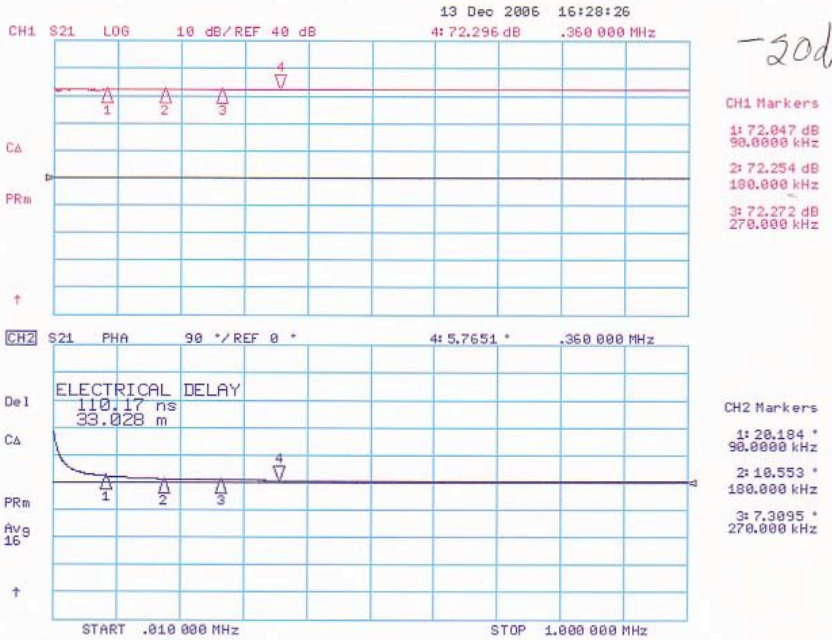
#313263

208V

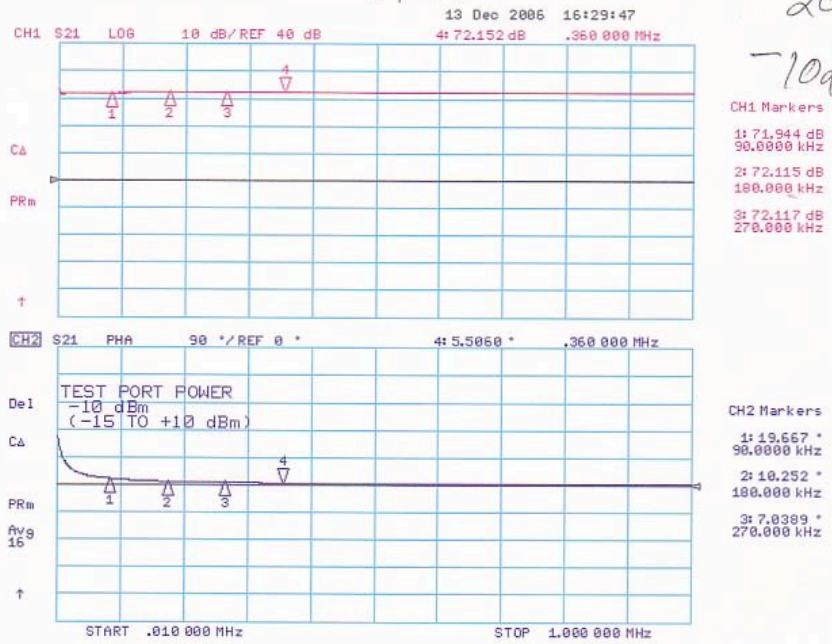
-20dbm



#313263

208V

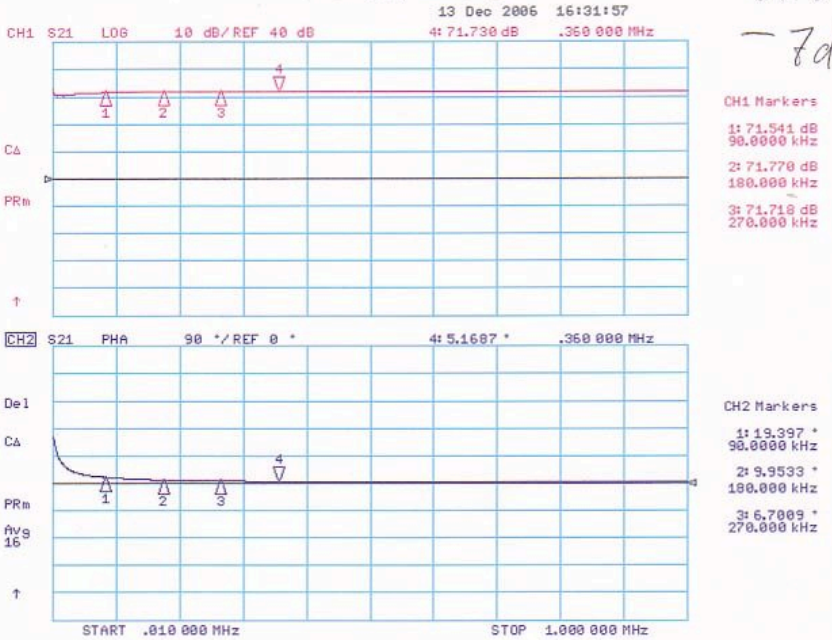
-10dbm



#313263

208V

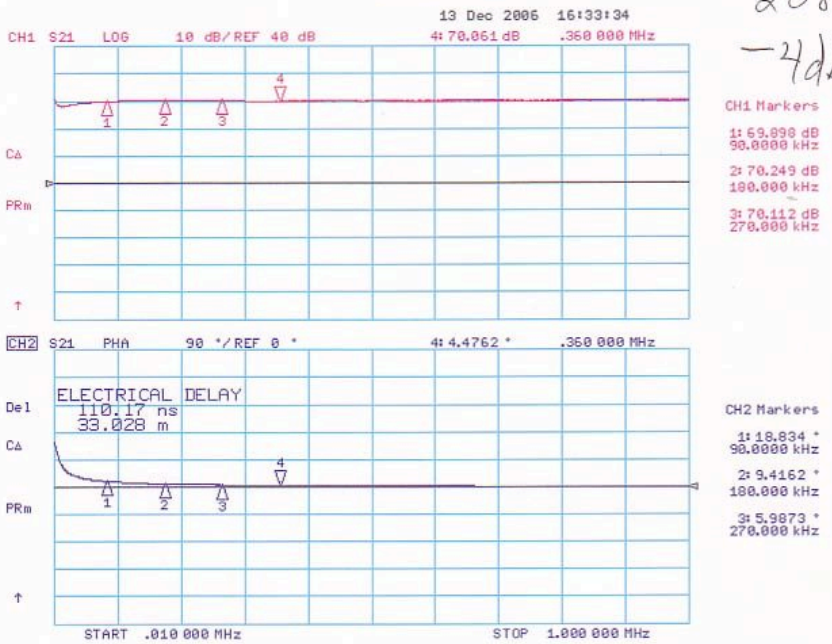
−7dbm



#313263

208V

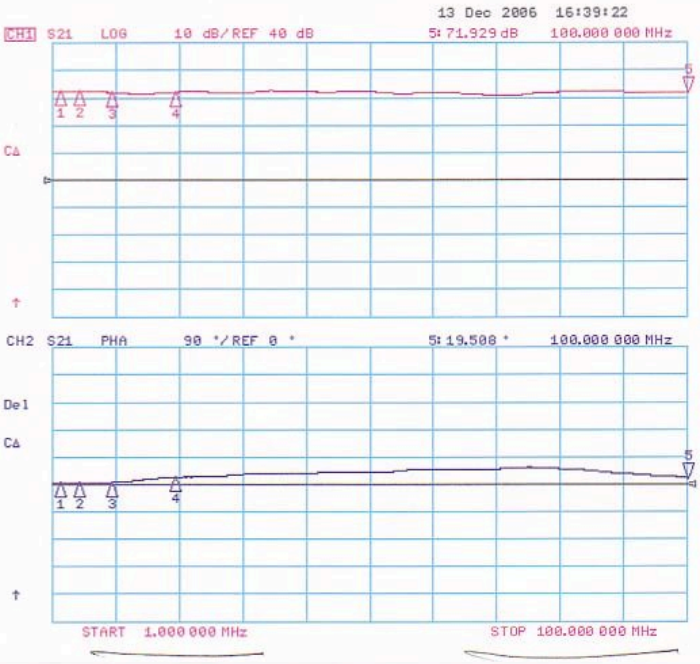
−4dbm



#313263

208V

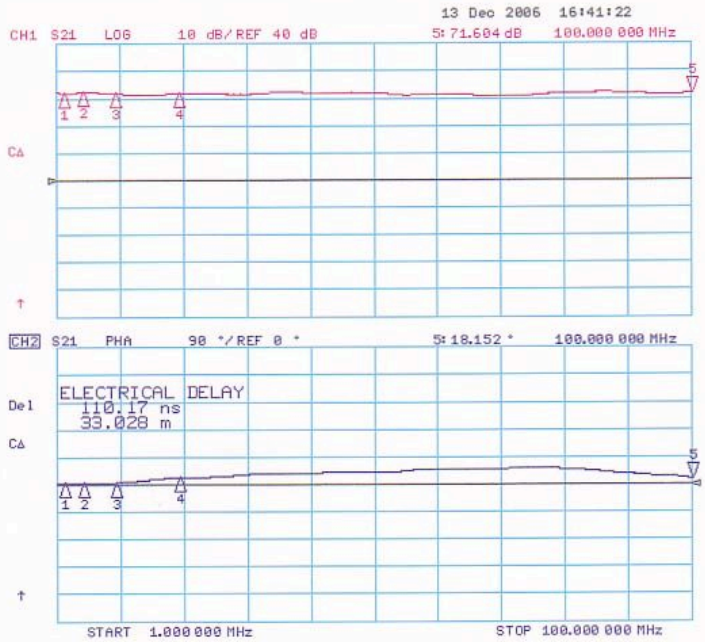
-20dbm



#313263

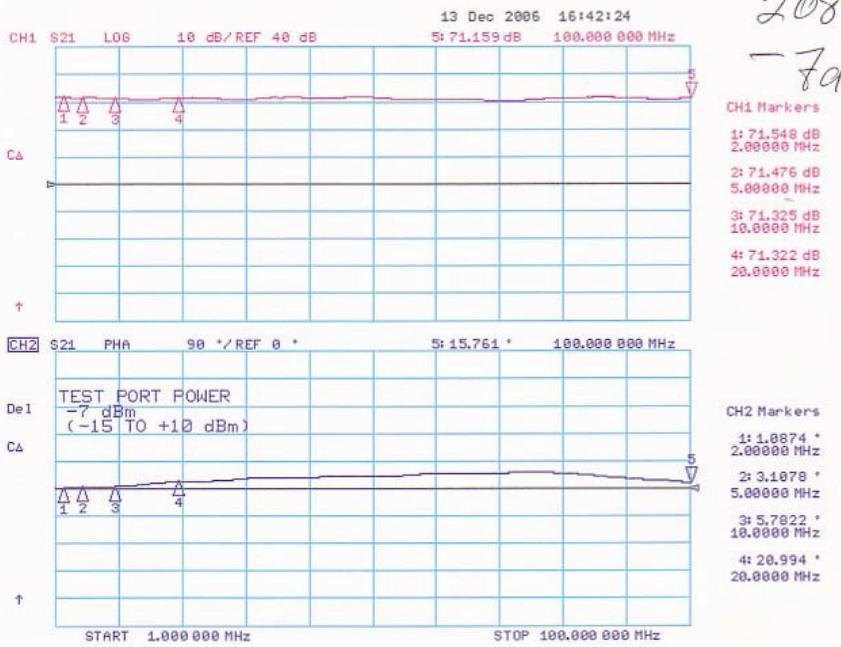
