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Otodata Wireless Network Inc.
TEST REPORT

SCOPE OF WORK
EMC TESTING – MEP3ADLTE

REPORT NUMBER
103481663LEX-001

ISSUE DATE	**[REVISED DATE]**
9/13/2018	9/13/2018

PAGES
30

DOCUMENT CONTROL NUMBER
Non-Specific EMC Report Shell Rev. December 2017

EMC TEST REPORT

(FULL COMPLIANCE)

Report Number: 103481663LEX-001

Project Number: G103481663

Report Issue Date: 9/13/2018

Model(s) Tested: MEP3ADLTE

Standards: Title 47 CFR Part 15.247
RSS-247 Issue 2
RSS-Gen Issue 4

Tested by:
Intertek Testing Services NA, Inc.
731 Enterprise Dr.
Lexington, KY 40510
USA

Client:
Otodata Wireless Network Inc.
9280 Boul. De l'Acadie
Montreal, QC H4N 3C5
Canada

Report prepared by

Brian Daffin,
Engineer

Report reviewed by

Bryan Taylor,
Team Leader

Table of Contents

1 Introduction and Conclusion

The tests indicated in section 2.0 were performed on the product constructed as described in section 4.0. The remaining test sections are the verbatim text from the actual data sheets used during the investigation. These test sections include the test name, the specified test Method, a list of the actual Test Equipment Used, documentation Photos, Results and raw Data. No additions, deviations, or exclusions have been made from the standard(s) unless specifically noted.

Based on the results of our investigation, we have concluded the product tested **complies** with the requirements of the standard(s) indicated. The results obtained in this test report pertain only to the item(s) tested. Intertek does not make any claims of compliance for samples or variants which were not tested.

2 Test Summary

Section	Test full name	Result
6	Receiver Spurious Emissions (ANSI C63.4: 2014)	Pass
7	Transmitter Spurious Emissions (FCC Part 15.247(d), RSS-247 Issue 2 § 5.5)	Pass
8	Conducted Spurious Emissions (FCC Part 15.247(d), RSS-Gen Issue 4 § 7.1.3)	Pass
9	Output Power (FCC Part 15.247(b)(1), RSS-247 Issue 2 § 5.4(b))	Pass
9	Occupied Bandwidth (FCC Part 15.247, RSS-247 Issue 2 § 5.2(a))	Pass
11	Power Spectral Density (FCC Part 15.247(e), RSS-247 Issue 2 § 5.2(b))	Pass
11	Antenna Requirement (FCC Part 15.203, RSS-Gen Issue 4 § 8.3)	Pass
-	Conducted Emissions (ANSI C63.4: 2014)	NA[1]

[1] Test it not applicable. Unit is battery powered and does not connect directly or indirectly to AC Mains.

3 Client Information

This product was tested at the request of the following:

Client Information	
Client Name:	Otodata Wireless Network Inc.
Address:	9280 Boul. De l'Acadie Montreal, QC H4N 3C5 Canada
Contact:	Jason Gallovich
Telephone:	514 673 0244
Email:	jmgallovich@otodata.ca
Manufacturer Information	
Manufacturer Name:	Otodata Wireless Network Inc.
Manufacturer Address:	9280 Boul. De l'Acadie Montreal, QC H4N 3C5 Canada

4 Description of Equipment under Test and Variant Models

Equipment Under Test	
Product Name	MEP3ADLTE
Model Number	MEP3ADLTE
IMEI	355285081100594355285081100594
Receive Date	6/11/2018
Test Start Date	6/11/2018
Test End Date	9/13/2018
Device Received Condition	Good
Test Sample Type	Production
Rated Voltage	7.2 VDC via internal battery
Wireless Technology	BLE used as Digital Transmission System
Frequency Band(s)	2402-2480 MHz
Modulation Type(s)	GFSK
Data Rate	2Mbps
Test Channel(s)	0, 19, 39
Maximum Antenna Gain (dBi)	2.14dBi
Maximum Conducted Output Power (dBm)	4.97dBm
Description of Equipment Under Test (provided by client)	
Remote tank level monitoring communicator.	

4.1 Variant Models:

There were no variant models covered by this evaluation.

5 System Setup and Method

5.1 Method:

Configuration as required by ANSI C63.4: 2014 and ANSI C63.10:2013

No.	Descriptions of EUT Exercising
1	Transmitting a max power, continuous, modulated signal on a specified channel and modulation scheme

Cables					
ID	Description	Length (m)	Shielding	Ferrites	Termination

Support Equipment			
Description	Manufacturer	Model Number	Serial Number

5.2 EUT Photo:

6 Receiver Spurious Emissions

6.1 Test Method

Tests are performed in accordance with ANSI C63.4: 2014

TEST SITE: 10m ALSE

Site Designation: 10m Chamber

Measurement Uncertainty

Measurement	Frequency Range	Expanded Uncertainty (k=2)	Ucispr
Radiated Emissions, 10m	30-1000 MHz	3.9dB	6.3 dB
Radiated Emissions, 3m	30-1000 MHz	4.0dB	6.3 dB
Radiated Emissions, 3m	1-6 GHz	4.7dB	5.2 dB
Radiated Emissions, 3m	6-15 GHz	4.7dB	5.5 dB
Radiated Emissions, 3m	15-18 GHz	4.7dB	5.5 dB
Radiated Emissions, 3m	18-40 GHz	4.7dB	5.5 dB

As shown in the table above our radiated emissions U_{lab} is less than the corresponding U_{CISPR} reference value in CISPR 16-4-2 Table 1, hence the compliance of the product is only based on the measured value, and no measurement uncertainty correction is required.

6.2 Sample Calculation

The field strength is calculated by adding the Antenna Factor and Cable Factor, and subtracting the Amplifier Gain (if any) from the measured reading. The basic equation with a sample calculation is as follows:

FS = RA + AF + CF - AG
Where FS = Field Strength in dBµV/m
RA = Receiver Amplitude (including preamplifier) in dBµV
CF = Cable Attenuation Factor in dB
AF = Antenna Factor in dB
AG = Amplifier Gain in dB

In the following table(s), the reading shown on the data table reflects the preamplifier gain. An example for the calculations in the following table is as follows.

Assume a receiver reading of 52.0 dBµV is obtained. The antenna factor of 7.4 dB and cable factor of 1.6 dB is added. The amplifier gain of 29 dB is subtracted, giving a field strength of 32 dBµV/m. This value in dBµV/m was converted to its corresponding level in µV/m.

RA = 52.0 dBµV
AF = 7.4 dB/m
CF = 1.6 dB
AG = 29.0 dB
FS = 32 dBµV/m

To convert from dBµV to µV or mV the following was used:

$UF = 10^{(NF / 20)}$ where UF = Net Reading in µV
NF = Net Reading in dBµV

Example:

FS = RA + AF + CF – AG = 52.0 + 7.4 + 1.6 – 29.0 = 32.0
$UF = 10^{(32\ dB\mu V / 20)}$ = 39.8 µV/m

6.3 Test Equipment Used

Description	Asset	Manufacturer	Model	Cal Date	Cal Due
EMI Test Receiver	3900	Rohde&Schwarz	ESU40	9/20/2017	9/20/2018
Bilog Antenna	3133	ETS Lindgren	3142C	4/6/2017	10/6/2018
Horn Antenna	3780	ETS Lindgren	3117	6/7/2017	6/7/2019
System Controller	4096	ETS Lindgren	2090	Verify at Time of Use	Verify at Time of Use
System Controller	3957	Sunol Sciences	SC99V	Verify at Time of Use	Verify at Time of Use
3m Cable Antenna→Preamp	3074			11/29/2017	11/29/2018
3m Cable Preamplifier	3918	TS-PR18	122005	11/29/2017	11/29/2018
3m Cable Preamp→Chamber	2588			11/29/2017	11/29/2018
3m Cable Chamber→Control Room	2593			11/29/2017	11/29/2018
3m Cable Control Room→Receiver	2592			11/29/2017	11/29/2018

