

Company: Lutron Electronics  
 Model # Maestro Wireless S/N:02  
 Fund. Freq.: 390MHz  
 Mode: Tx. (AM)

Test Personnel: J. Kavalusky JK  
 Date: 2/09/07

### Radiated Emissions for Unintentional Radiators

Below are all noise floor emissions. No EUT unintentional emissions found.  
 Search for emissions was performed in 3 orthogonal axis.

Frequency (MHz)	Polarity	Antenna Height (Meters)	Azimuth (Degrees)	Indicated Level (dBuV)	Antenna Factor (dB)	Pre-Amp Gain Factor (dB)	Cable Loss (dB)	Averaging Factor (dB)	Field Strength @ 3m (dBuV/m)	Limits @ 3m (dBuV/m)	Margin (dB)
120	Vert	1.00	0.0	4.5	11.2	0.0	1.9		17.6	43.50	-25.9
192.0	Vert	1.00	248	4.4	14.2	0.0	2.2		20.8	43.50	-22.7
200.0	Vert	1.00	102	1.7	14.6	0.0	2.3		18.6	43.50	-24.9
300.0	Vert	1.00	0	-1.1	14.8	0.0	3.0		16.7	46.00	-29.3
500.0	Vert	1.40	97	-1.1	17.9	0.0	4.0		20.8	46.0	-25.2
1000.0	Vert	1.38	97	-0.2	24.2	0.0	5.8		29.8	54.0	-24.2

Figure 12

Company: Lutron Electronics  
 Model # Maestro Wireless Transmitter S/N: 02  
 Fund. Freq.: 390MHz  
 Mode: Tx. (AM)

Test Personnel: J. Kavalusky  
 Date: 2/09/07

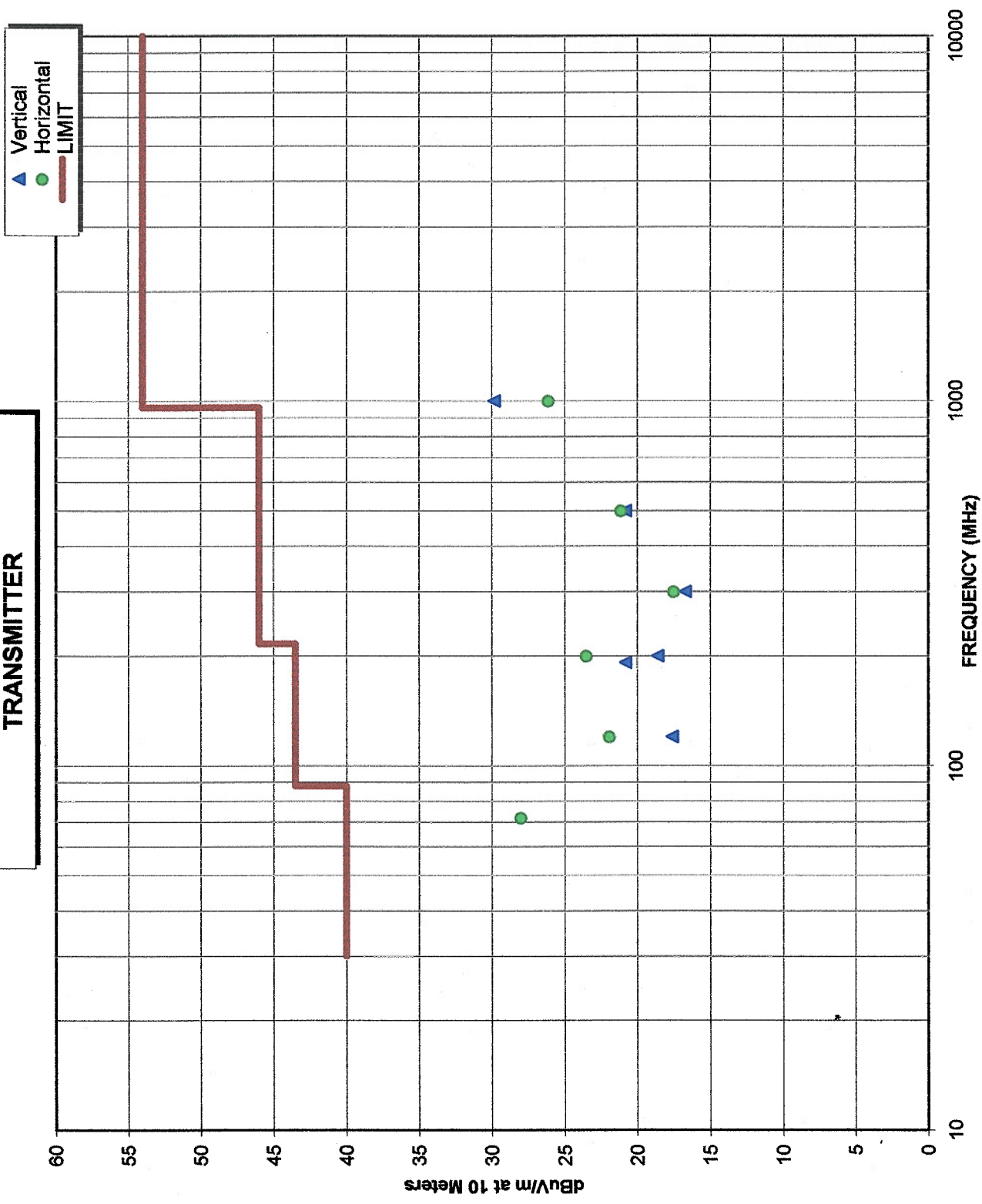
**Radiated Emissions for Unintentional Radiators**

