

RF Test Report

Applicant : Redpine Signals, Inc.
Product Type : Dual Band 802.11 a/b/g/n, Bluetooth 5.0, ZigBee Module
Trade Name : Redpine Signals Inc
Model Number : M7DB6
Applicable Standard : FCC 47 CFR PART 15 SUBPART C
ANSI C63.10:2013
Receive Date : Oct. 24, 2018
Test Period : Dec. 26, 2018 ~ Jan. 02, 2019
Issue Date : Jan. 11, 2019

Issue by

A Test Lab Techno Corp.
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Taiwan Accreditation Foundation accreditation number: 1330
Test Firm MRA designation number: TW0010

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Revision History

Rev.	Issue Date	Revisions	Revised By
00	Jan. 11, 2019	Initial Issue	Nina Lin

Verification of Compliance

Issued Date: Jan. 11, 2019

Applicant : Redpine Signals, Inc.

Product Type : Dual Band 802.11 a/b/g/n, Bluetooth 5.0, ZigBee Module

Trade Name : Redpine Signals Inc

Model Number : M7DB6

FCC ID : XF6-M7DB6

EUT Rated Voltage : DC 1.8 V, 0.4 A / DC 3.3 V, 0.4 A

Test Voltage : DC 3.3 V

Applicable Standard : FCC 47 CFR PART 15 SUBPART C
ANSI C63.10:2013

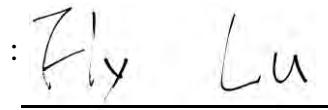
Test Result : Complied

Performing Lab. : A Test Lab Techno Corp.
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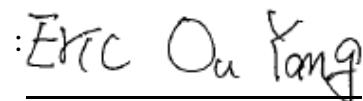
A Test Lab Techno Corp. tested the above equipment in accordance with the requirements set forth in the above standards. All indications of Pass/Fail in this report are opinions expressed by A Test Lab Techno Corp. based on interpretations and/or observations of test results. The test results show that the equipment tested is capable of demonstrating compliance with the requirements as documented in this report.

Approved By
(Manager)



(Fly Lu)

Reviewed By
(Testing Engineer)



(Eric Ou Yang)

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1 General Information

1.1 Summary of Test Result

Standard	Item	Result	Remark
FCC			
15.207	AC Power Conducted Emission	N/A	The device uses DC power source.
15.247(d)	Transmitter Radiated Emissions	PASS	-----
15.247(b)(3)	Max. Output Power	PASS	-----
15.247(a)(2)	6 dB RF Bandwidth	PASS	-----
15.247(e)	Maximum Power Spectral Density	PASS	-----
15.247(d)	Out of Band Conducted Spurious Emission	PASS	-----
15.203	Antenna Requirement	PASS	-----

The test results of this report relate only to the tested sample(s) identified in this report.

Standard	Description
CFR47, Part 15, Subpart C	Intentional Radiators
ANSI C63. 10: 2013	American National Standard of Procedures for Compliance Testing of Unlicensed Wireless Devices
KDB 558074 D01 v05	GUIDANCE FOR COMPLIANCE MEASUREMENTS ON DIGITAL TRANSMISSION SYSTEM, FREQUENCY HOPPING SPREAD SPECTRUM SYSTEM, AND HYBRID SYSTEM DEVICES OPERATING UNDER SECTION 15.247 OF THE FCC RULES

1.2 Measurement Uncertainty

Test Item	Frequency Range	Uncertainty (dB)
Conducted Emission	9 kHz ~ 150 kHz	2.7
	150 kHz ~ 30 MHz	2.7
Radiated Emission	9 kHz ~ 30 MHz	1.7
	30 MHz ~ 1000 MHz	5.7
	1000 MHz ~ 18000 MHz	5.5
	18000 MHz ~ 26500 MHz	4.8
	26500 MHz ~ 40000 MHz	4.8
Conducted Output Power	+0.27 dB / -0.28 dB	
RF Bandwidth	4.96 %	
Power Spectral Density	+0.71 dB / -0.77 dB	

2 EUT Description

Applicant	Redpine Signals, Inc. 2107 N.First Street, Suite 680, San Jose, California, 95131-2019, United States				
Manufacturer	Redpine Signals, Inc. 2107 N.First Street, Suite 680, San Jose, California, 95131-2019, United States				
Product Type	Dual Band 802.11 a/b/g/n, Bluetooth 5.0, ZigBee Module				
Trade Name	Redpine Signals Inc				
Model Number	M7DB6				
FCC ID	XF6-M7DB6				
Operate Freq. Band	Frequency Range (MHz)	Modulation	Channel Bandwidth	Data Rate 400 GI (ns)	
IEEE 802.11b	2412 ~ 2462	DSSS	20 MHz	Up to 11 Mbps	
IEEE 802.11g	2412 ~ 2462	OFDM	20 MHz	Up to 54 Mbps	
IEEE 802.11n 2.4 GHz 20 MHz	2412 ~ 2462	OFDM	20 MHz	Up to 72.2 Mbps	
IEEE 802.11n 2.4 GHz 40 MHz	2422 ~ 2452	OFDM	40 MHz	Up to 150 Mbps	
Antenna information	Model	Type	Connector	Max. Gain (dBi)	
	RSIA7	PCB Trace Antenna	Internal	0.712	
	GW.71.5153	Dipole Antenna	SMA Reverse	Straight	3.3
Bent	3.8				
Antenna Delivery	See section 3.1				
Operate Temp. Range	-40 ~ +85 °C				

Frequency Band	Max. RF Output Power (W)
Power setting 1_Antenna Type: PCB Trace Antenna	
IEEE 802.11b	0.095
IEEE 802.11g	0.296
IEEE 802.11n 2.4 GHz 20 MHz	0.295
IEEE 802.11n 2.4 GHz 40 MHz	0.081
Power setting 2_Antenna Type: Dipole Antenna	
IEEE 802.11b	0.083
IEEE 802.11g	0.282
IEEE 802.11n 2.4 GHz 20 MHz	0.327
IEEE 802.11n 2.4 GHz 40 MHz	0.056

3 Test Methodology

3.1. Mode of Operation

Decision of Test ATL has verified the construction and function in typical operation. All the test modes were carried out with the EUT in normal operation, which was shown in this test report and defined as:

Test Mode
Mode 1: Transmit mode
Mode 2: IEEE 802.11b Continuous TX mode
Mode 3: IEEE 802.11g Continuous TX mode
Mode 4: IEEE 802.11n 2.4 GHz 20 MHz Continuous TX mode
Mode 5: IEEE 802.11n 2.4 GHz 40 MHz Continuous TX mode

Software used to control the EUT for staying in continuous transmitting mode was programmed.

After verification, all tests were carried out with the worst case test modes.

By preliminary testing and verifying three axis (X, Y and Z) position of EUT transmitted status, it was found that "X axis" position was the worst, then the final test was executed the worst condition and test data were recorded in this report.

Note: Antenna model: GW.71.5153(Bent) is the worst cast.

RF Power setting	Antenna Type	Antenna Max. Gain (dBi)	Test Mode	Antenna Delivery	Data Rate	Test Channel
1	PCB Trace Antenna	0.712	Mode 2	1TX	1 M	1, 6, 11
			Mode 3	1TX	6 M	1, 6, 11
			Mode 4	1TX	6.5 M	1, 6, 11
			Mode 5	1TX	13.5 M	3, 6, 9
2	Dipole Antenna	3.3(Straight)/ 3.8(Bent)	Mode 2	1TX	1 M	1, 6, 11
			Mode 3	1TX	6 M	1, 6, 11
			Mode 4	1TX	6.5 M	1, 6, 11
			Mode 5	1TX	13.5 M	3, 6, 9

Note: Redpine software has antenna selection parameter which enables the user to select the antenna and it internally adjusts the gain parameters. Default antenna type will be Redpine PCB antenna.

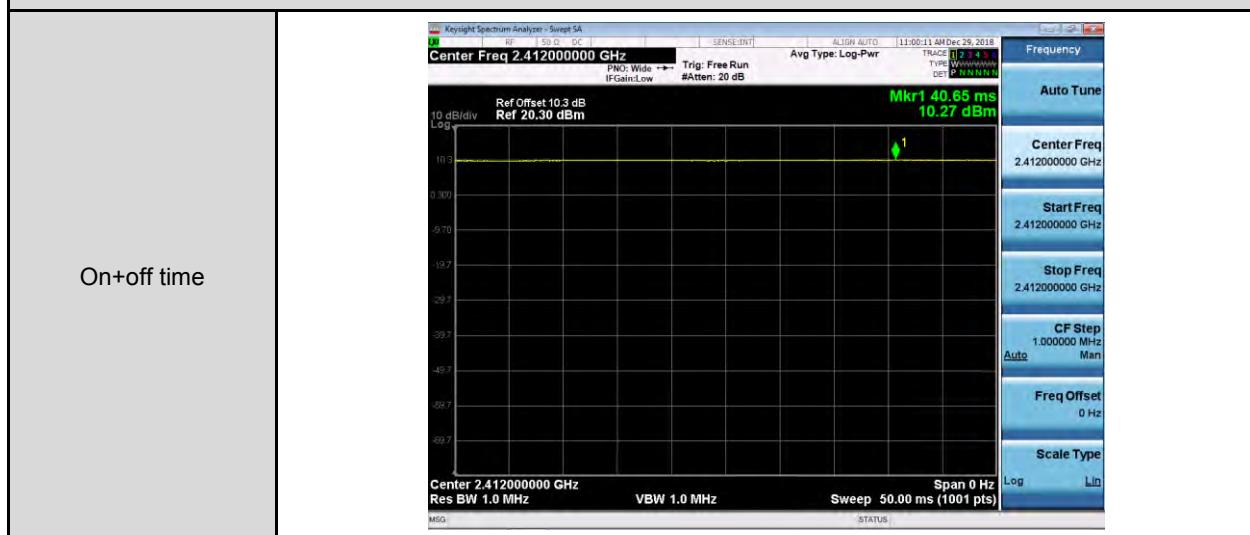
Duty cycle

Power setting 1_Antenna Type: PCB Trace Antenna

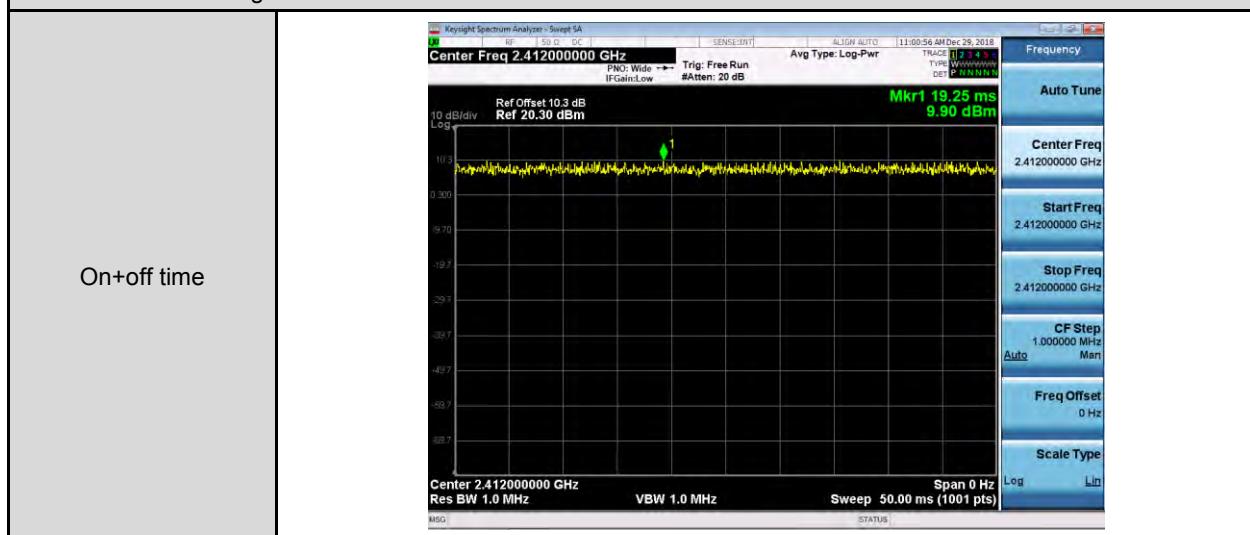
Test Mode	Frequency (MHz)	on time (ms)	on+off time (ms)	Duty cycle	Duty Factor (dB)	1/T Minimum VBW (kHz)
Mode 2	2412	50.000	50.000	1.000	0.000	0.010
Mode 3	2412	50.000	50.000	1.000	0.000	0.010
Mode 4	2412	50.000	50.000	1.000	0.000	0.010
Mode 5	2422	50.000	50.000	1.000	0.000	0.010

Duty Cycle Graphs

Mode 2: IEEE 802.11b Continuous TX mode

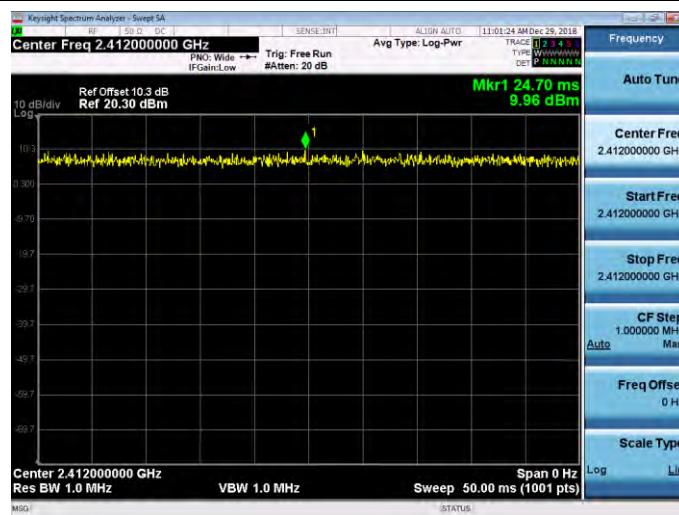


Mode 3: IEEE 802.11g Continuous TX mode



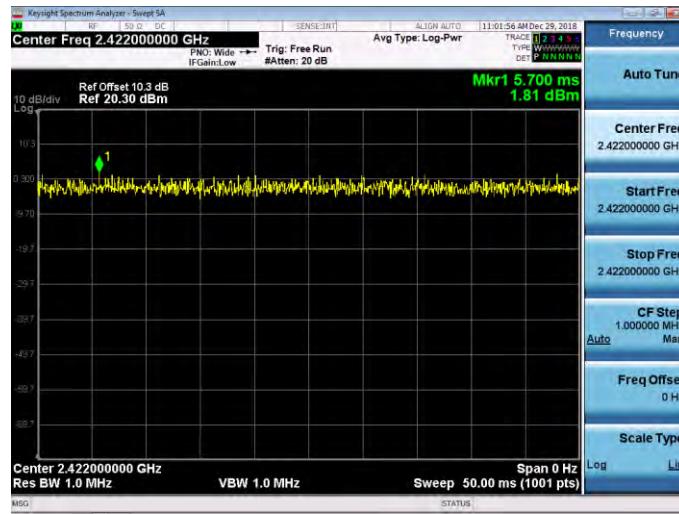
Mode 4: IEEE 802.11n 2.4 GHz 20 MHz Continuous TX mode

On+off time



Mode 5: IEEE 802.11n 2.4 GHz 40 MHz Continuous TX mode

On+off time

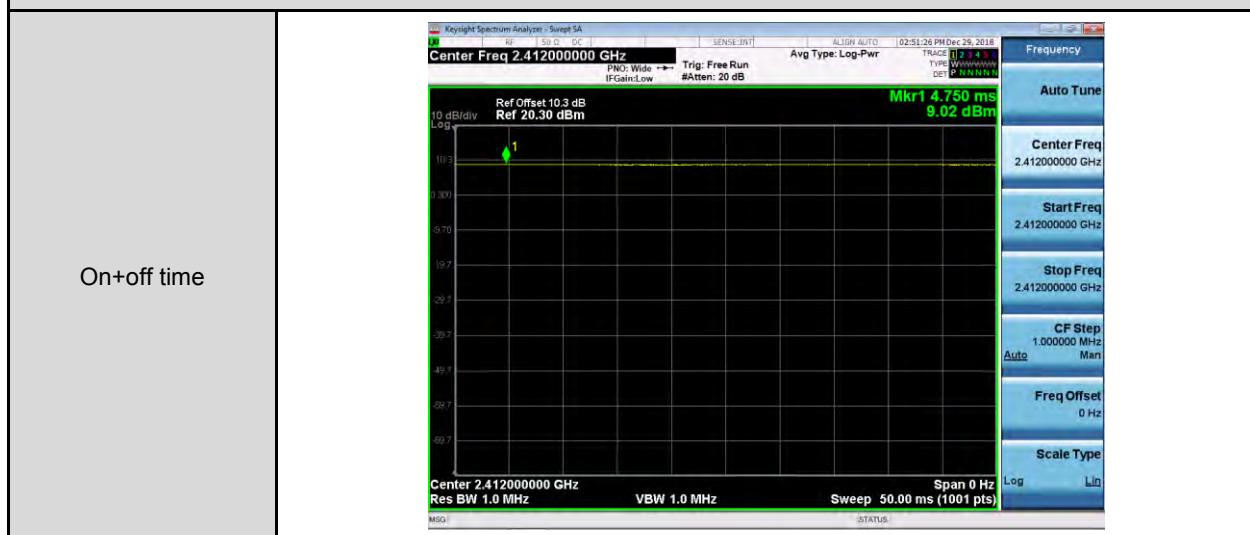


Power setting 2_Antenna Type: Dipole Antenna

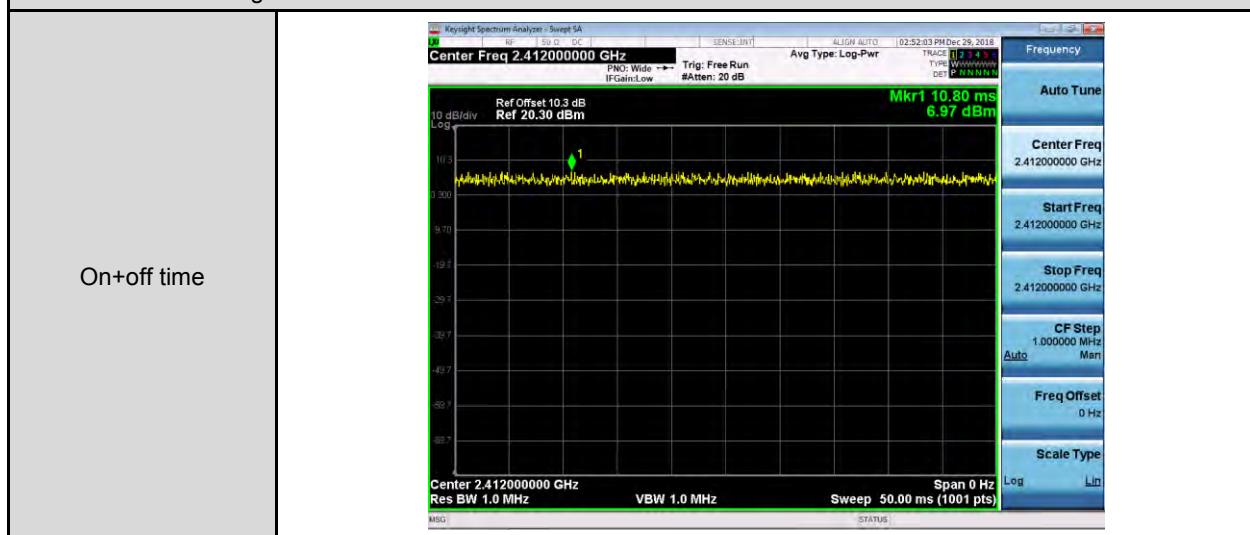
Test Mode	Frequency (MHz)	on time (ms)	on+off time (ms)	Duty cycle	Duty Factor (dB)	1/T Minimum VBW (kHz)
Mode 2	2412	50.000	50.000	1.000	0.000	0.010
Mode 3	2412	50.000	50.000	1.000	0.000	0.010
Mode 4	2412	50.000	50.000	1.000	0.000	0.010
Mode 5	2422	50.000	50.000	1.000	0.000	0.010

Duty Cycle Graphs

Mode 2: IEEE 802.11b Continuous TX mode

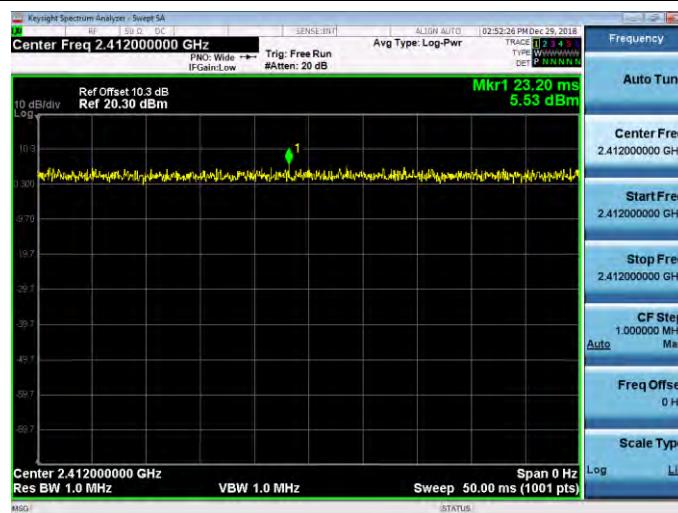


Mode 3: IEEE 802.11g Continuous TX mode



Mode 4: IEEE 802.11n 2.4 GHz 20 MHz Continuous TX mode

On+off time



Mode 5: IEEE 802.11n 2.4 GHz 40 MHz Continuous TX mode

On+off time



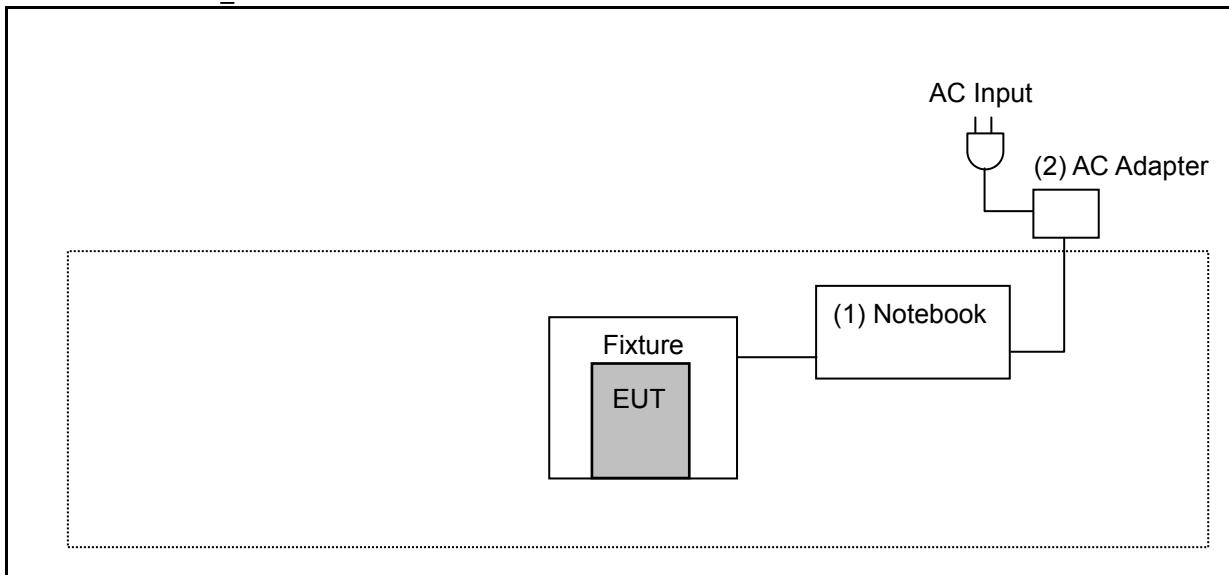
3.2. EUT Test Step

1.	Setup the EUT shown on "Configuration of Test System Details".
2.	Turn on the power of all equipment.
3.	Turn on TX function
4.	EUT run test program.

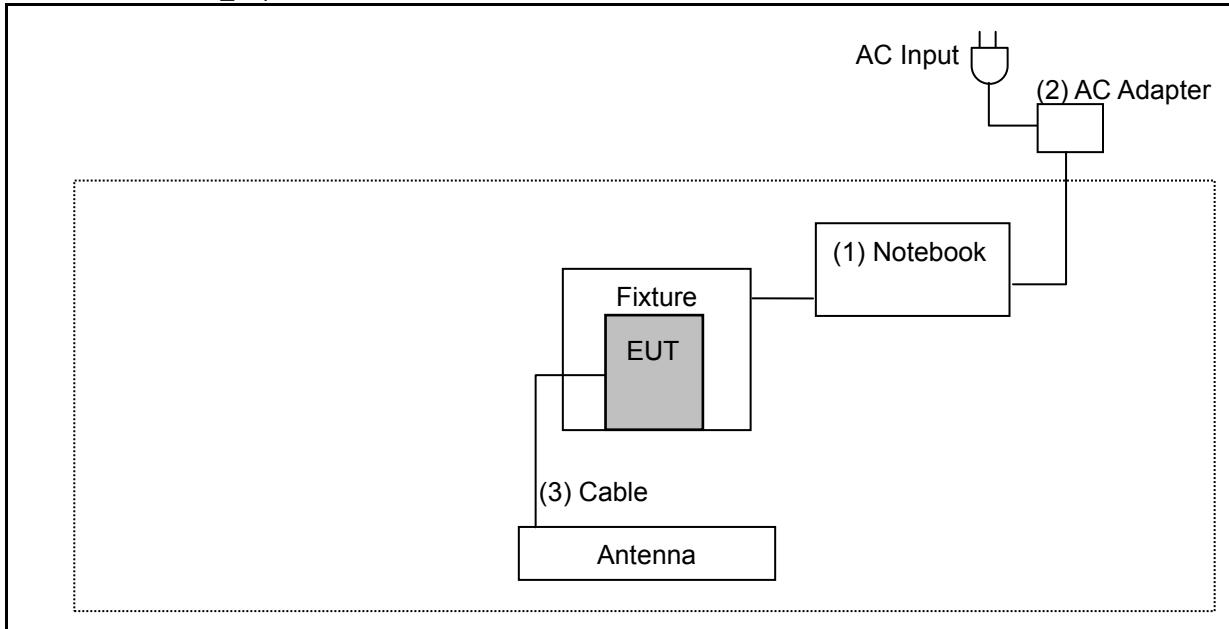
Measurement Software			
No.	Description	Software	Version
1	Radiated Emission	EZ EMC	1.1.4.4

3.3. Configuration of Test System Details

Radiated Emissions_ PCB Trace Antenna



Radiated Emissions_ Dipole Antenna



Devices Description

Product		Manufacturer	Model Number	Serial Number	Power Cord	Loss
(1)	Notebook	DELL	Inspiron 15	726RWN2	---	---
(2)	AC Adapter	DELL	LA65NS2-01	---	Non-Shielded, 0.8 m	---
(3)	Cable	Amphenol RF	336314-12-0100	---	---	0.38 dB

3.4. Test Instruments

For Radiated Emissions

Test Period: Dec. 26 ~ Dec. 28, 2018

Equipment	Manufacturer	Model Number	Serial Number	Cal. Date	Cal. Period
Spectrum Analyzer (10 Hz~44G Hz)	Keysight	N9010A	MY52221312	01/15/2018	1 year
Pre Amplifier (1~26.5 GHz)	Agilent	8449B	3008A02237	10/19/2018	1 year
Pre Amplifier (100 kHz~1.3 GHz)	Agilent	8447D	2944A11119	01/10/2018	1 year
Pre Amplifier (26.5~40 GHz)	EMCI	EMC2654045	980028	08/23/2018	1 year
Trilog Broadband Antenna	SCHWARZBECK MESS-ELEKTRONIK	SB AC VULB	9168-0841	03/02/2018	1 year
Horn Antenna (1~18 GHz)	SCHWARZBECK MESS-ELEKTRONIK	BBHA9120D	9120D-550	08/23/2018	1 year
Loop Antenna	COM-POWER CORPORATION	AL-130	121014	03/13/2018	1 year
RF Cable	EMCI	EMC104-N-N-6000	TE01-1	02/20/2018	1 year
Microwave Cable	EMCI	EMC102-KM-KM-14 000	151001	02/20/2018	1 year
Broadband Horn Antenna	SCHWARZBECK MESS-ELEKTRONIK	9170	9170-320	08/07/2018	1 year

For Conducted

Test Period: Jan. 02, 2019

Equipment	Manufacturer	Model Number	Serial Number	Cal. Date	Cal. Period
Power Sensor	Anritsu	MA2411B	1126022	08/29/2018	1 year
Power Meter	Anritsu	ML2495A	1135009	08/29/2018	1 year
EXA Signal Analyzer	Keysight	N9010A	MY52221312	01/15/2018	1 year
Spectrum Analyzer (20 Hz~26.5 GHz)	Agilent	N9020A	US47520902	09/25/2018	1 year
Microwave Cable	EMCI	EMC104-SM-SM13 000	170814	10/30/2018	1 year

Note: N.C.R. = No Calibration Request.

3.5. Test Site Environment

Items	Required (IEC 60068-1)	Actual
Temperature (°C)	15-35	26
Humidity (%RH)	25-75	60
Barometric pressure (mbar)	860-1060	990

4 Measurement Procedure

4.1. Radiated Emission Measurement

■ Limit

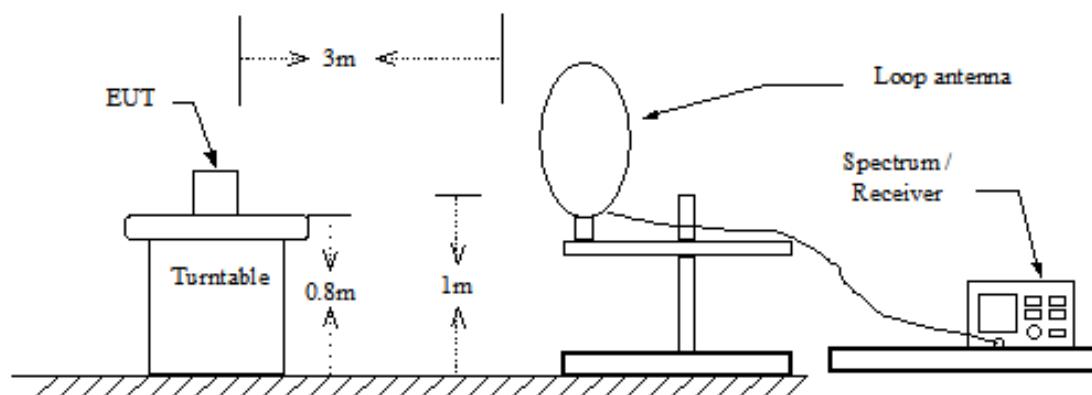
According to §15.209(a), except as provided elsewhere in this subpart, the emissions from an intentional radiator shall not exceed the field strength levels specified in the following table:

Frequency (MHz)	Field Strength (μ V/m at meter)	Measurement Distance (meters)
0.009 – 0.490	2400 / F (kHz)	300
0.490 – 1.705	24000 / 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

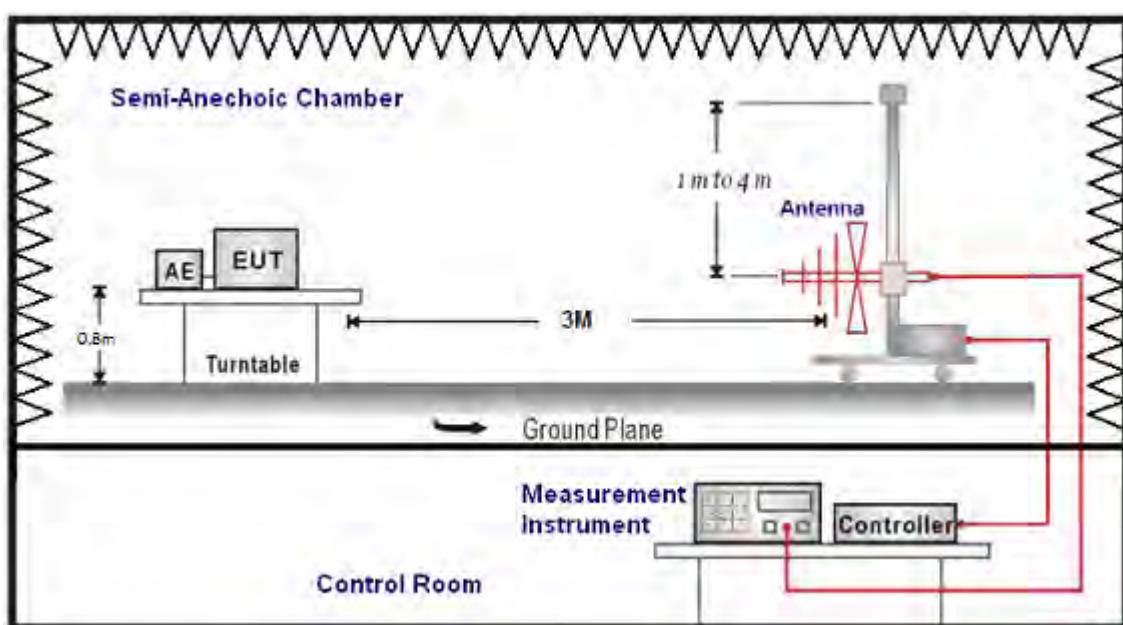
** Except as provided in paragraph (g), fundamental emissions from intentional radiators operating under this Section shall not be located in the frequency bands 54-72 MHz, 76-88 MHz, 174-216 MHz or 470-806 MHz. However, operation within these frequency bands is permitted under other sections of this Part, e.g., Sections 15.231 and 15.241.

■ Setup

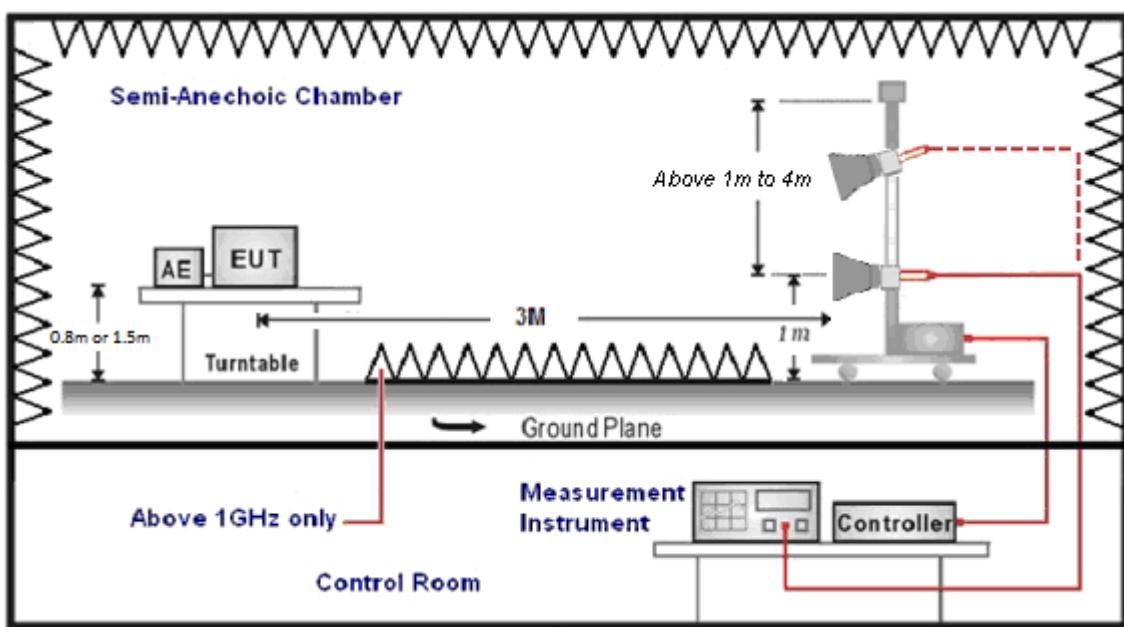
9 kHz ~ 30 MHz



Below 1 GHz



Above 1 GHz



■ Test Procedure

Final radiation measurements were made on a three-meter, Semi Anechoic Chamber. The EUT system was placed on a nonconductive turntable which is 0.8 or 1.5 meters height, top surface 1.0 x 1.5 meter. The spectrum was examined from 250 MHz to 2.5 GHz in order to cover the whole spectrum below 10th harmonic which could generate from the EUT. During the test, EUT was set to transmit continuously & Measurements spectrum range from 9 kHz to 26.5 GHz is investigated.