208V

-10dbm



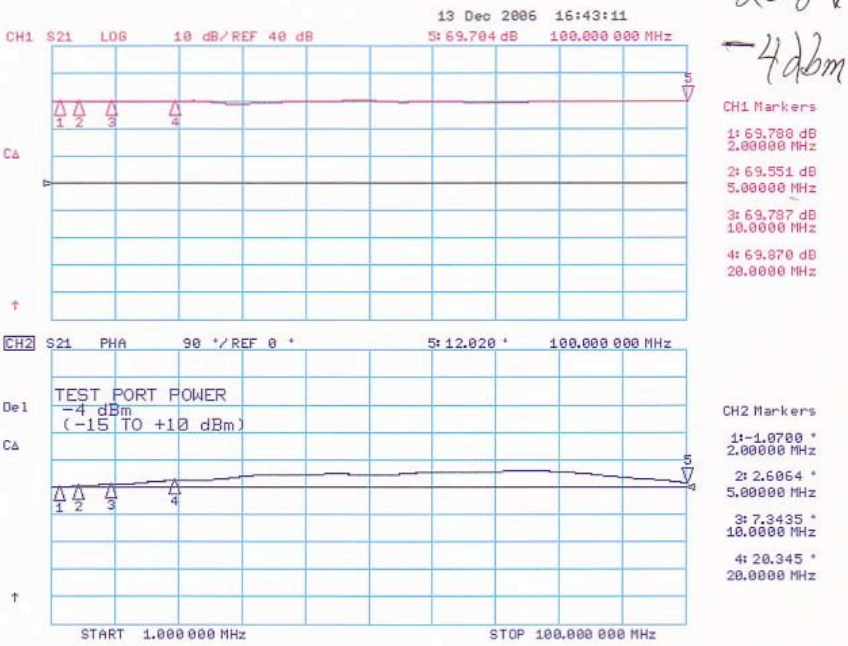
#313263

208V
−7dbm



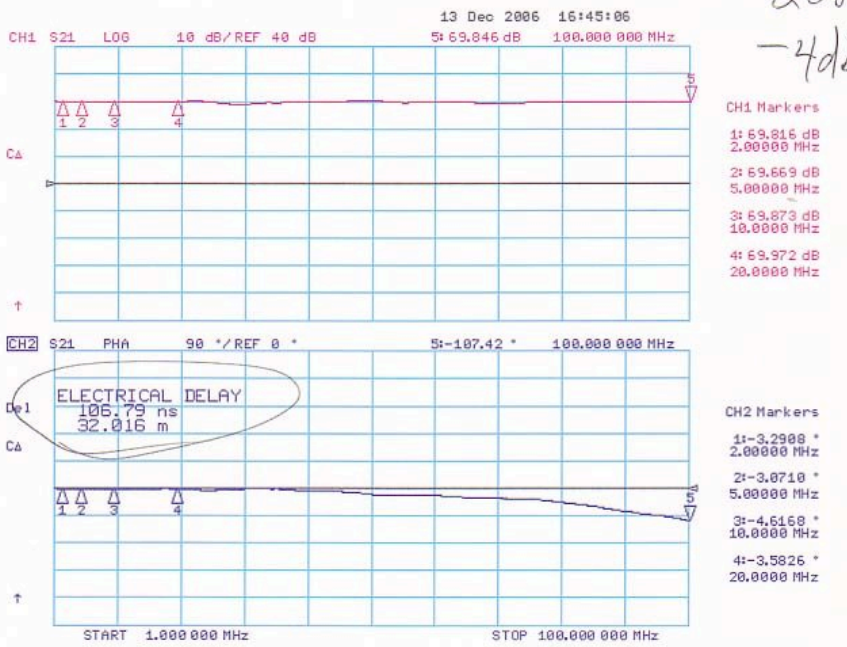
#313263

208V
−4dbm



#313263

208V
-4dbm



FERMILAB
ENGINEERING NOTE

SECTION	PROJECT	SERIAL-CATEGORY	PAGE
	Recycler	313263	1

SUBJECT: 3500A100A Gain variation with time/temp.

NAME: MCA

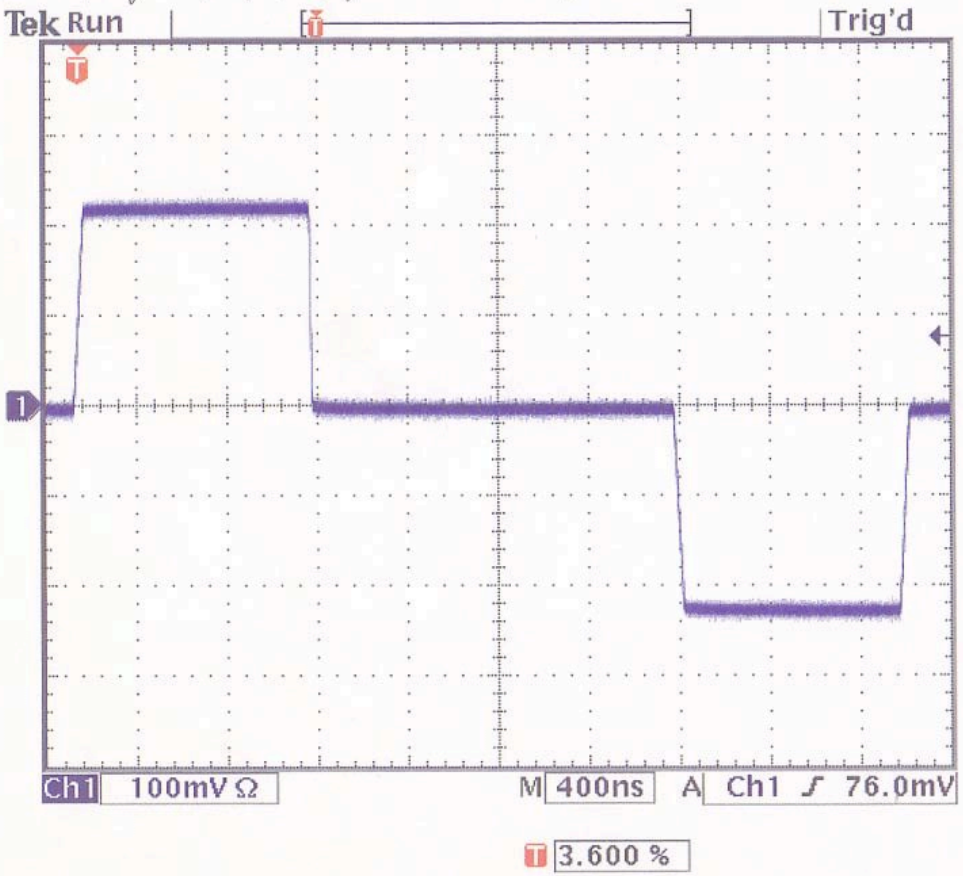
DATE: 8-8-06

REVISION DATE:

