TESTED BY ORTEL CORPORATION

CONDUCTED MEASUREMENT INFORMATION

Test Equipment Used:

Signal Generator HP8648C, Hewlett Packard
Spectrum Analyzer HP8563E, Hewlett Packard
-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 two tone testing.

Tests performed for D-band

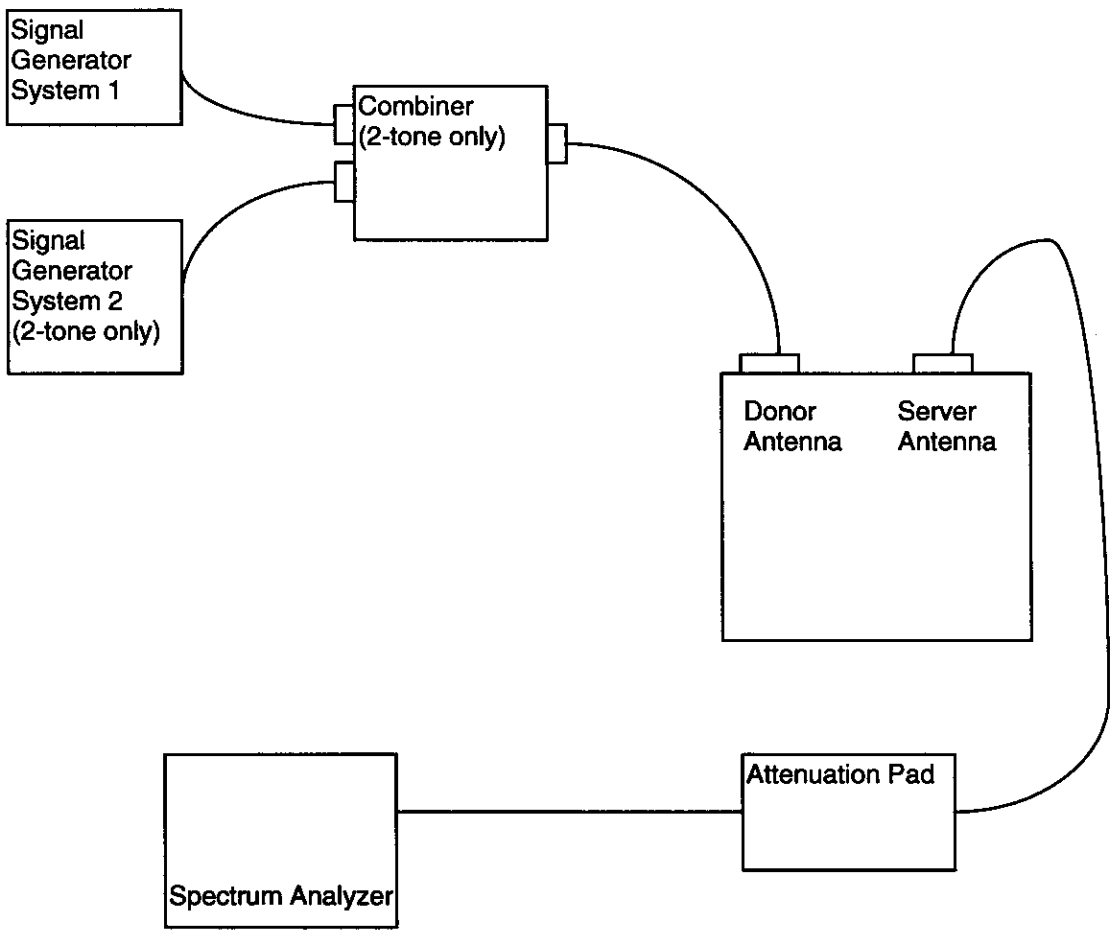
2.985, 2.989, 2.991, and 24.238 and In/Out

Test setup on next page.

TÜV PRODUCT SERVICE 10040 Mesa Rim Road San Diego, CA 92121-2912 Phone 619 546 3999 FAX 619 546 0364

CONDUCTED MEASUREMENT TEST SETUP

TESTED BY ORTEL CORPORATION

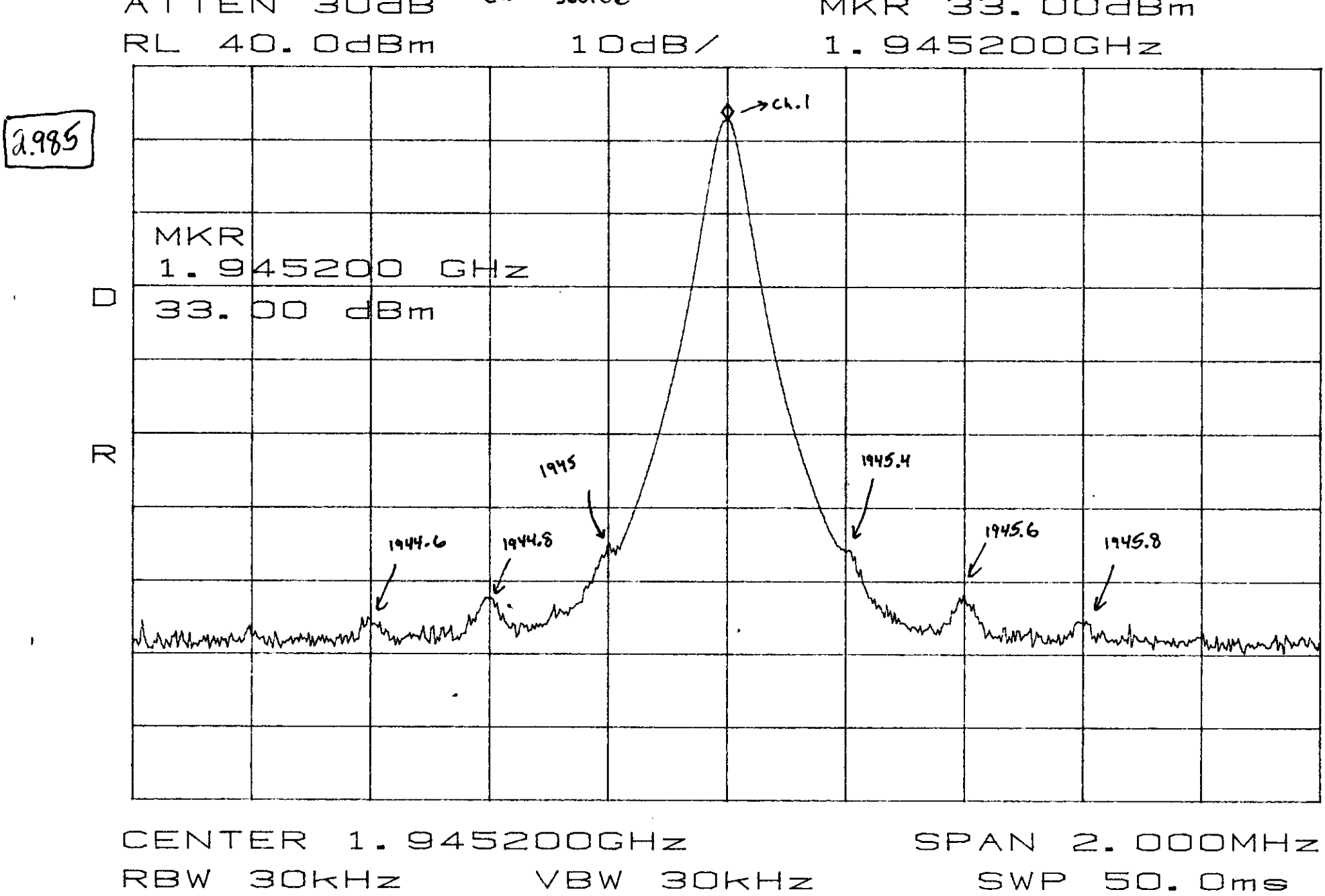


Downlink mode shown. For uplink, swap antenna connections at the repeater.
NOTE: All cables, connectors, and the attenuation pad are calibrated out at the

DL Low
D-band

DL Output
P_{in} = -54.2 dBm @ 1945.2 MHz (ch.1)
cw source

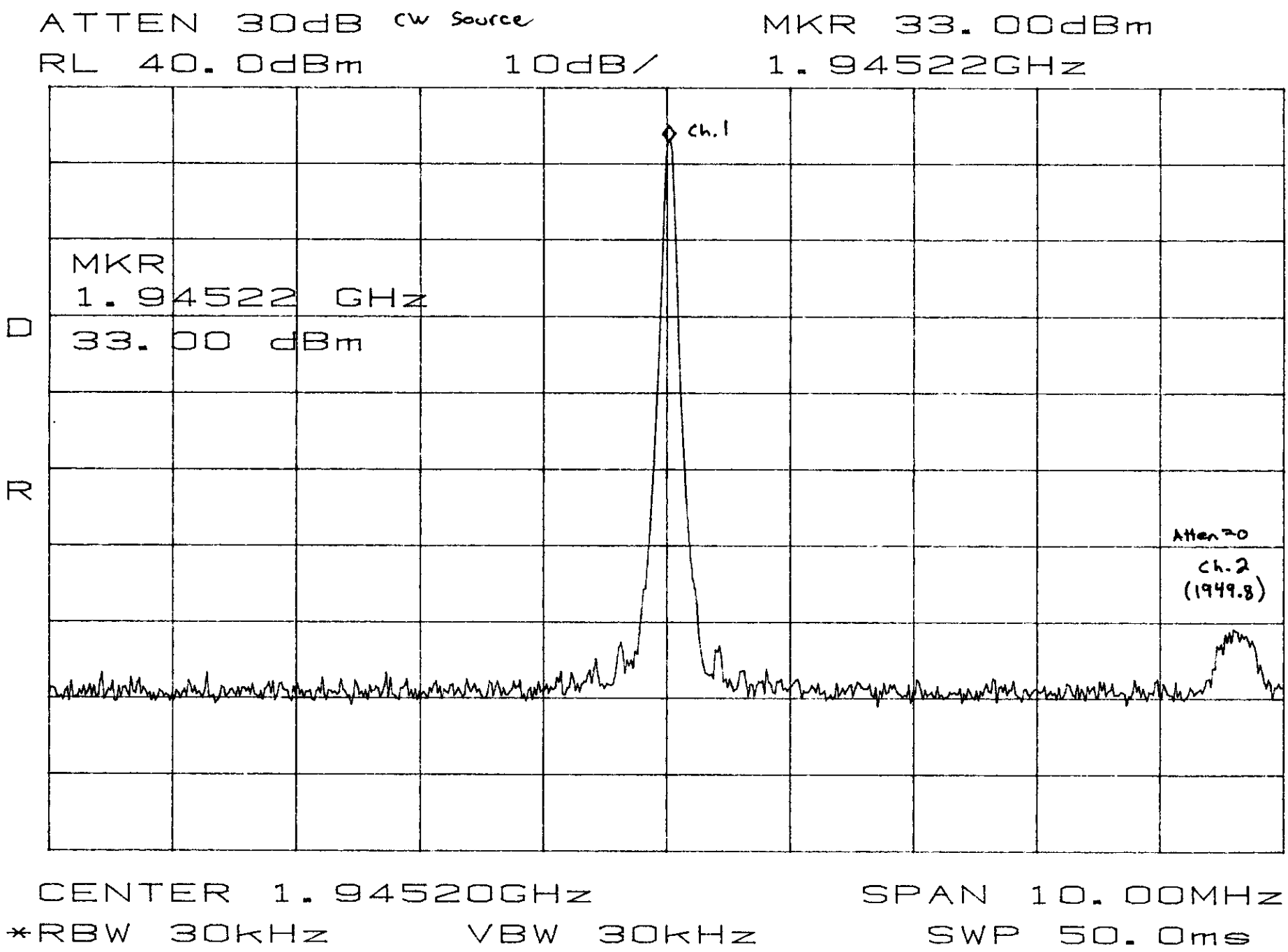
9/16/98
LB41901



DL Low
D-band

DL Output
P_{in} = -54.5 dBm @ 1945.2 MHz (Ch.1)

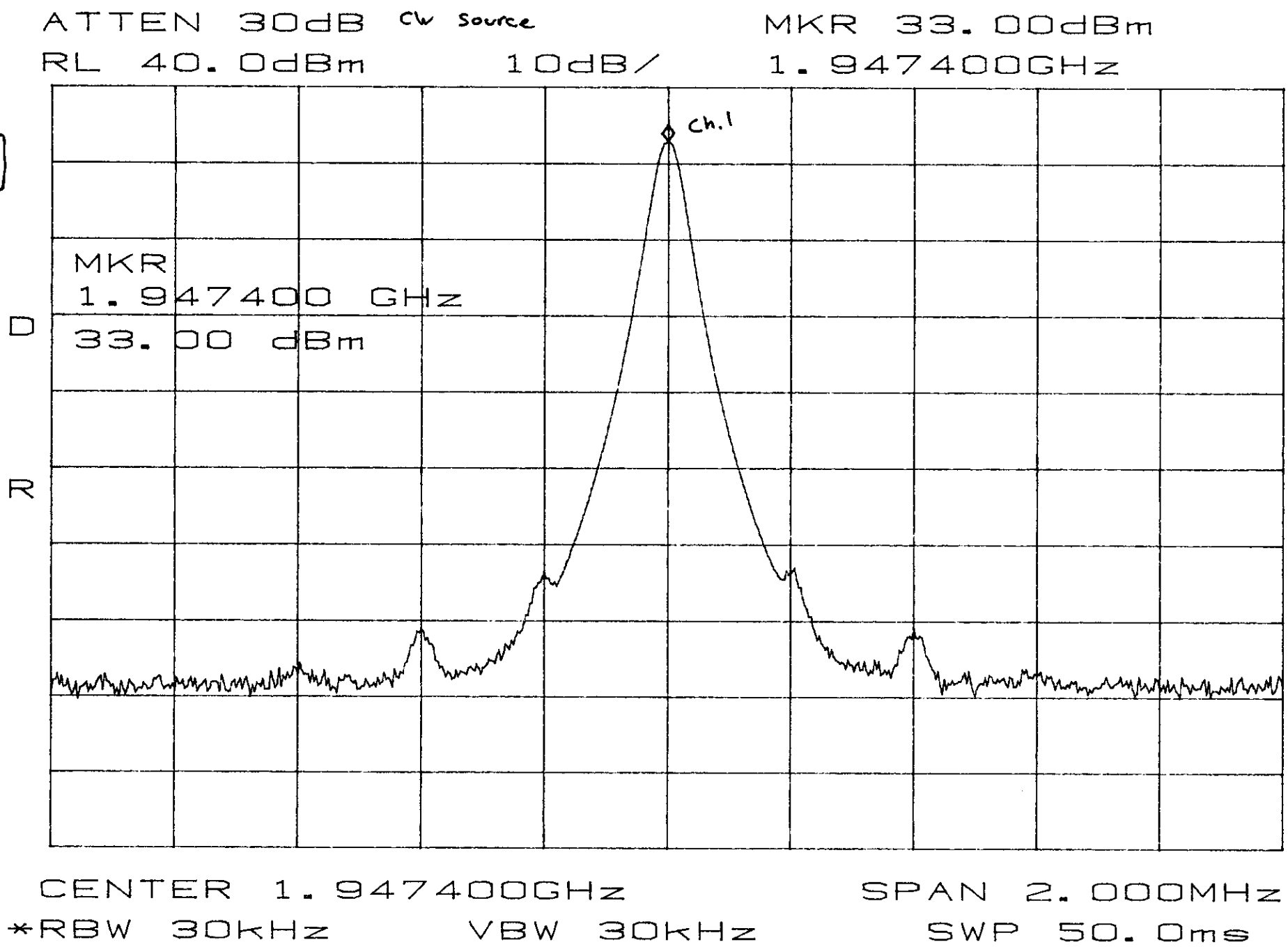
9/16/98
LB41901



DL Mid
D-band

DL Output
P_{in} = -54.4 dBm @ 1947.4 MHz (Ch.1)

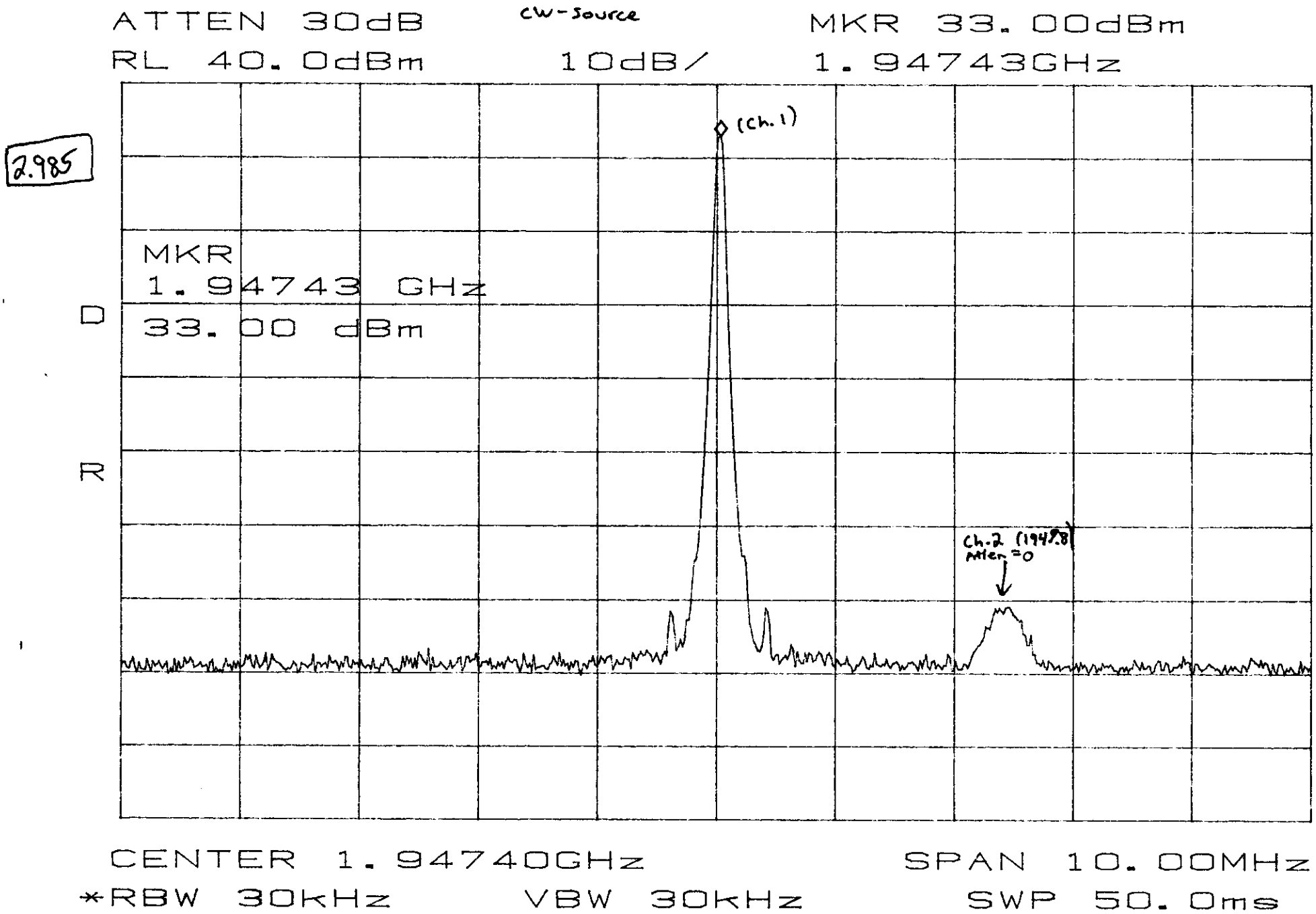
9/16/98
LB41901



DL Mid
D-band

DL Output
P_{in} = -54.4 dBm @ 1947.4 MHz (Ch.1)

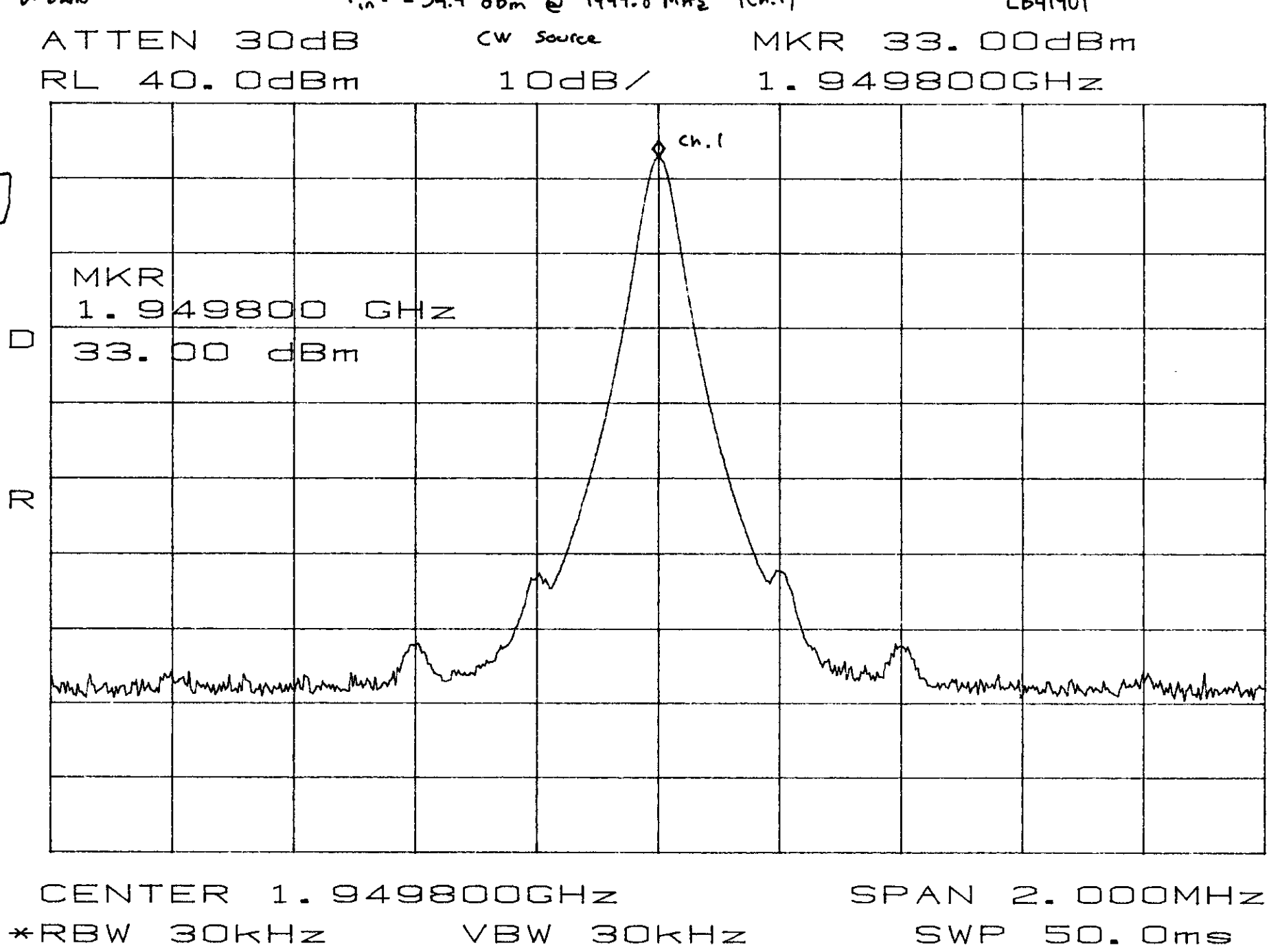
9/16/98
LB41901



DL High
D-band

DL Output
P_{in} = -54.4 dBm @ 1949.8 MHz (Ch.1)

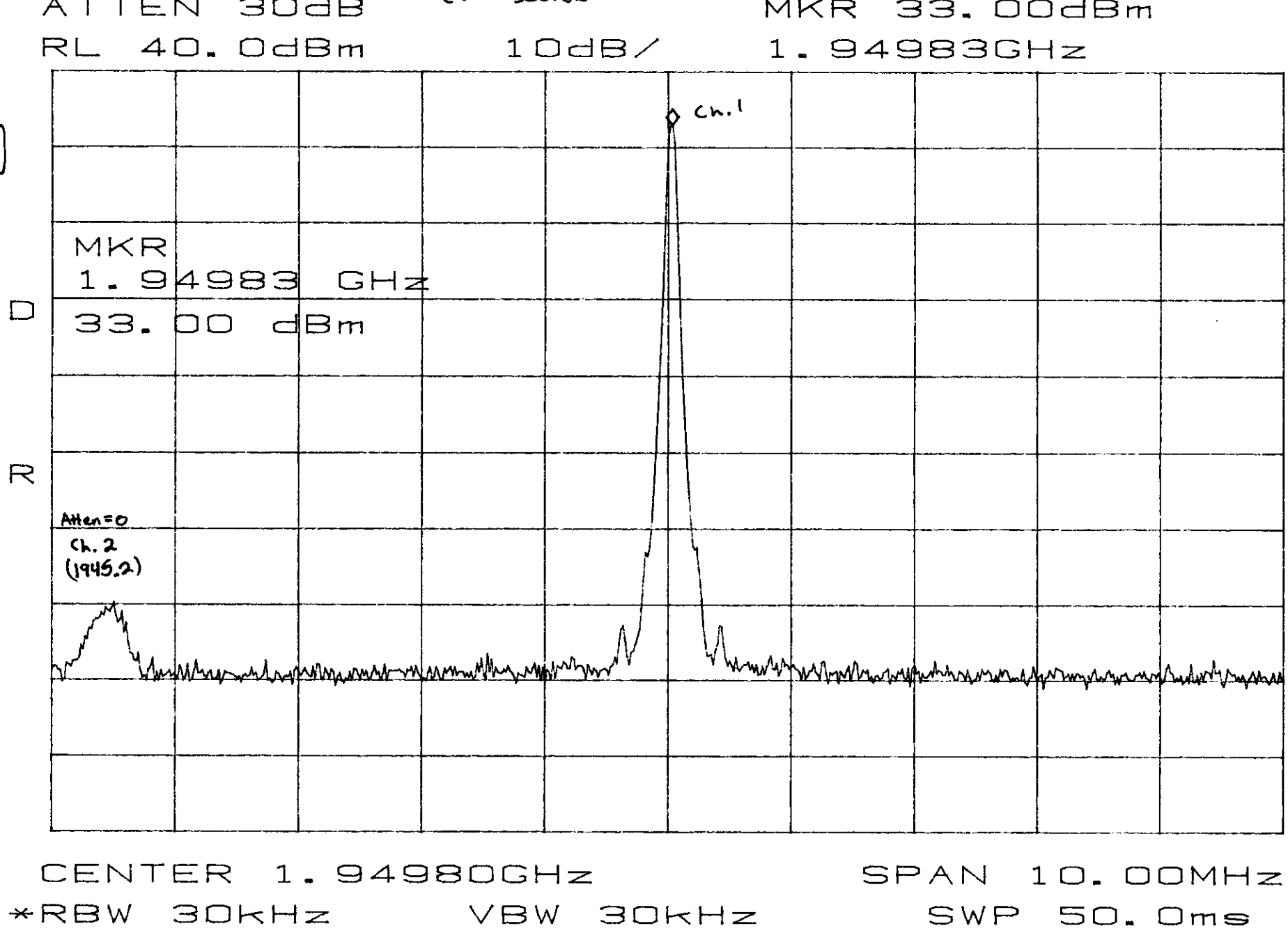
9/16/98
LB41901



DL High
D-band

DL Output
P_{in} = -54.4 dBm @ 1949.8 MHz (Ch.1)
CW Source

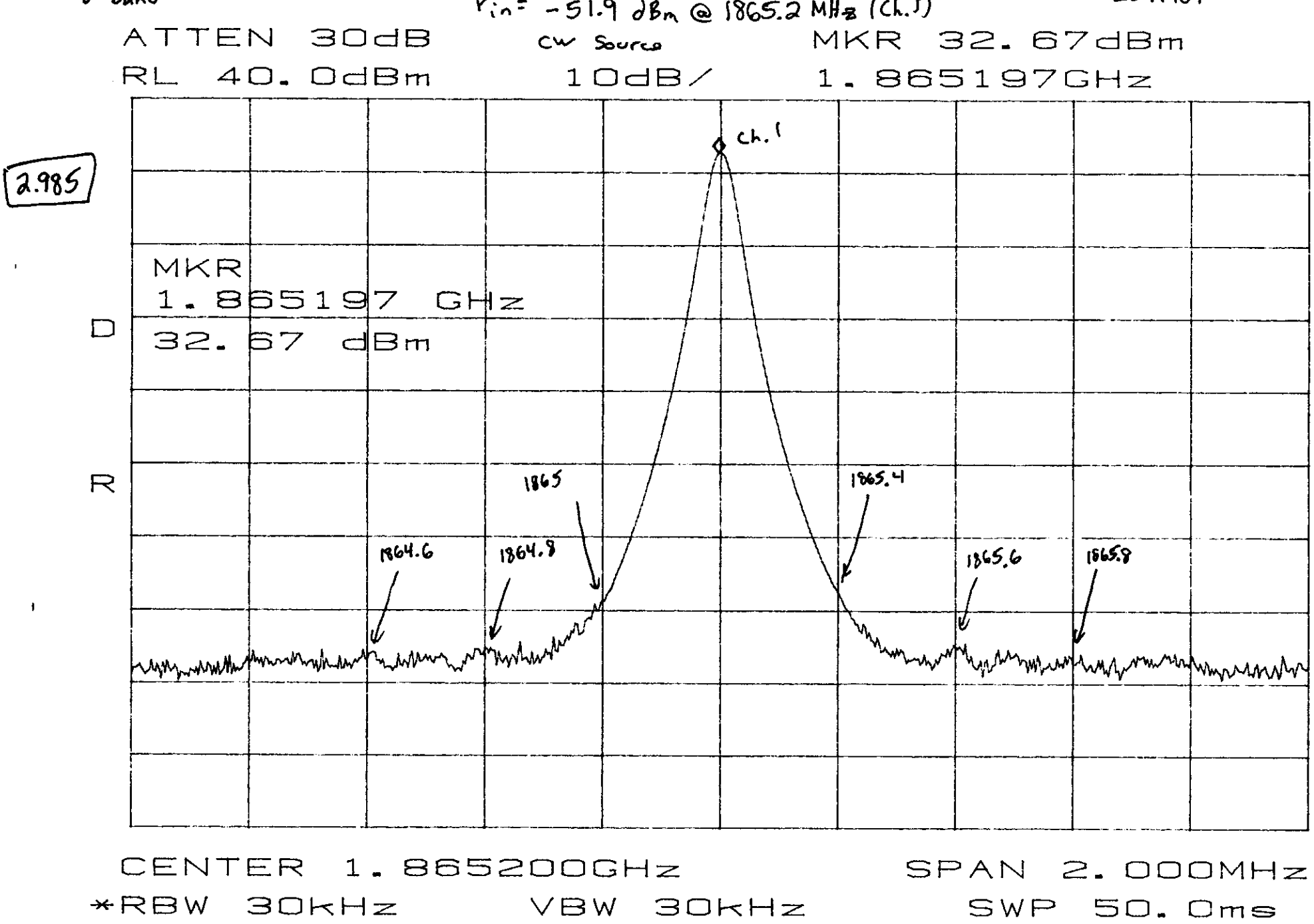
9/16/98
LB41901



UL Low
D-band

UL output
P_{in} = -51.9 dBm @ 1865.2 MHz (ch.1)

