

TEST RESULT SUMMARY

FCC PART 24 SUBPART E

Class II Permissive Change

MANUFACTURER'S NAME	ADC, Inc.
NAME OF EQUIPMENT	Digivance Long Range Coverage Solution 1900 MHz System (A,D / D,B,E / B,E,F/ E,F,C)
MODEL NUMBER	DGVL-431110SYS DGVL-441110SYS DGVL-451110SYS DGVL-461110SYS
MANUFACTURER'S ADDRESS	PO Box 1101 Minneapolis MN 55440
TEST REPORT NUMBER	NC303847
TEST DATE	18 August 2003

According to testing performed at TÜV Product Service Inc, the above-mentioned unit is in compliance with the electromagnetic compatibility requirements defined in FCC Part 24 Subpart E.

It is the manufacturer's responsibility to assure that additional production units of this model are manufactured with identical electrical and mechanical characteristics. Any modifications necessary for compliance made during testing on the above mentioned date(s) must be implemented in all production units for compliance to be maintained.

TÜV Product Service Inc, as an independent testing laboratory, declares that the equipment tested as specified above conforms to the requirements of FCC Part 24 Subpart E.

Date: 22 September 2003

Location: Taylors Falls MN
USA



K. T. H. Rose
Test Engineer



T. K. Swanson
Test Technician

Not Transferable

EMC EMISSION - TEST REPORT

Test Report File No. : **NC303847** Date of issue: 22 September 2003

Model No. : **DGVL-431110SYS**
DGVL-441110SYS
DGVL-451110SYS
DGVL-461110SYS

Product Type : Digivance Long Range Coverage Solution 1900 MHz System
(A,D / D,B,E / B,E,F / E,F,C)

Applicant : ADC, Inc.

Manufacturer : ADC, Inc.

License holder : ADC, Inc.

Address : PO Box 1101

: Minneapolis MN 55440

Test Result : ☒ **Positive** ☐ **Negative**

Test Project Number :
Reference(s) **NC303847**

Total pages including
Appendices **90**

TÜV Product Service Inc is a subcontractor to TÜV Product Service, GmbH according to the principles outlined in ISO/IEC Guide 25 and EN 45001. TÜV Product Service Inc reports apply only to the specific samples tested under stated test conditions. It is the manufacturer's responsibility to assure that additional production units of this model are manufactured with identical electrical and mechanical components. TÜV Product Service Inc shall have no liability for any deductions, inferences or generalizations drawn by the client or others from TÜV Product Service Inc issued reports. This report is the confidential property of the client. As a mutual protection to our clients, the public and ourselves, extracts from the test report shall not be reproduced except in full without our written approval. This report shall not be used by the client to claim product endorsement by NVLAP or any agency of the US government.

TÜV Product Service Inc and its professional staff hold government and professional organization certifications and are members of AAMI, ACIL, AEA, ANSI, IEEE, NVLAP, and VCCI

D I R E C T O R Y - E M I S S I O N S

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Conducted emissions per 15.207	<u>N/A</u>
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Sign Explanations:

- ☐ - not applicable
- ☒ - applicable

EMISSIONS TEST REGULATIONS :

The emissions tests were performed according to following regulations:

- | | | |
|--|---|------------------------------------|
| ☐ - EN 50081-1 / 1991 | ☐ - Group 1 | ☐ - Group 2 |
| ☐ - EN 55011 / 1991 | ☐ - Class A | ☐ - Class B |
| ☐ - EN 55013 / 1990 | ☐ - Household appliances and similar | |
| ☐ - EN 55014 / 1987 | ☐ - Portable tools | |
| | ☐ - Semiconductor devices | |
| ☐ - EN 55014 / A2:1990 | ☐ - Household appliances and similar | |
| ☐ - EN 55014 / 1993 | ☐ - Portable tools | |
| | ☐ - Semiconductor devices | |
| ☐ - EN 55015 / 1987 | ☐ - Class A | ☐ - Class B |
| ☐ - EN 55015 / A1:1990 | | |
| ☐ - EN 55015 / 1993 | | |
| ☐ - EN 55022 / 1987 | | |
| ☒ - FCC Part 24 Subpart E – Class II Permissive Change | | |
| ☐ - BS | ☐ - Class A | ☐ - Class B |
| ☐ - VCCI | ☐ - Class A | ☐ - Class B |
| ☐ - FCC | ☐ - Class A | ☐ - Class B |
| ☐ - AS 3548 (1992) | ☐ - Class A | ☐ - Class B |
| ☐ - CISPR 11 (1990) | ☐ - Group 1 | ☐ - Group 2 |
| | ☐ - Class A | ☐ - Class B |
| ☐ - CISPR 22 (1993) | ☐ - Class A | ☐ - Class B |

Emissions Test Conditions: CONDUCTED EMISSIONS (Interference Voltage) per 15.207

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

☒ - Test not applicable

- ☐ - Wild River Lab Large Test Site (Open Area Test Site)
- ☐ - Wild River Lab Small Test Site (Open Area Test Site)
- ☐ - Oakwood Lab (Open Area Test Site)
- ☐ - Wild River Lab Screen Room
- ☐ - New Brighton Lab Shielded Room

24.232 Effective Radiated Power Limit

The *Effective Radiated Power Limit* measurements were tested at the following test location:

- ☐ - ADC facility
- ☒ - Test Not Applicable for Class II Permissive Change

24.235 Frequency Stability

The *Frequency Stability* measurements were tested at the following test location:

- ☐ - ADC facility
- ☒ - Test Not Applicable for Class II Permissive Change

24.238 Emission Limits

The Emission limitations for cellular measurements were performed at the following test location:

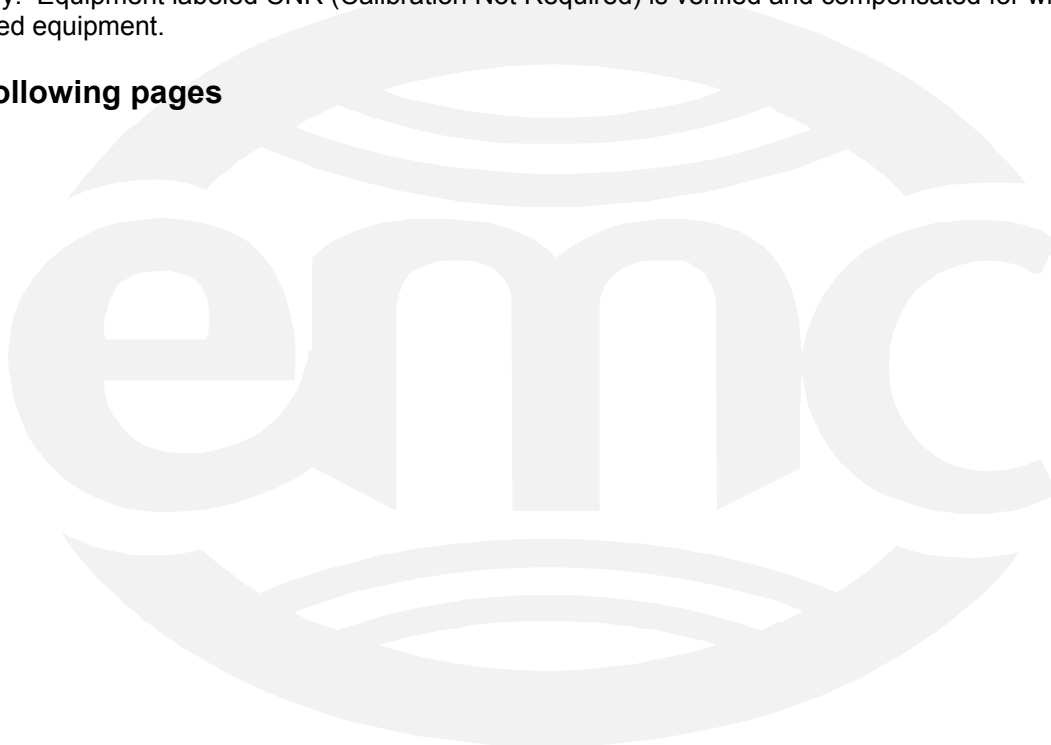
- - ADC facility

Test equipment used:

	Model Number	Manufacturer	Description	Serial Number	Cal Due
■ -	E4437B	HP	Signal Generator	39260515	Sept 04
■ -	ZAPD-21	Mini-Circuits	Combiner	N/A	CNR
■ -	50FH-030-300		Attenuator	N/A	CNR
■ -	HPD60-5	Xantrex	DC Power Supply	MC27841	CNR
■ -	8594E	HP	Spectrum Analyzer	MC27761	April 04

All measurement instrumentation is traceable to the National Institute of Standards and Technology (NIST) and is calibrated annually. Equipment labeled CNR (Calibration Not Required) is verified and compensated for with NIST traceable calibrated equipment.

See data on following pages



**Conducted Emission Limits Test for ADC Inc.
Digivance Long Range Coverage System
Model Numbers DGVL-431110SYS, DGVL-441110SYS,
DGVL-451110SYS, and DGVL-461110SYS.**

The out of band emissions were measured directly from the EUT antenna output with a spectrum analyzer from 30 MHz to the 10th harmonic of the highest carrier frequency. Test signals used: CW, FM (1 kHz @ 8 kHz deviation), TDMA, and CDMA. The different signals were input one at a time to the EUT. In all cases, the out of band emissions were less than -13dBm from the equation
$$(19\text{dBm} - [43 + 10\log(0.08\text{W})])$$

Band edge compliance is also demonstrated using a FM signal at the upper and lower limits of the band and a resolution bandwidth of 300 Hz.

Results:

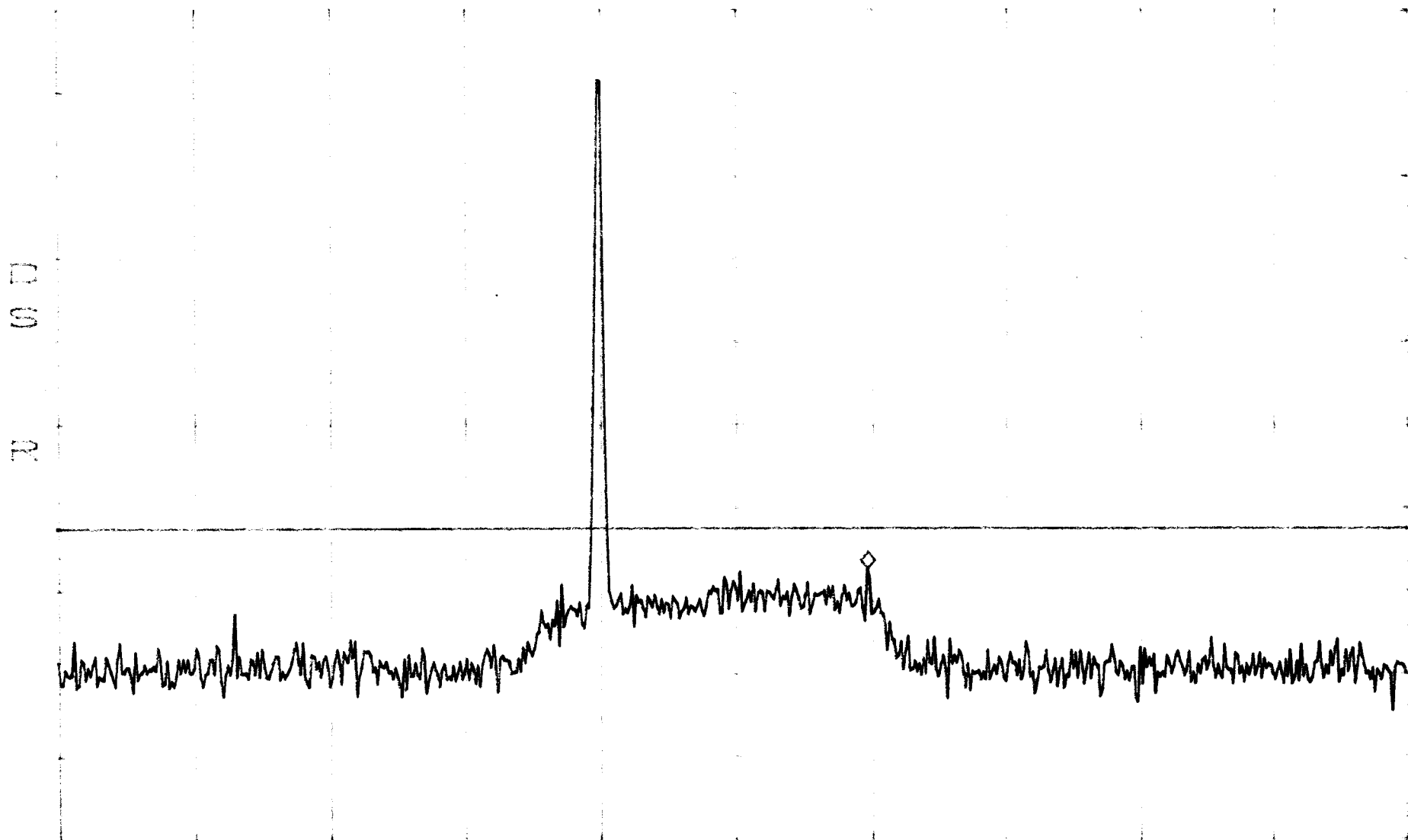
Pass (see plots)

CONDUCTED EMISSIONS BAND AD LOW

*ATTEN 30dB
RL 48.5dBm

10dB

MKR -17.83dBm
1.9497GHz



CENTER 1.9400GHz

SPAN 100.0MHz

*RBW 100kHz

VBW 100kHz

SVP 50ms

CONDUCTED EMISSIONS BAND AD LOW

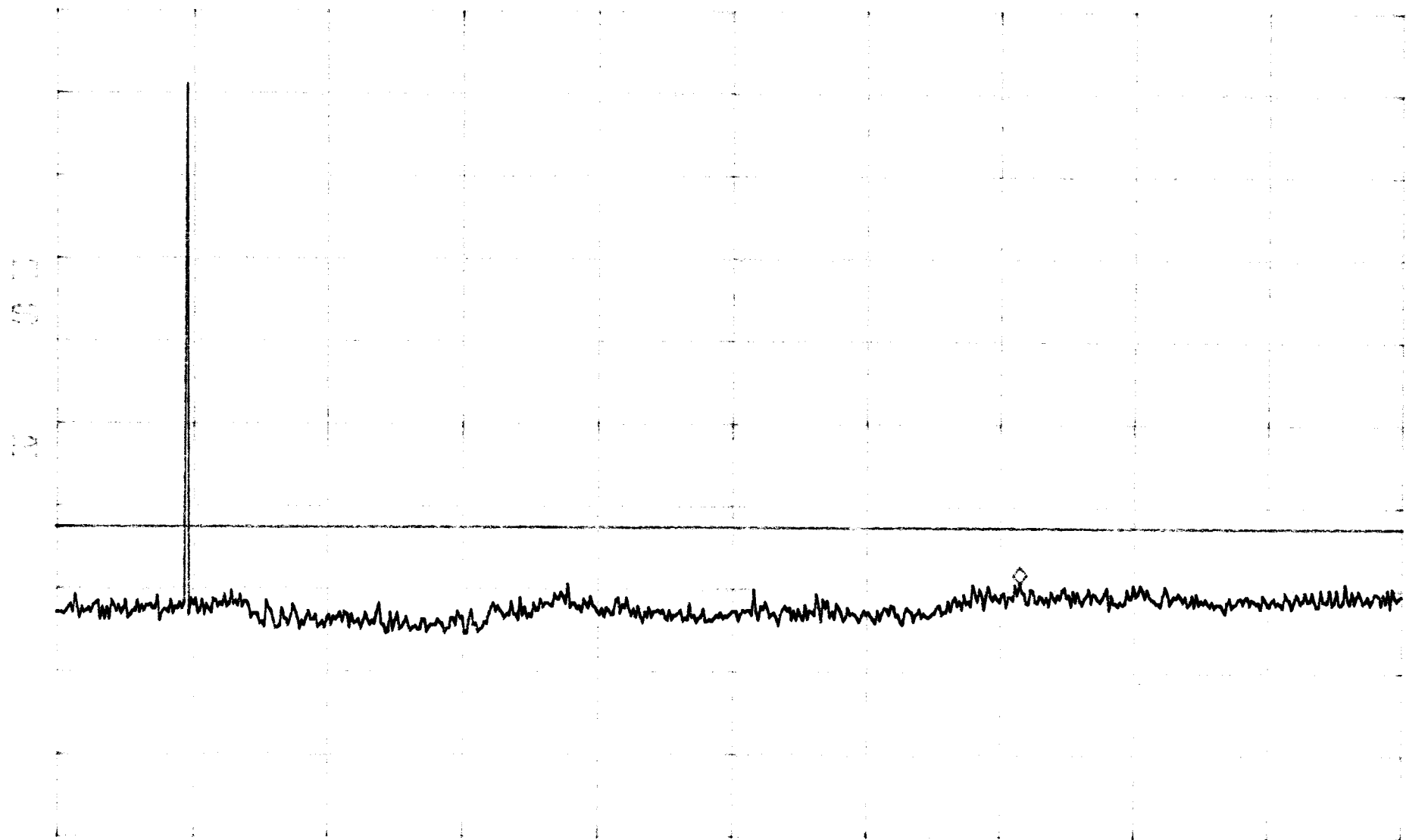
*ATTEN 30dB

MKR -19.57dBm

RL 49.5dBm

10dB/

14.81GHz



START 30MHz

STOP 20.00GHz

*RBW 300kHz

VBW 300kHz

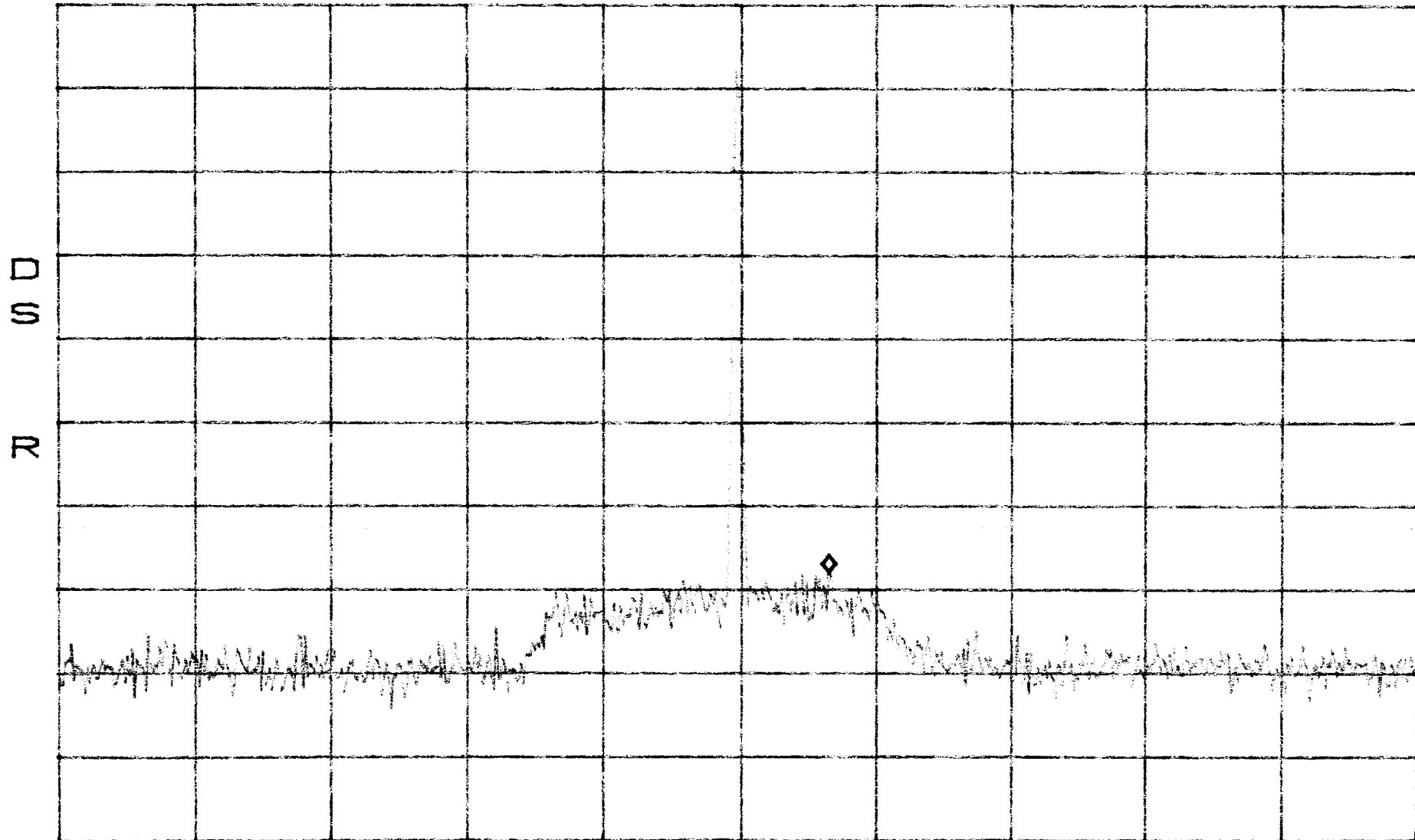
SWP 560ms

CONDUCTED EMISSIONS BAND AD MID

*ATTEN 30dB
RL 49.5dBm

10dB/

MKR -18.33dBm
1.9465GHz

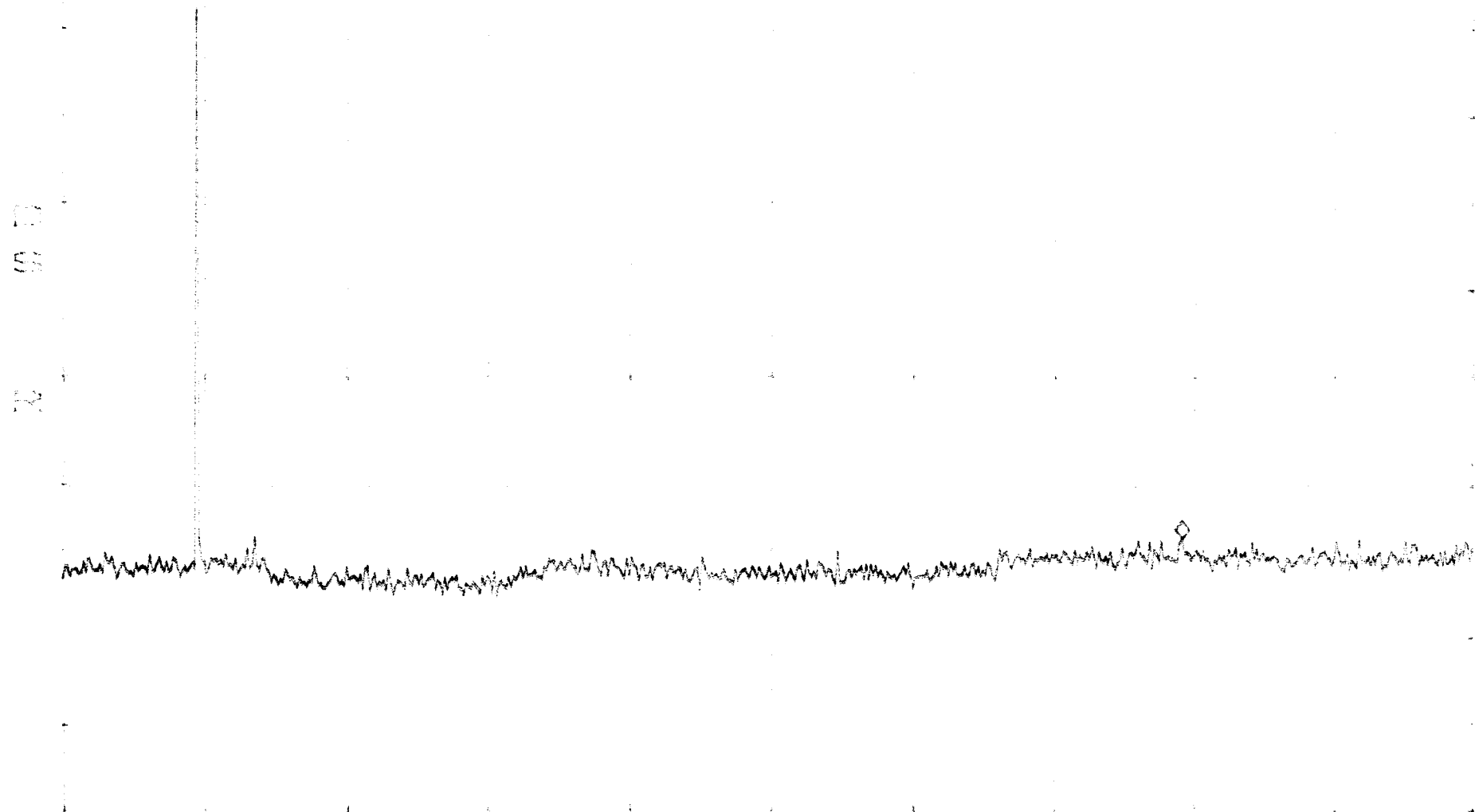


CENTER 1.9400GHz SPAN 100.0MHz
*RBW 100kHz VBW 100kHz SWP 50ms

CONDUCTED EMISSIONS BAND AD MID

*ATTEN 30dB
FREQ 49.13MHz

MODE --19.00MHz
15.84GHz



START 30MHz
*RESW 300kHz

STOP 70.00GHz

VIEW 300kHz

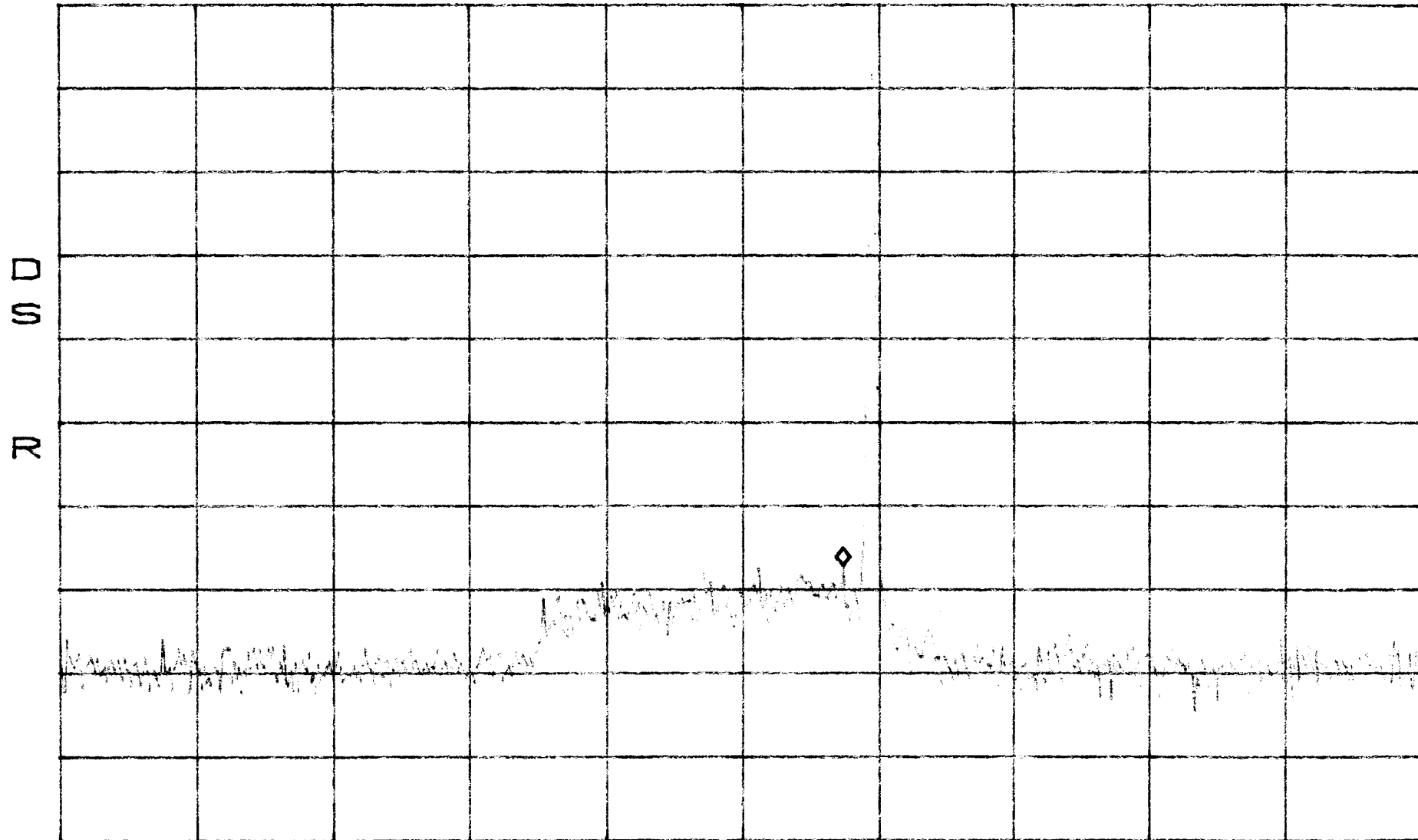
SWP 300MHz

CONDUCTED EMISSIONS BAND AD HIGH

*ATTEN 30dB
RL 49.5dBm

10dB/

MKR -17.50dBm
1.9473GHz



CENTER 1.9400GHz
*RBW 100kHz VBW 100kHz

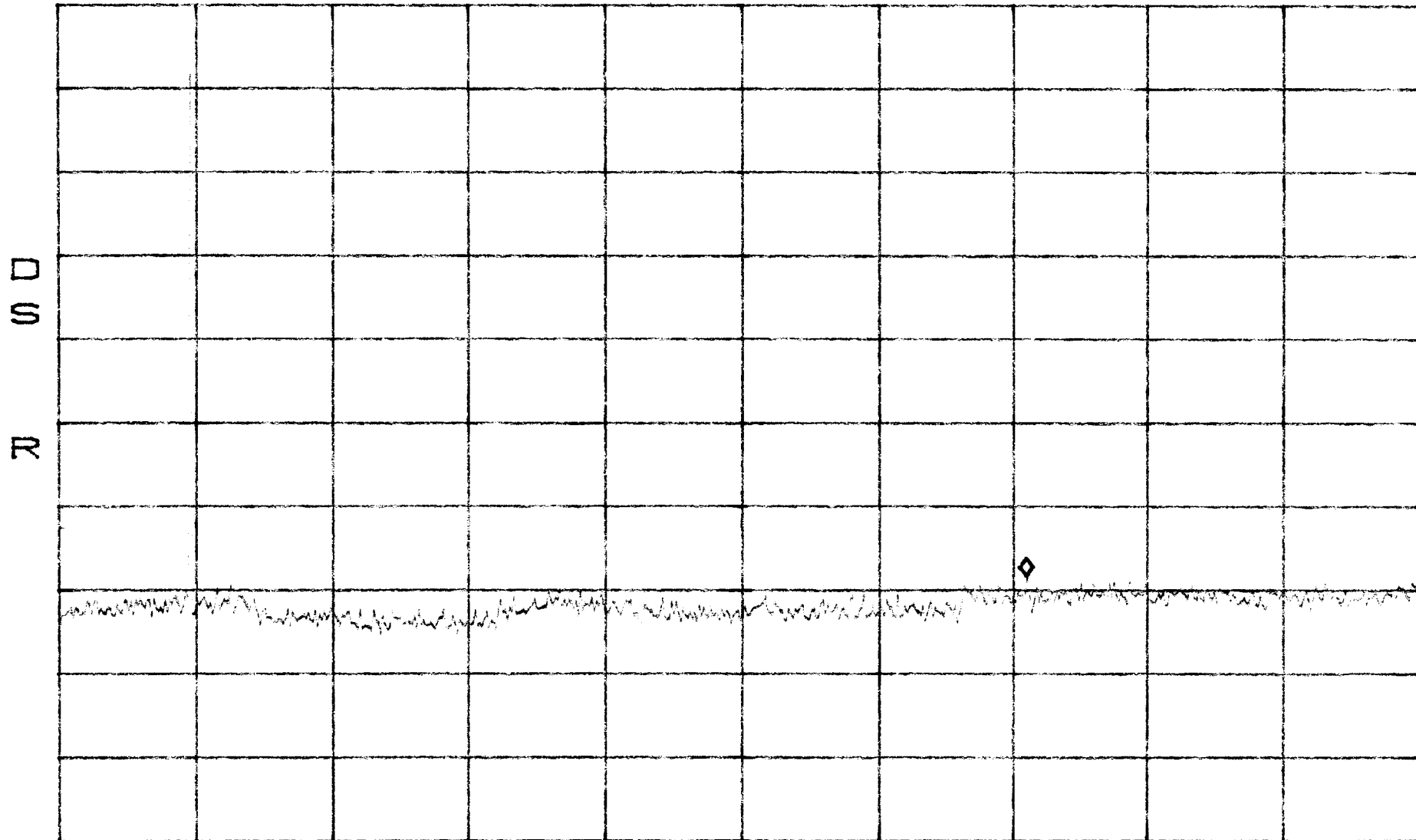
SPAN 100.0MHz
SWP 50ms

CONDUCTED EMISSIONS BAND AD HIGH

*ATTEN 30dB
RL 49.5dBm

10dB/

MKR -18.67dBm
14.21GHz



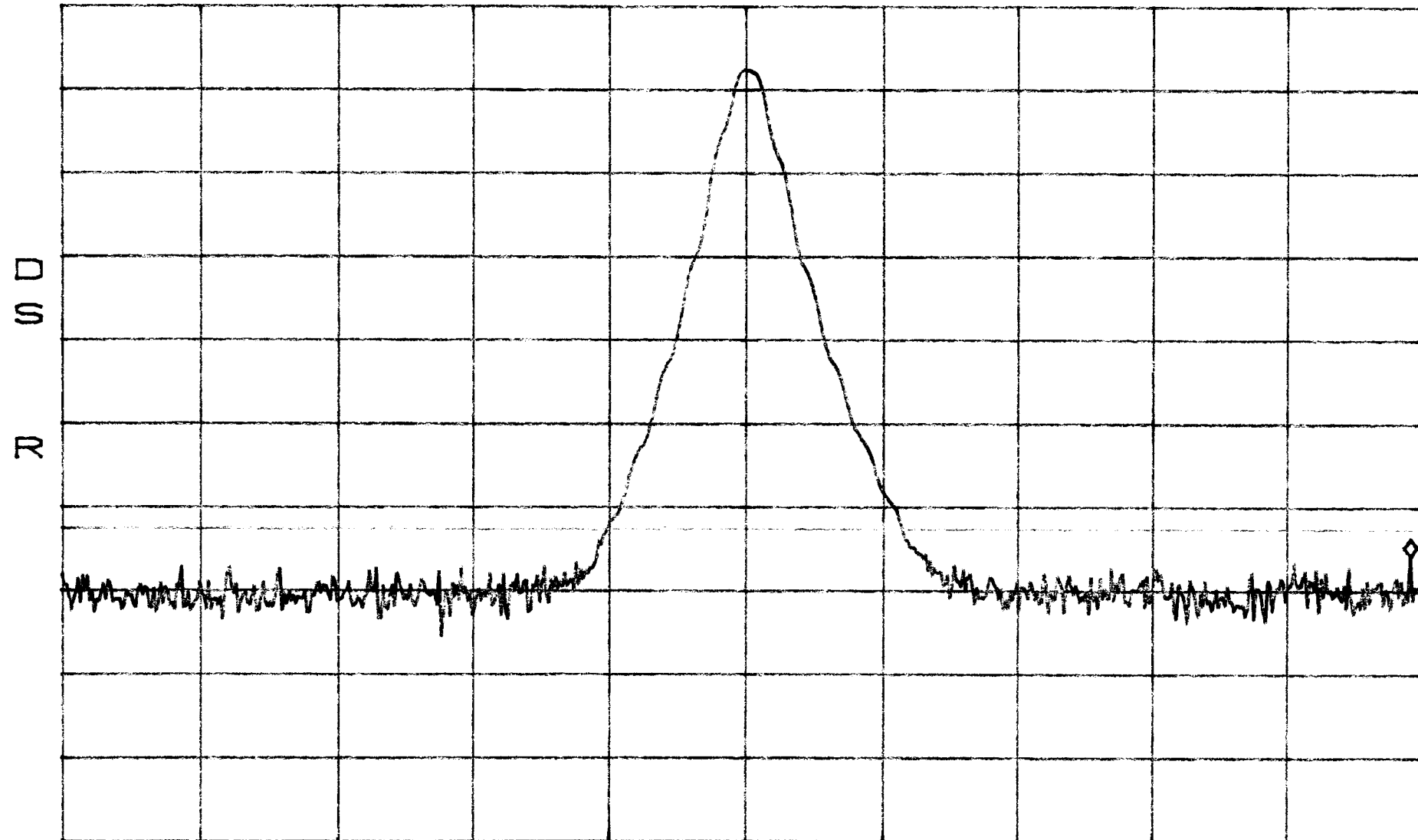
START 30MHz STOP 20.00GHz
*RBW 300kHz VBW 300kHz SWP 560ms

