

Appendix A
CONDUCTED MEASUREMENT INFORMATION

A.1 CONDUCTED MEASUREMENT PHOTOS

TESTED BY ORTEL CORPORATION (photos not provided)

A.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

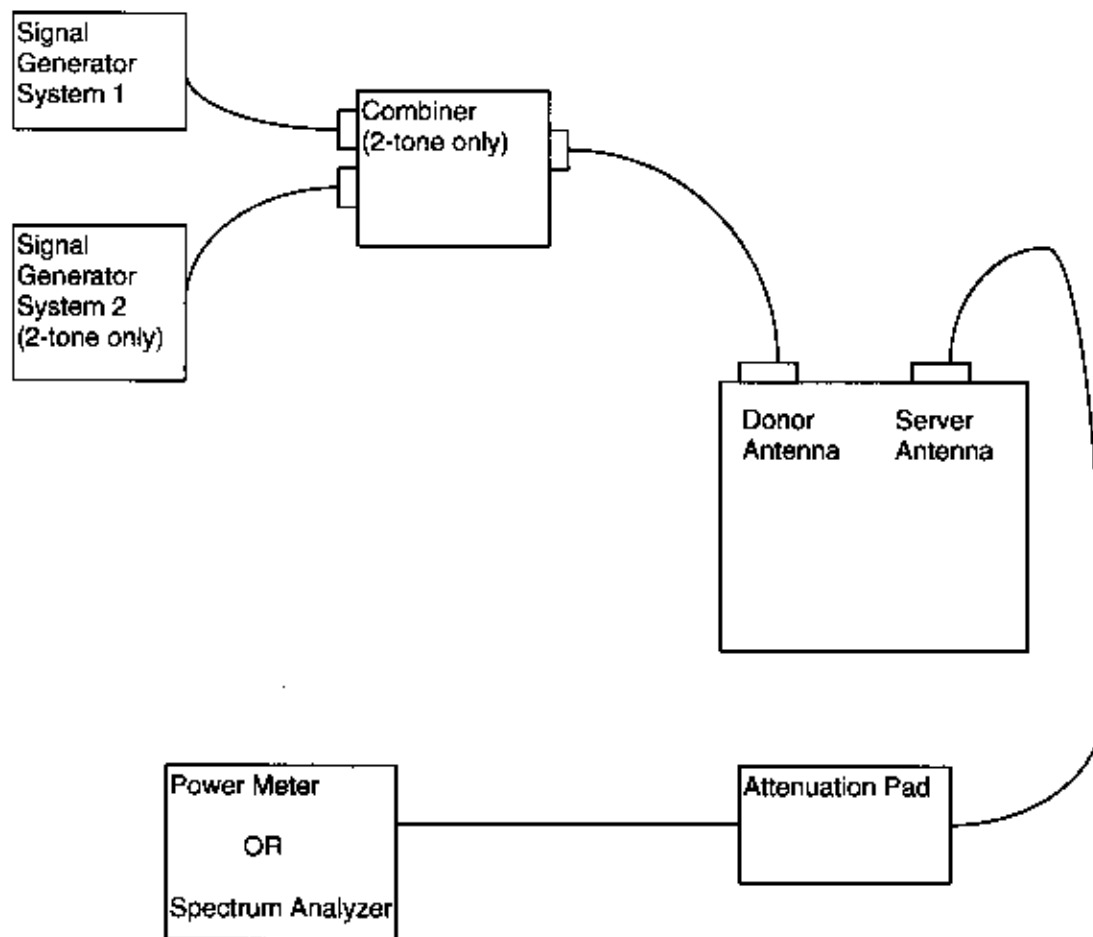
--Power meter: HP model 438A, Ortel asset number OC8L034349, calibration due on 3/21/99

--Spectrum Analyzer: HP, Model 8563E, S/N 16975/868 (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.

A.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-1902-1-A (A-Band CDMA Repeater) with option 7.1 W DL/1.0W UL

See following page(s).

FCC Part 2.985: RF Output Power

DUT: Model CDR-1902-1-A (A-Band CDMA Repeater),
with option 7.1W DL / 1.0W UL

S/N: FCC Unit

Test Date: 7/28/98

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	29.85
150	1857.50	29.83
275	1863.75	29.82

DOWNLINK:

Channel	Frequency (MHz)	Output Power (dBm)
25	1931.25	38.38
150	1937.50	38.46
275	1943.75	38.37

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

CDR 1ch. x 7.1W
S/N: FCC UNIT

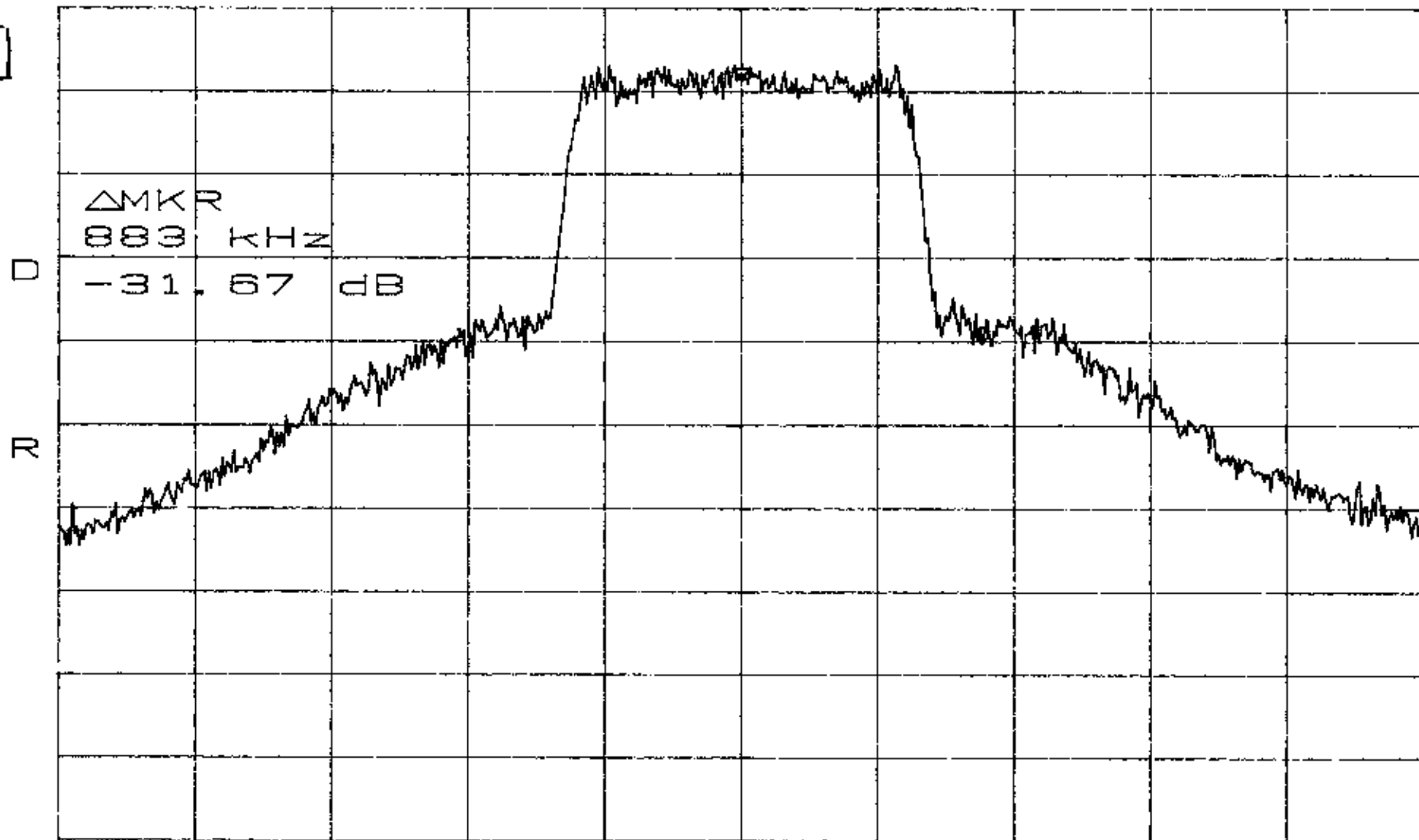
DL
CH. 25 (LOW)

A-BAND

7/28/98

ATTEN 10dB VAVG 10 Δ MKR -31.67dB
RL 30.0dBm 10dB/
883kHz

2.989



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

CDR 1CH x 7.1W
SW: FCC UNIT

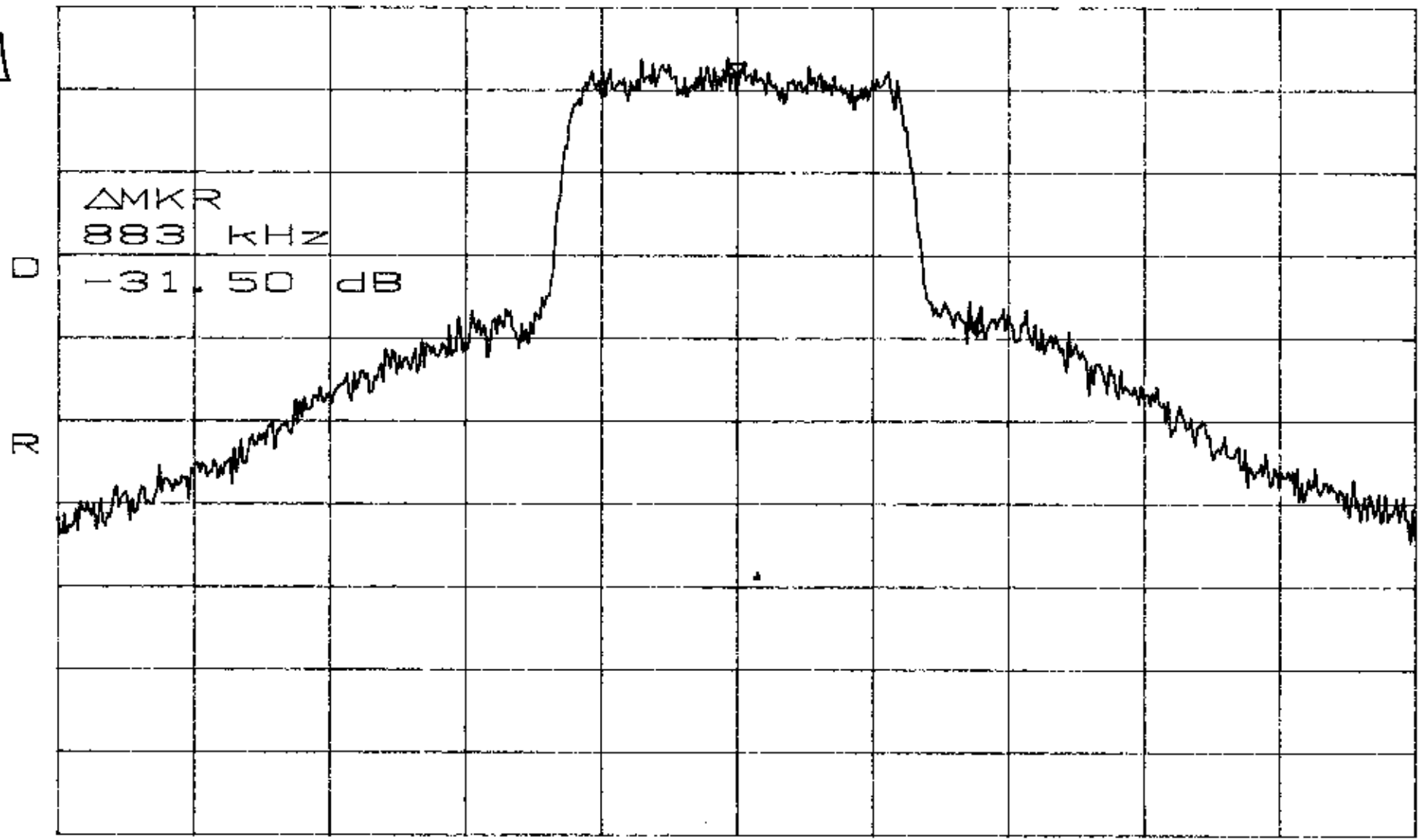
DL
CH 275 (HIGH)

A-BAND

7/28/98

ATTN 10dB VAVG 10 Δ MKR -31.50dB
RL 30.00dBm 10dB/BPO1 883kHz

2.989



CENTER 1.943750GHz

SPAN 5.000MHz

*RBW 30kHz

VBW 30kHz

SWP 50.0ms

CDR 1CH. x 7.1W
S/N FCC UNIT

UL
CH 25 (Low)

A-BAND

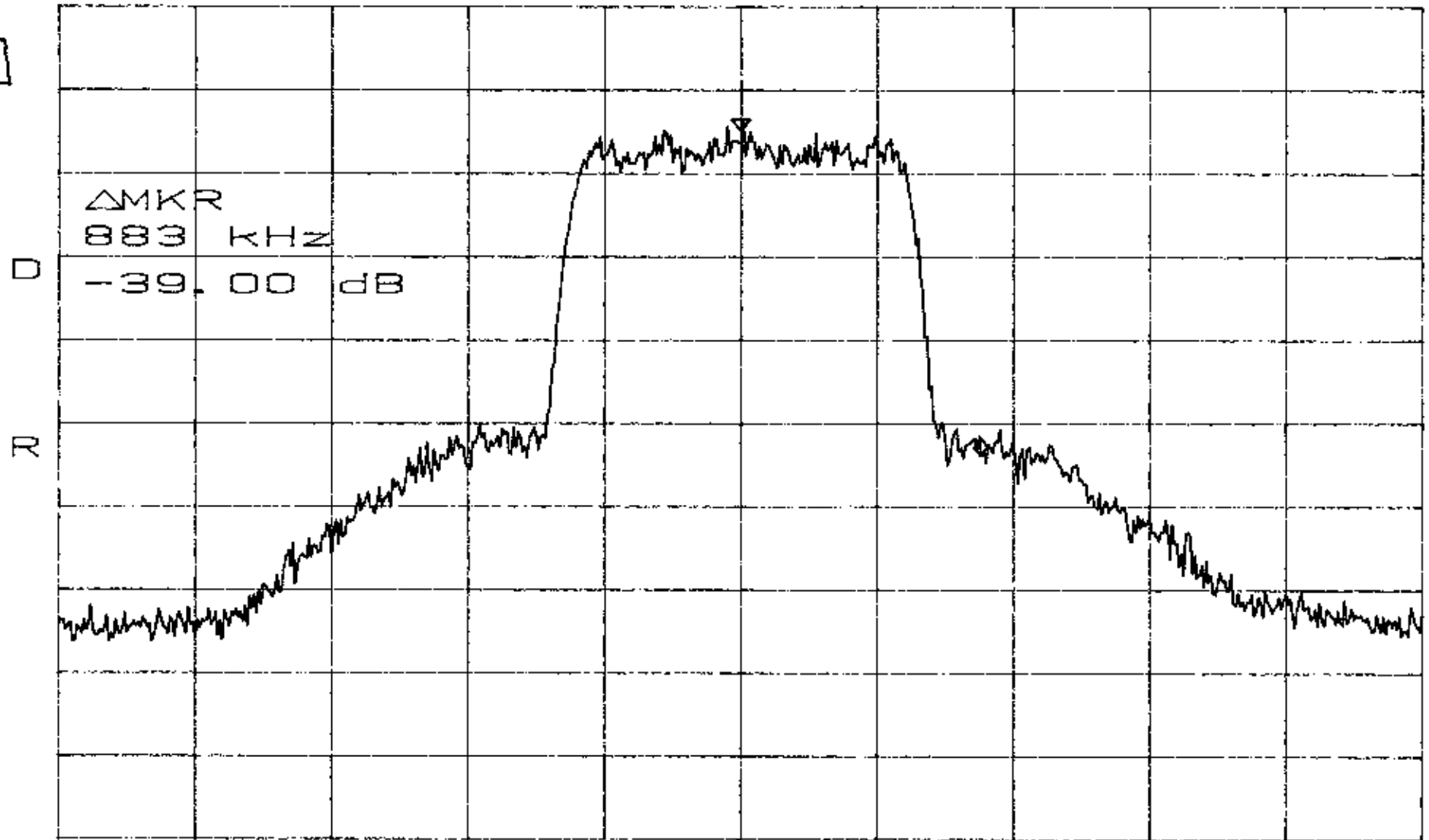
7/28/98

ATTEN 10dB
RL 30.0dBm

VAVG 10
10dB/

ΔMKR -39.00dB
883kHz

2.989



CENTER 1.851250GHz

SPAN 5.000MHz

*RBW 30kHz

VBW 30kHz

SWP 50.0ms

CDR 1CH x 7.1 W
S/N FCC UNIT

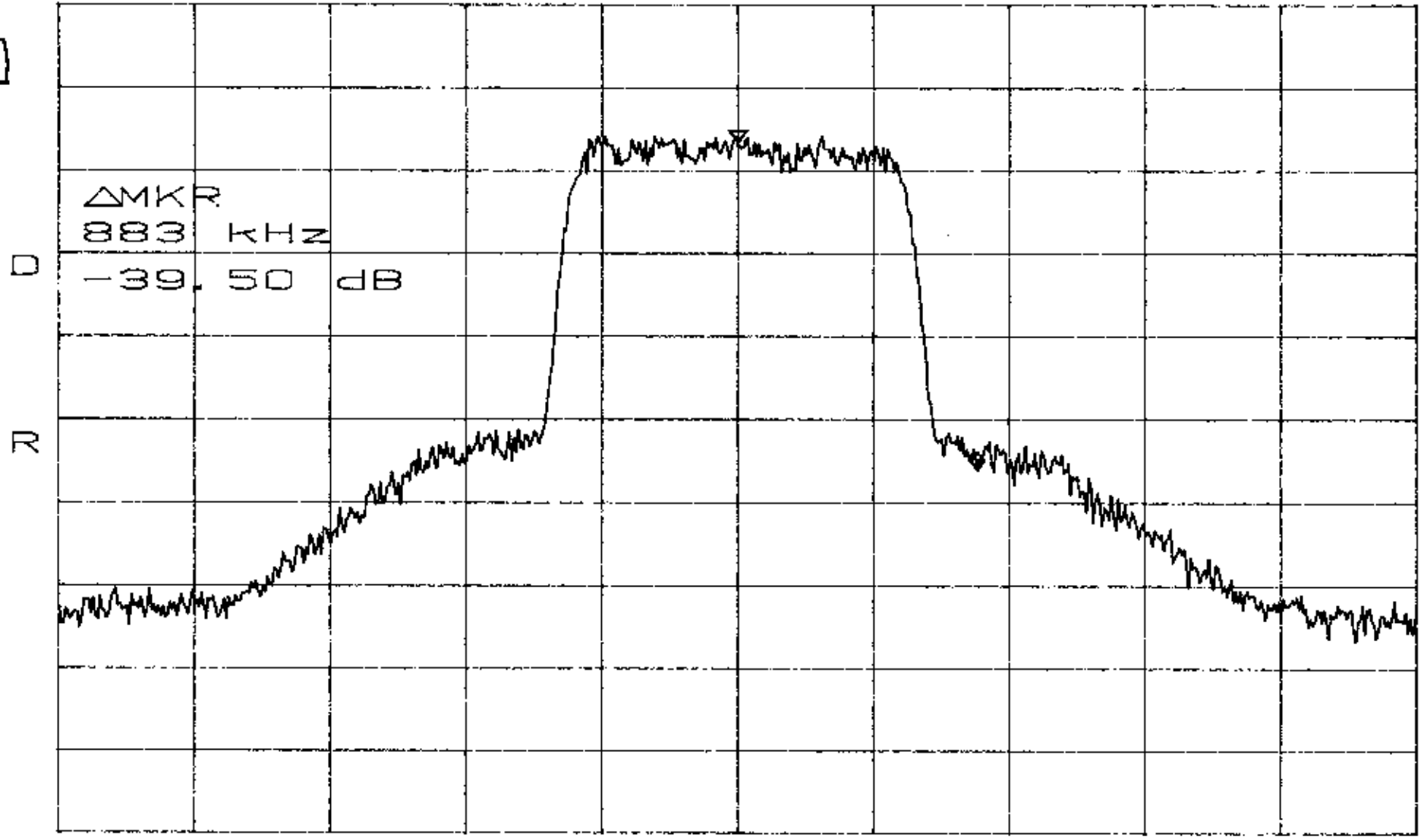
UL
CH 275 (HIGH)

