

RF Test Report

Applicant : Superior Communications DBA PureGear
Product Type : PURECAM
Trade Name : PureGear
Model Number : 07614PG
Applicable Standard : FCC 47 CFR PART 15 SUBPART C
ANSI C63.10:2013
Receive Date : Oct. 23, 2017
Test Period : Dec. 25, 2017 ~ Feb. 05, 2018
Issue Date : Feb. 05, 2018

Issue by

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Taiwan Accreditation Foundation accreditation number: 1330

Test Firm MRA designation number: TW0010

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Revision History

Rev.	Issue Date	Revisions	Revised By
00	Feb. 05, 2018	Initial Issue	Nina Lin



Verification of Compliance

Issued Date: Feb. 05, 2018

Applicant : Superior Communications DBA PureGear
Product Type : PURECAM
Trade Name : PureGear
Model Number : 07614PG
FCC ID : 2AIIF-07614PG
EUT Rated Voltage : DC 5V
Test Voltage : 120Vac / 60 Hz
Applicable Standard : FCC 47 CFR PART 15 SUBPART C
ANSI C63.10:2013

Test Result : Complied

Performing Lab. : A Test Lab Techno Corp.

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

Approved By

: Fly Lu

(Manager)

(Fly Lu)

Reviewed By

: Eric Ou Yang

(Testing Engineer)

(Eric Ou Yang)

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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	-----

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.

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
KDB 558074 D01 v04	GUIDANCE FOR PERFORMING COMPLIANCE MEASUREMENTS ON DIGITAL TRANSMISSION SYSTEMS (DTS) OPERATING UNDER SECTION 15.247

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	Superior Communications DBA PureGear 5082 4th Street Irwindale California USA, Irwindale, California, 91706, United States			
Manufacturer	Shenzhen Auto Range Tech Co., Limited 5/F, Bldg. A1, Atomic Power Industrial Park, Fuming, Guanlan, Shenzhen, Guangdong. P. R. China.			
Product Type	PURECAM			
Trade Name	PureGear			
Model Number	07614PG			
FCC ID	2AIIIF-07614PG			
IMEI No.	35316305670667			
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
IEEE 802.11n 2.4GHz 40MHz	2422 ~ 2452	OFDM	40MHz	Up to 150Mbps
Antenna information	Type		Max. Gain (dBi)	
	Internal Antenna		2	
Antenna Delivery	See section 3.1			
Operate Temp. Range	-10 ~ +70 °C			

Frequency Band	Max. RF Output Power (W)
IEEE 802.11b	0.100
IEEE 802.11g	0.024
IEEE 802.11n 2.4GHz 20MHz	0.016
IEEE 802.11n 2.4GHz 40MHz	0.010

3 Test Methodology

3.1. Mode of Operation

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

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

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

After verification, all tests were carried out with the worst case test modes as shown below except radiated spurious emission below 1GHz and power line conducted emissions below 30MHz, which worst case was in TX mode only.

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

Test Mode	ANT-0
Mode 2	V
Mode 3	V
Mode 4	V
Mode 5	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
Mode 5	1TX	13.5M	3, 6, 9

Duty cycle

Test Mode	Frequency (MHz)	on time (ms)	on+off time (ms)	Duty cycle	Duty Factor (dB)	1/T Minimum VBW (kHz)
Mode 2	2412	8.460	8.550	0.989	0.046	0.010
Mode 3	2412	1.410	1.560	0.904	0.439	0.709
Mode 4	2412	1.320	1.470	0.898	0.467	0.758
Mode 5	2422	0.670	0.820	0.817	0.877	1.493



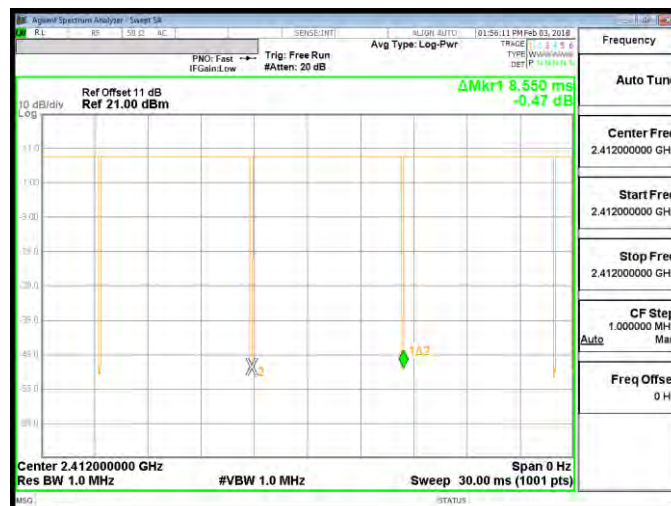
Duty Cycle Graphs

Mode 2: IEEE 802.11b Continuous TX mode

On time



On+off time



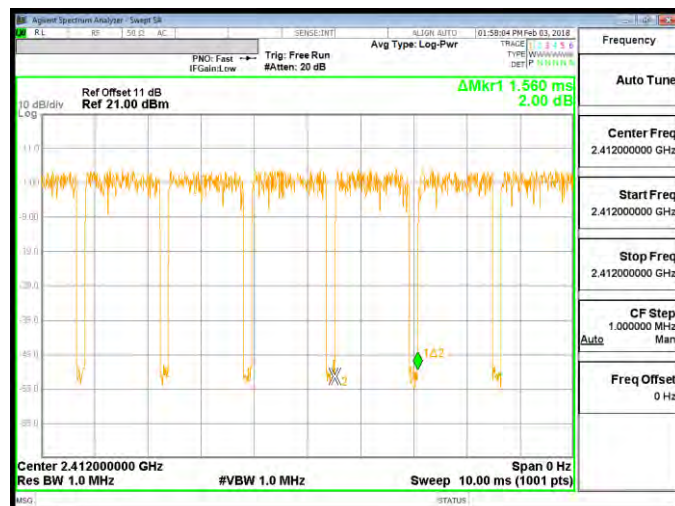


Mode 3: IEEE 802.11g Continuous TX mode

On time



On+off time





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

On time



On+off time





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

On time



On+off time





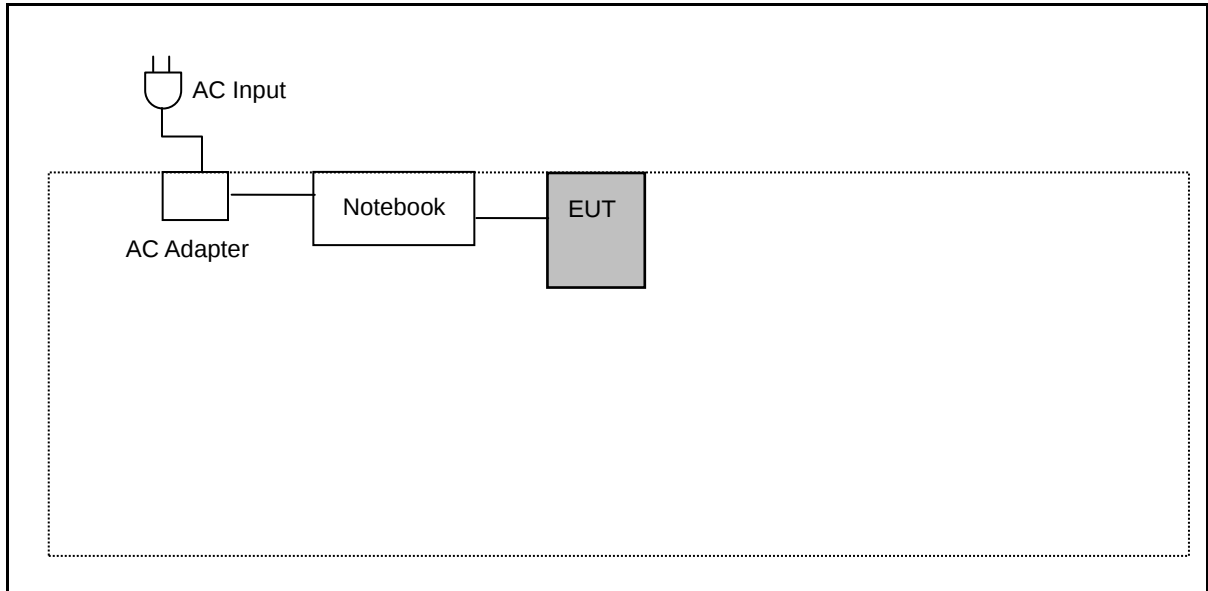
3.2. EUT Exercise Software

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

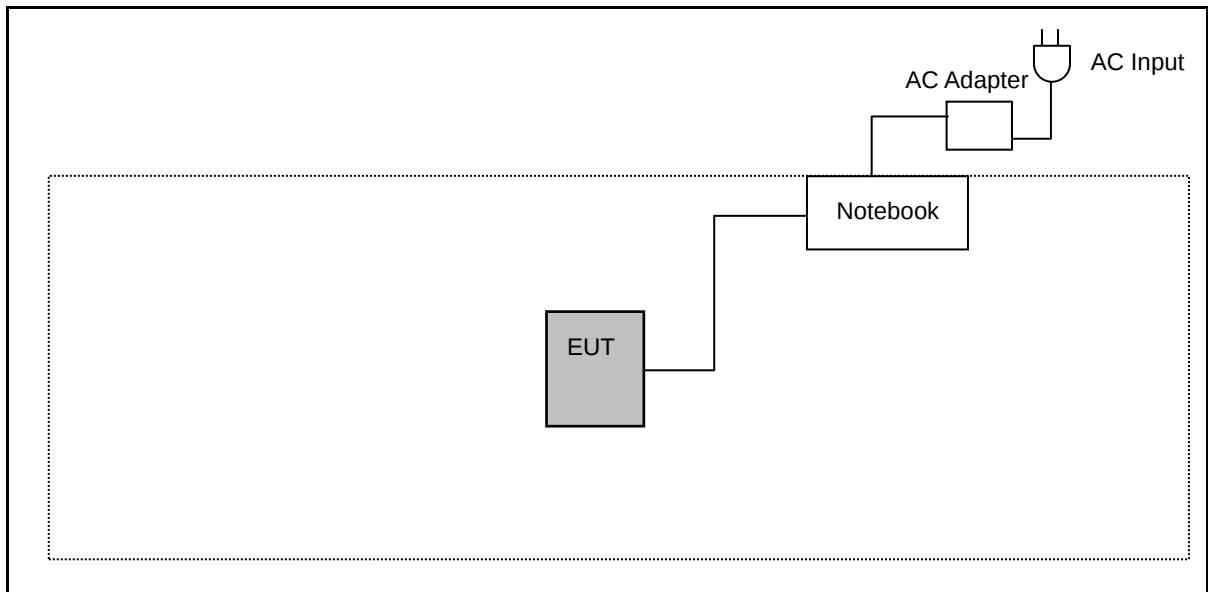
Measurement Software	
1	EZ-EMC Ver. ATL-03A1-1
2	EZ-EMC Ver ATL-ITC-3A1-1

3.3. Configuration of Test System Details

Conducted Emissions



Radiated Emission





3.4. Test Instruments

For Conducted Emission

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

For Radiated Emissions

Equipment	Manufacturer	Model Number	Serial Number	Cal. Date	Cal. Period
RF Pre-selector (9KHz~1GHz)	Agilent	N9039A	MY46520256	04/24/2017	1 year
Spectrum Analyzer (3Hz~44GHz)	Agilent	E4446A	MY46180578	04/24/2017	1 year
Pre Amplifier (1~26.5GHz)	Agilent	8449B	3008A02237	10/16/2017	1 year
Pre Amplifier (100KHz~1.3GHz)	Agilent	8447D	2944A11119	01/12/2017	1 year
				01/10/2018	1 year
Pre Amplifier (26.5~40GHz)	EMCI	EMC2654045	980028	08/29/2017	1 year
Preamplifier (1~26.5GHz)	EMCI	EMC012645SE	980266	08/21/2017	1 year
Broadband Antenna	Schwarzbeck	VULB9168	416	10/26/2017	1 year
Horn Antenna (1~18GHz)	SCHWARZBECK MESS-ELEKTRONIK	BBHA9120D	9120D-550	06/22/2017	1 year
Horn Antenna (18~40GHz)	ETS	3116	86467	09/11/2017	1 year
Loop Antenna	COM-POWER CORPORATION	AL-130	121014	01/26/2017	1 year
Microwave Cable	EMCI	EMC102-KM-KM-1 4000	151001	02/20/2017	1 year
Microwave Cable	EMCI	EMC-104-SM-SM- 14000	140202	02/20/2017	1 year
Microwave Cable	EMCI	EMC104-SM-SM-6 00	140301	02/20/2017	1 year
Test Site	ATL	TE01	888001	08/29/2017	1 year