CONDUCTED EMISSIONS BAND AD FM

*ATTEN 30dB
RL 49.5dBm

MKR -16.17dBm
1.942458GHz

10dB/



CENTER 1.940000GHz

SPAN 5.000MHz

*RBW 100kHz

VBW 100kHz

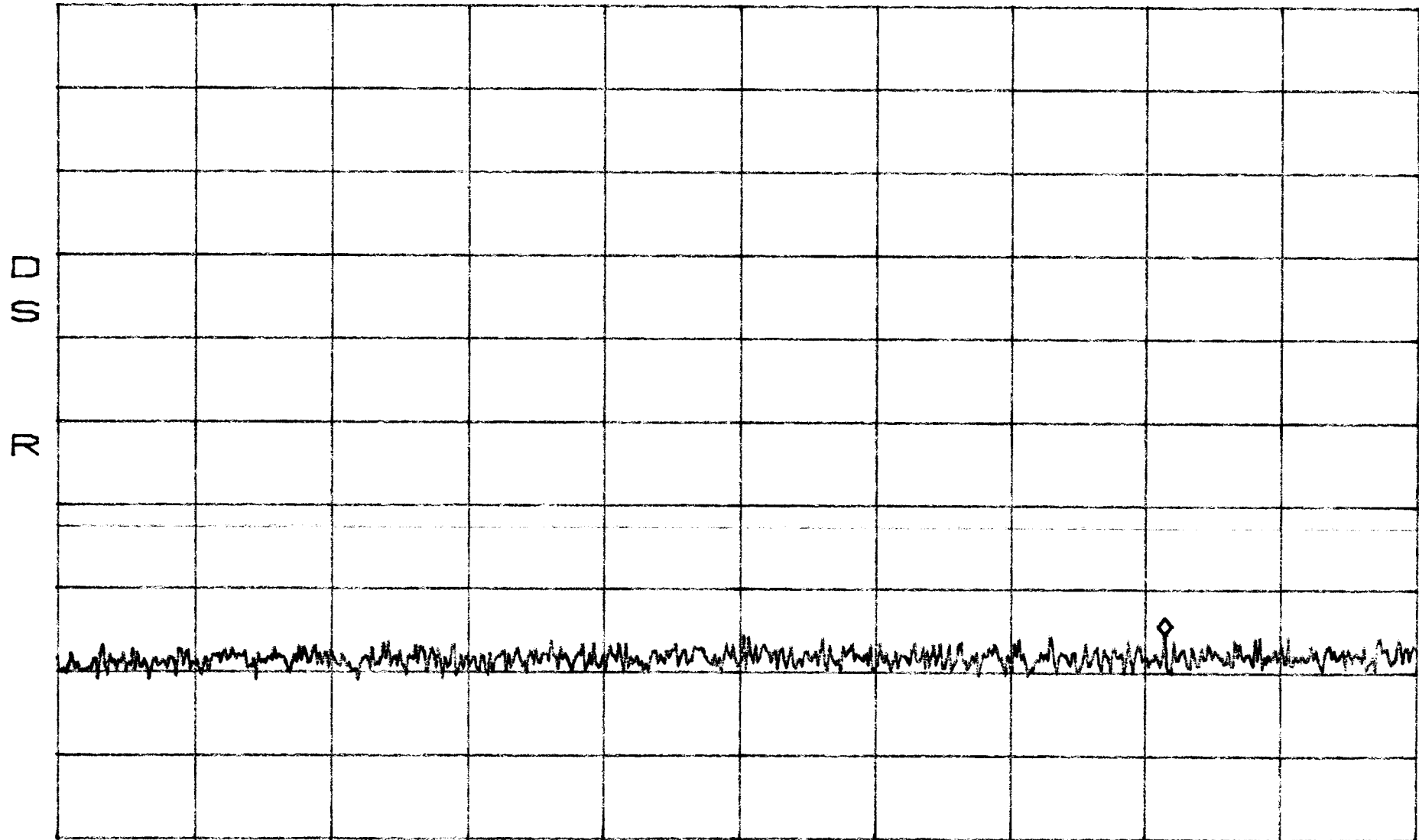
SWP 50ms

CONDUCTED EMISSIONS BAND AD FM

*ATTEN 30dB
RL 49.5dBm

10dB/

MKR -25.83dBm
820.6MHz



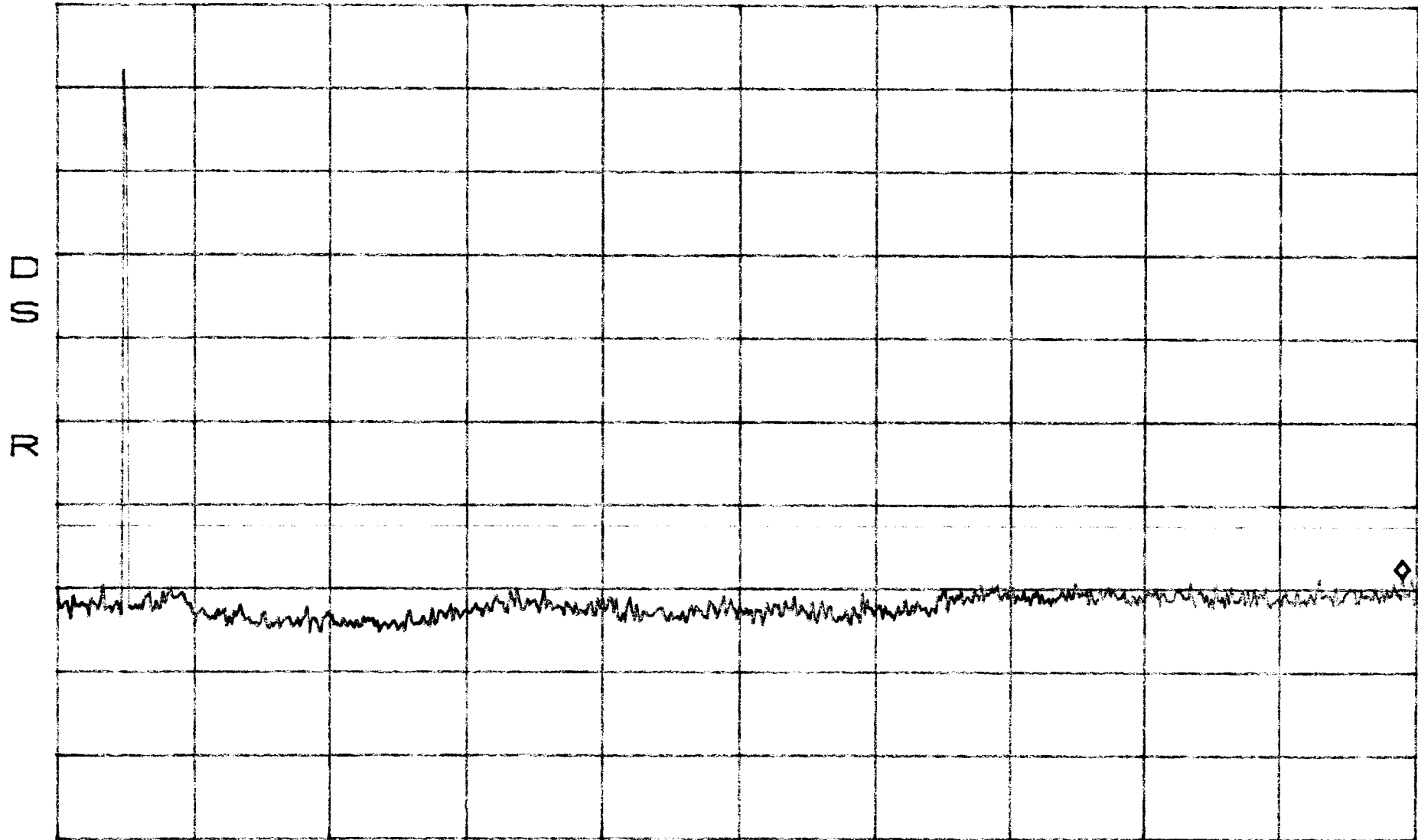
START 30.0MHz STOP 1.0000GHz
*RBW 100kHz VBW 100kHz SWP 250ms

