RHEIN TECH LABORATORIES, INC.

Engineering Solutions & Electromagnetic Compatibility Services

Certification Application Report for
FCC Part 15.247 & Industry Canada RSS-247

Test Lab:	Applicant:
Rhein Tech Laboratories, Inc. 360 Herndon Parkway Suite 1400 Herndon, VA 20170 E-Mail: atcbinfo@rheintech.com Tel: 703-689-0368 Fax: 703-689-2056 www.rheintech.com	Honeywell Security 2 Corporate Center Drive Melville, NY 22747 Contact: Andrew Roussin Tel: (516) 577-5935

FCC ID/ IC	CFS8DLGW/ 573F-GW	**Test Report Date**	September 23, 2016
Platform	Lyric Harmony Gateway Alarm RF6 Radio	**RTL Work Order #**	2016197
Model	GW	**RTL Quote #**	QRTL16-197A
American National Standard Institute	FCC: ANSI C63.10-2013: American National Standard of Procedures for Compliance Testing of Unlicensed Wireless Devices		
FCC Classification	DTS – Part 15 Digital Transmission System		
FCC Rule Part(s)/Guidance	FCC Rules Part 15.247: Operation within the bands 920-928 MHz, 2400-2483.5 MHz and 5725-5850 MHz Direct Sequence System (2015)		
Industry Canada	RSS-247 Issue 1: Digital Transmission Systems (DTSs), Frequency Hopping Systems (FHSs) and Licence-Exempt Local Area Network (LE-LAN) Devices RSS-Gen Issue 4: General Requirements for Compliance of Radio Apparatus		

Frequency Range (MHz)	Output Power (W)*	Frequency Tolerance	Emission Designator
2405 – 2475	N/A	N/A	N/A

** power is reported in a separate report.*

I, the undersigned, hereby declare that the equipment tested and referenced in this report conforms to the identified standard(s) as described in this test report. No modifications were made to the equipment during testing in order to achieve compliance with these standards. Furthermore, there was no deviation from, additions to, or exclusions from, the applicable parts of FCC Part 2, FCC Part 15, Industry Canada RSS-247, RSS-Gen, and ANSI C63.10.

Signature: _____ Date: September 23, 2016

Typed/Printed Name: Desmond A. Fraser Position: President

These test(s) are accredited under Rhein Tech Laboratories, Inc. ISO/IEC 17025 accreditation issued by ANAB. Refer to certificate and scope of accreditation AT-1445.

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1 General Information

1.1 Scope

This is an original FCC and Industry Canada certification application report.

Applicable Standards:

- FCC Rules Part 15.247: Frequency Hopping, Direct Spread Spectrum and Hybrid Systems that are in operation within the bands of 902-928 MHz, 2400-2483.5 MHz and 5725-5850 MHz.
- Industry Canada RSS-247: Digital Transmission Systems (DTSs), Frequency Hopping Systems (FHSs) and Licence-Exempt Local Area Network (LE-LAN) Devices
- Industry Canada RSS-Gen: General Requirements for Compliance of Radio Apparatus

1.2 Description of EUT

Equipment Under Test	RF6 Transceiver
Model	GW
Power Supply	9 VDC AC Adapter
Modulation Type	DSSS
Frequency Range	2405-2475 MHz
Antenna Type & Gain	Inverted F Type printed on PCB; -1.5 dBi

1.3 Test Facility

The open area test site and conducted measurement facility used to collect the radiated data is located at 360 Herndon Parkway, Suite 1400, Herndon, Virginia 20170. This site has been fully described in a report and approved by the Federal Communications Commission to perform AC line conducted and radiated emissions testing.

1.4 Related Submittal(s)/Grant(s)

This is an original certification application for Honeywell Security, Model GW, FCC ID: CFS8DLGW, IC: 573F-GW.

1.5 Modifications

No modifications were made to the equipment during testing in order to achieve compliance with these standards.

2 Test Information

2.1 Description of Test Modes

In accordance with FCC 15.31(m), and because the EUT utilizes an operating band greater than 10 MHz, the following frequencies were tested.

Table 2-1: Channels Tested

Channel	RF6 Frequency (MHz)
Low	2405
Middle	2445
High	2475

2.2 Exercising the EUT

The EUT was supplied with test firmware programmed with a low, middle, and high channel for testing. The EUT was tested in all three orthogonal planes in order to determine worst-case emissions. The EUT was provided with software to continuously transmit during testing. The carrier was also checked to verify that information was being transmitted. There were no deviations from the test standard(s) and/or methods. The test results reported relate only to the item tested.

2.3 Test Result Summary

Table 2-2: Test Result Summary – FCC Part 15 Subpart C (Section 15.247); IC RSS-247

FCC Standard	IC Standard	Test	Pass/Fail or N/A
15.247(b)(3)	RSS-247 5.4(4), RSS-Gen 6.12	Radiated Fundamental	Pass
15.247(d)	RSS-Gen 8.10	Band Edge Measurement	Pass
15.209	RSS-247 5.5, RSS-Gen 6.13	Radiated Emissions	Pass
15.207	RSS-Gen	AC Line Conducted	Pass

2.4 Test System Details

The test samples were received on August 23, 2016. The FCC identifiers for all applicable equipment, plus descriptions of all cables used in the tested system, are identified in the following table.

Table 2-3: Equipment under Test

Part	Manufacturer	Model	Serial Number	FCC ID	Cable Description	RTL Bar Code
RF6 Transceiver	Honeywell Security	GW	MEL-113	CFS8DLGW	2.5m unshielded power	22129
AC Adapter 9 VDC	Honeywell	AMS62-0902500SU-T	15040514677	N/A	N/A	22130
RF6 Transceiver (Idle Mode)	Honeywell Security	GW	MEL-078	CFS8DLGW	2.5m unshielded power	22131
AC Adapter 9 VDC	Honeywell	AMS62-0902500SU-T	15040514256	N/A	N/A	22133

2.5 Configuration of Tested System

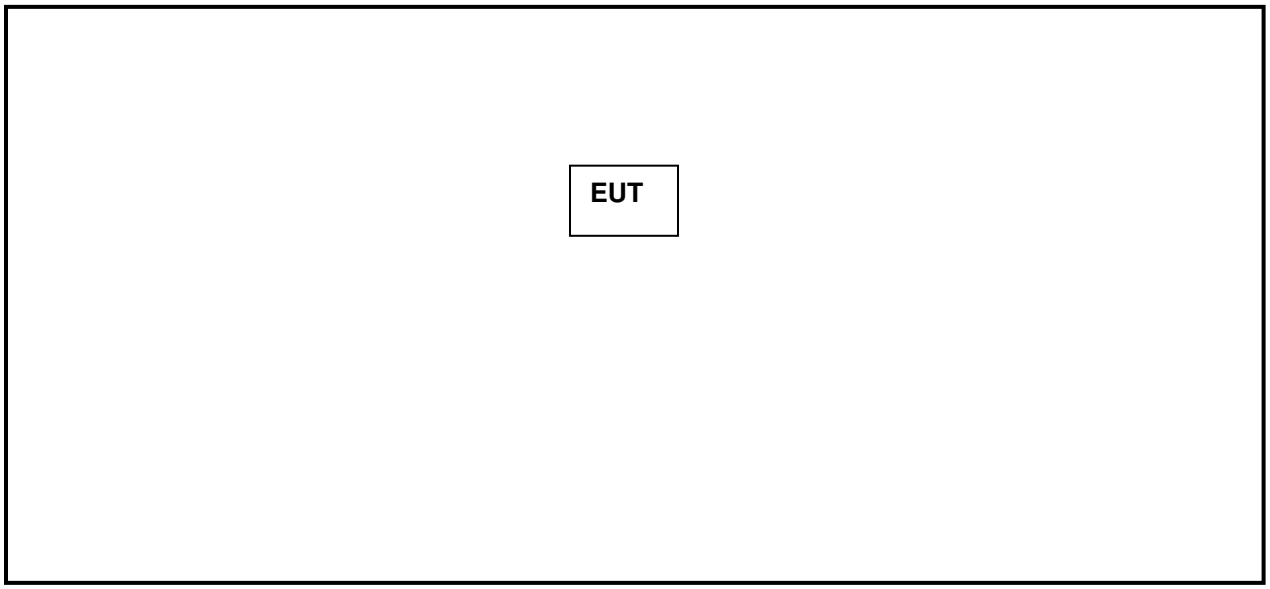

Figure 2-1: Configuration of System Under Test

3 Peak Output Power - 15.247(b)(3); IC RSS-247 5.4(4), RSS-Gen 6.12

3.1 Power Output Test Procedure

Measured per ANSI C63.10 (2013) section 11.9 Fundamental emission output power. A peak radiated field strength of the fundamental, using a resolution bandwidth greater than the occupied bandwidth ≥ 10MHz, and video bandwidth ≥ 3 x resolution bandwidth.

