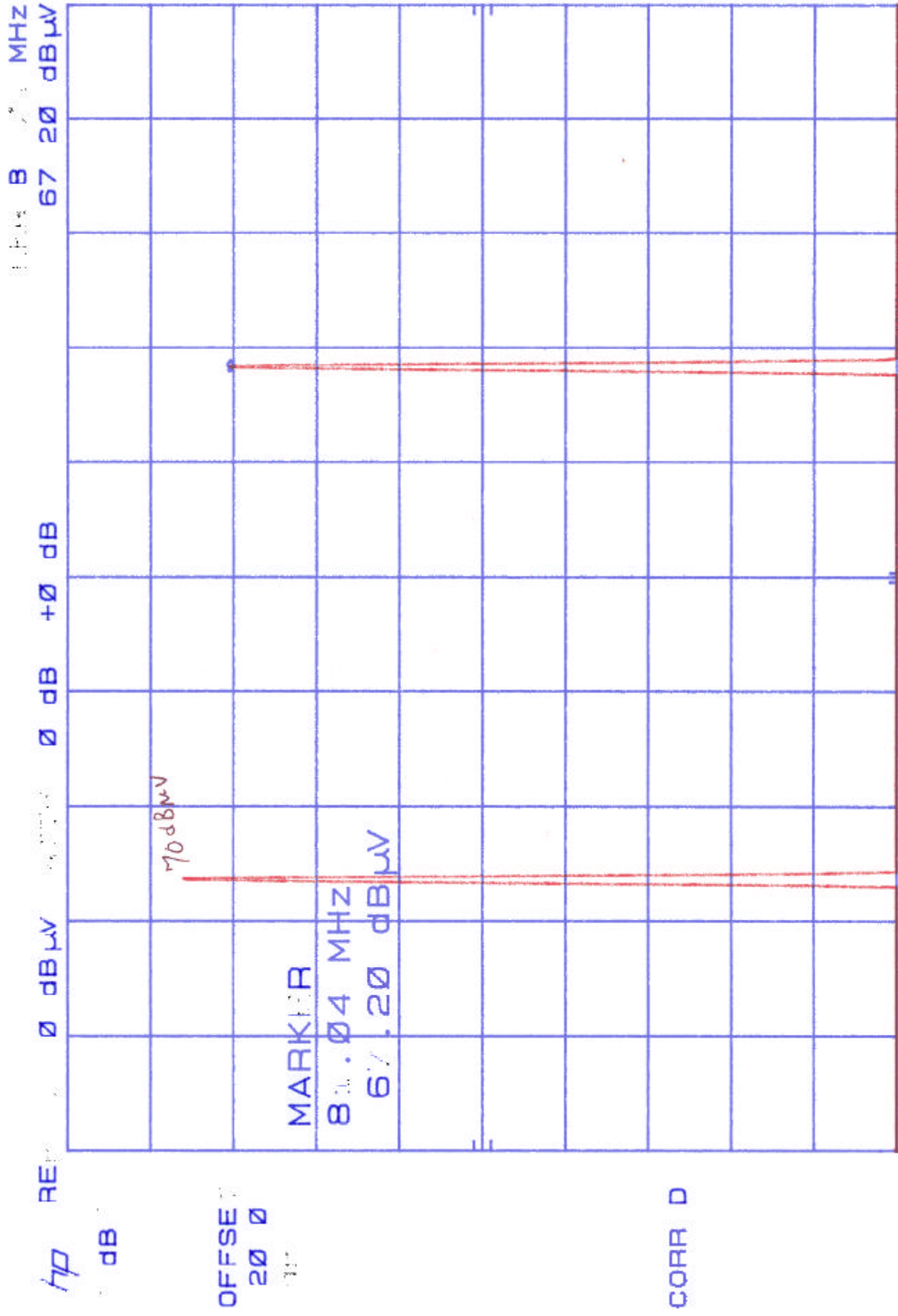
REPORT # 20221  
FCC D: JOFRS9803UD

Channel 40 = 27.4052 MHz

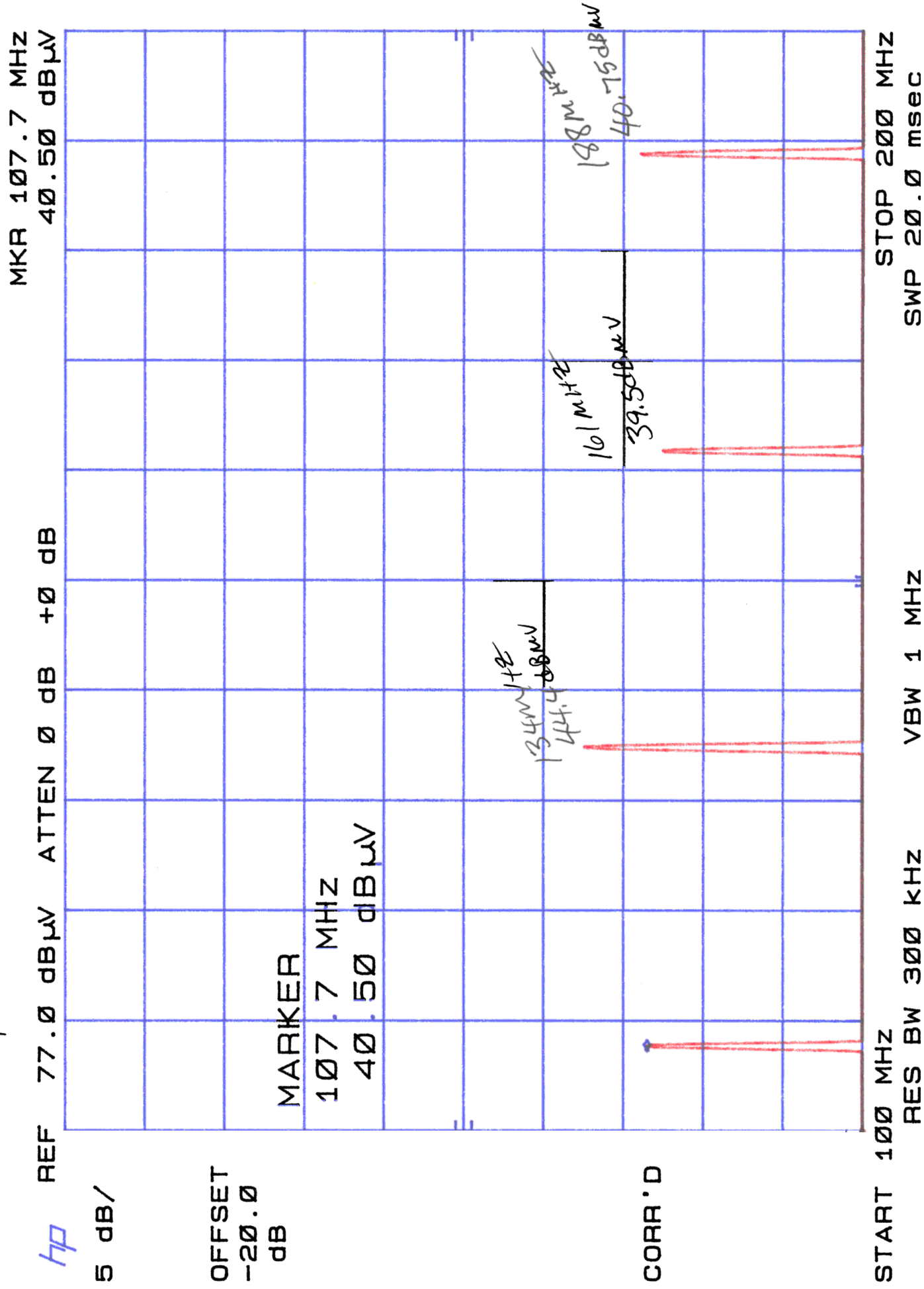
Transmit Level = 141.5 dB $\mu$ V

| HARMONIC    |  | LEVEL              |  | LIMIT           |
|-------------|--|--------------------|--|-----------------|
| 54.81 MHz   |  | >20 dB Below Limit |  | 82.5 dB $\mu$ V |