Below are all noise floor emissions. No EUT unintentional emissions found.  
 Search for emissions was performed in 3 orthogonal axis.

Frequency (MHz)	Polarity	Antenna Height (Meters)	Antenna Azimuth (Degrees)	QP Indicated Level (dBuV)	Antenna Factor (dB)	Pre-Amp Gain Factor (dB)	Cable Loss (dB)	Averaging Factor (dB)	Field Strength @ 3m (dBuV/m)	Limits @ 3m (dBuV/m)	Margin (dB)
72	Horiz	2.43	180.0	18.0	8.6	0.0	1.4		28.0	40.00	-12.0
120.0	Horiz	2.33	180.0	9.0	11.0	0.0	1.9		21.9	43.50	-21.6
200.0	Horiz	1.65	180.0	7.2	14.0	0.0	2.3		23.5	43.50	-20.0
300.0	Horiz	1.00	127.9	-0.7	15.2	0.0	3.0		17.5	46.00	-28.5
500.0	Horiz	1.00	0	-1.1	18.2	0.0	4.0		21.1	46.0	-24.9
1000.0	Horiz	1.00	0	-0.2	24.6	0.0	6.1		26.1	54.0	-35.4

Figure 13

**FCC RADIATED EMISSIONS CLASS B  
TRANSMITTER**



**Figure 14**



Company: Lutron Electronics  
 Model # Maestro Wireless  
 Fund. Freq. 390 MHz.  
 Mode Tx (AM)

Test Personnel: J. Kavalusky  
 Date: 2/09/07

EUT POS. EUT HORIZ. TO TABLE Radiated Emission for Intentional Radiators  
 Position 1

