

22 November 2000

Mr. Richard Fabina
OFFICE OF ENGINEERING AND TECHNOLOGY LABORATORY
Federal Communications Commission
7435 Oakland Mills Road
Columbia, MD 21046-1609

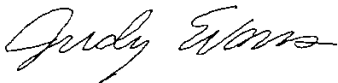
RE: October 31, 2000 fax to Cubic Communications, Inc., Mr. Clive Winkler
FCC ID: NVSMTC-100TMCPA

Dear Mr. Fabina:

Enclosed are responses to your above mentioned fax to Cubic Communications. The package includes your fax page, two pages with the questions 1 through 6 (A through F) addressed, an attestation statement, and data.

If this does not resolve the issues with this application and further information is needed, please contact me at grants-sd@tuvam.com.

Sincerely,



Judy Evans
Technical Writer

enclosures

FEDERAL COMMUNICATIONS COMMISSION
Laboratory Division
7435 Oakland Mills Road
Columbia, MD 21046

October 31, 2000

Cubic Communications Inc
9535 Waples Street
San Diego, CA 92121-2953

Attention: Clive Winkler

Re: Application dated 10/11/00 and granted 10/31/00
Applicant Name: Cubic Communications Inc
Equipment Class: TNB-Licensed Non-Broadcast Station Transmitter
FCC ID: NVSMTC-100TMCPA

Gentlemen:

Under the authority of Section 1.113 of the Commission's Rules, the above referenced Grant of Equipment Authorization is hereby SET ASIDE.

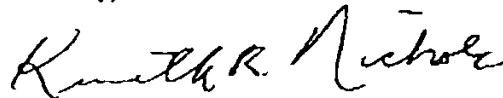
The grant of equipment authorization is set aside for the following reasons:

1. Modulation limiting data required by Section 2.1047(b) of the FCC Rules was not submitted.
2. The occupied bandwidth test was not made with the 2500 Hz tone prescribed by Section 2.1049(c)(1) the Rules.
3. No response to the audio low-pass filter requirement of Section 80.213(e) was given.
4. No response to the frequency selection capability of Section 80.203 was given.
5. No response to the DSC requirement under Section 80.203(n) and 80.225 was given.
6. For your information - Please note that the attenuation requirement for unmodulated spurious emissions is prescribed as $43 + 10\log(P)$. This is referenced to the desired signal yielding a level referenced to the carrier or dBc. The attenuation specification is not a specified field strength level or $\mu V/M$. The dBc is determined from the substitution method as described in the ANSI/TIA/EIA-603-1992 document.

The result of this action today reverts the Grant of Equipment Authorization to a pending application status with all rights for amendment, dismissal or denial. As another result of this action, authorization for marketing has been withdrawn. If importation or marketing has begun, these actions should cease immediately.

Questions concerning this matter may be directed to Richard Pebina at the above address.

Sincerely,


Kenneth R. Nichols, Chief
Laboratory Division

A. In response to Item 1 of The FCC communication from Kenneth Nichols dated 10-31-00.

“Modulation limiting data required by Section 2.1047(b) of the FCC Rules was not submitted.”

We have attached measured data taken on 11/21/00 according to this specification.

Data and Plot of the Output Bandwidth vs the Audio Input Level.

See page 4 for the plot of the data and pages 5 through 11

Input Level dBm) Output Bandwidth (kHz)

16	15.29
10	15.34
0	15.29
-10	15.29
-20	15.29
-30	10.45
-40	5.50

B. In response to Item 2 of The FCC communication from Kenneth Nichols dated 10-31-00.

“The occupied bandwidth test was not made with the 2500 Hz tone prescribed by Section 2.1049 (c)(1) the Rules.”

We have attached measured data taken on 11/02/00 and 11-21-00 according to this specification. See pages 5 and 12 through 14

C. In response to Item 3 of The FCC communication from Kenneth Nichols dated 10-31-00.

“No response to the audio low-pass filter requirement of Section 80.213 (e) was given.”

We have attached measured data taken on 11/21/00 according to this specification.

See page 15 for the plotted data.

$60\log_{10}(f/3) =$

Freq (Hz)	Log (f/3)	Attenuation (dB)
3000	1	0
4000	0.1249	7.49
5000	0.2218	13.31
6000	0.3010	18.06
8000	0.4260	25.55
10000	0.5229	31.37
15000	0.6990	41.93
20000	0.8240	49.43

D. In response to Item 4 of The FCC communication from Kenneth Nichols dated 10-31-00.

“4. No response to the frequency selection capability of Section 80.203 was given.”

The MTC-100 transmitter is a Remotely Controlled Transmitter. It IS NOT capable of being controlled by station operators as there are NO local, external controls. (Except for serial communications set-up. ie. “DIP” switches for Baud Rate and Serial Address.)

The frequencies, bandwidths and modulation are controlled by the AMTS computer.

E. In response to Item 5 of The FCC communication from Kenneth Nichols dated 10-31-00.

5. “No response to the DSC requirement under Section 80.203(n) and 80.225 was given.”

**The MTC100T/MCPA system is designed to be used with AMTS.
“This requirement does not apply to transmitters used with AMTS...” [47-80.203(n)]**

F. In response to Item 6 of The FCC communication from Kenneth Nichols dated 10-31-00.

6. (Spurious emissions in dBc rather than dB μ v/m)

On the 14 November 2000 TCB Council conference call the following was discussed:
A question was posed about substitution method and absolute measurements. The FCC will need to discuss this in greater detail. The answer will be forwarded to ACIL who will distribute it to conference call attendees.

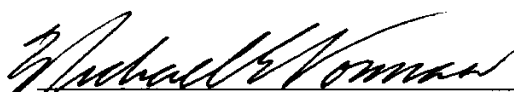
To Whom it May Concern:

This is to certify that the following data supplied to TUV by Cubic Communications, Inc., for FCC ID: NVSMTC-100TMCPA, were obtained based on tests performed in accordance with the appropriate Sections of the FCC Rules.