For measurements below 1 GHz the resolution bandwidth is set to 100 kHz for peak detection measurements or 120 kHz for quasi-peak detection measurements. Peak detection is used unless otherwise noted as quasi-peak.

For measurements above 1 GHz the resolution bandwidth is set to 1 MHz, and then the video bandwidth is set to 3 MHz for peak measurements and 10 Hz for average measurements when Duty cycle $>0.98 / 1/T$ for average measurements when Duty cycle <0.98 . A nonconductive material surrounded the EUT to supporting the EUT for standing on tree orthogonal planes. At each condition, the EUT was rotated 360 degrees, and the antenna was raised and lowered from one to four meters to find the maximum emission levels. Measurements were taken using both horizontal and vertical antenna polarization.

SCHWARZBECK MESS-ELEKTRONIK Biconilog Antenna at 3 Meter and the SCHWARZBECK Double Ridged Guide Antenna was used in frequencies 1 –26.5 GHz at a distance of 3 meter. The antenna at an angle toward the source of the emission. All test results were extrapolated to equivalent signal at 3 meters utilizing an inverse linear distance extrapolation Factor (20 dB/decade).

For testing above 1 GHz, the emission level of the EUT in peak mode was 20 dB lower than average limit (that means the emission level in peak mode also complies with the limit in average mode), then testing will be stopped and peak values of EUT will be reported, otherwise, the emissions will be measured in average mode again and reported.

Appropriate preamplifiers were used for improving sensitivity and precautions were taken to avoid overloading or desensitizing the spectrum analyzer. No post – detector video filters were used in the test.

The spectrum analyzer's 6 dB bandwidth was set to 1 MHz, and the analyzer was operated in the peak detection mode, for frequencies both below and up 1 GHz. The average levels were obtained by subtracting the duty cycle correction factor from the peak readings.

The following procedures were used to convert the emission levels measured in decibels referenced to 1 microvolt (dB_{uV}) into field intensity in micro volts pre meter (uV/m).

The actual field intensity in decibels referenced to 1 microvolt in to field intensity in micro colts per meter (dB_{uV/m}).

The actual field intensity in dBuV/m is determined by algebraically adding the measured reading in dBuV, the antenna factor (dB), and cable loss (dB) and Subtracting the gain of preamplifier (dB) is auto calculate in spectrum analyzer.

- (1) Amplitude (dBuV/m) = FI (dBuV) + AF (dBuV) + CL (dBuV) - Gain (dB)

FI= Reading of the field intensity.

AF= Antenna factor.

CL= Cable loss.

P.S Amplitude is auto calculate in spectrum analyzer.

- (2) Actual Amplitude (dBuV/m) = Amplitude (dBuV) - Dis(dB)

The FCC specified emission limits were calculated according the EUT operating frequency and by following linear interpolation equations:

(a) For fundamental frequency : Transmitter Output < +30 dBm

(b) For spurious frequency : Spurious emission limits = fundamental emission limit /10

Data of measurement within this frequency range without mark in the table above means the reading of emissions are attenuated more than 20 dB below the permissible limits or the field strength is too small to be measured.

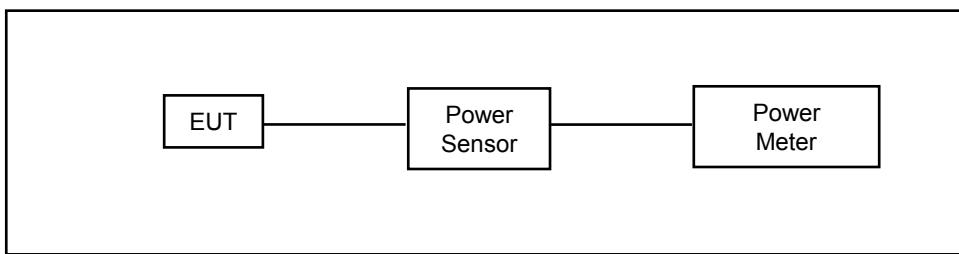
4.2. Maximum Conducted Output Power Measurement

■ Limit

For systems using digital modulation in the 2400-2483.5 MHz, the limit for maximum output power is 30 dBm.

And According to 15.247 (b), if transmitting antennas of directional gain greater than 6 dBi are used, the power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

■ Test Setup



■ Test Procedure

The testing follows the Measurement Procedure of ANSI C63.10-2013 section 11.9.2.3 Method AVGPM.

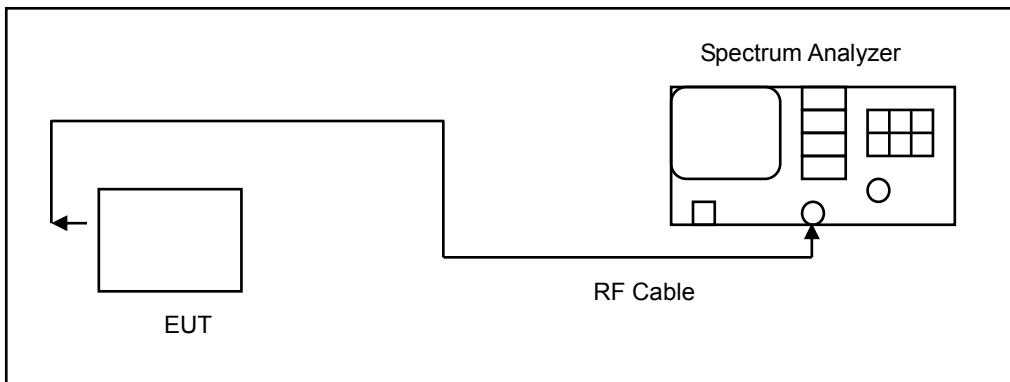
The tests below are run with the EUT's transmitter set at high power in TX mode. The EUT is needed to force selection of output power level and channel number. While testing, EUT was set to transmit continuously. Remove the Subjective device's antenna and connect the RF output port to power sensor.

4.3. 6 dB RF Bandwidth Measurement

■ Limit

6 dB RF Bandwidth: Systems using digital modulation techniques may operate in the 2400–2483.5 MHz bands. The minimum 6 dB band-width shall be at least 500 kHz.

■ Test Setup



■ Test Procedure

The EUT tested to DTS test procedure of KDB 558074 D01 for compliance to FCC 47CFR 15.247 requirements.

6 dB RF Bandwidth: The antenna port of the EUT was connected to the input of a spectrum analyzer. Analyzer RBW was set to 100 kHz. 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 6 dB bandwidth was determined from where the channel output spectrum intersected the display line.

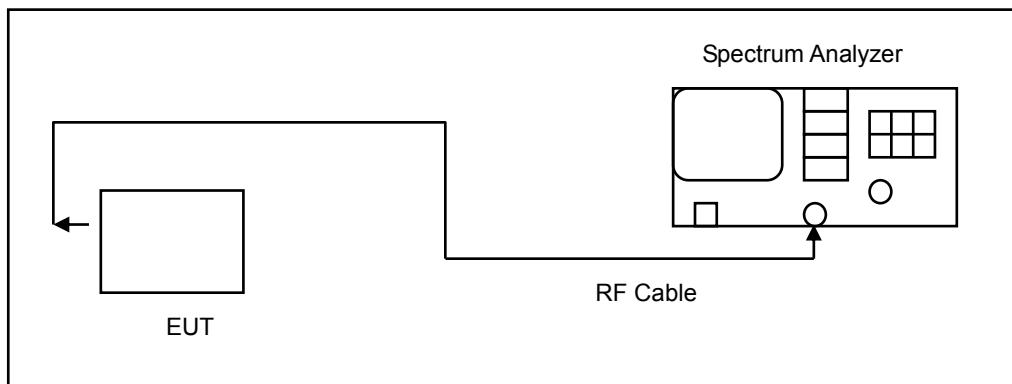
The test was performed at 3 channels (Channel low, middle, high)

4.4. Maximum Power Spectral Density Measurement

■ Limit

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.

■ Test Setup



■ Test Procedure

The EUT tested to DTS test procedure of KDB 558074 D01 section 10.2 Method PKPSD for compliance to FCC 47CFR 15.247 requirements.

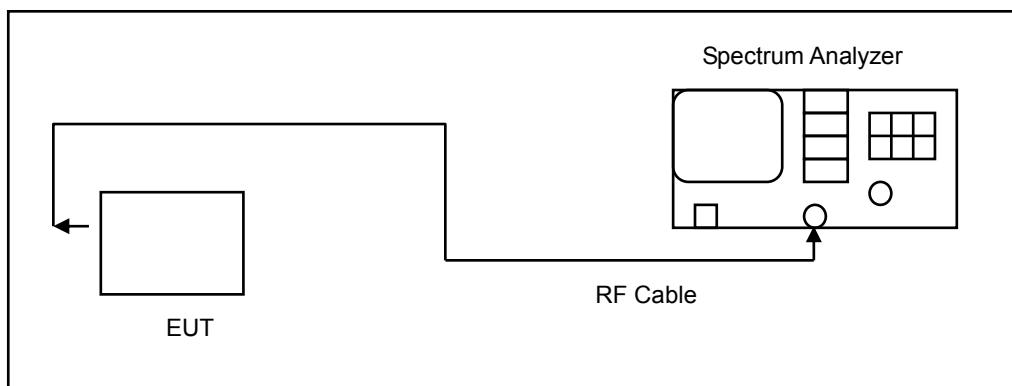
1. Set analyzer center frequency to DTS channel center frequency.
2. Set the span to 1.5 times the DTS bandwidth.
3. Set the RBW to: $3 \text{ kHz} \leq \text{RBW} \leq 100 \text{ kHz}$.
4. Set the VBW $\geq 3 \times \text{RBW}$.
5. Detector = peak.
6. Sweep time = auto couple.
7. Trace mode = max hold.
8. Allow trace to fully stabilize.
9. Use the peak marker function to determine the maximum amplitude level within the RBW.
10. If measured value exceeds limit, reduce RBW (no less than 3 kHz) and repeat.

4.5. Out of Band Conducted Emissions Measurement

■ Limit

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

■ Test Setup



■ Test Procedure

In any 100 kHz bandwidth outside the EUT pass band, the RF power produced by the modulation products of the spreading sequence, the information sequence, and the carrier frequency shall be at least 20 dB below that of the maximum in-band 100 kHz emission, 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.

All other types of emissions from the EUT shall meet the general limits for radiated frequencies outside the pass band. The test was performed at 3 channels.

4.6. Antenna Measurement

■ Limit

For intentional device, according to 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.

And According to 15.247 (b), if transmitting antennas of directional gain greater than 6 dBi are used, the power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

■ Antenna Description

See section 2 – antenna information.

5 Test Results

Annex A. Conducted Test Results

Power setting 1_Antenna Type: PCB Trace Antenna

Maximum Conducted Output Power Measurement

Test Mode	Frequency (MHz)	RF Power setting in Test Software	Test Software Version
Mode 2	2412	17.0	FCC Test App
	2437	17.0	
	2462	18.0	
Mode 3	2412	15.0	FCC Test App
	2437	22.0	
	2462	13.0	
Mode 4	2412	14.0	FCC Test App
	2437	22.0	
	2462	12.0	
Mode 5	2422	10.0	FCC Test App
	2437	12.0	
	2452	8.0	

Test Mode	Data Rate (Mbps)	Frequency (MHz)	Average Output Power		Peak Output Power		
			Measurement Results		Measurement Results	Limit	
			dBm	W			
Mode 2	1	2412	16.55	0.045	19.78	0.095	≤ 30
		2437	16.02	0.040	18.94	0.078	≤ 30
		2462	16.14	0.041	19.42	0.087	≤ 30
	2	2437	16.00	0.040	18.91	0.078	≤ 30
	5.5	2437	15.98	0.040	18.88	0.077	≤ 30
	11	2437	15.93	0.039	18.83	0.076	≤ 30
Mode 3	6	2412	14.37	0.027	21.42	0.139	≤ 30
		2437	17.39	0.055	24.71	0.296	≤ 30
		2462	11.29	0.013	18.44	0.070	≤ 30
	9	2437	17.37	0.055	24.68	0.294	≤ 30
	12	2437	17.35	0.054	24.65	0.292	≤ 30
	18	2437	17.31	0.054	24.61	0.289	≤ 30
	24	2437	17.26	0.053	24.59	0.288	≤ 30
	36	2437	17.23	0.053	24.56	0.286	≤ 30
	48	2437	17.20	0.052	24.53	0.284	≤ 30
	54	2437	17.15	0.052	24.51	0.282	≤ 30

Note: The relevant measured result has the offset with cable loss already.

Test Mode	Data Rate (Mbps)	Frequency (MHz)	Average Output Power		Peak Output Power		
			Measurement Results		Measurement Results		Limit
			dBm	W	dBm	W	dBm
Mode 4	6.5M	2412	13.82	0.024	21.10	0.129	≤ 30
		2437	17.60	0.058	24.70	0.295	≤ 30
		2462	10.44	0.011	17.62	0.058	≤ 30
	14.4M	2437	17.58	0.057	24.68	0.294	≤ 30
	21.7M	2437	17.55	0.057	24.65	0.292	≤ 30
	28.9M	2437	17.51	0.056	24.61	0.289	≤ 30
	43.3M	2437	17.49	0.056	24.59	0.288	≤ 30
	57.8M	2437	17.45	0.056	24.55	0.285	≤ 30
	65M	2437	17.43	0.055	24.51	0.282	≤ 30
	72.2M	2437	17.40	0.055	24.48	0.281	≤ 30
Mode 5	13.5M	2422	10.36	0.011	17.55	0.057	≤ 30
		2437	11.76	0.015	19.07	0.081	≤ 30
		2452	7.76	0.006	14.94	0.031	≤ 30
	30M	2437	11.73	0.015	19.04	0.080	≤ 30
	45M	2437	11.71	0.015	19.01	0.080	≤ 30
	60M	2437	11.69	0.015	18.98	0.079	≤ 30
	90M	2437	11.66	0.015	18.95	0.079	≤ 30
	120M	2437	11.63	0.015	18.91	0.078	≤ 30
	135M	2437	11.60	0.014	18.89	0.077	≤ 30
	150M	2437	11.58	0.014	18.85	0.077	≤ 30

Note: The relevant measured result has the offset with cable loss already.

6 dB RF Bandwidth Measurement

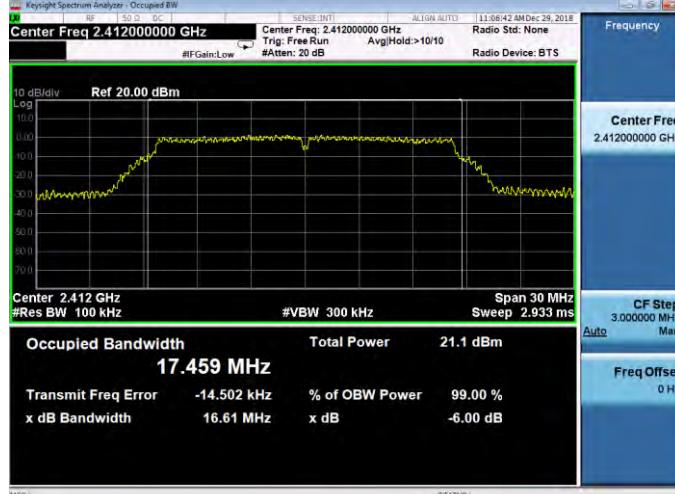
Test Mode	Frequency (MHz)	Measurement (kHz)	Limit (kHz)
Mode 2	2412	9044	≥ 500
	2437	9040	≥ 500
	2462	9039	≥ 500
Mode 3	2412	16610	≥ 500
	2437	16590	≥ 500
	2462	16590	≥ 500
Mode 4	2412	17700	≥ 500
	2437	17790	≥ 500
	2462	17820	≥ 500
Mode 5	2422	36530	≥ 500
	2437	36500	≥ 500
	2452	36500	≥ 500

■ Test Graphs

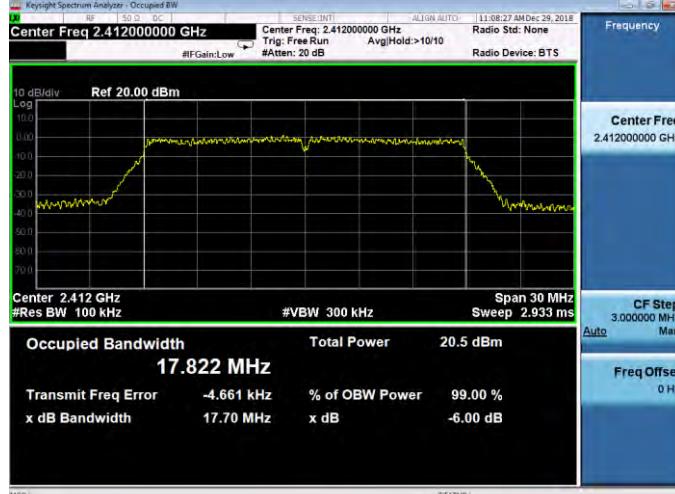
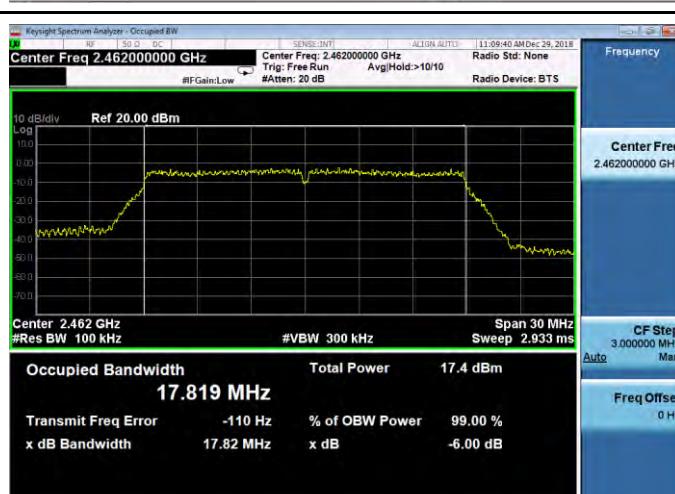
Mode 2: IEEE 802.11b Continuous TX mode

2412 MHz	 <p>14.220 MHz</p> <p>Occupied Bandwidth: 14.220 MHz</p> <table border="1"> <tr> <td>Total Power</td> <td>23.5 dBm</td> </tr> <tr> <td>Transmit Freq Error</td> <td>-9.477 kHz</td> </tr> <tr> <td>x dB Bandwidth</td> <td>9.044 MHz</td> </tr> <tr> <td>% of OBW Power</td> <td>99.00 %</td> </tr> <tr> <td>x dB</td> <td>-6.00 dB</td> </tr> </table>	Total Power	23.5 dBm	Transmit Freq Error	-9.477 kHz	x dB Bandwidth	9.044 MHz	% of OBW Power	99.00 %	x dB	-6.00 dB
Total Power	23.5 dBm										
Transmit Freq Error	-9.477 kHz										
x dB Bandwidth	9.044 MHz										
% of OBW Power	99.00 %										
x dB	-6.00 dB										
2437 MHz	 <p>14.166 MHz</p> <p>Occupied Bandwidth: 14.166 MHz</p> <table border="1"> <tr> <td>Total Power</td> <td>22.8 dBm</td> </tr> <tr> <td>Transmit Freq Error</td> <td>-24.415 kHz</td> </tr> <tr> <td>x dB Bandwidth</td> <td>9.040 MHz</td> </tr> <tr> <td>% of OBW Power</td> <td>99.00 %</td> </tr> <tr> <td>x dB</td> <td>-6.00 dB</td> </tr> </table>	Total Power	22.8 dBm	Transmit Freq Error	-24.415 kHz	x dB Bandwidth	9.040 MHz	% of OBW Power	99.00 %	x dB	-6.00 dB
Total Power	22.8 dBm										
Transmit Freq Error	-24.415 kHz										
x dB Bandwidth	9.040 MHz										
% of OBW Power	99.00 %										
x dB	-6.00 dB										
2462 MHz	 <p>14.300 MHz</p> <p>Occupied Bandwidth: 14.300 MHz</p> <table border="1"> <tr> <td>Total Power</td> <td>23.2 dBm</td> </tr> <tr> <td>Transmit Freq Error</td> <td>-49.798 kHz</td> </tr> <tr> <td>x dB Bandwidth</td> <td>9.039 MHz</td> </tr> <tr> <td>% of OBW Power</td> <td>99.00 %</td> </tr> <tr> <td>x dB</td> <td>-6.00 dB</td> </tr> </table>	Total Power	23.2 dBm	Transmit Freq Error	-49.798 kHz	x dB Bandwidth	9.039 MHz	% of OBW Power	99.00 %	x dB	-6.00 dB
Total Power	23.2 dBm										
Transmit Freq Error	-49.798 kHz										
x dB Bandwidth	9.039 MHz										
% of OBW Power	99.00 %										
x dB	-6.00 dB										

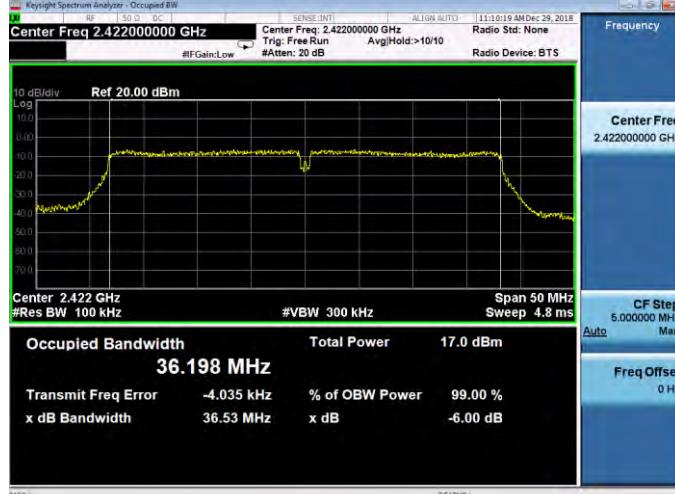
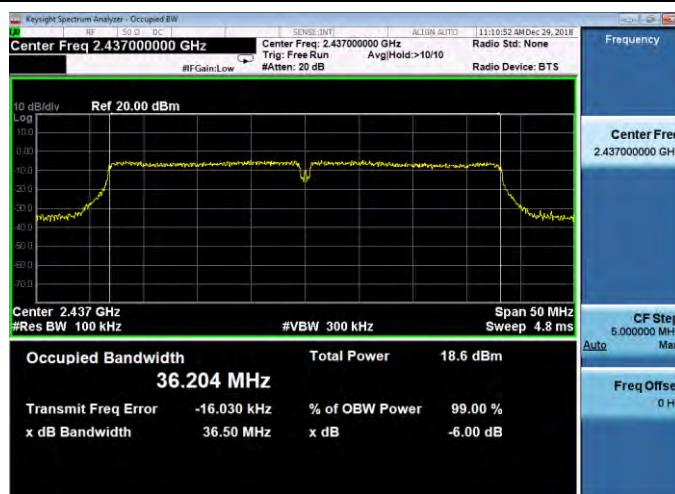
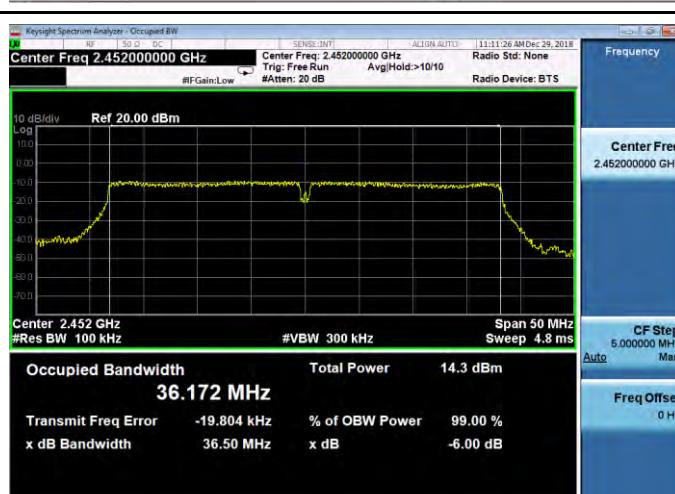
Mode 3: IEEE 802.11g Continuous TX mode

2412 MHz	 <p>Occupied Bandwidth 17.459 MHz</p> <p>Transmit Freq Error -14.502 kHz % of OBW Power 99.00 % x dB Bandwidth 16.61 MHz x dB -6.00 dB</p>
2437 MHz	 <p>Occupied Bandwidth 17.712 MHz</p> <p>Transmit Freq Error -32.586 kHz % of OBW Power 99.00 % x dB Bandwidth 16.59 MHz x dB -6.00 dB</p>
2462 MHz	 <p>Occupied Bandwidth 17.268 MHz</p> <p>Transmit Freq Error -42.746 kHz % of OBW Power 99.00 % x dB Bandwidth 16.59 MHz x dB -6.00 dB</p>

Mode 4: IEEE 802.11n 2.4 GHz 20 MHz Continuous TX mode

2412 MHz	 <p>Occupied Bandwidth 17.822 MHz Total Power 20.5 dBm Transmit Freq Error -4.661 kHz x dB Bandwidth 17.70 MHz % of OBW Power 99.00 % x dB -6.00 dB</p>
2437 MHz	 <p>Occupied Bandwidth 18.025 MHz Total Power 24.6 dBm Transmit Freq Error 1.649 kHz x dB Bandwidth 17.79 MHz % of OBW Power 99.00 % x dB -6.00 dB</p>
2462 MHz	 <p>Occupied Bandwidth 17.819 MHz Total Power 17.4 dBm Transmit Freq Error -110 Hz x dB Bandwidth 17.82 MHz % of OBW Power 99.00 % x dB -6.00 dB</p>

Mode 5: IEEE 802.11n 2.4 GHz 40 MHz Continuous TX mode

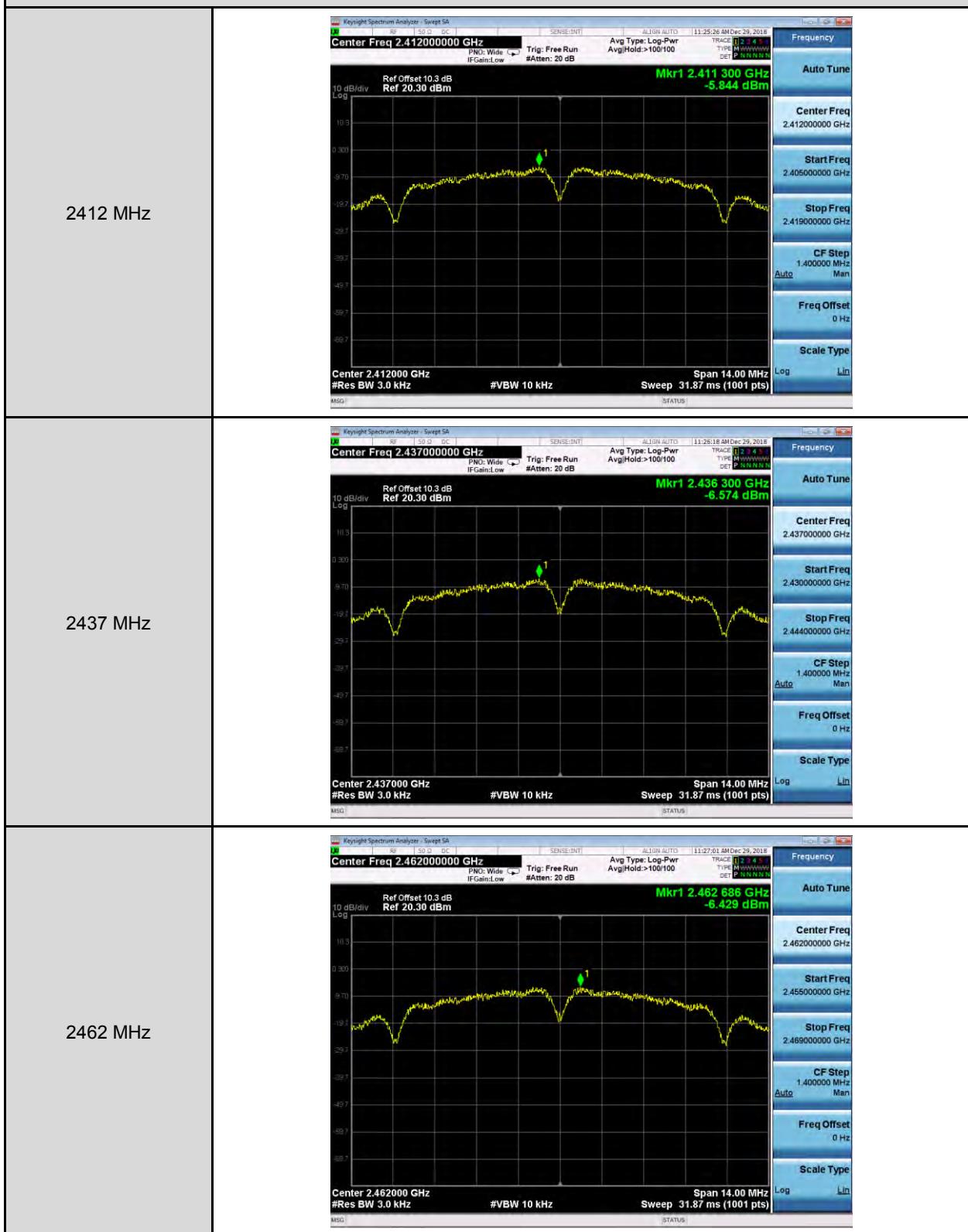
2422 MHz	 <p>Occupied Bandwidth 36.198 MHz</p> <p>Transmit Freq Error -4.035 kHz % of OBW Power 99.00 % x dB Bandwidth 36.53 MHz x dB -6.00 dB</p>
2437 MHz	 <p>Occupied Bandwidth 36.204 MHz</p> <p>Transmit Freq Error -16.030 kHz % of OBW Power 99.00 % x dB Bandwidth 36.50 MHz x dB -6.00 dB</p>
2452 MHz	 <p>Occupied Bandwidth 36.172 MHz</p> <p>Transmit Freq Error -19.804 kHz % of OBW Power 99.00 % x dB Bandwidth 36.50 MHz x dB -6.00 dB</p>

Maximum Power Spectral Density Measurement

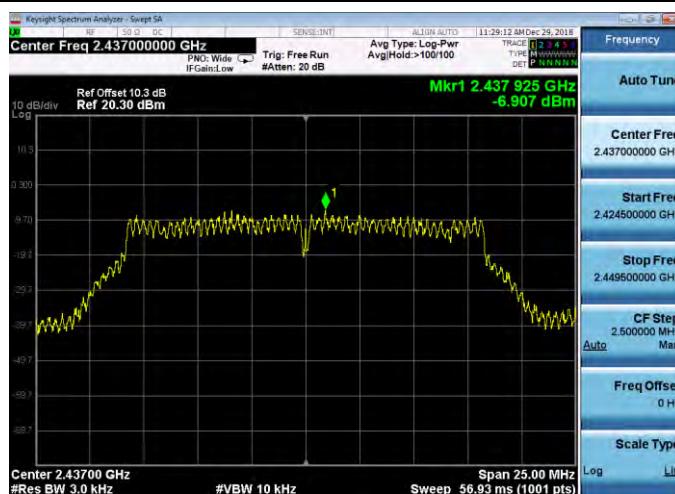
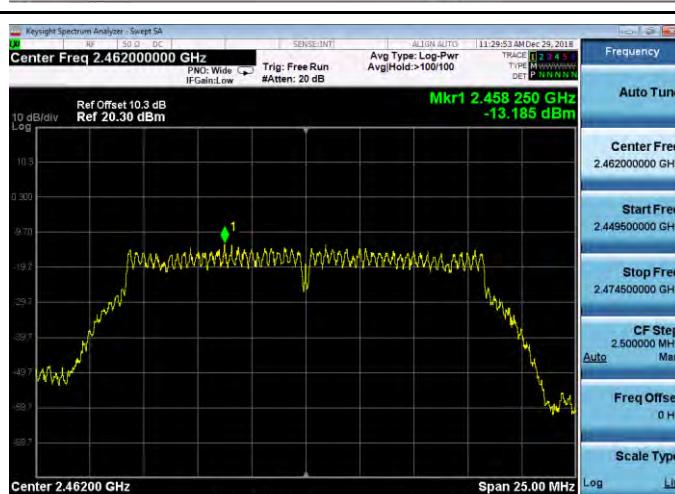
Test Mode	Frequency (MHz)	Measurement (dBm/3 kHz)	Limit (dBm/3 kHz)
Mode 2	2412	-5.844	≤ 8
	2437	-6.574	≤ 8
	2462	-6.429	≤ 8
Mode 3	2412	-10.298	≤ 8
	2437	-6.907	≤ 8
	2462	-13.185	≤ 8
Mode 4	2412	-8.995	≤ 8
	2437	-6.531	≤ 8
	2462	-13.639	≤ 8
Mode 5	2422	-15.527	≤ 8
	2437	-13.437	≤ 8
	2452	-18.584	≤ 8

■ Test Graphs

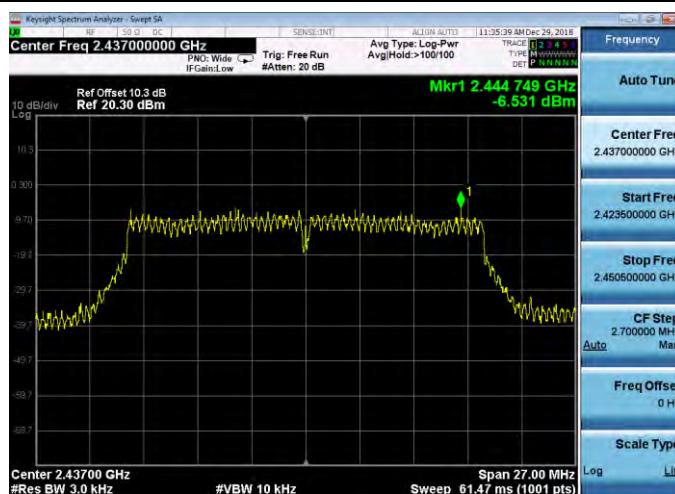
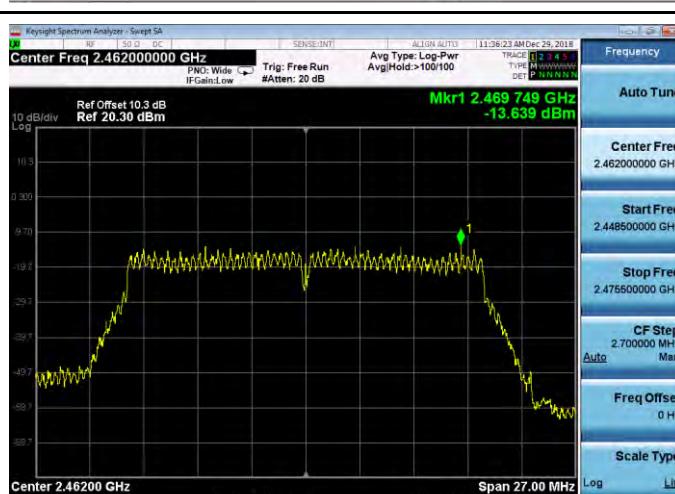
Mode 2: IEEE 802.11b Continuous TX mode



