iDevices, LLC

Application
For
Certification

FCC ID: 2ABDJ-TSTAT1

Thermostat

Model: IDEV0005

WiFi Transceiver

Report No.: 150715022SZN-002

We hereby certify that the sample of the above item is considered to comply with the requirements of FCC Part 15, Subpart C for Intentional Radiator, mention 47 CFR [10-1-13]

Prepared and Checked by:	Approved by:
Sign on file	Digitally signed by Andy Yan Location: Intertek Testing Services
Leo Lai Project Engineer	Andy Yan Senior Project Engineer Date: August 18, 2015

- The test results reported in this test report shall refer only to the sample actually tested and shall not refer or be deemed to refer to bulk from which such a sample may be said to have been obtained.
- This report is for the exclusive use of Intertek's Client and is provided pursuant to the agreement between Intertek and its Client. Intertek's responsibility and liability are limited to the terms and conditions of the agreement. Intertek assumes no liability to any party, other than to the Client in accordance with the agreement, for any loss, expense or damage occasioned by the use of this report. Only the Client is authorized to copy or distribute this report. Any use of the Intertek name or one of its marks for the sale or advertisement of the tested material, product or service must first be approved in writing by Intertek. The observations and test results referenced from this report are relevant only to the sample tested. This report by itself does not imply that the material, product, or service is or has ever been under an Intertek certification program.
- For Terms And Conditions of the services, it can be provided upon request.
- The evaluation data of the report will be kept for 3 years from the date of issuance.

TRF no.: FCC 15C_Tx_b

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MEASUREMENT/TECHNICAL REPORT

iDevices, LLC - MODEL: IDEV0005

FCC ID: 2ABDJ-TSTAT1

This report concerns (check one) Original Grant ___X___ Class II Change ____

Equipment Type: DTS - Part 15 Digital Transmission Systems (WiFi transmitter portion)

Deferred grant requested per 47 CFR 0.457(d)(1)(ii)? Yes _____ No ___X_

If yes, defer until : _____
date

Company Name agrees to notify the Commission by: _____
date

of the intended date of announcement of the product so that the grant can be issued on that date.

Transition Rules Request per 15.37? Yes _____ No ___X___

If no, assumed Part 15, Subpart C for intentional radiator - the new 47 CFR [10-01-13 Edition] provision.

Report prepared by:

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List of attached file

Exhibit Type	File Description	Filename
Cover Letter	Letter of Agency	agency.pdf
Test Report	Test Report	report.pdf
Test Setup Photo	Radiated Emission	radiated photos.pdf
Test Setup Photo	Conducted Emission	conducted photos.pdf
External Photo	External Photo	external photos.pdf
Internal Photo	Internal Photo	internal photos.pdf
Block Diagram	Block Diagram	block.pdf
Schematics	Circuit Diagram	circuit.pdf
Operation Description	Technical Description	descri.pdf
ID Label/Location	Label Artwork and Location	label.pdf
User Manual	User Manual	manual.pdf
Cover Letter	Confidentiality Letter	request.pdf

EXHIBIT 1

SUMMARY OF TEST RESULTS

1.0 Summary of Test

iDevices, LLC - MODEL: IDEV0005

FCC ID: 2ABDJ-TSTAT1

TEST	REFERENCE	RESULTS
Max. Output power	15.247(b)	Pass
6 dB Bandwidth	15.247(a)(2)	Pass
Max. Power Density	15.247(e)	Pass
Out of Band Antenna Conducted Emission	15.247(d)	Pass
Radiated Emission in Restricted Bands	15.247(d)	Pass
AC Conducted Emission	15.207	Pass
Antenna Requirement	15.203	Pass (See Notes)

Notes: The EUT uses Integral Antenna which in accordance to Section 15.203 is considered sufficient to comply with the provisions of this section.

EXHIBIT 2

GENERAL DESCRIPTION

2.0 **General Description**

2.1 Product Description

The Equipment Under Test (EUT) is a Thermostat with internal WiFi function operating at 2412-2462MHz for 802.11b/g/n-HT20, 11 channels with 5MHz channel spacing. It is powered by DC 5V from USB port. For more detailed features description, please refer to the user's manual.

Type of Modulation: DBPSK,DQPSK, BPSK,QPSK, 16QAM and 64QAM.
Antenna Type: Integral Antenna.
Max antenna Gain: 2.0 dBi

For electronic filing, the brief circuit description is saved with filename: descri.pdf.

This report is based on previous one report dated July 16, 2015 (original signatory: Leo Lai, Andy Yan on file). Due to FCC ID was added on the report.

2.2 Related Submittal(s) Grants

This is an application for certification of:
DTS- Part 15 Digital Transmission Systems (WiFi transmitter portion)
Remaining portions are subject to the following procedures:
1. Bluetooth LE 4.0 (2.4G band): 150715022SZN-001

2.3 Test Methodology

Both AC mains line-conducted and radiated emission measurements were performed according to the procedures in ANSI C63.4 (2009) and KDB 558074. Radiated emission measurement was performed in semi-anechoic chamber and conducted emission measurement was performed in shield room. For radiated emission measurement, preliminary scans were performed in the semi-anechoic chamber only to determine the worst case modes. All radiated tests were performed at an antenna to EUT distance of 3 meters, unless stated otherwise in the "**Justification Section**" of this Application. All other measurements were made in accordance with the procedures in part 2 of CFR 47.

2.4 Test Facility

The Semi-Anechoic chamber and shield room used to collect the radiated data and conducted data are **Intertek Testing Services Shenzhen Ltd. Kejiyuan Branch** and located at 6F, Block D, Huahan Building, Langshan Road, Nanshan District, Shenzhen, P. R. China. This test facility and site measurement data have been fully placed on file with the FCC (Registration Number: 242492).

EXHIBIT 3

SYSTEM TEST CONFIGURATION

3.0 System Test Configuration

3.1 Justification

For emissions testing, the equipment under test (EUT) setup to transmit continuously to simplify the measurement methodology. Care was taken to ensure proper power supply voltages during testing. During testing, all cables were manipulated to produce worst case emissions. The EUT was powered by DC 5V from USB port, and only the worst case data was recorded in this report.

The simultaneous transmission spurious was tested, only the worst case data was recorded in this report.

The signal is maximized through rotation and placement in the three orthogonal axes. The antenna height and polarization are varied during the search for maximum signal level. The antenna height is varied from 1 to 4 meters. Radiated emissions are taken at three meters unless the signal level is too low for measurement at that distance. If necessary, a pre-amplifier is used and/or the test is conducted at a closer distance.

All readings are extrapolated back to the equivalent three meter reading using inverse scaling with distance. Analyzer resolution is 100 kHz or greater for frequencies below 1000 MHz. The resolution is 1 MHz or greater for frequencies above 1000 MHz. The spurious emissions more than 20 dB below the permissible value are not reported.

Radiated emission measurement were performed the lowest radio frequency signal generated in the device which is greater than 9 kHz to the tenth harmonic of the highest fundamental frequency or to 40 GHz, whichever is lower.

3.2 EUT Exercising Software

The EUT exercise program (provided by client) used during radiated and conducted testing was designed to exercise the various system components in a manner similar to a typical use. The worst case configuration is used in all specified testing.

The parameters of test software setting:
During the test, Channel and power controlling software provided by the applicant was used to control the operating channel as well as the output power level. The RF output power selection is for the setting of RF output power expected by the application and is going to be fixed on the firmware of the end product.

Power Parameters of IEEE 802.11b/g/n
On 802.11n (20MHz) mode, only one antenna is used for transmission.
We test all data rate and only the worst – case data is shown in the report.

3.3 Special Accessories

N/A.

3.4 Measurement Uncertainty

When determining of the test conclusion, the Measurement Uncertainty of test has been considered.

Uncertainty and Compliance – Unless the standard specifically states that measured values are to be extended by the measurement uncertainty in determining compliance, all compliance determinations are based on the actual measured value.

3.5 Equipment Modification

Any modifications installed previous to testing by iDevices, LLC will be incorporated in each production model sold / leased in the United States.

No modifications were installed by Intertek Testing Services Shenzhen Ltd. Kejiyuan Branch.

3.6 Support Equipment List and Description

This product was tested in the following configuration:

N/A.

EXHIBIT 4

MEASUREMENT RESULTS

4.0 **Measurement Results**

4.1 Maximum Conducted Output Power at Antenna Terminals, FCC Rules 15.247(b)(3):

The antenna power of the EUT was connected to the input of a broadband peak RF power meter. The power meter have a video bandwidth that is greater than DTS bandwidth and utilize a fast-responding diode detector. Power was read directly at the EUT antenna terminals with cable loss added.

For antennas with gains of 6 dBi or less, maximum allowed Transmitter output is 1 watt (+30dBm).

IEEE 802.11b (Antenna Gain = 2.0 dBi) (BPSK, 1Mbps)		
Frequency (MHz)	Output in dBm	Output in mWatt
Low Channel: 2412	18.72	74.47
Middle Channel: 2437	18.49	70.63
High Channel: 2462	18.71	74.30

IEEE 802.11g (Antenna Gain =2.0 dBi) (DBPSK, 6Mbps)		
Frequency (MHz)	Output in dBm	Output in mWatt
Low Channel: 2412	22.27	168.66
Middle Channel: 2437	21.87	153.82
High Channel: 2462	22.08	161.44

IEEE 802.11n 20M (Antenna Gain = 2.0 dBi) (BPSK, 6.5Mbps)		
Frequency (MHz)	Output in dBm	Output in mWatt
Low Channel: 2412	22.23	167.11
Middle Channel: 2437	22.55	179.89
High Channel: 2462	22.22	166.72

Cable loss: 0.5 dB External Attenuation: 0 dB

Cable loss, external attenuation has been included in OFFSET function

EUT dBm max. output level = 22.55dBm

For RF Exposure, the information is saved with filename: RF exposure.pdf.

4.2 Minimum 6 dB RF Bandwidth, FCC Rule 15.247(a)(2):

The antenna port of the EUT was connected to the input of a spectrum analyzer. Analyzer RBW was set to 100 KHz according to FCC KDB 558074. For each RF output channel investigated, the spectrum analyzer center frequency was set to the channel carrier. A PEAK output reading was taken, a DISPLAY line was drawn 6 dB lower than PEAK level. The 6dB bandwidth was determined from where the channel output spectrum intersected the display line.

Limit: The 6 dB Bandwidth is at least 500 kHz.

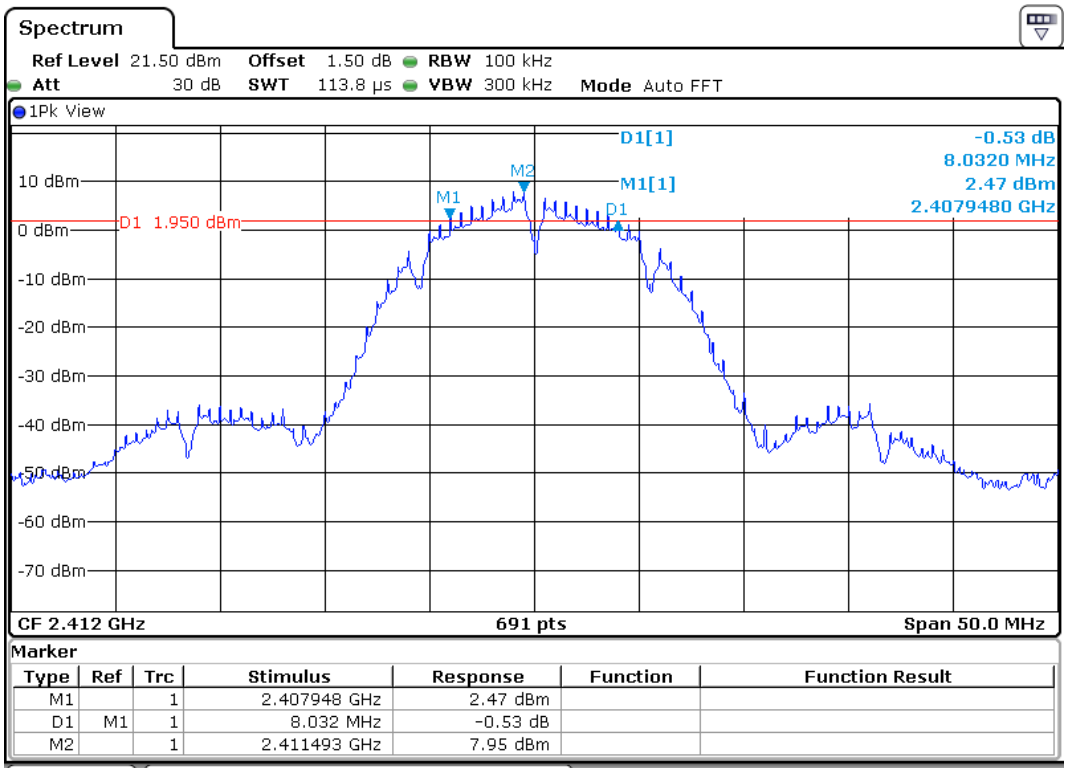
IEEE 802.11b (BPSK, 1Mbps)	
Frequency (MHz)	6 dB Bandwidth (MHz)
2412	8.032
2437	9.045
2462	7.525

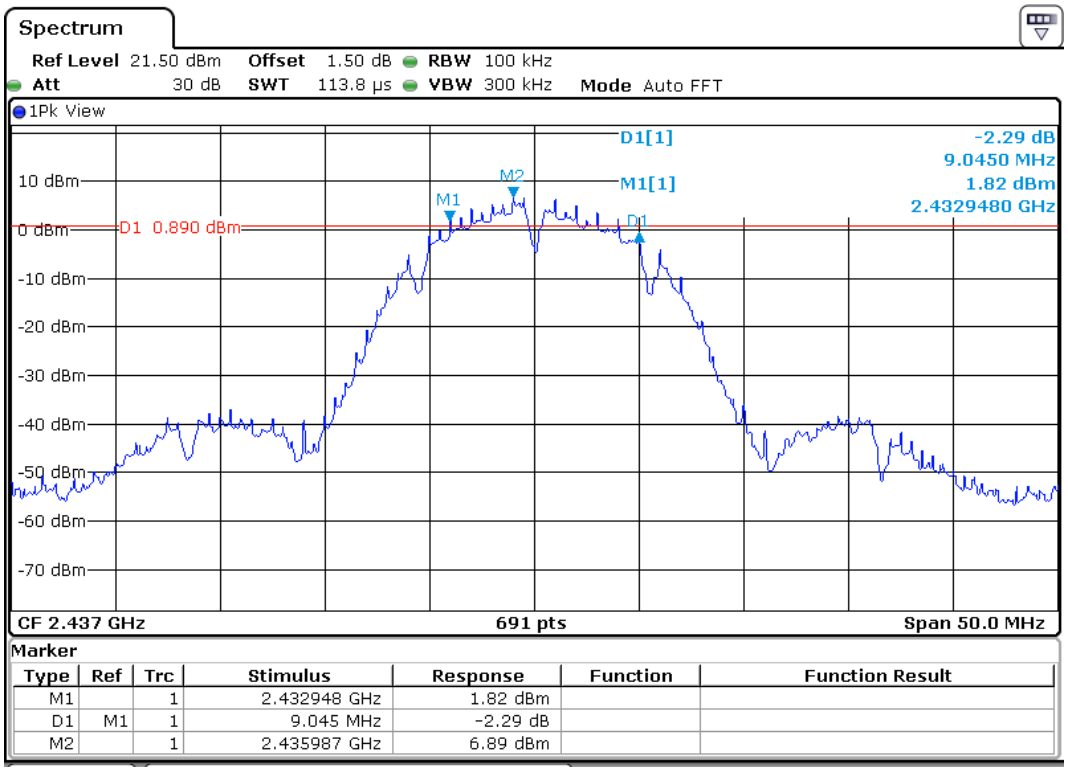
IEEE 802.11g (DBPSK, 6Mbps)	
Frequency (MHz)	6 dB Bandwidth (MHz)
2412	15.427
2437	15.340
2462	14.530

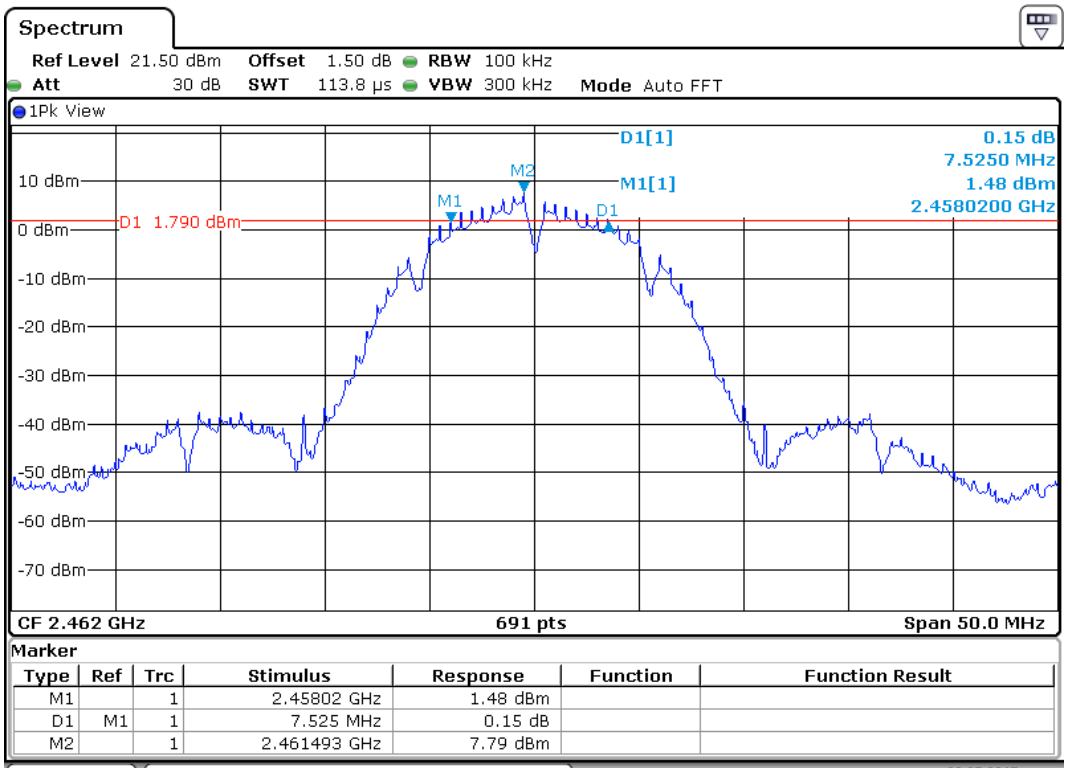
IEEE 802.11n 20M (BPSK, 6.5Mbps)	
Frequency (MHz)	6 dB Bandwidth (MHz)
2412	15.195
2437	15.166
2462	16.903

The test plots are attached as below.