Cold Start	Vector voltmeter	Panel
15:45	+1.38 dbm	1240 W.
15:50	+ .78 dbm	1080 W.
15:55	+ .45 dbm	1012 W.
16:00	+ .26 dbm	981 W.
16:05	+ .17 dbm	966 W.
16:10	+ .12 dbm	960 W.
16:15	+ .08 dbm	954 W.
16:20	+ .06 dbm	950 W.

1 MHz, 100% Gain — 74.2 db low power
73.9 db @ 2500 watts.

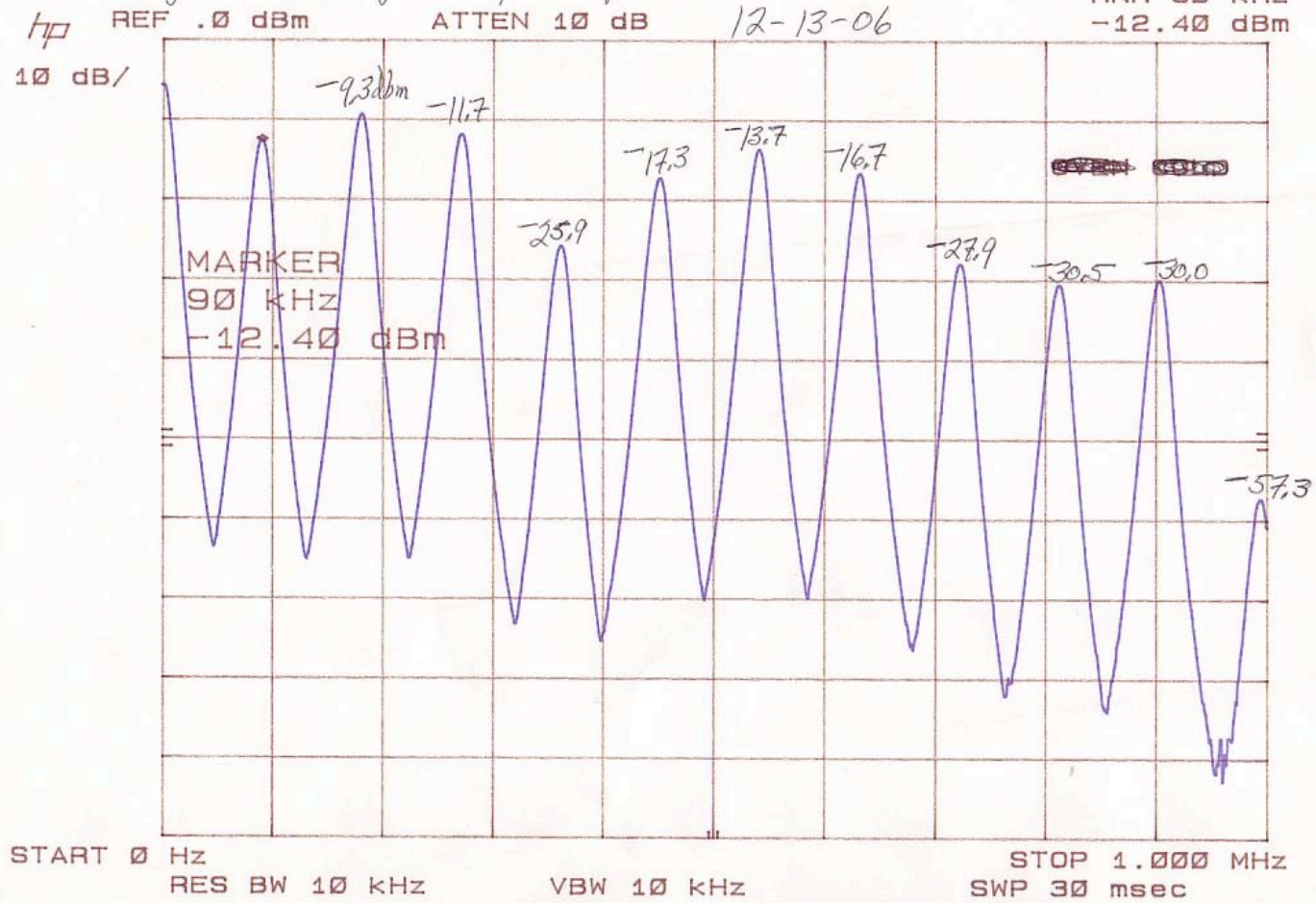
Signal from Arb. generator, 13db pad ahead of scope