CONDUCTED EMISSIONS BAND AD FM

*ATTEN 30dB
RL 49.5dBm

MKR -19.00dBm
19.81GHz

10dB/



START 1.00GHz

STOP 20.00GHz

*RBW 300kHz

VBW 300kHz

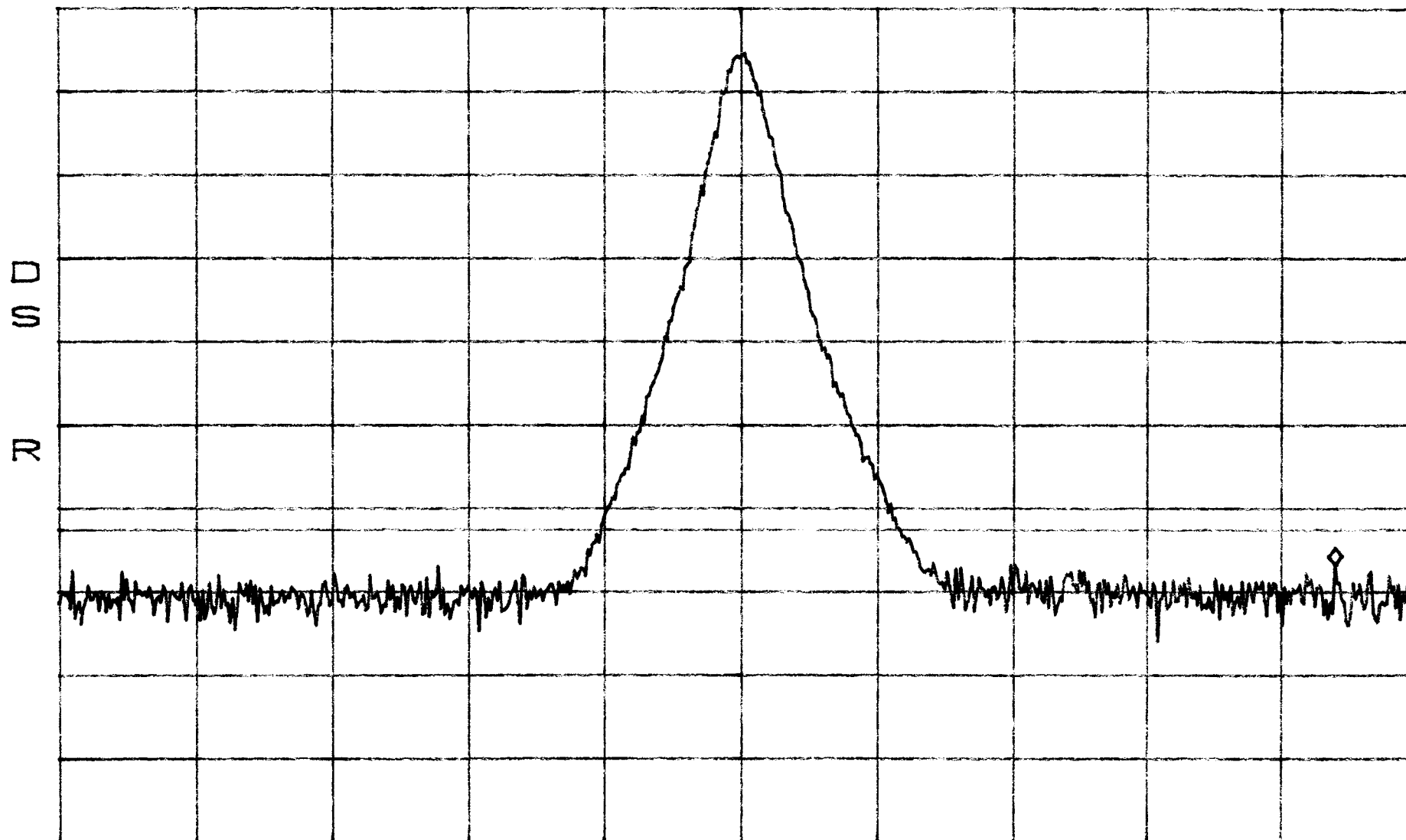
SWP 530ms

CONDUCTED EMISSIONS BAND AD TDMA

*ATTEN 30dB
RL 49.5dBm

MKR -17.17dBm
1.942208GHz

10dB/



CENTER 1.940000GHz

SPAN 5.000MHz

*RBW 100kHz

VBW 100kHz

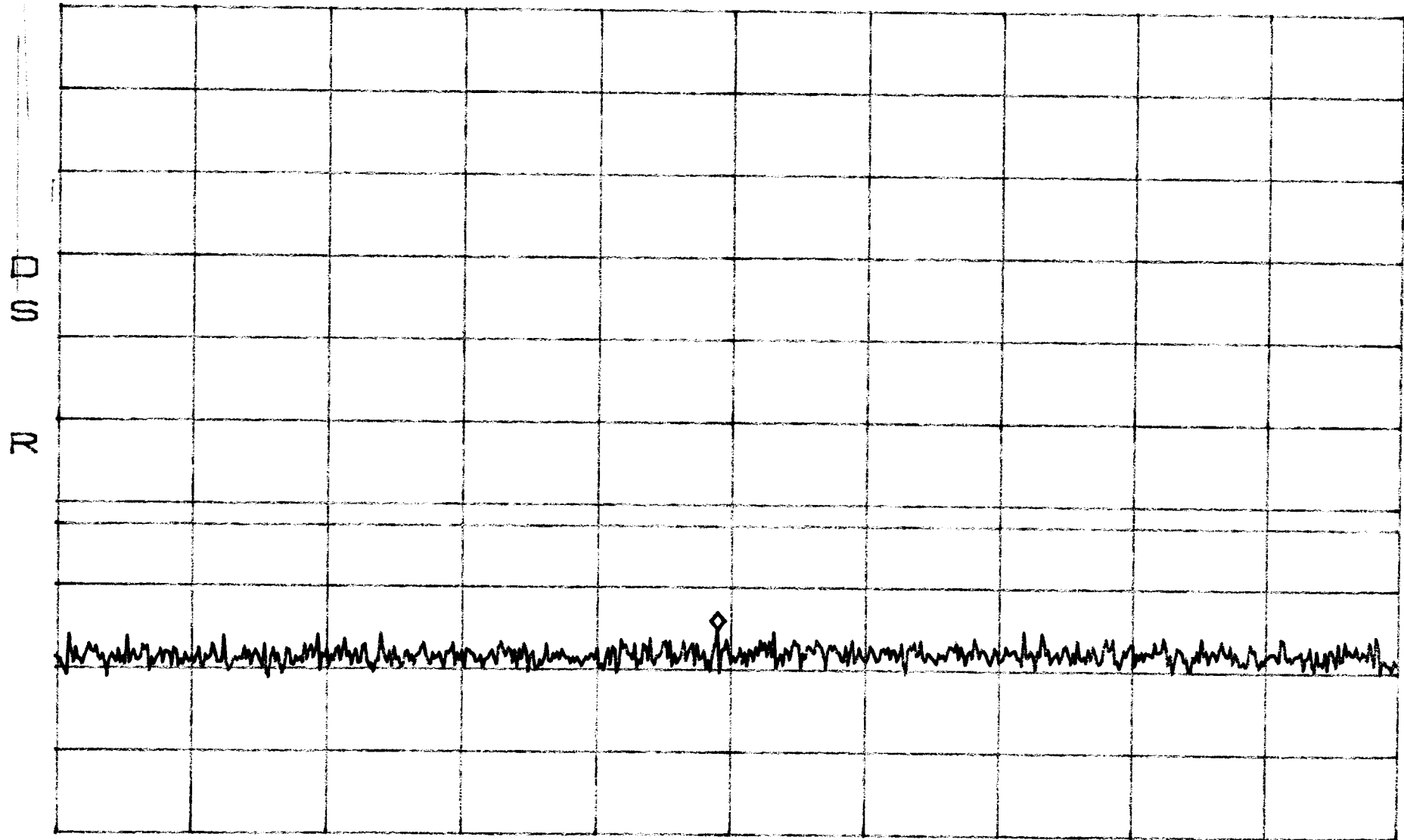
SWP 50ms

CONDUCTED EMISSIONS BAND AD TDMA

*ATTEN 30dB
RL 49.5dBm

MKR -25.50dBm
506.9MHz

10dB/



START 30.0MHz

STOP 1.0000GHz

*RBW 100kHz

VBW 100kHz

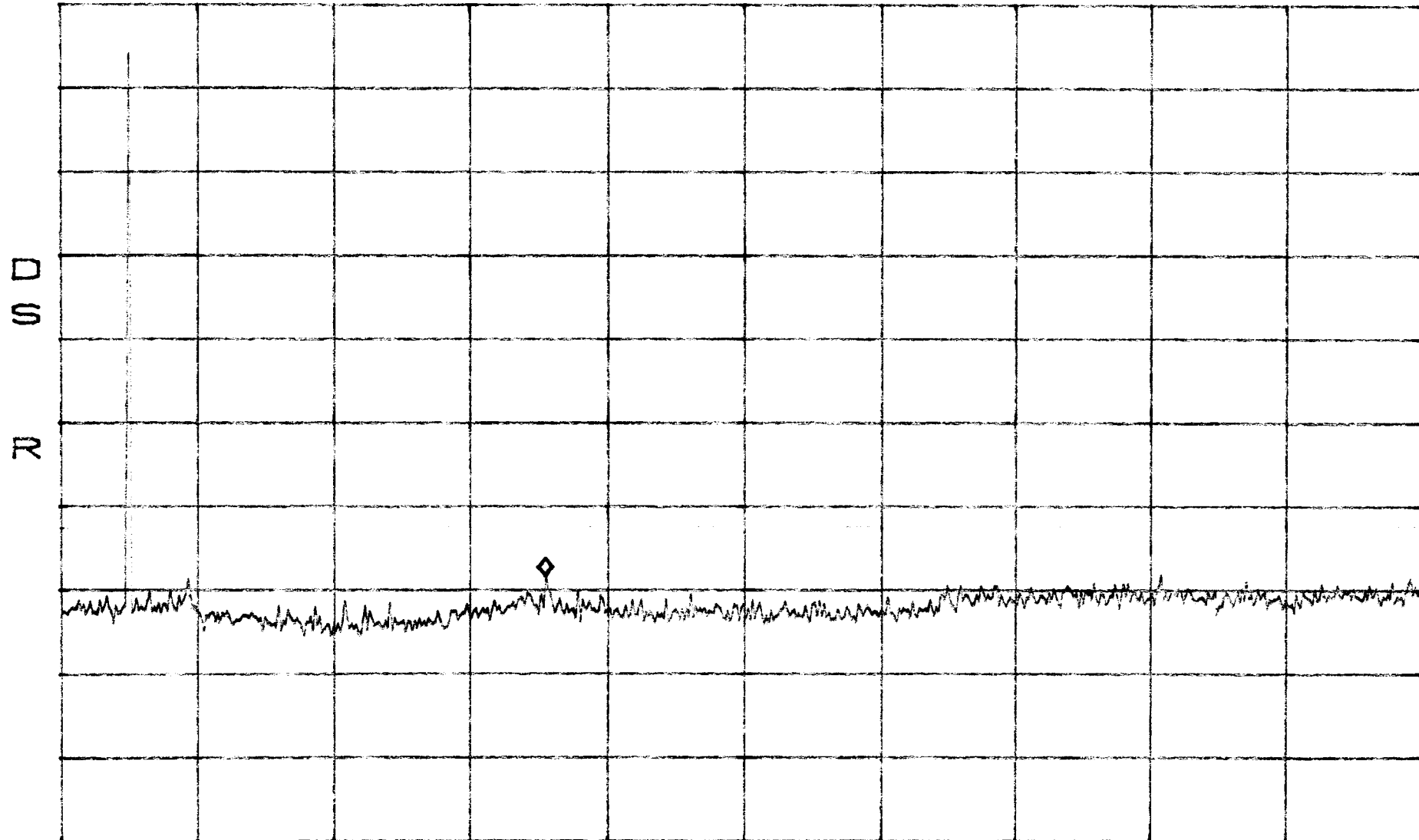
SWP 250ms

CONDUCTED EMISSIONS BAND AD TDMA

*ATTEN 30dB
RL 49.5dBm

MKR -18.67dBm
7.75GHz

10dB/



START 1.00GHz

STOP 20.00GHz

*RBW 300kHz

VBW 300kHz

SWP 530ms

CONDUCTED EMISSIONS BAND AD CDMA

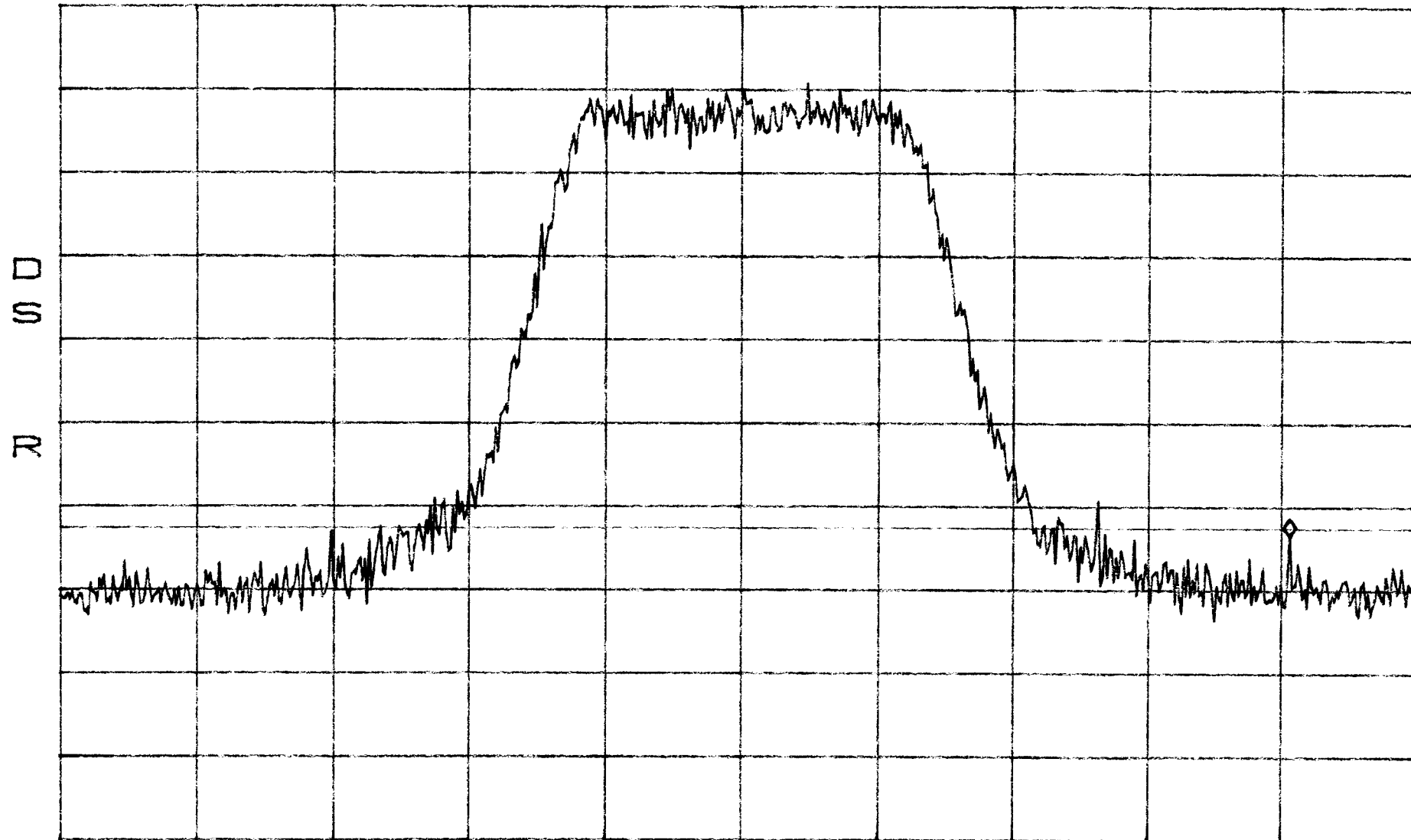
*ATTEN 30dB

MKR -13.83dBm

RL 49.5dBm

10dB/

1.942033GHz



CENTER 1.940000GHz

SPAN 5.000MHz

*RBW 100kHz

VBW 100kHz

SWP 50ms

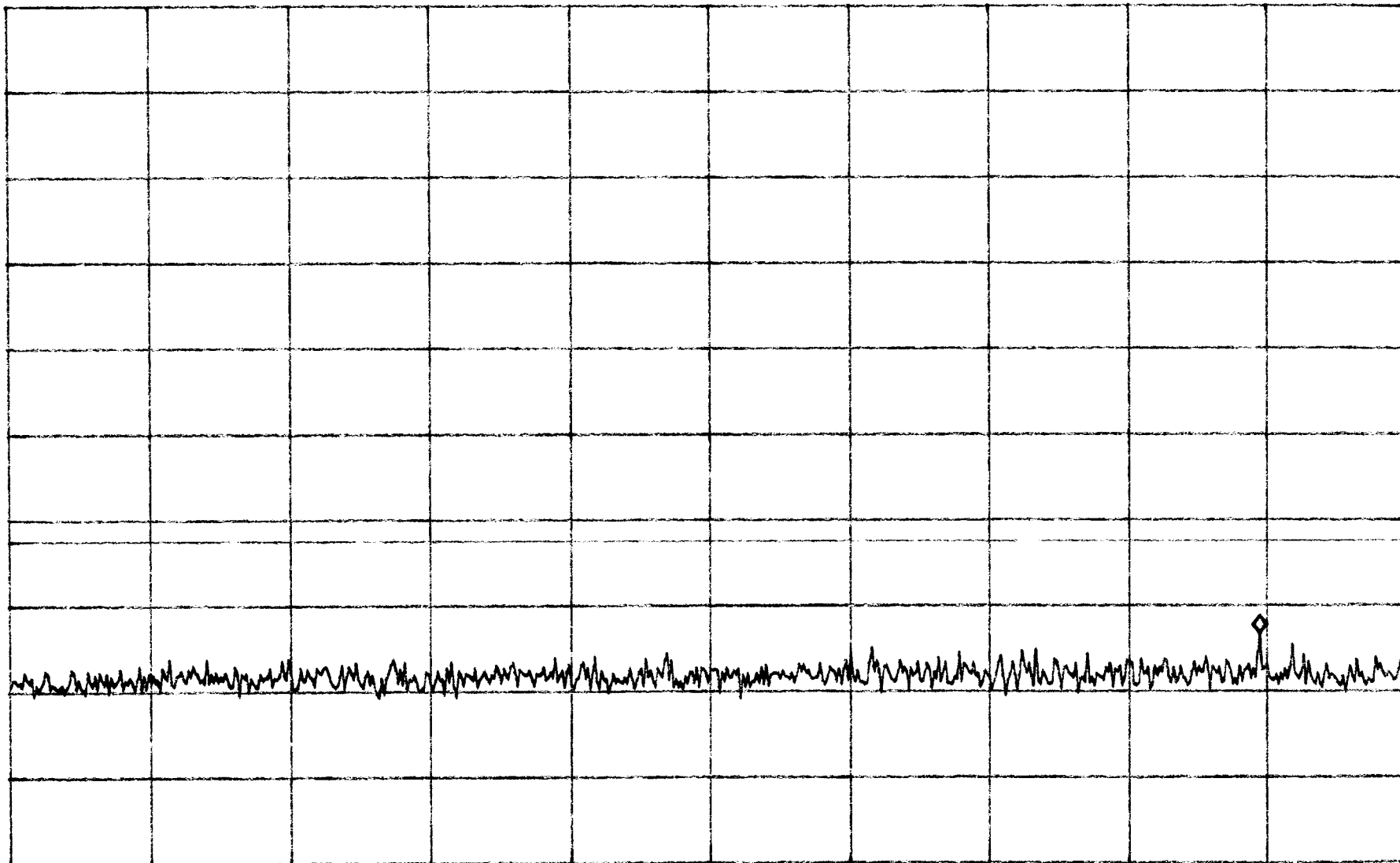
CONDUCTED EMISSIONS BAND AD CDMA

*ATTEN 30dB
RL 49.5dBm

10dB/

MKR -23.67dBm
898.2MHz

U
R



START 30.0MHz

STOP 1.0000GHz

*RBW 100kHz

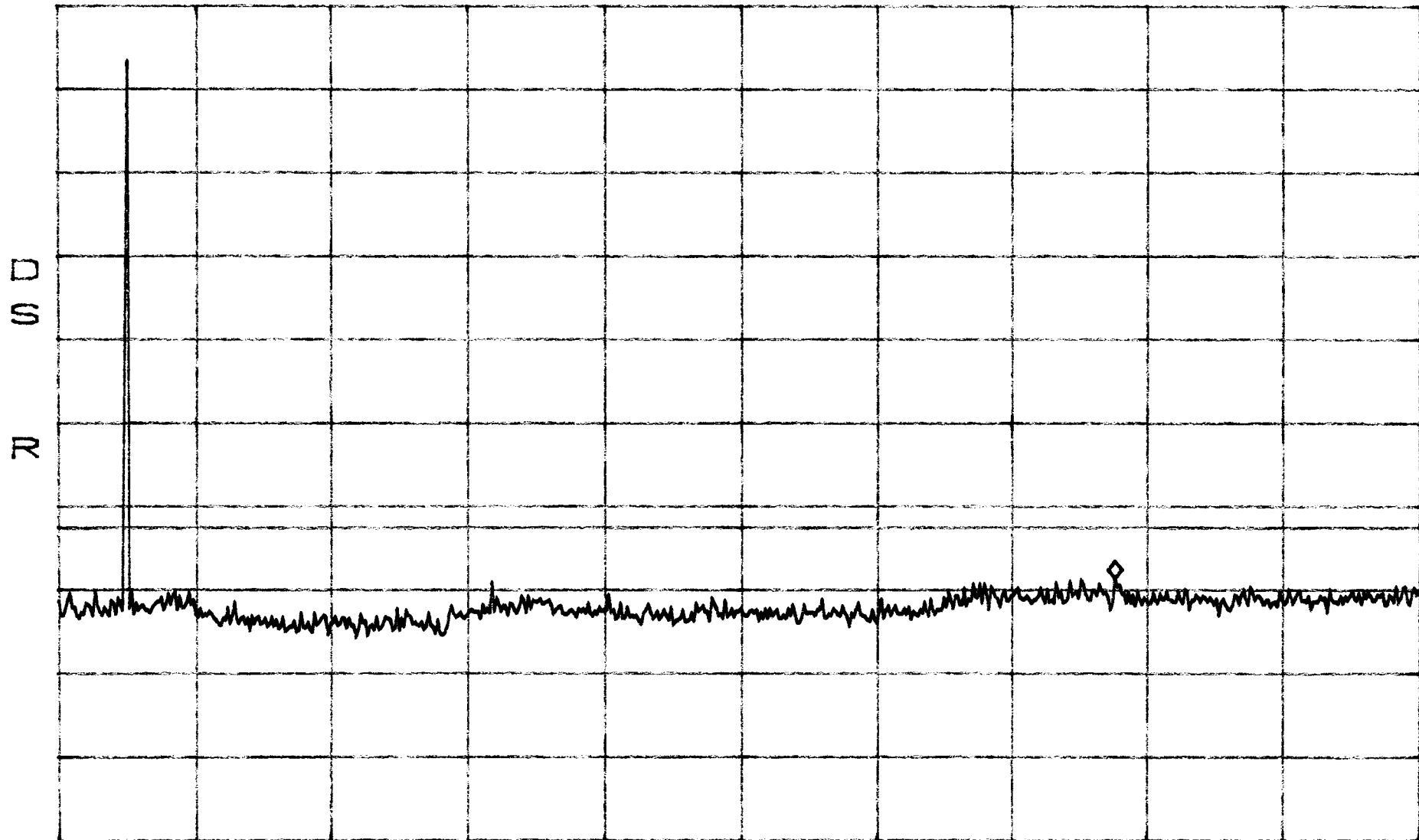
VBW 100kHz

SWP 250ms

CONDUCTED EMISSIONS BAND AD CDMA

*ATTEN 30dB
RL 49.5dBm

MKR -19.00dBm
15.76GHz



START 1.00GHz STOP 20.00GHz
*RBW 300kHz VBW 300kHz SWP 530ms

CONDUCTED EMISSIONS BAND AD

BAND EDGE

FM

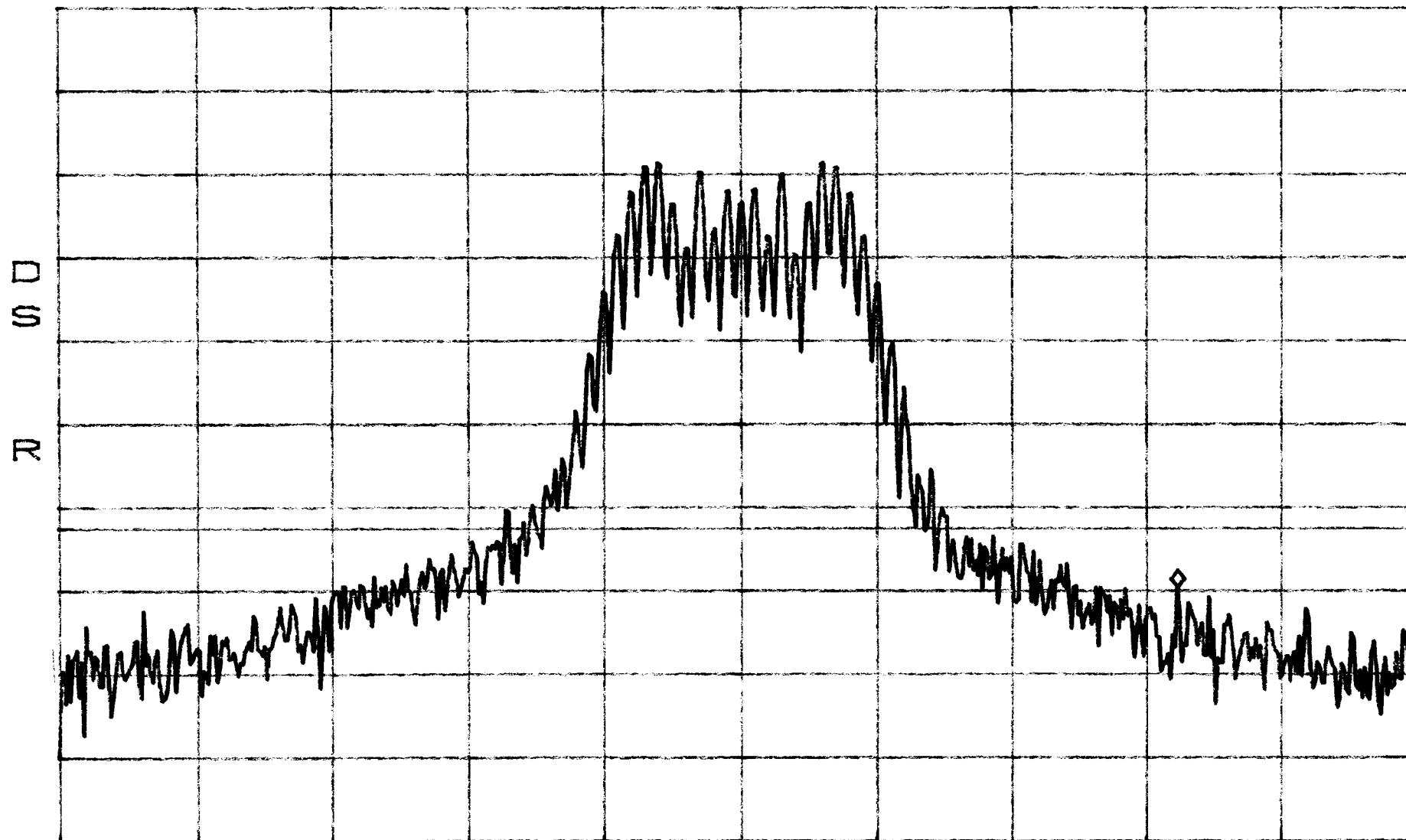
*ATTEN 30dB

MKR -20.00dBm

RL 49.5dBm

10dB/

1.9302323GHz



CENTER 1.9302000GHz

SPAN 100.0kHz

*RBW 300Hz

VBW 300Hz

SWP 2.8sec

CONDUCTED EMISSIONS BAND AD

BAND EDGE

FM

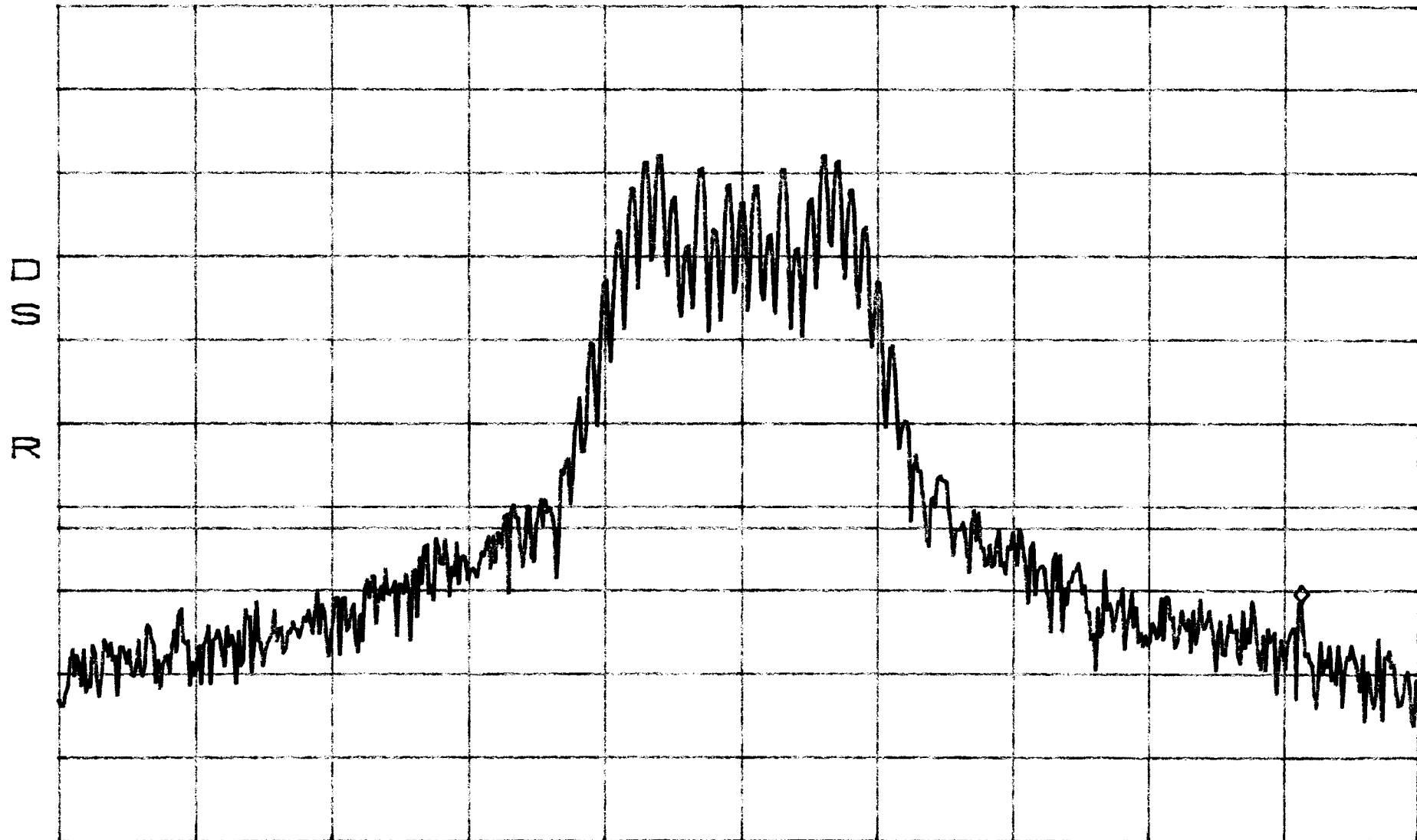
*ATTEN 30dB

MKR -21.83dBm

RL 49.5dBm

10dB/

1.9498413GHz



CENTER 1.9498000GHz

SPAN 100.0kHz

*RBW 300Hz

VBW 300Hz

SWP 2.8sec

CONDUCTED EMISSIONS BAND DBE LOW

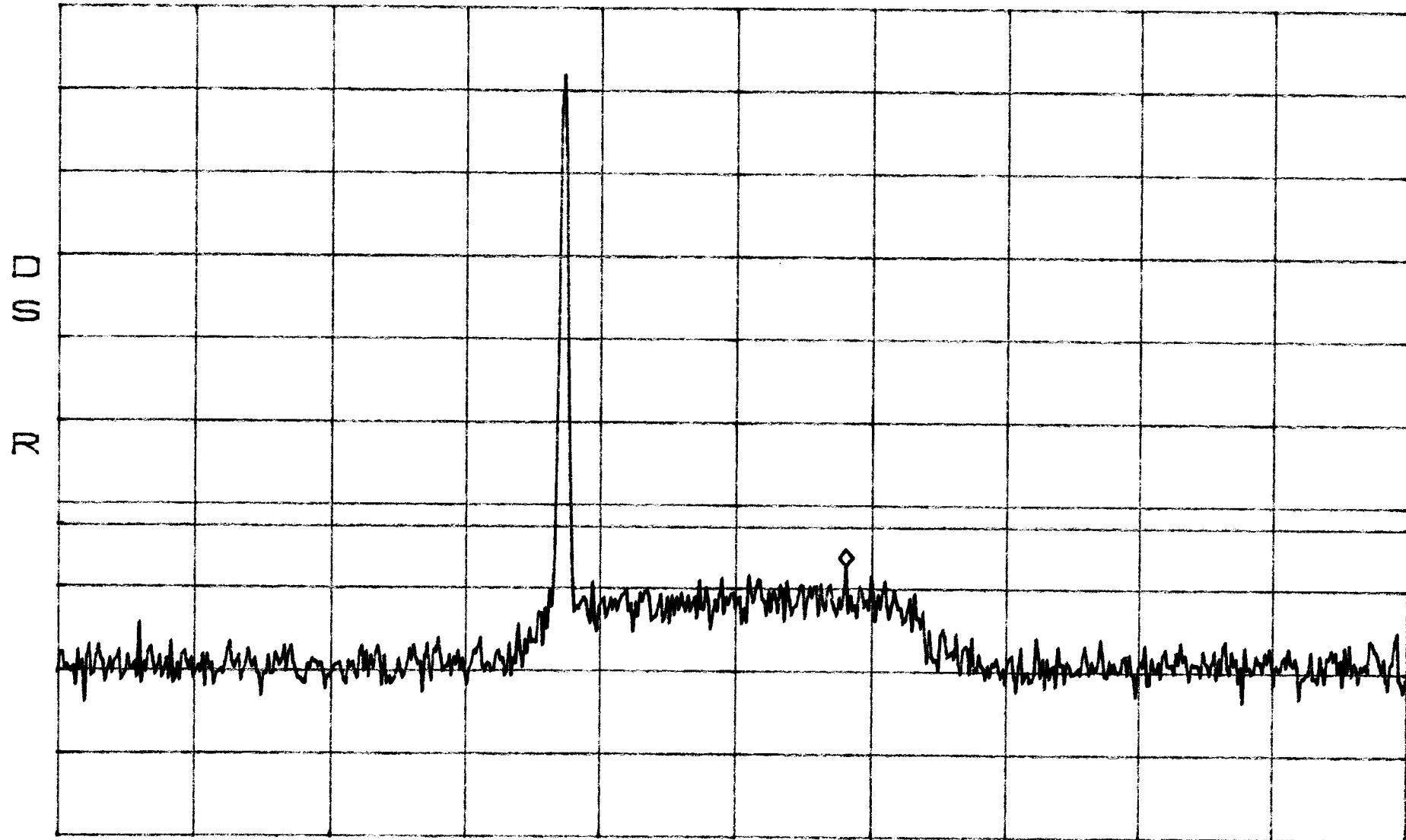
*ATTEN 30dB

MKR -17.67dBm

RL 49.5dBm

10dB/

1.9657GHz



CENTER 1.9575GHz

SPAN 100.0MHz

*RBW 100kHz

VBW 100kHz

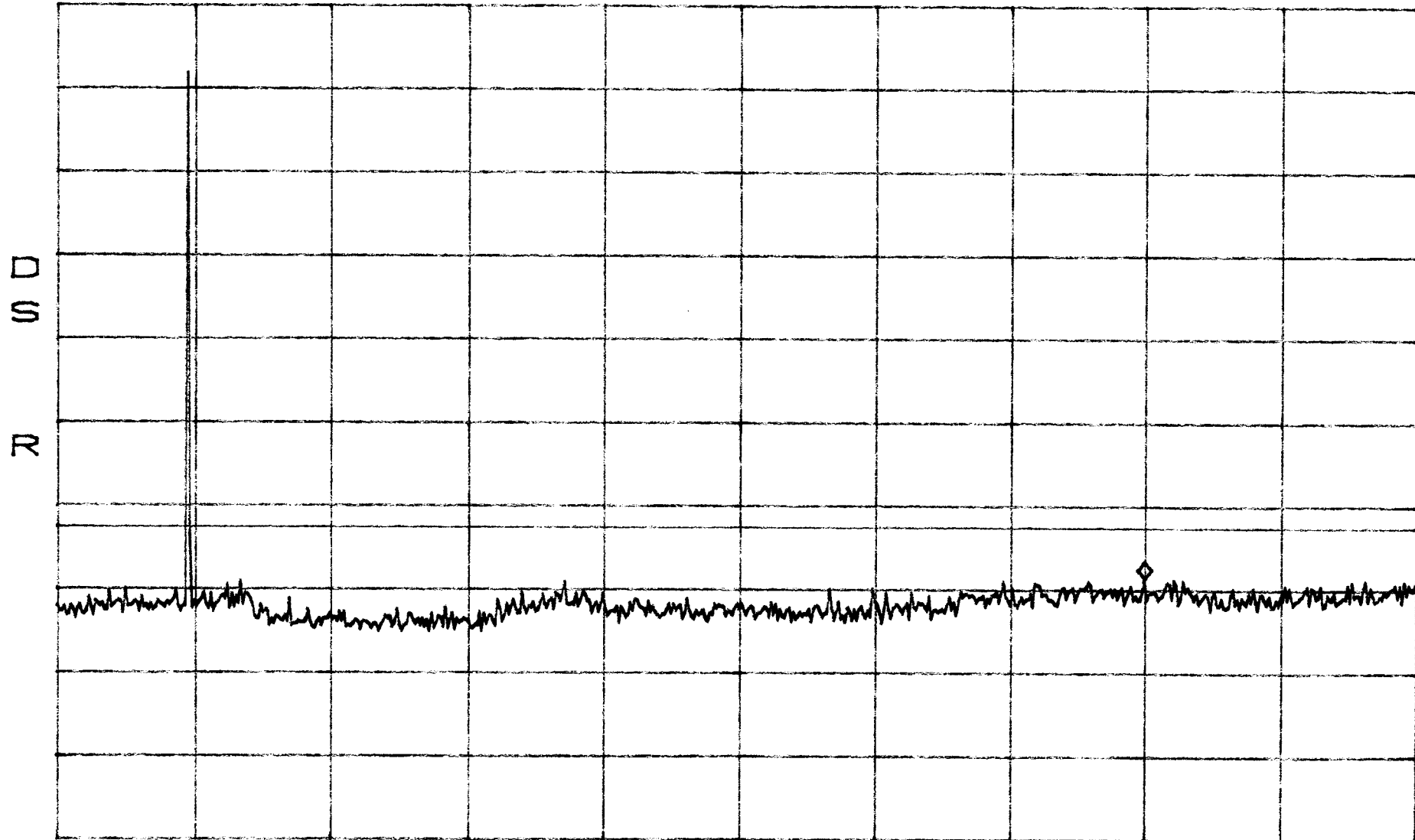
SWP 50ms

CONDUCTED EMISSIONS BAND DBE LOW

*ATTEN 30dB
RL 49.5dBm

10dB/

MKR -19.00dBm
16.01GHz



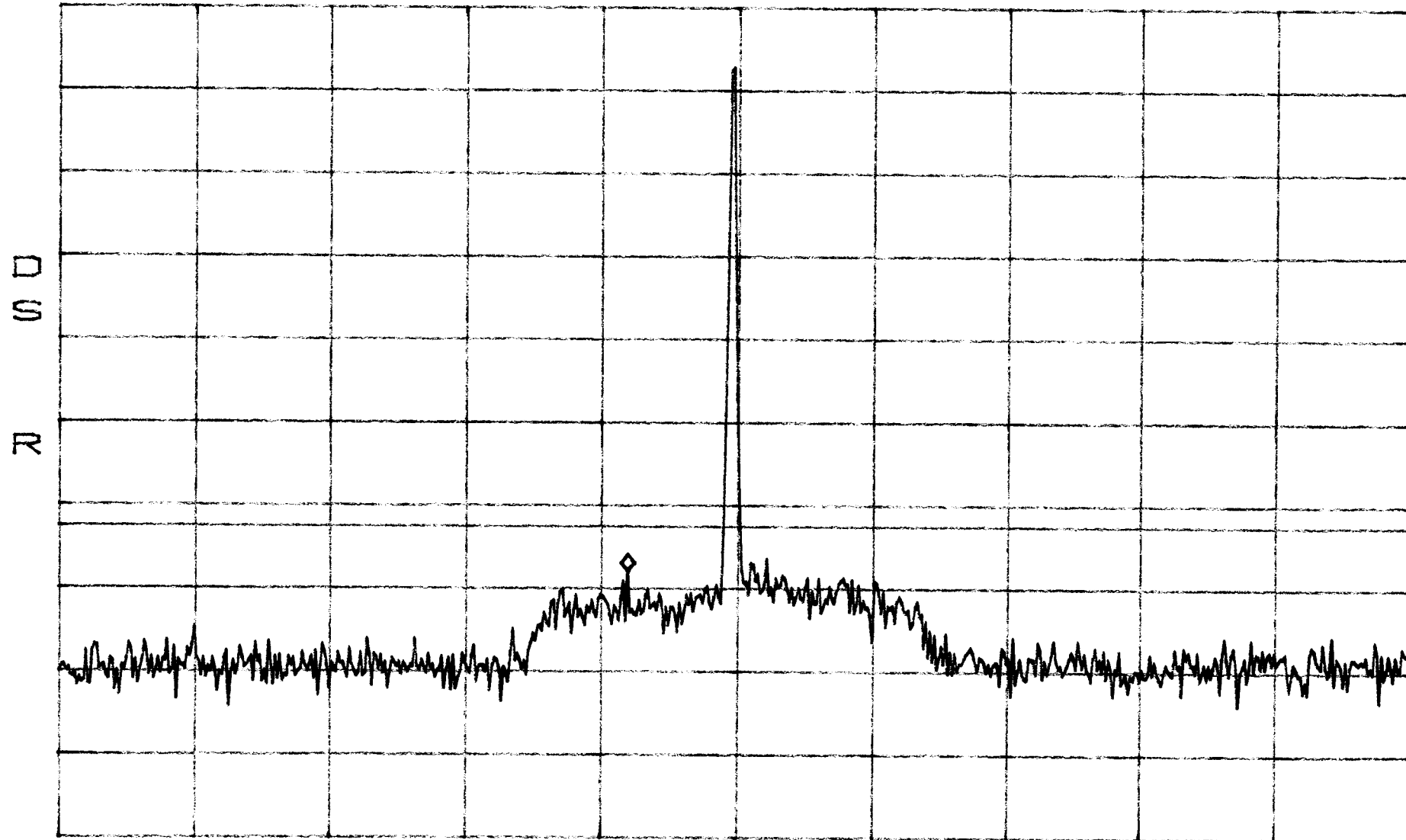
START 30MHz STOP 20.00GHz
*RBW 300kHz VBW 300kHz SWP 560ms

CONDUCTED EMISSIONS BAND DBE MID

*ATTEN 30dB
RL 49.5dBm

MKR -18.33dBm
1.9495GHz

10dB/



CENTER 1.9575GHz
*RBW 100kHz VBW 100kHz

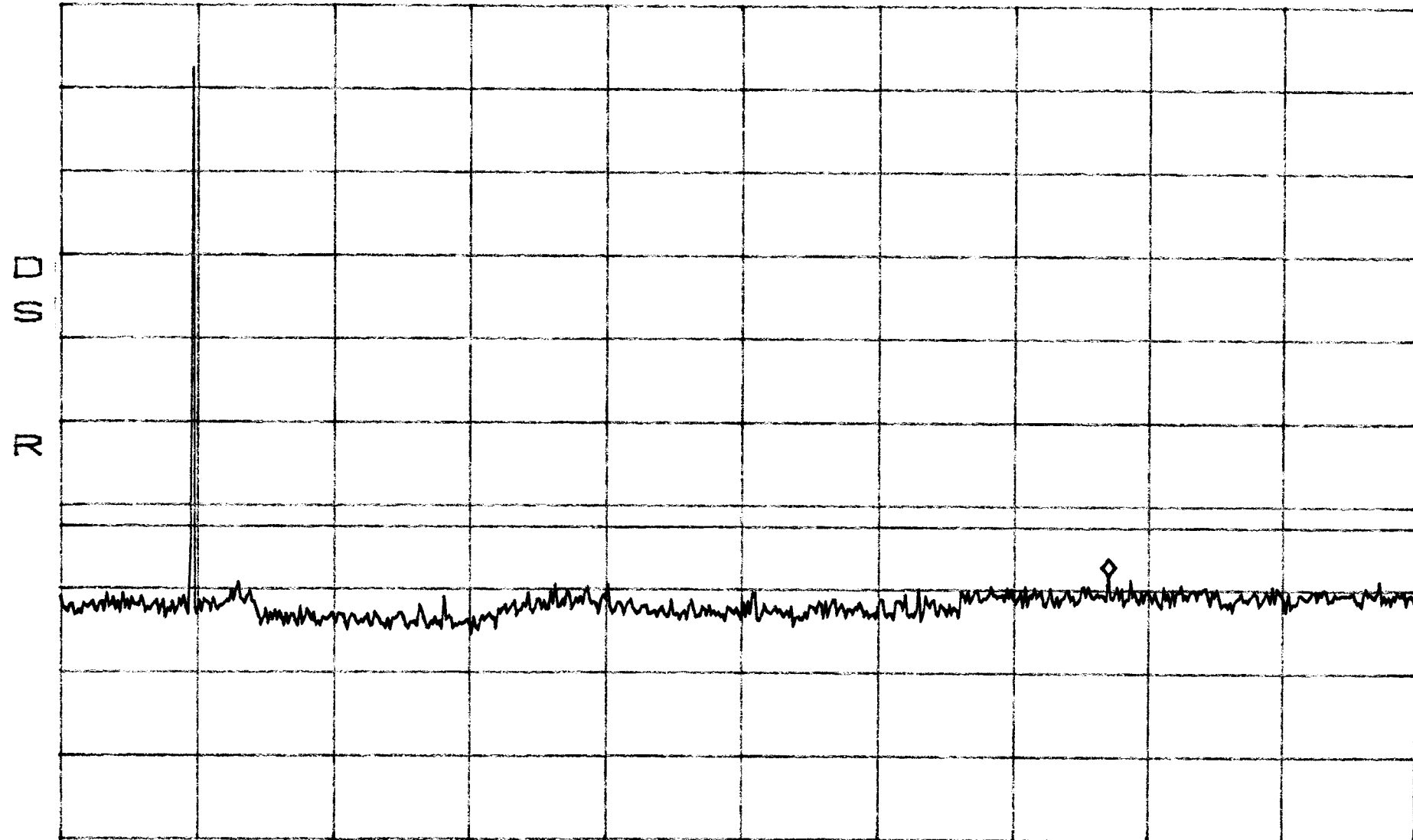
SPAN 100.0MHz
SWP 50ms

CONDUCTED EMISSIONS BAND DBE MID

*ATTEN 30dB
RL 49.5dBm

MKR -18.67dBm
15.41GHz

10dB/



START 30MHz

STOP 20.00GHz

*RBW 300kHz

VBW 300kHz

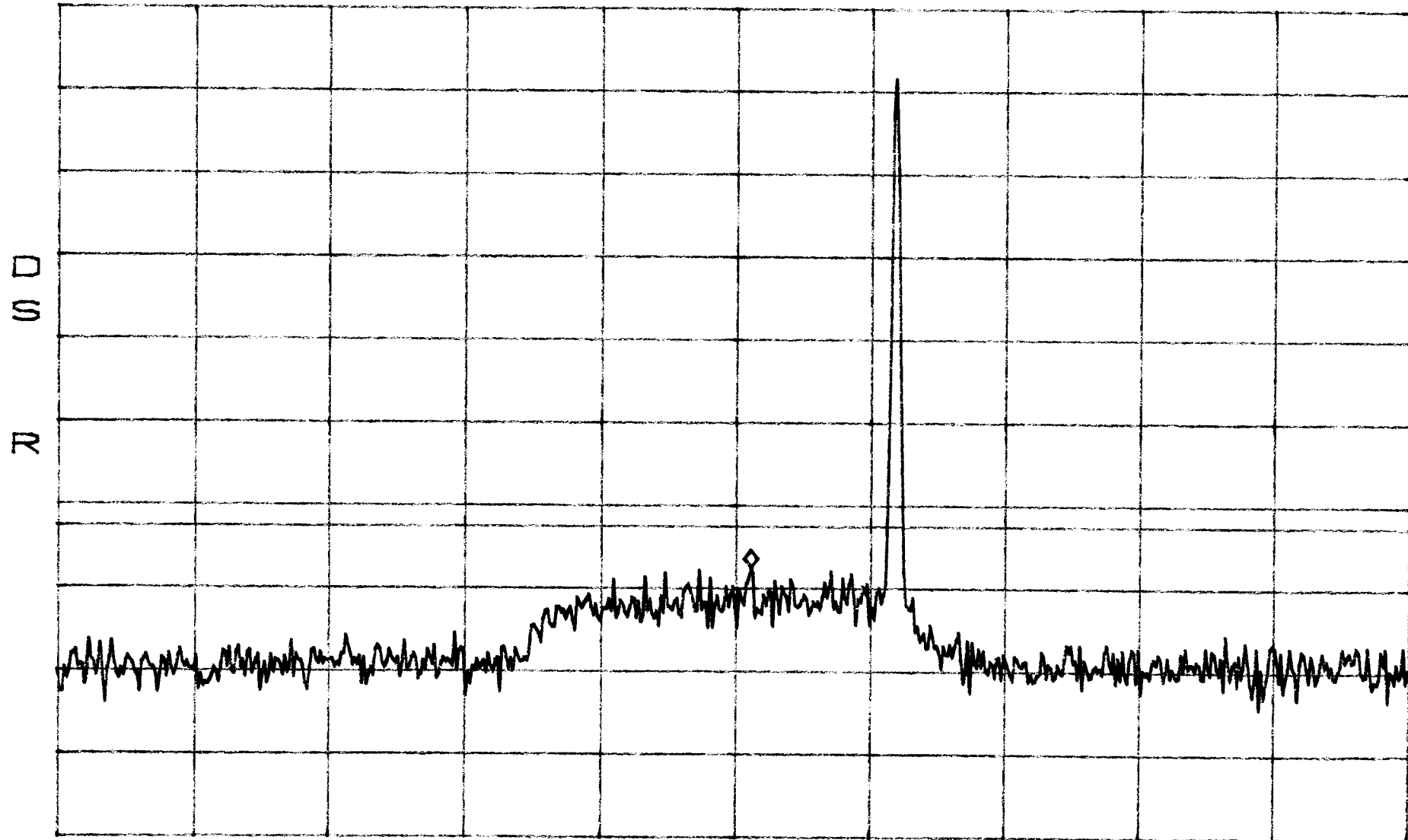
SWP 560ms

CONDUCTED EMISSIONS BAND DBE HIGH

*ATTEN 30dB
RL 49.5dBm

10dB/

MKR -17.83dBm
1.9587GHz



CENTER 1.9575GHz
*RBW 100kHz VBW 100kHz

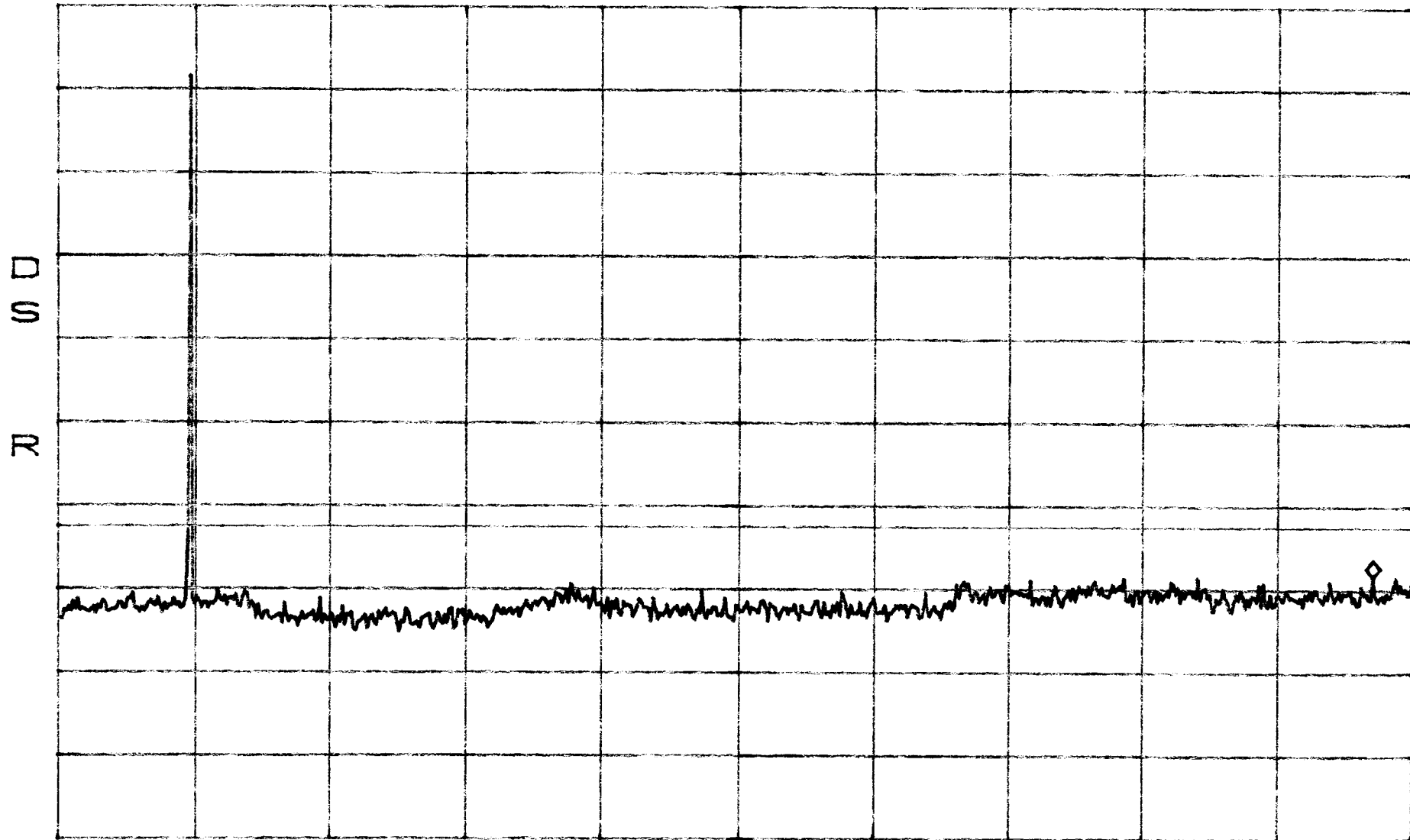
SPAN 100.0MHz
SWP 50ms

CONDUCTED EMISSIONS BAND DBE HIGH

*ATTN 30dB
RL 49.5dBm

10dB/

MKR -18.83dBm
19.43GHz



START 30MHz

STOP 20.00GHz

*RBW 300kHz

VBW 300kHz

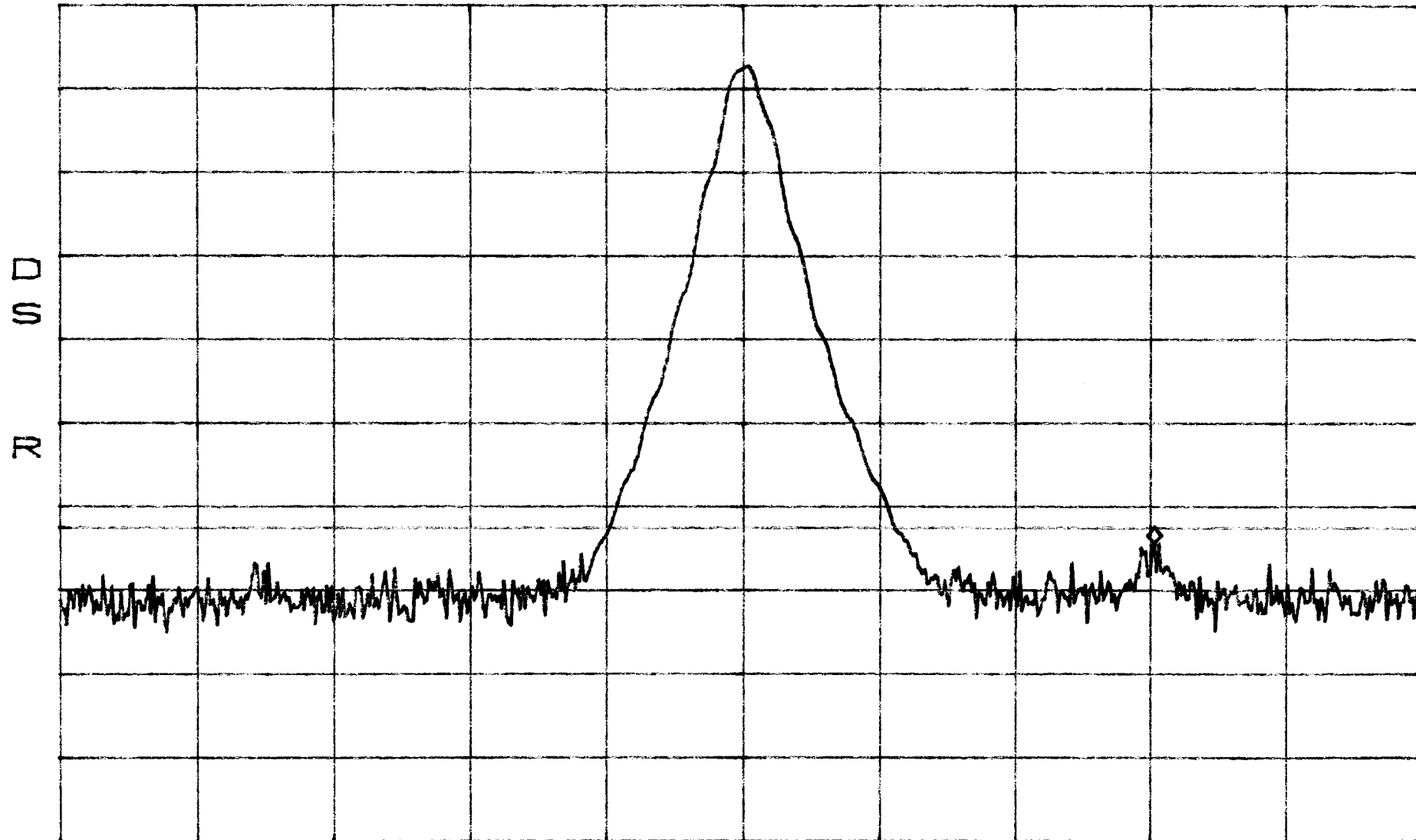
SWP 560ms

CONDUCTED EMISSIONS BAND DBE FM

*ATTEN 30dB
RL 49.5dBm

10dB/

MKR -14.83dBm
1.959017GHz



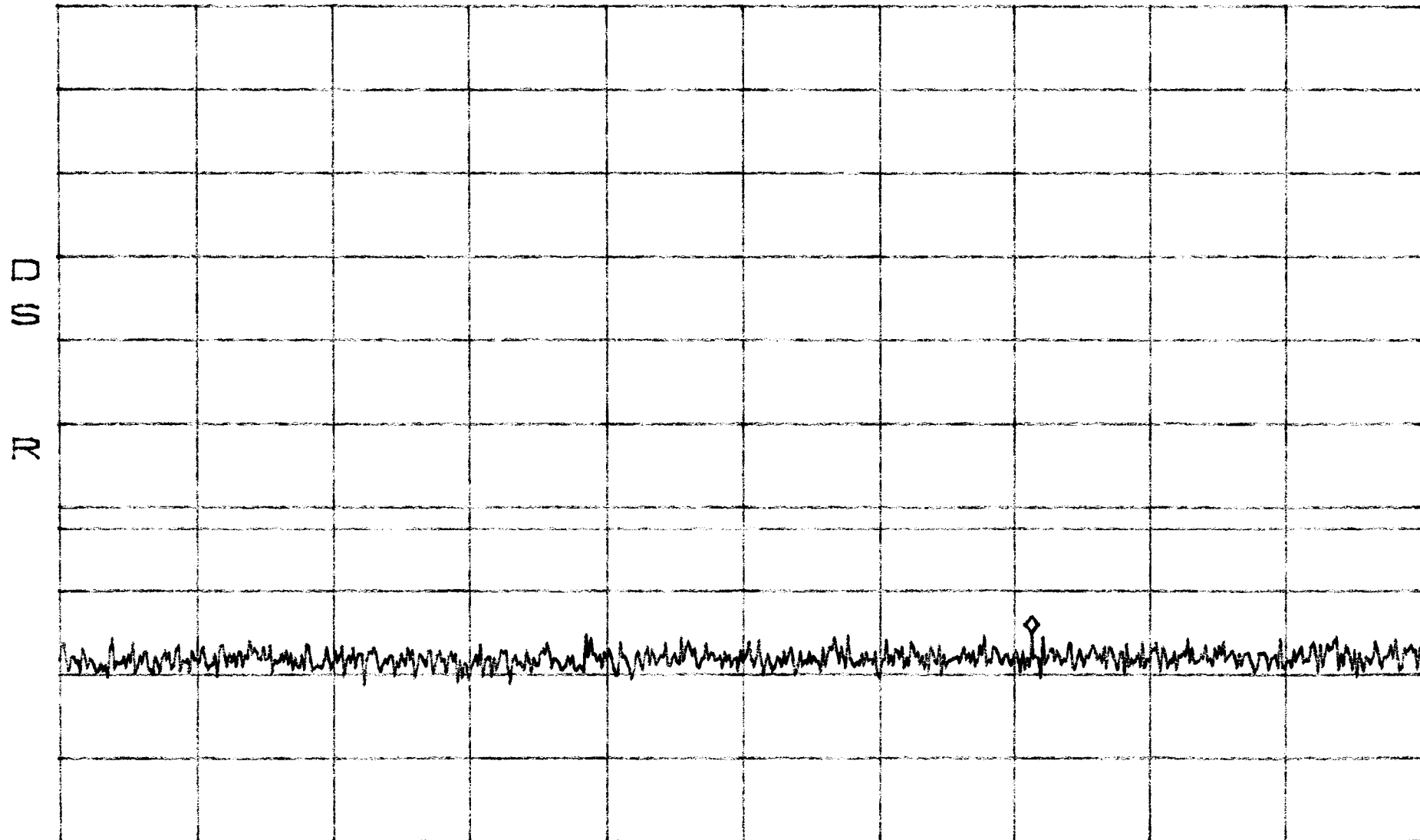
CENTER 1.957500GHz SPAN 5.000MHz
*RBW 100kHz VBW 100kHz SWP 50ms