802.11b


Spectrum
Ref Level 21.50 dBm Offset 1.50 dB RBW 100 kHz
Att 30 dB SWT 113.8 µs VBW 300 kHz Mode Auto FFT
1Pk View
D1[1]
-0.53 dB
8.0320 MHz
M1[1]
2.47 dBm
2.4079480 GHz
M2
M1
D1
D1 1.950 dBm
10 dBm
0 dBm
-10 dBm
-20 dBm
-30 dBm
-40 dBm
-50 dBm
-60 dBm
-70 dBm
CF 2.412 GHz
691 pts
Span 50.0 MHz
Marker
Type Ref Trc Stimulus Response Function Function Result
M1 1 2.407948 GHz 2.47 dBm
D1 M1 1 8.032 MHz -0.53 dB
M2 1 2.411493 GHz 7.95 dBm

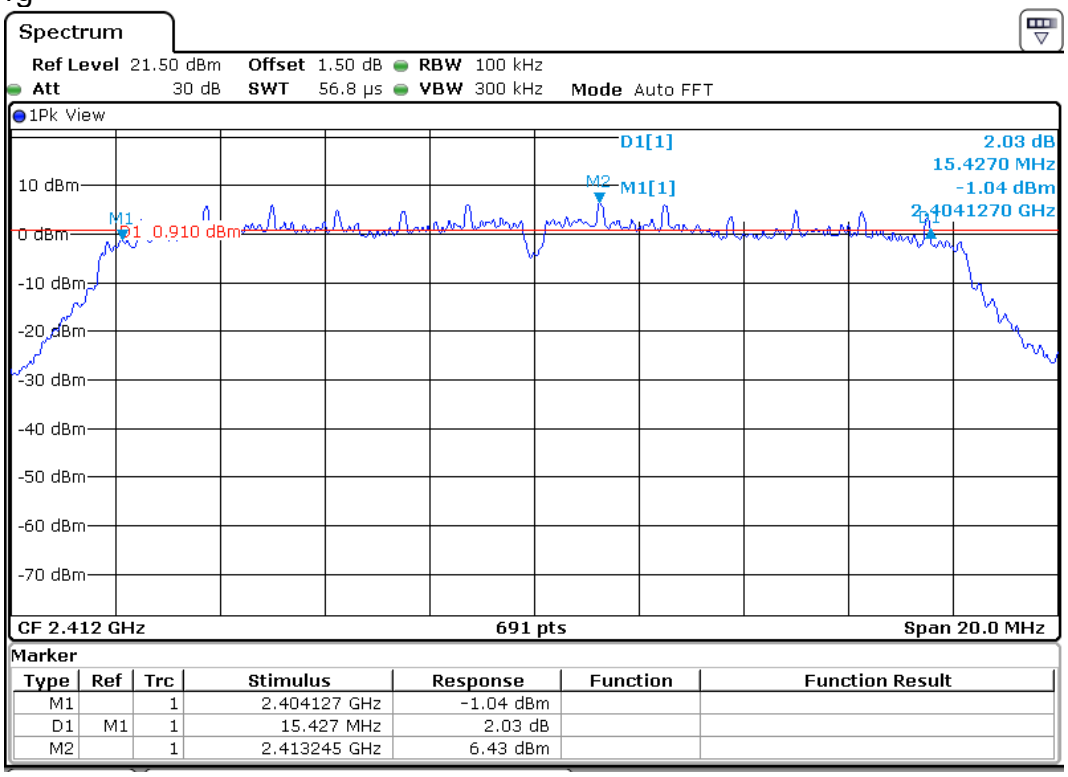

Spectrum
Ref Level 21.50 dBm Offset 1.50 dB RBW 100 kHz
Att 30 dB SWT 113.8 µs VBW 300 kHz Mode Auto FFT
1Pk View
D1[1]
-2.29 dB
9.0450 MHz
M1[1]
1.82 dBm
2.4329480 GHz
M2
M1
D1
D1 0.890 dBm
10 dBm
0 dBm
-10 dBm
-20 dBm
-30 dBm
-40 dBm
-50 dBm
-60 dBm
-70 dBm
CF 2.437 GHz
691 pts
Span 50.0 MHz
Marker
Type Ref Trc Stimulus Response Function Function Result
M1 1 2.432948 GHz 1.82 dBm
D1 M1 1 9.045 MHz -2.29 dB
M2 1 2.435987 GHz 6.89 dBm

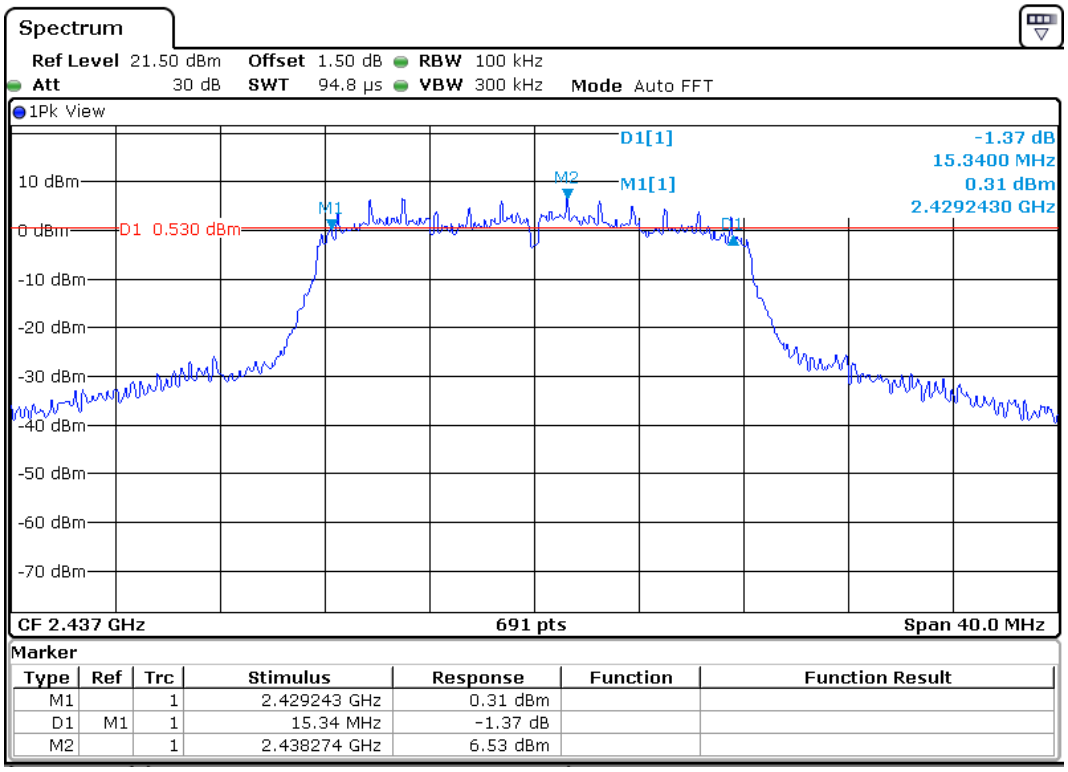


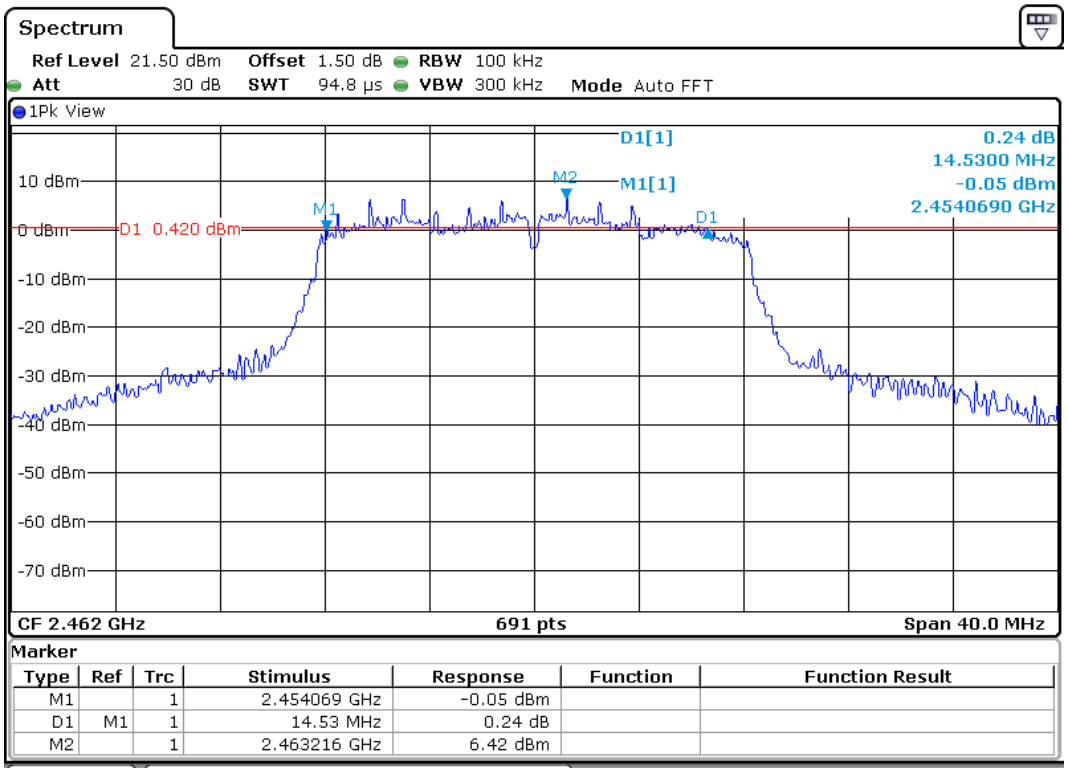
Marker

Type	Ref	Trc	Stimulus	Response	Function	Function Result
M1		1	2.45802 GHz	1.48 dBm		
D1	M1	1	7.525 MHz	0.15 dB		
M2		1	2.461493 GHz	7.79 dBm		

802.11g


Spectrum
Ref Level 21.50 dBm Offset 1.50 dB RBW 100 kHz
Att 30 dB SWT 56.8 µs VBW 300 kHz Mode Auto FFT
1Pk View
D1[1]
2.03 dB
15.4270 MHz
M2
M1[1]
-1.04 dBm
2.4041270 GHz
M1
D1 0.910 dBm
10 dBm
0 dBm
-10 dBm
-20 dBm
-30 dBm
-40 dBm
-50 dBm
-60 dBm
-70 dBm
CF 2.412 GHz
691 pts
Span 20.0 MHz
Marker
Type Ref Trc Stimulus Response Function Function Result
M1 1 2.404127 GHz -1.04 dBm
D1 M1 1 15.427 MHz 2.03 dB
M2 1 2.413245 GHz 6.43 dBm

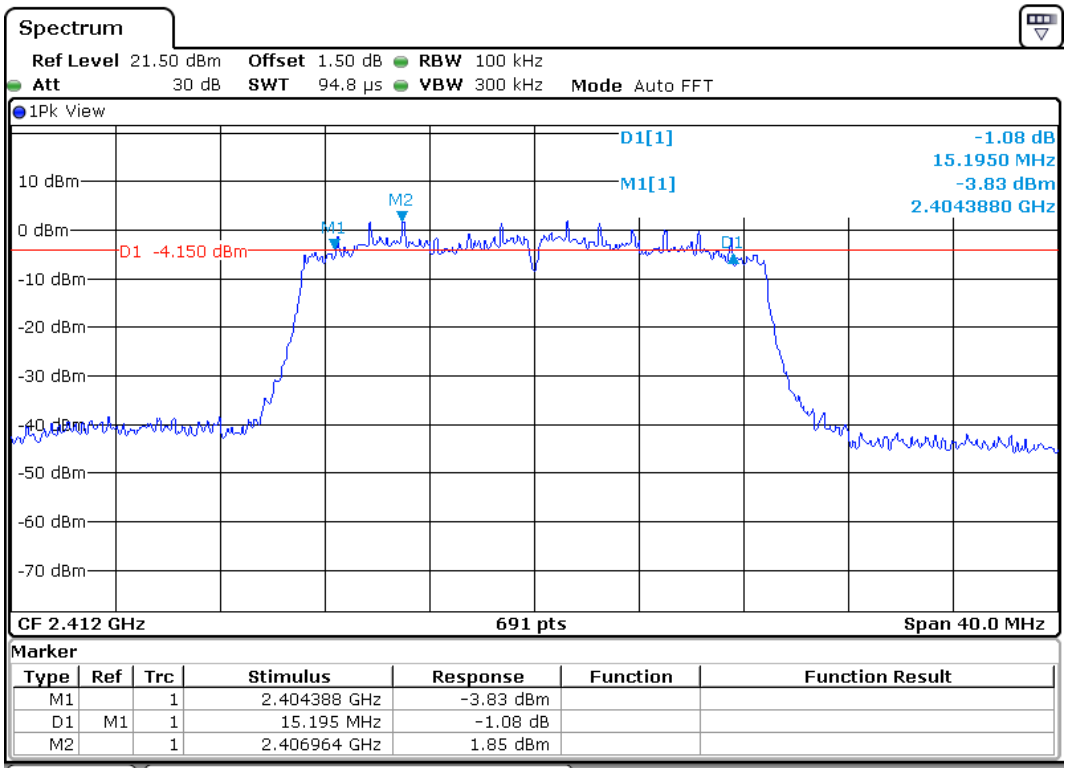

Spectrum
Ref Level 21.50 dBm Offset 1.50 dB RBW 100 kHz
Att 30 dB SWT 94.8 µs VBW 300 kHz Mode Auto FFT
1Pk View
D1[1]
-1.37 dB
15.3400 MHz
M2
M1[1]
0.31 dBm
2.4292430 GHz
M1
D1 0.530 dBm
10 dBm
0 dBm
-10 dBm
-20 dBm
-30 dBm
-40 dBm
-50 dBm
-60 dBm
-70 dBm
CF 2.437 GHz
691 pts
Span 40.0 MHz
Marker
Type Ref Trc Stimulus Response Function Function Result
M1 1 2.429243 GHz 0.31 dBm
D1 M1 1 15.34 MHz -1.37 dB
M2 1 2.438274 GHz 6.53 dBm



Marker

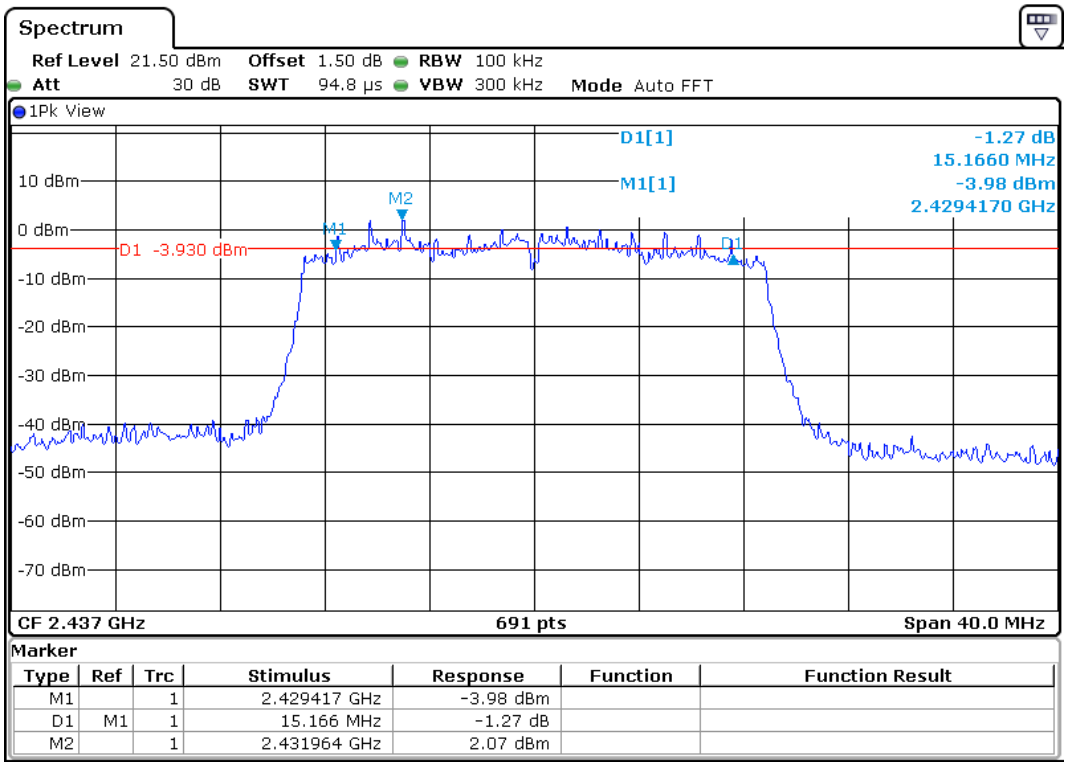
Type	Ref	Trc	Stimulus	Response	Function	Function Result
M1		1	2.454069 GHz	-0.05 dBm		
D1	M1	1	14.53 MHz	0.24 dB		
M2		1	2.463216 GHz	6.42 dBm		

802.11n-HT20



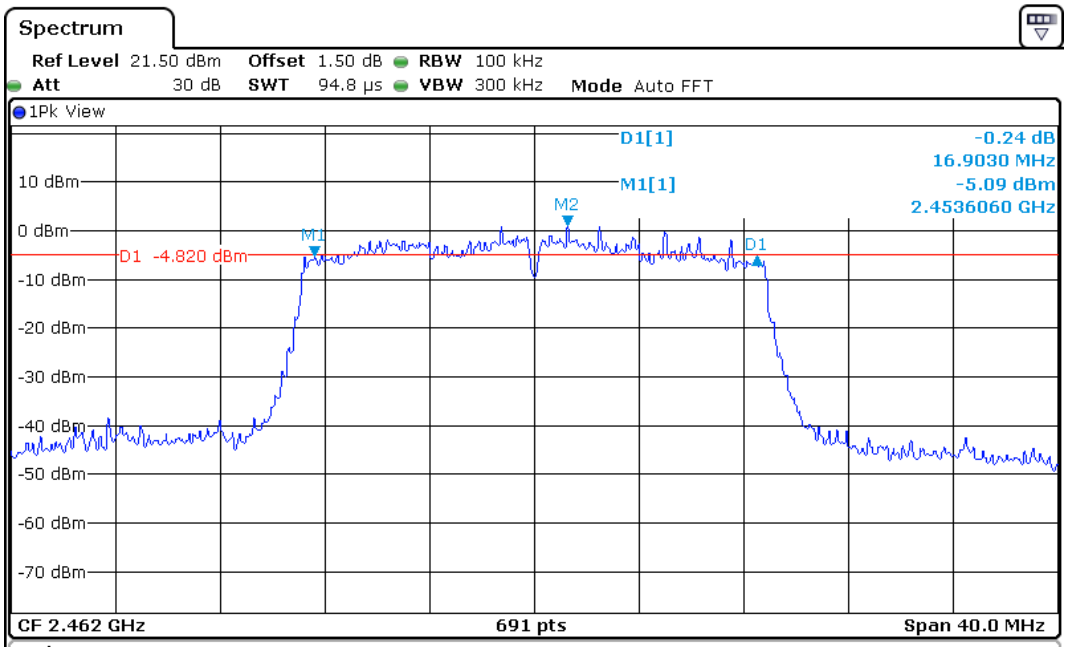
Marker

Type	Ref	Trc	Stimulus	Response	Function	Function Result
M1		1	2.404388 GHz	-3.83 dBm		
D1	M1	1	15.195 MHz	-1.08 dB		
M2		1	2.406964 GHz	1.85 dBm		



Marker

Type	Ref	Trc	Stimulus	Response	Function	Function Result
M1		1	2.429417 GHz	-3.98 dBm		
D1	M1	1	15.166 MHz	-1.27 dB		
M2		1	2.431964 GHz	2.07 dBm		



Marker

Type	Ref	Trc	Stimulus	Response	Function	Function Result
M1		1	2.453606 GHz	-5.09 dBm		
D1	M1	1	16.903 MHz	-0.24 dB		
M2		1	2.463274 GHz	1.18 dBm		

Applicant: iDevices, LLC
Date of Test: July 3, 2015
Model: IDEV0005

4.3 Maximum Power Density Reading, FCC Rule 15.247(e):

The Measurement Procedure PKPSD was set according to the FCC KDB 558074.

Antenna output of the EUT was coupled directly to spectrum analyzer; if an external attenuator and/or cable was used, these losses are compensated for with the analyzer OFFSET function.

Limit: The Power Density does not exceed 8dBm/ 3 kHz.

