

Report No. S8310-08 (FCC ID: LB41900CDMA)

**AA.1 CONDUCTED MEASUREMENT PHOTOS**

**TESTED BY ORTEL CORPORATION (photos not provided)**

**AA.2 CONDUCTED MEASUREMENT EQUIPMENT LIST**

**TESTED BY ORTEL CORPORATION**

Test Equipment Used:

--Signal generator system 1:

Sony/Tektronix model AWG2021, S/N J310827 (Ortel asset number OC19693), calibration due on 9/27/98  
AND Rohde & Schwarz, Model 835.8011.58, S/N 844170/007 (Ortel asset number OC 19692), calibration is "For Reference Only"

--Signal generator system 2 (all equipment for this system is rented from McGrath RentCorp, 800-352-2900):

Sony/Tektronix, Model AWG2021, S/N J310364 (McGrath ID number 9732), calibration due on 12/27/98  
AND Rohde & Schwarz, Model 835.8011.58, S/N 843863/002 (McGrath ID number 11383), calibration due on 3/23/99

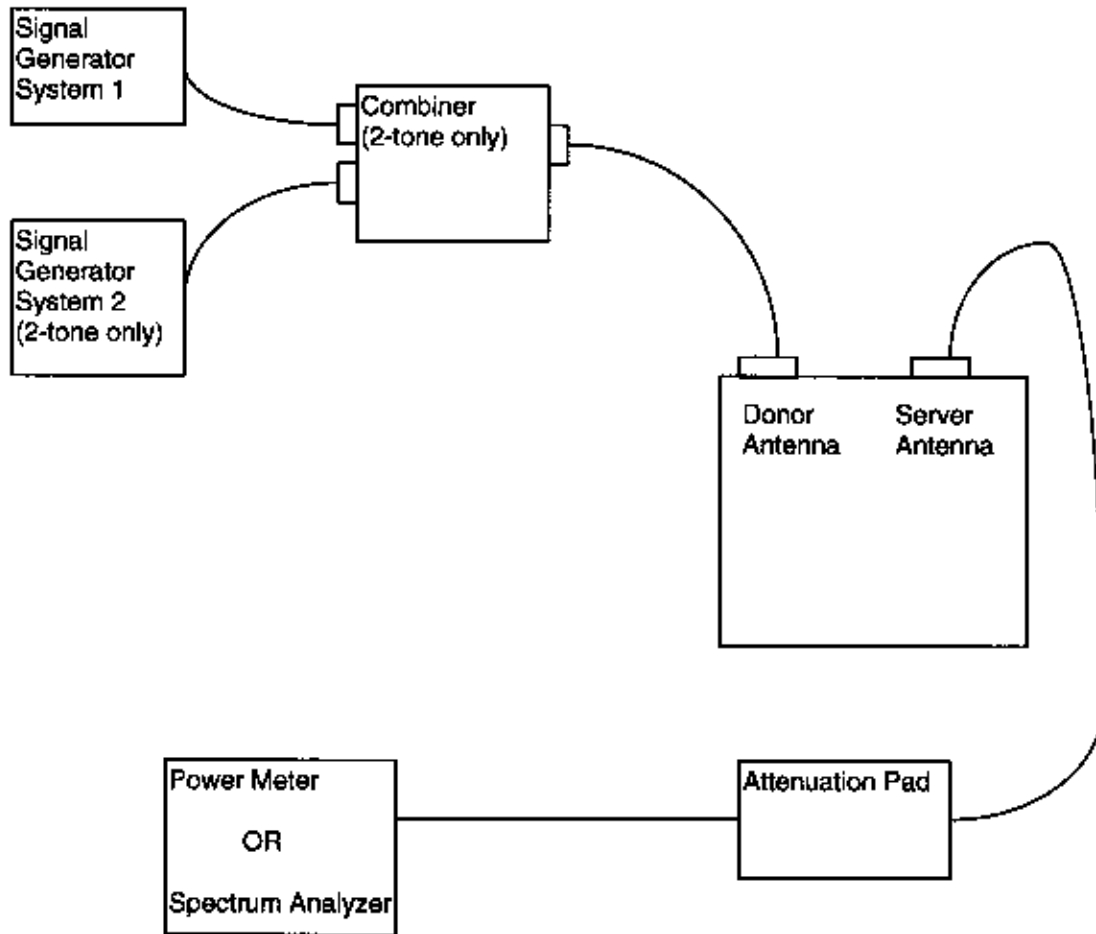
--Power meter: HP model 438A, Ortel asset number OC8L034349, calibration due on 3/21/99

--Spectrum Analyzer: HP, Model 8563E, S/N 18975/868 (Ortel asset number OC18812), calibration due on 10/20/98

Other equipment: RF cables (with SMA connectors), 7/16 to N connectors, N to SMA connectors, attenuation pad (for repeater output), and passive external combiner used for 2 tone testing.

**AA.3 CONDUCTED MEASUREMENT TEST SETUP**

**TESTED BY ORTEL CORPORATION**



Downlink mode shown. For uplink, swap antenna connections at the repeater.  
NOTE: All cables, connectors, and the attenuation pad are calibrated out at the

**A.4 CONDUCTED EMISSION DATA**

**MODEL CDR-1912-A (A-Band 2 channel CDMA Repeater) with 3.55W per channel DL / 1.0W per channel UL**

See following page(s).

## ***FCC Part 2.985: RF Output Power***

**DUT:** Model CDR-1912-A (A-Band 2 channel CDMA Repeater),  
with 3.55W per channel DL / 1.0W per channel UL

**S/N:** FCC Unit

**Test Date:** 9/8/98

**FCC ID:** LB41900CDMA

**Company:** Ortel Corporation

**\*\*RF Output Power Measured with Power Meter**  
(HP Model: 438A                      Ortel Asset Number: 8L034349)

***UPLINK:***

Channel	Frequency (MHz)	Output Power (dBm)
25	1851.25	30.05
150	1857.50	29.98
275	1863.75	29.95

***DOWNLINK:***

Channel	Frequency (MHz)	Output Power (dBm)
25	1931.25	35.50
150	1937.50	35.53
275	1943.75	35.51

**\*\*Per FCC request to use power meter.**

CDR 2ch x 3.55W

DL Low

9/8/98

A-band

Ch. 25

(Representative Unit)

\*ATTEN 20dB

VAVG 10

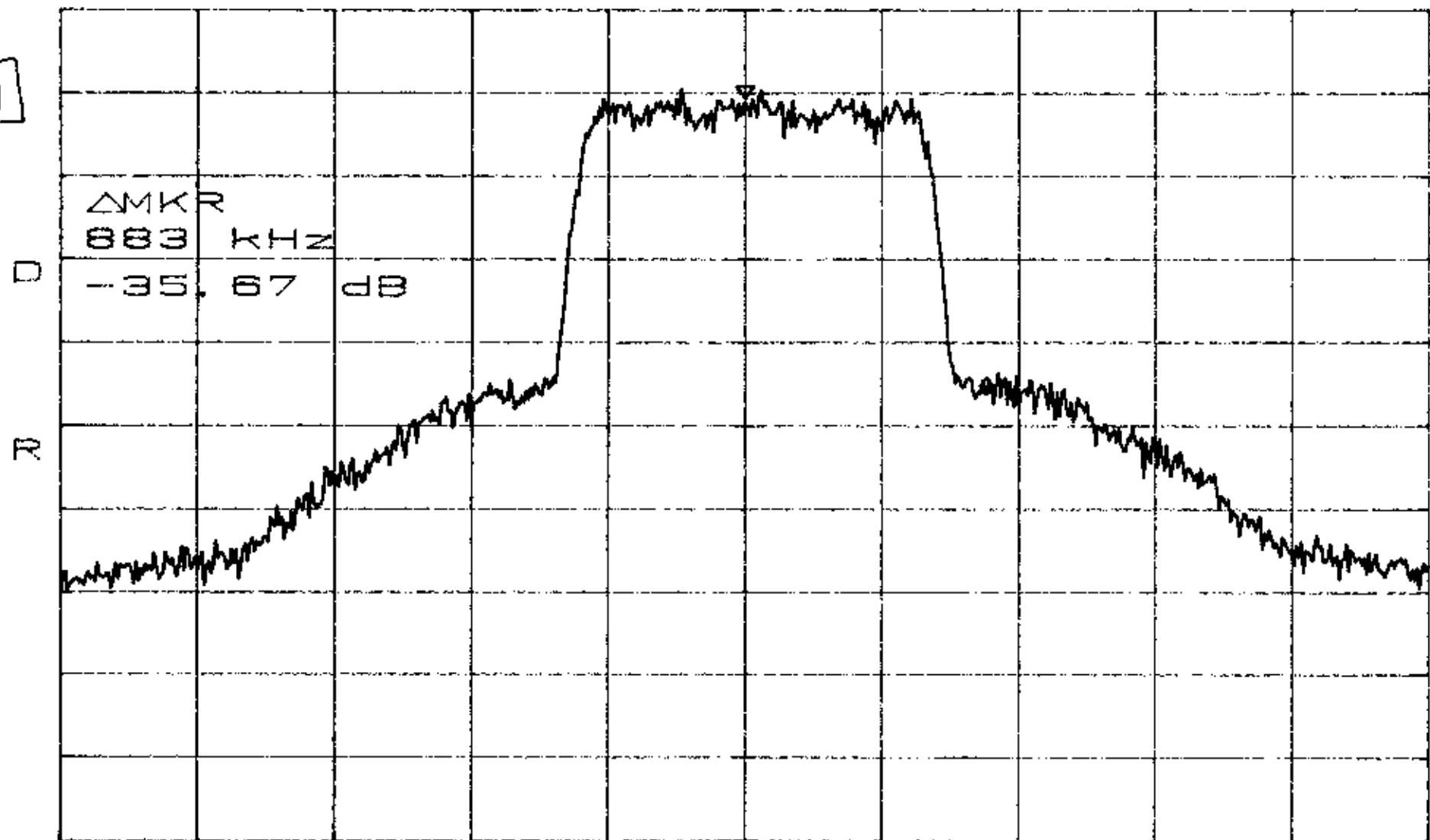
ΔMKR -35.67dB

RL 30.0dB

/BP01

88388

2.989



CENTER 1.981250GHz

SPAN 5.000MHz

\*RBW 30kHz

\*VBW 30kHz

SWP 50.0ms

CDR 2ch x 3.55W

OL High

9/8/98

A-band

Ch. 275

(Representative Unit)

\*ATTEN 20dB

VAVG 10

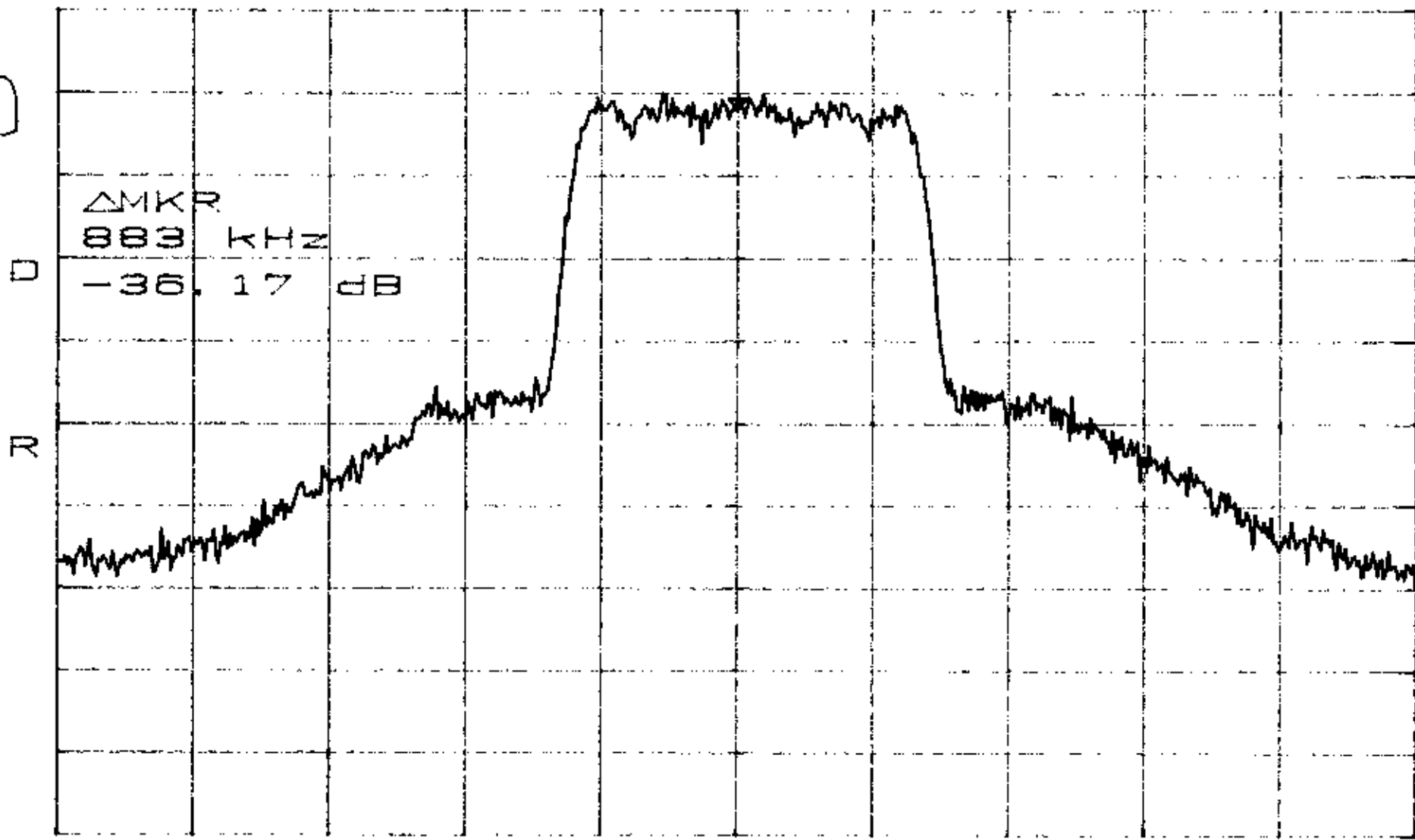
ΔMKR -36.17dB

RL 30.0dBm

10dB/

883kHz

2.959



CENTER 1.943750GHz

SPAN 5.000MHz

\*RBW 30kHz

\*VBW 30kHz

SWP 50.0ms

CDR 2ch x 3.55W  
A-band  
(Representative Unit)

UL Low  
Ch. 25

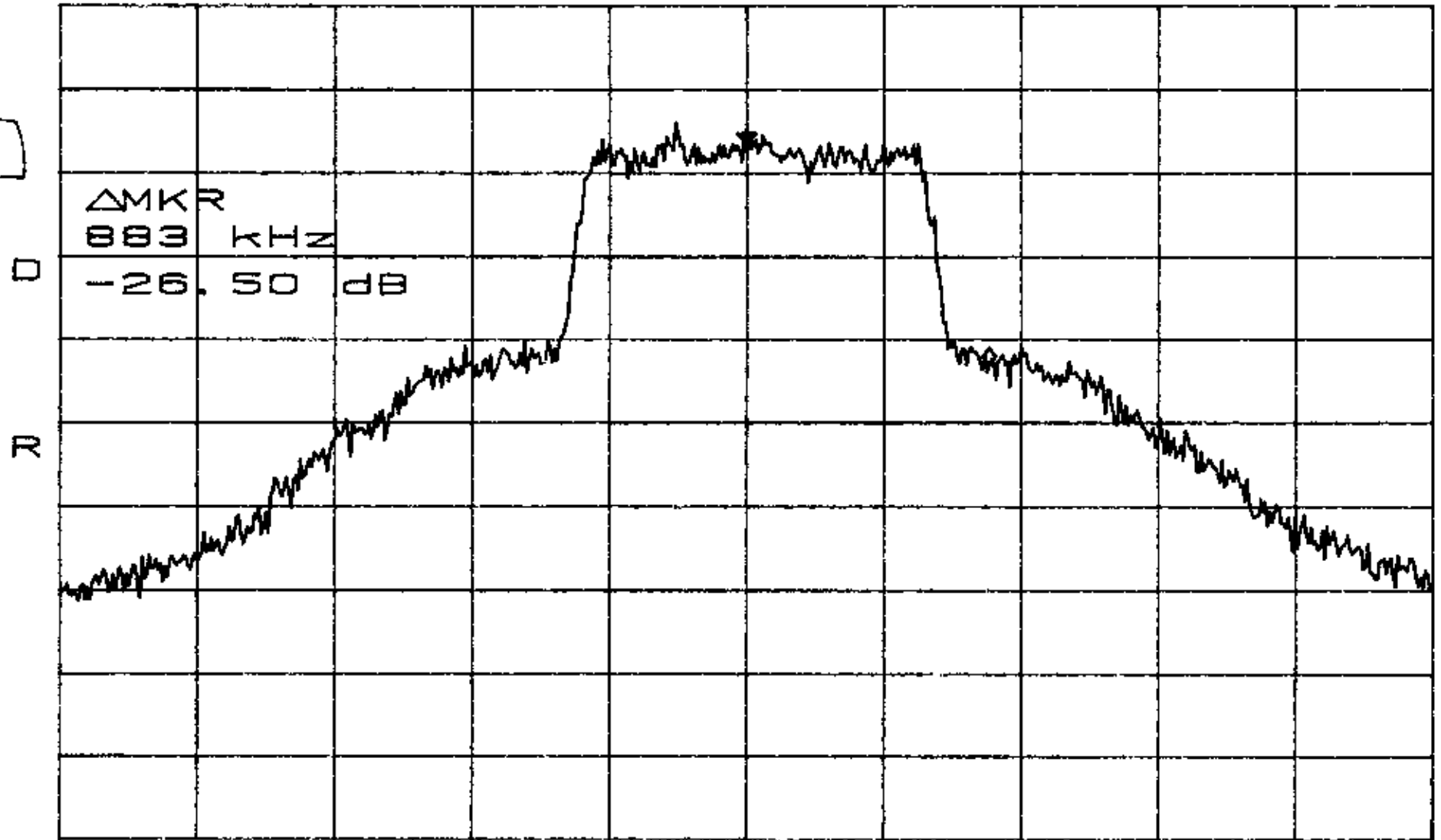
9/8/98

\*ATTN 20dB  
RL 30.0dBm

VAVG 10  
10dB/

$\Delta$ MKR -26.50dB  
883kHz

2.989



CENTER 1.851250GHz

SPAN 5.000MHz

\*RBW 30kHz

\*VBW 30kHz

SWP 50.0ms





CDR 2ch x 3.55W

DL Low

9/8/98

A-band  
(Representative Unit)

