

Client:	ShareWave	Date:	1/14/99	Test Engr:	Rudy Suy
Product:	Power Wave 2.4G Radio	File:	T29909	Proj. Eng:	Mark Briggs
Objective:	Final Qualification	Site:	SVOATS #1	Contact:	Dale Dorando
Spec:	FCC Part 15	Page:	1 of 6	Approved:	
Revision	Draft 0.1				

Ambient Conditions
Temperature: 8 °C
Humidity: 85 %

Test Objective

The objective of this test session is to perform final qualification testing of the EUT defined below relative to the specification(s) defined above for the Radio part. The digital device and receiver will be done at a later time.

Test Summary

Run #1a - Maximized Spurious Radiated Emissions Scan in Restricted Bands, 30-24000MHz, High Channel 2455 MHz

PASS Results: FCC A -1.7 dB Avg. @ 2484.001 MHz Horizontal

Run #1b - 6dB Bandwidth measurement MHz In Accordance With §15.247 (a) (2), High Channel

PASS Results: the minimum 6dB bandwidth was 18.9 MHz, measured via direct connection meeting the minimum requirement of 500 KHz.

Run #1c - Transmitted Power Measurements In Accordance With 15.247 (b), High Channel

PASS Results: Output power was measured to be 17.4 dBm

Run #1d - Power Density Measurements In Accordance With 15.247 (d), High Channel

PASS Results: Maximum Output power density in 3 KHz bandwidth was -3.3 dBm

Run #2a - Maximized Spurious Radiated Emissions Scan in Restricted Bands, 30-24000MHz, Center Channel 2440 MHz

PASS Results: FCC A -7.4 dB Avg. @ 4880.270 MHz Horizontal



EMC Test Log

Client:	ShareWave	Date:	1/14/99	Test Engr:	Rudy Suy
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Objective:	Final Qualification	Site:	SVOATS #1	Contact:	Dale Dorando
Spec:	FCC Part 15	Page:	2 of 6	Approved:	
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Run #2b - 6dB Bandwidth measurement MHz In Accordance With §15.247 (a) (2), Center Channel

PASS Results: the minimum 6dB bandwidth was 18.38 MHz, measured via direct connection meeting the minimum requirement of 500 KHz.

Run #2c - Transmitted Power Measurements In Accordance With 15.247 (b), Center Channel

PASS Results: Output power was measured to be 15.9 dBm

Run #2d - Power Density Measurements In Accordance With 15.247 (d), Center Channel

PASS Results: Maximum Output power density in 3 KHz bandwidth was -5.1 dBm

Run #3a - Maximized Spurious Radiated Emissions Scan in Restricted Bands, 30-24000MHz, Low Channel 2425 MHz

PASS Results: FCC A -9.8 dB Avg. @ 4850.143 MHz Horizontal

Run #3b - 6dB Bandwidth measurement MHz In Accordance With §15.247 (a) (2), Low Channel

PASS Results: the minimum 6dB bandwidth was 19.2 MHz, measured via direct connection meeting the minimum requirement of 500 KHz.

Run #3c - Transmitted Power Measurements In Accordance With 15.247 (b), Low Channel

PASS Results: Output power was measured to be 15.2 dBm

Run #3d - Power Density Measurements In Accordance With 15.247 (d), Low Channel

PASS Results: Maximum Output power density in 3 KHz bandwidth was -6.1 dBm

Run #4 - Conducted Emissions Scan of EUT, 0.15-30.00 MHz, **120V, 60Hz**

PASS Results: FCC B -11.7 dB QP @ 15.6223 MHz Line



EMC Test Log

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Objective:	Final Qualification	Site:	SVOATS #1	Contact:	Dale Dorando
Spec:	FCC Part 15	Page:	3 of 6	Approved:	
Revision	Draft 0.1				

Equipment Under Test (EUT) General Description

The EUT is a spread-spectrum transceiver which is designed to communicate digital information. Normally, the EUT would be placed on a table top during operation. The EUT was, therefore, placed in this position during emissions testing to simulate the end user environment. The electrical rating of the EUT is 5 VDC, at 0.65 Amps.

Note: This unit is with cast aluminum shield and circular patch antenna instead of dipole antenna.

Equipment Under Test (EUT)

Manufacturer/Model/Description	Serial Number	FCC ID Number
ShareWave/ PowerWave/ Radio	FP42	none

Power Supply and Line Filters

Description	Manufacturer	Model
None	-	-

The EUT power was derived from the host computer power supply.

Printed Wiring Boards in EUT

Manufacturer/Description	Assembly #	Rev.	Serial Number	Crystals (MHz)
ShareWave/Radio	??	??		44

Subassemblies in EUT

Manufacturer/Description	Assembly Number	Rev.	Serial Number
None	-	-	-

EUT Enclosure(s)

The EUT enclosure is primarily constructed of aluminum. It measures approximately 6.4 cm wide by 14 cm deep by .64 cm high.



EMC Test Log

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EMI Suppression Devices (filters, gaskets, etc.)

Description	Manufacturer	Part Number
None	-	-

Local Support Equipment

Manufacturer/Model/Description	Serial Number	FCC ID Number
Dell D1025HT Monitor	8096677	AK8GDM17SE2T
Dell MMS P200s Host PC	8C74Q	E2KTERMIND
Microsoft 58264 Mouse	0372411	C3KAZB1
Dell SK-1000REV Keyboard	00087998	GYUR43SK

Remote Support Equipment

Manufacturer/Model/Description	Serial Number	FCC ID Number
None	-	-

Interface Cabling

Cable Description	Length (m)	From Unit/Port	To Unit/Port
Shielded Serial	2.0	Host PC	Keyboard
Shielded Serial	1.5	Host PC	Mouse
Shielded VGA	2.0	Host PC	Monitor
Shielded multi-conductor	1.4	Host PC	EUT I/O
Coax	0.3	EUT/ Ant	Ant./connector

Test Software

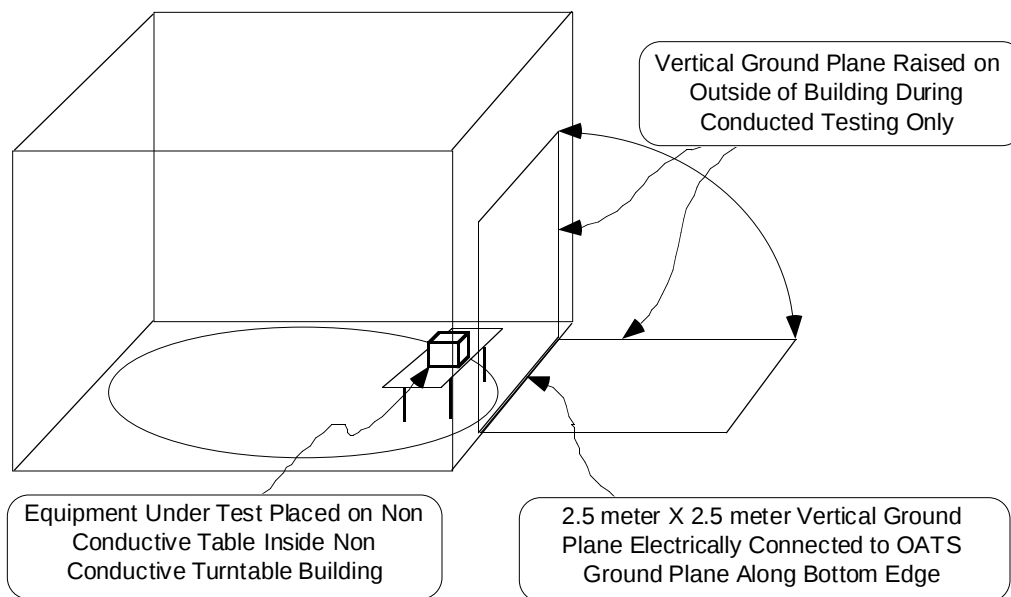
The EUT contained test software running during testing which continuously exercised the system by transmitting and receiving network traffic. The network traffic density was approximately 80% to simulate the worst case expected in the end user environment.

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Spec:	FCC Part 15	Page:	5 of 6	Approved:	
Revision	Draft 0.1				

General Test Conditions

During radiated testing, the Host PC was connected to 120V, 60Hz power input. The EUT and all local support equipment were located on the turntable for radiated testing and conducted testing.

During conducted emissions testing, the Host PC was connected to 120V, 60Hz power input as noted. A 2.5 meter X 2.5 meter ground plane was raised to a vertical position 40 cm from the EUT as shown below:



Test Data Tables

See attached data



Emissions Test Data

Client:	ShareWave, Inc.	Date:	1/14/98	Test Engr:	Rudy Suy
Product:	PowerWave 2.4G Radio	File:	D29909	Proj. Engr:	Mark Briggs
Objective	Final Qualification	Site:	SVOATS #1	Contact:	Dale Dorando
Spec:	FCC Part 15	Distance:	3m	Approved:	

Ambient Conditions

Temperature: 8 °C
Humidity: 85 %

Run #1a: Maximized radiated scan, 1-24 GHz, Restricted Band Center Channel

Frequency	Level	Pol	FCC B	FCC B	Detector	Azimuth	Height	Comments
MHz	dBuV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
4880.270	46.0	v	54.0	-8.0	Avg	180	1.9	
4880.270	44.8	h	54.0	-9.2	Avg	165	1.2	
4880.270	59.6	v	74.0	-14.4	Pk	180	1.9	
4880.270	59.2	h	74.0	-14.8	Pk	165	1.2	
7316.670	37.8	v	54.0	-16.2	Avg	180	1.2	
7316.670	37.1	h	54.0	-16.9	Avg	150	1.2	
7316.670	56.1	v	74.0	-17.9	Pk	180	1.2	
7316.670	58.6	h	74.0	-15.4	Pk	150	1.0	

Note: Frequencies above 8GHz the antenna was placed at 1 meter distance and no emissions were seen.

Run #1b: 6 dB bandwidth measurement in accordance with part 15.247(a)(2), High Channel
RESULTS: 6dB Bandwidth Measured Directly to Antenna Port To Be 18.9MHz.

Run #1c: Transmitted Power Measurements in accordance with part 15.247(b), High Channel
RESULTS: Transmit Power Measured with Power Meter to be 17.4dBm.

Run #1d: Power Density Measurements in accordance with part 15.247(d), High Channel
RESULTS: Power Density Measured Directly to Antenna Port To Be -3.3dBm.



Emissions Test Data

Client:	ShareWave, Inc.	Date:	1/14/98	Test Engr:	Rudy Suy
Product:	PowerWave 2.4G Radio	File:	D29909	Proj. Engr:	Mark Briggs
Objective	Final Qualification	Site:	SVOATS #1	Contact:	Dale Dorando
Spec:	FCC Part 15	Distance:	3m	Approved:	

Run #2a: Maximized radiated scan, 1-24 GHz, Restricted Band

Center Channel

Frequency	Level	Pol	FCC B	FCC B	Detector	Azimuth	Height	Comments
MHz	dBuV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	*	
4880.270	46.6	h	54.0	-7.4	Avg	110	1.4	
4880.270	45.2	v	54.0	-8.9	Avg	120	1.2	
4880.270	62.5	h	74.0	-11.5	Pk	110	1.4	
4880.270	61.5	v	74.0	-12.5	Pk	120	1.2	
7316.670	36.3	v	54.0	-17.7	Avg	180	1.0	
7316.670	36.3	h	54.0	-17.7	Avg	100	1.0	
7316.670	47.6	v	74.0	-26.4	Pk	180	1.0	
7316.670	47.1	h	74.0	-26.9	Pk	100	1.0	

Note: Frequencies above 8GHz the antenna was placed at 1 meter distance and no emissions were seen.

Run #2b: 6 dB bandwidth measurement in accordance with part 15.247(a)(2), High Channel

RESULTS: 6dB Bandwidth Measured Directly to Antenna Port To Be 18.38MHz.

Run #2c: Transmitted Power Measurements in accordance with part 15.247(b), High Channel

RESULTS: Transmit Power Measured with Power Meter to be 15.9dBm.

Run #2d: Power Density Measurements in accordance with part 15.247(d), High Channel

RESULTS: Power Density Measured Directly to Antenna Port To Be -5.1dBm.



Emissions Test Data

Client:	ShareWave, Inc.	Date:	1/14/98	Test Engr:	Rudy Suy
Product:	PowerWave 2.4G Radio	File:	D29909	Proj. Engr:	Mark Briggs
Objective	Final Qualification	Site:	SVOATS #1	Contact:	Dale Dorando
Spec:	FCC Part 15	Distance:	3m	Approved:	

Run #3a: Maximized radiated scan, 1-24 GHz, Restricted Band

Low Channel

Frequency	Level	Pol	FCC B	FCC B	Detector	Azimuth	Height	Comments
MHz	dBuV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
4850.143	44.2	h	54.0	-9.8	Avg	110	1.4	
4850.143	43.7	v	54.0	-10.3	Avg	120	1.2	
4850.143	60.0	h	74.0	-14.0	Pk	110	1.4	
4850.143	59.1	v	74.0	-14.9	Pk	120	1.2	
7279.930	36.8	v	54.0	-17.2	Avg	180	1.0	
7279.930	36.3	h	54.0	-17.7	Avg	100	1.0	
7279.930	48.8	v	74.0	-25.2	Pk	180	1.0	
7279.930	48.4	h	74.0	-25.6	Pk	100	1.0	

Note: Frequencies above 8GHz the antenna was placed at 1 meter distance and no emissions were seen.

Run #3b: 6 dB bandwidth measurement in accordance with part 15.247(a)(2), High Channel

RESULTS: 6dB Bandwidth Measured Directly to Antenna Port To Be 19.2MHz.

Run #3c: Transmitted Power Measurements in accordance with part 15.247(b), High Channel

RESULTS: Transmit Power Measured with Power Meter to be 15.2dBm.

Run #3d: Power Density Measurements in accordance with part 15.247(d), High Channel

RESULTS: Power Density Measured Directly to Antenna Port To Be -6.16dBm.

Run #4: Conducted Emissions, 120V/60Hz, High Channel (worst case)

Frequency	Level	Power	FCC B	FCC B	Detector	Comments
MHz	dBuV	Lead	Limit	Margin	Function	
15.6223	36.3	Line 1	48.0	-11.7	QP	
15.6406	35.6	Neutral	48.0	-12.4	QP	
8.3928	33.5	Neutral	48.0	-14.5	QP	
19.5319	27.6	Line 1	48.0	-20.4	QP	
19.5540	26.8	Neutral	48.0	-21.2	QP	
16.6932	25.2	Line 1	48.0	-22.8	QP	

Note: Quick scan was done on all three channels and High channel was the worst case configuration.

