

RF Test Report

Applicant : Nippon POP Rivets & Fasteners Ltd.
Product Type : Power Tool
Trade Name : STANLEY
Model Number : PB2500 Smart
Applicable Standard : FCC 47 CFR PART 15 SUBPART C
ANSI C63.10:2013
Received Date : Nov. 27, 2019
Test Period : Jul. 03 ~ Jul. 09, 2020
Issued Date : Jul. 16, 2020

Issued 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

Frequency Range : 9 kHz to 40 GHz

Test Firm MRA designation number: TW0010

Note:

1. The test results are valid only for samples provided by customers and under the test conditions described in this report.
2. This report shall not be reproduced except in full, without the written approval of A Test Lab Technology Corporation.
3. The relevant information is provided by customers in this test report. According to the correctness, appropriateness or completeness of the information provided by the customer, if there is any doubt or error in the information which affects the validity of the test results, the laboratory does not take the responsibility.



Revision History

Rev.	Issued Date	Revisions	Revised By
00	Jun. 03, 2020	Initial Issue	Nina Lin
01	Jul. 15, 2020	It is verified that the power difference is too large, so retest with a new case.	Tobey Cheng

Verification of Compliance

Applicant : Nippon POP Rivets & Fasteners Ltd.

Product Type : Power Tool

Trade Name : STANLEY

Model Number : PB2500 Smart

FCC ID : 2AWAW-PB2500SMART

EUT Rated Voltage : DC 20 V

Test Voltage : DC 20 V

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.)
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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. 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)

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1 General Information

1.1. Summary of Test Result

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

Decision Rule

- ☒ Uncertainty is not included.
- ☐ Uncertainty is included.

Standard	Description
CFR47, Part 15, Subpart C	Intentional Radiators
ANSI C63. 10: 2013	American National Standard of Procedures for Compliance Testing of Unlicensed Wireless Devices
KDB 558074 D01 15.247 Meas Guidance v05r02	GUIDANCE FOR COMPLIANCE MEASUREMENTS ON DIGITAL TRANSMISSION SYSTEM, FREQUENCY HOPPING SPREAD SPECTRUM SYSTEM, AND HYBRID SYSTEM DEVICES OPERATING UNDER SECTION 15.247 OF THE FCC RULES
KDB 662911 D01 v02r01	Emissions Testing of Transmitters with Multiple Outputs in the Same Band (e.g., MIMO, Smart Antenna, etc)

1.2. Measurement Uncertainty

Test Item	Frequency Range	Uncertainty (dB)
Radiated Emission	9 kHz ~ 30 MHz	2.14
	30 MHz ~ 1000 MHz	4.99
	1000 MHz ~ 18000 MHz	4.99
	18000 MHz ~ 26500 MHz	4.23
	26500 MHz ~ 40000 MHz	4.39
Conducted Output Power	0.92 dB	
RF Bandwidth	4.79 %	
Power Spectral Density	0.92 dB	

2 EUT Description

Applicant	Nippon POP Rivets & Fasteners Ltd. Hosoda, Noyori-cho, Toyohashi-shi, Aichi, 441-8540, Japan			
Manufacturer	Nippon POP Rivets & Fasteners Ltd. Hosoda, Noyori-cho, Toyohashi-shi, Aichi, 441-8540, Japan			
Product Type	Power Tool			
Trade Name	STANLEY			
Model Number	PB2500 Smart			
FCC ID	2AWAW-PB2500SMART			
Operate Freq. Band	Frequency Range (MHz)	Modulation	Channel Bandwidth	Data Rate 400 / 800 GI (ns)
IEEE 802.11b	2412 ~ 2462	DSSS	20 MHz	Up to 11 Mbps
IEEE 802.11g	2412 ~ 2462	OFDM	20 MHz	Up to 54 Mbps
IEEE 802.11n 2.4 GHz 20 MHz	2412 ~ 2462	OFDM	20 MHz	Up to 72.2 Mbps
IEEE 802.11n 2.4 GHz 40 MHz	2422 ~ 2452	OFDM	40 MHz	Up to 150 Mbps
Antenna information	Type		Max. Gain (dBi)	
	PCB antenna		2	
Antenna Delivery	See section 3.1			
Operate Temp. Range	0 ~ +40 ℃			

Frequency Band	Max. RF Output Power (W)
IEEE 802.11b	0.017
IEEE 802.11g	0.036
IEEE 802.11n 2.4 GHz 20 MHz	0.036
IEEE 802.11n 2.4 GHz 40 MHz	0.034

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

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

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

By preliminary testing and verifying three axis (X and Y) position of EUT transmitted status, it was found that "Y 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
Mode 1	V
Mode 2	V
Mode 3	V
Mode 4	V

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

Duty cycle

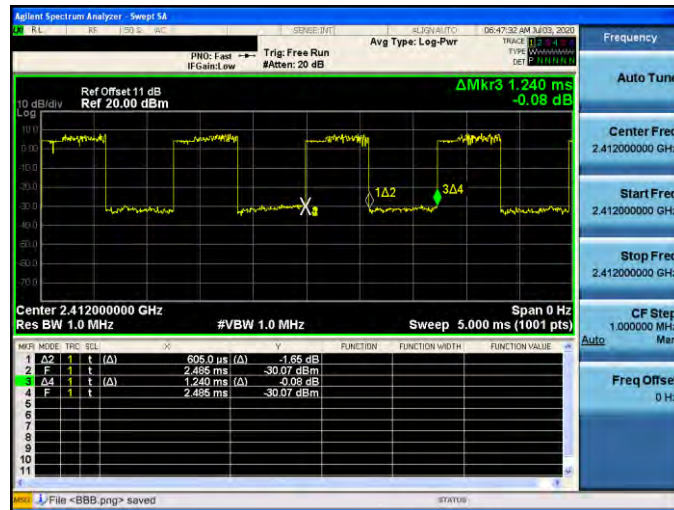
Test Mode	Frequency (MHz)	on time (ms)	on+off time (ms)	Duty cycle	Duty Factor (dB)	1/T Minimum VBW (kHz)
Mode 1	2412.0	0.605	1.240	0.488	3.117	1.653
Mode 2	2412.0	0.595	1.230	0.484	3.154	1.681
Mode 3	2412.0	0.570	1.200	0.475	3.233	1.754
Mode 4	2422.0	0.595	1.225	0.486	3.136	1.681



Duty Cycle Graphs

Mode 1: IEEE 802.11b Continuous TX mode

On+off time



Mode 2: IEEE 802.11g Continuous TX mode

On+off time



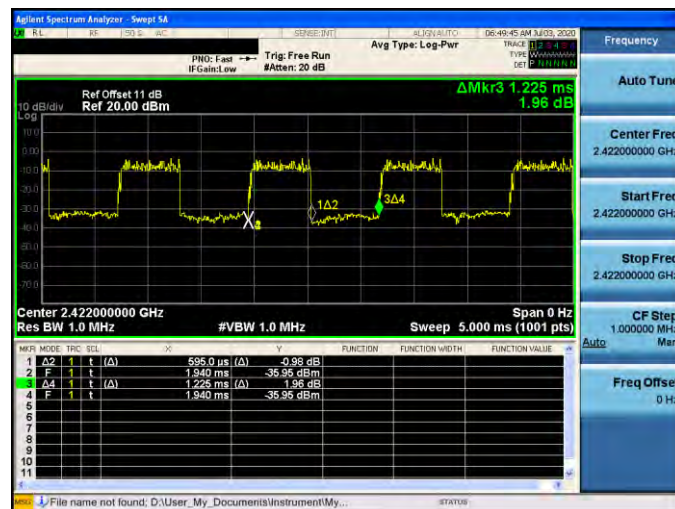
Mode 3: IEEE 802.11n 2.4 GHz 20 MHz Continuous TX mode

On+off time



Mode 4: IEEE 802.11n 2.4 GHz 40 MHz Continuous TX mode

On+off time



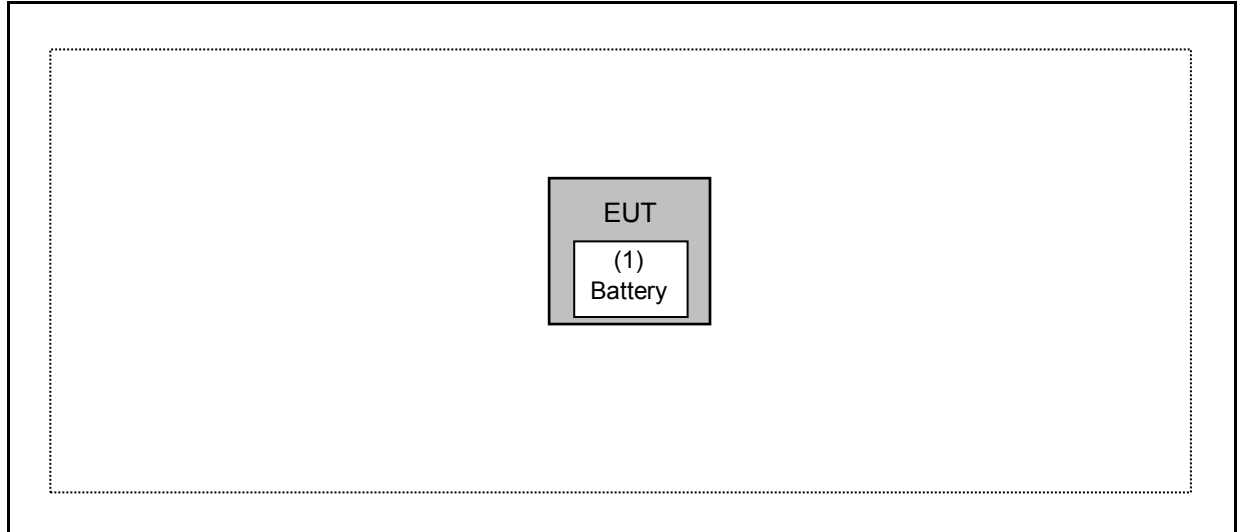
3.2. EUT Test Step

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

Measurement Software			
No.	Description	Software	Version
1	Conducted Emission	EZ EMC	1.1.4.3
2	Radiated Emission	EZ EMC	1.1.4.4

3.3. Configuration of Test System Details

Radiated Emissions



Devices Description					
	Product	Manufacturer	Model Number	Serial Number	Power Cord
(1)	Battery	DEWALT	DCB203	N/A	N/A

3.4. Test Instruments

For Radiated Emissions

Test Period: Jul. 04, 2020

Testing Engineer: Marc Yeh, Ricky Liu

Equipment	Manufacturer	Model Number	Serial Number	Cal. Date	Cal. Period
Spectrum Analyzer (10 Hz~44 GHz)	Keysight	N9010A	MY52221312	01/13/2020	1 year
Pre Amplifier (1~26.5 GHz)	Agilent	8449B	3008A02456	03/25/2020	1 year
Pre Amplifier (100 kHz~1.3 GHz)	Agilent	8447D	2944A11119	01/15/2020	1 year
Horn Antenna (1~18 GHz)	SCHWARZBECK MESS-ELEKTRONIK	BBHA9120D	9120D-550	08/22/2019	1 year
Horn Antenna (18~40 GHz)	SCHWARZBECK MESS-ELEKTRONIK	BBHA9170	9170-320	08/14/2019	1 year
Loop Antenna	COM-POWER CORPORATION	AL-130	121014	03/27/2020	1 year
RF Cable	EMCI	EMC104-N-N-6000	TE01-1	02/20/2020	1 year
Microwave Cable	EMCI	EMC104-SM- SM-13000	170814	10/29/2019	1 year
Microwave Cable	EMCI	EMC102-KM- KM-14000	151001	02/20/2020	1 year

For Conducted

Test Period: Jul. 03 ~ Jul. 09, 2020

Testing Engineer: Peter Shui

Equipment	Manufacturer	Model Number	Serial Number	Cal. Date	Cal. Period
Power Sensor	Anritsu	MA2411B	1126022	09/02/2019	1 year
Power Meter	Anritsu	ML2495A	1135009	09/02/2019	1 year
Spectrum Analyzer (20 Hz~26.5 GHz)	Agilent	N9020A	US47520902	09/18/2019	1 year

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

3.5. Test Site Environment

Items	Required (IEC 60068-1)	Actual
Temperature (°C)	15-35	20-30
Humidity (%RH)	25-75	45-75

4 Measurement Procedure

4.1. Radiated Emission Measurement

■ Limit

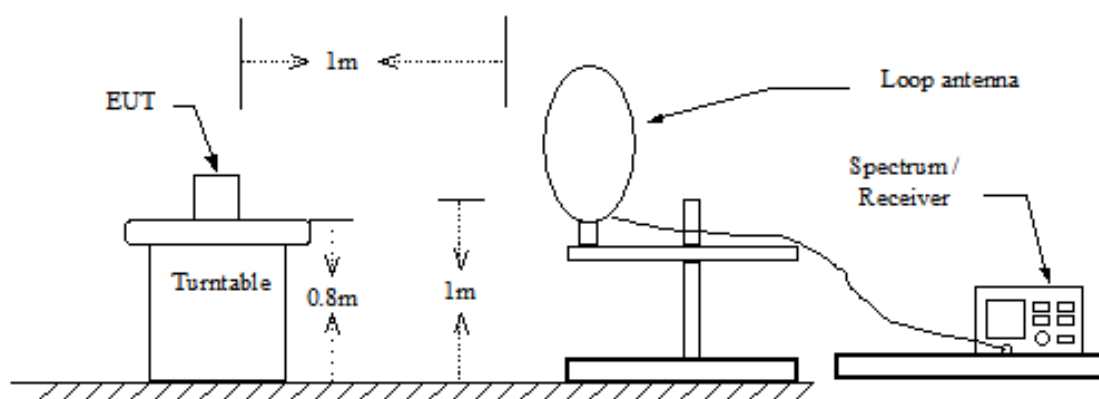
According to §15.209(a), except as provided elsewhere in this subpart, the emissions from an intentional radiator shall not exceed the field strength levels specified in the following table:

Frequency (MHz)	Field Strength ($\mu\text{V/m}$ at meter)	Measurement Distance (meters)
0.009 – 0.490	$2400 / F$ (kHz)	300
0.490 – 1.705	$24000 / F$ (kHz)	30
1.705 – 30.0	30	30
30 - 88	100**	3
88-216	150**	3
216-960	200**	3
Above 960	500	3

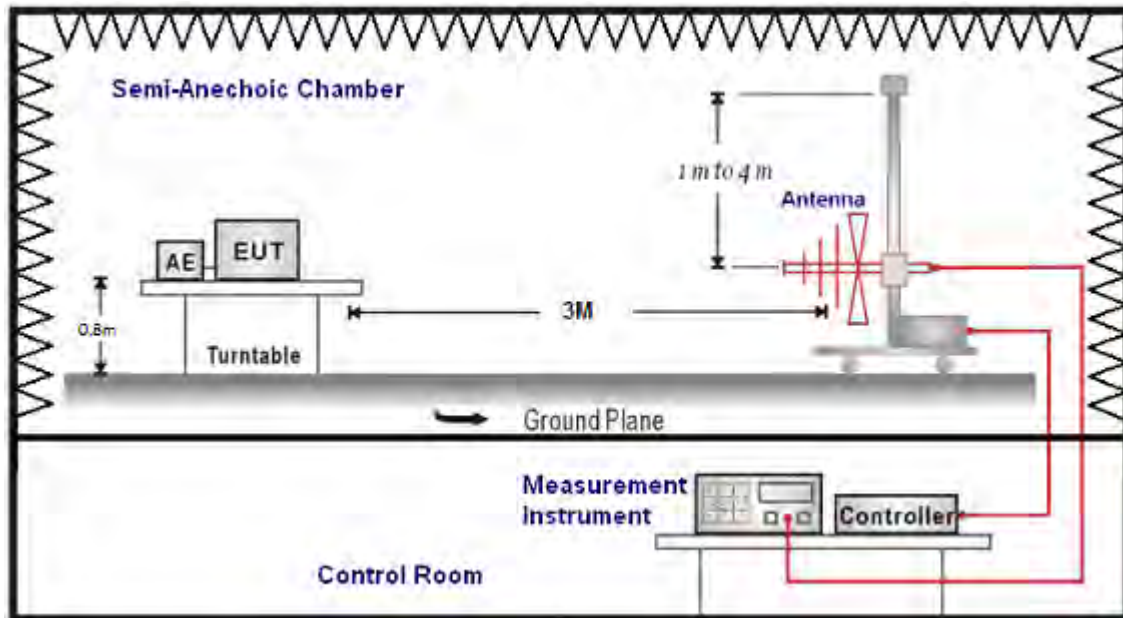
** Except as provided in paragraph (g), fundamental emissions from intentional radiators operating under this Section shall not be located in the frequency bands 54-72 MHz, 76-88 MHz, 174-216 MHz or 470-806 MHz. However, operation within these frequency bands is permitted under other sections of this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

■ Setup

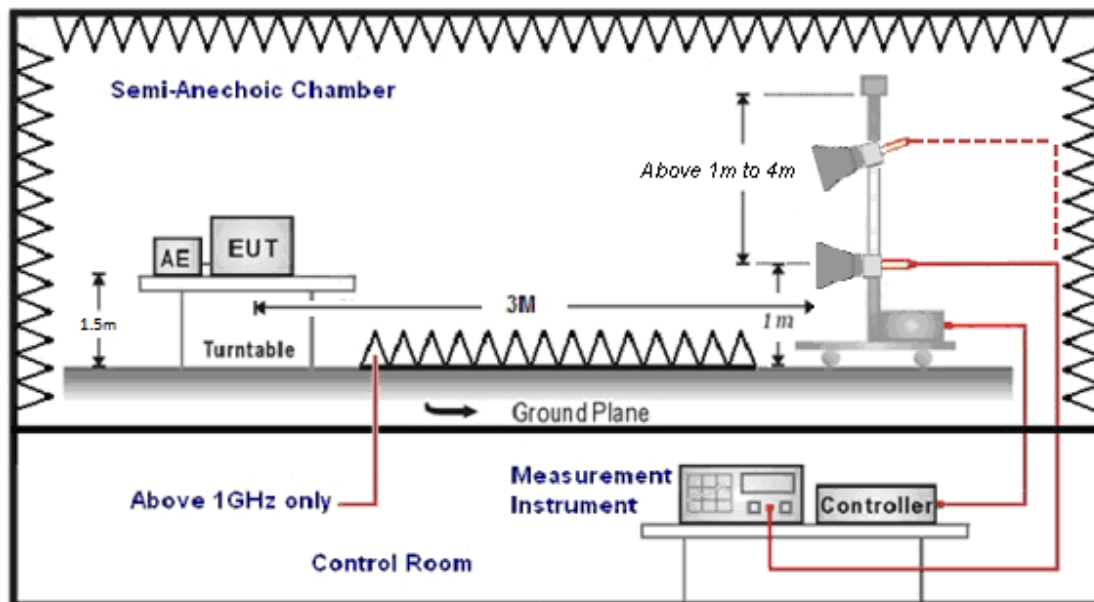
9 kHz ~ 30 MHz



Below 1 GHz



Above 1 GHz



■ Test Procedure

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

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

For measurements above 1 GHz the resolution bandwidth is set to 1 MHz, and then the video bandwidth is set to 3 MHz for peak measurements and 10 Hz for average measurements when Duty cycle >0.98 / $1/T$ for average measurements when Duty cycle <0.98 . A nonconductive material surrounded the EUT to supporting the EUT for standing on 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 (20 dB/decade).

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

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

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

The following procedures were used to convert the emission levels measured in decibels referenced to 1 microvolt (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 is 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.

$$(1) \text{ Amplitude (dBuV/m) = FI (dBuV) + AF (dBuV) + CL (dBuV) - Gain (dB)}$$

FI= Reading of the field intensity.

AF= Antenna factor.

CL= Cable loss.

P.S Amplitude is auto calculate in spectrum analyzer.

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

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

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

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

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

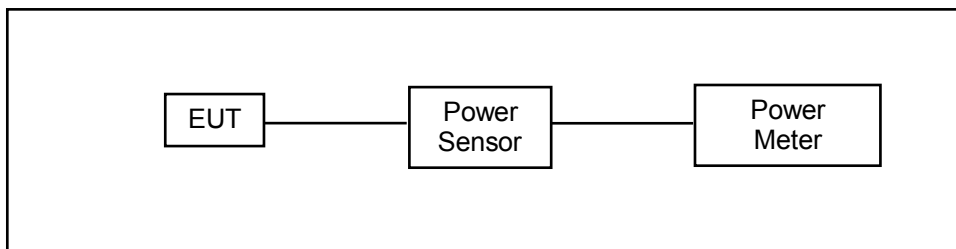
4.2. Maximum Conducted Output Power Measurement

■ Limit

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

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

■ Test Setup



■ Test Procedure

The testing follows the Measurement Procedure of ANSI C63.10:2013 section 11.9.2.3.2 Method AVGPM.

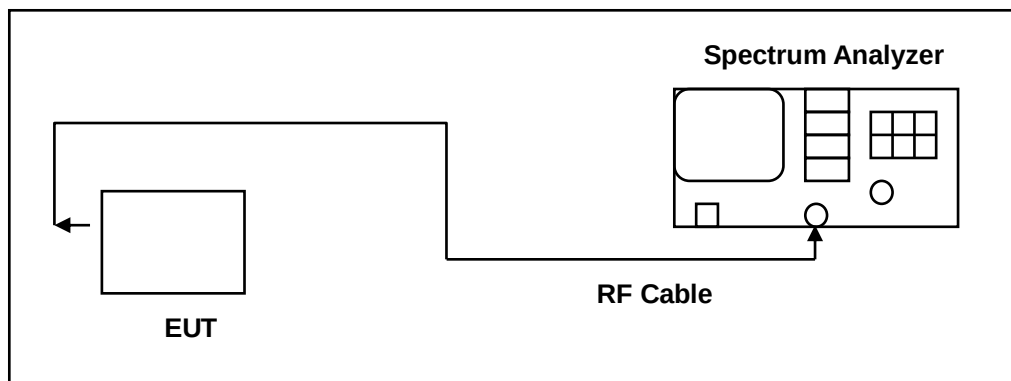
The tests below are run with the EUT's transmitter set at high power in TX mode. The EUT is needed to force selection of output power level and channel number. While testing, EUT was set to transmit continuously. Remove the Subjective device's antenna and connect the RF output port to power sensor.

4.3. 6 dB RF Bandwidth Measurement

■ Limit

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

■ Test Setup



■ Test Procedure

The EUT tested to DTS test procedure of ANSI C63.10:2013 section 11.8.2 option2 for compliance to FCC 47CFR 15.247 requirements.

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

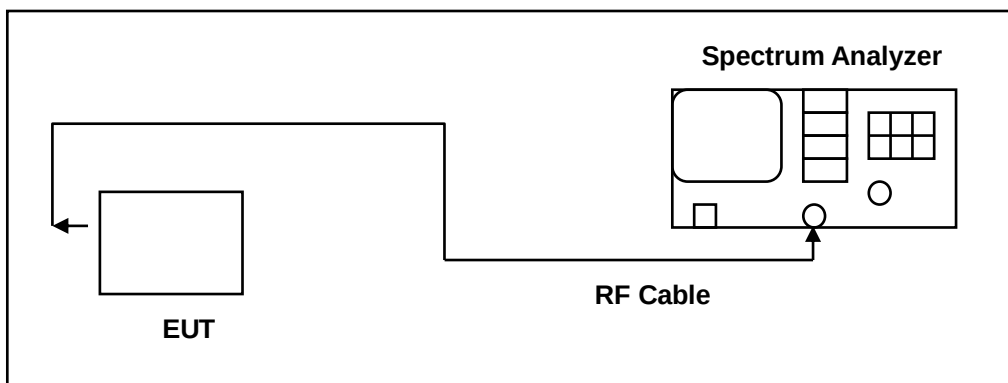
The test was performed at 3 channels (Channel low, middle, high)

4.4. Maximum Power Spectral Density Measurement

■ Limit

For digitally modulated systems, the power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission.

■ Test Setup



■ Test Procedure

The EUT tested to DTS test procedure of ANSI C63.10:2013 section 11.10.2 Method PKPSD for compliance to FCC 47CFR 15.247 requirements.

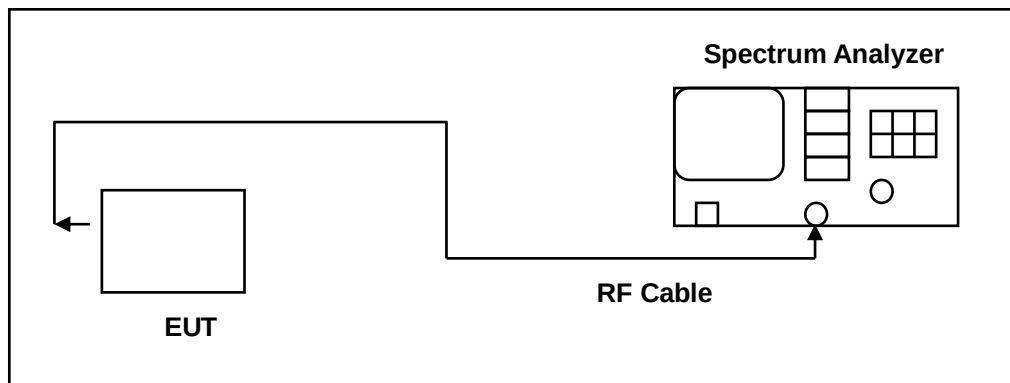
1. Set analyzer center frequency to DTS channel center frequency.
2. Set the span to 1.5 times the DTS bandwidth.
3. Set the RBW to: $3 \text{ kHz} \leq \text{RBW} \leq 100 \text{ kHz}$.
4. Set the VBW $\geq 3 \times \text{RBW}$.
5. Detector = peak.
6. Sweep time = auto couple.
7. Trace mode = max hold.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

4.5. Out of Band Conducted Emissions Measurement

■ Limit

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power

■ Test Setup



■ Test Procedure

In any 100 kHz bandwidth outside the EUT pass band, the RF power produced by the modulation products of the spreading sequence, the information sequence, and the carrier frequency shall be at least 20 dB below that of the maximum in-band 100 kHz emission, antenna output of the EUT was coupled directly to spectrum analyzer; if an external attenuator and/or cable was used, these losses are compensated for with the analyzer OFFSET function. All other types of emissions from the EUT shall meet the general limits for radiated frequencies outside the pass band. The test was performed at 3 channels.

4.6. Antenna Measurement

■ Limit

For intentional device, according to 15.203, an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device.

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

■ Antenna Description

See section 2 – antenna information.