Input

ATTEN 10dB

VAVG 10

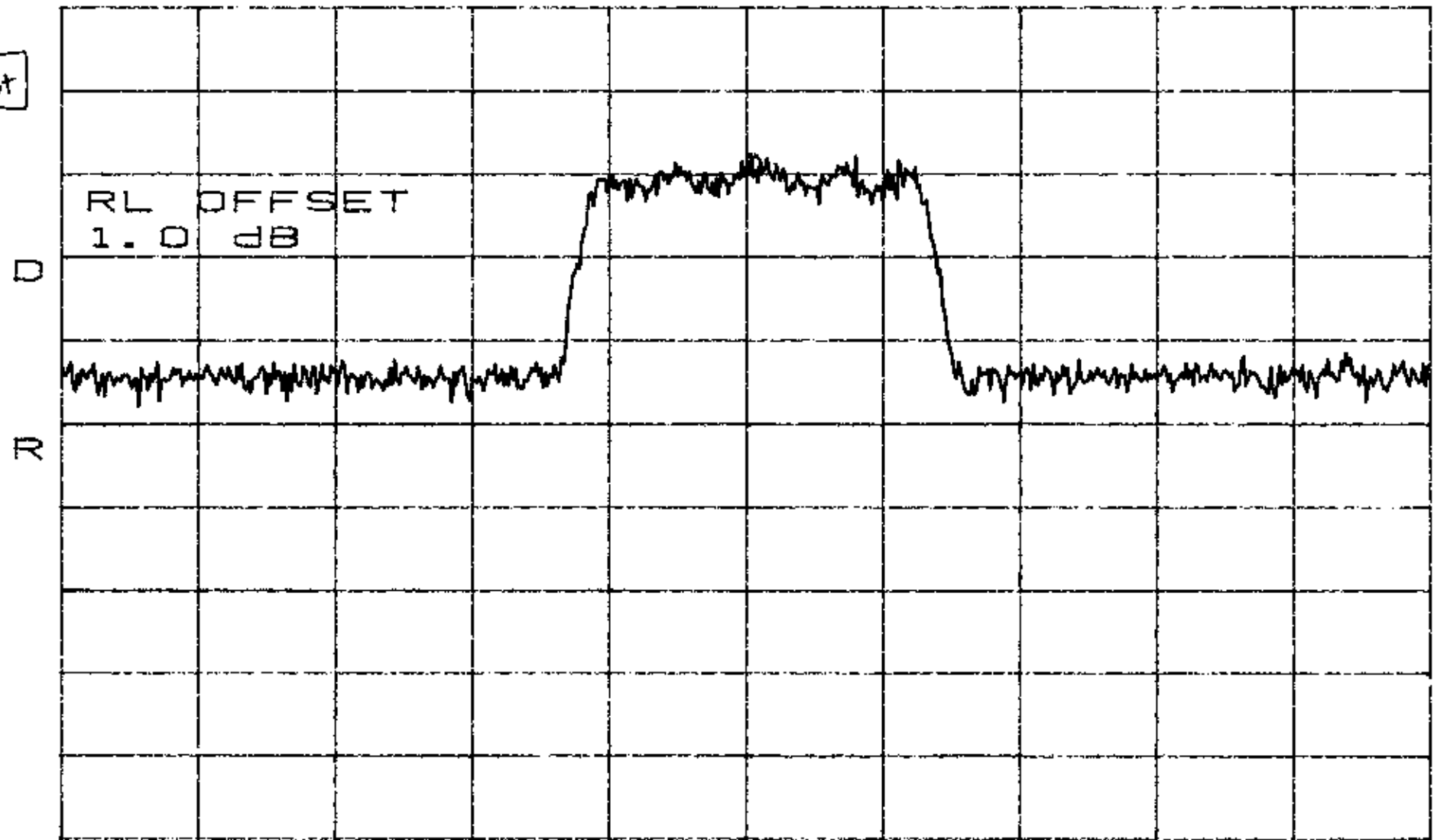
MKR -69.67dBm

RL -50.0dBm

10dB/BPO

1.931283GHz

In/out



CENTER 1.931250GHz

SPAN 5.000MHz

\*RBW 30kHz

\*VBW 30kHz

SWP 50.0ms

9/8/98

CDR 2ch x 3.55W  
A-band  
(Representative Unit)

DL Low  
Output

\*ATTEN 20dB  
RL 30.0dBm

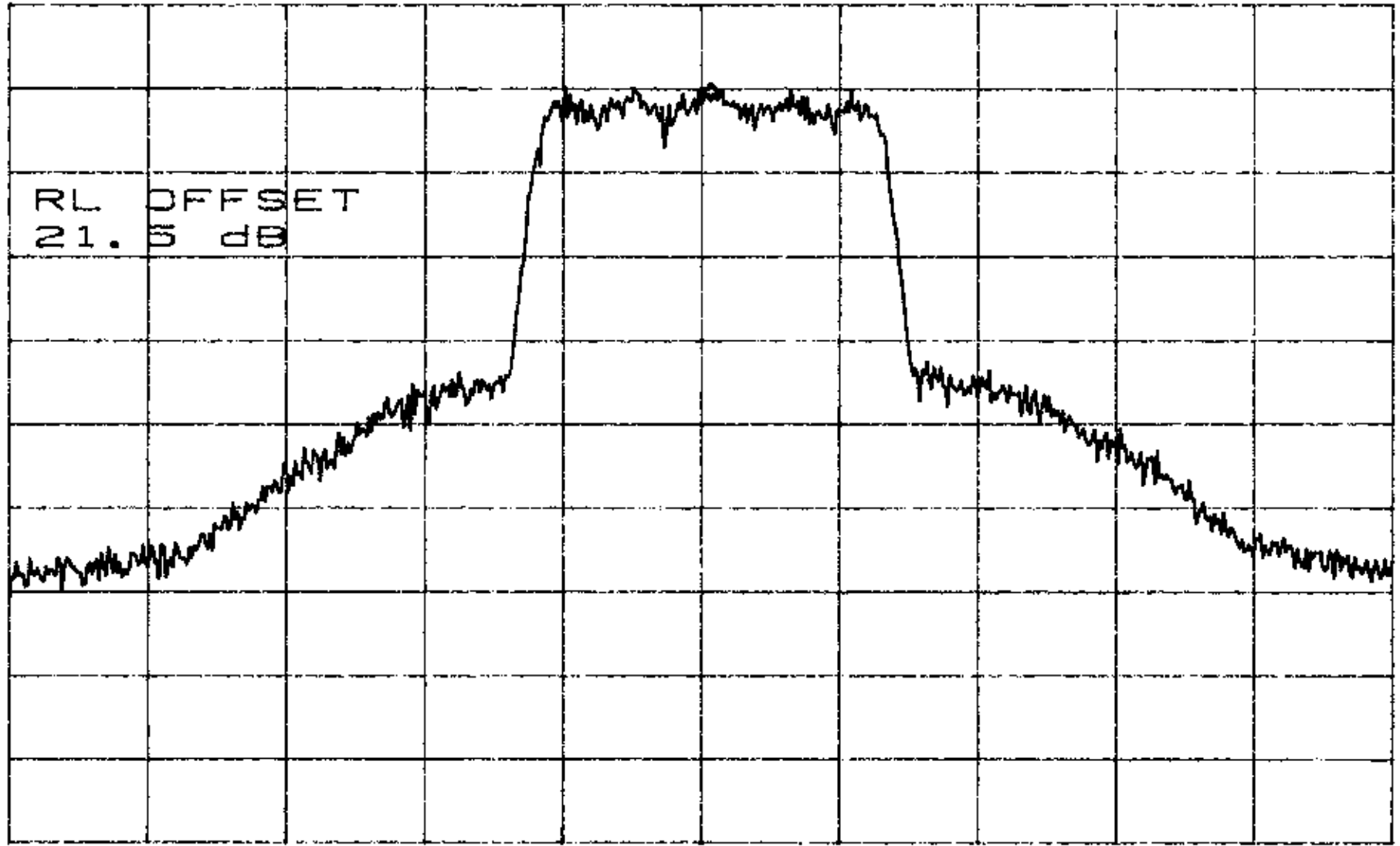
VAVG 10  
10dB/

MKR 18.67dBm  
1.931283GHz

In/Out

RL OFFSET  
21.5 dB

0  
R



CENTER 1.931250GHz SPAN 5.000MHz  
 \*RBW 30kHz \*VBW 30kHz SWP 50.0ms

CDR 2ch x 3.55W  
A-band  
(Representative Unit)

DL High  
Input

9/8/98

ATTEN 10dB

VAVG 10

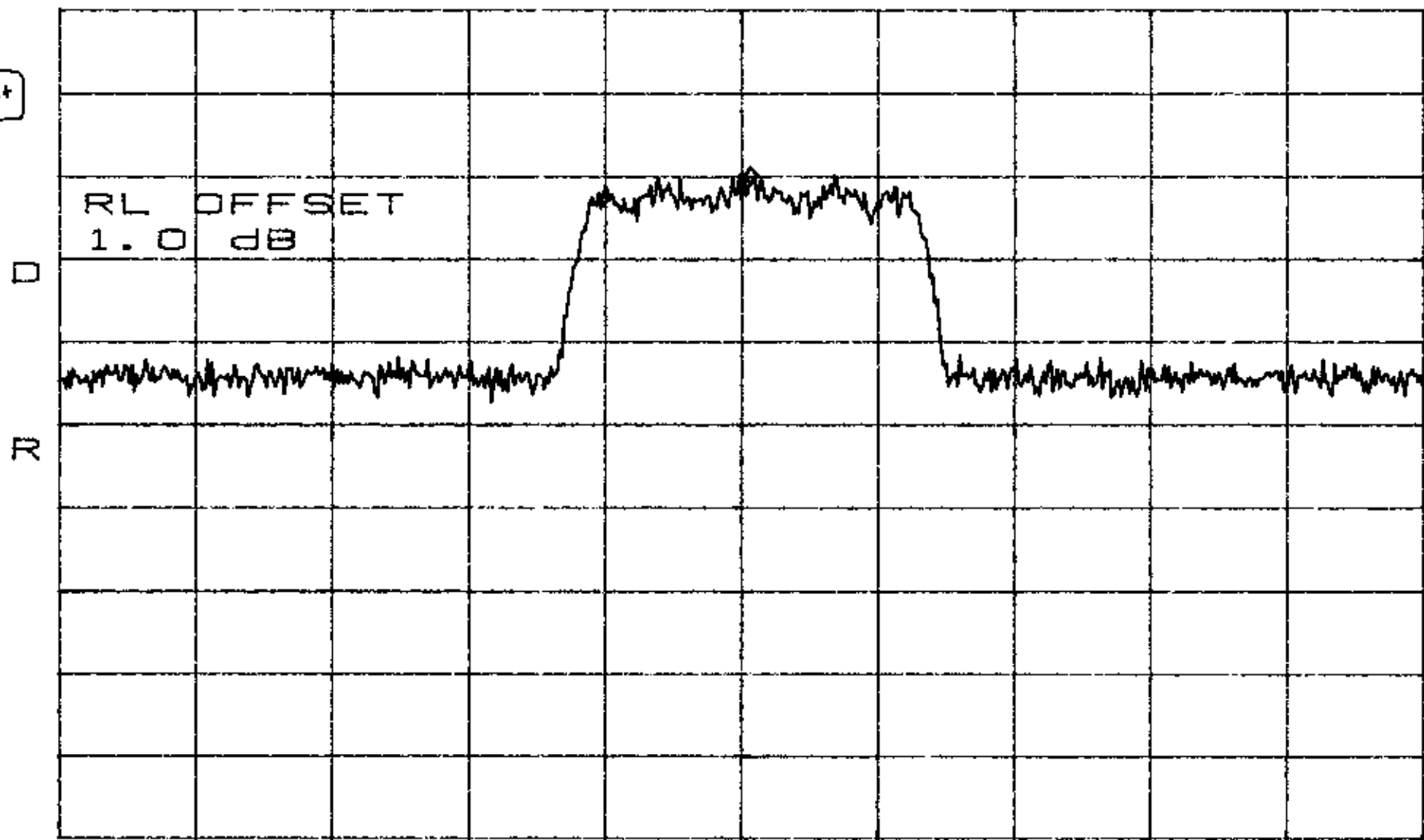
MKR -70.83dBm

RL -50.0dBm

10dB/BPO

1.943783GHz

In/out



RL OFFSET  
1.0 dB

D

R

CENTER 1.943750GHz

SPAN 5.000MHz

\*RBW 30kHz

\*VBW 30kHz

SWP 50.0ms

CDR 2ch x 3.55W  
A-band  
(Representative Unit)

DL High  
Output

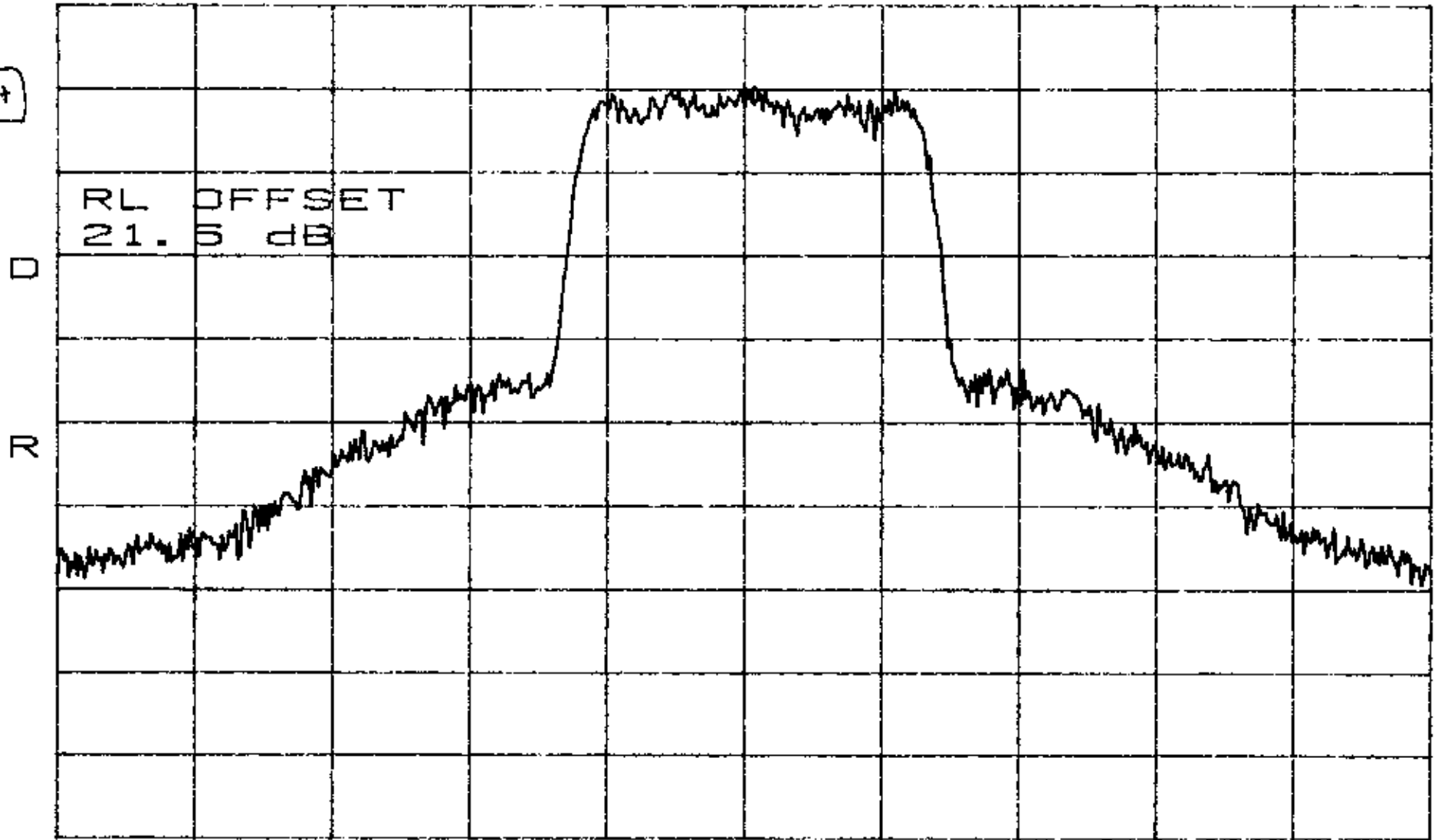
9/8/98

ATTEN 20dB  
RL 30.0dBm

V.AVG 10  
10dB/

MKR 18.33dBm  
1.943783GHz

In/out



CENTER 1.943750GHz SPAN 5.000MHz  
\*RBW 30kHz \*VBW 30kHz SWP 50.0ms

CDR 2ch x 3.55W  
A-band  
(Representative Unit)

U- Low  
Input

9/8/98

ATTEN 10dB

VAVG 10

MKR -74.67dBm

RL -50.0dBm

10dB/

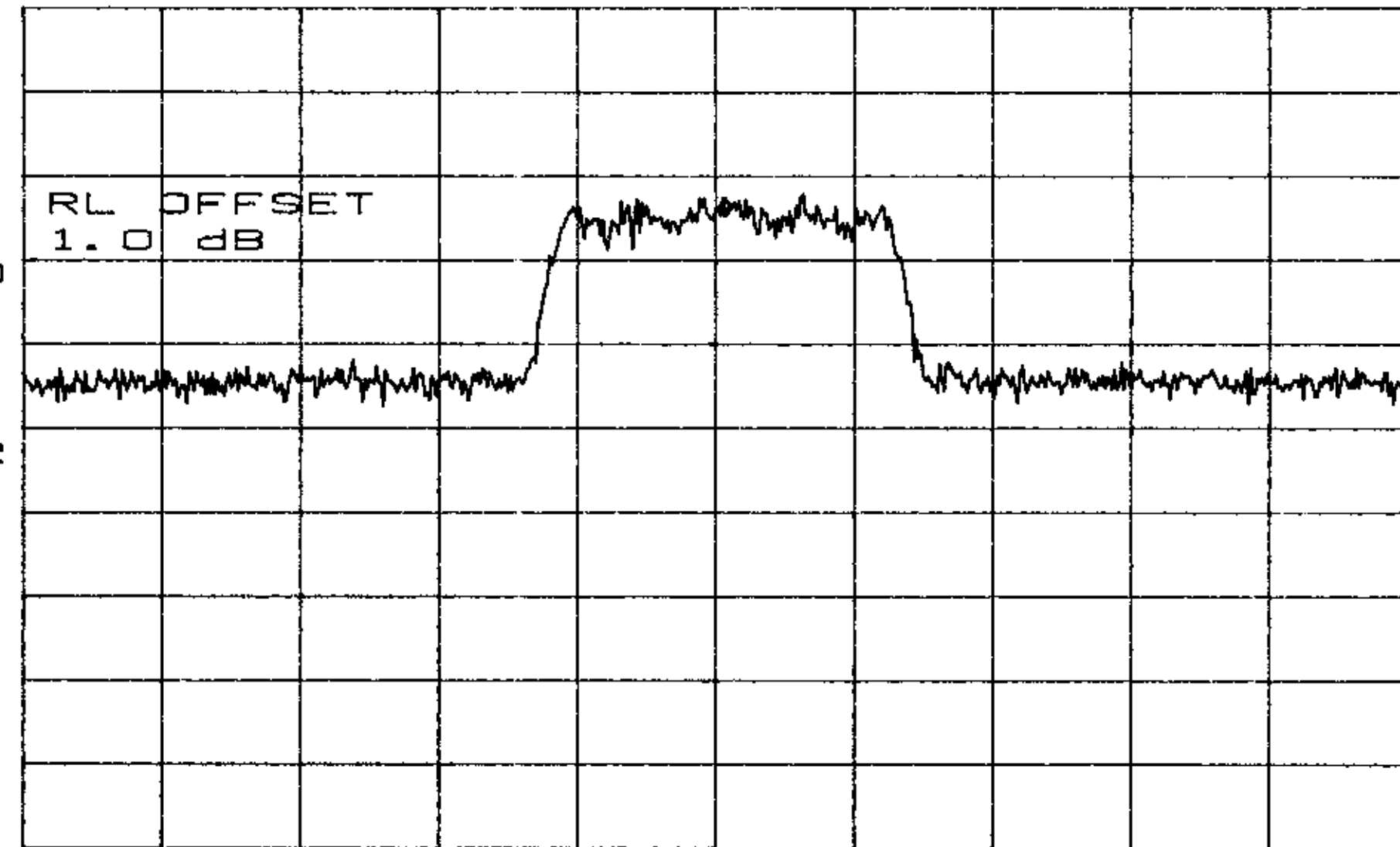
1.851283GHz

In/Out

RL OFFSET  
1.0 dB

0

2



CENTER 1.851250GHz

SPAN 5.000MHz

\*RBW 30kHz

\*VBW 30kHz

SWP 50.0ms

CDR 2ch x 3.55W

UL Low

9/8/98

A-band

Output

(Representative Unit)

