

RF Test Report

Applicant : D-Link Corporation
Product Type : Wireless AC1200 4G LTE Router
Trade Name : D-Link
Model Number : DWR-961
Applicable Standard : FCC 47 CFR PART 15 SUBPART C
ANSI C63.10:2013
Receive Date : Aug. 18, 2017
Test Period : Sep. 06 ~ Sep. 13, 2017
Issue Date : Oct. 03, 2017

Issue by

A Test Lab Techno Corp.
No. 140-1, Changan Street, Bade District,
Taoyuan City 33465, Taiwan (R.O.C)
Tel : +886-3-2710188 / Fax : +886-3-2710190



Taiwan Accreditation Foundation accreditation number: 1330

Test Firm MRA designation number: TW0010

Note: This report shall not be reproduced except in full, without the written approval of A Test Lab Techno Corp. This document may be altered or revised by A Test Lab Techno Corp. personnel only, and shall be noted in the revision section of the document. The client should not use it to claim product endorsement by TAF, or any government agencies. The test results in the report only apply to the tested sample.



Revision History

Rev.	Issue Date	Revisions	Revised By
00	Oct. 03, 2017	Initial Issue	Janet Chao

Verification of Compliance

Issued Date: Oct. 03, 2017

Applicant : D-Link Corporation
Product Type : Wireless AC1200 4G LTE Router
Trade Name : D-Link
Model Number : DWR-961
FCC ID : KA2WR961C1
EUT Rated Voltage : DC 12V, 1.5A
Test Voltage : 120 Vac / 60 Hz
Applicable Standard : FCC 47 CFR PART 15 SUBPART C
ANSI C63.10:2013

Test Result : Complied

Performing Lab. : A Test Lab Techno Corp.

No. 140-1, Changan Street, Bade District,
Taoyuan City 33465, Taiwan (R.O.C)
Tel : +886-3-2710188 / Fax : +886-3-2710190



Taiwan Accreditation Foundation accreditation number: 1330
<http://www.atl-lab.com.tw/e-index.htm>

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. Measurement Uncertainties were not taken into account and are published for informational purposes only. The test results show that the equipment tested is capable of demonstrating compliance with the requirements as documented in this report.

Approved By

: Fly Lu

(Manager)

(Fly Lu)

Reviewed By

: Eric Ou Yang

(Testing Engineer)

(Eric Ou Yang)

TABLE OF CONTENTS

1	General Information	6
2	EUT Description	7
3	Test Methodology	8
3.1.	Mode of Operation.....	8
3.2.	EUT Exercise Software.....	12
3.3.	Configuration of Test System Details	13
3.4.	Test Instruments	14
3.5.	Test Site Environment.....	15
4	AC Power Line Conducted Emission Measurement.....	16
4.1.	Limit	16
4.2.	Test Setup	16
4.3.	Test Procedure	17
4.4.	Test Result.....	18
5	Radiated Emission Measurement	20
5.1.	Limit	20
5.2.	Setup.....	21
5.3.	Test Procedure	23
5.4.	Test Result.....	25
6	Maximum Conducted Output Power Measurement	76
6.1.	Limit	76
6.2.	Test Setup	76
6.3.	Test Procedure	76
6.4.	Test Result.....	77
7	6dB RF Bandwidth Measurement.....	83
7.1.	Limit	83
7.2.	Test Setup	83
7.3.	Test Procedure	83
7.4.	Test Result.....	84
7.5.	Test Graphs.....	85
8	Maximum Power Density Measurement	93
8.1.	Limit	93
8.2.	Test Setup	93
8.3.	Test Procedure	93
8.4.	Test Result.....	94
8.5.	Test Graphs.....	95



9	Out of Band Conducted Emissions Measurement.....	103
9.1.	Limit	103
9.2.	Test Setup	103
9.3.	Test Procedure	103
9.4.	Test Graphs	104
10	Antenna Measurement.....	128
10.1.	Limit	128
10.2.	Antenna Description	128
10.3.	Directional Gain Calculated	128



1 General Information

1.1 Summary of Test Result

Standard	Item	Result	Remark
15.247			
15.207	AC Power Conducted Emission	PASS	-----
Standard	Item	Result	Remark
15.247			
15.247(d)	Transmitter Radiated Emissions	PASS	-----
15.247(b)(3)	Max. Output Power	PASS	-----
15.247(a)(2)	6dB RF Bandwidth	PASS	-----
15.247(e)	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. Manufacturer or whom it may concern should recognize the pass or fail of the test result.

1.2 Measurement Uncertainty

Test Item	Frequency Range	Uncertainty (dB)
Conducted Emission	9kHz ~ 150KHz	2.7
	150kHz ~ 30MHz	2.7
Radiated Emission	9kHz ~ 30MHz	1.7
	30MHz ~ 1000MHz	5.7
	1000MHz ~ 18000MHz	5.5
	18000MHz ~ 26500MHz	4.8
	26500MHz ~ 40000MHz	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	D-Link Corporation 17595 Mt. Herrmann, Fountain Valley, California, 92708, United States			
Manufacturer	CAMEO COMMUNICATIONS, INC. 5F, No.158, Ruihu St., Neihu Dist., Taipei City 114, Taiwan (R.O.C.)			
Product Type	Wireless AC1200 4G LTE Router			
Trade Name	D-Link			
Model Number	DWR-961			
FCC ID	KA2WR961C1			
Operate Freq. Band	Frequency Range (MHz)	Modulation	Channel Bandwidth	Data Rate 400 GI (ns)
IEEE 802.11b	2412 ~ 2462	DSSS	20MHz	Up to 11Mbps
IEEE 802.11g	2412 ~ 2462	OFDM	20MHz	Up to 54Mbps
IEEE 802.11n 2.4GHz 20MHz	2412 ~ 2462	OFDM	20MHz	Up to 72.2Mbps
IEEE 802.11n 2.4GHz 40MHz	2422 ~ 2452	OFDM	40MHz	Up to 150Mbps
Antenna information	Antenna	Trade Name	Type	Max. Gain (dBi)
	ANT-0	WIESON	Internal type Antenna	2.30
	ANT-1	WIESON	Internal type Antenna	3.03
	G_{ANT}			2.68
Antenna Delivery	See section 3.1			
Operate Temp. Range	0 ~ 40 °C			

Frequency Band	Max. RF Output Power (W)
IEEE 802.11b	0.125
IEEE 802.11g	0.200
IEEE 802.11n 2.4GHz 20MHz	0.196
IEEE 802.11n 2.4GHz 40MHz	0.122

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 2.4GHz 20MHz Continuous TX mode
Mode 5: IEEE 802.11n 2.4GHz 40MHz 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 as shown below except radiated spurious emission below 1GHz and power line conducted emissions below 30MHz, which worst case was in TX mode only.

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.

Test Mode	ANT-0	ANT-1	ANT-0+1
Mode 2	V	V	V
Mode 3	V	V	V
Mode 4	V	V	V
Mode 5	V	V	V

Test Mode	Antenna Delivery	Data Rate	Test Channel
Mode 2	2TX (CDD)	1M	1, 6, 11
Mode 3	2TX (CDD)	6M	1, 6, 11
Mode 4	2TX (CDD)	6.5M	1, 6, 11
Mode 5	2TX (CDD)	13.5M	3, 6, 9

Duty cycle

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



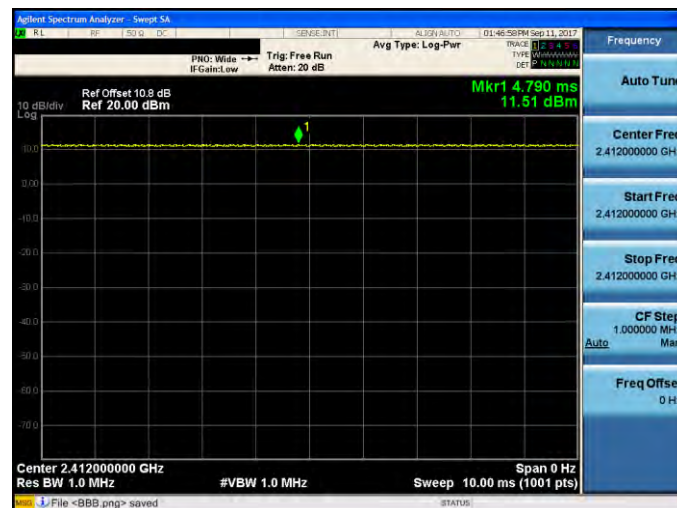
Duty Cycle Graphs

Mode 2: IEEE 802.11b Continuous TX mode

On time



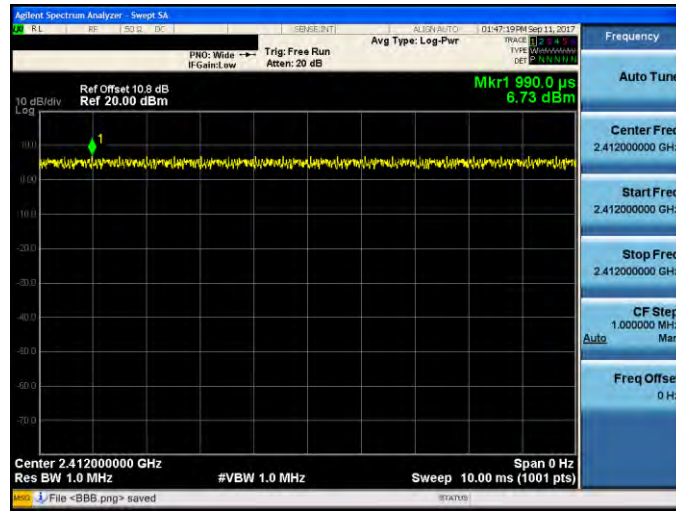
On+off time



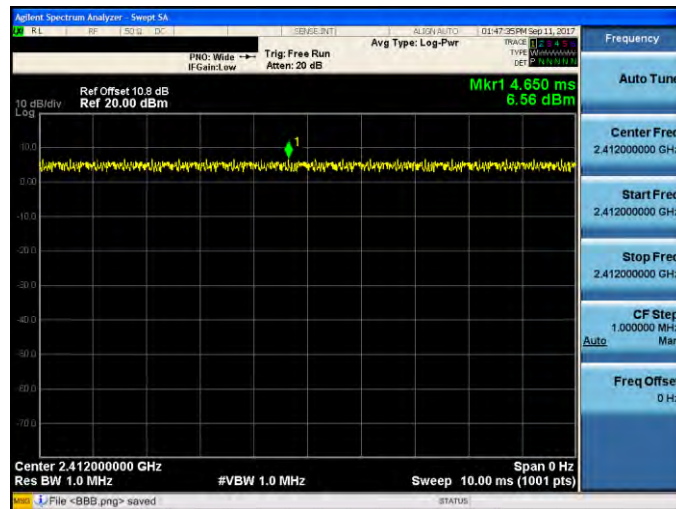


Mode 3: IEEE 802.11g Continuous TX mode

On time

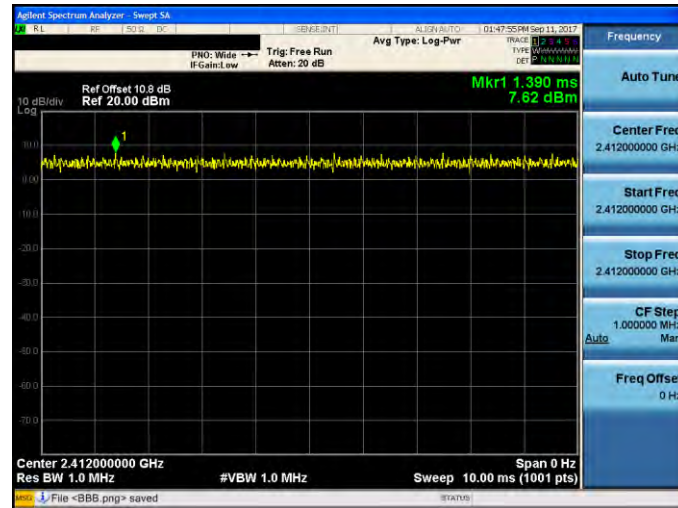


On+off time

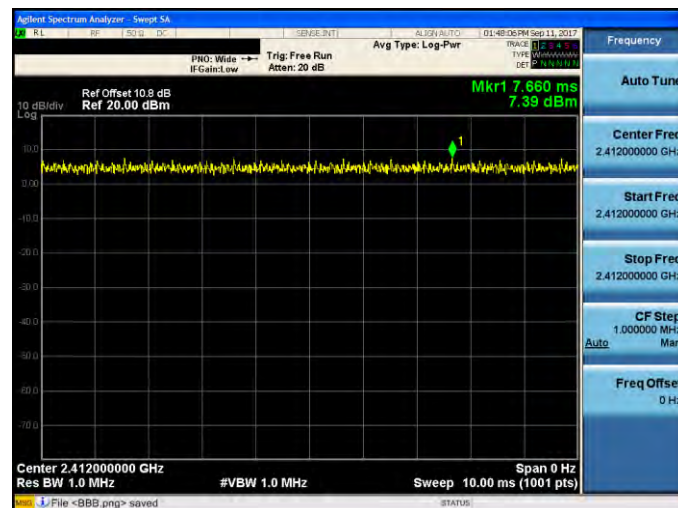


Mode 4: IEEE 802.11n 2.4GHz 20MHz Continuous TX mode

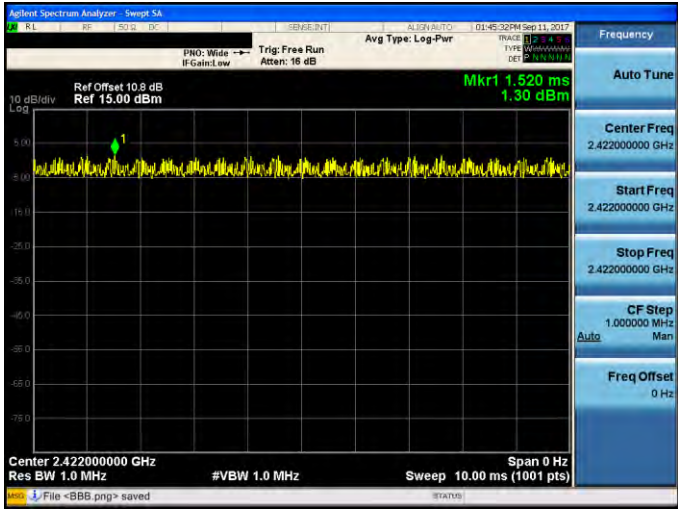
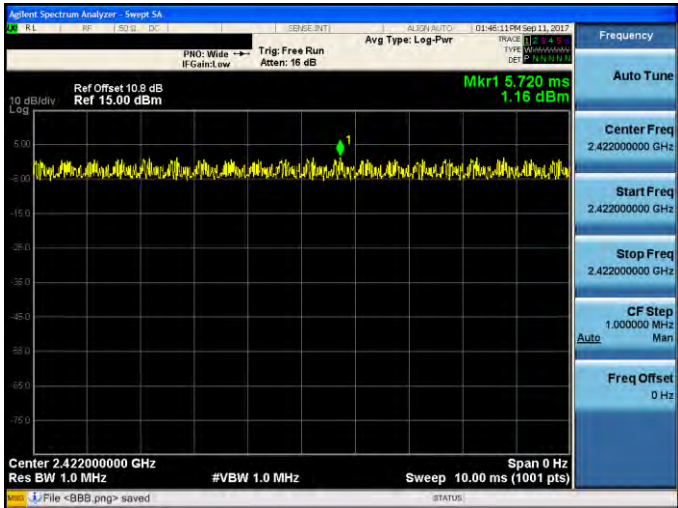
On time



On+off time



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

On time	
On+off time	

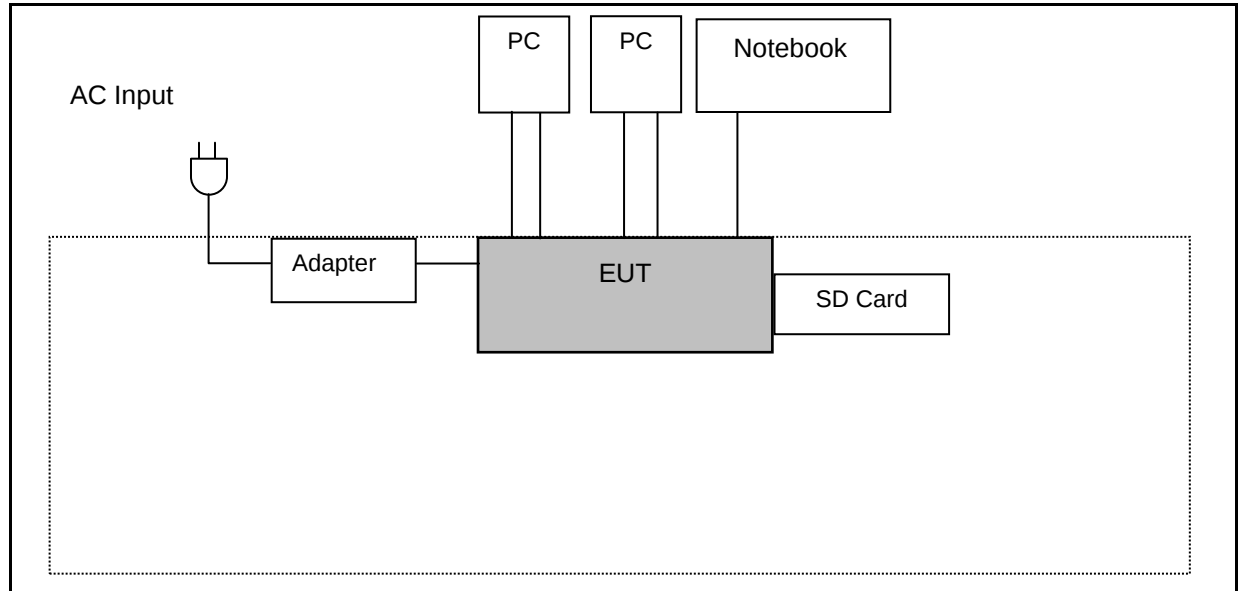
3.2. EUT Exercise Software

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.

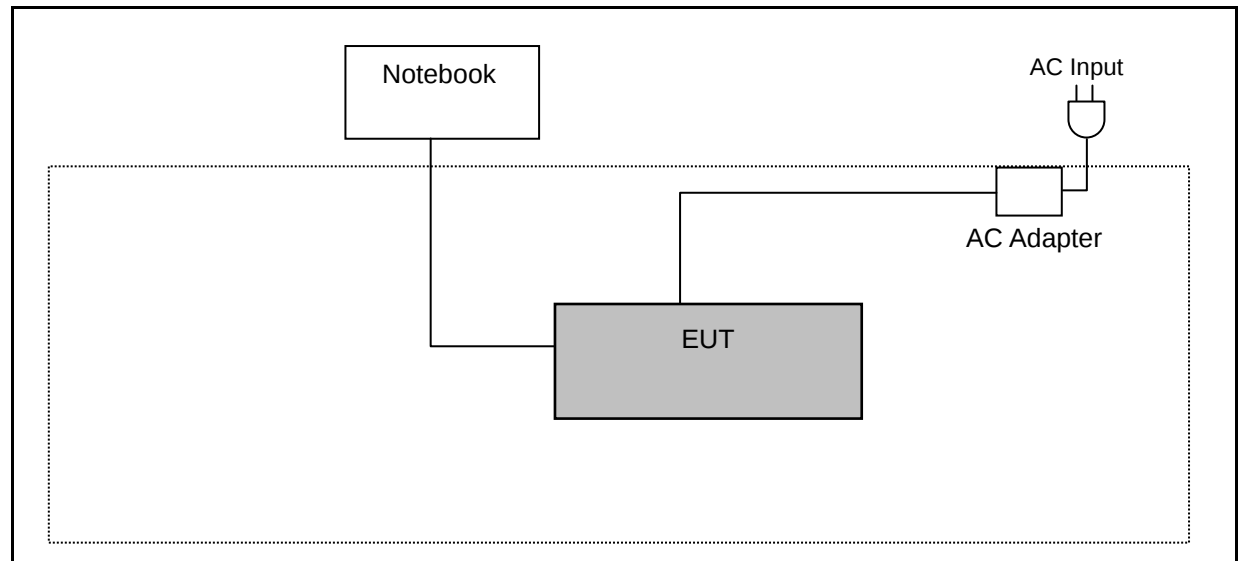
Measurement Software	
1	EZ-EMC Ver. ATL-03A1-1
2	EZ-EMC Ver ATL-ITC-3A1-1

3.3. Configuration of Test System Details

Conducted Emissions



Radiated Emission





3.4. Test Instruments

For Conducted Emission

Equipment	Manufacturer	Model Number	Serial Number	Cal. Date	Cal. Period
Test Receiver	R&S	ESCI	100367	05/18/2017	1 year
LISN	R&S	ENV216	101040	04/01/2017	1 year
LISN	R&S	ENV216	101041	03/15/2017	1 year
RF Cable	Woken	00100D1380194M	TE-02-02	05/19/2017	1 year
Test Site	ATL	TE02	TE02	N.C.R.	-----

For Radiated Emissions

Equipment	Manufacturer	Model Number	Serial Number	Cal. Date	Remark
RF Pre-selector (9KHz~1GHz)	Agilent	N9039A	MY46520256	04/24/2017	1 year
Spectrum Analyzer (3Hz~44GHz)	Agilent	E4446A	MY46180578	04/24/2017	1 year
Pre Amplifier (1~26.5GHz)	Agilent	8449B	3008A02237	10/11/2016	1 year
Pre Amplifier (100KHz~1.3GHz)	Agilent	8447D	2944A11119	01/12/2017	1 year
Pre Amplifier (26.5~40GHz)	EMCI	EMC2654045	980028	08/21/2017	1 year
Pre Amplifier (1~26.5GHz)	EMCI	EMC012645SE	980289	01/16/2017	1 year
Broadband Antenna	Schwarzbeck	VULB9168	416	10/13/2016	1 year
Horn Antenna (1~18GHz)	SCHWARZBECK MESS-ELEKTRONIK	BBHA9120D	9120D-550	06/20/2017	1 year
Horn Antenna (18~40GHz)	ETS	3116	86467	09/05/2016	1 year
				09/11/2017	1 year
Loop Antenna	COM-POWER CORPORATION	AL-130	121014	01/26/2017	1 year
Microwave Cable	EMCI	EMC102-KM-KM-1 4000	151001	02/20/2017	1 year
Microwave Cable	EMCI	EMC-104-SM-SM- 14000	140202	02/20/2017	1 year
Microwave Cable	EMCI	EMC104-SM-SM-6 00	140301	02/20/2017	1 year
Test Site	ATL	TE01	888001	08/29/2017	1 year

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



For Conducted

Equipment	Manufacturer	Model Number	Serial Number	Cal. Date	Remark
Power Sensor	Anritsu	MA2411B	1126022	08/28/2017	1 year
Power Meter	Anritsu	ML2495A	1135009	08/28/2017	1 year
Microwave Cable	EMCI	EMC104-SM-SM-1 500	140303	02/22/2017	1 year
Spectrum Analyzer (9KHz~26.5GHz)	Agilent	E4408B	MY45107753	08/14/2017	1 year
Test Site	ATL	TE05	TE05	N.C.R.	-----

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

3.5. Test Site Environment

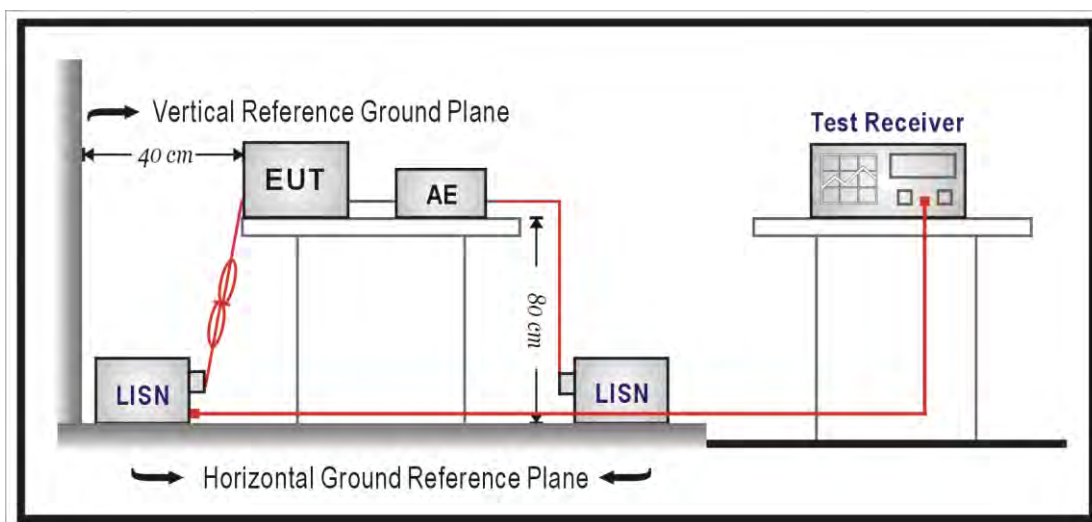
Items	Required (IEC 60068-1)	Actual
Temperature (°C)	15-35	26
Humidity (%RH)	25-75	60
Barometric pressure (mbar)	860-1060	950

4 AC Power Line Conducted Emission Measurement

4.1. Limit

Frequency (MHz)	Quasi-peak	Average
0.15 - 0.5	66 to 56	56 to 46
0.50 - 5.0	56	46
5.0 - 30.0	60	50

4.2. Test Setup



4.3. Test Procedure

The EUT and simulators are connected to the main power through a line impedance stabilization network (L.I.S.N.). This provides a $50\Omega // 50\mu\text{H}$ coupling impedance for the measuring equipment. The peripheral devices are also connected to the main power through a LISN that provides a $50\Omega // 50\mu\text{H}$ coupling impedance with 50ohm termination.

Tabletop device shall be placed on a non-conducting platform, of nominal size 1 m by 1.5 m, raised 80 cm above the reference ground plane. The wall of screened room shall be located 40cm to the rear of the EUT. Other surfaces of tabletop or floor standing EUT shall be at least 80cm from any other ground conducting surface including one or more LISNs. For floor-standing device shall be placed under the EUT with a 12mm insulating material.

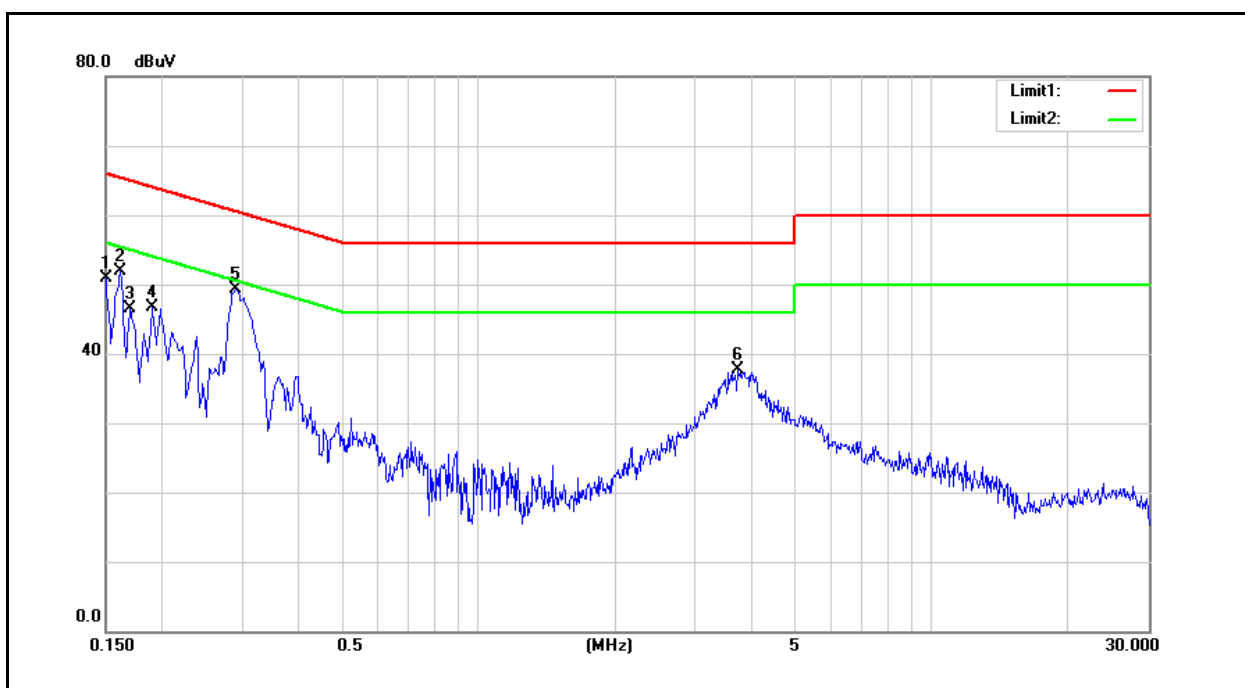
Conducted emissions were investigated over the frequency range from 0.15 MHz to 30 MHz using a resolution bandwidth of 9 kHz. The equipment under test (EUT) shall be meet the limits in section 4.1, as applicable, including the average limit and the quasi-peak limit when using respectively, an average detector and quasi-peak detector measured in accordance with the methods described of related standard. When all of peak value were complied with quasi-peak and average limit from 150kHz to 30MHz then quasi-peak and average measurement was unnecessary.

The AMN shall be placed 0,8 m from the boundary of the unit under test and bonded to a ground reference plane for AMNs mounted on top of the ground reference plane. This distance is between the closest points of the AMN and the EUT. All other units of the EUT and associated equipment shall be at least 0,8 m from the AMN. If the mains power cable is longer than 1m then the cable shall be folded back and forth at the centre of the lead to form a bundle no longer than 0.4m. All of interconnecting cables that hang closer than 40cm to the ground plane shall be folded back and forth in the center forming a bundle 30 cm to 40 cm long. All of EUT and AE shall be separate place more than 0.1m. All 50 Ω ports of the LISN shall be resistively terminated into 50 Ω loads when not connected to the measuring instrument.

If the reading of the measuring receiver shows fluctuations close to the limit, the reading shall be observed for at least 15 s at each measurement frequency; the higher reading shall be recorded with the exception of any brief isolated high reading which shall be ignored.

4.4. Test Result

Standard:	FCC Part 15.247	Line:	L1
Test item:	Conducted Emission	Power:	AC 120V/60Hz
Mode:	Mode 1	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
		Date:	09/06/2017
Description:			

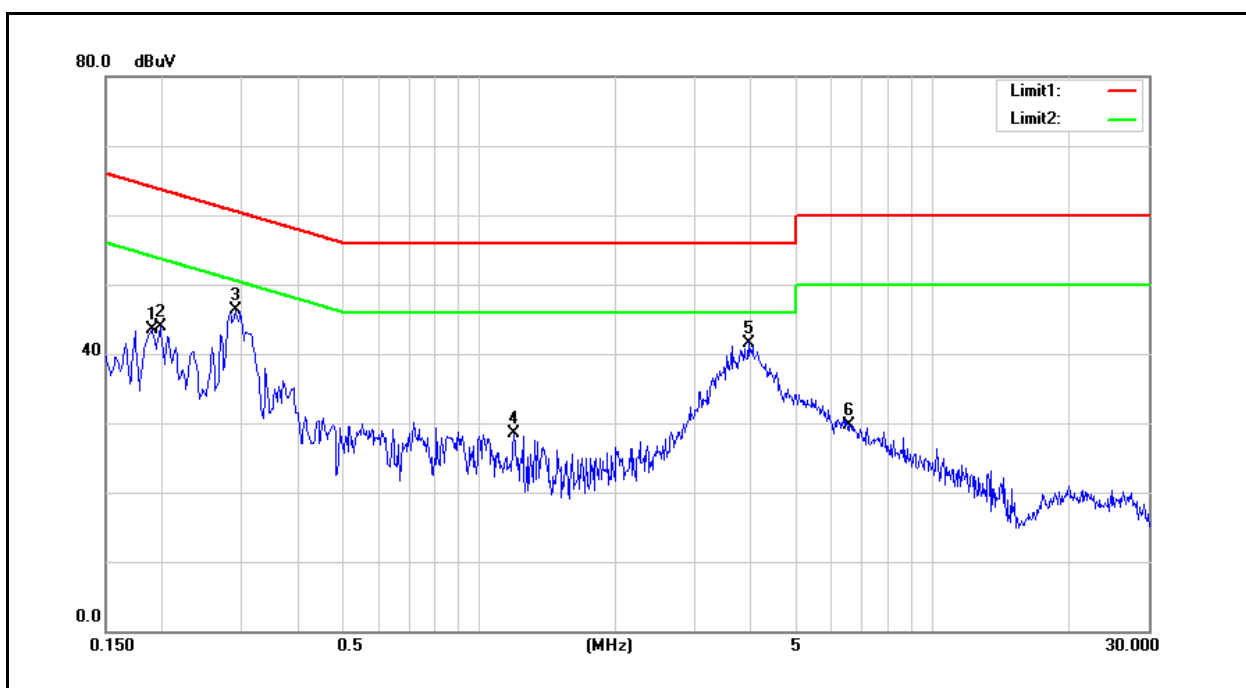


No.	Frequency (MHz)	QP reading (dBuV)	AVG reading (dBuV)	Correction factor (dB)	QP result (dBuV)	AVG result (dBuV)	QP limit (dBuV)	AVG limit (dBuV)	QP margin (dB)	AVG margin (dB)	Remark
1	0.1500	38.68	24.83	9.53	48.21	34.36	66.00	56.00	-17.79	-21.64	Pass
2	0.1620	33.74	19.22	9.54	43.28	28.76	65.36	55.36	-22.08	-26.60	Pass
3	0.1712	35.45	21.27	9.54	44.99	30.81	64.90	54.90	-19.91	-24.09	Pass
4	0.1900	32.74	20.25	9.53	42.27	29.78	64.04	54.04	-21.77	-24.26	Pass
5	0.2900	37.64	31.23	9.53	47.17	40.76	60.52	50.52	-13.35	-9.76	Pass
6	3.7300	24.08	17.23	9.66	33.74	26.89	56.00	46.00	-22.26	-19.11	Pass

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

2. Correction factor (dB) = Cable loss (dB) + L.I.S.N. factor (dB).

Standard:	FCC Part 15.247	Line:	N
Test item:	Conducted Emission	Power:	AC 120V/60Hz
Mode:	Mode 1	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
		Date:	09/06/2017
Description:			



No.	Frequency (MHz)	QP reading (dBuV)	AVG reading (dBuV)	Correction factor (dB)	QP result (dBuV)	AVG result (dBuV)	QP limit (dBuV)	AVG limit (dBuV)	QP margin (dB)	AVG margin (dB)	Remark
1	0.1900	31.24	18.80	9.63	40.87	28.43	64.04	54.04	-23.17	-25.61	Pass
2	0.1980	31.32	19.92	9.63	40.95	29.55	63.69	53.69	-22.74	-24.14	Pass
3	0.2900	35.61	28.70	9.63	45.24	38.33	60.52	50.52	-15.28	-12.19	Pass
4	1.1940	13.76	7.96	9.68	23.44	17.64	56.00	46.00	-32.56	-28.36	Pass
5	3.9260	27.12	20.51	9.77	36.89	30.28	56.00	46.00	-19.11	-15.72	Pass
6	6.5580	16.81	12.01	9.84	26.65	21.85	60.00	50.00	-33.35	-28.15	Pass

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

2. Correction factor (dB) = Cable loss (dB) + L.I.S.N. factor (dB).



5 Radiated Emission Measurement

5.1. Limit

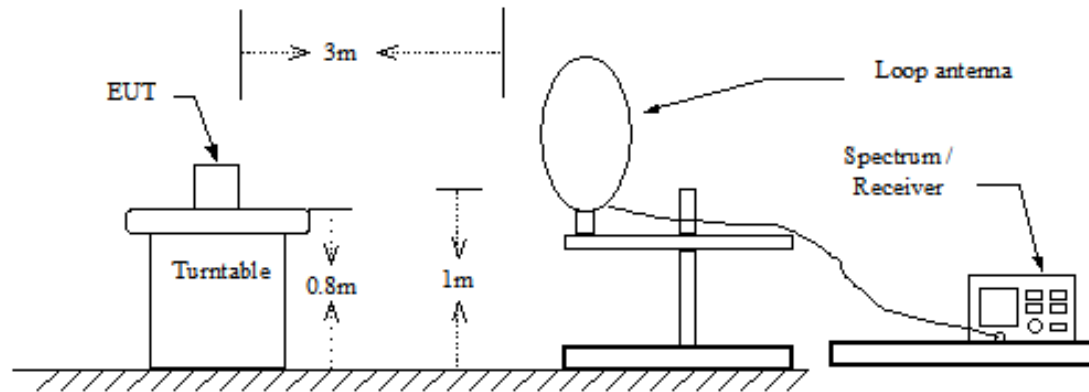
According to §15.209(a), except as provided elsewhere in this subpart, the emissions from an intentional radiator shall not exceed the field strength levels specified in the following table:

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

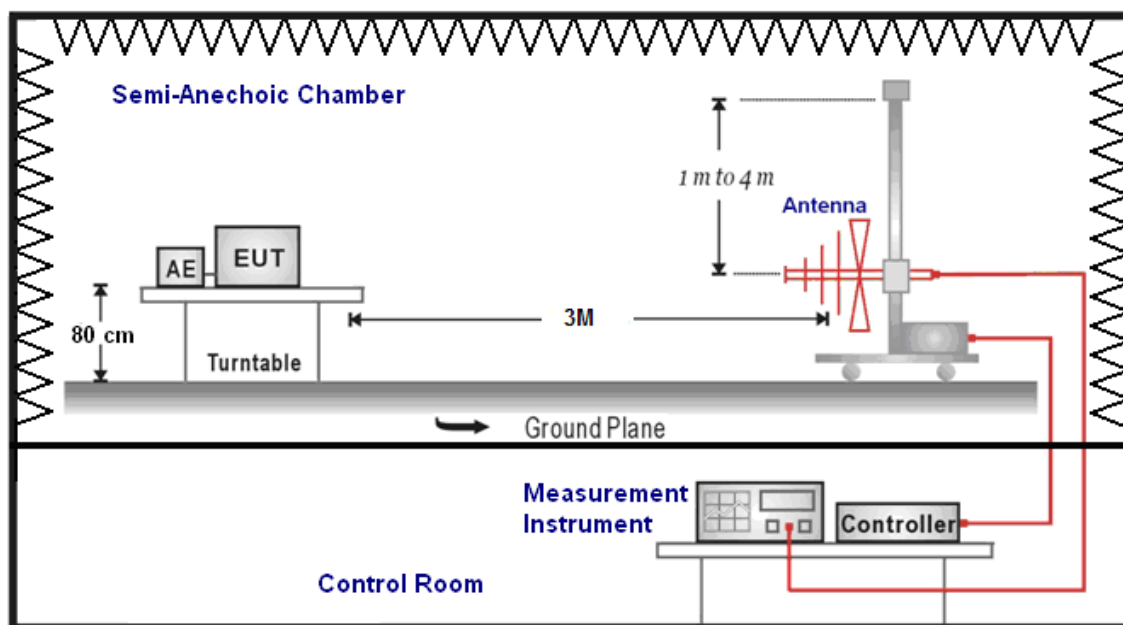
** Except as provided in paragraph (g), fundamental emissions from intentional radiators operating under this Section shall not be located in the frequency bands 54-72 MHz, 76-88 MHz, 174-216 MHz or 470-806 MHz. However, operation within these frequency bands is permitted under other sections of this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

5.2. Setup

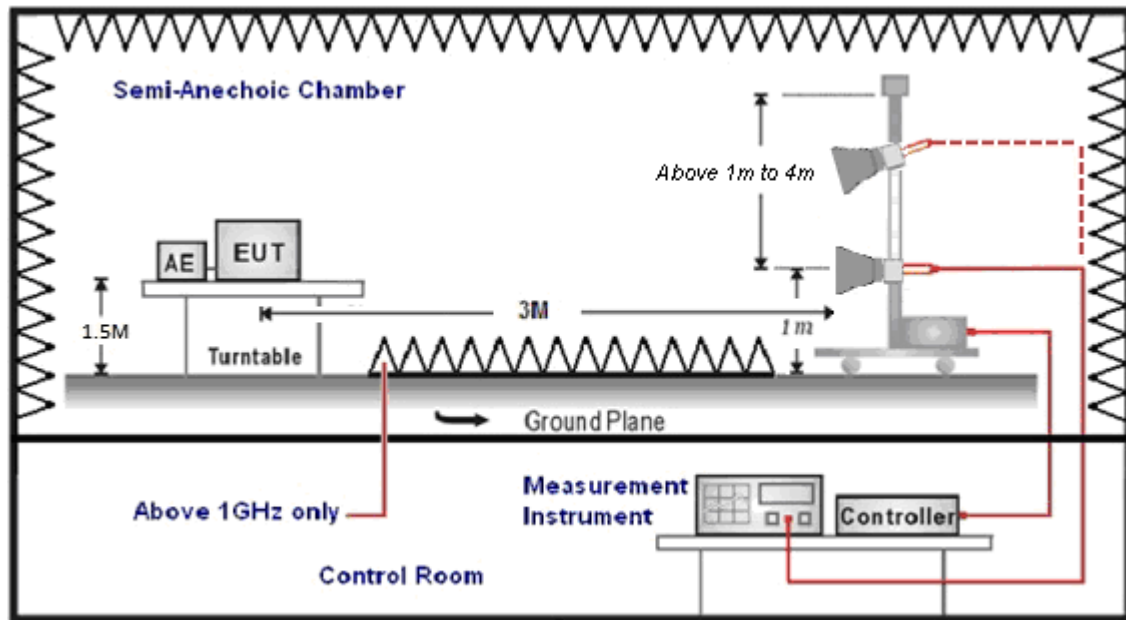
9kHz ~ 30MHz



Below 1GHz



Above 1GHz



5.3. 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 (below 1GHz use 0.8m turntable / above 1GHz use 1.5m turntable), 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 1 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 three 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 (20dB/decade).