The field strengths presented in this section is used in section 4 "Compliance with the Band Edge".
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Table 3-1: Power Output Test Equipment

RTL Asset #	Manufacturer	Model	Part Type	Serial Number	Calibration Due Date
900772	EMCO	3161-02	Horn Antenna (2 - 4 GHz)	9804-1044	4/9/18
900878	Rhein Tech Laboratories	AM3-1197-0005	3 meter Antenna Mast, Polarizing	Outdoor Range 1	Not Required
901592	Insulated Wire Inc.	KPS-1503-3600-KPR	SMK RF Cables 20'	NA	8/3/17
901242	Rhein Tech Laboratories	WRT-000-0003	Wood Rotating Table	N/A	Not Required
901581	Rohde & Schwarz	FSU	Spectrum Analyzer	1166.1660.50	3/22/18

3.2 Power Output Test Data

Table 3-2: Radiated Power Output Test Data – Antenna #1

Frequency (MHz)	Measured Radiated Field Strength (dBuV/m)	Site Correction Factor (dB/m)	Corrected Radiated Field Strength (dBuV/m)
2405	91.8	25.4	115.7
2475	92.1	25.7	116.3

Table 3-3: Radiated Power Output Test Data – Antenna #2

Frequency (MHz)	Measured Radiated Field Strength (dBuV/m)	Site Correction Factor (dB/m)	Corrected Radiated Field Strength (dBuV/m)
2405	89.2	25.4	113.1
2475	88.4	25.7	112.6

Test Personnel:

Dan Baltzell		September 7, 2016
Test Engineer	Signature	Date of Test

4 Compliance with the Band Edge – FCC 15.247(d); RSS-247 8.10

4.1 Band Edge Test Procedure

A radiated delta measurement was performed from the highest peak in the restricted band to the peak of the fundamental, and subtracted from the average radiated field strength using a minimum bandwidth resolution of 1 MHz and an average detector; the result was compared to the limit per ANSI C63.10 (2013) Sections 6.10.6 and 4.1.4.2.2

Table 4-1: Band Edge Test Equipment

RTL Asset #	Manufacturer	Model	Part Type	Serial Number	Calibration Due Date
900772	EMCO	3161-02	Horn Antenna (2 - 4 GHz)	9804-1044	4/9/18
900878	Rhein Tech Laboratories	AM3-1197-0005	3 meter Antenna Mast, Polarizing	Outdoor Range 1	Not Required
901592	Insulated Wire Inc.	KPS-1503-3600-KPR	SMK RF Cables 20'	NA	8/3/17
901242	Rhein Tech Laboratories	WRT-000-0003	Wood Rotating Table	N/A	Not Required
901581	Rohde & Schwarz	FSU	Spectrum Analyzer	1166.1660.50	3/22/18

4.2 Band Edge Test Results

4.2.1 Calculation of Lower Band Edge – Antenna #1

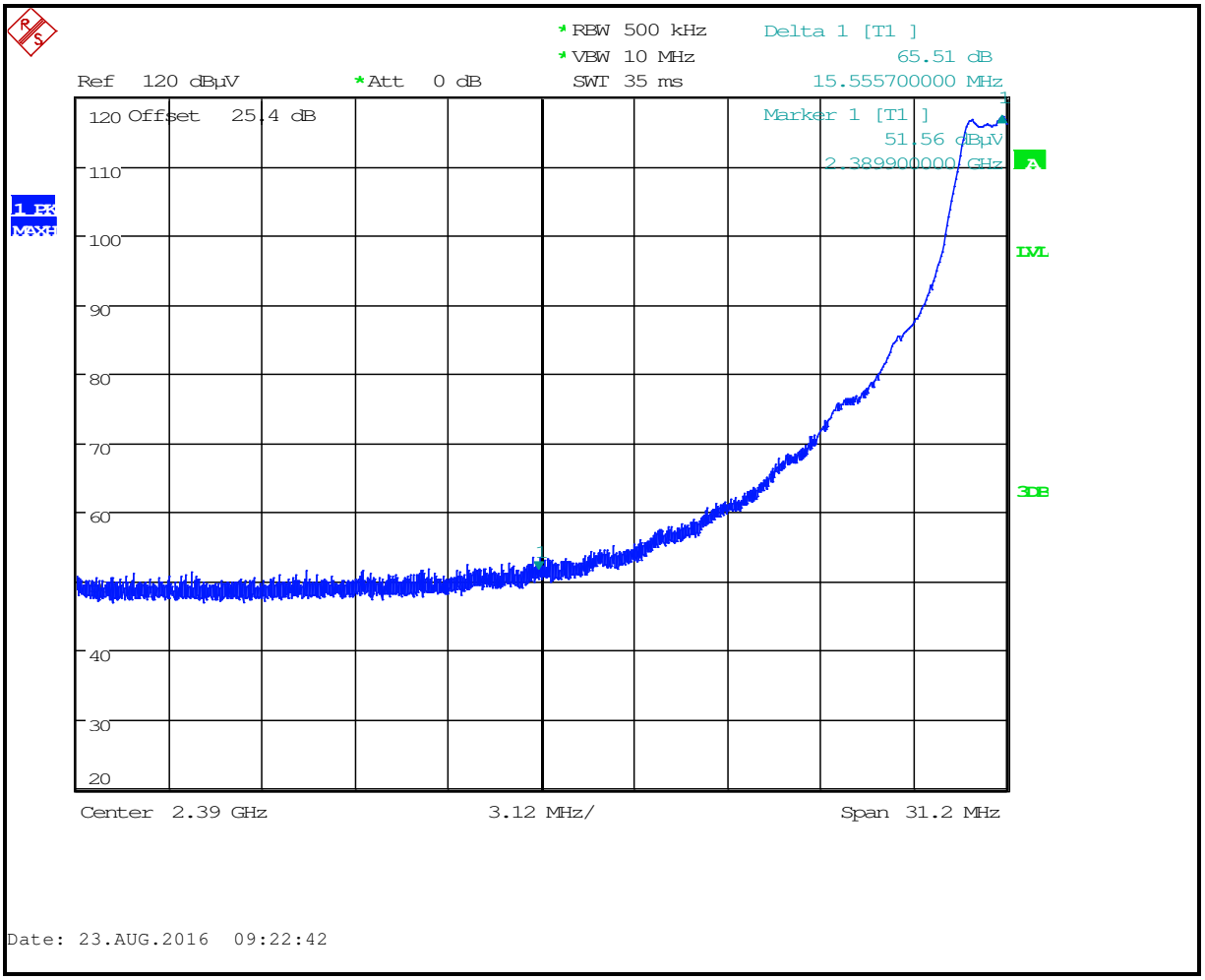
104.2 dBuV/m is the duty cycle calculated average field strength measurement, from which the delta measurement of 65.5 dB is subtracted, resulting in a level of 38.7 dB. This level has a margin of 15.3 dB below the limit of 54 dBuV/m.

Calculation: 104.2 dBuV/m - 65.5 - 54 dBuV/m = -15.3 dB

Peak Field Strength of Lower Band Edge = 115.7 dBuV/m
Calculated Average Field Strength of Lower Band Edge (-11.5 dB) = 104.2 dBuV/m
Delta measurement = 65.5 dB