CONDUCTED EMISSIONS BAND DBE FM

*ATTEN 30dB
RL 49.5dBm

10dB/

MKR -25.50dBm
721.9MHz



START 30.0MHz

STOP 1.0000GHz

*RBW 100kHz

VBW 100kHz

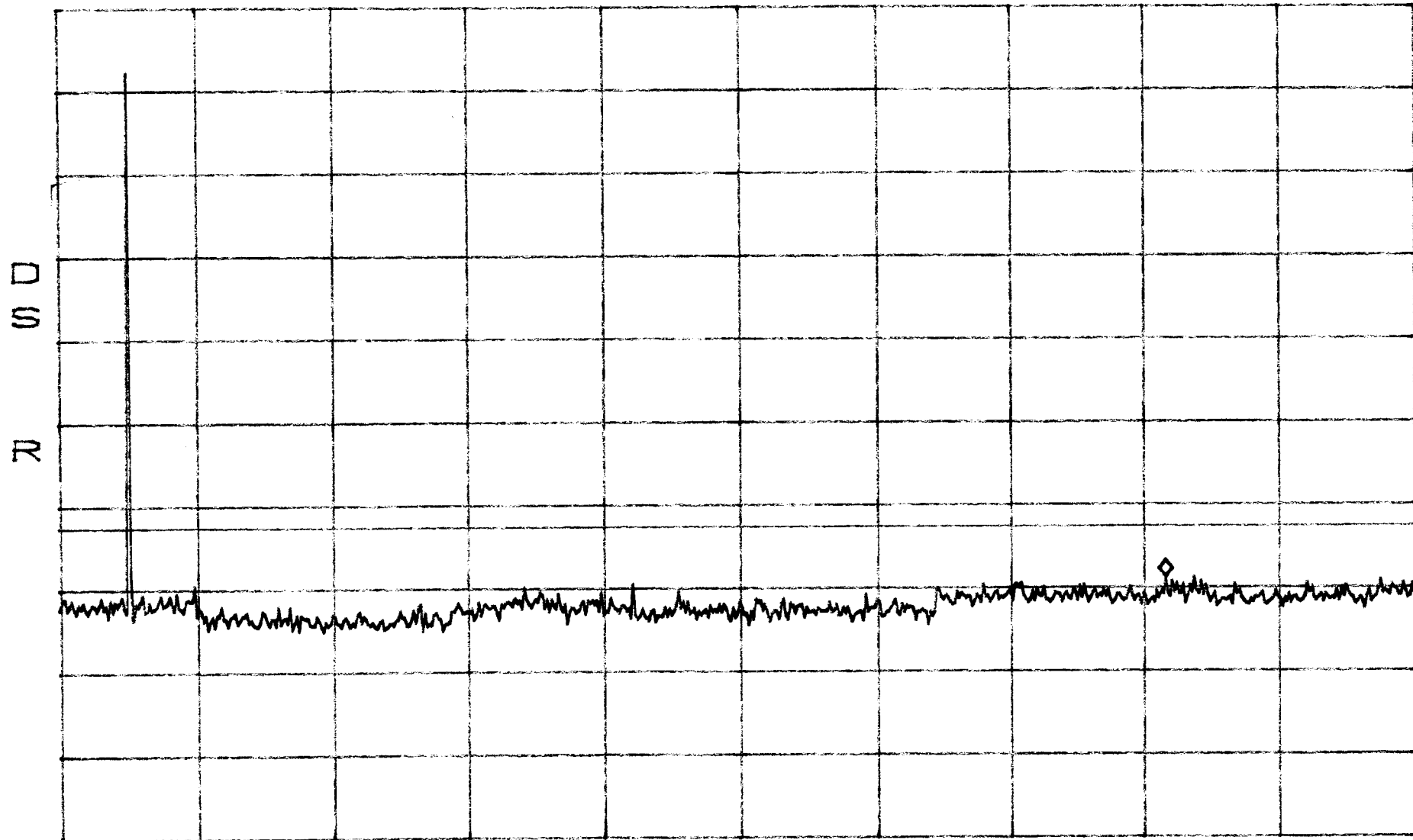
SWP 250ms

CONDUCTED EMISSIONS BAND DBE FM

*ATTEN 30dB
RL 49.5dBm

10dB/

MKR -19.17dBm
16.52GHz



START 1.00GHz

STOP 20.00GHz

*RBW 300kHz

VBW 300kHz

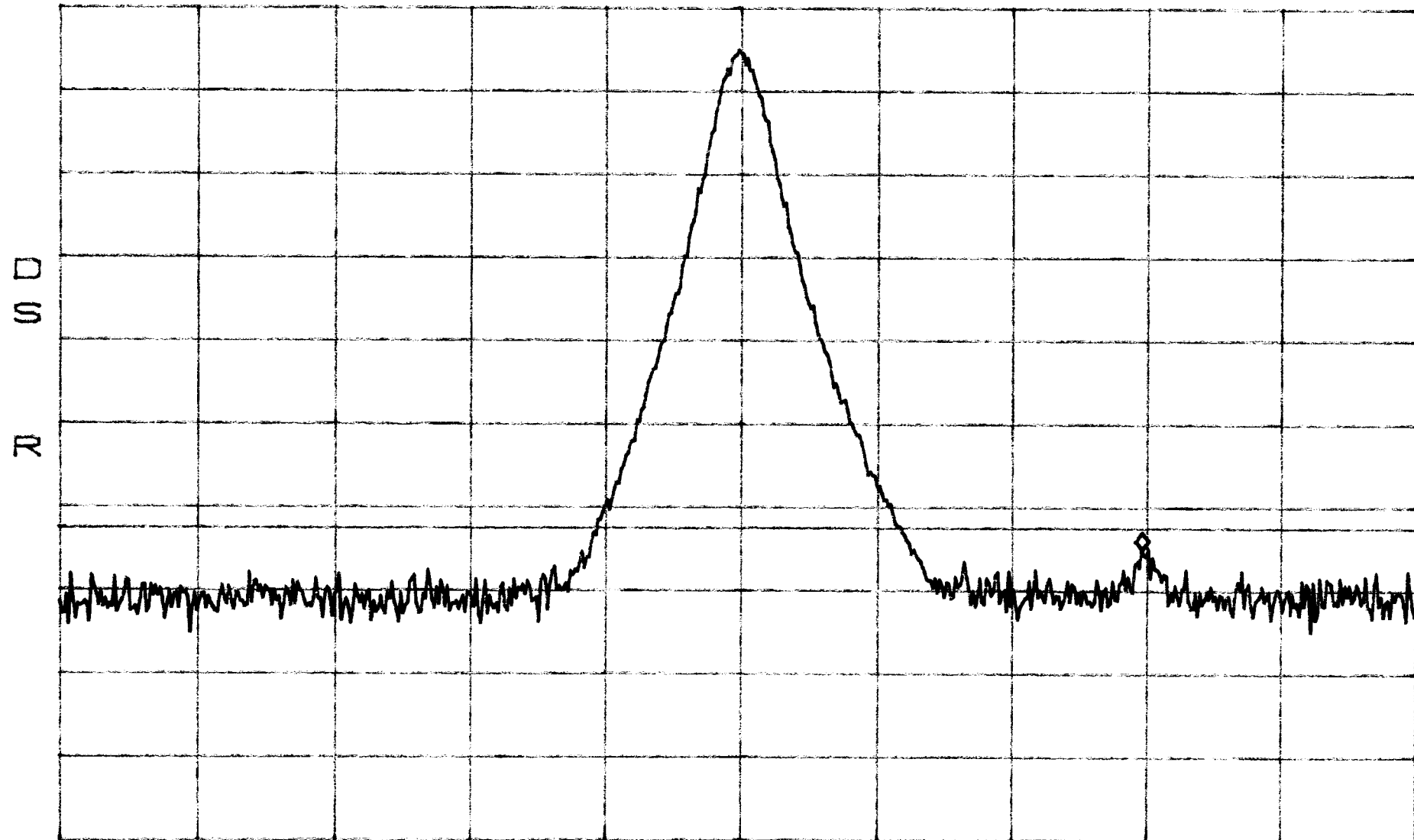
SWP 530ms

CONDUCTED EMISSIONS BAND DBE TDMA

*ATTEN 30dB
RL 49.5dBm

MKR -15.50dBm
1.958856GHz

10dB/



CENTER 1.957500GHz

SPAN 5.000MHz

*RBW 100kHz

VBW 100kHz

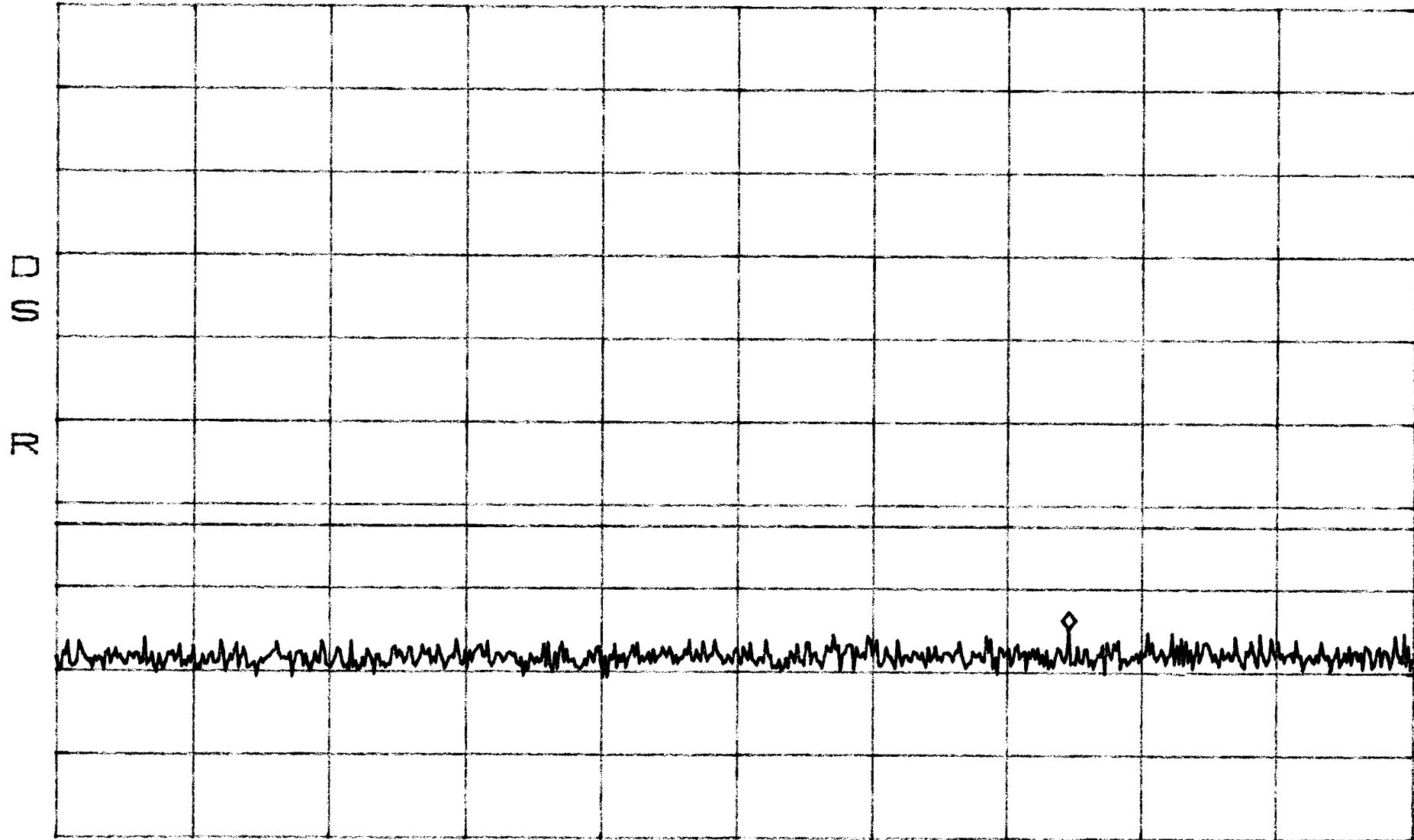
SWP 50ms

CONDUCTED EMISSIONS BAND DBE TDMA

*ATTEN 30dB
RL 49.5dBm

10dB/

MKR -25.17dBm
754.3MHz



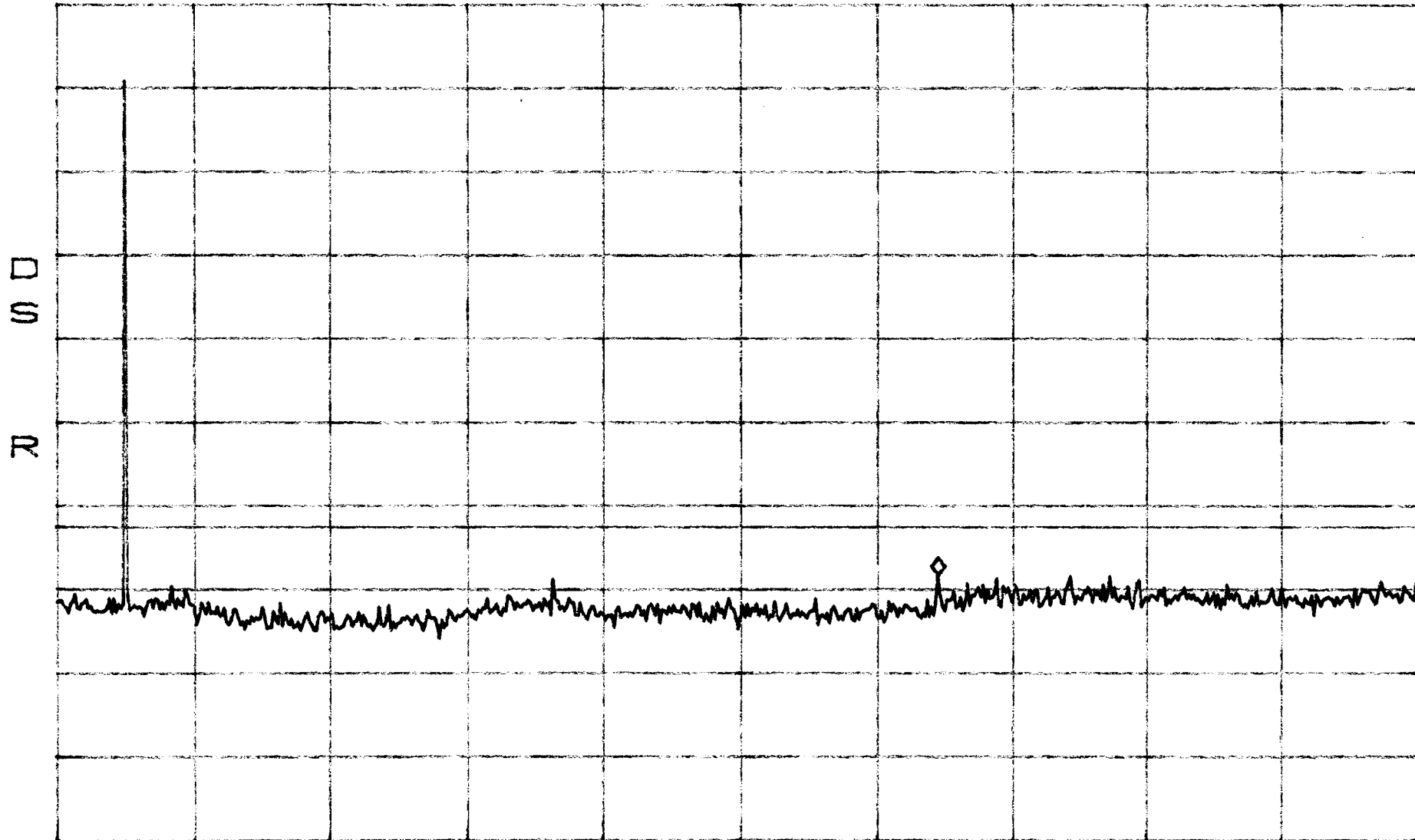
START 30.0MHz STOP 1.0000GHz
*RBW 100kHz VBW 100kHz SWP 250ms

