



## RF Test Report

Issued Date: Aug. 30, 2018

Applicant : OneLife Technologies Corp  
Product Type : OnePulse  
Trade Name : oneLife  
Model Number : R03  
FCC ID : 2AQKZR03  
EUT Rated Voltage : DC 5V  
Test Voltage : 120 Vac / 60 Hz, DC 3.8 V  
Receive Date : Jun. 15, 2018  
Test Period : Aug. 21 ~ Aug. 27, 2018  
Applicable Standard : FCC 47 CFR PART 15 SUBPART C  
ANSI C63.10:2013  
Test Result : Complied

### Testing Laboratory

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### Revision History

Rev.	Issue Date	Revisions
00	Aug. 30, 2018	Initial Issue



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# 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)	Maximum Power Spectral Density	PASS	-----
15.247(d)	Out of Band Conducted Spurious Emission	PASS	-----
15.203	Antenna Requirement	PASS	-----

Standard	Description
CFR47, Part 15, Subpart C §15.247	Intentional Radiators
ANSI C63. 10: 2013	American National Standard of Procedures for Compliance Testing of Unlicensed Wireless Devices
ANSI C63. 4: 2014	American National Standard for methods of measurement of radio – noise emissions from low-voltage electrical and electronic equipment in the range of 9 kHz to 40 GHz
KDB558074 D01 v04	GUIDANCE FOR PERFORMING COMPLIANCE MEASUREMENTS ON DIGITAL TRANSMISSION SYSTEMS (DTS) OPERATING UNDER SECTION 15.247

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.



A Test Lab Techno Corp. tested the above equipment under the requirements outlined 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.

A Test Lab Techno Corp. will not be liable for any loss or damage resulting from false, inaccurate, inappropriate or incomplete product information provided by the customer.

This test report is electronically signed and valid without handwriting signature. For verification of the electronic signatures, the public keys can be requested at the testing laboratory.

## 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	OneLife Technologies Corp 5005 Newport Drive Suite 101 Rolling Meadows, IL 60008 United States			
Manufacturer	Shenzhen Yinuo Technologies, Ltd. Rm A605, Building AD, Gao Xin Qi Science Industry Park2 Liu Xian Yi Lu Bao An District, Shenzhen			
Product Type	OnePulse			
Trade Name	oneLife			
Model Number	R03			
FCC ID	2AQZR03			
IMEI No.	015058000227117			
Operate Freq. Band	Frequency Range (MHz)	Modulation	Channel Bandwidth	Data Rate 400 / 800 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
Antenna information	Type		Max. Gain (dBi)	
	Internal Antenna		0.37	
Antenna Delivery	See section 3.1			
Operate Temp. Range	32°F~118°F (0 ~ +48 °C)			

Frequency Band	Max. RF Output Power (W)
IEEE 802.11b	0.004
IEEE 802.11g	0.076
IEEE 802.11n 2.4GHz 20MHz	0.057

### 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

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
Mode 2	V
Mode 3	V
Mode 4	V

Test Mode	Antenna Delivery	Data Rate	Test Channel
Mode 2	1TX	1M	1, 6, 11
Mode 3	1TX	6M	1, 6, 11
Mode 4	1TX	6.5M	1, 6, 11

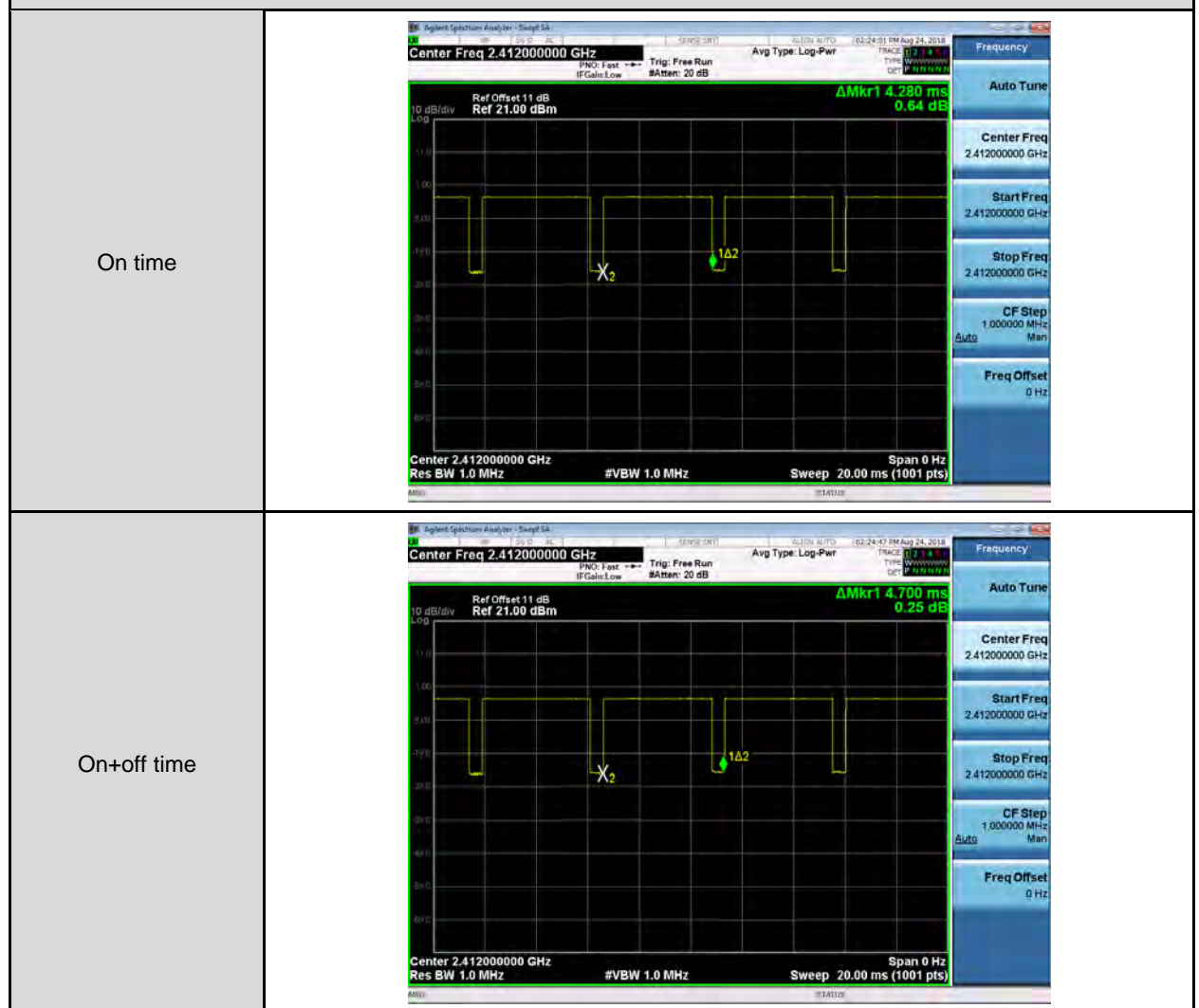


**Duty cycle**

Test Mode	Frequency (MHz)	on time (ms)	on+off time (ms)	Duty cycle	Duty Factor (dB)	1/T Minimum VBW (kHz)
Mode 2	2412	4.280	4.700	0.911	0.407	0.234
Mode 3	2412	0.710	0.795	0.893	0.491	1.408
Mode 4	2412	0.685	0.765	0.895	0.480	1.460

**Duty Cycle Graphs**

Mode 2: IEEE 802.11b Continuous TX mode

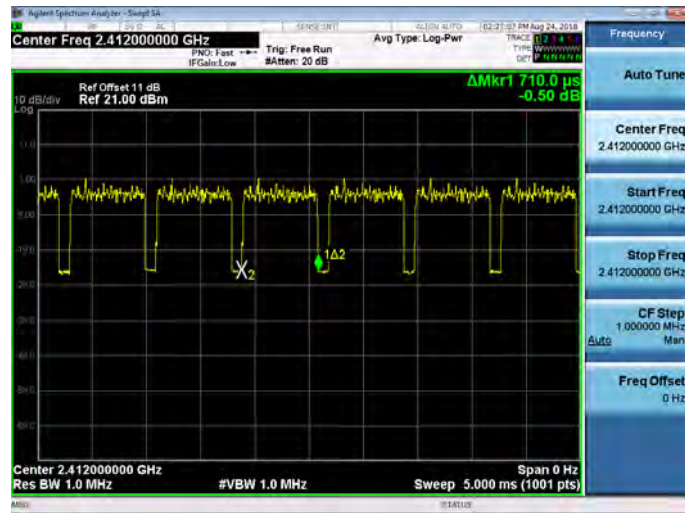




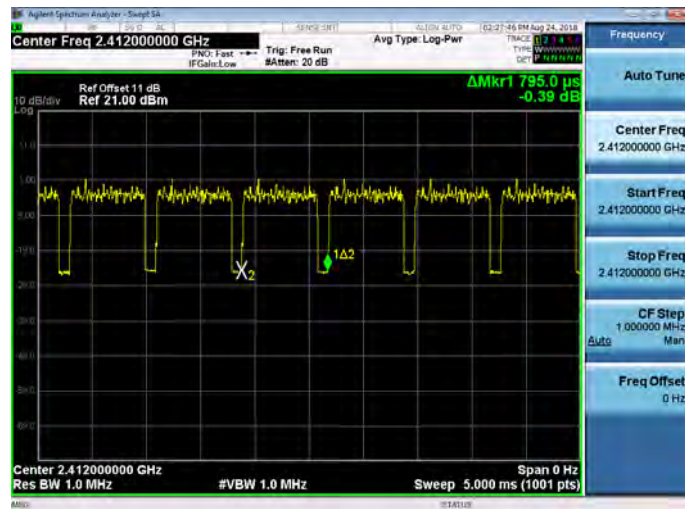


Mode 3: IEEE 802.11g Continuous TX mode

On time



On+off time



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

<p>On time</p>	
<p>On+off time</p>	



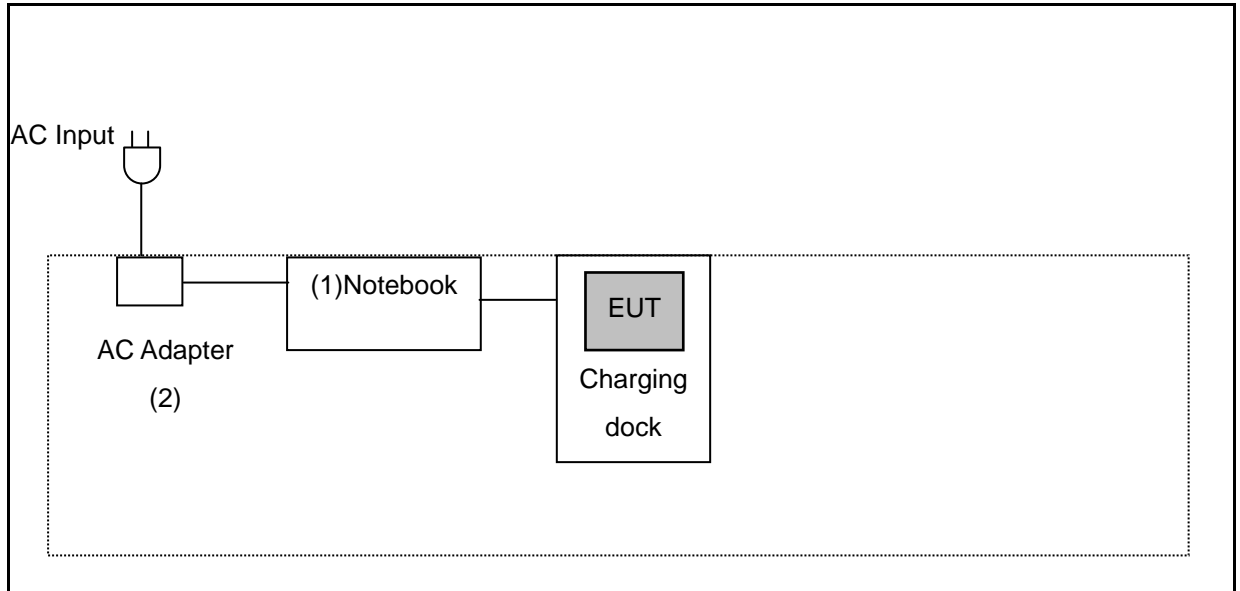
### 3.2. EUT Exercise Software

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.

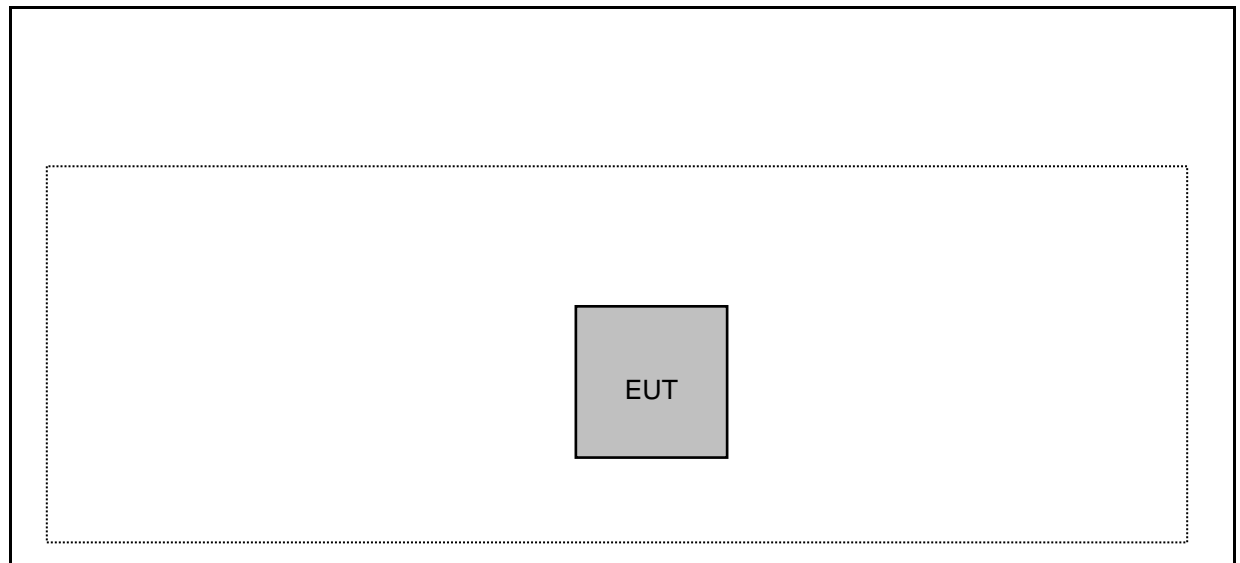
Measurement Software	
1	EZ-EMC Ver. ATL-03A1-1
2	EZ-EMC Ver ATL-ITC-3A1-1

### 3.3. Configuration of Test System Details

#### Conducted Emissions



#### Radiated Emission



Devices Description					
Product	Manufacturer	Model Number	Serial Number	Power Cord	
(1) Notebook	Lenovo	LENOVO B490	WB12542618	Non-Shielded,0.8m	
(2) AC Adapter	Chicony	ADLX90NCT3A	---	INPUT : AC 100 V to 240 V , 50Hz / 60Hz,0.3A OUTPUT : DC 20 V , 4.5 A	



### 3.4. Test Instruments

For Conducted Emission

Test Period: Aug. 23, 2018

Equipment	Manufacturer	Model Number	Serial Number	Cal. Date	Cal. Period
Test Receiver	R&S	ESR3	101923	09/19/2017	1 year
LISN	R&S	ENV216	101942	09/09/2017	1 year
LISN	R&S	ENV216	101943	09/19/2017	1 year
RF Cable	EMCI	EMCCFD400	433LFC	09/19/2017	1 year
Test Site	ATL	CE	CE	N.C.R.	-----

For Radiated Emissions

Test Period: Aug. 21 ~ Aug. 22, 2018

Equipment	Manufacturer	Model Number	Serial Number	Cal. Date	Cal. Period
Preamplifier (10kHz~3GHz)	EMCI	EMC001330	980300	09/19/2017	1 year
Preamplifier (0.1GHz~26.5GHz)	EMCI	EMC012645SE	980318	09/19/2017	1 year
Preamplifier (26.5GHz~40GHz)	EMCI	EMC2654045	980028	08/29/2017	1 year
Bilog Antenna (30MHz~1.4GHz)	Schwarzbeck	VULB 9168	672	11/15/2017	1 year
Horn Antenna (1GHz~18GHz)	ETS	3117	00204949	11/16/2017	1 year
Horn Antenna (18GHz~26.5GHz)	ETS	3160-09	00202549	11/16/2017	1 year
Horn Antenna (18GHz~40GHz)	ETS	3116	00086467	12/29/2017	1 year
Receiver (3Hz~26.5GHz)	Keysight	N9038A	MY51210179	09/19/2017	1 year
Spectrum Analyzer (3Hz~43GHz)	Keysight	N9030A	MY55410268	09/19/2017	1 year
Cable (30MHz~1GHz)	EMCI	N/A	1066LFC	09/19/2017	1 year
Cable (1GHz~18GHz)	EMCI	N/A	160719	09/19/2017	1 year
Cable (1GHz~18GHz)	EMCI	N/A	160324	09/19/2017	1 year
Cable (1GHz~18GHz)	EMCI	N/A	160322	09/19/2017	1 year
Loop Antenna	EMCI	LPA600	272	02/07/2018	1 year
Test Site	OuHeng	MFAC3M	RE-026	03/15/2018	1 year

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



For Conducted

Test Period: Aug. 24 ~ Aug. 27, 2018

Equipment	Manufacturer	Model Number	Serial Number	Cal. Date	Cal. Period
Power Sensor	Anritsu	U2021XA	SG54130003	09/19/2017	1 year
Spectrum Analyzer (10Hz~26.5GHz)	Agilent	N9020A	MY53420615	09/19/2017	1 year
Spectrum Analyzer (9kHz~26.5GHz)	Agilent	E4445A	MY46181814	19/09/2017	1 year
Programmable temp &humi chamber	ETAI	9712A	647	09/19/2017	1 year
Test Site	ATL	RF	RF	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

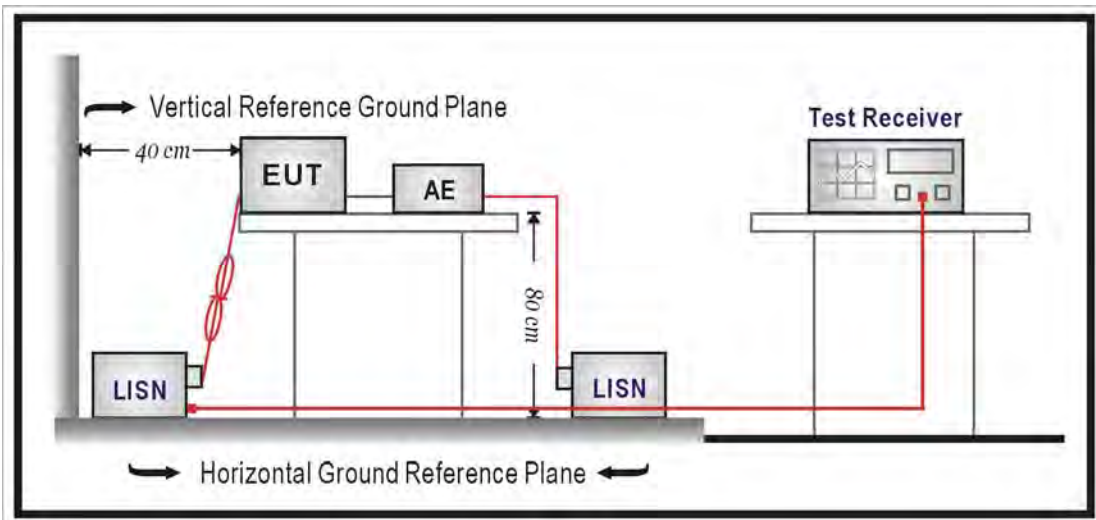
## 4 Measurement Procedure

### 4.1. AC Power Line Conducted Emission Measurement

■ 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

■ Test Setup



### ■ 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  $50\Omega$  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  $50\Omega$  ports of the LISN shall be resistively terminated into  $50\Omega$  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.