Frequency (MHz)	Polarity	Antenna Height (Meters)	Antenna Azimuth (Degrees)	Peak Indicated Level (dBuV)	Antenna Factor (dB)	Pre-Amp Gain Factor (dB)	Cable Loss (dB)	Averaging Factor (dB)	Field (avg) Strength @ 3m (dBuV/m)	Limits @ 3m (dBuV/m)	Margin (dB)
390	Vert	1.20	0.0	56.1	16.2	0.0	2.0	-23.50	50.8	79.24	-17.3
780	Vert	1.20	0.0	24.9	22.2	0.0	3.1	-23.50	26.7	59.24	-32.5
1170	Vert	1.00	0	*						59.24	-59.2
1560	Vert	1.00	0	*						59.24	-59.2
1950	Vert	1.00	0	*						59.24	-59.2
2340	Vert	1.00	0	*						59.24	-59.2
2730	Vert	1.00	0	*						59.24	-59.2
3120	Vert	1.00	0	*						59.24	-59.2
3510	Vert	1.00	0	*						59.24	-59.2
3900	Vert	1.00	0	*						59.24	-59.2
390	Horiz	1.20	0.0	67.0	16.2	0.0	2.0	-23.50	61.7	79.24	-17.5
780	Horiz	1.20	0.0	31.3	22.2	0.0	3.1	-23.50	33.1	59.24	-26.1
1170	Horiz	1.00	0	*						59.24	-59.2
1560	Horiz	1.00	0	*						59.24	-59.2
1950	Horiz	1.00	0	*						59.24	-59.2
2340	Horiz	1.00	0	*						59.24	-59.2
2730	Horiz	1.00	0	*						59.24	-59.2
3210	Horiz	1.00	0	*						59.24	-59.2
3510	Horiz	1.00	0	*						59.24	-59.2
3900	Horiz	1.00	0	*						59.24	-59.2

\*NO EMISSIONS DETECTED WITHIN 20dB OF THE SPEC LIMIT

Figure 15





Company: Lutron Electronics  
 Model # Maestro Wireless  
 Fund. Freq. 390 MHz.  
 Mode Tx (AM)

Test Personnel: J. Kavalusky  
 Date: 2/09/07

EUT POS. EUT VERT TO TABLE Radiated Emission for Intentional Radiators  
 Position 2

Frequency (MHz)	Polarity	Antenna Height (Meters)	Antenna Azimuth (Degrees)	Peak Indicated Level (dBuV)	Antenna Factor (dB)	Pre-Amp Gain Factor (dB)	Cable Loss (dB)	Averaging Factor (dB)	Field Strength @ 3m (dBuV/m)	Limits @ 3m (dBuV/m)	Margin (dB)
390	Vert	1.20	0.0	68.5	16.2	0.0	2.0	-23.50	63.2	79.24	-16.0
780	Vert	1.20	0.0	29.4	22.2	0.0	3.1	-23.50	31.2	59.24	-28.0
	Vert	1.00	0	*						59.24	-59.2
	Vert	1.00	0	*						59.24	-59.2
	Vert	1.00	0	*						59.24	-59.2
	Vert	1.00	0	*						59.24	-59.2
	Vert	1.00	0	*						59.24	-59.2
	Vert	1.00	0	*						59.24	-59.2
	Vert	1.00	0	*						59.24	-59.2
	Vert	1.00	0	*						59.24	-59.2
	Vert	1.00	0	*						59.24	-59.2
	Vert	1.00	0	*						59.24	-59.2
	Vert	1.00	0	*						59.24	-59.2
	Vert	1.00	0	*						59.24	-59.2
390	Horiz	1.00	78.4	56.0	16.2	0.0	2.0	-23.50	50.7	79.24	-28.5
780	Horiz	1.00	331.4	30.4	22.2	0.0	3.1	-23.50	32.2	59.24	-27.0
	Horiz	1.00	0	*						59.24	-59.2
	Horiz	1.00	0	*						59.24	-59.2
	Horiz	1.00	0	*						59.24	-59.2
	Horiz	1.00	0	*						59.24	-59.2
	Horiz	1.00	0	*						59.24	-59.2
	Horiz	1.00	0	*						59.24	-59.2
	Horiz	1.00	0	*						59.24	-59.2
	Horiz	1.00	0	*						59.24	-59.2
	Horiz	1.00	0	*						59.24	-59.2
	Horiz	1.00	0	*						59.24	-59.2

\*NO EMISSIONS DETECTED WITHIN 20dB OF THE SPEC LIMIT

Figure 16

Company: Lutron Electronics  
 Model # Maestro Wireless  
 Fund. Freq: 390 MHz.  
 Mode Tx (AM)