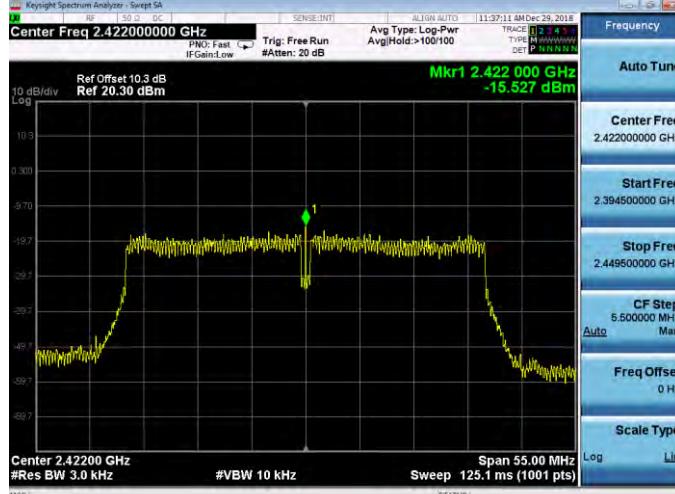
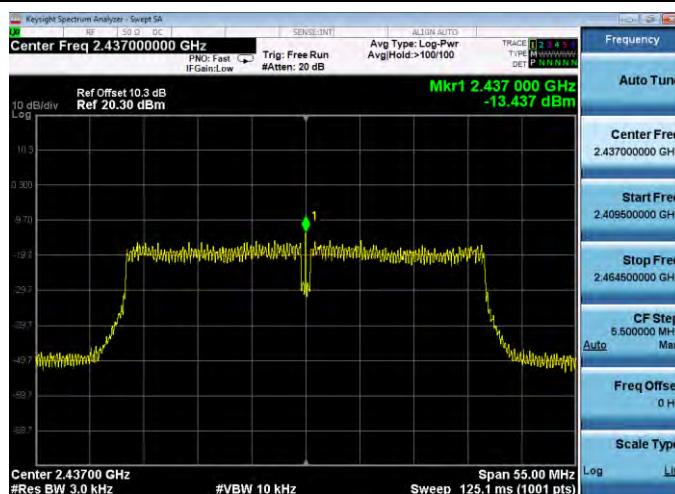
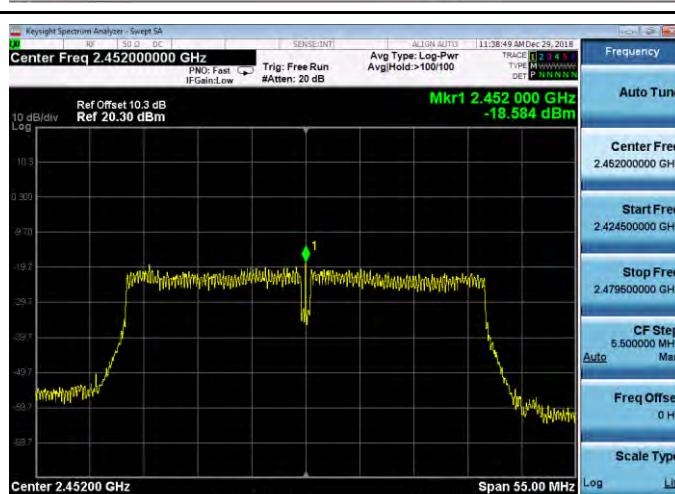
Mode 3: IEEE 802.11g Continuous TX mode

2412 MHz	 <p>Keylight Spectrum Analyzer - Swept SA</p> <p>Center Freq 2.412000000 GHz</p> <p>Ref Offset 10.3 dB Ref 20.30 dBm</p> <p>10 dB/div Log</p> <p>Center 2.41200 GHz #Res BW 3.0 kHz #VBW 10 kHz Span 25.00 MHz Sweep 56.93 ms (1001 pts)</p> <p>Mkr1 2.412 925 GHz -10.298 dBm</p> <p>Frequency Auto Tune</p> <p>Center Freq 2.41200000 GHz</p> <p>Start Freq 2.399500000 GHz</p> <p>Stop Freq 2.424500000 GHz</p> <p>CF Step 2.500000 MHz Man</p> <p>Freq Offset 0 Hz</p> <p>Scale Type Log Lin</p>
2437 MHz	 <p>Keylight Spectrum Analyzer - Swept SA</p> <p>Center Freq 2.437000000 GHz</p> <p>Ref Offset 10.3 dB Ref 20.30 dBm</p> <p>10 dB/div Log</p> <p>Center 2.43700 GHz #Res BW 3.0 kHz #VBW 10 kHz Span 25.00 MHz Sweep 56.93 ms (1001 pts)</p> <p>Mkr1 2.437 925 GHz -6.907 dBm</p> <p>Frequency Auto Tune</p> <p>Center Freq 2.43700000 GHz</p> <p>Start Freq 2.424500000 GHz</p> <p>Stop Freq 2.449500000 GHz</p> <p>CF Step 2.500000 MHz Man</p> <p>Freq Offset 0 Hz</p> <p>Scale Type Log Lin</p>
2462 MHz	 <p>Keylight Spectrum Analyzer - Swept SA</p> <p>Center Freq 2.462000000 GHz</p> <p>Ref Offset 10.3 dB Ref 20.30 dBm</p> <p>10 dB/div Log</p> <p>Center 2.46200 GHz #Res BW 3.0 kHz #VBW 10 kHz Span 25.00 MHz Sweep 56.93 ms (1001 pts)</p> <p>Mkr1 2.458 250 GHz -13.185 dBm</p> <p>Frequency Auto Tune</p> <p>Center Freq 2.46200000 GHz</p> <p>Start Freq 2.449500000 GHz</p> <p>Stop Freq 2.474500000 GHz</p> <p>CF Step 2.500000 MHz Man</p> <p>Freq Offset 0 Hz</p> <p>Scale Type Log Lin</p>

Mode 4: IEEE 802.11n 2.4 GHz 20 MHz Continuous TX mode

2412 MHz	 <p>Keylight Spectrum Analyzer - Sweep SA Center Freq 2.412000000 GHz PND: Wide IFGain:Low Trig: Free Run Avg Type: Log-Pwr AvgHold:>100/100 Ref Offset 10.3 dB Ref 20.30 dBm 10 dB/div Log Center 2.41200 GHz #Res BW 3.0 kHz #VBW 10 kHz Span 27.00 MHz Sweep 61.47 ms (1001 pts) Mkr1 2.414 484 GHz -8.995 dBm</p>
2437 MHz	 <p>Keylight Spectrum Analyzer - Sweep SA Center Freq 2.437000000 GHz PND: Wide IFGain:Low Trig: Free Run Avg Type: Log-Pwr AvgHold:>100/100 Ref Offset 10.3 dB Ref 20.30 dBm 10 dB/div Log Center 2.43700 GHz #Res BW 3.0 kHz #VBW 10 kHz Span 27.00 MHz Sweep 61.47 ms (1001 pts) Mkr1 2.444 749 GHz -6.531 dBm</p>
2462 MHz	 <p>Keylight Spectrum Analyzer - Sweep SA Center Freq 2.462000000 GHz PND: Wide IFGain:Low Trig: Free Run Avg Type: Log-Pwr AvgHold:>100/100 Ref Offset 10.3 dB Ref 20.30 dBm 10 dB/div Log Center 2.46200 GHz #Res BW 3.0 kHz #VBW 10 kHz Span 27.00 MHz Sweep 61.47 ms (1001 pts) Mkr1 2.449 749 GHz -13.639 dBm</p>

Mode 5: IEEE 802.11n 2.4 GHz 40 MHz Continuous TX mode

2422 MHz	 <p>Keylight Spectrum Analyzer - Sweep SA Center Freq 2.422000000 GHz Ref Offset 10.3 dB Ref 20.30 dBm 10 dB/div Log Center 2.42200 GHz #Res BW 3.0 kHz #VBW 10 kHz Span 55.00 MHz Sweep 125.1 ms (1001 pts) Mkr1 2.422 000 GHz -15.527 dBm</p>
2437 MHz	 <p>Keylight Spectrum Analyzer - Sweep SA Center Freq 2.437000000 GHz Ref Offset 10.3 dB Ref 20.30 dBm 10 dB/div Log Center 2.43700 GHz #Res BW 3.0 kHz #VBW 10 kHz Span 55.00 MHz Sweep 125.1 ms (1001 pts) Mkr1 2.437 000 GHz -13.437 dBm</p>
2452 MHz	 <p>Keylight Spectrum Analyzer - Sweep SA Center Freq 2.452000000 GHz Ref Offset 10.3 dB Ref 20.30 dBm 10 dB/div Log Center 2.45200 GHz #Res BW 3.0 kHz #VBW 10 kHz Span 55.00 MHz Sweep 125.1 ms (1001 pts) Mkr1 2.452 000 GHz -18.584 dBm</p>

Out of Band Conducted Emissions Measurement

■ Test Graphs

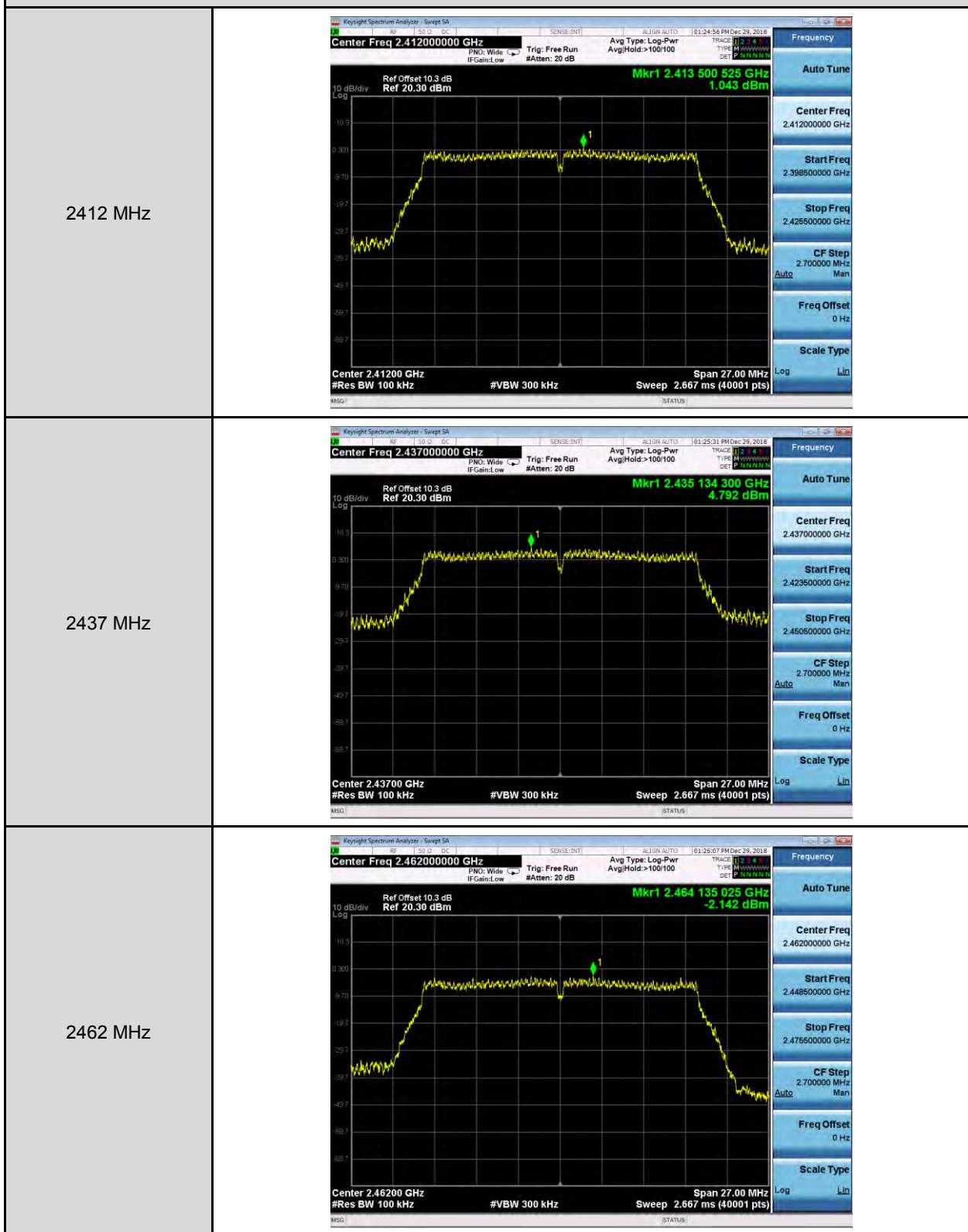
Reference level

Mode 2: IEEE 802.11b Continuous TX mode	
2412 MHz	 <p>Keylight Spectrum Analyzer - Sweep SA Center Freq 2.412000000 GHz Ref Offset 10.3 dB Ref 20.30 dBm 10 dB/div Log Center 2.412000 GHz #Res BW 100 kHz #VBW 300 kHz Span 14.00 MHz Sweep 2.667 ms (40001 pts) Mkr1 2.413 002 75 GHz 8.324 dBm</p> <p>Frequency Auto Tune Center Freq 2.412000000 GHz Start Freq 2.405000000 GHz Stop Freq 2.419000000 GHz CF Step 1.400000 MHz Auto Freq Offset 0 Hz Scale Type Log Lin</p>
2437 MHz	 <p>Keylight Spectrum Analyzer - Sweep SA Center Freq 2.437000000 GHz Ref Offset 10.3 dB Ref 20.30 dBm 10 dB/div Log Center 2.437000 GHz #Res BW 100 kHz #VBW 300 kHz Span 14.00 MHz Sweep 2.667 ms (40001 pts) Mkr1 2.436 003 55 GHz 7.569 dBm</p> <p>Frequency Auto Tune Center Freq 2.437000000 GHz Start Freq 2.430000000 GHz Stop Freq 2.444000000 GHz CF Step 1.400000 MHz Auto Freq Offset 0 Hz Scale Type Log Lin</p>
2462 MHz	 <p>Keylight Spectrum Analyzer - Sweep SA Center Freq 2.462000000 GHz Ref Offset 10.3 dB Ref 20.30 dBm 10 dB/div Log Center 2.462000 GHz #Res BW 100 kHz #VBW 300 kHz Span 14.00 MHz Sweep 2.667 ms (40001 pts) Mkr1 2.461 008 80 GHz 7.609 dBm</p> <p>Frequency Auto Tune Center Freq 2.462000000 GHz Start Freq 2.455000000 GHz Stop Freq 2.469000000 GHz CF Step 1.400000 MHz Auto Freq Offset 0 Hz Scale Type Log Lin</p>

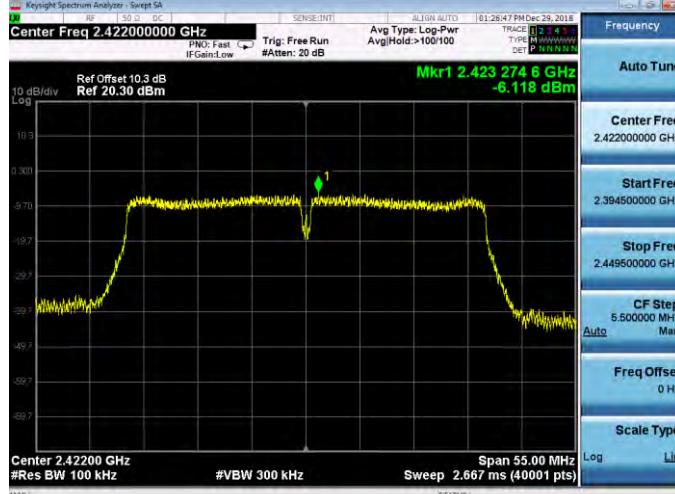
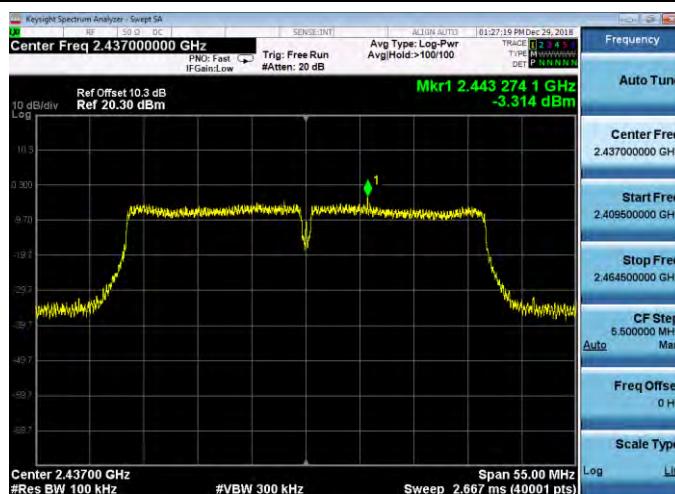
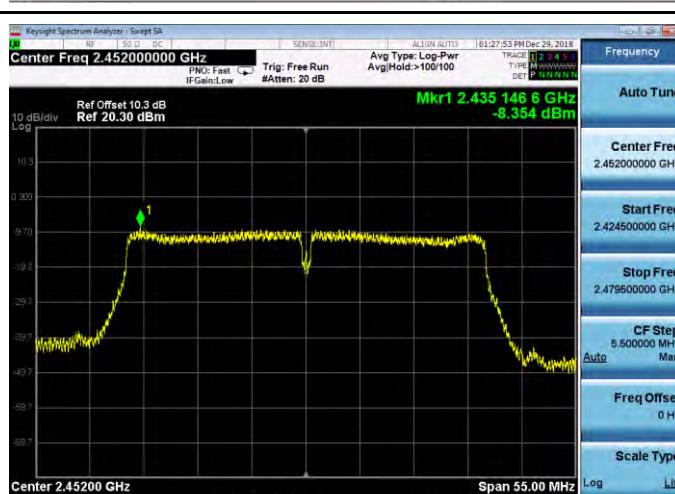
Mode 3: IEEE 802.11g Continuous TX mode

2412 MHz	<p>Keystream Spectrum Analyzer - Srspt SA</p> <p>Center Freq 2.412000000 GHz</p> <p>Ref Offset 10.3 dB</p> <p>Ref 20.30 dBm</p> <p>10 dB/div</p> <p>Log</p> <p>10.3</p> <p>0.300</p> <p>-9.70</p> <p>-19.2</p> <p>-29.7</p> <p>-39.2</p> <p>-49.7</p> <p>-59.2</p> <p>-69.7</p> <p>Center 2.41200 GHz</p> <p>#Res BW 100 kHz</p> <p>#VBW 300 kHz</p> <p>Sweep 2.667 ms (40001 pts)</p> <p>Mkr1 2.410 762 500 GHz 1.453 dBm</p> <p>MSG STATUS</p>
2437 MHz	<p>Keystream Spectrum Analyzer - Srspt SA</p> <p>Center Freq 2.437000000 GHz</p> <p>Ref Offset 10.3 dB</p> <p>Ref 20.30 dBm</p> <p>10 dB/div</p> <p>Log</p> <p>10.3</p> <p>0.300</p> <p>-9.70</p> <p>-19.2</p> <p>-29.7</p> <p>-39.2</p> <p>-49.7</p> <p>-59.2</p> <p>-69.7</p> <p>Center 2.43700 GHz</p> <p>#Res BW 100 kHz</p> <p>#VBW 300 kHz</p> <p>Sweep 2.667 ms (40001 pts)</p> <p>Mkr1 2.434 767 500 GHz 4.617 dBm</p> <p>MSG STATUS</p>
2462 MHz	<p>Keystream Spectrum Analyzer - Srspt SA</p> <p>Center Freq 2.462000000 GHz</p> <p>Ref Offset 10.3 dB</p> <p>Ref 20.30 dBm</p> <p>10 dB/div</p> <p>Log</p> <p>10.3</p> <p>0.300</p> <p>-9.70</p> <p>-19.2</p> <p>-29.7</p> <p>-39.2</p> <p>-49.7</p> <p>-59.2</p> <p>-69.7</p> <p>Center 2.46200 GHz</p> <p>#Res BW 100 kHz</p> <p>#VBW 300 kHz</p> <p>Sweep 2.667 ms (40001 pts)</p> <p>Mkr1 2.458 628 125 GHz -1.775 dBm</p> <p>MSG STATUS</p>

Mode 4: IEEE 802.11n 2.4 GHz 20 MHz Continuous TX mode

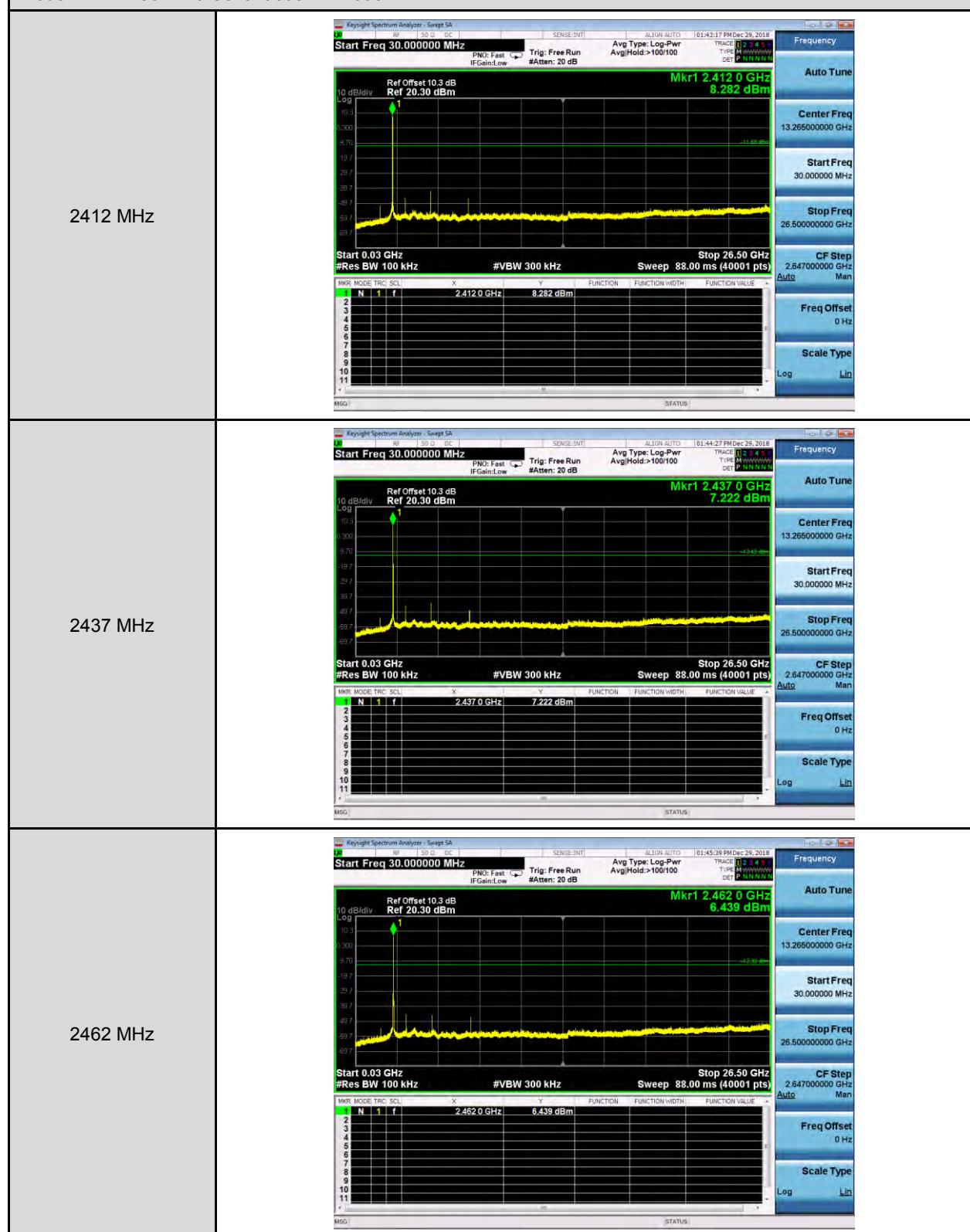


Mode 5: IEEE 802.11n 2.4 GHz 40 MHz Continuous TX mode

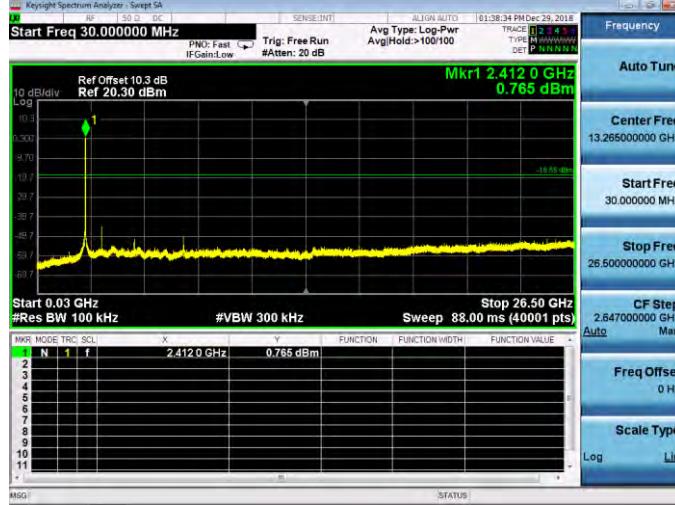
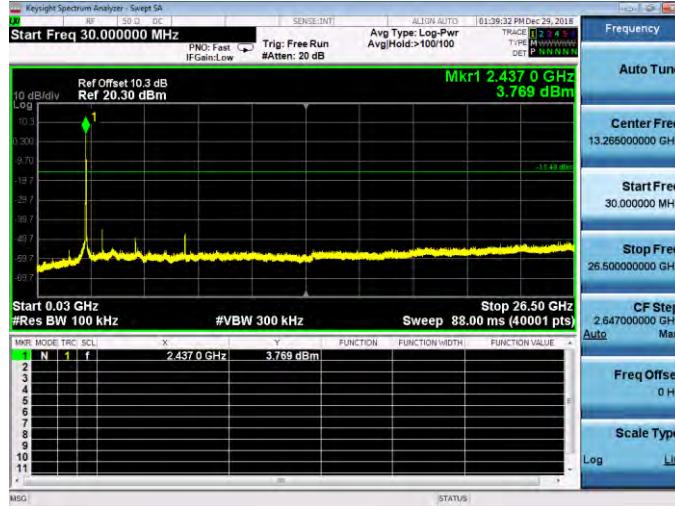
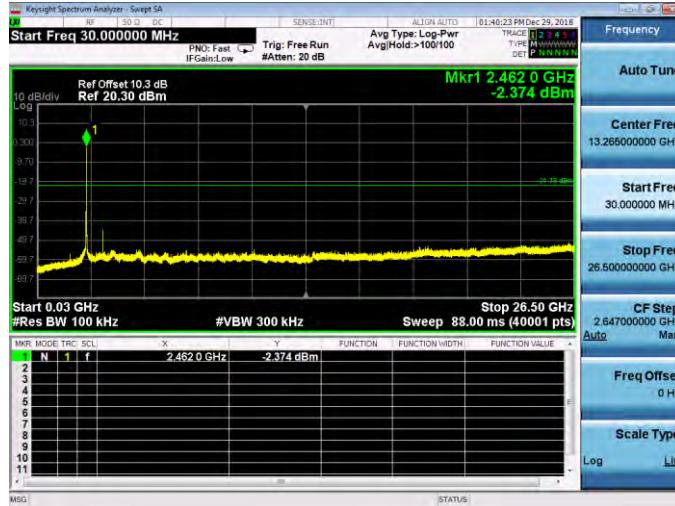
2422 MHz	 <p>Keylight Spectrum Analyzer - Sweep SA Center Freq 2.422000000 GHz Ref Offset 10.3 dB Ref 20.30 dBm 10 dB/div Log Center 2.42200 GHz #Res BW 100 kHz #VBW 300 kHz Span 55.00 MHz Sweep 2.667 ms (40001 pts) Mkr1 2.423 274.6 GHz -6.118 dBm</p>
2437 MHz	 <p>Keylight Spectrum Analyzer - Sweep SA Center Freq 2.437000000 GHz Ref Offset 10.3 dB Ref 20.30 dBm 10 dB/div Log Center 2.43700 GHz #Res BW 100 kHz #VBW 300 kHz Span 55.00 MHz Sweep 2.667 ms (40001 pts) Mkr1 2.443 274.1 GHz -3.314 dBm</p>
2452 MHz	 <p>Keylight Spectrum Analyzer - Sweep SA Center Freq 2.452000000 GHz Ref Offset 10.3 dB Ref 20.30 dBm 10 dB/div Log Center 2.45200 GHz #Res BW 100 kHz #VBW 300 kHz Span 55.00 MHz Sweep 2.667 ms (40001 pts) Mkr1 2.435 146.6 GHz -8.354 dBm</p>

Out of Band Conducted Emissions

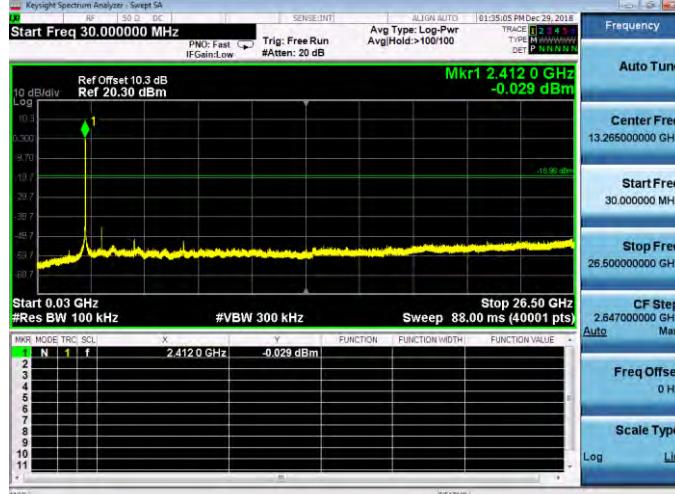
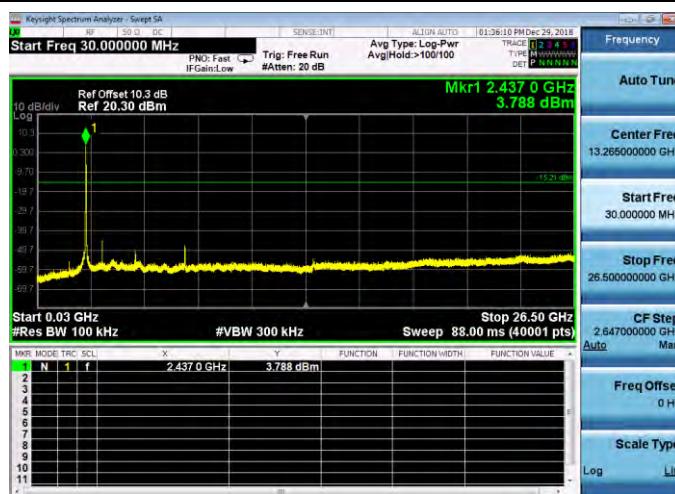
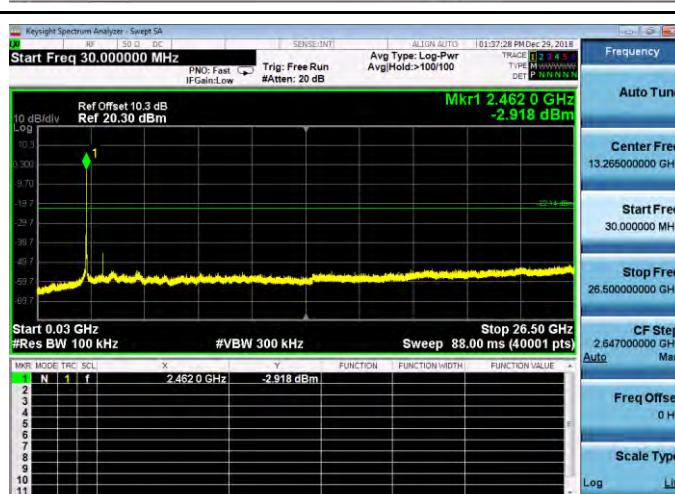
Mode 2: IEEE 802.11b Continuous TX mode



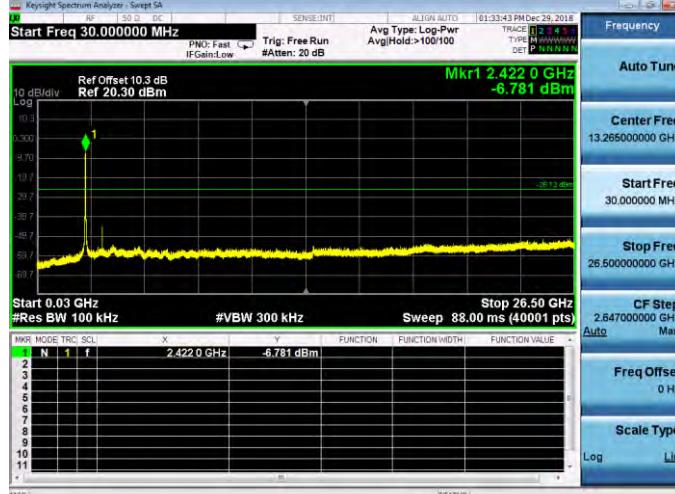
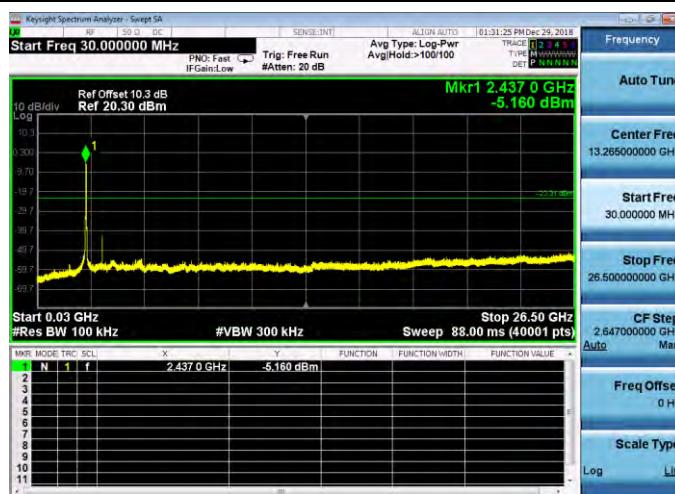
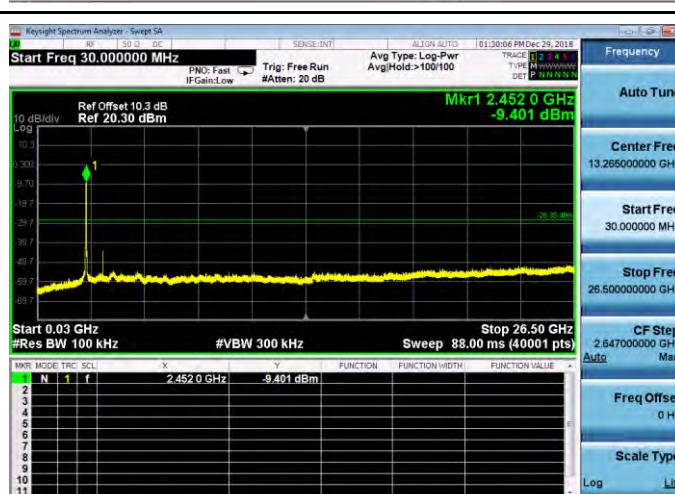
Mode 3: IEEE 802.11g Continuous TX mode

2412 MHz	 <p>Start Freq 30.000000 MHz PNO: Fast IFGain:Low Trig: Free Run #Atten: 20 dB Avg Type: Log-Pwr Avg/Hold:>100/100 Mkr1 2.412 0 GHz 0.765 dBm</p> <p>Ref Offset 10.3 dB Ref 20.30 dBm</p> <p>10 dB/div Log</p> <p>13.265000000 GHz</p> <p>Auto Tune</p> <p>Center Freq 13.265000000 GHz</p> <p>Start Freq 30.000000 MHz</p> <p>Stop Freq 26.500000000 GHz</p> <p>CF Step 2.647000000 GHz Man</p> <p>Freq Offset 0 Hz</p> <p>Scale Type Log Lin</p>
2437 MHz	 <p>Start Freq 30.000000 MHz PNO: Fast IFGain:Low Trig: Free Run #Atten: 20 dB Avg Type: Log-Pwr Avg/Hold:>100/100 Mkr1 2.437 0 GHz 3.769 dBm</p> <p>Ref Offset 10.3 dB Ref 20.30 dBm</p> <p>10 dB/div Log</p> <p>13.265000000 GHz</p> <p>Auto Tune</p> <p>Center Freq 13.265000000 GHz</p> <p>Start Freq 30.000000 MHz</p> <p>Stop Freq 26.500000000 GHz</p> <p>CF Step 2.647000000 GHz Man</p> <p>Freq Offset 0 Hz</p> <p>Scale Type Log Lin</p>
2462 MHz	 <p>Start Freq 30.000000 MHz PNO: Fast IFGain:Low Trig: Free Run #Atten: 20 dB Avg Type: Log-Pwr Avg/Hold:>100/100 Mkr1 2.462 0 GHz -2.374 dBm</p> <p>Ref Offset 10.3 dB Ref 20.30 dBm</p> <p>10 dB/div Log</p> <p>13.265000000 GHz</p> <p>Auto Tune</p> <p>Center Freq 13.265000000 GHz</p> <p>Start Freq 30.000000 MHz</p> <p>Stop Freq 26.500000000 GHz</p> <p>CF Step 2.647000000 GHz Man</p> <p>Freq Offset 0 Hz</p> <p>Scale Type Log Lin</p>