CONDUCTED EMISSIONS BAND DBE TDMA

*ATTEN 30dB
RL 49.5dBm

10dB/

MKR -18.67dBm
13.26GHz



START 1.00GHz

STOP 20.00GHz

*RBW 300kHz

VBW 300kHz

SWP 530ms

CONDUCTED EMISSIONS BAND DBE CDMA

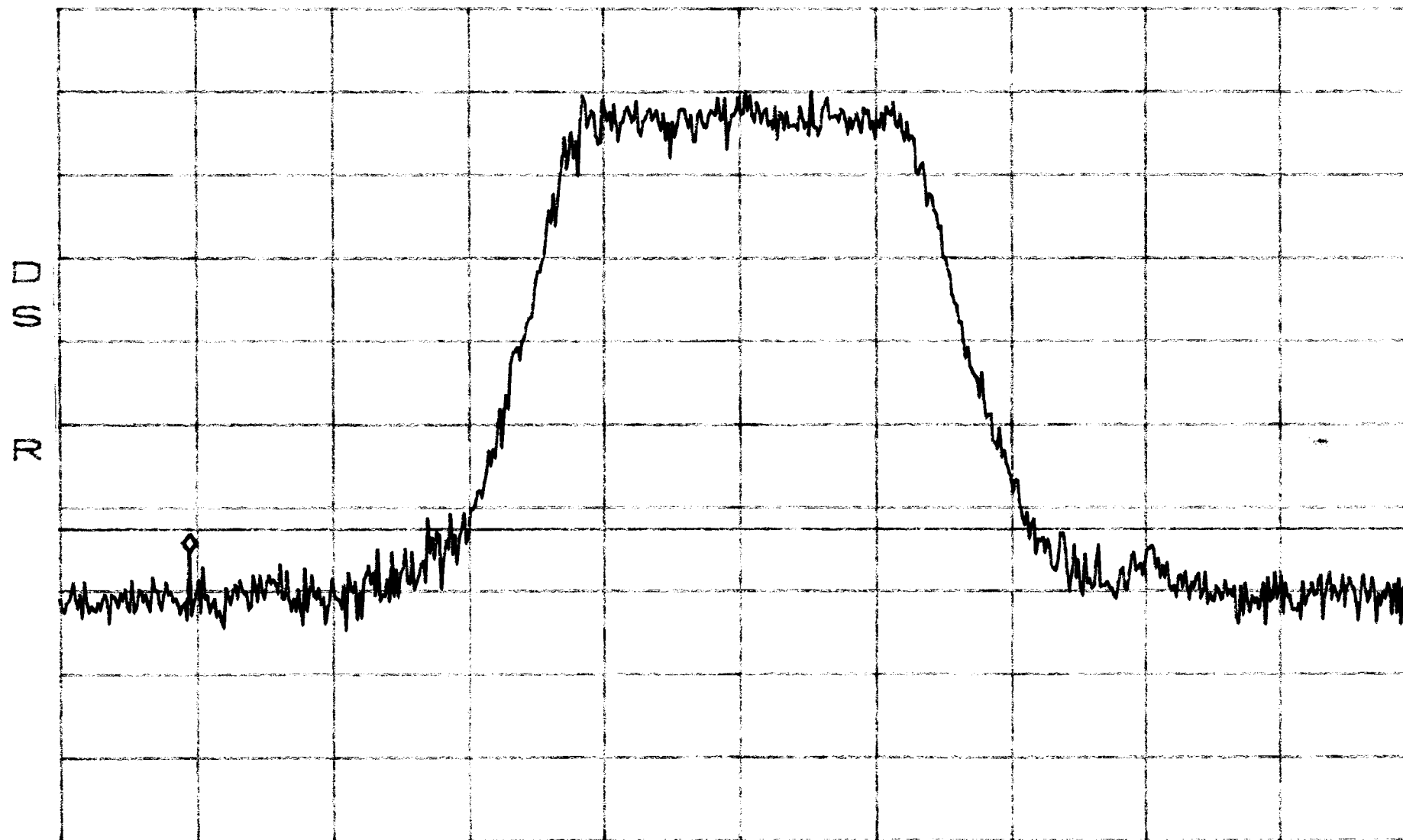
*ATTEN 30dB

MKR -15.67dBm

RL 49.5dBm

10dB/

1.955475GHz



CENTER 1.957500GHz

SPAN 5.000MHz

*RBW 100kHz

VBW 100kHz

SWP 50ms

CONDUCTED EMISSIONS BAND DBE CDMA

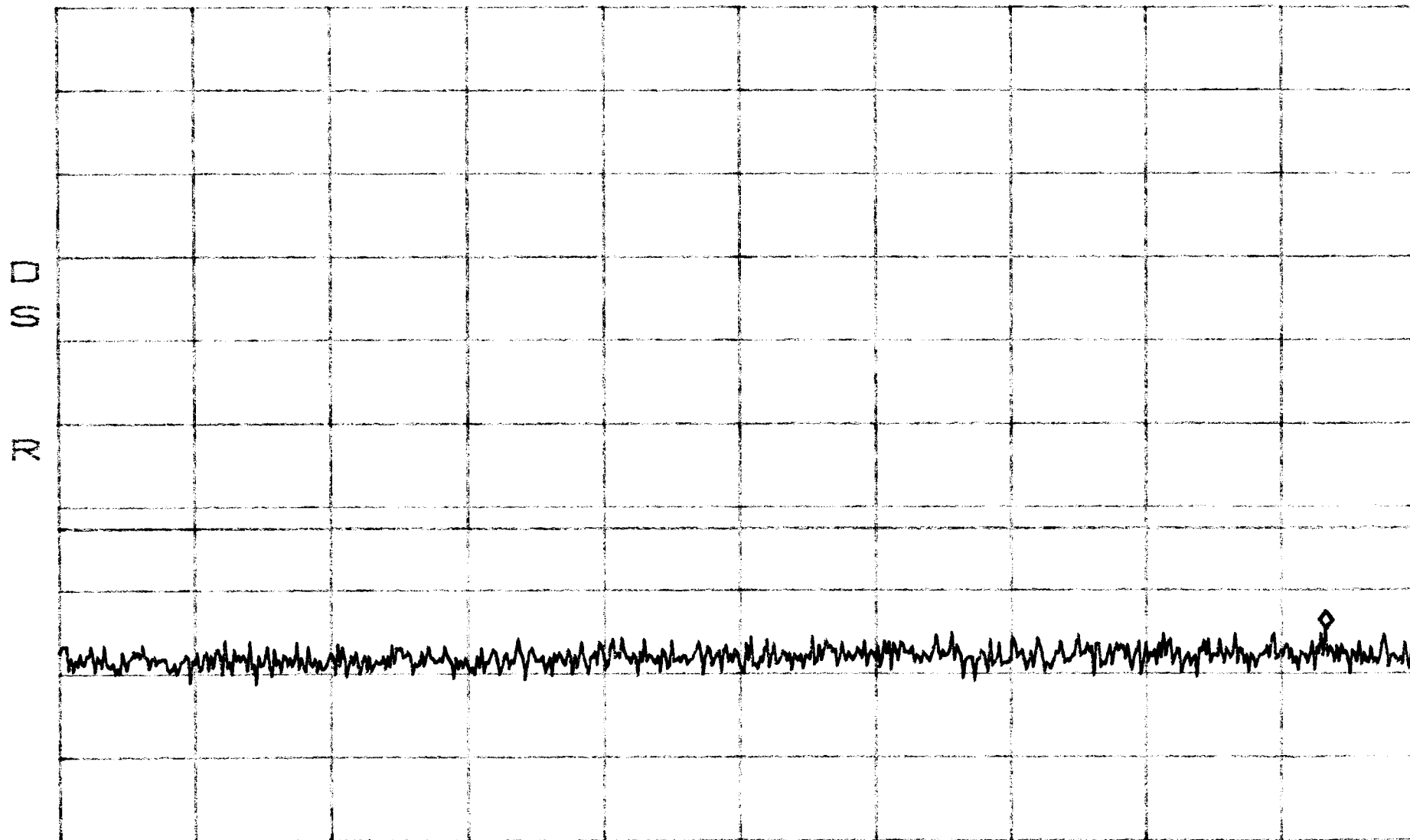
*ATTEN 30dB

MKR -25.00dBm

RL 49.5dBm

10dB/

935.3MHz



START 30.0MHz

STOP 1.0000GHz

*RBW 100kHz

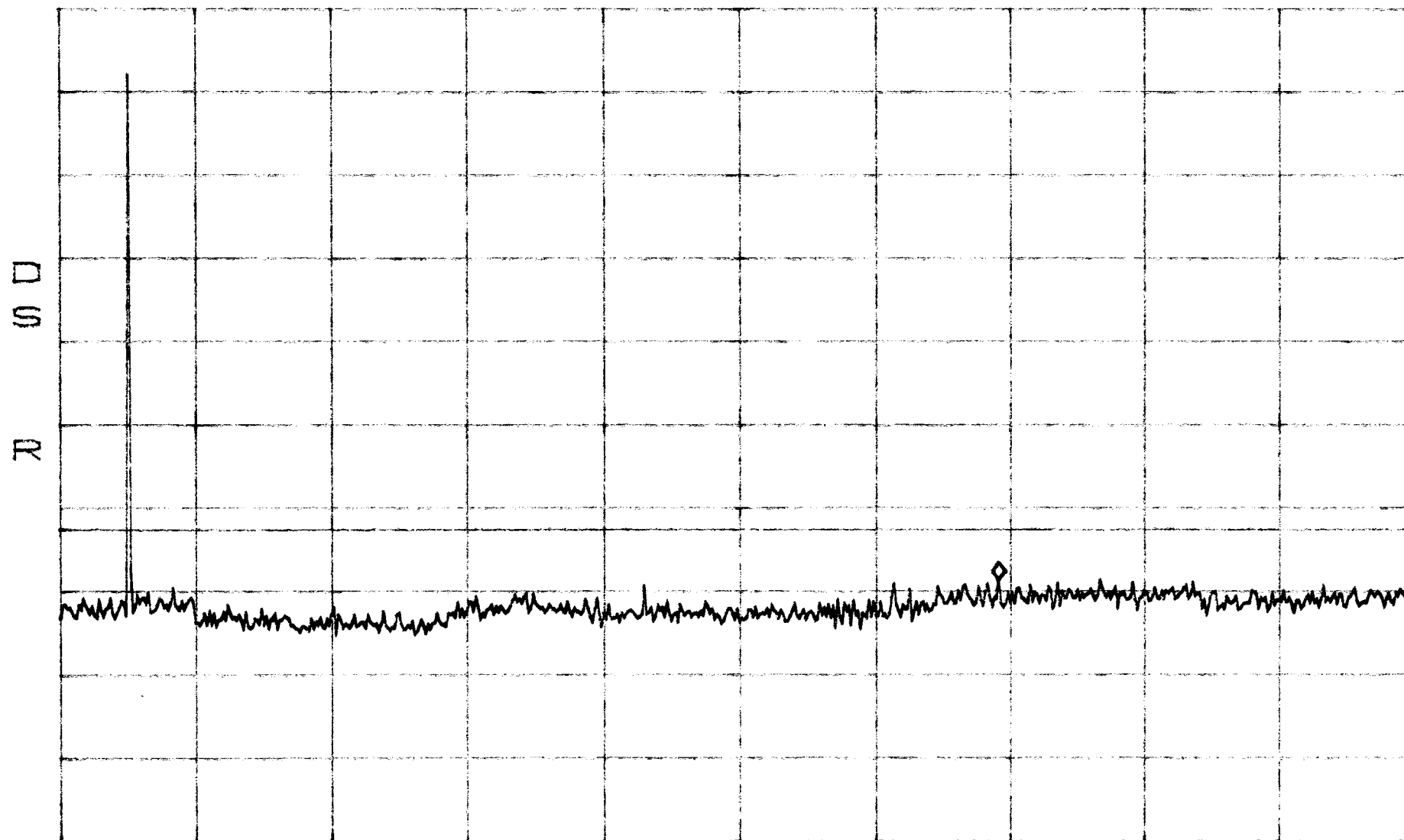
VBW 100kHz

SWP 250ms

CONDUCTED EMISSIONS BAND DBE CDMA

*ATTN 30dB
RL 49.5dBm

MKR -19.00dBm
14.14GHz



START 1.00GHz

STOP 20.00GHz

*RBW 300kHz

VBW 300kHz

SWP 530ms

CONDUCTED EMISSIONS BAND DBE

BAND EDGE

FM

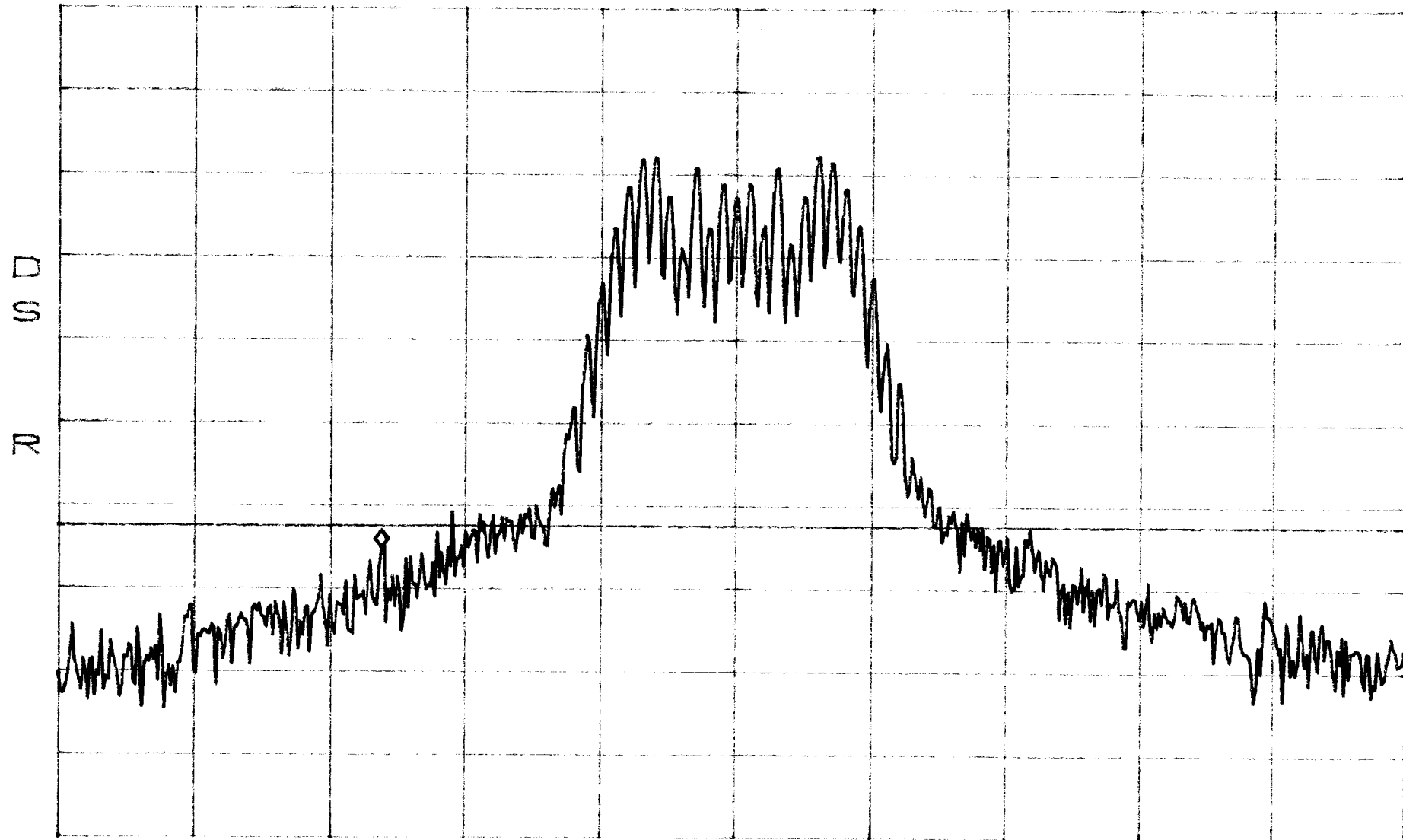
*ATTEN 30dB

MKR -15.50dBm

RL 49.5dBm

10dB/

1.9451738GHz



CENTER 1.94520000GHz

SPAN 100.0kHz

*RBW 300Hz

VBW 300Hz

SWP 2.8sec

CONDUCTED EMISSIONS BAND DBE

BAND EDGE

FM

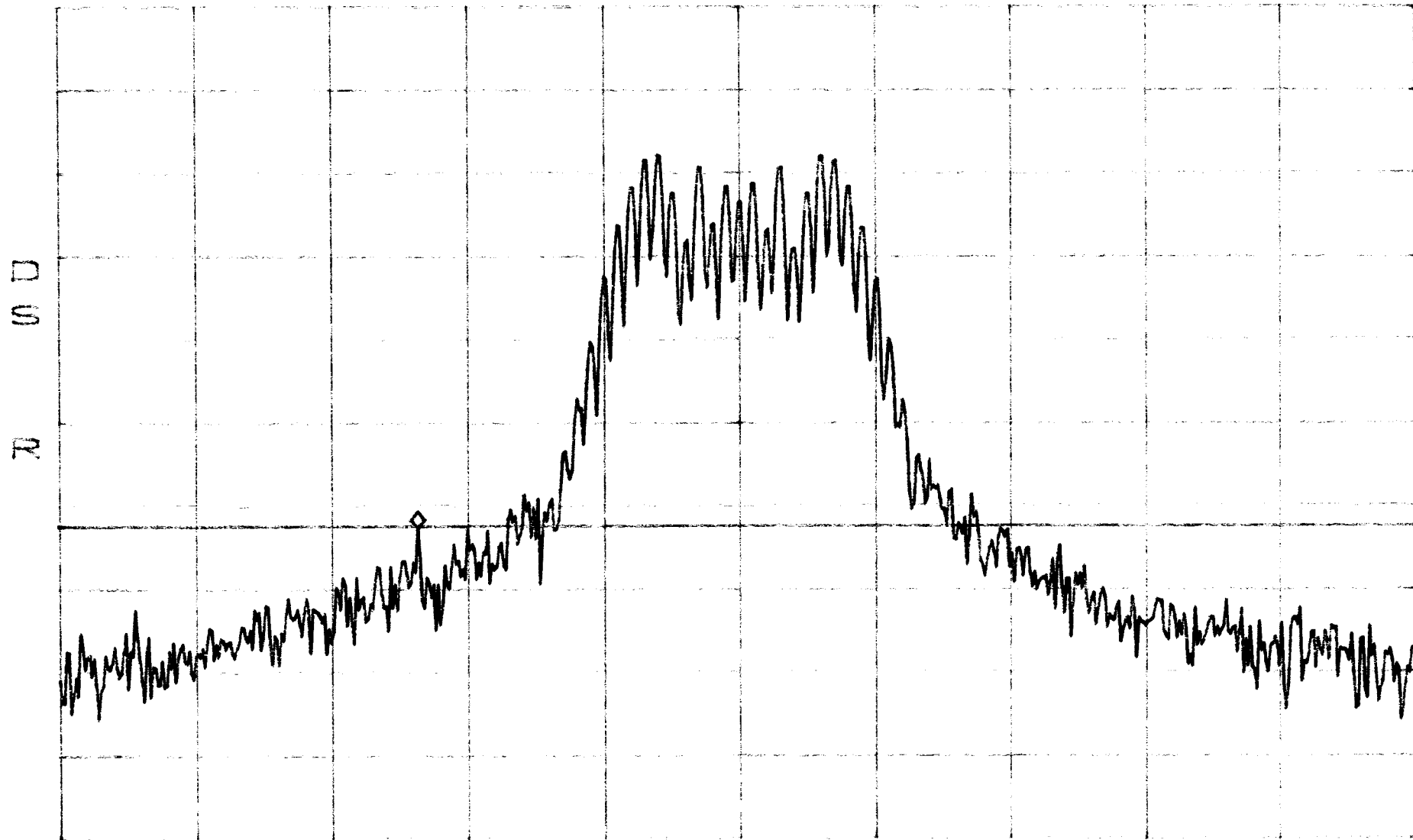
*ATTEN 30dB

MKR -13.17dBm

RL 49.5dBm

10dB/

1.9697763GHz



CENTER 1.9698000GHz

SPAN 100.0kHz

*RBW 300Hz

VBW 300Hz

SWP 2.8sec

CONDUCTED EMISSIONS BAND BEF LOW

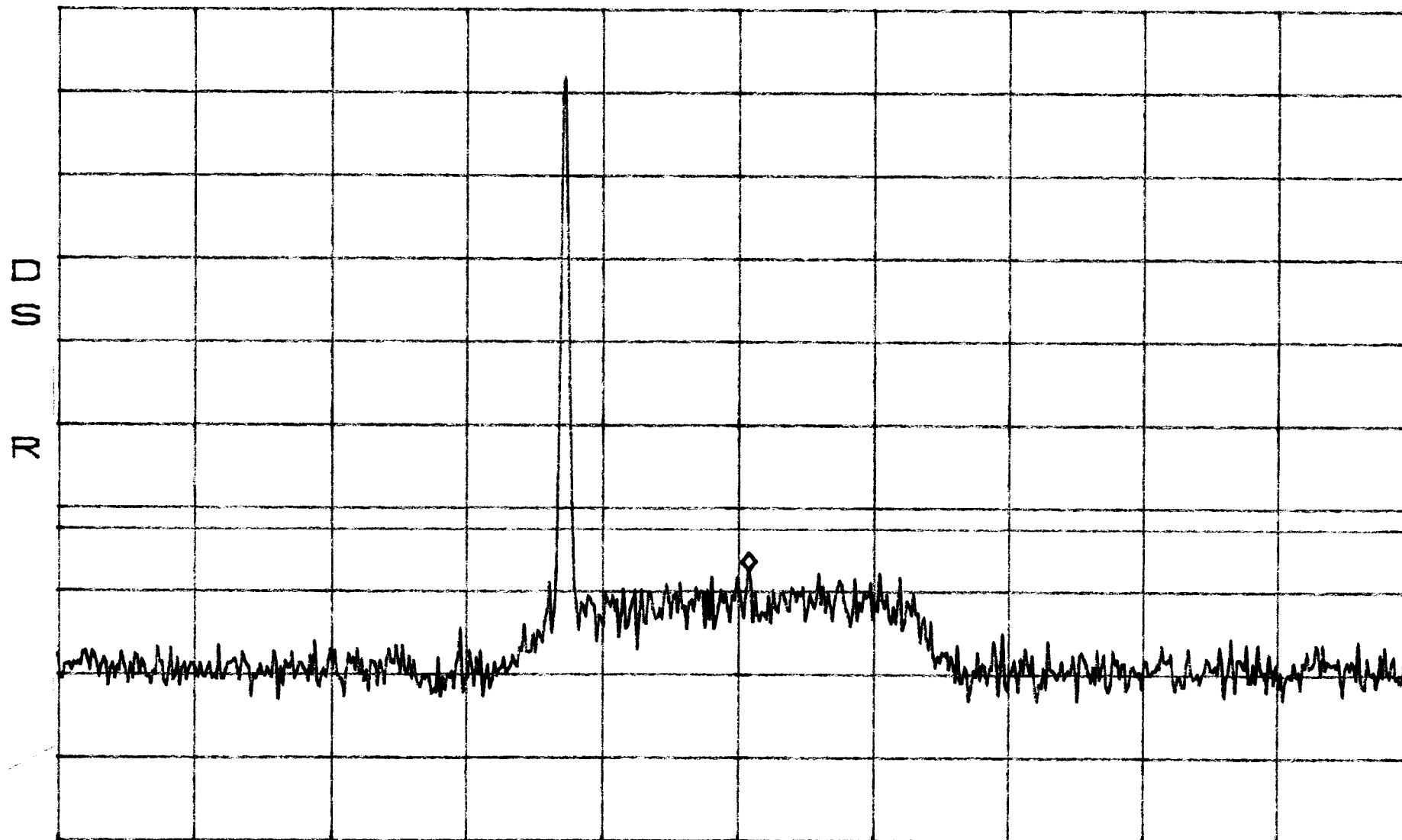
*ATTEN 30dB

MKR -17.83dBm

RL 49.5dBm

10dB/

1.9633GHz



CENTER 1.9625GHz

SPAN 100.0MHz

*RBW 100kHz

VBW 100kHz

SWP 50ms

CONDUCTED EMISSIONS BAND BEF LOW

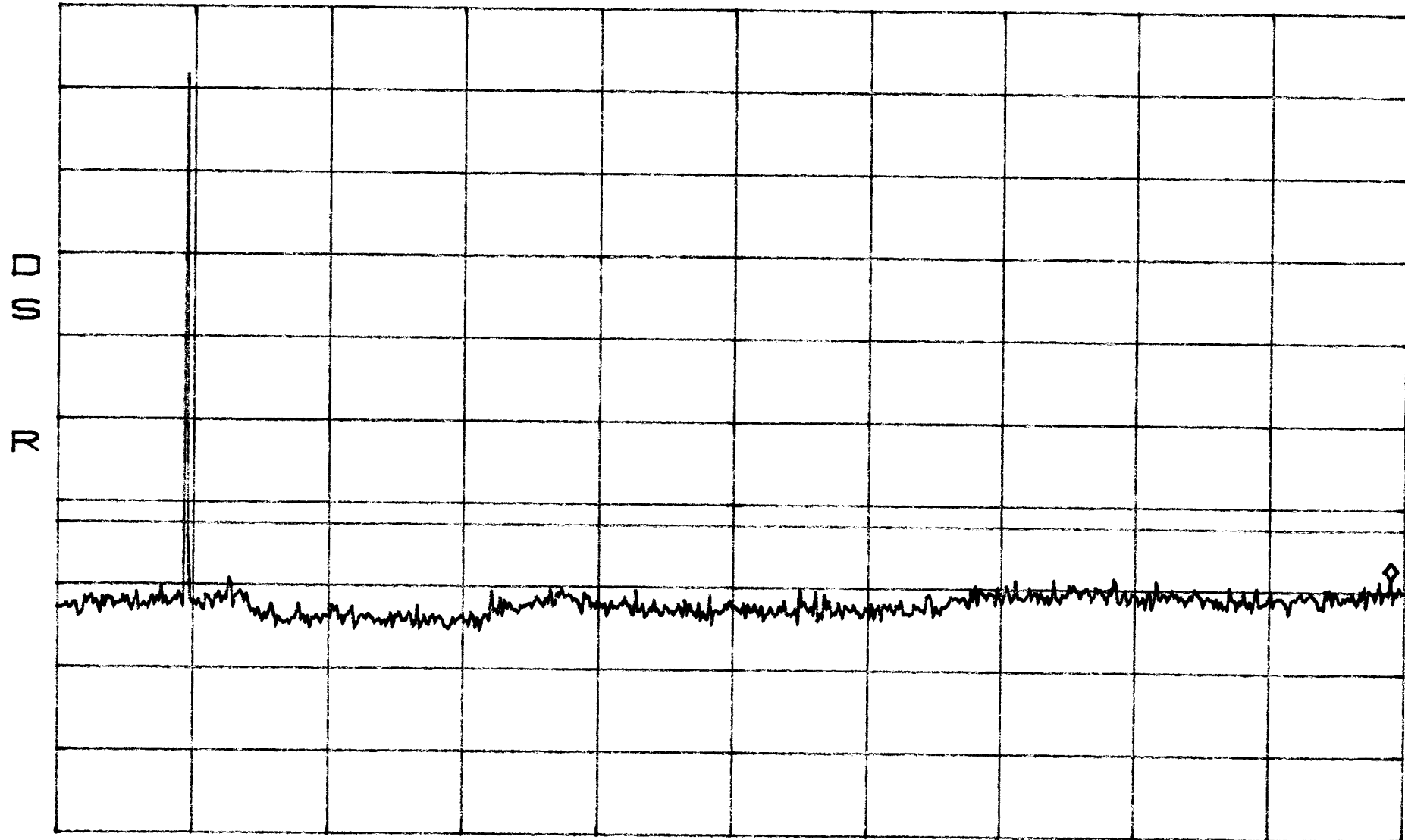
*ATTEN 30dB

MKR -18.83dBm

RL 49.5dBm

10dB/

19.80GHz



START 30MHz

STOP 20.00GHz

*RBW 300kHz

VBW 300kHz

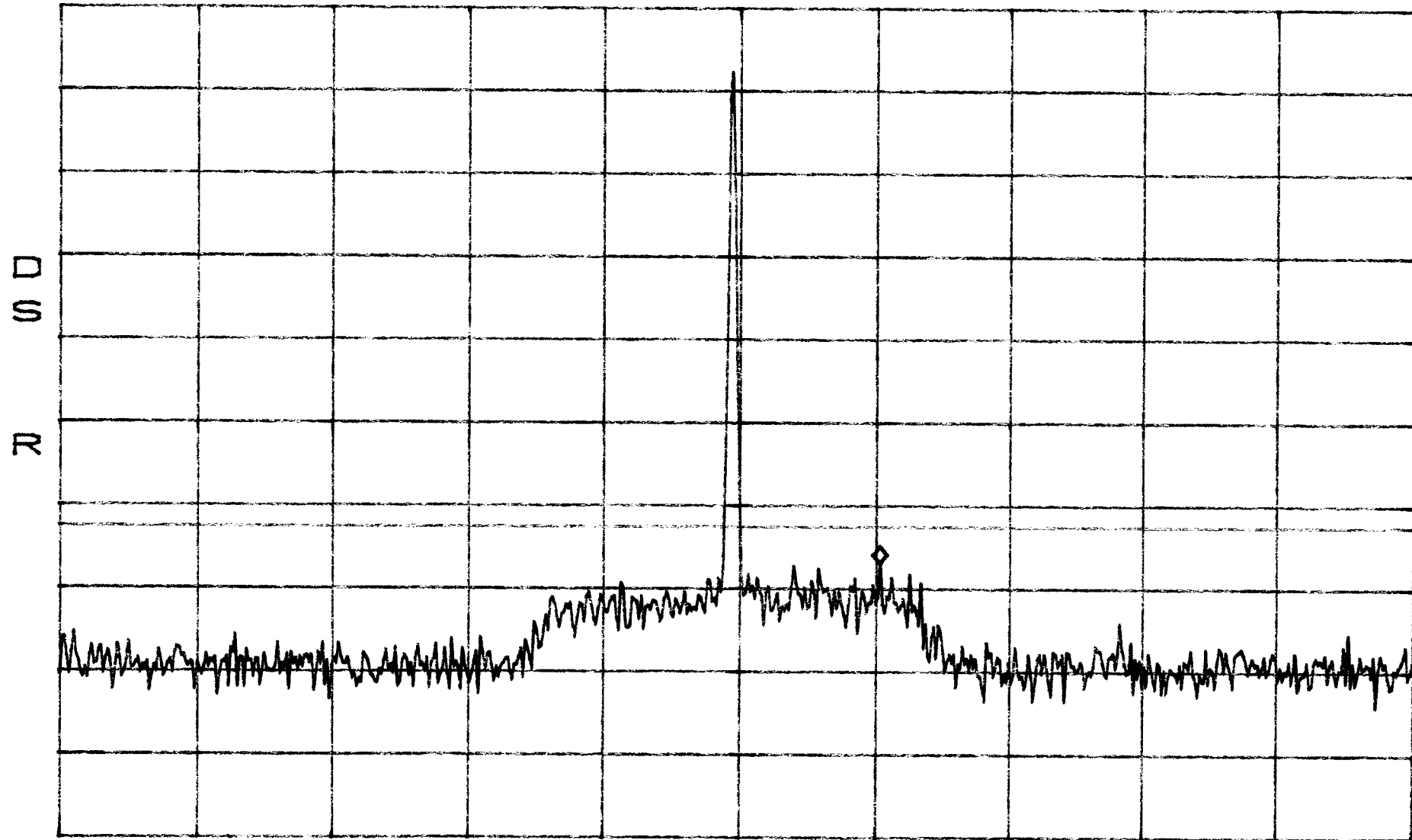
SWP 560ms

CONDUCTED EMISSIONS BAND BEF MID

*ATTEN 30dB
RL 49.5dBm

MKR -17.33dBm
1.9728GHz

10dB/



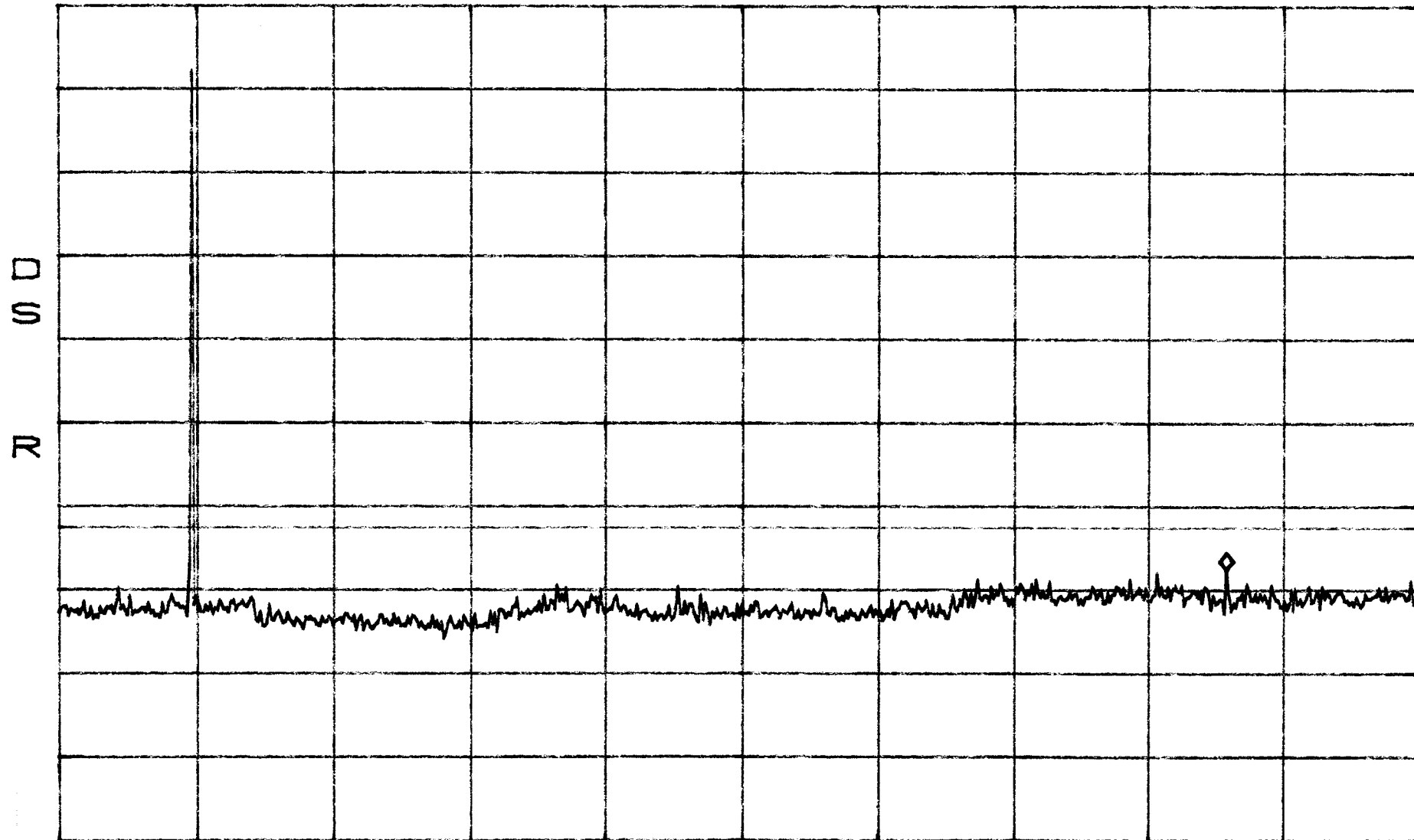
CENTER 1.9625GHz SPAN 100.0MHz
*RBW 100kHz VBW 100kHz SWP 50ms

CONDUCTED EMISSIONS BAND BEF MID

*ATTEN 30dB
RL 49.5dBm

10dB/

MKR -18.00dBm
17.17GHz



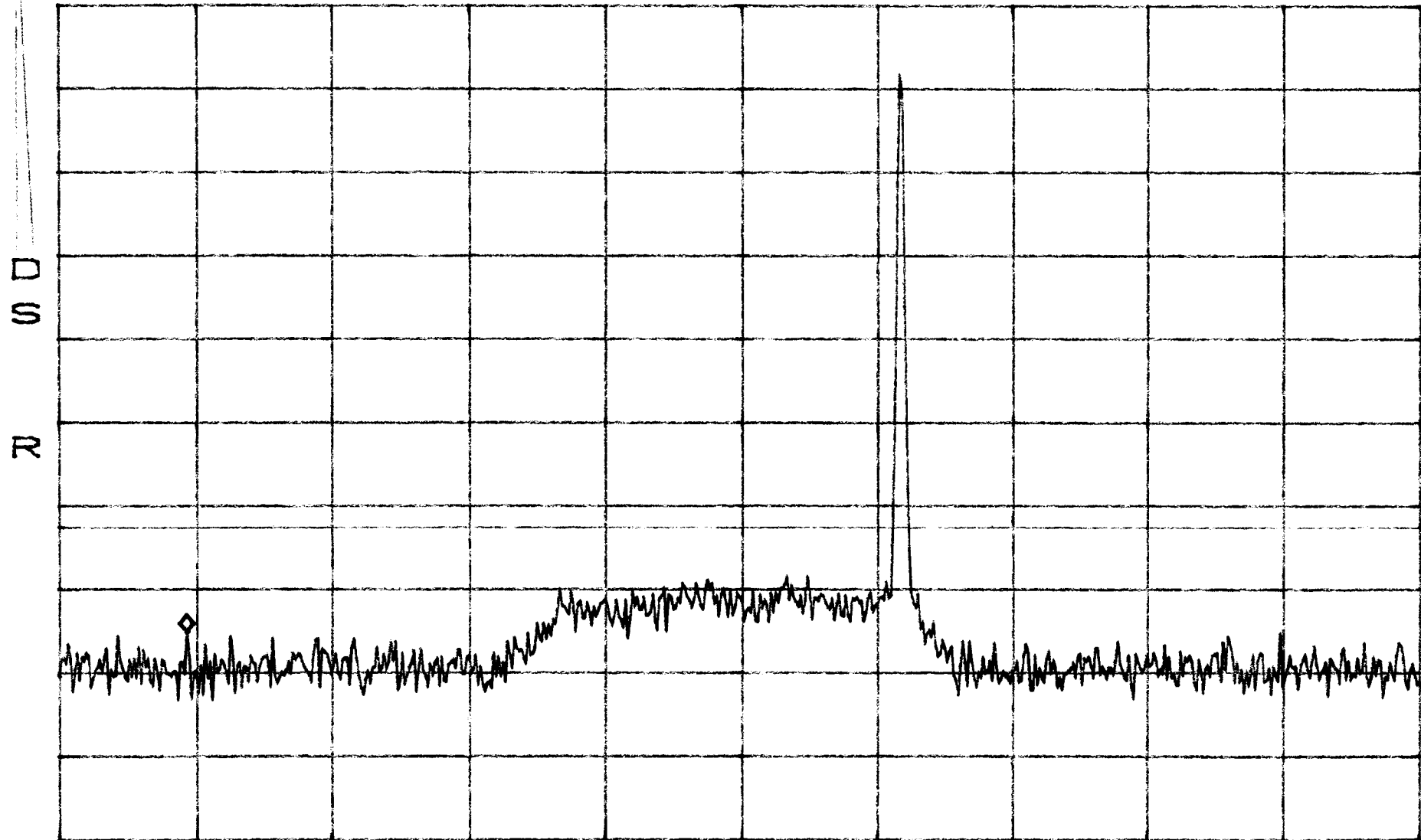
START 30MHz STOP 20.00GHz
*RBW 300kHz VBW 300kHz SWP 560ms

