

INDEX OF SUBMITTED MEASURED DATA

This exhibit contains the measured data for this equipment as follows:

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<b>EXHIBIT 6C</b>	Conducted Spurious Emissions (12 Graphs)
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**EXHIBIT 6A – RF OUTPUT DATA**

DC (battery) input power was measured for this test, AC Current values are provided for reference at a nominal 120 Vac input Voltage

**HIGH POWER SETTING, FREQUENCY 408 MHz**

Measured RF Output Power: 37.95 dBm = 6.24 Watts  
Measured DC Voltage: 12.1 Volts  
Measured DC Input Current: 1.93 Amperes, AC Current: 0.29 Amperes  
Measured DC Input Power: 23.35 Watts

**LOW POWER SETTING, FREQUENCY 408 MHz**

Measured RF Output Power: 28.80 dBm = 0.759 Watts  
Measured DC Voltage: 12.3 Volts  
Measured DC Input Current: 0.86 Amperes, AC Current: 0.17 Amperes  
Measured DC Input Power: 10.58 Watts

**HIGH POWER SETTING, FREQUENCY 419 MHz**

Measured RF Output Power: 37.38 dBm = 5.48 Watts  
Measured DC Voltage: 12.1 Volts  
Measured DC Input Current: 1.88 Amperes, AC Current: 0.29 Amperes  
Measured DC Input Power: 22.75 Watts

**LOW POWER SETTING, FREQUENCY 419 MHz**

Measured RF Output Power: 28.70 dBm = 0.741 Watts  
Measured DC Voltage: 12.3 Volts  
Measured DC Input Current: 0.80 Amperes, AC Current: 0.16 Amperes  
Measured DC Input Power: 9.84 Watts

**HIGH POWER SETTING, FREQUENCY 433 MHz**

Measured RF Output Power: 35.89 dBm = 3.88 Watts  
Measured DC Voltage: 12.1 Volts  
Measured DC Input Current: 1.99 Amperes, AC Current: 0.30 Amperes  
Measured DC Input Power: 24.08 Watts

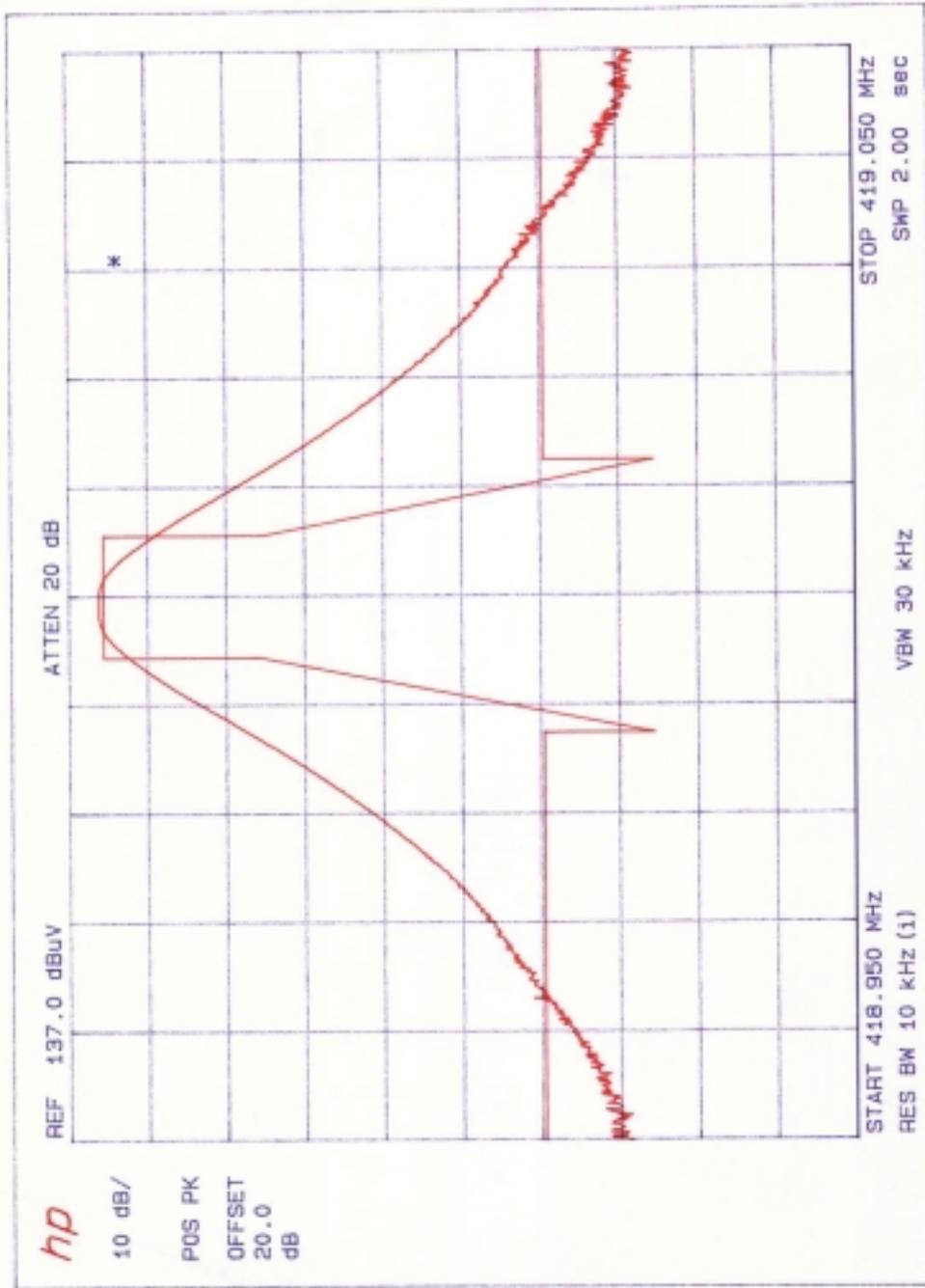
**LOW POWER SETTING, FREQUENCY 433 MHz**

Measured RF Output Power: 28.43 dBm = 0.697 Watts  
Measured DC Voltage: 12.3 Volts  
Measured DC Input Current: 0.76 Amperes, AC Current: 0.16 Amperes  
Measured DC Input Power: 9.35 Watts

**EXHIBIT 6B OCCUPIED BANDWIDTH**

6B-1

UNMODULATED CARRIER



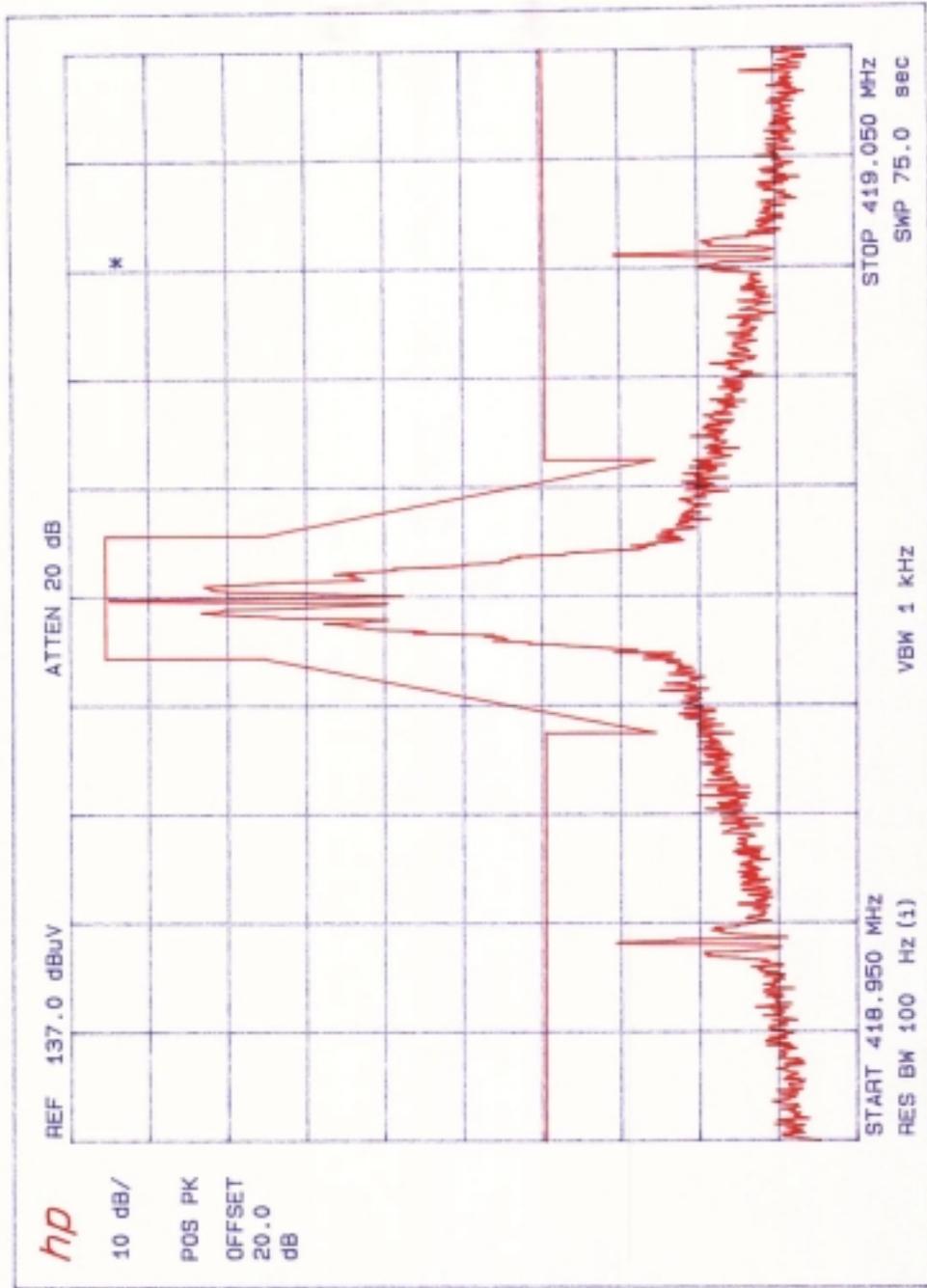
EMISSION MASK D, 12.5 KHz BW, 132.5 dBuV / 25.5 dBm power at S/A input

