



Engineering Solutions & Electromagnetic Compatibility Services

FCC Part 15.247 & Industry Canada RSS-247 Test Report

| | | | |
|--|--|--|----------------------------|
| Test Lab: Rhein Tech Laboratories, Inc. Tel: 703-689-0368 360 Herndon Parkway Fax: 703-689-2056 Suite 1400 www.rheintech.com Herndon, VA 20170 E-Mail: atcbinfo@rheintech.com | | Applicant: Harris Corporation 221 Jefferson Ridge Parkway Lynchburg, VA 24501 Tel: 434-455-9290 | |
| FCC ID/IC | OWDTR-0154-E 3636B-0154 | Test Report Date: | March 1, 2017 |
| Platform | N/A | RTL Work Order # | 2017076 |
| Model | XL-185P | RTL Quote # | QRTL17-069B |
| American National Standard Institute | 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 902-928 MHz, 2400-2483.5 MHz and 5725-5850 MHz Direct Sequence System (10/01/2015) | | |
| Industry Canada | RSS-247 Issue 2 Digital Transmission Systems (DTSs), Frequency Hopping Systems (FHSs) and Licence-Exempt Local Area Network (LE-LAN) Devices | | |
| Digital Interface Information | Digital Interface was found to be compliant | | |
| Frequency Range (MHz) | Output Power (W)* | Frequency Tolerance | Emission Designator |
| 2402 - 2480 | 0.0069 | N/A | 517KF1D |

*power is conducted

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: March 1, 2017

Typed/Printed Name: Desmond A. Fraser

Position: President

This report may not be reproduced, except in full, without the full written approval of Rhein Tech Laboratories, Inc. and Harris Corporation. Test results relate only to the item(s) tested.

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.

Table of Contents

| | | |
|-------|---|----|
| 1 | General Information..... | 5 |
| 1.1 | Scope | 5 |
| 1.2 | Description of EUT | 5 |
| 1.3 | Test Facility..... | 5 |
| 1.4 | Related Submittal(s)/Grant(s) | 5 |
| 1.5 | Modifications | 5 |
| 2 | Test Information | 6 |
| 2.1 | Description of Test Modes..... | 6 |
| 2.2 | Exercising the EUT..... | 6 |
| 2.3 | Test Result Summary..... | 6 |
| 2.4 | Test System Details | 7 |
| 2.5 | Configuration of Tested System..... | 7 |
| 3 | Peak Output Power - 15.247(b)(3); IC RSS-247 5.4(4), RSS-Gen 6.12 | 8 |
| 3.1 | Power Output Test Procedure | 8 |
| 3.2 | Peak Output Power Test Data | 8 |
| 4 | Peak Power Spectral Density – FCC 15.247(e); IC RSS-247 5.2(2) | 12 |
| 4.1 | Peak Spectral Density Test Procedure | 12 |
| 4.2 | Peak Spectral Density Test Data | 12 |
| 5 | Antenna Conducted Spurious Emissions – FCC 15.247(d), RSS-247 5.5..... | 16 |
| 5.1 | Antenna Conducted Spurious Emissions Test Procedure | 16 |
| 5.2 | Antenna Conducted Spurious Emissions Test Data | 16 |
| 6 | Compliance with the Band Edge – FCC 15.247(d); RSS-247 5.5 | 19 |
| 6.1 | Band Edge Test Procedure | 19 |
| 6.2 | Band Edge Test Results..... | 20 |
| 6.2.1 | Lower Band Edge – Plots | 20 |
| 6.2.2 | Upper Band Edge Plots | 22 |
| 7 | Bandwidth – FCC 15.247(a)(2); RSS-247 5.2(1) | 24 |
| 7.1 | 6 dB Bandwidth Test Procedure | 24 |
| 7.2 | Bandwidth Test Results..... | 24 |
| 8 | Radiated Emissions - 15.209; RSS-247 2.2; RSS-Gen 6.13/7.1 | 28 |
| 8.1 | Limits of Radiated Emissions Measurement..... | 28 |
| 8.2 | Radiated Emissions Measurement Test Procedure..... | 28 |
| 8.3 | Radiated Emissions Test Results | 30 |
| 8.3.1 | Unintentional Radiated Emissions Test Data..... | 30 |
| 8.3.2 | Spurious/Harmonics Radiated Emissions Test Data..... | 31 |
| 9 | Conclusion | 32 |

Figure Index

| | | |
|-------------|---|---|
| Figure 2-1: | Configuration of System Under Test..... | 7 |
|-------------|---|---|

Table Index

| | | |
|------------|--|----|
| Table 2-1: | Channels Tested..... | 6 |
| Table 2-2: | Test Result Summary – FCC Part 15 Subpart C (Section 15.247) & IC..... | 6 |
| Table 2-3: | Equipment Under Test..... | 7 |
| Table 2-4: | Support Equipment..... | 7 |
| Table 3-1: | Power Output Test Equipment..... | 8 |
| Table 3-2: | Peak Output Power Test Data..... | 8 |
| Table 4-1: | Power Spectral Density Test Equipment..... | 12 |
| Table 4-2: | Peak Spectral Density Test Data..... | 12 |
| Table 5-1: | Antenna Conducted Spurious Emissions Test Equipment..... | 16 |
| Table 6-1: | Band Edge Test Equipment..... | 19 |
| Table 7-1: | 6 dB Bandwidth Test Equipment..... | 24 |
| Table 7-2: | 6 dB Bandwidth Test Data..... | 24 |
| Table 8-1: | Radiated Emissions Test Equipment..... | 29 |
| Table 8-2: | Digital Radiated Emissions Test Data..... | 30 |
| Table 8-3: | Peak Radiated Emissions Spurious/Harmonics – 2402 MHz..... | 31 |
| Table 8-4: | Average Radiated Emissions Spurious/Harmonics – 2402 MHz..... | 31 |
| Table 8-5: | Peak Radiated Emissions Spurious/Harmonics - 2440 MHz..... | 31 |
| Table 8-6: | Average Radiated Emissions Spurious/Harmonics – 2440 MHz..... | 31 |
| Table 8-7: | Peak Radiated Emissions Spurious/Harmonics - 2480 MHz..... | 32 |
| Table 8-8: | Average Radiated Emissions Spurious/Harmonics – 2480 MHz..... | 32 |

Plot Index

| | | |
|-----------|--|----|
| Plot 3-1: | Peak Output Power – 2402 MHz..... | 9 |
| Plot 3-2: | Peak Output Power – 2440 MHz..... | 10 |
| Plot 3-3: | Peak Output Power – 2480 MHz..... | 11 |
| Plot 4-1: | Peak Spectral Density – 2402 MHz..... | 13 |
| Plot 4-2: | Peak Spectral Density – 2440 MHz..... | 14 |
| Plot 4-3: | Peak Spectral Density – 2480 MHz..... | 15 |
| Plot 5-1: | Antenna Conducted Spurious Emissions – 2402 MHz..... | 16 |
| Plot 5-2: | Antenna Conducted Spurious Emissions – 2440 MHz..... | 17 |
| Plot 5-3: | Antenna Conducted Spurious Emissions – 2480 MHz..... | 18 |
| Plot 6-1: | Lower Band Edge - Peak..... | 20 |
| Plot 6-2: | Lower Band Edge – Average..... | 21 |
| Plot 6-3: | Upper Band Edge – Peak..... | 22 |
| Plot 6-4: | Upper Band Edge - Average..... | 23 |
| Plot 7-1: | 6 dB Bandwidth – 2402 MHz..... | 25 |
| Plot 7-2: | 6 dB Bandwidth – 2440 MHz..... | 26 |
| Plot 7-3: | 6 dB Bandwidth – 2480 MHz..... | 27 |

Appendix Index

| | | |
|-------------|---|----|
| Appendix A: | FCC Part 1.1307, 1.1310, 2.1091, 2.1093; IC RSS-Gen: RF Exposure..... | 33 |
| Appendix B: | Test Photographs..... | 34 |

Photograph Index

| | | |
|---------------|---|----|
| Photograph 1: | Radiated Emissions Testing – Front View >1 GHz..... | 34 |
| Photograph 2: | Radiated Emissions Testing – Back View >1 GHz..... | 35 |
| Photograph 3: | Radiated Emissions Testing – Front View <1 GHz..... | 36 |
| Photograph 4: | Radiated Emissions Testing – Back View <1 GHz..... | 37 |

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.
- RSS-247 Issue 2 Digital Transmission Systems (DTSSs), Frequency Hopping Systems (FHSs) and Licence-Exempt Local Area Network (LE-LAN) Devices

1.2 Description of EUT

| | |
|--------------------------------|-----------------|
| Equipment Under Test | Transceiver |
| Model | XL-185P |
| Power Supply | 7.5 VDC battery |
| Modulation Type | FSK |
| Frequency Range | 2402-2480 MHz |
| Antenna Type & Gain | Chip |

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 report supports a certification application for Harris Corporation Model XL-185P, FCC ID: OWDTR-0154-E, IC: 3636B-0154.