6.4 Software Utilized

Name	Manufacturer	Version
EMC32	Rohde & Schwarz	Version 9.15.02

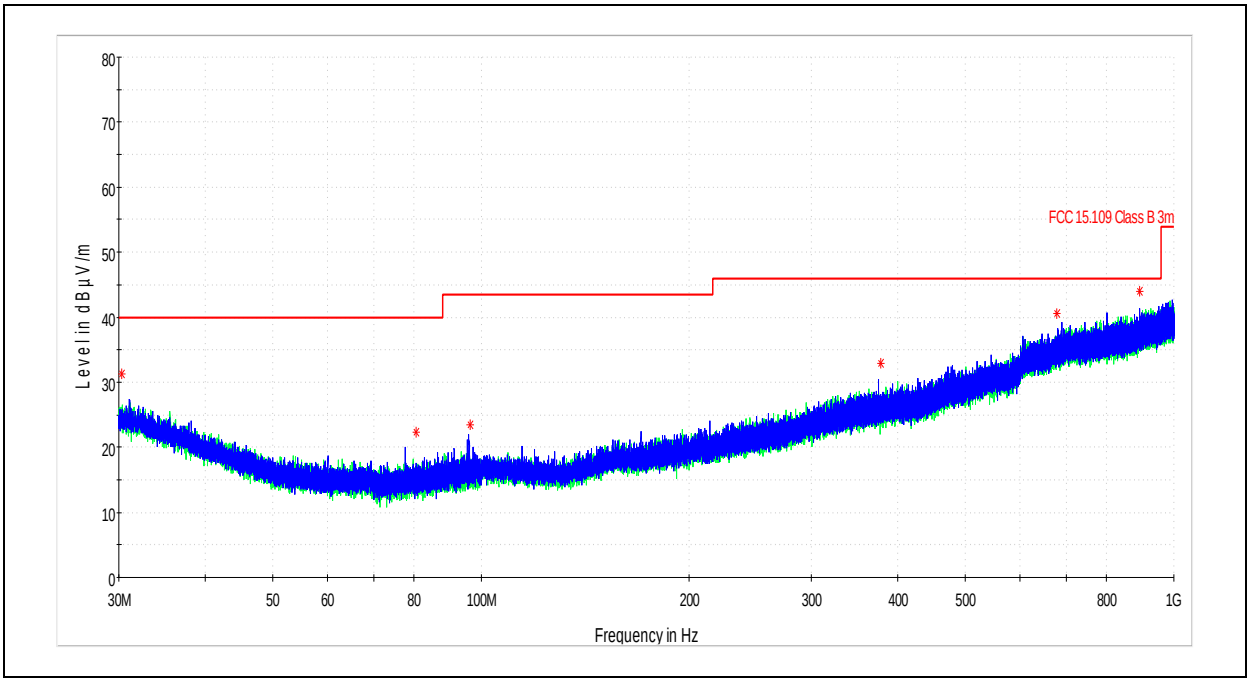
6.5 Test Results

The sample tested was found to be **compliant**.

6.6 Test Conditions

Test Personnel:	Brian Daffin	Test Date:	6/14/2018
Supervising/Reviewing Engineer: (Where Applicable)	NA	Limit Applied:	See Above
Product Standard:	FCC Part 15.247 RSS-247 Issue 2	Ambient Temperature:	22.7 C
Input Voltage:	Battery	Relative Humidity:	47.3 %
Pretest Verification w / Ambient Signals or BB Source:	Yes	Atmospheric Pressure:	985.4mbar

6.7 Test Data: 30MHz – 1GHz

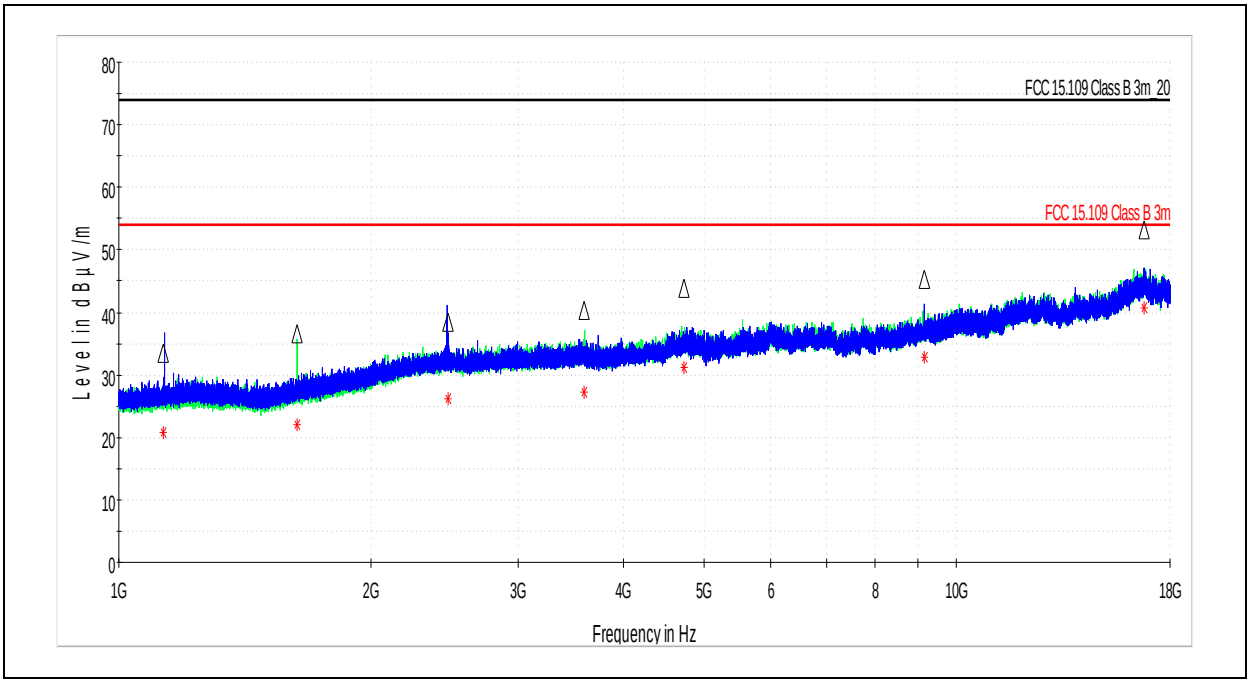


Final_Result

Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
30.320000	31.35	40.00	8.65	120.000	258.6	V	283.0	24.5
80.590000	22.26	40.00	17.74	120.000	123.8	V	73.0	15.8
96.527000	23.44	43.52	20.08	120.000	390.0	V	322.0	17.0
377.620000	32.94	46.02	13.08	120.000	272.1	V	20.0	26.0
678.170000	40.61	46.02	5.41	120.000	170.7	H	331.0	32.9
892.120000	44.04	46.02	1.98	120.000	97.9	V	128.0	35.7

Deviations, Additions, or Exclusions: None

6.8 Test Data: 1GHz – 18GHz



Final_Result_PK+

Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
1129.114500	33.50	74.00	40.50	1000.000	300.0	V	212.0	-1.8
1632.436000	36.53	74.00	37.47	1000.000	410.0	H	321.0	-0.9
2474.729000	38.54	74.00	35.46	1000.000	300.0	V	9.0	3.9
3597.549000	40.27	74.00	33.73	1000.000	237.0	H	201.0	5.7
4729.269000	43.75	74.00	30.25	1000.000	209.0	V	10.0	8.4
9167.194500	45.25	74.00	28.75	1000.000	252.0	V	146.0	12.7
16756.594500	53.23	74.00	20.77	1000.000	223.0	V	209.0	21.7