Modulation Limiting Section 2.1047(b)

Occupied Bandwidth Section 2.1049(c)(1)

Audio Low-Pass Filter Section 80.213(e)

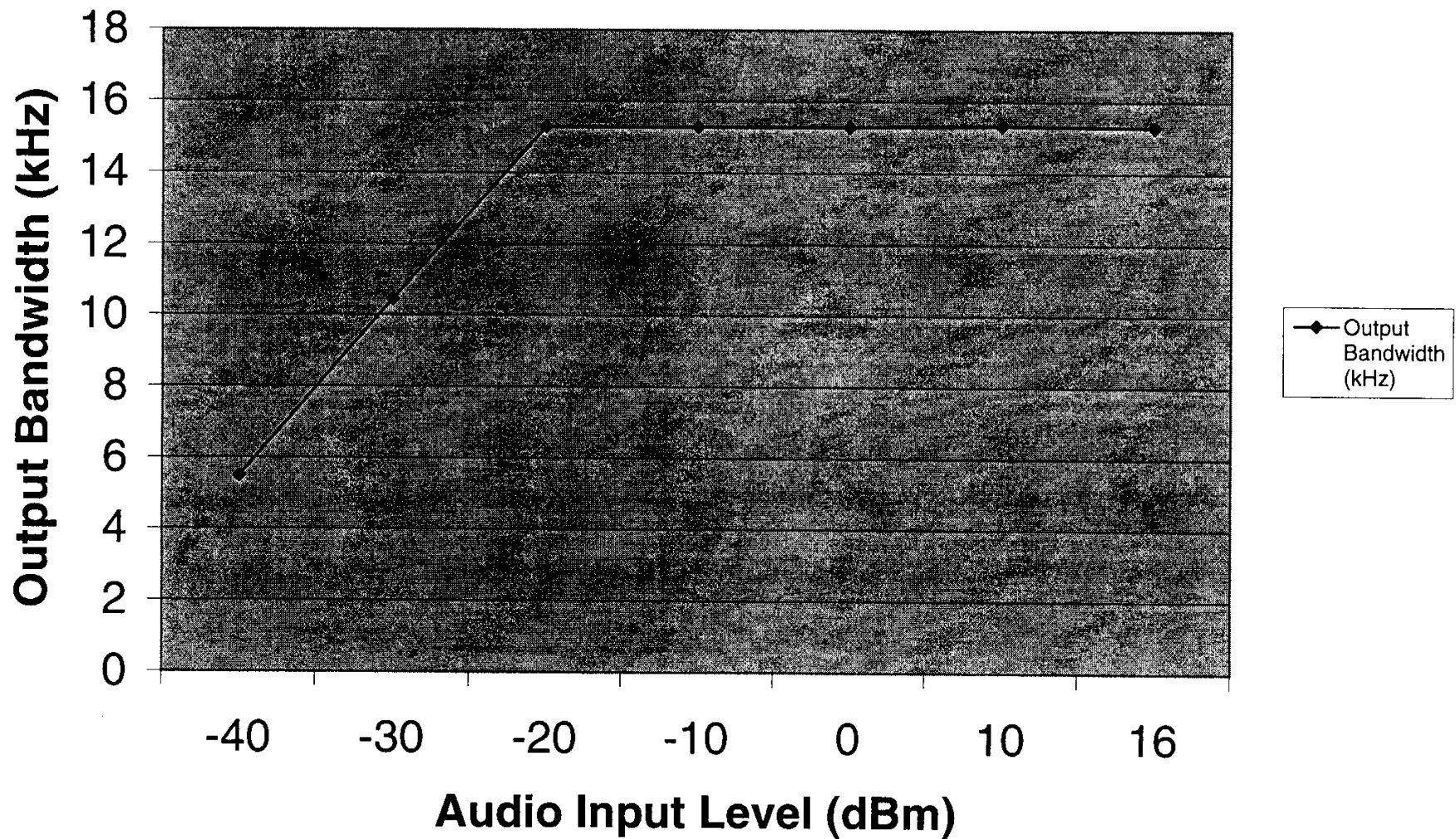

Signed


Printed

11-21-00
Date

47-2.1047(b)

Output Bandwidth vs Audio Input Level



MKR Δ 15.29 kHz
-0.60 dB

hp REF 24.0 dBm ATTEN 40 dB

10 dB/

SAMPLE

MTC100/MCPA

S/N 520

2.1047(b)