5 Test Results

Annex A. Conducted Test Results

Maximum Conducted Output Power Measurement

ANT-0							
Test Mode	Frequency (MHz)	Data Rate	Average Output Power		Peak Output Power		
			Measurement Results		Measurement Results		Limit
			dBm	W	dBm	W	dBm
Mode 1	2412	1 M	10.09	0.010	12.42	0.017	≤ 30
	2437		8.29	0.007	10.69	0.012	≤ 30
	2462		6.09	0.004	8.65	0.007	≤ 30
Mode 2	2412	6 M	10.59	0.011	15.56	0.036	≤ 30
	2437		9.59	0.009	14.62	0.029	≤ 30
	2462		8.58	0.007	13.69	0.023	≤ 30
Mode 3	2412	6.5 M	10.48	0.011	15.52	0.036	≤ 30
	2437		9.58	0.009	14.89	0.031	≤ 30
	2462		8.54	0.007	13.89	0.024	≤ 30
Mode 4	2422	13.5 M	10.31	0.011	15.28	0.034	≤ 30
	2437		9.28	0.008	14.32	0.027	≤ 30
	2452		8.96	0.008	13.81	0.024	≤ 30

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



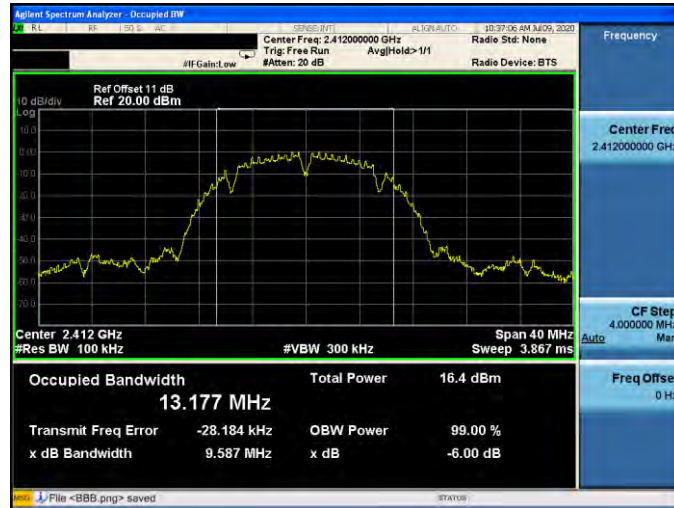
6 dB RF Bandwidth Measurement

ANT-0			
Test Mode	Frequency (MHz)	Measurement (kHz)	Limit (kHz)
Mode 1	2412	9587	≥ 500
	2437	10110	≥ 500
	2462	10030	≥ 500
Mode 2	2412	16320	≥ 500
	2437	16330	≥ 500
	2462	16320	≥ 500
Mode 3	2412	17000	≥ 500
	2437	16930	≥ 500
	2462	17310	≥ 500
Mode 4	2422	35960	≥ 500
	2437	35940	≥ 500
	2452	36030	≥ 500

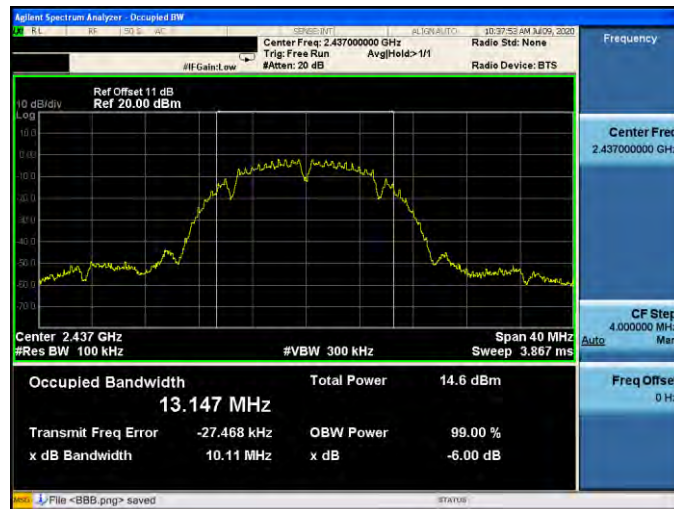
■ Test Graphs

Mode 1: IEEE 802.11b Continuous TX mode_ANT-0

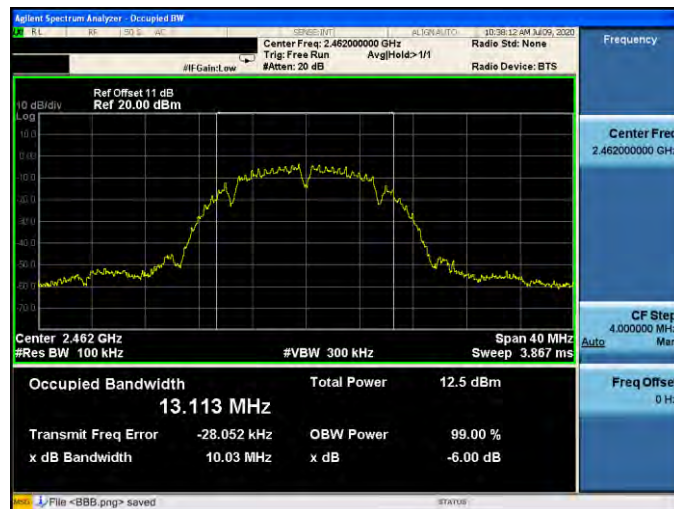
2412 MHz



2437 MHz



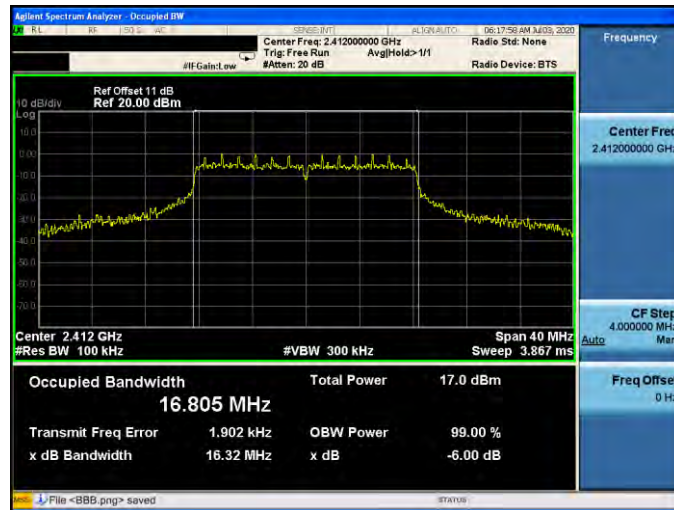
2462 MHz



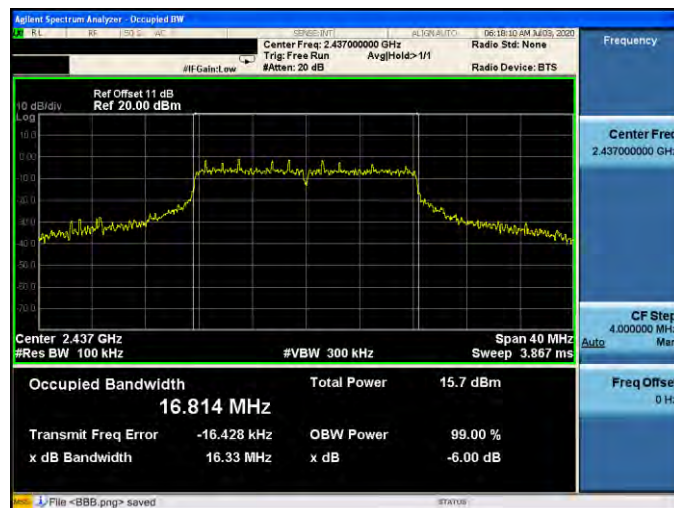


Mode 2: IEEE 802.11g Continuous TX mode_ANT-0

2412 MHz



2437 MHz



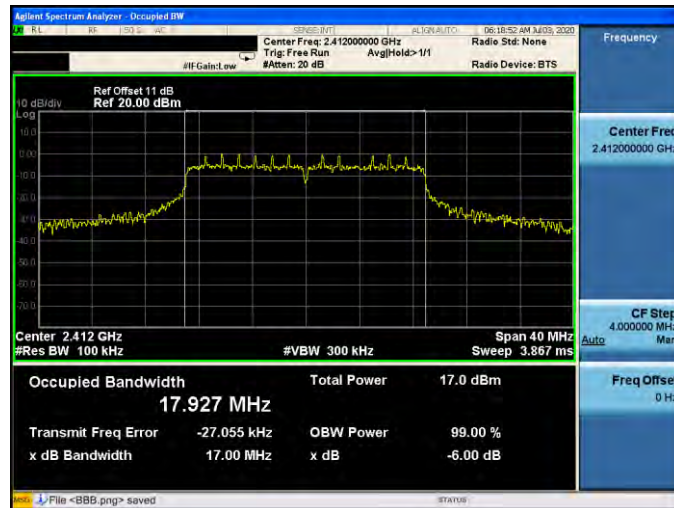
2462 MHz





Mode 3: IEEE 802.11n 2.4 GHz 20 MHz Continuous TX mode_ ANT-0

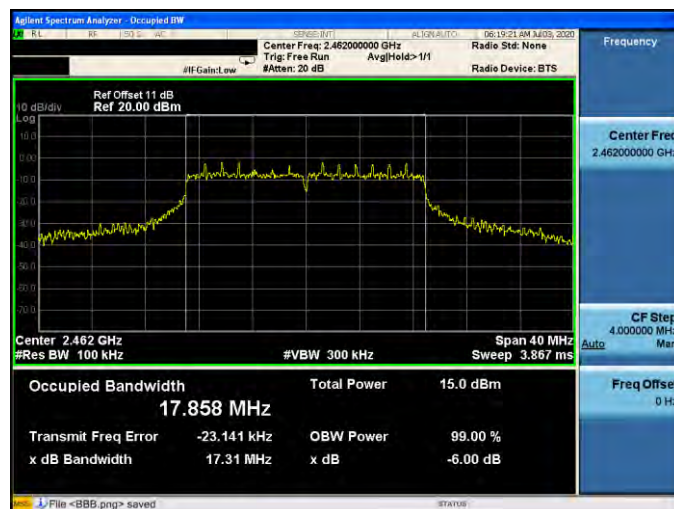
2412 MHz



2437 MHz

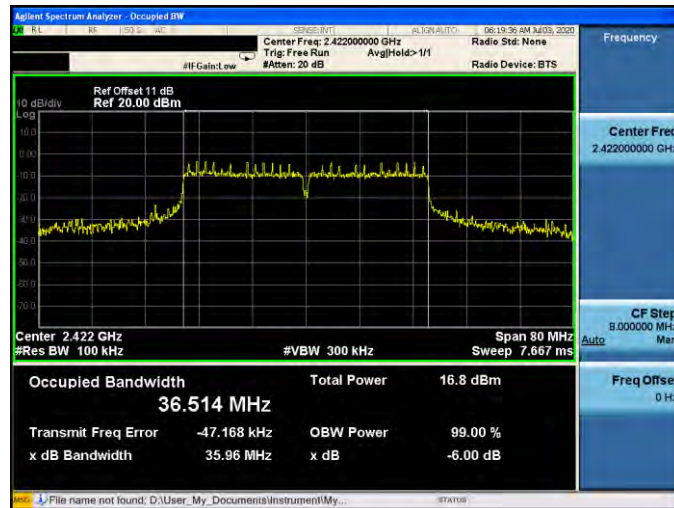


2462 MHz

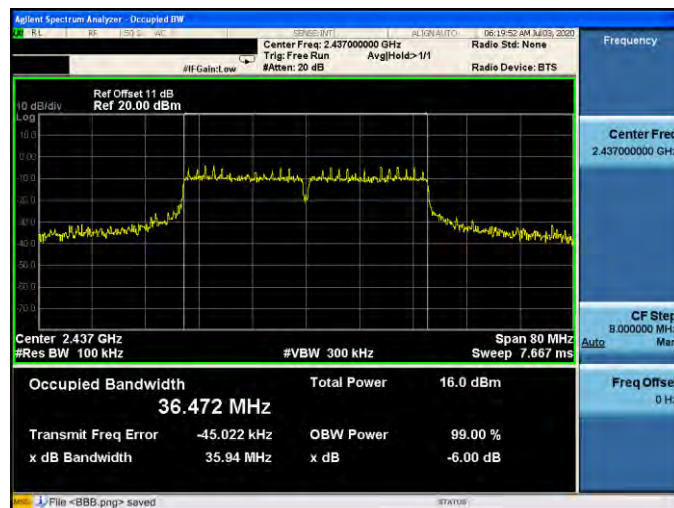


Mode 4: IEEE 802.11n 2.4 GHz 40 MHz Continuous TX mode _ANT-0

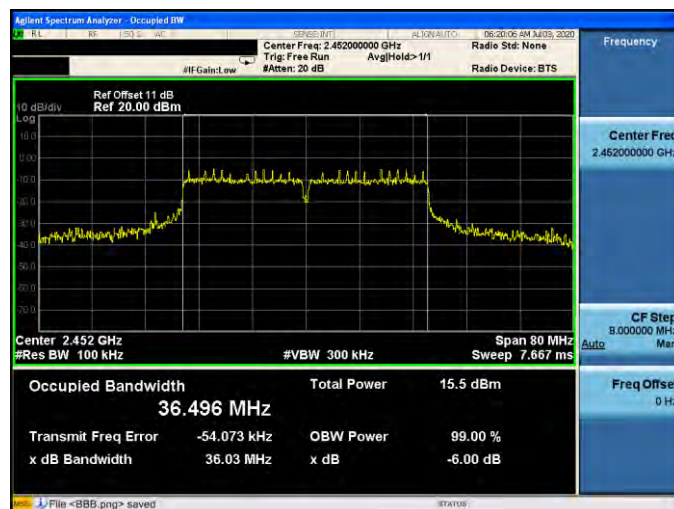
2422 MHz



2437 MHz



2452 MHz





Maximum Power Spectral Density Measurement

ANT-0			
Test Mode	Frequency (MHz)	Measurement (dBm/3 kHz)	Limit (dBm/ 3 kHz)
Mode 1	2412	-14.428	≤ 8
	2437	-15.254	≤ 8
	2462	-16.835	≤ 8
Mode 2	2412	-16.554	≤ 8
	2437	-15.976	≤ 8
	2462	-18.042	≤ 8
Mode 3	2412	-15.730	≤ 8
	2437	-16.927	≤ 8
	2462	-17.968	≤ 8
Mode 4	2422	-18.230	≤ 8
	2437	-18.734	≤ 8
	2452	-19.910	≤ 8