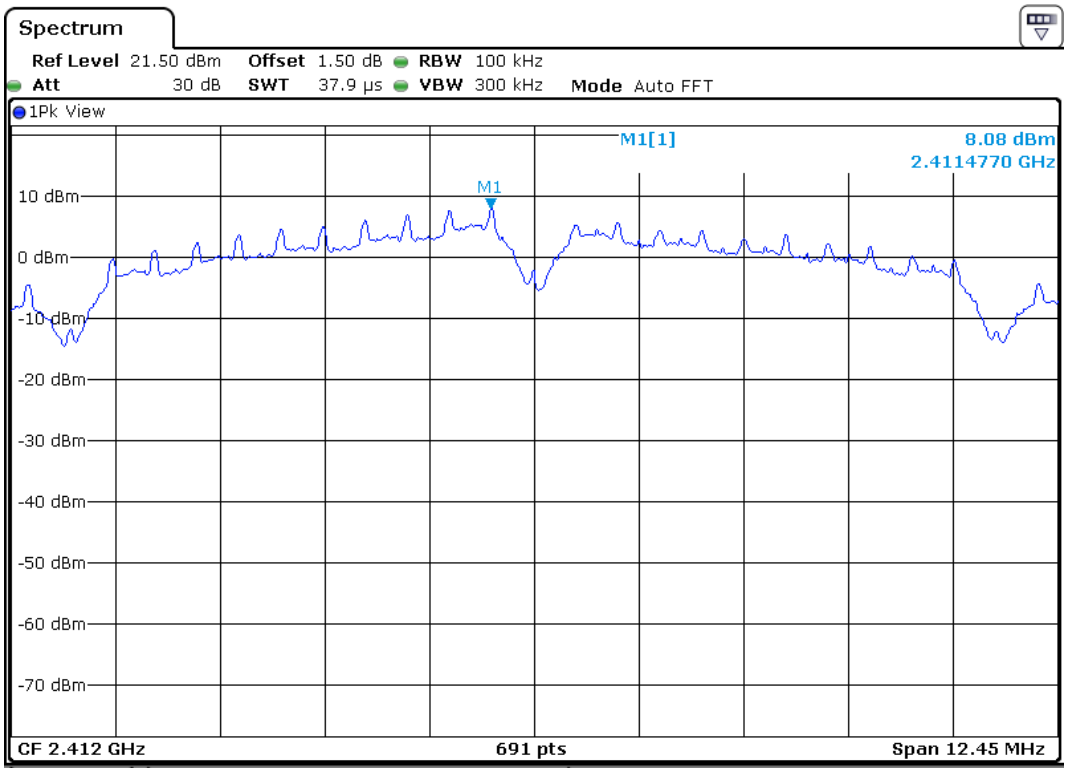
IEEE 802.11b (BPSK, 1Mbps)	
Frequency (MHz)	Power Density with RBW 100KHz
2412	8.08
2437	7.95
2462	7.43

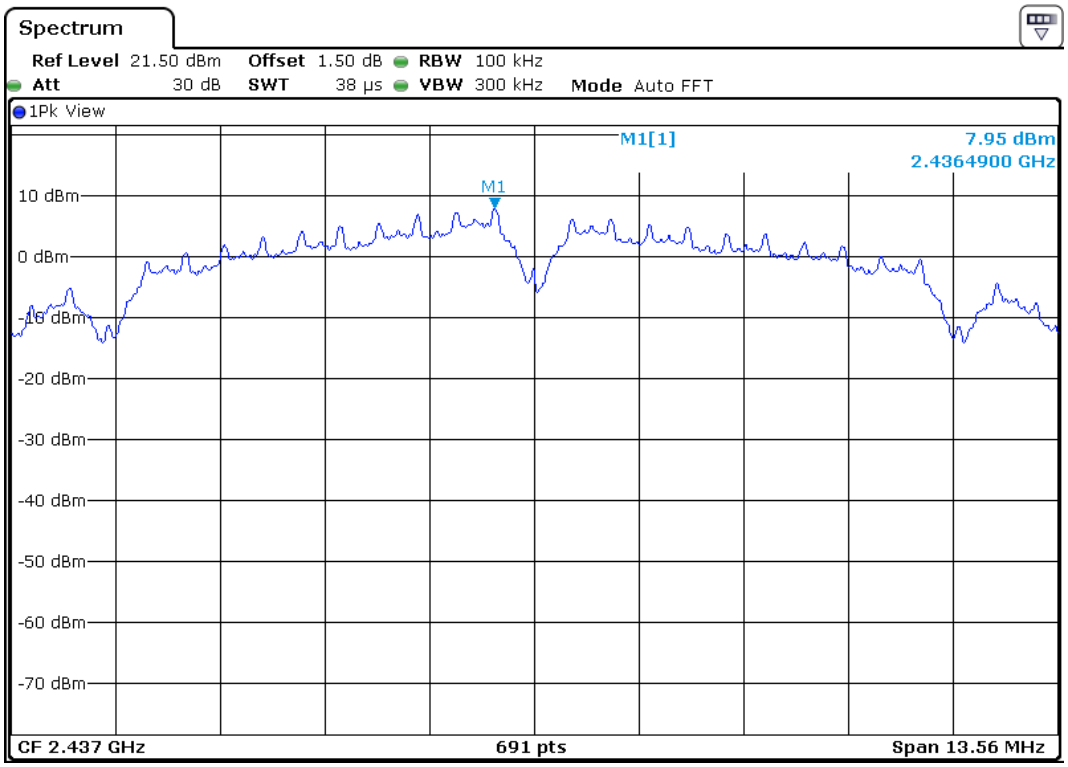
IEEE 802.11g (DBPSK, 6Mbps)	
Frequency (MHz)	Power Density with RBW 100KHz
2412	4.15
2437	6.07
2462	5.69

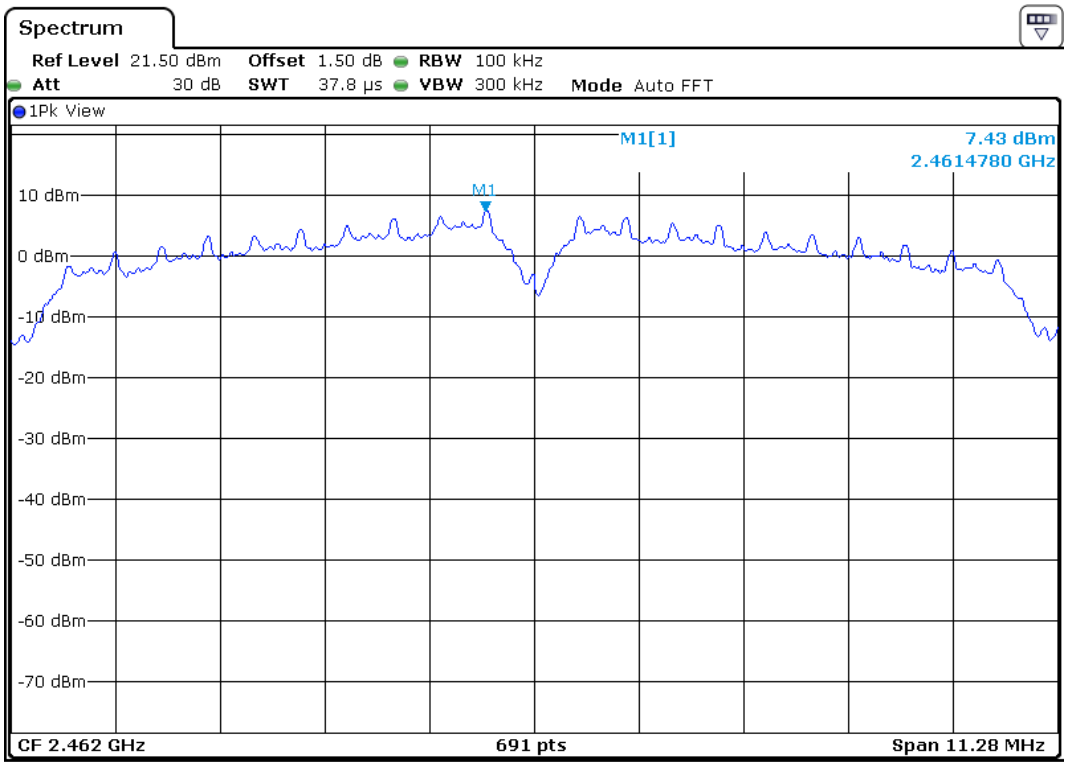
IEEE 802.11n 20M (BPSK, 6.5Mbps)	
Frequency (MHz)	Power Density with RBW 100KHz
2412	0.76
2437	1.92
2462	0.73

The test plots are attached as below.

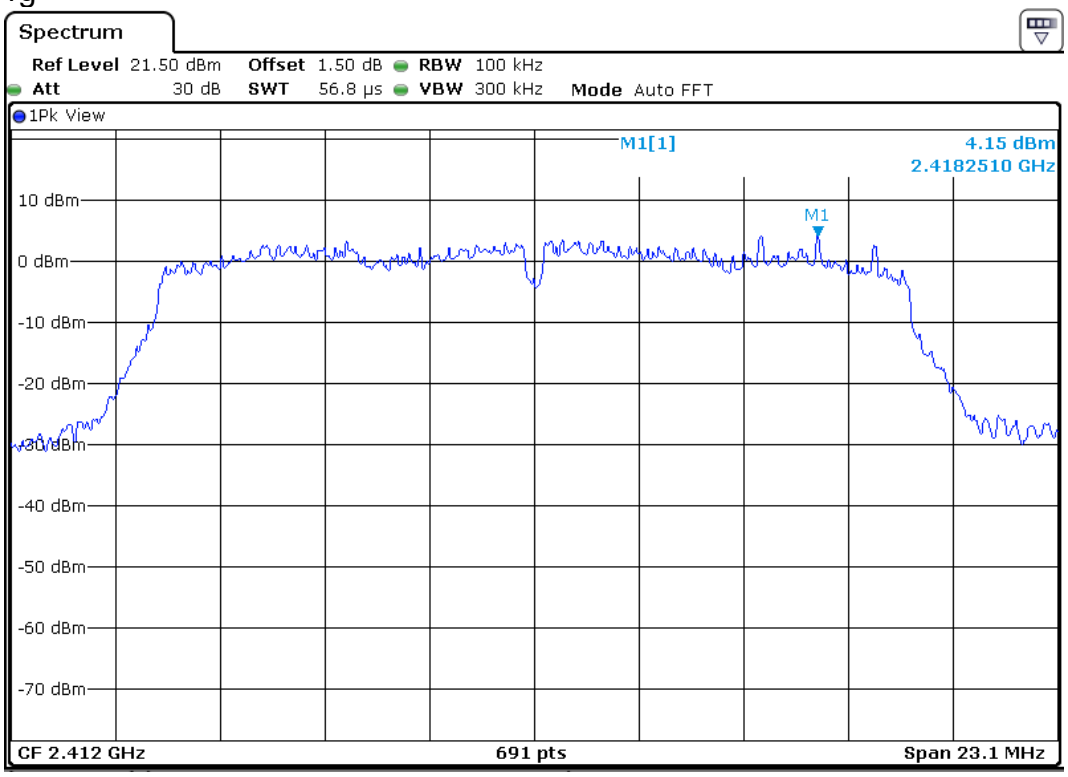
802.11b

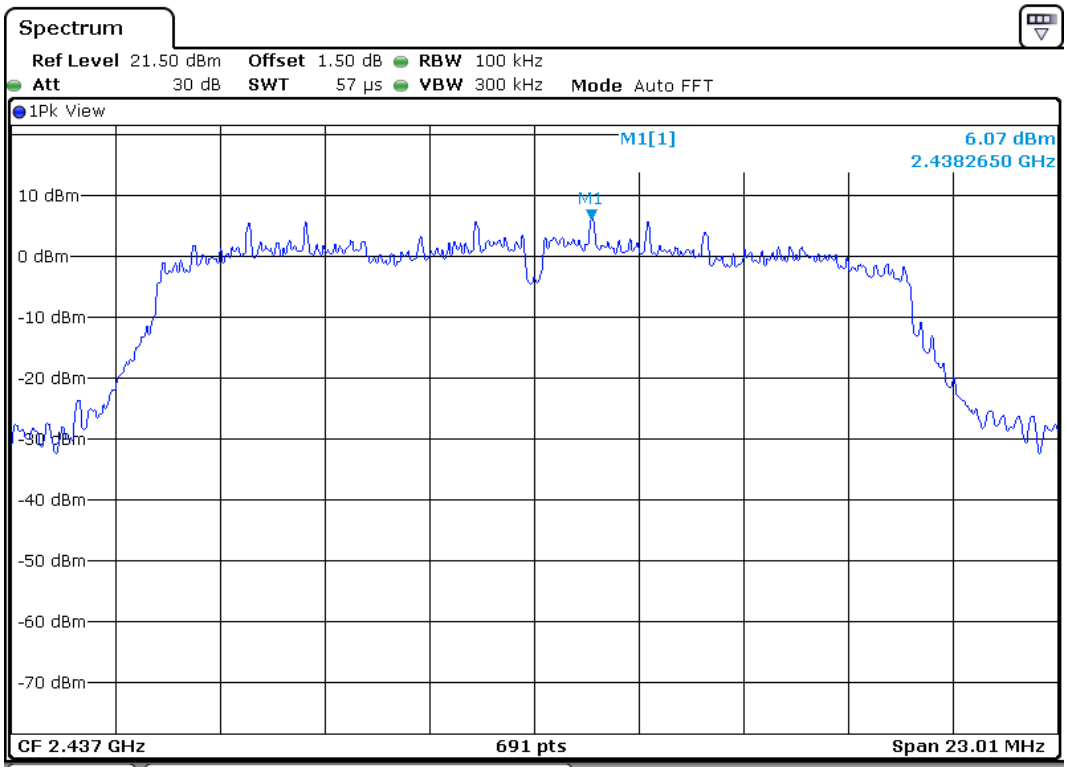

Spectrum
Ref Level 21.50 dBm Offset 1.50 dB RBW 100 kHz
Att 30 dB SWT 37.9 µs VBW 300 kHz Mode Auto FFT
1Pk View
M1[1] 8.08 dBm
2.4114770 GHz
M1
10 dBm
0 dBm
-10 dBm
-20 dBm
-30 dBm
-40 dBm
-50 dBm
-60 dBm
-70 dBm
CF 2.412 GHz
691 pts
Span 12.45 MHz

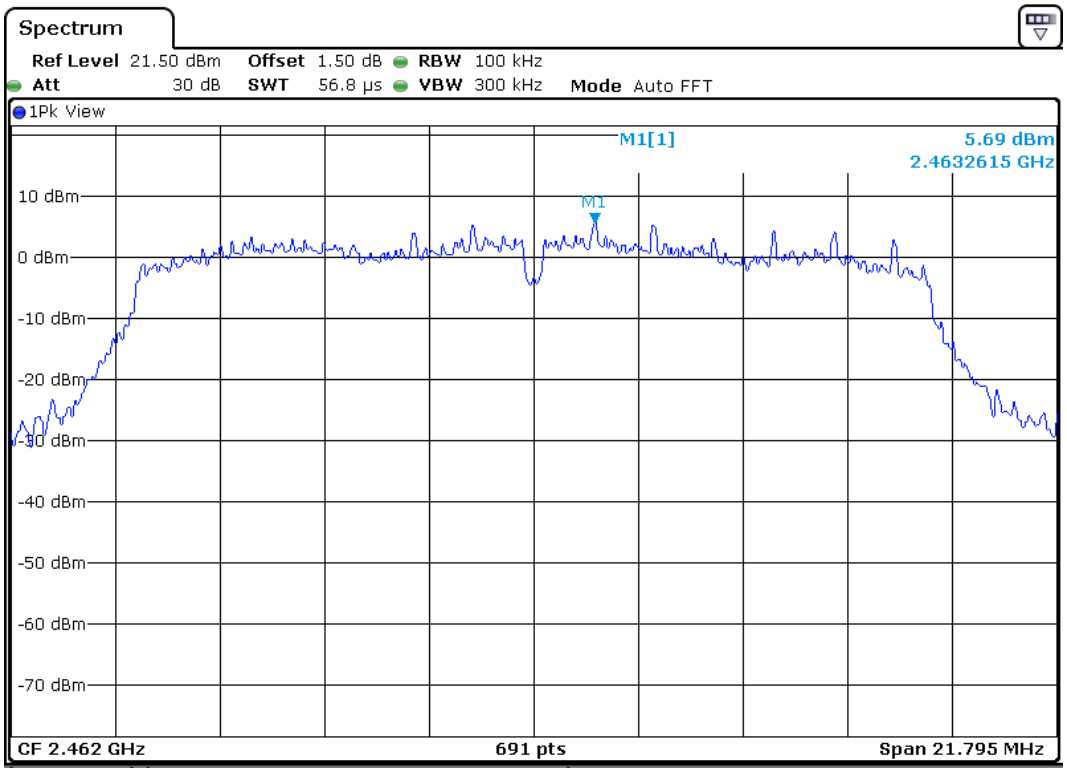

Spectrum
Ref Level 21.50 dBm Offset 1.50 dB RBW 100 kHz
Att 30 dB SWT 38 µs VBW 300 kHz Mode Auto FFT
1Pk View
M1[1] 7.95 dBm
2.4364900 GHz
M1
10 dBm
0 dBm
-10 dBm
-20 dBm
-30 dBm
-40 dBm
-50 dBm
-60 dBm
-70 dBm
CF 2.437 GHz
691 pts
Span 13.56 MHz


Spectrum
Ref Level 21.50 dBm Offset 1.50 dB RBW 100 kHz
Att 30 dB SWT 37.8 µs VBW 300 kHz Mode Auto FFT
1Pk View
M1[1] 7.43 dBm
2.4614780 GHz
M1
10 dBm
0 dBm
-10 dBm
-20 dBm
-30 dBm
-40 dBm
-50 dBm
-60 dBm
-70 dBm
CF 2.462 GHz
691 pts
Span 11.28 MHz

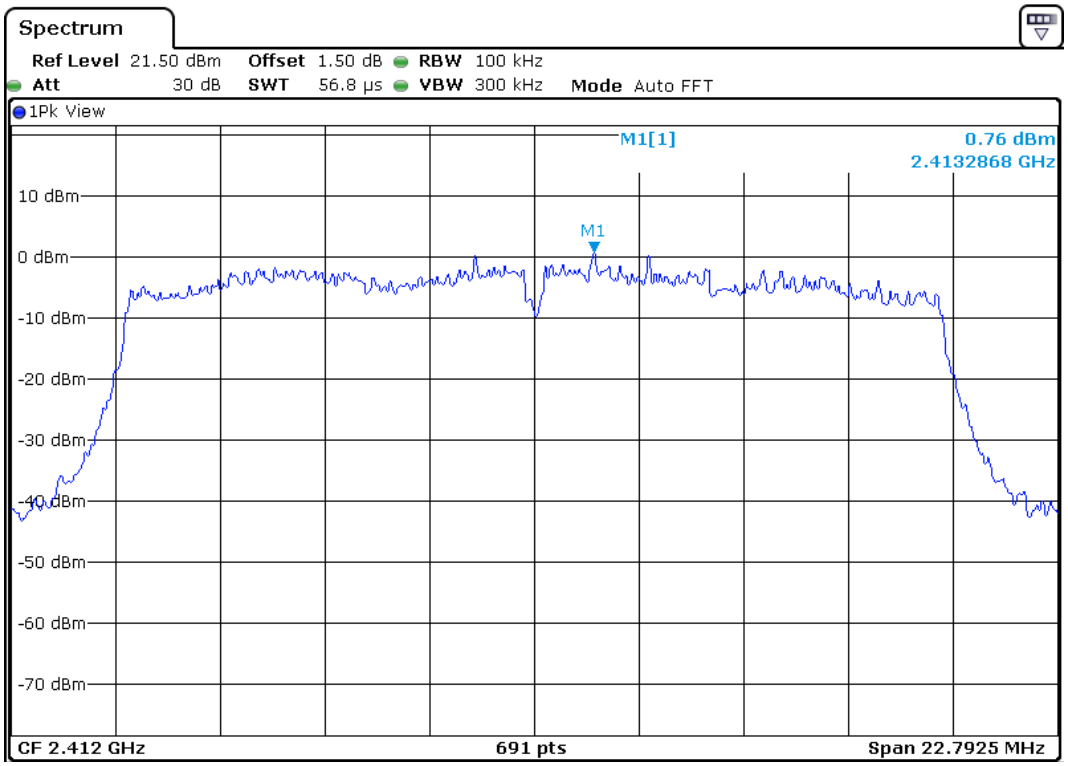
802.11g

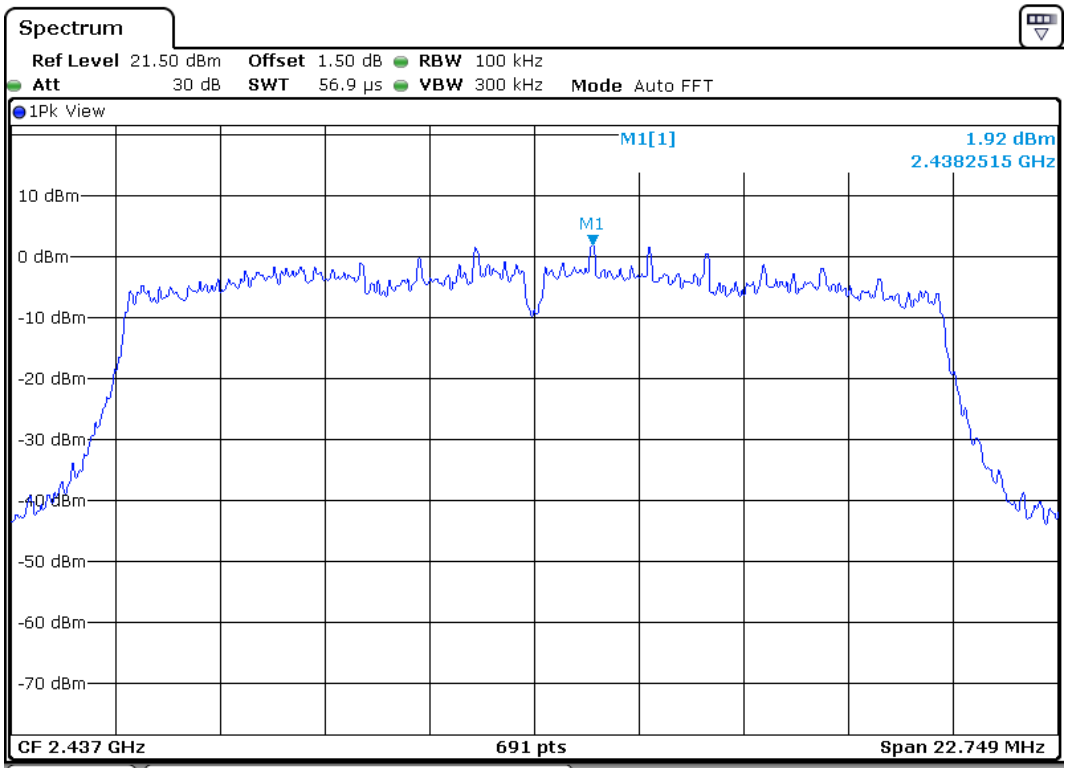

Spectrum
Ref Level 21.50 dBm Offset 1.50 dB RBW 100 kHz
Att 30 dB SWT 56.8 µs VBW 300 kHz Mode Auto FFT
1Pk View
M1[1]
4.15 dBm
2.4182510 GHz
M1
10 dBm
0 dBm
-10 dBm
-20 dBm
-30 dBm
-40 dBm
-50 dBm
-60 dBm
-70 dBm
CF 2.412 GHz
691 pts
Span 23.1 MHz