\*ATTEN 20dB

V.A.VG 10

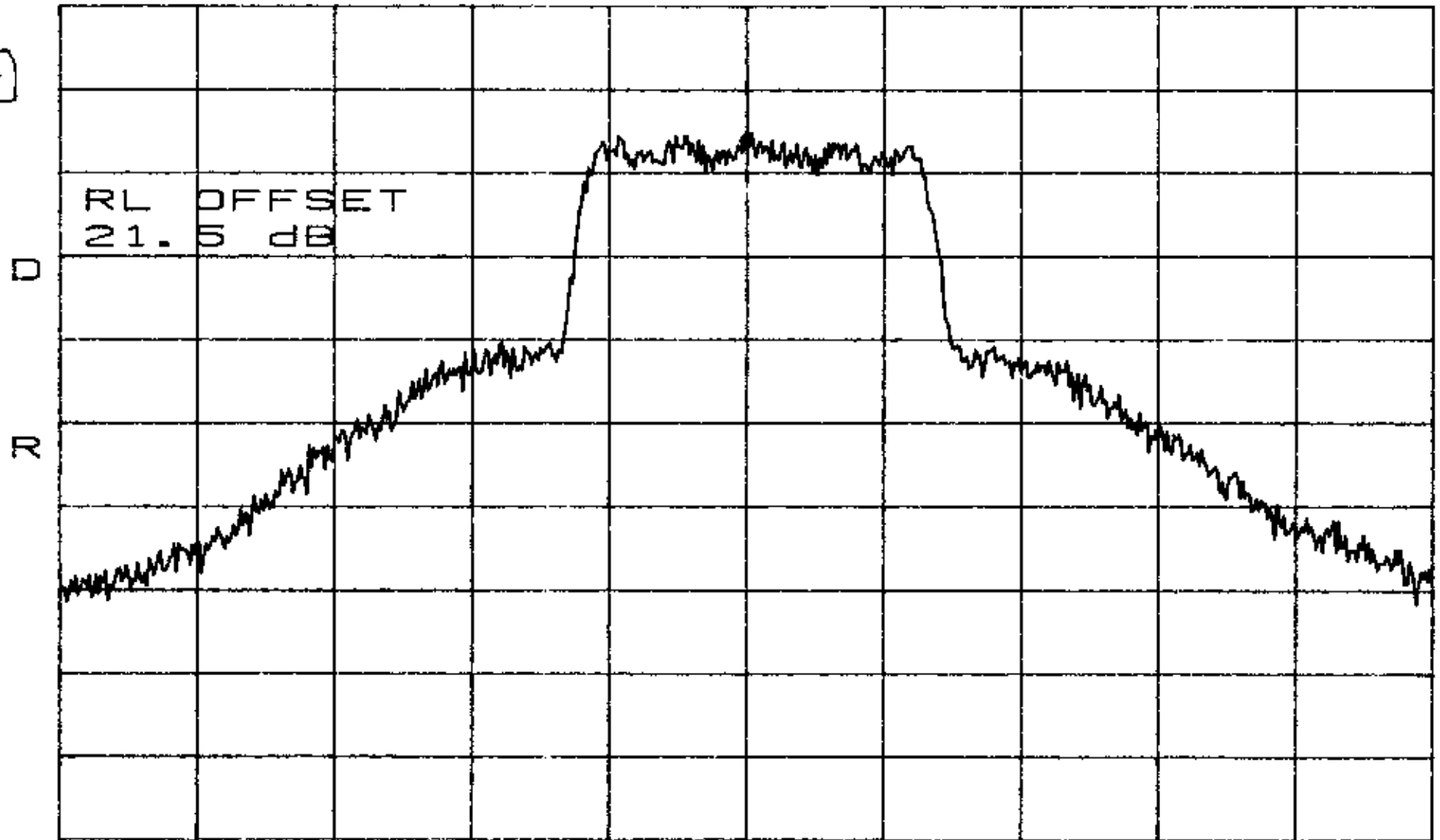
MKR 13.00dBm

RL 30.0dBm

10dB/

1.851250GHz

In/out



CENTER 1.851250GHz

SPAN 5.000MHz

\*RBW 30kHz

\*VBW 30kHz

SWP 50.0ms

CPR 2ch x 3.55W  
A-band  
(Representative Unit)

UL High  
Input

9/8/98

ATTN 10dB

V.AVG 10

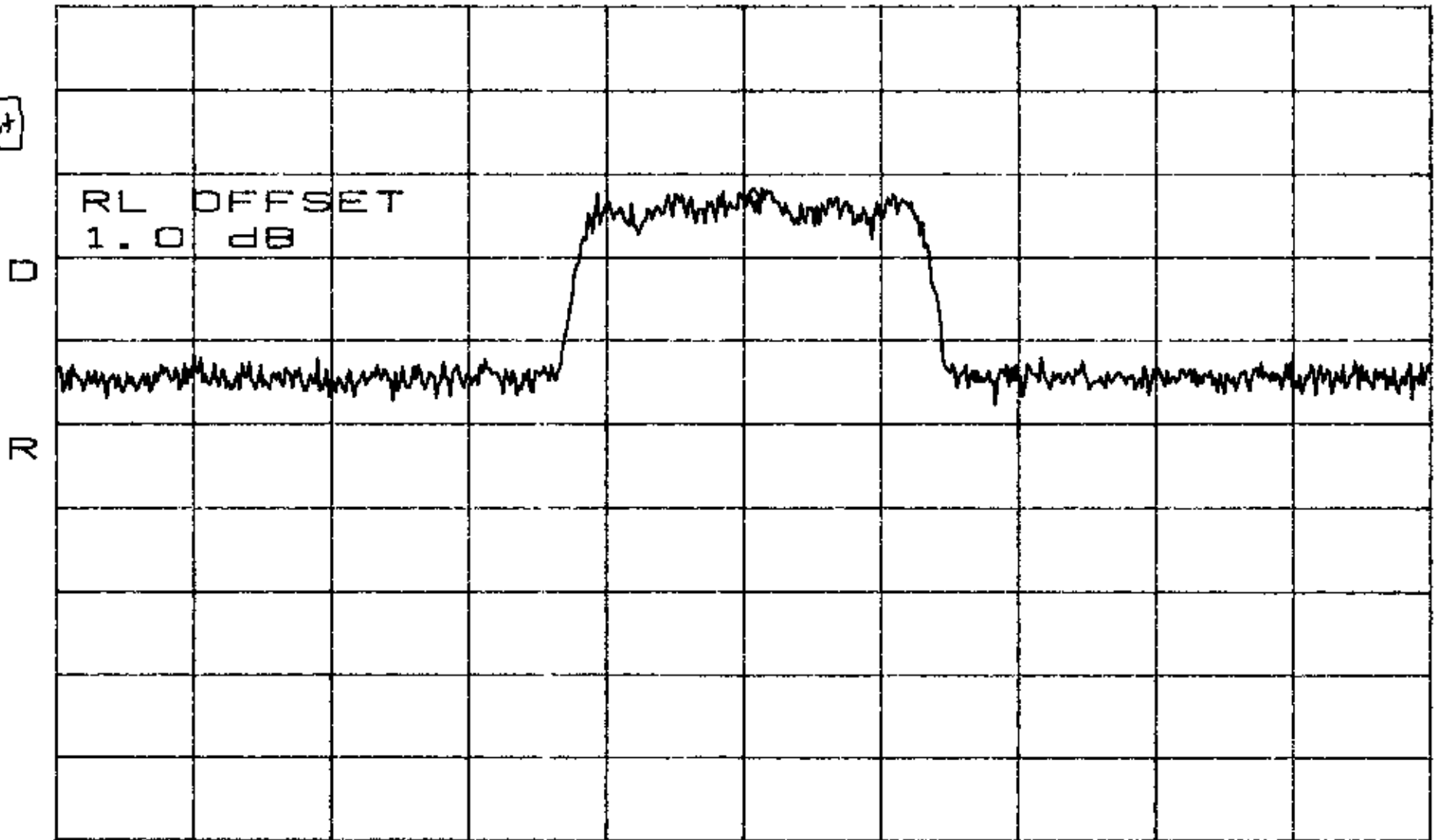
MKR -73.67dBm

RL -50.0dBm

10dB/BPOI

1.863783GHz

In/Out



CENTER 1.863750GHz

SPAN 5.000MHz

\*RBW 30kHz

\*VBW 30kHz

SWP 50.0ms





CDR 2ch x 3.55W  
A-band  
(Representative Unit)

DL Low  
Ch. 25

Fundamental

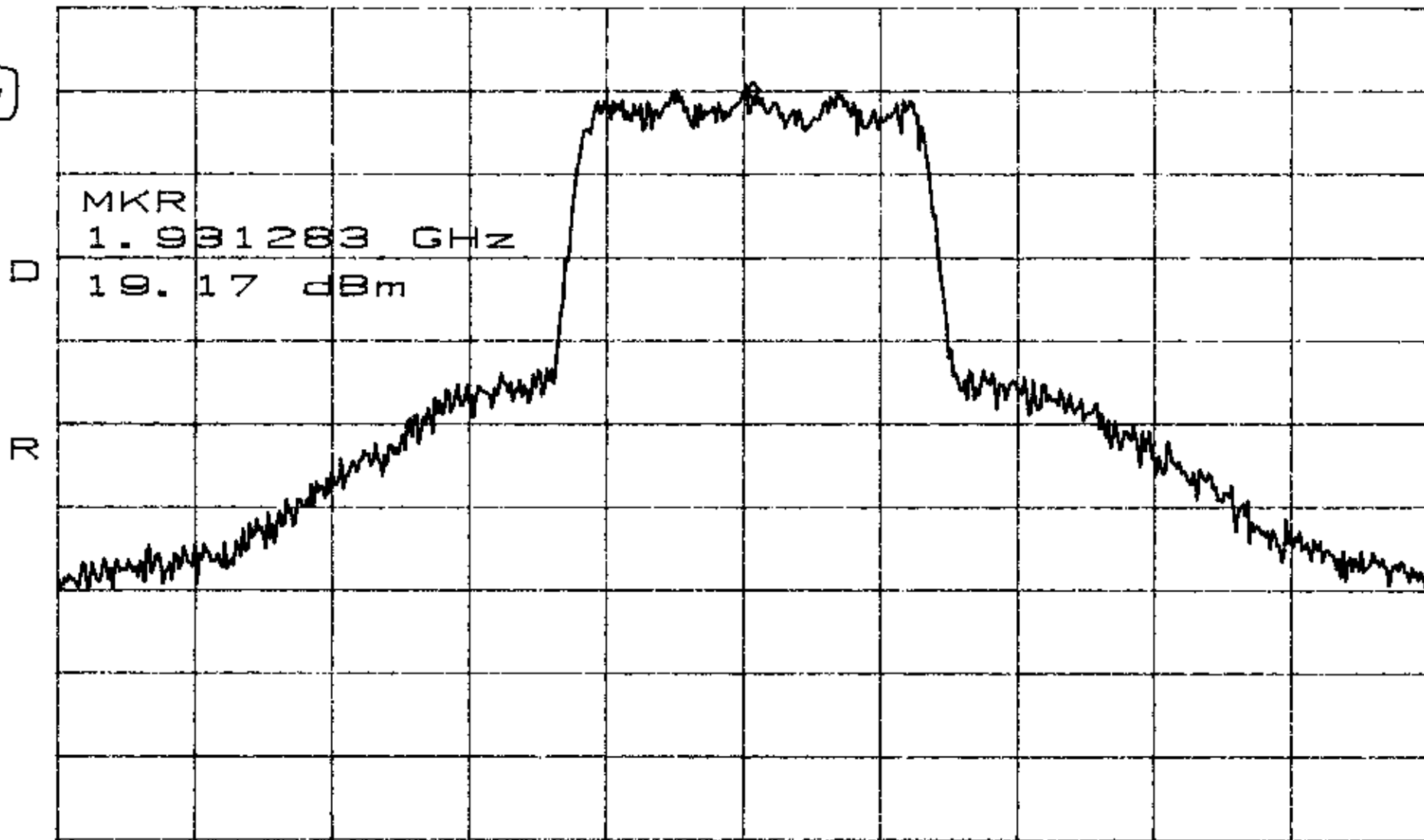
9/8/98

\*ATTEN 20dB  
RL 30.0dBm

VAVG 10  
10dB/

MKR 19.17dBm  
1.931283GHz

24.256



CENTER 1.931250GHz

SPAN 5.000MHz

\*RBW 30kHz

\*VBW 30kHz

SWP 50.0ms

CDR 2ch \* 3.55W  
A-band  
(Representative Unit)

DL Low  
ch.25

Below Fundamental

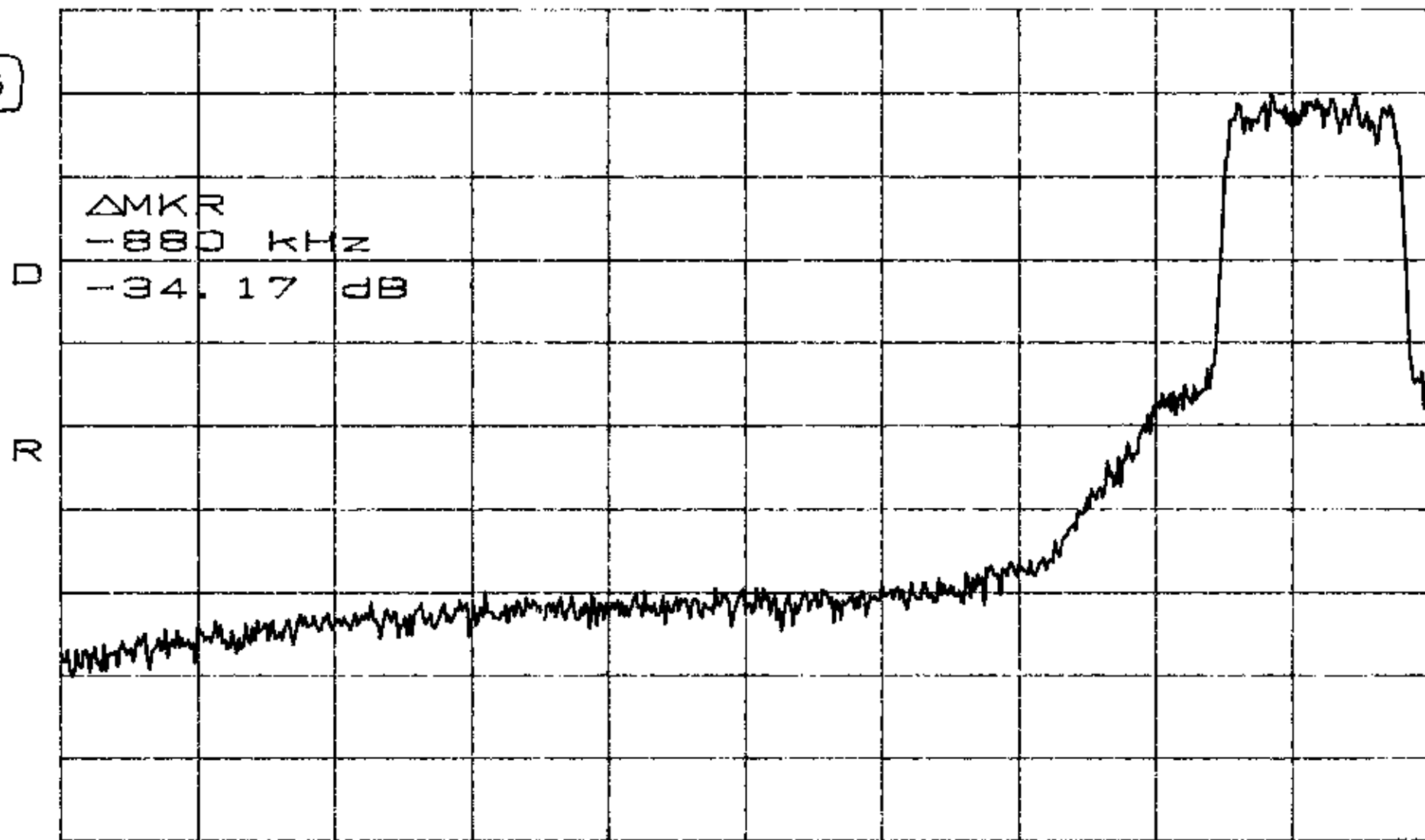
9/8/98

\*ATTEN 20dB  
RL 30.0dBm

VAVG 10  
10dB/

$\Delta$ MKR -34.17dB  
-880kHz

24.238



CENTER 1.92725GHz

SPAN 10.00MHz

\*RBW 30kHz

\*VBW 30kHz

SWP 50.0ms

CDR 2ch = 3.95W

A-band

(Representative Unit)

PL Low

Ch. 25

Above Fundamental

9/8/98

\*ATTEN 20dB

VAVG 10

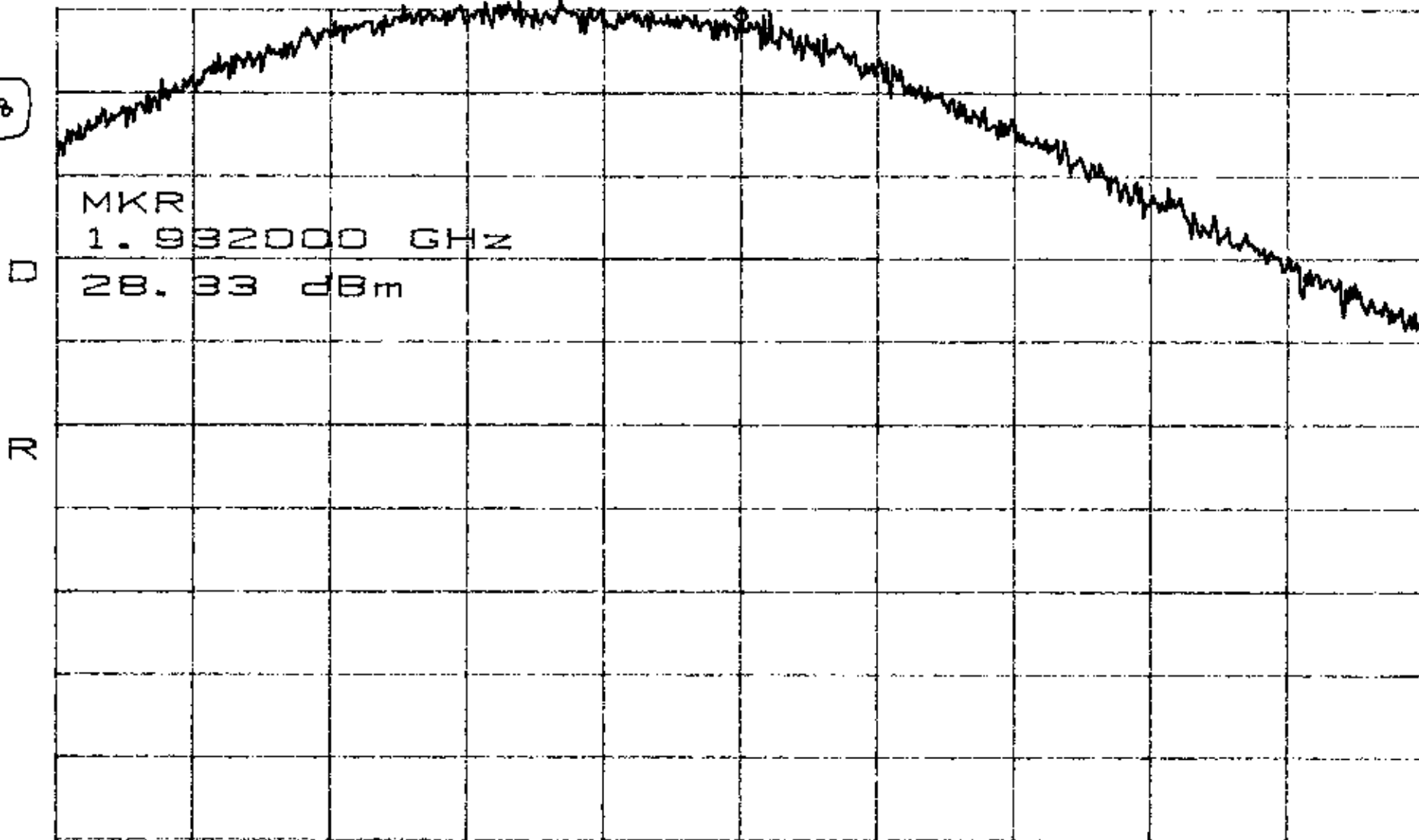
MKR 28.33dBm

RL 30.0dBm

10dB/BPO

1.932000GHz

24.238



CENTER 1.932000GHz

SPAN 5.000MHz

\*RBW 1.0MHz

\*VBW 1.0MHz

SWP 50.0ms

CDR 2ch x 3.55W  
A-band  
(Representative Unit)

