4.2 Radiated Emissions Measurements, §15.205, §15.209a, §15.247d

Radiated Emissions measurements were recorded for the test sample at a distance of 3 meters. Radiated Emissions were measured with the antenna in both the horizontal and vertical polarizations. The antenna was raised 1 to 4 meters in height and the Equipment Under Test **(EUT)** was rotated 360° to maximize the emission. No significant emission level changes occurred while positioning the **EUT** power cable.

For intentional radiators the field strength of emissions of the **EUT** was measured out to the tenth harmonic of the carrier frequency. The carrier frequency was set to 2.412 and 2.462GHz.

Figure 7 is a test setup diagram for Radiated Emissions and Figure 8 are the photographs of the test setup.

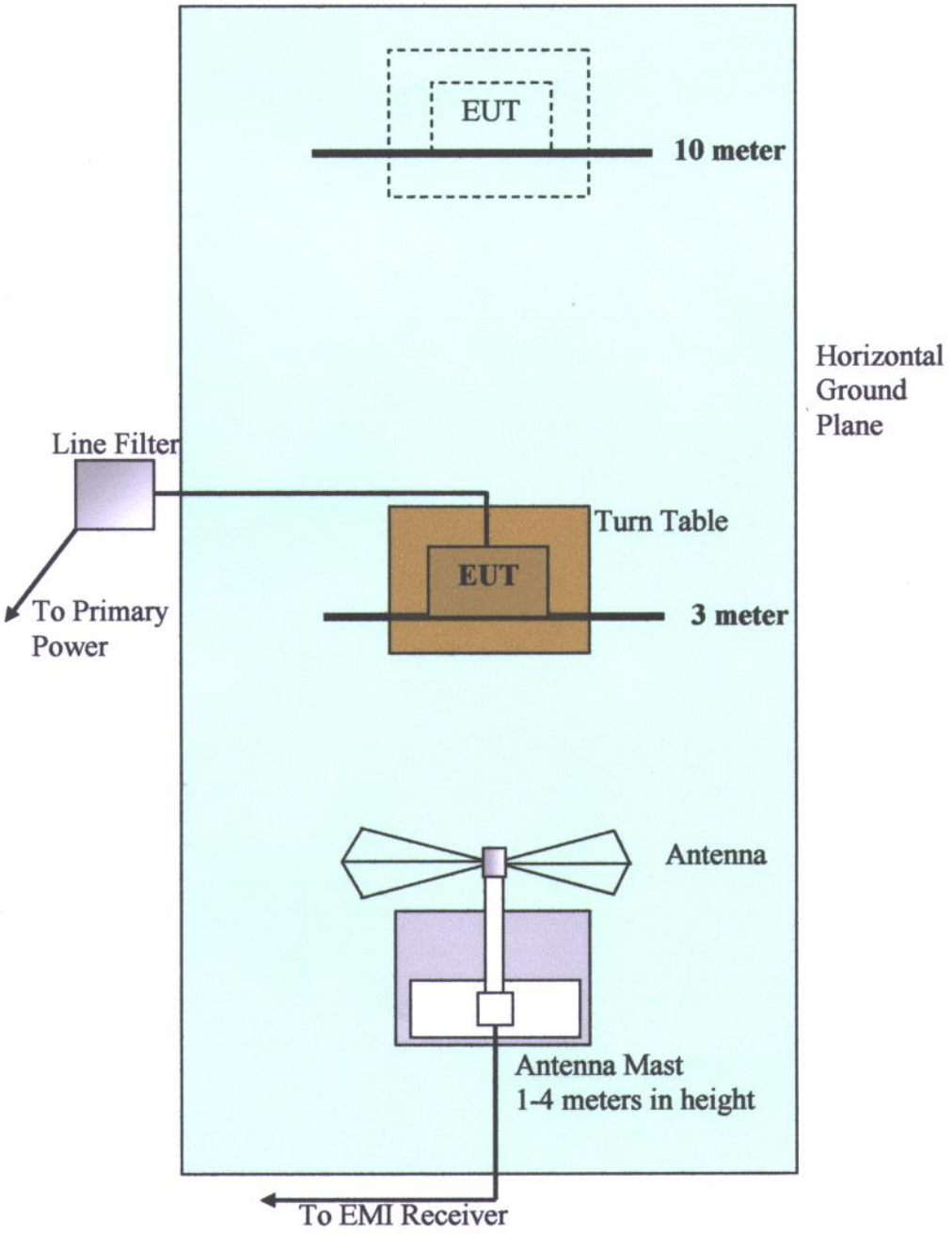
The test results for Radiated Emissions testing are shown in the following figures:

