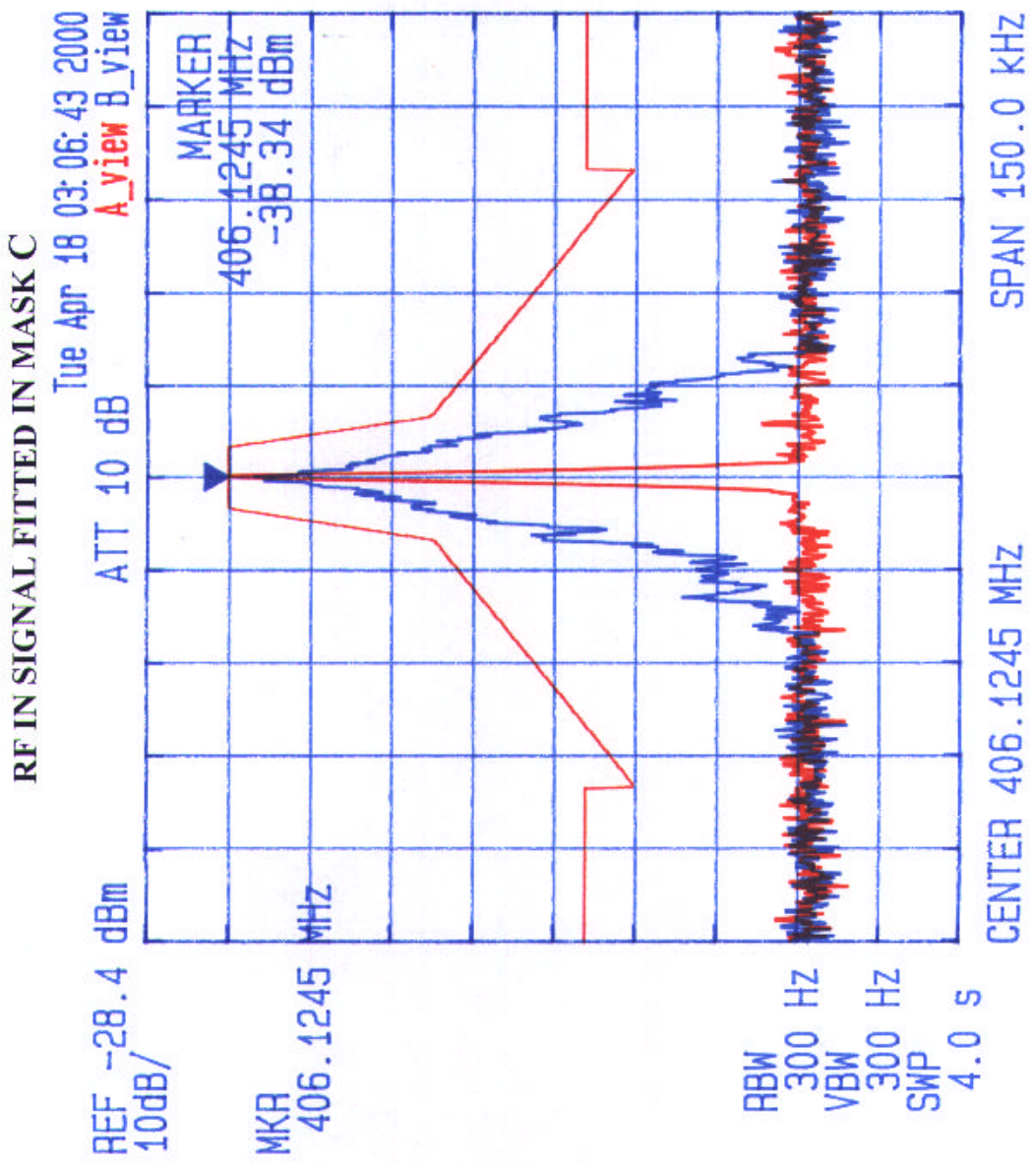


Date: April 18 2000  
Tested by: Hung Trinh

**KAVAL TELECOM INC.**  
**BDA1300 BI-DIRECTIONAL AMPLIFIER, UHF 403-512 MHz**  
RF In at level of -40 dBm @ 450 MHz  
Mod: FM Modulated with an external 9600 b/s random data, Freq. Dev.: 2 kHz  
**Emissions Mask C, Channel spacing 25 kHz**





**UltraTech**  
Engineering Labs Inc.

**KAVAL TELECOM INC.**

**BDA1300 BI-DIRECTIONAL AMPLIFIER, UHF 403-512 MHz**

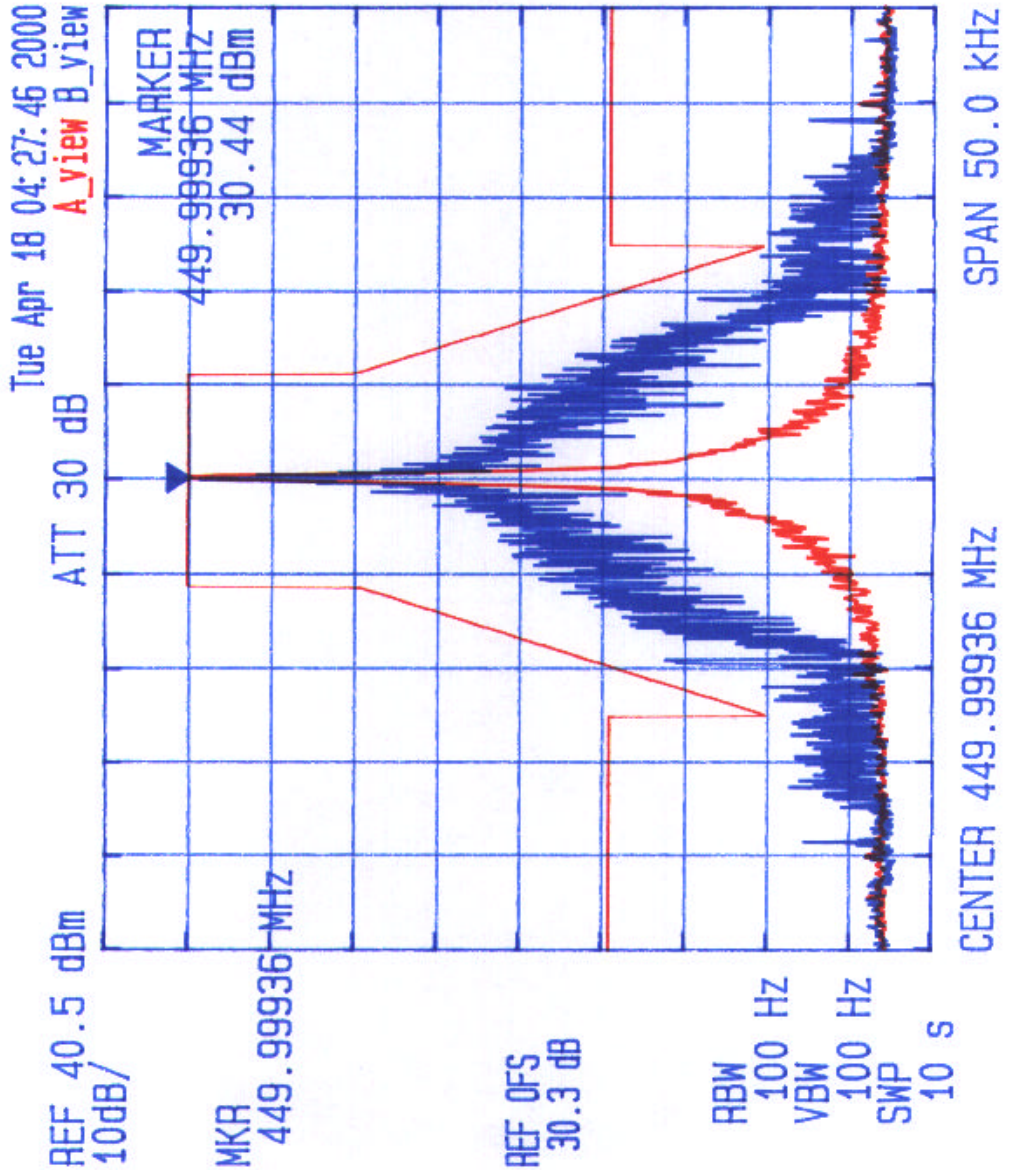
Tx Freq.: 450 MHz, RF Output: 1.3 Watts

RF In at level of -40 dBm @ 450 MHz

Mod: FM Modulated with an external 9600 b/s random data, Freq. Dev.: 2.5 KHz

**Emissions Mask D, Channel Spacing 12.5 kHz**

Date: April 18, 2000  
Tested by: Hung Trinh







KAVAL TELECOM INC.