| 82.22 MHz   |  | >20 dB Below Limit |  | 82.5 dB $\mu$ V |
| 109.620 MHz |  | >20 dB Below Limit |  | 82.5 dB $\mu$ V |
| 137.030 MHz |  | >20 dB Below Limit |  | 82.5 dB $\mu$ V |
| 164.430 MHz |  | >20 dB Below Limit |  | 82.5 dB $\mu$ V |
| 191.840 MHz |  | >20 dB Below Limit |  | 82.5 dB $\mu$ V |
| 219.240 MHz |  | >20 dB Below Limit |  | 82.5 dB $\mu$ V |
| 246.650 MHz |  | >20 dB Below Limit |  | 82.5 dB $\mu$ V |
| 274.650 MHz |  | >20 dB Below Limit |  | 82.5 dB $\mu$ V |
| 301.460 MHz |  | >20 dB Below Limit |  | 82.5 dB $\mu$ V |

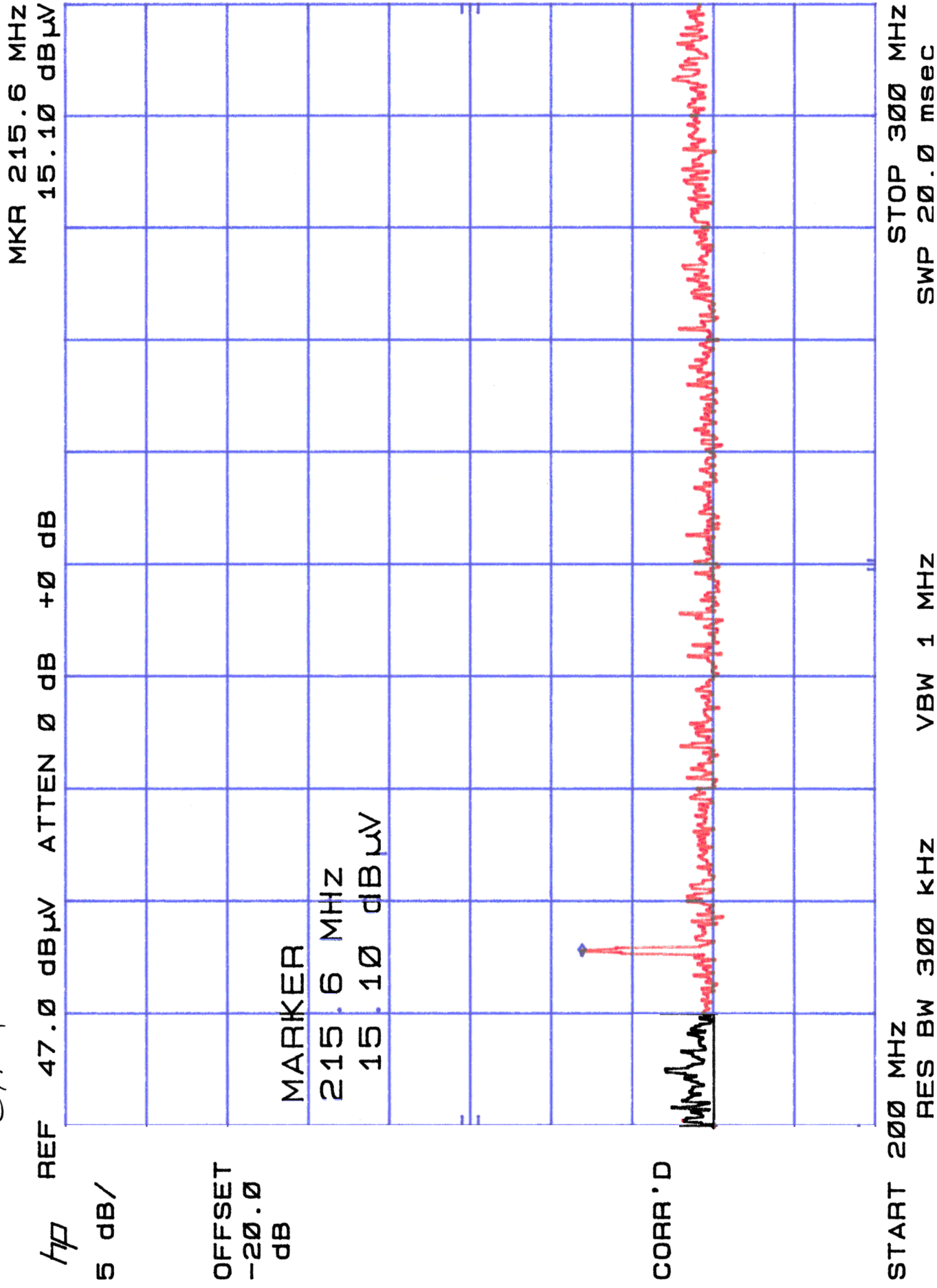
0 SPUR S E M 55.0 S AT AN I ER M NAS  
 CH