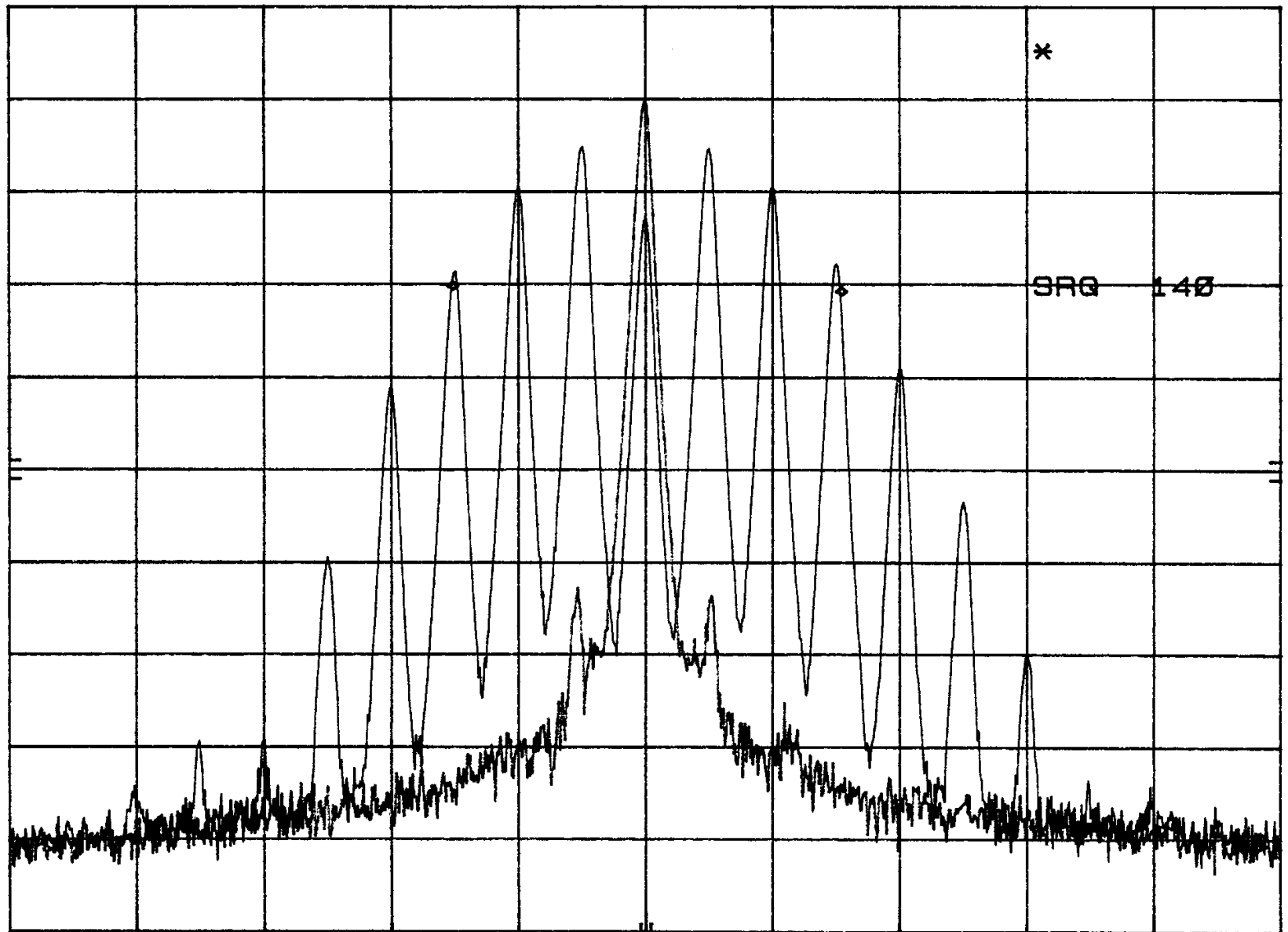
VID AVG
10

± 16 dBm

Input @

2.5 kHz

H-21-07
mmw



CENTER 159.000 0 MHz

RES BW 300 Hz

VBW 1 kHz

SPAN 50.0 kHz

SWP 1.50 sec

REF 24.0 dBm ATTEN 40 dB

MKR Δ 15.34 kHz
-0.10 dB

hp

10 dB/

SAMPLE

mcpa/mtc/02

S/N 520

2.1047(b)