Test Personnel: J. Kavalusky  
 Date: 2/09/07

EUT POS. EUT FLAT ON TABLE Radiated Emission for Intentional Radiators  
 Position 3

Frequency (MHz)	Polarity	Antenna Height (Meters)	Antenna Azimuth (Degrees)	Indicated Level (dBuV)	Antenna Factor (dB)	Pre-Amp Gain Factor (dB)	Cable Loss (dB)	Averaging Factor (dB)	Field Strength @ 3m (dBuV/m)	Limits @ 3m (dBuV/m)	Margin (dB)
390	Vert	1.00	71.0	54.0	16.0	0.0	2.0	-23.5	48.5	79.24	-30.7
780	Vert	1.00	71.0	5.0	21.8	0.0	3.1	-23.5	6.40	59.24	-52.8
1170	Vert	1.00	0.0	*					0.00	59.24	-59.2
1560	Vert	1.00	0.0	*					0.00	59.24	-59.2
1950	Vert	1.00	0.0	*					0.00	59.24	-59.2
2340	Vert	1.00	0.0	*					0.00	59.24	-59.2
2730	Vert	1.00	0.0	*					0.00	59.24	-59.2
3120	Vert	1.00	0.0	*					0.00	59.24	-59.2
3510	Vert	1.00	0.0	*					0.00	59.24	-59.2
3900	Vert	1.00	0.0	*					0.00	59.24	-59.2
390	Horiz	1.00	0.0	64.5	16.2	0.0	2.0	-23.5	59.2	79.24	-20.0
780	Horiz	1.00	0.0	28.0	22.2	0.0	3.1	-23.5	29.8	59.24	-29.4
1170	Horiz	1.00	0.0	*					0.00	59.24	-59.2
1560	Horiz	1.00	0.0	*					0.00	59.24	-59.2
1950	Horiz	1.00	0.0	*					0.00	59.24	-59.2
2340	Horiz	1.00	0.0	*					0.00	59.24	-59.2
2730	Horiz	1.00	0.0	*					0.00	59.24	-59.2
3120	Horiz	1.00	0.0	*					0.00	59.24	-59.2
3510	Horiz	1.00	0.0	*					0.00	59.24	-59.2
3900	Horiz	1.00	0.0	*					0.00	59.24	-59.2

\*NO EMISSIONS DETECTED WITHIN 20dB OF THE SPEC LIMIT

Figure 17



### **4.3 Bandwidth Measurements, §15.231**

Bandwidth measurements were made at the transmit frequency of 390MHz. The EUT was continuously transmitting with its normal modulation.

**Retlif Testing Laboratories** used an HP-8568B Spectrum Analyzer to perform bandwidth measurements. Bandwidth plots are shown on data sheets.

The requirement states that the bandwidth shall be no wider than .25% of the center frequency at the 20dB down points. Results of testing are shown in Figures 18 through 21.

**THE BANDWIDTH MEASUREMENTS COMPLIED WITH THE FCC REQUIREMENTS SET FORTH IN §15.231.**



Company: Lutron Electronic  
Model#: Maestro Wireless  
Fund. Freq.: 390MHz

Test Personal: John Kavalusky JK  
Date: 2/12/07

### Bandwidth of Fundamental Frequency

	Frequency MHz	Measurements (dB $\mu$ Vm)
<b>Center Frequency</b>	390.0119	80.20
20 dB down	389.9939	60.10
20 dB down	390.0285	60.00

The bandwidth is 34.6kHz

Allowable Bandwidth: 0.25% of fundamental Frequency  
For 390MHz =  $\pm 487$ kHz