CENTER FREQUENCY: 419 MHz  
VIDEO BANDWIDTH: 30 kHz  
SWEEP TIME: 40 Sec. / 2 sec  
REFERENCE LEVEL: 137 dBuV / 30 dBm

RESOLUTION BANDWIDTH: 10 kHz  
SPAN: 100 kHz  
VERTICAL SCALE: 10 dB/DIV  
ATTENUATION: 20 dB INT/ 10 dB EXT

6B-2

DPSK 1200 BPS, 1.0 V pk-pk Input to radio, 2KHz Deviation

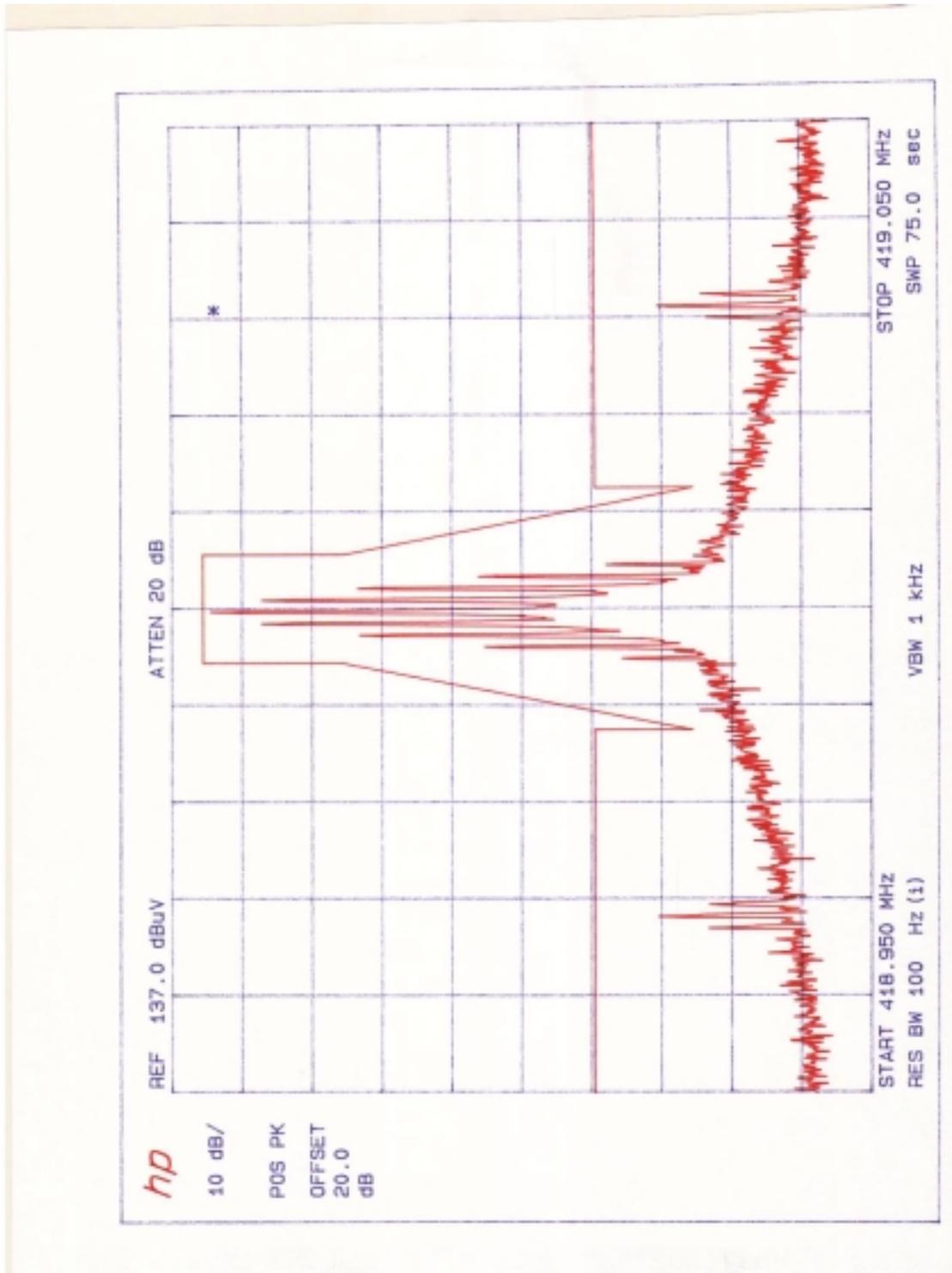


CENTER FREQUENCY: 419 MHz  
VIDEO BANDWIDTH: 1 KHz  
SWEEP TIME: 75 Sec  
REFERENCE LEVEL: 137 dBuV / 30 dBm

RESOLUTION BANDWIDTH: 100 Hz  
SPAN: 100 kHz  
VERTICAL SCALE: 10 dB/div  
ATTENUATION: INT 20 dB/ EXT 10 dB

6B-3

FSK 2400 BPS, 1.1V pk-pk Input to radio, 2KHz Deviation

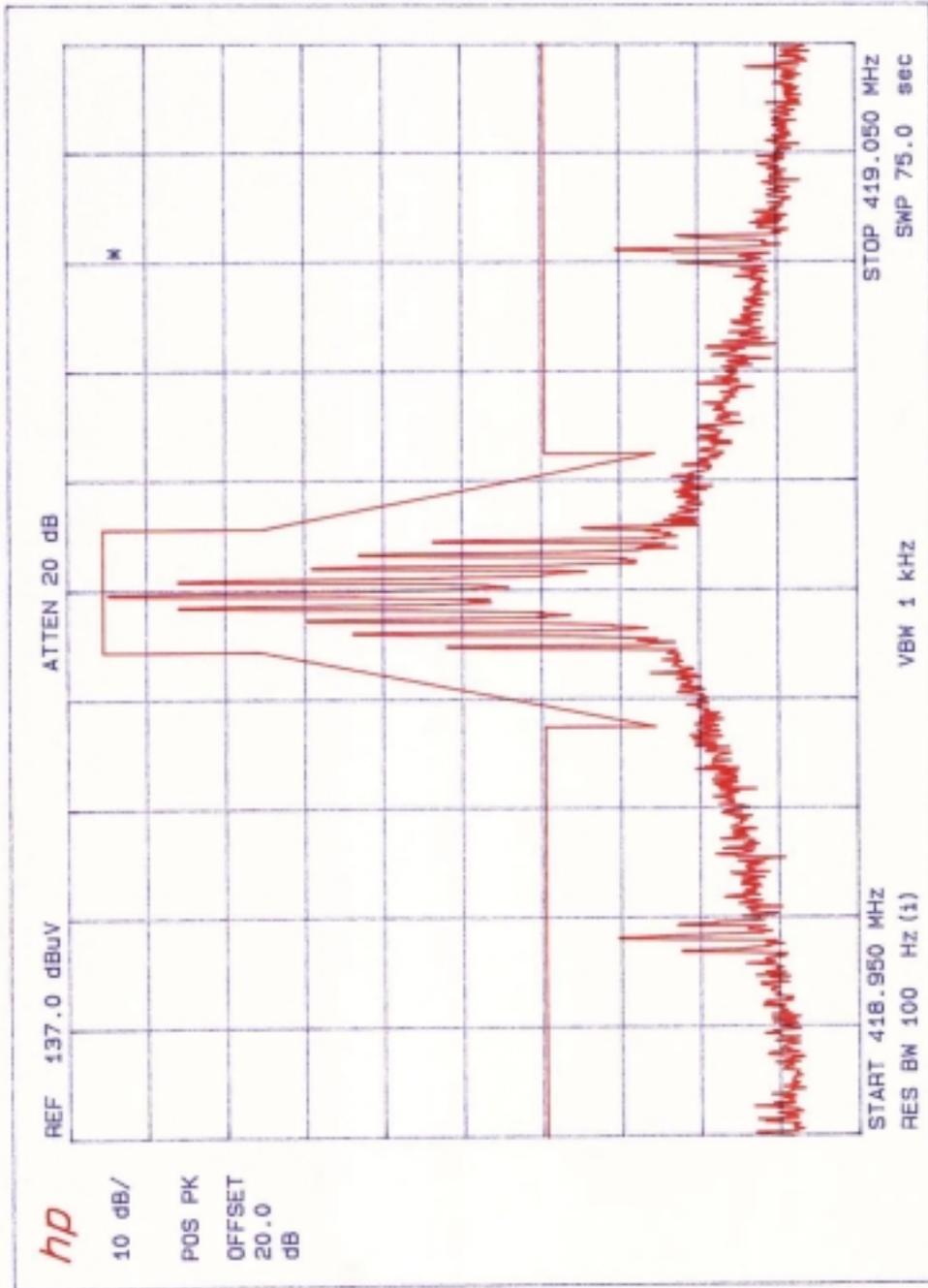


CENTER FREQUENCY: 419 MHz  
VIDEO BANDWIDTH: 1 KHz  
SWEEP TIME: 75 Sec  
REFERENCE LEVEL: 137 dBuV / 30 dBm

RESOLUTION BANDWIDTH: 100 Hz  
SPAN: 100 kHz  
VERTICAL SCALE: 10 dB/div  
ATTENUATION: INT 20 dB/ EXT 10 dB

6B-4

DFM 4800 BPS, 1.1V pk-pk Input to radio, 2KHz Deviation

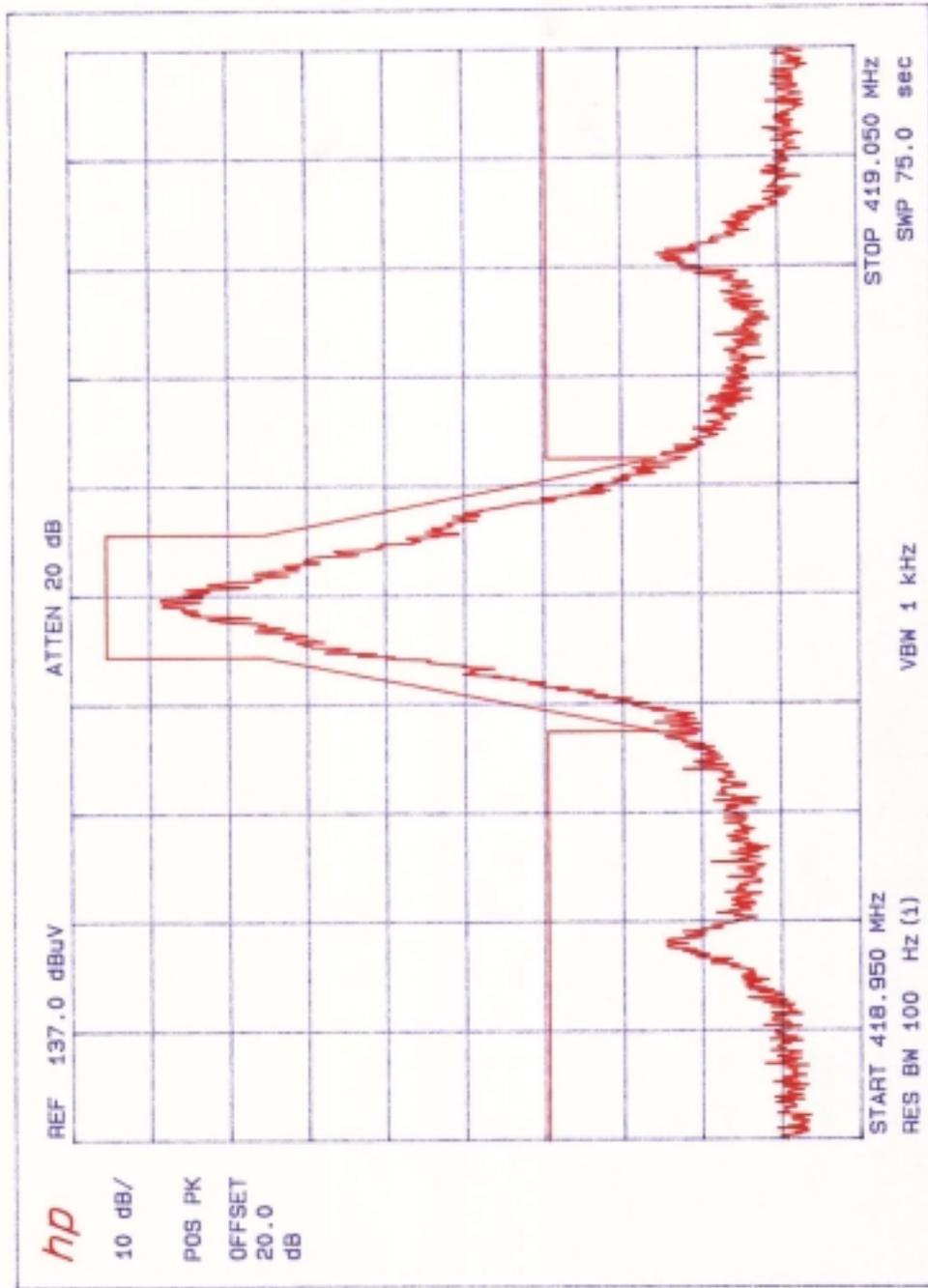


CENTER FREQUENCY: 419 MHz  
VIDEO BANDWIDTH: 1 KHz  
SWEEP TIME: 75 Sec  
REFERENCE LEVEL: 137 dBuV / 30 dBm

RESOLUTION BANDWIDTH: 100 Hz  
SPAN: 100 kHz  
VERTICAL SCALE: 10 dB/div  
ATTENUATION: INT 20 dB/ EXT 10 dB

6B-4

