



Engineering Solutions & Electromagnetic Compatibility Services

**Certification Application Test Report  
FCC Part 15.231 & RSS-210**

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<b>FCC ID</b>	2AIHTG200A	<b>Test Report Date</b>	July 18, 2018
<b>IC</b>	21557-G200A	<b>RTL Work Order Number</b>	2018120
<b>Model</b>	G200	<b>RTL Quote Number</b>	QRTL18-120B
<b>American National Standard Institute</b>	ANSI C63.10-2013: American National Standard for Testing Unlicensed Wireless Devices		
<b>FCC Rule Part(s)</b>	15.231 Periodic operation in the band 40.66–40.70 MHz and above 70 MHz (2017)		
<b>ISED Rule Part</b>	RSS-210 Issue 9 Licence-Exempt Radio Apparatus: Category I Equipment RSS-Gen Issue 5 General Requirements for Compliance of Radio Apparatus		
<b>Frequency Range (MHz)</b>	<b>Output Power (W)*</b>	<b>Frequency Tolerance</b>	<b>Emission Designator</b>
902.6 – 927.4	N/A	N/A	926KF1D

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, ISED RSS-210 and ANSI C63.10.

Signature: 

Date: July 18, 2018

Typed/Printed Name: Desmond A. Fraser

Position: President

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*These test(s) are accredited under Rhein Tech Laboratories, Inc. ISO/IEC 17025 accreditation issued by the ANSI-ASQ National Accreditation Board. Refer to certificate and scope of accreditation AT-1445.*

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## 1 General Information

### 1.1 Scope

Applicable Standards:

- FCC Part 15.231: Periodic operation in the band 40.66–40.70 MHz and above 70 MHz
- ISED RSS-210 Issue 9: Licence-Exempt Radio Apparatus: Category I Equipment
- ISED RSS-Gen Issue 5: General Requirements for Compliance of Radio Apparatus

### 1.2 Description of EUT

Equipment Under Test	G200
Power Supply	8-40 VDC
Frequency Range	902.6 to 927.4 MHz
Antenna Connector Type	1 SMA
Antenna Types	Patch, Monopole, Dipole

### 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 Modifications

No modifications were required for compliance.

## 2 Test Information

### 2.1 Description of Test Modes

In accordance with FCC 15.31(m) the following frequencies were tested:

**Table 2-1: Frequencies Tested**

Channel	Frequency
94	902.6 MHz
125	915.0 MHz
156	927.4 MHz

### 2.2 EUT Disposition

The EUT was adapted to continuously transmit for testing purposes.

### 2.3 Test Result Summary

**Table 2-2: Test Result Summary – FCC Part 15, Subpart C (Section 15.231), ISED RSS-210**

FCC Reference	ISED Reference	Test	Pass/Fail or N/A
15.231	RSS-210	Radiated Emissions	Pass
15.231	RSS-Gen	20 dB Bandwidth	

### 2.4 Related Submittal(s)/Grant(s)

This report is to support an application for certification under FCC ID: 2AIHTG200A, IC: 21557-G200A.

### 2.5 Test System Details

The test samples were received on June 12, 2018. The FCC identifiers for all applicable equipment, plus descriptions of all cables used in the tested system, are identified in the following tables.

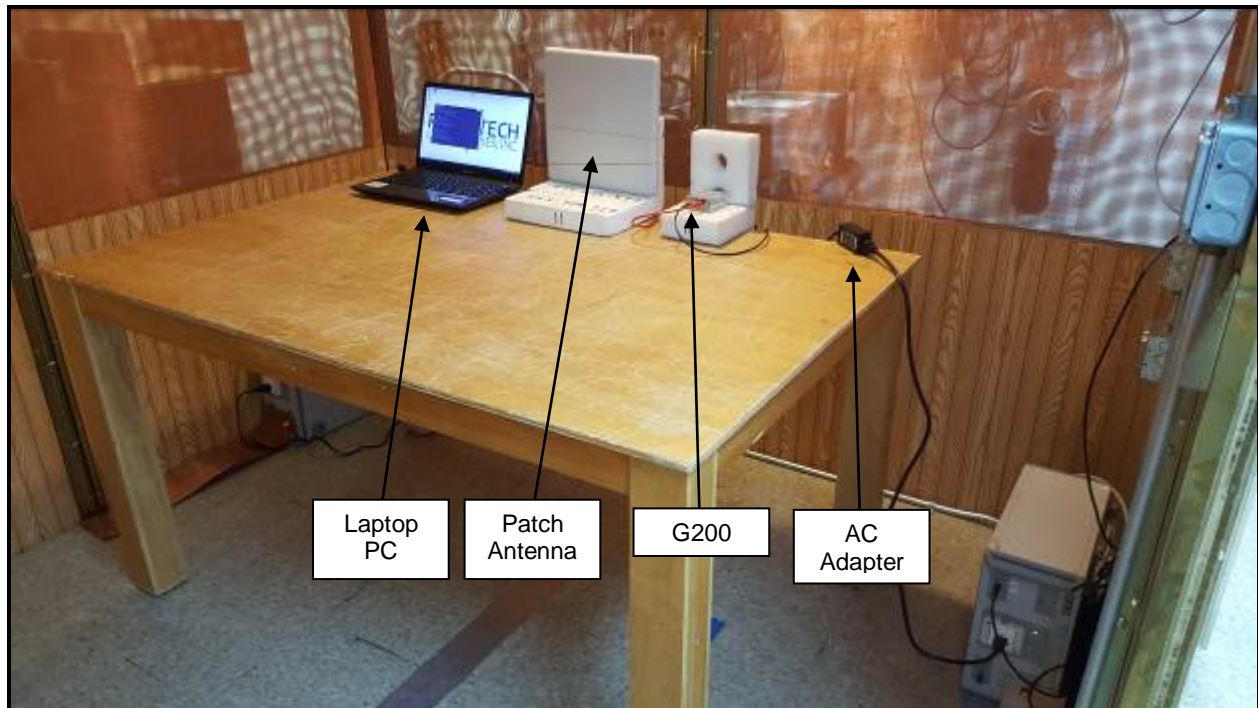
**Table 2-3: Equipment Under Test**

Part	Manufacturer	Model	Serial Number	FCC ID	RTL Bar Code
Transceiver	Trapeze Software Group, Inc.	G200	107	2AIHTG200A	22989
Patch Antenna	L-Com Global Connectivity	HG8909P	HG8909PP0143601803	N/A	22988
Monopole Antenna	L-Com Global Connectivity	HG905RD-SM	HG905RD-SM36643001734	N/A	22990
Dipole Antenna	Linx Technologies	ANT-916-MHW-SMA-S-ND	55365772	N/A	22845
AC-DC Adapter	GlobTek	GTM21089-1512T3	Rohs02153650/07	N/A	22993