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 | Frequency |
|---------|-----------|
| Low | 2402 |
| Middle | 2440 |
| High | 2480 |

2.2 Exercising the EUT

The EUT was supplied with test software instructions to change channels, with a high, mid, and low 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

| Test | FCC Reference | IC Reference | Result |
|--------------------------------------|------------------|---------------------------------|--------|
| AC Power Conducted Emissions | FCC 15.207 | RSS-Gen 8.8 | Pass |
| Radiated Emissions | FCC 15.209 | RSS-247 5.5 RSS-Gen 6.13/7.1 | Pass |
| Maximum Peak Power Output | FCC 15.247(b)(3) | RSS-247 5.4 RSS-Gen 6.12 | Pass |
| Peak Power Spectral Density | FCC 15.247(e) | RSS-247 5.2 | Pass |
| Antenna Conducted Spurious Emissions | FCC 15.247(d) | RSS-247 5.5 RSS-Gen 6.13 | Pass |
| Band Edge Measurement | FCC 15.247(d) | RSS-247 5.5 | Pass |
| Bandwidth | FCC 15.247(a)(2) | RSS-247 5.2 | Pass |

2.4 Test System Details

The test samples were received on December 21, 2015. 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 |
|------------------------------|--------------------|---------|---------------|--------------|-------------------|--------------|
| Transceiver (conducted port) | Harris Corporation | XL-185P | A40300000215 | OWDTR-0154-E | N/A | 21725 |
| Transceiver | Harris Corporation | XL-185P | A40304000045 | OWDTR-0154-E | N/A | 21965 |

Table 2-4: Support Equipment

| Part | Manufacturer | Model | Serial Number | FCC ID | Cable Description | RTL Bar Code |
|--------------------|--------------------|---------------|---------------|--------|--------------------|--------------|
| Battery Eliminator | Harris Corporation | N/A | N/A | N/A | 0.5m unshielded | 21553 |
| Power Supply | Alinco | DM-33MVT 32A | 1638 | N/A | N/A | 901124 |
| Audio Breakout | Harris Corporation | 12082-7980-01 | N/A | N/A | .8m unshielded I/O | 20599 |

2.5 Configuration of Tested System

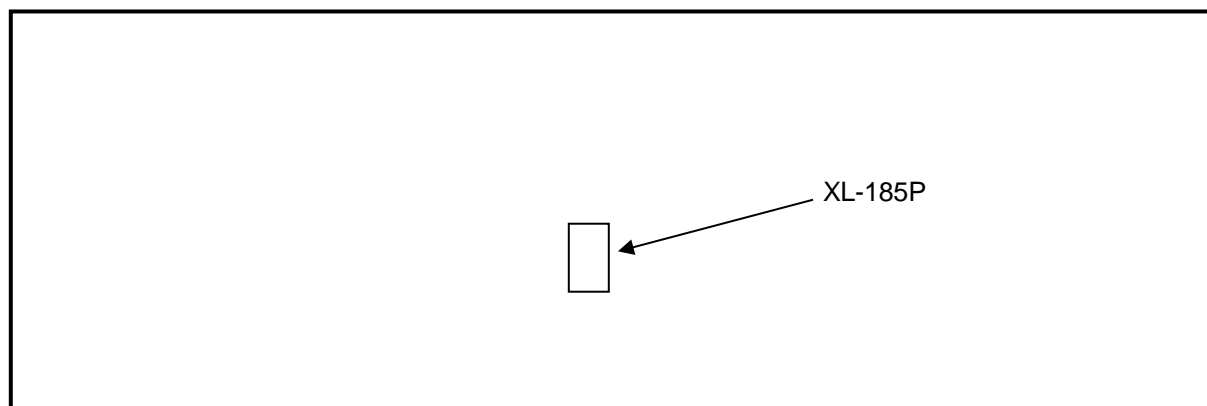


Figure 2-1: Configuration of System Under Test

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

3.1 Power Output Test Procedure

A SMA connector provided a port for measurement using the automated channel power measurement on the spectrum analyzer, for the low, mid, and high channels.

Table 3-1: Power Output Test Equipment

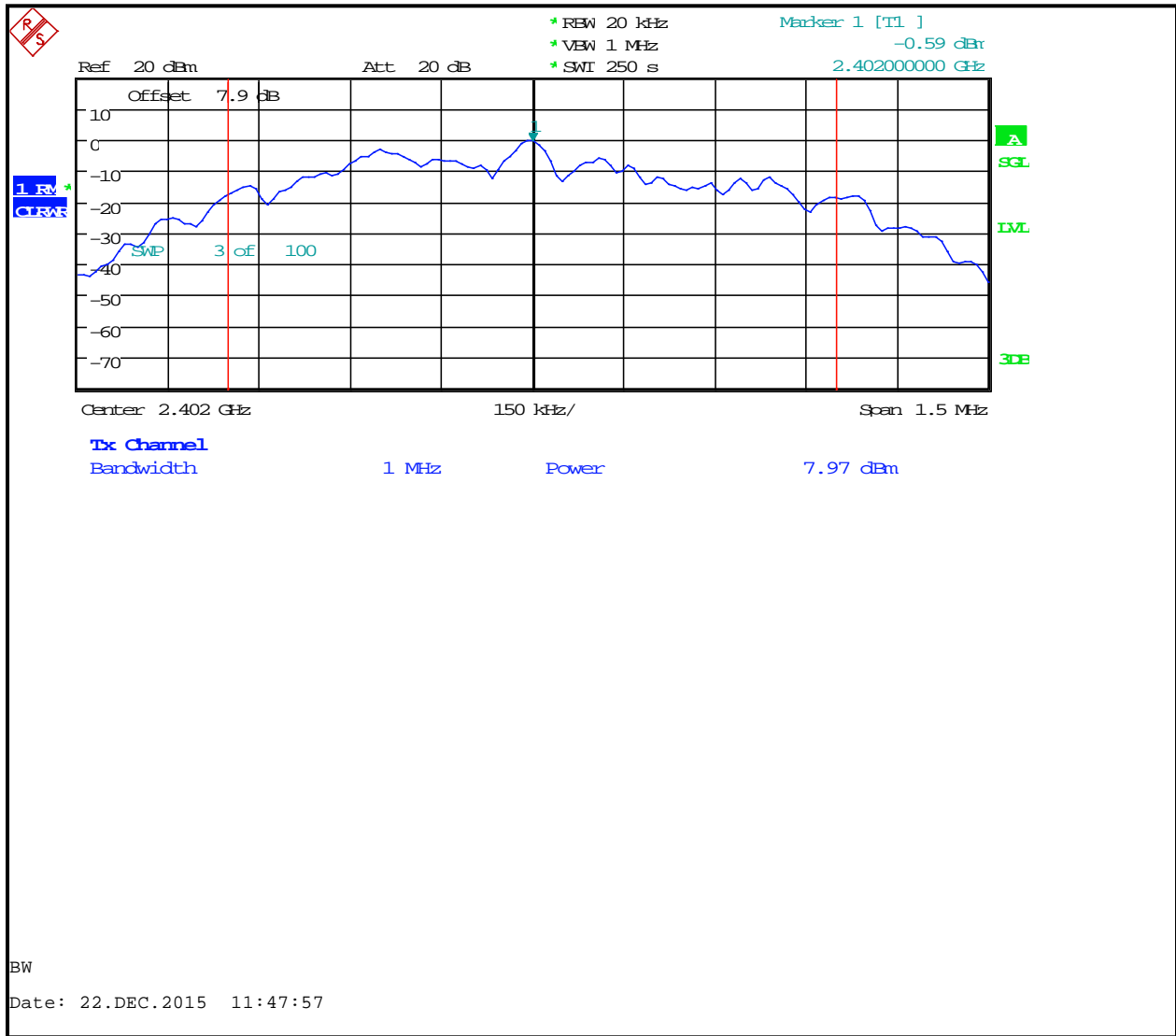
| RTL Asset # | Manufacturer | Model | Part Type | Serial Number | Calibration Due Date |
|-------------|-----------------|-------|-------------------|---------------|----------------------|
| 901581 | Rohde & Schwarz | FSU | Spectrum Analyzer | 1166.1660.50 | 11/13/16 |