## 4.2. Radiated Emission Measurement

### ■ Limit

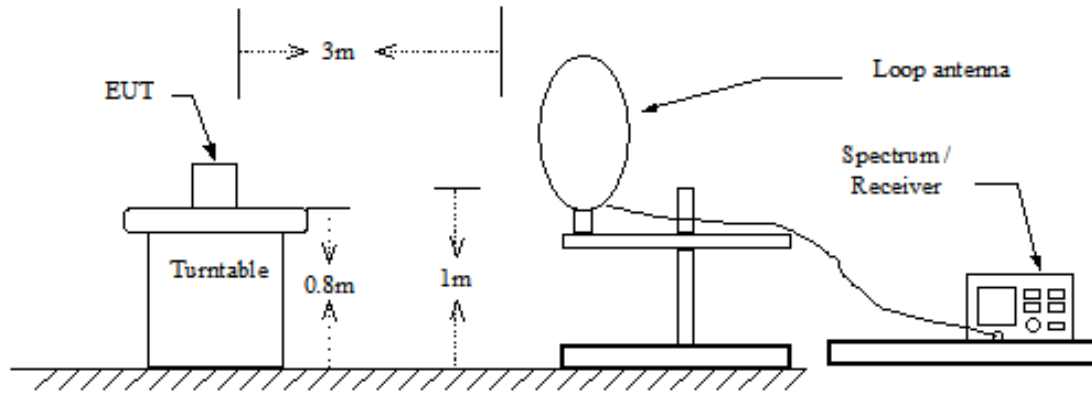
According to §15.209(a), except as provided elsewhere in this subpart, the emissions from an intentional radiator shall not exceed the field strength levels specified in the following table:

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

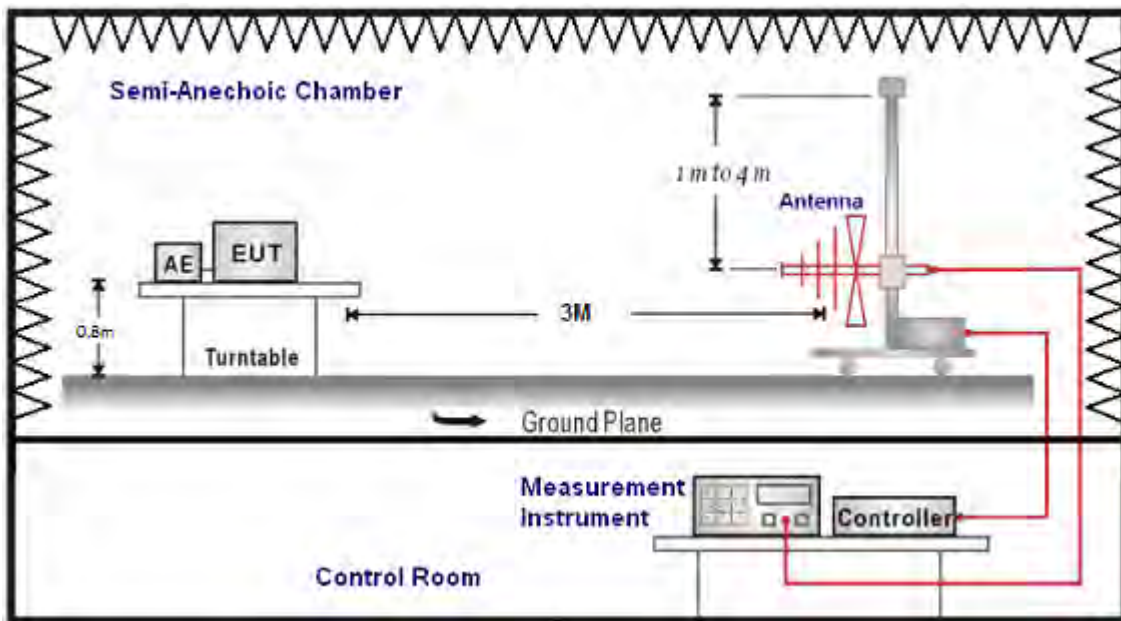
\*\* Except as provided in paragraph (g), fundamental emissions from intentional radiators operating under this Section shall not be located in the frequency bands 54-72 MHz, 76-88 MHz, 174-216 MHz or 470-806 MHz. However, operation within these frequency bands is permitted under other sections of this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

■ Setup

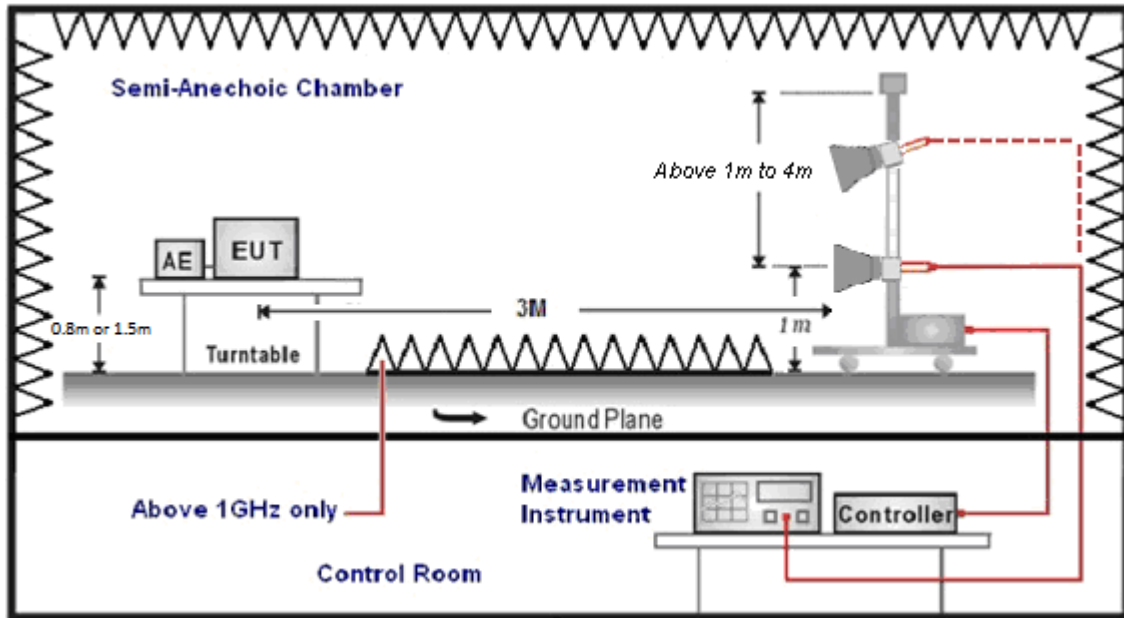
9kHz ~ 30MHz



Below 1GHz



Above 1GHz





### ■ 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 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 pre 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.

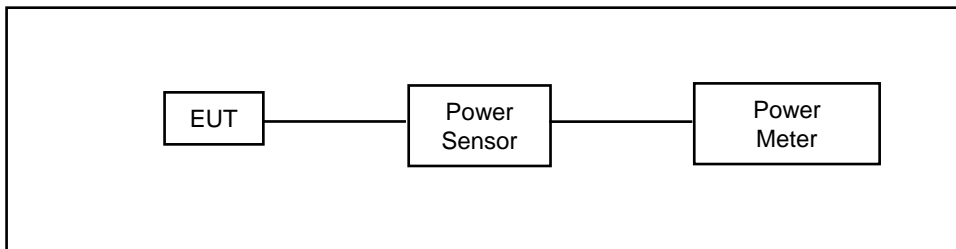
### 4.3. Maximum Conducted Output Power Measurement

#### ■ 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.

#### ■ Test Setup



#### ■ Test Procedure

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

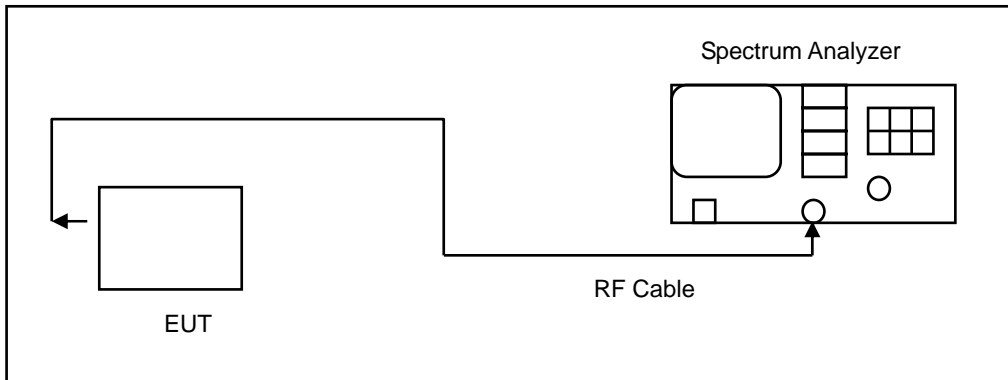
The tests below are run with the EUT's transmitter set at high power in TX mode. The EUT is needed to force selection of output power level and channel number. While testing, EUT was set to transmit continuously. Remove the Subjective device's antenna and connect the RF output port to power sensor.

#### 4.4. 6dB RF Bandwidth Measurement

##### ■ 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.

##### ■ Test Setup



##### ■ Test Procedure

The EUT tested to DTS test procedure of KDB 558074 D01 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.

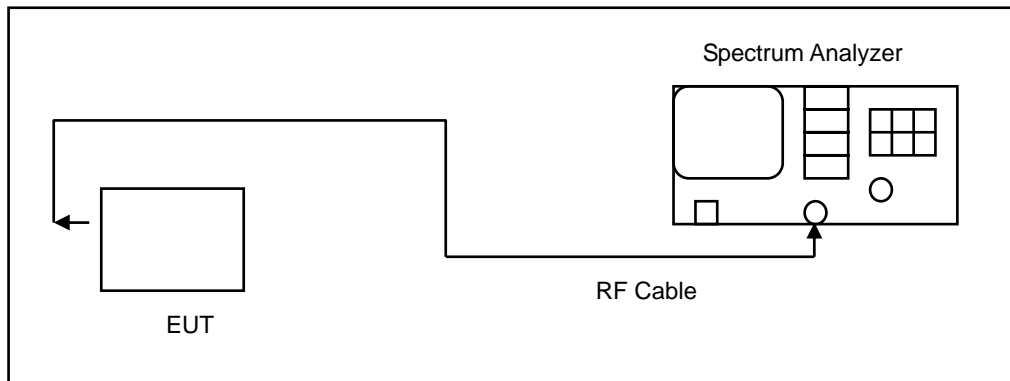
The test was performed at 3 channels (Channel low, middle, high)

## 4.5. Maximum Power Spectral Density Measurement

### ■ Limit

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

### ■ Test Setup



### ■ Test Procedure

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

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

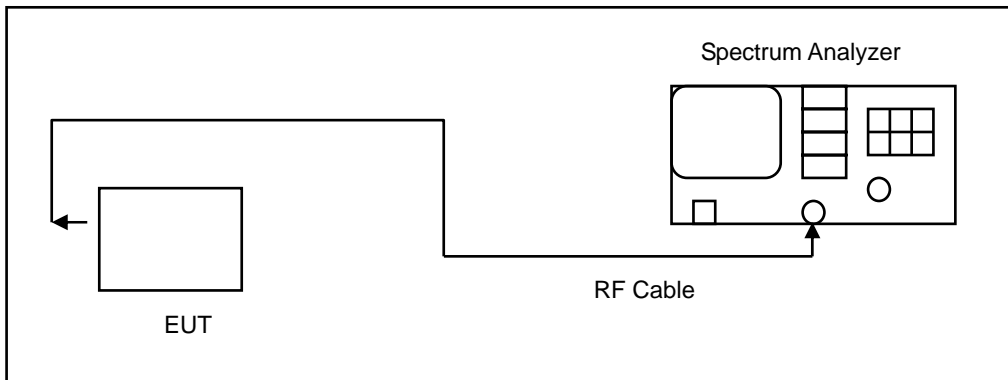


#### 4.6. Out of Band Conducted Emissions Measurement

##### ■ 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.



## 4.7. 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 6dBi.

### ■ Antenna Description

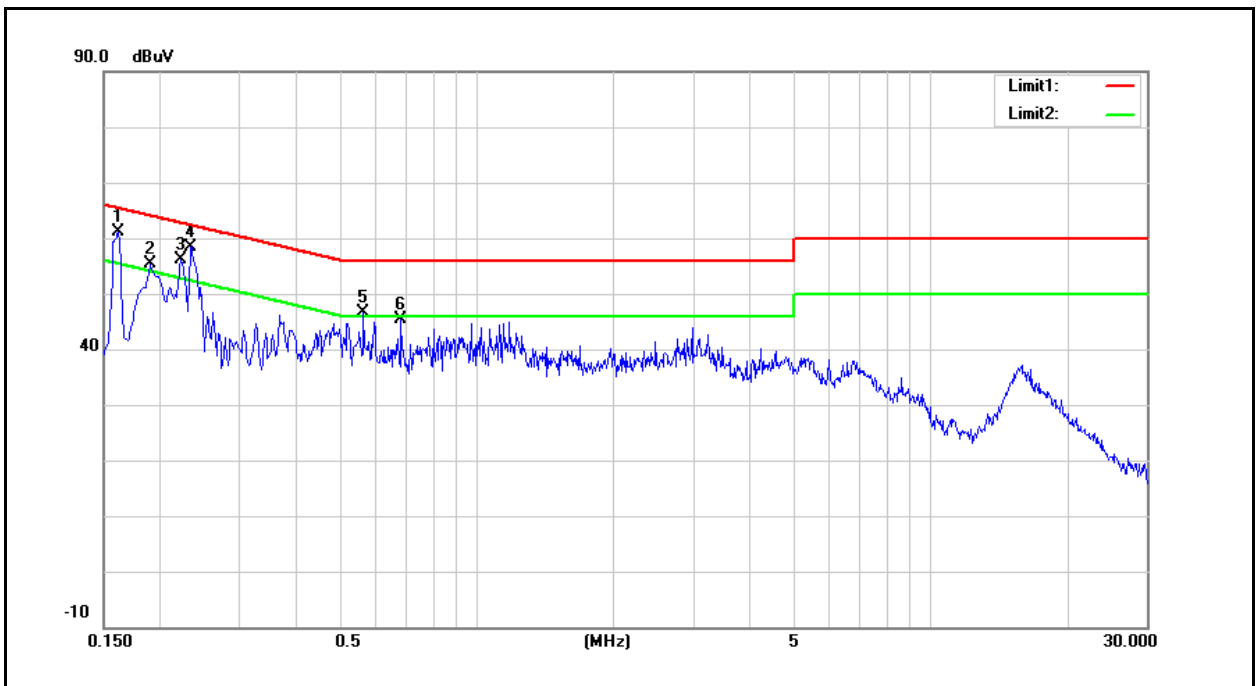
See section 2 – antenna information.



## 5 Test Results

### Annex A. Conducted Emission

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

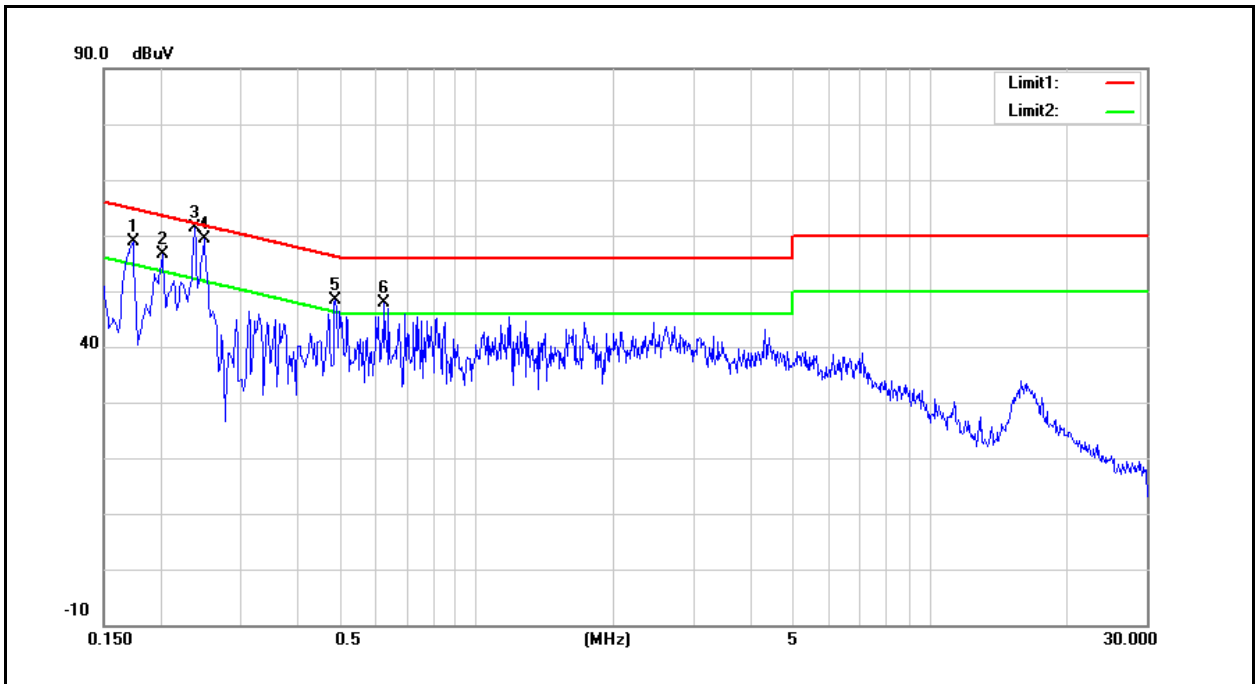


No.	Frequency (MHz)	QP reading (dBuV)	AVG reading (dBuV)	Correction factor (dB)	QP result (dBuV)	AVG result (dBuV)	QP limit (dBuV)	AVG limit (dBuV)	QP margin (dB)	AVG margin (dB)	Remark
1	0.1620	42.57	24.04	9.67	52.24	33.71	65.36	55.36	-13.12	-21.65	Pass
2	0.1900	37.65	25.43	9.68	47.33	35.11	64.04	54.04	-16.71	-18.93	Pass
3	0.2220	45.57	36.09	9.68	55.25	45.77	62.74	52.74	-7.49	-6.97	Pass
4	0.2340	46.72	35.15	9.68	56.40	44.83	62.31	52.31	-5.91	-7.48	Pass
5	0.5620	33.03	24.33	9.68	42.71	34.01	56.00	46.00	-13.29	-11.99	Pass
6	0.6820	32.01	22.59	9.69	41.70	32.28	56.00	46.00	-14.30	-13.72	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 Mode:	Mode 1	Power:	AC 120V/60Hz
Description:		Temp.(°C)/Hum.(%RH):	26(°C)/60%RH



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	0.1740	41.61	23.59	9.69	51.30	33.28	64.77	54.77	-13.47	-21.49	Pass
2	0.2020	41.01	30.39	9.69	50.70	40.08	63.53	53.53	-12.83	-13.45	Pass
3	0.2380	49.11	36.66	9.69	58.80	46.35	62.17	52.17	-3.37	-5.82	Pass
4	0.2508	46.04	34.11	9.70	55.74	43.81	61.73	51.73	-5.99	-7.92	Pass
5	0.4860	33.39	22.12	9.70	43.09	31.82	56.24	46.24	-13.15	-14.42	Pass
6	0.6260	35.85	23.46	9.70	45.55	33.16	56.00	46.00	-10.45	-12.84	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).