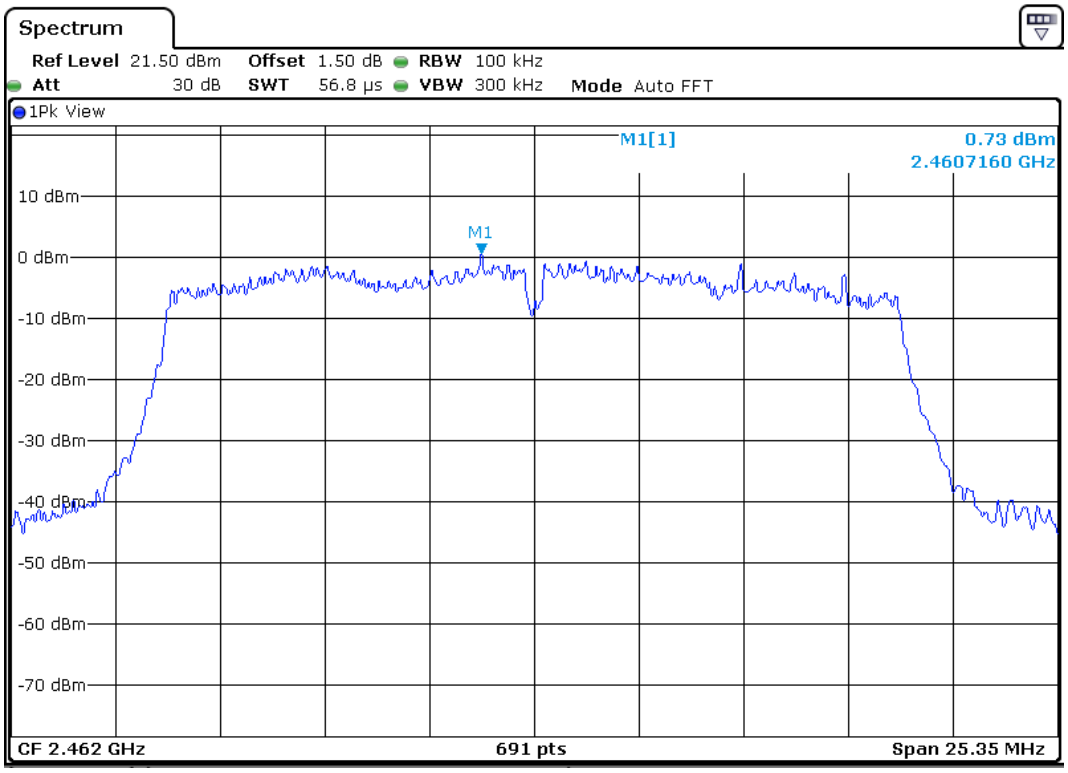

Spectrum
Ref Level 21.50 dBm Offset 1.50 dB RBW 100 kHz
Att 30 dB SWT 57 µs VBW 300 kHz Mode Auto FFT
1Pk View
M1[1]
6.07 dBm
2.4382650 GHz
M1
10 dBm
0 dBm
-10 dBm
-20 dBm
-30 dBm
-40 dBm
-50 dBm
-60 dBm
-70 dBm
CF 2.437 GHz
691 pts
Span 23.01 MHz


Spectrum
Ref Level 21.50 dBm Offset 1.50 dB RBW 100 kHz
Att 30 dB SWT 56.8 µs VBW 300 kHz Mode Auto FFT
1Pk View
M1[1]
5.69 dBm
2.4632615 GHz
M1
10 dBm
0 dBm
-10 dBm
-20 dBm
-30 dBm
-40 dBm
-50 dBm
-60 dBm
-70 dBm
CF 2.462 GHz
691 pts
Span 21.795 MHz

802.11n-HT20


Spectrum
Ref Level 21.50 dBm Offset 1.50 dB RBW 100 kHz
Att 30 dB SWT 56.8 µs VBW 300 kHz Mode Auto FFT
1Pk View
M1[1] 0.76 dBm
2.4132868 GHz
M1
10 dBm
0 dBm
-10 dBm
-20 dBm
-30 dBm
-40 dBm
-50 dBm
-60 dBm
-70 dBm
CF 2.412 GHz
691 pts
Span 22.7925 MHz


Spectrum
Ref Level 21.50 dBm Offset 1.50 dB RBW 100 kHz
Att 30 dB SWT 56.9 µs VBW 300 kHz Mode Auto FFT
1Pk View
M1[1] 1.92 dBm
2.4382515 GHz
M1
10 dBm
0 dBm
-10 dBm
-20 dBm
-30 dBm
-40 dBm
-50 dBm
-60 dBm
-70 dBm
CF 2.437 GHz
691 pts
Span 22.749 MHz


Spectrum
Ref Level 21.50 dBm Offset 1.50 dB RBW 100 kHz
Att 30 dB SWT 56.8 µs VBW 300 kHz Mode Auto FFT
1Pk View
M1[1]
0.73 dBm
2.4607160 GHz
M1
10 dBm
0 dBm
-10 dBm
-20 dBm
-30 dBm
-40 dBm
-50 dBm
-60 dBm
-70 dBm
CF 2.462 GHz
691 pts
Span 25.35 MHz

4.4 Out of Band Conducted Emissions, FCC Rule 15.247(d)

In any 100 kHz bandwidth outside the EUT passband, the RF power produced by the modulation products of the spreading sequence, the information sequence, and the carrier frequency shall be at least 20dB below that of the maximum in-band 100 kHz emission, or else shall meet the general limits for radiated emissions at frequencies outside the passband, whichever results in lower attenuation. The Measurement Procedure was set according to the FCC KDB 558074.

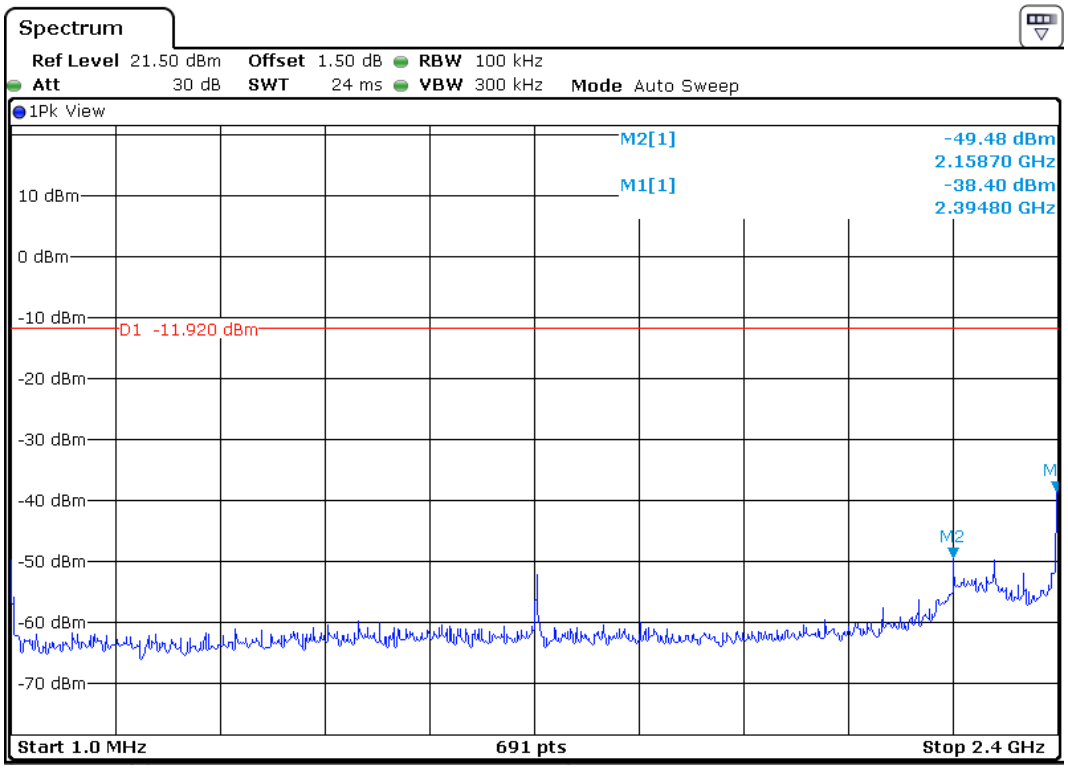
All other types of emissions from the EUT shall meet the general limits for radiated frequencies outside the passband.

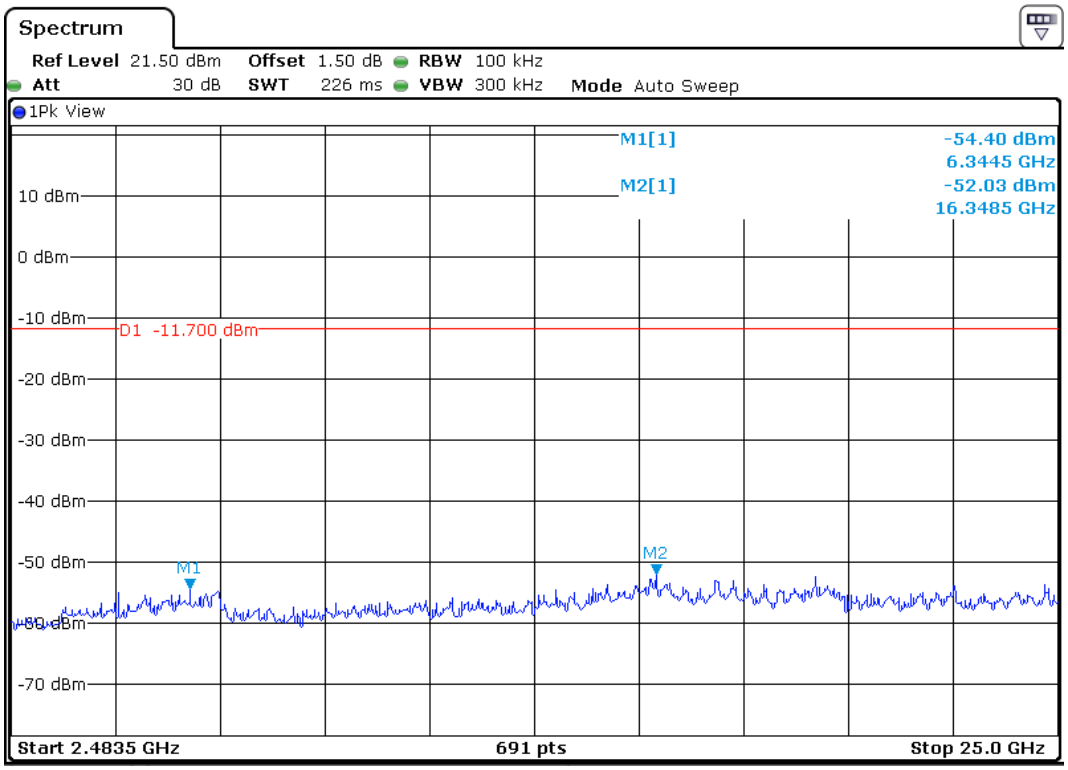
Refer to the attached test plot for out of band conducted emissions data with rate of 1Mbps for 802.11b, 6Mbps for 802.11g, 6.5Mbps for 802.11n HT20.

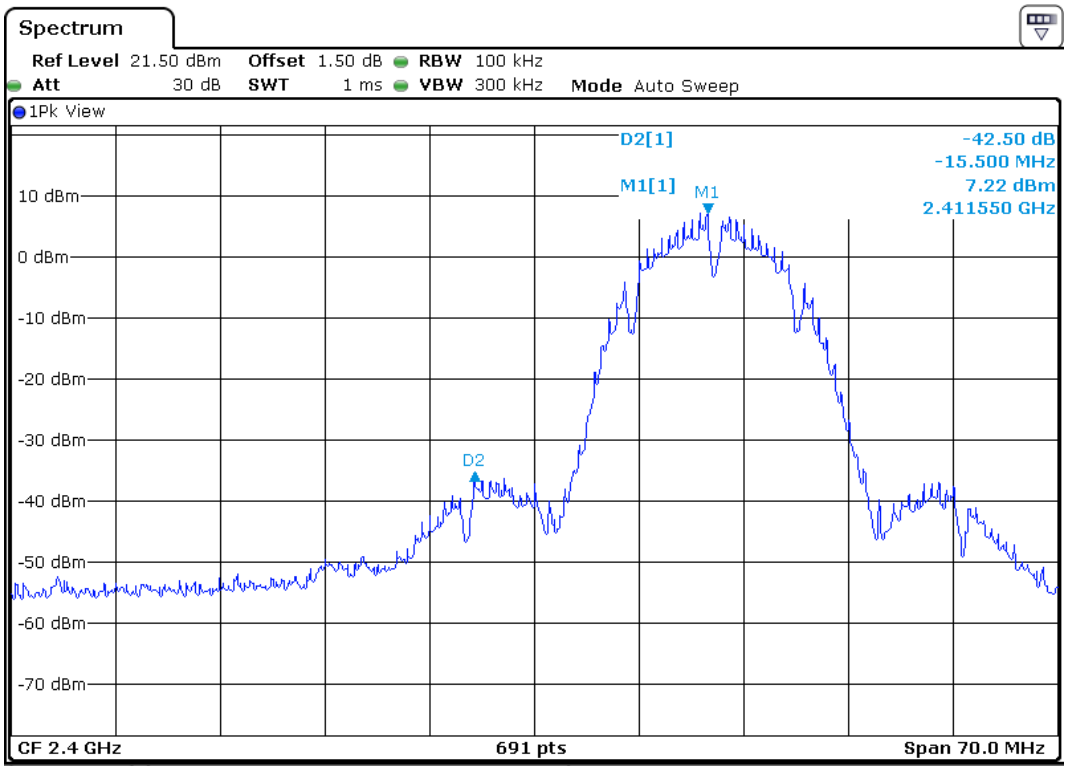
The test plots showed all spurious emission and up to the tenth harmonic were measured and they were found to be at least 20 dB below the highest level of the desired power in the passband.

The test plots are attached as below.

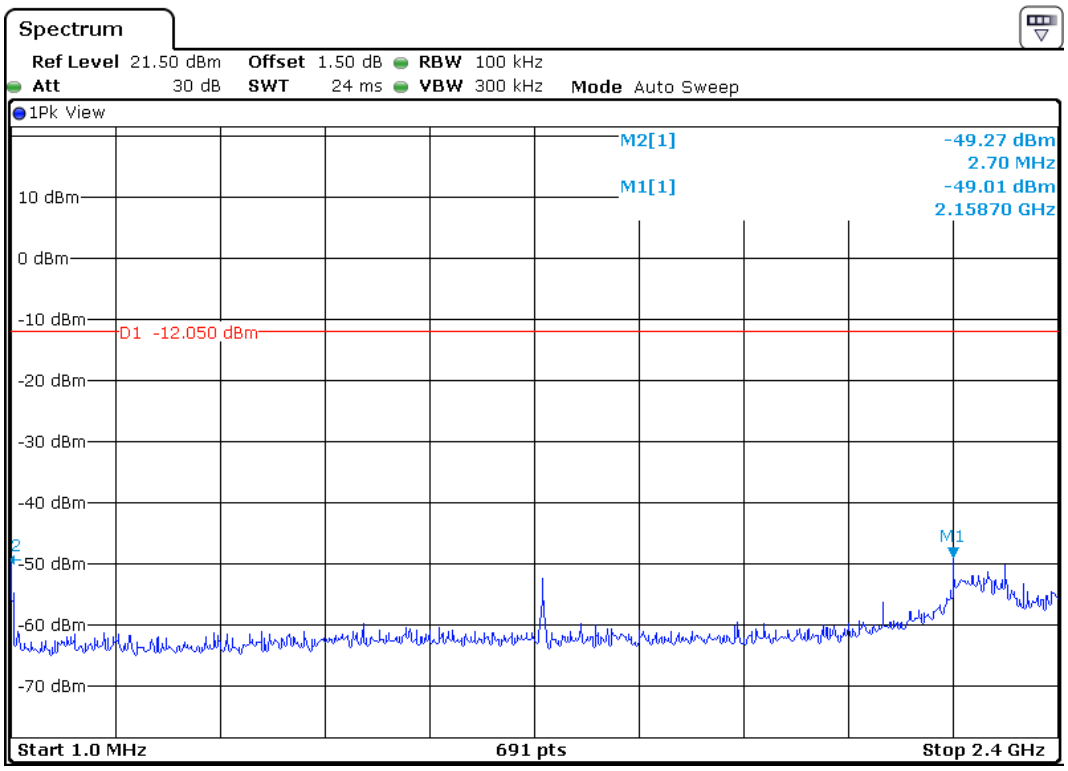
802.11b
Channel 1 (2412MHz) Reference Level: 8.08dBm

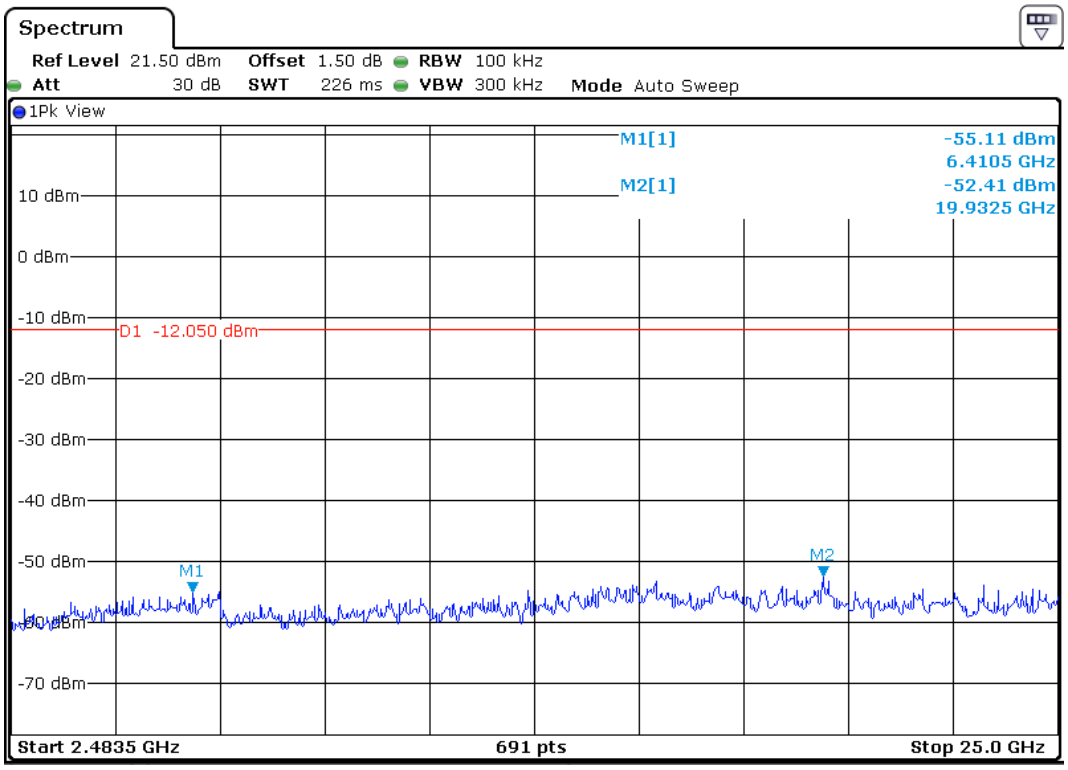




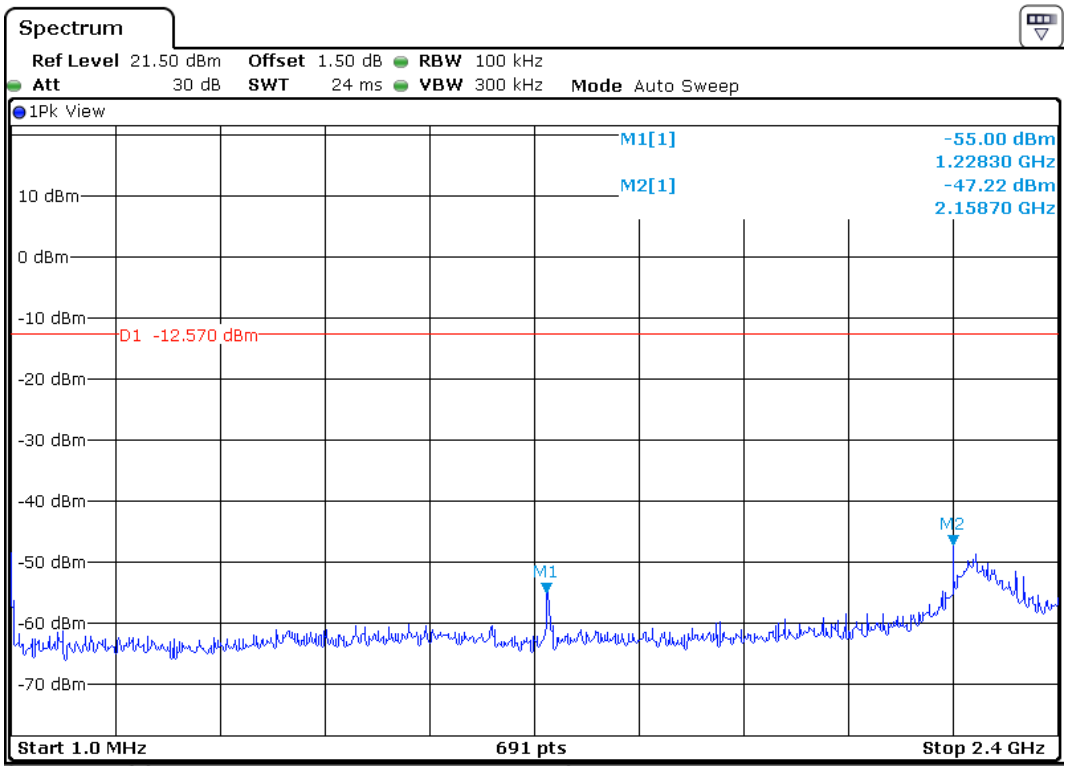

Spectrum
Ref Level 21.50 dBm Offset 1.50 dB RBW 100 kHz
Att 30 dB SWT 1 ms VBW 300 kHz Mode Auto Sweep
1Pk View
D2[1]
M1[1]
M1
D2
-42.50 dB
-15.500 MHz
7.22 dBm
2.411550 GHz
10 dBm
0 dBm
-10 dBm
-20 dBm
-30 dBm
-40 dBm
-50 dBm
-60 dBm
-70 dBm
CF 2.4 GHz
691 pts
Span 70.0 MHz

