

APPENDIX A

Radiated Emissions Test Data

This test data was gathered for the Harris Farinon Aurora 2400-1&-2 on 17 DEC 1997 under FCC ID BCK9GKAUR2401T1-1. An identical unit that has been Certified by the Federal Communications Commission. The -3 & -4 models are identical to the extent that normal manufacturing tolerances allow.

EMCE ENGINEERING, INC.
44370 S. GRIMMER BLVD
FREMONT, CA 94538

DATE: 12/18/97
FTR:

PERFORMED FOR: HARRIS FARINON
TEST SPECIMEN: SPREAD SPECTRUM RADIO

FCC ID: BCK9GKAUR2401T1-2
Date: 13 Jan 1999
Page: 157

MODEL NUMBER: AURORA 2.4
SERIAL NUMBER: 000001

LOCATION: VERTICAL POLARIZATION

FINAL FCC-B, RADIATED RESULTS:

Freq MHz	Analyzer Reading dBuV	CF dB	Correct Reading dBuV/m	Spec Limit dBuV/m	margin dB	Ht cm	Angle Deg
129.75	44.0	-11.8	32.21	43.00	10.79	150	360
133.37	41.6	-11.8	29.75	43.00	13.25	140	360
154.45	39.8	-12.0	27.79	43.00	15.21	150	360

NONE OUT OF SPECIFICATION

COMMENTS: Test Dist = 3.0 m. QP detector ON.

SAMPLE CALCULATION:

At 154.45 MHz

Analyzer Reading = 39.80 dBuV

Correction Factor, CF, = AF 11.85 dB + Cable 3.13 dB

-Preamp Gain 27.00 dB = -12.01 dB

CORRECTED READING = 27.79 dBuV/m

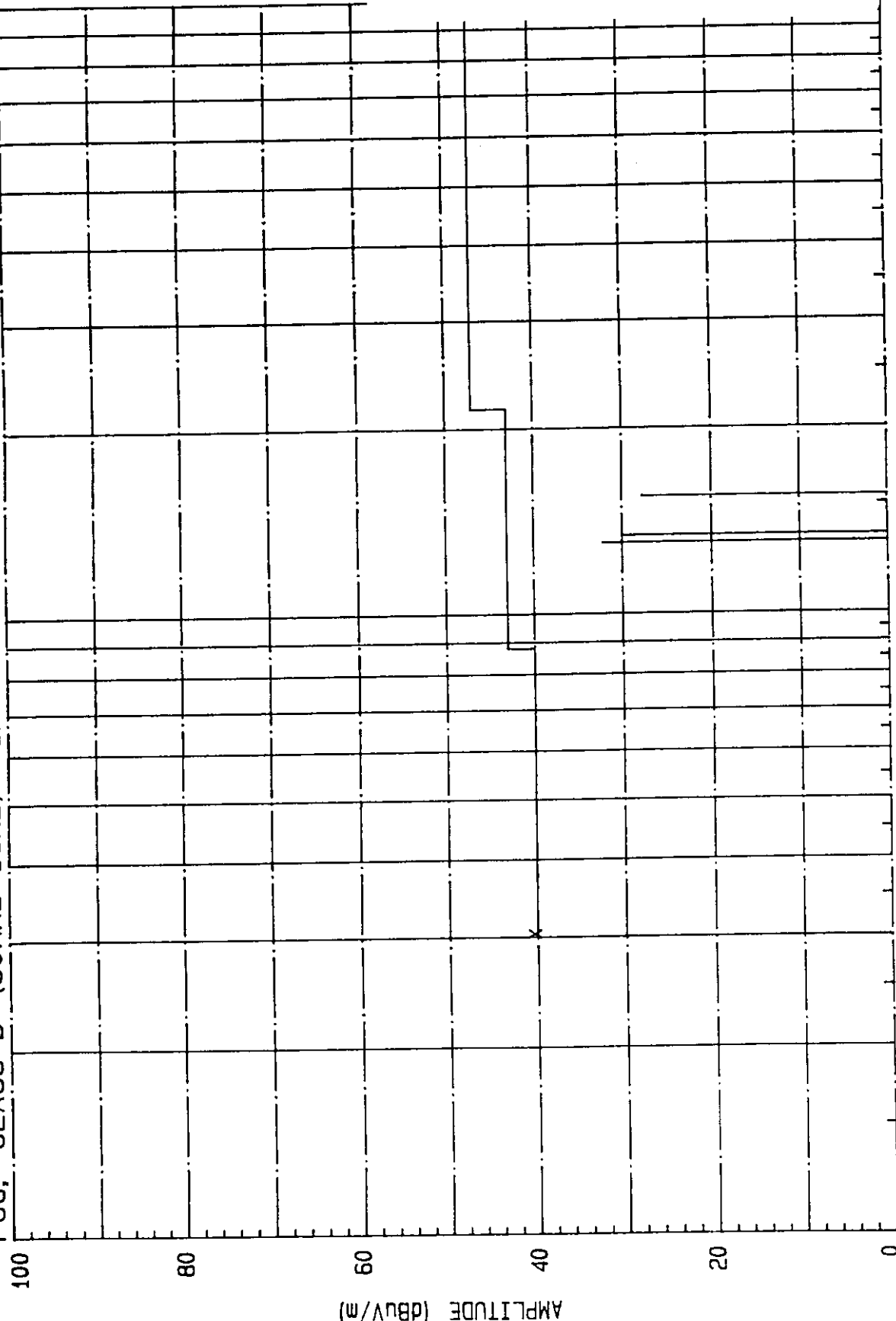
VERIFIED BY

[Signature]

EMCE ENGINEERING INC. 44370 S. GRIMMER BLVD, FREMONT, CA 94538 DATE: 12/18/97

NARROWBAND RADIATED EMI
FCC, CLASS B (30MHz-1GHz)
PERFORMED FOR: HARNESSFAB
MODEL # AURORA 2.4
LOCATION: VERTICAL POLARIZATION
SERIAL # 000001

FCC ID: BCK9GKAUR2401T1-2
Date: 13 Jan 1999
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AMPLITUDE (dBV/m)

100MHz

1GHz

FREQUENCY (NOTE: Test Dist=3.0 m)

EMCE ENGINEERING, INC.
44370 S. GRIMMER BLVD
FREMONT, CA 94538

DATE: 12/18/97
FILE:

PERFORMED FOR: HARRIS FARINON
TEST SPECIMEN: SPREAD SPECTRUM RADIO

FCC ID: BCK9GKAUR2401T1-2
Date: 13 Jan 1999
Page: 159

MODEL NUMBER: AURORA 2.4
SERIAL NUMBER: 000001

LOCATION: HORIZONTAL POLARIZATION

FINAL FCC-B, RADIATED RESULTS:

Freq MHz	Analyzer Reading dBuV	CF dB	Correct Reading dBuV/m	Spec Limit dBuV/m	margin dB	Ht cm	Angle Deg
36.00	39.1	-15.7	23.45	40.00	16.55	200	360
191.61	43.7	-10.9	32.79	43.00	10.21	175	360
193.19	42.9	-10.8	32.13	43.00	10.87	170	360
228.57	44.1	-10.0	34.13	43.00	8.87	155	360
215.90	45.4	-10.6	34.76	43.00	8.24	140	360
327.70	41.8	-5.7	36.07	43.00	6.93	120	360

NONE OUT OF SPECIFICATION

COMMENTS: Test Dist = 3.0 m. QP detector ON.

SAMPLE CALCULATION:

At 327.70 MHz

Analyzer Reading = 41.80 dBuV

Correction Factor, CF, = AF 16.70 dB + Cable 4.57 dB

-Preamp Gain 27.00 dB = -5.73 dB

CORRECTED READING = 36.07 dBuV/m

VERIFIED BY

DATE: 12/18/97

EMCE ENGINEERING INC. 44370 S. GRIMMER BLVD, FREMONT, CA 94538

MODEL # AURORA 2.4

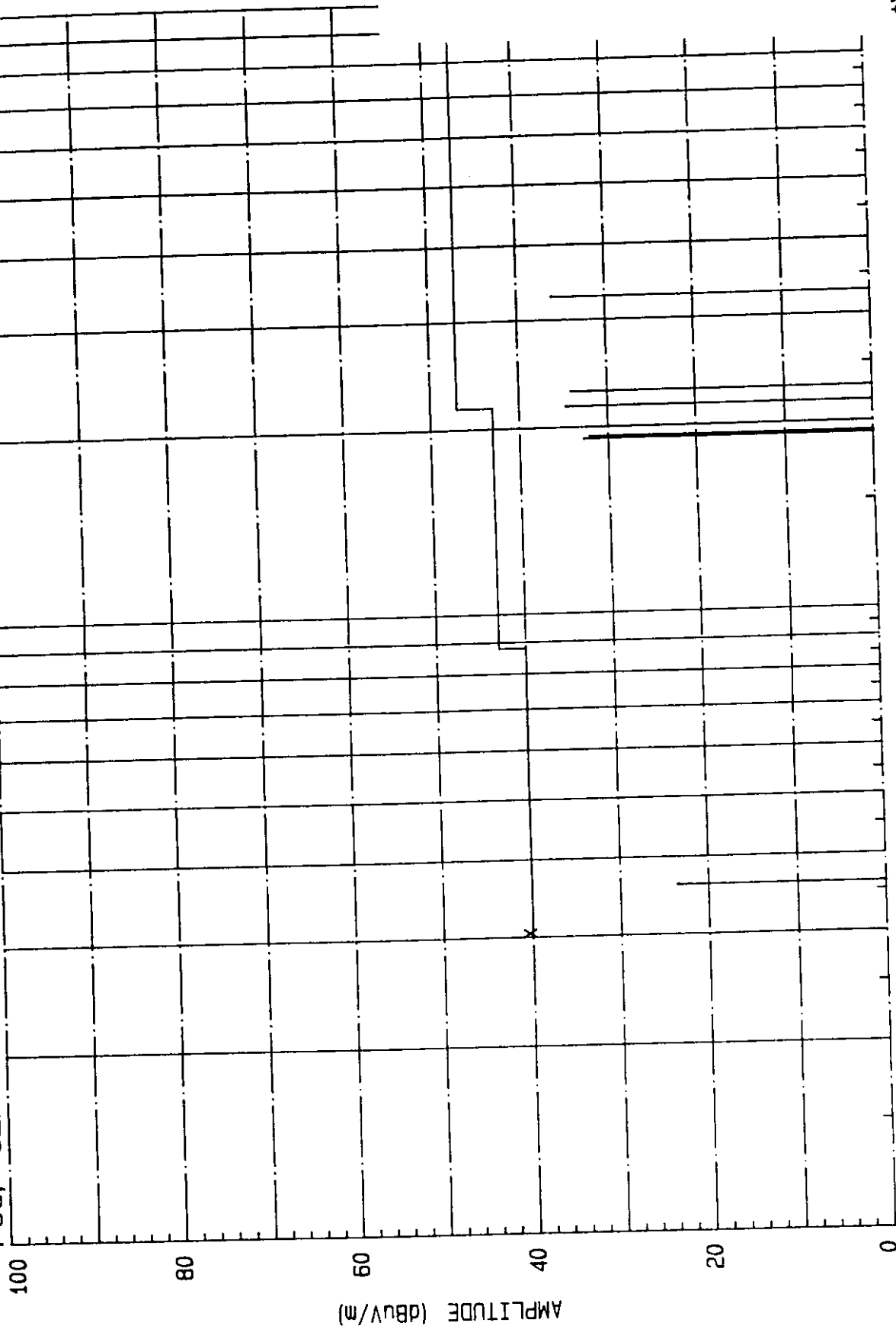
SERIAL # 000001

PERFORMED FOR: HARRIS FARINON

LOCATION: HORIZONTAL POLARIZATION

NARROWBAND RADIATED EMI

FCC, CLASS B (30MHZ-1GHZ)



FCC ID: BCK9GKAUR2401T1-2
Date: 13 Jan 1999
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APPENDIX B

Conducted Emissions Test Data

This test data was gathered for the Harris Farinon Aurora 2400-1 & -2 on 17 Dec 1997 under FCC ID: BCK9GKAUR2401-T1-1, an identical unit that has been Certified by the Federal communications Commission. The -3 & -4 models are identical to the extent that normal manufacturing tolerances allow.

EMCE ENGINEERING INC.
4615 ENTERPRISE COMMON
FREMONT, CA 94538

FCC ID: BCK9GKAUR2401T1-2
Date: 13 Jan 1999
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PERFORMED FOR: HARRIS FARINON
TEST SPECIMEN: SPREAD SPECTRUM RADIO

MODEL NO: AURORA 2.4
SERIAL NO: 000001

115 VAC SUPPLY LINE

CONDUCTED NARROWBAND RESULTS: (FCC-B)

450KHz to 1.6 MHz

The Two Largest Signals are: 1.41 MHz
0.45 MHz

33.0 dBuV
23.9 dBuV
48.0 dBuV
PASSED

Spec at This Frequency is:

1.6 MHz to 8 MHz

The Two Largest Signals are: 4.63 MHz
1.60 MHz

40.9 dBuV
26.8 dBuV
48.0 dBuV
PASSED

Spec at This Frequency is:

8 MHz to 30 MHz

The Two Largest Signals are: 18.60 MHz
8.00 MHz

31.1 dBuV
15.1 dBuV
48.0 dBuV
PASSED

Spec at This Frequency is:

COMMENTS:

VERIFIED BY *[Signature]*

EMUL ENGINEERING INC. 4615 ENTERPRISE COMMON, FLEMING, CA 94538 DATE: 12/18/91

MODEL # AURORA 2.4

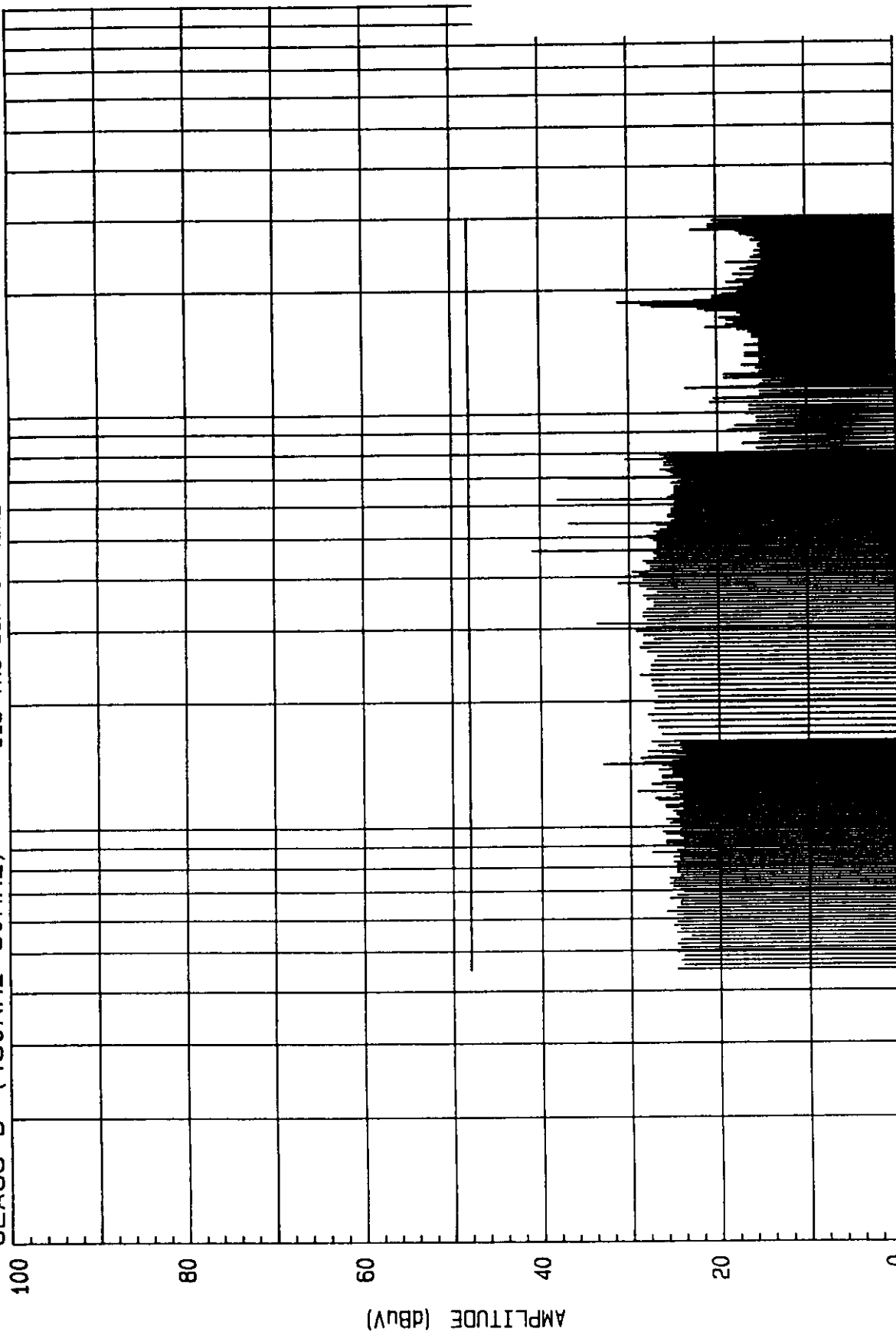
SERIAL # 000001

PERFORMED FOR: HARRIS FARINON

115 VAC SUPPLY LINE

NARROWBAND CONDUCTED EMI

CLASS B (450KHZ-30MHZ)



LIMIT

FCC ID:
Date:
Page:

BCK9GKAUR2401T1-2
13 Jan 1999
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EMCE ENGINEERING INC.
4615 ENTERPRISE COMMON
FREMONT, CA 94538

FCC ID: BCK9GKAUR2401T1-2
Date: 13 Jan 1999
Page: 164

PERFORMED FOR: HARRIS FARINON
TEST SPECIMEN: SPREAD SPECTRUM RADIO

MODEL NO: AURORA 2.4
SERIAL NO: 000001

115 VAC RETURN LINE

CONDUCTED NARROWBAND RESULTS: (FCC-B)

450KHz to 1.6 MHz

The Two Largest Signals are:	1.07 MHz	24.6 dBuV
	0.45 MHz	22.7 dBuV
Spec at This Frequency is:		48.0 dBuV
		PASSED

1.6 MHz to 8 MHz

The Two Largest Signals are:	6.98 MHz	25.2 dBuV
	1.60 MHz	22.3 dBuV
Spec at This Frequency is:		48.0 dBuV
		PASSED

8 MHz to 30 MHz

The Two Largest Signals are:	18.56 MHz	25.0 dBuV
	8.00 MHz	22.3 dBuV
Spec at This Frequency is:		48.0 dBuV
		PASSED

COMMENTS:

VERIFIED BY *[Signature]*

EMC ENGINEERING INC. 4615 ENTERPRISE COMMON, FREMONT, CA 94538 DATE: 12/18/97

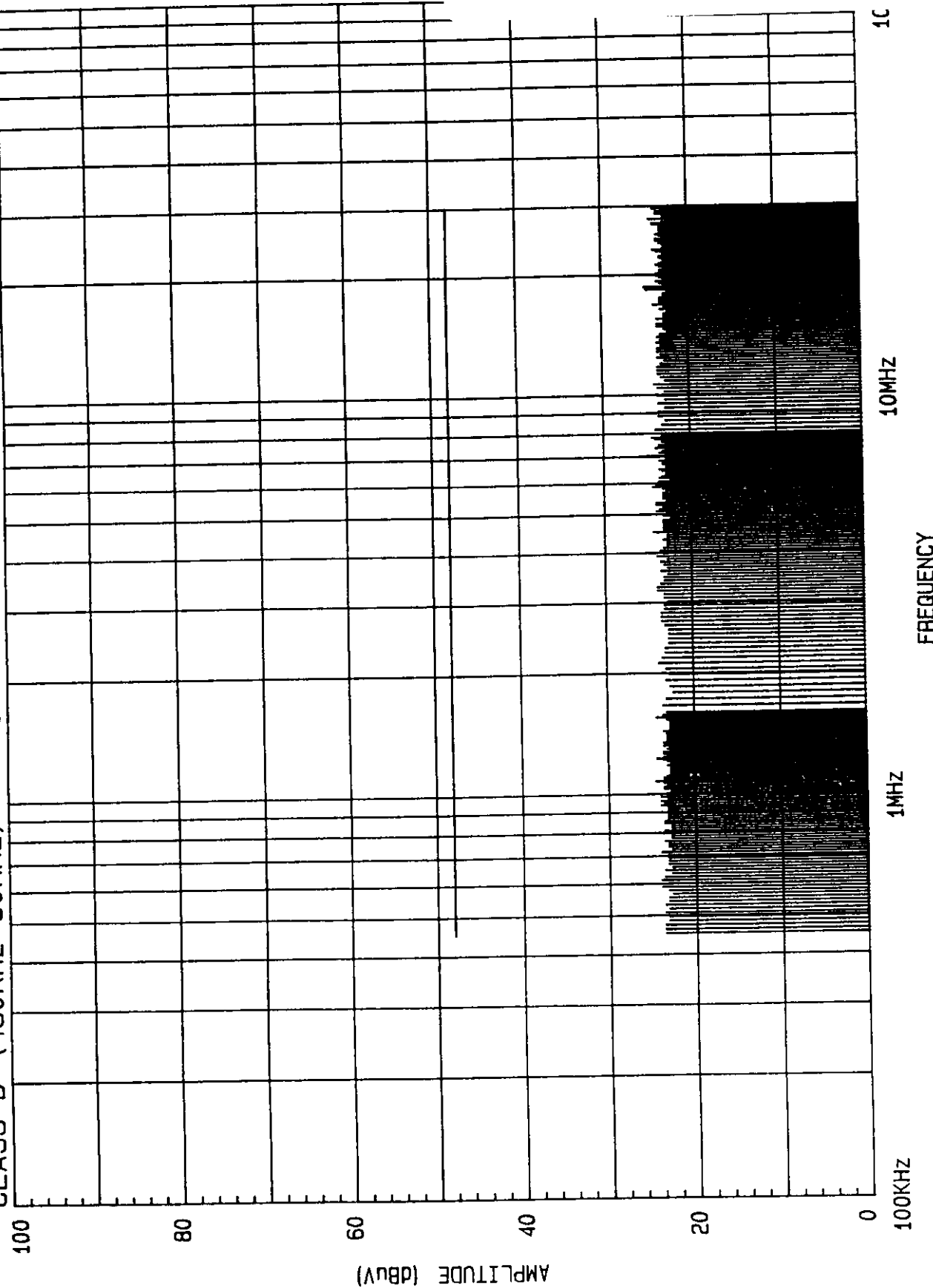
MODEL # AURORA 2.4

SERIAL # 000001

PERFORMED FOR: HARRIS FARINON

115 VAC RETURN LINE

NARROWBAND CONDUCTED EMI
CLASS B (450KHz-30MHz)



FCC ID: BCK9GKAUR2401T1-2
Date: 13 Jan 1999
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EMCE ENGINEERING INC.
4615 ENTERPRISE COMMON
FREMONT, CA 94538

FCC ID: BCK9GKAUR2401T1-2
Date: 13 Jan 1999
Page: 166

PERFORMED FOR: HARRIS FARINON
TEST SPECIMEN: SPREAD SPECTRUM RADIO

MODEL NO: AURORA 2.4
SERIAL NO: 000002

-48 VDC SUPPLY LINE

CONDUCTED NARROWBAND RESULTS: (FCC-B)

450KHz to 1.6 MHz

The Two Largest Signals are:	1.42 MHz	32.5 dBuV
	0.45 MHz	23.5 dBuV
Spec at This Frequency is:		48.0 dBuV
		PASSED

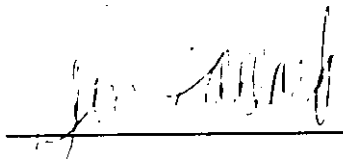
1.6 MHz to 8 MHz

The Two Largest Signals are:	1.63 MHz	29.1 dBuV
	1.60 MHz	27.9 dBuV
Spec at This Frequency is:		48.0 dBuV
		PASSED

8 MHz to 30 MHz

The Two Largest Signals are:	21.51 MHz	25.8 dBuV
	8.00 MHz	23.0 dBuV
Spec at This Frequency is:		48.0 dBuV
		PASSED

COMMENTS:

VERIFIED BY 

EMC ENGINEERING INC. 4615 ENTERPRISE COMMON, FLEMING, CA 94538 DATE: 12/18/97

MODEL # AURORA 2.4

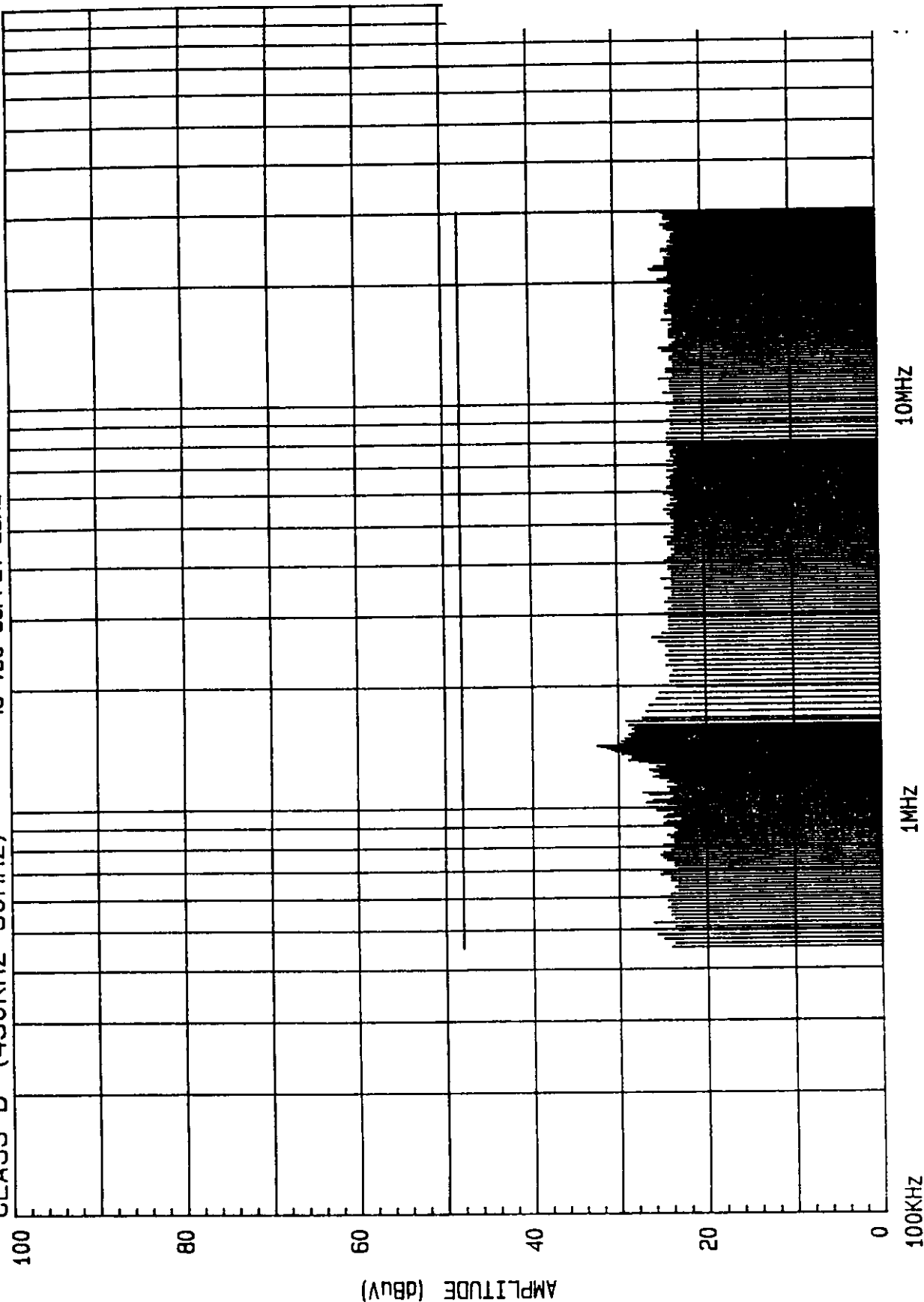
SERIAL # 000002

PERFORMED FOR: HARRIS FARINON

-48 VDC SUPPLY LINE

NARROWBAND CONDUCTED EMI

CLASS B (450KHZ-30MHZ)



FCC ID: BCK9GKAUR2401T1-2
Date: 13 Jan 1999
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APPENDIX C

Radiated Emissions Test Data >1 GHz

**Measurement of Radiated Emissions from 1 GHz to 24 GHz
for 2430 MHz operating frequency.**

Harmonics						Restricted Regions-Worst Case									
Harmonic Number	Frequency MHz	Measured dBuV	AF-dB	CL - dB	Corrected dBuV/m	Freq GHz	Measured dBuV	AF-dB	CL-dB	Corrected dBuV/m	Freq GHz	Measured dBuV	AF-dB	CL-dB	Corrected dBuV/m
						Limit = 54 dBuV/m					Limit = 54 dBuV/m				
1	2430					1.0 - 1.24	18.8	22.7	1.7	43.3	7.25 - 7.75	-1	21.6	5.8	26.4
2	4860	-6.6	20.7	4.7	18.8	1.3 - 1.427	18.9	22.8	2	43.7	8.025 - 8.5	-1.2	20.9	6.6	26.3
3	7290	-0.9	21.5	5.9	26.5	1.435 - 1.6265	19.2	22.9	2.1	44.2	9.0 - 9.2	-1.1	20.8	7.8	27.5
4	9720	-0.9	20.6	7.8	27.5	1.6455 - 1.6465	19.3	22.9	2.1	44.3	9.3 - 9.5	-0.9	20.7	7.8	27.6
5	12150	-1.3	21.8	7	27.5	1.66 - 1.71	19.5	22.9	2.1	44.5	10.6 - 12.7	2.5	21.8	8.8	33.1
6	14580	5	22.1	9.3	36.4	1.7188 - 1.722	19.3	22.9	2.1	44.3	13.25 - 13.4	6.2	22	8.3	36.5
7	17010	5	22.3	9.9	37.2	2.2 - 2.3	24.8	21.5	3.1	49.4	14.47 - 14.5	4.2	22.2	8.4	34.8
8	19440	10	22.6	11.7	44.3	2.31 - 2.39	9.8	21.5	3.1	34.4	15.35 - 16.2	4.3	22.3	8.9	35.5
9	21870	19.2	22.7	11.2	53.1	2.4835 - 2.5	3.2	21.8	3.1	28.1	17.7 - 21.4	8.1	22.7	9.3	40.1
10	24300	N1			N1	2.655 - 2.9	-5.9	22.3	3.8	20.2	22.01 - 23.1	13.8	22.7	11.2	47.7
						3.26 - 3.267	-6.3	22.3	4	20	23.6 - 24.0	13.7	23.3	11.7	48.7
						3.332 - 3.339	-6.5	22.3	4.3	20.1	31.2 - 31.8	N2			
						3.3458 - 3.358	-6.3	22.3	4.3	20.3	36.43 - 36.5	N2			
						3.6 - 4.4	-6.2	22.4	4.4	20.6	>38.6	N2			
						4.5 - 5.25	-6	21	4.1	19.1					

Measured = SA + AF + DF - PA + CL + 107, dBuV/m

Where:

- SA is Spectrum analyzer reading in -dBm
- AF is the Antenna factor in dB/m
- DF is the distance factor in dB (based on 3m distance.) = 20 log(d/3)
- PA is Preamplifier gain in dB
- CL is cable loss in db
- 107 is the conversion of -dBm to dBuV in a 50 Ohm system.