## Annex B. Conducted Test Results

### Maximum Conducted Output Power Measurement

Test Mode	Data Rate (Mbps)	Frequency (MHz)	Average Output Power		Peak Output Power		
			Measurement Results		Measurement Results		Limit
			dBm	W	dBm	W	dBm
Mode 2	1	2412	3.63	0.002	6.20	0.004	< 30
		2437	2.37	0.002	4.88	0.003	< 30
		2462	3.74	0.002	<b>6.37</b>	<b>0.004</b>	< 30
	2	2437	2.35	0.002	4.86	0.003	< 30
	5.5	2437	2.34	0.002	4.85	0.003	< 30
	11	2437	2.32	0.002	4.83	0.003	< 30
Mode 3	6	2412	5.94	0.004	12.81	0.019	< 30
		2437	11.95	0.016	18.82	0.076	< 30
		2462	11.12	0.013	18.12	0.065	< 30
	9	2437	11.93	0.016	<b>18.80</b>	<b>0.076</b>	< 30
	12	2437	11.92	0.016	18.78	0.076	< 30
	18	2437	11.90	0.015	18.77	0.075	< 30
	24	2437	11.89	0.015	18.75	0.075	< 30
	36	2437	11.86	0.015	18.73	0.075	< 30
	48	2437	11.85	0.015	18.70	0.074	< 30
	54	2437	11.81	0.015	18.69	0.074	< 30

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

Test Mode	Data Rate (Mbps)	Frequency (MHz)	Average Output Power		Peak Output Power		
			Measurement Results		Measurement Results		Limit
			dBm	W	dBm	W	dBm
Mode 4	6.5	2412	4.75	0.003	11.77	0.015	< 30
		2437	10.60	0.011	<b>17.57</b>	<b>0.057</b>	< 30
		2462	9.59	0.009	16.69	0.047	< 30
	14.4	2437	10.57	0.011	17.54	0.057	< 30
	21.7	2437	10.55	0.011	17.53	0.057	< 30
	28.9	2437	10.53	0.011	17.52	0.056	< 30
	43.3	2437	10.52	0.011	17.50	0.056	< 30
	57.8	2437	10.51	0.011	17.48	0.056	< 30
	65	2437	10.49	0.011	17.47	0.056	< 30
	72.2	2437	10.47	0.011	17.45	0.056	< 30

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



**6dB RF Bandwidth Measurement**

Test Mode	Frequency (MHz)	Measurement (kHz)	Limit (kHz)
Mode 2	2412	8576	> 500
	2437	9010	> 500
	2462	8081	> 500
Mode 3	2412	16370	> 500
	2437	16360	> 500
	2462	16360	> 500
Mode 4	2412	17340	> 500
	2437	17300	> 500
	2462	17340	> 500

■ Test Graphs

Mode 2: IEEE 802.11b Continuous TX mode

<p>2412 MHz</p>	<p>Agilent Spectrum Analyzer - Occupied BW</p> <p>Center Freq 2.41200000 GHz Center Freq: 2.412000000 GHz Radio Std: None      Trig: Free Run Avg/Hold: &gt;10/10      #FGateLow #Attenu: 20 dB Radio Device: BTS</p> <p>10 dB/div Ref 10.00 dBm</p> <p>Center 2.412 GHz Span 30 MHz      #Res BW 100 kHz #VBW 300 kHz Sweep 2.933 ms</p> <p>Occupied Bandwidth 10.526 MHz Total Power 10.7 dBm      Transmit Freq Error -38.209 kHz OBW Power 99.00 %      x dB Bandwidth 8.576 MHz x dB -6.00 dB</p> <p>Frequency      Center Freq 2.41200000 GHz      CF Step 3.000000 MHz      Freq Offset 0 Hz</p>
<p>2437 MHz</p>	<p>Agilent Spectrum Analyzer - Occupied BW</p> <p>Center Freq 2.43700000 GHz Center Freq: 2.437000000 GHz Radio Std: None      Trig: Free Run Avg/Hold: &gt;10/10      #FGateLow #Attenu: 20 dB Radio Device: BTS</p> <p>10 dB/div Ref 10.00 dBm</p> <p>Center 2.437 GHz Span 30 MHz      #Res BW 100 kHz #VBW 300 kHz Sweep 2.933 ms</p> <p>Occupied Bandwidth 10.557 MHz Total Power 9.48 dBm      Transmit Freq Error -17.497 kHz OBW Power 99.00 %      x dB Bandwidth 9.010 MHz x dB -6.00 dB</p> <p>Frequency      Center Freq 2.43700000 GHz      CF Step 3.000000 MHz      Freq Offset 0 Hz</p>
<p>2462 MHz</p>	<p>Agilent Spectrum Analyzer - Occupied BW</p> <p>Center Freq 2.46200000 GHz Center Freq: 2.462000000 GHz Radio Std: None      Trig: Free Run Avg/Hold: &gt;10/10      #FGateLow #Attenu: 20 dB Radio Device: BTS</p> <p>10 dB/div Ref 10.00 dBm</p> <p>Center 2.462 GHz Span 30 MHz      #Res BW 100 kHz #VBW 300 kHz Sweep 2.933 ms</p> <p>Occupied Bandwidth 10.550 MHz Total Power 10.9 dBm      Transmit Freq Error -46.721 kHz OBW Power 99.00 %      x dB Bandwidth 8.081 MHz x dB -6.00 dB</p> <p>Frequency      Center Freq 2.46200000 GHz      CF Step 3.000000 MHz      Freq Offset 0 Hz</p>



Mode 3: IEEE 802.11g Continuous TX mode

2412 MHz



2437 MHz



2462 MHz





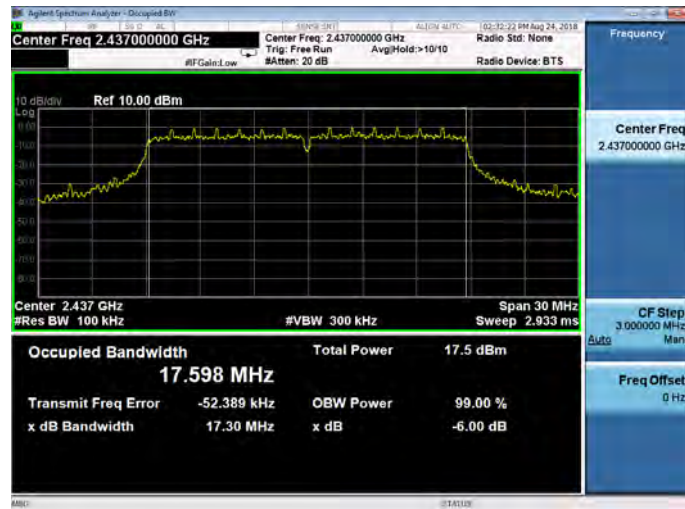


Mode 4: IEEE 802.11n 2.4GHz 20MHz Continuous TX mode

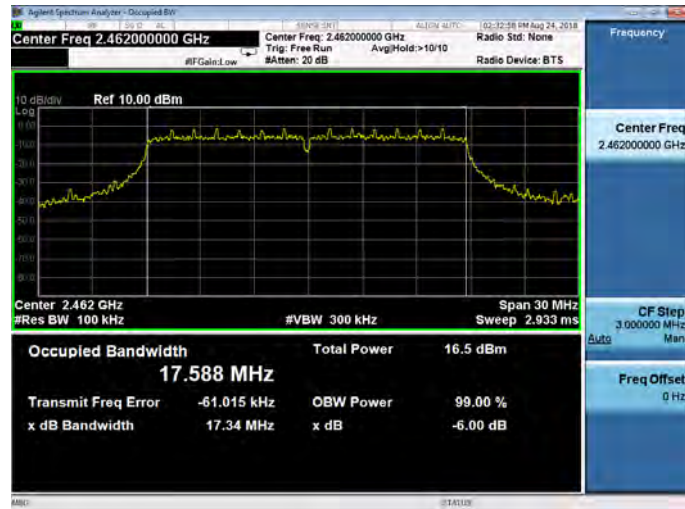
2412 MHz



2437 MHz



2462 MHz








**Maximum Power Spectral Density Measurement**

Test Mode	Frequency (MHz)	Measurement (dBm/3kHz)	Limit (dBm/3kHz)
Mode 2	2412	-18.673	< 8
	2437	-20.263	< 8
	2462	-18.916	< 8
Mode 3	2412	-19.404	< 8
	2437	-13.151	< 8
	2462	-14.036	< 8
Mode 4	2412	-21.288	< 8
	2437	-15.547	< 8
	2462	-16.443	< 8