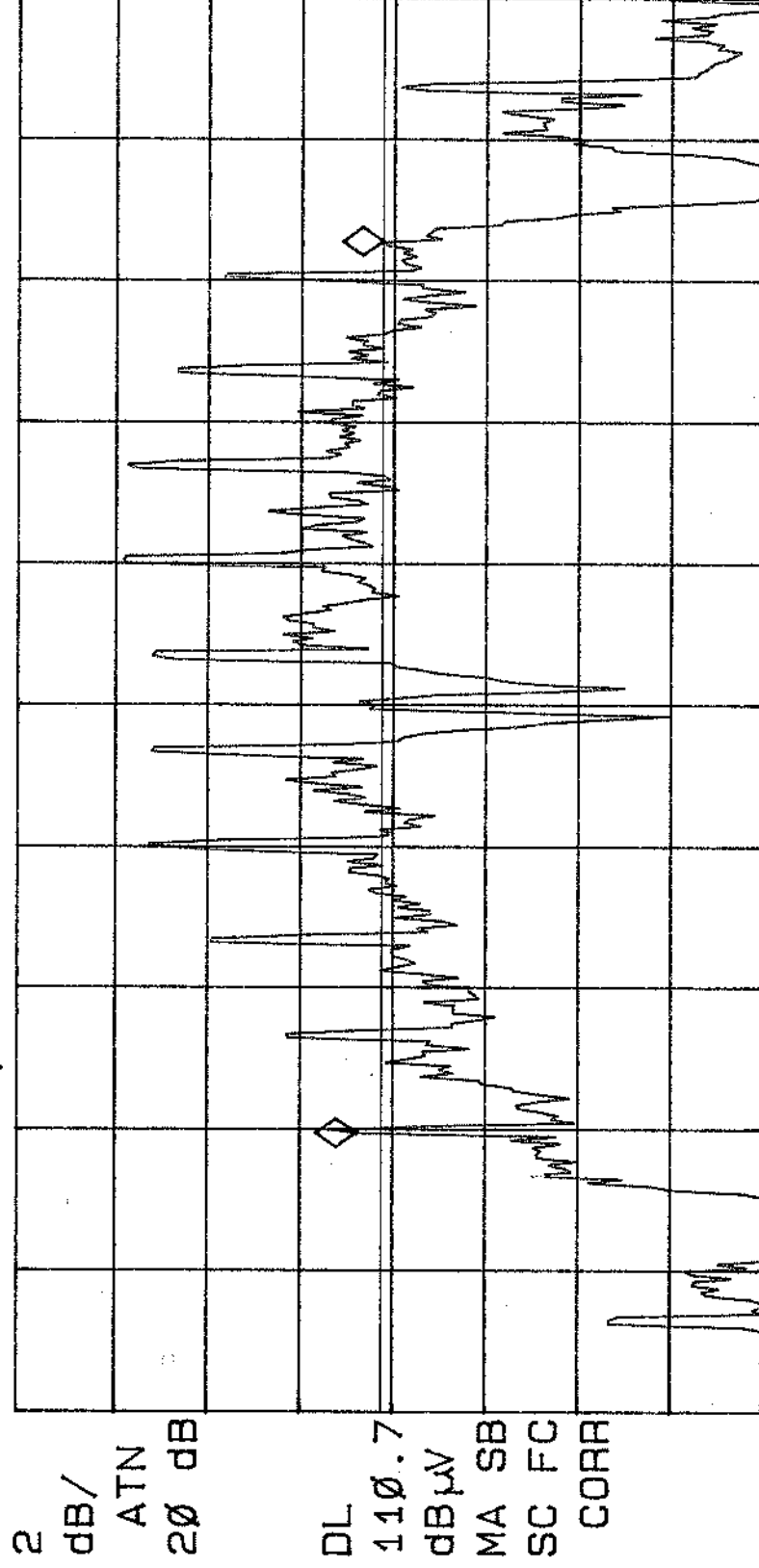
6dB Bandwidth High Channel

18:50:31 JAN 15, 1999
HP

MARKER Δ
18.90 MHz
-.53 dB

ACTV DET: PEAK
MEAS DET: PEAK QP AVG
MKR 18.90 MHz
-.53 dB

REF OFFST 10.0 dB
LOG REF 118.6 dB μ V



CENTER 2.45500 GHz
#IF BW 100 KHz
#AVG BW 100 KHz
SPAN 30.00 MHz
SWP 20.0 msec

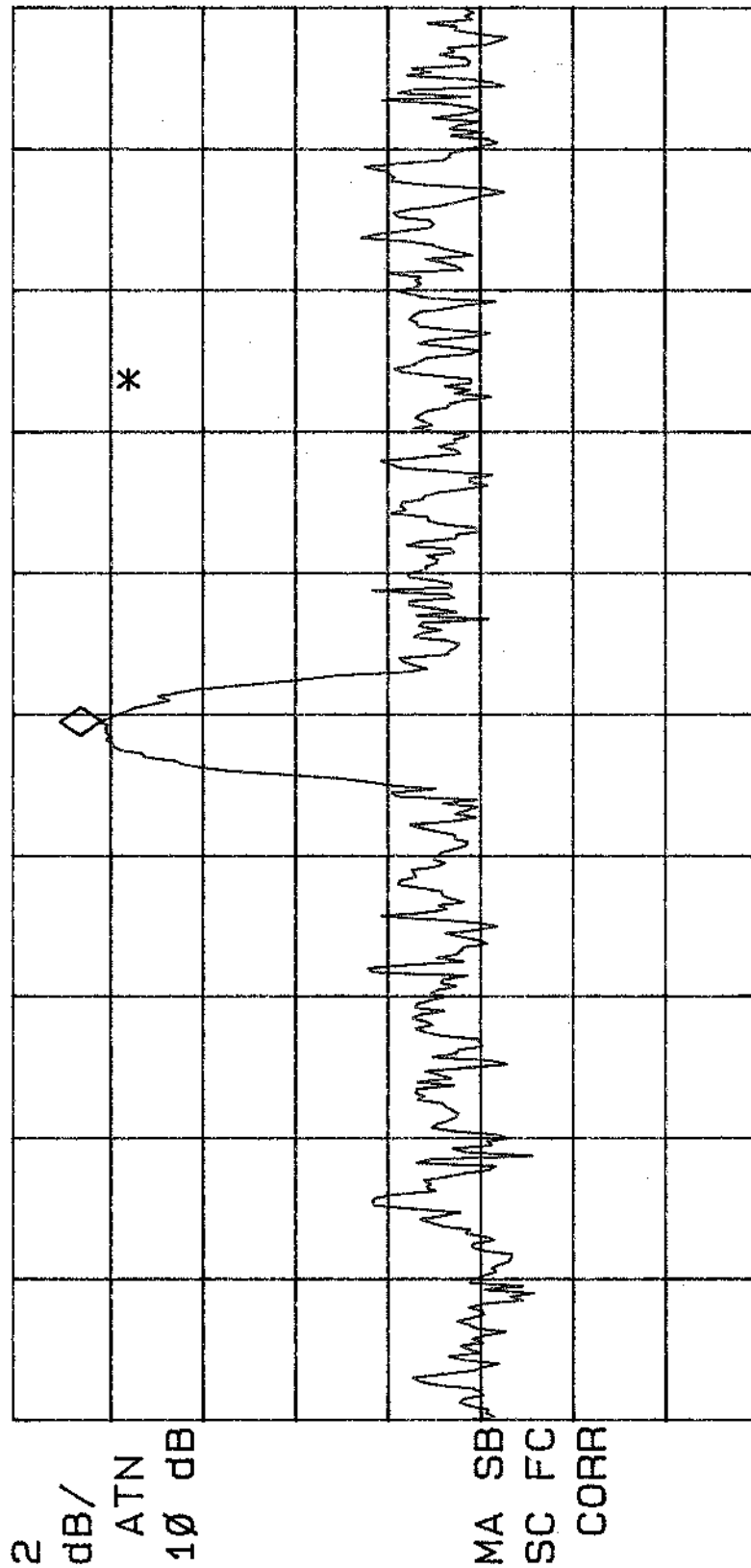
Power Density High Channel

19:09:29 JAN 15, 1999
HP

REF LEVEL
-1.4 dBm

ACTV DET: PEAK
MEAS DET: PEAK QP AVG
MKR 2.4599985 GHz
-3.30 dBm

REF OFFST 10.0 dB
LOG REF -1.4 dBm



CENTER 2.4600000 GHz
SPAN 300.0 KHz
#IF BW 3.0 KHz
#AVG BW 3 KHz
#SWP 100 sec

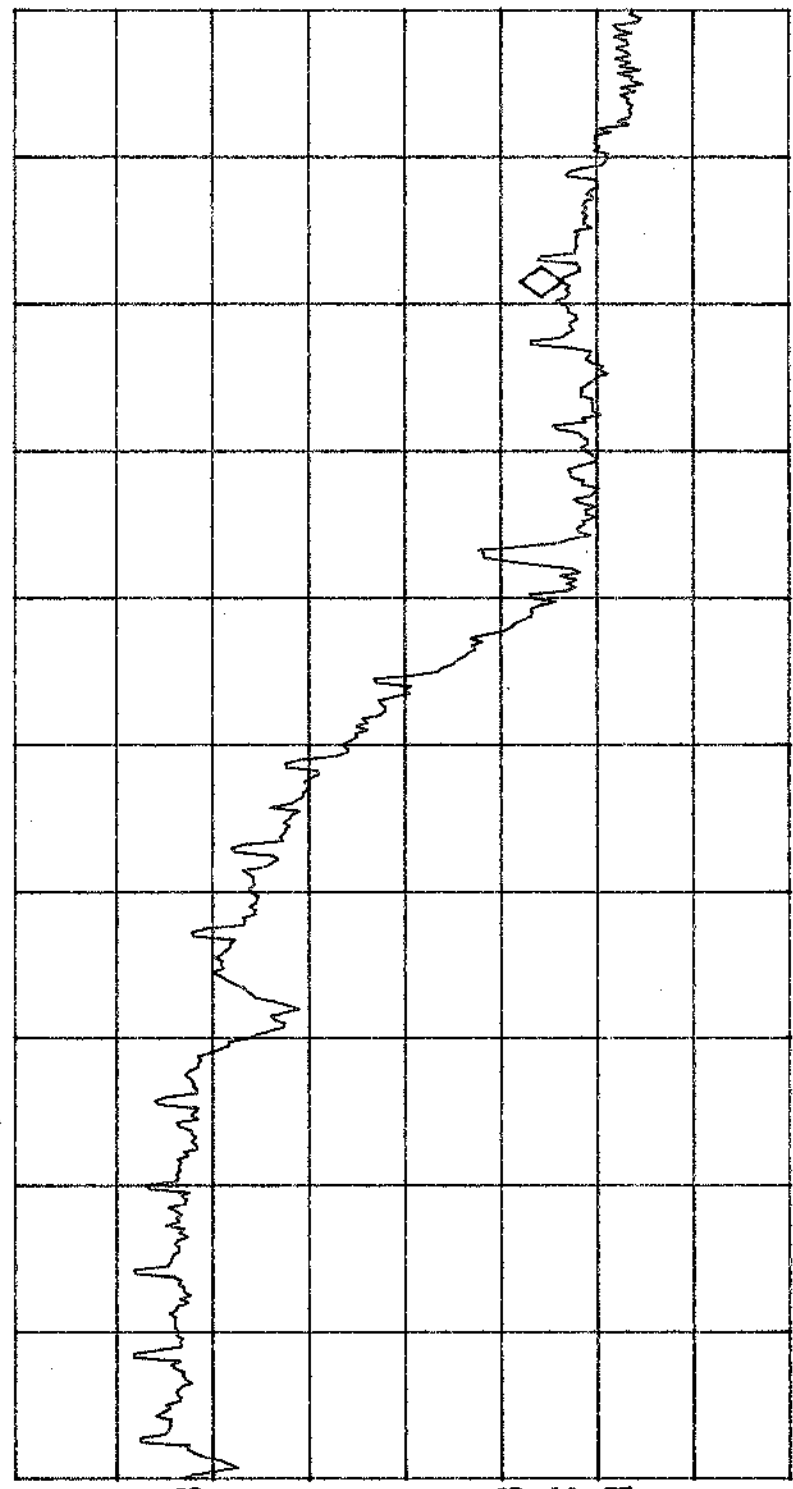
Band edge High Channel

19:00:42 JAN 15, 1999

MARKER
2.48353 GHz
71.98 dB μ V
ACTV DET: PEAK
MEAS DET: PEAK QP AVG
MKR 2.48353 GHz
71.98 dB μ V

REF OFFST 10.0 dB
REF 128.6 dB μ V