A-BAND

7/28/98

ATTEN 10dB VAVG 10 ΔMKR -39.50dB
RL 30.00dBm 10dB/BPO1 883kHz

2.989



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

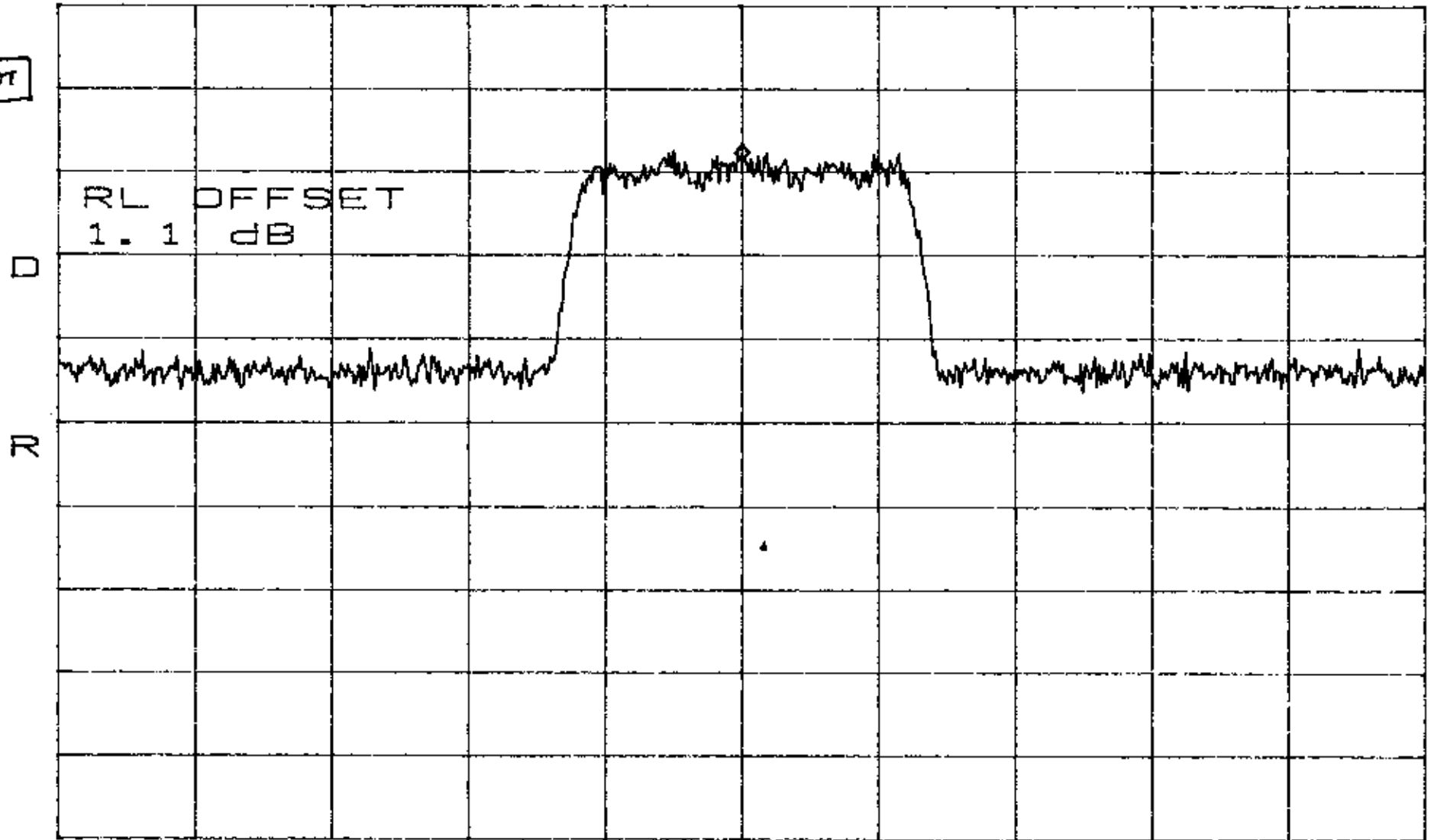
CDR 1CH. x 7.1W
S/N: FCC UNIT

DL
CH 25 (LOW) A-BAND
(INPUT)

7/28/98

*ATTEN 10dB VAVG 10 MKR -68.67dBm
RL -50.0dBm 10dB/BPO 1.931250GHz

IN/OUT



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

CDR 1CH. X 7.1W
S/N: FCC UNIT

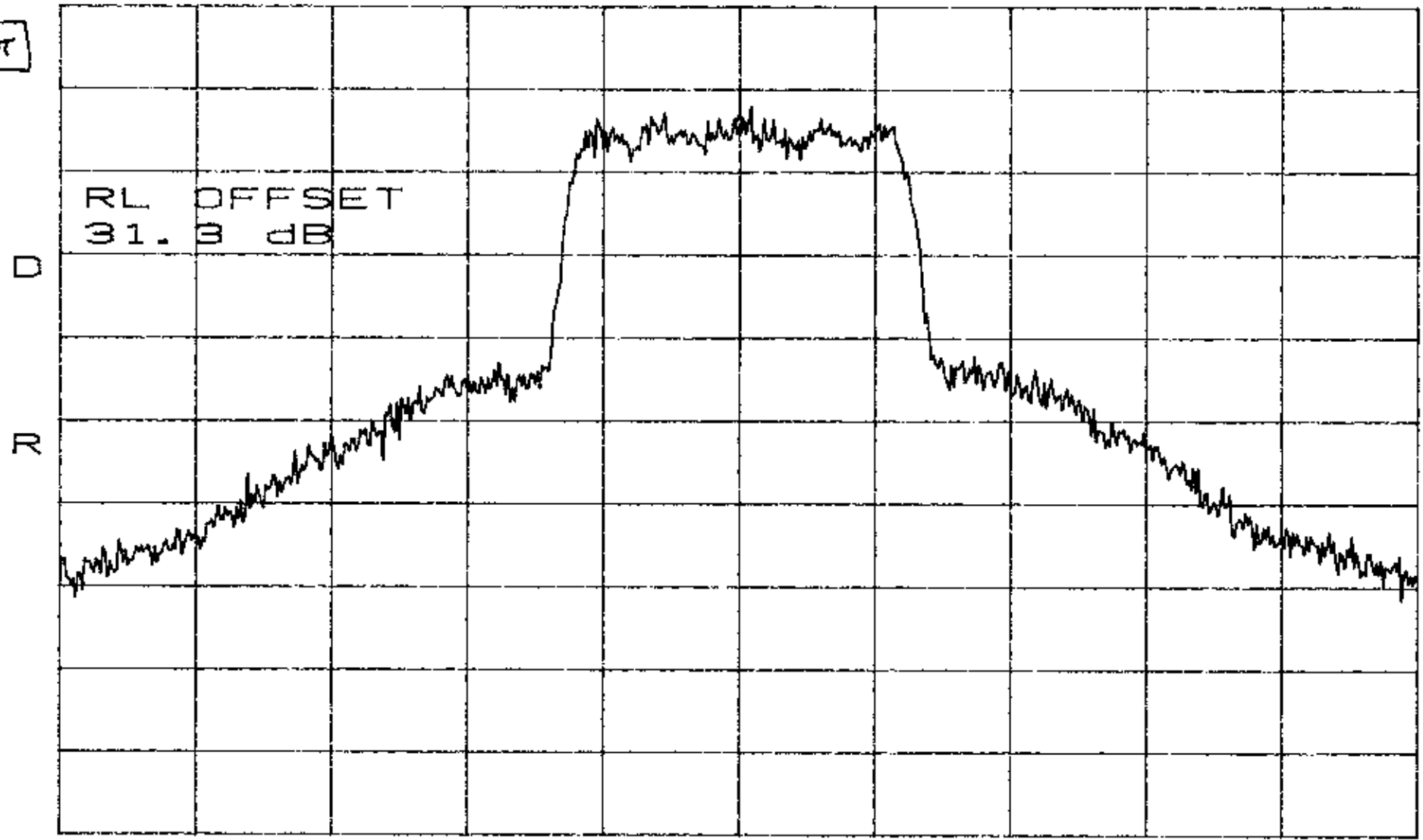
DL
CH 25 (LOW)

A-BAND
(OUTPUT)

7/28/98

*ATTEN 10dB VAVG 10 MKR 14.83dBm
RL 30.0dBm 10dB/ 1.931250GHz

In/out



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

CDR 1 CH. X 7.1W
S/N FCC UNIT

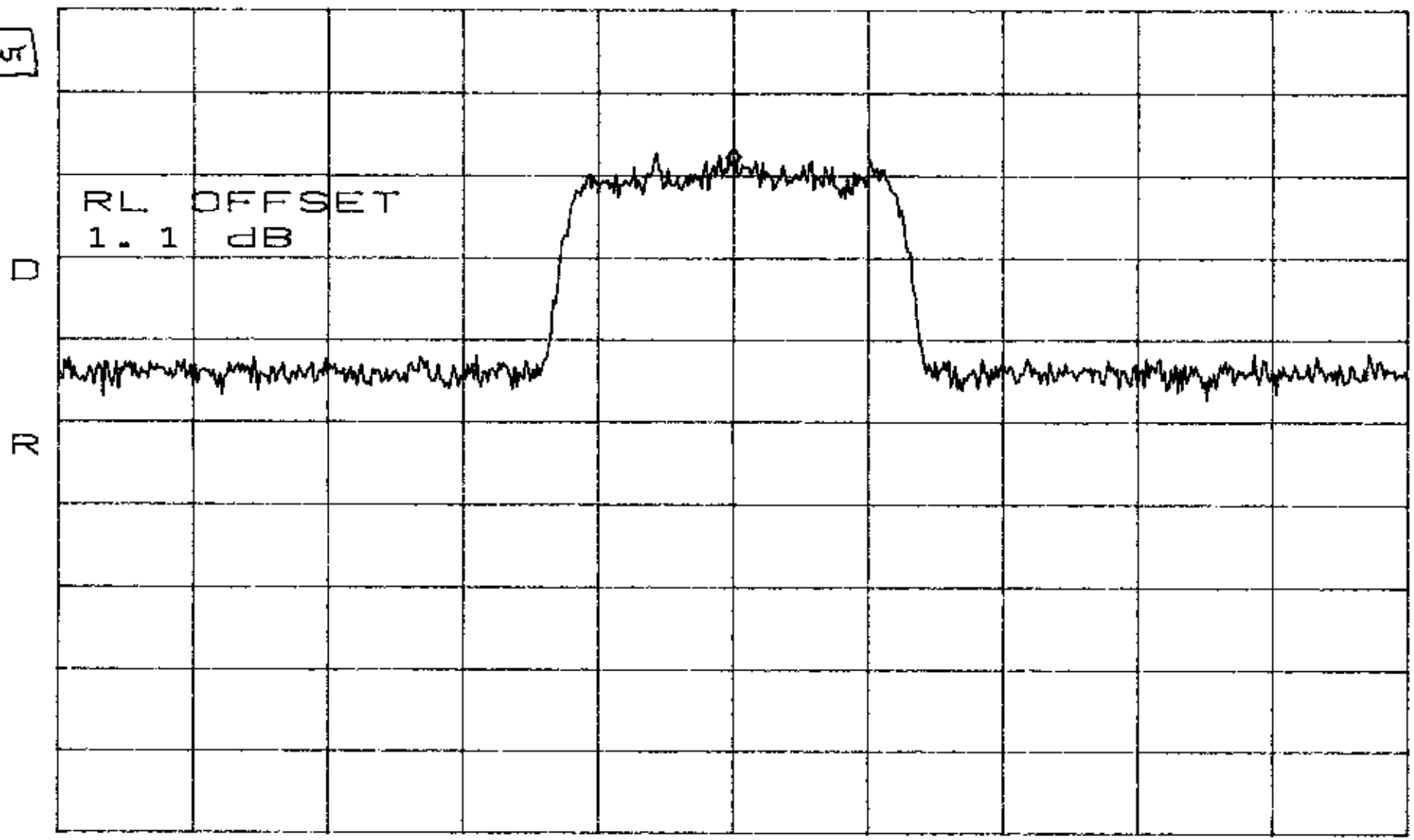
DL
CH. 275 (HIGH)

A-BAND
(INPUT)

7/28/98

*ATTEN 10dB VAVG 10 MKR -68.67dBm
RL -50.0dBm 10dB/BPO1 1.943750GHz

In/Out



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

CDR 1 CH. X 7.1W
SIN FCC UNIT

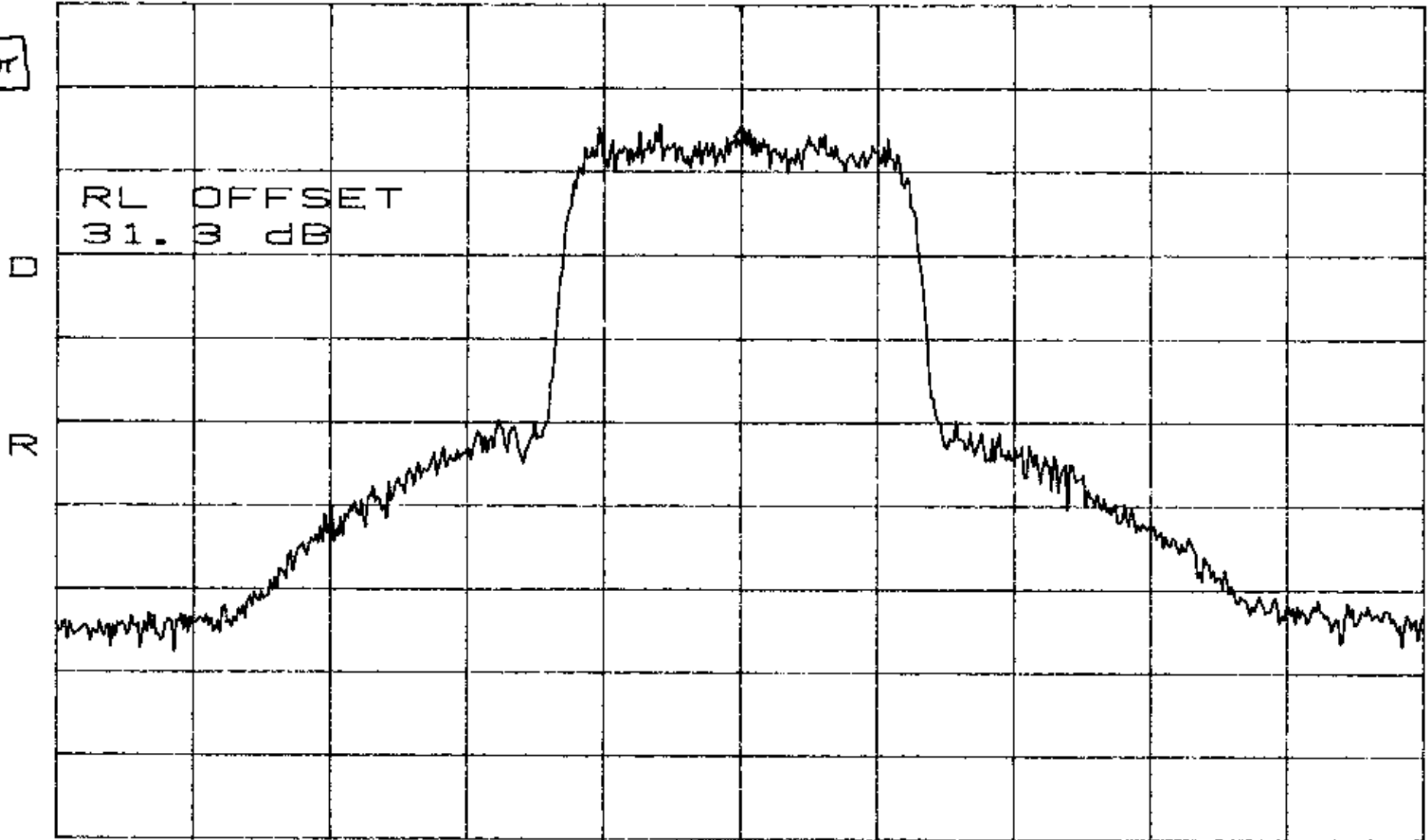
UL
CH 25 (LOW)

A-BAND
(OUTPUT)

7/28/98

*ATTEN 10dB VAVG 10 MKR 13.33dBm
RL 30.00dBm 10dB/ 1.851250GHz

IN/OUT



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

CDR 1CH. 27.1W
S/N FCC UNIT

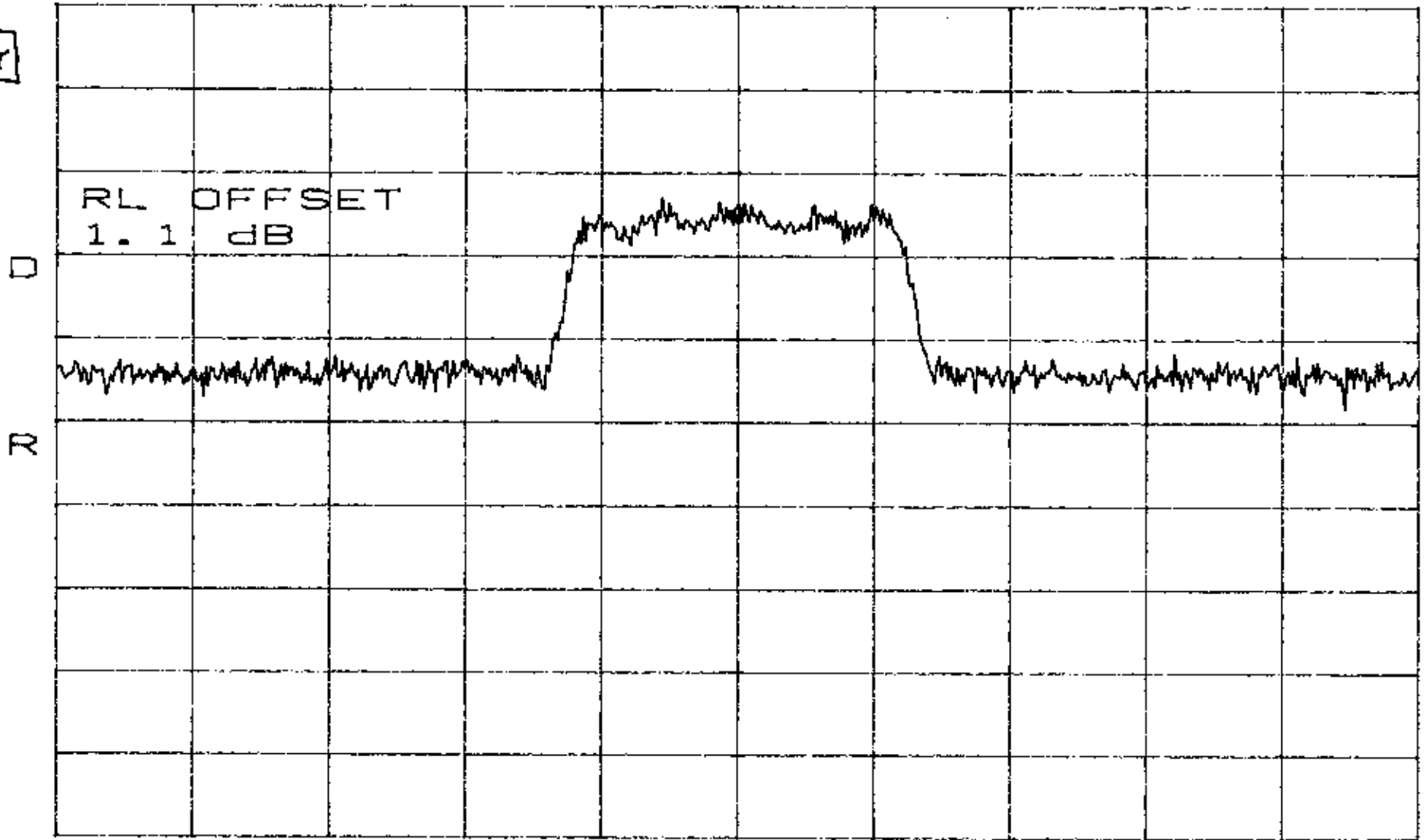
UL
CH 25 (LOW)

A-BAND
(INPUT)