Final_Result_AVG

Frequency (MHz)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
1129.114500	20.69	54.00	33.31	1000.000	300.0	V	212.0	-1.8
1632.436000	22.03	54.00	31.97	1000.000	410.0	H	321.0	-0.9
2474.729000	26.27	54.00	27.73	1000.000	300.0	V	9.0	3.9
3597.549000	27.17	54.00	26.83	1000.000	237.0	H	201.0	5.7
4729.269000	31.08	54.00	22.92	1000.000	209.0	V	10.0	8.4
9167.194500	32.91	54.00	21.09	1000.000	252.0	V	146.0	12.7
16756.594500	40.77	54.00	13.23	1000.000	223.0	V	209.0	21.7

Deviations, Additions, or Exclusions: None

7 Transmitter Spurious Emissions

7.1 Test Limits

FCC Part 15.247(d):

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in §15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in §15.209(a) (see §15.205(c)).

RSS-247 Issue 2 § 5.5:

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated device is operating, the RF power that is produced shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided that the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of root-mean-square averaging over a time interval, as permitted under section 5.4(d), the attenuation required shall be 30 dB instead of 20 dB. Attenuation below the general field strength limits specified in RSS-Gen is not required.

7.2 Test Method

Tests are performed in accordance with ANSI C63.10:2013.

7.3 Test Equipment Used

Description	Asset	Manufacturer	Model	Cal Date	Cal Due
EMI Test Receiver	3900	Rohde&Schwarz	ESU40	9/20/2017	9/20/2018
Bilog Antenna	3133	ETS Lindgren	3142C	10/6/2017	10/6/2018
Horn Antenna	3780	ETS Lindgren	3117	6/7/2017	6/7/2018
18-40GHz Horn Antenna			3116C		
System Controller	4096	ETS Lindgren	2090	Verify at Time of Use	Verify at Time of Use
System Controller	3957	Sunol Sciences	SC99V	Verify at Time of Use	Verify at Time of Use
3m Cable Antenna→Preamp	3074			11/29/2017	11/29/2018
3m Cable Preamplifier	3918	TS-PR18	122005	11/29/2017	11/29/2018
3m Cable Preamp→Chamber	2588			11/29/2017	11/29/2018
3m Cable Chamber→Control Room	2593			11/29/2017	11/29/2018
3m Cable Control Room→Receiver	2592			11/29/2017	11/29/2018
40GHz Antenna→Preamp	7020			12/1/2017	12/1/2018
40GHz Preamp→Receiver	7021			12/1/2017	12/1/2018
18-40GHz preamp	3921	Rohde&Schwarz	TS-PR40	12/1/2017	12/1/2018

7.4 Software Utilized

Name	Manufacturer	Version
EMC32	Rohde & Schwarz	Version 9.15.02

7.5 Test Results

The sample tested was found to be **compliant**.

7.6 Test Conditions

Test Personnel:	Brian Daffin	Test Date:	6/12/2018 – 6/18/2018
Supervising/Reviewing Engineer: (Where Applicable)	NA	Limit Applied:	See Above
Product Standard:	FCC Part 15.247 RSS-247 Issue 2	Ambient Temperature:	22.7 C
Input Voltage:	Battery	Relative Humidity:	47.3 %
Pretest Verification w / Ambient Signals or BB Source:	Yes	Atmospheric Pressure:	985.4mbar

7.7 Test Data: Radiated Spurious Emissions

2402MHz

Final_Result_PK+

Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
4804.018000	61.69	74.00	12.31	1000.000	341.0	H	226.0	7.8
7206.010000	52.42	74.00	21.58	1000.000	294.0	H	201.0	10.2
9603.626000	45.95	74.00	28.05	1000.000	400.0	V	295.0	13.5

Final_Result_AVG

Frequency (MHz)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
4804.018000	46.94	54.00	7.06	1000.000	341.0	H	226.0	7.8
7206.010000	41.60	54.00	12.40	1000.000	294.0	H	201.0	10.2
9603.626000	33.31	54.00	20.69	1000.000	400.0	V	295.0	13.5

2440MHz

Final_Result_PK+

Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
4880.050500	57.03	74.00	16.97	1000.000	313.0	V	278.0	7.4
7319.989000	50.44	74.00	23.56	1000.000	400.0	H	0.0	10.5
9765.522000	46.20	74.00	27.80	1000.000	300.0	V	168.0	13.8

Final_Result_AVG

Frequency (MHz)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
4880.050500	45.29	54.00	8.71	1000.000	313.0	V	278.0	7.4
7319.989000	39.31	54.00	14.69	1000.000	400.0	H	0.0	10.5
9765.522000	33.34	54.00	20.66	1000.000	300.0	V	168.0	13.8

2480MHz

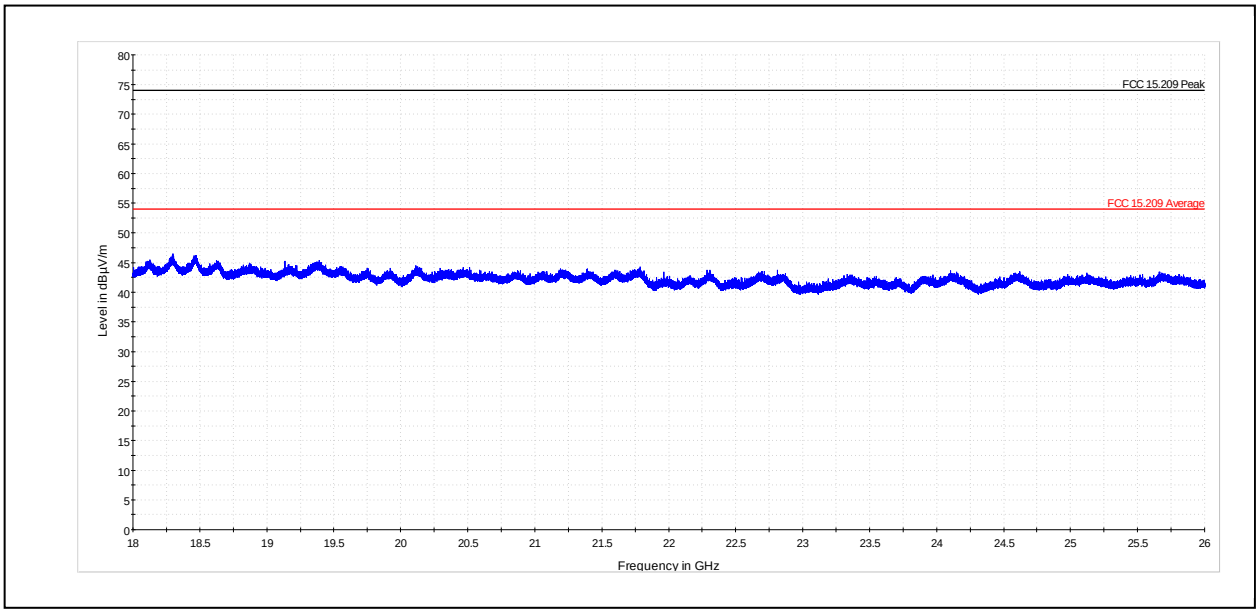
Final_Result_PK+

Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
4959.906000	63.22	74.00	10.78	1000.000	400.0	H	66.0	7.2
7440.090000	53.18	74.00	20.82	1000.000	276.0	H	296.0	10.7
9918.514000	46.36	74.00	27.64	1000.000	261.0	H	77.0	14.0