**Table 2-4: Auxiliary Equipment**

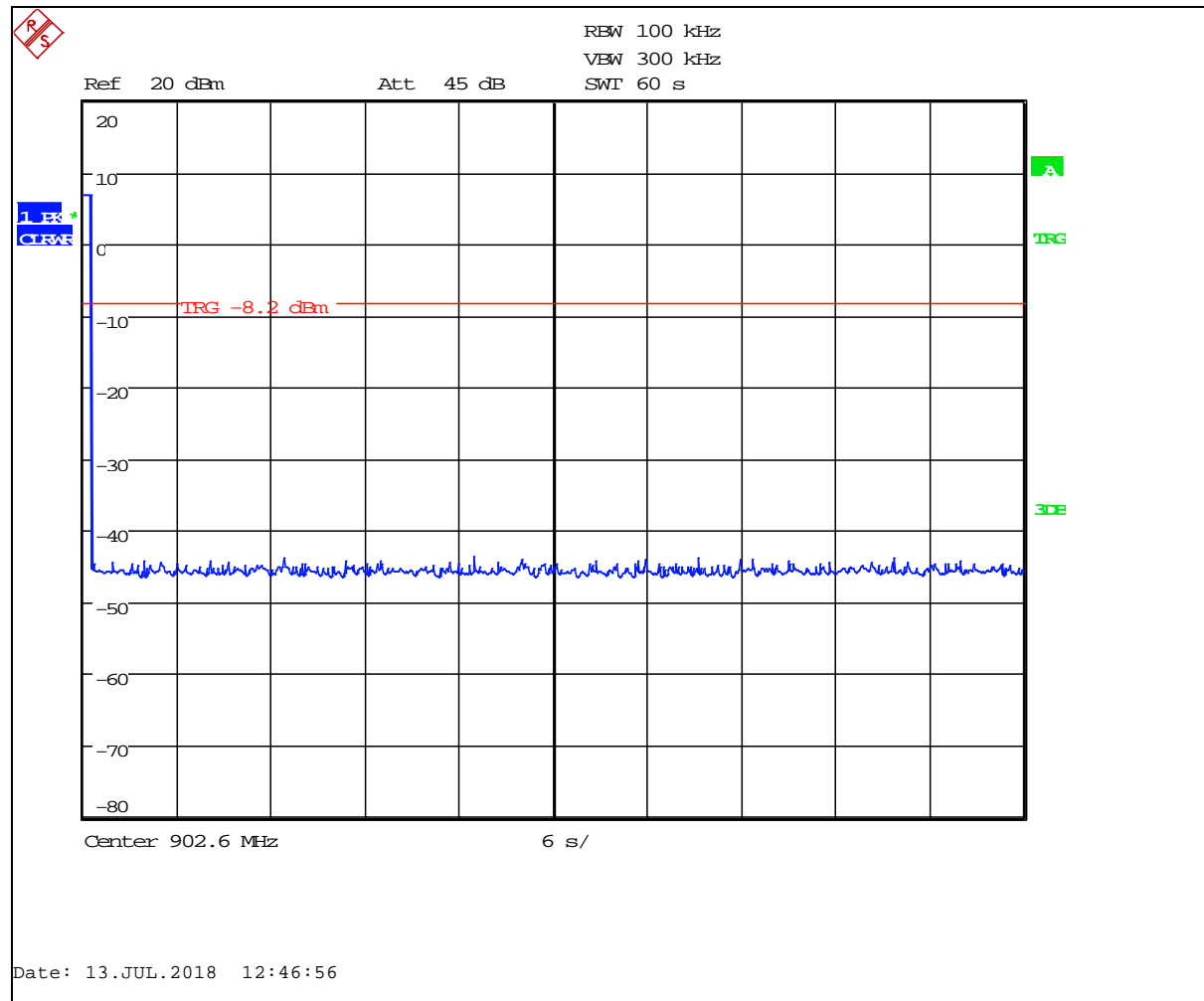
Part	Manufacturer	Model	Serial Number	FCC ID	RTL Bar Code
Laptop PC	Samsung	NP300E5A	HJVF93EB903338K	N/A	901562
Laptop PC	Hewlett Packard	17-j130us	5CG43224CR	N/A	N/A

## 2.6 Configuration of Tested System



### 3 Transmitter Deactivation – FCC 15.231(a)(2); RSS-210 A.1.1(b)

A transmitter activated automatically shall cease transmission within 5 seconds after activation.



#### Test Personnel:

Jon Wilson  
EMC Test Engineer

*Jon Wilson*  
Signature

July 13, 2018  
Date of Test



#### 4 20 dB/99% Bandwidth – FCC 15.231(c); ISED RSS-Gen, RSS-210 A.1.3

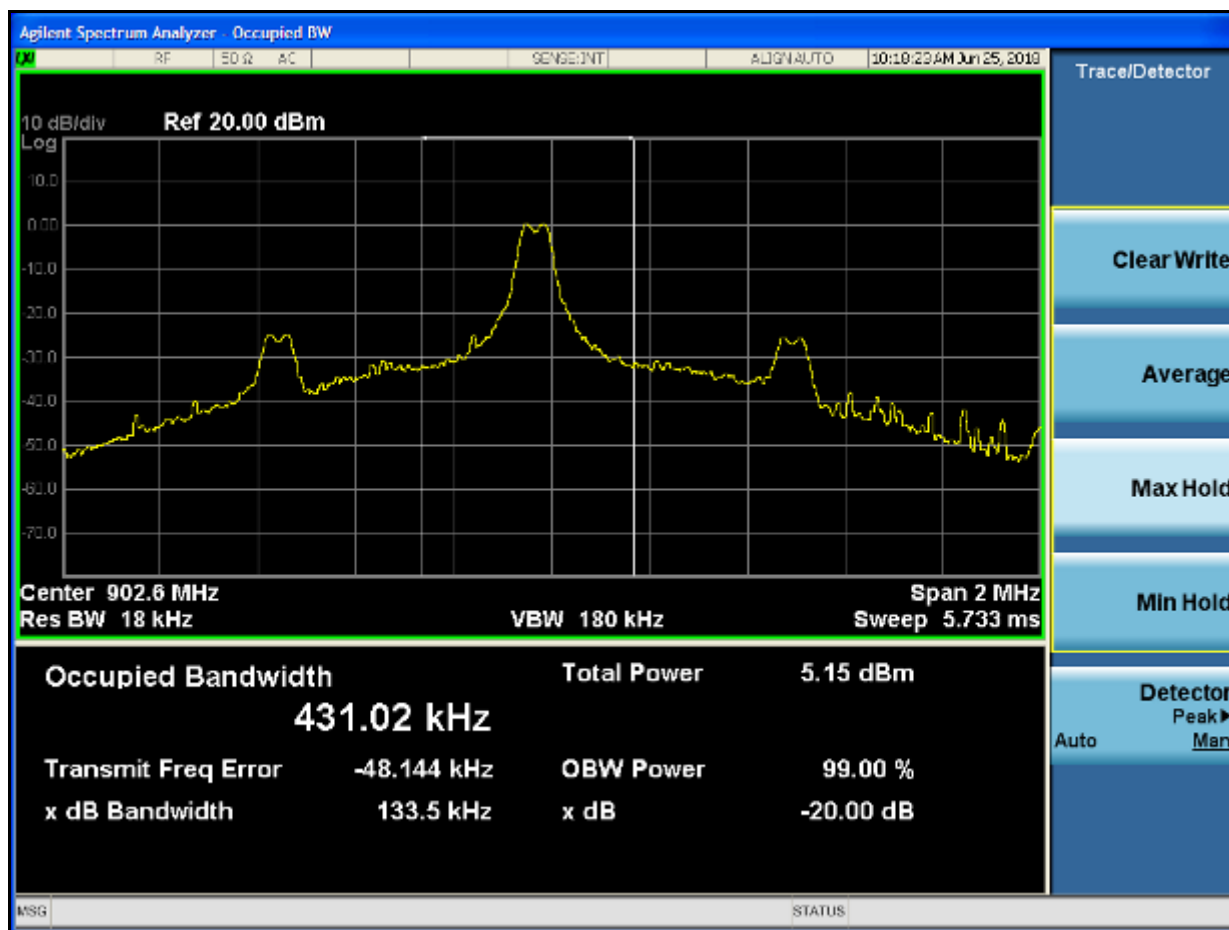
##### 4.1 20 dB/99% Bandwidth Test Procedure

The 20 dB and 99% bandwidths were measured using a 50-ohm spectrum analyzer, per C63.10 6.9.2. The modulated carrier was adjusted on the analyzer with the RBW 1-5% of the occupied bandwidth and the span 1-5 times the occupied bandwidth. The sweep time was auto and allowed through several sweeps with the max hold function used in peak detector mode. Table 4-2 contains the bandwidth measurement results.