4.2.2 Lower Band Edge – Conducted Delta Plot – Antenna #1

Plot 4-1: Lower Band Edge – Antenna #1



4.2.3 Calculation of Upper Band Edge – Antenna #1

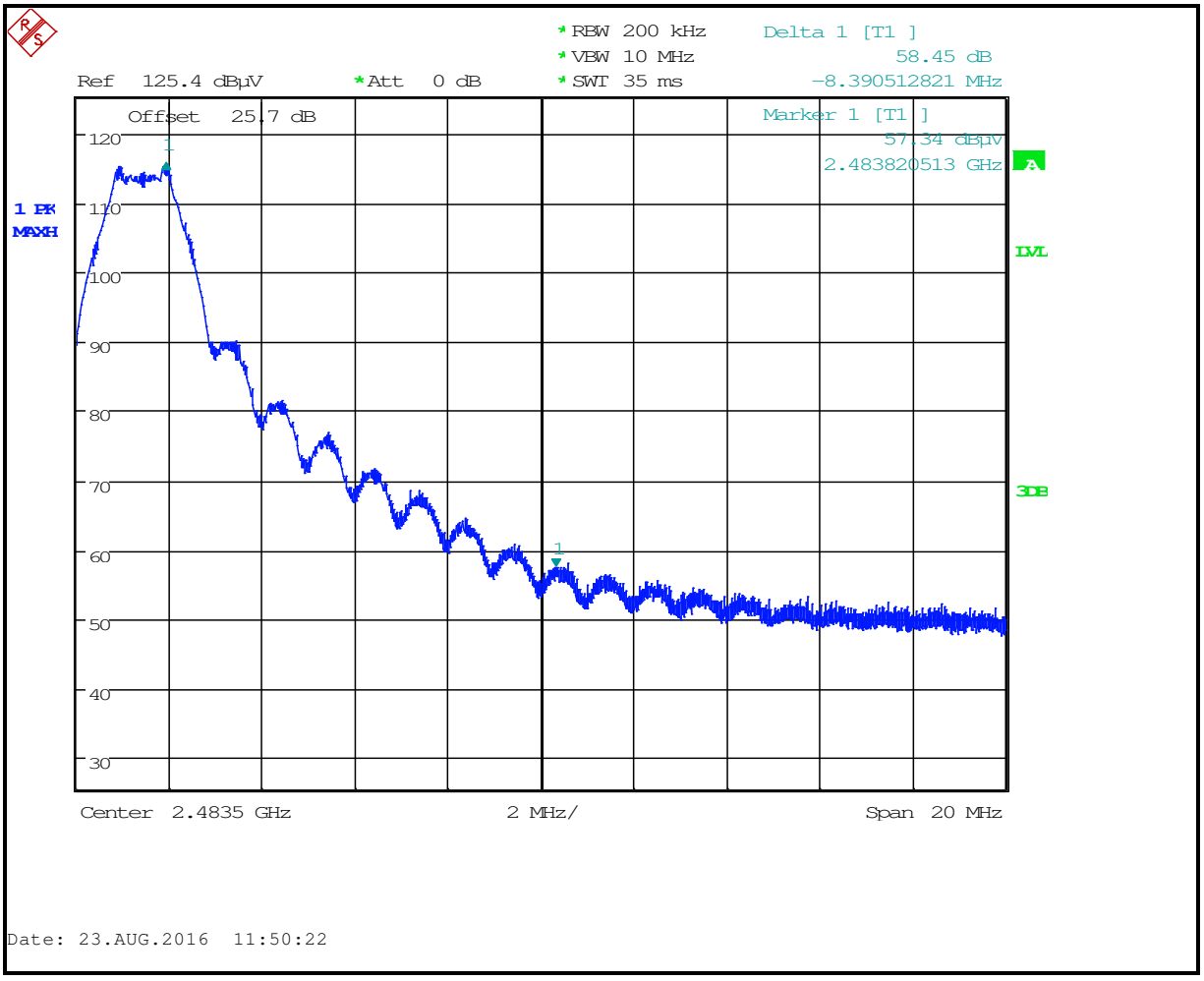
104.8 dBuV/m is the calculated average field strength average measurement, from which the delta measurement of 58.5 dB is subtracted, resulting in a level of 46.3 dB. This level has a margin of 7.7 dB below the limit of 54 dBuV/m.

Calculation: 104.8 dBuV/m - 58.5 - 54 dBuV/m = -7.7 dB

Peak Field Strength of Upper Band Edge = 116.3 dBuV/m
Calculated Average Field Strength of Upper Band Edge (-11.5 dB) = 104.8 dBuV/m
Delta measurement = 58.5 dB

4.2.4 Upper Band Edge – Conducted Delta Plot – Antenna #1

Plot 4-2: Upper Band Edge - Antenna #1



4.2.5 Calculation of Lower Band Edge – Antenna #2

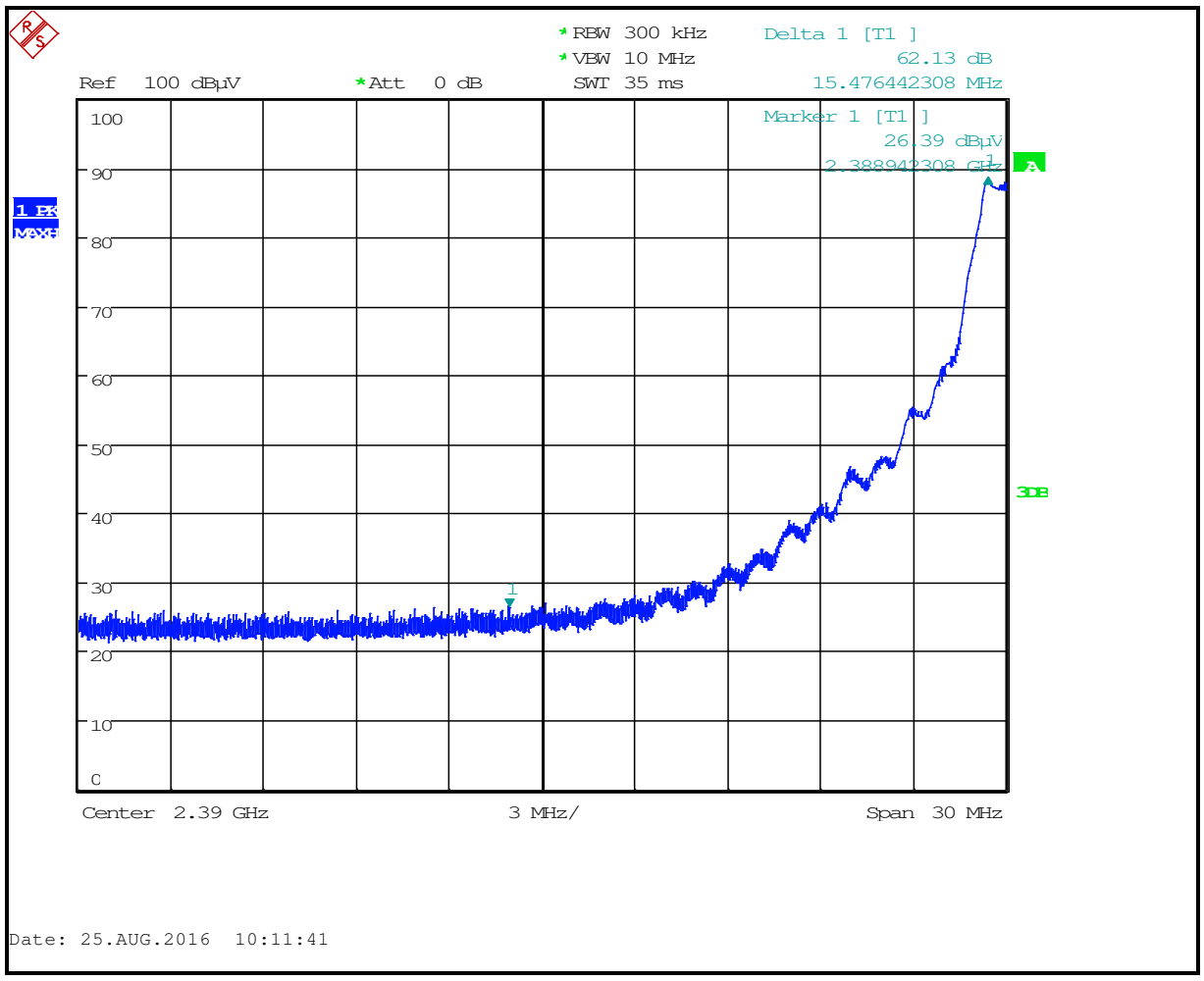
101.6 dBuV/m is the calculated average field strength average measurement, from which the delta measurement of 62.1 dB is subtracted, resulting in a level of 39.5 dB. This level has a margin of 14.5 dB below the limit of 54 dBuV/m.

Calculation: 101.6 dBuV/m - 62.1 - 54 dBuV/m = -14.5 dB

Peak Field Strength of Lower Band Edge = 113.1 dBuV/m
Calculated Average Field Strength of Lower Band Edge (-11.5 dB) = 101.6 dBuV/m
Delta measurement = 62.1 dB

