Chapter 5 Occupied Bandwidth Measurement

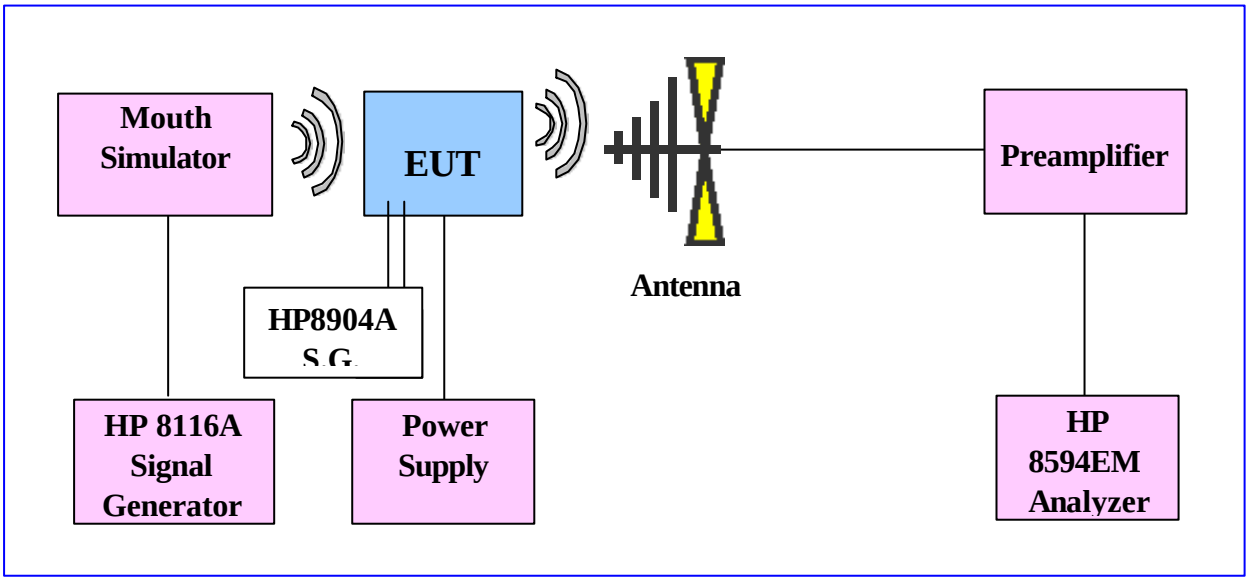
1. Rules and Specification Limits

2.1049(c)(1): ANSI/ TIA / EIA-603-1992, Paragraph 2.2.11.

74.861(e)(3): Any form of modulation may be used. A maximum deviation of ±75kHz is permitted when frequency modulation is employed.

74.861(e)(5): The operation bandwidth shall not exceed 200kHz.