Final_Result_AVG

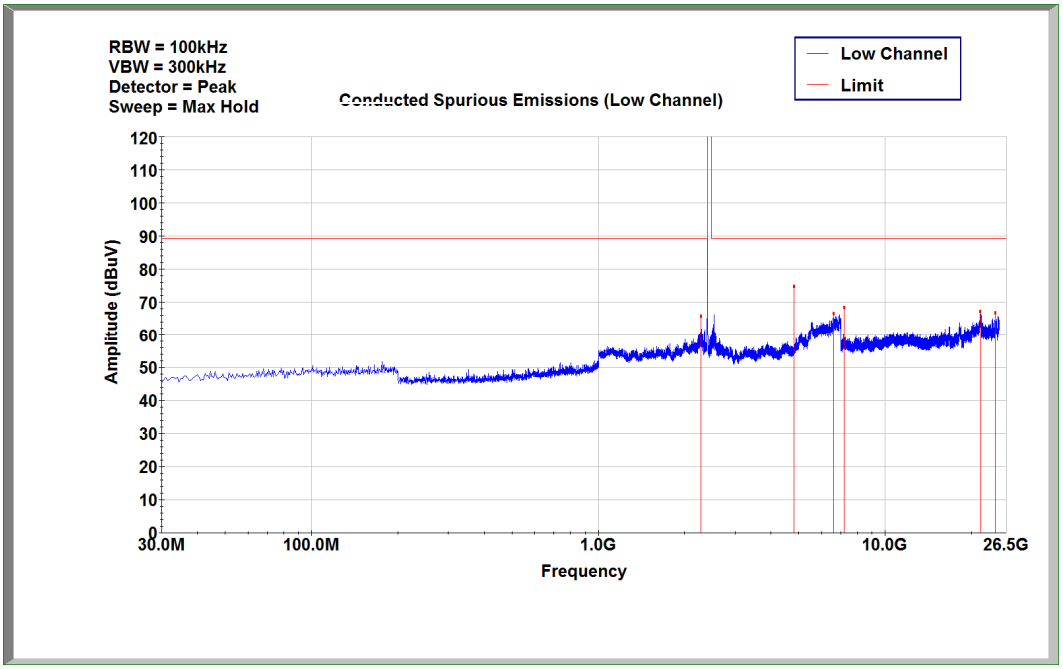
Frequency (MHz)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
4959.906000	53.92	54.00	0.08	1000.000	400.0	H	66.0	7.2
7440.090000	42.36	54.00	11.64	1000.000	276.0	H	296.0	10.7
9918.514000	33.86	54.00	20.14	1000.000	261.0	H	77.0	14.0

18-26GHz spurious emissions data, representative of the worst case of all transmission modes, measured in 3 orthogonal axes.