Mode 4: IEEE 802.11n 2.4 GHz 20 MHz Continuous TX mode

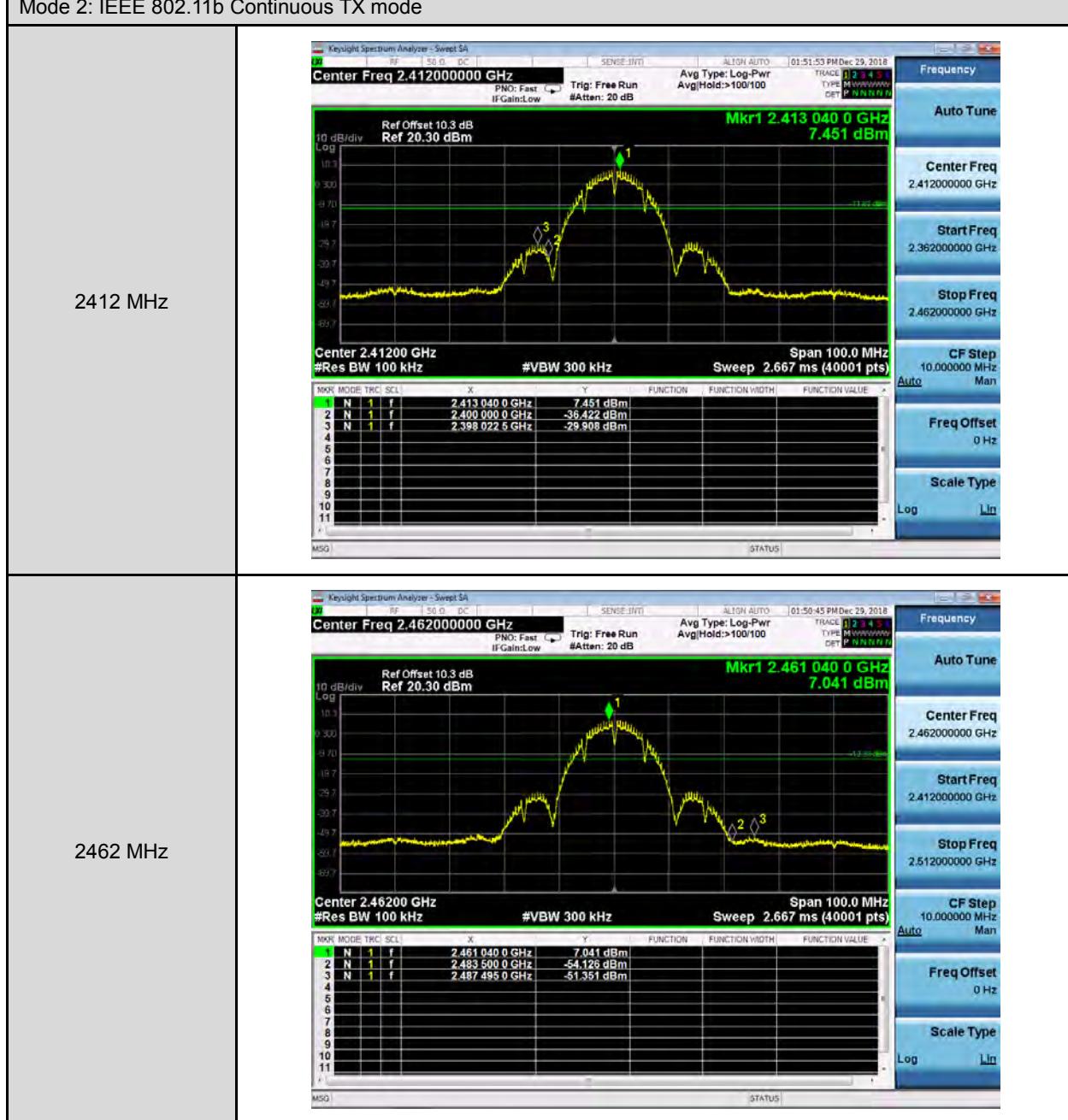
2412 MHz	 <p>KeySight Spectrum Analyzer - Sweep SA</p> <p>Start Freq 30.000000 MHz</p> <p>Ref Offset 10.3 dB Ref 20.30 dBm</p> <p>Mkr1 2.412 0 GHz -0.029 dBm</p> <p>10 dB/div Log</p> <p>13.265000000 GHz</p> <p>Auto Tune</p> <p>Center Freq 13.265000000 GHz</p> <p>Start Freq 30.000000 MHz</p> <p>Stop Freq 26.500000000 GHz</p> <p>CF Step 2.647000000 GHz Man</p> <p>Freq Offset 0 Hz</p> <p>Scale Type Log Lin</p>
2437 MHz	 <p>KeySight Spectrum Analyzer - Sweep SA</p> <p>Start Freq 30.000000 MHz</p> <p>Ref Offset 10.3 dB Ref 20.30 dBm</p> <p>Mkr1 2.437 0 GHz 3.788 dBm</p> <p>10 dB/div Log</p> <p>13.265000000 GHz</p> <p>Auto Tune</p> <p>Center Freq 13.265000000 GHz</p> <p>Start Freq 30.000000 MHz</p> <p>Stop Freq 26.500000000 GHz</p> <p>CF Step 2.647000000 GHz Man</p> <p>Freq Offset 0 Hz</p> <p>Scale Type Log Lin</p>
2462 MHz	 <p>KeySight Spectrum Analyzer - Sweep SA</p> <p>Start Freq 30.000000 MHz</p> <p>Ref Offset 10.3 dB Ref 20.30 dBm</p> <p>Mkr1 2.462 0 GHz -2.918 dBm</p> <p>10 dB/div Log</p> <p>13.265000000 GHz</p> <p>Auto Tune</p> <p>Center Freq 13.265000000 GHz</p> <p>Start Freq 30.000000 MHz</p> <p>Stop Freq 26.500000000 GHz</p> <p>CF Step 2.647000000 GHz Man</p> <p>Freq Offset 0 Hz</p> <p>Scale Type Log Lin</p>

Mode 5: IEEE 802.11n 2.4 GHz 40 MHz Continuous TX mode

2422 MHz	 <p>KeySight Spectrum Analyzer - Sweep SA</p> <p>Start Freq 30.000000 MHz</p> <p>Ref Offset 10.3 dB Ref 20.30 dBm</p> <p>Mkr1 2.422 0 GHz -6.781 dBm</p> <p>10 dB/div Log</p> <p>Start 0.03 GHz Stop 26.50 GHz</p> <p>#Res BW 100 kHz #VBW 300 kHz Sweep 88.00 ms (40001 pts)</p> <table border="1"> <tr><td>MRX</td><td>MODE</td><td>TRC</td><td>SCL</td><td>X</td><td>Y</td><td>FUNCTION</td><td>FUNCTION WIDTH</td><td>FUNCTION VALUE</td></tr> <tr><td>1</td><td>N</td><td>1</td><td>f</td><td>2.422 0 GHz</td><td>-6.781 dBm</td><td></td><td></td><td></td></tr> <tr><td>2</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>3</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>4</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>5</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>6</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>7</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>8</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>9</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>10</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>11</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> </table> <p>MSG STATUS</p>	MRX	MODE	TRC	SCL	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE	1	N	1	f	2.422 0 GHz	-6.781 dBm				2									3									4									5									6									7									8									9									10									11								
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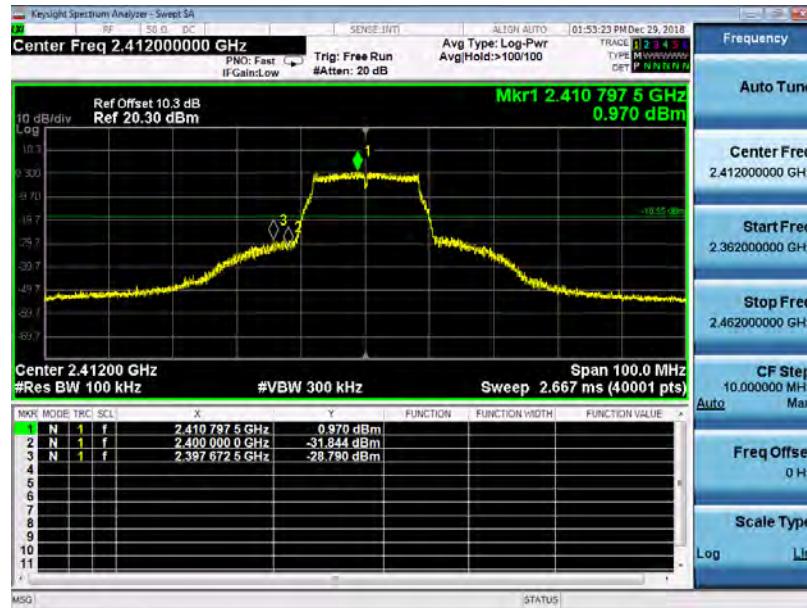
Conducted Band Edge

Mode 2: IEEE 802.11b Continuous TX mode

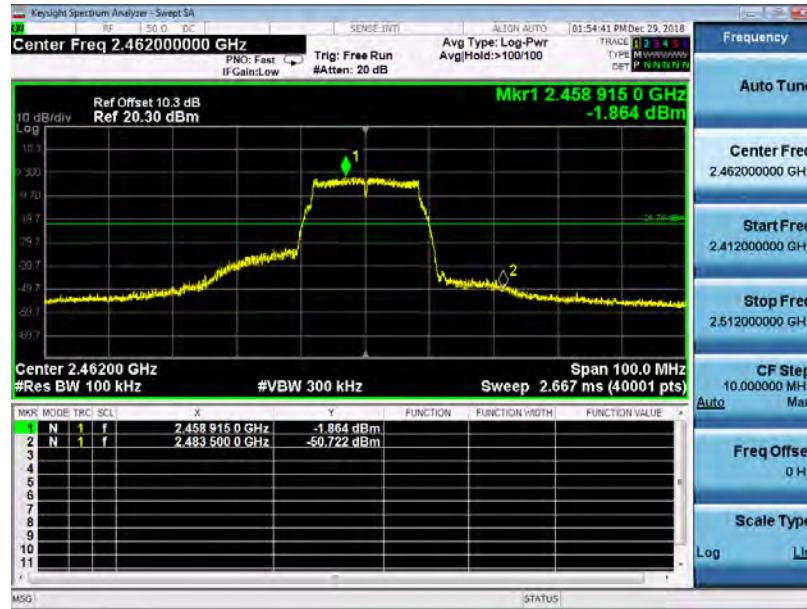


Mode 3: IEEE 802.11g Continuous TX mode

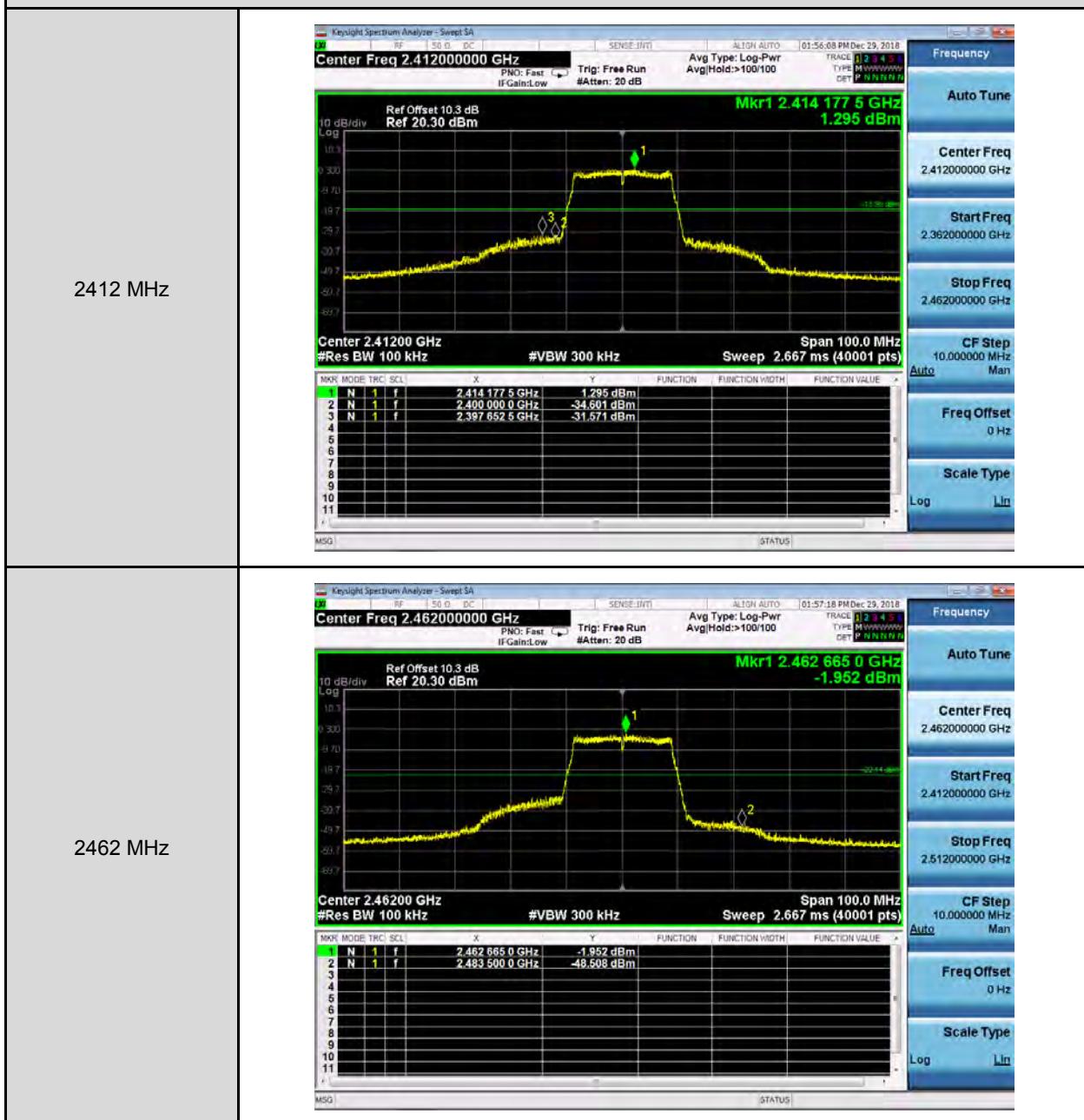
2412 MHz



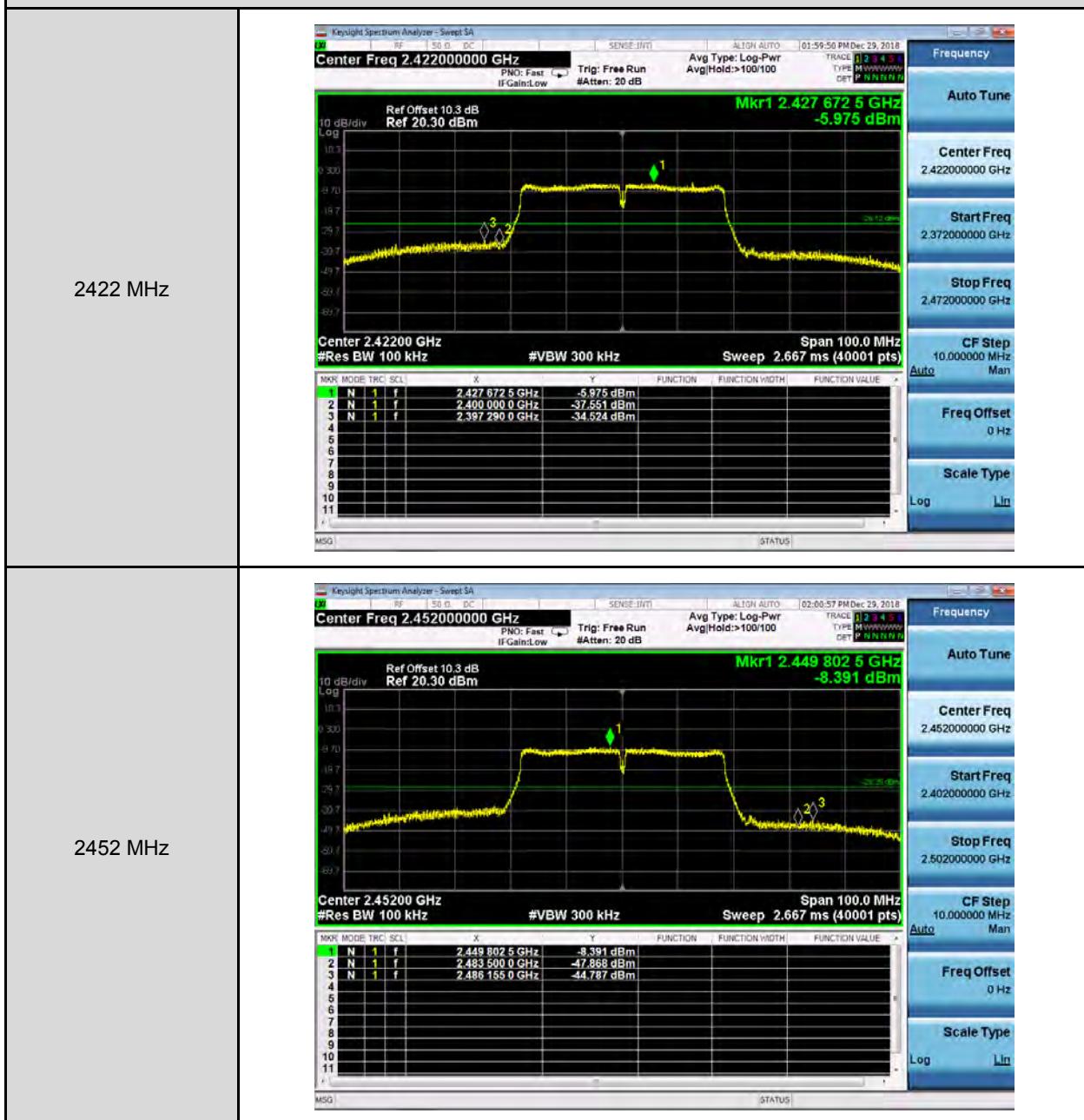
2462 MHz



Mode 4: IEEE 802.11n 2.4 GHz 20 MHz Continuous TX mode



Mode 5: IEEE 802.11n 2.4 GHz 40 MHz Continuous TX mode



Power setting 2_Antenna Type: Dipole Antenna
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Maximum Conducted Output Power Measurement

Test Mode	Frequency (MHz)	RF Power setting in Test Software	Test Software Version
Mode 2	2412	16.0	FCC Test App
	2437	16.0	
	2462	17.0	
Mode 3	2412	12.0	FCC Test App
	2437	22.0	
	2462	10.0	
Mode 4	2412	10.0	FCC Test App
	2437	22.0	
	2462	9.0	
Mode 5	2422	7.0	FCC Test App
	2437	10.0	
	2452	6.0	

Test Mode	Data Rate (Mbps)	Frequency (MHz)	Average Output Power		Peak Output Power		
			Measurement Results		Measurement Results		Limit
			dBm	W	dBm	W	dBm
Mode 2	1	2412	16.40	0.044	19.18	0.083	≤ 30
		2437	15.07	0.032	18.26	0.067	≤ 30
		2462	16.10	0.041	18.85	0.077	≤ 30
	2	2437	15.04	0.032	18.23	0.067	≤ 30
	5.5	2437	15.00	0.032	18.20	0.066	≤ 30
	11	2437	14.95	0.031	18.16	0.065	≤ 30
Mode 3	6	2412	12.05	0.016	19.27	0.085	≤ 30
		2437	17.38	0.055	24.50	0.282	≤ 30
		2462	8.28	0.007	15.45	0.035	≤ 30
	9	2437	17.35	0.054	24.48	0.281	≤ 30
	12	2437	17.33	0.054	24.45	0.279	≤ 30
	18	2437	17.26	0.053	24.43	0.277	≤ 30
	24	2437	17.23	0.053	24.40	0.275	≤ 30
	36	2437	17.20	0.052	24.37	0.274	≤ 30
	48	2437	17.15	0.052	24.35	0.272	≤ 30
	54	2437	17.10	0.051	24.31	0.270	≤ 30

Note: The relevant measured result has the offset with cable loss already.

Test Mode	Data Rate (Mbps)	Frequency (MHz)	Average Output Power		Peak Output Power		
			Measurement Results		Measurement Results		Limit
			dBm	W	dBm	W	dBm
Mode 4	6.5M	2412	9.89	0.010	16.98	0.050	≤ 30
		2437	17.71	0.059	25.15	0.327	≤ 30
		2462	7.20	0.005	14.38	0.027	≤ 30
	14.4M	2437	17.68	0.059	25.10	0.324	≤ 30
	21.7M	2437	17.65	0.058	25.08	0.322	≤ 30
	28.9M	2437	17.60	0.058	25.05	0.320	≤ 30
	43.3M	2437	17.58	0.057	25.00	0.316	≤ 30
	57.8M	2437	17.55	0.057	24.98	0.315	≤ 30
	65M	2437	17.53	0.057	24.95	0.313	≤ 30
	72.2M	2437	17.50	0.056	24.93	0.311	≤ 30
Mode 5	13.5M	2422	7.51	0.006	14.80	0.030	≤ 30
		2437	10.50	0.011	17.48	0.056	≤ 30
		2452	5.45	0.004	12.68	0.019	≤ 30
	30M	2437	10.48	0.011	17.45	0.056	≤ 30
	45M	2437	10.45	0.011	17.43	0.055	≤ 30
	60M	2437	10.41	0.011	17.40	0.055	≤ 30
	90M	2437	10.39	0.011	17.38	0.055	≤ 30
	120M	2437	10.35	0.011	17.35	0.054	≤ 30
	135M	2437	10.33	0.011	17.33	0.054	≤ 30
	150M	2437	10.31	0.011	17.28	0.053	≤ 30

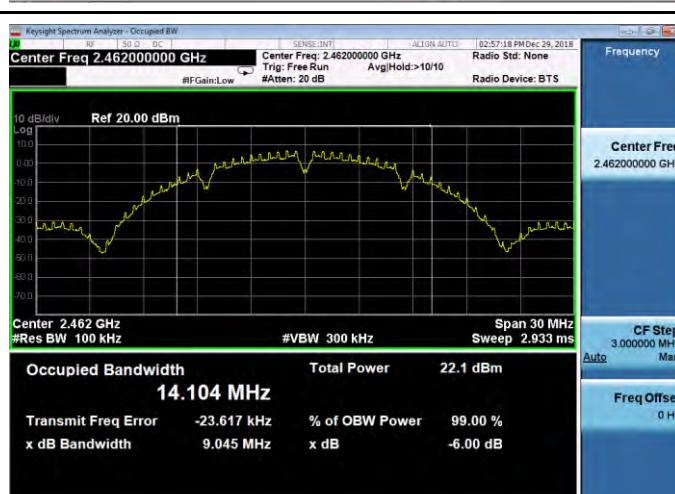
Note: The relevant measured result has the offset with cable loss already.

6 dB RF Bandwidth Measurement

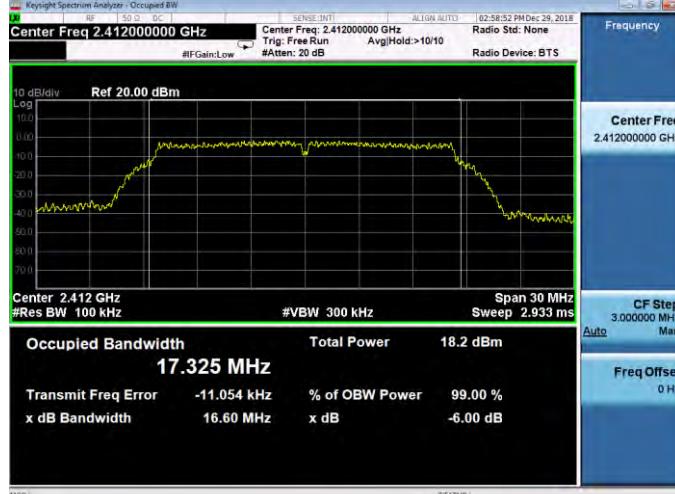
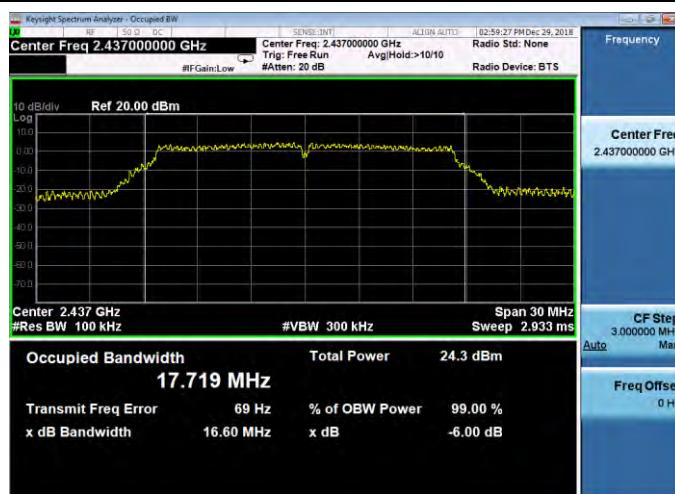
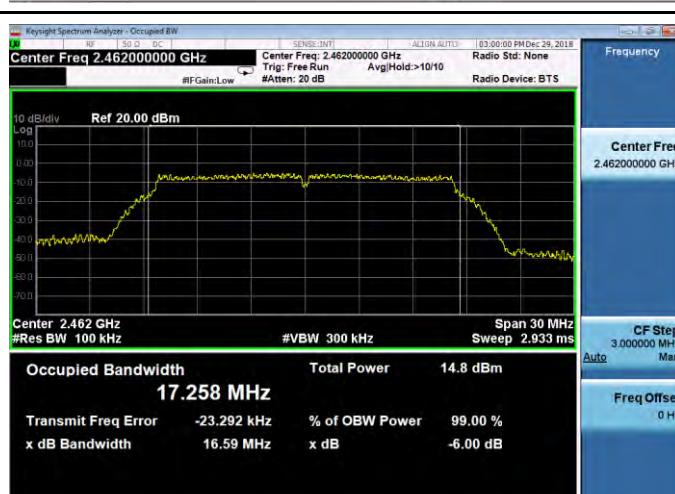
Test Mode	Frequency (MHz)	Measurement (kHz)	Limit (kHz)
Mode 2	2412	8571	≥ 500
	2437	8581	≥ 500
	2462	9045	≥ 500
Mode 3	2412	16600	≥ 500
	2437	16600	≥ 500
	2462	16590	≥ 500
Mode 4	2412	17730	≥ 500
	2437	17850	≥ 500
	2462	17800	≥ 500
Mode 5	2422	36470	≥ 500
	2437	36520	≥ 500
	2452	36530	≥ 500

■ Test Graphs

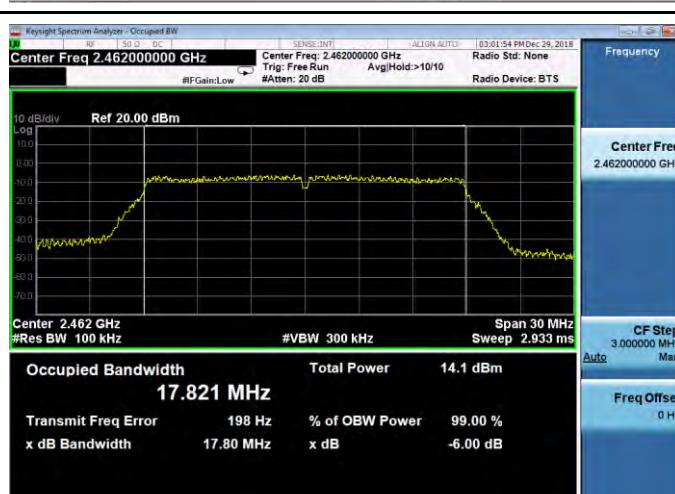
Mode 2: IEEE 802.11b Continuous TX mode

2412 MHz	 <p>Occupied Bandwidth 14.037 MHz Total Power 21.9 dBm Transmit Freq Error -1.058 kHz x dB Bandwidth 8.571 MHz % of OBW Power 99.00 % x dB -6.00 dB</p>
2437 MHz	 <p>Occupied Bandwidth 14.008 MHz Total Power 21.2 dBm Transmit Freq Error -18.345 kHz x dB Bandwidth 8.581 MHz % of OBW Power 99.00 % x dB -6.00 dB</p>
2462 MHz	 <p>Occupied Bandwidth 14.104 MHz Total Power 22.1 dBm Transmit Freq Error -23.617 kHz x dB Bandwidth 9.045 MHz % of OBW Power 99.00 % x dB -6.00 dB</p>

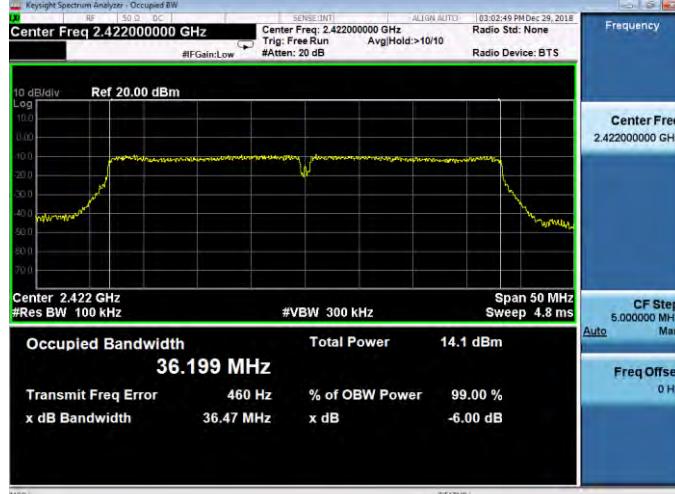
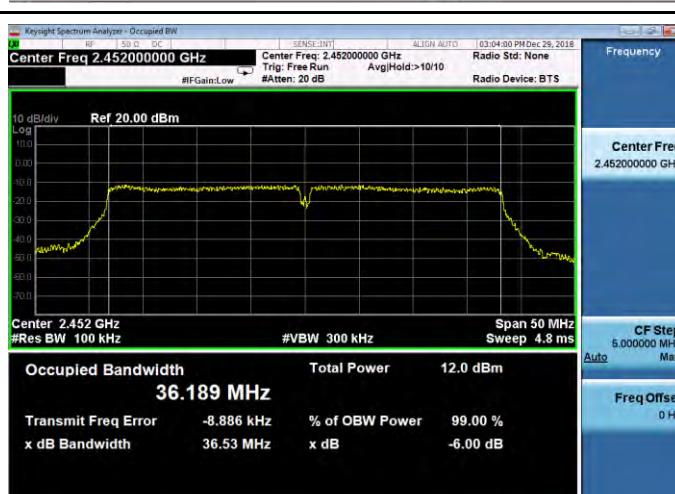
Mode 3: IEEE 802.11g Continuous TX mode

2412 MHz	 <p>Occupied Bandwidth 17.325 MHz Total Power 18.2 dBm</p> <p>Transmit Freq Error -11.054 kHz % of OBW Power 99.00 % x dB Bandwidth 16.60 MHz x dB -6.00 dB</p>
2437 MHz	 <p>Occupied Bandwidth 17.719 MHz Total Power 24.3 dBm</p> <p>Transmit Freq Error 69 Hz % of OBW Power 99.00 % x dB Bandwidth 16.60 MHz x dB -6.00 dB</p>
2462 MHz	 <p>Occupied Bandwidth 17.258 MHz Total Power 14.8 dBm</p> <p>Transmit Freq Error -23.292 kHz % of OBW Power 99.00 % x dB Bandwidth 16.59 MHz x dB -6.00 dB</p>

Mode 4: IEEE 802.11n 2.4 GHz 20 MHz Continuous TX mode

2412 MHz	 <p>Occupied Bandwidth 17.824 MHz</p> <p>Transmit Freq Error 3.524 kHz % of OBW Power 99.00 % x dB Bandwidth 17.73 MHz x dB -6.00 dB</p>
2437 MHz	 <p>Occupied Bandwidth 18.086 MHz</p> <p>Transmit Freq Error 30.705 kHz % of OBW Power 99.00 % x dB Bandwidth 17.85 MHz x dB -6.00 dB</p>
2462 MHz	 <p>Occupied Bandwidth 17.821 MHz</p> <p>Transmit Freq Error 198 Hz % of OBW Power 99.00 % x dB Bandwidth 17.80 MHz x dB -6.00 dB</p>

Mode 5: IEEE 802.11n 2.4 GHz 40 MHz Continuous TX mode

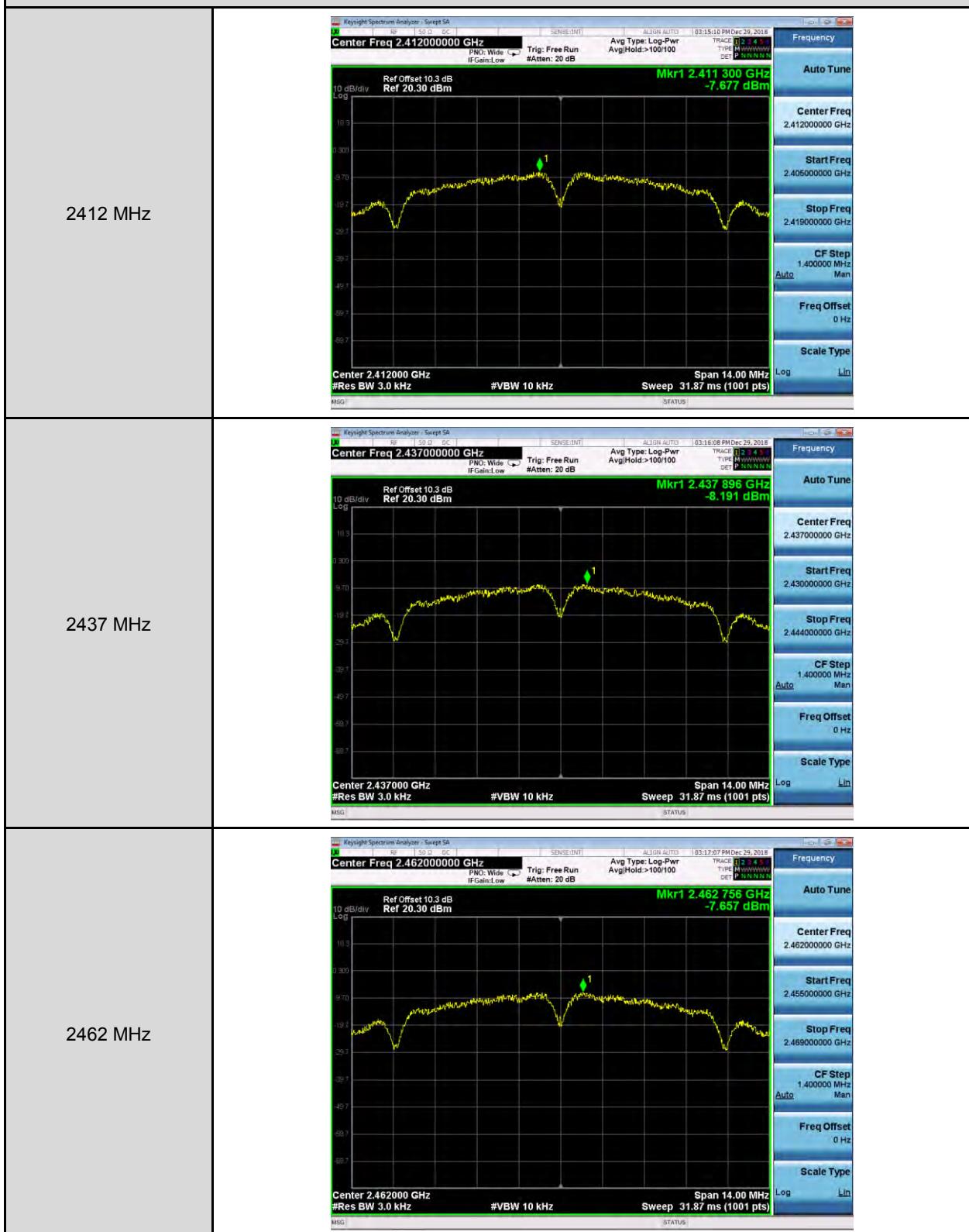
2422 MHz	 <p>Occupied Bandwidth 36.199 MHz</p> <p>Transmit Freq Error 460 Hz % of OBW Power 99.00 % x dB Bandwidth 36.47 MHz x dB -6.00 dB</p>
2437 MHz	 <p>Occupied Bandwidth 36.186 MHz</p> <p>Transmit Freq Error -15.146 kHz % of OBW Power 99.00 % x dB Bandwidth 36.52 MHz x dB -6.00 dB</p>
2452 MHz	 <p>Occupied Bandwidth 36.189 MHz</p> <p>Transmit Freq Error -8.886 kHz % of OBW Power 99.00 % x dB Bandwidth 36.53 MHz x dB -6.00 dB</p>