2. Test Configuration & List of Test Instruments



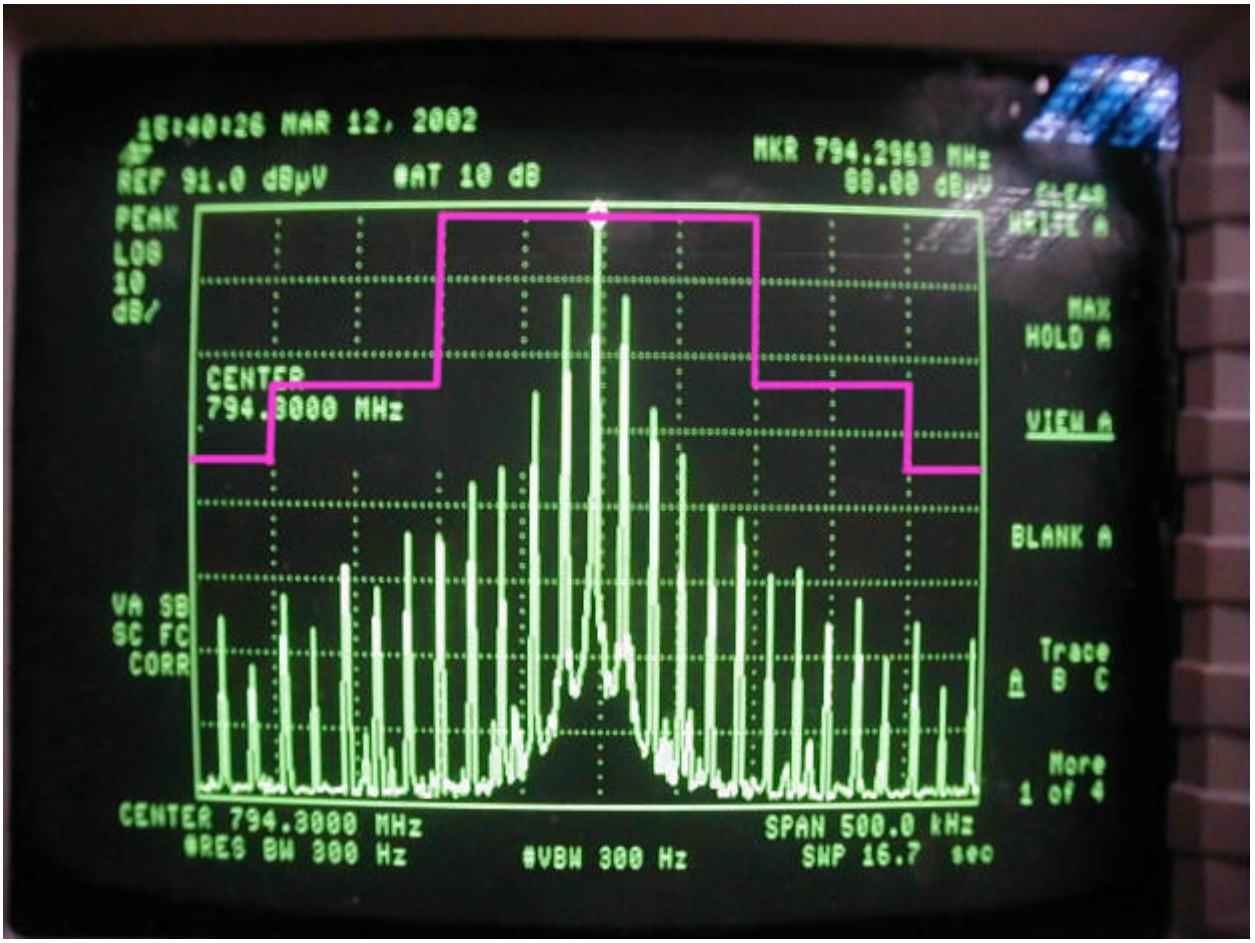
3. List of test Instrument

Instrument Name	Model No.	Brand	Input Impedance
Spectrum analyzer (9K~1.8GHz)	8594EM	HP	50
Preamplifier (30MHz~1GHz)	TRC001	TRC	50
Signal Generator 50 MHz	HP8116A	HP	50
Signal Generator	HP8904A	HP	50
Bi-log Antenna	CBL6141A	SCHAFFNER	50

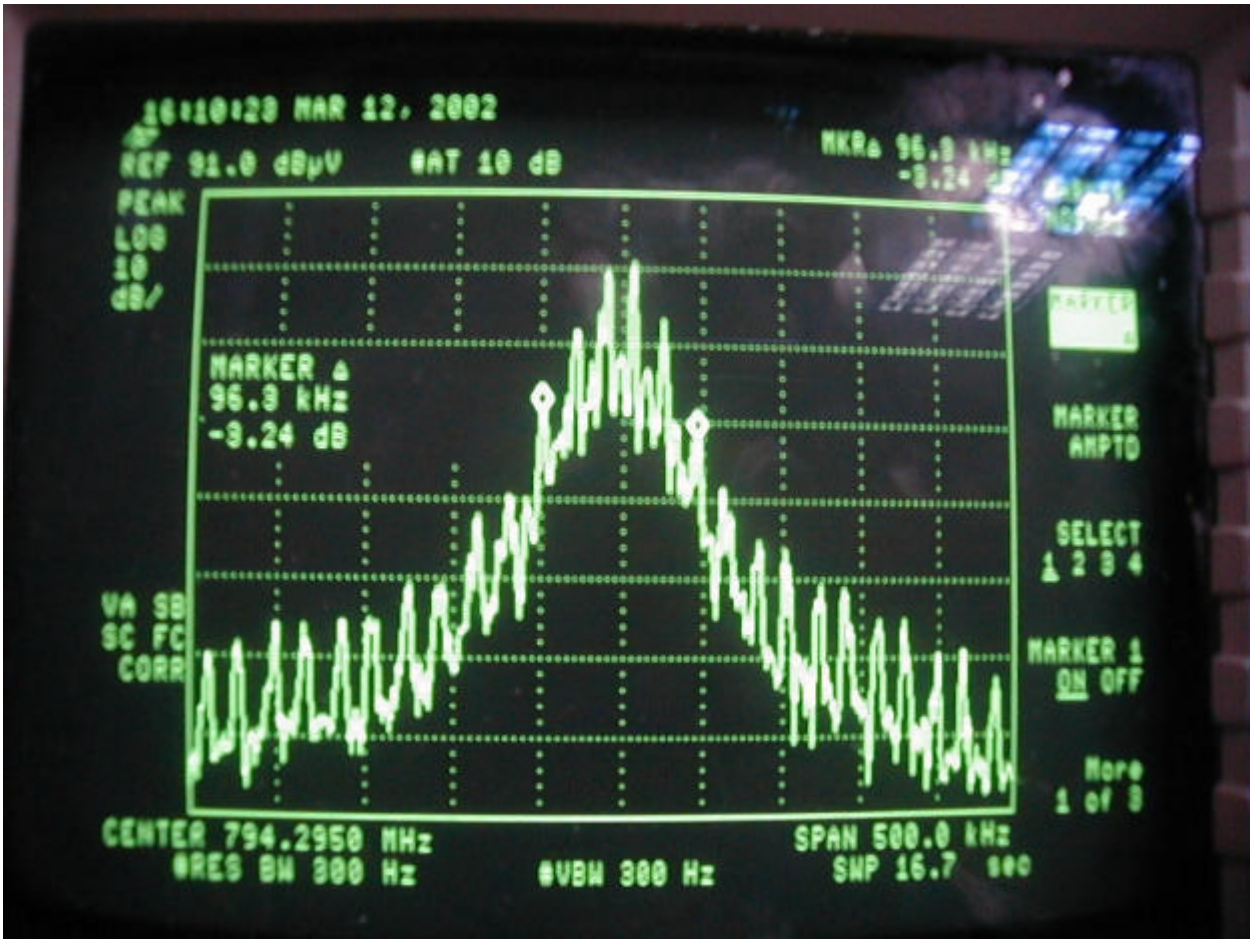
4. Measurement Procedure

1. Connect the EUT as Section 4.2 .
2. Plot the unmodulated chart shows on spectrum.
3. Set the output of the signal generator to 1kHz, 2.5kHz, 9.448kHz and 15kHz. Increase the amplitude of the signal, while monitoring the modulation meter. Until modulation is max. Measure the bandwidth under 26 dB compared to the unmodulated fundamental carrier peak level of the modulated signal displayed on the spectrum analyzer.
4. The occupied Bandwidth was measured as follow pages.