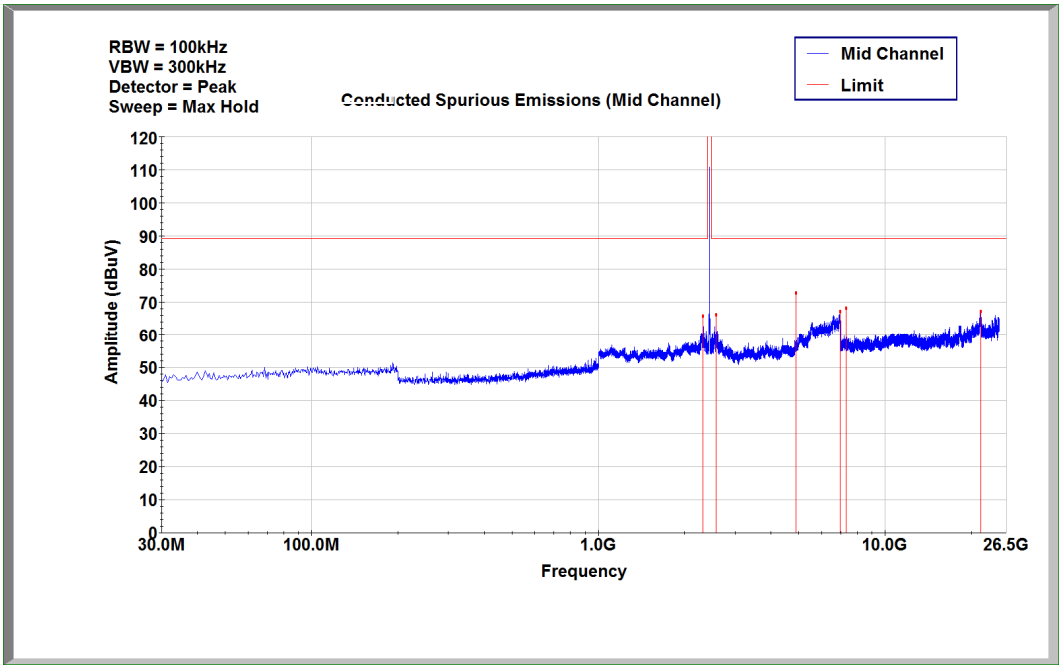


7.8 Test Data: Conducted Spurious Emissions

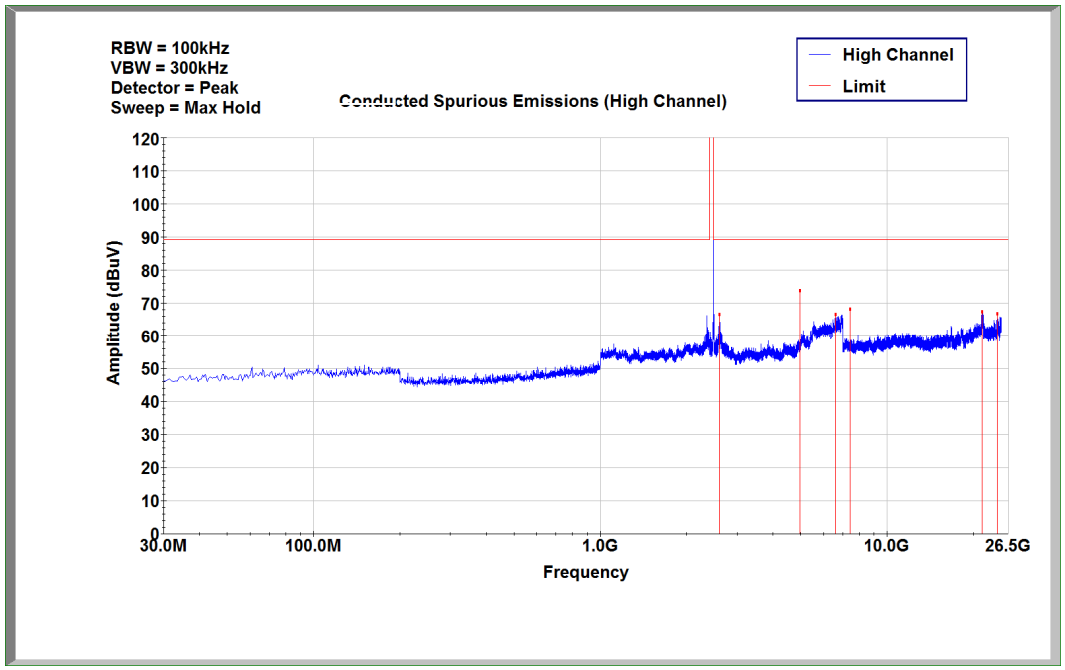
2402MHz



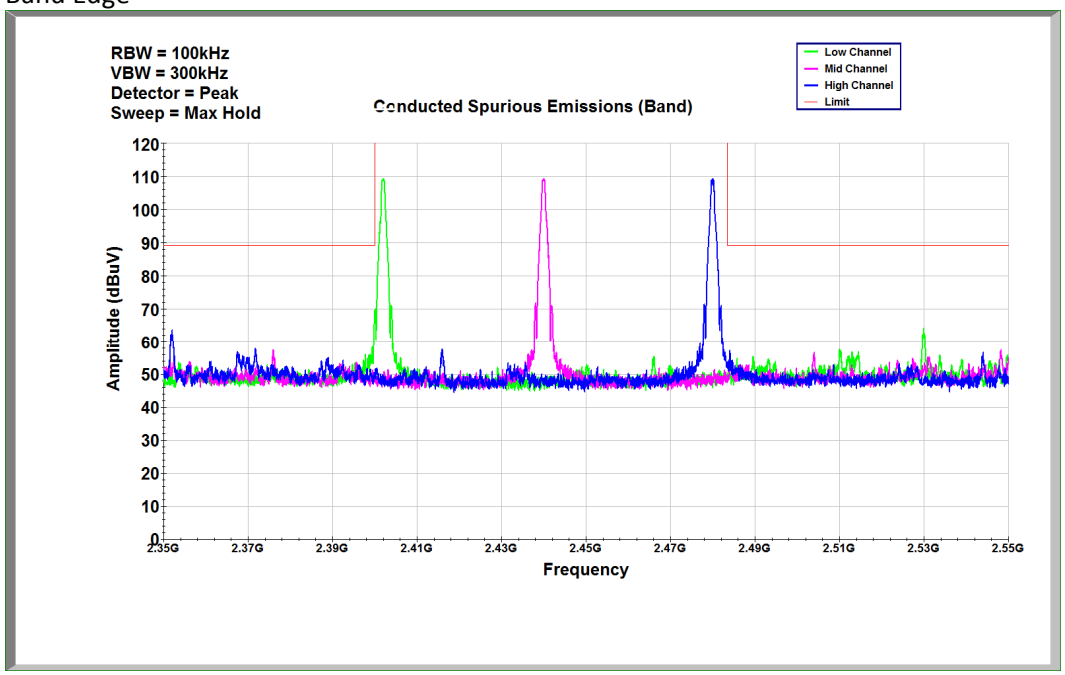
2440MHz



2480MHz



Band Edge



8 Conducted Output Power

8.1 Test Limits

FCC Part 15.247(b)(1):

For frequency hopping systems operating in the 2400-2483.5 MHz band employing at least 75 non-overlapping hopping channels, and all frequency hopping systems in the 5725-5850 MHz band: 1 watt. For all other frequency hopping systems in the 2400-2483.5 MHz band: 0.125 watts.

RSS-247 Issue 2 § 5.4(b):

For FHSs operating in the band 2400-2483.5 MHz, the maximum peak conducted output power shall not exceed 1.0 W if the hopset uses 75 or more hopping channels; the maximum peak conducted output power shall not exceed 0.125 W if the hopset uses less than 75 hopping channels. The e.i.r.p. shall not exceed 4 W, except as provided in section 5.4(e).

8.2 Test Method

Tests are performed in accordance with ANSI C63.10:2013.

8.3 Test Equipment Used

Description	Asset	Manufacturer	Model	Cal Date	Cal Due
EMI Test Receiver	3900	Rohde&Schwarz	ESU40	9/20/2017	9/20/2018

8.4 Test Results

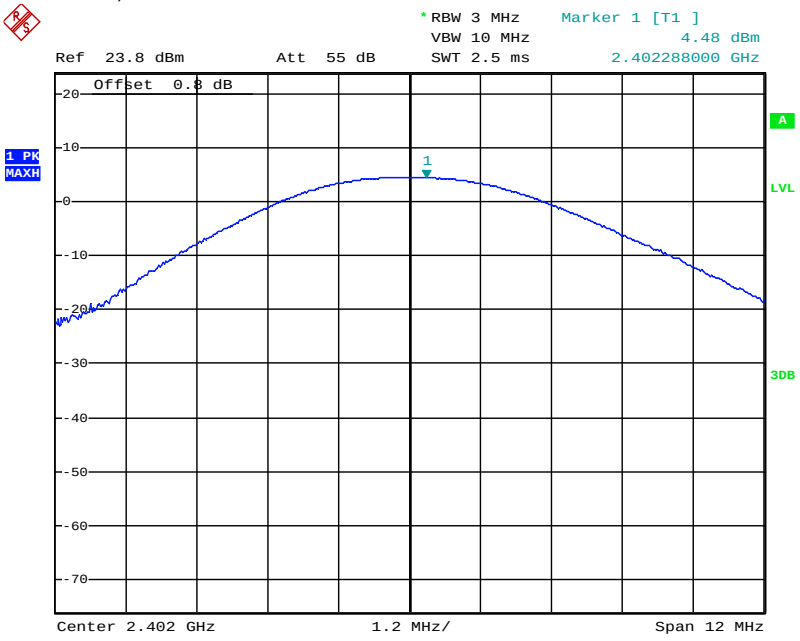
The device was found to be **compliant**. The output power was less than 0.125W.

8.5 Test Conditions

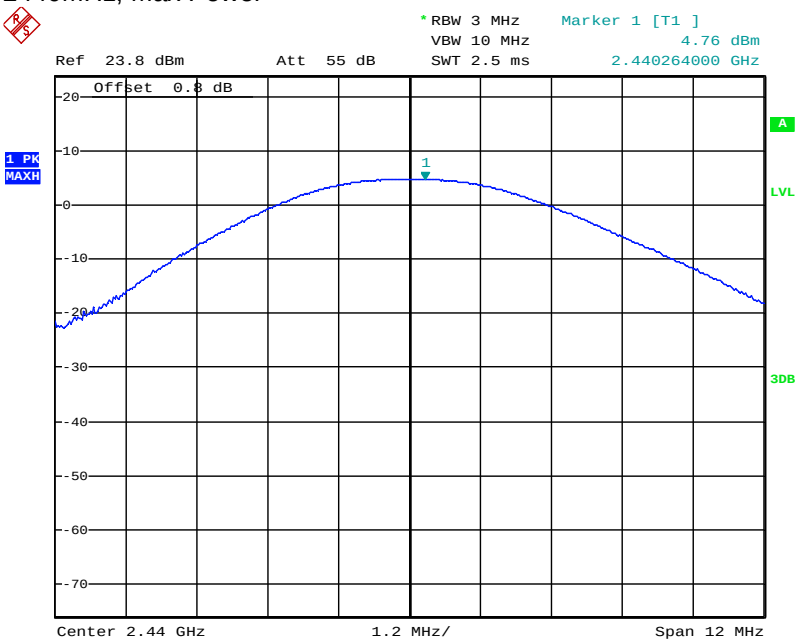
Test Personnel:	Brian Daffin	Test Date:	6/14/2018
Supervising/Reviewing Engineer: (Where Applicable)	NA	Limit Applied:	See Above
Product Standard:	FCC Part 15.247 RSS-247 Issue 2	Ambient Temperature:	22.7 C
Input Voltage:	Battery	Relative Humidity:	47.3 %
Pretest Verification w / Ambient Signals or BB Source:	Yes	Atmospheric Pressure:	985.4mbar

