

6 FM Conducted Test Data 2.1033 (c) (14)

6.1 FM Transmitter Conducted RF Output Power 2.1046

Transmitter RF Power Output - FCC part 2, Paragraph 2.1046

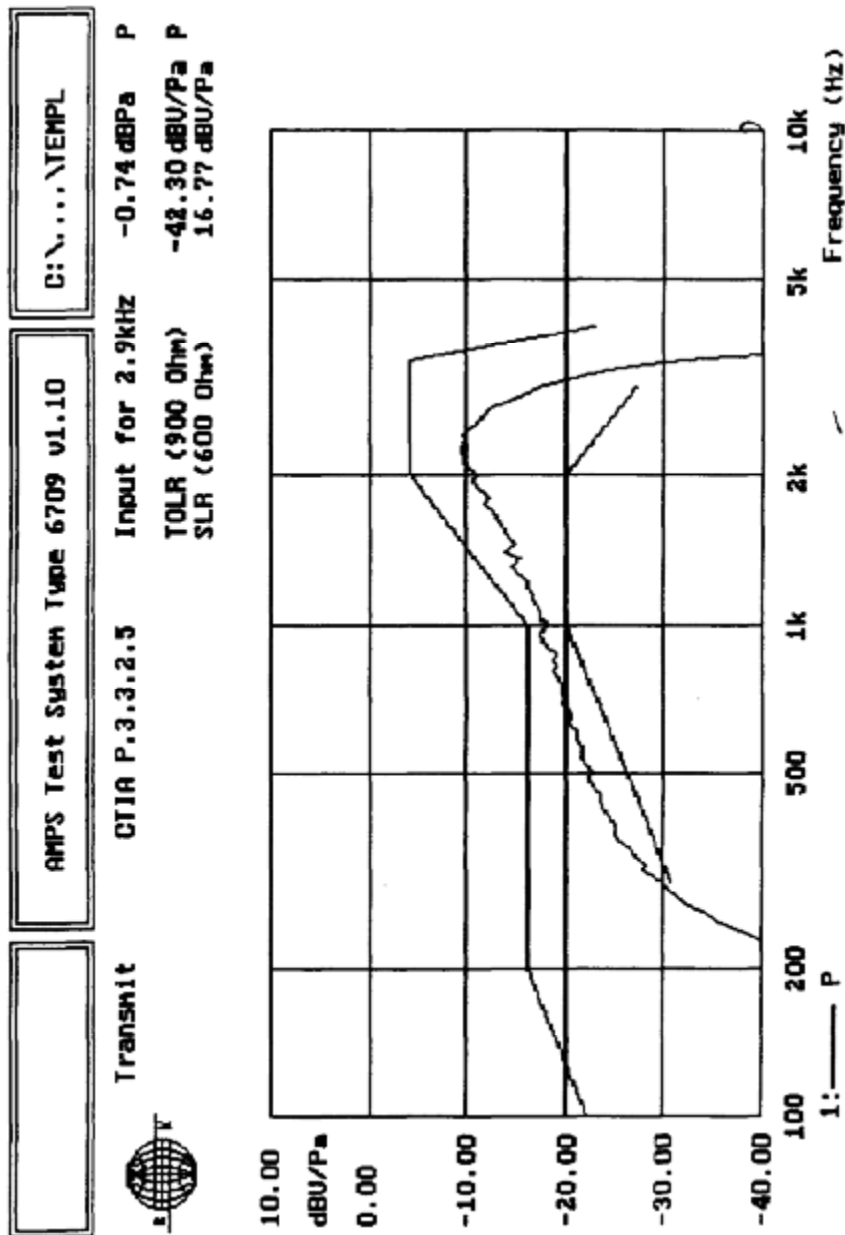
6/22/0

The RF output power was measured using a HP 8594 Spectrum Analyzer that has the CDMA personality option. Terminated to a resistive coaxial load of 50 ohms.

carrier frequency (MHz)	channel	RF output power (W)	
		FM	
		measured	
824.04	991	27.2	
836.49	383	27	
848.97	799	27.3	

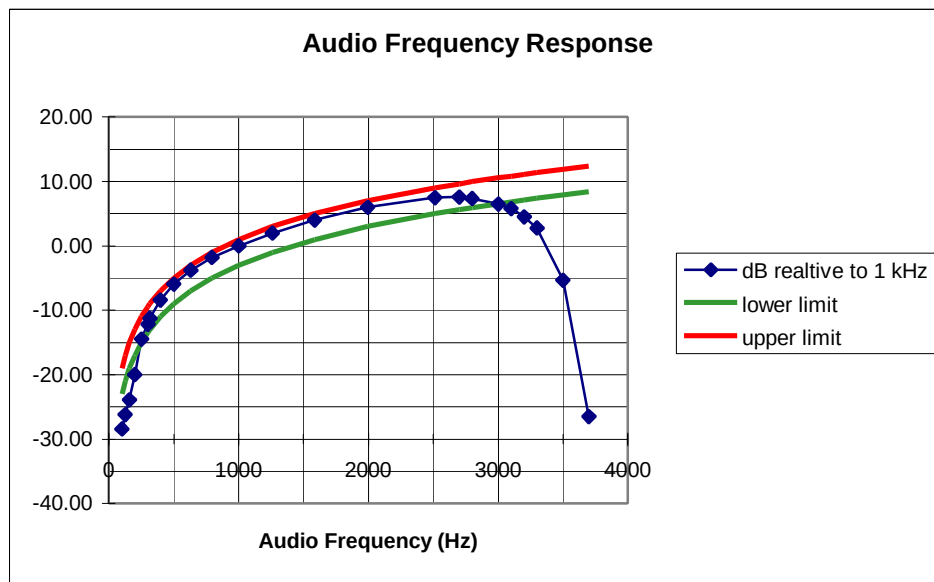
6.2 FM Transmitter Radiated RF Output Power 2.1046 22.913

6.3 FM TOLAR Response 2.1047



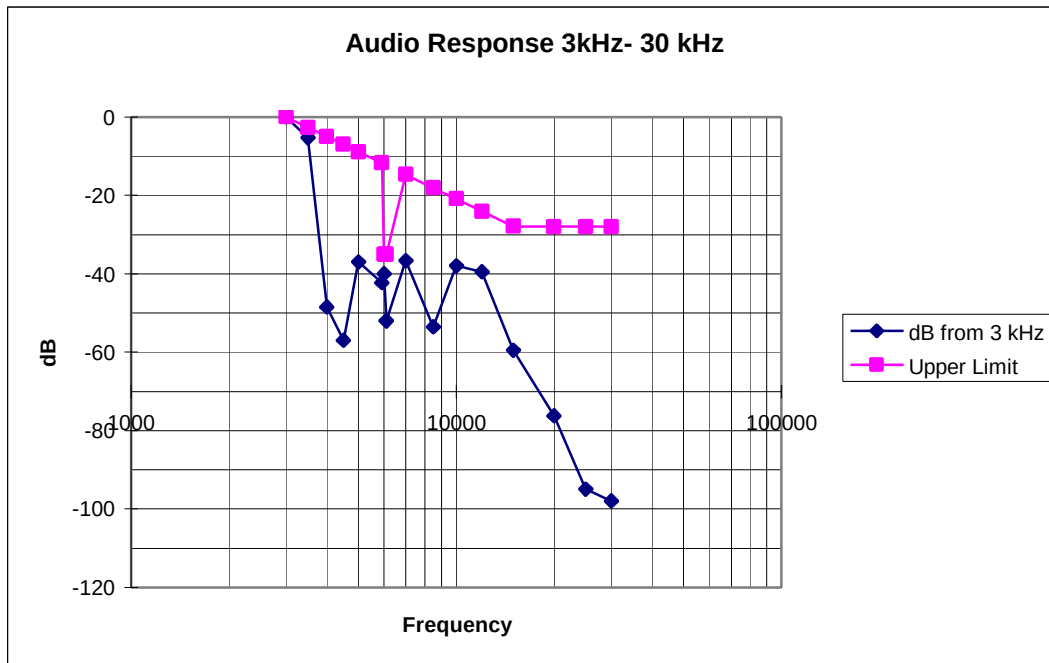
6.4 FM Audio Frequency Response 2.1047

Audio Freq (Hz)	Audio Level (mV)	dB relative to 1 kHz	lower limit	upper limit
100	2124.62	-28.45	-23.00	-19.00
126	1639.15	-26.20	-20.99	-16.99
158	1261.06	-23.92	-19.03	-15.03
200	800.97	-19.98	-16.98	-12.98
251	425.59	-14.48	-15.01	-11.01
300	326.83	-12.19	-13.46	-9.46
316	293.21	-11.25	-13.01	-9.01
398	212.10	-8.44	-11.00	-7.00
501	159.27	-5.95	-9.00	-5.00
631	124.17	-3.78	-7.00	-3.00
794	98.95	-1.81	-5.00	-1.00
1000	80.31	0.00	-3.00	1.00
1259	63.87	1.99	-1.00	3.00
1585	50.55	4.02	1.00	5.00
1995	40.35	5.98	3.00	7.00
2512	33.90	7.49	5.00	9.00
2700	33.60	7.57	5.63	9.63
2800	34.55	7.33	5.94	9.94
3000	37.99	6.50	6.54	10.54
3100	41.15	5.81	6.83	10.83
3200	47.90	4.49	7.10	11.10
3300	58.38	2.77	7.37	11.37
3500	148.48	-5.34	7.88	11.88
3700	1697.58	-26.50	8.36	12.36