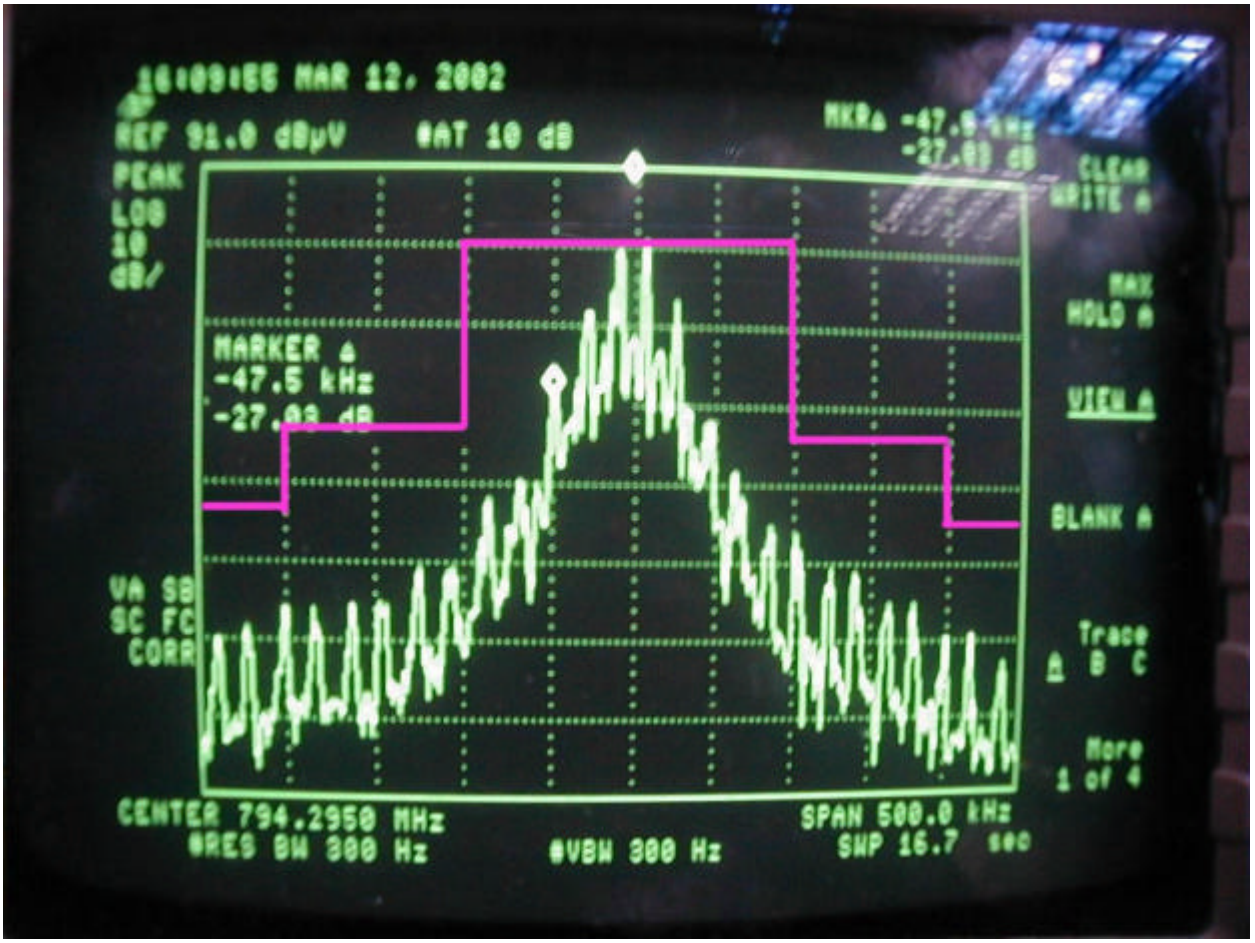
Unmodulation



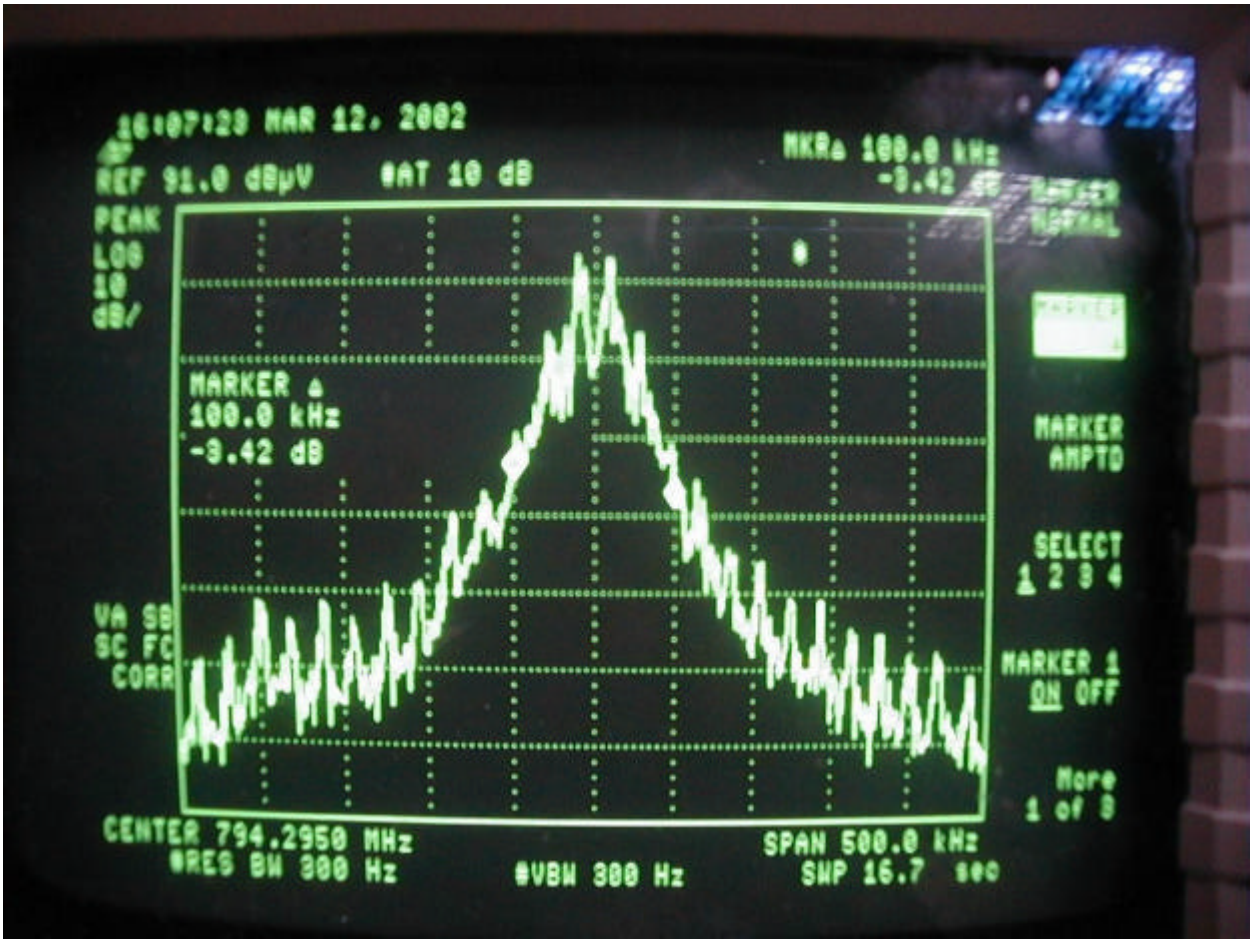
L+R1


16:10:23 MAR 12, 2002
REF 91.0 dBµV
ATT 10 dB
PEAK
LOG
10
dB/
MKR Δ 96.3 kHz
-3.24
MARKER Δ
96.3 kHz
-3.24 dB
MARKER
AMPTD
SELECT
1 2 3 4
VA SB
SC FC
CORR
MARKER 1
ON OFF
More
1 of 3
CENTER 794.2950 MHz
RES BW 300 Hz
VBW 300 Hz
SPAN 500.0 kHz
SWP 16.7 sec