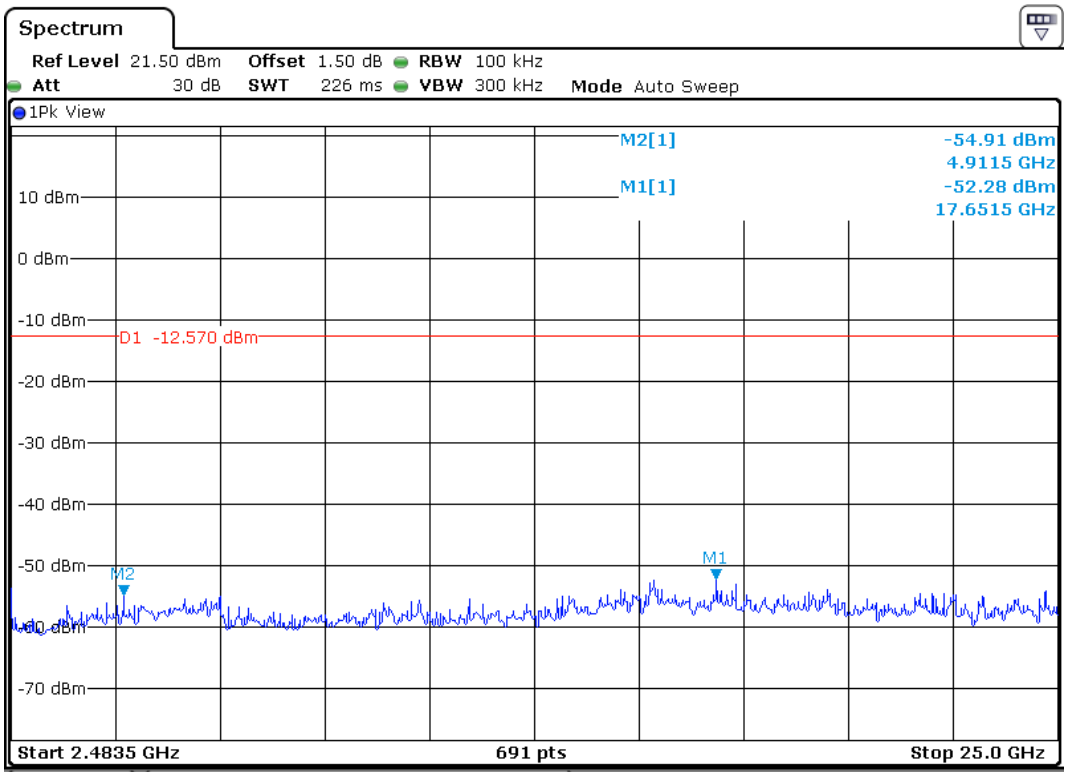
Channel 6 (2437MHz) Reference Level: 7.95dBm

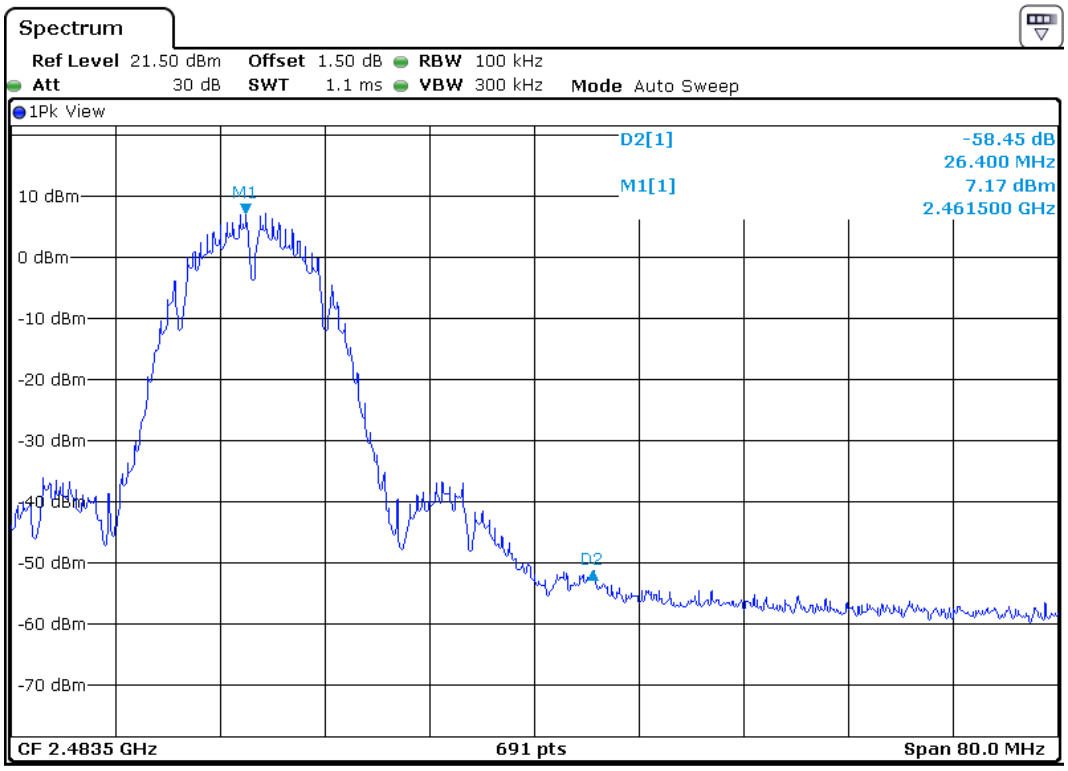




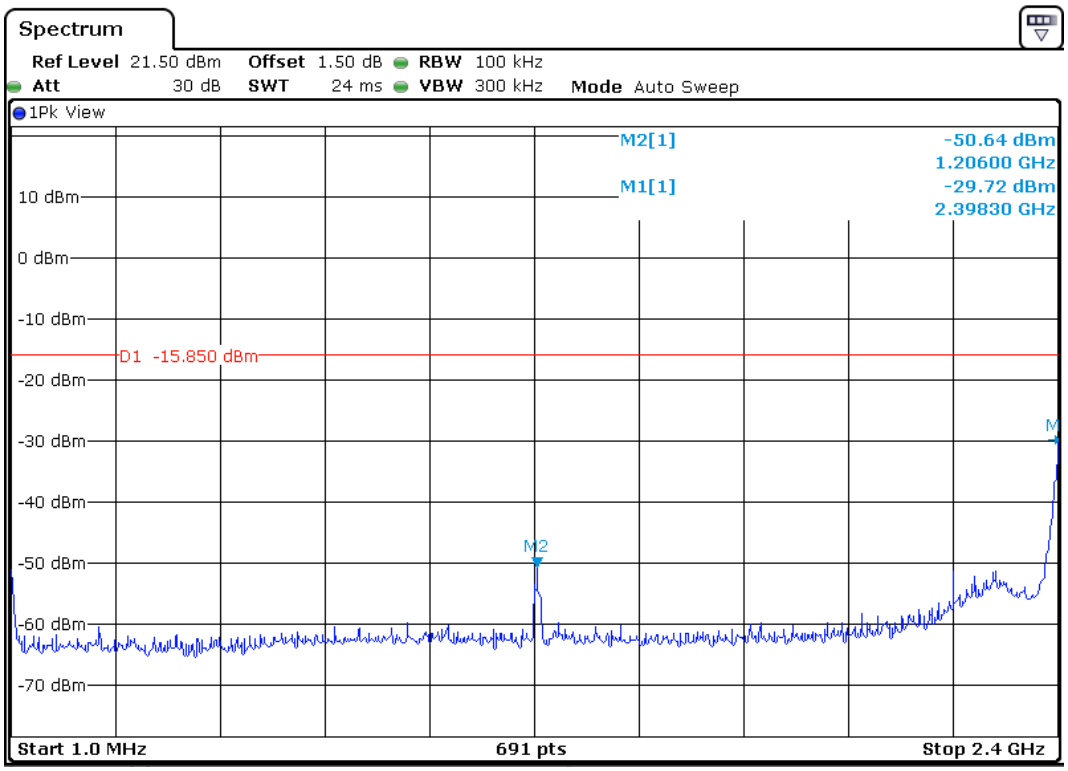
Channel 11 (2462MHz) Reference Level: 7.43dBm

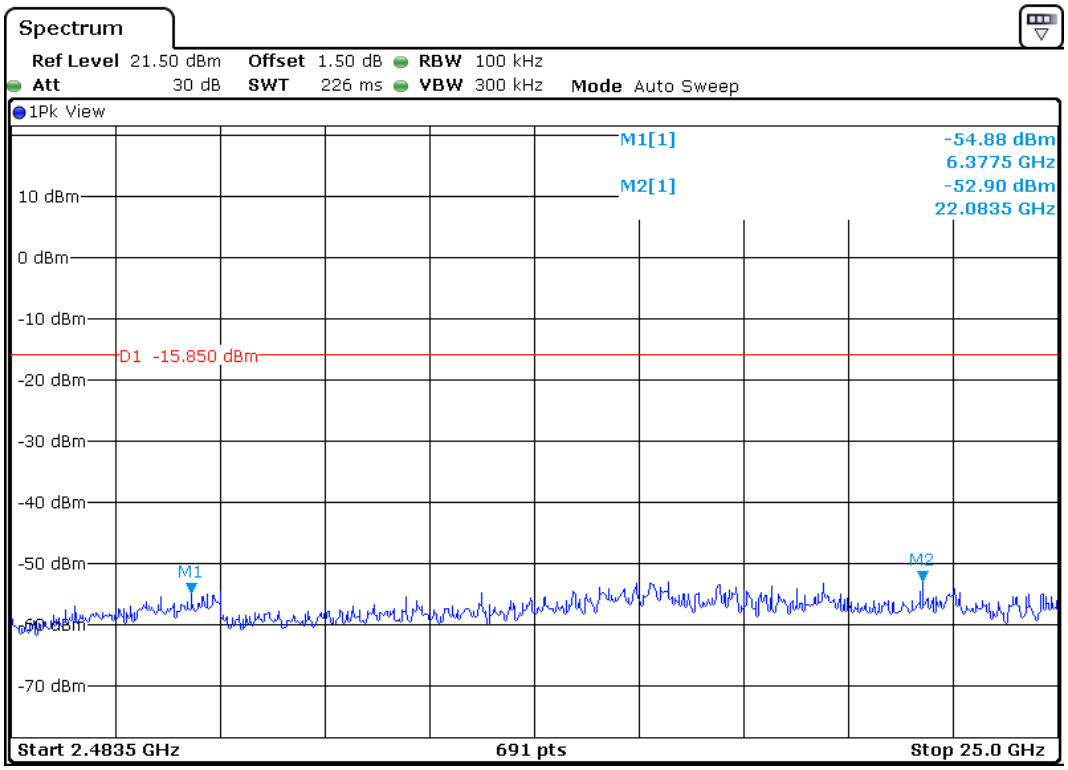


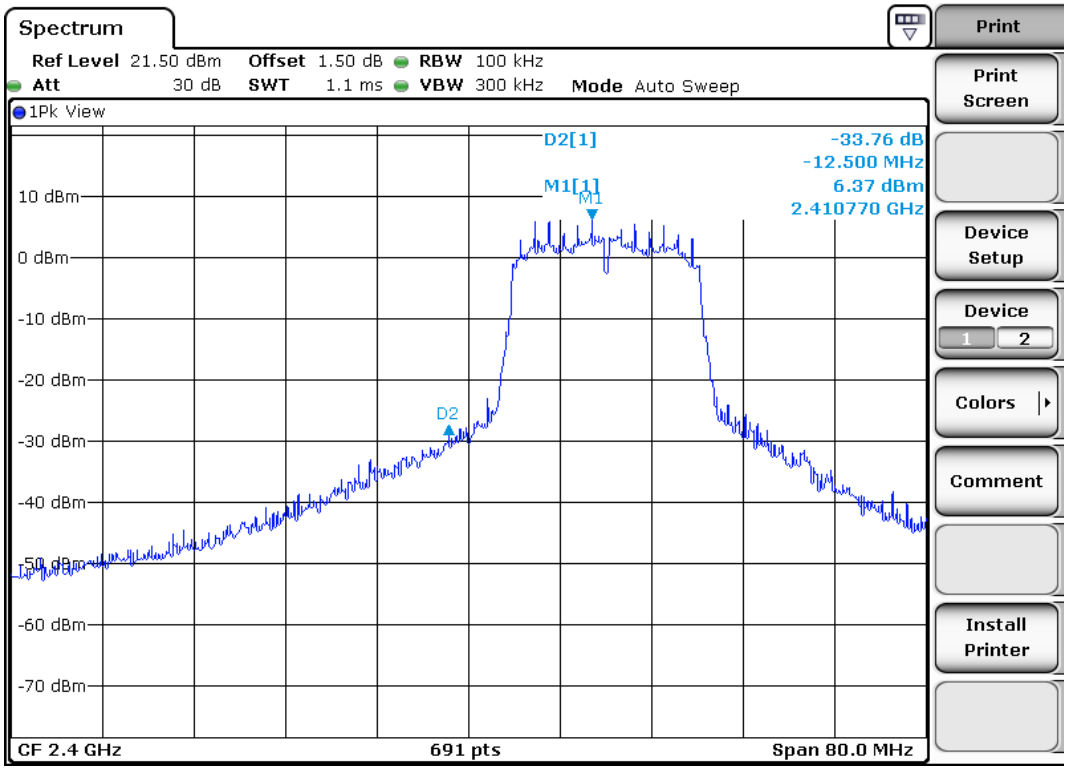



Spectrum
Ref Level 21.50 dBm Offset 1.50 dB RBW 100 kHz
Att 30 dB SWT 1.1 ms VBW 300 kHz Mode Auto Sweep
1Pk View
D2[1]
-58.45 dB
26.400 MHz
M1[1]
7.17 dBm
2.461500 GHz
M1
D2
10 dBm
0 dBm
-10 dBm
-20 dBm
-30 dBm
-40 dBm
-50 dBm
-60 dBm
-70 dBm
CF 2.4835 GHz
691 pts
Span 80.0 MHz

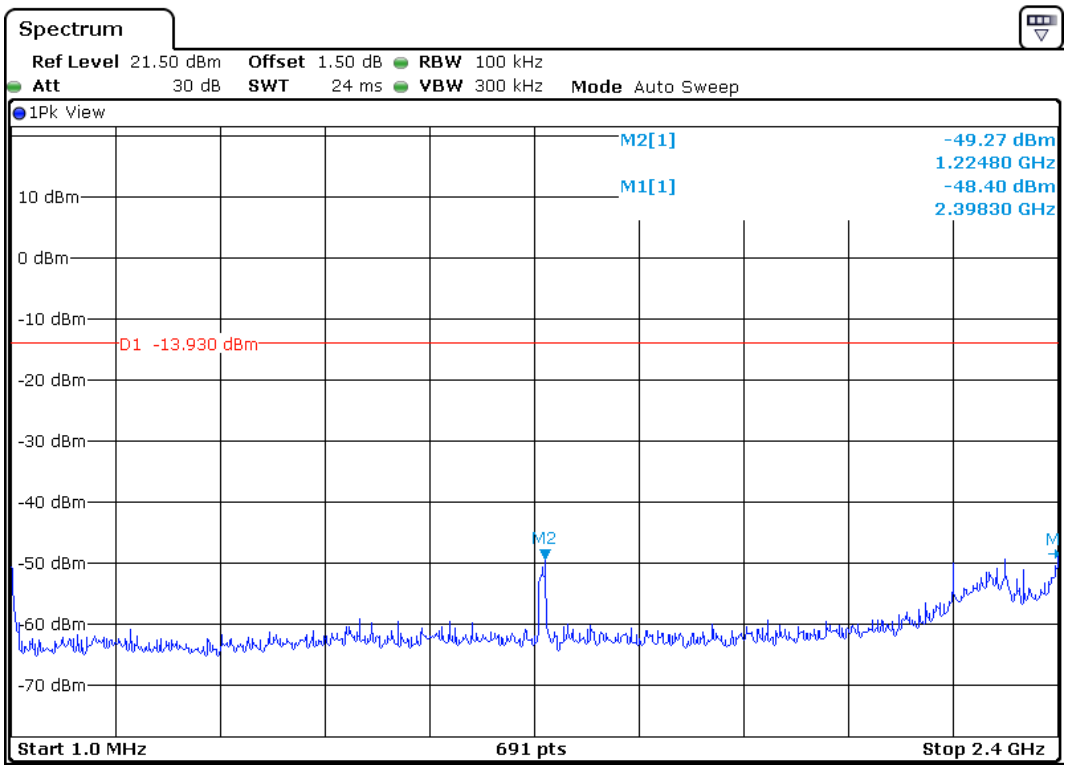
802.11g
Channel 1 (2412MHz) Reference Level: 4.15dBm

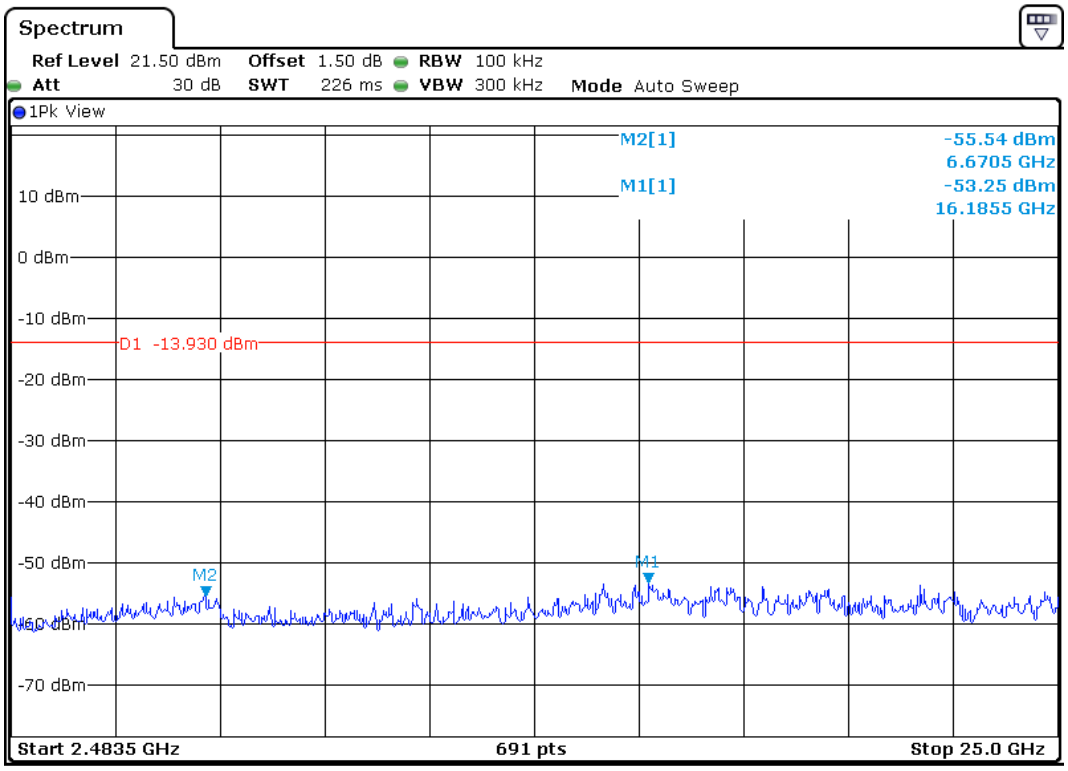




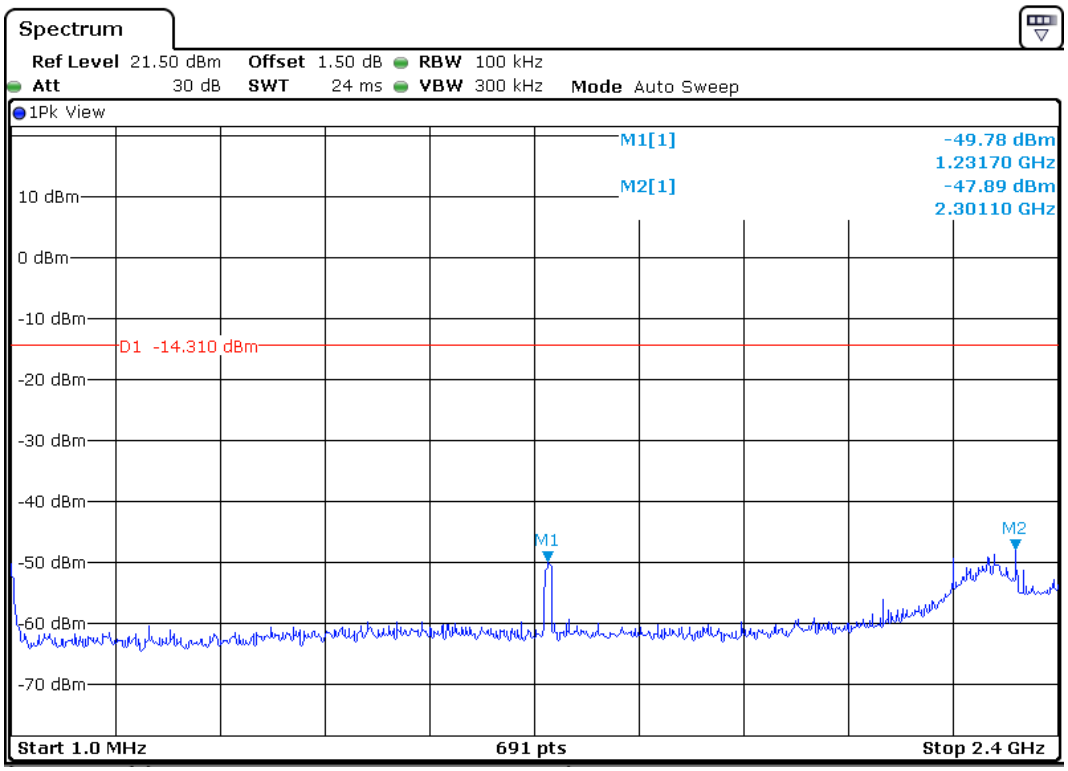

Spectrum
Ref Level 21.50 dBm Offset 1.50 dB RBW 100 kHz
Att 30 dB SWT 1.1 ms VBW 300 kHz Mode Auto Sweep
1Pk View
D2[1]
-33.76 dB
-12.500 MHz
M1[1]
6.37 dBm
2.410770 GHz
M1
D2
10 dBm
0 dBm
-10 dBm
-20 dBm
-30 dBm
-40 dBm
-50 dBm
-60 dBm
-70 dBm
CF 2.4 GHz
691 pts
Span 80.0 MHz
Print
Print Screen
Device Setup
Device
1
2
Colors
Comment
Install Printer