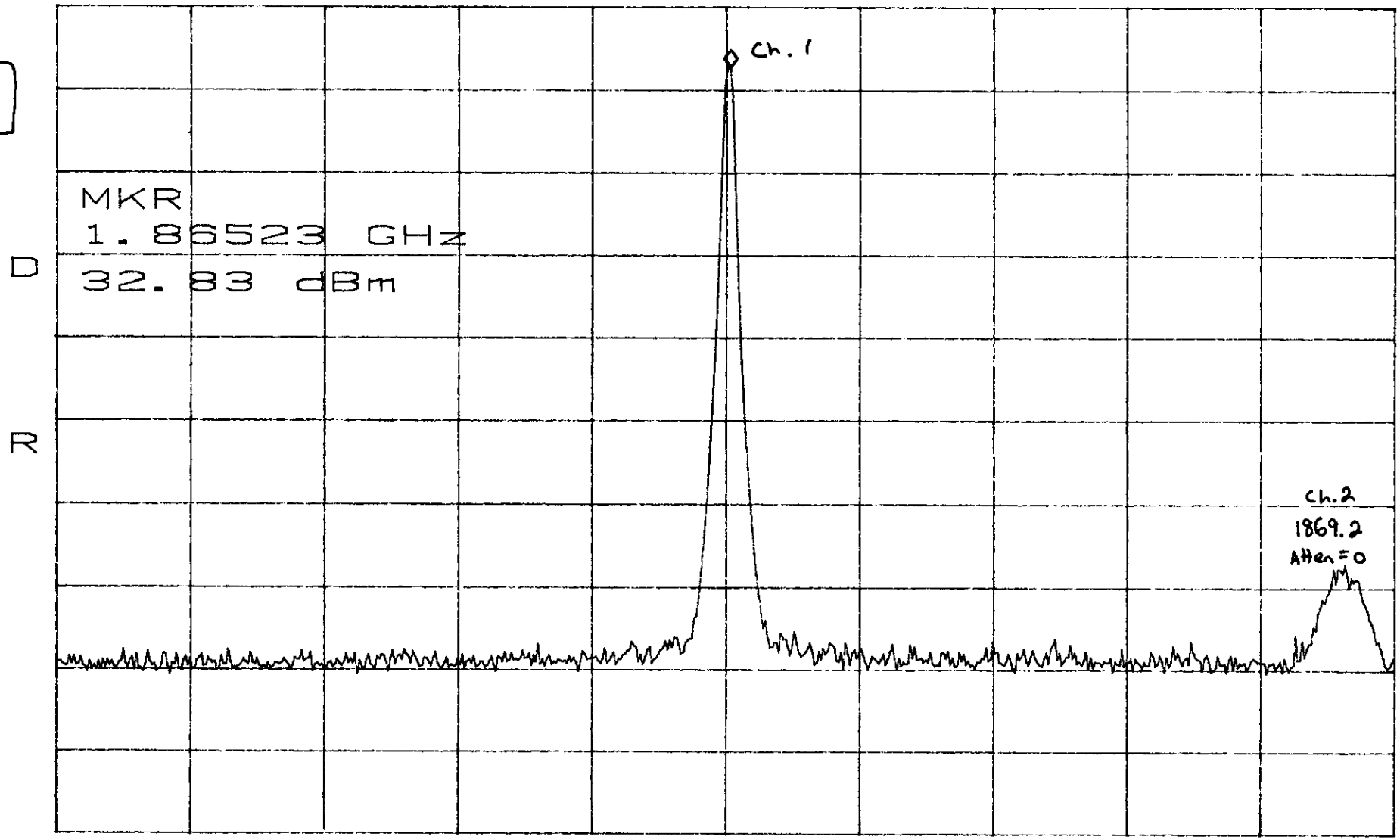
9/17/98
LB41901



UL Low
D-band

UL output
P_{in} = -51.9 dBm @ 1865.2 MHz (ch.1)

9/17/98
LB41901



UL Mid
D- band

UL Output
P_{in} = -52.6dBm @ 1867.4 MHz (Ch.1)

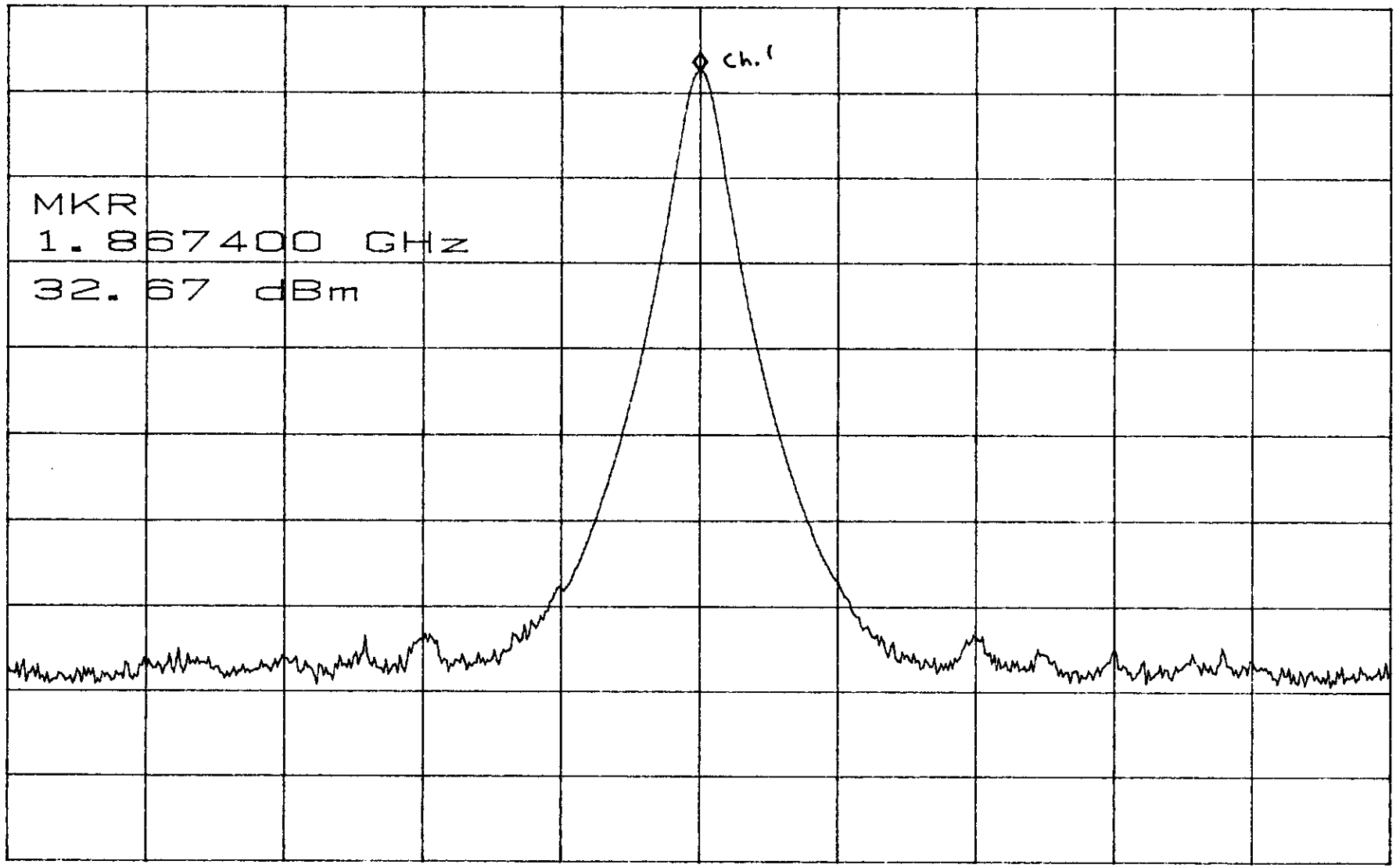
9/17/98
LB41901

ATTEN 30dB
RL 40.0dBm

CW source
10dB/

MKR 32.67dBm
1.867400GHz

2.985

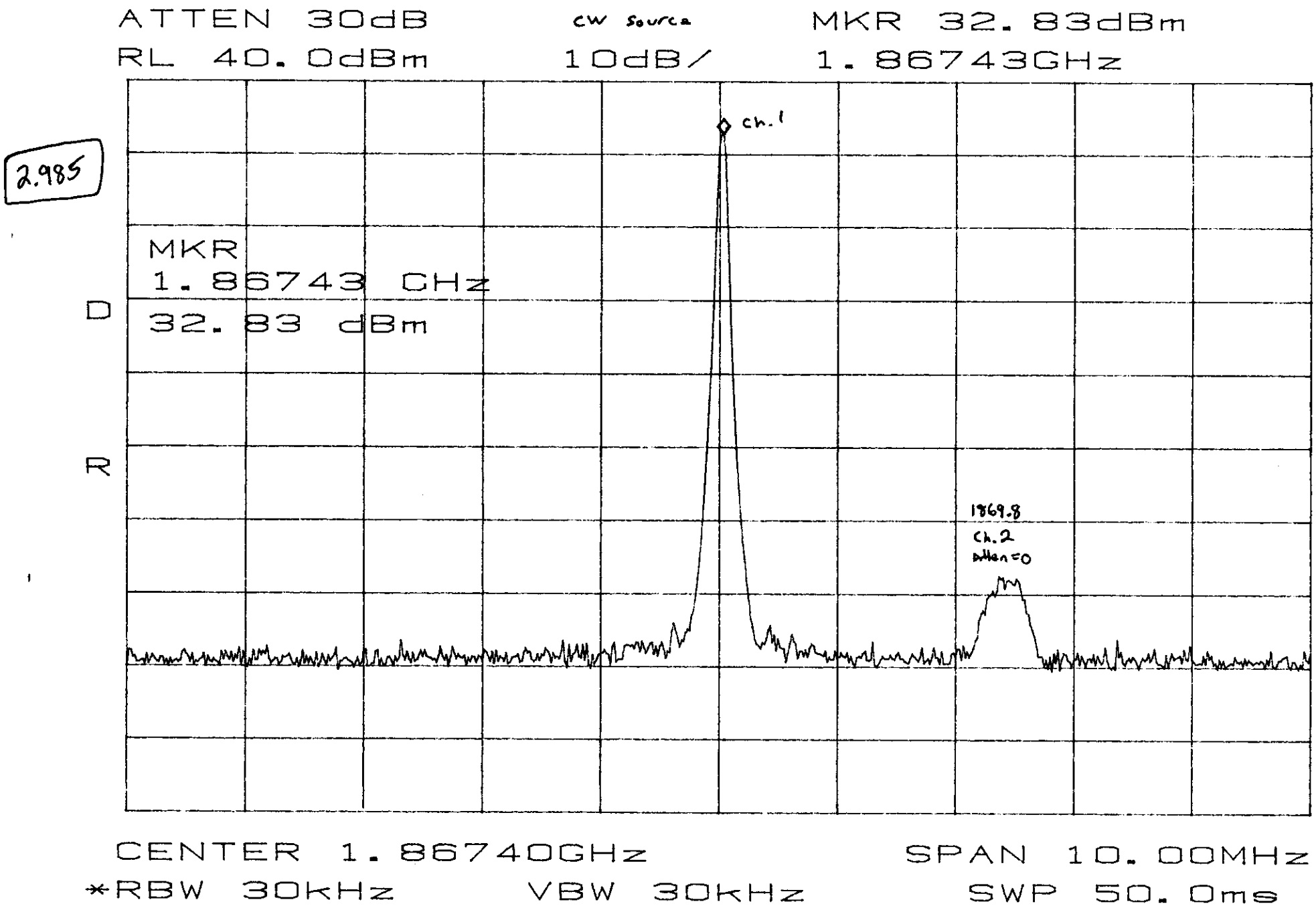


CENTER 1.867400GHz
SPAN 2.000MHz

*RBW 30kHz
VBW 30kHz
SWP 50.0ms

UL Mid
D-band

UL Output
P_{in} = -52.6 dBm @ 1867.4 MHz (Ch.1)