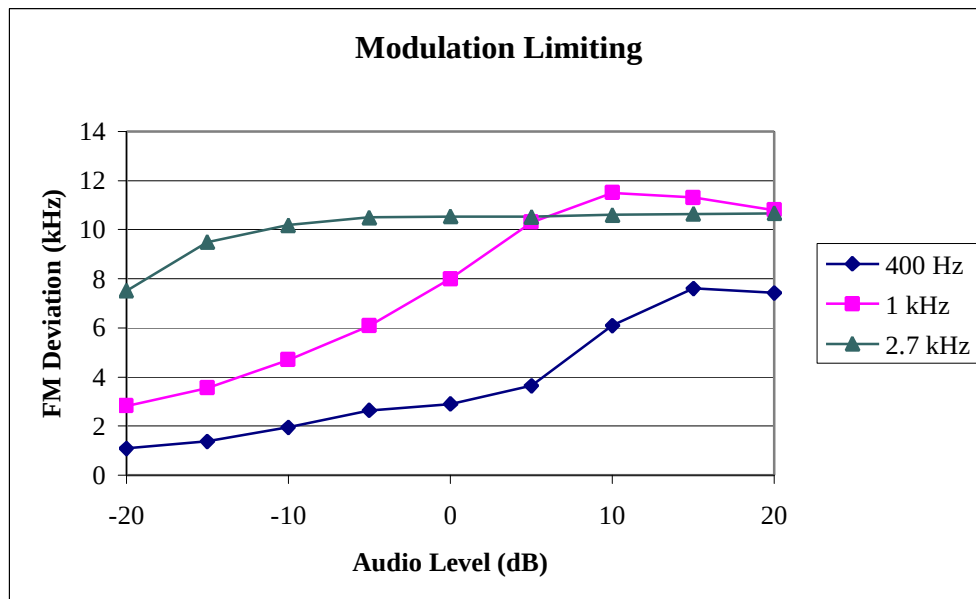
Audio Response 3kHz to 30 kHz

Frequency	dev (dB)	dB from 3 kHz	Upper Limit
3000	-1.03	0	0.00
3500	-6.3	-5.27	-2.68
4000	-49.5	-48.47	-5.00
4500	-58	-56.97	-7.04
5000	-38	-36.97	-8.87
5900	-43.3	-42.27	-11.75
6000	-41	-39.97	-35.00
6100	-53	-51.97	-35.00
6100	-53	-51.97	-35.00
7000	-37.67	-36.64	-14.72
8500	-54.57	-53.54	-18.09
10000	-39	-37.97	-20.92
12000	-40.5	-39.47	-24.08
15000	-60.5	-59.47	-27.96
20000	-77.3	-76.27	-28.00
25000	-96	-94.97	-28.00
30000	-99	-97.97	-28.00



6.5 FM Modulation Limiting 2.1047 22.915

Audio input level (dB)	400 Hz	1 kHz	2.7 kHz
-20	1.09	2.82	7.52
-15	1.38	3.56	9.5
-10	1.95	4.7	10.19
-5	2.64	6.08	10.5
0	2.9	8	10.53
5	3.65	10.3	10.52
10	6.1	11.5	10.6
15	7.6	11.3	10.64
20	7.42	10.8	10.66



6.6 FM Occupied Bandwidth Measured Data 2.1049 22.915**List of Exhibits**

<u>Exhibit</u>	<u>Description</u>	<u>FCC Reference</u>
6.6.1.1	AMPS voice + SAT, ± 100 kHz from carrier frequency	2.1049, 22.917
6.6.1.2	AMPS voice + SAT, + 90 kHz from carrier frequency up to 2nd harmonic	2.1049, 22.917
6.6.1.3	AMPS voice + SAT, 0 Hz to -90 kHz from carrier frequency	2.1049, 22.917
6.6.1.4	AMPS voice + SAT, 869 - 894 MHz	2.1049, 22.917
6.6.2.1	AMPS SAT, ± 100 kHz from carrier frequency	2.1049, 22.917
6.6.2.2	AMPS SAT, + 90 kHz from carrier frequency up to 2nd harmonic	2.1049, 22.917
6.6.2.3	AMPS SAT, 0 Hz to -90 kHz from carrier frequency	2.1049, 22.917
6.6.2.4	AMPS SAT, 869 - 894 MHz	2.1049, 22.917
6.6.3.1	AMPS ST, ± 100 kHz from carrier frequency	2.1049, 22.917
6.6.3.2	AMPS ST, + 90 kHz from carrier frequency up to 2nd harmonic	2.1049, 22.917
6.6.3.3	AMPS ST, 0 Hz to -90 kHz from carrier frequency	2.1049, 22.917
6.6.3.4	AMPS ST, 869 - 894 MHz	2.1049, 22.917
6.6.4.1	AMPS ST + SAT, ± 100 kHz from carrier frequency	2.1049, 22.917
6.6.4.2	AMPS ST + SAT, + 90 kHz from carrier frequency up to 2nd harmonic	2.1049, 22.917
6.6.4.3	AMPS ST + SAT, 0 Hz to -90 kHz from carrier frequency	2.1049, 22.917
6.6.4.4	AMPS ST + SAT, 869 - 894 MHz	2.1049, 22.917
6.6.5.1	SAT & DTMF, ± 100 kHz from carrier frequency	2.1049, 22.917
6.6.5.2	SAT & DTMF, + 90 kHz from carrier frequency up to 2nd harmonic	2.1049, 22.917
6.6.5.3	SAT & DTMF, 0 Hz to -90 kHz from carrier frequency	2.1049, 22.917
6.6.5.4	SAR & DTMF, 869 - 894 MHz	2.1049, 22.917
6.6.6.1	AMPS WIDEBAND, ± 100 kHz from carrier frequency	2.1049, 22.917
6.6.6.2	AMPS WIDEBAND, + 90 kHz from carrier frequency up to 2nd harmonic	2.1049, 22.917
6.6.6.3	AMPS WIDEBAND, 0 Hz to -90 kHz from carrier frequency	2.1049, 22.917
6.6.6.4	AMPS WIDEBAND, 869 - 894 MHz	2.1049, 22.917

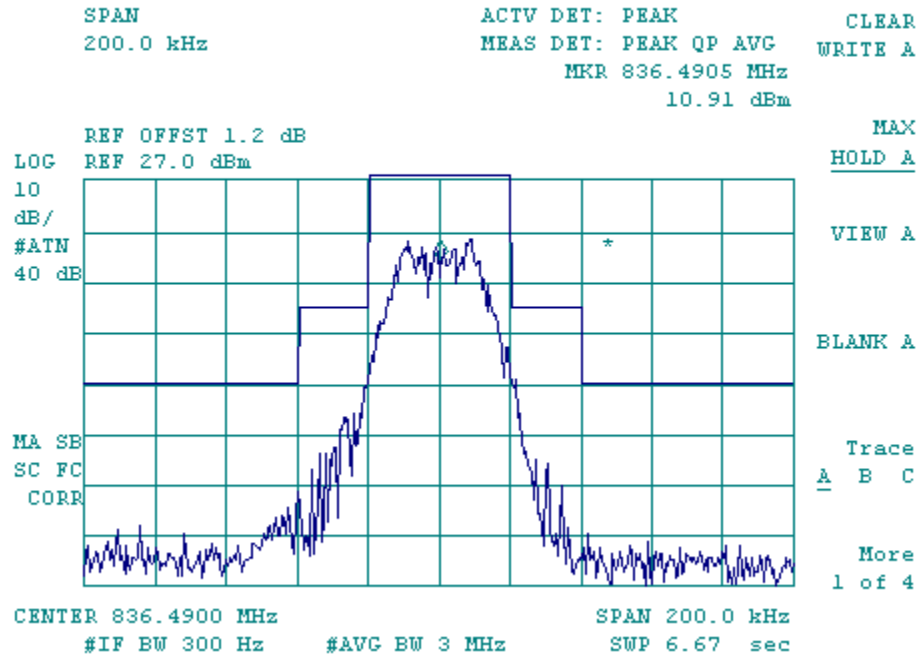
Emissions Limits

Start Frequency (MHz)	End Frequency (MHz)	Limit (dBm)	Limit (dBc)
0.03	836.45	-13	41
836.45	836.47	2	26
836.51	836.53	2	26
836.53	10000	-13	41

6.6.1 AMPS Voice and SAT

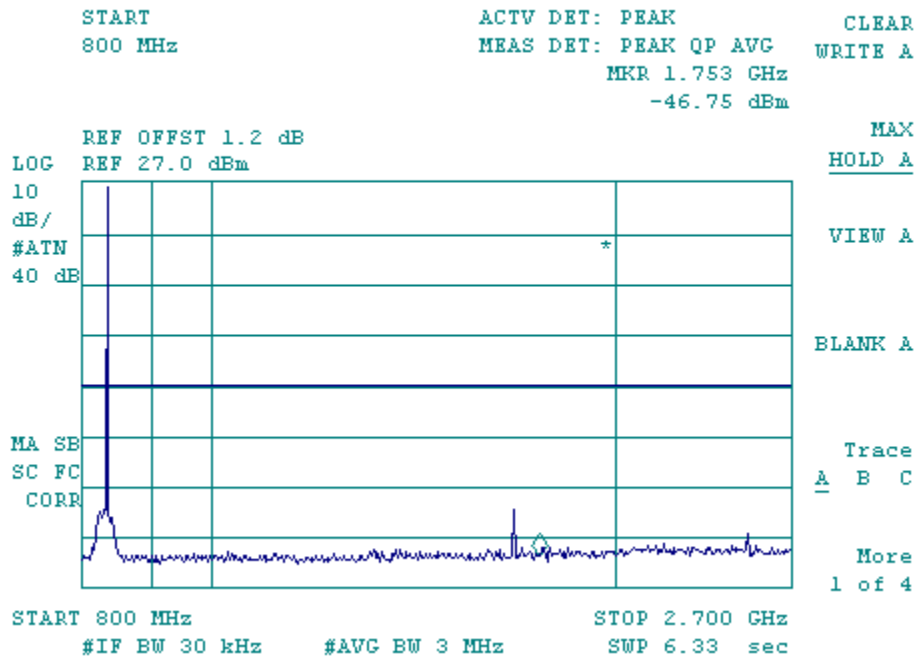
6.6.1.1 +/- 100 kHz from Carrier Frequency