4.2.6 Lower Band Edge – Conducted Delta Plot – Antenna #2

Plot 4-3: Lower Band Edge – Antenna #2



4.2.7 Calculation of Upper Band Edge – Antenna #2

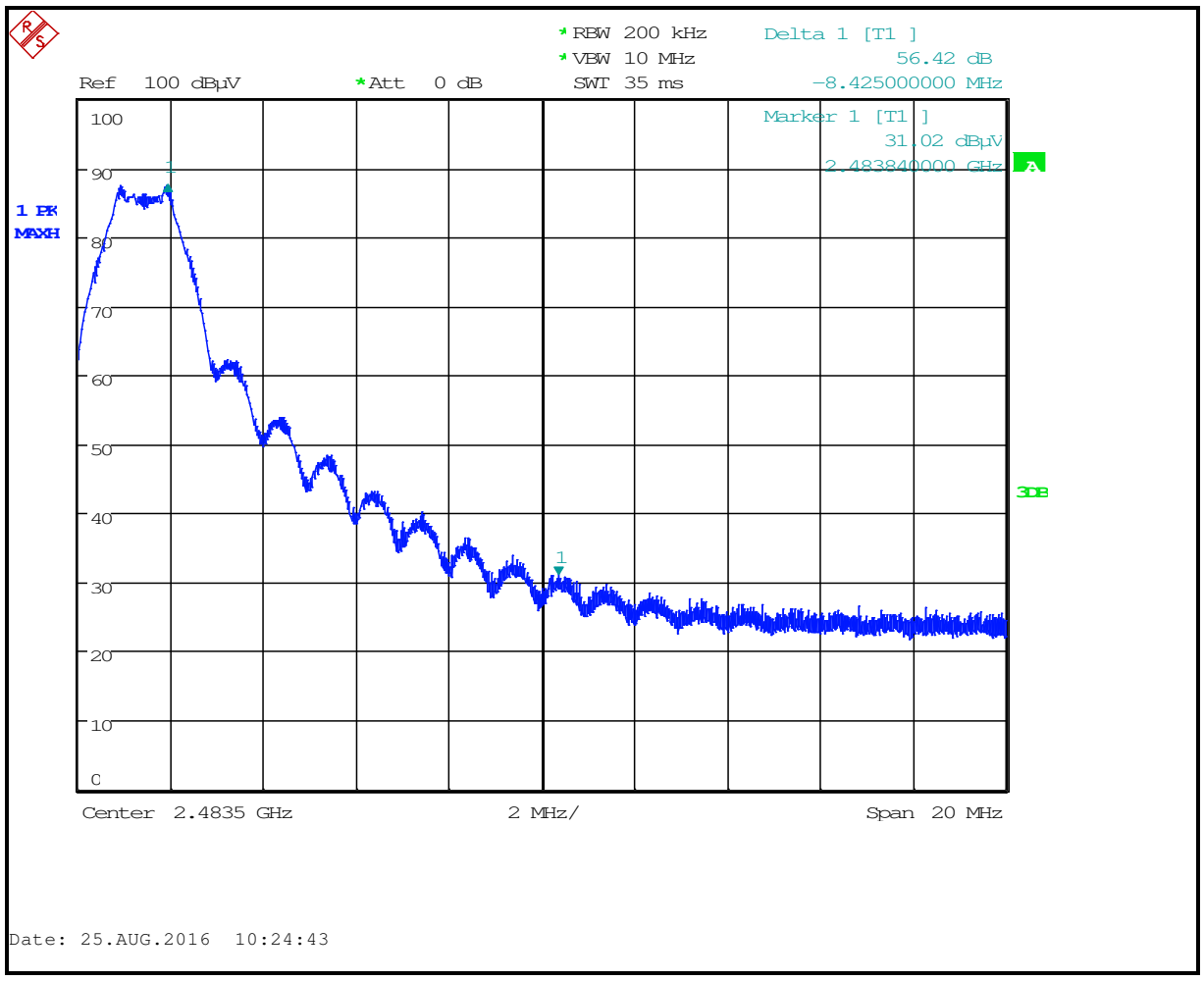
101.1 dBuV/m is the calculated average field strength average measurement, from which the delta measurement of 56.4 dB is subtracted, resulting in a level of 44.7 dB. This level has a margin of 9.3 dB below the limit of 54 dBuV/m.

Calculation: 101.1 dBuV/m - 56.4 - 54 dBuV/m = -9.3 dB

Peak Field Strength of Upper Band Edge = 112.6 dBuV/m
Calculated Average Field Strength of Upper Band Edge (-11.5 dB) = 101.1 dBuV/m
Delta measurement = 56.4 dB

4.2.8 Upper Band Edge – Conducted Delta Plot – Antenna #2

Plot 4-4: Upper Band Edge - Antenna #2



Test Personnel:

Dan Baltzell		August 23-25, 2016
Test Engineer	Signature	Dates of Test

5 Radiated Emissions – FCC 15.209; RSS-247 5.5; RSS-Gen 6.13

5.1 Limits of Radiated Emissions Measurement

Frequency (MHz)	Field Strength (uV/m)	Measurement Distance (m)
0.009-0.490	2400/f (kHz)	300
0.490-1.705	2400/f (kHz)	30
1.705-30.0	30	30
30-88	100	3
88-216	150	3
216-960	200	3
Above 960	500	3

As shown in 15.35(b), for frequencies above 1000 MHz, the field strength limits are based on average detector, however, the peak field strength of any emission shall not exceed the maximum permitted average limits, specified above by more than 20 dB under any circumstances of modulation.

5.2 Radiated Emissions Measurement Test Procedure

Per ANSI C63.10 (2013) Section 11.12.2.7 Radiated spurious emission test, Section 6.3 Radiated emissions testing – common requirements.

Before final measurements of radiated emissions were made on the open-field three/ten meter range, the EUT was scanned indoors at one and three meter distances. This was done in order to determine its emissions spectrum signature. The physical arrangement of the test system and associated cabling was varied in order to determine the effect on the EUT's emissions in amplitude, direction and frequency. This process was repeated during final radiated emissions measurements on the open-field range, at each frequency, in order to ensure that maximum emission amplitudes were attained.

Final radiated emissions measurements were made on the three/ten-meter, open-field test site. The EUT was placed on a nonconductive turntable 0.8 meters for measurements less than 1 GHz and 1.5 meters above the ground plane for measurements above 1 GHz. The spectrum was examined from 9 kHz to the 10^{th} harmonic of the highest fundamental transmitter frequency (24.8 GHz).

At each frequency, the EUT was rotated 360°, and the antenna was raised and lowered from 1 to 4 meters in order to determine the emission's maximum level. Measurements were taken using both horizontal and vertical antenna polarizations. For frequencies between 30 and 1000 MHz, the spectrum analyzer's 6 dB bandwidth was set to 120 kHz, and the analyzer was operated in the CISPR quasi-peak detection mode. For emissions above 1000 MHz, average emissions are measured using the average detector function with a minimum resolution bandwidth of 1 MHz. The highest emission amplitudes relative to the appropriate limit were measured and recorded in this report.

Duty cycle correction as specified by Honeywell is 11.5 dB

Table 5-1: Radiated Emissions Test Equipment

RTL Asset #	Manufacturer	Model	Part Type	Serial Number	Calibration Due Date
900878	Rhein Tech Laboratories	AM3-1197-0005	3 meter Antenna Mast, Polarizing	Outdoor Range 1	Not Required
901592	Insulated Wire Inc.	KPS-1503-3600-KPR	SMK RF Cables 20'	NA	8/3/17
901242	Rhein Tech Laboratories	WRT-000-0003	Wood Rotating Table	N/A	Not Required
901581	Rohde & Schwarz	FSU	Spectrum Analyzer	1166.1660.50	3/22/18
900772	EMCO	3161-02	Horn Antenna (2 - 4 GHz)	9804-1044	4/9/18
900321	EMCO	3161-03	Horn Antenna (4.0 - 8.2 GHz)	9508-1020	4/9/18
900323	EMCO	3160-07	Horn Antenna (8.2 - 12.4 GHz)	9605-1054	4/9/18
900356	EMCO	3160-08	Horn Antenna (12.4 - 18 GHz)	9607-1044	4/9/18
900325	EMCO	3160-9	Horn Antennas (18 - 26.5 GHz)	9605-1051	4/9/18
900791	Chase	CBL6111B	Bilog Antenna (30 MHz – 2000 MHz)	N/A	6/11/17

5.3 Radiated Emissions Test Results

5.3.1 Radiated Emissions Harmonics/Spurious Test Data

Table 5-2: Radiated Emissions Harmonics/Spurious - Peak - 2405 MHz – Antenna #1

Emission Frequency (MHz)	Peak Analyzer Reading (dBuV) (1 MHz RBW/VBW)	Site Correction Factor (dB/m)	Peak Emission Level (dBuV/m)	Peak Limit (dBuV/m)	Peak Margin (dB)
2373.114	38.2	25.3	63.5	74.0	-10.5
4809.840	14.5	33.5	48.0	74.0	-26.0
12024.600	15.4	44.0	59.4	74.0	-14.6
19239.360	3.5	52.9	56.4	74.0	-17.6

Table 5-3: Radiated Emissions Harmonics/Spurious – Average - 2405 MHz – Antenna #1

Emission Frequency (MHz)	Duty Cycle Calculated Average (-11.5 dB) (dBuV)	Site Correction Factor (dB/m)	Average Emission Level (dBuV/m)	Average Limit (dBuV/m)	Average Margin (dB)
2373.114	26.7	25.3	52.0	54.0	-2.0
4809.840	3.0	33.5	36.5	54.0	-17.5
12024.600	3.9	44.0	47.9	54.0	-6.1
19239.360	-8.0	52.9	44.9	54.0	-9.1

Table 5-4: Radiated Emissions Harmonics/Spurious – Peak - 2445 MHz – Antenna #1

Emission Frequency (MHz)	Peak Analyzer Reading (dBuV) (1 MHz RBW/VBW)	Site Correction Factor (dB/m)	Peak Emission Level (dBuV/m)	Peak Limit (dBuV/m)	Peak Margin (dB)
4889.836	13.4	33.6	47.0	74.0	-27.0
7334.754	28.0	35.7	63.7	74.0	-10.3
12224.590	18.0	44.0	62.0	74.0	-12.0
19559.344	3.2	53.0	56.2	74.0	-17.8