■ Test Graphs

Mode 1: IEEE 802.11b Continuous TX mode_ANT-0

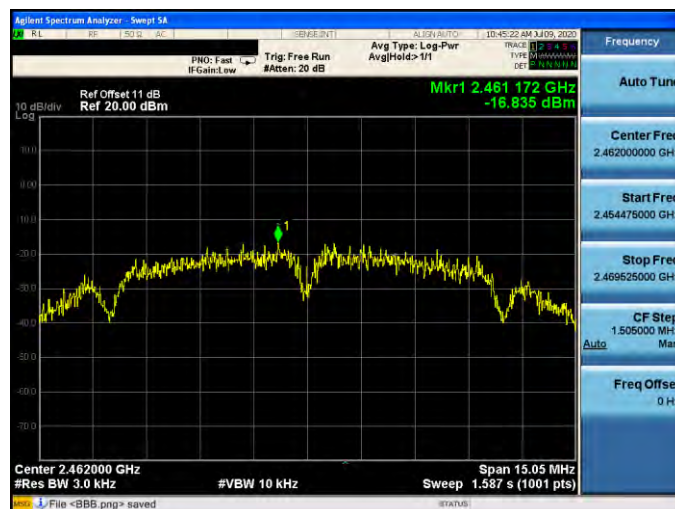
2412 MHz



2437 MHz



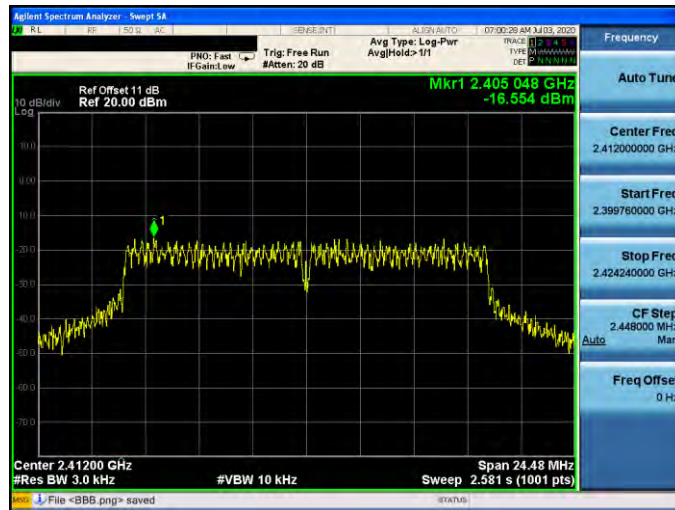
2462 MHz



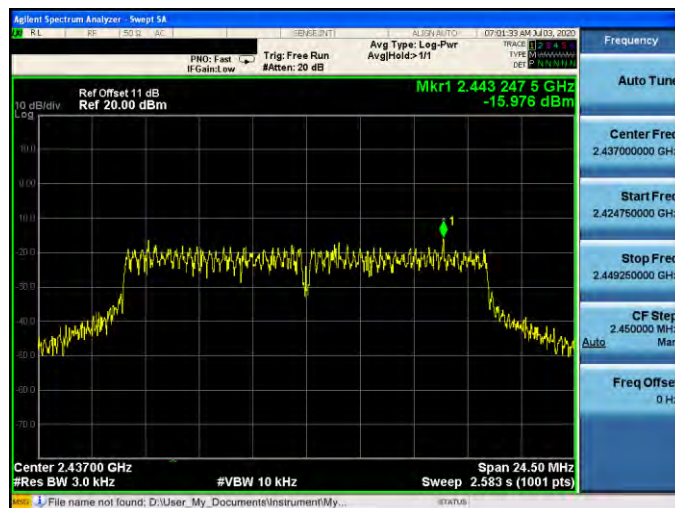


Mode 2: IEEE 802.11g Continuous TX mode_ANT-0

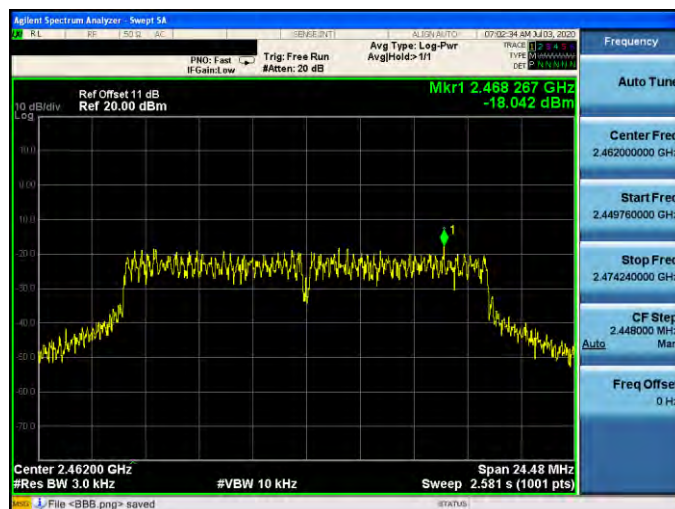
2412 MHz



2437 MHz

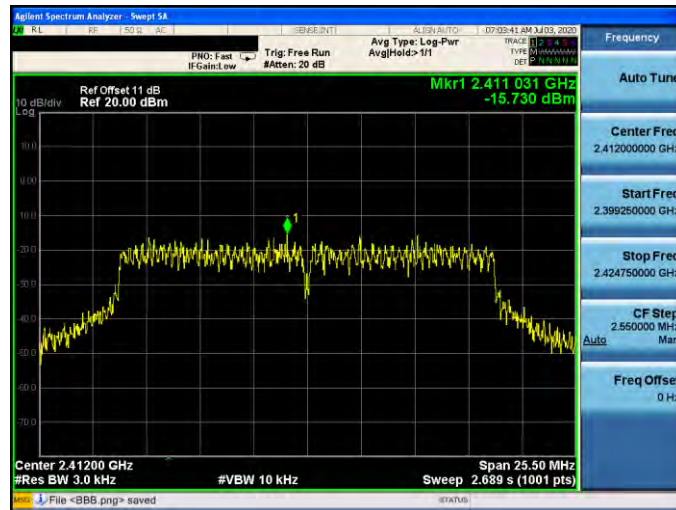


2462 MHz



Mode 3: IEEE 802.11n 2.4 GHz 20 MHz Continuous TX mode _ANT-0

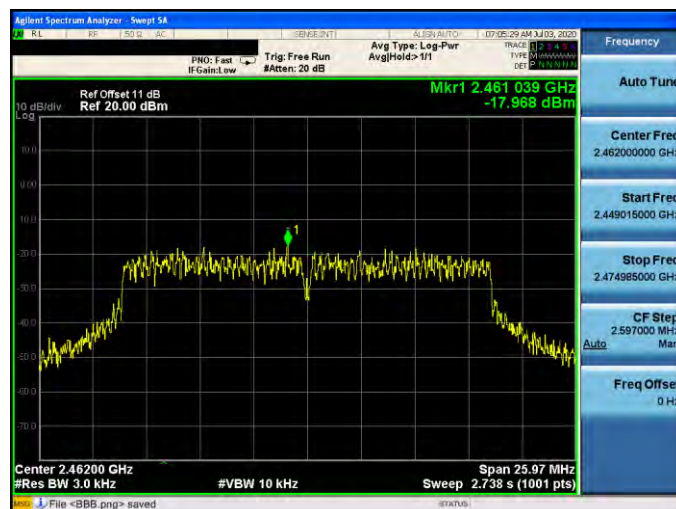
2412 MHz



2437 MHz



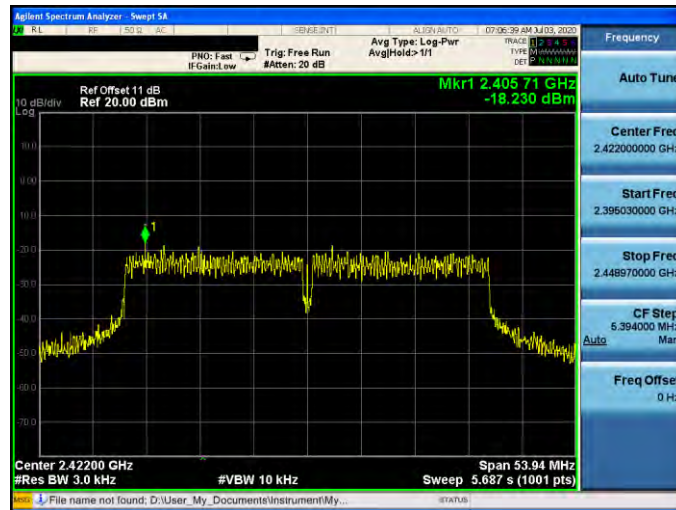
2462 MHz



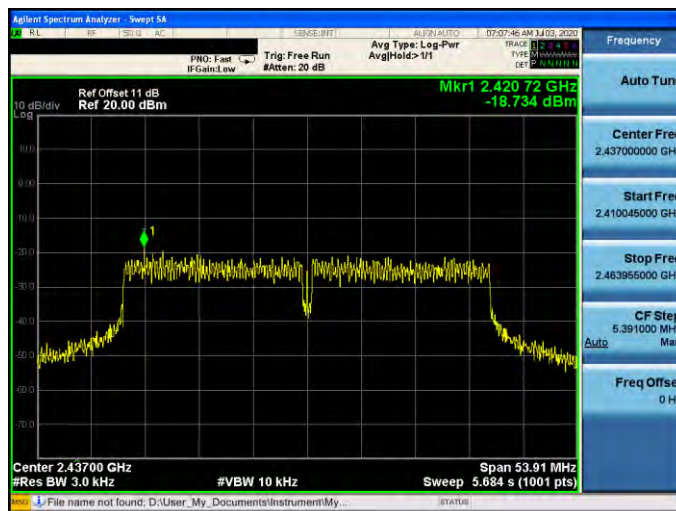


Mode 4: IEEE 802.11n 2.4 GHz 40 MHz Continuous TX mode _ANT-0

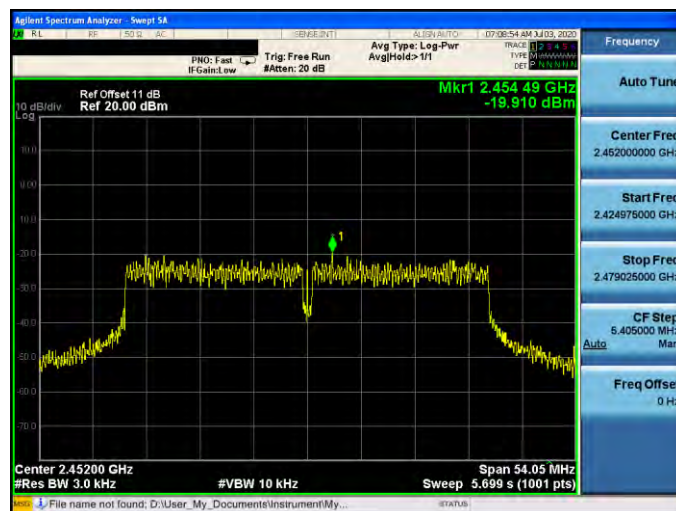
2422 MHz



2437 MHz



2452 MHz



Out of Band Conducted Emissions Measurement

■ Test Graphs

Reference level

Mode 1: IEEE 802.11b Continuous TX mode_ANT-0

2412 MHz



2437 MHz



2462 MHz



Mode 2: IEEE 802.11g Continuous TX mode_ANT-0

2412 MHz



2437 MHz



2462 MHz





Mode 3: IEEE 802.11n 2.4 GHz 20 MHz Continuous TX mode _ANT-0

2412 MHz



2437 MHz



2462 MHz





Mode 4: IEEE 802.11n 2.4 GHz 40 MHz Continuous TX mode _ANT-0

2422 MHz



2437 MHz



2452 MHz

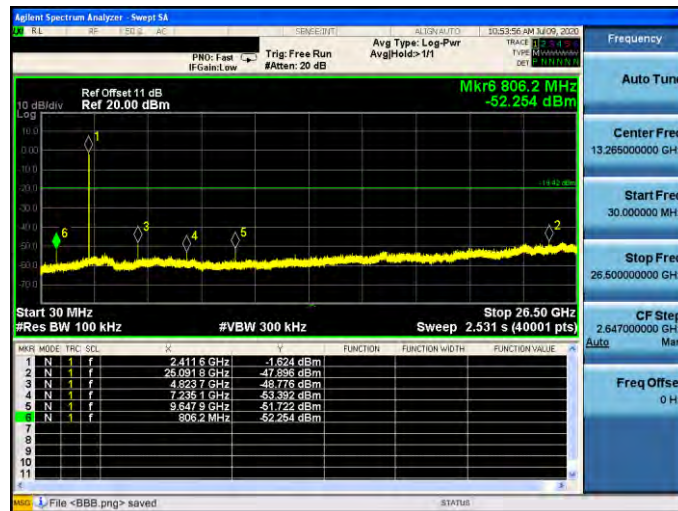




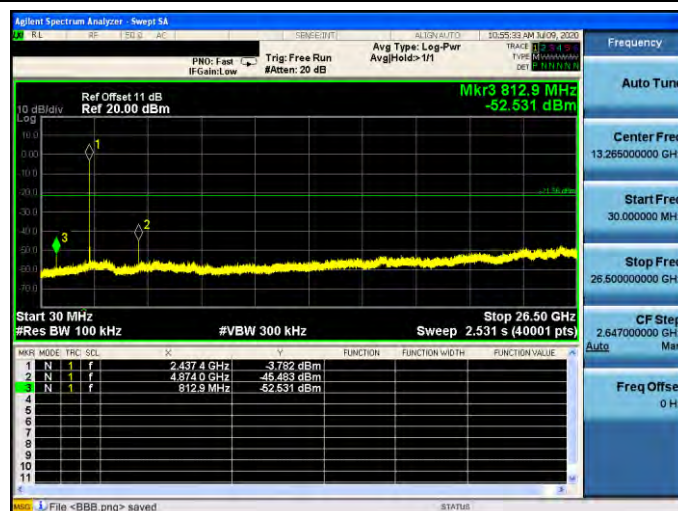
Out of Band Conducted Emissions

Mode 1: IEEE 802.11b Continuous TX mode_ANT-0

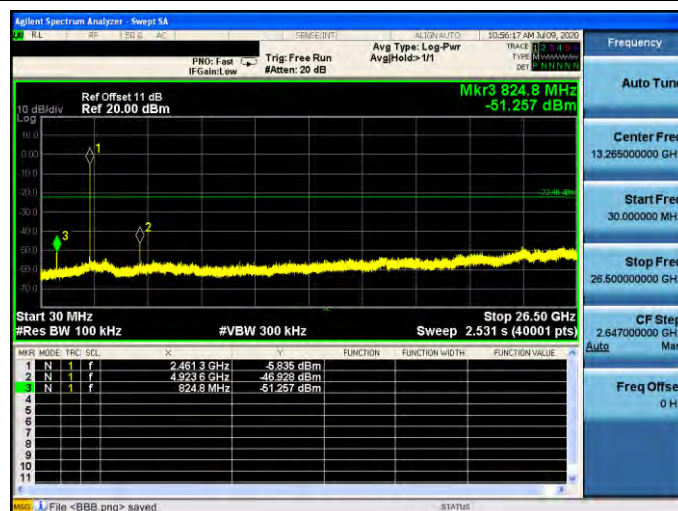
2412 MHz



2437 MHz

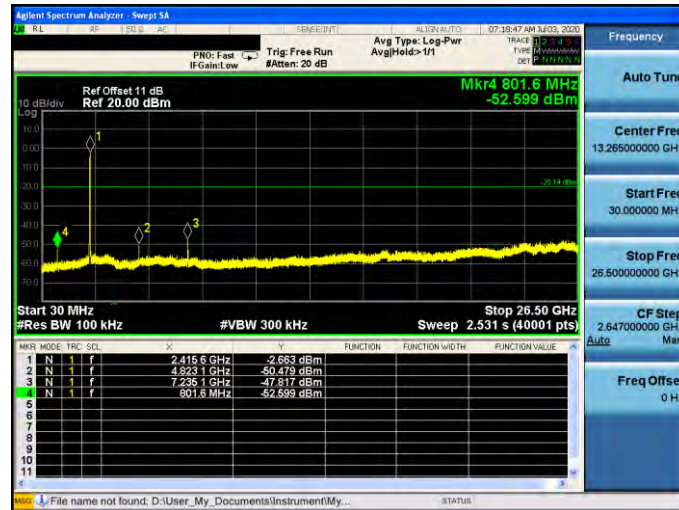


2462 MHz

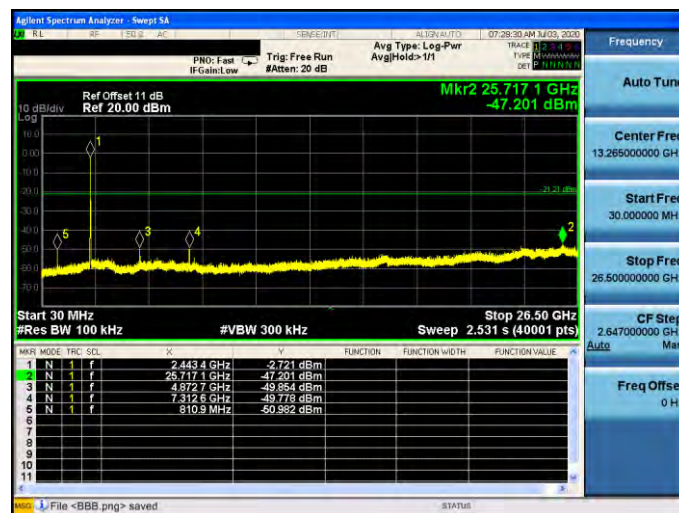


Mode 2: IEEE 802.11g Continuous TX mode_ANT-0

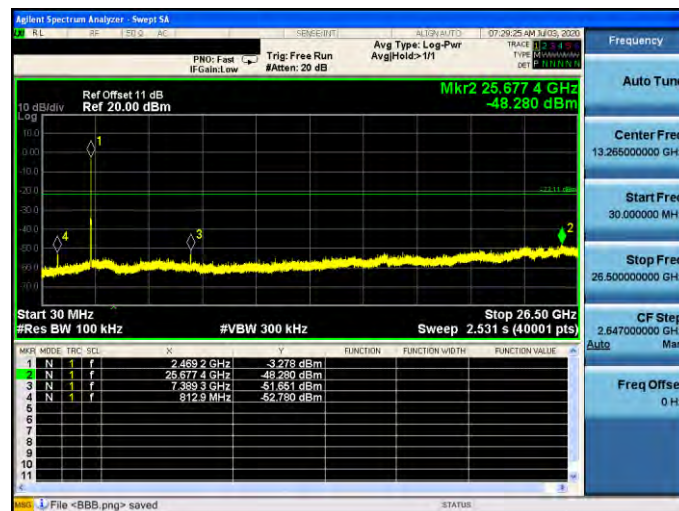
2412 MHz



2437 MHz



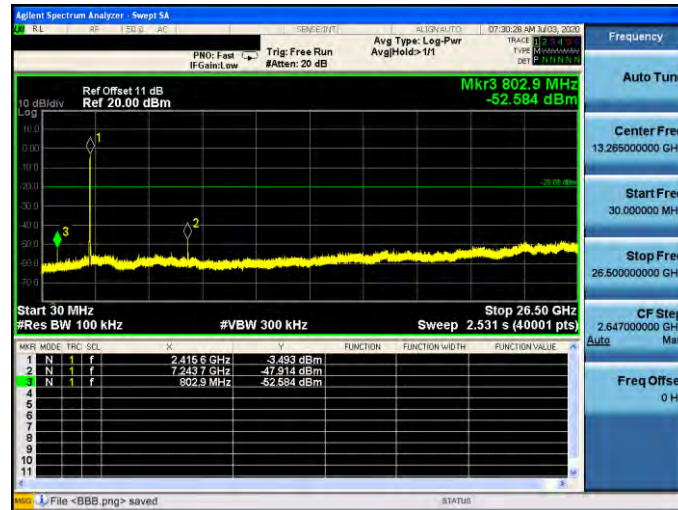
2462 MHz



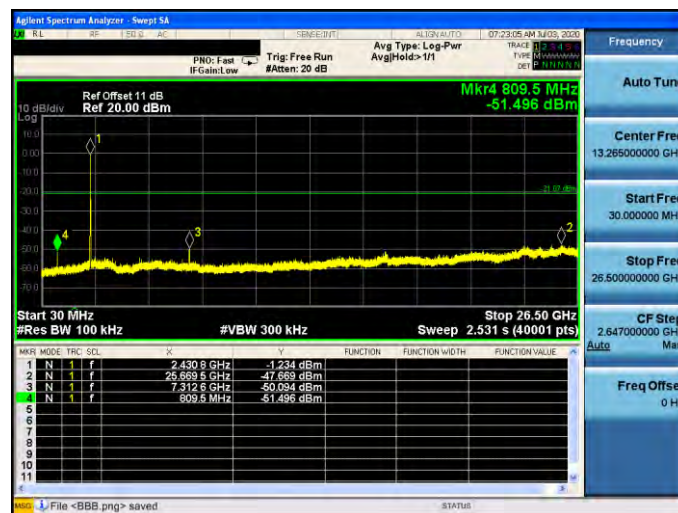


Mode 3: IEEE 802.11n 2.4 GHz 20 MHz Continuous TX mode _ANT-0

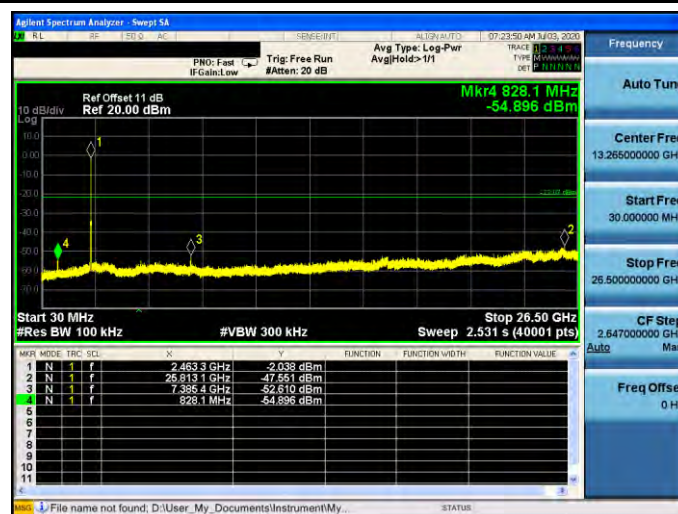
2412 MHz



2437 MHz



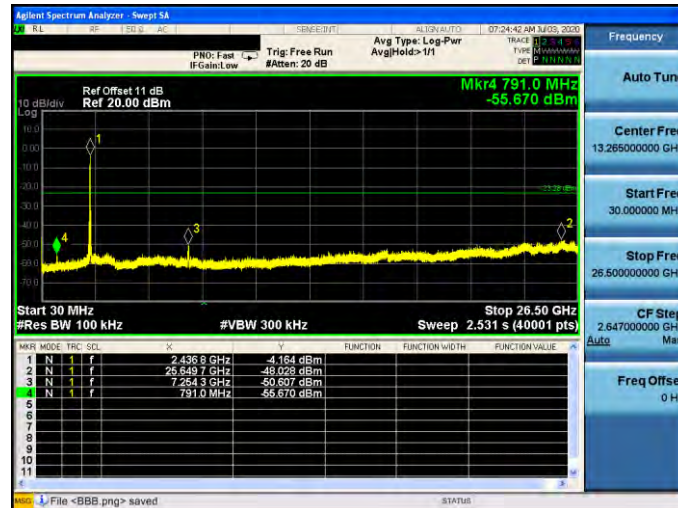
2462 MHz



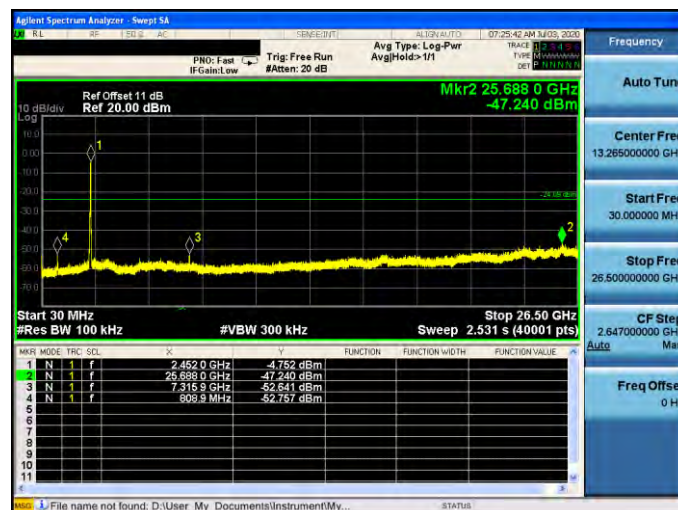


Mode 4: IEEE 802.11n 2.4 GHz 40 MHz Continuous TX mode _ANT-0

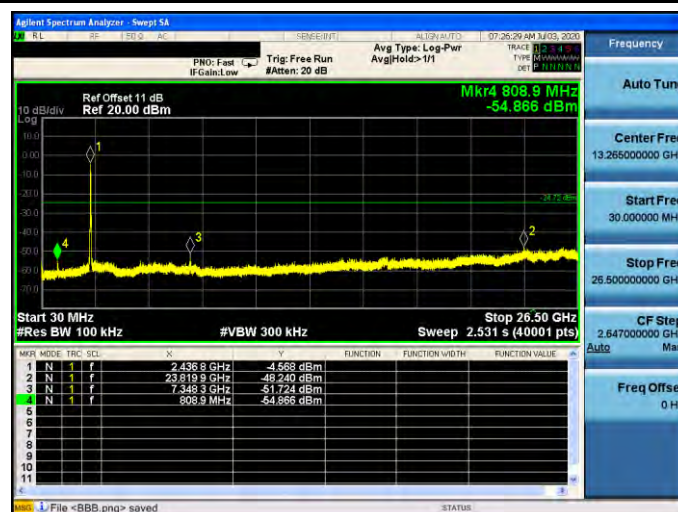
2422 MHz



2437 MHz



2452 MHz

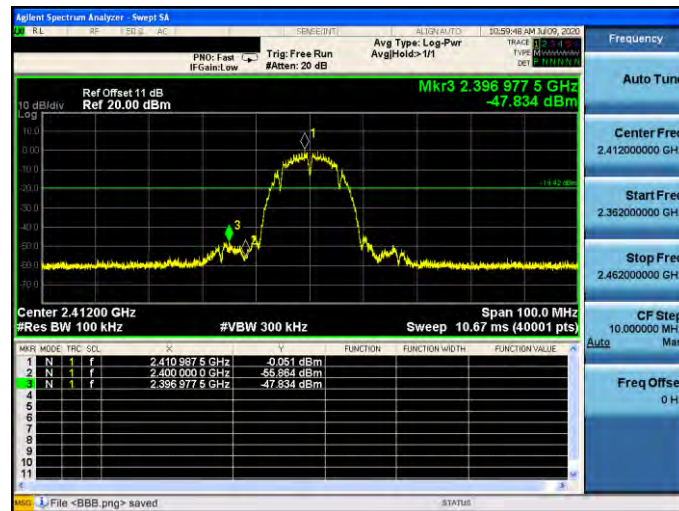




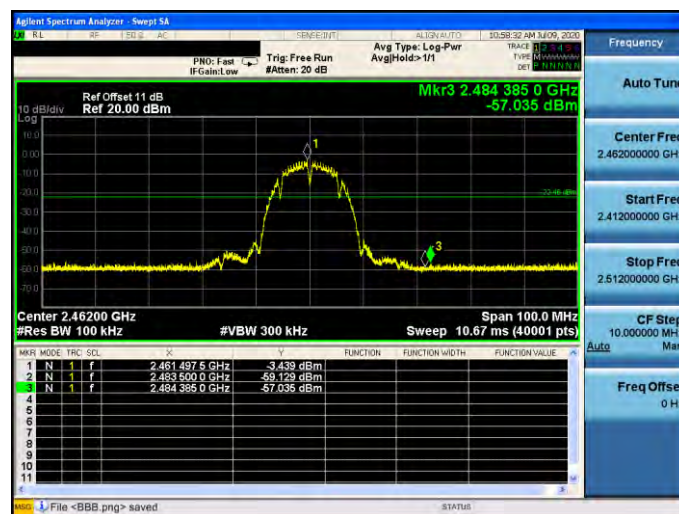
Conducted Band Edge

Mode 1: IEEE 802.11b Continuous TX mode_ANT-0

2412 MHz

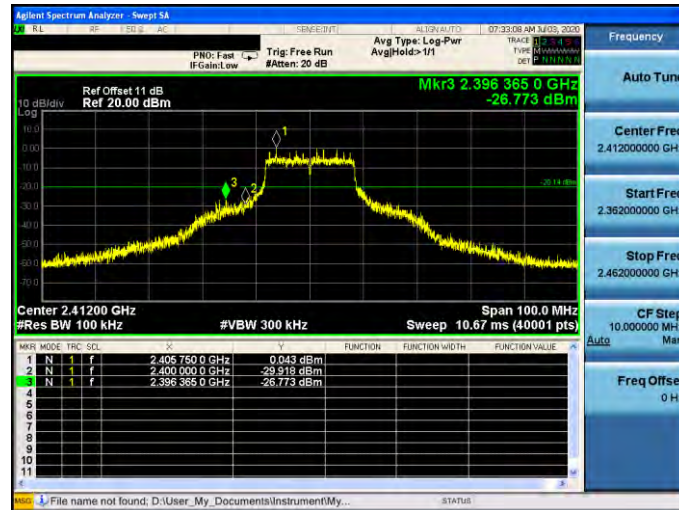


2462 MHz

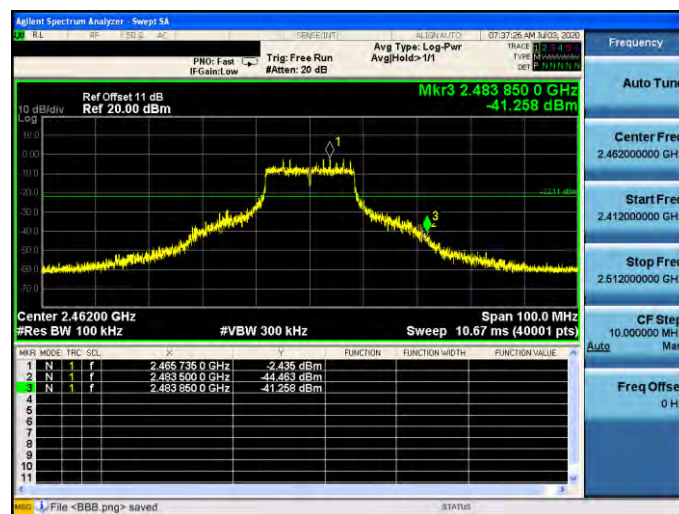


Mode 2: IEEE 802.11g Continuous TX mode_ANT-0

2412 MHz



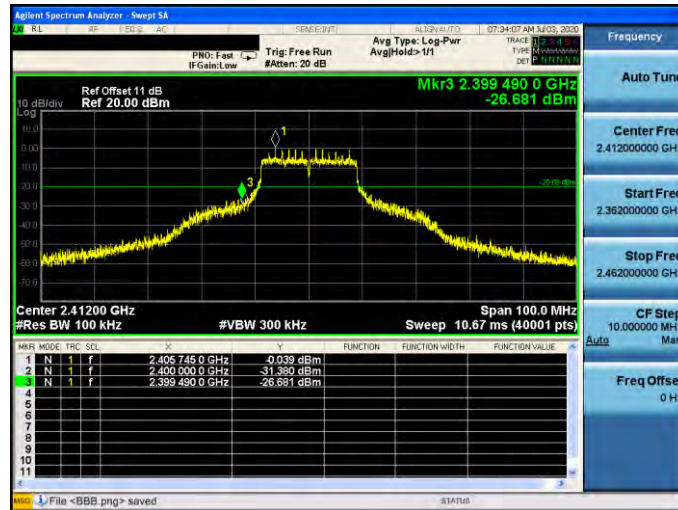
2462 MHz



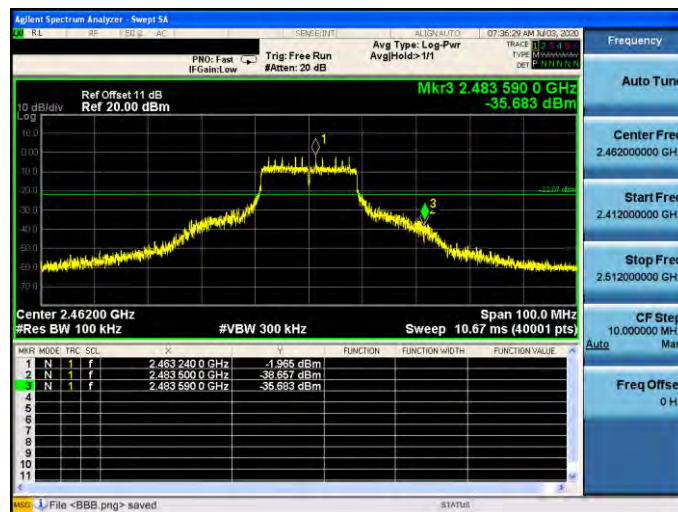


Mode 3: IEEE 802.11n 2.4 GHz 20 MHz Continuous TX mode _ANT-0

2412 MHz



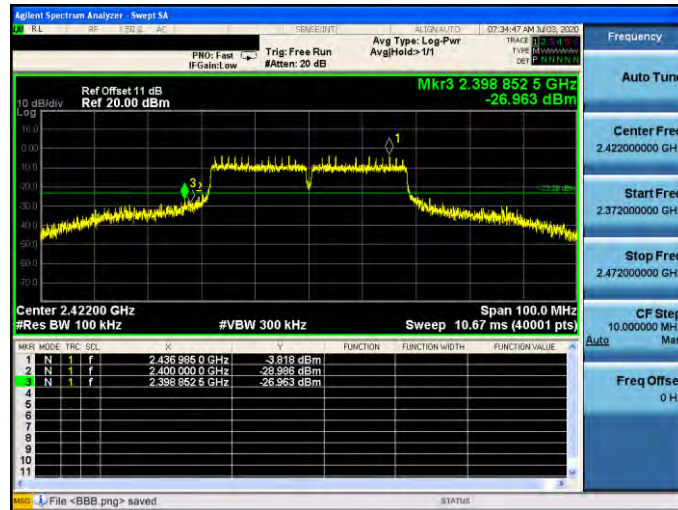
2462 MHz



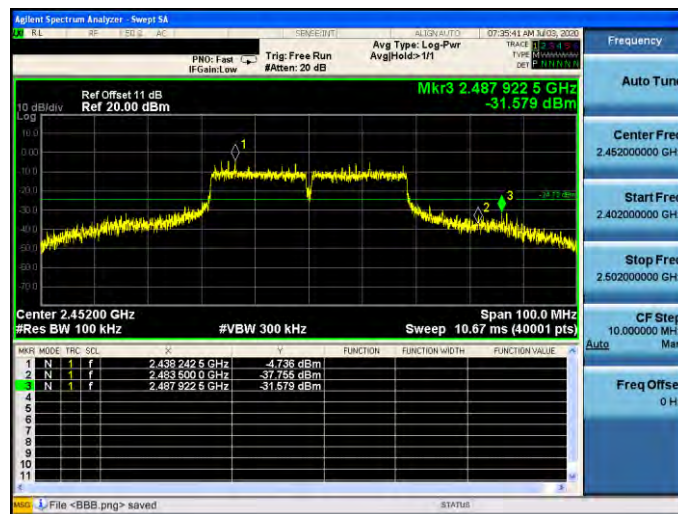


Mode 4: IEEE 802.11n 2.4 GHz 40 MHz Continuous TX mode ANT-0

2422 MHz



2452 MHz



Annex B. Radiated Emission Measurement

Below 1 GHz

Standard:		FCC Part 15.247		Test Distance:		3 m	
Test item:		Radiated Emission		Power:		DC 20 V	
Frequency:		2412 MHz		Temp.(°C)/Hum.(%RH):		26(°C)/60 %RH	
Mode:		Mode 2					
Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Polar. H / V
106.6300	39.47	-9.74	29.73	43.50	-13.77	QP	H
265.7100	40.67	-5.32	35.35	46.00	-10.65	QP	H
384.0500	36.82	-2.50	34.32	46.00	-11.68	QP	H
517.9100	33.17	0.28	33.45	46.00	-12.55	QP	H
647.8900	29.19	2.90	32.09	46.00	-13.91	QP	H
807.9400	28.42	5.96	34.38	46.00	-11.62	QP	H
195.8700	40.63	-7.56	33.07	43.50	-10.43	QP	V
256.0100	37.51	-5.75	31.76	46.00	-14.24	QP	V
408.3000	36.81	-1.85	34.96	46.00	-11.04	QP	V
467.4700	33.08	-0.50	32.58	46.00	-13.42	QP	V
564.4700	32.59	1.46	34.05	46.00	-11.95	QP	V
741.0100	29.61	4.98	34.59	46.00	-11.41	QP	V

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

Example: $29.73 = -9.74 + 39.47$

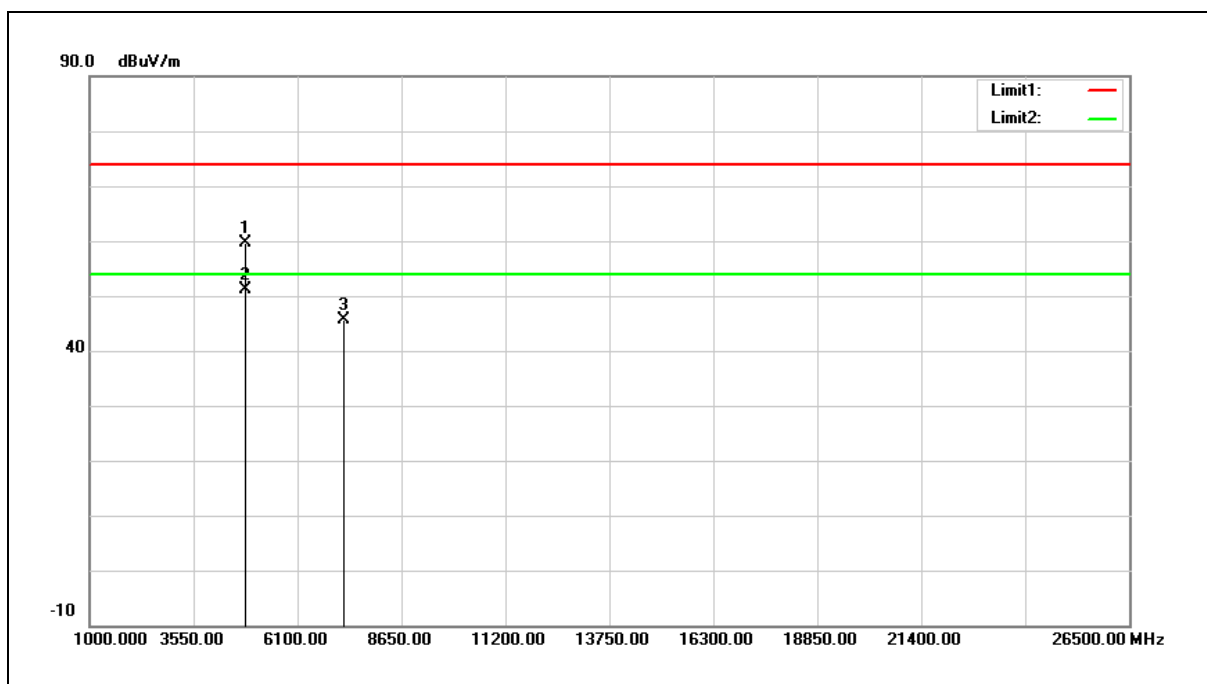
2.Correction factor (dB/m) = Antenna Factor (dB/m) + Cable loss (dB) – Pre-Amplifier gain (dB).

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

Harmonic

Above 1 GHz

Standard:	FCC Part 15.247	Test Distance:	3 m
Test item:	Harmonic	Power:	DC 20 V
Frequency:	2412 MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60 %RH
Mode:	Mode 1		
Ant.Polar.:	Horizontal		



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4824.000	55.35	4.20	59.55	74.00	-14.45	peak
2	4824.000	46.97	4.20	51.17	54.00	-2.83	AVG
3	7236.000	35.24	10.38	45.62	74.00	-28.38	peak

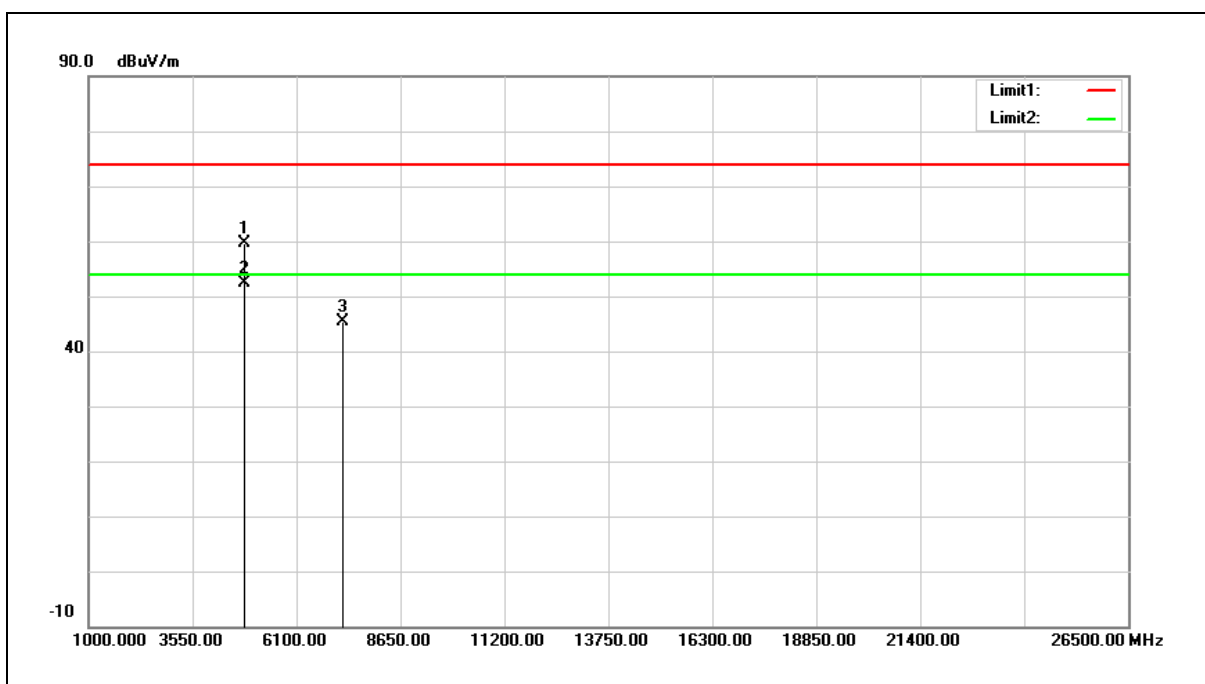
Note:1.Result (dBuV/m) = Correct Factor (dB/m) + Reading(dBuV).

Example: 59.55 = 4.20 + 55.35

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

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

Standard:	FCC Part 15.247	Test Distance:	3 m
Test item:	Harmonic	Power:	DC 20 V
Frequency:	2412 MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60 %RH
Mode:	Mode 1		
Ant.Polar.:	Vertical		



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4824.000	55.34	4.20	59.54	74.00	-14.46	peak
2	4824.000	48.08	4.20	52.28	54.00	-1.72	AVG
3	7236.000	34.93	10.38	45.31	74.00	-28.69	peak

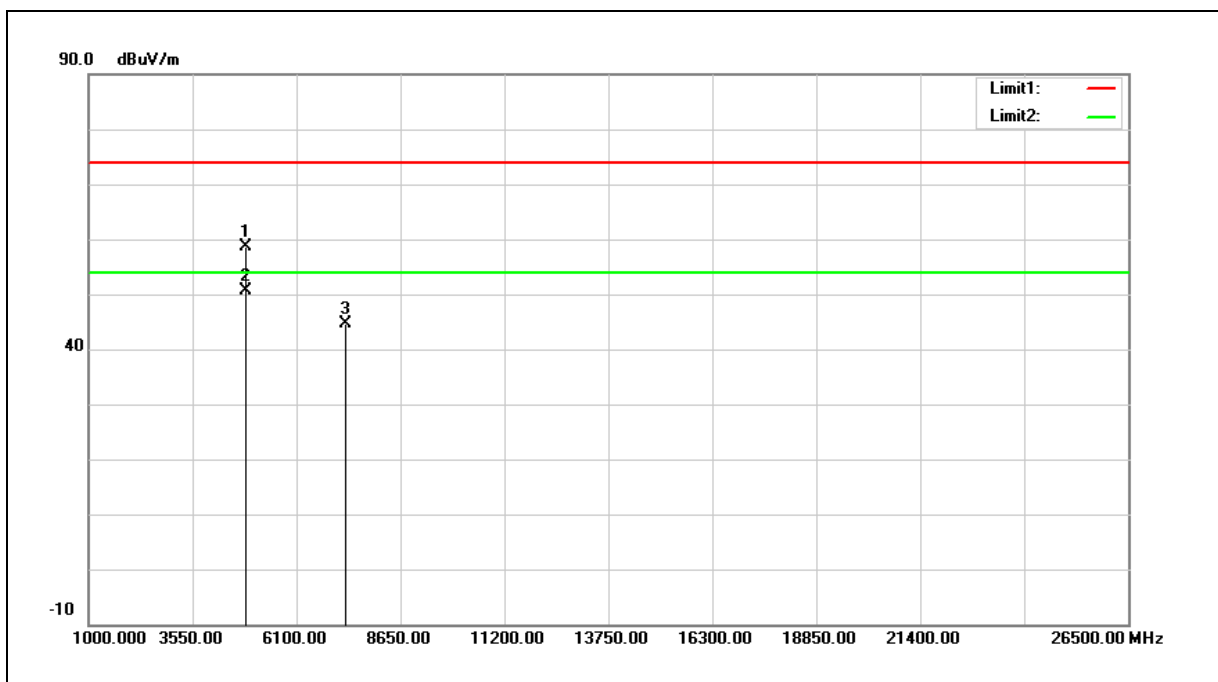
Note:1.Result (dBuV/m) = Correct Factor (dB/m) + Reading(dBuV).