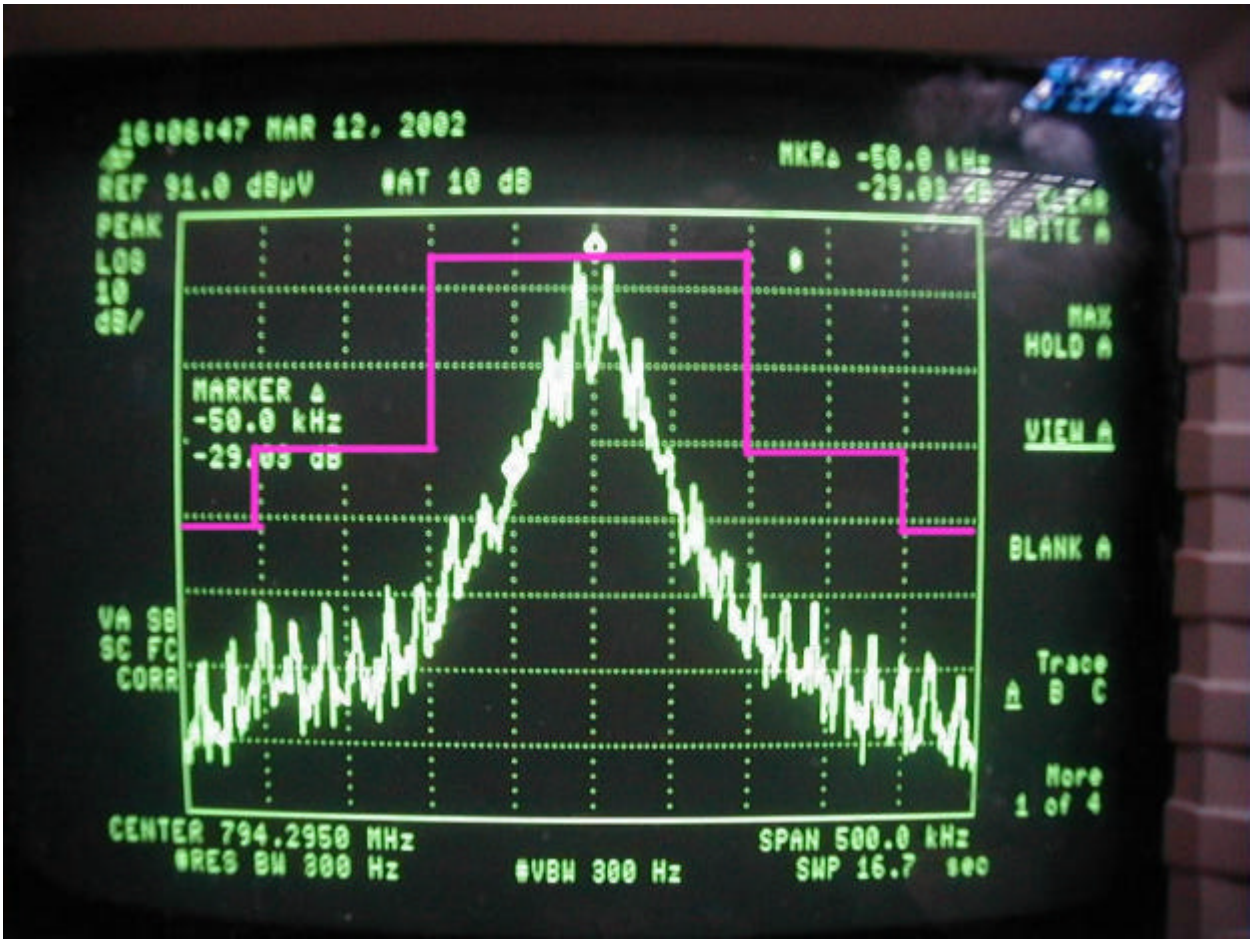
L+R1K


16:09:55 MAR 12, 2002
REF 91.0 dBµV
ATT 10 dB
PEAK
LOG
10
dB/
MKR Δ -47.5 kHz
-27.03 dB
CLEAR
WRITE A
MAX
HOLD A
VIEW A
BLANK A
Trace
A B C
More
1 of 4
MARKER Δ
-47.5 kHz
-27.03 dB
VA SB
SC FC
CORR
CENTER 794.2950 MHz
RES BW 300 Hz
VBW 300 Hz
SPAN 500.0 kHz
SWP 16.7 sec