For testing above 1GHz, the emission level of the EUT in peak mode was 20dB 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 (dBuV) into field intensity in micro volts per meter (uV/m).

The actual field intensity in decibels referenced to 1 microvolt in to field intensity in micro volts per meter (dBuV/m).



The actual field intensity in referenced to 1 microvolt per meter (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) $\text{Amplitude (dBuV/m)} = \text{FI (dBuV)} + \text{AF (dBuV)} + \text{CL (dBuV)} - \text{Gain (dB)}$

FI= Reading of the field intensity.

AF= Antenna factor.

CL= Cable loss.

P.S Amplitude is auto calculate in spectrum analyzer.

(2) $\text{Actual Amplitude (dBuV/m)} = \text{Amplitude (dBuV)} - \text{Dis(dB)}$

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

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

(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 20dB below the permissible limits or the field strength is too small to be measured.



5.4. Test Result

Below 1GHz

Standard:		FCC Part 15.247		Test Distance:		3m	
Test item:		Harmonic		Power:		AC 120V/60Hz	
Mode:		Mode 1		Temp.(°C)/Hum.(%RH):		26(°C)/60%RH	
				Date:		09/13/2017	
Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Polar. H / V
200.7200	39.79	-7.38	32.41	43.50	-11.09	QP	H
400.5400	41.33	-1.33	40.00	46.00	-6.00	QP	H
500.4500	31.02	0.58	31.60	46.00	-14.40	QP	H
600.3600	32.07	2.69	34.76	46.00	-11.24	QP	H
641.1000	30.76	3.34	34.10	46.00	-11.90	QP	H
935.0100	28.94	8.95	37.89	46.00	-8.11	QP	H
199.7500	34.18	-7.40	26.78	43.50	-16.72	QP	V
399.5700	32.00	-1.35	30.65	46.00	-15.35	QP	V
500.4500	33.91	0.58	34.49	46.00	-11.51	QP	V
600.3600	33.87	2.69	36.56	46.00	-9.44	QP	V
749.7400	29.57	5.56	35.13	46.00	-10.87	QP	V
885.5400	28.66	8.09	36.75	46.00	-9.25	QP	V

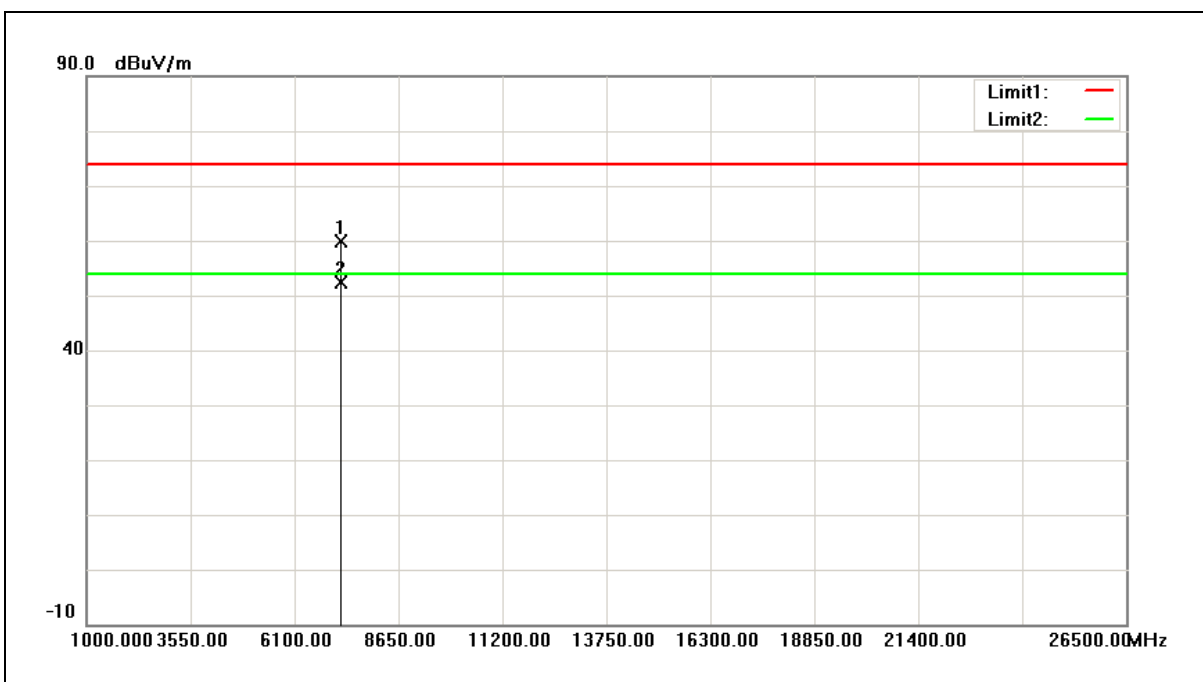
Note:1.Result (dBuV/m) = Correct Factor (dB/m) + Reading(dBuV).

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

3.No emission found between lowest internal used/generated frequencies to 30MHz (9 kHz~30MHz).

Above 1GHz

Standard:	FCC Part 15.247	Test Distance:	3m
Test item:	Harmonic	Power:	AC 120V/60Hz
Frequency:	2412MHz	Temp.(°C)/Hum. (%RH):	26(°C)/60%RH
Mode:	Mode 2	Date:	09/12/2017
Ant.Polar.:	Horizontal		



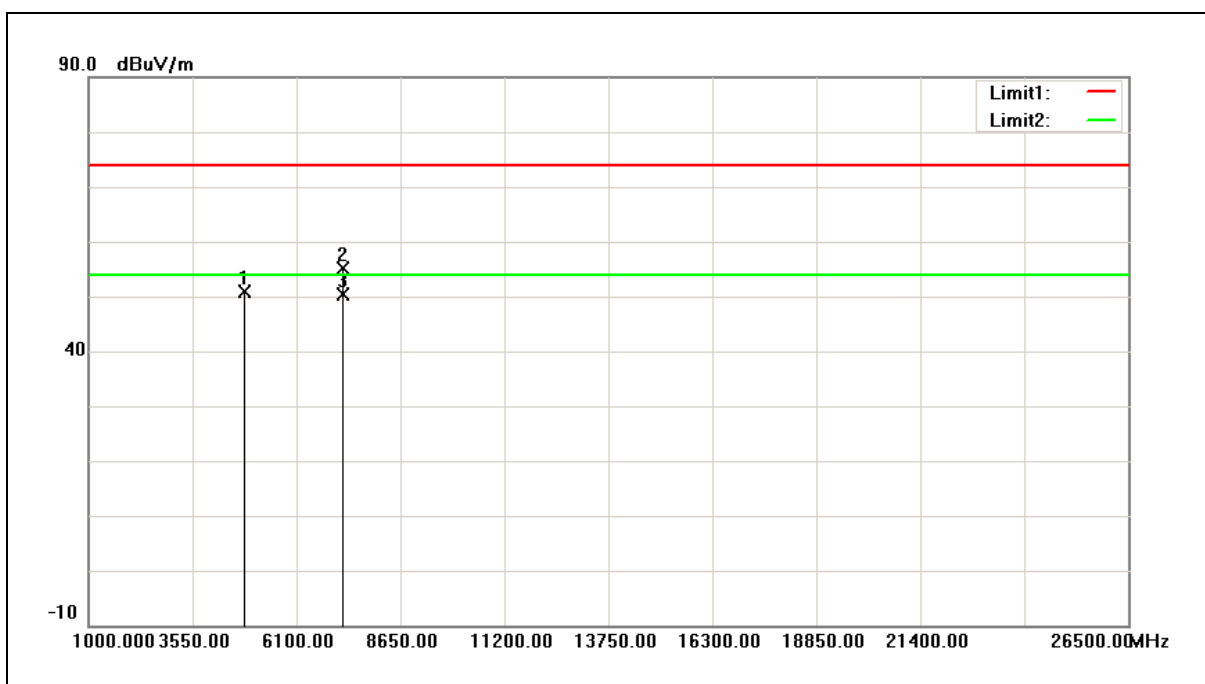
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	7236.000	62.63	-2.69	59.94	74.00	-14.06	peak
2	7236.000	55.13	-2.69	52.44	54.00	-1.56	AVG

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:	3m
Test item:	Harmonic	Power:	AC 120V/60Hz
Frequency:	2412MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 2	Date:	09/12/2017
Ant.Polar.:	Vertical		



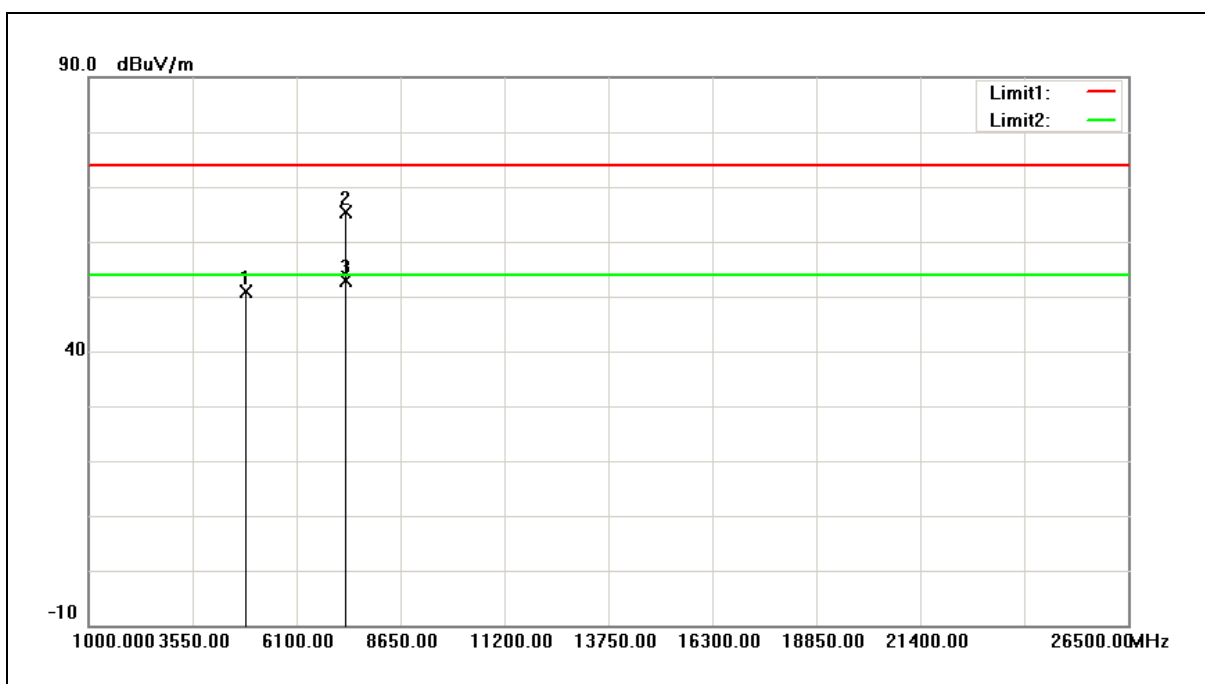
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4824.000	60.44	-9.64	50.80	74.00	-23.20	peak
2	7236.000	57.70	-2.69	55.01	74.00	-18.99	peak
3	7236.000	53.09	-2.69	50.40	54.00	-3.60	AVG

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:	3m
Test item:	Harmonic	Power:	AC 120V/60Hz
Frequency:	2437MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 2	Date:	09/12/2017
Ant.Polar.:	Horizontal		



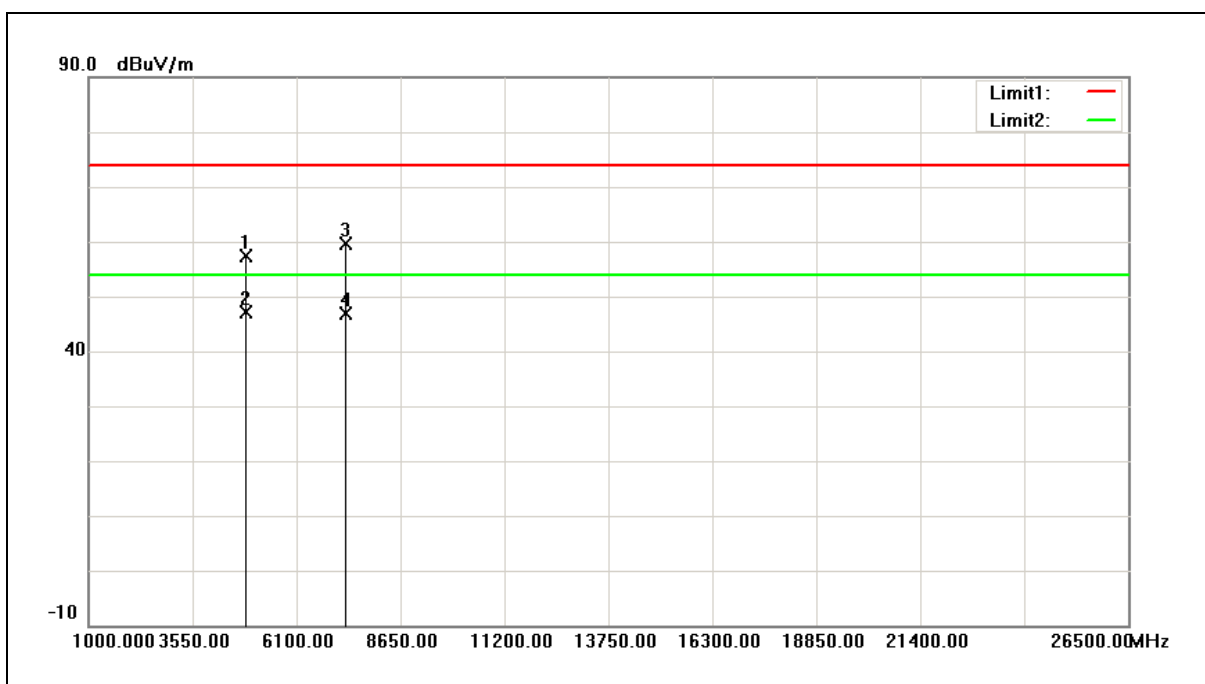
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4874.000	60.27	-9.50	50.77	74.00	-23.23	peak
2	7311.000	67.92	-2.42	65.50	74.00	-8.50	peak
3	7311.000	55.32	-2.42	52.90	54.00	-1.10	AVG

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:	3m
Test item:	Harmonic	Power:	AC 120V/60Hz
Frequency:	2437MHz	Temp.(°C)/Hum. (%RH):	26(°C)/60%RH
Mode:	Mode 2	Date:	09/12/2017
Ant.Polar.:	Vertical		



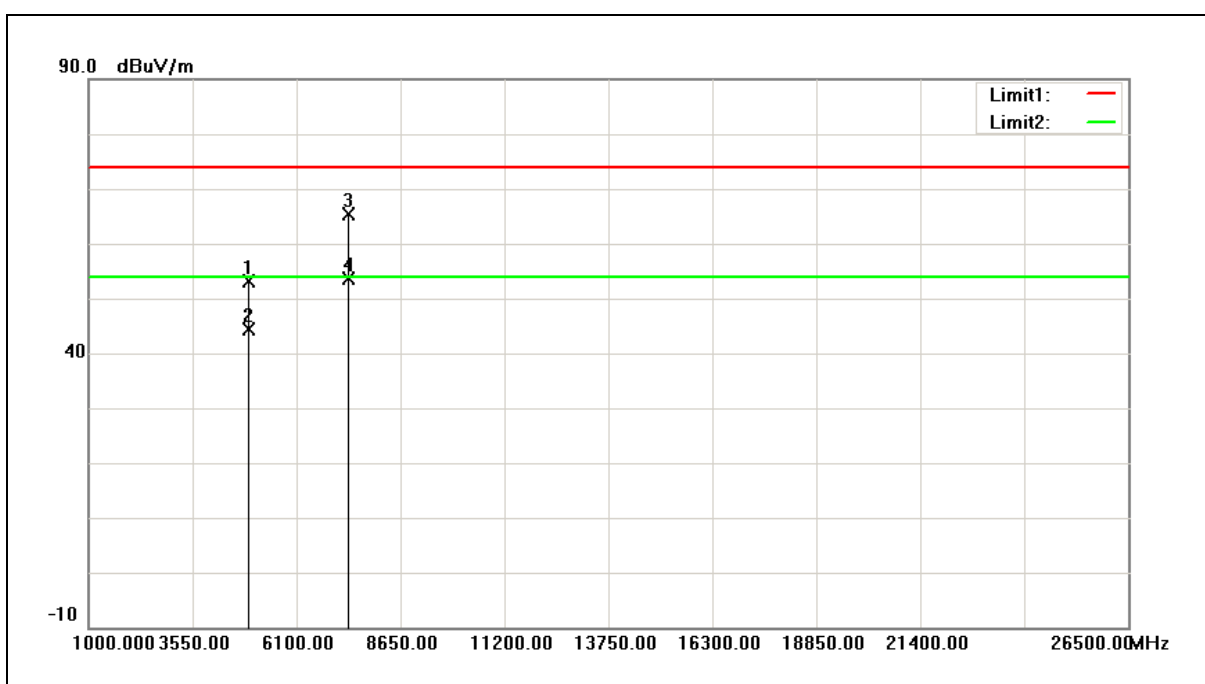
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4874.000	66.89	-9.50	57.39	74.00	-16.61	peak
2	4874.000	56.51	-9.50	47.01	54.00	-6.99	AVG
3	7311.000	62.11	-2.42	59.69	74.00	-14.31	peak
4	7311.000	49.33	-2.42	46.91	54.00	-7.09	AVG

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:	3m
Test item:	Harmonic	Power:	AC 120V/60Hz
Frequency:	2462MHz	Temp.(°C)/Hum. (%RH):	26(°C)/60%RH
Mode:	Mode 2	Date:	09/12/2017
Ant.Polar.:	Horizontal		



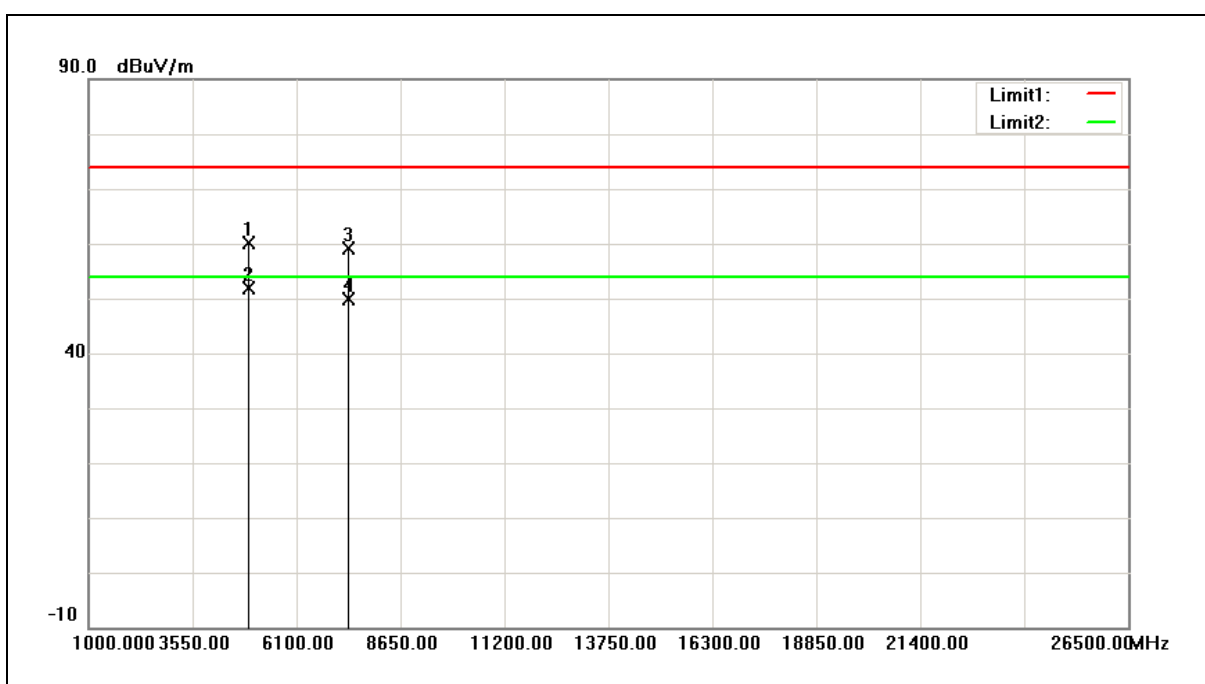
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4924.000	62.49	-9.37	53.12	74.00	-20.88	peak
2	4924.000	53.68	-9.37	44.31	54.00	-9.69	AVG
3	7386.000	67.54	-2.16	65.38	74.00	-8.62	peak
4	7386.000	55.77	-2.16	53.61	54.00	-0.39	AVG

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:	3m
Test item:	Harmonic	Power:	AC 120V/60Hz
Frequency:	2462MHz	Temp.(°C)/Hum. (%RH):	26(°C)/60%RH
Mode:	Mode 2	Date:	09/12/2017
Ant.Polar.:	Vertical		



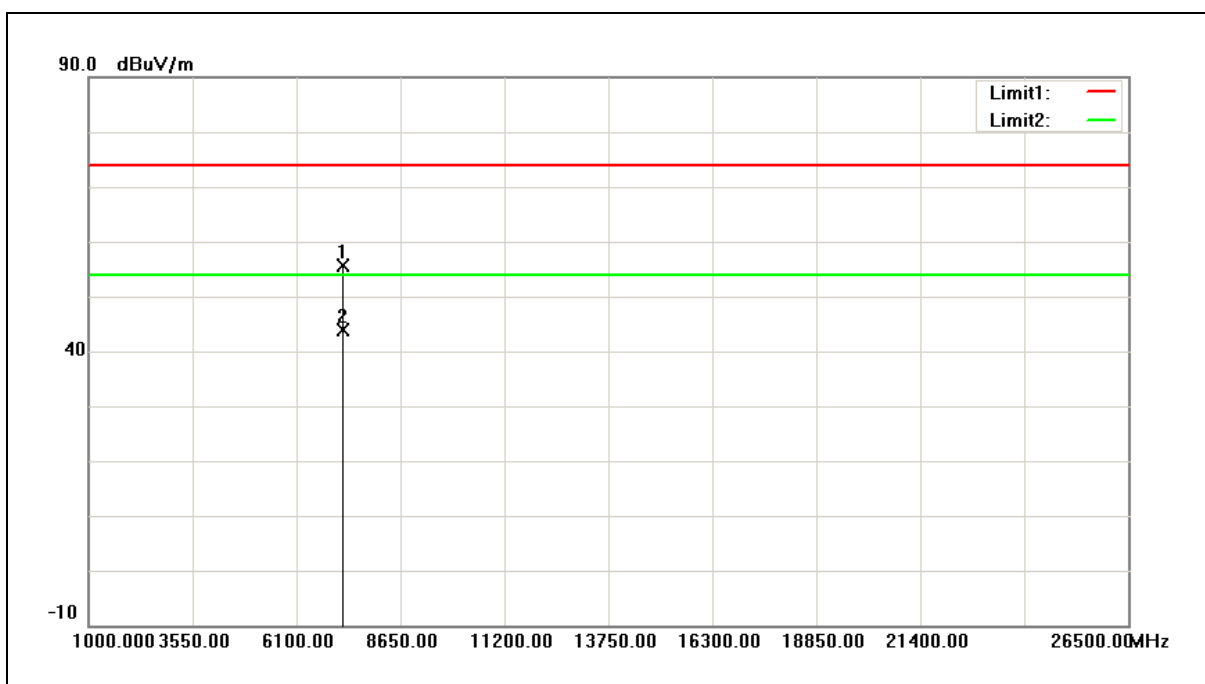
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4924.000	69.60	-9.37	60.23	74.00	-13.77	peak
2	4924.000	61.14	-9.37	51.77	54.00	-2.23	AVG
3	7386.000	61.39	-2.16	59.23	74.00	-14.77	peak
4	7386.000	51.92	-2.16	49.76	54.00	-4.24	AVG

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:	3m
Test item:	Harmonic	Power:	AC 120V/60Hz
Frequency:	2412MHz	Temp.(°C)/Hum. (%RH):	26(°C)/60%RH
Mode:	Mode 3	Date:	09/12/2017
Ant.Polar.:	Horizontal		



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	7236.000	58.31	-2.69	55.62	74.00	-18.38	peak
2	7236.000	46.52	-2.69	43.83	54.00	-10.17	AVG

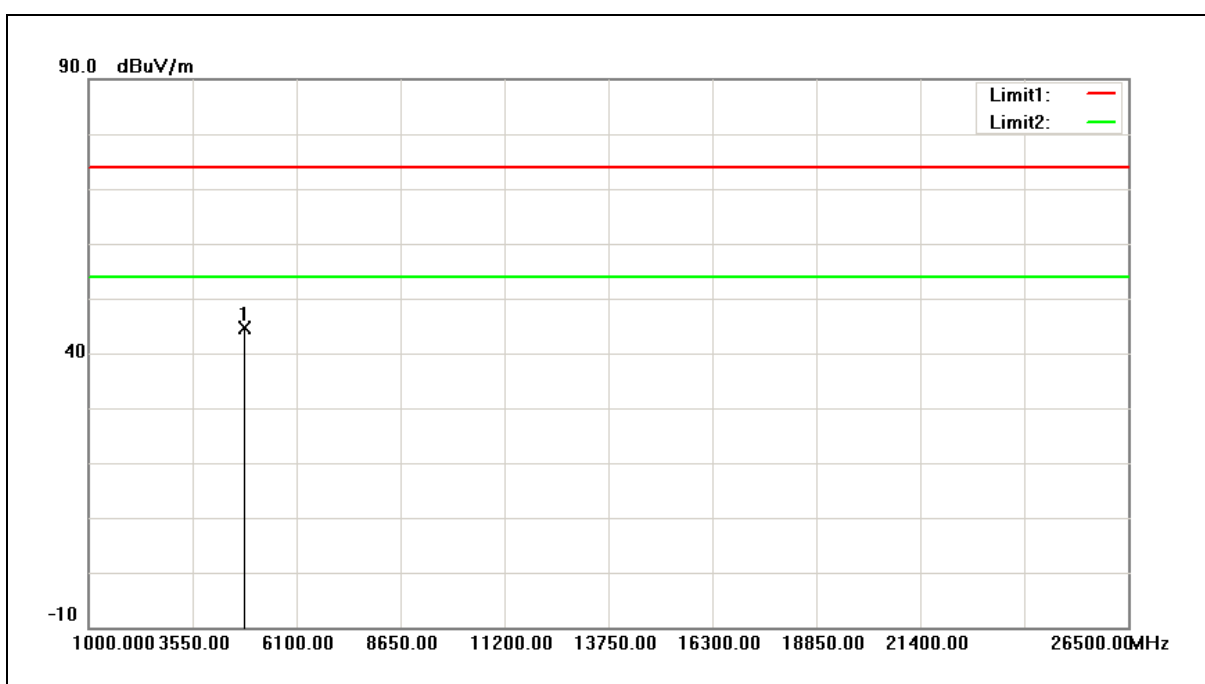
Note:1.Result (dBuV/m) = Correct Factor (dB/m) + Reading(dBuV).

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:	3m
Test item:	Harmonic	Power:	AC 120V/60Hz
Frequency:	2412MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 3	Date:	09/12/2017
Ant.Polar.:	Vertical		



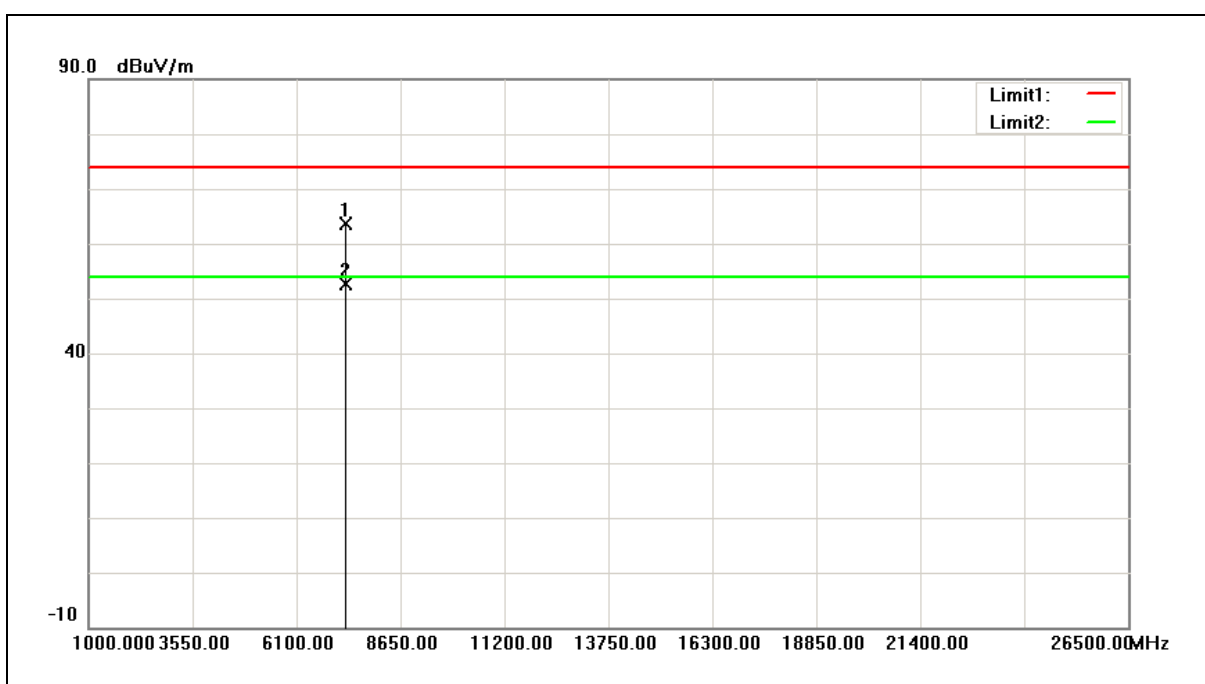
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4824.000	54.27	-9.64	44.63	74.00	-29.37	peak

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:	3m
Test item:	Harmonic	Power:	AC 120V/60Hz
Frequency:	2437MHz	Temp.(°C)/Hum. (%RH):	26(°C)/60%RH
Mode:	Mode 3	Date:	09/12/2017
Ant.Polar.:	Horizontal		



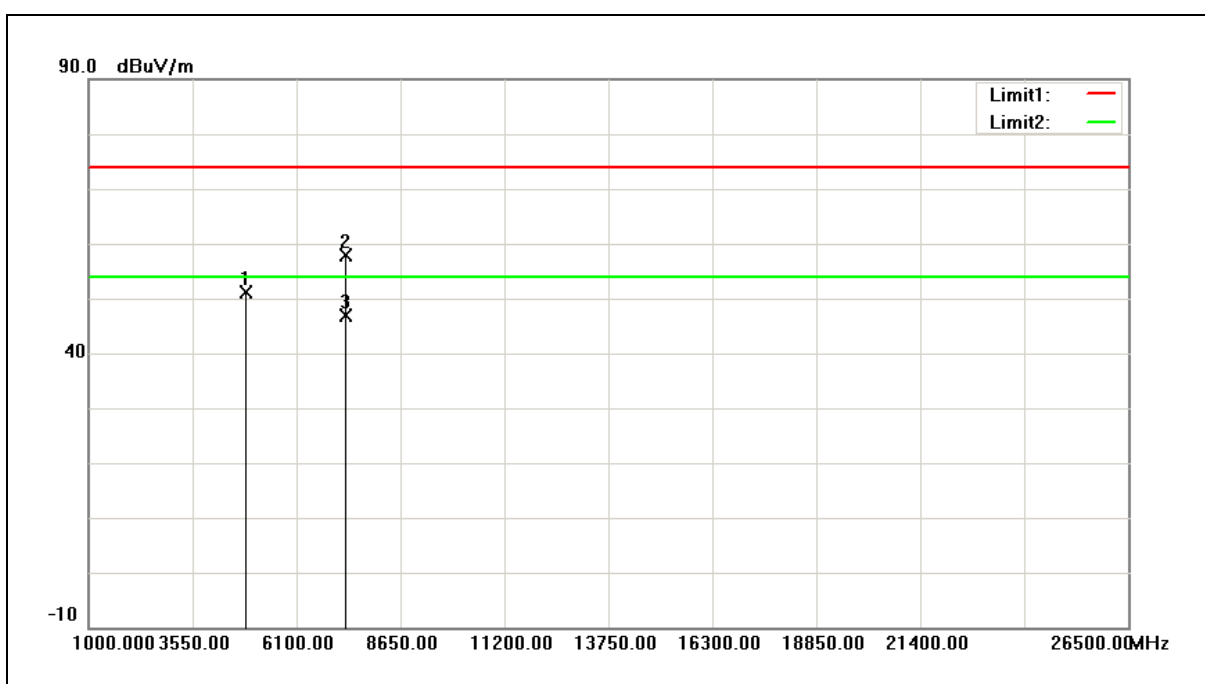
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	7311.000	66.11	-2.42	63.69	74.00	-10.31	peak
2	7311.000	54.96	-2.42	52.54	54.00	-1.46	AVG

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:	3m
Test item:	Harmonic	Power:	AC 120V/60Hz
Frequency:	2437MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 3	Date:	09/12/2017
Ant.Polar.:	Vertical		



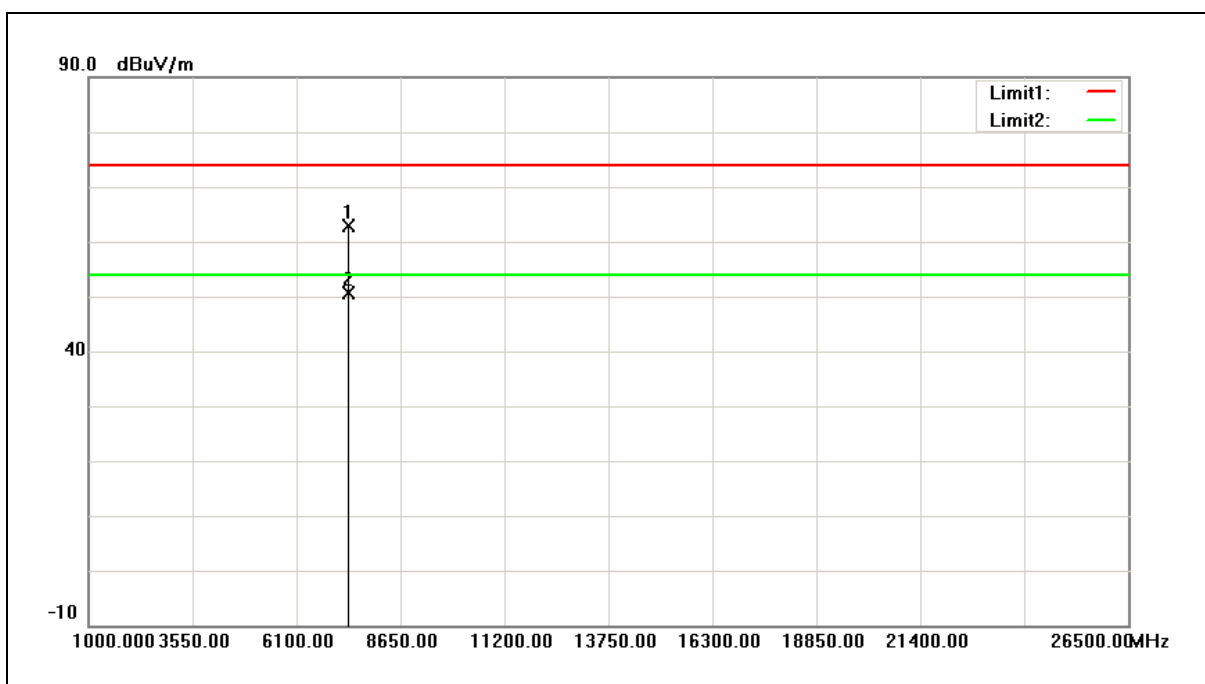
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4874.000	60.69	-9.50	51.19	74.00	-22.81	peak
2	7311.000	60.35	-2.42	57.93	74.00	-16.07	peak
3	7311.000	49.38	-2.42	46.96	54.00	-7.04	AVG

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:	3m
Test item:	Harmonic	Power:	AC 120V/60Hz
Frequency:	2462MHz	Temp.(°C)/Hum. (%RH):	26(°C)/60%RH
Mode:	Mode 3	Date:	09/12/2017
Ant.Polar.:	Horizontal		



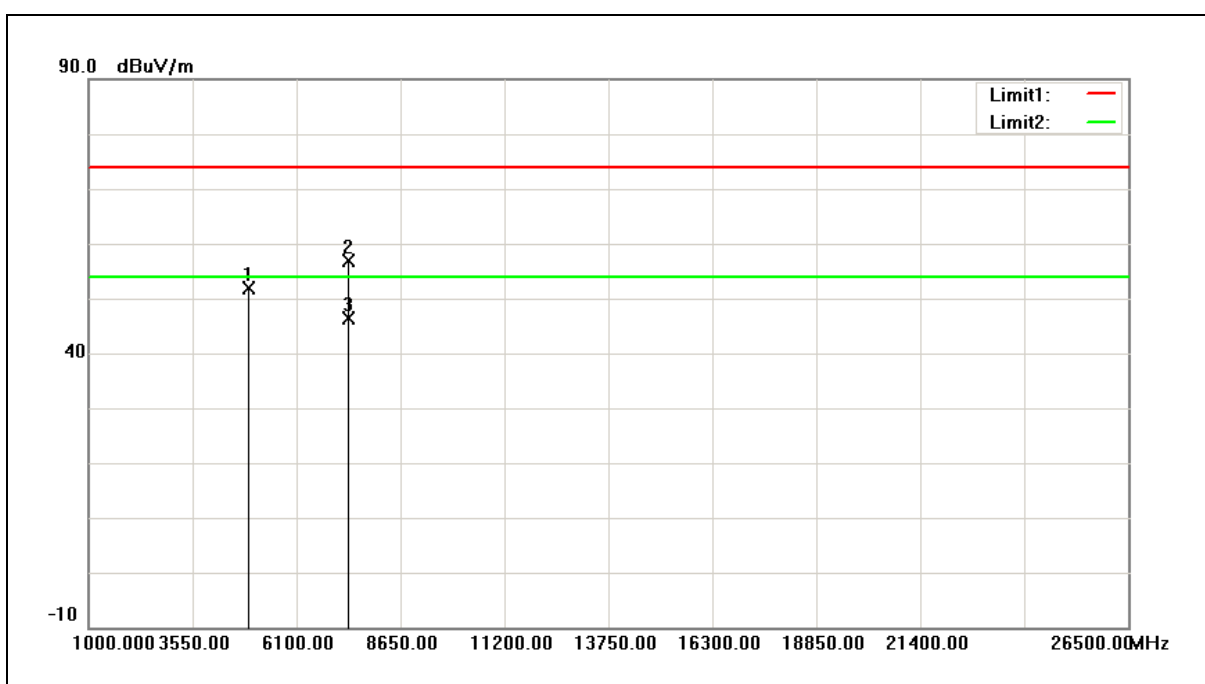
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	7386.000	65.00	-2.16	62.84	74.00	-11.16	peak
2	7386.000	52.74	-2.16	50.58	54.00	-3.42	AVG