DL Low  
ch.25

Above Fundamental

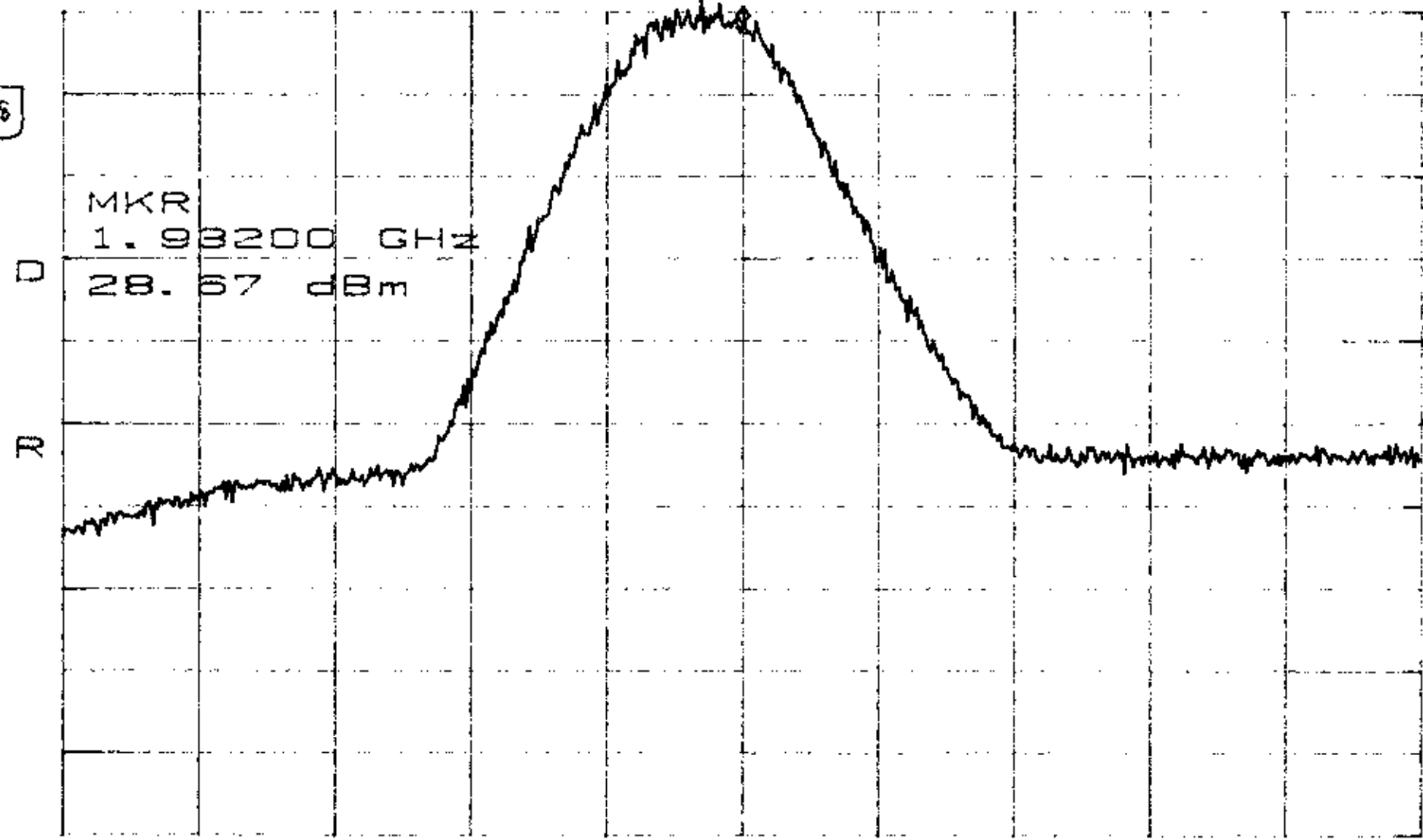
9/8/98

\*ATTEN 20dB  
RL 30.0dBm

VAVG 10  
10dB/

MKR 28.67dBm  
1.93200GHz

24.236



CENTER 1.93200GHz SPAN 20.00MHz  
\*RBW 1.0MHz \*VBW 1.0MHz SWP 50.0ms

CDR 2ch = 3.55W  
A-band  
(Representative Unit)

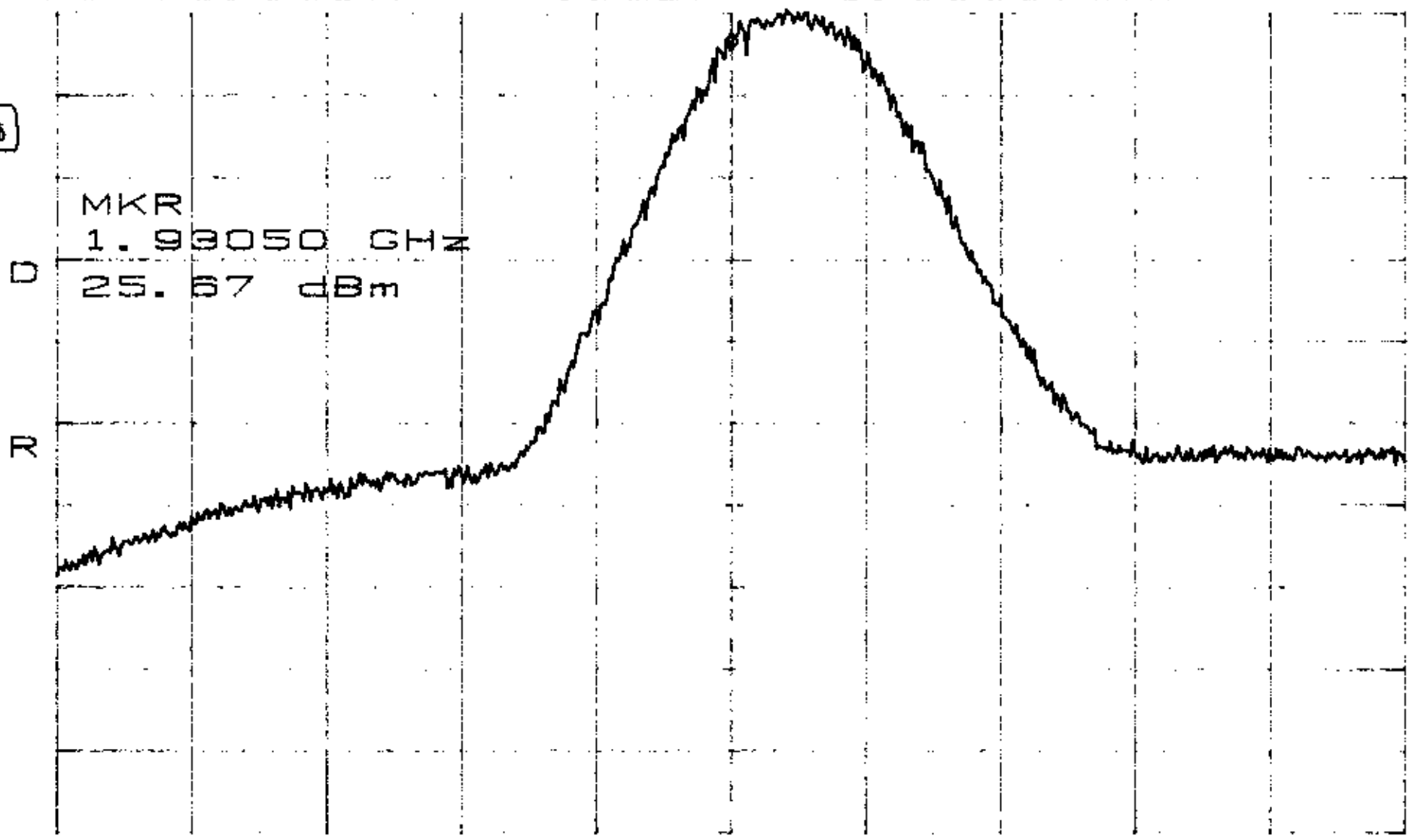
DL Low  
Ch. 25

Below Fundamental

9/8/98

\*ATTN 20dB BPO2  
RL 30.0dBm VAVG 10 MKR 25.67dBm  
10dB/BPO1 1.930506GHz

24.238



CENTER 1.93050GHz SPAN 20.00MHz  
\*RBW 1.0MHz \*VBW 1.0MHz SWP 50.0ms

COR 2ch x 3.55W

DL Low

Bebu Fundamental

9/8/98

A-band  
(Representative Unit)

Ch. 25

\*ATTEN 20dB

VAVG 10

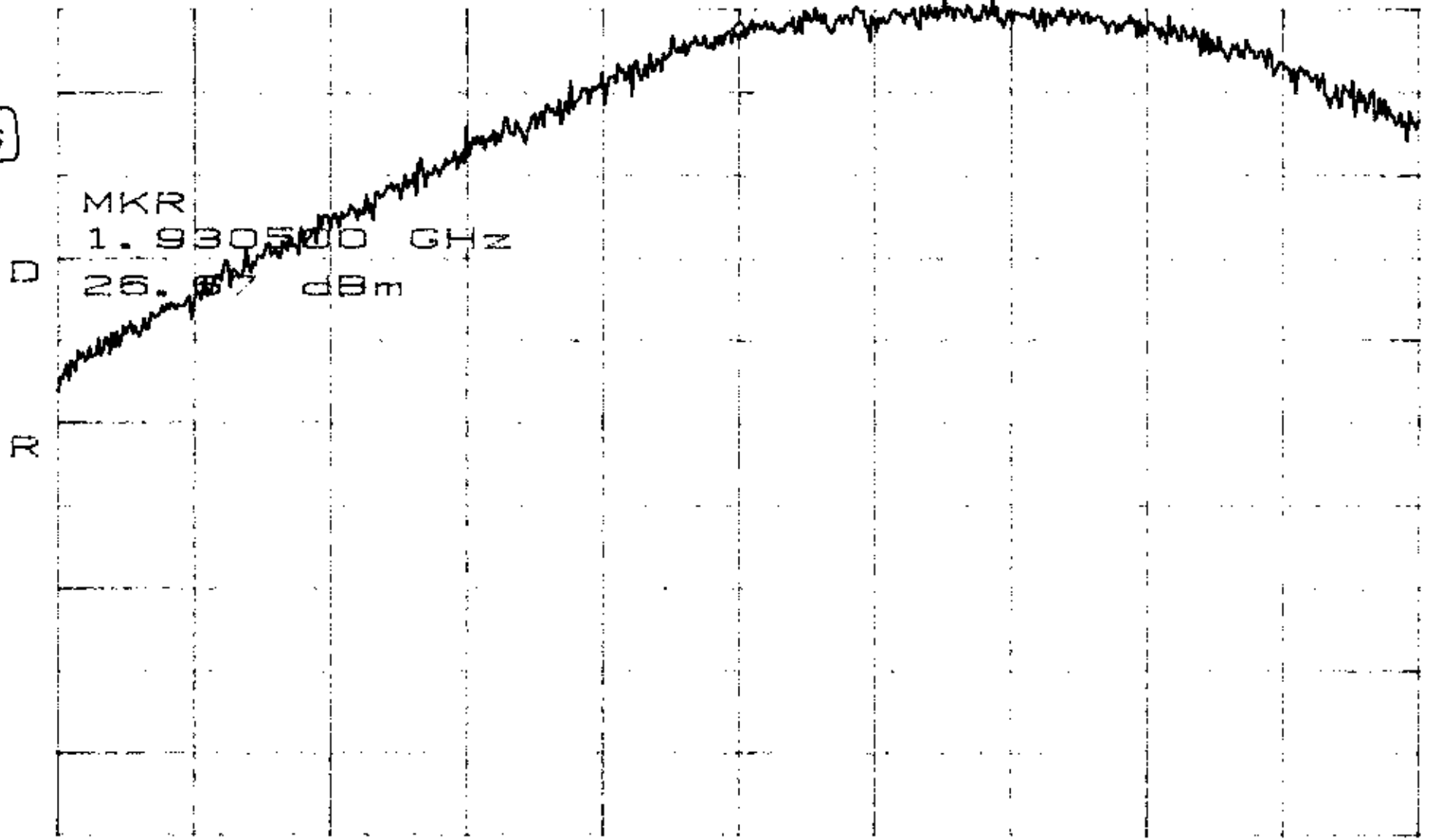
MKR 26.67dBm

RL 30.0dBm

10dB/

1.930500GHz

24.236



CENTER 1.930500GHz

SPAN 5.000MHz

\*RBW 1.0MHz

\*VBW 1.0MHz

SWP 50.0ms

CDR 2ch x 3.55W  
A-band  
(Representative Unit)

DL High  
ch. 275

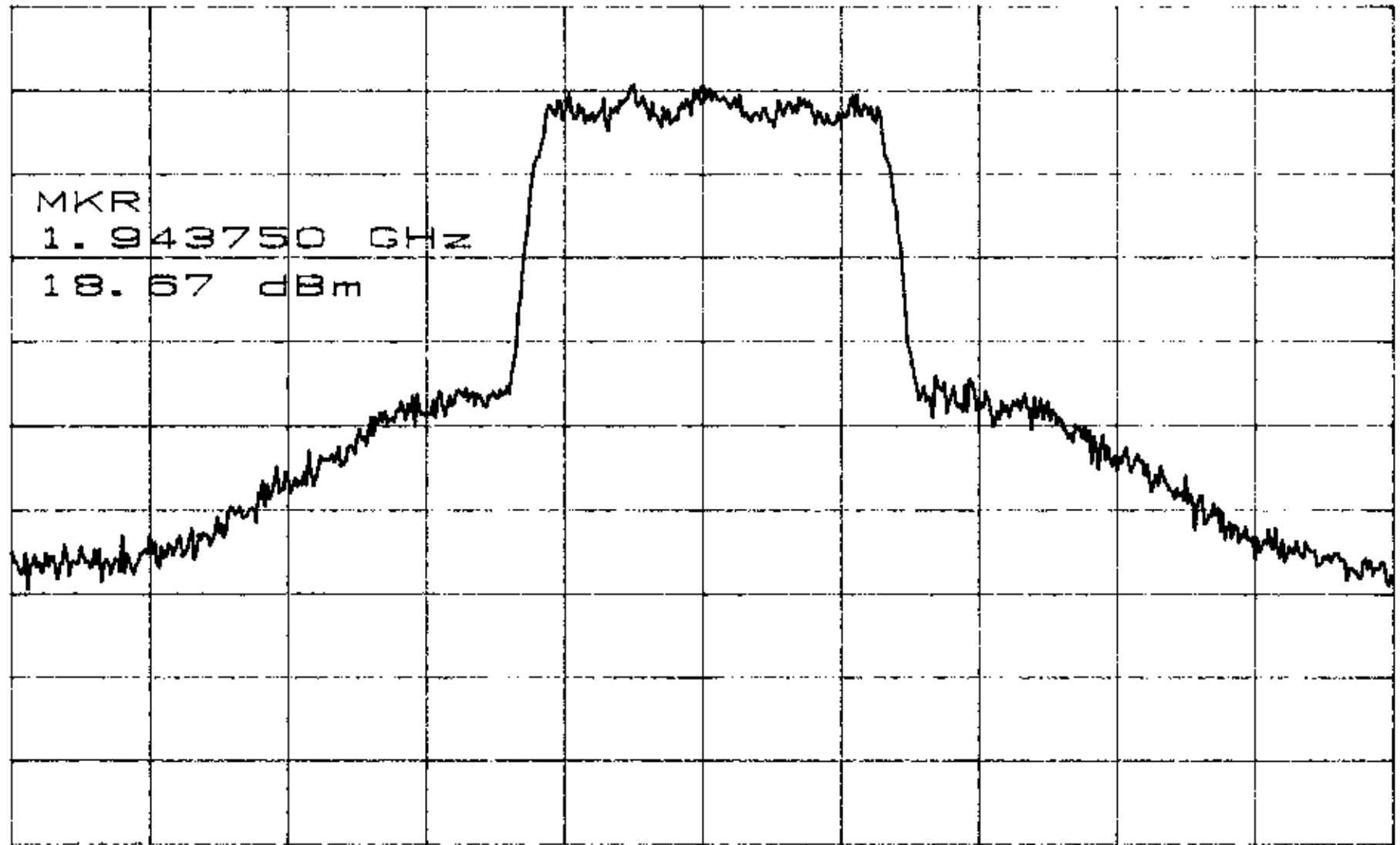
Fundamental

9/8/98

\*ATTEN 20dB  
RL 30.0dBm

VAVG 10  
10dB/

MKR 18.67dBm  
1.943750GHz



CENTER 1.943750GHz

SPAN 5.000MHz

\*RBW 30kHz

\*VBW 30kHz

SWP 50.0ms



CDR 2ch x 3.55W  
A-band  
(Representative Unit)

DL High  
Ch. 215

Above Fundamental

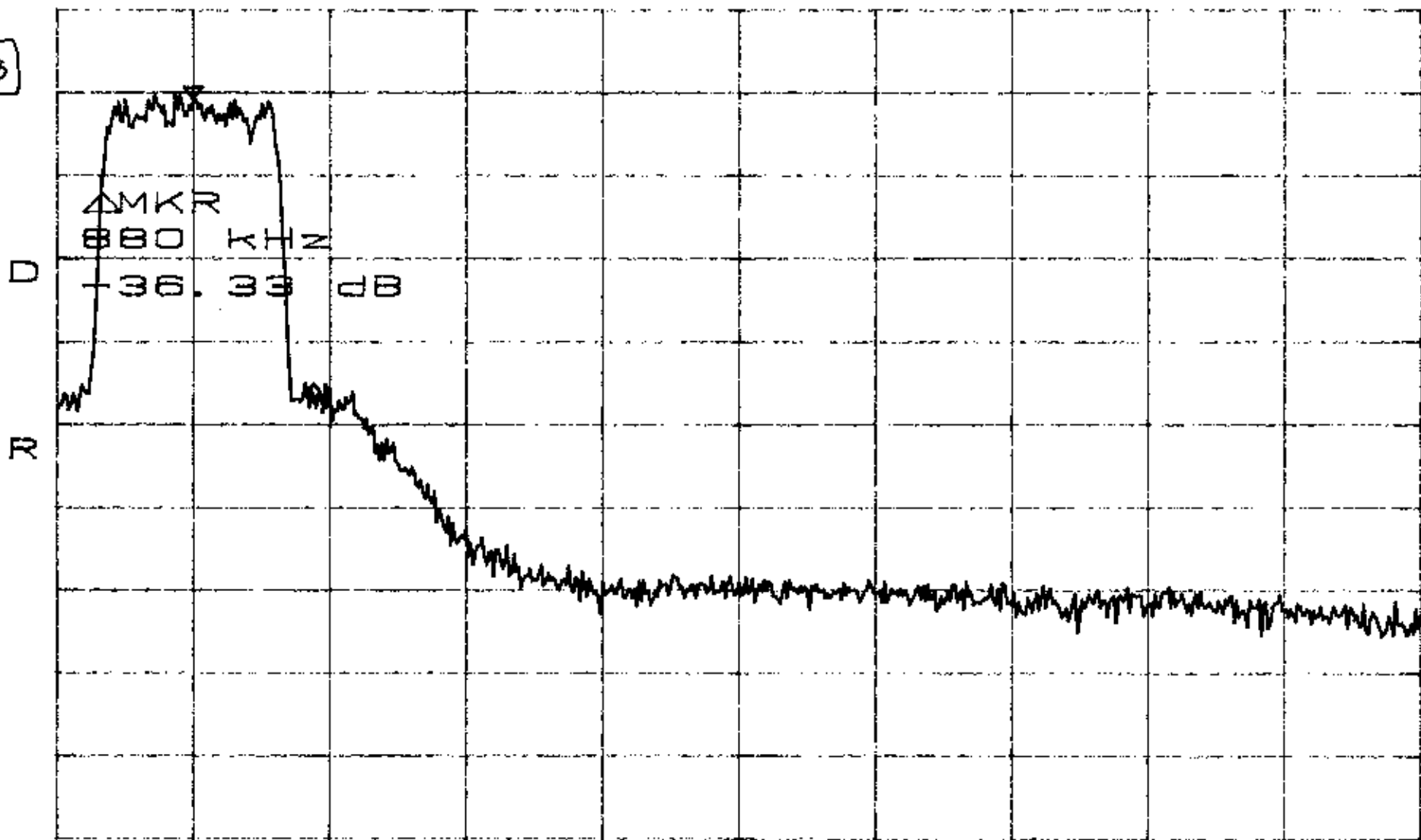
9/8/98

\*ATTEN 20dB  
RL 30.0dBm

VAVG 10  
10dB/

$\Delta$ MKR -36.33dB  
880kHz

24.238



CENTER 1.94775GHz SPAN 10.00MHz  
\*RBW 30kHz \*VBW 30kHz SWP 50.0ms

CDR 2ch x 3.55W  
A-band  
(Representative Unit)