8.6 Test Data

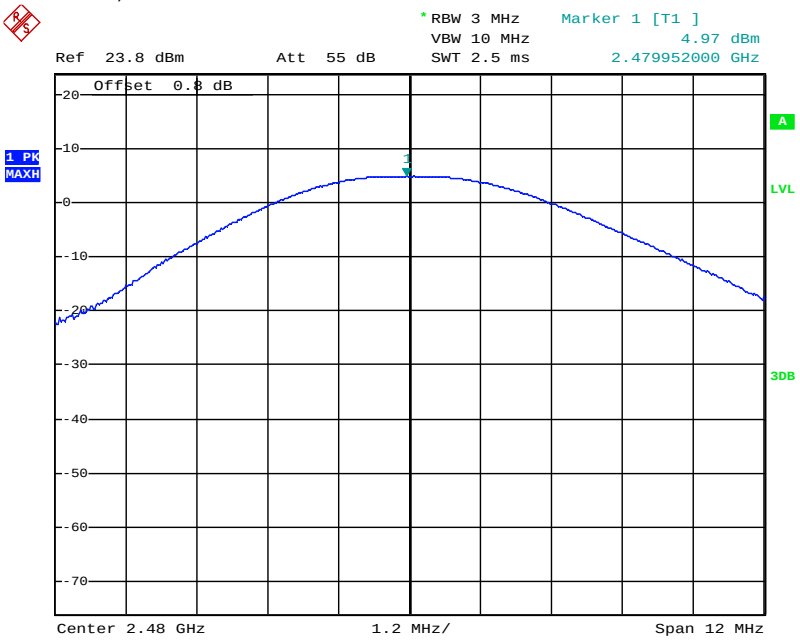
2402MHz, Max Power



2440MHz, Max Power



2480MHz, Max Power



Deviations, Additions, or Exclusions: None.

9 Occupied Bandwidth

9.1 Test Limits

FCC Part 15.247(a)(2):

Systems using digital modulation techniques may operate in the 902-928 MHz, 2400-2483.5 MHz, and 5725-5850 MHz bands. The minimum 6 dB bandwidth shall be at least 500 kHz.

RSS-247 Issue 2 § 5.2(a):

The minimum 6 dB bandwidth shall be 500 kHz.

9.2 Test Method

Tests are performed in accordance with ANSI C63.10:2013.

9.3 Test Equipment Used

Description	Asset	Manufacturer	Model	Cal Date	Cal Due
Spectrum Analyzer	3099	Rohde & Schwarz	FSP7	10/18/2017	10/18/2018

9.4 Test Results

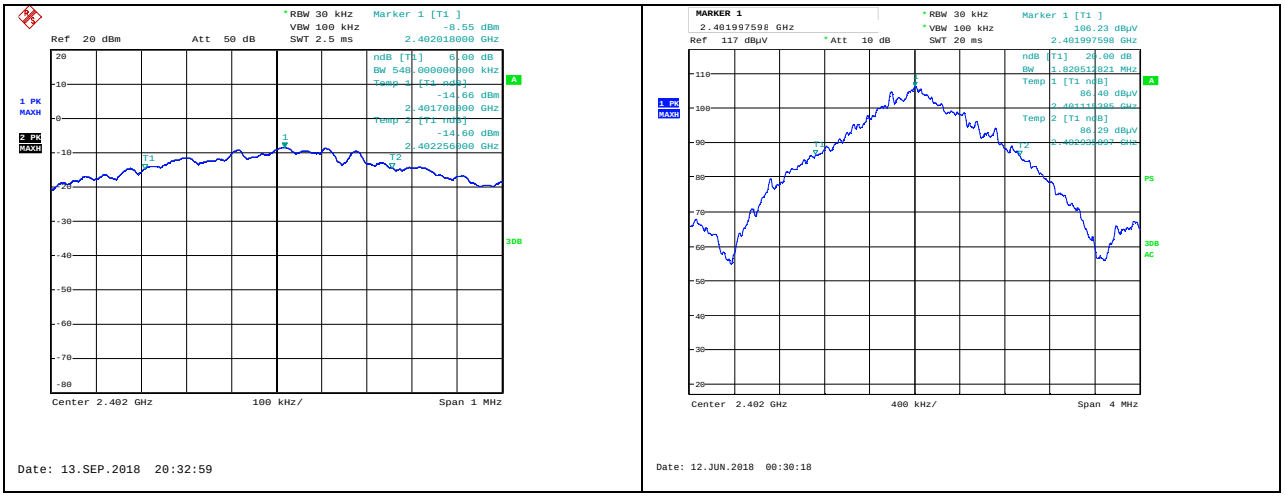
The device was found to be **compliant**. The 6dB bandwidth was at least 500kHz.

9.5 Test Conditions

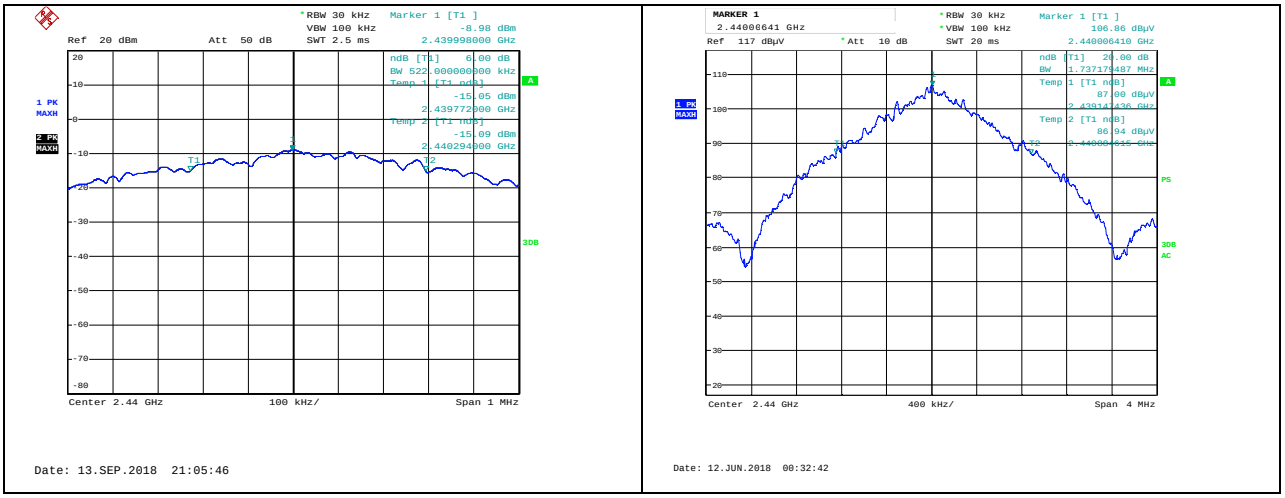
Test Personnel:	Brian Daffin	Test Date:	9/13/2018
Supervising/Reviewing Engineer: (Where Applicable)	NA	Limit Applied:	See Above
Product Standard:	FCC Part 15.247 RSS-247 Issue 2	Ambient Temperature:	22.7 C
Input Voltage:	Battery	Relative Humidity:	47.3 %
Pretest Verification w / Ambient Signals or BB Source:	Yes	Atmospheric Pressure:	985.4mbar