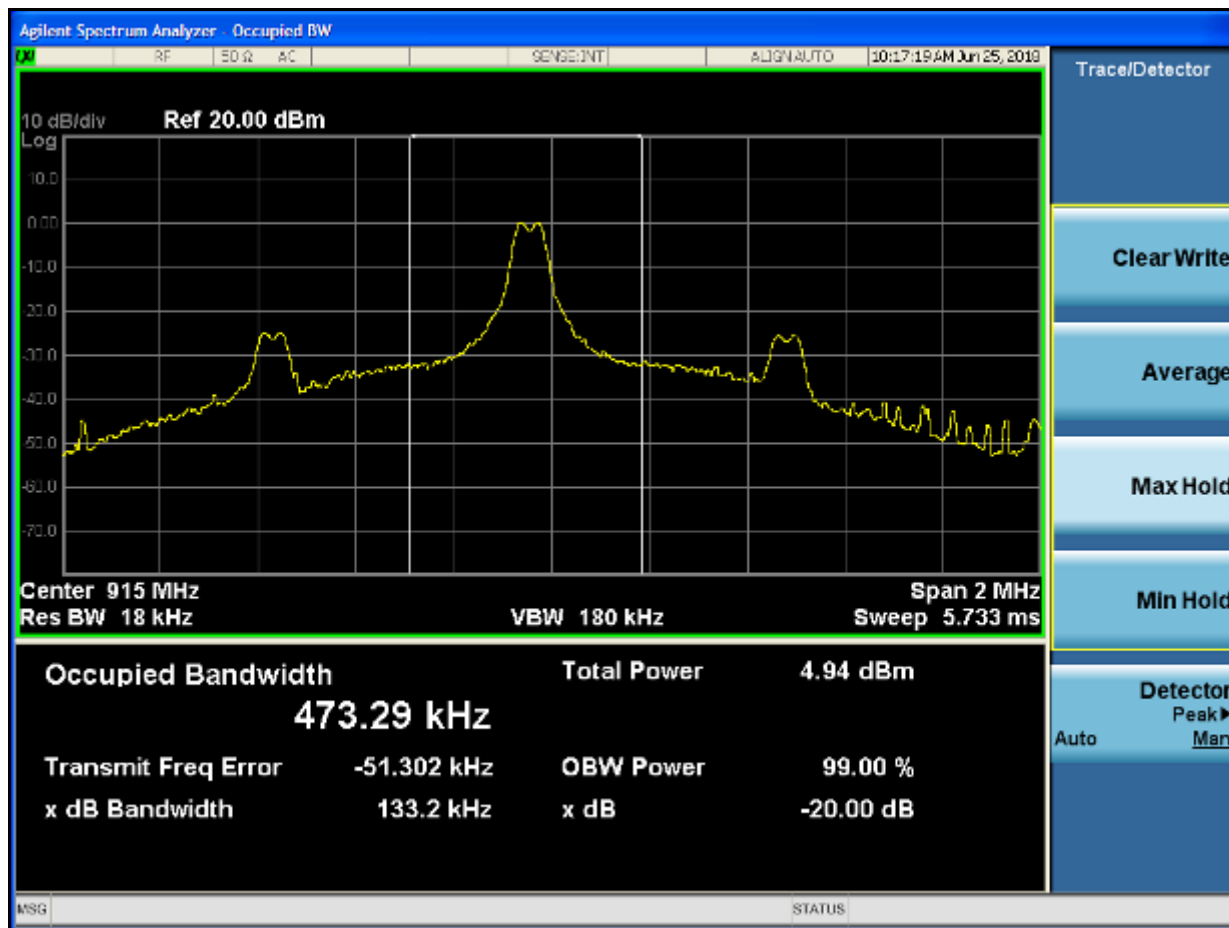
**Table 4-1: Bandwidth Test Equipment**

RTL Bar Code	Manufacturer	Model	Part Type	Serial Number	Calibration Due Date
901583	Agilent	EXA N9010A	Spectrum Analyzer	MY51250846	2/6/2020

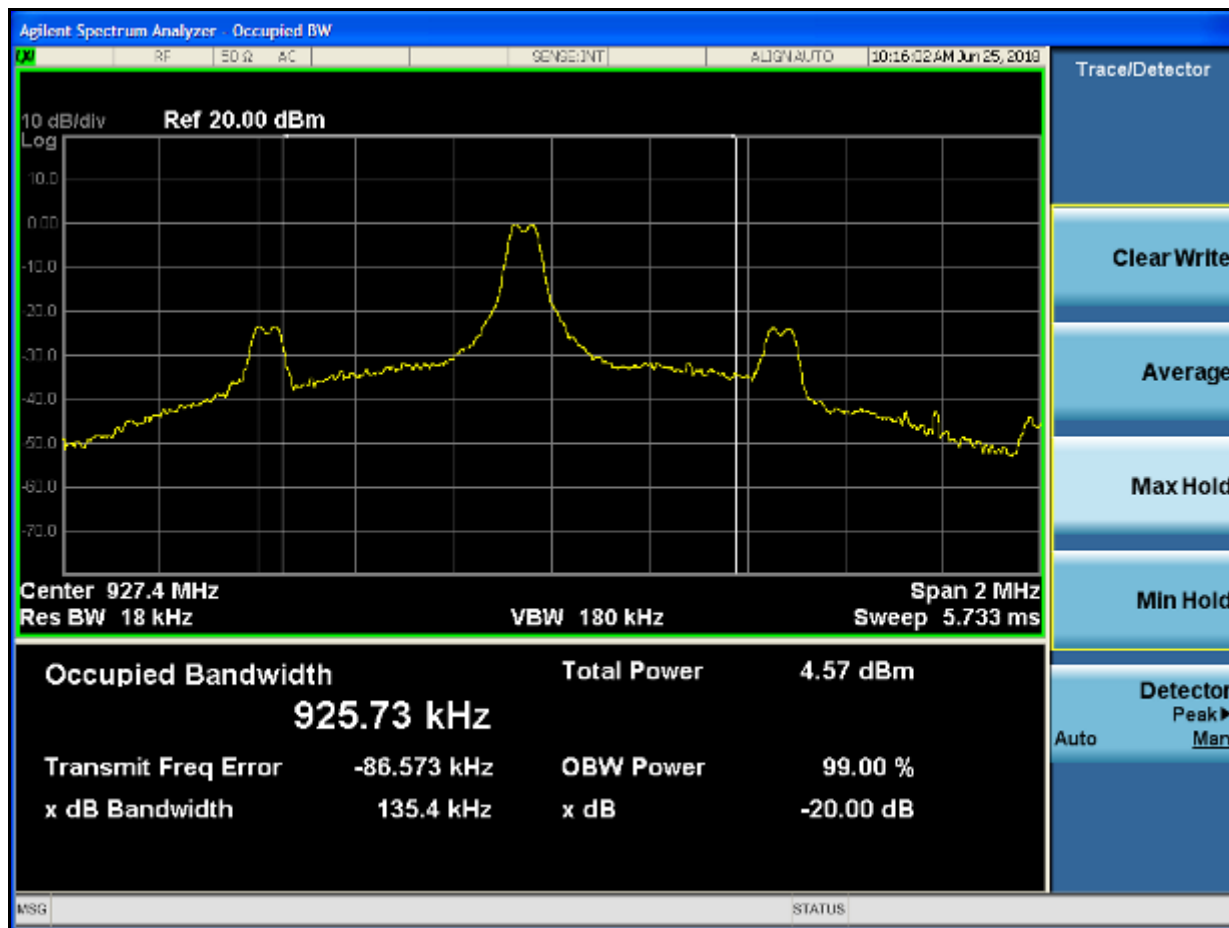
**Plot 4-1: 20 dB Bandwidth - 902.6 MHz**



**Plot 4-2: 20 dB Bandwidth – 915.0 MHz**



**Plot 4-3: 20 dB Bandwidth - 927.4 MHz**



**Table 4-2: Bandwidth Test Results**

Fundamental Frequency (MHz)	20 dB Bandwidth Measured (kHz)	99% Bandwidth Measured (kHz)	Limit (0.5% of CF) (MHz)	Pass/Fail
902.6	133.5	431.02	4.513	Pass
915.0	133.2	473.29	4.575	Pass
927.4	135.4	925.73	4.637	Pass

Limit 15.231(c): The bandwidth of the emission shall be no wider than 0.25% of the center frequency for devices operating above 70 MHz and below 900 MHz. For devices operating above 900 MHz, the emission shall be no wider than 0.5% of the center frequency. Bandwidth is determined at the points 20 dB down from the modulated carrier.

**Test Personnel:**

Jon Wilson  
EMC Test Engineer

*Jon Wilson*  
Signature

June 25, 2018  
Date of Test

## **5 Radiated Emissions – FCC 15.231, 15.209; ISED RSS-210, RSS-Gen**

### **5.1 Limits of Radiated Emissions Measurement**

The data and limits presented in this report are for radiated emissions per 15.231(b)(2) which references 15.35(b), and peak limiting for restricted bands per 15.209(e), which again references 15.35(b)(2). Data (if any) is also presented for spurious, non-harmonic radiated emissions per 15.209.

### **5.2 Radiated Emissions Measurement Test Procedure**

Procedure: C63.10-2013 6.5, 6.6

Before final measurements of radiated emissions were made on the open-field three/ten meter range, the EUT was scanned indoors at a one meter distance. This was done in order to determine the 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.

Radiated fundamental and spurious emissions were tested at three meters. The EUT was placed on a nonconductive turntable 0.8 meters above the ground plane. The spectrum was examined from 9 kHz to the 10<sup>th</sup> harmonic of the highest fundamental transmitter frequency.

The EUT was tested in the three orthogonal planes with the receive antenna in both polarities. The emissions were maximized; that is, the measurement antenna height was varied between 1 and 4 m, and the EUT was rotated through 360° on a rotating turntable until the maximum emissions were found. Both horizontal and vertical measurement antenna polarizations were used. A resolution bandwidth of 100 kHz was used for frequencies less than 1000 MHz, and a resolution bandwidth of 1 MHz was used for frequencies greater than or equal to 1000 MHz. The video bandwidth was set to a value at least three times greater than the resolution bandwidth.