Example: $59.54 = 4.20 + 55.34$

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

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

Standard:	FCC Part 15.247	Test Distance:	3 m
Test item:	Harmonic	Power:	DC 20 V
Frequency:	2437 MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60 %RH
Mode:	Mode 1		
Ant.Polar.:	Horizontal		



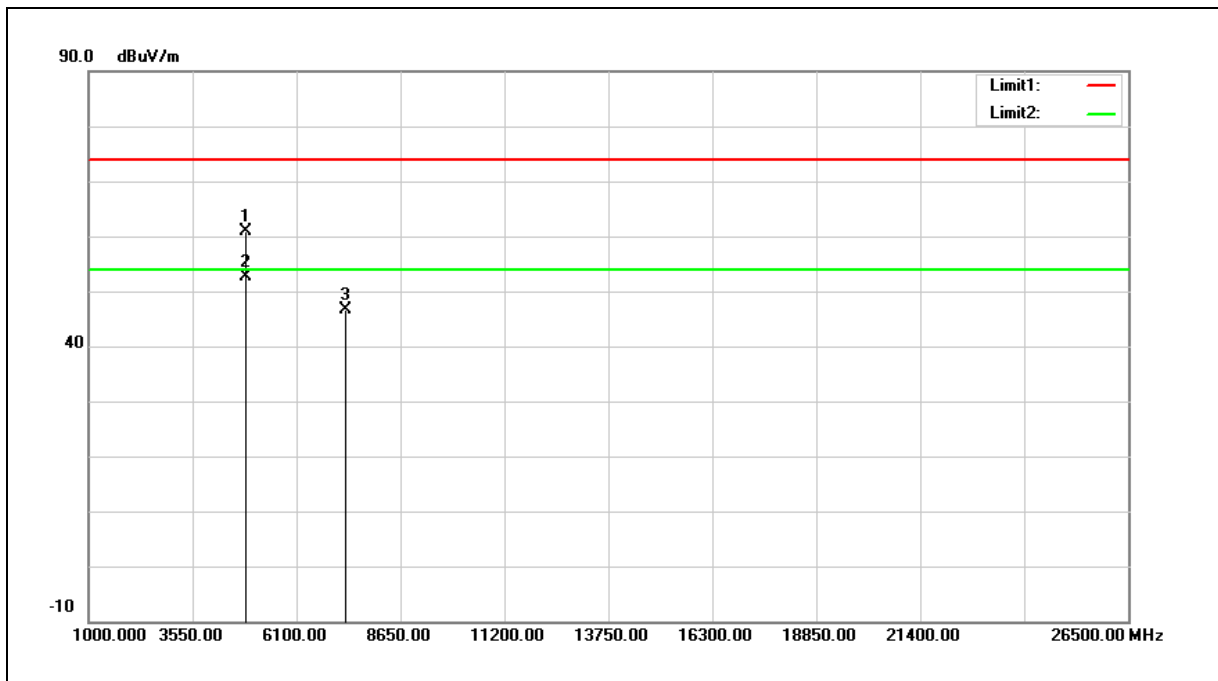
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4874.000	54.32	4.34	58.66	74.00	-15.34	peak
2	4874.000	46.39	4.34	50.73	54.00	-3.27	AVG
3	7311.000	33.91	10.61	44.52	74.00	-29.48	peak

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

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

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

Standard:	FCC Part 15.247	Test Distance:	3 m
Test item:	Harmonic	Power:	DC 20 V
Frequency:	2437 MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60 %RH
Mode:	Mode 1		
Ant.Polar.:	Vertical		



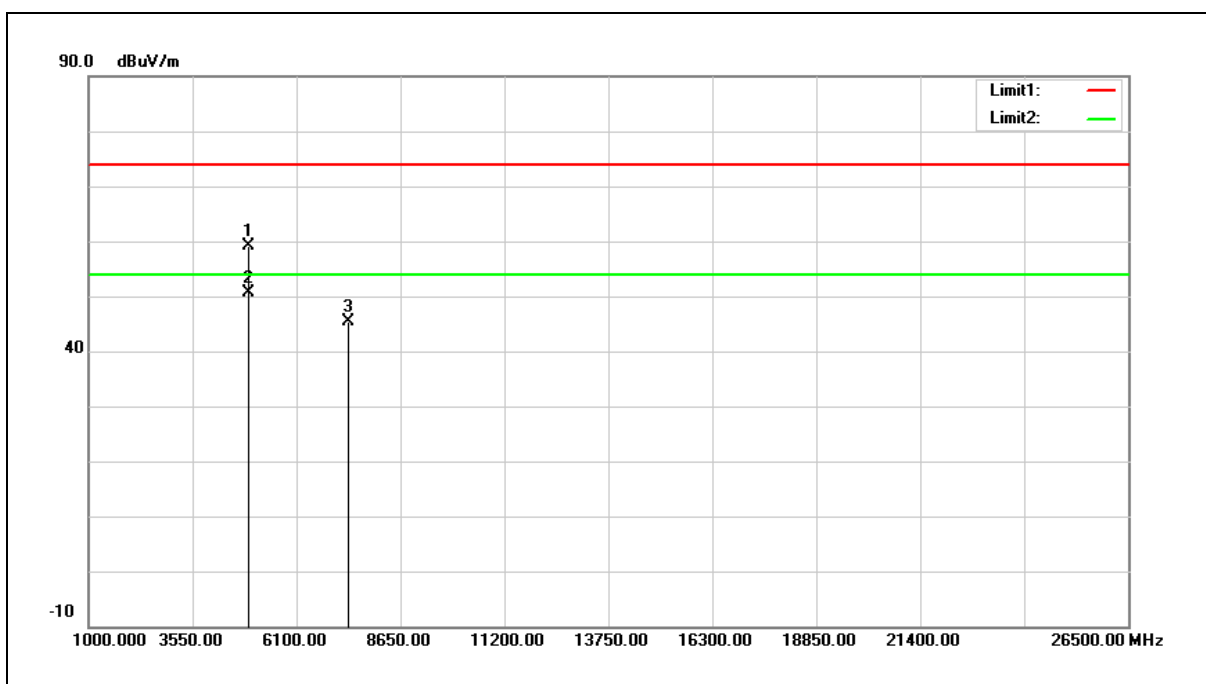
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4874.000	56.45	4.34	60.79	74.00	-13.21	peak
2	4874.000	48.17	4.34	52.51	54.00	-1.49	AVG
3	7311.000	36.06	10.61	46.67	74.00	-27.33	peak

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

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

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

Standard:	FCC Part 15.247	Test Distance:	3 m
Test item:	Harmonic	Power:	DC 20 V
Frequency:	2462 MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60 %RH
Mode:	Mode 1		
Ant.Polar.:	Horizontal		



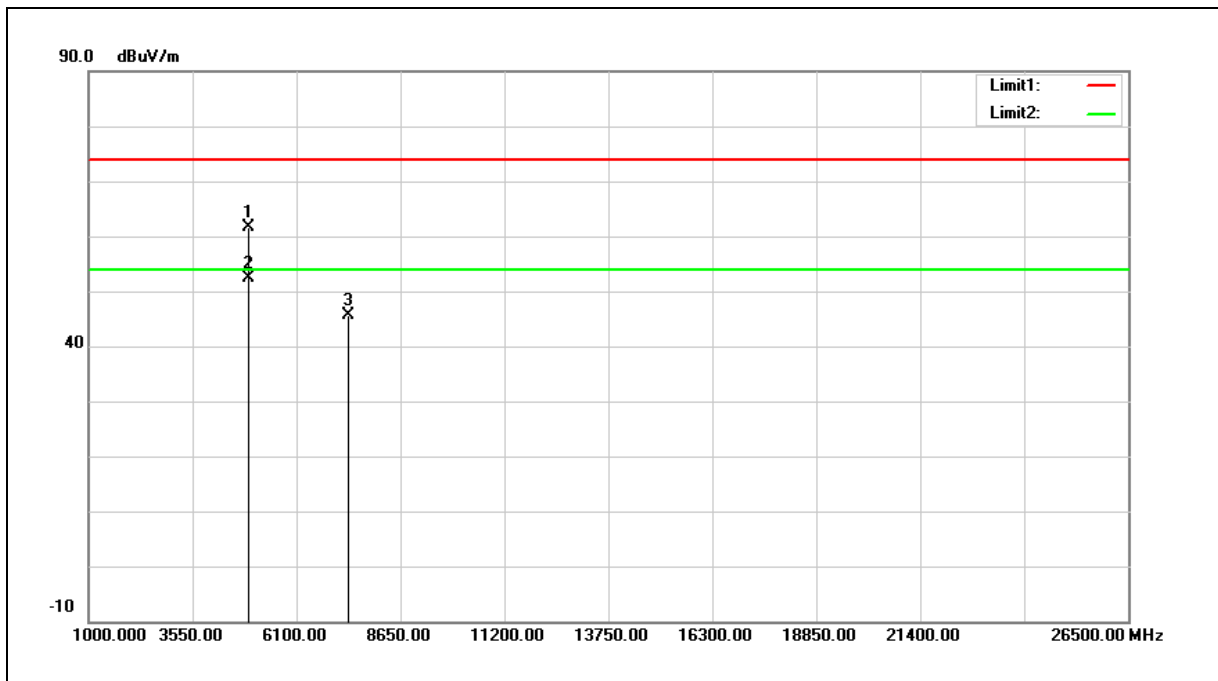
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4924.000	54.64	4.49	59.13	74.00	-14.87	peak
2	4924.000	46.05	4.49	50.54	54.00	-3.46	AVG
3	7386.000	34.59	10.85	45.44	74.00	-28.56	peak

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

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

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

Standard:	FCC Part 15.247	Test Distance:	3 m
Test item:	Harmonic	Power:	DC 20 V
Frequency:	2462 MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60 %RH
Mode:	Mode 1		
Ant.Polar.:	Vertical		



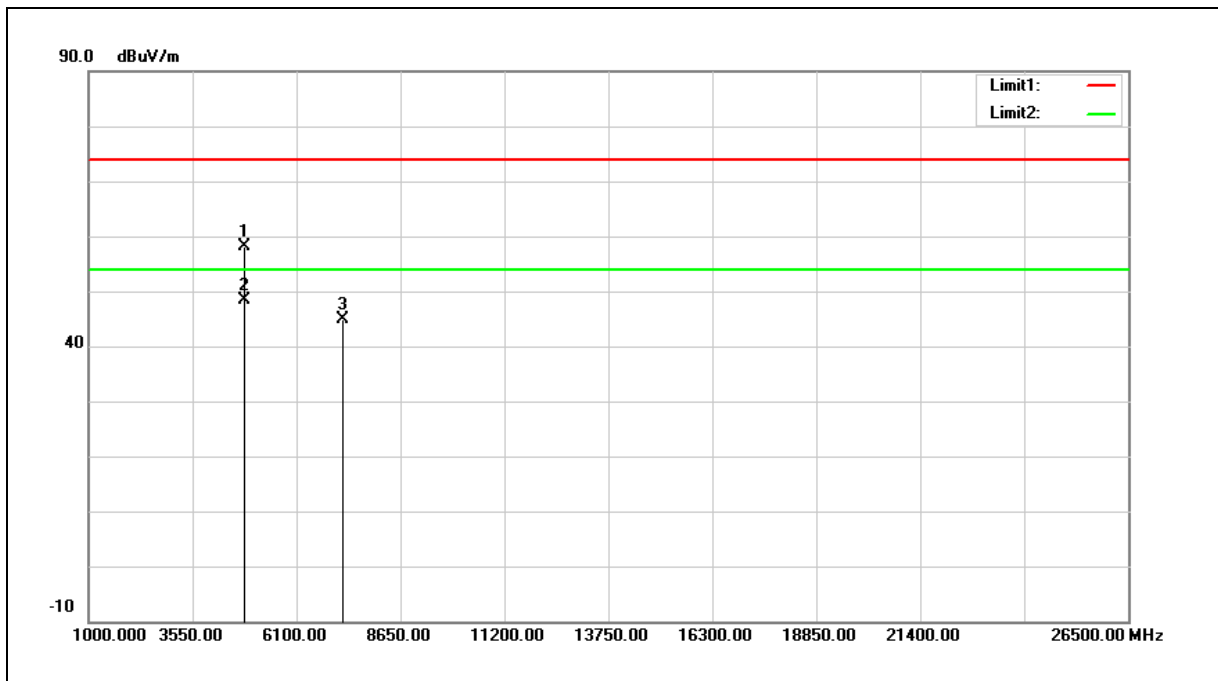
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4924.000	57.16	4.49	61.65	74.00	-12.35	peak
2	4924.000	47.86	4.49	52.35	54.00	-1.65	AVG
3	7386.000	34.69	10.85	45.54	74.00	-28.46	peak

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

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

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

Standard:	FCC Part 15.247	Test Distance:	3 m
Test item:	Harmonic	Power:	DC 20 V
Frequency:	2412 MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60 %RH
Mode:	Mode 2		
Ant.Polar.:	Horizontal		



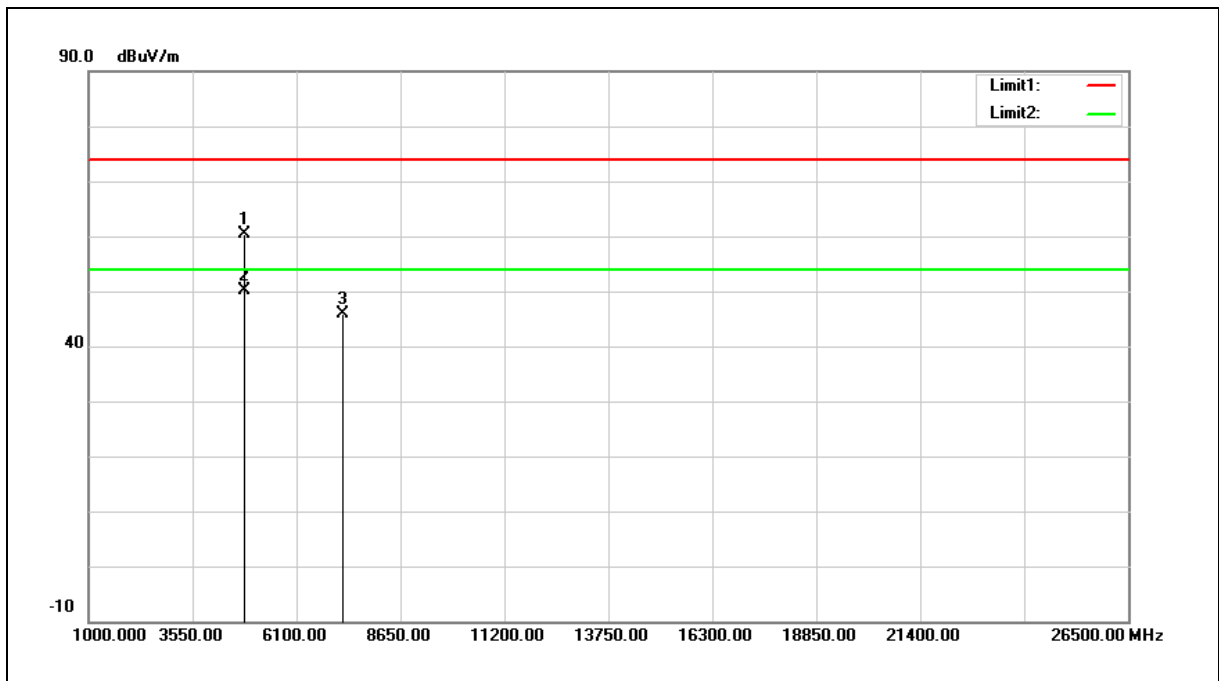
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4824.000	53.88	4.20	58.08	74.00	-15.92	peak
2	4824.000	44.25	4.20	48.45	54.00	-5.55	AVG
3	7236.000	34.47	10.38	44.85	74.00	-29.15	peak

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

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

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

Standard:	FCC Part 15.247	Test Distance:	3 m
Test item:	Harmonic	Power:	DC 20 V
Frequency:	2412 MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60 %RH
Mode:	Mode 2		
Ant.Polar.:	Vertical		



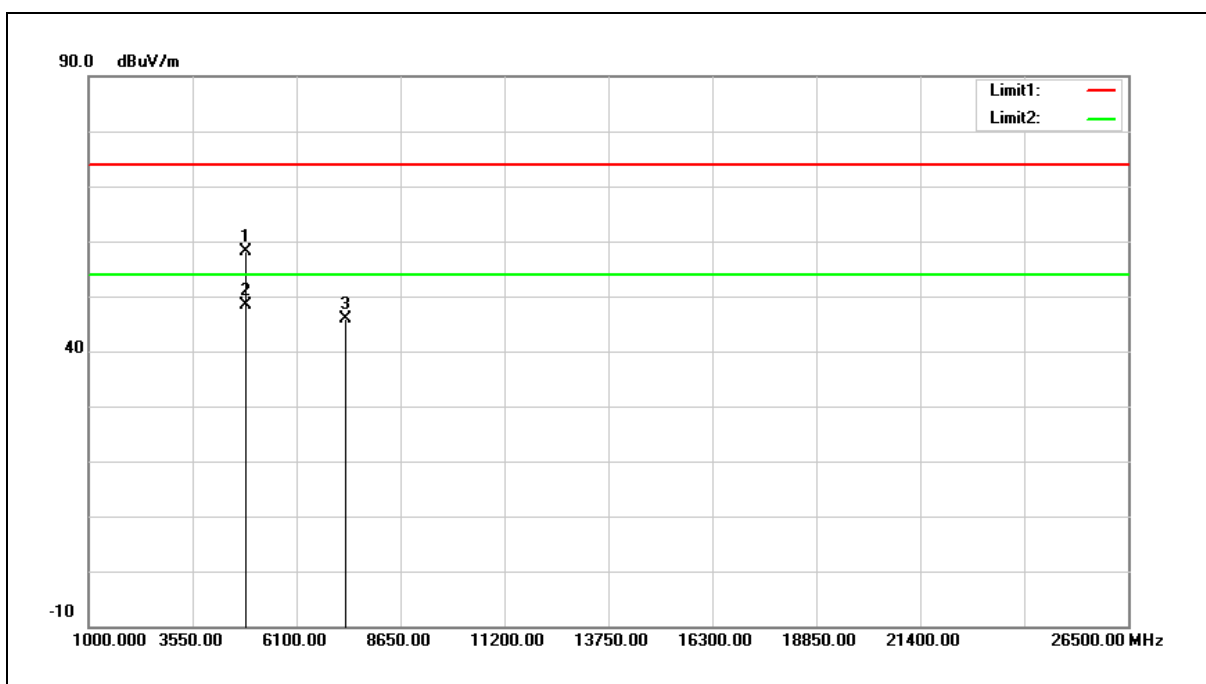
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4824.000	56.25	4.20	60.45	74.00	-13.55	peak
2	4824.000	45.82	4.20	50.02	54.00	-3.98	AVG
3	7236.000	35.41	10.38	45.79	74.00	-28.21	peak

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

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

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

Standard:	FCC Part 15.247	Test Distance:	3 m
Test item:	Harmonic	Power:	DC 20 V
Frequency:	2437 MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60 %RH
Mode:	Mode 2		
Ant.Polar.:	Horizontal		



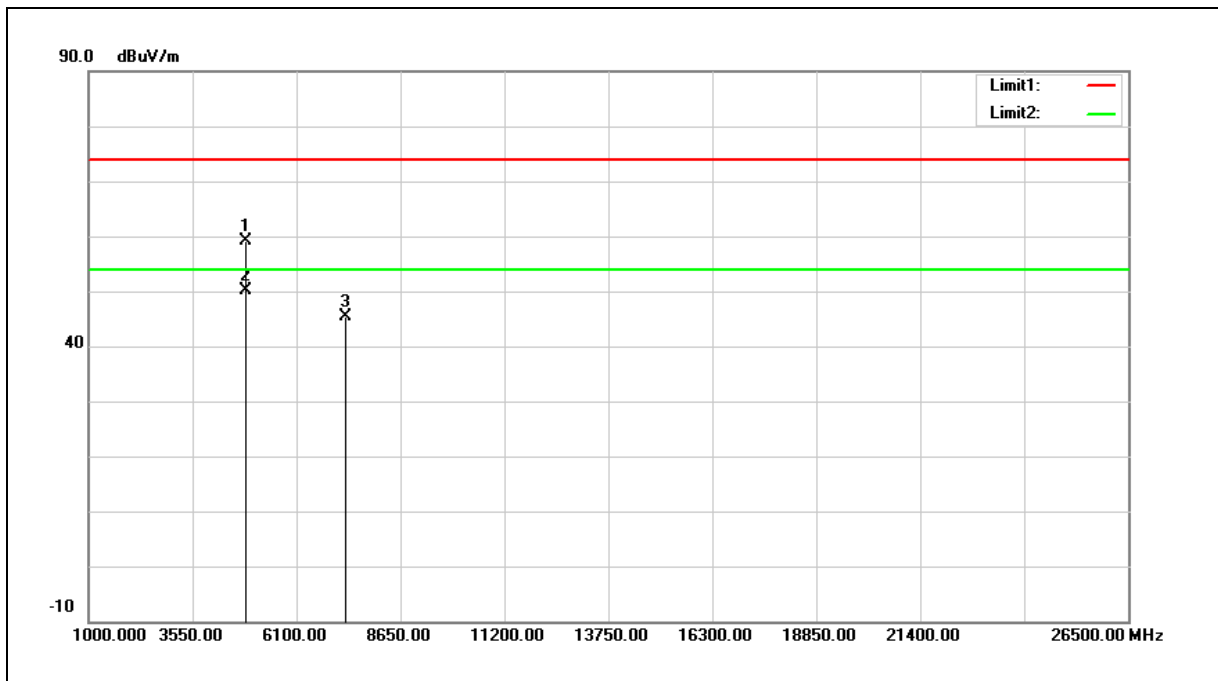
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4874.000	53.80	4.34	58.14	74.00	-15.86	peak
2	4874.000	44.15	4.34	48.49	54.00	-5.51	AVG
3	7311.000	35.20	10.61	45.81	74.00	-28.19	peak

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

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

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

Standard:	FCC Part 15.247	Test Distance:	3 m
Test item:	Harmonic	Power:	DC 20 V
Frequency:	2437 MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60 %RH
Mode:	Mode 2		
Ant.Polar.:	Vertical		



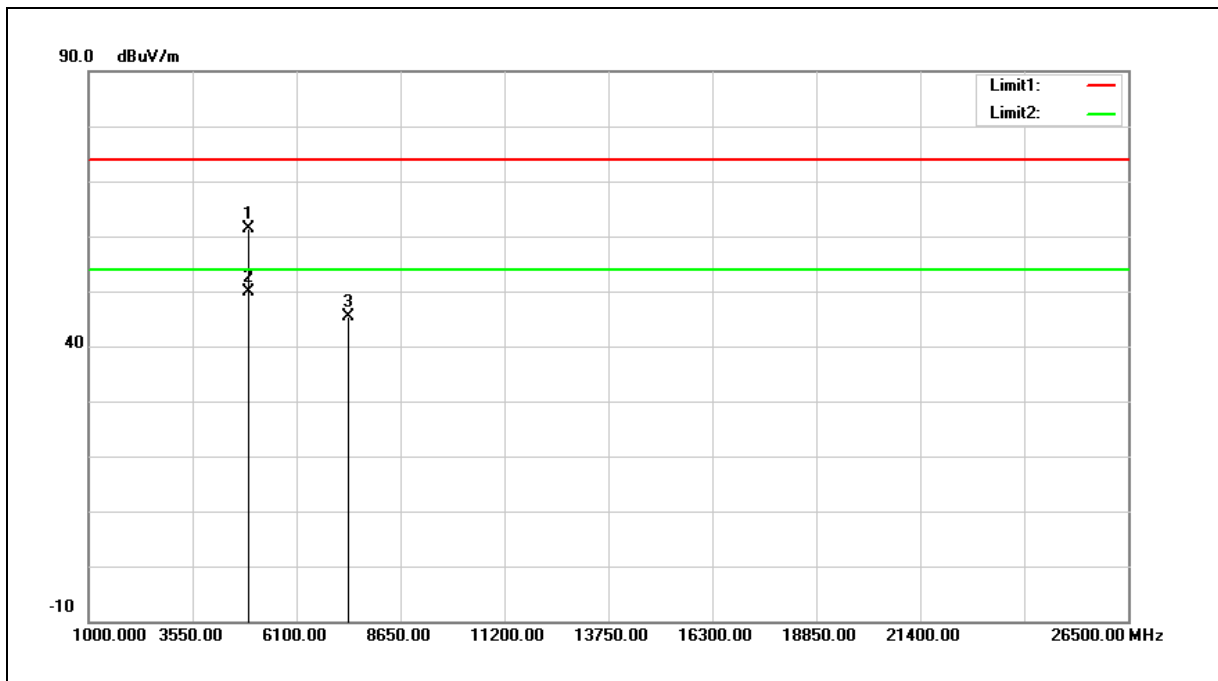
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4874.000	54.72	4.34	59.06	74.00	-14.94	peak
2	4874.000	45.82	4.34	50.16	54.00	-3.84	AVG
3	7311.000	34.88	10.61	45.49	74.00	-28.51	peak

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

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

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

Standard:	FCC Part 15.247	Test Distance:	3 m
Test item:	Harmonic	Power:	DC 20 V
Frequency:	2462 MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60 %RH
Mode:	Mode 2		
Ant.Polar.:	Horizontal		



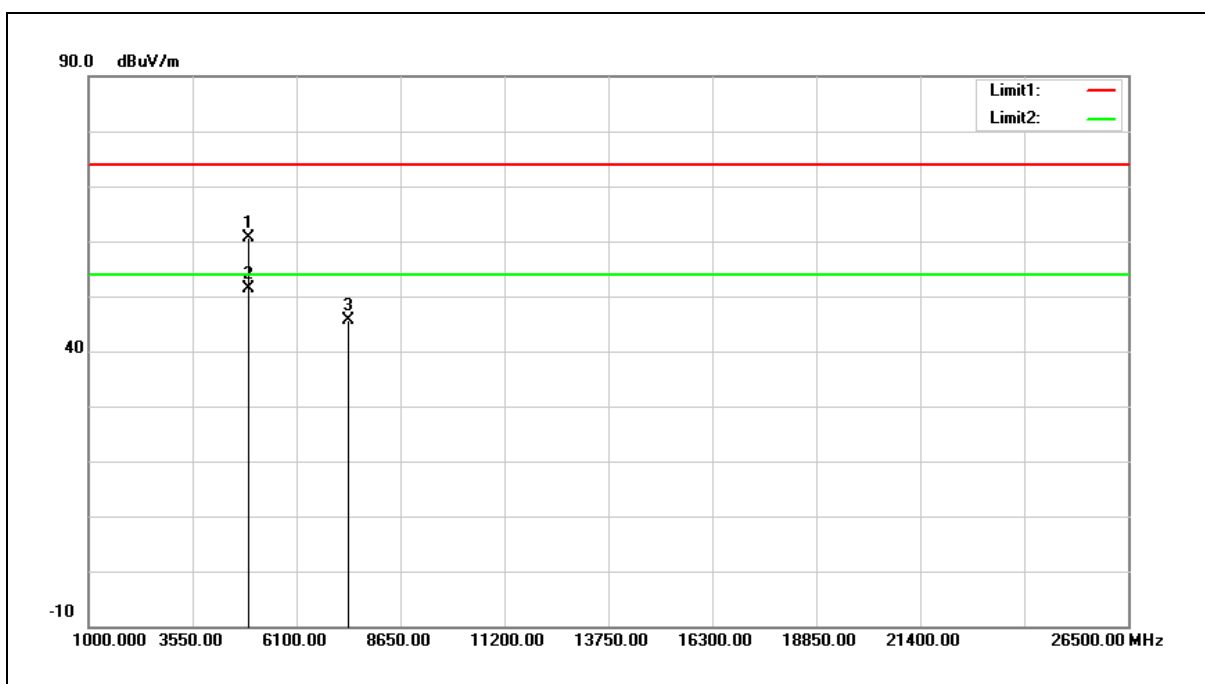
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4924.000	56.89	4.49	61.38	74.00	-12.62	peak
2	4924.000	45.50	4.49	49.99	54.00	-4.01	AVG
3	7386.000	34.44	10.85	45.29	74.00	-28.71	peak