BDA1300 BI-DIRECTIONAL AMPLIFIER, UHF 403-512 MHz

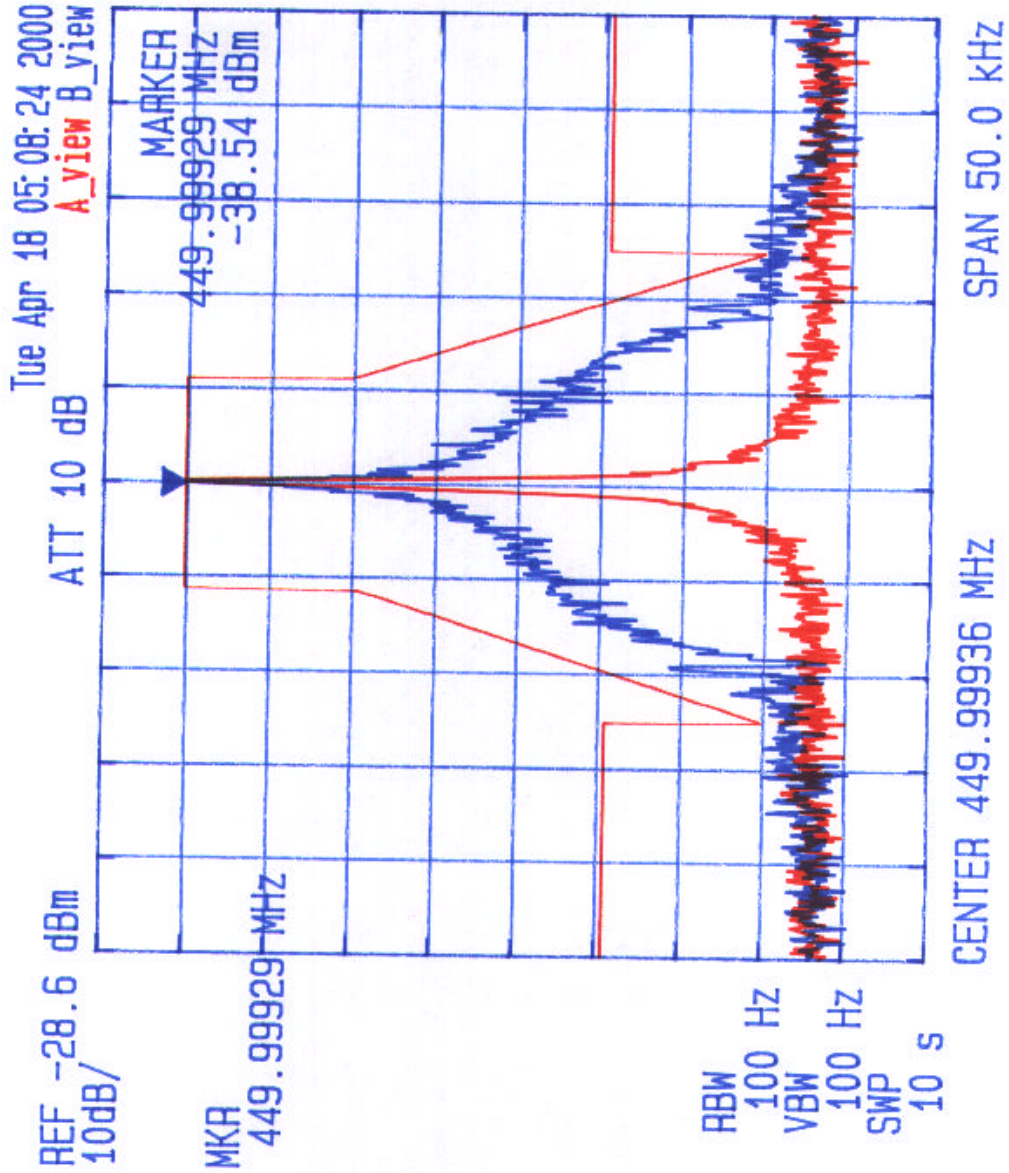
RF In at level of -40 dBm @ 450 MHz

Mod: FM Modulated with an external 9600 b/s random data, Freq. Dev.: 0.5 kHz

Emissions Mask D, Channel spacing 12.5 kHz

Date: April 18, 2000  
Tested by: Hung Trinh

RF IN SIGNAL FITTED IN MASK D





KAVAL TELECOM INC.

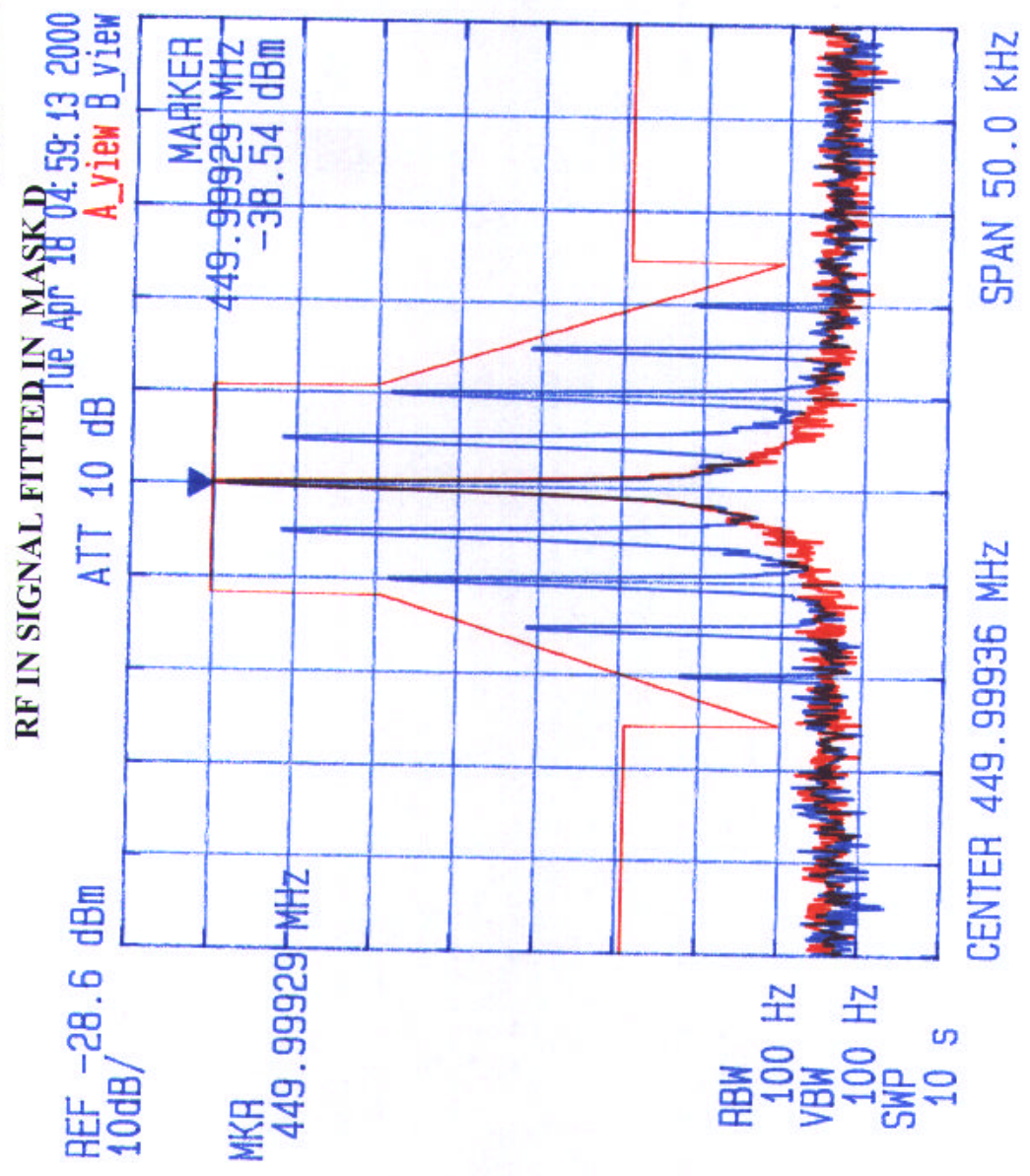
BDA1300 BI-DIRECTIONAL AMPLIFIER, UHF 403-512 MHz