→ 128/10

*ATTEN 10dB VAVG 10 MKR -75.83dBm
RL -50.0dBm 10dB/BP0 1.851250GHz

IN/OUT



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

CDR 1CH X 7.1W
S/N FCC UNIT

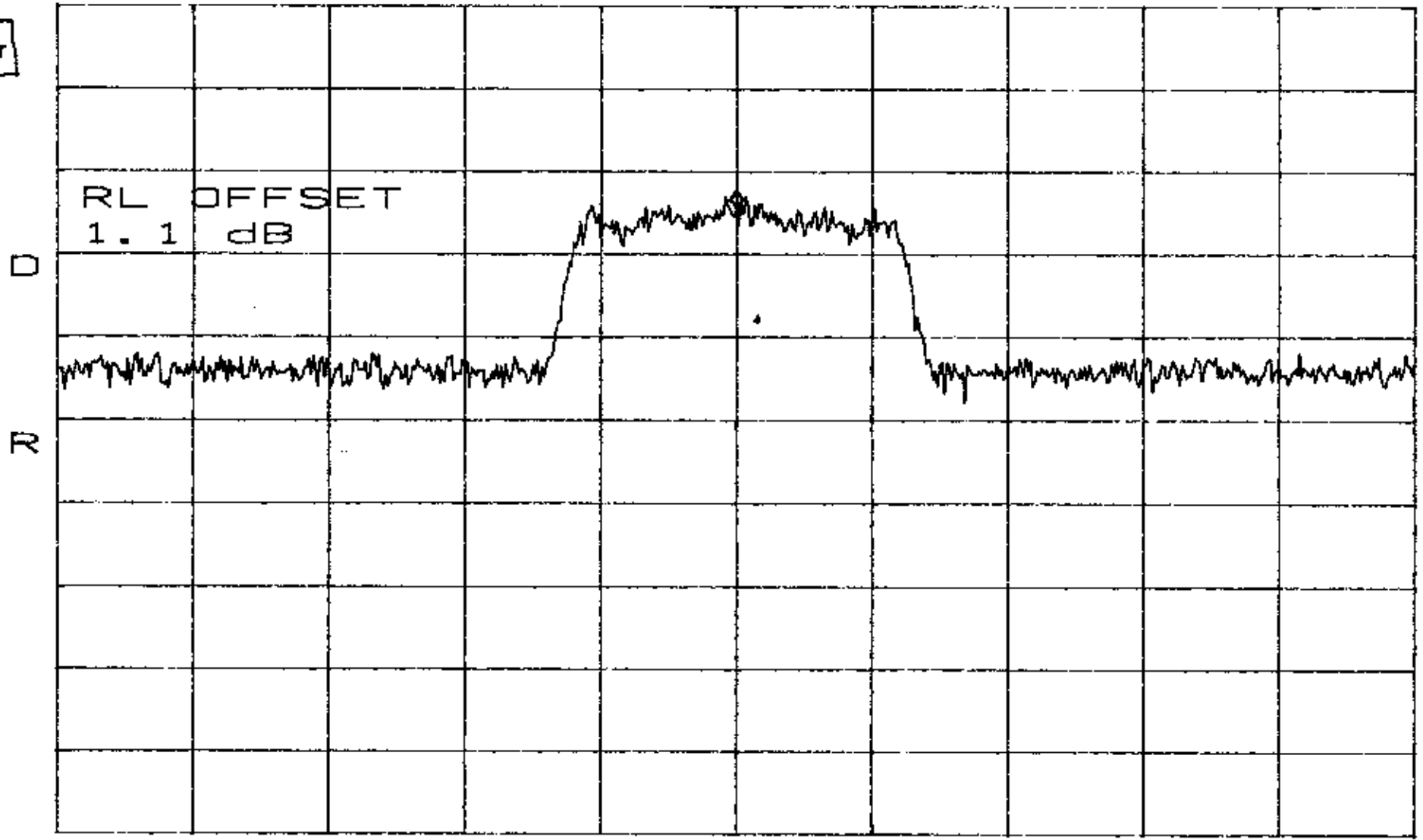
UL
CH 275 (HIGH)

A+BAND
(INPUT)

7/28/98

ATTEN 10dB VAVG 10 MKR -74.33dBm
RL -50.0dBm 10dB/BPOI 1.863750GHz

In/OUT



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

CDR 1CH x7.1W
S/N FCC UNIT

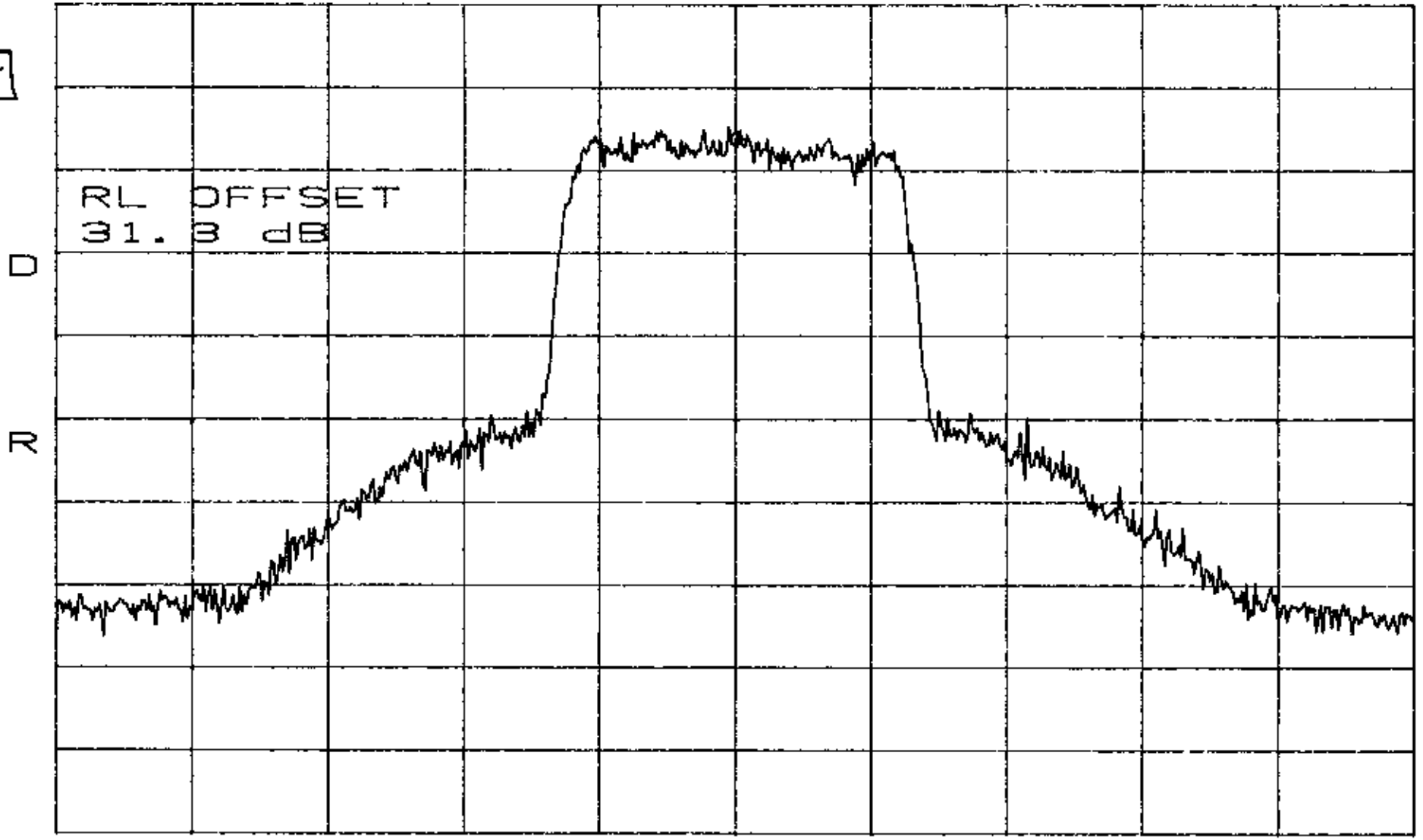
UL
CH 275(HIGH)

A-BAND
(OUTPUT)

7/28/98

*ATTEN 10dB VAVG 10 MKR 12.83dBm
RL 30.0dBm 10dB/BP01 1.863750GHz

In/Out



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

CDR 1CH X 7.1W
S/N: FCC UNIT

DL
CH. 25 (LOW)

A-BAND
CDMA SOURCE

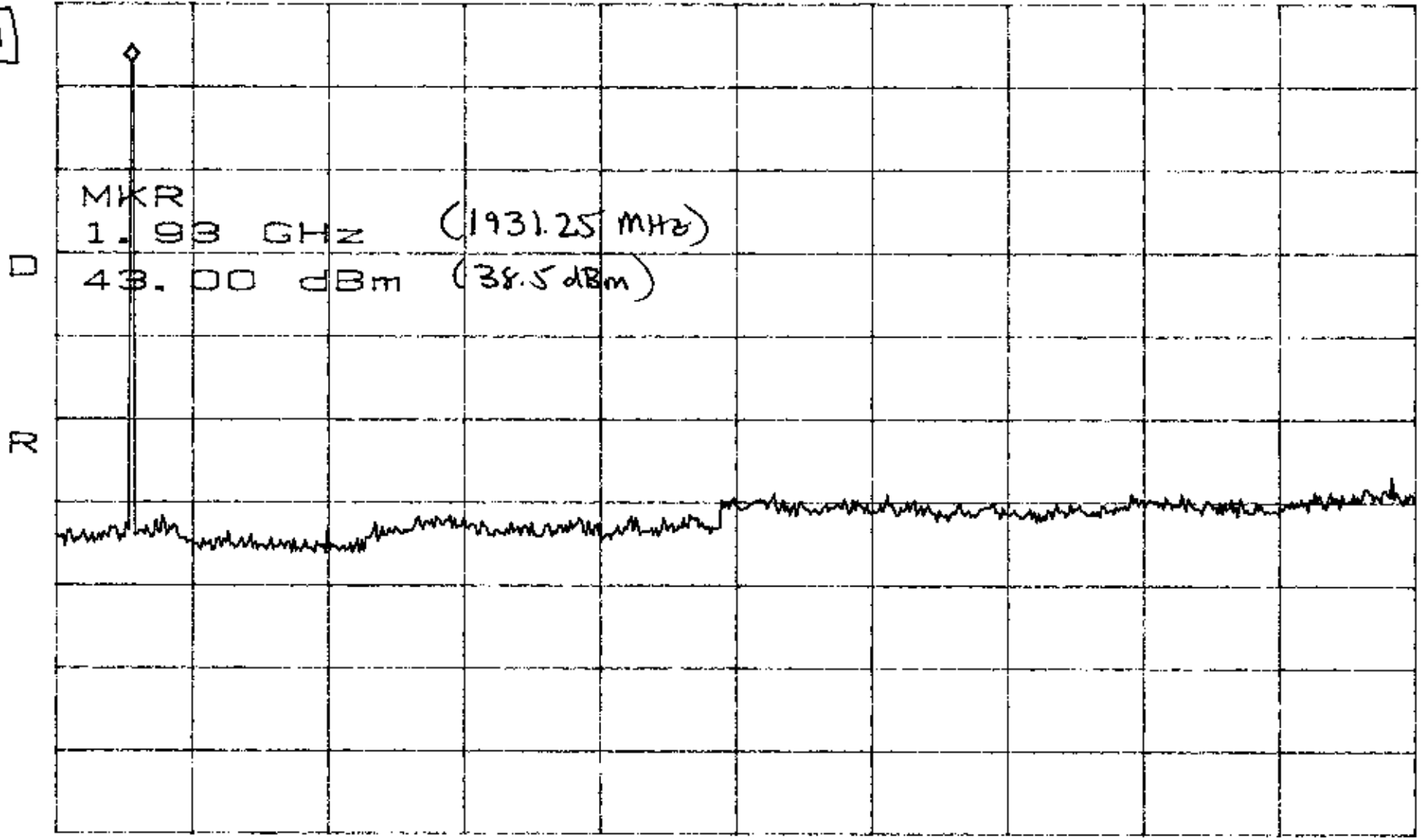
7/28/98

ATTEN 30dB
BPOS BPTT
RL 50.0dBm

10dB/
/BPO1

MKR 43.00dBm
1.93GHz

2.991



START 500MHz
RBW 1.0MHz

VBW 1.0MHz

STOP 26.50GHz
SWP 520ms

CDR 1CH. x 7.1W
S/N: FCC UNIT

DL
CH. 275 (11K4)

A-BAND
CDMA SOURCE

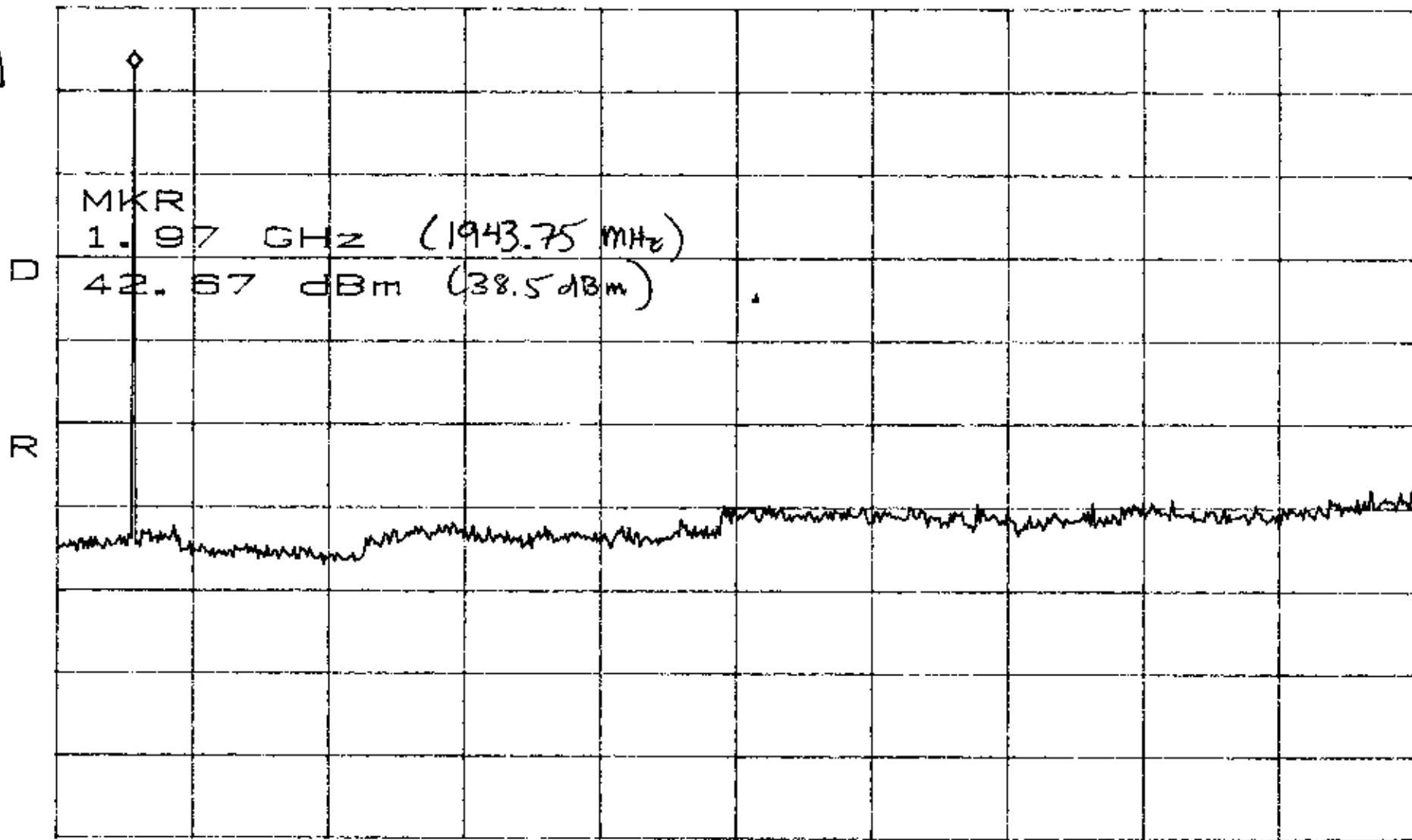
7/28/98

ATTEN 30dB
RL 50.0dBm

10dB/

MKR 42.67dBm
1.97GHz

2.991



START 500MHz

STOP 26.50GHz

RBW 1.0MHz

VBW 1.0MHz

SWP 520ms

CDR 1CH x 7.1W

UL

A-RAND

7/28/98

S/N: FCC UNIT

CH 25 (LOW)

CDMA SOURCE

ATTEN 30dB

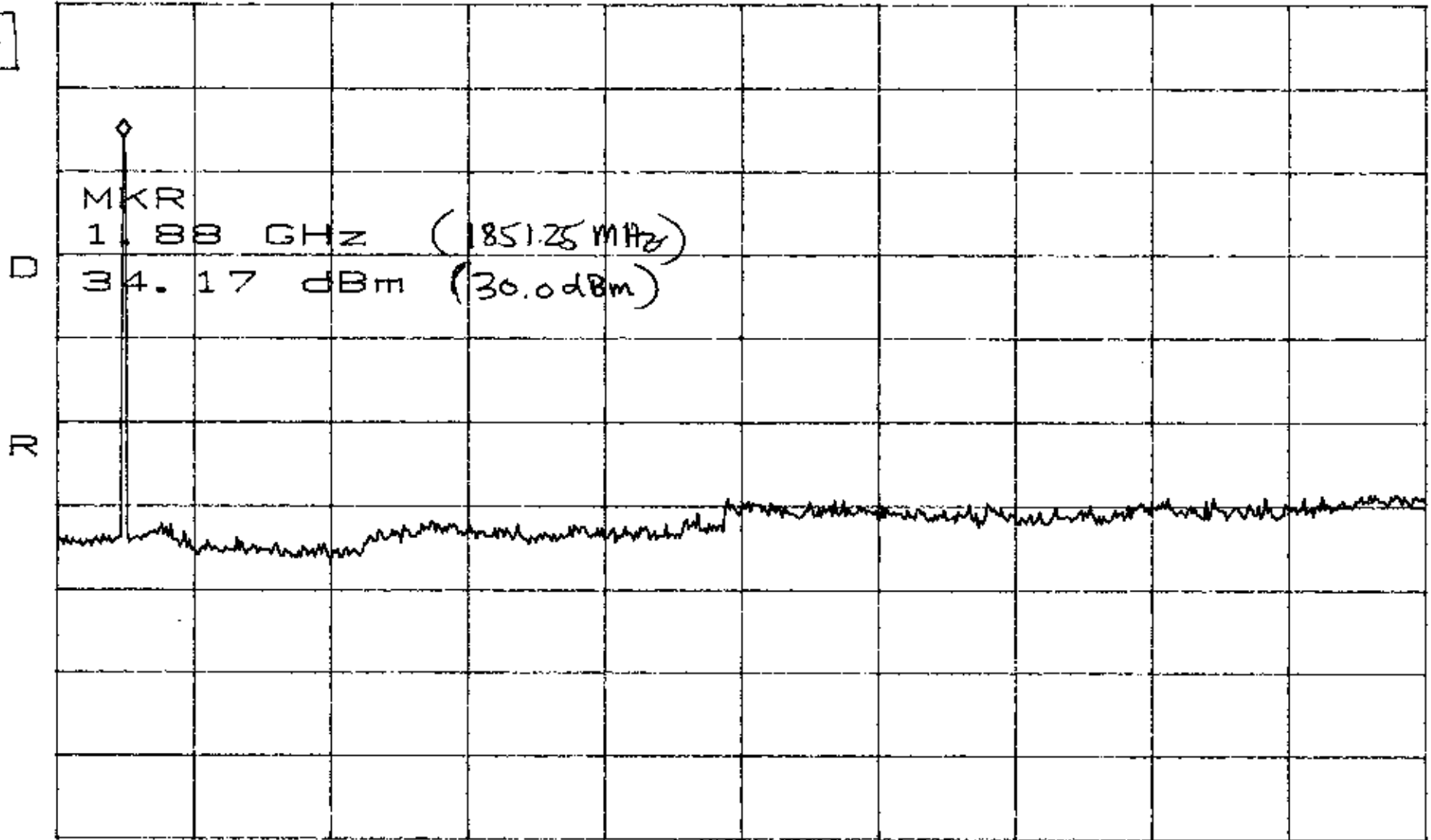
MKR 34.17dBm

RL 50.0dBm

10dB/

1.88GHz

2.991



START 630MHz

STOP 26.50GHz

RBW 1.0MHz

VBW 1.0MHz

SWP 520ms

EDR 1CH. X7.1 W

UL

A-BAND

7/28/98

S/N: FCC UNIT

CH. 275 (HIGH)