10:04:15 JUL 11, 2000

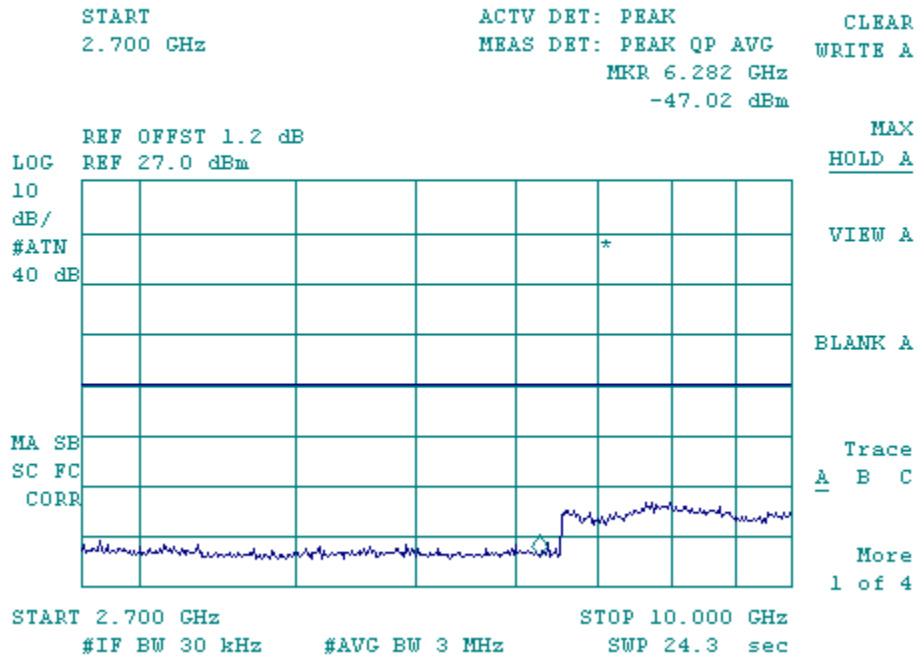


6.6.1.2 800 MHz to 10 GHz

10:05:34 JUL 11, 2000

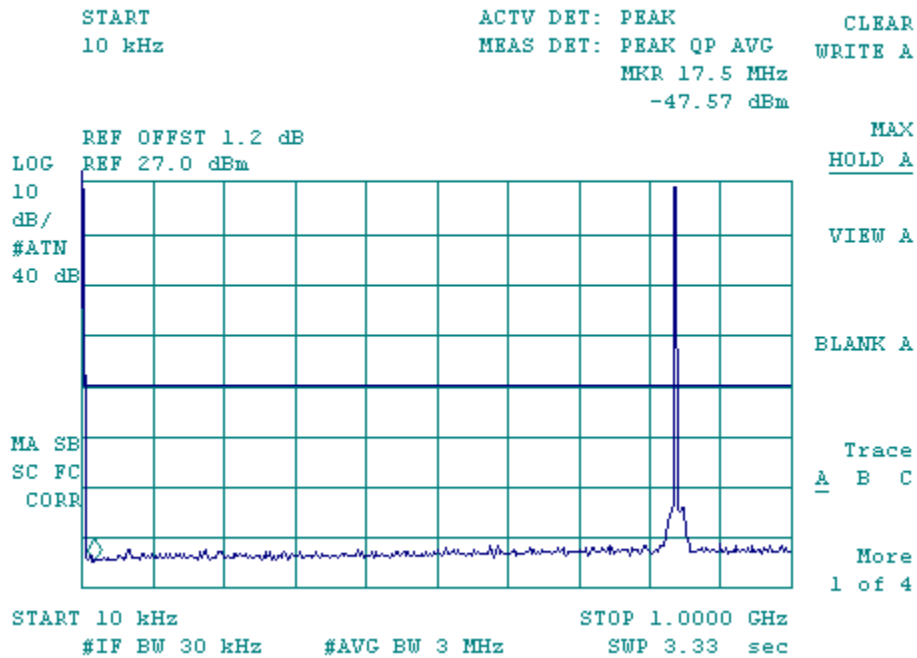


10:06:23 JUL 11, 2000

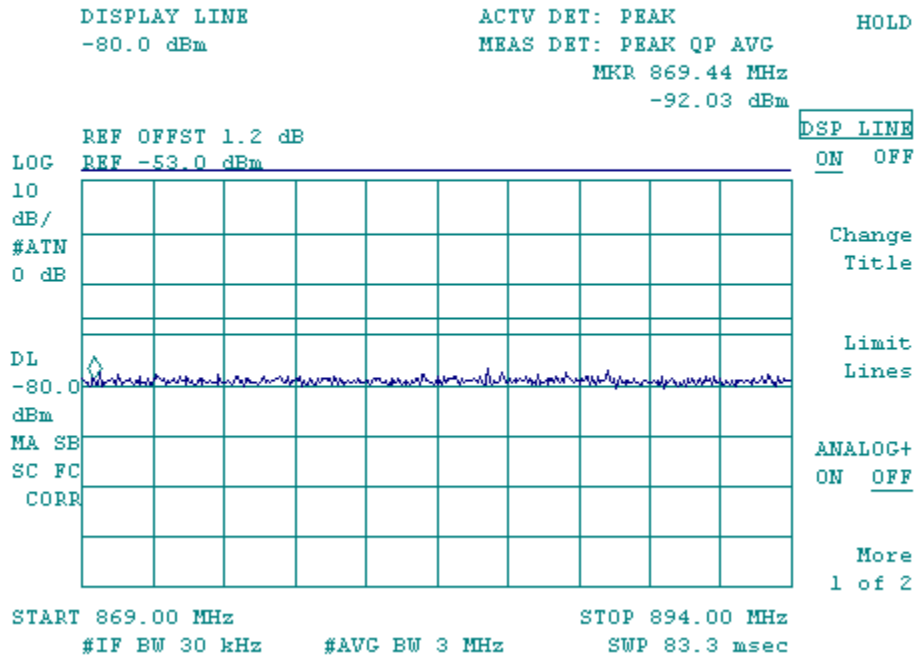


6.6.1.3 10 kHz to 1 GHz

10:07:36 JUL 11, 2000

**6.6.1.4 869 – 894 MHz**

10:09:18 JUL 11, 2000



6.6.2 AMPS SAT

6.6.2.1 +/- 100 kHz from Carrier Frequency

QSEC800

ACTV DET: PEAK
MEAS DET: PEAK QP AVG

ABCDEF

REF OFFST 1.2 dB

GHIJKL

LOG REF 27.0 dBm

10

dB/

#ATN

40 dB

PASS LIMIT

MNOPQR

STUVWX

WA SB

SC FC

CORR

YZ_# Spc

Clear

More

1 of 2

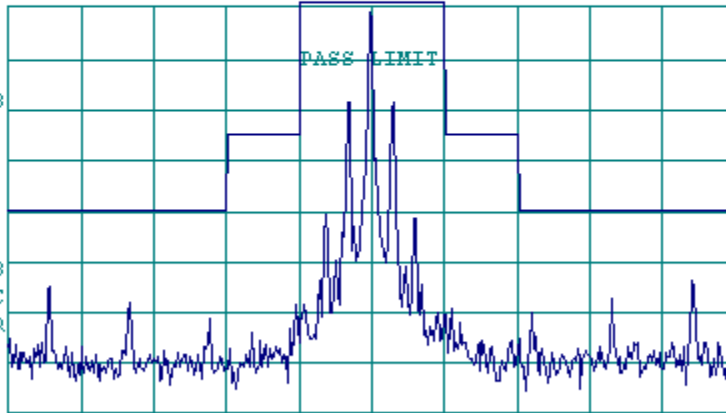
CENTER 836.4900 MHz

SPAN 200.0 kHz

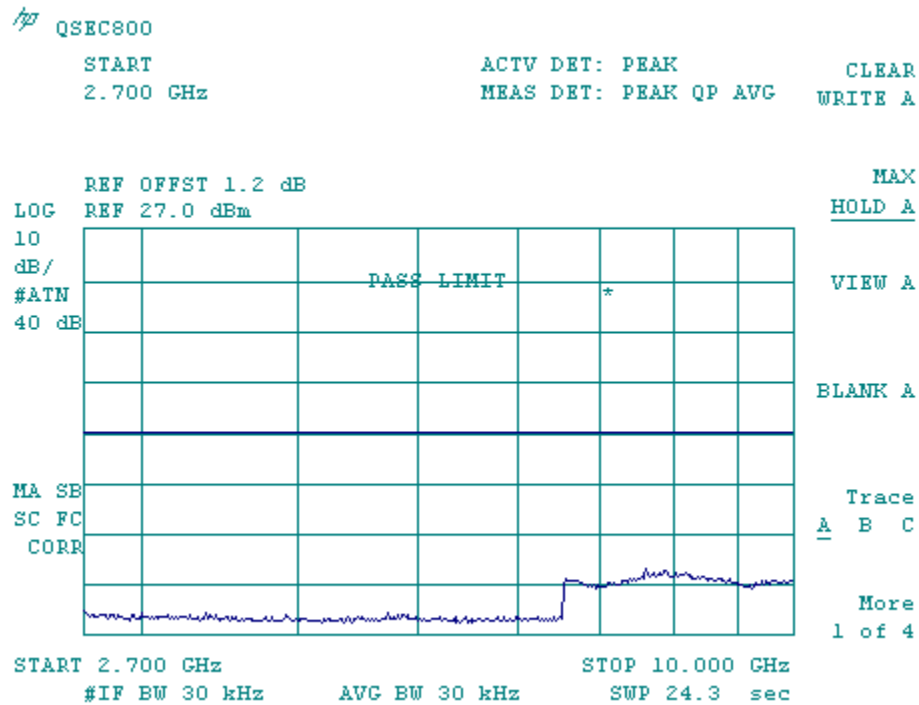
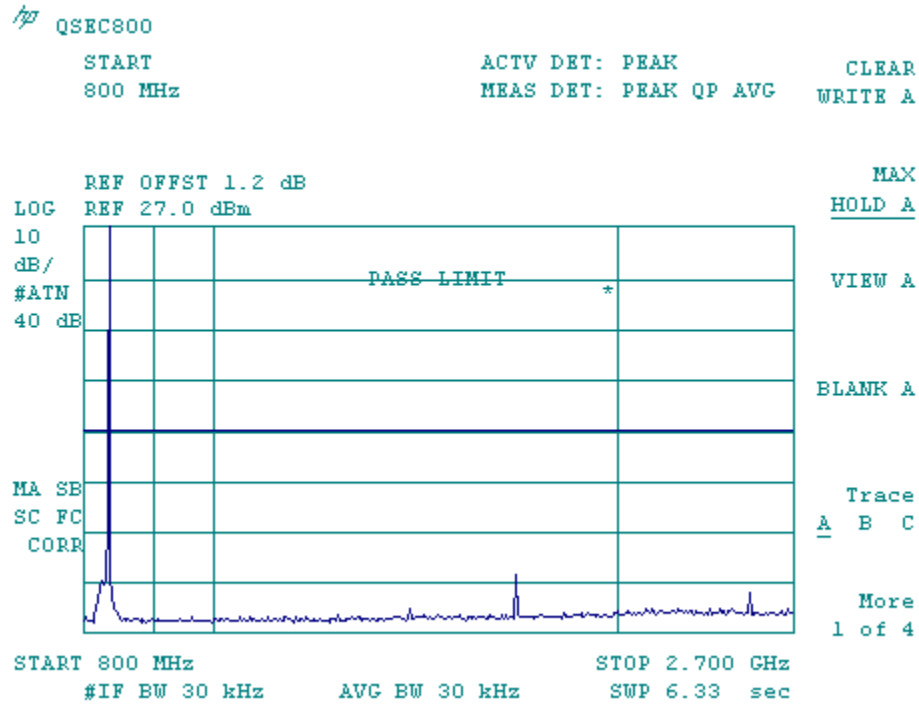
#IF BW 300 Hz