The manufacturer attests the duty cycle to be 2.56 ms = total on time in 100 ms

Duty Cycle Correction Calculation:  $10\log(2.56/100) = -15.9 \text{ dB}$

**Table 5-1: Radiated Emissions Test Equipment**

RTL Bar Code	Manufacturer	Model	Part Type	Serial Number	Calibration Due Date
900913	Hewlett Packard	85462A	EMI Receiver RF Section (9 kHz – 6.5 GHz)	3325A00159	4/4/2019
900914	Hewlett Packard	85460A	RF Filter Section (100 kHz - 6.5 GHz)	3330A00107	4/4/2019
900931	Hewlett Packard	8566B	Spectrum Analyzer (100 Hz – 22 GHz)	3144A20839	4/26/2019
900930	Hewlett Packard	85662A	Spectrum Analyzer Display	3144A20839	4/26/2019
900339	Hewlett Packard	85650A	Quasi-Peak Adapter	2521A00743	4/24/2020
900905	Rhein Tech Laboratories	PR-1040	Amplifier (30 - 2000 MHz)	N/A	8/18/2018
900932	Hewlett Packard	8449B OPT H02	Amplifier (1 – 26.5 GHz)	3008A00505	8/18/2018
900772	EMCO	3161-02	Horn Antenna (2 – 4 GHz)	9804-1044	5/17/2021
900321	EMCO	3161-03	Horn Antenna (4 – 8 GHz)	9508-1020	5/17/2021
900323	EMCO	3160-07	Horn Antenna (8.2 – 12.4 GHz)	9605-1054	5/17/2021
900791	Chase	CBL6112	Antenna (30 MHz – 2 GHz)	2099	10/4/2020

## 5.3 Radiated Emissions Test Results

### 5.3.1 Radiated Emissions Harmonics/Spurious

**Table 5-2: Radiated Emissions Harmonics (Peak)/Spurious – 902.6 MHz, Patch Antenna**

Emission Frequency (MHz)	Test Detector	Analyzer Reading (dBuV)	Site Correction Factor (dB/m)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)
794.563	QP	43.3	3.2	46.5	61.9	-15.4
<b>902.600</b>	<b>QP</b>	<b>74.3</b>	<b>23.3</b>	<b>97.6</b>	<b>101.9</b>	<b>-4.3</b>
1805.200	Peak	42.4	10.4	52.8	81.9	-29.1
5415.600	Peak	46.5	-0.3	46.2	81.9	-35.7
7220.800	Peak	43.9	1.9	45.8	81.9	-36.1
8123.400	Peak	43.5	7.9	51.4	81.9	-30.5
9026.000	Peak	43.3	8.2	51.5	81.9	-30.4

**Table 5-3: Radiated Emissions Harmonics (Peak)/Spurious – 915.0 MHz, Patch Antenna**

Emission Frequency (MHz)	Test Detector	Analyzer Reading (dBuV)	Site Correction Factor (dB/m)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)
806.930	QP	38.4	4.3	42.7	61.9	-19.2
860.960	QP	37.8	9.4	47.2	61.9	-14.7
<b>915.000</b>	<b>QP</b>	<b>72.4</b>	<b>23.3</b>	<b>95.7</b>	<b>101.9</b>	<b>-6.2</b>
1830.000	Peak	44.3	10.8	55.1	81.9	-26.8
5490.000	Peak	46.5	-0.3	46.2	81.9	-35.7
8235.000	Peak	43.4	8.3	51.7	81.9	-30.2
9150.000	Peak	43.4	8.2	51.6	81.9	-30.3

**Table 5-4: Radiated Emissions Harmonics (Peak)/Spurious – 927.4 MHz, Patch Antenna**

Emission Frequency (MHz)	Test Detector	Analyzer Reading (dBuV)	Site Correction Factor (dB/m)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)
765.300	QP	43.3	0.2	43.5	61.9	-18.4
819.330	QP	41.0	4.7	45.7	61.9	-16.2
<b>927.400</b>	<b>QP</b>	<b>72.4</b>	<b>23.0</b>	<b>95.4</b>	<b>101.9</b>	<b>-6.5</b>
1854.800	Peak	44.2	10.3	54.5	81.9	-27.4
5564.400	Peak	46.8	0.0	46.8	81.9	-35.1
8346.600	Peak	43.4	8.4	51.8	81.9	-30.1
9274.000	Peak	43.5	8.2	51.7	81.9	-30.2

**Table 5-5: Radiated Emissions Harmonics (Peak)/Spurious – 902.6 MHz, Monopole Antenna**

Emission Frequency (MHz)	Test Detector	Analyzer Reading (dBuV)	Site Correction Factor (dB/m)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)
848.500	QP	30.2	9.4	39.6	61.9	-22.3
<b>902.600</b>	<b>QP</b>	<b>72.5</b>	<b>23.3</b>	<b>95.8</b>	<b>101.9</b>	<b>-6.1</b>
1805.200	Peak	42.5	10.4	52.9	81.9	-29.0
5415.600	Peak	48.7	-0.3	48.4	81.9	-33.5
7220.800	Peak	43.2	1.9	45.1	81.9	-36.8
8123.400	Peak	43.3	7.9	51.2	81.9	-30.7
9026.000	Peak	43.3	8.2	51.5	81.9	-30.4

**Table 5-6: Radiated Emissions Harmonics (Peak)/Spurious – 915.0 MHz, Monopole Antenna**

Emission Frequency (MHz)	Test Detector	Analyzer Reading (dBuV)	Site Correction Factor (dB/m)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)
860.960	QP	33.8	9.4	43.2	61.9	-18.7
<b>915.000</b>	<b>QP</b>	<b>74.0</b>	<b>23.3</b>	<b>97.3</b>	<b>101.9</b>	<b>-4.6</b>
1830.000	Peak	47.8	10.8	58.6	81.9	-23.3
5490.000	Peak	48.5	-0.3	48.2	81.9	-33.7
7320.000	Peak	43.1	2.0	45.1	81.9	-36.8
8235.000	Peak	43.2	8.3	51.5	81.9	-30.4
9150.000	Peak	43.4	8.2	51.6	81.9	-30.3

**Table 5-7: Radiated Emissions Harmonics (Peak)/Spurious – 927.4 MHz, Monopole Antenna**

Emission Frequency (MHz)	Test Detector	Analyzer Reading (dBuV)	Site Correction Factor (dB/m)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)
819.330	QP	40.1	4.7	44.8	61.9	-17.1
<b>927.400</b>	<b>QP</b>	<b>74.2</b>	<b>23.0</b>	<b>97.2</b>	<b>101.9</b>	<b>-4.7</b>
1854.800	Peak	46.1	10.3	56.4	81.9	-25.5
3709.600	Peak	58.1	-7.8	50.3	81.9	-31.6
5564.400	Peak	47.6	0.0	47.6	81.9	-34.3
8346.600	Peak	43.3	8.4	51.7	81.9	-30.2
9274.000	Peak	43.1	8.2	51.3	81.9	-30.6

**Table 5-8: Radiated Emissions Harmonics (Peak)/Spurious – 902.6 MHz, Dipole Antenna**

Emission Frequency (MHz)	Test Detector	Analyzer Reading (dBuV)	Site Correction Factor (dB/m)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)
848.500	QP	37.5	9.4	46.9	61.9	-15.0
<b>902.600</b>	<b>QP</b>	<b>74.2</b>	<b>23.3</b>	<b>97.5</b>	<b>101.9</b>	<b>-4.4</b>
1805.200	Peak	38.5	10.4	48.9	81.9	-33.0
5415.600	Peak	49.9	-0.3	49.6	81.9	-32.3
7220.800	Peak	44.1	1.9	46.0	81.9	-35.9
8123.400	Peak	43.6	7.9	51.5	81.9	-30.4
9026.000	Peak	43.6	8.2	51.8	81.9	-30.1

**Table 5-9: Radiated Emissions Harmonics (Peak)/Spurious – 915.0 MHz, Dipole Antenna**

Emission Frequency (MHz)	Test Detector	Analyzer Reading (dBuV)	Site Correction Factor (dB/m)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)
860.960	QP	34.0	9.4	43.4	61.9	-18.5
<b>915.000</b>	<b>QP</b>	<b>73.6</b>	<b>23.3</b>	<b>96.9</b>	<b>101.9</b>	<b>-5.0</b>
1830.000	Peak	46.4	10.8	57.2	81.9	-24.7
8235.000	Peak	43.6	8.3	51.9	81.9	-30.0
644.900	QP	37.1	-2.4	34.7	61.9	-27.2
698.900	QP	35.6	-2.0	33.6	61.9	-28.3
806.930	QP	36.0	4.3	40.3	61.9	-21.6

**Table 5-10: Radiated Emissions Harmonics (Peak)/Spurious – 927.4 MHz, Dipole Antenna**

Emission Frequency (MHz)	Test Detector	Analyzer Reading (dBuV)	Site Correction Factor (dB/m)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)
819.330	QP	40.1	4.7	44.8	61.9	-17.1
<b>927.400</b>	<b>QP</b>	<b>74.3</b>	<b>23.0</b>	<b>97.3</b>	<b>101.9</b>	<b>-4.6</b>
1854.800	Peak	44.2	10.3	54.5	81.9	-27.4
3709.600	Peak	60.8	-7.8	53.0	81.9	-28.9
5564.400	Peak	51.2	0.0	51.2	81.9	-30.7
8346.600	Peak	43.6	8.4	52.0	81.9	-29.9
9274.000	Peak	43.5	8.2	51.7	81.9	-30.2