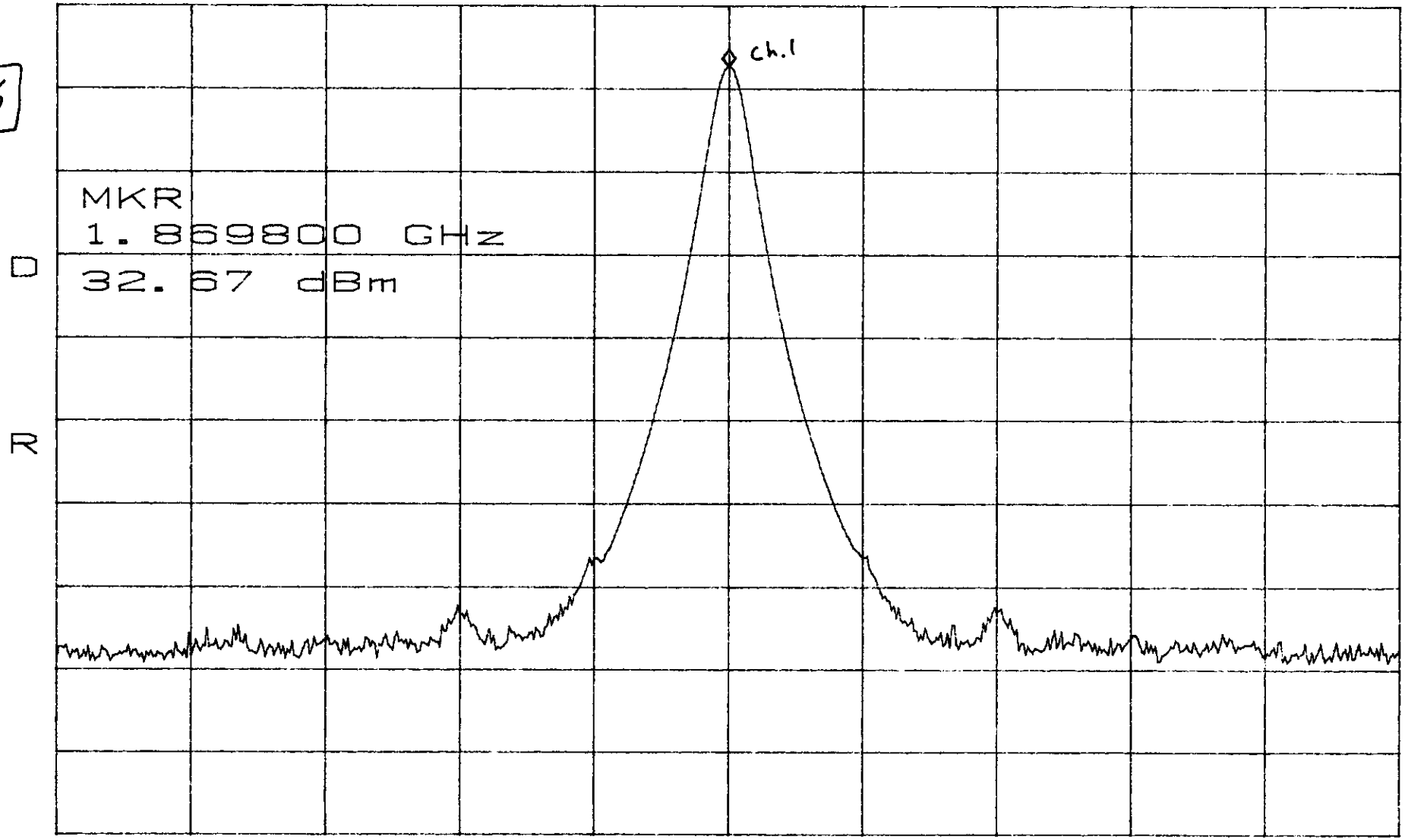


UL High
D-band

UL Output
P_{in} = -53.0dBm @ 1869.8 MHz (ch.1)
CW source

9/17/98
LB41901

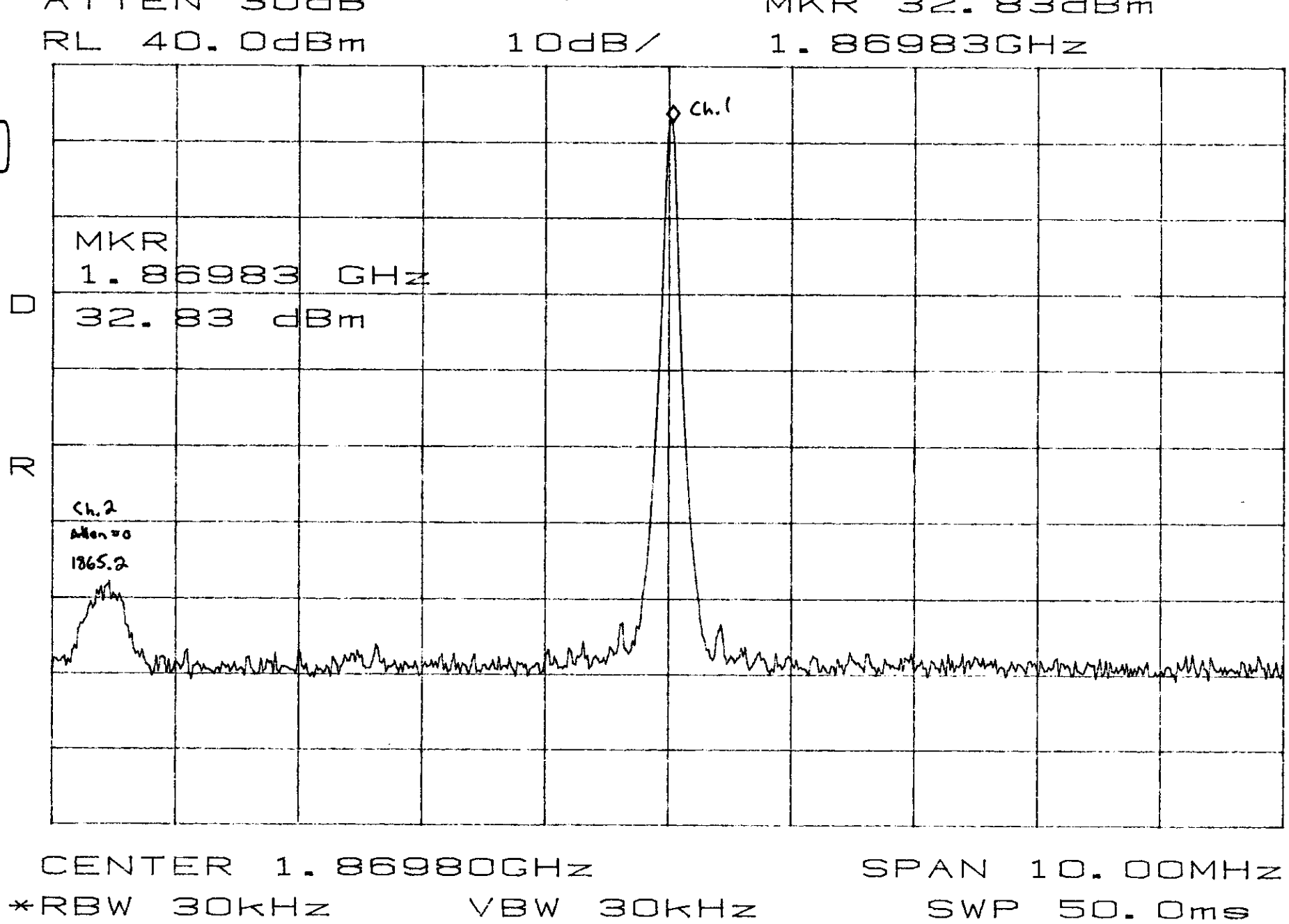
2.985



UL High
D-band

UL output
P_{in} = -53.0dBm @ 1869.8 MHz (Ch.1)
CW source

9/17/98
LB41901



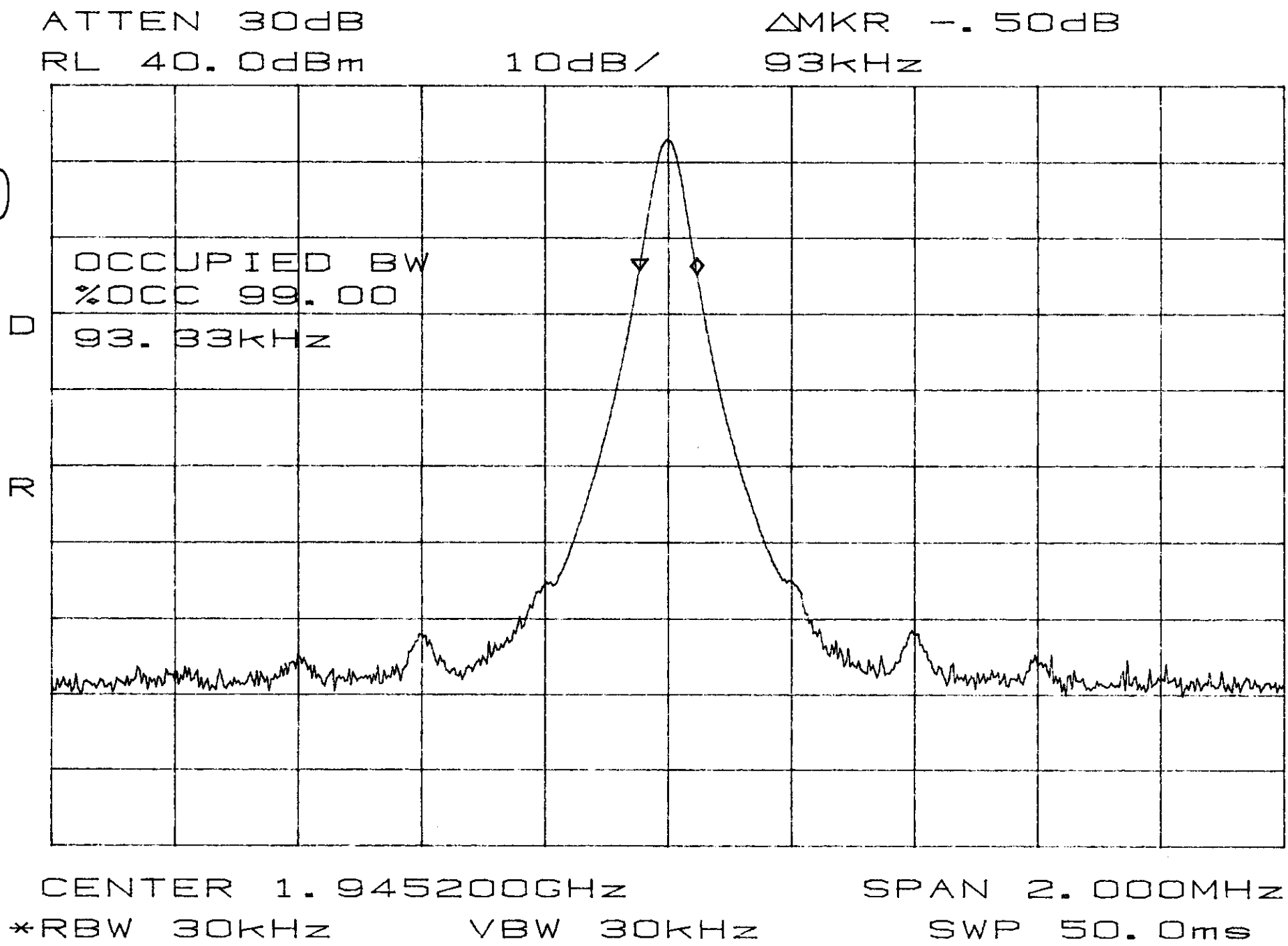
2.985

DL Low
D-band

Occupied BW

CW Source

9/17/98
LB41901



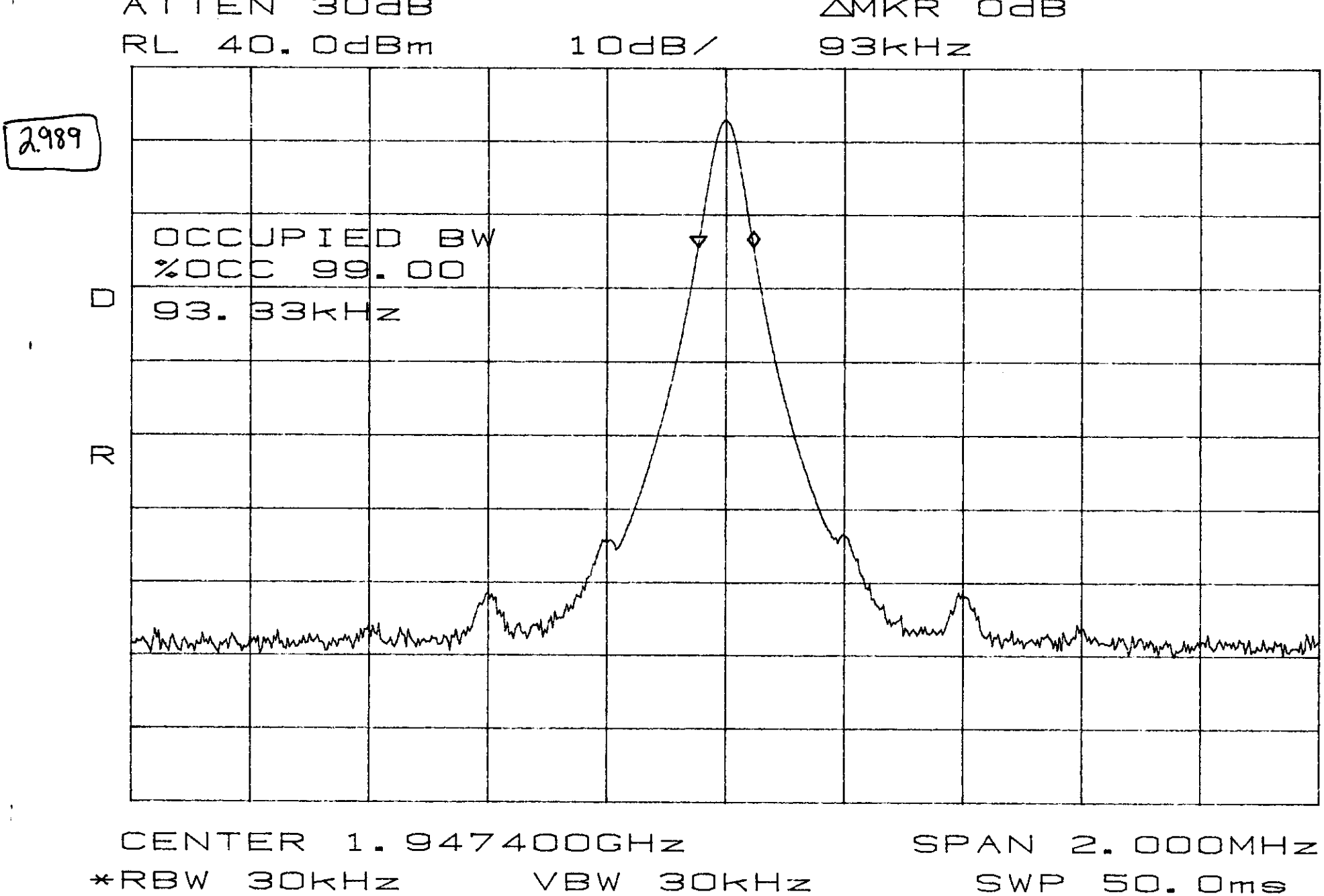
2.989

DL Mid
D-band

Occupied BW

cw source

9/17/98
LB4/901



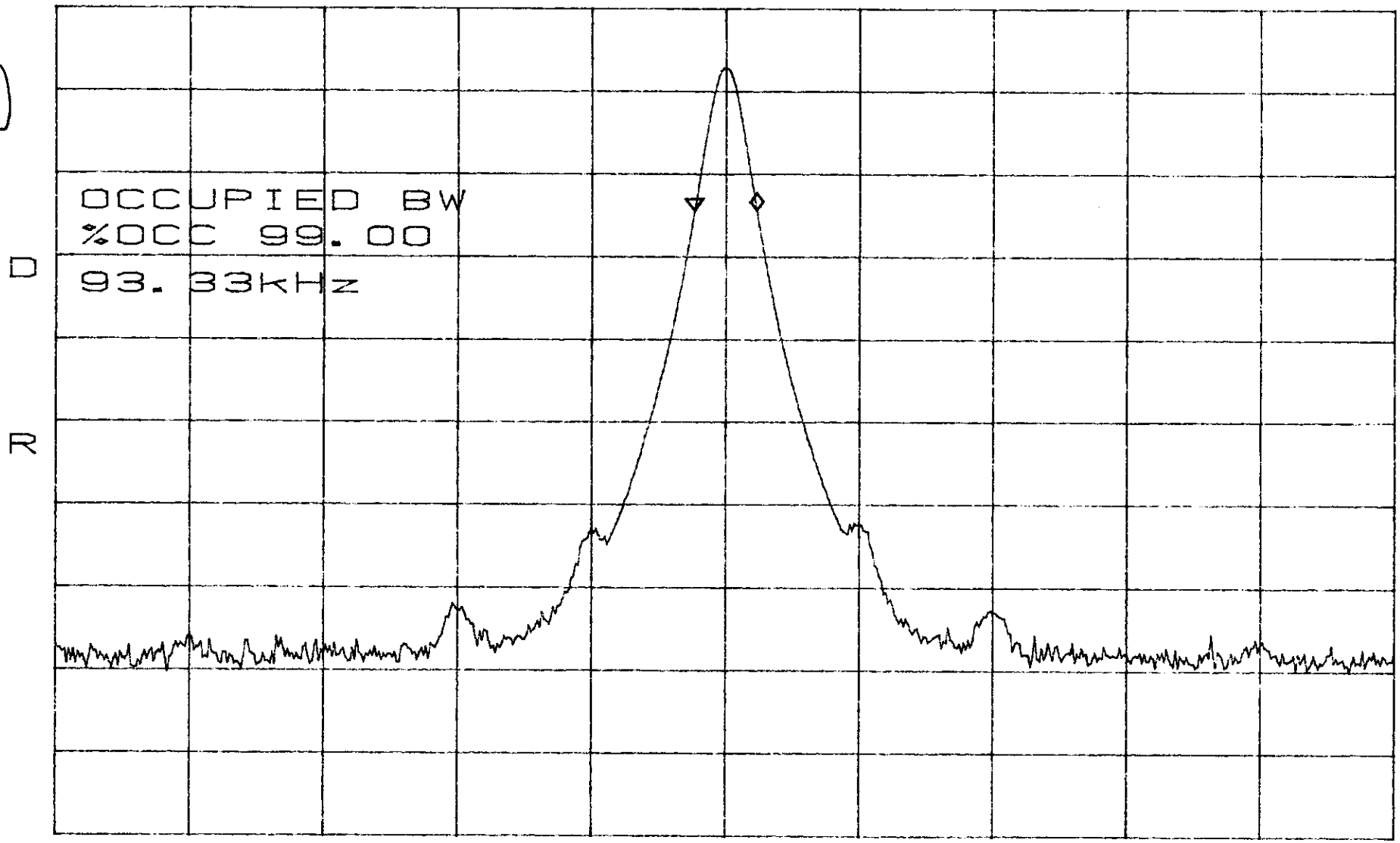
DL High
D-band

Occupied BW

CW Source

9/17/98
LB41901

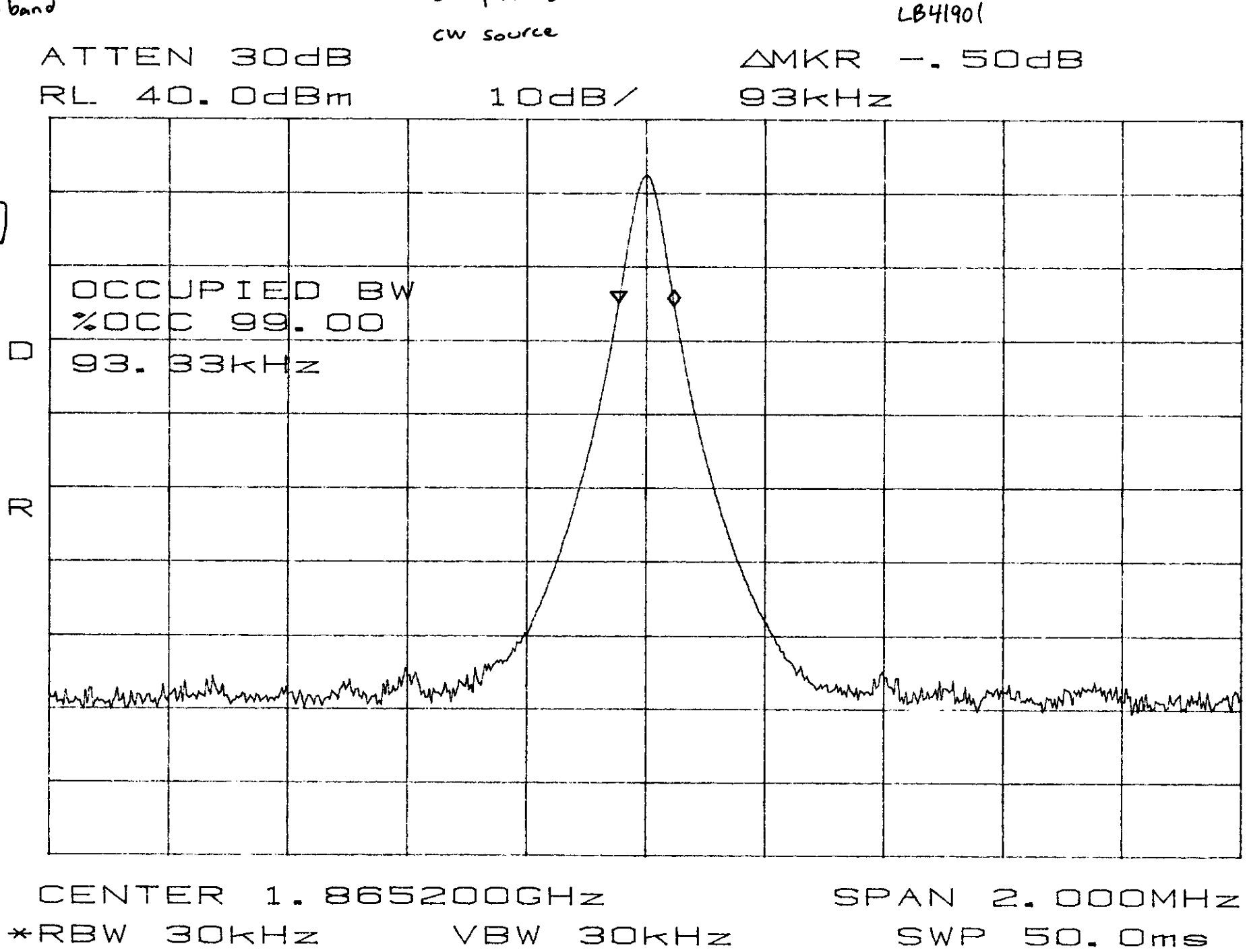
2.989



ΦL Low
D-band

Occupied BW
cw source

9/17/98
LB41901



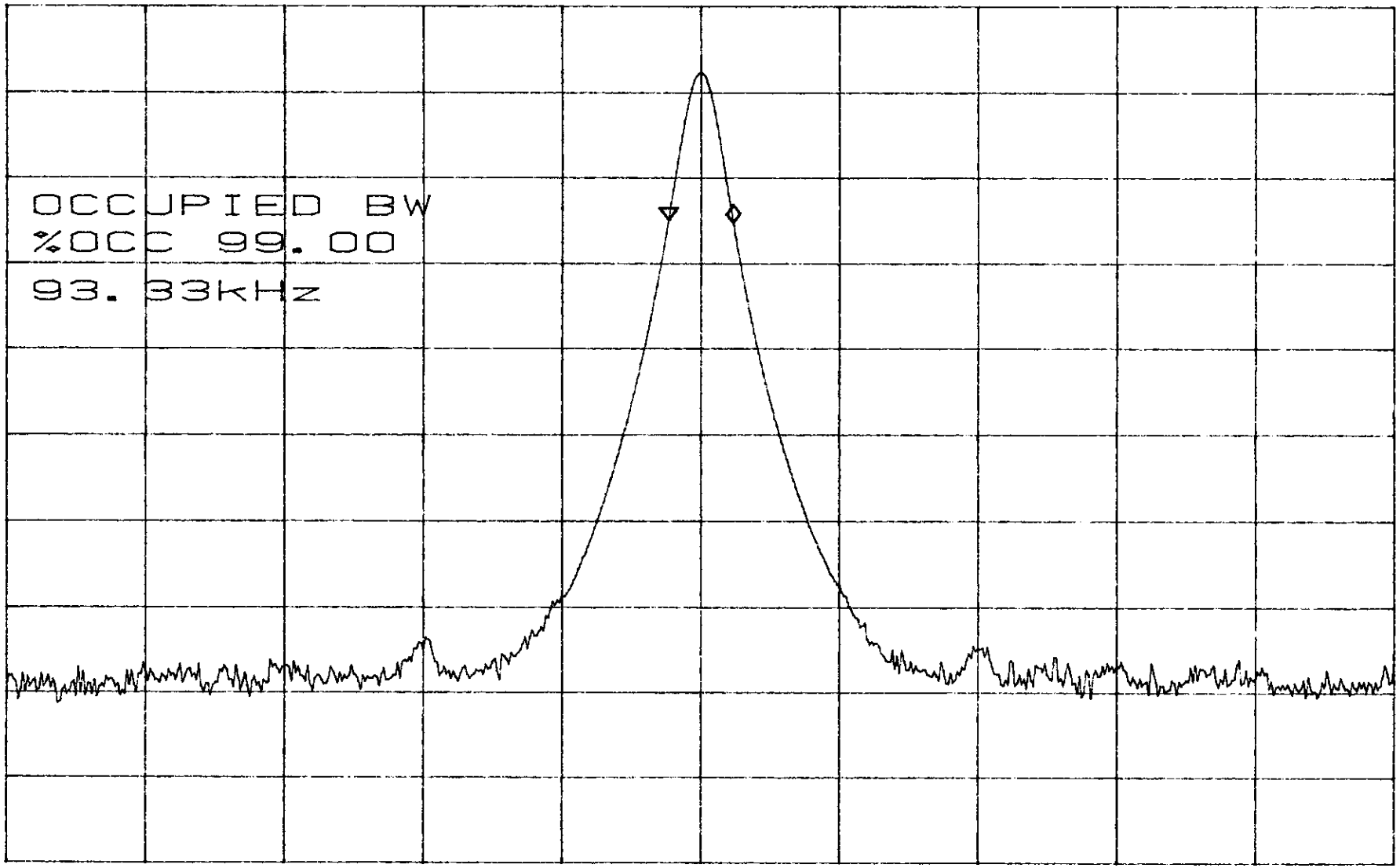
UL Mid
D-band

Occupied BW
cw source

9/17/98
LB41901

ATTEN 30dB
RL 40.0dBm
10dB/
ΔMKR -.34dB
93kHz

2.989



CENTER 1.867400GHz
SPAN 2.000MHz
*RBW 30kHz
VBW 30kHz
SWP 50.0ms

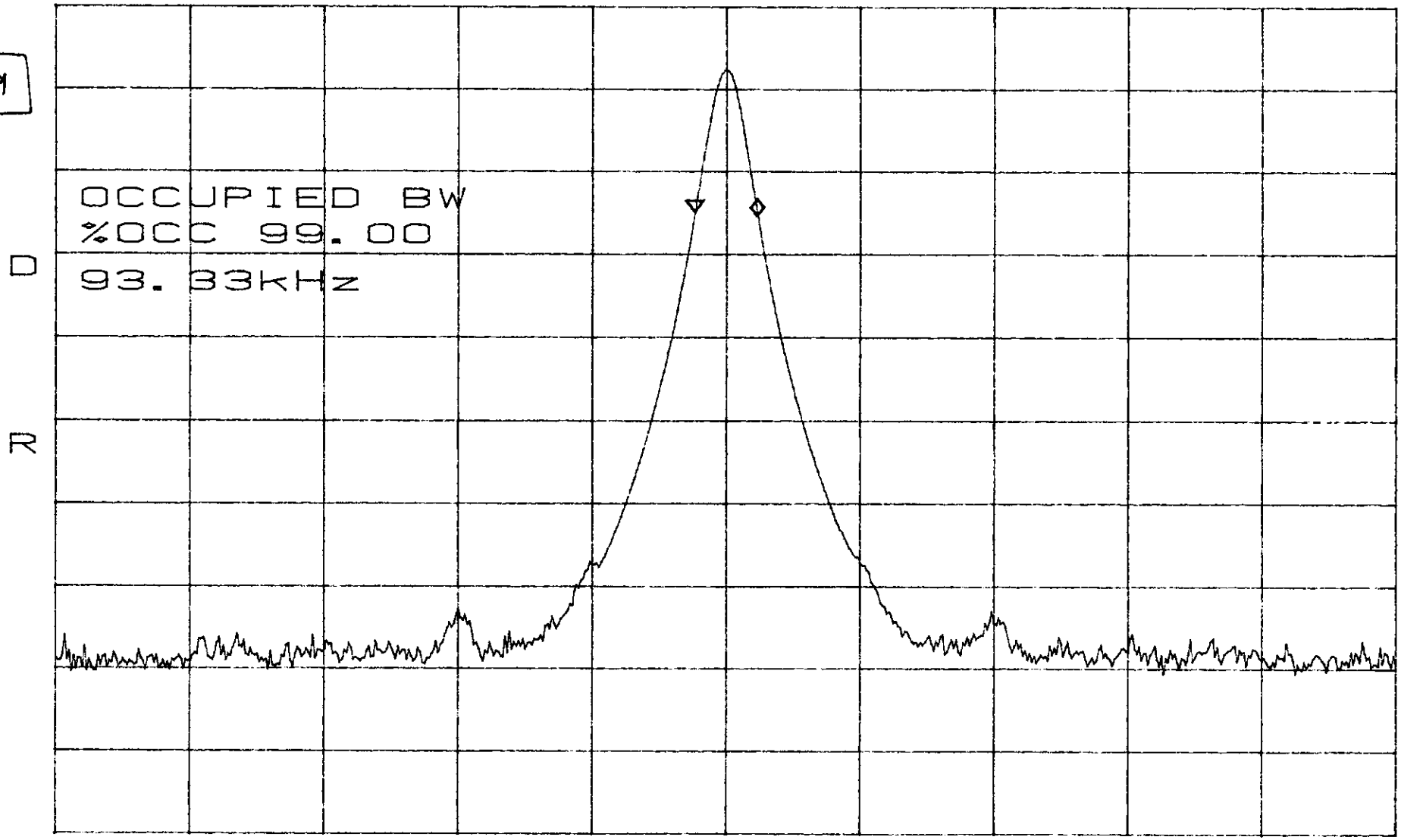
UL High
D-band

Occupied BW

cw source

9/17/98
LB4 1901

2.989



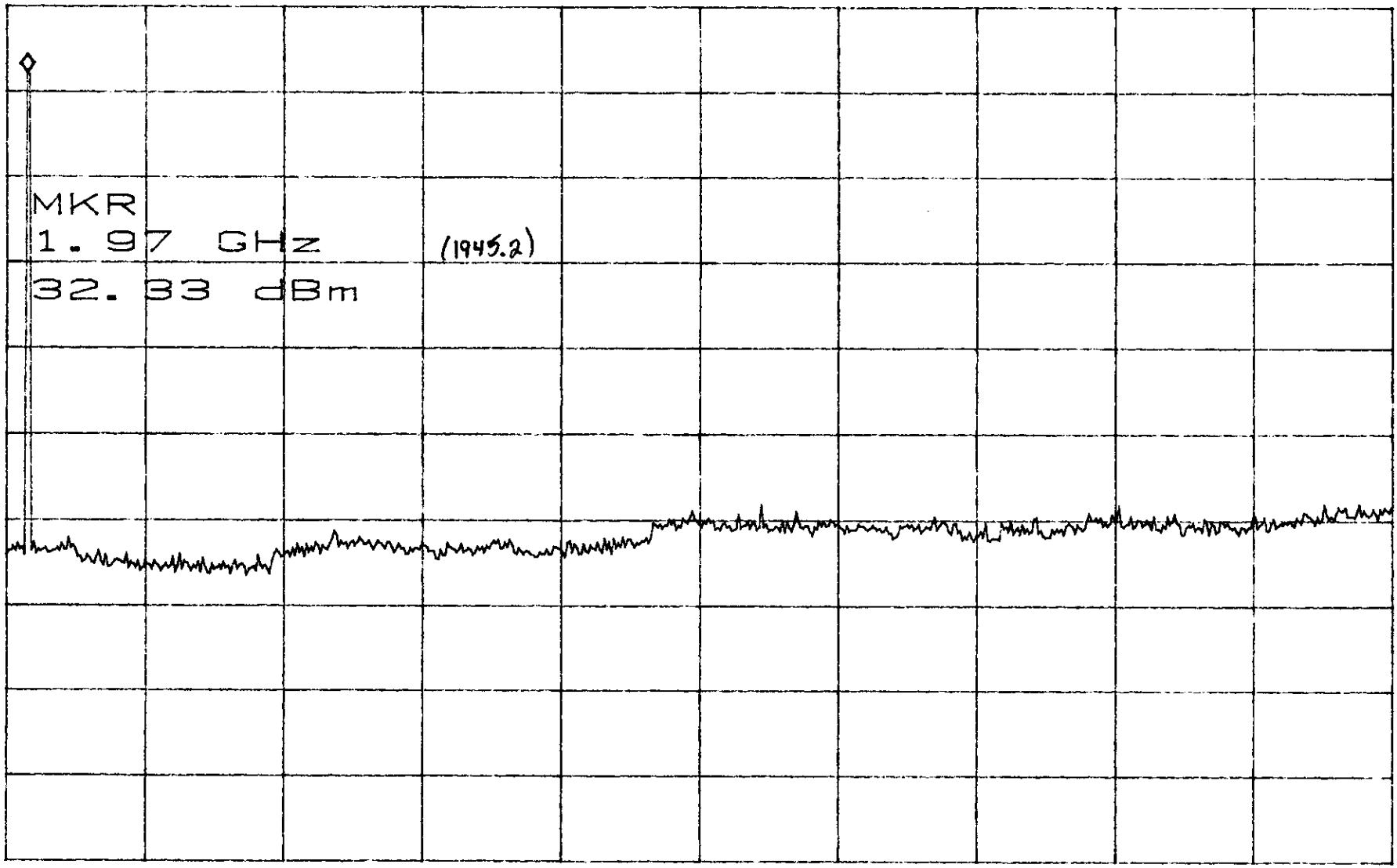
DL Low
D-band

9/23/98
LB41901

CW

*ATTEN 30dB
RL 40.0dBm
10dB/
MKR 32.33dBm
1.97GHz

2.991



START 1.60GHz
STOP 26.50GHz
*RBW 1.0MHz
*VBW 1.0MHz
SWP 500ms

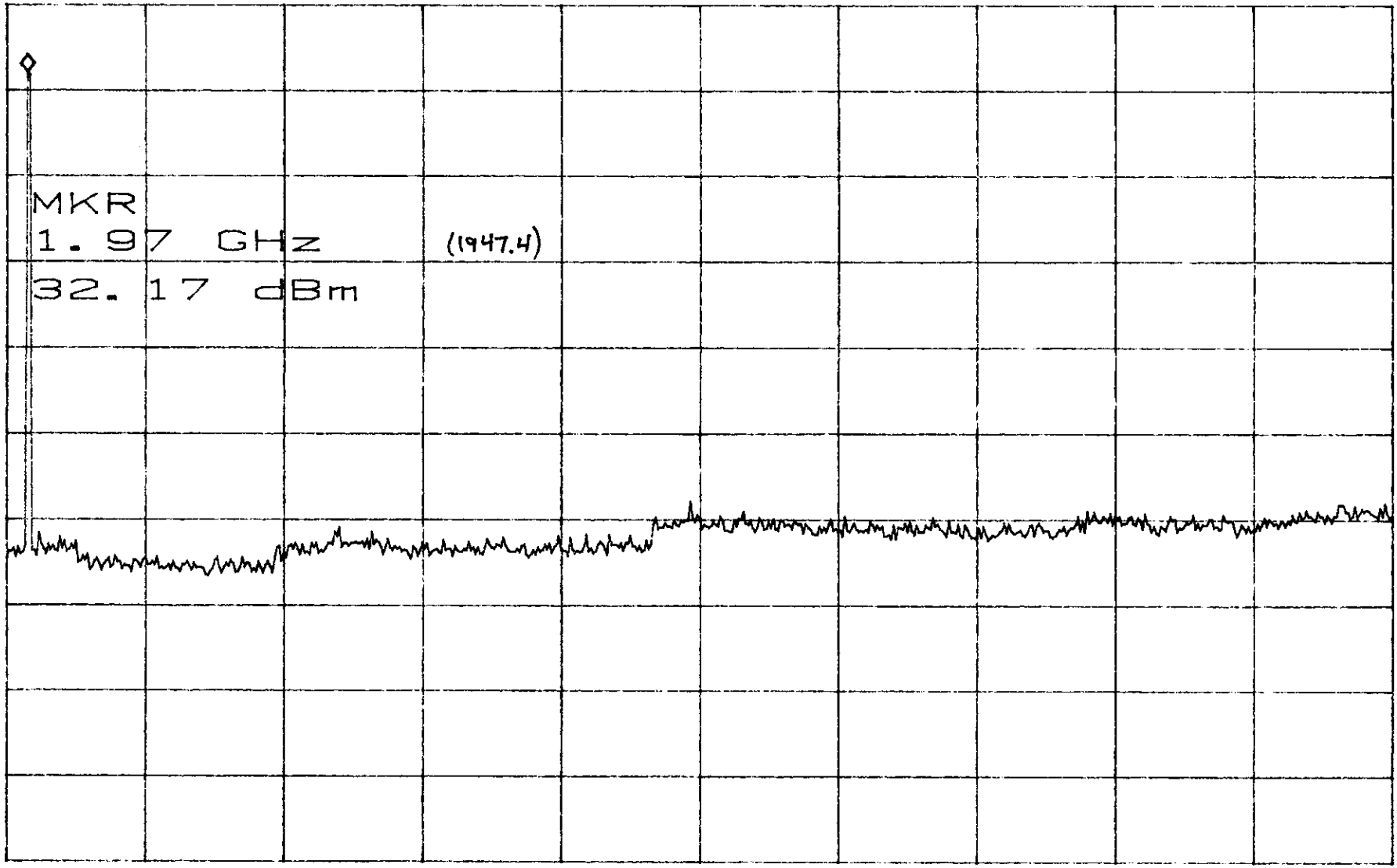
DL Mid
D-band

9/23/98
LB41901

CW

*ATTEN 30dB
RL 40.0dBm
10dB/
MKR 32.17dBm
1.97GHz

2.991



START 1.60GHz
STOP 26.50GHz
*RBW 1.0MHz
*VBW 1.0MHz
SWP 500ms

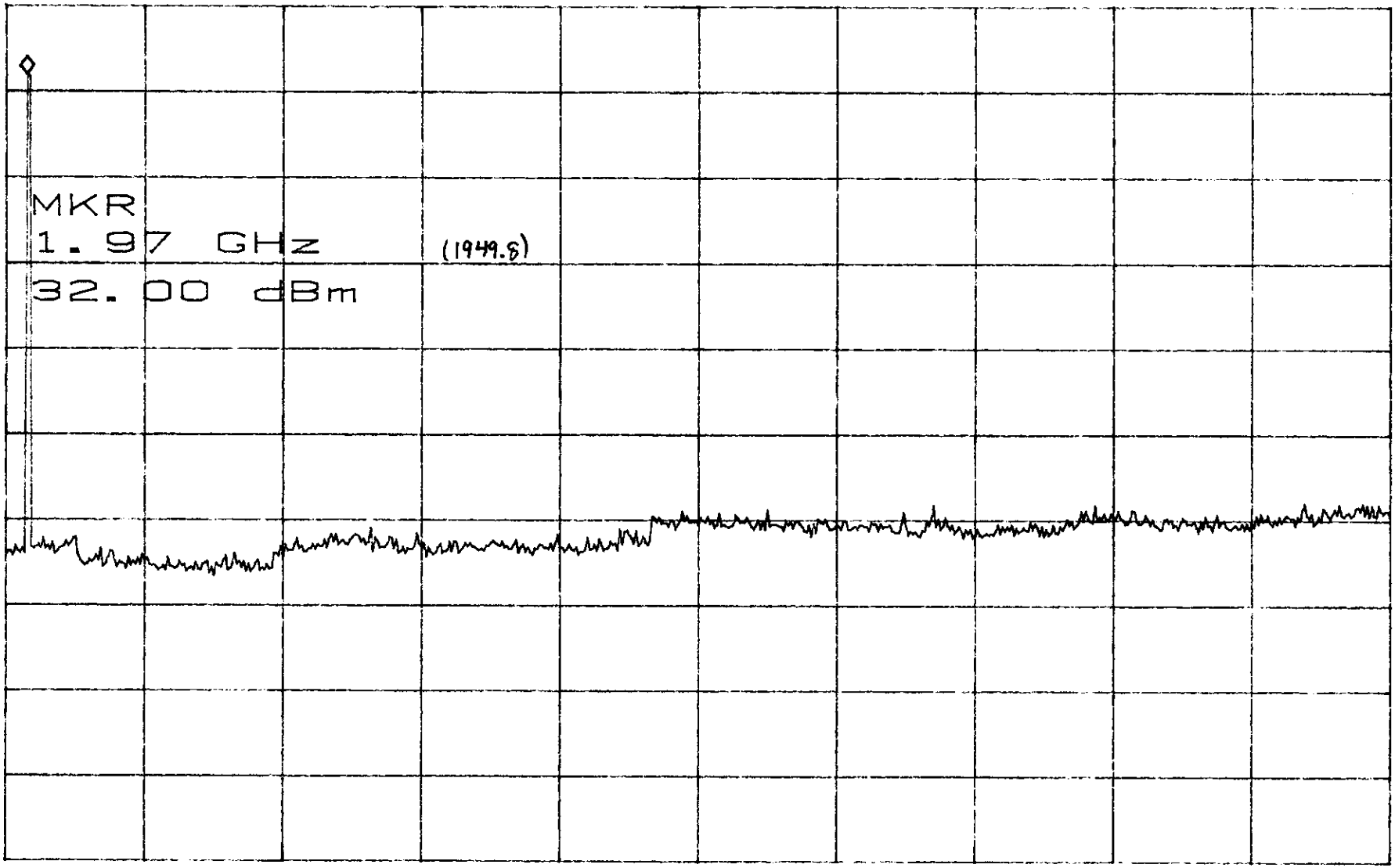