■ Test Graphs

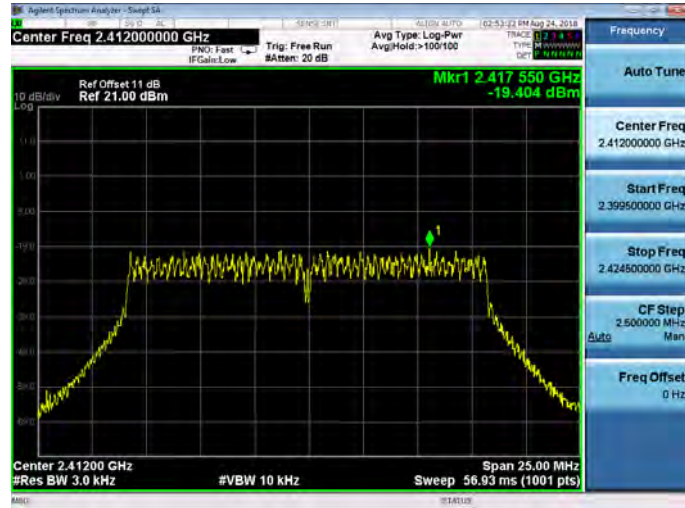
Mode 2: IEEE 802.11b Continuous TX mode

<p>2412 MHz</p>	
<p>2437 MHz</p>	
<p>2462 MHz</p>	

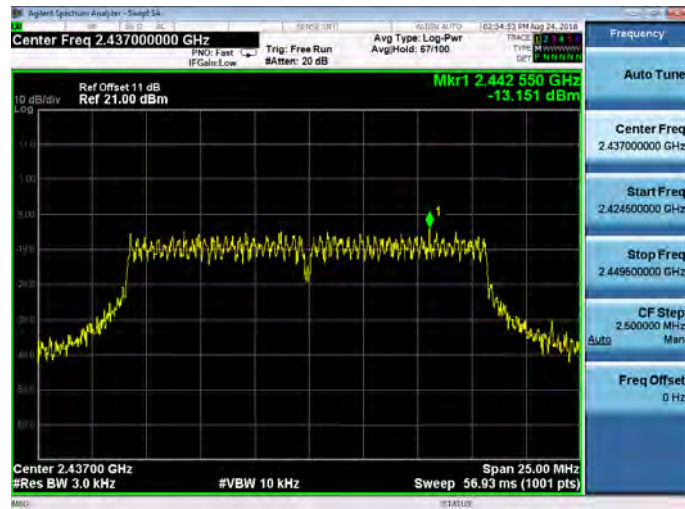


Mode 3: IEEE 802.11g Continuous TX mode

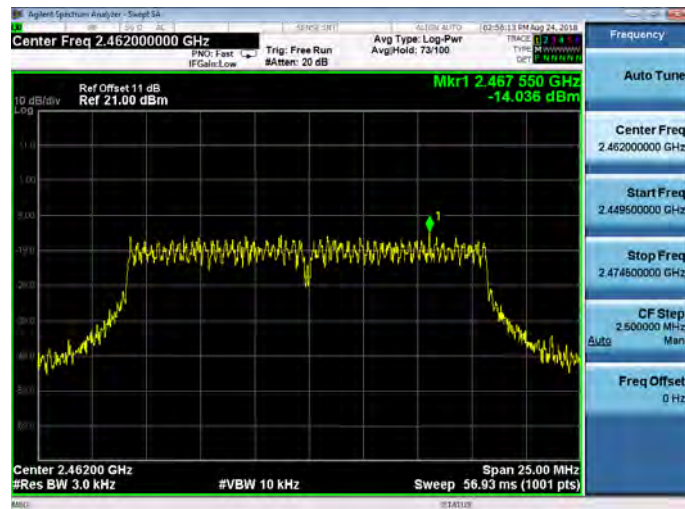
2412 MHz



2437 MHz



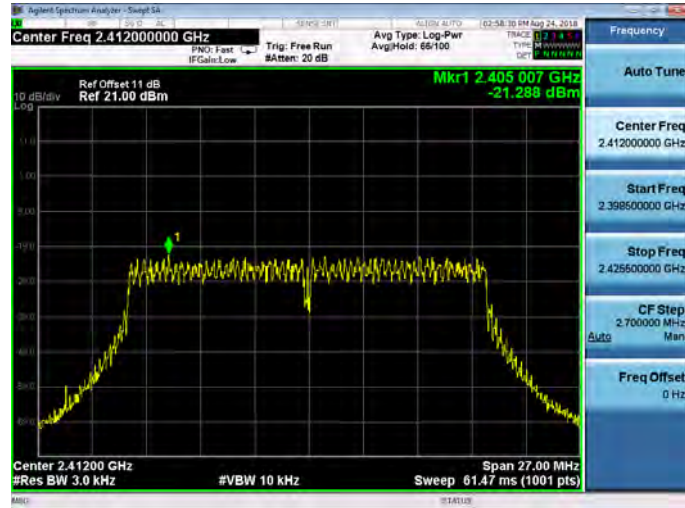
2462 MHz



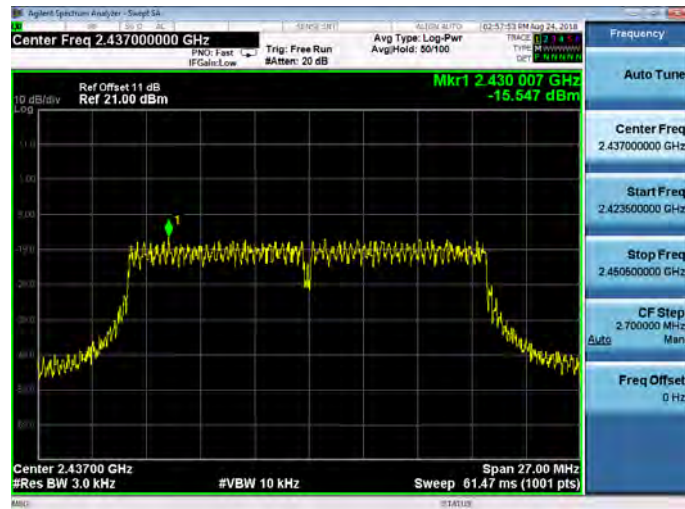


Mode 4: IEEE 802.11n 2.4GHz 20MHz Continuous TX mode

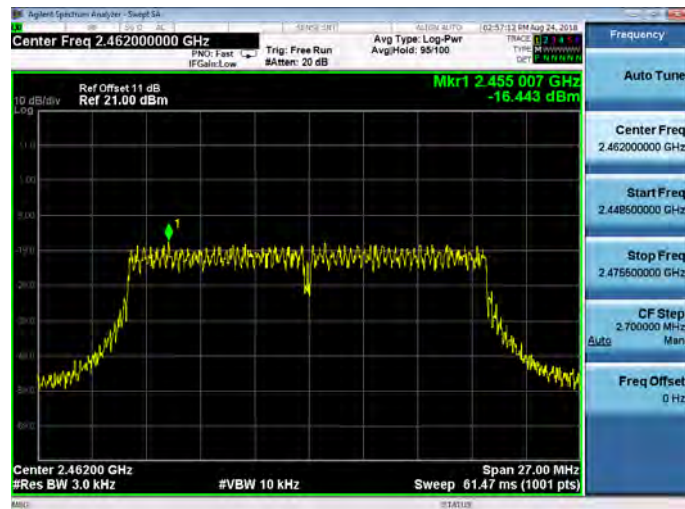
2412 MHz



2437 MHz



2462 MHz






### Out of Band Conducted Emissions Measurement

■ Test Graphs

Reference level

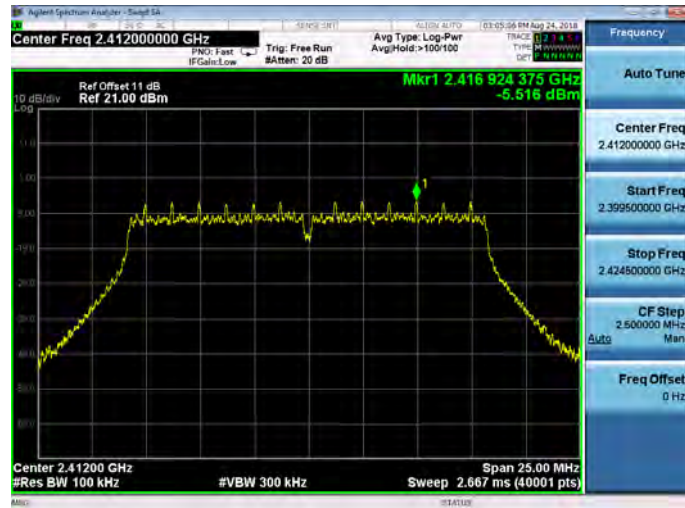
Mode 2: IEEE 802.11b Continuous TX mode

<p>2412 MHz</p>	
<p>2437 MHz</p>	
<p>2462 MHz</p>	

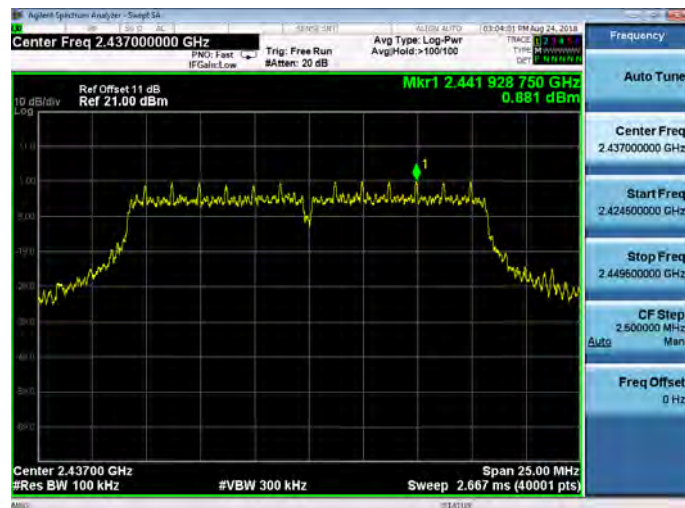


Mode 3: IEEE 802.11g Continuous TX mode

2412 MHz



2437 MHz



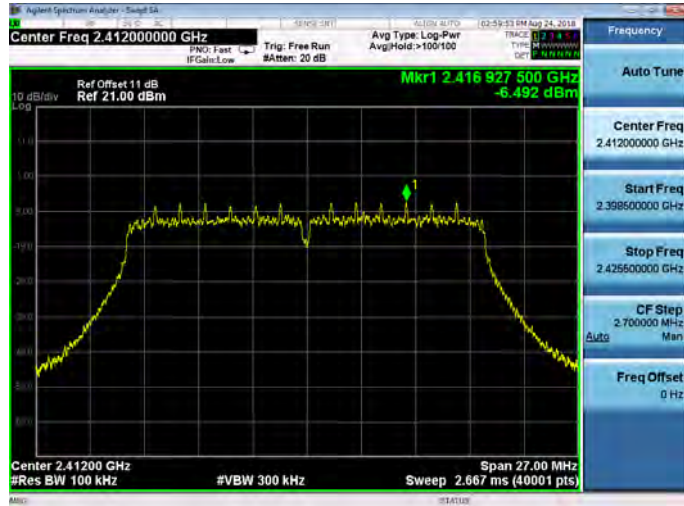
2462 MHz



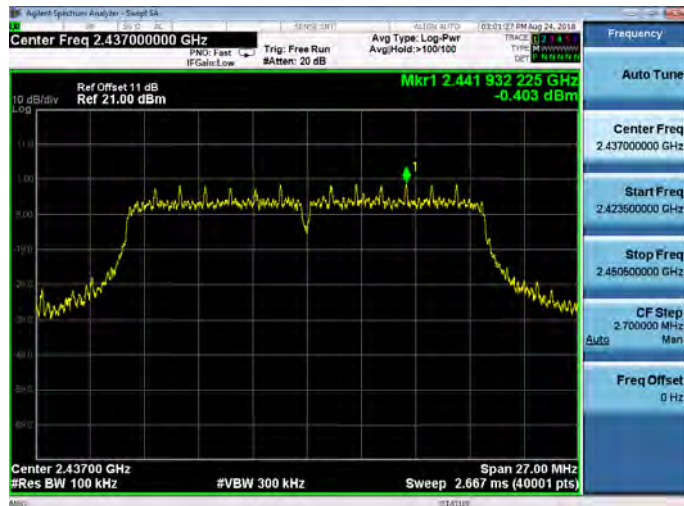


Mode 4: IEEE 802.11n 2.4GHz 20MHz Continuous TX mode

2412 MHz



2437 MHz



2462 MHz





**Out of Band Conducted Emissions**

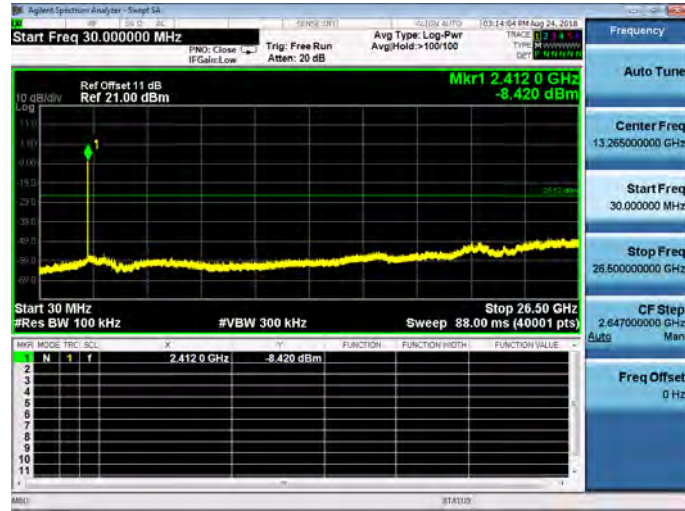
Mode 2: IEEE 802.11b Continuous TX mode

<p>2412 MHz</p>	
<p>2437 MHz</p>	
<p>2462 MHz</p>	



Mode 3: IEEE 802.11g Continuous TX mode

2412 MHz



2437 MHz



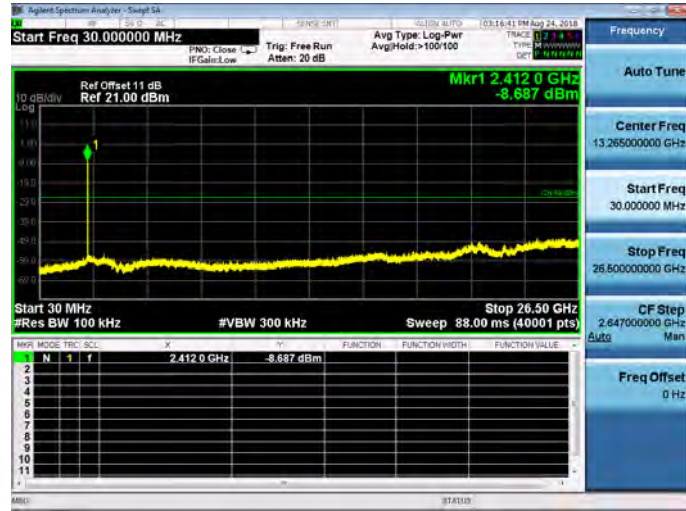
2462 MHz





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

2412 MHz



2437 MHz



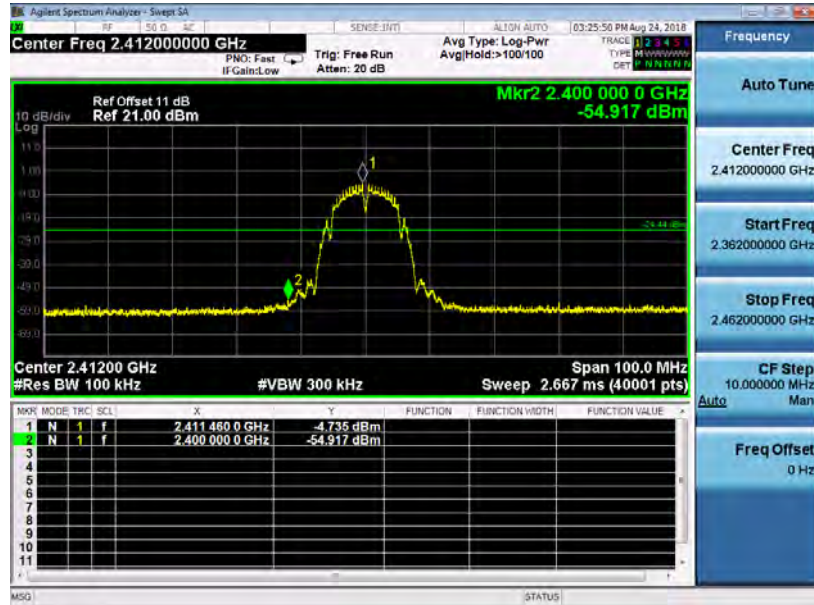
2462 MHz



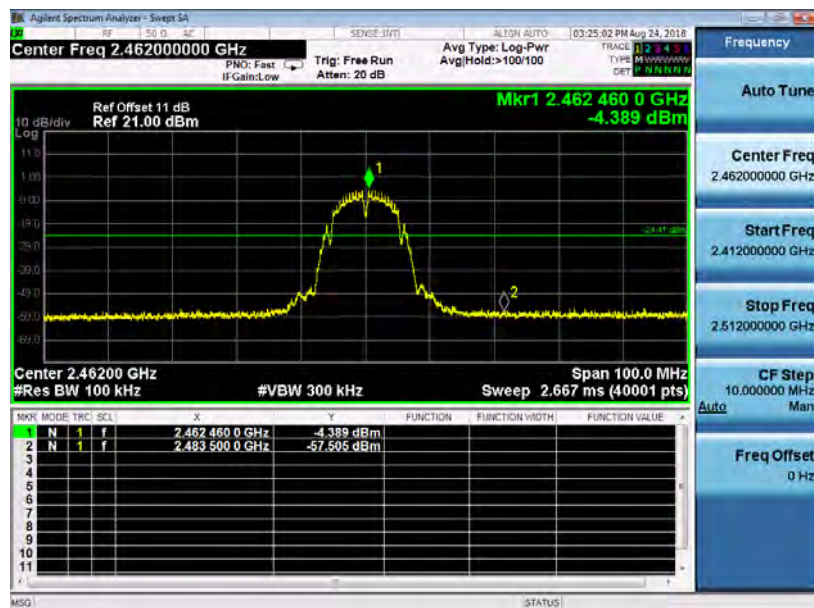
### Conducted Band Edge

Mode 2: IEEE 802.11b Continuous TX mode

2412 MHz

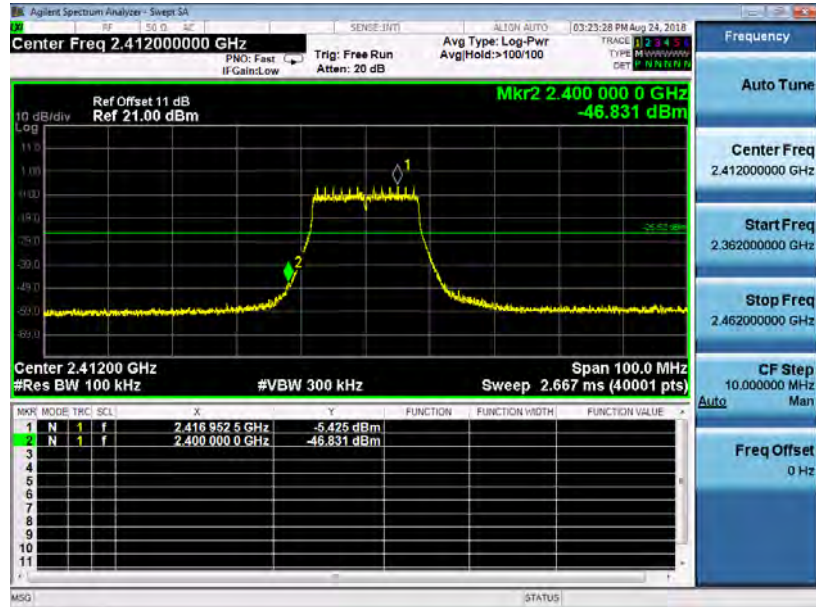


2462 MHz

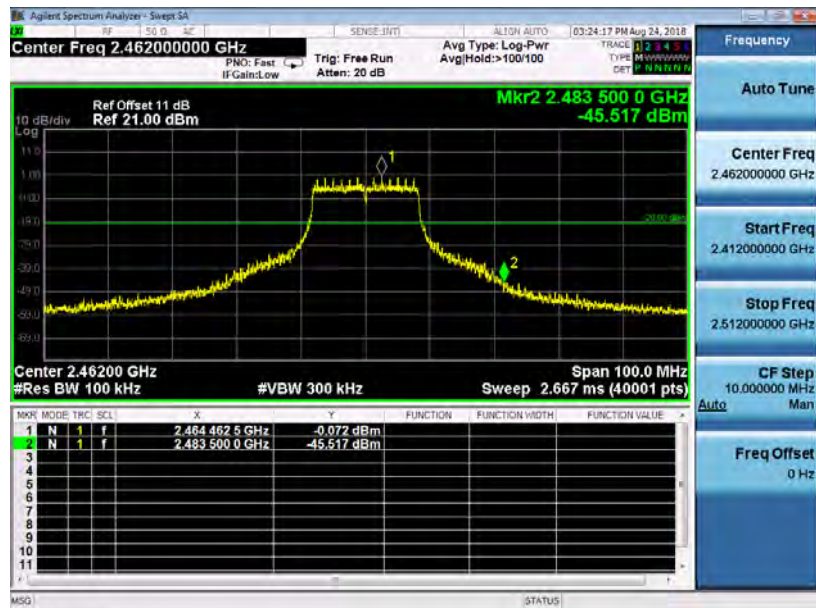


Mode 3: IEEE 802.11g Continuous TX mode

2412 MHz

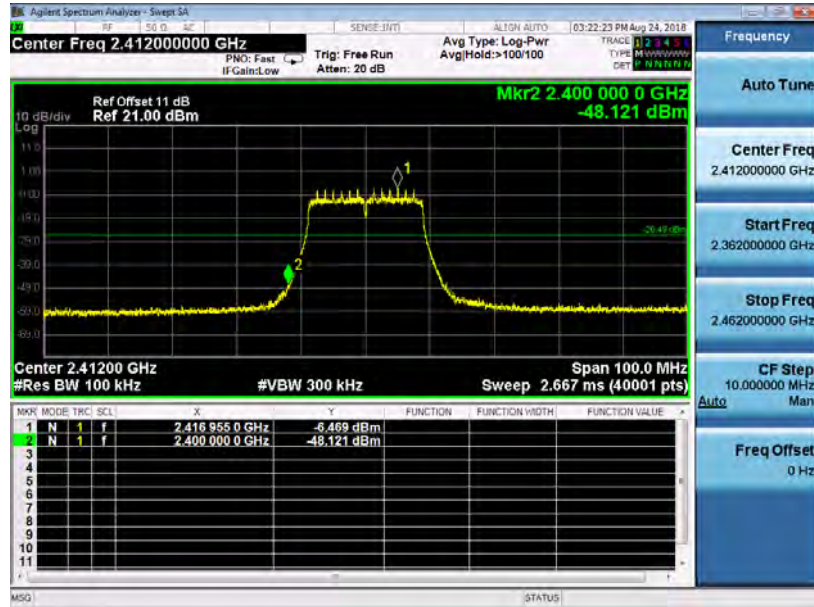


2462 MHz

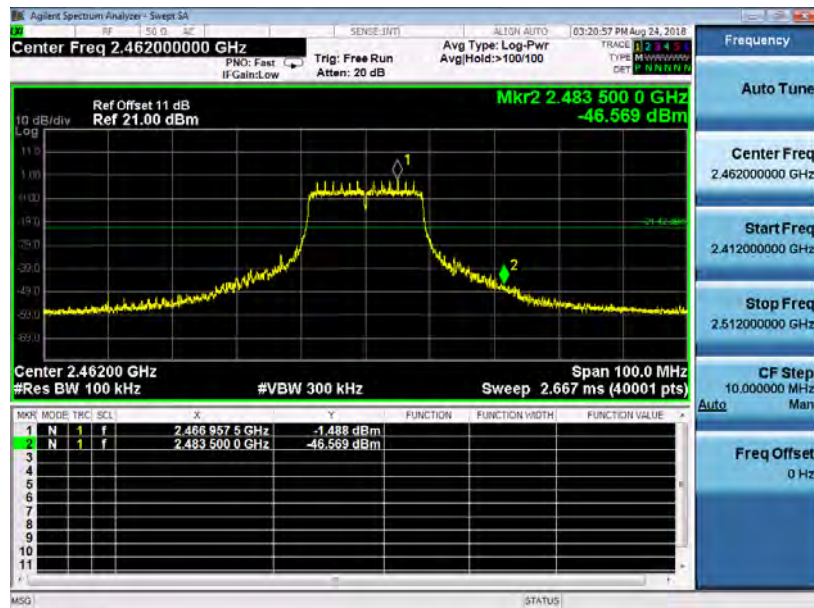


Mode 4: IEEE 802.11n 2.4GHz 20MHz Continuous TX mode

2412 MHz



2462 MHz





## Annex C. Radiated Emission Test Results

### Harmonic

Below 1GHz

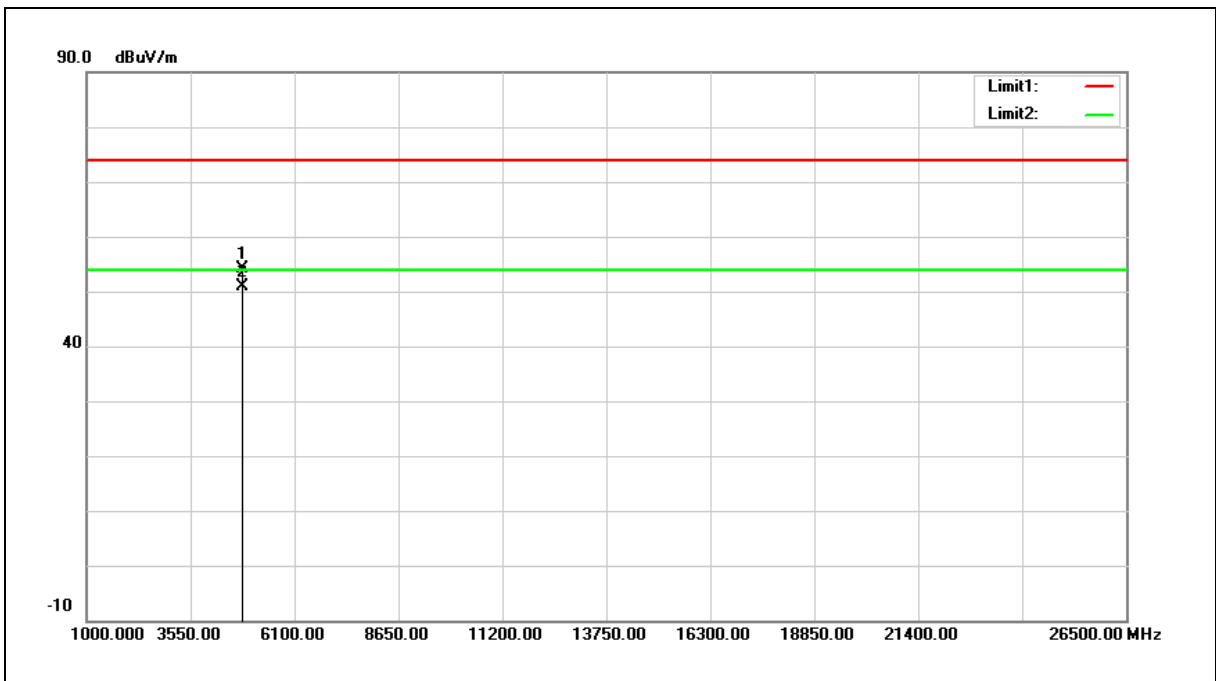
Standard:		FCC Part 15.247		Test Distance:		3m	
Test item:		Harmonic		Power:		DC 3.8 V	
Test Mode:		Mode 1		Temp.(°C)/Hum.(%RH):		26(°C)/60%RH	
Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Polar. H / V
74.6200	44.99	-14.07	30.92	40.00	-9.08	QP	H
200.7200	51.48	-13.08	38.40	43.50	-5.10	QP	H
216.2400	48.48	-13.41	35.07	46.00	-10.93	QP	H
403.4500	38.77	-7.31	31.46	46.00	-14.54	QP	H
897.1800	28.88	1.76	30.64	46.00	-15.36	QP	H
948.5900	28.76	3.25	32.01	46.00	-13.99	QP	H
70.7400	50.12	-13.48	36.64	40.00	-3.36	QP	V
76.5600	51.87	-14.31	37.56	40.00	-2.44	QP	V
198.7800	43.84	-12.84	31.00	43.50	-12.50	QP	V
402.4800	40.39	-7.36	33.03	46.00	-12.97	QP	V
604.2400	35.60	-3.03	32.57	46.00	-13.43	QP	V
648.8600	39.00	-2.35	36.65	46.00	-9.35	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. When the peak results are less than average limit, so not need to evaluate the average.



Above 1GHz

Standard:	FCC Part 15.247	Test Distance:	3m
Test item:	Harmonic	Power:	DC 3.8 V
Frequency:	2412MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 2		
Ant.Polar.:	Horizontal		



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4824.000	58.37	-4.36	54.01	74.00	-19.99	peak
2	4824.000	55.19	-4.36	50.83	54.00	-3.17	AVG

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

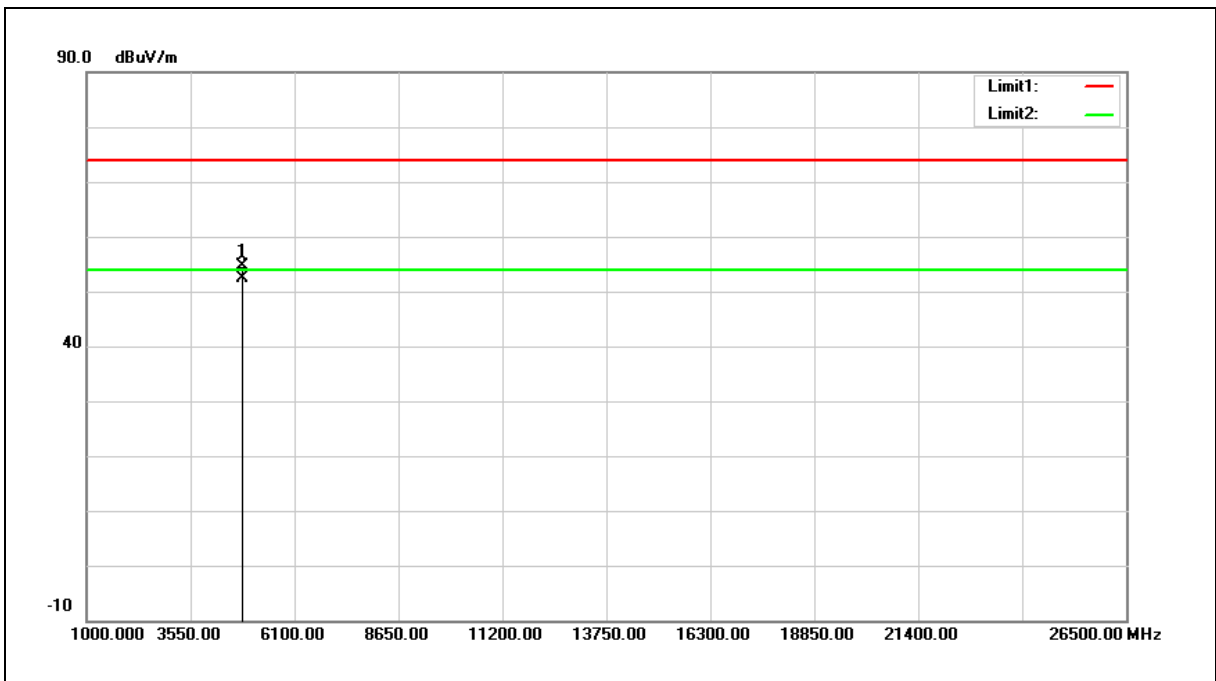
2.Correction factor (dB/m) = Antenna Factor (dB/m) + Cable loss (dB) – Pre-Amplifier gain (dB).

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:	DC 3.8 V
Frequency:	2412MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 2		
Ant.Polar.:	Vertical		

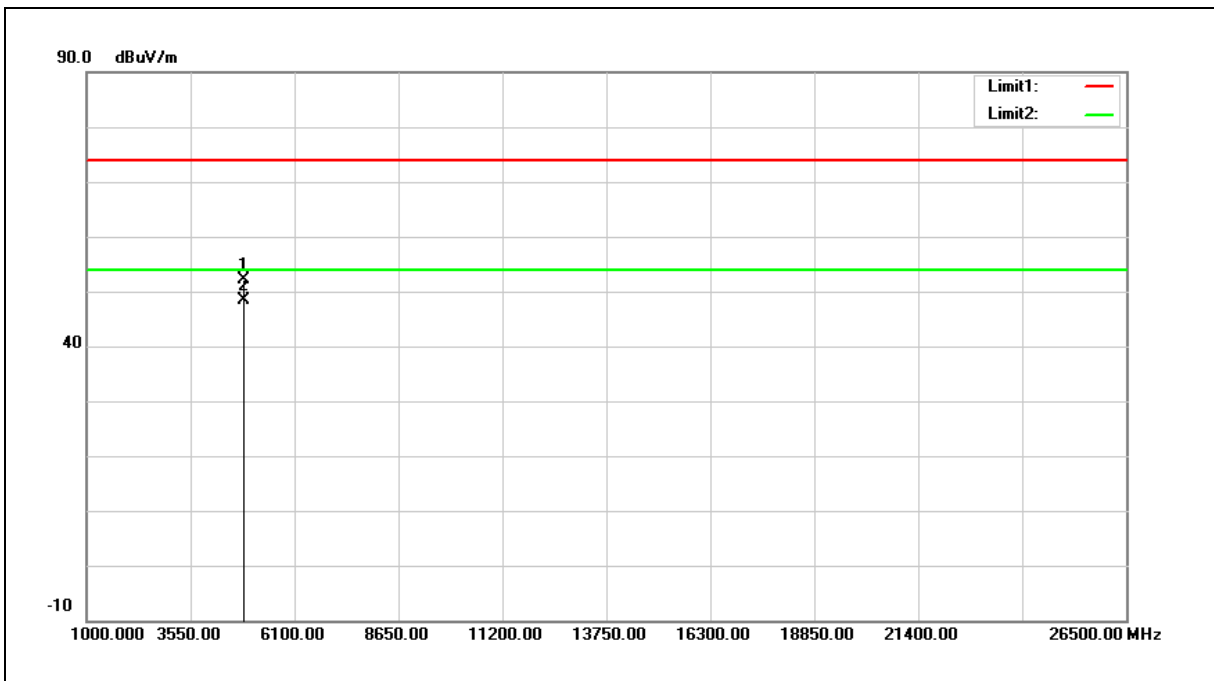


No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4824.000	59.03	-4.36	54.67	74.00	-19.33	peak
2	4824.000	56.79	-4.36	52.43	54.00	-1.57	AVG

- 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:	DC 3.8 V
Frequency:	2437MHz	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	56.56	-4.37	52.19	74.00	-21.81	peak
2	4874.000	52.64	-4.37	48.27	54.00	-5.73	AVG

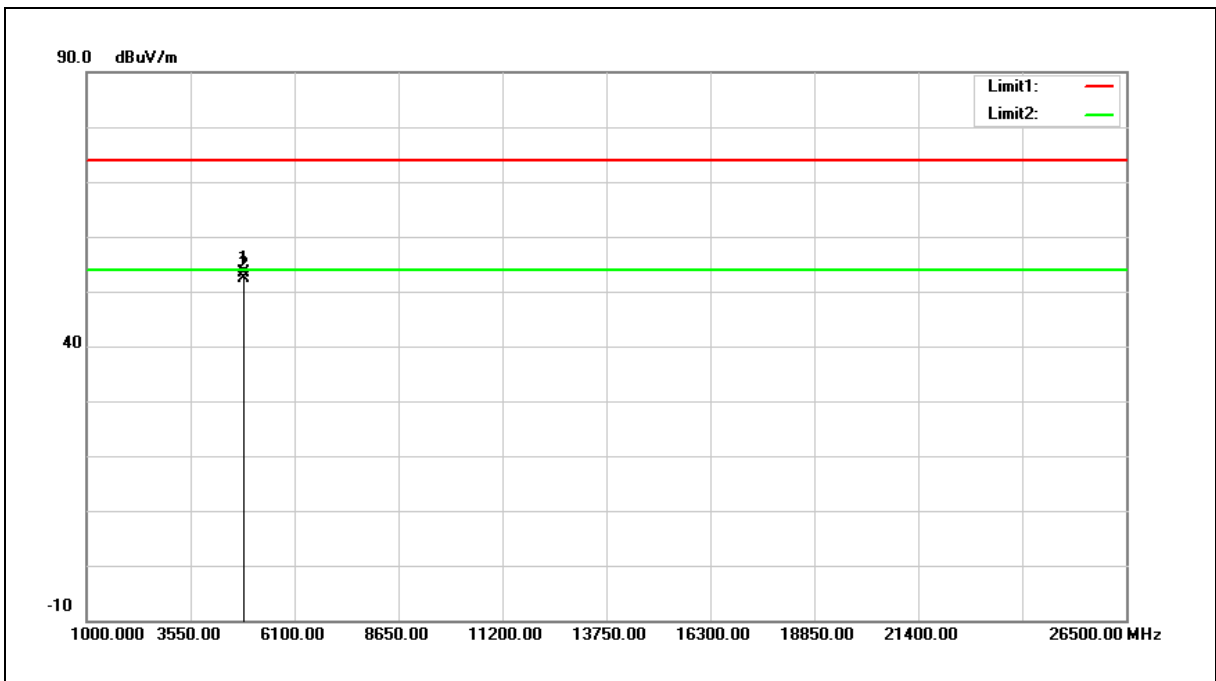
Note:1.Result (dBuV/m) = Correct Factor (dB/m) + Reading(dBuV).