**Table 5-11: Radiated Emissions Harmonics (Average-Calculated)/Spurious – 902.6 MHz, Patch Antenna**

Emission Frequency (MHz)	Peak Less Duty Cycle Correction (dBuV)	Site Correction Factor (dB/m)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)
<b>902.600</b>	<b>58.4</b>	<b>23.3</b>	<b>81.7</b>	<b>81.9</b>	<b>-0.2</b>
1805.200	26.5	10.4	36.9	61.9	-25.0
3610.400	35.5	-8.2	27.3	61.9	-34.6
5415.600	30.6	-0.3	30.3	61.9	-31.6
7220.800	28.0	1.9	29.9	61.9	-32.0
8123.400	27.6	7.9	35.5	61.9	-26.4
9026.000	27.4	8.2	35.6	61.9	-26.3

**Table 5-12: Radiated Emissions Harmonics (Average-Calculated)/Spurious – 915.0 MHz, Patch Antenna**

Emission Frequency (MHz)	Peak Less Duty Cycle Correction (dBuV)	Site Correction Factor (dB/m)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)
<b>915.000</b>	<b>56.5</b>	<b>23.3</b>	<b>79.8</b>	<b>81.9</b>	<b>-2.1</b>
1830.000	28.4	10.8	39.2	61.9	-22.7
5490.000	30.6	-0.3	30.3	61.9	-31.6
6405.000	27.0	1.0	28.0	61.9	-33.9
7320.000	27.8	2.0	29.8	61.9	-32.1
8235.000	27.5	8.3	35.8	61.9	-26.1
9150.000	27.5	8.2	35.7	61.9	-26.2

**Table 5-13: Radiated Emissions Harmonics (Average-Calculated)/Spurious – 927.4 MHz, Patch Antenna**

Emission Frequency (MHz)	Peak Less Duty Cycle Correction (dBuV)	Site Correction Factor (dB/m)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)
<b>927.400</b>	<b>56.5</b>	<b>23.0</b>	<b>79.5</b>	<b>81.9</b>	<b>-2.4</b>
1854.800	28.3	10.3	38.6	61.9	-23.3
3709.600	38.2	-7.8	30.4	61.9	-31.5
6491.800	26.6	1.0	27.6	61.9	-34.3
7419.200	27.7	1.8	29.5	61.9	-32.4
8346.600	27.5	8.4	35.9	61.9	-26.0
9274.000	27.6	8.2	35.8	61.9	-26.1

**Table 5-14: Radiated Emissions Harmonics (Average-Calculated)/Spurious – 902.6 MHz, Monopole**

Emission Frequency (MHz)	Peak Less Duty Cycle Correction (dBuV)	Site Correction Factor (dB/m)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)
<b>902.600</b>	<b>56.6</b>	<b>23.3</b>	<b>79.9</b>	<b>81.9</b>	<b>-2.0</b>
1805.200	26.6	10.4	37.0	61.9	-24.9
3610.400	35.9	-8.2	27.7	61.9	-34.2
5415.600	32.8	-0.3	32.5	61.9	-29.4
7220.800	27.3	1.9	29.2	61.9	-32.7
8123.400	27.4	7.9	35.3	61.9	-26.6
9026.000	27.4	8.2	35.6	61.9	-26.3

**Table 5-15: Radiated Emissions Harmonics (Average-Calculated)/Spurious – 915.0 MHz, Monopole**

Emission Frequency (MHz)	Peak Less Duty Cycle Correction (dBuV)	Site Correction Factor (dB/m)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)
<b>915.000</b>	<b>58.1</b>	<b>23.3</b>	<b>81.4</b>	<b>81.9</b>	<b>-0.5</b>
1830.000	31.9	10.8	42.7	61.9	-19.2
3660.000	37.2	-8.2	29.0	61.9	-32.9
5490.000	32.6	-0.3	32.3	61.9	-29.6
7320.000	27.2	2.0	29.2	61.9	-32.7
8235.000	27.3	8.3	35.6	61.9	-26.3
9150.000	27.5	8.2	35.7	61.9	-26.2

**Table 5-16: Radiated Emissions Harmonics (Average-Calculated)/Spurious – 927.4 MHz, Monopole**

Emission Frequency (MHz)	Peak Less Duty Cycle Correction (dBuV)	Site Correction Factor (dB/m)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)
<b>927.400</b>	<b>58.3</b>	<b>23.0</b>	<b>81.3</b>	<b>81.9</b>	<b>-0.6</b>
1854.800	30.2	10.3	40.5	61.9	-21.4
3709.600	42.2	-7.8	34.4	61.9	-27.5
5564.400	31.7	0.0	31.7	61.9	-30.2
7419.200	27.2	1.8	29.0	61.9	-32.9
8346.600	27.4	8.4	35.8	61.9	-26.1
9274.000	27.2	8.2	35.4	61.9	-26.5

**Table 5-17: Radiated Emissions Harmonics (Average-Calculated)/Spurious – 902.6 MHz, Dipole Antenna**

Emission Frequency (MHz)	Peak Less Duty Cycle Correction (dBuV)	Site Correction Factor (dB/m)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)
<b>902.600</b>	<b>58.3</b>	<b>23.3</b>	<b>81.6</b>	<b>81.9</b>	<b>-0.3</b>
1805.200	22.6	10.4	33.0	61.9	-28.9
3610.400	39.1	-8.2	30.9	61.9	-31.0
5415.600	34.0	-0.3	33.7	61.9	-28.2
7220.800	28.2	1.9	30.1	61.9	-31.8
8123.400	27.7	7.9	35.6	61.9	-26.3
9026.000	27.7	8.2	35.9	61.9	-26.0

**Table 5-18: Radiated Emissions Harmonics (Average-Calculated)/Spurious – 915.0 MHz, Dipole Antenna**

Emission Frequency (MHz)	Peak Less Duty Cycle Correction (dBuV)	Site Correction Factor (dB/m)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)
<b>915.000</b>	<b>57.7</b>	<b>23.3</b>	<b>81.0</b>	<b>81.9</b>	<b>-0.9</b>
1830.000	30.5	10.8	41.3	61.9	-20.6
3660.000	40.9	-8.2	32.7	61.9	-29.2
5490.000	34.4	-0.3	34.1	61.9	-27.8
7320.000	28.4	2.0	30.4	61.9	-31.5
8235.000	27.7	8.3	36.0	61.9	-25.9
9150.000	27.7	8.2	35.9	61.9	-26.0

**Table 5-19: Radiated Emissions Harmonics (Average-Calculated)/Spurious – 927.4 MHz, Dipole Antenna**

Emission Frequency (MHz)	Peak Less Duty Cycle Correction (dBuV)	Site Correction Factor (dB/m)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)
<b>927.400</b>	<b>58.4</b>	<b>23.0</b>	<b>81.4</b>	<b>81.9</b>	<b>-0.5</b>
1854.800	28.3	10.3	38.6	61.9	-23.3
3709.600	44.9	-7.8	37.1	61.9	-24.8
5564.400	35.3	0.0	35.3	61.9	-26.6
7419.200	28.6	1.8	30.4	61.9	-31.5
8346.600	27.7	8.4	36.1	61.9	-25.8
9274.000	27.6	8.2	35.8	61.9	-26.1

**Table 5-20: Unintentional Radiated Emissions - Patch Antenna**

Emission Frequency (MHz)	Antenna Polarity (H/V)	Emission Level (dBuV)	Site Factor (dB)	Emission Level (dBuV/m)	Limit (dBuV/m)	Azimuth (degrees)	Height (meters)	Margin (dB)	Pass/Fail
42.750	V	42.5	-17.1	25.4	40.0	25.0	1.0	-14.6	Pass
69.050	V	46.7	-22.9	23.7	40.0	300.0	1.2	-16.3	Pass
134.288	V	44.5	-17.1	27.3	43.5	80.0	1.0	-16.2	Pass
146.428	V	42.3	-17.6	24.7	43.5	75.0	1.0	-18.8	Pass
180.038	V	47.8	-18.7	29.2	43.5	350.0	1.0	-14.3	Pass
206.435	V	39.7	-18.6	21.2	43.5	0.0	1.0	-22.3	Pass
299.825	H	48.5	-13.6	34.9	46.0	220.0	1.5	-11.1	Pass
383.375	V	43.1	-10.7	32.4	46.0	100.0	1.0	-13.6	Pass
442.365	V	44.4	-8.7	35.8	46.0	175.0	1.5	-10.2	Pass
449.730	H	54.3	-8.6	45.7	46.0	165.0	1.0	-0.3	Pass
560.340	V	41.4	-6.7	34.8	46.0	180.0	1.2	-11.2	Pass
599.640	V	48.0	-5.6	42.4	46.0	190.0	1.0	-3.6	Pass