LOG 10 dB/ ATN 30 dB
MA SB
SC FC
CORR



START 2.45500 GHz
#IF BW 100 KHz
STOP 2.49000 GHz
#AVG BW 100 KHz
SWP 20.0 msec

High Channel

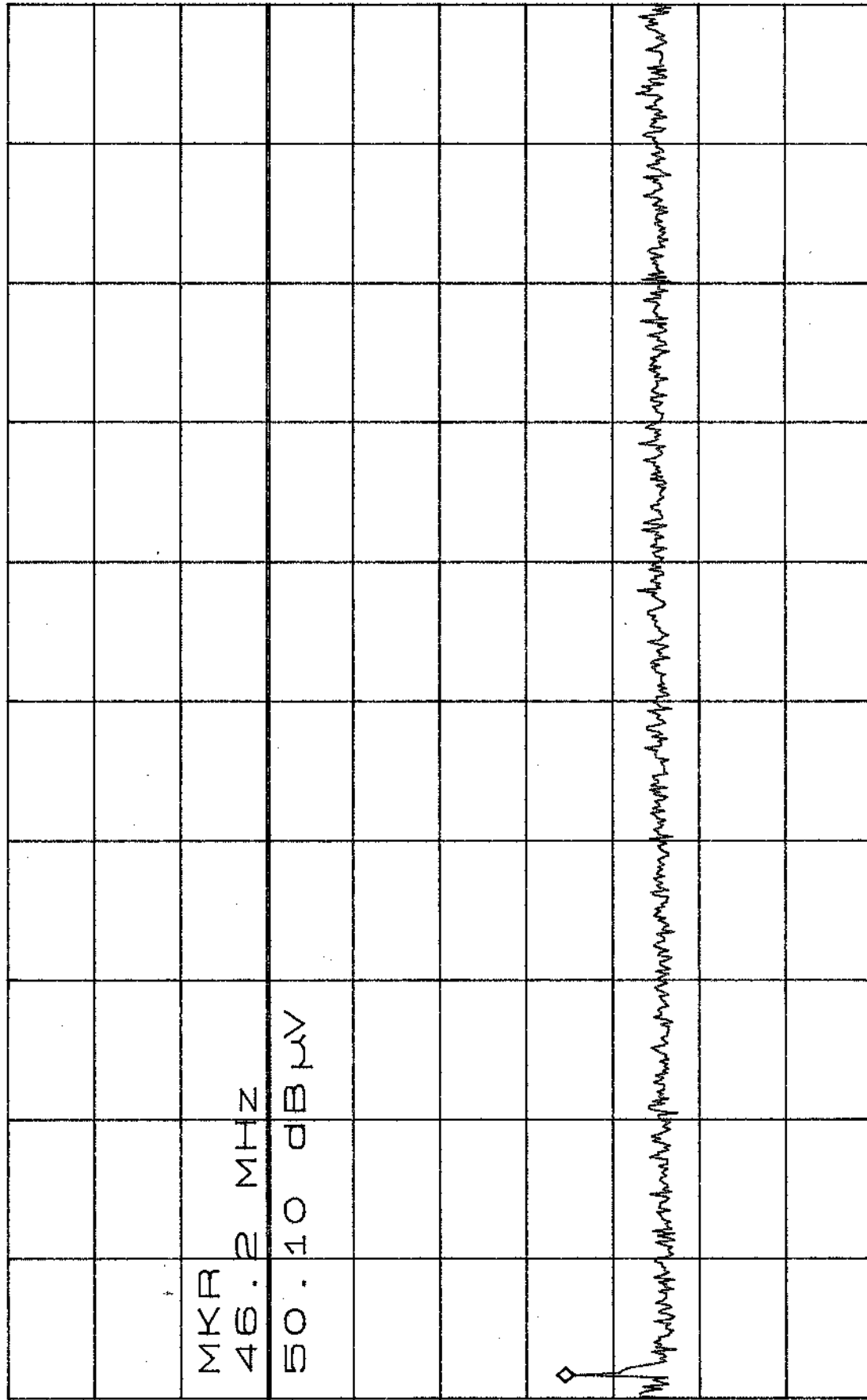
ATTEN 20dB

MKR 50.10dB μ V

RL 115.6dB μ V

10dB/

46.2MHz



D

START 30.0MHz

STOP 1.0000GHz

*RBW 100kHz

*VBW 100kHz

SWP 250ms

High Channel

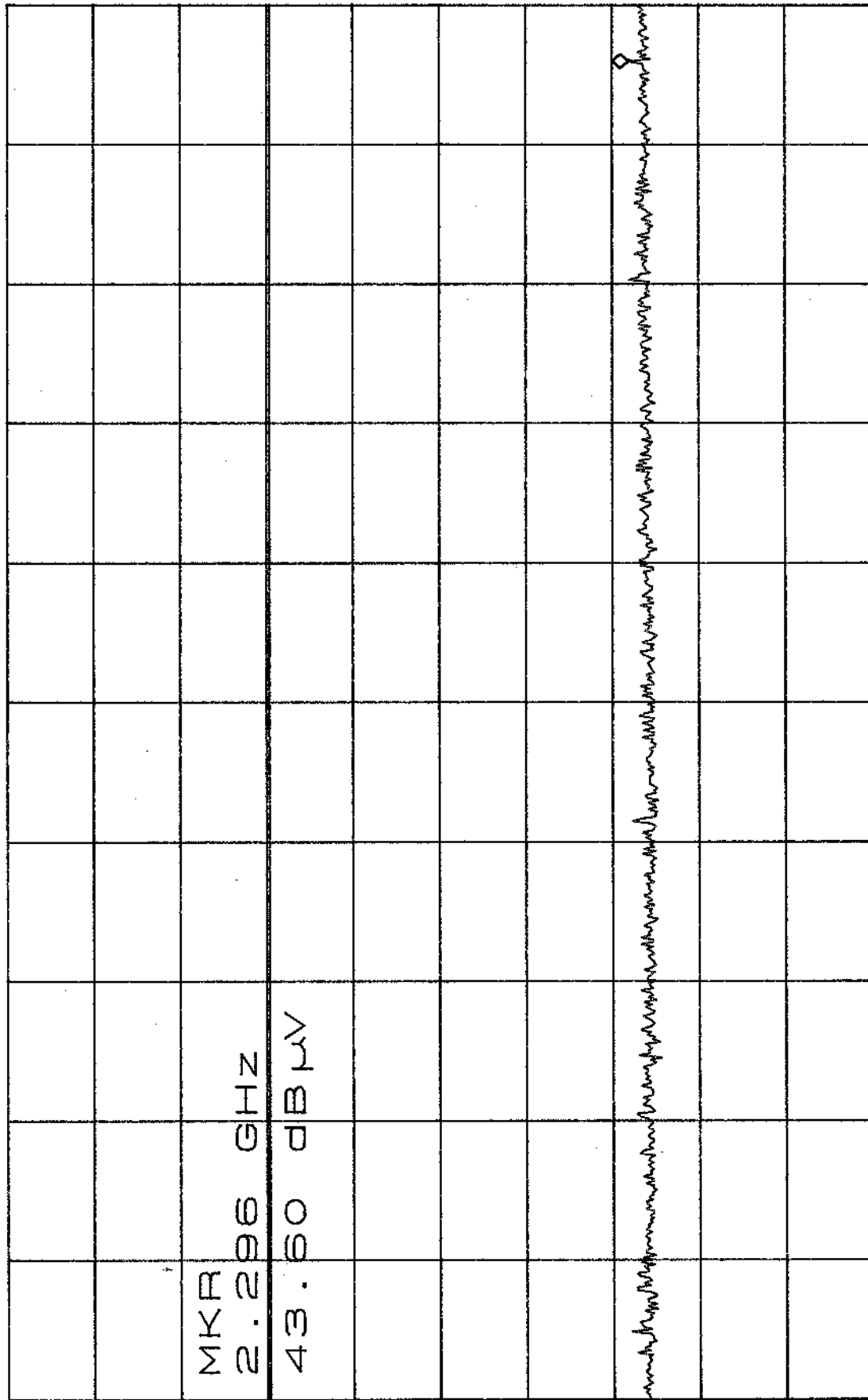
ATTEN 20dB

MKR 43.60dB μ V

RL 115.6dB μ V

10dB/

2.296GHz



D

START 1.000GHz

STOP 2.350GHz

*RBW 100KHz

*VBW 100KHz

SWP 340ms

High Channel

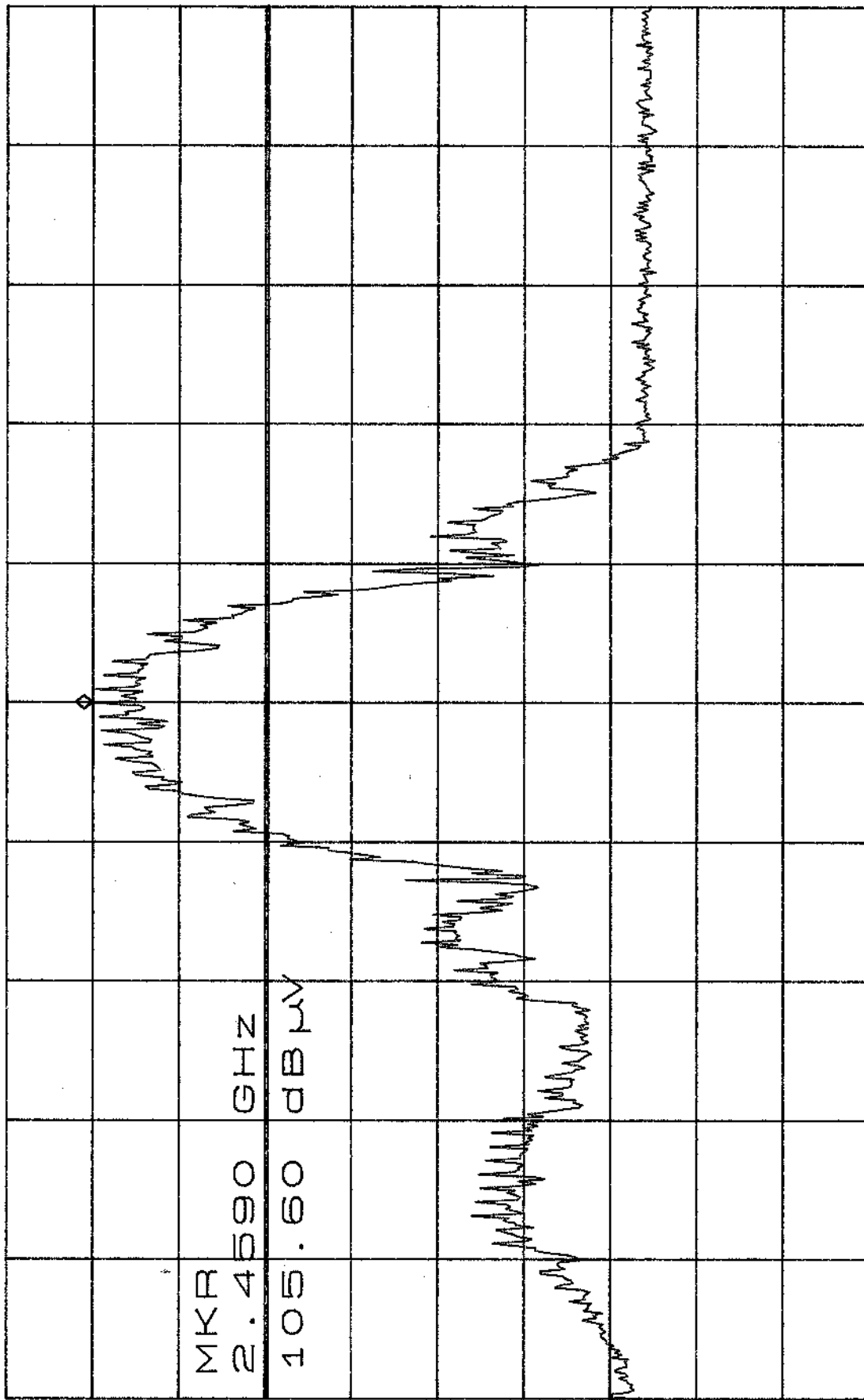
ATTEN 20dB

MKR 105.60dBμV

RL 115.6dBμV

10dB/

2.4590GHZ



CENTER 2.4590GHZ

SPAN 200.0MHZ

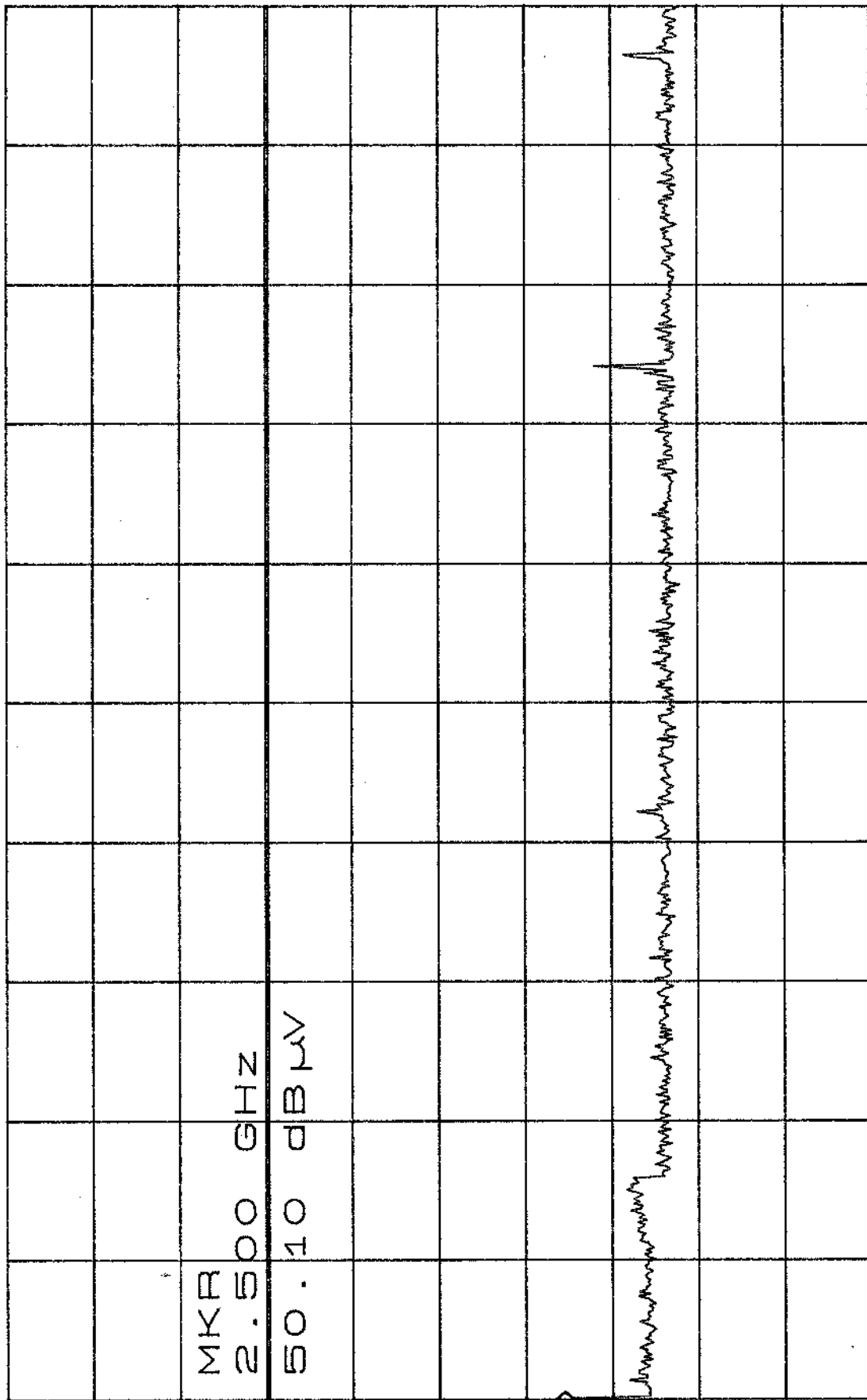
*RBW 100KHZ

*VBW 100KHZ

SWP 50ms

High Channel

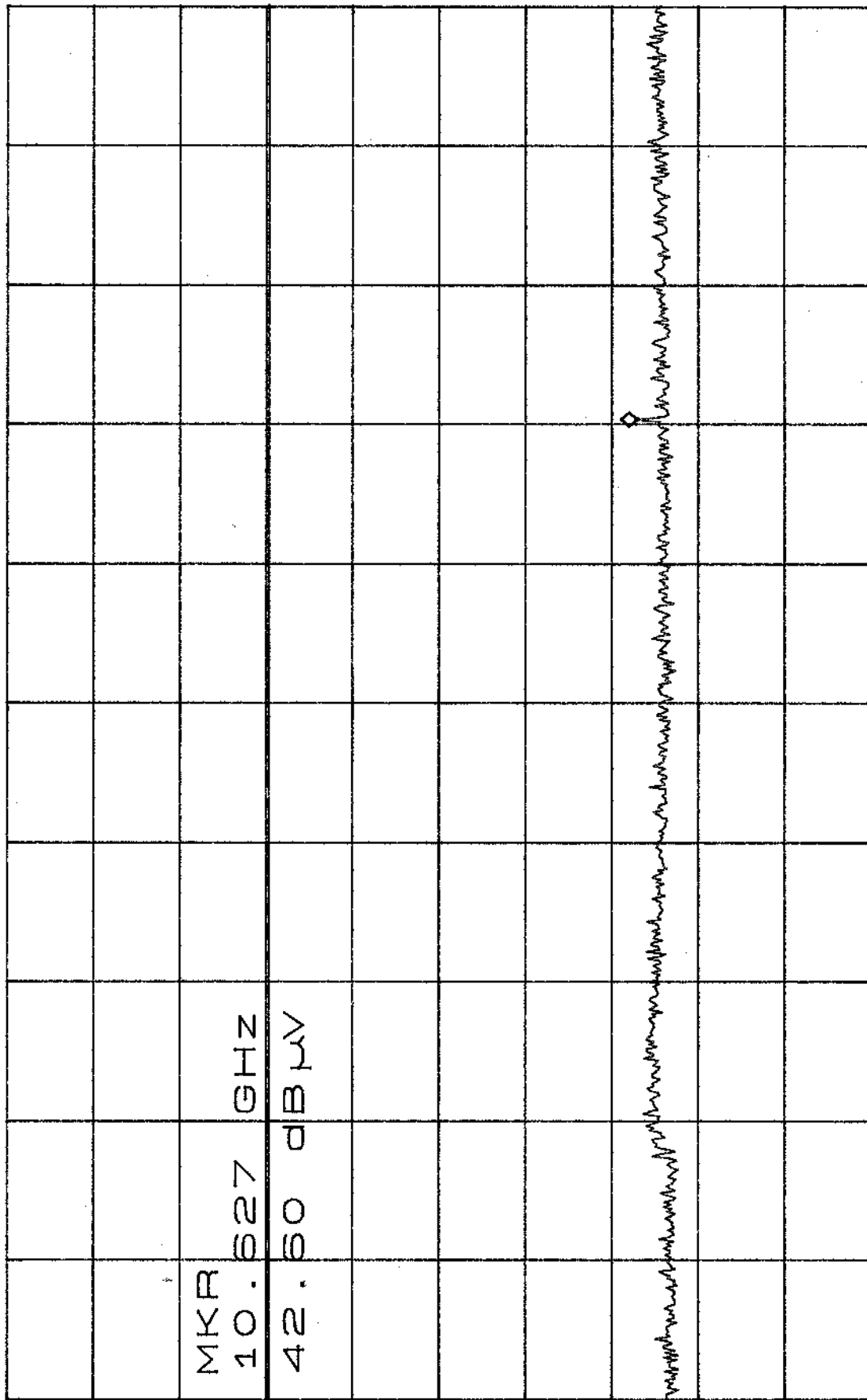
ATTEN 20dB MKR 50.10dB μ V
RL 115.6dB μ V 10dB/ 2.500GHz