DL High
D-band

9/23/98
LB41901

CW

*ATTEN 30dB
RL 40.0dBm
10dB/
MKR 32.00dBm
1.97GHz

2.991



START 1.60GHz
STOP 26.50GHz
*RBW 1.0MHz
*VBW 1.0MHz
SWP 500ms

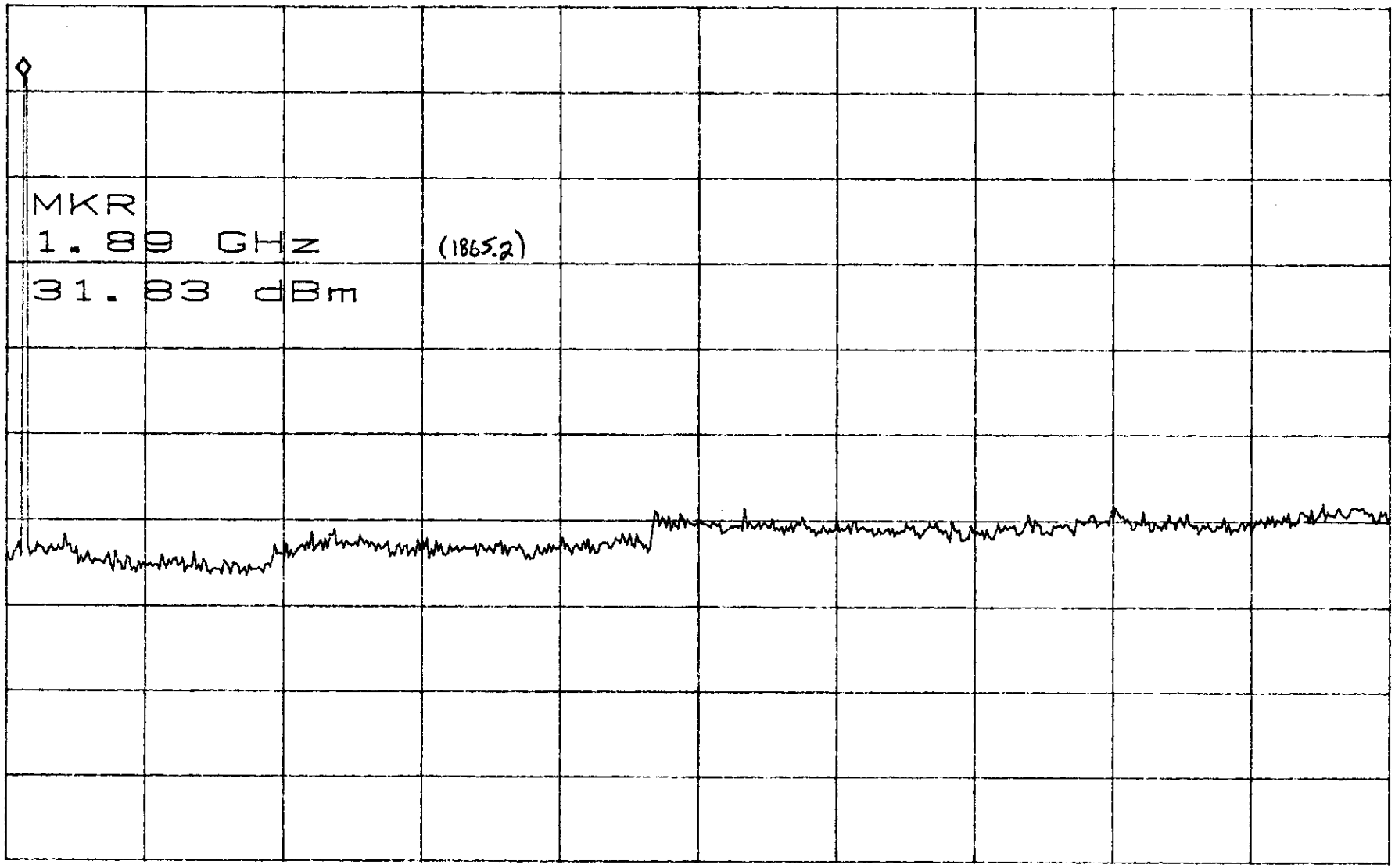
UL Low
D-band

cw

9/23/98
LB41901

*ATTEN 30dB
RL 40.0dBm
10dB/
MKR 31.83dBm
1.89GHz

2.991



START 1.60GHz
STOP 26.50GHz
*RBW 1.0MHz
*VBW 1.0MHz
SWP 500ms

9/23/98
LB41901

UL Mid
D-band

CW

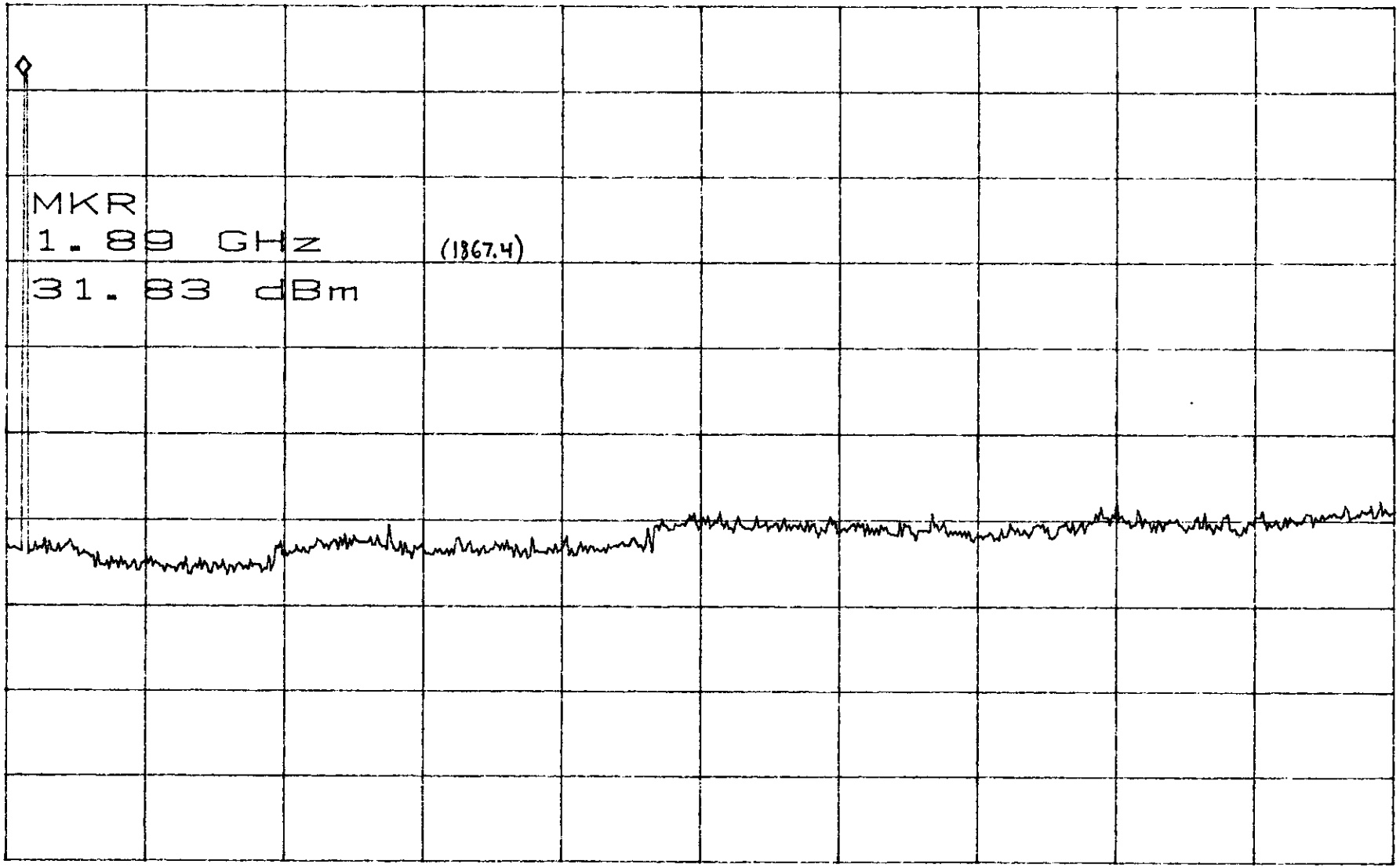
*ATTEN 30dB
MKR 31.83dBm
RL 40.0dBm
10dB/
1.89GHz

2.991

MKR
1.89 GHz
(1867.4)
31.83 dBm

D

R



START 1.60GHz
STOP 26.50GHz
*RBW 1.0MHz
*VBW 1.0MHz
SWP 500ms

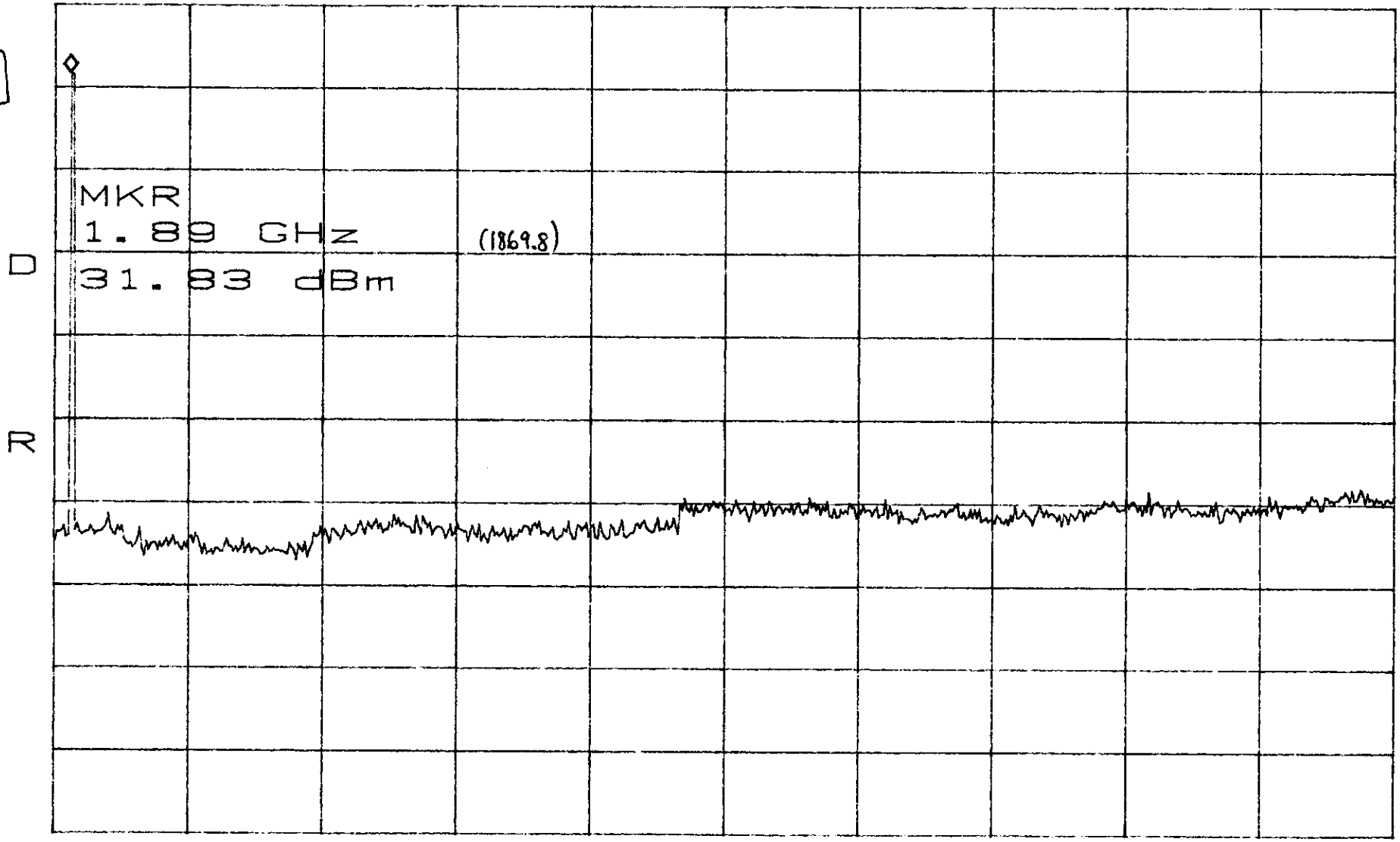
UL High
D-band

9/23/98
LB41901

CW

*ATTEN 30dB
RL 40.0dBm
10dB/
MKR 31.83dBm
1.89GHz

2.991



START 1.60GHz
STOP 26.50GHz
*RBW 1.0MHz
*VBW 1.0MHz
SWP 500ms

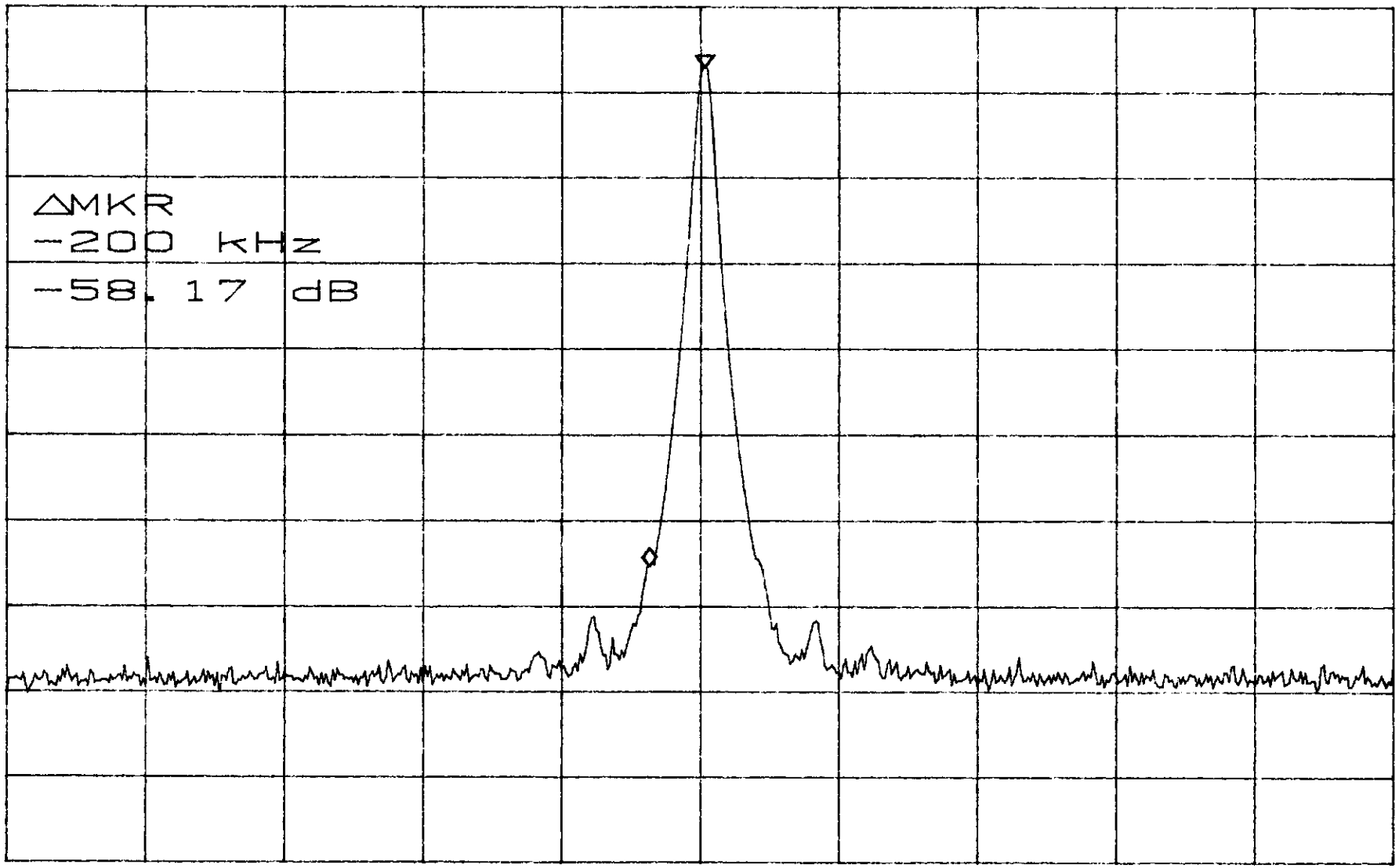
DL Low
D-band

Output
cw

9/23/98
LB41901

ATTEN 30dB
RL 40.0dBm
10dB/
ΔMKR -58.17dB
-200kHz

24.238



CENTER 1.945200GHz
SPAN 5.000MHz
*RBW 30kHz
*VBW 30kHz
SWP 50.0ms

DL Low
D-band

Input

cw-source

9/23/98
LB4190J

ATTEN 10dB
RL 0dBm

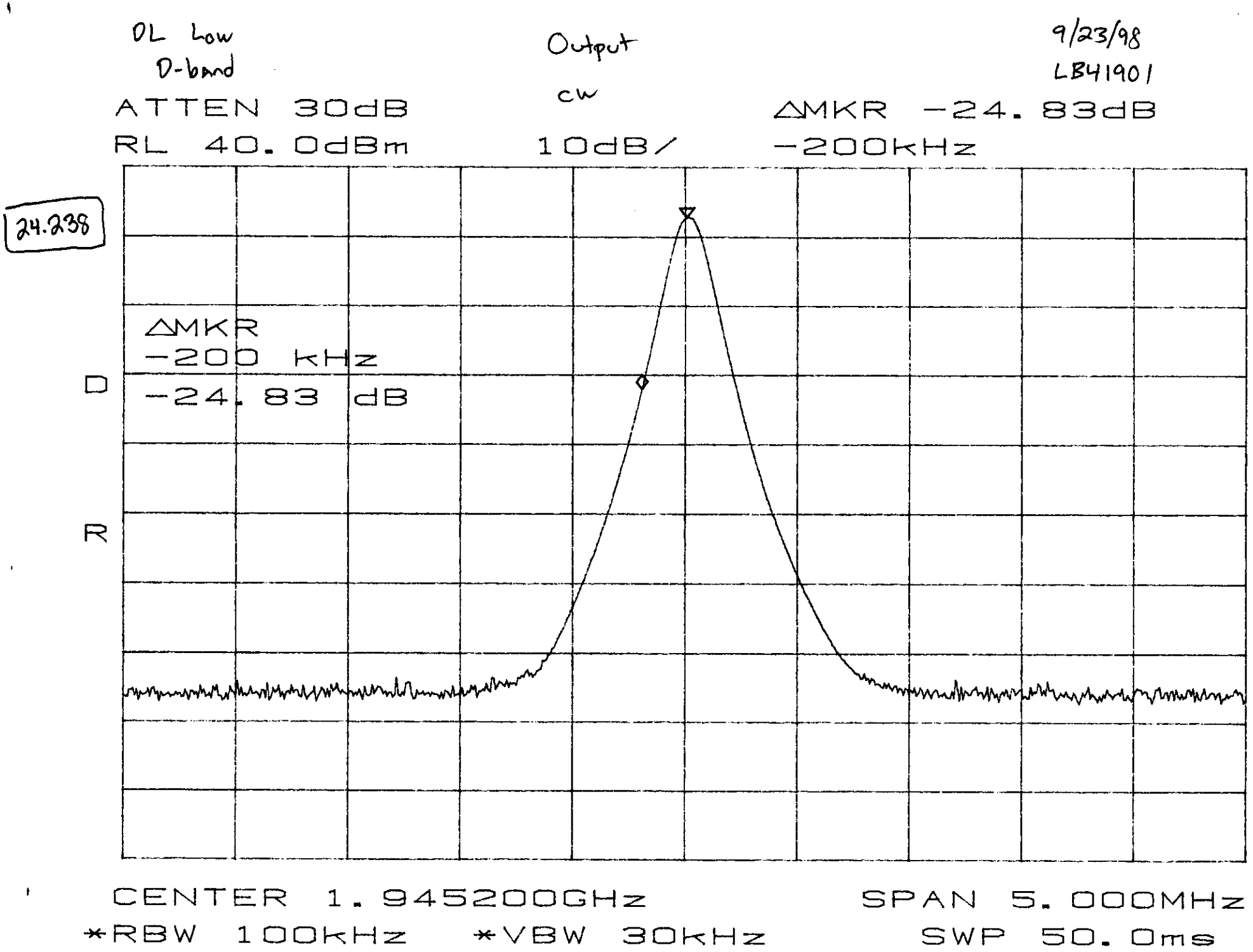
10dB/

MKR -55.00dBm
1.945208GHz

24.238

MKR
1.945208 GHz
D
-55.00 dBm

CENTER 1.945200GHz
SPAN 5.000MHz
*RBW 30kHz
*VBW 30kHz
SWP 50.0ms


DL Low
D-band
Output
cw
9/23/98
LB41901
ATTEN 30dB
RL 40.0dBm
10dB/
ΔMKR -24.83dB
-200kHz
24.238
ΔMKR
-200 kHz
-24.83 dB
D
R
CENTER 1.945200GHz
SPAN 5.000MHz
*RBW 100kHz
*VBW 30kHz
SWP 50.0ms