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

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

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

Standard:	FCC Part 15.247	Test Distance:	3 m
Test item:	Harmonic	Power:	DC 20 V
Frequency:	2462 MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60 %RH
Mode:	Mode 2		
Ant.Polar.:	Vertical		



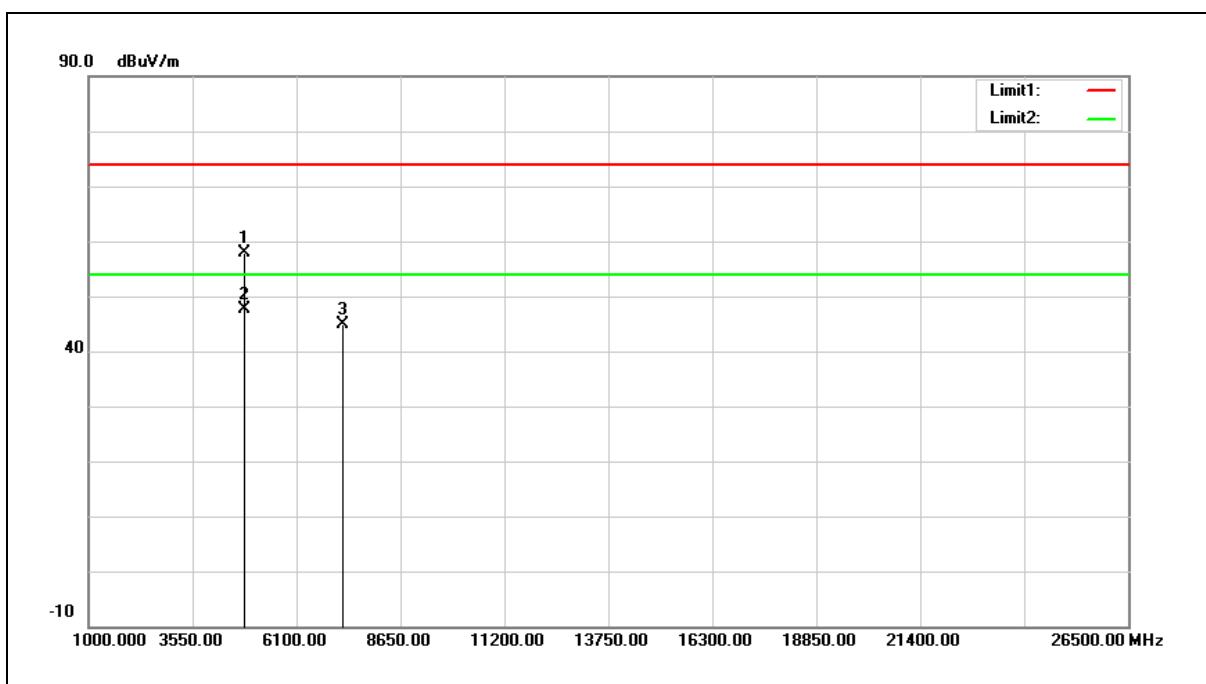
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4924.000	56.05	4.49	60.54	74.00	-13.46	peak
2	4924.000	46.86	4.49	51.35	54.00	-2.65	AVG
3	7386.000	34.70	10.85	45.55	74.00	-28.45	peak

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 15.247	Test Distance:	3 m
Test item:	Harmonic	Power:	DC 20 V
Frequency:	2412 MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60 %RH
Mode:	Mode 3		
Ant.Polar.:	Horizontal		



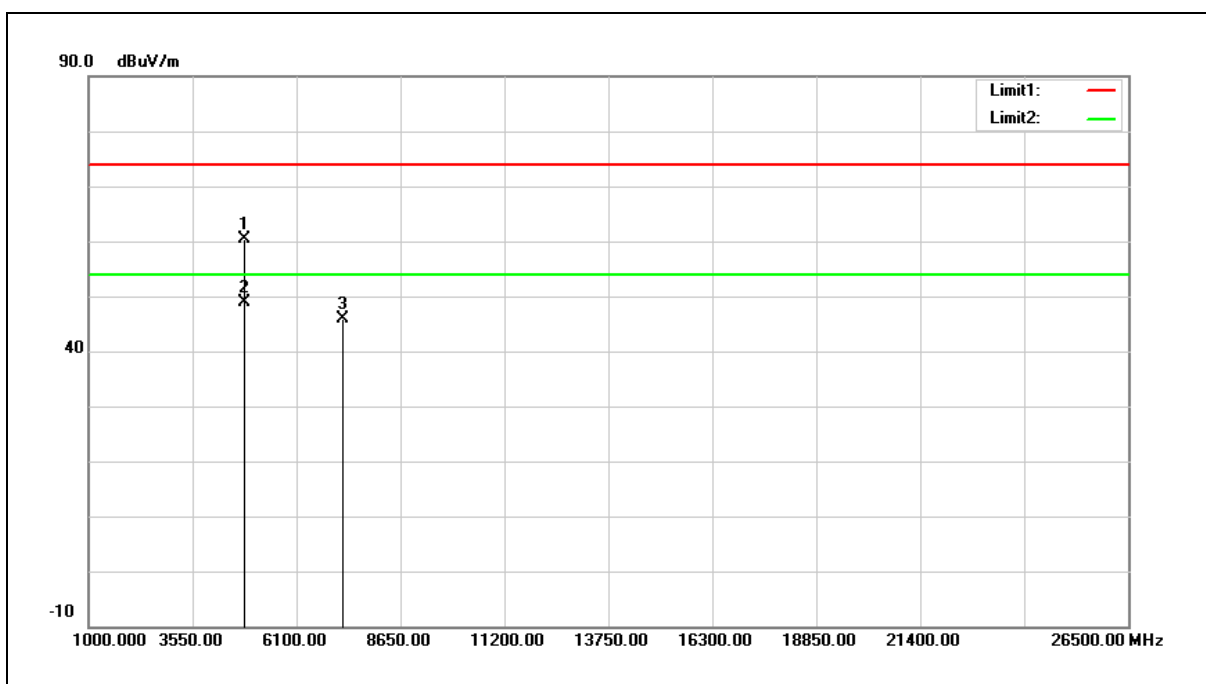
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4824.000	53.75	4.20	57.95	74.00	-16.05	peak
2	4824.000	43.34	4.20	47.54	54.00	-6.46	AVG
3	7236.000	34.50	10.38	44.88	74.00	-29.12	peak

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

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

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

Standard:	FCC Part 15.247	Test Distance:	3 m
Test item:	Harmonic	Power:	DC 20 V
Frequency:	2412 MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60 %RH
Mode:	Mode 3		
Ant.Polar.:	Vertical		



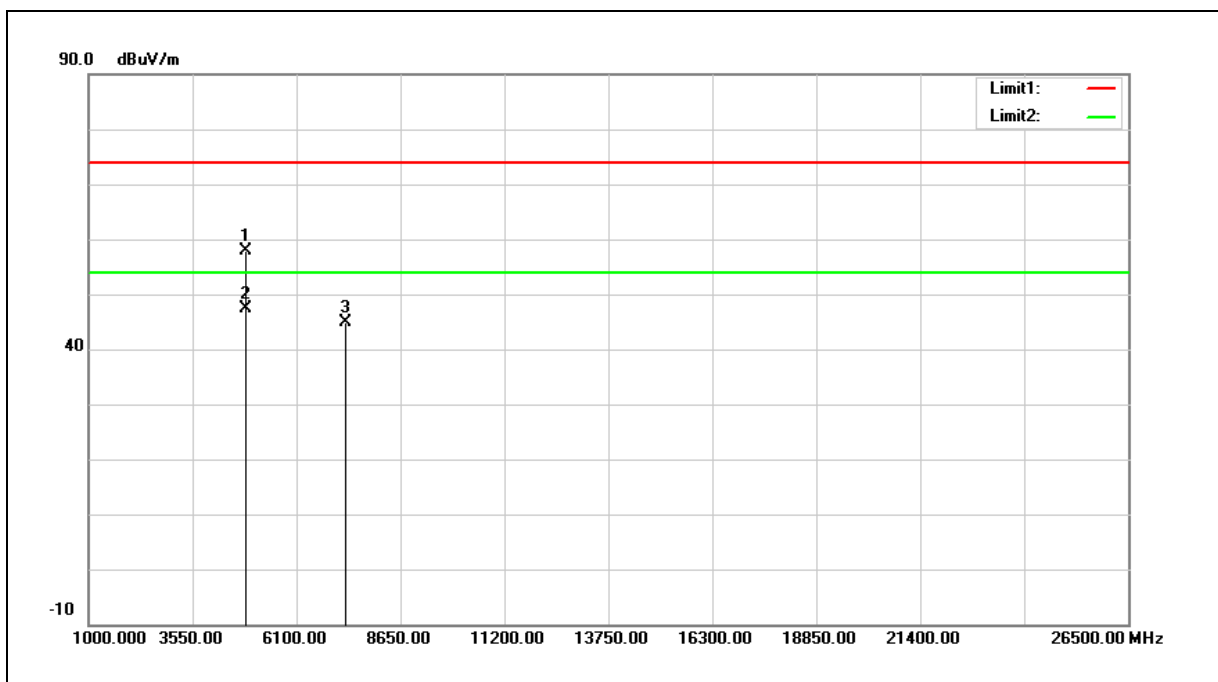
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4824.000	56.27	4.20	60.47	74.00	-13.53	peak
2	4824.000	44.57	4.20	48.77	54.00	-5.23	AVG
3	7236.000	35.42	10.38	45.80	74.00	-28.20	peak

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

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

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

Standard:	FCC Part 15.247	Test Distance:	3 m
Test item:	Harmonic	Power:	DC 20 V
Frequency:	2437 MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60 %RH
Mode:	Mode 3		
Ant.Polar.:	Horizontal		



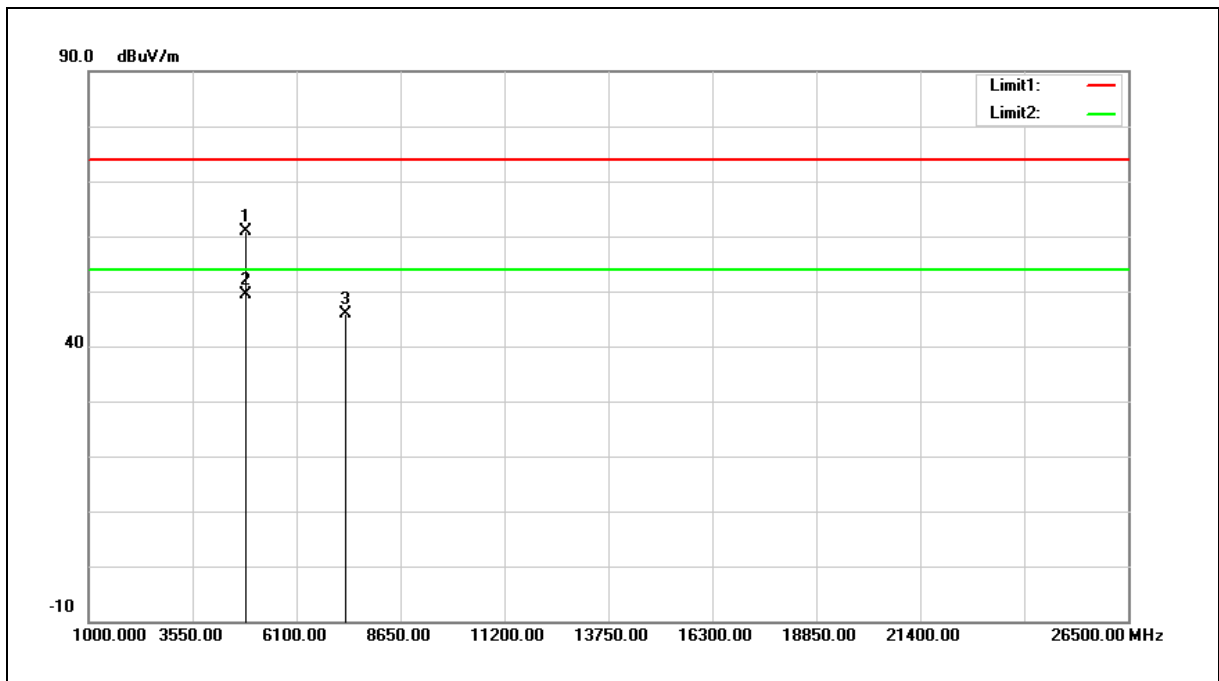
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4874.000	53.62	4.34	57.96	74.00	-16.04	peak
2	4874.000	43.15	4.34	47.49	54.00	-6.51	AVG
3	7311.000	34.26	10.61	44.87	74.00	-29.13	peak

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

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

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

Standard:	FCC Part 15.247	Test Distance:	3 m
Test item:	Harmonic	Power:	DC 20 V
Frequency:	2437 MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60 %RH
Mode:	Mode 3		
Ant.Polar.:	Vertical		



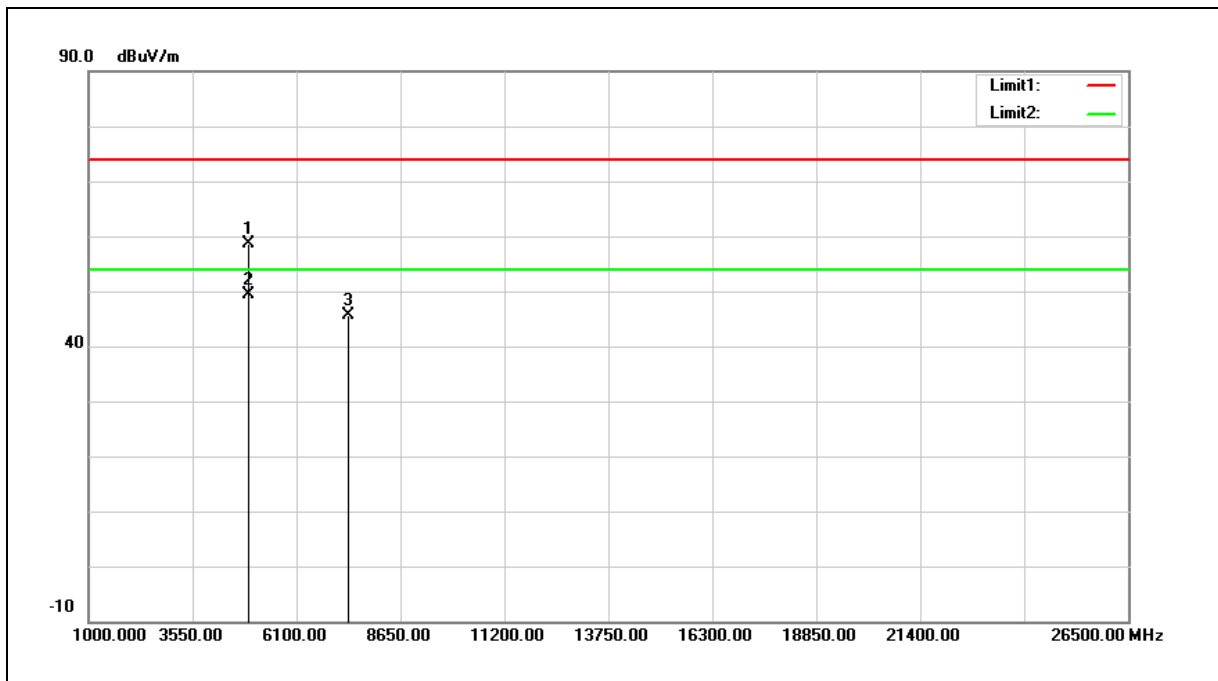
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4874.000	56.58	4.34	60.92	74.00	-13.08	peak
2	4874.000	44.94	4.34	49.28	54.00	-4.72	AVG
3	7311.000	35.25	10.61	45.86	74.00	-28.14	peak

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

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

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

Standard:	FCC Part 15.247	Test Distance:	3 m
Test item:	Harmonic	Power:	DC 20 V
Frequency:	2462 MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60 %RH
Mode:	Mode 3		
Ant.Polar.:	Horizontal		



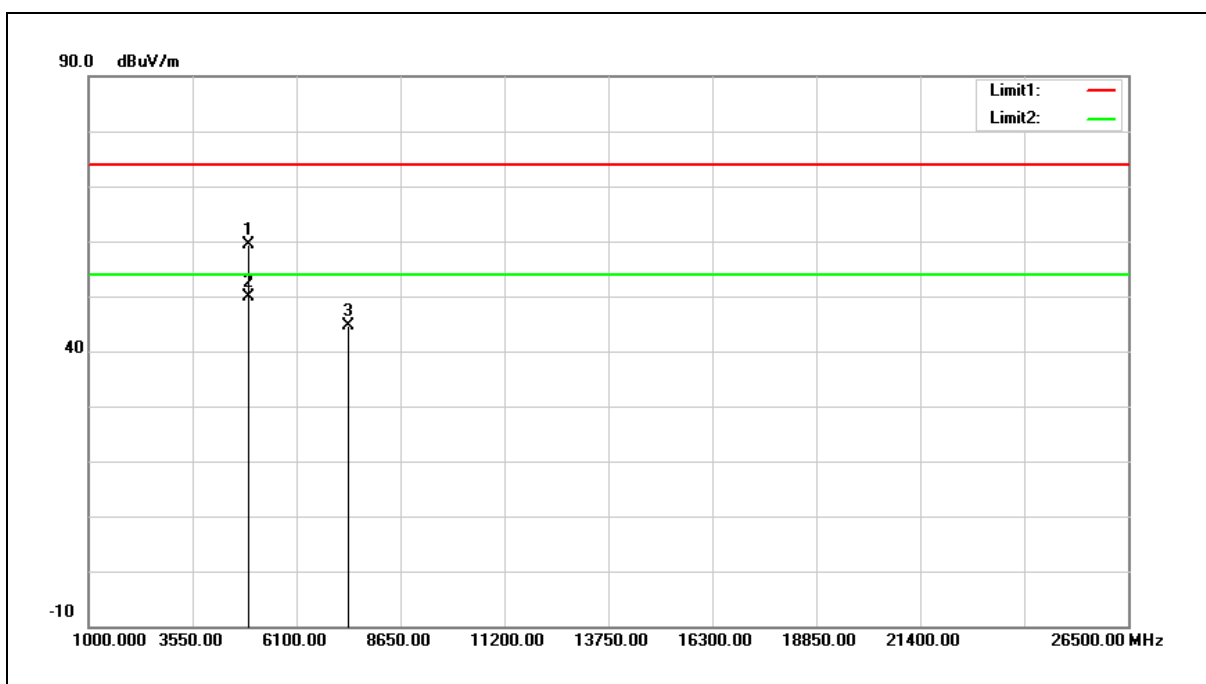
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4924.000	54.11	4.49	58.60	74.00	-15.40	peak
2	4924.000	44.78	4.49	49.27	54.00	-4.73	AVG
3	7386.000	34.80	10.85	45.65	74.00	-28.35	peak

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

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

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

Standard:	FCC Part 15.247	Test Distance:	3 m
Test item:	Harmonic	Power:	DC 20 V
Frequency:	2462 MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60 %RH
Mode:	Mode 3		
Ant.Polar.:	Vertical		



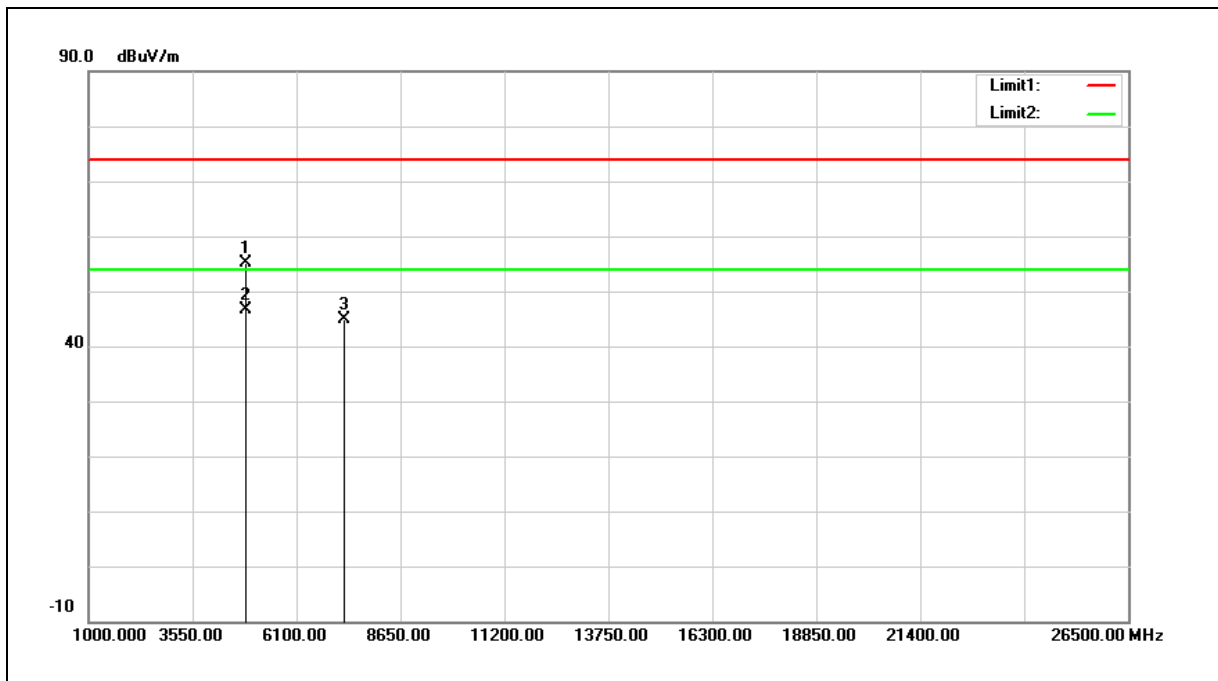
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4924.000	54.91	4.49	59.40	74.00	-14.60	peak
2	4924.000	45.47	4.49	49.96	54.00	-4.04	AVG
3	7386.000	33.72	10.85	44.57	74.00	-29.43	peak

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

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

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

Standard:	FCC Part 15.247	Test Distance:	3 m
Test item:	Harmonic	Power:	DC 20 V
Frequency:	2422 MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60 %RH
Mode:	Mode 4		
Ant.Polar.:	Horizontal		



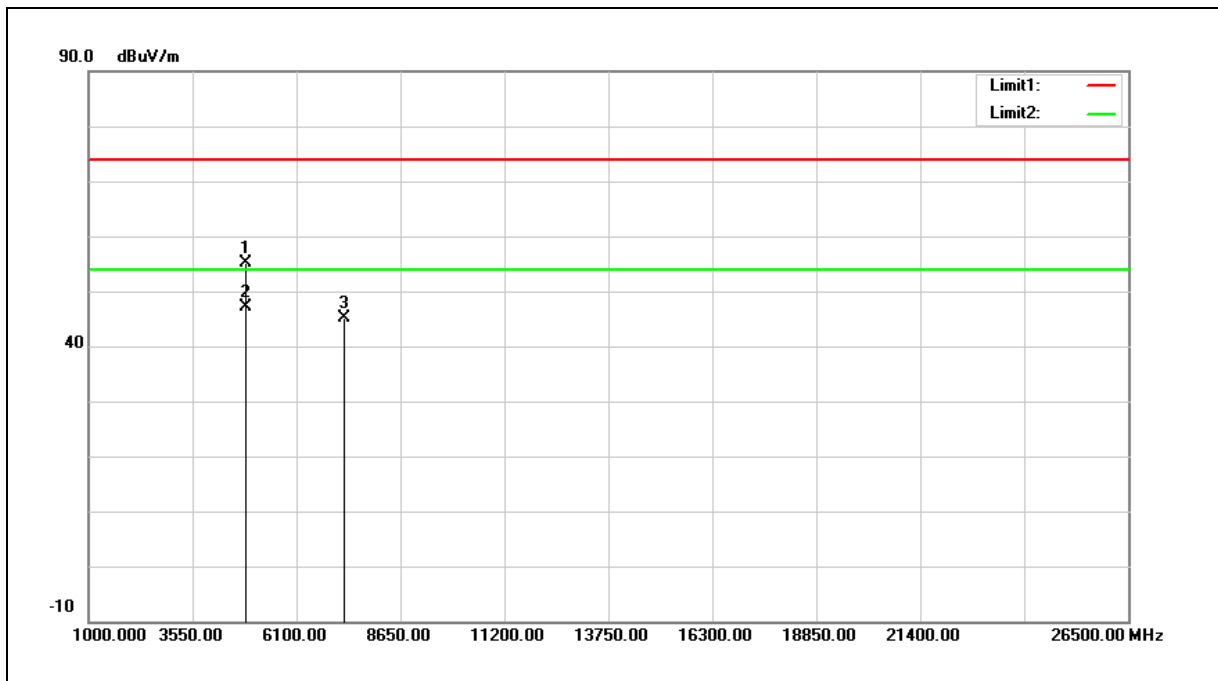
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4844.000	50.89	4.26	55.15	74.00	-18.85	peak
2	4844.000	42.49	4.26	46.75	54.00	-7.25	AVG
3	7266.000	34.41	10.48	44.89	74.00	-29.11	peak

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

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

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

Standard:	FCC Part 15.247	Test Distance:	3 m
Test item:	Harmonic	Power:	DC 20 V
Frequency:	2422 MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60 %RH
Mode:	Mode 4		
Ant.Polar.:	Vertical		



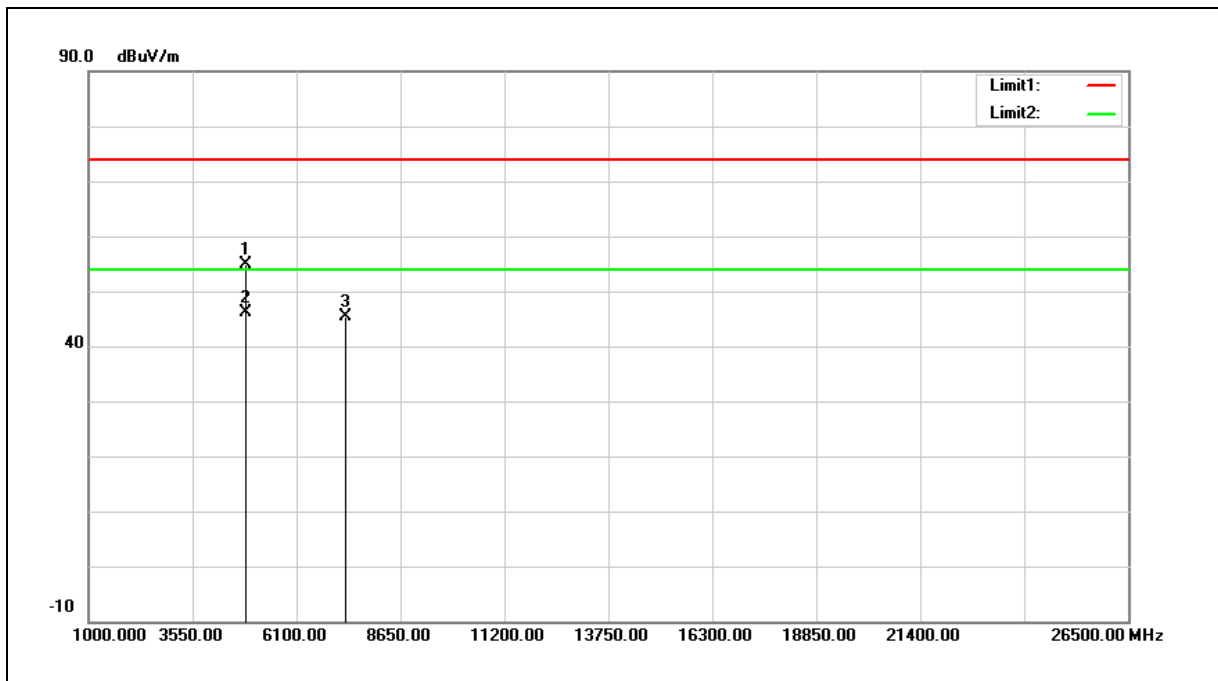
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4844.000	50.91	4.26	55.17	74.00	-18.83	peak
2	4844.000	42.91	4.26	47.17	54.00	-6.83	AVG
3	7266.000	34.76	10.48	45.24	74.00	-28.76	peak

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

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

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

Standard:	FCC Part 15.247	Test Distance:	3 m
Test item:	Harmonic	Power:	DC 20 V
Frequency:	2437 MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60 %RH
Mode:	Mode 4		
Ant.Polar.:	Horizontal		