START 2.500GHz STOP 5.000GHz
*RBW 100kHz *VBW 100kHz SWP 630ms

High Channel

ATTEN 20dB MKR 42.60dBμV
RL 115.6dBμV 10dB/ 10.627GHz

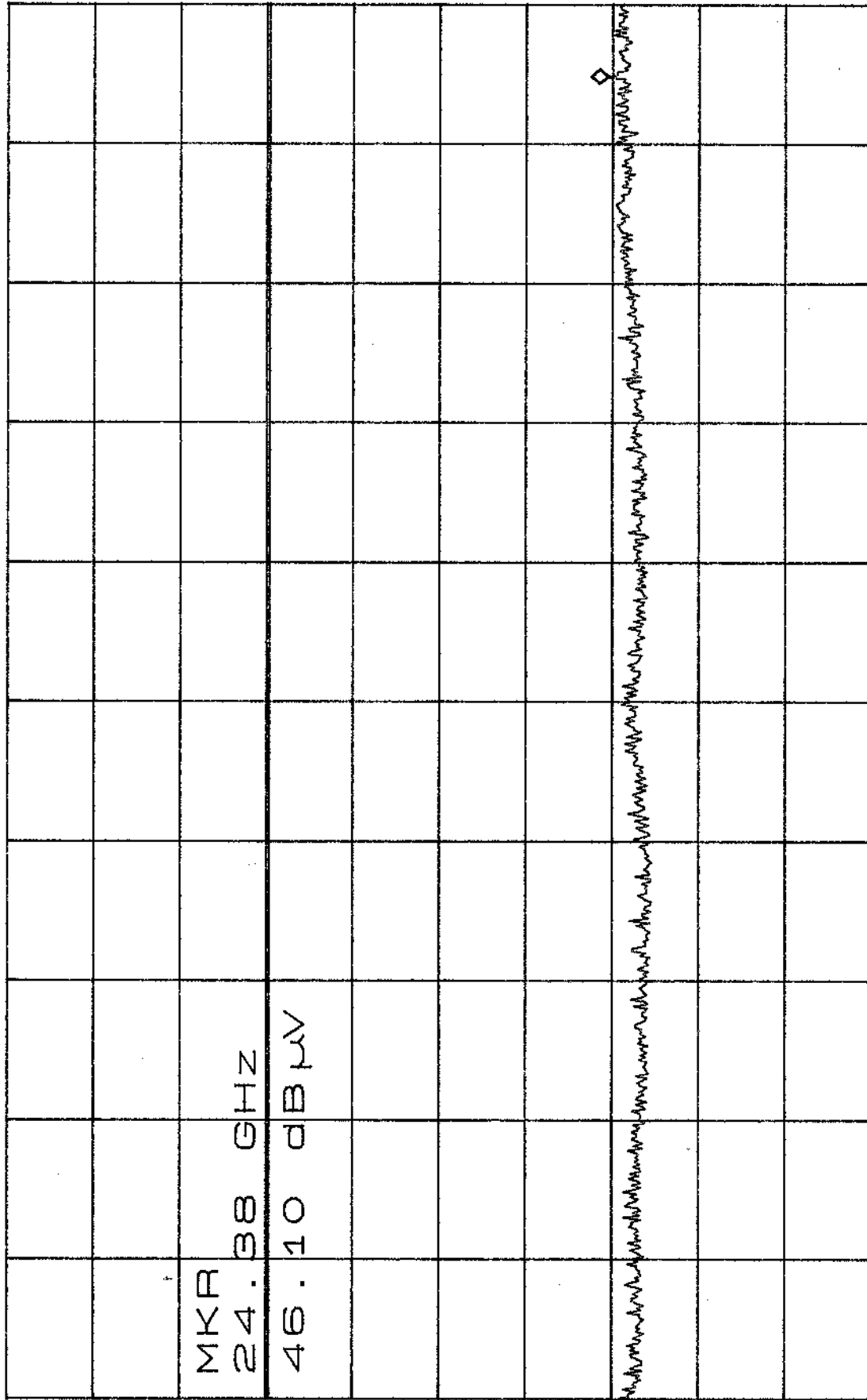


D

START 5.000GHz STOP 13.000GHz
*RBW 100kHz *VBW 100kHz SWP 2.0sec

High Channel

ATTEN 20dB MKR 46.10dB μ V
RL 115.6dB μ V 10dB/ 24.38GHz



D

START 13.00GHz STOP 25.00GHz
*RBW 100kHz *VBW 100kHz SWP 3.0sec

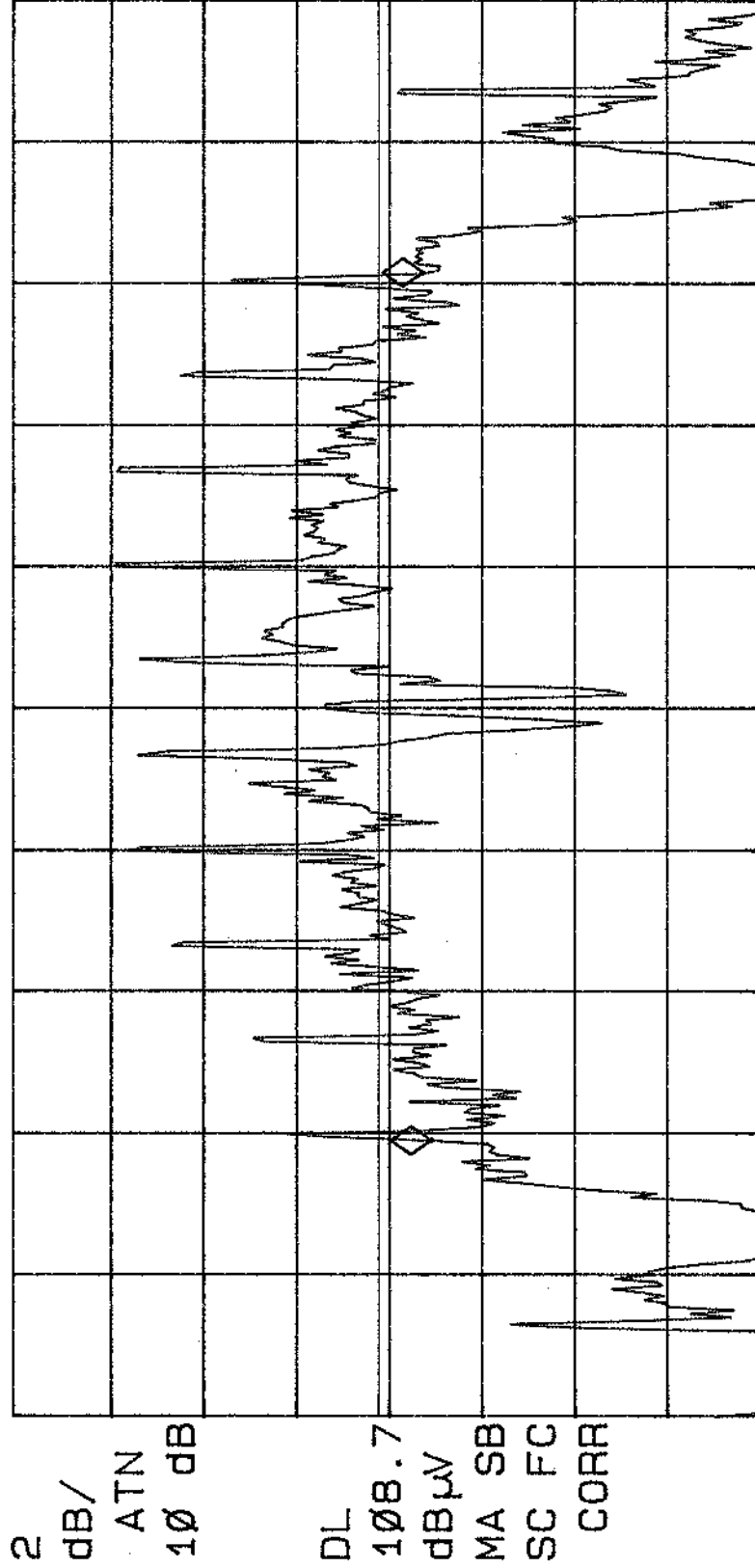
6dB Bandwidth Center Channel

18:39:15 JAN 15, 1999
HP

MARKER Δ
18.38 MHz
.18 dB

ACTV DET: PEAK
MEAS DET: PEAK QP AVG
MKR 18.38 MHz
.18 dB

REF OFFST 10.0 dB
LOG REF 116.6 dB μ V



CENTER 2.44000 GHz
#IF BW 100 KHz
#AVG BW 100 KHz
SPAN 30.00 MHz
SWP 20.0 msec

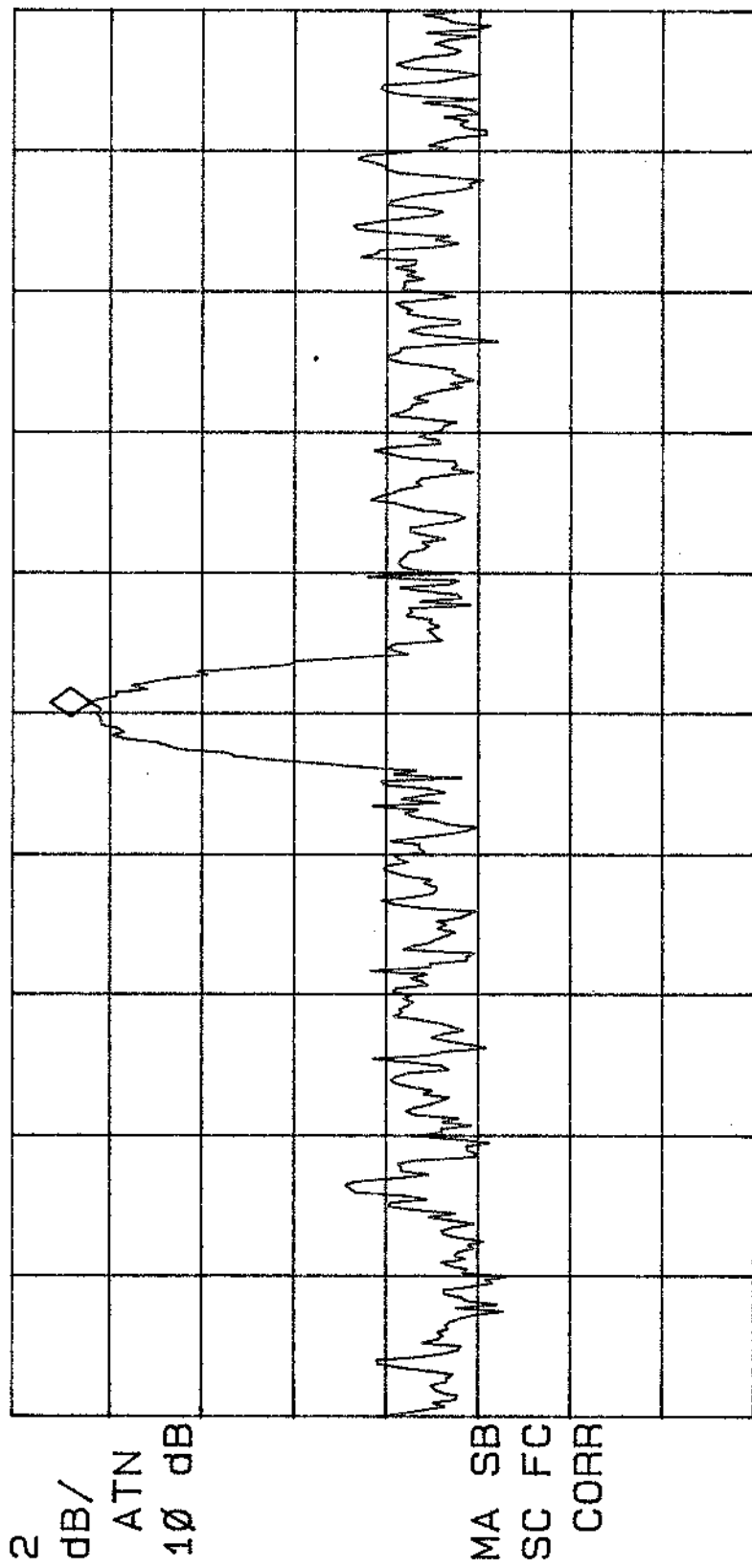
Power Density Center Channel

18:33:39 JAN 15, 1999

MARKER
2.4429988 GHz
-5.09 dBm

ACTV DET: PEAK
MEAS DET: PEAK QP AVG
MKR 2.4429988 GHz
-5.09 dBm

REF OFFST 10.0 dB
LOG REF -3.4 dBm



CENTER 2.4429966 GHz
#IF BW 3.0 KHz
#AVG BW 3 KHz
SPAN 300.0 KHz
#SWP 100 sec

CENTER CHANNEL

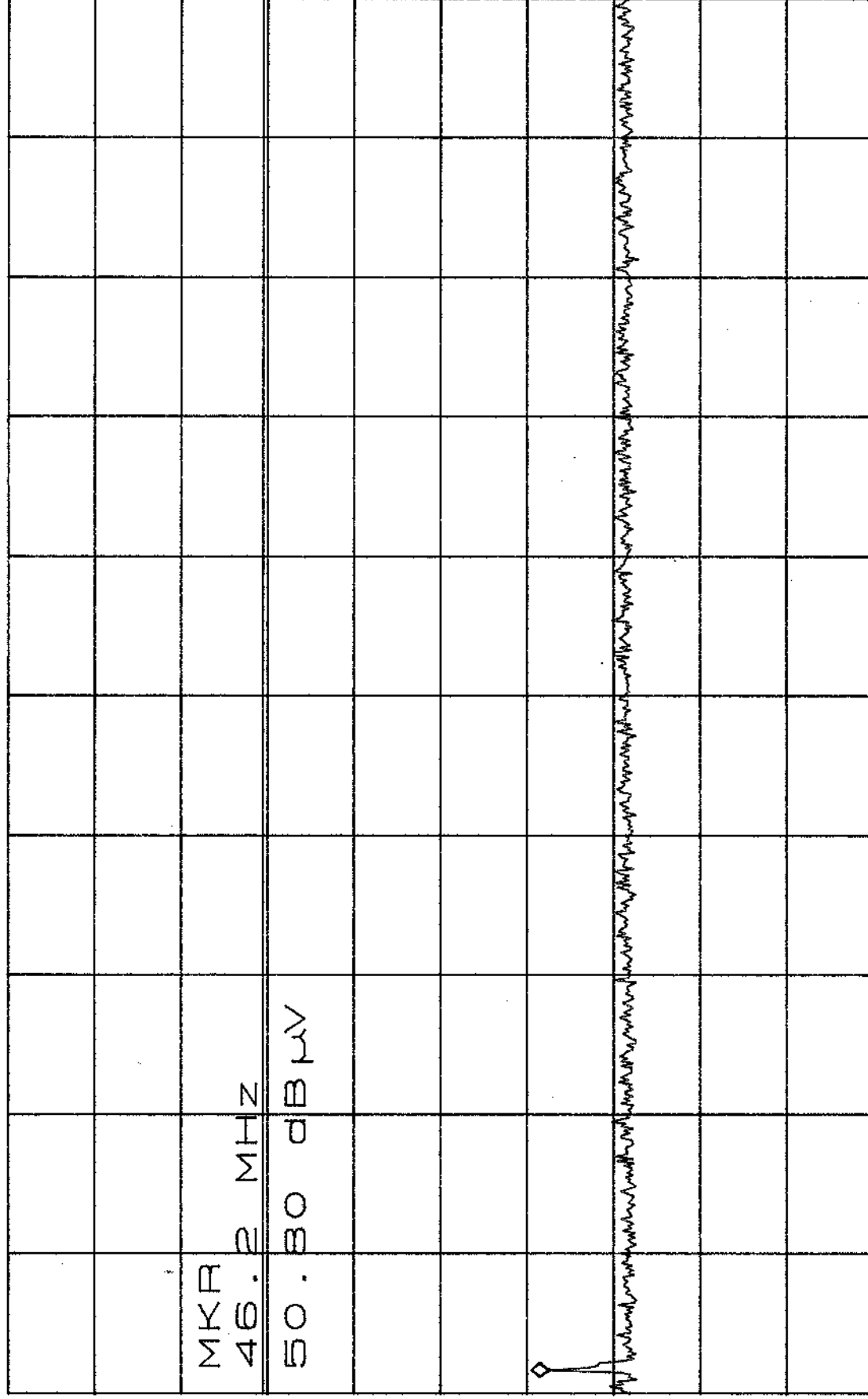
ATTEN 20dB

MKR 50.80dB μ V

RL 113.3dB μ V

10dB/

46.2MHz



START 30.0MHz

STOP 1.0000GHz

*RBW 100kHz

*VBW 100kHz

SWP 250ms