VID AVG
10

+10 dBm
Input @
2.5 kHz

11-21-00
mm

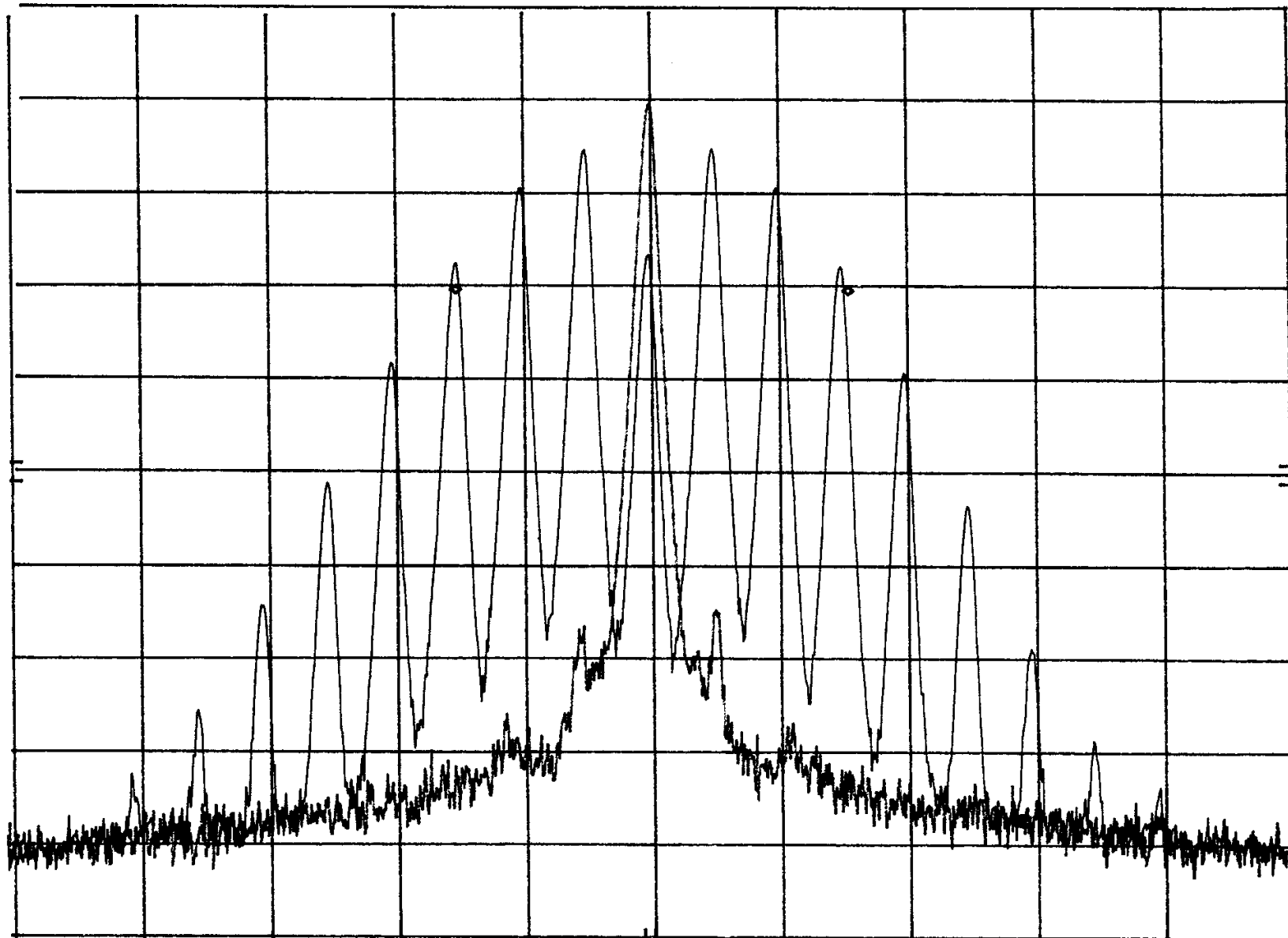
CENTER 159.000 0 MHz

RES BW 300 Hz

VBW 1 kHz

SPAN 50.0 kHz

SWP 1.50 sec



MKR Δ 15.29 kHz
-0.50 dB

hp REF 24.0 dBm ATTN 40 dB

10 dB/

SAMPLE

MTC100/MCPA

S/H 520

2.1047(b)