Rep. rate = 89.819 KHz

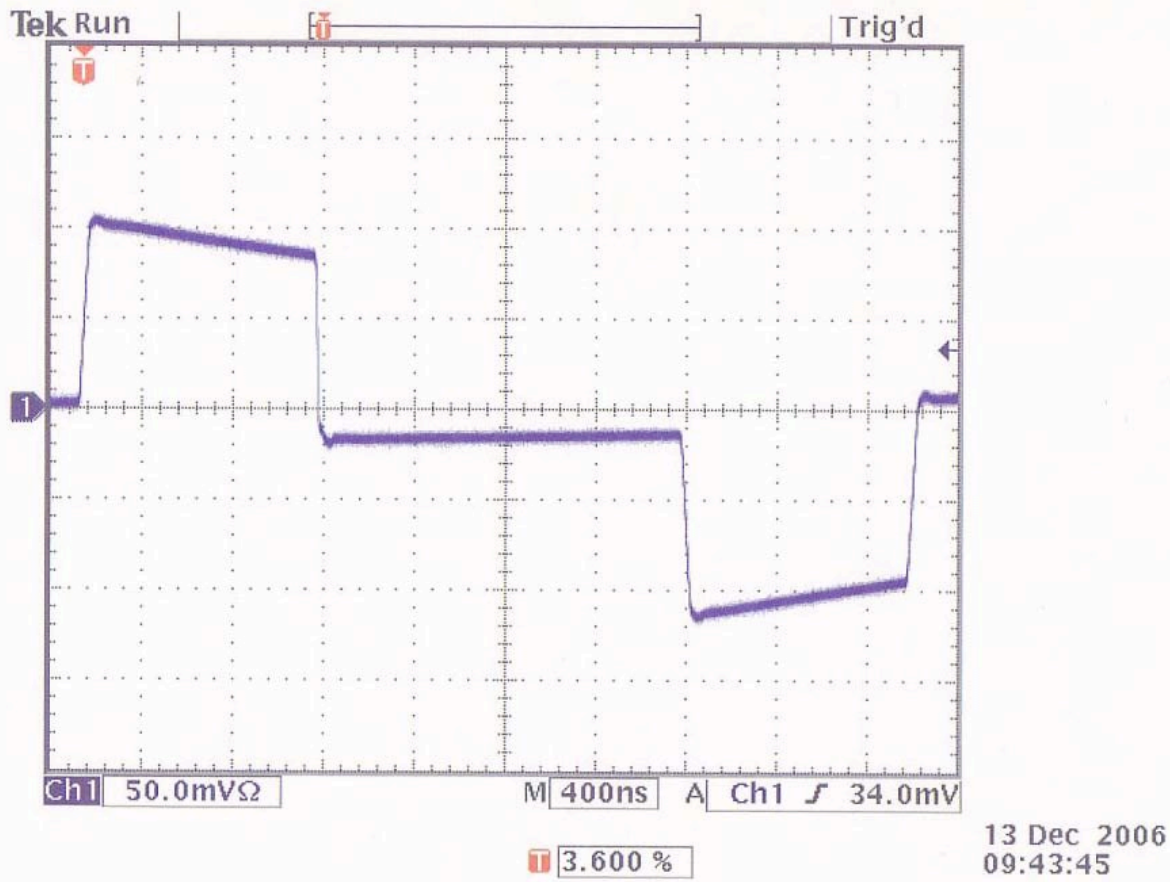
12 Dec 2006
15:52:09

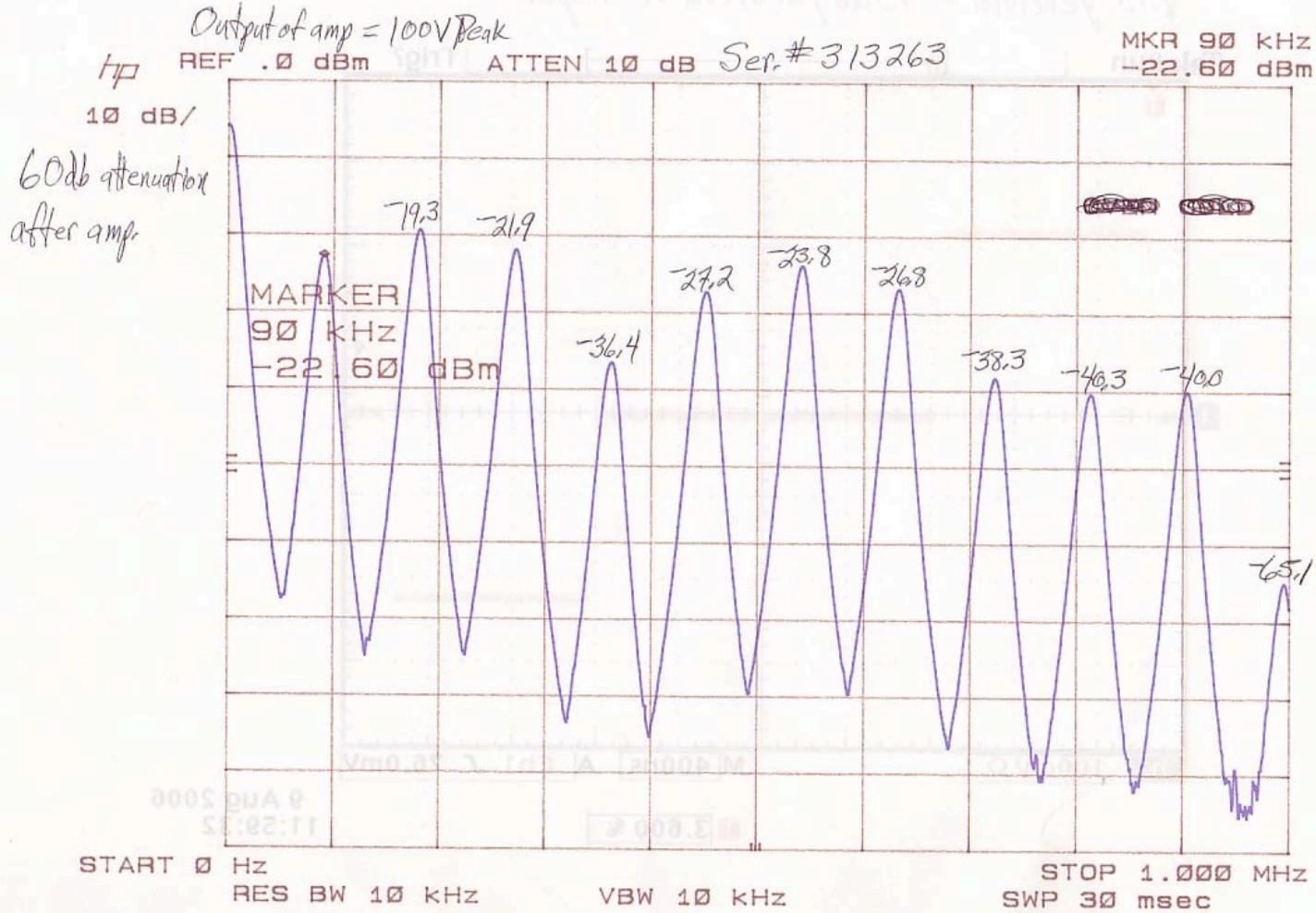
Signal from Arb. generator, 10db pad ahead of S.A.