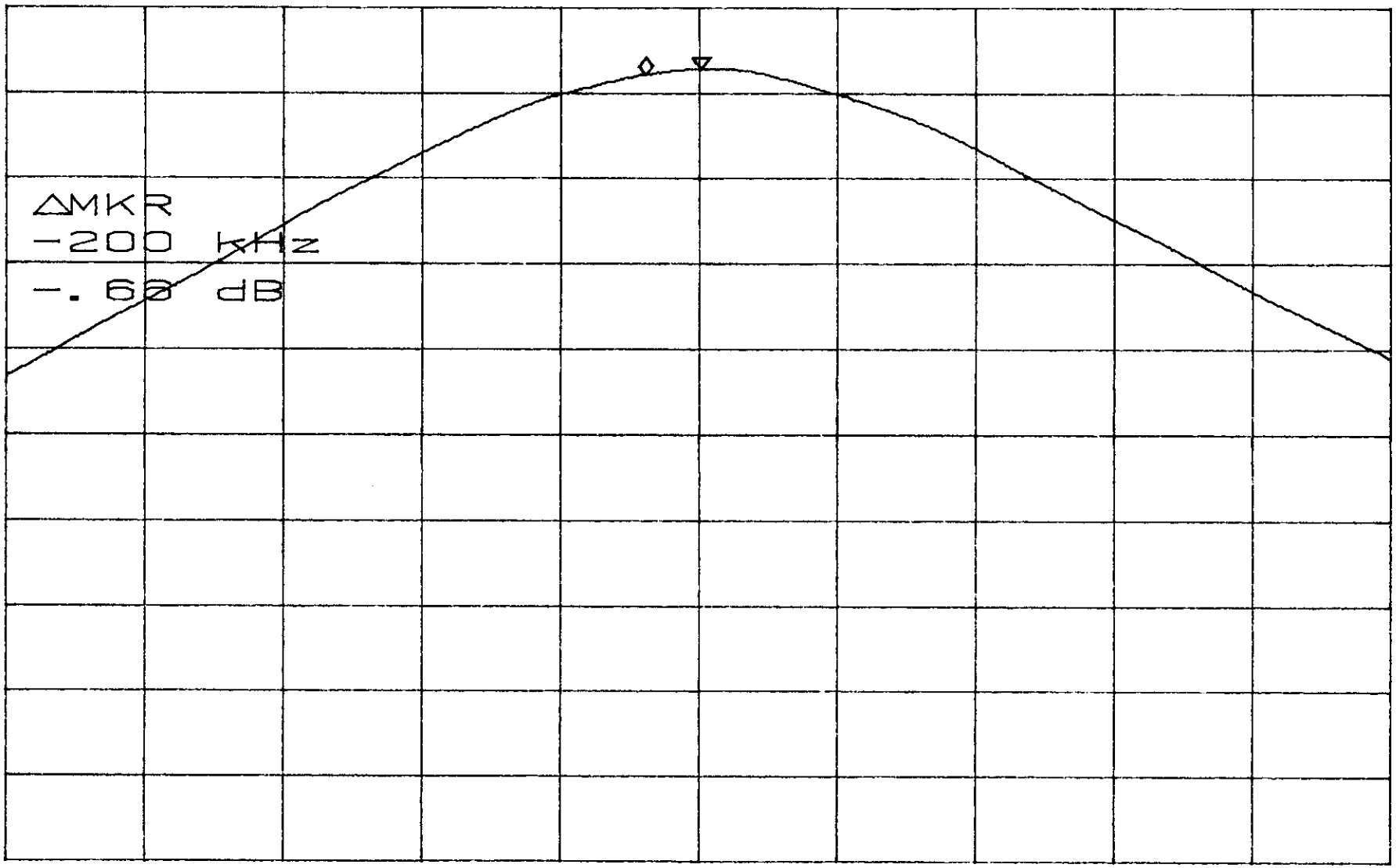
DL Low
D-band

Output
cw

9/23/98
LB41901

ATTEN 30dB
RL 40.0dBm
10dB/
ΔMKR -.66dB
-200kHz

24.238



CENTER 1.945200GHz
SPAN 5.000MHz
*RBW 1.0MHz
*VBW 1.0MHz
SWP 50.0ms

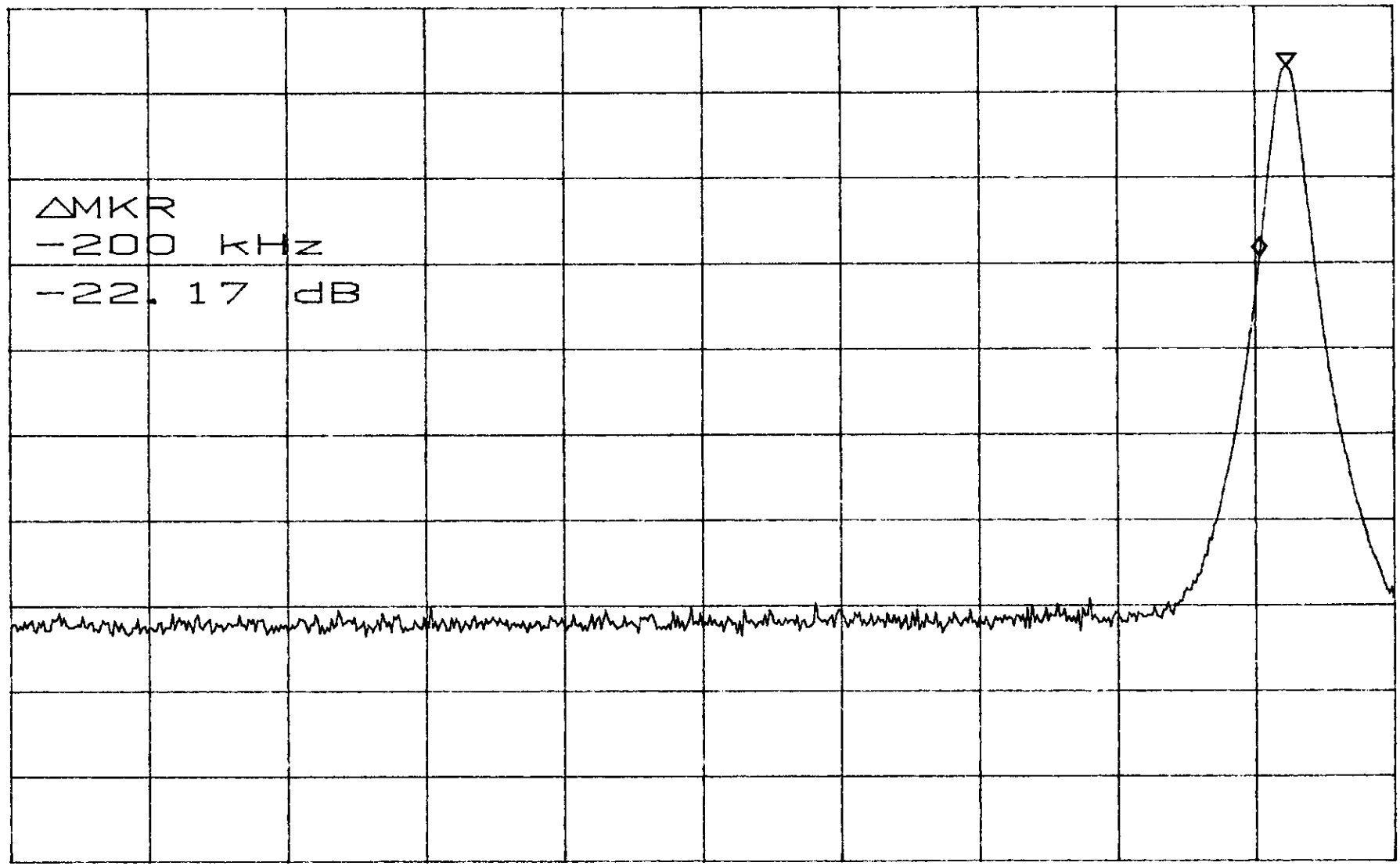
DL Low
D-band

Output
cw

9/23/98
LB41901

ATTEN 30dB
RL 40.0dBm
10dB/
ΔMKR -22.17dB
-200kHz

24.238

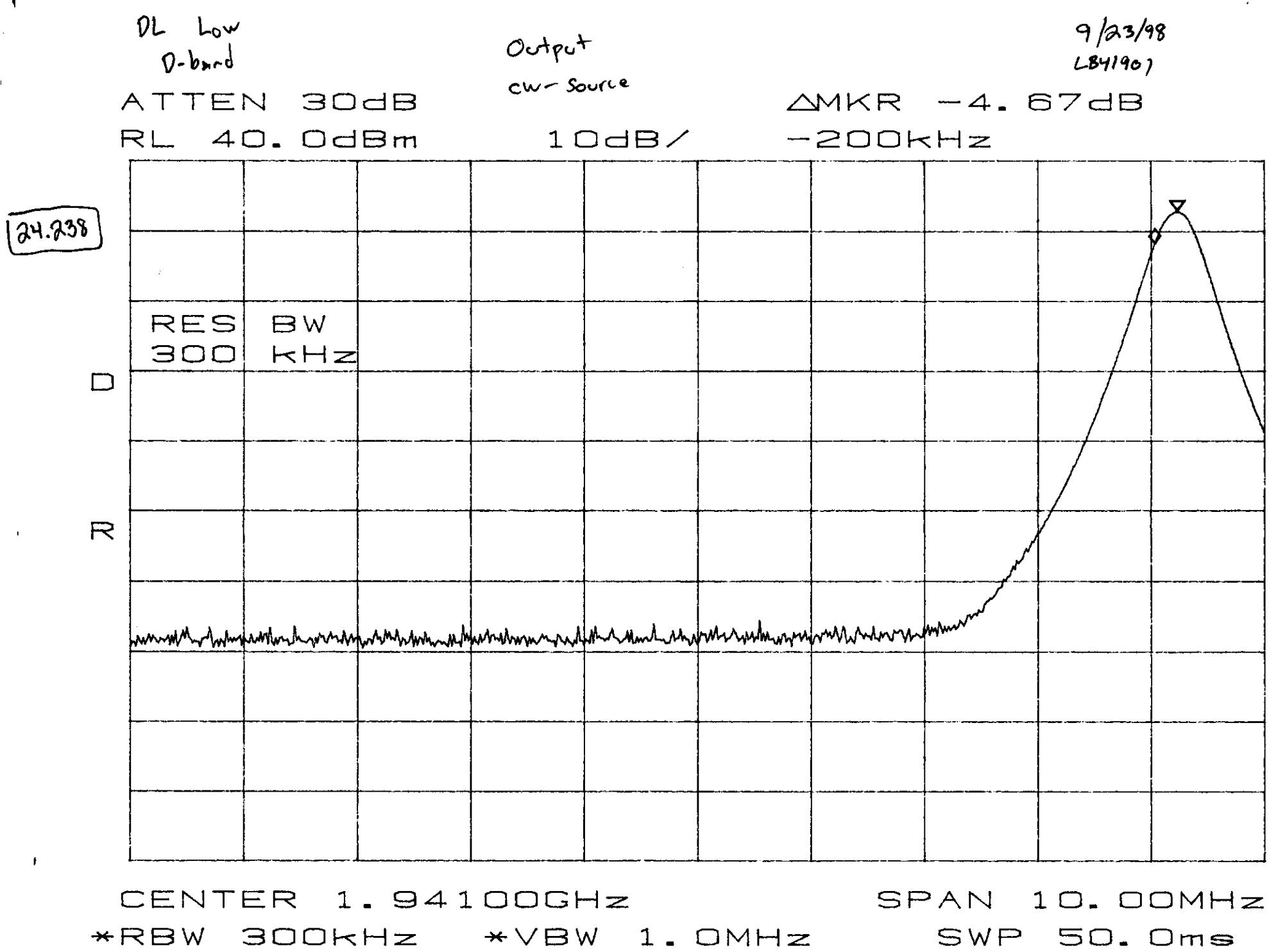


CENTER 1.94100GHz
SPAN 10.00MHz
*RBW 100kHz
*VBW 1.0MHz
SWP 50.0ms

DL Low
D-band

Output
cw-source

9/23/98
LB41907



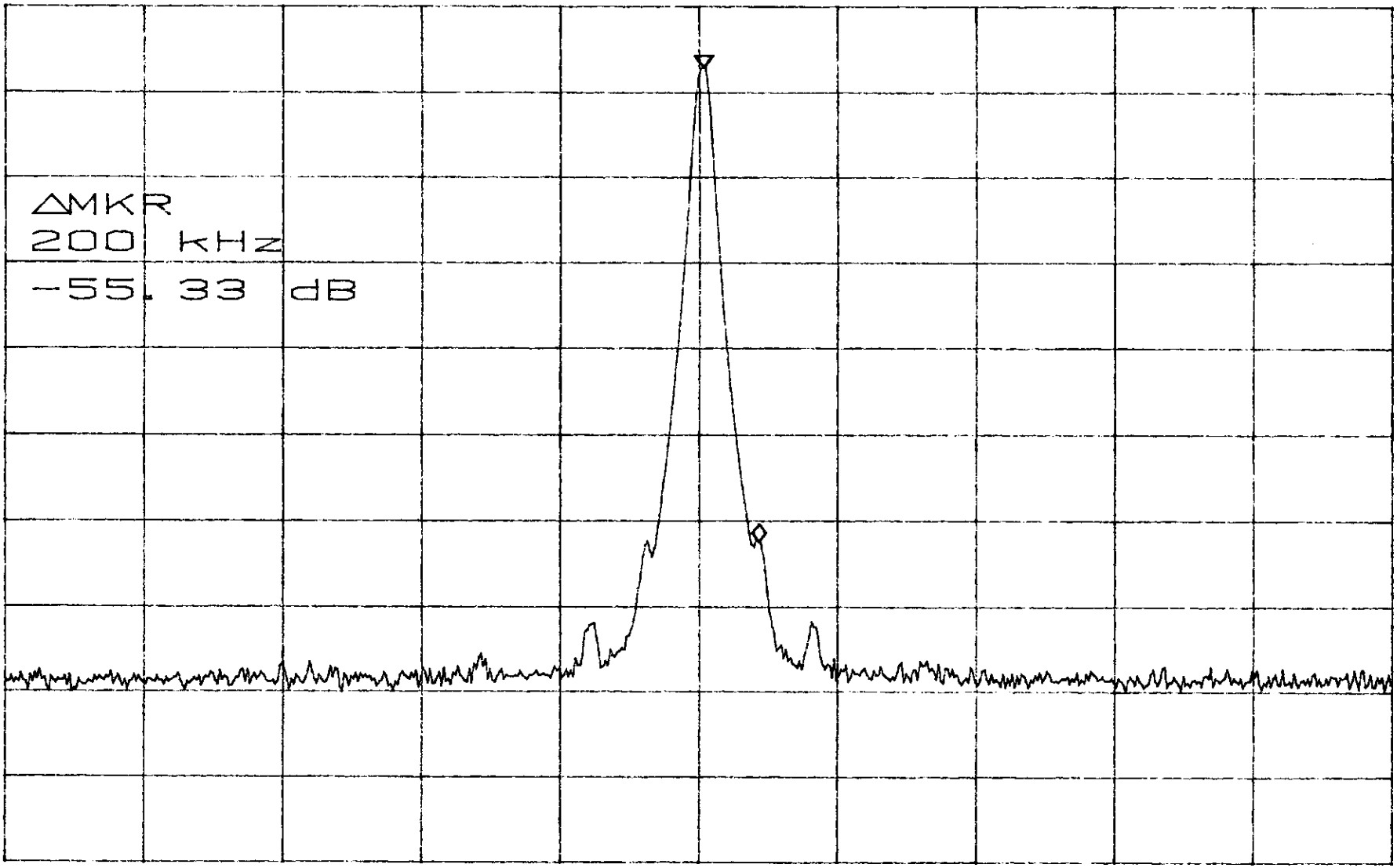
DL High
D-band

DL Output
cw source

9/23/98
LB41901

ATTEN 30dB
RL 40.0dBm
10dB/
ΔMKR -55.33dB
200kHz

24.238

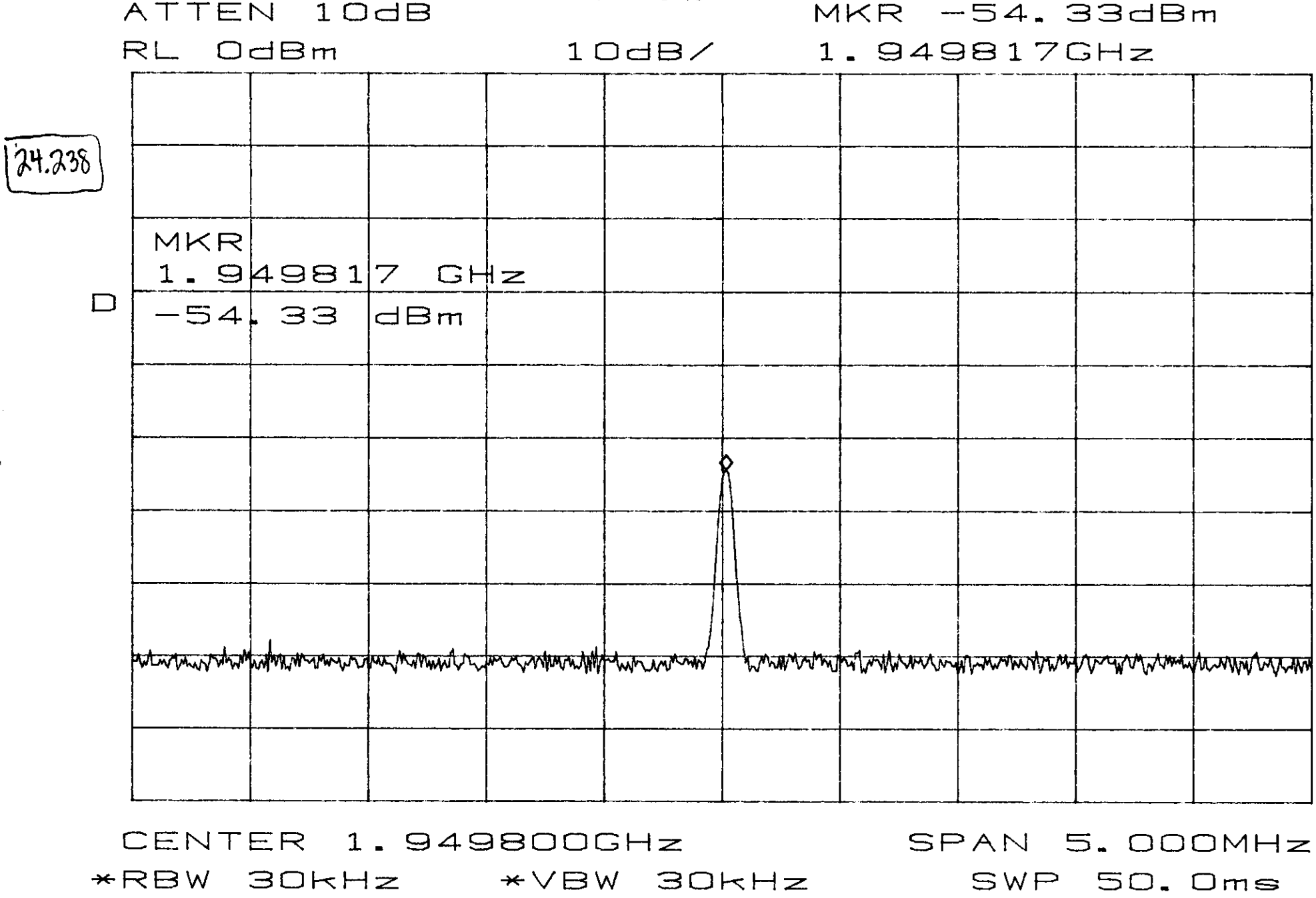


CENTER 1.949800GHz
SPAN 5.000MHz
*RBW 30kHz
*VBW 30kHz
SWP 50.0ms

DL High
D-band

~~Output~~ Input
CW source

9/23/98
LB41901



DL High
D-band

Output
cw

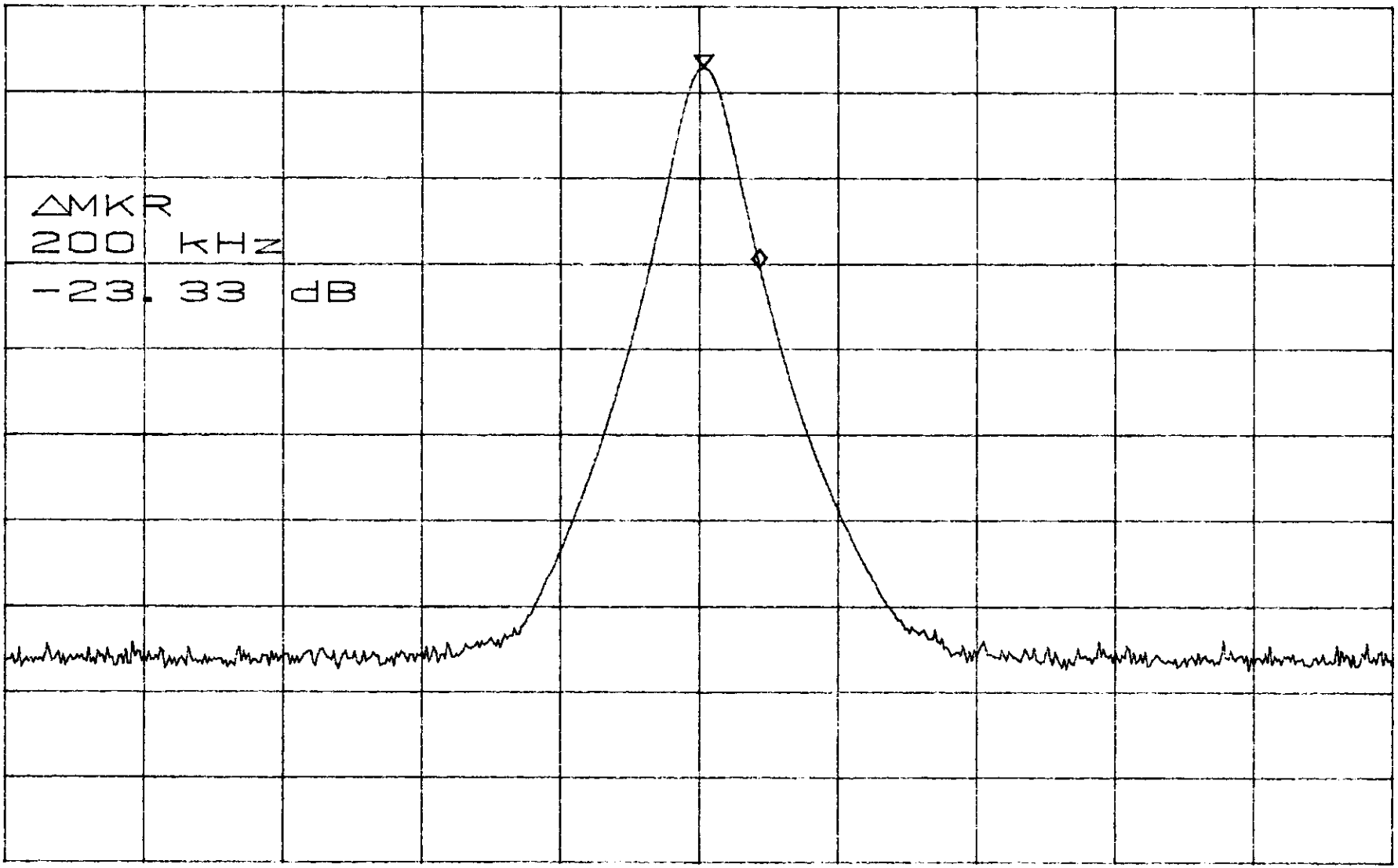
9/23/98
LB41901

ATTEN 30dB
RL 40.0dBm

10dB/

ΔMKR -23.33dB
200kHz

24.238



CENTER 1.949800GHz
SPAN 5.000MHz

*RBW 100kHz
*VBW 30kHz
SWP 50.0ms

DL High
D-band

Output
cw

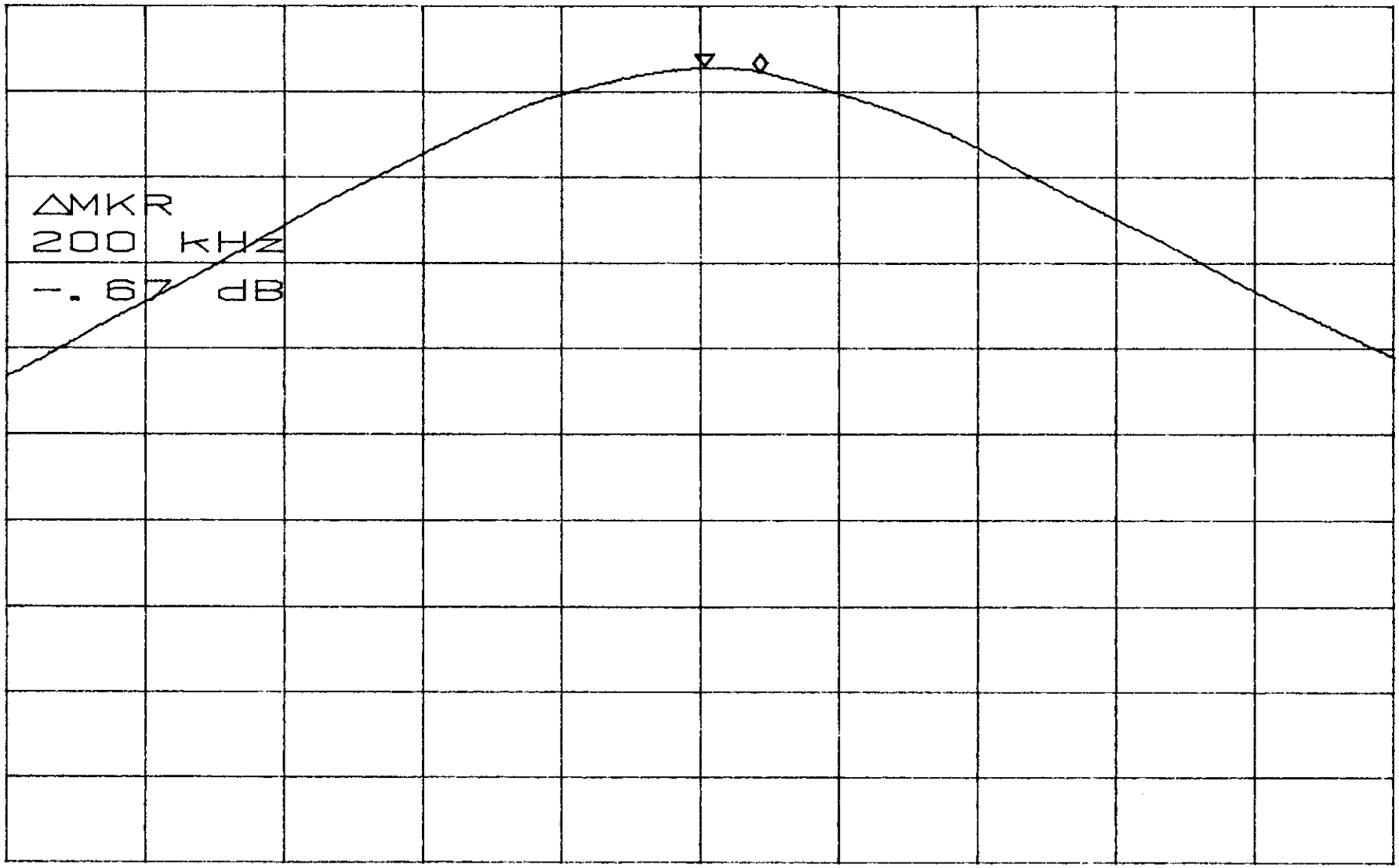