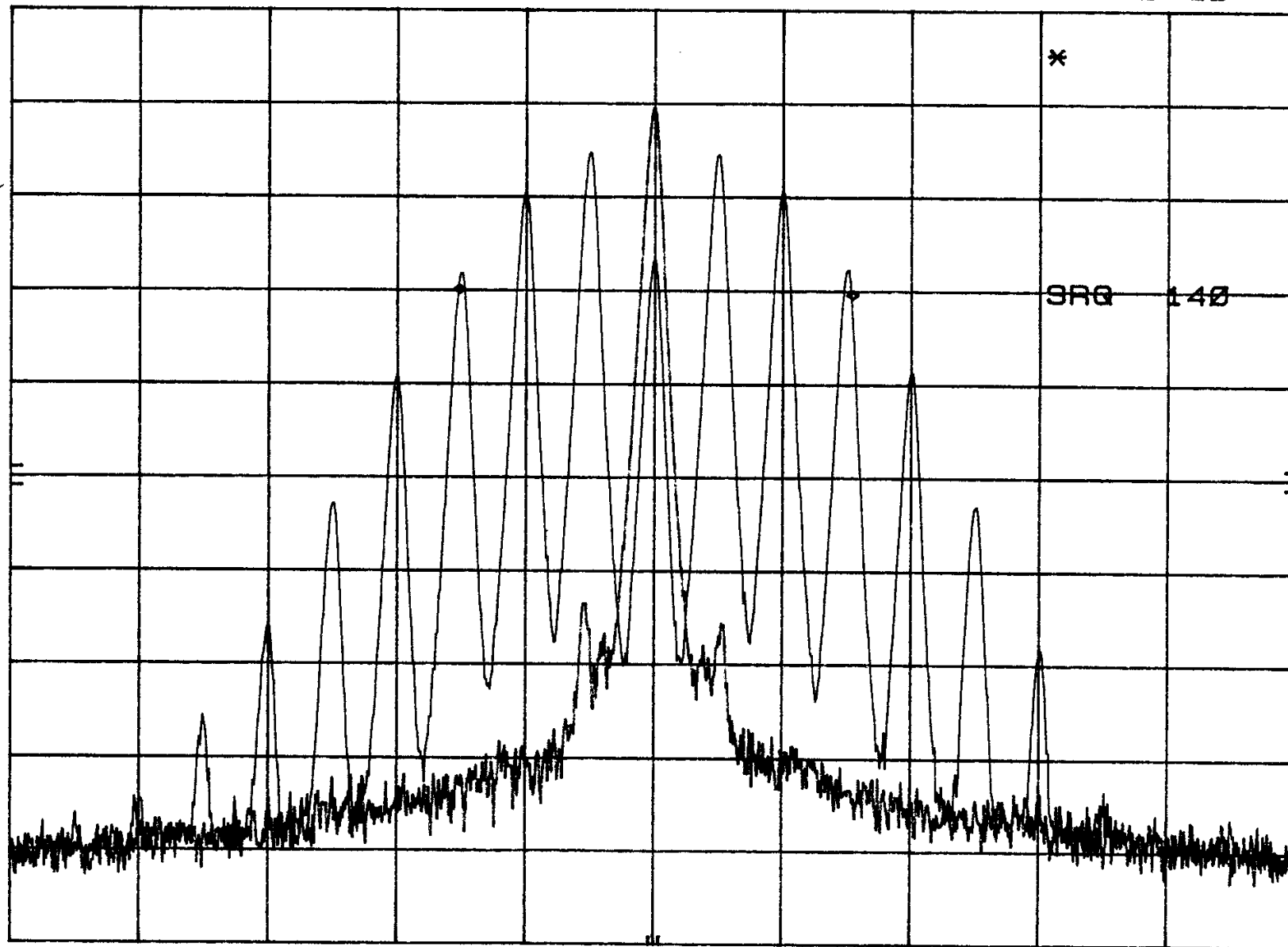
VID AVG
10

0 dBm

Input @

2.5 kHz

11-21-00
MMW



CENTER 159.000 0 MHz

RES BW 300 Hz

VBW 1 kHz

SPAN 50.0 kHz

SWP 1.50 sec

MKR Δ 15.29 kHz
-1.50 dB

hp REF 24.0 dBm ATTEN 40 dB

10 dB/

SAMPLE

*

SRG 140

VID AVG
10

-10 dBm
INPUT @
2.5 kHz

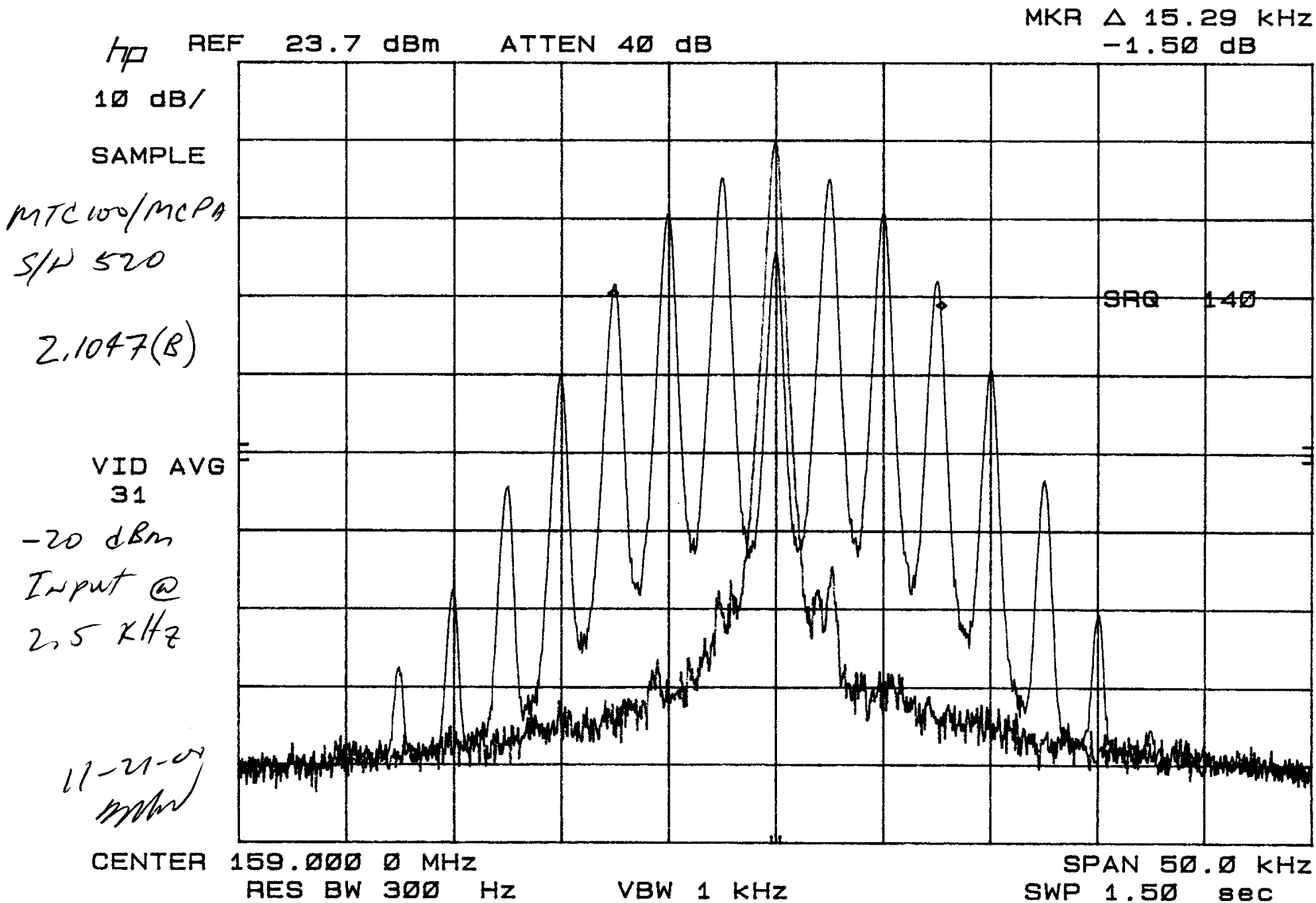
11-21-00
mhw

CENTER 159.000 0 MHz

RES BW 300 Hz

VBW 1 kHz

SPAN 50.0 kHz
SWP 1.50 sec



hp REF 23.3 dBm ATTEN 40 dB

MKR Δ 10.45 kHz
-0.70 dB

10 dB /

SAMPLE

MICRA/MTC100

S/N 520

2.1047 (b)