Dual Binary (COS) 9600 BPS, 1.16V pk-pk Input to radio, 2.3 KHz Deviation



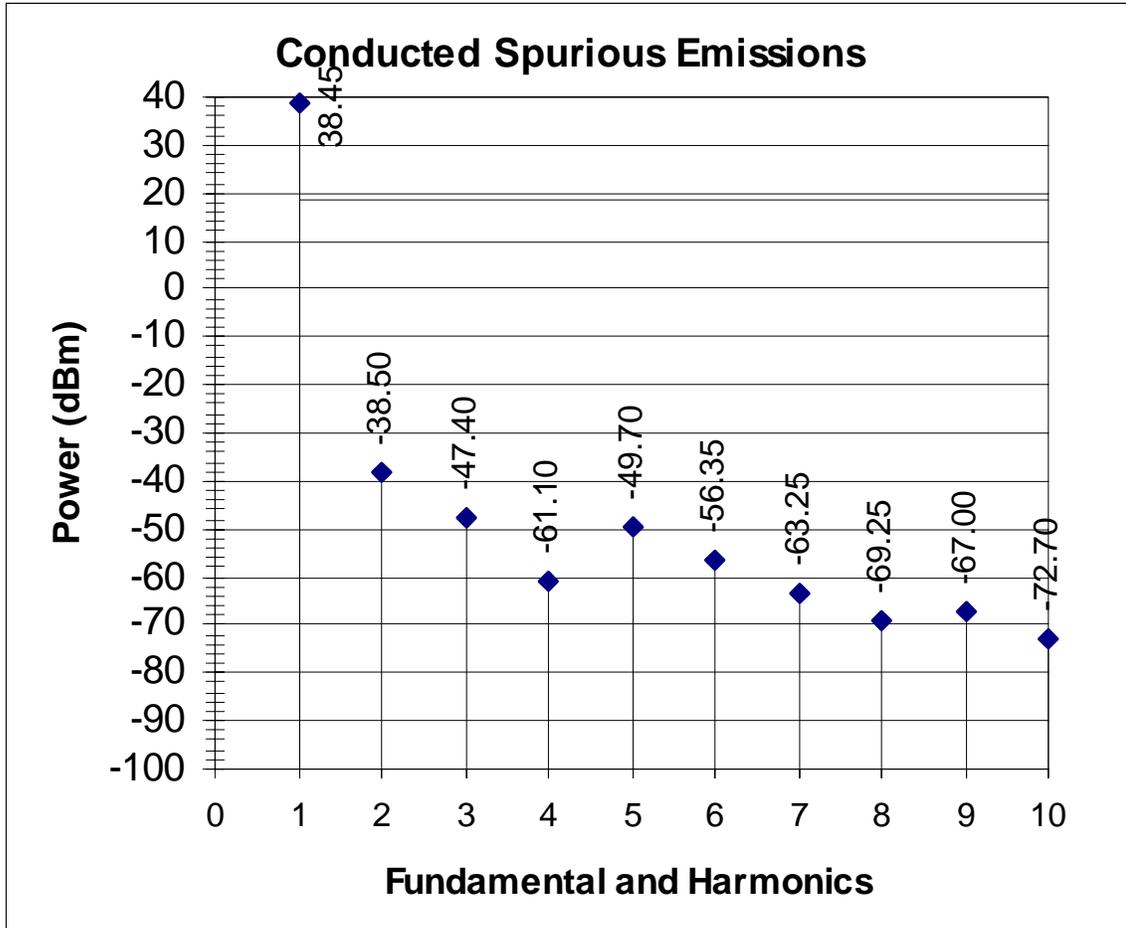
CENTER FREQUENCY: 419 MHz  
VIDEO BANDWIDTH: 1 KHz  
SWEEP TIME: 75 Sec  
REFERENCE LEVEL: 137 dBuV / 30 dBm

RESOLUTION BANDWIDTH: 100 Hz  
SPAN: 100 kHz  
VERTICAL SCALE: 10 dB/div  
ATTENUATION: INT 20 dB/ EXT 10 dB

**EXHIBIT 6C CONDUCTED SPURIOUS EMISSIONS**

6C-1

4 Watts, 408 MHz

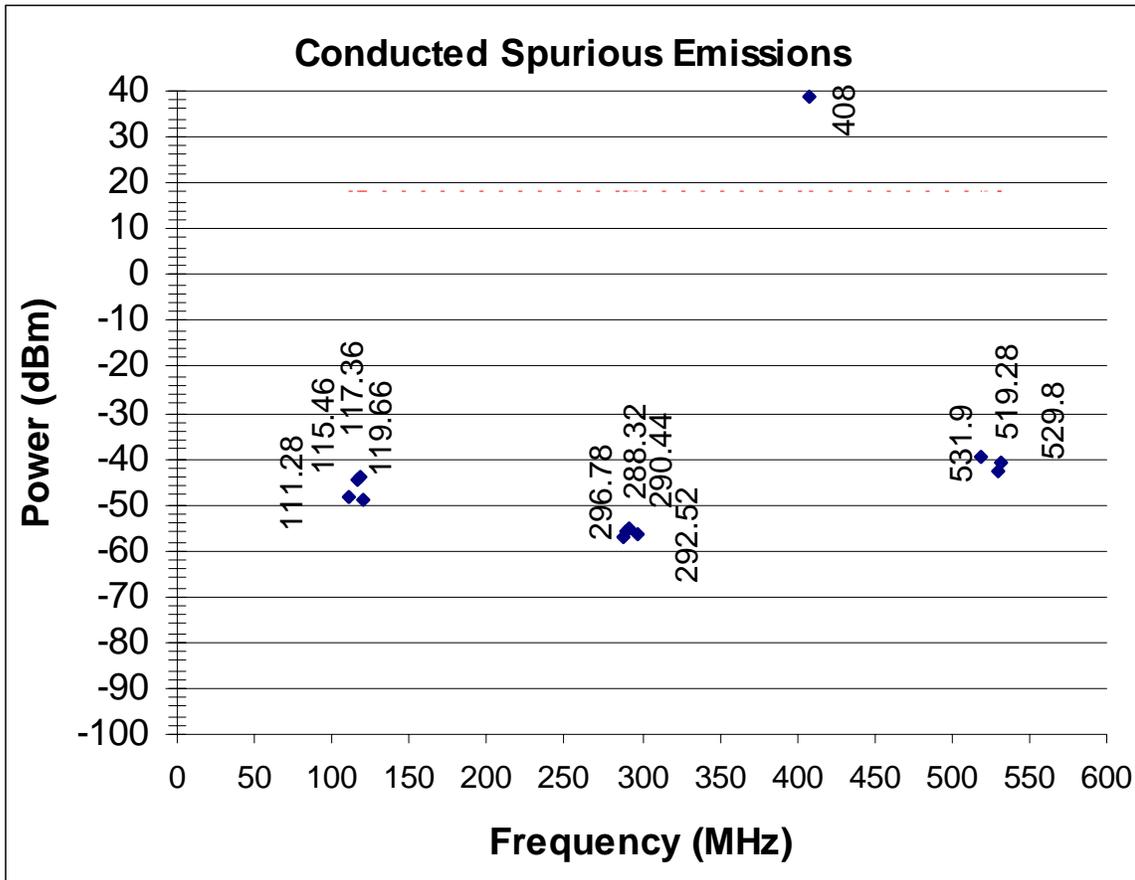


Freq (MHz)	Harmonic	Uncor. Signal (dB)	Cable Loss (dB)	Signal (dBm)
408	1st	36	2.45	38.45
816	2nd	-42.1	3.6	-38.5
1224	3rd	-52	4.6	-47.4
1632	4th	-66.5	5.4	-61.1
2040	5th	-56.3	6.6	-49.7
2448	6th	-63.5	7.15	-56.35
2856	7th	-71.4	8.15	-63.25
3264	8th	-78.3	9.05	-69.25
3672	9th	-76.7	9.7	-67
4080	10th	-83	10.3	-72.7

Limit = 38.45 dBm- 20 dB  
 = 18.45 dBm

6C-1

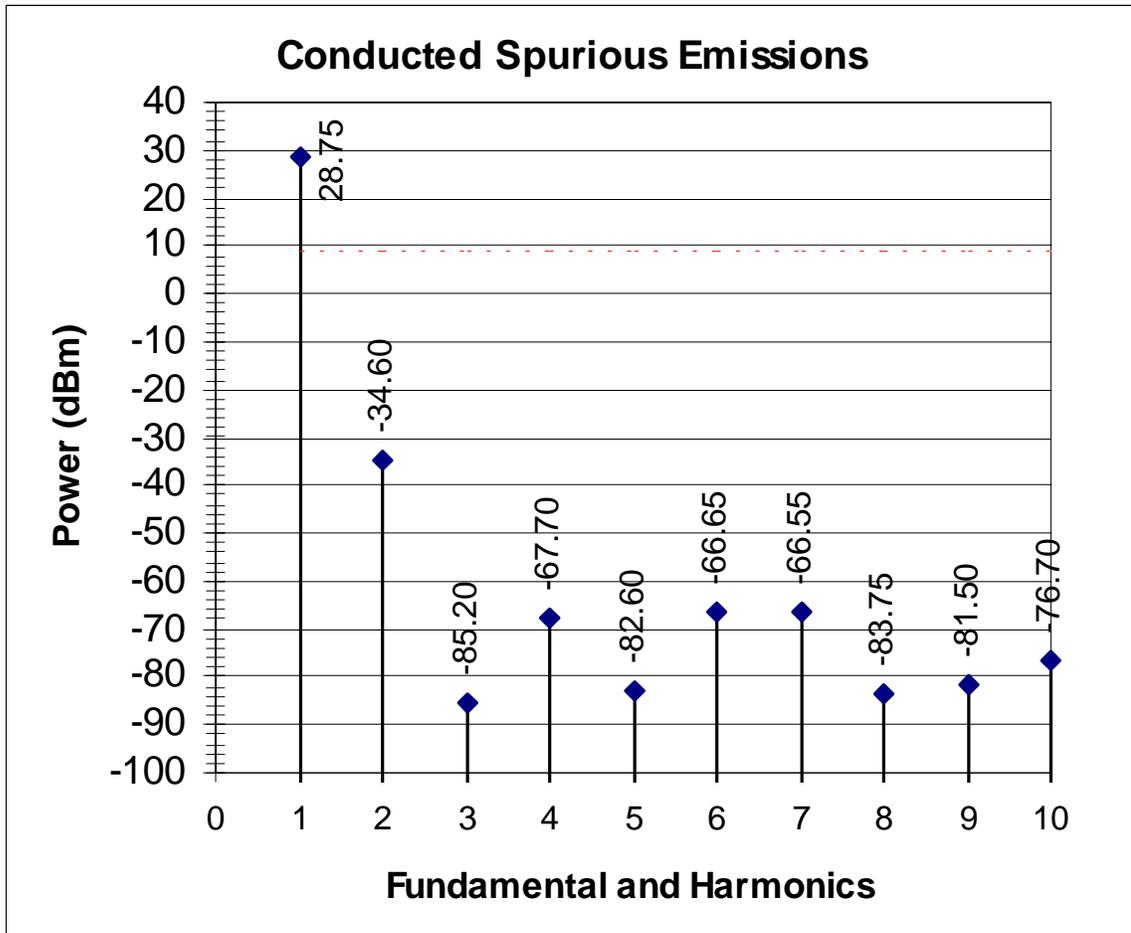
4 Watts, 408 MHz



Freq (MHz)	Uncor. Signal (dB)	Cable Loss (dB)	Signal (dBm)
111.28	-50.1	1.45	-48.65
115.46	-45.8	1.45	-44.35
117.36	-45.3	1.45	-43.85
119.66	-50.7	1.45	-49.25
290.44	-57.6	2.05	-55.55
292.52	-57.5	2.05	-55.45
296.78	-58.4	2.05	-56.35
288.32	-59	2.05	-56.95
408	38.45	2.45	38.45
529.8	-45.7	2.9	-42.8
531.9	-43.7	2.9	-40.8
519.28	-42.3	2.9	-39.4
525.58	-41.3	2.9	-38.4
523.48	-41.5	2.9	-38.6
527.68	-42.5	2.9	-39.6