CENTER CHANNEL

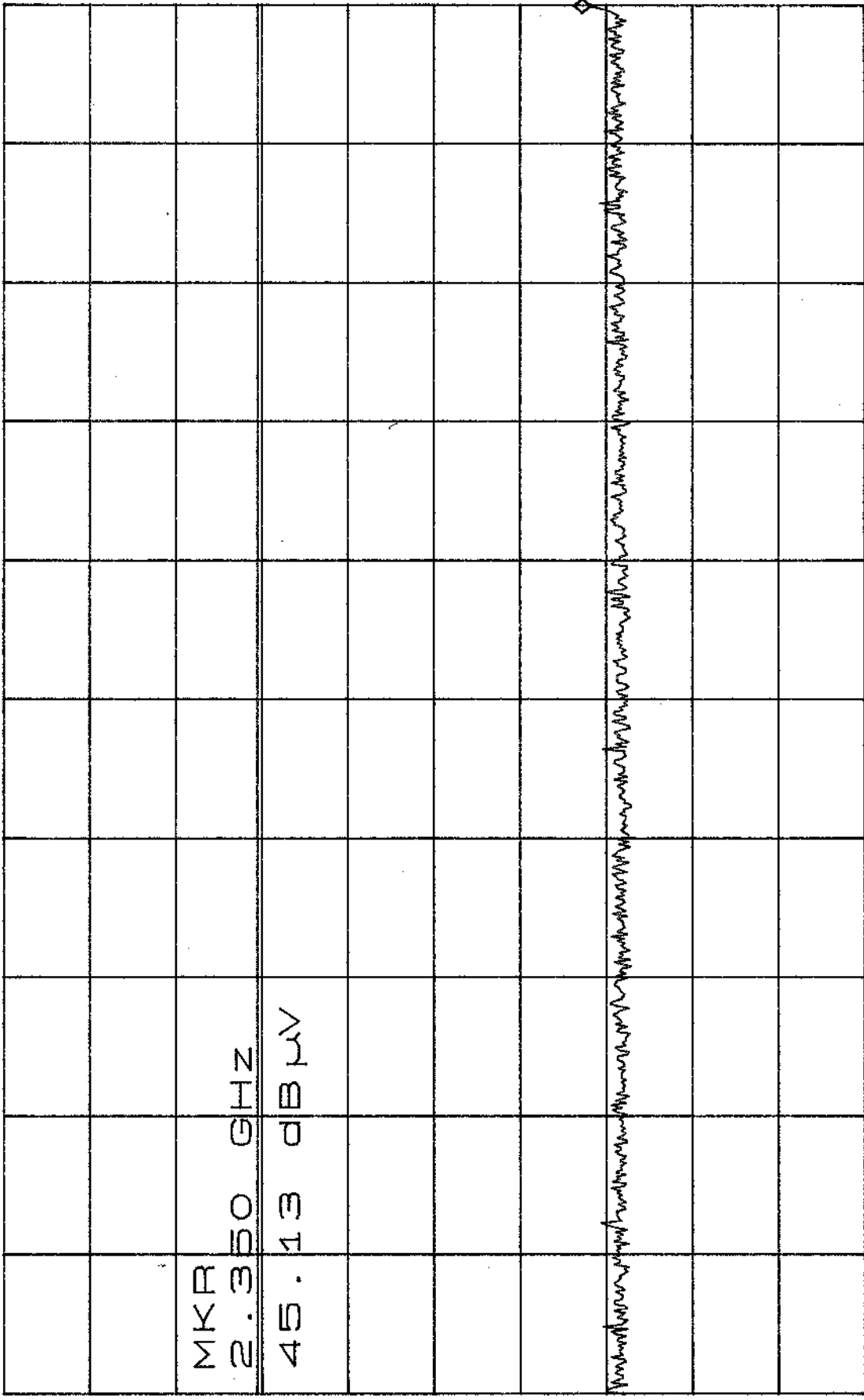
ATTEN 20dB

MKR 45.13dBμV

RL 113.3dBμV

10dB/

2.350GHZ



D

START 1.000GHZ

STOP 2.350GHZ

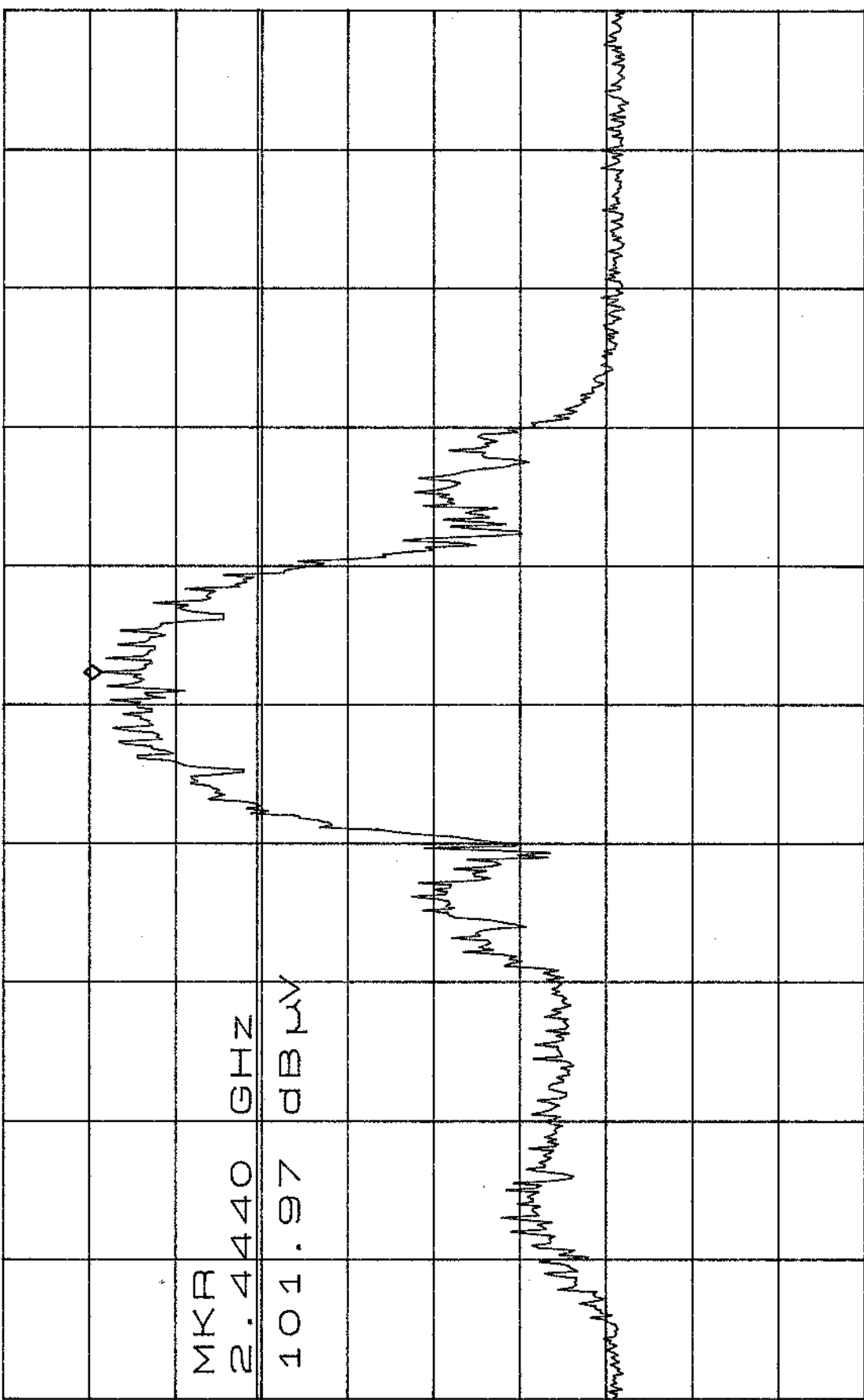
*RBW 100KHZ

*VBW 100KHZ

SWP 340ms

Center channel

ATTEN 20dB MKR 101.97dBμV
RL 113.3dBμV 2.4440GHz



D

CENTER 2.4393GHz SPAN 200.0MHz
*RBW 100kHz *VBW 100kHz SWP 50ms

CENTER CHANNEL

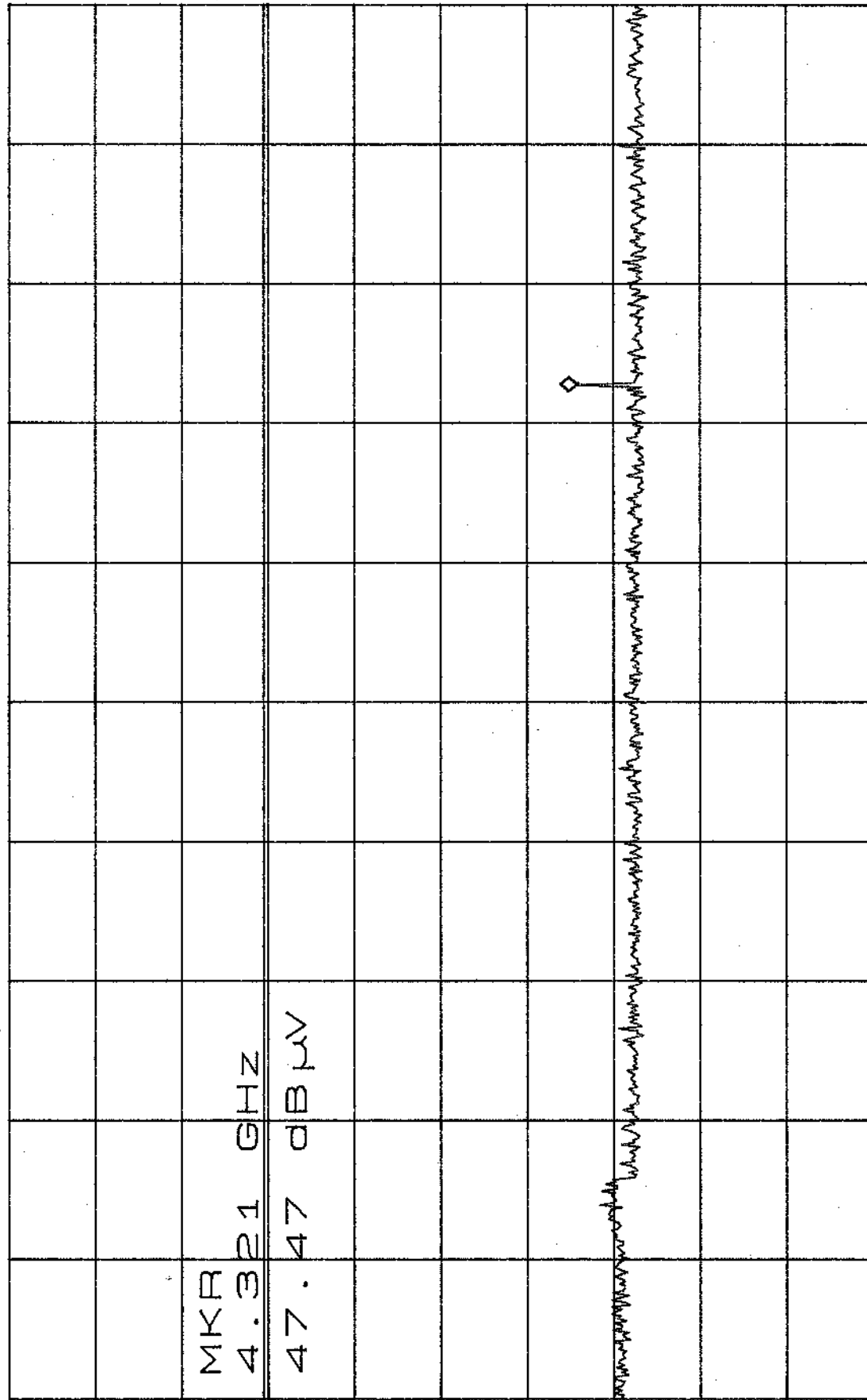
ATTEN 20dB

MKR 47.47dB μ V

RL 113.3dB μ V

10dB/

4.321GHz



D

START 2.500GHz

STOP 5.000GHz

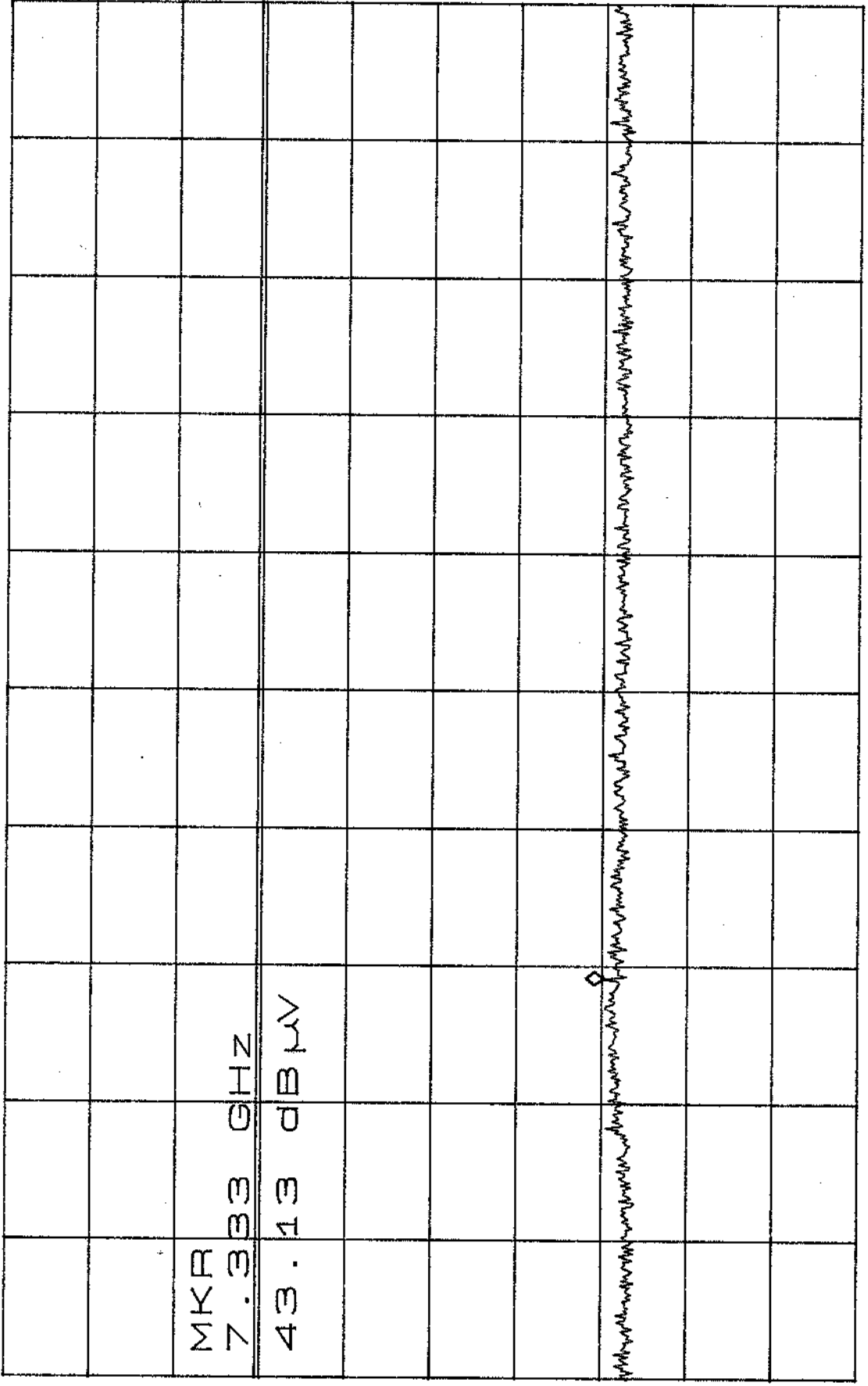
*RBW 100kHz

*VBW 100kHz

SWP 630ms

CENTER CHANNEL

ATTEN 20dB MKR 43.13dBμV
RL 113.3dBμV 10dB/ 7.333GHz



START 5.000GHz STOP 13.000GHz
*RBW 100kHz *VBW 100kHz SWP 2.0sec

CENTER CHANNEL

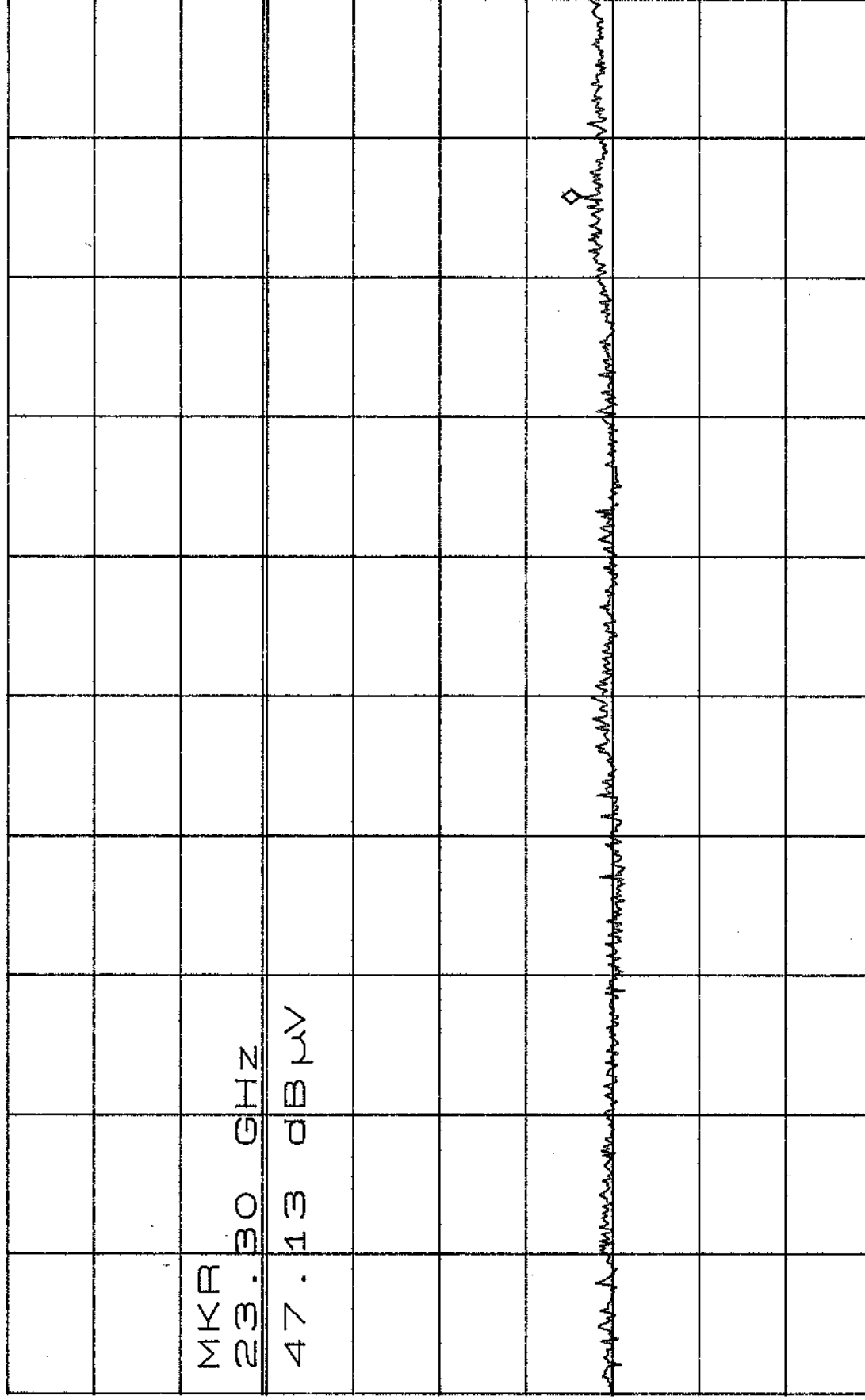
ATTEN 20dB

MKR 47.13dBμV

RL 113.3dBμV

10dB/

23.30GHZ



START 13.00GHZ

STOP 25.00GHZ

*RBW 100KHZ

*VBW 100KHZ

SWP 3.0sec

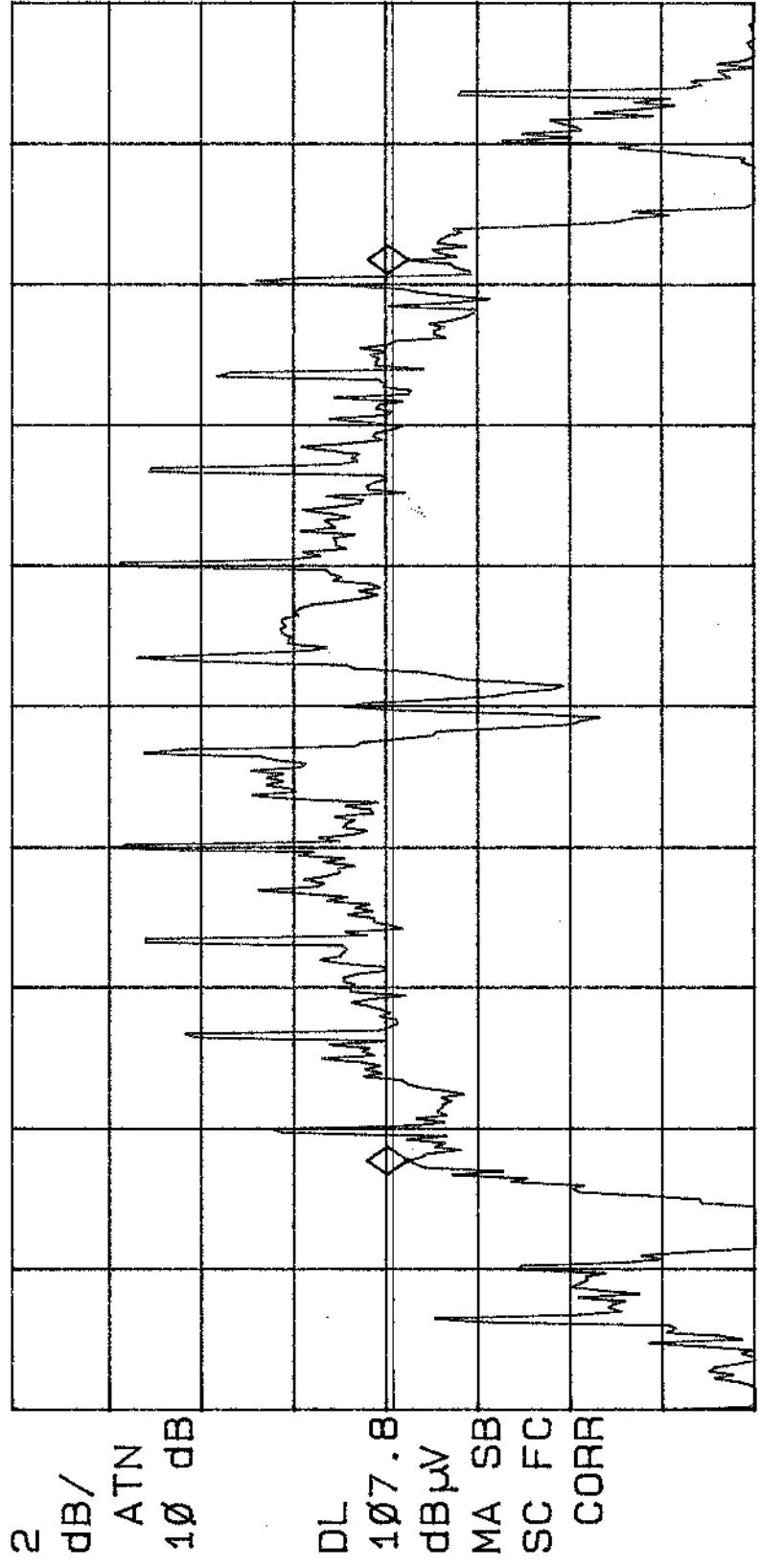
Cdb Bandwidth LOW CHANNEL

18:06:32 JAN 15, 1999

MARKER Δ
19.20 MHz
-.02 dB

ACTV DET: PEAK
MEAS DET: PEAK QP AVG
MKR 19.20 MHz
-.02 dB

REF OFFST 10.0 dB
LOG REF 116.0 dB μ V



CENTER 2.42500 GHz
#IF BW 100 KHz
#AVG BW 100 KHz