DL High  
Ch. 275

Above Fundamental

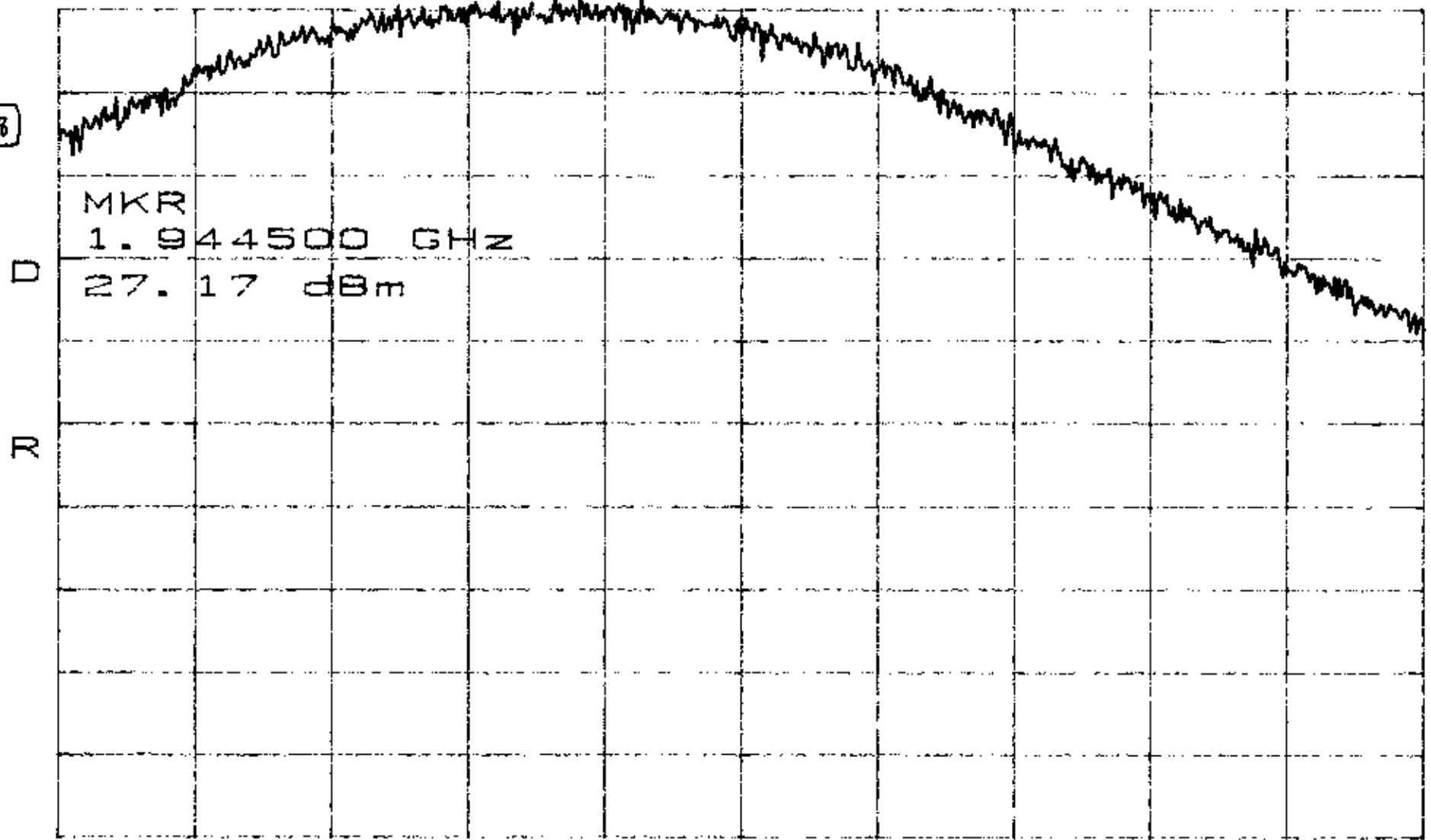
9/8/98

\*ATTEN 20dB  
RL 30.0dBm

VAVG 10  
10dB/

MKR 27.17dBm  
1.944500GHz

24.298



CENTER 1.944500GHz

SPAN 5.000MHz

\*RBW 1.0MHz

\*VBW 1.0MHz

SWP 50.0ms

CDR 2ch x 3.55W  
A-band  
(Representative Unit)

2L High  
ch. 275

Above Fundamental

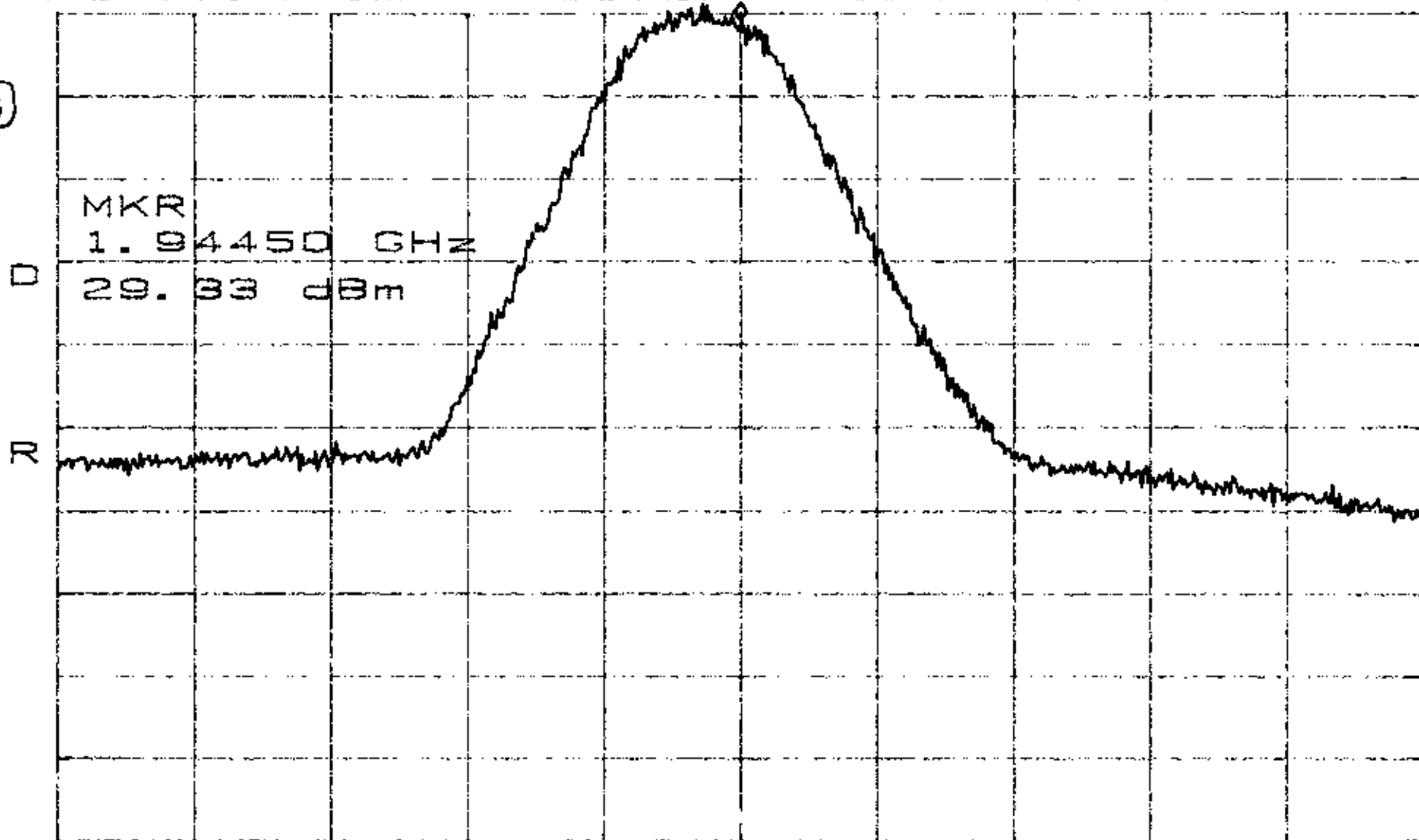
9/8/98

\*ATTEN 20dB  
RL 30.0dBm

VAVG 10  
10dB/

MKR 29.33dBm  
1.94450GHz

24.236



CENTER 1.94450GHz

SPAN 20.00MHz

\*RBW 1.0MHz

\*VBW 1.0MHz

SWP 50.0ms

CPR 2ch x 3.55W  
A-band  
(Representative Unit)

DL High  
Ch. 275

Below Fundamental

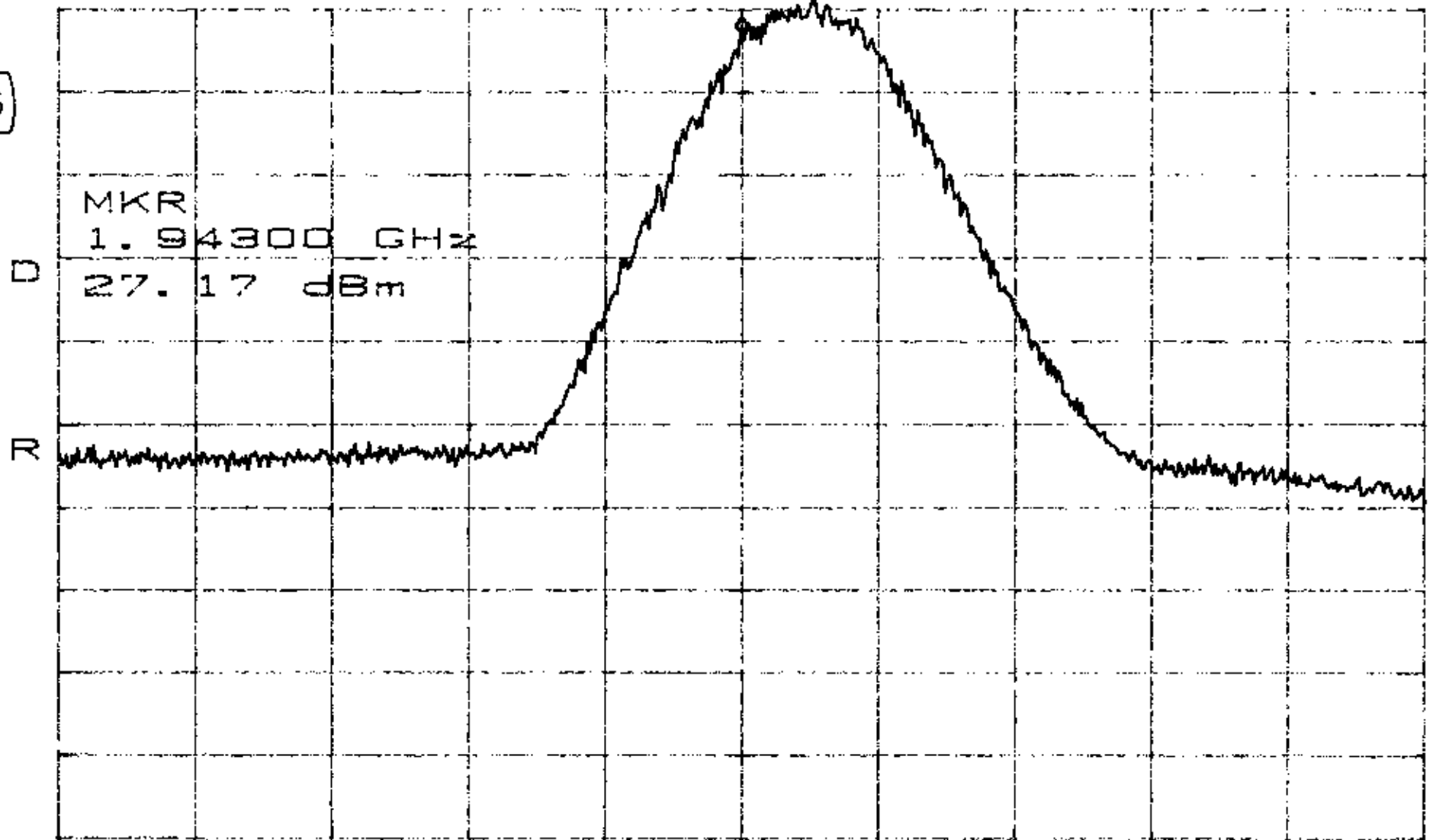
9/8/98

\*ATTEN 20dB  
RL 30.0dBm

VAVG 10  
10dB/

MKR 27.17dBm  
1.94300GHz

24.238



CENTER 1.94300GHz

SPAN 20.00MHz

\*RBW 1.0MHz

\*VBW 1.0MHz

SWP 50.0ms

CDR 2ch x 3.95W  
A-brand  
(Representative Unit)

DL High  
Ch. 275

Below Fundamental

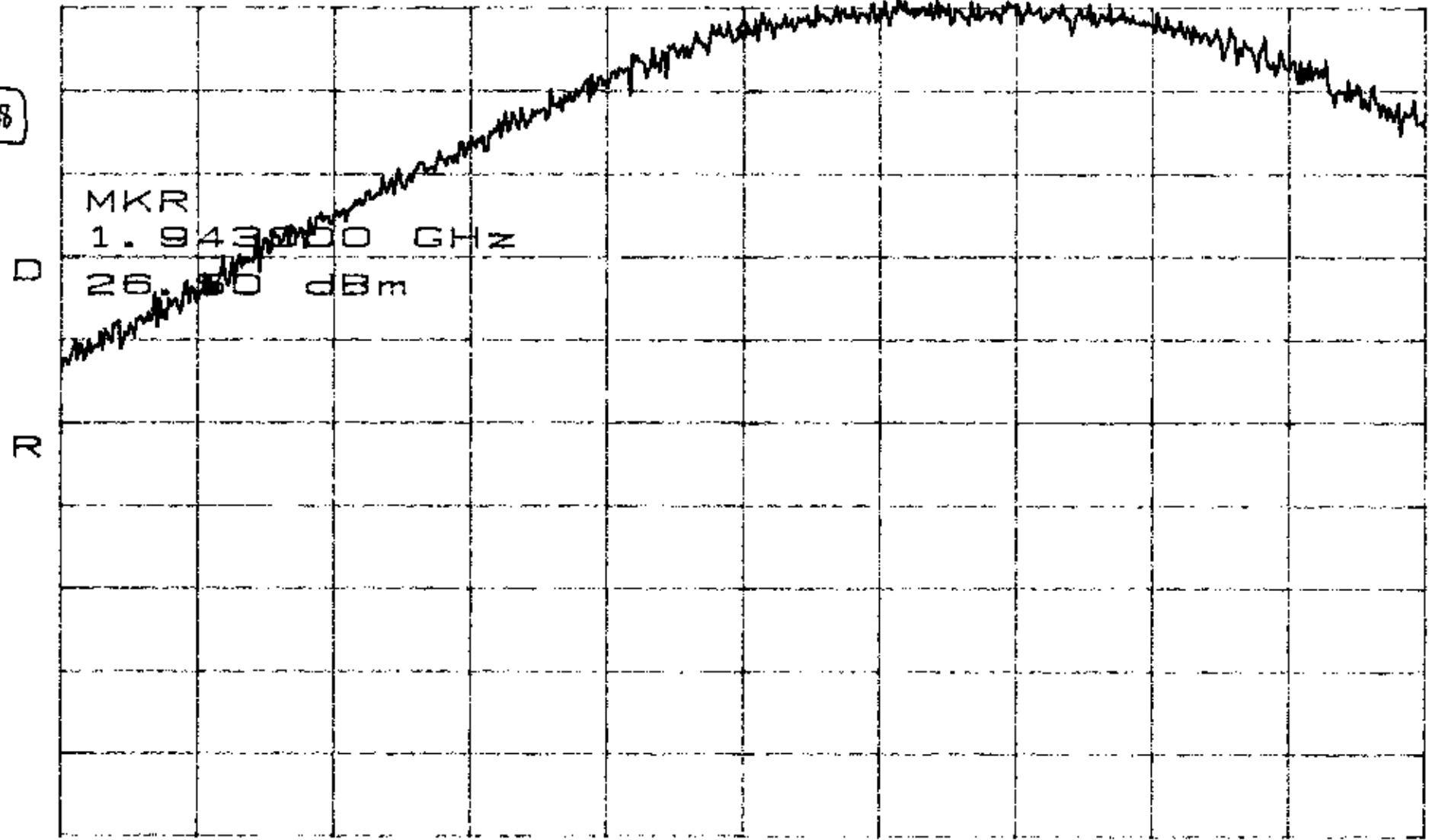
9/8/98

\*ATTEN 20dB  
RL 30.0dBm

VAVG 10  
10dB/

MKR 26.50dBm  
1.943000GHZ

24.238



CENTER 1.943000GHZ SPAN 5.000MHZ  
\*RBW 1.0MHZ \*VBW 1.0MHZ SWP 50.0ms

CDR 2ch x 3.55W  
A-band  
(Representative Unit)

UL Low  
ch.25

Fundamental

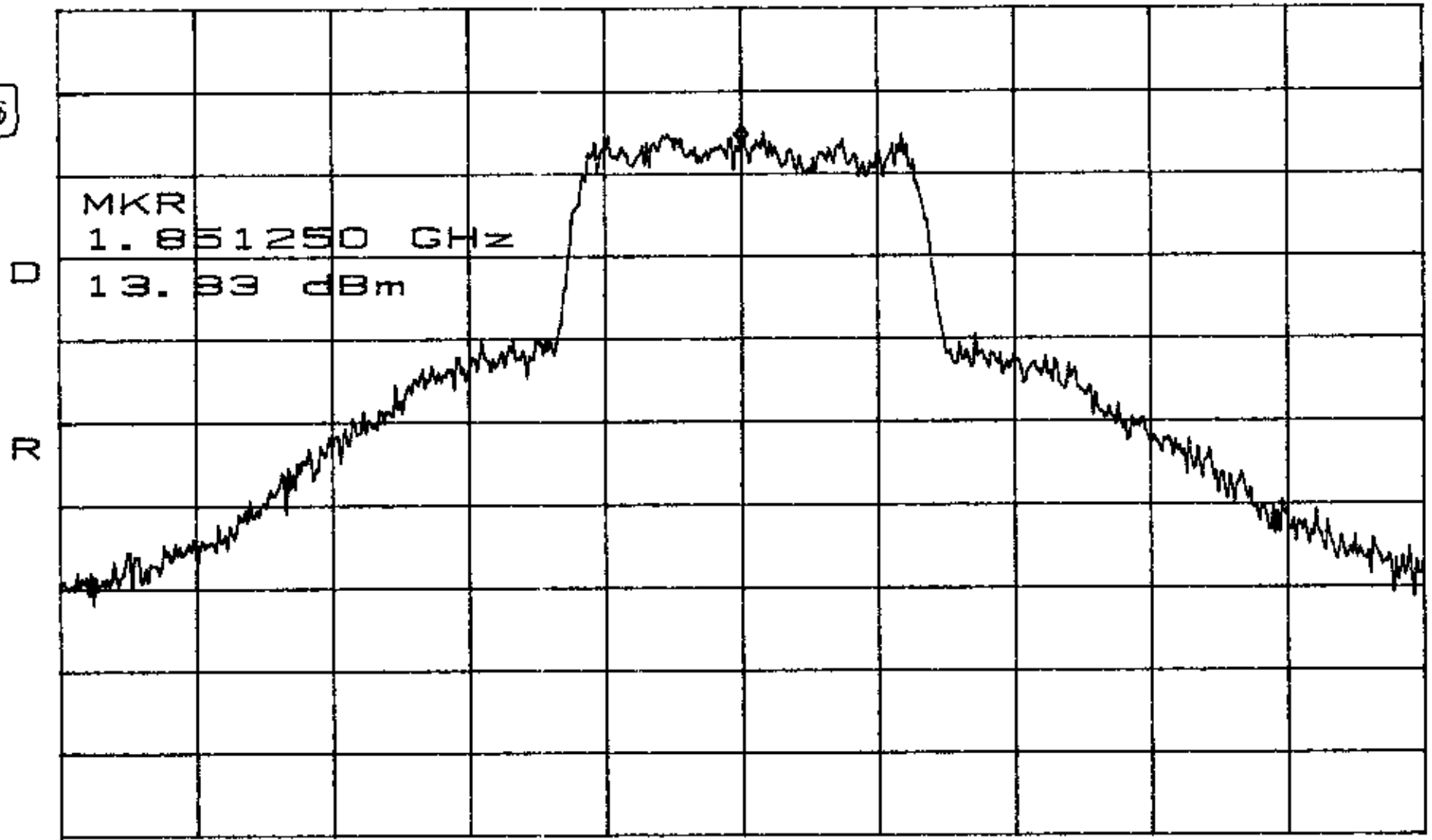
9/8/98

\*ATTEN 20dB  
RL 30.0dBm

VAVG 10  
10dB/

MKR 13.83dBm  
1.851250GHz

24.298



CENTER 1.851250GHz SPAN 5.000MHz  
\*RBW 30kHz \*VBW 30kHz SWP 50.0ms

CDR 2ch x 3.55W  
A-band  
(Representative Unit)