3.2 Peak Output Power Test Data

Table 3-2: Peak Output Power Test Data

| Emission Frequency (MHz) | Power Measured (dBm) | Power Measured (W) |
|--------------------------|----------------------|--------------------|
| 2402 | 8.0 | 0.0063 |
| 2440 | 8.4 | 0.0069 |
| 2480 | 8.3 | 0.0068 |

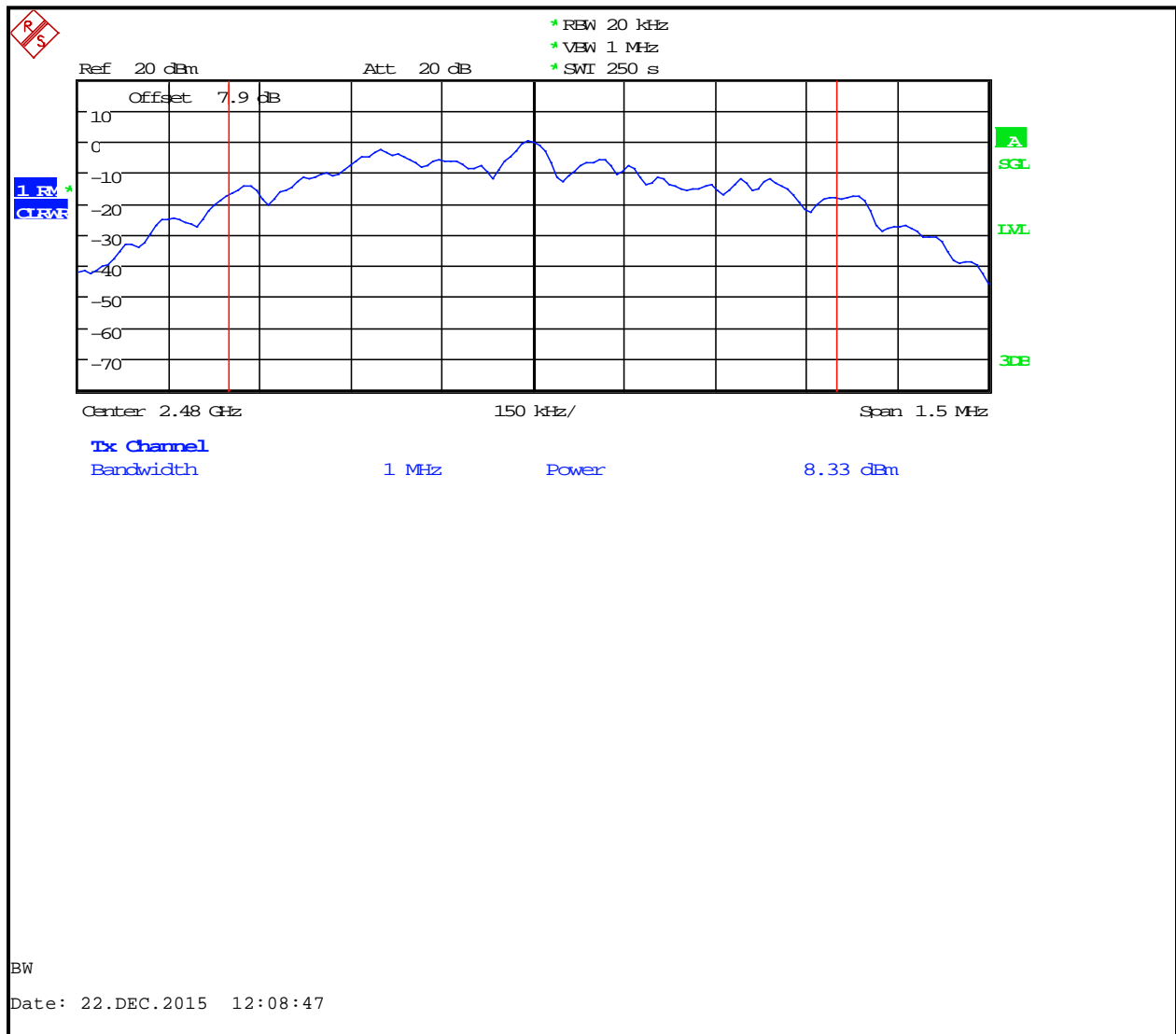
Plot 3-1: Peak Output Power – 2402 MHz



Plot 3-2: Peak Output Power – 2440 MHz



Plot 3-3: Peak Output Power – 2480 MHz



Test Personnel:

| | | |
|-------------------------------|--|-----------------------------------|
| Dan Baltzell Test Engineer |  Signature | December 22, 2015 Date of Test |
|-------------------------------|--|-----------------------------------|

4 Peak Power Spectral Density – FCC 15.247(e); IC RSS-247 5.2(b)

4.1 Peak Spectral Density Test Procedure

Digitally modulated systems shall have conducted peak power spectral density of 8 dBm in any 3 kHz band during any time interval of continuous transmission.

Table 4-1: Power Spectral Density Test Equipment

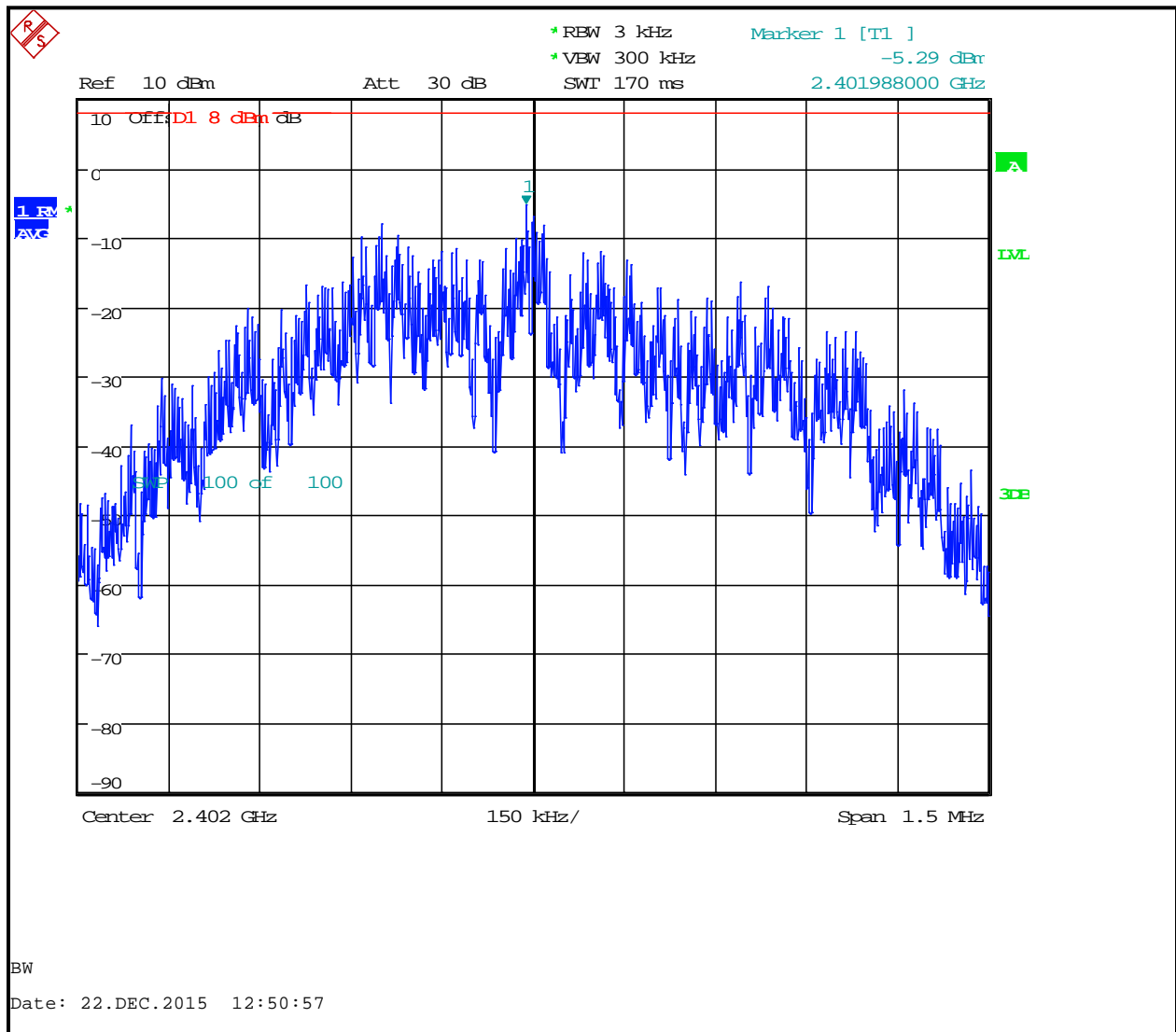
| RTL Asset # | Manufacturer | Model | Part Type | Serial Number | Calibration Due Date |
|-------------|-----------------|-------|-------------------|---------------|----------------------|
| 901581 | Rohde & Schwarz | FSU | Spectrum Analyzer | 1166.1660.50 | 11/13/16 |