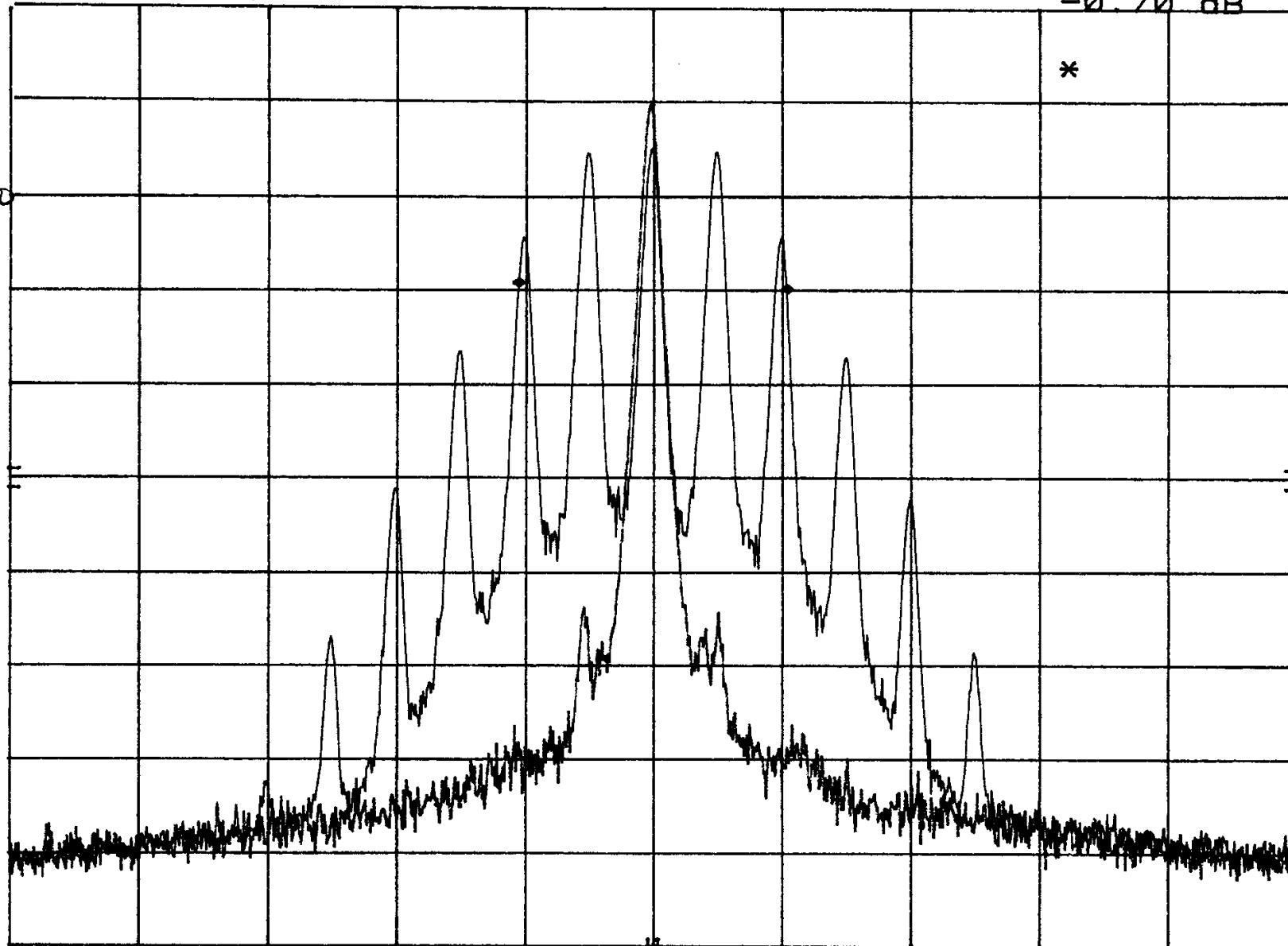
VID AVG
19

-30 dBm

Input @

2.5 kHz

11-21-00
mhr



CENTER 159.000 0 MHz

RES BW 300 Hz

VBW 1 kHz

SPAN 50.0 kHz
SWP 1.50 sec

MKR Δ 5.50 kHz
0.80 dB

hp REF 23.3 dBm ATTEN 40 dB

10 dB/

SAMPLE

MTC100/MCPA

S/N 520

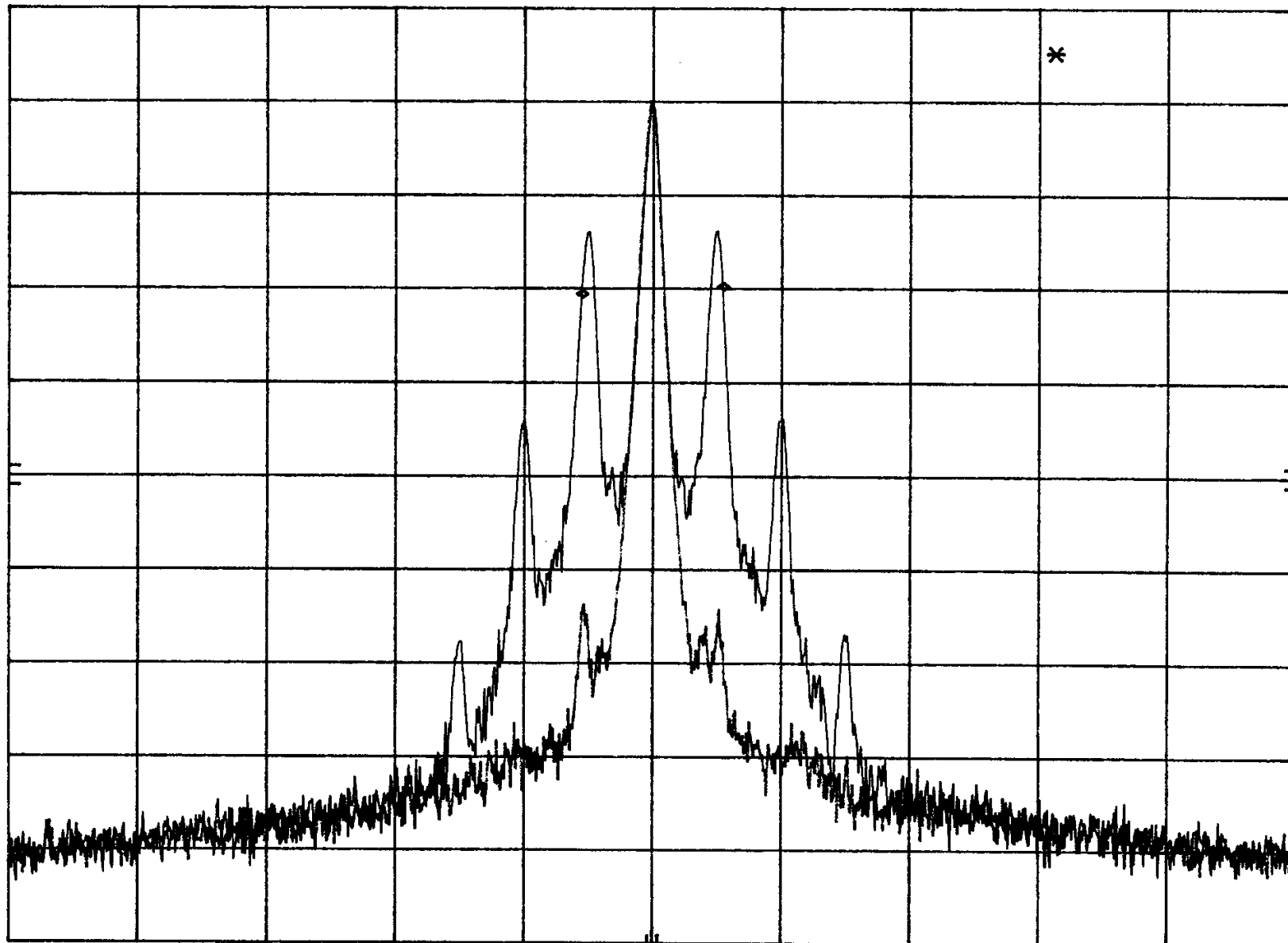
2.1047 (b)