NOTES:

Above measurements are for peak voltage fields. Average E-fields would be the same or less.
No signals were actually found therefore reported values are of Spectrum analyzer noise floor.
DBS Microwave preamplifier used above 2400 MHz (PA = 27 dB).
N1 = Not measured because no signals were observed in any lower harmonic.
N2 = Not measured because no signals were observed in previous Restricted regions.

EMCE Engineering
REF - 10.0 ddm

START 14.555 0 GHz
RES BW 1 MHz

$$AF = 22.3$$
[illegible]

START 16.985 0 GHz
RES BW 1 MHz

START 19.415 0 GHz
RES BW 1 MHz

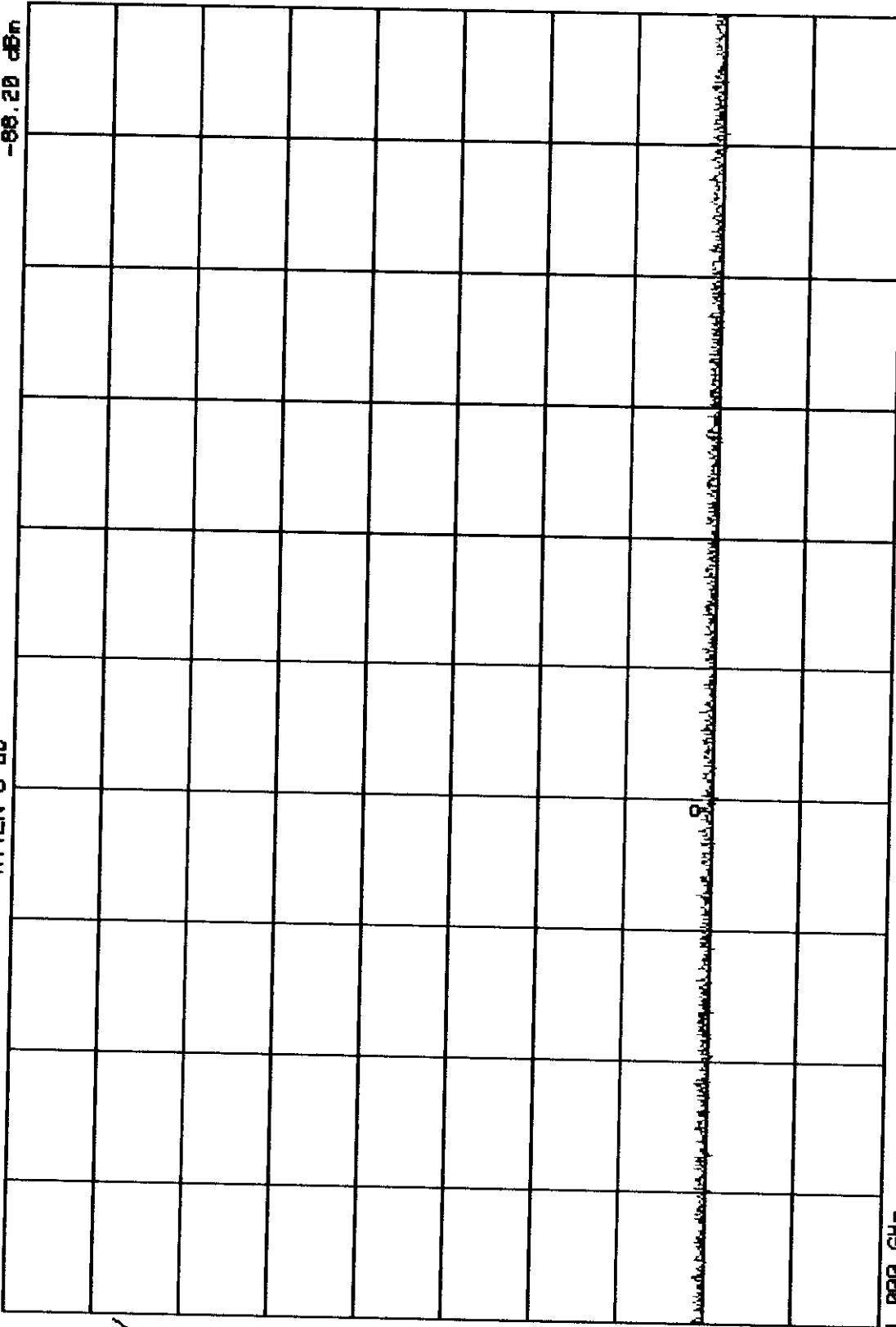
STOP 21.895 0 GHz
SWP 20.0 mrad

ENCE Engineering
REF -10.0 dBm

2430 Restricted

DATE: 2 Dec 1998 @ 11:02:25
ATTEN 0 dB

MARK 1.0938 GHz
-88.20 dBm



START 1.000 GHz
RES BW 1 MHz

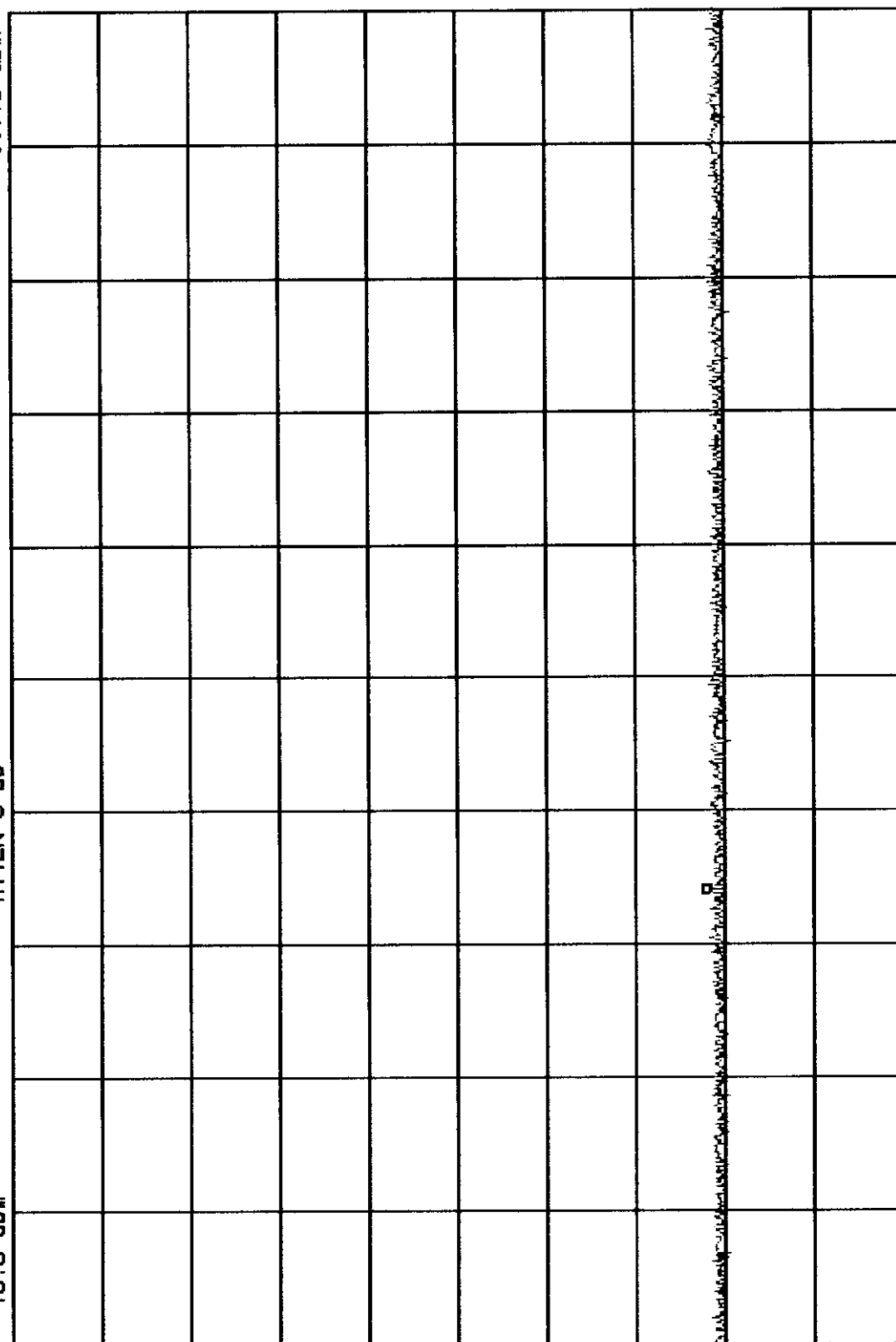
VBW 1 MHz

STOP 1.240 GHz
SWP 20.0 mhz

MKR 1.343 2 GHz
-88.10 dBm

DATE: 2 Dec 1998 @ 11:04:53
ATTEN 0 dB

EMCE Engineering
REF -10.0 dBm



18 48

START 1.300 GHz
RES BW 1 MHz

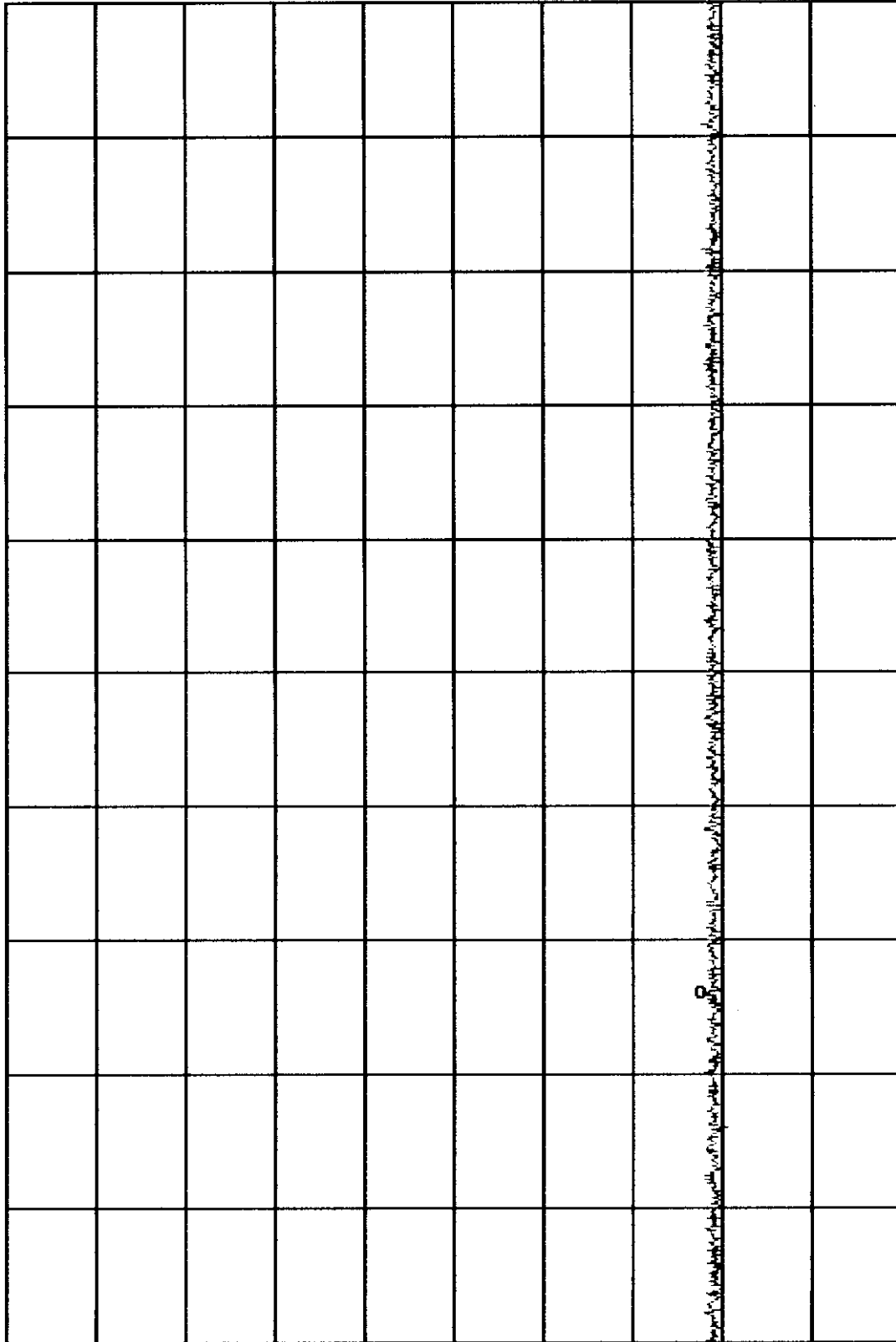
UBW 1 MHz

STOP 1.427 GHz
SWP 20.0 m/sec

EMCE Engineering
REF -10.0 dBm

DATE: 2 Dec 1998 @ 11:10:01
ATTEN 0 dB

MARK 1.645 750 GHz
-87.70 dBm



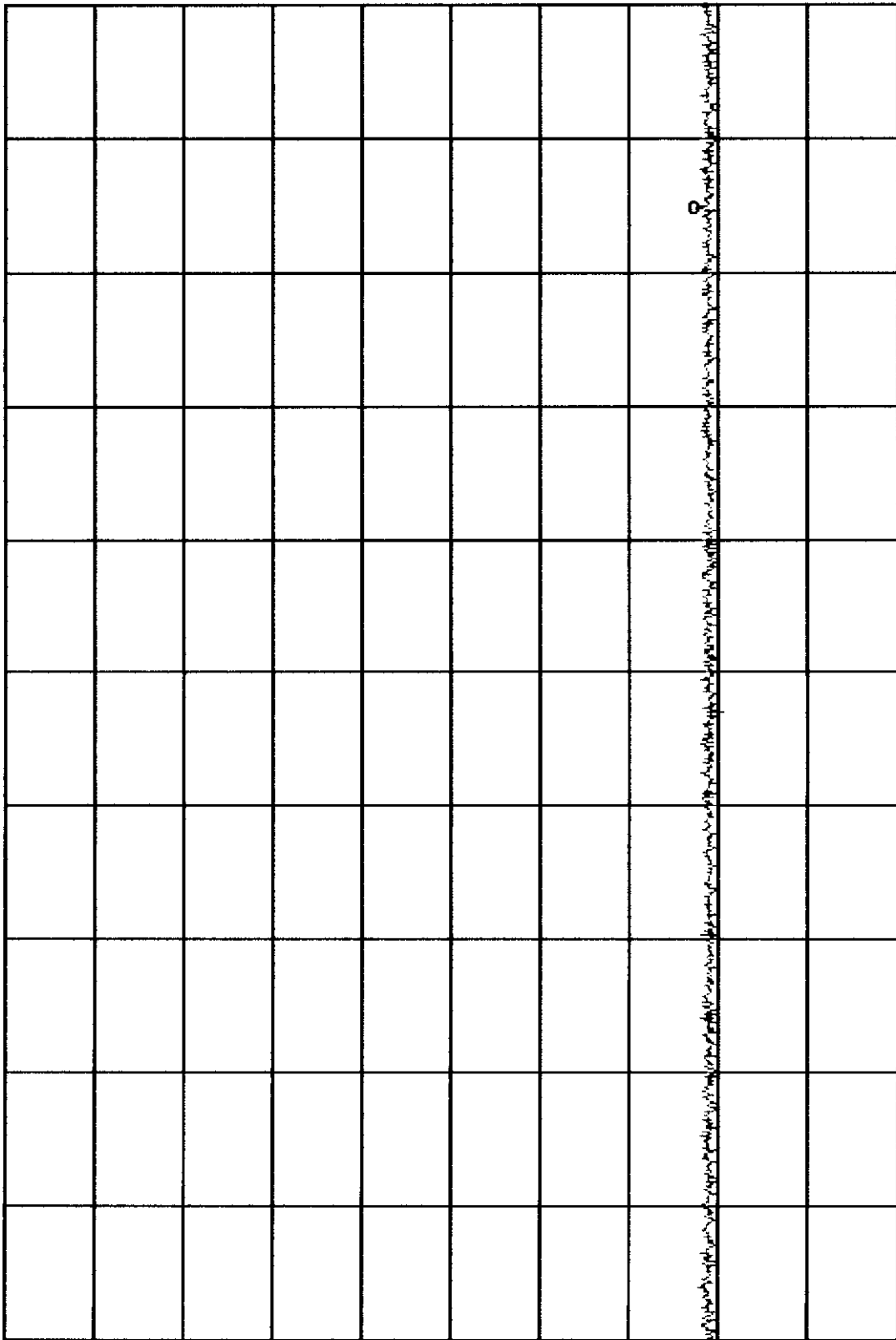
START 1.645 50 GHz
RES BW 1 MHz

VBW 1 MHz

ENCE Engineering
 REF -10.0 dBm

DATE: 2 Dec 1998 @ 11:12:28
 ATTN 0 dB

MARK 1.702 35 GHz
 -87.50 dBm



START 1.660 0 GHz
 RES BW 1 MHz

VBW 1 MHz

STOP 1.710 0 GHz
 SWP 20.0 mhz

EMCE Engineering
REF -10.0 dBm

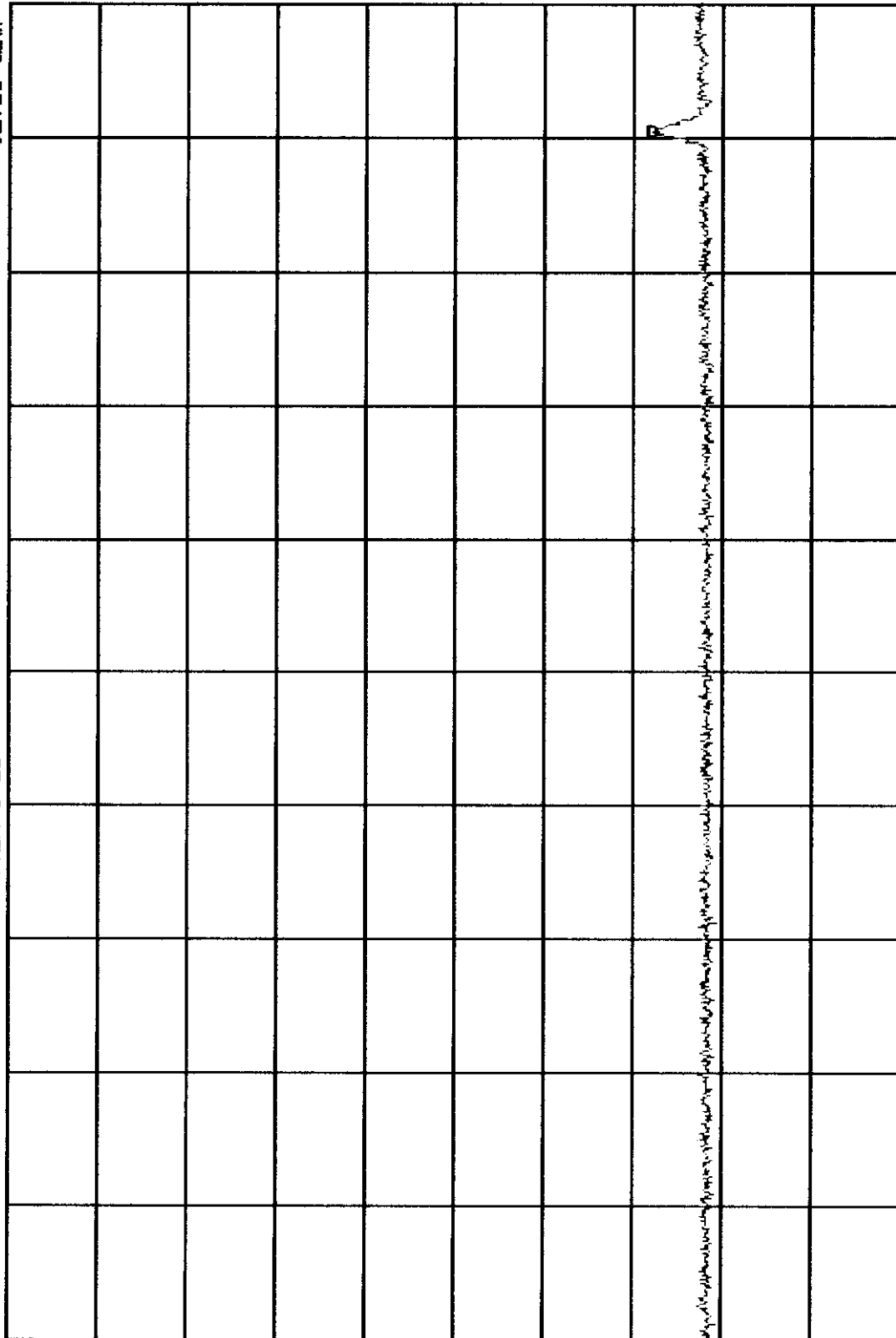
[illegible]