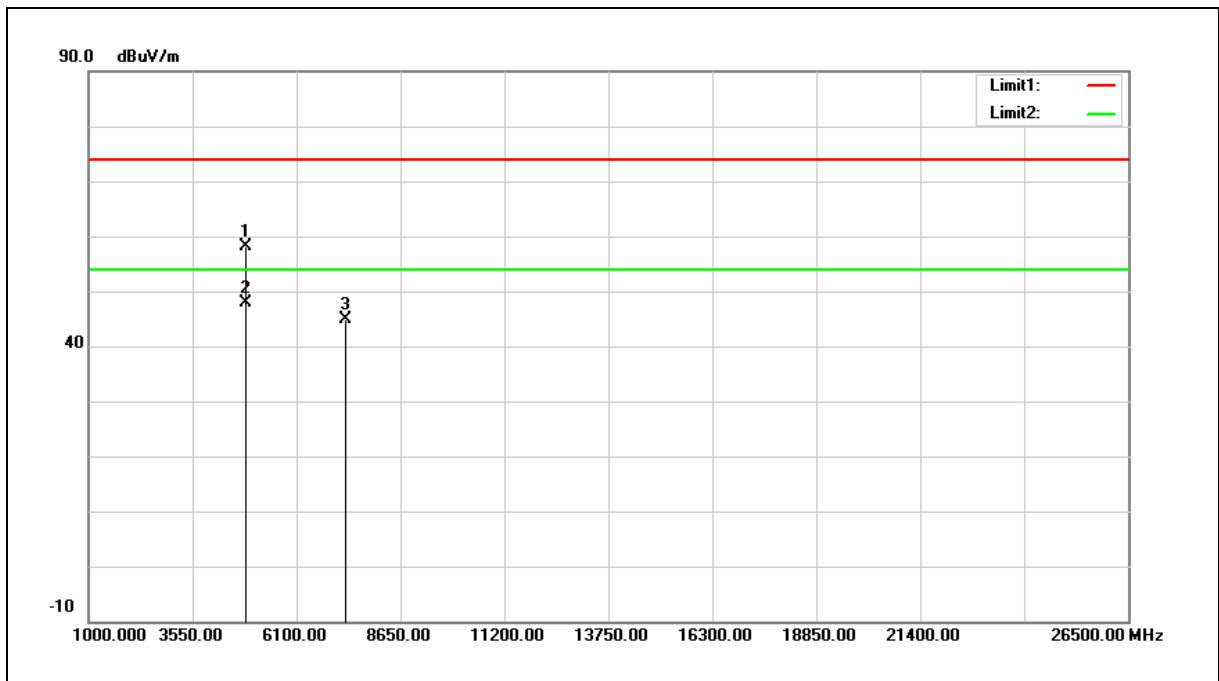
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4874.000	50.54	4.34	54.88	74.00	-19.12	peak
2	4874.000	41.89	4.34	46.23	54.00	-7.77	AVG
3	7311.000	34.75	10.61	45.36	74.00	-28.64	peak

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

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

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

Standard:	FCC Part 15.247	Test Distance:	3 m
Test item:	Harmonic	Power:	DC 20 V
Frequency:	2437 MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60 %RH
Mode:	Mode 4		
Ant.Polar.:	Vertical		



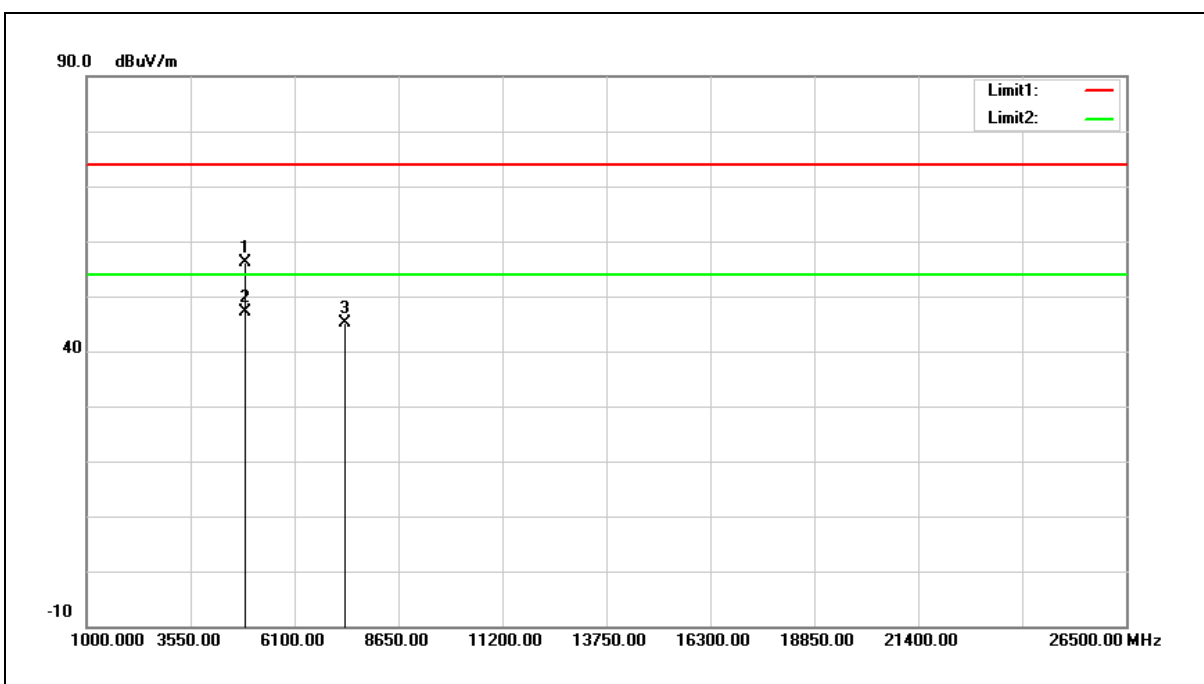
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4874.000	53.80	4.34	58.14	74.00	-15.86	peak
2	4874.000	43.46	4.34	47.80	54.00	-6.20	AVG
3	7311.000	34.17	10.61	44.78	74.00	-29.22	peak

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:	3 m
Test item:	Harmonic	Power:	DC 20 V
Frequency:	2452 MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60 %RH
Mode:	Mode 4		
Ant.Polar.:	Horizontal		



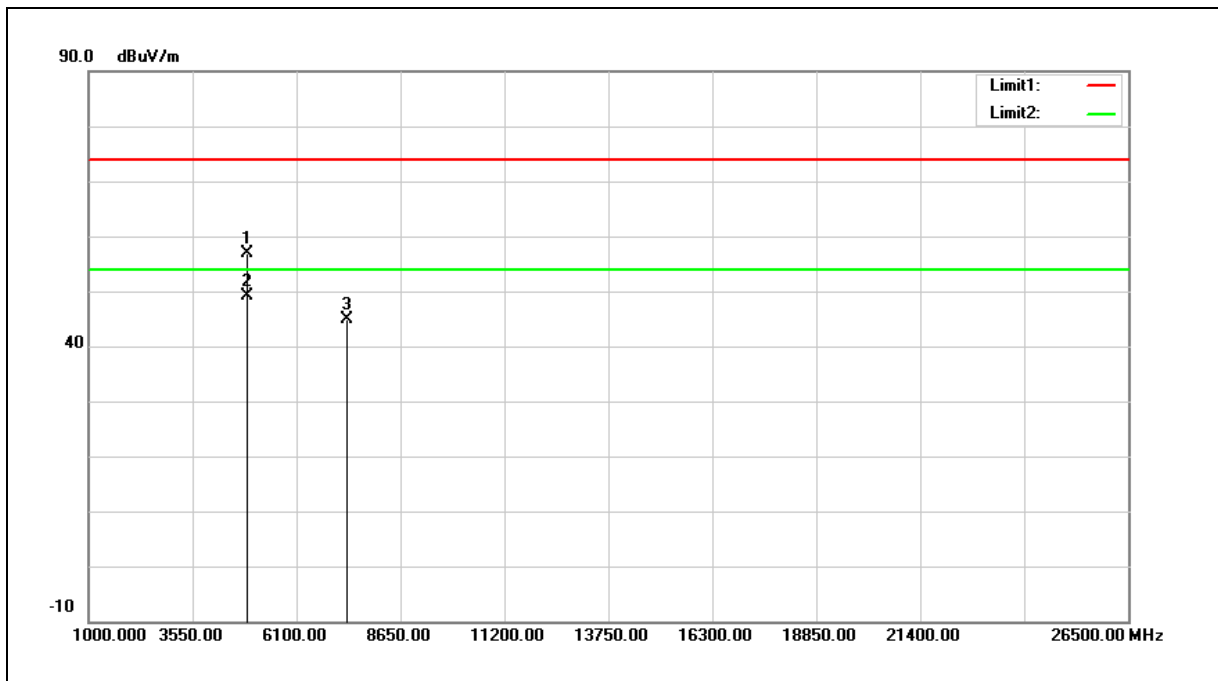
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4904.000	51.59	4.43	56.02	74.00	-17.98	peak
2	4904.000	42.72	4.43	47.15	54.00	-6.85	AVG
3	7356.000	34.49	10.75	45.24	74.00	-28.76	peak

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

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

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

Standard:	FCC Part 15.247	Test Distance:	3 m
Test item:	Harmonic	Power:	DC 20 V
Frequency:	2452 MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60 %RH
Mode:	Mode 4		
Ant.Polar.:	Vertical		



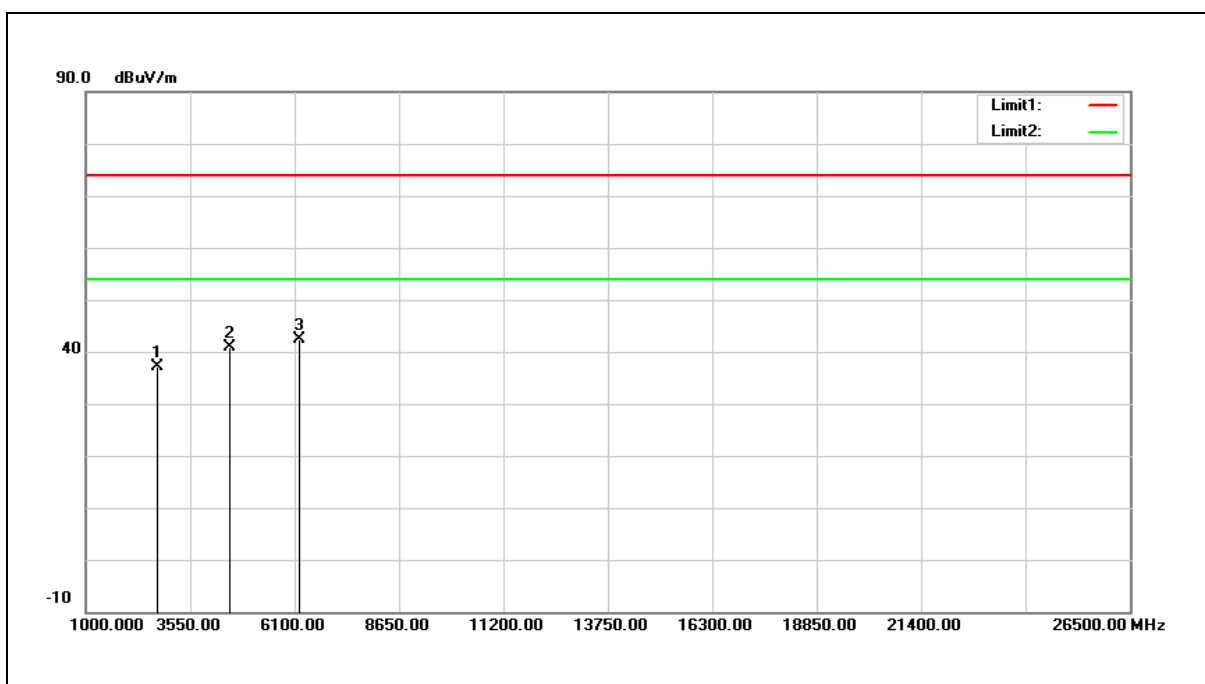
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4904.000	52.52	4.43	56.95	74.00	-17.05	peak
2	4904.000	44.63	4.43	49.06	54.00	-4.94	AVG
3	7356.000	34.19	10.75	44.94	74.00	-29.06	peak

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

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

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

Standard:	FCC Part 15.247	Test Distance:	3 m
Test item:	Harmonic	Power:	DC 20 V
Mode:	Simultaneous Transmitting (Bluetooth + WLAN 2.4 GHz)	Temp.(°C)/Hum.(%RH):	26(°C)/60 %RH
Ant.Polar.:	Horizontal		



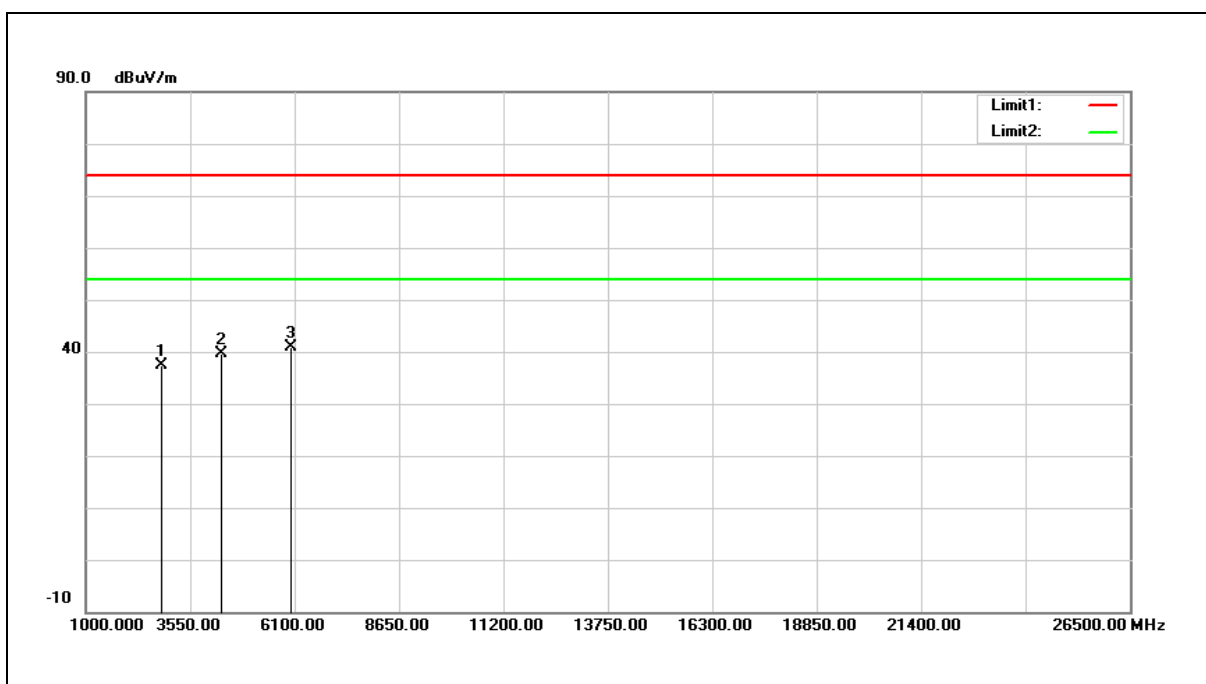
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2751.000	38.66	-1.45	37.21	74.00	-36.79	peak
2	4502.000	37.52	3.24	40.76	74.00	-33.24	peak
3	6202.000	34.74	7.54	42.28	74.00	-31.72	peak

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

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

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

Standard:	FCC Part 15.247	Test Distance:	3 m
Test item:	Harmonic	Power:	DC 20 V
Mode:	Simultaneous Transmitting (Bluetooth + WLAN 2.4 GHz)	Temp.(°C)/Hum.(%RH):	26(°C)/60 %RH
Ant.Polar.:	Vertical		



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2819.000	38.66	-1.24	37.42	74.00	-36.58	peak
2	4315.000	36.81	2.89	39.70	74.00	-34.30	peak
3	5998.000	33.85	6.94	40.79	74.00	-33.21	peak

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

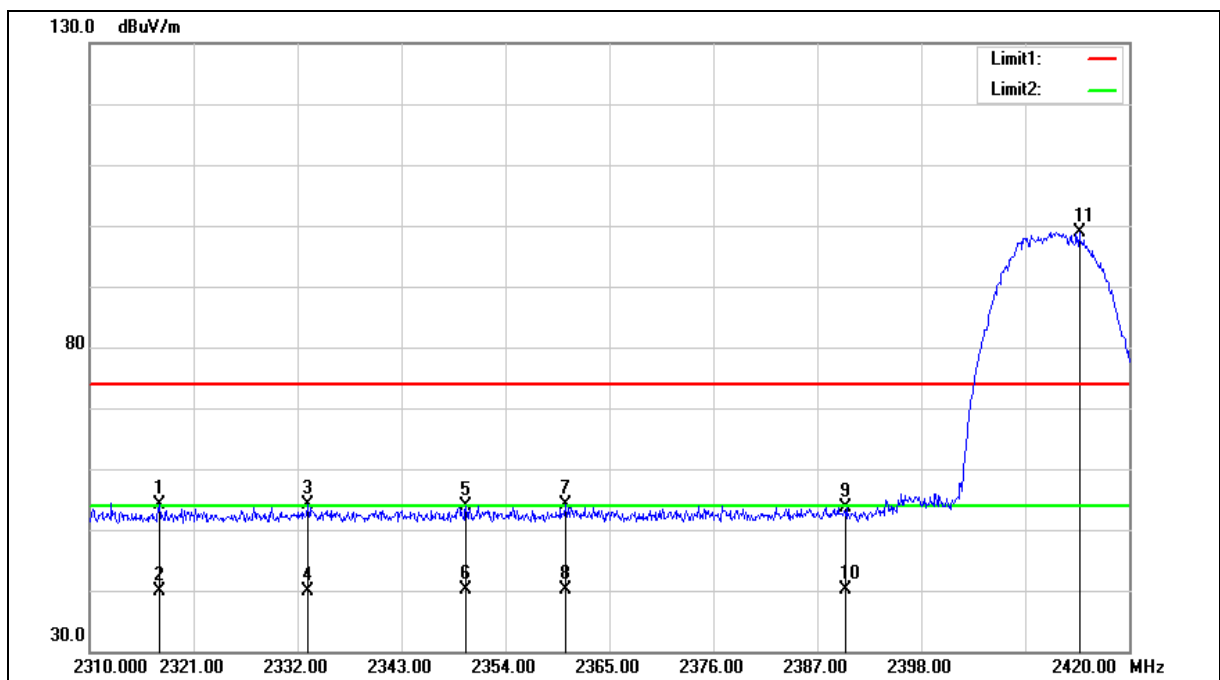
2.Correction factor (dB/m) = Antenna Factor (dB/m) + Cable loss (dB) – Pre-Amplifier gain (dB).

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:	3 m
Test item:	Band edge	Power:	DC 20 V
Frequency:	2412 MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60 %RH
Mode:	Mode 1		
Ant.Polar.:	Horizontal		





Standard:	FCC Part 15.247	Test Distance:	3 m
Test item:	Band edge	Power:	DC 20 V
Frequency:	2412 MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60 %RH
Mode:	Mode 1		
Ant.Polar.:	Horizontal		

No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2317.370	57.23	-3.10	54.13	74.00	-19.87	peak
2	2317.370	42.92	-3.10	39.82	54.00	-14.18	AVG
3	2333.100	57.14	-3.03	54.11	74.00	-19.89	peak
4	2333.100	42.98	-3.03	39.95	54.00	-14.05	AVG
5	2349.820	56.93	-2.94	53.99	74.00	-20.01	peak
6	2349.820	43.05	-2.94	40.11	54.00	-13.89	AVG
7	2360.380	56.97	-2.88	54.09	74.00	-19.91	peak
8	2360.380	42.94	-2.88	40.06	54.00	-13.94	AVG
9	2390.000	56.26	-2.73	53.53	74.00	-20.47	peak
10	2390.000	42.91	-2.73	40.18	54.00	-13.82	AVG
11	2414.720	101.51	-2.61	98.90	--	--	peak

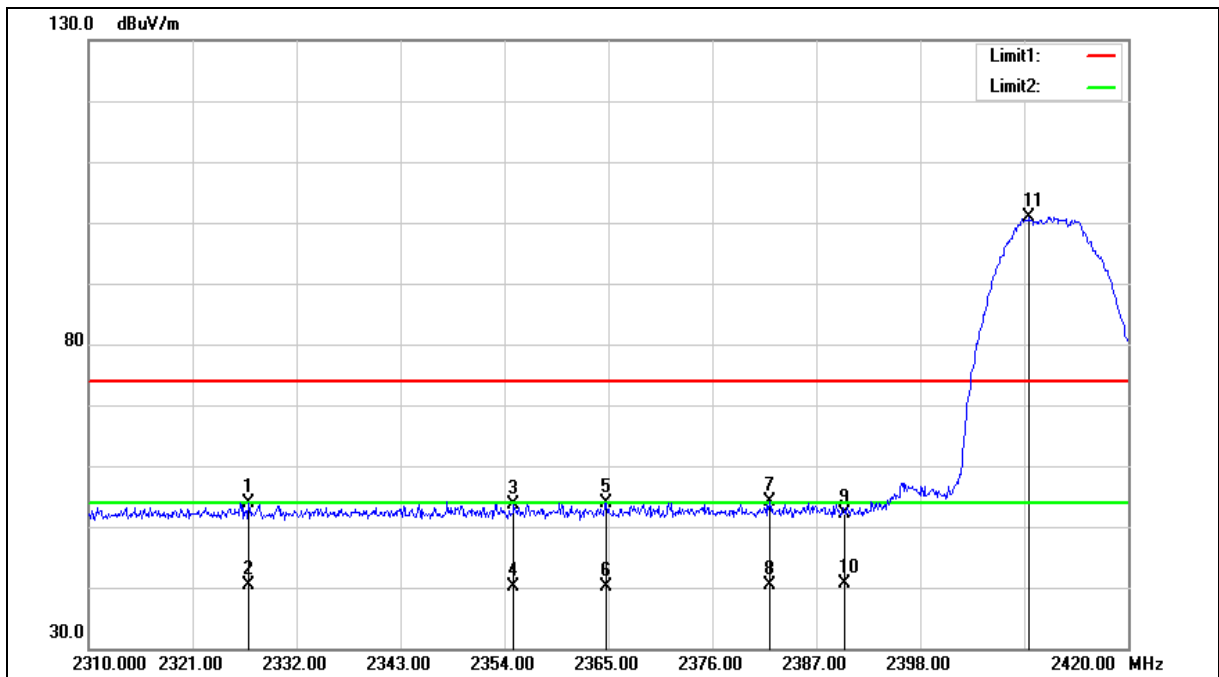
Note:1.Result (dBuV/m) = Correct Factor (dB/m) + Reading(dBuV).

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:	3 m
Test item:	Band edge	Power:	DC 20 V
Frequency:	2412 MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60 %RH
Mode:	Mode 1		
Ant.Polar.:	Vertical		



Standard:	FCC Part 15.247	Test Distance:	3 m
Test item:	Band edge	Power:	DC 20 V
Frequency:	2412 MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60 %RH
Mode:	Mode 1		
Ant.Polar.:	Vertical		

No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2326.940	57.05	-3.06	53.99	74.00	-20.01	peak
2	2326.940	43.32	-3.06	40.26	54.00	-13.74	AVG
3	2354.990	56.64	-2.91	53.73	74.00	-20.27	peak
4	2354.990	43.05	-2.91	40.14	54.00	-13.86	AVG
5	2364.780	56.71	-2.86	53.85	74.00	-20.15	peak
6	2364.780	43.03	-2.86	40.17	54.00	-13.83	AVG
7	2382.050	56.86	-2.77	54.09	74.00	-19.91	peak
8	2382.050	43.16	-2.77	40.39	54.00	-13.61	AVG
9	2390.000	54.88	-2.73	52.15	74.00	-21.85	peak
10	2390.000	43.33	-2.73	40.60	54.00	-13.40	AVG
11	2409.550	103.46	-2.64	100.82	--	--	peak

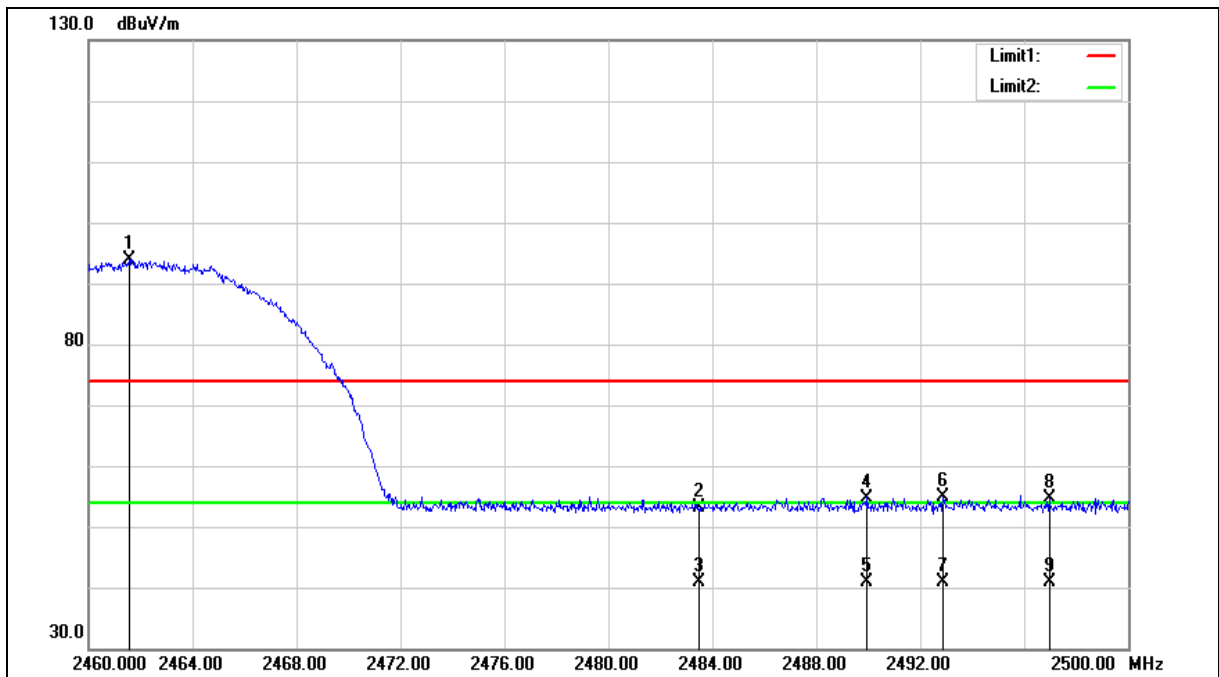
Note:1.Result (dBuV/m) = Correct Factor (dB/m) + Reading(dBuV).

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

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



Standard:	FCC Part 15.247	Test Distance:	3 m
Test item:	Band edge	Power:	DC 20 V
Frequency:	2462 MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60 %RH
Mode:	Mode 1		
Ant.Polar.:	Horizontal		



Standard:	FCC Part 15.247	Test Distance:	3 m
Test item:	Band edge	Power:	DC 20 V
Frequency:	2462 MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60 %RH
Mode:	Mode 1		
Ant.Polar.:	Horizontal		

No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2461.560	96.35	-2.38	93.97	--	--	peak
2	2483.500	55.43	-2.27	53.16	74.00	-20.84	peak
3	2483.500	43.06	-2.27	40.79	54.00	-13.21	AVG
4	2489.960	56.98	-2.23	54.75	74.00	-19.25	peak
5	2489.960	43.05	-2.23	40.82	54.00	-13.18	AVG
6	2492.880	56.99	-2.21	54.78	74.00	-19.22	peak
7	2492.880	42.97	-2.21	40.76	54.00	-13.24	AVG
8	2496.960	56.93	-2.20	54.73	74.00	-19.27	peak
9	2496.960	43.11	-2.20	40.91	54.00	-13.09	AVG

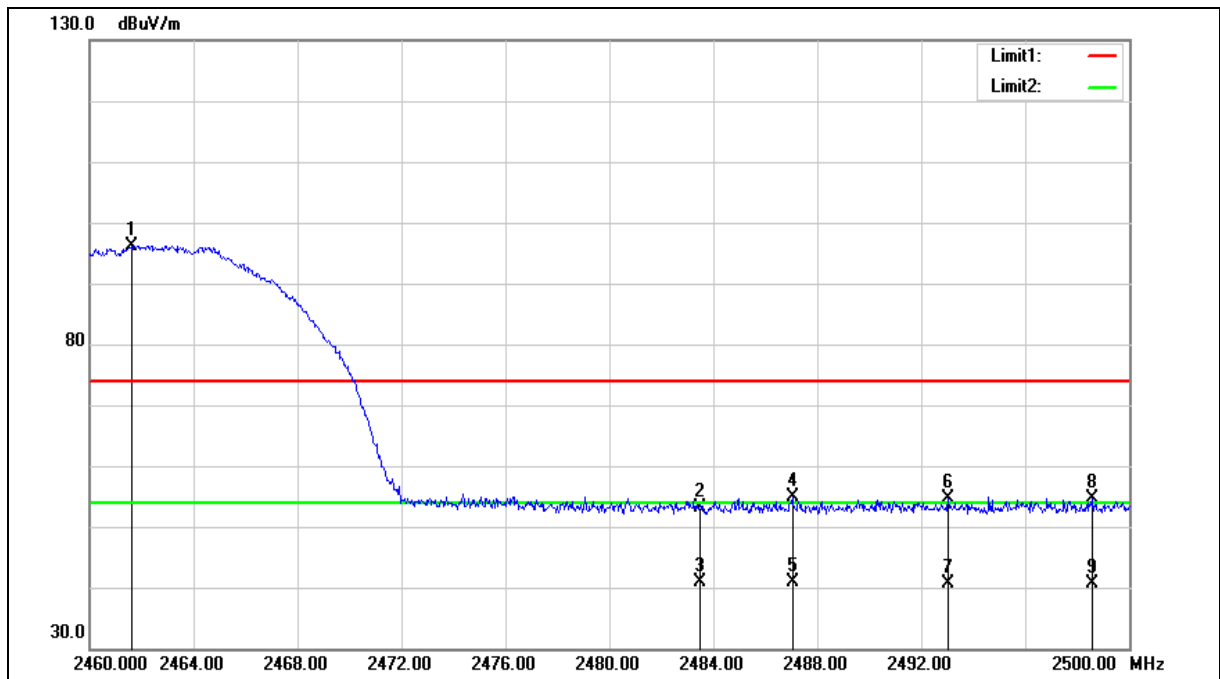
Note:1.Result (dBuV/m) = Correct Factor (dB/m) + Reading(dBuV).