9/23/98
LB41901

ATTEN 30dB
RL 40.0dBm

10dB/

ΔMKR -.67dB
200kHz

24.238



CENTER 1.949800GHz
SPAN 5.000MHz

*RBW 1.0MHz
*VBW 1.0MHz
SWP 50.0ms

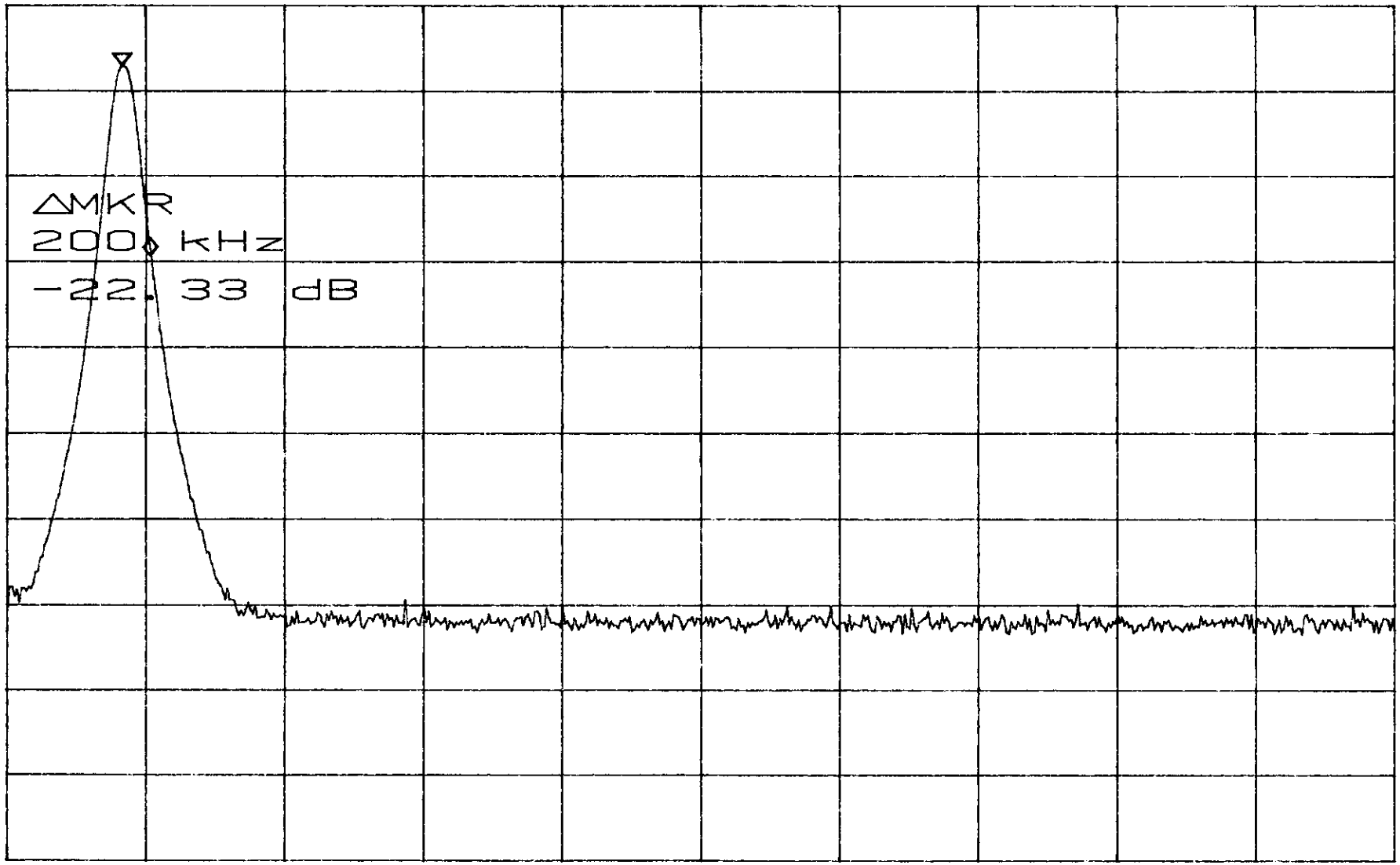
DL High
D-band

Output
cw

9/23/98
LB41901

ATTEN 30dB
RL 40.0dBm
10dB/
ΔMKR -22.33dB
200kHz

24.238



CENTER 1.95400GHz
SPAN 10.00MHz
*RBW 100kHz
*VBW 1.0MHz
SWP 50.0ms

DL High
D-band

Output

cw

9/23/98
LB41901

ATTEN 30dB
RL 40.0dBm

10dB/

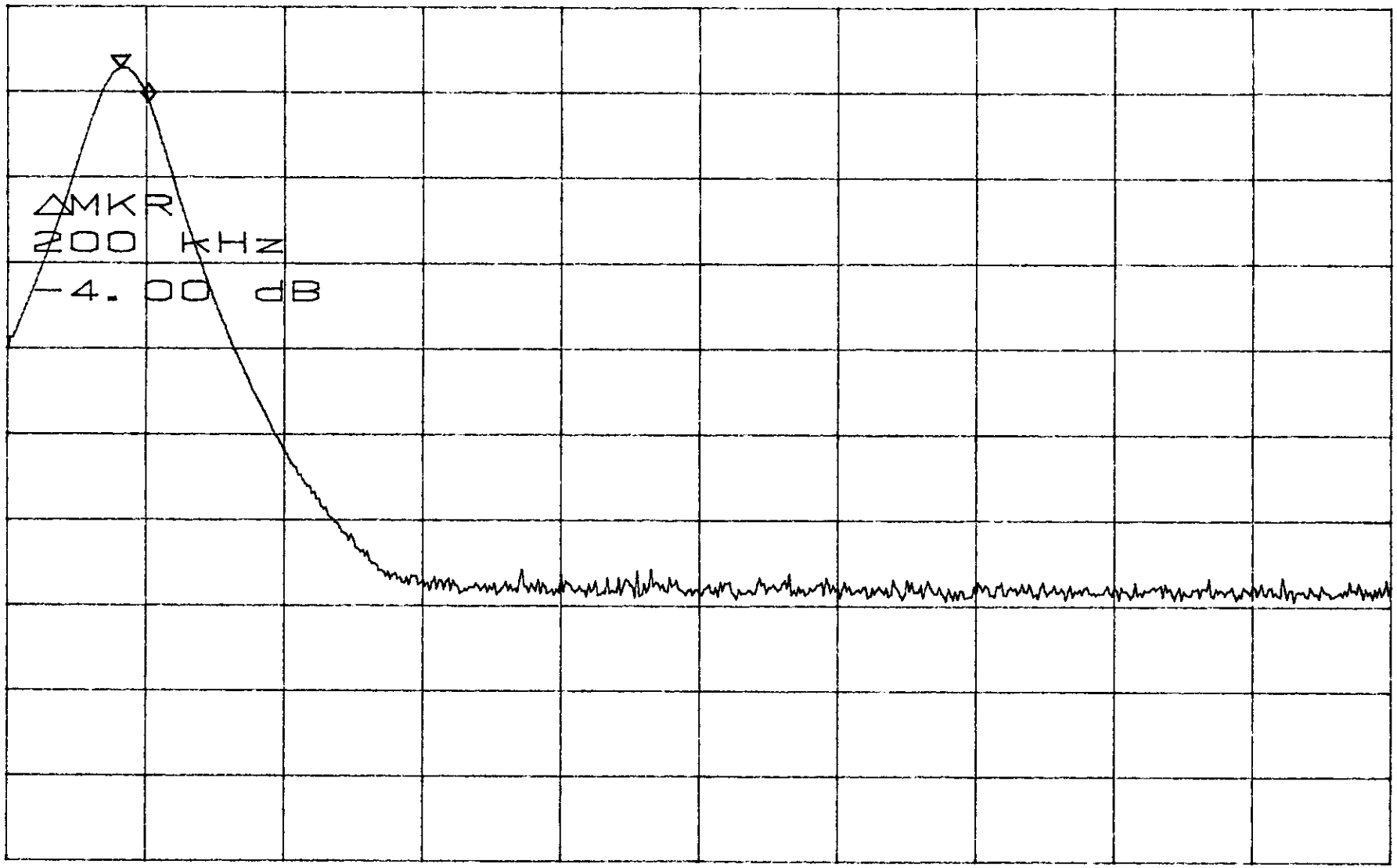
ΔMKR −4.00dB
200kHz

24.238

ΔMKR
200 kHz
−4.00 dB

D

R



CENTER 1.95400GHz
SPAN 10.00MHz
*RBW 300kHz
*VBW 1.0MHz
SWP 50.0ms

UL Low
D-band

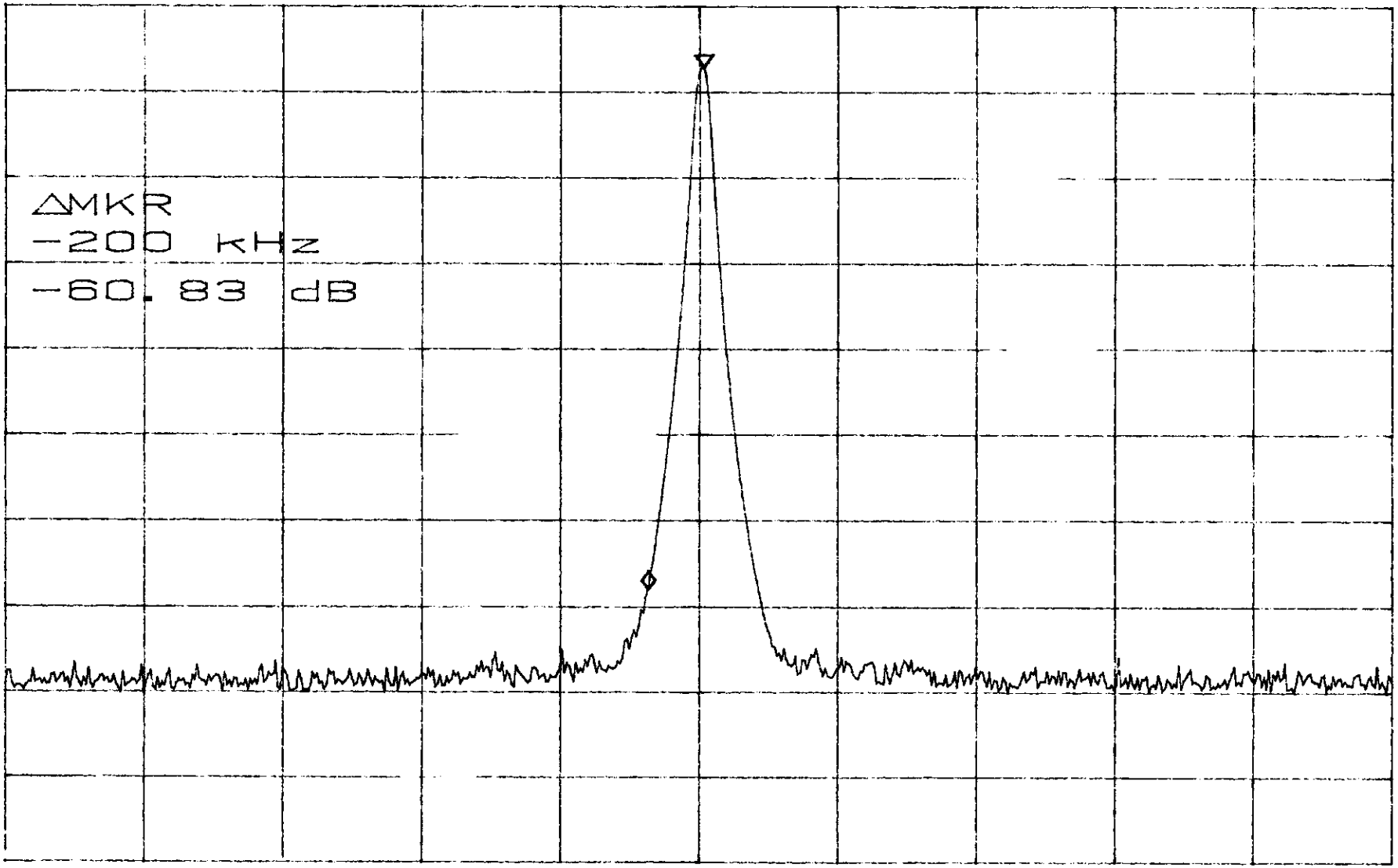
UL Output

CW Source

9/17/98
LB41901

ATTEN 30dB
RL 40.0dBm
10dB/
ΔMKR -60.83dB
-200kHz

24.238

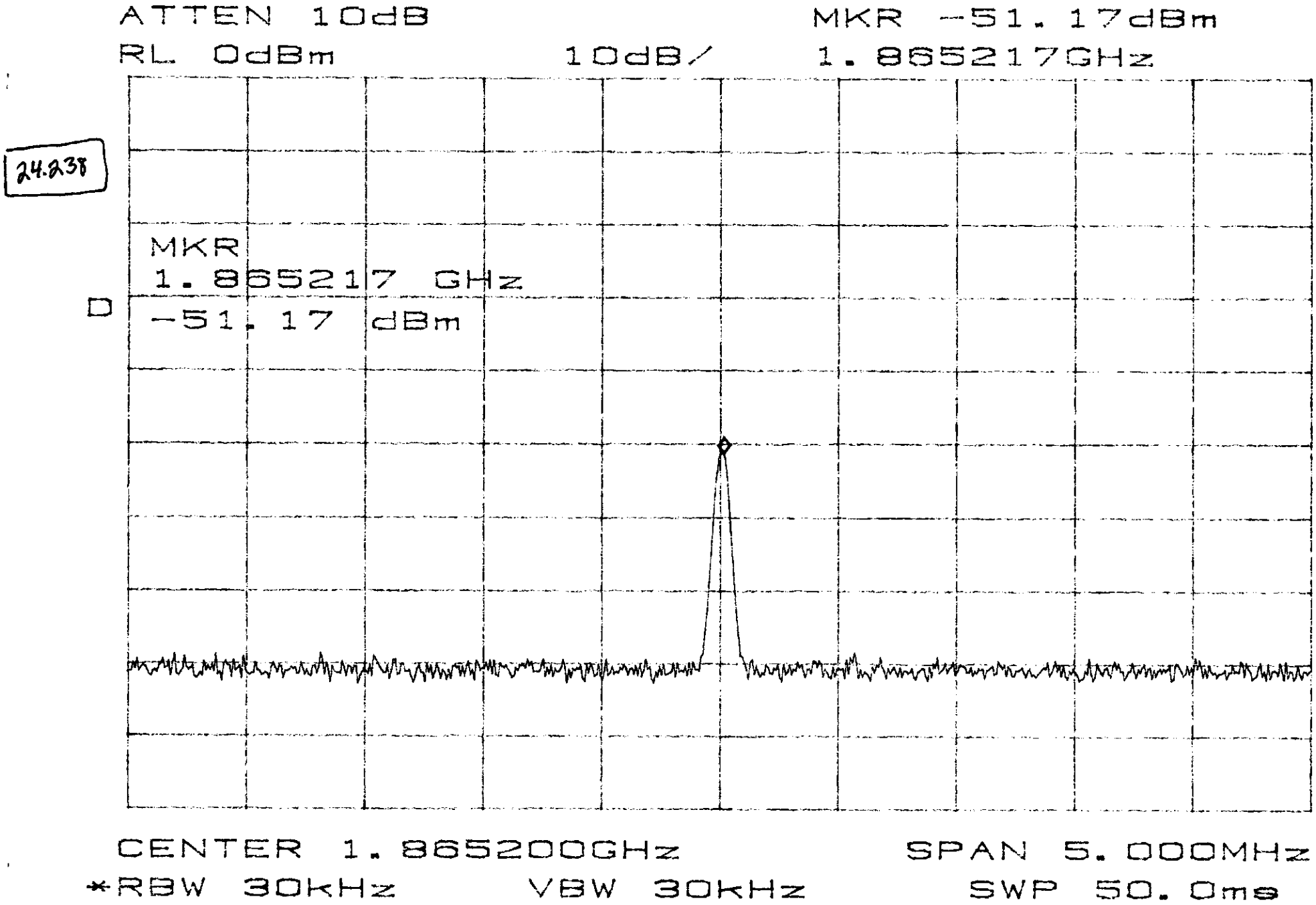


CENTER 1.865200GHz
SPAN 5.000MHz
*RBW 30kHz
VBW 30kHz
SWP 50.0ms

UL Low
D-band

UL Input
cw source

9/17/98
LB41901

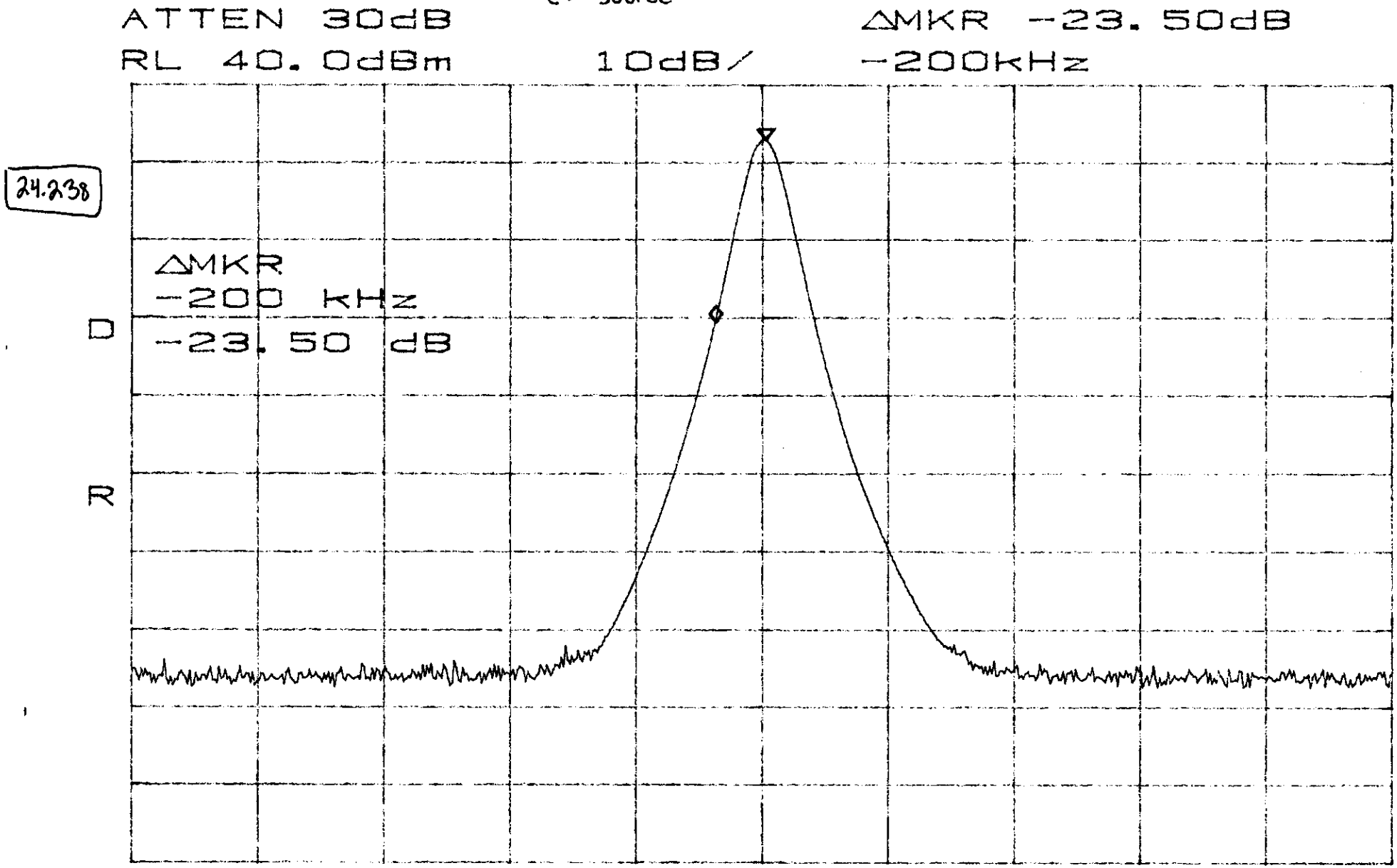


UL Low
D-band

Output

cw source

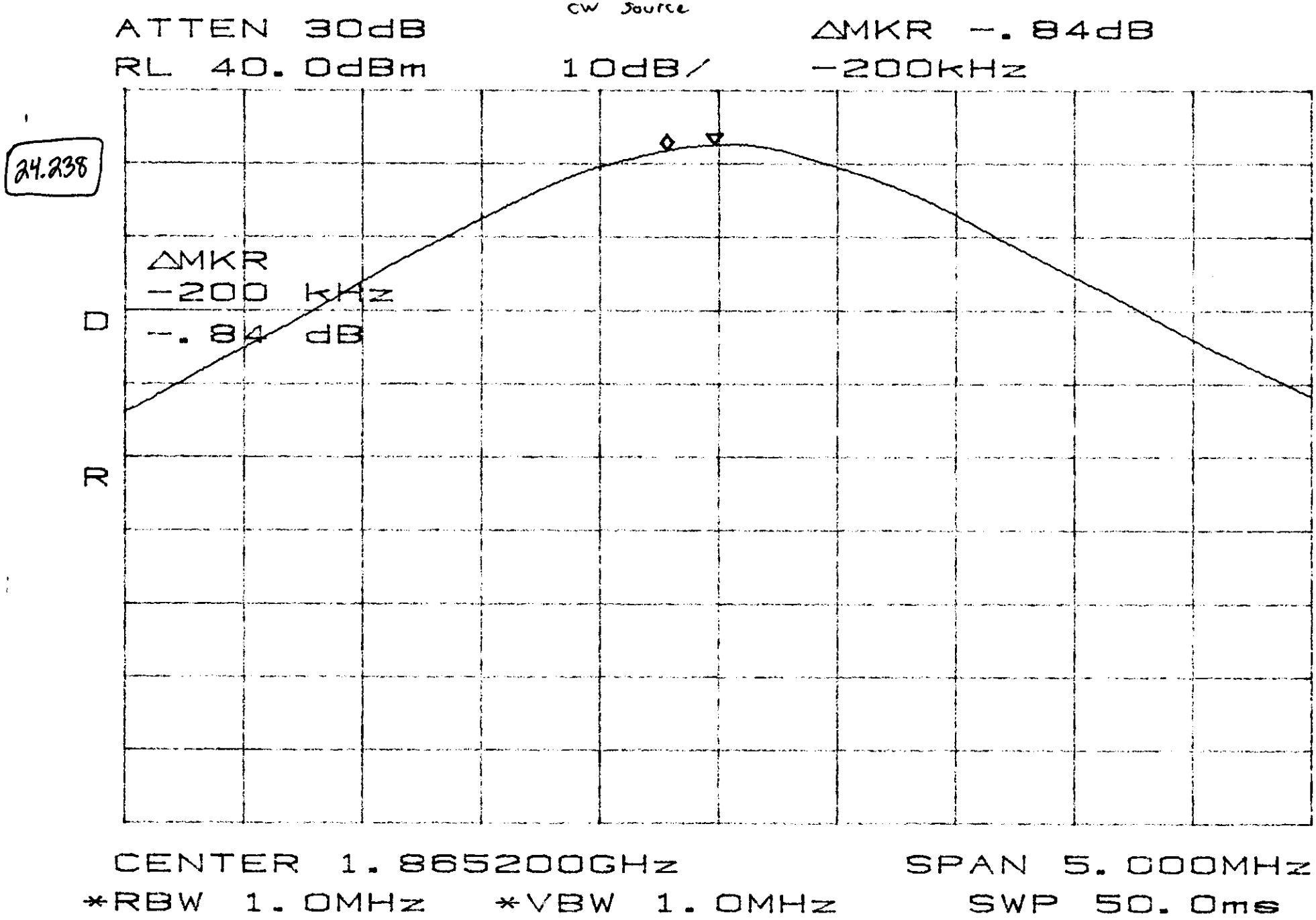
9/17/98
LB41901



UL Low
D-band

Output
cw source