VID AVG
10

-40 dBm

INPUT @
2.5 kHz

11-21-00
mwh



CENTER 159.000 0 MHz

RES BW 300 Hz

VBW 1 kHz

SPAN 50.0 kHz

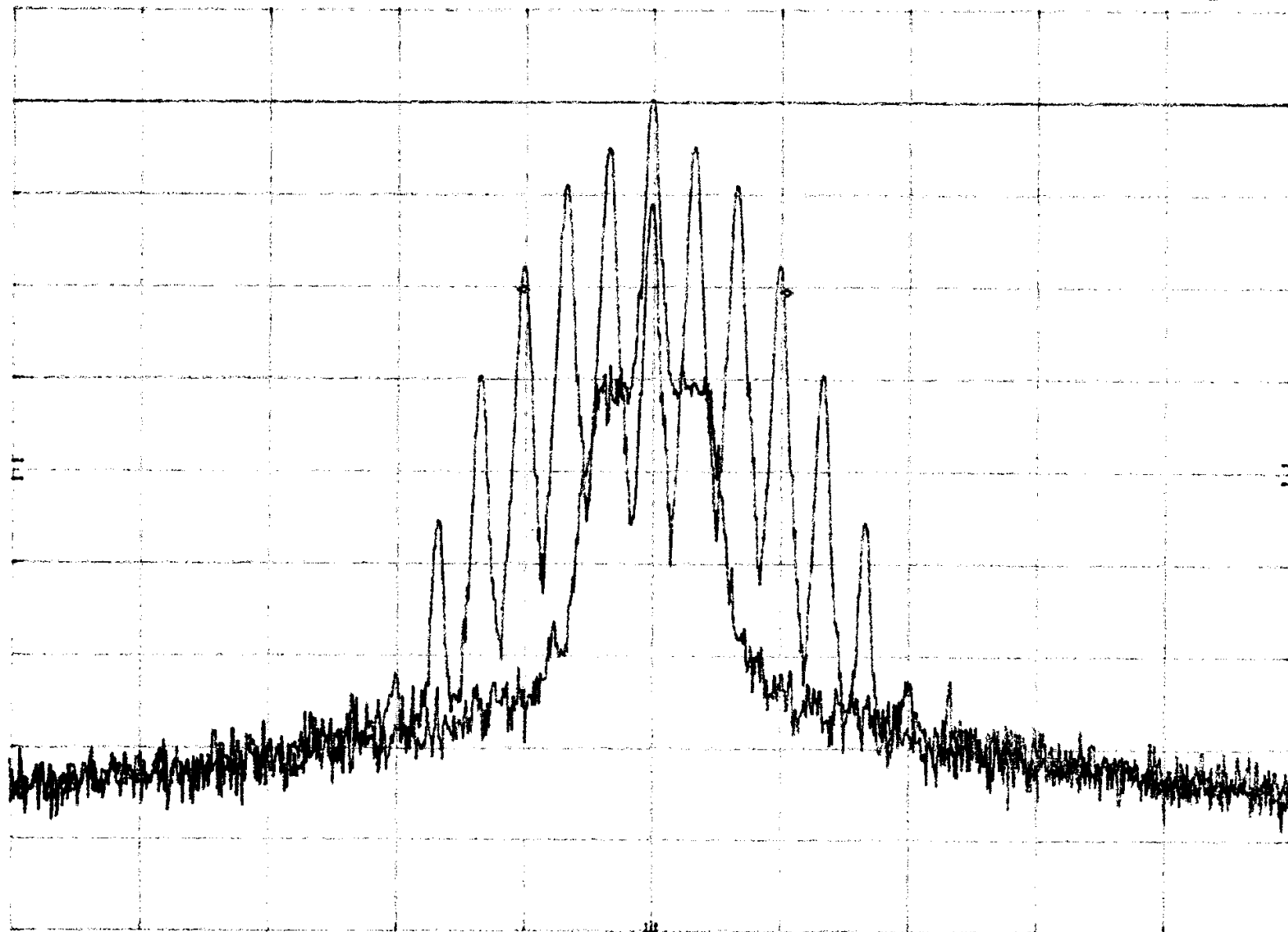
SWP 1.50 sec

MKR Δ 15.45 kHz
BP 0.30 dB

hp REF 22.2 dBm ATTN 40 dB

10 dB/

DL
12.2
dBm



CENTER 156.000 0 MHz

RES BW 300 Hz

VBW 3 kHz

SPAN 75.0 kHz

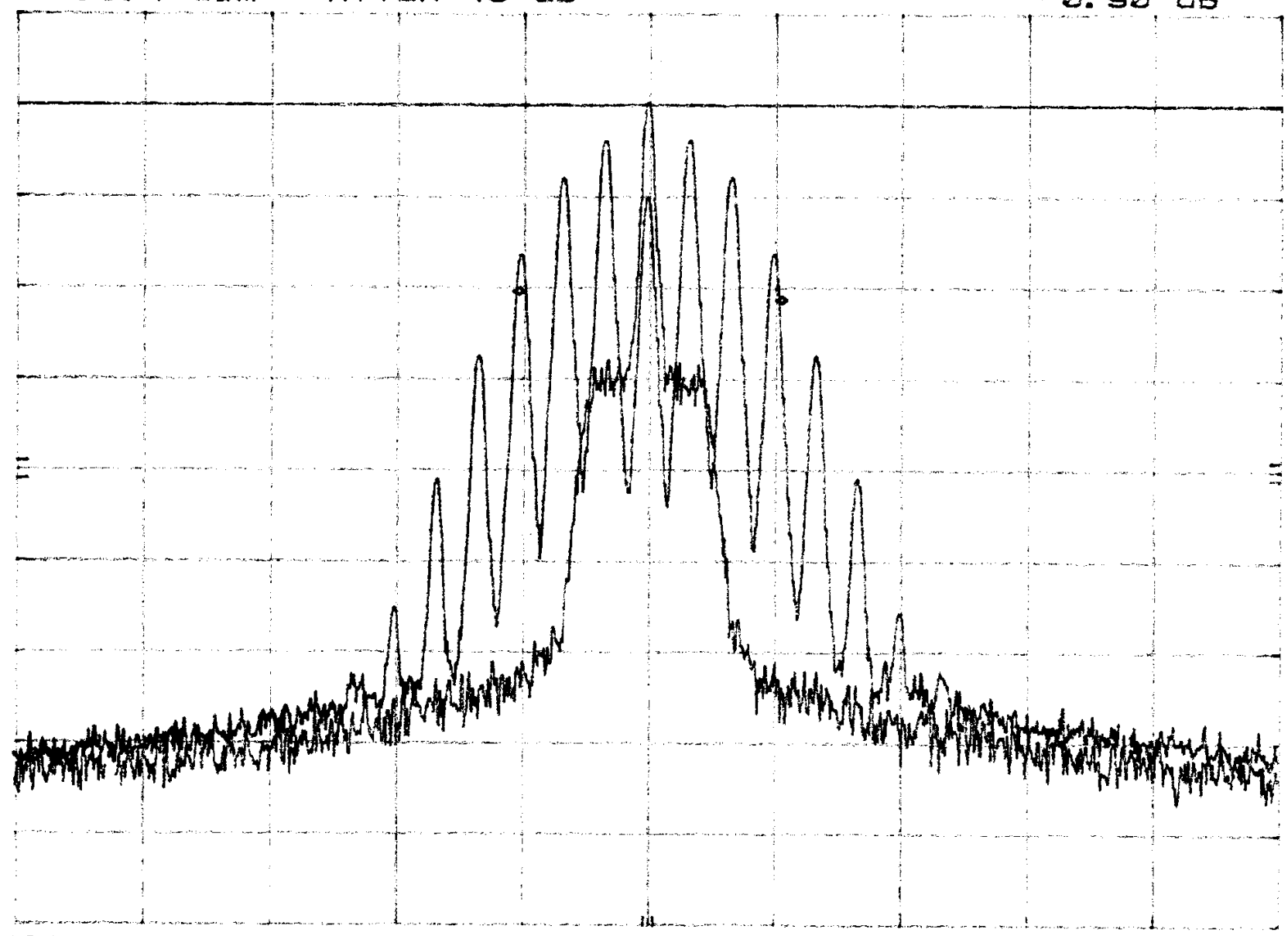
SWP 2.25 sec

MKR Δ 15.60 kHz
-0.90 dB

hp REF 21.4 dBm ATTN 40 dB

10 dB/

DL
11.4
dBm



CENTER 159.000 0 MHz