Maximum Power Spectral Density Measurement

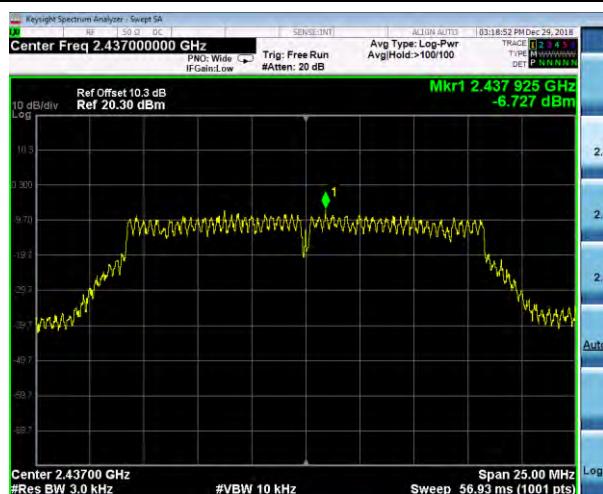
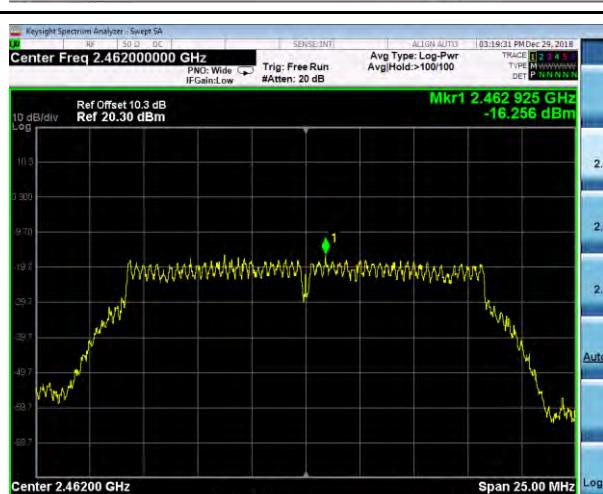
Test Mode	Frequency (MHz)	Measurement (dBm/3 kHz)	Limit (dBm/3 kHz)
Mode 2	2412	-7.677	≤ 8
	2437	-8.191	≤ 8
	2462	-7.657	≤ 8
Mode 3	2412	-12.819	≤ 8
	2437	-6.727	≤ 8
	2462	-16.256	≤ 8
Mode 4	2412	-14.164	≤ 8
	2437	-5.949	≤ 8
	2462	-14.823	≤ 8
Mode 5	2422	-19.670	≤ 8
	2437	-16.321	≤ 8
	2452	-21.524	≤ 8

■ Test Graphs

Mode 2: IEEE 802.11b Continuous TX mode



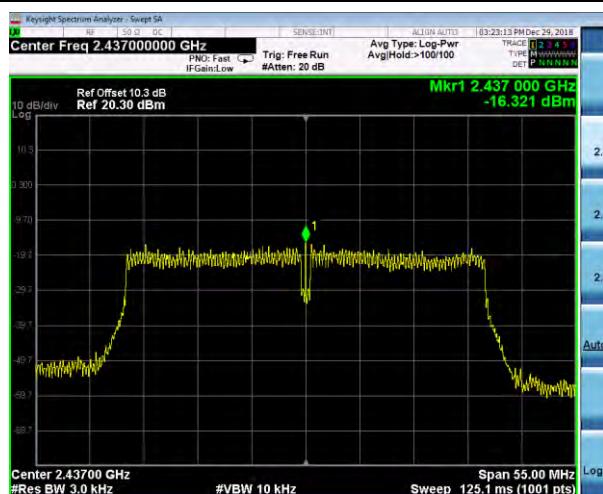
Mode 3: IEEE 802.11g Continuous TX mode

2412 MHz	 <p>Keylight Spectrum Analyzer - Swept SA</p> <p>Center Freq 2.412000000 GHz</p> <p>Ref Offset 10.3 dB Ref 20.30 dBm</p> <p>10 dB/div Log</p> <p>Center 2.41200 GHz #Res BW 3.0 kHz #VBW 10 kHz Span 25.00 MHz Sweep 56.93 ms (1001 pts)</p> <p>Mkr1 2.412 925 GHz -12.819 dBm</p> <p>Frequency Auto Tune</p> <p>Center Freq 2.41200000 GHz</p> <p>Start Freq 2.399500000 GHz</p> <p>Stop Freq 2.424500000 GHz</p> <p>CF Step 2.500000 MHz Auto</p> <p>Freq Offset 0 Hz</p> <p>Scale Type Log Lin</p>
2437 MHz	 <p>Keylight Spectrum Analyzer - Swept SA</p> <p>Center Freq 2.437000000 GHz</p> <p>Ref Offset 10.3 dB Ref 20.30 dBm</p> <p>10 dB/div Log</p> <p>Center 2.43700 GHz #Res BW 3.0 kHz #VBW 10 kHz Span 25.00 MHz Sweep 56.93 ms (1001 pts)</p> <p>Mkr1 2.437 925 GHz -6.727 dBm</p> <p>Frequency Auto Tune</p> <p>Center Freq 2.43700000 GHz</p> <p>Start Freq 2.424500000 GHz</p> <p>Stop Freq 2.449500000 GHz</p> <p>CF Step 2.500000 MHz Auto</p> <p>Freq Offset 0 Hz</p> <p>Scale Type Log Lin</p>
2462 MHz	 <p>Keylight Spectrum Analyzer - Swept SA</p> <p>Center Freq 2.462000000 GHz</p> <p>Ref Offset 10.3 dB Ref 20.30 dBm</p> <p>10 dB/div Log</p> <p>Center 2.46200 GHz #Res BW 3.0 kHz #VBW 10 kHz Span 25.00 MHz Sweep 56.93 ms (1001 pts)</p> <p>Mkr1 2.462 925 GHz -16.256 dBm</p> <p>Frequency Auto Tune</p> <p>Center Freq 2.46200000 GHz</p> <p>Start Freq 2.449500000 GHz</p> <p>Stop Freq 2.474500000 GHz</p> <p>CF Step 2.500000 MHz Auto</p> <p>Freq Offset 0 Hz</p> <p>Scale Type Log Lin</p>

Mode 4: IEEE 802.11n 2.4 GHz 20 MHz Continuous TX mode

2412 MHz	Keylight Spectrum Analyzer - Sweep SA Center Freq 2.412000000 GHz PNO: Wide IFGain:Low Trig: Free Run Avg Type: Log-Pwr #Atten: 20 dB AvgHold:>100/100 TYPE: MWWWWWW DEP: PNNNNN Ref Offset 10.3 dB Ref 20.30 dBm Mkr1 2.414 484 GHz -14.164 dBm 10 dB/div Log 10.3 10.0 9.7 9.4 9.1 8.8 8.5 8.2 7.9 7.6 7.3 7.0 6.7 6.4 6.1 5.8 5.5 5.2 4.9 4.6 4.3 4.0 3.7 3.4 3.1 2.8 2.5 2.2 1.9 1.6 1.3 1.0 0.7 0.4 0.1 -0.2 -0.5 -0.8 -1.1 -1.4 -1.7 -2.0 -2.3 -2.6 -2.9 -3.2 -3.5 -3.8 -4.1 -4.4 -4.7 -5.0 -5.3 -5.6 -5.9 -6.2 -6.5 -6.8 -7.1 -7.4 -7.7 -8.0 -8.3 -8.6 -8.9 -9.2 -9.5 -9.8 -10.1 -10.4 -10.7 -11.0 -11.3 -11.6 -11.9 -12.2 -12.5 -12.8 -13.1 -13.4 -13.7 -14.0 -14.3 -14.6 -14.9 -15.2 -15.5 -15.8 -16.1 -16.4 -16.7 -17.0 -17.3 -17.6 -17.9 -18.2 -18.5 -18.8 -19.1 -19.4 -19.7 -20.0 -20.3 -20.6 -20.9 -21.2 -21.5 -21.8 -22.1 -22.4 -22.7 -23.0 -23.3 -23.6 -23.9 -24.2 -24.5 -24.8 -25.1 -25.4 -25.7 -26.0 -26.3 -26.6 -26.9 -27.2 -27.5 -27.8 -28.1 -28.4 -28.7 -29.0 -29.3 -29.6 -29.9 -30.2 -30.5 -30.8 -31.1 -31.4 -31.7 -32.0 -32.3 -32.6 -32.9 -33.2 -33.5 -33.8 -34.1 -34.4 -34.7 -35.0 -35.3 -35.6 -35.9 -36.2 -36.5 -36.8 -37.1 -37.4 -37.7 -38.0 -38.3 -38.6 -38.9 -39.2 -39.5 -39.8 -40.1 -40.4 -40.7 -41.0 -41.3 -41.6 -41.9 -42.2 -42.5 -42.8 -43.1 -43.4 -43.7 -44.0 -44.3 -44.6 -44.9 -45.2 -45.5 -45.8 -46.1 -46.4 -46.7 -47.0 -47.3 -47.6 -47.9 -48.2 -48.5 -48.8 -49.1 -49.4 -49.7 -50.0 -50.3 -50.6 -50.9 -51.2 -51.5 -51.8 -52.1 -52.4 -52.7 -53.0 -53.3 -53.6 -53.9 -54.2 -54.5 -54.8 -55.1 -55.4 -55.7 -56.0 -56.3 -56.6 -56.9 -57.2 -57.5 -57.8 -58.1 -58.4 -58.7 -59.0 -59.3 -59.6 -59.9 -60.2 -60.5 -60.8 -61.1 -61.4 -61.7 -62.0 -62.3 -62.6 -62.9 -63.2 -63.5 -63.8 -64.1 -64.4 -64.7 -65.0 -65.3 -65.6 -65.9 -66.2 -66.5 -66.8 -67.1 -67.4 -67.7 -68.0 -68.3 -68.6 -68.9 -69.2 -69.5 -69.8 -70.1 -70.4 -70.7 -71.0 -71.3 -71.6 -71.9 -72.2 -72.5 -72.8 -73.1 -73.4 -73.7 -74.0 -74.3 -74.6 -74.9 -75.2 -75.5 -75.8 -76.1 -76.4 -76.7 -77.0 -77.3 -77.6 -77.9 -78.2 -78.5 -78.8 -79.1 -79.4 -79.7 -80.0 -80.3 -80.6 -80.9 -81.2 -81.5 -81.8 -82.1 -82.4 -82.7 -83.0 -83.3 -83.6 -83.9 -84.2 -84.5 -84.8 -85.1 -85.4 -85.7 -86.0 -86.3 -86.6 -86.9 -87.2 -87.5 -87.8 -88.1 -88.4 -88.7 -89.0 -89.3 -89.6 -89.9 -90.2 -90.5 -90.8 -91.1 -91.4 -91.7 -92.0 -92.3 -92.6 -92.9 -93.2 -93.5 -93.8 -94.1 -94.4 -94.7 -95.0 -95.3 -95.6 -95.9 -96.2 -96.5 -96.8 -97.1 -97.4 -97.7 -98.0 -98.3 -98.6 -98.9 -99.2 -99.5 -99.8 -100.1 -100.4 -100.7 -101.0 -101.3 -101.6 -101.9 -102.2 -102.5 -102.8 -103.1 -103.4 -103.7 -104.0 -104.3 -104.6 -104.9 -105.2 -105.5 -105.8 -106.1 -106.4 -106.7 -107.0 -107.3 -107.6 -107.9 -108.2 -108.5 -108.8 -109.1 -109.4 -109.7 -110.0 -110.3 -110.6 -110.9 -111.2 -111.5 -111.8 -112.1 -112.4 -112.7 -113.0 -113.3 -113.6 -113.9 -114.2 -114.5 -114.8 -115.1 -115.4 -115.7 -116.0 -116.3 -116.6 -116.9 -117.2 -117.5 -117.8 -118.1 -118.4 -118.7 -119.0 -119.3 -119.6 -119.9 -120.2 -120.5 -120.8 -121.1 -121.4 -121.7 -122.0 -122.3 -122.6 -122.9 -123.2 -123.5 -123.8 -124.1 -124.4 -124.7 -125.0 -125.3 -125.6 -125.9 -126.2 -126.5 -126.8 -127.1 -127.4 -127.7 -128.0 -128.3 -128.6 -128.9 -129.2 -129.5 -129.8 -130.1 -130.4 -130.7 -131.0 -131.3 -131.6 -131.9 -132.2 -132.5 -132.8 -133.1 -133.4 -133.7 -134.0 -134.3 -134.6 -134.9 -135.2 -135.5 -135.8 -136.1 -136.4 -136.7 -137.0 -137.3 -137.6 -137.9 -138.2 -138.5 -138.8 -139.1 -139.4 -139.7 -140.0 -140.3 -140.6 -140.9 -141.2 -141.5 -141.8 -142.1 -142.4 -142.7 -143.0 -143.3 -143.6 -143.9 -144.2 -144.5 -144.8 -145.1 -145.4 -145.7 -146.0 -146.3 -146.6 -146.9 -147.2 -147.5 -147.8 -148.1 -148.4 -148.7 -149.0 -149.3 -149.6 -149.9 -150.2 -150.5 -150.8 -151.1 -151.4 -151.7 -152.0 -152.3 -152.6 -152.9 -153.2 -153.5 -153.8 -154.1 -154.4 -154.7 -155.0 -155.3 -155.6 -155.9 -156.2 -156.5 -156.8 -157.1 -157.4 -157.7 -158.0 -158.3 -158.6 -158.9 -159.2 -159.5 -159.8 -160.1 -160.4 -160.7 -161.0 -161.3 -161.6 -161.9 -162.2 -162.5 -162.8 -163.1 -163.4 -163.7 -164.0 -164.3 -164.6 -164.9 -165.2 -165.5 -165.8 -166.1 -166.4 -166.7 -167.0 -167.3 -167.6 -167.9 -168.2 -168.5 -168.8 -169.1 -169.4 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-212.6 -212.9 -213.2 -213.5 -213.8 -214.1 -214.4 -214.7 -215.0 -215.3 -215.6 -215.9 -216.2 -216.5 -216.8 -217.1 -217.4 -217.7 -218.0 -218.3 -218.6 -218.9 -219.2 -219.5 -219.8 -220.1 -220.4 -220.7 -221.0 -221.3 -221.6 -221.9 -222.2 -222.5 -222.8 -223.1 -223.4 -223.7 -224.0 -224.3 -224.6 -224.9 -225.2 -225.5 -225.8 -226.1 -226.4 -226.7 -227.0 -227.3 -227.6 -227.9 -228.2 -228.5 -228.8 -229.1 -229.4 -229.7 -229.9 -230.2 -230.5 -230.8 -231.1 -231.4 -231.7 -232.0 -232.3 -232.6 -232.9 -233.2 -233.5 -233.8 -234.1 -234.4 -234.7 -235.0 -235.3 -235.6 -235.9 -236.2 -236.5 -236.8 -237.1 -237.4 -237.7 -238.0 -238.3 -238.6 -238.9 -239.2 -239.5 -239.8 -240.1 -240.4 -240.7 -241.0 -241.3 -241.6 -241.9 -242.2 -242.5 -242.8 -243.1 -243.4 -243.7 -244.0 -244.3 -244.6 -244.9 -245.2 -245.5 -245.8 -246.1 -246.4 -246.7 -247.0 -247.3 -247.6 -247.9 -248.2 -248.5 -248.8 -249.1 -249.4 -249.7 -250.0 -250.3 -250.6 -250.9 -251.2 -251.5 -251.8 -252.1 -252.4 -252.7 -253.0 -253.3 -253.6 -253.9 -254.2 -254.5 -254.8 -255.1 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-341.0 -341.3 -341.6 -341.9 -342.2 -342.5 -342.8 -343.1 -343.4 -343.7 -344.0 -344.3 -344.6 -344.9 -345.2 -345.5 -345.8 -346.1 -346.4 -346.7 -347.0 -347.3 -347.6 -347.9 -348.2 -348.5 -348.8 -349.1 -349.4 -349.7 -349.9 -350.2 -350.5 -350.8 -351.1 -351.4 -351.7 -352.0 -352.3 -352.6 -352.9 -353.2 -353.5 -353.8 -354.1 -354.4 -354.7 -355.0 -355.3 -355.6 -355.9 -356.2 -356.5 -356.8 -357.1 -357.4 -357.7 -358.0 -358.3 -358.6 -358.9 -359.2 -359.5 -359.8 -360.1 -360.4 -360.7 -361.0 -361.3 -361.6 -361.9 -362.2 -362.5 -362.8 -363.1 -363.4 -363.7 -364.0 -364.3 -364.6 -364.9 -365.2 -365.5 -365.8 -366.1 -366.4 -366.7 -367.0 -367.3 -367.6 -367.9 -368.2 -368.5 -368.8 -369.1 -369.4 -369.7 -369.9 -370.2 -370.5 -370.8 -371.1 -371.4 -371.7 -372.0 -372.3 -372.6 -372.9 -373.2 -373.5 -373.8 -374.1 -374.4 -374.7 -375.0 -375.3 -375.6 -375.9 -376.2 -376.5 -376.8 -377.1 -377.4 -377.7 -378.0 -378.3 -378.6 -378.9 -379.2 -379.5 -379.8 -380.1 -380.4 -380.7 -381.0 -381.3 -381.6 -381.9 -382.2 -382.5 -382.8 -383.1 -383.4 -383.7 -384.0 -384.3 -384.6 -384.9 -385.2 -385.5 -385.8 -386.1 -386.4 -386.7 -387.0 -387.3 -387.6 -387.9 -388.2 -388.5 -388.8 -389.1 -389.4 -389.7 -389.9 -390.2 -390.5 -390.8 -391.1 -391.4 -391.7 -392.0 -392.3 -392.6 -392.9 -393.2 -393.5 -393.8 -394.1 -394.4 -394.7 -395.0 -395.3 -395.6 -395.9 -396.2 -396.5 -396.8 -397.1 -397.4 -397.7 -398.0 -398.3 -398.6 -398.9 -399.2 -399.5 -399.8 -400.1 -400.4 -400.7 -401.0 -401.3 -401.6 -401.9 -402.2 -402.5 -402.8 -403.1 -403.4 -403.7 -404.0 -404.3 -404.6 -404.9 -405.2 -405.5 -405.8 -406.1 -406.4 -406.7 -407.0 -407.3 -407.6 -407.9 -408.2 -408.5 -408.8 -409.1 -409.4 -409.7 -409.9 -410.2 -410.5 -410.8 -411.1<br

Mode 5: IEEE 802.11n 2.4 GHz 40 MHz Continuous TX mode

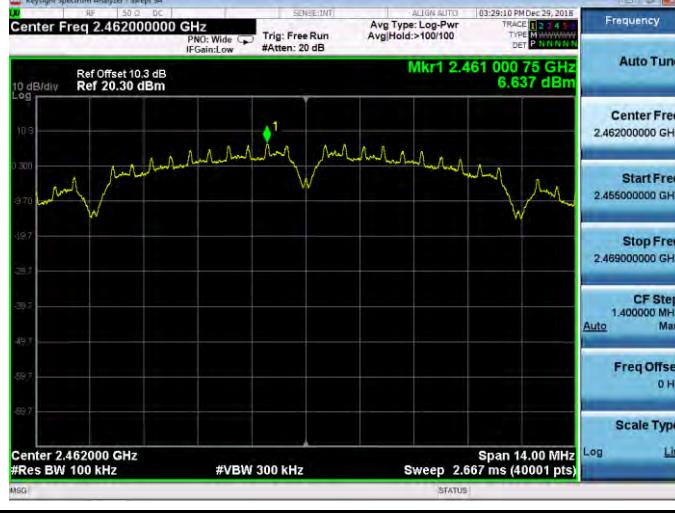
2422 MHz	 <p>Keylight Spectrum Analyzer - Sweep SA</p> <p>Center Freq 2.422000000 GHz</p> <p>Ref Offset 10.3 dB Ref 20.30 dBm</p> <p>Mkr1 2.422 000 GHz -19.670 dBm</p> <p>10 dB/div Log</p> <p>Center 2.42200 GHz #Res BW 3.0 kHz #VBW 10 kHz Span 55.00 MHz Sweep 125.1 ms (1001 pts)</p> <p>MSG STATUS </p>
2437 MHz	 <p>Keylight Spectrum Analyzer - Sweep SA</p> <p>Center Freq 2.437000000 GHz</p> <p>Ref Offset 10.3 dB Ref 20.30 dBm</p> <p>Mkr1 2.437 000 GHz -16.321 dBm</p> <p>10 dB/div Log</p> <p>Center 2.43700 GHz #Res BW 3.0 kHz #VBW 10 kHz Span 55.00 MHz Sweep 125.1 ms (1001 pts)</p> <p>MSG STATUS </p>
2452 MHz	 <p>Keylight Spectrum Analyzer - Sweep SA</p> <p>Center Freq 2.452000000 GHz</p> <p>Ref Offset 10.3 dB Ref 20.30 dBm</p> <p>Mkr1 2.452 000 GHz -21.524 dBm</p> <p>10 dB/div Log</p> <p>Center 2.45200 GHz #Res BW 3.0 kHz #VBW 10 kHz Span 55.00 MHz Sweep 125.1 ms (1001 pts)</p> <p>MSG STATUS </p>

Out of Band Conducted Emissions Measurement

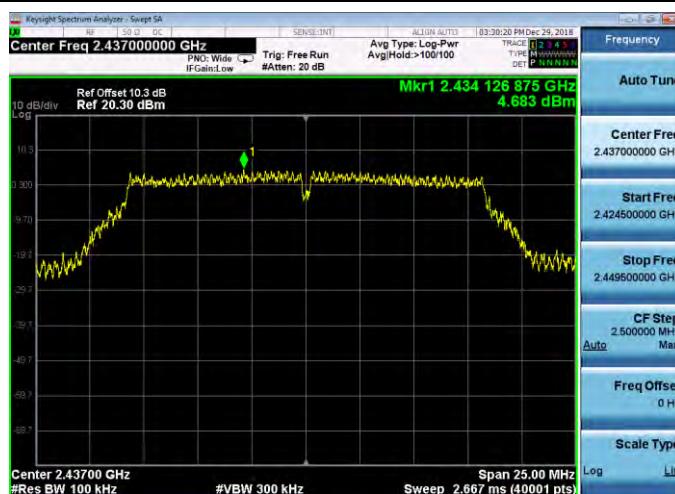
■ Test Graphs

Reference level

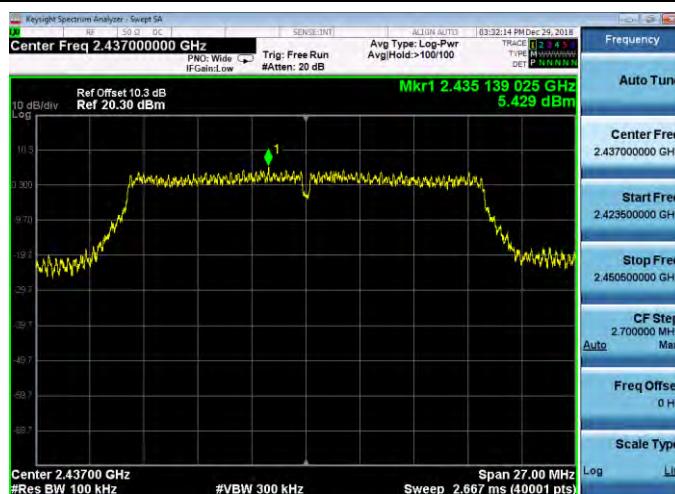
Mode 2: IEEE 802.11b Continuous TX mode

2412 MHz	 <p>Keylight Spectrum Analyzer - Sweep SA Center Freq 2.412000000 GHz Ref Offset 10.3 dB Ref 20.30 dBm 10 dB/div Log Mkr1 2.411 003 90 GHz 6.975 dBm Center 2.412000 GHz #Res BW 100 kHz #VBW 300 kHz Span 14.00 MHz Sweep 2.667 ms (40001 pts) MSG STATUS </p>
2437 MHz	 <p>Keylight Spectrum Analyzer - Sweep SA Center Freq 2.437000000 GHz Ref Offset 10.3 dB Ref 20.30 dBm 10 dB/div Log Mkr1 2.436 000 75 GHz 6.108 dBm Center 2.437000 GHz #Res BW 100 kHz #VBW 300 kHz Span 14.00 MHz Sweep 2.667 ms (40001 pts) MSG STATUS </p>
2462 MHz	 <p>Keylight Spectrum Analyzer - Sweep SA Center Freq 2.462000000 GHz Ref Offset 10.3 dB Ref 20.30 dBm 10 dB/div Log Mkr1 2.461 000 75 GHz 6.637 dBm Center 2.462000 GHz #Res BW 100 kHz #VBW 300 kHz Span 14.00 MHz Sweep 2.667 ms (40001 pts) MSG STATUS </p>

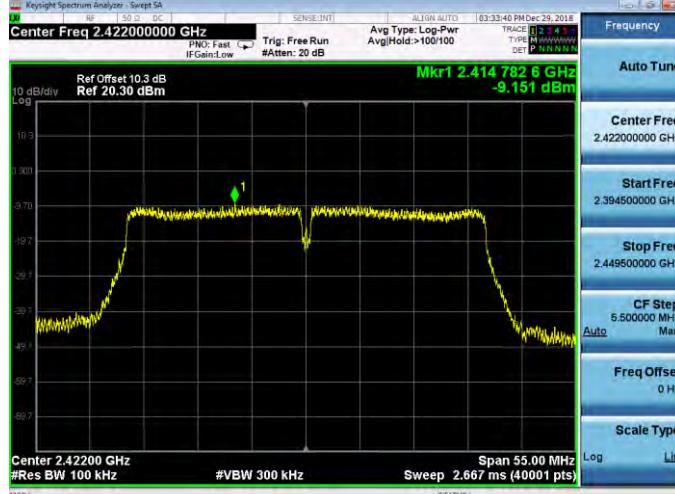
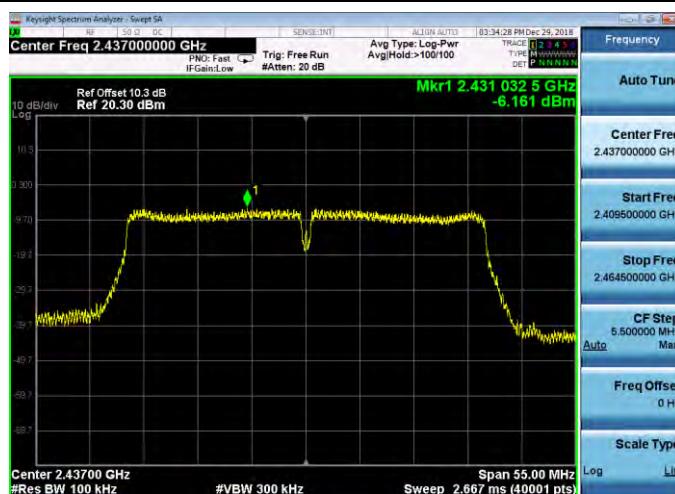
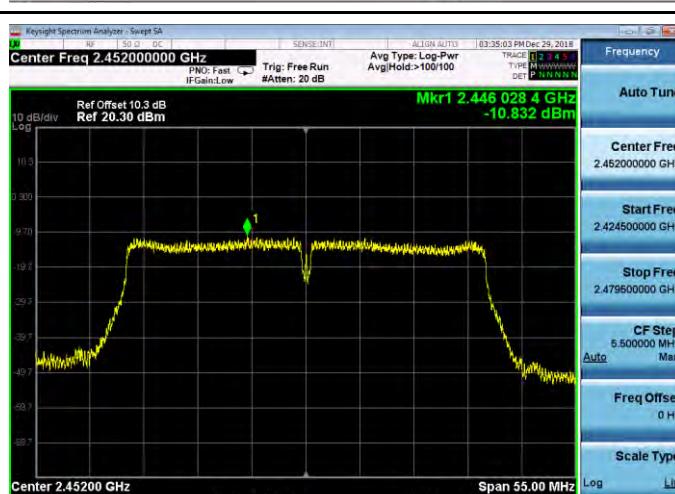
Mode 3: IEEE 802.11g Continuous TX mode

2412 MHz	 <p>Center Freq 2.412000000 GHz Ref Offset 10.3 dB Ref 20.30 dBm Mkr1 2.409 135.625 GHz -1.752 dBm</p> <p>10 dB/div Log</p> <p>Center 2.41200 GHz #Res BW 100 kHz #VBW 300 kHz Sweep 25.00 MHz Span 25.00 MHz Sweep 2.667 ms (40001 pts)</p>
2437 MHz	 <p>Center Freq 2.437000000 GHz Ref Offset 10.3 dB Ref 20.30 dBm Mkr1 2.434 128.875 GHz 4.683 dBm</p> <p>10 dB/div Log</p> <p>Center 2.43700 GHz #Res BW 100 kHz #VBW 300 kHz Sweep 25.00 MHz Span 25.00 MHz Sweep 2.667 ms (40001 pts)</p>
2462 MHz	 <p>Center Freq 2.462000000 GHz Ref Offset 10.3 dB Ref 20.30 dBm Mkr1 2.459 128.125 GHz -4.970 dBm</p> <p>10 dB/div Log</p> <p>Center 2.46200 GHz #Res BW 100 kHz #VBW 300 kHz Sweep 25.00 MHz Span 25.00 MHz Sweep 2.667 ms (40001 pts)</p>

Mode 4: IEEE 802.11n 2.4 GHz 20 MHz Continuous TX mode

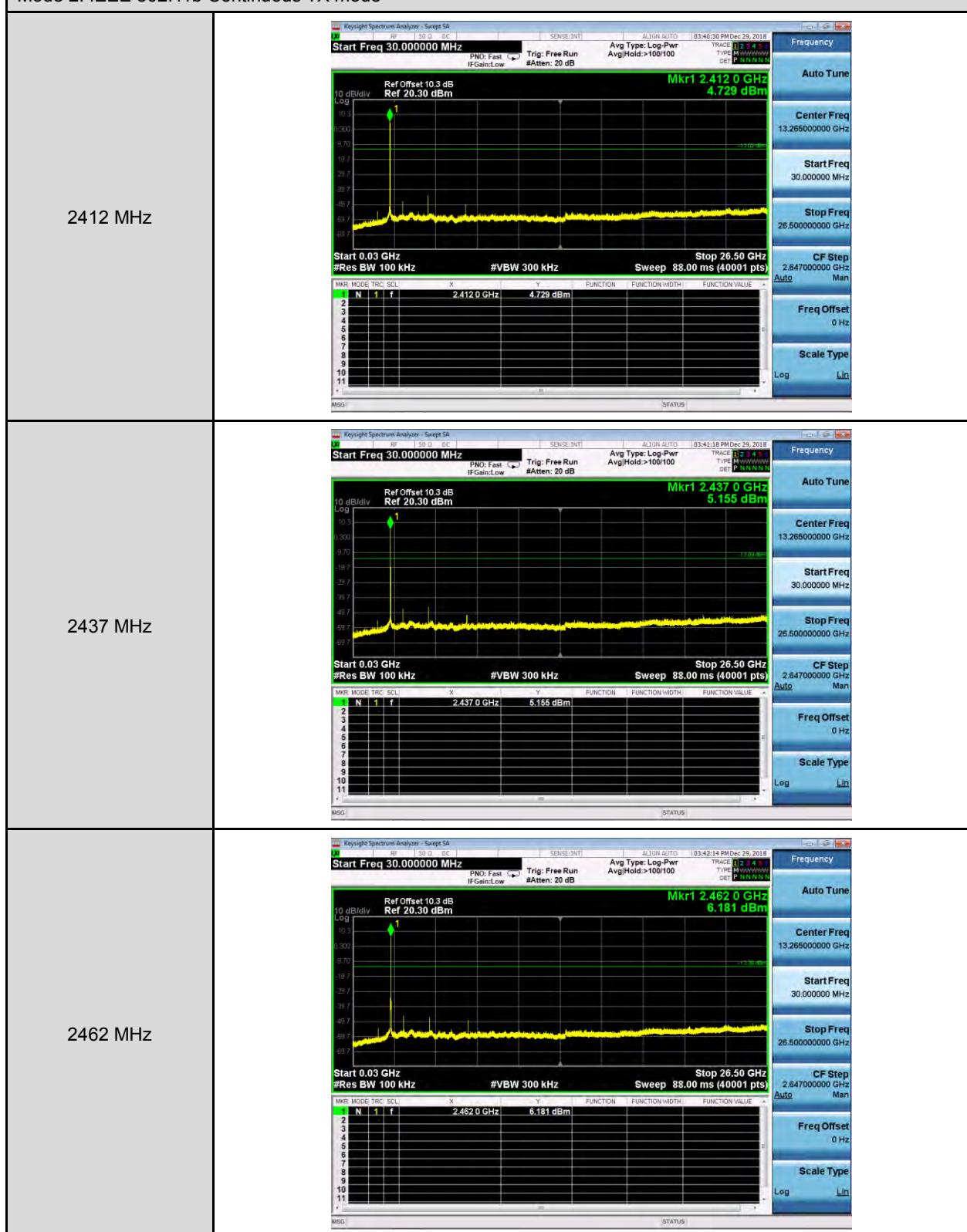
2412 MHz	 <p>Center Freq 2.412000000 GHz Ref Offset 10.3 dB Ref 20.30 dBm Mkr1 2.411 014 500 GHz -3.225 dBm</p> <p>10 dB/div Log</p> <p>10.3 1.300 0.300 -0.300 -1.300 -2.300 -3.300 -4.300 -5.300 -6.300 -7.300 -8.300 -9.300 -10.300</p> <p>Center 2.41200 GHz #Res BW 100 kHz #VBW 300 kHz Sweep 2.667 ms (40001 pts) Span 27.00 MHz</p>
2437 MHz	 <p>Center Freq 2.437000000 GHz Ref Offset 10.3 dB Ref 20.30 dBm Mkr1 2.435 139 025 GHz 5.429 dBm</p> <p>10 dB/div Log</p> <p>10.3 1.300 0.300 -0.300 -1.300 -2.300 -3.300 -4.300 -5.300 -6.300 -7.300 -8.300 -9.300 -10.300</p> <p>Center 2.43700 GHz #Res BW 100 kHz #VBW 300 kHz Sweep 2.667 ms (40001 pts) Span 27.00 MHz</p>
2462 MHz	 <p>Center Freq 2.462000000 GHz Ref Offset 10.3 dB Ref 20.30 dBm Mkr1 2.460 143 750 GHz -5.441 dBm</p> <p>10 dB/div Log</p> <p>10.3 1.300 0.300 -0.300 -1.300 -2.300 -3.300 -4.300 -5.300 -6.300 -7.300 -8.300 -9.300 -10.300</p> <p>Center 2.46200 GHz #Res BW 100 kHz #VBW 300 kHz Sweep 2.667 ms (40001 pts) Span 27.00 MHz</p>