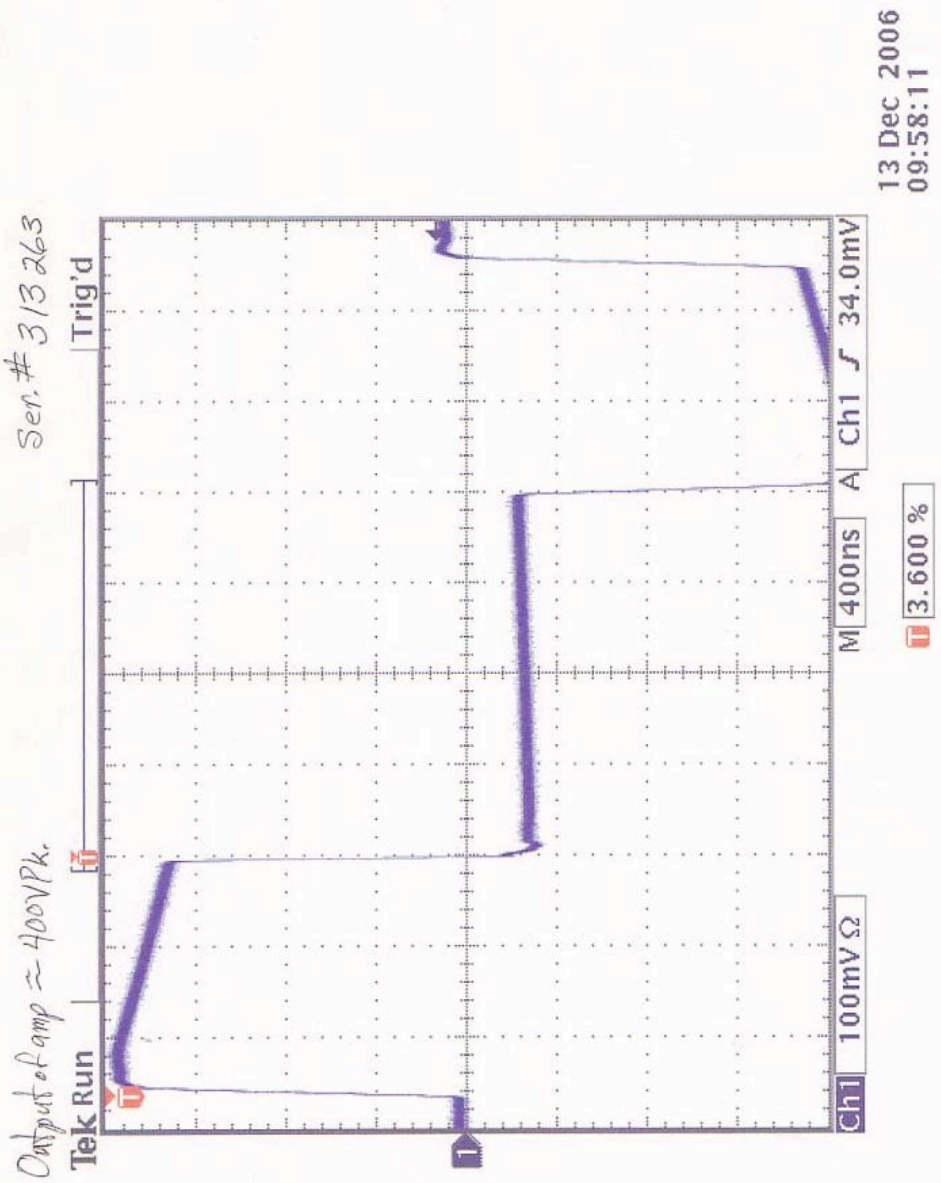
60db pab after amp. Output ≈ 100V Peak

Ser.# 313263



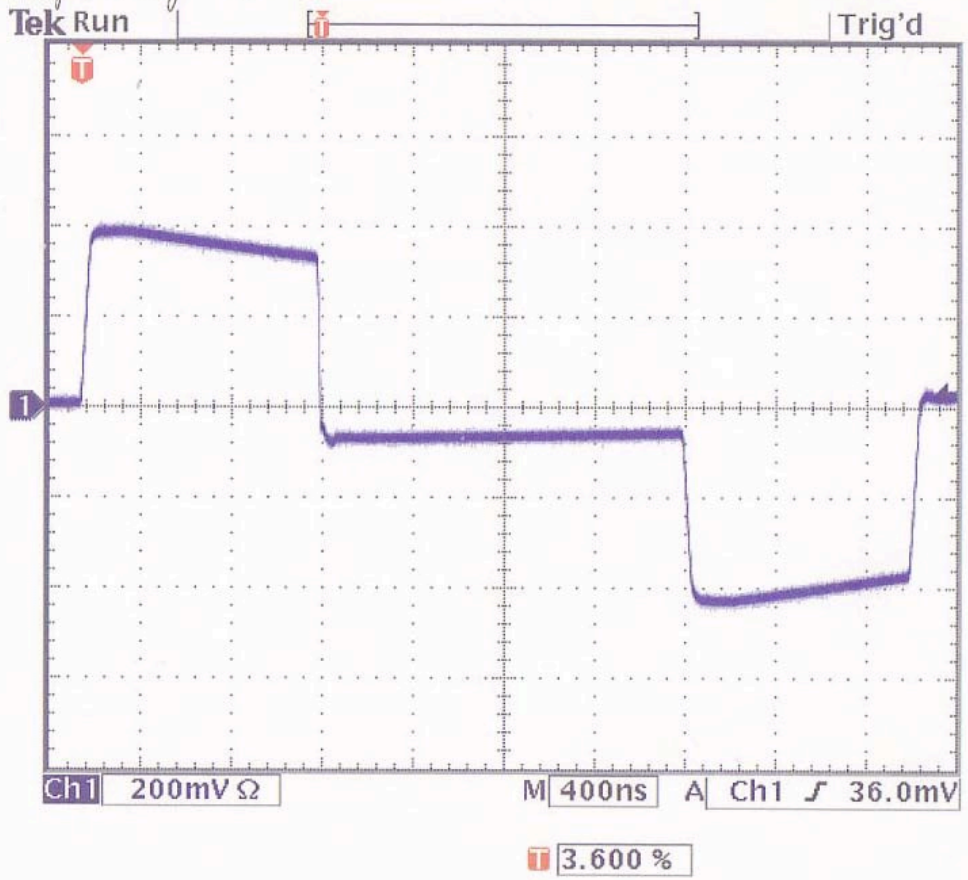

Output of amp = 100V Peak
hp
REF .0 dBm
ATTEN 10 dB
Ser. # 313263
MKR 90 kHz
-22.60 dBm
10 dB/
60db attenuation after amp.
MARKER
90 kHz
-22.60 dBm
-19.3
-21.9
-36.4
-27.2
-23.8
-26.8
-38.3
-40.3
-40.0
-65.1
START 0 Hz
RES BW 10 kHz
VBW 10 kHz
STOP 1.000 MHz
SWP 30 msec

TDS 3034 13 Dec 2006 09:58:11

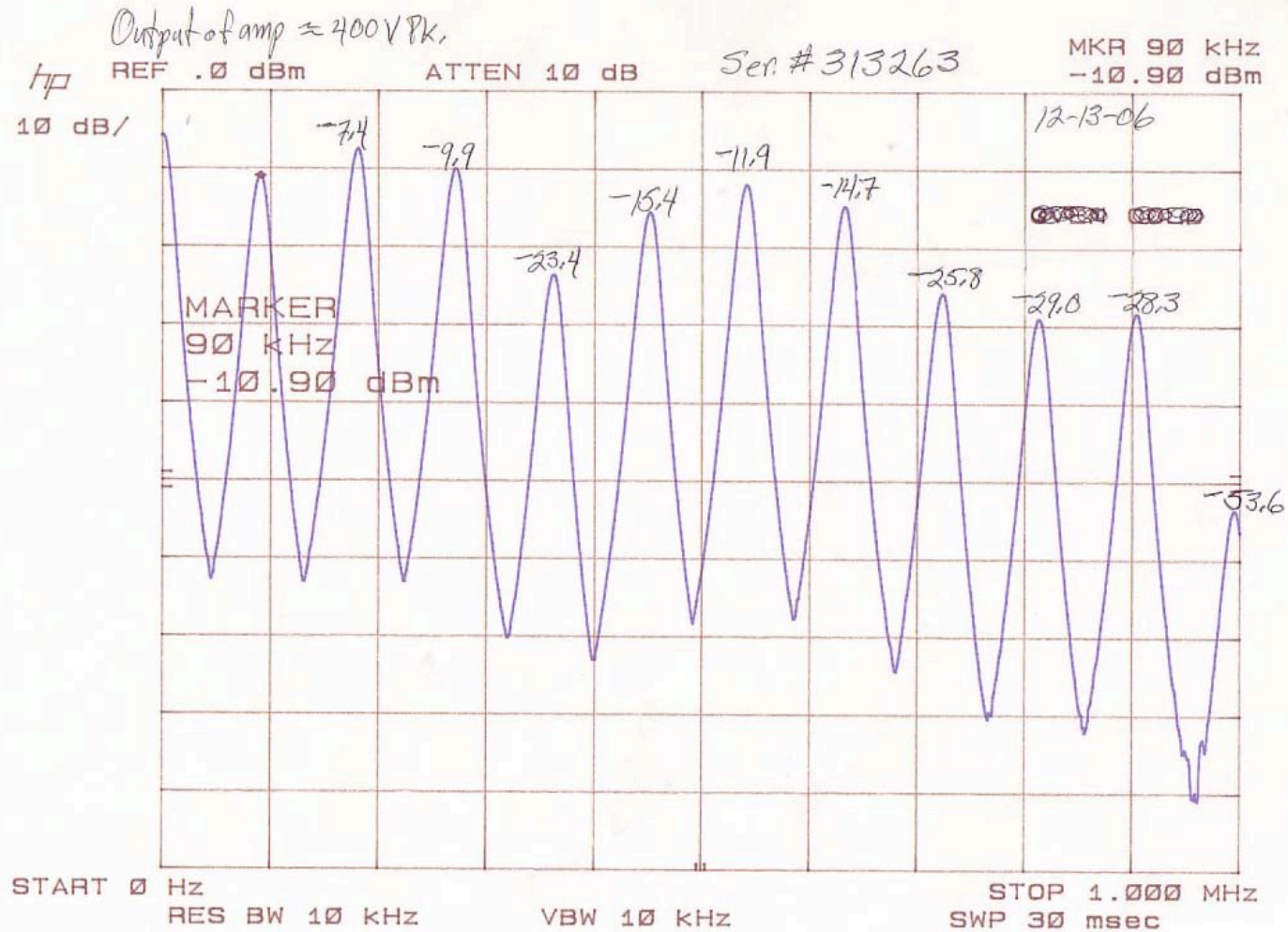


Output of amp ≈ 400V Pk.