START 1.717 80 GHZ
RES BW 1 MHZ

EMCE Engineering
REF -10.0 dBm

DATE: 2 Dec 1998 @ 10:39:18
ATTEN 0 dB

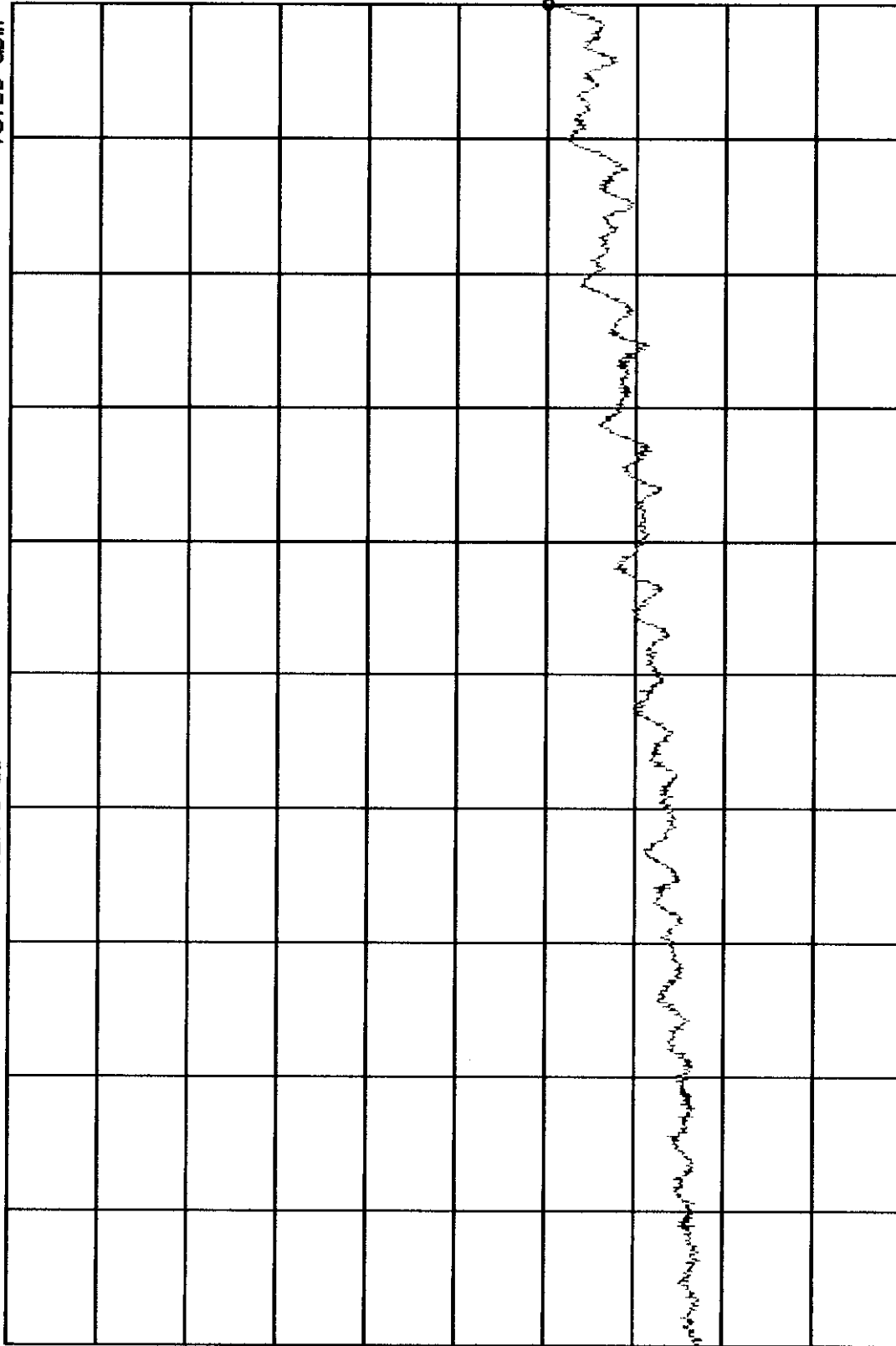
MARK 2.290 3 GHz
-82.20 dBm



EMCE Engineering
REF -10.0 dBm

DATE: 2 Dec 1998 @ 10:42:44
ATTEN 0 dB

10 dB/



START 2.318 0 GHz
RES BW 1 MHz

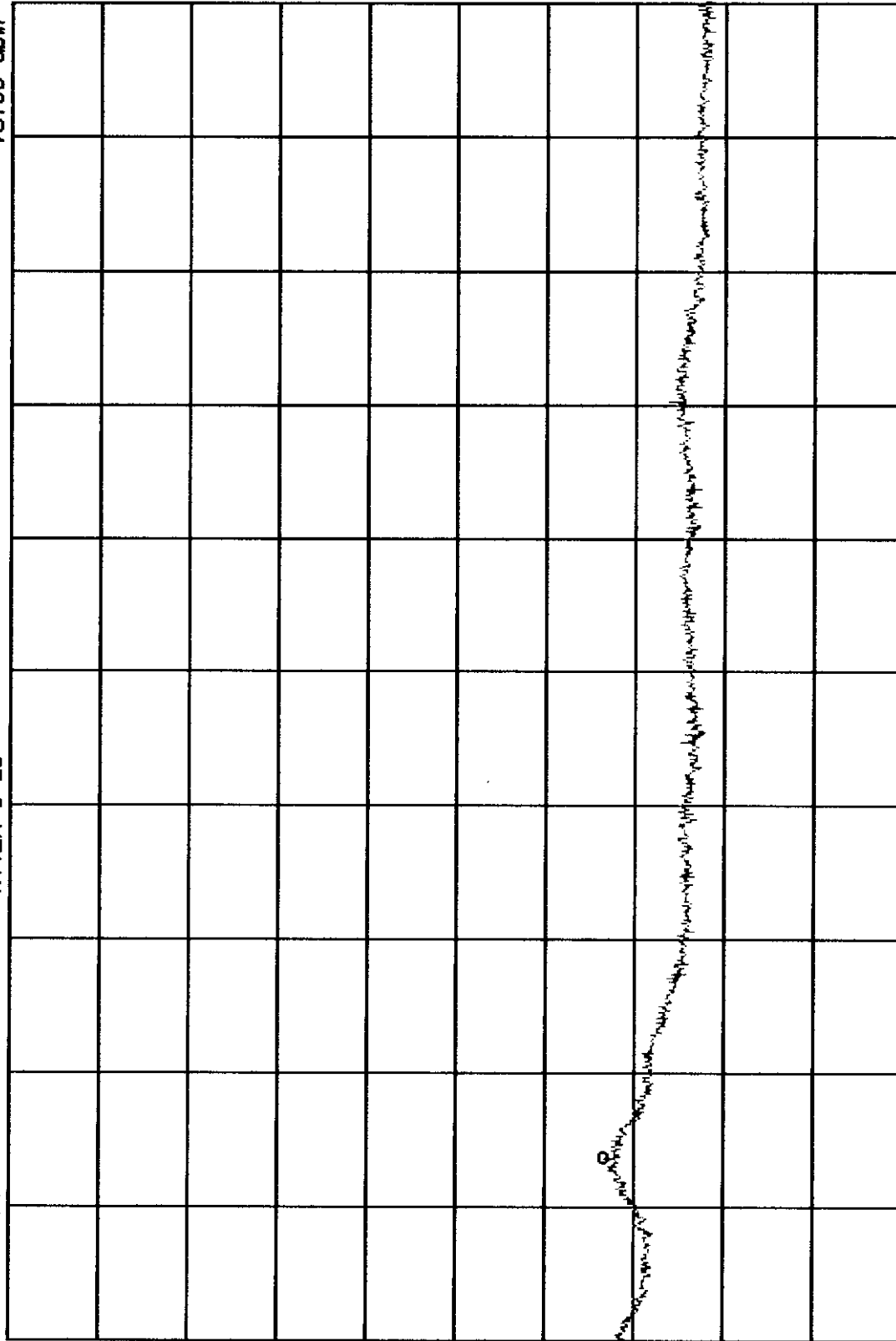
VBW 1 MHz

STOP 2.390 0 GHz
SWP 20.0 mhz

EMCE Engineering
REF -10.0 dBm

DATE: 2 Dec 1998 @ 10:45:47
ATTEN 0 dB

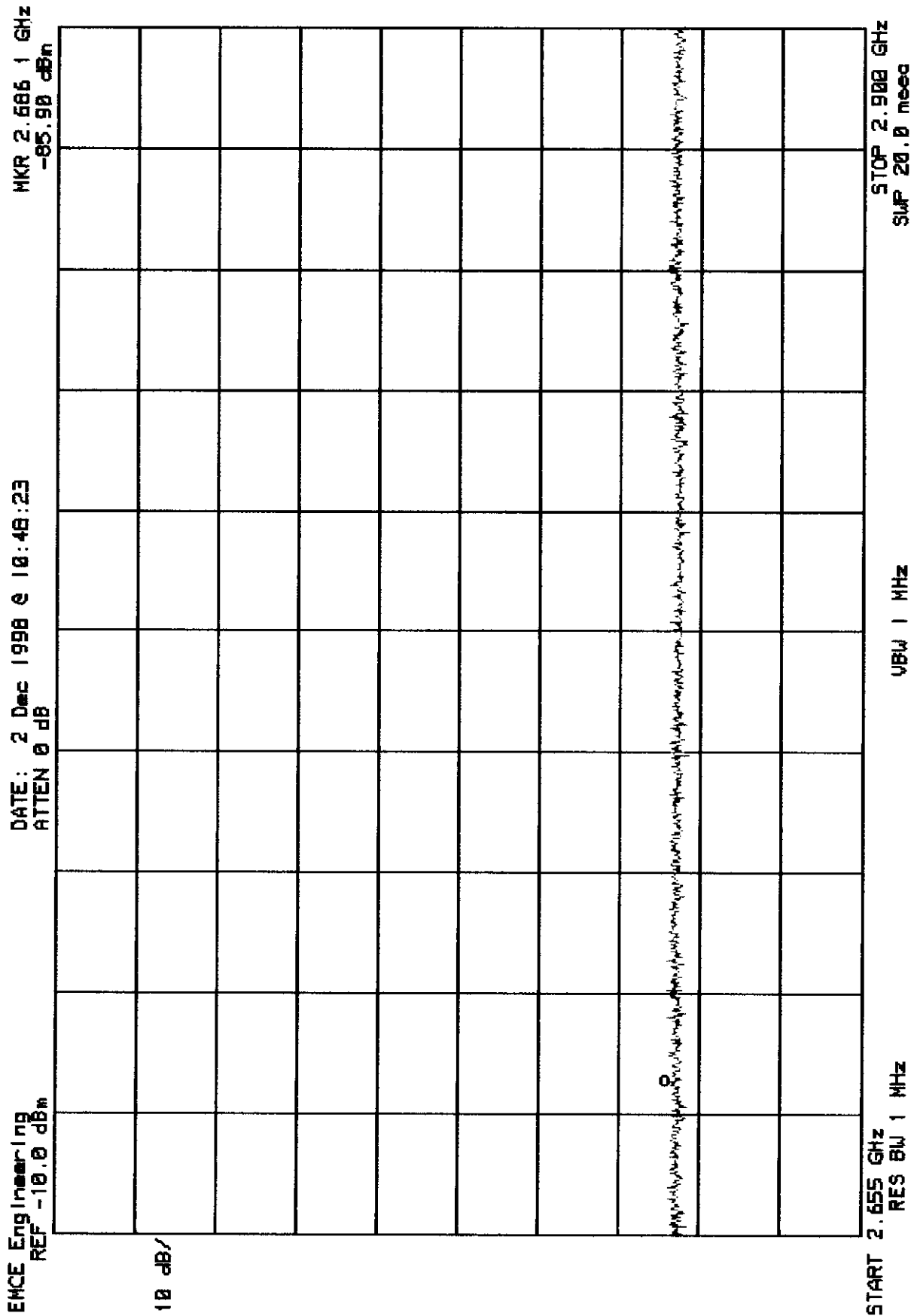
10 dB/



START 2.4835 GHz
RES BW 1 MHz

VBW 1 MHz

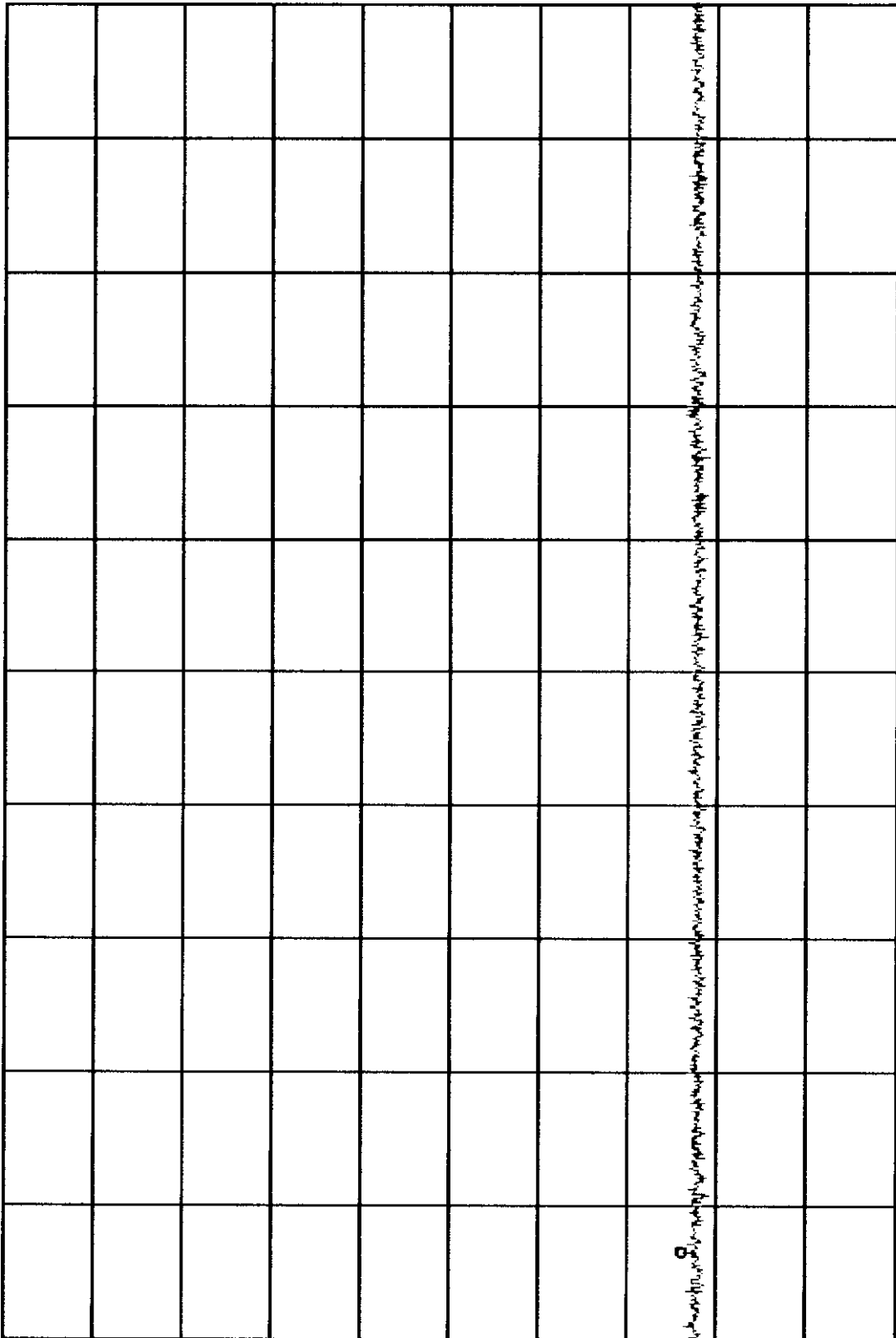
STOP 2.5000 GHz
SWP 20.0 msec



EMCE Engineering
 REF -10.0 dBm

DATE: 2 Dec 1998 @ 10:50:53
 ATTN 0 dB

MKR 3.260 448 GHz
 -86.30 dBm



START 3.260 00 GHz
 RES BW 1 MHz

STOP 3.267 00 GHz
 SWP 20.0 mhz

VBW 1 MHz

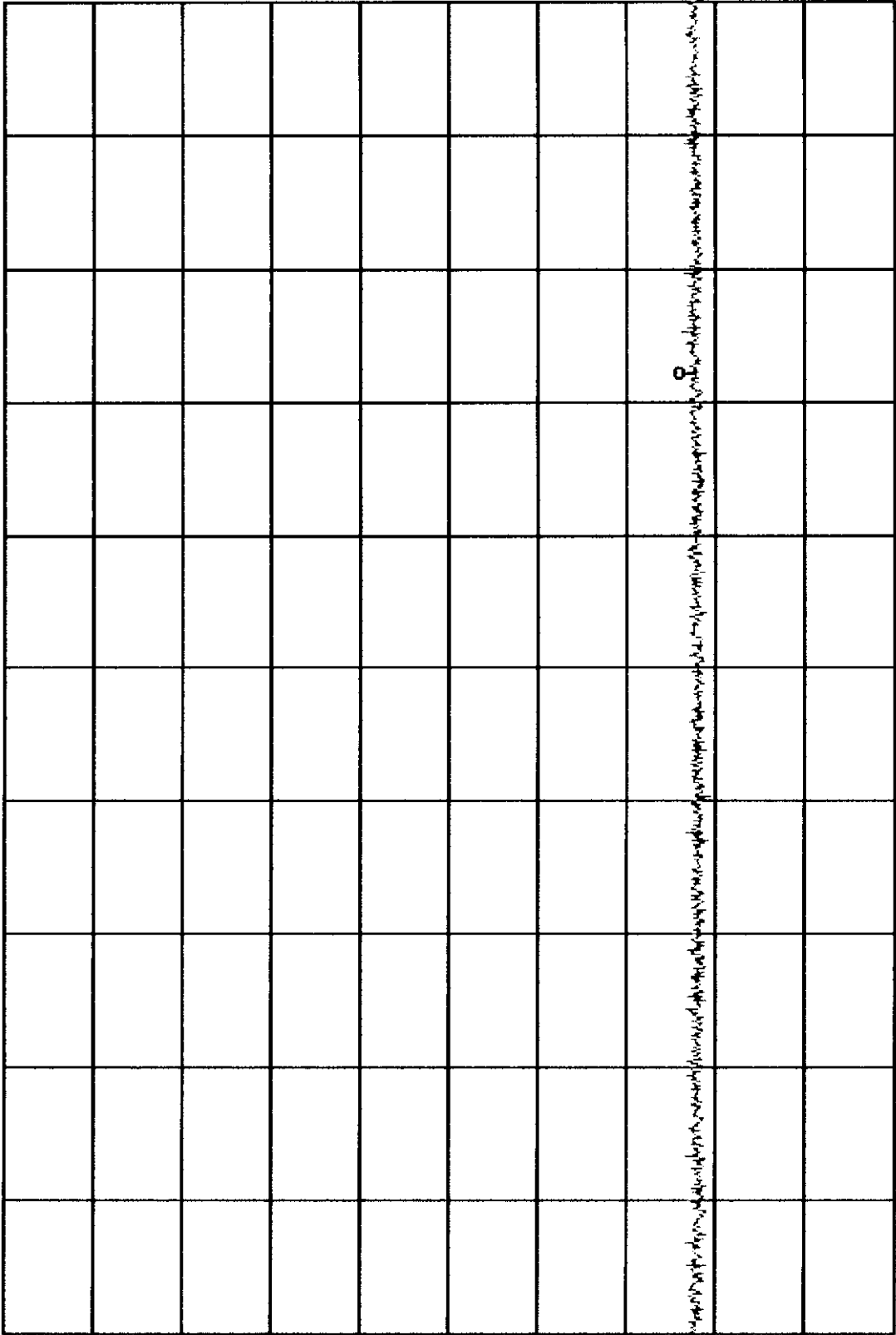
START 3.332 00 GHz
RES BW 1 MHz

STOP 3.358 @ 6Hz
SWP 20.0 msec

EMCE Engineering
REF -10.0 dBm

DATE: 2 Dec 1998 @ 10:59:00
ATTEN 0 dB

10 dB/



START 3.600 GHz
RES BW 1 MHz

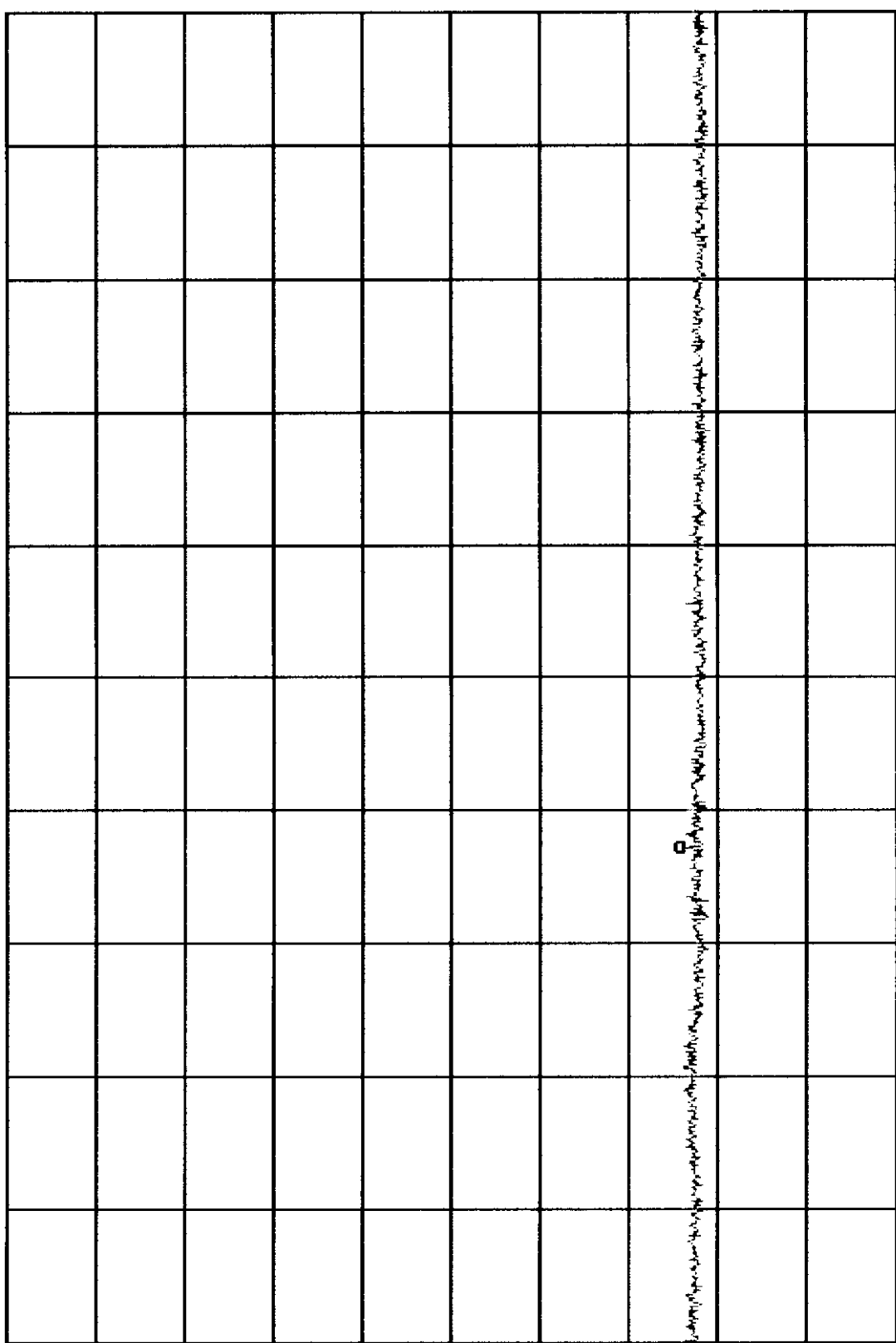
VBW 1 MHz

STOP 4.400 GHz
SWP 20.0 msec

EMCE Eng Inear Ing
REF -10.0 dBm

DATE: 2 Dec 1998 @ 11:20:29
ATTEN 0 dB

MARK 4.778 3 GHz
-86.00 dBm



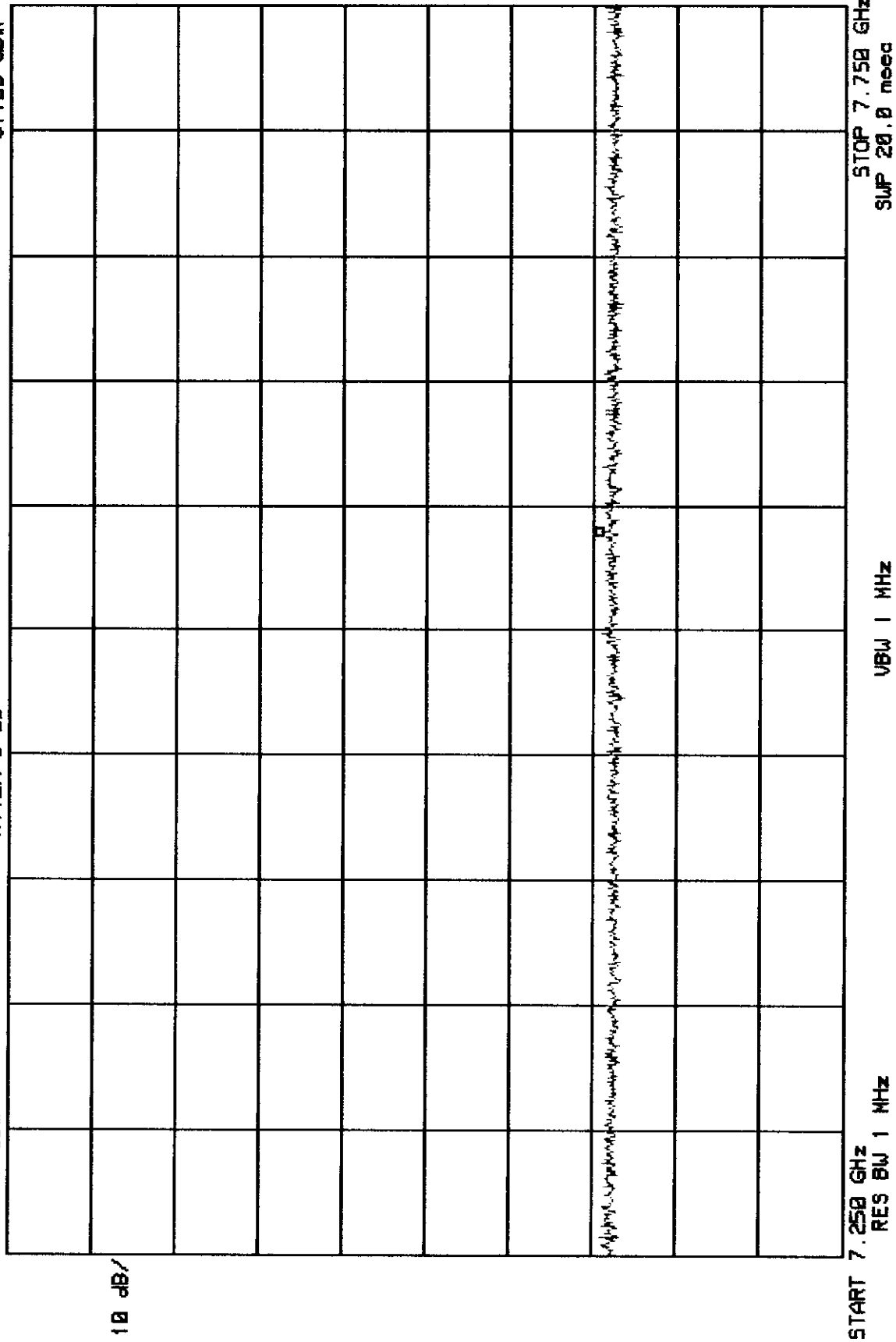
10 dB/

START 4.500 GHz RES BW 1 MHz
STOP 5.250 GHz SWP 20.0 mhz
VBW 1 MHz

EMCE Engineering
REF -10.0 dBm

DATE: 2 Dec 1998 @ 11:23:00
ATTEN 0 dB

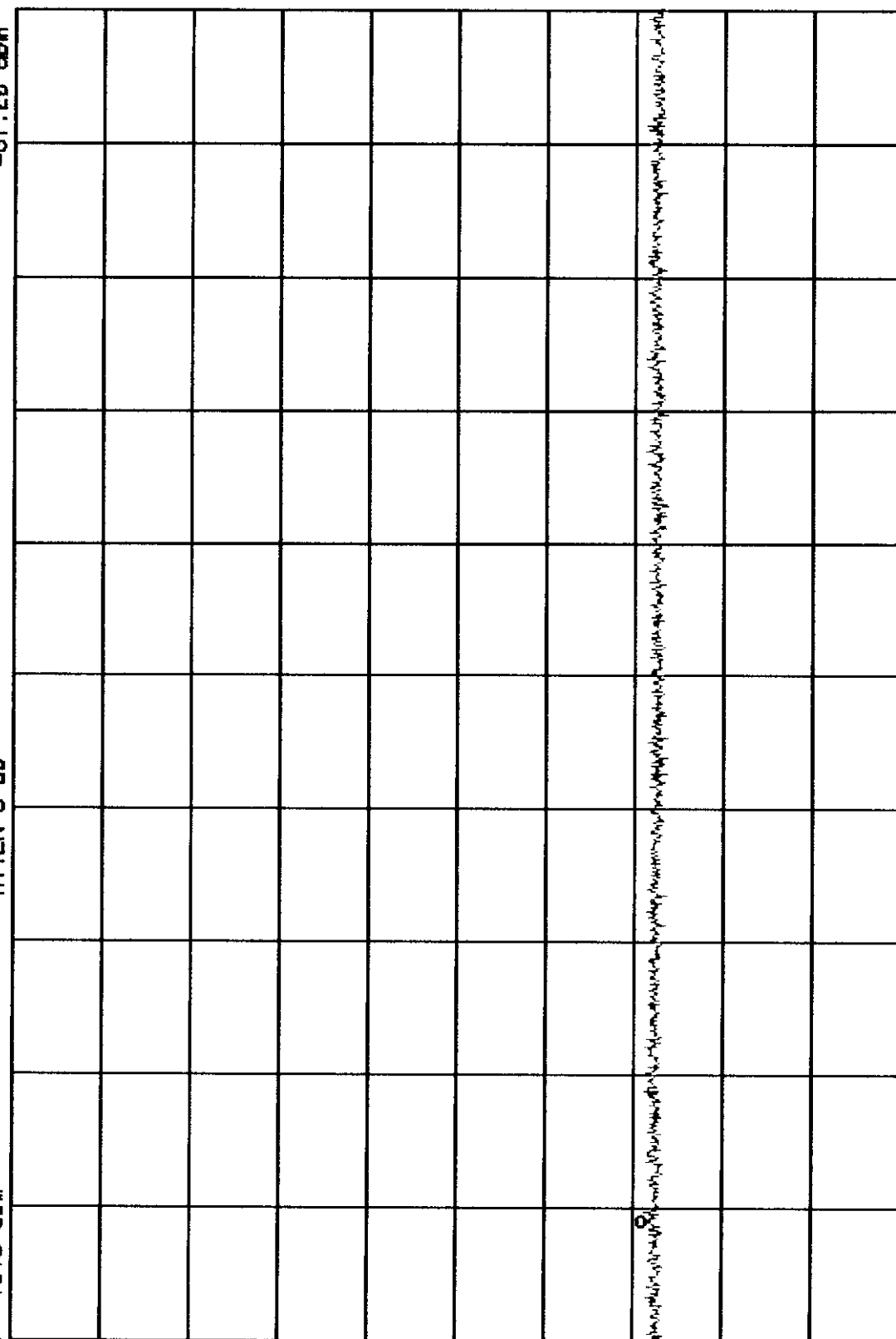
MKR 7.539 @ GHz
-81.00 dBm



EMCE Engineering
REF - 10.0 dBm

DATE: 2 Dec 1998 @ 11:28:21
ATTEN 0 dB

MKR 8.8673 GHz
-81.20 dBm



1891

START 8.025 GHz
RES BW 1 MHz

ZHW 1 MBN

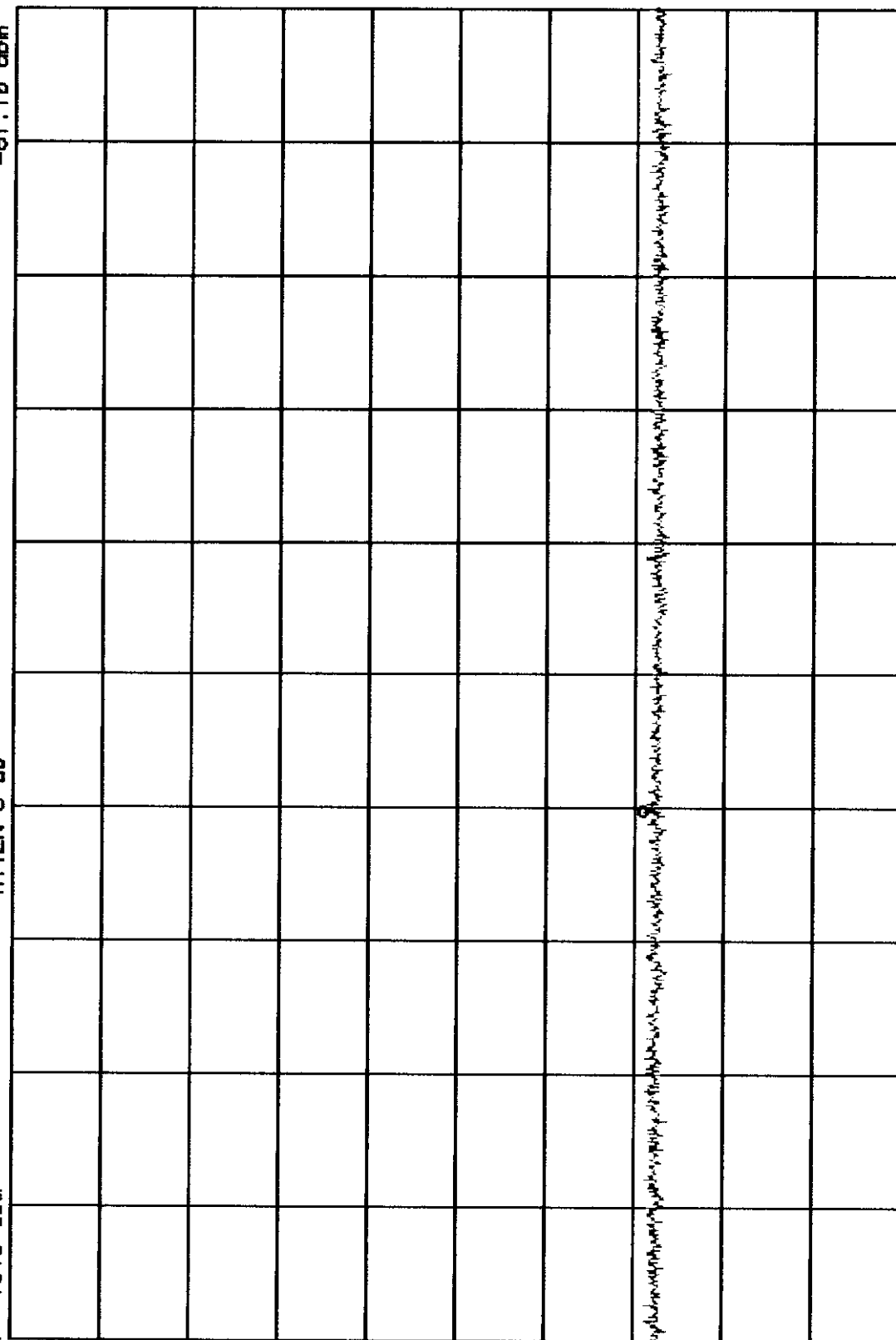
STOP B.500 GHz
SWP 20.0 mrad

EMCE Engineering
REF -10.0 dBm

DATE: 2 Dec 1998 @ 11:30:58
ATTEN 0 dB

MARK 9.879 4 GHz
-81.10 dBm

10 dB/



START 9.800 GHz
RES BW 1 MHz

VBW 1 MHz

STOP 9.200 GHz
SUP 20.0 msec

EMCE Engineering
REF -10.0 dBm

DATE: 2 Dec 1998 @ 11:33:23
ATTEN 0 dB

MIK 9.301 0 GHz
-80.90 dBm

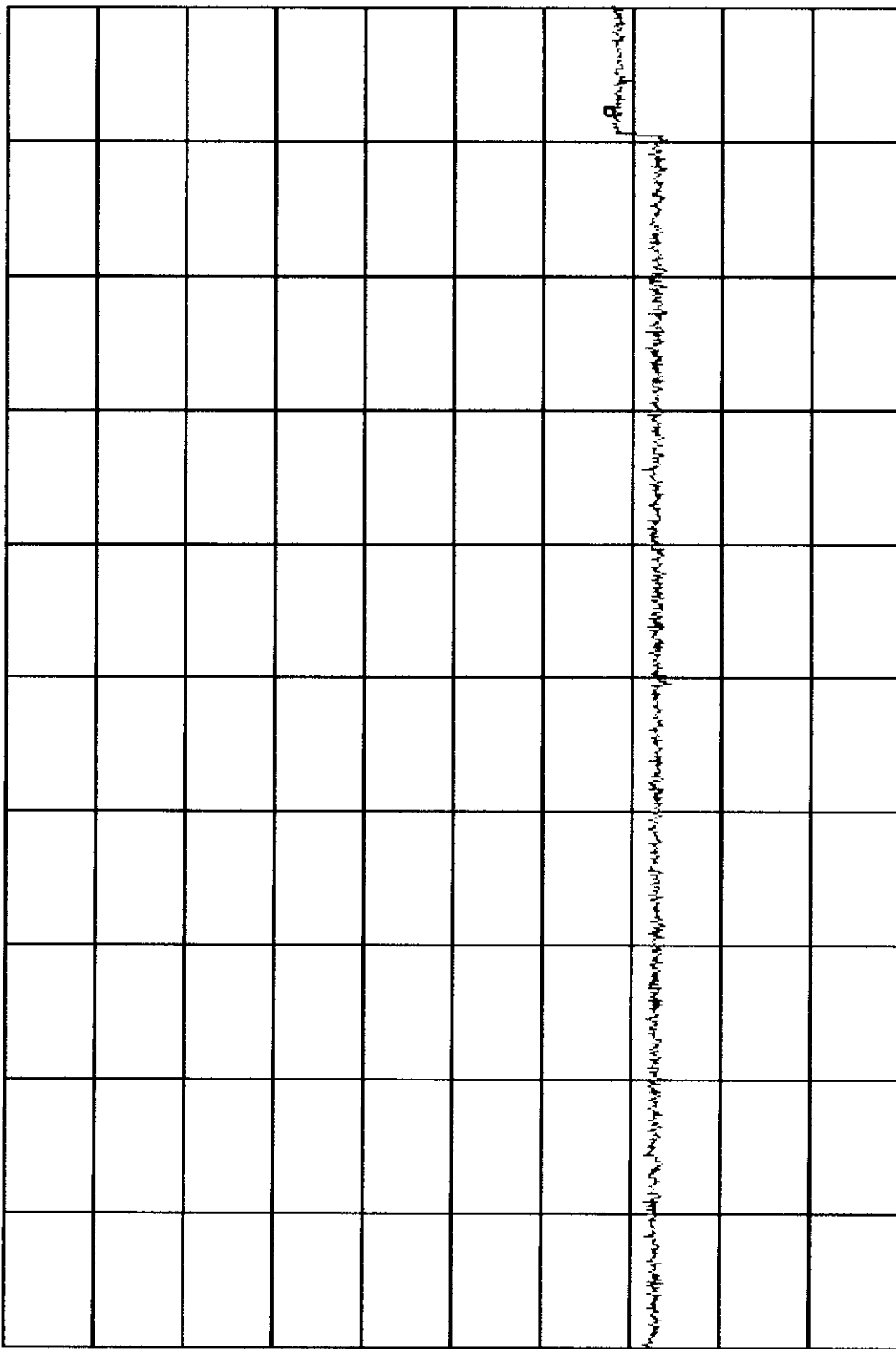
10 dB/

START 9.300 GHz
RES BW 1 MHz

VBW 1 MHz

STOP 9.500 GHz
SWP 20.0 msec

EMCE Engineering
REF -10.0 dBm
DATE: 2 Dec 1998 @ 11:46:47
ATTEN 0 dB
MKR 12.534 GHz
-77.50 dBm