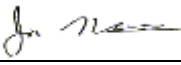
**Table 5-21: Unintentional Radiated Emissions - Monopole Antenna**

Emission Frequency (MHz)	Antenna Polarity (H/V)	Emission Level (dBuV)	Site Factor (dB)	Emission Level (dBuV/m)	Limit (dBuV/m)	Azimuth (degrees)	Height (meters)	Margin (dB)	Pass/Fail
43.158	V	39.0	-17.3	21.8	40.0	185.0	1.0	-18.2	Pass
68.900	V	46.3	-23.0	23.3	40.0	100.0	1.0	-16.7	Pass
132.390	V	49.3	-17.0	32.3	43.5	200.0	1.6	-11.2	Pass
146.428	V	41.9	-17.6	24.3	43.5	210.0	1.0	-19.2	Pass
180.588	V	44.9	-18.7	26.2	43.5	240.0	1.0	-17.3	Pass
206.435	V	38.1	-18.6	19.5	43.5	220.0	1.5	-24.0	Pass
299.825	H	51.9	-13.6	38.4	46.0	95.0	1.0	-7.6	Pass
383.375	H	43.0	-10.7	32.4	46.0	150.0	1.0	-13.6	Pass
442.368	V	39.4	-8.7	30.7	46.0	90.0	2.0	-15.3	Pass
449.733	V	52.3	-8.6	43.6	46.0	0.0	1.5	-2.4	Pass
560.318	V	40.0	-6.7	33.3	46.0	170.0	1.0	-12.7	Pass
599.640	V	48.0	-5.6	42.5	46.0	165.0	1.0	-3.5	Pass

**Table 5-22: Unintentional Radiated Emissions - Dipole Antenna**

Emission Frequency (MHz)	Antenna Polarity (H/V)	Emission Level (dBuV)	Site Factor (dB)	Emission Level (dBuV/m)	Limit (dBuV/m)	Azimuth (degrees)	Height (meters)	Margin (dB)	Pass/Fail
43.158	V	39.3	-17.3	22.0	40.0	230	1.0	-18.0	Pass
68.900	V	46.7	-23.0	23.7	40.0	90	1.0	-16.3	Pass
132.390	H	49.5	-17.0	32.5	43.5	175	1.5	-11.0	Pass
146.428	V	42.1	-17.6	24.5	43.5	230	1.0	-19.0	Pass
180.588	V	45.6	-18.7	26.9	43.5	270	1.2	-16.6	Pass
206.435	V	39.3	-18.6	20.7	43.5	250	1.5	-22.8	Pass
299.825	H	52.0	-13.6	38.4	46.0	90	1.1	-7.6	Pass
383.375	V	43.5	-10.7	32.8	46.0	180	1.0	-13.2	Pass
442.368	H	39.2	-8.7	30.5	46.0	120	2.5	-15.5	Pass
449.733	V	52.1	-8.6	43.5	46.0	25	1.0	-2.5	Pass
560.318	H	40.3	-6.7	33.6	46.0	190	1.2	-12.4	Pass
599.640	V	48.6	-5.6	43.0	46.0	160	1.2	-3.0	Pass

**Test Personnel:**

Jon Wilson		June 15 & 20, 2018
EMC Test Engineer	Signature	Dates of Test

## 6 Conducted Emissions – FCC 15.207; ISED RSS-210, RSS-Gen

### 6.1 Test Limits

Line-Conducted Emissions		
Limit (dBμV)		
Frequency (MHz)	Quasi-Peak	Average
0.15 to 0.50	66 to 56	56 to 46
0.50 to 5.00	56	46
5.00 to 30.00	60	50

### 6.2 Conducted Emissions Test Procedure

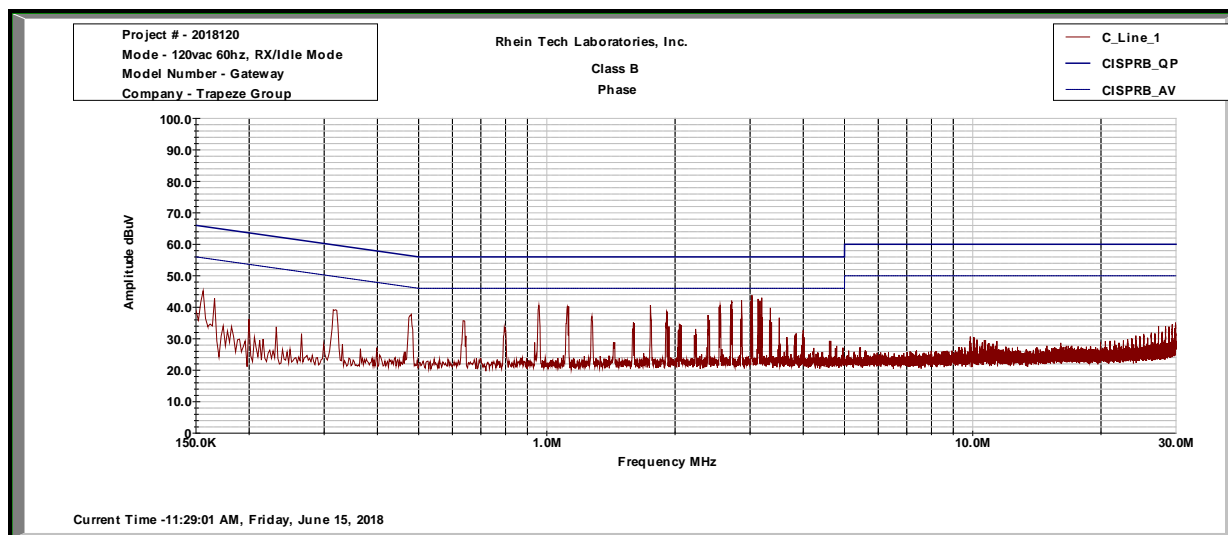
The power line conducted emission measurements were performed in a type shielded enclosure. The EUT was placed on a wooden table. Power was fed to the EUT through a 50-ohm/50 microhenry Line Impedance Stabilization Network (LISN). The EUT LISN was fed power through an AC filter box mounted on the shielded 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's auxiliary equipment. This peripheral LISN was also fed AC power.

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 100 kHz 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. Video filter less than 10 times the resolution bandwidth is not used. Average measurements are performed in linear mode using a 10 kHz resolution bandwidth, a 1 Hz video bandwidth, by increasing the sweep time in order to obtain a calibrated measurement. The emission spectrum was scanned from 150 kHz to 30 MHz.

**Table 6-1: Conducted Emissions Test Equipment**

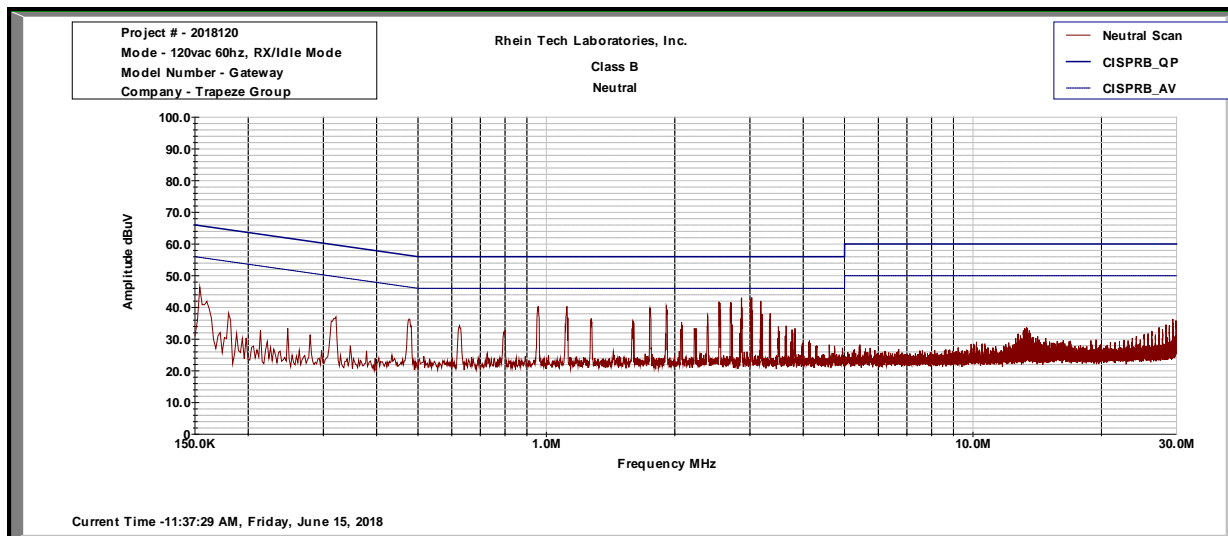
RTL Bar Code	Manufacturer	Model	Part Type	Serial Number	Calibration Due Date
900339	Hewlett Packard	85650A	Quasi-Peak Adapter	2521A00743	4/26/19
900930	Hewlett Packard	85662A	Spectrum Analyzer Display	3144A20839	4/16/19
900931	Hewlett Packard	8566B	Spectrum Analyzer (100 Hz – 22 GHz)	3138A07771	4/26/19
901083	AFJ International	LS16/110VAC	16A LISN	16010020080	2/13/21
900728	Solar	Type 8130-7.0	Filter	N/A	4/24/20
901636	Fischer Custom Communications	F-52	RF Current Probe (10 kHz - 500 MHz)	130484	2/8/19
N/A	ETS-Lindgren	Tile!	Test software	7.1.3.20	N/A