6C-2

0.5 Watts, 408 MHz

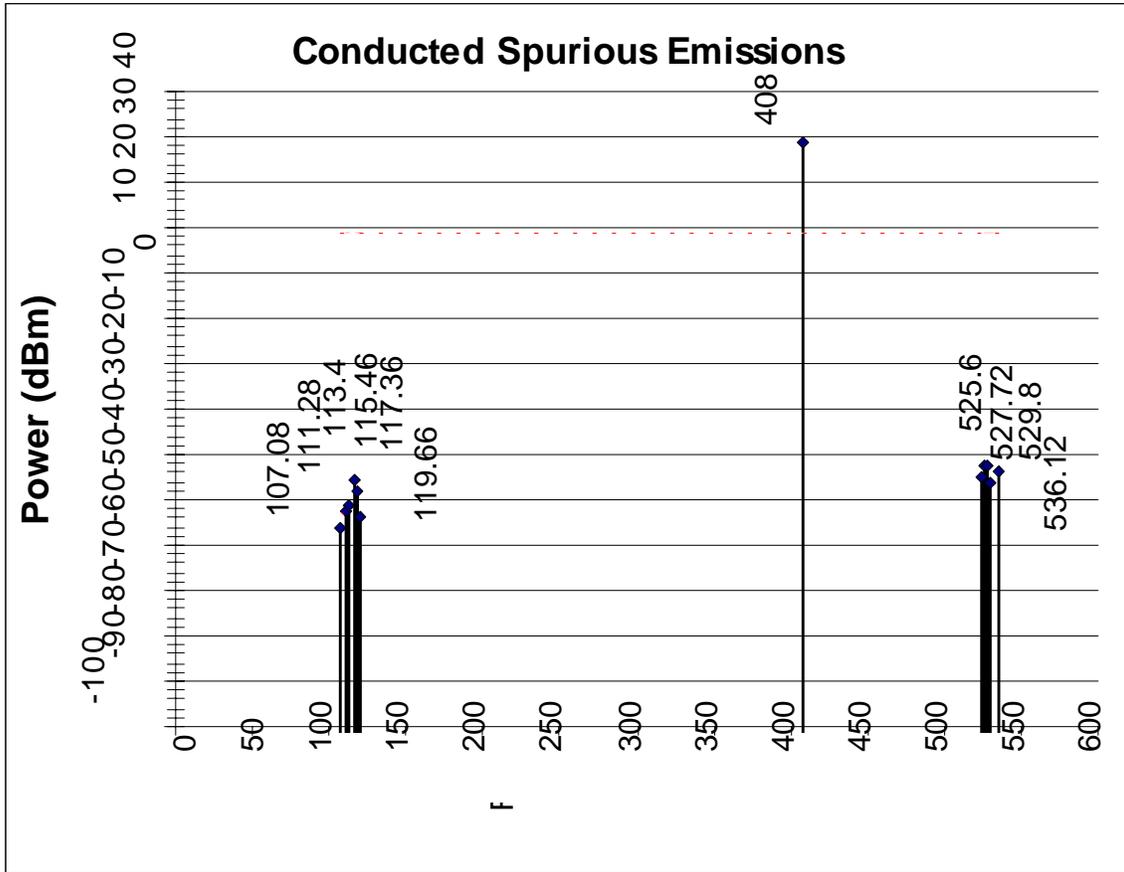


Freq (MHz)	Harmonic	Uncor. Signal (dB)	Cable Loss (dB)	Signal (dBm)
408	1st	26.3	2.45	28.75
816	2nd	-38.2	3.6	-34.6
1224	3rd	-89.8	4.6	-85.2
1632	4th	-73.1	5.4	-67.7
2040	5th	-89.2	6.6	-82.6
2448	6th	-73.8	7.15	-66.65
2856	7th	-74.7	8.15	-66.55
3264	8th	-92.8	9.05	-83.75
3672	9th	-91.2	9.7	-81.5
4080	10th	-87	10.3	-76.7

Limit = 28.75 dBm – 20 dB  
 = 8.75 dBm

6C-2

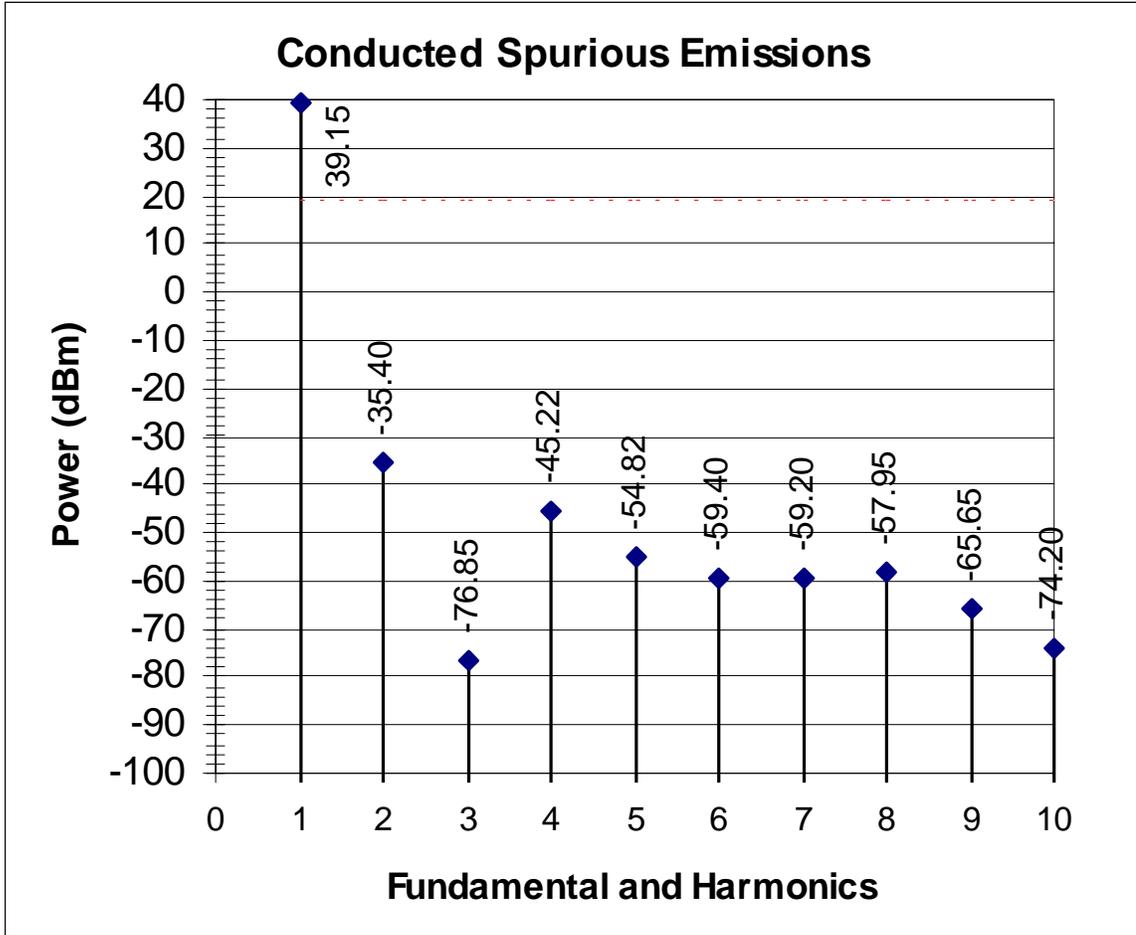
0.5 Watts, 408 MHz



Freq (MHz)	Uncor. Signal (dB)	Cable Loss (dB)	Signal (dBm)
111.28	-53.7	1.45	-52.25
115.46	-47.1	1.45	-45.65
117.36	-49.4	1.45	-47.95
119.66	-55.5	1.45	-54.05
113.4	-53	1.45	-51.55
107.08	-58	1.45	-56.55
408	26.3	2.45	28.75
525.6	-45.4	2.9	-42.5
527.72	-45.7	2.9	-42.8
529.8	-49.1	2.9	-46.2
536.12	-46.5	2.9	-43.6
523.51	-47.6	2.9	-44.7
531.92	-49.2	2.9	-46.3
529.82	-50.6	2.9	-47.7

6C-3

4.0 Watts, 419 MHz

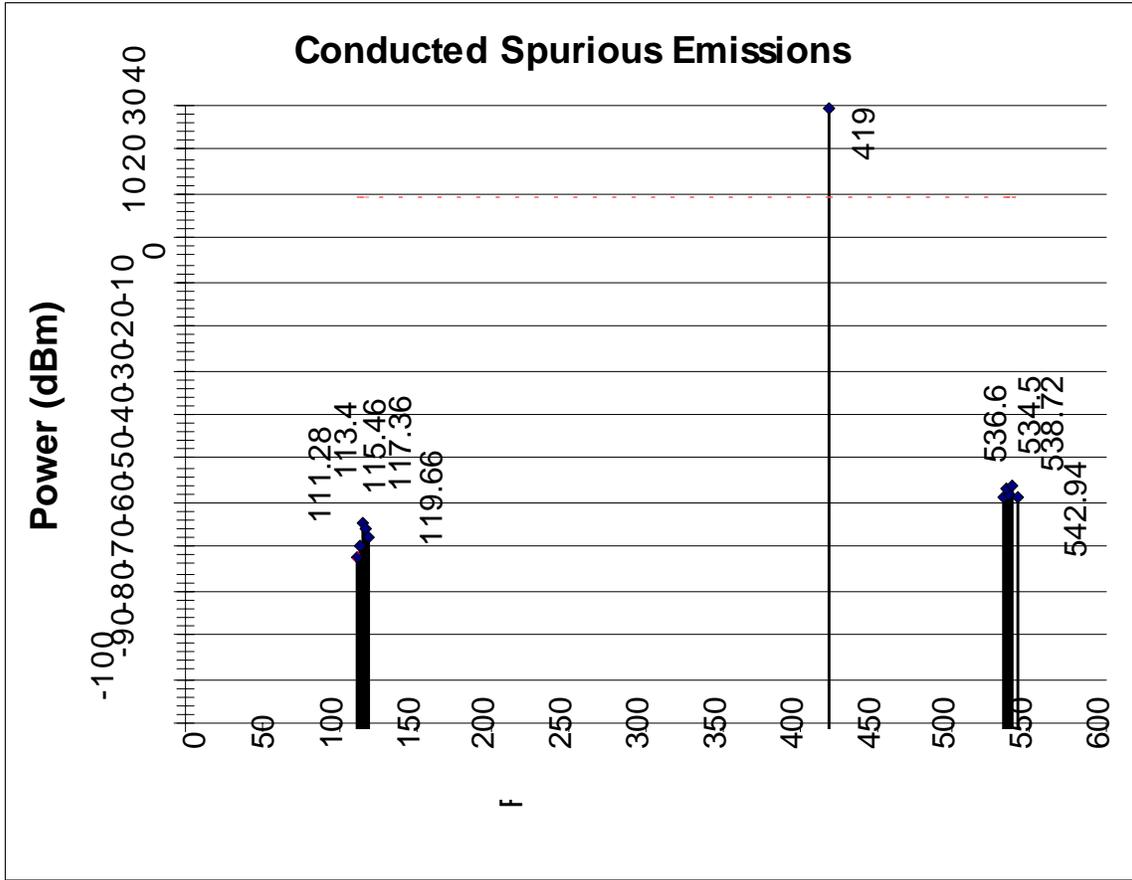


Freq (MHz)	Harmonic	Uncor. Signal (dB)	Cable Loss (dB)	Signal (dBm)
419	1st	36.6	2.55	39.15
838	2nd	-39	3.6	-35.4
1257	3rd	-81.5	4.65	-76.85
1676	4th	-50.6	5.38	-45.22
2095	5th	-61.5	6.68	-54.82
2514	6th	-66.6	7.2	-59.4
2933	7th	-67.5	8.3	-59.2
3352	8th	-67.2	9.25	-57.95
3771	9th	-75.5	9.85	-65.65
4190	10th	-84.7	10.5	-74.2