AVG BW 300 Hz

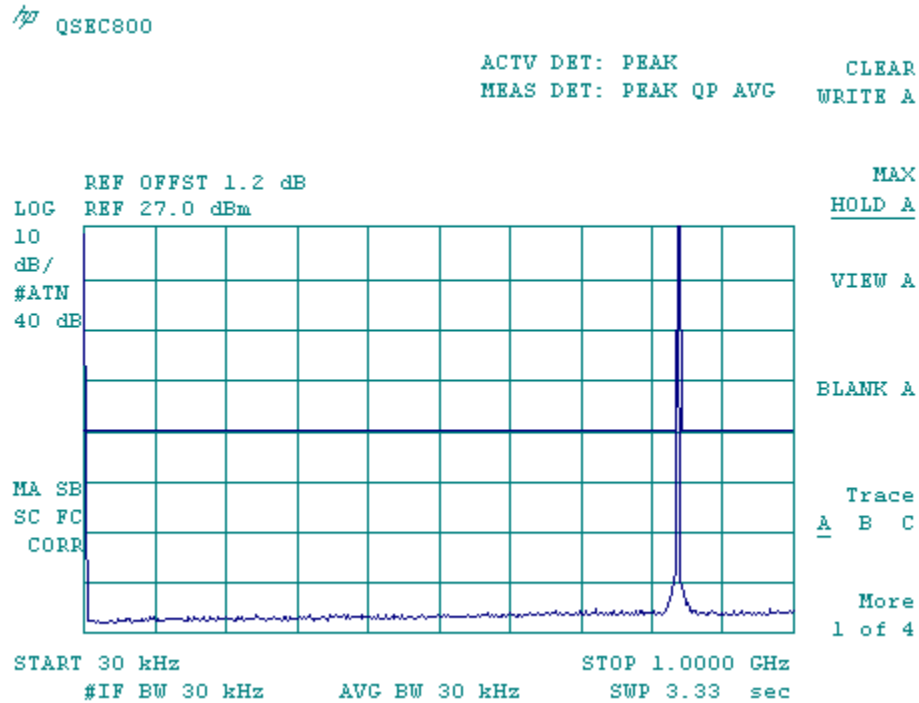
SWP 6.67 sec



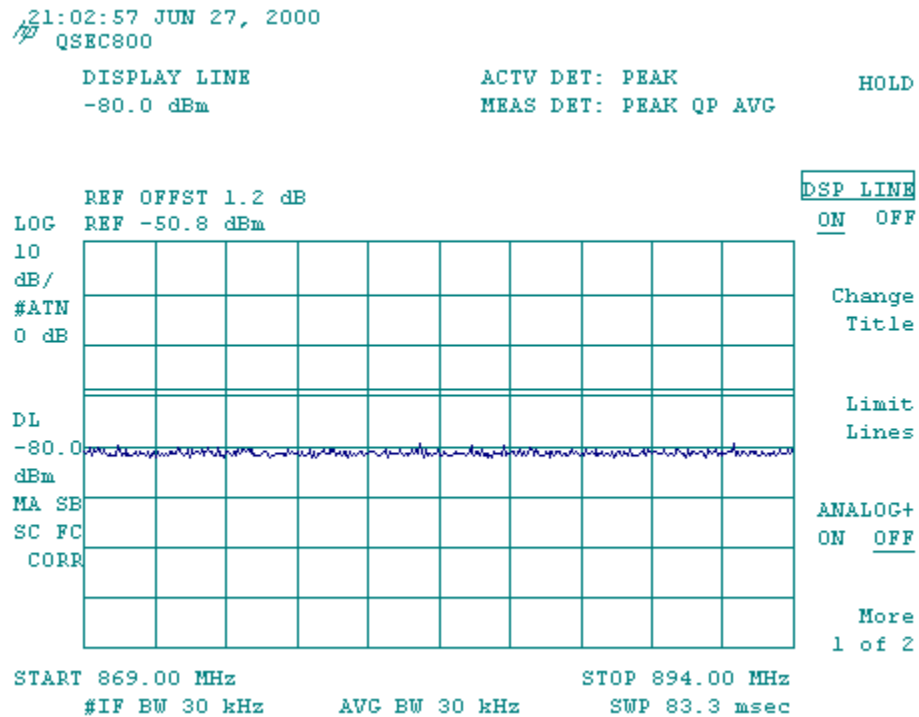
6.6.2.2 800 MHz to 10 GHz



6.6.2.3 10 kHz to 1 GHz

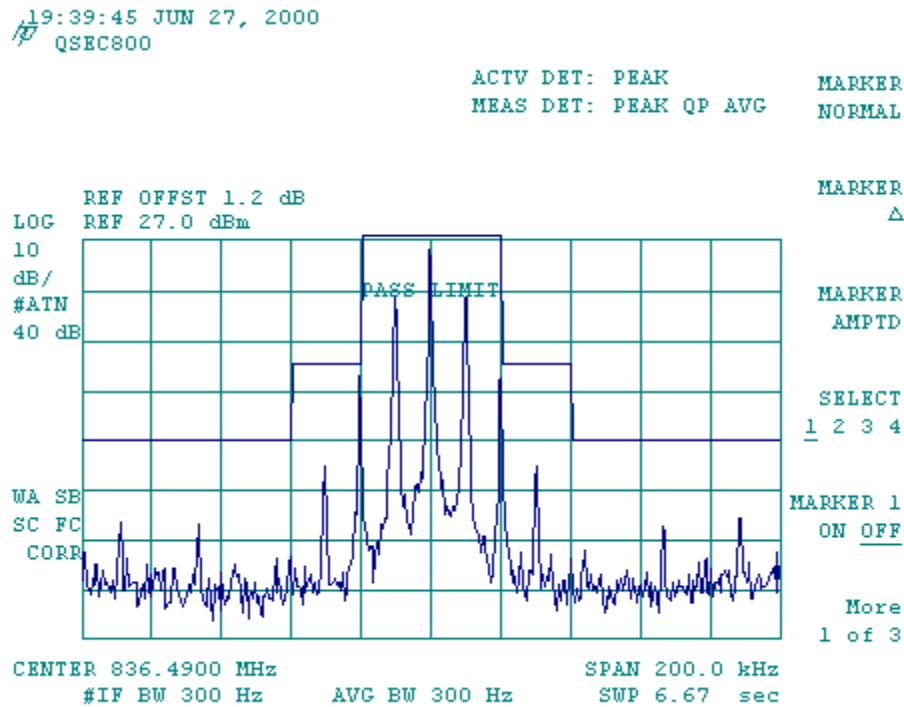


6.6.2.4 869 – 894 MHz

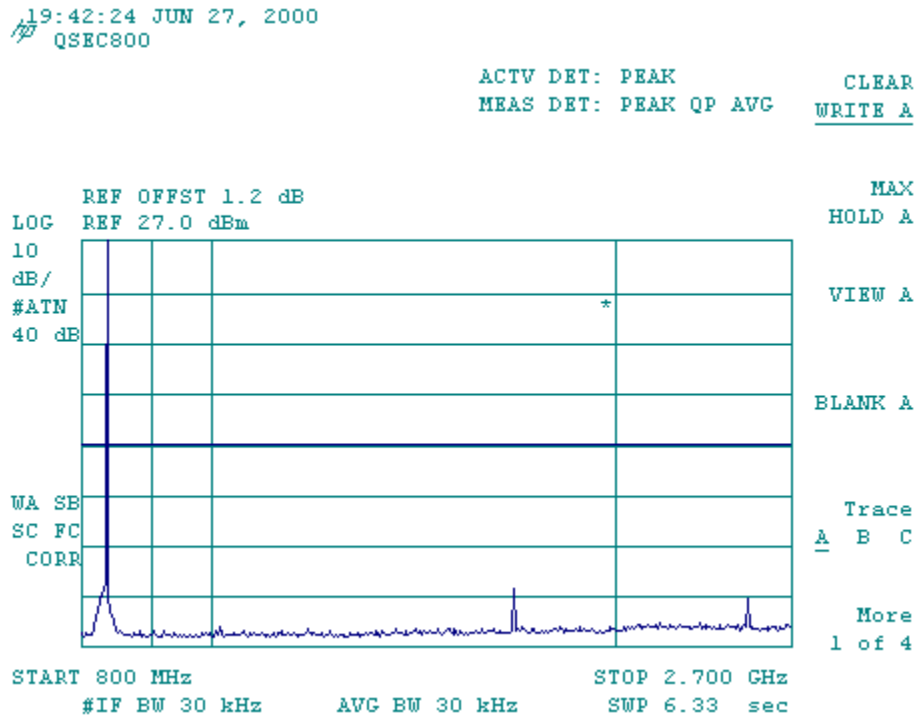


6.6.3 AMPS Signaling Tone

6.6.3.1 +/- 100 kHz from Carrier Frequency



6.6.3.2 800 MHz to 10 GHz



19:43:29 JUN 27, 2000
QSEC800

RECALL: REG

ACTV DET: PEAK

CLEAR

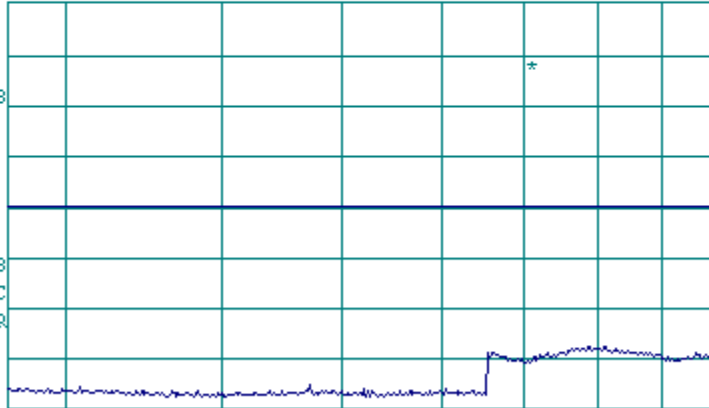
MEAS DET: PEAK QP AVG

WRITE A

REF OFFST 1.2 dB
LOG REF 27.0 dBm

MAX
HOLD A

10
dB/
#ATN
40 dB



VIEW A

BLANK A

MA SB
SC FC
CORR

Trace
A B C

More
1 of 4

START 2.700 GHz

STOP 10.000 GHz

#IF BW 30 kHz

AVG BW 30 kHz

SWP 24.3 sec

6.6.3.3 10 kHz to 1 GHz

QSEC800

SAVE: REG

ACTV DET: PEAK

CLEAR

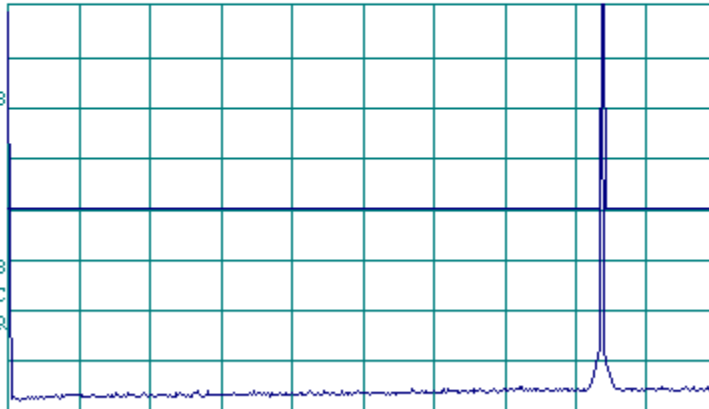
MEAS DET: PEAK QP AVG

WRITE A

REF OFFST 1.2 dB
LOG REF 27.0 dBm

MAX
HOLD A

10
dB/
#ATN
40 dB



VIEW A

BLANK A

MA SB
SC FC
CORR

Trace
A B C

More
1 of 4

START 30 kHz

STOP 1.0000 GHz

#IF BW 30 kHz