**Plot 6-1: AC Conducted Emissions - RX/Idle Mode, Phase**



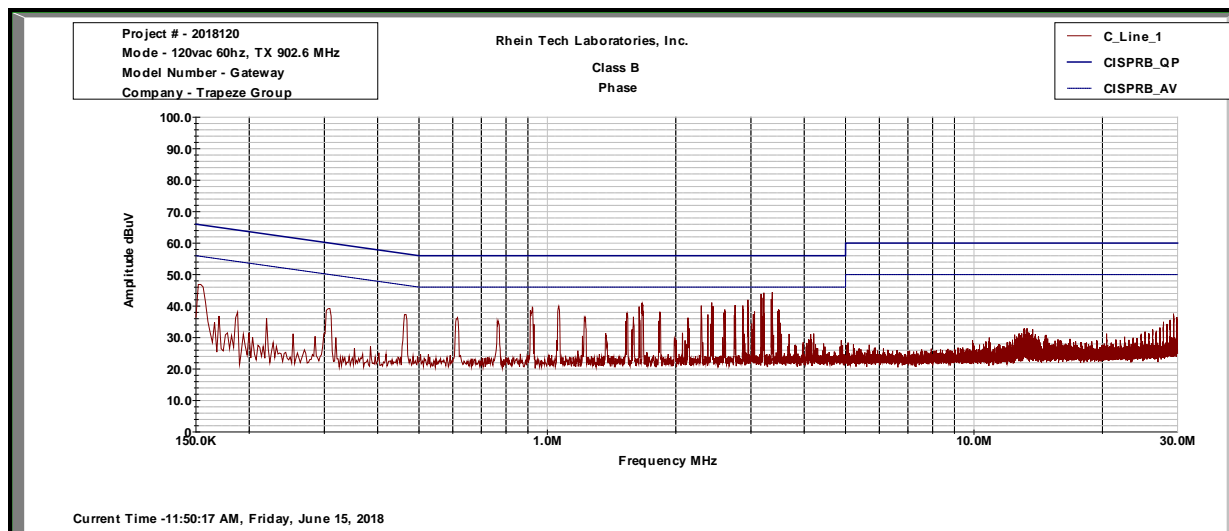
Frequency (MHz)	Detector	Level (dBμV)	Site Correction Factor (dB)	Corrected Level (dBμV)	Limit (dBμV)	Margin (dB)	Pass/Fail
3.031	QP	42.9	1.5	44.4	56.0	-11.6	Pass
3.031	Av	35.5	1.5	37.0	46.0	-9.0	Pass

**Plot 6-2: AC Conducted Emissions - RX/Idle Mode, Neutral**



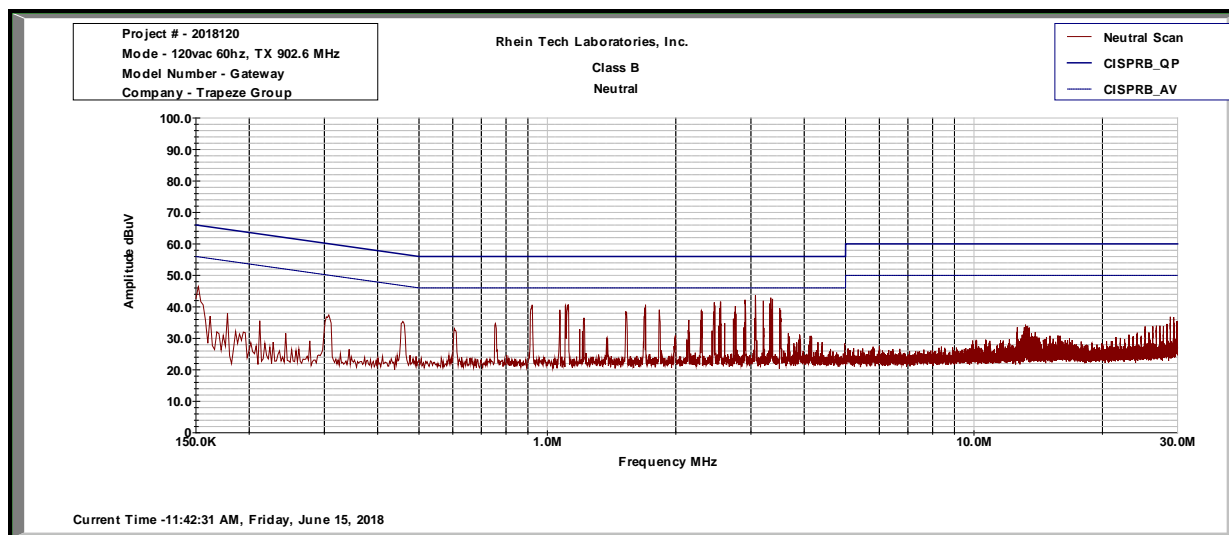
Frequency (MHz)	Detector	Level (dBμV)	Site Correction Factor (dB)	Corrected Level (dBμV)	Limit (dBμV)	Margin (dB)	Pass/Fail
3.026	QP	42.7	1.6	44.3	56.0	-11.7	Pass
3.026	Av	36.3	1.6	37.9	46.0	-8.1	Pass

**Plot 6-3: AC Conducted Emissions - TX - 902.6 MHz, Phase**



Frequency (MHz)	Detector	Level (dBμV)	Site Correction Factor (dB)	Corrected Level (dBμV)	Limit (dBμV)	Margin (dB)	Pass/Fail
3.206	QP	41.5	1.5	43.0	56.0	-13.0	Pass
3.206	Av	31.6	1.5	33.1	46.0	-12.9	Pass

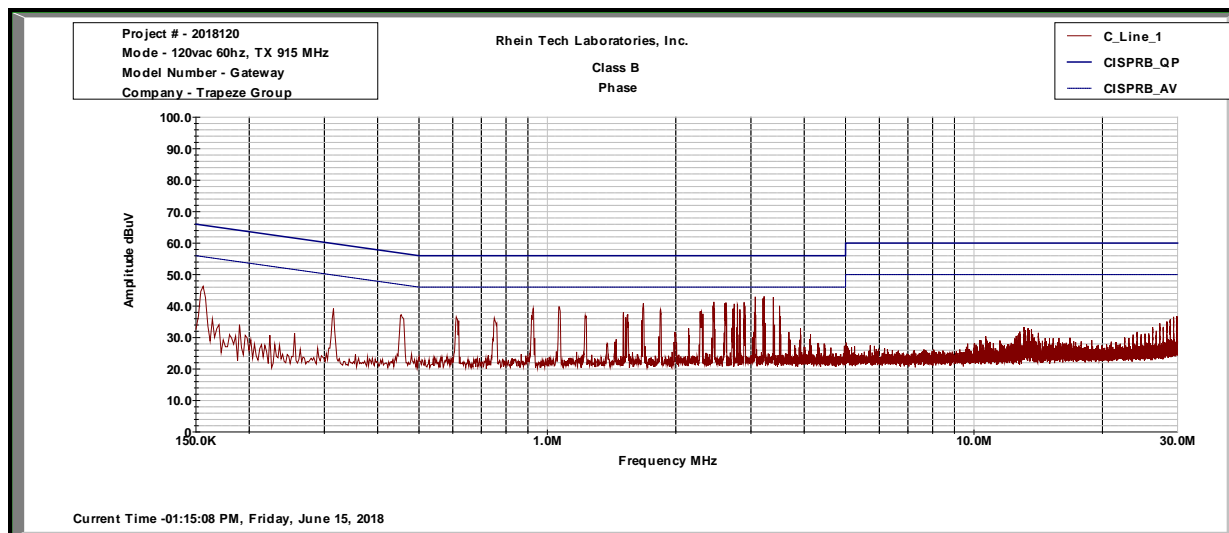
**Plot 6-4: AC Conducted Emissions - TX - 902.6 MHz, Neutral**



Frequency (MHz)	Detector	Level (dBμV)	Site Correction Factor (dB)	Corrected Level (dBμV)	Limit (dBμV)	Margin (dB)	Pass/Fail
3.209	QP	40.3	1.6	41.9	56.0	-14.1	Pass
3.209	Av	31.7	1.6	33.3	46.0	-12.7	Pass