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:	3m
Test item:	Harmonic	Power:	AC 120V/60Hz
Frequency:	2462MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 3	Date:	09/12/2017
Ant.Polar.:	Vertical		



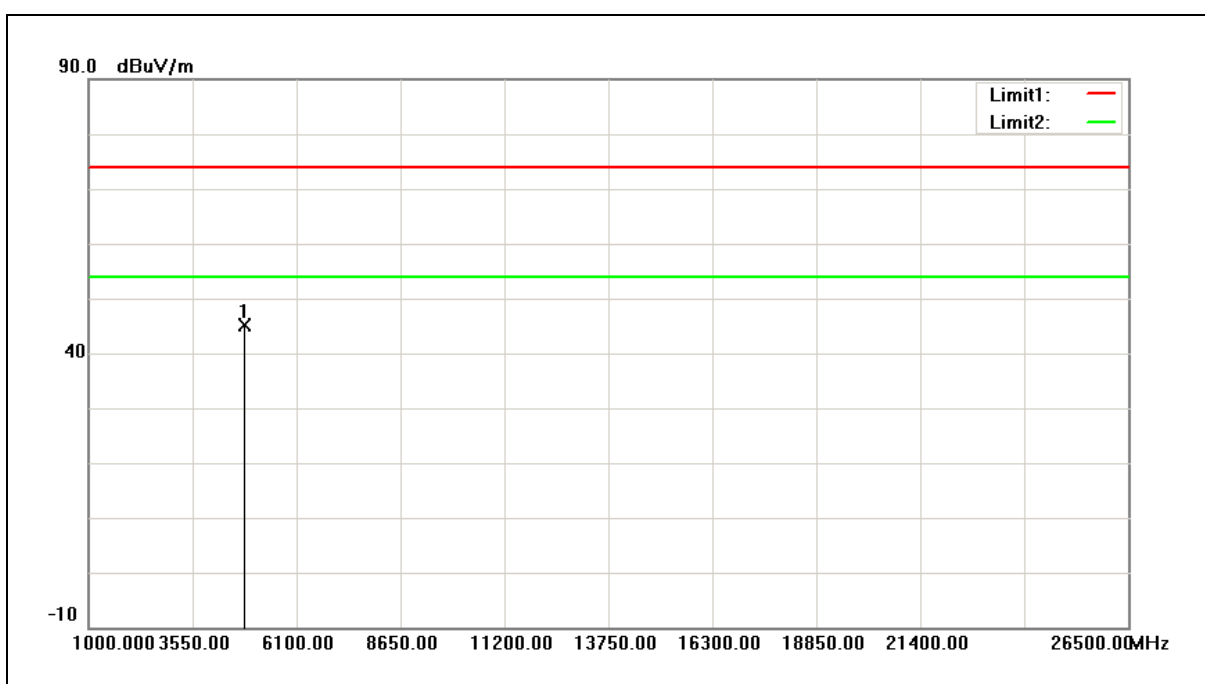
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4927.000	61.21	-9.36	51.85	74.00	-22.15	peak
2	7386.000	59.00	-2.16	56.84	74.00	-17.16	peak
3	7386.000	48.49	-2.16	46.33	54.00	-7.67	AVG

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:	3m
Test item:	Harmonic	Power:	AC 120V/60Hz
Frequency:	2412MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 4	Date:	09/12/2017
Ant.Polar.:	Horizontal		



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4824.000	54.74	-9.64	45.10	74.00	-28.90	peak

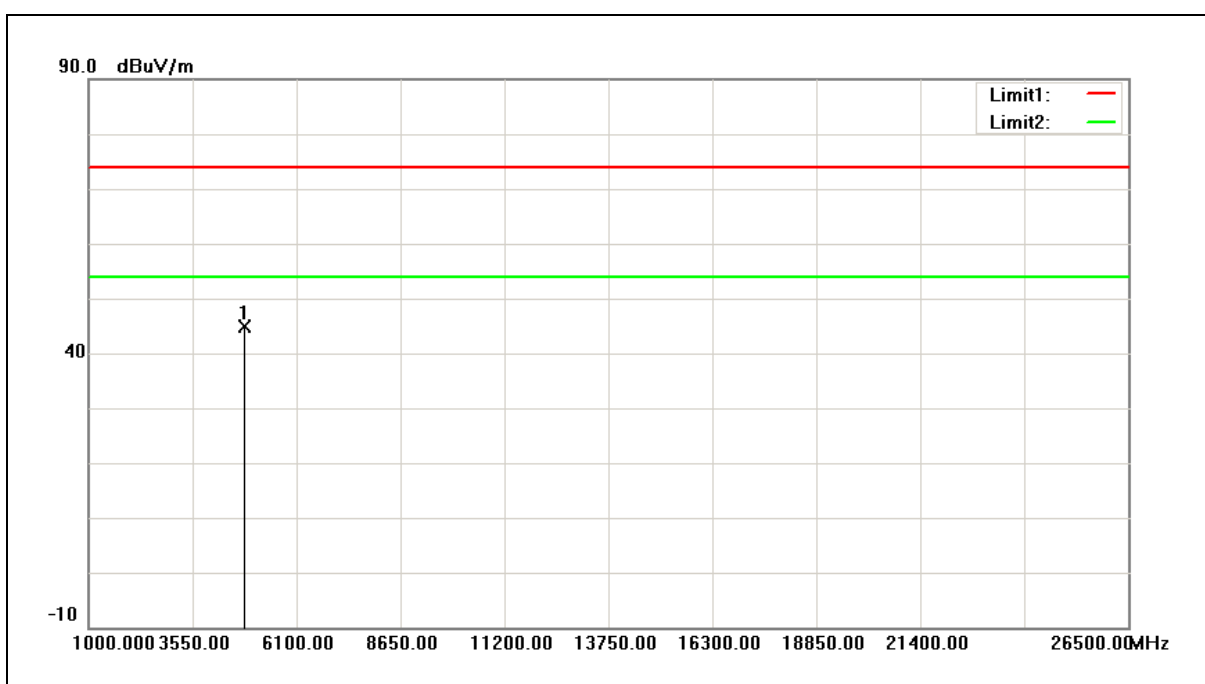
Note:1.Result (dBuV/m) = Correct Factor (dB/m) + Reading(dBuV).

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:	3m
Test item:	Harmonic	Power:	AC 120V/60Hz
Frequency:	2412MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 4	Date:	09/12/2017
Ant.Polar.:	Vertical		



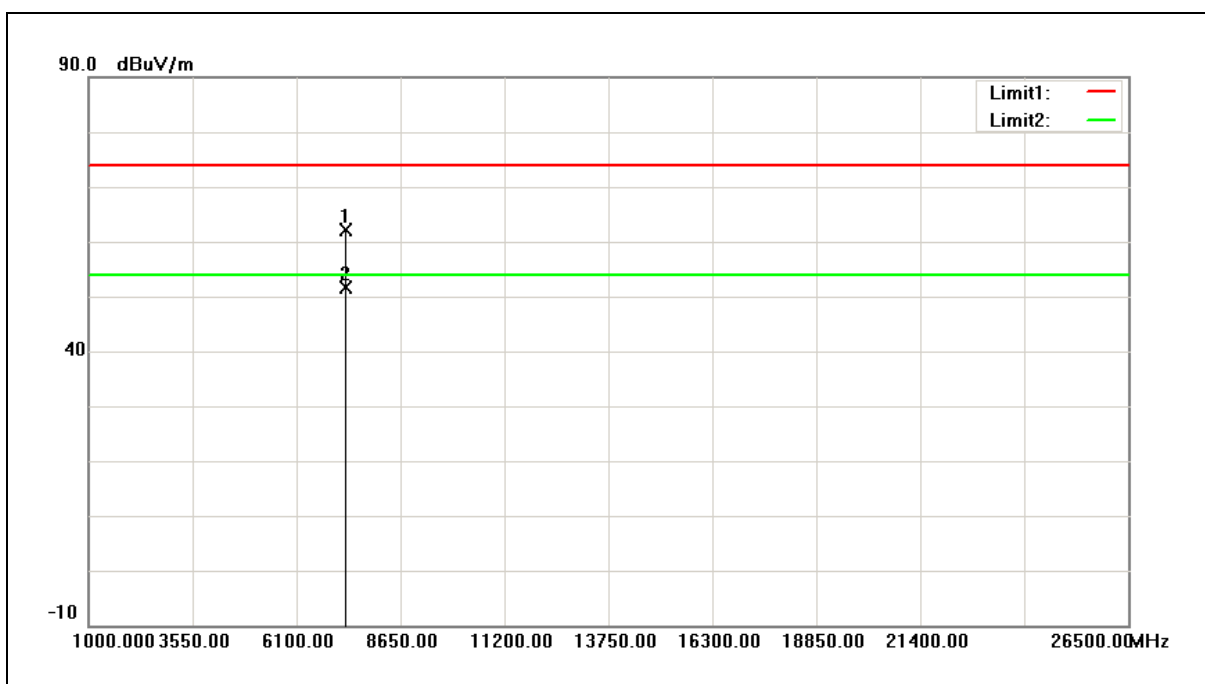
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4824.000	54.42	-9.64	44.78	74.00	-29.22	peak

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:	3m
Test item:	Harmonic	Power:	AC 120V/60Hz
Frequency:	2437MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 4	Date:	09/12/2017
Ant.Polar.:	Horizontal		



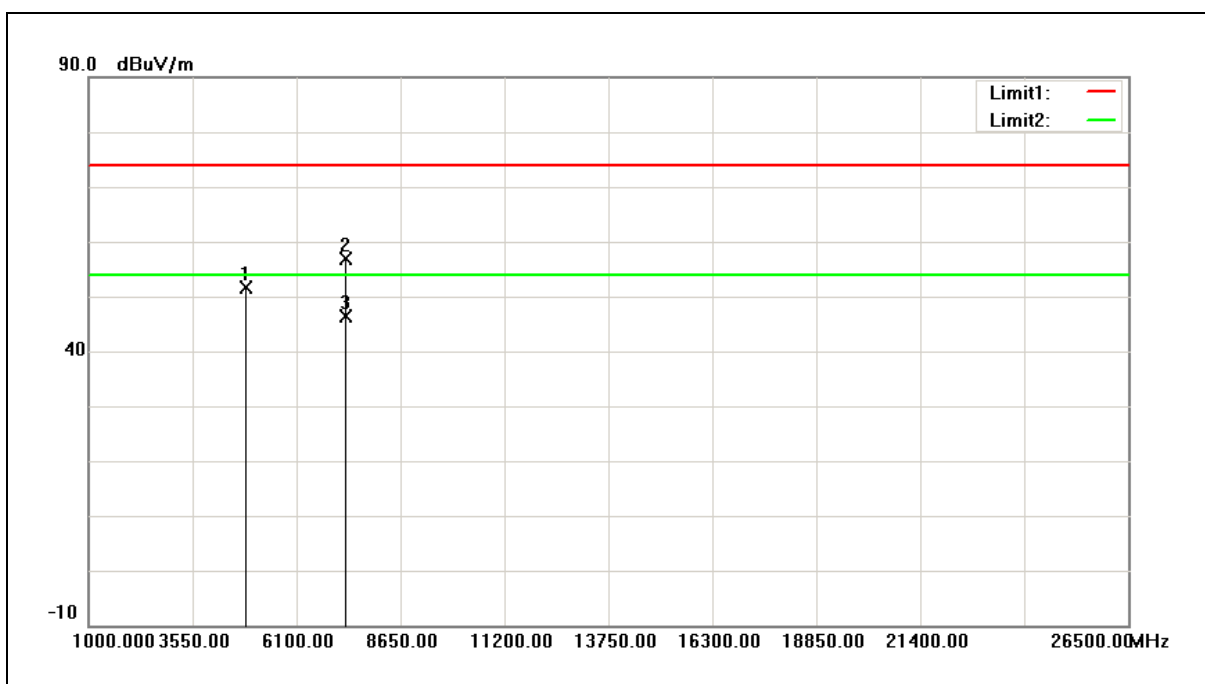
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	7311.000	64.47	-2.42	62.05	74.00	-11.95	peak
2	7311.000	53.96	-2.42	51.54	54.00	-2.46	AVG

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:	3m
Test item:	Harmonic	Power:	AC 120V/60Hz
Frequency:	2437MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 4	Date:	09/12/2017
Ant.Polar.:	Vertical		



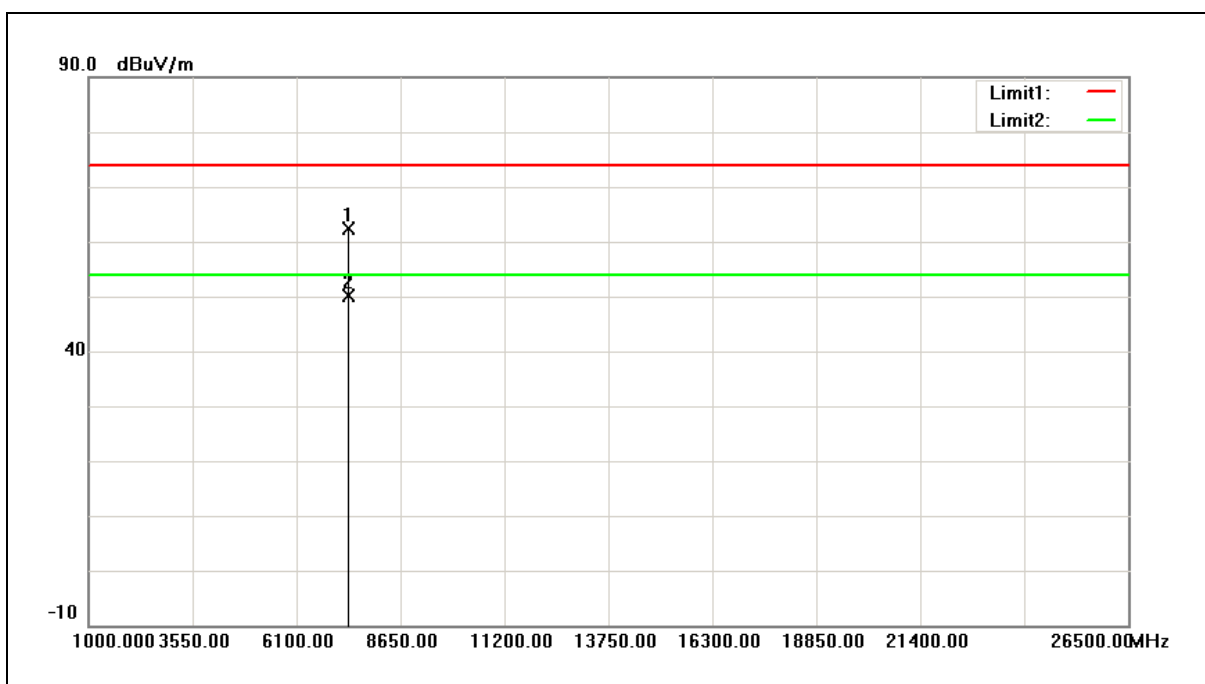
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4874.000	61.13	-9.50	51.63	74.00	-22.37	peak
2	7311.000	59.20	-2.42	56.78	74.00	-17.22	peak
3	7311.000	48.83	-2.42	46.41	54.00	-7.59	AVG

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:	3m
Test item:	Harmonic	Power:	AC 120V/60Hz
Frequency:	2462MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 4	Date:	09/12/2017
Ant.Polar.:	Horizontal		



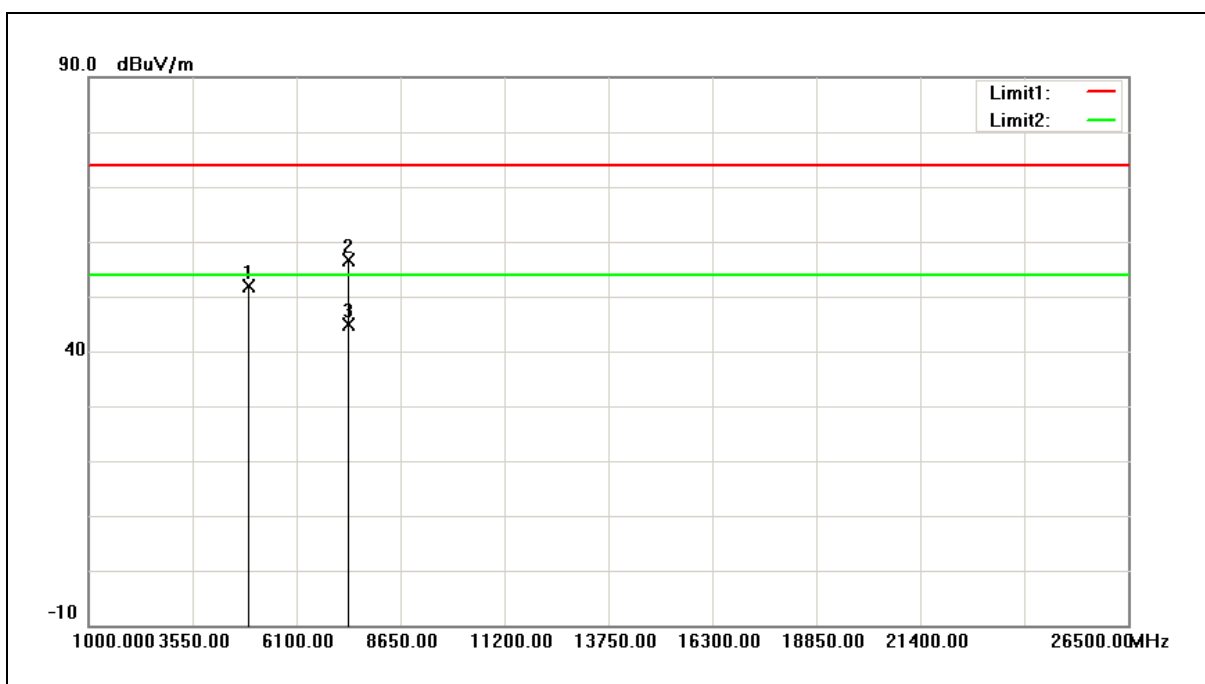
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	7386.000	64.62	-2.16	62.46	74.00	-11.54	peak
2	7386.000	52.38	-2.16	50.22	54.00	-3.78	AVG

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:	3m
Test item:	Harmonic	Power:	AC 120V/60Hz
Frequency:	2462MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 4	Date:	09/12/2017
Ant.Polar.:	Vertical		



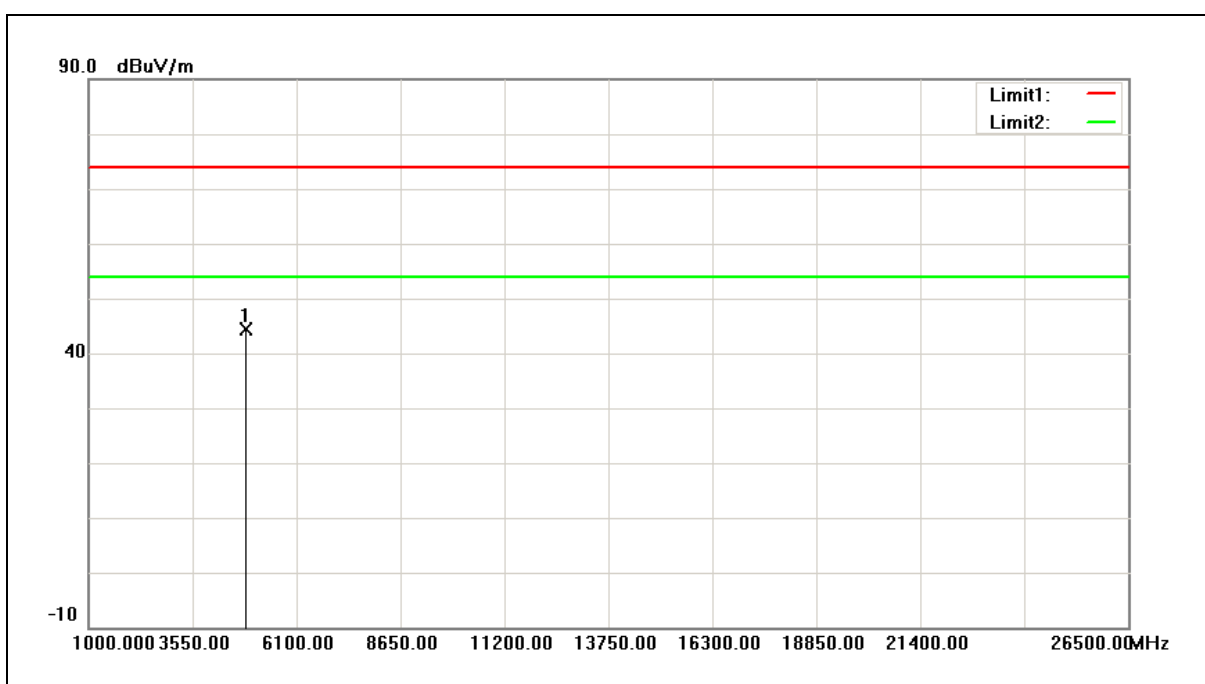
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4924.000	61.26	-9.37	51.89	74.00	-22.11	peak
2	7386.000	58.70	-2.16	56.54	74.00	-17.46	peak
3	7386.000	46.99	-2.16	44.83	54.00	-9.17	AVG

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:	3m
Test item:	Harmonic	Power:	AC 120V/60Hz
Frequency:	2422MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 5	Date:	09/12/2017
Ant.Polar.:	Horizontal		



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4844.000	53.99	-9.57	44.42	74.00	-29.58	peak

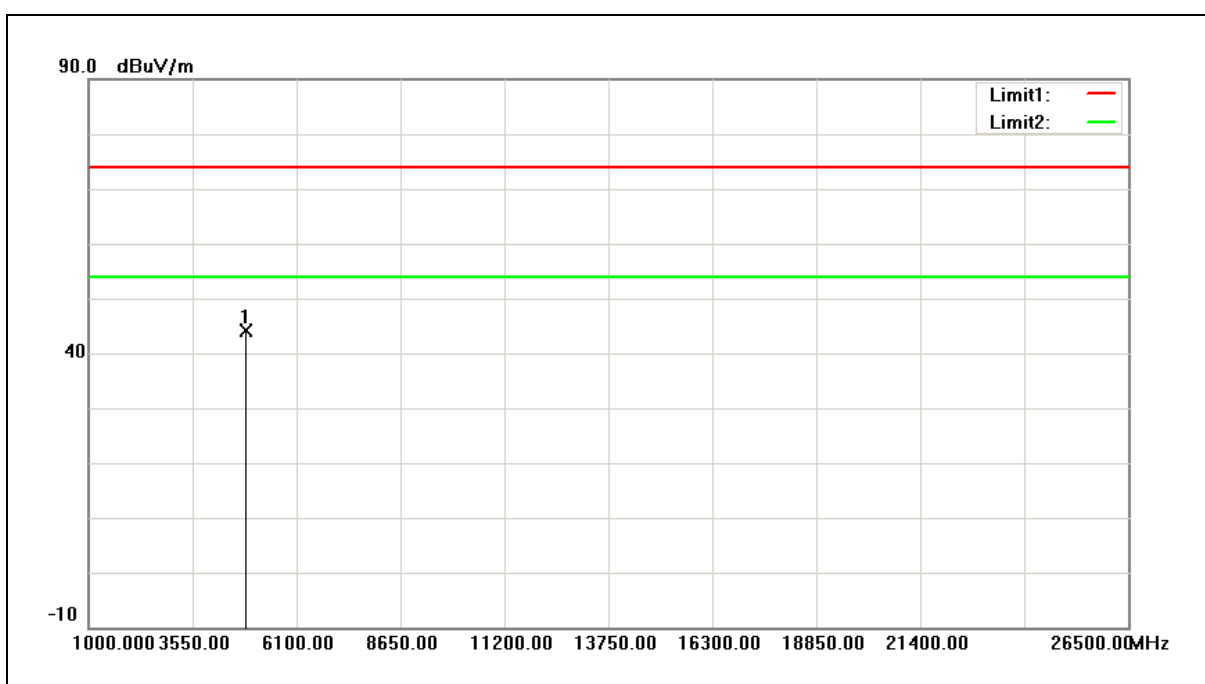
Note:1.Result (dBuV/m) = Correct Factor (dB/m) + Reading(dBuV).

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:	3m
Test item:	Harmonic	Power:	AC 120V/60Hz
Frequency:	2422MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 5	Date:	09/12/2017
Ant.Polar.:	Vertical		



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4844.000	53.76	-9.57	44.19	74.00	-29.81	peak

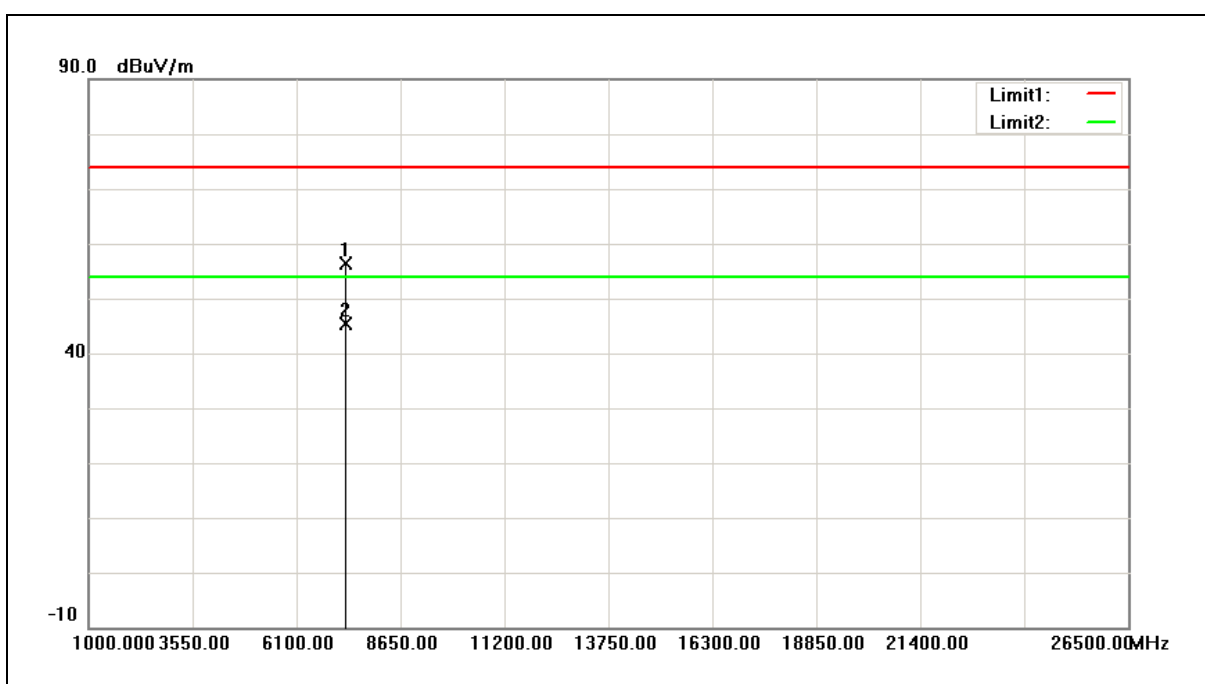
Note:1.Result (dBuV/m) = Correct Factor (dB/m) + Reading(dBuV).

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:	3m
Test item:	Harmonic	Power:	AC 120V/60Hz
Frequency:	2437MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 5	Date:	09/12/2017
Ant.Polar.:	Horizontal		



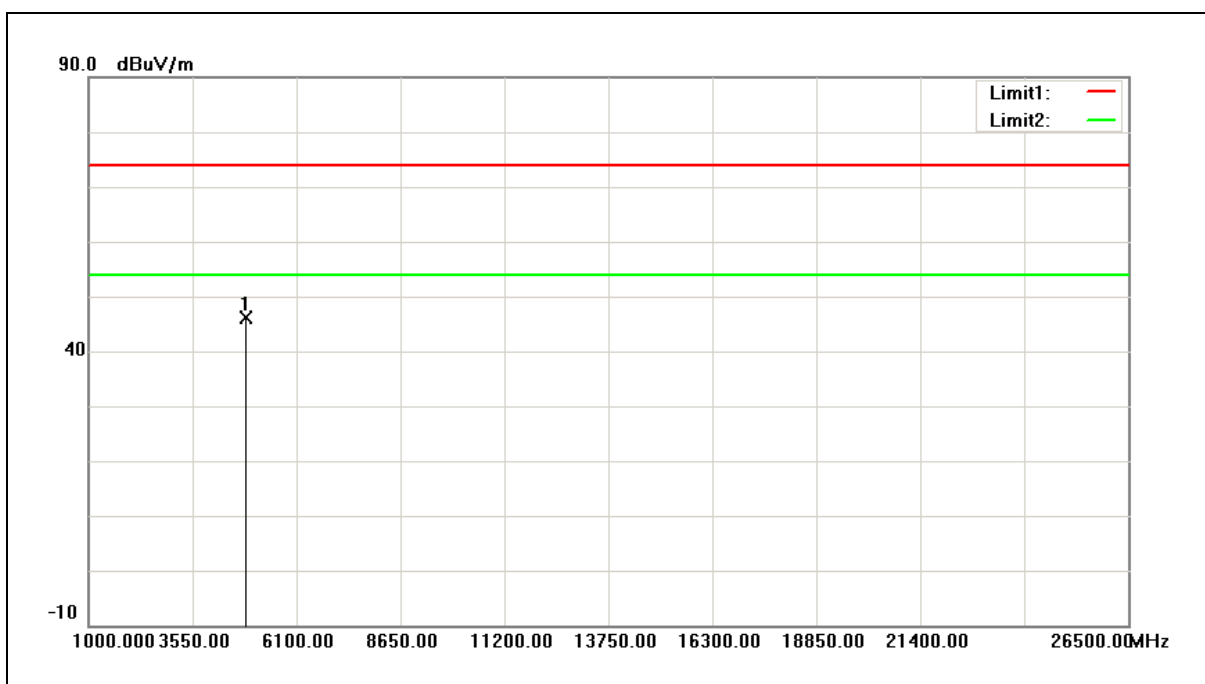
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	7311.000	58.70	-2.42	56.28	74.00	-17.72	peak
2	7311.000	47.74	-2.42	45.32	54.00	-8.68	AVG

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:	3m
Test item:	Harmonic	Power:	AC 120V/60Hz
Frequency:	2437MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 5	Date:	09/12/2017
Ant.Polar.:	Vertical		



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4874.000	55.65	-9.50	46.15	74.00	-27.85	peak

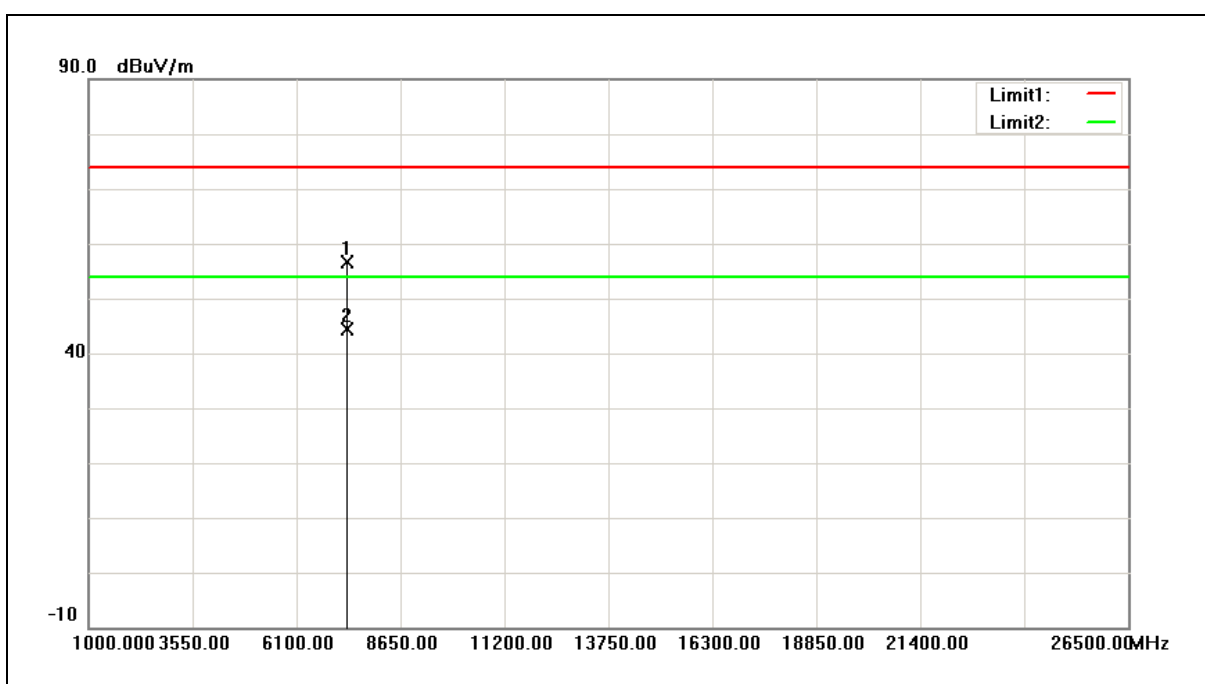
Note:1.Result (dBuV/m) = Correct Factor (dB/m) + Reading(dBuV).

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:	3m
Test item:	Harmonic	Power:	AC 120V/60Hz
Frequency:	2452MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 5	Date:	09/12/2017
Ant.Polar.:	Horizontal		



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	7356.000	58.83	-2.26	56.57	74.00	-17.43	peak
2	7356.000	46.67	-2.26	44.41	54.00	-9.59	AVG

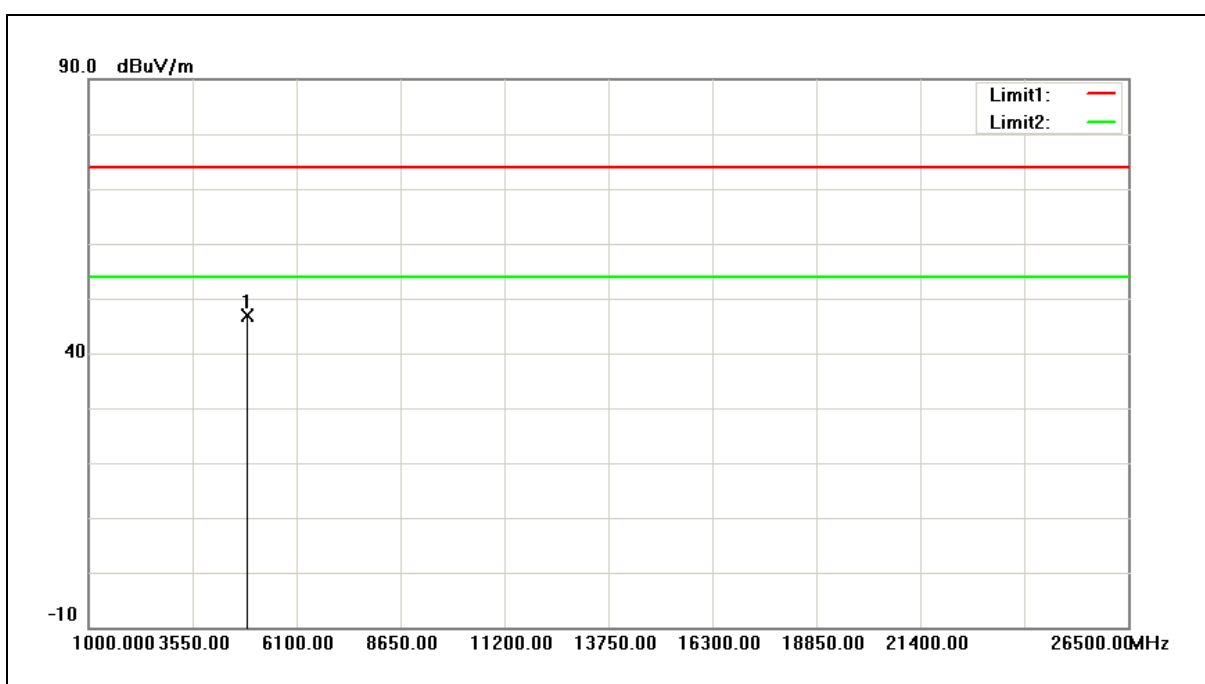
Note:1.Result (dBuV/m) = Correct Factor (dB/m) + Reading(dBuV).