Table 5-5: Radiated Emissions Harmonics/Spurious – Average - 2445 MHz – Antenna #1

Emission Frequency (MHz)	Duty Cycle Calculated Average (-11.5 dB) (dBuV)	Site Correction Factor (dB/m)	Average Emission Level (dBuV/m)	Average Limit (dBuV/m)	Average Margin (dB)
4889.836	1.9	33.6	35.5	54.0	-18.5
7334.754	16.5	35.7	52.2	54.0	-1.8
12224.590	6.5	44.0	50.5	54.0	-3.5
19559.344	-8.3	53.0	44.7	54.0	-9.3

Table 5-6: Radiated Emissions Harmonics/Spurious – Peak - 2475 MHz – Antenna #1

Emission Frequency (MHz)	Peak Analyzer Reading (dBuV) (1 MHz RBW/VBW)	Site Correction Factor (dB/m)	Peak Emission Level (dBuV/m)	Peak Limit (dBuV/m)	Peak Margin (dB)
4949.256	13.1	33.7	46.8	74.0	-27.2
7423.884	26.5	35.8	62.3	74.0	-11.7
12373.140	14.8	44.0	58.8	74.0	-15.2
19797.024	3.8	53.2	57.0	74.0	-17.0
22271.652	5.1	54.2	59.3	74.0	-14.7

Table 5-7: Radiated Emissions Harmonics/Spurious – Average - 2475 MHz – Antenna #1

Emission Frequency (MHz)	Duty Cycle Calculated Average (-11.5 dB) (dBuV)	Site Correction Factor (dB/m)	Average Emission Level (dBuV/m)	Average Limit (dBuV/m)	Average Margin (dB)
4949.256	1.6	33.7	35.3	54.0	-18.7
7423.884	15.0	35.8	50.8	54.0	-3.2
12373.140	3.3	44.0	47.3	54.0	-6.7
19797.024	-7.7	53.2	45.5	54.0	-8.5
22271.652	-6.4	54.2	47.8	54.0	-6.2

Table 5-8: Radiated Emissions Harmonics/Spurious - Peak - 2405 MHz – Antenna #2

Emission Frequency (MHz)	Peak Analyzer Reading (dBuV) (1 MHz RBW/VBW)	Site Correction Factor (dB/m)	Peak Emission Level (dBuV/m)	Peak Limit (dBuV/m)	Peak Margin (dB)
2373.114	32.4	25.3	57.7	74.0	-16.3
4809.840	14.4	33.5	47.9	74.0	-26.1
12024.600	6.0	44.0	50.0	74.0	-24.0
19239.360	4.7	52.9	57.6	74.0	-16.4

Table 5-9: Radiated Emissions Harmonics/Spurious – Average - 2405 MHz – Antenna #2

Emission Frequency (MHz)	Duty Cycle Calculated Average (-11.5 dB) (dBuV)	Site Correction Factor (dB/m)	Average Emission Level (dBuV/m)	Average Limit (dBuV/m)	Average Margin (dB)
2373.114	20.9	25.3	46.2	54.0	-7.8
4809.840	2.9	33.5	36.4	54.0	-17.6
12024.600	-5.5	44.0	38.5	54.0	-15.5
19239.360	-6.8	52.9	46.1	54.0	-7.9

Table 5-10: Radiated Emissions Harmonics/Spurious – Peak - 2445 MHz – Antenna #2

Emission Frequency (MHz)	Peak Analyzer Reading (dBuV) (1 MHz RBW/VBW)	Site Correction Factor (dB/m)	Peak Emission Level (dBuV/m)	Peak Limit (dBuV/m)	Peak Margin (dB)
4889.836	14.5	33.6	48.1	74.0	-25.9
7334.754	23.2	35.7	58.9	74.0	-15.1
12224.590	5.4	44.0	49.4	74.0	-24.6
19559.344	4.3	53.0	57.3	74.0	-16.7

Table 5-11: Radiated Emissions Harmonics/Spurious – Average - 2445 MHz – Antenna #2

Emission Frequency (MHz)	Duty Cycle Calculated Average (-11.5 dB) (dBuV)	Site Correction Factor (dB/m)	Average Emission Level (dBuV/m)	Average Limit (dBuV/m)	Average Margin (dB)
4889.836	3.0	33.6	36.6	54.0	-17.4
7334.754	11.7	35.7	47.4	54.0	-6.6
12224.590	-6.1	44.0	37.9	54.0	-16.1
19559.344	-7.2	53.0	45.8	54.0	-8.2

Table 5-12: Radiated Emissions Harmonics/Spurious – Peak - 2475 MHz – Antenna #2

Emission Frequency (MHz)	Peak Analyzer Reading (dBuV) (1 MHz RBW/VBW)	Site Correction Factor (dB/m)	Peak Emission Level (dBuV/m)	Peak Limit (dBuV/m)	Peak Margin (dB)
4949.256	16.5	33.7	50.2	74.0	-23.8
7423.884	20.4	35.8	56.2	74.0	-17.8
12373.140	6.5	44.0	50.5	74.0	-23.5
19797.024	4.3	53.2	57.5	74.0	-16.5
22271.652	5.2	54.2	59.4	74.0	-14.6

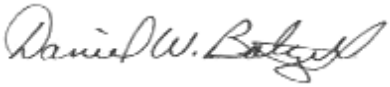
Table 5-13: Radiated Emissions Harmonics/Spurious – Average - 2475 MHz – Antenna #2

Emission Frequency (MHz)	Duty Cycle Calculated Average (-11.5 dB) (dBuV)	Site Correction Factor (dB/m)	Average Emission Level (dBuV/m)	Average Limit (dBuV/m)	Average Margin (dB)
4949.256	5.0	33.7	38.7	54.0	-15.3
7423.884	8.9	35.8	44.7	54.0	-9.3
12373.140	-5.0	44.0	39.0	54.0	-15.0
19797.024	-7.2	53.2	46.0	54.0	-8.0
22271.652	-6.3	54.2	47.9	54.0	-6.1

5.3.2 Radiated Emissions Unintentional Test Data

Temperature: 74°F Humidity: 65%										
Emission Frequency (MHz)	Test Detector	Antenna Polarity (H/V)	Turntable Azimuth (deg)	Antenna Height (m)	Analyzer Reading (dBuV)	Site Correction Factor (dB/m)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Pass/ Fail
150.500	Qp	V	180	1.0	38.0	-19.0	19.0	43.5	-24.5	Pass
200.000	Qp	H	90	1.0	44.4	-19.3	25.1	43.5	-18.4	Pass
250.500	Qp	V	90	1.0	35.8	-15.6	20.2	46.0	-25.8	Pass
300.660	Qp	V	270	2.0	38.9	-14.4	24.5	46.0	-21.5	Pass
450.000	Qp	H	315	1.0	40.7	-9.1	31.6	46.0	-14.4	Pass
500.000	Qp	V	180	1.0	35.4	-8.4	27.0	46.0	-19.0	Pass

Test Personnel:



Daniel W. Baltzell		September 7-8, 2016
Test Engineer	Signature	Dates of Test

6 Conducted Limits - 15.207, RSS-Gen

6.1 Test Methodology for Conducted Line Emissions Measurements

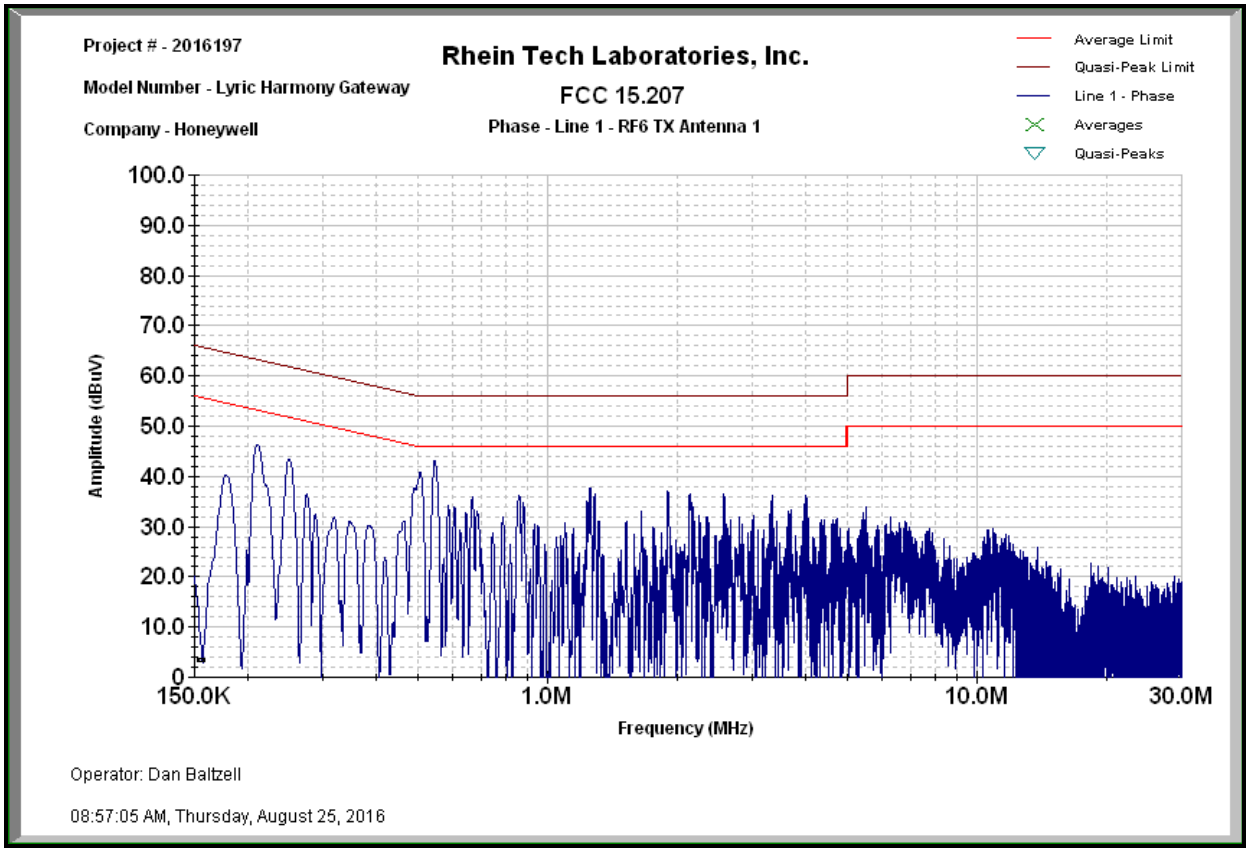
The power line conducted emission measurements were performed in a Series 81 type shielded enclosure manufactured by Rayproof. The EUT was assembled on a wooden table 80 centimeters high. Power was fed to the EUT through a 50 ohm/50 microhenry Line Impedance Stabilization Network (EUT LISN). The EUT LISN was fed power through an A.C. filter box on the outside of the shielded enclosure. The filter box and EUT LISN housing are bonded to the ground plane of the shielded enclosure. A second LISN, the peripheral LISN, provides isolation for the EUT test peripherals. This peripheral LISN was also fed A.C. power. A metal power outlet box, which is bonded to the ground plane and electrically connected to the peripheral LISN, powers the EUT host peripherals. The spectrum analyzer was connected to the AC line through an isolation transformer. The 50 ohm output of the EUT LISN was connected to the spectrum analyzer input through a Solar high-pass filter. The filter is used to prevent overload of the spectrum analyzer from noise below 100 kHz. Conducted emission levels were measured on each current-carrying line with the spectrum analyzer operating in the CISPR quasi-peak mode (or peak mode if applicable). The analyzer's 6 dB bandwidth was set to 9 kHz. No video filter less than 10 times the resolution bandwidth was used. Average measurements are performed in linear mode using a 10 kHz resolution bandwidth, a 1 Hz video bandwidth, and by increasing the sweep time in order to obtain a calibrated measurement. The emission spectrum was scanned from 150 kHz to 30 MHz. The highest emission amplitudes relative to the appropriate limit were measured and have been recorded in this report.

6.2 Conducted Line Emissions Test Description

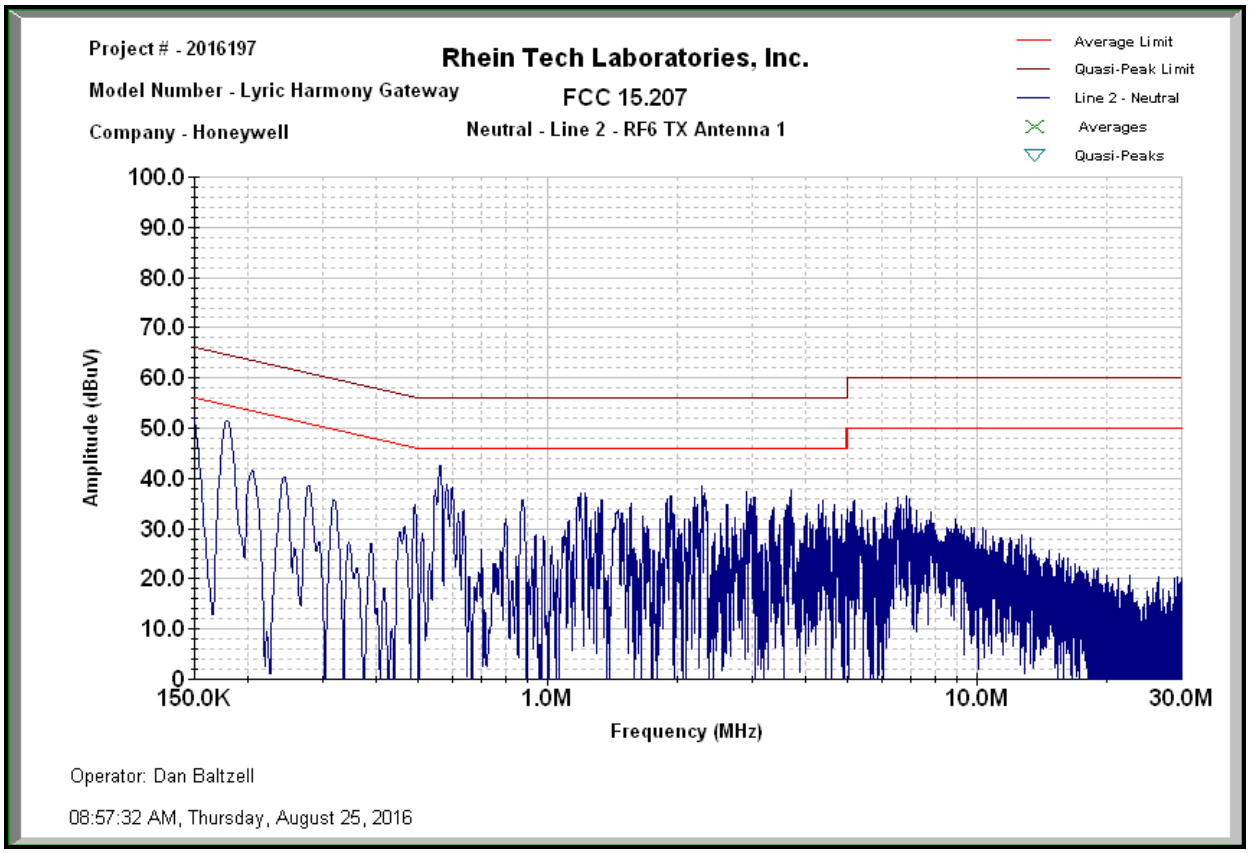
The conducted test was performed with the EUT exercise program loaded, and the emissions were scanned between 150 kHz to 30 MHz on the NEUTRAL SIDE and PHASE SIDE.