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



For Conducted

Equipment	Manufacturer	Model Number	Serial Number	Cal. Date	Cal. Period
Power Sensor	Anritsu	MA2411B	1126022	08/28/2017	1 year
Power Meter	Anritsu	ML2495A	1135009	08/28/2017	1 year
Spectrum Analyzer (3Hz~13.2GHz)	Agilent	E4445A	MY45300744	12/11/2017	1 year
Microwave Cable	EMCI	EMC104-SM-SM-1 500	140303	02/22/2017	1 year
Spectrum Analyzer (9KHz~26.5GHz)	Agilent	E4408B	MY45107753	08/14/2017	1 year
Temperature & Humidity Chamber	TAICHY	MHU-225LA	980729	04/17/2017	1 year
Test Site	ATL	TE05	TE05	N.C.R.	-----

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

3.5. Test Site Environment

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

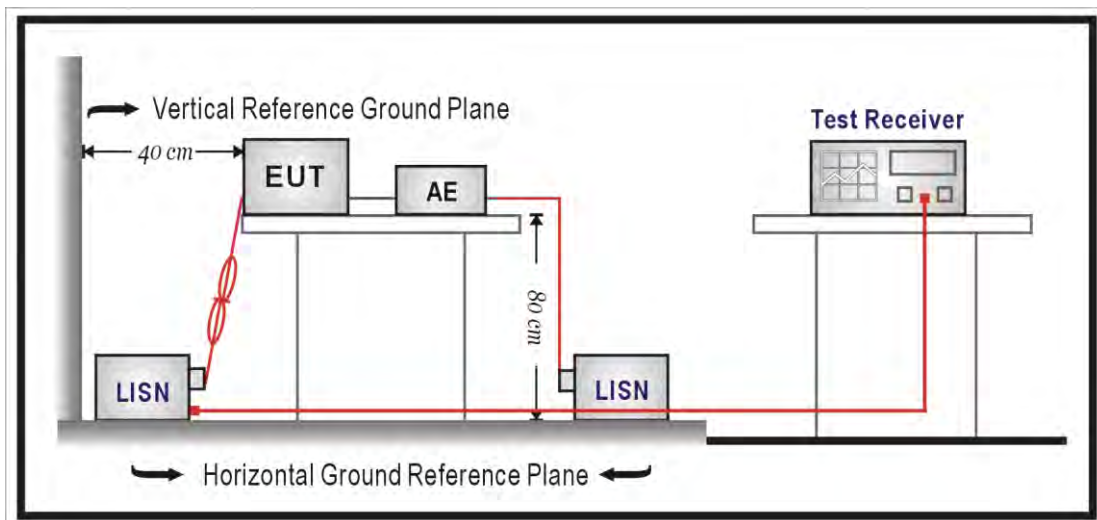
4 Measurement Procedure

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 50ohm termination.

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

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

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

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



4.2. Radiated Emission Measurement

■ Limit

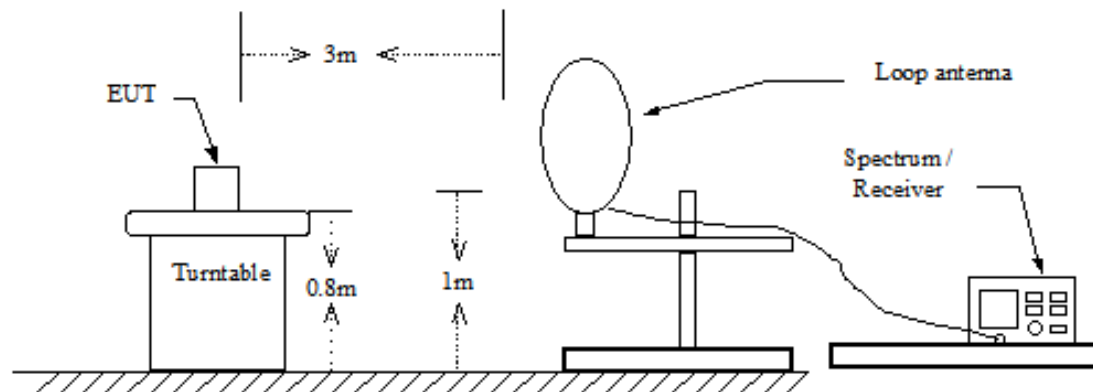
According to §15.209(a), except as provided elsewhere in this subpart, the emissions from an intentional radiator shall not exceed the field strength levels specified in the following table:

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

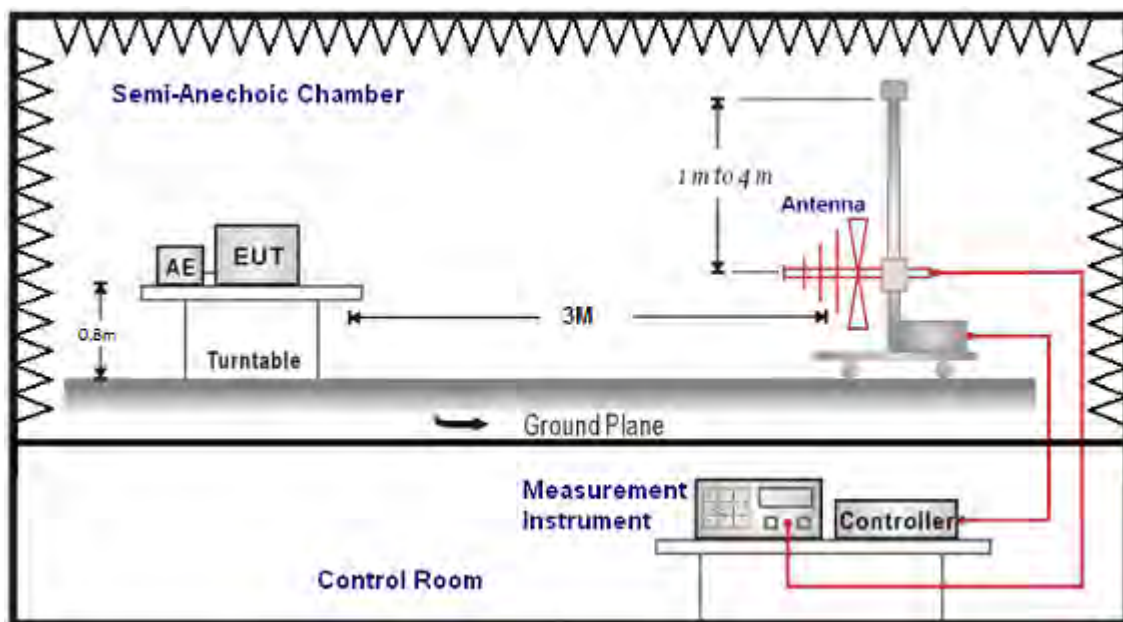
** Except as provided in paragraph (g), fundamental emissions from intentional radiators operating under this Section shall not be located in the frequency bands 54-72 MHz, 76-88 MHz, 174-216 MHz or 470-806 MHz. However, operation within these frequency bands is permitted under other sections of this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

■ Setup

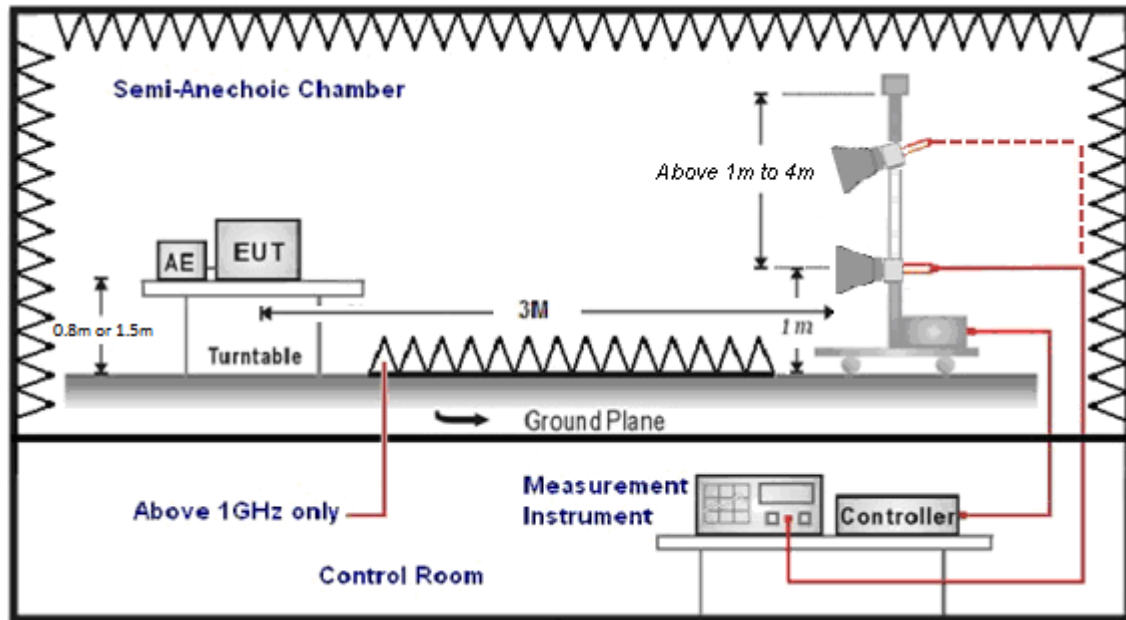
9kHz ~ 30MHz



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 per meter (uV/m).

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

The actual field intensity in referenced to 1 microvolt per meter (dBuV/m) is determined by algebraically adding the measured reading in dBuV, the antenna factor (dB), and cable loss (dB) and Subtracting the gain of preamplifier (dB) is auto calculate in spectrum analyzer.

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

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 < +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.

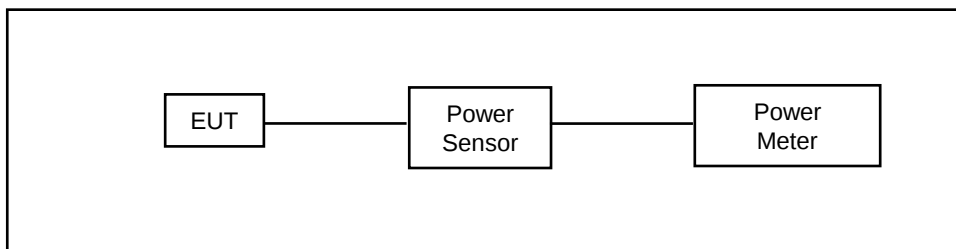
4.3. Maximum Conducted Output Power Measurement

■ 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.

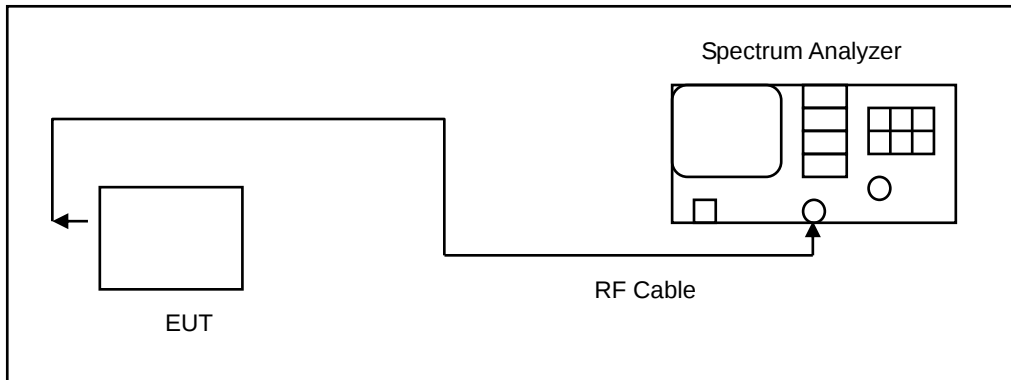
The tests below are run with the EUT's transmitter set at high power in TX mode. The EUT is needed to force selection of output power level and channel number. While testing, EUT was set to transmit continuously. Remove the Subjective device's antenna and connect the RF output port to power sensor.

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.