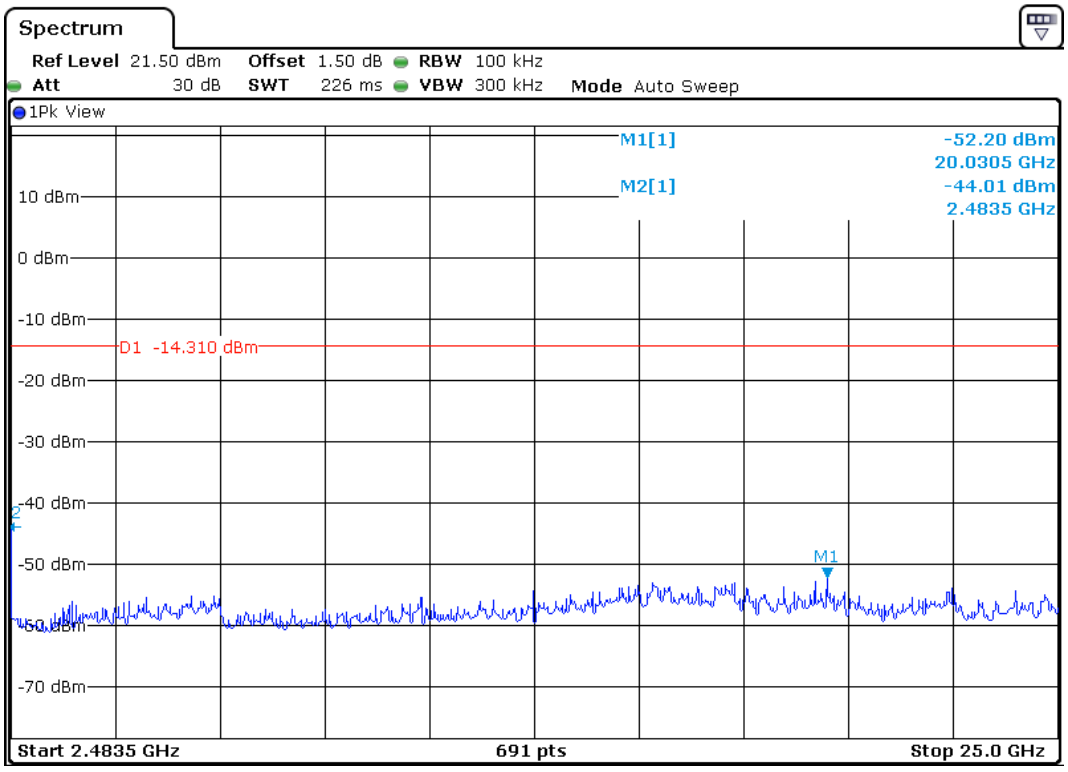
Channel 6 (2437MHz) Reference Level: 6.07dBm

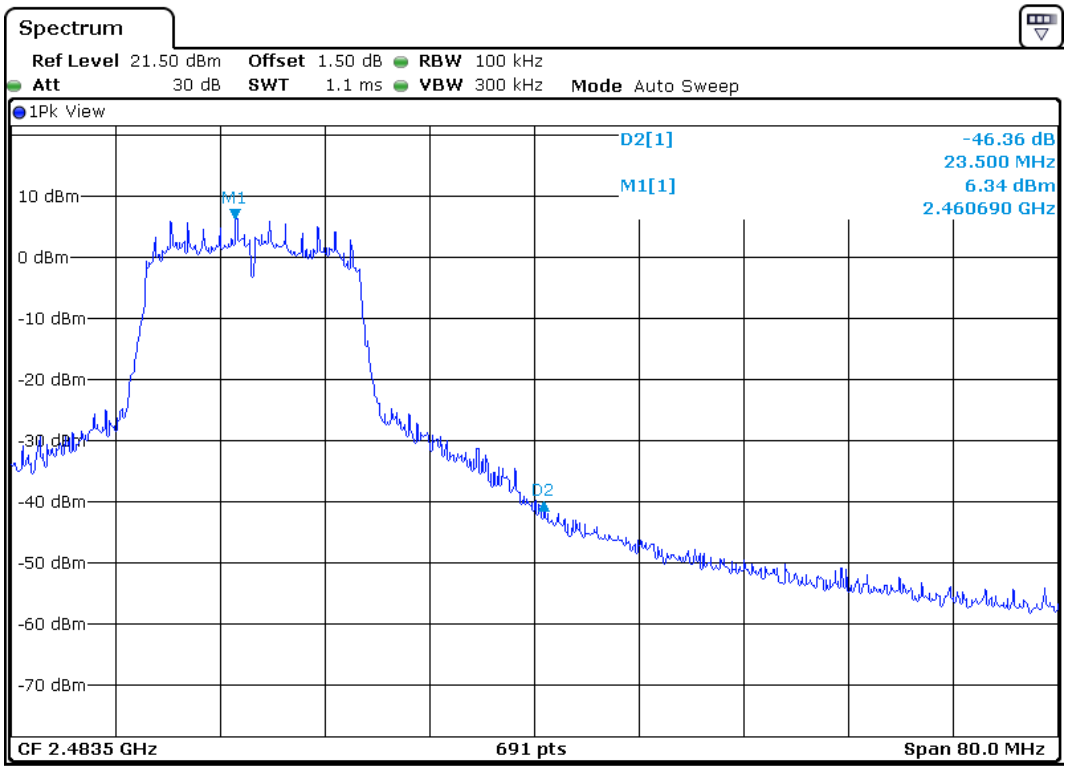




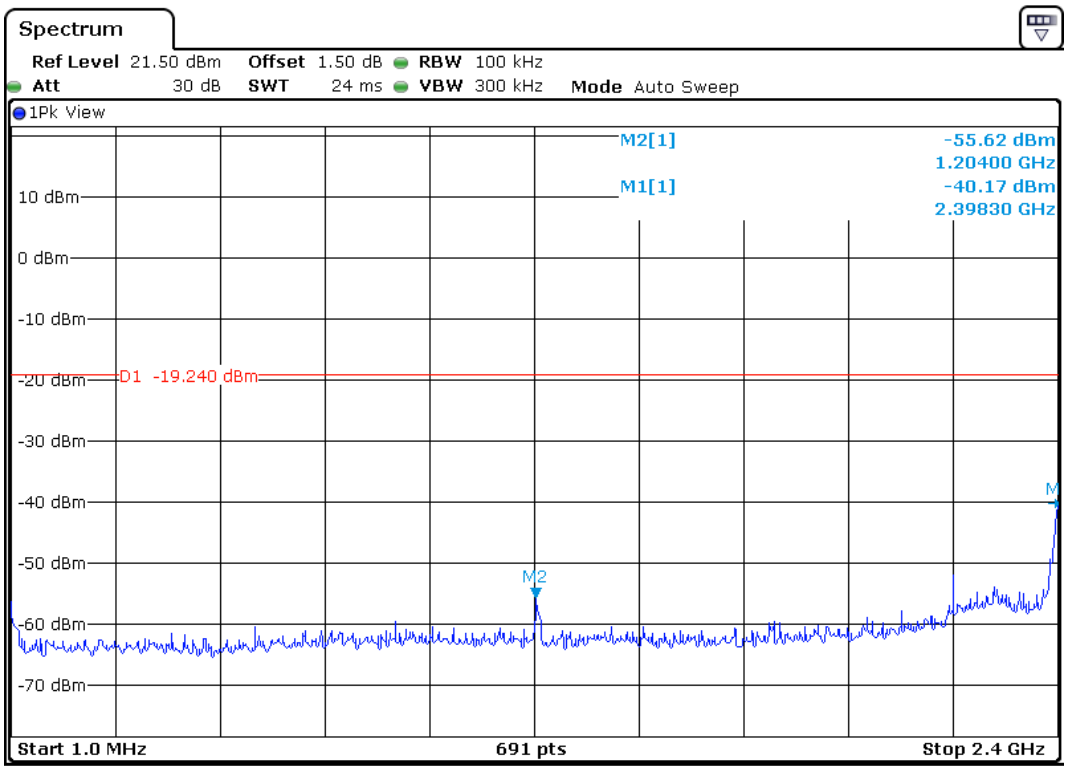
Channel 11 (2462MHz) Reference Level: 5.69dBm

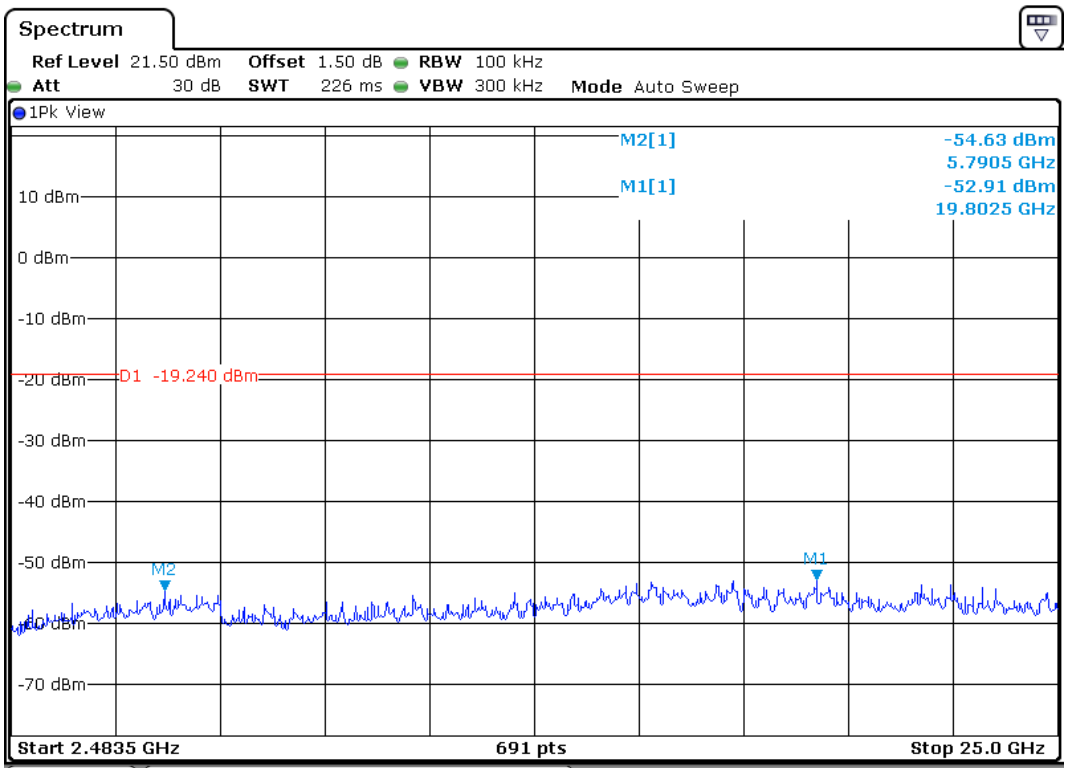


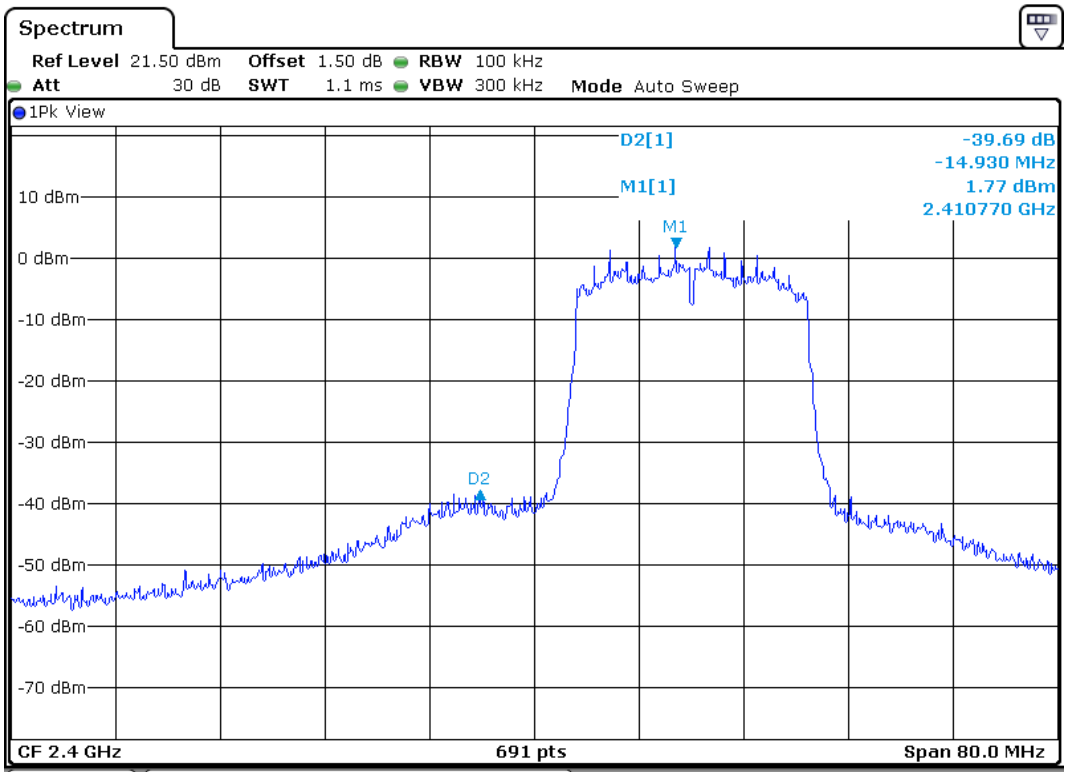



Spectrum
Ref Level 21.50 dBm Offset 1.50 dB RBW 100 kHz
Att 30 dB SWT 1.1 ms VBW 300 kHz Mode Auto Sweep
1Pk View
D2[1] -46.36 dB
23.500 MHz
M1[1] 6.34 dBm
2.460690 GHz
10 dBm
0 dBm
-10 dBm
-20 dBm
-30 dBm
-40 dBm
-50 dBm
-60 dBm
-70 dBm
M1
D2
CF 2.4835 GHz
691 pts
Span 80.0 MHz

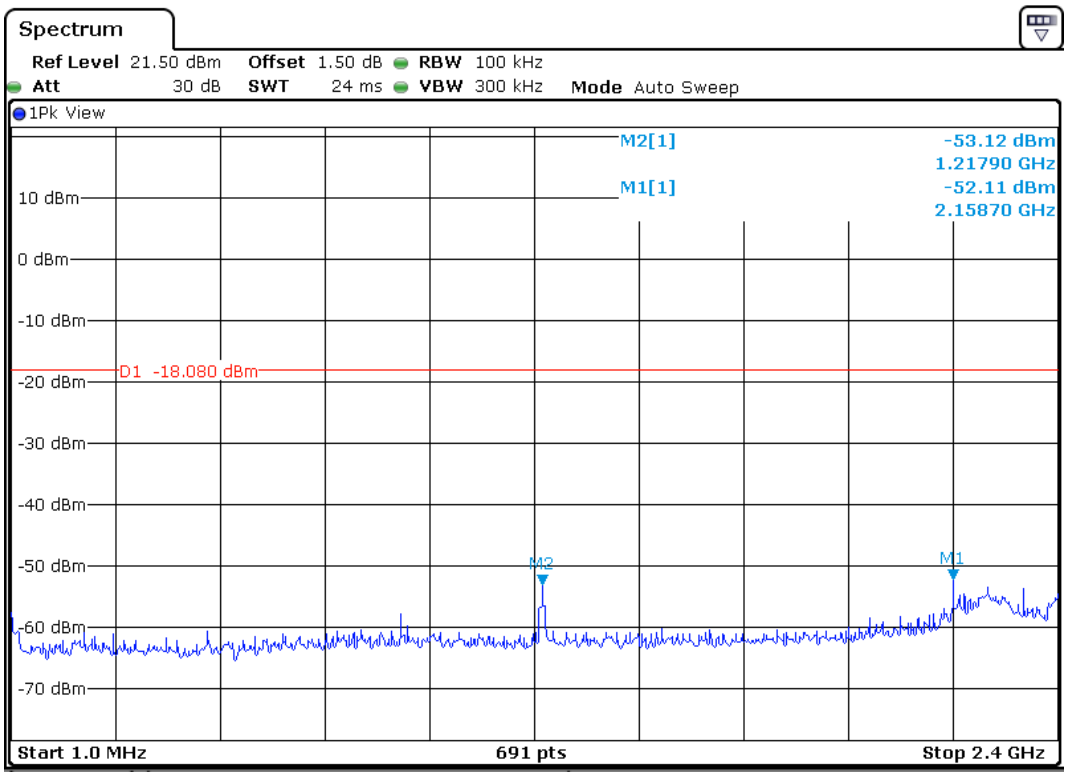
802.11n-HT20
Channel 1 (2412MHz) Reference Level: 0.76dBm