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:	3m
Test item:	Harmonic	Power:	DC 3.8 V
Frequency:	2437MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 2		
Ant.Polar.:	Vertical		



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4874.000	57.73	-4.37	53.36	74.00	-20.64	peak
2	4874.000	56.63	-4.37	52.26	54.00	-1.74	AVG

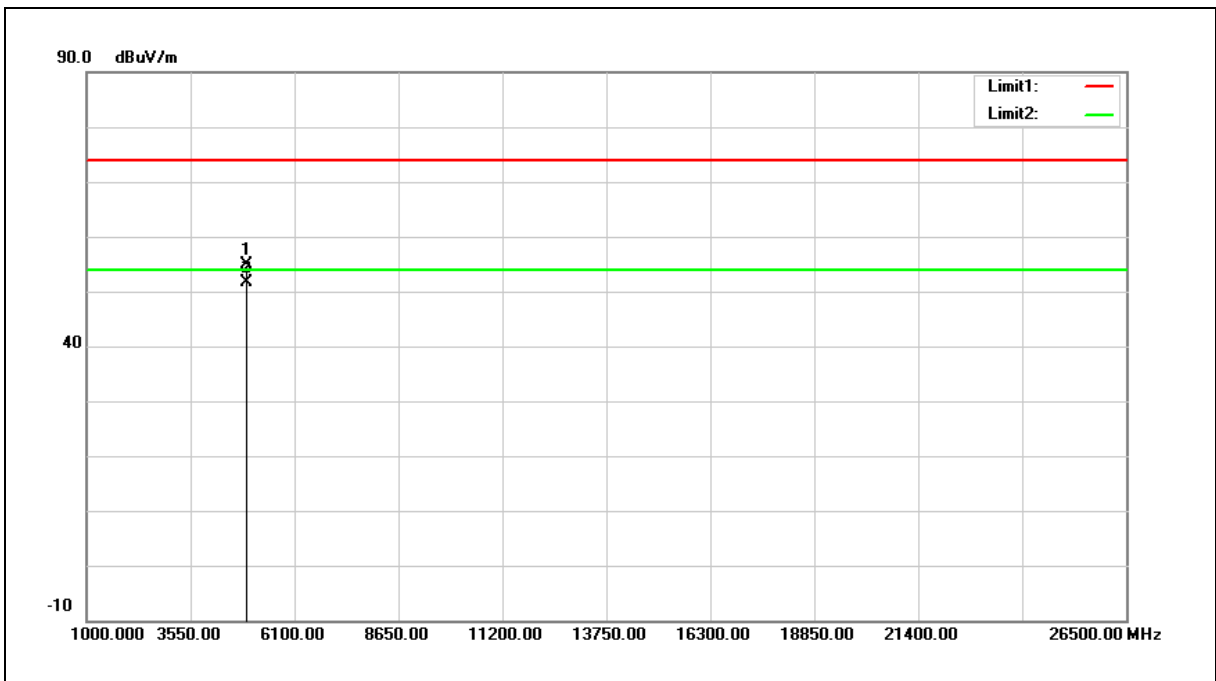
Note:1.Result (dBuV/m) = Correct Factor (dB/m) + Reading(dBuV).

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:	DC 3.8 V
Frequency:	2462MHz	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	59.31	-4.39	54.92	74.00	-19.08	peak
2	4924.000	56.10	-4.39	51.71	54.00	-2.29	AVG

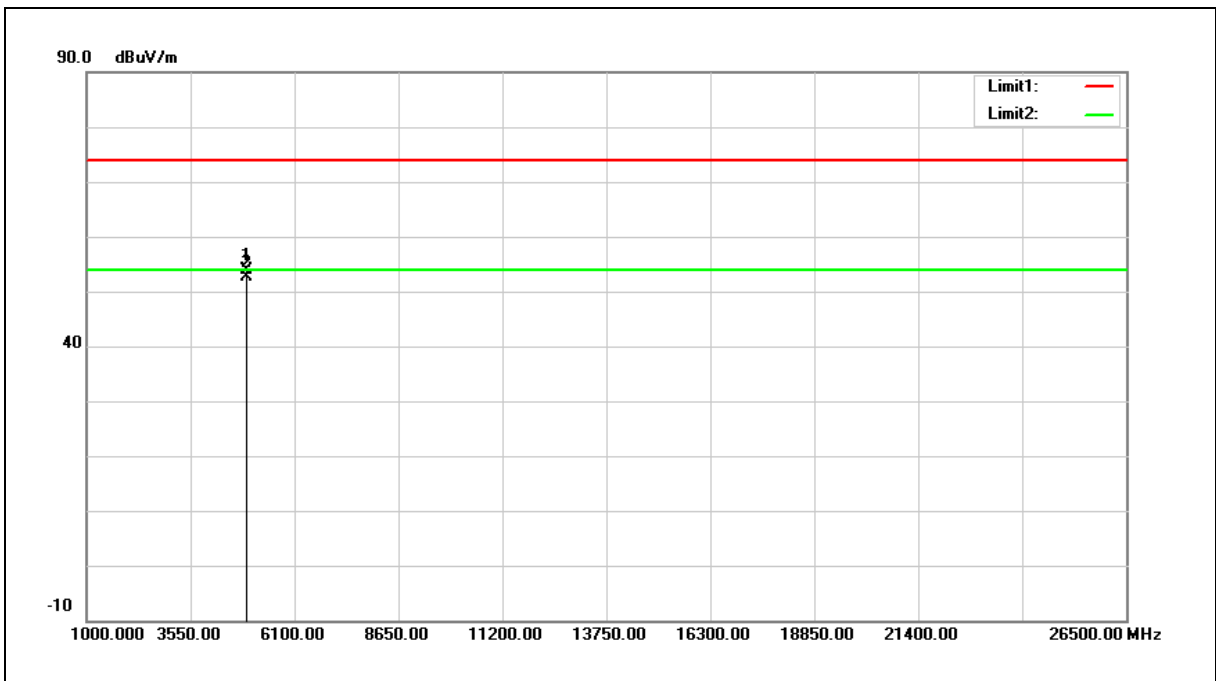
Note:1.Result (dBuV/m) = Correct Factor (dB/m) + Reading(dBuV).

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:	Harmonic	Power:	DC 3.8 V
Frequency:	2462MHz	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	58.22	-4.39	53.83	74.00	-20.17	peak
2	4924.000	57.05	-4.39	52.66	54.00	-1.34	AVG

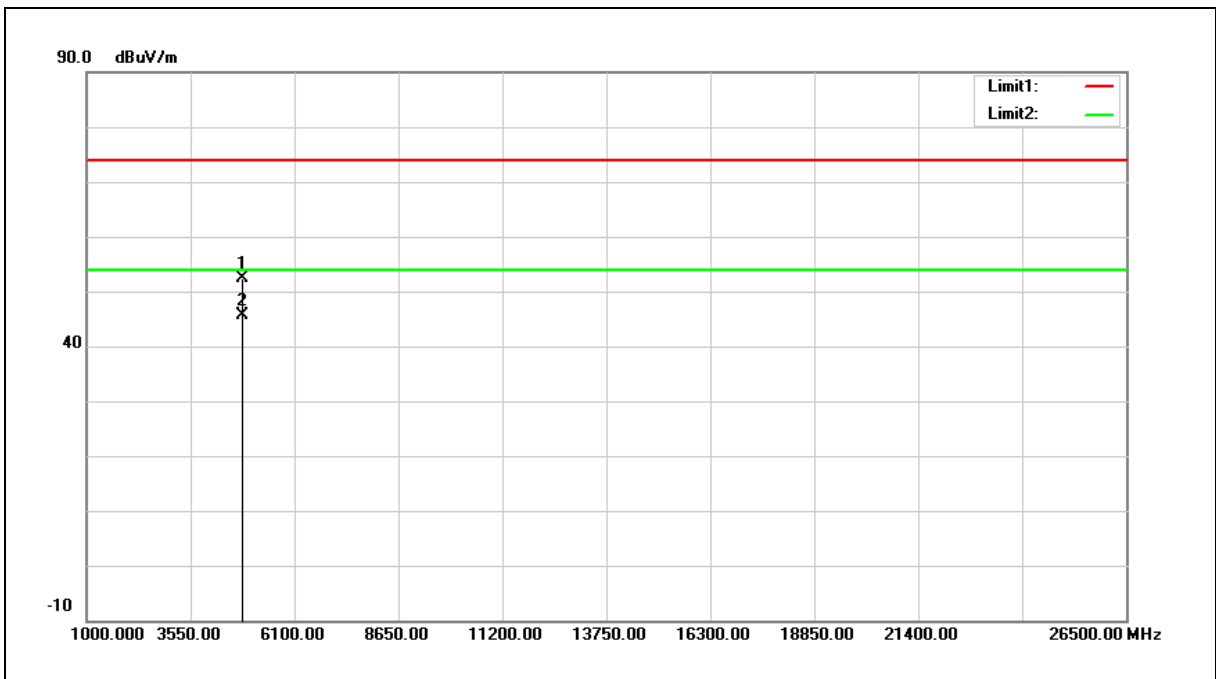
Note:1.Result (dBuV/m) = Correct Factor (dB/m) + Reading(dBuV).

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:	3m
Test item:	Harmonic	Power:	DC 3.8 V
Frequency:	2412MHz	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	56.84	-4.36	52.48	74.00	-21.52	peak
2	4824.000	50.10	-4.36	45.74	54.00	-8.26	AVG

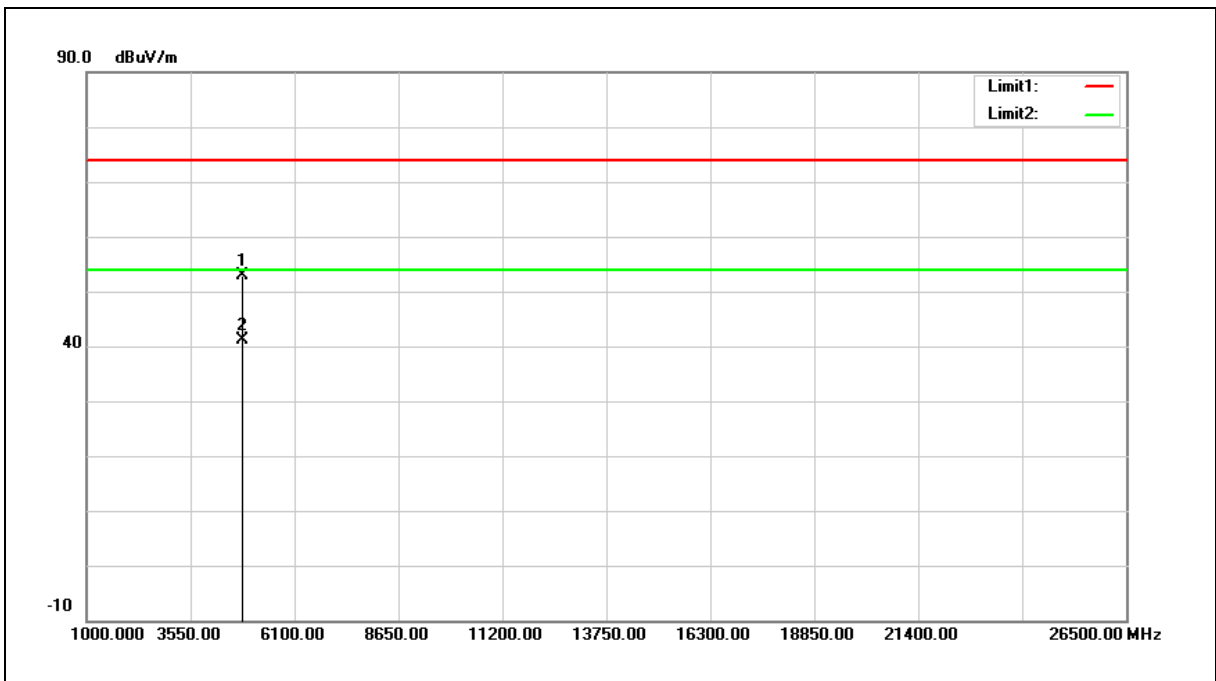
Note:1.Result (dBuV/m) = Correct Factor (dB/m) + Reading(dBuV).

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:	DC 3.8 V
Frequency:	2412MHz	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	57.14	-4.36	52.78	74.00	-21.22	peak
2	4824.000	45.43	-4.36	41.07	54.00	-12.93	AVG

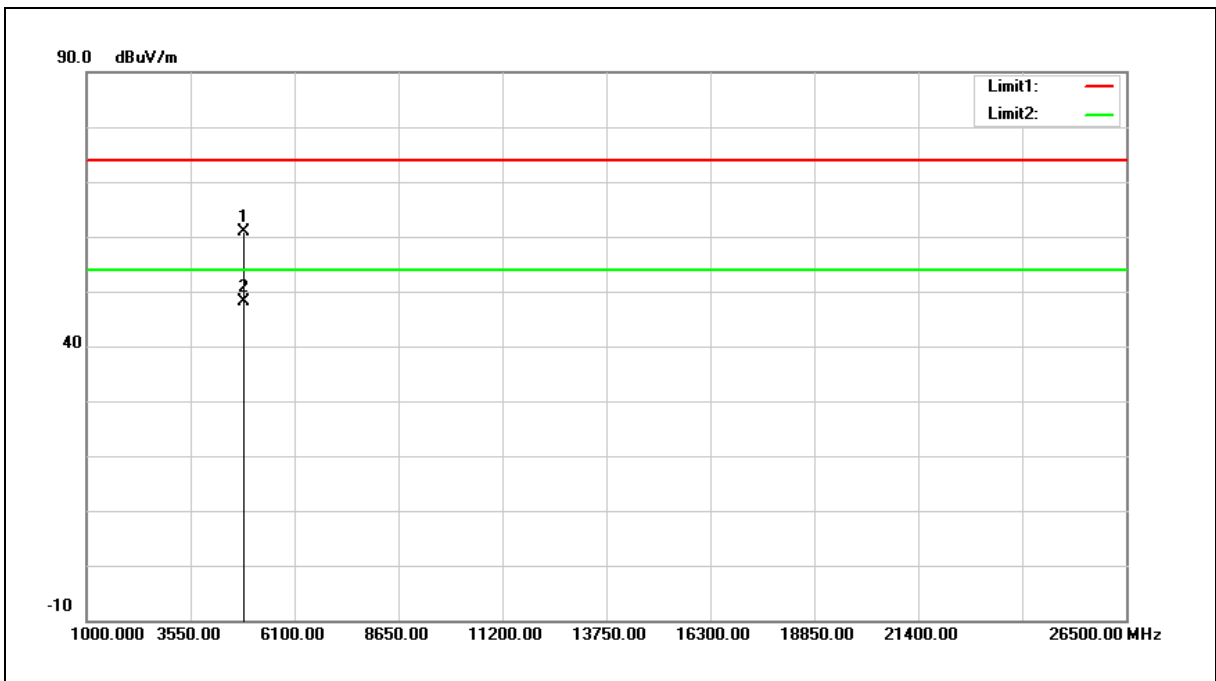
Note:1.Result (dBuV/m) = Correct Factor (dB/m) + Reading(dBuV).

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:	DC 3.8 V
Frequency:	2437MHz	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	65.16	-4.37	60.79	74.00	-13.21	peak
2	4874.000	52.46	-4.37	48.09	54.00	-5.91	AVG

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

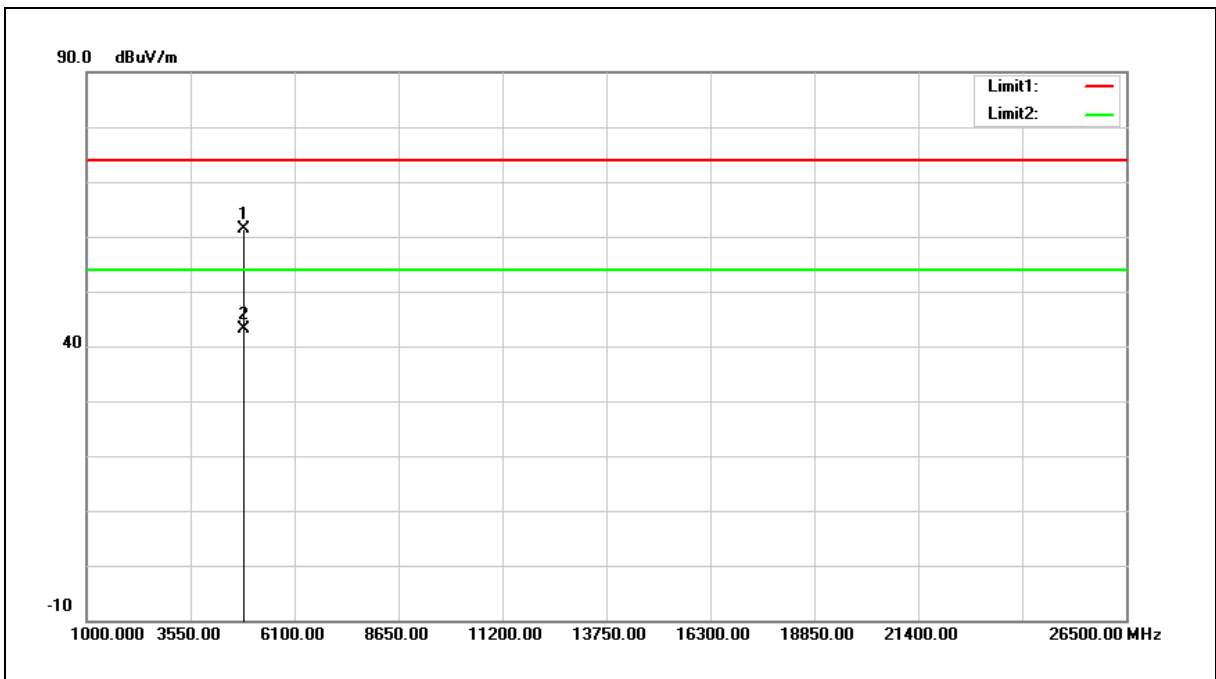
2.Correction factor (dB/m) = Antenna Factor (dB/m) + Cable loss (dB) – Pre-Amplifier gain (dB).