AVG BW 30 kHz

SWP 3.33 sec

6.6.3.4 869 – 894 MHz

21:04:01 JUN 27, 2000
 QSEC800

DISPLAY LINE
 -80.0 dBm

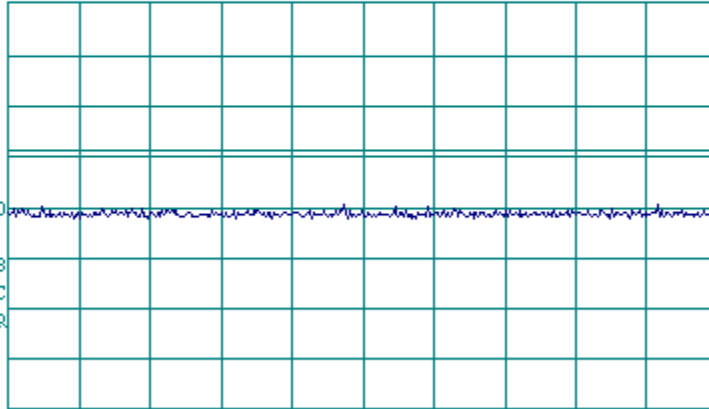
ACTV DET: PEAK
 MEAS DET: PEAK QP AVG

HOLD

REF OFFST 1.2 dB
 LOG REF -50.8 dBm

DSP LINE
 ON OFF

10
 dB/
 #ATN
 0 dB



Change
 Title

Limit
 Lines

DL
 -80.0
 dBm
 MA SE
 SC FC
 CORR

ANALOG+
 ON OFF

More
 1 of 2

START 869.00 MHz

STOP 894.00 MHz

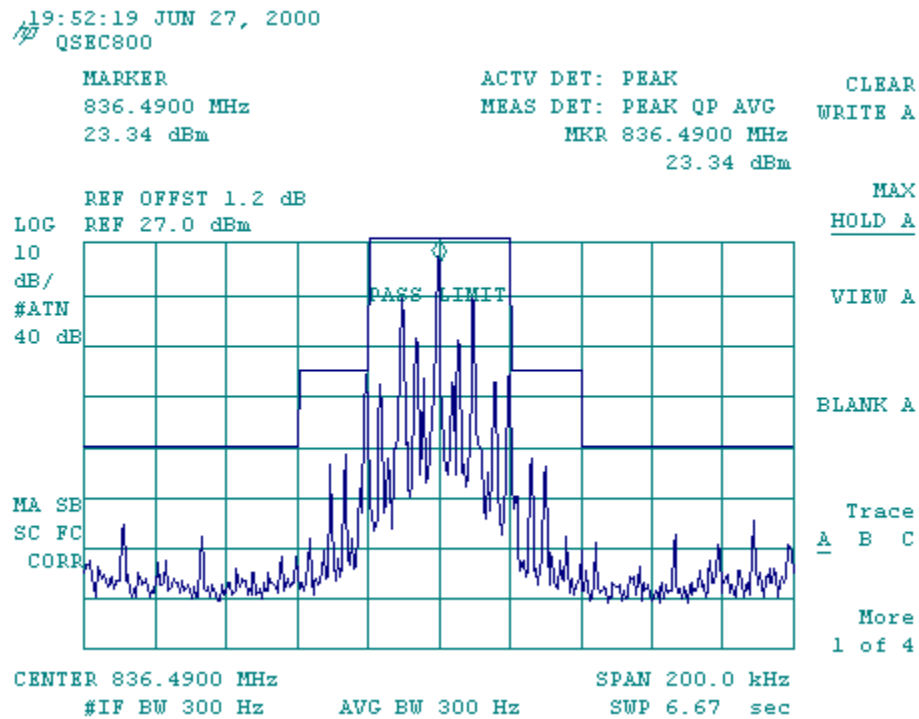
#IF BW 30 kHz

AVG BW 30 kHz

SWP 83.3 msec

6.6.4 AMPS Signaling Tone and SAT

6.6.4.1 +/- 100 kHz from Carrier Frequency



6.6.4.2 800 MHz to 10 GHz

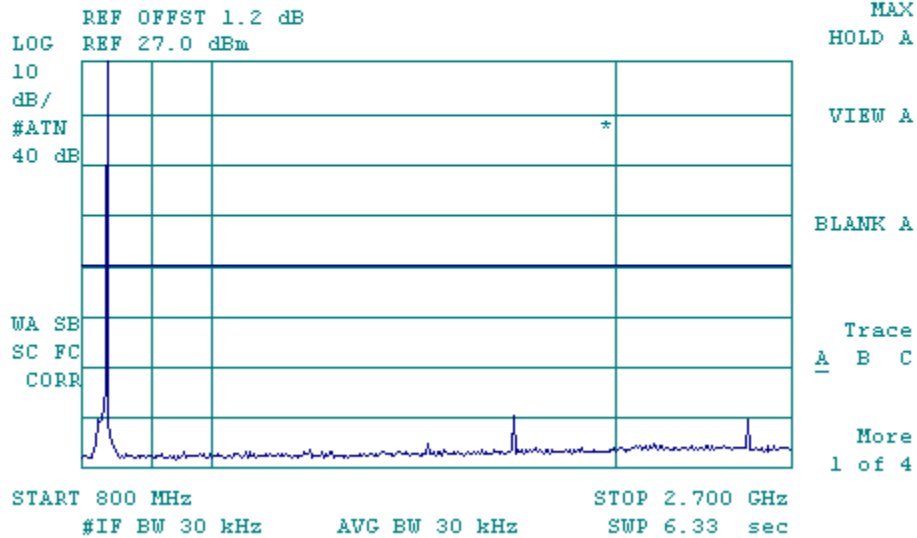
19:47:05 JUN 27, 2000
QSEC800

RECALL: REG

ACTV DET: PEAK

CLEAR

MEAS DET: PEAK QP AVG

WRITE A

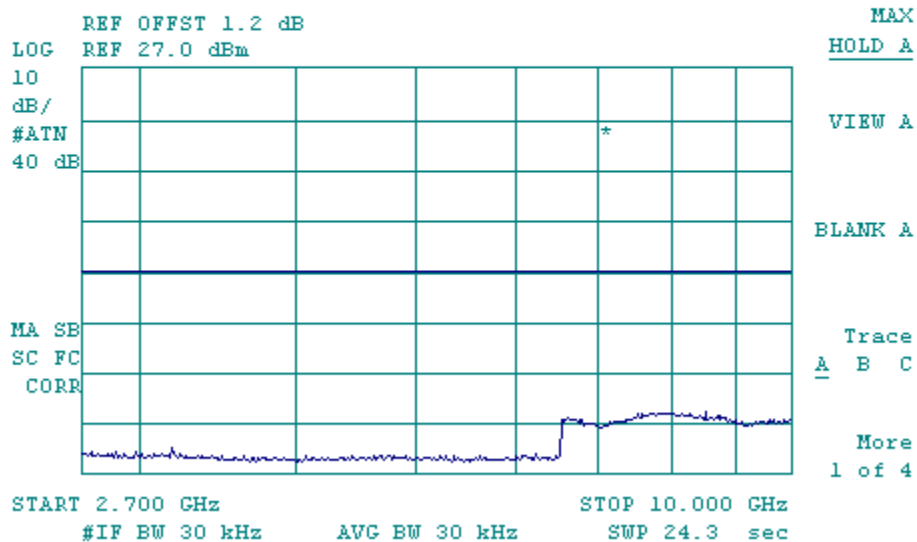
19:45:25 JUN 27, 2000
QSEC800

RECALL: REG

ACTV DET: PEAK

CLEAR

MEAS DET: PEAK QP AVG

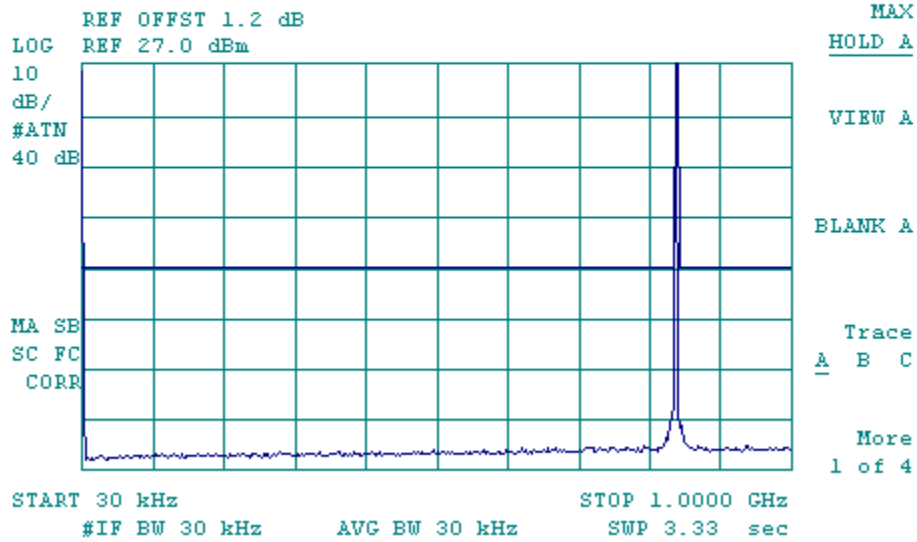
WRITE A

6.6.4.3 10 kHz to 1 GHz

19:54:06 JUN 27, 2000
QSEC800

ACTV DET: PEAK
MEAS DET: PEAK QP AVG

CLEAR
WRITE A

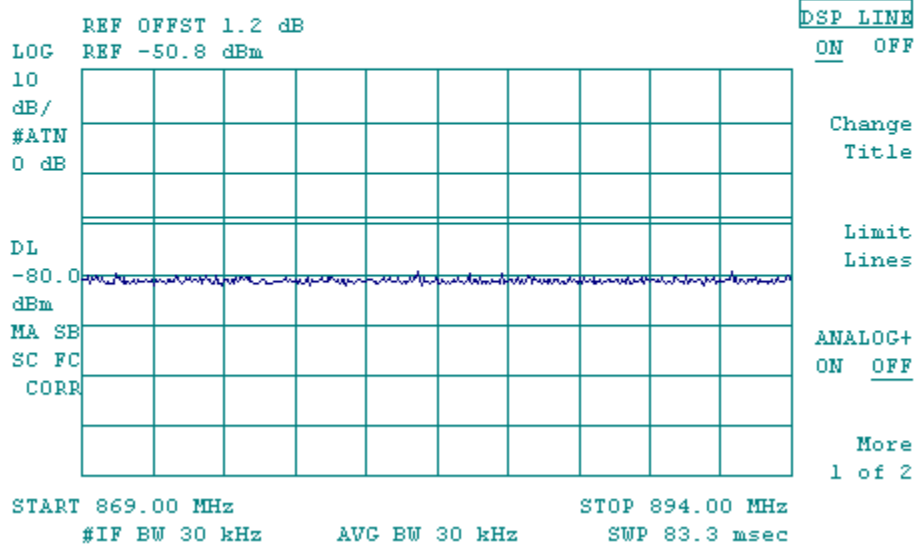