6.3 Conducted Line Emissions Test Data

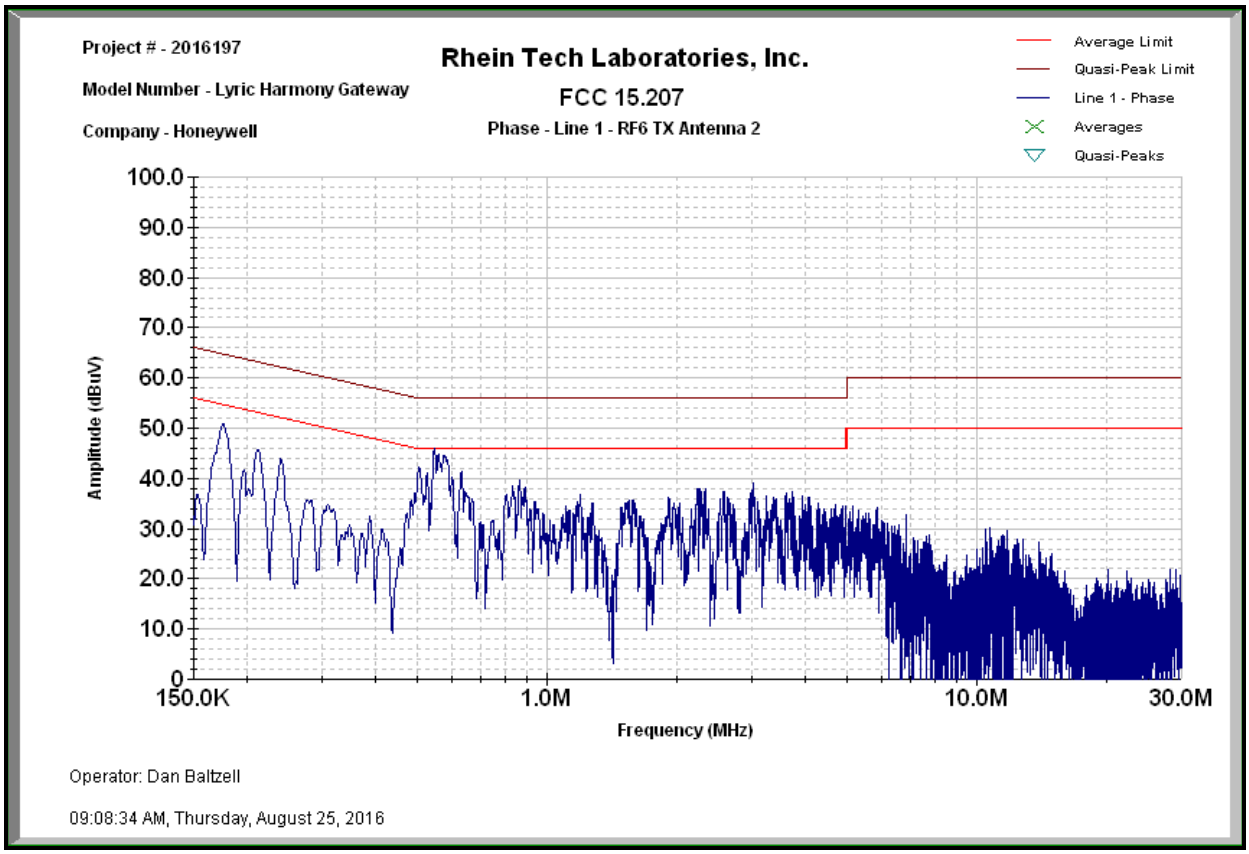
Plot 6-1: Conducted Emissions (Phase Side); Mode: Transmit; Antenna #1



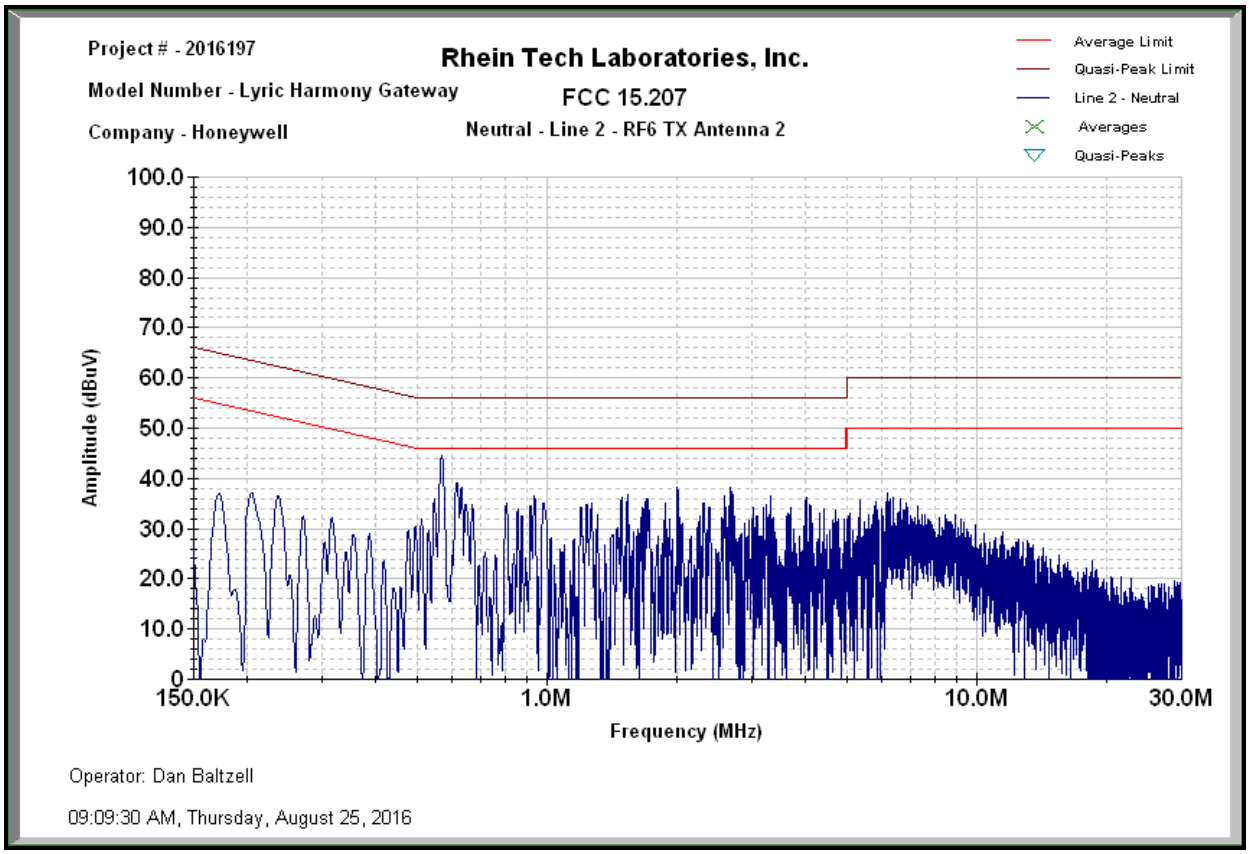
Plot 6-2: Conducted Emissions (Neutral Side); Mode: Transmit; Antenna #1



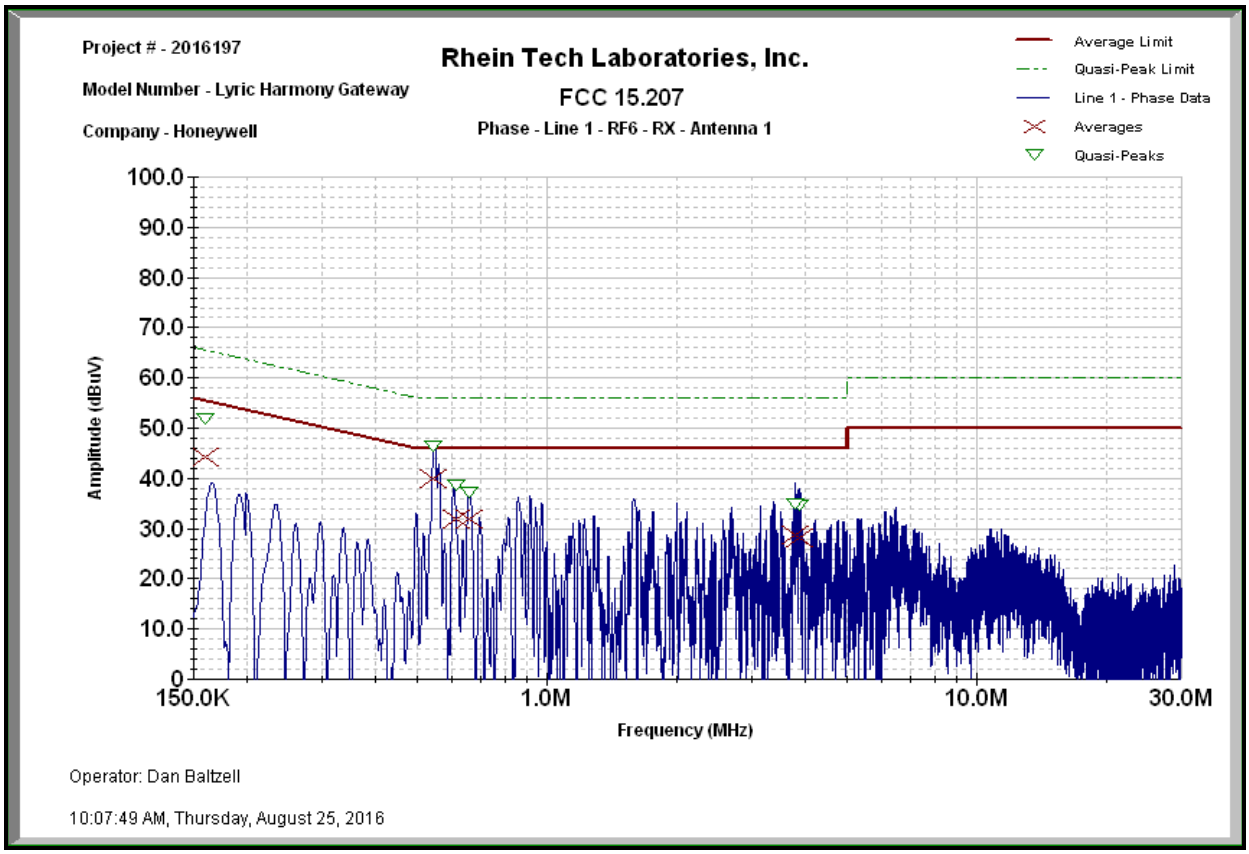
Plot 6-3: Conducted Emissions (Phase Side); Mode: Transmit; Antenna #2