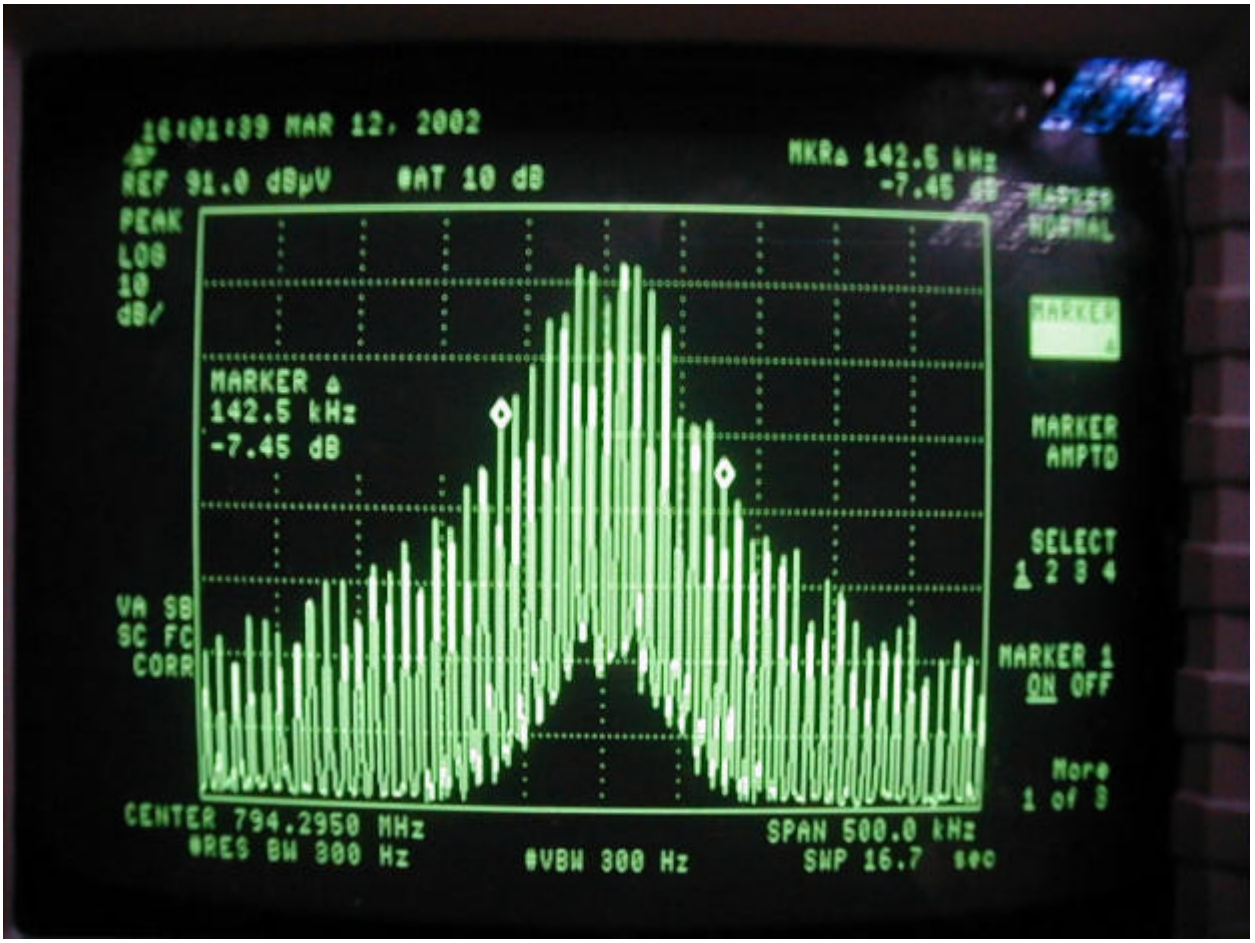
L+R2.5


16:07:23 MAR 12, 2002
REF 91.0 dBµV
#AT 10 dB
MKR Δ 100.0 kHz
-3.42 dB
PEAK
LOG
10
dB/
MARKER Δ
100.0 kHz
-3.42 dB
MARKER
AMPTD
SELECT
1 2 3 4
MARKER 1
ON OFF
More
1 of 3
CENTER 794.2950 MHz
#RES BW 300 Hz
#VBW 300 Hz
SPAN 500.0 kHz
SWP 16.7 sec