CONDUCTED EMISSIONS BAND BEF HIGH

*ATTEN 30dB
RL 49.5dBm

MKR -25.50dBm
1.9218GHz

10dB/



CENTER 1.9625GHz

SPAN 100.0MHz

*RBW 100kHz

VBW 100kHz

SWP 50ms

CONDUCTED EMISSIONS BAND BEF HIGH

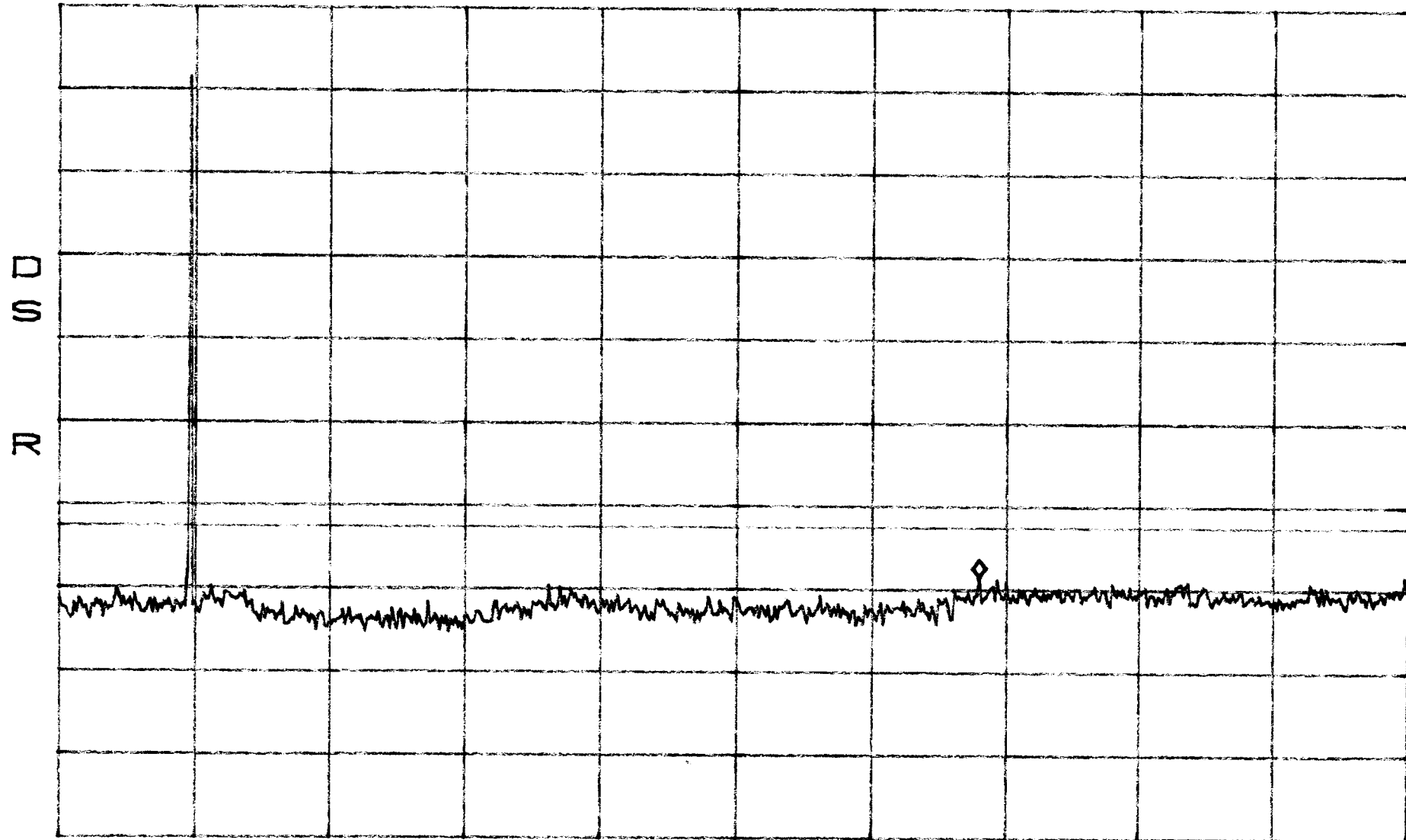
*ATTEN 30dB

MKR -18.83dBm

RL 49.5dBm

10dB/

13.91GHz



START 30MHz

STOP 20.00GHz

*RBW 300kHz

VBW 300kHz

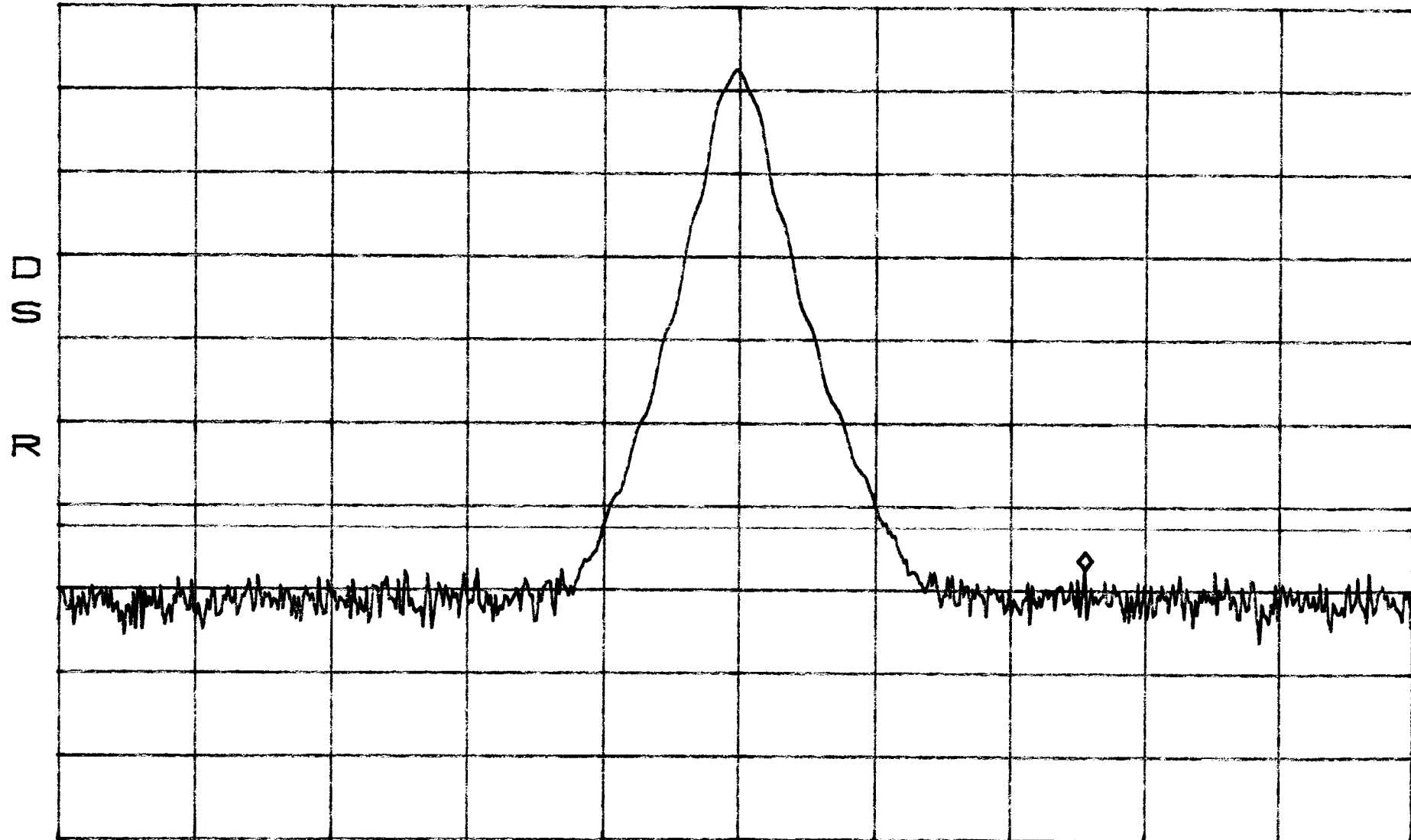
SWP 560ms

CONDUCTED EMISSIONS BAND BEF FM

*ATTEN 30dB
RL 49.5dBm

10dB/

MKR -17.83dBm
1.963775GHz



CENTER 1.962500GHz SPAN 5.000MHz
*RBW 100kHz VBW 100kHz SWP 50ms

CONDUCTED EMISSIONS BAND BEF FM

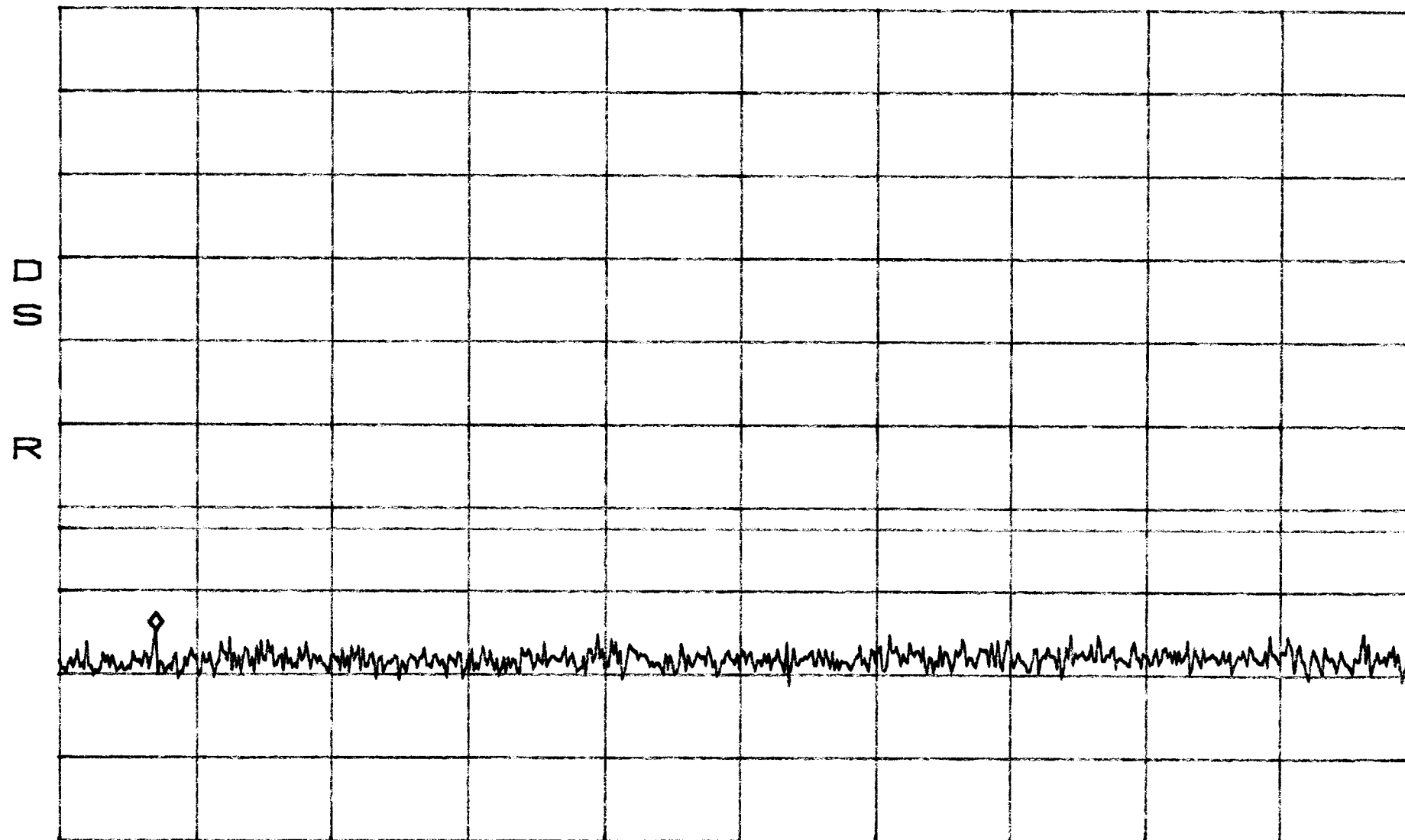
*ATTEN 30dB

MKR -25.17dBm

RL 49.5dBm

10dB/

97.9MHz



START 30.0MHz

STOP 1.0000GHz

*RBW 100kHz

VBW 100kHz

SWP 250ms

CONDUCTED EMISSIONS BAND BEF FM

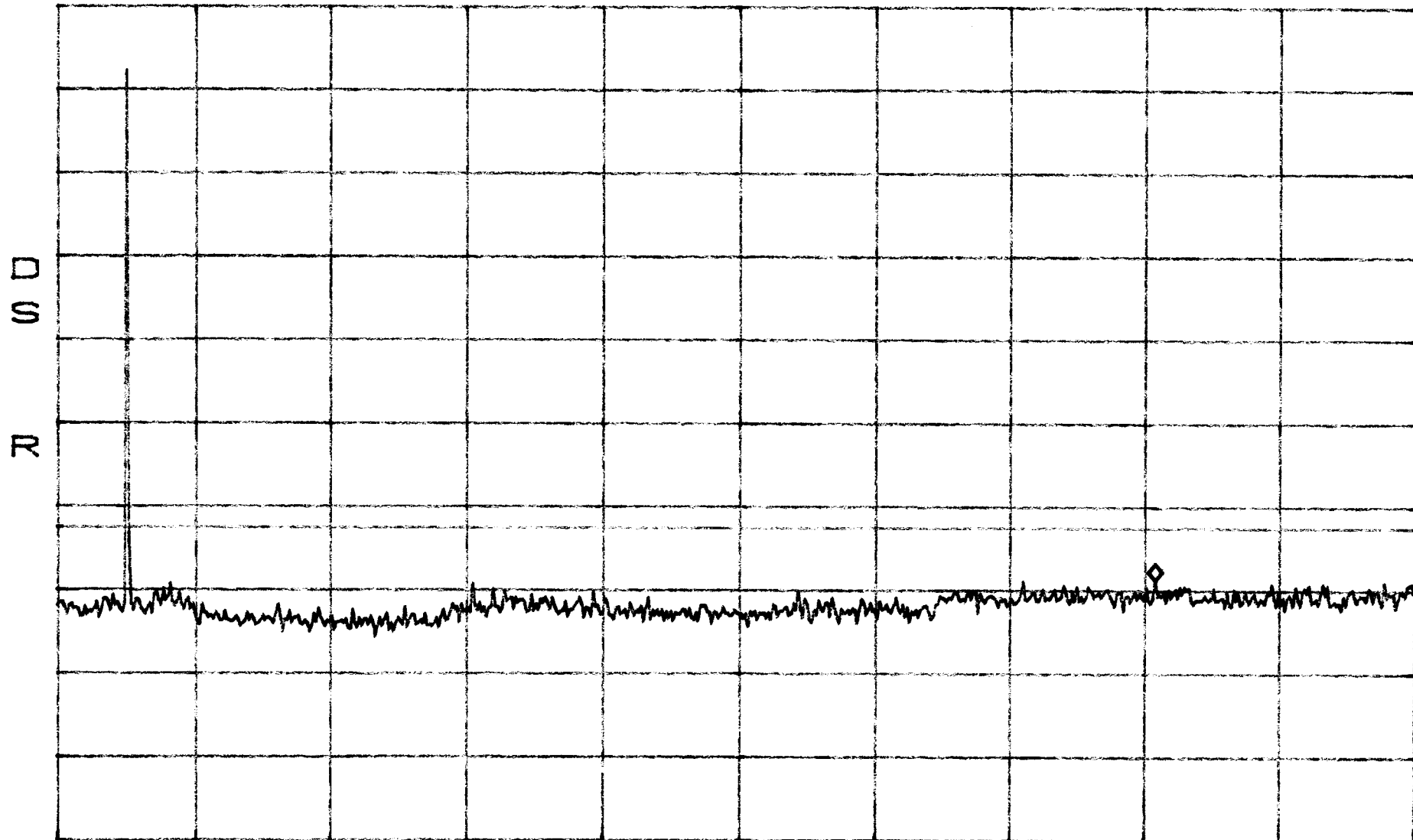
*ATTEN 30dB

MKR -19.17dBm

RL 49.5dBm

10dB/

16.36GHz



START 1.00GHz

STOP 20.00GHz

*RBW 300kHz

VBW 300kHz

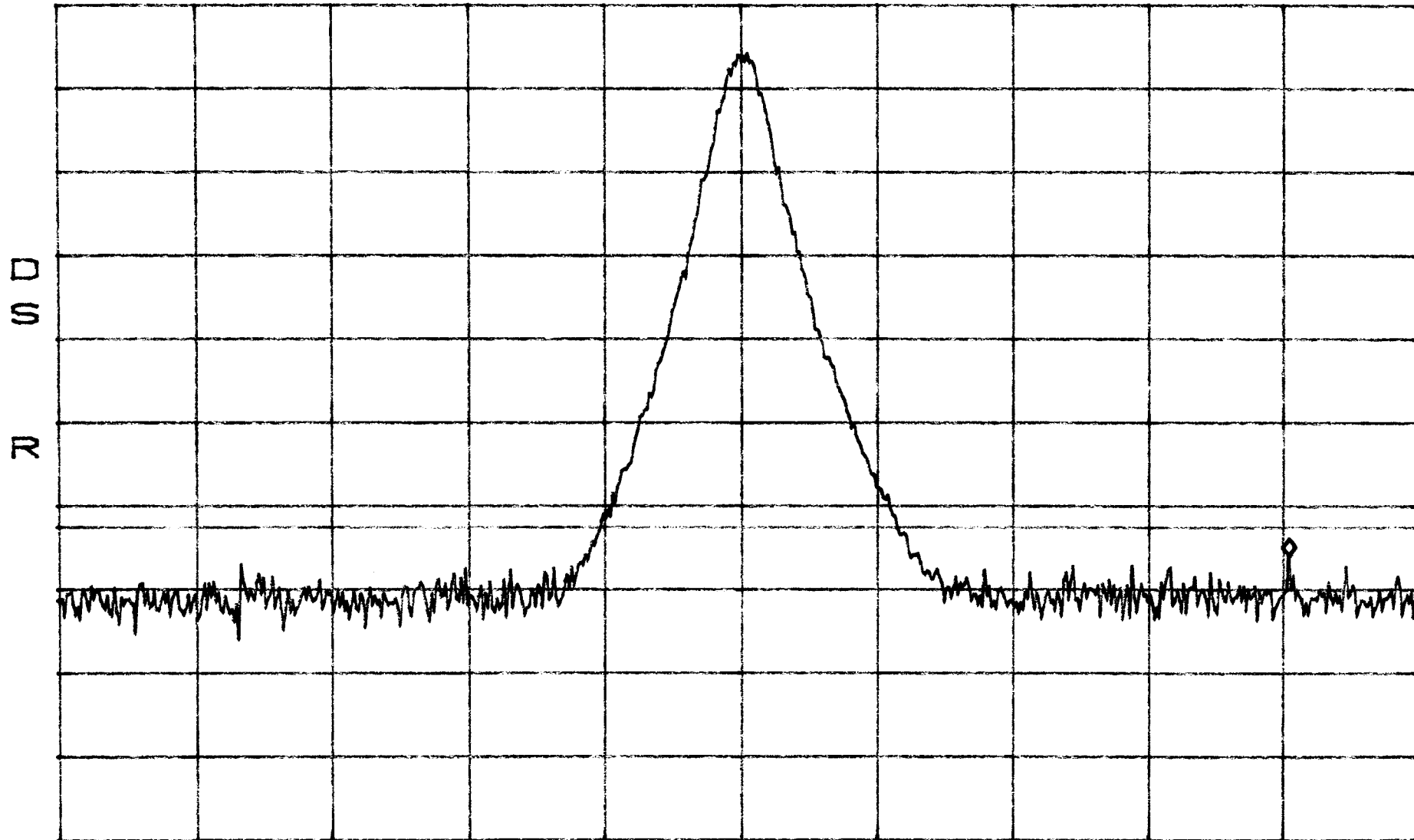
SWP 530ms

CONDUCTED EMISSIONS BAND BEF TDMA

*ATTEN 30dB
RL 49.5dBm

10dB/

MKR -16.33dBm
1.964525GHz



CENTER 1.962500GHz SPAN 5.000MHz
*RBW 100kHz VBW 100kHz SWP 50ms

CONDUCTED EMISSIONS BAND BEF TDMA

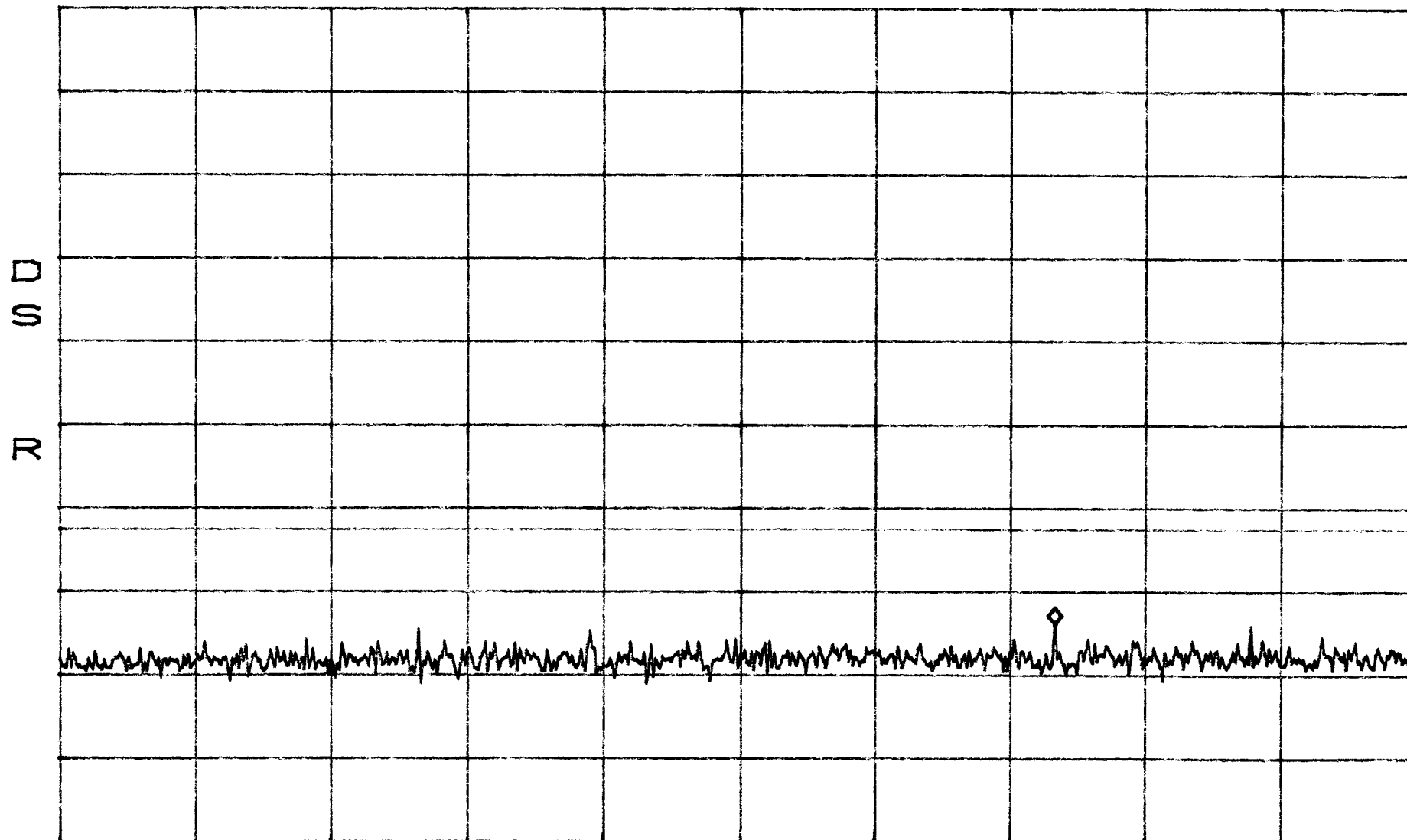
*ATTEN 30dB

MKR -24.33dBm

RL 49.5dBm

10dB/

741.3MHz



START 30.0MHz

STOP 1.0000GHz

*RBW 100kHz

VBW 100kHz

SWP 250ms

CONDUCTED EMISSIONS BAND BEF TDMA

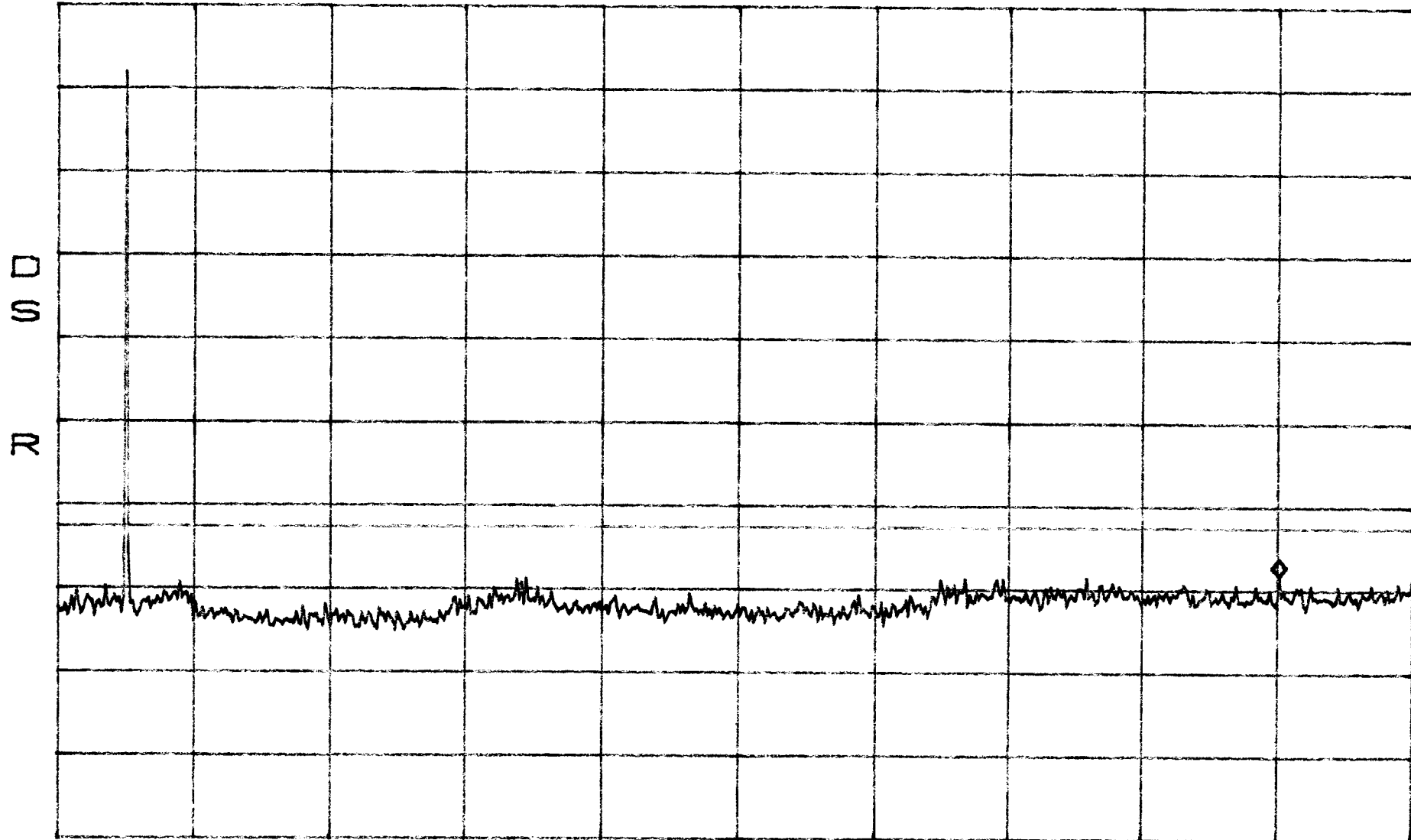
*ATTEN 30dB

MKR -18.67dBm

RL 49.5dBm

10dB/

18.13GHz



START 1.00GHz

STOP 20.00GHz

*RBW 300kHz

VBW 300kHz

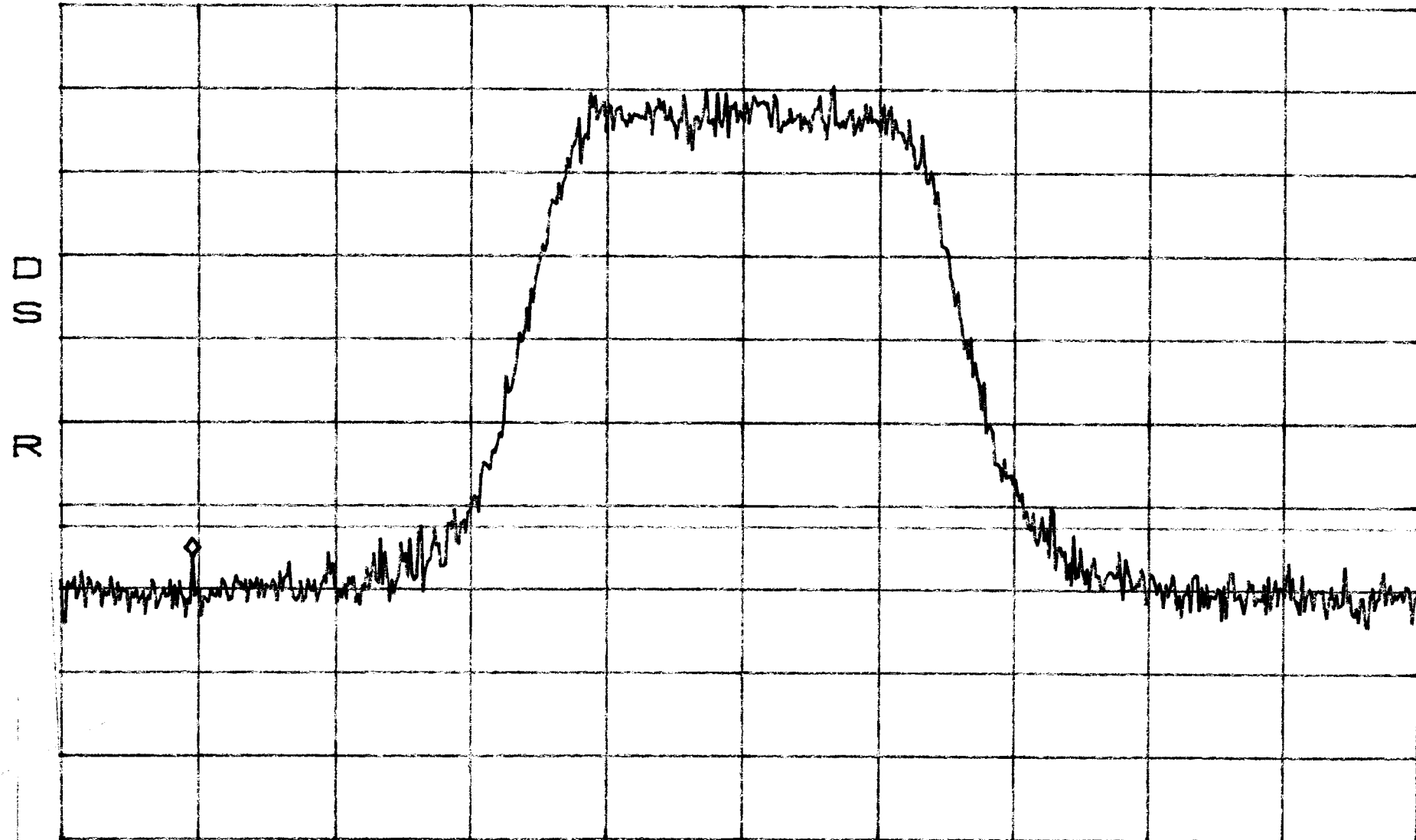
SWP 530ms

CONDUCTED EMISSIONS BAND BEF CDMA

*ATTEN 30dB
RL 49.5dBm

MKR -16.50dBm
1.960483GHz

10dB/



CENTER 1.962500GHz

SPAN 5.000MHz

*RBW 100kHz

VBW 100kHz

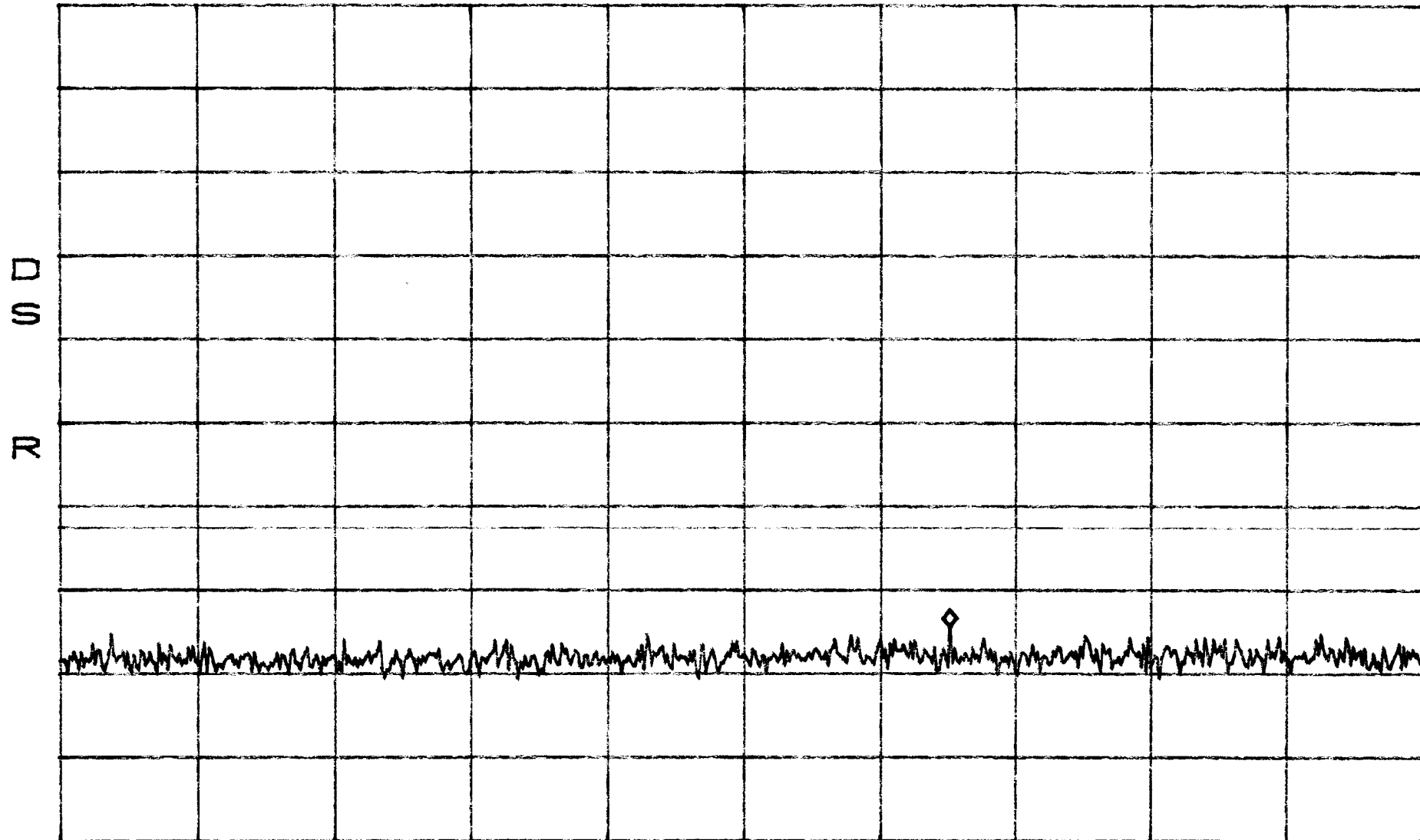
SWP 50ms

CONDUCTED EMISSIONS BAND BEF CDMA

*ATTEN 30dB
RL 49.5dBm

10dB/

MKR -24.83dBm
662.1MHz



START 30.0MHz