Figure 9 Unintentional Radiated Emissions Test Results Data, 2.412GHz, CH 1, Vertical
Figure 10 Unintentional Radiated Emissions Test Results Data, 2.412GHz, CH 1, Horizontal

Figure 11 Unintentional Radiated Emissions Test Results Data, 2.462GHz, CH 11, Vertical
Figure 12 Unintentional Radiated Emissions Test Results Data, 2.462GHz, CH 11, Horizontal

Figure 13 Intentional Radiated Emissions Test Results Data, 2.461GHz, CH 1 Vert/Horizontal
Figure 14 Intentional Radiated Emissions Test Results Data, 2.462GHz, CH 11 Vert/Horizontal

ALL LEVELS COMPLY WITH THE APPLICABLE FCC LIMITS FOR RADIATED EMISSIONS PER THE APPLICABLE PARAGRAPHS.



Radiated Emissions Test Setup Diagram
Figure 7

Radiated Emissions Test Setup Photographs
Figure 8

Company: hField Technologies
Model #: HFWFG10
S/N: NSN
Channel 1 2.412GHz.

Test Personnel: J. Kavalusky
Date: 7/31/2006

Radiated Emissions for UnIntentional Radiators

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)
30	Vert	1.00	60.4	20.0	12.9	0.0	1.0		33.9	40.00	-6.1
71.9	Vert	1.00	60.4	22.3	8.1	0.0	1.4		31.8	40.00	-8.2
120.0	Vert	1.00	221.3	4.4	11.1	0.0	1.9		17.4	43.50	-26.1
200.0	Vert	1.00	60.4	14.6	14.6	0.0	2.3		31.5	43.50	-12.0
496.4	Vert	1.00	44.2	21.4	17.9	0.0	4.0		43.3	46.40	-3.1
500	Vert	1.00	44.2	21.50	17.9	0.0	4.0		43.4	46.40	-3.0
600	Vert	1.00	16.9	18.9	19.1	0.0	4.5		42.5	46.40	-3.9
1000	Vert	1.40	104.6	-0.2	24.2	0.0	6.1		30.1	46.40	-16.3
4824.0	Vert	1.0	0.0	33.2	32.7	-20.8	1.2		46.3	49.5	-3.2
7236	Vert	1.0	0.0	33.7	35.8	-22.8	2.3		49.0	49.5	-0.5
9648.0	Vert	1.0	0.0	26.3	38.2	-21.0	2.5		46.0	49.5	-3.5
12060.0	Vert	1.0	0.0	26.7	38.5	-21.0	4.7		48.9	49.5	-0.6

Figure 9

Company: hField Technologies
Model #: HFWFG10
S/N: NSN
Channel 1 2.412GHz.

Test Personnel: J. Kavalusky
Date: 7/24/06

Radiated Emissions for UnIntentional Radiators

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)
30	Horiz	1.00	60.4	20.0	12.9	0.0	1.0		33.90	40.00	-6.1
71.9	Horiz	1.00	60.4	22.3	8.1	0.0	1.4		31.80	40.00	-8.2
120.0	Horiz	1.00	221.3	11.1	11.0	0.0	1.9		24.00	43.50	-19.5
200.0	Horiz	1.00	60.4	10.3	14.0	0.0	2.3		26.6	43.50	-16.9
496.4	Horiz	1.00	44.2	21.4	18.2	0.0	4.0		43.6	46.40	-2.8
500	Horiz	1.00	44.2	21.5	18.2	0.0	4.0		43.7	46.40	-2.7
600	Horiz	1.00	16.0	18.9	19.1	0.0	4.5		42.5	46.40	-3.9
1000	Horiz	1.4	104.6	-0.2	24.6	0.0	6.1		30.50	46.40	-15.9
4824.0	Horiz	1.0	0.0	33.2	32.7	-20.8	1.2		46.30	49.5	-3.2
7236	Horiz	1.0	0.0	33.7	35.9	-22.8	2.3		49.10	49.5	-0.4
9648.0	Horiz	1.0	0.0	28.8	38.0	-21.0	2.5		48.30	49.5	-1.2

Figure 10

Company: hFIELD Technologies
Model #: HFWFG10
S/N: NSN
Channel 11, 2.462GHz.