SPAN 30.00 MHz
SWP 20.0 msec

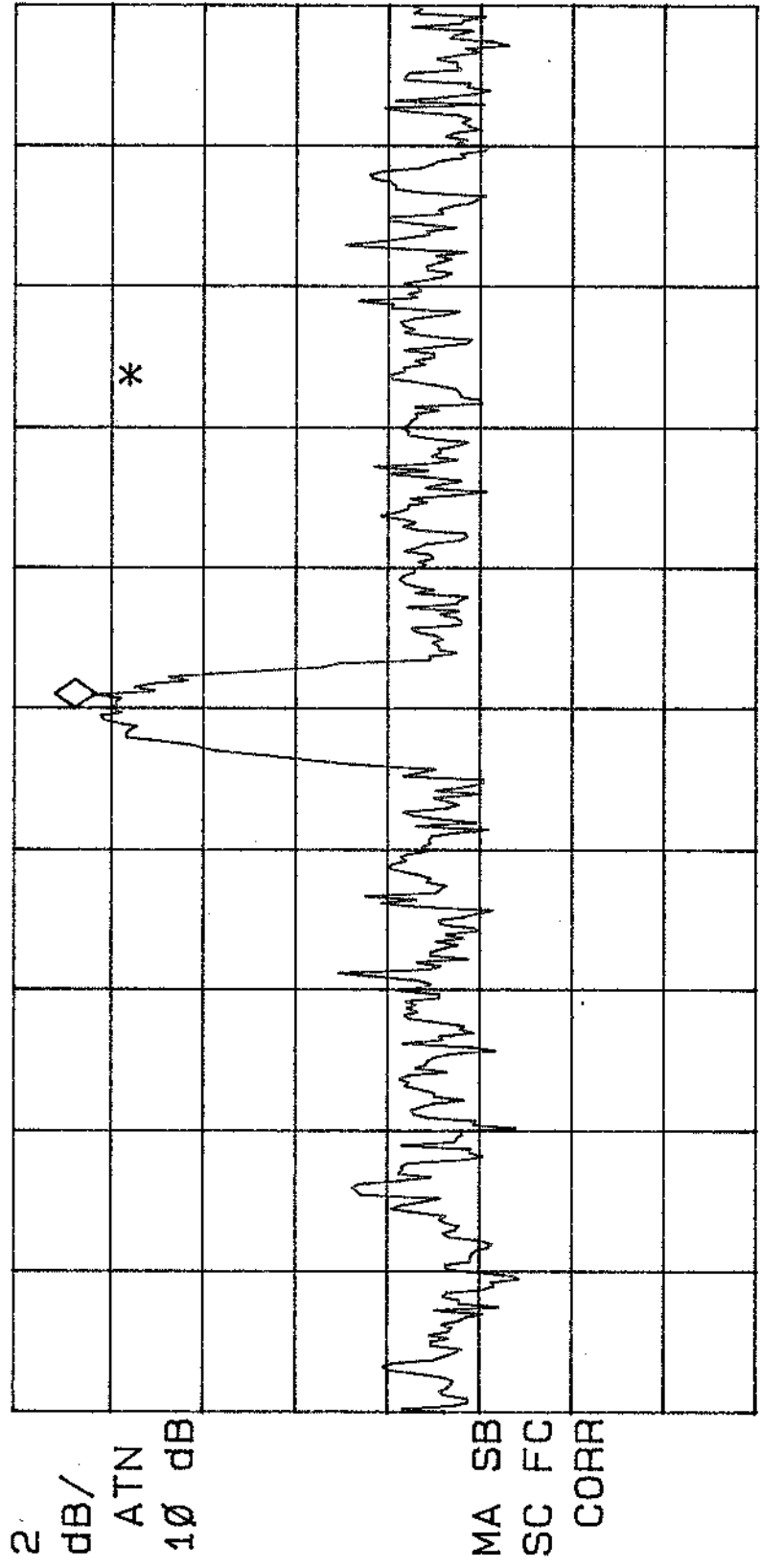
Power Density Low CHANNEL

18:21:22 JAN 15, 1999
HP

REF LEVEL
-4.4 dBm

ACTV DET: PEAK
MEAS DET: PEAK QP AVG
MKR 2.4220003 GHz
-6.16 dBm

REF OFFST 10.0 dB
LOG REF -4.4 dBm



CENTER 2.4219973 GHz SPAN 300.0 KHz
#IF BW 3.0 KHz #AVG BW 3 KHz #SWP 100 sec

LOW CHANNEL

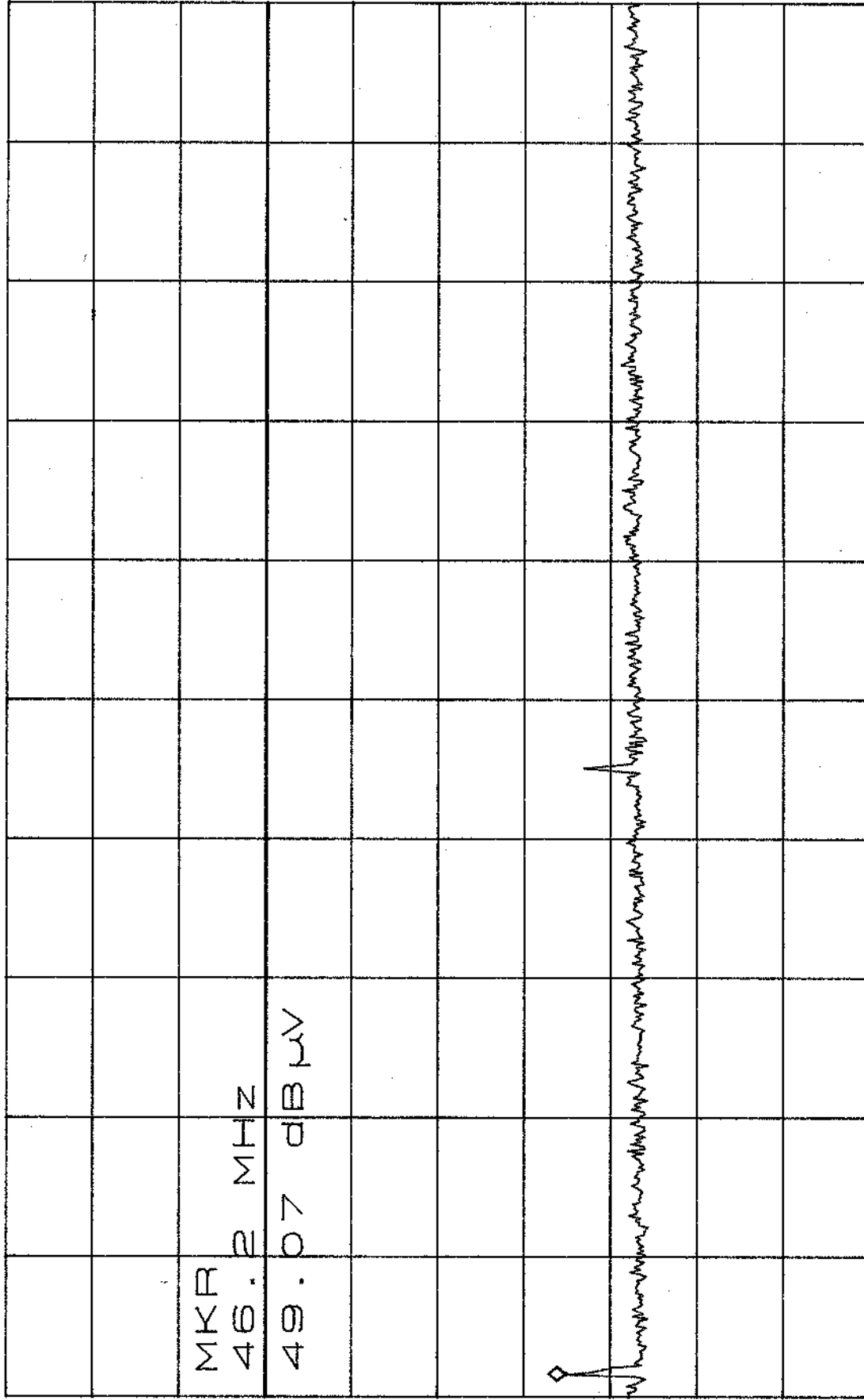
ATTEN 20dB

MKR 49.07dBμV

RL 113.9dBμV

10dB/

46.2MHz



START 30.0MHz

STOP 1.0000GHz

*RBW 100kHz

*VBW 100kHz

SWP 250ms

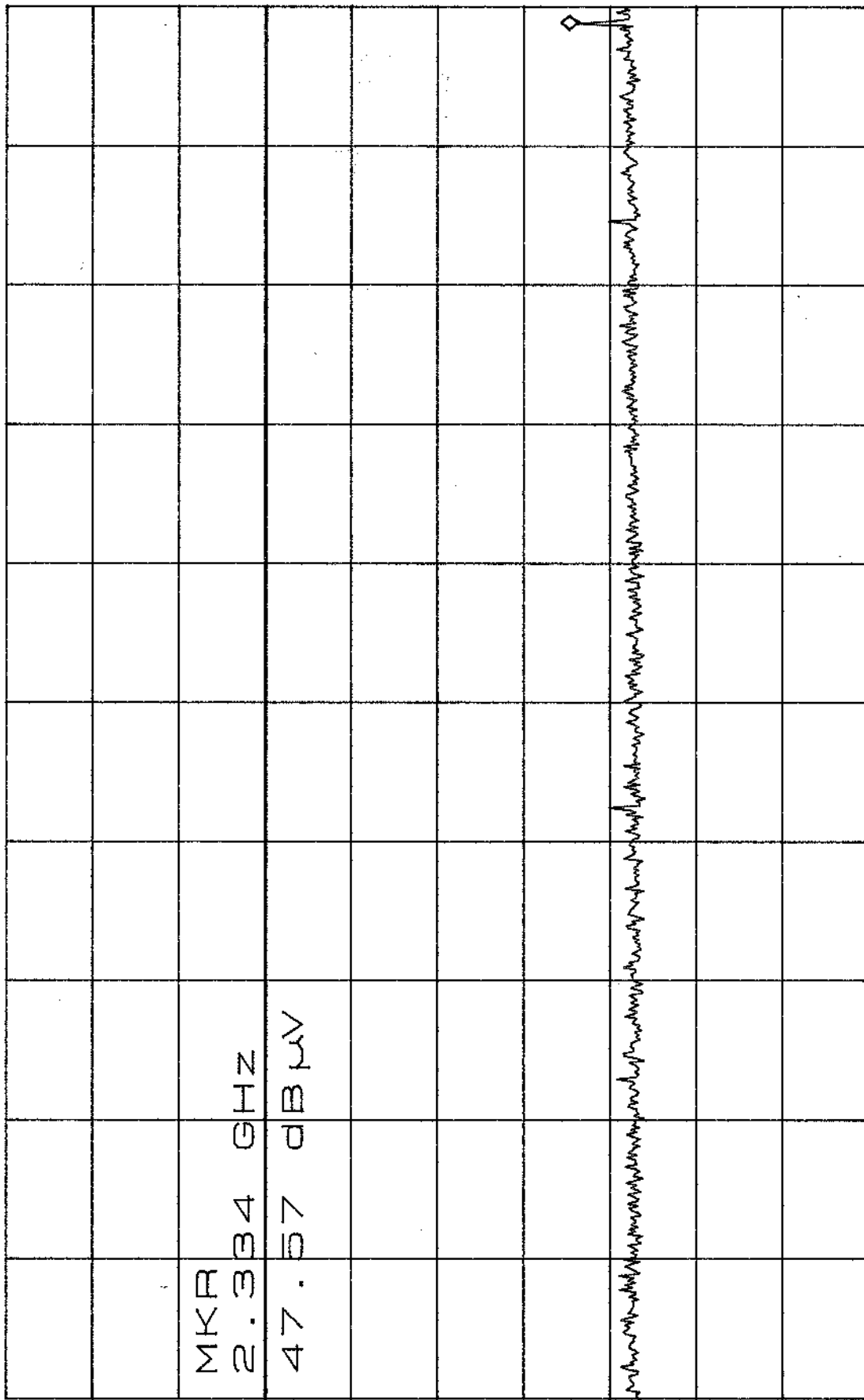
LOW CHANNEL

ATTEN 20dB

MKR 47.57dB μ V

RL 113.9dB μ V 10dB/

2.334GHz



START 1.000GHz

STOP 2.350GHz

*RBW 100kHz

*VBW 100kHz

SWP 340ms

LOW CHANNEL

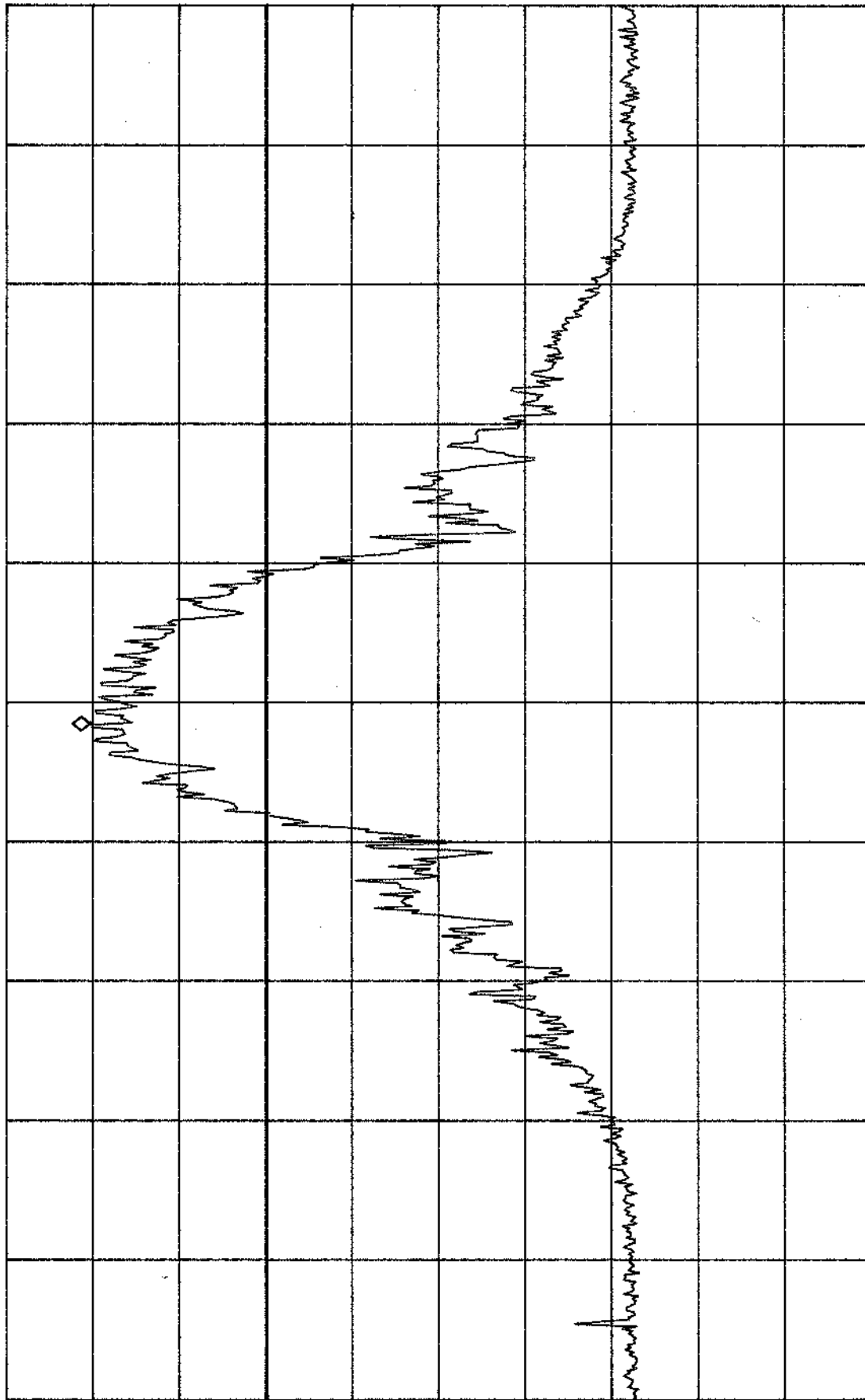
ATTEN 20dB

MKR 104.23dBμV

RL 113.9dBμV

10dB/

2.4210GHz



D

CENTER 2.4240GHz

SPAN 200.0MHz

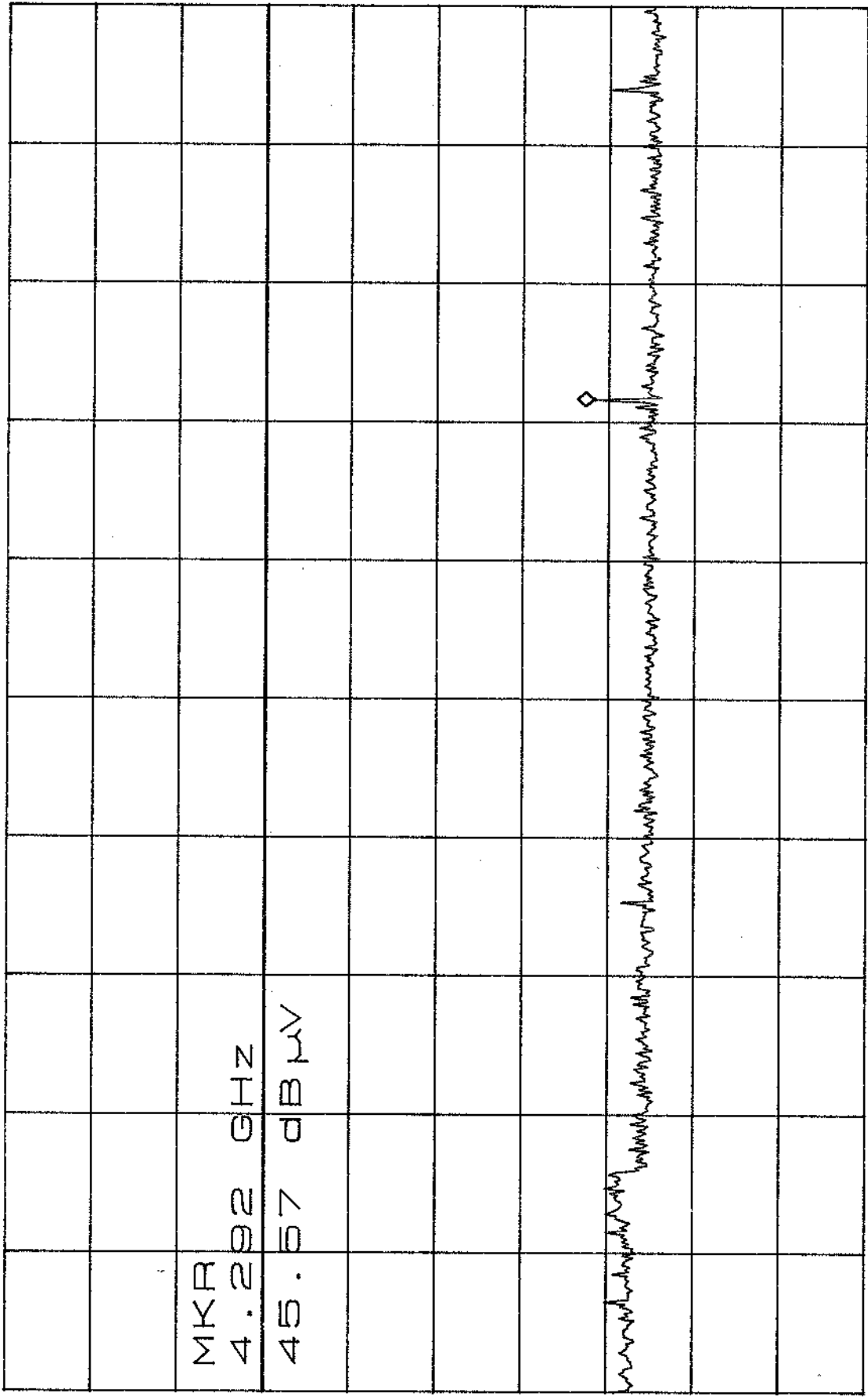
*RBW 100kHz

*VBW 100kHz

SWP 50ms

LOW CHANNEL

ATTEN 20dB MKR 45.57dBμV
RL 113.9dBμV 10dB/ 4.292GHz

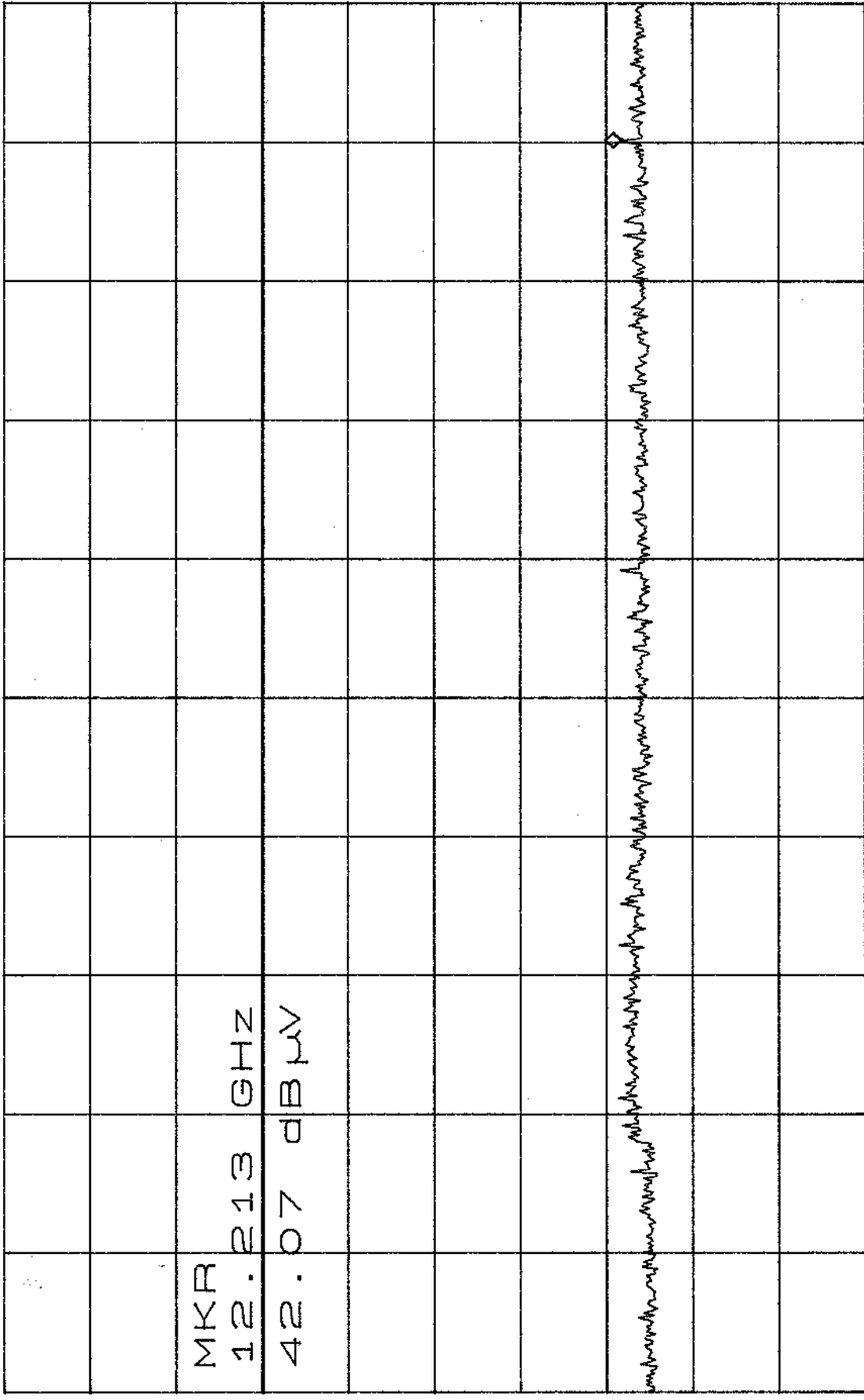


D

START 2.500GHz STOP 5.000GHz
*RBW 100kHz *VBW 100kHz SWP 630ms

LOW CHANNEL

ATTEN 20dB MKR 42.07dBμV
RL 113.9dBμV 10dB/ 12.213GHz



START 5.000GHz STOP 13.000GHz