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:	3 m
Test item:	Band edge	Power:	DC 20 V
Frequency:	2462 MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60 %RH
Mode:	Mode 1		
Ant.Polar.:	Vertical		



Standard:	FCC Part 15.247	Test Distance:	3 m
Test item:	Band edge	Power:	DC 20 V
Frequency:	2462 MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60 %RH
Mode:	Mode 1		
Ant.Polar.:	Vertical		

No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2461.640	98.58	-2.38	96.20	--	--	peak
2	2483.500	55.35	-2.27	53.08	74.00	-20.92	peak
3	2483.500	43.16	-2.27	40.89	54.00	-13.11	AVG
4	2487.040	57.09	-2.24	54.85	74.00	-19.15	peak
5	2487.040	43.04	-2.24	40.80	54.00	-13.20	AVG
6	2493.040	56.72	-2.21	54.51	74.00	-19.49	peak
7	2493.040	42.94	-2.21	40.73	54.00	-13.27	AVG
8	2498.600	56.74	-2.18	54.56	74.00	-19.44	peak
9	2498.600	42.84	-2.18	40.66	54.00	-13.34	AVG

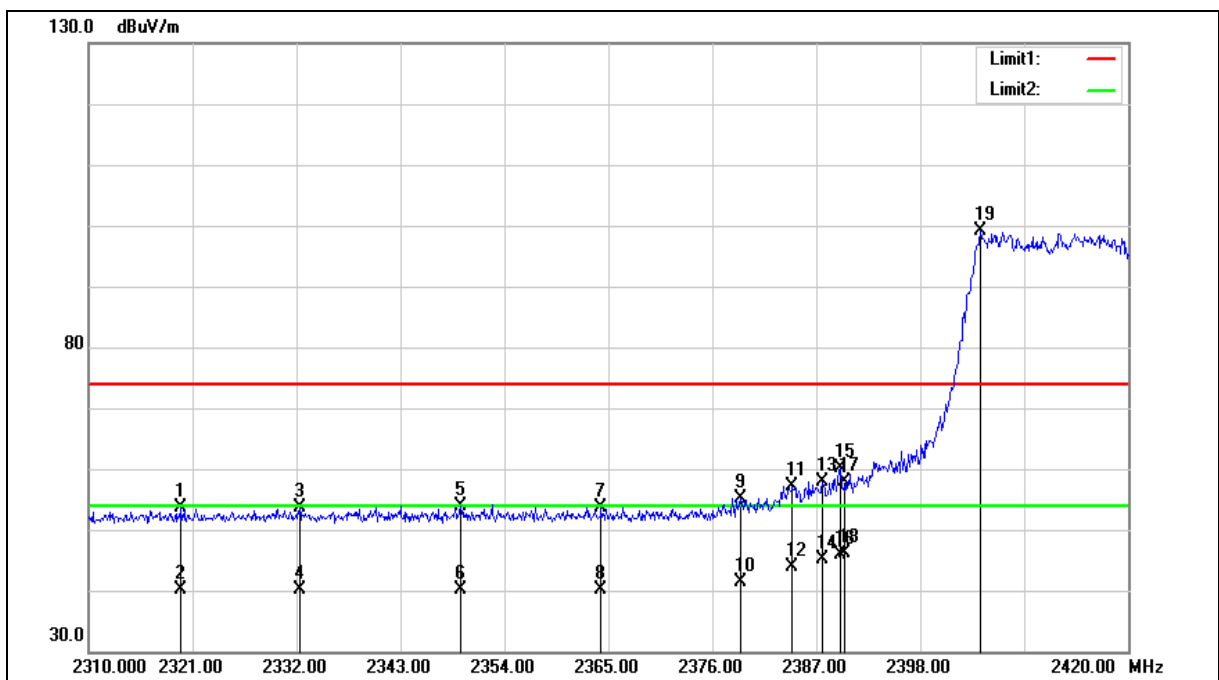
Note:1.Result (dBuV/m) = Correct Factor (dB/m) + Reading(dBuV).

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:	3 m
Test item:	Band edge	Power:	DC 20 V
Frequency:	2412 MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60 %RH
Mode:	Mode 2		
Ant.Polar.:	Horizontal		



Standard:	FCC Part 15.247	Test Distance:	3 m
Test item:	Band edge	Power:	DC 20 V
Frequency:	2412 MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60 %RH
Mode:	Mode 2		
Ant.Polar.:	Horizontal		

No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2319.790	56.64	-3.09	53.55	74.00	-20.45	peak
2	2319.790	43.11	-3.09	40.02	54.00	-13.98	AVG
3	2332.330	56.66	-3.03	53.63	74.00	-20.37	peak
4	2332.330	43.17	-3.03	40.14	54.00	-13.86	AVG
5	2349.380	56.92	-2.94	53.98	74.00	-20.02	peak
6	2349.380	43.05	-2.94	40.11	54.00	-13.89	AVG
7	2364.230	56.53	-2.86	53.67	74.00	-20.33	peak
8	2364.230	43.08	-2.86	40.22	54.00	-13.78	AVG
9	2378.970	57.85	-2.79	55.06	74.00	-18.94	peak
10	2378.970	44.08	-2.79	41.29	54.00	-12.71	AVG
11	2384.470	59.77	-2.76	57.01	74.00	-16.99	peak
12	2384.470	46.57	-2.76	43.81	54.00	-10.19	AVG
13	2387.660	60.71	-2.74	57.97	74.00	-16.03	peak
14	2387.660	47.79	-2.74	45.05	54.00	-8.95	AVG
15	2389.530	62.79	-2.74	60.05	74.00	-13.95	peak
16	2389.530	48.67	-2.74	45.93	54.00	-8.07	AVG
17	2390.000	60.63	-2.73	57.90	74.00	-16.10	peak
18	2390.000	48.81	-2.73	46.08	54.00	-7.92	AVG
19	2404.380	101.77	-2.66	99.11	--	--	peak

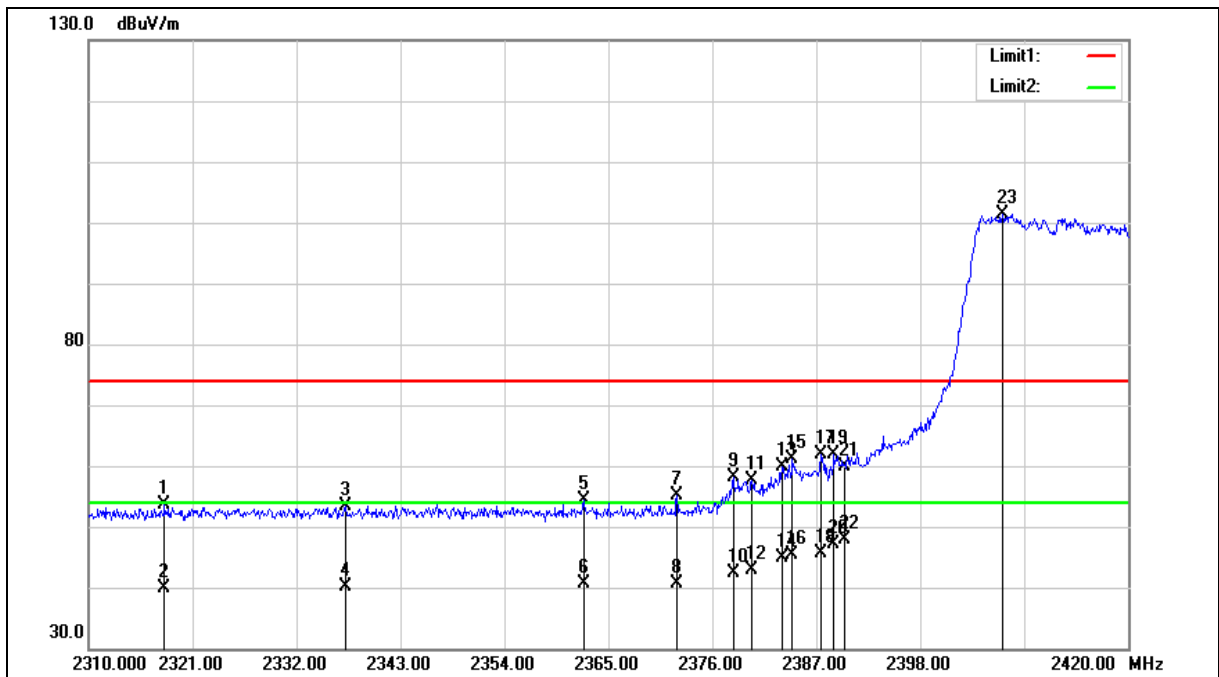
Note:1.Result (dBuV/m) = Correct Factor (dB/m) + Reading(dBuV).

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

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



Standard:	FCC Part 15.247	Test Distance:	3 m
Test item:	Band edge	Power:	DC 20 V
Frequency:	2412 MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60 %RH
Mode:	Mode 2		
Ant.Polar.:	Vertical		





Standard:	FCC Part 15.247	Test Distance:	3 m
Test item:	Band edge	Power:	DC 20 V
Frequency:	2412 MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60 %RH
Mode:	Mode 2		
Ant.Polar.:	Vertical		

No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2318.030	56.82	-3.10	53.72	74.00	-20.28	peak
2	2318.030	43.08	-3.10	39.98	54.00	-14.02	AVG
3	2337.170	56.28	-3.00	53.28	74.00	-20.72	peak
4	2337.170	43.13	-3.00	40.13	54.00	-13.87	AVG
5	2362.360	57.25	-2.88	54.37	74.00	-19.63	peak
6	2362.360	43.41	-2.88	40.53	54.00	-13.47	AVG
7	2372.260	58.04	-2.82	55.22	74.00	-18.78	peak
8	2372.260	43.42	-2.82	40.60	54.00	-13.40	AVG
9	2378.200	60.92	-2.79	58.13	74.00	-15.87	peak
10	2378.200	45.16	-2.79	42.37	54.00	-11.63	AVG
11	2380.180	60.37	-2.79	57.58	74.00	-16.42	peak
12	2380.180	45.70	-2.79	42.91	54.00	-11.09	AVG
13	2383.370	62.66	-2.77	59.89	74.00	-14.11	peak
14	2383.370	47.59	-2.77	44.82	54.00	-9.18	AVG
15	2384.470	63.81	-2.76	61.05	74.00	-12.95	peak
16	2384.470	48.13	-2.76	45.37	54.00	-8.63	AVG
17	2387.440	64.65	-2.74	61.91	74.00	-12.09	peak
18	2387.440	48.27	-2.74	45.53	54.00	-8.47	AVG
19	2388.870	64.66	-2.74	61.92	74.00	-12.08	peak
20	2388.870	49.94	-2.74	47.20	54.00	-6.80	AVG
21	2390.000	62.73	-2.73	60.00	74.00	-14.00	peak
22	2390.000	50.52	-2.73	47.79	54.00	-6.21	AVG
23	2406.690	104.10	-2.65	101.45	--	--	peak

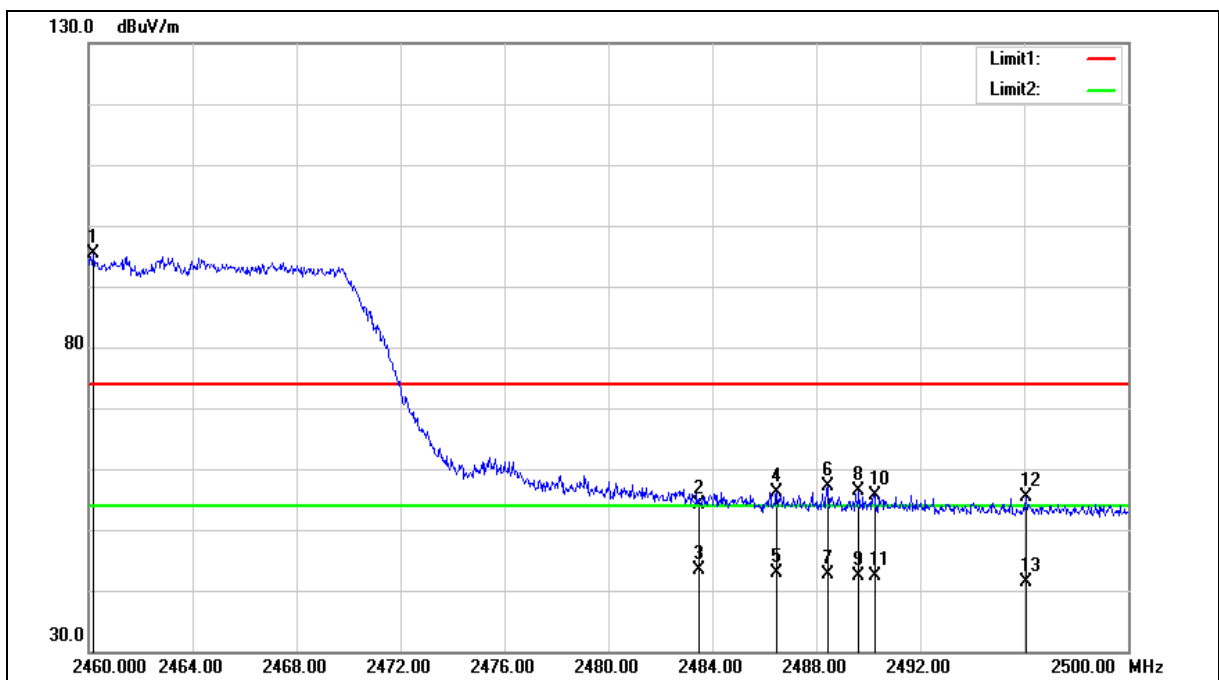
Note:1.Result (dBuV/m) = Correct Factor (dB/m) + Reading(dBuV).

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 15.247	Test Distance:	3 m
Test item:	Band edge	Power:	DC 20 V
Frequency:	2462 MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60 %RH
Mode:	Mode 2		
Ant.Polar.:	Horizontal		



Standard:	FCC Part 15.247	Test Distance:	3 m
Test item:	Band edge	Power:	DC 20 V
Frequency:	2462 MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60 %RH
Mode:	Mode 2		
Ant.Polar.:	Horizontal		

No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2460.160	97.69	-2.39	95.30	--	--	peak
2	2483.500	56.46	-2.27	54.19	74.00	-19.81	peak
3	2483.500	45.53	-2.27	43.26	54.00	-10.74	AVG
4	2486.480	58.38	-2.25	56.13	74.00	-17.87	peak
5	2486.480	45.13	-2.25	42.88	54.00	-11.12	AVG
6	2488.440	59.46	-2.24	57.22	74.00	-16.78	peak
7	2488.440	44.88	-2.24	42.64	54.00	-11.36	AVG
8	2489.640	58.55	-2.24	56.31	74.00	-17.69	peak
9	2489.640	44.73	-2.24	42.49	54.00	-11.51	AVG
10	2490.240	57.89	-2.23	55.66	74.00	-18.34	peak
11	2490.240	44.59	-2.23	42.36	54.00	-11.64	AVG
12	2496.080	57.68	-2.20	55.48	74.00	-18.52	peak
13	2496.080	43.59	-2.20	41.39	54.00	-12.61	AVG

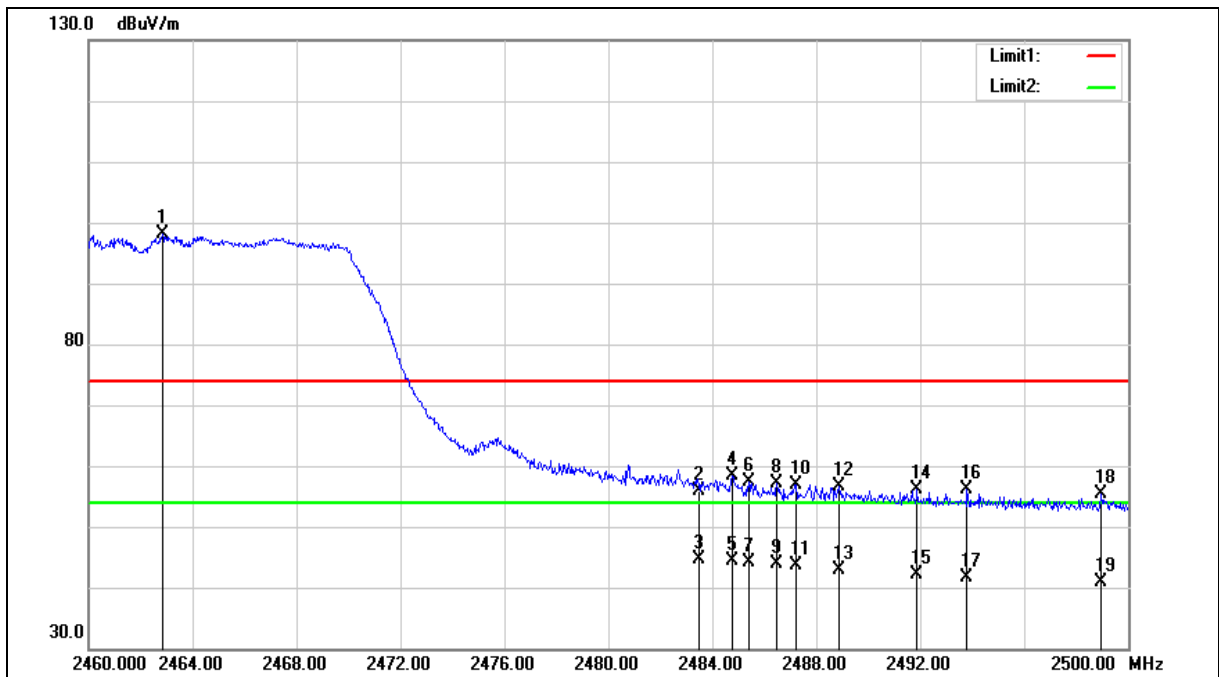
Note:1.Result (dBuV/m) = Correct Factor (dB/m) + Reading(dBuV).

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:	3 m
Test item:	Band edge	Power:	DC 20 V
Frequency:	2462 MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60 %RH
Mode:	Mode 2		
Ant.Polar.:	Vertical		



Standard:	FCC Part 15.247	Test Distance:	3 m
Test item:	Band edge	Power:	DC 20 V
Frequency:	2462 MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60 %RH
Mode:	Mode 2		
Ant.Polar.:	Vertical		

No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2462.840	100.39	-2.37	98.02	--	--	peak
2	2483.500	58.24	-2.27	55.97	74.00	-18.03	peak
3	2483.500	46.83	-2.27	44.56	54.00	-9.44	AVG
4	2484.760	60.57	-2.26	58.31	74.00	-15.69	peak
5	2484.760	46.56	-2.26	44.30	54.00	-9.70	AVG
6	2485.400	59.72	-2.26	57.46	74.00	-16.54	peak
7	2485.400	46.31	-2.26	44.05	54.00	-9.95	AVG
8	2486.480	59.36	-2.25	57.11	74.00	-16.89	peak
9	2486.480	46.06	-2.25	43.81	54.00	-10.19	AVG
10	2487.240	59.11	-2.24	56.87	74.00	-17.13	peak
11	2487.240	45.82	-2.24	43.58	54.00	-10.42	AVG
12	2488.880	58.92	-2.24	56.68	74.00	-17.32	peak
13	2488.880	45.22	-2.24	42.98	54.00	-11.02	AVG
14	2491.880	58.39	-2.22	56.17	74.00	-17.83	peak
15	2491.880	44.37	-2.22	42.15	54.00	-11.85	AVG
16	2493.800	58.37	-2.21	56.16	74.00	-17.84	peak
17	2493.800	43.77	-2.21	41.56	54.00	-12.44	AVG
18	2498.960	57.49	-2.18	55.31	74.00	-18.69	peak
19	2498.960	43.17	-2.18	40.99	54.00	-13.01	AVG

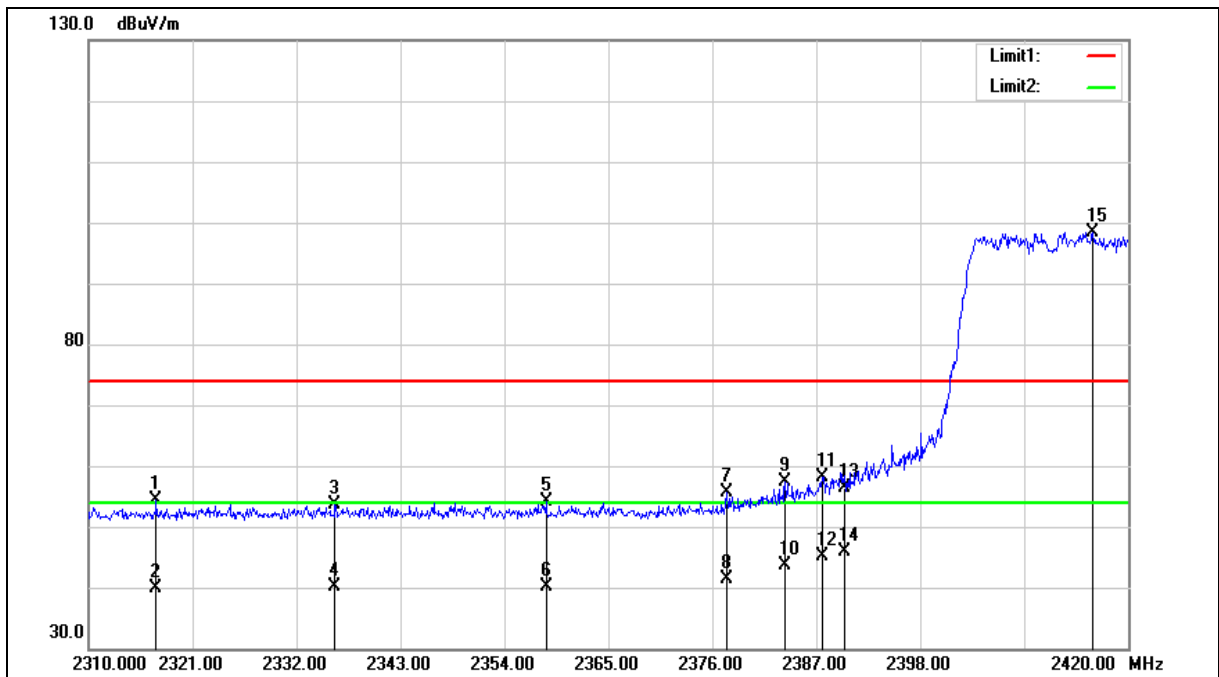
Note:1.Result (dBuV/m) = Correct Factor (dB/m) + Reading(dBuV).

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:	3 m
Test item:	Band edge	Power:	DC 20 V
Frequency:	2412 MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60 %RH
Mode:	Mode 3		
Ant.Polar.:	Horizontal		



Standard:	FCC Part 15.247	Test Distance:	3 m
Test item:	Band edge	Power:	DC 20 V
Frequency:	2412 MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60 %RH
Mode:	Mode 3		
Ant.Polar.:	Horizontal		

No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2317.150	57.49	-3.10	54.39	74.00	-19.61	peak
2	2317.150	43.00	-3.10	39.90	54.00	-14.10	AVG
3	2336.070	56.52	-3.01	53.51	74.00	-20.49	peak
4	2336.070	43.13	-3.01	40.12	54.00	-13.88	AVG
5	2358.400	57.03	-2.89	54.14	74.00	-19.86	peak
6	2358.400	43.08	-2.89	40.19	54.00	-13.81	AVG
7	2377.540	58.49	-2.80	55.69	74.00	-18.31	peak
8	2377.540	44.08	-2.80	41.28	54.00	-12.72	AVG
9	2383.700	60.16	-2.77	57.39	74.00	-16.61	peak
10	2383.700	46.38	-2.77	43.61	54.00	-10.39	AVG
11	2387.660	60.89	-2.74	58.15	74.00	-15.85	peak
12	2387.660	47.82	-2.74	45.08	54.00	-8.92	AVG
13	2390.000	59.03	-2.73	56.30	74.00	-17.70	peak
14	2390.000	48.57	-2.73	45.84	54.00	-8.16	AVG
15	2416.260	101.02	-2.59	98.43	--	--	peak

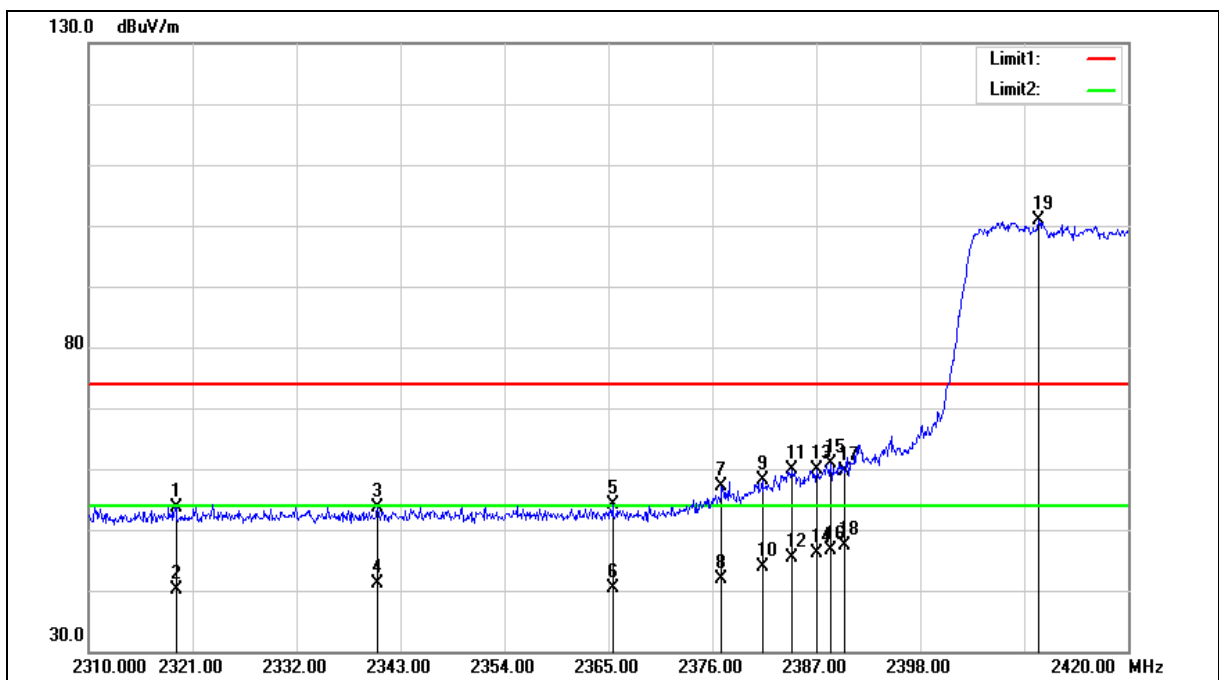
Note:1.Result (dBuV/m) = Correct Factor (dB/m) + Reading(dBuV).