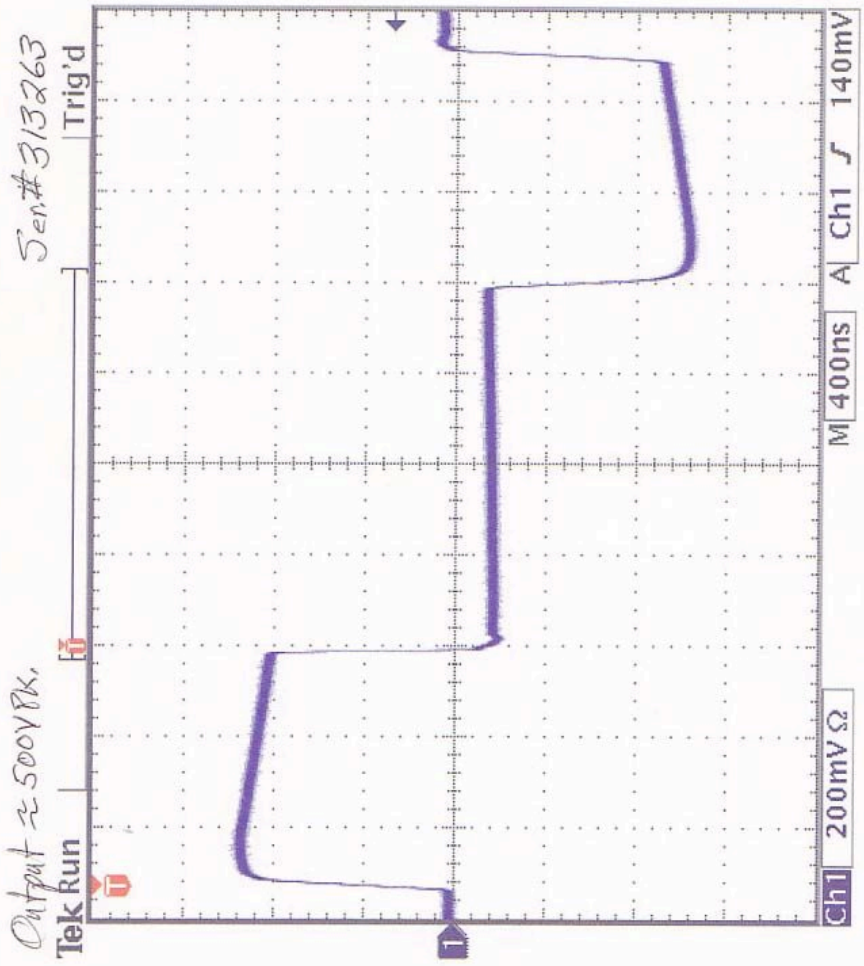
Ser.# 313263

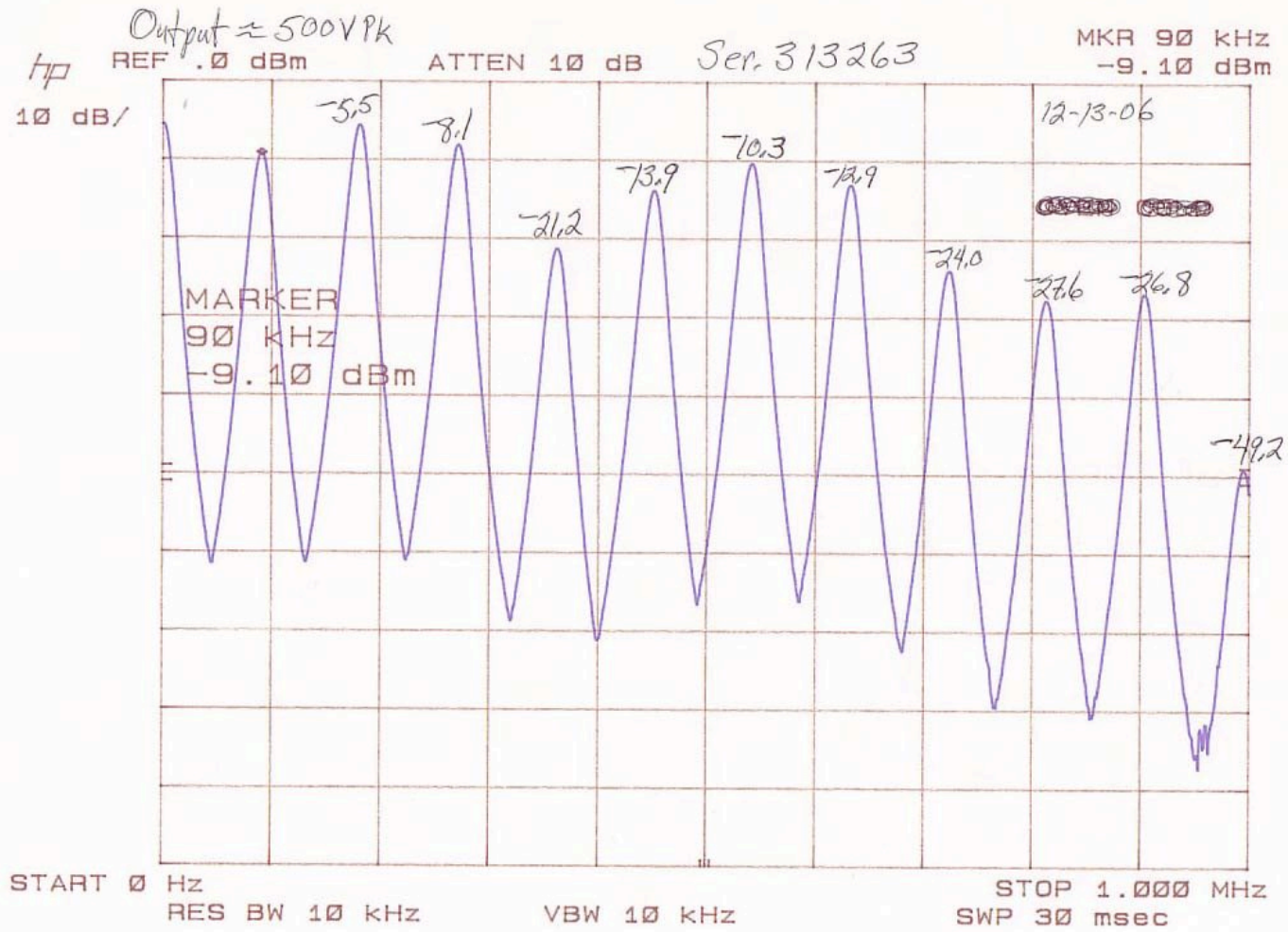


13 Dec 2006
09:59:12

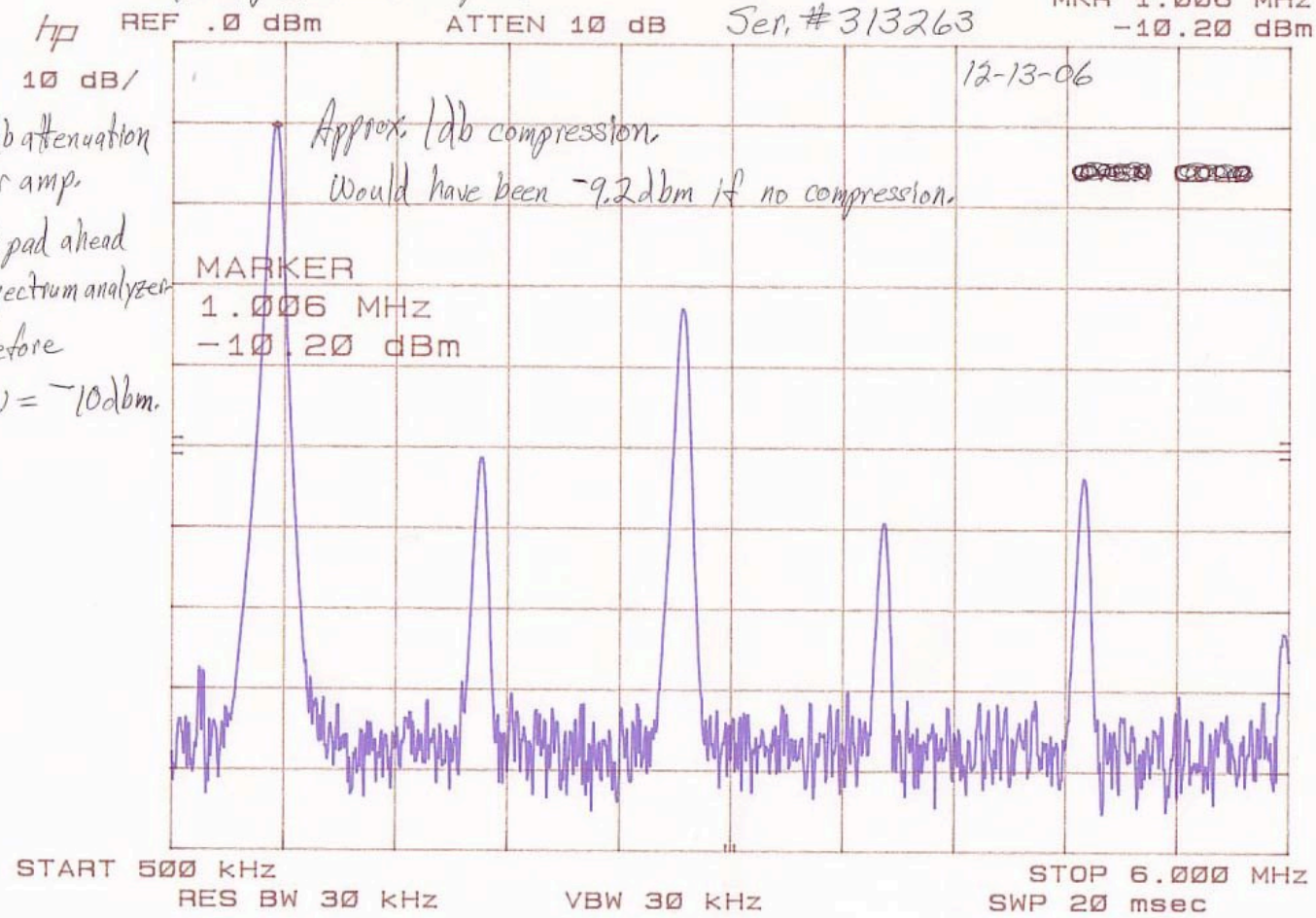

Output of amp ≈ 400 V Pk.
hp
REF .0 dBm
ATTEN 10 dB
Ser. # 313263
MKR 90 kHz
-10.90 dBm
10 dB/
12-13-06
-7.4
-9.9
-15.4
-11.9
-14.7
-23.4
-25.8
-29.0
-28.3
-53.6
MARKER
90 kHz
-10.90 dBm
START 0 Hz
RES BW 10 kHz
VBW 10 kHz
STOP 1.000 MHz
SWP 30 msec

TDS 3034 13 Dec 2006 10:14:33




Output ≈ 500V Pk
hp
REF .0 dBm
ATTEN 10 dB
Ser. 313263
MKR 90 kHz
-9.10 dBm
10 dB/
12-13-06
-5.5
-8.1
-21.2
-13.9
-10.3
-13.9
-24.0
-27.6
-26.8
-49.2
MARKER
90 kHz
-9.10 dBm
START 0 Hz
RES BW 10 kHz
VBW 10 kHz
STOP 1.000 MHz
SWP 30 msec

Reading 3156 watts on panel.