CDMA SCALERS

ATTEN 30dB

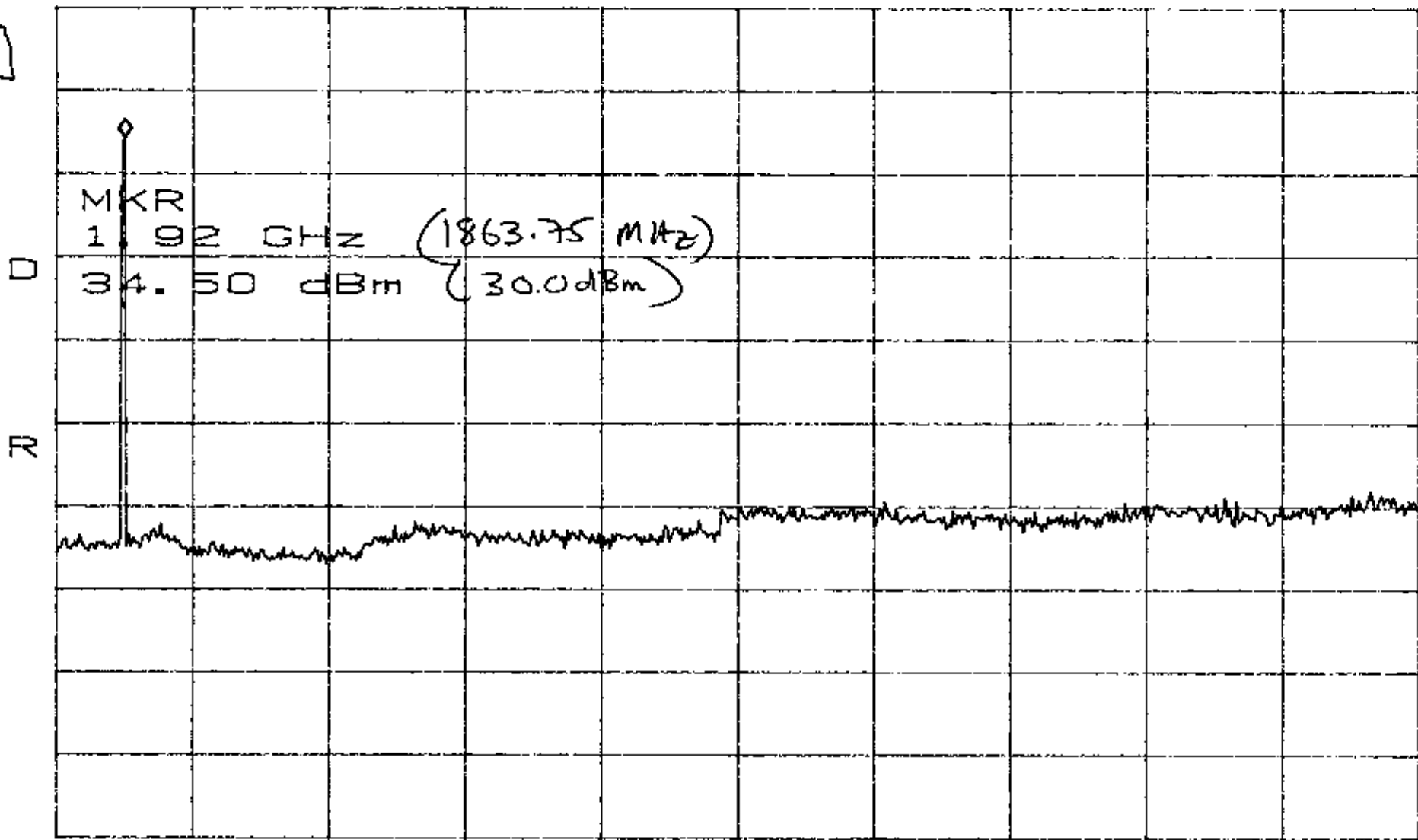
MKR 34.50dBm

RL 50.00dBm

10dB/

1.92GHz

2.991



START 630MHz

STOP 26.50GHz

RBW 1.0MHz

VBW 1.0MHz

SWP 520ms

CDR 1CH. X7.1W
S/N: FCC UNIT

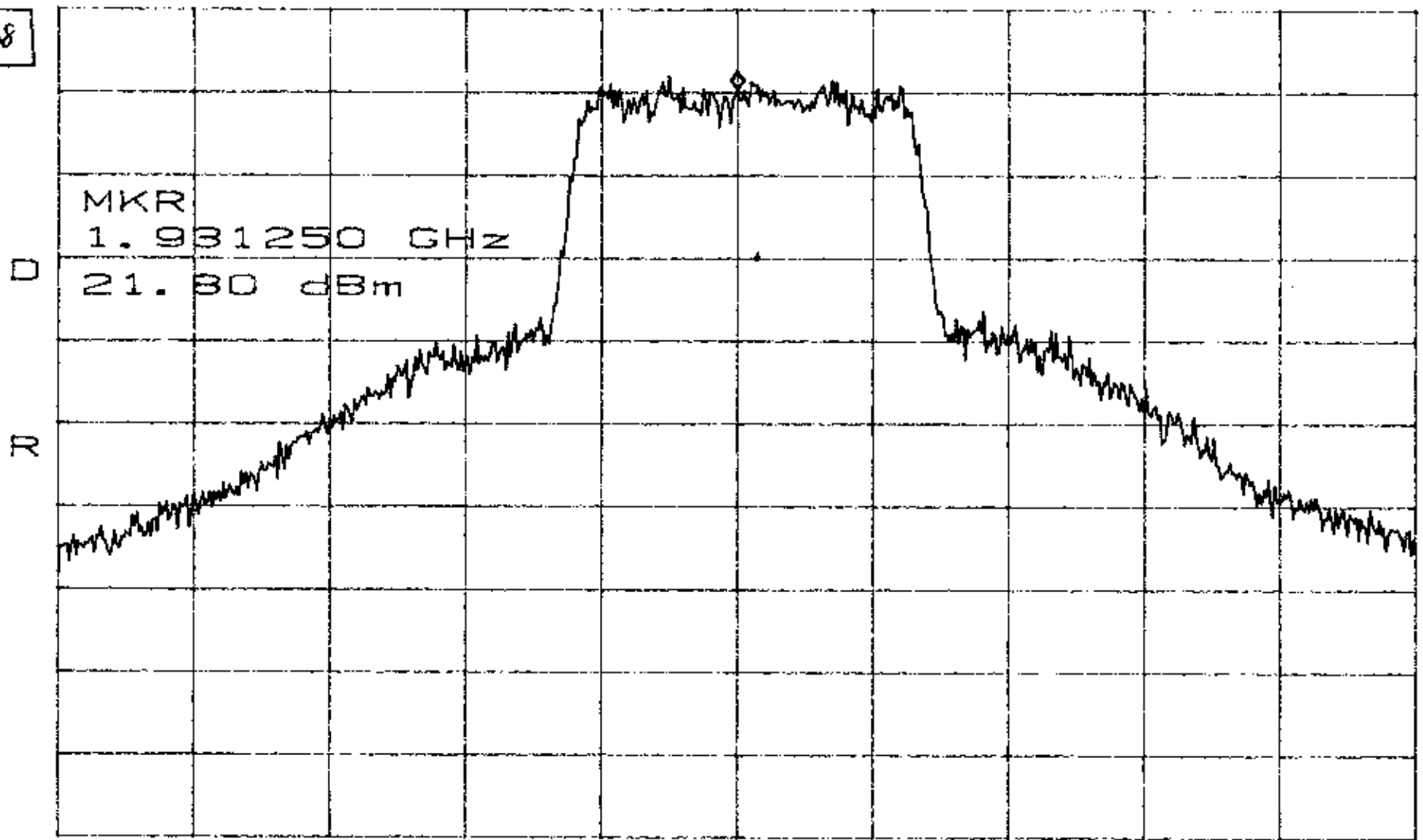
DL
CH 25 (Low)

FUNDAMENTAL

7/28/98

*ATTEN 10dB VAVG 10 MKR 21.80dBm
RL 31.3dBm 10dB/BPO1 1.931250GHz

24.238



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

CDR 1CH. X 7.1W
S/N FCC UNIT

DL
CH. 25 (LOW)

BELOW FUNDAMENTAL

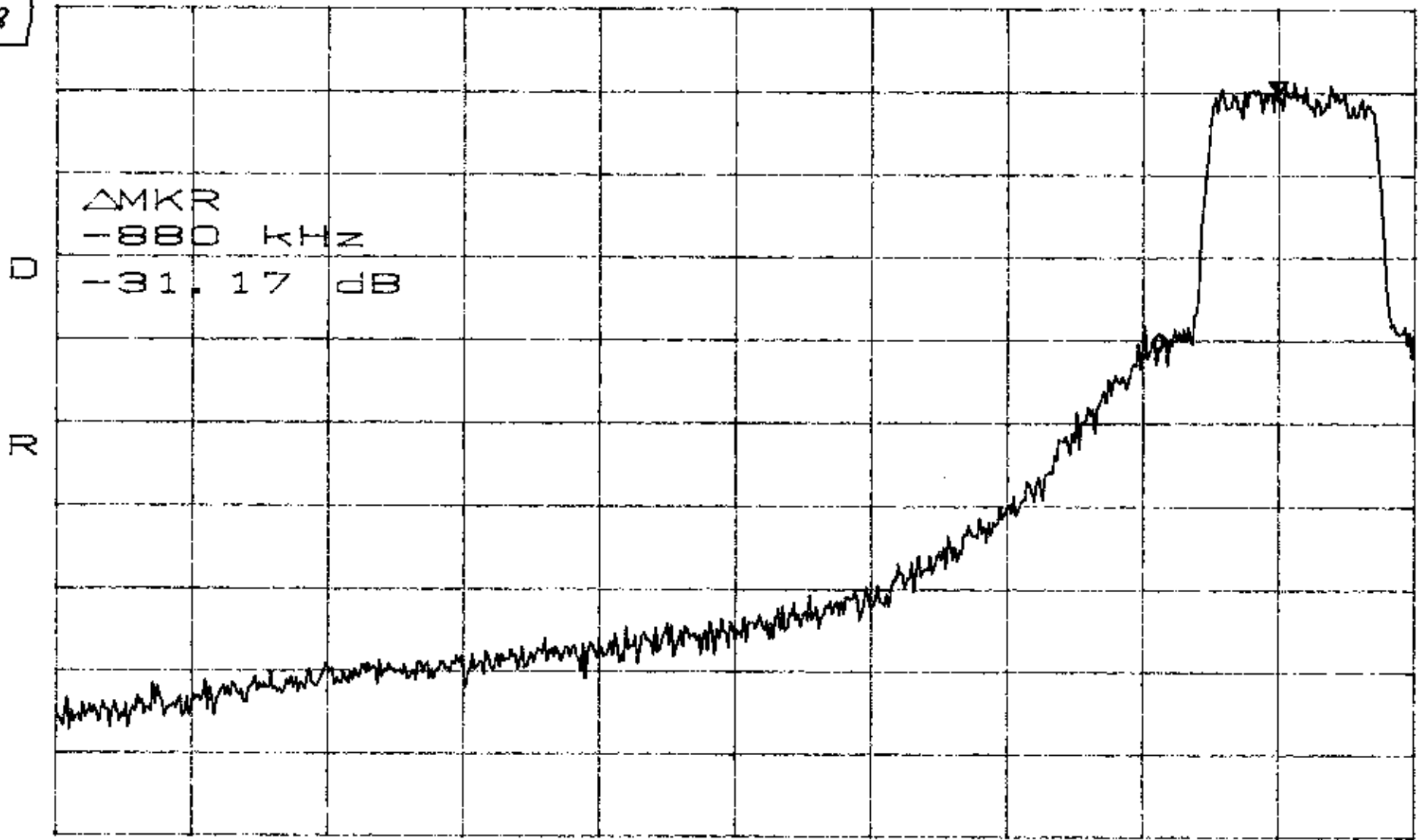
7/25/98

*ATTEN 10dB
RL 31.3dBm

VAVG 10
10dB/

ΔMKR -31.17dB
-888kHz

24.238



CENTER 1.92725GHz

SPAN 10.00MHz

*RBW 30kHz

*VBW 30kHz

SWP 50.0ms

CDR 1CH x 7.1 W
S/N : FCC UNIT

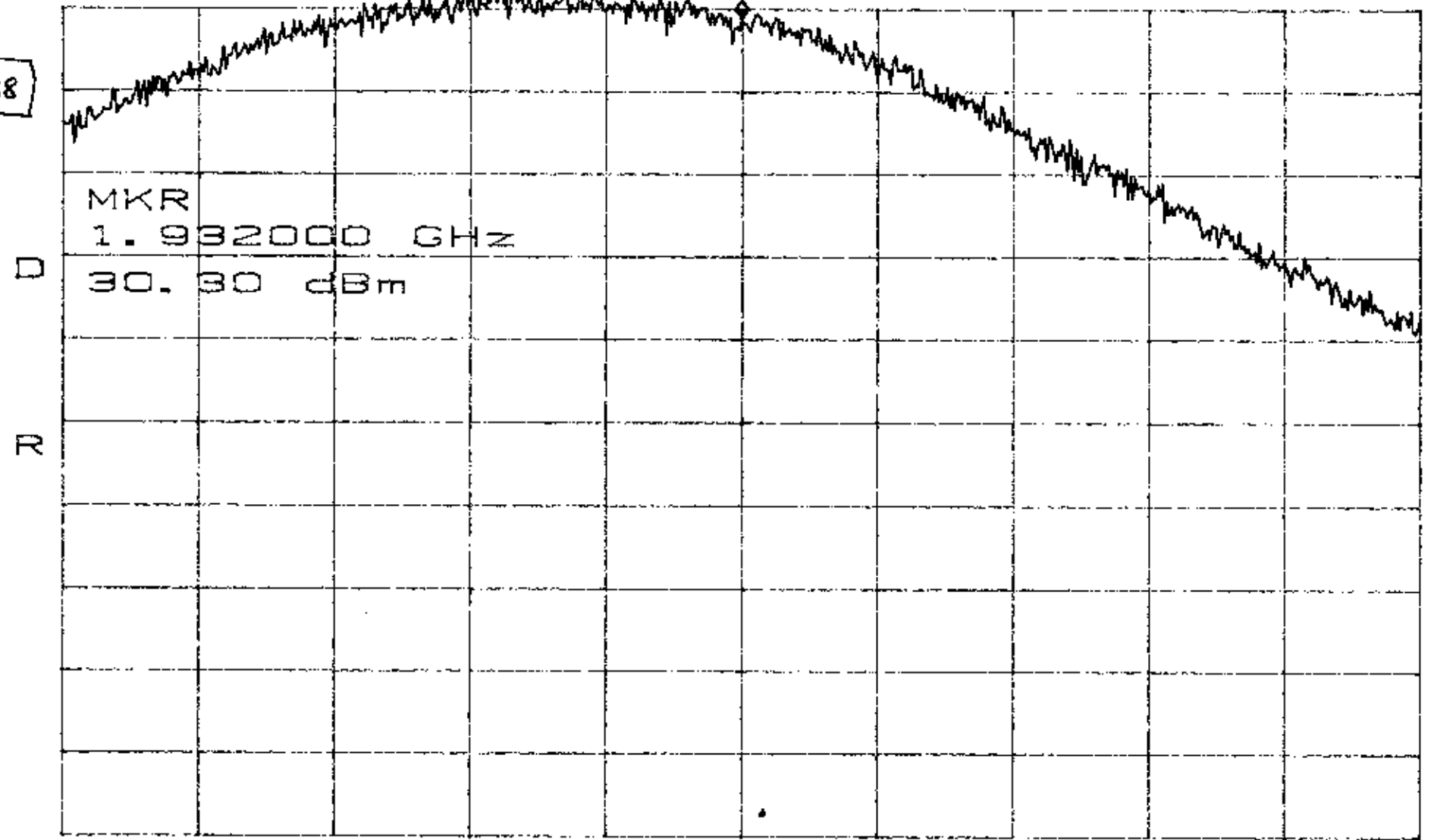
DL
CH. 25 (LOW)

ABOVE FUNDAMENTAL

7/28/98

*ATTEN 10dB VAVG 10 MKR 30.30dBm
RL 31.3dBm 10dB/BPO1 1.932000GHz

24.238



CENTER 1.932000GHz SPAN 5.000MHz
*RBW 1.0MHz *VBW 1.0MHz SWP 50.0ms

CDR 1CH. X 7.1W
S/N: FCC UNIT

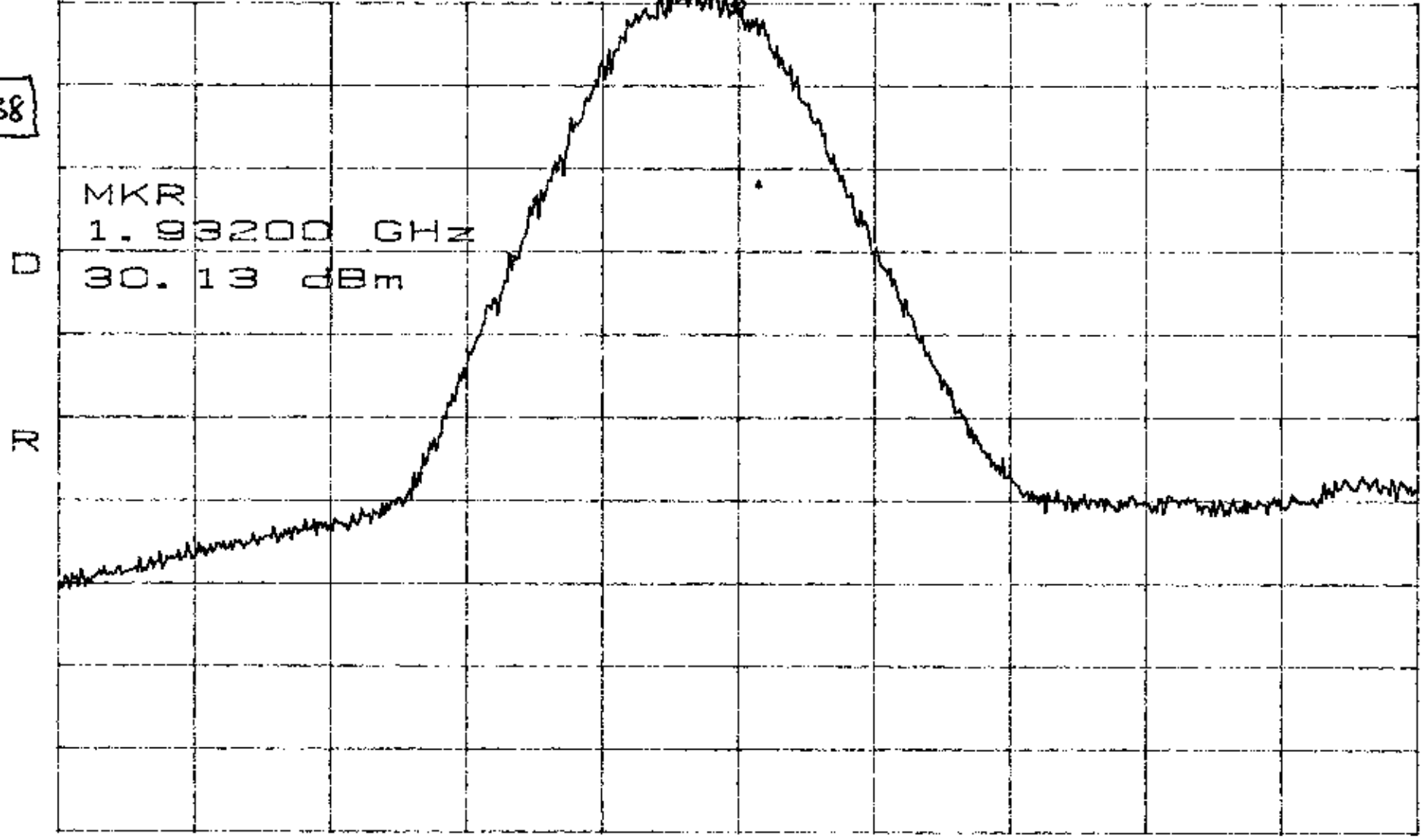
DL
CH. 25 (LOW)