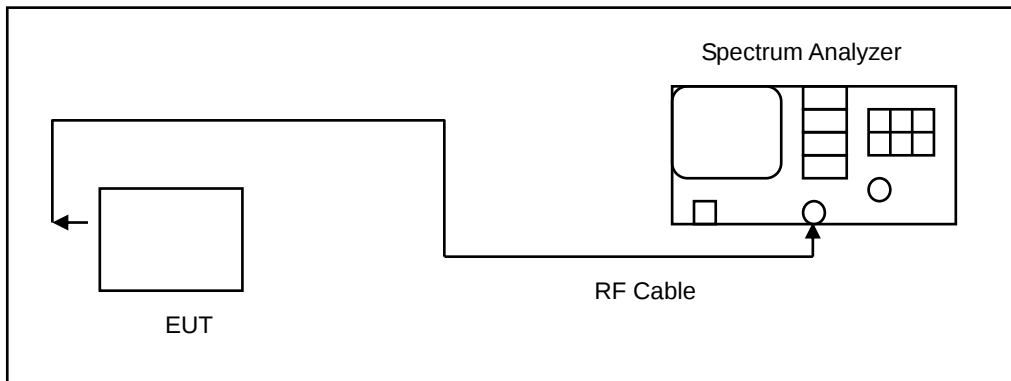
The test was performed at 3 channels (Channel low, middle, high)

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.

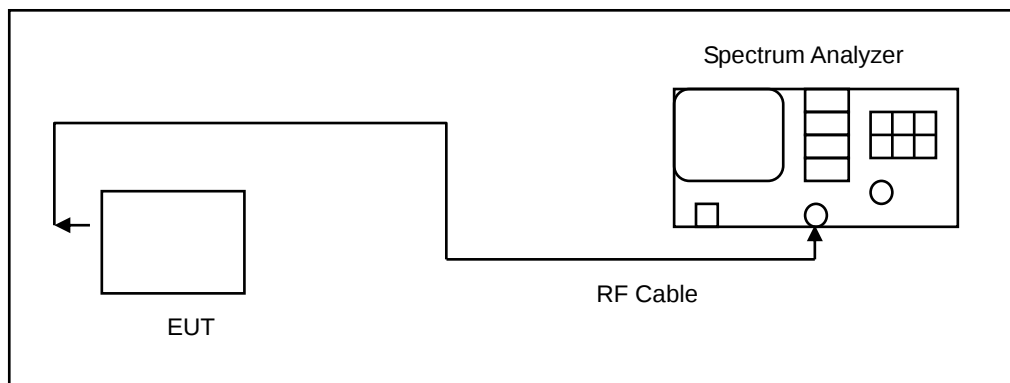
1. Set analyzer center frequency to DTS channel center frequency.
2. Set the span to 1.5 times the DTS bandwidth.
3. Set the RBW to: $3 \text{ kHz} \leq \text{RBW} \leq 100 \text{ kHz}$.
4. Set the VBW $\geq 3 \times \text{RBW}$.
5. Detector = peak.
6. Sweep time = auto couple.
7. Trace mode = max hold.
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.

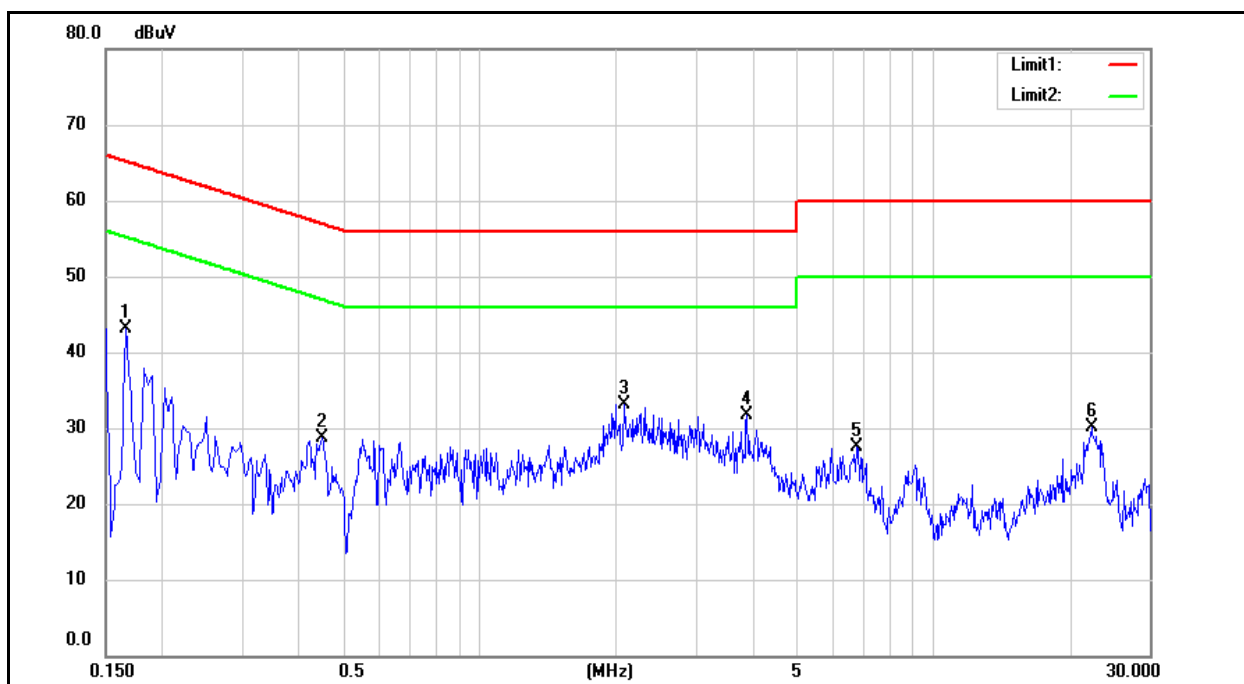
■ Antenna Description

See section 2 – antenna information.

5 Test Results

Annex A. AC Power Line Conducted Emission Test Results

Standard:	FCC Part 15.247	Power:	AC 120V/60Hz
Test Mode:	Mode 1	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Line:	L1		
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	0.1660	38.10	17.92	0.05	38.15	17.97	65.16	55.16	-27.01	-37.19	Pass
2	0.4500	23.35	14.03	0.05	23.40	14.08	56.88	46.88	-33.48	-32.80	Pass
3	2.0780	26.01	19.35	0.10	26.11	19.45	56.00	46.00	-29.89	-26.55	Pass
4	3.8860	21.43	14.29	0.15	21.58	14.44	56.00	46.00	-34.42	-31.56	Pass
5	6.7900	19.71	11.66	0.22	19.93	11.88	60.00	50.00	-40.07	-38.12	Pass
6	22.4100	23.99	14.56	0.41	24.40	14.97	60.00	50.00	-35.60	-35.03	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

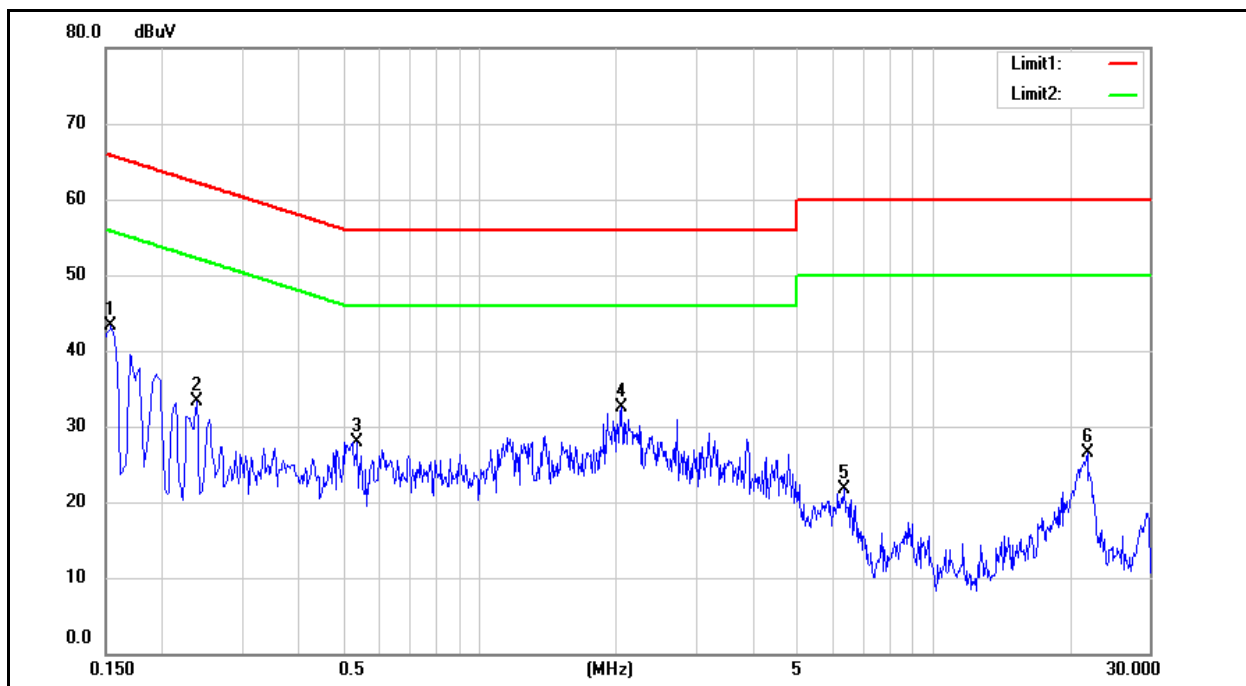
Power: AC 120V/60Hz

Test Mode: Mode 1

Temp.(°C)/Hum.(%RH): 26(°C)/60%RH

Line: N

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	0.1540	40.04	22.22	0.05	40.09	22.27	65.78	55.78	-25.69	-33.51	Pass
2	0.2380	27.81	15.40	0.05	27.86	15.45	62.17	52.17	-34.31	-36.72	Pass
3	0.5380	25.01	15.95	0.05	25.06	16.00	56.00	46.00	-30.94	-30.00	Pass
4	2.0620	26.61	17.21	0.10	26.71	17.31	56.00	46.00	-29.29	-28.69	Pass
5	6.3820	15.13	8.60	0.21	15.34	8.81	60.00	50.00	-44.66	-41.19	Pass
6	21.8580	17.13	8.60	0.41	17.54	9.01	60.00	50.00	-42.46	-40.99	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	14.74	0.030	19.77	0.095	< 30
		2437	14.81	0.030	20.01	0.100	< 30
		2462	14.78	0.030	18.88	0.077	< 30
	2	2437	14.29	0.027	18.63	0.073	< 30
	5.5	2437	14.23	0.026	18.50	0.071	< 30
	11	2437	14.18	0.026	18.34	0.068	< 30
Mode 3	6	2412	7.80	0.006	13.75	0.024	< 30
		2437	7.71	0.006	12.99	0.020	< 30
		2462	7.50	0.006	12.88	0.019	< 30
	9	2437	7.76	0.006	12.95	0.020	< 30
	12	2437	7.73	0.006	12.93	0.020	< 30
	18	2437	7.70	0.006	12.91	0.020	< 30
	24	2437	7.69	0.006	12.89	0.019	< 30
	36	2437	7.65	0.006	12.87	0.019	< 30
	48	2437	7.63	0.006	12.85	0.019	< 30
	54	2437	7.62	0.006	12.82	0.019	< 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	6.56	0.005	11.95	0.016	< 30
		2437	6.51	0.004	11.87	0.015	< 30
		2462	6.47	0.004	11.85	0.015	< 30
	14.4	2437	6.50	0.004	11.84	0.015	< 30
	21.7	2437	6.48	0.004	11.80	0.015	< 30
	28.9	2437	6.43	0.004	11.79	0.015	< 30
	43.3	2437	6.40	0.004	11.77	0.015	< 30
	57.8	2437	6.37	0.004	11.76	0.015	< 30
	65	2437	6.36	0.004	11.73	0.015	< 30
	72.2	2437	6.34	0.004	11.71	0.015	< 30
Mode 5	13.5	2422	7.79	0.006	10.18	0.010	< 30
		2437	7.32	0.005	9.05	0.008	< 30
		2452	7.26	0.005	9.01	0.008	< 30
	30	2437	7.30	0.005	9.02	0.008	< 30
	45	2437	7.28	0.005	9.00	0.008	< 30
	60	2437	7.24	0.005	8.98	0.008	< 30
	90	2437	7.21	0.005	8.95	0.008	< 30
	120	2437	7.20	0.005	8.94	0.008	< 30
	135	2437	7.18	0.005	8.92	0.008	< 30
	150	2437	7.16	0.005	8.90	0.008	< 30