4.2 Peak Spectral Density Test Data

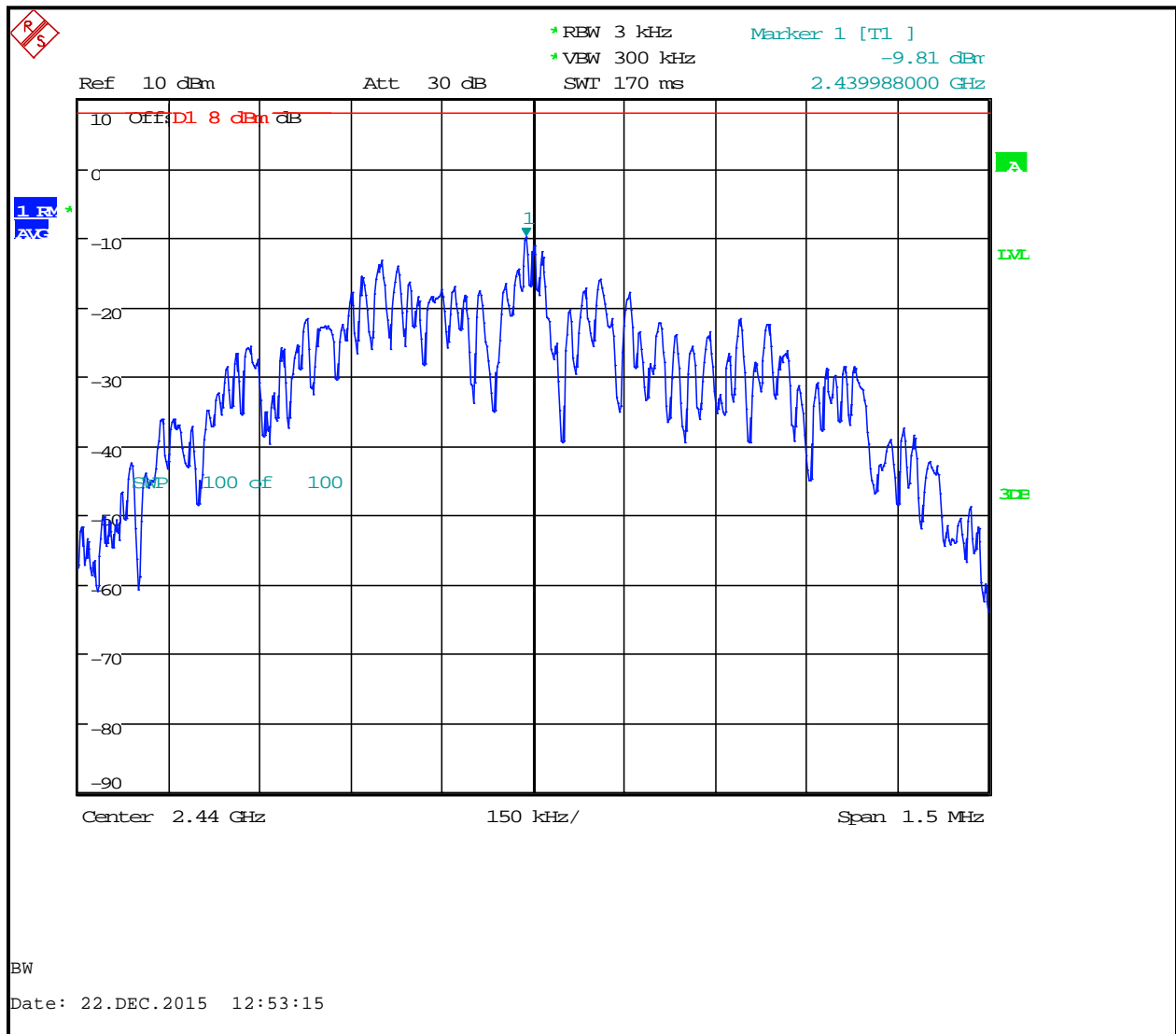
Table 4-2: Peak Spectral Density Test Data

| Channels | Frequency (MHz) | Peak Output Power (dBm) |
|----------|-----------------|-------------------------|
| Low | 2402 | -5.3 |
| Mid | 2440 | -9.8 |
| High | 2480 | -10.9 |