Mode 5: IEEE 802.11n 2.4 GHz 40 MHz Continuous TX mode

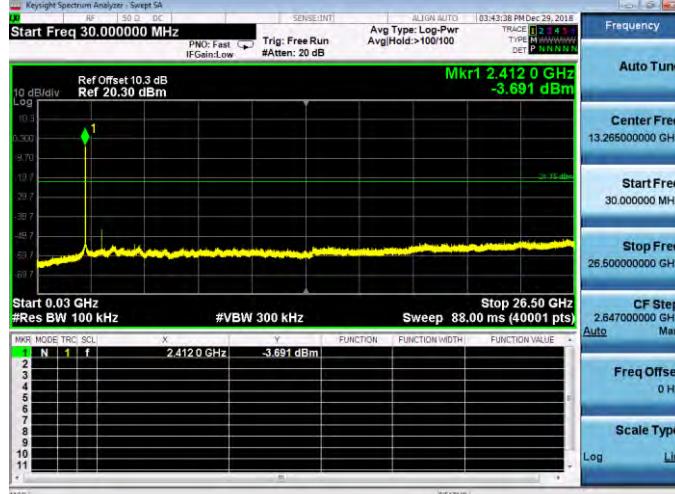
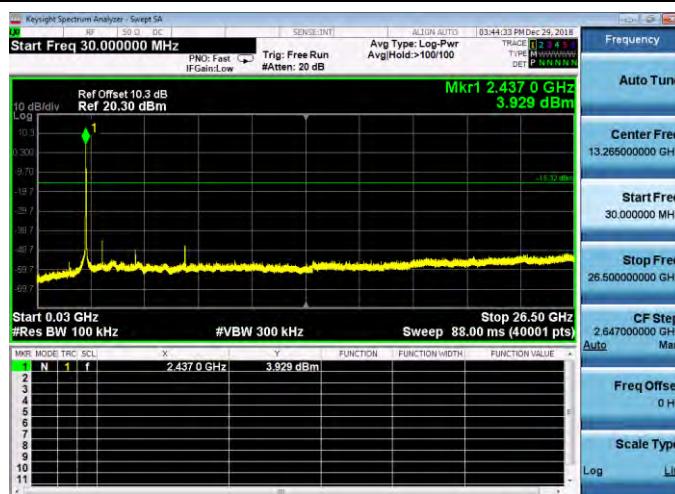
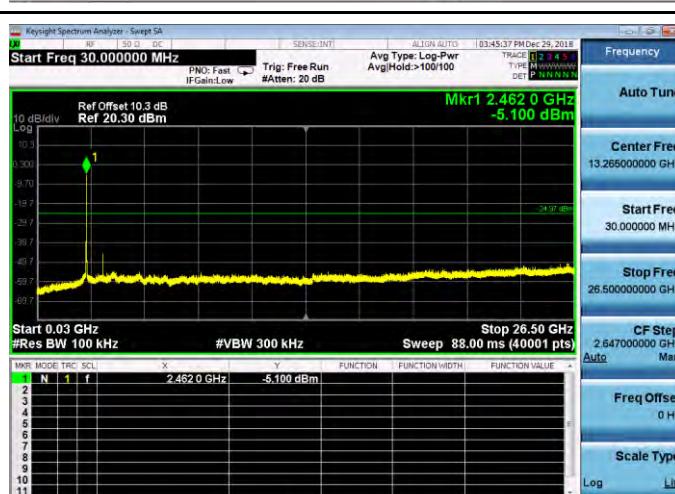
2422 MHz	 <p>Keystream Spectrum Analyzer - Sweep SA</p> <p>Center Freq 2.422000000 GHz</p> <p>Ref Offset 10.3 dB Ref 20.30 dBm</p> <p>Mkr1 2.414 782 6 GHz -9.151 dBm</p> <p>Frequency Auto Tune</p> <p>Center Freq 2.422000000 GHz</p> <p>Start Freq 2.394500000 GHz</p> <p>Stop Freq 2.449500000 GHz</p> <p>CF Step 5.500000 MHz Man</p> <p>Freq Offset 0 Hz</p> <p>Scale Type Log Lin</p>
2437 MHz	 <p>Keystream Spectrum Analyzer - Sweep SA</p> <p>Center Freq 2.437000000 GHz</p> <p>Ref Offset 10.3 dB Ref 20.30 dBm</p> <p>Mkr1 2.431 032 5 GHz -6.161 dBm</p> <p>Frequency Auto Tune</p> <p>Center Freq 2.437000000 GHz</p> <p>Start Freq 2.409500000 GHz</p> <p>Stop Freq 2.464500000 GHz</p> <p>CF Step 5.500000 MHz Man</p> <p>Freq Offset 0 Hz</p> <p>Scale Type Log Lin</p>
2452 MHz	 <p>Keystream Spectrum Analyzer - Sweep SA</p> <p>Center Freq 2.452000000 GHz</p> <p>Ref Offset 10.3 dB Ref 20.30 dBm</p> <p>Mkr1 2.446 028 4 GHz -10.832 dBm</p> <p>Frequency Auto Tune</p> <p>Center Freq 2.452000000 GHz</p> <p>Start Freq 2.424500000 GHz</p> <p>Stop Freq 2.479500000 GHz</p> <p>CF Step 5.500000 MHz Man</p> <p>Freq Offset 0 Hz</p> <p>Scale Type Log Lin</p>

Out of Band Conducted Emissions

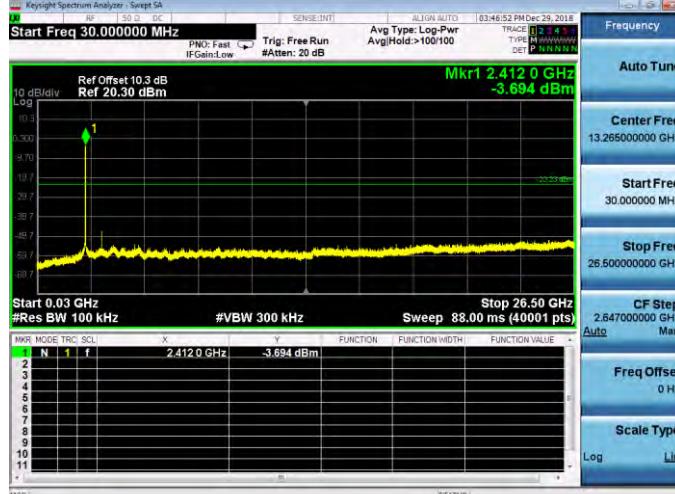
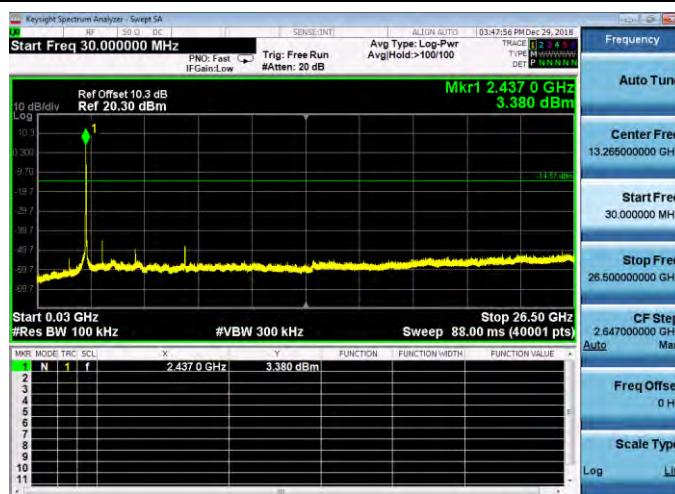
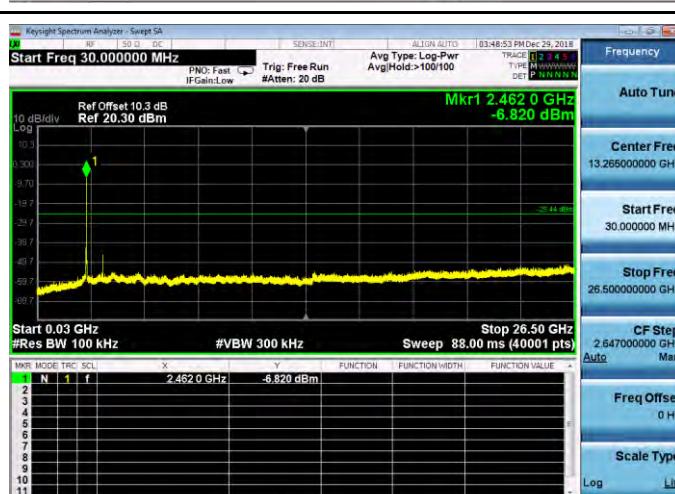
Mode 2: IEEE 802.11b Continuous TX mode



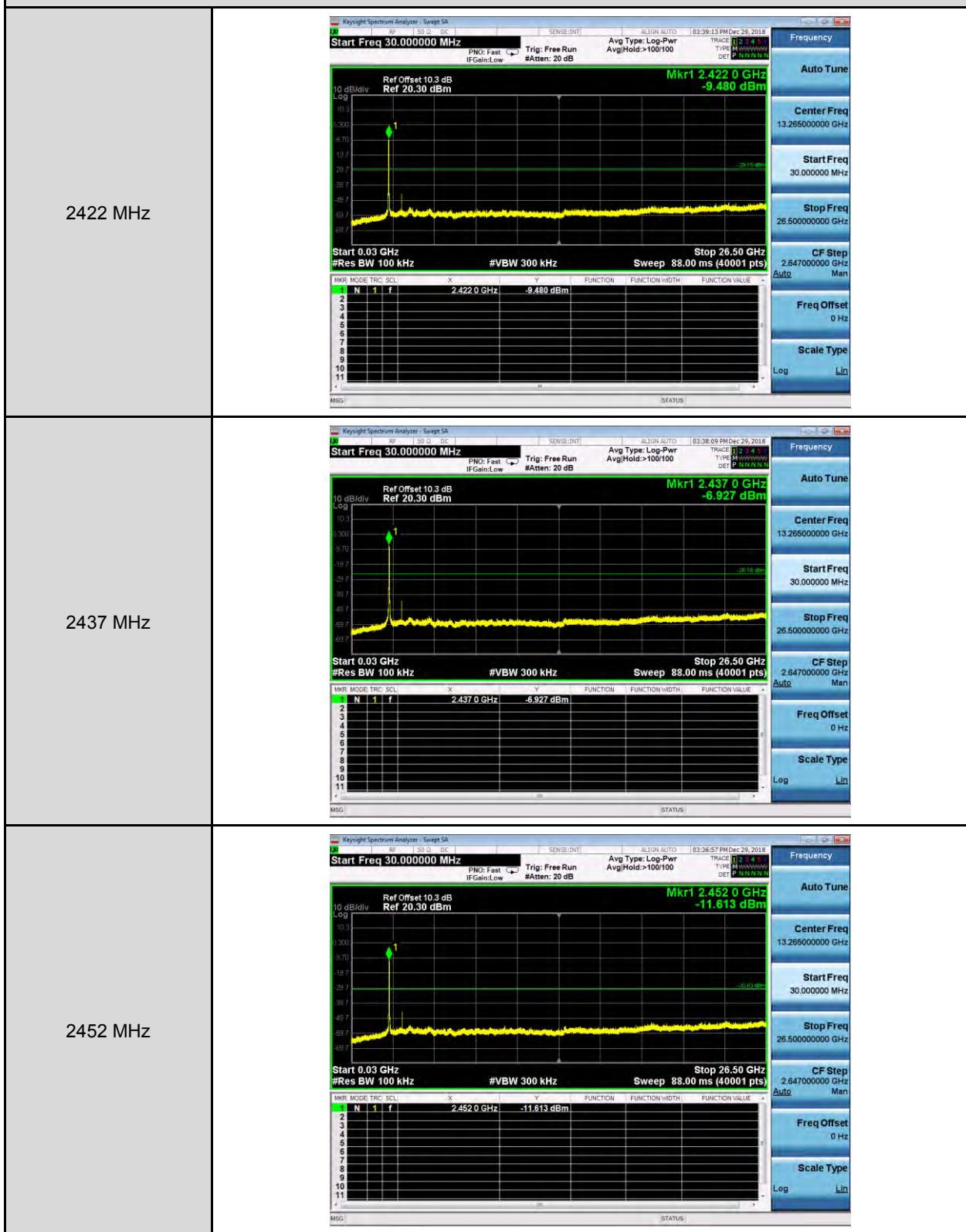
Mode 3: IEEE 802.11g Continuous TX mode

2412 MHz	 <p>Start Freq 30.000000 MHz Ref Offset 10.3 dB Ref 20.30 dBm Mkr1 2.412 0 GHz -3.691 dBm</p> <p>Frequency: Auto Tune Center Freq: 13.265000000 GHz Start Freq: 30.000000 MHz Stop Freq: 26.500000000 GHz CF Step: 2.647000000 GHz Man Freq Offset: 0 Hz Scale Type: Log Lin</p>
2437 MHz	 <p>Start Freq 30.000000 MHz Ref Offset 10.3 dB Ref 20.30 dBm Mkr1 2.437 0 GHz -3.929 dBm</p> <p>Frequency: Auto Tune Center Freq: 13.265000000 GHz Start Freq: 30.000000 MHz Stop Freq: 26.500000000 GHz CF Step: 2.647000000 GHz Man Freq Offset: 0 Hz Scale Type: Log Lin</p>
2462 MHz	 <p>Start Freq 30.000000 MHz Ref Offset 10.3 dB Ref 20.30 dBm Mkr1 2.462 0 GHz -5.100 dBm</p> <p>Frequency: Auto Tune Center Freq: 13.265000000 GHz Start Freq: 30.000000 MHz Stop Freq: 26.500000000 GHz CF Step: 2.647000000 GHz Man Freq Offset: 0 Hz Scale Type: Log Lin</p>

Mode 4: IEEE 802.11n 2.4 GHz 20 MHz Continuous TX mode

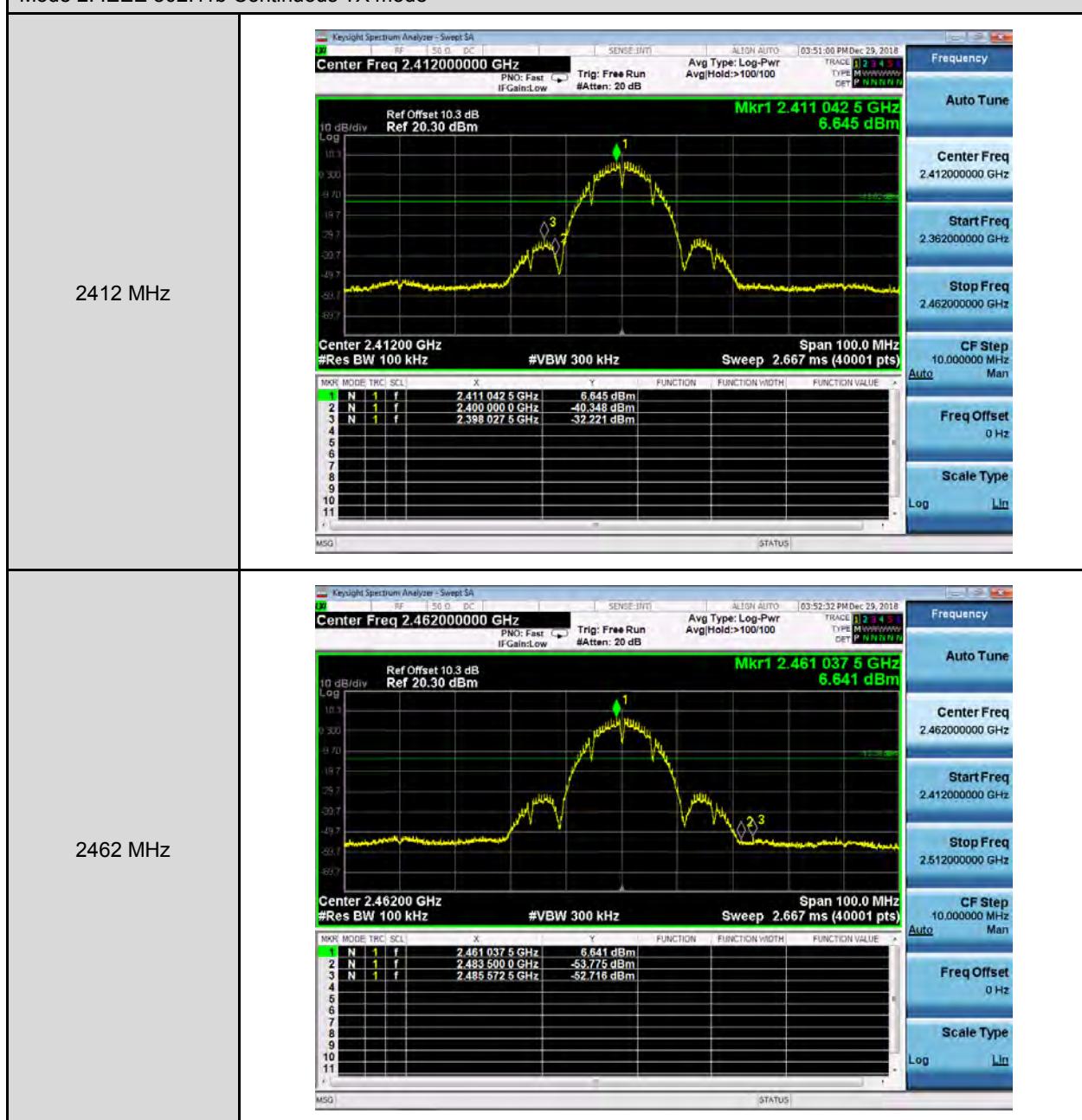
2412 MHz	 <p>Keylight Spectrum Analyzer - Sweep SA</p> <p>Start Freq 30.000000 MHz</p> <p>Ref Offset 10.3 dB Ref 20.30 dBm</p> <p>Mkr1 2.412 0 GHz -3.694 dBm</p> <p>10 dB/div Log</p> <p>13.265000000 GHz</p> <p>Auto Tune</p> <p>Center Freq 13.265000000 GHz</p> <p>Start Freq 30.000000 MHz</p> <p>Stop Freq 26.500000000 GHz</p> <p>CF Step 2.647000000 GHz Man</p> <p>Freq Offset 0 Hz</p> <p>Scale Type Log Lin</p>
2437 MHz	 <p>Keylight Spectrum Analyzer - Sweep SA</p> <p>Start Freq 30.000000 MHz</p> <p>Ref Offset 10.3 dB Ref 20.30 dBm</p> <p>Mkr1 2.437 0 GHz -3.380 dBm</p> <p>10 dB/div Log</p> <p>13.265000000 GHz</p> <p>Auto Tune</p> <p>Center Freq 13.265000000 GHz</p> <p>Start Freq 30.000000 MHz</p> <p>Stop Freq 26.500000000 GHz</p> <p>CF Step 2.647000000 GHz Man</p> <p>Freq Offset 0 Hz</p> <p>Scale Type Log Lin</p>
2462 MHz	 <p>Keylight Spectrum Analyzer - Sweep SA</p> <p>Start Freq 30.000000 MHz</p> <p>Ref Offset 10.3 dB Ref 20.30 dBm</p> <p>Mkr1 2.462 0 GHz -6.820 dBm</p> <p>10 dB/div Log</p> <p>13.265000000 GHz</p> <p>Auto Tune</p> <p>Center Freq 13.265000000 GHz</p> <p>Start Freq 30.000000 MHz</p> <p>Stop Freq 26.500000000 GHz</p> <p>CF Step 2.647000000 GHz Man</p> <p>Freq Offset 0 Hz</p> <p>Scale Type Log Lin</p>

Mode 5: IEEE 802.11n 2.4 GHz 40 MHz Continuous TX mode



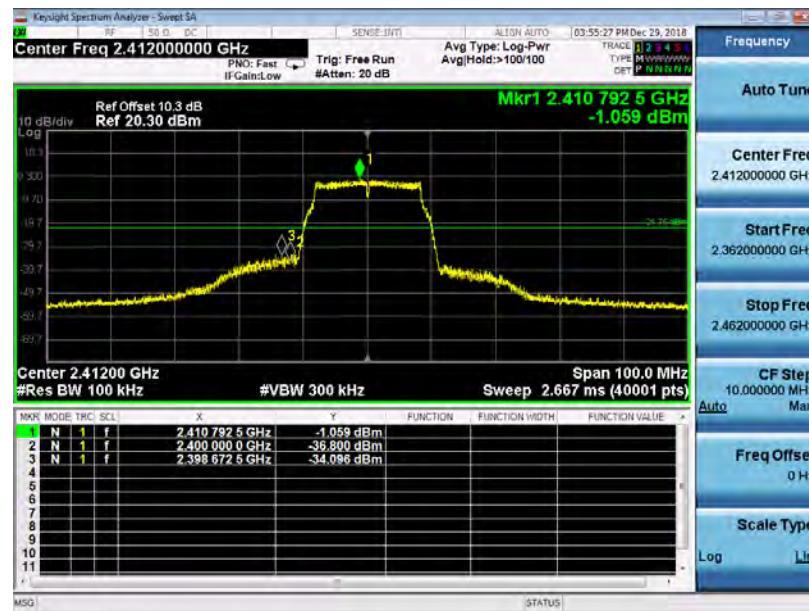
Conducted Band Edge

Mode 2: IEEE 802.11b Continuous TX mode

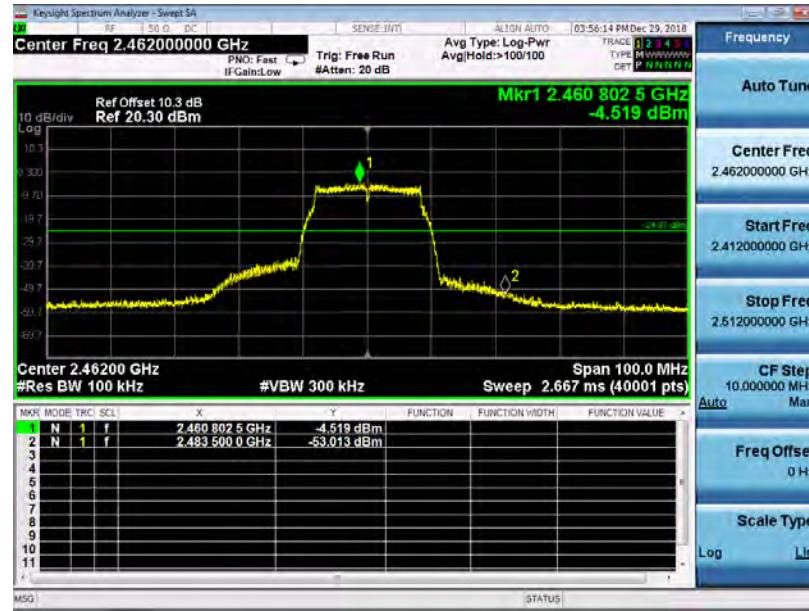


Mode 3: IEEE 802.11g Continuous TX mode

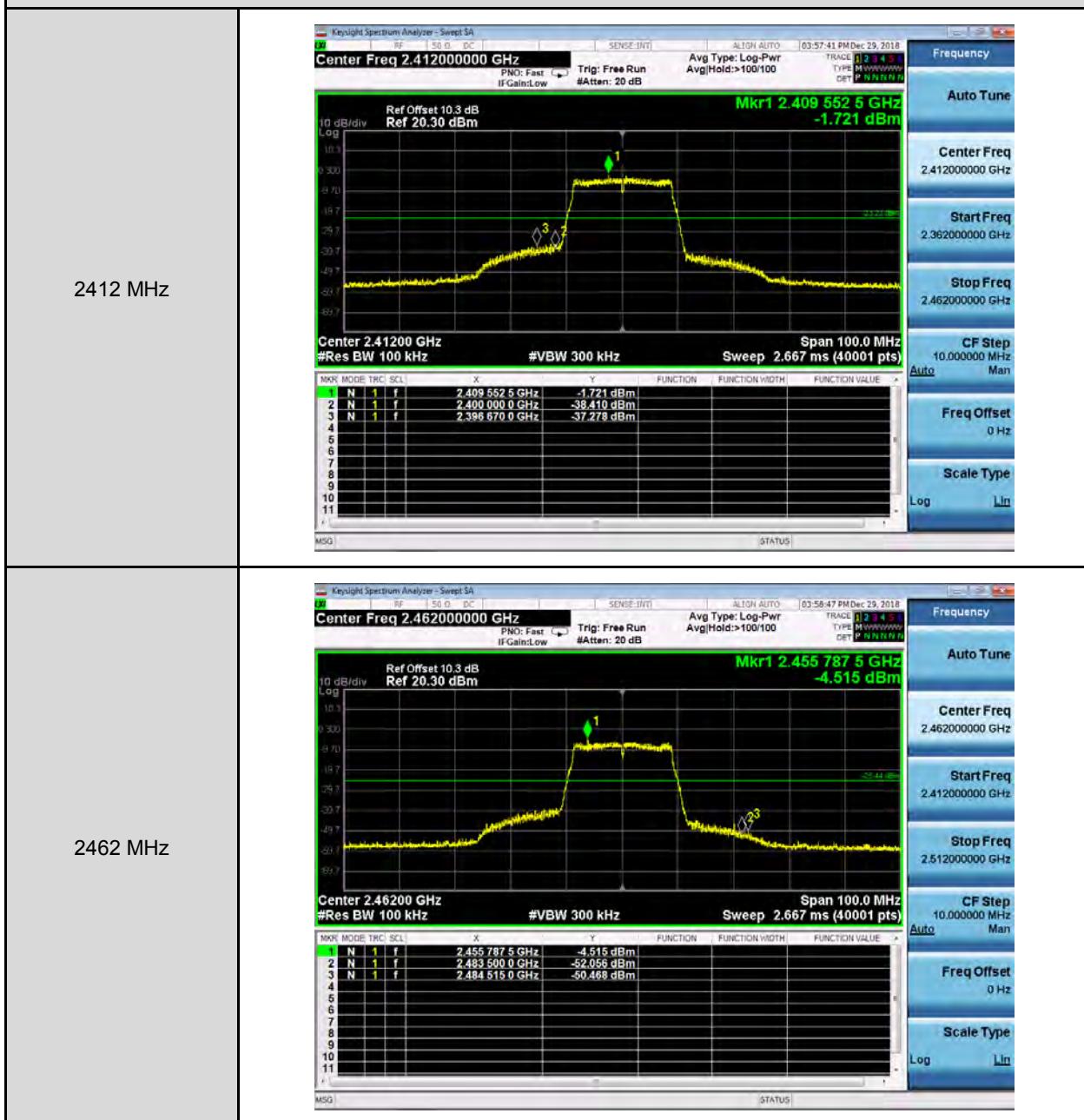
2412 MHz



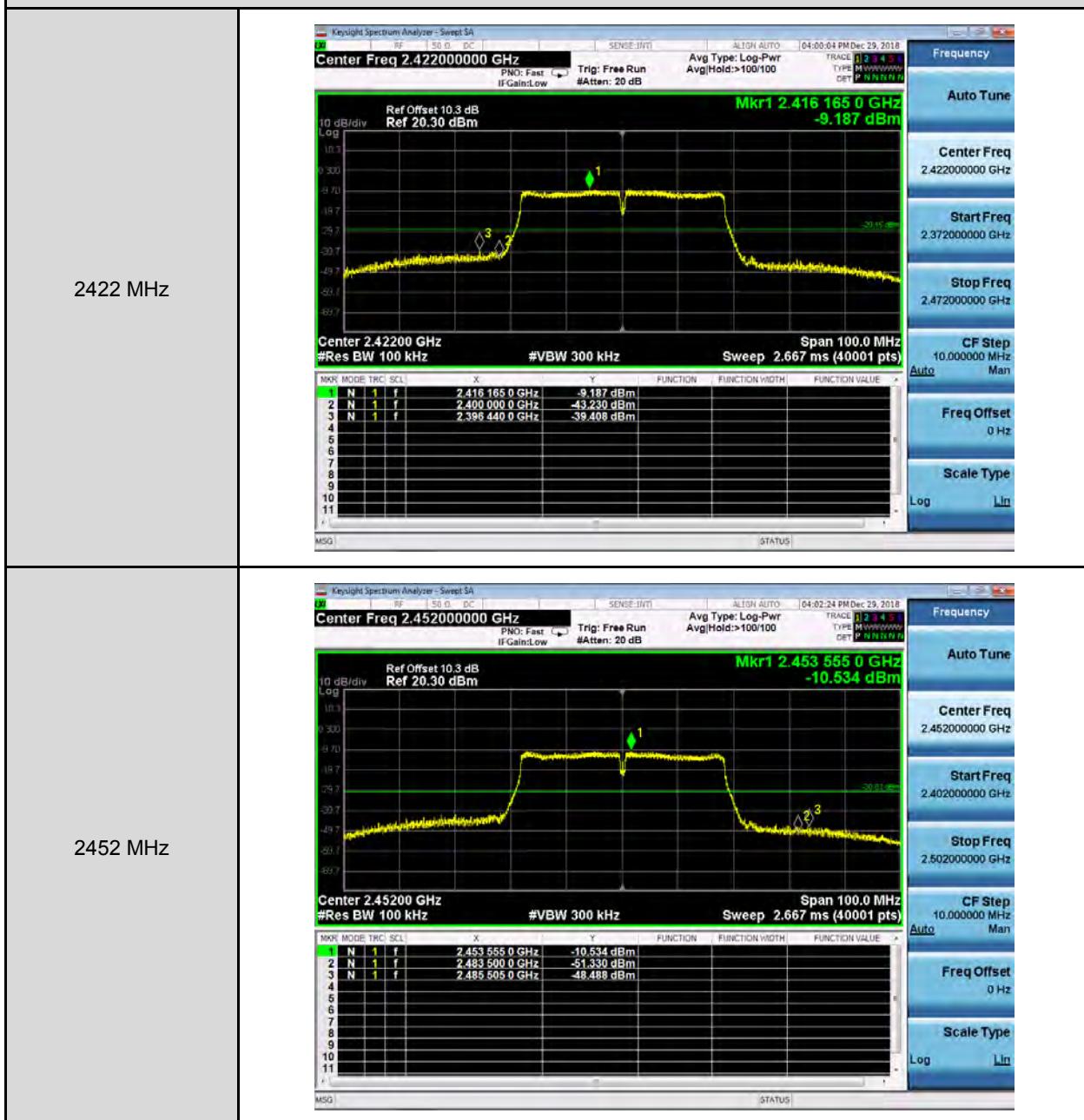
2462 MHz



Mode 4: IEEE 802.11n 2.4 GHz 20 MHz Continuous TX mode



Mode 5: IEEE 802.11n 2.4 GHz 40 MHz Continuous TX mode



Annex B. Radiated Emission Test Results

Power setting 1_Antenna Type: PCB Trace Antenna

Harmonic

Below 1 GHz

Standard:	FCC Part 15.247			Test Distance:	3 m		
Test item:	Harmonic			Power:	DC 3.3 V		
Frequency:	2412 MHz			Temp.(°C)/Hum.(%RH):	26(°C)/60 %RH		
Test Mode:	Mode 1						
Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Polar. H / V
114.3900	50.15	-13.62	36.53	43.50	-6.97	QP	H
170.6500	44.92	-10.44	34.48	43.50	-9.02	QP	H
239.5200	45.25	-12.29	32.96	46.00	-13.04	QP	H
320.0300	43.83	-9.65	34.18	46.00	-11.82	QP	H
715.7900	41.16	-1.51	39.65	46.00	-6.35	QP	H
862.2600	33.85	1.12	34.97	46.00	-11.03	QP	H
113.4200	43.31	-13.80	29.51	43.50	-13.99	QP	V
213.3300	48.19	-13.45	34.74	43.50	-8.76	QP	V
244.3700	48.96	-12.32	36.64	46.00	-9.36	QP	V
448.0700	43.02	-6.13	36.89	46.00	-9.11	QP	V
665.3500	39.46	-2.27	37.19	46.00	-8.81	QP	V
930.1600	32.51	2.26	34.77	46.00	-11.23	QP	V

Note:1.Result (dBuV/m) = Correct Factor (dB/m) + Reading(dBuV).

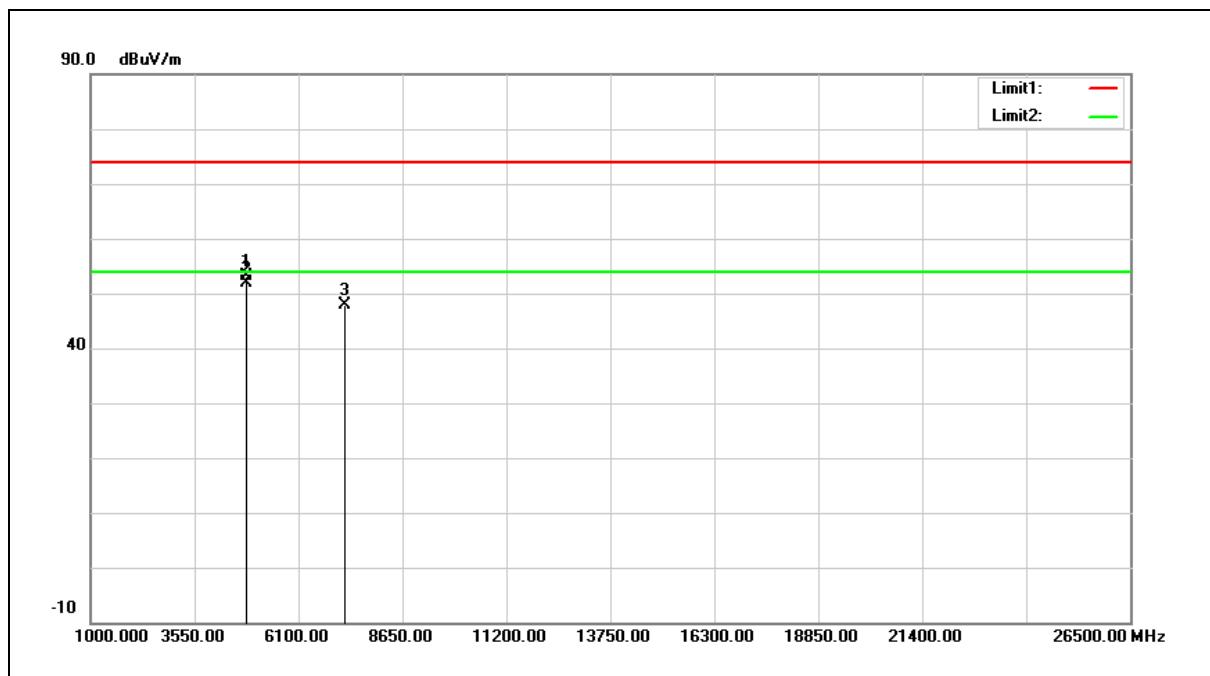
Example: $36.53 = -13.62 + 50.15$

2.Correct factor (dB/m) = Antenna Factor (dB/m) + Cable loss (dB) – Pre-Amplifier gain (dB).

3.When the peak results are less than average limit, so not need to evaluate the average.