Limit = 39.15 dBm - 20 dB  
 = 19.15 dBm

6C-3

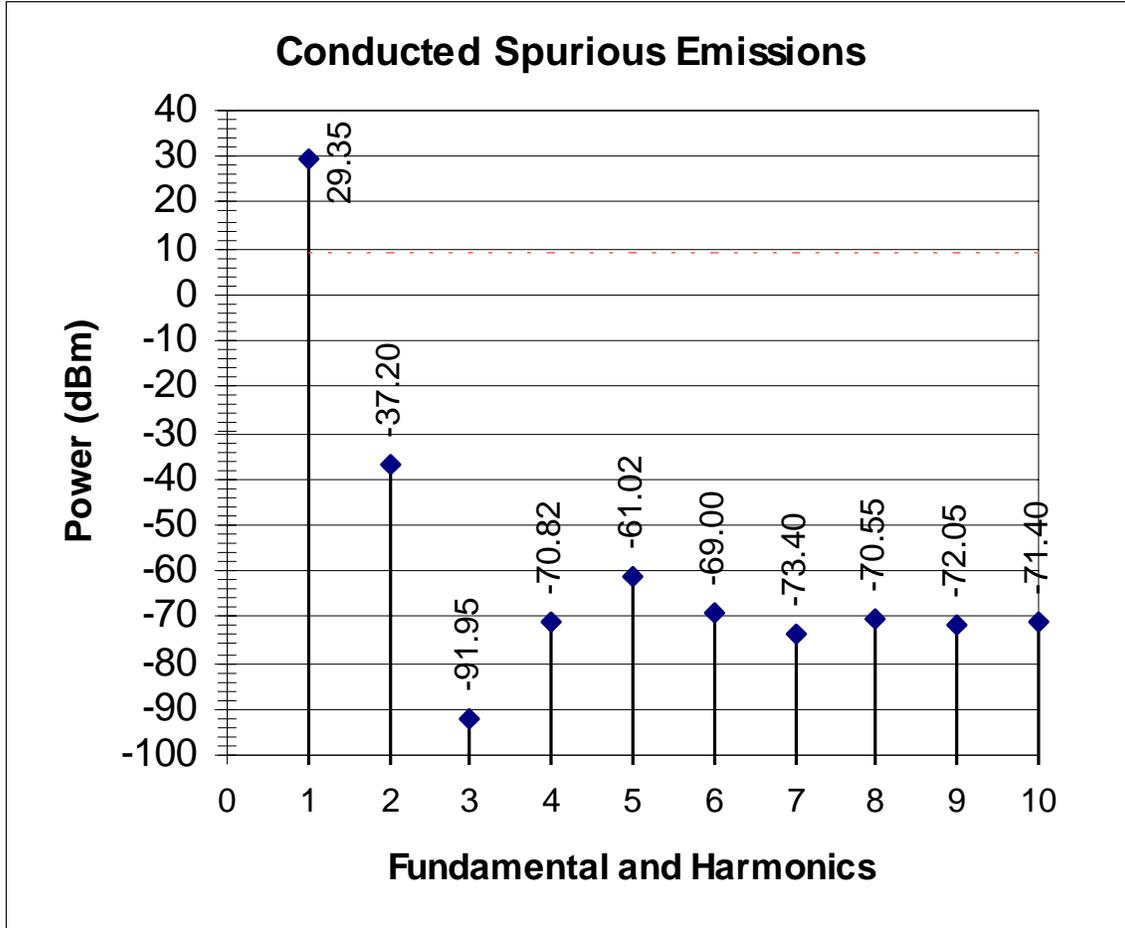
4.0 Watts, 419 MHz



Freq (MHz)	Uncor. Signal (dB)	Cable Loss (dB)	Signal (dBm)
111.28	-63.8	1.5	-62.3
115.46	-56.4	1.5	-54.9
117.36	-57.3	1.5	-55.8
119.66	-59.4	1.5	-57.9
113.4	-61	1.5	-59.5
419	36.6	2.55	39.15
532.4	-51.4	2.9	-48.5
536.6	-51.3	2.9	-48.4
534.5	-49.8	2.9	-46.9
538.72	-49.2	2.9	-46.3
542.94	-51.9	2.9	-49

6C-4

0.5 Watts, 419 MHz

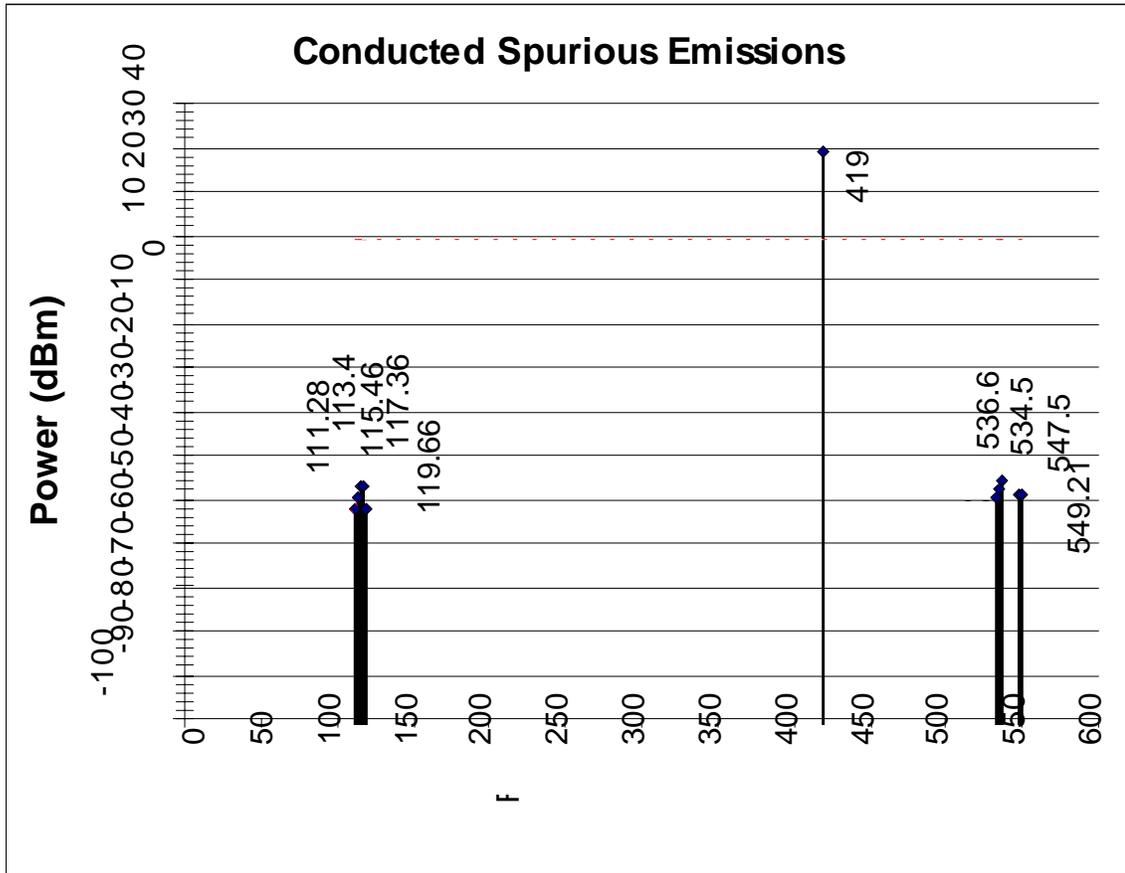


Freq (MHz)	Harmonic	Uncor. Signal (dB)	Cable Loss (dB)	Signal (dBm)
419	1st	26.8	2.55	29.35
838	2nd	-40.8	3.6	-37.2
1257	3rd	-96.6	4.65	-91.95
1676	4th	-76.2	5.38	-70.82
2095	5th	-67.7	6.68	-61.02
2514	6th	-76.2	7.2	-69
2933	7th	-81.7	8.3	-73.4
3352	8th	-79.8	9.25	-70.55
3771	9th	-81.9	9.85	-72.05
4190	10th	-81.9	10.5	-71.4

