

MEASUREMENT AND TECHNICAL REPORT

LITTLEFEET, INC.
13000 Gregg Street
Poway, CA 92064

DATE: 03 August 2001

This Report Concerns:	Original Grant: X	Class II Change:
Equipment Type:	BSpice 1900 MHz, Model GL 1902B	
Deferred grant requested per 47 CFR 0.457(d)(1)(ii)?	Yes: Defer until:	No: X
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: X
(*) FCC Part 2, Paragraphs 2.1046, 2.1049, 2.,1051, 2.1053, 2.1055(d)(1); Part 24, Paragraph 24,238		
Report Prepared by: TÜV PRODUCT SERVICE 10040 Mesa Rim Road San Diego, CA 92121-2912 Phone: 858 546 3999 Fax: 858 546 0364		

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1 GENERAL INFORMATION

1.1 Product Description

BSPICE 1900 MHz, Model GL1902B (Frequency Translating Repeater System)

Power Requirements

Regulations require testing to be performed at typical power ratings in the countries of intended use. (i.e., European power is typically 230 VAC 50 Hz or 400 VAC 50 Hz, single and three phase, respectively)

Voltage: 20-56 Vdc (If battery powered, make sure battery life is sufficient to complete testing.)

of Phases: N/A

Current (Amps/phase(max)): 5A Current (Amps/phase(nominal)): _____

Other: External AC/DC power supply used to power EUT.

Typical Installation and/or Operating Environment

BSPICE will be installed co-located with customer BTS, system may be indoors or outdoors in a protected environment or unprotected environment.

EUT Power Cable

☐ Permanent OR X Removable Length (in meters): 2 meters typical
☐ Shielded OR X Unshielded

EUT Interface Ports and Cables

Interface			Shielding				Connector Type	Port Termination	Length (in meters)	Removable	Permanent
Type	Analog	Digital	Yes	No							
Antenna	X		X				N Type	50-Ohm			
RX	X		X				N Type	50-Ohm			
TX/RX1	X		X				N Type	50-Ohm			
TX/RX2	X		X				N Type	50-Ohm			
Downlink output monitor	X		X				SMA	50-Ohm			
Uplink input monitor	X		X				SMA	50-Ohm			
DC power	X			X			Power				

EUT Operating Modes to be Tested --

Uplink signal injected per channel (2 channels)

EUT System Components --

Description	Model #		
BSPICE	GL1902B		

Support Equipment -

Description	Model #	Serial #	FCC ID #
LapTop, Jet Book	7620L	TNYH01037875	N/A
Power Supply	--	--	--

Oscillator Frequencies			
<i>Frequency</i>	<i>Derived Frequency</i>	<i>Component # / Location</i>	<i>Description of Use</i>
133 MHz	--	Crystal oscillator	--
13 MHz	--	Crystal oscillator	--
MHz	1730-1790	Local Oscillator	Downlink
MHz	1640-1710	Local Oscillator	Uplink

Power Supply			
<i>Manufacturer</i>	<i>Model #</i>		<i>Type</i>
External Littlefeet	00003		Switched-mode
Internal Mesa	--		
Power			Switched-mode

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 2.1049, 2.1051, and 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 2.1053
- 4. Engineering evaluations
- X 5. Frequency Stability, Part 2, Paragraph 2.1055(d)(1)
- X RF Output Power, Part 2, Paragraph 2.1046

Both Conducted and radiated testing were performed according to the procedures in FCC/ANSI C63.4 and CSA 108.8 - M1983. Radiated testing was performed at an antenna-to-EUT distance of 3 meters (1 - 25 GHz).

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.

1.6 Part 2 Requirements

Equipment Specifications

Freq. Range in MHz	Rated RF Power output in watts	Freq. Tolerance %, Hz, ppm	Emission Des.	Microprocessor
1930-1990	10 watts	0.05 ppm	200KGXW	PC104

2. SYSTEM TEST CONFIGURATION

2.1 Justification

The EUT was initially tested for FCC emission in the following configuration:

See Block Diagram.

2.2 EUT Exercise Software

None

2.3 Special Accessories

None

2.4 Modification

None

2.5 Configuration of Tested System

See Block Diagram.

3 RADIATED EMISSION EQUIPMENT/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).

See test setup photos for radiated emissions test setup.

125

v.beta1a

12

13

Emissions Test Conditions: RADIATED EMISSIONS, FCC Part 2, Paragraph 2.1053

The <i>RADIATED EMISSIONS</i> measurements were performed at the following test location :
--

☐ - Test not applicable
--

■ - Roof, 3-Meter Open Area Test Site

Testing was performed at a test distance of:

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

Test Equipment Used :

Model No.	Prop. No.	Description	Manufacturer	Serial No.	Cal Date
3115	251	Antenna, Horn	Electro Mechanics Co.	2595	10/01
Pre Amp	719	PreAmp 1-18 GHz	TUV PS	--	*
8566B	823	Spectrum Analyzer	Hewlett Packard	2332A02751	07/02

Remarks: (*) Verified internally

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.

4 CONDUCTED EMISSION EQUIPMENT/DATA

See following page(s).

Emissions Test Conditions: CONDUCTED EMISSIONS, FCC Part 2, Paragraphs 2.1046, 2.1049, 2.,1051, 2.1055(d)(1); Part 24, Paragraph 24,238

The *RADIATED EMISSIONS* measurements were performed at the following test location :

☐ - Test not applicable

■ - TR2 Test Room

Test Equipment Used :

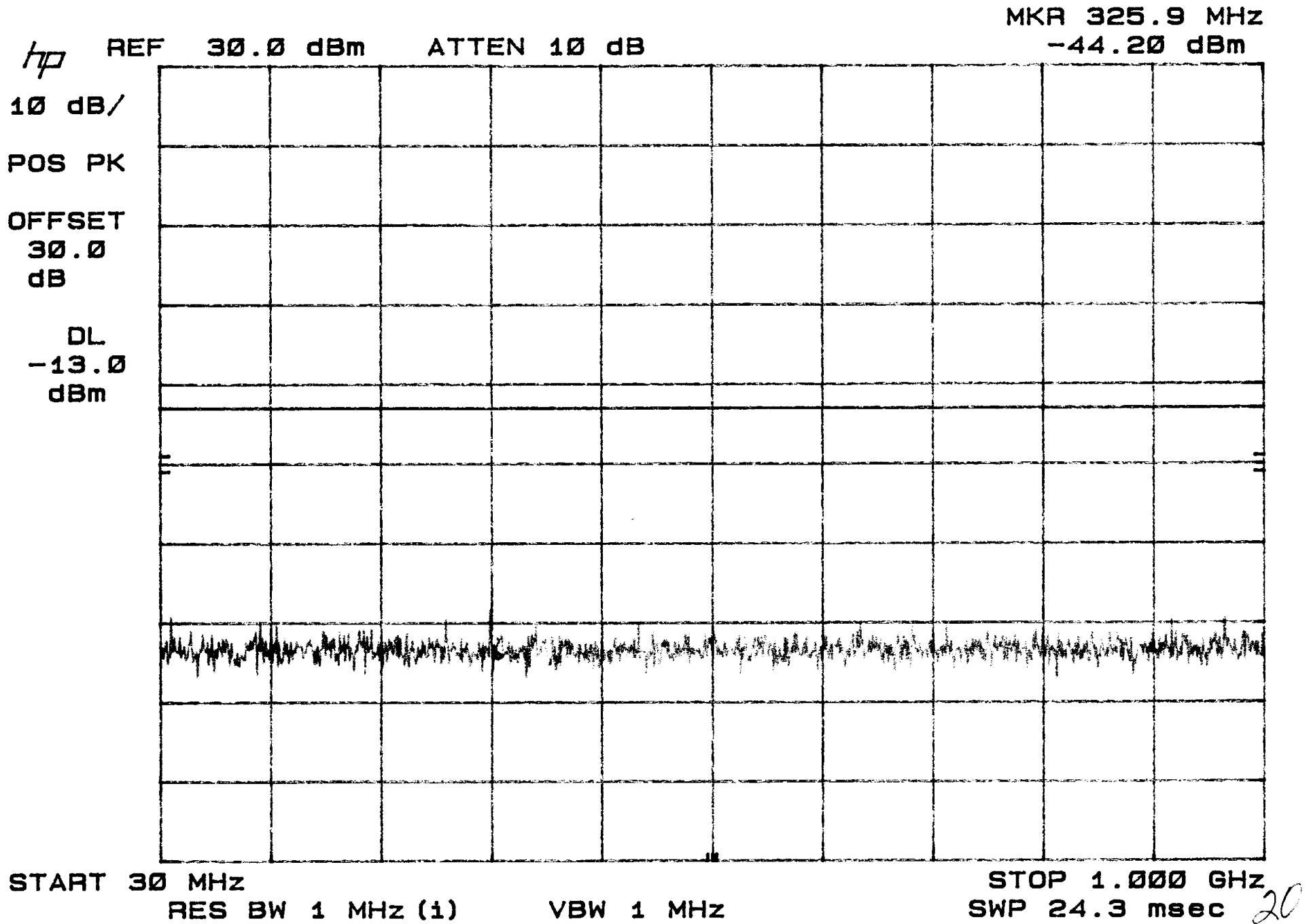
HP 8566B, P/N 823, Spectrum Analyzer, Hewlett Packard, S/N 2332A02751, Cal 07/02
6843A, P/N 580, Harmonic Test Setup, Hewlett Packard, S/N 3531A-D0115, Cal 08/01
8900P, P/N 802, Power Meter, Hewlett Packard, S/N 3607B00653, Cal 04/02
HP 8566B, P/N 744, Spectrum Analyzer, Hewlett Packard, S/N 2618A02913, Cal 09/01
HP8648C, P/N 789, Signal Generator, Hewlett Packard, S/N 36AU01074, Cal 11/01
SMA Cable , United Microwave Prod, S/aN 57793*
1506A, Splitter, Weinchel Engineering, S/N M5134*
8900A, P/N 802, Power Meter, Hewlett Packard, Cal 04/02
P/N 6225, Enviromental Chamber, Tenney, Cal 04/02