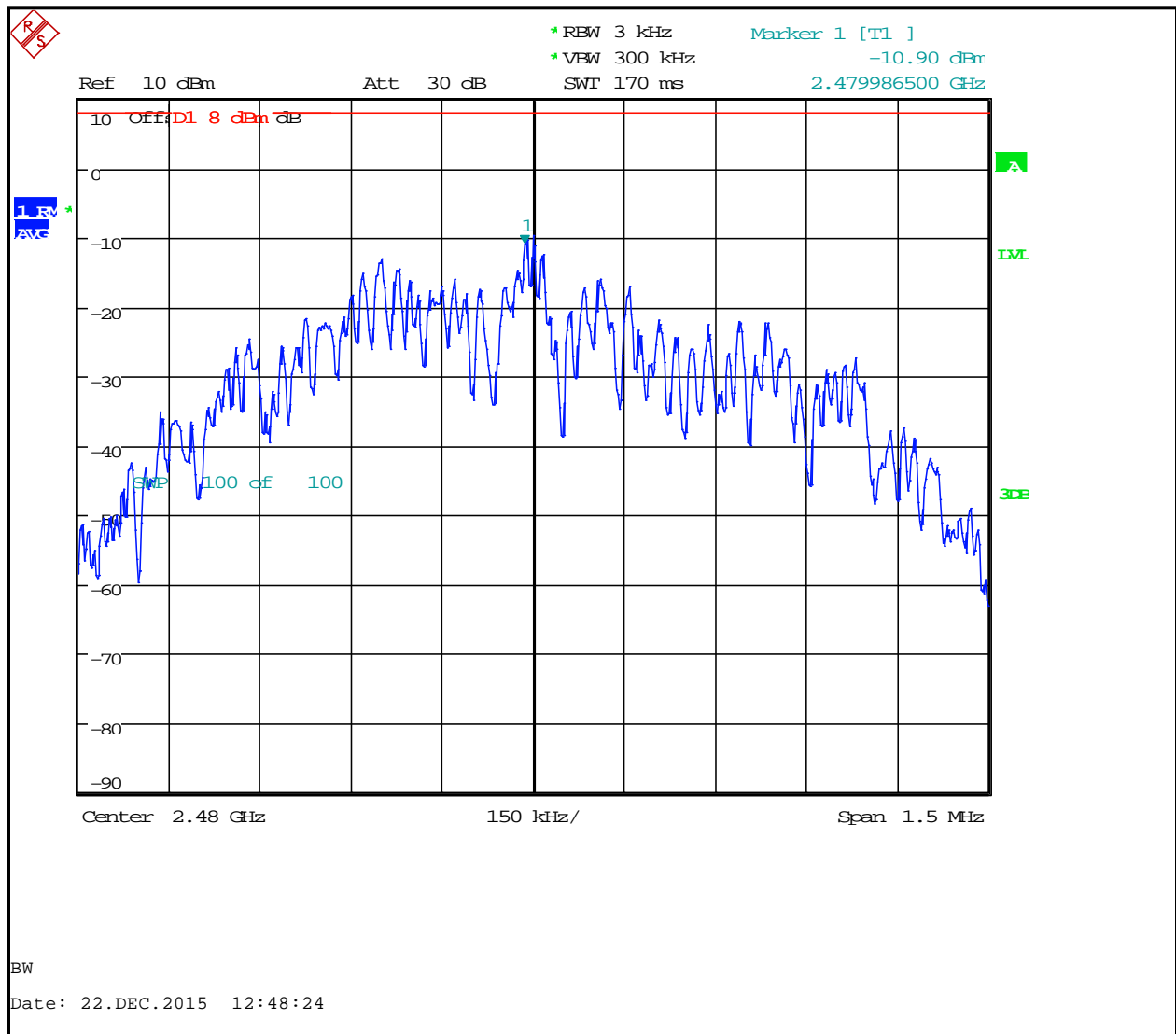
Plot 4-1: Peak Spectral Density – 2402 MHz



Plot 4-2: Peak Spectral Density – 2440 MHz



Plot 4-3: Peak Spectral Density – 2480 MHz



Test Personnel:

| | | |
|-------------------------------|--|-----------------------------------|
| Dan Baltzell Test Engineer |  Signature | December 22, 2015 Date of Test |
|-------------------------------|--|-----------------------------------|

5 Antenna Conducted Spurious Emissions – FCC 15.247(d), RSS-247 5.5

5.1 Antenna Conducted Spurious Emissions Test Procedure

A SMA connector provided a port for measurement from 9 kHz to the 10th harmonic with the spectrum analyzer, for the low, mid, and high channels.

Table 5-1: Antenna Conducted Spurious Emissions Test Equipment

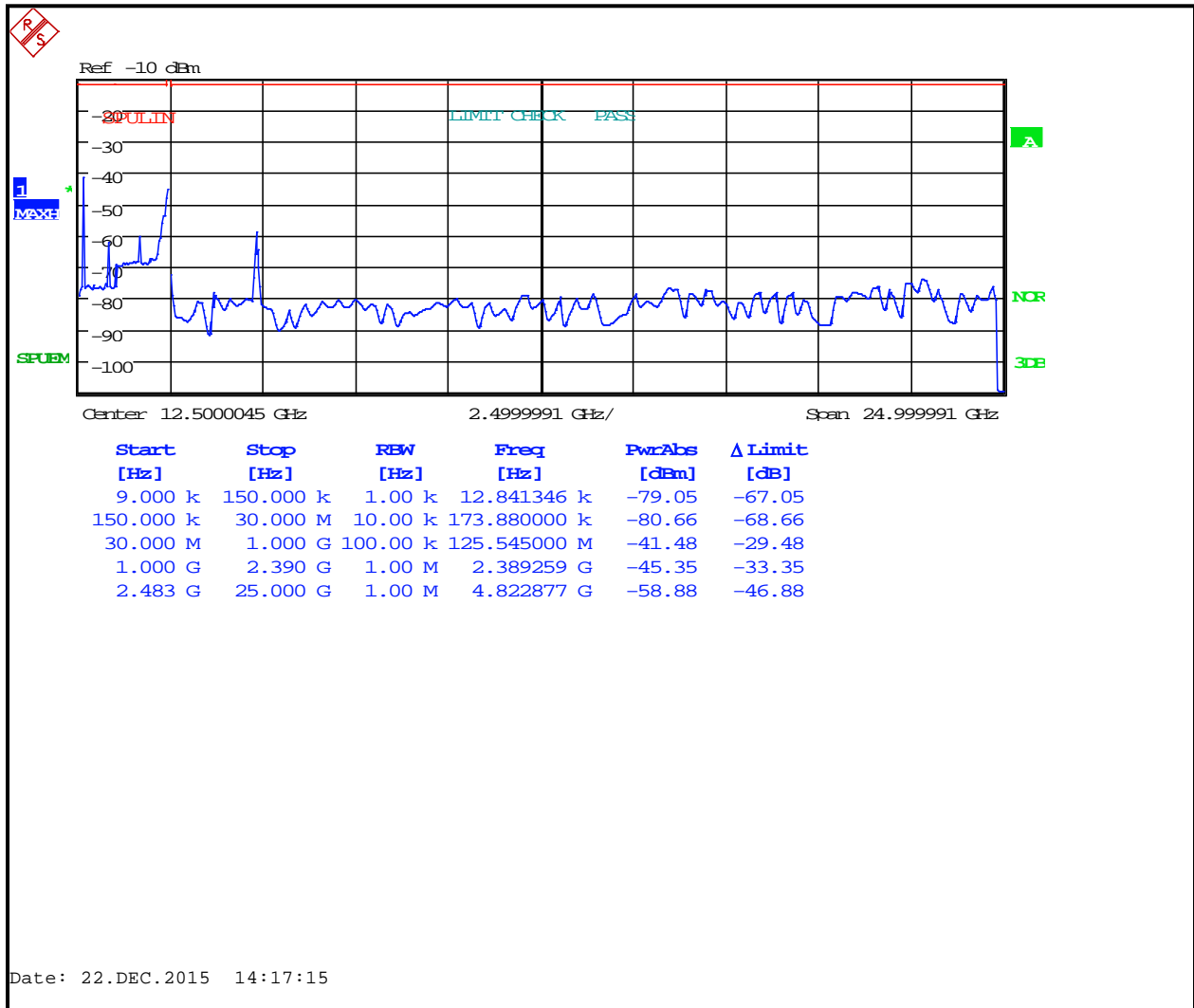
| RTL Asset # | Manufacturer | Model | Part Type | Serial Number | Calibration Due Date |
|-------------|-----------------|-------|-------------------|---------------|----------------------|
| 901581 | Rohde & Schwarz | FSU | Spectrum Analyzer | 1166.1660.50 | 11/13/16 |

5.2 Antenna Conducted Spurious Emissions Test Data

Plot 5-1: Antenna Conducted Spurious Emissions – 2402 MHz



Plot 5-2: Antenna Conducted Spurious Emissions – 2440 MHz



Plot 5-3: Antenna Conducted Spurious Emissions – 2480 MHz



Test Personnel:

Daniel W. Baltzell
 EMC Test Engineer

Signature

December 22, 2015
 Date of Test

6 Compliance with the Band Edge – FCC 15.247(d); RSS-247 5.5

6.1 Band Edge Test Procedure

Conducted measurements were taken. The span was set wide enough to capture the peak level of the emission operating on the channel closest to the band edge, as well as any modulation products which fall outside of the authorized band of operation. The spectrum analyzer was set to the following:

RBW > = 1 % of span
VBW > = RBW
Sweep = auto
Detector function = peak
Trace = max hold

The trace was allowed to stabilize. The marker was set on the emission at the band edge. The marker-delta was used to show the delta between the maximum in-band emission and the emission at the band edge, and was compared to the 20 dBc requirement of 15.247(d) (when using peak emissions) or restricted band.