Limit = 29.35 dBm – 20 dB  
 = 9.35 dBm

6C-4

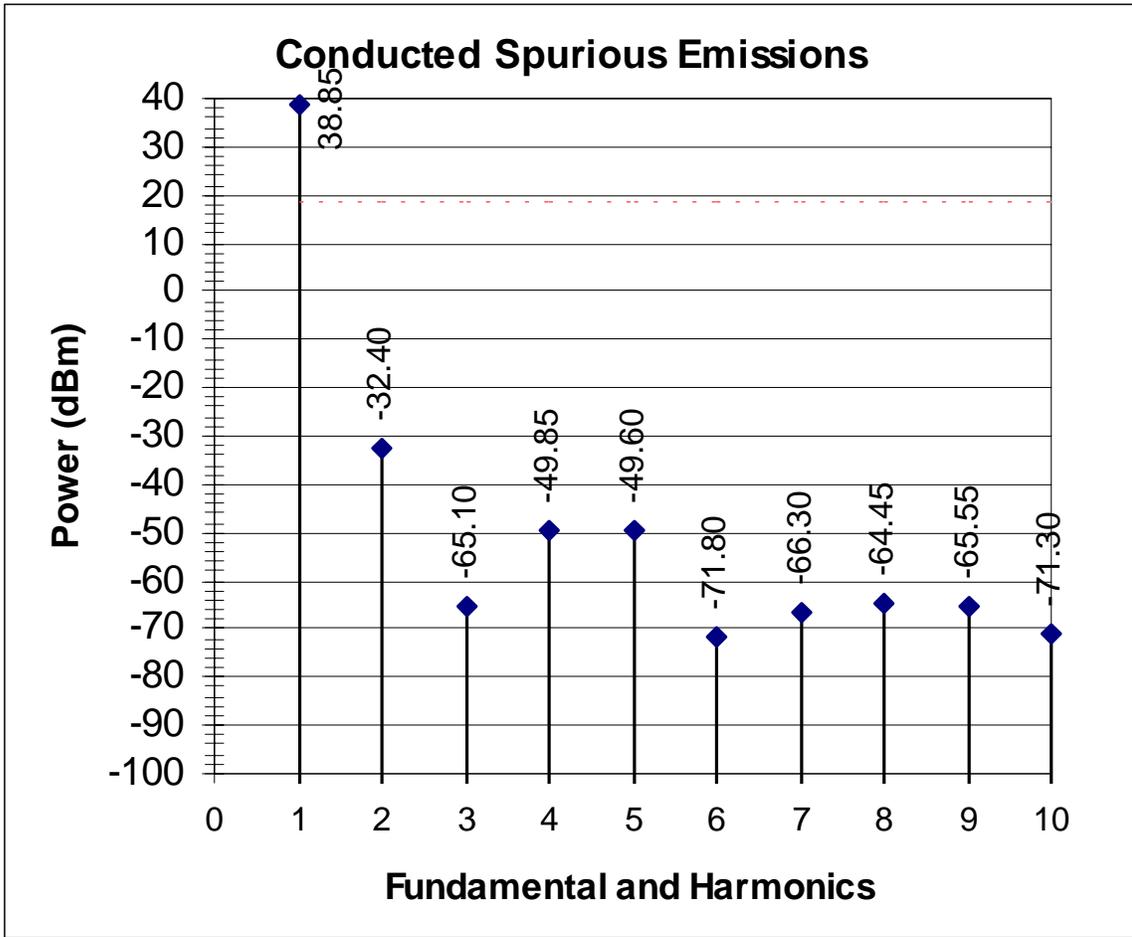
0.5 Watts, 419 MHz



Freq (MHz)	Uncor. Signal (dB)	Cable Loss (dB)	Signal (dBm)
111.28	-53.8	1.5	-52.3
115.46	-48.8	1.5	-47.3
117.36	-48.6	1.5	-47.1
119.66	-53.9	1.5	-52.4
113.4	-51.4	1.5	-49.9
419	26.8	2.55	29.35
532.4	-52.3	2.9	-49.4
536.6	-48.5	2.9	-45.6
534.5	-50.5	2.9	-47.6
547.5	-52.1	2.9	-49.2
549.21	-52.1	2.9	-49.2

6C-5

4.0 Watts, 433 MHz

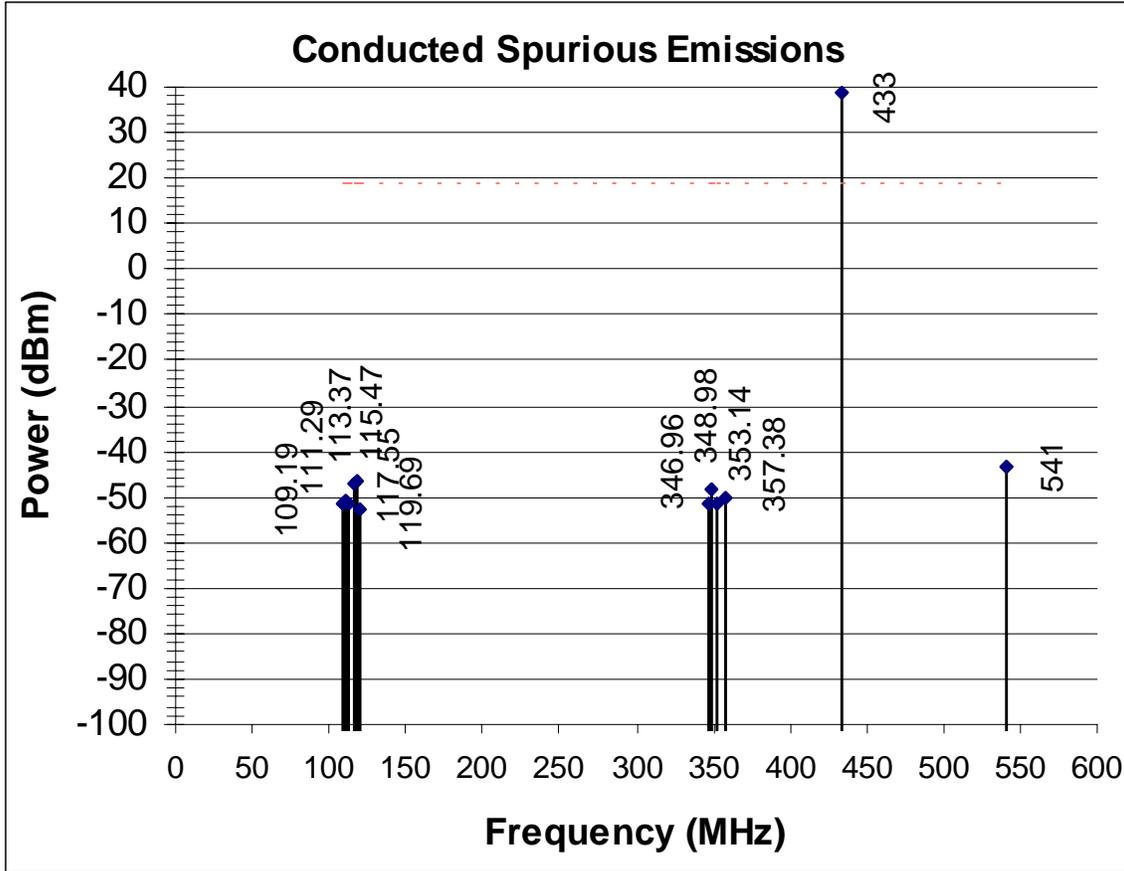


Freq (MHz)	Harmonic	Uncor. Signal (dB)	Cable Loss (dB)	Signal (dBm)
433	1st	36.3	2.55	38.85
866	2nd	-36.1	3.7	-32.4
1299	3rd	-69.9	4.8	-65.1
1732	4th	-55.7	5.85	-49.85
2165	5th	-56.3	6.7	-49.6
2598	6th	-79	7.2	-71.8
3031	7th	-74.9	8.6	-66.3
3464	8th	-73.9	9.45	-64.45
3897	9th	-75.6	10.05	-65.55
4330	10th	-82	10.7	-71.3

Limit = 38.85 dBm – 20 dB  
 = 18.85 dBm

6C-5

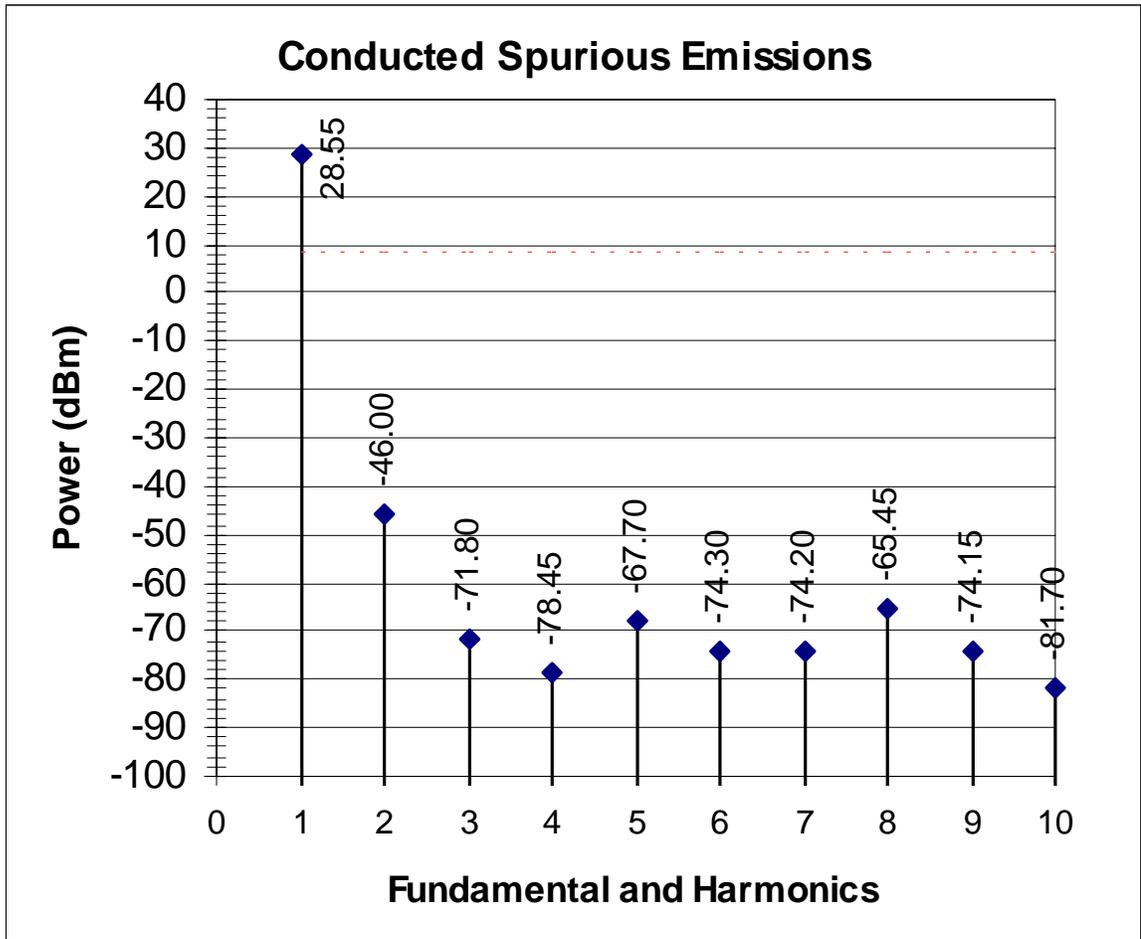
4.0 Watts, 433 MHz



Freq (MHz)	Uncor. Signal (dB)	Cable Loss (dB)	Signal (dBm)
109.19	-52.6	1.4	-51.2
111.29	-52.1	1.4	-50.7
113.37	-52.8	1.4	-51.4
115.47	-48.4	1.4	-47
117.55	-48.1	1.4	-46.7
119.69	-54	1.4	-52.6
346.96	-53.7	2.3	-51.4
348.98	-50.7	2.3	-48.4
353.14	-53.6	2.3	-51.3
357.38	-52.38	2.3	-50.08
433	36.3	2.55	38.85
541	-46.1	2.9	-43.2