RF In at level of -40 dBm @ 450 MHz

Mod: FM Modulated with 2.5 kHz Sine Wave signal, Freq. Dev.: 1.5 kHz

Emissions Mask D, Channel spacing 12.5 kHz

Date: April 18, 2000  
Tested by: Hung Trinh



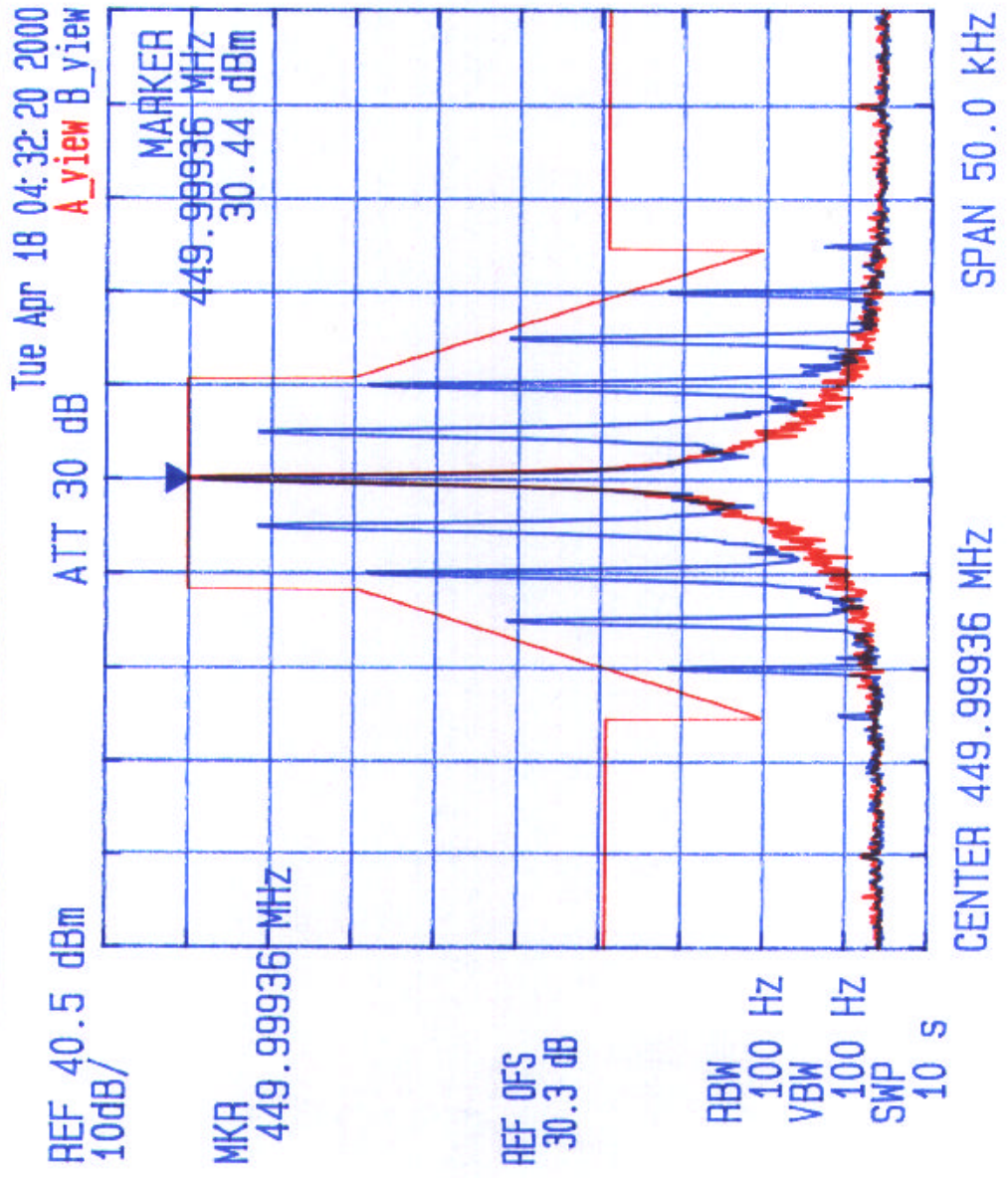




**UltraTech**  
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**KAVAL TELECOM INC.**  
**BDA1300 BI-DIRECTIONAL AMPLIFIER, UHF 403-512 MHz**  
 Tx Freq.: 450 MHz, RF Output: 1.3 Watts  
 RF In at level of -40 dBm @ 450 MHz  
 Mod: FM Modulated with 2.5 kHz Sine Wave signal, Freq. Dev.: 1.5 kHz  
**Emissions Mask D, Channel Spacing 12.5 kHz**

Date: April 18 2000  
 Tested by: Hung Trinh





**UltraTech**  
Engineering Labs Inc.

**KAVAL TELECOM INC.**

**BDA1300 BI-DIRECTIONAL AMPLIFIER, UHF 403-512 MHz**

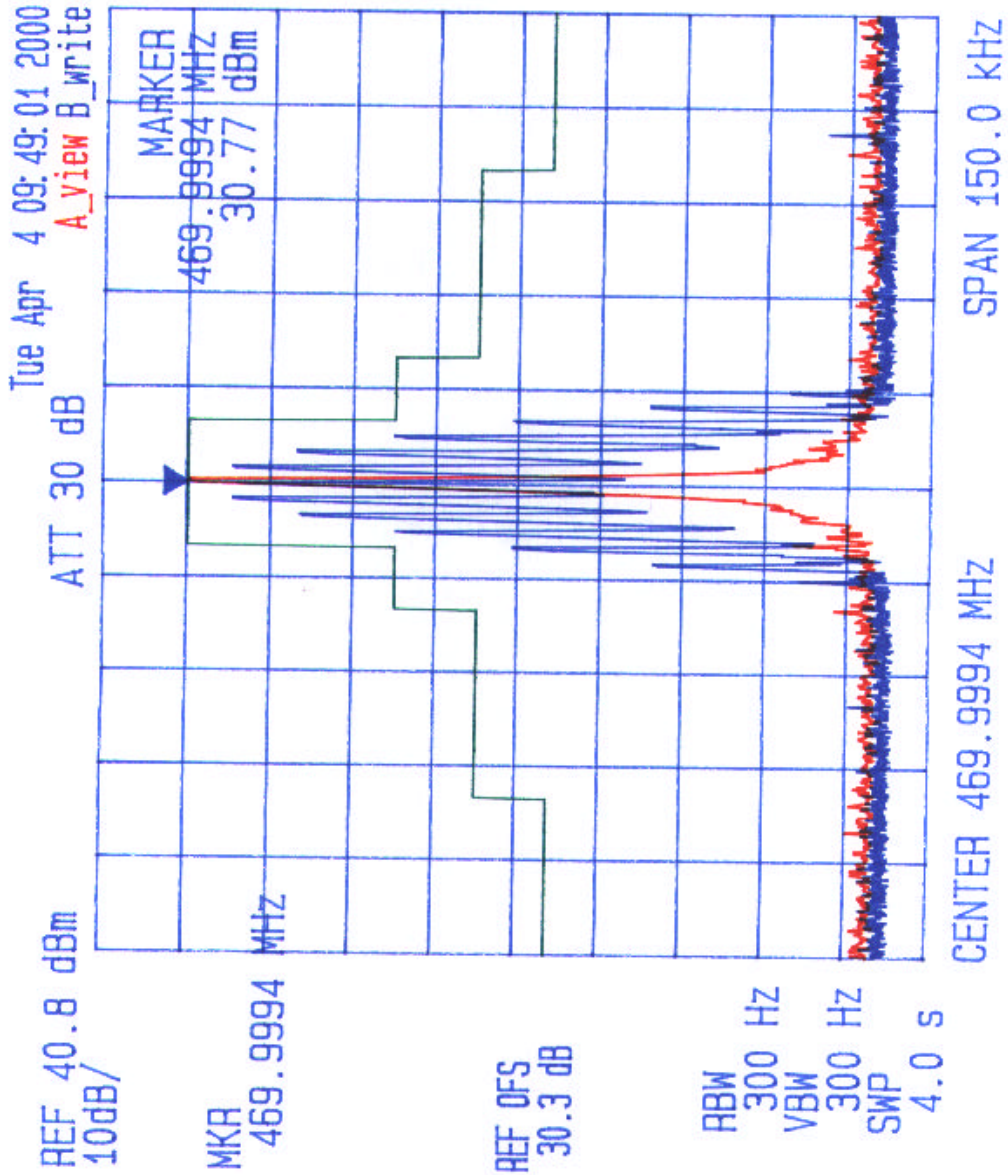
Tx Freq: 470 MHz, RF Output: 0.83 Watts

RF In at level of -40 dBm @ 470 MHz

Mod: FM Modulated with 2.5 kHz Sine Wave signal, Freq. Dev.: 2 kHz

**Emissions Mask B, Channel spacing 25 kHz**

Date: April ~~02~~ 2000  
Tested by: Hung Trinh





Date: April 24, 2000  
Tested by: Hung Trinh

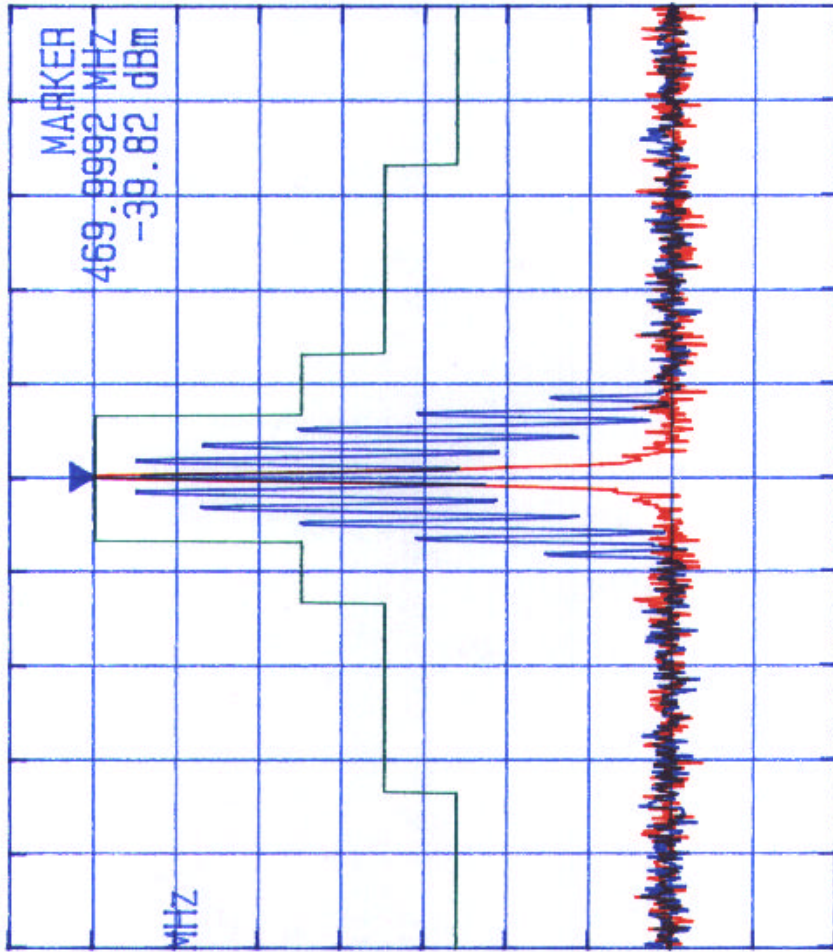
**KAVAL TELECOM INC.**  
**BDA1300 BI-DIRECTIONAL AMPLIFIER, UHF 403-512 MHz**  
Tx Freq: \_\_\_\_\_ MHz, RF Output: \_\_\_\_\_ Watts  
RF In at level of \_\_\_\_\_ dBm @ \_\_\_\_\_ MHz  
Mod: FM Modulated with 2.5 kHz Sine Wave signal, Freq. Dev.: \_\_\_\_\_ kHz  
**Emissions Mask B, Channel spacing 25 kHz**