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

**6dB RF Bandwidth Measurement**

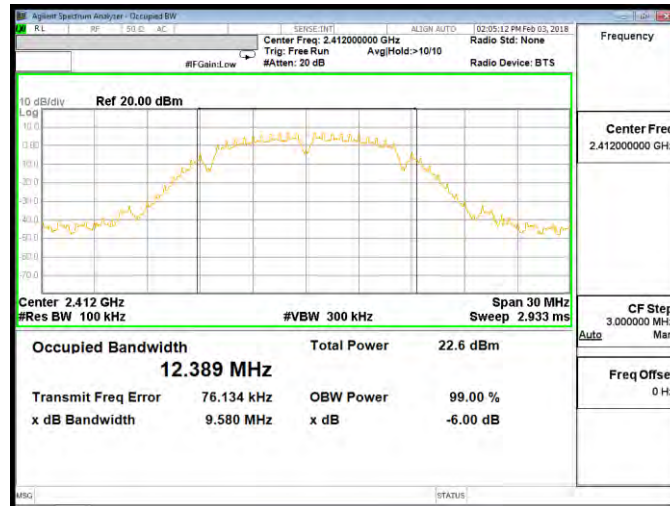
Test Mode	Data Rate (Mbps)	Frequency (MHz)	Measurement (kHz)	Limit (kHz)
Mode 2	1	2412	9580	> 500
		2437	9571	> 500
		2462	10040	> 500
Mode 3	6	2412	16400	> 500
		2437	16460	> 500
		2462	16440	> 500
Mode 4	6.5	2412	17650	> 500
		2437	17680	> 500
		2462	17750	> 500
Mode 5	13.5	2422	33540	> 500
		2437	32740	> 500
		2452	32760	> 500



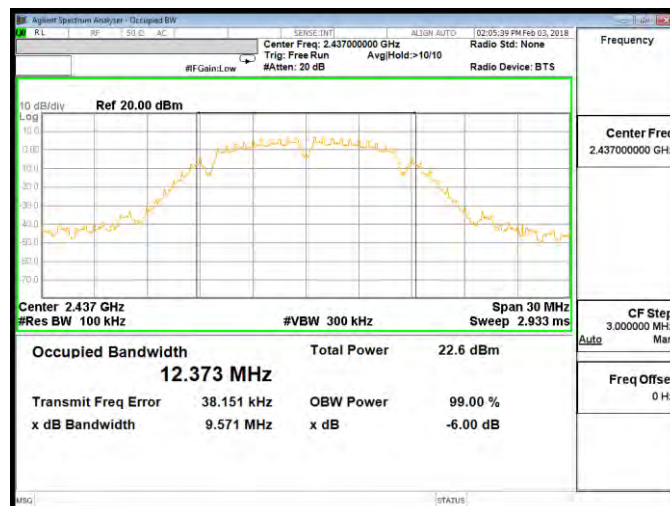
■ Test Graphs

Mode 2: IEEE 802.11b Continuous TX mode

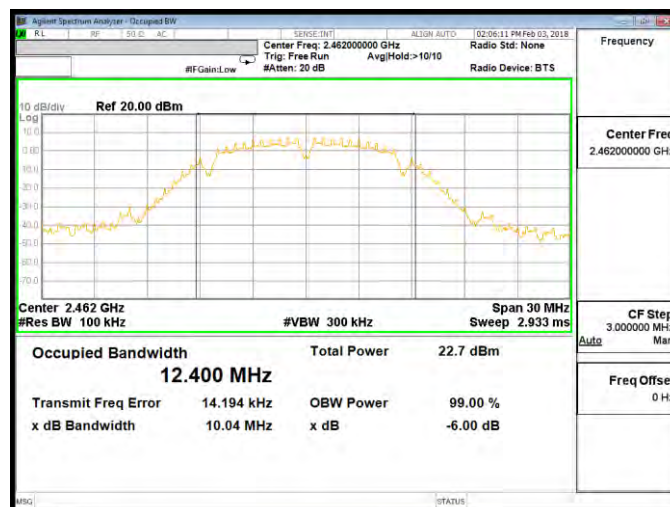
2412 MHz



2437 MHz



2462 MHz



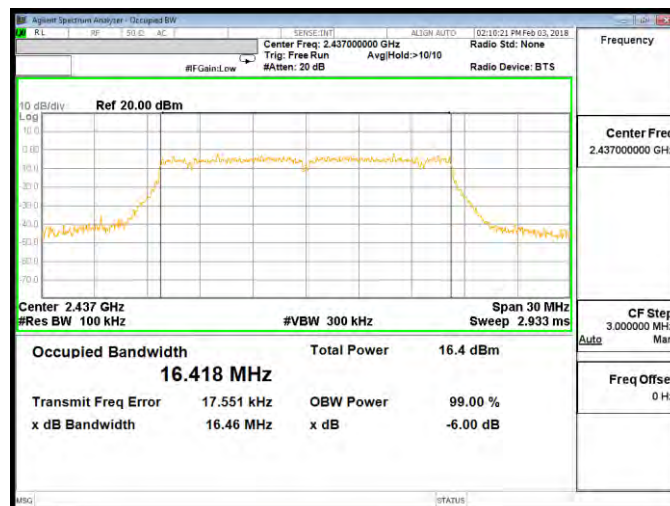


Mode 3: IEEE 802.11g Continuous TX mode

2412 MHz



2437 MHz



2462 MHz





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

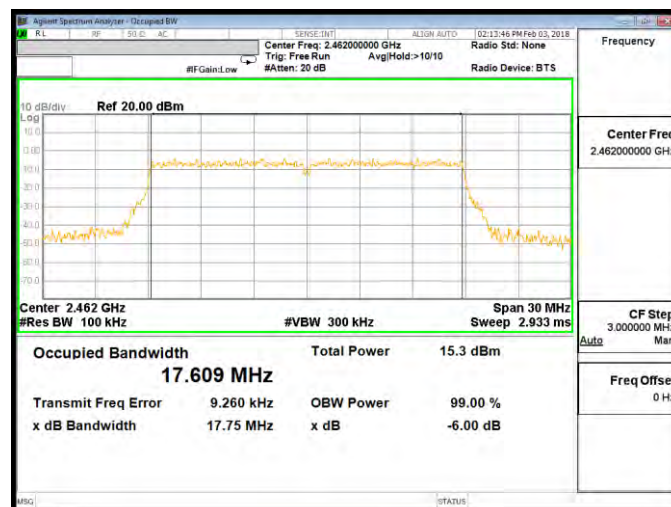
2412 MHz



2437 MHz



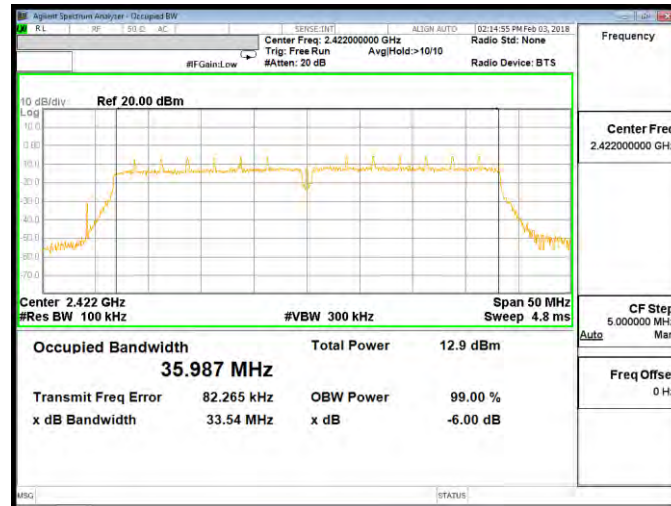
2462 MHz



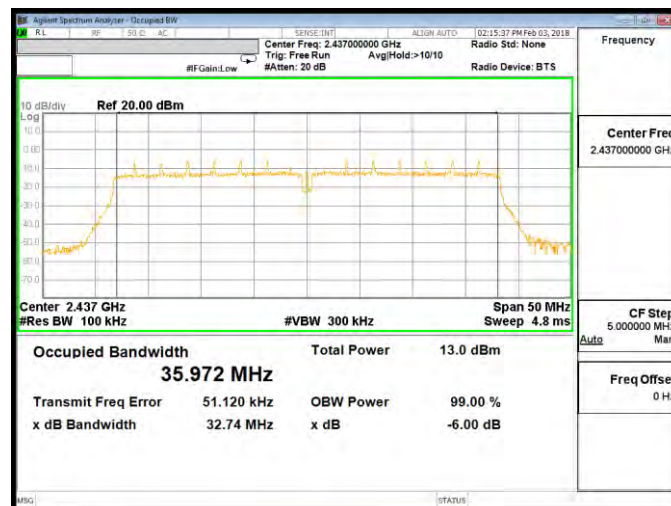


Mode 5: IEEE 802.11n 2.4GHz 40MHz Continuous TX mode

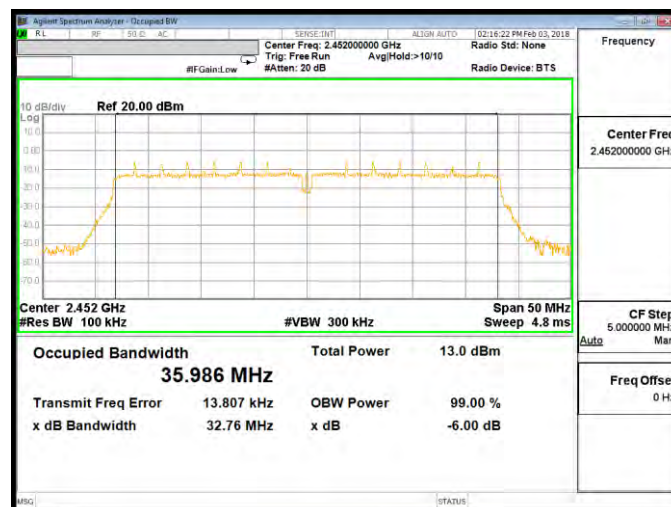
2422 MHz



2437 MHz



2452 MHz



**Maximum Power Spectral Density Measurement**

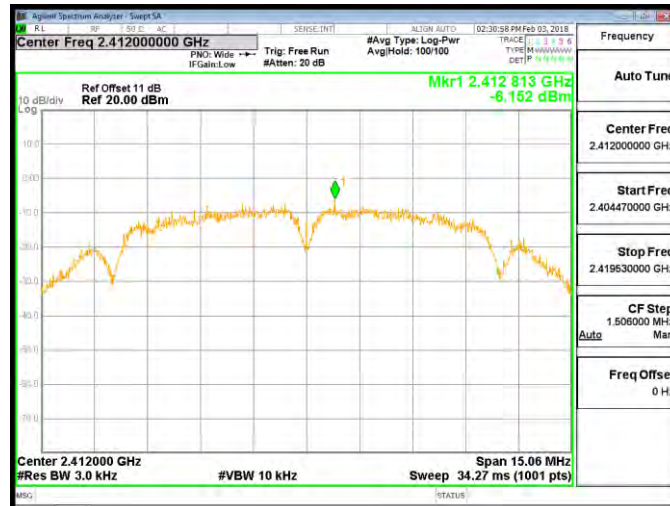
Test Mode	Data Rate (Mbps)	Frequency (MHz)	Measurement (dBm/3KHz)	Limit (dBm/3KHz)
Mode 2	1	2412	-6.152	< 8
		2437	-6.385	< 8
		2462	-6.945	< 8
Mode 3	6	2412	-11.756	< 8
		2437	-10.788	< 8
		2462	-10.723	< 8
Mode 4	6.5	2412	-11.960	< 8
		2437	-12.544	< 8
		2462	-12.450	< 8
Mode 5	13.5	2422	-13.211	< 8
		2437	-12.884	< 8
		2452	-12.848	< 8