# 2.1051 Spurious Emissions At ANT. TERMINALS CH. 1



2,1051 Spurious Emissions AT ANT. ERMINA  
CH. 1



# 2,1051 Spurious Emissions AT ANT. TERMINALS

CH. 19

MR 54.52 MHz  
73.75 dBμV

REF 77.0 dBμV ATTN 0 dB +0 dB

5 dB/

OFFSET  
-20.0  
dB

MARKER

54.52 MHz

73.75 dBμV

8 MHz

66.65 dBμV

CORR'D

START 40.0 MHz

RES BW 100 KHz

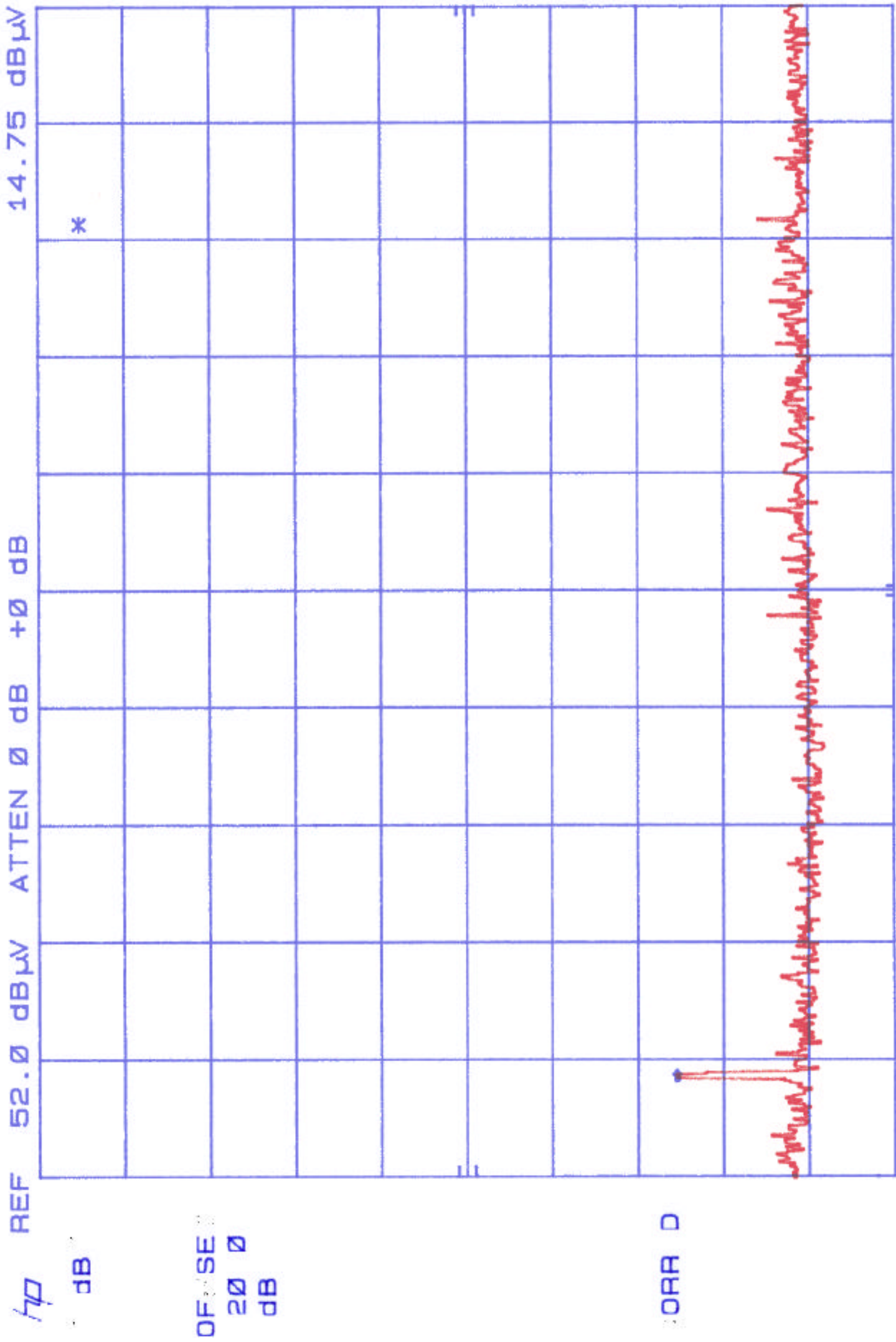
VBW 300 KHz

STOP 100.0 MHz

SWP 20.0 msec

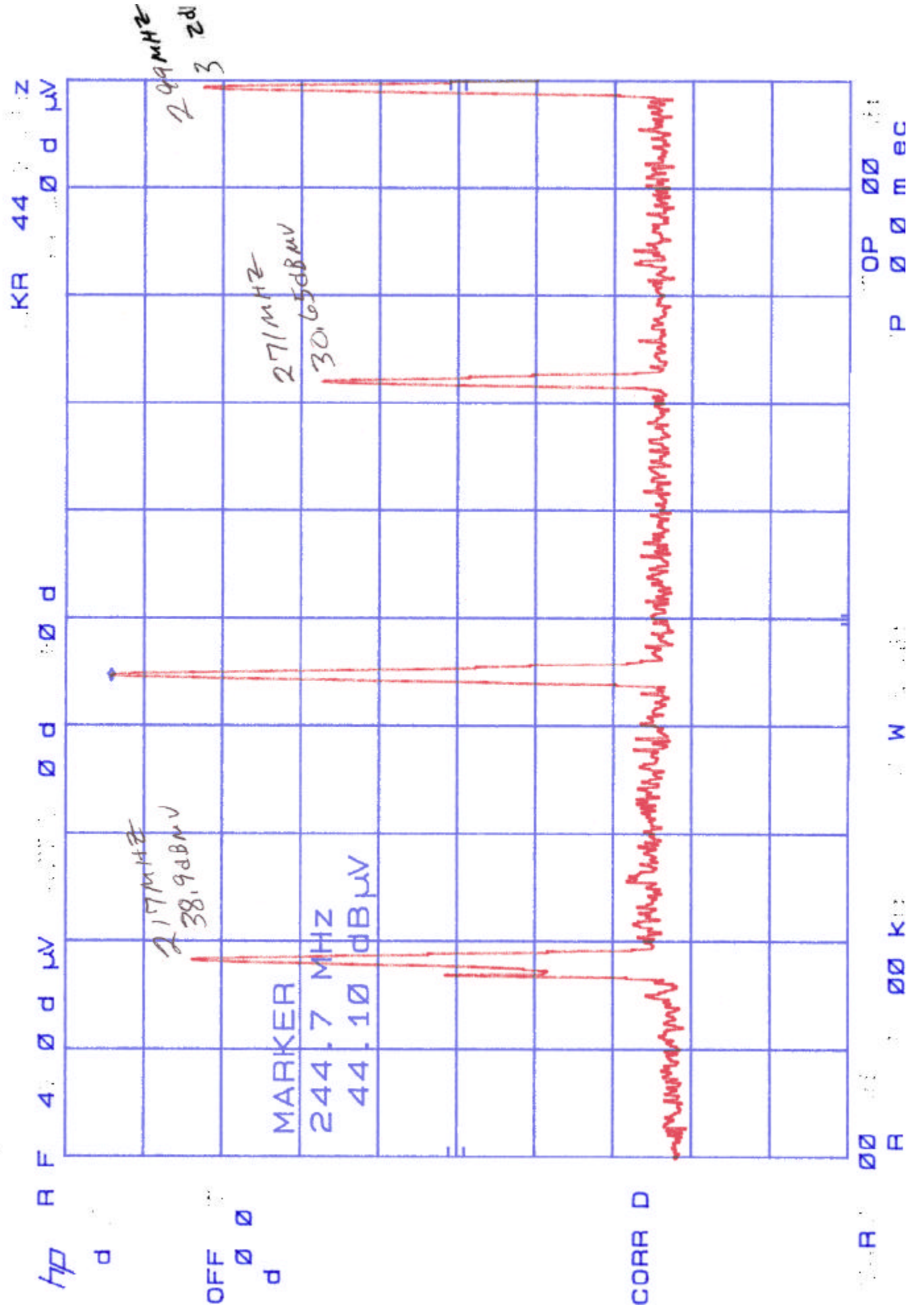
2.05 - Pur w. E.M.S.S. NS AT A.  
 CH 14