*RF SIGNAL FITTED IN MASK B* Tue Apr 4 12:54:43 2000  
A\_view B\_write&max

REF -29.7 dBm  
10dB/

MKR  
469.9992 MHz



ABW 300 Hz  
VBW 300 Hz  
SWP 4.0 s

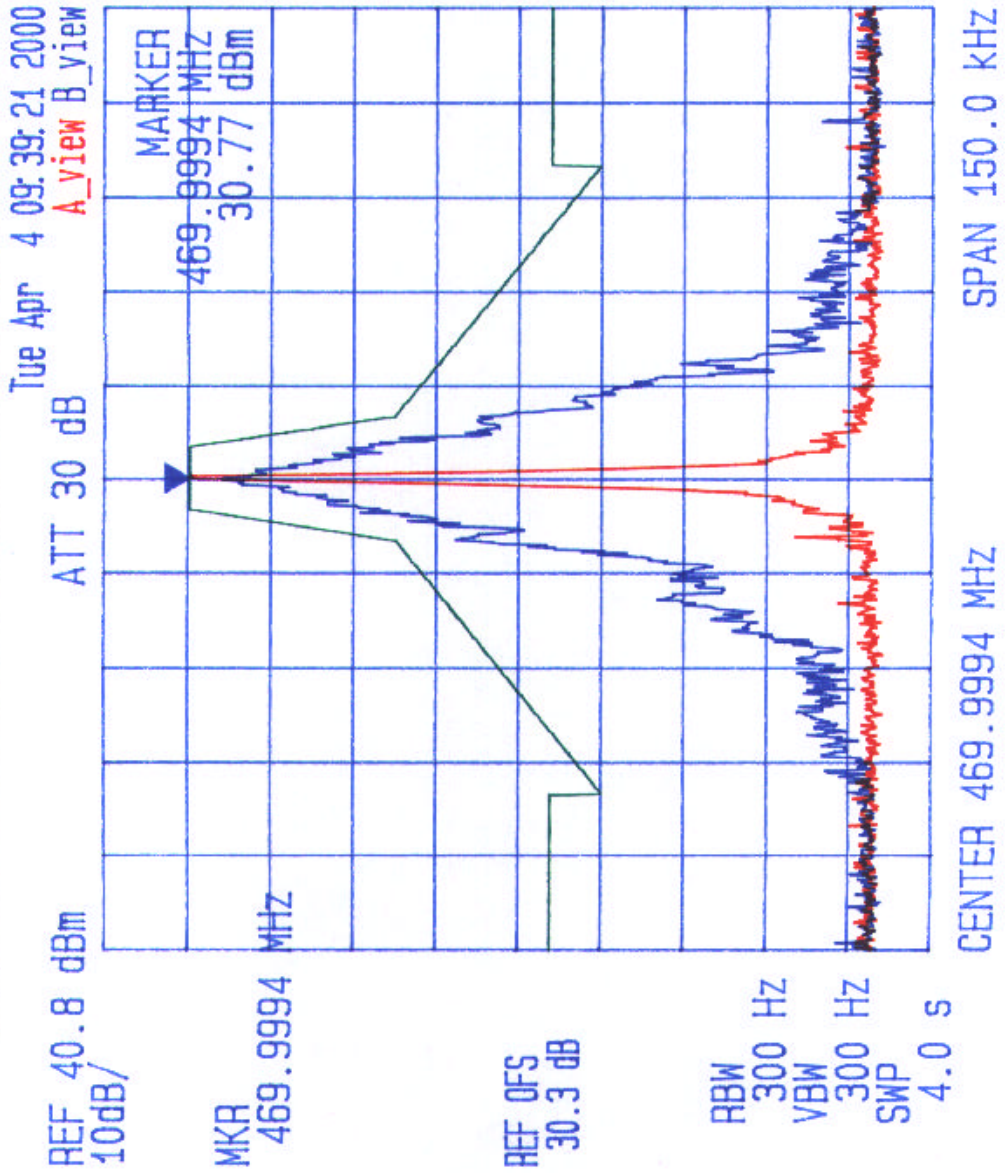
CENTER 469.9992 MHz SPAN 150.0 KHZ



**UltraTech**  
Engineering Labs Inc.

**KAVAL TELECOM INC.**  
**BDA1300 BI-DIRECTIONAL AMPLIFIER, UHF 403-512 MHz**  
Tx Freq: 470 MHz, RF Output: 0.8 Watts  
RF In at level of -40 dBm @ 470 MHz  
Mod: FM Modulated with an external 9600 b/s random data, Freq. Dev.: 2 kHz  
**Emissions Mask C, Channel spacing 25 kHz**

Date: April 04 2000  
Tested by: Hung Trinh







**UltraTech**  
Engineering Labs Inc.

**KAVAL TELECOM INC.**

**BDA1300 BI-DIRECTIONAL AMPLIFIER, UHF 403-512 MHz**

Tx Freq: 469.9992 MHz, RF Output: 10 Watts

RF In at level of -40 dBm @ 469.9992 MHz

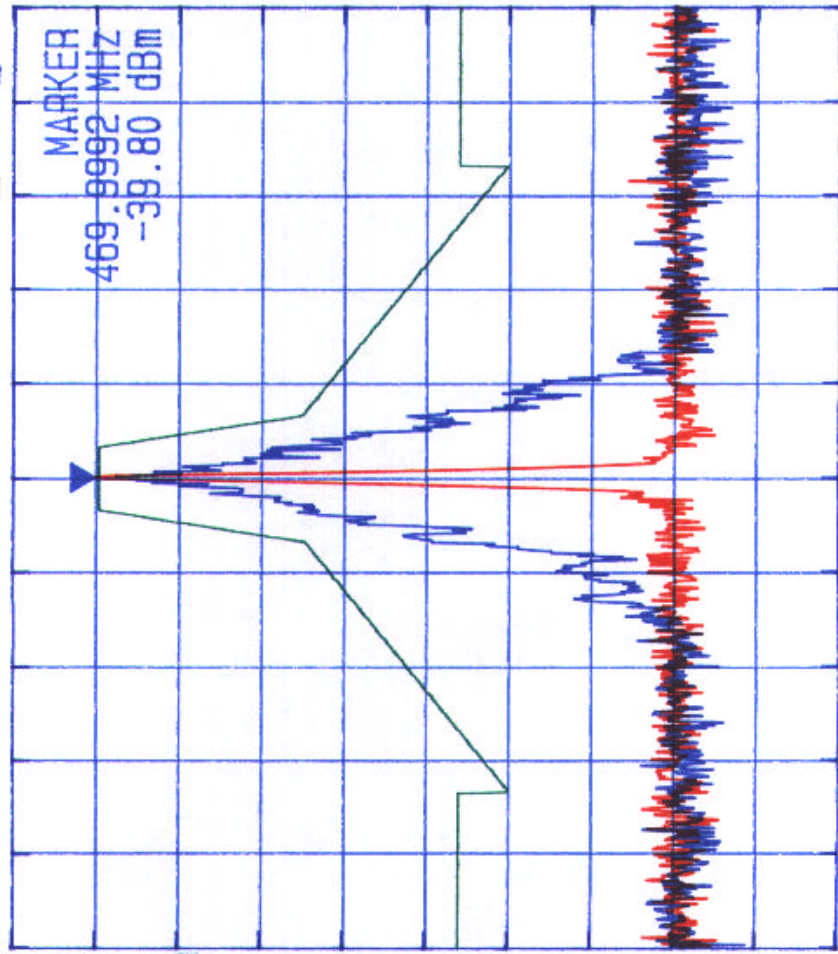
Mod: FM Modulated with an external 9600 b/s random data, Freq. Dev.:      kHz

**Emissions Mask C, Channel spacing 25 kHz**

Date: April 04, 2000  
Tested by: Hung Trinh

*RF IN SIGNAL FITTED IN MASK C*

REF -29.8 dBm  
10dB/  
REF -29.8 dBm  
ATT 10 dB  
Tue Apr 4 12:31:39 2000  
A\_view B\_view



RBW 300 Hz  
VBW 300 Hz  
SWP 4.0 s

CENTER 469.9992 MHz  
SPAN 150.0 kHz



KAVAL TELECOM INC.