9.6 Test Data

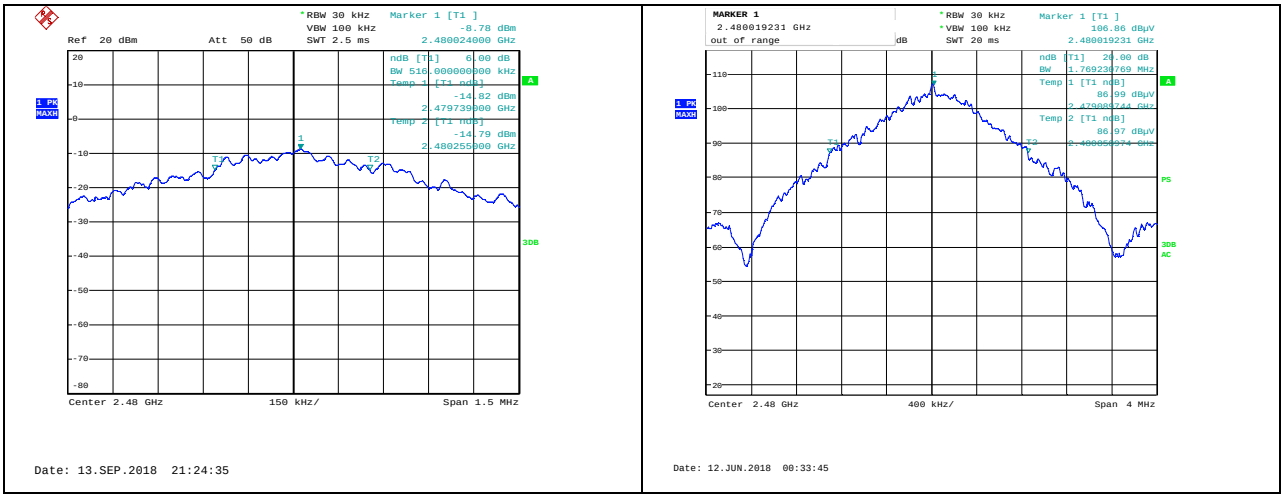
Channel	Frequency (MHz)	6dB BW (kHz)	20dB BW(kHz)	99% BW(kHz)
0	2402	548	1820.51	1782.05
19	2440	522	1737.17	1807.69
39	2480	516	1769.23	1724.35



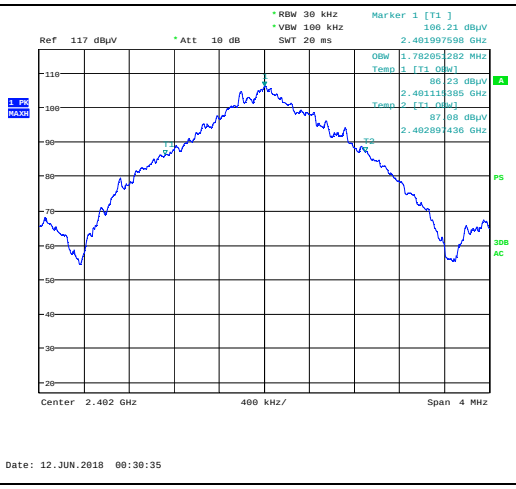
2MBit/s, Channel 0 (2402MHz) 6dB BW (left) 20dB BW(right)



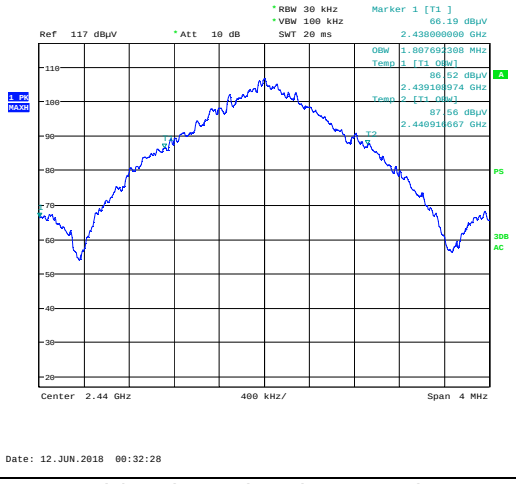
2MBit/s, Channel 19 (2440MHz) 6dB BW (left) 20dB BW(right)



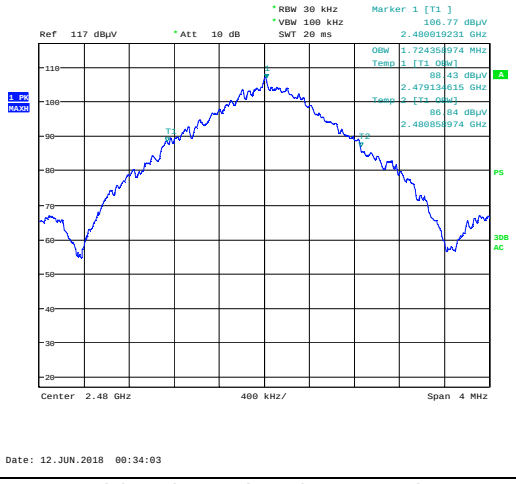
2MBit/s, Channel 39 (2480MHz) 6dB BW (left) 20dB BW(right)



2MBit/s, Channel 0 (2402MHz) 99% BW



2MBit/s, Channel 19 (2440MHz) 99% BW



2MBit/s, Channel 39 (2480MHz) 99% BW

Deviations, Additions, or Exclusions: None

10 Power Spectral Density

10.1 Test Limits

FCC Part 15.247(e):

> For digitally modulated systems, the power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission. This power spectral density shall be determined in accordance with the provisions of paragraph (b) of this section. The same method of determining the conducted output power shall be used to determine the power spectral density.

RSS-247 Issue 2 § 5.2(b):

> The transmitter power spectral density conducted from the transmitter to the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission. This power spectral density shall be determined in accordance with the provisions of section 5.4(d), (i.e. the power spectral density shall be determined using the same method as is used to determine the conducted output power).

10.2 Test Method

Tests are performed in accordance with ANSI C63.10:2013.

10.3 Test Equipment Used

Description	Asset	Manufacturer	Model	Cal Date	Cal Due
EMI Test Receiver	3900	Rohde&Schwarz	ESU40	9/20/2017	9/20/2018

10.4 Test Results

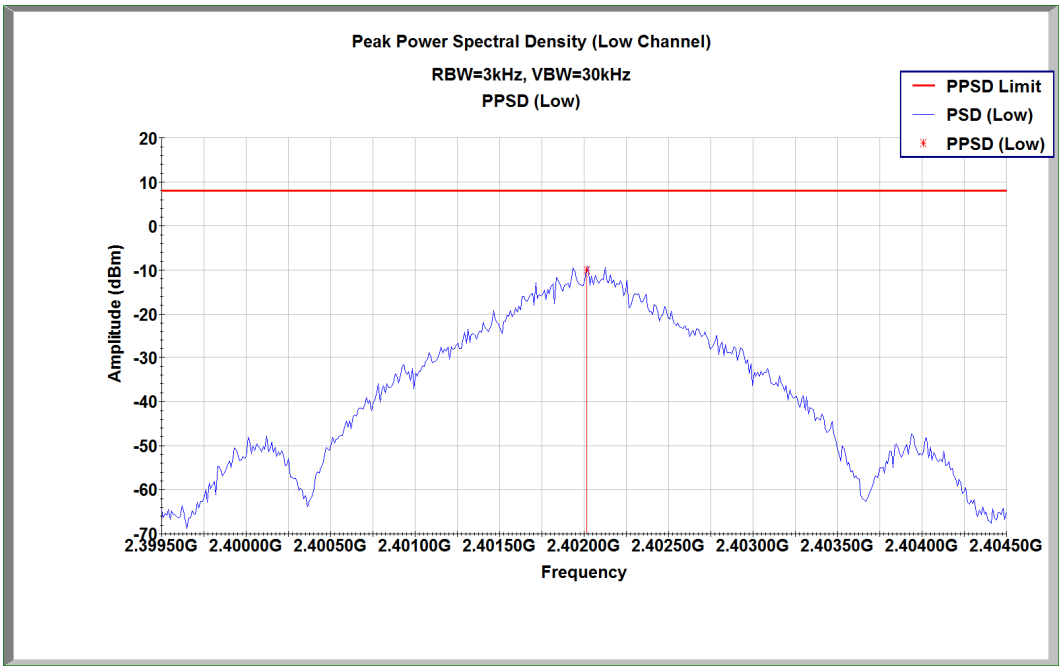
The device was found to be **compliant**. The peak power spectral density was less than 8dBm.