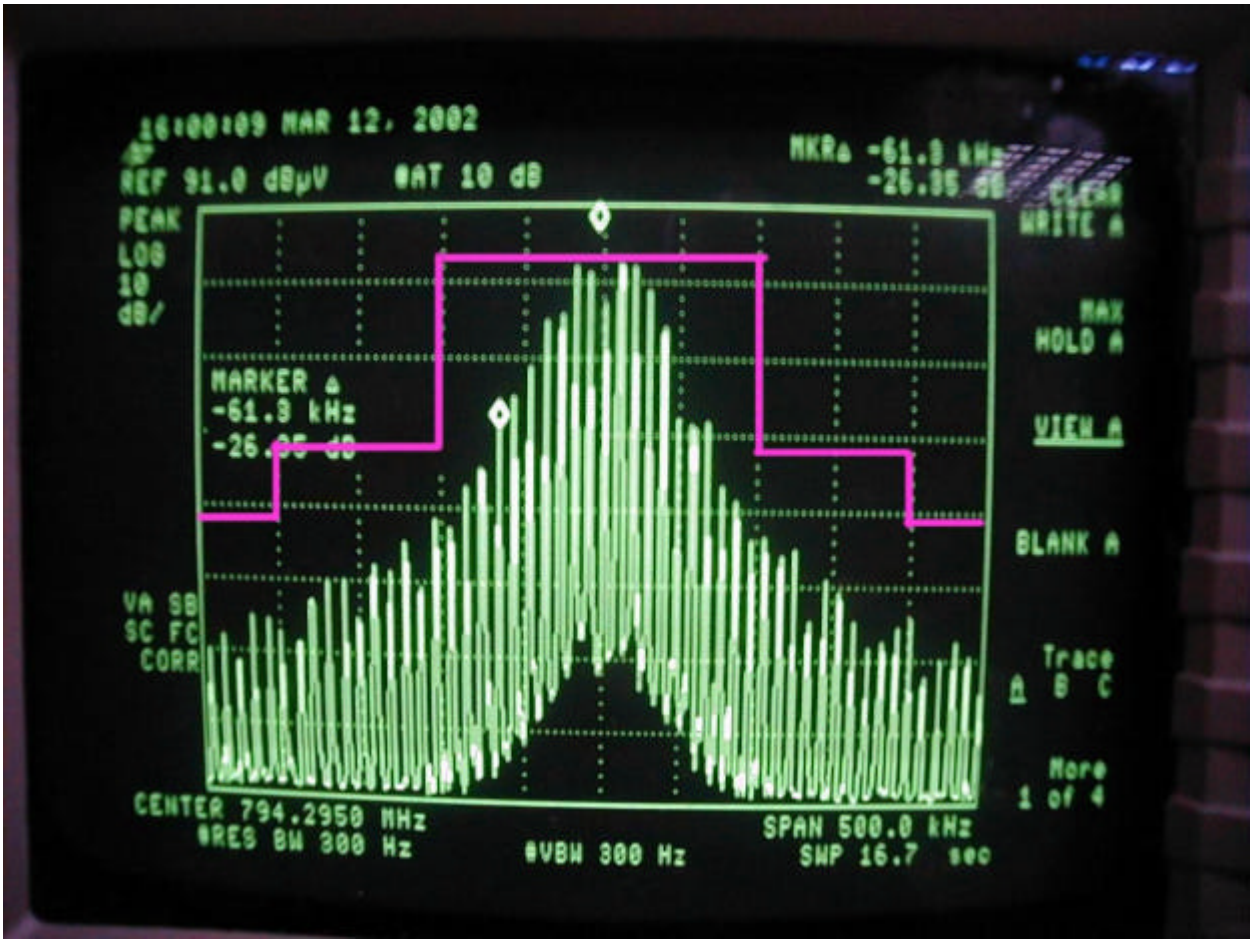
L+R2.5K


16:06:47 MAR 12, 2002
REF 91.0 dBµV
#AT 10 dB
PEAK
LOG
10
dB/
MKR Δ -50.0 kHz
WRITE A
MAX
HOLD A
VIEW A
BLANK A
MARKER Δ
-50.0 kHz
VA SB
SC FC
CORR
Trace
A B C
More
1 of 4
CENTER 794.2950 MHz
#RES BW 300 Hz
#VBW 300 Hz
SPAN 500.0 kHz
SWP 16.7 sec