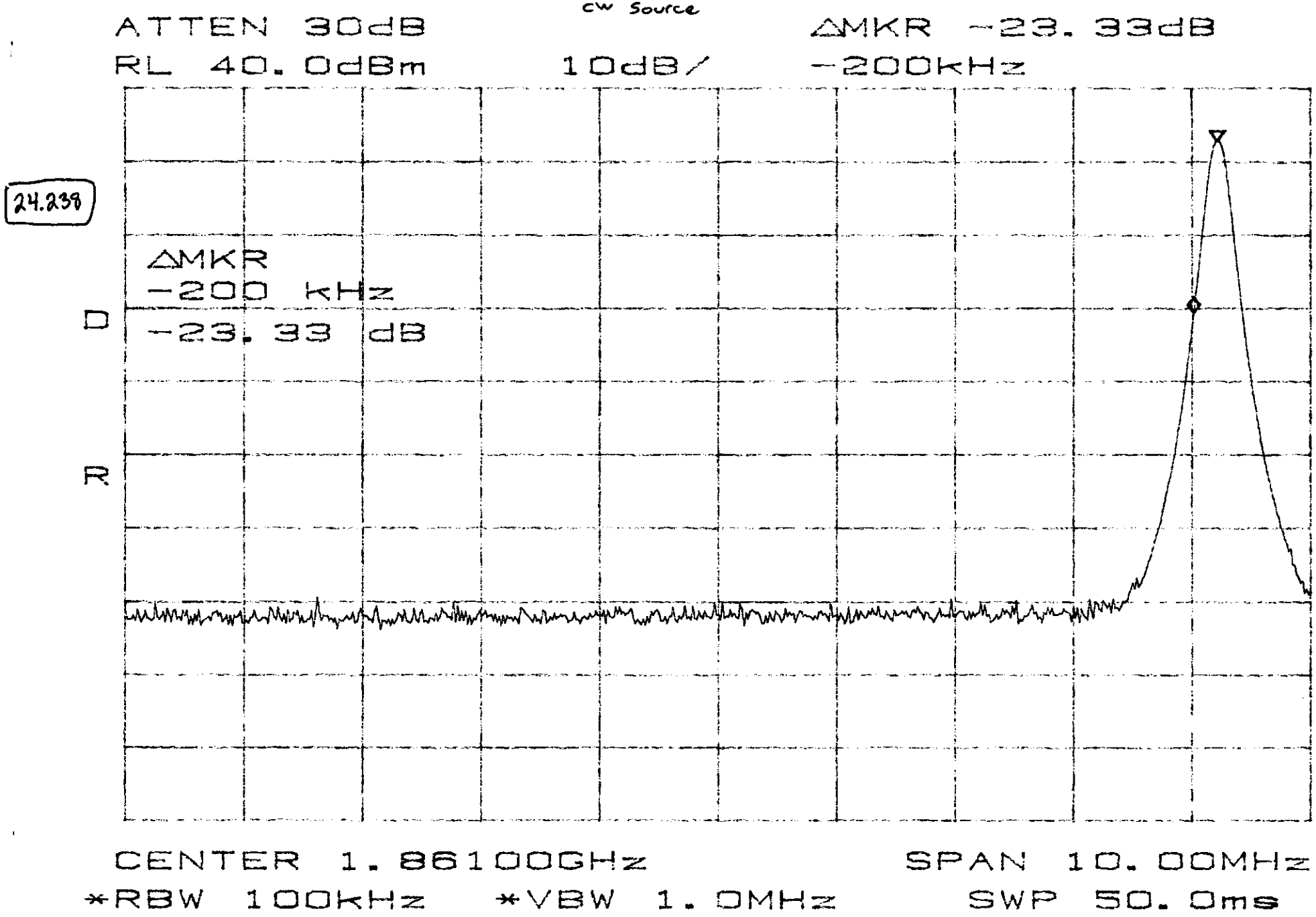
9/17/98
LB41901



UL Low
D-band

Output
cw source

9/17/98
LB41901



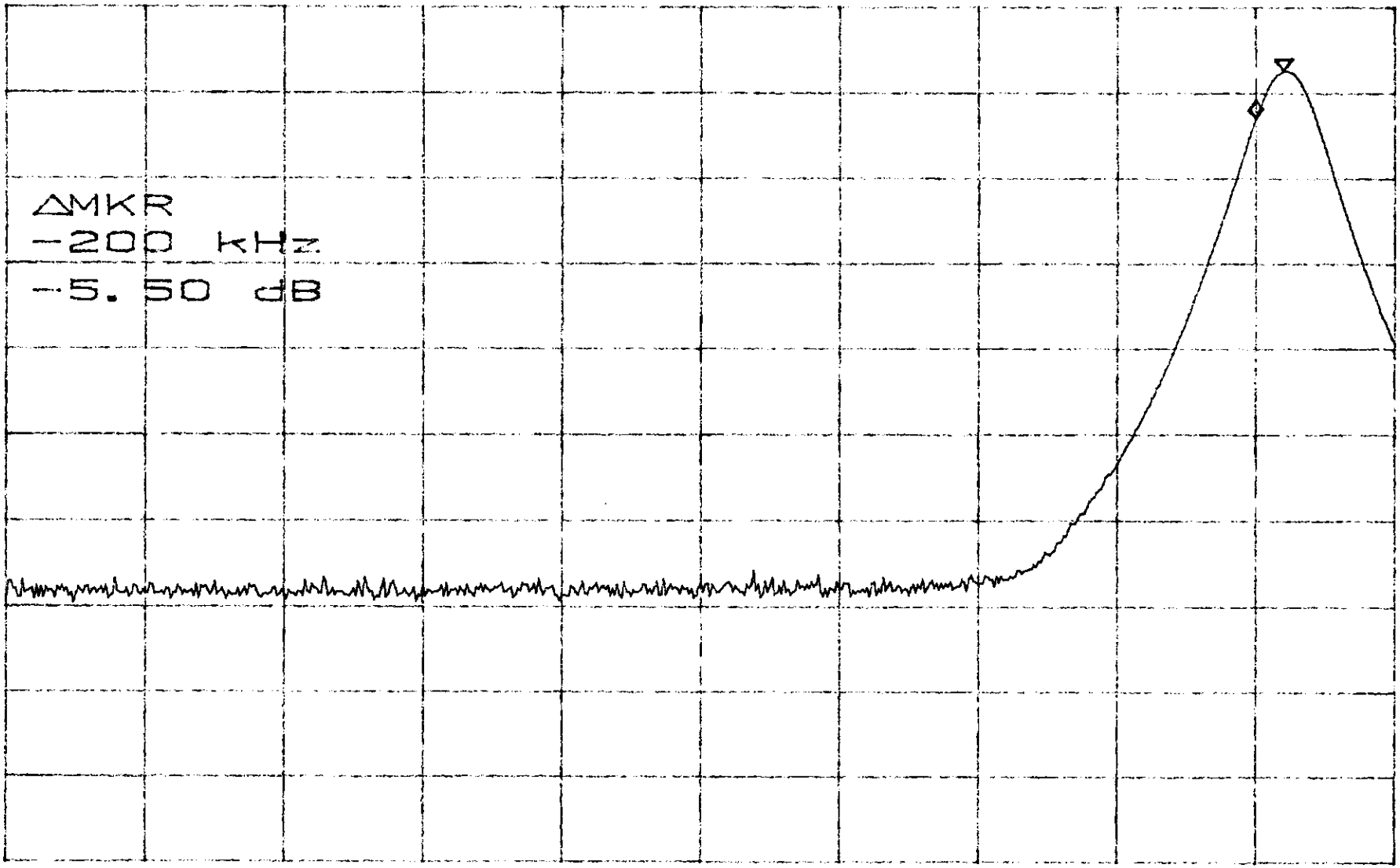
UL Low
D-band

Output
cw-source

9/17/98
LB41901

ATTEN 30dB
RL 40.0dBm
10dB/
ΔMKR -5.50dB
-200kHz

24.238

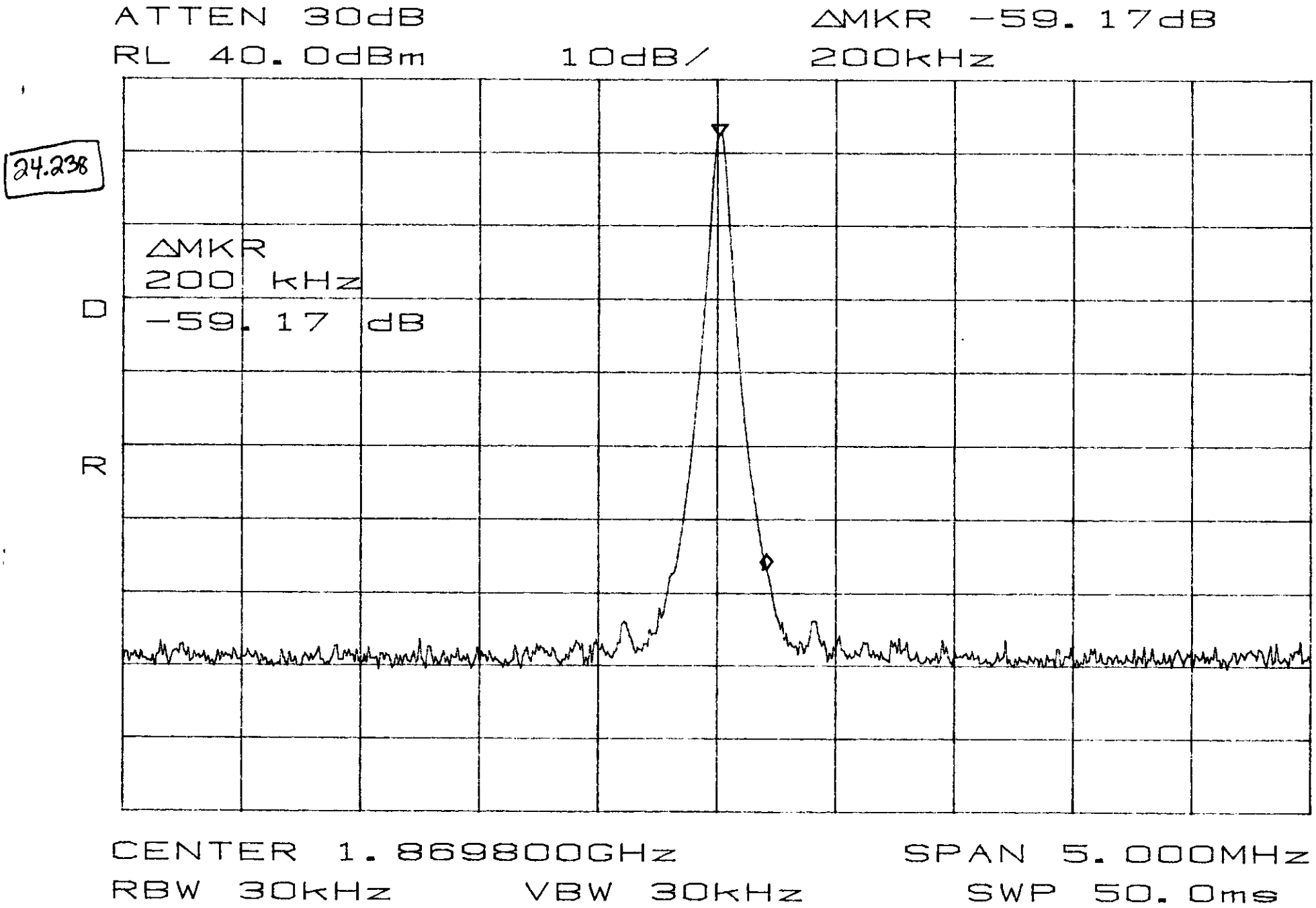


CENTER 1.86100GHz
SPAN 10.00MHz
*RBW 300kHz
*VBW 1.0MHz
SWP 50.0ms

UL High D-band

UL Output cw source

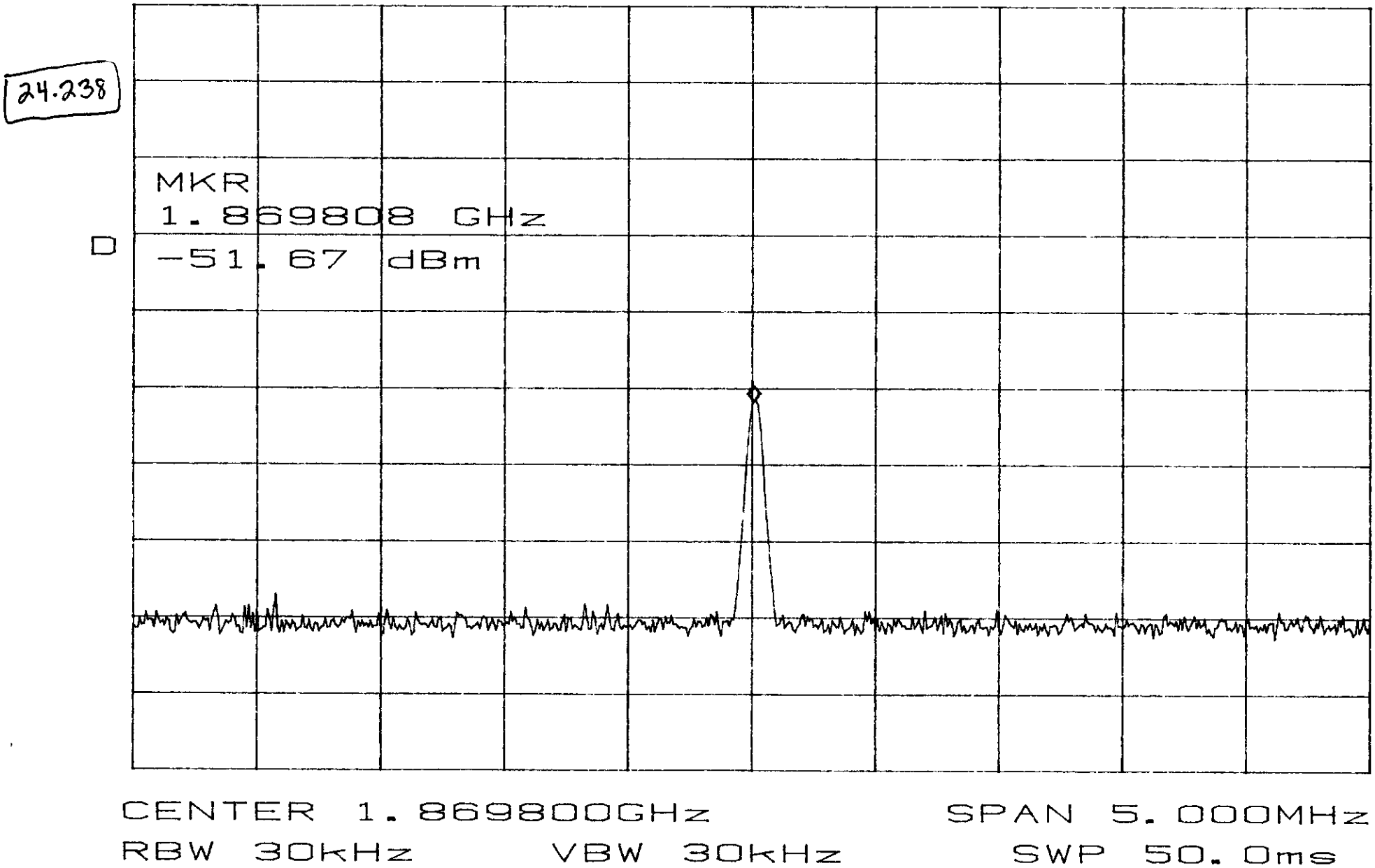
9/23/98
LB41901



UL High
D-band

UL Input
CW source

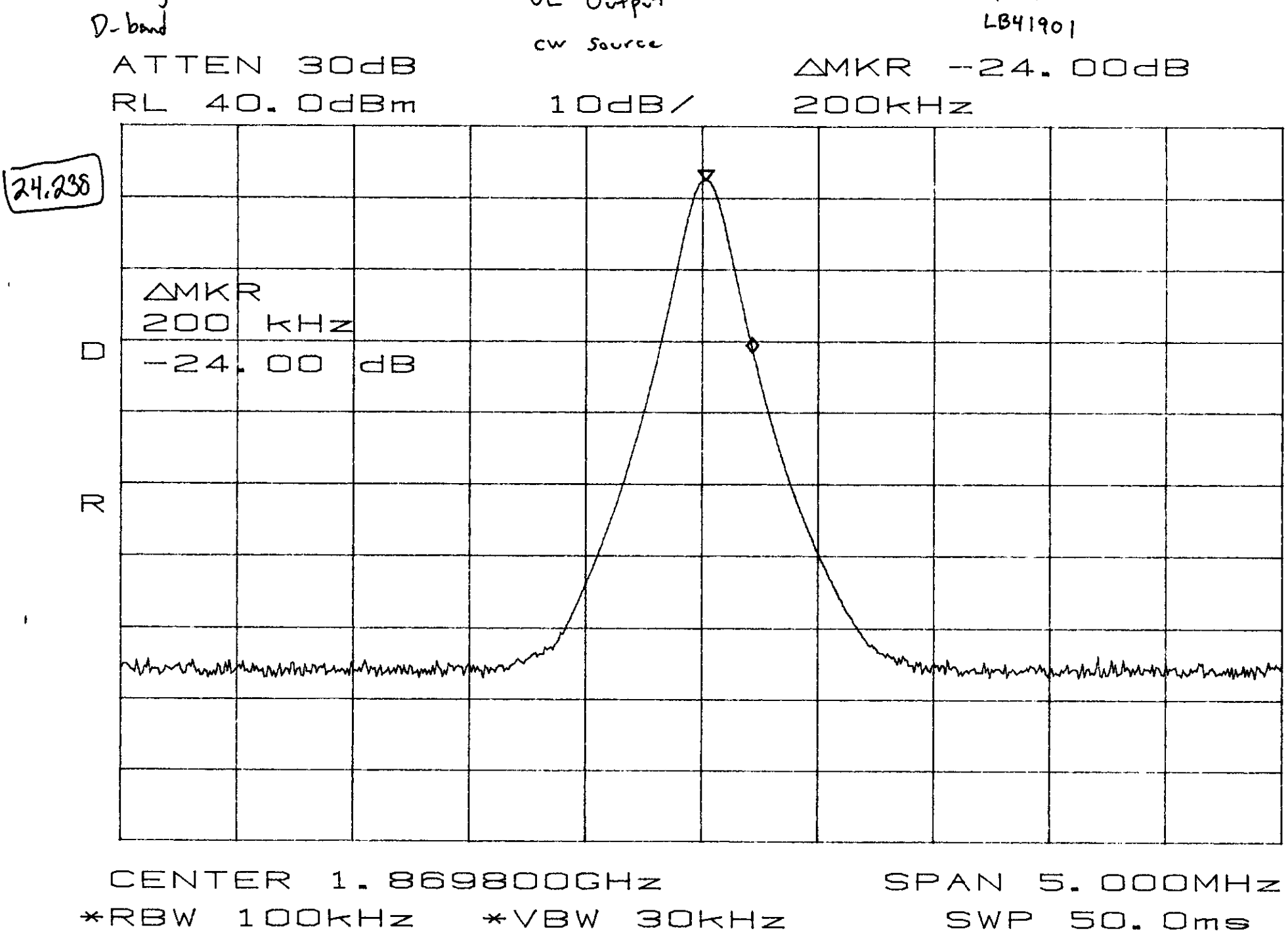
9/23/98
LB41901



UL High
D-band

UL Output
cw Source

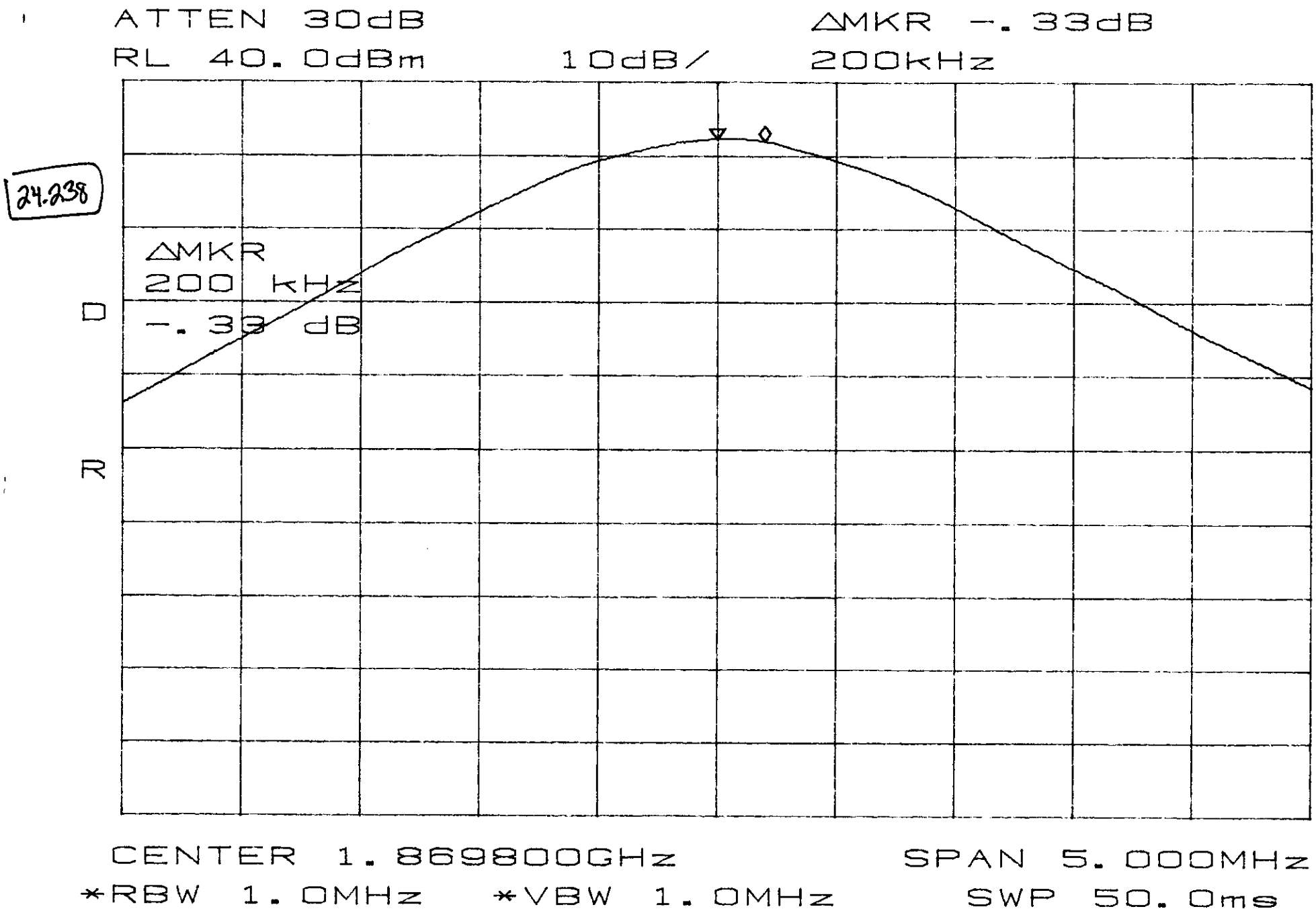
9/23/98
LB41901



UL High
D-band

UL output
cw source

9/23/98
LB41901



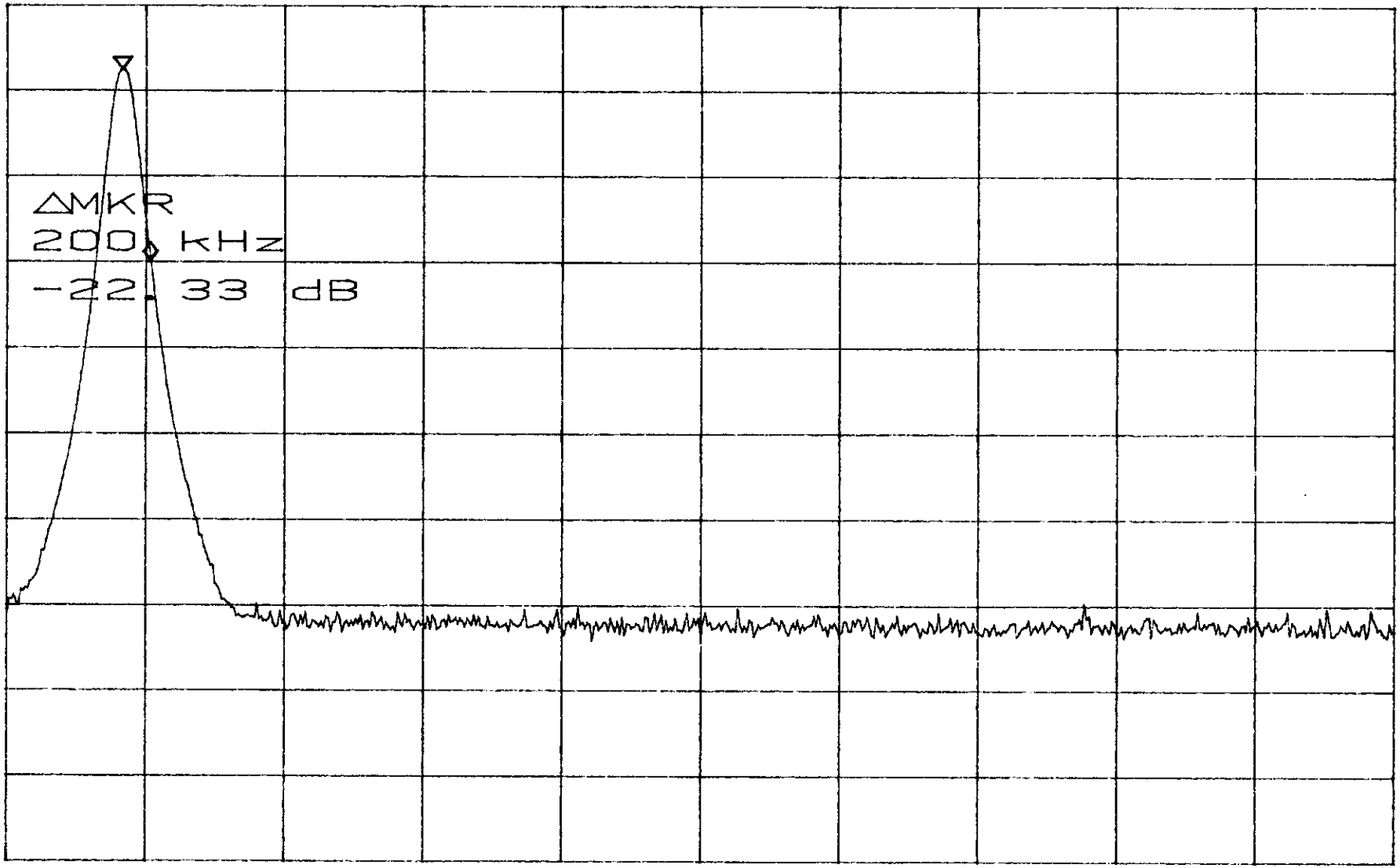
UL High
D-band

UL output
cw-source

9/23/98
LB41901

ATTEN 30dB
RL 40.0dBm
10dB/
ΔMKR -22.33dB
200kHz

24.235

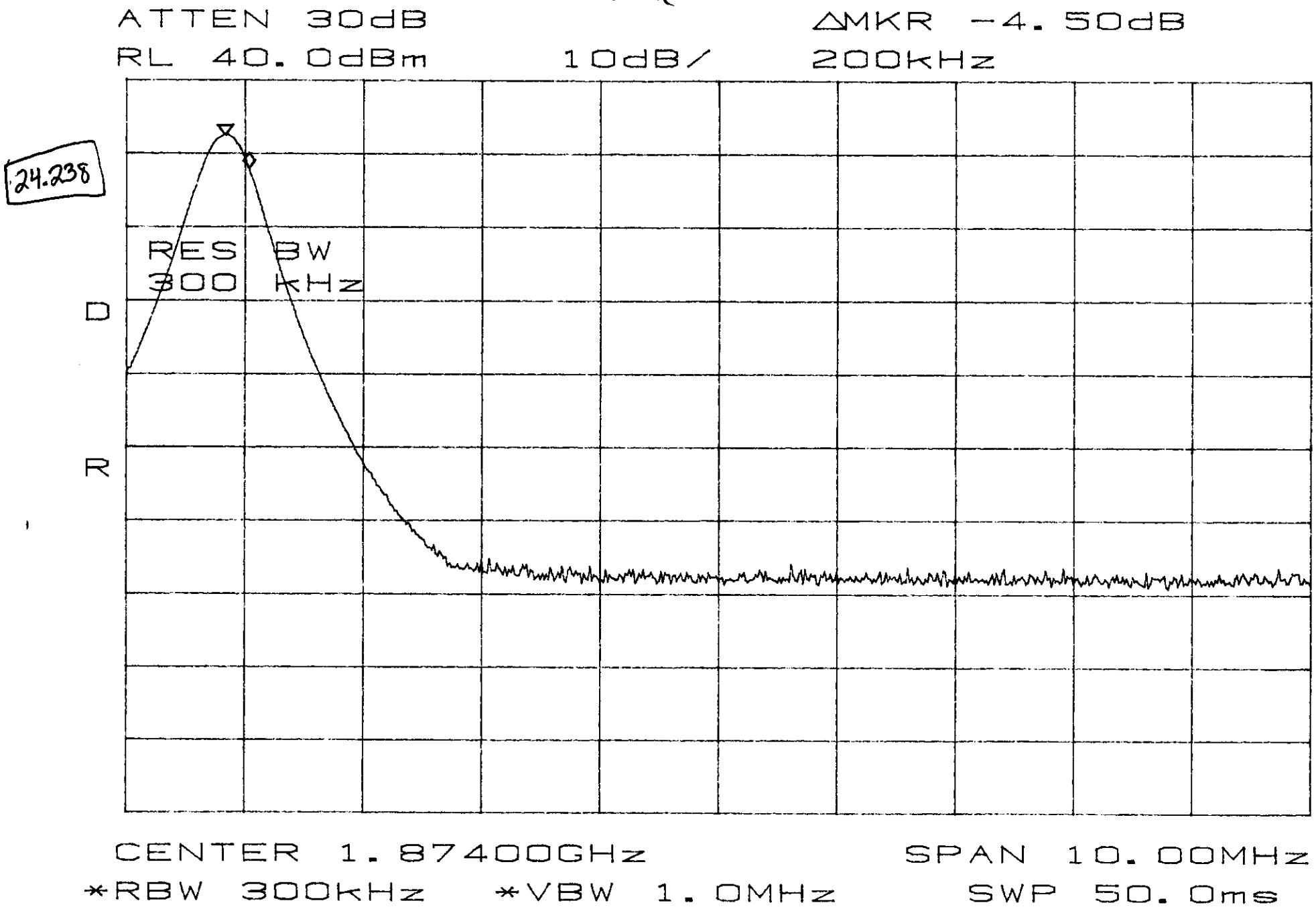


CENTER 1.87400GHz
SPAN 10.00MHz
*RBW 100kHz
*VBW 1.0MHz
SWP 50.0ms

UL High
D-band

Output
cw-source

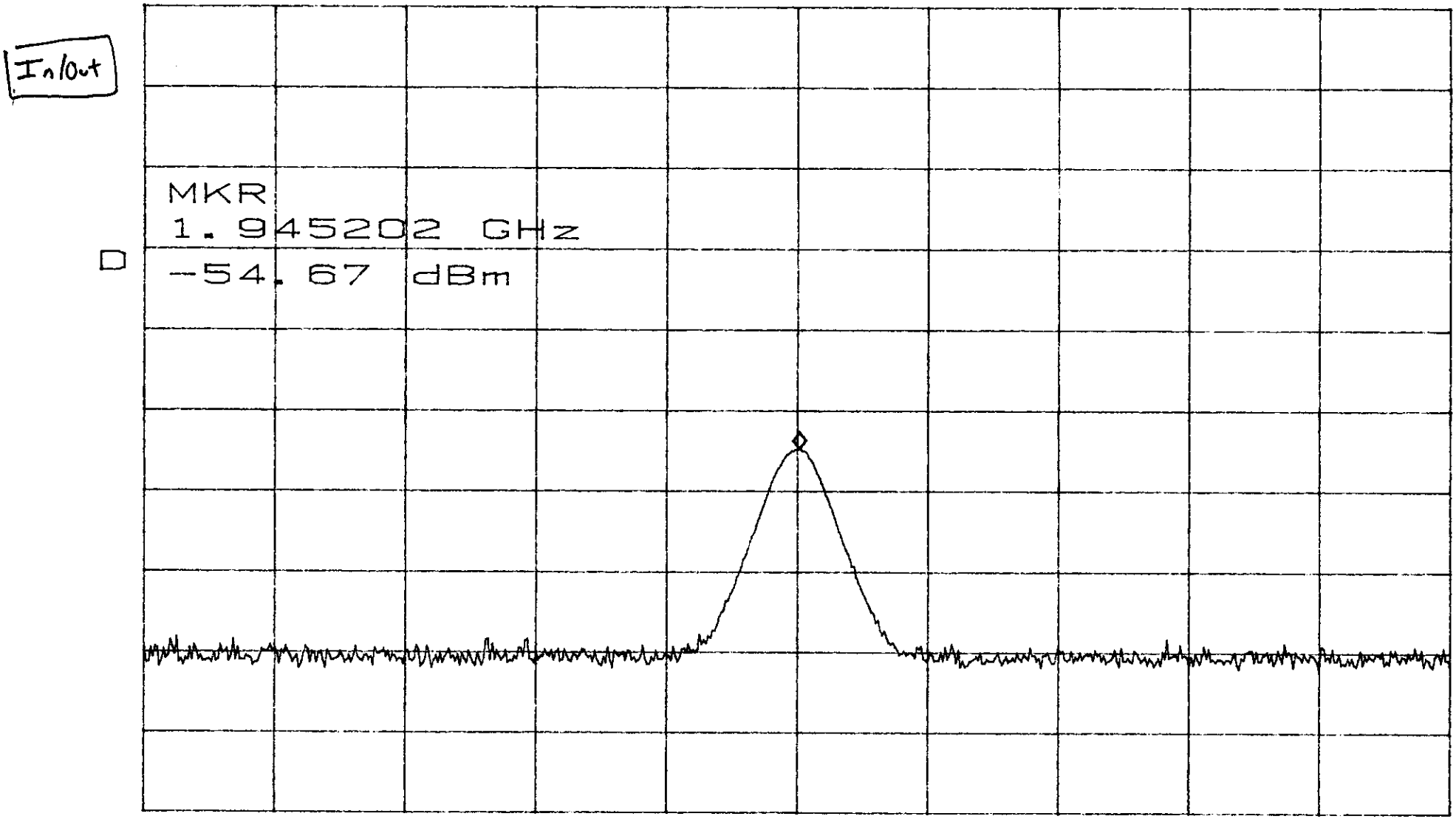
9/23/98
LB41901



DL Low
D-band

Input
cw-source