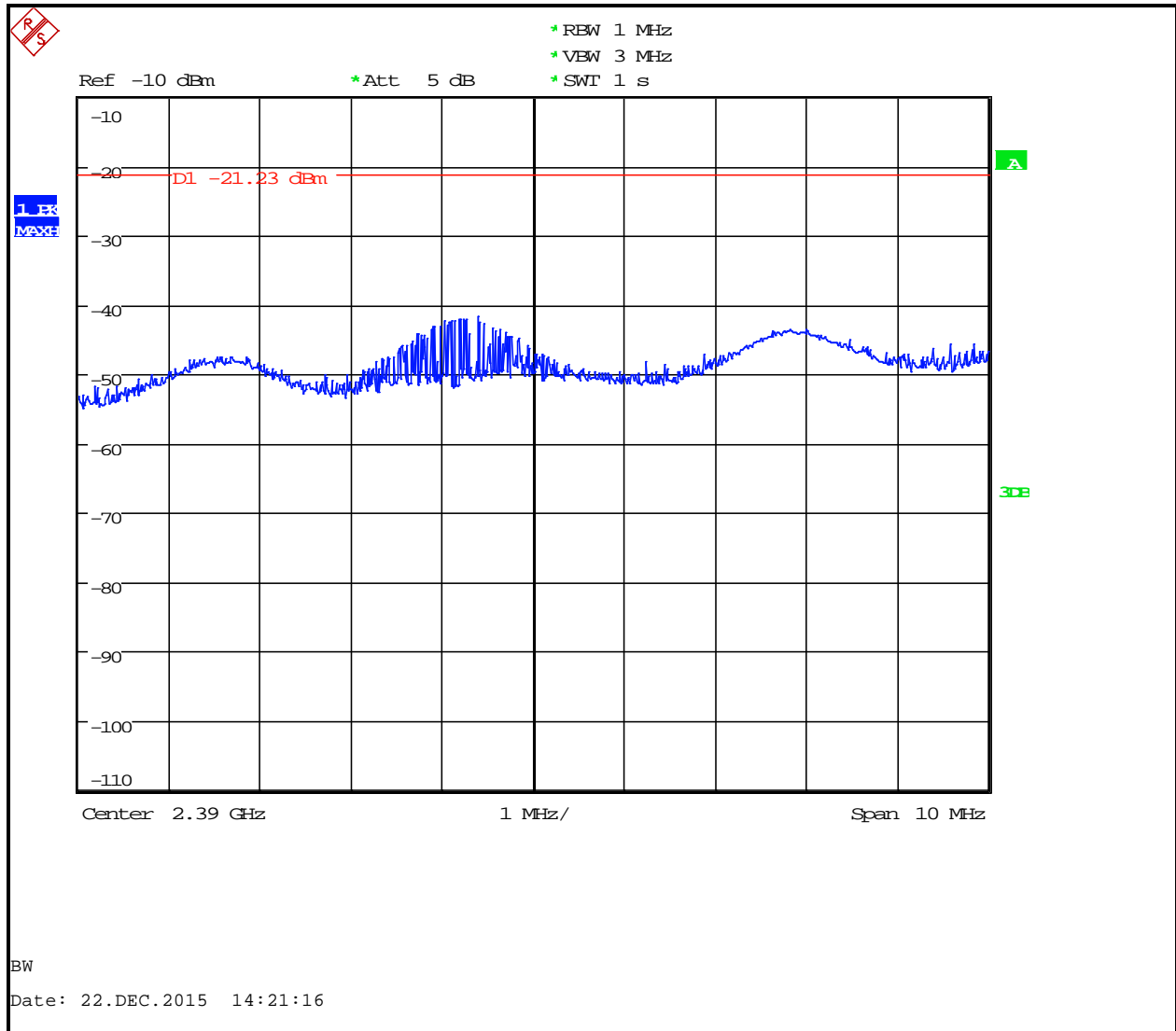
Table 6-1: Band Edge Test Equipment

| RTL Asset # | Manufacturer | Model | Part Type | Serial Number | Calibration Due Date |
|-------------|-----------------|-------|-------------------|---------------|----------------------|
| 901581 | Rohde & Schwarz | FSU | Spectrum Analyzer | 1166.1660.50 | 11/13/16 |

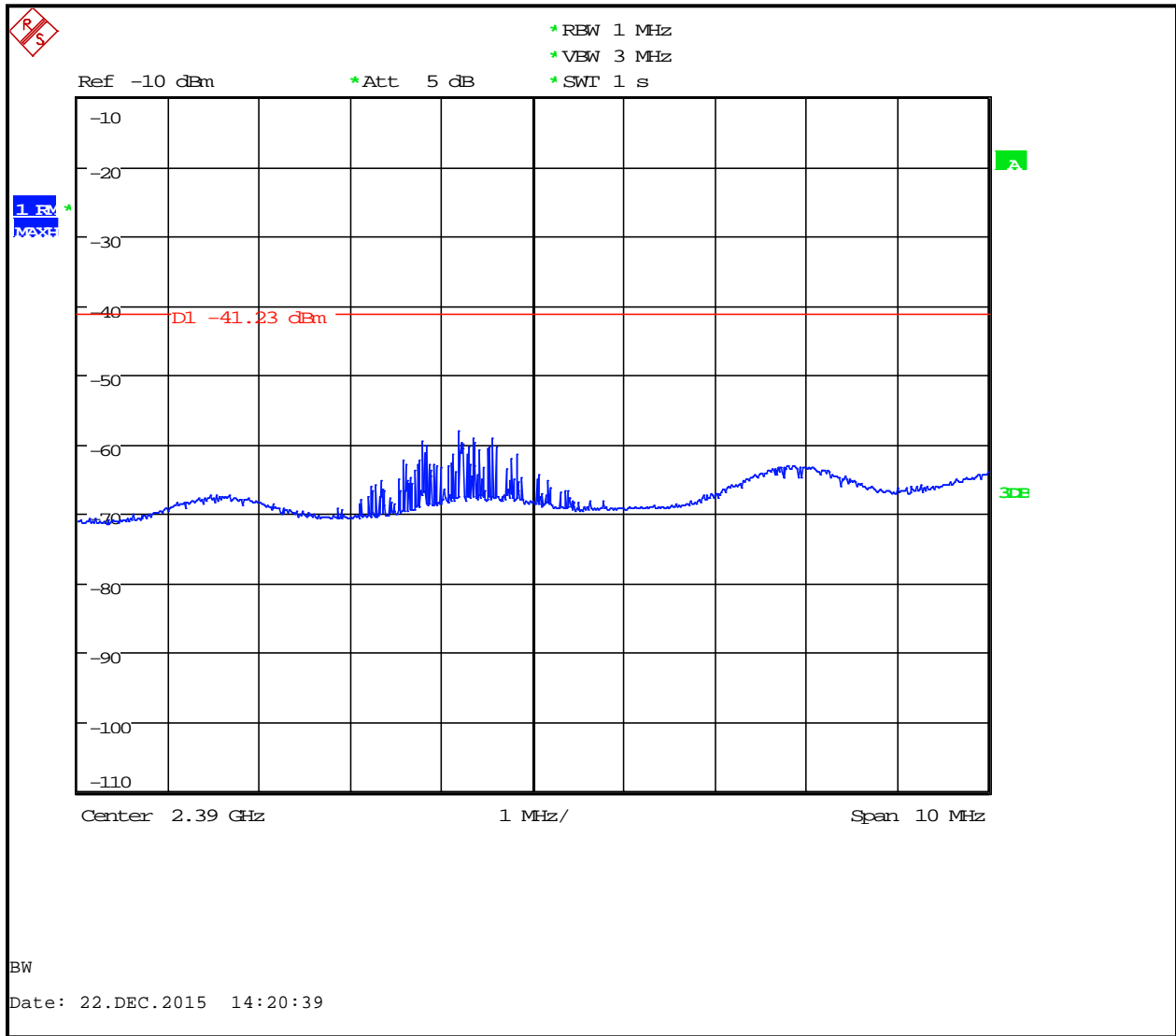
6.2 Band Edge Test Results

6.2.1 Lower Band Edge – Plots

Plot 6-1: Lower Band Edge - Peak



Plot 6-2: Lower Band Edge – Average



6.2.2 Upper Band Edge Plots

Plot 6-3: Upper Band Edge – Peak



Plot 6-4: Upper Band Edge - Average



Test Personnel:

| | | |
|-------------------------------|--|-----------------------------------|
| Dan Baltzell Test Engineer |  Signature | December 22, 2015 Date of Test |
|-------------------------------|--|-----------------------------------|

7 Bandwidth – FCC 15.247(a)(2); RSS-247 5.2(a)

7.1 6 dB Bandwidth Test Procedure

The minimum 6 bandwidth per FCC 15.247 (a)(2) and RSS-247 was measured using a 50-ohm spectrum analyzer. The carrier was adjusted on the analyzer so that it was displayed entirely on the spectrum analyzer. The sweep time was set to auto and allowed through several sweeps with the max hold function used in peak detector mode. The resolution bandwidth was set to 100 kHz, and the video bandwidth set at 300 kHz.