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:	3m
Test item:	Harmonic	Power:	AC 120V/60Hz
Frequency:	2452MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 5	Date:	09/12/2017
Ant.Polar.:	Vertical		



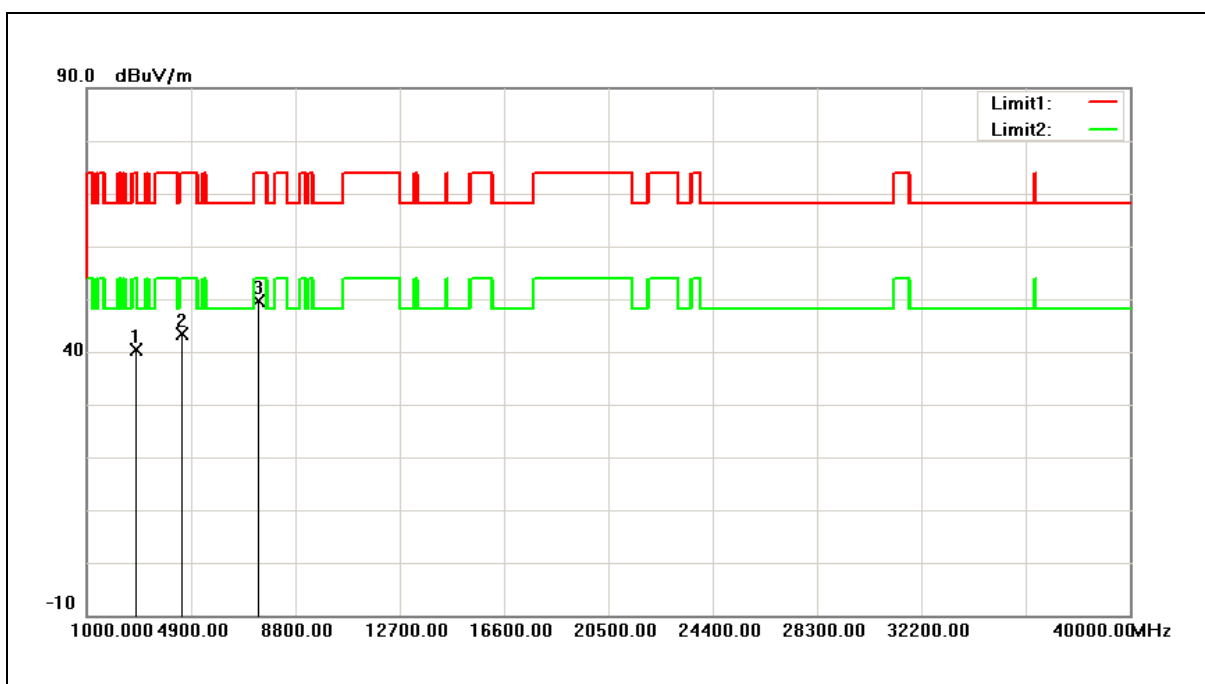
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4904.000	56.19	-9.41	46.78	74.00	-27.22	peak

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 15.407	Test Distance:	3m
Test item:	Harmonic	Power:	AC 120V/60Hz
Test Mode:	Simultaneous Transmitting	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
	(DTS+NII)	Date:	09/16/2017
Ant.Polar.:	Horizontal		



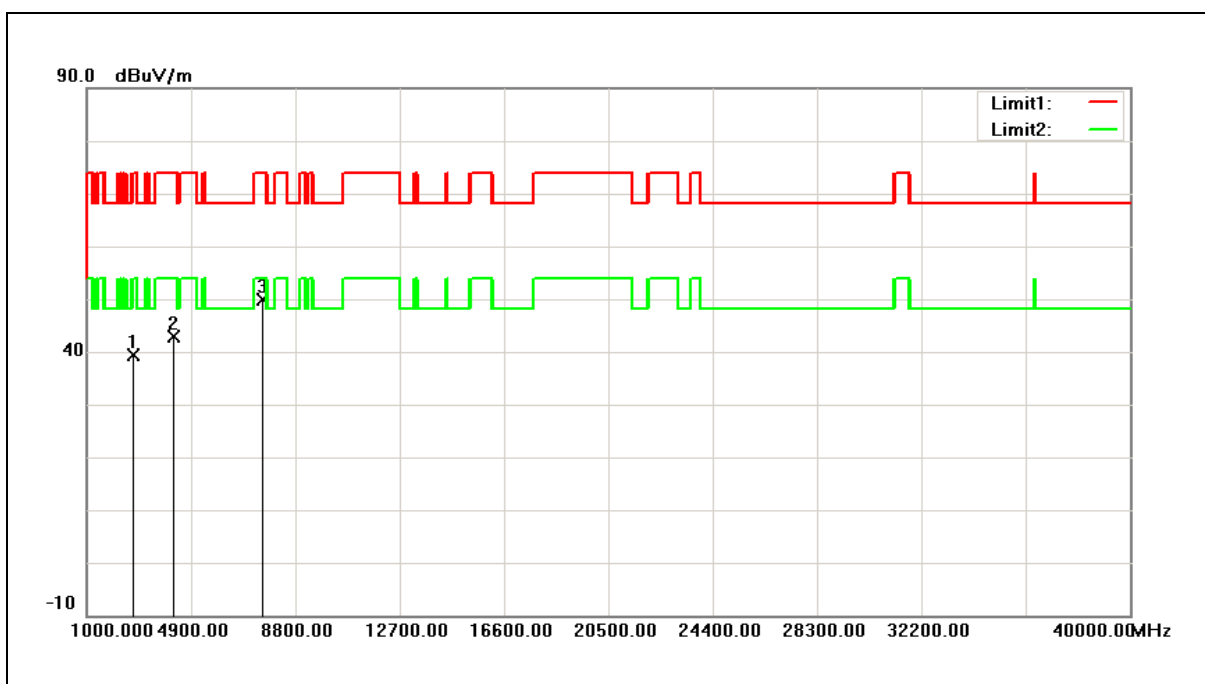
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2802.000	54.68	-14.23	40.45	74.00	-33.55	peak
2	4587.000	53.64	-10.27	43.37	74.00	-30.63	peak
3	7426.000	51.57	-2.02	49.55	74.00	-24.45	peak

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 15.407	Test Distance:	3m
Test item:	Harmonic	Power:	AC 120V/60Hz
Test Mode:	Simultaneous Transmitting	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
	(DTS+NII)	Date:	09/16/2017
Ant.Polar.:	Vertical		



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2751.000	53.67	-14.37	39.30	74.00	-34.70	peak
2	4230.000	54.13	-11.16	42.97	74.00	-31.03	peak
3	7562.000	51.41	-1.64	49.77	74.00	-24.23	peak

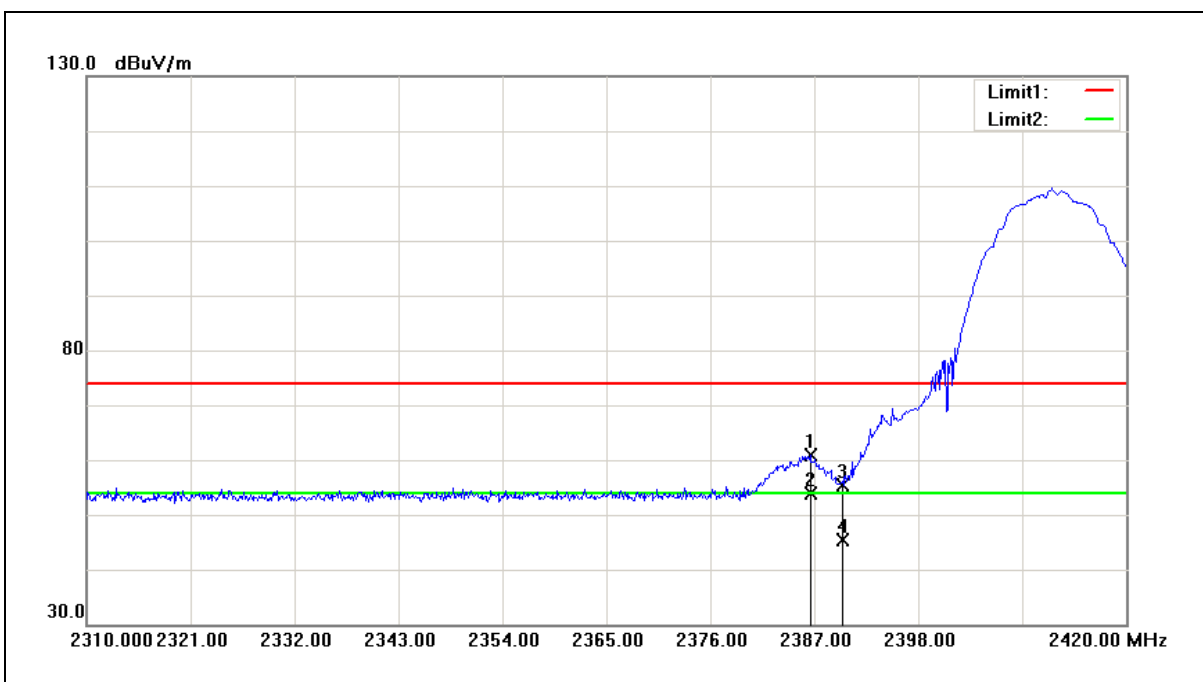
Note:1.Result (dBuV/m) = Correct Factor (dB/m) + Reading(dBuV).

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.

Band Edge

Standard:	FCC Part 15.247	Test Distance:	3m
Test item:	Band edge	Power:	AC 120V/60Hz
Frequency:	2412MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 2	Date:	09/12/2017
Ant.Polar.:	Horizontal		



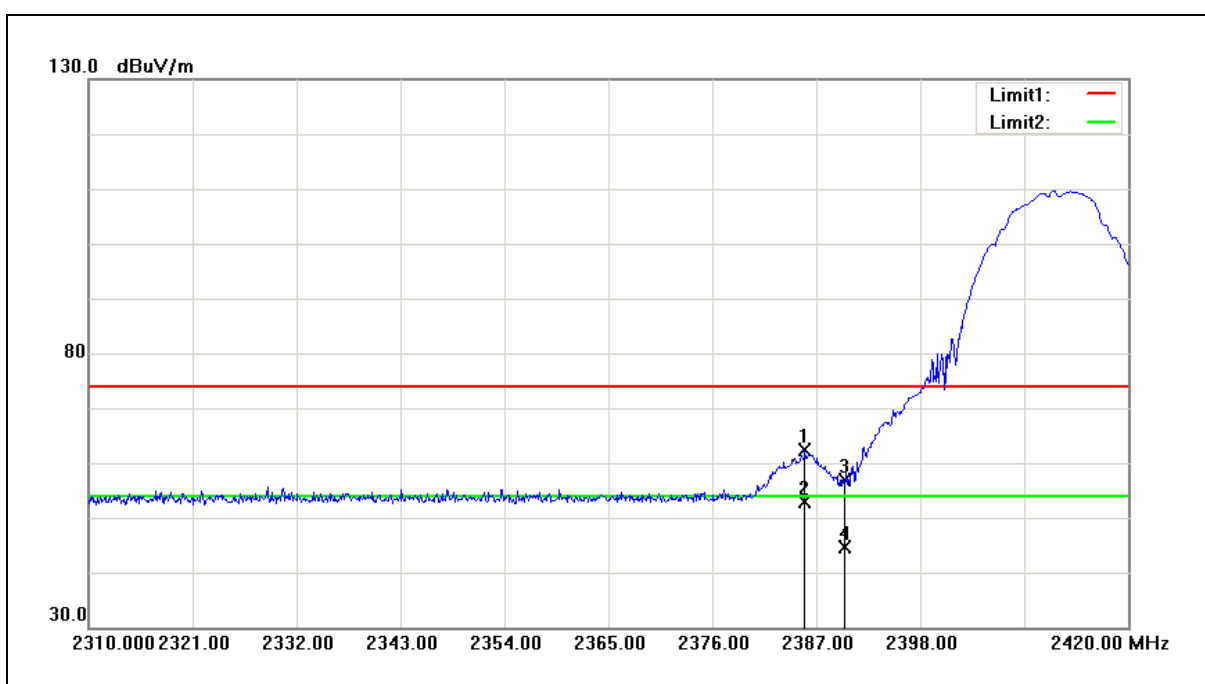
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2386.560	62.70	-1.87	60.83	74.00	-13.17	peak
2	2386.560	55.64	-1.87	53.77	54.00	-0.23	AVG
3	2390.000	57.34	-1.86	55.48	74.00	-18.52	peak
4	2390.000	47.25	-1.86	45.39	54.00	-8.61	AVG

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:	3m
Test item:	Band edge	Power:	AC 120V/60Hz
Frequency:	2412MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 2	Date:	09/12/2017
Ant.Polar.:	Vertical		



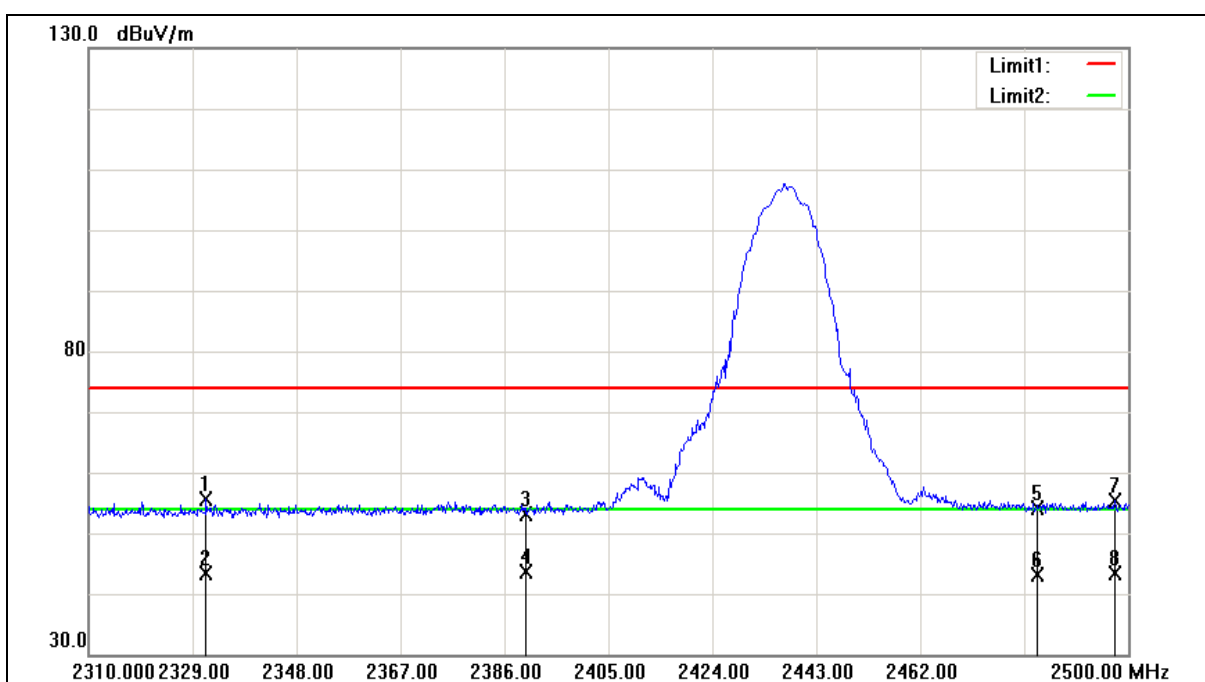
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2385.790	64.14	-1.87	62.27	74.00	-11.73	peak
2	2385.790	54.83	-1.87	52.96	54.00	-1.04	AVG
3	2390.000	58.76	-1.86	56.90	74.00	-17.10	peak
4	2390.000	46.59	-1.86	44.73	54.00	-9.27	AVG

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:	3m
Test item:	Band edge	Power:	AC 120V/60Hz
Frequency:	2437MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 2	Date:	09/12/2017
Ant.Polar.:	Horizontal		



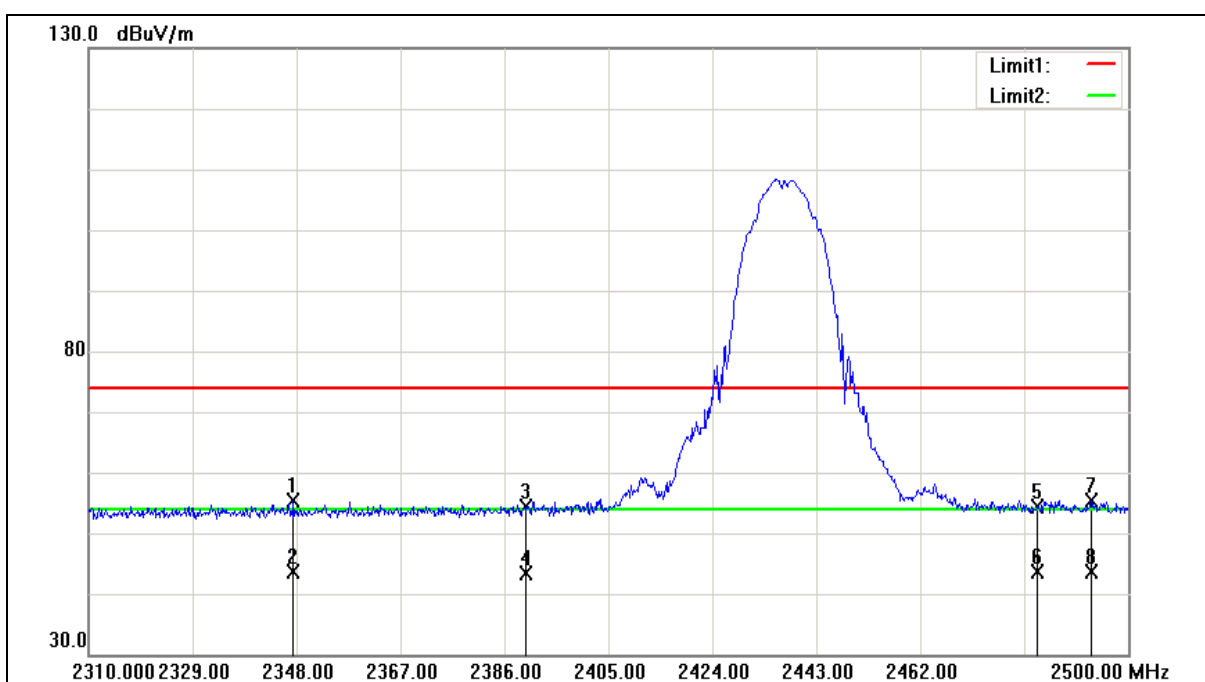
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2331.470	57.80	-2.08	55.72	74.00	-18.28	peak
2	2331.470	45.37	-2.08	43.29	54.00	-10.71	AVG
3	2390.000	55.09	-1.86	53.23	74.00	-20.77	peak
4	2390.000	45.37	-1.86	43.51	54.00	-10.49	AVG
5	2483.500	55.58	-1.50	54.08	74.00	-19.92	peak
6	2483.500	44.72	-1.50	43.22	54.00	-10.78	AVG
7	2497.530	56.70	-1.44	55.26	74.00	-18.74	peak
8	2497.530	44.81	-1.44	43.37	54.00	-10.63	AVG

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:	3m
Test item:	Band edge	Power:	AC 120V/60Hz
Frequency:	2437MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 2	Date:	09/12/2017
Ant.Polar.:	Vertical		



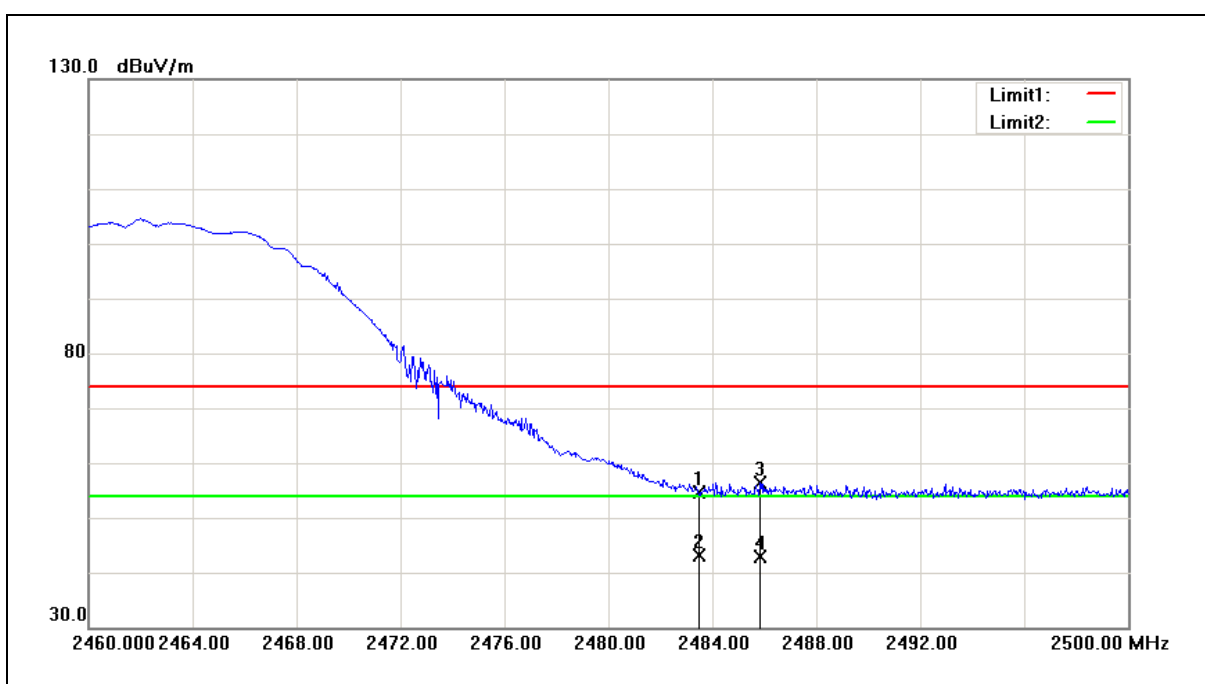
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2347.430	57.43	-2.02	55.41	74.00	-18.59	peak
2	2347.430	45.76	-2.02	43.74	54.00	-10.26	AVG
3	2390.000	56.24	-1.86	54.38	74.00	-19.62	peak
4	2390.000	45.25	-1.86	43.39	54.00	-10.61	AVG
5	2483.500	55.77	-1.50	54.27	74.00	-19.73	peak
6	2483.500	45.05	-1.50	43.55	54.00	-10.45	AVG
7	2493.350	56.85	-1.46	55.39	74.00	-18.61	peak
8	2493.350	45.08	-1.46	43.62	54.00	-10.38	AVG

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:	3m
Test item:	Band edge	Power:	AC 120V/60Hz
Frequency:	2462MHz	Temp.(°C)/Hum. (%RH):	26(°C)/60%RH
Mode:	Mode 2	Date:	09/12/2017
Ant.Polar.:	Horizontal		



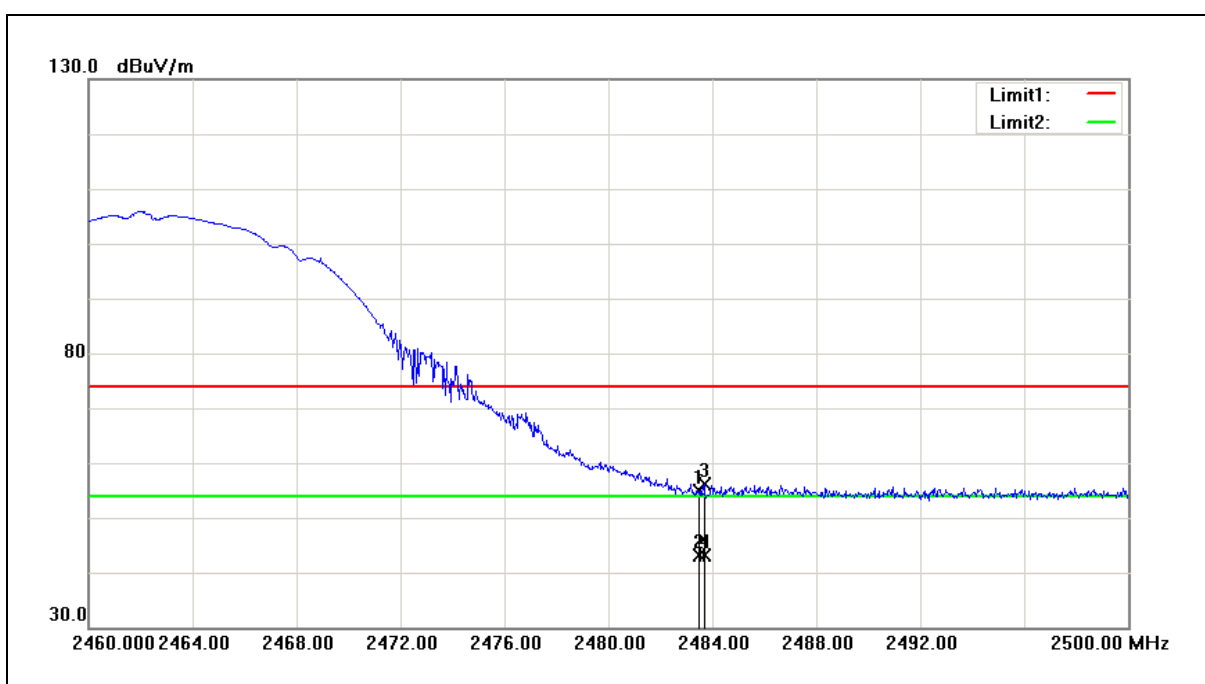
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2483.500	56.05	-1.50	54.55	74.00	-19.45	peak
2	2483.500	44.51	-1.50	43.01	54.00	-10.99	AVG
3	2485.840	57.87	-1.49	56.38	74.00	-17.62	peak
4	2485.840	44.42	-1.49	42.93	54.00	-11.07	AVG

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:	3m
Test item:	Band edge	Power:	AC 120V/60Hz
Frequency:	2462MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 2	Date:	09/12/2017
Ant.Polar.:	Vertical		



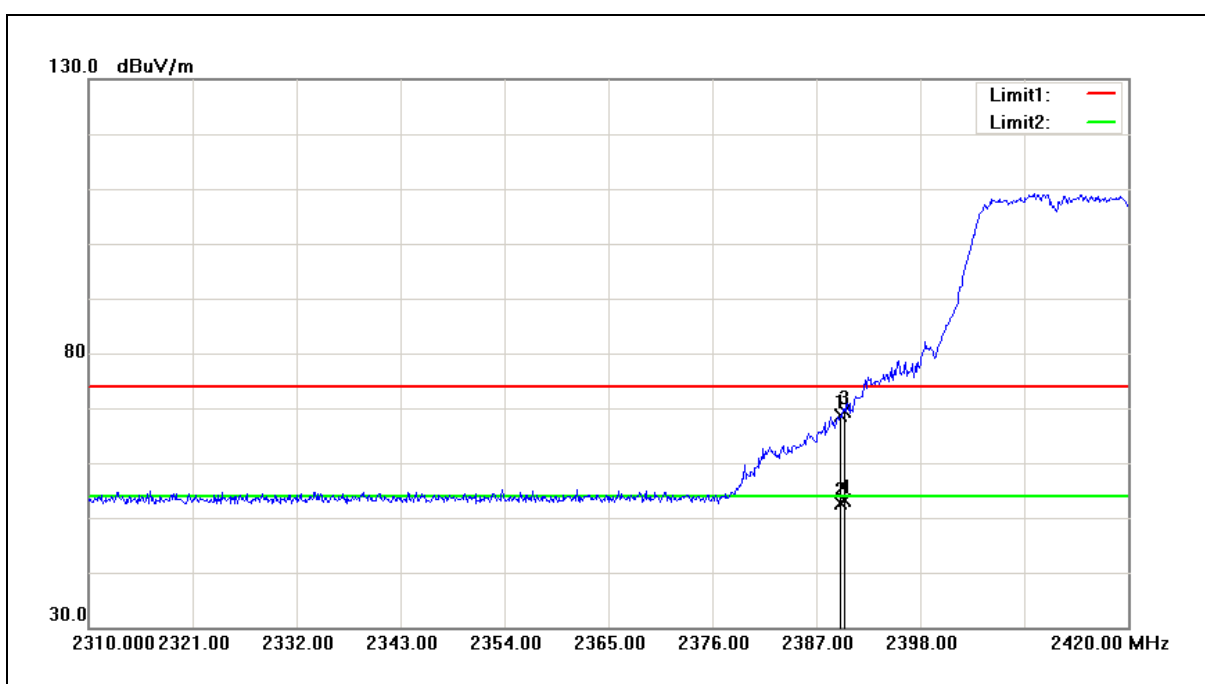
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2483.500	56.28	-1.50	54.78	74.00	-19.22	peak
2	2483.500	44.69	-1.50	43.19	54.00	-10.81	AVG
3	2483.680	57.72	-1.50	56.22	74.00	-17.78	peak
4	2483.680	44.70	-1.50	43.20	54.00	-10.80	AVG

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:	3m
Test item:	Band edge	Power:	AC 120V/60Hz
Frequency:	2412MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 3	Date:	09/12/2017
Ant.Polar.:	Horizontal		



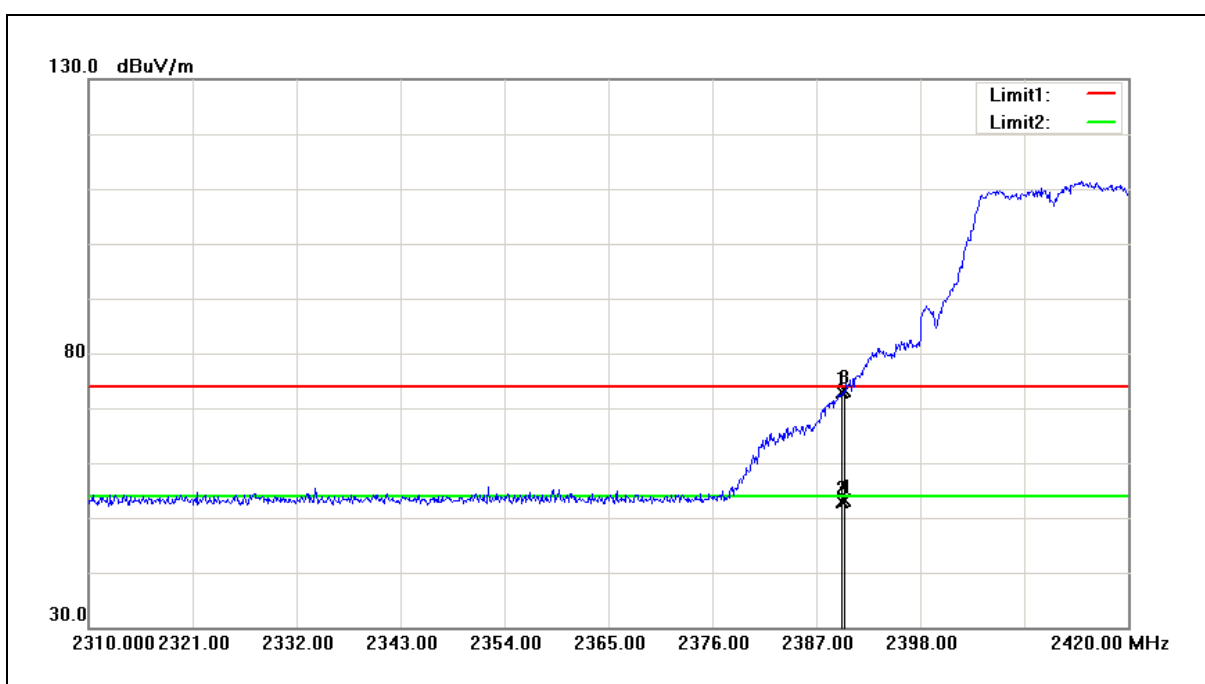
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2389.530	70.59	-1.86	68.73	74.00	-5.27	peak
2	2389.530	54.45	-1.86	52.59	54.00	-1.41	AVG
3	2390.000	71.21	-1.86	69.35	74.00	-4.65	peak
4	2390.000	54.92	-1.86	53.06	54.00	-0.94	AVG

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:	3m
Test item:	Band edge	Power:	AC 120V/60Hz
Frequency:	2412MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 3	Date:	09/12/2017
Ant.Polar.:	Vertical		



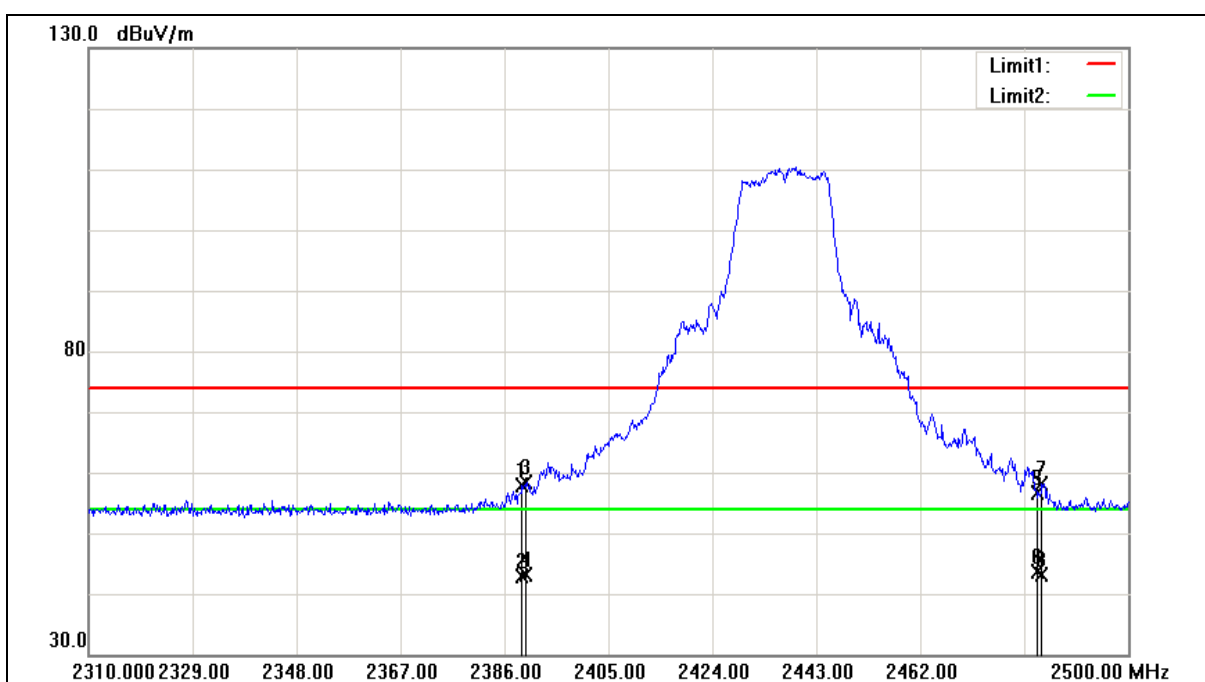
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2389.750	74.64	-1.86	72.78	74.00	-1.22	peak
2	2389.750	54.68	-1.86	52.82	54.00	-1.18	AVG
3	2390.000	75.02	-1.86	73.16	74.00	-0.84	peak
4	2390.000	54.90	-1.86	53.04	54.00	-0.96	AVG

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:	3m
Test item:	Band edge	Power:	AC 120V/60Hz
Frequency:	2437MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 3	Date:	09/12/2017
Ant.Polar.:	Horizontal		



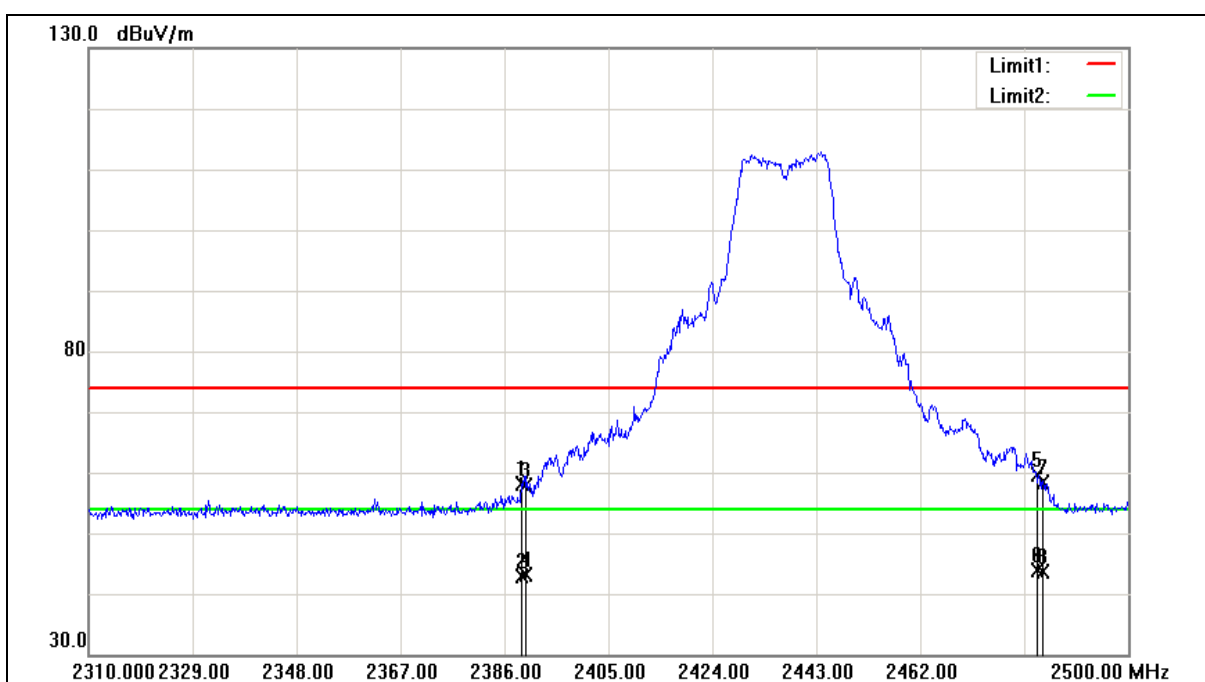
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2389.230	59.62	-1.86	57.76	74.00	-16.24	peak
2	2389.230	44.69	-1.86	42.83	54.00	-11.17	AVG
3	2390.000	60.32	-1.86	58.46	74.00	-15.54	peak
4	2390.000	45.06	-1.86	43.20	54.00	-10.80	AVG
5	2483.500	58.12	-1.50	56.62	74.00	-17.38	peak
6	2483.500	45.14	-1.50	43.64	54.00	-10.36	AVG
7	2484.230	59.73	-1.49	58.24	74.00	-15.76	peak
8	2484.230	44.54	-1.49	43.05	54.00	-10.95	AVG

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:	3m
Test item:	Band edge	Power:	AC 120V/60Hz
Frequency:	2437MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 3	Date:	09/12/2017
Ant.Polar.:	Vertical		



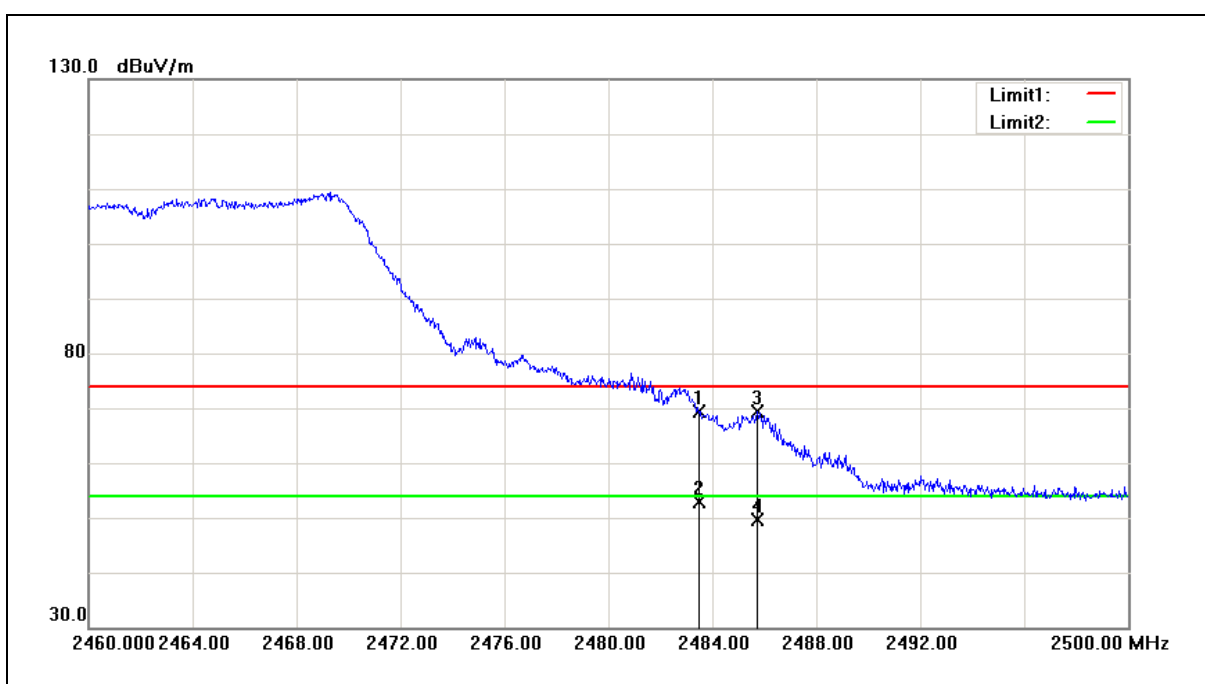
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2389.040	59.92	-1.86	58.06	74.00	-15.94	peak
2	2389.040	44.83	-1.86	42.97	54.00	-11.03	AVG
3	2390.000	59.76	-1.86	57.90	74.00	-16.10	peak
4	2390.000	44.89	-1.86	43.03	54.00	-10.97	AVG
5	2483.500	61.08	-1.50	59.58	74.00	-14.42	peak
6	2483.500	45.48	-1.50	43.98	54.00	-10.02	AVG
7	2484.420	59.99	-1.49	58.50	74.00	-15.50	peak
8	2484.420	45.02	-1.49	43.53	54.00	-10.47	AVG

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:	3m
Test item:	Band edge	Power:	AC 120V/60Hz
Frequency:	2462MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 3	Date:	09/12/2017
Ant.Polar.:	Horizontal		



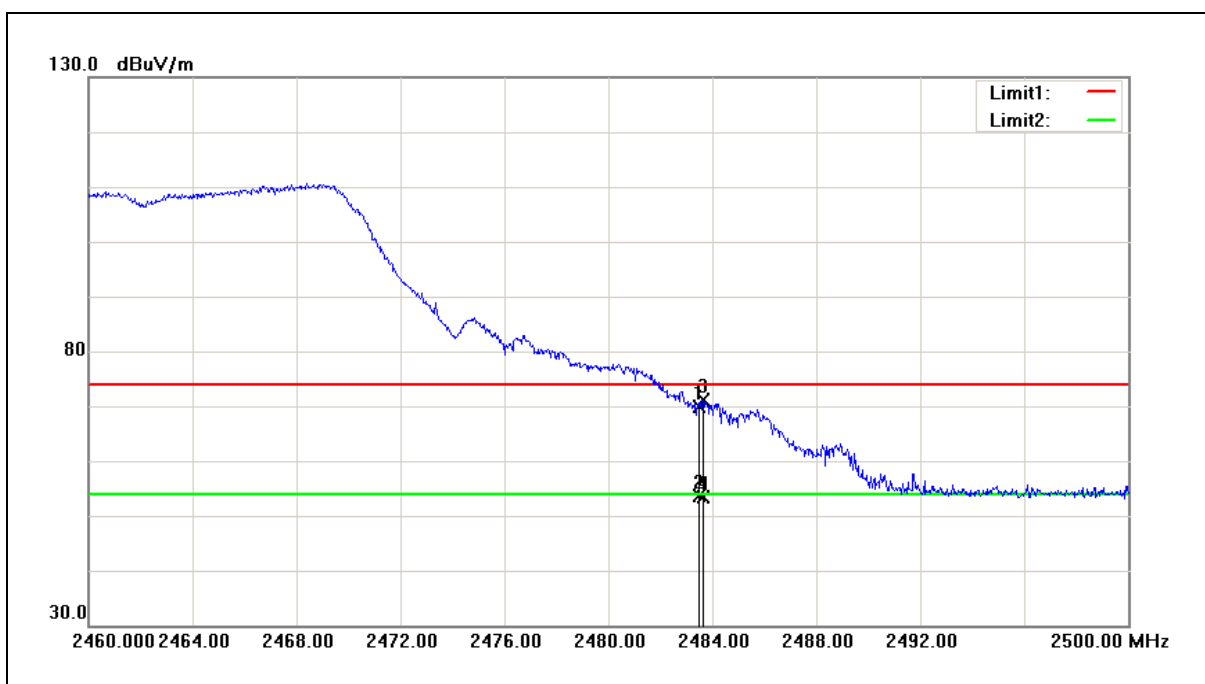
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2483.500	70.88	-1.50	69.38	74.00	-4.62	peak
2	2483.500	54.35	-1.50	52.85	54.00	-1.15	AVG
3	2485.720	70.90	-1.49	69.41	74.00	-4.59	peak
4	2485.720	51.20	-1.49	49.71	54.00	-4.29	AVG