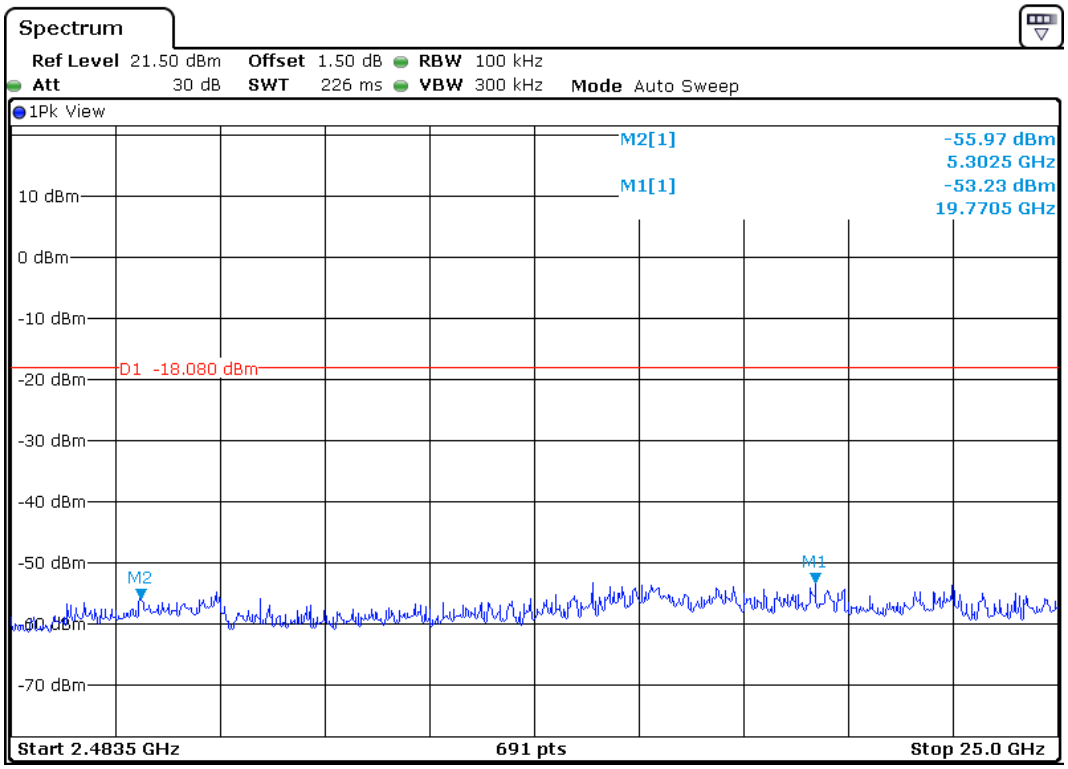




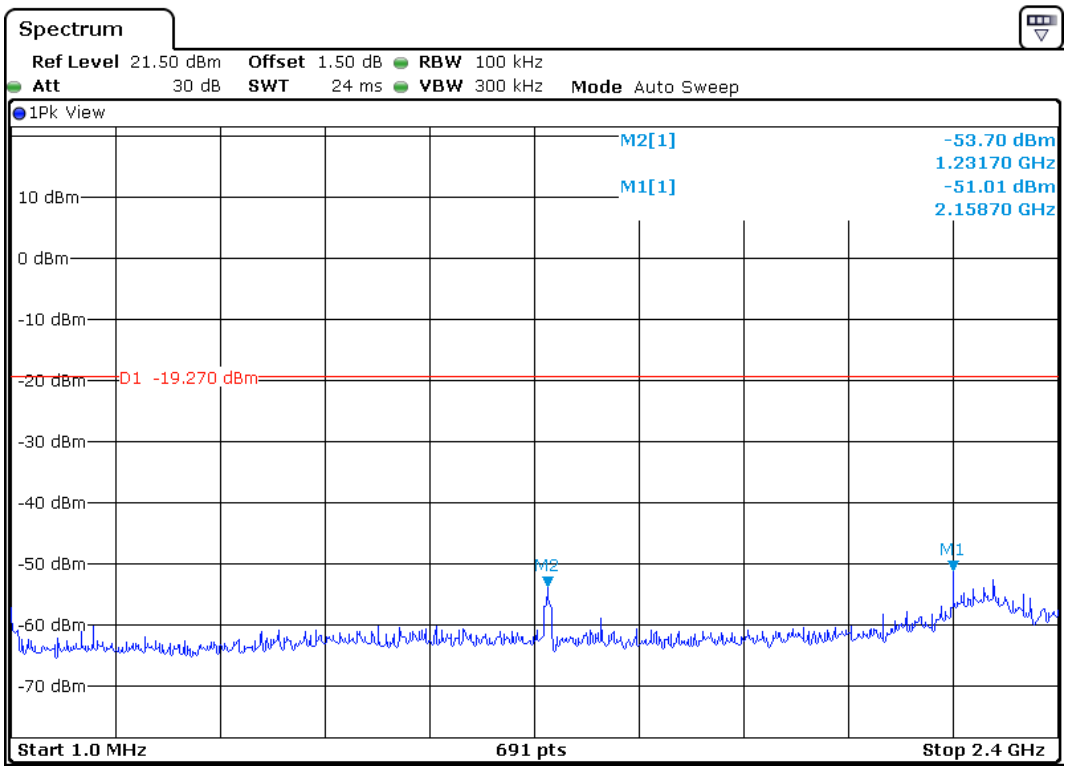

Spectrum
Ref Level 21.50 dBm Offset 1.50 dB RBW 100 kHz
Att 30 dB SWT 1.1 ms VBW 300 kHz Mode Auto Sweep
1Pk View
D2[1]
-39.69 dB
-14.930 MHz
M1[1]
1.77 dBm
2.410770 GHz
M1
D2
10 dBm
0 dBm
-10 dBm
-20 dBm
-30 dBm
-40 dBm
-50 dBm
-60 dBm
-70 dBm
CF 2.4 GHz
691 pts
Span 80.0 MHz

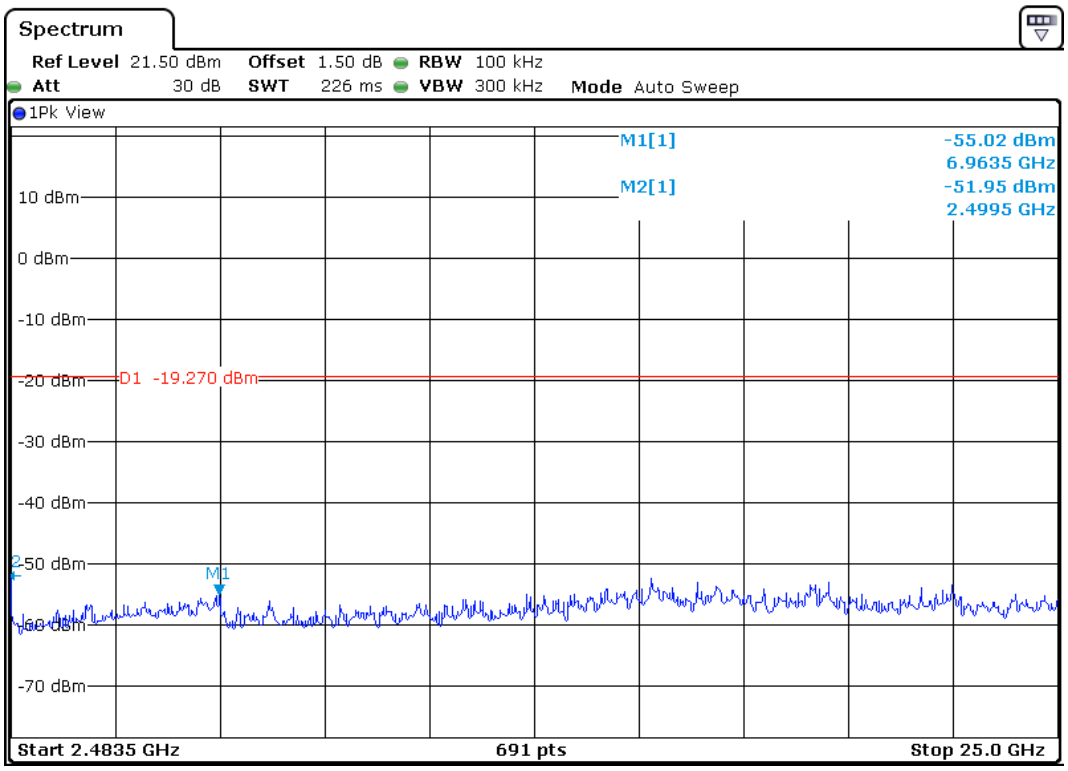
Channel 6 (2437MHz) Reference Level: 1.92dBm

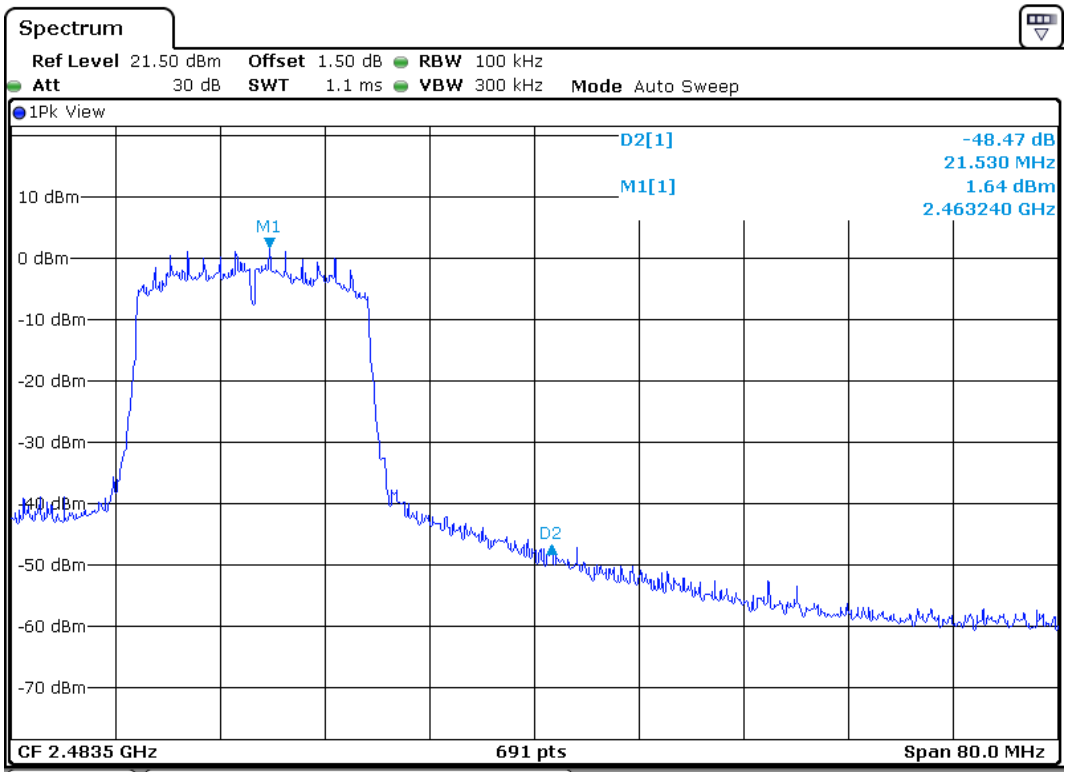




Channel 11 (2462MHz) Reference Level: 0.73dBm






Spectrum
Ref Level 21.50 dBm Offset 1.50 dB RBW 100 kHz
Att 30 dB SWT 1.1 ms VBW 300 kHz Mode Auto Sweep
1Pk View
D2[1]
-48.47 dB
21.530 MHz
M1[1]
1.64 dBm
2.463240 GHz
M1
D2
10 dBm
0 dBm
-10 dBm
-20 dBm
-30 dBm
-40 dBm
-50 dBm
-60 dBm
-70 dBm
CF 2.4835 GHz
691 pts
Span 80.0 MHz

4.5 Out of Band Radiated Emissions (for emissions in 4.4 above that are less than 20dB below carrier), FCC Rule 15.247(d):

For out of band emissions that are close to or that exceed the 20dB attenuation requirement described in the specification, radiated measurements were performed at a 3m separation distance to determine whether these emissions complied with the general radiated emission requirement.

[×] Not required, since all emissions are more than 20dB below fundamental
[ ] See attached data sheet

4.6 Transmitter Duty Cycle Calculation and Measurements, FCC Rule 15.35(b), (c)

The EUT antenna output port was connected to the input of the spectrum analyzer. The analyzer center frequency was set to EUT RF channel carrier. The SWEP function on the analyzer was set to ZERO SPAN. The Transmitter ON time was determined from the resultant time-amplitude display:

	See attached spectrum analyzer chart (s) for Transmitter timing
	See Transmitter timing diagram provided by manufacturer
x	Not applicable, duty cycle was not used.

4.7 Field Strength Calculation

The field strength is calculated by adding the reading on the Spectrum Analyzer to the factors associated with preamplifiers (if any), antennas, cables, pulse desensitization and average factors (when specified limit is in average and measurements are made with peak detectors). A sample calculation is included below.

FS = RA + AF + CF - AG + PD

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
PD = Pulse Desensitization in dB

In the radiated emission table which follows, the reading shown on the data table may reflect the preamplifier gain. An example of the calculations, where the reading does not reflect the preamplifier gain, follows:

FS = RA + AF + CF - AG + PD

<u>Example</u>
Assume a receiver reading of 62.0 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. The pulse desensitization factor of the spectrum analyzer was 0 dB. The net field strength for comparison to the appropriate emission limit is 32 dBμV/m. This value in dBμV/m was converted to its corresponding level in μV/m.

RA = 62.0 dBμV
AF = 7.4 dB
CF = 1.6 dB
AG = 29.0 dB
PD = 0 dB
FS = 62 + 7.4 + 1.6 - 29 + 0 = 42 dBμV/m

Level in mV/m = Common Antilogarithm [(42 dBμV/m)/20] = 125.9 μV/m

4.8 Radiated Spurious Emission

Worst Case Radiated Spurious Emission (802.11b channel 1) at 4824.000MHz is passed by 6.3 dB margin.

For the electronic filing, the worst case radiated emission configuration photographs are saved with filename: radiated photos.pdf.

Applicant: iDevices, LLC
Date of Test: August 6, 2015
Model: IDEV0005
Worst Case Operating Mode: RF on

Radiated Emissions

Polarization	Frequency (MHz)	Reading (dBµV)	Pre-Amp Gain (dB)	Antenna Factor (dB)	Net at 3m (dBµV/m)	Limit at 3m (dBµV/m)	Margin (dB)
Horizontal	30.485	22.6	20.0	18.9	21.5	40.0	-18.5
Horizontal	638.155	42.0	20.0	10.6	32.6	46.0	-13.4
Horizontal	883.600	38.7	20.0	14.7	33.4	46.0	-12.6
Vertical	30.000	23.6	20.0	18.9	22.5	40.0	-17.5
Vertical	88.200	24.5	20.0	14.1	18.6	43.5	-24.9
Vertical	135.240	28.7	20.0	10.0	18.7	43.5	-24.8

NOTES:
1. Quasi-Peak detector is used except for others stated.
2. All measurements were made at 3 meters. Harmonic emissions not detected at the 3-meter distances were measured at 0.3-meter and an inverse proportional extrapolation was performed to compare the signal level to the 3-meter limit. No other harmonic emissions than those reported were detected at a test distance of 0.3-meter.
3. Negative value in the margin column shows emission below limit.
4. All emissions are below the QP limit.

Applicant: iDevices, LLC
Date of Test: August 6, 2015
Model: IDEV0005
Mode: 802.11b (TX-Channel 01)

Radiated Emissions

Polarization	Frequency (MHz)	Reading (dBµV)	Pre-Amp Gain (dB)	Antenna Factor (dB)	Net at 3m (dBµV/m)	Peak Limit at 3m (dBµV/m)	Margin (dB)
Vertical	*4824.000	57.9	36.7	34.2	55.4	74.0	-18.6
Vertical	*2389.500	64.8	36.2	28.2	56.8	74.0	-17.2

Polarization	Frequency (MHz)	Reading (dBµV)	Pre-Amp Gain (dB)	Antenna Factor (dB)	Net at 3m (dBµV/m)	Average Limit at 3m (dBµV/m)	Margin (dB)
Vertical	*4824.000	49.8	36.7	34.2	47.3	54.0	-6.7
Vertical	*2389.500	52.7	36.2	28.2	44.7	54.0	-9.3

NOTES:

1. Peak detector is used for the emission measurement (RBW=1MHz, VBW=3MHz for Peak data; RBW=1MHz, VBW=10Hz for Average data).

2. All measurements were made at 3 meters. Radiated emissions not detected at the 3-meter distance were measured at 0.3-meter and an inverse proportional extrapolation was performed to compare the signal level to the 3-meter limit. No other radiated emissions than those reported were detected at a test distance of 0.3-meter.

3. Negative value in the margin column shows emission below limit.

4. Horn antenna used for the emission over 1000MHz.

* Emission within the restricted band meets the requirement of section 15.205. The corresponding limit as per 15.209 is based on Quasi peak limit for frequencies below 1000 MHz and average limit for frequencies over 1000 MHz. The radio frequency emissions above 1GHz also meet corresponding 20dB permitted peak limit with a peak detector function.

Applicant: iDevices, LLC
Date of Test: August 6, 2015
Model: IDEV0005
Mode: 802.11b (TX-Channel 06)

Radiated Emissions

Polarization	Frequency (MHz)	Reading (dBµV)	Pre-Amp Gain (dB)	Antenna Factor (dB)	Net at 3m (dBµV/m)	Peak Limit at 3m (dBµV/m)	Margin (dB)
Vertical	*4874.000	56.9	36.7	34.6	54.8	74.0	-19.2
Vertical	*7311.000	56.4	36.7	37.1	56.8	74.0	-17.2

Polarization	Frequency (MHz)	Reading (dBµV)	Pre-Amp Gain (dB)	Antenna Factor (dB)	Net at 3m (dBµV/m)	Average Limit at 3m (dBµV/m)	Margin (dB)
Vertical	*4874.000	47.8	36.7	34.6	45.7	54.0	-8.3
Vertical	*7311.000	45.8	36.7	37.1	46.2	54.0	-7.8

NOTES:

1. Peak detector is used for the emission measurement (RBW=1MHz, VBW=3MHz for Peak data; RBW=1MHz, VBW=10Hz for Average data).

2. All measurements were made at 3 meters. Radiated emissions not detected at the 3-meter distance were measured at 0.3-meter and an inverse proportional extrapolation was performed to compare the signal level to the 3-meter limit. No other radiated emissions than those reported were detected at a test distance of 0.3-meter.

3. Negative value in the margin column shows emission below limit.

4. Horn antenna used for the emission over 1000MHz.

* Emission within the restricted band meets the requirement of section 15.205. The corresponding limit as per 15.209 is based on Quasi peak limit for frequencies below 1000 MHz and average limit for frequencies over 1000 MHz. The radio frequency emissions above 1GHz also meet corresponding 20dB permitted peak limit with a peak detector function.

Applicant: iDevices, LLC
Date of Test: August 6, 2015
Model: IDEV0005
Mode: 802.11b (TX-Channel 11)

Radiated Emissions

Polarization	Frequency (MHz)	Reading (dBµV)	Pre-Amp Gain (dB)	Antenna Factor (dB)	Net at 3m (dBµV/m)	Peak Limit at 3m (dBµV/m)	Margin (dB)
Vertical	*4924.000	58.4	36.7	34.6	56.3	74.0	-17.7
Vertical	*7386.000	56.7	36.7	37.2	57.2	74.0	-16.8
Vertical	*2483.650	64.1	36.2	28.0	55.9	74.0	-18.1

Polarization	Frequency (MHz)	Reading (dBµV)	Pre-Amp Gain (dB)	Antenna Factor (dB)	Net at 3m (dBµV/m)	Average Limit at 3m (dBµV/m)	Margin (dB)
Vertical	*4924.000	48.6	36.7	34.6	46.5	54.0	-7.5
Vertical	*7386.000	44.9	36.7	37.2	45.4	54.0	-8.6
Vertical	*2483.650	55.0	36.2	28.0	46.8	54.0	-7.2

NOTES:
1. Peak detector is used for the emission measurement (RBW=1MHz, VBW=3MHz for Peak data; RBW=1MHz, VBW=10Hz for Average data).
2. All measurements were made at 3 meters. Radiated emissions not detected at the 3-meter distance were measured at 0.3-meter and an inverse proportional extrapolation was performed to compare the signal level to the 3-meter limit. No other radiated emissions than those reported were detected at a test distance of 0.3-meter.
3. Negative value in the margin column shows emission below limit.
4. Horn antenna used for the emission over 1000MHz.

* Emission within the restricted band meets the requirement of section 15.205. The corresponding limit as per 15.209 is based on Quasi peak limit for frequencies below 1000 MHz and average limit for frequencies over 1000 MHz. The radio frequency emissions above 1GHz also meet corresponding 20dB permitted peak limit with a peak detector function.

Applicant: iDevices, LLC
Date of Test: August 6, 2015
Model: IDEV0005
Mode: 802.11g (TX-Channel 01)

Radiated Emissions

Polarization	Frequency (MHz)	Reading (dBµV)	Pre-Amp Gain (dB)	Antenna Factor (dB)	Net at 3m (dBµV/m)	Peak Limit at 3m (dBµV/m)	Margin (dB)
Vertical	*4824.000	60.8	36.7	34.2	58.3	74.0	-15.7
Vertical	*2389.500	62.9	36.2	28.2	54.9	74.0	-19.1

Polarization	Frequency (MHz)	Reading (dBµV)	Pre-Amp Gain (dB)	Antenna Factor (dB)	Net at 3m (dBµV/m)	Average Limit at 3m (dBµV/m)	Margin (dB)
Vertical	*4824.000	47.3	36.7	34.2	44.8	54.0	-9.2
Vertical	*2389.500	51.6	36.2	28.2	43.6	54.0	-10.4

NOTES:

1. Peak detector is used for the emission measurement (RBW=1MHz, VBW=3MHz for Peak data; RBW=1MHz, VBW=10Hz for Average data).

2. All measurements were made at 3 meters. Radiated emissions not detected at the 3-meter distance were measured at 0.3-meter and an inverse proportional extrapolation was performed to compare the signal level to the 3-meter limit. No other radiated emissions than those reported were detected at a test distance of 0.3-meter.

3. Negative value in the margin column shows emission below limit.

4. Horn antenna used for the emission over 1000MHz.

* Emission within the restricted band meets the requirement of section 15.205. The corresponding limit as per 15.209 is based on Quasi peak limit for frequencies below 1000 MHz and average limit for frequencies over 1000 MHz. The radio frequency emissions above 1GHz also meet corresponding 20dB permitted peak limit with a peak detector function.