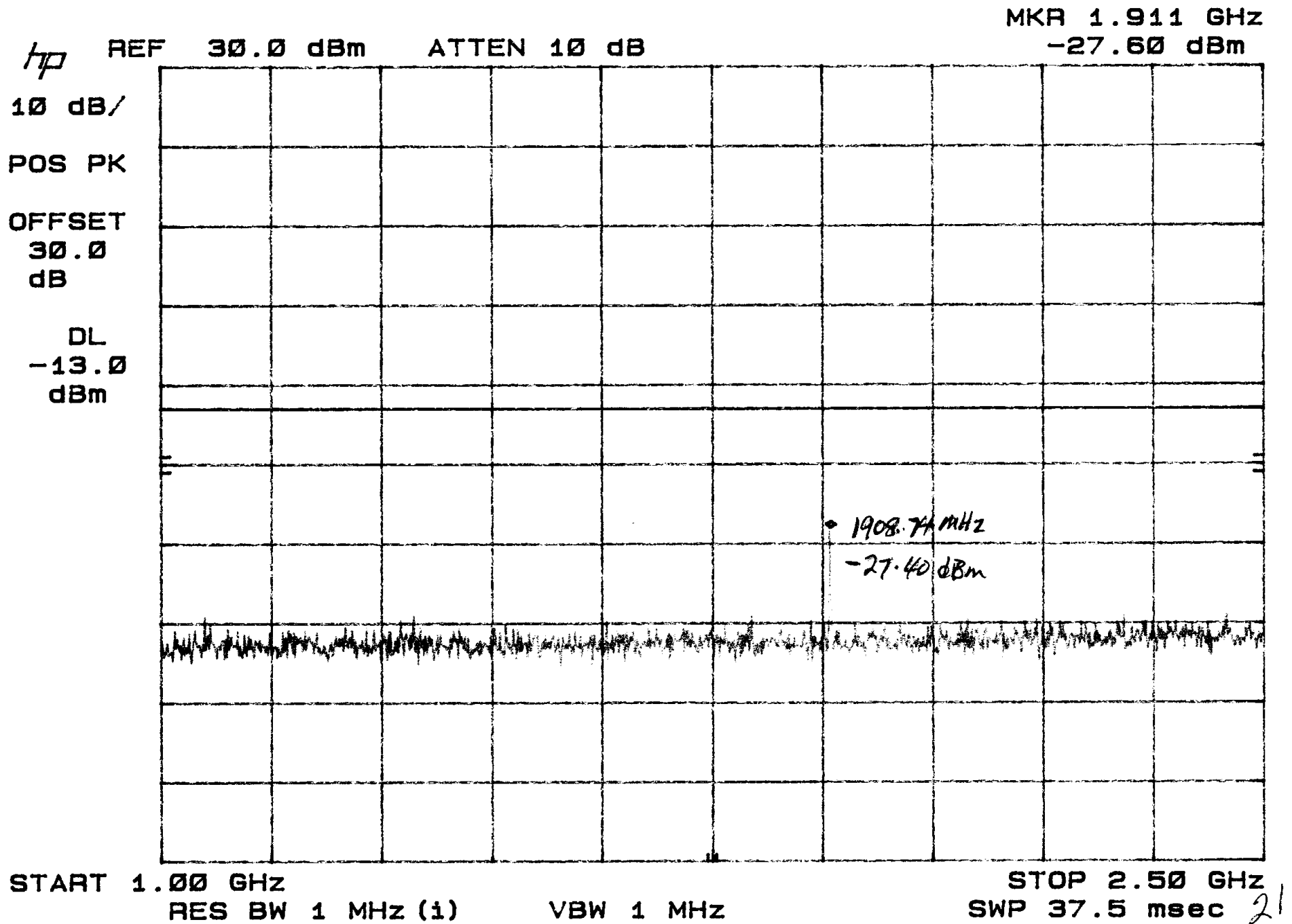
(*) Verified

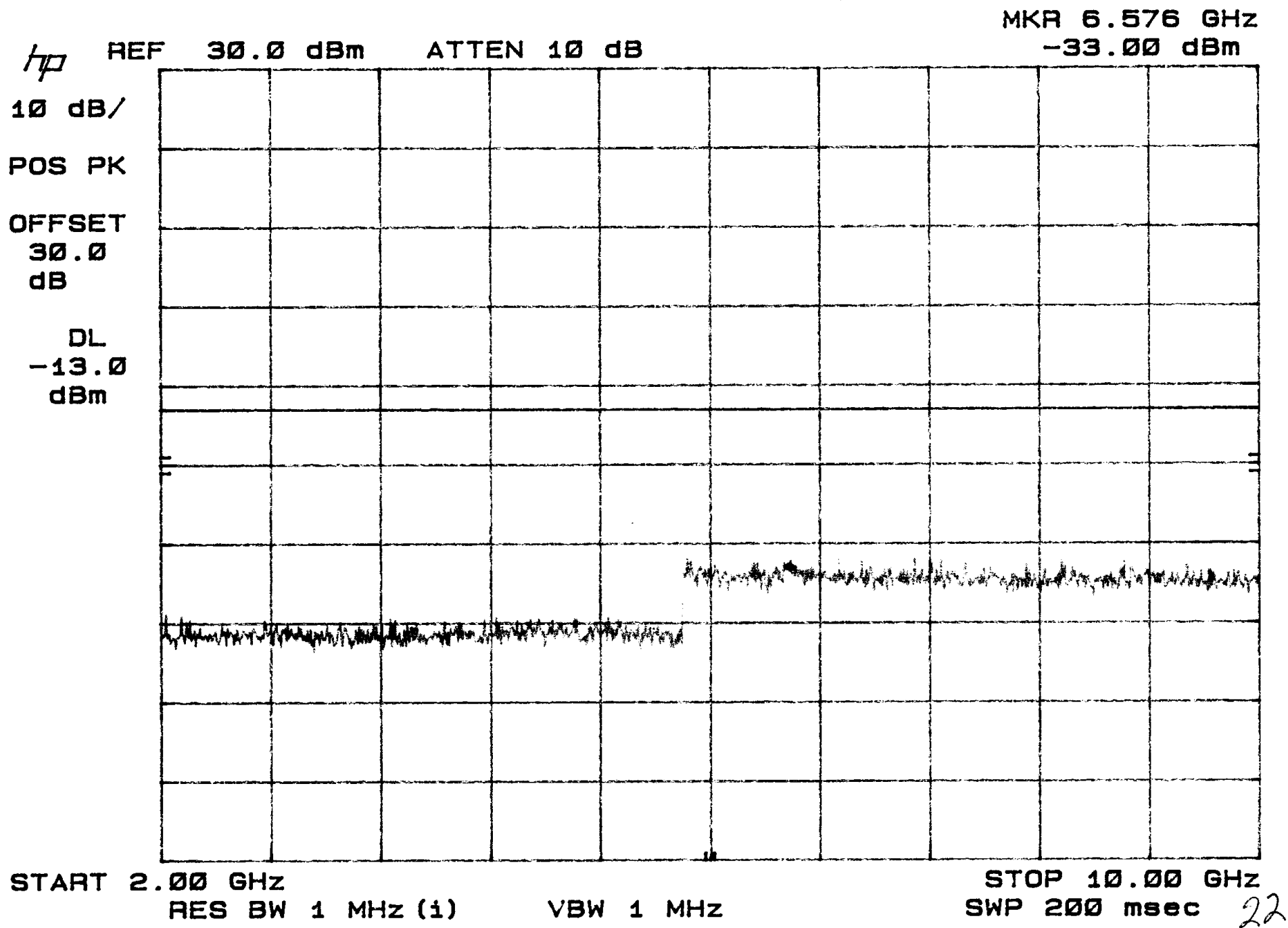
Remarks: _____

Spurious Emissions at Antenna Ports
NOTES: Uplink, high channel

FCC Part 2, Para. 2.1051 and Part 24, Para 24.238



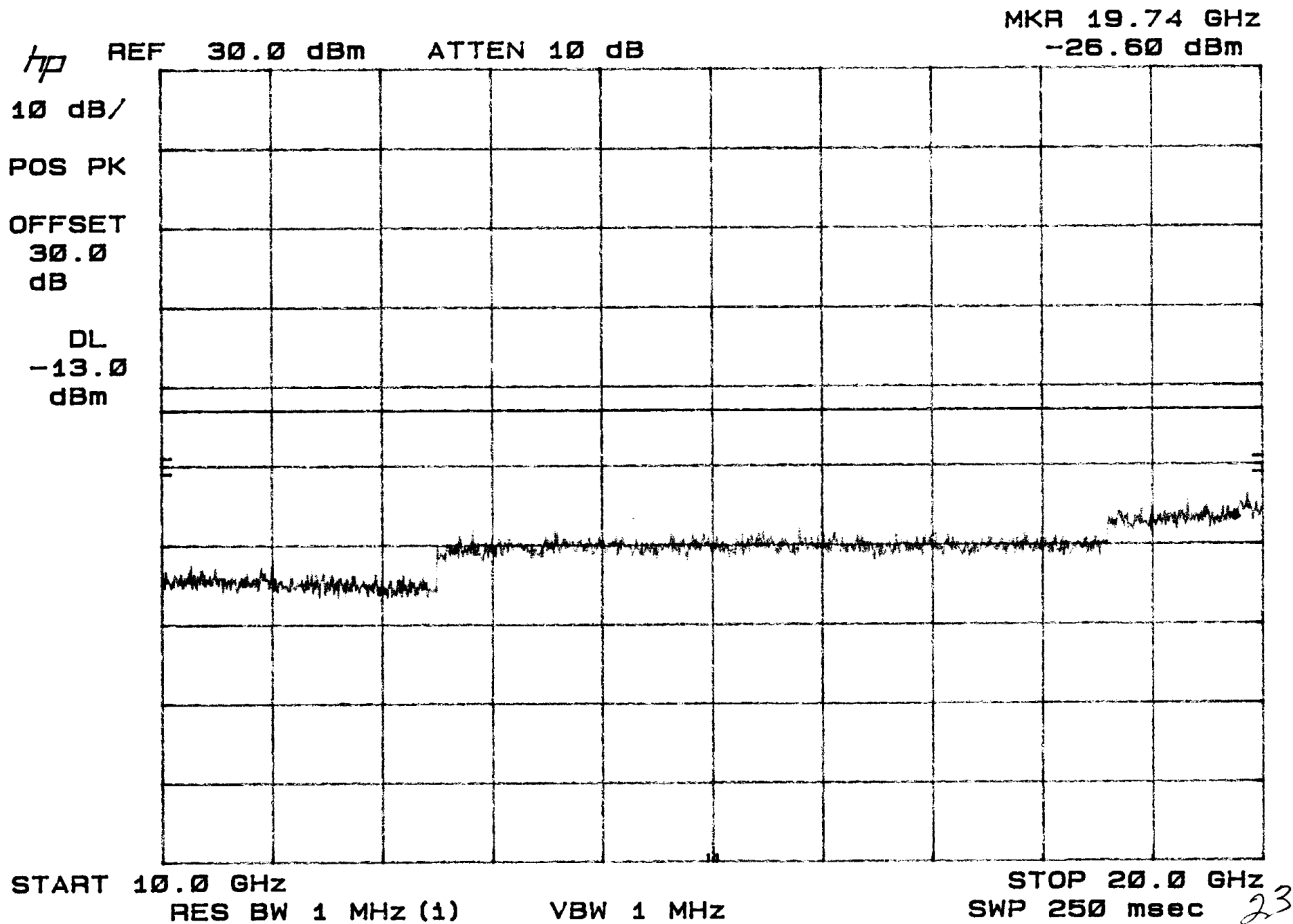




7/20/07

Spurious Emissions at Antenna Ports
NOTES: Uplink, high channel

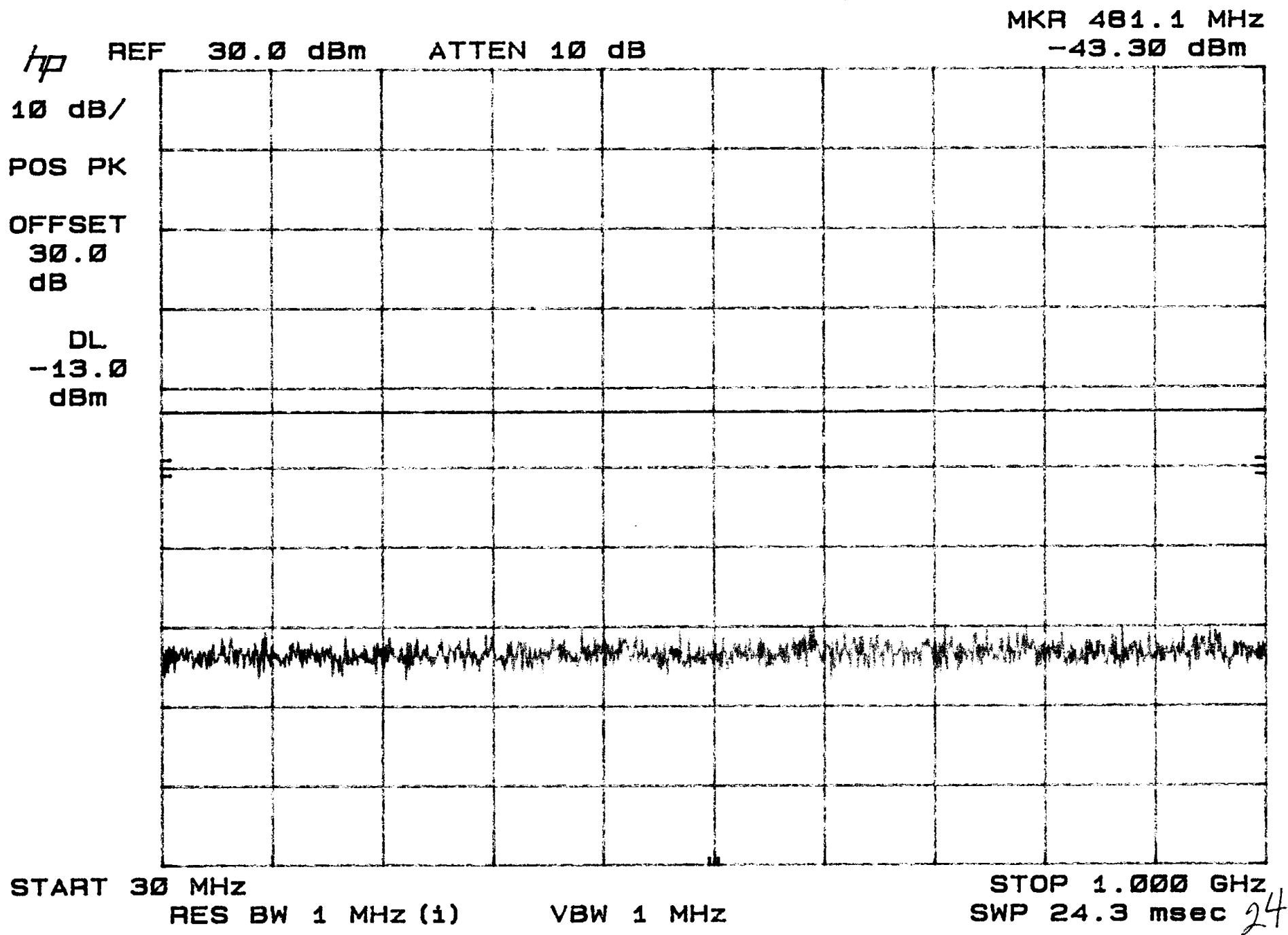
FCC Part 2, Para. 2.1051 and Part 24, Para 24.238



7/20/01

Spurious Emissions at Antenna Ports
NOTES: Uplink, mid channel

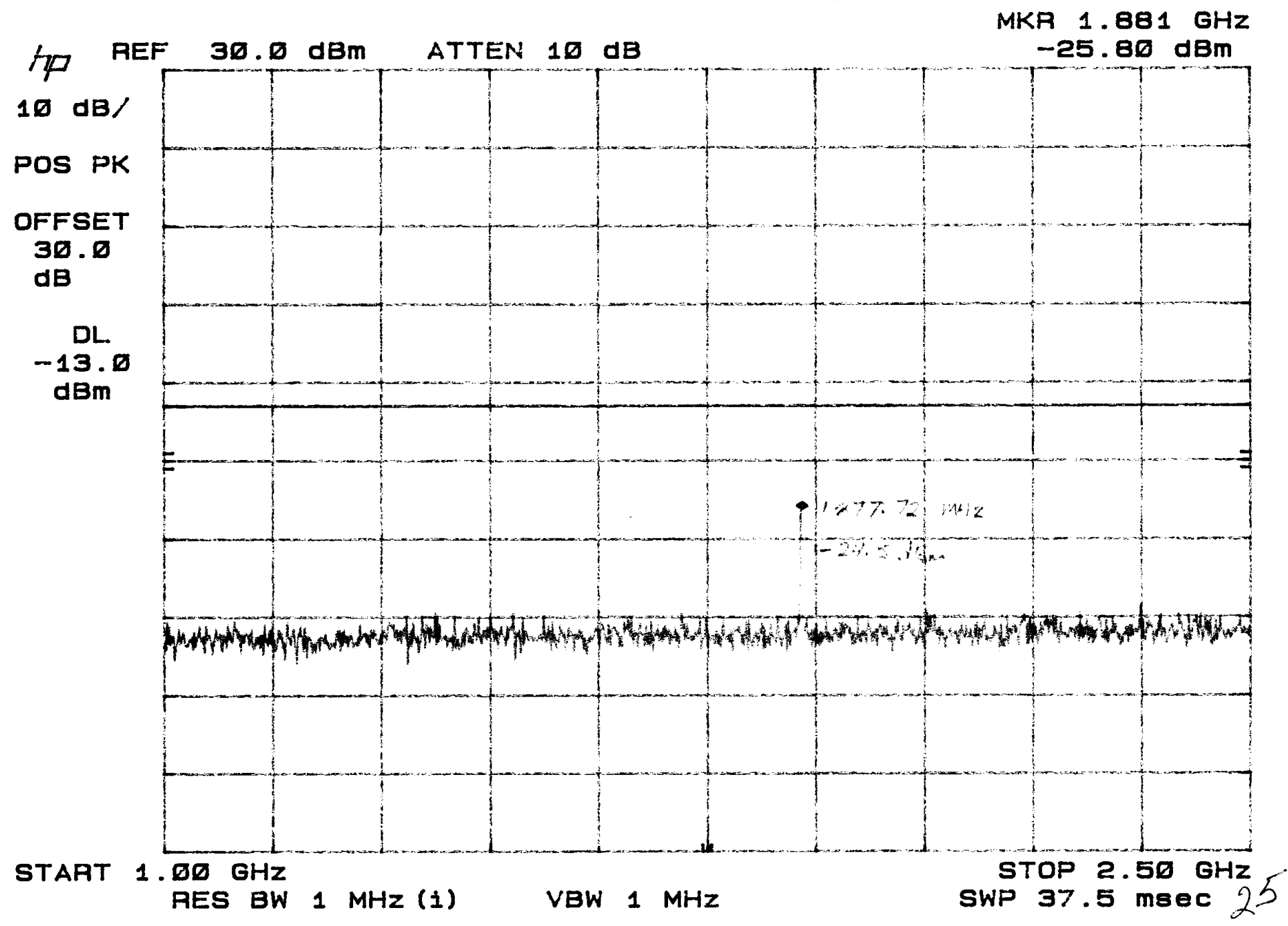
FCC Part 2, Para. 2.1051 and Part 24, Para 24.238



7/50/11

Spurious Emissions at Antenna Ports
NOTES: Uplink, mid channel

FCC Part 2, Para. 2.1051 and Part 24, Para 24.238

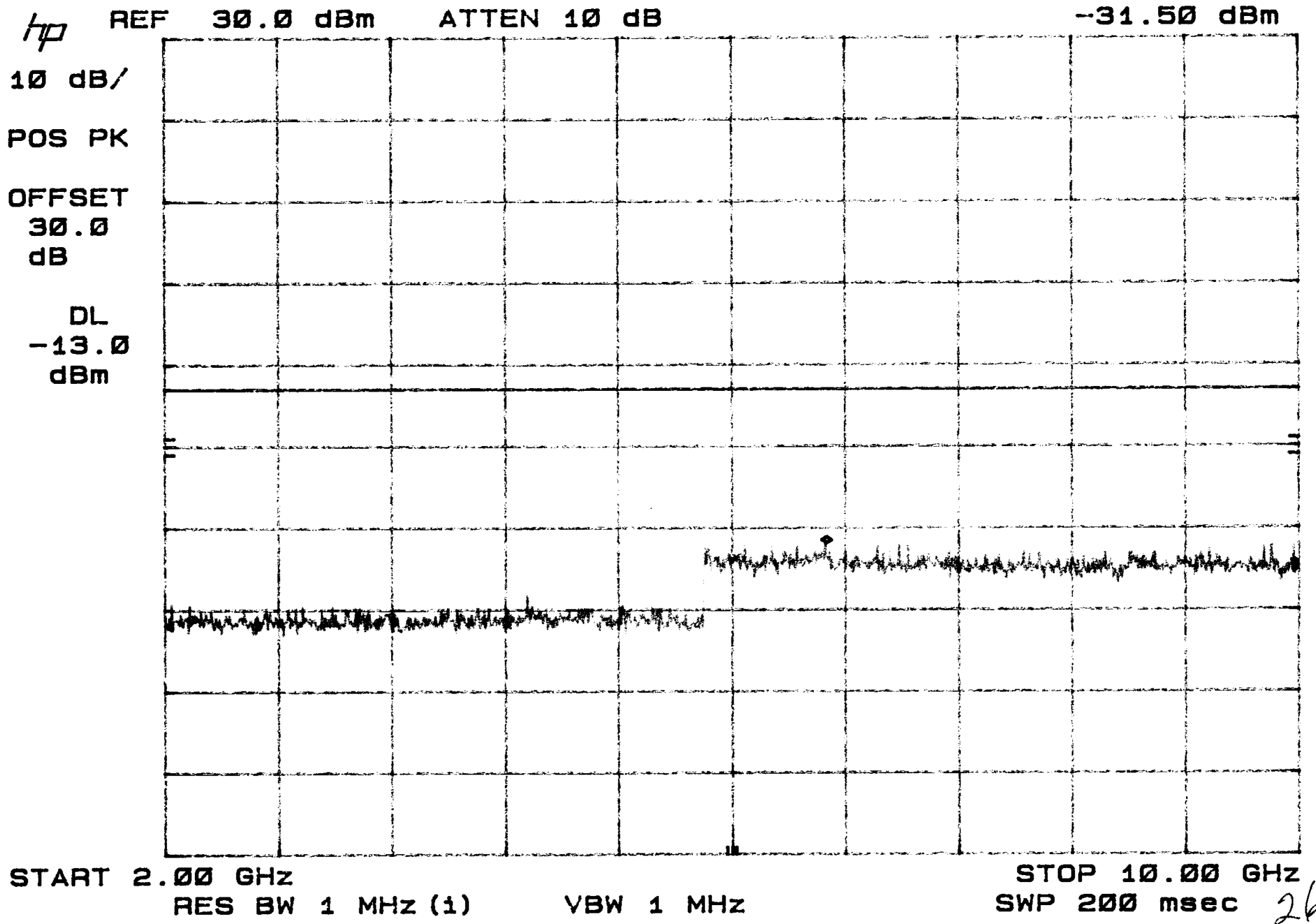


7/20/

Spurious Emissions at Antenna Ports
NOTES: Uplink, mid channel.

FCC Part 2, Para. 2.1051 and Part 24, Para 24.238

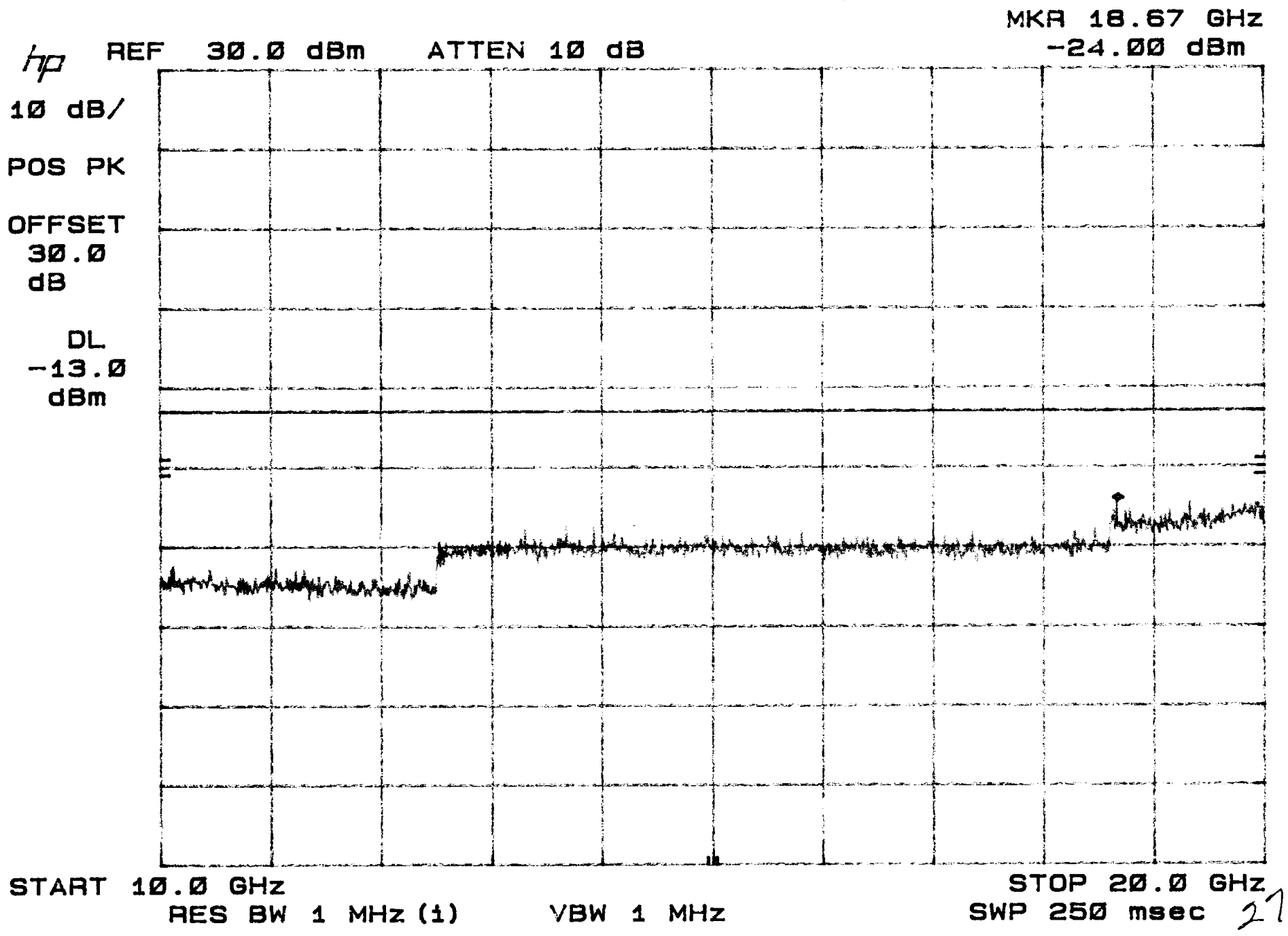
MR 6.664 GHz
-31.50 dBm



7/20/01

Spurious Emissions at Antenna Ports
NOTES: Uplink, mid channel

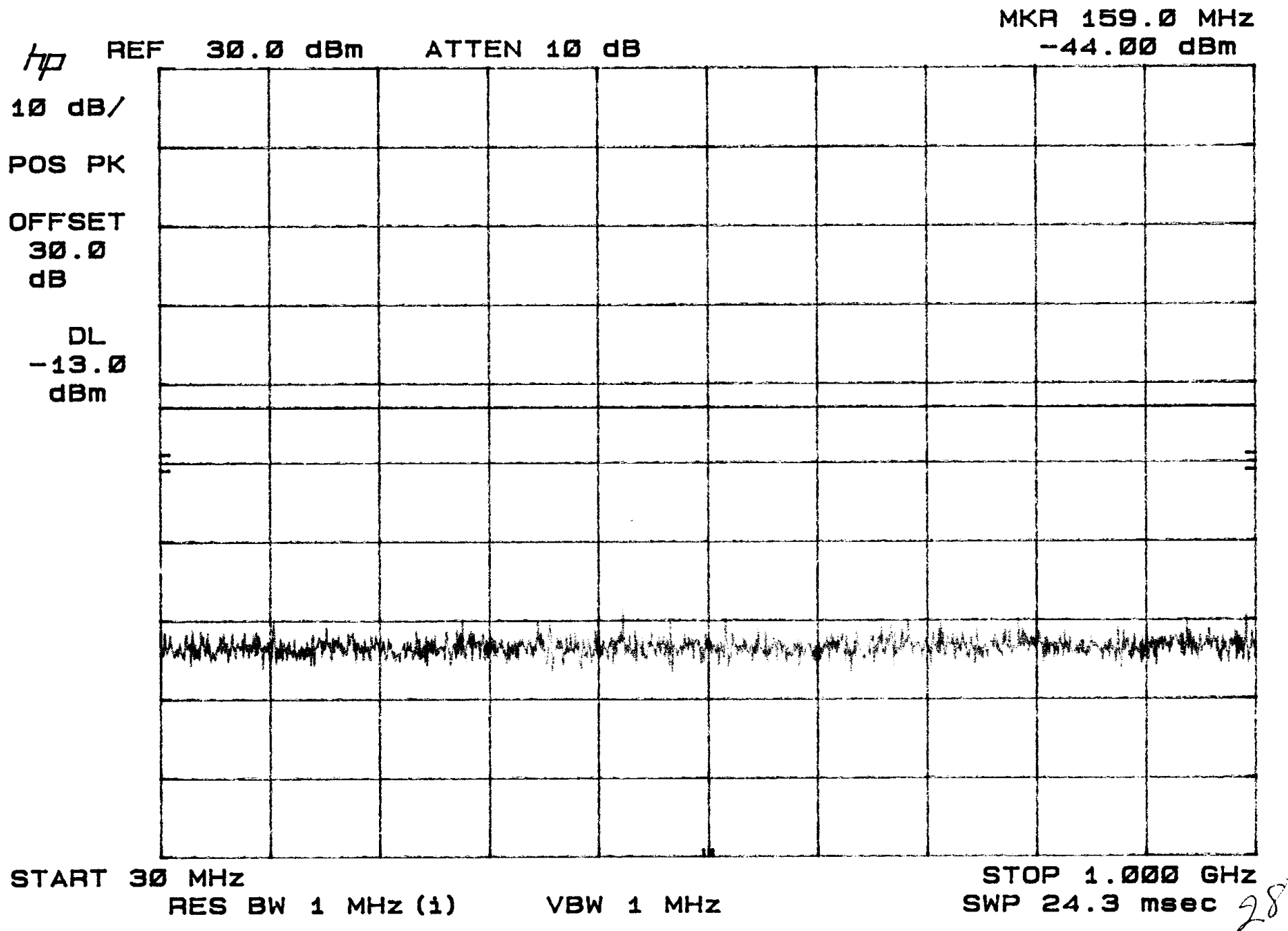
FCC Part 2, Para. 2.1051 and Part 24, Para 24.238



7/20/01

Spurious Emissions at Antenna Ports
NOTES: Uplink, low channel

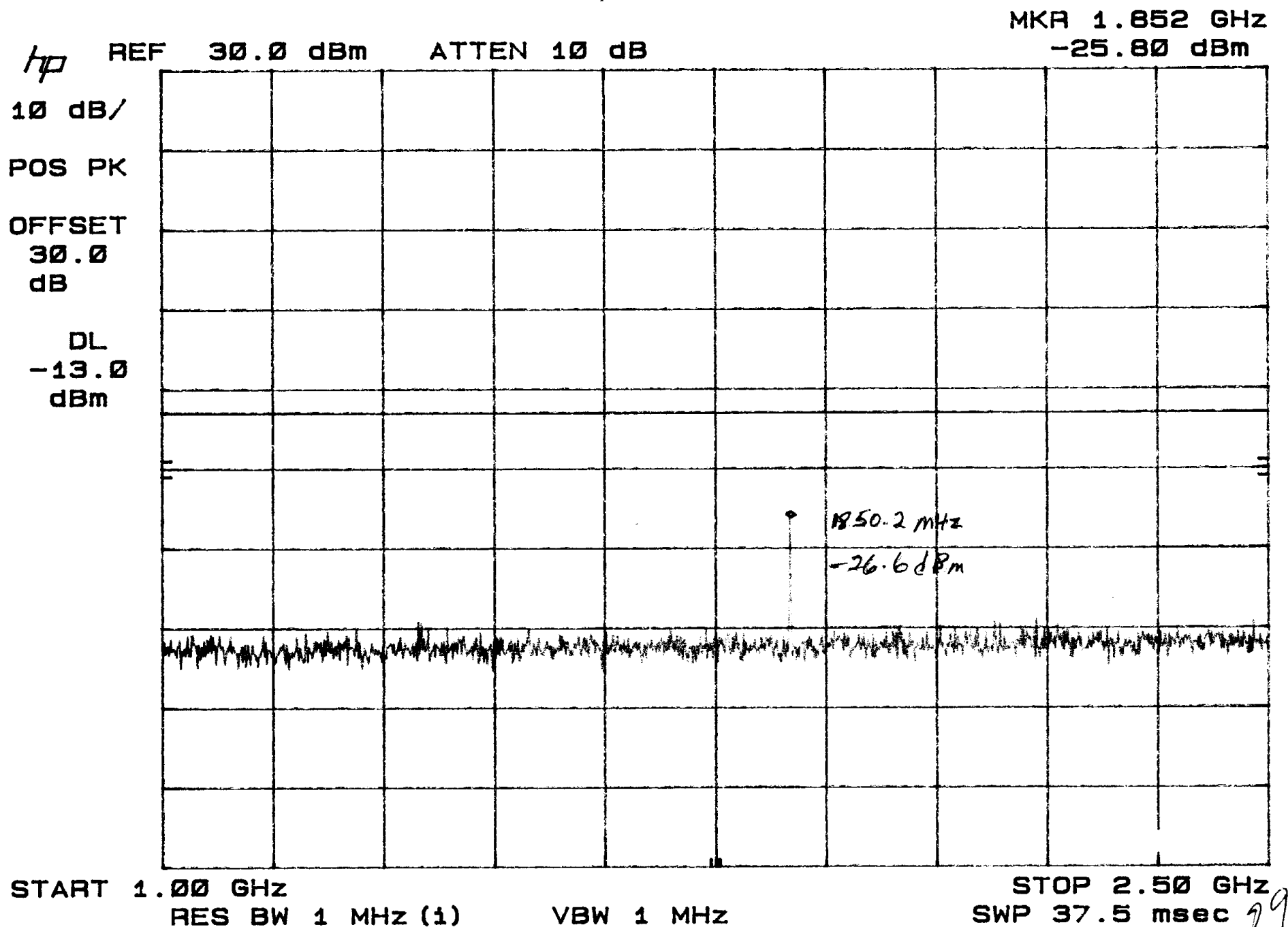
FCC Part 2, Para. 2.1051 and Part 24, Para 24.238



1/20/01

Spurious Emissions at Antenna Ports
NOTES: Uplink, low channel

FCC Part 2, Para. 2.1051 and Part 24, Para 24.238



MKR 7.064 GHz
-33.90 dBm

hp

REF 30.0 dBm

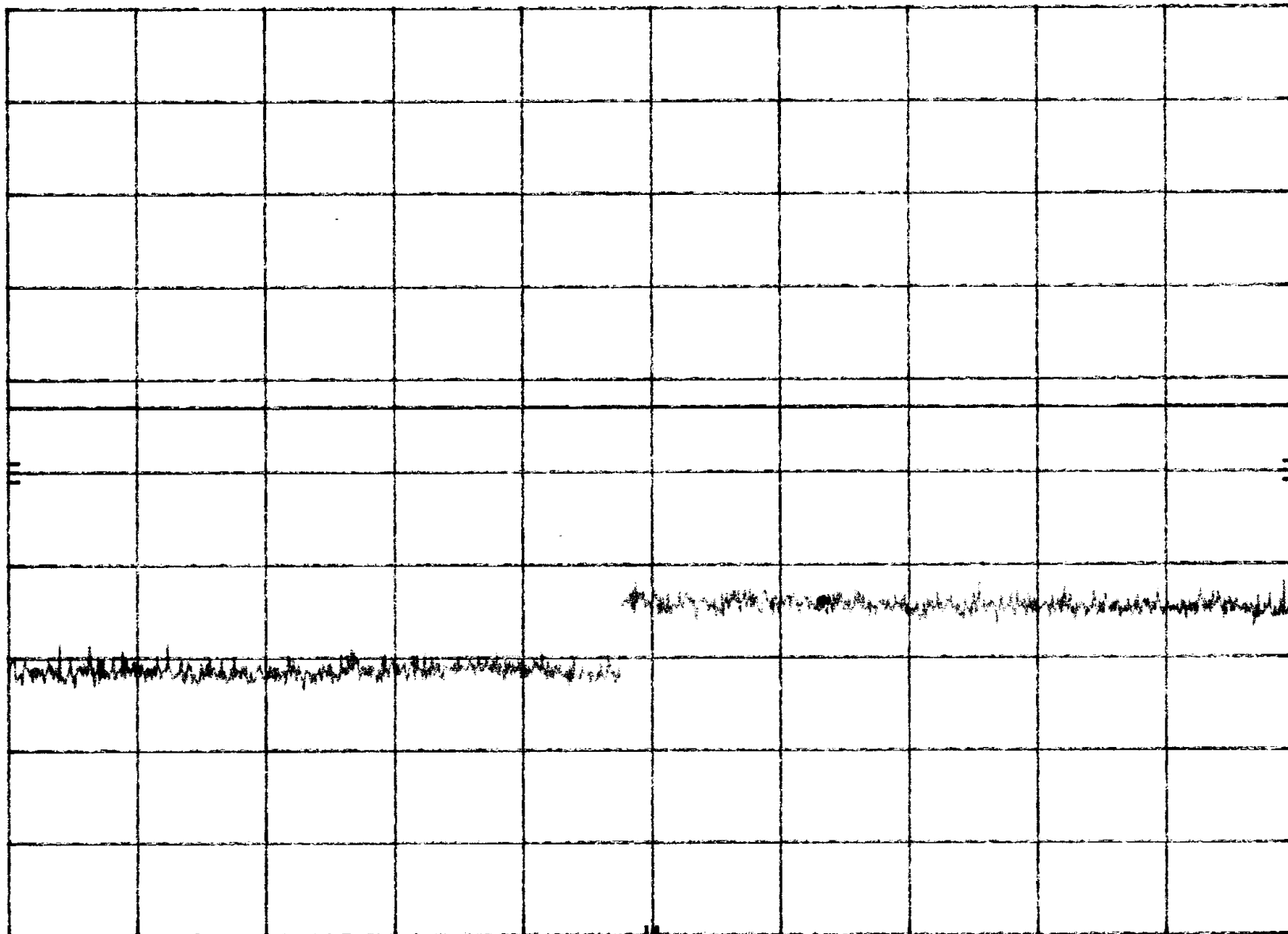
ATTEN 10 dB

10 dB/

POS PK

OFFSET
30.0
dB

DL
-13.0
dBm



START 2.00 GHz

RES BW 1 MHz (1)

VBW 1 MHz

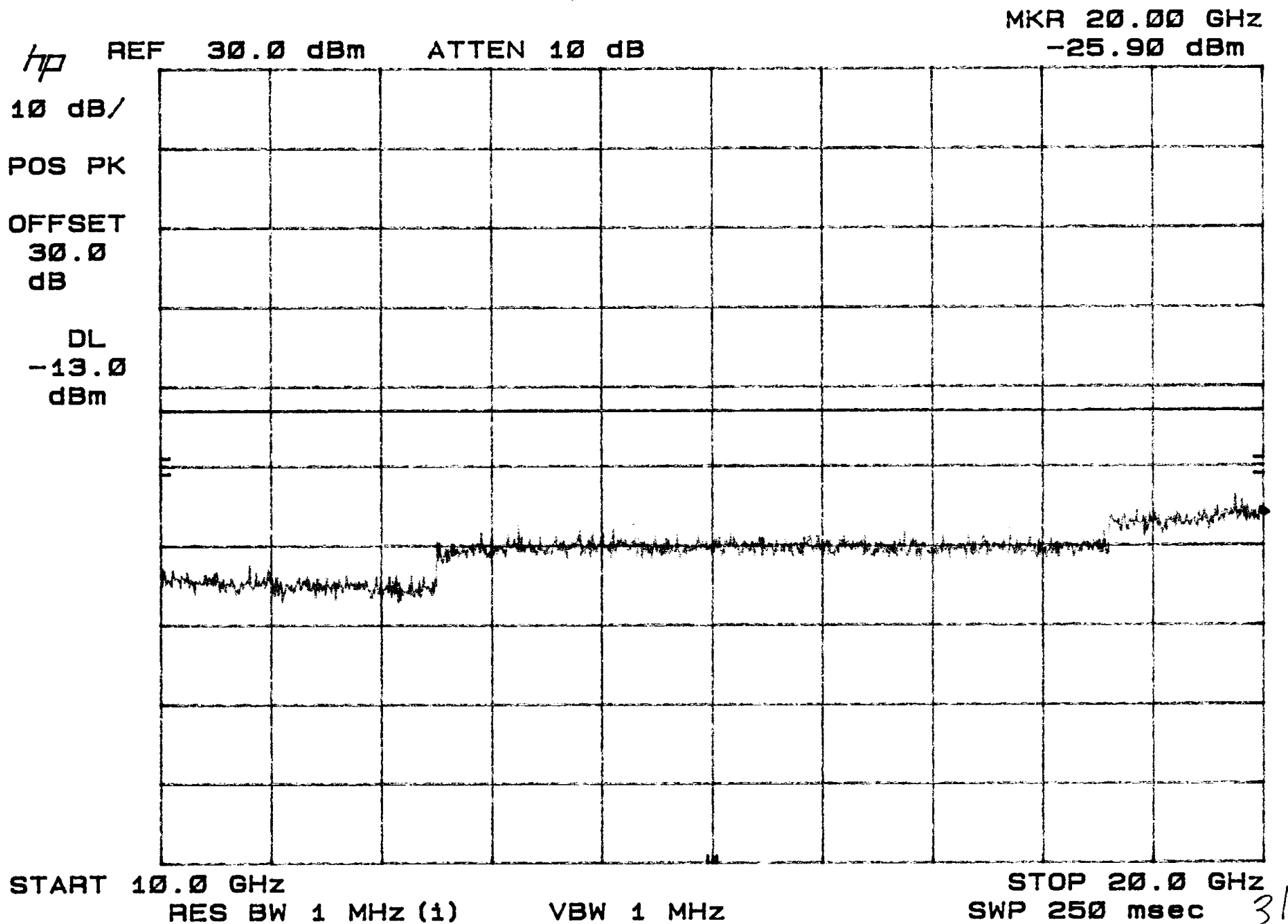
STOP 10.00 GHz
SWP 200 msec 2

30

7/20/01

Spurious Emissions at Antenna Ports
NOTES: Uplink, low channel

FCC Part 2, Para. 2.1051 and Part 24, Para 24.238



7/20/01

Spurious Emissions at Antenna Ports

FCC Part 2, Para. 2.1051 and Part 24, Para 24.238

NOTES: ~~Q~~link, high channel

DOWN

MKR 15.00 GHz

-30.30 dBm

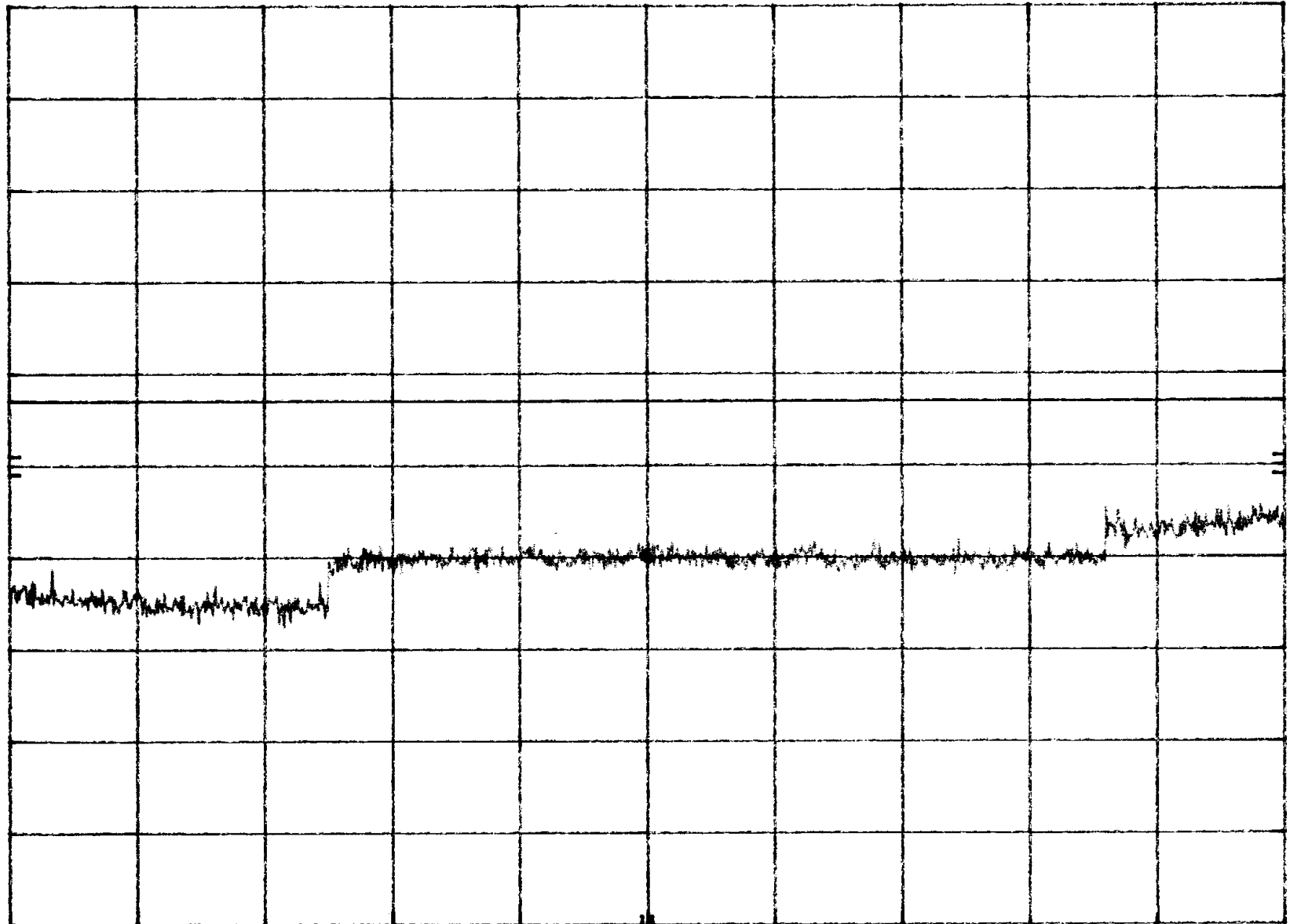
hp REF 30.0 dBm ATTEN 10 dB

10 dB/

POS PK

OFFSET
30.0
dB

DL
-13.0
dBm



START 10.0 GHz

RES BW 1 MHz (1)

VBW 1 MHz

STOP 20.0 GHz
SWP 250 msec

32

NOTES:  link, high channel

DOWN

MRK 6.000 GHz

-34.50 dBm

hp

REF 30.0 dBm

ATTEN 10 dB

10 dB/

POS PK

OFFSET

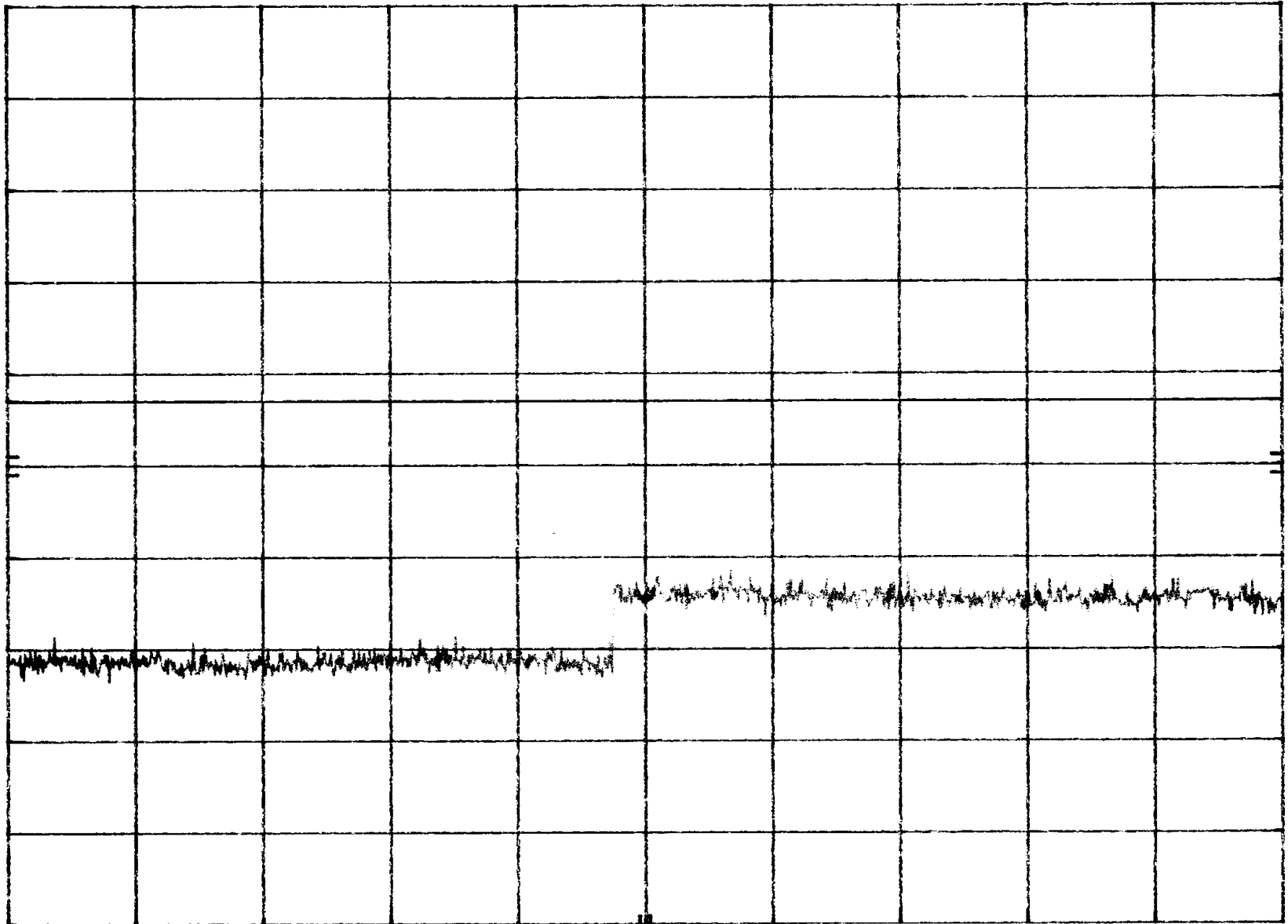
30.0

dB

DL

-13.0

dBm



START 2.00 GHz

RES BW 1 MHz (1)

VBW 1 MHz

STOP 10.00 GHz

SWP 200 msec

33

Spurious Emissions at Antenna Ports

FCC Part 2, Para. 2.1051 and Part 24, Para 24.238

NOTES:  link, high channel
DOWN

MKR 1.933 GHz
-27.30 dBm

hp REF 30.0 dBm

ATTEN 10 dB

10 dB/

POS PK

OFFSET
30.0
dB

DL
-13.0
dBm

High CHANNEL
← 1.989 GHz
+27.2 dBm

1958.73 MHz
-27.1 dBm

START 1.00 GHz

RES BW 1 MHz (i)

VBW 1 MHz

STOP 2.50 GHz
SWP 37.5 msec

34

NOTES: ~~link~~ link, high channel

DOWN

MKR 178.4 MHz

-30.30 dBm

hp

REF 30.0 dBm

ATTEN 10 dB

10 dB/

POS PK

OFFSET

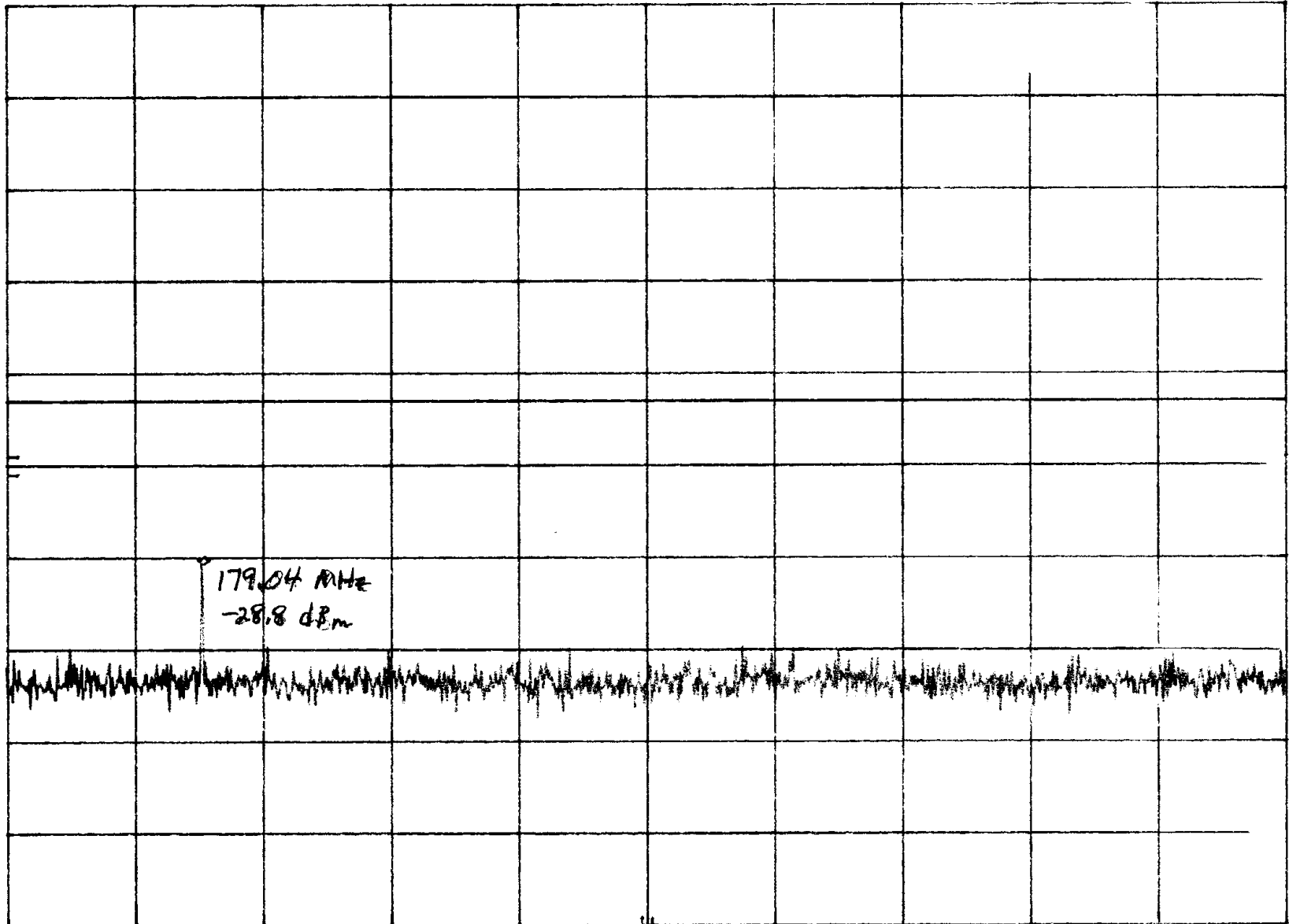
30.0

dB

DL

-13.0

dBm



START 30 MHz

RES BW 1 MHz (1)

VBW 1 MHz

STOP 1.000 GHz

SWP 24.3 msec

35

7/20/01

Spurious Emissions at Antenna Ports

FCC Part 2, Para. 2.1051 and Part 24, Para 24.238

NOTES: ~~link~~ link, mid channel

down

MKR 19.65 GHz

-26.00 dBm

hp

REF 30.0 dBm

ATTEN 10 dB

10 dB/

POS PK

OFFSET

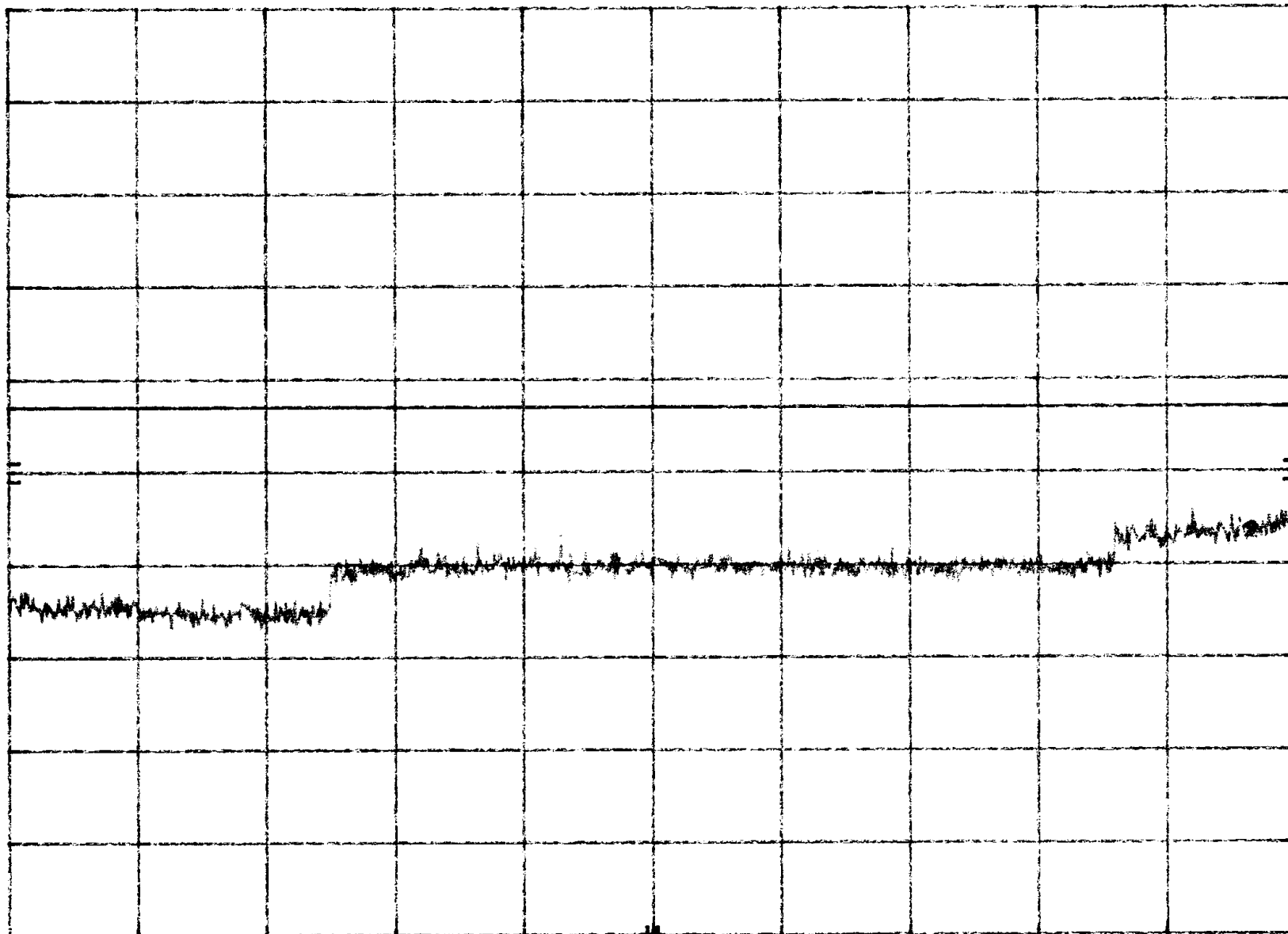
30.0

dB

DL

-13.0

dBm



START 10.0 GHz

RES BW 1 MHz (i)

VBW 1 MHz

STOP 20.0 GHz

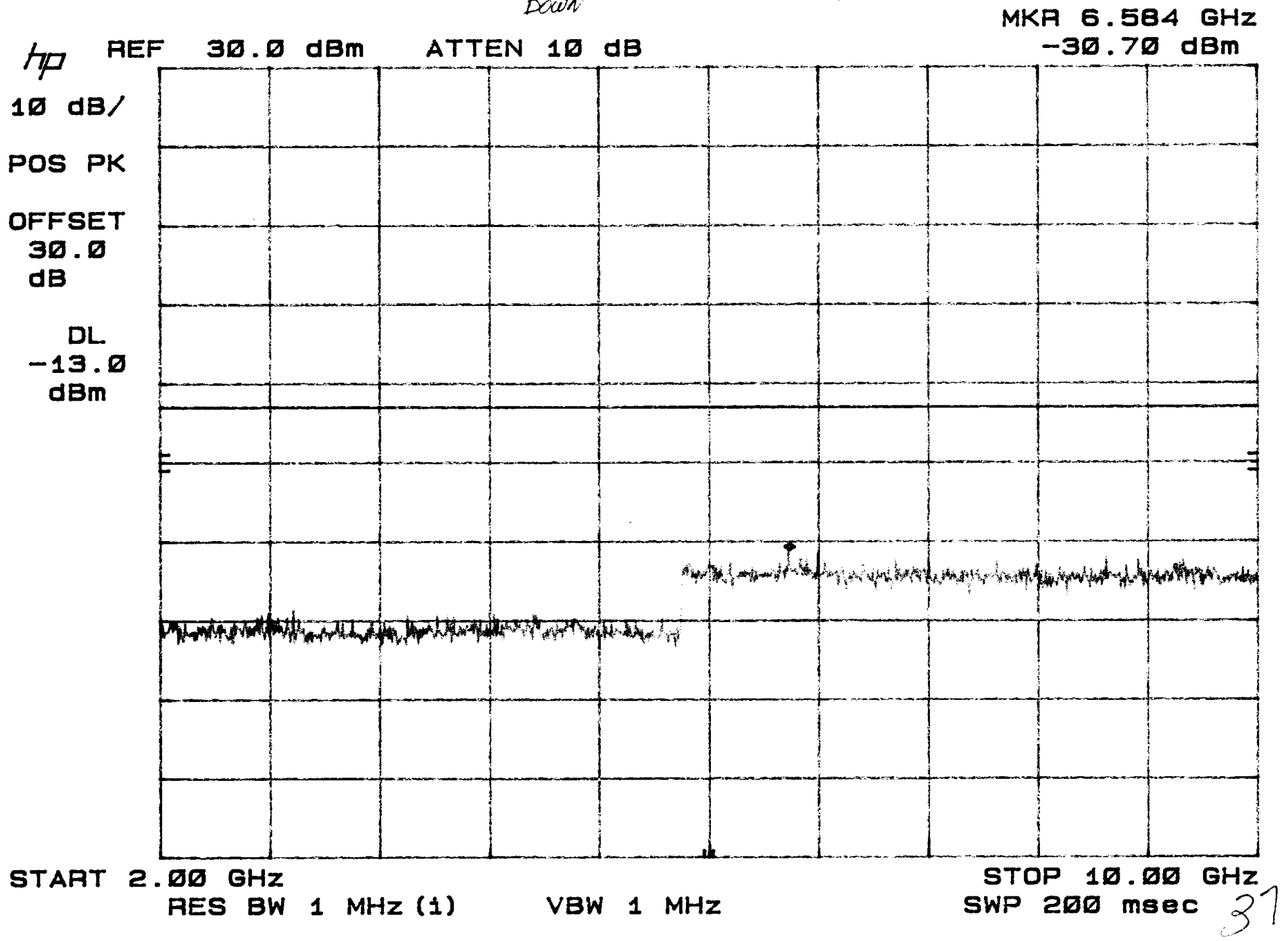
SWP 250 msec

36

9/10/51

Spurious Emissions at Antenna Ports
NOTES: ~~Q~~link, mid channel
DOWN

FCC Part 2, Para. 2.1051 and Part 24, Para 24.238



W/lot

Spurious Emissions at Antenna Ports

FCC Part 2, Para. 2.1051 and Part 24, Para 24.238

NOTES:  link, mid channel

POWER

MR 1.992 GHz

-19.30 dBm

hp

REF 30.0 dBm

ATTEN 10 dB

10 dB/

POS PK

OFFSET

30.0

dB

DL

-13.0

dBm

MARKER

1.992 GHz

-19.30 dBm

← mid channel
1968.8 MHz
-21.3 dBm

-1989.7 MHz
-17.10 dBm

START 1.00 GHz

RES BW 1 MHz (1)

VBW 1 MHz

STOP 2.50 GHz

SWP 37.5 msec 38

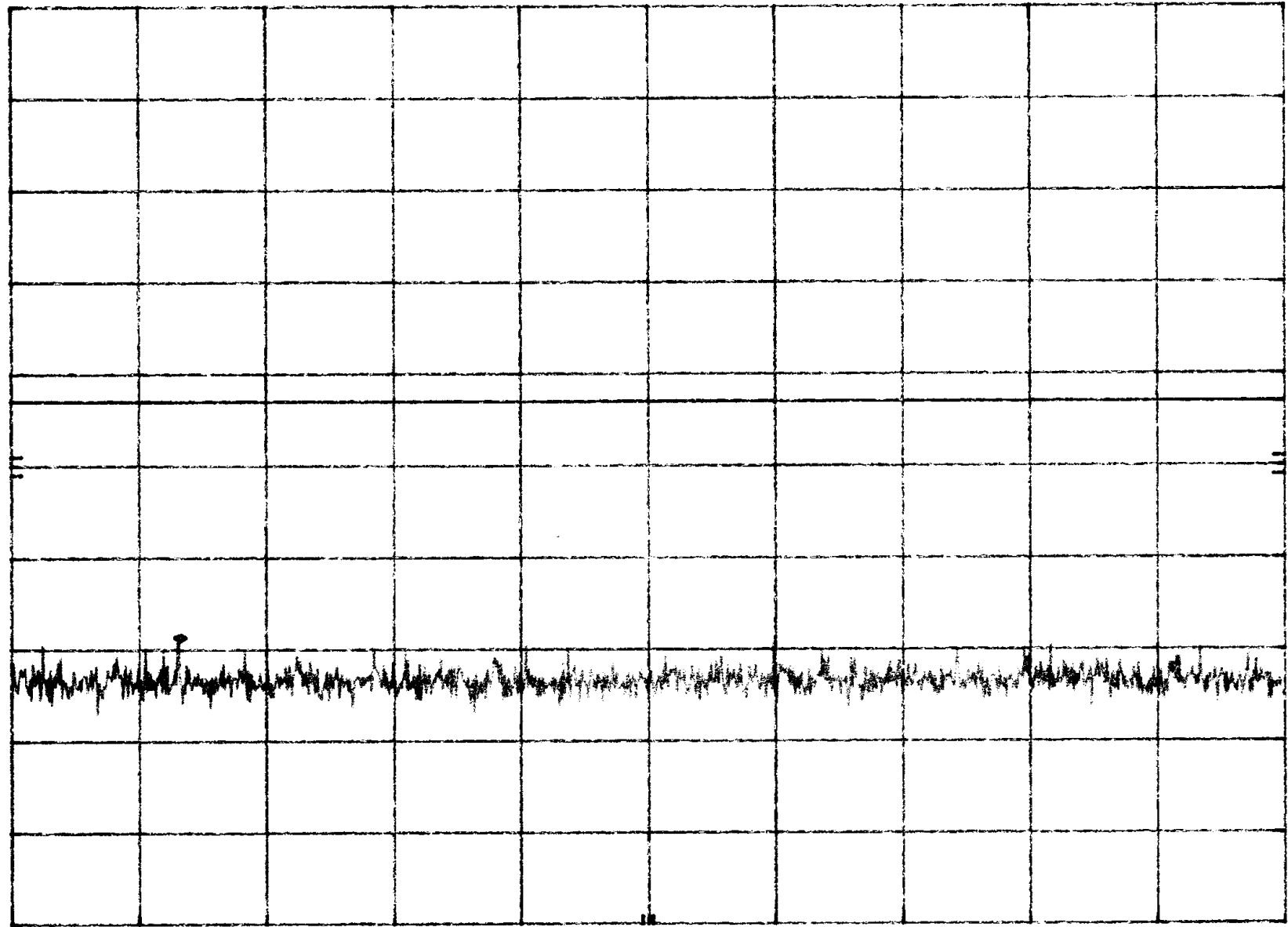
1/20/04

Spurious Emissions at Antenna Ports
NOTES: link, mid channel
down

FCC Part 2, Para. 2.1051 and Part 24, Para 24.238

MKR 158.0 MHz
-38.70 dBm

hp
REF 30.0 dBm
ATTEN 10 dB
10 dB/
POS PK
OFFSET
30.0
dB
DL
-13.0
dBm



START 30 MHz
RES BW 1 MHz (1) VBW 1 MHz
STOP 1.000 GHz
SWP 24.3 msec 39

Spurious Emissions at Antenna Ports

FCC Part 2, Para. 2.1051 and Part 24, Para 24.238

NOTES: ~~link~~ link, low channel

down

MR 16.22 GHz

-29.20 dBm

hp REF 24.3 dBm ATTN 10 dB

10 dB/

POS PK

OFFSET

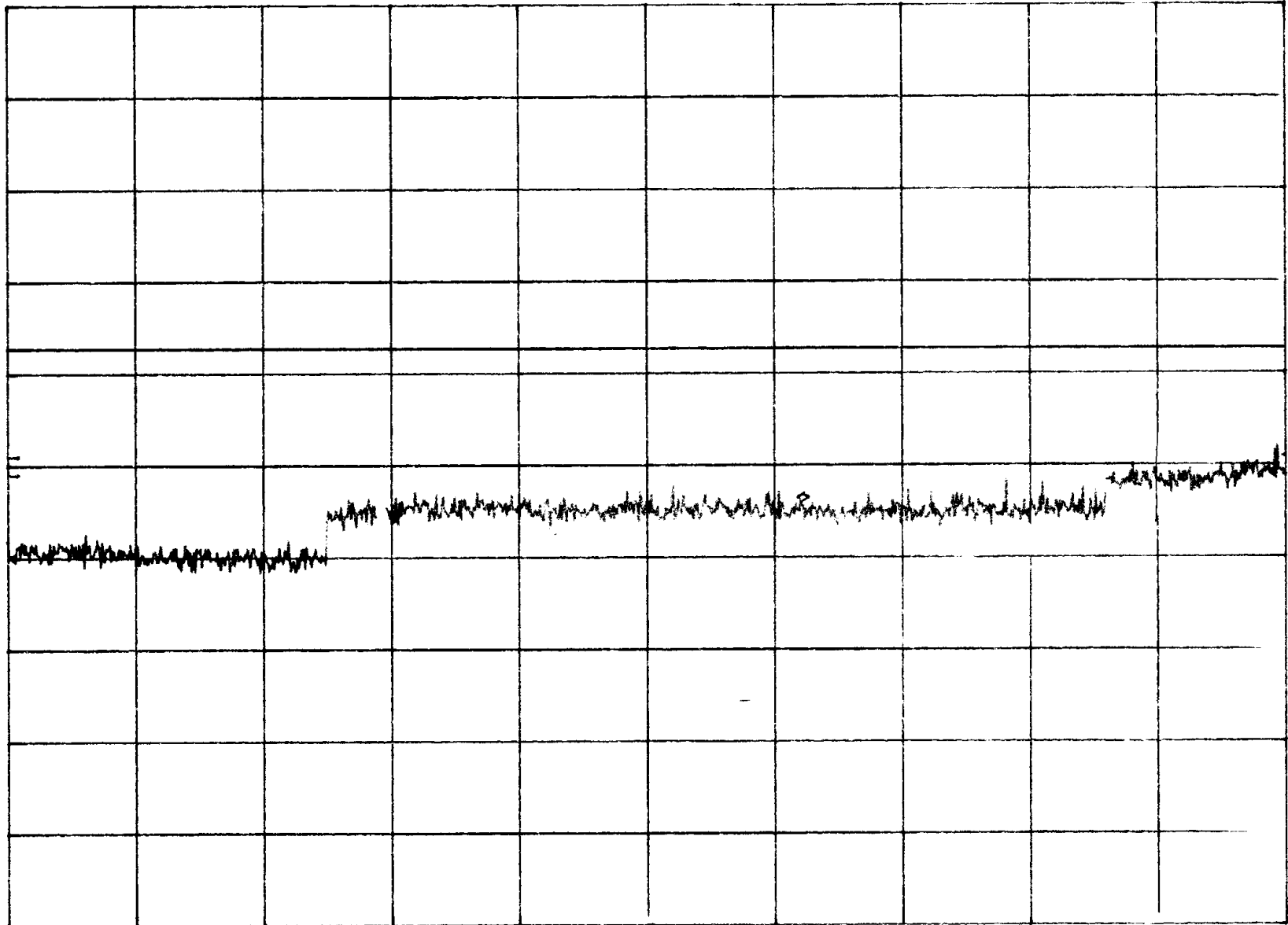
30.0

dB

DL

-13.0

dBm



START 10.0 GHz

RES BW 1 MHz (1)

VBW 1 MHz

STOP 20.0 GHz

SWP 250 nsec *40*

Spurious Emissions at Antenna Ports

FCC Part 2, Para. 2.1051 and Part 24, Para 24.238

NOTES:  link, low channel

DOWN

MR 6.976 GHz

-33.40 dBm

hp REF 24.3 dBm ATTN 10 dB

10 dB/

POS PK

OFFSET

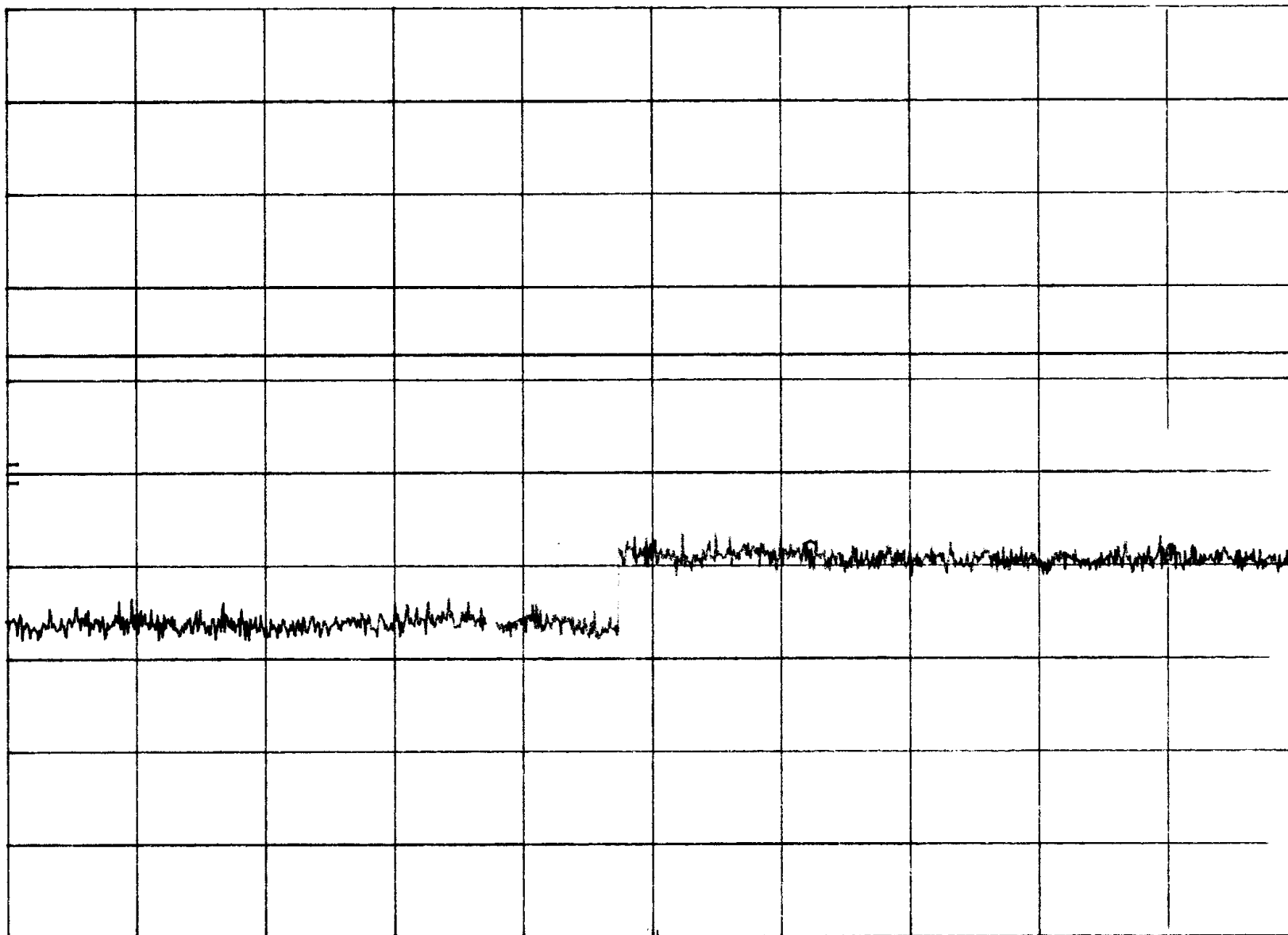
30.0

dB

DL

-13.0

dBm



START 2.00 GHz

RES BW 1 MHz (1)

VBW 1 MHz

STOP 10.00 GHz

SWP 200 msec 41

NOTES: ~~link~~, low channel

DOWN

MKA 1.992 GHz

-22.40 dBm

hp

REF 24.3 dBm

ATTEN 10 dB

10 dB/

POS PK

OFFSET

30.0

dB

DL

-13.0

dBm

MARKER

1.992 GHz

-22.40 dBm

← Low CHANNEL
1931.15 MHz

+27.1 dBm

↑ ← 1989.73

-17.0 dBm

START 1.00 GHz

RES BW 1 MHz (i)

VBW 1 MHz

STOP 2.50 GHz

SWP 37.5 msec 42

NOTES:  link, low channel

DOWN

MKR 512.1 MHz

-44.50 dBm

hp

REF 24.3 dBm

ATTEN 10 dB

10 dB/

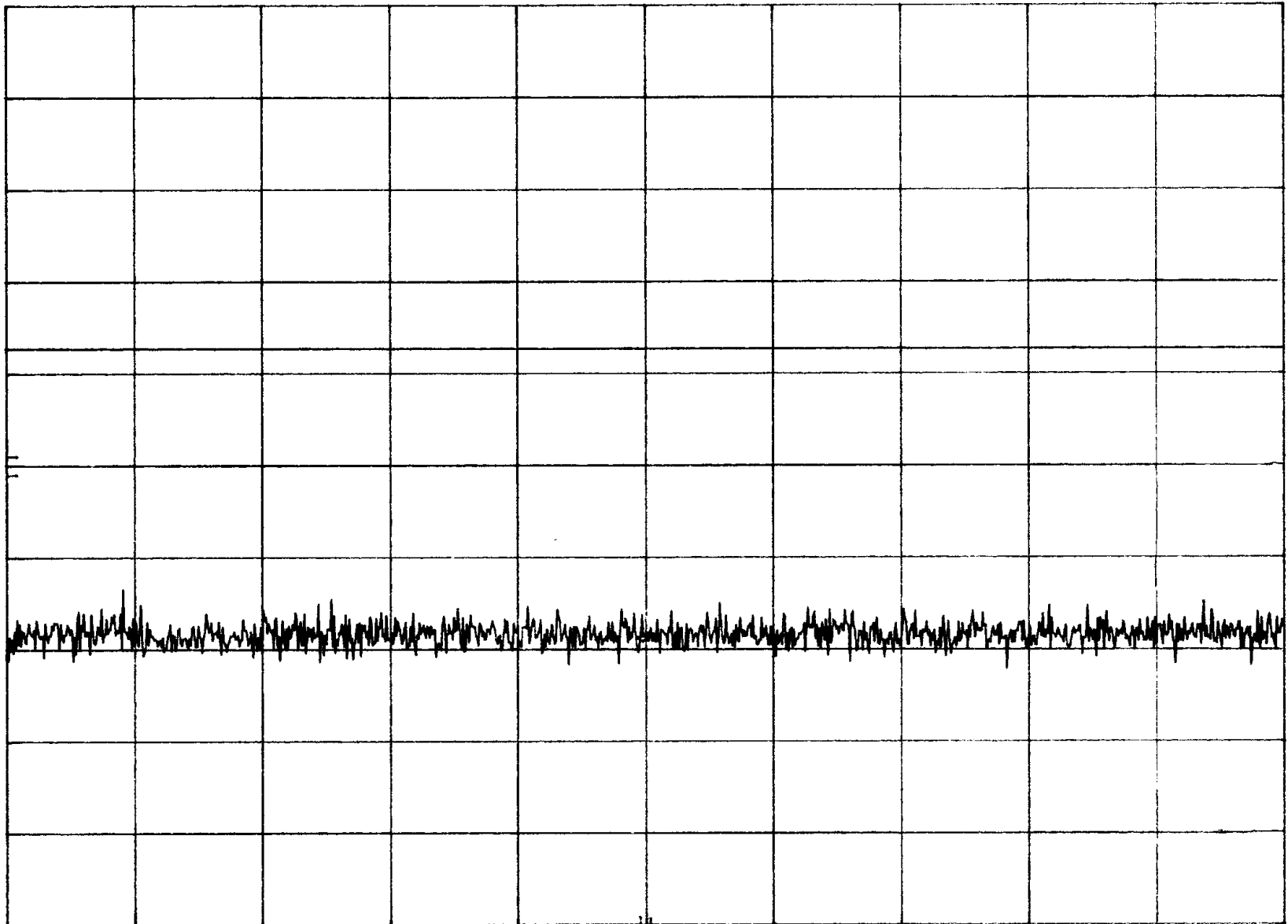
POS PK

OFFSET

30.0
dB

DL

-13.0
dBm



START 30 MHz

RES BW 1 MHz (1)

VBW 1 MHz

STOP 1.000 GHz

SWP 24.3 msec *43*

7/26/01 TEST: Occupied BANDWIDTH/OUTPUT POWER, SPEC: FCC PART 2.1046

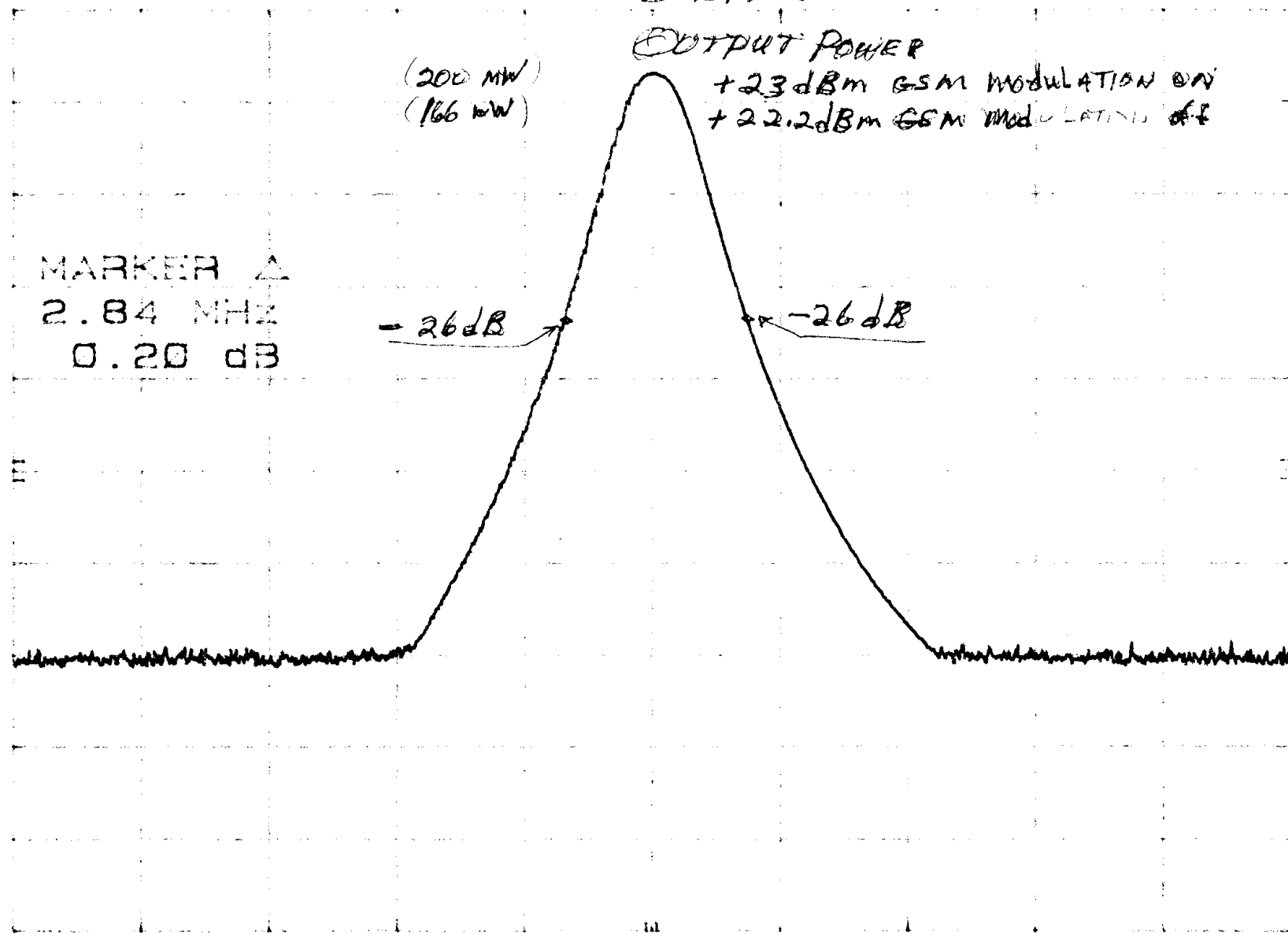
CLIENT: LittleFest, INC. NOTES: DOWN LINK LOW BAND CHANNEL 1 FCC PART 2.1049

EUT: GL1902B S/N 012801001620 GSM MODULATION ON MKR Δ 2.84 MHz

HP REF 30.0 dBm ATTN 40 dB B-SPICE 0.20 dB

10 dB/

POS PK



CENTER 1.931 1 GHz

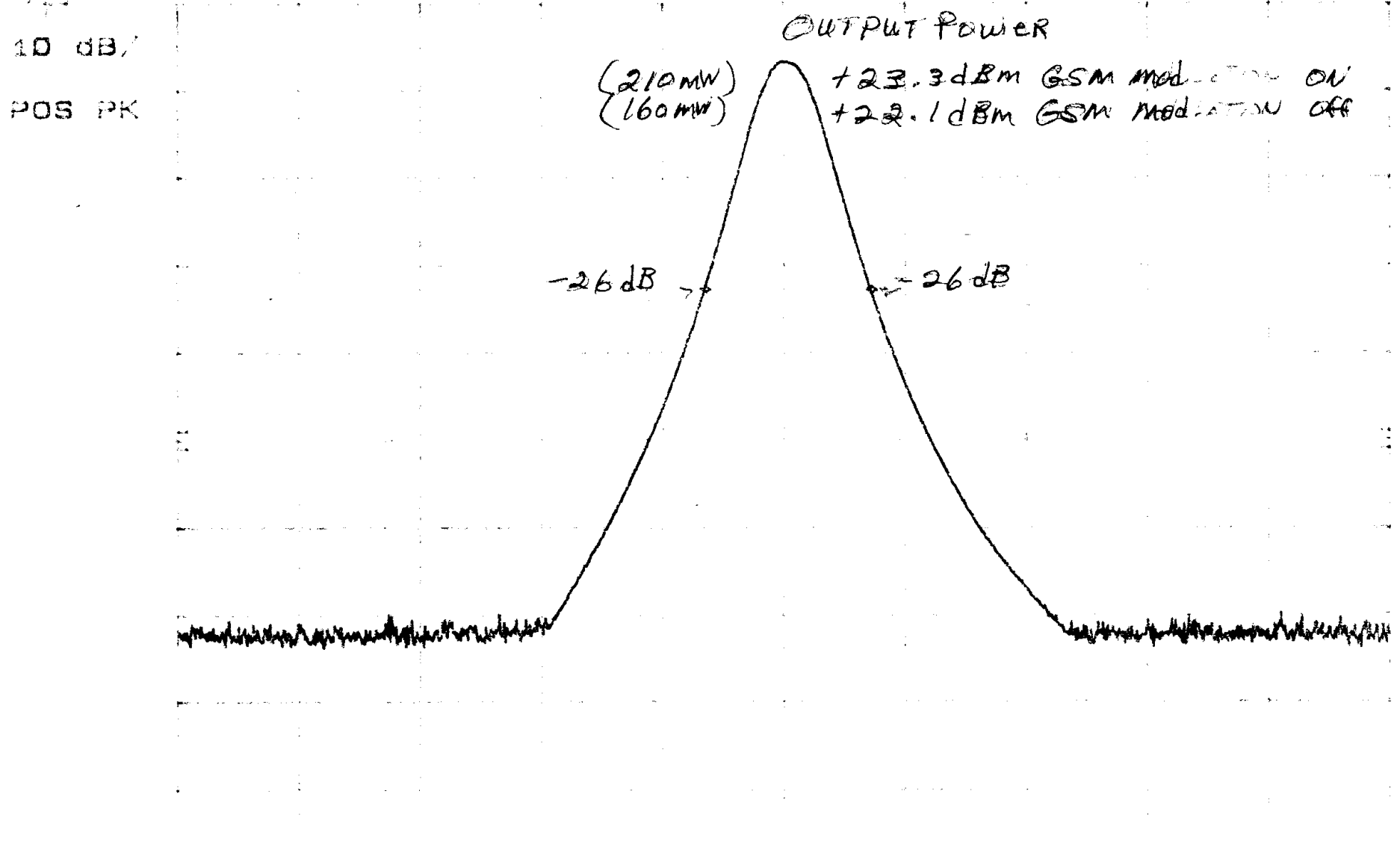
RES BW 1 MHz (1)

VBW 1 MHz

SPAN 20.0 MHz

SWP 20.0 msec 44

7/26/01 TEST: Occupied BANDWIDTH / OUTPUT POWER, SPEC: FCC PART 2.1046
CLIENT: LittleFoot, INC. NOTES: ~~Downlink~~ Mid Band Channel 1 FCC PART 2.1049
EUT: GL1902B S/N 012801001620 GSM MODULATION ON MKR Δ 2.74 MHz
REF 30.0 dBm ATTEN 40 dB B-SPICE -0.10 dB



CENTER 1.9686 GHz SPAN 20.0 MHz
RES BW 1 MHz (1) VBW 1 MHz SWP 20.0 msec 45

7/26/01 TEST: OCCUPIED BANDWIDTH/OUTPUT POWER, SPEC: FCC PART 2.1046
CLIENT: LITTLE FOOT, INC. NOTES: DOWN LINK High BAND Channel 2 FCC PART 2.1049
EUT: GL1902B S/N 012801001620 GSM MODULATION ON MKH Δ 2.78 MHz
REF 30.0 dBm ATTN 40 dB Δ SPICE 0.10 dB

10 dB

POS PK

OUTPUT Power

(214 mW)
(194 mW)

+23.4 dBm GSM Modulation ON
+23.0 dBm GSM Modulation OFF

MARKER Δ
2.78 MHz
0.10 dB

-26 dB

-26 dB

CENTER 1.9897 GHz
RES BW 1 MHz (1)

VBW 1 MHz

SPAN 20.0 MHz
SWP 20.0 msec

46

7/26/01 TEST: Occupied BANDWIDTH/OUTPUT POWER, SPEC: FCC PART 2.1046

CLIENT: LittleFoot, INC. NOTES: UPLINK LOW BAND Channel 1 FCC PART 2.1049

EUT: GL1902B S/N 012801001620 GSM MODULATION ON

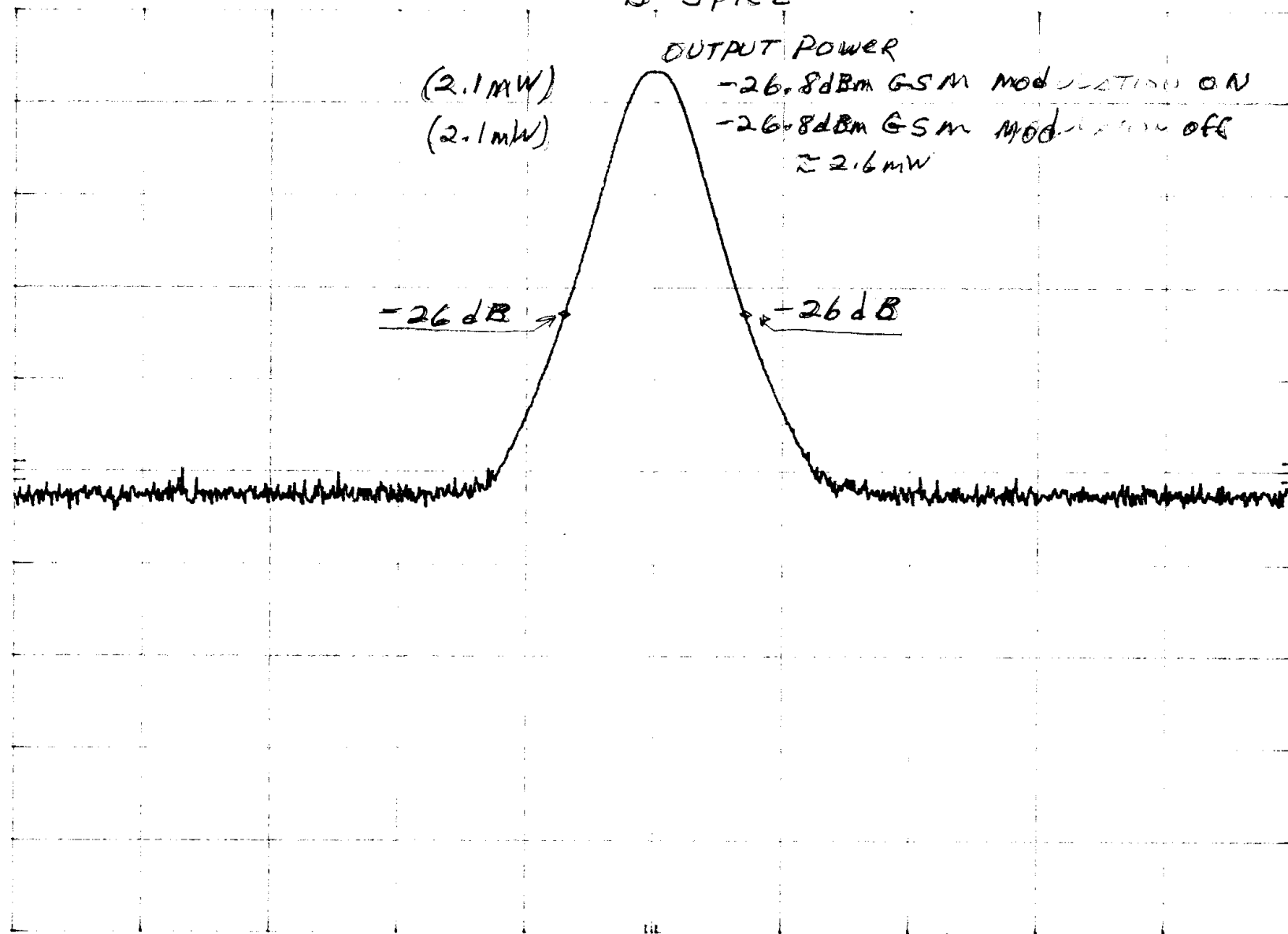
MKR Δ 2.84 MHz

HP REF -20.0 dBm ATTEN 10 dB B-SPICE

0.00 dB

10 dB/

POS PK



CENTER 1.850 2 GHz

RES BW 1 MHz (i)

VBW 1 MHz

SPAN 20.0 MHz

SWP 20.0 msec

41

7/26/01 TEST: Occupied BANDWIDTH/OUTPUT POWER, SPEC: FCC PART 2.1046

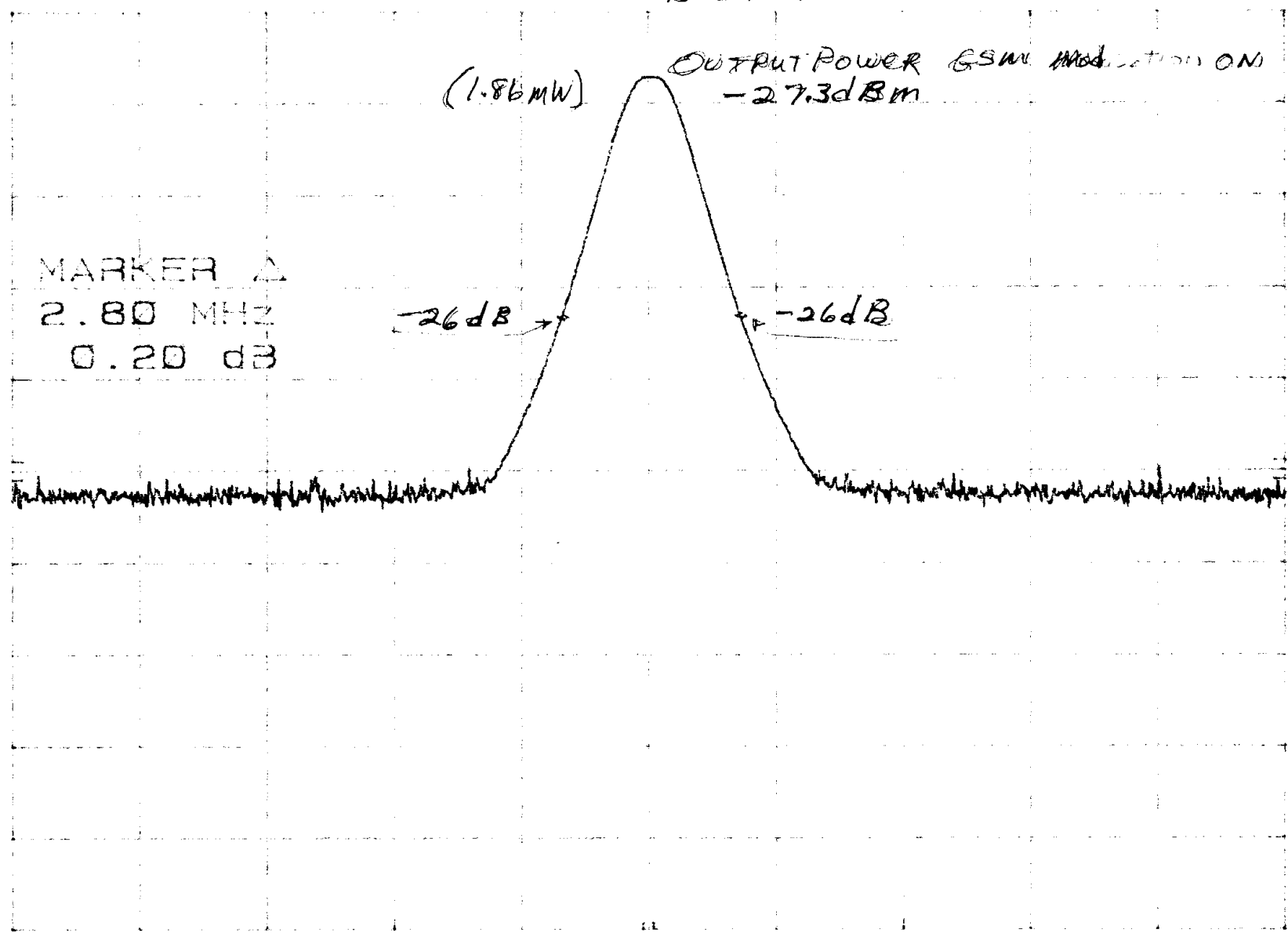
CLIENT: LittleFest, INC. NOTES: UPLINK MidBAND channel 1 FCC PART 2.1049

EUT: GL1902B S/N 012801001620 GSM MODULATION ON MKR Δ 2.80 MHz

REF -20.0 dBm ATTEN 10 dB B-SHIFT 0.20 dB

10 dB/

POS PK



MARKER Δ
2.80 MHz
0.20 dB

-26 dB

-26 dB

CENTER 1.887 8 GHz

RES BW 1 MHz (1)

VBW 1 MHz

SPAN 20.0 MHz
SWP 20.0 msec

48

7/26/01 TEST: Occupied Bandwidth/Output Power, SPEC: FCC PART 2.1046

CLIENT: LittleFest, INC. NOTES: UPLINK High Band Channel 2. FCC PART 2.1049

EUT: GL1902B S/N 012801001620 GSM MODULATION ON

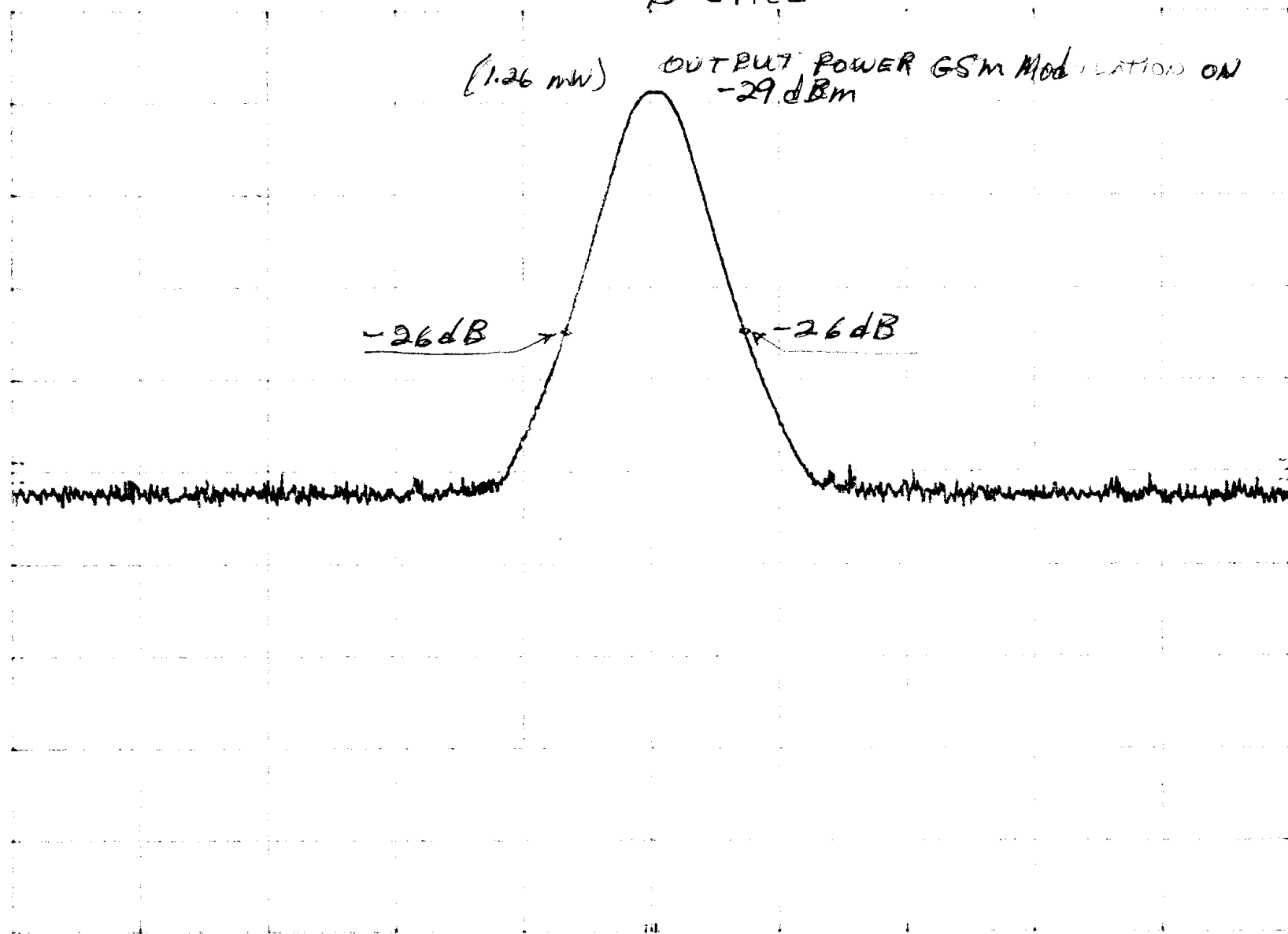
MRK Δ 2.80 MHz

[F] REF -20.0 dBm ATTEN 10 dB B-SPICE

0.10 dB

10 dB

POS PK



CENTER 1.9088 GHz

RES BW 1 MHz (1)

VBW 1 MHz

SPAN 20.0 MHz

SWP 20.0 msec 49

VOLTAGE VARIATION at ROOM TEMPERATURE

2/30/01 - 7/31/01

Freq. Stability Over Temp. Variation
2.1055

"01:02:11", 0, -29.285
"01:03:19", 0, -29.258
"01:04:26", 0, -28.666
"01:05:32", 0, -29.548
"01:06:39", 0, -29.203
"01:07:46", 0, -28.829
"01:08:52", 0, -29.474
"01:09:59", 0, -29.601
"01:11:05", 0, -29.76
"01:12:12", 0, -29.836
"02:14:28", 0, -21.361
"02:15:35", 0, -21.39
"02:16:42", 0, -21.342
"02:17:48", 0, -21.317
"02:18:55", 0, -21.301
"02:20:02", 0, -21.274
"02:21:08", 0, -21.3
"02:22:15", 0, -21.281
"02:23:21", 0, -21.238
"02:24:28", 0, -21.218
"03:26:45", 0, -12.272
"03:27:51", 0, -12.26
"03:28:58", 0, -12.253
"03:30:04", 0, -12.236
"03:31:11", 0, -12.169
"03:32:18", 0, -12.162
"03:33:25", 0, -12.113
"03:34:31", 0, -12.107
"03:35:38", 0, -12.078
"03:36:45", 0, -12.051
"04:39:01", 0, -2.445
"04:40:08", 0, -2.33
"04:41:14", 0, -2.363
"04:42:21", 0, -2.487
"04:43:28", 0, -2.411
"04:44:34", 0, -2.749
"04:45:41", 0, -2.873
"04:46:47", 0, -3.019
"04:47:54", 0, -3.024
"04:49:01", 0, -3.091
"05:51:17", 0, 6.991
"05:52:24", 0, 6.752
"05:53:31", 0, 6.878
"05:54:37", 0, 6.982
"05:55:44", 0, 6.786
"05:56:50", 0, 6.747
"05:57:57", 0, 6.866
"05:59:03", 0, 7.014
"06:00:10", 0, 7.164
"06:01:17", 0, 7.266
"07:03:34", 0, 16.541

Freq. Stat. over Temp Variation
2.1055

"07:04:40",0,16.574
"07:05:47",0,16.631
"07:06:54",0,16.694
"07:08:00",0,16.761
"07:09:07",0,16.858
"07:10:13",0,16.615
"07:11:20",0,16.328
"07:12:27",0,16.291
"07:13:33",0,16.398
"08:15:50",0,26.314
"08:16:56",0,26.348
"08:18:03",0,26.376
"08:19:10",0,26.396
"08:20:16",0,26.442
"08:21:23",0,26.467
"08:22:29",0,26.532
"08:23:36",0,26.578
"08:24:43",0,26.626
"08:25:49",0,26.01
"09:28:06",0,35.85
"09:29:13",0,35.9
"09:30:19",0,35.89
"09:31:26",0,35.94
"09:32:33",0,35.95
"09:33:40",0,35.99
"09:34:46",0,36.02
"09:35:53",0,36.02
"09:36:59",0,36.08
"09:38:06",0,36.1
"10:40:22",0,45.42
"10:41:29",0,45.44
"10:42:36",0,45.47
"10:43:42",0,45.49
"10:44:49",0,45.53
"10:45:56",0,45.56
"10:47:02",0,45.6
"10:48:09",0,45.6
"10:49:16",0,45.65
"10:50:22",0,45.64

ATTESTATION STATEMENT

GENERAL REMARKS:

SUMMARY:

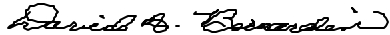
All tests were performed per *FCC Part 2, Paragraphs 2.1046, 2.1049, 2.,1051, 2.1053, 2.1055(d)(1); Part 24, Paragraph 24,238.*

The Equipment Under Test

■ - **Fulfills** the requirements of *FCC Part 2, Paragraphs 2.1046, 2.1049, 2.,1051, 2.1053, 2.1055(d)(1); Part 24, Paragraph 24,238.*

- TÜV PRODUCT SERVICE, INC. -

Responsible Engineer:



Dave Bernardin
(EMC Engineer)

INTERMODULATION TESTS PERFORMED BY LITTLEFEET, INC.

SC105529

ETSI EN 300 609-4 V8.0.1

ETSI Test Plan for the Littlefeet bSpice and cSpice GSM repeater

EQUIPMENT LIST

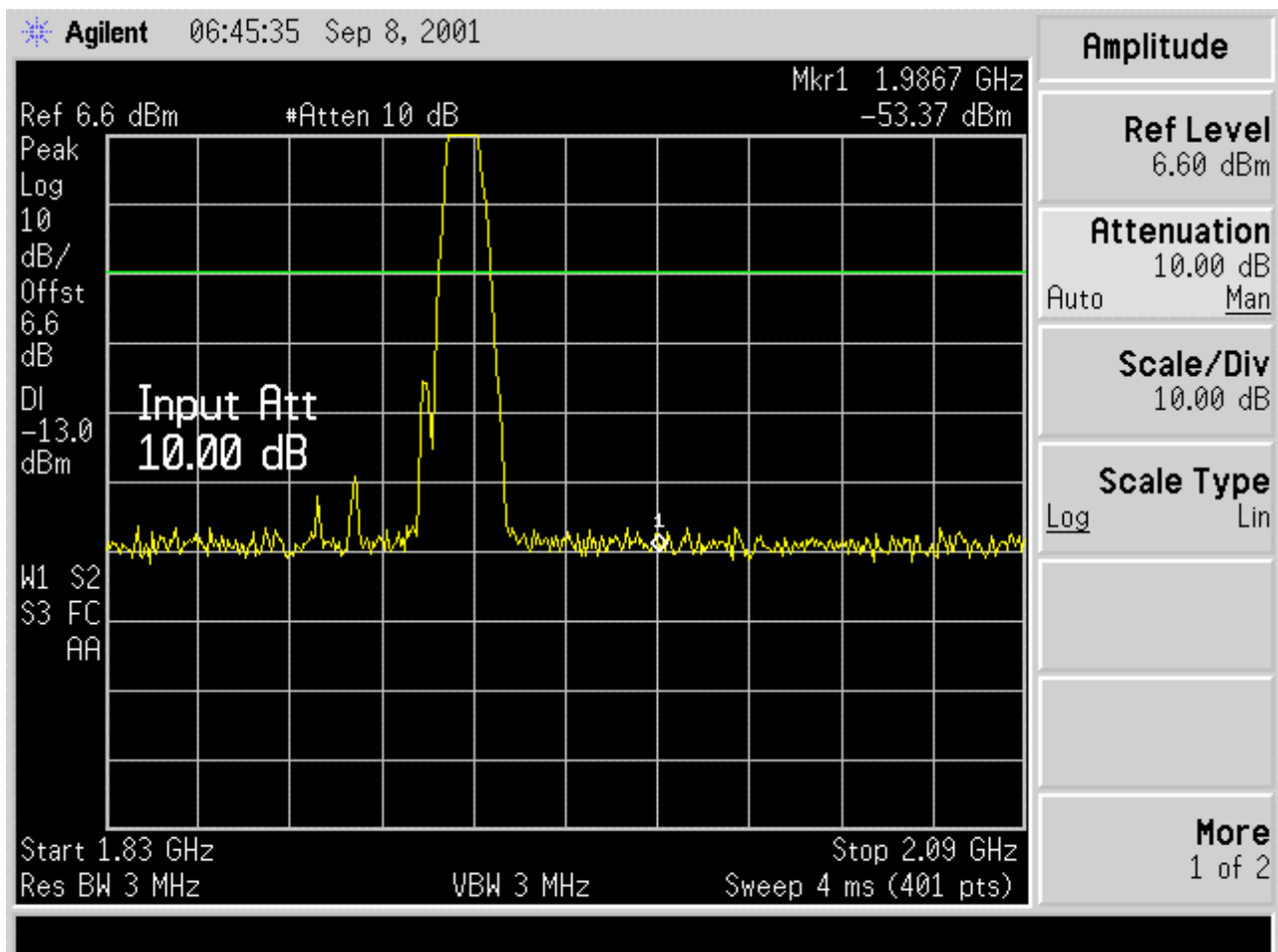
For Inter modulation test

27/07/01

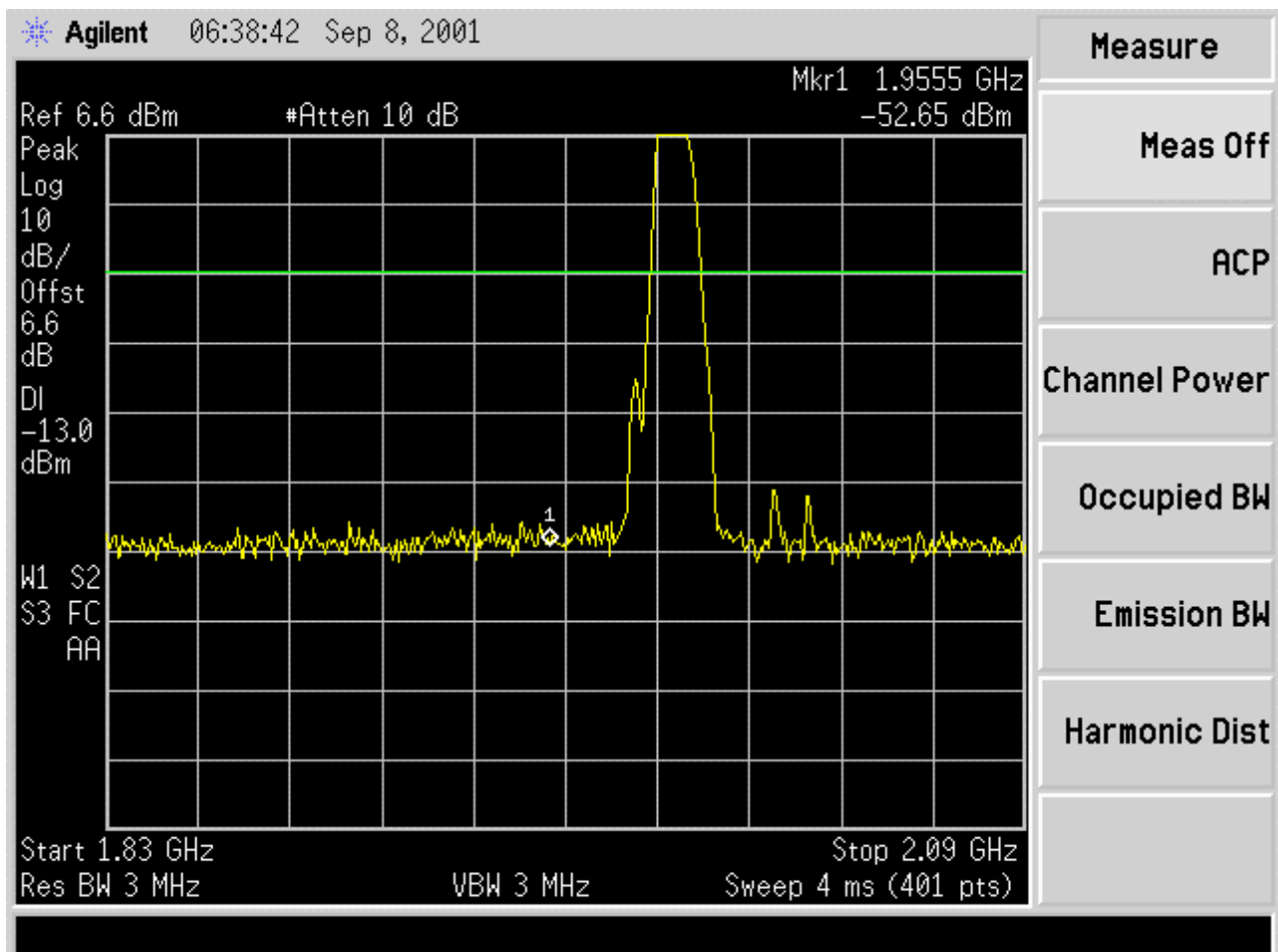
Description	Manufacturer	Model #	S/N	Cal Date D M Y
Signal Generator	Agilent	E4437B	US39260520	23/09/00
Signal Generator	Agilent	E4426B	US39260229	16/10/00
Signal Generator	Agilent	E4421B	US39340787	14/12/00
Spectrum Analyzer	H.P.	E4402B	US39440814	02/04/01
VSA				
Frequency Counter				
Combiner				
Thermal Chamber				

Cal Due
See
()
Next Ag.

55



DL BOTTOM



DL TOP