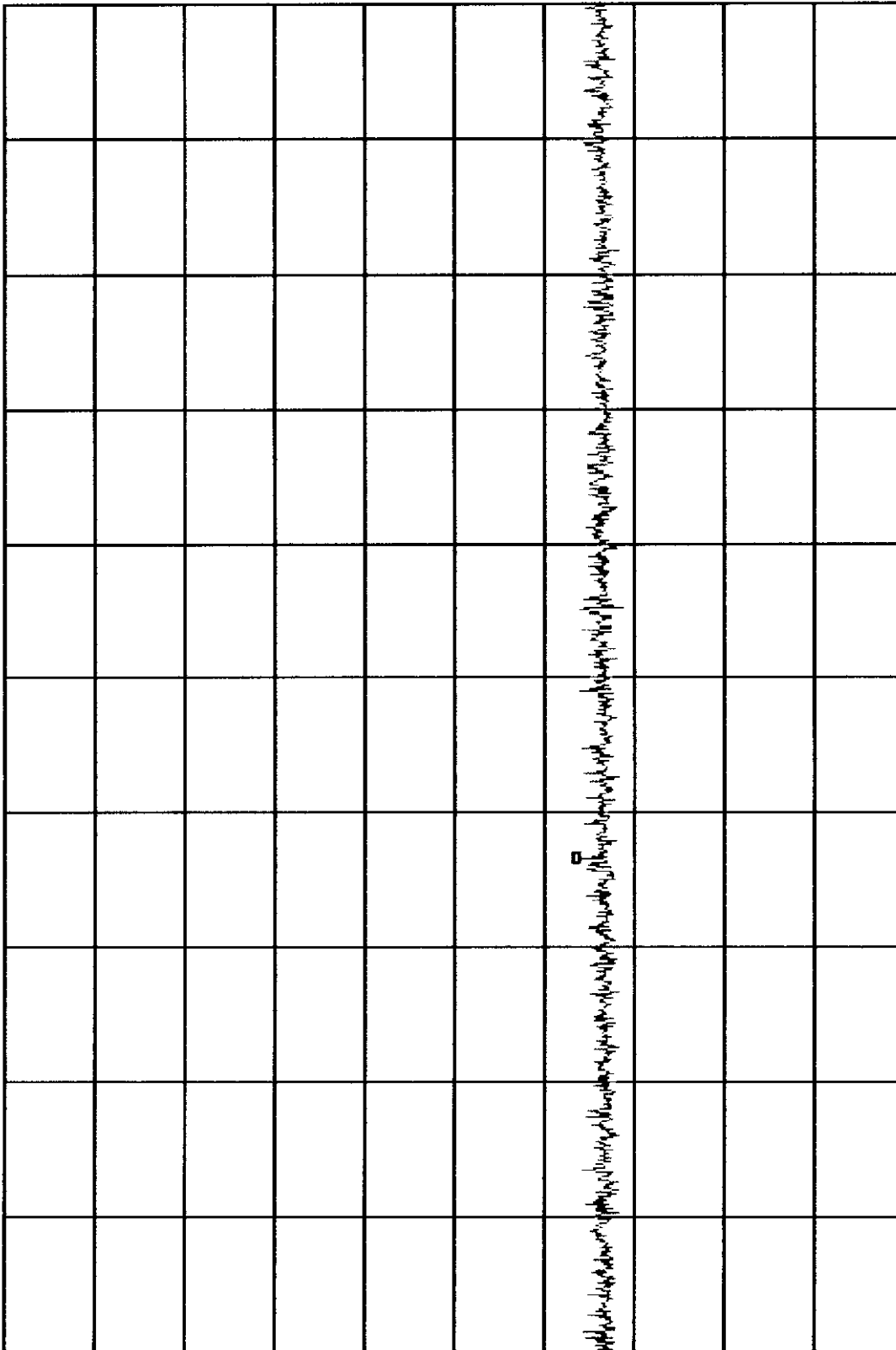


START 10.60 GHz
RES BW 1 MHz
VBW 1 MHz

EMCE Eng Inearling
REF -10.0 dBm

DATE: 2 Dec 1998
ATTEN 0 dB

MKR 13.304 B GHz
-73.80 dBm



10 dB/

START 13.250 GHz
RES BW 1 MHz

VBW 1 MHz

STOP 13.400 GHz
SWP 20.0 mseg

EMCE Engineering
REF -10.0 dBm

[illegible]

STOP 14.500 0 GHz
SWP 20.0 msec

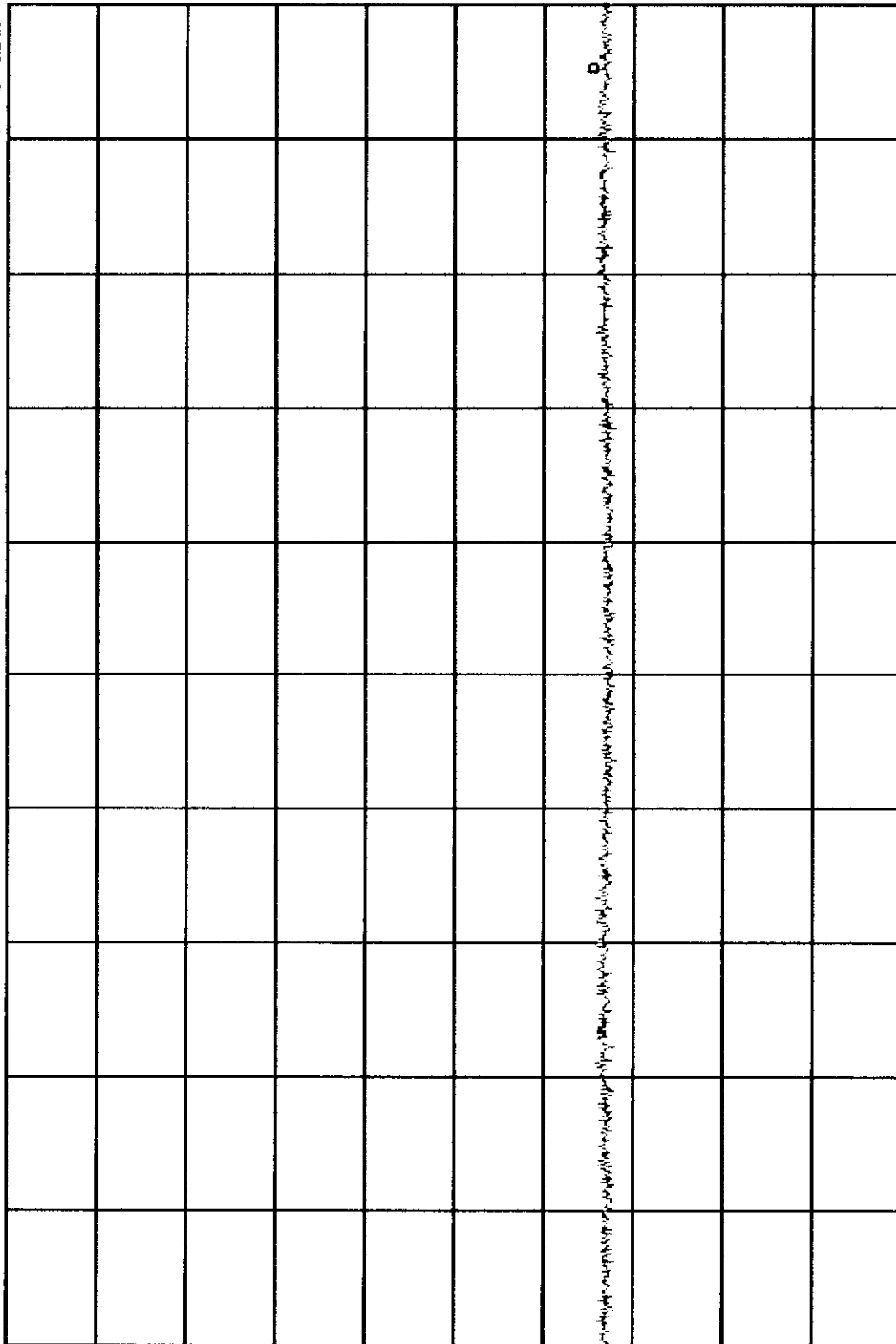
1381 1 MHz

START 14.470 0 GHz
RES BW 1 MHz

EMCE Engineering
REF -10.0 dBm

DATE: 2 Dec 1998 @ 12:15:40
ATTEN 0 dB

MARK 16.150.3 GHz
-75.70 dBm



START 15.349 GHz
RES BW 1 MHz

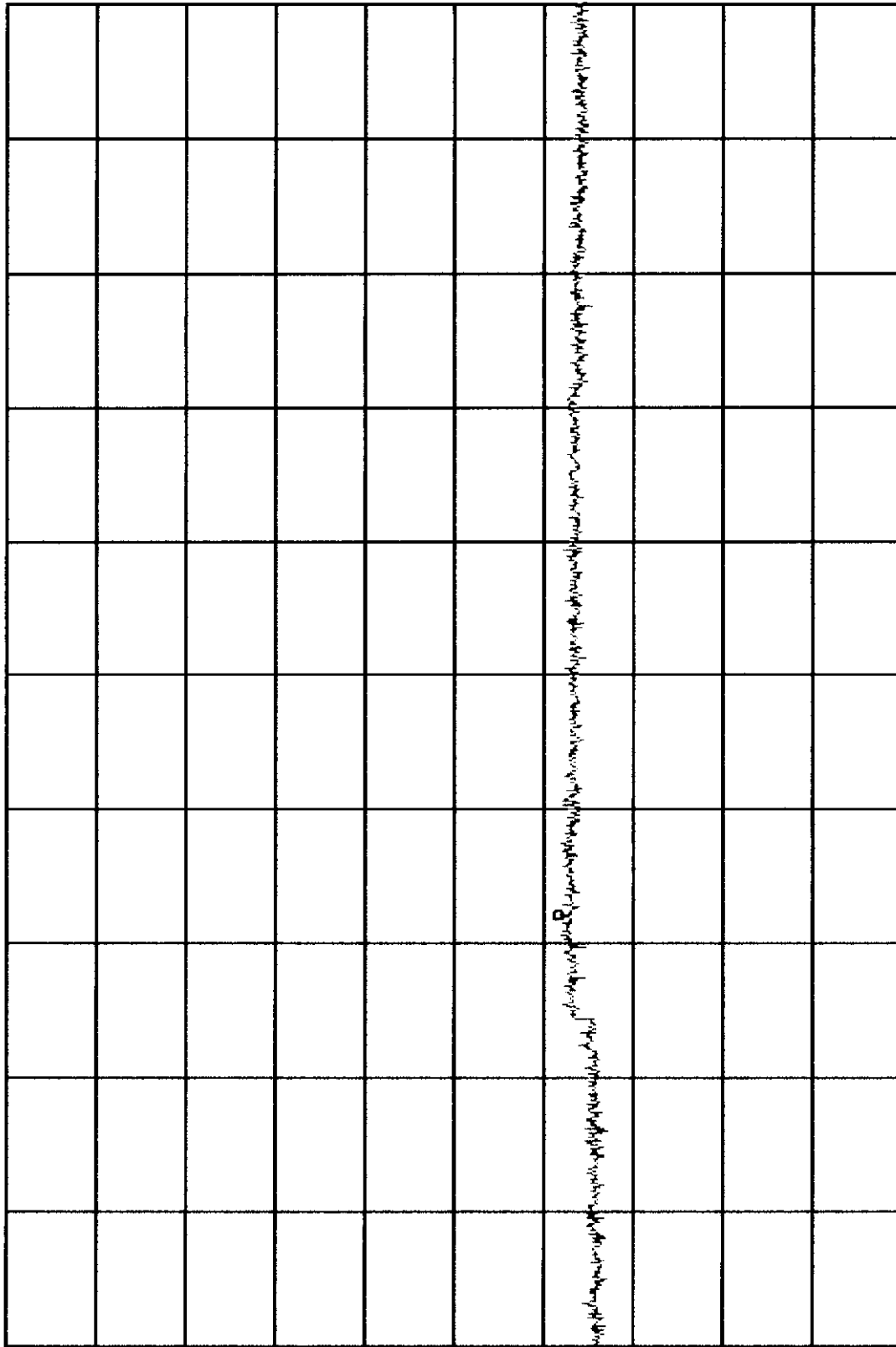
VBW 1 MHz

STOP 16.200 GHz
SWP 21.3 mhz



EMCE Engineering
REF -10.0 dBm
DATE: 2 Dec 1998 @ 12:20:59
ATTEN 0 dB
MKR 18.884 GHz
-71.90 dBm

10 dB/



START 17.69 GHz
RES BW 1 MHz
VSW 1 MHz
STOP 21.48 GHz
SWP 92.5 msec

EMCE Engineering
REF -10.0 dBm

10 20 30

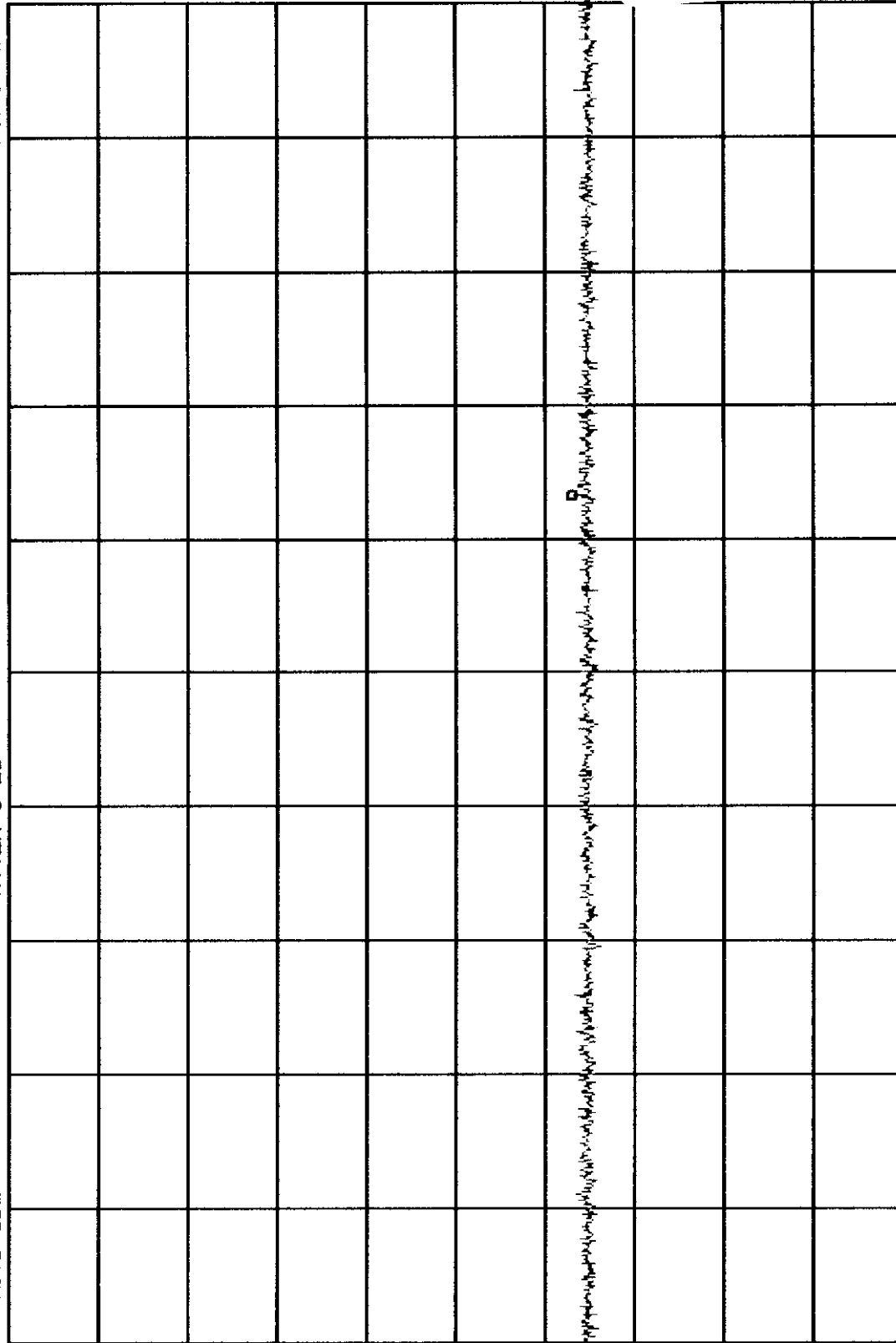
START 22.01 GHz
RES BW 1 MHz

FCC ID:
Date:
Page:

MKR 23.852 4 GHz
 -73.30 dBm

DATE: 2 Dec 1998 @ 12:27:16
ATTEN 0 dB

EMCE Engineering
REF -10.0 dBm



STOP 24.000 GH
SWP 92.5 mms

ZHH - MBL

START 23.680 GHz
RES BW 1 MHz

Measurement of Radiated Emissions from 1 GHz to 24 GHz for 2469MHz operating frequency.

Harmonics						Restricted Regions-Worst Case									
Harmonic Number	Frequency MHz	Measured dBuV	AF-dB	CL - dB	Corrected dBuV/m	Freq GHz	Measured dBuV	AF-dB	CL-dB	Corrected dBuV/m	Freq GHz	Measured dBuV	AF-dB	CL-dB	Corrected dBuV/m
						Limit = 54 dBuV/m					Limit = 54 dBuV/m				
1	2469					1.0 - 1.24	18.3	22.7	1.7	42.7	7.25 - 7.75	-1.2	21.6	5.8	26.2
2	4938	-6.2	20.7	4.7	19.2	1.3 - 1.427	18.3	22.8	2	43.1	8.025 - 8.5	-1	20.9	6.6	26.5
3	7407	-0.9	21.5	5.9	26.5	1.435 - 1.6265	19.9	22.9	2.1	44.9	9.0 - 9.2	-1	20.8	7.8	27.6
4	9876	-0.6	20.6	7.8	27.8	1.6455 - 1.6465	19.9	22.9	2.1	44.9	9.3 - 9.5	-0.7	20.7	7.8	27.8
5	12345	-1.1	21.8	7	27.7	1.66 - 1.71	18.9	22.9	2.1	43.9	10.6 - 12.7	2.5	21.8	8.8	33.1
6	14814	4.5	22.1	9.3	35.9	1.7188 - 1.7222	19.5	22.9	2.1	44.5	13.25 - 13.4	3.2	22	8.3	33.5
7	17283	4.5	22.3	9.9	36.7	2.2 - 2.3	20.9	21.5	3.1	45.5	14.47 - 14.5	4	22.2	8.4	34.6
8	19752	9.6	22.6	11.7	43.9	2.31 - 2.39	21	21.5	3.1	45.6	15.35 - 16.2	4.6	22.3	8.9	35.8
9	22221	18.6	22.7	11.2	52.5	2.4835 - 2.5	2.7	21.8	3.1	27.6	17.7 - 21.4	9	22.7	9.3	41
10	24690	N1			N1	2.655 - 2.9	-5.8	22.3	3.8	20.3	22.01 - 23.1	13.7	22.7	11.2	47.6
						3.26 - 3.267	-6.8	22.3	4	19.5	23.6 - 24.0	13.3	23.3	11.7	48.3
						3.332 - 3.339	-6.9	22.3	4.3	19.7	31.2 - 31.8	N2			
						3.3458 - 3.358	-6.8	22.3	4.3	19.8	36.43 - 36.5	N2			
						3.6 - 4.4	-6.6	22.4	4.4	20.2	>38.6	N2			
						4.5 - 5.25	-5.8	21	4.1	19.3					

$$\text{Measured} = \text{SA} + \text{AF} + \text{DF} - \text{PA} + \text{CL} + 107, \quad \text{dBuV/m}$$

Where:

SA is Spectrum analyzer reading in -dBm

AF is the Antenna factor in dB/m

DF is the distance factor in dB (based on 3m distance.) = $20 \log(d/3)$

PA is Preamplifier gain in dB

CL is cable loss in db

107 is the conversion of -dBm to dBuV in a 50 Ohm system.

NOTES:

Above measurements are for peak voltage fields. Average E-fields would be the same or less.

No signals were actually found therefore reported values are of Spectrum analyzer noise floor.

DBS Microwave preamplifier used above 2400 MHz (PA = 27 dB).

N1 = Not measured because no signals were observed in any lower harmonic.

N2 = Not measured because no signals were observed in previous Restricted regions.

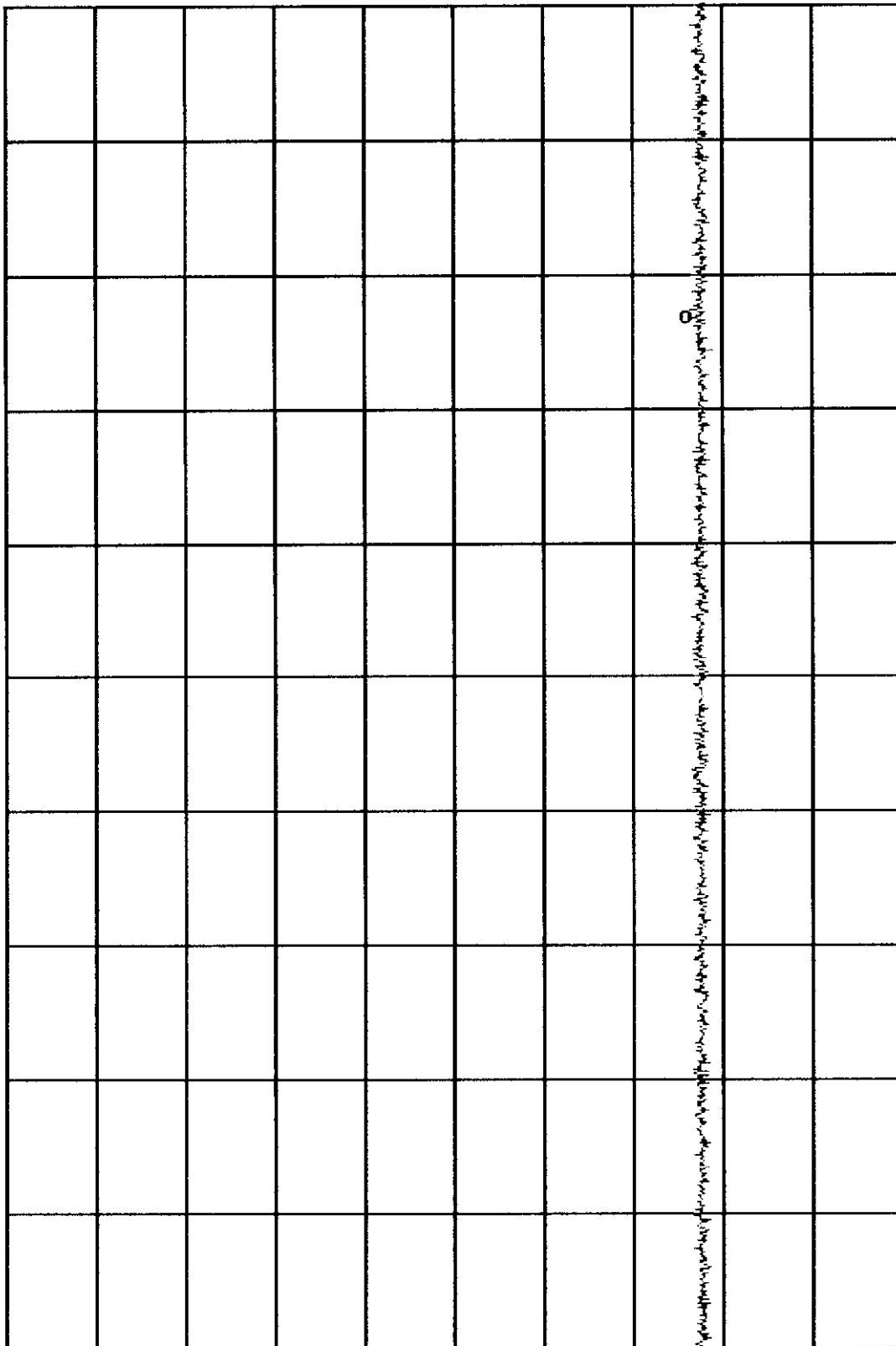
2469 Harmonics

EHCE Engineering
REF -10.0 dBm

DATE: 3 Dec 1998 @ 12:15:24
ATTEN 0 dB

MKR 4.95135 GHz
-86.20 dBm

10 dB/

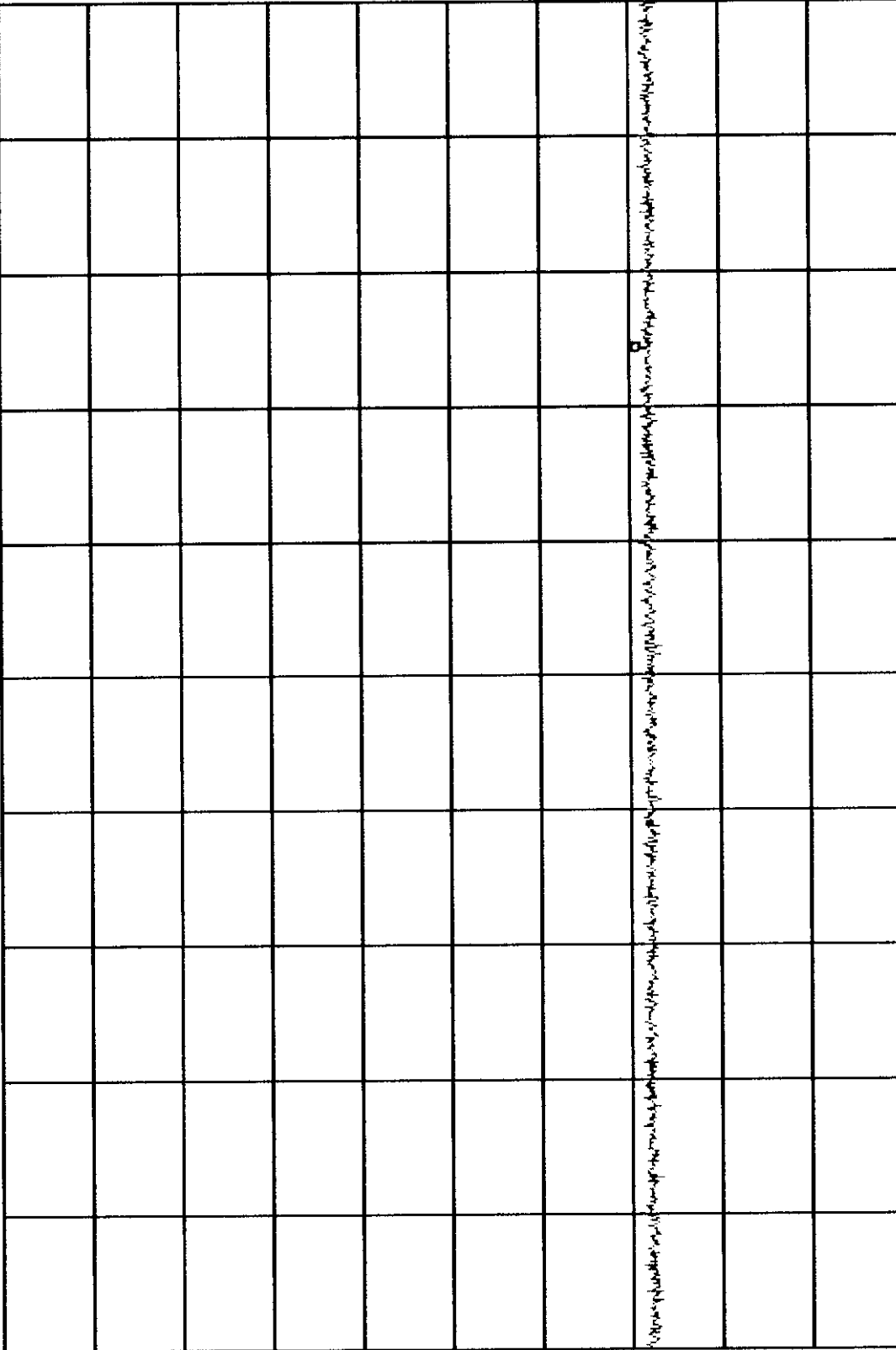


CENTER 4.9380 GHz
RES BW 1 MHz

VBW 1 MHz

SPAN 50.0 MHz
SUP 20.0 msec

EMCE Engineering
REF -10.0 dBm
DATE: 3 Dec 1998 @ 12:18:22
ATTEN 0 dB
MKR 7.419 10 GHz
-80.90 dBm