6C-6

0.5 Watts, 433 MHz

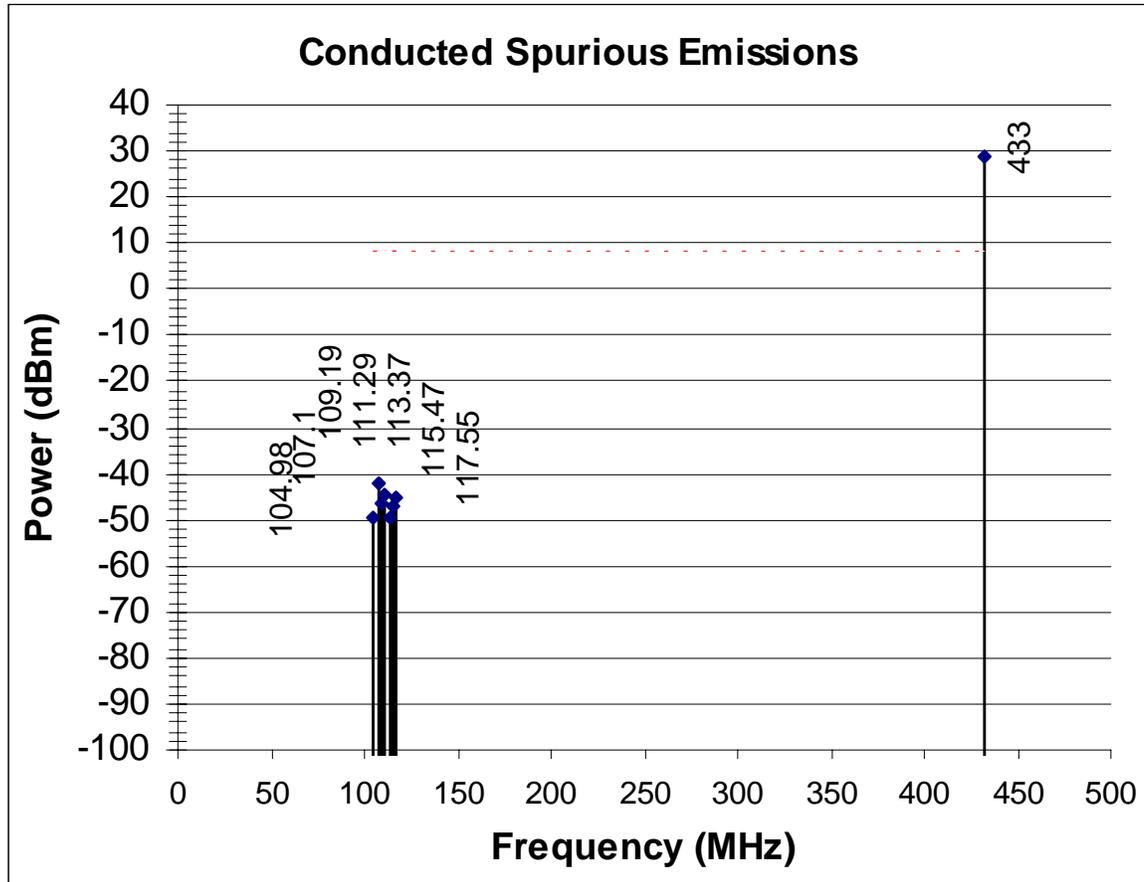


Freq (MHz)	Harmonic	Uncor. Signal (dB)	Cable Loss (dB)	Signal (dBm)
433	1st	26	2.55	28.55
866	2nd	-49.7	3.7	-46
1299	3rd	-76.6	4.8	-71.8
1732	4th	-84.3	5.85	-78.45
2165	5th	-74.4	6.7	-67.7
2598	6th	-81.5	7.2	-74.3
3031	7th	-82.8	8.6	-74.2
3464	8th	-74.9	9.45	-65.45
3897	9th	-84.2	10.05	-74.15
4330	10th	-92.4	10.7	-81.7

Limit = 28.55 dBm – 20 dB  
 = -8.55 dBm

6C-6

0.5 Watts, 433 MHz



Freq (MHz)	Uncor. Signal (dB)	Cable Loss (dB)	Signal (dBm)
109.19	-48.1	1.4	-46.7
111.29	-46.2	1.4	-44.8
113.37	-50.8	1.4	-49.4
115.47	-48.2	1.4	-46.8
117.55	-46.7	1.4	-45.3
107.1	-43.7	1.4	-42.3
104.98	-50.8	1.4	-48.5
433	26	2.55	28.55

**EXHIBIT 6D** Powerline Conducted Emissions (2 Graphs)

6D-1 4 Watts, 419 MHz, Line 1  
 6D-2 4 Watts, 419 MHz, Line 2

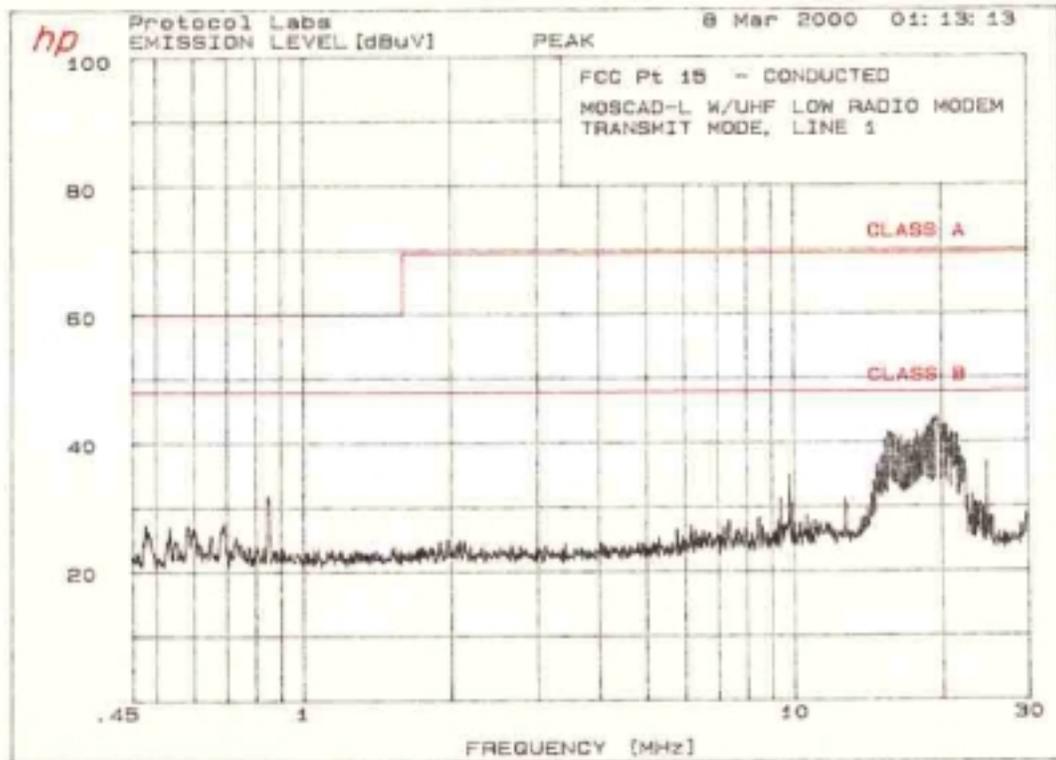
### DataTables

Line 1 Conducted Emissions

Frequency MHz	Peak(dBuV)	Delta-Limit
19.47	44	-4
19.15	43.6	-4.4
18.99	43.1	-4.9
20.22	42.6	-5.4
20.39	42.6	-5.4
18.6	42.5	-5.5
18.75	42.3	-5.7

Line 2 Conducted Emissions

Frequency MHz	Peak(dBuV)	Delta-Limit
19.39	44.3	-3.7
16.12	43.4	-4.6
20.39	43.2	-4.8
21.18	43.2	-4.8
19.15	43.1	-4.9
15.92	43.0	-5
21.45	43.0	-5