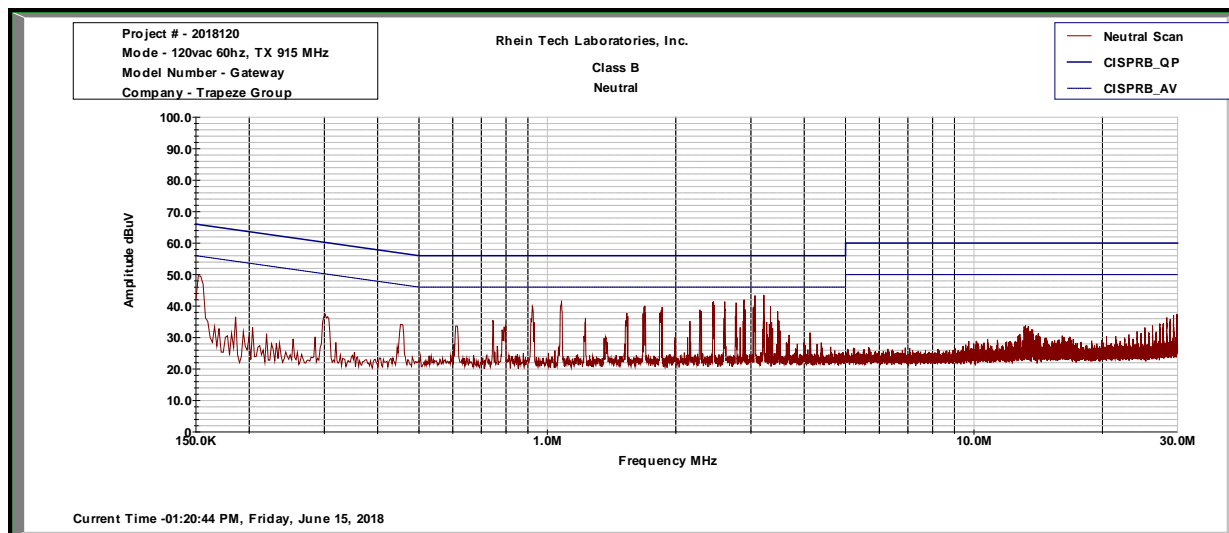


**Plot 6-5: AC Conducted Emissions - TX – 915.0 MHz, Phase**



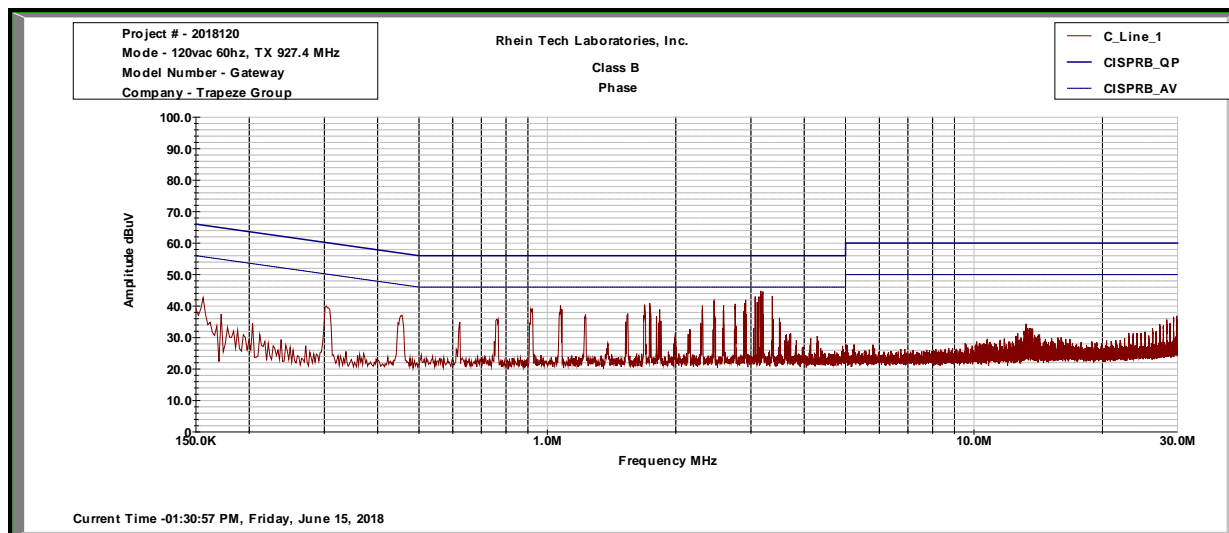
Frequency (MHz)	Detector	Level (dBμV)	Site Correction Factor (dB)	Corrected Level (dBμV)	Limit (dBμV)	Margin (dB)	Pass/Fail
3.214	QP	41.8	1.5	43.3	56.0	-12.7	Pass
3.214	Av	32.3	1.5	33.8	46.0	-12.2	Pass

**Plot 6-6: AC Conducted Emissions - TX – 915.0 MHz, Neutral**



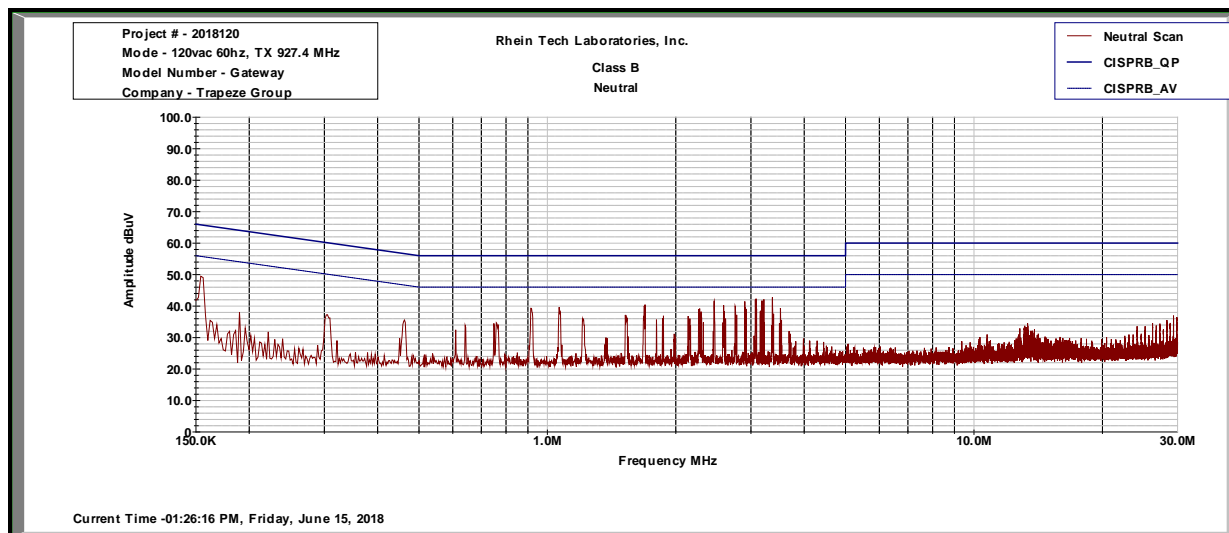
Frequency (MHz)	Detector	Level (dBμV)	Site Correction Factor (dB)	Corrected Level (dBμV)	Limit (dBμV)	Margin (dB)	Pass/Fail
3.223	QP	42.2	1.6	43.8	56.0	-12.2	Pass
3.223	Av	34.9	1.6	36.5	46.0	-9.5	Pass

**Plot 6-7: AC Conducted Emissions - TX - 927.4 MHz, Phase**



Frequency (MHz)	Detector	Level (dBμV)	Site Correction Factor (dB)	Corrected Level (dBμV)	Limit (dBμV)	Margin (dB)	Pass/Fail
3.224	QP	40.6	1.5	42.1	56.0	-13.9	Pass
3.224	Av	32.4	1.5	33.9	46.0	-12.1	Pass

**Plot 6-8: AC Conducted Emissions - TX - 927.4 MHz, Neutral**



Frequency (MHz)	Detector	Level (dBμV)	Site Correction Factor (dB)	Corrected Level (dBμV)	Limit (dBμV)	Margin (dB)	Pass/Fail
3.383	QP	40.5	1.6	42.1	56.0	-13.9	Pass
3.383	Av	30.7	1.6	32.3	46.0	-13.7	Pass

**Test Personnel:**

Jon Wilson  
EMC Test Engineer

*Jon Wilson*  
Signature

June 15, 2018  
Date of Test

## **7 Conclusion**

The data in this measurement report shows that the Trapeze Software Group, Inc. Model: G200, FCC ID: 2AIHTG200A, IC: 21557-G200A, complies with the applicable requirements of Parts 2 and 15 of the FCC rules and regulations and RSS-210 and RSS-Gen of the ISED rules and regulations.