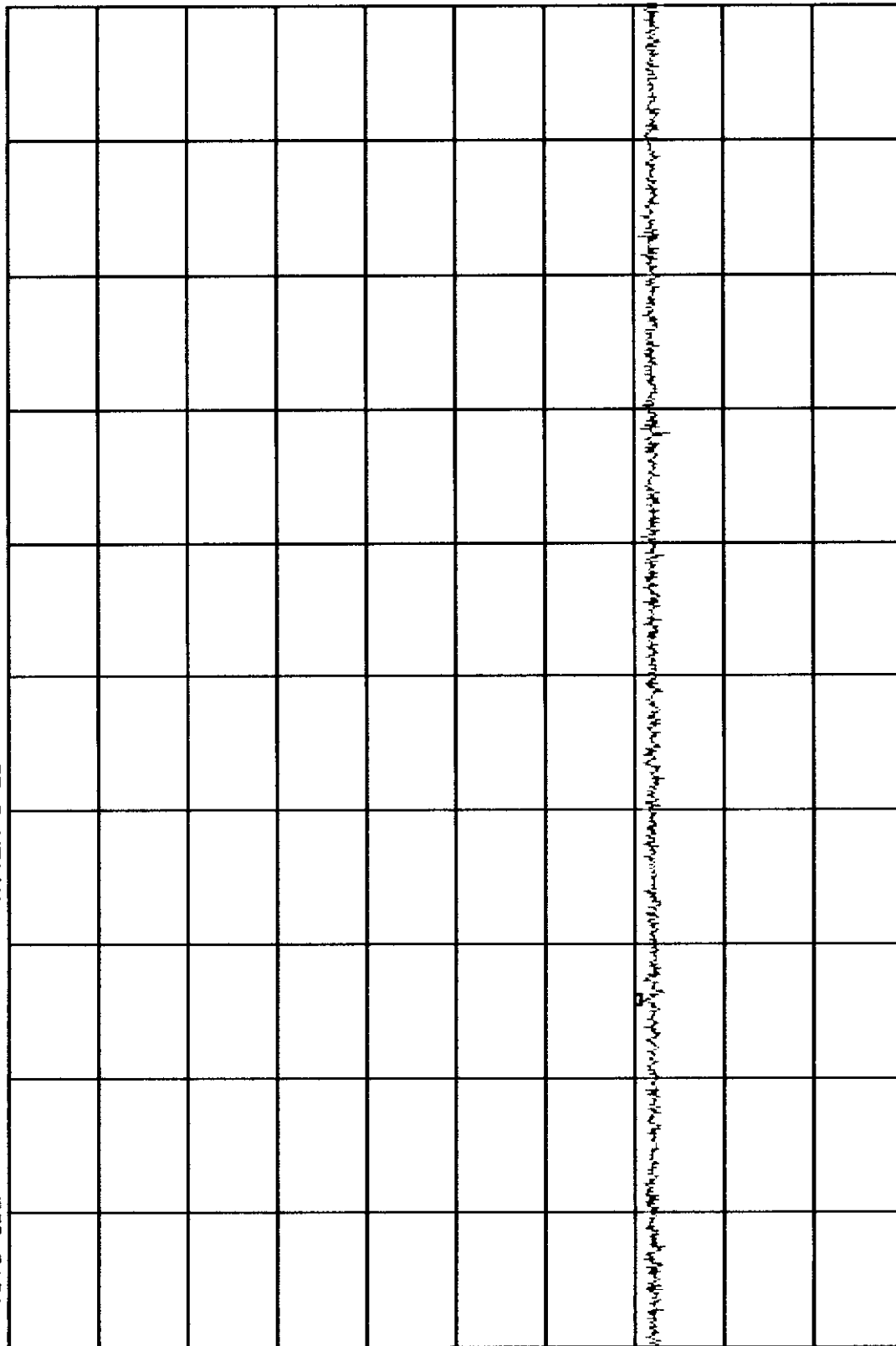
SPAN 50.0 MHz
SUP 20.0 msec
VBW 1 MHz

EMCE Engineering
REF -10.0 dBm

DATE: 3 Dec 1998 @ 12:23:21
ATTEN 0 dB

HKR 9.863 B5 6Hz
-80.60 dBm

10 dB/

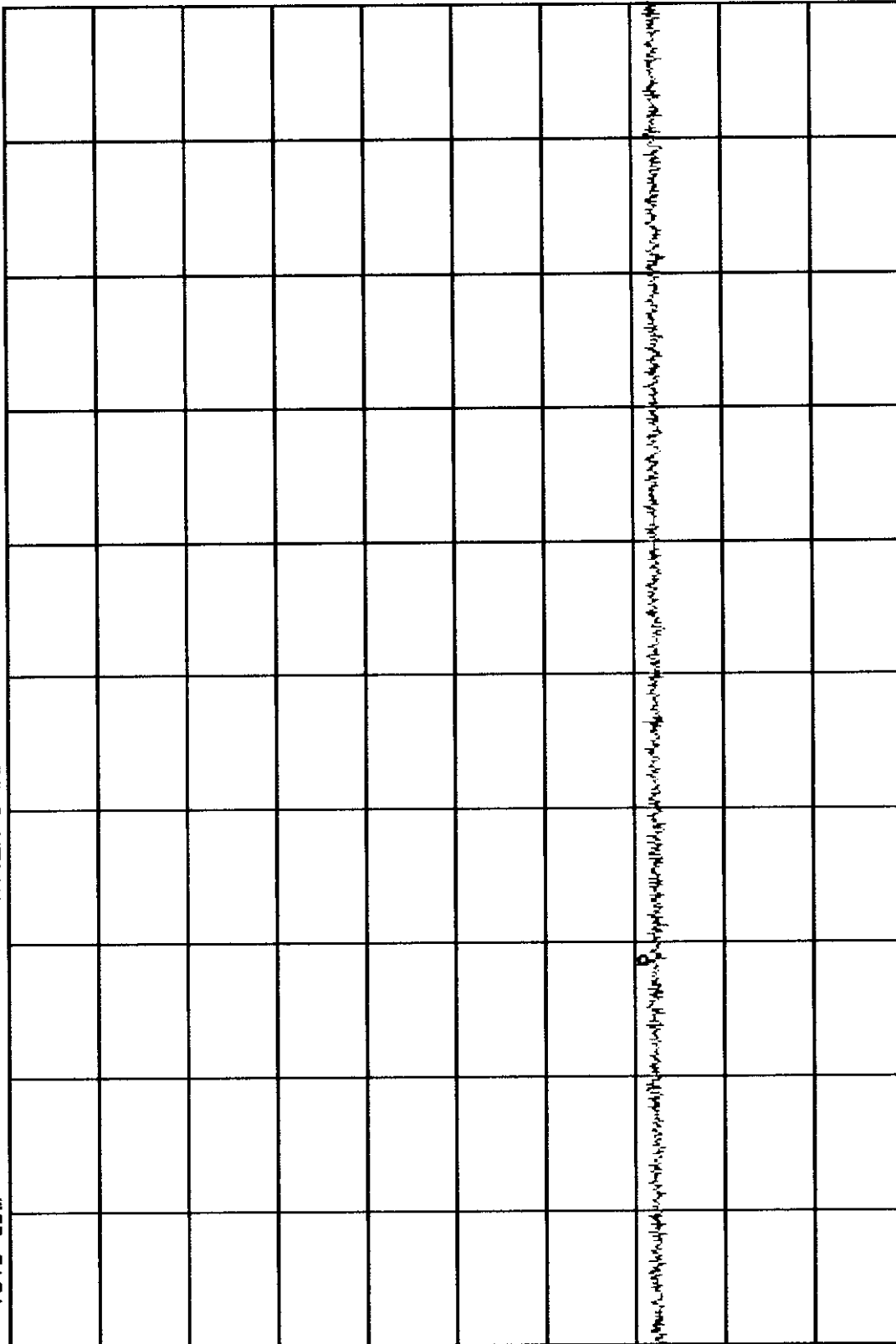


CENTER 9.876 0 GHz
RES BW 1 MHz

VBW 1 MHz

SPAN 50.0 MHz
SWP 20.0 mseg

EMCE Engineering
REF -10.0 dBm
DATE: 3 Dec 1998 @ 12:26:05
ATTEN 0 dB
MKR 12.334 25 GHz
-81.10 dBm