**6.6.4.4 869 – 894 MHz**

21:05:03 JUN 27, 2000
QSEC800

DISPLAY LINE
-80.0 dBm

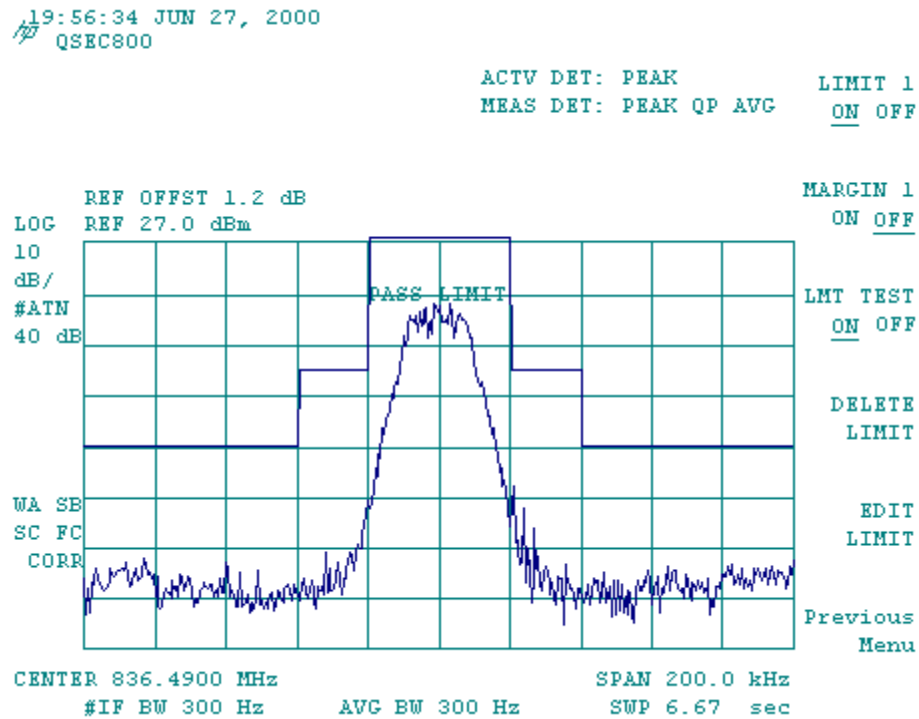
ACTV DET: PEAK
MEAS DET: PEAK QP AVG

HOLD

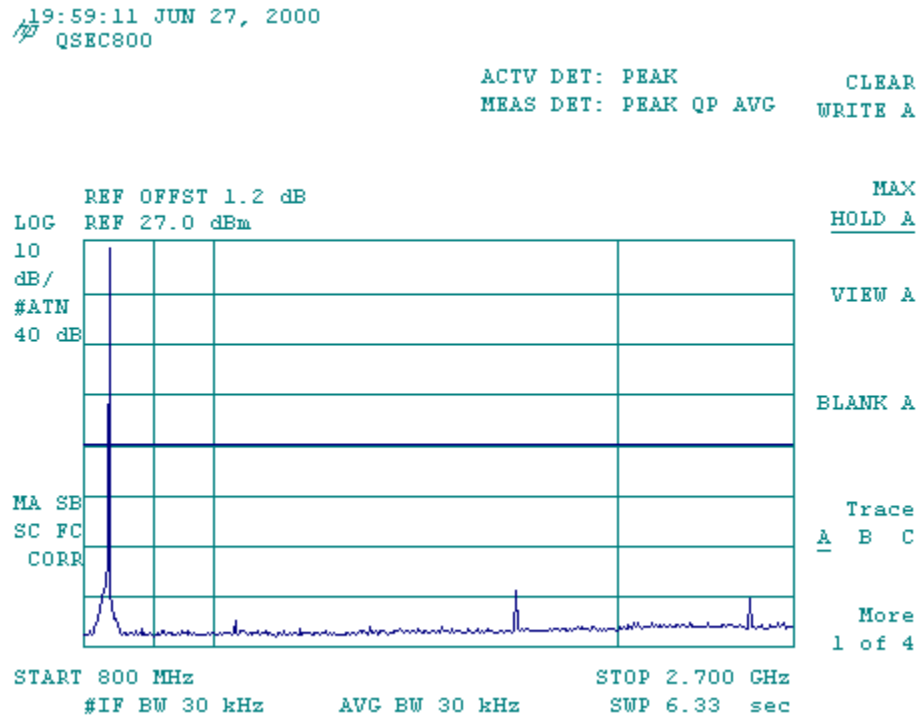


6.6.5 SAT and DTMF

6.6.5.1 +/- 100 kHz from Carrier Frequency



6.6.5.2 800 MHz to 10 GHz



20:00:22 JUN 27, 2000
QSEC800

RECALL: REG

ACTV DET: PEAK

CLEAR

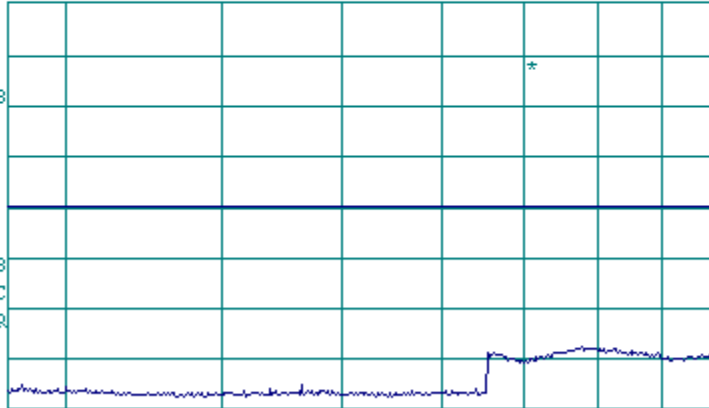
MEAS DET: PEAK QP AVG

WRITE A

REF OFFST 1.2 dB
LOG REF 27.0 dBm

MAX
HOLD A

10
dB/
#ATN
40 dB



VIEW A

BLANK A

MA SB
SC FC
CORR

Trace
A B C

More
1 of 4

START 2.700 GHz

STOP 10.000 GHz

#IF BW 30 kHz

AVG BW 30 kHz

SWP 24.3 sec

6.6.5.3 10 kHz to 1 GHz

20:01:50 JUN 27, 2000
QSEC800

RECALL: REG

ACTV DET: PEAK

CLEAR

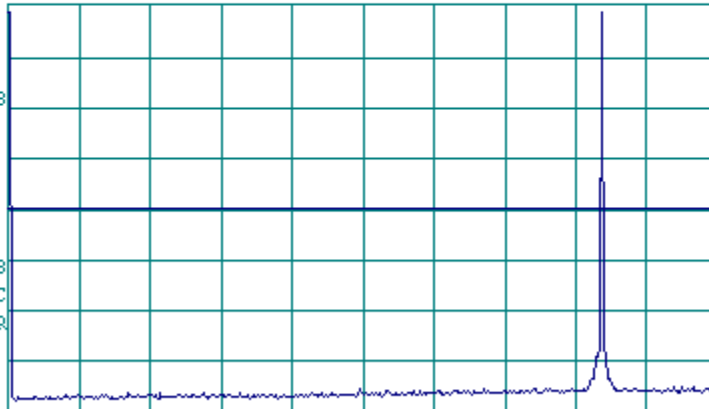
MEAS DET: PEAK QP AVG

WRITE A

REF OFFST 1.2 dB
LOG REF 27.0 dBm

MAX
HOLD A

10
dB/
#ATN
40 dB



VIEW A

BLANK A

MA SB
SC FC
CORR

Trace
A B C

More
1 of 4

START 30 kHz

STOP 1.0000 GHz

#IF BW 30 kHz

AVG BW 30 kHz

SWP 3.33 sec