Figure 18





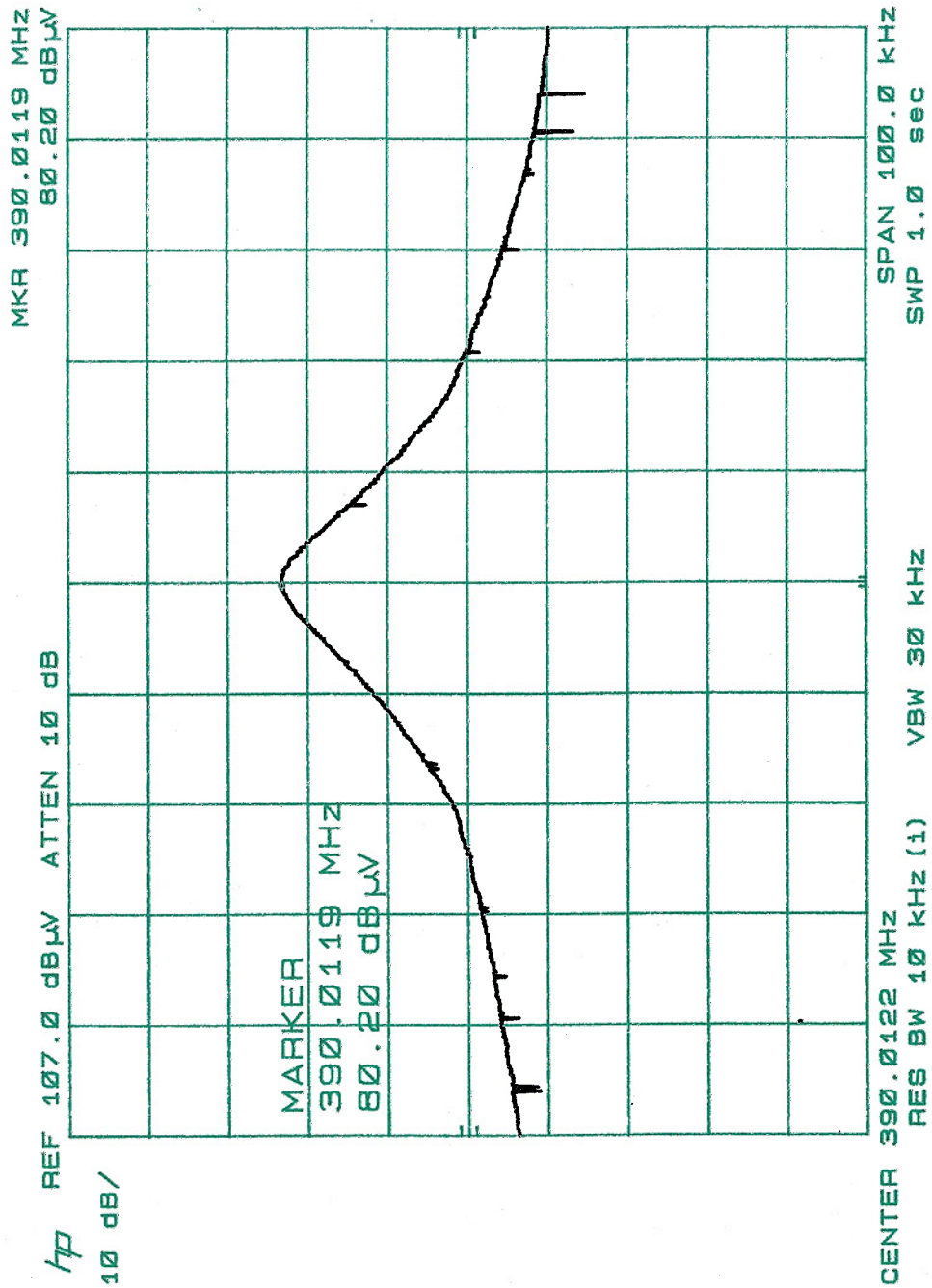


Figure 19



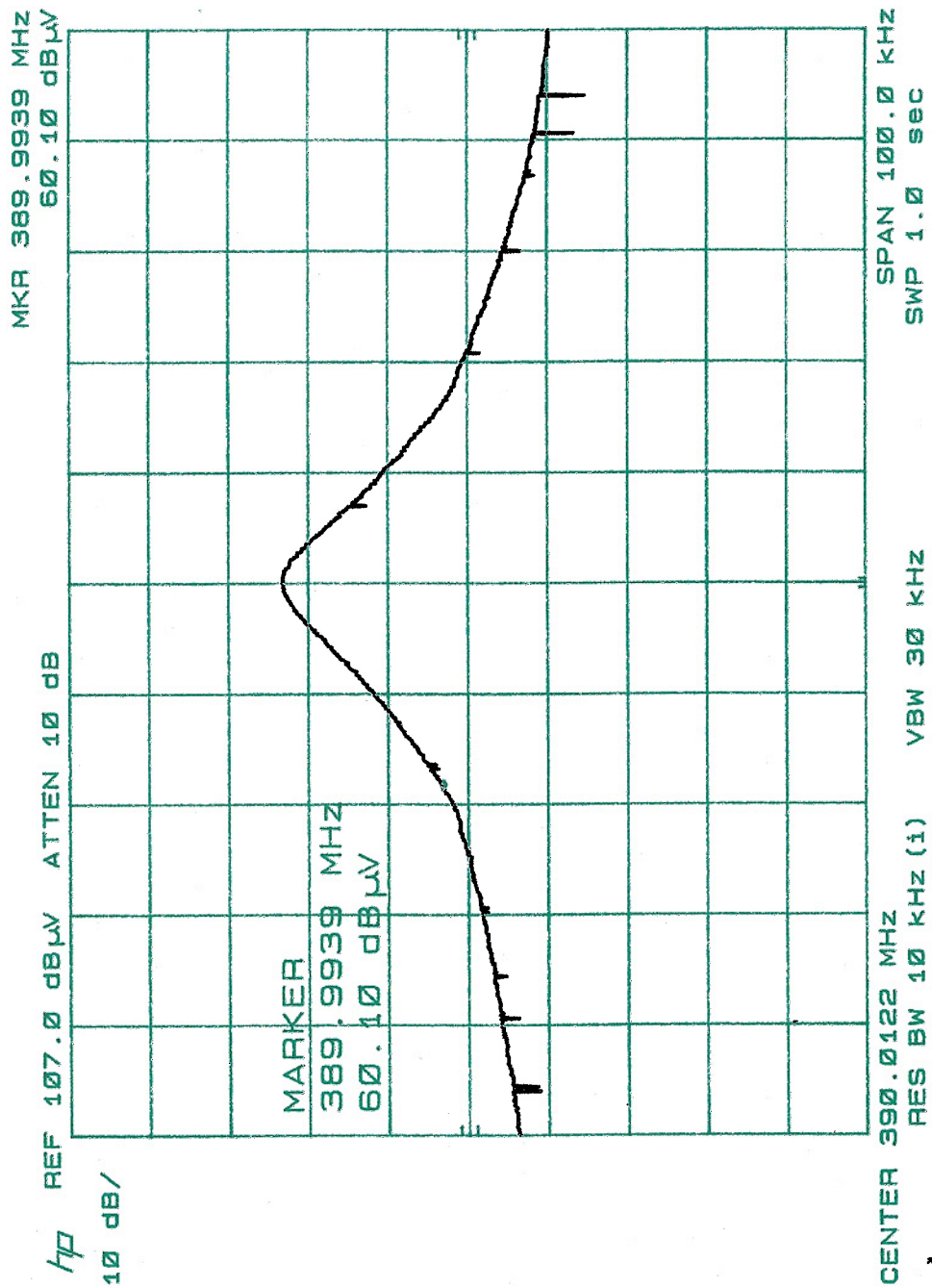


Figure 20



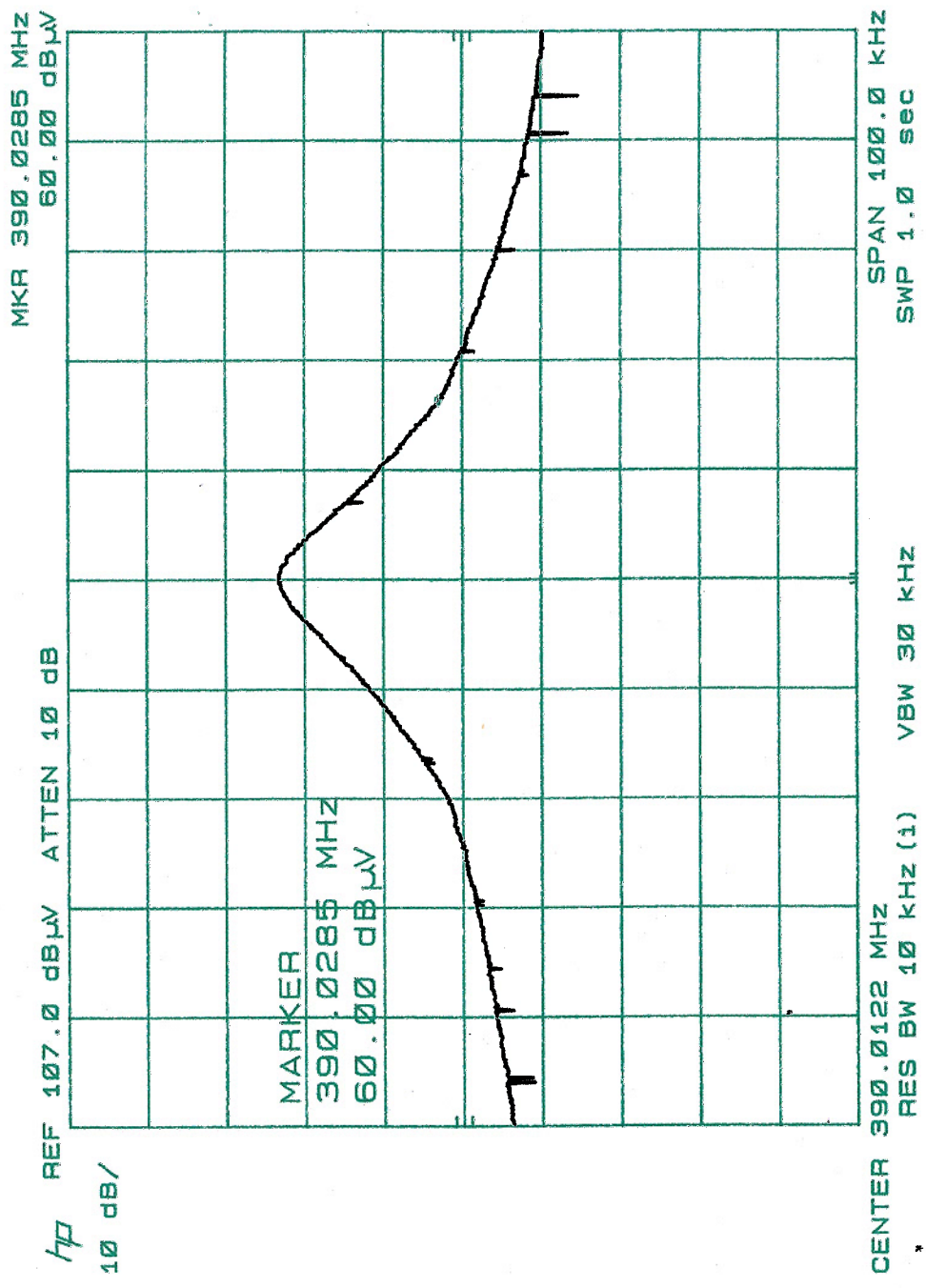


Figure 21



## **5.0 CONCLUSIONS**

The evaluation of the **Lutron Electronics Model #: MAESTRO WIRELESS (390MHZ)**, configured as described herein, indicated that the unit complies with the requirements set forth in Subpart B and C of Part 15 of the FCC Rules for unintentional and intentional radiators.

1. The **EUT** meets the Conducted Emissions limits set forth in §15.107.
2. The **EUT** meets the Radiated Emissions limits for unintentional radiators Set forth in §15.109.
3. The **EUT** meets the Radiated Emissions limits for intentional radiators set Forth in §15.205, §15.209, and §15.231 (c).