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:	DC 3.8 V
Frequency:	2437MHz	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	65.68	-4.37	61.31	74.00	-12.69	peak
2	4874.000	47.57	-4.37	43.20	54.00	-10.80	AVG

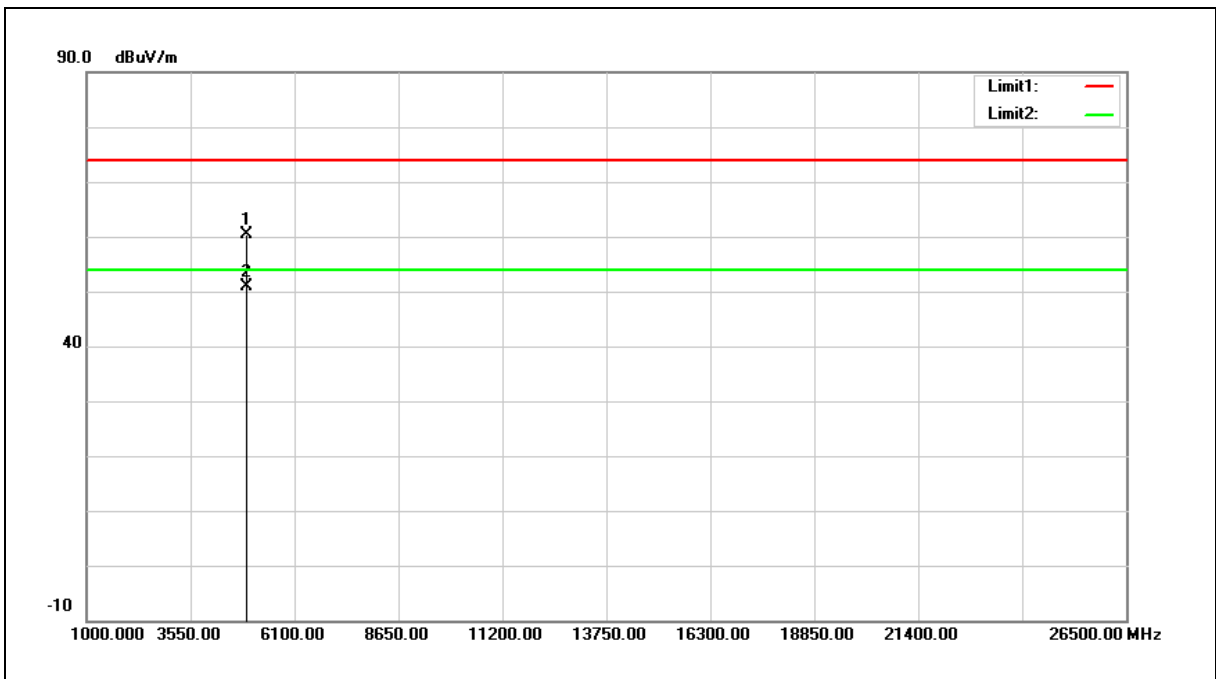
Note:1.Result (dBuV/m) = Correct Factor (dB/m) + Reading(dBuV).

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:	Harmonic	Power:	DC 3.8 V
Frequency:	2462MHz	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	64.85	-4.39	60.46	74.00	-13.54	peak
2	4924.000	55.29	-4.39	50.90	54.00	-3.10	AVG

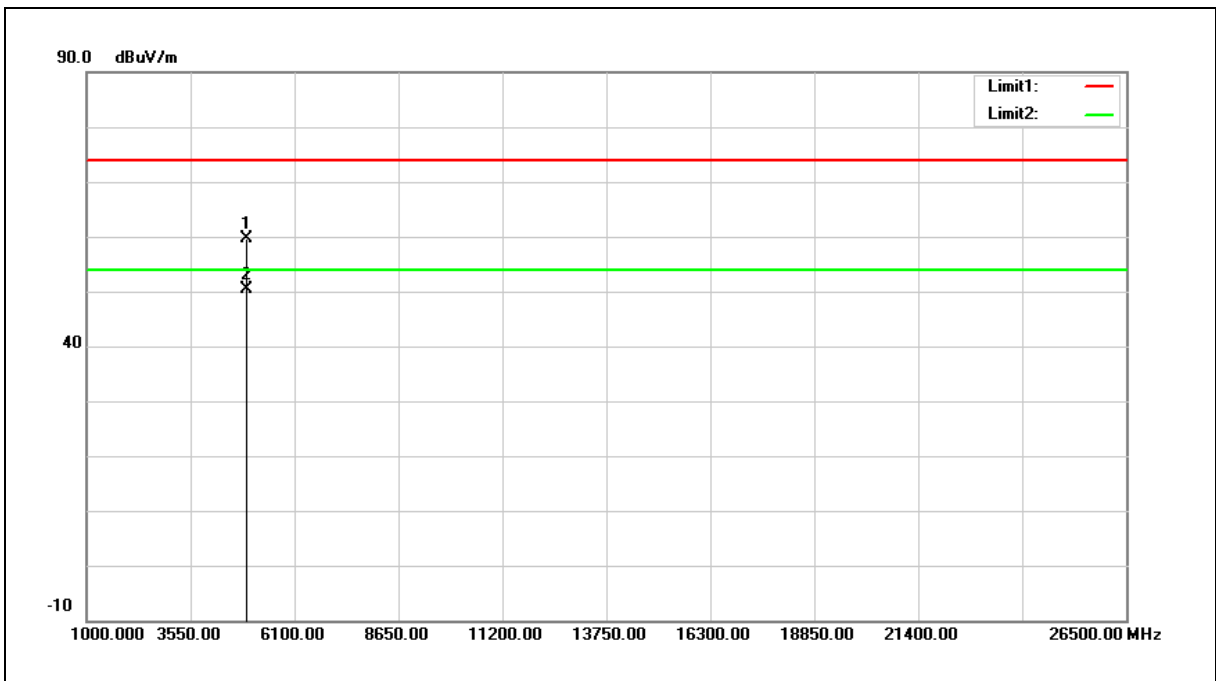
Note:1.Result (dBuV/m) = Correct Factor (dB/m) + Reading(dBuV).

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:	DC 3.8 V
Frequency:	2462MHz	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	64.08	-4.39	59.69	74.00	-14.31	peak
2	4924.000	54.65	-4.39	50.26	54.00	-3.74	AVG

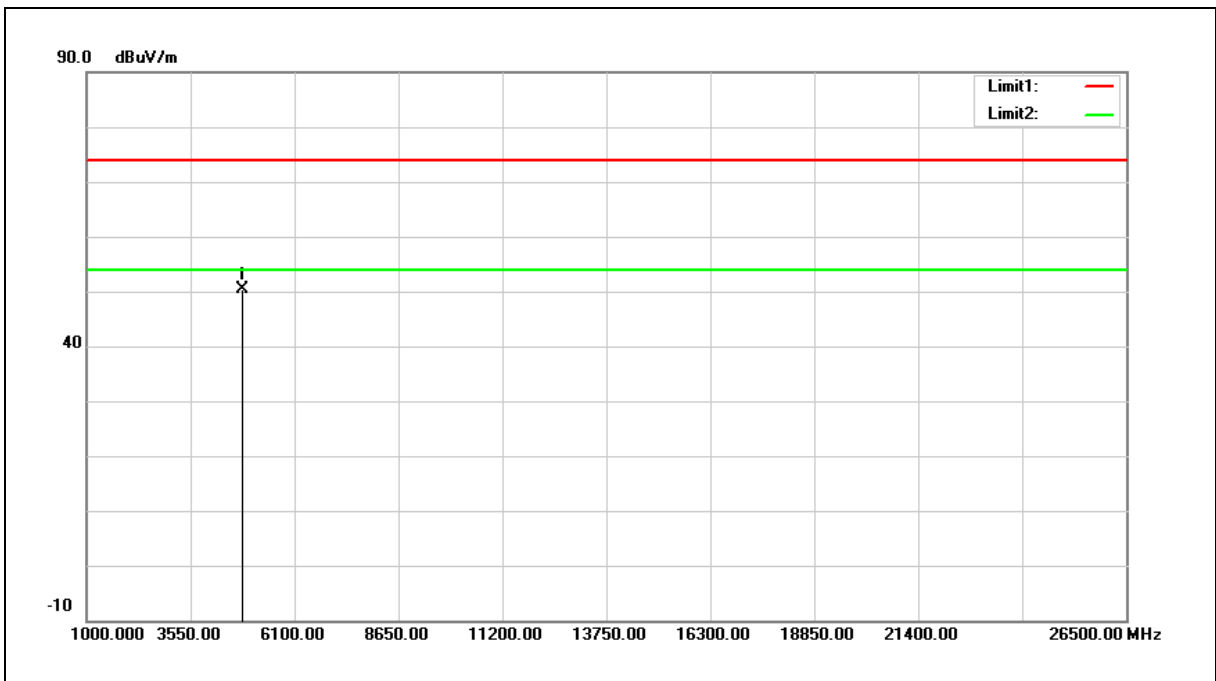
Note:1.Result (dBuV/m) = Correct Factor (dB/m) + Reading(dBuV).

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:	DC 3.8 V
Frequency:	2412MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 4		
Ant.Polar.:	Horizontal		



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4824.000	54.79	-4.36	50.43	74.00	-23.57	peak

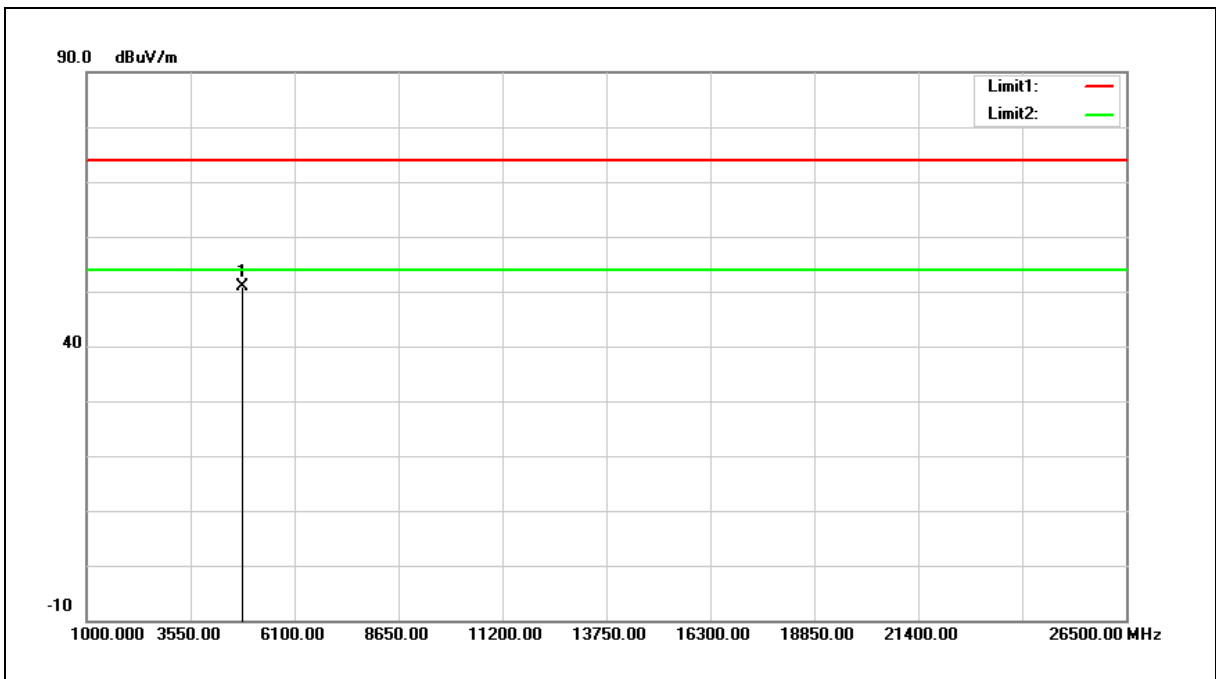
Note:1.Result (dBuV/m) = Correct Factor (dB/m) + Reading(dBuV).

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

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



Standard:	FCC Part 15.247	Test Distance:	3m
Test item:	Harmonic	Power:	DC 3.8 V
Frequency:	2412MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 4		
Ant.Polar.:	Vertical		



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4824.000	55.20	-4.36	50.84	74.00	-23.16	peak

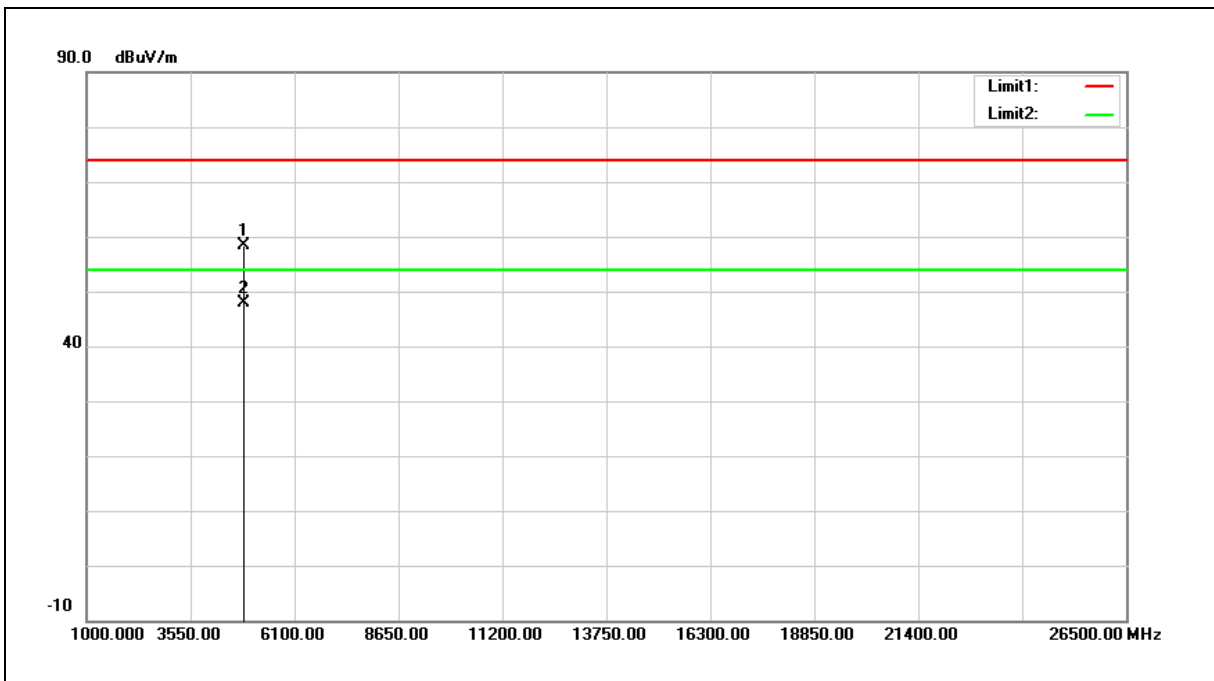
Note:1.Result (dBuV/m) = Correct Factor (dB/m) + Reading(dBuV).

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:	DC 3.8 V
Frequency:	2437MHz	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	62.81	-4.37	58.44	74.00	-15.56	peak
2	4874.000	52.14	-4.37	47.77	54.00	-6.23	AVG

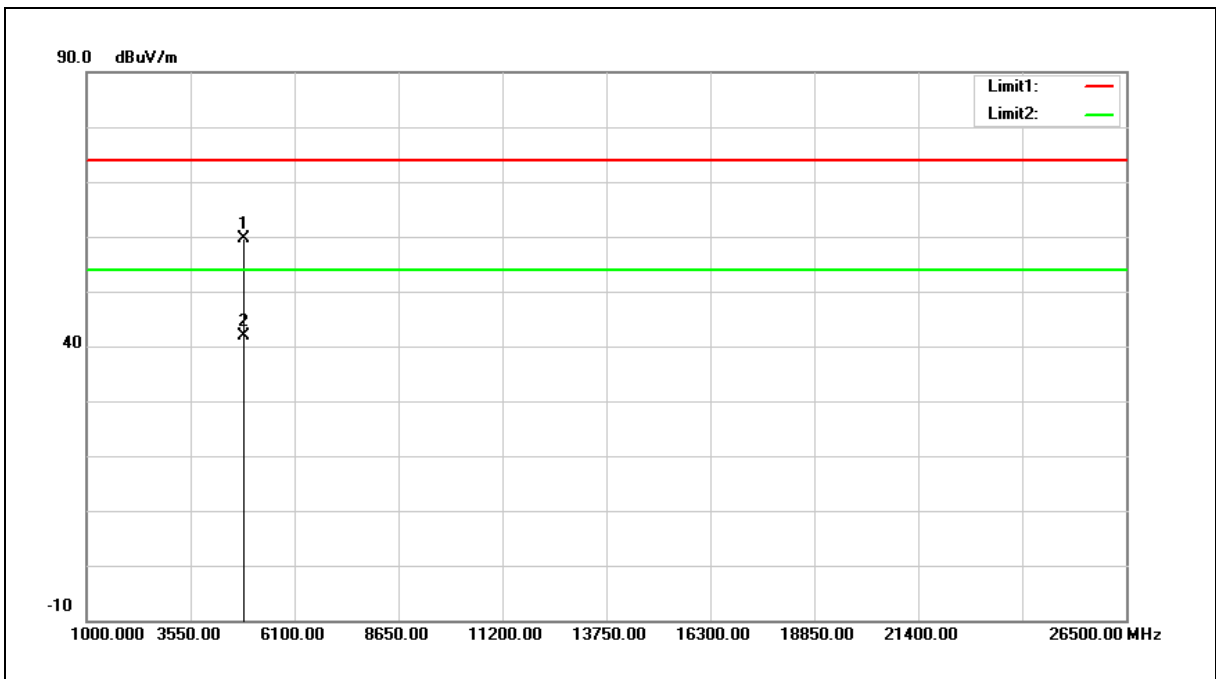
Note:1.Result (dBuV/m) = Correct Factor (dB/m) + Reading(dBuV).

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:	DC 3.8 V
Frequency:	2437MHz	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	63.96	-4.37	59.59	74.00	-14.41	peak
2	4874.000	46.18	-4.37	41.81	54.00	-12.19	AVG

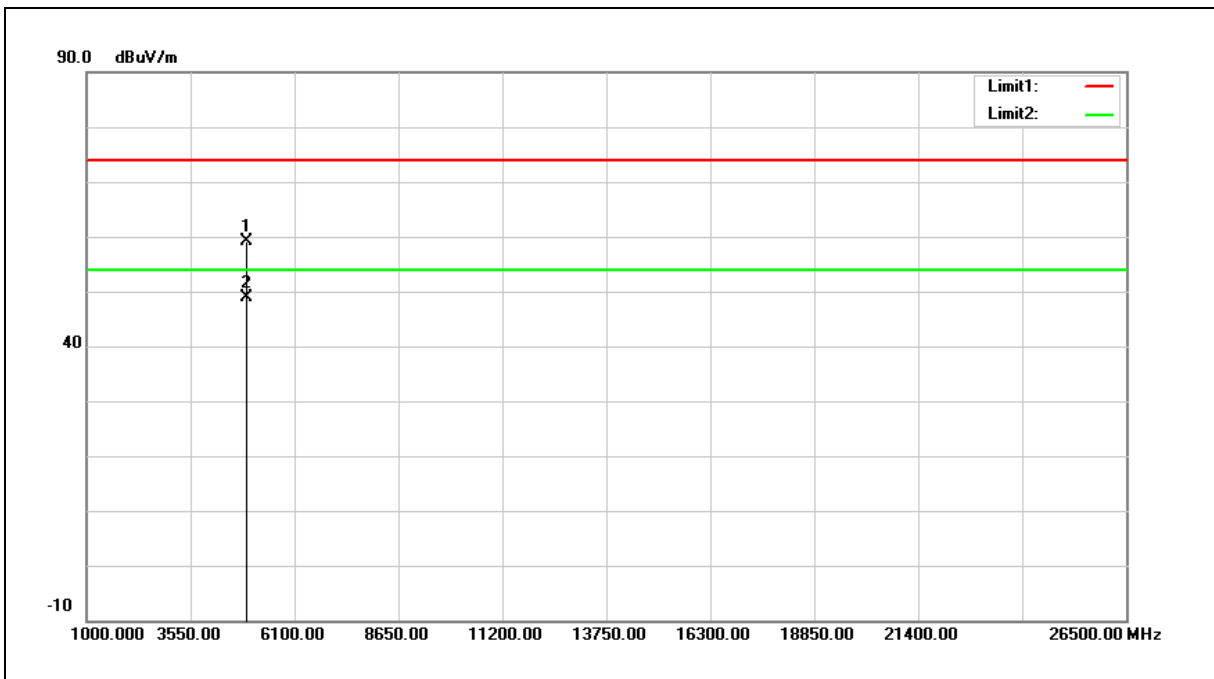
Note:1.Result (dBuV/m) = Correct Factor (dB/m) + Reading(dBuV).