BDA1300 BI-DIRECTIONAL AMPLIFIER, UHF 403-512 MHz

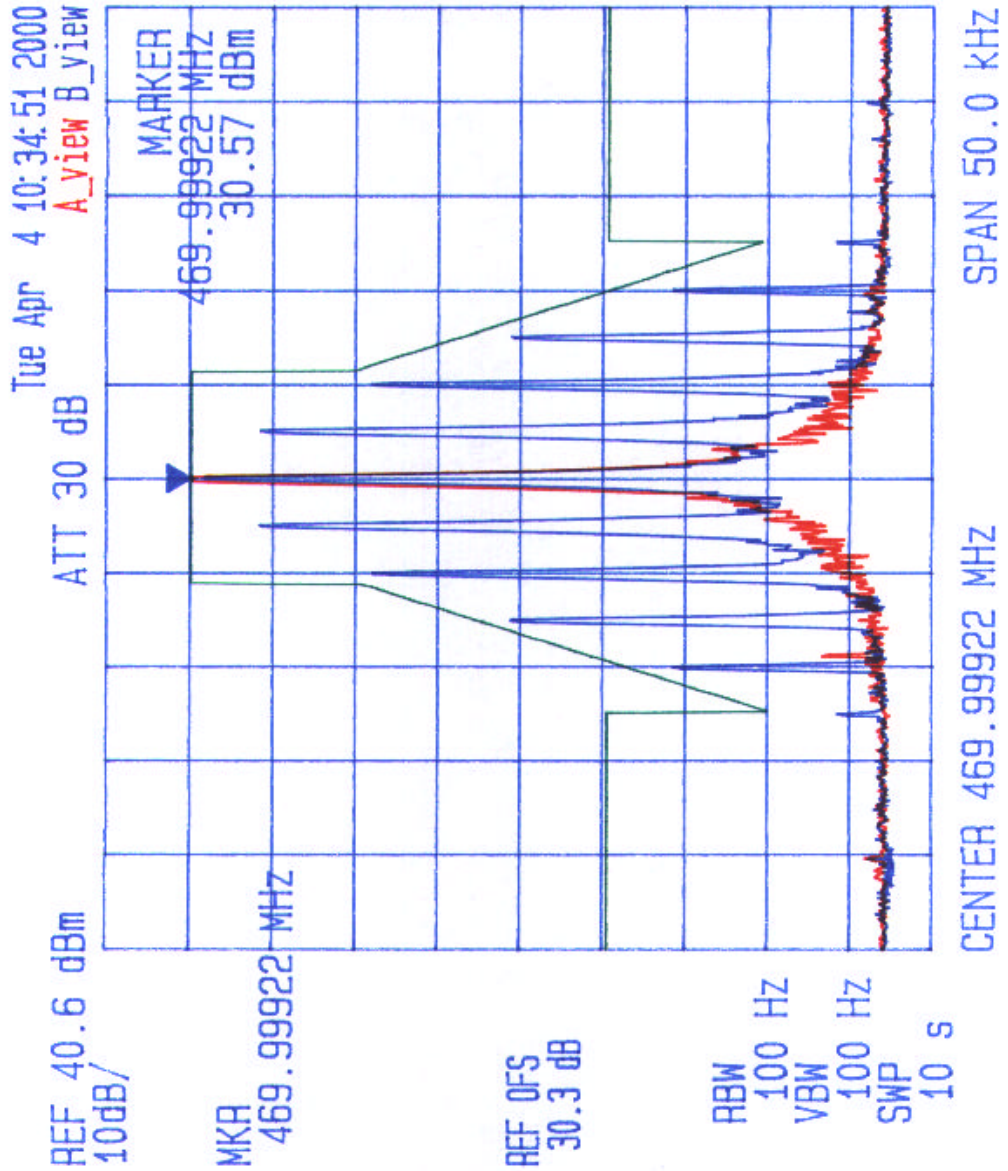
Tx Freq.: 470 MHz, RF Output: 0.83 Watts

RF In at level of -40 dBm @ 470 MHz

Mod: FM Modulated with 2.5 kHz Sine Wave signal, Freq. Dev.: 5 kHz

Emissions Mask D, Channel spacing 12.5 kHz

Date: April 04, 2000  
Tested by: Hung Trinh







**UltraTech**  
Engineering Labs Inc.

**KAVAL TELECOM INC.**

**BDA1300 BI-DIRECTIONAL AMPLIFIER, UHF 403-512 MHz**

Tx Freq: 469.99922 MHz, RF Output: 1 Watts

RF In at level of -40 dBm @ 4670 MHz

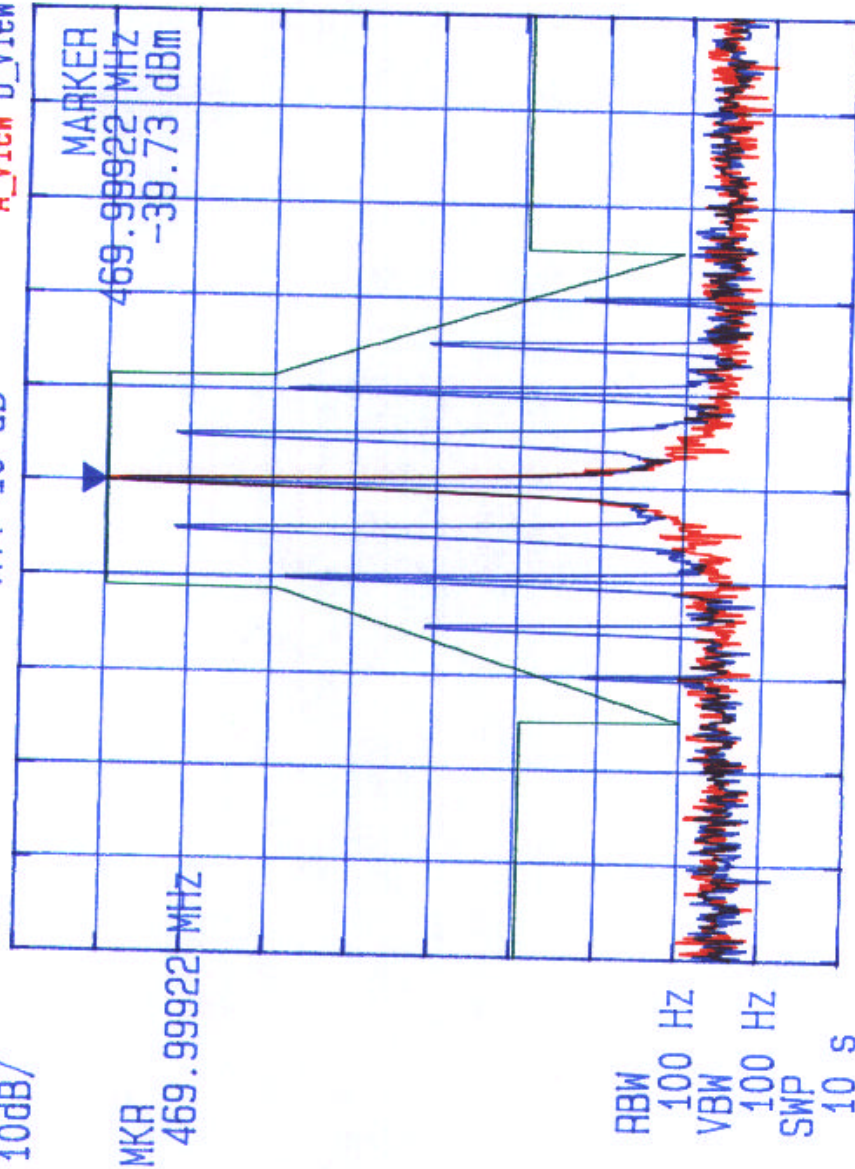
Mod: FM Modulated with 2.5 kHz Sine Wave signal, Freq. Dev.: 1.5 kHz

**Emissions Mask D, Channel spacing 12.5 kHz**

Date: April ~~04~~ 2000  
Tested by: Hung Trinh

*RF IN SIGNAL FITTED IN MASK D*

REF -29.7 dBm  
10dB/  
MKR 469.99922 MHz  
Tue Apr 4 11:27:23 2000  
ATT 10 dB  
A\_view B\_view