■ Test Graphs

Mode 2: IEEE 802.11b Continuous TX mode

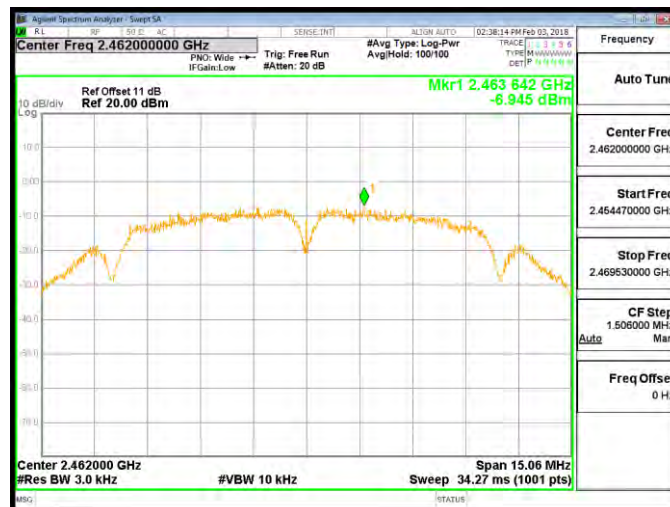
2412 MHz



2437 MHz



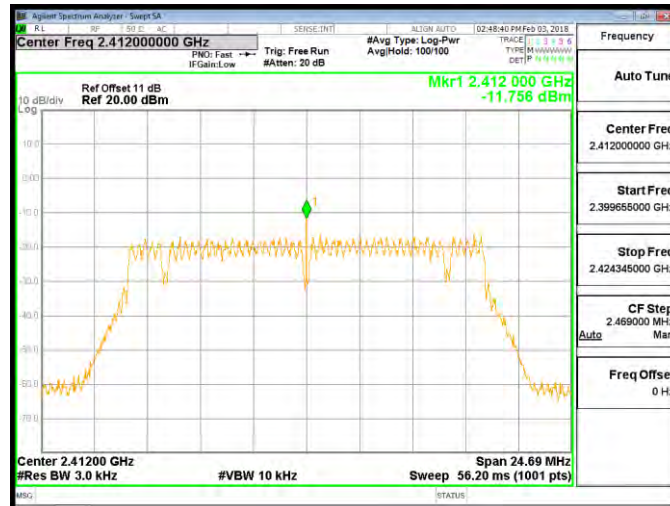
2462 MHz





Mode 3: IEEE 802.11g Continuous TX mode

2412 MHz



2437 MHz



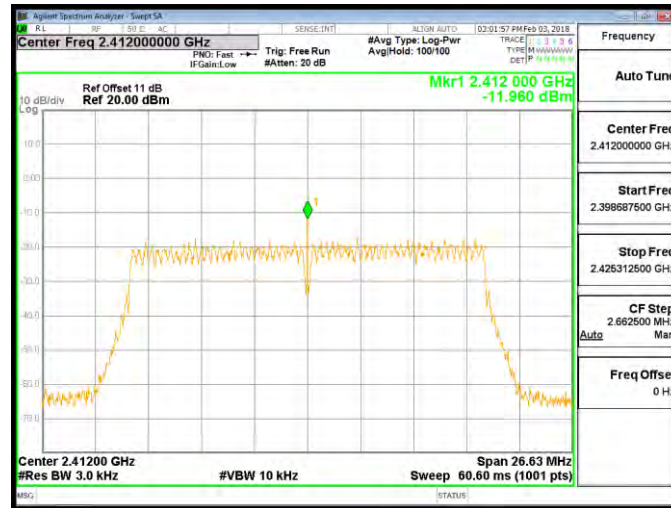
2462 MHz





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

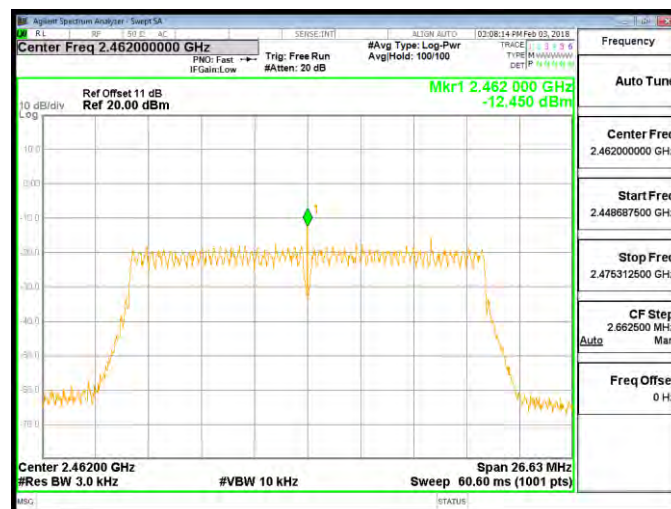
2412 MHz



2437 MHz



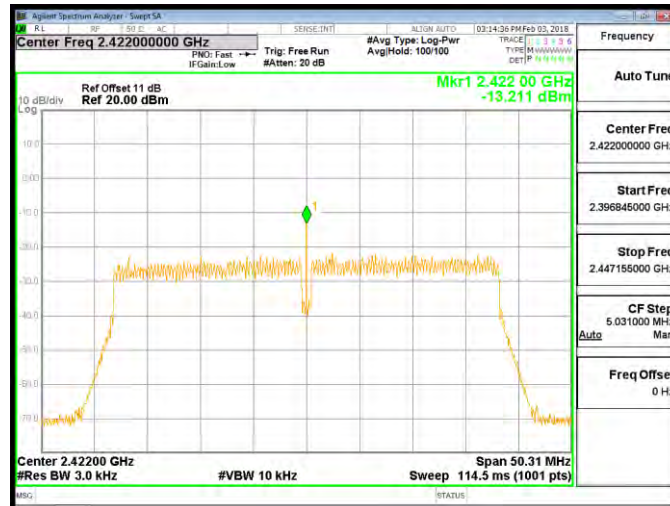
2462 MHz





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

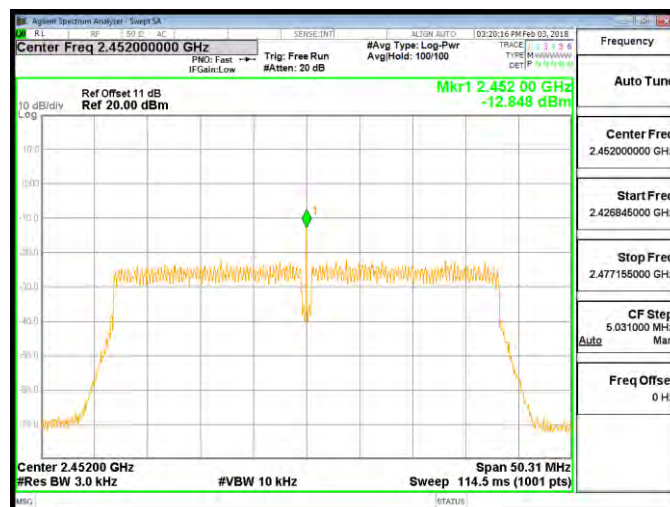
2422 MHz



2437 MHz



2452 MHz





Out of Band Conducted Emissions Measurement

■ Test Graphs

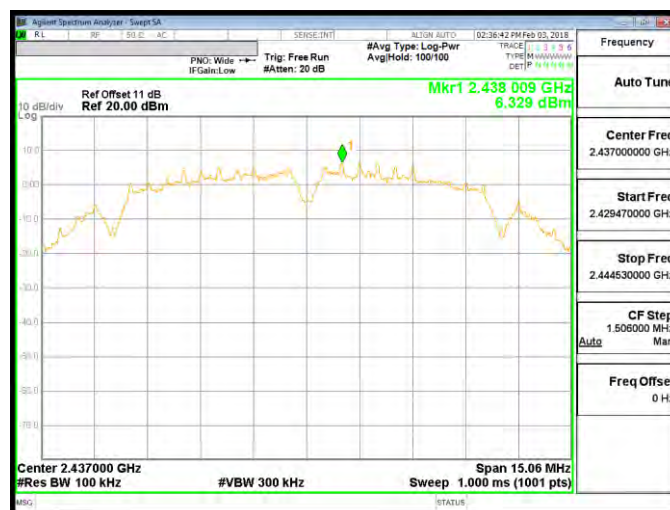
Reference level

Mode 2: IEEE 802.11b Continuous TX mode

2412 MHz



2437 MHz



2462 MHz





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



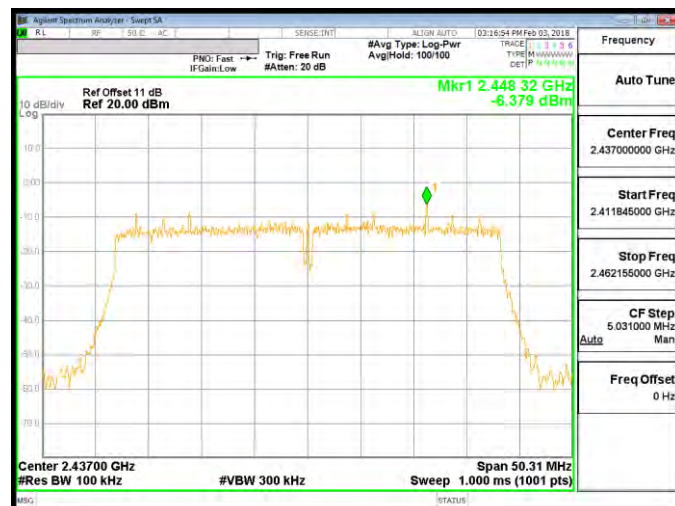


Mode 5: IEEE 802.11n 2.4GHz 40MHz Continuous TX mode

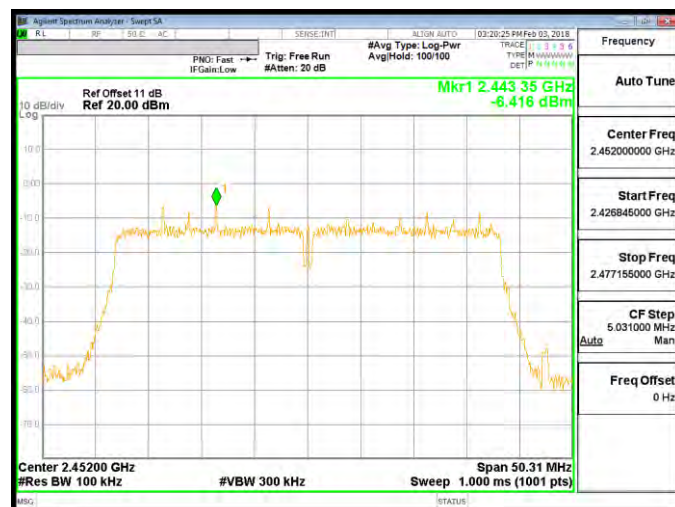
2422 MHz



2437 MHz



2452 MHz

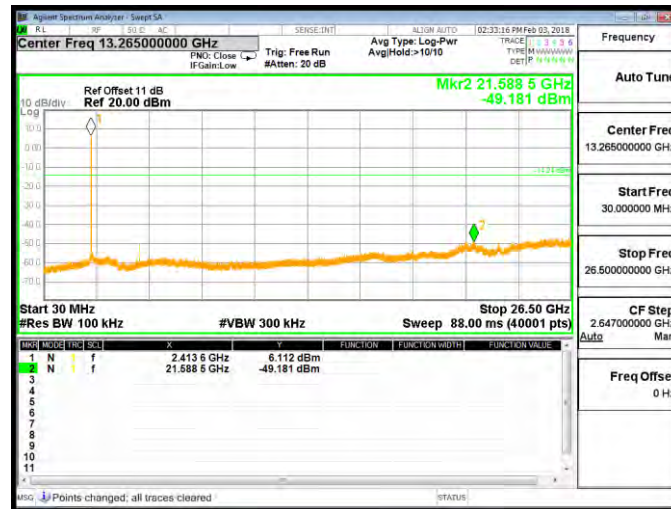




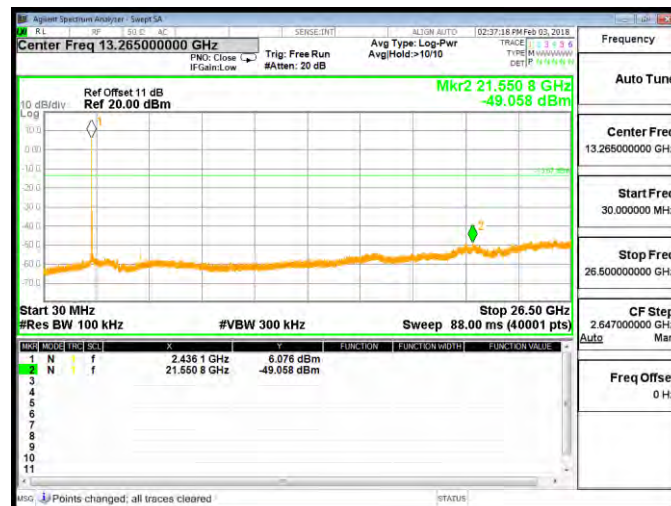