Above 1 GHz

Standard:	FCC PART 15.247	Test Distance:	3 m
Test item:	Harmonic	Power:	DC 3.3 V
Frequency:	2412 MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60 %RH
Mode:	Mode 2		
Ant.Polar.:	Horizontal		



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4824.000	58.16	-5.05	53.11	74.00	-20.89	peak
2	4824.000	56.95	-5.05	51.90	54.00	-2.10	AVG
3	7236.000	48.84	-0.88	47.96	74.00	-26.04	peak

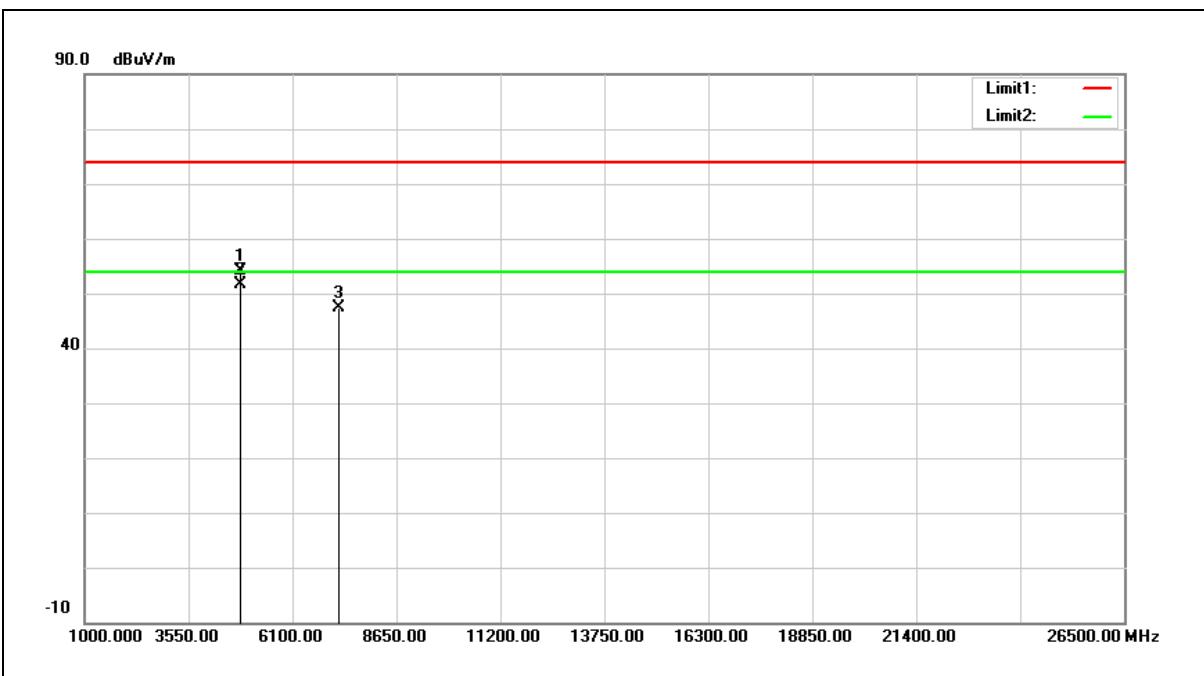
Note: 1.Result (dBuV/m) = Correct Factor (dB/m) + Reading(dBuV).

Example: $53.11 = -5.05 + 58.16$

2.Correct factor (dB/m) = Antenna Factor (dB/m) + Cable loss (dB) – Pre-Amplifier gain (dB).

3.When the peak results are less than average limit, so not need to evaluate the average.

Standard:	FCC PART 15.247	Test Distance:	3 m
Test item:	Harmonic	Power:	DC 3.3 V
Frequency:	2412 MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60 %RH
Mode:	Mode 2		
Ant.Polar.:	Vertical		



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4824.000	59.15	-5.05	54.10	74.00	-19.90	peak
2	4824.000	56.78	-5.05	51.73	54.00	-2.27	Avg
3	7236.000	48.24	-0.88	47.36	74.00	-26.64	peak

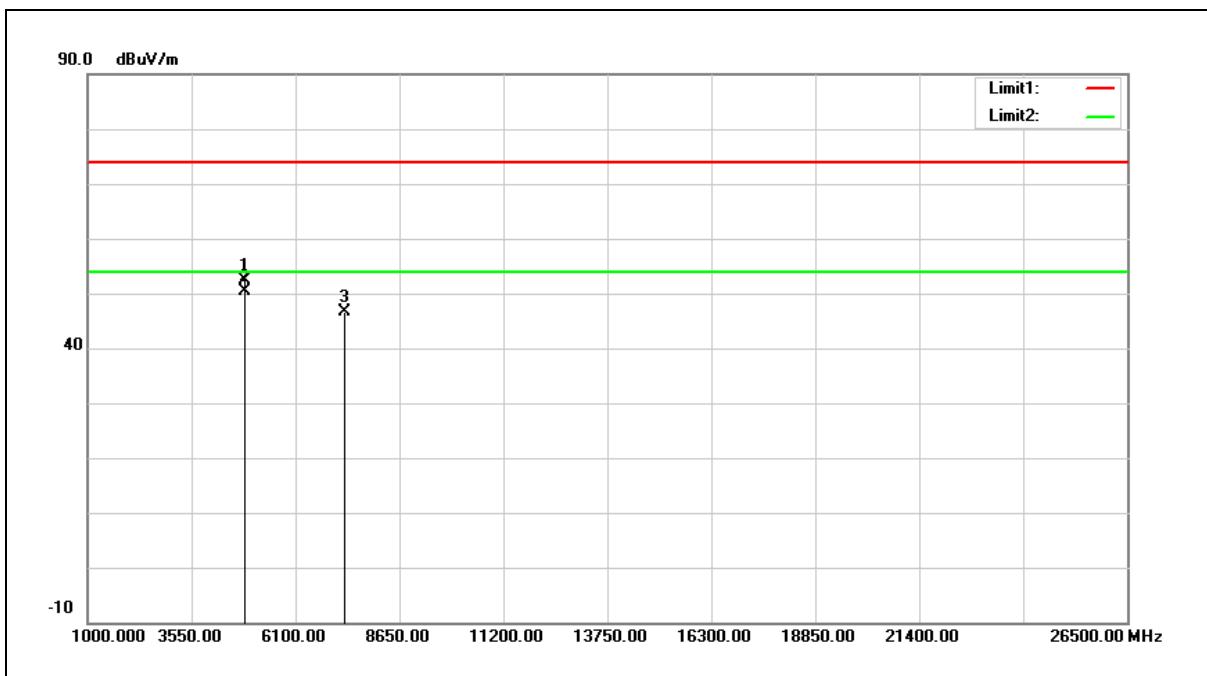
Note: 1.Result (dBuV/m) = Correct Factor (dB/m) + Reading(dBuV).

Example: $54.10 = -5.05 + 59.15$

2.Correct factor (dB/m) = Antenna Factor (dB/m) + Cable loss (dB) – Pre-Amplifier gain (dB).

3.When the peak results are less than average limit, so not need to evaluate the average.

Standard:	FCC PART 15.247	Test Distance:	3 m
Test item:	Harmonic	Power:	DC 3.3 V
Frequency:	2437 MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60 %RH
Mode:	Mode 2		
Ant.Polar.:	Horizontal		



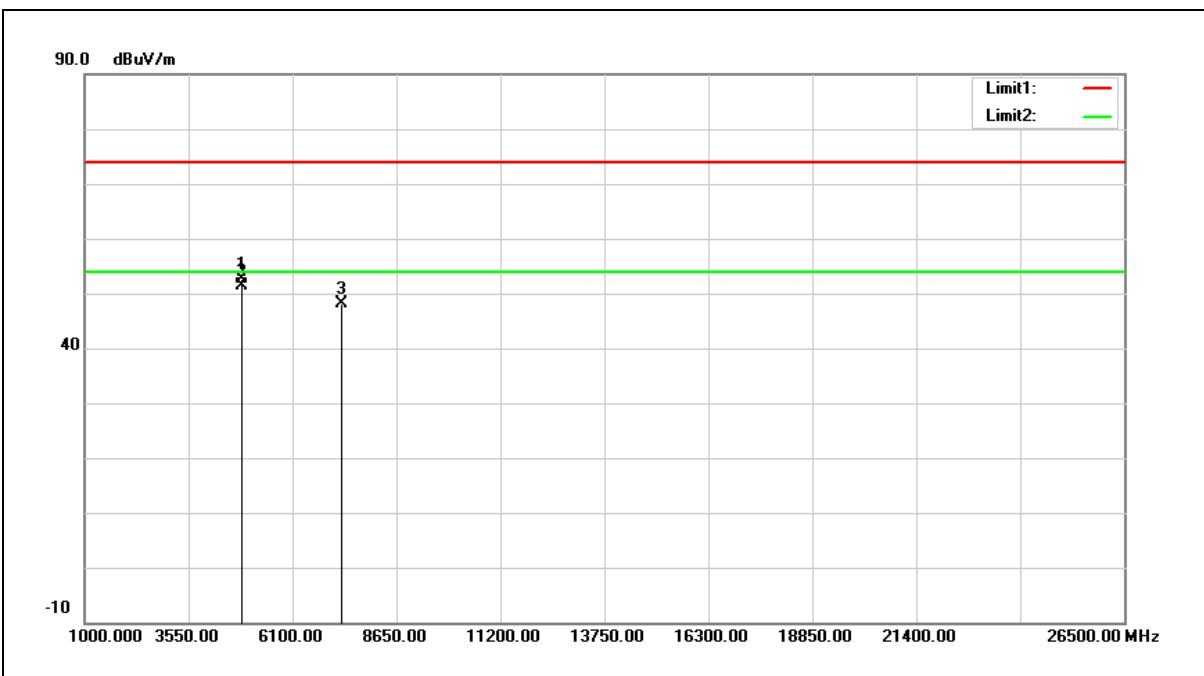
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4874.000	57.49	-5.09	52.40	74.00	-21.60	peak
2	4874.000	55.59	-5.09	50.50	54.00	-3.50	Avg
3	7311.000	47.39	-0.67	46.72	74.00	-27.28	peak

Note: 1.Result (dBuV/m) = Correct Factor (dB/m) + Reading(dBuV).

2.Correction factor (dB/m) = Antenna Factor (dB/m) + Cable loss (dB) – Pre-Amplifier gain (dB).

3.When the peak results are less than average limit, so not need to evaluate the average.

Standard:	FCC PART 15.247	Test Distance:	3 m
Test item:	Harmonic	Power:	DC 3.3 V
Frequency:	2437 MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60 %RH
Mode:	Mode 2		
Ant.Polar.:	Vertical		



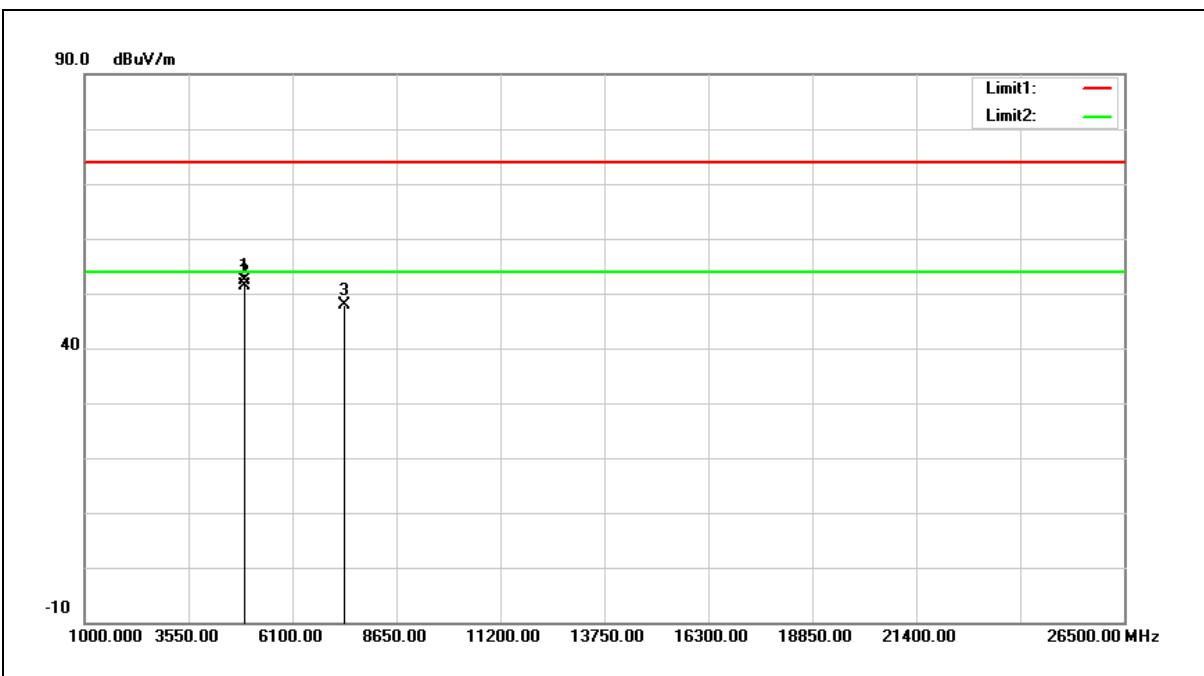
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4874.000	57.62	-5.09	52.53	74.00	-21.47	peak
2	4874.000	56.47	-5.09	51.38	54.00	-2.62	Avg
3	7311.000	48.90	-0.67	48.23	74.00	-25.77	peak

Note: 1.Result (dBuV/m) = Correct Factor (dB/m) + Reading(dBuV).

2.Correct factor (dB/m) = Antenna Factor (dB/m) + Cable loss (dB) – Pre-Amplifier gain (dB).

3.When the peak results are less than average limit, so not need to evaluate the average.

Standard:	FCC PART 15.247	Test Distance:	3 m
Test item:	Harmonic	Power:	DC 3.3 V
Frequency:	2462 MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60 %RH
Mode:	Mode 2		
Ant.Polar.:	Horizontal		



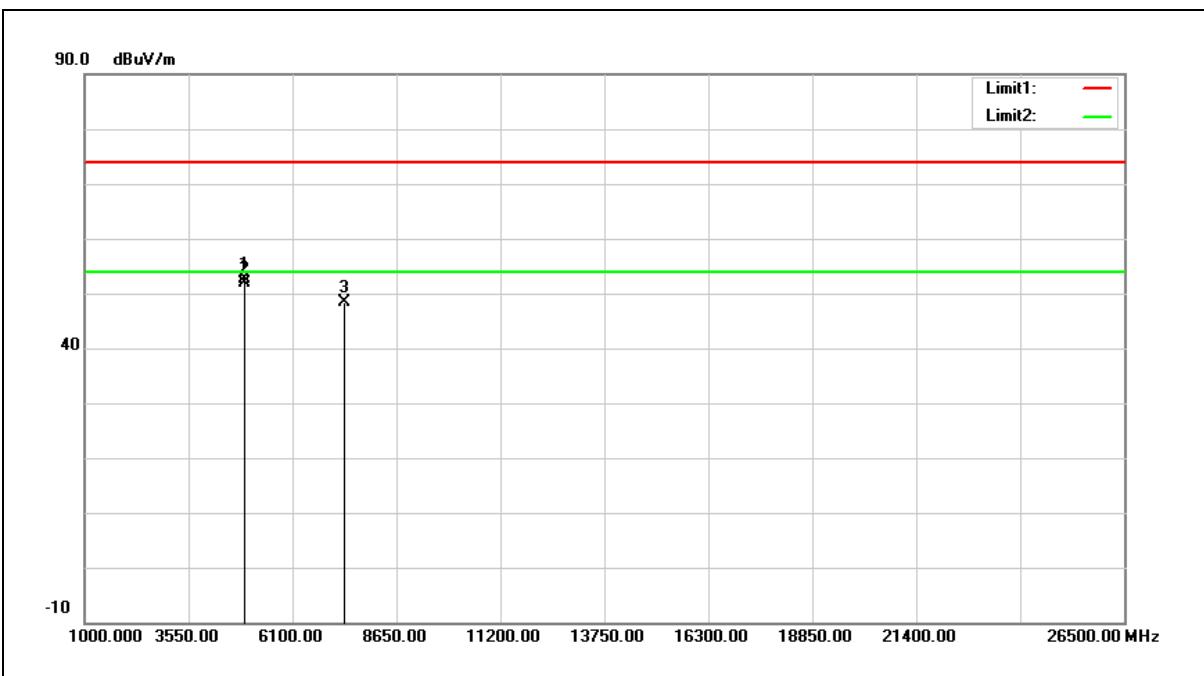
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4927.000	57.42	-5.14	52.28	74.00	-21.72	peak
2	4927.000	56.40	-5.14	51.26	54.00	-2.74	Avg
3	7386.000	48.27	-0.45	47.82	74.00	-26.18	peak

Note: 1.Result (dBuV/m) = Correct Factor (dB/m) + Reading(dBuV).

2.Correct factor (dB/m) = Antenna Factor (dB/m) + Cable loss (dB) – Pre-Amplifier gain (dB).

3.When the peak results are less than average limit, so not need to evaluate the average.

Standard:	FCC PART 15.247	Test Distance:	3 m
Test item:	Harmonic	Power:	DC 3.3 V
Frequency:	2462 MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60 %RH
Mode:	Mode 2		
Ant.Polar.:	Vertical		



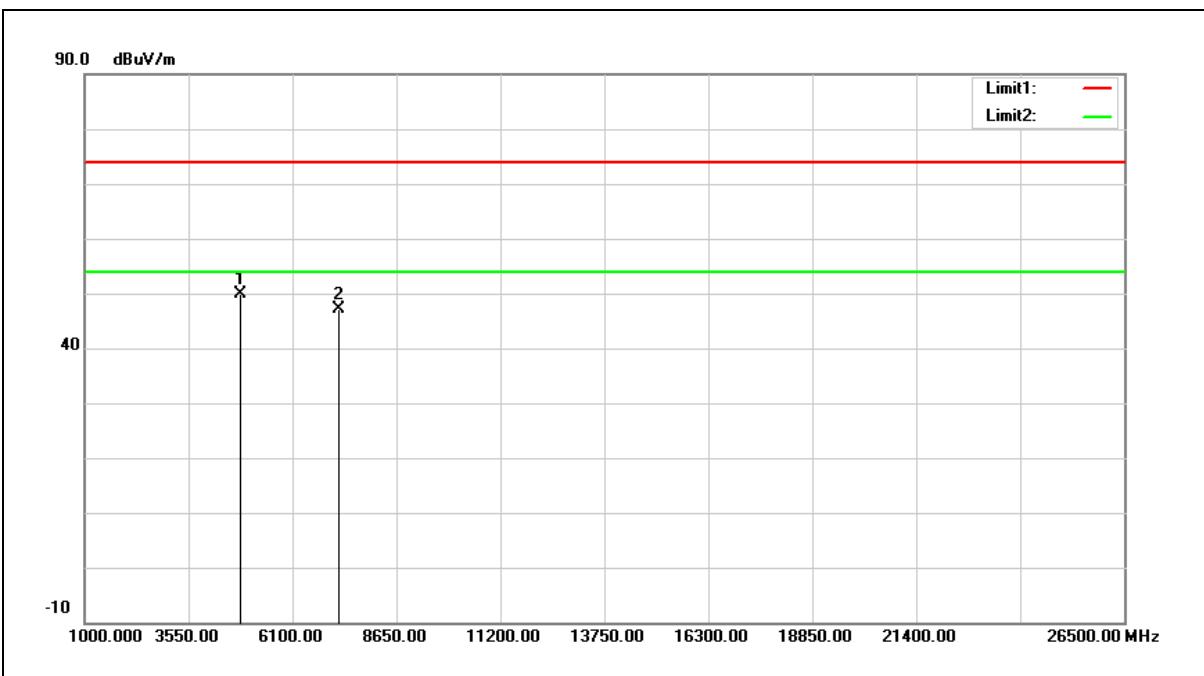
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4924.000	57.85	-5.14	52.71	74.00	-21.29	peak
2	4924.000	57.07	-5.14	51.93	54.00	-2.07	Avg
3	7386.000	48.79	-0.45	48.34	74.00	-25.66	peak

Note: 1.Result (dBuV/m) = Correct Factor (dB/m) + Reading(dBuV).

2.Correct factor (dB/m) = Antenna Factor (dB/m) + Cable loss (dB) – Pre-Amplifier gain (dB).

3.When the peak results are less than average limit, so not need to evaluate the average.

Standard:	FCC PART 15.247	Test Distance:	3 m
Test item:	Harmonic	Power:	DC 3.3 V
Frequency:	2412 MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60 %RH
Mode:	Mode 3		
Ant.Polar.:	Horizontal		



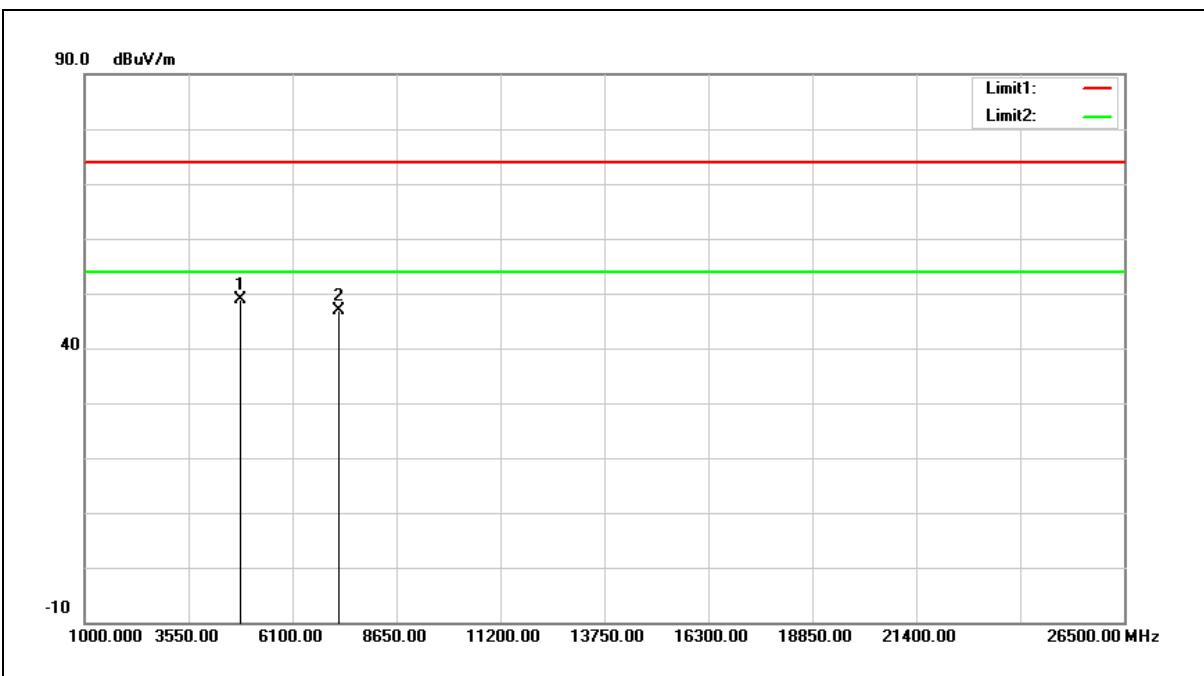
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4824.000	54.92	-5.05	49.87	74.00	-24.13	peak
2	7236.000	48.01	-0.88	47.13	74.00	-26.87	peak

Note: 1.Result (dBuV/m) = Correct Factor (dB/m) + Reading(dBuV).

2.Correct factor (dB/m) = Antenna Factor (dB/m) + Cable loss (dB) – Pre-Amplifier gain (dB).

3.When the peak results are less than average limit, so not need to evaluate the average.

Standard:	FCC PART 15.247	Test Distance:	3 m
Test item:	Harmonic	Power:	DC 3.3 V
Frequency:	2412 MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60 %RH
Mode:	Mode 3		
Ant.Polar.:	Vertical		



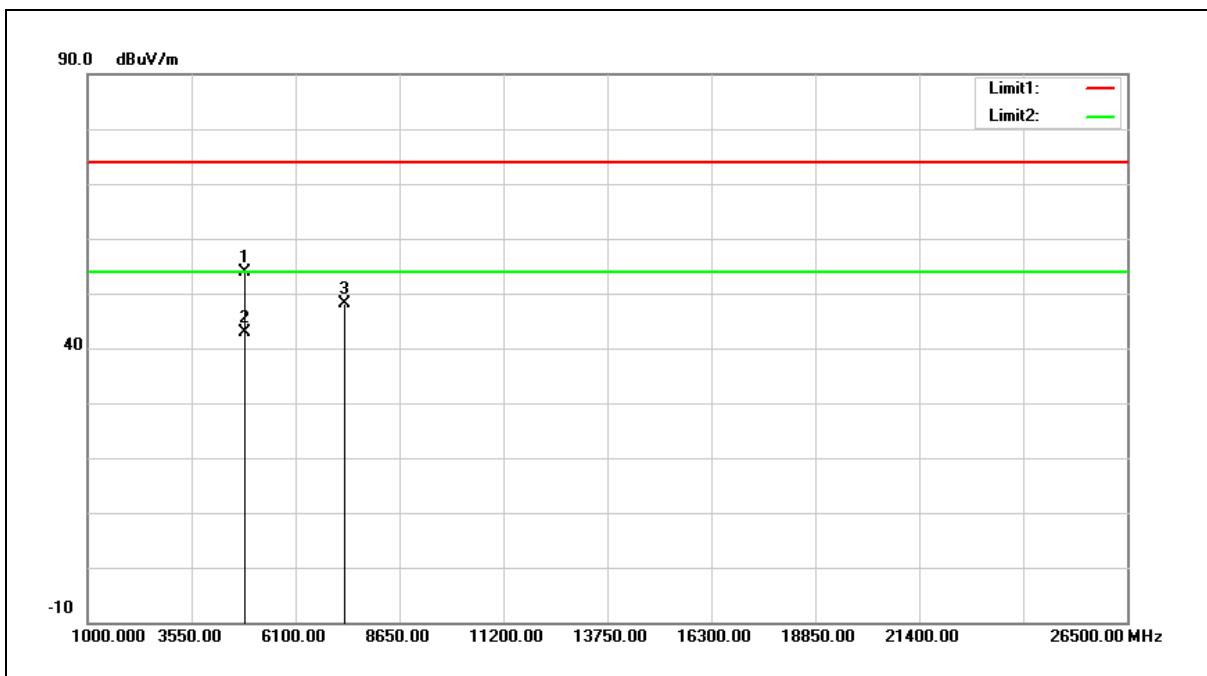
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4825.000	53.91	-5.05	48.86	74.00	-25.14	peak
2	7236.000	47.64	-0.88	46.76	74.00	-27.24	peak

Note: 1.Result (dBuV/m) = Correct Factor (dB/m) + Reading(dBuV).

2.Correct factor (dB/m) = Antenna Factor (dB/m) + Cable loss (dB) – Pre-Amplifier gain (dB).

3.When the peak results are less than average limit, so not need to evaluate the average.

Standard:	FCC PART 15.247	Test Distance:	3 m
Test item:	Harmonic	Power:	DC 3.3 V
Frequency:	2437 MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60 %RH
Mode:	Mode 3		
Ant.Polar.:	Horizontal		



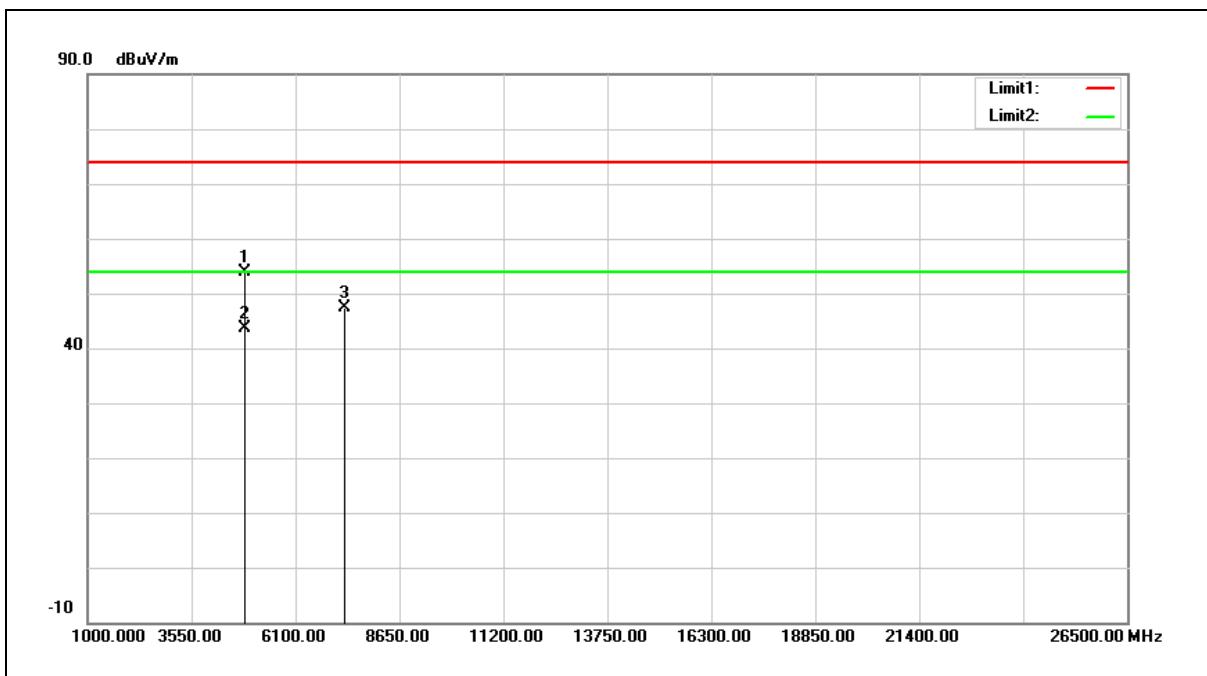
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4874.000	59.00	-5.09	53.91	74.00	-20.09	peak
2	4874.000	47.95	-5.09	42.86	54.00	-11.14	Avg
3	7311.000	48.82	-0.67	48.15	74.00	-25.85	peak

Note: 1.Result (dBuV/m) = Correct Factor (dB/m) + Reading(dBuV).

2.Correction factor (dB/m) = Antenna Factor (dB/m) + Cable loss (dB) – Pre-Amplifier gain (dB).

3.When the peak results are less than average limit, so not need to evaluate the average.

Standard:	FCC PART 15.247	Test Distance:	3 m
Test item:	Harmonic	Power:	DC 3.3 V
Frequency:	2437 MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60 %RH
Mode:	Mode 3		
Ant.Polar.:	Vertical		



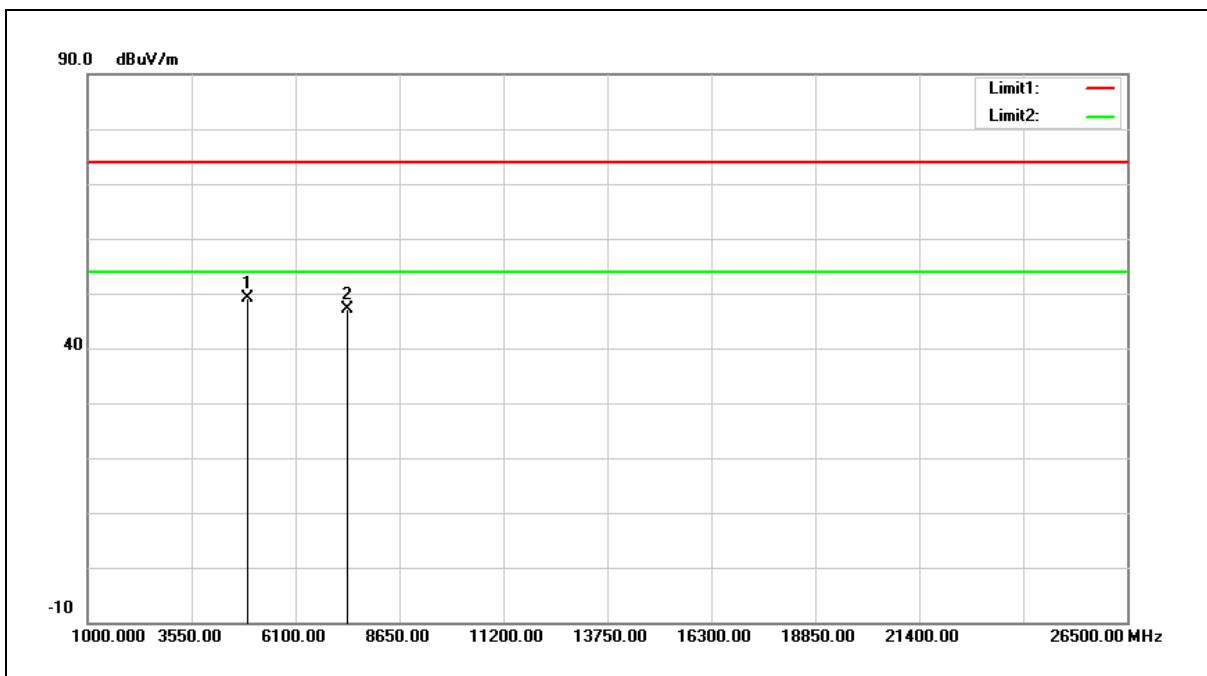
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4874.000	58.90	-5.09	53.81	74.00	-20.19	peak
2	4874.000	48.70	-5.09	43.61	54.00	-10.39	Avg
3	7311.000	48.10	-0.67	47.43	74.00	-26.57	peak

Note: 1.Result (dBuV/m) = Correct Factor (dB/m) + Reading(dBuV).

2.Correction factor (dB/m) = Antenna Factor (dB/m) + Cable loss (dB) – Pre-Amplifier gain (dB).

3.When the peak results are less than average limit, so not need to evaluate the average.

Standard:	FCC PART 15.247	Test Distance:	3 m
Test item:	Harmonic	Power:	DC 3.3 V
Frequency:	2462 MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60 %RH
Mode:	Mode 3		
Ant.Polar.:	Horizontal		



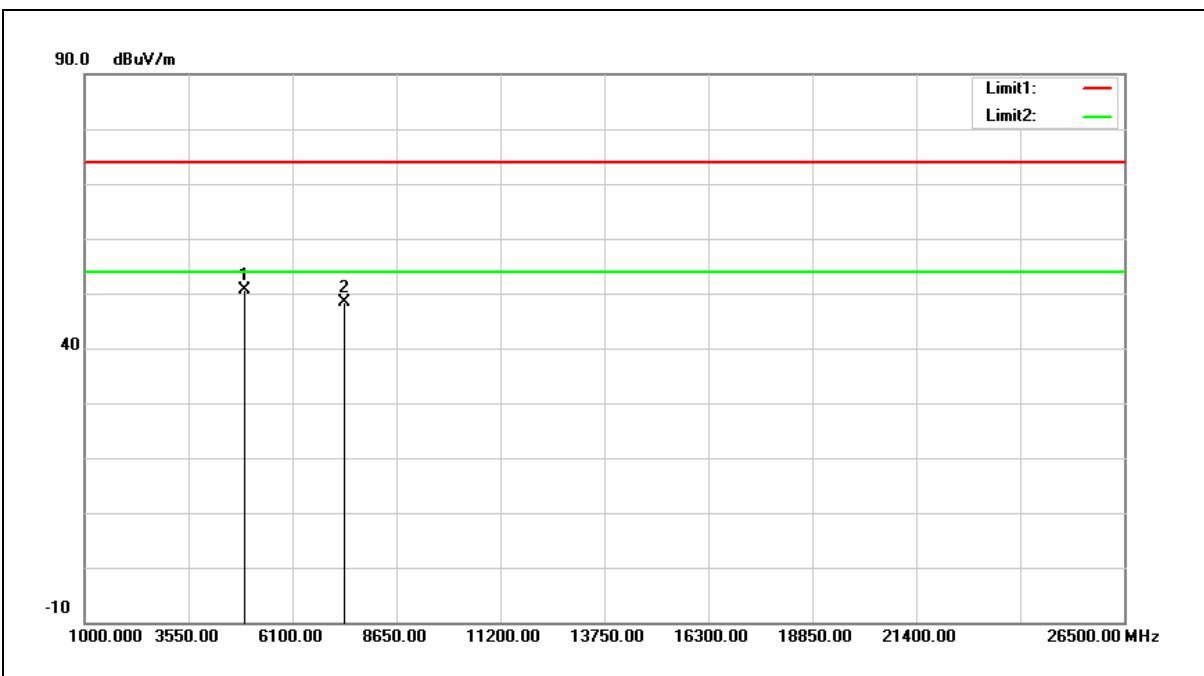
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4924.000	54.21	-5.14	49.07	74.00	-24.93	peak
2	7386.000	47.49	-0.45	47.04	74.00	-26.96	peak

Note: 1.Result (dBuV/m) = Correct Factor (dB/m) + Reading(dBuV).

2.Correct factor (dB/m) = Antenna Factor (dB/m) + Cable loss (dB) – Pre-Amplifier gain (dB).

3.When the peak results are less than average limit, so not need to evaluate the average.