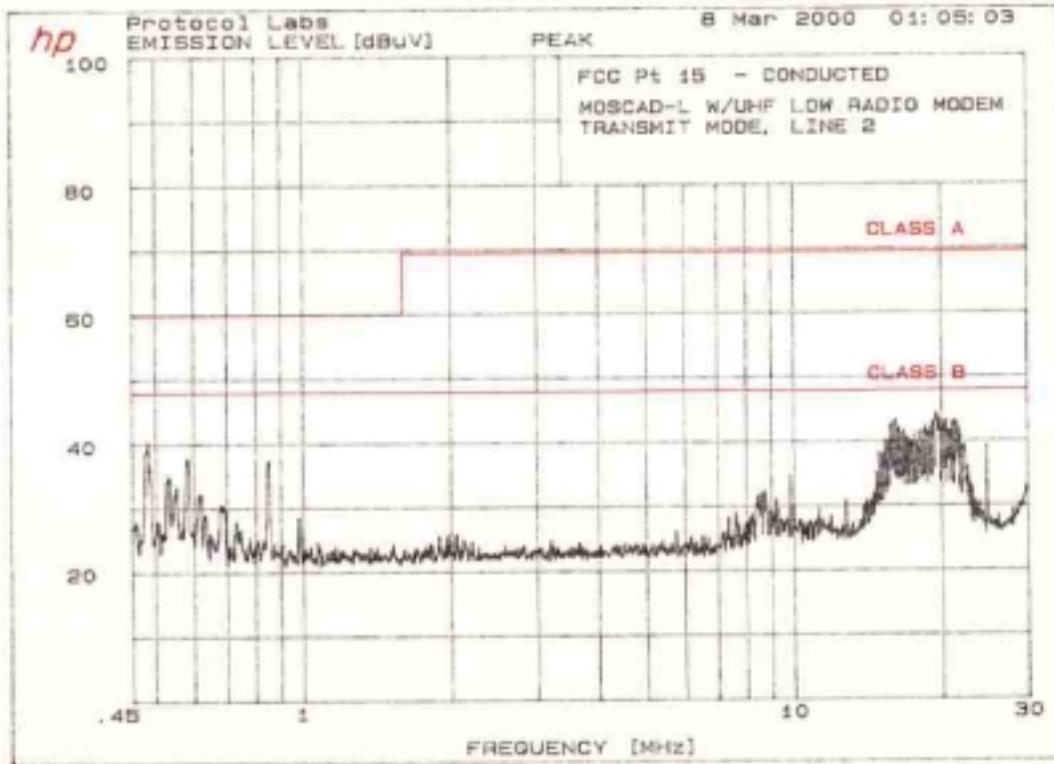


EXHIBIT 6E Radiated Spurious Emissions

RADIATED SPURIOUS EMISSIONS

HIGH POWER, 419.0 MHz, HORIZONTAL AND VERTICAL POLARIZATION  
OUTPUT POWER = 4.0 WATTS

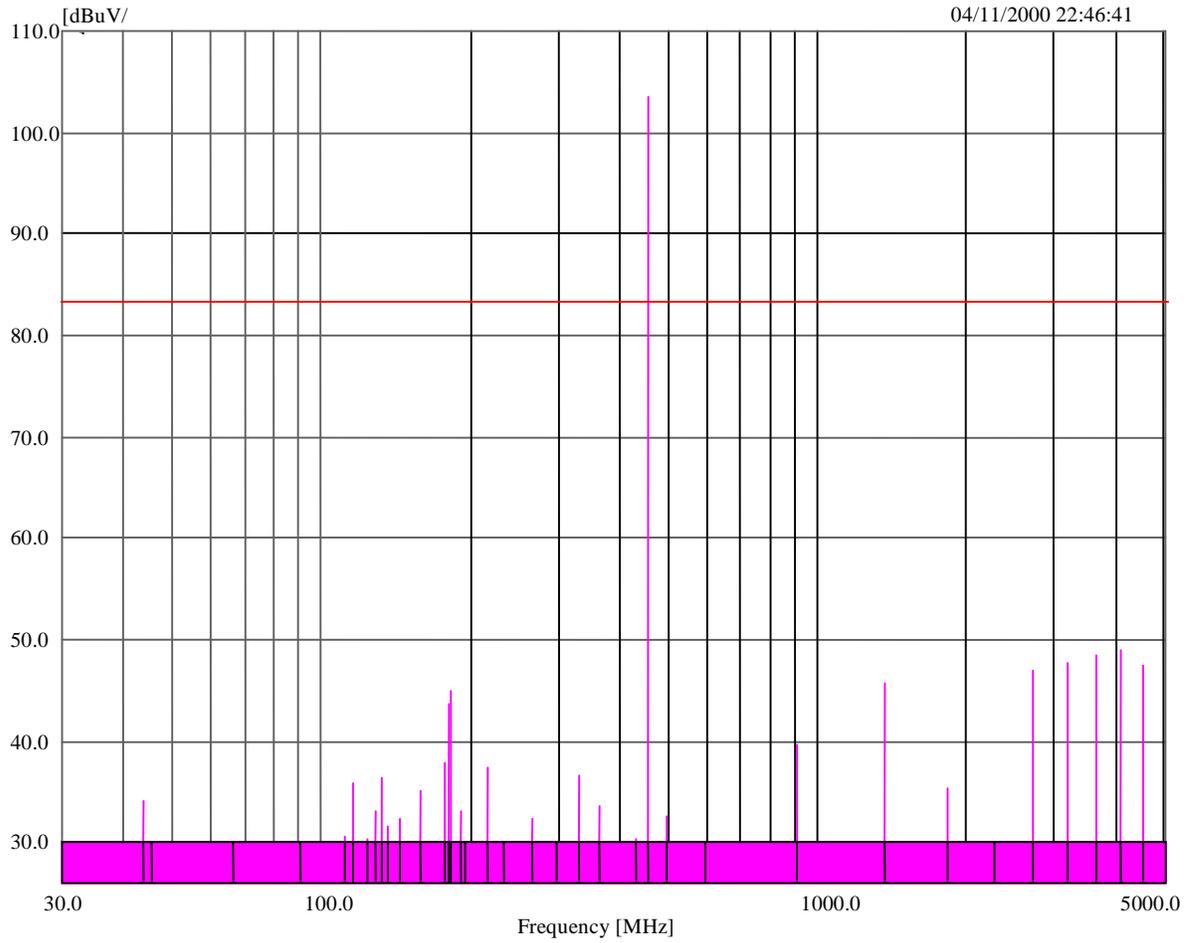


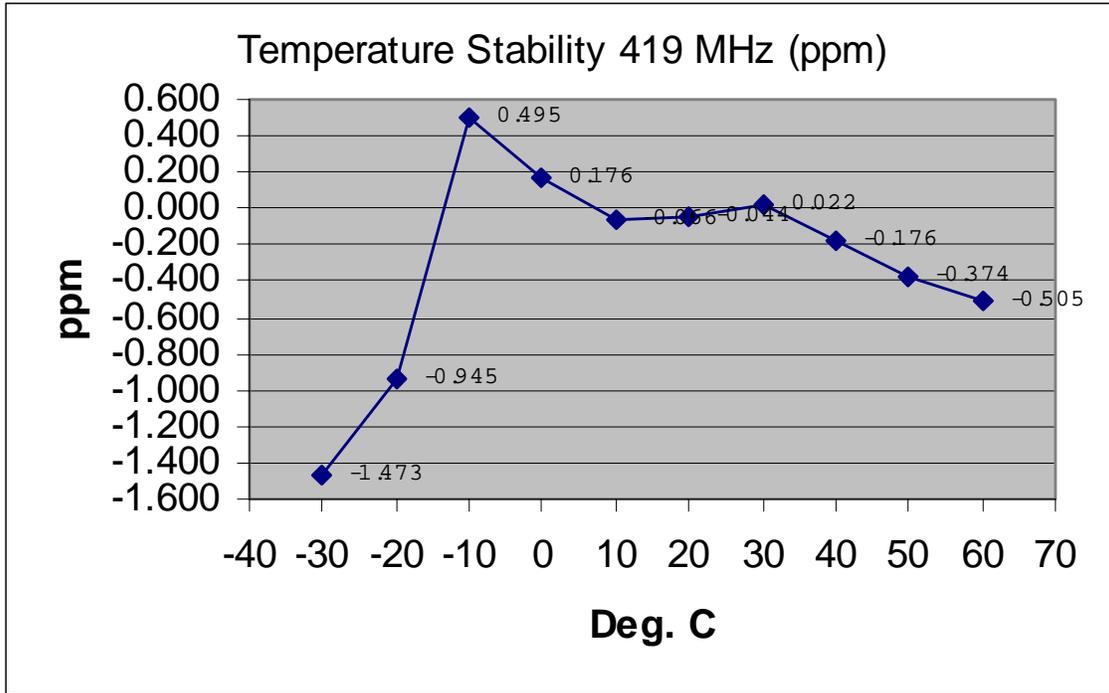
EXHIBIT 6E Radiated Spurious Emissions

Limit = 103.33 dBm – 20 dB = 83.33 dBm

Frequency (MHz)	Pol	Uncor-Pk (dBuV)	Tot Corr (dB)	Peak (dBuV/m)	DelLim-Pk (dB)
49.852871	Vert	21.70	8.52	30.22	-53.11
52.894608	Vert	19.40	8.72	28.12	-55.21
55.999862	Vert	19.00	8.92	27.92	-55.41
66.378727	Vert	19.70	9.93	29.63	-53.7
74.639716	Vert	14.70	10.77	25.47	-57.86
116.133579	Vert	32.20	11.20	43.40	-39.93
190.829977	Vert	23.10	12.88	35.98	-47.35
195.023225	Horz	7.70	13.03	20.73	-62.6
195.434069	Vert	16.00	13.04	29.04	-54.29
200.374471	Horz	5.20	13.23	18.43	-64.9
215.720658	Horz	18.10	14.04	32.14	-51.19
244.250638	Horz	14.30	15.07	29.37	-53.96
248.880938	Horz	17.50	15.19	32.69	-50.64
256.466191	Horz	13.40	15.47	28.87	-54.46
265.469914	Horz	18.00	15.78	33.78	-49.55
277.798744	Horz	16.30	16.30	32.60	-50.73
282.050574	Horz	18.80	16.48	35.28	-48.05
285.867413	Horz	15.90	16.67	32.57	-50.76
290.264302	Horz	17.40	16.89	34.29	-49.04
298.375697	Horz	15.60	17.29	32.89	-50.44
331.653337	Horz	20.10	18.40	38.50	-44.83
364.837185	Horz	18.30	19.20	37.50	-45.83
418.989735	Vert	83.30	20.03	103.33	20
418.989737	Horz	71.20	20.03	91.23	7.9
431.655030	Horz	14.90	20.23	35.13	-48.2
562.629919	Horz	5.60	23.05	28.65	-54.68
592.870022	Horz	5.20	24.16	29.36	-53.97
837.998991	Vert	19.60	27.22	46.82	-36.51
1256.998830	Vert	21.70	21.4	43.1	-40.23
1675.995857	Vert	8.40	21.7	30.1	-53.23
2094.998830	Vert	3.60	23.2	26.8	-56.53
2513.998830	Vert	24.50	23.94	48.44	-34.89
2932.993776	Vert	21.30	25.16	46.46	-36.87
3351.998830	Vert	21.80	26.37	48.17	-35.16
3770.998830	Vert	18.60	26.42	45.02	-38.31
4189.995618	Vert	22.70	25.61	48.31	-35.02

EXHIBIT 6F Frequency Stability (3 Graph)

6F-1 Frequency Stability vs. Temperature

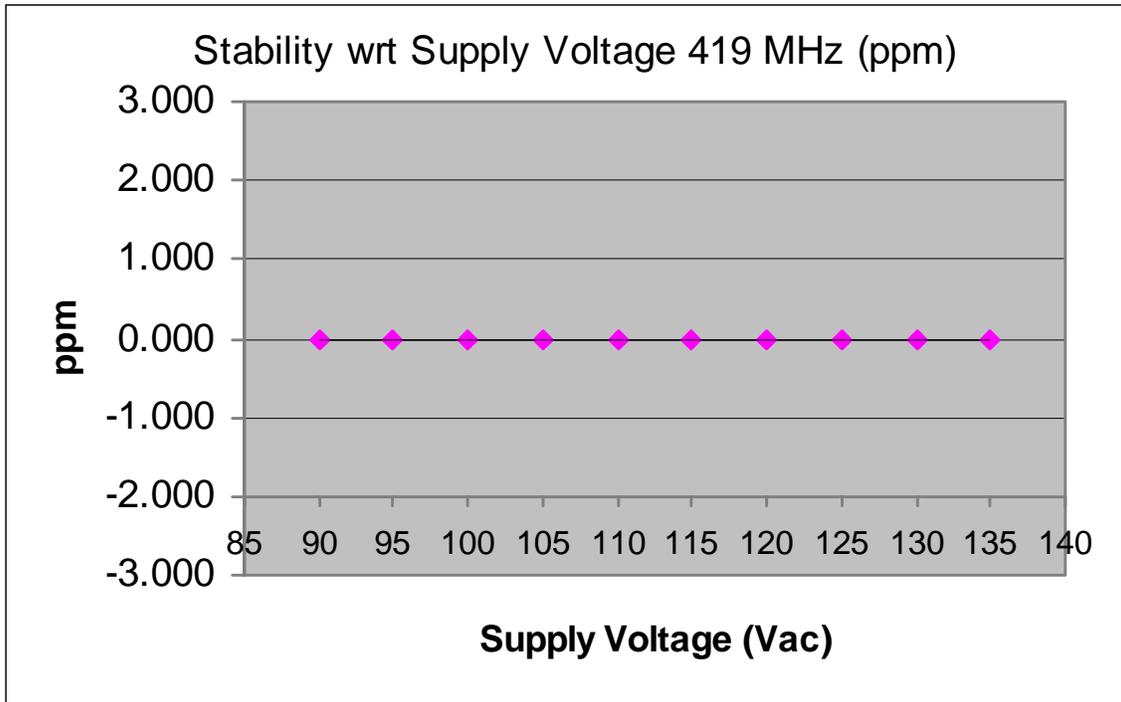


**FREQUENCY STABILITY VS. TEMPERATURE**  
**SPECIFIED LIMITS: +/- 1.5 PPM (-30 TO +60 DEGREES C)**

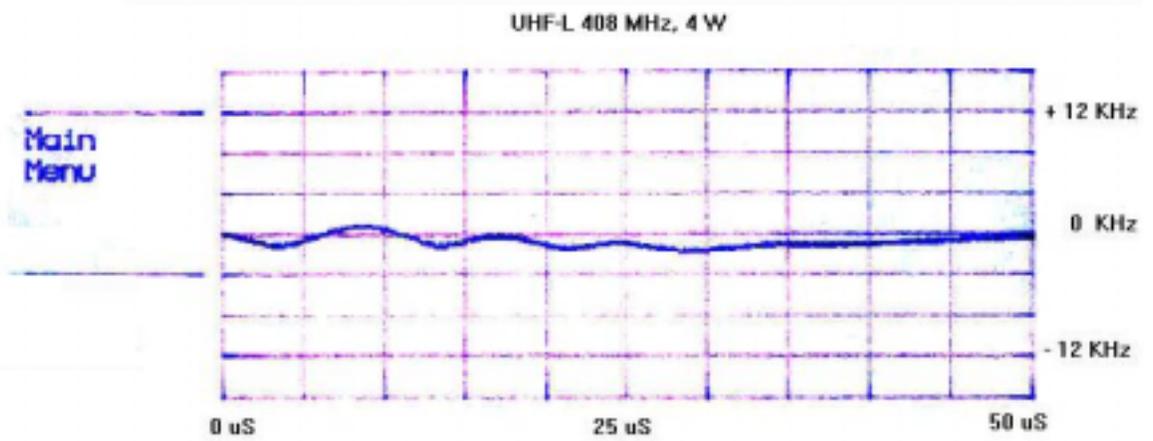
Temp (deg C)	Stability (ppm)	Deviation (MHz)
-30	-1.473	-0.00067
-20	-0.945	-0.00043
-10	0.495	0.000225
0	0.176	0.00008
10	-0.066	-0.00003
20	-0.044	-0.00002
30	0.022	0.00001
40	-0.176	-0.00008
50	-0.374	-0.00017
60	-0.505	-0.00023

6F-2 Frequency Stability vs. Voltage

**FREQUENCY STABILITY VS. SUPPLY VOLTAGE**  
REFERENCE 0% = 115 Vac



6F-3 Transient Behavior on Power-up



Frequency Stability at  $T_{on}$  showing stable frequency at 50 uS