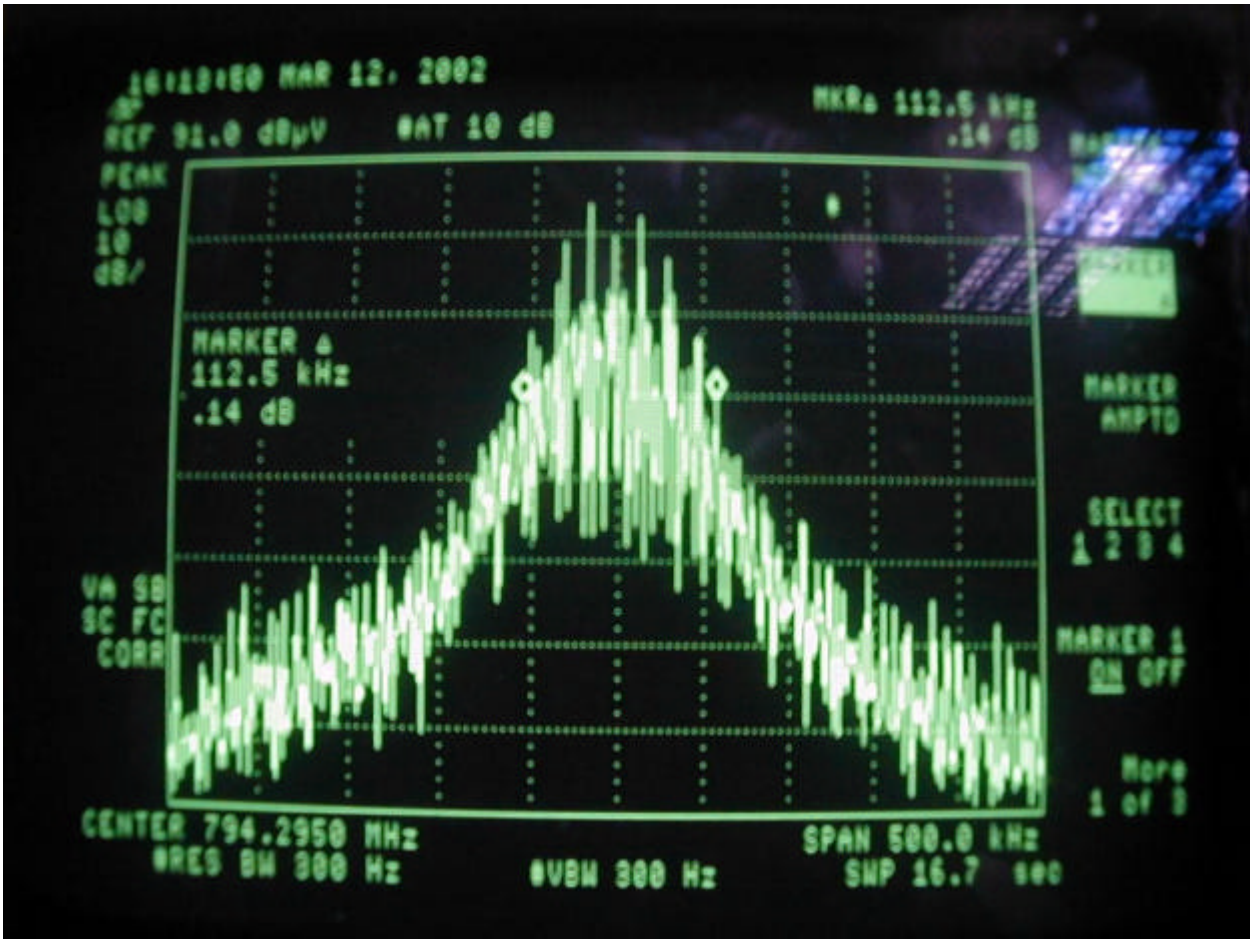
L+R9.448


16:01:39 MAR 12, 2002
REF 91.0 dBµV
#AT 10 dB
MKR Δ 142.5 kHz
-7.45 dB
PEAK
LOG
10
dB/
MARKER Δ
142.5 kHz
-7.45 dB
MARKER
AMPTD
SELECT
1 2 3 4
MARKER 1
ON OFF
More
1 of 3
VA SB
SC FC
CORR
CENTER 794.2950 MHz
#RES BW 300 Hz
#VBW 300 Hz
SPAN 500.0 kHz
SWP 16.7 sec