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:	3m
Test item:	Band edge	Power:	AC 120V/60Hz
Frequency:	2462MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 3	Date:	09/12/2017
Ant.Polar.:	Vertical		



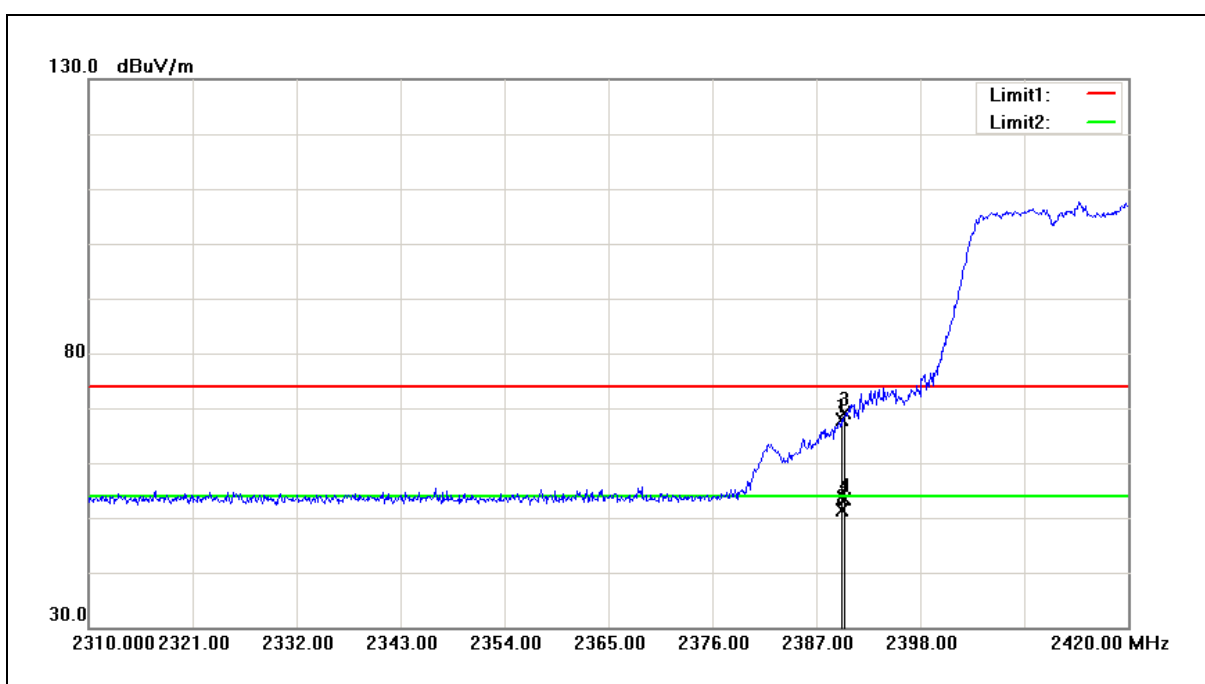
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2483.500	71.50	-1.50	70.00	74.00	-4.00	peak
2	2483.500	55.18	-1.50	53.68	54.00	-0.32	AVG
3	2483.640	72.64	-1.50	71.14	74.00	-2.86	peak
4	2483.640	54.94	-1.50	53.44	54.00	-0.56	AVG

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:	3m
Test item:	Band edge	Power:	AC 120V/60Hz
Frequency:	2412MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 4	Date:	09/12/2017
Ant.Polar.:	Horizontal		



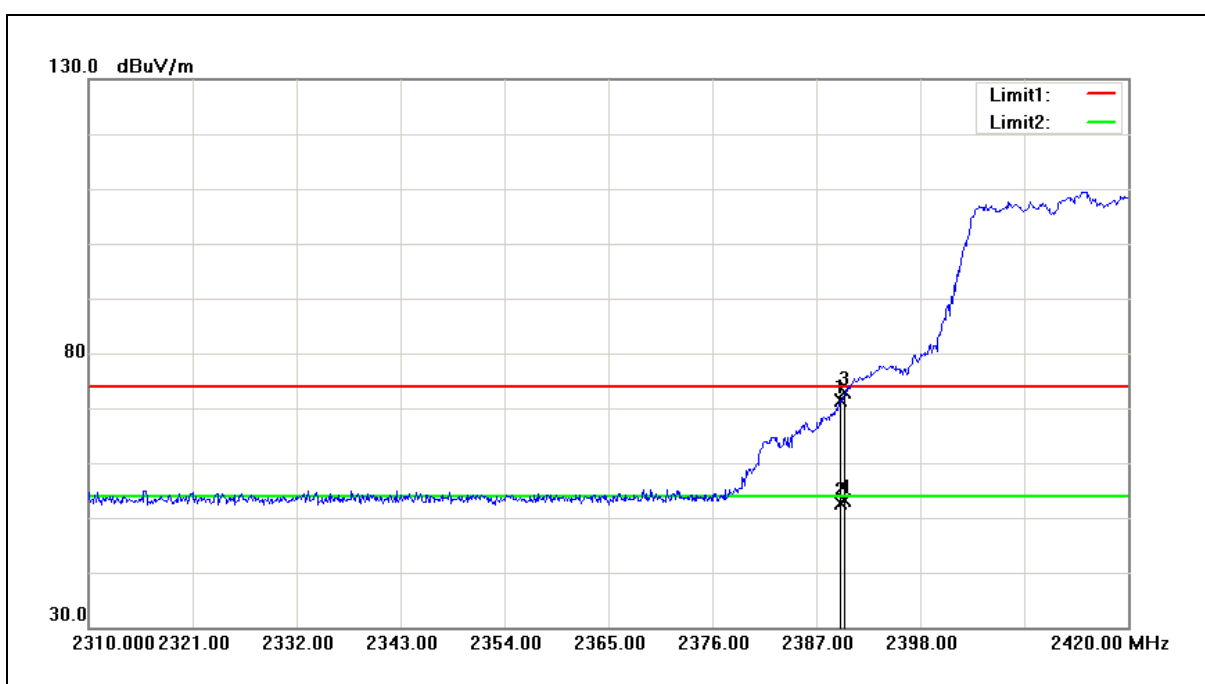
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2389.640	69.70	-1.86	67.84	74.00	-6.16	peak
2	2389.640	53.14	-1.86	51.28	54.00	-2.72	AVG
3	2390.000	71.02	-1.86	69.16	74.00	-4.84	peak
4	2390.000	55.16	-1.86	53.30	54.00	-0.70	AVG

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:	3m
Test item:	Band edge	Power:	AC 120V/60Hz
Frequency:	2412MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 4	Date:	09/12/2017
Ant.Polar.:	Vertical		



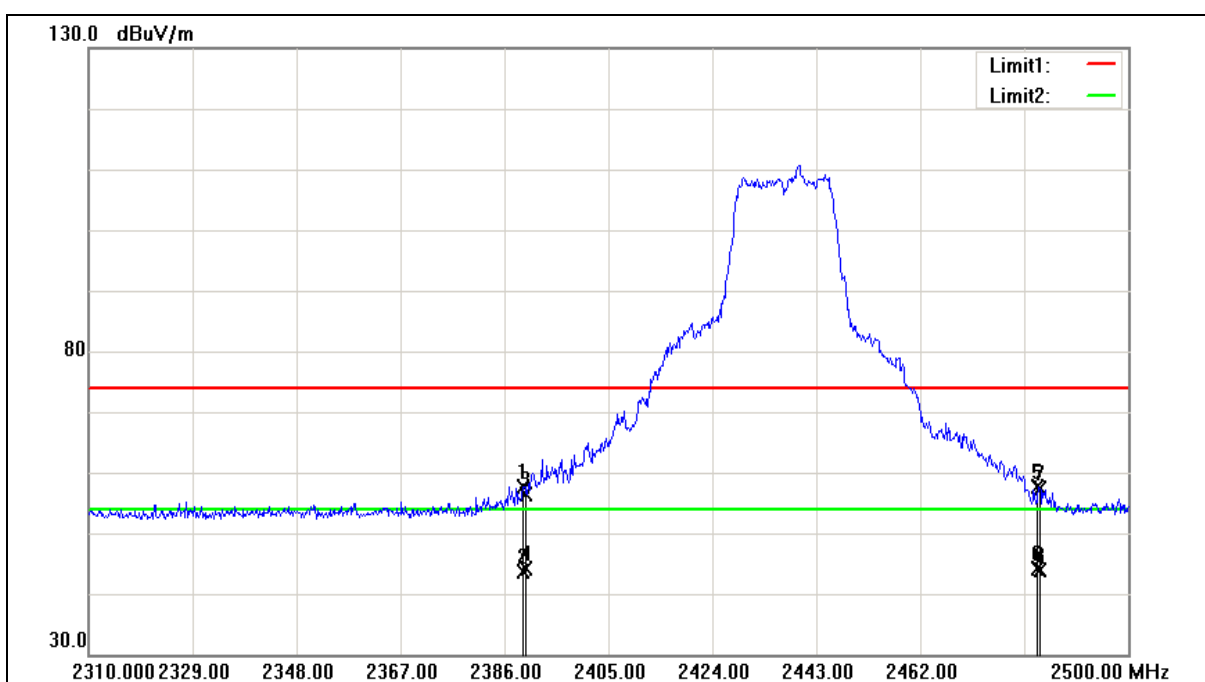
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2389.530	73.15	-1.86	71.29	74.00	-2.71	peak
2	2389.530	54.47	-1.86	52.61	54.00	-1.39	AVG
3	2390.000	74.67	-1.86	72.81	74.00	-1.19	peak
4	2390.000	55.01	-1.86	53.15	54.00	-0.85	AVG

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:	3m
Test item:	Band edge	Power:	AC 120V/60Hz
Frequency:	2437MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 4	Date:	09/12/2017
Ant.Polar.:	Horizontal		



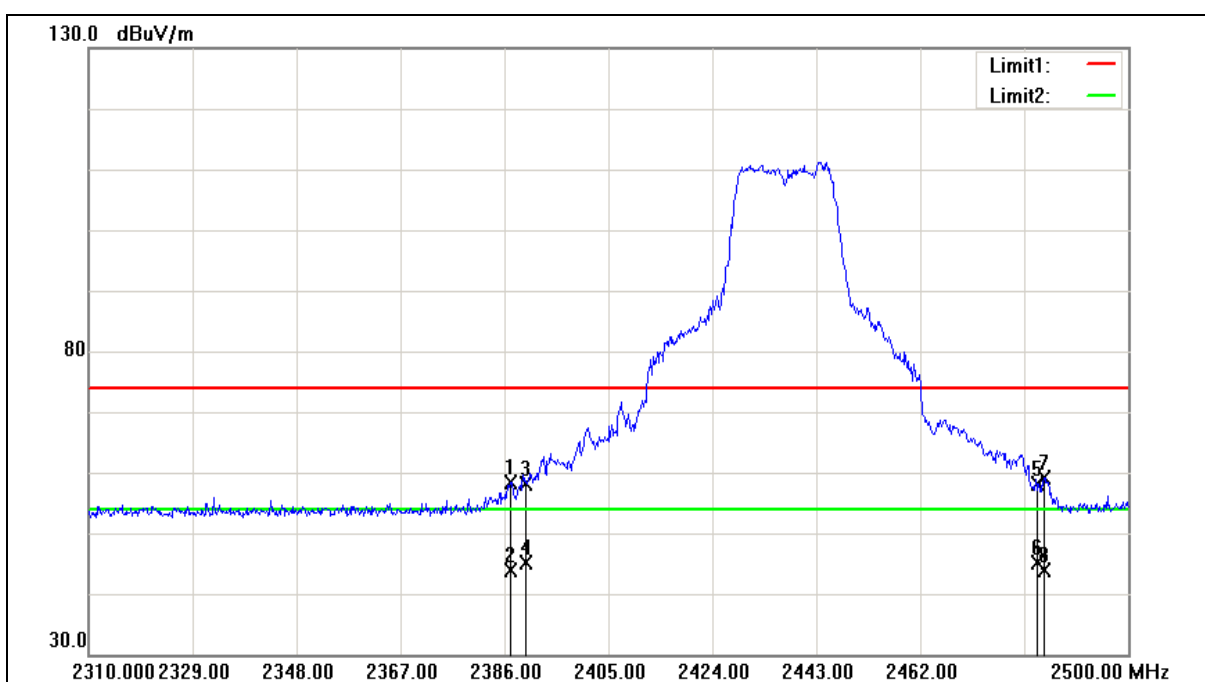
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2389.420	59.58	-1.86	57.72	74.00	-16.28	peak
2	2389.420	45.56	-1.86	43.70	54.00	-10.30	AVG
3	2390.000	58.28	-1.86	56.42	74.00	-17.58	peak
4	2390.000	46.01	-1.86	44.15	54.00	-9.85	AVG
5	2483.500	59.18	-1.50	57.68	74.00	-16.32	peak
6	2483.500	45.74	-1.50	44.24	54.00	-9.76	AVG
7	2483.850	58.76	-1.50	57.26	74.00	-16.74	peak
8	2483.850	45.45	-1.50	43.95	54.00	-10.05	AVG

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:	3m
Test item:	Band edge	Power:	AC 120V/60Hz
Frequency:	2437MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 4	Date:	09/12/2017
Ant.Polar.:	Vertical		



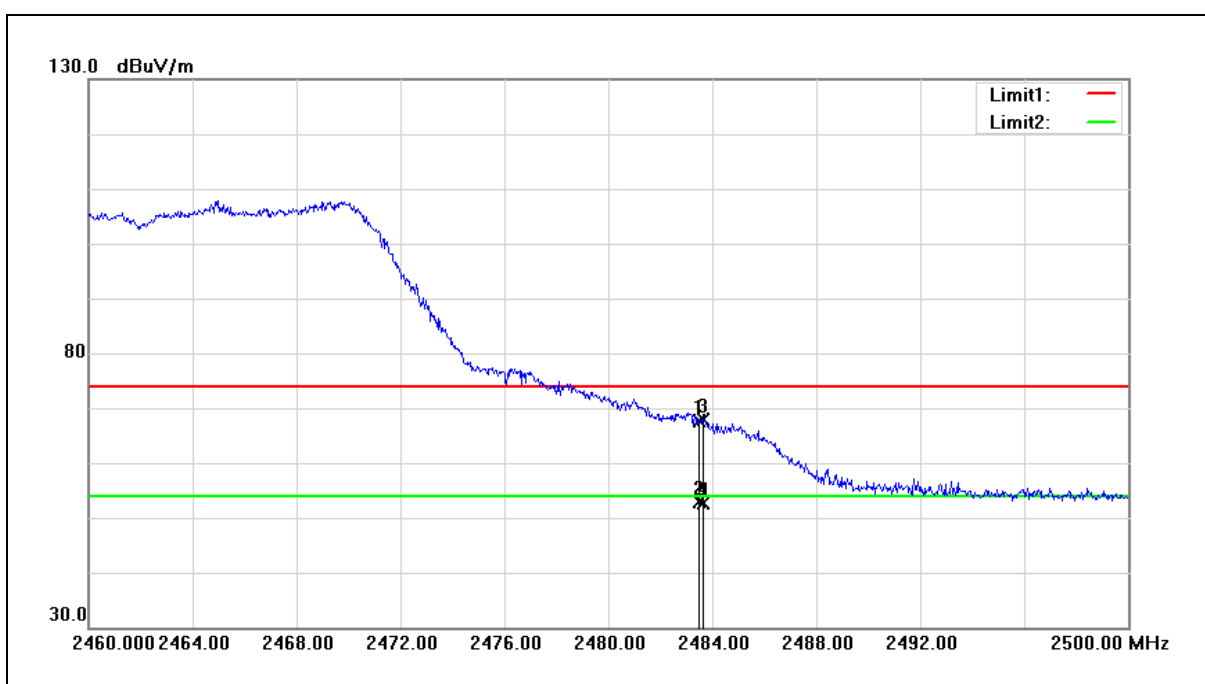
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2387.140	60.28	-1.87	58.41	74.00	-15.59	peak
2	2387.140	45.65	-1.87	43.78	54.00	-10.22	AVG
3	2390.000	59.97	-1.86	58.11	74.00	-15.89	peak
4	2390.000	46.87	-1.86	45.01	54.00	-8.99	AVG
5	2483.500	59.64	-1.50	58.14	74.00	-15.86	peak
6	2483.500	46.65	-1.50	45.15	54.00	-8.85	AVG
7	2484.610	60.70	-1.49	59.21	74.00	-14.79	peak
8	2484.610	45.38	-1.49	43.89	54.00	-10.11	AVG

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:	3m
Test item:	Band edge	Power:	AC 120V/60Hz
Frequency:	2462MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 4	Date:	09/12/2017
Ant.Polar.:	Horizontal		



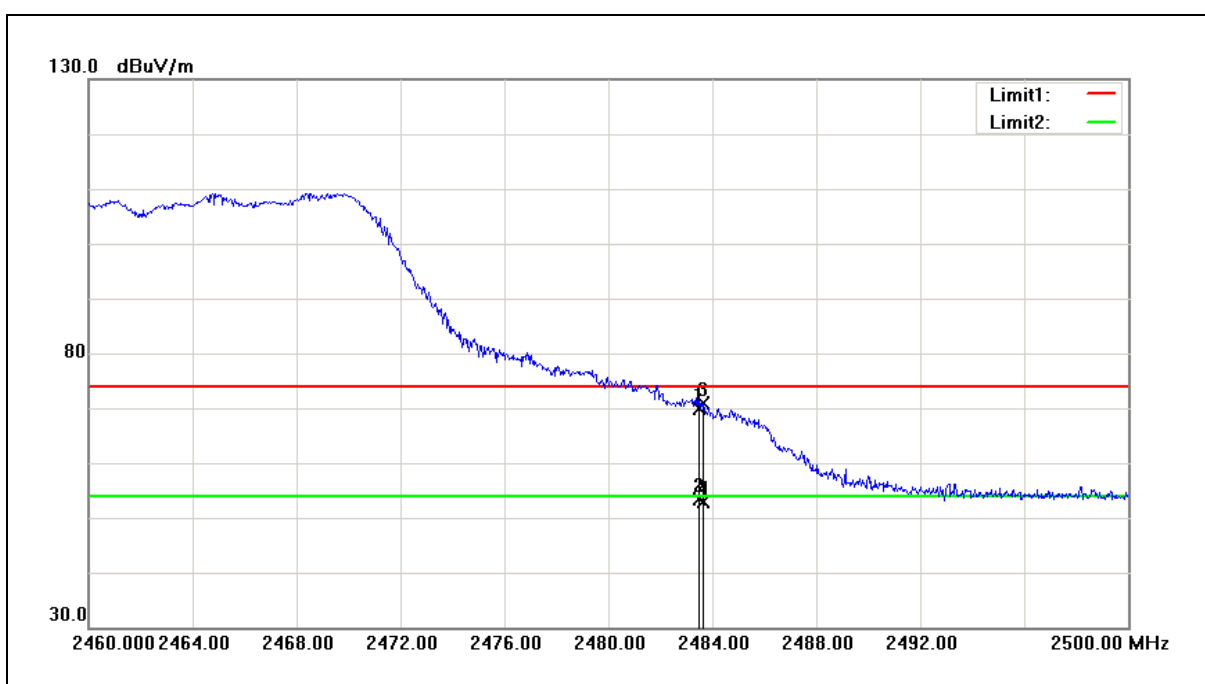
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2483.500	69.09	-1.50	67.59	74.00	-6.41	peak
2	2483.500	54.31	-1.50	52.81	54.00	-1.19	AVG
3	2483.640	69.50	-1.50	68.00	74.00	-6.00	peak
4	2483.640	54.13	-1.50	52.63	54.00	-1.37	AVG

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:	3m
Test item:	Band edge	Power:	AC 120V/60Hz
Frequency:	2462MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 4	Date:	09/12/2017
Ant.Polar.:	Vertical		



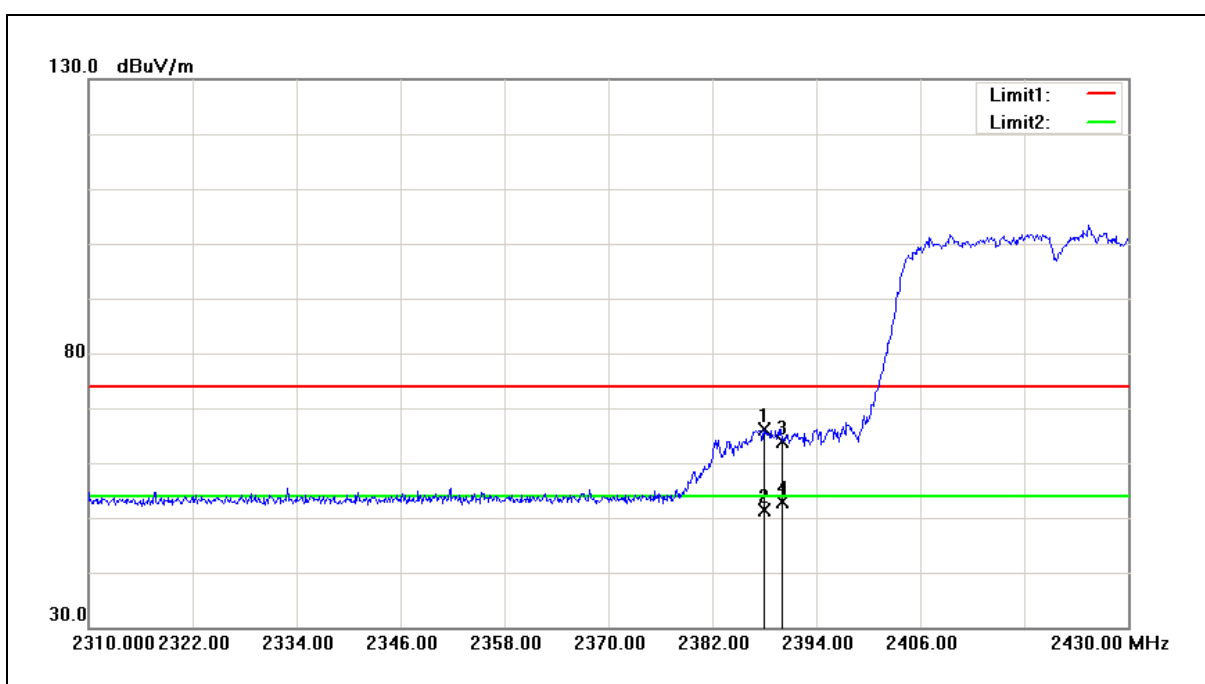
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2483.500	71.38	-1.50	69.88	74.00	-4.12	peak
2	2483.500	54.91	-1.50	53.41	54.00	-0.59	AVG
3	2483.640	72.28	-1.50	70.78	74.00	-3.22	peak
4	2483.640	54.30	-1.50	52.80	54.00	-1.20	AVG

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:	3m
Test item:	Band edge	Power:	AC 120V/60Hz
Frequency:	2422MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 5	Date:	09/12/2017
Ant.Polar.:	Horizontal		



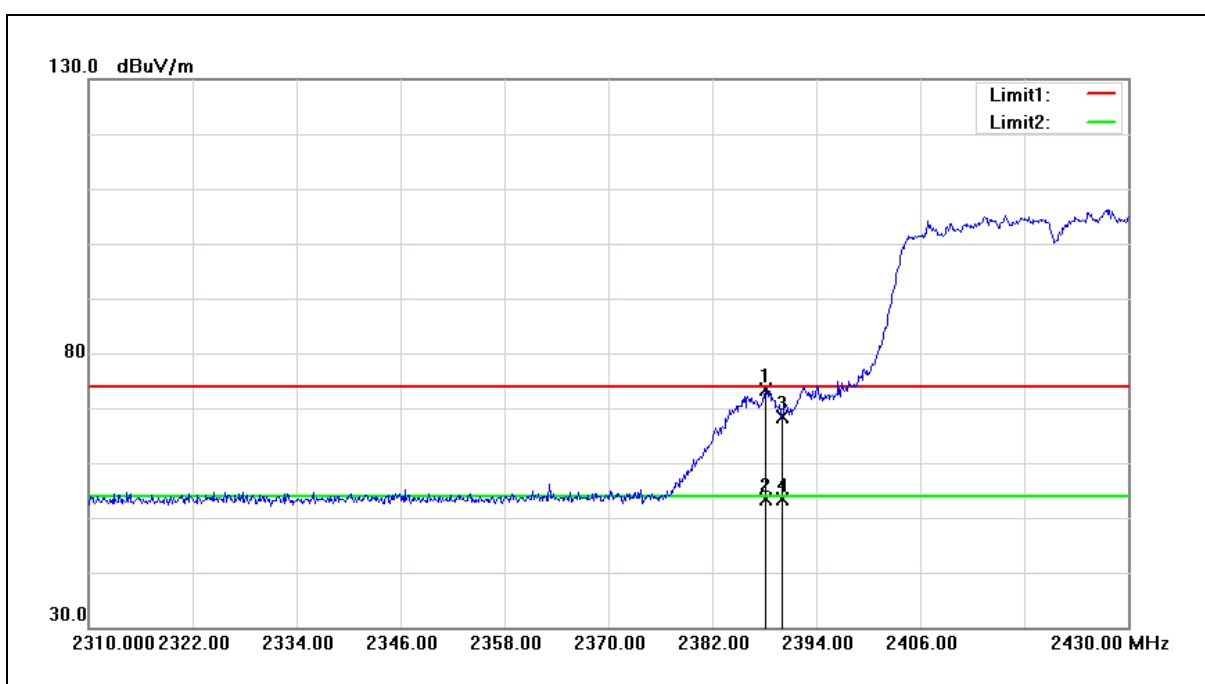
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2388.000	67.88	-1.86	66.02	74.00	-7.98	peak
2	2388.000	53.30	-1.86	51.44	54.00	-2.56	AVG
3	2390.000	65.69	-1.86	63.83	74.00	-10.17	peak
4	2390.000	54.79	-1.86	52.93	54.00	-1.07	AVG

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:	3m
Test item:	Band edge	Power:	AC 120V/60Hz
Frequency:	2422MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 5	Date:	09/12/2017
Ant.Polar.:	Vertical		



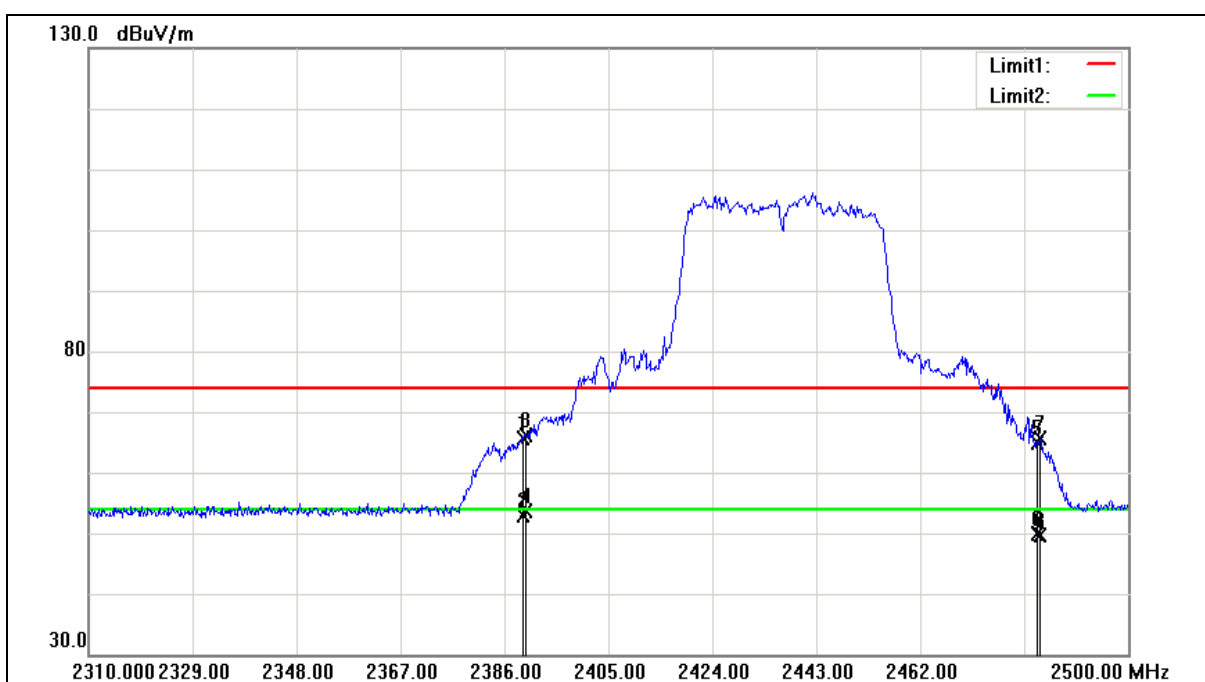
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2388.120	75.23	-1.86	73.37	74.00	-0.63	peak
2	2388.120	55.16	-1.86	53.30	54.00	-0.70	AVG
3	2390.000	70.20	-1.86	68.34	74.00	-5.66	peak
4	2390.000	55.24	-1.86	53.38	54.00	-0.62	AVG

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:	3m
Test item:	Band edge	Power:	AC 120V/60Hz
Frequency:	2437MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 5	Date:	09/12/2017
Ant.Polar.:	Horizontal		



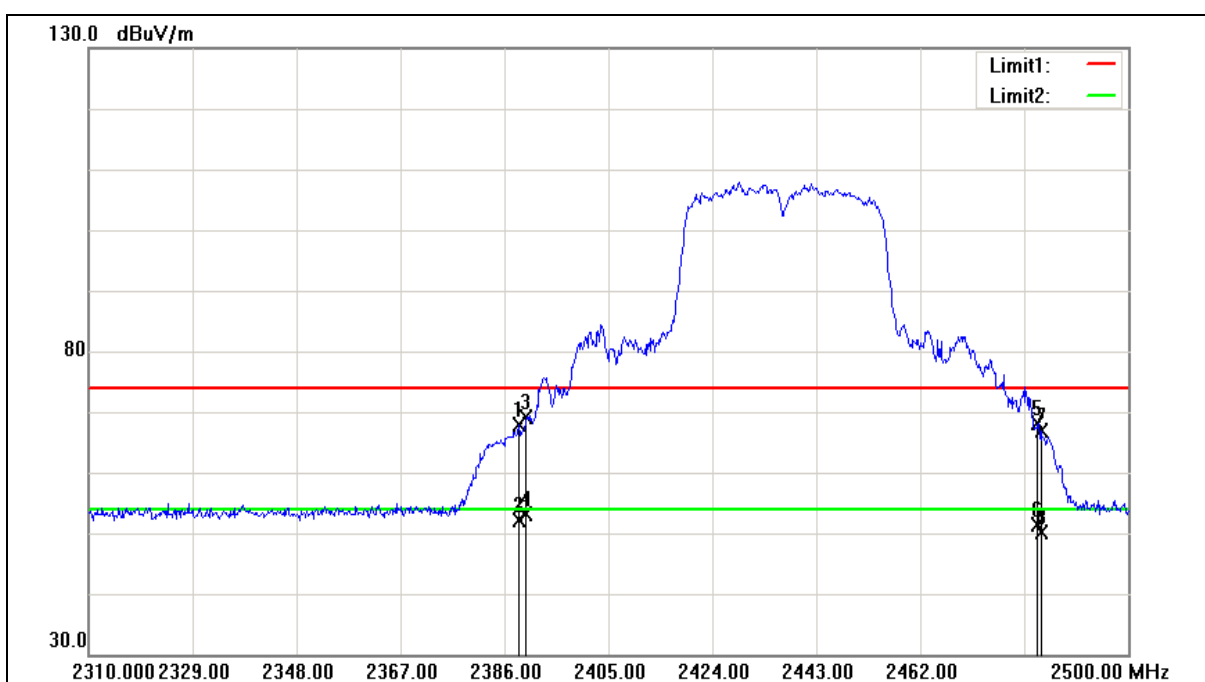
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2389.420	67.44	-1.86	65.58	74.00	-8.42	peak
2	2389.420	54.64	-1.86	52.78	54.00	-1.22	AVG
3	2390.000	68.09	-1.86	66.23	74.00	-7.77	peak
4	2390.000	55.47	-1.86	53.61	54.00	-0.39	AVG
5	2483.500	66.48	-1.50	64.98	74.00	-9.02	peak
6	2483.500	51.33	-1.50	49.83	54.00	-4.17	AVG
7	2483.850	67.03	-1.50	65.53	74.00	-8.47	peak
8	2483.850	51.21	-1.50	49.71	54.00	-4.29	AVG

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:	3m
Test item:	Band edge	Power:	AC 120V/60Hz
Frequency:	2437MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 5	Date:	09/12/2017
Ant.Polar.:	Vertical		



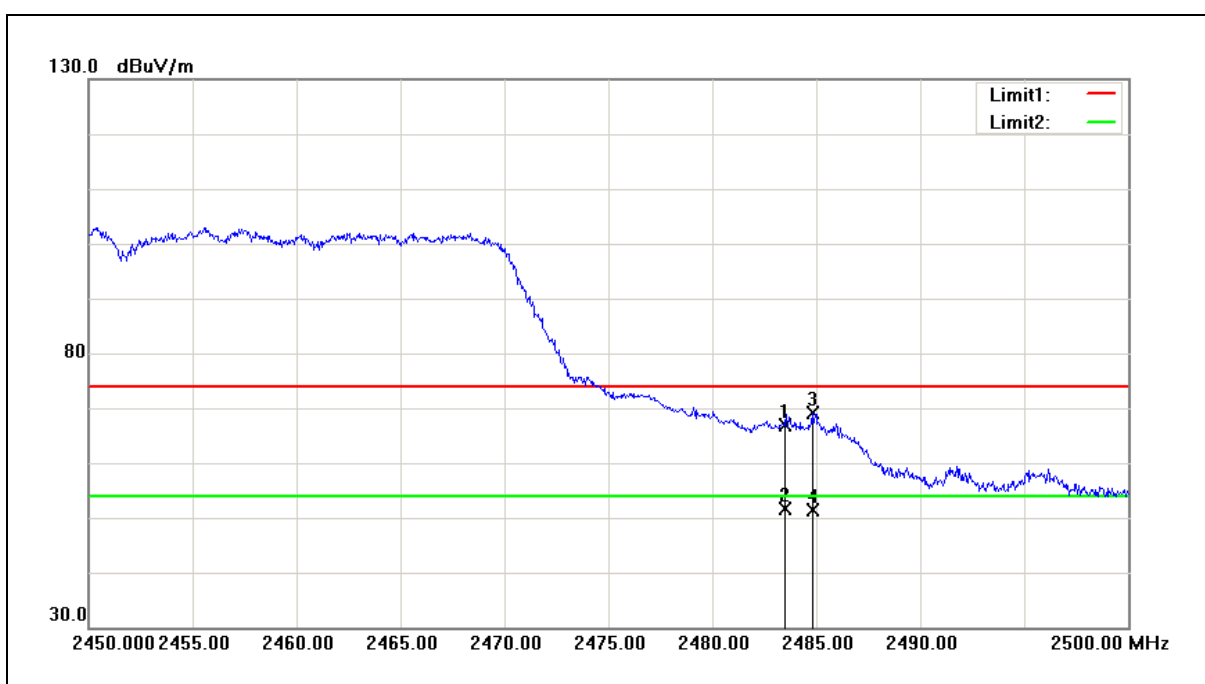
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2388.660	69.63	-1.86	67.77	74.00	-6.23	peak
2	2388.660	54.09	-1.86	52.23	54.00	-1.77	AVG
3	2390.000	70.87	-1.86	69.01	74.00	-4.99	peak
4	2390.000	55.11	-1.86	53.25	54.00	-0.75	AVG
5	2483.500	69.54	-1.50	68.04	74.00	-5.96	peak
6	2483.500	52.76	-1.50	51.26	54.00	-2.74	AVG
7	2484.040	68.42	-1.49	66.93	74.00	-7.07	peak
8	2484.040	51.60	-1.49	50.11	54.00	-3.89	AVG

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:	3m
Test item:	Band edge	Power:	AC 120V/60Hz
Frequency:	2452MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 5	Date:	09/12/2017
Ant.Polar.:	Horizontal		



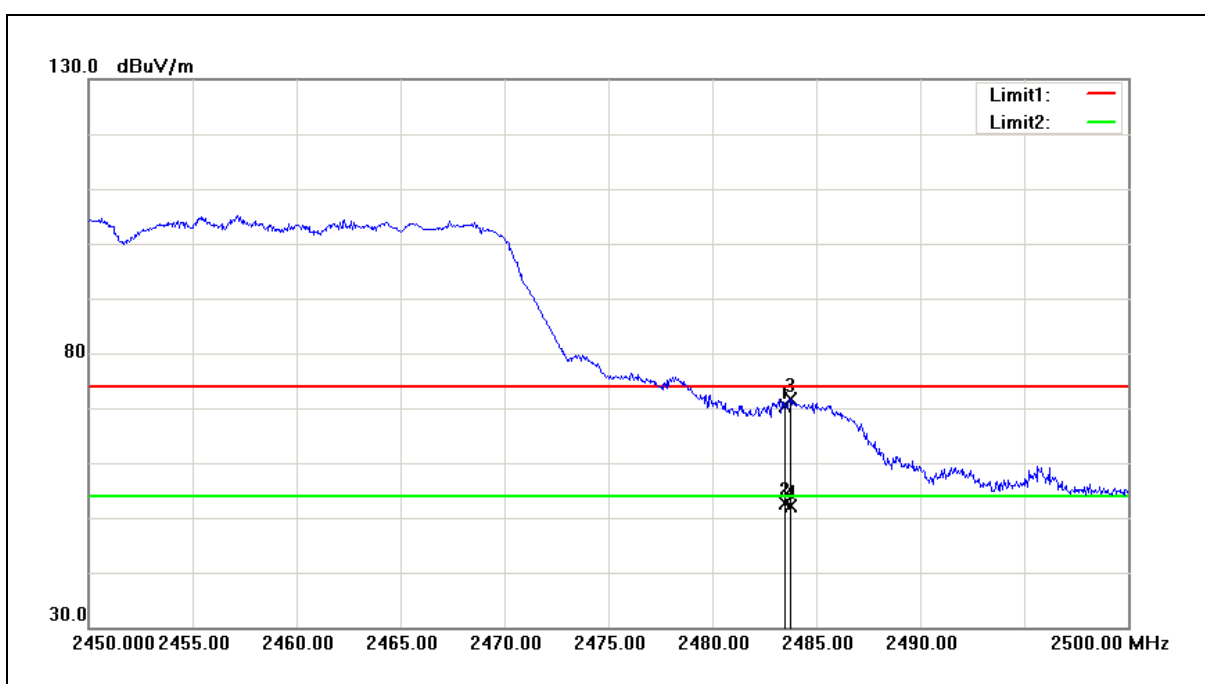
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2483.500	68.33	-1.50	66.83	74.00	-7.17	peak
2	2483.500	53.23	-1.50	51.73	54.00	-2.27	AVG
3	2484.800	70.58	-1.49	69.09	74.00	-4.91	peak
4	2484.800	52.86	-1.49	51.37	54.00	-2.63	AVG

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:	3m
Test item:	Band edge	Power:	AC 120V/60Hz
Frequency:	2452MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 5	Date:	09/12/2017
Ant.Polar.:	Vertical		



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2483.500	71.79	-1.50	70.29	74.00	-3.71	peak
2	2483.500	54.06	-1.50	52.56	54.00	-1.44	AVG
3	2483.750	73.11	-1.50	71.61	74.00	-2.39	peak
4	2483.750	53.71	-1.50	52.21	54.00	-1.79	AVG

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.