ABOVE FUNDAMENTAL

7/28/98

*ATTEN 10dB VAVG 10 MKR 30.13dBm
RL 31.3dBm 10dB/BPO1 ZHG00286
1.93200GHZ

24.238



CENTER 1.93200GHZ SPAN 20.00MHZ
*RBW 1.0MHZ *VBW 1.0MHZ SWP 50.0ms

CDR 1CH. x 7.1W
S/N: FCC UNIT

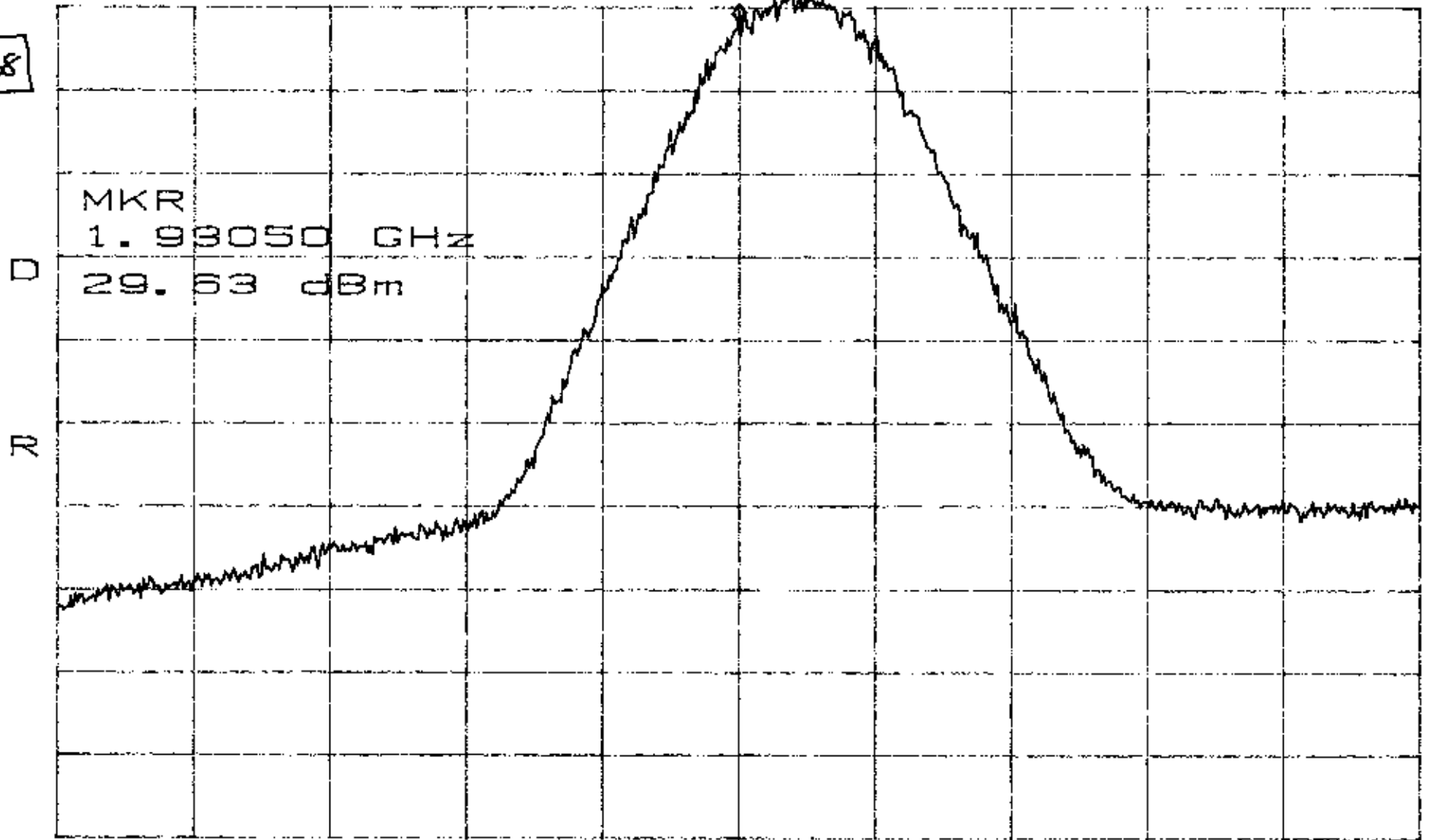
DL
CH. 25 (LOW)

BELOW FUNDAMENTAL

7/28/98

*ATTEN 10dB VAVG 10 MKR 29.63dBm
RL 31.3dBm 10dB/ /BP01 1.93050GHz

24.238



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

CDR 1CH.X7.1W
S/N: FCC UNIT

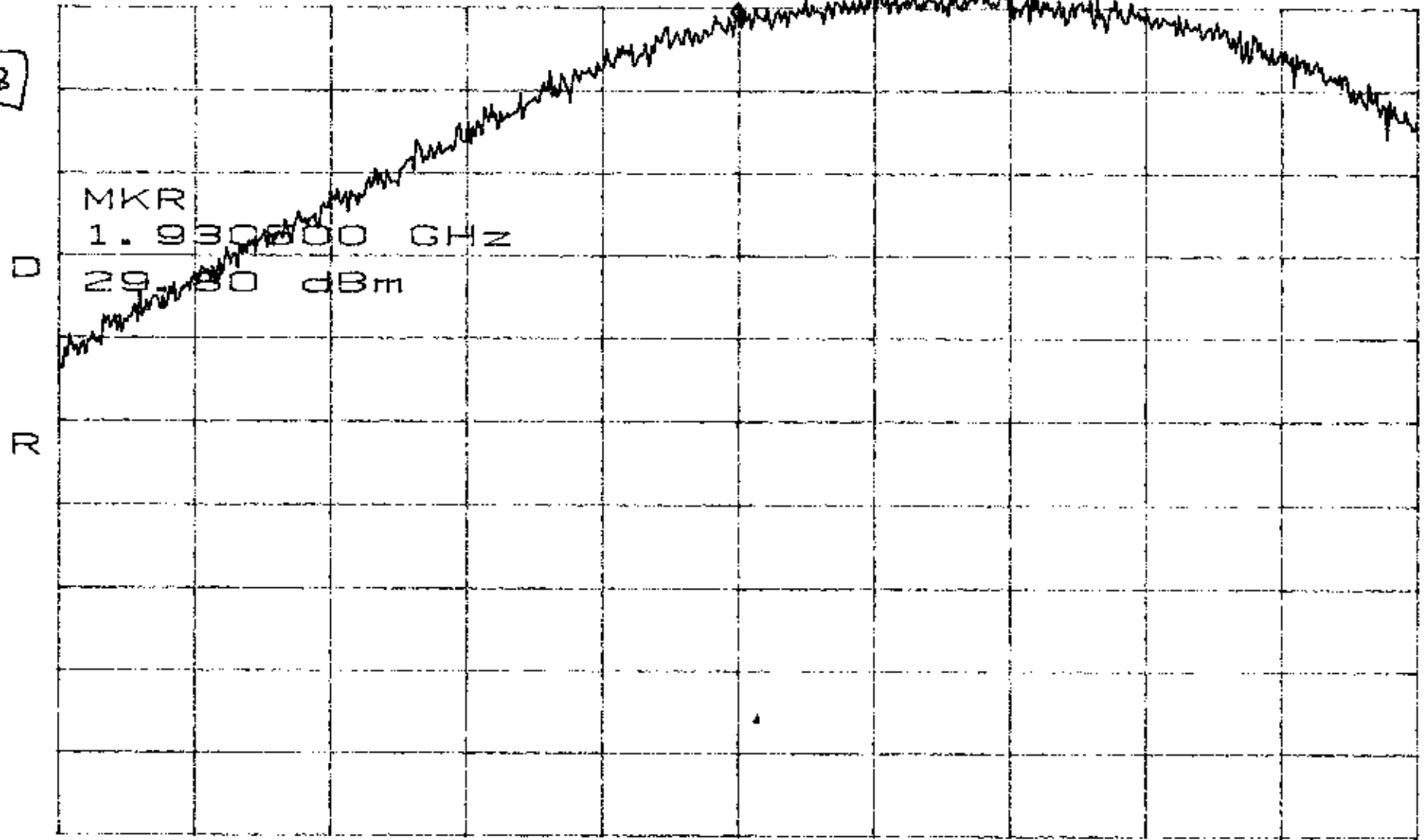
DL
CH. 25 (LOW)

BELOW FUNDAMENTAL

7/28/98

*ATTEN 10dB VAVG 10 MKR 29.80dBm
RL 31.3dBm 10dB/ /BP01 1.930500GHz

24.238



CENTER 1.930500GHz SPAN 5.000MHz
*RBW 1.0MHz *VBW 1.0MHz SWP 50.0ms

CDR 1CH X 7.1W
S/N: FCC UNIT

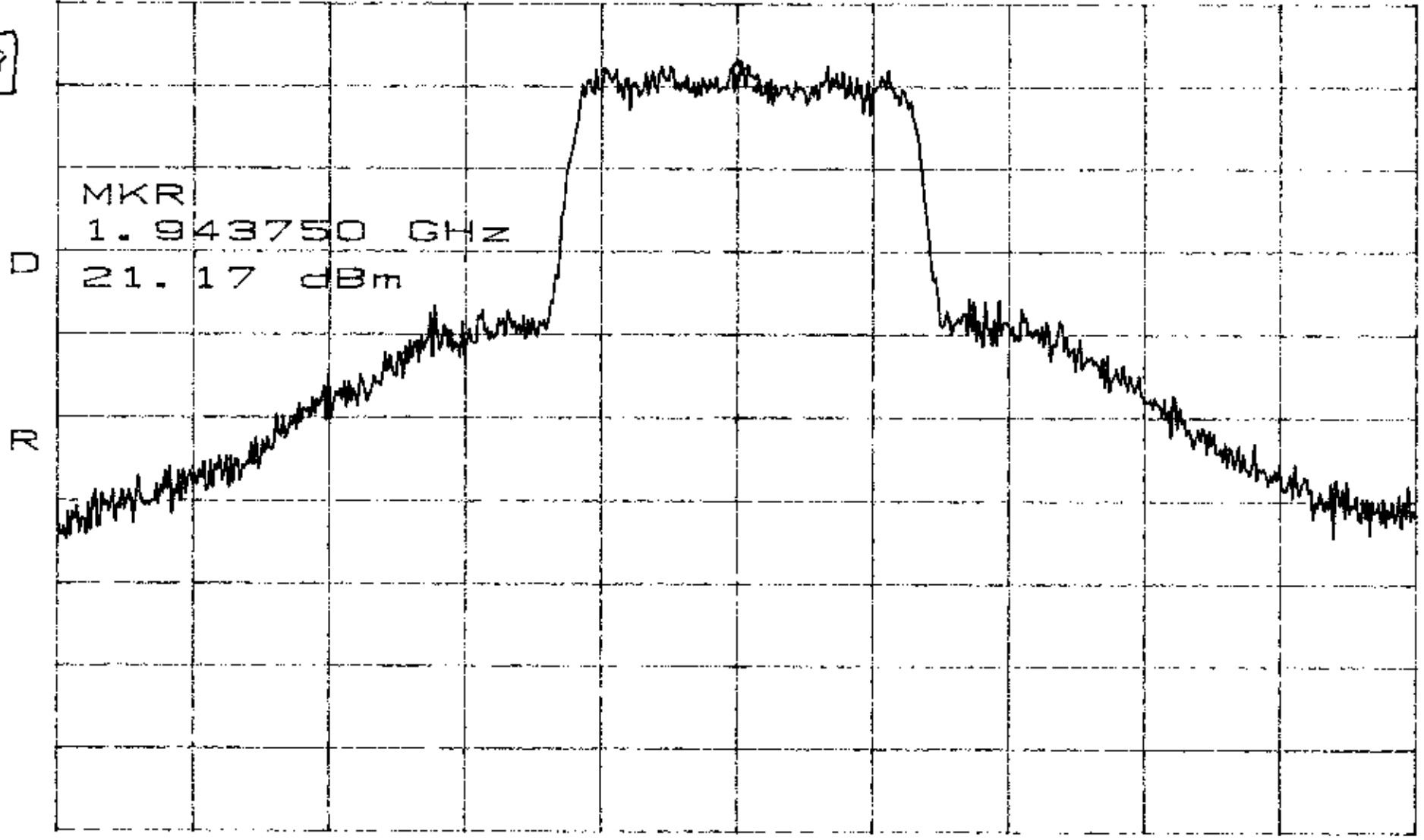
DL
CH 275 (HIGH)

FUNDAMENTAL

7/28/98

*ATTEN 10dB VAVG 10 MKR 21.17dBm
RL 30.0dBm 10dB/ 1.943750GHz

24.238



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

CDR 1CH. x 7.1 W
S/N: FCC UNIT

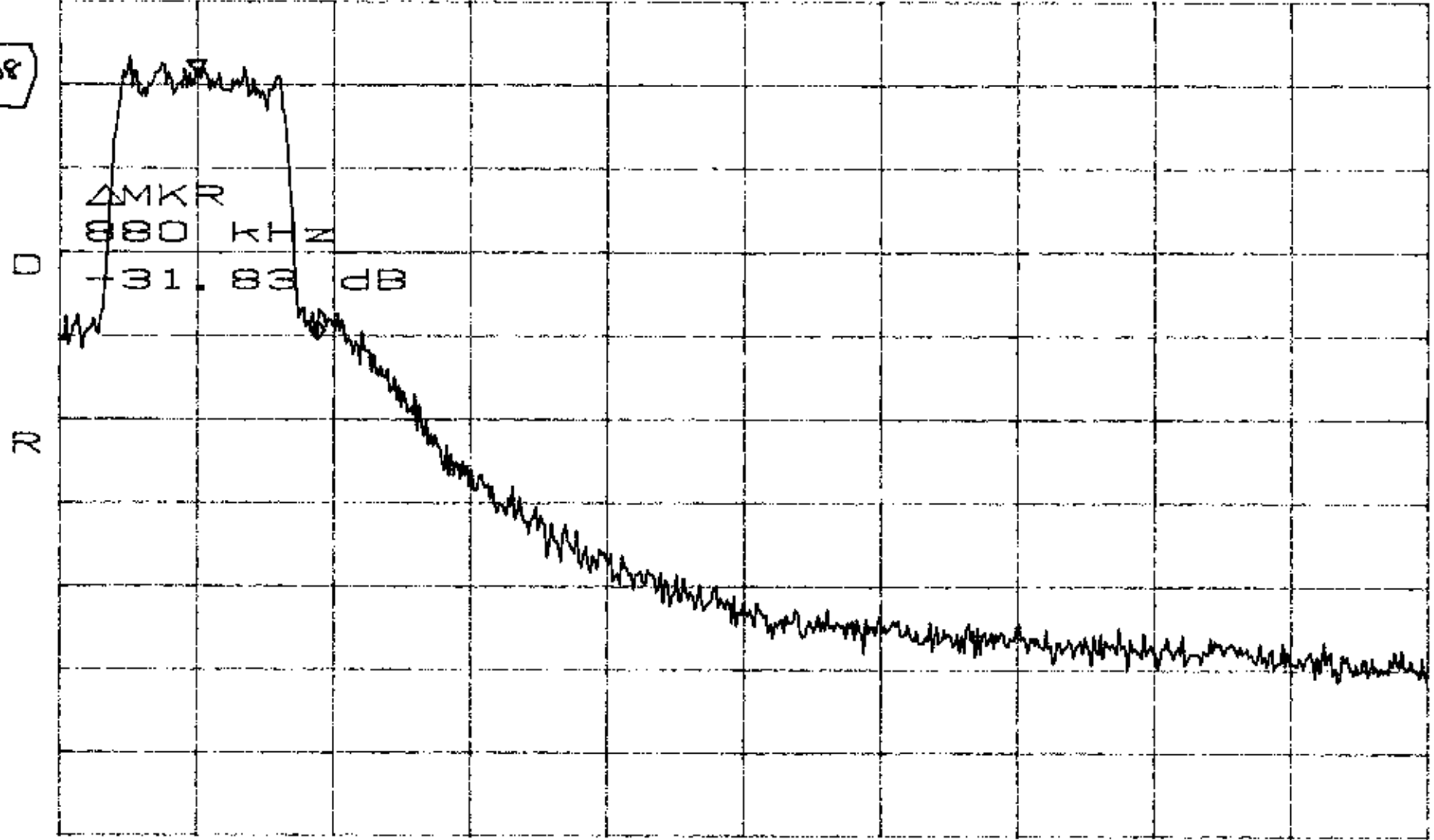
DL
CH. 275 (HIGH)

ABOVE FUNDAMENTAL

7/28/98

*ATTEN 10dB VAVG 10 ΔMKR -31.83dB
RL 30.0dBm 10dB/ 880kHz

24.238



CENTER 1.94775GHz

SPAN 10.00MHz

*RBW 30kHz

*VBW 30kHz

SWP 50.0ms

CDR 1CH. x 7.1W
S/N: FCC UNIT

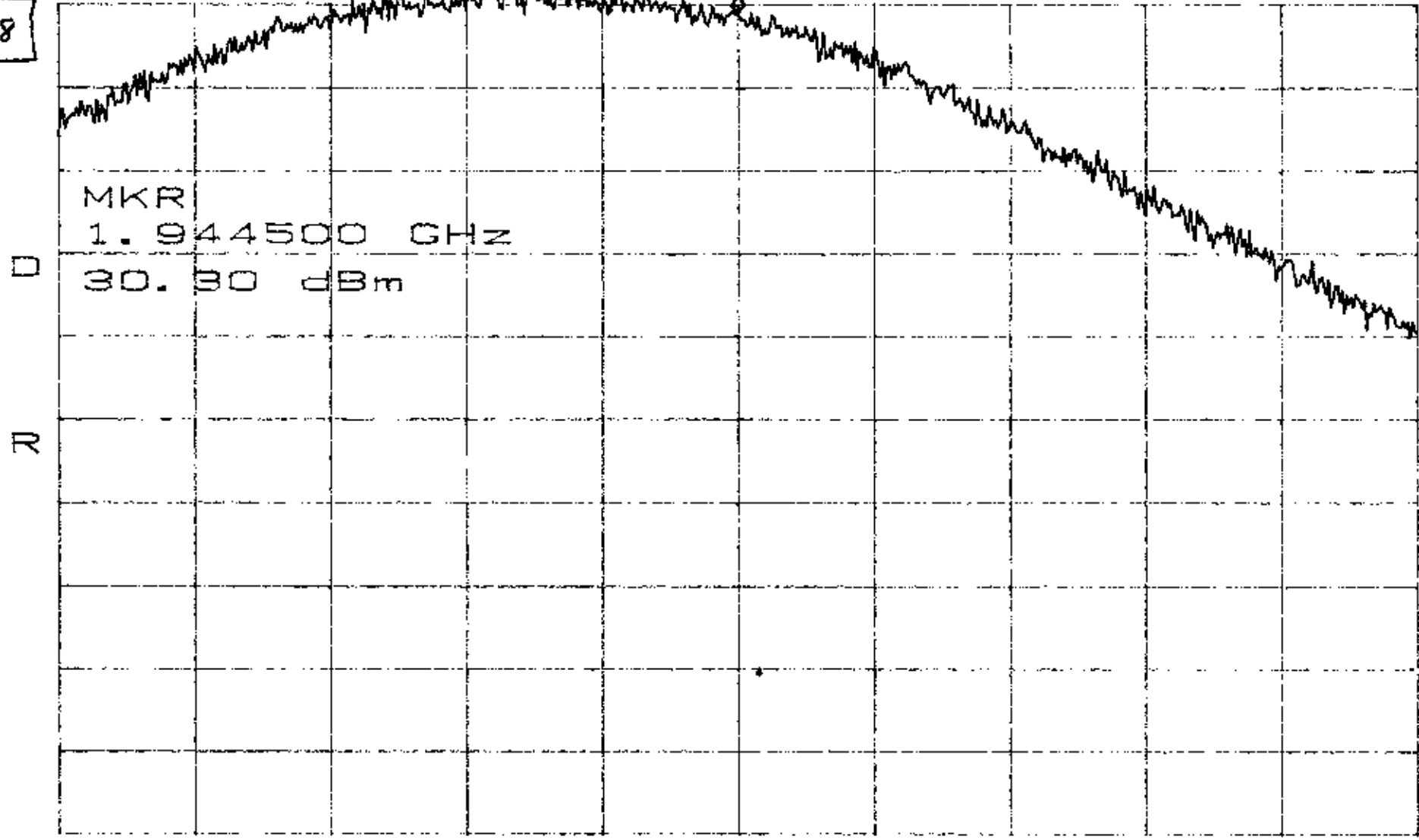
DL
CH. 275 (HIGH)