10 dB/

START 12.328 0 GHz
RES BW 1 MHz
VBW 1 MHz
STOP 12.370 0 GHz
SWP 20.0 msec

MKR 14.791 50 GHz
-75.50 dBm

DATE: 3 Dec 1998 @ 13:41:59
ATTEN 0 dB

EMCE Engineering
REF -10.0 dBm

10 dB

START 14.789 0 GHz
RES BW 1 MHz

THE MAN

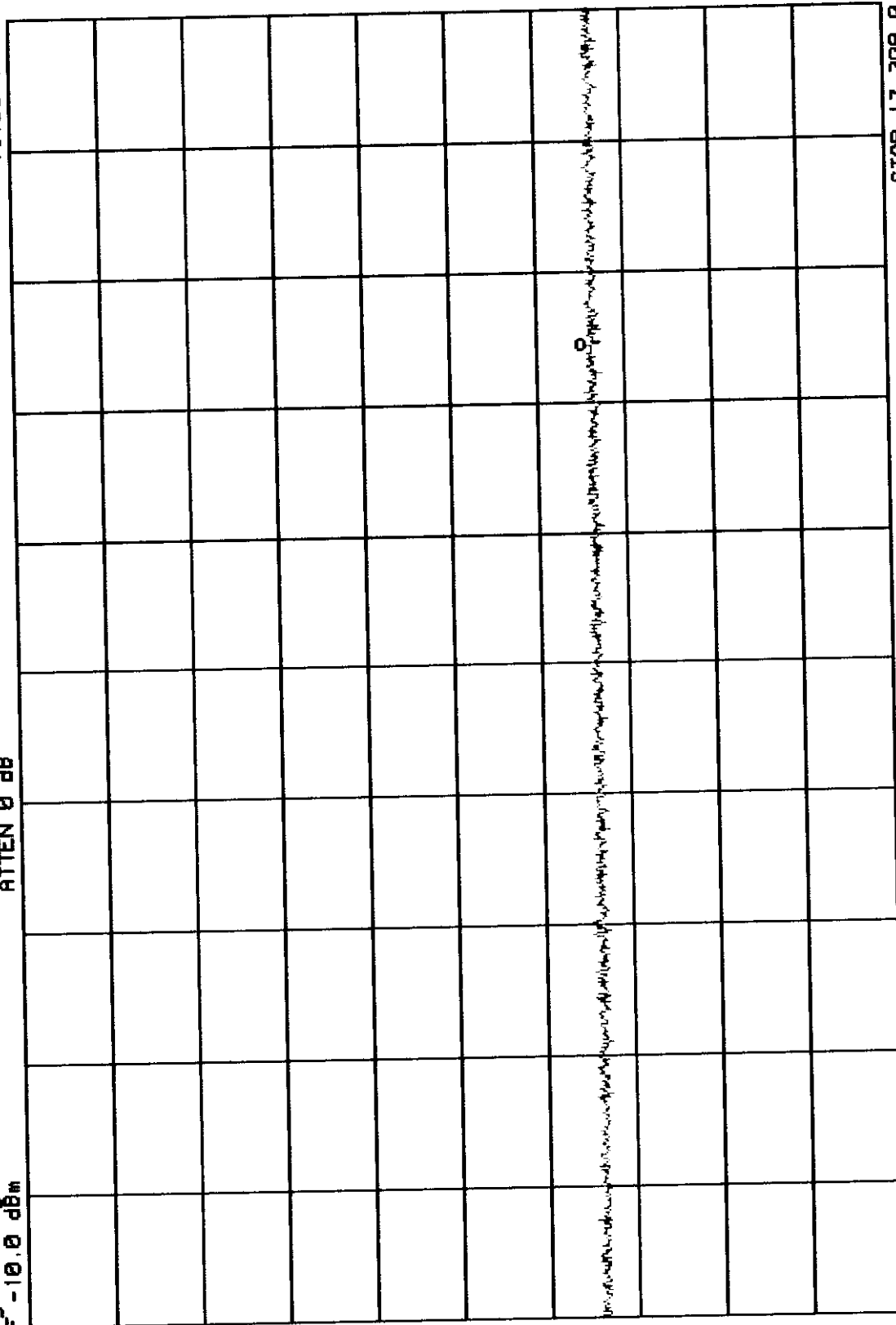
STOP 14.839 @ GHz
SWP 20.0 msec

HKR 17.295 15 GHz
-75.50 dBm

DATE: 2 Dec 1998 @ 09:57:51
ATTEN 0 dB

EMCE Engineering
REF -10.0 dBm

10 dB/



STOP 17.300 0 G.
SWP 20.0 msec

START 17.250 0 GHz
RES BW 1 MHz

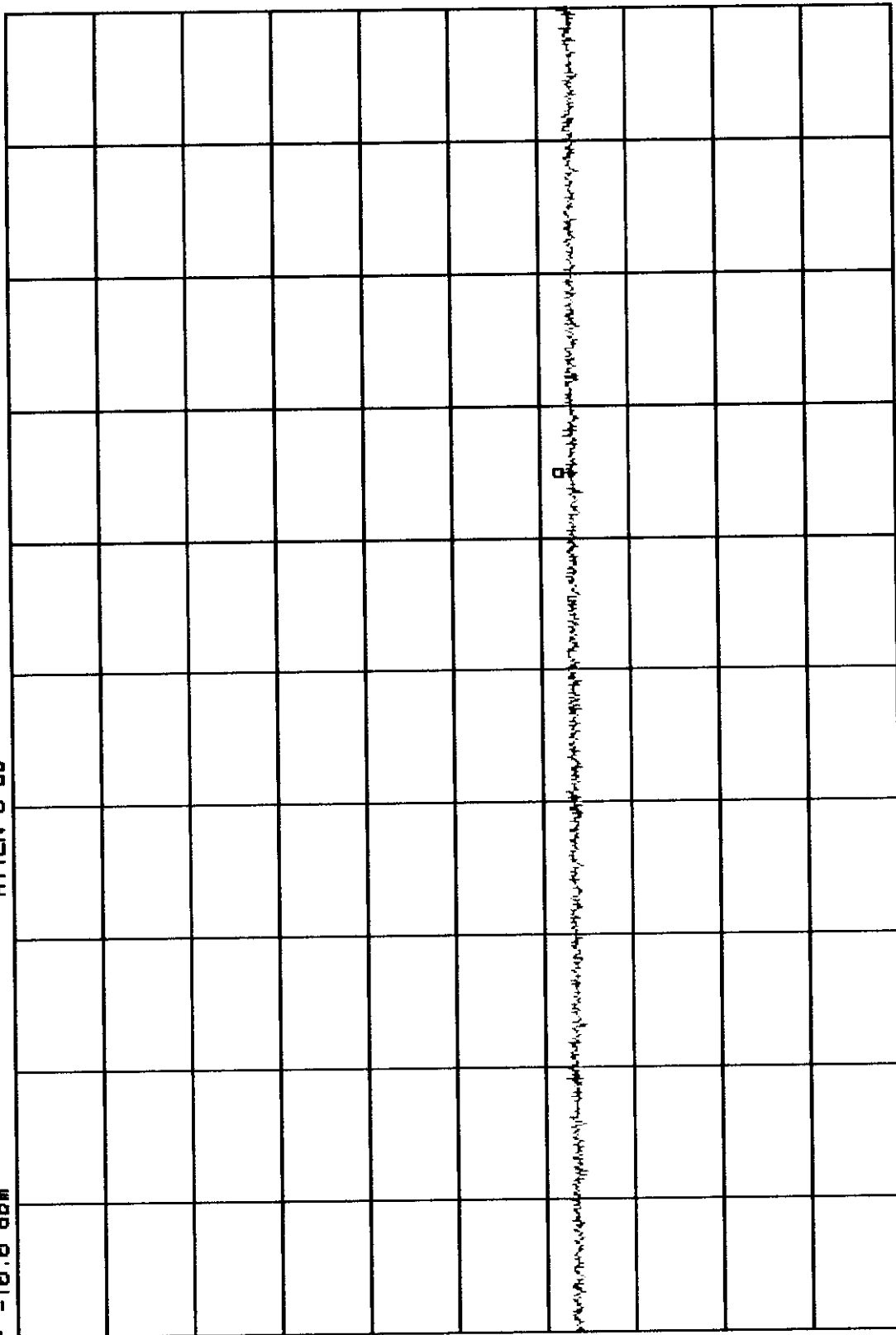
VBW 1 MHz

EMCE Engineering
REF -10.0 dBm

DATE: 2 Dec 1998 @ 09:46:20
ATTEN 0 dB

MKR 19.759 40 GHz
-72.40 dBm

10 dB/



START 19.727 0 GHz
RES BW 1 MHz

VBW 1 MHz

STOP 19.777 0 GHz
SWP 20.0 mseg

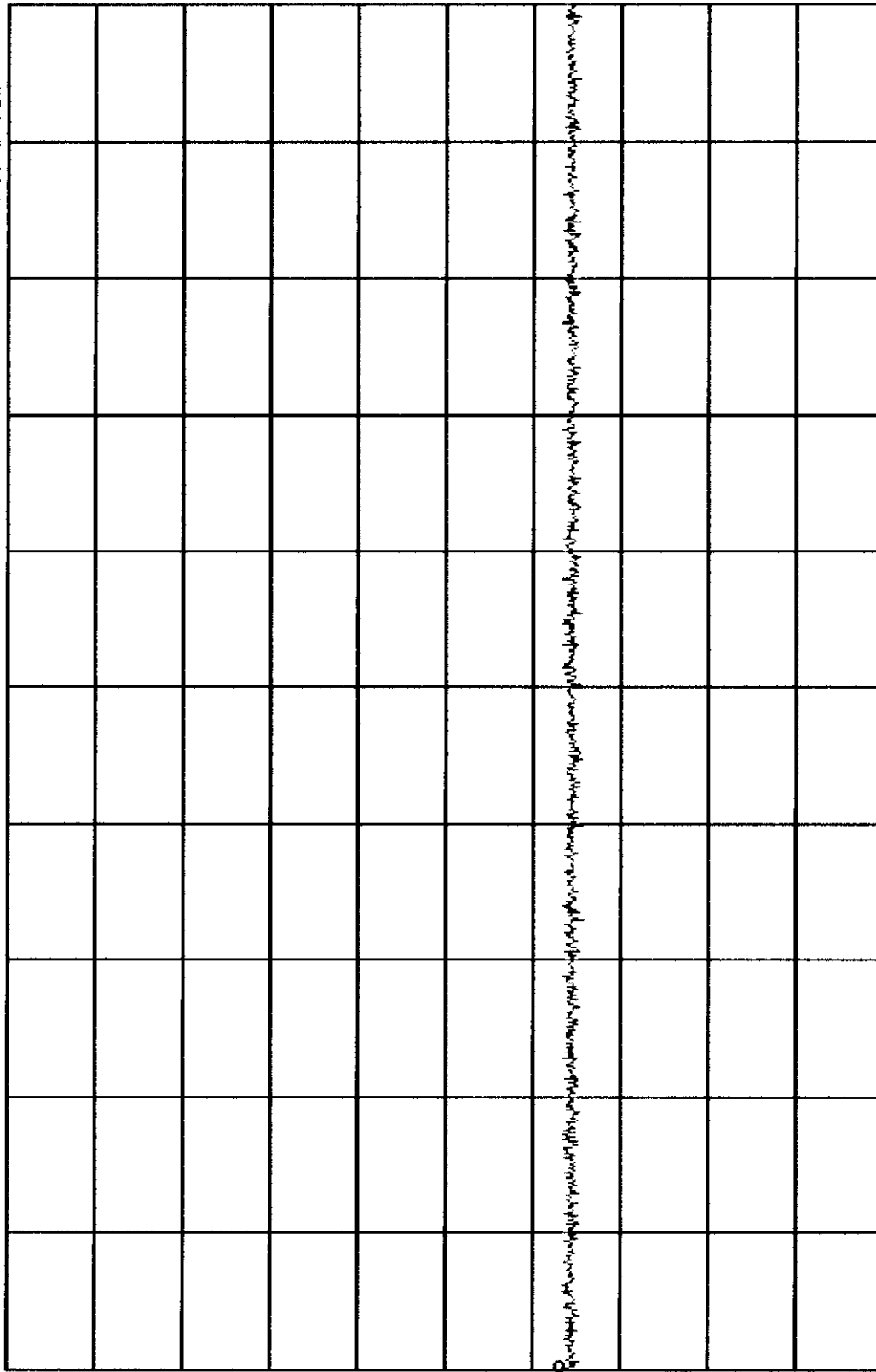


ENCE Engineering
REF -10.0 dBm

DATE: 2 Dec 1998 @ 09:38:47
ATTEN @ dB

MKR 22.196 80 GHz
-73.40 dBm

18 dpa



START 22.196 0 GHz
RES BW 1 MHz

UBU 1 MHE

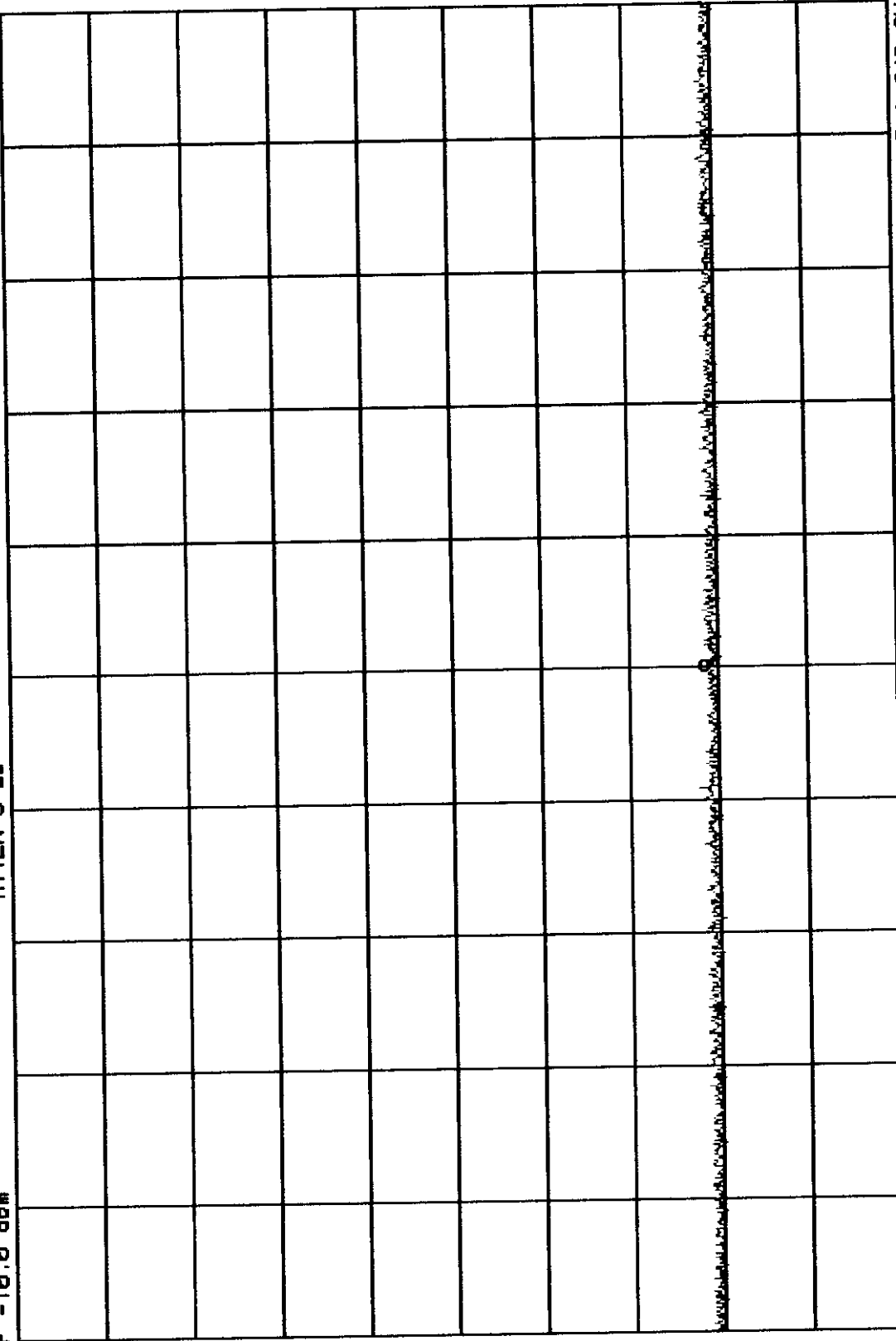
STOP 22,246 @ GHz
SWP 20.0 mrad

2469 Restricted

EMCE Engineering
REF -10.0 dBm

DATE: 1 Dec 1998 @ 14:52:16
ATTEN 0 dB

10 dB/



START 1.000 GHz
RES BW 1 MHz

STOP 1.240 GHz
SUP 20.0 msec



START 1.300 GHz
RES BW 1 MHz

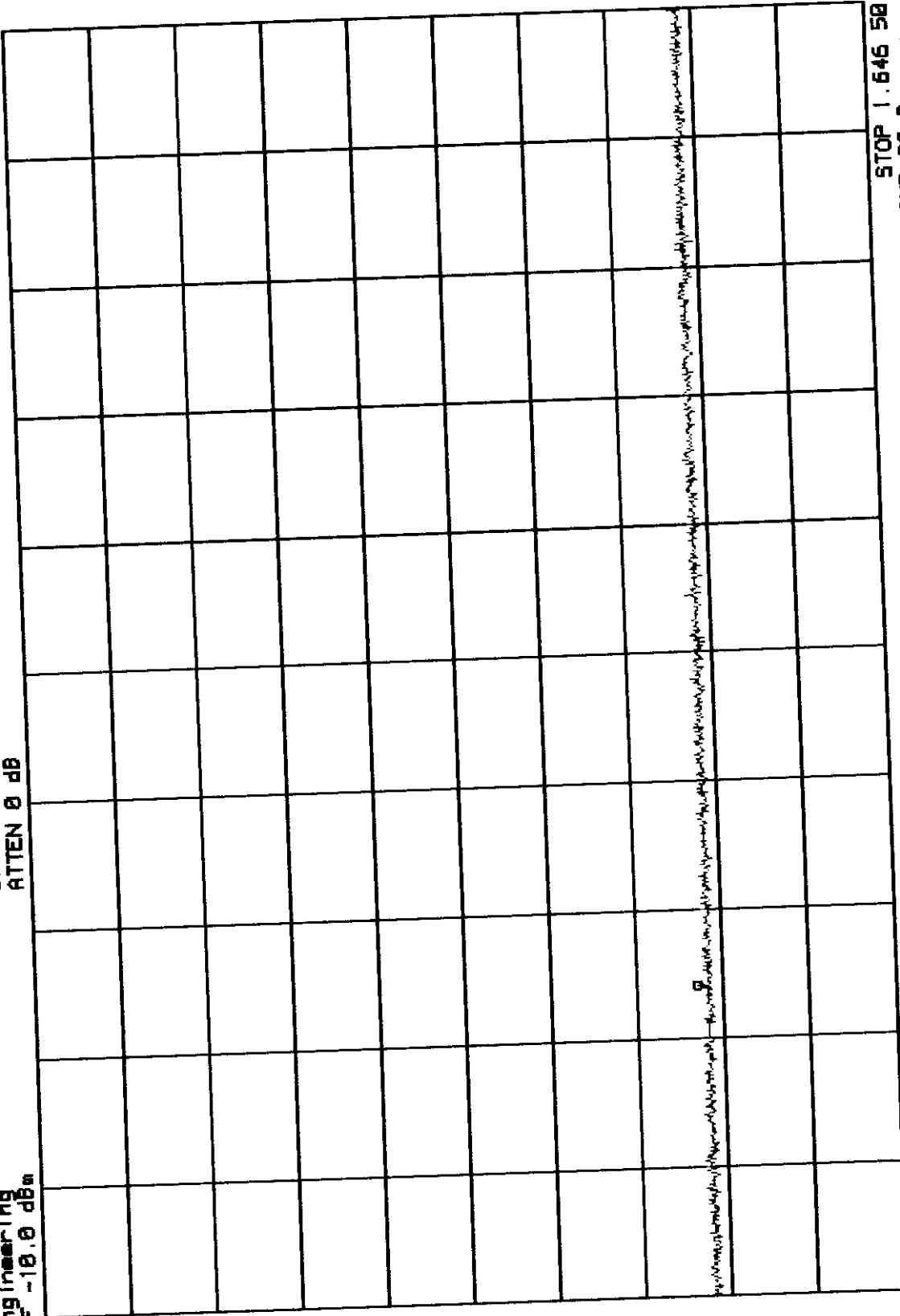
START 1.435 GHz
RES BW 1 MHz

MKR 1.645 740 GHz
-87.10 dBm

DATE: 1 Dec 1998 @ 15:04:09
ATTEN 0 dB

EMCE Engineering
REF -10.0 dBm

10 dB/



STOP 1.645 50 GHz
SWP 20.0 mhz

START 1.645 50 GHz
RES BW 1 MHz

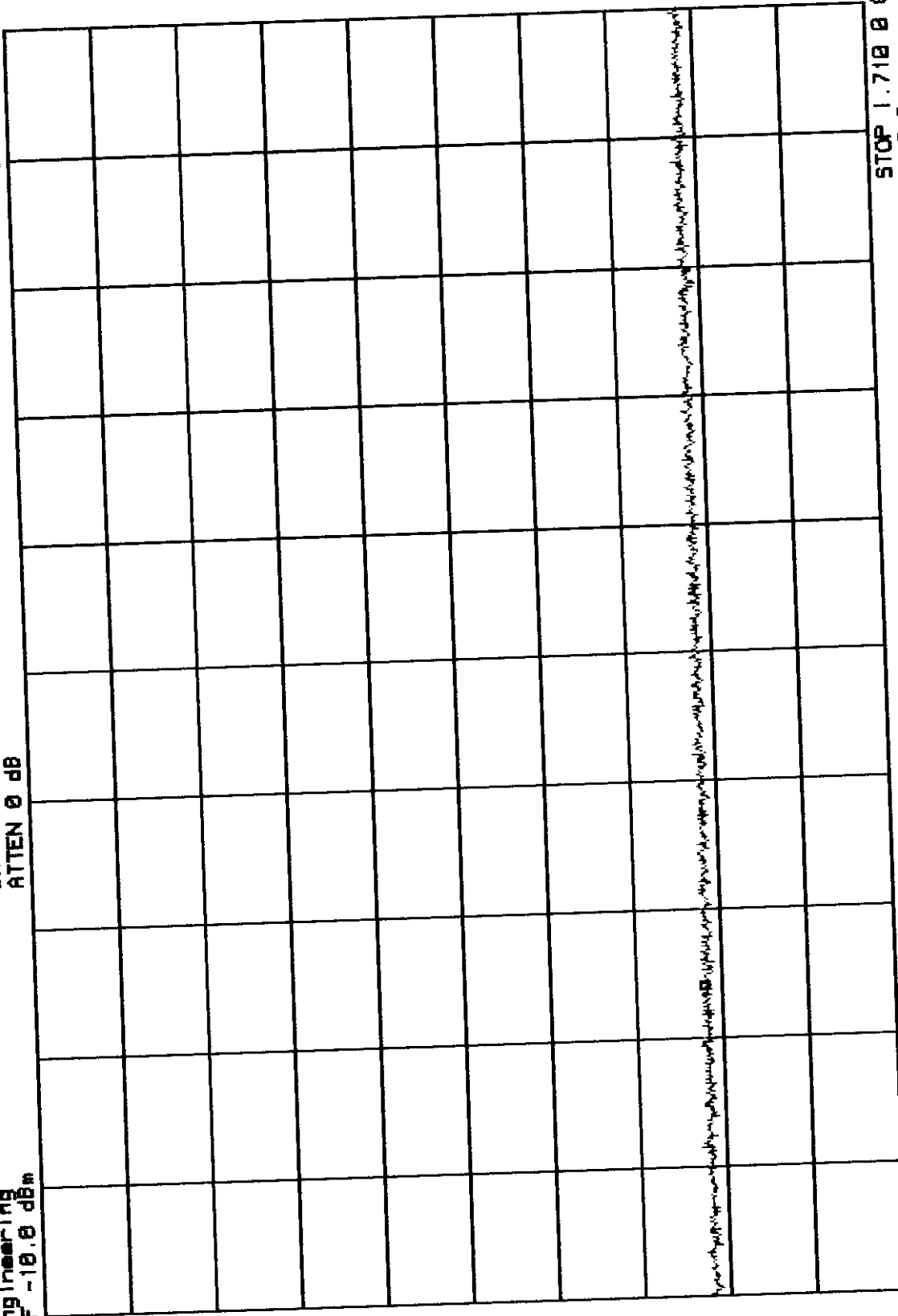
VBW 1 MHz

MR 1.672 GHz
-88.10 dBm

DATE: 1 Dec 1998 @ 15:07:00
ATTEN 0 dB

EMCE Engineering
REF -10.0 dBm

10 dB/



STOP 1.710 GHz
SWP 20.0 MHz

START 1.660 GHz
RES BW 1 MHz

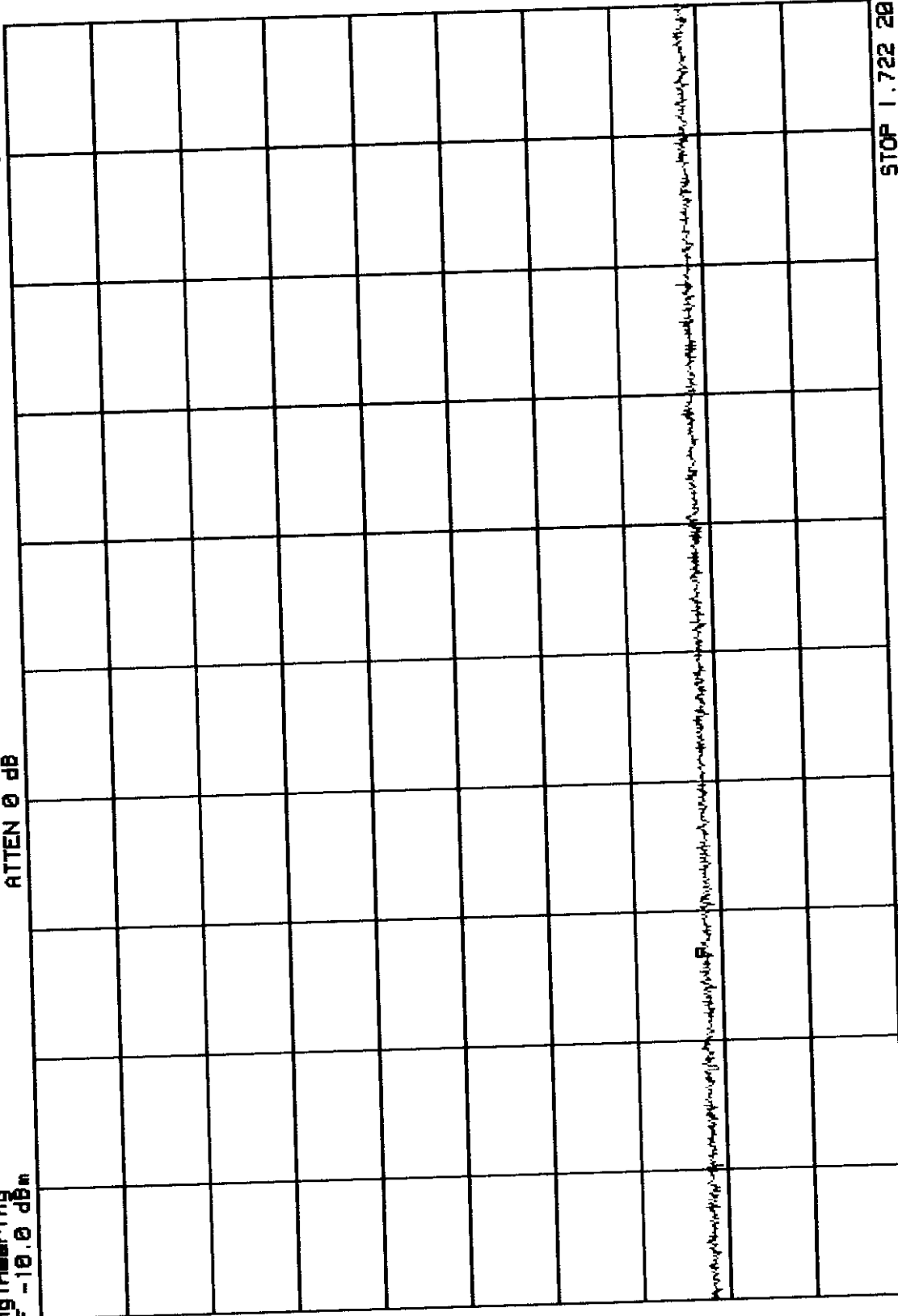
VBW 1 MHz

MR 1.719 700 GHz
-87.50 dBm

DATE: 1 Dec 1998 @ 15:09:44
ATTEN 0 dB

EMCE Engineering
REF -10.0 dBm

10 dB/



STOP 1.722 20 GHz
SUP 20.0 mseg

START 1.718 80 GHz
RES BW 1 MHz

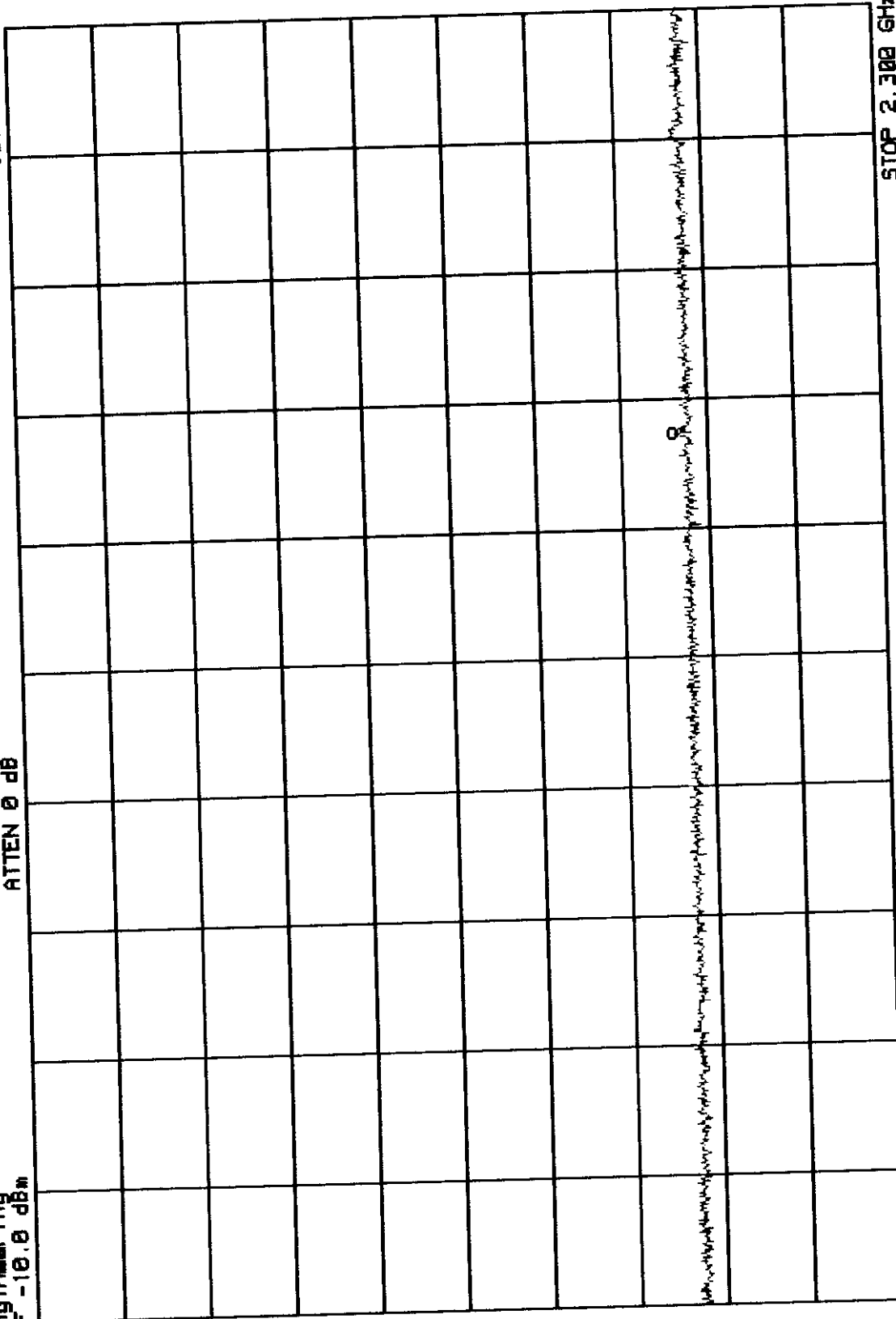
VBW 1 MHz

MKR 2.267 1 GHz
-86.10 dBm

DATE: 1 Dec 1998 @ 15:12:33
ATTEN 0 dB

EMCE Engineering
REF -10.0 dBm

10 dB/



STOP 2.300 GHz
SWP 20.0 mhz

VBW 1 MHz

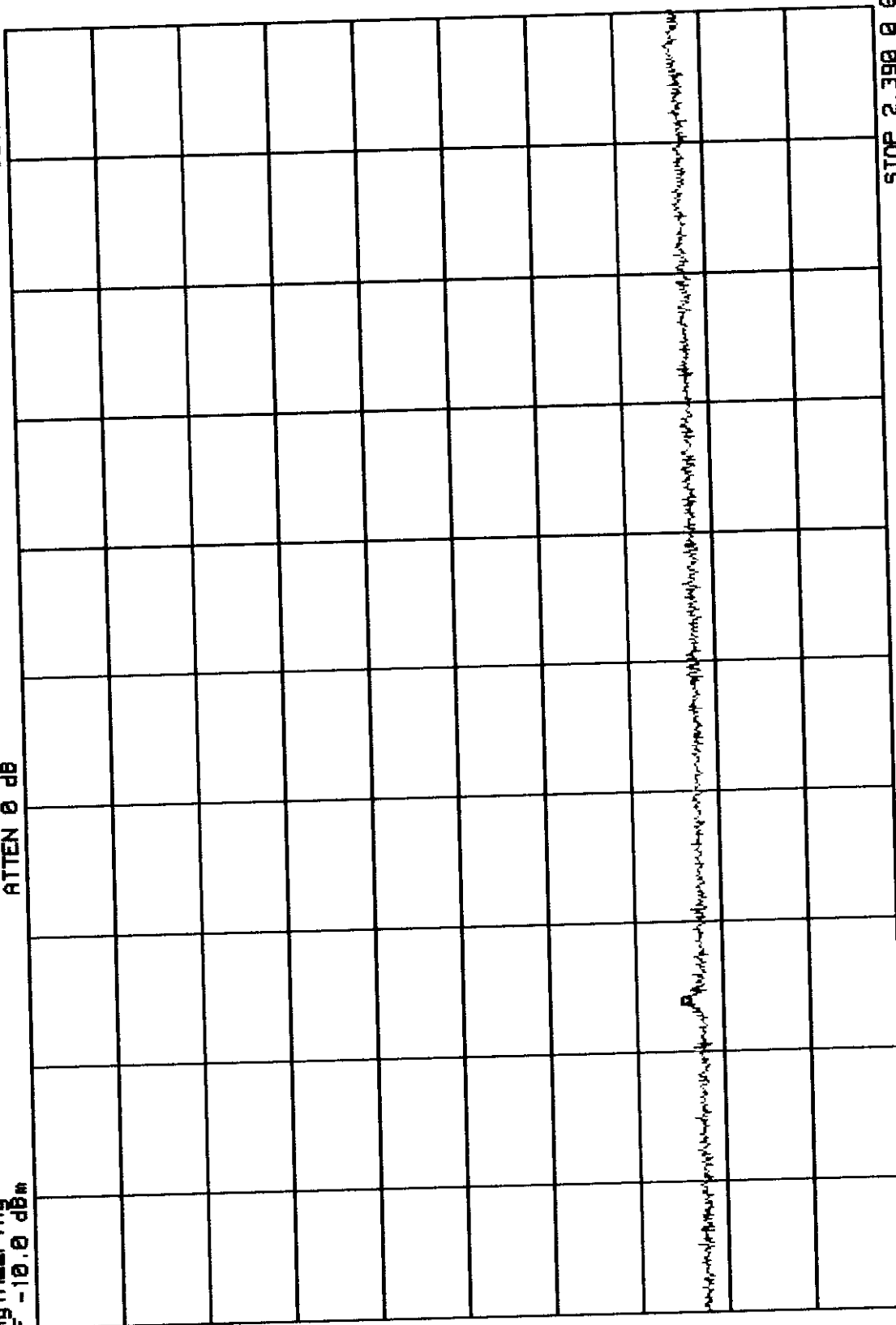
START 2.200 GHz
RES BW 1 MHz

MKR 2.329 04 GHz
-86.00 dBm

DATE: 1 Dec 1998 @ 15:17:37
ATTEN 0 dB

EMCE Engineering
REF -10.0 dBm

10 dB/



STOP 2.398 0 GHz
SWP 20.0 mhz

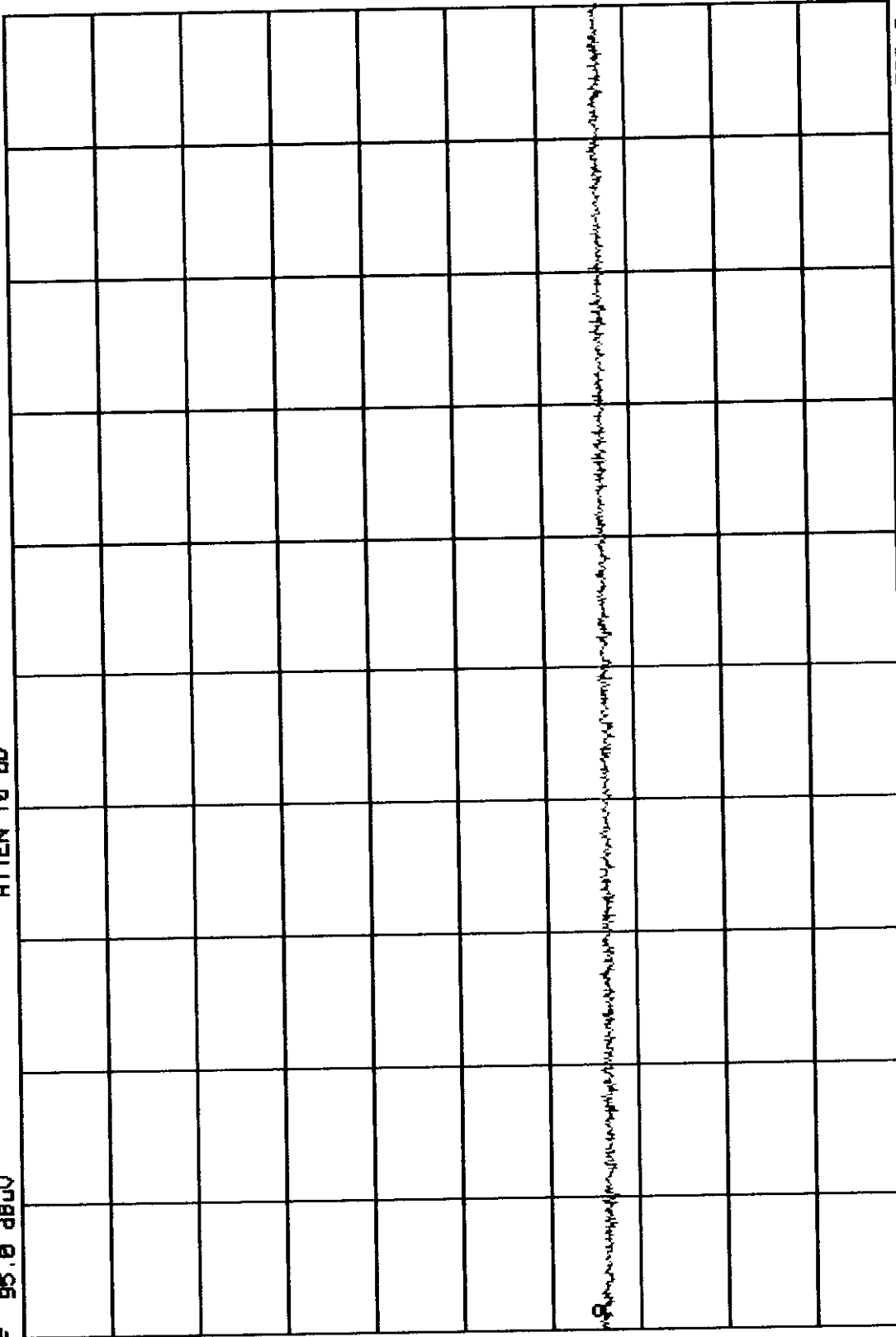
START 2.310 0 GHz
RES BW 1 MHz

VBW 1 MHz

EMCE Engineering
REF 95.0 dBuV

DATE: 1 Dec 1998 @ 17:37:46
ATTEN 10 dB

10 dB/



START 2.483 5 GHz
RES BW 1 MHz

VBW 1 MHz

STOP 2.500 0 GHz
SUP 20.0 msec

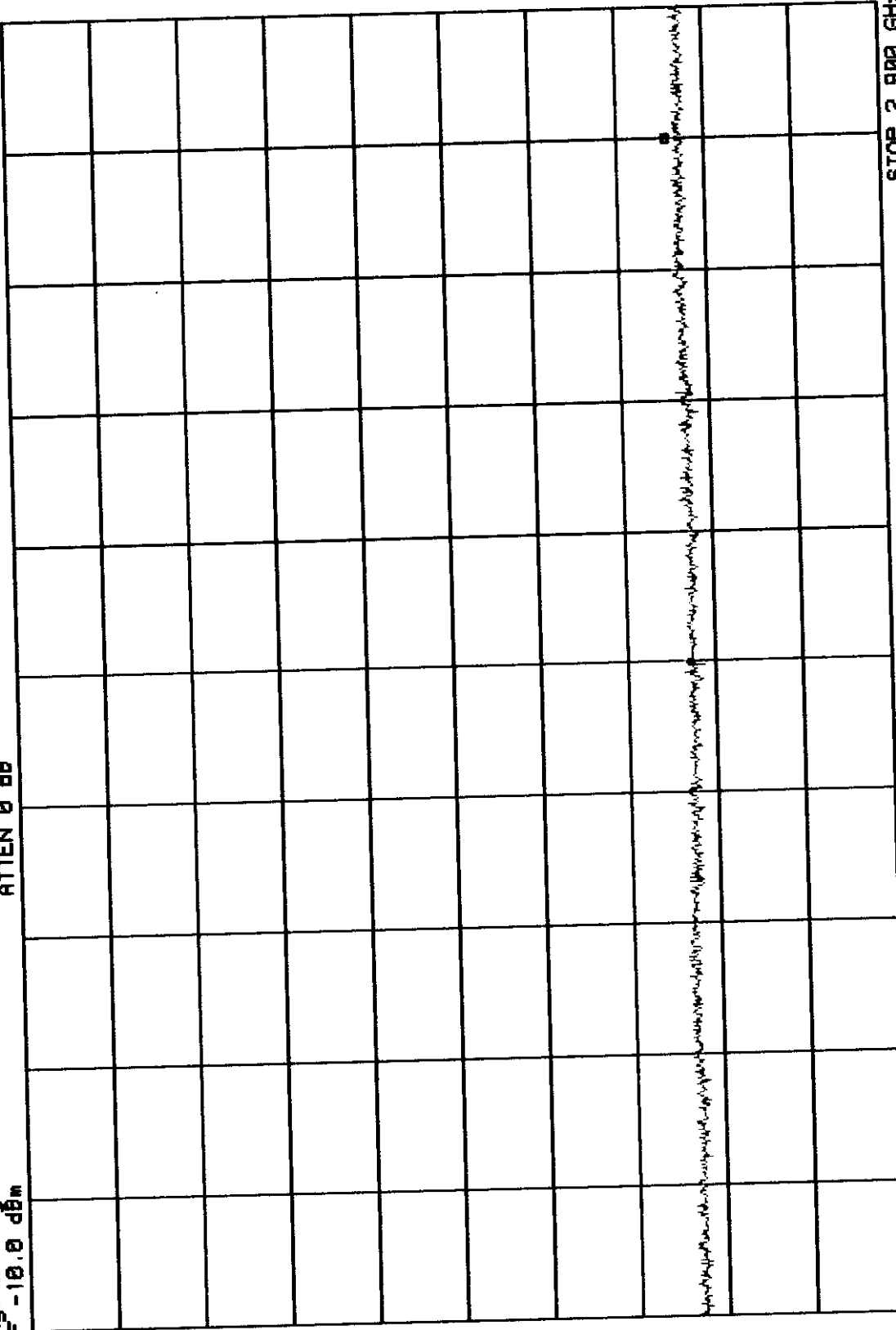
MKR 2.483 71 GHz
29.70 dBuV

MR 2.875 GHz
-85.80 dBm

DATE: 2 Dec 1998 @ 08:23:56
ATTEN 0 dB

EMCE Engineering
REF -10.0 dBm

10 dB/



STOP 2.900 GHz
SUP 20.0 msec

VBW 1 MHz

START 2.655 GHz
RES BW 1 MHz

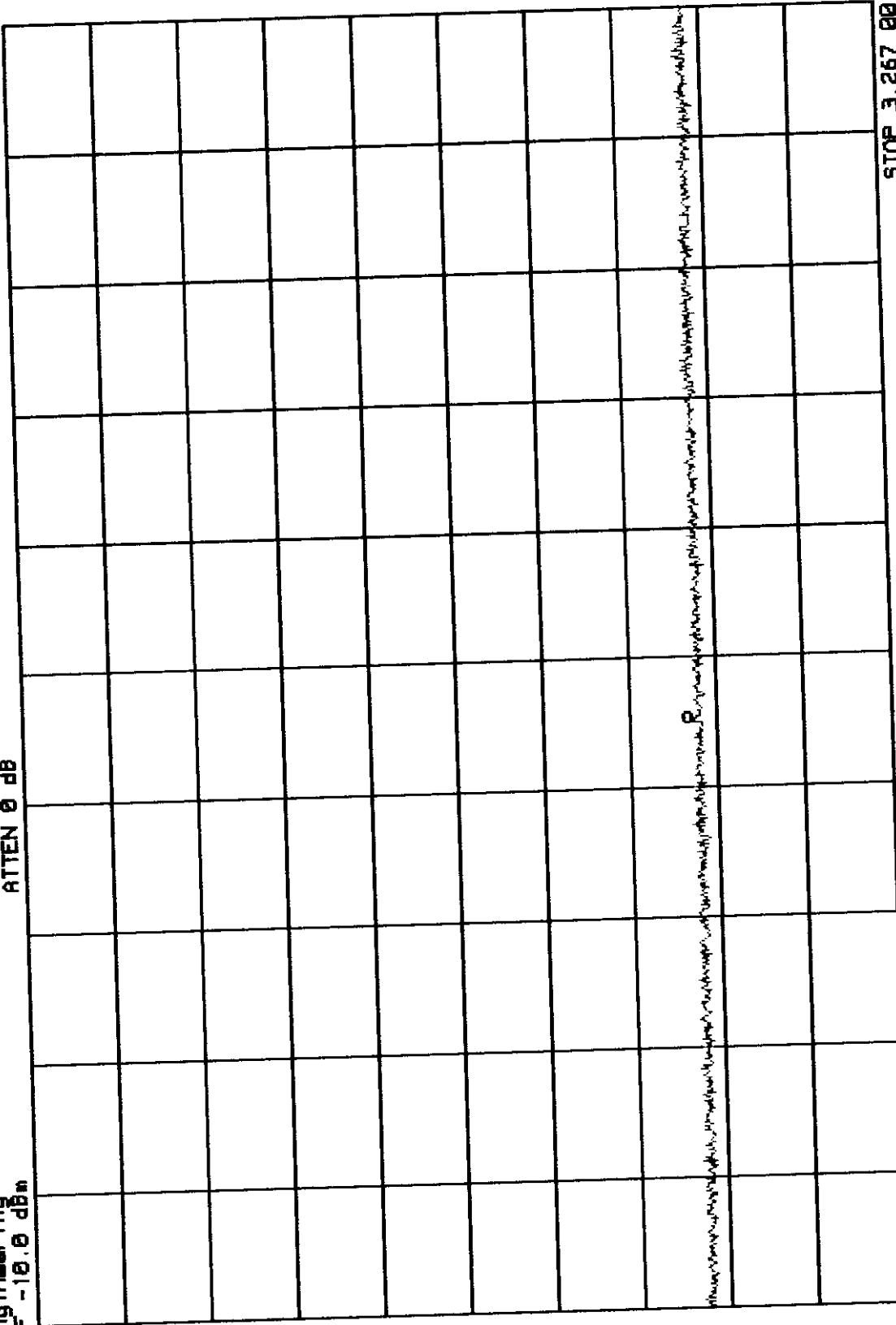
F C ID: BCK9GKAUR2401T1-2
D te: 13 Jan 1999
P le: 223