Test Personnel: J. Kavalusky
Date: 7/31/2006

Radiated Emissions for UnIntentional Radiators

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)
30	Vert	1.00	0	10.0	12.9	0.0	1.0		23.9	40.00	-16.1
71.9	Vert	1.00	277.3	8.1	1.4	0.0	1.4		10.9	40.00	-29.1
120.0	Vert	1.00	277.3	5.4	11.1	0.0	1.9		18.40	43.50	-25.1
200.0	Vert	1.00	229.1	9.0	14.6	0.0	2.3		25.9	43.50	-17.6
496.4	Vert	1.00	44.2	21.4	17.9	0.0	4.0		43.3	46.40	-3.1
500	Vert	1.00	44.2	24.5	17.9	0.0	4.0		46.4	46.40	0.0
600	Vert	1.00	16.9	18.9	19.1	0.0	4.5		42.5	46.40	-3.9
1000	Vert	1.00	44.0	-0.2	24.2	0.0	6.1		30.1	49.50	-19.4
4924	Vert	1.0	0.0	33.8	32.7	-20.8	1.2		46.9	49.50	-2.6
7386.0	Vert	1.0	0.0	34.2	35.8	-22.8	2.3		49.5	49.5	0.0
9848	Vert	1.0	0.0	29.0	38.2	-21.0	2.5		48.7	49.5	-0.8
12310.0	Vert	1.0	0.0	31.8	33.8	-21.0	4.7		49.3	49.5	-0.2

Figure 11

Company: hField Technologies
Model#: HFWFG10
S/N: NSN
Channel 11 2.462GHz.

Test Personnel: J. Kavalusky
Date: 7/31/06

Radiated Emissions for UnIntentional Radiators

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)
30	Horiz	1.0	133.1	7.8	13.9	0.0	1.0		22.7	40.00	17.3
71.9	Horiz	1.0	204.6	25.4	8.5	0.0	1.4		35.3	40.00	4.7
120.0	Horiz	1.0	133.1	3.9	10.9	0.0	1.9		16.7	43.50	26.8
200.0	Horiz	1.0	156.3	16.5	14.0	0.0	2.3		32.8	43.50	10.7
496.4	Horiz	1.6	44.2	21.0	18.2	0.0	4.0		43.2	46.40	3.2
500	Horiz.	1.6	101.1	21.2	18.2	0.0	4.0		43.4	46.40	3.0
600	Horiz.	1.4	104.6	19.1	19.1	0.0	4.5		42.7	46.40	3.7
1000	Horiz	1.4	104.6	0.2	24.60	0.0	5.6		30.4	49.50	19.1
4924.0	Horiz	1.0	0.0	29.3	32.7	-20.8	1.2		42.4	49.5	7.1
7386	Horiz	1.0	0.0	30.5	35.8	-22.8	2.3		45.8	49.5	3.7
9848.0	Horiz	1.0	0.0	29.4	38.0	-21.0	2.5		48.9	49.5	0.6
12310.0	Horiz	1.0	0.0	27.2	38.5	-21.0	4.7		49.4	49.5	0.1

Figure 12

Company: hField T Technologies
Model #: HFWFG10
S/N: NSN
Channel 1 2.412GHz.