STOP 1.0000GHz

*RBW 100kHz

VBW 100kHz

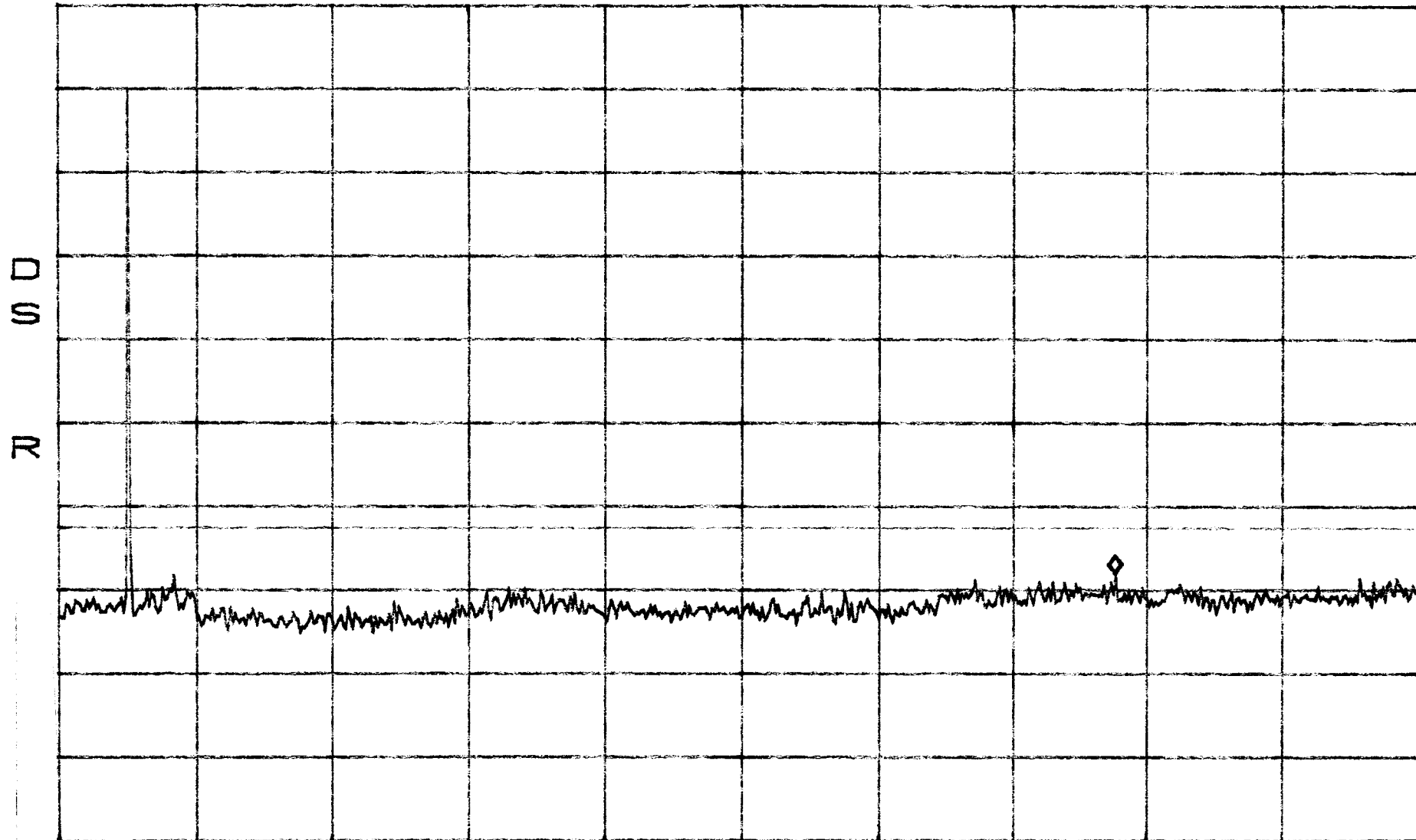
SWP 250ms

CONDUCTED EMISSIONS BAND BEF CDMA

*ATTEN 30dB
RL 49.5dBm

MKR -18.33dBm
15.76GHz

10dB/



START 1.00GHz

STOP 20.00GHz

*RBW 300kHz

VBW 300kHz

SWP 530ms

CONDUCTED EMISSIONS BAND BEF

BAND EDGE

FM

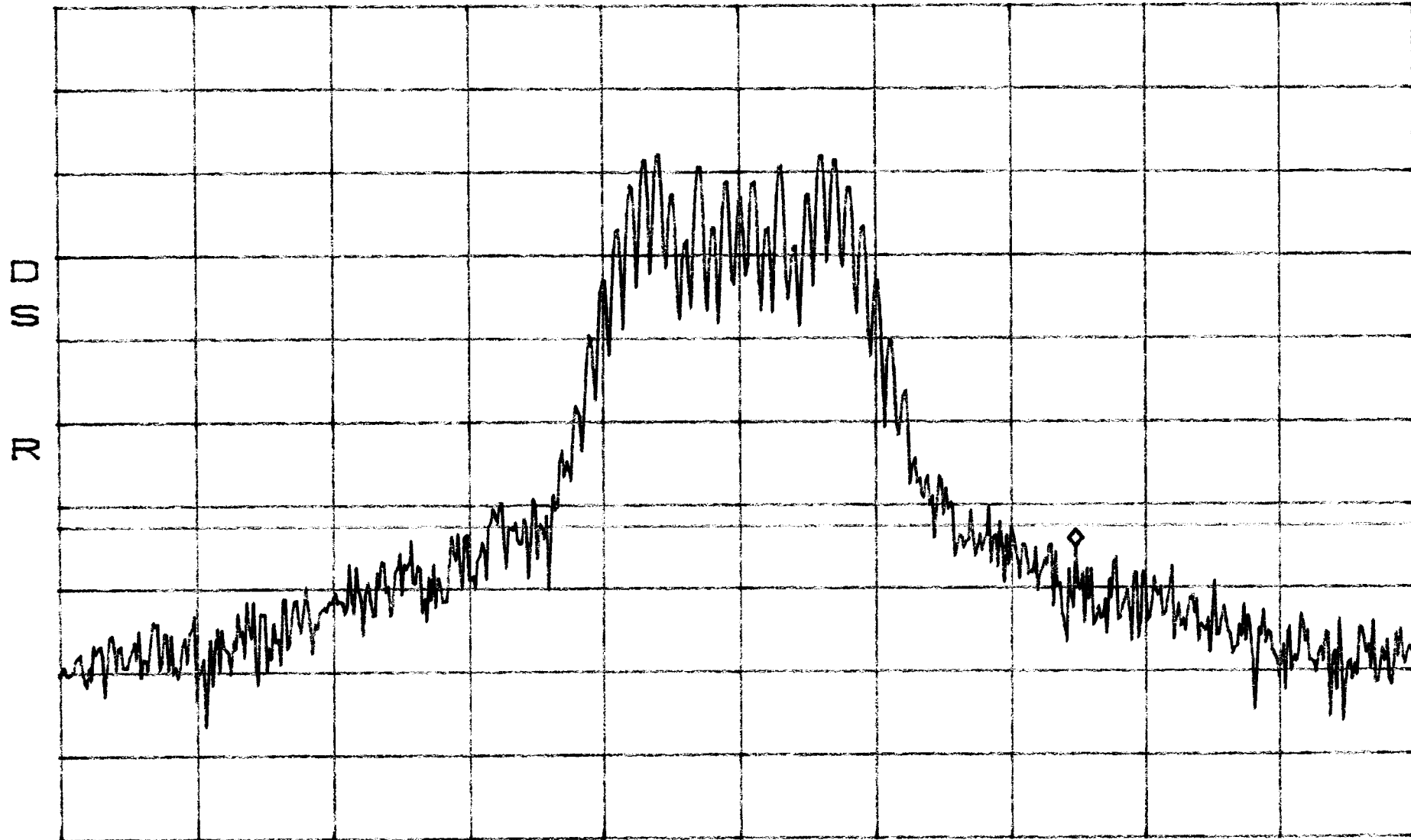
*ATTEN 30dB

MKR -15.50dBm

RL 49.5dBm

10dB/

1.9502248GHz



CENTER 1.9502000GHz

SPAN 100.0kHz

*RBW 300Hz

VBW 300Hz

SWP 2.8sec

CONDUCTED EMISSIONS BAND BEF

BAND EDGE

FM

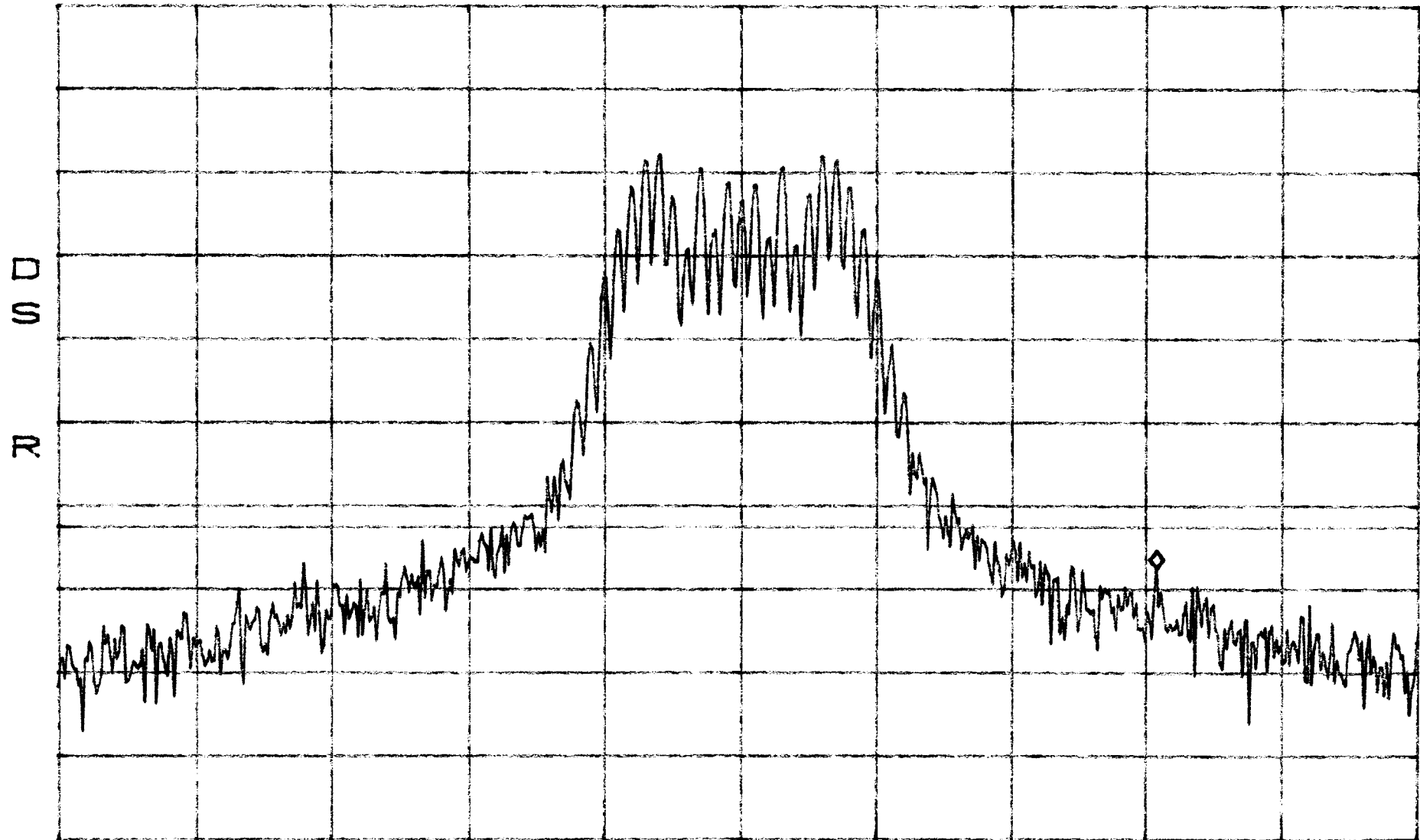
*ATTEN 30dB

MKR -17.83dBm

RL 49.5dBm

10dB/

1.9748308GHz



CENTER 1.9748000GHz

SPAN 100.0kHz

*RBW 300Hz

VBW 300Hz

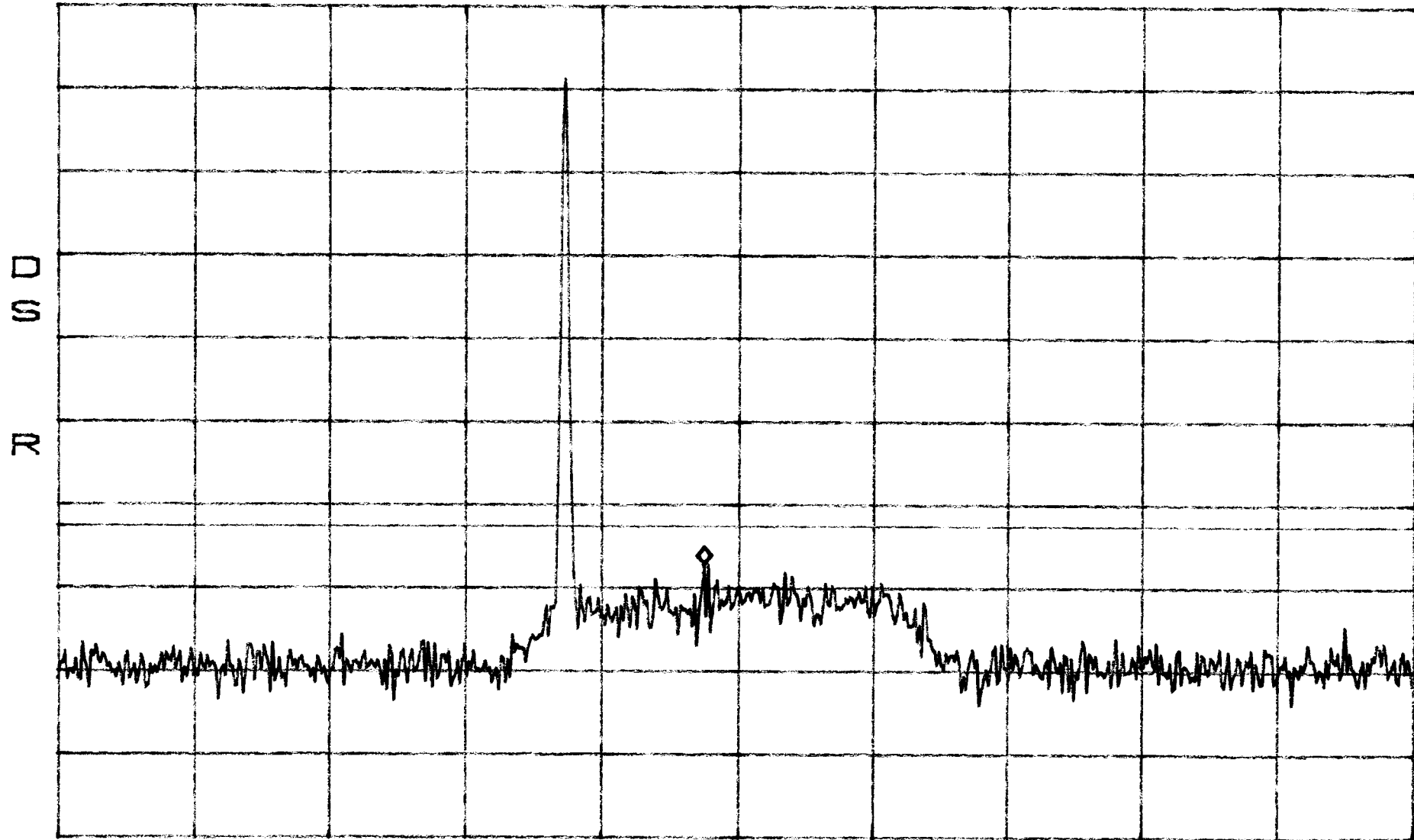
SWP 2.8sec

CONDUCTED EMISSIONS BAND EFC LOW

*ATTEN 30dB
RL 49.5dBm

MKR -17.50dBm
1.9750GHz

10dB/



CENTER 1.9775GHz

SPAN 100.0MHz

*RBW 100kHz VBW 100kHz

SWP 50ms

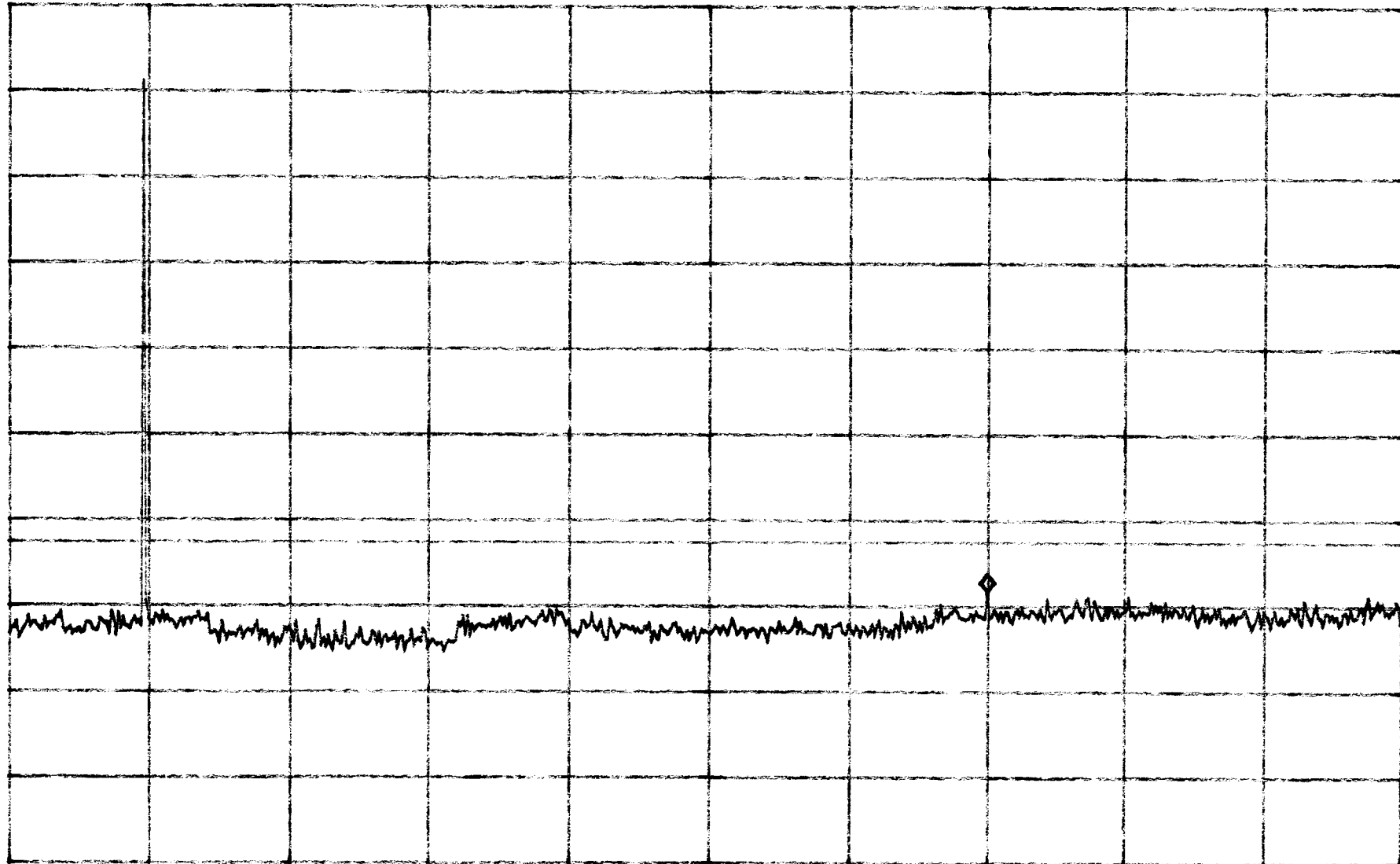
CONDUCTED EMISSIONS BAND EFC LOW

*ATTEN 30dB
RL 49.5dBm

MKR -18.67dBm
14.01GHz

10dB/

00
dB



START 30MHz

STOP 20.00GHz

*RBW 300kHz

VBW 300kHz

SWP 560ms

CONDUCTED EMISSIONS BAND EFC

MID

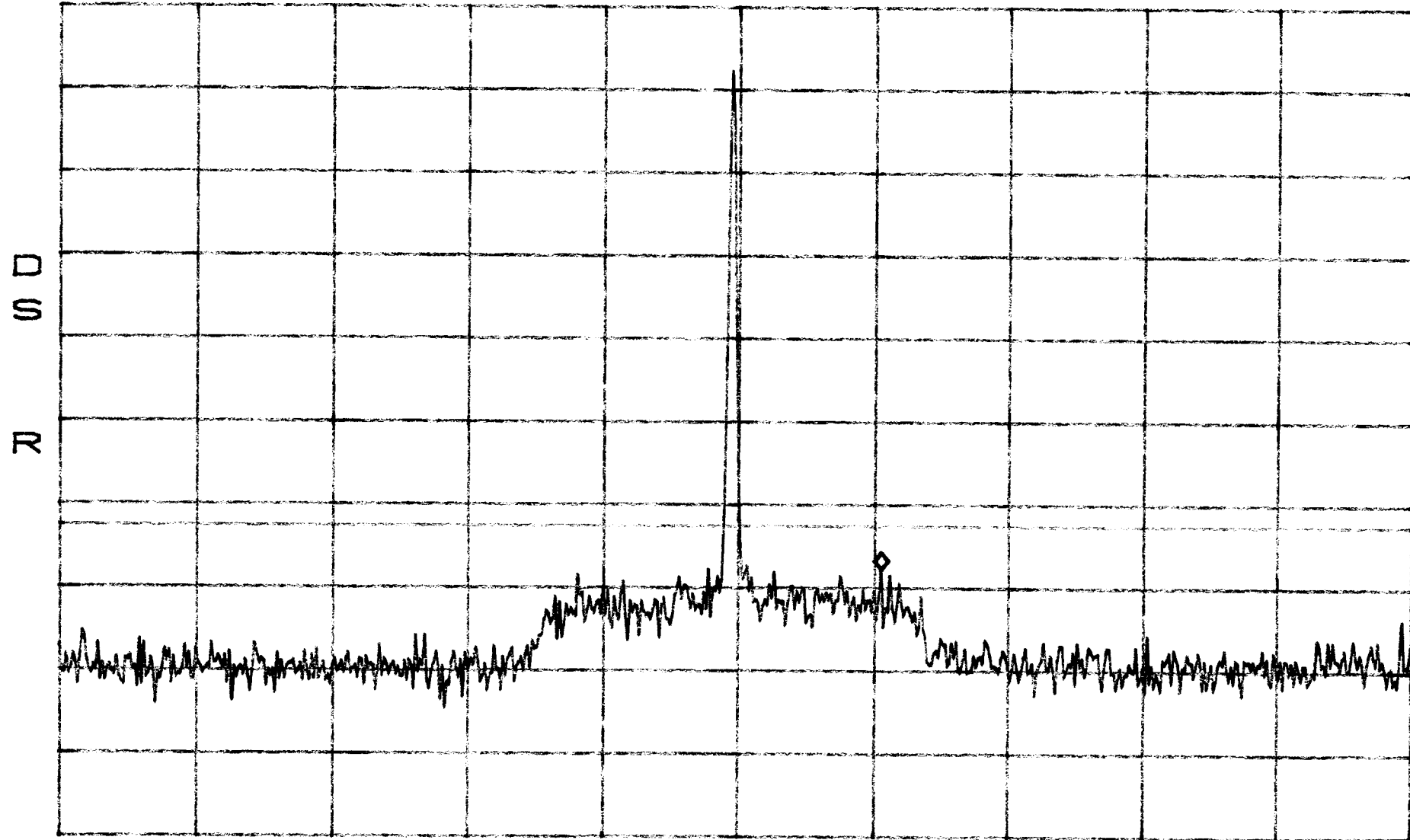
*ATTEN 30dB

MKR -18.17dBm

RL 49.5dBm

10dB/

1.9880GHz



CENTER 1.9775GHz

SPAN 100.0MHz

*RBW 100kHz

VBW 100kHz

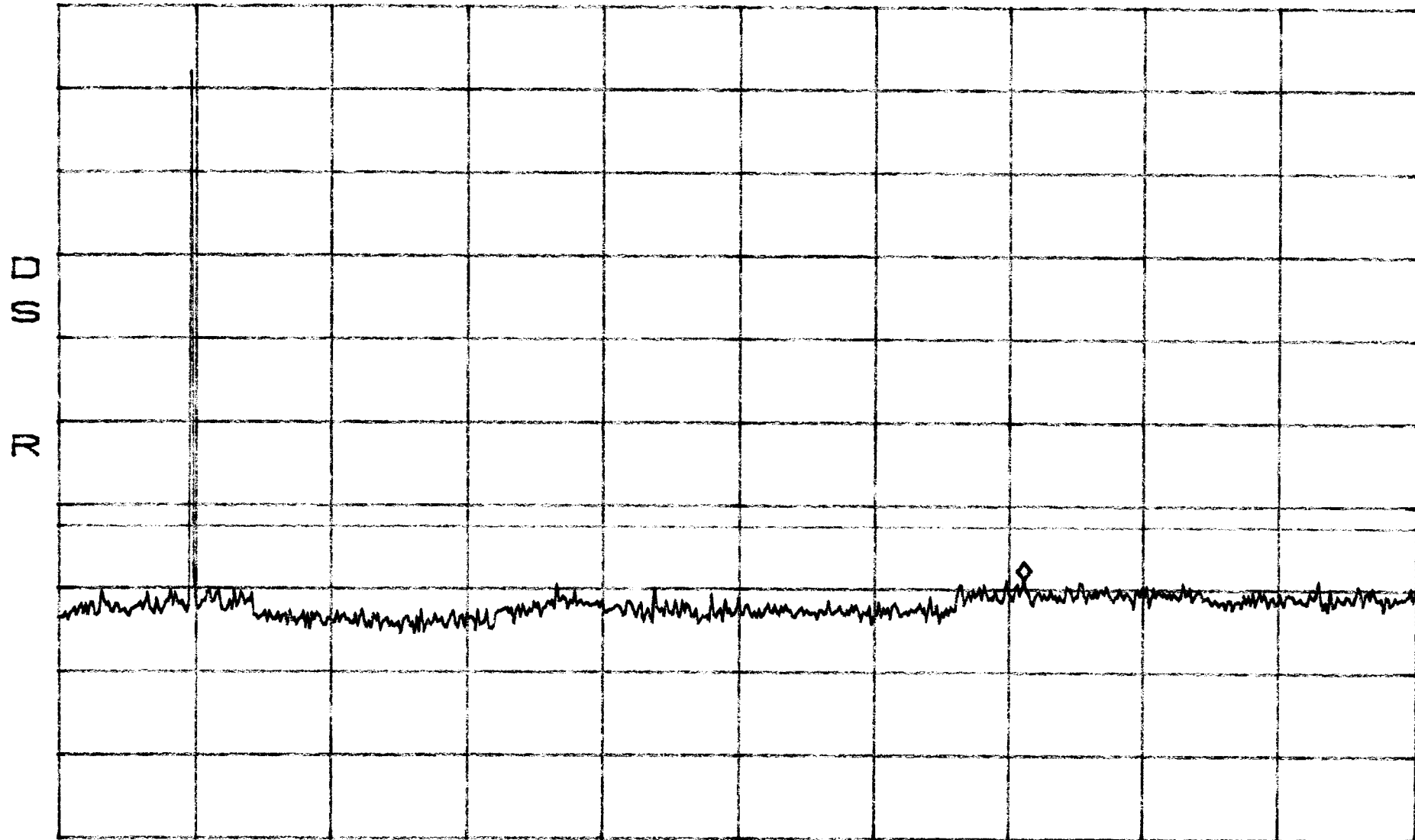
SWP 50ms

CONDUCTED EMISSIONS BAND EFC MID

*ATTEN 30dB
RL 49.5dBm

MKR -19.17dBm
14.24GHz

10dB/



START 30MHz

STOP 20.00GHz

*RBW 300kHz

VBW 300kHz

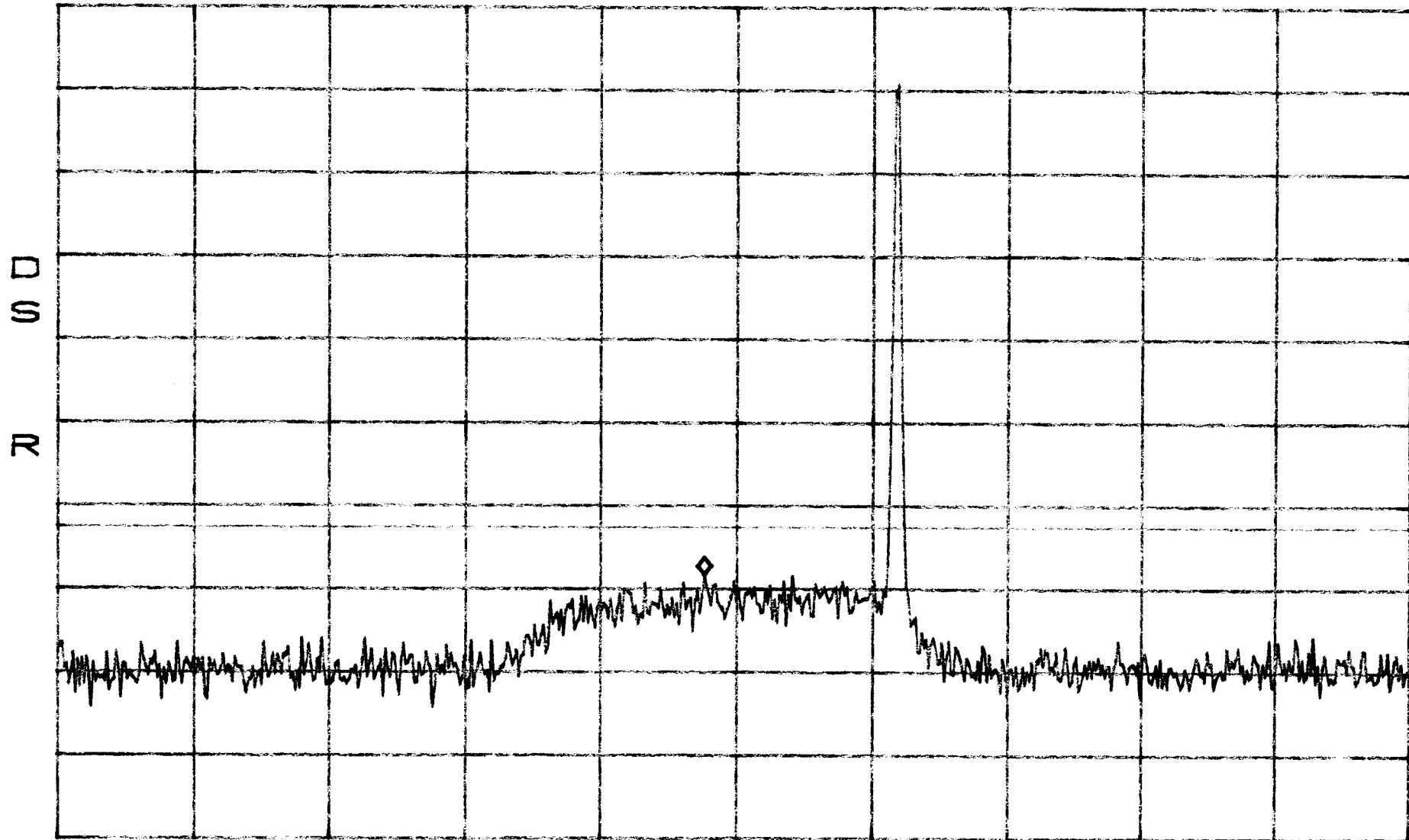
SWP 560ms

CONDUCTED EMISSIONS BAND EFC HIGH

*ATTEN 30dB
RL 49.5dBm

MKR -18.67dBm
1.9752GHz

10dB/



CENTER 1.9775GHz

SPAN 100.0MHz

*RBW 100kHz VBW 100kHz

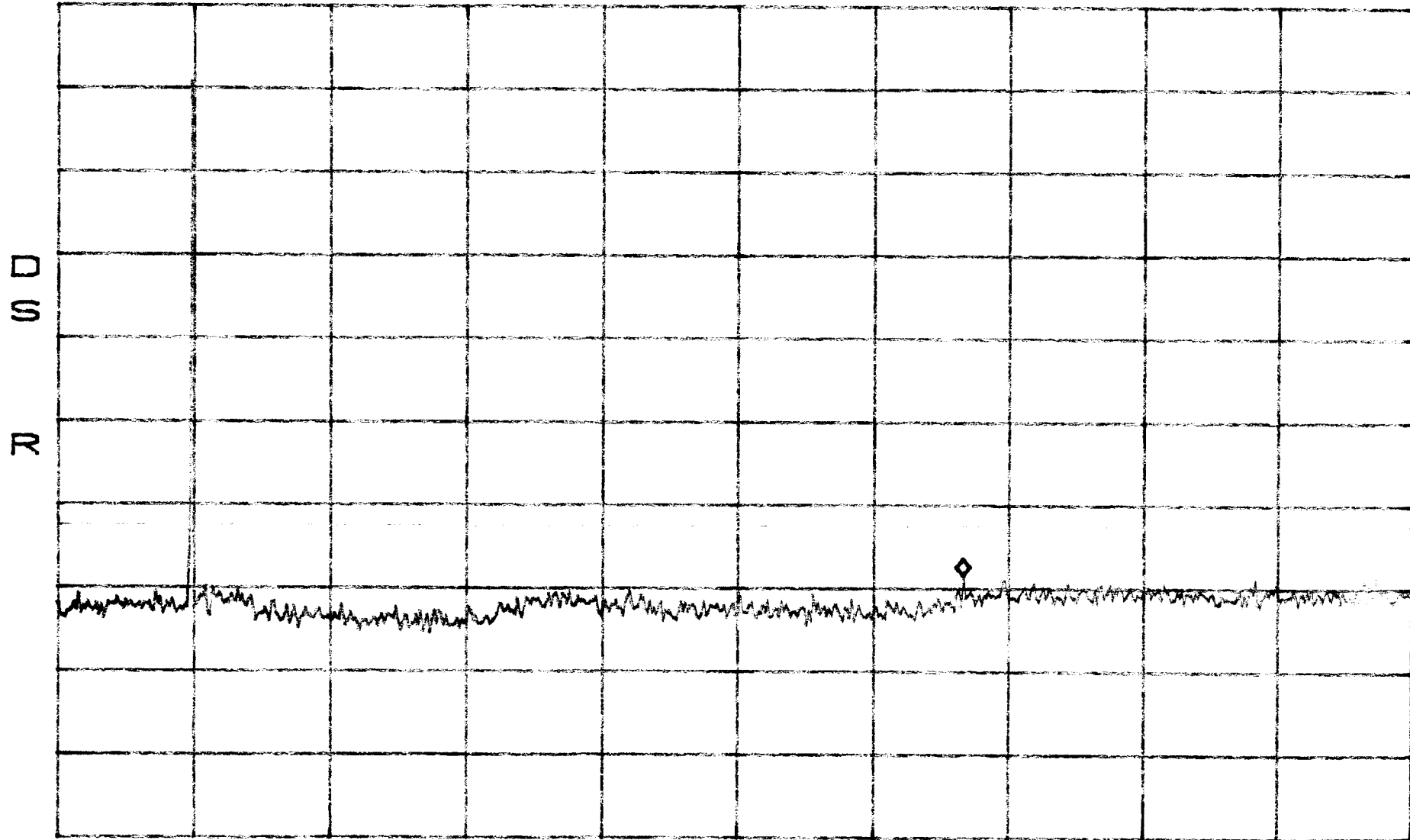
SWP 50ms

CONDUCTED EMISSIONS BAND EFC HIGH

*ATTEN 30dB
RL 49.5dBm

10dB/

MKR -18.83dBm
13.34GHz



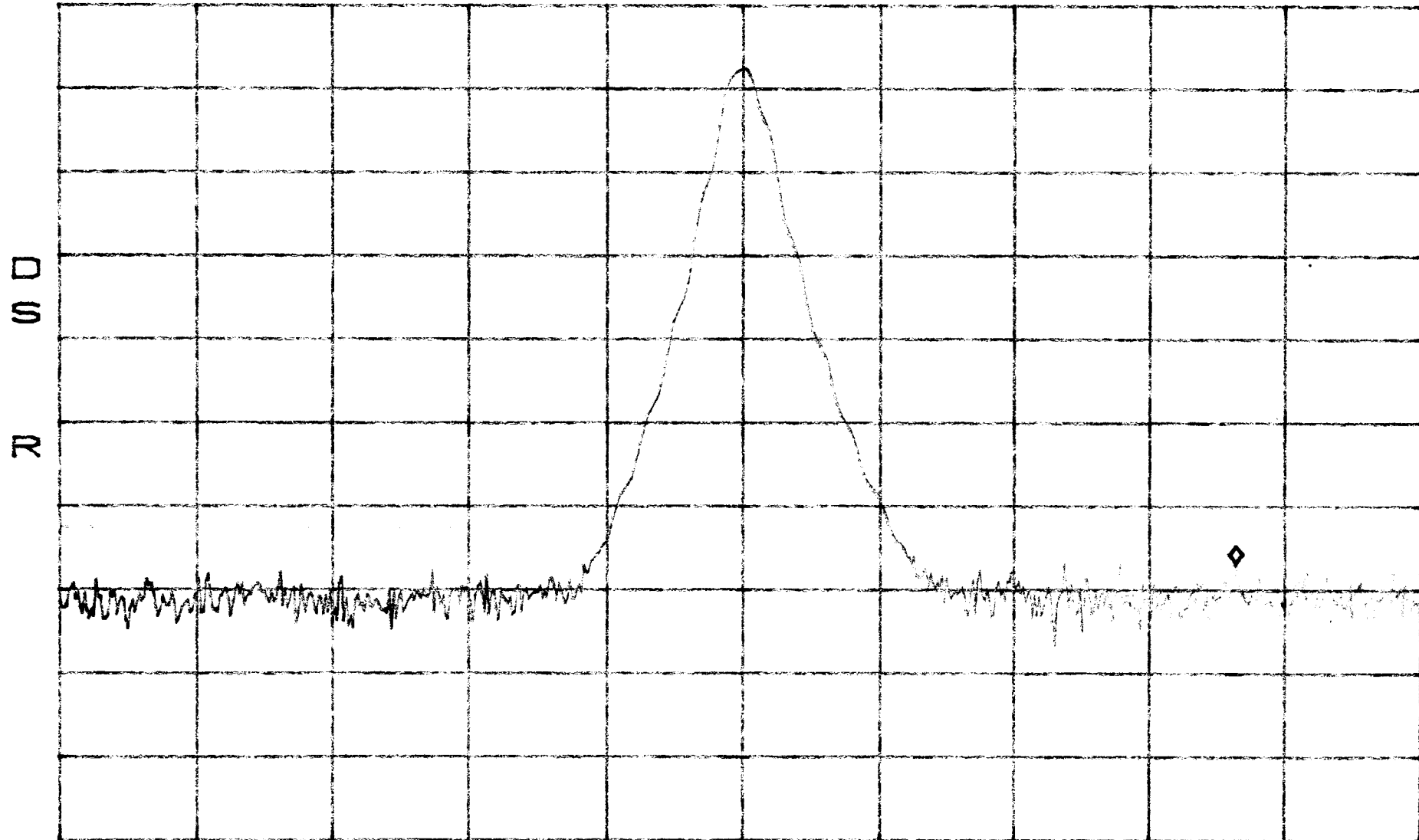
START 30MHz STOP 20.00GHz
*RBW 300kHz VBW 300kHz SWP 560ms