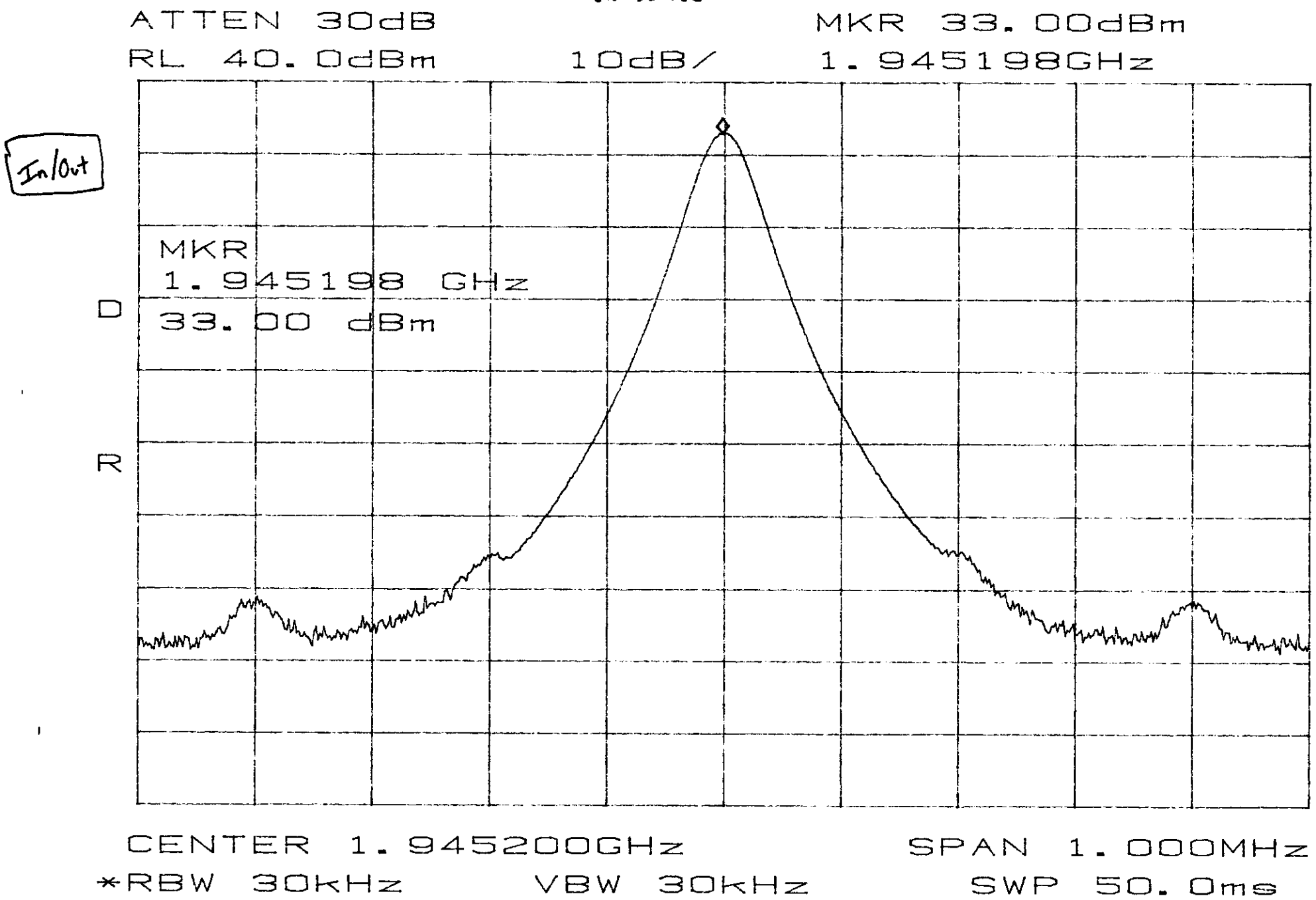
9/17/98
LB41901



DL [redacted] Low
D-band

Output
cw-source

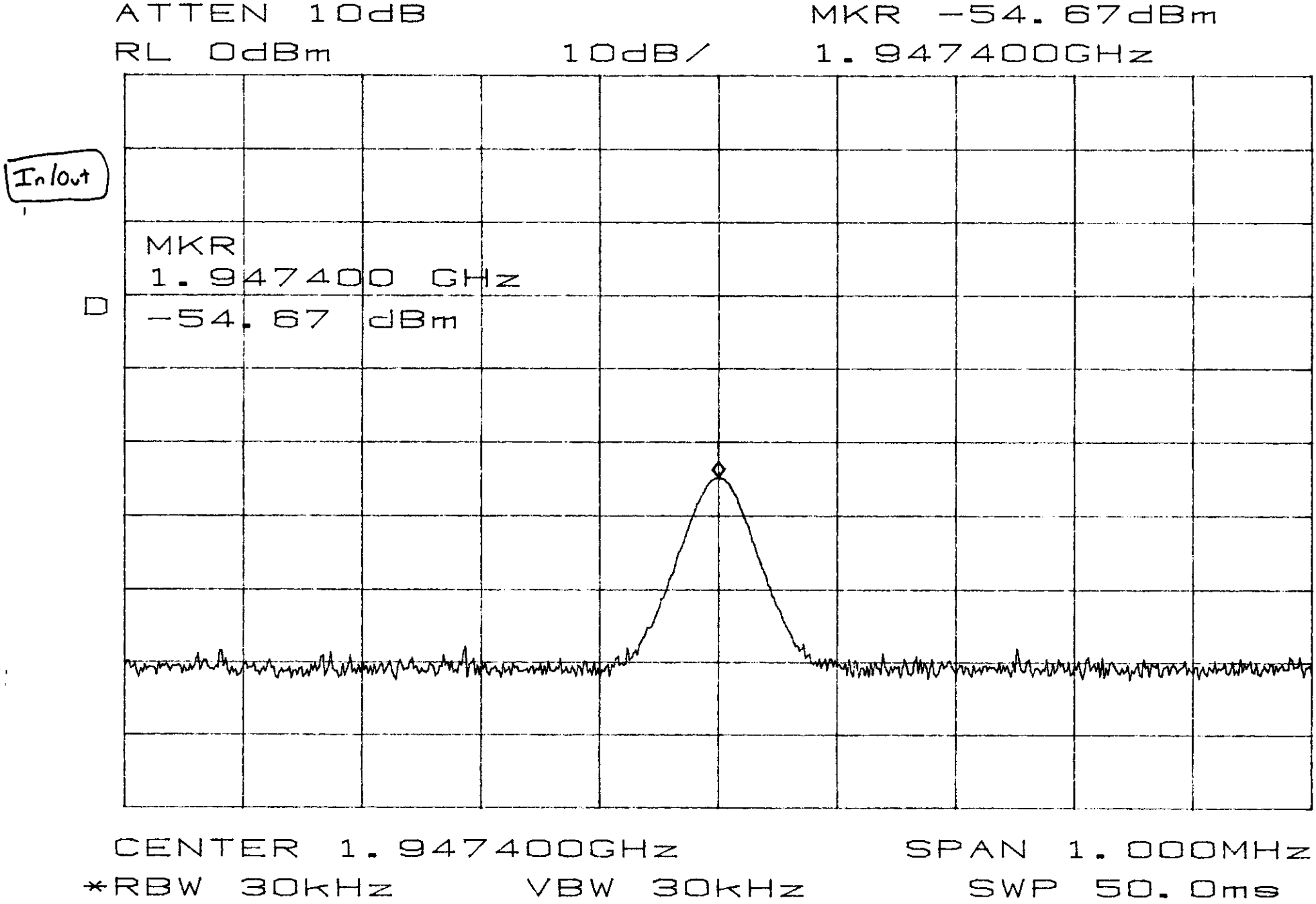
9/17/98
LB41901



DL Mid
D-band

Input
cw source

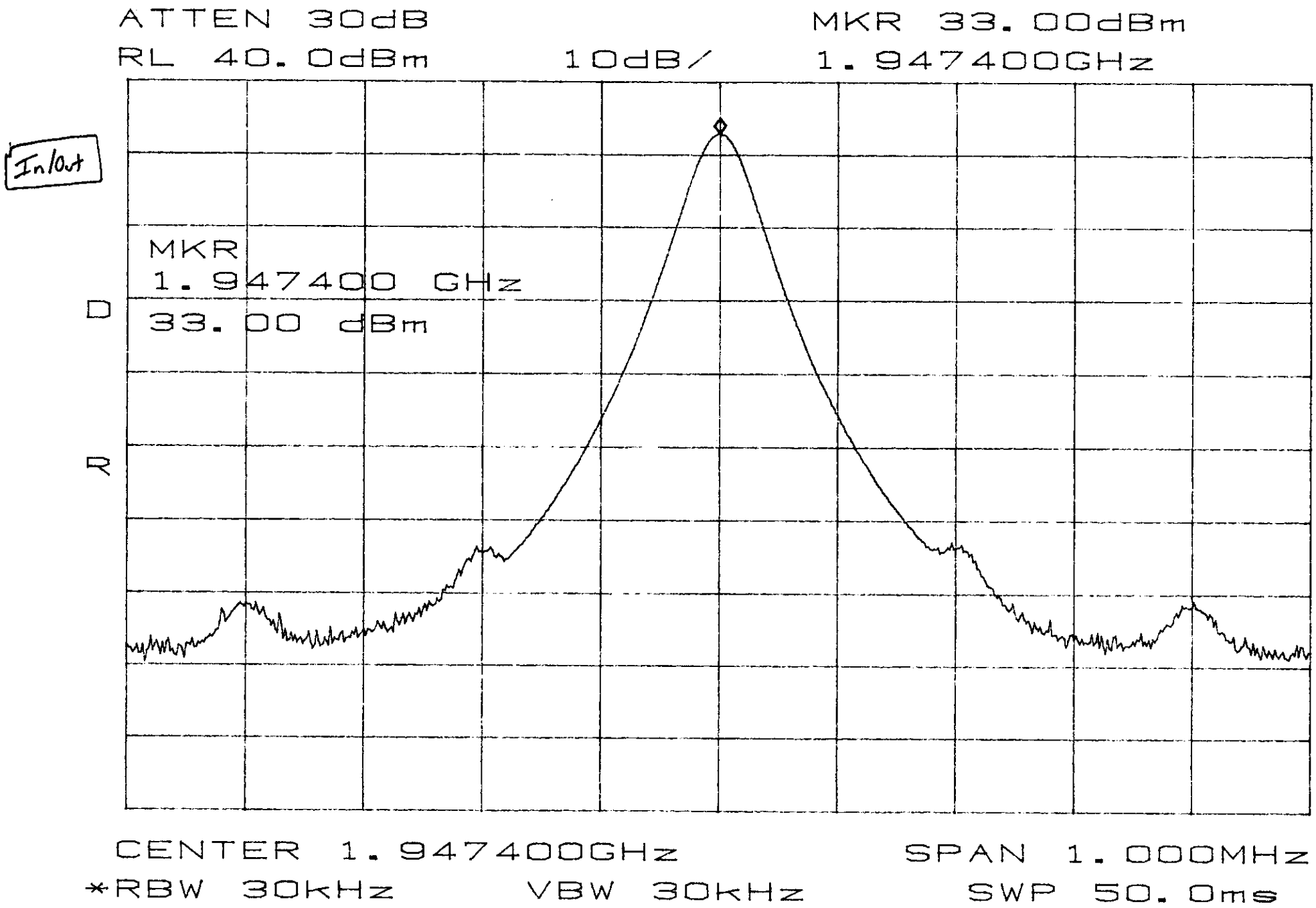
9/17/98
LB41901



DL Mid
D-band

Output
cw source

9/17/98
LB41901

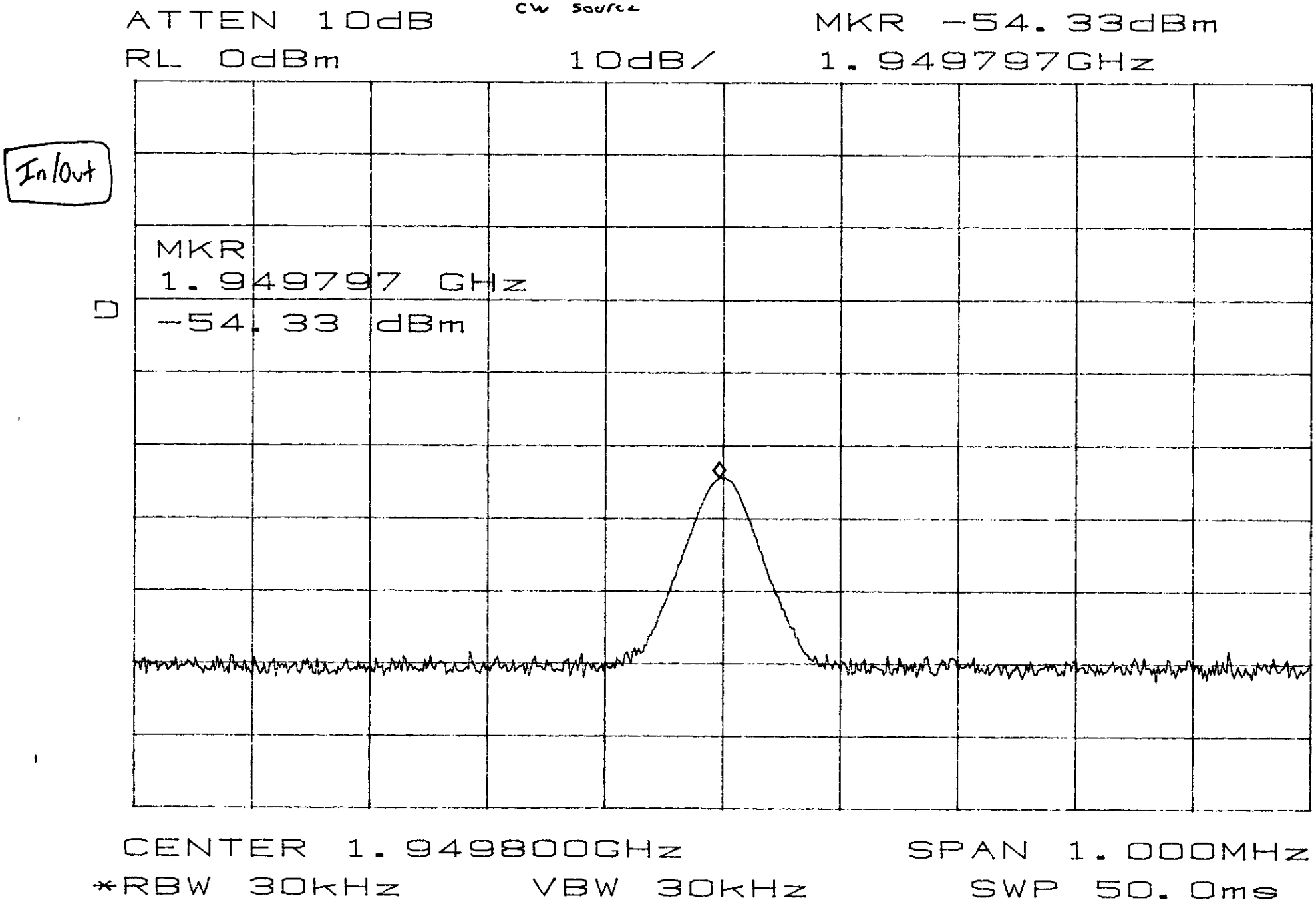


DL High
D-band

Input

cw source

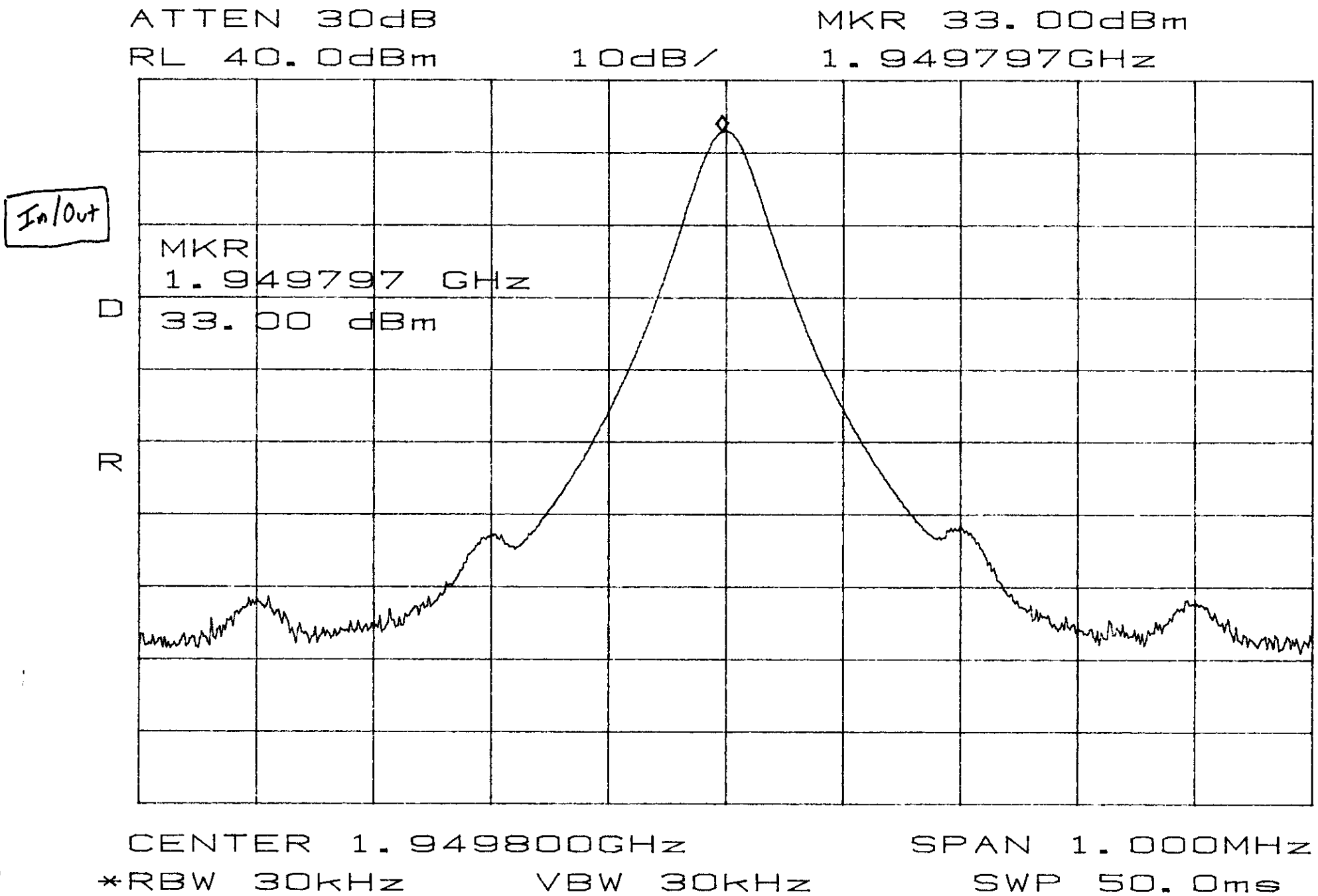
9/17/98
LB41901



DL High
D-band

Output
cw-source

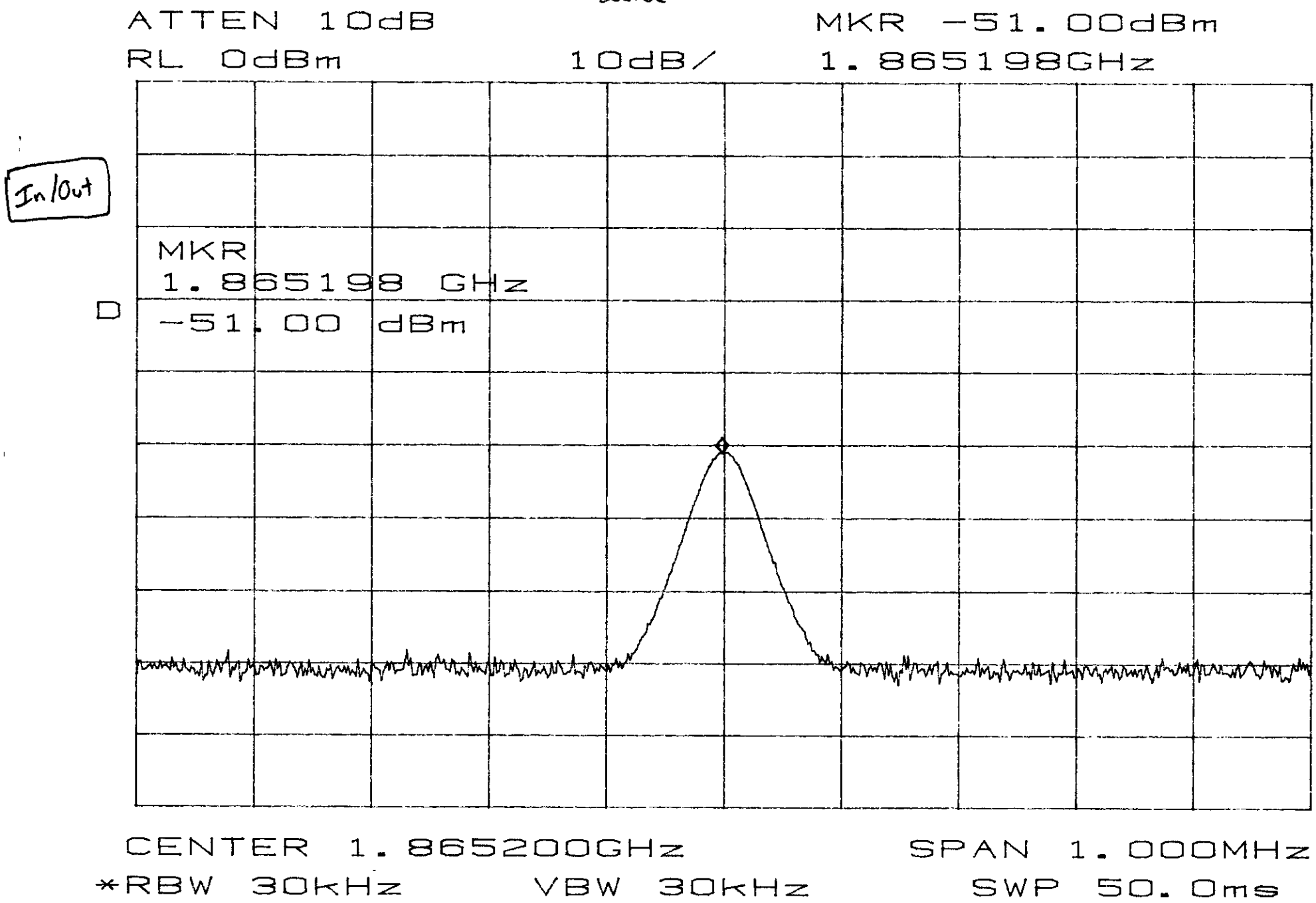
9/17/98
LB41901



UL Low
D-band

Input
cw source

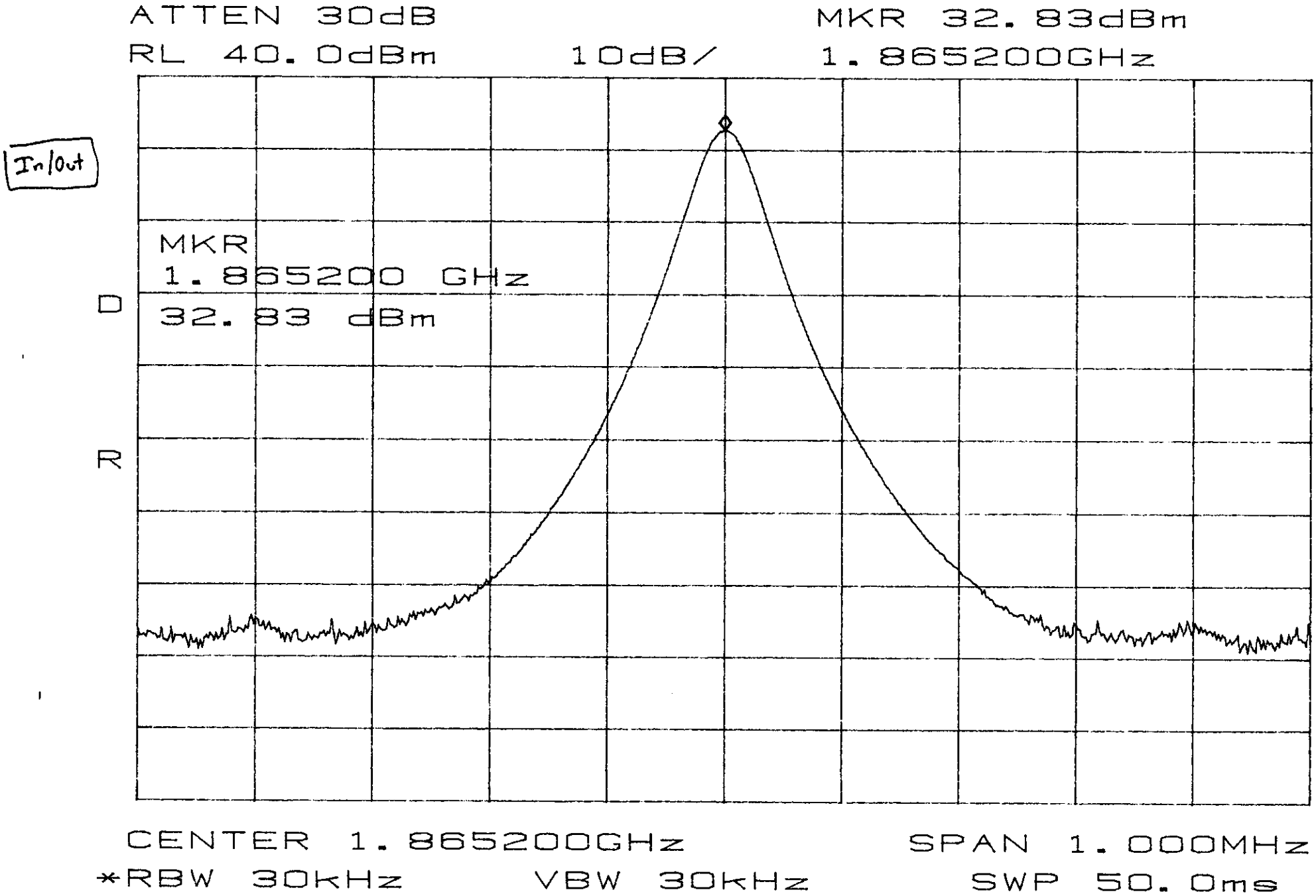
9/17/98
LB41901



UL Low
D-band

Output
cw-source

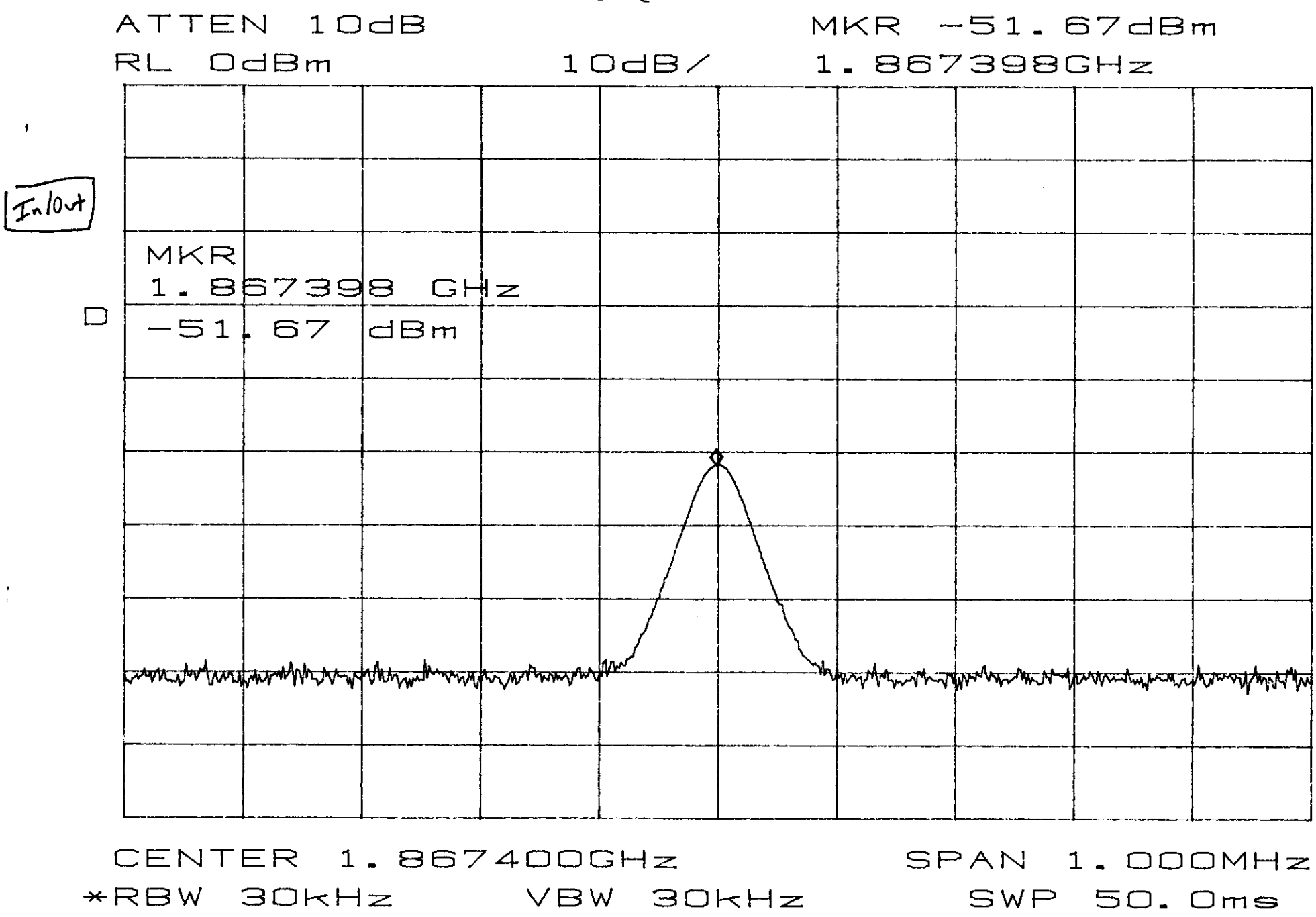
9/17/98
LB41901



UL Mid
D-band

Input
cw-source

9/17/98
LB41901



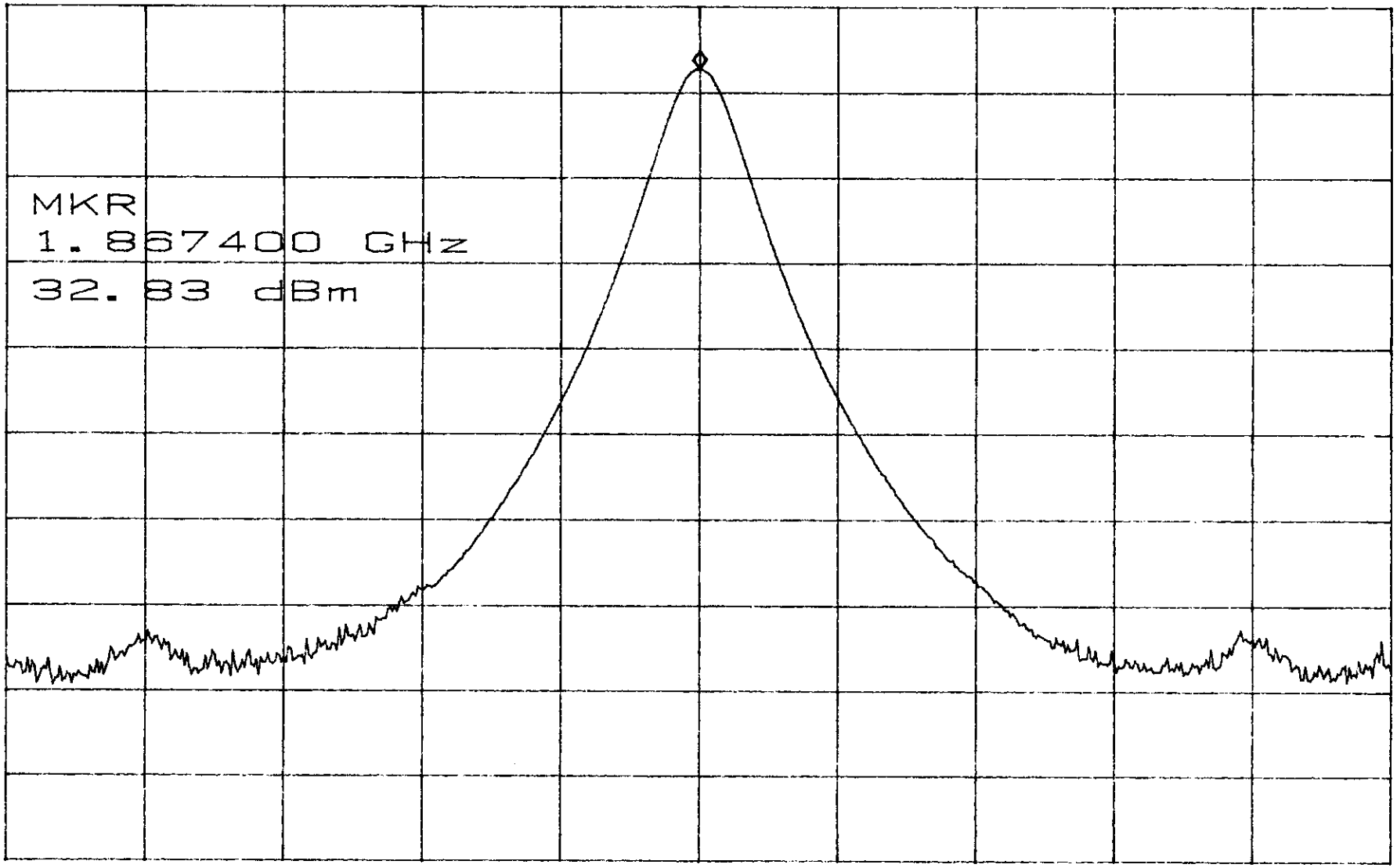
UL Mid
D-band

Output

cw - source

9/17/98
LB41901

ATTEN 30dB
RL 40.0dBm
10dB/
MKR 32.83dBm
1.867400GHz

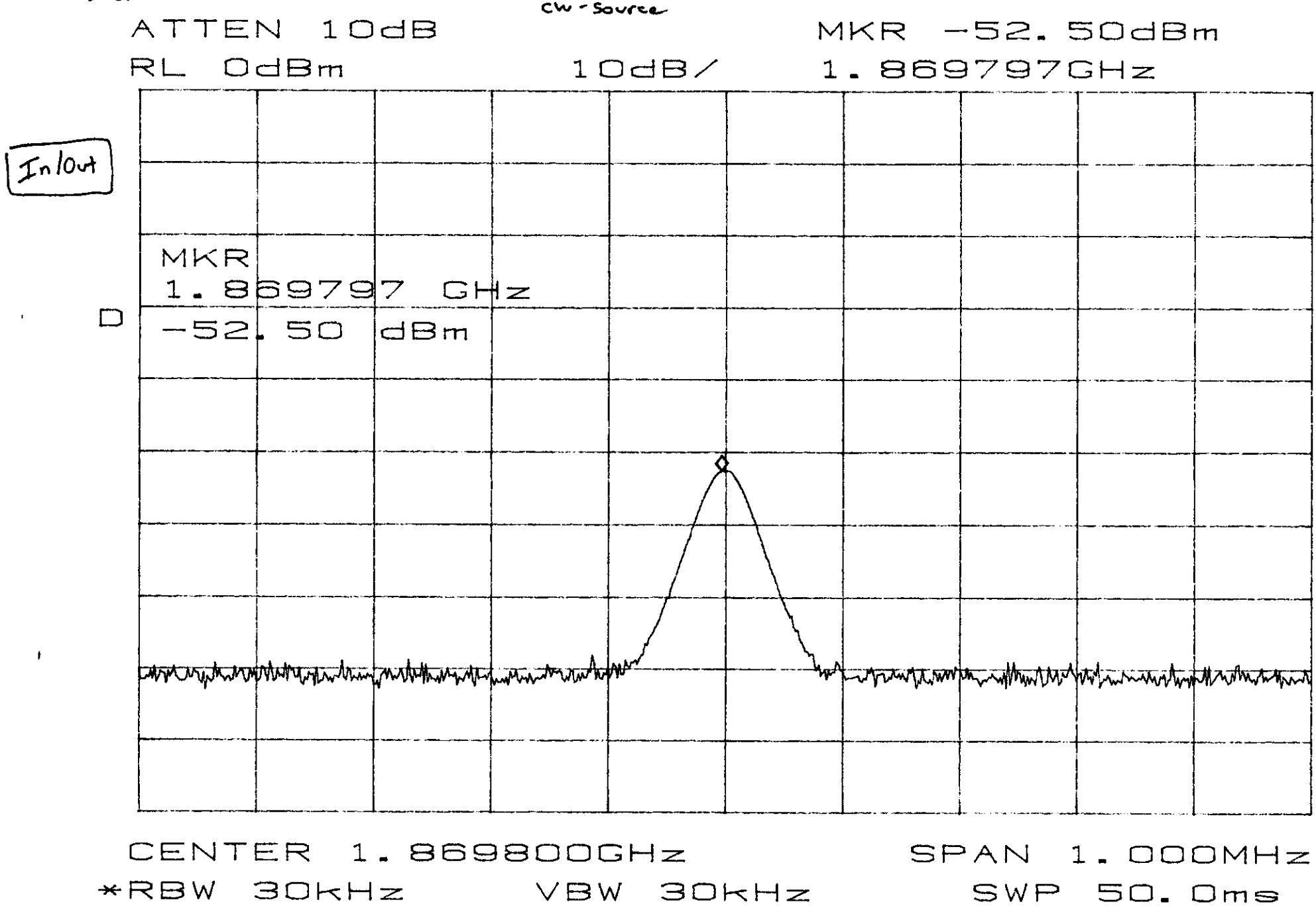


CENTER 1.867400GHz
SPAN 1.000MHz
*RBW 30kHz
VBW 30kHz
SWP 50.0ms

UL High
D-band

Input
cw-source

9/17/98
LB41901



UL High
D-band

Output

CW-source

9/17/98
LB41901