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:	DC 3.8 V
Frequency:	2462MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 4		
Ant.Polar.:	Horizontal		



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4924.000	63.46	-4.39	59.07	74.00	-14.93	peak
2	4924.000	53.32	-4.39	48.93	54.00	-5.07	AVG

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

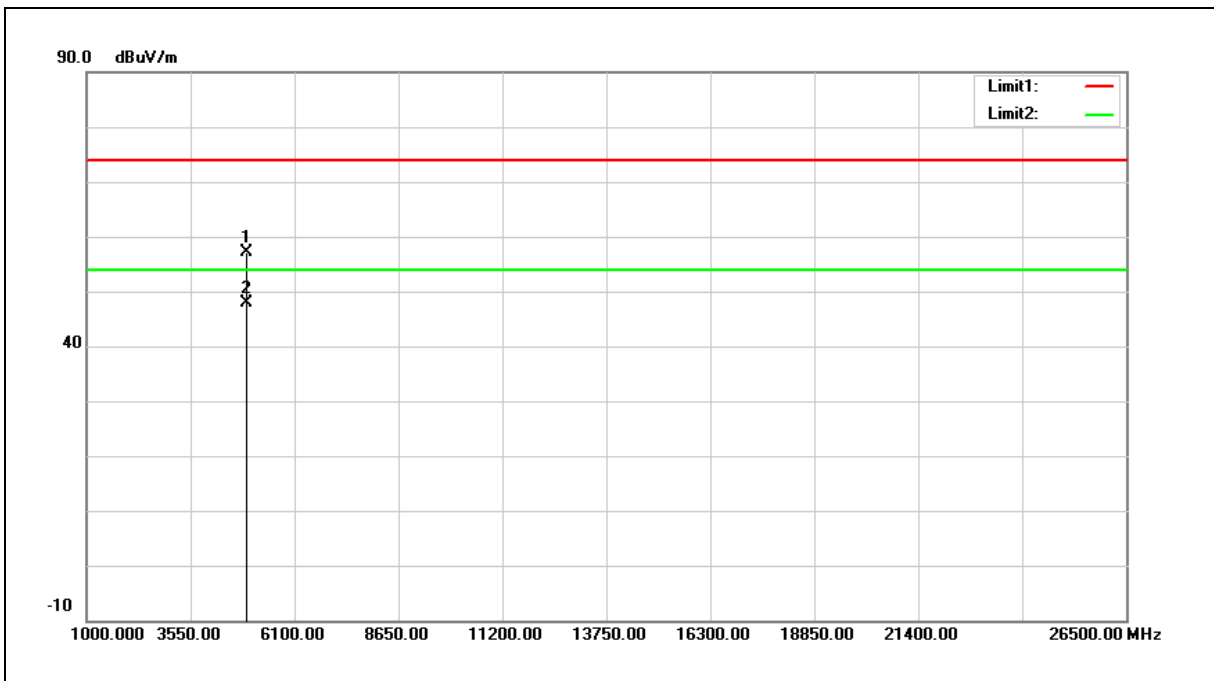
2.Correction factor (dB/m) = Antenna Factor (dB/m) + Cable loss (dB) – Pre-Amplifier gain (dB).

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:	Harmonic	Power:	DC 3.8 V
Frequency:	2462MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 4		
Ant.Polar.:	Vertical		



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4924.000	61.62	-4.39	57.23	74.00	-16.77	peak
2	4924.000	52.20	-4.39	47.81	54.00	-6.19	AVG

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

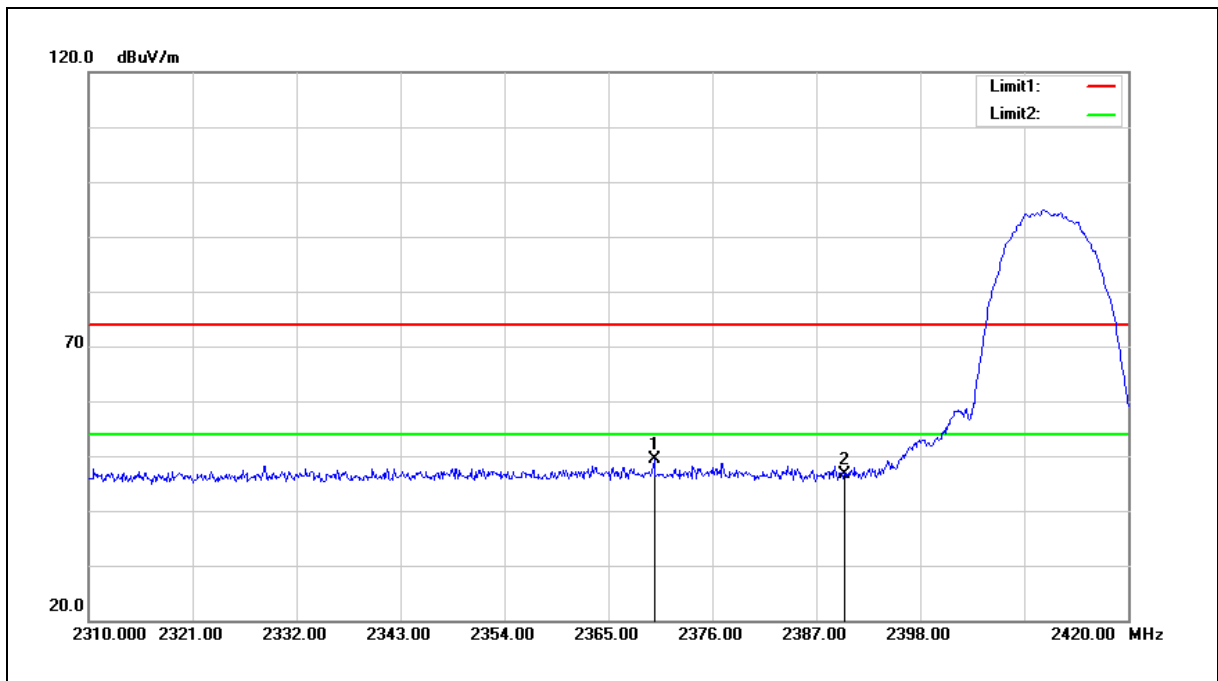
2.Correction factor (dB/m) = Antenna Factor (dB/m) + Cable loss (dB) – Pre-Amplifier gain (dB).

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



### Band Edge

Standard:	FCC Part 15.247	Test Distance:	3m
Test item:	Band edge	Power:	DC 3.8 V
Frequency:	2412MHz	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	2369.840	59.10	-9.73	49.37	74.00	-24.63	peak
2	2390.000	56.19	-9.62	46.57	74.00	-27.43	peak

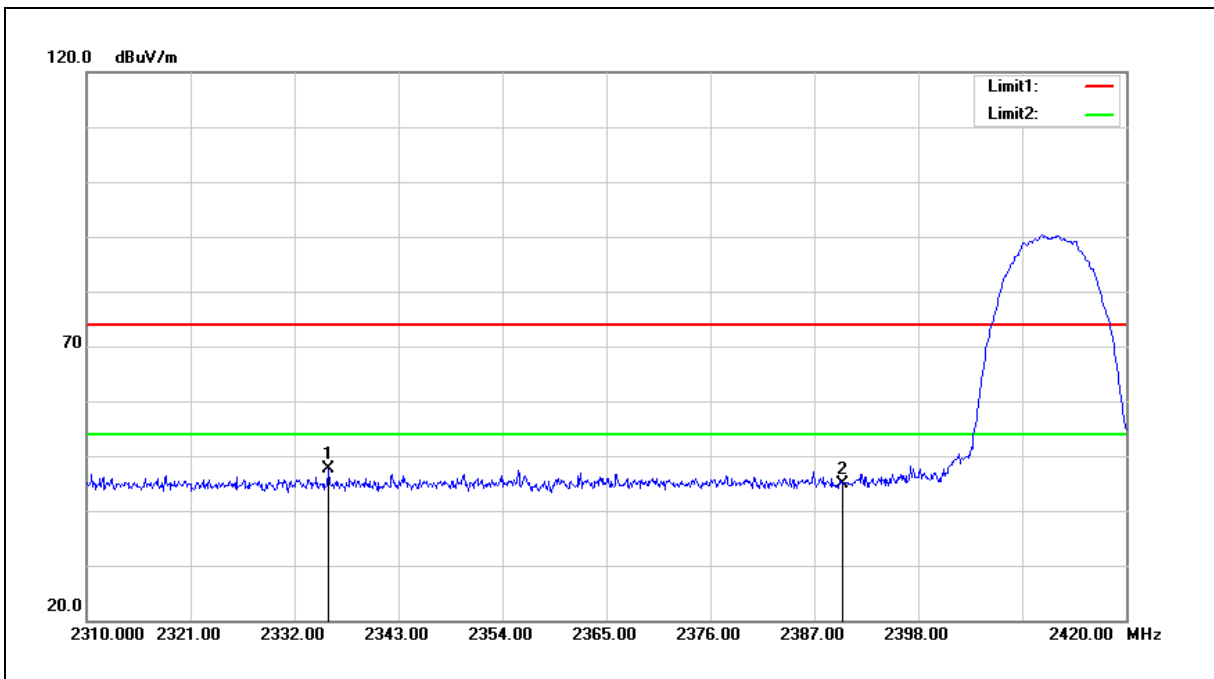
Note:1.Result (dBuV/m) = Correct Factor (dB/m) + Reading(dBuV).

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:	3m
Test item:	Band edge	Power:	DC 3.8 V
Frequency:	2412MHz	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	2335.630	57.47	-9.91	47.56	74.00	-26.44	peak
2	2390.000	54.58	-9.62	44.96	74.00	-29.04	peak

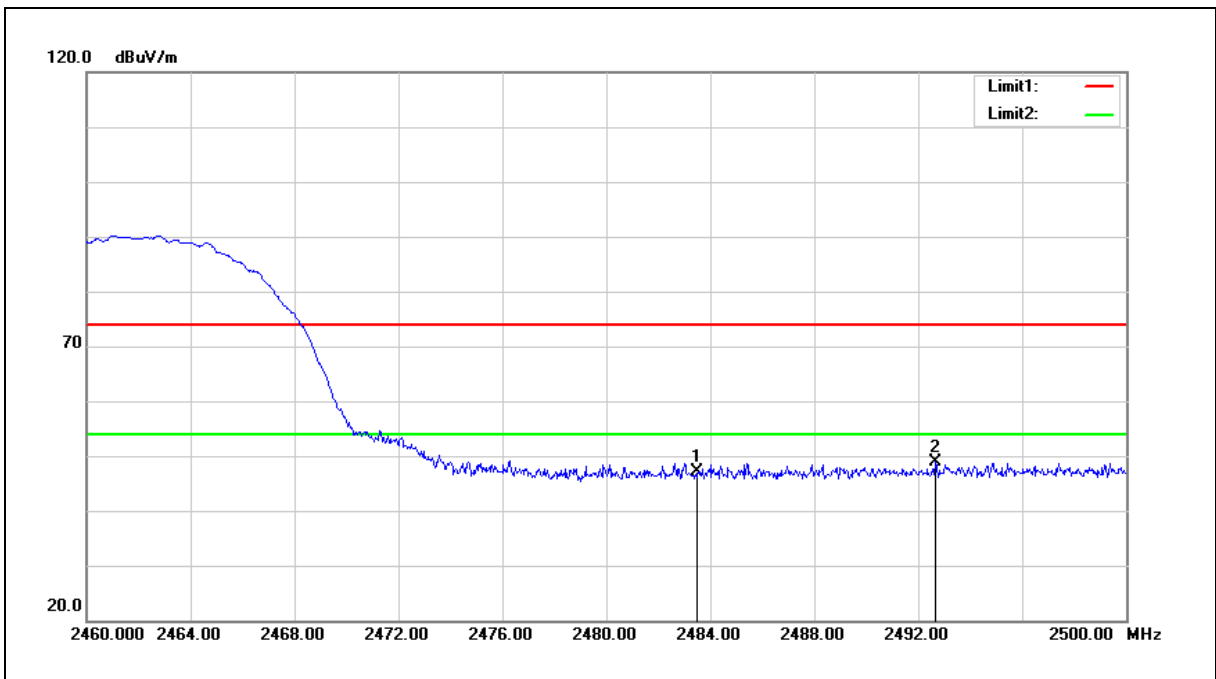
Note:1.Result (dBuV/m) = Correct Factor (dB/m) + Reading(dBuV).

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:	Band edge	Power:	DC 3.8 V
Frequency:	2462MHz	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	2483.500	56.29	-9.20	47.09	74.00	-26.91	peak
2	2492.680	57.97	-9.16	48.81	74.00	-25.19	peak

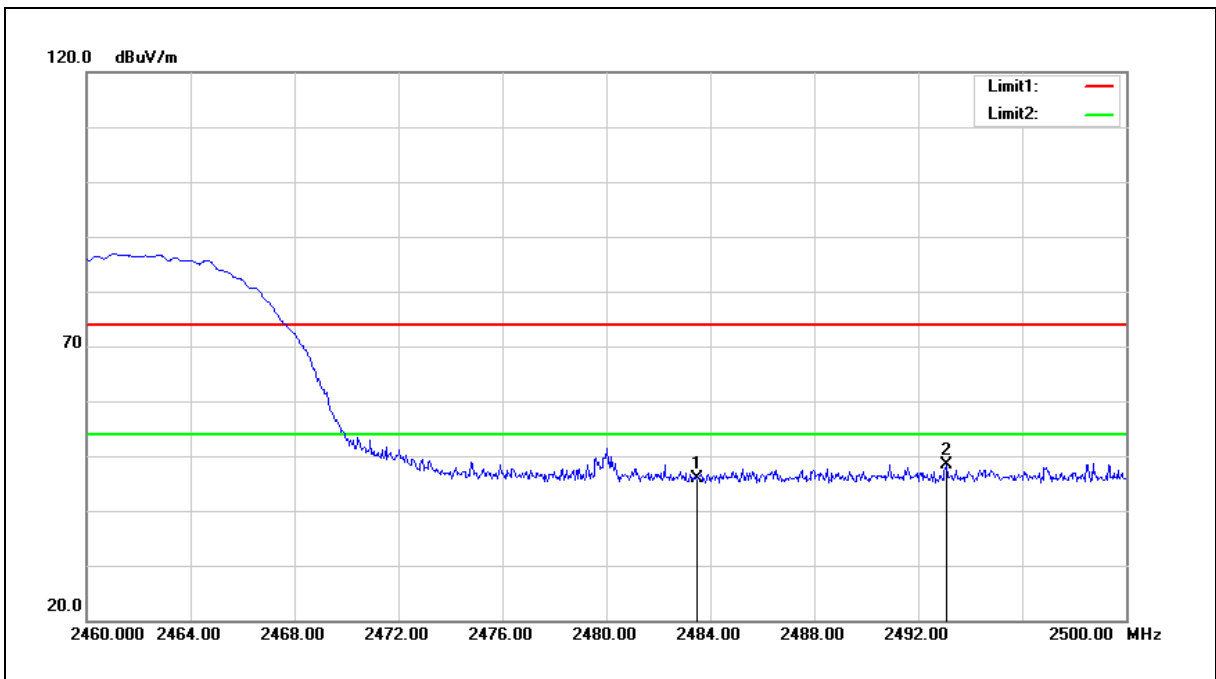
Note:1.Result (dBuV/m) = Correct Factor (dB/m) + Reading(dBuV).

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:	3m
Test item:	Band edge	Power:	DC 3.8 V
Frequency:	2462MHz	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	2483.500	55.11	-9.20	45.91	74.00	-28.09	peak
2	2493.080	57.66	-9.16	48.50	74.00	-25.50	peak

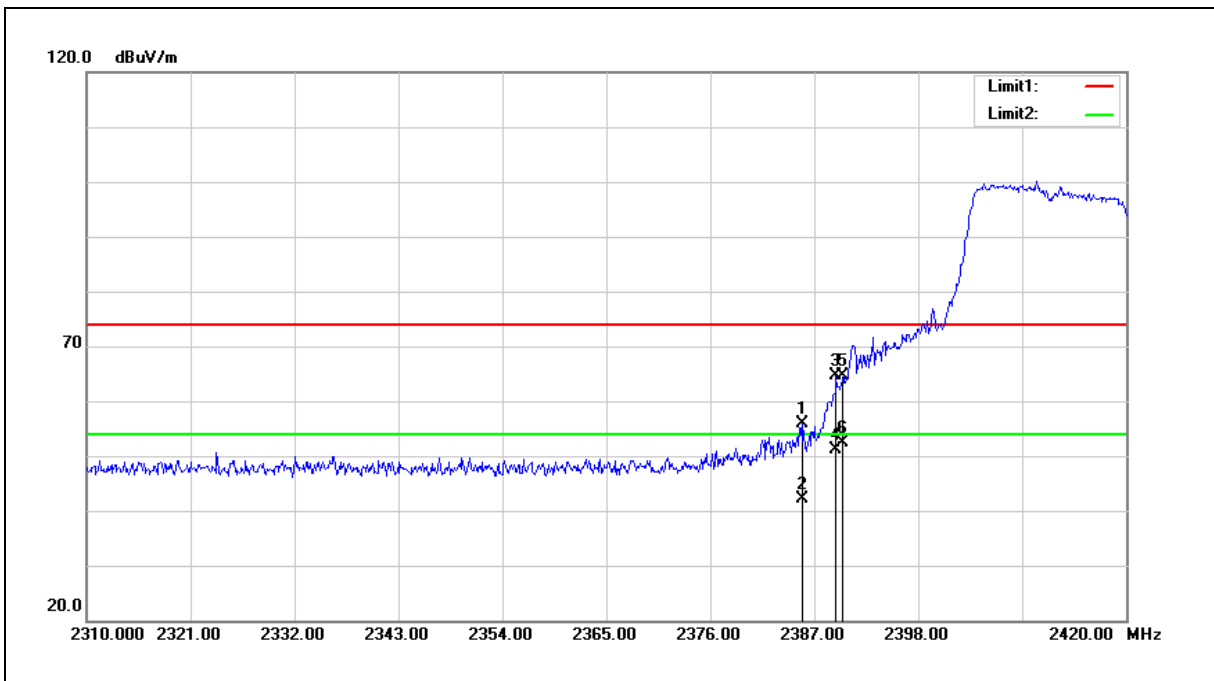
Note:1.Result (dBuV/m) = Correct Factor (dB/m) + Reading(dBuV).

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:	Band edge	Power:	DC 3.8 V
Frequency:	2412MHz	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	2385.790	65.62	-9.64	55.98	74.00	-18.02	peak
2	2385.790	51.68	-9.64	42.04	54.00	-11.96	AVG
3	2389.310	74.23	-9.63	64.60	74.00	-9.40	peak
4	2389.310	60.82	-9.63	51.19	54.00	-2.81	AVG
5	2390.000	74.31	-9.62	64.69	74.00	-9.31	peak
6	2390.000	62.11	-9.62	52.49	54.00	-1.51	AVG

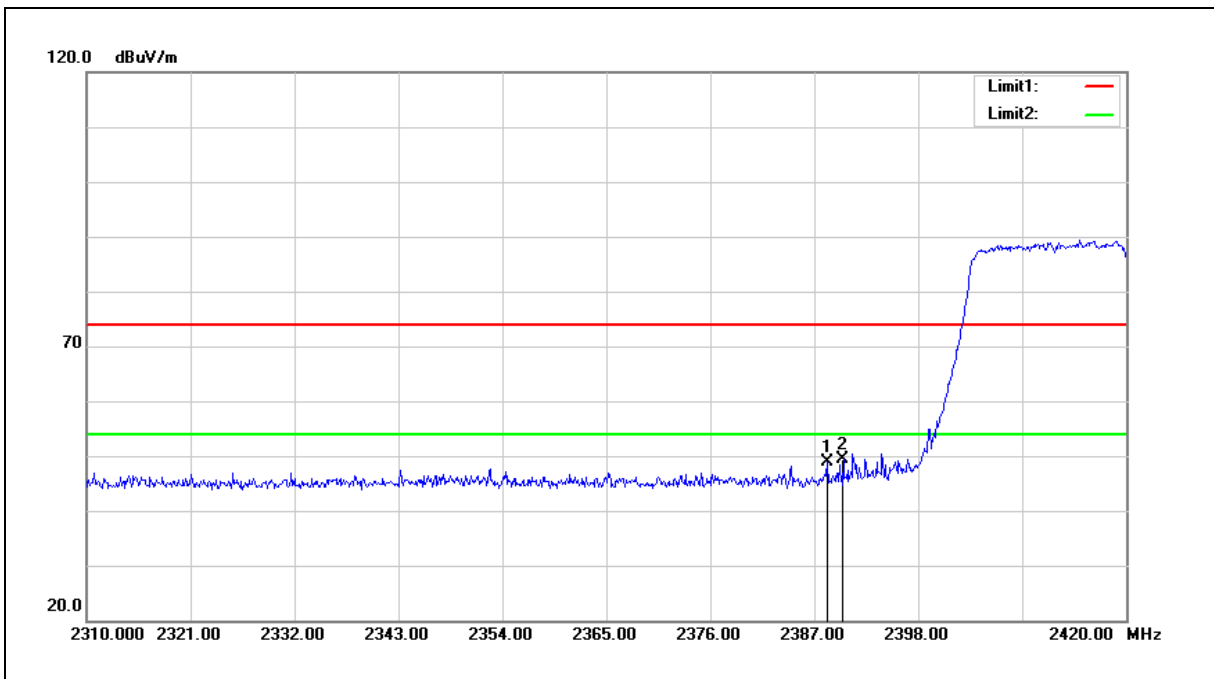
Note:1.Result (dBuV/m) = Correct Factor (dB/m) + Reading(dBuV).