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

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



Standard:	FCC Part 15.247	Test Distance:	3 m
Test item:	Band edge	Power:	DC 20 V
Frequency:	2412 MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60 %RH
Mode:	Mode 3		
Ant.Polar.:	Vertical		



Standard:	FCC Part 15.247	Test Distance:	3 m
Test item:	Band edge	Power:	DC 20 V
Frequency:	2412 MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60 %RH
Mode:	Mode 3		
Ant.Polar.:	Vertical		

No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2319.240	56.82	-3.09	53.73	74.00	-20.27	peak
2	2319.240	43.31	-3.09	40.22	54.00	-13.78	AVG
3	2340.580	56.66	-2.98	53.68	74.00	-20.32	peak
4	2340.580	44.06	-2.98	41.08	54.00	-12.92	AVG
5	2365.440	56.90	-2.86	54.04	74.00	-19.96	peak
6	2365.440	43.19	-2.86	40.33	54.00	-13.67	AVG
7	2376.990	59.86	-2.80	57.06	74.00	-16.94	peak
8	2376.990	44.69	-2.80	41.89	54.00	-12.11	AVG
9	2381.280	60.96	-2.77	58.19	74.00	-15.81	peak
10	2381.280	46.75	-2.77	43.98	54.00	-10.02	AVG
11	2384.360	62.53	-2.76	59.77	74.00	-14.23	peak
12	2384.360	48.10	-2.76	45.34	54.00	-8.66	AVG
13	2387.110	62.74	-2.74	60.00	74.00	-14.00	peak
14	2387.110	48.87	-2.74	46.13	54.00	-7.87	AVG
15	2388.540	63.51	-2.74	60.77	74.00	-13.23	peak
16	2388.540	49.47	-2.74	46.73	54.00	-7.27	AVG
17	2390.000	62.44	-2.73	59.71	74.00	-14.29	peak
18	2390.000	50.03	-2.73	47.30	54.00	-6.70	AVG
19	2410.540	103.38	-2.62	100.76	--	--	peak

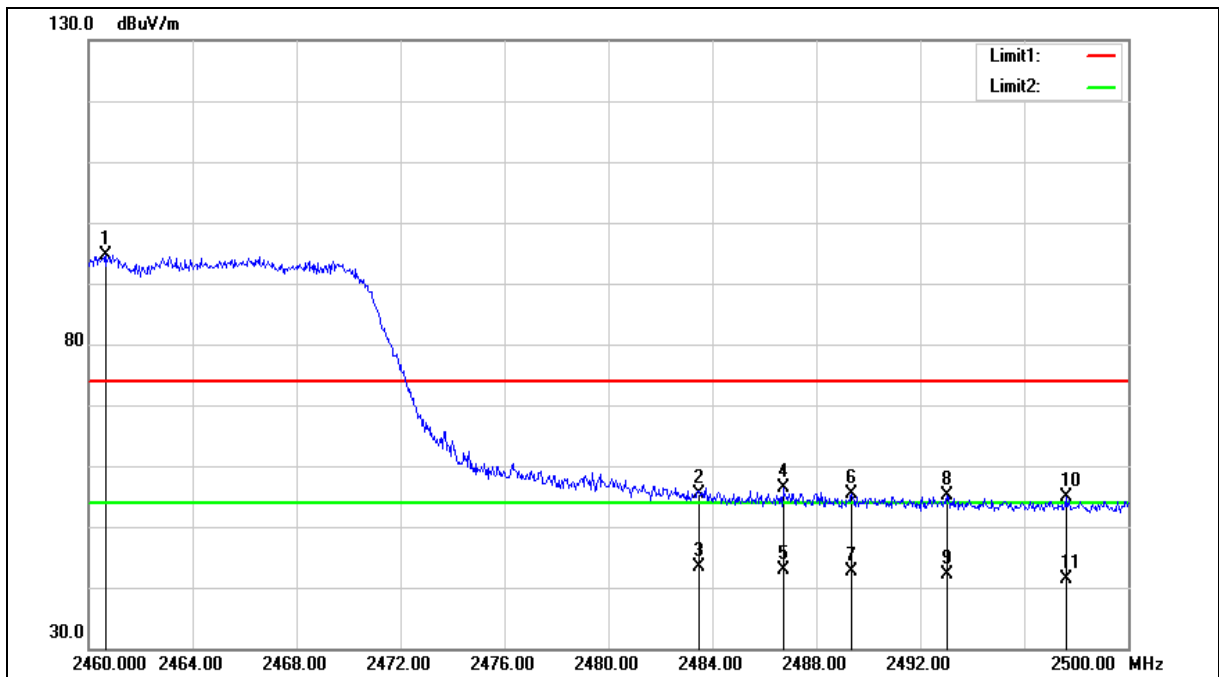
Note:1.Result (dBuV/m) = Correct Factor (dB/m) + Reading(dBuV).

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

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



Standard:	FCC Part 15.247	Test Distance:	3 m
Test item:	Band edge	Power:	DC 20 V
Frequency:	2462 MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60 %RH
Mode:	Mode 3		
Ant.Polar.:	Horizontal		





Standard:	FCC Part 15.247	Test Distance:	3 m
Test item:	Band edge	Power:	DC 20 V
Frequency:	2462 MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60 %RH
Mode:	Mode 3		
Ant.Polar.:	Horizontal		

No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2460.680	97.00	-2.38	94.62	--	--	peak
2	2483.500	57.62	-2.27	55.35	74.00	-18.65	peak
3	2483.500	45.67	-2.27	43.40	54.00	-10.60	AVG
4	2486.720	58.69	-2.25	56.44	74.00	-17.56	peak
5	2486.720	45.02	-2.25	42.77	54.00	-11.23	AVG
6	2489.360	57.59	-2.24	55.35	74.00	-18.65	peak
7	2489.360	44.75	-2.24	42.51	54.00	-11.49	AVG
8	2493.040	57.37	-2.21	55.16	74.00	-18.84	peak
9	2493.040	44.31	-2.21	42.10	54.00	-11.90	AVG
10	2497.600	57.00	-2.19	54.81	74.00	-19.19	peak
11	2497.600	43.46	-2.19	41.27	54.00	-12.73	AVG

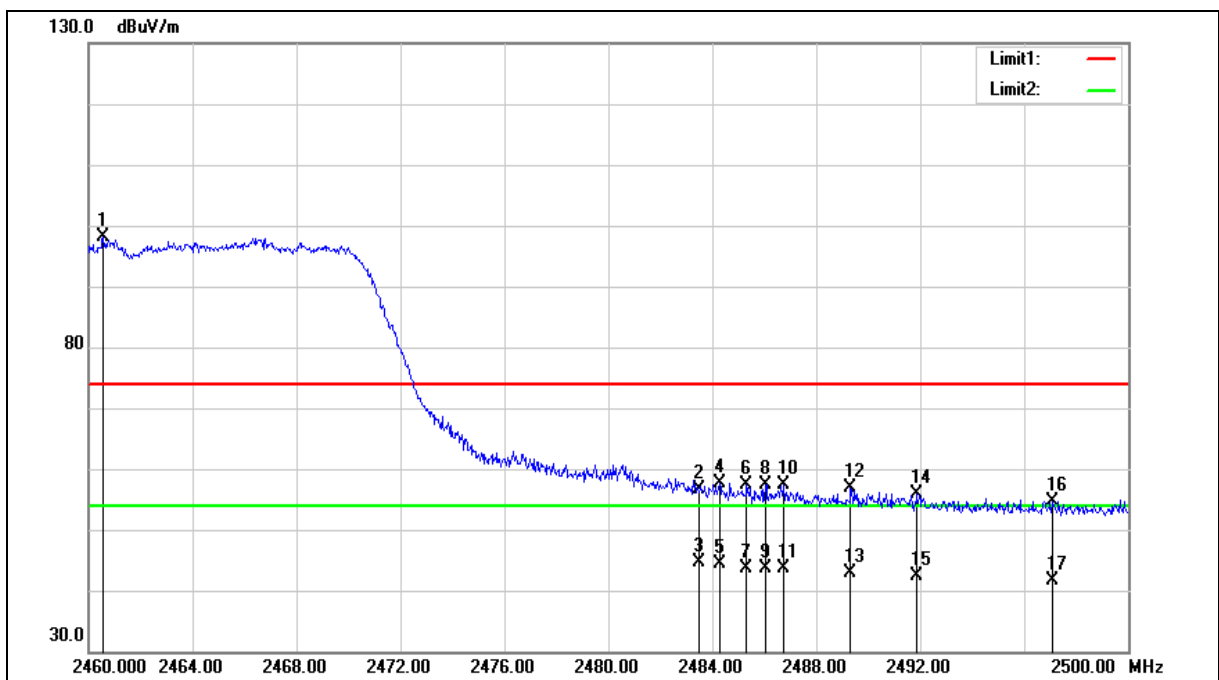
Note:1.Result (dBuV/m) = Correct Factor (dB/m) + Reading(dBuV).

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:	3 m
Test item:	Band edge	Power:	DC 20 V
Frequency:	2462 MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60 %RH
Mode:	Mode 3		
Ant.Polar.:	Vertical		





Standard:	FCC Part 15.247	Test Distance:	3 m
Test item:	Band edge	Power:	DC 20 V
Frequency:	2462 MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60 %RH
Mode:	Mode 3		
Ant.Polar.:	Vertical		

No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2460.560	100.44	-2.38	98.06	--	--	peak
2	2483.500	58.89	-2.27	56.62	74.00	-17.38	peak
3	2483.500	46.83	-2.27	44.56	54.00	-9.44	AVG
4	2484.280	59.86	-2.26	57.60	74.00	-16.40	peak
5	2484.280	46.60	-2.26	44.34	54.00	-9.66	AVG
6	2485.320	59.53	-2.26	57.27	74.00	-16.73	peak
7	2485.320	45.97	-2.26	43.71	54.00	-10.29	AVG
8	2486.040	59.54	-2.25	57.29	74.00	-16.71	peak
9	2486.040	45.90	-2.25	43.65	54.00	-10.35	AVG
10	2486.760	59.51	-2.25	57.26	74.00	-16.74	peak
11	2486.760	45.78	-2.25	43.53	54.00	-10.47	AVG
12	2489.320	59.09	-2.24	56.85	74.00	-17.15	peak
13	2489.320	45.10	-2.24	42.86	54.00	-11.14	AVG
14	2491.880	58.08	-2.22	55.86	74.00	-18.14	peak
15	2491.880	44.49	-2.22	42.27	54.00	-11.73	AVG
16	2497.080	56.85	-2.20	54.65	74.00	-19.35	peak
17	2497.080	43.77	-2.20	41.57	54.00	-12.43	AVG

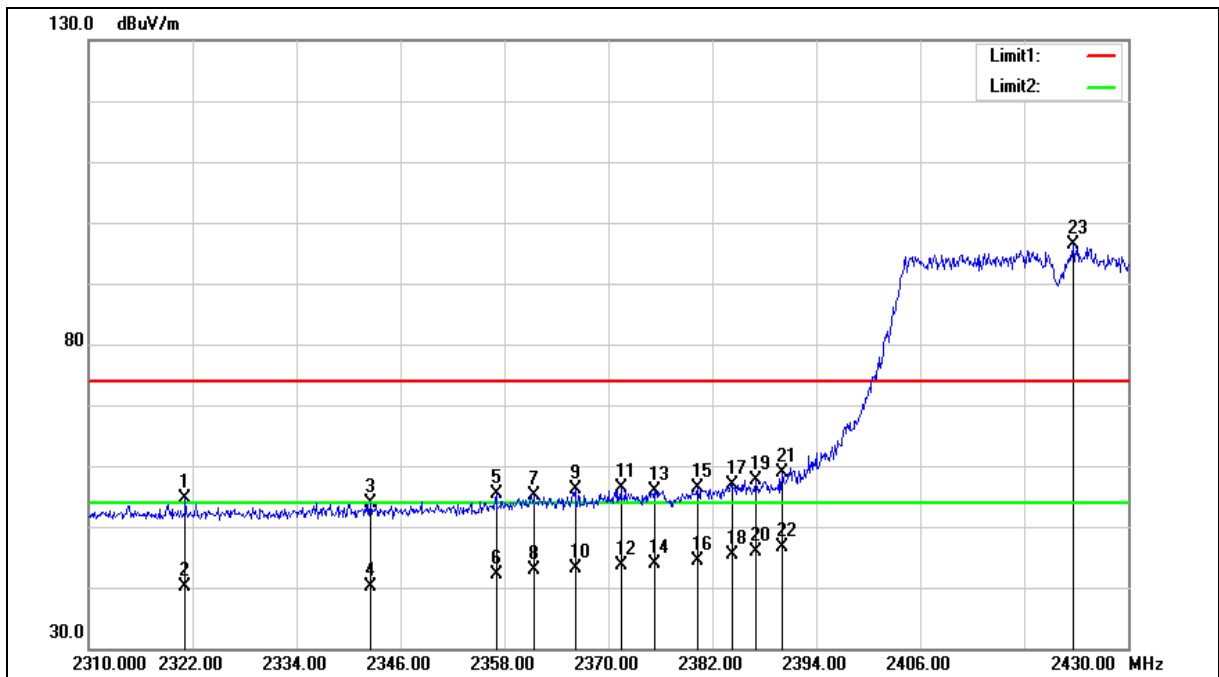
Note:1.Result (dBuV/m) = Correct Factor (dB/m) + Reading(dBuV).

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:	3 m
Test item:	Band edge	Power:	DC 20 V
Frequency:	2422 MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60 %RH
Mode:	Mode 4		
Ant.Polar.:	Horizontal		



Standard:	FCC Part 15.247	Test Distance:	3 m
Test item:	Band edge	Power:	DC 20 V
Frequency:	2422 MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60 %RH
Mode:	Mode 4		
Ant.Polar.:	Horizontal		

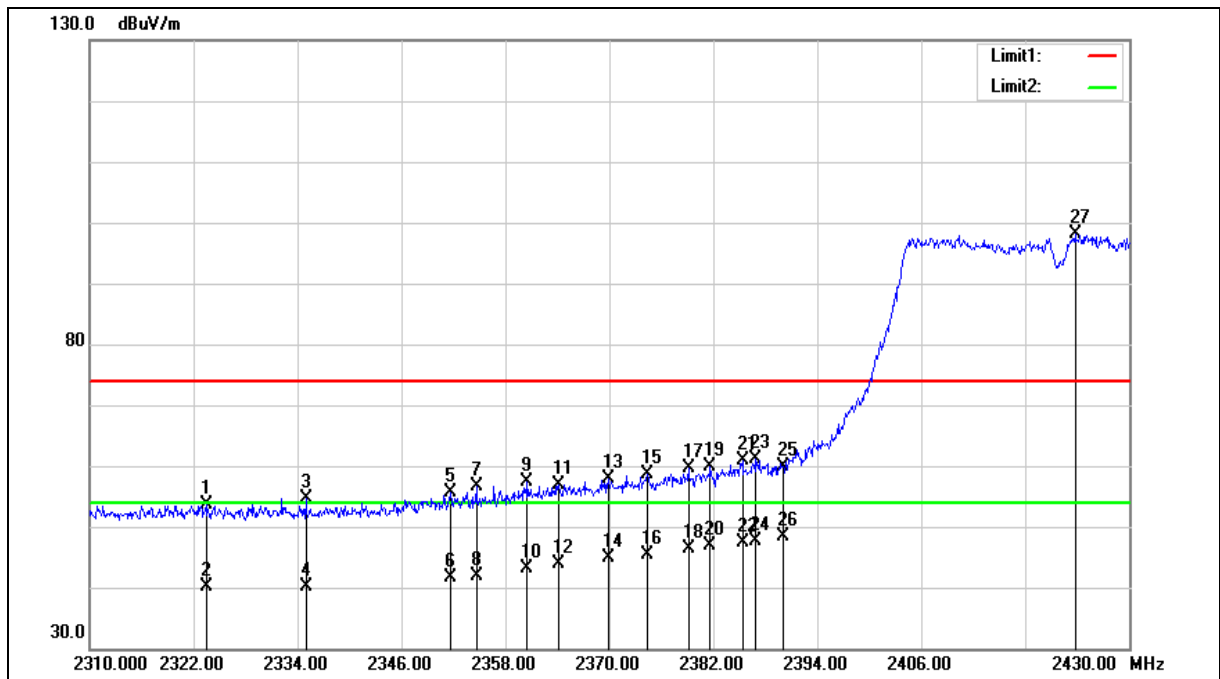
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2321.160	57.70	-3.09	54.61	74.00	-19.39	peak
2	2321.160	43.13	-3.09	40.04	54.00	-13.96	AVG
3	2342.520	56.82	-2.98	53.84	74.00	-20.16	peak
4	2342.520	43.21	-2.98	40.23	54.00	-13.77	AVG
5	2357.040	58.25	-2.91	55.34	74.00	-18.66	peak
6	2357.040	45.14	-2.91	42.23	54.00	-11.77	AVG
7	2361.360	57.98	-2.88	55.10	74.00	-18.90	peak
8	2361.360	45.79	-2.88	42.91	54.00	-11.09	AVG
9	2366.160	59.05	-2.86	56.19	74.00	-17.81	peak
10	2366.160	45.95	-2.86	43.09	54.00	-10.91	AVG
11	2371.440	59.12	-2.83	56.29	74.00	-17.71	peak
12	2371.440	46.51	-2.83	43.68	54.00	-10.32	AVG
13	2375.400	58.65	-2.80	55.85	74.00	-18.15	peak
14	2375.400	46.64	-2.80	43.84	54.00	-10.16	AVG
15	2380.320	59.07	-2.79	56.28	74.00	-17.72	peak
16	2380.320	47.15	-2.79	44.36	54.00	-9.64	AVG
17	2384.280	59.71	-2.76	56.95	74.00	-17.05	peak
18	2384.280	48.11	-2.76	45.35	54.00	-8.65	AVG
19	2387.040	60.37	-2.74	57.63	74.00	-16.37	peak
20	2387.040	48.66	-2.74	45.92	54.00	-8.08	AVG
21	2390.000	61.59	-2.73	58.86	74.00	-15.14	peak
22	2390.000	49.41	-2.73	46.68	54.00	-7.32	AVG
23	2423.640	98.93	-2.57	96.36	--	--	peak

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

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

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

Standard:	FCC Part 15.247	Test Distance:	3 m
Test item:	Band edge	Power:	DC 20 V
Frequency:	2422 MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60 %RH
Mode:	Mode 4		
Ant.Polar.:	Vertical		



Standard:	FCC Part 15.247	Test Distance:	3 m
Test item:	Band edge	Power:	DC 20 V
Frequency:	2422 MHz	Temp.(°C)/Hum. (%RH):	26(°C)/60 %RH
Mode:	Mode 4		
Ant.Polar.:	Vertical		

No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2323.440	56.76	-3.07	53.69	74.00	-20.31	peak
2	2323.440	43.18	-3.07	40.11	54.00	-13.89	AVG
3	2334.960	57.71	-3.01	54.70	74.00	-19.30	peak
4	2334.960	43.22	-3.01	40.21	54.00	-13.79	AVG
5	2351.640	58.46	-2.93	55.53	74.00	-18.47	peak
6	2351.640	44.62	-2.93	41.69	54.00	-12.31	AVG
7	2354.640	59.58	-2.91	56.67	74.00	-17.33	peak
8	2354.640	44.83	-2.91	41.92	54.00	-12.08	AVG
9	2360.520	60.19	-2.88	57.31	74.00	-16.69	peak
10	2360.520	46.02	-2.88	43.14	54.00	-10.86	AVG
11	2364.120	59.66	-2.86	56.80	74.00	-17.20	peak
12	2364.120	46.82	-2.86	43.96	54.00	-10.04	AVG
13	2369.880	60.70	-2.83	57.87	74.00	-16.13	peak
14	2369.880	47.83	-2.83	45.00	54.00	-9.00	AVG
15	2374.320	61.38	-2.82	58.56	74.00	-15.44	peak
16	2374.320	48.21	-2.82	45.39	54.00	-8.61	AVG
17	2379.120	62.38	-2.79	59.59	74.00	-14.41	peak
18	2379.120	49.14	-2.79	46.35	54.00	-7.65	AVG
19	2381.640	62.70	-2.77	59.93	74.00	-14.07	peak
20	2381.640	49.56	-2.77	46.79	54.00	-7.21	AVG
21	2385.360	63.57	-2.76	60.81	74.00	-13.19	peak
22	2385.360	50.07	-2.76	47.31	54.00	-6.69	AVG
23	2386.920	63.89	-2.74	61.15	74.00	-12.85	peak

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

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

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



Standard:	FCC Part 15.247	Test Distance:	3 m
Test item:	Band edge	Power:	DC 20 V
Frequency:	2422 MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60 %RH
Mode:	Mode 4		
Ant.Polar.:	Vertical		

No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
24	2386.920	50.42	-2.74	47.68	54.00	-6.32	AVG
25	2390.000	62.58	-2.73	59.85	74.00	-14.15	peak
26	2390.000	51.07	-2.73	48.34	54.00	-5.66	AVG
27	2423.760	100.62	-2.57	98.05	--	--	peak

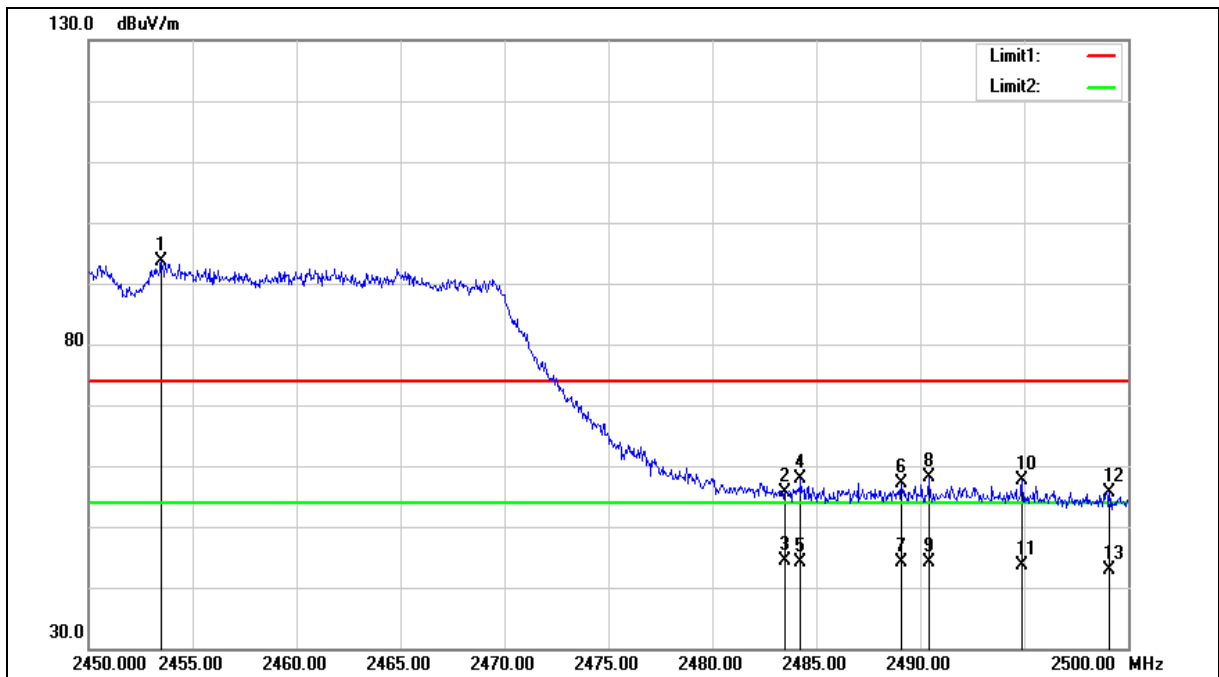
Note:1.Result (dBuV/m) = Correct Factor (dB/m) + Reading(dBuV).

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

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



Standard:	FCC Part 15.247	Test Distance:	3 m
Test item:	Band edge	Power:	DC 20 V
Frequency:	2452 MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60 %RH
Mode:	Mode 4		
Ant.Polar.:	Horizontal		



Standard:	FCC Part 15.247	Test Distance:	3 m
Test item:	Band edge	Power:	DC 20 V
Frequency:	2452 MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60 %RH
Mode:	Mode 4		
Ant.Polar.:	Horizontal		

No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2453.500	95.97	-2.42	93.55	--	--	peak
2	2483.500	57.99	-2.27	55.72	74.00	-18.28	peak
3	2483.500	46.59	-2.27	44.32	54.00	-9.68	AVG
4	2484.250	60.19	-2.26	57.93	74.00	-16.07	peak
5	2484.250	46.49	-2.26	44.23	54.00	-9.77	AVG
6	2489.100	59.34	-2.24	57.10	74.00	-16.90	peak
7	2489.100	46.44	-2.24	44.20	54.00	-9.80	AVG
8	2490.400	60.25	-2.23	58.02	74.00	-15.98	peak
9	2490.400	46.39	-2.23	44.16	54.00	-9.84	AVG
10	2494.900	59.85	-2.21	57.64	74.00	-16.36	peak
11	2494.900	45.83	-2.21	43.62	54.00	-10.38	AVG
12	2499.100	57.77	-2.18	55.59	74.00	-18.41	peak
13	2499.100	45.03	-2.18	42.85	54.00	-11.15	AVG

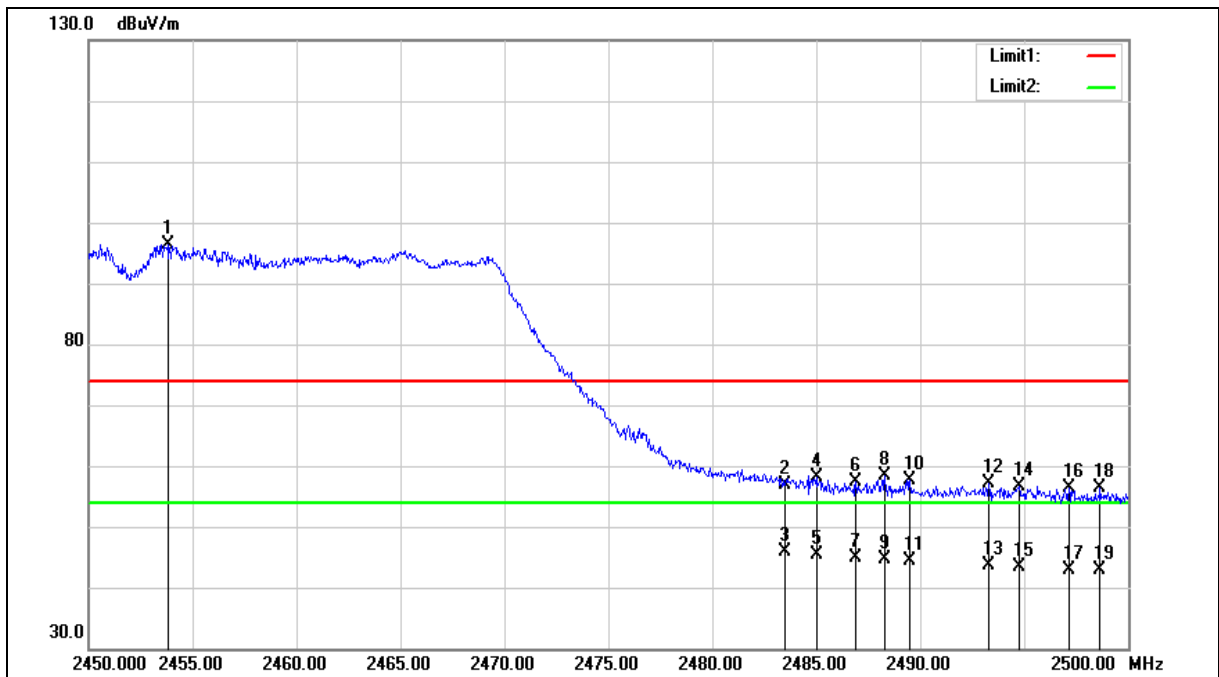
Note:1.Result (dBuV/m) = Correct Factor (dB/m) + Reading(dBuV).

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:	3 m
Test item:	Band edge	Power:	DC 20 V
Frequency:	2452 MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60 %RH
Mode:	Mode 4		
Ant.Polar.:	Vertical		





Standard:	FCC Part 15.247	Test Distance:	3 m
Test item:	Band edge	Power:	DC 20 V
Frequency:	2452 MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60 %RH
Mode:	Mode 4		
Ant.Polar.:	Vertical		

No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2453.800	98.71	-2.42	96.29	--	--	peak
2	2483.500	59.16	-2.27	56.89	74.00	-17.11	peak
3	2483.500	48.19	-2.27	45.92	54.00	-8.08	AVG
4	2485.000	60.41	-2.26	58.15	74.00	-15.85	peak
5	2485.000	47.67	-2.26	45.41	54.00	-8.59	AVG
6	2486.900	59.72	-2.24	57.48	74.00	-16.52	peak
7	2486.900	47.04	-2.24	44.80	54.00	-9.20	AVG
8	2488.300	60.60	-2.24	58.36	74.00	-15.64	peak
9	2488.300	46.76	-2.24	44.52	54.00	-9.48	AVG
10	2489.500	59.81	-2.24	57.57	74.00	-16.43	peak
11	2489.500	46.69	-2.24	44.45	54.00	-9.55	AVG
12	2493.300	59.33	-2.21	57.12	74.00	-16.88	peak
13	2493.300	45.78	-2.21	43.57	54.00	-10.43	AVG
14	2494.750	58.87	-2.21	56.66	74.00	-17.34	peak
15	2494.750	45.56	-2.21	43.35	54.00	-10.65	AVG
16	2497.150	58.63	-2.19	56.44	74.00	-17.56	peak
17	2497.150	45.15	-2.19	42.96	54.00	-11.04	AVG
18	2498.650	58.50	-2.18	56.32	74.00	-17.68	peak
19	2498.650	44.94	-2.18	42.76	54.00	-11.24	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.

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