Standard:	FCC PART 15.247	Test Distance:	3 m
Test item:	Harmonic	Power:	DC 3.3 V
Frequency:	2462 MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60 %RH
Mode:	Mode 3		
Ant.Polar.:	Vertical		



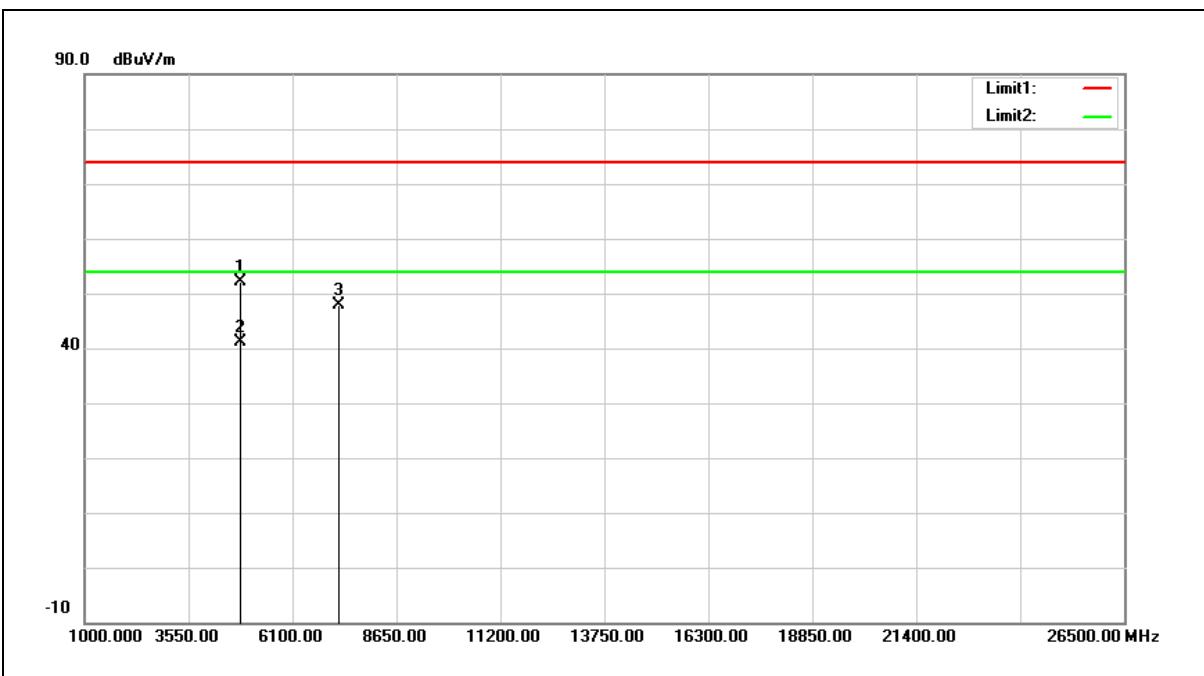
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4924.000	55.72	-5.14	50.58	74.00	-23.42	peak
2	7386.000	48.83	-0.45	48.38	74.00	-25.62	peak

Note: 1.Result (dBuV/m) = Correct Factor (dB/m) + Reading(dBuV).

2.Correct factor (dB/m) = Antenna Factor (dB/m) + Cable loss (dB) – Pre-Amplifier gain (dB).

3.When the peak results are less than average limit, so not need to evaluate the average.

Standard:	FCC PART 15.247	Test Distance:	3 m
Test item:	Harmonic	Power:	DC 3.3 V
Frequency:	2412 MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60 %RH
Mode:	Mode 4		
Ant.Polar.:	Horizontal		



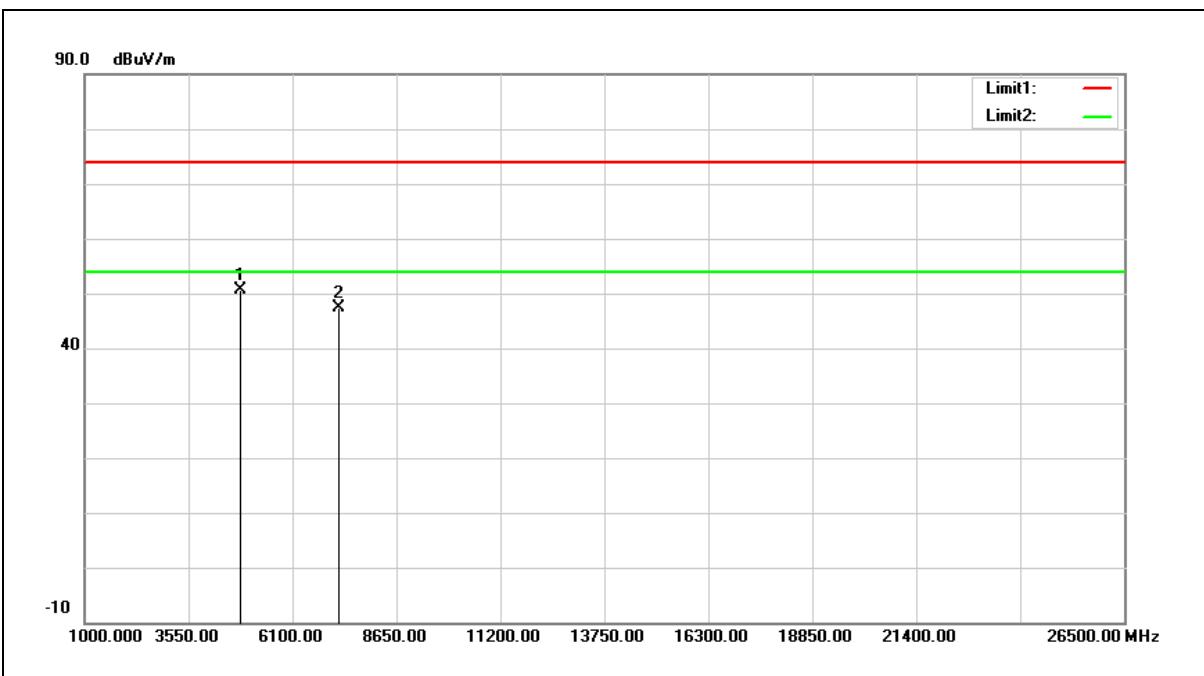
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4824.000	57.26	-5.05	52.21	74.00	-21.79	peak
2	4824.000	46.21	-5.05	41.16	54.00	-12.84	Avg
3	7236.000	48.66	-0.88	47.78	74.00	-26.22	peak

Note: 1.Result (dBuV/m) = Correct Factor (dB/m) + Reading(dBuV).

2.Correct factor (dB/m) = Antenna Factor (dB/m) + Cable loss (dB) – Pre-Amplifier gain (dB).

3.When the peak results are less than average limit, so not need to evaluate the average.

Standard:	FCC PART 15.247	Test Distance:	3 m
Test item:	Harmonic	Power:	DC 3.3 V
Frequency:	2412 MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60 %RH
Mode:	Mode 4		
Ant.Polar.:	Vertical		



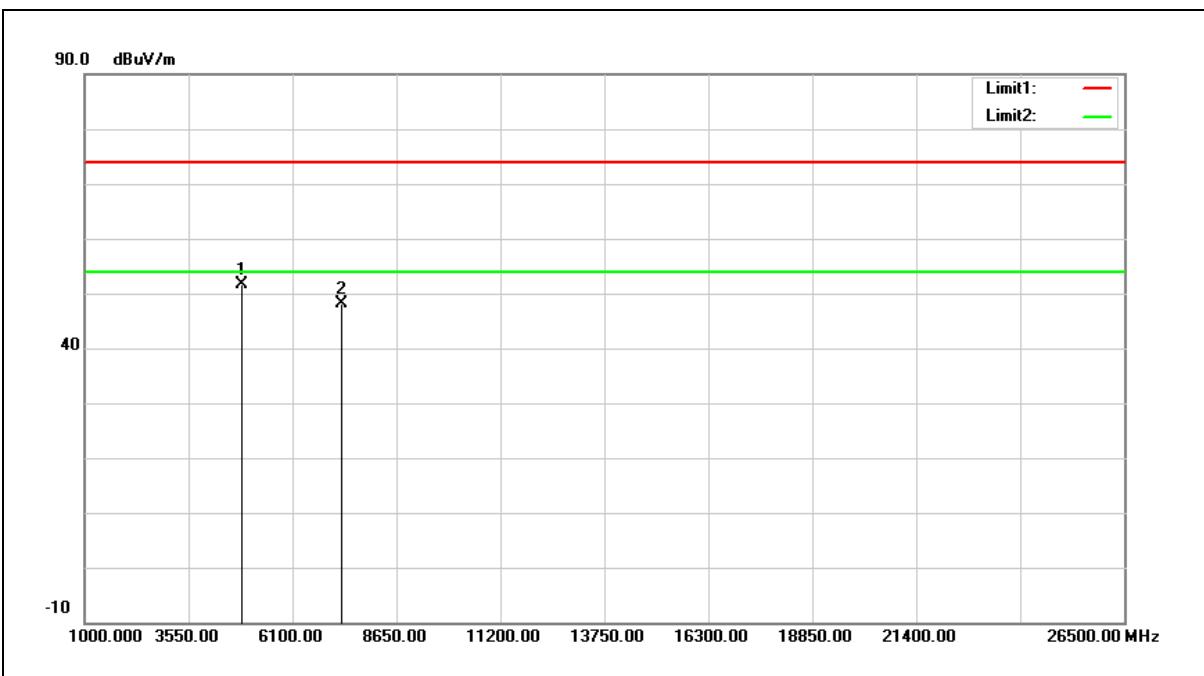
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4824.000	55.70	-5.05	50.65	74.00	-23.35	peak
2	7236.000	48.25	-0.88	47.37	74.00	-26.63	peak

Note: 1.Result (dBuV/m) = Correct Factor (dB/m) + Reading(dBuV).

2.Correct factor (dB/m) = Antenna Factor (dB/m) + Cable loss (dB) – Pre-Amplifier gain (dB).

3.When the peak results are less than average limit, so not need to evaluate the average.

Standard:	FCC PART 15.247	Test Distance:	3 m
Test item:	Harmonic	Power:	DC 3.3 V
Frequency:	2437 MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60 %RH
Mode:	Mode 4		
Ant.Polar.:	Horizontal		



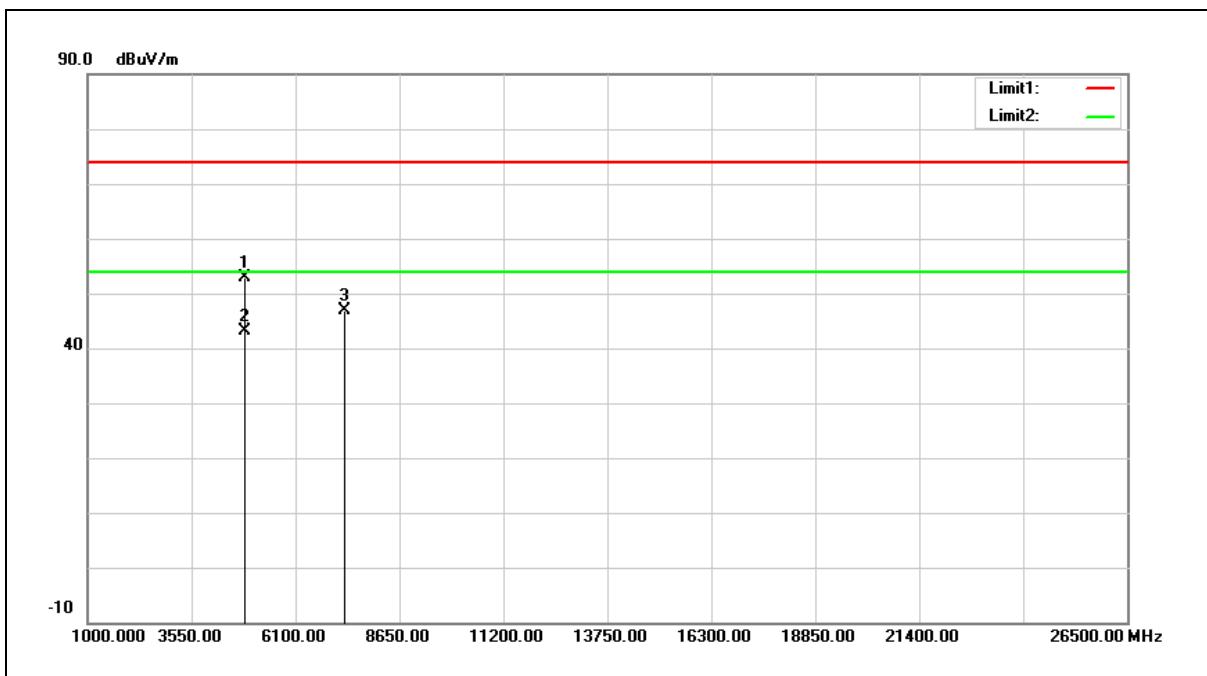
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4874.000	56.68	-5.09	51.59	74.00	-22.41	peak
2	7311.000	48.87	-0.67	48.20	74.00	-25.80	peak

Note: 1.Result (dBuV/m) = Correct Factor (dB/m) + Reading(dBuV).

2.Correct factor (dB/m) = Antenna Factor (dB/m) + Cable loss (dB) – Pre-Amplifier gain (dB).

3.When the peak results are less than average limit, so not need to evaluate the average.

Standard:	FCC PART 15.247	Test Distance:	3 m
Test item:	Harmonic	Power:	DC 3.3 V
Frequency:	2437 MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60 %RH
Mode:	Mode 4		
Ant.Polar.:	Vertical		



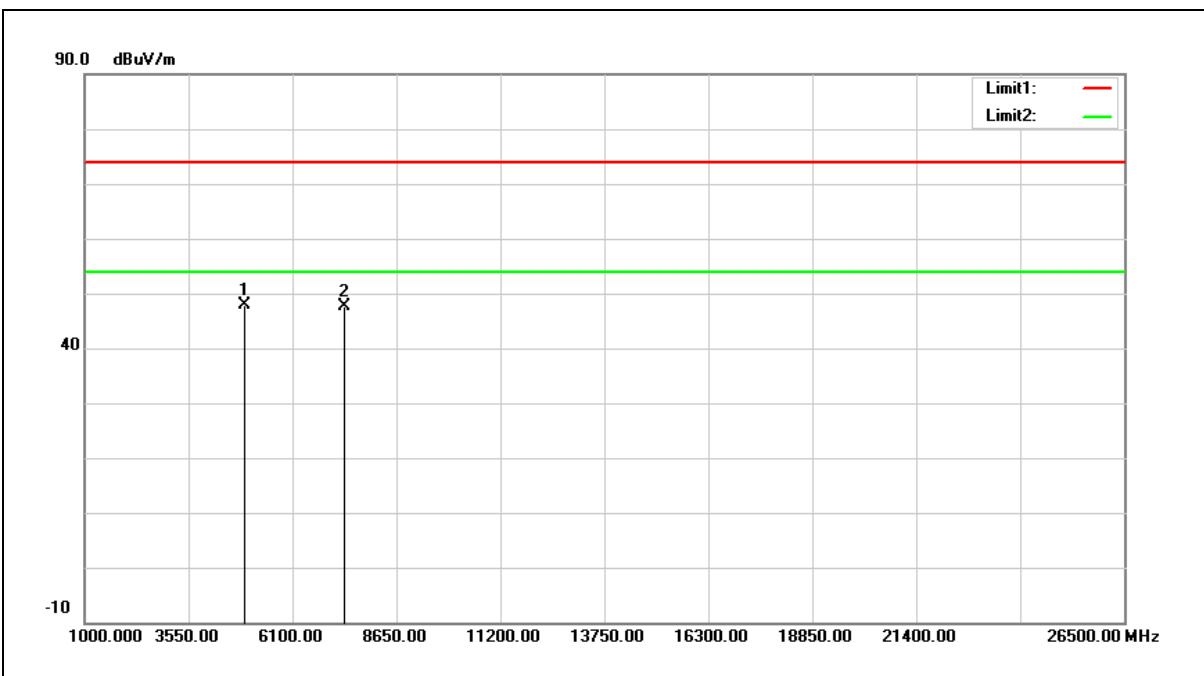
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4874.000	57.91	-5.09	52.82	74.00	-21.18	peak
2	4874.000	48.32	-5.09	43.23	54.00	-10.77	Avg
3	7311.000	47.52	-0.67	46.85	74.00	-27.15	peak

Note: 1.Result (dBuV/m) = Correct Factor (dB/m) + Reading(dBuV).

2.Correction factor (dB/m) = Antenna Factor (dB/m) + Cable loss (dB) – Pre-Amplifier gain (dB).

3.When the peak results are less than average limit, so not need to evaluate the average.

Standard:	FCC PART 15.247	Test Distance:	3 m
Test item:	Harmonic	Power:	DC 3.3 V
Frequency:	2462 MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60 %RH
Mode:	Mode 4		
Ant.Polar.:	Horizontal		



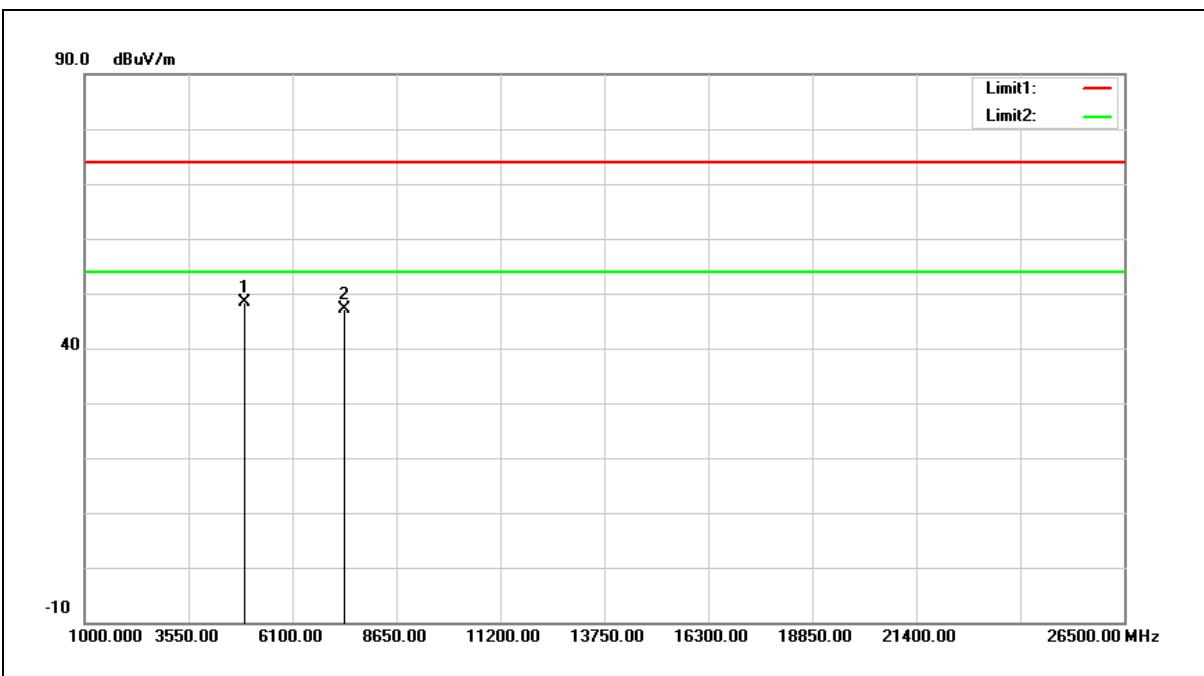
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4924.000	53.00	-5.14	47.86	74.00	-26.14	peak
2	7386.000	48.18	-0.45	47.73	74.00	-26.27	peak

Note: 1.Result (dBuV/m) = Correct Factor (dB/m) + Reading(dBuV).

2.Correct factor (dB/m) = Antenna Factor (dB/m) + Cable loss (dB) – Pre-Amplifier gain (dB).

3.When the peak results are less than average limit, so not need to evaluate the average.

Standard:	FCC PART 15.247	Test Distance:	3 m
Test item:	Harmonic	Power:	DC 3.3 V
Frequency:	2462 MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60 %RH
Mode:	Mode 4		
Ant.Polar.:	Vertical		



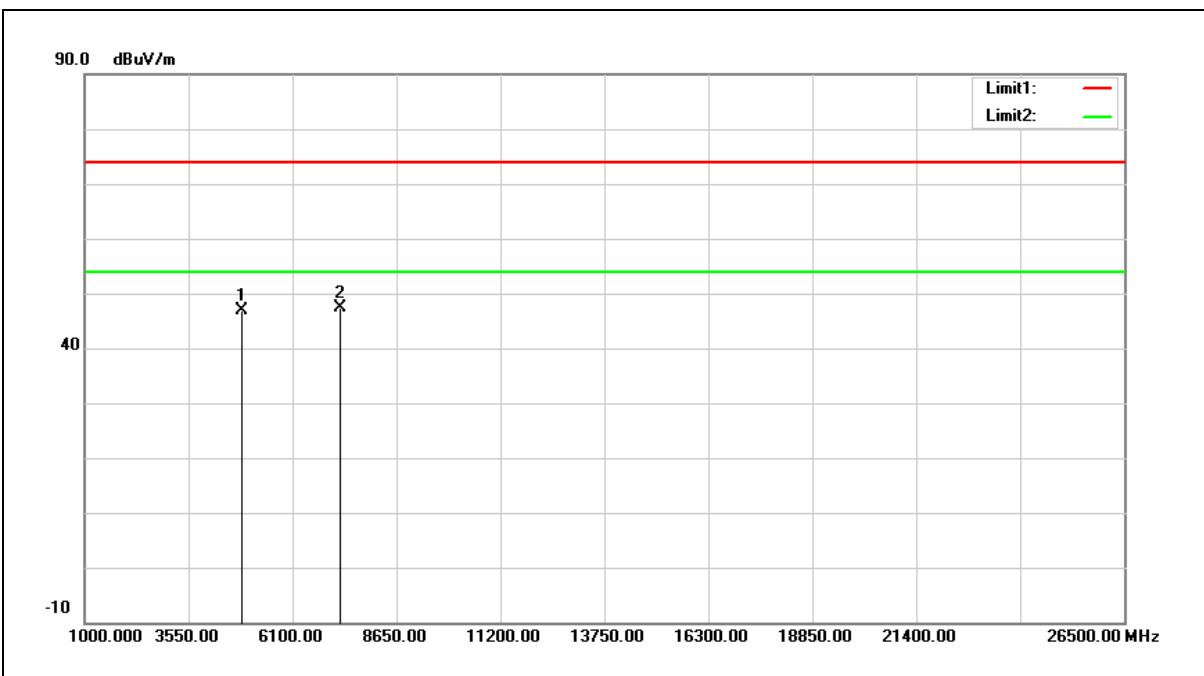
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4924.000	53.53	-5.14	48.39	74.00	-25.61	peak
2	7386.000	47.64	-0.45	47.19	74.00	-26.81	peak

Note: 1.Result (dBuV/m) = Correct Factor (dB/m) + Reading(dBuV).

2.Correct factor (dB/m) = Antenna Factor (dB/m) + Cable loss (dB) – Pre-Amplifier gain (dB).

3.When the peak results are less than average limit, so not need to evaluate the average.

Standard:	FCC PART 15.247	Test Distance:	3 m
Test item:	Harmonic	Power:	DC 3.3 V
Frequency:	2422 MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60 %RH
Mode:	Mode 5		
Ant.Polar.:	Horizontal		



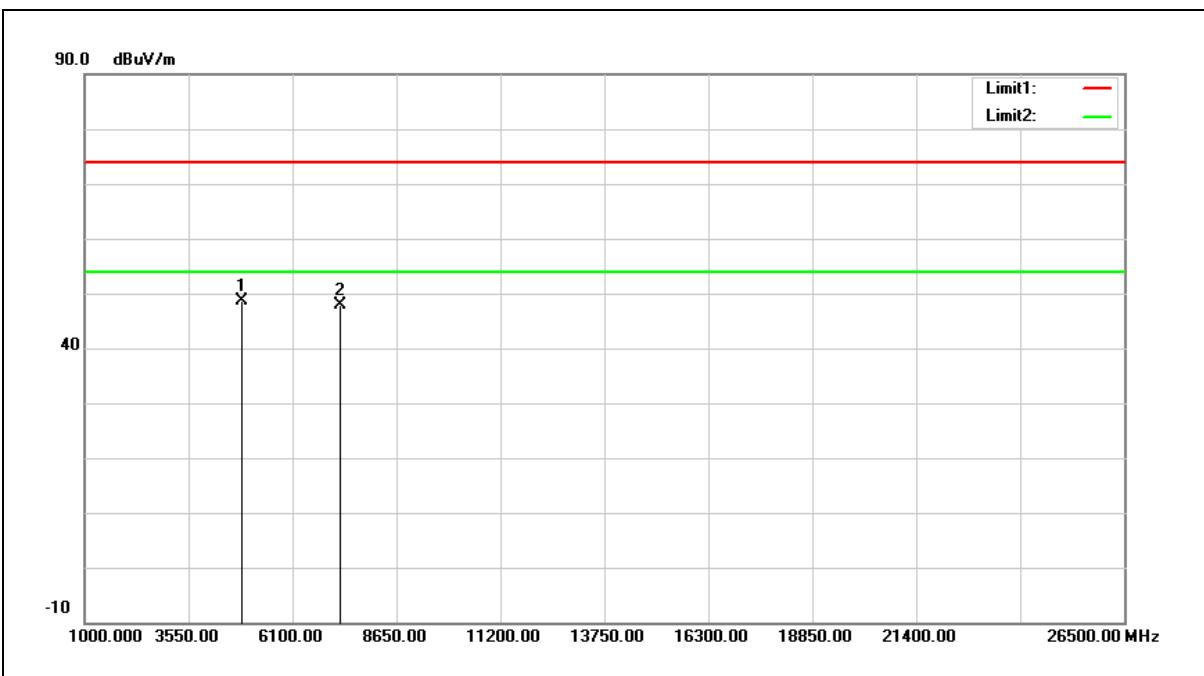
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4844.000	51.96	-5.07	46.89	74.00	-27.11	peak
2	7266.000	48.19	-0.79	47.40	74.00	-26.60	peak

Note: 1.Result (dBuV/m) = Correct Factor (dB/m) + Reading(dBuV).

2.Correct factor (dB/m) = Antenna Factor (dB/m) + Cable loss (dB) – Pre-Amplifier gain (dB).

3.When the peak results are less than average limit, so not need to evaluate the average.

Standard:	FCC PART 15.247	Test Distance:	3 m
Test item:	Harmonic	Power:	DC 3.3 V
Frequency:	2422 MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60 %RH
Mode:	Mode 5		
Ant.Polar.:	Vertical		



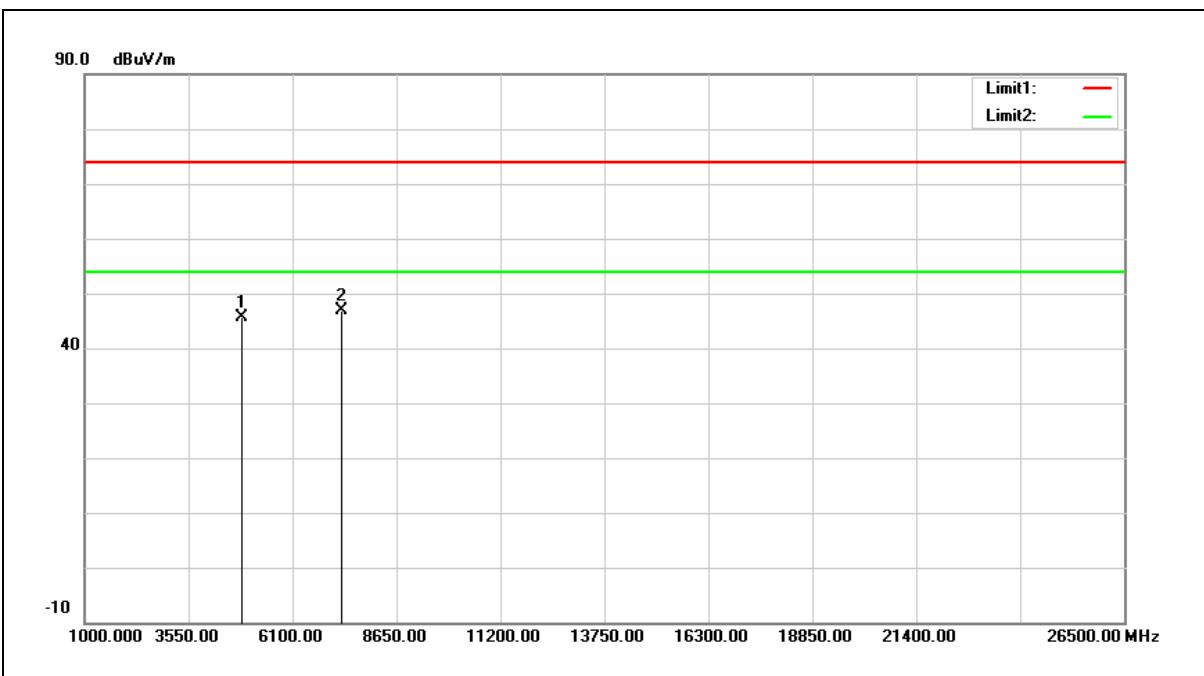
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4844.000	53.78	-5.07	48.71	74.00	-25.29	peak
2	7266.000	48.74	-0.79	47.95	74.00	-26.05	peak

Note: 1.Result (dBuV/m) = Correct Factor (dB/m) + Reading(dBuV).

2.Correct factor (dB/m) = Antenna Factor (dB/m) + Cable loss (dB) – Pre-Amplifier gain (dB).

3.When the peak results are less than average limit, so not need to evaluate the average.

Standard:	FCC PART 15.247	Test Distance:	3 m
Test item:	Harmonic	Power:	DC 3.3 V
Frequency:	2437 MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60 %RH
Mode:	Mode 5		
Ant.Polar.:	Horizontal		



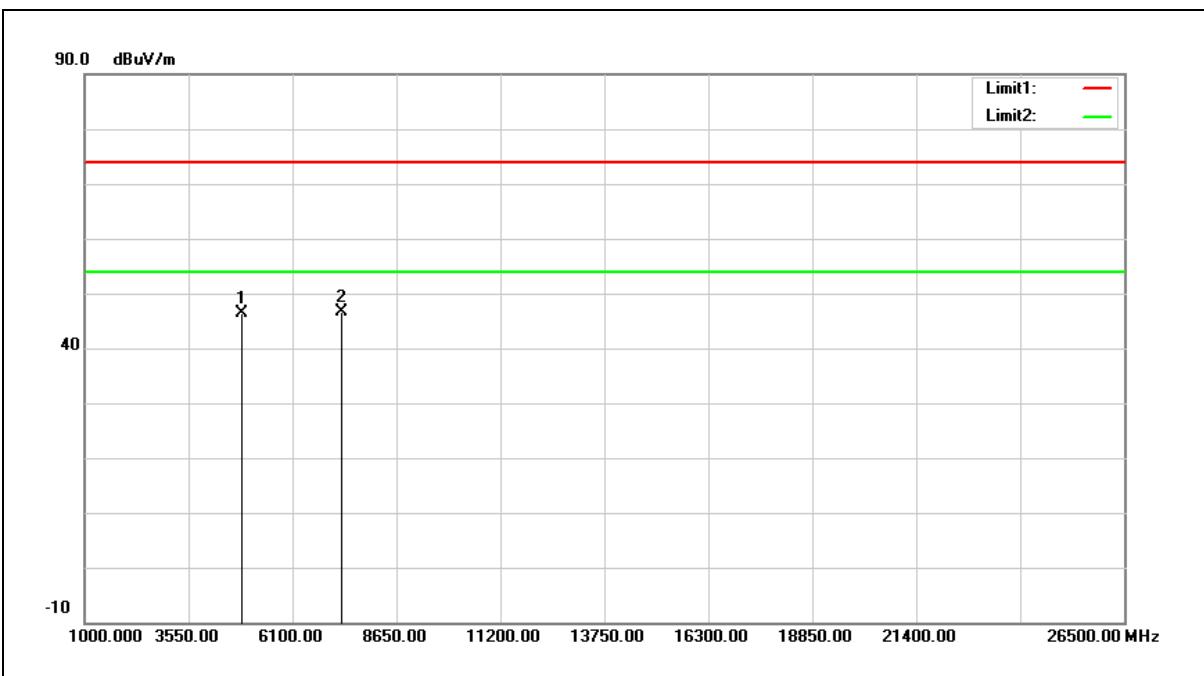
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4874.000	50.81	-5.09	45.72	74.00	-28.28	peak
2	7311.000	47.66	-0.67	46.99	74.00	-27.01	peak

Note: 1.Result (dBuV/m) = Correct Factor (dB/m) + Reading(dBuV).

2.Correct factor (dB/m) = Antenna Factor (dB/m) + Cable loss (dB) – Pre-Amplifier gain (dB).

3.When the peak results are less than average limit, so not need to evaluate the average.

Standard:	FCC PART 15.247	Test Distance:	3 m
Test item:	Harmonic	Power:	DC 3.3 V
Frequency:	2437 MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60 %RH
Mode:	Mode 5		
Ant.Polar.:	Vertical		



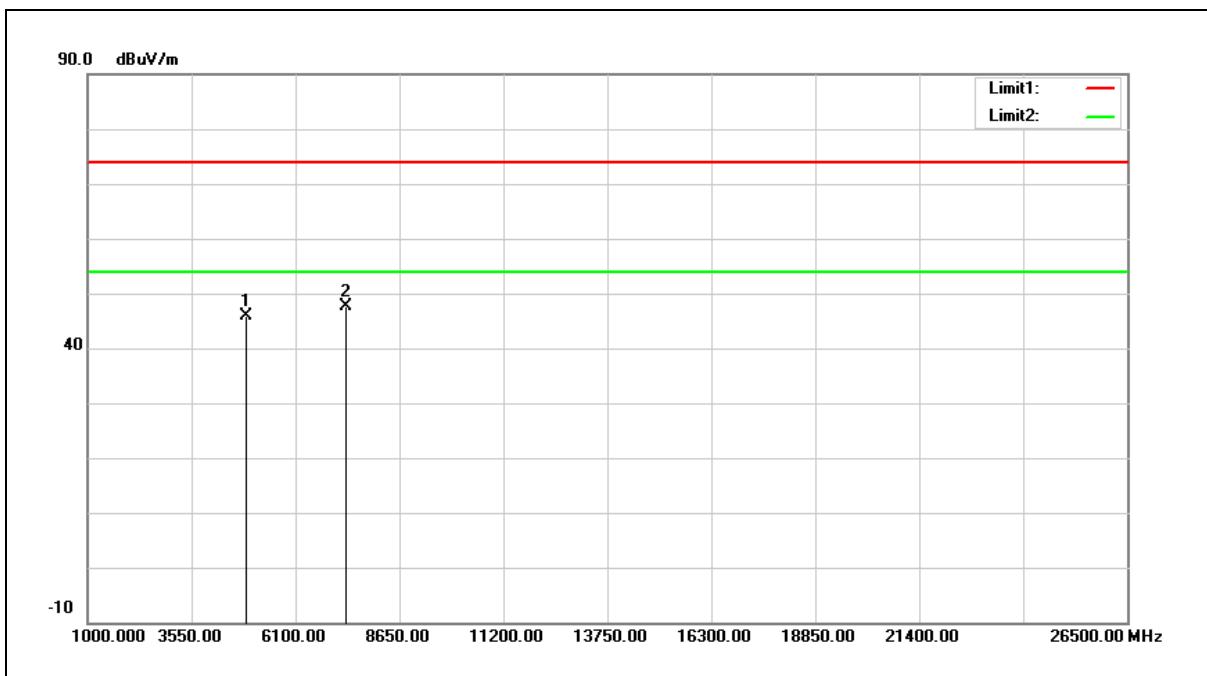
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4874.000	51.47	-5.09	46.38	74.00	-27.62	peak
2	7311.000	47.26	-0.67	46.59	74.00	-27.41	peak

Note: 1.Result (dBuV/m) = Correct Factor (dB/m) + Reading(dBuV).

2.Correct factor (dB/m) = Antenna Factor (dB/m) + Cable loss (dB) – Pre-Amplifier gain (dB).

3.When the peak results are less than average limit, so not need to evaluate the average.

Standard:	FCC PART 15.247	Test Distance:	3 m
Test item:	Harmonic	Power:	DC 3.3 V
Frequency:	2452 MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60 %RH
Mode:	Mode 5		
Ant.Polar.:	Horizontal		



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4904.000	50.88	-5.12	45.76	74.00	-28.24	peak
2	7356.000	48.06	-0.54	47.52	74.00	-26.48	peak

Note: 1.Result (dBuV/m) = Correct Factor (dB/m) + Reading(dBuV).

2.Correct factor (dB/m) = Antenna Factor (dB/m) + Cable loss (dB) – Pre-Amplifier gain (dB).

3.When the peak results are less than average limit, so not need to evaluate the average.