ABOVE FUNDAMENTAL

7/28/98

*ATTEN 10dB VAVG 10 MKR 30.30dBm
RL 31.3dBm 10dB/BPOI 1.944500GHz

24.238



CENTER 1.944500GHz SPAN 5.000MHz
*RBW 1.0MHz *VBW 1.0MHz SWP 50.0ms

CDR 1 CH. X 7.1 WATT
S/N: FCC UNIT

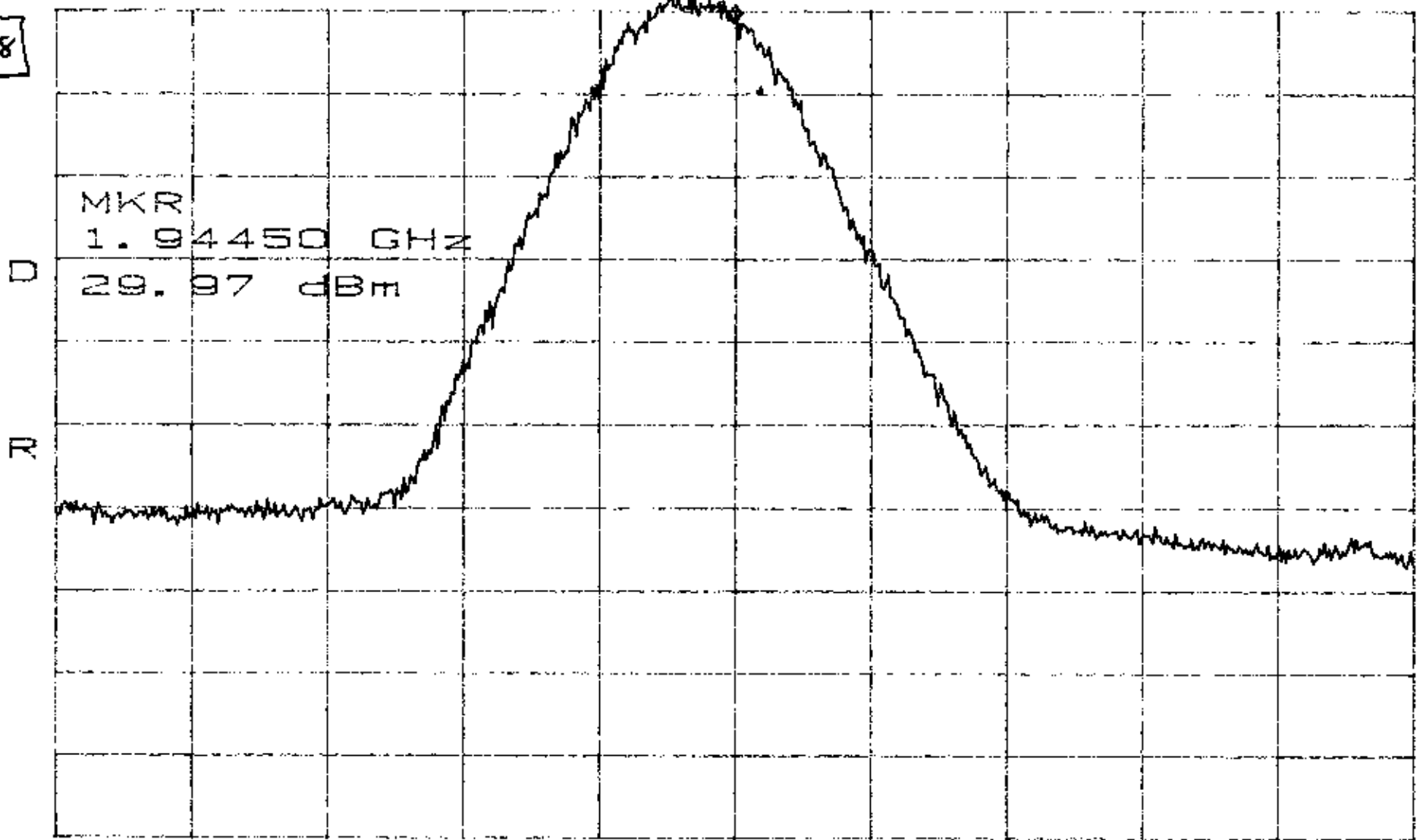
DL
CH. 275 (~~HIGH~~)

ABOVE FUNDAMENTAL

7/28/98

*ATTEN 10dB VAVG 10 MKR 29.97dBm
RL 31.3dBm 10dB/BPO1 1.94450GHz

24.238



CENTER 1.94450GHz SPAN 20.00MHz
*RBW 1.0MHz *VBW 1.0MHz SWP 50.0ms

CDR 1CH. x 7.1W
S/N: FCC UNIT

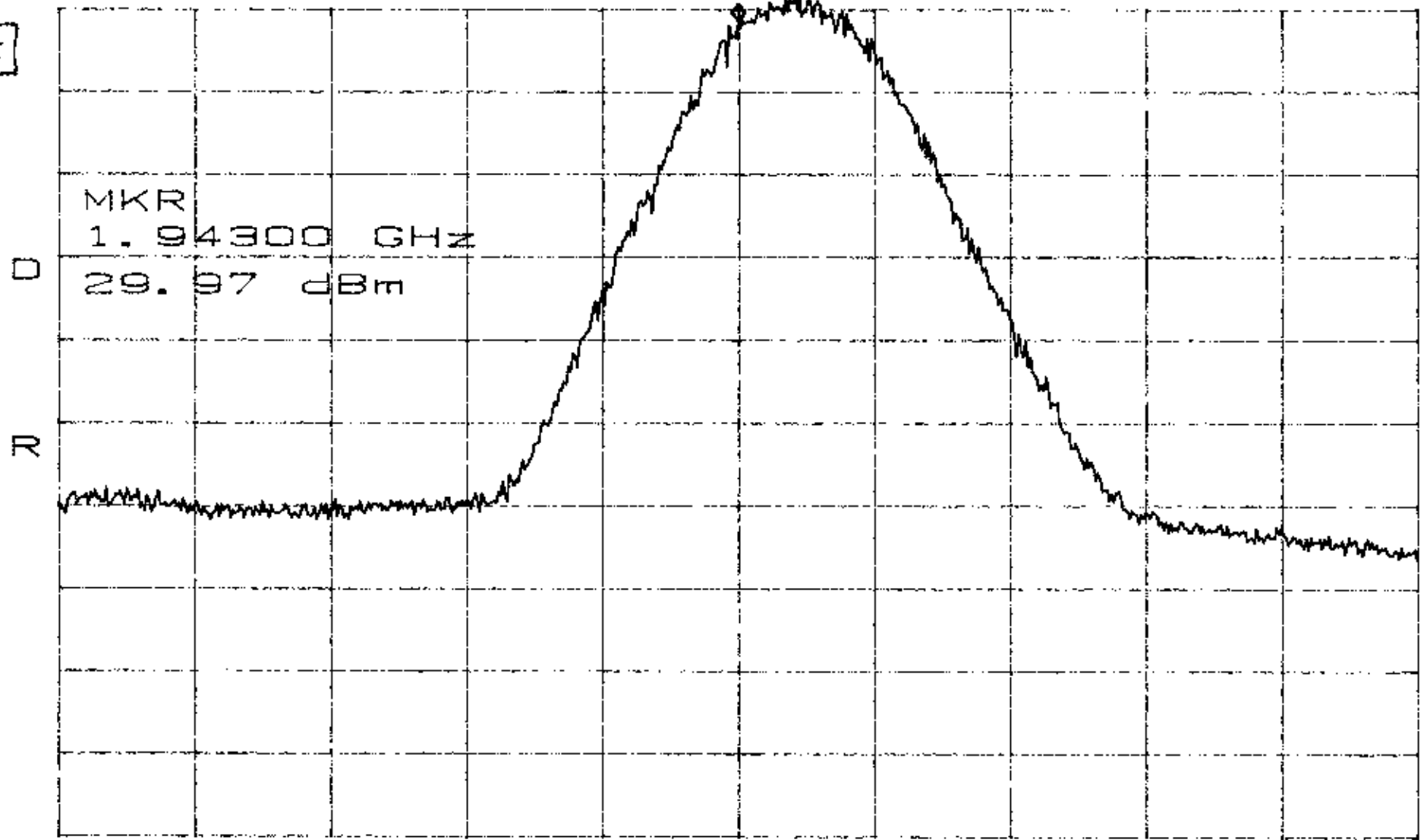
DL
CH. 275 (HIGH)

BELOW FUNDAMENTAL

7/28/98

*ATTEN 10dB VAVG 10 MKR 29.97dBm
RL 31.3dBm 10dB/ 1.94300GHz

24.238



CENTER 1.94300GHz SPAN 20.00MHz
*RBW 1.0MHz *VBW 1.0MHz SWP 50.0ms

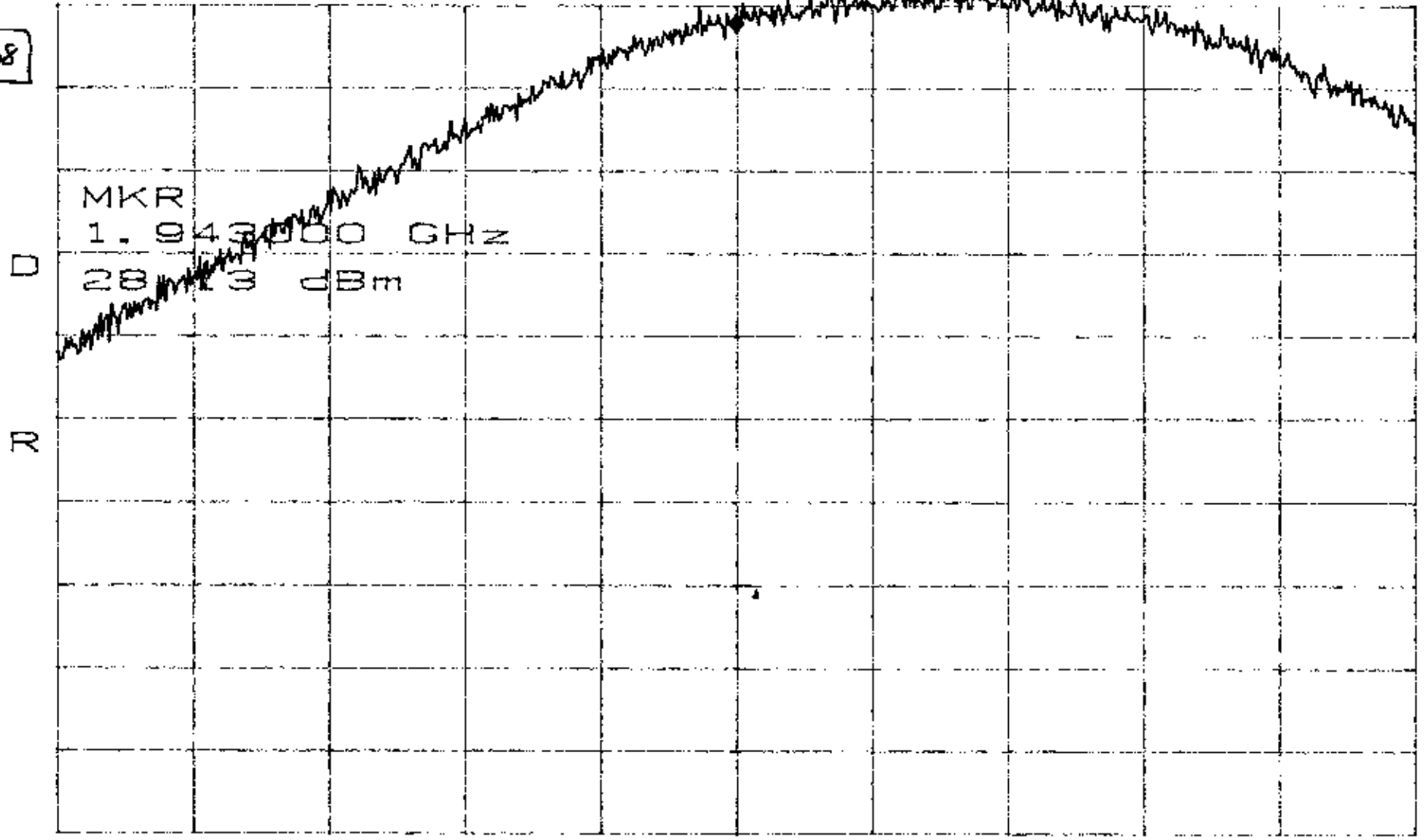
CDR 1CH X 7.1 W
SIN: FCC UNIT

DL
CH. 275 (HIGH)

BELOW FUNDAMENTAL 7/28/98

*ATTEN 10dB VAVG 10 MKR 28.13dBm
RL 31.3dBm 10dB/BPO 1.943000GHz

24.238



CENTER 1.943000GHz SPAN 5.000MHz
*RBW 1.0MHz *VBW 1.0MHz SWP 50.0ms

CDR 1CH. X 7.1W
S/N: FCC UNIT

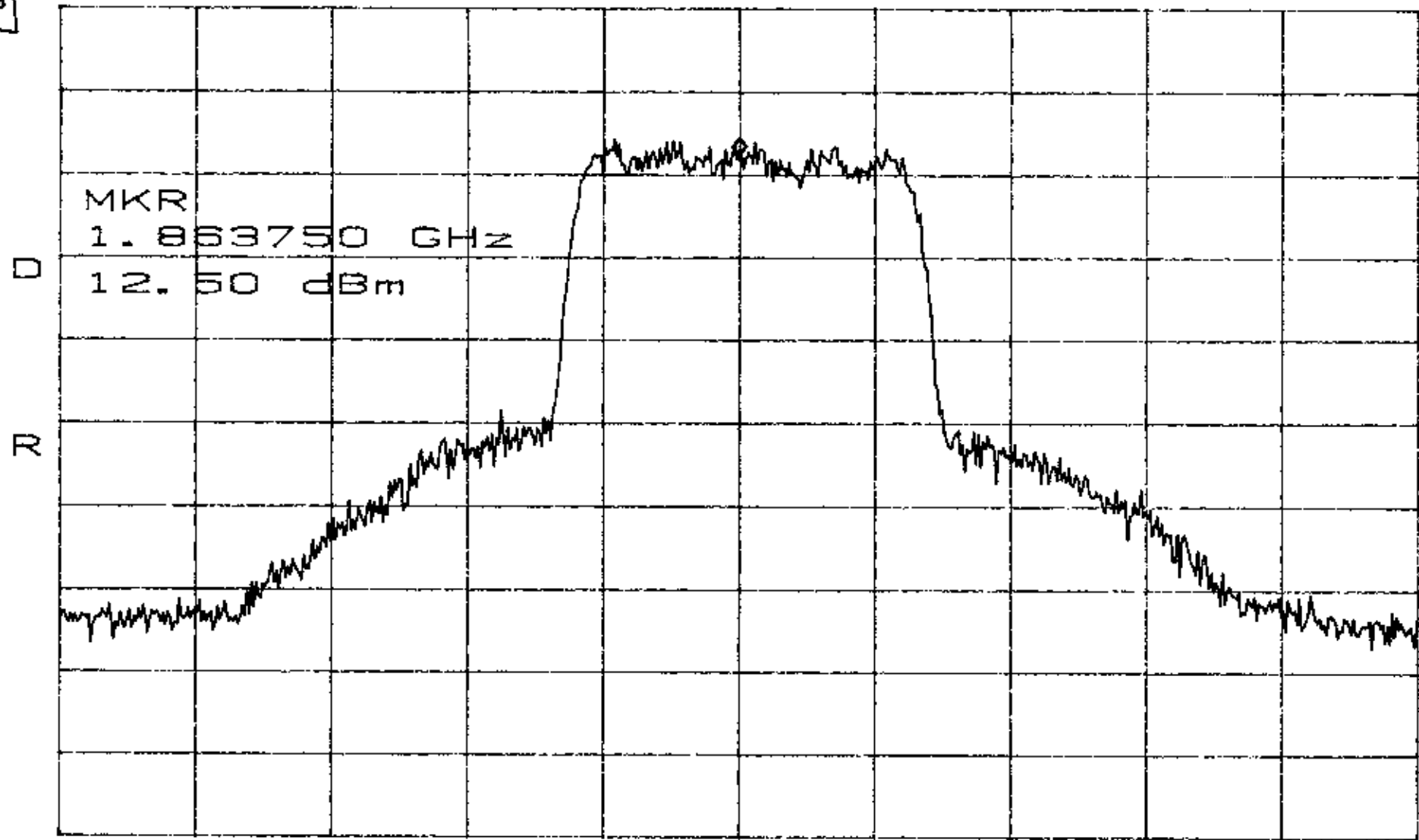
UL
CH. 275 (HIGH)

FUNDAMENTAL

7/28/98

ATTEN 10dB VAVG 10 MKR 12.50dBm
RL 30.0dBm 10dB/ 1.863750GHz

24.238



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

CDR 1CH X7.1W
S/N FCC UNIT

UL
CH. 275 (HIGH)