CENTER 469.99922 MHz  
SPAN 50.0 kHz

Date: April 04, 2000  
Tested by: Hung Trinh

**KAVAL TELECOM INC.**

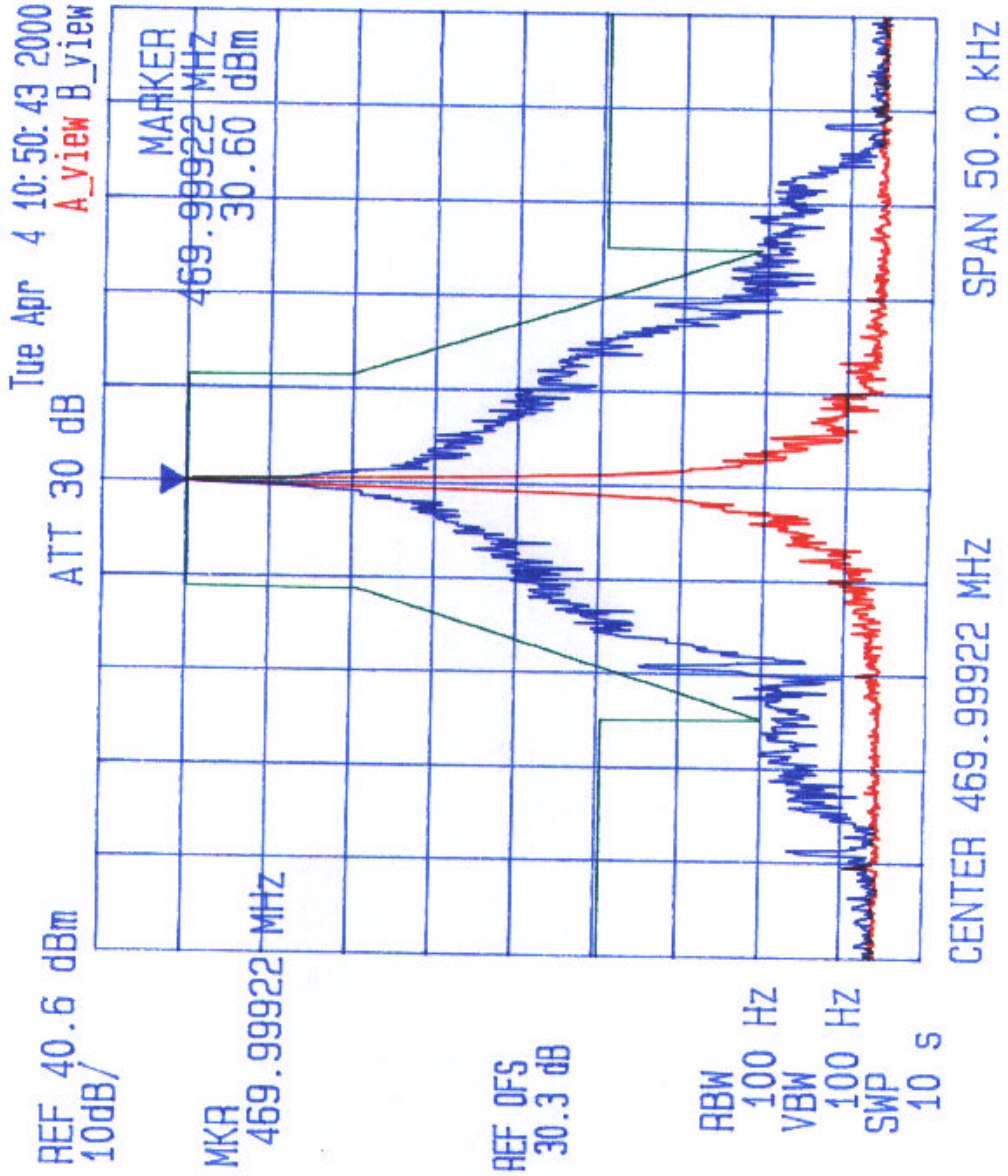
**BDA1300 BI-DIRECTIONAL AMPLIFIER, UHF 403-512 MHz**

Tx Freq: 470 MHz, RF Output: 0.83 Watts

RF In at level of -40 dBm @ 470 MHz

Mod: FM Modulated with an external 9600 b/s random data, Freq. Dev: 2.5 kHz

**Emissions Mask D, Channel spacing 12.5 kHz**







**KAVAL TELECOM INC.**

**BDA1300 BI-DIRECTIONAL AMPLIFIER, UHF 403-512 MHz**

Tx Freq.: \_\_\_\_\_ MHz, RF Output: \_\_\_\_\_ Watts

RF In at level of 40 dBm @ 40 MHz

Mod: FM Modulated with an external 9600 b/s random data, Freq. Dev.: 5 kHz

**Emissions Mask D, Channel spacing 12.5 kHz**

Date: April 22, 2000  
Tested by: **Hung Trinh**

*RF IN SIGNAL FITTED IN MASK D*

REF -29.7 dBm  
10dB/

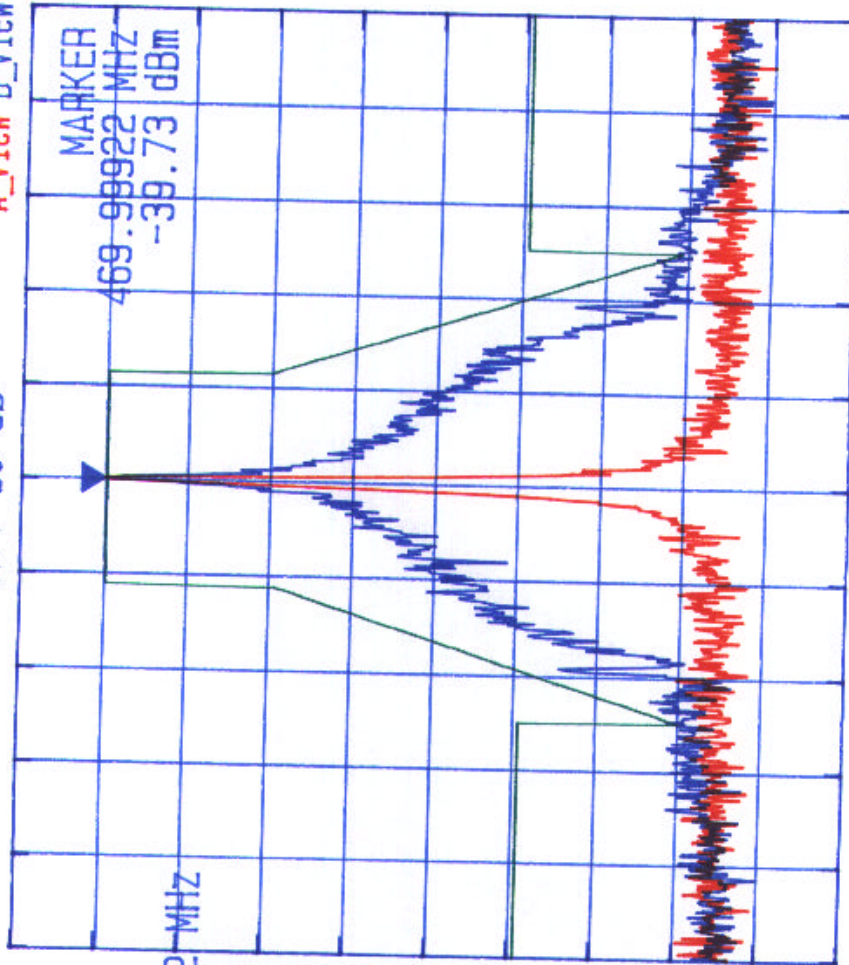
Tue Apr 4 11:18:53 2000

ATT 10 dB

A\_view B\_view

MKR  
469.99922 MHz

MARKER  
469.99922 MHz  
-39.73 dBm



RBW 100 Hz  
VBW 100 Hz  
SWP 10 s

CENTER 469.99922 MHz

SPAN 50.0 kHz





Date: April 2000  
Tested by: Hjung Trinh

KAVAL TELECOM INC.  
BDA1300 BI-DIRECTIONAL AMPLIFIER, UHF 403-512 MHz  
20 dB BW of the 403-512 MHz band pass gain