RES BW 300 Hz

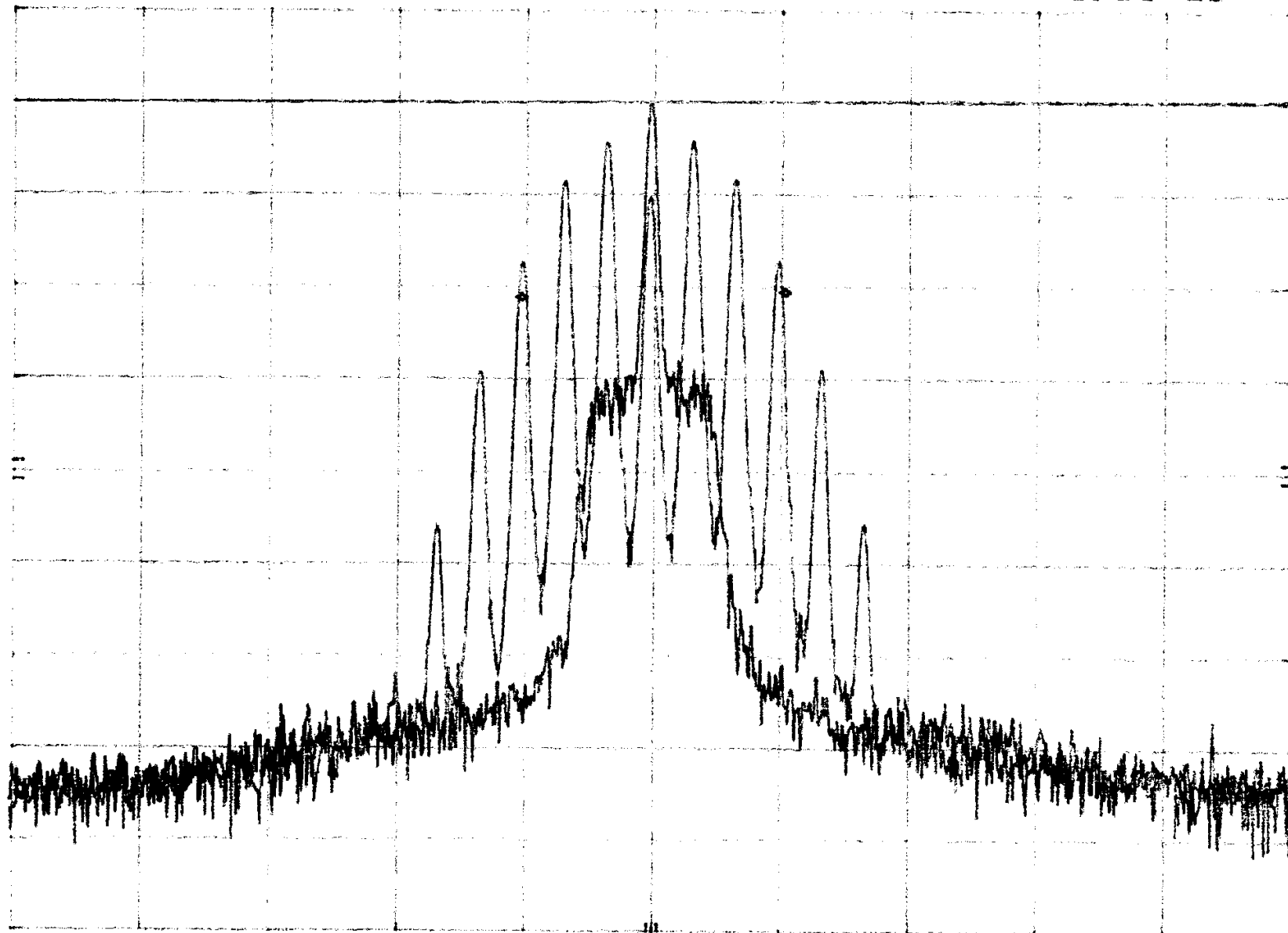
VBW 3 kHz

SPAN 75.0 kHz
SWP 2.25 sec

hp REF 21.9 dBm ATTN 40 dB MKR Δ 15.45 kHz
BP 0.50 dB

10 dB/

DL
11.9
dBm



CENTER 162.000 0 MHz

RES BW 300 Hz

VBW 3 kHz

SPAN 75.0 kHz

SWP 2.25 sec

14

RANGE: 10 dBV

STATUS: PAUSED

PEAK: 1179

OVLD

A: MAG

20
dBV

MTC100/MCPA
S/N 520

80.213(e)

10
dB
/DIV

Audio ATTEU

100 Hz - 20 kHz

11-21-00
mm
-60

START: 0 Hz

BW: 190.97 Hz

STOP: 20 000 Hz

X: 2950 Hz

Y: 9.79 dBV