MKR 108.6 MHz  
 14.75 dBμV



STOP 200 MHz  
 SWP 200 MHz

2/65 SPUR EM 5 AT ANT TERNAL  
C/4 19



# 2,1051 Spurious Emissions AT ANT. TERMINALS

CH 40

MKR 54.82 MHz  
20.85 dBμV

hp

REF 47.0 dBμV ATTN 0 dB +0 dB

5 dB/

OFFSET  
-20.0  
dB

MARKER

54.82 MHz

20.85 dBμV

82 MHz  
11.45 dBμV

CORR'D

START 40.0 MHz RES BW 100 KHz STOP 100.0 MHz SWP 20.0 msec  
VBW 300 KHz

# 2,1051 Spurious Emission AT ANT. TERMINALS

CH.40

MKR 109.5 MHz  
40.30 dBμV

hp

REF 47.0 dBμV ATTN 0 dB +0 dB

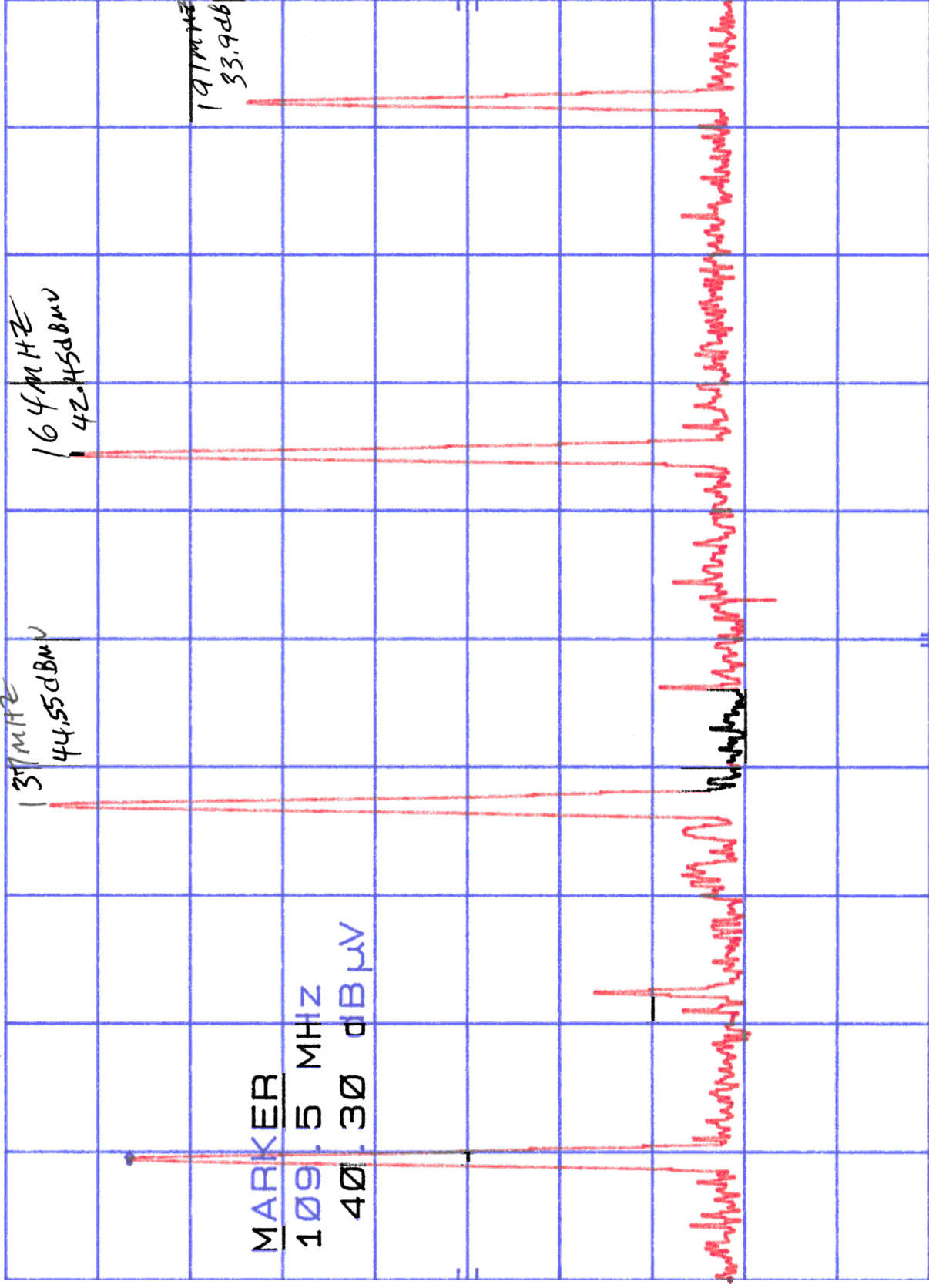
5 dB/

OFFSET  
-20.0  
dB

MARKER

109.5 MHz

40.30 dBμV



CORR'D

START 100 MHz

RES BW 300 KHz

VBW 1 MHz

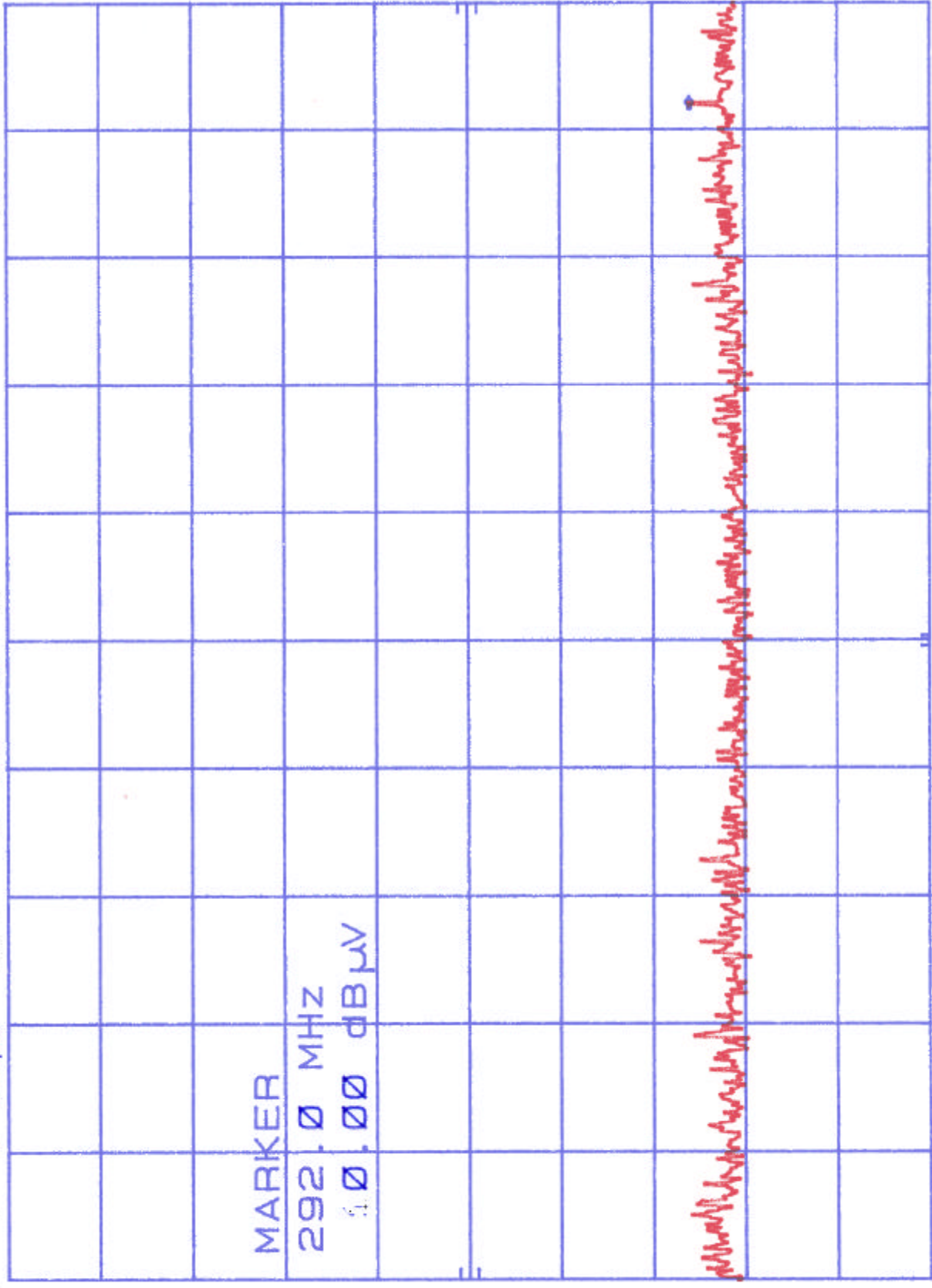
STOP 200 MHz

SWP 20.0 msec

0105 SPUR. vs EMISSIONS AT ANT. TERMINALS  
CH 40

MKR 292.0 MHz  
0.00 dBμV

HP REF 0 dBμV 0 dB +0 dB



dBμV

20.0 dB

CORR D