UL Low  
Ch. 25

Below Fundamental

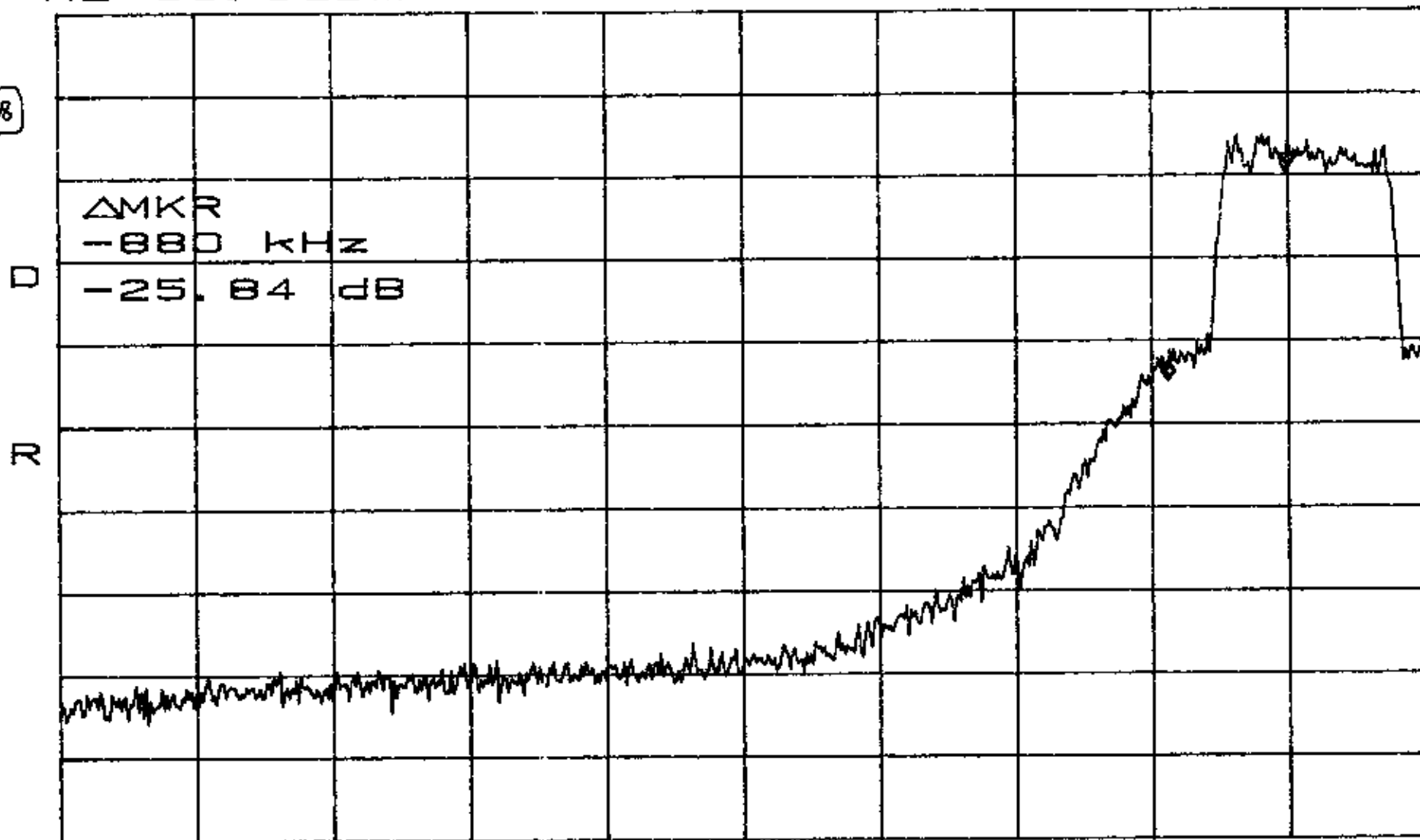
9/8/98

\*ATTEN 20dB  
RL 30.0dBm

VAVG 10  
10dB/BPOI

$\Delta$ MKR -25.84dB  
-880kHz

24.238



CENTER 1.84725GHz SPAN 10.00MHz  
\*RBW 30kHz \*VBW 30kHz SWP 50.0ms

COR 2ch x 3.55W  
A-brand  
(Representative Unit)

UL Low  
Ch. 25

Above Fundamental

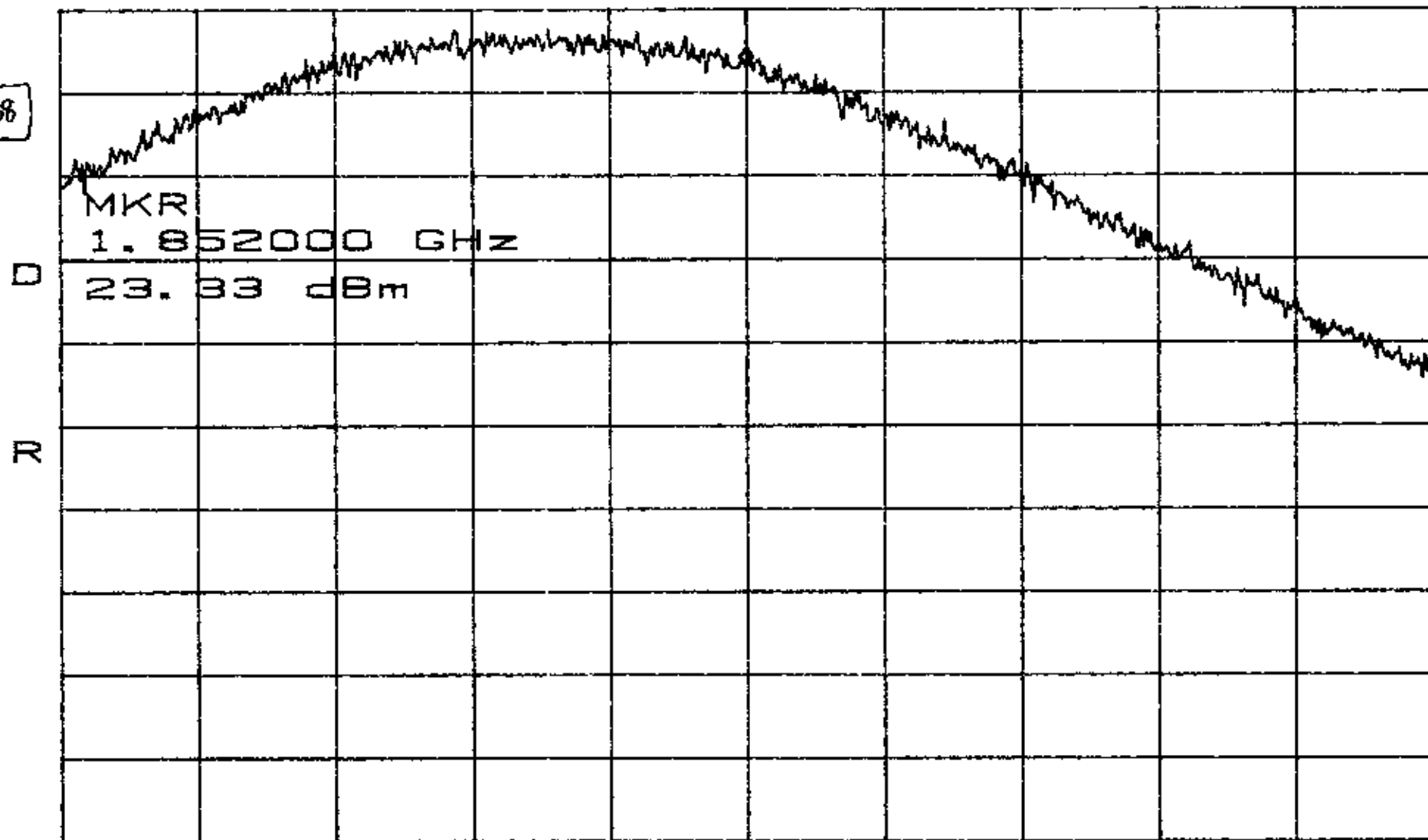
9/8/98

\*ATTEN 20dB  
RL 30.0dBm

VAVG 10  
10dB/

MKR 23.33dBm  
1.852000GHZ

24.238



CENTER 1.852000GHZ SPAN 5.000MHZ  
\*RBW 1.0MHZ \*VBW 1.0MHZ SWP 50.0ms



CDR 2ch x 3.55W  
A-band  
(Representative Unit)

UL Low  
Ch. 25

Above Fundamental

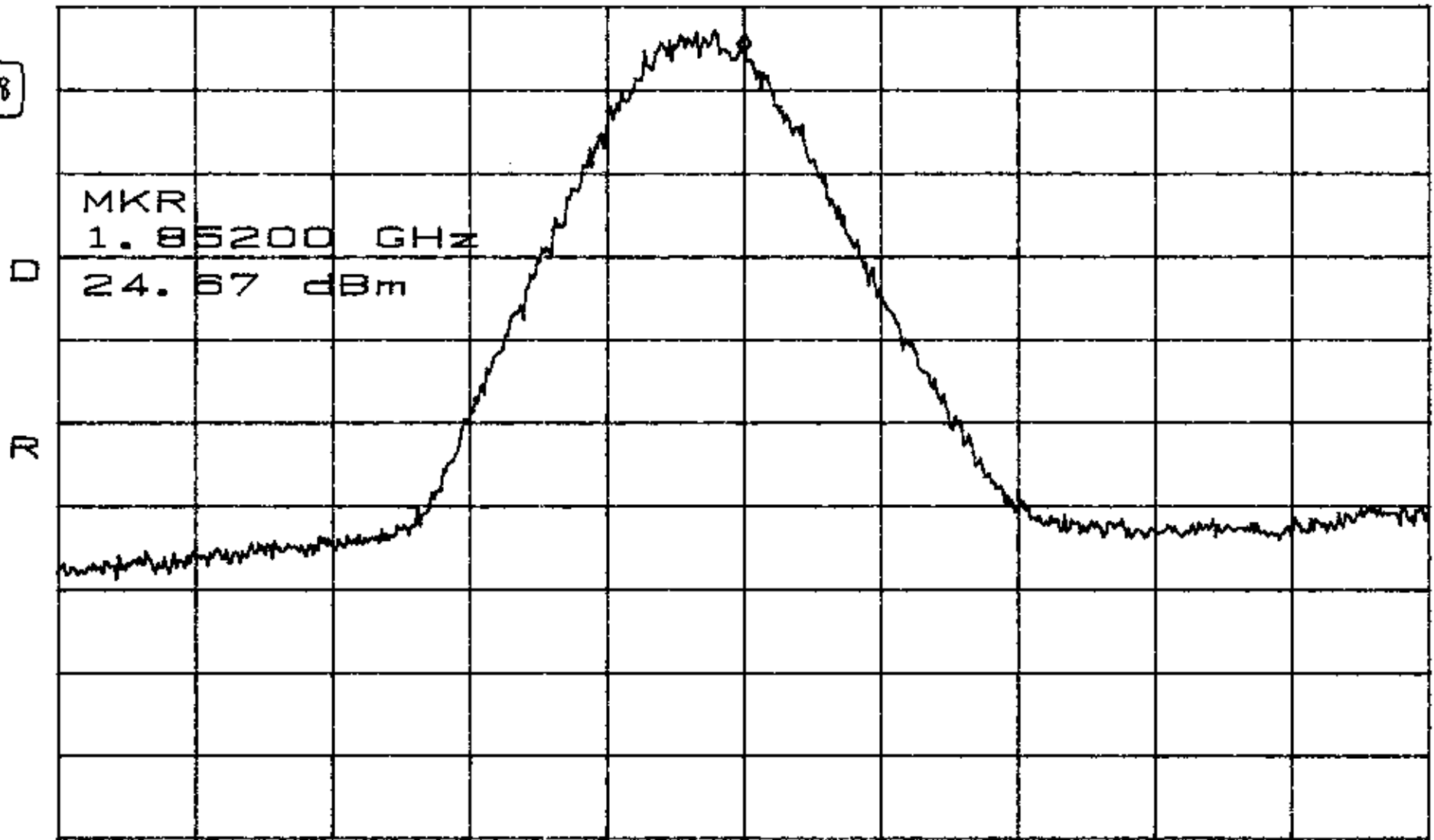
9/8/98

\*ATTEN 20dB  
RL 30.0dBm

VAVG 10  
10dB/

MKR 24.67dBm  
1.85200GHz

24.238



CENTER 1.85200GHz SPAN 20.00MHz  
\*RBW 1.0MHz \*VBW 1.0MHz SWP 50.0ms

CDR 2ch x 3.55W  
A-band  
(Representative Unit)

Ul. Low  
ch. 25

Below Fundamental

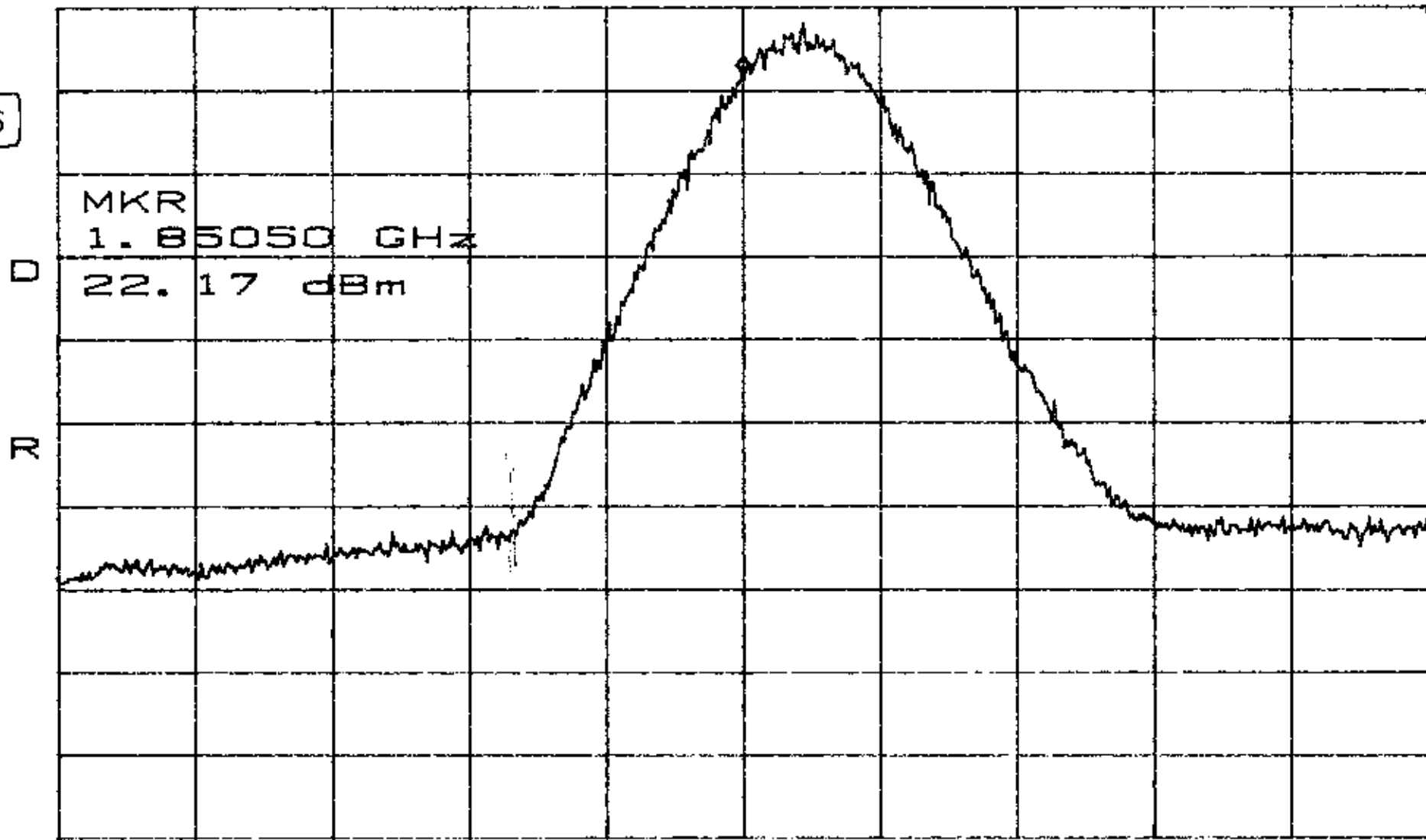
9/8/98

\*ATTEN 20dB  
RL 30.0dBm

\*VAVG 10  
10dB/

MKR 22.17dBm  
1.85050GHz

24.238



CENTER 1.85050GHz SPAN 20.00MHz  
\*RBW 1.0MHz \*VBW 1.0MHz SWP 50.0ms

CDR 2ch x 3.55W  
A-band  
(Representative Unit)

UL Low  
Ch. 25

Below Fundamental

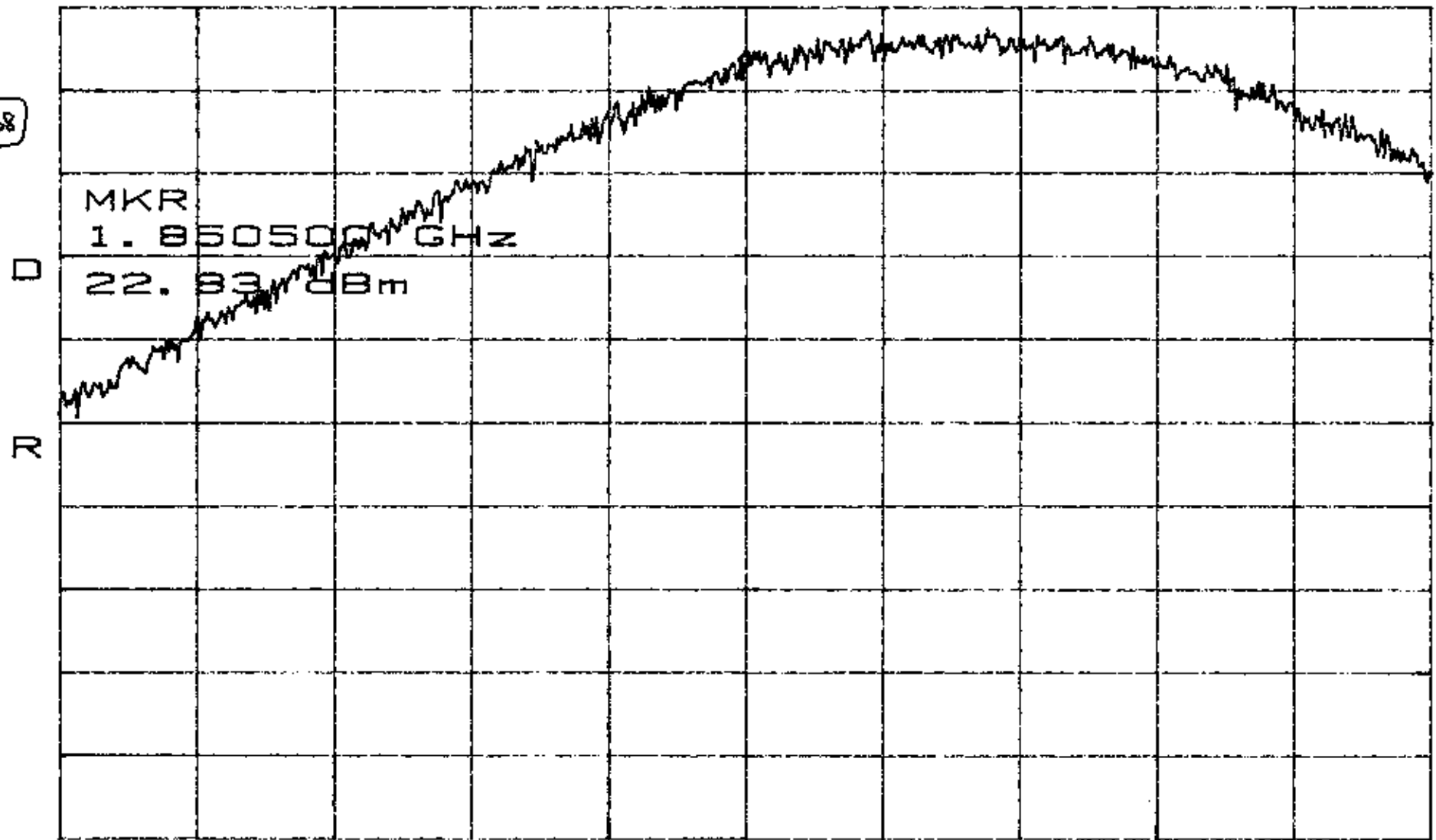
9/8/98

\*ATTEN 20dB  
RL 30.0dBm

VAVG 10  
10dB/

MKR 22.83dBm  
1.850500GHz

24.238



CENTER 1.850500GHz

SPAN 5.000MHz

\*RBW 1.0MHz

\*VBW 1.0MHz

SWP 50.0ms

COR 2ch x 3.55W  
A-band  
(Representative Unit)