MKR 3.263 171 GHz
-86.80 dBm

DATE: 2 Dec 1998 @ 08:27:12
ATTEN 0 dB

EMCE Engineering
REF -10.0 dBm

10 dB/



STOP 3.267 00 GHz
SWP 20.0 mhz

VBW 1 MHz

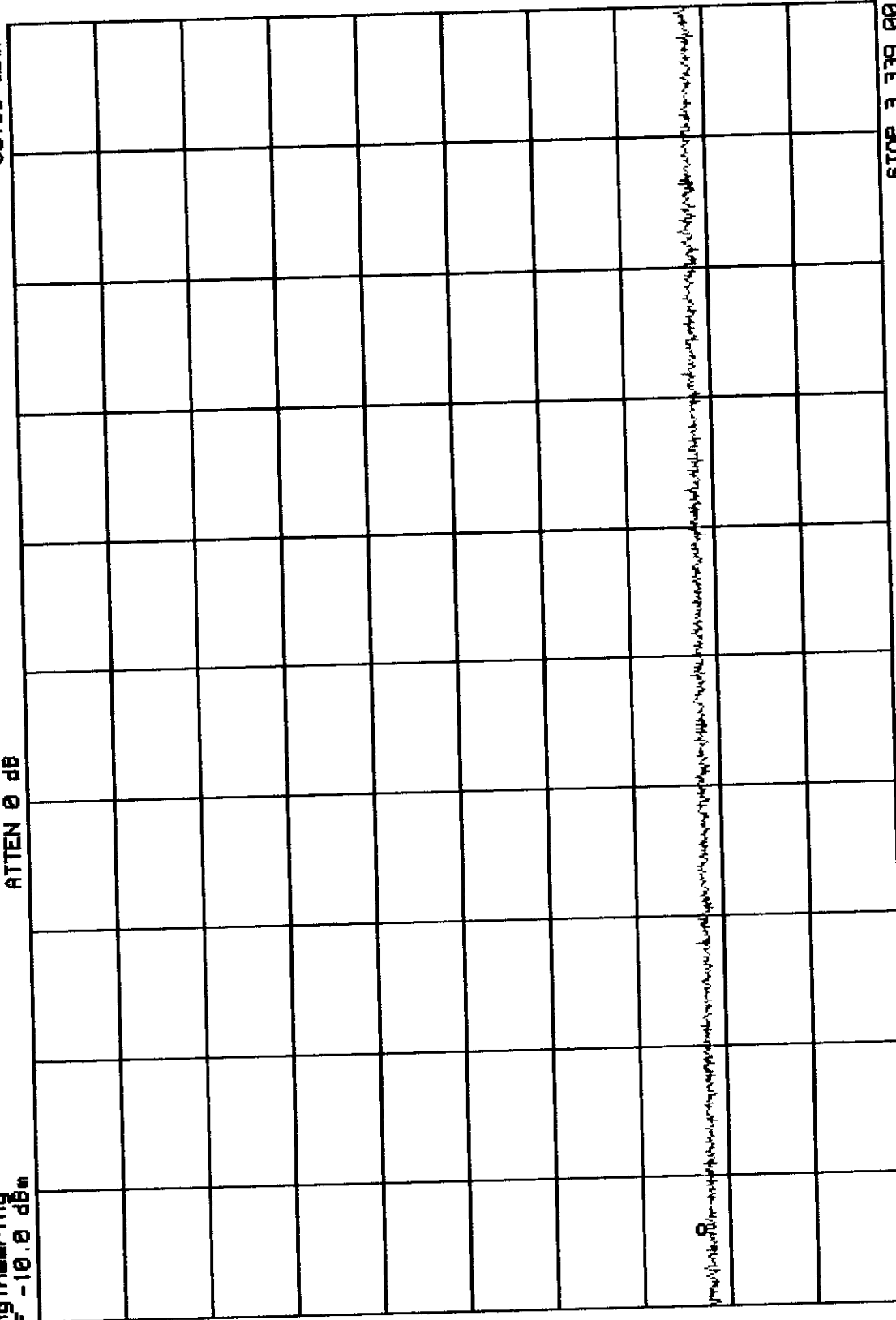
START 3.260 00 GHz
RES BW 1 MHz

MKR 3.332 399 GHz
-86.90 dBm

DATE: 2 Dec 1998 @ 08:38:24
ATTEN 0 dB

EMCE Engineering
REF -10.0 dBm

10 dB/



STOP 3.339 00 GHz
SWP 20.0 mhz

VBW 1 MHz

START 3.332 00 GHz
RES BW 1 MHz

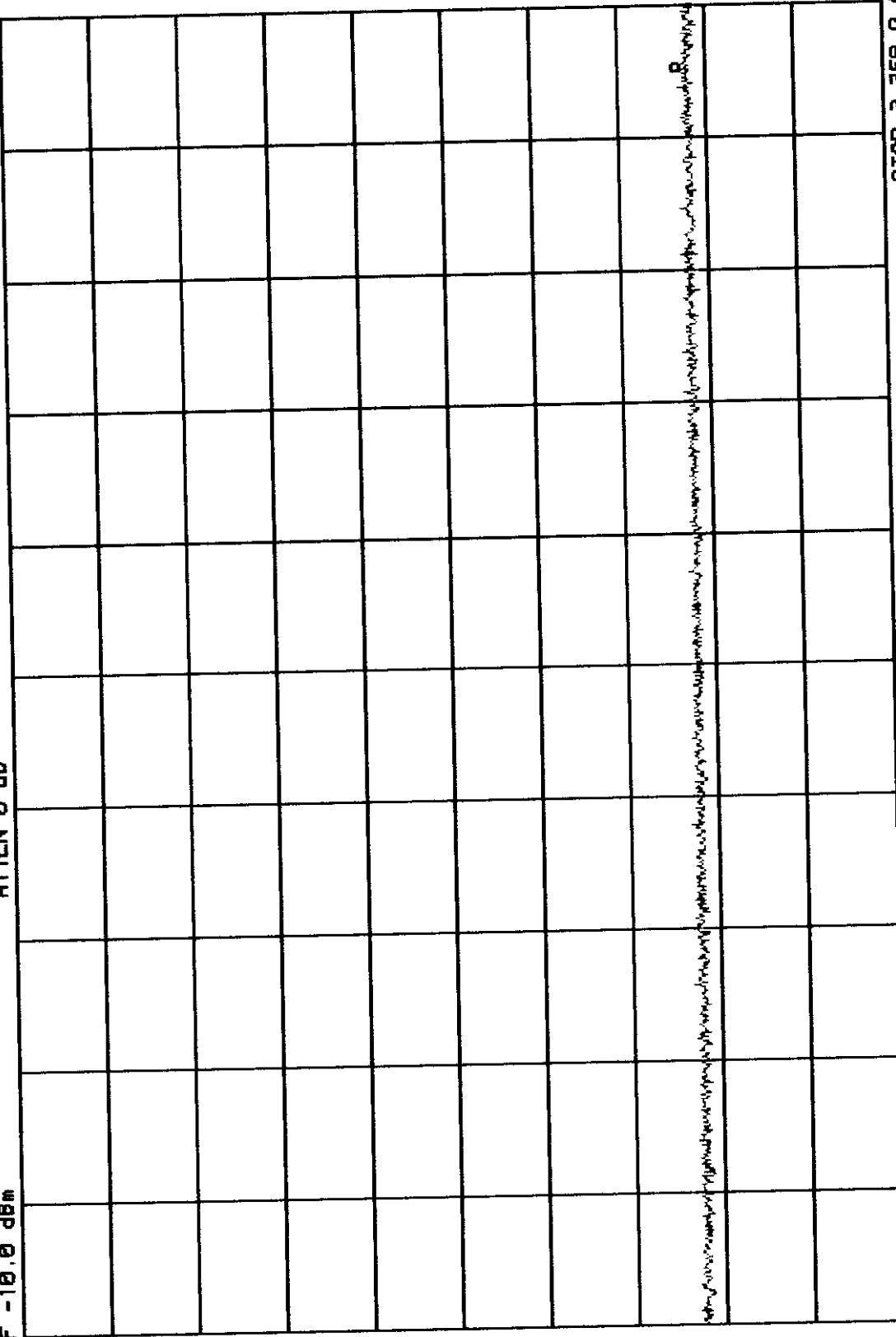
C ID: BCK9GKAUR2401T1-2
te: 13 Jan 1999
ge: 225

MKR 3.357 40 GHz
-96.80 dBm

DATE: 2 Dec 1998 @ 08:39:52
ATTEN 0 dB

EMCE Engineering
REF -10.0 dBm

10 dB/



STOP 3.358 0 GHz
SWP 20.0 mhz

VBW 1 MHz

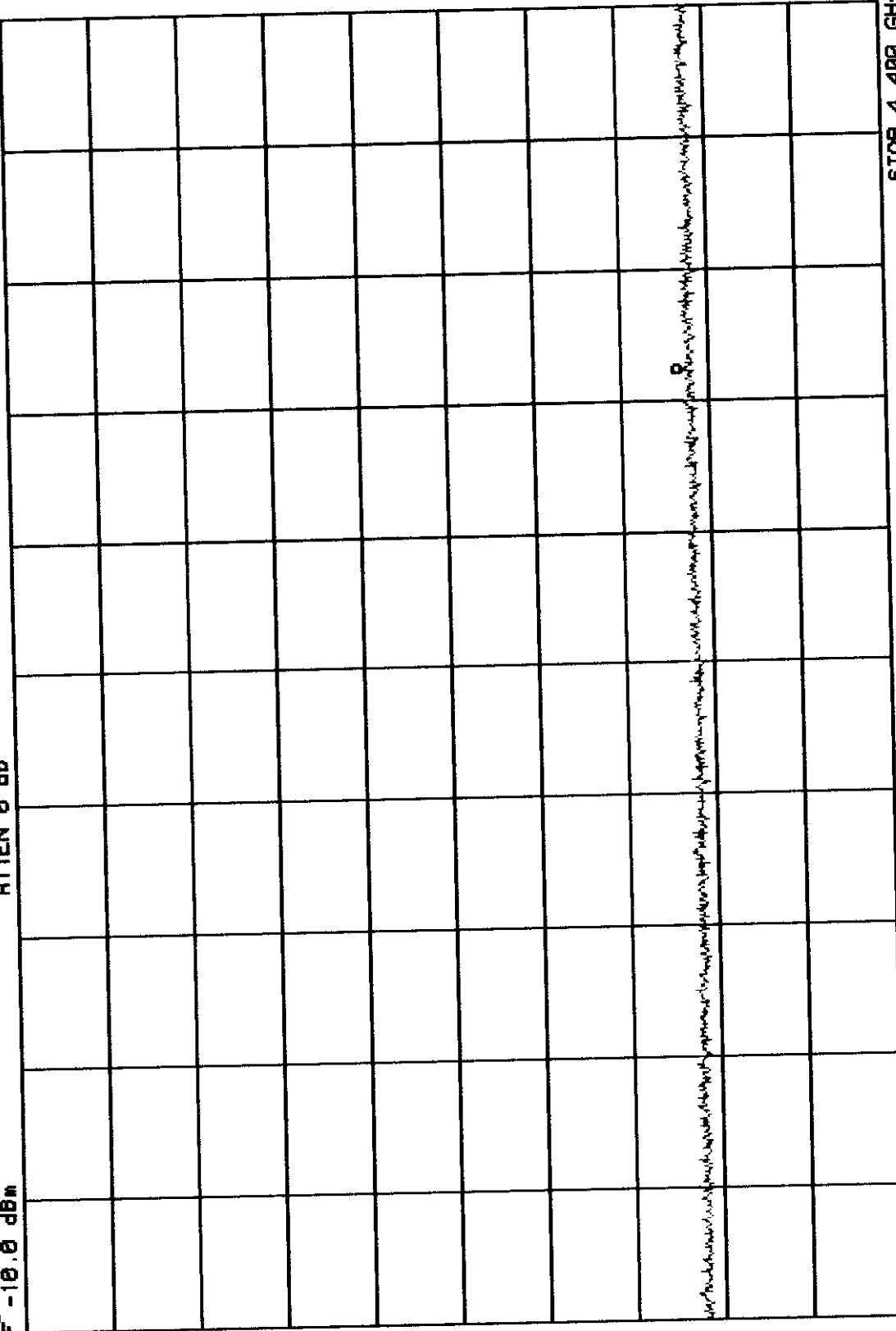
START 3.345 0 GHz
RES BW 1 MHz

MKR 4.177 5 GHz
-96.60 dBm

DATE: 2 Dec 1998 @ 08:42:54
ATTEN 0 dB

EMCE Engineering
REF -10.0 dBm

10 dB/



STOP 4.400 GHz
SWP 20.0 mhz

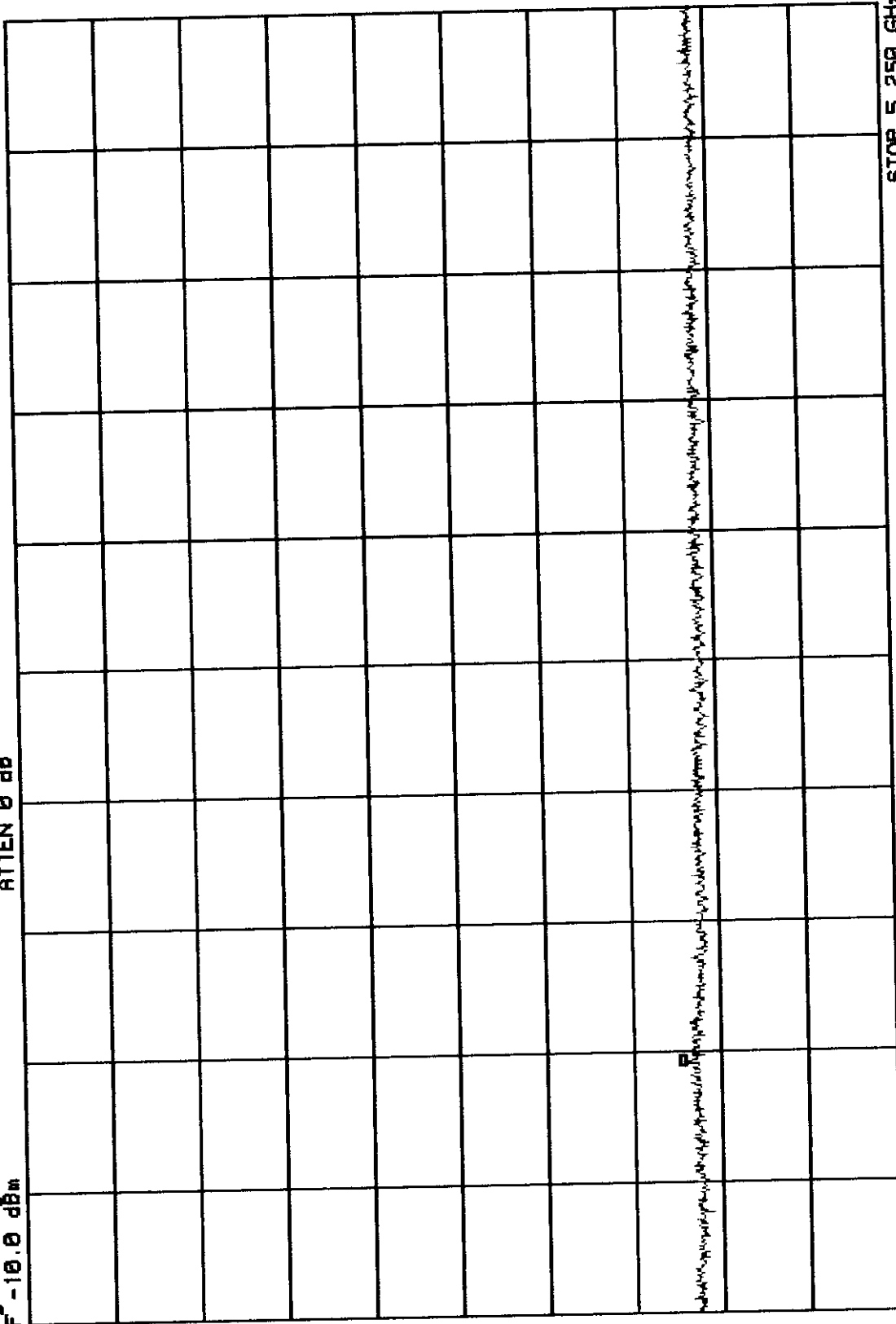
VBW 1 MHz

START 3.600 GHz
RES BW 1 MHz

MKR 4.544 0 GHz
-85.00 dBm

DATE: 2 Dec 1998 e 08:46:05
ATTEN 0 dB

EMCE Engineering
REF -10.0 dBm



STOP 5.250 GHz
SWP 20.0 mhz

VBW 1 MHz

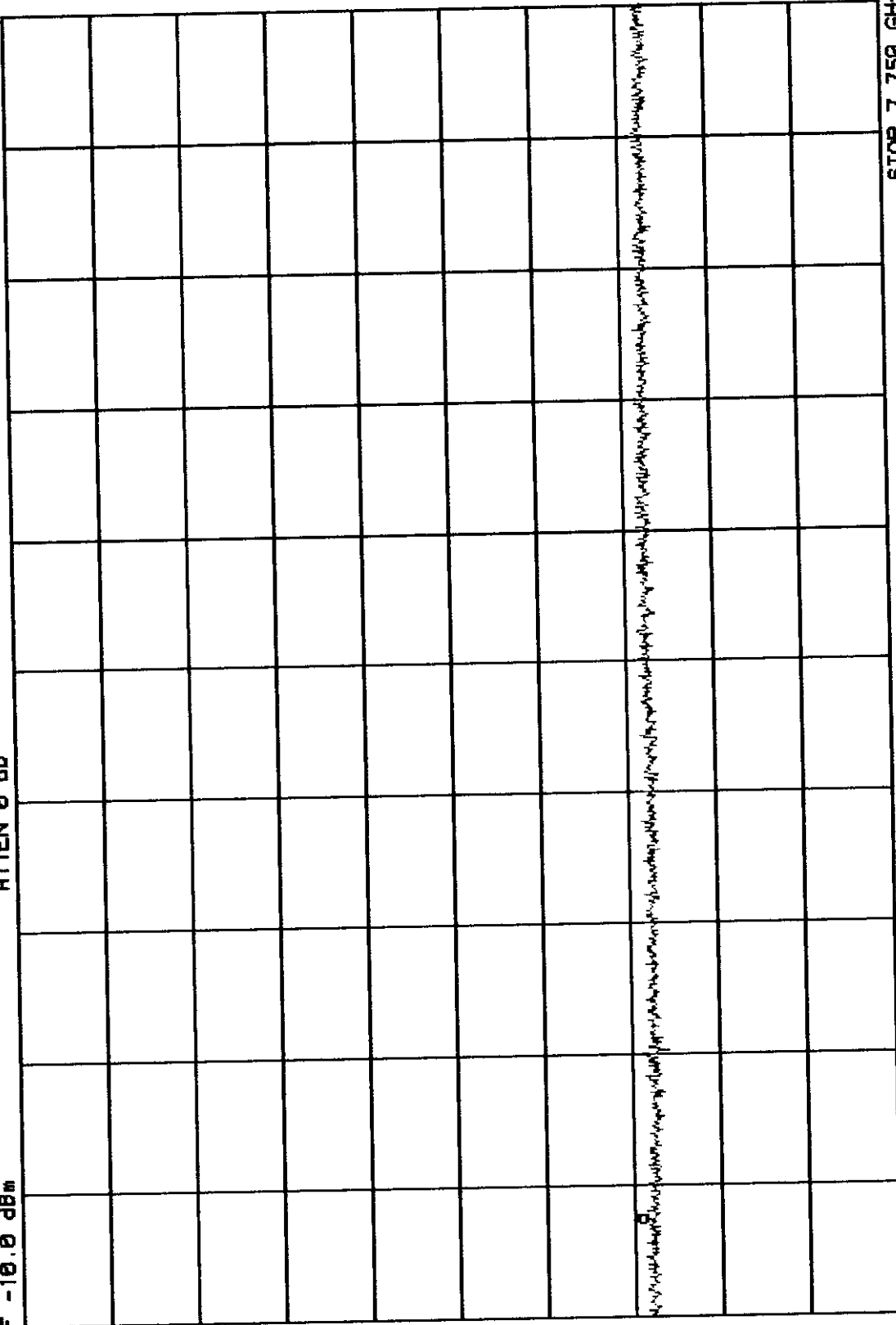
START 4.500 GHz
RES BW 1 MHz

MKR 7.266 5 GHz
-81.20 dBm

DATE: 2 Dec 1998 @ 08:49:11
ATTEN 0 dB

EMCE Engineering
REF -10.0 dBm

10 dB/

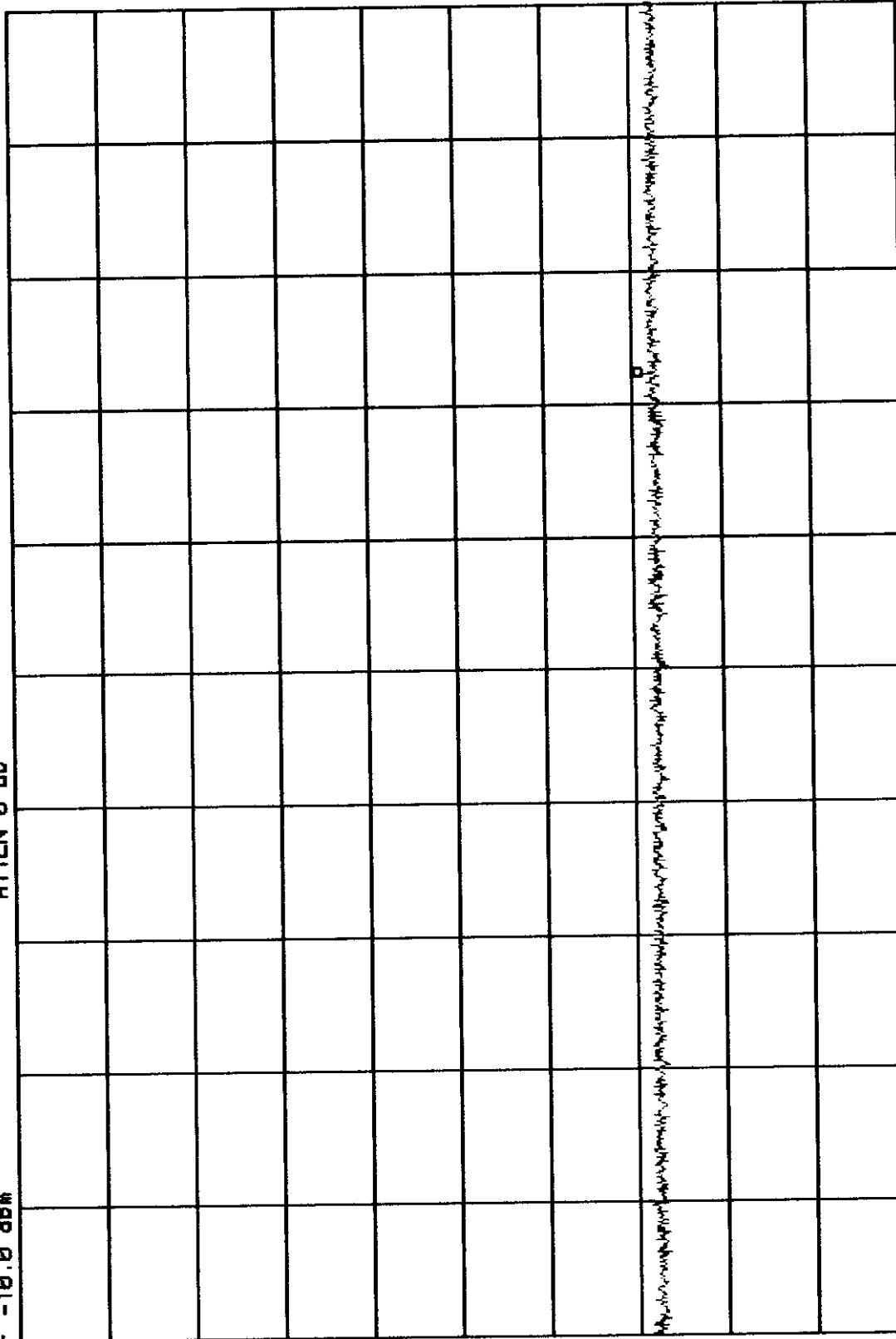


STOP 7.750 GHz
SWP 20.0 mhz

VBW 1 MHz

START 7.250 GHz
RES BW 1 MHz

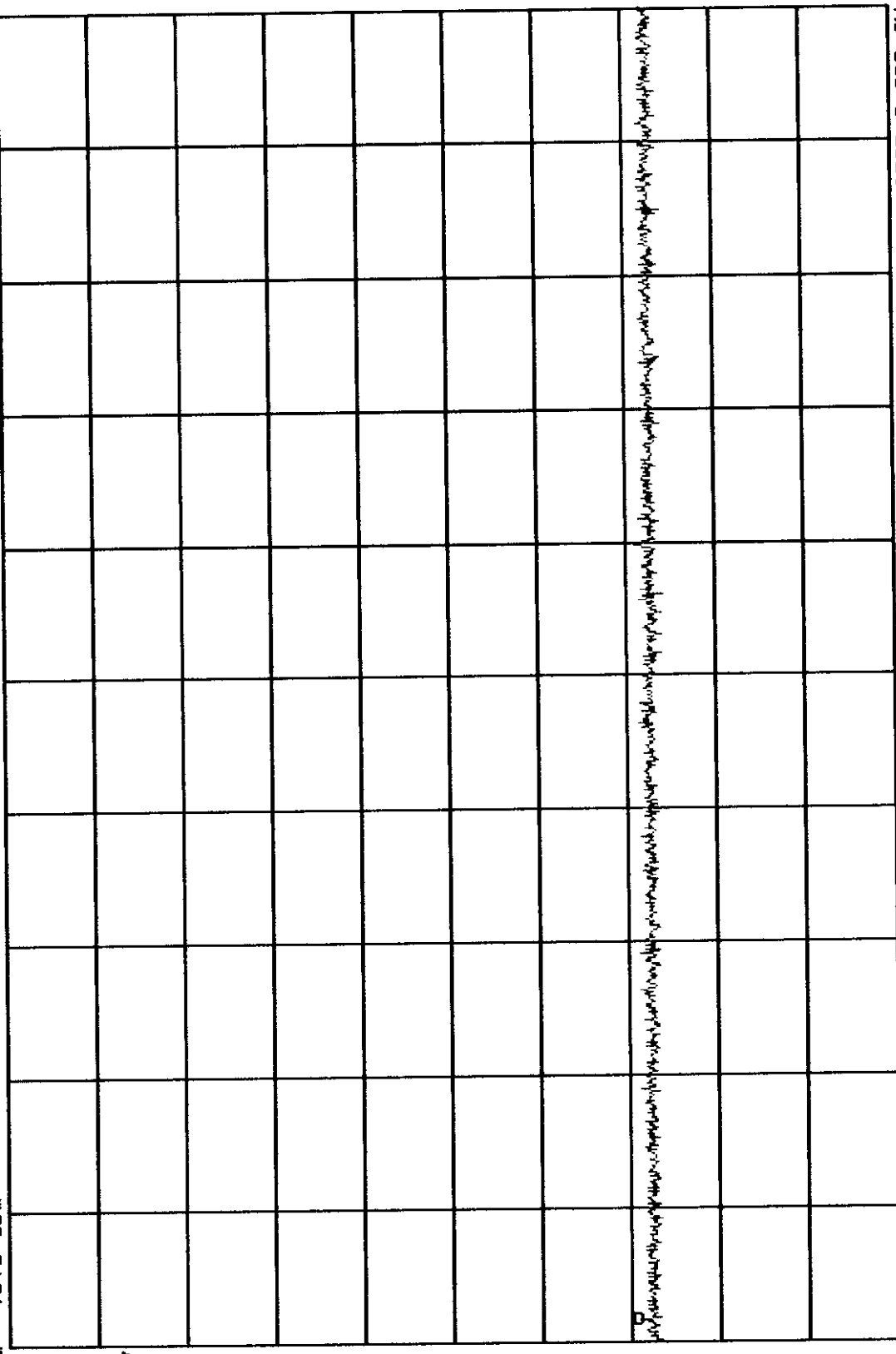
EMCE Engineering
REF -10.0 dBm
DATE: 2 Dec 1998 @ 00:52:46
ATTEN 0 dB
MKR 0.368 0 GHz
-81.00 dBm



START 0.025 GHz
RES BW 1 MHz
STOP 0.500 GHz
SWP 20.0 mhz

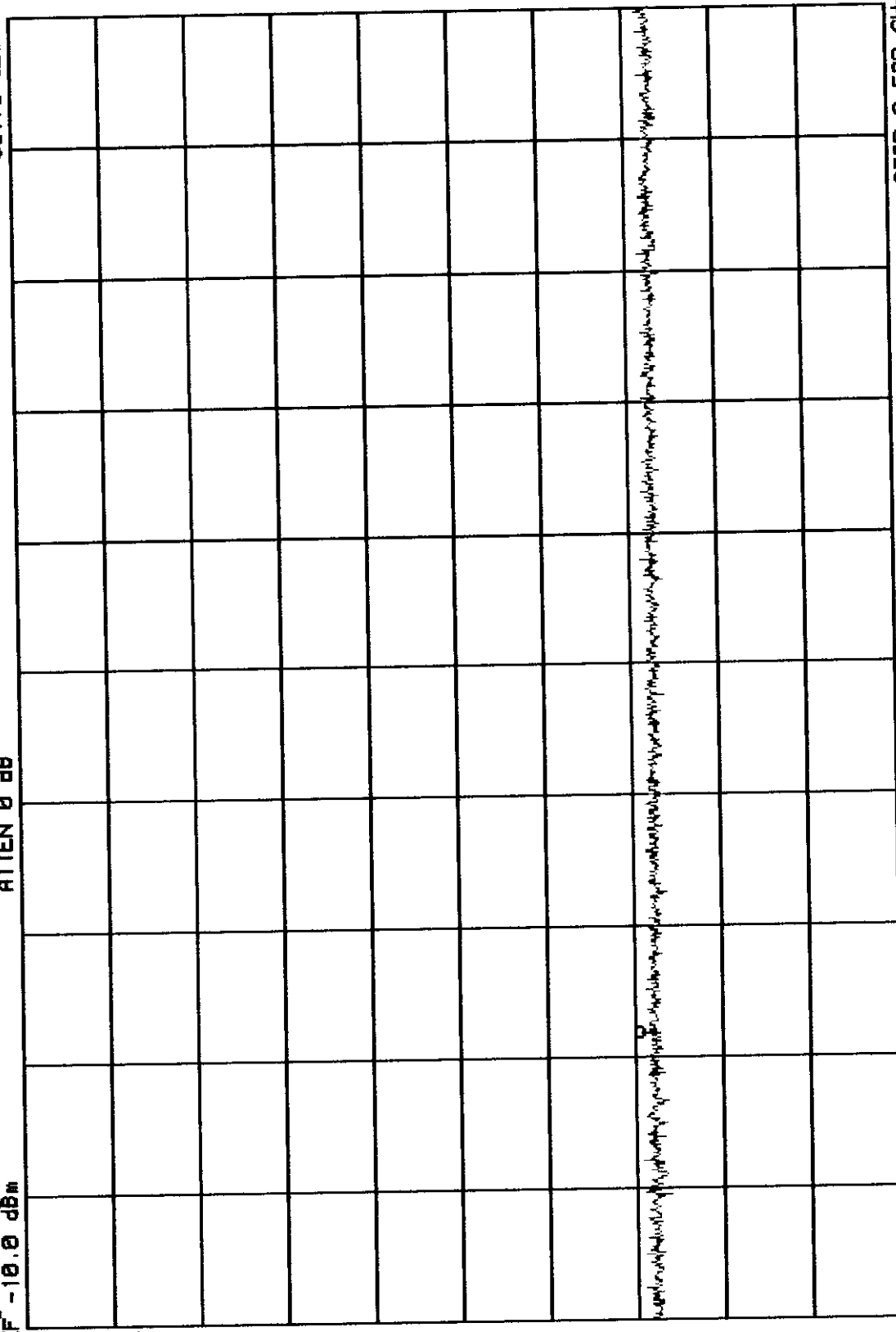
EMCE Eng Inear Ing REF -10.0 dBm MKR 9.003 2 GHz -81.00 dBm

DATE: 2 Dec 1998 @ 08:56:14
ATTEN 0 dB



START 9.000 GHz RES BW 1 MHz STOP 9.200 GHz SWP 20.0 mseg

EMCE Engineering
REF -10.0 dBm
DATE: 2 Dec 1998 @ 08:58:51
ATTEN 0 dB
MKR 9.343 6 GHz
-80.70 dBm