*RBW 100kHz *VBW 100kHz SWP 2.0sec

LOW CHANNEL

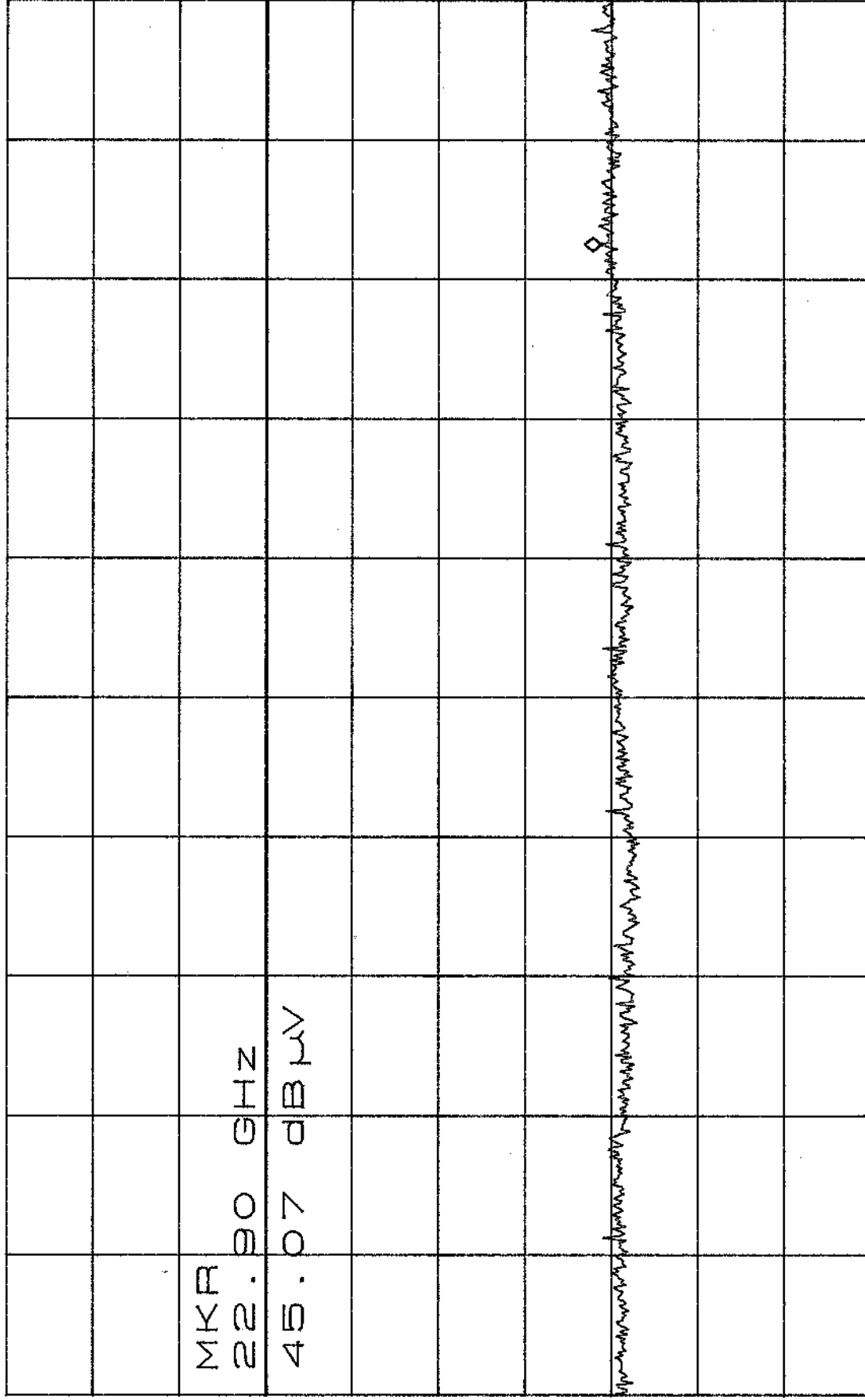
ATTEN 20dB

MKR 45.07dB μ V

RL 113.9dB μ V

10dB/

22.90GHZ



D

START 13.00GHZ

STOP 25.00GHZ

*RBW 100KHZ

*VBW 100KHZ

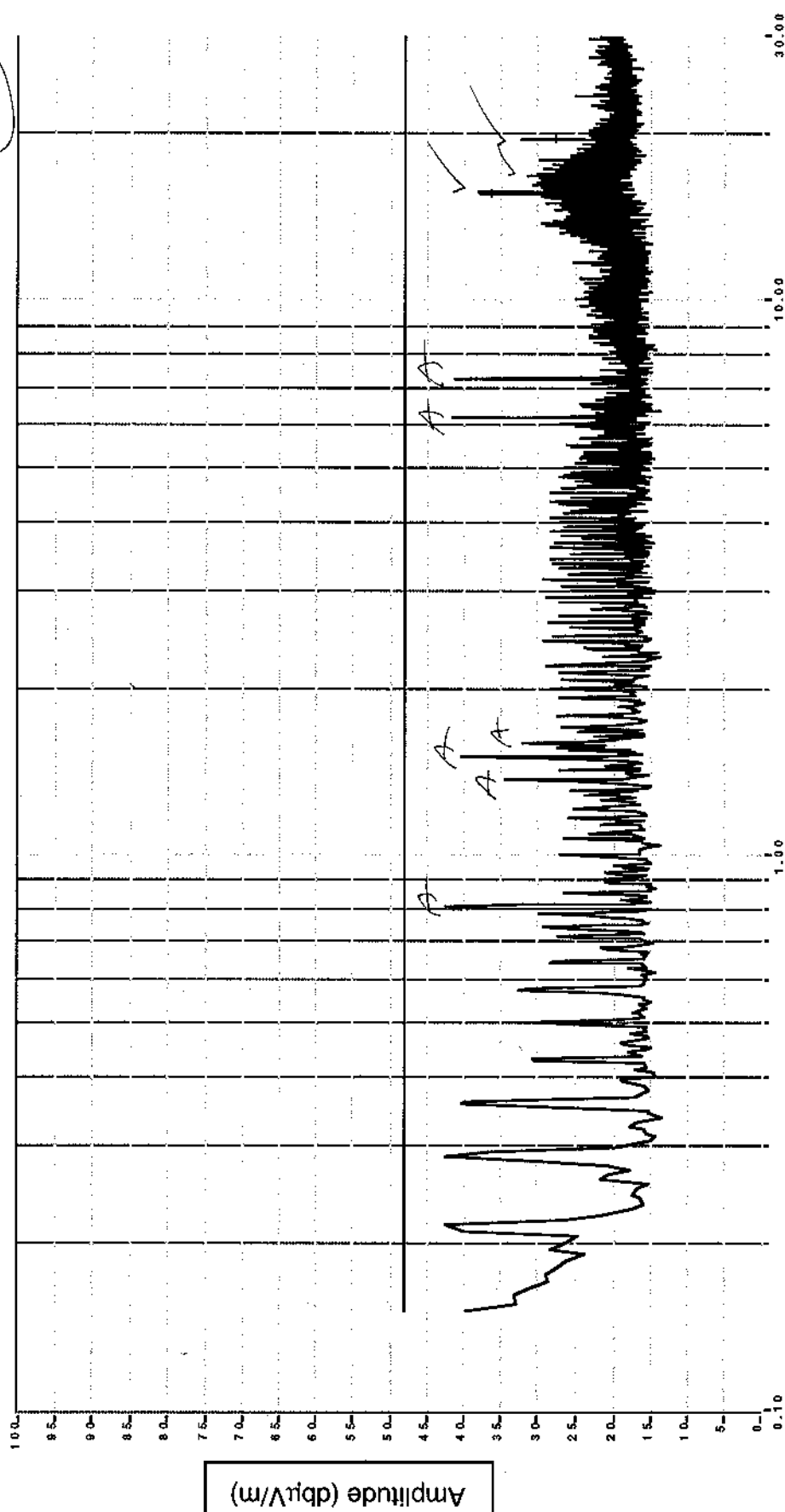
SWP 3.0sec



SVOATS #1: ShareWave 2.4GHz Radio Run

Spec:
FCCB

Meas Lead
Line 1



Frequency (MHz)

120V, 60HZ.

$\sqrt{EUT}$ A = AMBIENT

Scan
Peak
Quasi-peak
Average
QuasiPeak
Limit 2

1/15/1999

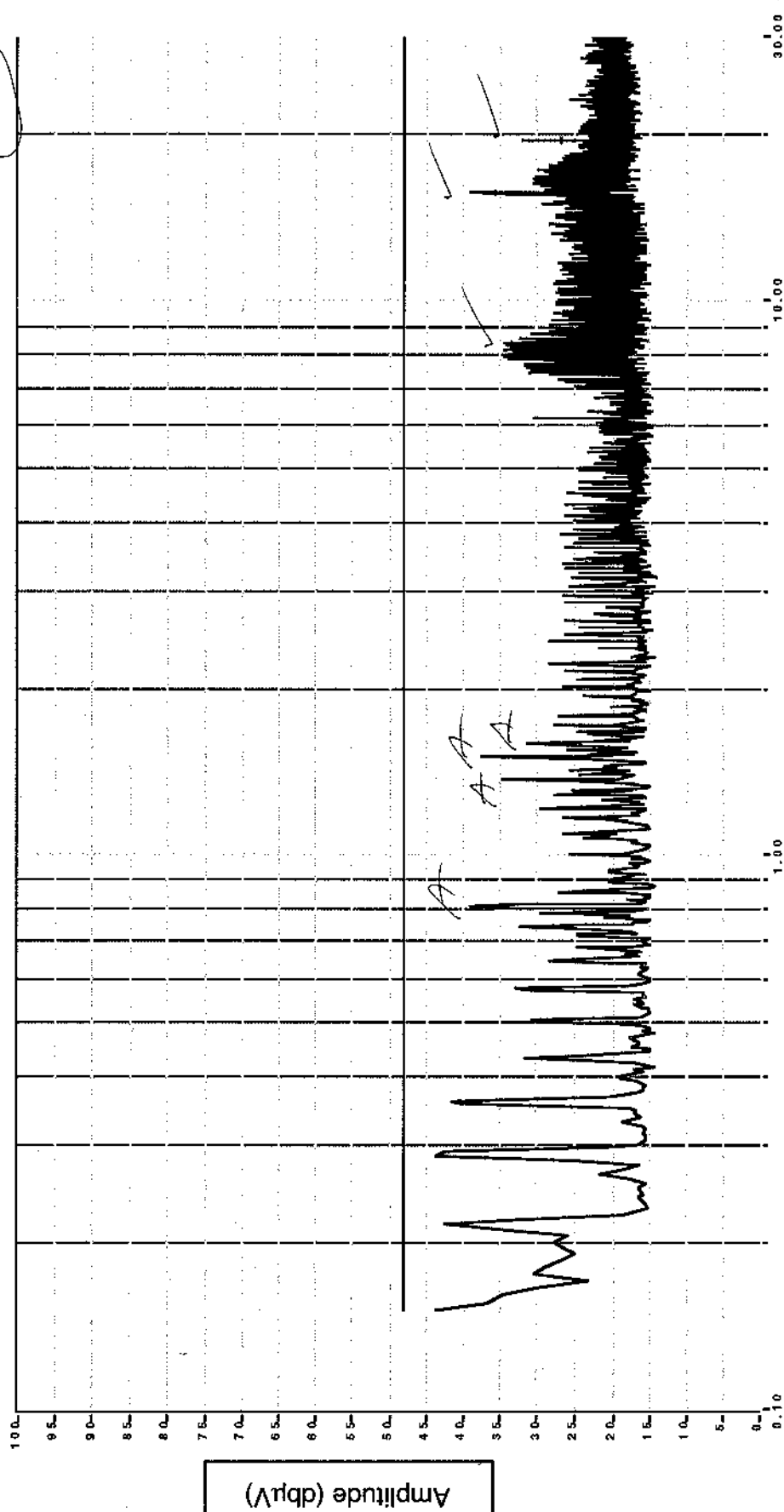
Rudy Suy



SVOATS #1: ShareWave 2.4GHz Radio Run

Spec:
FCC B

Malus Lead
Neutral



Scan
Peak
Quasi-peak
Average
QuasiPeak
Limit 2
1/15/1999
Rudy Suy

✓ EUT A = AMBIENT

Test Equipment List - SVOATS#1

January 4, 1999

<u>Manufacturer/Description</u>	<u>Model</u>	<u>Asset #</u>	<u>Interval</u>	<u>Last Cal</u>	<u>Cal Due</u>
☐ Elliott Laboratories FCC / CISPR LISN	LISN-3, OATS	304	12	6/24/98	6/24/99
☐ EMCO Biconical Antenna, 30-300 MHz	3110B	363	12	4/8/98	4/8/99
☐ EMCO D. Ridge Horn Antenna, 1-18GHz	3115	487	12	6/18/98	6/18/99
☒ EMCO D. Ridge Horn Antenna, 1-18GHz	3115	868	12	9/22/98	9/22/99
☐ EMCO Log Periodic Antenna, 0.3-1 GHz	3146A	364	12	4/8/98	4/8/99