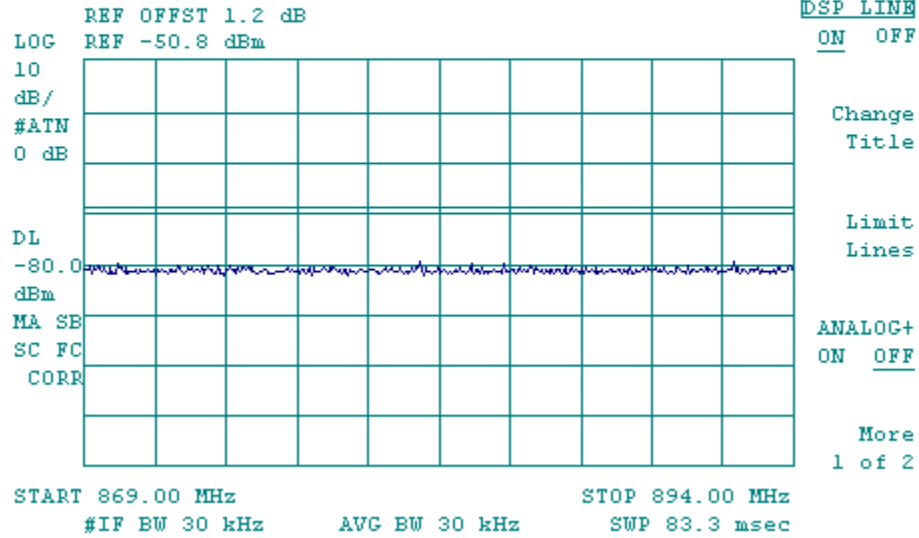
6.6.5.4 869 – 894 MHz

21:05:51 JUN 27, 2000
 QSEC800

DISPLAY LINE
 -80.0 dBm

ACTV DET: PEAK
 MEAS DET: PEAK QP AVG

HOLD



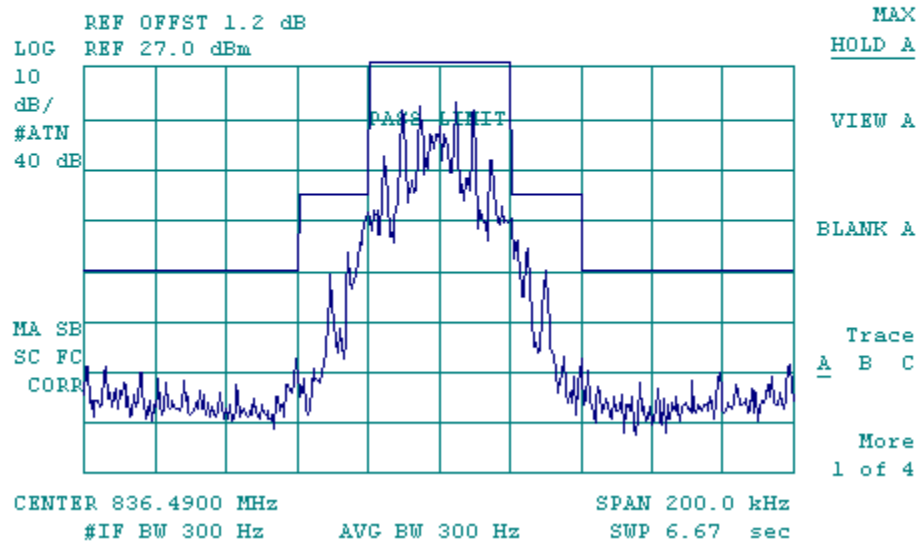
6.6.6 AMPS Wideband

6.6.6.1 +/- 100 kHz from Carrier Frequency

20:04:09 JUN 27, 2000
QSEC800

ACTV DET: PEAK
MEAS DET: PEAK QP AVG

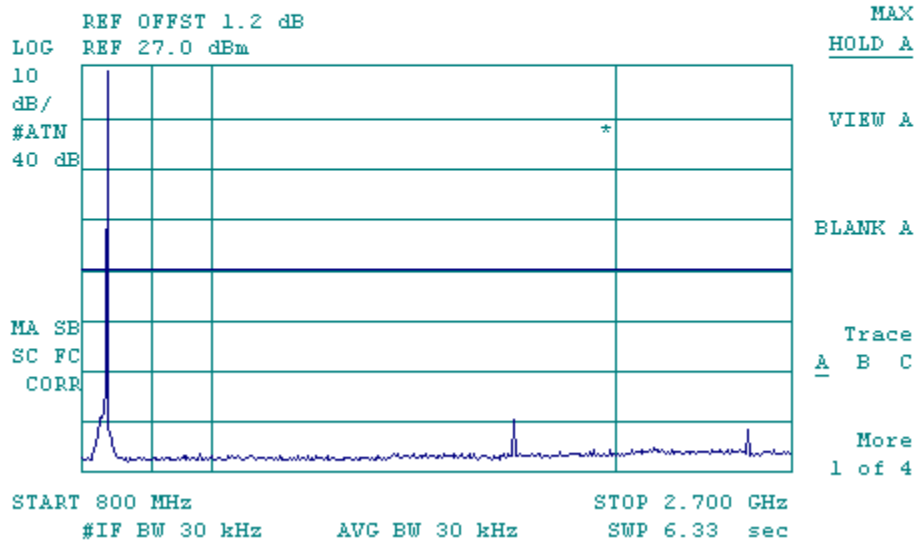
CLEAR
WRITE A



6.6.6.2 800 MHz to 10 GHz

20:05:29 JUN 27, 2000
QSEC800

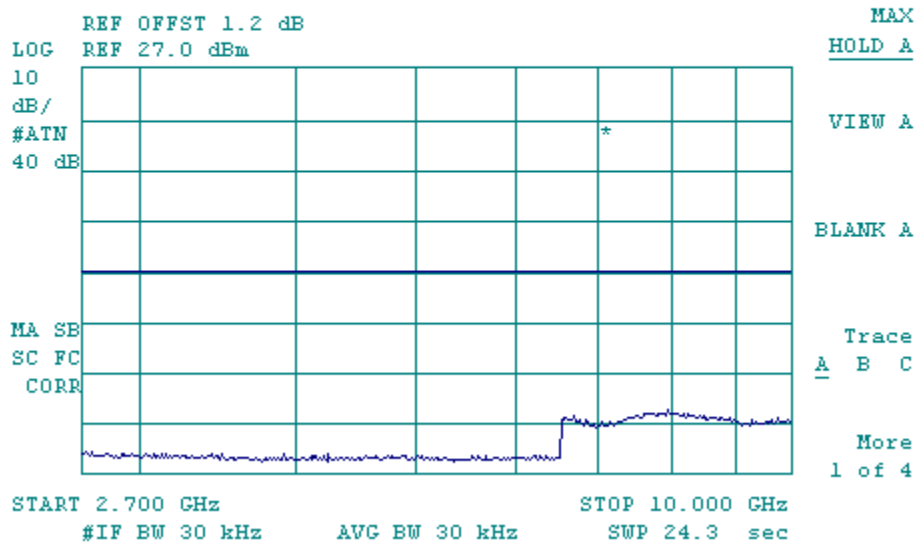
ACTV DET: PEAK CLEAR
MEAS DET: PEAK QP AVG WRITE A



20:06:52 JUN 27, 2000
QSEC800

RECALL: REG

ACTV DET: PEAK CLEAR
MEAS DET: PEAK QP AVG WRITE A



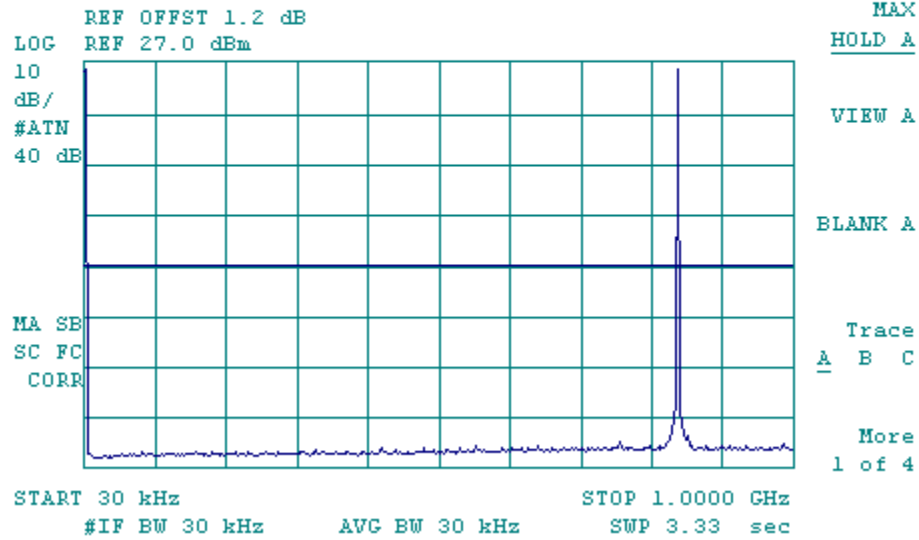
6.6.6.3 10 kHz to 1 GHz

20:08:01 JUN 27, 2000
QSEC800

START
30 kHz

ACTV DET: PEAK
MEAS DET: PEAK QP AVG

CLEAR
WRITE A

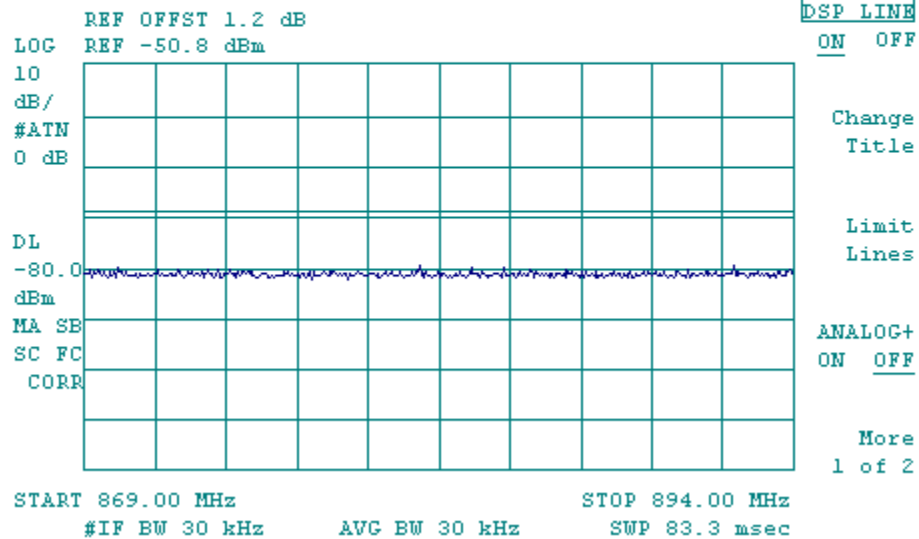
**6.6.6.4 869 – 894 MHz**

21:08:08 JUN 27, 2000
QSEC800

DISPLAY LINE
-80.0 dBm

ACTV DET: PEAK
MEAS DET: PEAK QP AVG

HOLD



6.7 FM Conducted Spurious Emissions and Transmit Harmonics

2.1051 22.917