Table 7-1: 6 dB Bandwidth Test Equipment

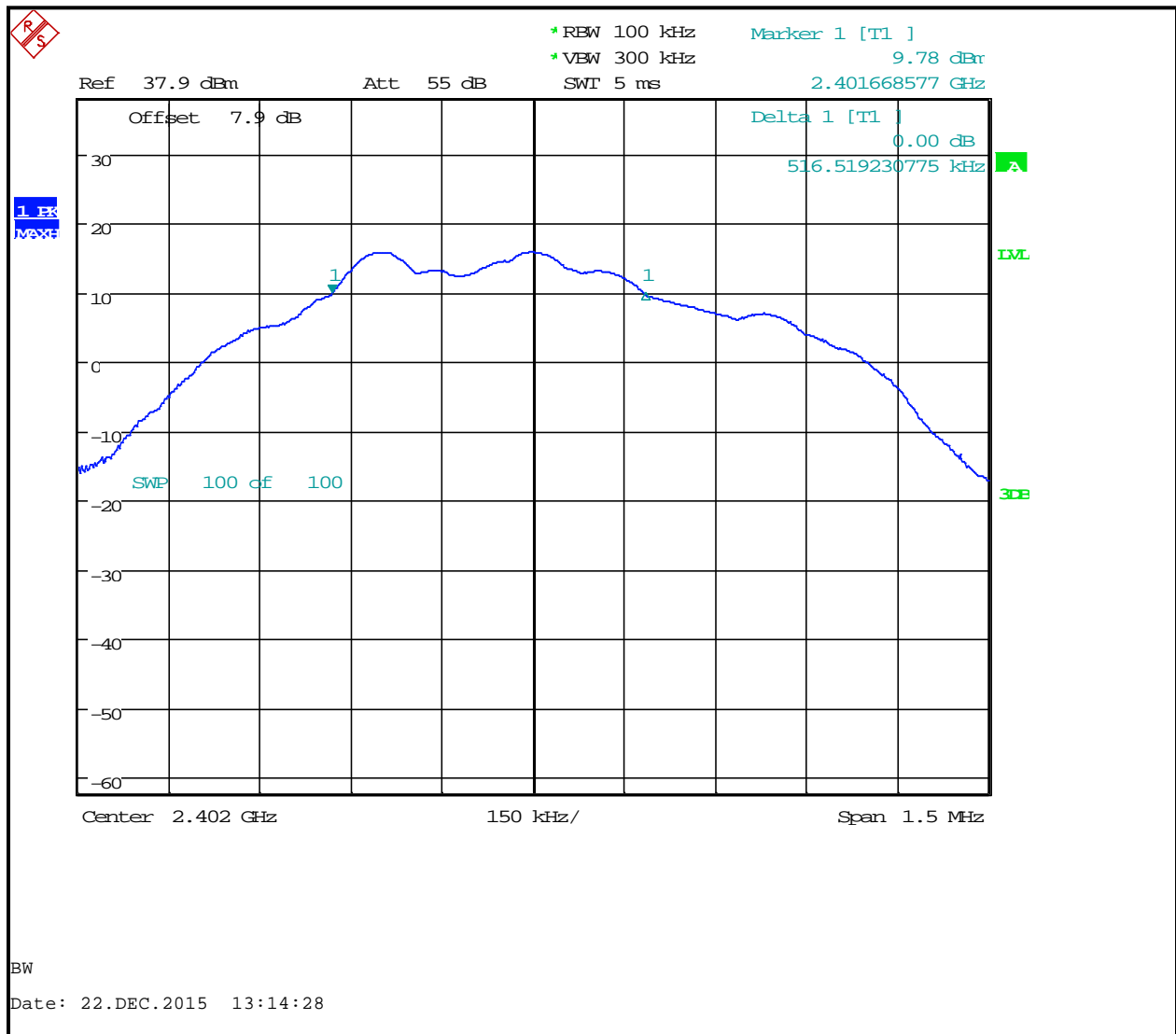
| RTL Asset # | Manufacturer | Model | Part Type | Serial Number | Calibration Due Date |
|-------------|-----------------|-------|-------------------|---------------|----------------------|
| 901581 | Rohde & Schwarz | FSU | Spectrum Analyzer | 1166.1660.50 | 11/13/16 |

7.2 Bandwidth Test Results

Table 7-2: 6 dB Bandwidth Test Data

| Frequency (MHz) | 6 dB Bandwidth (kHz) | Limit (MHz) | Pass/Fail |
|-----------------|----------------------|-------------|-----------|
| 2402 | 516.5 | 0.5 | Pass |
| 2440 | 514.4 | 0.5 | Pass |
| 2480 | 513.5 | 0.5 | Pass |

Plot 7-1: 6 dB Bandwidth – 2402 MHz



Plot 7-2: 6 dB Bandwidth – 2440 MHz



Plot 7-3: 6 dB Bandwidth – 2480 MHz



Test Personnel:

| | | |
|-------------------------------|--|-----------------------------------|
| Dan Baltzell Test Engineer |  Signature | December 22, 2015 Date of Test |
|-------------------------------|--|-----------------------------------|

8 Radiated Emissions - 15.209; RSS-247 5.5; RSS-Gen 6.13/7.1

8.1 Limits of Radiated Emissions Measurement

| Frequency (MHz) | Field Strength ($\mu\text{V}/\text{m}$) | 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.

8.2 Radiated Emissions Measurement Test Procedure

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 above the ground plane. The spectrum was examined from 9 kHz to the 10th harmonic of the highest fundamental transmitter frequency.

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, emissions are measured using a VBW of 10 Hz, with a minimum resolution bandwidth of 1 MHz. No video filter less than 10 times the resolution bandwidth was used. The highest emission amplitudes relative to the appropriate limit were measured and recorded in this report.

Table 8-1: 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 | 9/3/16 |
| 901593 | Insulated Wire Inc. | KPS-1503-360-KPR | SMK RF Cables 36" | NA | 9/3/16 |
| 901242 | Rhein Tech Laboratories | WRT-000-0003 | Wood rotating table | N/A | Not Required |
| 901581 | Rohde & Schwarz | FSU | Spectrum Analyzer | 1166.1660.50 | 11/13/16 |
| 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 |
| 900791 | Chase | CBL6111B | Bilog Antenna (30 MHz – 2000 MHz) | N/A | 6/11/17 |