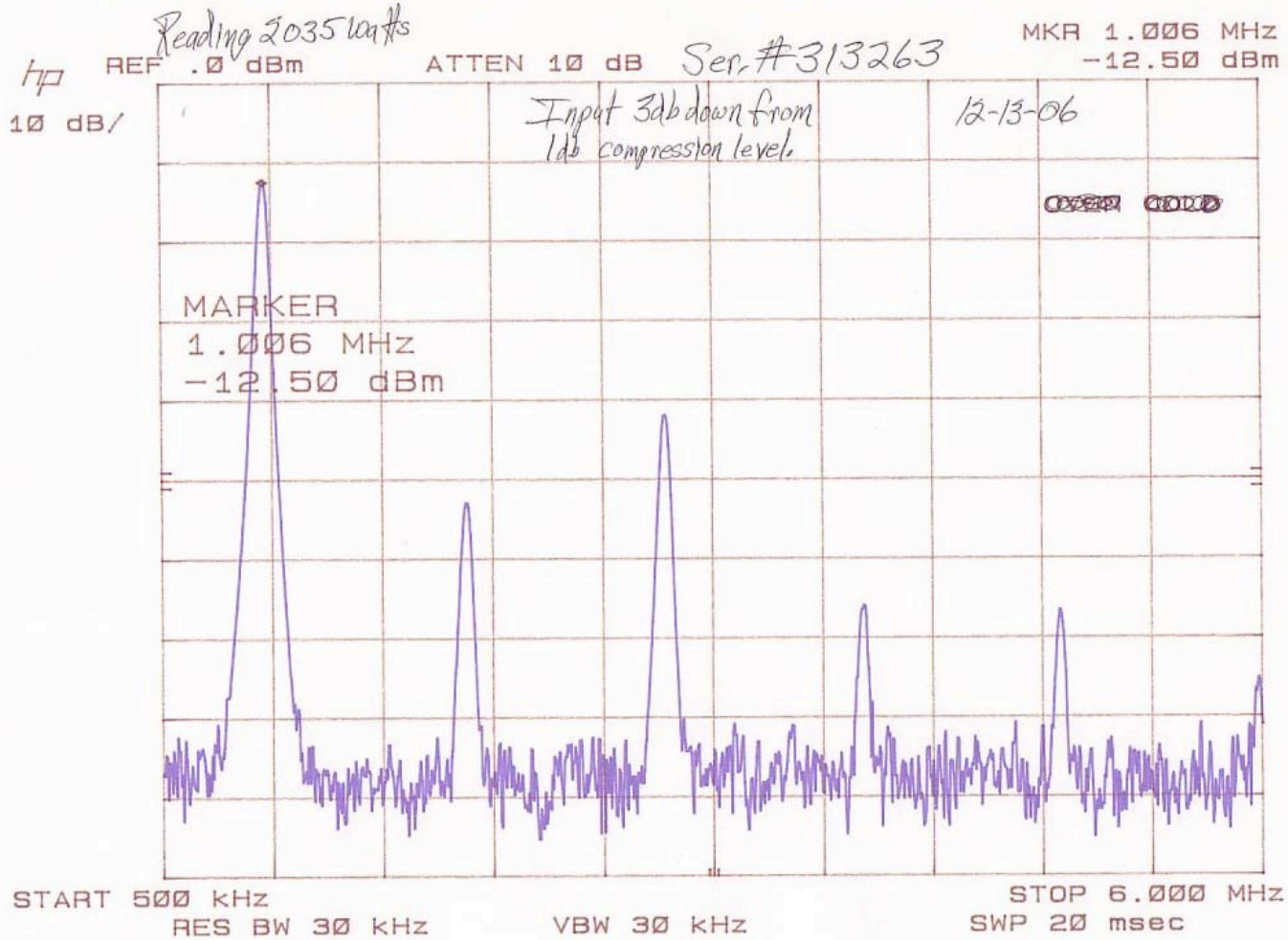


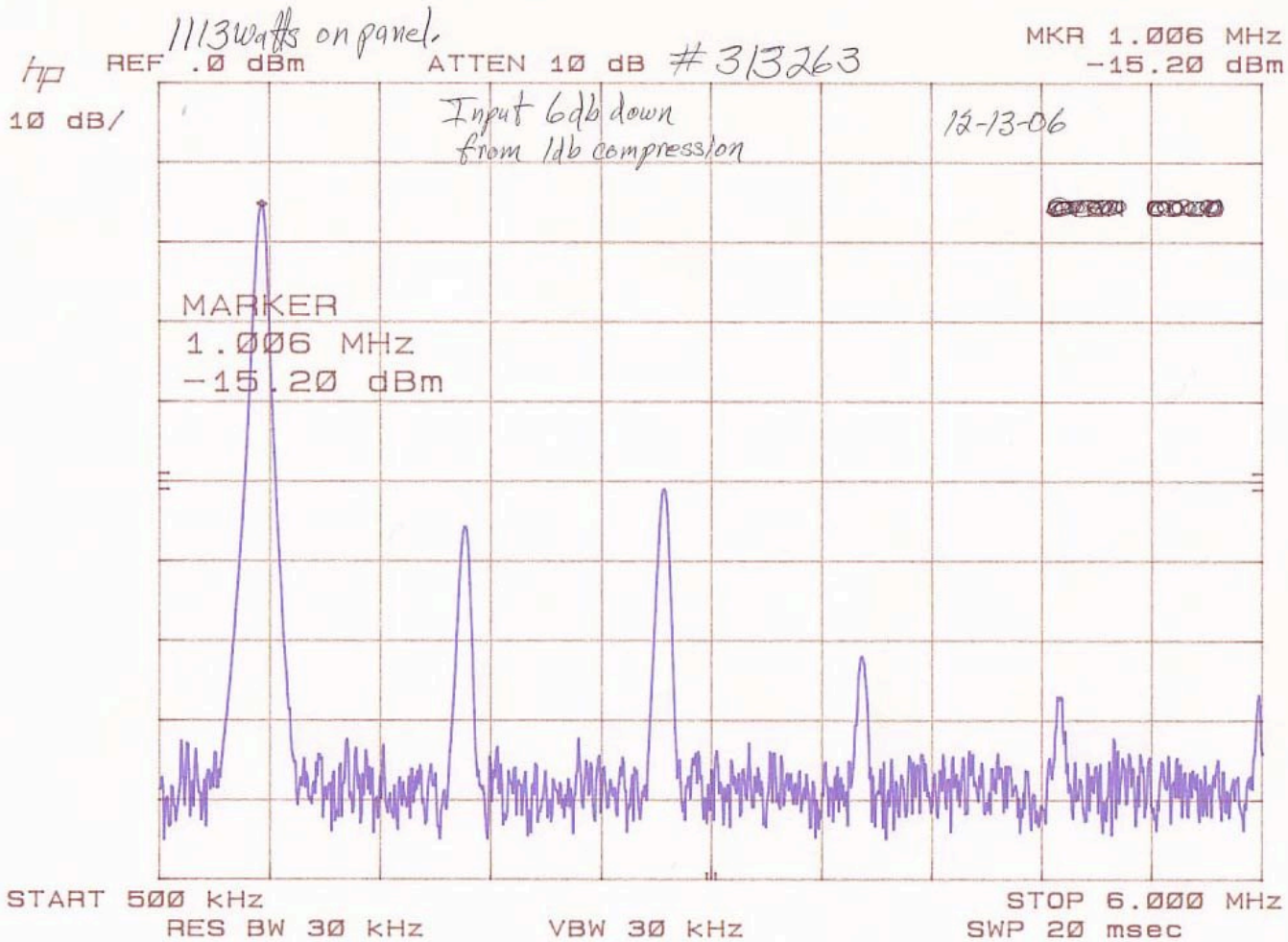
66db attenuation after amp.