UL High  
Ch. 275

Fundamental

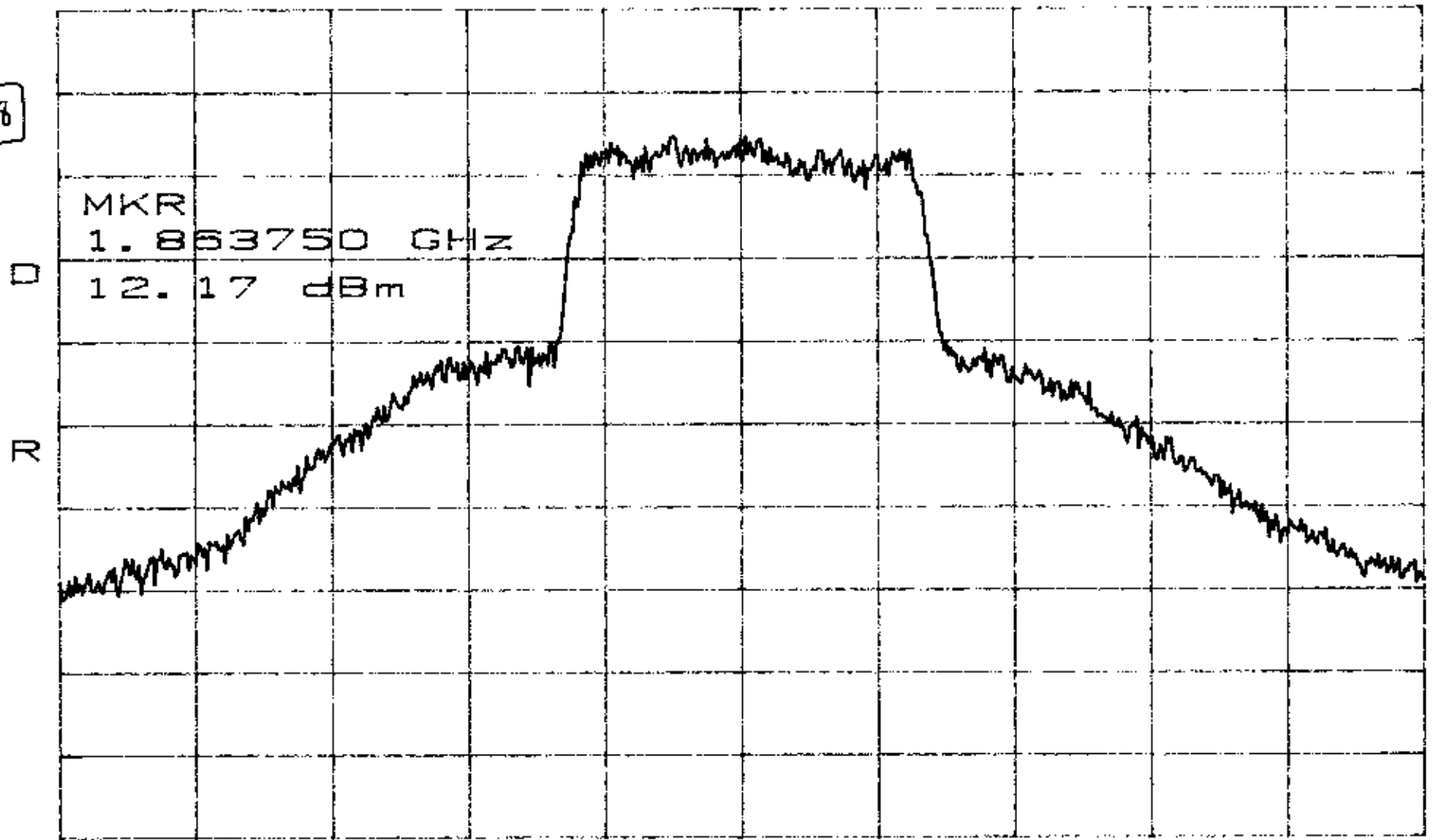
9/8/98

\*ATTEN 20dB  
RL 30.0dBm

VAVG 10  
10dB/BPO1

MKR 12.17dBm  
1.863750GHz

24.238



CENTER 1.863750GHz SPAN 5.000MHz  
\*RBW 30kHz \*VBW 30kHz SWP 50.0ms

COR 2ch x 3.55W  
A-band  
(Representative Unit)

UL High  
Ch. 275

Above Fundamental

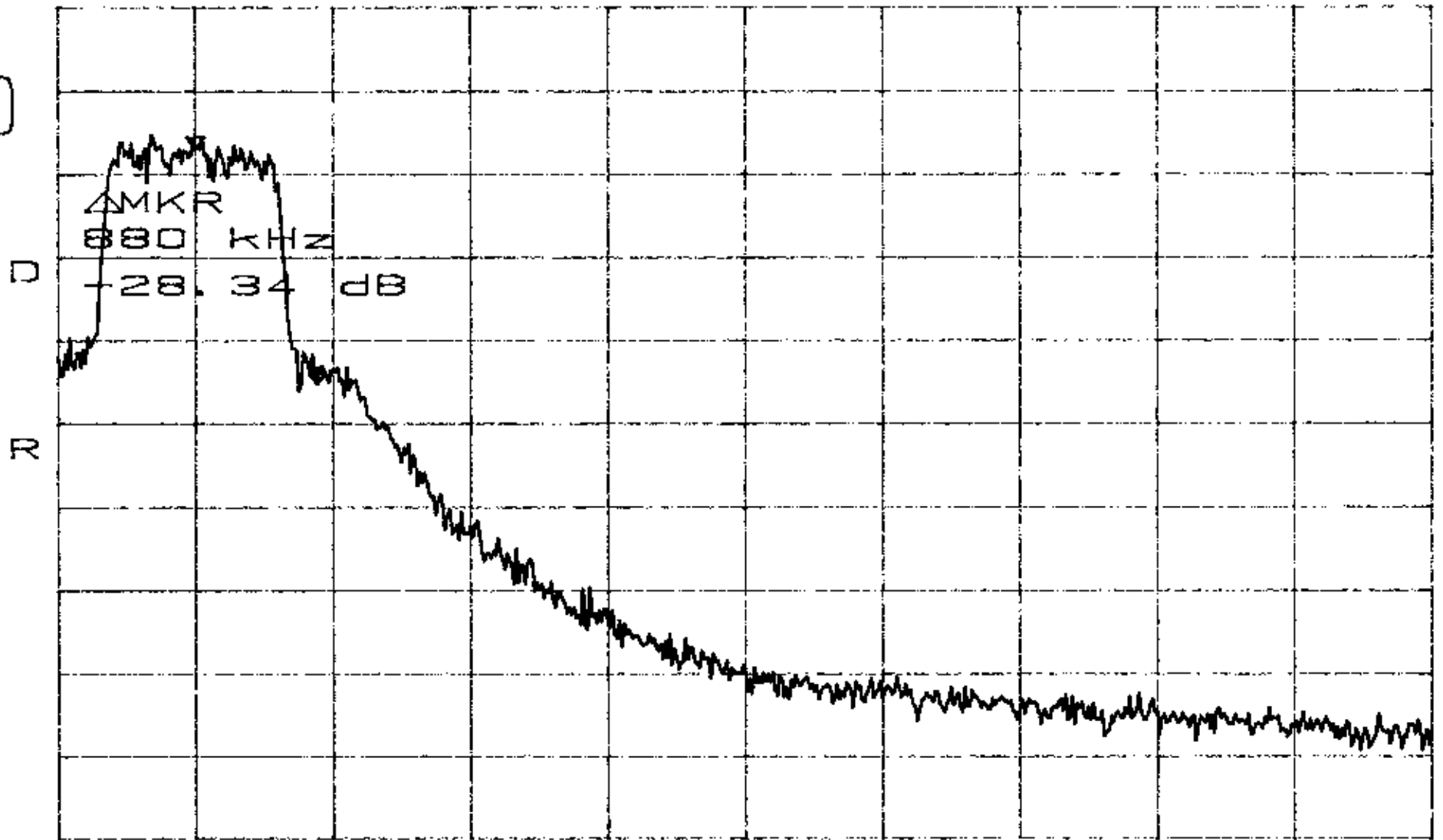
9/8/98

\*ATTN 20dB  
RL 30.00MHz

VAVG 10  
10dB/

$\Delta$ MKR -28.34dB  
880kHz

24.238



CENTER 1.86775GHz

SPAN 10.00MHz

\*RBW 30kHz

\*VBW 30kHz

SWP 50.0ms

CPR 2ch x 3.55W  
A-band

UL High  
ch. 275

Below Fundamental

9/8/99

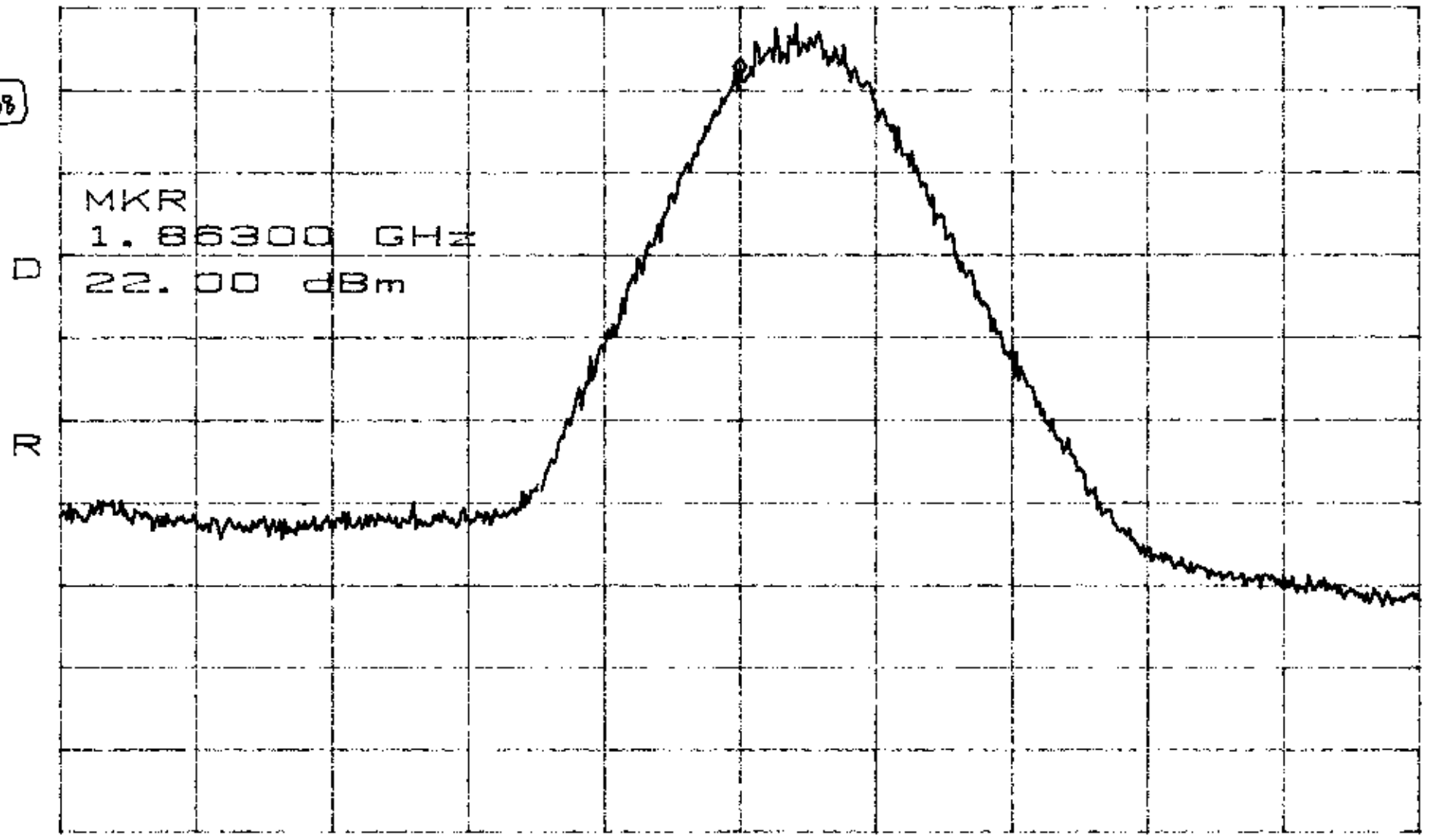
(Representative Unit)

\*ATTEN 20dB  
RL 30.0dBm

VAVG 10  
10dB/

MKR 22.00dBm  
1.86300GHz

24.298



CENTER 1.86300GHz SPAN 20.00MHz  
\*RBW 1.0MHz \*VBW 1.0MHz SWP 50.0ms

CDR 2ch x 3.55W  
A-band  
(Representative Unit)

UL High  
Ch. 275

Below Fundamental

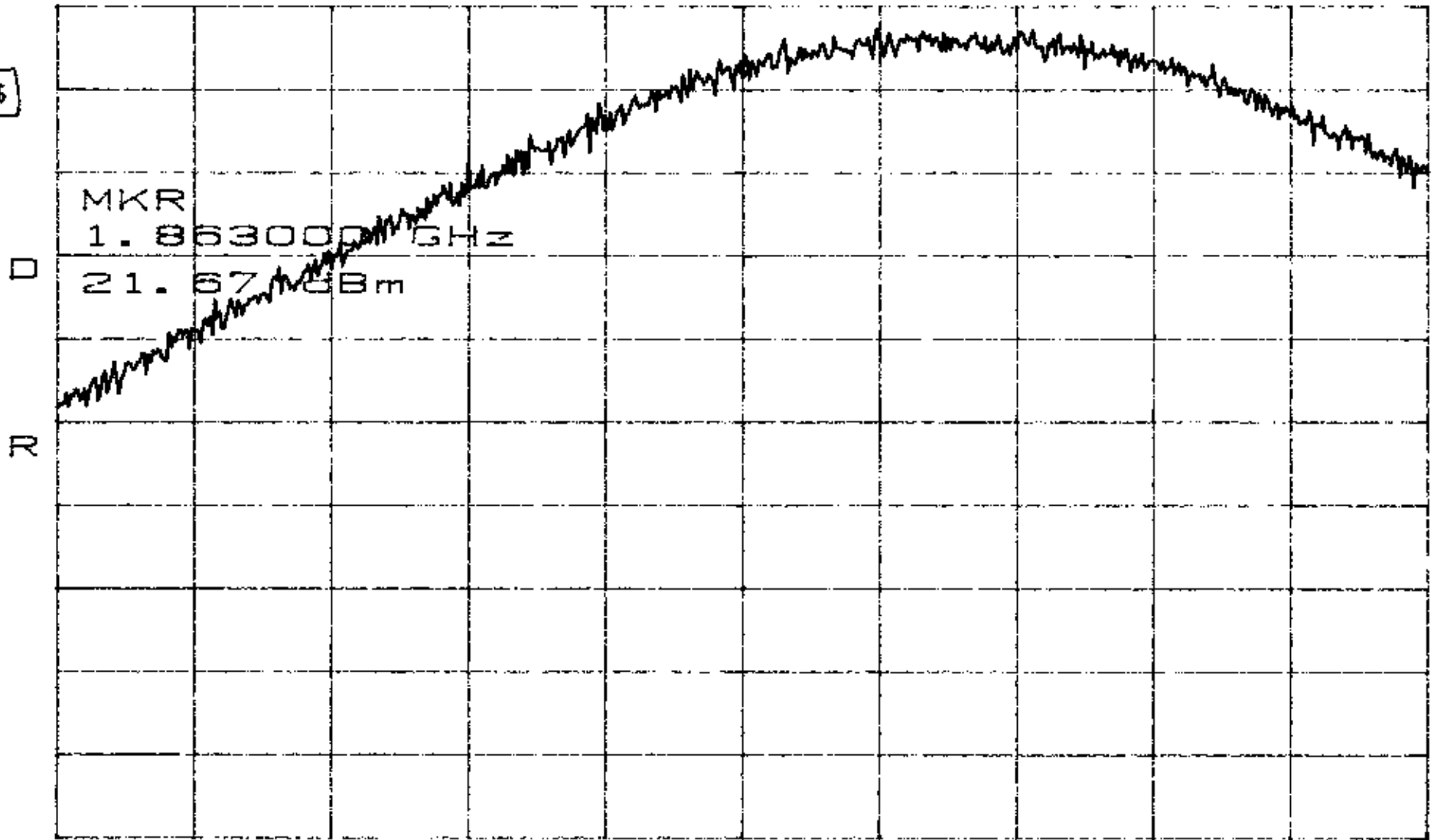
9/8/98

\*ATTEN 20dB  
RL 30.0dBm

VAVG 10  
10dB/

MKR 21.67dBm  
1.863000GHz

24.23%



CENTER 1.863000GHz SPAN 5.000MHz  
\*RBW 1.0MHz \*VBW 1.0MHz SWP 50.0ms

COR 2ch x 3.55W  
A-band  
(Representative Unit)

UL High  
Ch. 275

Above Fundamental

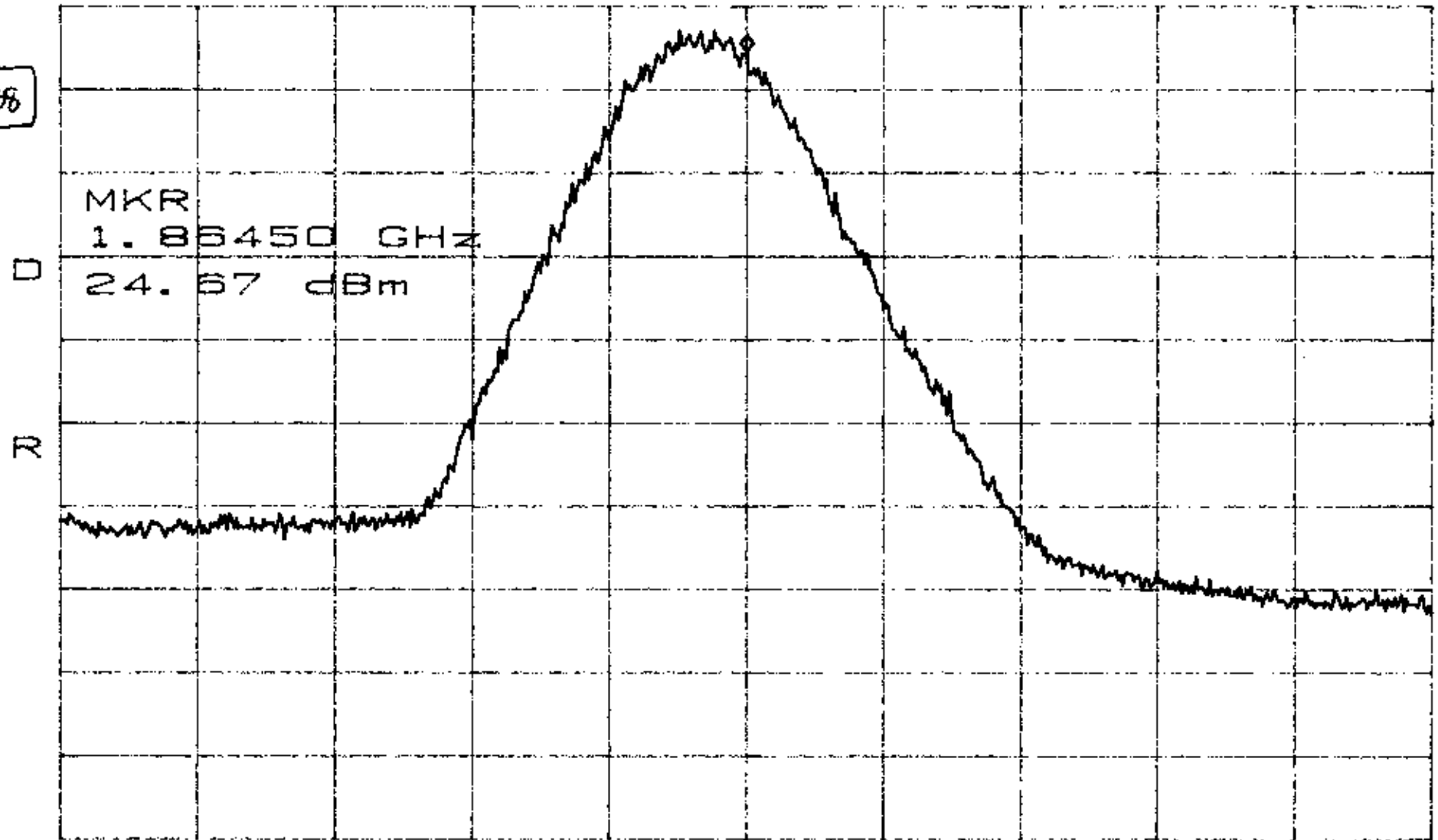
9/8/98

\*ATTEN 20dB  
RL 30.0dBm

VAVG 10  
10dB/BPO1

MKR 24.67dBm  
1.86450GHz

24.236



CENTER 1.86450GHz

SPAN 20.00MHz

\*RBW 1.0MHz

\*VBW 1.0MHz

SWP 50.0ms



CDR 2ch x 3.55W  
A-band  
(Representative Unit)