8.3 Radiated Emissions Test Results

8.3.1 Unintentional Radiated Emissions Test Data

Table 8-2: Digital Radiated Emissions Test Data

| Temperature: 60°F Humidity: 97% | | | | | | | |
|---------------------------------|---------------|-------------------------|-------------------------------|-------------------------|----------------|-------------|-----------|
| Emission Frequency (MHz) | Test Detector | Analyzer Reading (dBuV) | Site Correction Factor (dB/m) | Emission Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Pass/Fail |
| 87.8 | Qp | 3.9 | 0.3 | 4.2 | 40.0 | -35.8 | Pass |
| 125.8 | Qp | -6.1 | 0.5 | -5.6 | 43.5 | -49.1 | Pass |
| 166.2 | Qp | -6.2 | 0.6 | -5.6 | 43.5 | -49.1 | Pass |
| 800.6 | Qp | -9.8 | 2.4 | -7.4 | 46.0 | -53.4 | Pass |
| 813.3 | Qp | -9.5 | 2.4 | -7.1 | 46.0 | -53.1 | Pass |
| 826.6 | Qp | -9.4 | 2.4 | -7.0 | 46.0 | -53.0 | Pass |
| 1601.2 | Av | -9.0 | 3.4 | -5.6 | 54.0 | -59.6 | Pass |
| 1626.6 | Av | -9.3 | 3.4 | -5.9 | 54.0 | -59.9 | Pass |
| 1653.3 | Av | -8.9 | 3.4 | -5.5 | 54.0 | -59.5 | Pass |
| 3202.5 | Av | 3.4 | 27.1 | 30.5 | 54.0 | -23.5 | Pass |
| 3253.3 | Av | -5.3 | 27.2 | 21.9 | 54.0 | -32.1 | Pass |
| 3306.6 | Av | -5.3 | 27.3 | 22.0 | 54.0 | -32.0 | Pass |
| 4003.1 | Av | 0.5 | 33.9 | 34.4 | 54.0 | -19.6 | Pass |
| 4066.6 | Av | -10.2 | 34.0 | 23.8 | 54.0 | -30.2 | Pass |
| 4133.2 | Av | -9.4 | 33.9 | 24.5 | 54.0 | -29.5 | Pass |
| 5604.3 | Av | 2.2 | 34.6 | 36.8 | 54.0 | -17.2 | Pass |
| 5693.2 | Av | -9.8 | 34.7 | 24.9 | 54.0 | -29.1 | Pass |
| 5786.5 | Av | -9.4 | 34.9 | 25.5 | 54.0 | -28.5 | Pass |
| 6404.9 | Av | 1.1 | 35.1 | 36.2 | 54.0 | -17.8 | Pass |
| 10746.4 | Av | -9.4 | 42.4 | 33.0 | 54.0 | -21.0 | Pass |
| 11573.1 | Av | -9.5 | 42.8 | 33.3 | 54.0 | -20.7 | Pass |
| 12809.8 | Av | 0.4 | 46.5 | 46.9 | 54.0 | -7.1 | Pass |
| 13226.4 | Av | -7.2 | 46.9 | 39.7 | 54.0 | -14.3 | Pass |

8.3.2 Spurious/Harmonics Radiated Emissions Test Data

Table 8-3: Peak Radiated Emissions Spurious/Harmonics – 2402 MHz

| Emission Frequency (MHz) | Peak Analyzer Reading (dBuV) (1 MHz RBW/ 3 MHz VBW) | Site Correction Factor (dB/m) | Peak Emission Level (dBuV/m) | Peak Limit (dBuV/m) | Peak Margin (dB) |
|--------------------------|---|-------------------------------|------------------------------|---------------------|------------------|
| 4804.0 | 11.9 | 33.8 | 45.7 | 74.0 | -28.3 |
| 12010.0 | 12.5 | 43.4 | 55.9 | 74.0 | -18.1 |
| 19216.0 | 10.4 | 51.7 | 62.1 | 74.0 | -11.9 |

Table 8-4: Average Radiated Emissions Spurious/Harmonics – 2402 MHz

| Emission Frequency (MHz) | Average Analyzer Reading (dBuV) (1 MHz RBW/ 10 Hz VBW) | Site Correction Factor (dB/m) | Average Emission Level (dBuV/m) | Average Limit (dBuV/m) | Average Margin (dB) |
|--------------------------|--|-------------------------------|---------------------------------|------------------------|---------------------|
| 4804.0 | 6.5 | 33.8 | 40.3 | 54.0 | -13.7 |
| 12010.0 | 0.7 | 43.4 | 44.1 | 54.0 | -9.9 |
| 19216.0 | -9.1 | 51.7 | 42.6 | 54.0 | -11.4 |

Table 8-5: Peak Radiated Emissions Spurious/Harmonics - 2440 MHz

| Emission Frequency (MHz) | Peak Analyzer Reading (dBuV) (1 MHz RBW/ 3 MHz VBW) | Site Correction Factor (dB/m) | Peak Emission Level (dBuV/m) | Peak Limit (dBuV/m) | Peak Margin (dB) |
|--------------------------|---|-------------------------------|------------------------------|---------------------|------------------|
| 4880.0 | 11.1 | 33.9 | 45.0 | 74.0 | -29.0 |
| 7320.0 | 12.4 | 35.6 | 48.0 | 74.0 | -26.0 |
| 12200.0 | 9.2 | 43.3 | 52.5 | 74.0 | -21.5 |
| 19520.0 | 12.0 | 52.0 | 64.0 | 74.0 | -10.0 |

Table 8-6: Average Radiated Emissions Spurious/Harmonics – 2440 MHz

| Emission Frequency (MHz) | Average Analyzer Reading (dBuV) (1 MHz RBW/ 10 Hz VBW) | Site Correction Factor (dB/m) | Average Emission Level (dBuV/m) | Average Limit (dBuV/m) | Average Margin (dB) |
|--------------------------|--|-------------------------------|---------------------------------|------------------------|---------------------|
| 4880.0 | 5.0 | 33.9 | 38.9 | 54.0 | -15.1 |
| 7320.0 | 1.0 | 35.6 | 36.6 | 54.0 | -17.4 |
| 12200.0 | 0.1 | 43.3 | 43.4 | 54.0 | -10.6 |
| 19520.0 | -8.5 | 52.0 | 43.5 | 54.0 | -10.5 |

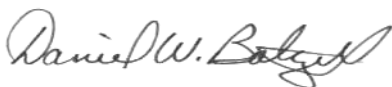
Table 8-7: Peak Radiated Emissions Spurious/Harmonics - 2480 MHz

| Emission Frequency (MHz) | Peak Analyzer Reading (dBuV) (1 MHz RBW/ 3 MHz VBW) | Site Correction Factor (dB/m) | Peak Emission Level (dBuV/m) | Peak Limit (dBuV/m) | Peak Margin (dB) |
|--------------------------|---|-------------------------------|------------------------------|---------------------|------------------|
| 4960.0 | 10.6 | 34.1 | 44.7 | 74.0 | -29.3 |
| 7440.0 | 12.7 | 35.8 | 48.5 | 74.0 | -25.5 |
| 12400.0 | 9.1 | 43.3 | 52.4 | 74.0 | -21.6 |
| 19840.0 | 11.9 | 52.3 | 64.2 | 74.0 | -9.8 |
| 22320.0 | 11.6 | 53.4 | 65.0 | 74.0 | -9.0 |

Table 8-8: Average Radiated Emissions Spurious/Harmonics – 2480 MHz

| Emission Frequency (MHz) | Average Analyzer Reading (dBuV) (1 MHz RBW/ 10 Hz VBW) | Site Correction Factor (dB/m) | Average Emission Level (dBuV/m) | Average Limit (dBuV/m) | Average Margin (dB) |
|--------------------------|--|-------------------------------|---------------------------------|------------------------|---------------------|
| 4960.0 | 8.6 | 34.1 | 42.7 | 54.0 | -11.3 |
| 7440.0 | 0.6 | 35.8 | 36.4 | 54.0 | -17.6 |
| 12400.0 | 0.6 | 43.3 | 43.9 | 54.0 | -10.1 |
| 19840.0 | -8.2 | 52.3 | 44.1 | 54.0 | -9.9 |
| 22320.0 | -7.9 | 53.4 | 45.5 | 54.0 | -8.5 |

Test Personnel:

| | | |
|-------------------------------------|--|-----------------------------------|
| Daniel W. Baltzell Test Engineer |  Signature | December 23, 2015 Date of Test |
|-------------------------------------|--|-----------------------------------|

9 Conclusion

The data in this measurement report shows that the EUT as tested, Harris Corporation Model XL-185P, FCC ID: OWDTR-0154-E, IC: 3636B-0154, complies with the applicable requirements of Parts 2 and 15 of the FCC Rules and Regulations and Industry Canada RSS-247 and RSS-Gen.