Channel 991				
	Frequency (MHz)	Measured (dBm)	Actual Level(dBm)	Specification limit (dBm)
1	824.04	27.2	27.2	-
2	1648.08	-46.2	-46.2	-13
3	2472.12	-51.87	-51.87	-13
4	3296.16	-60	-60	-13
5	4120.2	-69.44	-69.44	-13
6	4944.24	-57.32	-57.32	-13
7	5768.28	-46.48	-46.48	-13
8	6592.32	-62.07	-62.07	-13
9	7416.36	<-61	<-61	-13
10	8240.4	<-61	<-61	-13

Channel 383				
	Frequency (MHz)	Measured (dBm)	Actual Level(dBm)	Specification limit (dBm)
1	836.49	27.14	27.14	-
2	1672.98	-43.8	-43.8	-13
3	2509.47	-54.3	-54.3	-13
4	3345.96	-64.2	-64.2	-13
5	4182.45	-70.41	-70.41	-13
6	5018.94	-65.14	-65.14	-13
7	5855.43	-53.36	-53.36	-13
8	6691.92	-61.12	-61.12	-13
9	7528.41	<-63	<-63	-13
10	8364.9	<-63	<-63	-13

Channel 799				
	Frequency (MHz)	Measured (dBm)	Actual Level(dBm)	Specification limit (dBm)
1	848.97	27.2	27.2	-
2	1697.94	-38.16	-38.16	-13
3	2546.91	-56.81	-56.81	-13
4	3395.88	-60.85	-60.85	-13
5	4244.85	-66.2	-66.2	-13
6	5093.82	-54.88	-54.88	-13
7	5942.79	-50.5	-50.5	-13
8	6791.76	<-62	<-62	-13
9	7640.73	<-62	<-62	-13
10	8489.7	<-62	<-62	-13