Out of Band Conducted Emissions

Mode 2: IEEE 802.11b Continuous TX mode

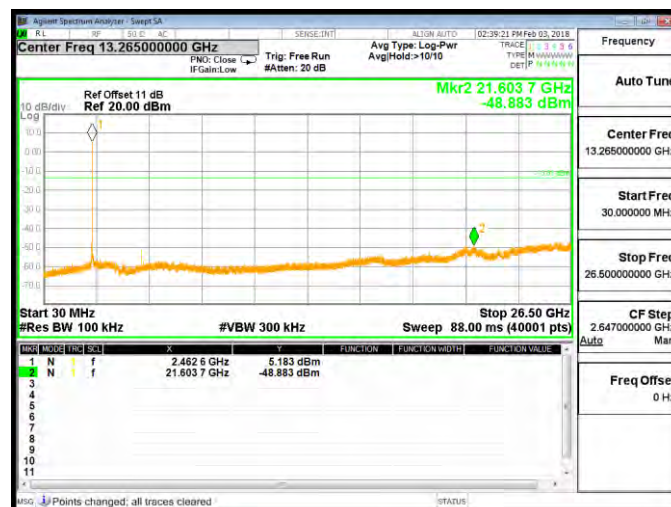
2412 MHz



2437 MHz



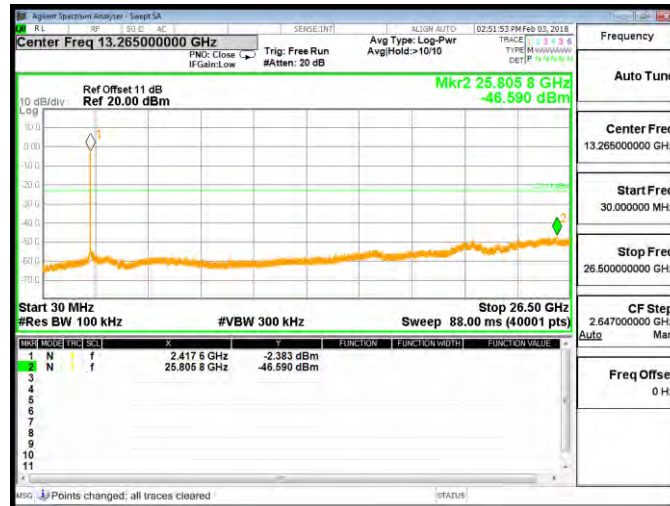
2462 MHz



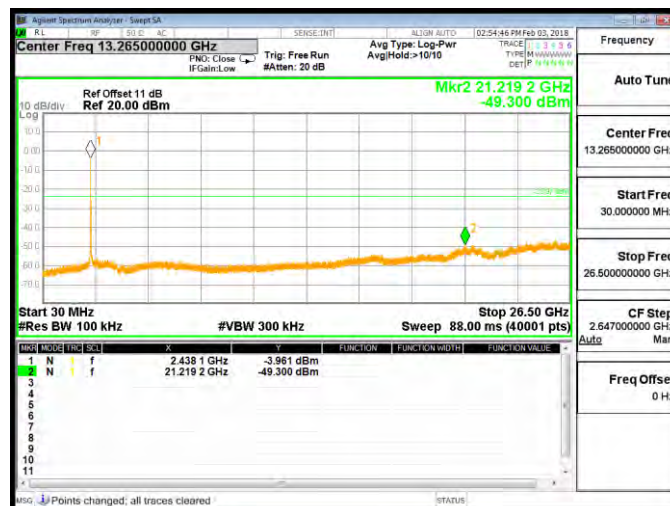


Mode 3: IEEE 802.11g Continuous TX mode

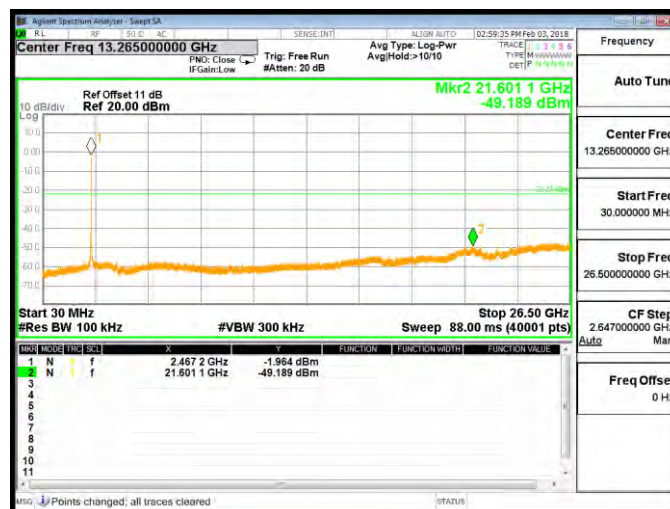
2412 MHz



2437 MHz



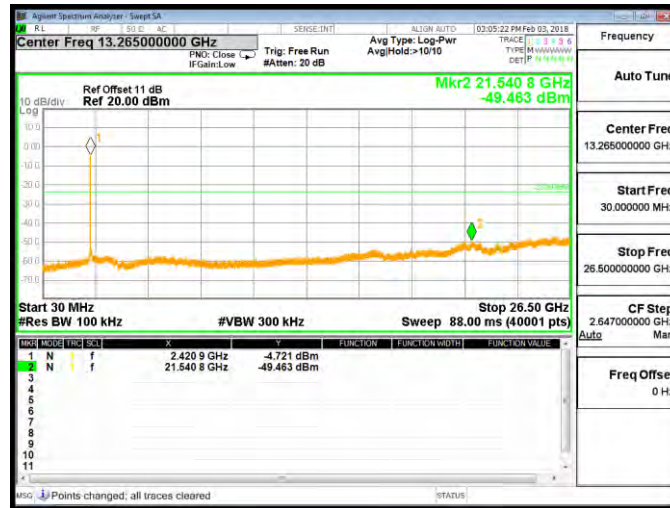
2462 MHz



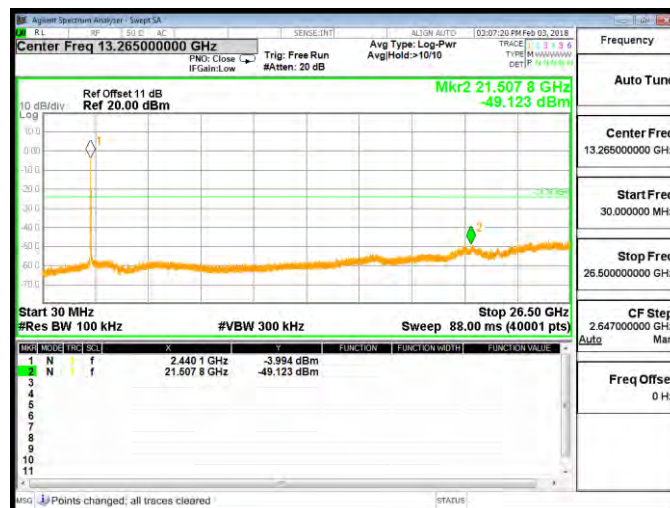


Mode 4: IEEE 802.11n 2.4GHz 20MHz Continuous TX mode

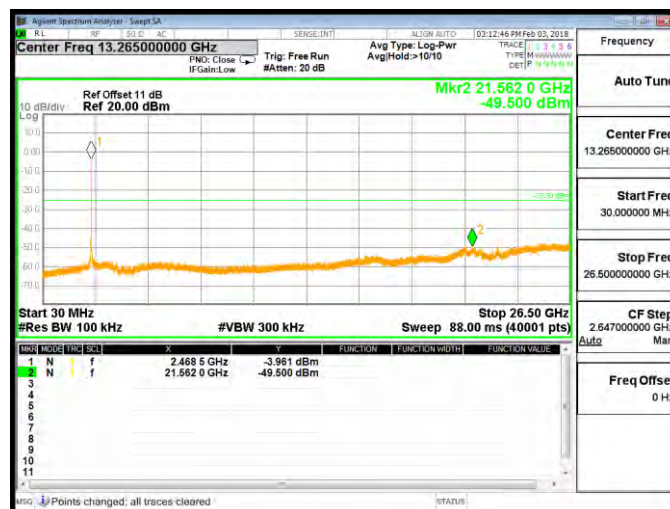
2412 MHz



2437 MHz



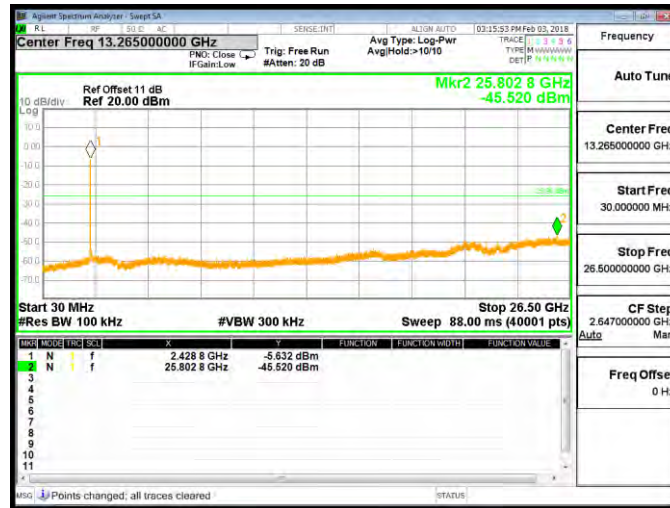
2462 MHz



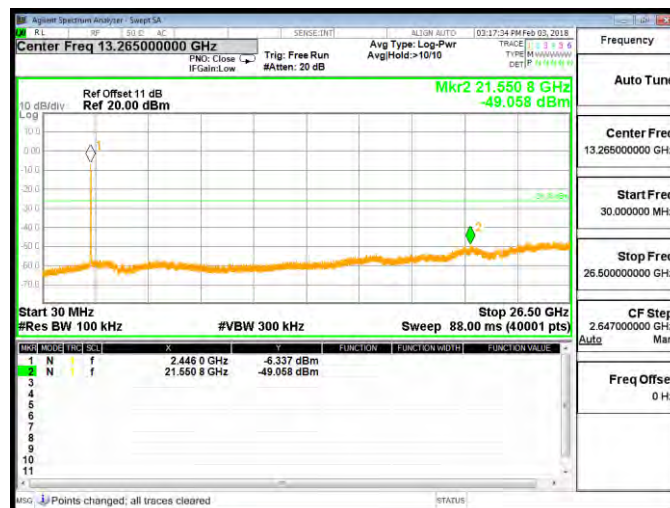


Mode 5: IEEE 802.11n 2.4GHz 40MHz Continuous TX mode

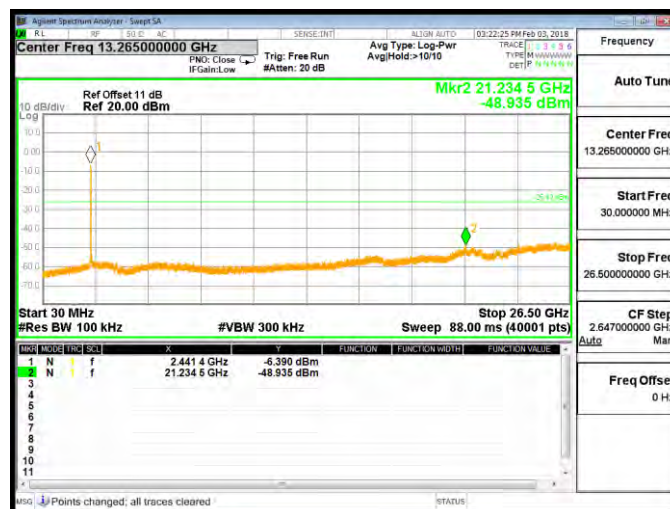
2422 MHz



2437 MHz



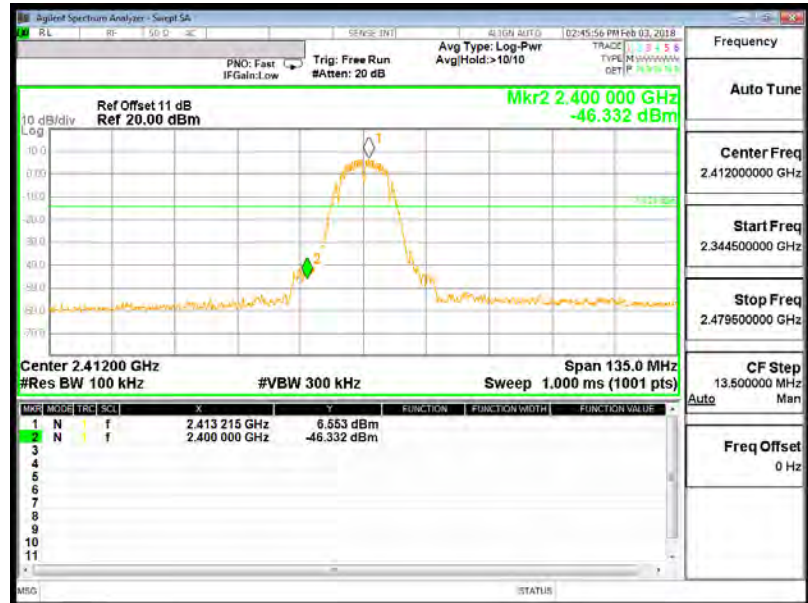
2452 MHz



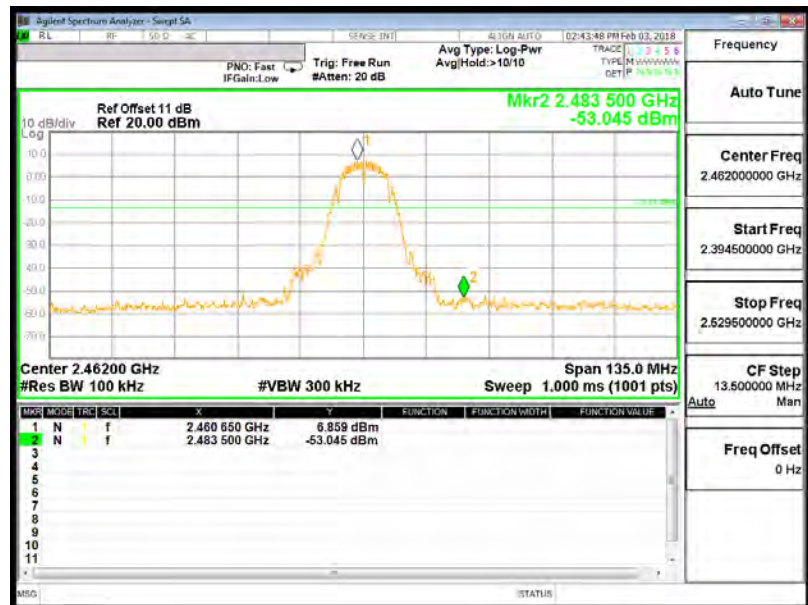
**Conducted Band Edge**

Mode 2: IEEE 802.11b Continuous TX mode

2412 MHz

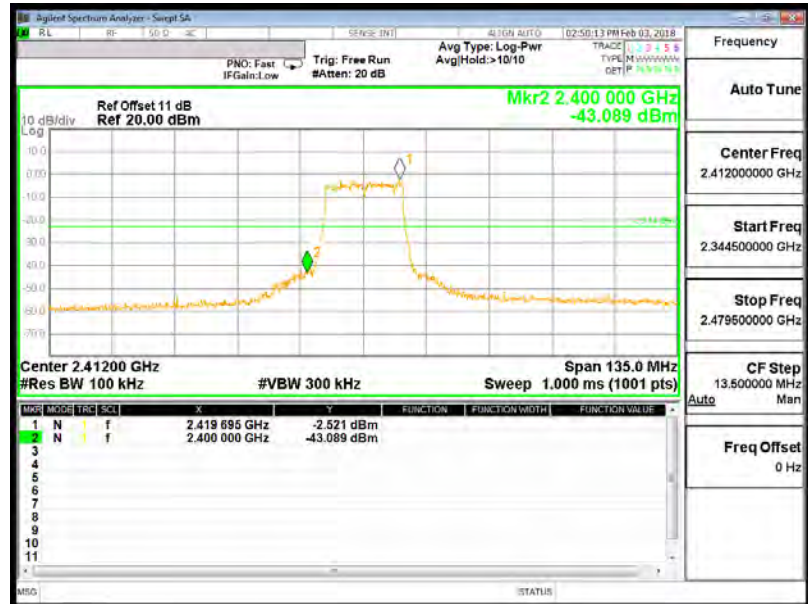


2462 MHz

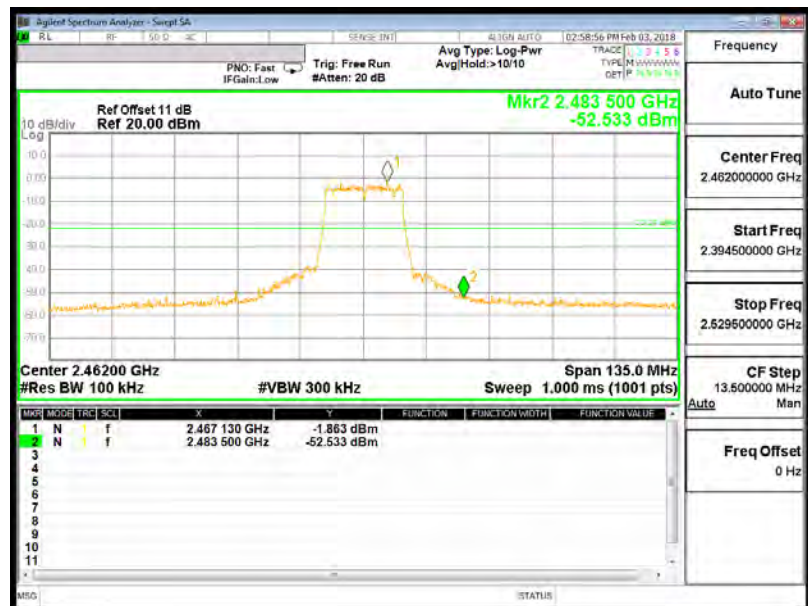


Mode 3: IEEE 802.11g Continuous TX mode

2412 MHz



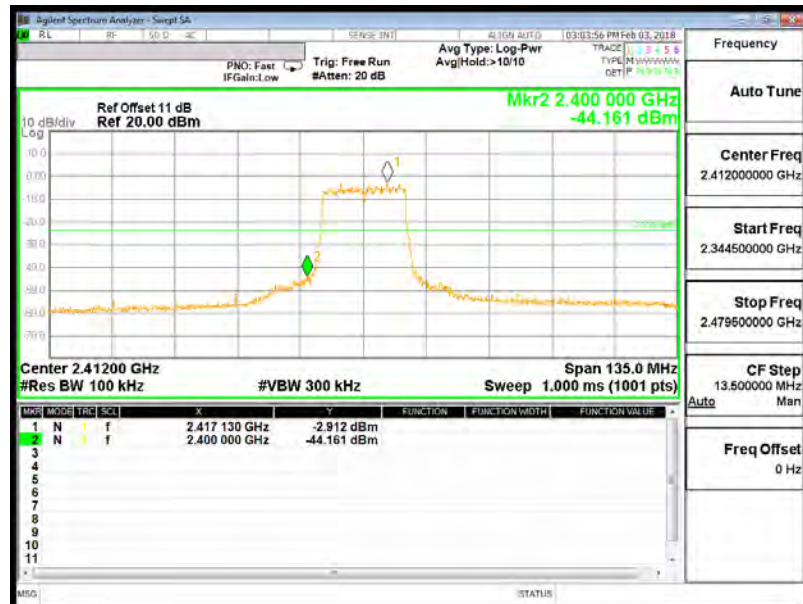
2462 MHz