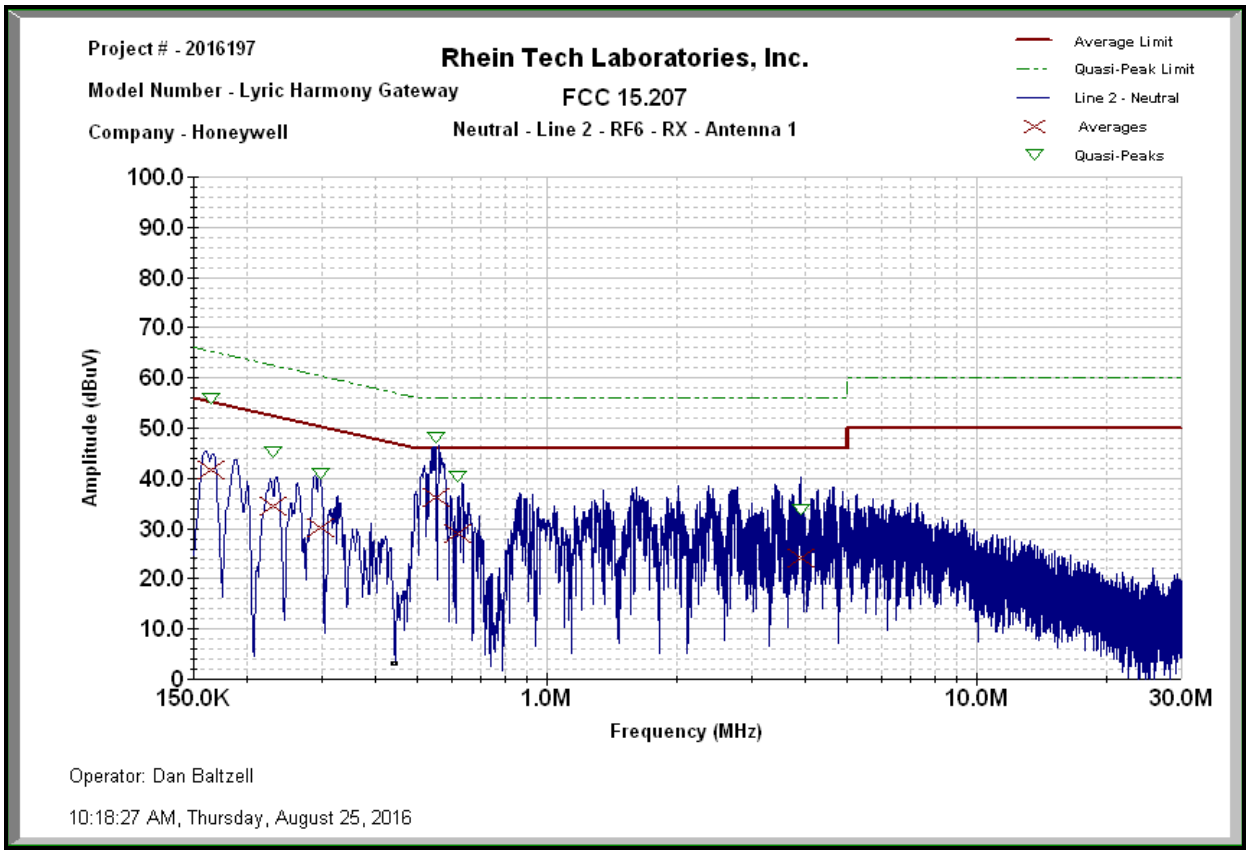
Plot 6-4: Conducted Emissions (Neutral Side); Mode: Transmit; Antenna #2



Plot 6-5: Conducted Emissions (Phase Side); Mode: Receive; Antenna #1



Plot 6-6: Conducted Emissions (Neutral Side); Mode: Receive; Antenna #1



6.4 Conducted Line Emissions Test Equipment

Table 6-1: Conducted Line Emissions Test Equipment

RTL Asset #	Manufacturer	Model	Part Type	Serial Number	Calibration Due Date
901084	AFJ International	LS16	16A LISN	16010020082	3/24/17
901581	Rohde & Schwarz	FSU	Spectrum Analyzer	1166.1660.50	3/22/18

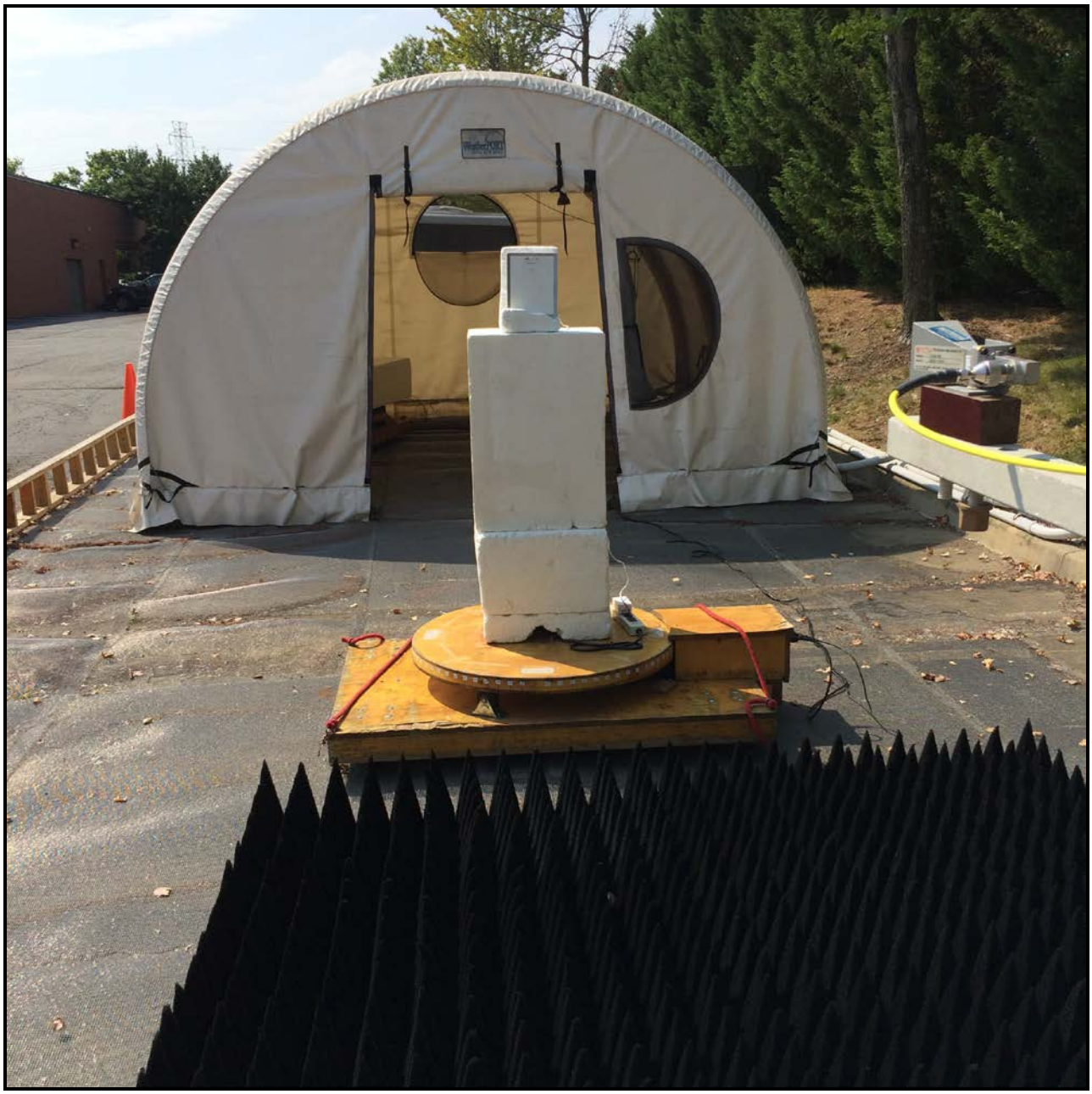
Test Personnel:

Dan Baltzell	Daniel W. Baltzell	August 25, 2016
Test Engineer	Signature	Date of Test

7 Conclusion

The data in this measurement report shows that the EUT as tested, Honeywell Security Model GW, FCC ID: CFS8DLGW, IC: 573F-GW, complies with the applicable requirements of Parts 2 and 15 of the FCC Rules and Regulations and Industry Canada RSS-247 and RSS-Gen.

Appendix A: Test Photographs



Photograph 1: Radiated Emissions Testing – Front View

Photograph 2: Radiated Emissions Testing – Back View

Photograph 3: AC Conducted Line Emissions Testing – Front View

Photograph 4: AC Conducted Line Emissions Testing – Back View