Test Personnel: J. Kavalusky
Date: 7/28/2006

Radiated Emission for Intentional Radiators

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)
2412.0	Vert	1.00	0.0	59.5	28.1	-28.0	1.0	-20.0	40.6	94.00	-53.4
4824.0	Vert	1.00	0.0	32.0	32.7	-20.8	1.2	-20.0	25.1	54.00	-28.9
7236.0	Vert	1.00	0.0	34.00	35.8	-22.8	2.3	-20.0	29.30	54.00	-24.7
9648.0	Vert	1.00	0.0	34.70	38.2	-21.0	2.5	-20.0	34.40	54.00	-19.6
12060.0	Vert	1.00	0.0	35.0	38.6	-21.0	4.7	-20.0	37.3	54.00	-16.7
14470.0	Vert	1.00	0.0	35.50	41.5	-19.2	5.2	-20.0	43.00	54.00	-11.0
16884.0	Vert	1.00	0.0	37.70	40.3	-16.8	3.6	-20.0	44.80	54.00	-9.2
19296.0	Vert	1.00	0.0	37.8	40.4	-11.5	3.4	-20.0	50.1	54.00	-3.9
21708.0	Vert	1.00	0.0	36.2	40.5	-11.5	3.4	-20.0	48.60	54.0	-5.4
24120.0	Vert	1.00	0.0	37.8	40.7	-11.5	3.4	-20.0	50.4	54.0	-3.6
2412.0	Horiz	1.00	0.0	61.7	28.1	-28.0	1.0	-20.0	42.8	94.00	-51.2
4824.0	Horiz	1.00	0.0	33.2	32.7	-20.8	1.2	-20.0	26.3	54.00	-27.7
7236.0	Horiz	1.00	0.0	33.7	35.9	-22.8	2.3	-20.0	29.1	54.00	-24.9
9648.0	Horiz	1.00	0.0	33.0	38.0	-21.0	2.5	-20.0	32.5	54.00	-21.5
12060.0	Horiz	1.00	0.0	33.70	38.5	-21.0	4.7	-20.0	35.90	54.00	-18.1
14472.0	Horiz	1.00	0.0	35.50	41.9	-19.2	5.2	-20.0	43.4	54.00	-10.6
16884.0	Horiz	1.00	0.0	35.50	40.3	-16.8	3.6	-20.0	42.60	54.00	-11.4
19296.0	Horiz	1.00	0.0	35.00	40.4	-11.5	3.4	-20.0	47.30	54.00	-6.7
21708.0	Horiz	1.00	0.0	36.50	40.5	-11.5	3.4	-20.0	48.90	54.0	-5.1
24120.0	Horiz	1.00	0.0	39.20	40.7	-11.5	3.4	-20.0	51.80	54.0	-2.2

Figure 13

Company: hField Technologies
Model #: HFWFG10
S/N: NSN
Channel 11 2.462GHz.

Test Personnel: J. Kavalusky
Date: 7/28/2006

Radiated Emission for Intentional Radiators

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)
2462.0	Vert	1.00	0.0	60.1	28.1	-28.0	1.0	-20.0	41.2	94.00	-52.8
4924.0	Vert	1.00	0.0	33.8	32.7	-20.8	1.2	-20.0	26.9	54.00	-27.1
7386.0	Vert	1.00	0.0	34.20	35.8	-22.8	2.3	-20.0	29.5	54.00	-24.5
9848.0	Vert	1.00	0.0	35.00	38.2	-21.0	2.3	-20.0	34.5	54.00	-19.5
12310.0	Vert	1.00	0.0	33.8	33.8	-21.0	4.7	-20.0	31.3	54.00	-22.7
14770.0	Vert	1.00	0.0	35.00	41.5	-19.2	5.2	-20.0	42.50	54.00	-11.5
17234.0	Vert	1.00	0.0	35.80	40.3	-16.8	4.5	-20.0	43.80	54.00	-10.2
19.696.0	Vert	1.00	0.0	34.5	40.4	-11.5	3.4	-20.0	46.8	54.00	-7.2
22.158.0	Vert	1.00	0.0	32.8	40.5	-11.5	3.4	-20.0	45.20	54.0	-8.8
24620.0	Vert	1.00	0.0	35.8	40.7	-11.5	3.4	-20.0	48.4	54.0	-5.6
2462.0	Horiz	1.00	0.0	61.2	28.1	-28.0	1.0	-20.0	42.3	94.00	-51.7
4924.0	Horiz	1.00	0.0	29.3	32.7	-20.8	1.2	-20.0	22.4	54.00	-31.6
7386.0	Horiz	1.00	0.0	30.5	35.9	-22.8	2.3	-20.0	25.9	54.00	-28.1
9848.0	Horiz	1.00	0.0	30.5	38.0	-21.0	2.3	-20.0	29.8	54.00	-24.2
12310.0	Horiz	1.00	0.0	31.50	38.5	-21.0	4.7	-20.0	33.70	54.00	-20.3
14770.0	Horiz	1.00	0.0	33.80	41.9	-19.2	5.2	-20.0	41.7	54.00	-12.3
17930.0	Horiz	1.00	0.0	33.20	40.3	-16.8	4.5	-20.0	41.20	54.00	-12.8
19700.0	Horiz	1.00	0.0	33.80	40.4	-11.5	3.4	-20.0	46.10	54.00	-7.9
22158.0	Horiz	1.00	0.0	32.00	40.5	-11.5	3.4	-20.0	44.40	54.0	-9.6
24620.0	Horiz	1.00	0.0	37.30	40.7	-11.5	3.4	-20.0	49.90	54.0	-4.1

Figure 14

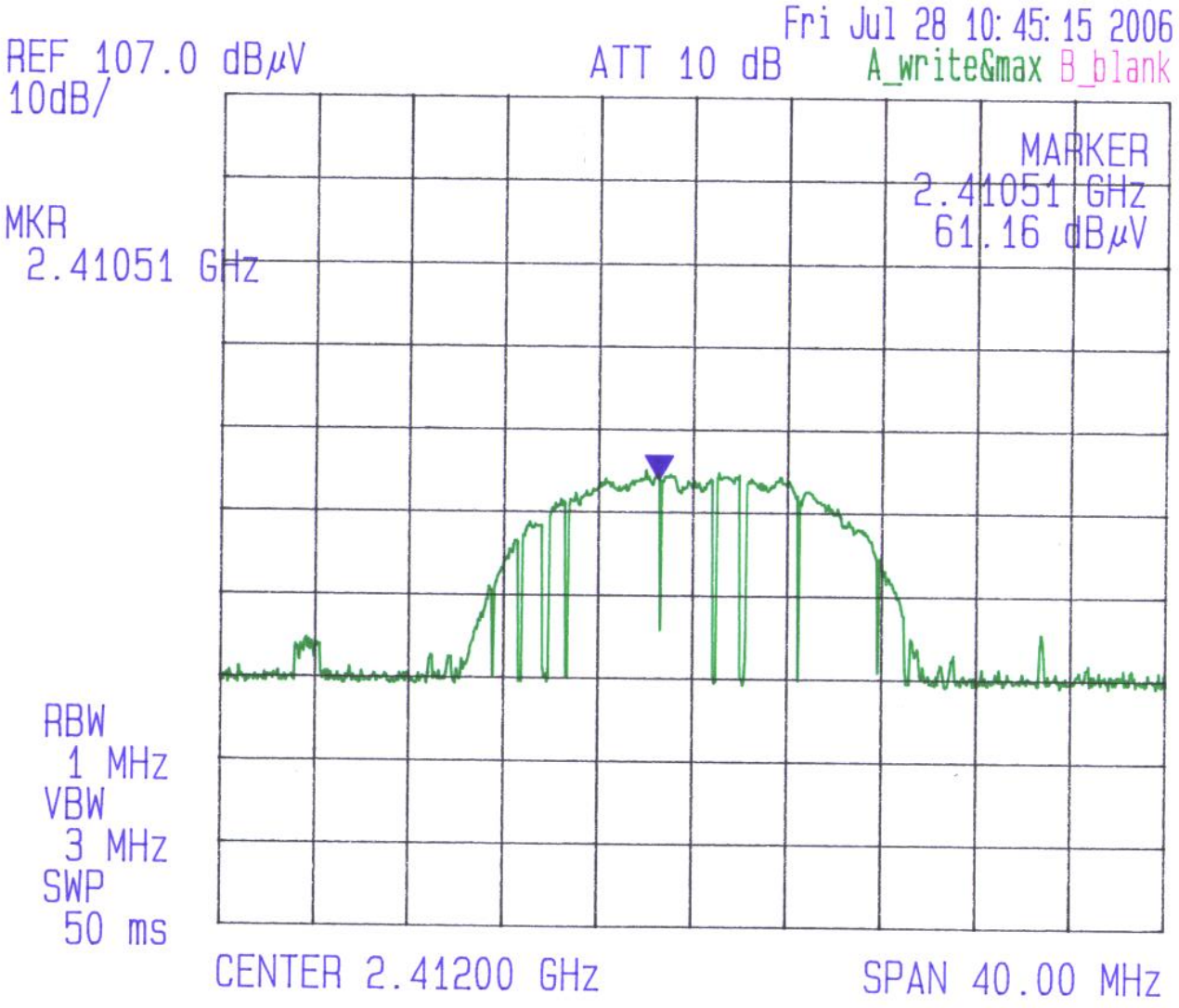
4.3 Bandwidth Measurements, Paragraph 15.247(a)(2)

Bandwidth measurements were made at the transmit frequencies of 2.412 and 2.462GHz.

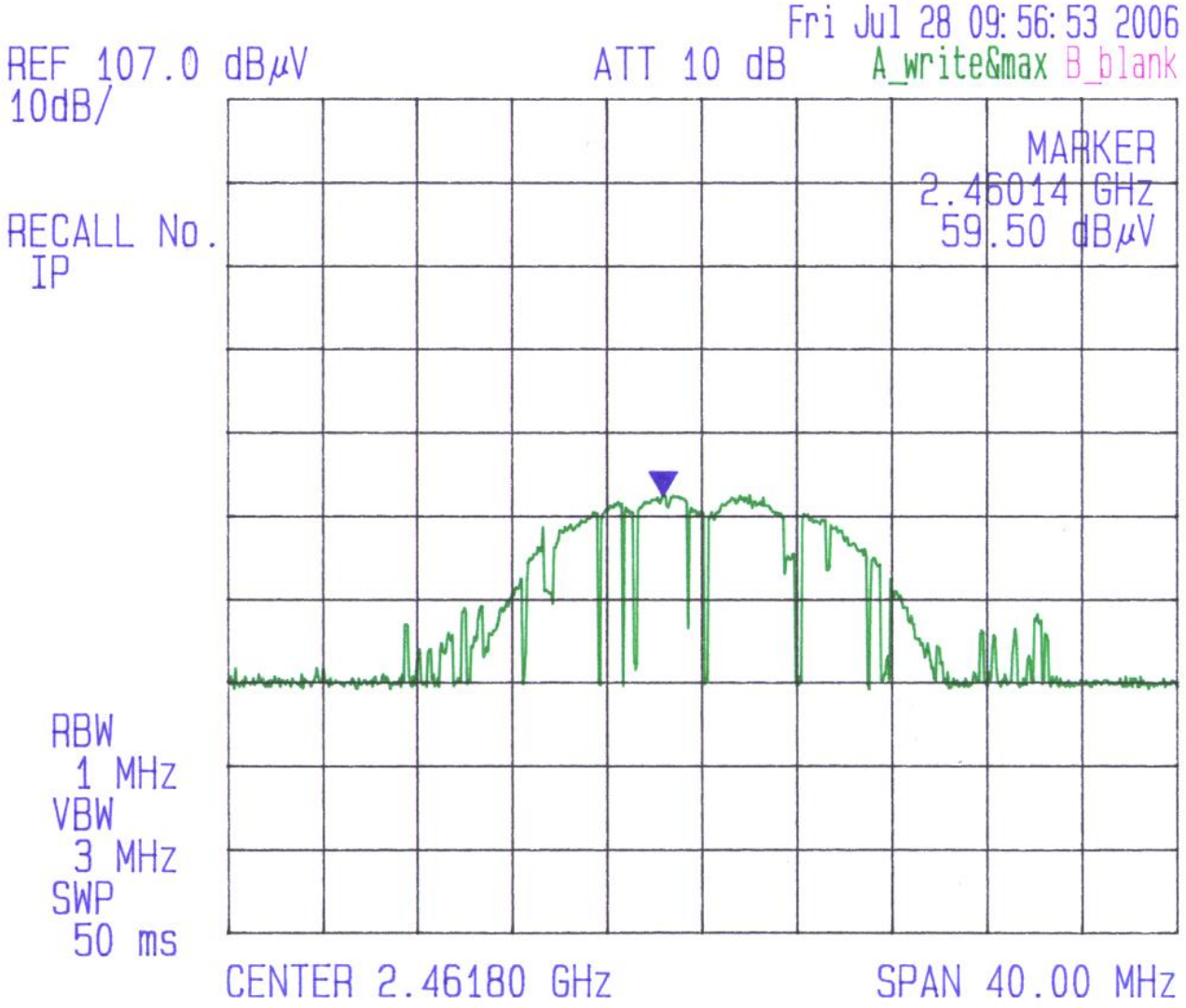
Retlif used an Advantest R3271 Spectrum Analyzer to perform bandwidth measurements. Bandwidth plots are shown on data sheets.

The requirement states that the bandwidth shall be a minimum of 500kHz at the 6dB down points. Results of testing are shown in Figures 15 and 16.

THE BANDWIDTH MEASUREMENTS COMPLIED WITH THE FCC REQUIREMENTS SET FORTH IN PARAGRAPH 15.247(A)(2).



CHANNEL 1
FIGURE 15



CHANNEL 11

FIGURE 16

4.4 Power Density Measurements 15.247e

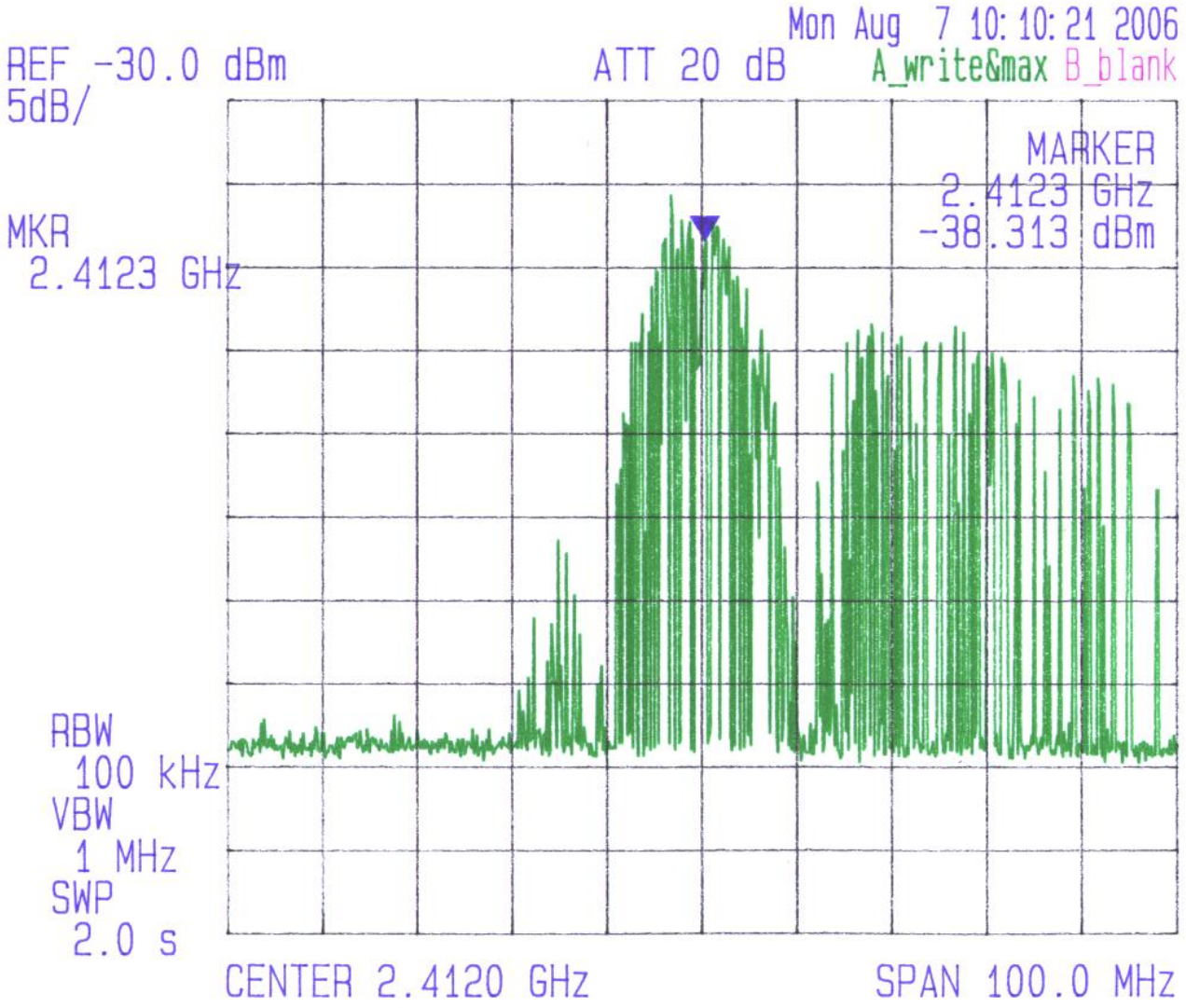
Power Density measurements were made at the two transmit frequencies of 2.412 and 2.462GHz.

Retlif used an Advantest R3271 Spectrum Analyzer to perform power density measurements. Power density plots are shown on data sheets. The power density measurements were taken across the input of the yogi antenna. Final measurements will be increased by 10dBs because of an external attenuator.

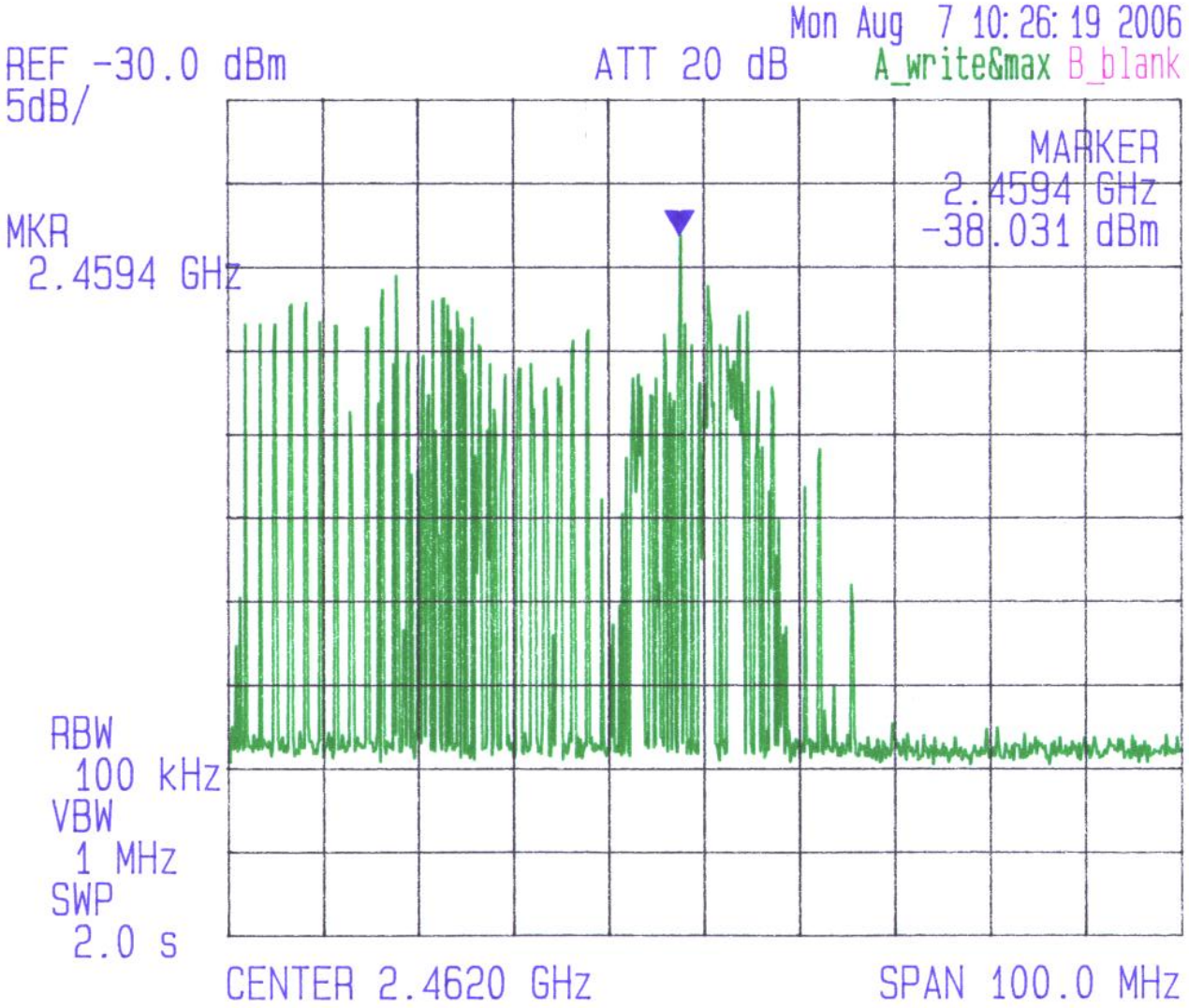
The requirement states that the power density shall be no greater than +8dBm on any 3kHz bend during any time internal of continuous transmission.

Results of testing are shown in Figures 17 and 18.

THE BANDWIDTH MEASUREMENTS COMPLIED WITH THE FCC REQUIREMENTS SET FORTH IN PARAGRAPH 15.247e.



CHANNEL 1
FIGURE 17



CHANNEL 11

FIGURE 18

5.0 CONCLUSIONS

The evaluation of the **hField Technologies, Inc. Model #: HFWFG10**, 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 §15,207

2. The **EUT** meets the Radiated Emissions limits for unintentional radiators Set forth in §15.247(d)

3. The **EUT** meets the Radiated Emissions limits set for intentional radiators set forth in §15.205, §15.209a, and §15.247(d)

4 The **EUT** meet the Power Density limits set forth in §15.247(e)