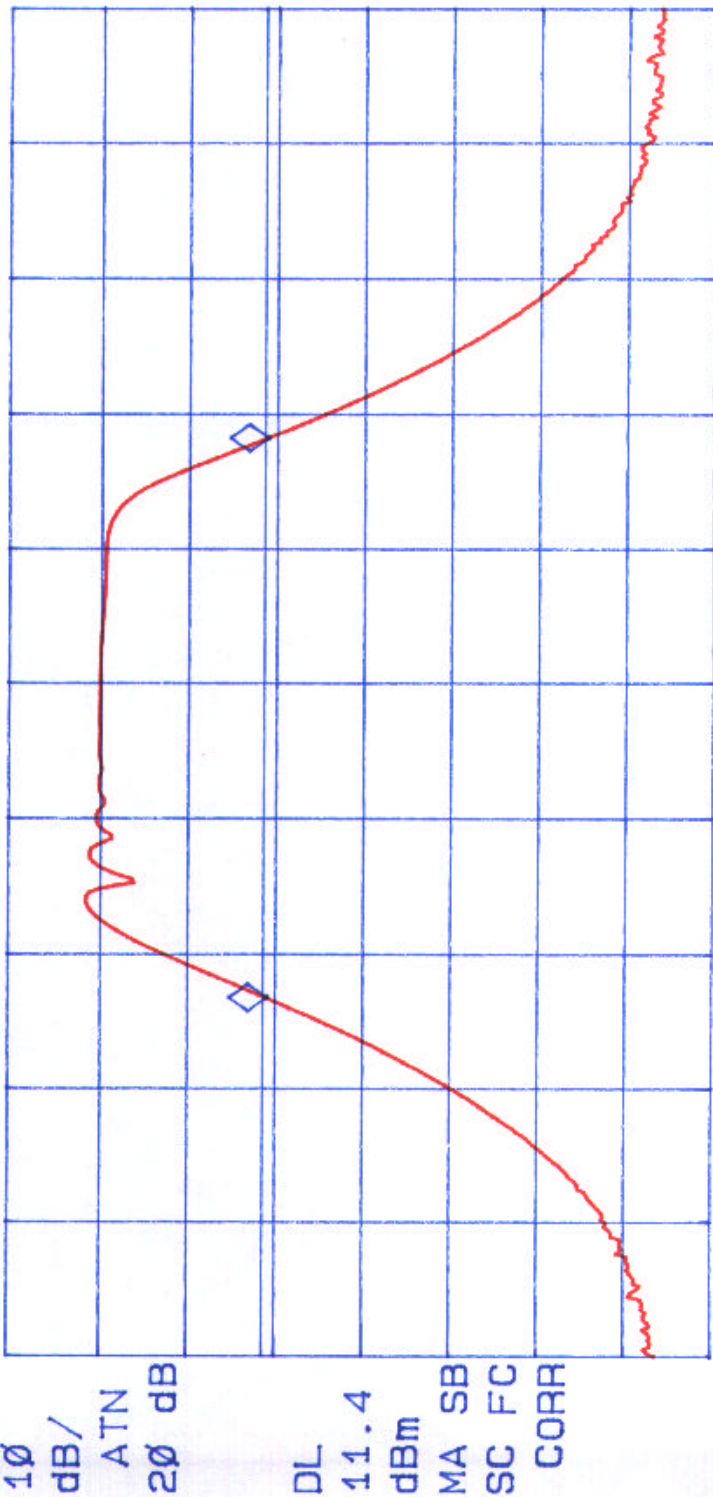
UltraTech  
Engineering Labs Inc.



hp

MARKER  $\Delta$  ACTV DET: PEAK  
10.38 MHz MEAS DET: PEAK QP AVG  
.09 dB MKR 10.38 MHz  
.09 dB

REF OFFST 30.3 dB  
REF 40.3 dBm



CENTER 450.00 MHz SPAN 25.00 MHz  
IF BW 120 kHz AVG BW 300 kHz SWP 20.0 msec



UltraTech  
Engineering Labs Inc

**KAVAL TELECOM INC.**  
**BDA1300 BI-DIRECTIONAL AMPLIFIER, UHF 403-512 MHz**  
20 dB BW of the 403-512 MHz band pass gain

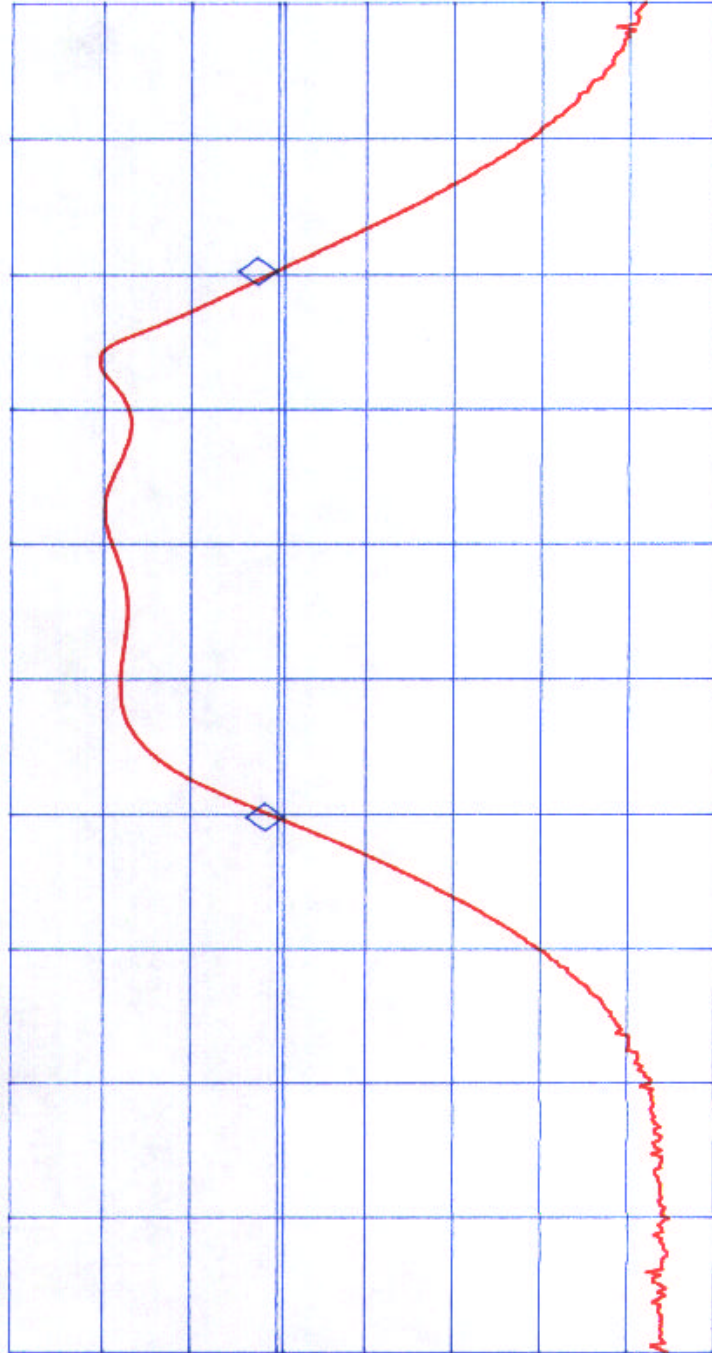
Date: April 05, 2000  
Tested by: Hung Trinh

MARKER  $\Delta$   
10.13 MHz  
.94 dB

ACTV DET: PEAK  
MEAS DET: PEAK QP AVG  
MKR 10.13 MHz  
.94 dB

REF OFFST 30.3 dB  
REF 40.3 dBm

LOG 10 dB/ ATN 20 dB  
DL 9.3 dBm  
MA SB  
SC FC  
CORR



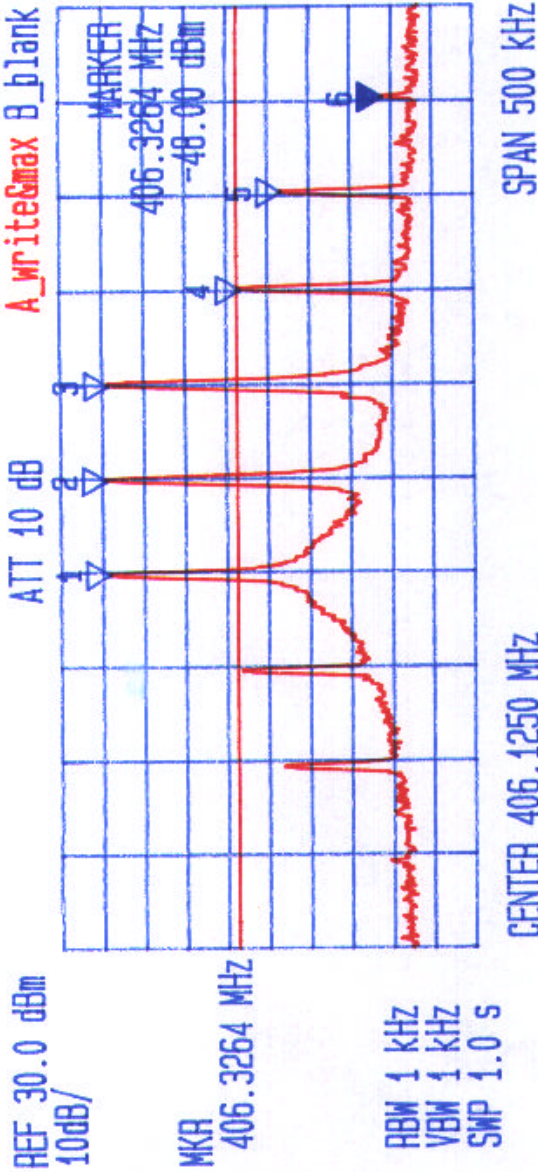
CENTER 470.00 MHz  
IF BW 120 kHz  
AVG BW 300 kHz  
SPAN 25.00 MHz  
SWP 20.0 msec





KAVAL TELECOM INC.  
 BDA1300 BI-DIRECTIONAL AMPLIFIER, UHF 403-512 MHz  
 Intermodulation with 3 RF Input signals in 403-512 MHz band  
 406.075, 406.125, & 406.175 MHz