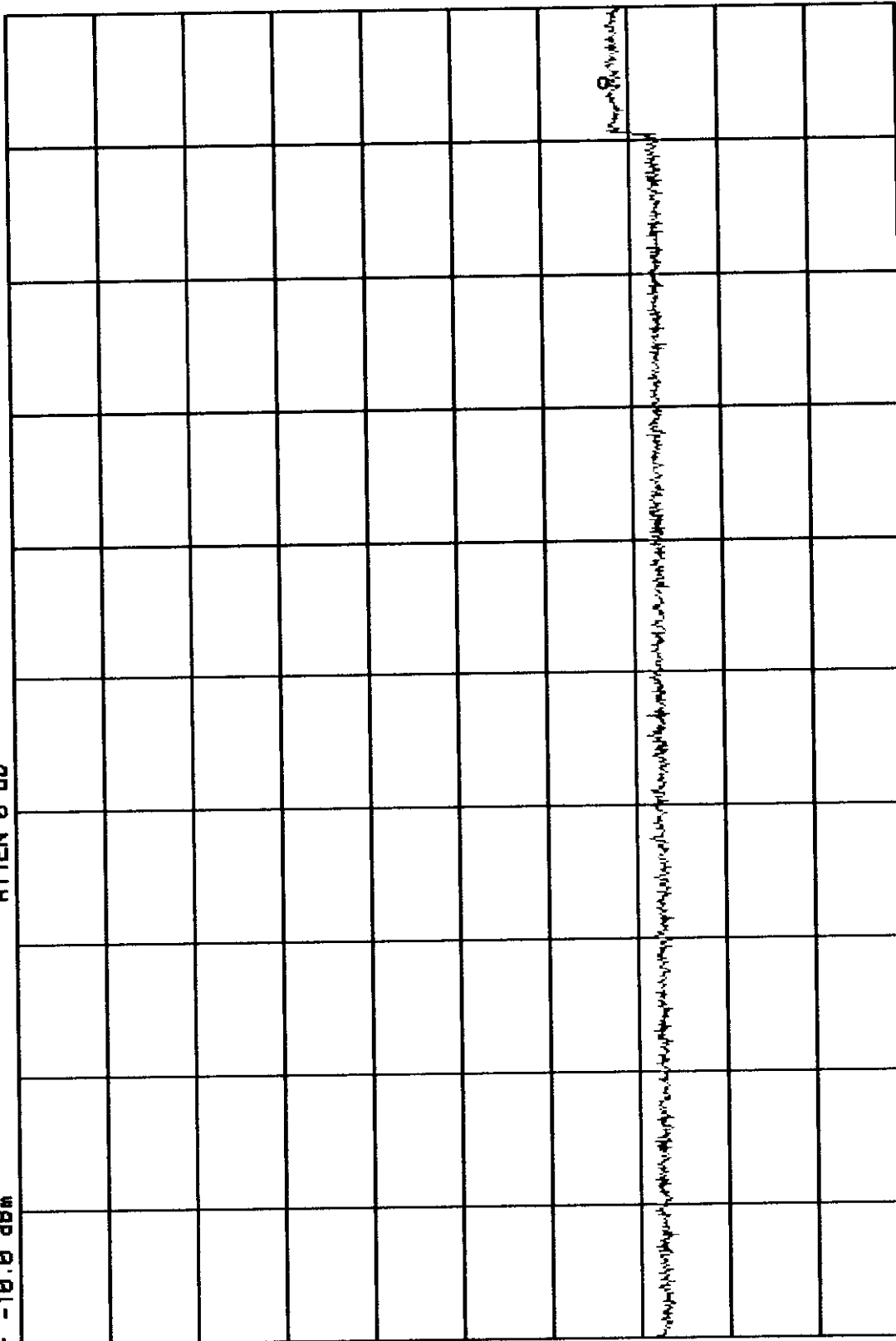
START 9.300 GHz
RES BW 1 MHz
STOP 9.500 GHz
SWP 20.0 mhz

MKR 12.576 GHz
-77.50 dBm

DATE: 2 Dec 1998 @ 09:02:03
ATTEN 0 dB

EMCE Engineering
REF - 10.0 dBm

12/21

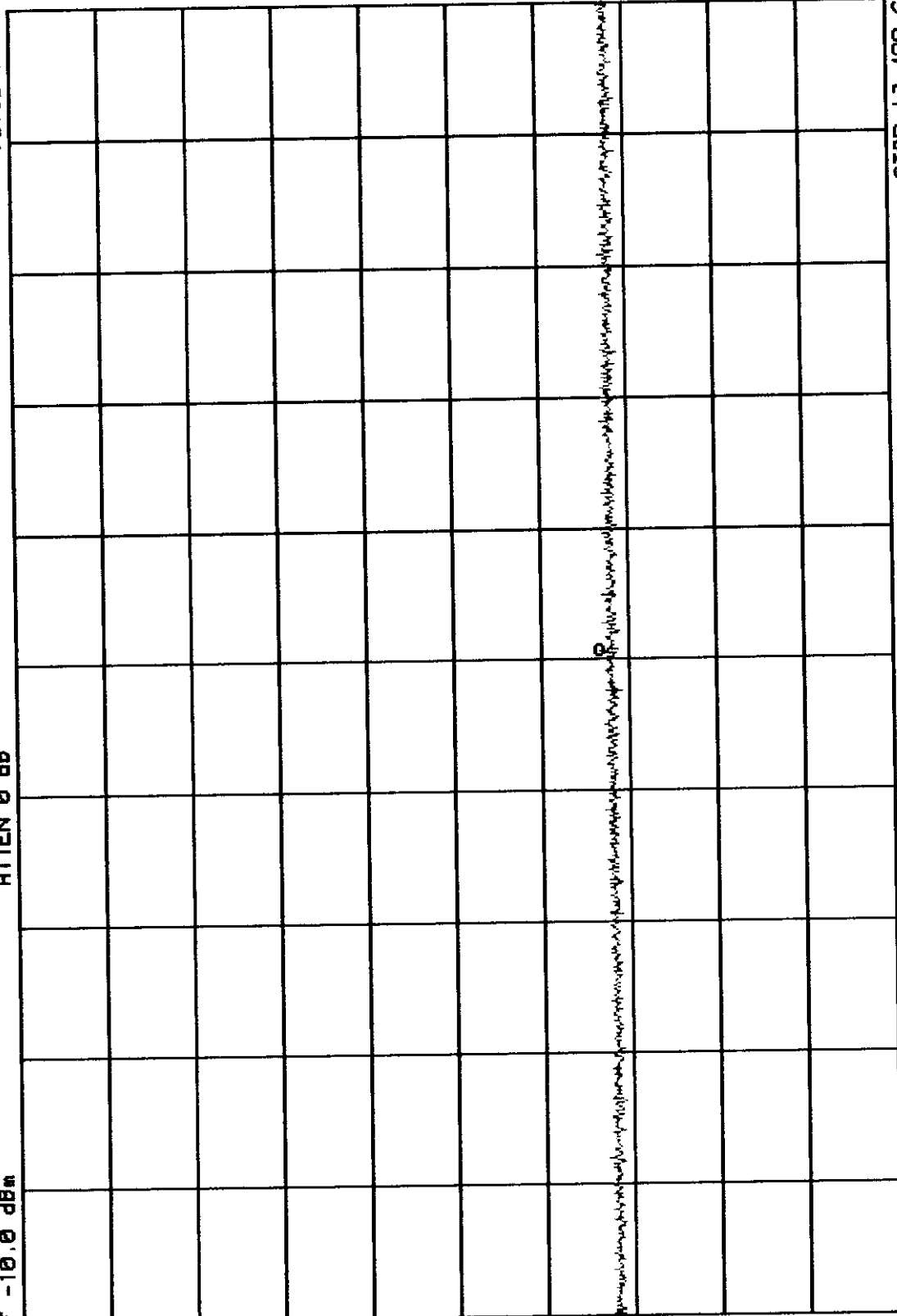


STOP 12.70 GHz
SWP 52.5 mrad

UBU 1 MHZ

START 10.60 GHz
RES BW 1 MHz

EMCE Eng Inear Ing
REF -10.0 dBm
DATE: 2 Dec 1998 e 09:05:54
ATTEN 0 dB
MKR 13.325 9 GHz
-76.80 dBm



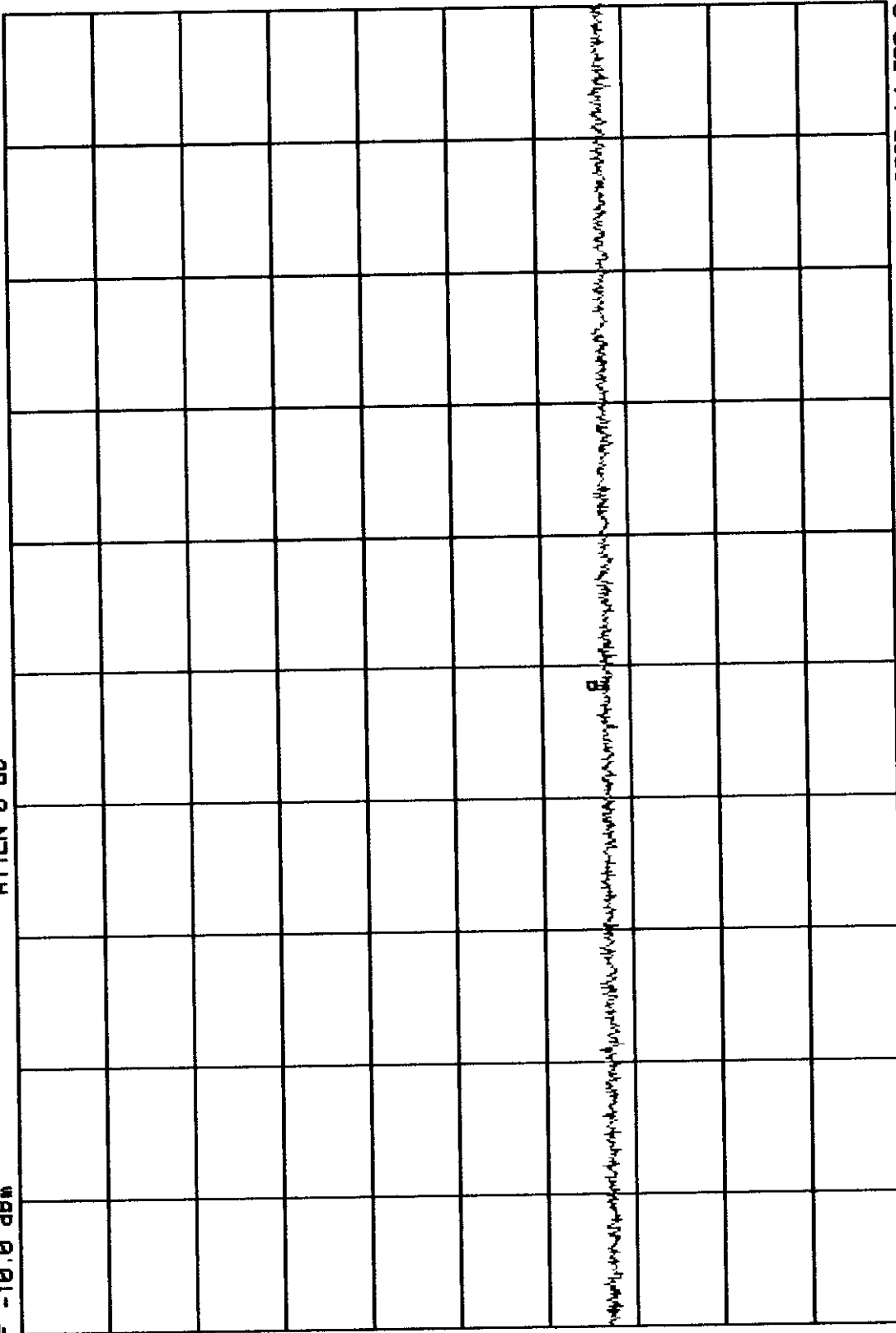
10 dB/

START 13.250 GHz
RES BW 1 MHz
VBW 1 MHz
STOP 13.400 GHz
SWP 20.0 mseg

EMCE Engineering
REF -10.0 dBm

DATE: 2 Dec 1998 @ 09:00:41
ATTEN 0 dB

10 dB/



START 14.470 0 GHz
RES BW 1 MHz

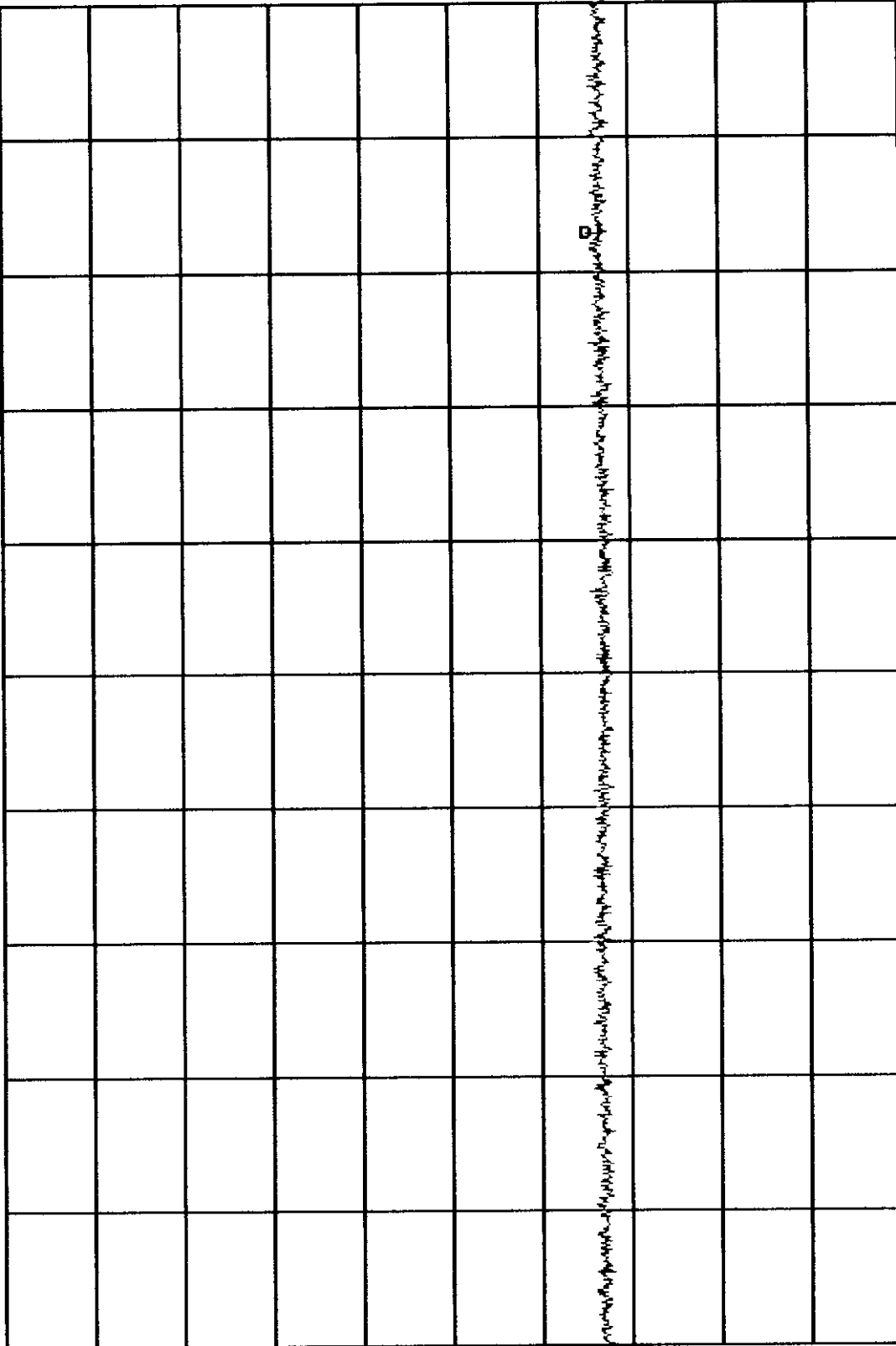
VBW 1 MHz

STOP 14.500 0 GHz
SWP 20.0 mseg

WKR 16.053 @ GHz
-75.40 dBm

DATE: 2 Dec 1998 @ 09:12:45
ATTEN 0 dB

EMCE Engineering
REF -10.0 dBm



10 dB

STOP 16.200 GHZ
SWP 21.3 mrad

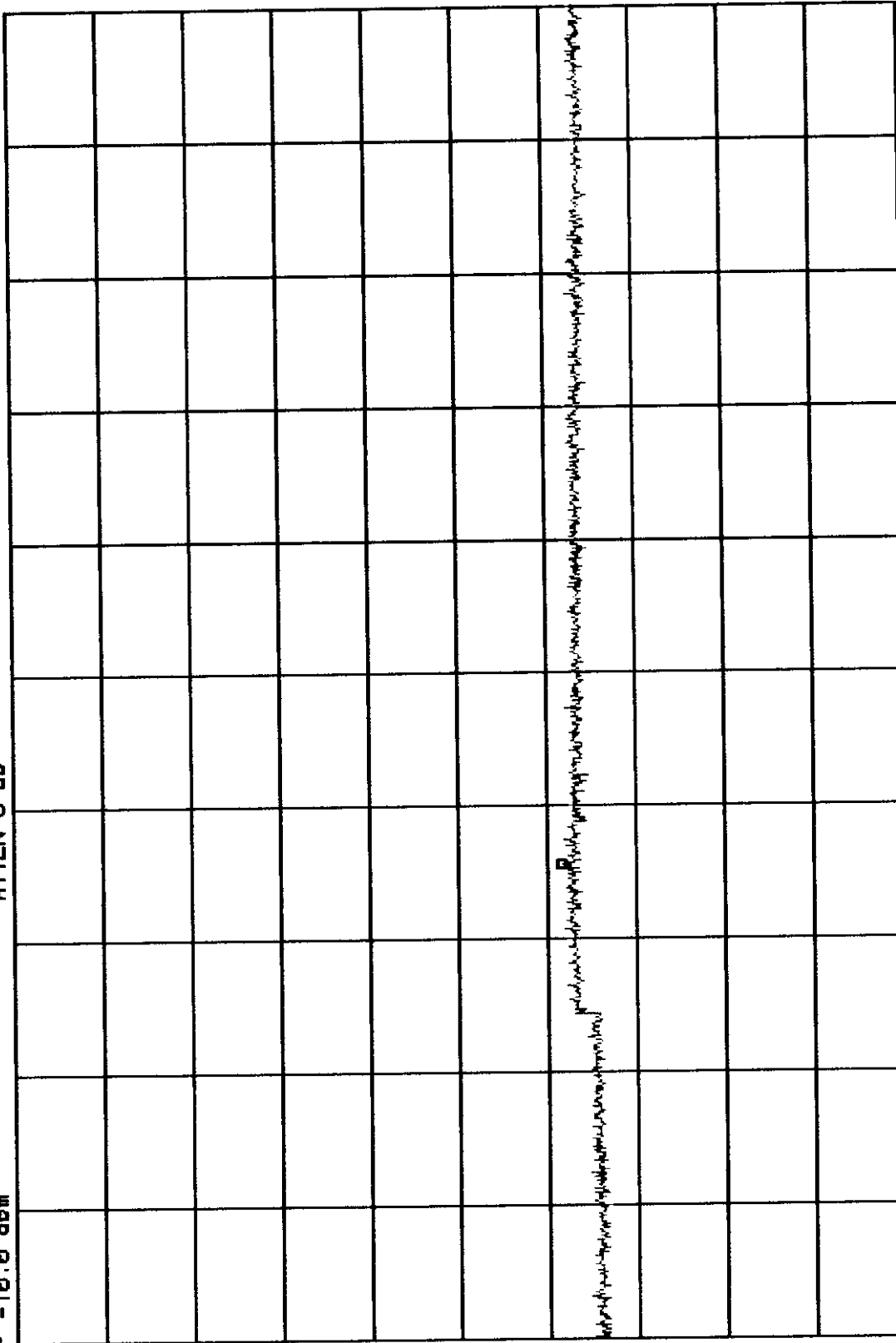
ZHH - MBN

START 15.349 GHz
RES BW 1 MHz

MKR 19.013 GHz
-71.00 dBm

DATE: 2 Dec 1998 @ 09:15:54
ATTEN 0 dB

EMCE Engineering
REF -10.0 dBm



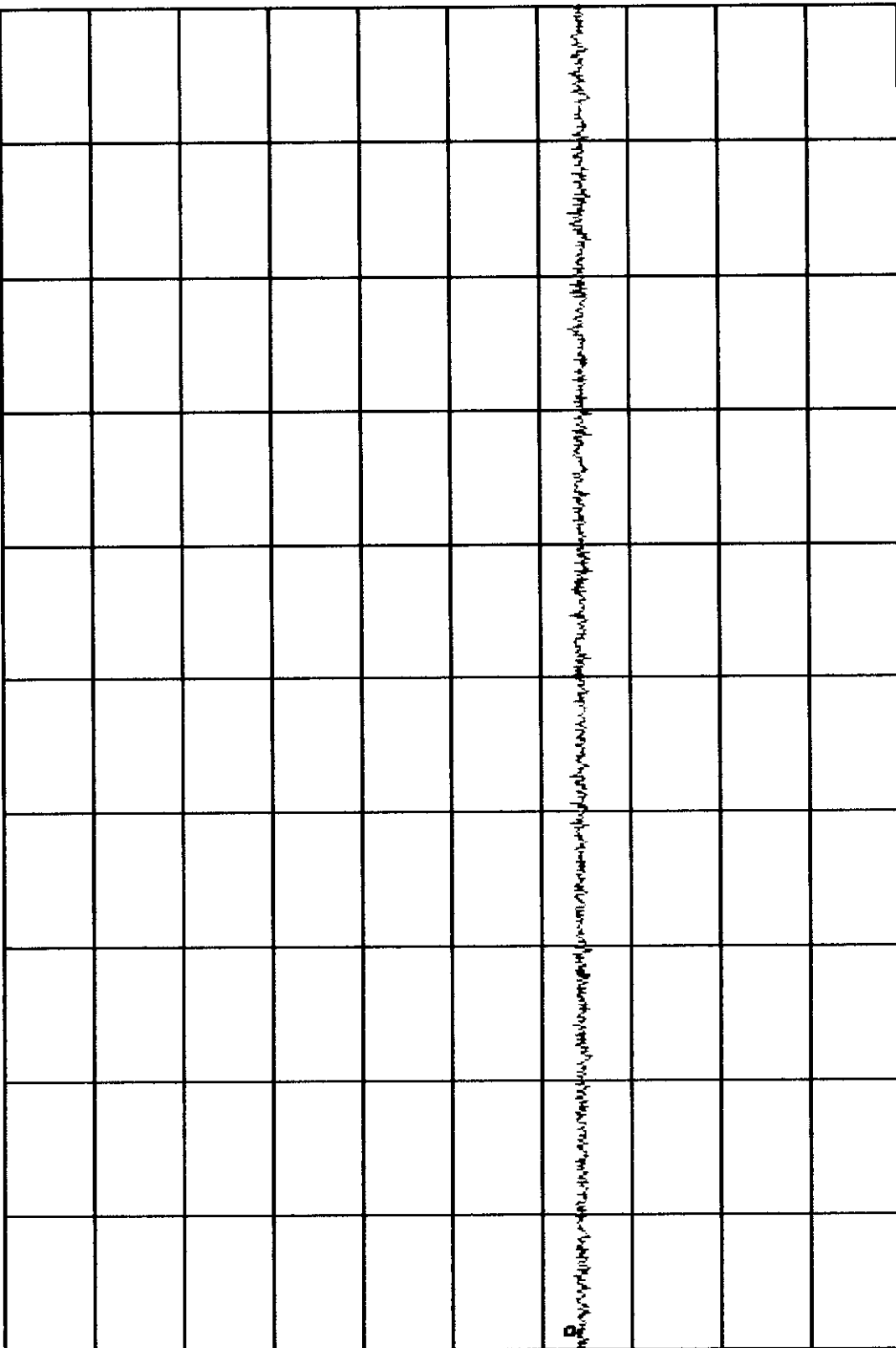
USBW 1 MHz

EMCE Engineering
REF -10.0 dBm

DATE: 2 Dec 1998 @ 09:23:23
ATTEN 0 dB

MKR 22.023 GHz
-73.30 dBm

10 dB/



START 22.01 GHz
RES BW 1 MHz

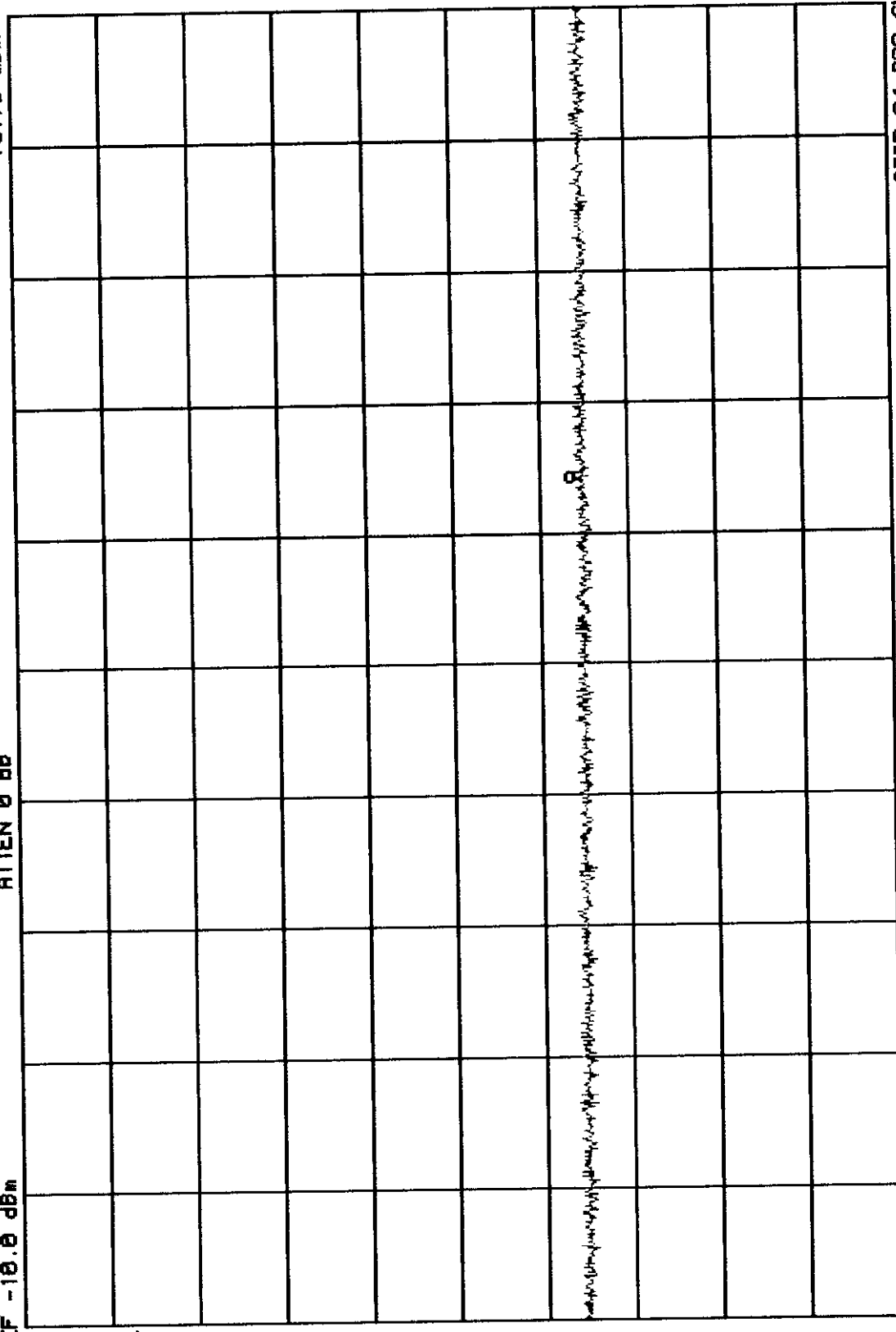
VBW 1 MHz

STOP 23.12 GHz
SUP 27.0 msec

EMCE Engineering
REF -10.0 dBm

DATE: 2 Dec 1998 @ 09:26:01
ATTEN 0 dB

MKR 23.856 4 GHz
-73.70 dBm



10 dB/

START 23.600 GHz
RES BW 1 MHz

VBW 1 MHz

STOP 24.000 GHz
SWP 20.0 mseg

PRINTER CHECKED

HP 8566A SPECTRUM ANALYZER CALIBRATION DATA

Serial No.: 00014
 Date: 2 Dec 1998
 Time: 08:15:59

No.	Error Parameter	Amplitude (dB)	Frequency (Hz)
1	LOG/LIN Scales, RES BW >=100 kHz	-.12	90000
2	LOG, offset error: 10 dB/ scale	-1.00	50000
3	LOG, offset error: 5 dB/ scale	-.55	2000
4	LOG, offset error: 2 dB/ scale	-.30	-8000
5	LOG, offset error: 1 dB/ scale	-.21	-3500
6	RES BW = 3 MHz	.04	-100
7	RES BW = 1 MHz	0.00	140
8	RES BW = 300 kHz	-.16	200
9	RES BW = 100 kHz	-.41	-100
10	RES BW = 30 kHz	.02	140
11	RES BW = 10 kHz	-.08	200
12	RES BW = 3 kHz	.35	14
13	RES BW = 1 kHz	0.00	2
14	RES BW = 300 Hz	-.03	-4
15	RES BW = 100 Hz	-.10	0
16	RES BW = 30 Hz	-.13	
17	RES BW = 10 Hz	.11	
18	LOG/LIN Scales, RES BW <100 kHz	-.07	
19	I.F. Atten: 20 dB	-.06	
20	I.F. Atten: 10 dB	-.09	
21	I.F. Gain: 20 dB	-.13	
22	I.F. Gain: 20 dB	-.23	
23	I.F. Gain: 10 dB	-.02	
24	I.F. Gain (Linear): 20 dB	-.15	
25	I.F. Gain (Linear): 10 dB	.02	
26	ATTEN = 20 dB	.06	
27	ATTEN = 30 dB	.06	
28	ATTEN = 40 dB	.06	

.12
.10
.16

29 ATTN = 50 dB
30 ATTN = 60 dB
31 ATTN = 70 dB

SYSTEM OPERATIONAL