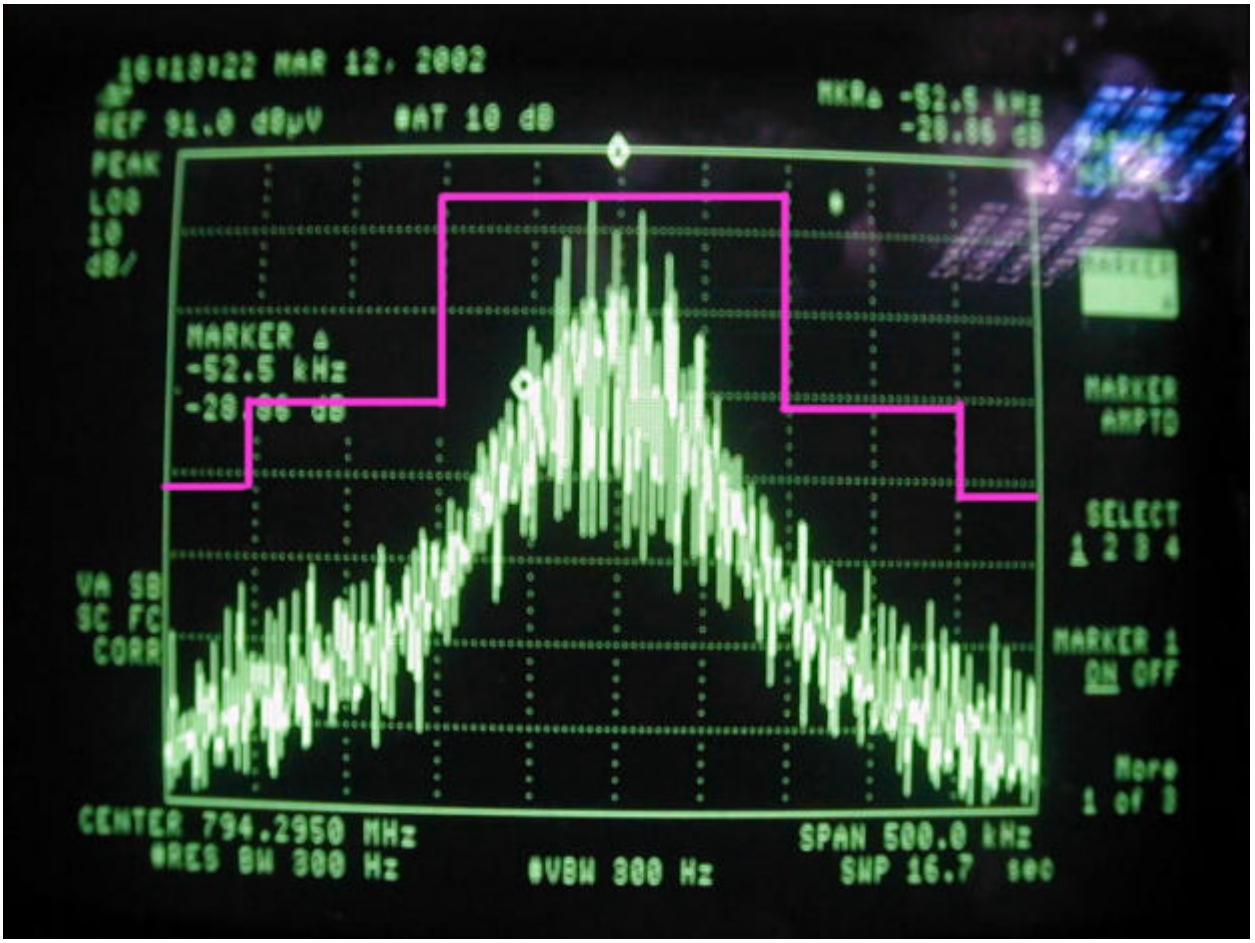
L+R9.448K


16:00:09 MAR 12, 2002
REF 91.0 dBµV
#AT 10 dB
PEAK
LOG
10
dB/
MKR Δ -61.3 kHz
-26.35 dB
CLEAR
WRITE A
MAX
HOLD A
VIEW A
BLANK A
MARKER Δ
-61.3 kHz
-26.35 dB
VA SB
SC FC
CORR
Trace
A B C
More
1 of 4
CENTER 794.2950 MHz
#RES BW 300 Hz
#VBW 300 Hz
SPAN 500.0 kHz
SWP 16.7 sec

L+R15


MAR 12, 2002
REF 91.0 dBµV
ATT 10 dB
MKR Δ 112.5 kHz
.14 dB
PEAK
LOG
10
dB/
MARKER Δ
112.5 kHz
.14 dB
MARKER
AMPTD
SELECT
1 2 3 4
MARKER 1
ON OFF
More
1 of 3
CENTER 794.2950 MHz
RES BW 300 Hz
VBW 300 Hz
SPAN 500.0 kHz
SWP 16.7 sec

L+R15K


16:13:22 MAR 12, 2002
REF 91.0 dBµV
ATT 10 dB
PEAK
LOG
10
dB/
MKR Δ -52.5 kHz
MARKER Δ
-52.5 kHz
MARKER
AMPTD
SELECT
1 2 3 4
VA SB
SC FC
CORR
MARKER 1
ON OFF
More
1 of 3
CENTER 794.2950 MHz
RES BW 300 Hz
VBW 300 Hz
SPAN 500.0 kHz
SWP 16.7 sec