CONDUCTED EMISSIONS BAND EFC FM

*ATTEN 30dB
RL 49.5dBm

MKR -17.17dBm
1.979325GHz

10dB/



CENTER 1.977500GHz

SPAN 5.000MHz

*RBW 100kHz

VBW 100kHz

SWP 50ms

CONDUCTED EMISSIONS BAND EFC FM

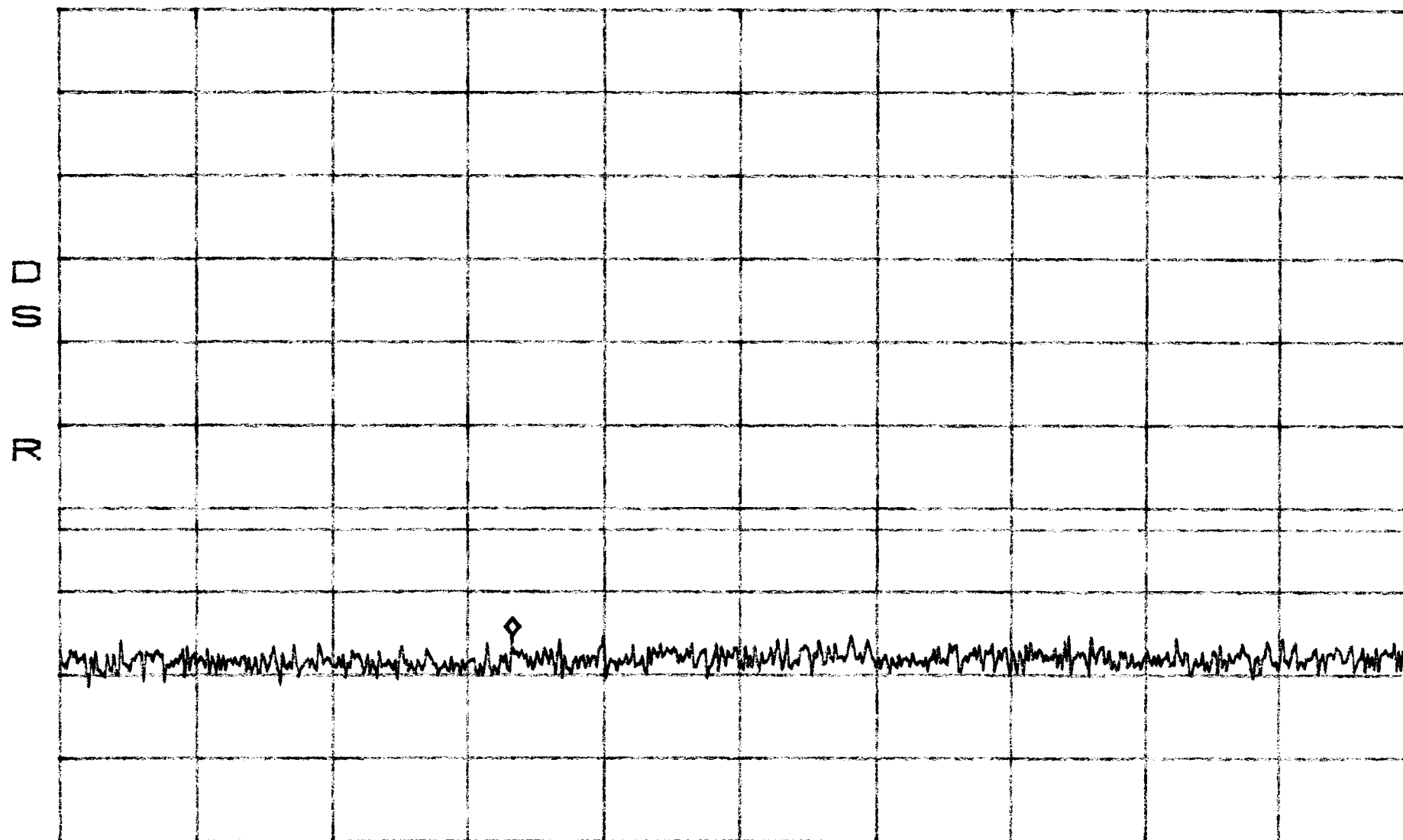
*ATTEN 30dB

MKR -25.67dBm

RL 49.5dBm

10dB/

353.3MHz



START 30.0MHz

STOP 1.0000GHz

*RBW 100kHz

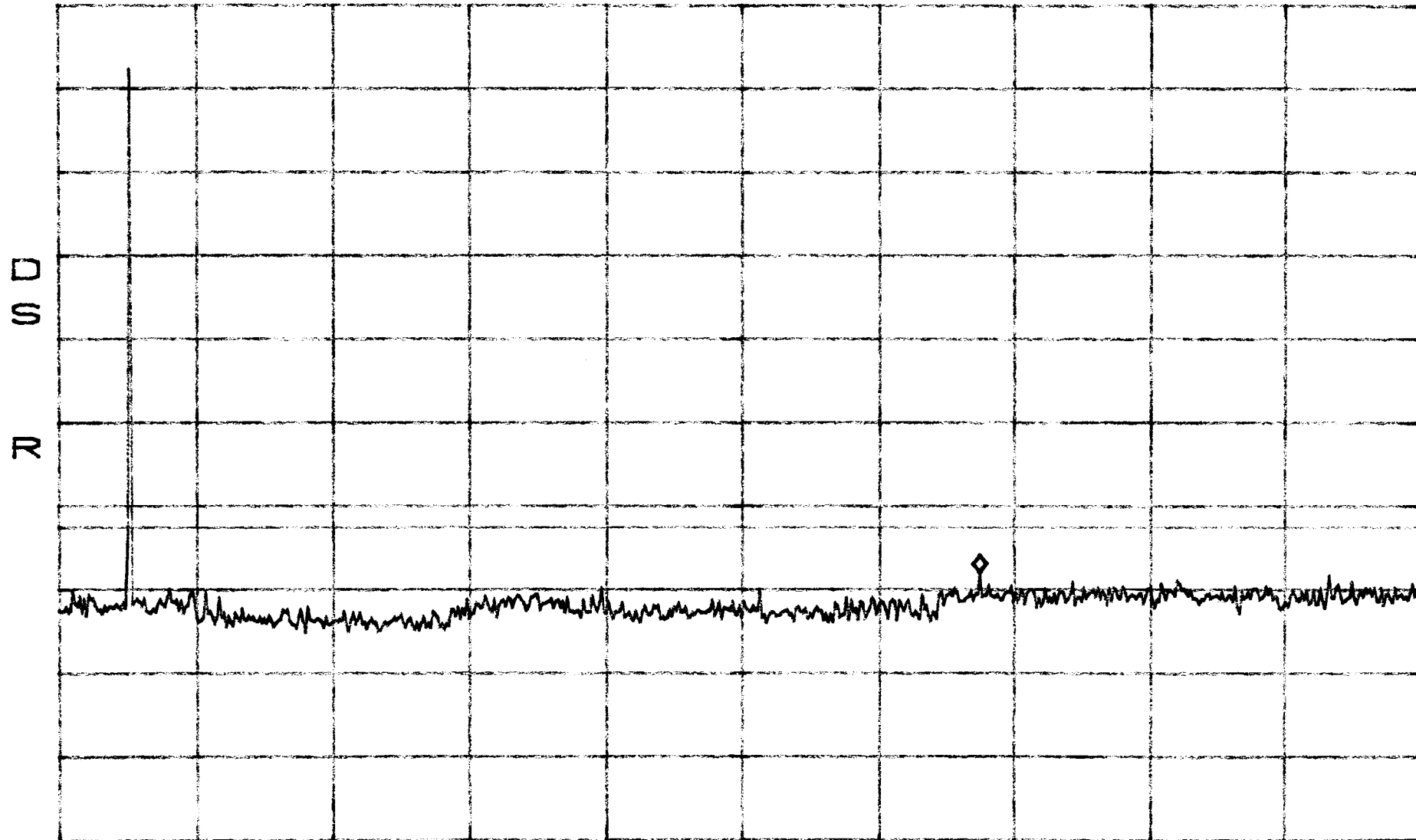
VBW 100kHz

SWP 250ms

CONDUCTED EMISSIONS BAND EFC FM

*ATTEN 30dB
RL 49.5dBm

MKR -18.33dBm
13.83GHz



START 1.00GHz

STOP 20.00GHz

*RBW 300kHz

VBW 300kHz

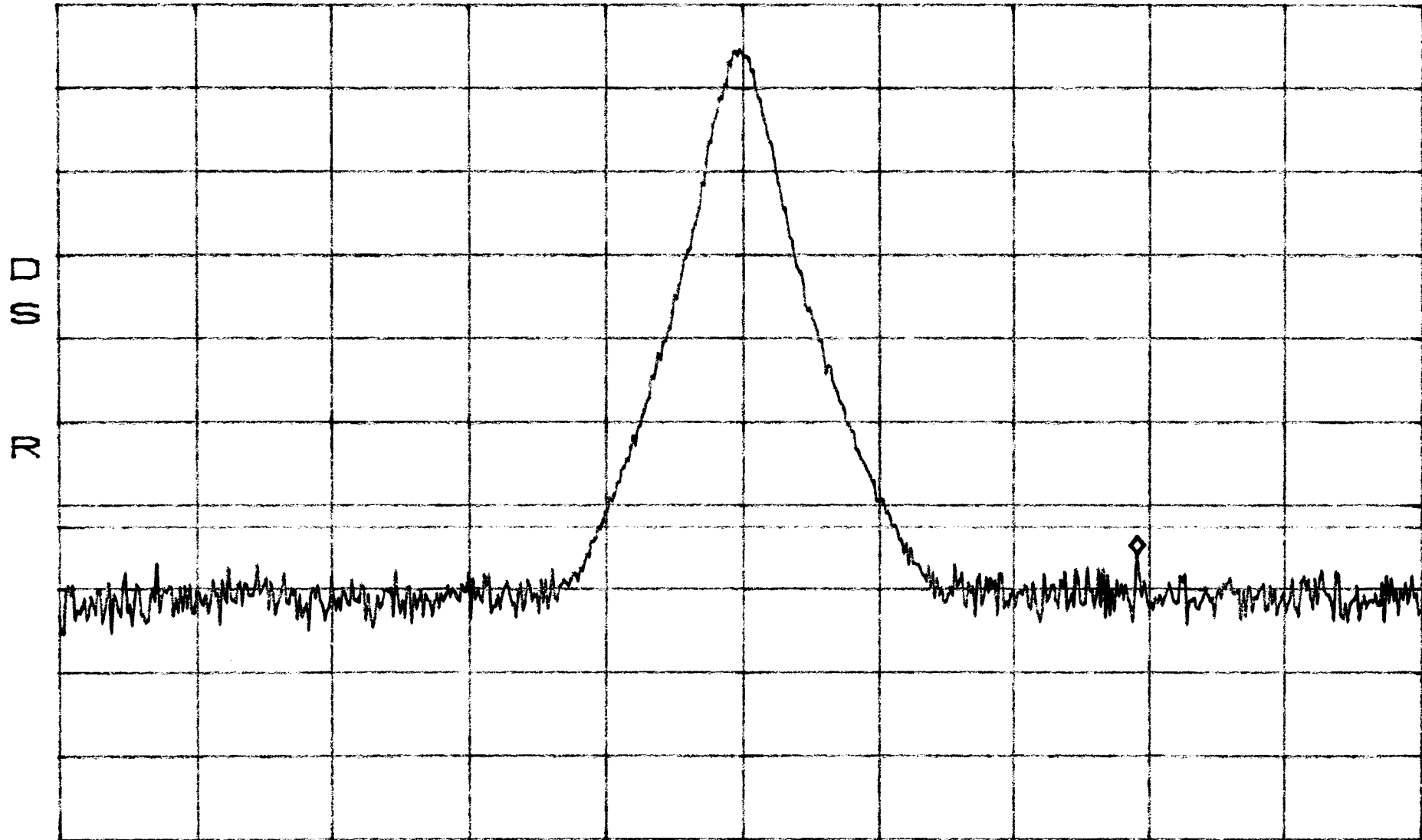
SWP 530ms

CONDUCTED EMISSIONS BAND EFC TDMA

*ATTEN 30dB
RL 49.5dBm

MKR -16.17dBm
1.978958GHz

10dB/



CENTER 1.977500GHz

SPAN 5.000MHz

*RBW 100kHz

VBW 100kHz

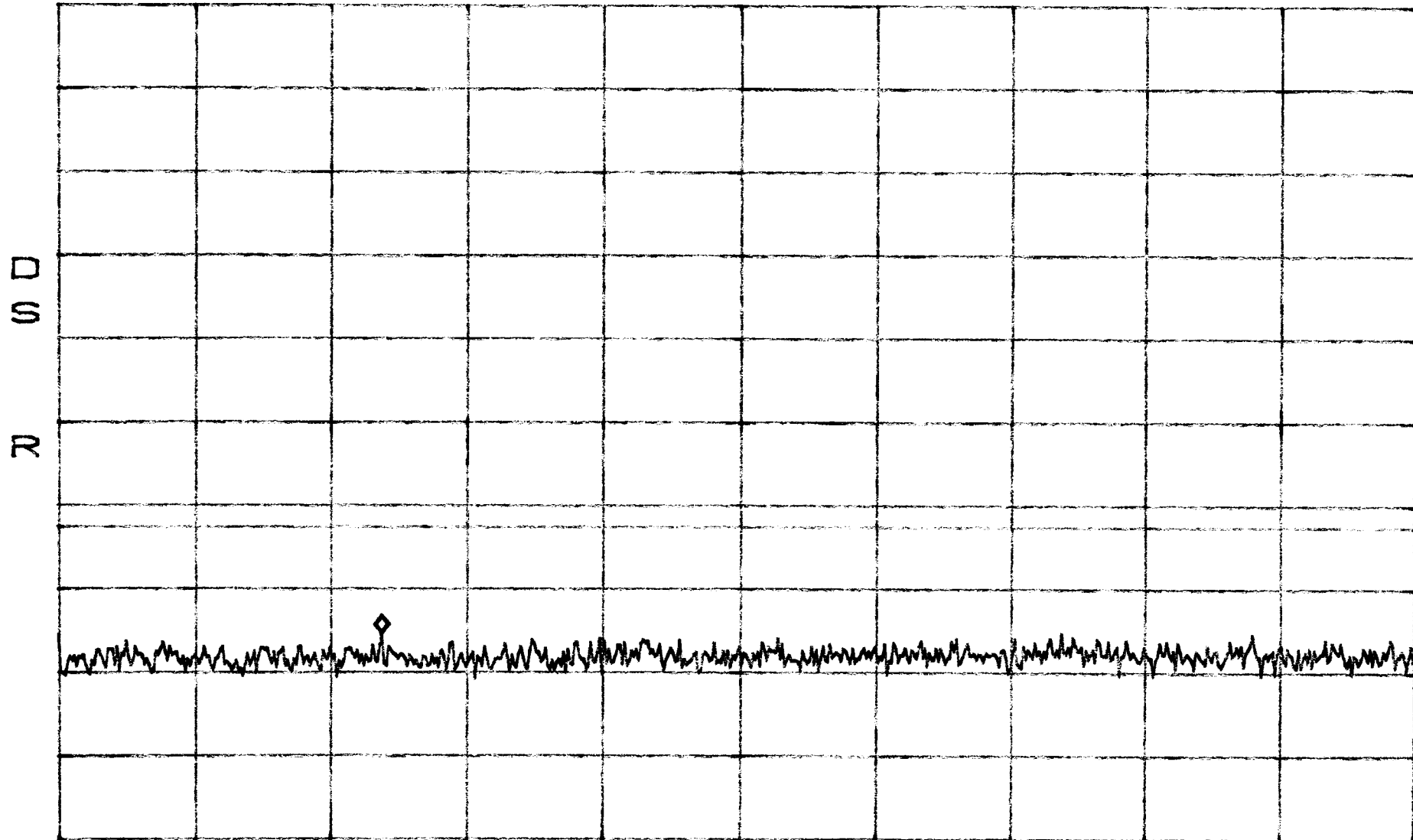
SWP 50ms

CONDUCTED EMISSIONS BAND EFC TDMA

*ATTEN 30dB
RL 49.5dBm

10dB/

MKR -25.67dBm
261.2MHz



START 30.0MHz

STOP 1.0000GHz

*RBW 100kHz

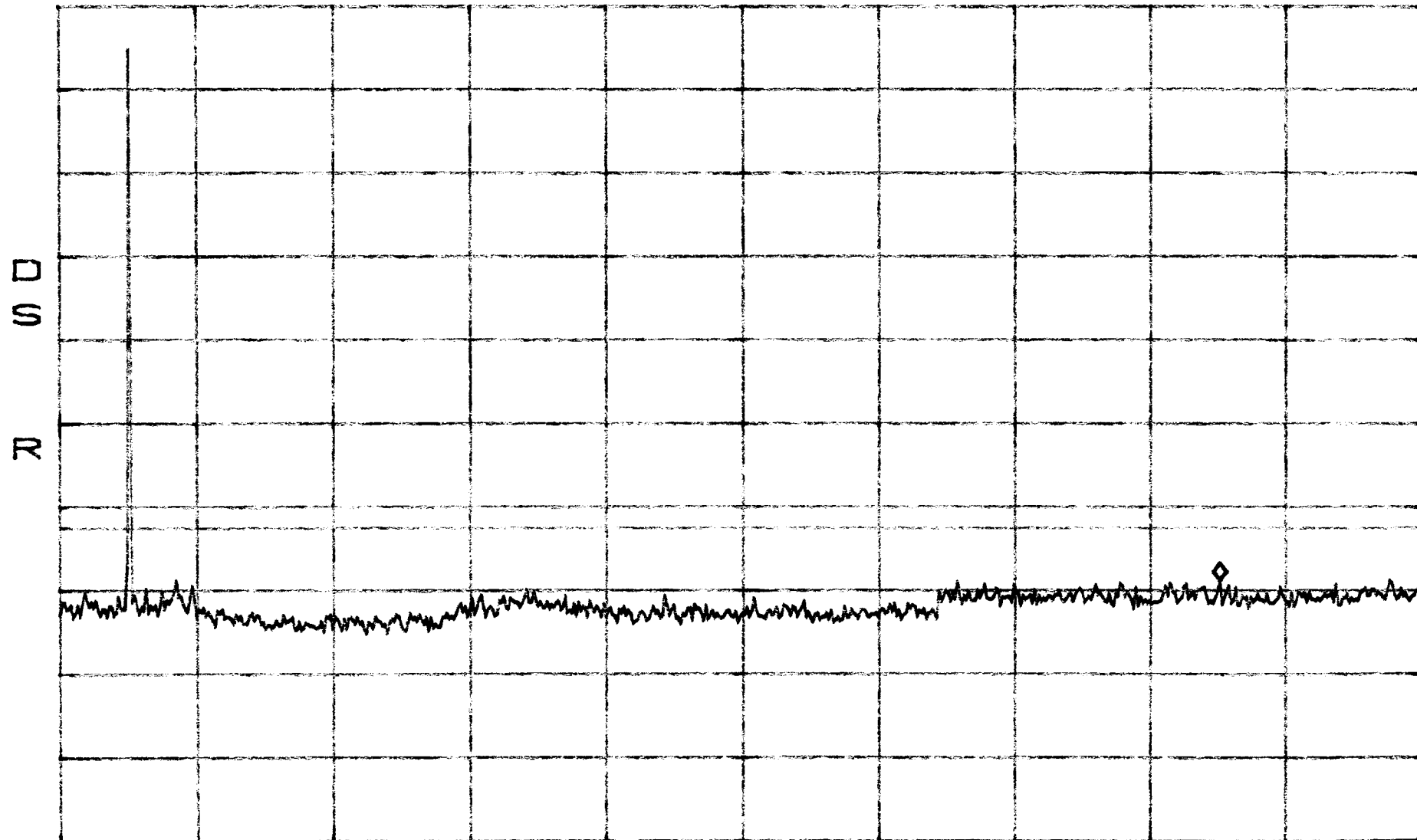
VBW 100kHz

SWP 250ms

CONDUCTED EMISSIONS BAND EFC TDMA

*ATTEN 30dB
RL 49.5dBm

MKR -19.17dBm
17.18GHz



START 1.00GHz

STOP 20.00GHz

*RBW 300kHz

VBW 300kHz

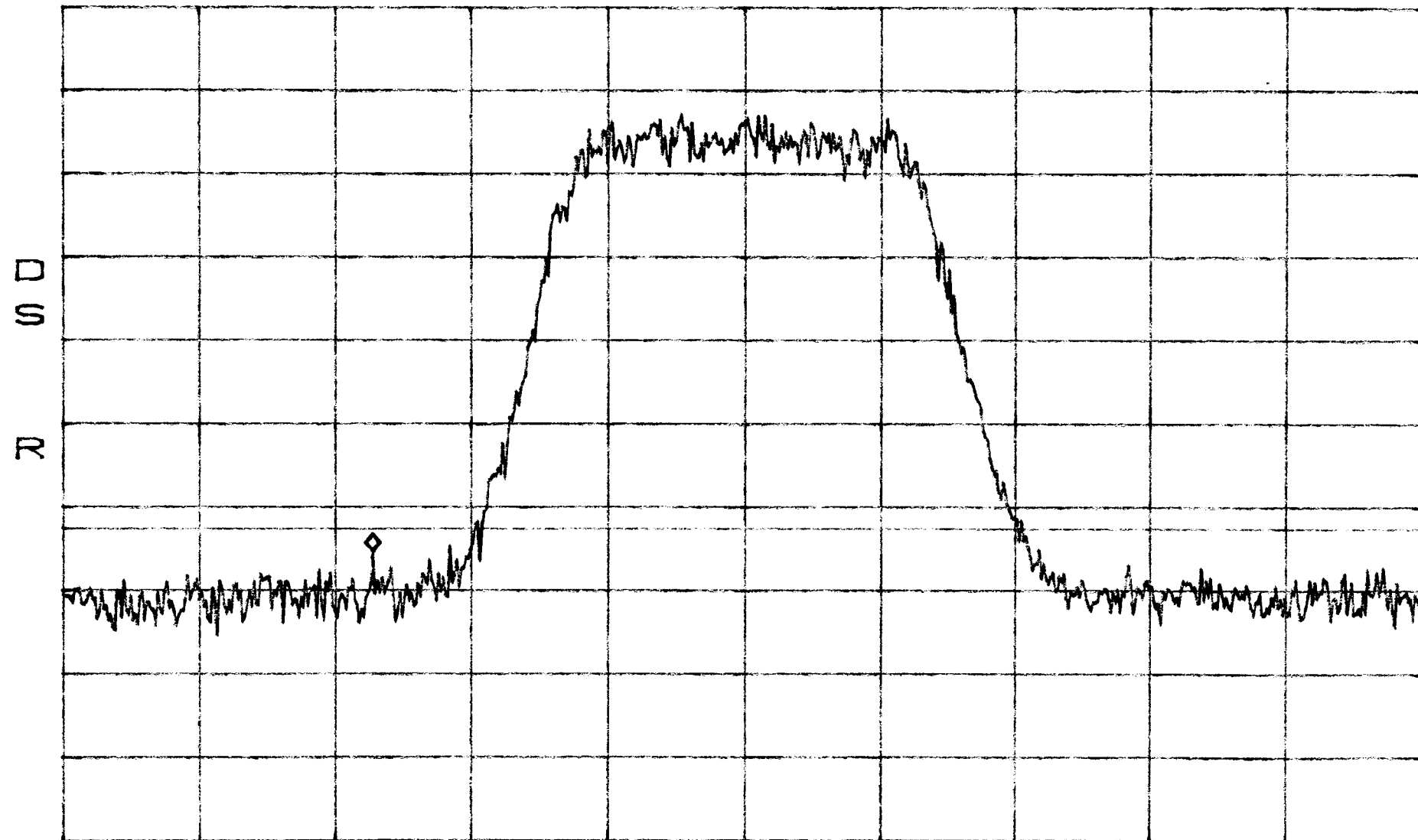
SWP 530ms

CONDUCTED EMISSIONS BAND EFC CDMA

*ATTEN 30dB
RL 49.5dBm

MKR -15.67dBm
1.976142GHz

10dB/



CENTER 1.977500GHz

SPAN 5.000MHz

*RBW 100kHz

VBW 100kHz

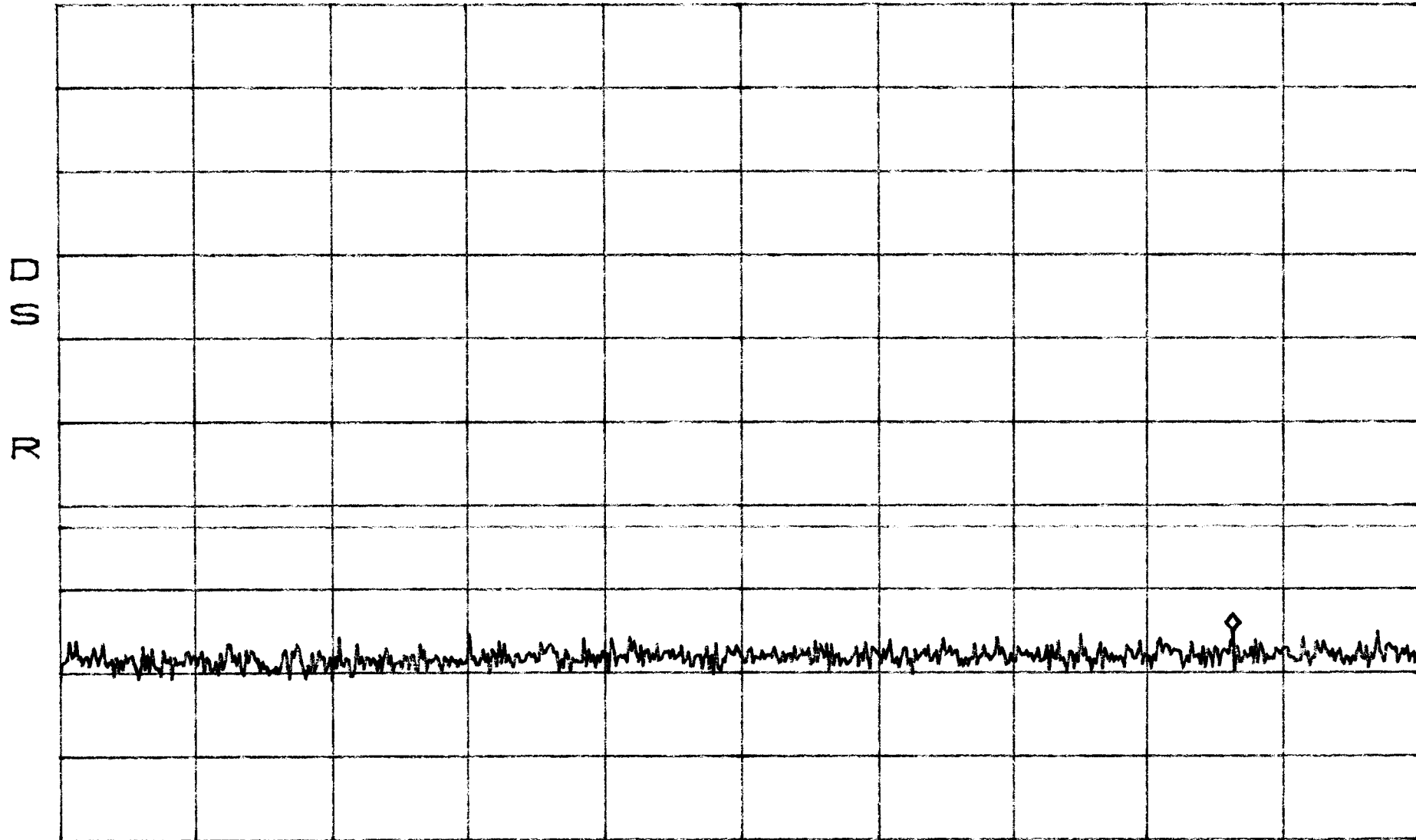
SWP 50ms

CONDUCTED EMISSIONS BAND EFC CDMA

*ATTEN 30dB
RL 49.5dBm

10dB/

MKR -25.50dBm
867.4MHz



START 30.0MHz

STOP 1.0000GHz

*RBW 100kHz

VBW 100kHz

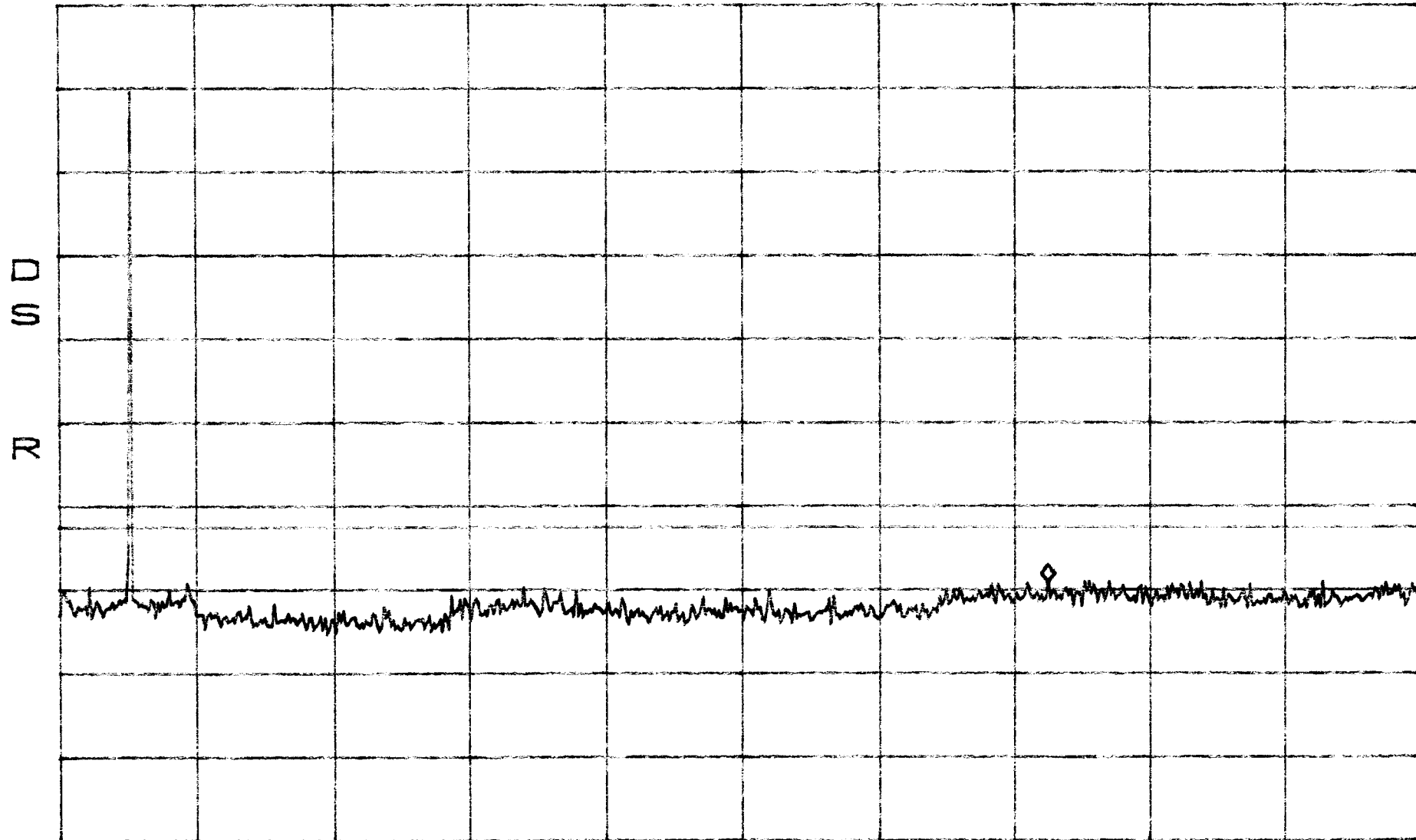
SWP 250ms

CONDUCTED EMISSIONS BAND EFC CDMA

*ATTEN 30dB
RL 49.5dBm

MKR -19.50dBm
14.78GHz

10dB/



START 1.00GHz

STOP 20.00GHz

*RBW 300kHz

VBW 300kHz

SWP 530ms

CONDUCTED EMISSIONS BAND EFC

BAND EDGE

FM

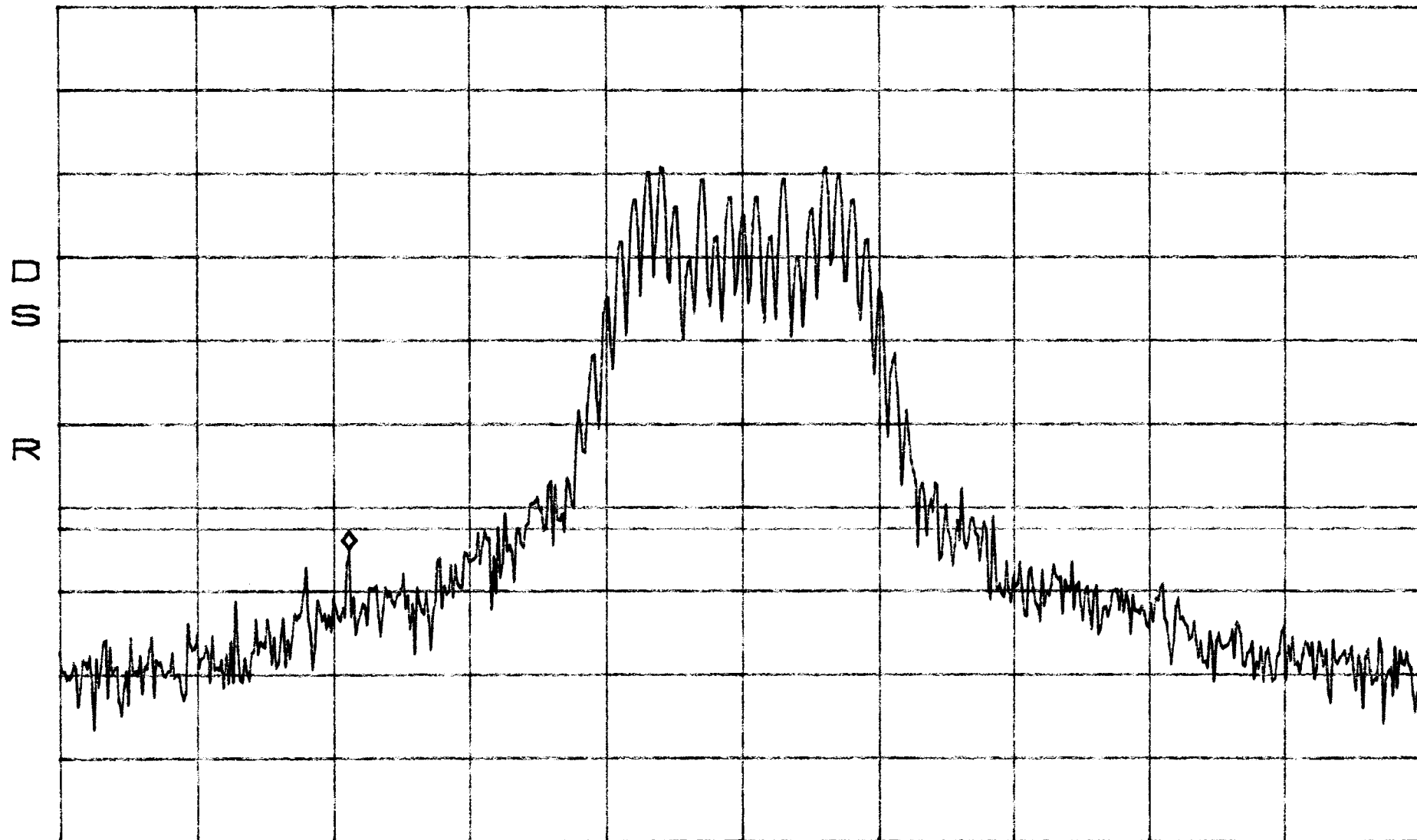
*ATTEN 30dB

MKR -15.33dBm

RL 49.5dBm

10dB/

1.9651712GHz



CENTER 1.9652000GHz

SPAN 100.0kHz

*RBW 300Hz

VBW 300Hz

SWP 2.8sec

CONDUCTED EMISSIONS BAND EFC

BAND EDGE

FM

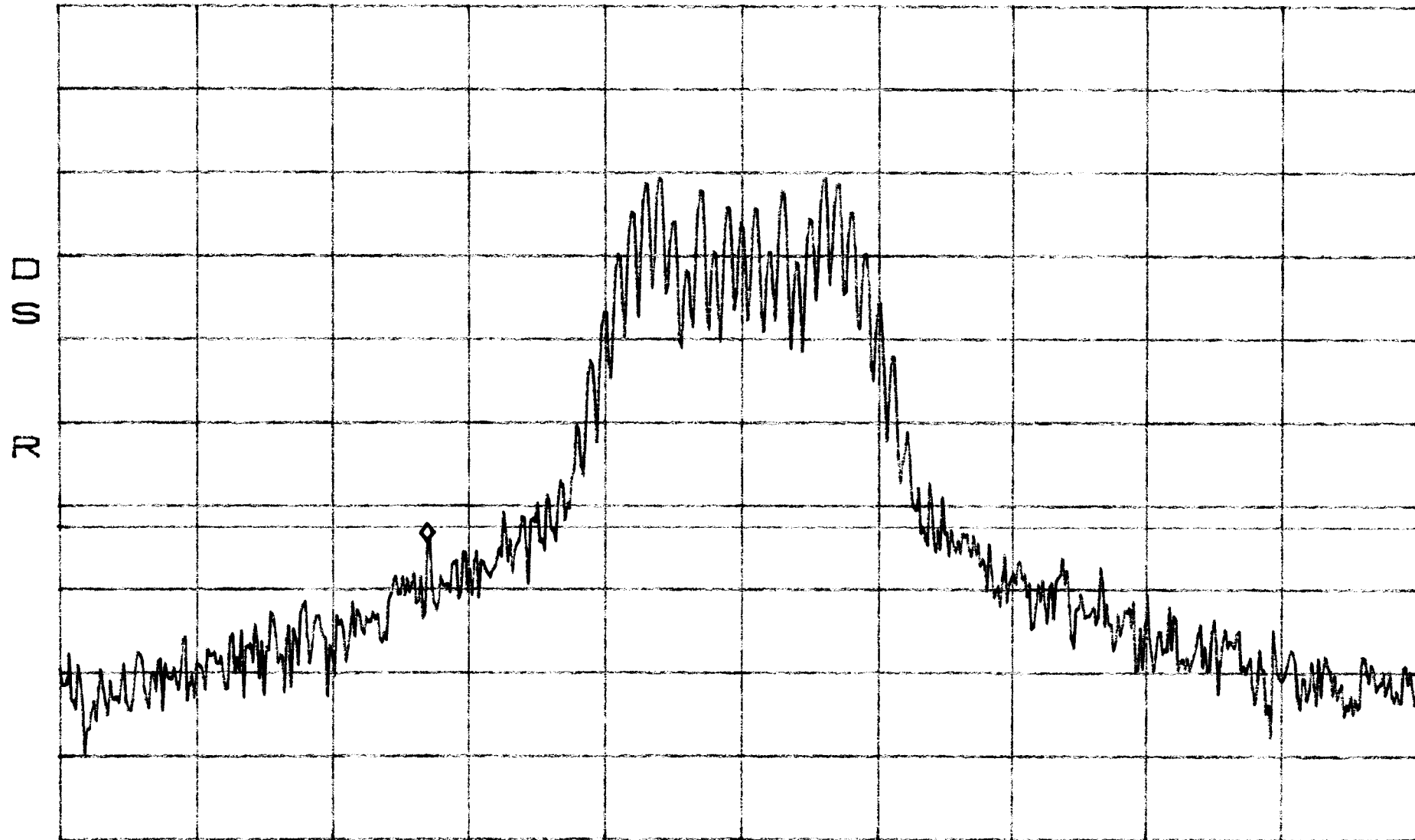
*ATTEN 30dB

MKR -14.67dBm

RL 49.5dBm

10dB/

1.989770GHz



CENTER 1.9898000GHz

SPAN 100.0kHz

*RBW 300Hz

VBW 300Hz

SWP 2.8sec

24.238 Emission Limits

A radiated emission scan was also made with the EUT's antenna replaced with a termination to demonstrate case radiation compliance to the -13 dBm requirement at the 3 carrier frequencies. Radiated emissions from the EUT are measured in the frequency range of 30 to 9000 MHz using a spectrum analyzer and appropriate broadband linearly polarized antennas. Measurements between 30 MHz and 1000 MHz are made with 120 kHz/6 dB bandwidth and quasi-peak detection and measurements above 1000 MHz are made with a 1 MHz/6 dB bandwidth and peak detection. Table top equipment is placed on a 1.0 X 1.5 meter non-conducting table 80 centimeters above the ground plane. Floor standing equipment is placed directly on the turntable/ground plane. Interface cables that are closer than 40 centimeters to the ground plane are bundled in the center in a serpentine fashion so they are at least 40 centimeters from the ground plane. Cables to simulators/testers (if used in this test) are routed through the center of the table and to a screen room located outside the test area. The antenna is positioned 10 meters horizontally from the EUT. To locate maximum emissions from the test sample the antenna is varied in height from 1 to 4 meters, measurement scans are made with both horizontal and vertical antenna polarizations and the EUT are rotated 360 degrees. The field strength levels were measured per ANSI C63.4. The EUT is then replaced with a tuned dipole antenna (below 1 GHz) or horn antenna (above 1 GHz). The substitute antenna was placed in the same polarization as the test antenna. A signal generator was used to generate a signal level that matched the highest level measured from the EUT. The signal generator level minus the cable loss from the signal generator to the substitute antenna plus the substitute antenna gain equals the spurious power level. 4 case radiation emission scans were performed. The 10 highest emission frequencies from each of the 4 scans is presented on the following pages.

The case radiation measurements were performed at the following test location:

- - Oakwood Lab Open Area Test Site (Case Emissions Test)

TÜV Product Service Test equipment used for Case Emissions Test:

	TUV ID	Model Number	Manufacturer	Description	Serial Number	Cal Due
■ -	3294	8566B	Hewlett-Packard	Spectrum Analyzer	2349A03098	9-03-04
■ -	3295	85662A	Hewlett-Packard	Analyzer Display	2349A06144	9-03-04
■ -	2682	85650A	Hewlett-Packard	Quasi-Peak Adapter	2811A01127	2-08-04
■ -	3203	EM-6917B	Electro-Metrics	Biconicalog Periodic	101	3-04-04
■ -	2665	ZHL-1042J	Mini-Circuits	Preamplifier 1-4 GHz	32296	10-15-03
■ -	2074	3115	Electro-Mechanics (EMCO)	Ridge Guide Antenna	2504	10-15-03
■ -	2125	JCA018-504	JCA Technology	Preamplifier 4 GHz -18 GHz	101A	8-15-04

All measurement instrumentation is traceable to the National Institute of Standards and Technology (NIST) and is calibrated annually. Equipment labeled CNR (Calibration Not Required) is verified and compensated for with NIST traceable calibrated equipment.

Environmental conditions – Oakwood Lab:

	<u>Actual</u>
Temperature	: 23 °C
Relative Humidity	: 58 %
Atmospheric pressure	: 99.0 kPa
Power supply system	: 60 Hz - 115 V - 1-phase

Case radiation data on following pages

RADIATED EMISSIONS



Test Report #: NC303847 Run 1 Test Area: OW
EUT Model #: DVGL-461110SYS Date: 8/18/03
EUT Serial #: _____ EUT Power: 40VDC/120VAC-60HZ Temperature: 23.0 °C
Test Method: PART 24 Air Pressure: 99.0 kPa
Customer: ADC Rel. Humidity: 58.0 %

EUT Description: EFC BLOCK 1900MHZ

Notes: 30 MHz -18GHZ V/H 360 DEGREES 1-4 METERS ANTENNA LOW MID AND HIGH TRANSMITTING

Data File Name: 3847.dat

Page: 1 of 1

Measurement Summary Run 1

10 Highest Emissions : Limit is -13 dBm

FREQ	LEVEL (dBuV)	CABLE / ANT / PREAMP / ATTEN (dB)	FINAL (dBuV / m)	POL / HGT / AZ (m)(DEG)	Erp (dBm)
6.177 GHz	50.75 Pk	10.28 / 36.66 / 25.95 / 0.0	71.74	H / 1.17 / 190	-24.46
3.93 GHz	56.23 Pk	6.75 / 34.0 / 28.31 / 0.0	68.67	H / 1.17 / 190	-27.53
1.919 GHz	60.15 Pk	4.47 / 29.21 / 29.54 / 0.0	64.29	V / 1.10 / 186	-31.91
426.02 MHz	72.42 Pk	2.0 / 16.9 / 28.09 / 0.0	63.23	H / 1.00 / 80	-32.97
355.013 MHz	70.25 Pk	1.85 / 15.0 / 28.2 / 0.0	58.9	H / 1.00 / 80	-37.3
3.955 GHz	46.25 Pk	6.78 / 34.07 / 28.28 / 0.0	58.82	H / 1.17 / 190	-37.38
1.667 GHz	56.35 Pk	3.98 / 28.0 / 29.68 / 0.0	58.66	H / 1.00 / 270	-37.54
38.54 MHz	67.15 Pk	0.6 / 17.4 / 28.3 / 0.0	56.85	V / 1.00 / 180	-39.35
38.4 MHz	66.05 Pk	0.6 / 17.42 / 28.3 / 0.0	55.77	V / 1.00 / 0	-40.43
3.979 GHz	42.95 Pk	6.81 / 34.14 / 28.26 / 0.0	55.64	V / 1.00 / 0	-40.56

Tested by: KTHR

Printed

Signature

Reviewed by: TKS

Printed

Signature

RADIATED EMISSIONS



Test Report #: NC303847 Run 2 Test Area: OW

EUT Model #: DVGL-451110SYS Date: 8/18/03

EUT Serial #: _____ EUT Power: 40VDC/120VAC-60HZ Temperature: 23.0 °C

Test Method: PART 24 Air Pressure: 99.0 kPa

Customer: ADC Rel. Humidity: 58.0 %

EUT Description: BEF BLOCK 1900MHZ

Notes: 30MHZ-18GHZ V/H 1-4 METERS 360 DEGREES LO, MID, AND, HIGH, FREQ

Data File Name: 3847.dat

Page: 1 of 1

Measurement Summary Run 2

10 Highest Emissions : Limit is -13 dBm

FREQ	LEVEL (dBuV)	CABLE / ANT / PREAMP / ATTEN (dB)	FINAL (dBuV / m)	POL / HGT / AZ (m)(DEG)	Erp (dBm)
6.177 GHz	45.53 Pk	10.28 / 36.66 / 25.95 / 0.0	66.52	V / 1.00 / 0	-29.68
1.919 GHz	57.58 Pk	4.47 / 29.04 / 27.65 / 0.0	63.44	V / 1.00 / 180	-32.76
426.016 MHz	70.95 Pk	2.0 / 16.9 / 28.09 / 0.0	61.76	V / 1.10 / 10	-34.44
3.924 GHz	44.95 Pk	6.75 / 33.99 / 28.32 / 0.0	57.36	H / 2.50 / 90	-38.84
3.9 GHz	44.3 Pk	6.72 / 33.92 / 28.36 / 0.0	56.58	V / 2.50 / 0	-39.62
38.54 MHz	66.35 Pk	0.6 / 17.4 / 28.3 / 0.0	56.05	V / 1.00 / 0	-40.15
38.4 MHz	66.12 Pk	0.6 / 17.42 / 28.3 / 0.0	55.84	V / 1.00 / 270	-40.36
355.03 MHz	67.15 Pk	1.85 / 15.0 / 28.2 / 0.0	55.8	H / 1.10 / 187	-40.4
3.95 GHz	41.4 Pk	6.78 / 34.06 / 28.29 / 0.0	53.95	V / 2.50 / 270	-42.25
780.995 MHz	56.58 Pk	2.71 / 21.7 / 27.91 / 0.0	53.08	V / 1.00 / 180	-43.12

Tested by: KTHR

Printed

Signature

Reviewed by: TKS

Printed

Signature

RADIATED EMISSIONS



Test Report #: NC303847 Run 3 Test Area: OW
EUT Model #: DVGL-441110SYS Date: 8/18/03
EUT Serial #: _____ EUT Power: 40VDC/120VAC-60HZ Temperature: 23.0 °C
Test Method: PART 24 Air Pressure: 99.0 kPa
Customer: ADC Rel. Humidity: 58.0 %

EUT Description: DBE BLOCK 1900MHZ

Notes: 30MHZ-18GHZ V/H 1-4 METERS 360 DEGREES LO, MID, AND, HIGH, FREQ

Data File Name: 3847.dat

Page: 1 of 1

Measurement Summary Run 3

10 Highest Emissions : Limit is - 13 dBm

FREQ	LEVEL (dBuV)	CABLE / ANT / PREAMP / ATTEN (dB)	FINAL (dBuV / m)	POL / HGT / AZ (m)(DEG)	Erp (dBm)
5.835 GHz	48.3 Pk	9.21 / 36.5 / 25.97 / 0.0	68.04	V / 1.10 / 187	-28.16
6.915 GHz	42.7 Pk	10.93 / 37.06 / 25.5 / 0.0	65.2	H / 2.50 / 180	-31.0
5.909 GHz	44.0 Pk	9.39 / 36.64 / 25.93 / 0.0	64.1	V / 1.10 / 254	-32.1
1.647 GHz	60.45 Pk	3.96 / 27.91 / 29.62 / 0.0	62.7	H / 1.00 / 300	-33.5
426.021 MHz	71.87 Pk	2.0 / 16.9 / 28.09 / 0.0	62.68	V / 1.10 / 300	-33.52
1.918 GHz	58.2 Pk	4.47 / 29.21 / 29.54 / 0.0	62.34	V / 1.10 / 254	-33.86
6.177 GHz	41.0 Pk	10.28 / 36.66 / 25.95 / 0.0	61.99	V / 1.00 / 0	-34.21
5.87 GHz	41.55 Pk	9.28 / 36.57 / 25.95 / 0.0	61.44	V / 1.10 / 254	-34.76
142.027 MHz	75.7 Pk	1.13 / 8.89 / 28.3 / 0.0	57.42	H / 2.50 / 90	-38.78
38.54 MHz	67.53 Pk	0.6 / 17.4 / 28.3 / 0.0	57.23	V / 1.00 / 90	-38.97

Tested by: KTHR

Printed

Signature

Reviewed by: TKS

Printed

Signature

RADIATED EMISSIONS



Test Report #: NC303847 Run 4 Test Area: OW

EUT Model #: DVGL-431110SYS Date: 8/18/03

EUT Serial #: _____ EUT Power: 40VDC/120VAC-60HZ Temperature: 23.0 °C

Test Method: PART 24 Air Pressure: 99.0 kPa

Customer: ADC Rel. Humidity: 58.0 %

EUT Description: AD BLOCK 1900MHZ

Notes: 30MHZ-18GHZ V/H 1-4 METERS 360 DEGREES LO, MID, AND, HIGH, FREQ

Data File Name: 3847.dat

Page: 1 of 1

Measurement Summary Run 4

10 Highest Emissions : Limit is - 13 dBm

FREQ	LEVEL (dBuV)	CABLE / ANT / PREAMP / ATTEN (dB)	FINAL (dBuV / m)	POL / HGT / AZ (m)(DEG)	Erp (dBm)
6.915 GHz	41.95 Pk	10.93 / 37.06 / 25.5 / 0.0	64.45	V / 1.00 / 0	-31.75
1.919 GHz	57.75 Pk	4.47 / 29.06 / 27.65 / 0.0	63.63	V / 1.00 / 180	-32.57
5.82 GHz	43.95 Pk	9.18 / 36.48 / 25.98 / 0.0	63.63	H / 1.00 / 270	-32.57
5.873 GHz	43.6 Pk	9.28 / 36.57 / 25.95 / 0.0	63.51	V / 2.50 / 0	-32.69
426.021 MHz	72.61 Pk	2.0 / 16.9 / 28.09 / 0.0	63.42	V / 1.00 / 340	-32.78
6.177 GHz	40.75 Pk	10.28 / 36.66 / 25.95 / 0.0	61.74	V / 1.00 / 0	-34.46
5.909 GHz	40.95 Pk	9.39 / 36.64 / 25.93 / 0.0	61.05	V / 1.00 / 0	-35.15
5.85 GHz	40.5 Pk	9.24 / 36.53 / 25.96 / 0.0	60.31	V / 1.00 / 270	-35.89
3.86 GHz	48.1 Pk	6.66 / 33.81 / 28.42 / 0.0	60.15	V / 1.10 / 300	-36.05
5.79 GHz	38.75 Pk	9.11 / 36.42 / 25.99 / 0.0	58.3	H / 1.00 / 270	-37.9

Tested by: KTHR

Printed

Signature

Reviewed
by: TKS

Printed

Signature

Equipment Under Test (EUT) Test Operation Mode - Emission tests :

The device under test was operated under the following conditions during emissions testing:

- ☐ - Standby
- ☐ - Test program (H - Pattern)
- ☐ - Test program (color bar)
- ☐ - Test program (customer specific)
- ☐ - Practice operation
- ☒ - Normal Operating Mode
- ☐ - _____

Configuration of the device under test:

The following peripheral devices and interface cables were connected during the measurement:

- | | |
|--|----------------|
| ☐ - _____ | Type : _____ |
| ☐ - _____ | Type : _____ |
| ☐ - _____ | Type : _____ |
| ☐ - _____ | Type : _____ |
| ☐ - _____ | Type : _____ |
| ☐ - _____ | Type : _____ |
| ☐ - _____ | Type : _____ |
| ☐ - _____ | Type : _____ |
| ☒ - unshielded power cable | |
| ☒ - unshielded cables | |
| ☒ - shielded cables | MPS.No.: _____ |
| ☐ - customer specific cables | |
| ☐ - _____ | |
| ☐ - _____ | |

DEVIATIONS FROM STANDARD:

None

GENERAL REMARKS:**SUMMARY:**

The requirements according to the technical regulations are

■ - met

□ - **not** met.

The device under test does

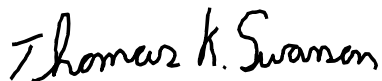
■ - fulfill the general approval requirements mentioned on page 3.

□ - **not** fulfill the general approval requirements mentioned on page 3.

Testing Start Date: 18 August 2003

Testing End Date: 18 August 2003

- TÜV PRODUCT SERVICE INC -



Reviewed By:
T. K. Swanson



Tested By:
K. T. H. Rose

TEST SETUP FOR EMISSIONS TESTING

See Test Setup Exhibit



Radiated emission (case radiation) test setup photos

See Test Setup Exhibit

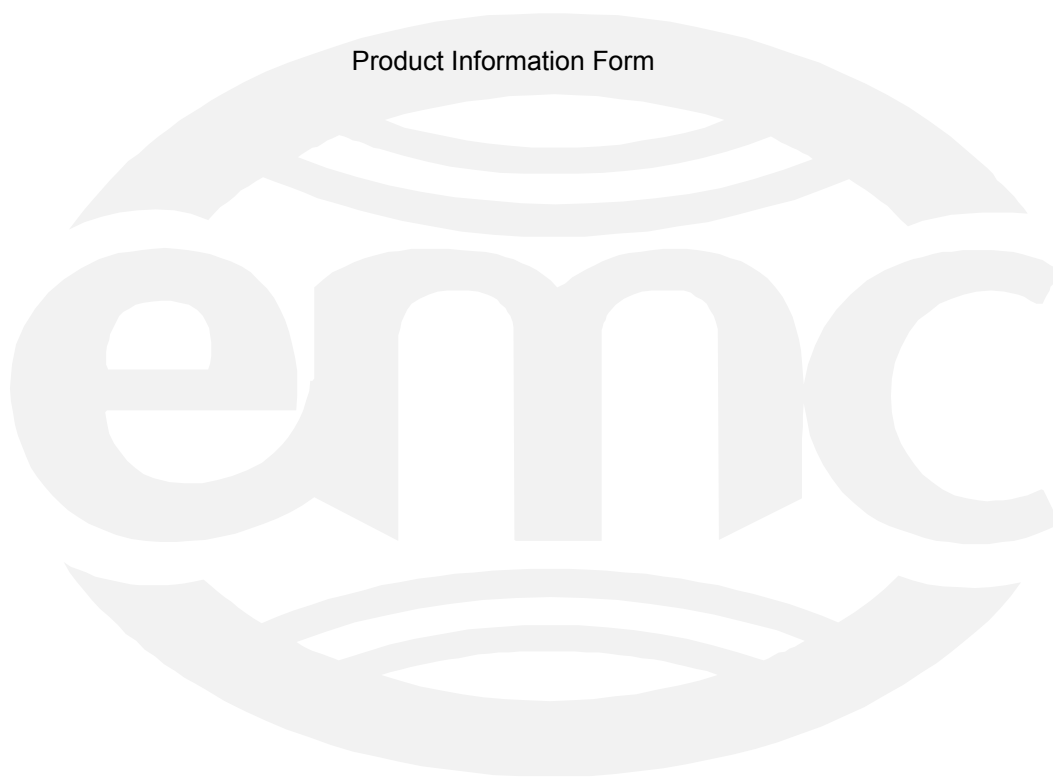


Appendix A

Constructional Data Form

And/or

Product Information Form



EMC Test Plan and Constructional Data Form

PLEASE COMPLETE THIS DOCUMENT IN FULL, ENTERING N/A IF THE FIELD IS NOT APPLICABLE.

Applicant -- NOTE: This information will be input into your test report as shown below.
Press the F1 key at any time to get HELP for the current field selected.

Company: ADC Inc.

Address: P.O. Box 1101
Minneapolis, MN 55440-1101

Contact: Mark F. Miska Position: Compliance Engineer

Phone: 952-917-0326 Fax: 952-917-0181

E-mail Address: mark.miska@adc.com

General Equipment Description -- NOTE: This information will be input into your test report as shown below.

EUT Description Transports RF between a remote antenna and a customer provided base station.

EUT Name Digivance Long Range Coverage Solution 1900 MHz System (A,D / D,B,E / B,E,F / E,F,C Band)

Model No.: DGVL-431110SYS, DGVL-441110SYS, DGVL-451110SYS, and DGVL-461110SYS Serial No.: None

Product Options: Receive Diversity

Configurations to be tested: 1900 MHz System: A,D / D,B,E / B,E,F / E,F,C Band Version with Diversity option

Test Objective

☐ EMC Directive 89/336/EEC (EMC)	☒ FCC: Class	☐ A	☐ B	Part <u>24</u>
Std: _____	☐ VCCI: Class	☐ A	☐ B	
☐ Machinery Directive 89/392/EEC (EMC)	☐ BCIQ: Class	☐ A	☐ B	
Std: _____	☐ Canada: Class	☐ A	☐ B	
☐ Medical Device Directive 93/42/EEC (EMC)	☐ Australia: Class	☐ A	☐ B	
Std: _____	☐ Other: _____			
☐ Vehicle Directive 72/245/EEC (EMC)				
Std: _____				
☐ FDA Reviewers Guidance for Premarket Notification Submissions (EMC)				

TÜV Product Service Certification Requested

☐ Attestation of Conformity (AoC)	☐ International EMC Mark (IEM)
☐ Certificate of Conformity (CoC)	☐ Compliance Document
Protection Class (N/A for vehicles)	☐ Class I ☐ Class II ☐ Class III

(Press **F1** when field is selected to show additional information on Protection Class.)

EMC Test Plan and Constructional Data Form

**Attendance**Test will be: ☒ Attended by the customer ☐ Unattended by the customer**Failure - Complete this section if testing will not be attended by the customer.**

If a failure occurs, TUV Product Service should:

- ☐ Call contact listed above, if not available then stop testing. (After hrs phone): _____
- ☐ Continue testing to complete test series.
- ☐ Continue testing to define corrective action.
- ☐ Stop testing.

EUT Specifications and RequirementsLength: 19 Width: 51" Height: 27 Weight: 62 LB**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: 115 VAC (If battery powered, make sure battery life is sufficient to complete testing.)# of Phases: 1Current (Amps/phase(max)): 15 Current (Amps/phase(nominal)): 10

Other _____

Other Special Requirements

none

Typical Installation and/or Operating Environment

(ie. Hospital, Small Business, Industrial/Factory, etc.)

Host indoor only with STM and LPA indoor or outdoor. System is typically employed as a Microcell.

EUT Power Cable

- | | | | |
|---|----|--|------------------------------|
| ☐ Permanent | OR | ☒ Removable | Length (in meters): <u>1</u> |
| ☐ Shielded | OR | ☒ Unshielded | |
| ☐ Not Applicable | | | |

EMC Test Plan and Constructional Data Form

EUT Interface Ports and Cables												
Interface			Shielding									
Type	Analog	Digital	Qty	Yes	No	Type	Termination	Connector Type	Port Termination	Length (in meters)	Removable	Permanent
EXAMPLE: RS232	☐	☒	2	☒	☐	Foil over braid	Coaxial	Metallized 9-pin D-Sub	Characteristic Impedance	6	☒	☐
RF "N" type	☒	☐	5	☒	☐	Braid	Coaxial	N	50 Ohms	>3	☒	☐
Alarm	☒	☐	1	☐	☒	Not Specified	N/A	6 Pin Standoff		>3	☒	☐
Alarm	☒	☐	1	☐	☒	Not Specified	N/A	4 Pin Standoff		>3	☒	☐
Fiber	☐	☒	3	☐	☒	N/A	N/A	SC	N/A	>3	☒	☐
9 Pin Din	☐	☒	4	☒	☐	Not Specified	AC Coupled	Din		>3	☒	☐
Net in	☐	☒	1	☐	☒	Not Specified	N/A	Cat 5		>3	☒	☐
Net out	☐	☒	1	☐	☒	Not Specified	N/A	Cat 5		3	☒	☐
DC power block	☒	☐	1	☐	☒	None		Terminal		>3	☒	☐
AC power	☒	☐	1	☐	☒	None				<3	☒	☐
STM to Amp Interconnect	☒	☒	1	☒	☒	Varied	Chassis	Special		.3	☒	☐
Battery Connection	☐	☐	1	☐	☒	N/A	N/A	2 Pin Standoff		<1	☒	☐
	☐	☐		☐	☐						☐	☐

EMC Test Plan and Constructional Data Form

EUT Software.

Revision Level: Version 0.00.00.12

Description: Digivance Element Management System (DEMS). System Management and Interface Matching Software.

EUT Operating Modes to be Tested -- list the operating modes to be used during test. It is recommended the equipment be tested while operating in a typical operation mode. FCC testing of personal computers and/or peripherals requires that a simple program generate a complete line of upper case H's. Provide a general description of all software, firmware, and PLD algorithms used in the equipment. List all code modules as described above, with the revision level used during testing. Consult with your TÜV Product Service Representative if additional assistance is required.

1. Max composite in and out
- 2.
- 3.

EUT System Components -- List and describe all components which are part of the EUT. For FCC testing a minimum configuration is required. (ie. Mouse, Printer, Monitor, External Disk Drive, Motherboard, etc.)

Description	Model #	Serial #	FCC ID #
Host Unit	DGVL-401010HU	None	
STM A,D Band	DGVL-431010STM	None	
STM D,B,E Band	DGVL-441010STM	None	
STM B,E,F Band	DGVL-451010STM	None	
STM E,F,C Band	DGVL-461010STM	None	
Amp	DGVL-401000LPA	None	
Digivance LRCS 1900 MHz System Model DGVL-431110SYS, DGVL-441110SYS, DGVL- 451110SYS and DGVL- 461110SYS consist of the HU, STM, and LPA.			

EMC Test Plan and Constructional Data Form



Support Equipment -- List and describe all support equipment which is not part of the EUT. (i.e. peripherals, simulators, etc)			
<i>Description</i>	<i>Model #</i>	<i>Serial #</i>	<i>FCC ID #</i>
Signal Generator	HP E4436B	963739	
DC Power Supply	HPD 60-5	MC27883	

Oscillator Frequencies			
<i>Frequency</i>	<i>Derived Frequency</i>	<i>Component # / Location</i>	<i>Description of Use</i>

Power Supply			
<i>Manufacturer</i>	<i>Model #</i>	<i>Serial #</i>	<i>Type</i>
ADC			☐ Switched-mode: (Frequency) _____ ☐ Linear ☐ Other: _____
			☐ Switched-mode: (Frequency) _____ ☐ Linear ☐ Other: _____

Power Line Filters		
<i>Manufacturer</i>	<i>Model #</i>	<i>Location in EUT</i>
None		

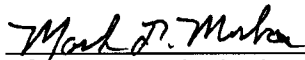
EMC Test Plan and Constructional Data Form**Critical EMI Components (Capacitors, ferrites, etc.)**

Description	Manufacturer	Part # or Value	Qty	Component # / Location
None				

EMC Critical Detail -- Describe other EMC Design details used to reduce high frequency noise.

none

(PLEASE INSERT "ELECTRONIC SIGNATURE" BELOW IF POSSIBLE)

Authorization SignaturesCustomer authorization to perform tests
according to this test plan.

8-18-03

Date

Test Plan/CDF Prepared By (please print)

Date

Reviewed by TÜV Product Service Associate

Date