Date: April 17, 2000  
 Tested by: Hung Trinh

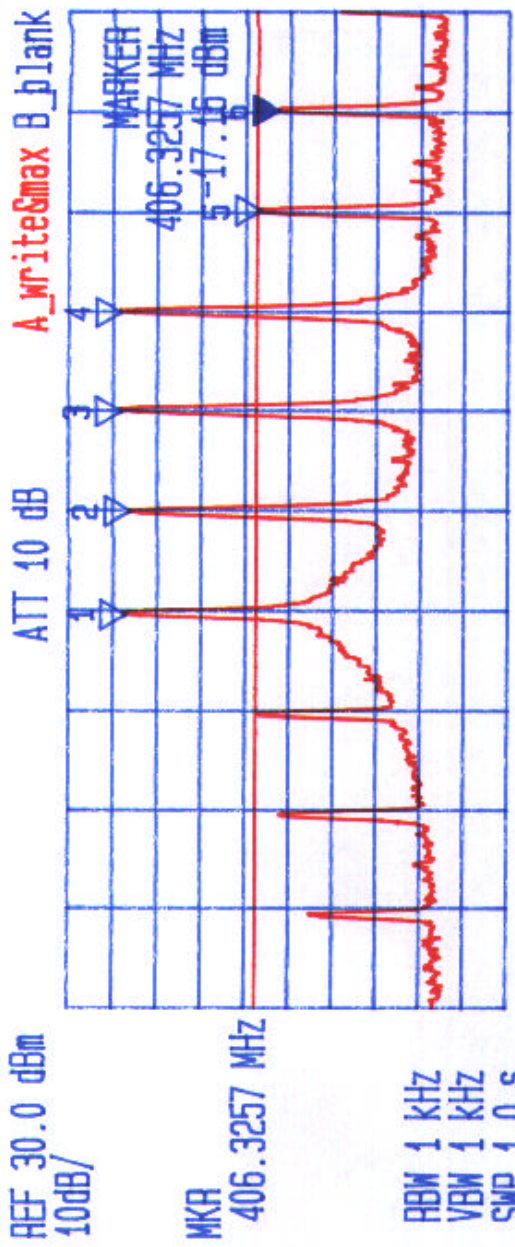


\*\*\* Multi Marker List \*\*\*

No.	Marker	List	dBm
1:	406.0736 MHz	18.06	dBm
2:	406.1236 MHz	19.38	dBm
3:	406.1743 MHz	18.75	dBm
4:	406.2250 MHz	-13.13	dBm
5:	406.2764 MHz	-23.06	dBm
6:	406.3264 MHz	-48.00	dBm

No. 1:  
 No. 2:  
 No. 3:  
 No. 4:  
 No. 5:  
 No. 6:  
 No. 7:  
 No. 8:  
 Δ:

**KAVAL TELECOM INC.**  
**BDA1300 BI-DIRECTIONAL AMPLIFIER, UHF 403-512 MHz**  
 Intermodulation with 4 RF Input signals in 403-512 MHz band  
**406.075, 406.125, 406.175, & 406.225 MHz**



CENTER 406.1250 MHz

SPAN 500 KHZ

\*\*\* Multi Marker List \*\*\*

No.	Marker	List	***
No. 1:	406.0729 MHz	17.41 dBm	A
No. 2:	406.1243 MHz	16.38 dBm	A
No. 3:	406.1743 MHz	18.44 dBm	A
No. 4:	406.2243 MHz	18.09 dBm	A
No. 5:	406.2757 MHz	-13.13 dBm	A
No. 6:	406.3257 MHz	-17.16 dBm	A
No. 7:			
No. 8:			



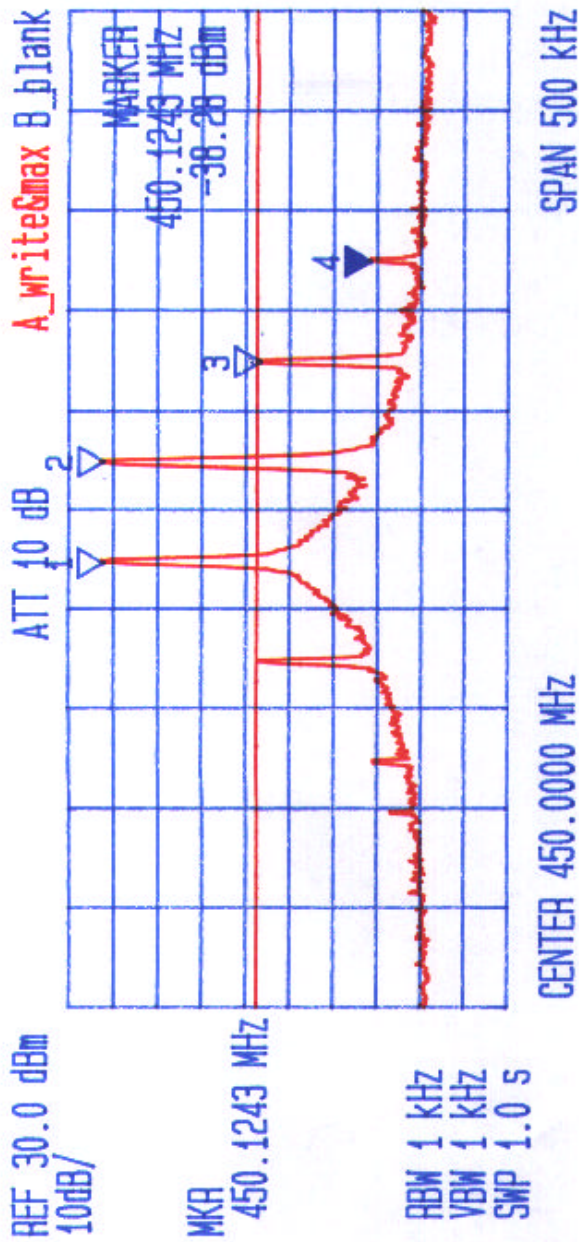


**UltraTech**  
Engineering Labs Inc.

**KAVAL TELECOM INC.**

**BDA1300 BI-DIRECTIONAL AMPLIFIER, UHF 403-512 MHz**  
Intermodulation with 2 RF Input signals in 403-512 MHz band  
**450.025 & 449.975 MHz**

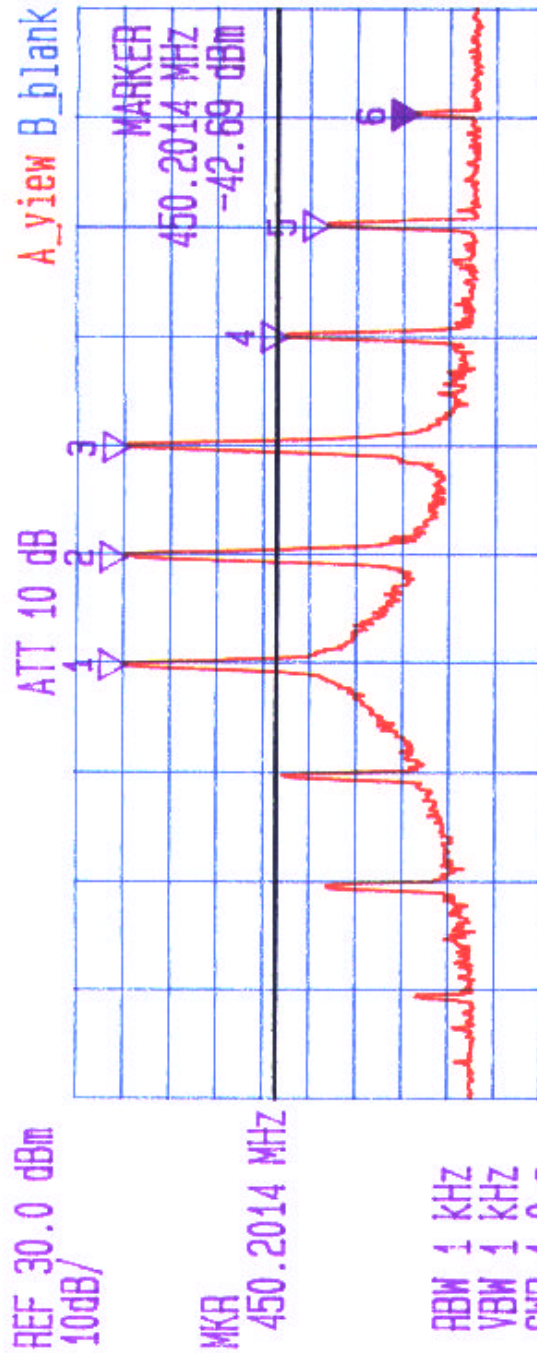
Date: April 17, 2000  
Tested by: Hung Trinh



\*\*\* Multi Marker List \*\*\*

No.	Marker	List	***
1	449.9729 MHz	22.47 dBm	A
2	450.0243 MHz	22.41 dBm	A
3	450.0743 MHz	-13.34 dBm	A
4	450.1243 MHz	-38.28 dBm	A

No. 1:  
No. 2:  
No. 3:  
No. 4:  
No. 5:  
No. 6:  
No. 7:  
No. 8:  
Δ:



REF 30.0 dBm  
 10dB/

MKR  
 450.2014 MHz

RBW 1 kHz  
 VBW 1 kHz  
 SWP 1.0 S

CENTER 450.0000 MHz

SPAN 500 kHz

No.	Multi	Marker	List	**
1:	449.9486	MHZ	19.50	dBm
2:	449.9986	MHZ	19.53	dBm
3:	450.0493	MHZ	19.44	dBm
4:	450.1000	MHZ	-14.63	dBm
5:	450.1507	MHZ	-23.53	dBm
6:	450.2014	MHZ	-42.69	dBm

- No. 1:
- No. 2:
- No. 3:
- No. 4:
- No. 5:
- No. 6:
- No. 7:
- No. 8:
- Δ: