Spurious Radiated Emissions, Amended Section 15.247 (d) hField Technologies FCC ID: UILHFWFG10

# Spurious Radiated Emissions Limit:

The spurious radiated emissions limit for the device are derived from CFR Title 47, Part 15, Section 15.209 (as specified by 15.205 (b)). In addition, the provisions in Section 15.35 (b) also apply.

Frequency	CISPR Quasi- Peak Field Strength Limit	Average Field Strength Limit	Peak Field Strength Limit	Measurement Distance
MHz	uV/M	uV/M	uV/M	Meters
30 to 88	100	N/A	N/A	3
88 to 216	150	N/A	N/A	3
216 to 960	200	N/A	N/A	3
960 to 1000	500	N/A	N/A	3
Above 1000	N/A	500	5000	3

# **Frequencies Investigated:**

Only those frequencies identified during antenna conducted emissions as being within a restricted band of 15.205 were measured, as all other emissions observed complied with the 20 dBc requirements for antenna conducted emissions. (Emissions were attenuated 60 + dB below the level of the fundamental.)

# **Measurement System:**

- 1) All measurements were performed on the FCC listed open area test site located at Retlif Testing Laboratories in Ronkonkoma, NY.
- 2) Measurements were performed with an HP 8566B spectrum analyzer with a RBW of 100 kHz below 1GHz and 1MHz above 1 GHz.
- For peak measurements a video BW of 1 MHz was utilized. For average measurements a video BW of 10 Hz was utilized in accordance with FCC OET Knowledge Data Base Publication Number 558074.
- 4) Above 1 GHz an HP 8449B preamplifier was utilized to increase system sensitivity.
- 5) Microlab FXR standard gain horn antennas were used for all measurements above 1 GHz.

#### Test Results:

The EUT was found to be in compliance with the specified spurious emissions requirements.

- 1) At a distance of 3 meters, no emissions above the baseline system sensitivity were observed.
- 2) No duty cycle correction factor was applied.

Channel 1 – Vertical Antenna Polarization – Peak Readings – 1 MHz RBW, 1 MHz VBW											
Frequency	Meter Reading	Pre-amp Factor	Antenna Factor	Cable Loss	Correction Factor (Preamp + Antenna + Cable Loss)	Corrected Reading	Converted Reading	Limit @ 3M			
GHz	dBuV	dB	dB	dB	dB	dBuV/M	uV/M	uV/M			
2.281	43.3	-33.5	29.5	3.7	-0.3	43.0	141.3	5000			
2.800	44.1	-35.6	31.0	3.5	-1.1	43.0	141.3	5000			
4.780	42.7	-35.9	34.7	5.0	3.8	46.5	211.3	5000			
12.049	43.1	-36.3	29.3	10.1	3.1	46.2	204.2	5000			
19.314	45.3	-36.5	32.4	19.6	15.5	60.8	1096.5	5000			

# Channel 1 – Horizontal Antenna Polarization – Peak Readings – 1 MHz RBW, 1 MHz VBW

Frequency	Meter Reading	Pre-amp Factor	Antenna Factor	Cable Loss	Correction Factor (Preamp + Antenna + Cable Loss)	Corrected Reading	Converted Reading	Limit @ 3M
GHz	dBuV	dB	dB	dB	dB	dBuV/M	uV/M	uV/M
2.281	43.3	-33.5	29.5	3.7	-0.3	43.0	141.3	5000
2.800	44.1	-35.6	31.0	3.5	-1.1	43.0	141.3	5000
4.780	42.7	-35.9	34.7	5.0	3.8	46.5	211.3	5000
12.049	43.1	-36.3	29.3	10.1	3.1	46.2	204.2	5000
19.314	45.3	-36.5	32.4	19.6	15.5	60.8	1096.5	5000

# Channel 1 – Vertical Antenna Polarization – Average Readings – 1 MHz RBW, 10 Hz VBW

Frequency	Meter Reading	Pre-amp Factor	Antenna Factor	Cable Loss	Correction Factor (Preamp + Antenna + Cable Loss)	Corrected Reading	Converted Reading	Limit @ 3M
GHz	dBuV	dB	dB	dB	dB	dBuV/M	uV/M	uV/M
2.281	31.2	-33.5	29.5	3.7	-0.3	30.9	35.1	500
2.800	32.2	-35.6	31.0	3.5	-1.1	31.1	35.9	500
4.780	30.6	-35.9	34.7	5.0	3.8	34.4	52.5	500
12.049	31.8	-36.3	29.3	10.1	3.1	34.9	55.6	500
19.314	32.6	-36.5	32.4	19.6	15.5	48.1	254.1	500

# Channel 1 – Horizontal Antenna Polarization – Average Readings – 1 MHz RBW, 10 Hz VBW

Frequency	Meter Reading	Pre-amp Factor	Antenna Factor	Cable Loss	Correction Factor (Preamp + Antenna + Cable Loss)	Corrected Reading	Converted Reading	Limit @ 3M
GHz	dBuV	dB	dB	dB	dB	dBuV/M	uV/M	uV/M
2.281	31.2	-33.5	29.5	3.7	-0.3	30.9	35.1	500
2.800	32.2	-35.6	31.0	3.5	-1.1	31.1	35.9	500
4.780	30.6	-35.9	34.7	5.0	3.8	34.4	52.5	500
12.049	31.8	-36.3	29.3	10.1	3.1	34.9	55.6	500
19.314	32.6	-36.5	32.4	19.6	15.5	48.1	254.1	500

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Channel 6 – Vertical Antenna Polarization – Peak Readings – 1 MHz RBW, 1 MHz VBW											
Frequency	Meter Reading	Pre-amp Factor	Antenna Factor	Cable Loss	Correction Factor (Preamp + Antenna + Cable Loss)	Corrected Reading	Converted Reading	Limit @ 3M			
GHz	dBuV	dB	dB	dB	dB	dBuV/M	uV/M	uV/M			
2.281	43.3	-33.5	29.5	3.7	-0.3	43.0	141.3	5000			
2.900	43.4	-35.6	31.0	3.5	-1.1	42.3	130.3	5000			
4.800	42.8	-35.9	34.7	5.0	3.8	46.6	213.8	5000			
12.181	43.1	-36.3	29.3	10.1	3.1	46.2	204.2	5000			
19.494	45.5	-37.0	32.4	19.6	15.0	60.5	1059.3	5000			

# Channel 6 – Horizontal Antenna Polarization – Peak Readings – 1 MHz RBW, 1 MHz VBW

Frequency	Meter Reading	Pre-amp Factor	Antenna Factor	Cable Loss	Correction Factor (Preamp + Antenna + Cable Loss)	Corrected Reading	Converted Reading	Limit @ 3M
GHz	dBuV	dB	dB	dB	dB	dBuV/M	uV/M	uV/M
2.281	43.3	-33.5	29.5	3.7	-0.3	43.0	141.3	5000
2.900	43.4	-35.6	31.0	3.5	-1.1	42.3	130.3	5000
4.800	42.8	-35.9	34.7	5.0	3.8	46.6	213.8	5000
12.181	43.1	-36.3	29.3	10.1	3.1	46.2	204.2	5000
19.494	45.5	-37.0	32.4	19.6	15.0	60.5	1059.3	5000

C	Channel 6 – Vertical Antenna Polarization – Average Readings – 1 MHz RBW, 10 Hz VBW											
Frequency	Meter Reading	Pre-amp Factor	Antenna Factor	Cable Loss	Correction Factor (Preamp + Antenna + Cable Loss)	Corrected Reading	Converted Reading	Limit @ 3M				
GHz	dBuV	dB	dB	dB	dB	dBuV/M	uV/M	uV/M				
2.281	31.2	-33.5	29.5	3.7	-0.3	30.9	35.1	500				
2.900	31.7	-35.6	31.0	3.5	-1.1	30.6	33.9	500				
4.800	30.6	-35.9	34.7	5.0	3.8	34.4	52.5	500				
12.181	31.1	-36.3	29.3	10.1	3.1	34.2	51.3	500				
19.494	32.4	-37.0	32.4	19.6	15.0	47.4	234.4	500				

Channel 6 – Horizontal Antenna Polarization – Average Readings – 1 MHz RBW, 10 Hz VBW

Frequency	Meter Reading	Pre-amp Factor	Antenna Factor	Cable Loss	Correction Factor (Preamp + Antenna + Cable Loss)	Corrected Reading	Converted Reading	Limit @ 3M
GHz	dBuV	dB	dB	dB	dB	dBuV/M	uV/M	uV/M
2.281	31.2	-33.5	29.5	3.7	-0.3	30.9	35.1	500
2.900	31.7	-35.6	31.0	3.5	-1.1	30.6	33.9	500
4.800	30.6	-35.9	34.7	5.0	3.8	34.4	52.5	500
12.181	31.1	-36.3	29.3	10.1	3.1	34.2	51.3	500
19.494	32.4	-37.0	32.4	19.6	15.0	47.4	234.4	500

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(	Channel 11 – Vertical Antenna Polarization – Peak Readings – 1 MHz RBW, 1 MHz VBW												
Frequency	Meter Reading	Pre-amp Factor	Antenna Factor	Cable Loss	Correction Factor (Preamp + Antenna + Cable Loss)	Corrected Reading	Converted Reading	Limit @ 3M					
GHz	dBuV	dB	dB	dB	dB	dBuV/M	uV/M	uV/M					
2.800	44.1	-35.6	31.0	3.5	-1.1	43.0	141.3	5000					
2.999	43.3	-35.6	31.0	3.5	-1.1	42.2	128.8	5000					
4.800	42.8	-35.9	34.7	5.0	3.8	46.6	213.8	5000					
12.320	43.1	-36.6	29.4	10.1	2.9	46.0	199.5	5000					
19.729	43.8	-38.0	32.4	19.6	14.0	57.8	776.2	5000					

# Channel 11 – Horizontal Antenna Polarization – Peak Readings – 1 MHz RBW, 1 MHz VBW

Frequency	Meter Reading	Pre-amp Factor	Antenna Factor	Cable Loss	Correction Factor (Preamp + Antenna + Cable Loss)	Corrected Reading	Converted Reading	Limit @ 3M
GHz	dBuV	dB	dB	dB	dB	dBuV/M	uV/M	uV/M
2.800	44.1	-35.6	31.0	3.5	-1.1	43.0	141.3	5000
2.999	43.3	-35.6	31.0	3.5	-1.1	42.2	128.8	5000
4.800	42.8	-35.9	34.7	5.0	3.8	46.6	213.8	5000
12.320	43.1	-36.6	29.4	10.1	2.9	46.0	199.5	5000
19.729	43.8	-38.0	32.4	19.6	14.0	57.8	776.2	5000

с	Channel 11 – Vertical Antenna Polarization – Average Readings – 1 MHz RBW, 10 Hz VBW											
Frequency	Meter Reading	Pre-amp Factor	Antenna Factor	Cable Loss	Correction Factor (Preamp + Antenna + Cable Loss)	Corrected Reading	Converted Reading	Limit @ 3M				
GHz	dBuV	dB	dB	dB	dB	dBuV/M	uV/M	uV/M				
2.800	32.2	-35.6	31.0	3.5	-1.1	31.1	35.9	500				
2.999	31.6	-35.6	31.0	3.5	-1.1	30.5	33.5	500				
4.800	30.6	-35.9	34.7	5.0	3.8	34.4	52.5	500				
12.320	31.3	-36.6	29.4	10.1	2.9	34.2	51.3	500				
19.729	31.2	-38.0	32.4	19.6	14.0	45.2	182.0	500				

Channel 11 – Horizontal Antenna Polarization – Average Readings – 1 MHz RBW, 10 Hz VBW

Frequency	Meter Reading	Pre-amp Factor	Antenna Factor	Cable Loss	Correction Factor (Preamp + Antenna + Cable Loss)	Corrected Reading	Converted Reading	Limit @ 3M
GHz	dBuV	dB	dB	dB	dB	dBuV/M	uV/M	uV/M
2.800	32.2	-35.6	31.0	3.5	-1.1	31.1	35.9	500
2.999	31.6	-35.6	31.0	3.5	-1.1	30.5	33.5	500
4.800	30.6	-35.9	34.7	5.0	3.8	34.4	52.5	500
12.320	31.3	-36.6	29.4	10.1	2.9	34.2	51.3	500
19.729	31.2	-38.0	32.4	19.6	14.0	45.2	182.0	500