UL High  
Ch. 275

Above Fundamental

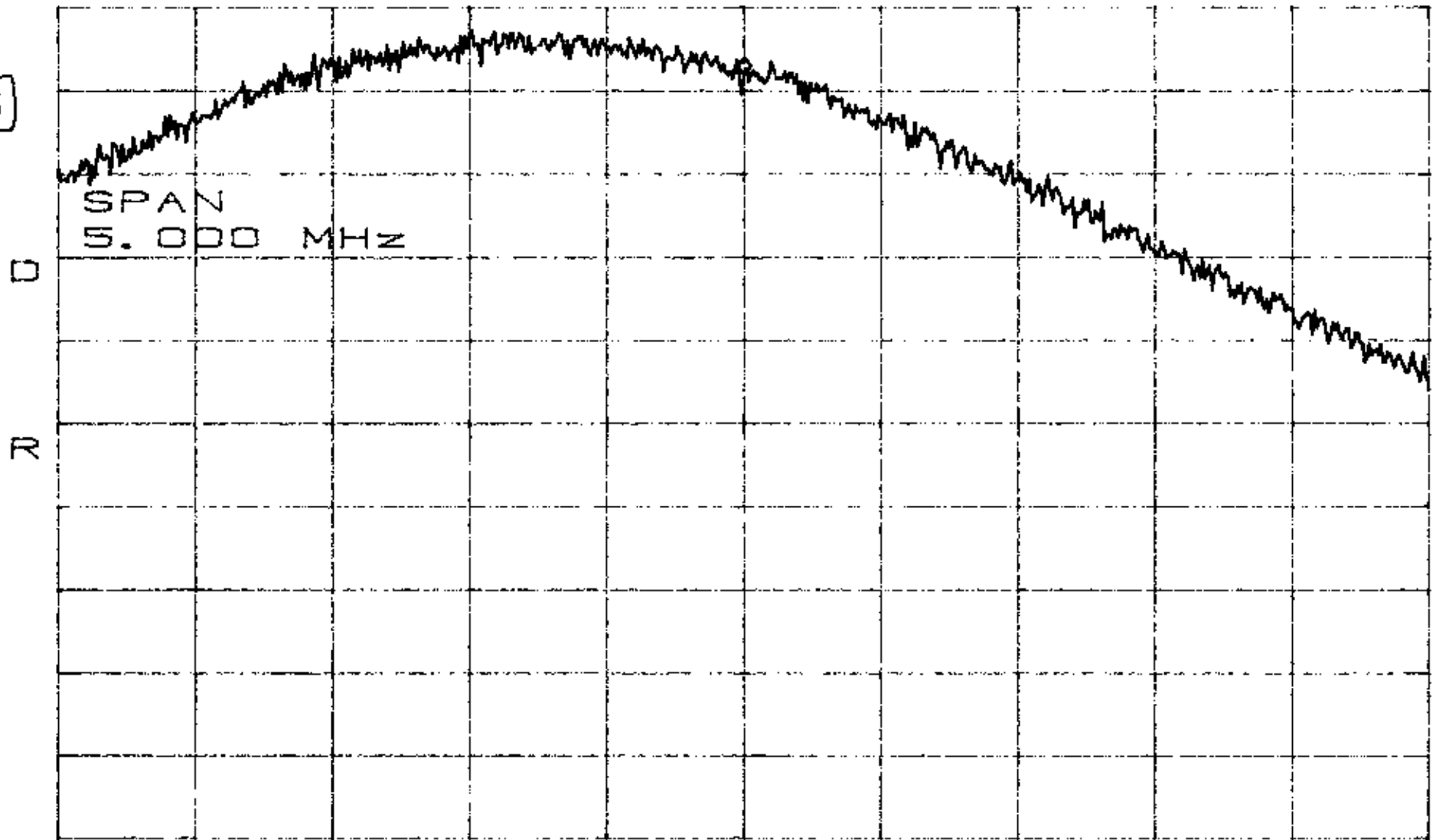
9/8/98

\*ATTEN 20dB  
RL 30.0dBm

VAVG 10  
10dB/BPOI

MKR 22.00dBm  
1.864500GHz

24.238



CENTER 1.864500GHz SPAN 5.000MHz  
\*RBW 1.0MHz \*VBW 1.0MHz SWP 50.0ms

COR 2ch x 3.55W  
A-band  
(Representative Unit)

DL Low  
ch. 25

CDMA Source

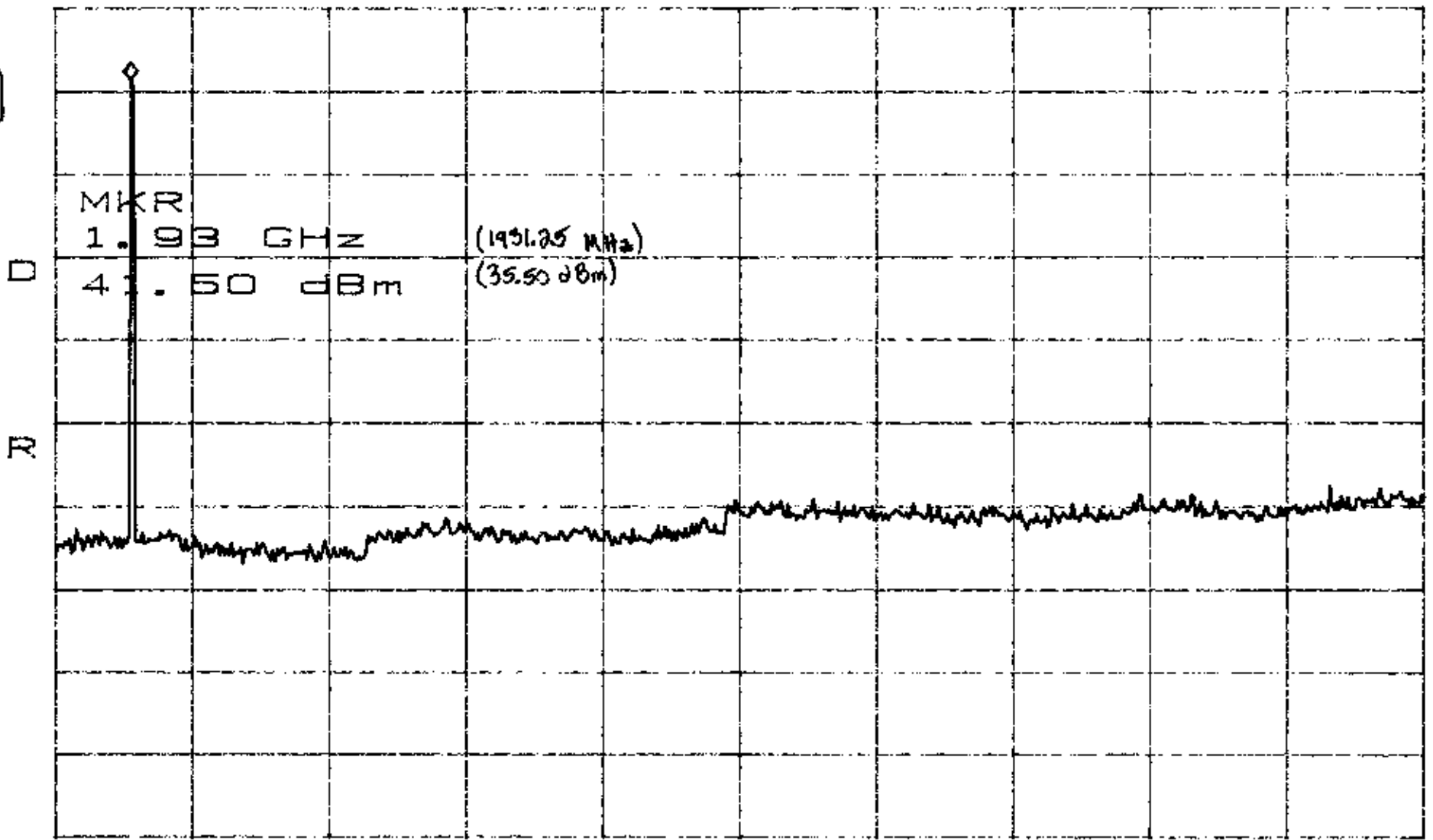
9/8/98

ATTEN 40dB  
RL 50.0dBm

10dB/

MKR 41.50dBm  
1.93GHz

2.991



START 500MHz  
RBW 1.0MHz

VBW 1.0MHz

STOP 26.50GHz  
SWP 520ms

CDR 2ch x 3.55W  
A-band  
(Representative Unit)

DL High  
Ch. 275

CDMA Source

9/8/98

ATTEN 40dB

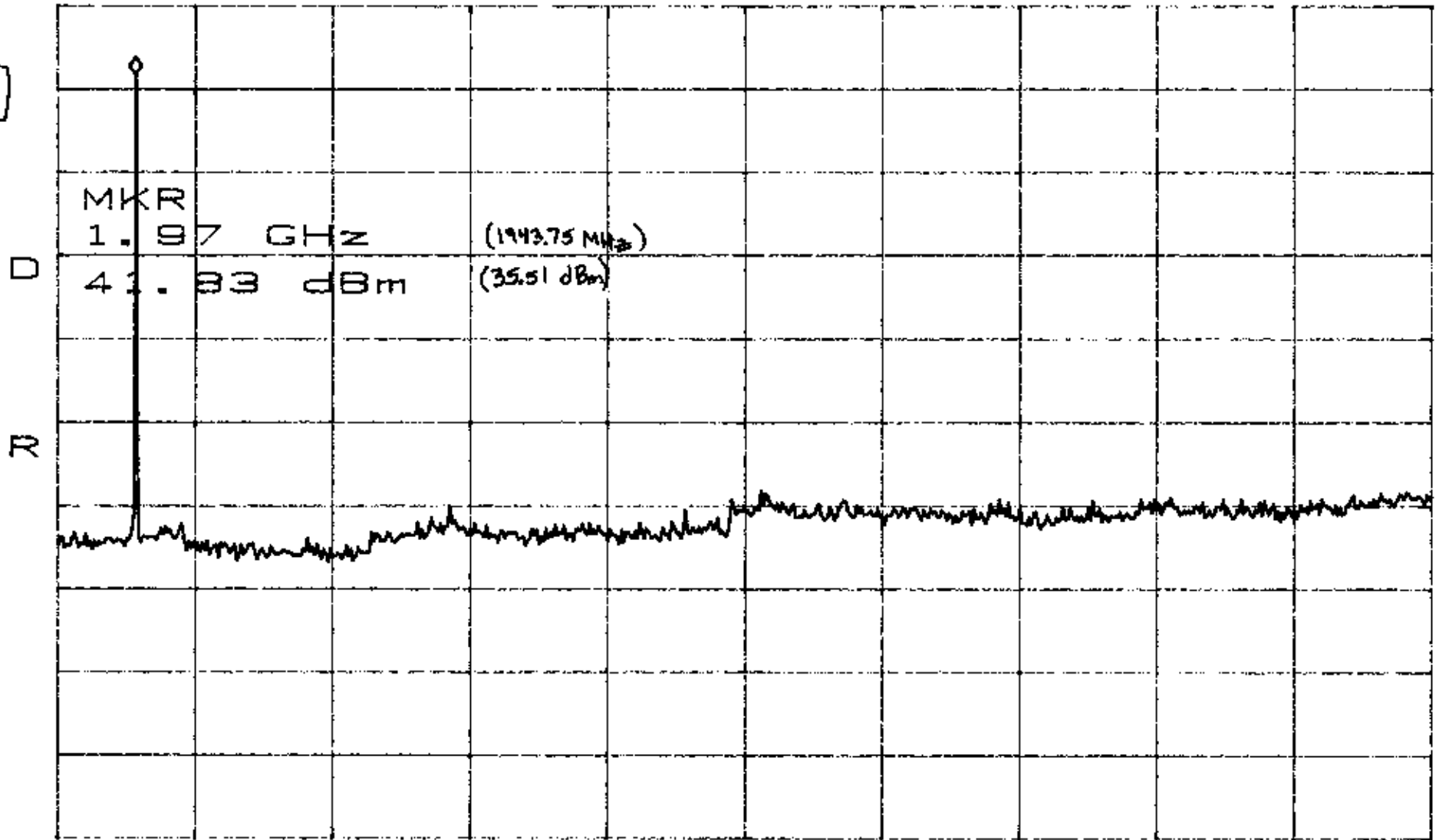
MKR 41.83dBm

RL 50.0dBm

10dB/

1.97GHz

2.991



START 500MHz

STOP 26.50GHz

RBW 1.0MHz

VBW 1.0MHz

SWP 520ms

CDR 2ch x 3.55W  
A-band  
(Representative Unit)

● UL Low  
Ch. 25

CDMA Source

9/8/90

ATTEN 40dB

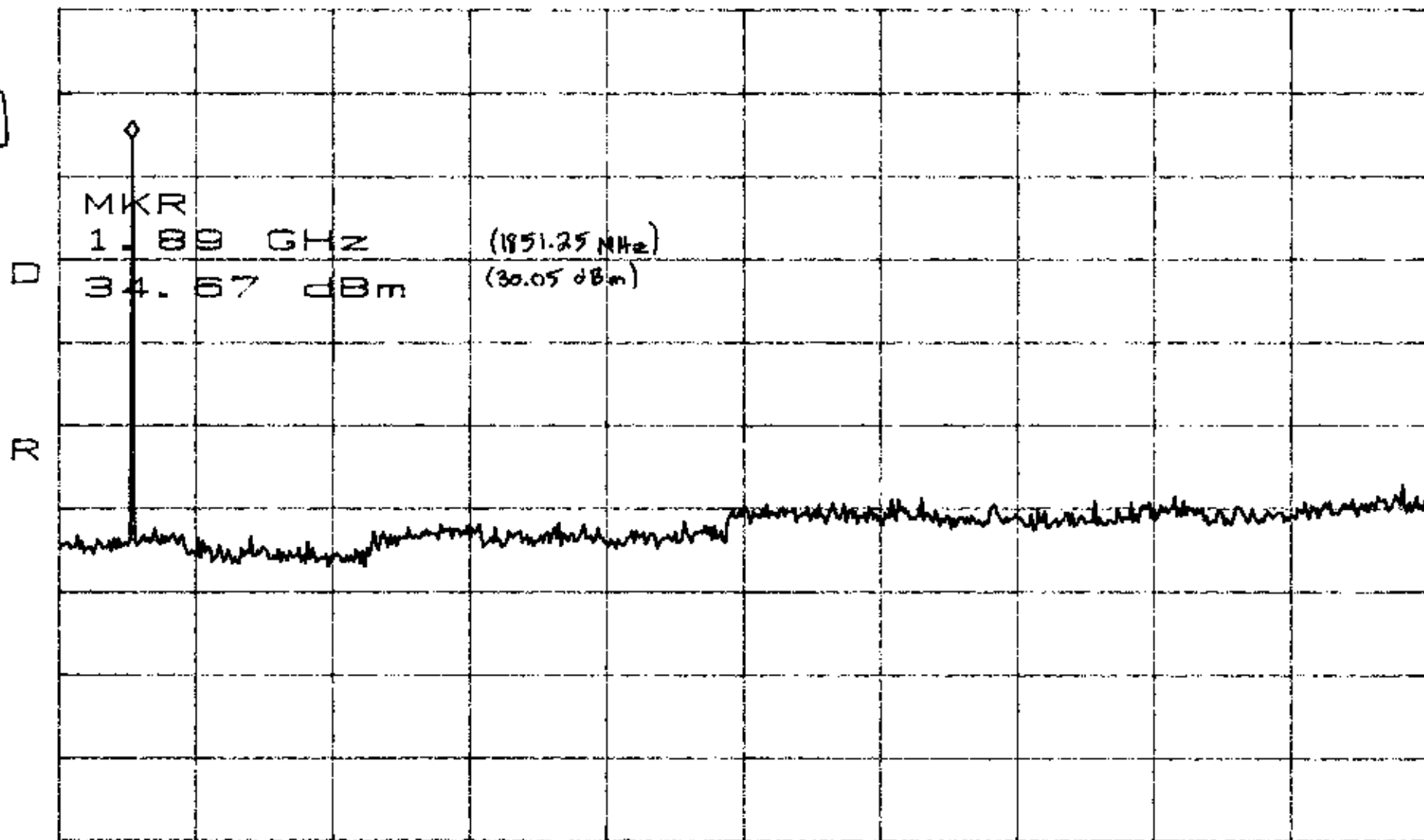
MKR 34.67dBm

RL 50.0dBm

10dB/

1.89GHz

2.991



START 500MHz

STOP 26.50GHz

RBW 1.0MHz

VBW 1.0MHz

SWP 520ms

CDR 2ch x 3.55W

UL High

CDMA Sources

9/8/98

A-band  
(Representative Unit)

Ch. 275

MKR 35.33dBm

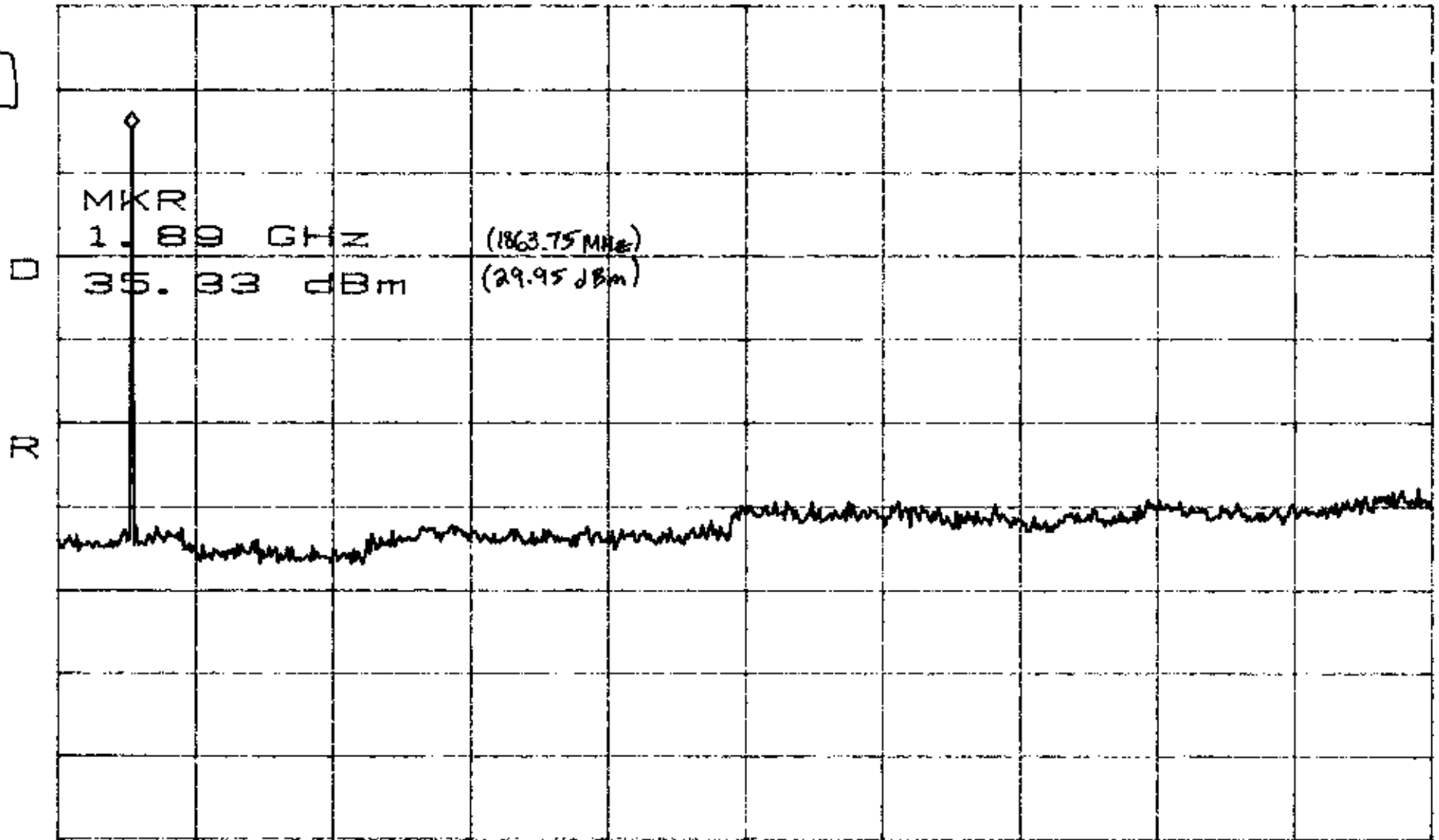
ATTEN 40dB

10dB/

1.89GHz

RL 50.0dBm

2.991



START 500MHz

STOP 26.50GHz

RBW 1.0MHz

VBW 1.0MHz

SWP 520ms