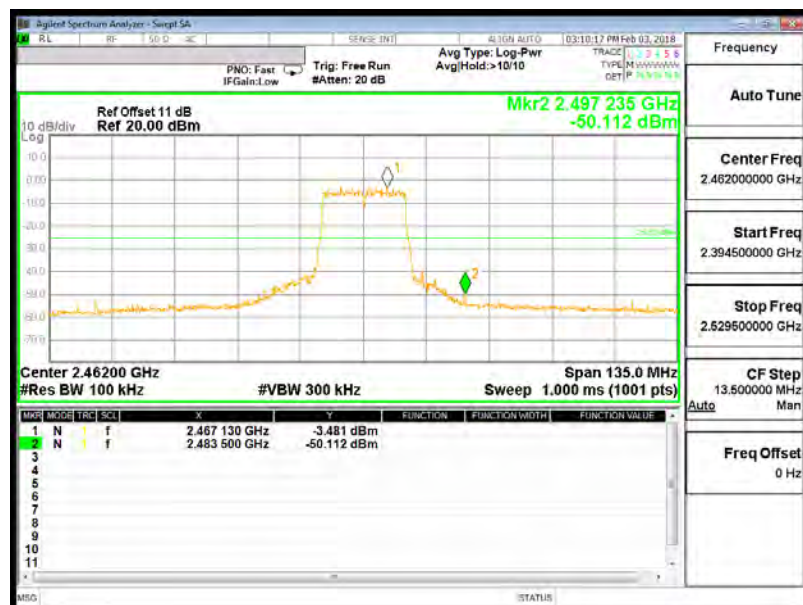


Mode 4: IEEE 802.11n 2.4GHz 20MHz Continuous TX mode

2412 MHz



2462 MHz





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

2422 MHz



2452 MHz



Annex C. Radiated Emission Test Results

Harmonic

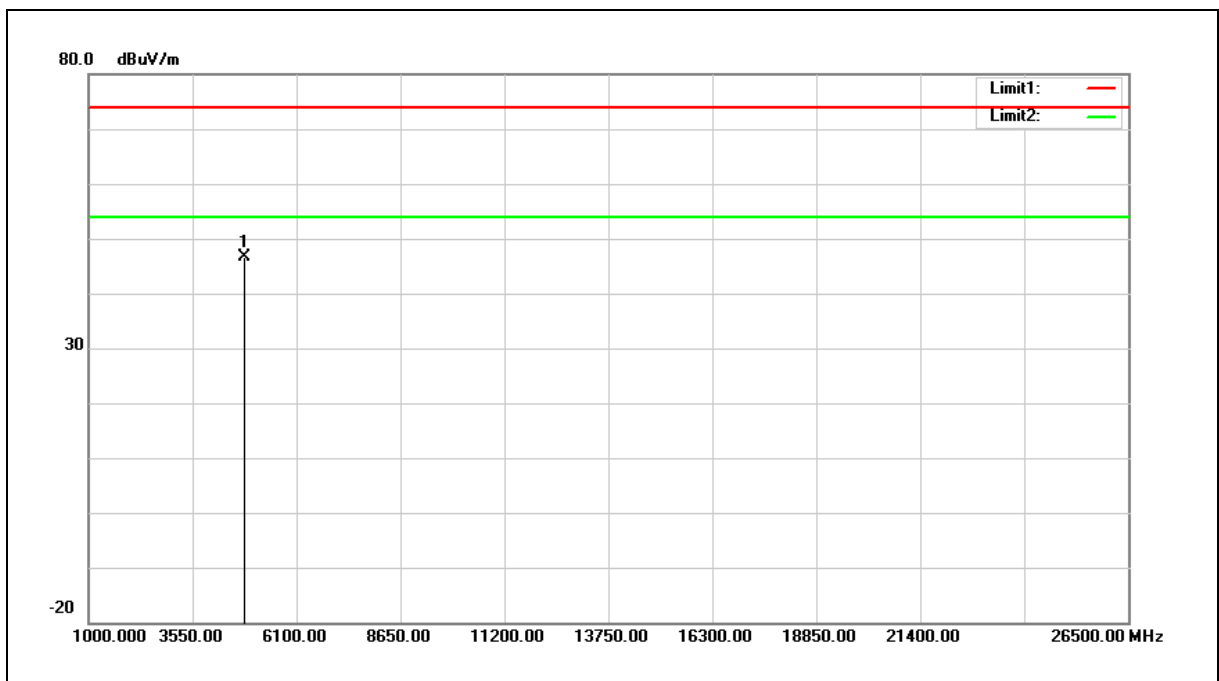
Below 1GHz

Standard:		FCC Part 15.247		Test Distance:		3m	
Test item:		Harmonic		Power:		AC 120V/60Hz	
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
65.8900	45.23	-11.89	33.34	40.00	-6.66	QP	H
198.7800	52.13	-12.84	39.29	43.50	-4.21	QP	H
312.2700	44.46	-9.81	34.65	46.00	-11.35	QP	H
455.8300	41.14	-5.98	35.16	46.00	-10.84	QP	H
647.8900	37.59	-2.38	35.21	46.00	-10.79	QP	H
839.9500	38.39	0.67	39.06	46.00	-6.94	QP	H
65.8900	44.33	-11.89	32.44	40.00	-7.56	QP	V
179.3800	44.45	-11.20	33.25	43.50	-10.25	QP	V
312.2700	42.35	-9.81	32.54	46.00	-13.46	QP	V
480.0800	39.06	-5.16	33.90	46.00	-12.10	QP	V
768.1700	34.37	0.10	34.47	46.00	-11.53	QP	V
898.1500	37.58	1.82	39.40	46.00	-6.60	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:	AC 120V/60Hz
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	50.89	-4.36	46.53	74.00	-27.47	peak