ABOVE FUNDAMENTAL

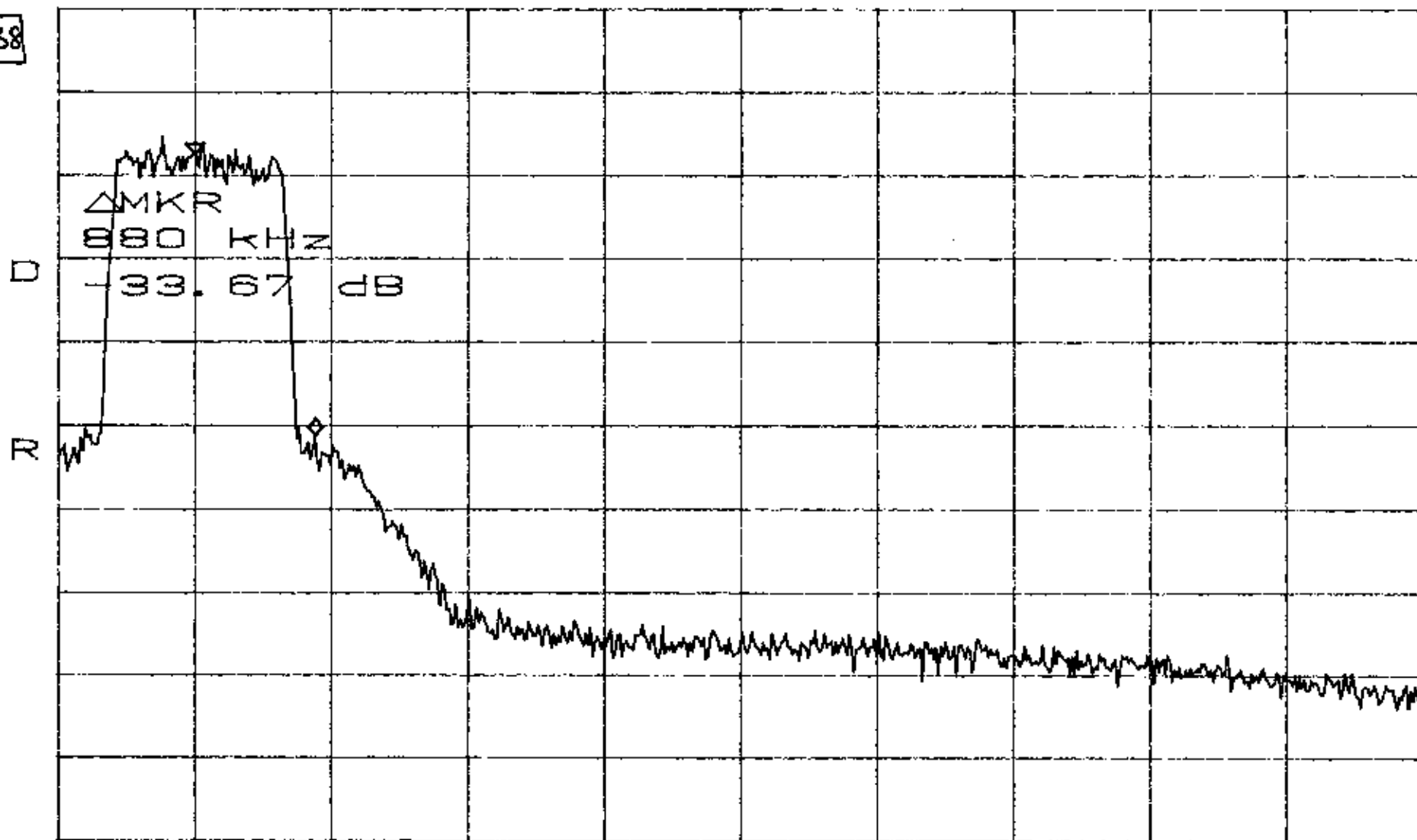
7/28/99

ATTN 10dB
RL 30.0dBm

VAVG 10
10dB/BPO1

Δ MKR -33.67dB
880kHz

24.238



CENTER 1.86775GHz

SPAN 10.00MHz

*RBW 30kHz

*VBW 30kHz

SWP 50.0ms

CDK 1CH. X 7.1W
SIN. FCC UNIT

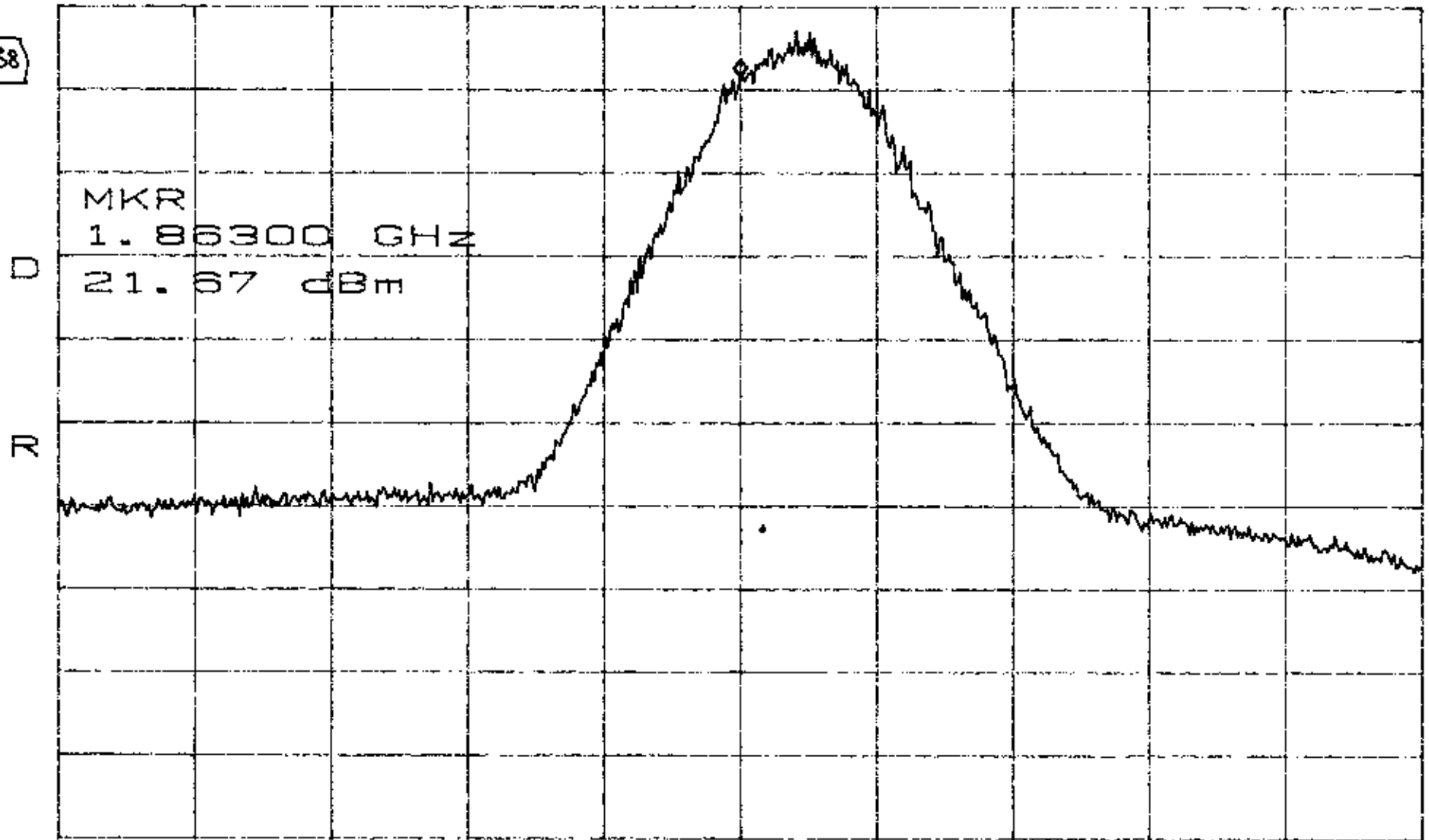
UL
CH. 275 (HIGH)

BELOW FUNDAMENTAL

7/28/98

ATTEN 10dB VAVG 10 MKR 21.67dBm
RL 30.0dBm 10dB/BPO1 1.86300GHz

24.238



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

CDR 1CH X 7.1W

UL

Below FUNDAMENTAL

7/28/98

S/N: FCC UNIT

CH. 275 (HIGH)

ATTEN 10dB

VAVG 10

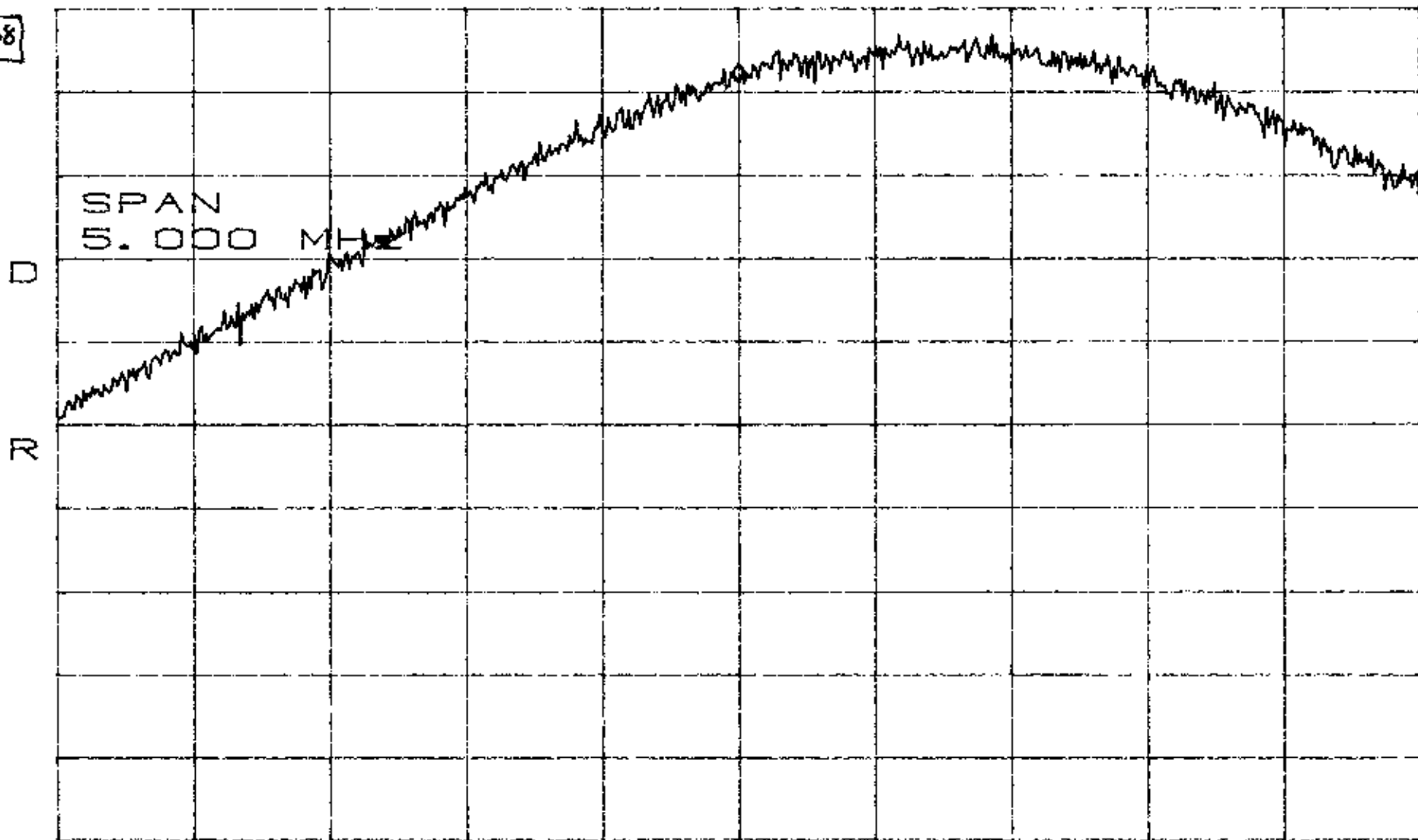
MKR 21.33dBm

RL 30.0dBm

10dB/BPO1

1.863000GHZ

21.238



CENTER 1.863000GHZ

SPAN 5.000MHz

*RBW 1.0MHz

*VBW 1.0MHz

SWP 50.0ms

CDR 1CH. X 7.1 W
SIN: FCC UNIT

UL
CH. 275 (HIGH)

ABOVE FUNDAMENTAL

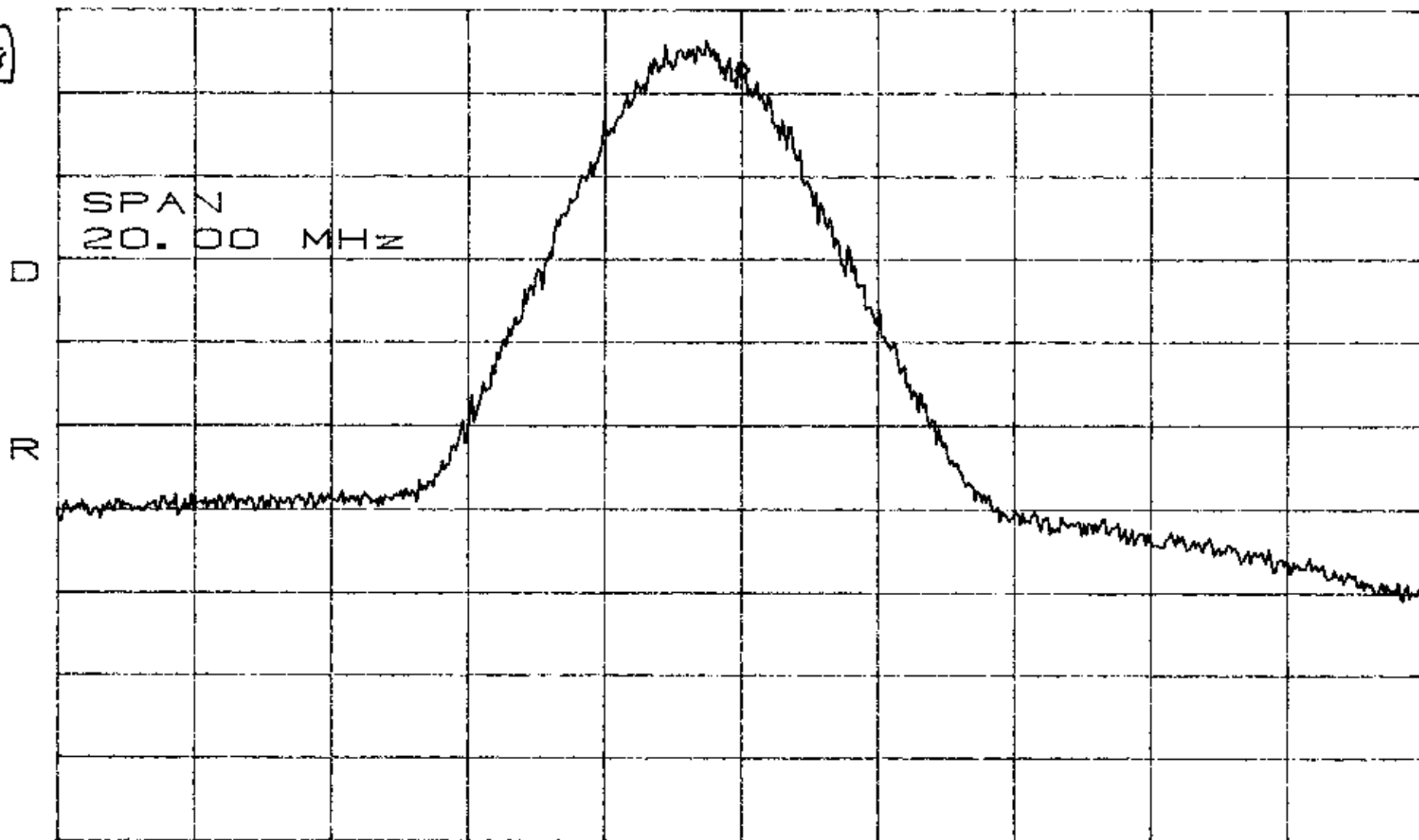
7/28/98

ATTEN 10dB
BPO1 30.00MHz

VAVG 10
10dB/BPO1

MKR 21.83dBm
1.86450GHz

24.238



CENTER 1.86450GHz

SPAN 20.00MHz

*RBW 1.0MHz

*VBW 1.0MHz

SWP 50.0ms

CDR ICH. x7.1W
SIN. FCC UNIT

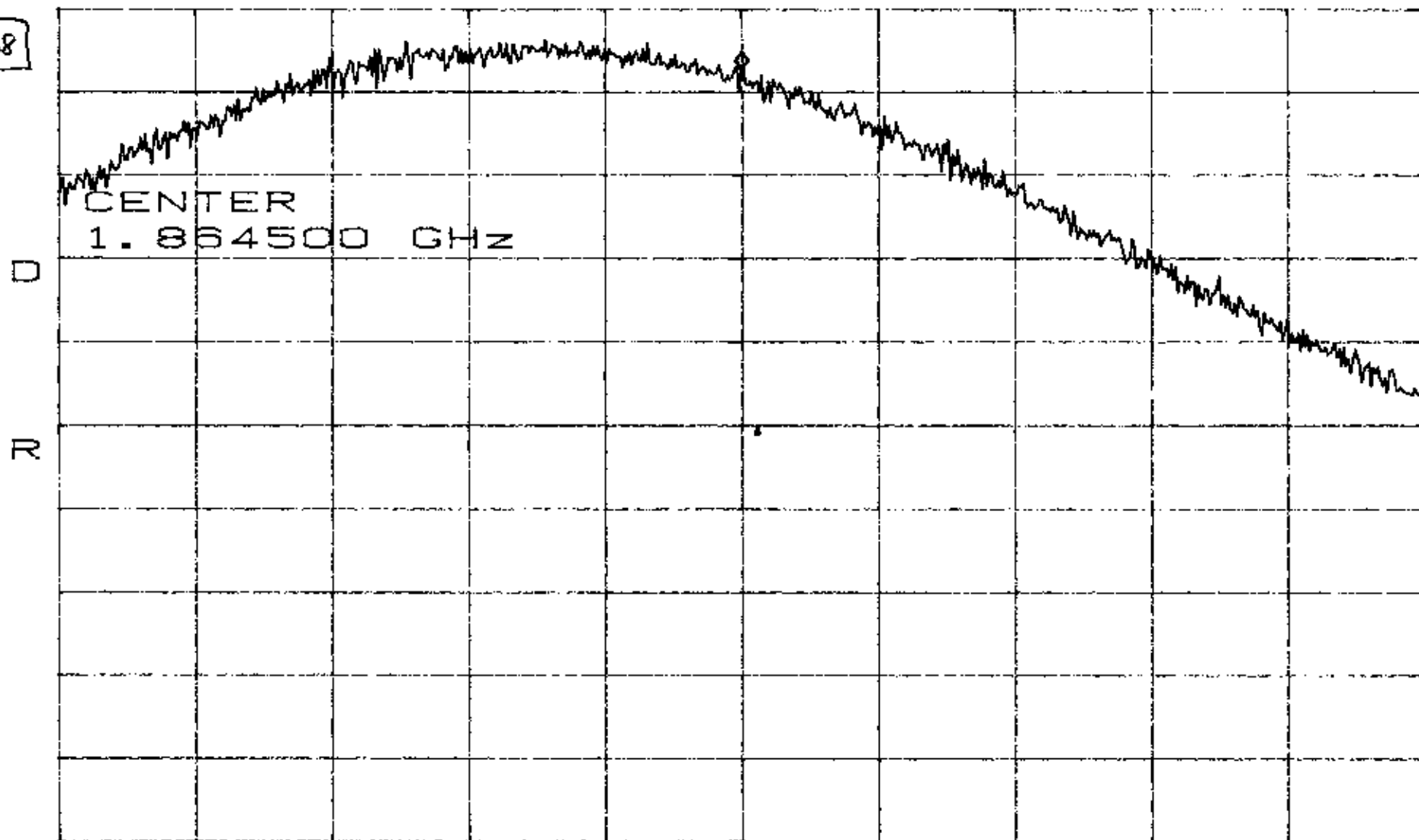
UL
CH. 275 (HIGH)

ABOVE FUNDAMENTAL

7/28/98

ATTEN 10dB VAVG 10 MKR 22.83dBm
RL 30.0dBm 10dB/ BPO1 1.864500GHz

24.238



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

CDR 1CH X 7.1W
S/N: FCC UNIT

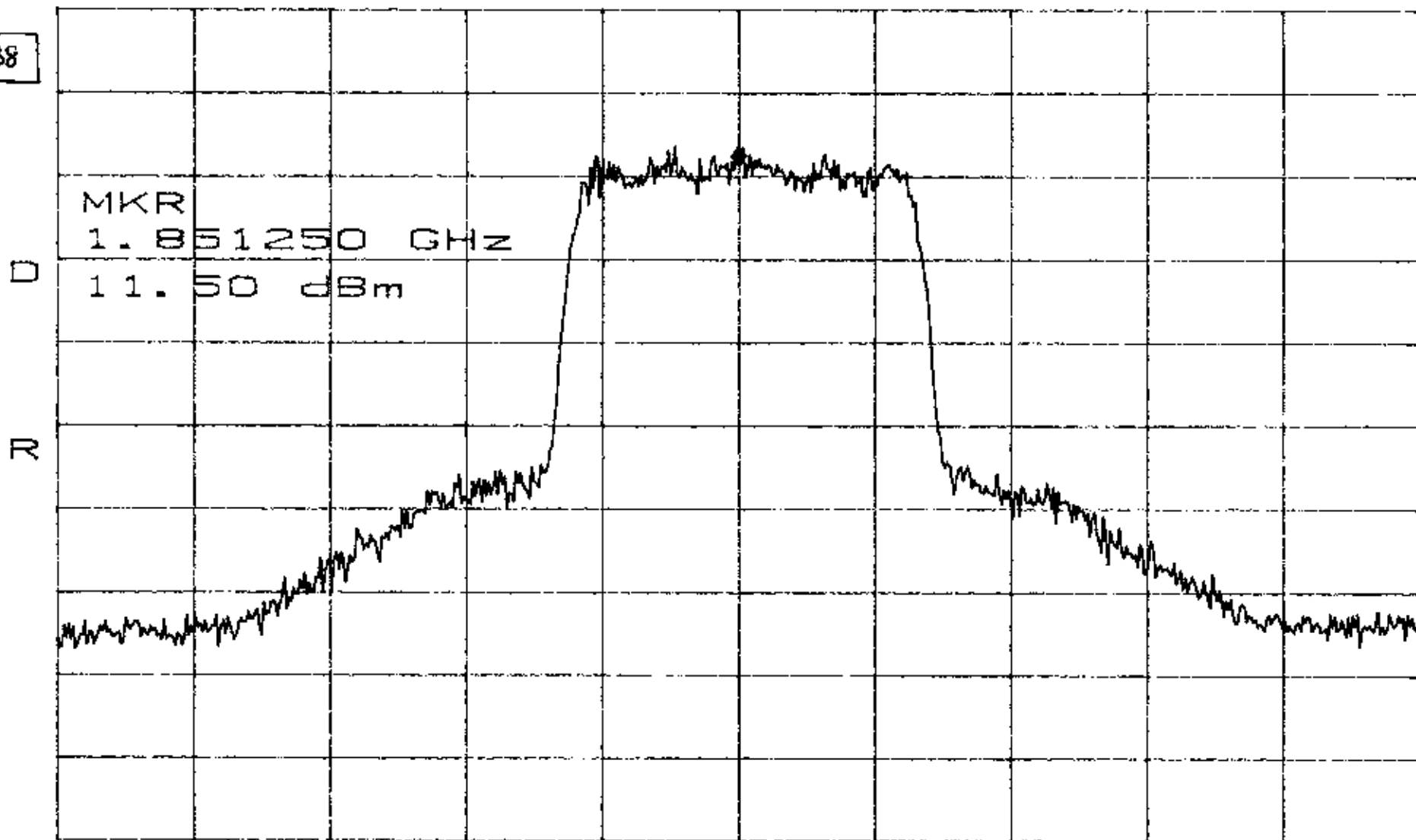
UL
CH 25 (LOW)