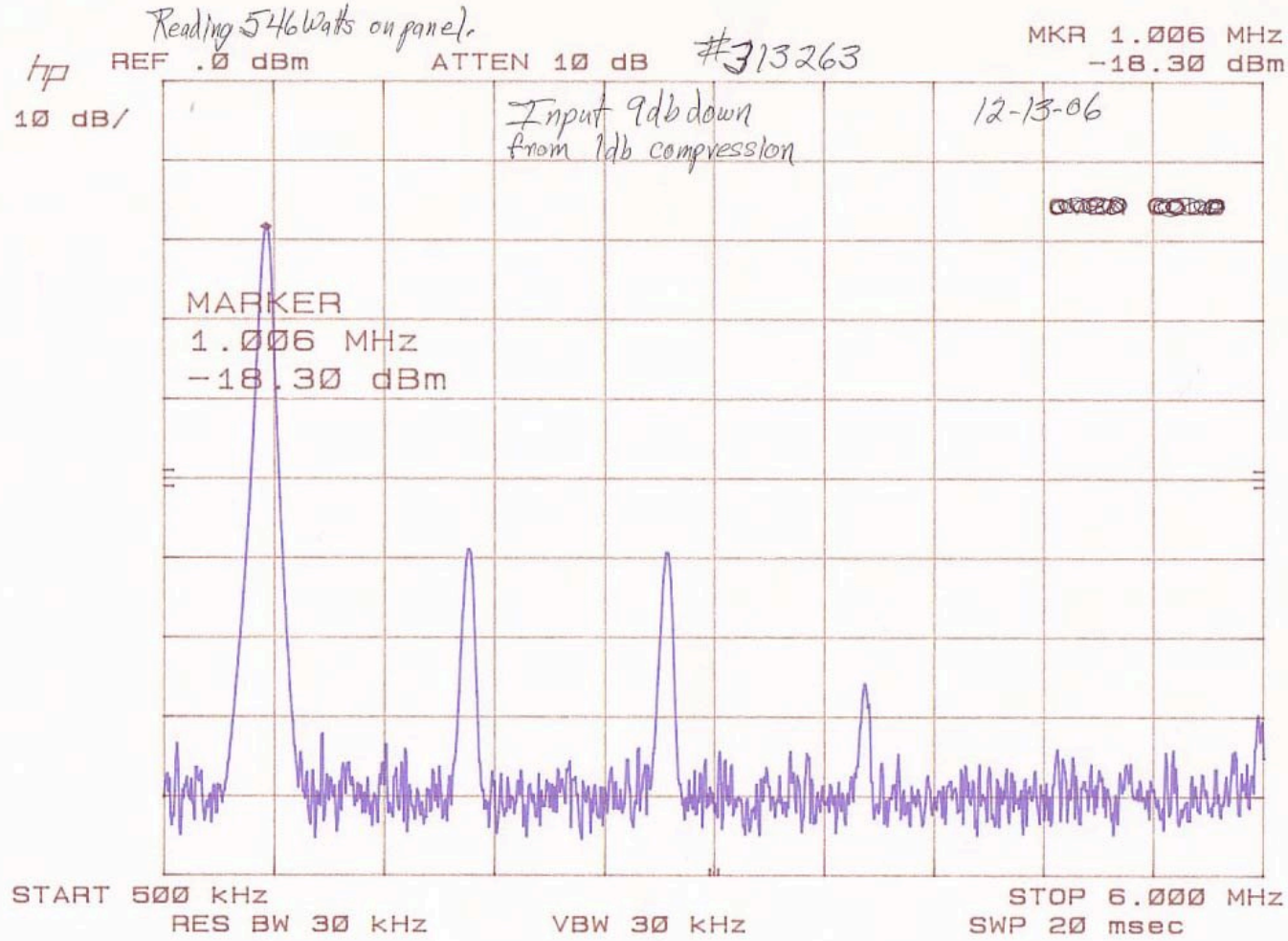
10db pad ahead of spectrum analyzer

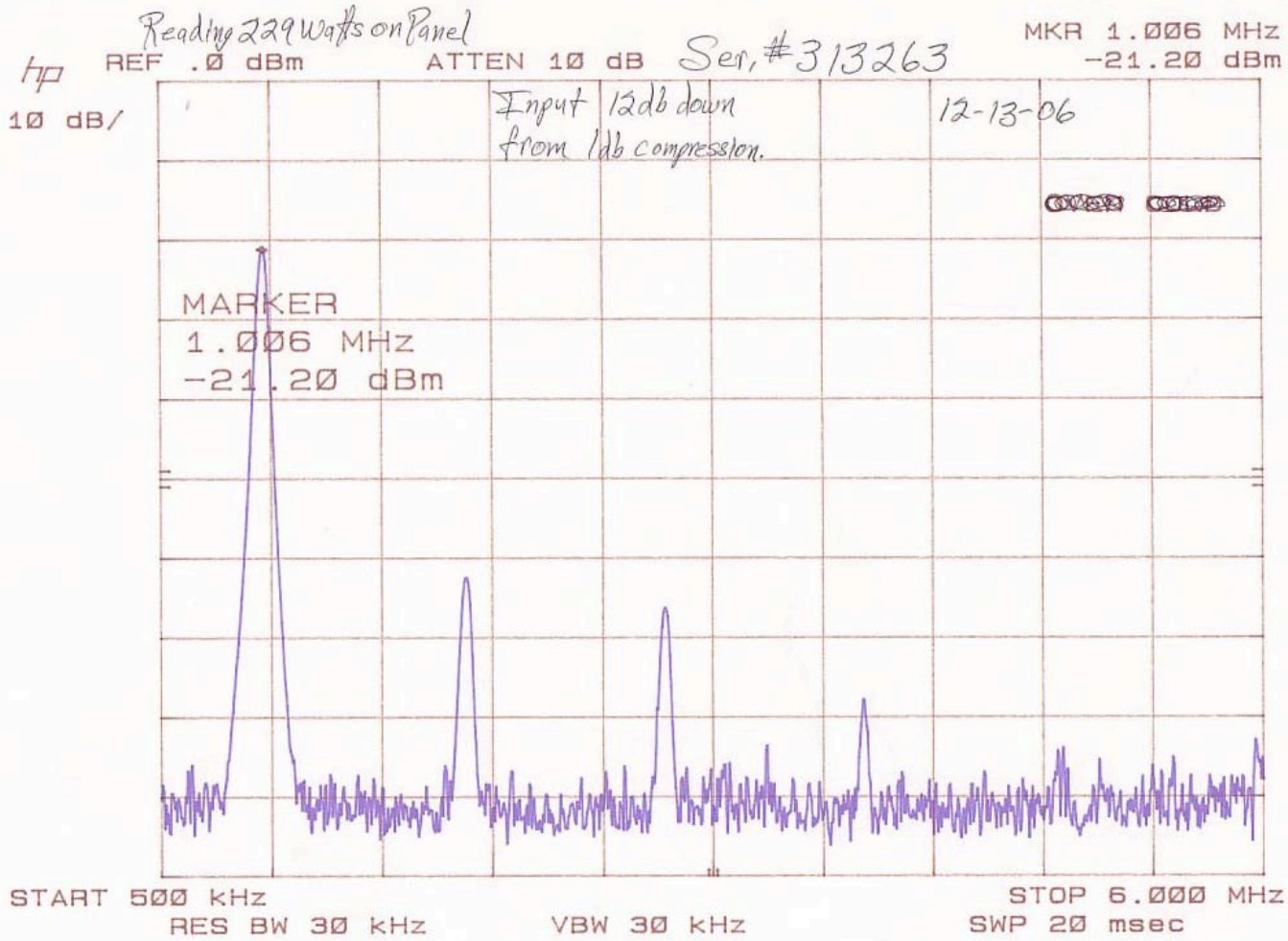
Therefore

4KW = -10dbm.


Reading 2035 watts
hp
REF .0 dBm
ATTEN 10 dB
Ser. #313263
MKR 1.006 MHz
-12.50 dBm
10 dB/
Input 3db down from
1db compression level.
12-13-06
MARKER
1.006 MHz
-12.50 dBm
START 500 kHz
RES BW 30 kHz
VBW 30 kHz
STOP 6.000 MHz
SWP 20 msec


1113 Watts on panel.
hp
REF .0 dBm
ATTEN 10 dB
313263
MKR 1.006 MHz
-15.20 dBm
10 dB/
Input 6db down
from 1db compression
12-13-06
MARKER
1.006 MHz
-15.20 dBm
START 500 kHz
RES BW 30 kHz
VBW 30 kHz
STOP 6.000 MHz
SWP 20 msec


Reading 546 Watts on panel.
hp
REF .0 dBm
ATTEN 10 dB
#313263
MKR 1.006 MHz
-18.30 dBm
10 dB/
Input 9db down
from 1db compression
12-13-06
MARKER
1.006 MHz
-18.30 dBm
START 500 kHz
RES BW 30 kHz
VBW 30 kHz
STOP 6.000 MHz
SWP 20 msec


Reading 229 Watts on Panel
hp
REF .0 dBm
ATTEN 10 dB
Ser. #313263
MKR 1.006 MHz
-21.20 dBm
10 dB/
Input 12db down
from 1db compression.
12-13-06
MARKER
1.006 MHz
-21.20 dBm
START 500 kHz
RES BW 30 kHz
VBW 30 kHz
STOP 6.000 MHz
SWP 20 msec