6 Maximum Conducted Output Power Measurement

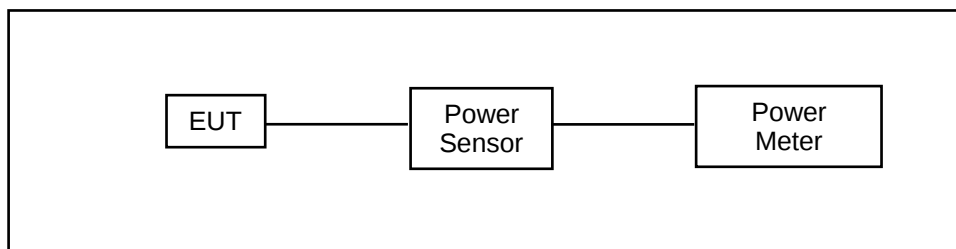
6.1. Limit

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

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 6dBi.

* CDD mode: $G_{ANT} = 10 \cdot \log\{[10^{G1/10} + 10^{G2/10} + \dots + 10^{Gn/10}] / N_{ANT}\} = 2.68 \text{ dBi} < 6\text{dBi}$

6.2. Test Setup



6.3. 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.

6.4. Test Result

Test Item	Maximum Conducted Output Power				
ANT-0					
Test Mode	Frequency (MHz)	Data Rate	Average Output Power		
			Measurement Results		Limit
			dBm	W	dBm
Mode 2	2412	1M	17.83	0.061	< 30
	2437		17.87	0.061	< 30
	2462		15.03	0.032	< 30
	2437	2M	17.83	0.061	< 30
	2437	5.5M	17.80	0.060	< 30
	2437	11M	17.75	0.060	< 30
Mode 3	2412	6M	16.37	0.043	< 30
	2437		20.42	0.110	< 30
	2462		17.34	0.054	< 30
	2437	9M	20.38	0.109	< 30
	2437	12M	20.30	0.107	< 30
	2437	18M	20.32	0.108	< 30
	2437	24M	20.28	0.107	< 30
	2437	36M	20.20	0.105	< 30
	2437	48M	20.23	0.105	< 30
	2437	54M	20.15	0.104	< 30

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

Test Item	Maximum Conducted Output Power				
ANT-0					
Test Mode	Frequency (MHz)	Data Rate	Average Output Power		
			Measurement Results		Limit
			dBm	W	dBm
Mode 4	2412	6.5M	15.84	0.038	< 30
	2437		20.38	0.109	< 30
	2462		17.07	0.051	< 30
	2437	14.4M	20.31	0.107	< 30
	2437	21.7M	20.29	0.107	< 30
	2437	28.9M	20.22	0.105	< 30
	2437	43.3M	20.25	0.106	< 30
	2437	57.8M	20.20	0.105	< 30
	2437	65M	20.15	0.104	< 30
	2437	72.2M	20.13	0.103	< 30
Mode 5	2422	13.5M	14.14	0.026	< 30
	2437		18.00	0.063	< 30
	2452		15.68	0.037	< 30
	2437	30M	17.97	0.063	< 30
	2437	45M	17.92	0.062	< 30
	2437	60M	17.90	0.062	< 30
	2437	90M	17.83	0.061	< 30
	2437	120M	17.80	0.060	< 30
	2437	135M	17.85	0.061	< 30
	2437	150M	17.75	0.060	< 30

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

Test Item	Maximum Conducted Output Power				
ANT-1					
Test Mode	Frequency (MHz)	Data Rate	Average Output Power		
			Measurement Results		Limit
			dBm	W	dBm
Mode 2	2412	1M	18.09	0.064	< 30
	2437		17.96	0.063	< 30
	2462		15.15	0.033	< 30
	2437	2M	17.92	0.062	< 30
	2437	5.5M	17.86	0.061	< 30
	2437	11M	17.81	0.060	< 30
Mode 3	2412	6M	16.04	0.040	< 30
	2437		19.53	0.090	< 30
	2462		16.83	0.048	< 30
	2437	9M	19.50	0.089	< 30
	2437	12M	19.42	0.087	< 30
	2437	18M	19.45	0.088	< 30
	2437	24M	19.39	0.087	< 30
	2437	36M	19.31	0.085	< 30
	2437	48M	19.29	0.085	< 30
	2437	54M	19.35	0.086	< 30

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

Test Item	Maximum Conducted Output Power				
ANT-1					
Test Mode	Frequency (MHz)	Data Rate	Average Output Power		
			Measurement Results		Limit
			dBm	W	dBm
Mode 4	2412	6.5M	15.36	0.034	< 30
	2437		19.37	0.086	< 30
	2462		16.69	0.047	< 30
	2437	14.4M	19.34	0.086	< 30
	2437	21.7M	19.35	0.086	< 30
	2437	28.9M	19.30	0.085	< 30
	2437	43.3M	19.26	0.084	< 30
	2437	57.8M	19.21	0.083	< 30
	2437	65M	19.13	0.082	< 30
	2437	72.2M	19.10	0.081	< 30
Mode 5	2422	13.5M	13.59	0.023	< 30
	2437		17.71	0.059	< 30
	2452		15.51	0.036	< 30
	2437	30M	17.67	0.058	< 30
	2437	45M	17.62	0.058	< 30
	2437	60M	17.55	0.057	< 30
	2437	90M	17.60	0.058	< 30
	2437	120M	17.52	0.056	< 30
	2437	135M	17.48	0.056	< 30
	2437	150M	17.42	0.055	< 30

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

Test Item	Maximum Conducted Output Power				
ANT-0+1					
Test Mode	Frequency (MHz)	Data Rate	Average Output Power		
			Measurement Results		Limit
			dBm	W	dBm
Mode 2	2412	1M	20.97	0.125	< 30
	2437		20.93	0.124	< 30
	2462		18.10	0.065	< 30
	2437	2M	20.89	0.123	< 30
	2437	5.5M	20.84	0.121	< 30
	2437	11M	20.79	0.120	< 30
Mode 3	2412	6M	19.22	0.084	< 30
	2437		23.01	0.200	< 30
	2462		20.10	0.102	< 30
	2437	9M	22.97	0.198	< 30
	2437	12M	22.89	0.195	< 30
	2437	18M	22.92	0.196	< 30
	2437	24M	22.87	0.194	< 30
	2437	36M	22.79	0.190	< 30
	2437	48M	22.80	0.190	< 30
	2437	54M	22.78	0.190	< 30

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

Test Item	Maximum Conducted Output Power				
ANT-0+1					
Test Mode	Frequency (MHz)	Data Rate	Average Output Power		
			Measurement Results		Limit
			dBm	W	dBm
Mode 4	2412	6.5M	18.62	0.073	< 30
	2437		22.91	0.196	< 30
	2462		19.89	0.098	< 30
	2437	14.4M	22.86	0.193	< 30
	2437	21.7M	22.86	0.193	< 30
	2437	28.9M	22.79	0.190	< 30
	2437	43.3M	22.79	0.190	< 30
	2437	57.8M	22.74	0.188	< 30
	2437	65M	22.68	0.185	< 30
	2437	72.2M	22.66	0.184	< 30
Mode 5	2422	13.5M	16.88	0.049	< 30
	2437		20.87	0.122	< 30
	2452		18.61	0.073	< 30
	2437	30M	20.83	0.121	< 30
	2437	45M	20.78	0.120	< 30
	2437	60M	20.74	0.119	< 30
	2437	90M	20.73	0.118	< 30
	2437	120M	20.67	0.117	< 30
	2437	135M	20.68	0.117	< 30
	2437	150M	20.60	0.115	< 30

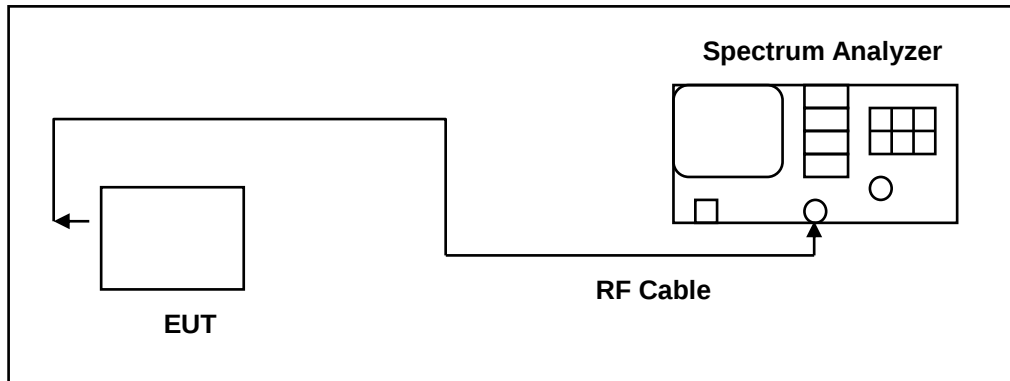
Note: The relevant measured result has the offset with cable loss already.

7 6dB RF Bandwidth Measurement

7.1. Limit

6dB 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.

7.2. Test Setup



7.3. Test Procedure

The EUT tested to DTS test procedure of KDB558074D01 for compliance to FCC 47CFR 15.247 requirements.

6dB 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)

7.4. Test Result

Test Item	6dB RF Bandwidth			
Test Mode	Frequency (MHz)	Measurement (kHz)		Limit (kHz)
		ANT-0	ANT-1	
Mode 2	2412	10110	10080	> 500
	2437	10120	10070	> 500
	2462	10120	10120	> 500
Mode 3	2412	16600	16570	> 500
	2437	16570	16590	> 500
	2462	16600	16610	> 500
Mode 4	2412	17830	17740	> 500
	2437	17810	17800	> 500
	2462	17850	17780	> 500
Mode 5	2422	36460	36410	> 500
	2437	36380	36330	> 500
	2452	35720	36420	> 500



7.5. Test Graphs

Mode 2: IEEE 802.11b Continuous TX mode_ANT-0

2412 MHz



2437 MHz



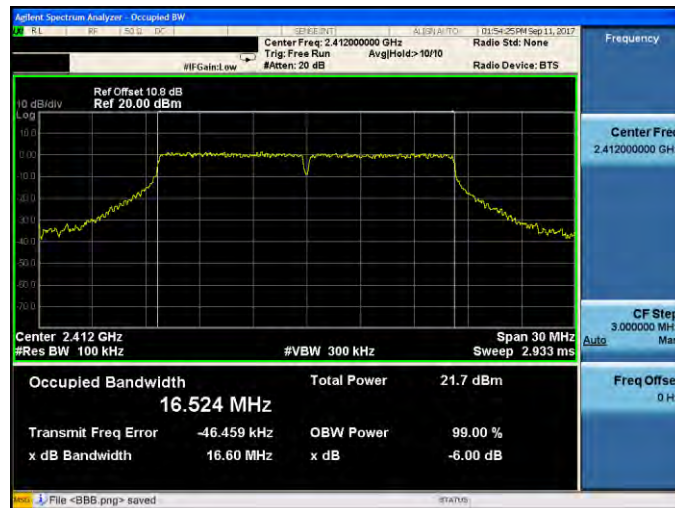
2462 MHz



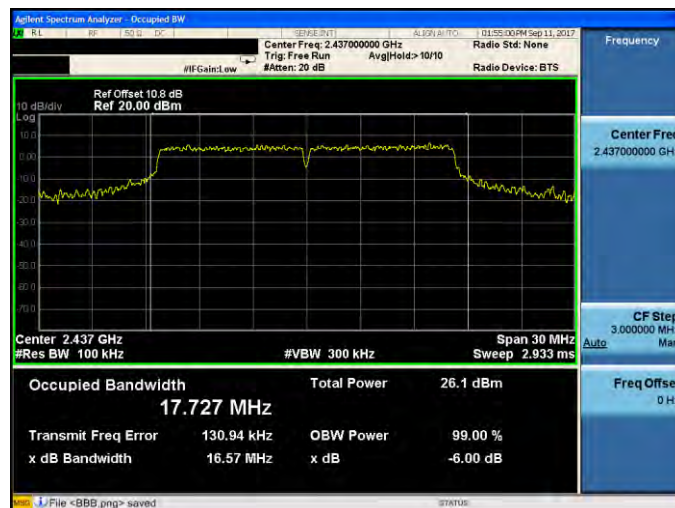


Mode 3: IEEE 802.11g Continuous TX mode_ANT-0

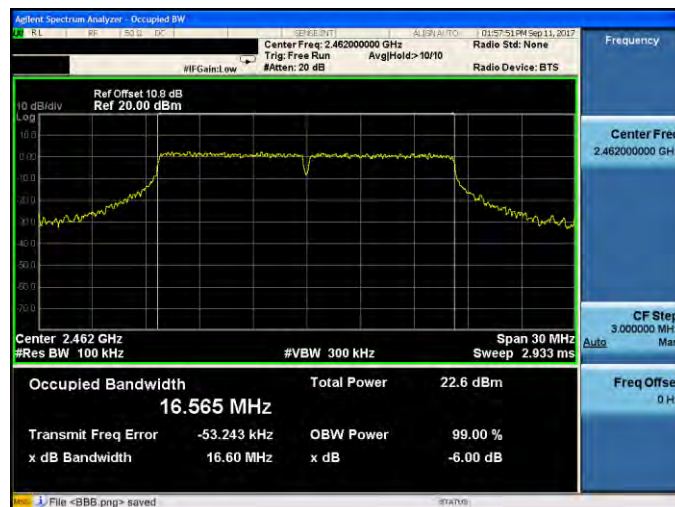
2412 MHz



2437 MHz



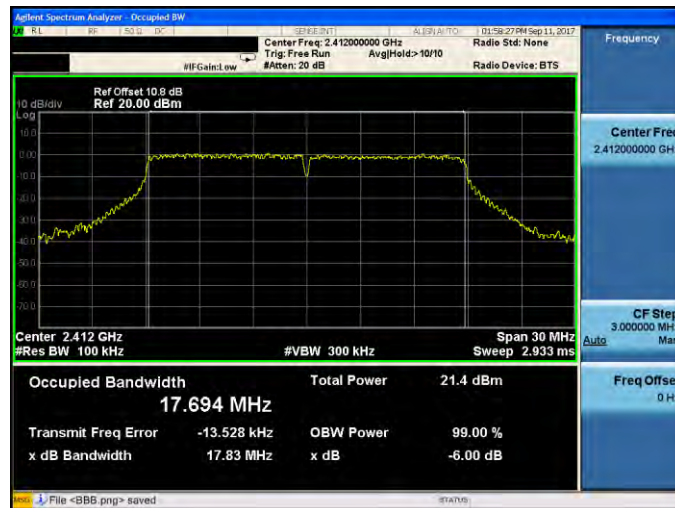
2462 MHz



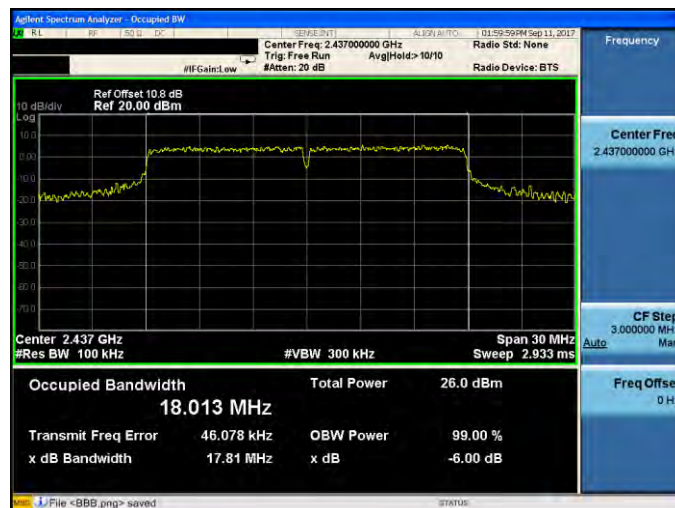


Mode 4: IEEE 802.11n 2.4GHz 20MHz Continuous TX mode_ANT-0

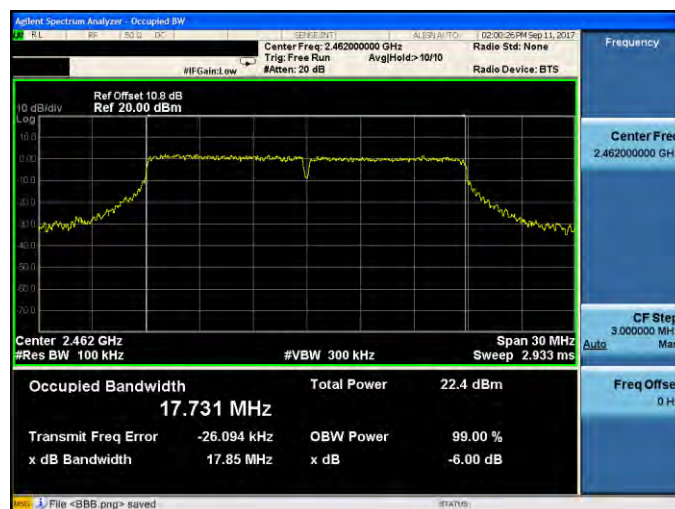
2412 MHz



2437 MHz



2462 MHz



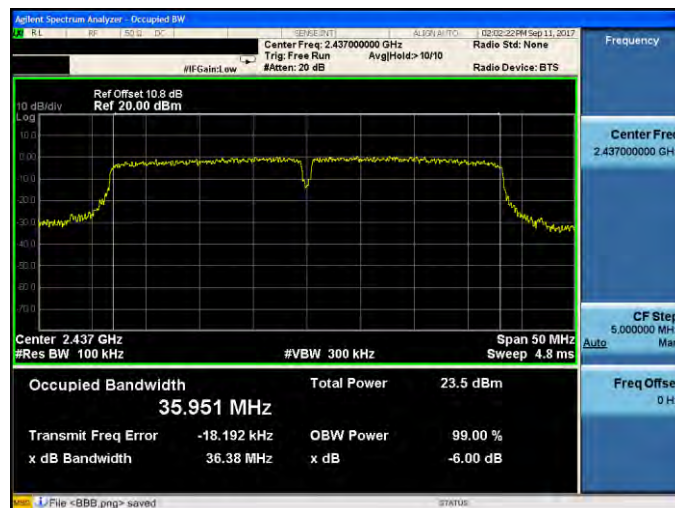


Mode 5: IEEE 802.11n 2.4GHz 40MHz Continuous TX mode_ANT-0

2422 MHz



2437 MHz



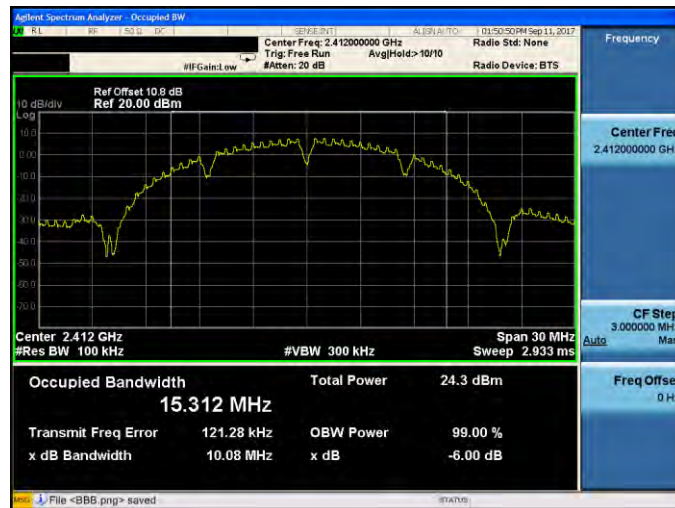
2452 MHz





Mode 2: IEEE 802.11b Continuous TX mode_ANT-1

2412 MHz



2437 MHz



2462 MHz



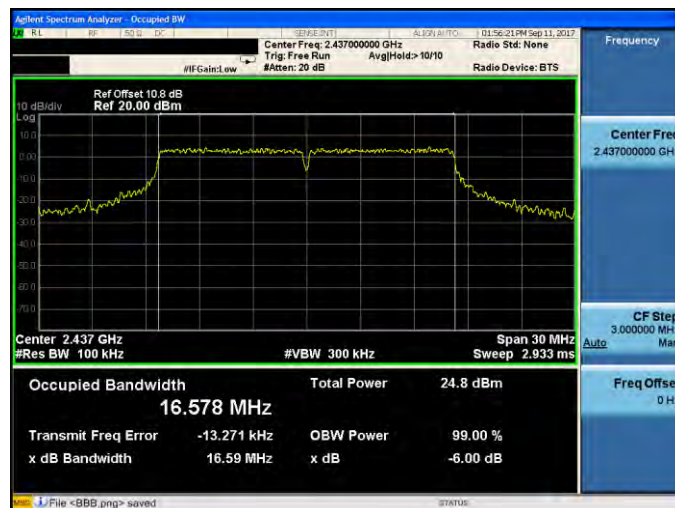


Mode 3: IEEE 802.11g Continuous TX mode_ANT-1

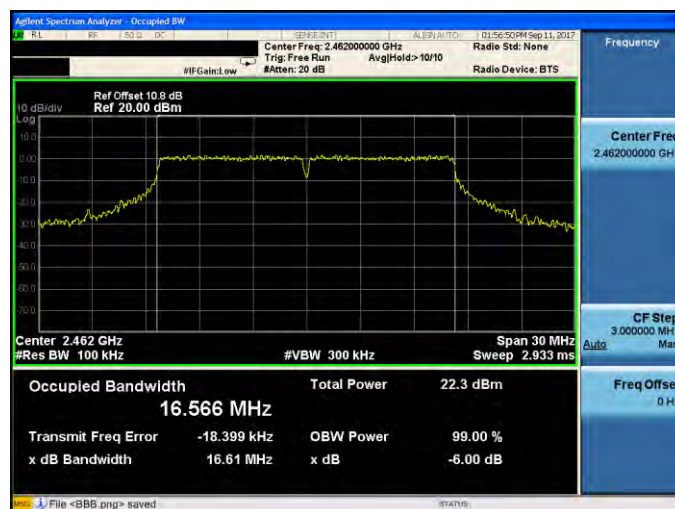
2412 MHz



2437 MHz



2462 MHz



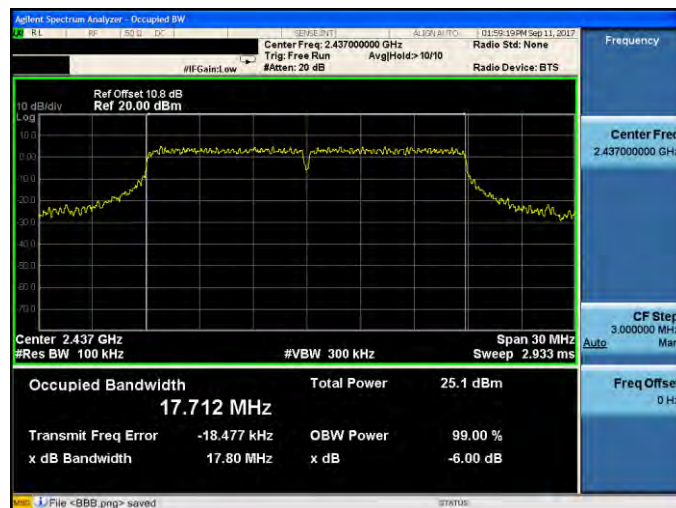


Mode 4: IEEE 802.11n 2.4GHz 20MHz Continuous TX mode_ANT-1

2412 MHz



2437 MHz



2462 MHz



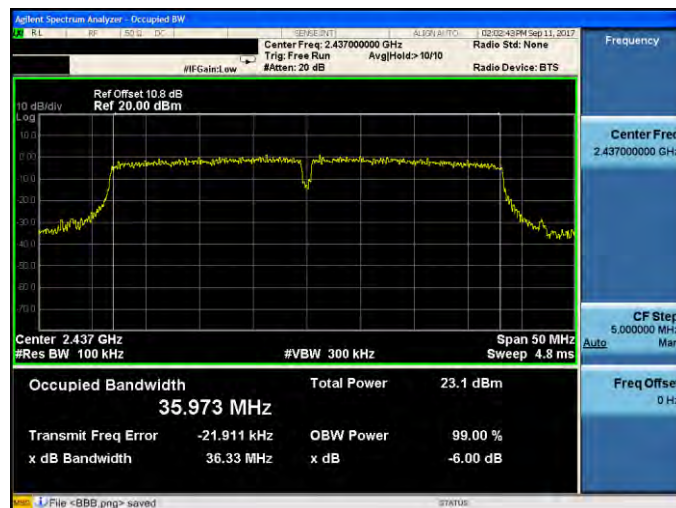


Mode 5: IEEE 802.11n 2.4GHz 40MHz Continuous TX mode_ANT-1

2422 MHz



2437 MHz



2452 MHz



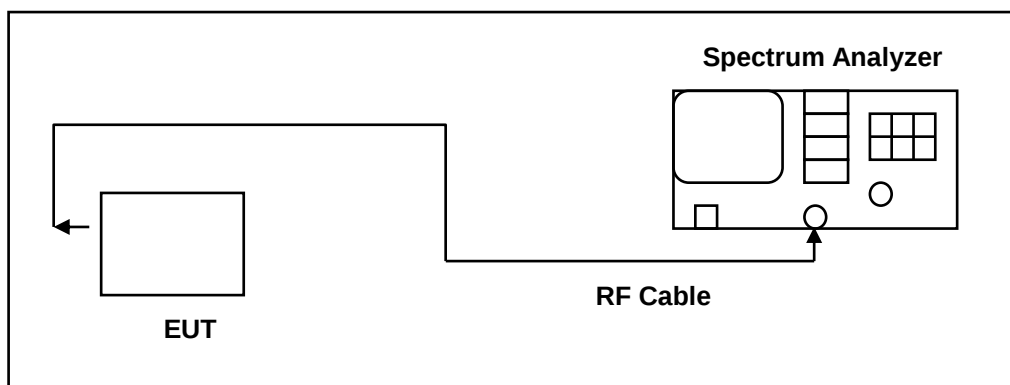
8 Maximum Power Density Measurement

8.1. 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.

* CDD mode : Directional Gain = $10 \cdot \log\{[10^{(G1/20)} + 10^{(G2/20)} + \dots + 10^{(Gn/20)}]^2 / NANT\}$ = 5.68 dBi < 6dBi

8.2. Test Setup



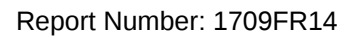
8.3. Test Procedure

The EUT tested to DTS test procedure of KDB558074D01 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.

8.4. Test Result

Test Item	Maximum Power Density				
Test Mode	Frequency (MHz)	Measurement (dBm/3KHz)			Limit (dBm/3KHz)
		ANT-0	ANT-1	ANT-0+1	
Mode 2	2412	-12.757	-12.448	-9.589	< 8
	2437	-12.632	-12.629	-9.620	< 8
	2462	-15.845	-15.731	-12.777	< 8
Mode 3	2412	-13.161	-12.724	-9.927	< 8
	2437	-8.984	-9.811	-6.368	< 8
	2462	-12.188	-12.430	-9.297	< 8
Mode 4	2412	-12.421	-13.412	-9.878	< 8
	2437	-7.662	-9.464	-5.460	< 8
	2462	-10.692	-11.552	-8.090	< 8
Mode 5	2422	-16.627	-18.194	-14.330	< 8
	2437	-12.373	-13.667	-9.962	< 8
	2452	-15.372	-16.299	-12.801	< 8



Mode 2: IEEE 802.11b Continuous TX mode_ANT-0

2412 MHz

Agilent Spectrum Analyzer - Sweep SA

PRO: Wide IF Gain: 0.0 dB Trg: Free Run Atten: 20 dB Avg Type: Log-Pwr AvgHold: 8/100

Ref Offset: 10.8 dB Ref 20.00 dBm

Mkr1 2.411 260.8 GHz -12.757 dBm

Center 2.412000 GHz #Res BW 3.0 kHz #VBW 10 kHz Span 16.00 MHz Sweep 1.688 s (40001 pts)

File <BBB.png> saved

Frequency

Auto Tune

Center Freq 2.41200000 GHz

Start Freq 2.40400000 GHz

Stop Freq 2.42000000 GHz

CF Step 1.800000 MHz Auto Man

Freq Offset 0 Hz

2437 MHz

Agilent Spectrum Analyzer - Sweep SA

PRO: Wide IF Gain: 0.0 dB Trg: Free Run Atten: 20 dB Avg Type: Log-Pwr AvgHold: 8/100

Ref Offset: 10.8 dB Ref 20.00 dBm

Mkr1 2.437 690.0 GHz -12.632 dBm

Center 2.437000 GHz #Res BW 3.0 kHz #VBW 10 kHz Span 16.00 MHz Sweep 1.688 s (40001 pts)

File <BBB.png> saved

Frequency

Auto Tune

Center Freq 2.43700000 GHz

Start Freq 2.42900000 GHz

Stop Freq 2.44500000 GHz

CF Step 1.800000 MHz Auto Man

Freq Offset 0 Hz

2462 MHz

Agilent Spectrum Analyzer - Sweep SA

PRO: Wide IF Gain: 0.0 dB Trg: Free Run Atten: 20 dB Avg Type: Log-Pwr AvgHold: 7/100

Ref Offset: 10.8 dB Ref 20.00 dBm

Mkr1 2.462 650.4 GHz -15.845 dBm

Center 2.462000 GHz #Res BW 3.0 kHz #VBW 10 kHz Span 16.00 MHz Sweep 1.688 s (40001 pts)