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:	DC 3.8 V
Frequency:	2412MHz	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	2388.320	58.48	-9.64	48.84	74.00	-25.16	peak
2	2390.000	58.95	-9.62	49.33	74.00	-24.67	peak

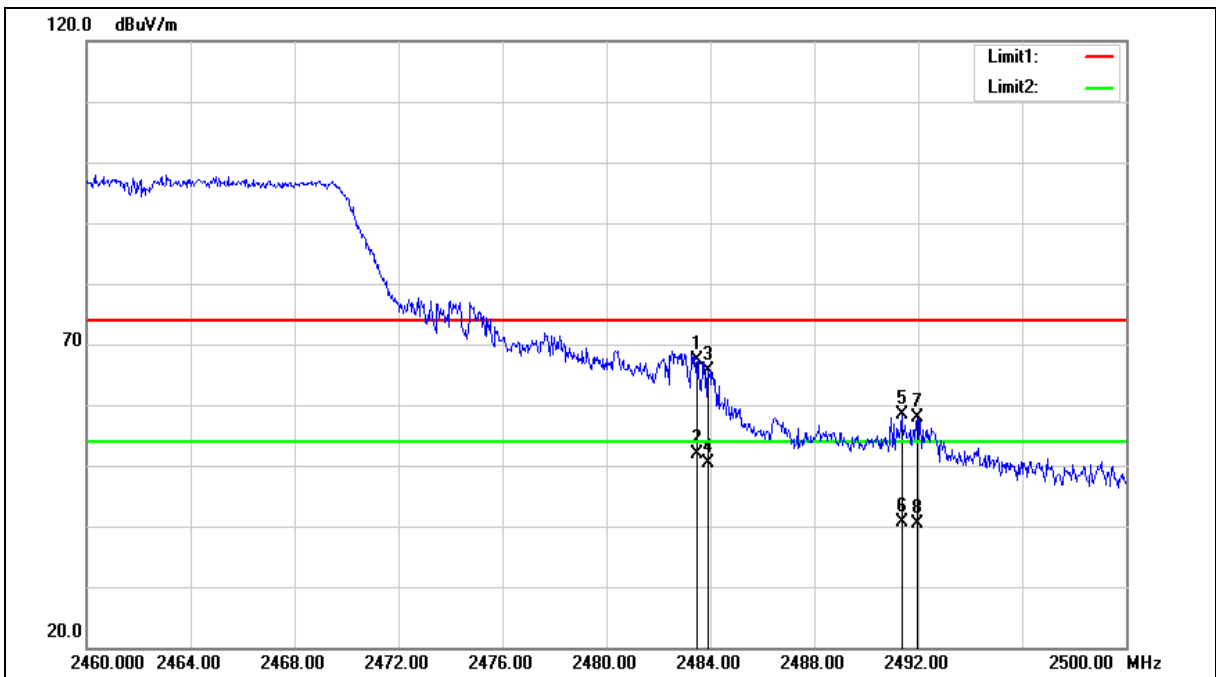
Note:1.Result (dBuV/m) = Correct Factor (dB/m) + Reading(dBuV).

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:	Band edge	Power:	DC 3.8 V
Frequency:	2462MHz	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	2483.500	76.46	-9.20	67.26	74.00	-6.74	peak
2	2483.500	61.15	-9.20	51.95	54.00	-2.05	AVG
3	2483.920	74.92	-9.20	65.72	74.00	-8.28	peak
4	2483.920	59.56	-9.20	50.36	54.00	-3.64	AVG
5	2491.360	67.46	-9.17	58.29	74.00	-15.71	peak
6	2491.360	49.78	-9.17	40.61	54.00	-13.39	AVG
7	2491.960	66.95	-9.16	57.79	74.00	-16.21	peak
8	2491.960	49.52	-9.16	40.36	54.00	-13.64	AVG

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

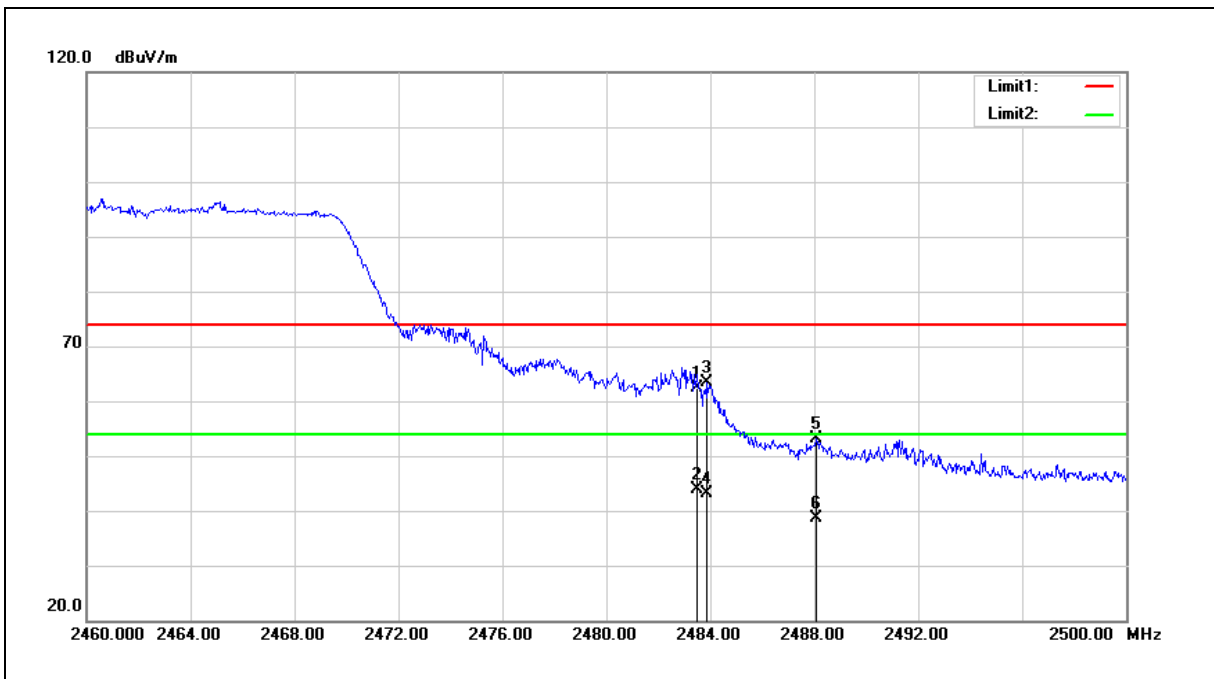
2.Correction factor (dB/m) = Antenna Factor (dB/m) + Cable loss (dB) – Pre-Amplifier gain (dB).

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:	DC 3.8 V
Frequency:	2462MHz	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	2483.500	71.50	-9.20	62.30	74.00	-11.70	peak
2	2483.500	53.04	-9.20	43.84	54.00	-10.16	AVG
3	2483.880	72.55	-9.20	63.35	74.00	-10.65	peak
4	2483.880	52.26	-9.20	43.06	54.00	-10.94	AVG
5	2488.080	62.20	-9.19	53.01	74.00	-20.99	peak
6	2488.080	47.85	-9.19	38.66	54.00	-15.34	AVG

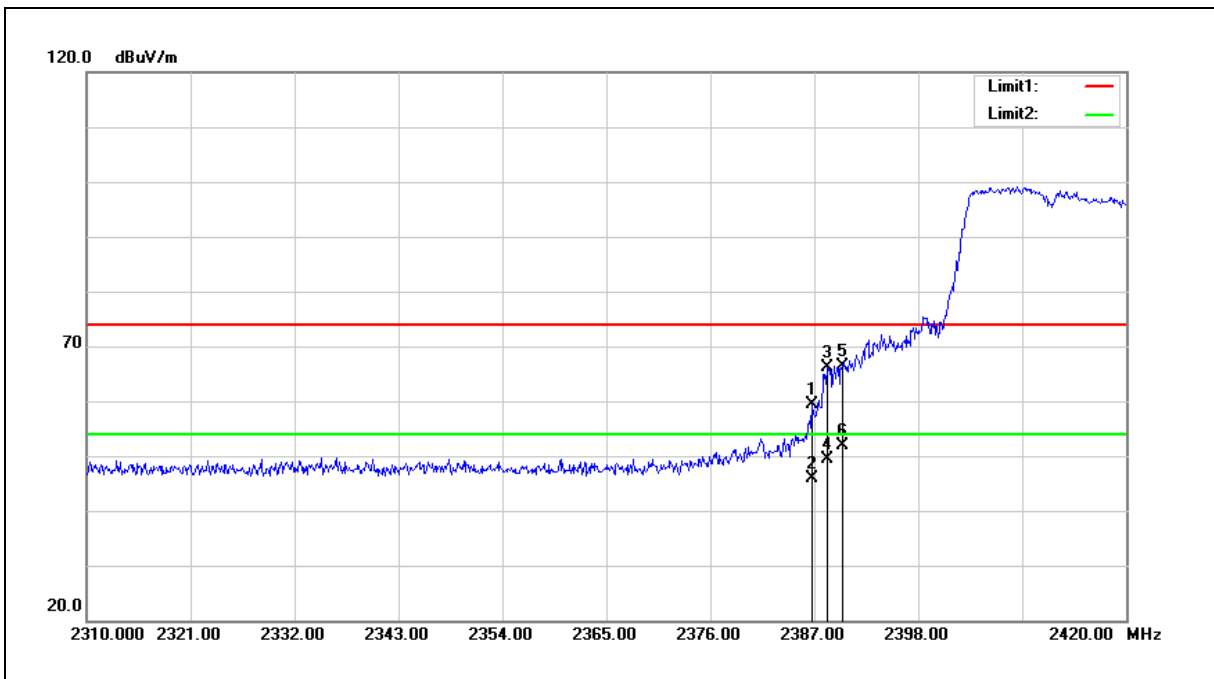
Note:1.Result (dBuV/m) = Correct Factor (dB/m) + Reading(dBuV).

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:	3m
Test item:	Band edge	Power:	DC 3.8 V
Frequency:	2412MHz	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	2386.780	69.04	-9.64	59.40	74.00	-14.60	peak
2	2386.780	55.56	-9.64	45.92	54.00	-8.08	AVG
3	2388.320	75.88	-9.64	66.24	74.00	-7.76	peak
4	2388.320	58.97	-9.64	49.33	54.00	-4.67	AVG
5	2390.000	76.07	-9.62	66.45	74.00	-7.55	peak
6	2390.000	61.56	-9.62	51.94	54.00	-2.06	AVG

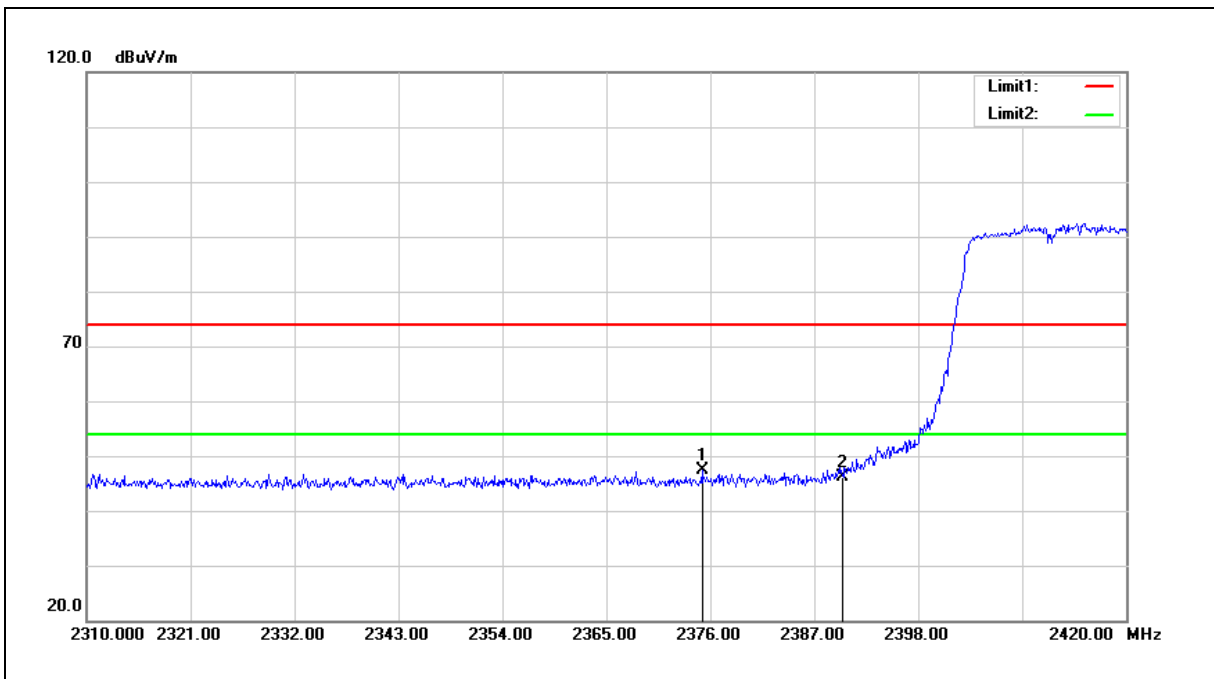
Note:1.Result (dBuV/m) = Correct Factor (dB/m) + Reading(dBuV).

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:	DC 3.8 V
Frequency:	2412MHz	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	2375.120	57.03	-9.70	47.33	74.00	-26.67	peak
2	2390.000	55.80	-9.62	46.18	74.00	-27.82	peak

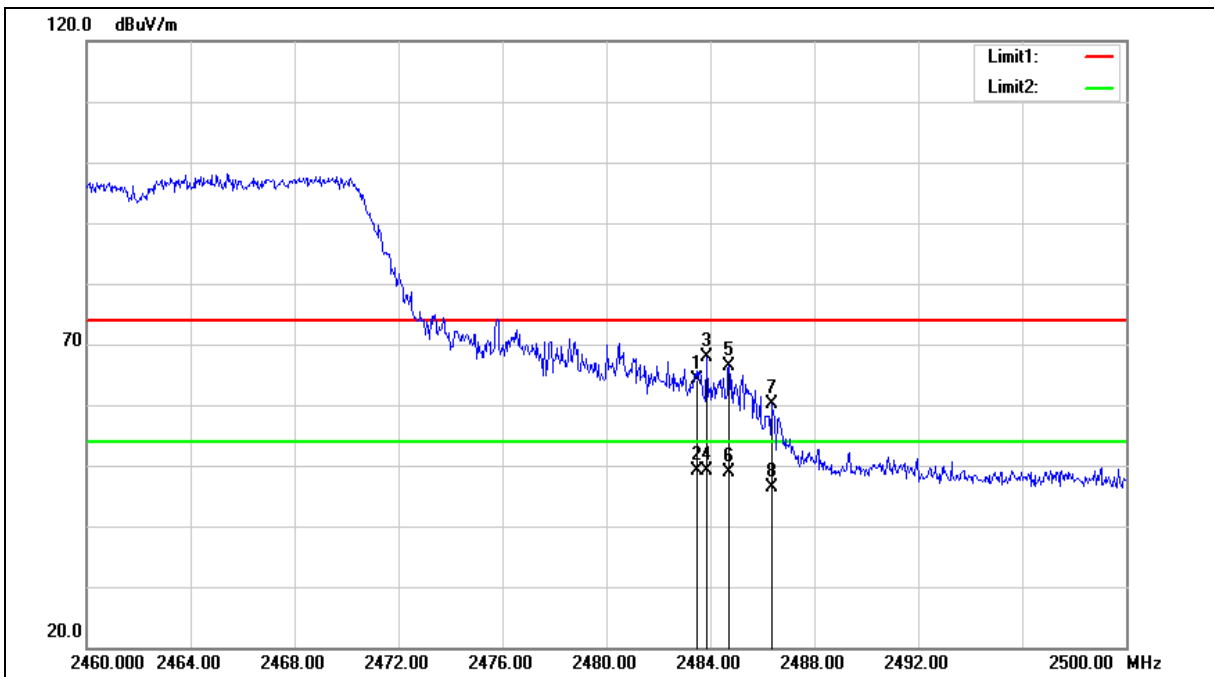
Note:1.Result (dBuV/m) = Correct Factor (dB/m) + Reading(dBuV).

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:	3m
Test item:	Band edge	Power:	DC 3.8 V
Frequency:	2462MHz	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	2483.500	73.27	-9.20	64.07	74.00	-9.93	peak
2	2483.500	58.28	-9.20	49.08	54.00	-4.92	AVG
3	2483.840	76.99	-9.20	67.79	74.00	-6.21	peak
4	2483.840	58.28	-9.20	49.08	54.00	-4.92	AVG
5	2484.720	75.68	-9.20	66.48	74.00	-7.52	peak
6	2484.720	57.99	-9.20	48.79	54.00	-5.21	AVG
7	2486.360	69.24	-9.19	60.05	74.00	-13.95	peak
8	2486.360	55.66	-9.19	46.47	54.00	-7.53	AVG

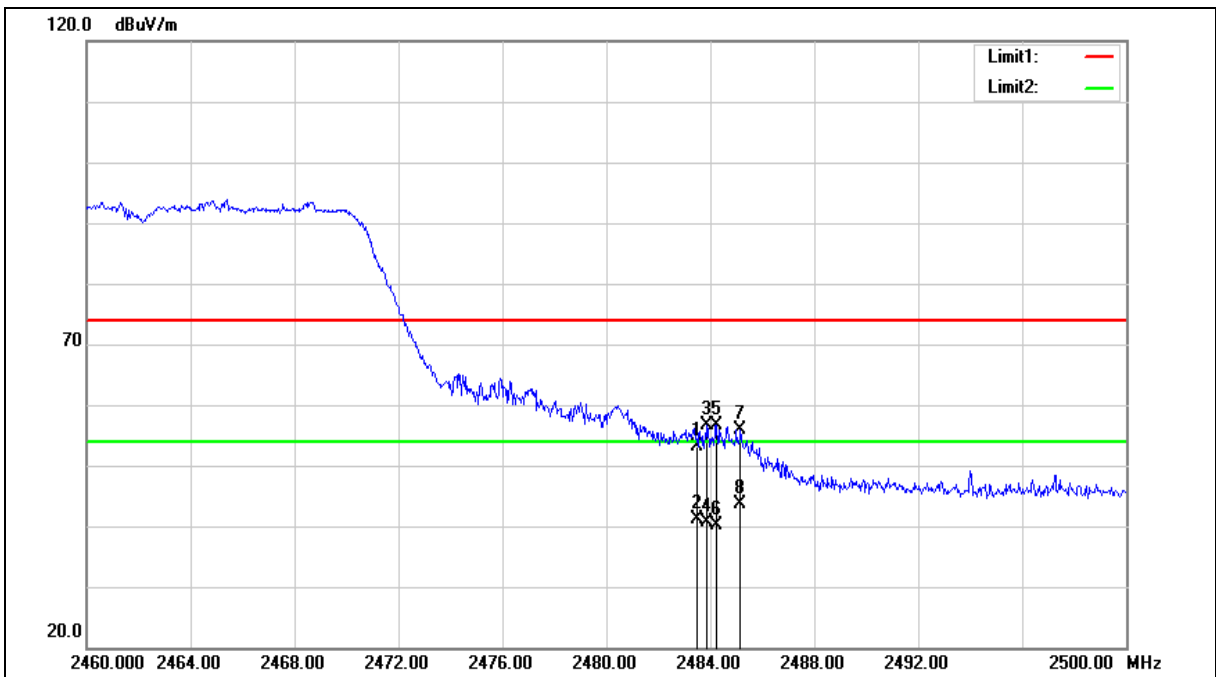
Note:1.Result (dBuV/m) = Correct Factor (dB/m) + Reading(dBuV).

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:	DC 3.8 V
Frequency:	2462MHz	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	2483.500	62.29	-9.20	53.09	74.00	-20.91	peak
2	2483.500	50.25	-9.20	41.05	54.00	-12.95	AVG
3	2483.880	65.84	-9.20	56.64	74.00	-17.36	peak
4	2483.880	49.78	-9.20	40.58	54.00	-13.42	AVG
5	2484.240	65.81	-9.20	56.61	74.00	-17.39	peak
6	2484.240	49.39	-9.20	40.19	54.00	-13.81	AVG
7	2485.160	65.12	-9.19	55.93	74.00	-18.07	peak
8	2485.160	52.80	-9.19	43.61	54.00	-10.39	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.