☐ Hewlett Packard EMC Receiver /Analyzer	8595EM	780	12	1/4/99	1/4/2000
☐ Hewlett Packard EMC Receiver /Analyzer	8595EM	787	12	11/23/98	11/23/99
☐ Hewlett Packard Microwave Preamplifier, 1-26.5GHz	8449B	263, (F303)	12	6/8/98	6/8/99
☐ Hewlett Packard Microwave Preamplifier, 1-26.5GHz	8449B	785	12	11/25/98	11/25/99
☒ Hewlett Packard Microwave Preamplifier, 1-26.5GHz	8449B	870	12	11/12/98	11/12/99
☒ Hewlett Packard Power Meter	432A	259, (F304)	12	3/10/98	3/10/99
☒ Hewlett Packard Spectrum Analyzer	8563E	284, (F194)	12	1/14/98	1/14/99
☐ Hewlett Packard Spectrum Analyzer, 9 KHz-6.5 GHz	8595E-041-103-	Metric, 885	12	5/11/98	5/11/99
☐ Hewlett Packard Thermistor Mount	478A	652	12	3/10/98	3/10/99
☐ Narda West High Pass Filter	HPF 180	821	12	8/10/98	8/10/99
☐ Narda-West EMI Filter 2.4 GHz, High Pass	60583 HPF-161	248	12	4/27/98	4/27/99
☒ Narda-West EMI Filter 5.6 GHz, High Pass	60583 HXF370	247	12	4/27/98	4/27/99
☐ Rohde & Schwarz 10 dB Pad / Pulse Limiter	ESH3Z2	372	12	6/22/98	6/22/99
☒ Rohde & Schwarz Test Receiver, 0.009-30 MHz	ESH3	215, (F197)	12	1/16/98	1/16/99
☐ Rohde & Schwarz Test Receiver, 20-1300MHz	ESVP	273	12	8/6/98	8/6/99

File Number:

729909

Date:

Engr:

1/15/99

#

1/14/99

[Signature]