File <BBB.png> saved

Frequency

Auto Tune

Center Freq 2.46200000 GHz

Start Freq 2.45400000 GHz

Stop Freq 2.47000000 GHz

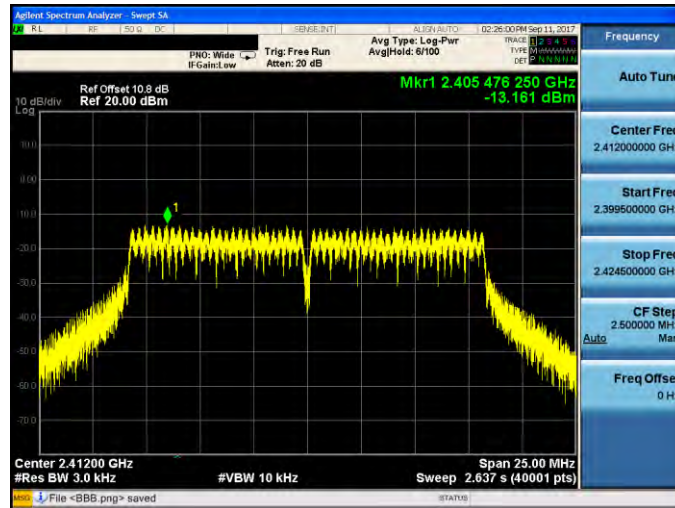
CF Step 1.800000 MHz Auto Man

Freq Offset 0 Hz

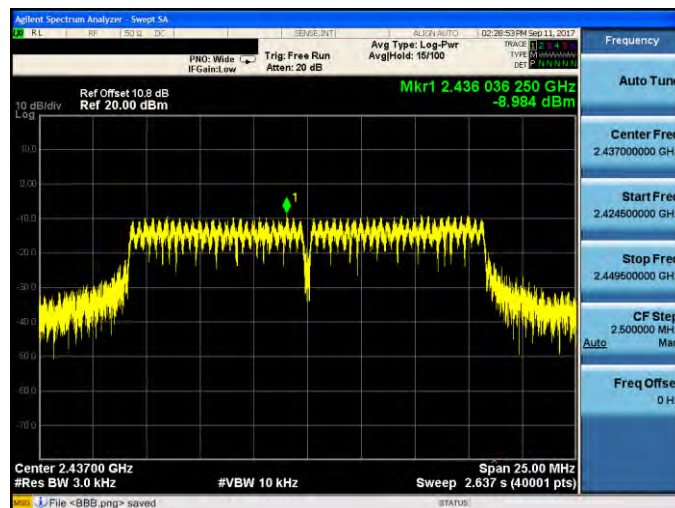


Mode 3: IEEE 802.11g Continuous TX mode_ANT-0

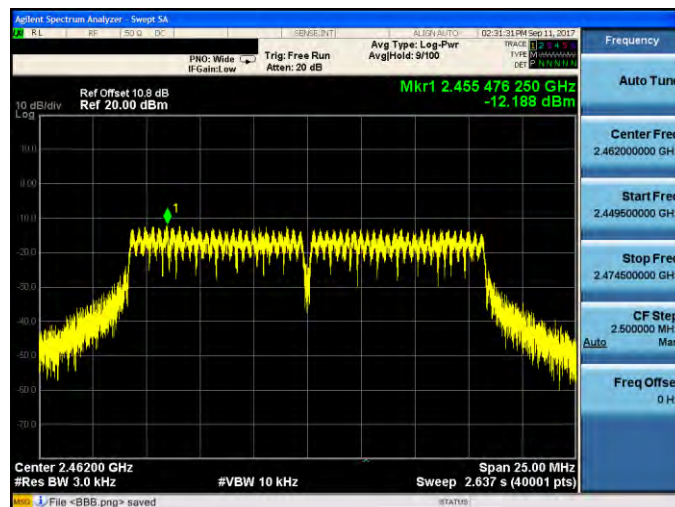
2412 MHz



2437 MHz



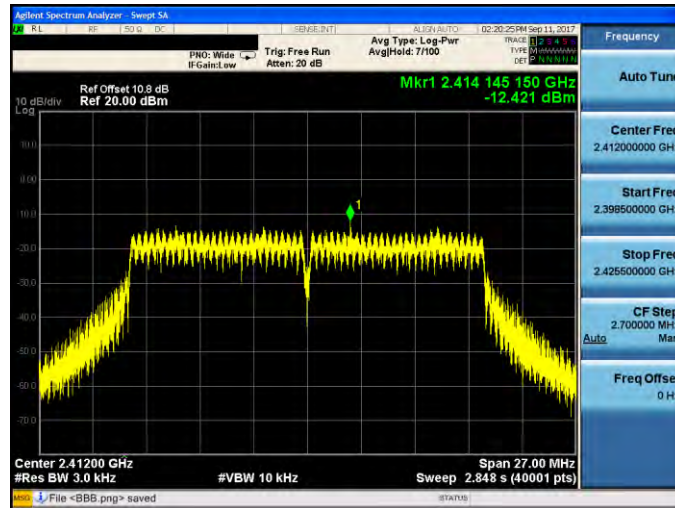
2462 MHz



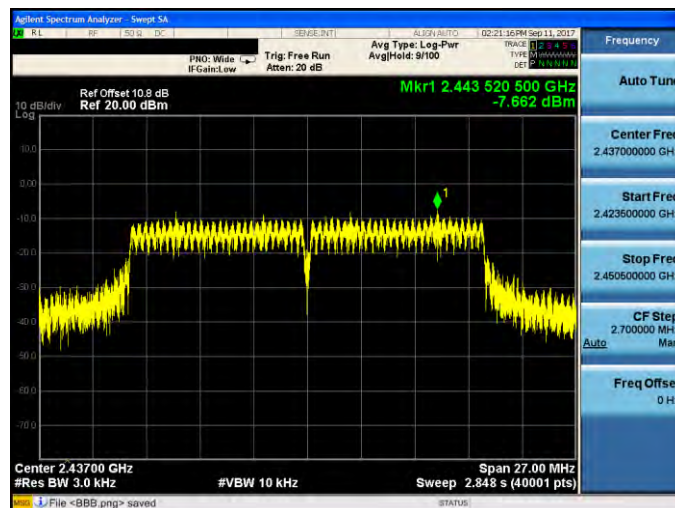


Mode 4: IEEE 802.11n 2.4GHz 20MHz Continuous TX mode_ANT-0

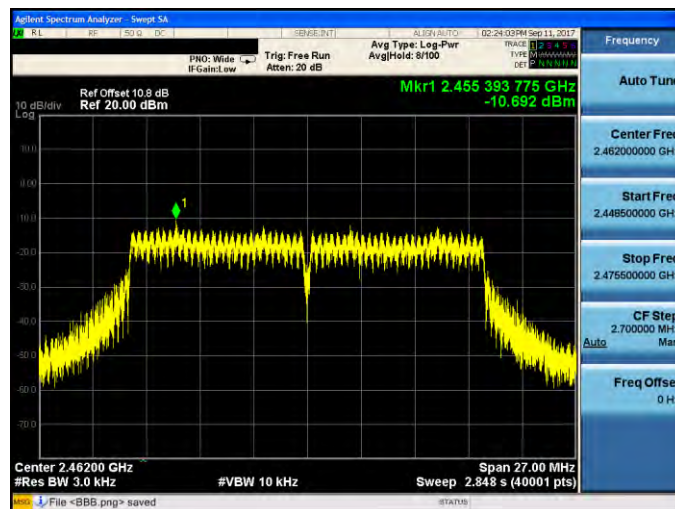
2412 MHz



2437 MHz



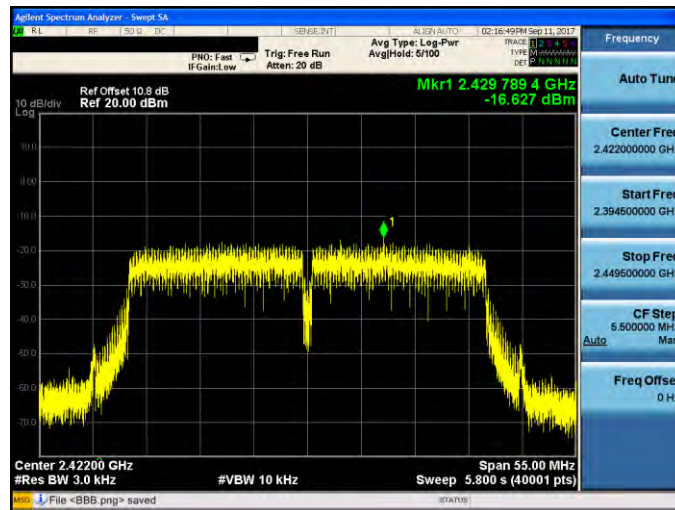
2462 MHz



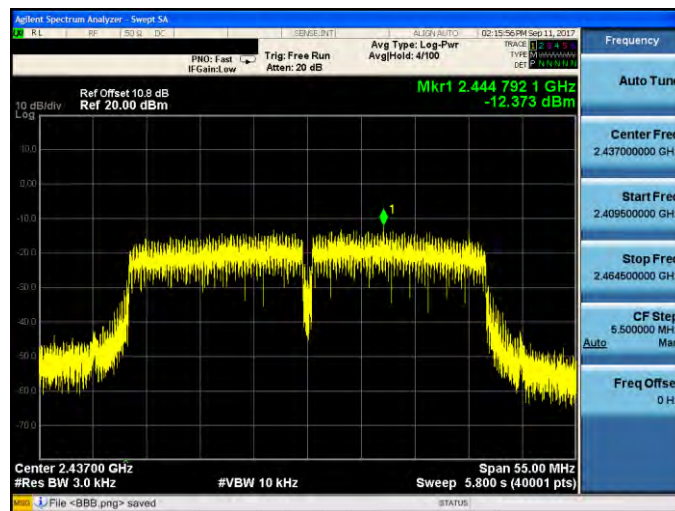


Mode 5: IEEE 802.11n 2.4GHz 40MHz Continuous TX mode_ANT-0

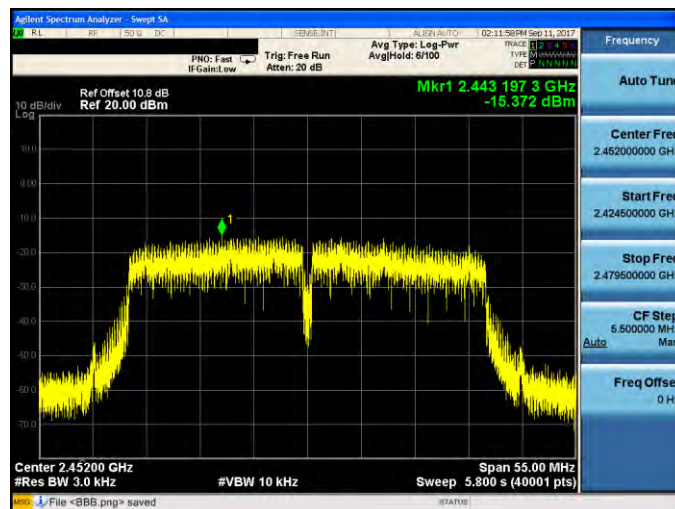
2422 MHz



2437 MHz



2452 MHz





Mode 2: IEEE 802.11b Continuous TX mode_ANT-1

2412 MHz



2437 MHz



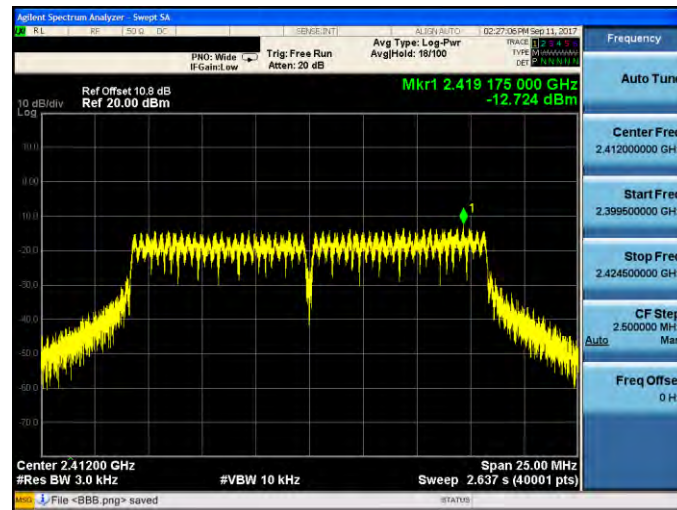
2462 MHz



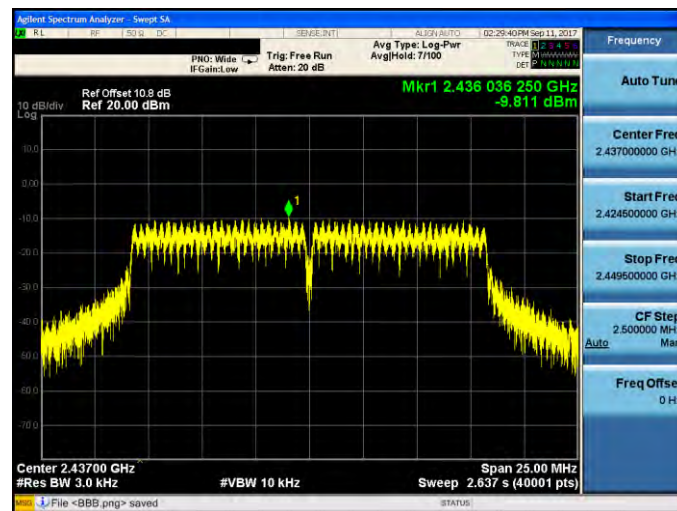


Mode 3: IEEE 802.11g Continuous TX mode_ANT-1

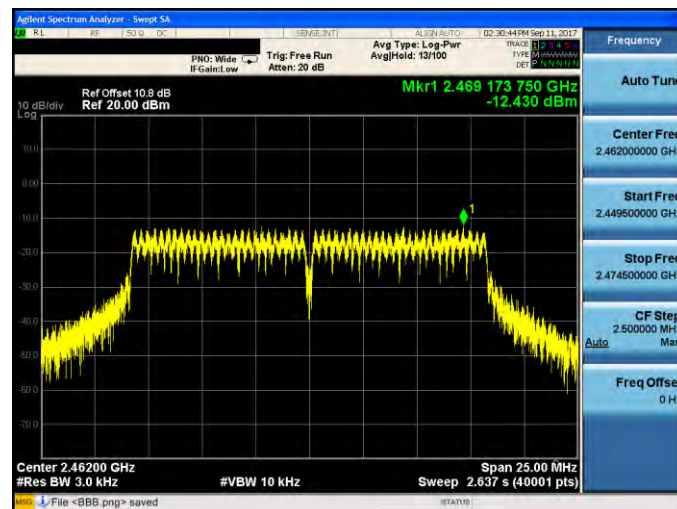
2412 MHz



2437 MHz



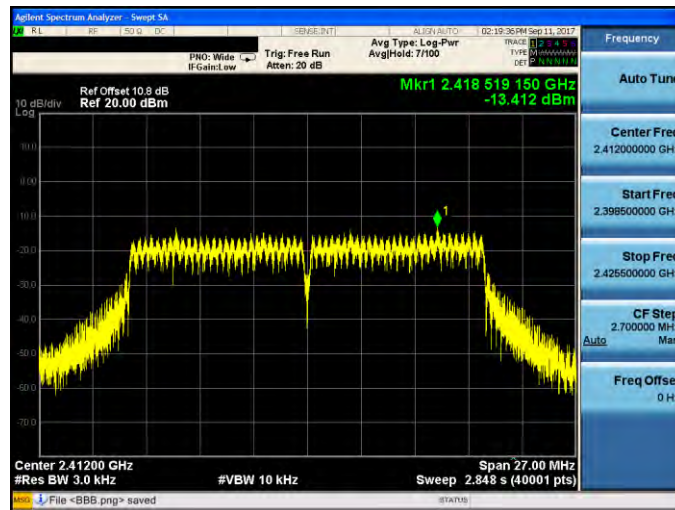
2462 MHz



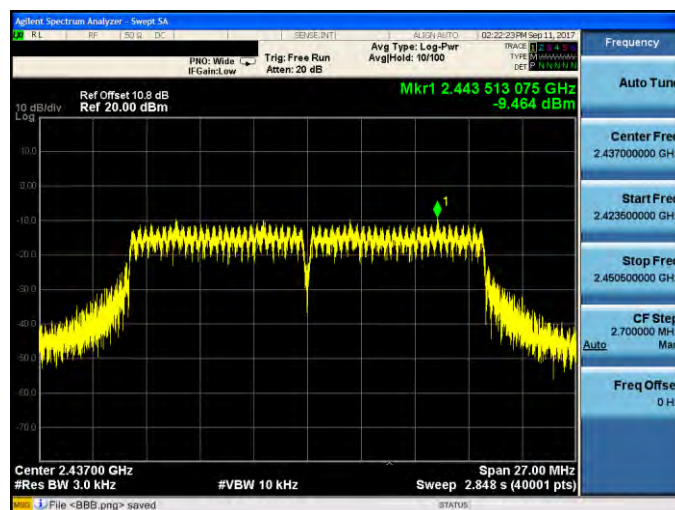


Mode 4: IEEE 802.11n 2.4GHz 20MHz Continuous TX mode_ANT-1

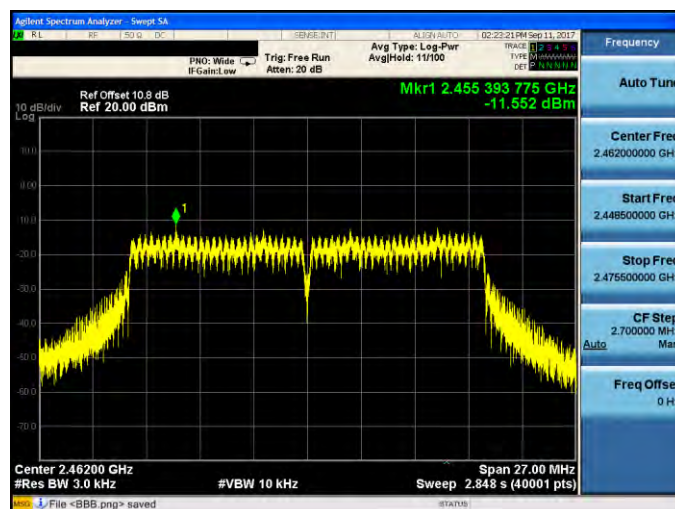
2412 MHz



2437 MHz



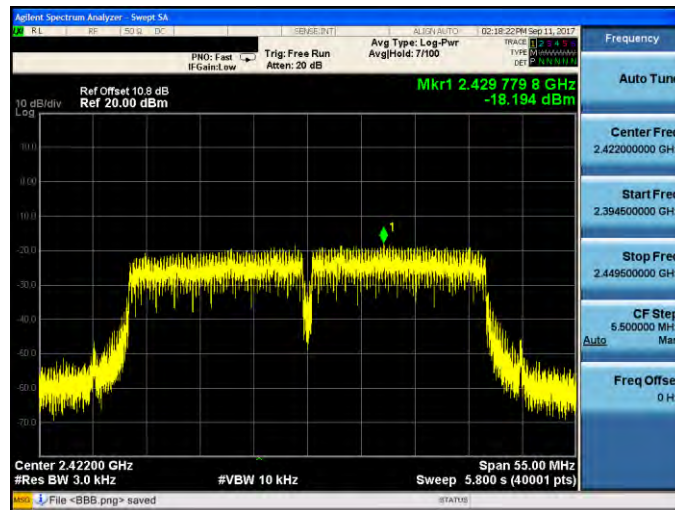
2462 MHz



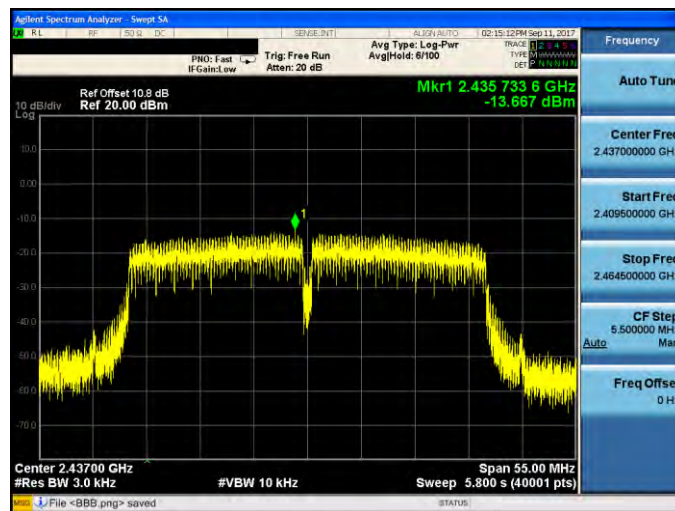


Mode 5: IEEE 802.11n 2.4GHz 40MHz Continuous TX mode_ANT-1

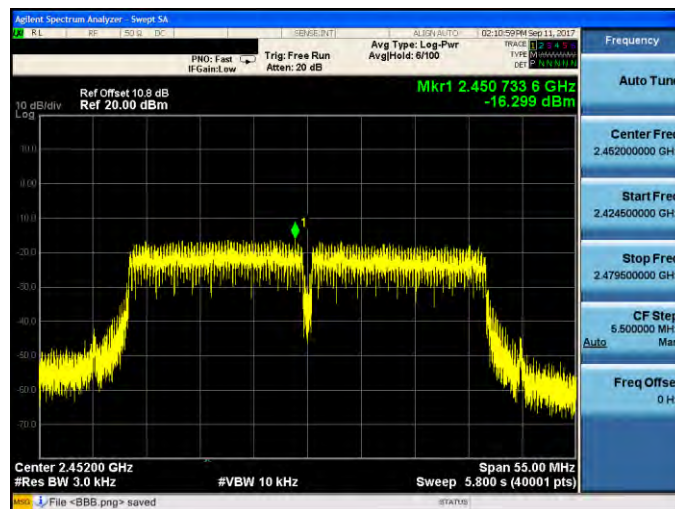
2422 MHz



2437 MHz



2452 MHz

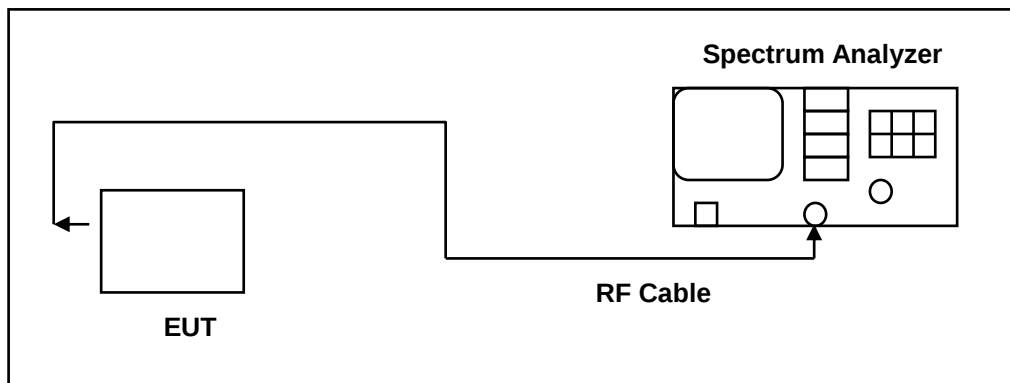


9 Out of Band Conducted Emissions Measurement

9.1. 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 30 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power

9.2. Test Setup



9.3. 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 30 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.