START 200 MHz RES BW 300 kHz STOP 300 MHz SWP 20.0 msec

## **SECTION 11**

### **2.1053 SPURIOUS RADIATION**

## 2.1053 SPURIOUS RADIATION

**REPORT # 20221**  
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The EUT was placed in a typical configuration on a wooden table 80cm above a rotate able metal turntable mounted level with the metal ground plane. A receiving Bicon antenna was placed 3 meters away from the EUT on a 4-meter fiberglass mast. The receiving antenna was connected to the 50 O input of the HP8566B spectrum analyzer. The EUT was powered by a 13 VDC supply and was configured into its normal operational mode.

The 30 to 40 MHZ band was observed on the spectrum analyzer while the EUT power and control leads were adjusted to maximize emissions. The peak frequencies for this band were recorded. This search for emissions continued from 40 MHZ up to 1000 MHZ.

The receiving antennas were varied in height from 1 to 4 meters and the remote turntable was rotated 360 degrees to find the maximum emissions. This test was performed for all modes of operation.

All significant emissions are reported on the attached data report. To verify that the E.M.I. emissions measured were generated by the E.U.T., the system power was interrupted at peak reading while observing the Spectrum Analyzer. Unless otherwise specified, all Radiated Emissions are recorded as "PEAK" spectrum analyzer readings. The Radiated Field Strength was calculated as follows: Maximum Emission Received (dB) + Antenna Factor (dB) + Cable Loss (dB) = Field Strength dBuv/Meter.

## 2.1053 SPURIOUS RADIATION

REPORT # 20221  
FCC D: JOFRS9803UD

### 2.1053 FIELD STRENGTH OF SPURIOUS RADIATION

#### TEST SET UP