10.5 Test Conditions

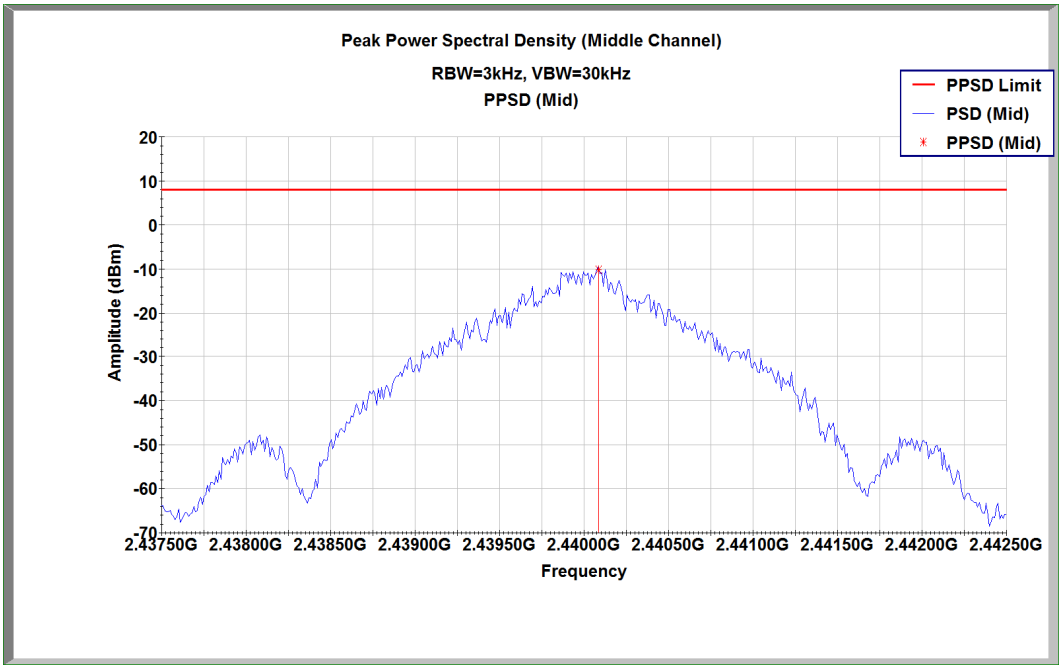
Test Personnel:	Brian Daffin	Test Date:	6/18/2018
Supervising/Reviewing Engineer: (Where Applicable)	NA	Limit Applied:	See Above
Product Standard:	FCC Part 15.247 RSS-247 Issue 2	Ambient Temperature:	22.7 C
Input Voltage:	Battery	Relative Humidity:	47.3 %
Pretest Verification w / Ambient Signals or BB Source:	Yes	Atmospheric Pressure:	985.4mbar

10.6 Test Data

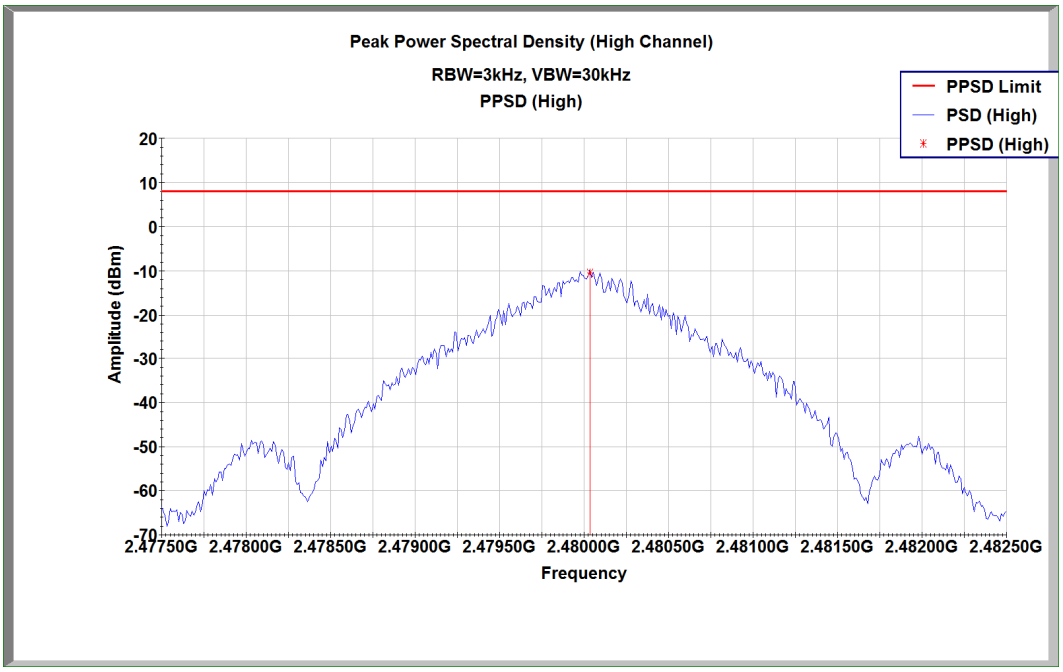
2402MHz



2440MHz



2480MHz



Deviations, Additions, or Exclusions: None

11 Antenna Requirement

11.1 Test Limits

FCC Part 15.203:

An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this section. The manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited. This requirement does not apply to carrier current devices or to devices operated under the provisions of §§15.211, 15.213, 15.217, 15.219, 15.221, or §15.236. Further, this requirement does not apply to intentional radiators that must be professionally installed, such as perimeter protection systems and some field disturbance sensors, or to other intentional radiators which, in accordance with §15.31(d), must be measured at the installation site. However, the installer shall be responsible for ensuring that the proper antenna is employed so that the limits in this part are not exceeded.

RSS-Gen Issue 4 § 8.3:

The applicant for equipment certification, as per RSP-100, must provide a list of all antenna types that may be used with the licence-exempt transmitter, indicating the maximum permissible antenna gain (in dBi) and the required impedance for each antenna.

Licence-exempt transmitters that have received equipment certification may operate with different types of antennas. However, it is not permissible to exceed the maximum equivalent isotropically radiated power (e.i.r.p.) limits specified in the applicable standard (RSS) for the licence-exempt apparatus.

Testing shall be performed using the highest gain antenna of each combination of licence-exempt transmitter and antenna type, with the transmitter output power set at the maximum level. When a measurement at the antenna connector is used to determine RF output power, the effective gain of the device's antenna shall be stated, based on a measurement or on data from the antenna manufacturer.

User manuals for transmitters equipped with detachable antennas shall also contain the following notice in a conspicuous location:

This radio transmitter (identify the device by certification number) has been approved by Industry Canada to operate with the antenna types listed below with the maximum permissible gain indicated. Antenna types not included in this list, having a gain greater than the maximum gain indicated for that type, are strictly prohibited for use with this device.

Immediately following the above notice, the manufacturer shall provide a list of all antenna types approved for use with the transmitter, indicating the maximum permissible antenna gain (in dBi).

11.2 Test Results

The device was found to be **compliant**. The device has an internal, permanently affixed antenna.

12 Revision History

Revision Level	Date	Report Number	Prepared By	Reviewed By	Notes
0	9/13/2018	103481663LEX-001	BD	BCT	Original Issue