9.4. Test Graphs

Reference level

Mode 2: IEEE 802.11b Continuous TX mode _ANT-0

2412 MHz



2437 MHz



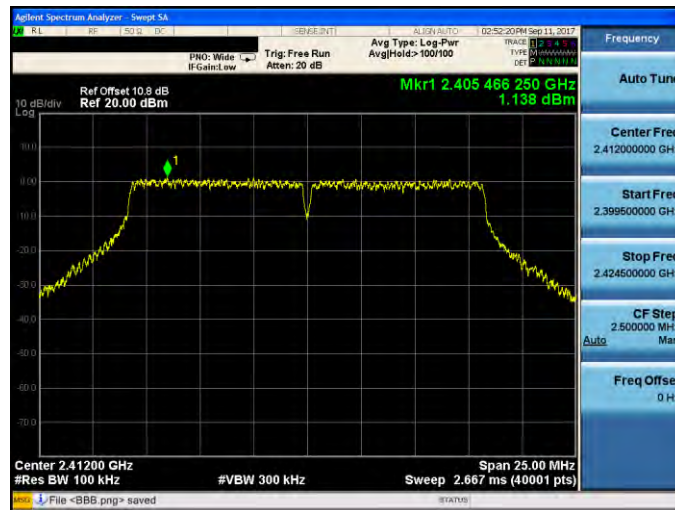
2462 MHz



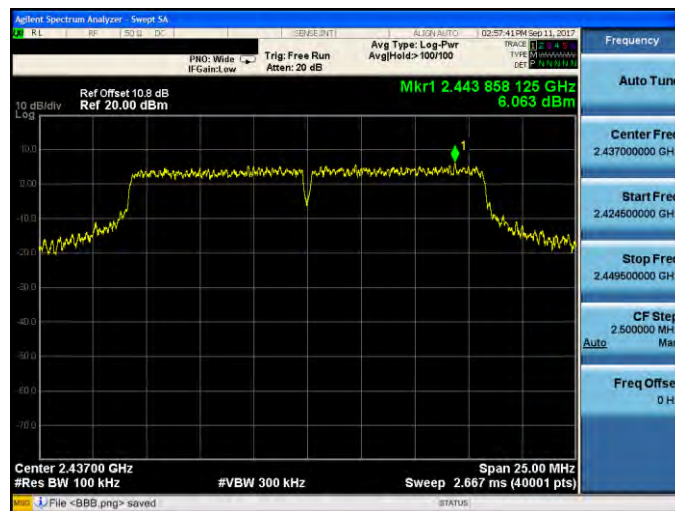


Mode 3: IEEE 802.11g Continuous TX mode_ANT-0

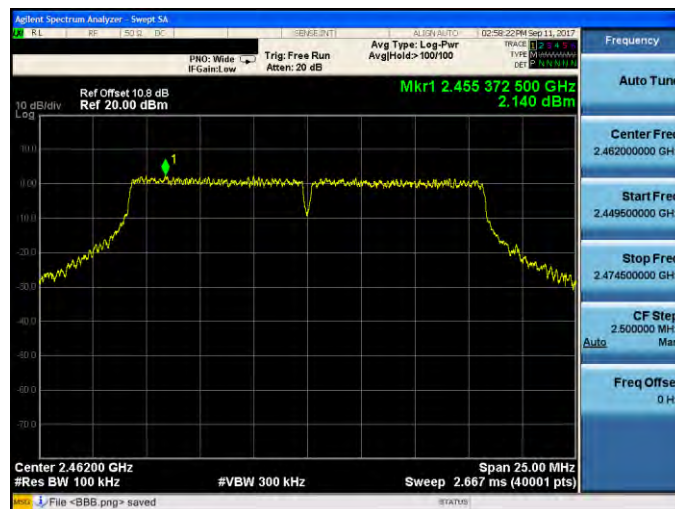
2412 MHz



2437 MHz



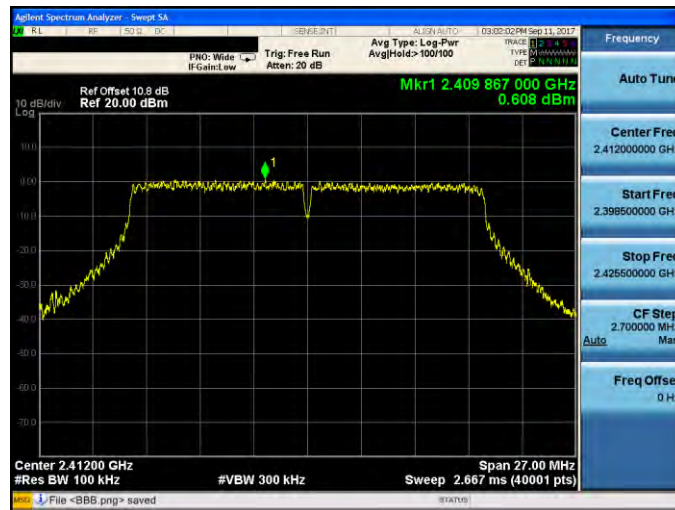
2462 MHz



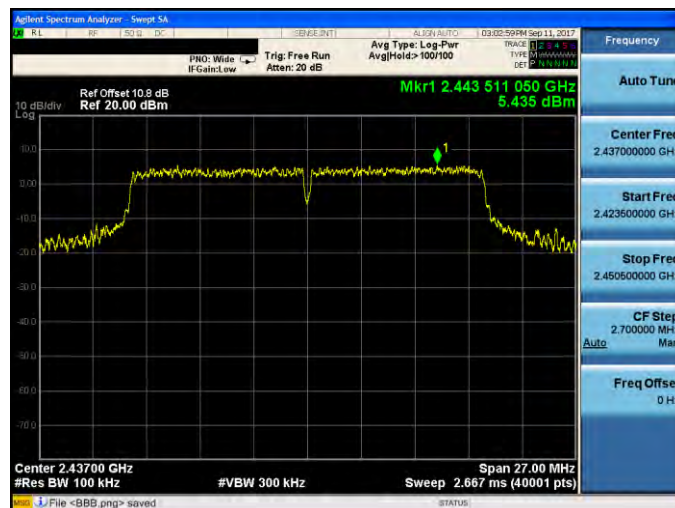


Mode 4: IEEE 802.11n 2.4GHz 20MHz Continuous TX mode_ANT-0

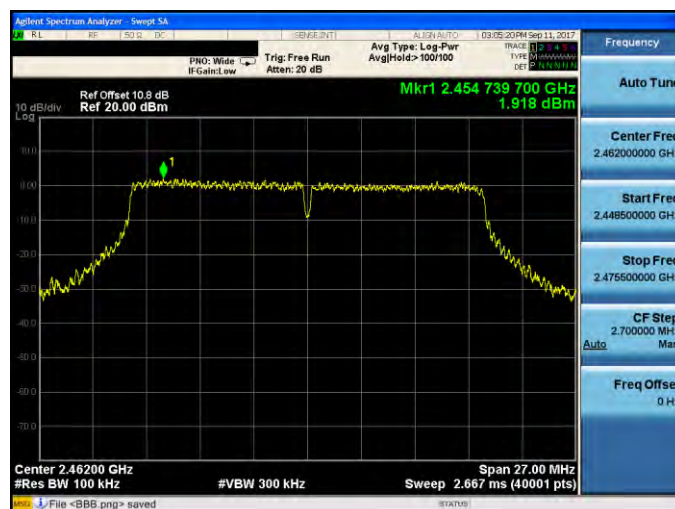
2412 MHz



2437 MHz



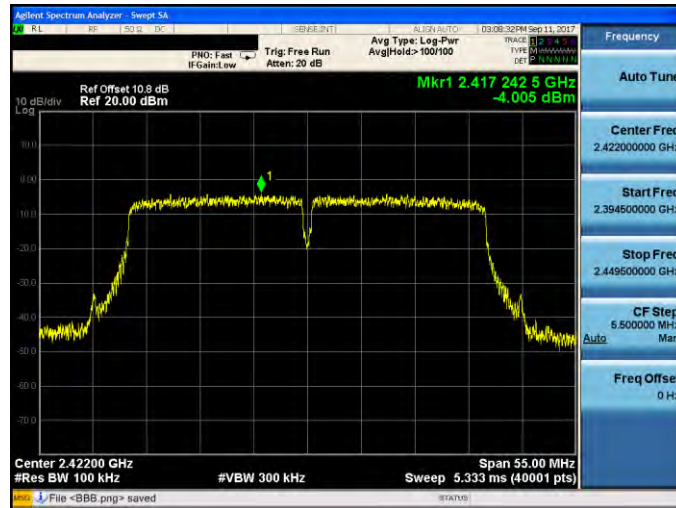
2462 MHz



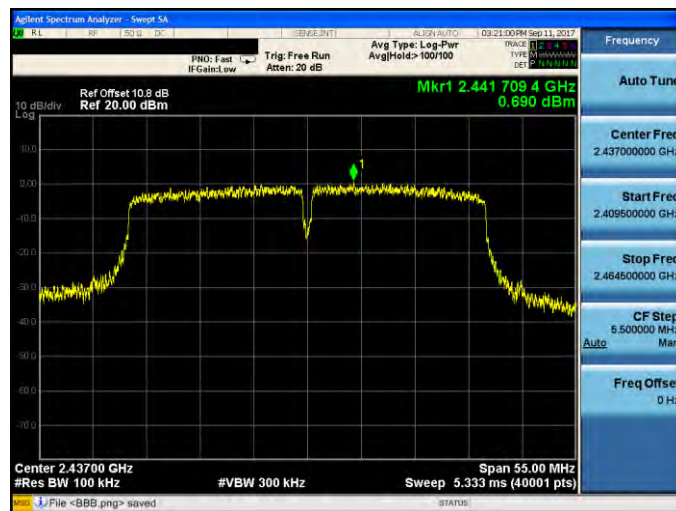


Mode 5: IEEE 802.11n 2.4GHz 40MHz Continuous TX mode_ANT-0

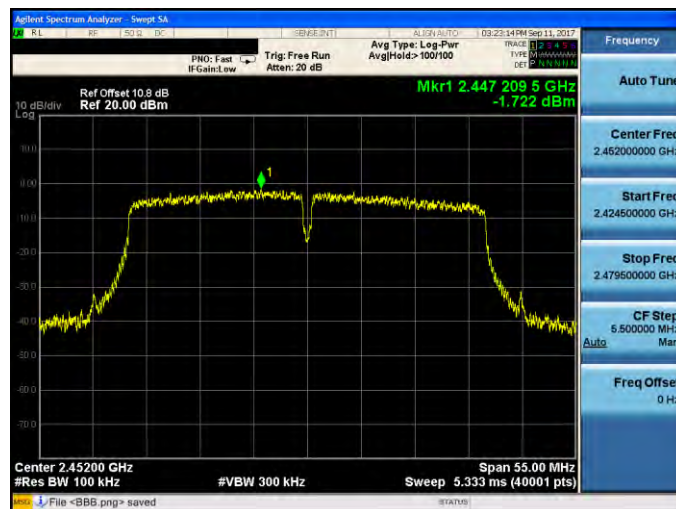
2422 MHz



2437 MHz



2452 MHz





Mode 2: IEEE 802.11b Continuous TX mode_ANT-1

2412 MHz



2437 MHz



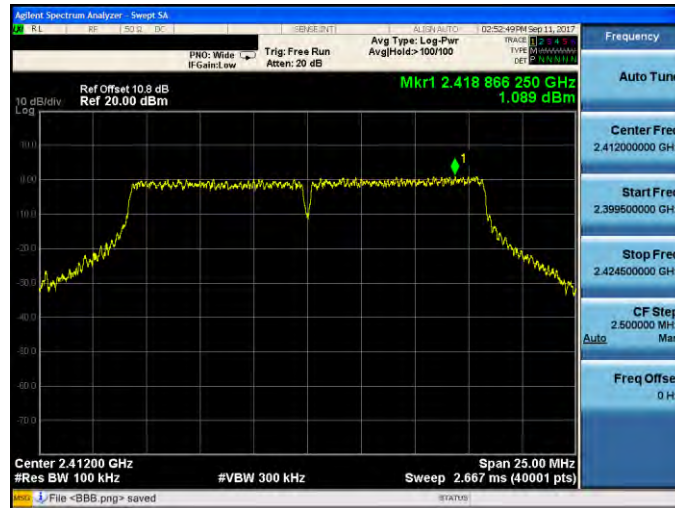
2462 MHz



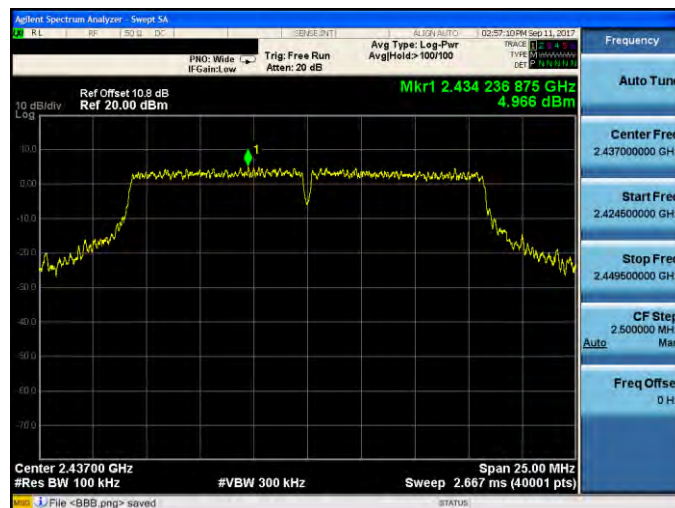


Mode 3: IEEE 802.11g Continuous TX mode_ANT-1

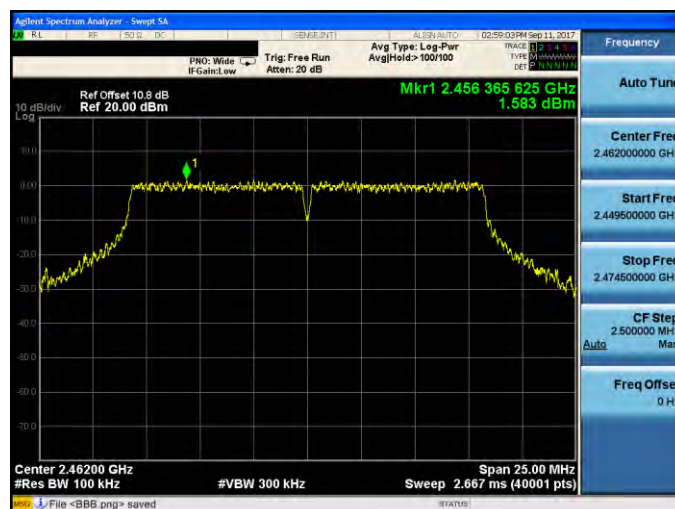
2412 MHz



2437 MHz



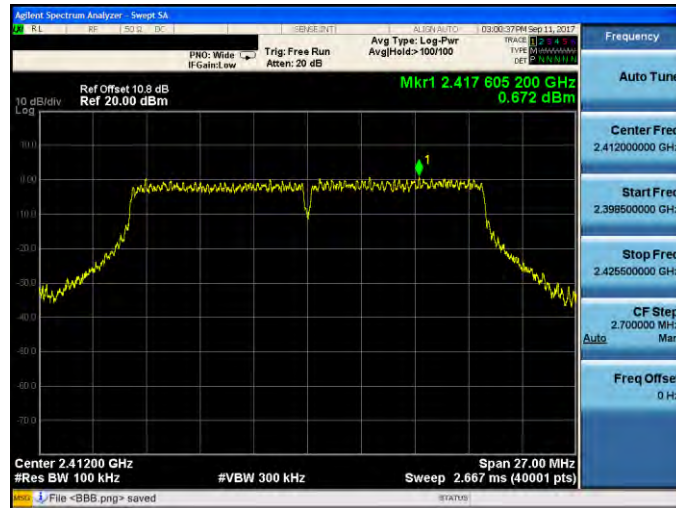
2462 MHz



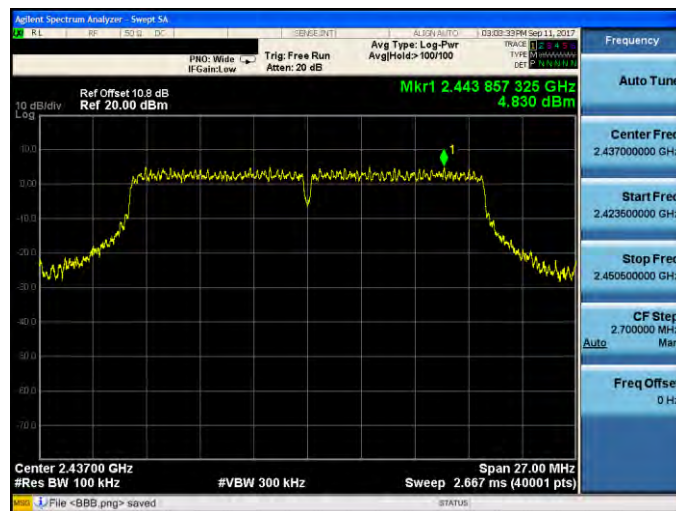


Mode 4: IEEE 802.11n 2.4GHz 20MHz Continuous TX mode_ANT-1

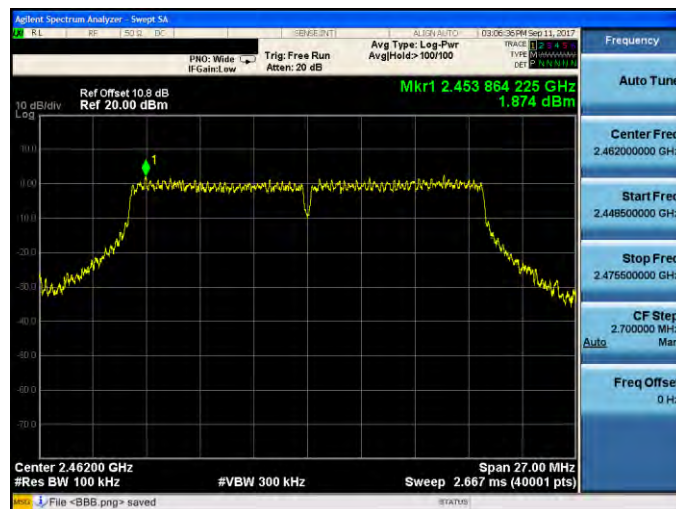
2412 MHz



2437 MHz



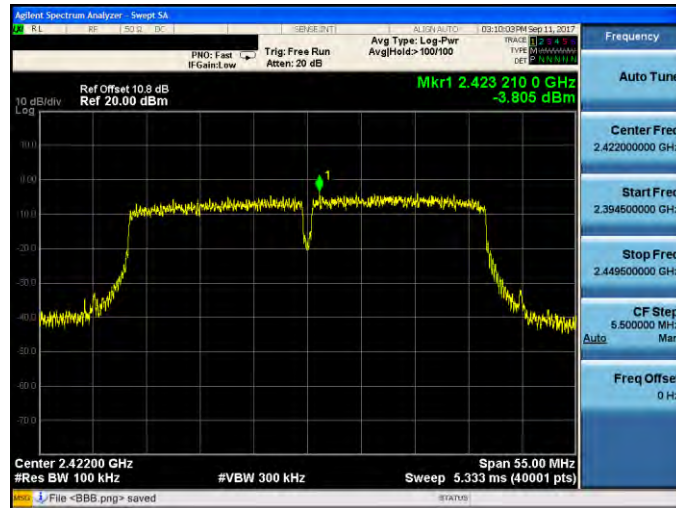
2462 MHz





Mode 5: IEEE 802.11n 2.4GHz 40MHz Continuous TX mode_ANT-1

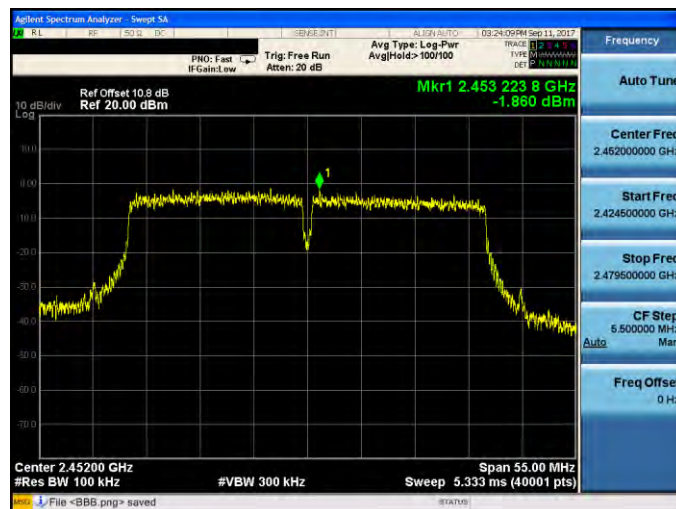
2422 MHz



2437 MHz



2452 MHz

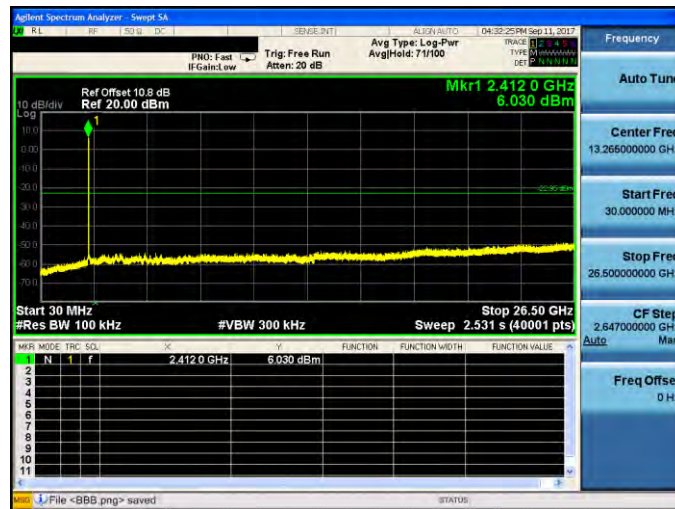




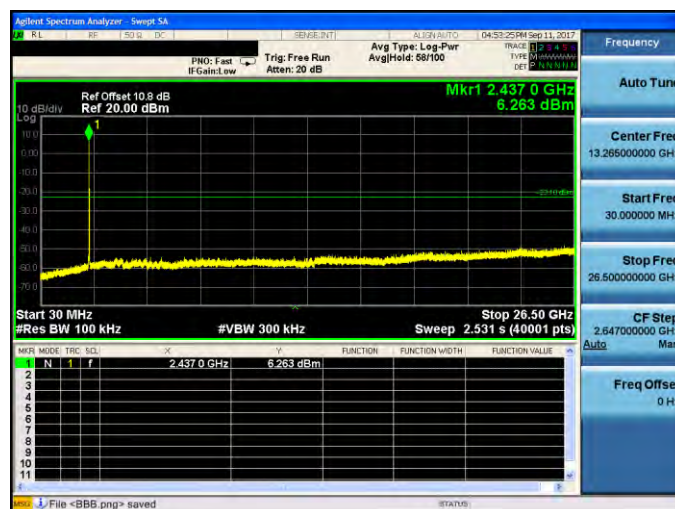
Out of Band Conducted Emissions

Mode 2: IEEE 802.11b Continuous TX mode_ANT-0

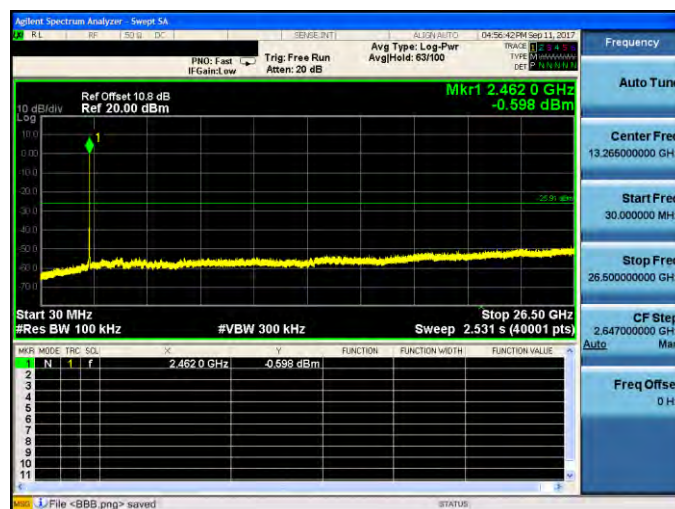
2412 MHz



2437 MHz



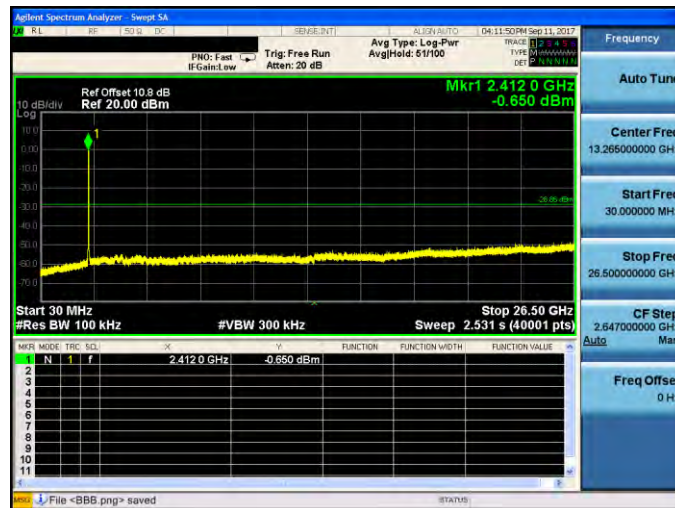
2462 MHz



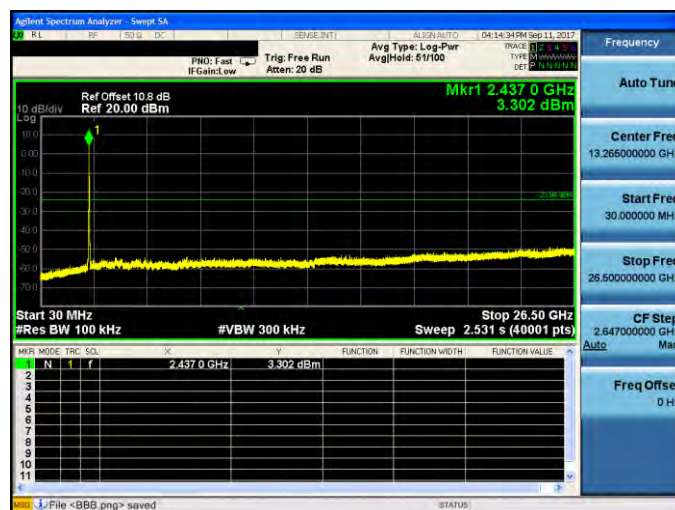


Mode 3: IEEE 802.11g Continuous TX mode_ANT-0

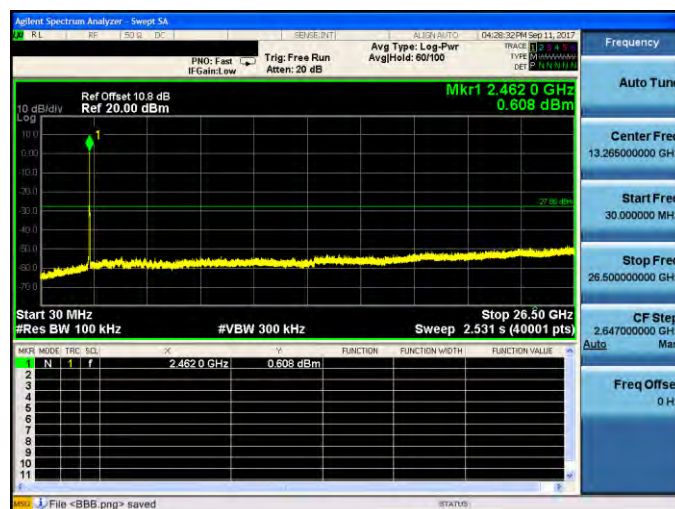
2412 MHz



2437 MHz



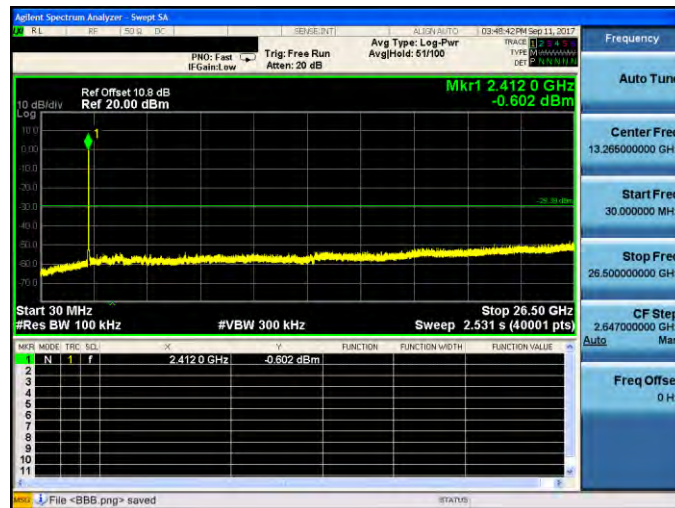
2462 MHz



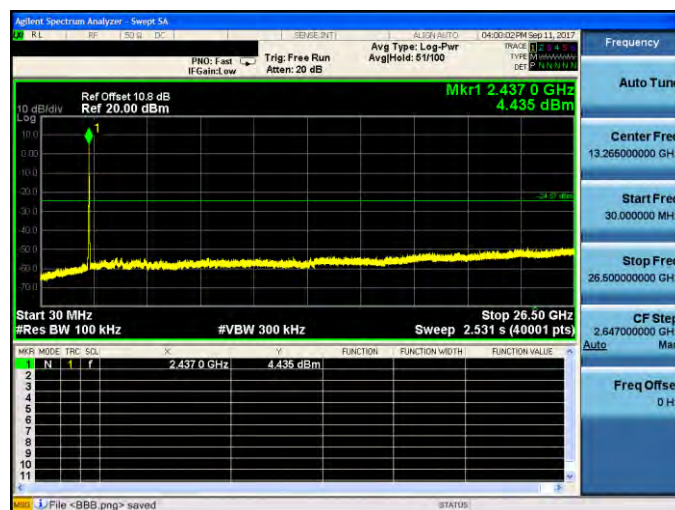


Mode 4: IEEE 802.11n 2.4GHz 20MHz Continuous TX mode_ANT-0

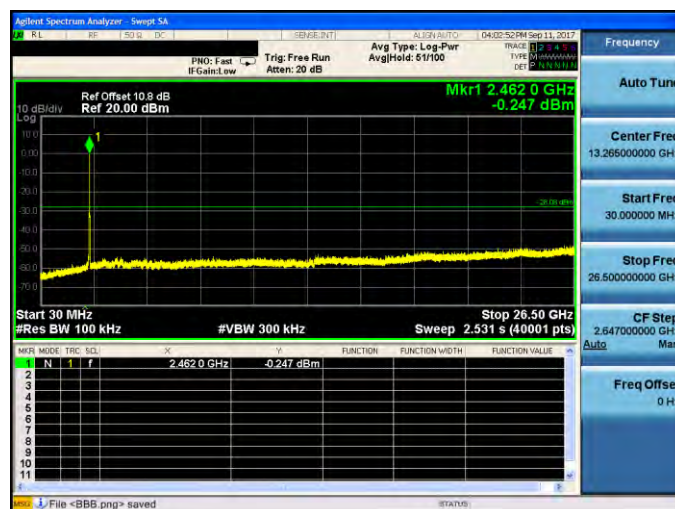
2412 MHz



2437 MHz



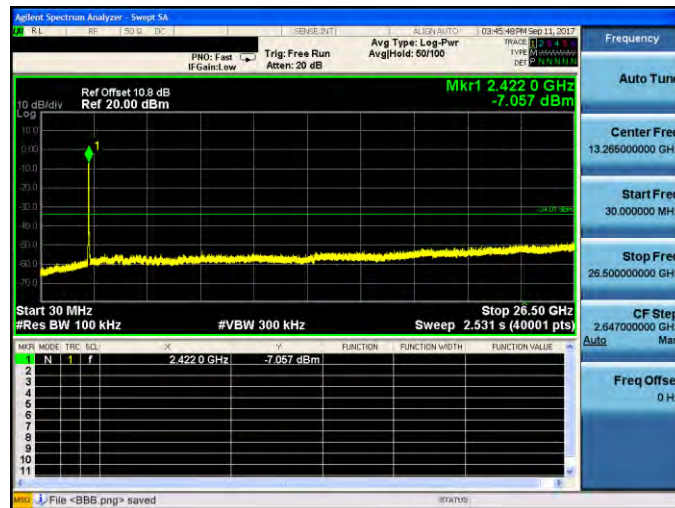
2462 MHz



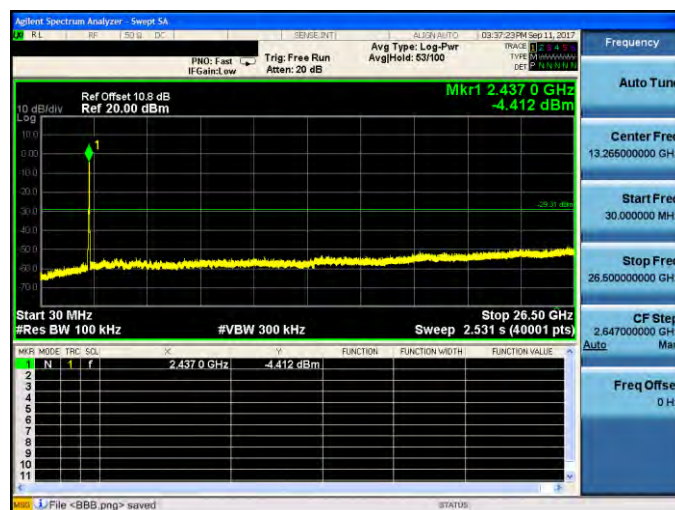


Mode 5: IEEE 802.11n 2.4GHz 40MHz Continuous TX mode_ANT-0

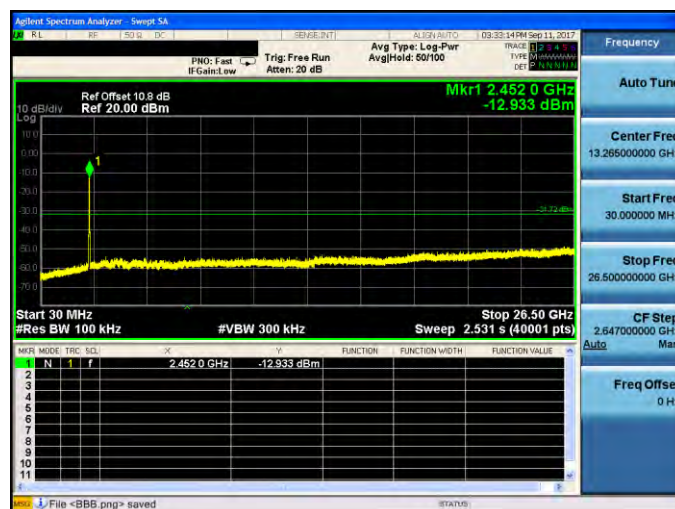
2422 MHz



2437 MHz



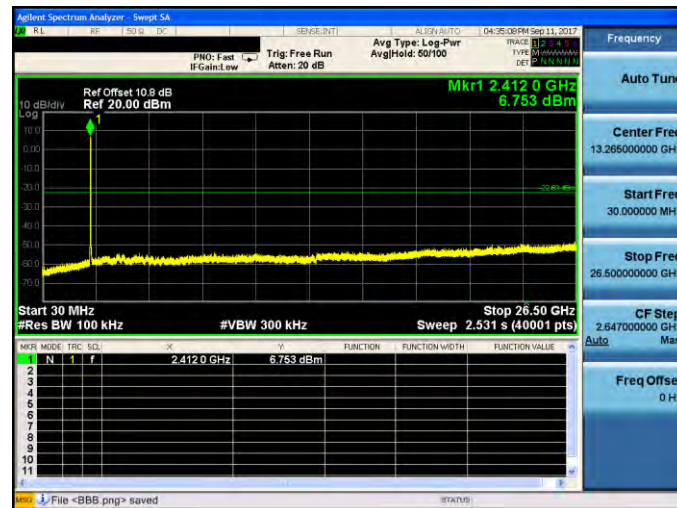
2452 MHz



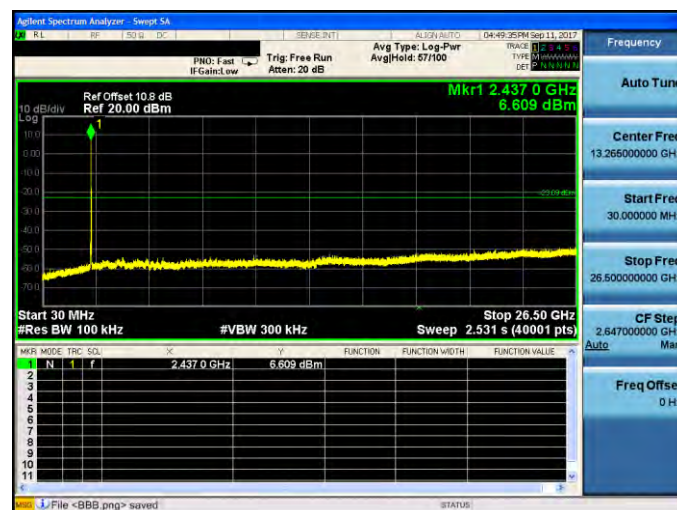


Mode 2: IEEE 802.11b Continuous TX mode_ANT-1

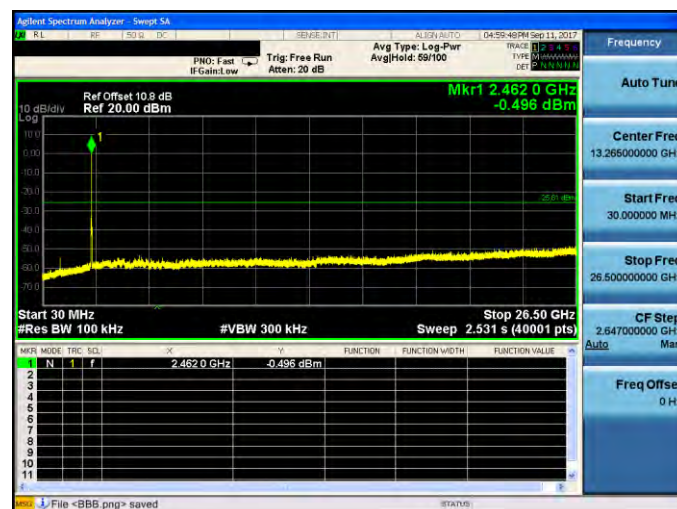
2412 MHz



2437 MHz



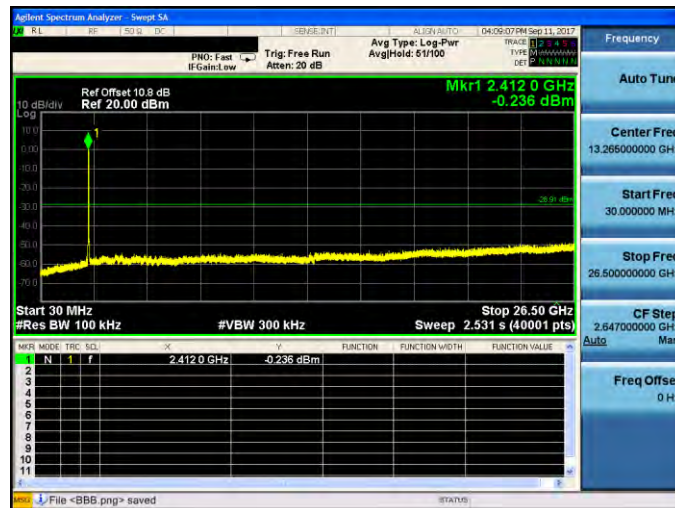
2462 MHz



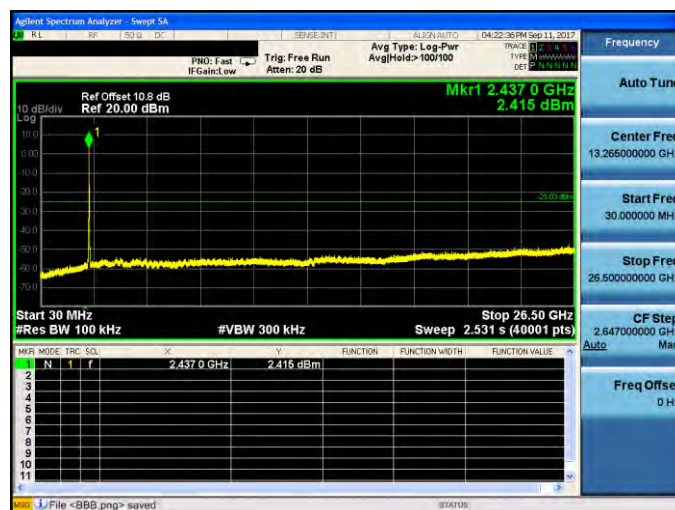


Mode 3: IEEE 802.11g Continuous TX mode_ANT-1

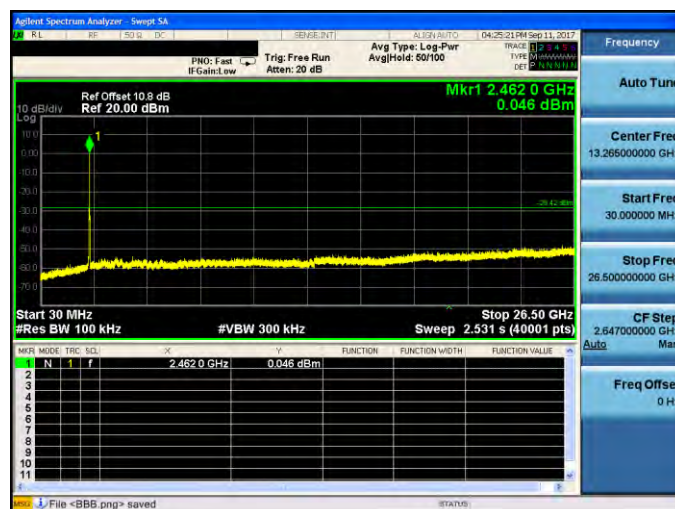
2412 MHz



2437 MHz



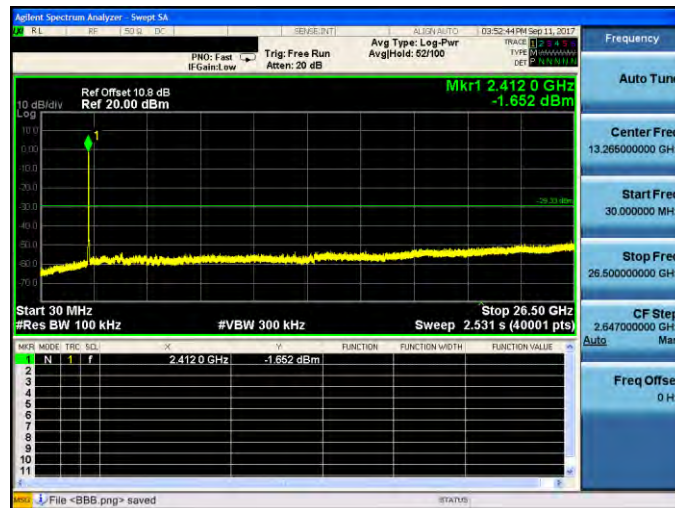
2462 MHz



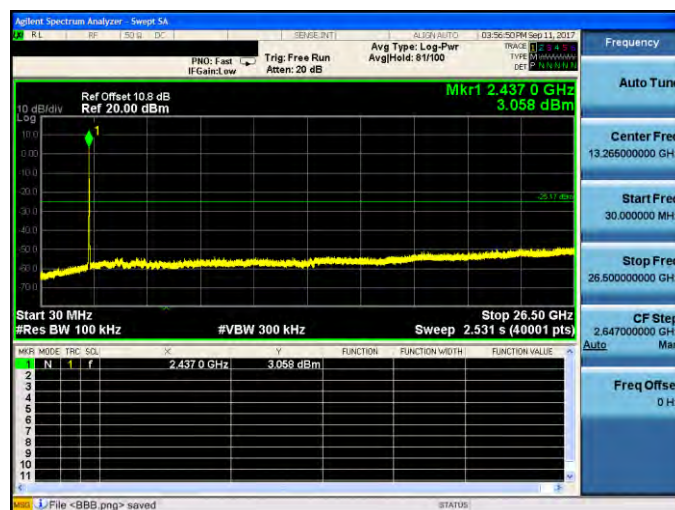


Mode 4: IEEE 802.11n 2.4GHz 20MHz Continuous TX mode_ANT-1

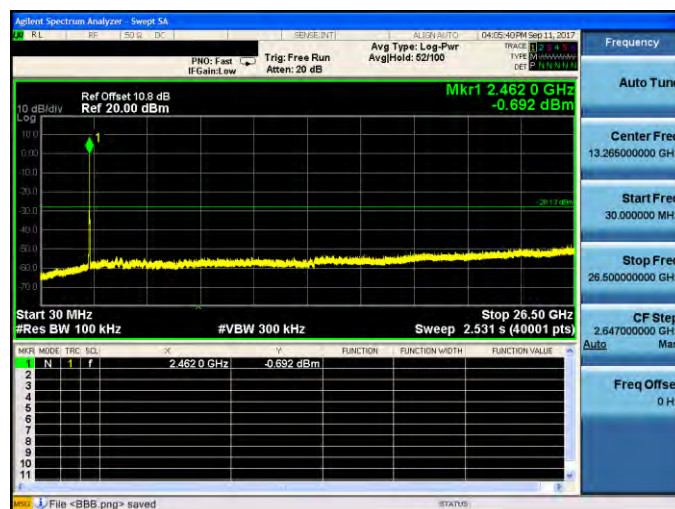
2412 MHz



2437 MHz



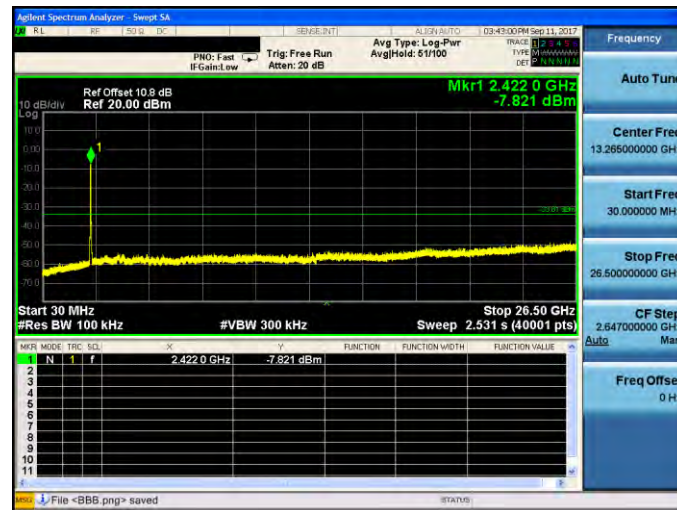
2462 MHz



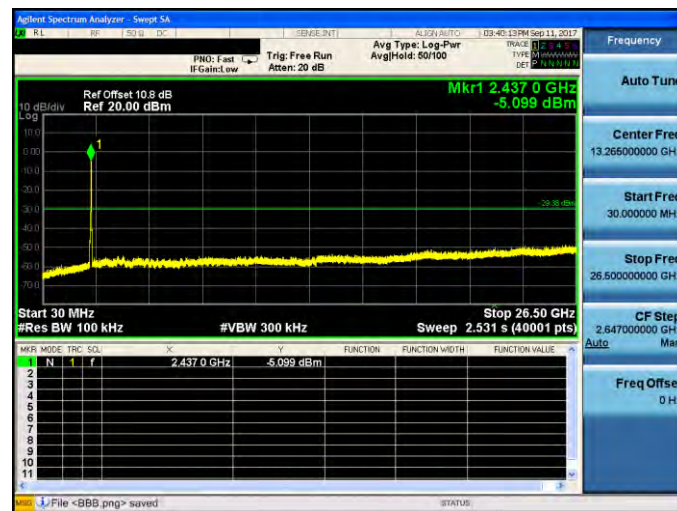


Mode 5: IEEE 802.11n 2.4GHz 40MHz Continuous TX mode_ANT-1

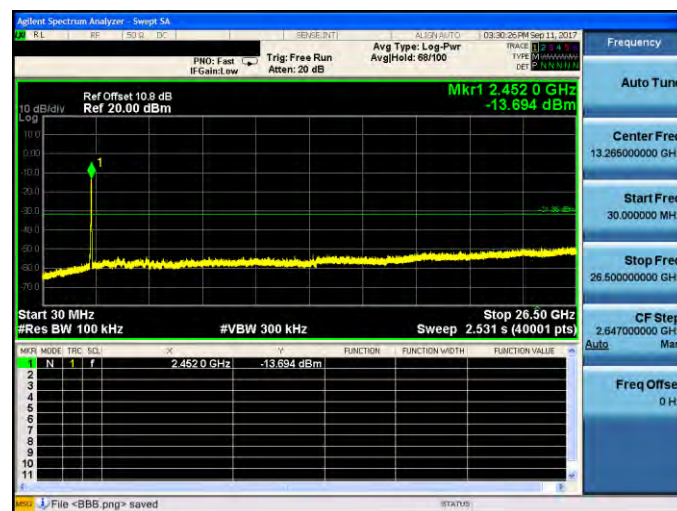
2422 MHz



2437 MHz



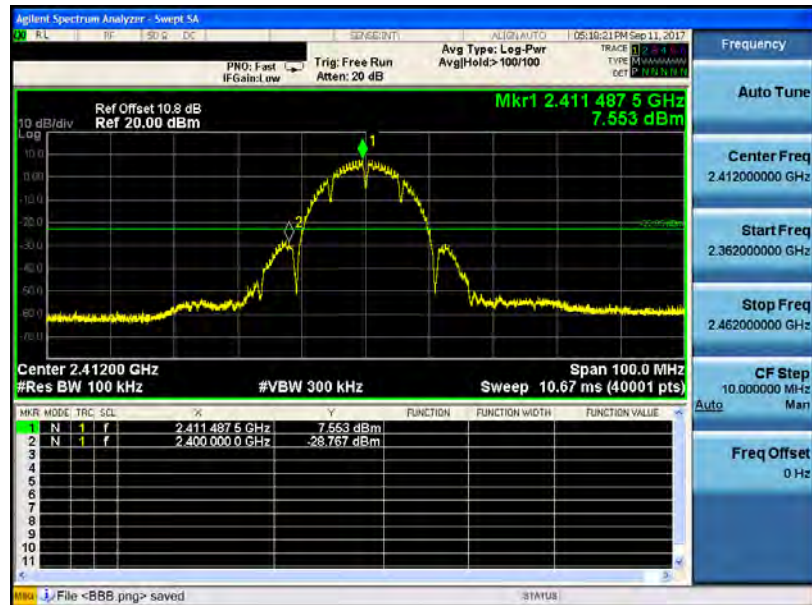
2452 MHz



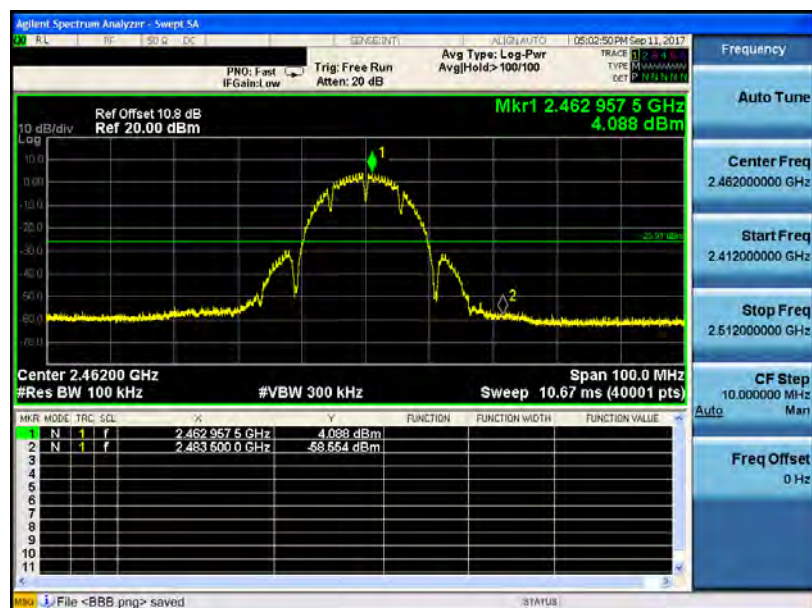
**Conducted Band Edge**

Mode 2: IEEE 802.11b Continuous TX mode_ANT-0

2412 MHz



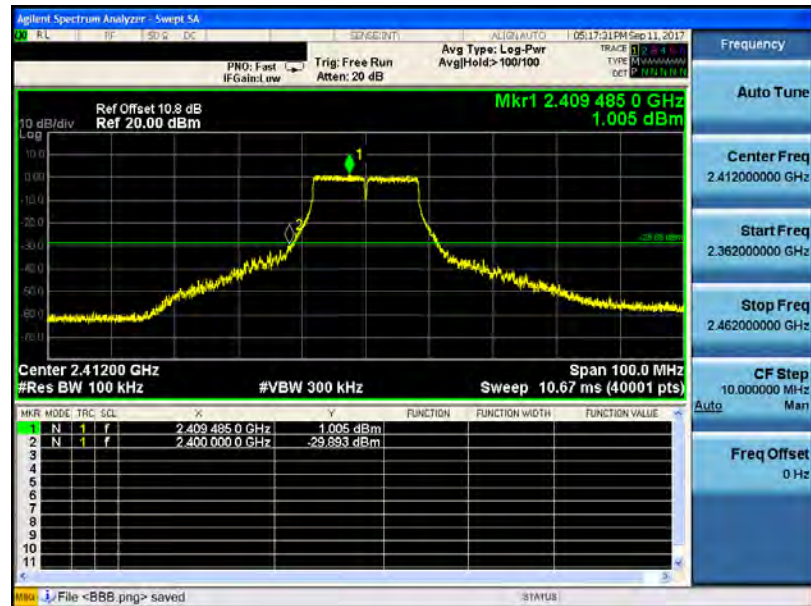
2462 MHz



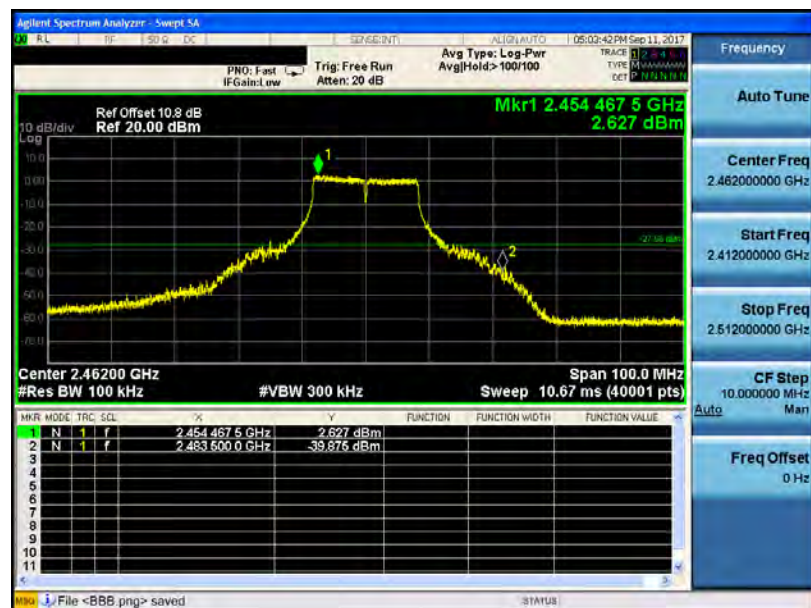


Mode 3: IEEE 802.11g Continuous TX mode_ANT-0

2412 MHz



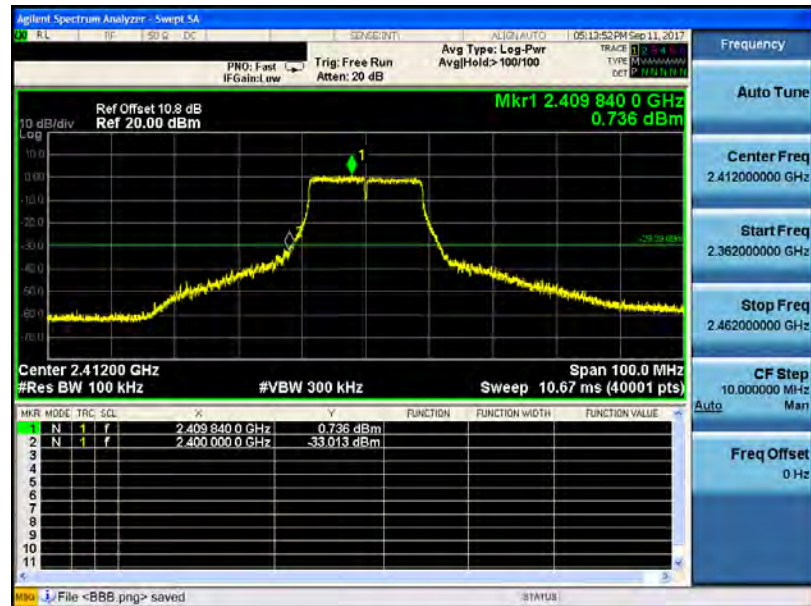
2462 MHz





Mode 4: IEEE 802.11n 2.4GHz 20MHz Continuous TX mode_ANT-0

2412 MHz



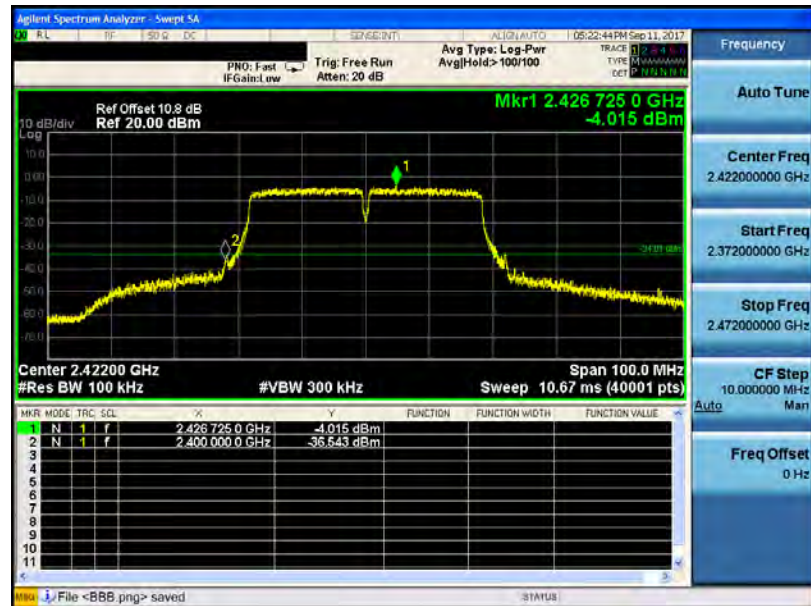
2462 MHz





Mode 5: IEEE 802.11n 2.4GHz 40MHz Continuous TX mode_ANT-0

2422 MHz



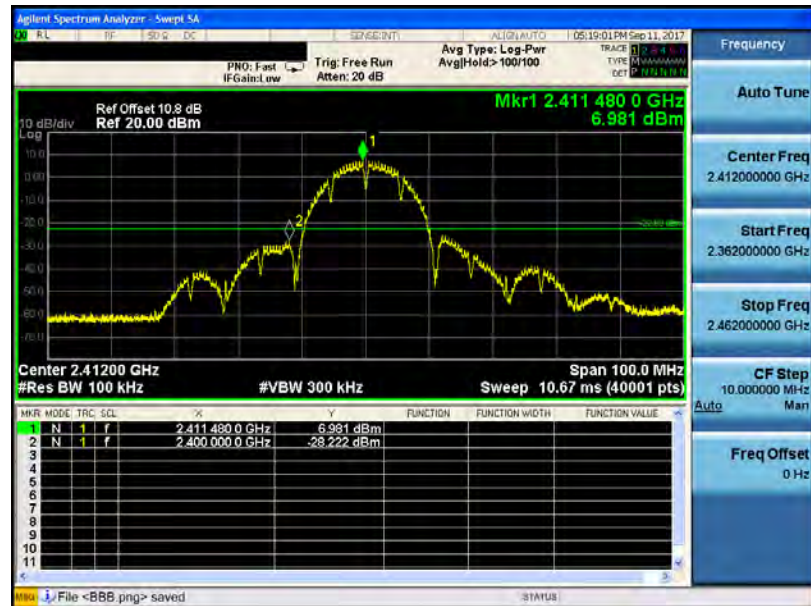
2452 MHz



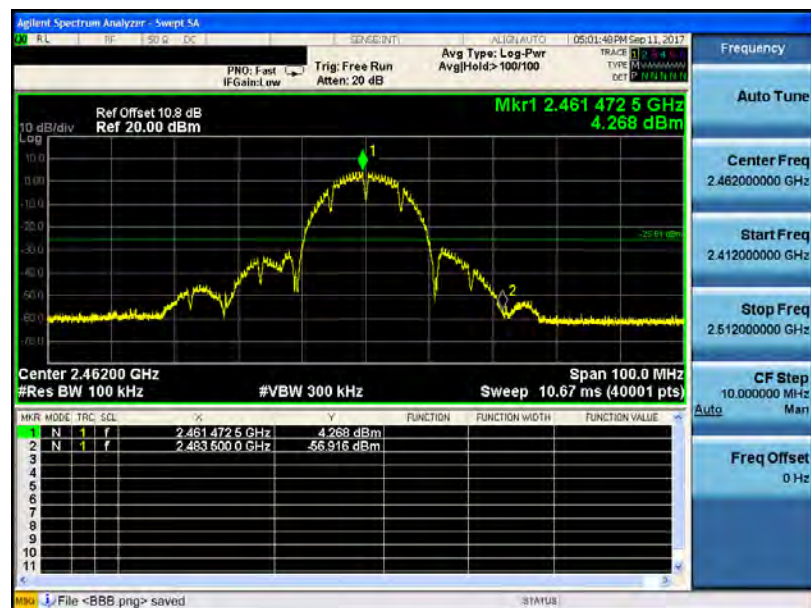


Mode 2: IEEE 802.11b Continuous TX mode_ANT-1

2412 MHz



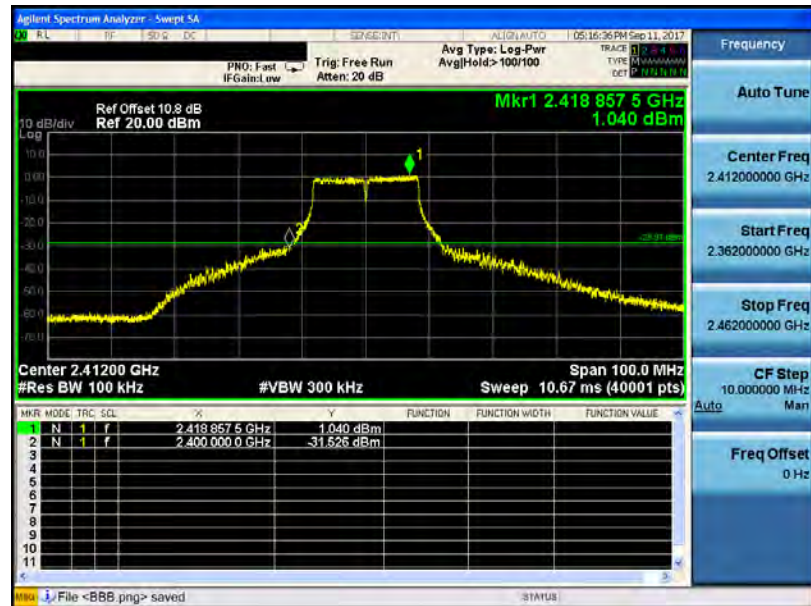
2462 MHz





Mode 3: IEEE 802.11g Continuous TX mode_ANT-1

2412 MHz



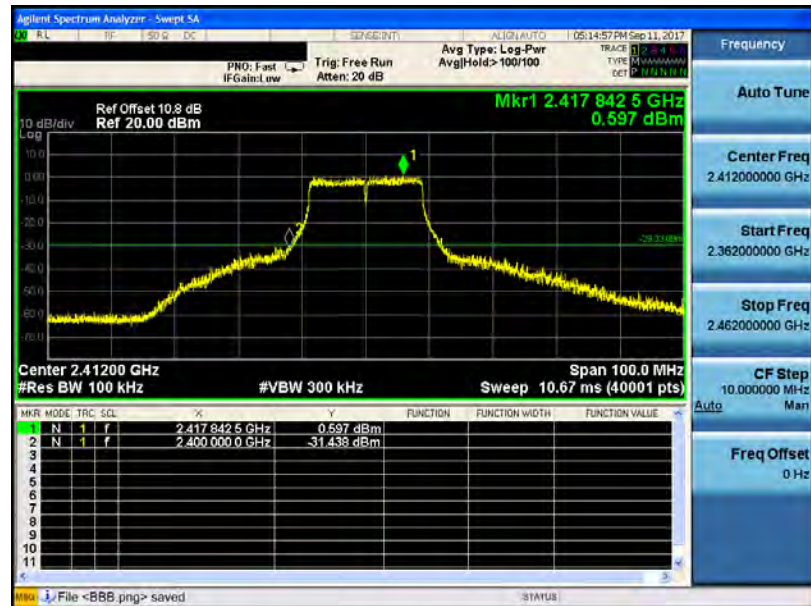
2462 MHz





Mode 4: IEEE 802.11n 2.4GHz 20MHz Continuous TX mode_ANT-1

2412 MHz



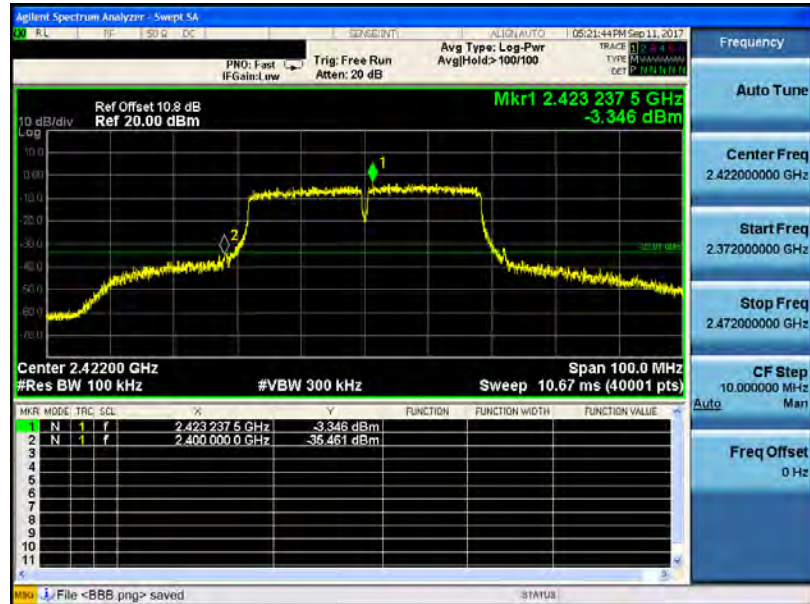
2462 MHz





Mode 5: IEEE 802.11n 2.4GHz 40MHz Continuous TX mode_ANT-1

2422 MHz



2452 MHz





10 Antenna Measurement

10.1.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 6dBi.

10.2.Antenna Description

See section 2 – antenna information.

10.3.Directiona Gain Calculated

For Maximum Power Density

* CDD mode : Directional Gain = $10 \cdot \log\{[10^{(G1/20)} + 10^{(G2/20)} + \dots + 10^{(Gn/20)}]^2 / NANT\}$ = 5.68 dBi < 6dBi

Operate Freq. Band	Directional Gain (dBi)
IEEE 802.11b	5.68
IEEE 802.11g	5.68
IEEE 802.11n 2.4GHz 20MHz	5.68
IEEE 802.11n 2.4GHz 40MHz	5.68