FUNDAMENTAL

7/29/98

*ATTEN 10dB VAVG 10 MKR 11.50dBm
RL 30.0dBm 10dB/BPO1 1.851250GHz

24.238



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

CDR 1 CH. Y 7.1W
S/N: FCC UNIT

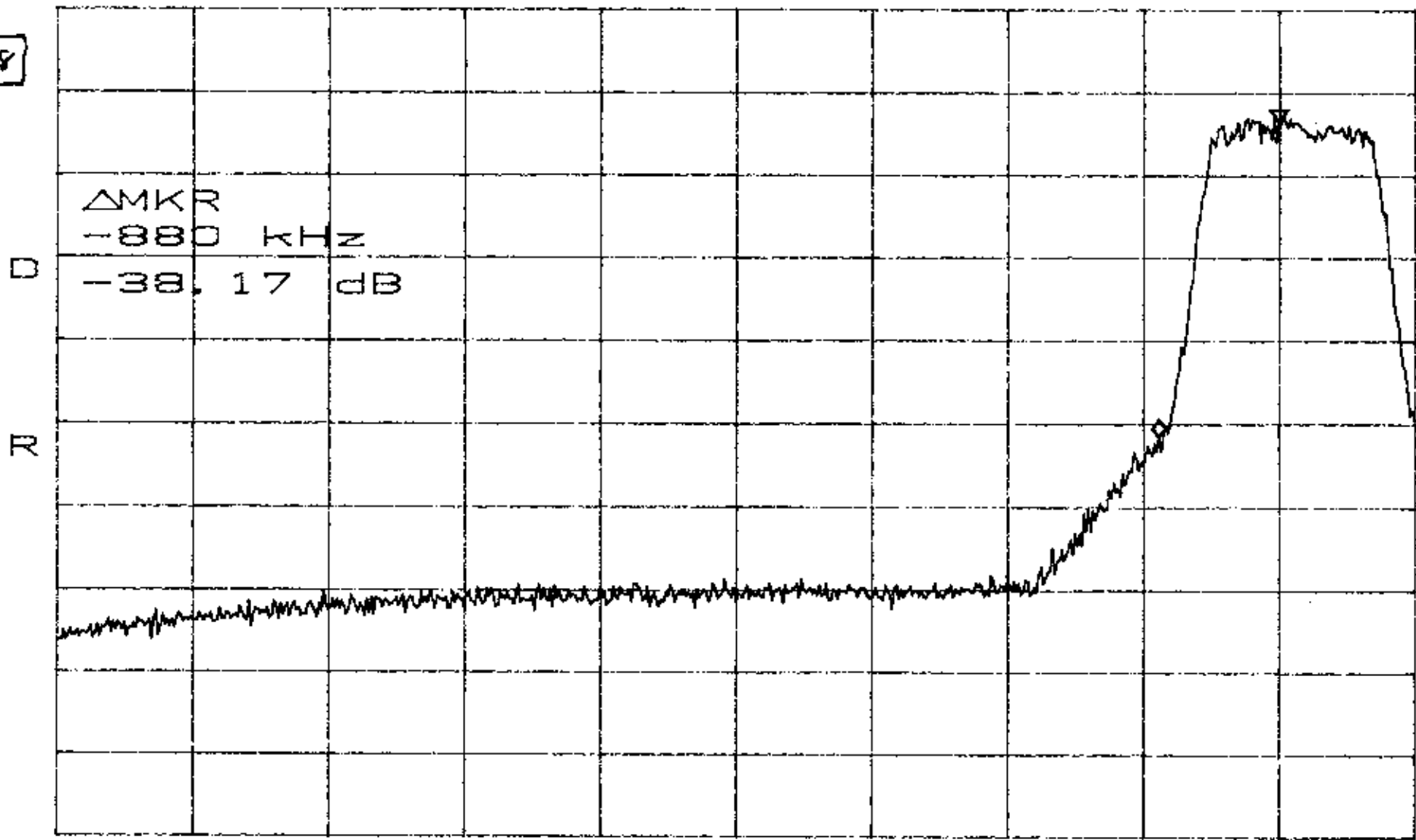
UL
CH. 25 (LOW)

BELOW FUNDAMENTAL

7/20/98

*ATTEN 10dB BPO1 10 GVA 01 BPO1 10 GVA 01
RL 30.0dB /BPO1 10dB -38.17dB
-880kHz

24.238



CENTER 1.84725GHz SPAN 10.00MHz
RBW 100kHz *VBW 30kHz SWP 50.0ms

CDR 1CH. x 7.1W
S/N: FCC UNIT

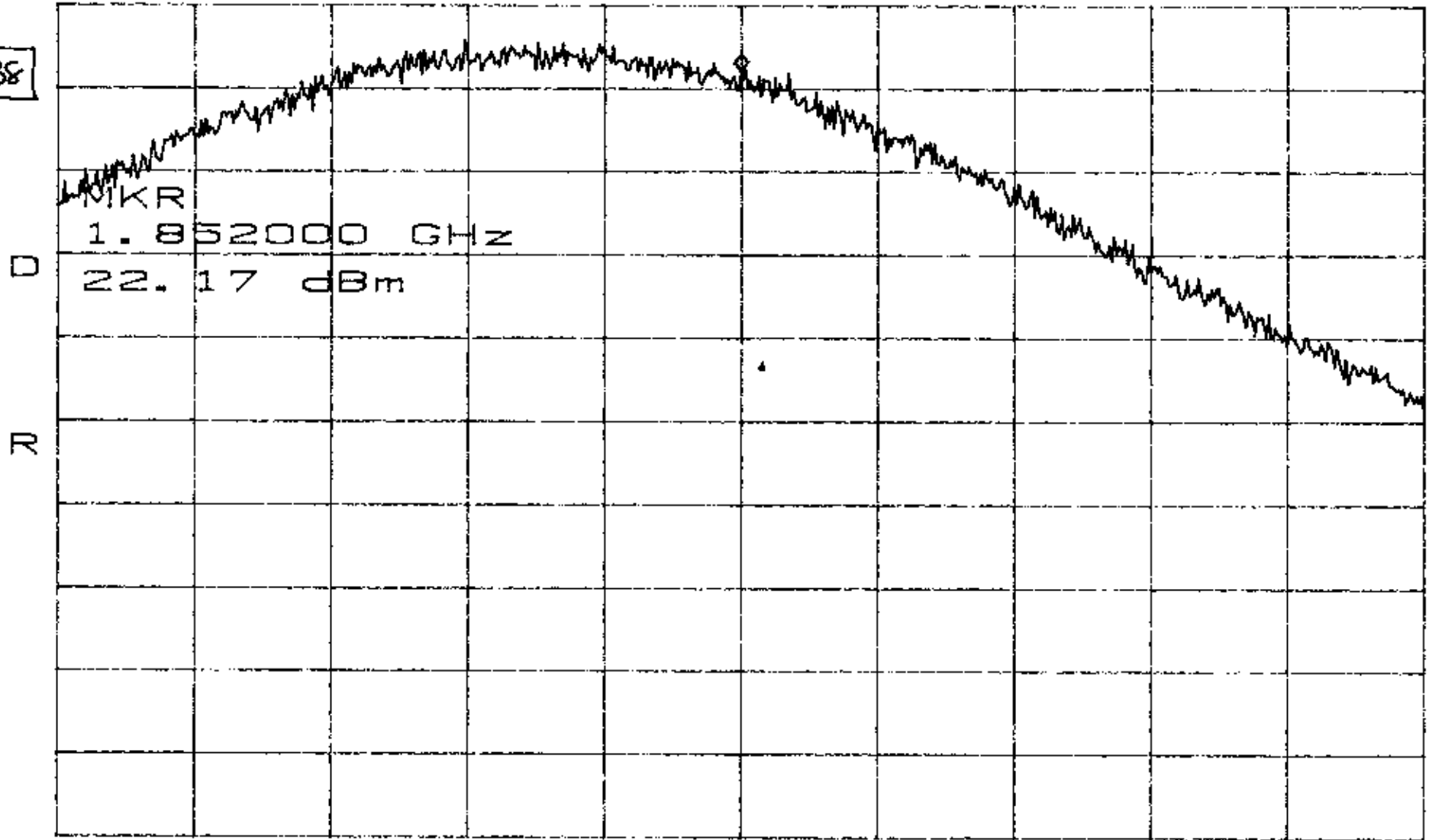
UL
CH. 25(Low)

Above FUNDAMENTAL

7/28/98

*ATTEN 10dB VAVG 10 MKR 22.17dBm
RL 30.0dBm 10dB/ 1.852000GHz

24.238



CENTER 1.852000GHz SPAN 5.000MHz
*RBW 1.0MHz *VBW 1.0MHz SWP 50.0ms

CDR 1CH.X7.1W
S/N: FCC UNIT

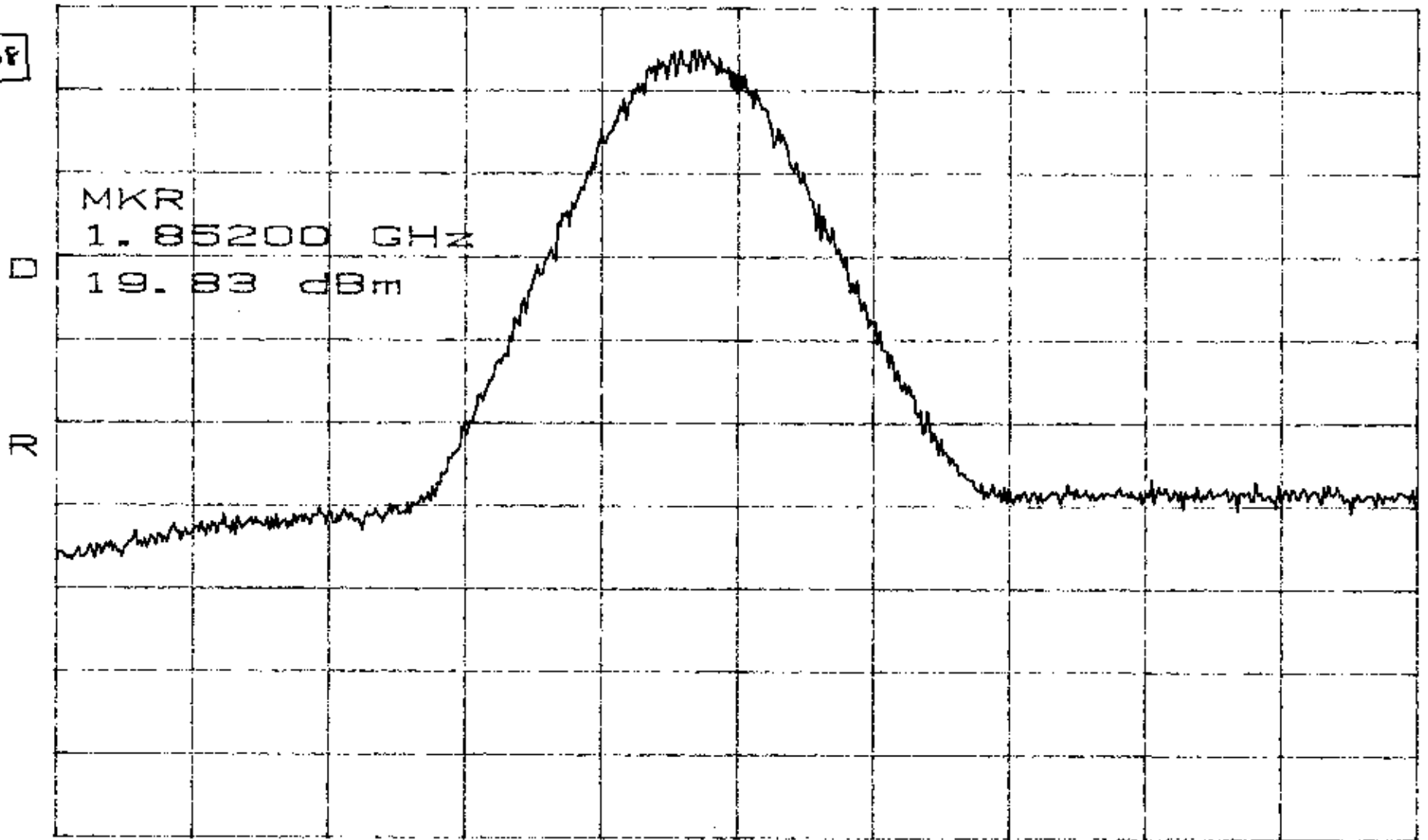
UL
CH. 25 (LOW)

ABOVE FUNDAMENTAL

7/28/98

*ATTEN 10dB VAVG 10 MKR 19.83dBm
RL 30.0dBm 10dB/BPO 1.85200GHz

24.23F



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

CDE 1CH. x 7.1W

S/N: FCC UNIT

UL
CH. 25 (Low)

BELOW FUNDAMENTAL

7/20/18

*ATTEN 10dB

VAVG 10

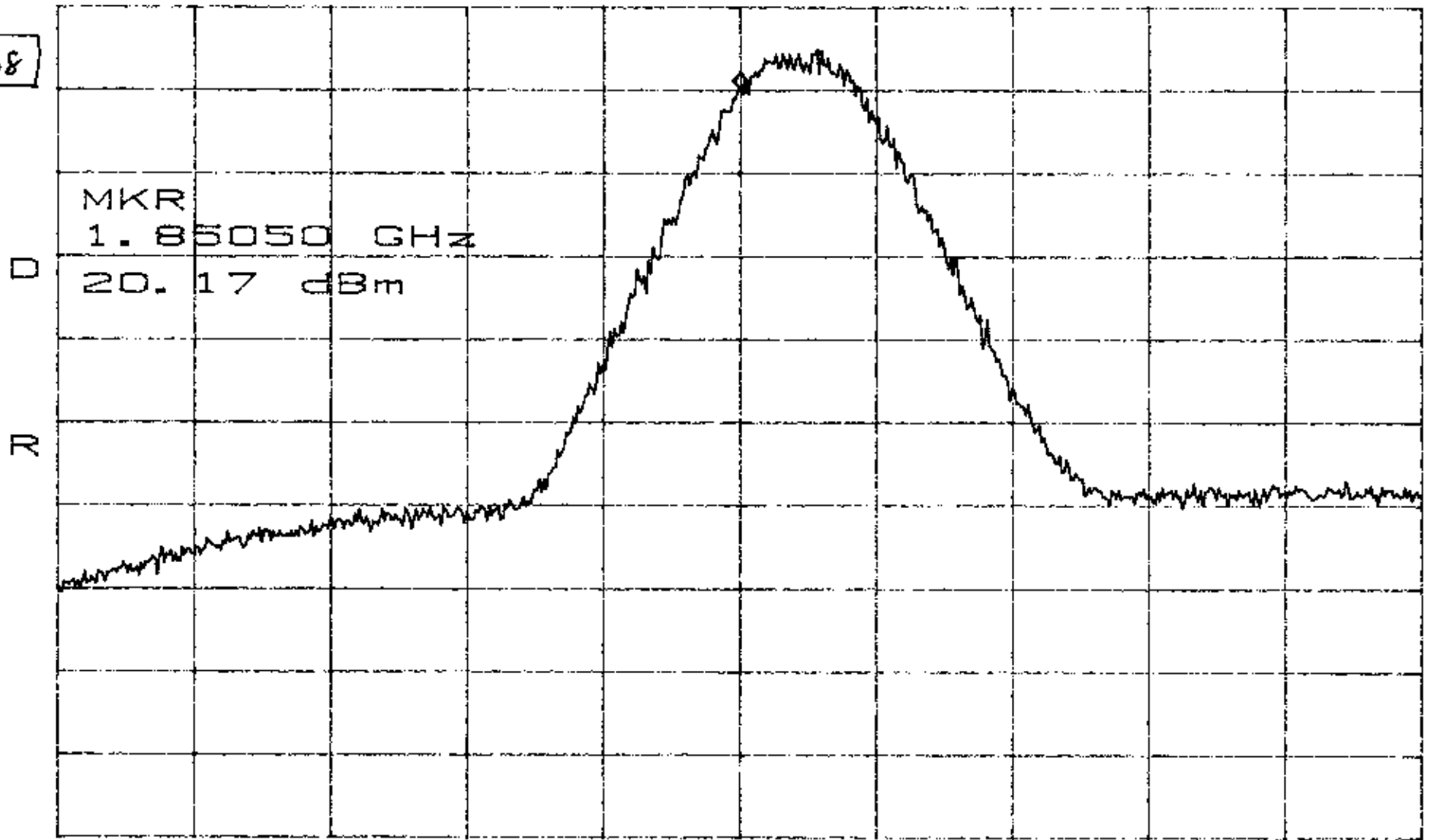
MKR 20.17dBm

RL 30.0dBm

10dB/BP01

1.85050GHz

24.238



CENTER 1.85050GHz

SPAN 20.00MHz

*RBW 1.0MHz

*VBW 1.0MHz

SWP 50.0ms

CDR 1CH. X7.1W
S/N: FCC UNIT

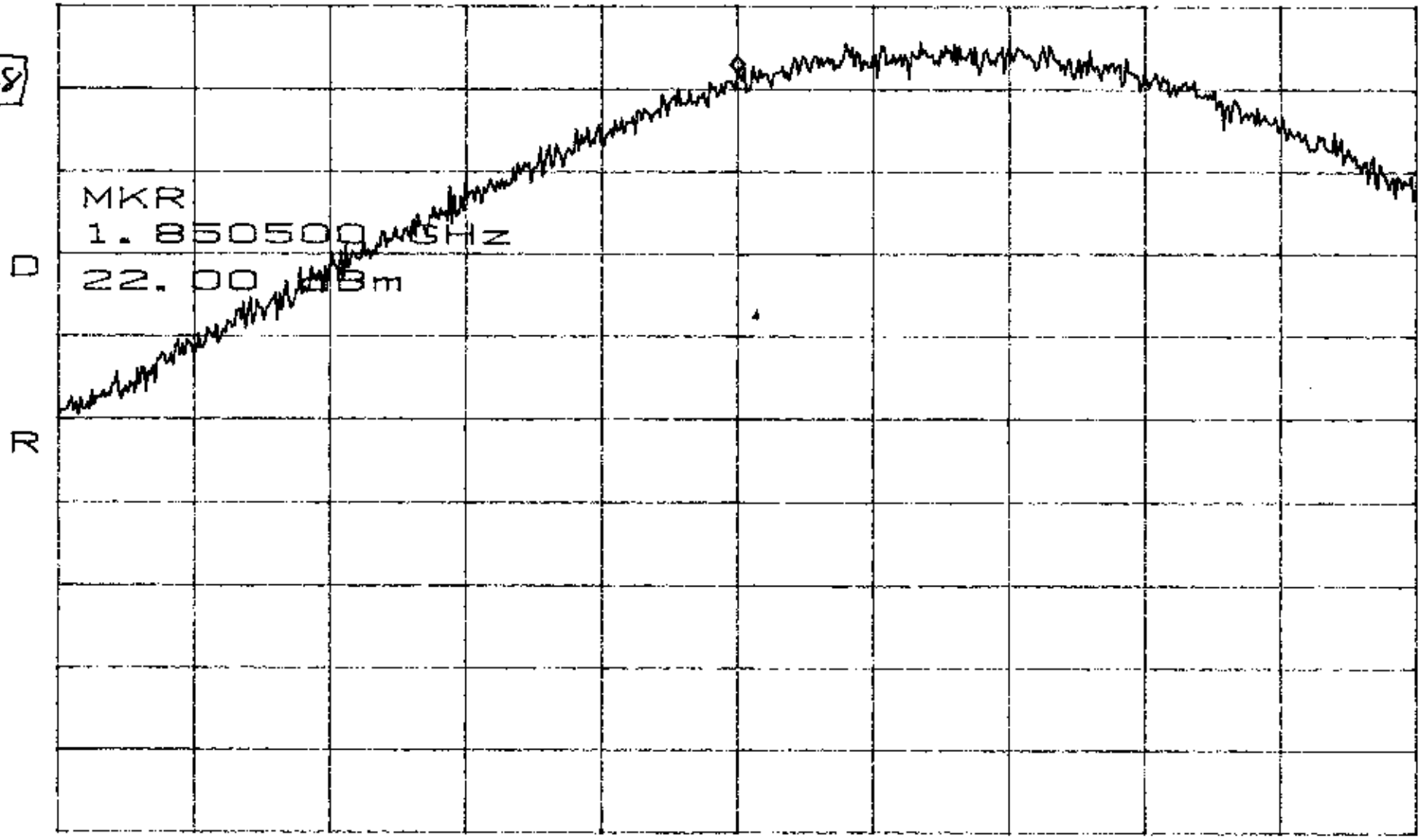
UL
CH. 25 (LOW)

Below FUNDAMENTAL

7/28/98

*ATTEN 10dB VAVG 10 MKR 22.00dBm
RL 30.00MHz 10dB/ 1.850500GHz

24.238



CENTER 1.850500GHz SPAN 5.000MHz
*RBW 1.0MHz *VBW 1.0MHz SWP 50.0ms