Applicant: iDevices, LLC
Date of Test: August 6, 2015
Model: IDEV0005
Mode: 802.11g (TX-Channel 06)

Radiated Emissions

Polarization	Frequency (MHz)	Reading (dBµV)	Pre-Amp Gain (dB)	Antenna Factor (dB)	Net at 3m (dBµV/m)	Peak Limit at 3m (dBµV/m)	Margin (dB)
Vertical	*4874.000	57.9	36.7	34.6	55.8	74.0	-18.2
Vertical	*7311.000	55.9	36.7	37.1	56.3	74.0	-17.7

Polarization	Frequency (MHz)	Reading (dBµV)	Pre-Amp Gain (dB)	Antenna Factor (dB)	Net at 3m (dBµV/m)	Average Limit at 3m (dBµV/m)	Margin (dB)
Vertical	*4874.000	44.7	36.7	34.6	42.6	54.0	-11.4
Vertical	*7311.000	43.3	36.7	37.1	43.7	54.0	-10.3

NOTES:

1. Peak detector is used for the emission measurement (RBW=1MHz, VBW=3MHz for Peak data; RBW=1MHz, VBW=10Hz for Average data).

2. All measurements were made at 3 meters. Radiated emissions not detected at the 3-meter distance were measured at 0.3-meter and an inverse proportional extrapolation was performed to compare the signal level to the 3-meter limit. No other radiated emissions than those reported were detected at a test distance of 0.3-meter.

3. Negative value in the margin column shows emission below limit.

4. Horn antenna used for the emission over 1000MHz.

* Emission within the restricted band meets the requirement of section 15.205. The corresponding limit as per 15.209 is based on Quasi peak limit for frequencies below 1000 MHz and average limit for frequencies over 1000 MHz. The radio frequency emissions above 1GHz also meet corresponding 20dB permitted peak limit with a peak detector function.

Applicant: iDevices, LLC
Date of Test: August 6, 2015
Model: IDEV0005
Mode: 802.11g (TX-Channel 11)

Radiated Emissions

Polarization	Frequency (MHz)	Reading (dBµV)	Pre-Amp Gain (dB)	Antenna Factor (dB)	Net at 3m (dBµV/m)	Peak Limit at 3m (dBµV/m)	Margin (dB)
Vertical	*4924.000	58.8	36.7	34.6	56.7	74.0	-17.3
Vertical	*7386.000	58.2	36.7	37.2	58.7	74.0	-15.3
Vertical	*2483.650	65.1	36.2	28.0	56.9	74.0	-17.1

Polarization	Frequency (MHz)	Reading (dBµV)	Pre-Amp Gain (dB)	Antenna Factor (dB)	Net at 3m (dBµV/m)	Average Limit at 3m (dBµV/m)	Margin (dB)
Vertical	*4924.000	45.0	36.7	34.6	42.9	54.0	-11.1
Vertical	*7386.000	43.6	36.7	37.2	44.1	54.0	-9.9
Vertical	*2483.650	53.4	36.2	28.0	45.2	54.0	-8.8

NOTES:

1. Peak detector is used for the emission measurement (RBW=1MHz, VBW=3MHz for Peak data; RBW=1MHz, VBW=10Hz for Average data).

2. All measurements were made at 3 meters. Radiated emissions not detected at the 3-meter distance were measured at 0.3-meter and an inverse proportional extrapolation was performed to compare the signal level to the 3-meter limit. No other radiated emissions than those reported were detected at a test distance of 0.3-meter.

3. Negative value in the margin column shows emission below limit.

4. Horn antenna used for the emission over 1000MHz.

* Emission within the restricted band meets the requirement of section 15.205. The corresponding limit as per 15.209 is based on Quasi peak limit for frequencies below 1000 MHz and average limit for frequencies over 1000 MHz. The radio frequency emissions above 1GHz also meet corresponding 20dB permitted peak limit with a peak detector function.

Applicant: iDevices, LLC
Date of Test: August 6, 2015
Model: IDEV0005
Mode: 802.11n-HT20 (TX-Channel 01)

Radiated Emissions

Polarization	Frequency (MHz)	Reading (dBµV)	Pre-Amp Gain (dB)	Antenna Factor (dB)	Net at 3m (dBµV/m)	Peak Limit at 3m (dBµV/m)	Margin (dB)
Vertical	*4824.000	58.2	36.7	34.2	55.7	74.0	-18.3
Vertical	*2389.500	62.8	36.2	28.2	54.8	74.0	-19.2

Polarization	Frequency (MHz)	Reading (dBµV)	Pre-Amp Gain (dB)	Antenna Factor (dB)	Net at 3m (dBµV/m)	Average Limit at 3m (dBµV/m)	Margin (dB)
Vertical	*4824.000	49.6	36.7	34.2	47.1	54.0	-6.9
Vertical	*2389.483	54.3	36.2	28.2	46.3	54.0	-7.7

NOTES:

1. Peak detector is used for the emission measurement (RBW=1MHz, VBW=3MHz for Peak data; RBW=1MHz, VBW=10Hz for Average data).

2. All measurements were made at 3 meters. Radiated emissions not detected at the 3-meter distance were measured at 0.3-meter and an inverse proportional extrapolation was performed to compare the signal level to the 3-meter limit. No other radiated emissions than those reported were detected at a test distance of 0.3-meter.

3. Negative value in the margin column shows emission below limit.

4. Horn antenna used for the emission over 1000MHz.

* Emission within the restricted band meets the requirement of section 15.205. The corresponding limit as per 15.209 is based on Quasi peak limit for frequencies below 1000 MHz and average limit for frequencies over 1000 MHz. The radio frequency emissions above 1GHz also meet corresponding 20dB permitted peak limit with a peak detector function.

Applicant: iDevices, LLC
Date of Test: August 6, 2015
Model: IDEV0005
Mode: 802.11n-HT20 (TX-Channel 06)

Radiated Emissions

Polarization	Frequency (MHz)	Reading (dBµV)	Pre-Amp Gain (dB)	Antenna Factor (dB)	Net at 3m (dBµV/m)	Peak Limit at 3m (dBµV/m)	Margin (dB)
Vertical	*4874.000	58.9	36.7	34.2	56.4	74.0	-17.6
Vertical	*7311.000	57.4	36.7	37.1	57.8	74.0	-16.2

Polarization	Frequency (MHz)	Reading (dBµV)	Pre-Amp Gain (dB)	Antenna Factor (dB)	Net at 3m (dBµV/m)	Average Limit at 3m (dBµV/m)	Margin (dB)
Vertical	*4874.000	47.6	36.7	34.2	45.1	54.0	-8.9
Vertical	*7311.000	45.8	36.7	37.1	46.2	54.0	-7.8

NOTES:
1. Peak detector is used for the emission measurement (RBW=1MHz, VBW=3MHz for Peak data; RBW=1MHz, VBW=10Hz for Average data).

2. All measurements were made at 3 meters. Radiated emissions not detected at the 3-meter distance were measured at 0.3-meter and an inverse proportional extrapolation was performed to compare the signal level to the 3-meter limit. No other radiated emissions than those reported were detected at a test distance of 0.3-meter.

3. Negative value in the margin column shows emission below limit.

4. Horn antenna used for the emission over 1000MHz.

* Emission within the restricted band meets the requirement of section 15.205. The corresponding limit as per 15.209 is based on Quasi peak limit for frequencies below 1000 MHz and average limit for frequencies over 1000 MHz. The radio frequency emissions above 1GHz also meet corresponding 20dB permitted peak limit with a peak detector function.

Applicant: iDevices, LLC
Date of Test: August 6, 2015
Model: IDEV0005
Mode: 802.11n-HT20 (TX-Channel 11)

Radiated Emissions

Polarization	Frequency (MHz)	Reading (dBµV)	Pre-Amp Gain (dB)	Antenna Factor (dB)	Net at 3m (dBµV/m)	Peak Limit at 3m (dBµV/m)	Margin (dB)
Vertical	*4924.000	58.0	36.7	34.6	55.9	74.0	-18.1
Vertical	*7386.000	56.3	36.7	37.2	56.8	74.0	-17.2
Vertical	*2483.650	66.6	36.2	27.8	58.2	74.0	-15.8

Polarization	Frequency (MHz)	Reading (dBµV)	Pre-Amp Gain (dB)	Antenna Factor (dB)	Net at 3m (dBµV/m)	Average Limit at 3m (dBµV/m)	Margin (dB)
Vertical	*4924.000	46.0	36.7	34.6	43.9	54.0	-10.1
Vertical	*7386.000	43.8	36.7	37.2	44.3	54.0	-9.7
Vertical	*2483.650	54.1	36.2	27.8	45.7	54.0	-8.3

NOTES:

1. Peak detector is used for the emission measurement (RBW=1MHz, VBW=3MHz for Peak data; RBW=1MHz, VBW=10Hz for Average data).

2. All measurements were made at 3 meters. Radiated emissions not detected at the 3-meter distance were measured at 0.3-meter and an inverse proportional extrapolation was performed to compare the signal level to the 3-meter limit. No other radiated emissions than those reported were detected at a test distance of 0.3-meter.

3. Negative value in the margin column shows emission below limit.

4. Horn antenna used for the emission over 1000MHz.

* Emission within the restricted band meets the requirement of section 15.205. The corresponding limit as per 15.209 is based on Quasi peak limit for frequencies below 1000 MHz and average limit for frequencies over 1000 MHz. The radio frequency emissions above 1GHz also meet corresponding 20dB permitted peak limit with a peak detector function.

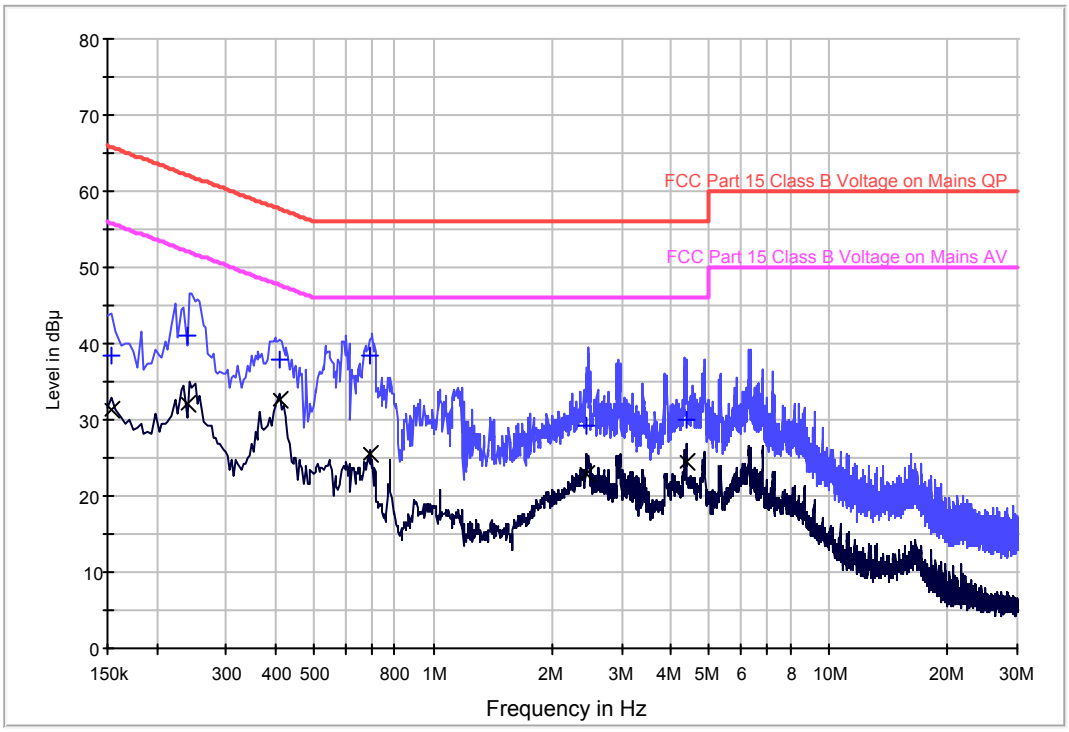
4.9 Conducted Emission

Worst Case Neutral-Conducted emission at 0.407MHz is Passed by 14.2 dB margin

For electronic filing, the worst case conducted emission configuration photograph is saved with filename: conducted photos.pdf.

Company: iDevices, LLC
Date of Test: August 6, 2015
Model: IDEV0005
Worst Case Operating Mode: RF on

Conducted Emission Test - FCC



Limit and Margin QP

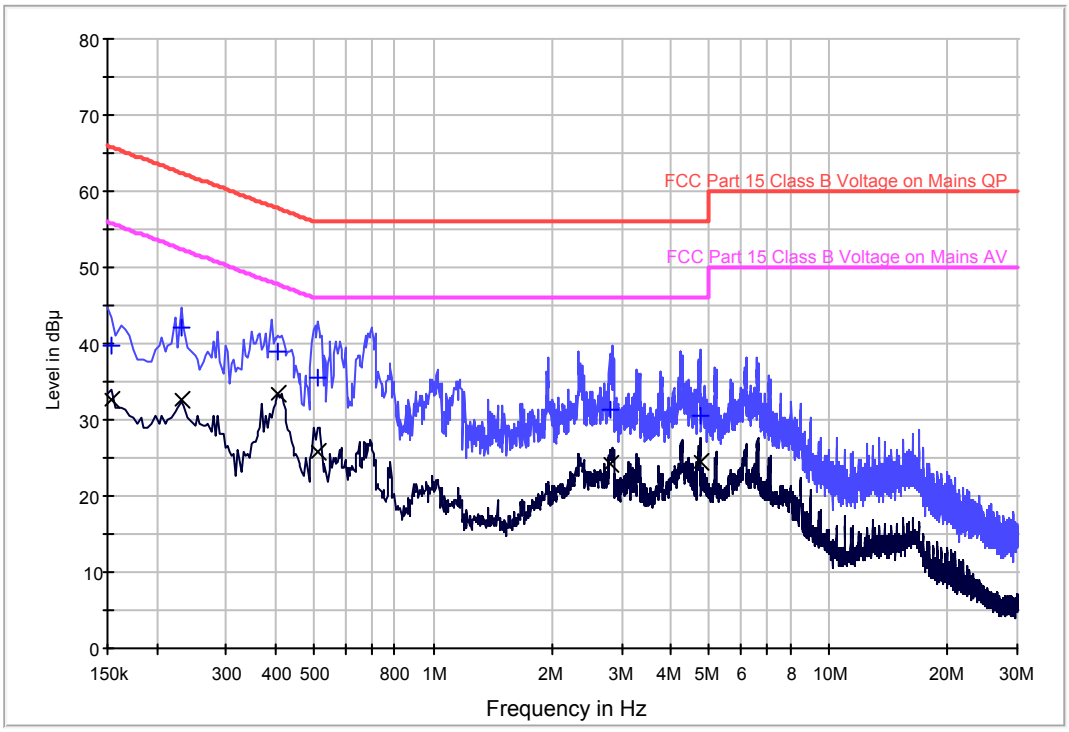
Frequency (MHz)	QuasiPeak (dB µ V)	Line	Corr. (dB)	Margin (dB)	Limit (dB µ V)
0.154000	38.4	L1	9.8	27.4	65.8
0.240000	41.2	L1	9.9	20.9	62.1
0.410000	37.9	L1	9.9	19.7	57.6
0.694000	38.3	L1	10.1	17.7	56.0
2.450000	29.2	L1	10.0	26.8	56.0
4.370000	30.1	L1	10.0	25.9	56.0

Limit and Margin AV

Frequency (MHz)	Average (dB µ V)	Line	Corr. (dB)	Margin (dB)	Limit (dB µ V)
0.154000	31.4	L1	9.8	24.4	55.8
0.240000	32.0	L1	9.9	20.1	52.1
0.410000	32.7	L1	9.9	14.9	47.6
0.694000	25.5	L1	10.1	20.6	46.0
2.450000	22.9	L1	10.0	23.1	46.0
4.370000	24.5	L1	10.0	21.5	46.0

Company: iDevices, LLC
Date of Test: August 6, 2015
Model: IDEV0005
Worst Case Operating Mode: RF on

Conducted Emission Test - FCC



Limit and Margin QP

Frequency (MHz)	QuasiPeak (dB µ V)	Line	Corr. (dB)	Margin (dB)	Limit (dB µ V)
0.154000	39.7	N	10.2	26.1	65.8
0.230000	42.0	N	10.2	20.4	62.4
0.406500	38.9	N	10.2	18.8	57.7
0.510000	35.4	N	10.2	20.6	56.0
2.818000	31.4	N	10.3	24.6	56.0
4.738000	30.5	N	10.3	25.5	56.0

Limit and Margin AV

Frequency (MHz)	Average (dB µ V)	Line	Corr. (dB)	Margin (dB)	Limit (dB µ V)
0.154000	32.5	N	10.2	23.3	55.8
0.230000	32.6	N	10.2	19.8	52.4
0.406500	33.5	N	10.2	14.2	47.7
0.510000	25.9	N	10.2	20.1	46.0
2.818000	24.1	N	10.3	21.9	46.0
4.738000	24.4	N	10.3	21.6	46.0

Applicant: iDevices, LLC
Date of Test: August 6, 2015
Model: IDEV0005

4.10 Radiated Emissions from Digital Section of Transceiver, FCC Ref: 15.109

[x] Not required - No digital part

[ ] Test results are attached

[ ] Included in the separated report.

Applicant: iDevices, LLC
Date of Test: August 6, 2015
Model: IDEV0005

4.11 Transmitter Duty Cycle Calculation and Measurements, FCC Rule 15.35(b), (c)

The EUT antenna output port was connected to the input of the spectrum analyzer. The analyzer center frequency was set to EUT RF channel carrier. The SWEP function on the analyzer was set to ZERO SPAN. The Transmitter ON time was determined from the resultant time-amplitude display:

	See attached spectrum analyzer chart (s) for Transmitter timing
	See Transmitter timing diagram provided by manufacturer
x	Not applicable, duty cycle was not used.

EXHIBIT 5

EQUIPMENT PHOTOGRAPHS

5.0 Equipment Photographs

For electronic filing, the photographs are saved with filename: external photos.doc & internal photos.pdf.

EXHIBIT 6

PRODUCT LABELLING

6.0 **Product Labelling**

For electronic filing, the FCC ID label artwork and location is saved with filename: label.pdf.

EXHIBIT 7

TECHNICAL SPECIFICATIONS

7.0 Technical Specifications

For electronic filing, the block diagram and circuit diagram are saved with filename: block.pdf and circuit.pdf respectively.

EXHIBIT 8

INSTRUCTION MANUAL

8.0 Instruction Manual

For electronic filing, a preliminary copy of the Instruction Manual is saved with filename: manual.pdf.

This manual will be provided to the end-user with each unit sold/leased in the United States.

EXHIBIT 9

MISCELLANEOUS INFORMATION

9.0 Discussion of Pulse Desensitization

The determination of pulse desensitivity was made in accordance with Hewlett Packard Application Note 150-2, *Spectrum Analysis ... Pulsed RF.*

Pulse desensitivity is not applicable for this device since the transmitter transmits the RF signal continuously.

EXHIBIT 10

TEST EQUIPMENT LIST

10.0 Test Equipment List

Equipment No.	Equipment	Manufacturer	Model No.	Serial No.	Cal. Date	Due Date
SZ182-02	RF Power Meter	Anritsu	ML2496A	1302005	20-May-15	20-May-16
SZ182-02-01	Power Sensor	Anritsu	MA2411B	1207429	20-May-15	20-May-16
SZ061-12	BiConiLog Antenna	ETS	3142E	00166158	2-Sep-14	2-Sep-15
SZ185-01	EMI Receiver	R&S	ESCI	100547	7-Feb-15	7-Feb-16
SZ061-09	Horn Antenna	ETS	3115	00092346	1-Nov-14	1-Nov-15
SZ061-07	Pyramidal Horn Antenna	ETS	3160-09	00083067	3-Sep-14	3-Sep-15
SZ061-06	Active Loop Antenna	Electro-Metrics	EM-6876	217	29-Apr-15	29-Apr-16
EM031-03	EXA Spectrum Analyzer	R&S	FSV40	101506	06-Jun-15	06-Jun-16
SZ181-04	Preamplifier	Agilent	8449B	3008A02474	7-Feb-15	7-Feb-16
SZ188-01	Anechoic Chamber	ETS	RFD-F/A-100	4102	19-Apr-14	19-Apr-16
SZ062-02	RF Cable	RADIALL	RG 213U	0	30-Jun-14	30-Dec-15
SZ062-05	RF Cable	RADIALL	0.04-26.5GHz	0833254	7-Apr-15	7-Oct-15
SZ062-12	RF Cable	RADIALL	0.04-26.5GHz	083387	7-Apr-15	7-Oct-15
SZ067-04	Notch Filter	Micro-Tronics	BRM50702-02	--	20-May-15	20-May-16
SZ185-02	EMI Test Receiver	R&S	ESCI	100692	1-Nov-14	1-Nov-15
SZ187-01	Two-Line V-Network	R&S	ENV216	100072	1-Nov-14	1-Nov-15
SZ188-03	Shielding Room	ETS	RFD-100	4100	23-Aug-14	23-Aug-16