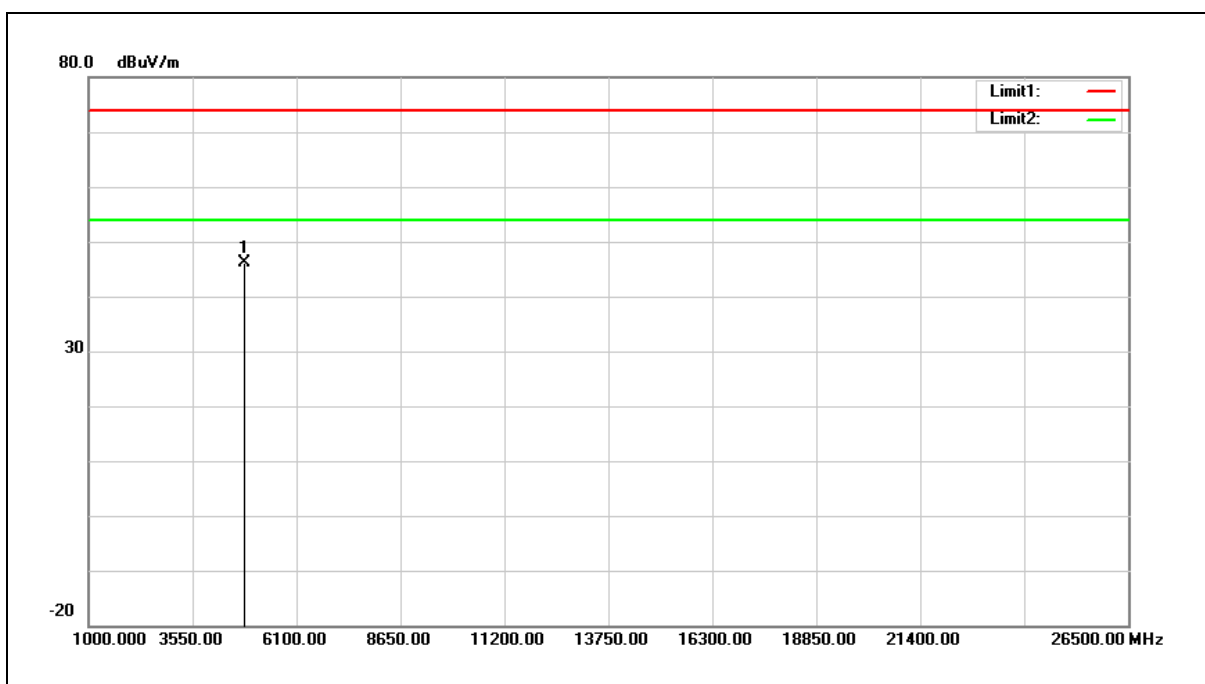
Note:1.Result (dBuV/m) = Correct Factor (dB/m) + Reading(dBuV).

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

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



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



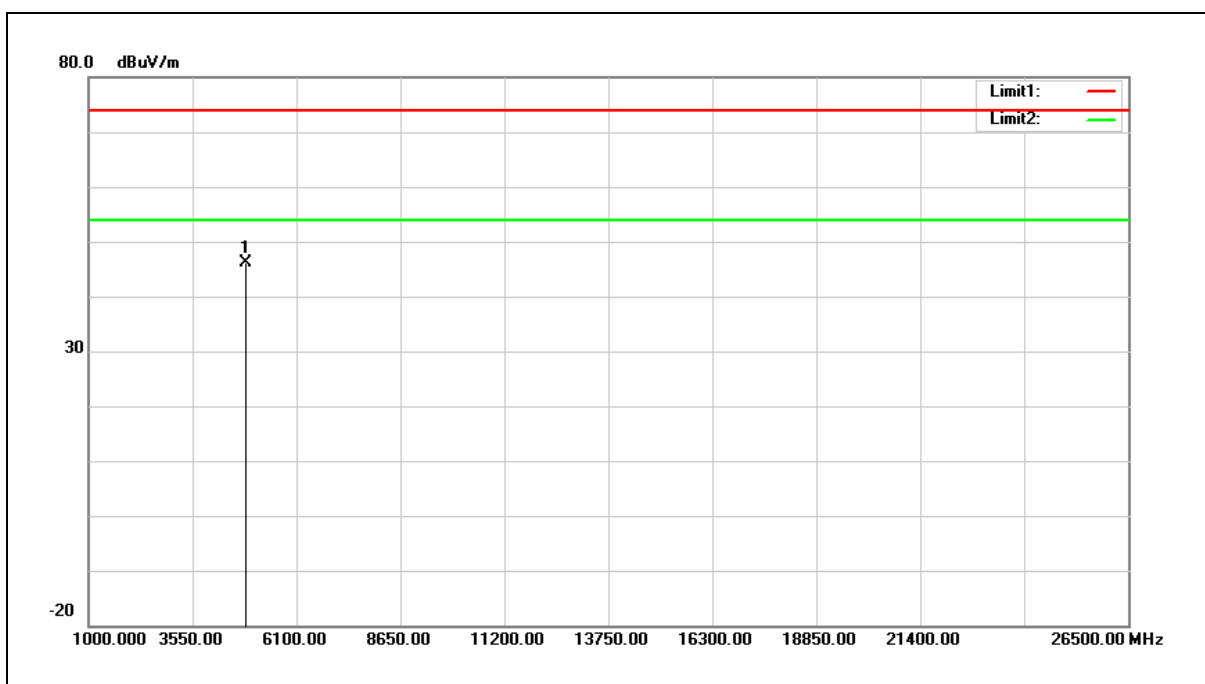
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4824.000	50.47	-4.36	46.11	74.00	-27.89	peak

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

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

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

Standard:	FCC Part 15.247	Test Distance:	3m
Test item:	Harmonic	Power:	AC 120V/60Hz
Frequency:	2437MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 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	50.45	-4.37	46.08	74.00	-27.92	peak

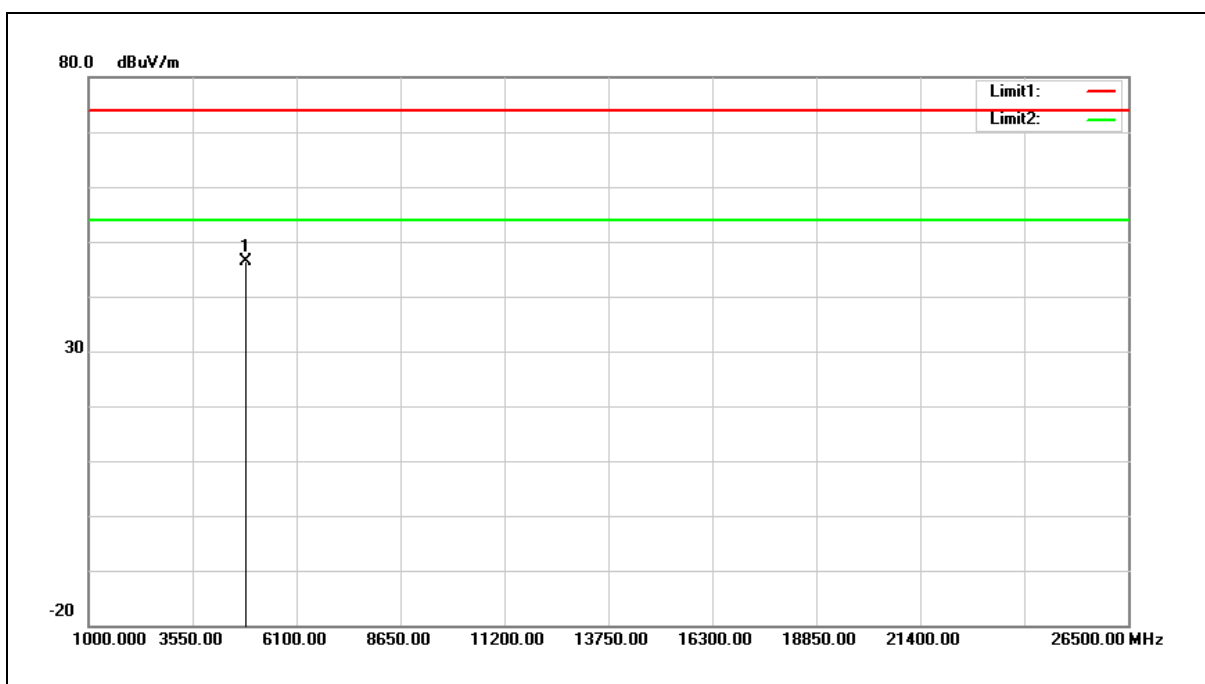
Note:1.Result (dBuV/m) = Correct Factor (dB/m) + Reading(dBuV).

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

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



Standard:	FCC Part 15.247	Test Distance:	3m
Test item:	Harmonic	Power:	AC 120V/60Hz
Frequency:	2437MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 2		
Ant.Polar.:	Vertical		



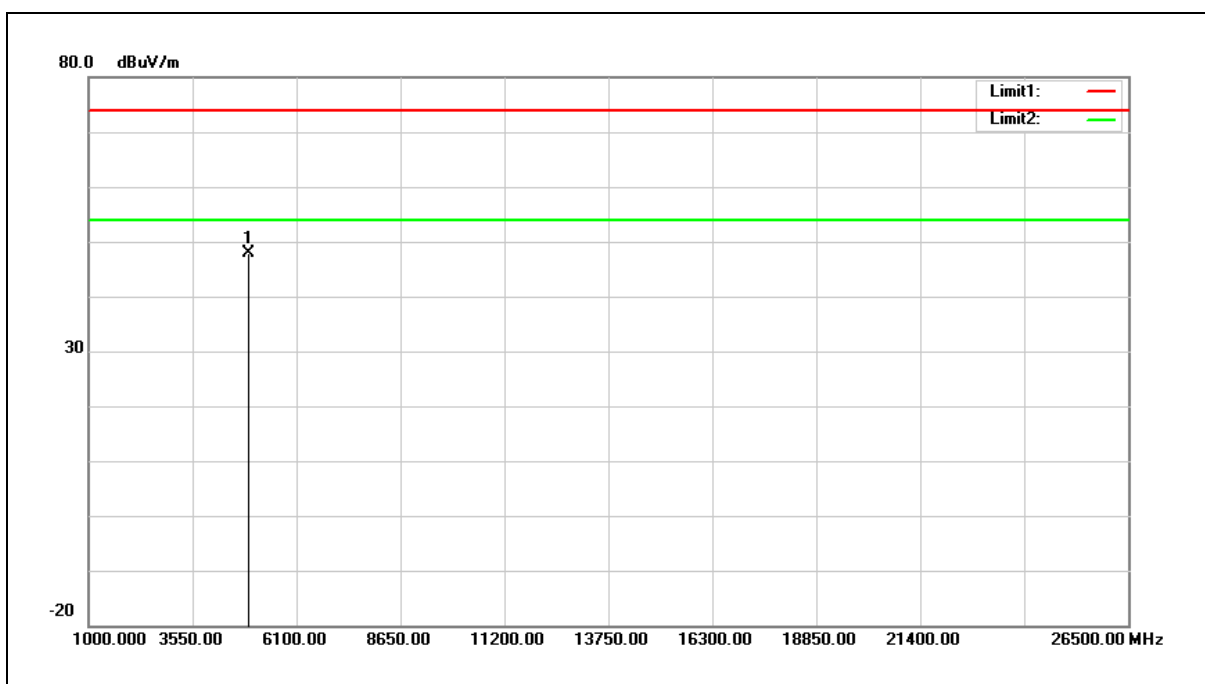
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4874.000	50.75	-4.37	46.38	74.00	-27.62	peak

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

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

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

Standard:	FCC Part 15.247	Test Distance:	3m
Test item:	Harmonic	Power:	AC 120V/60Hz
Frequency:	2462MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 2		
Ant.Polar.:	Horizontal		



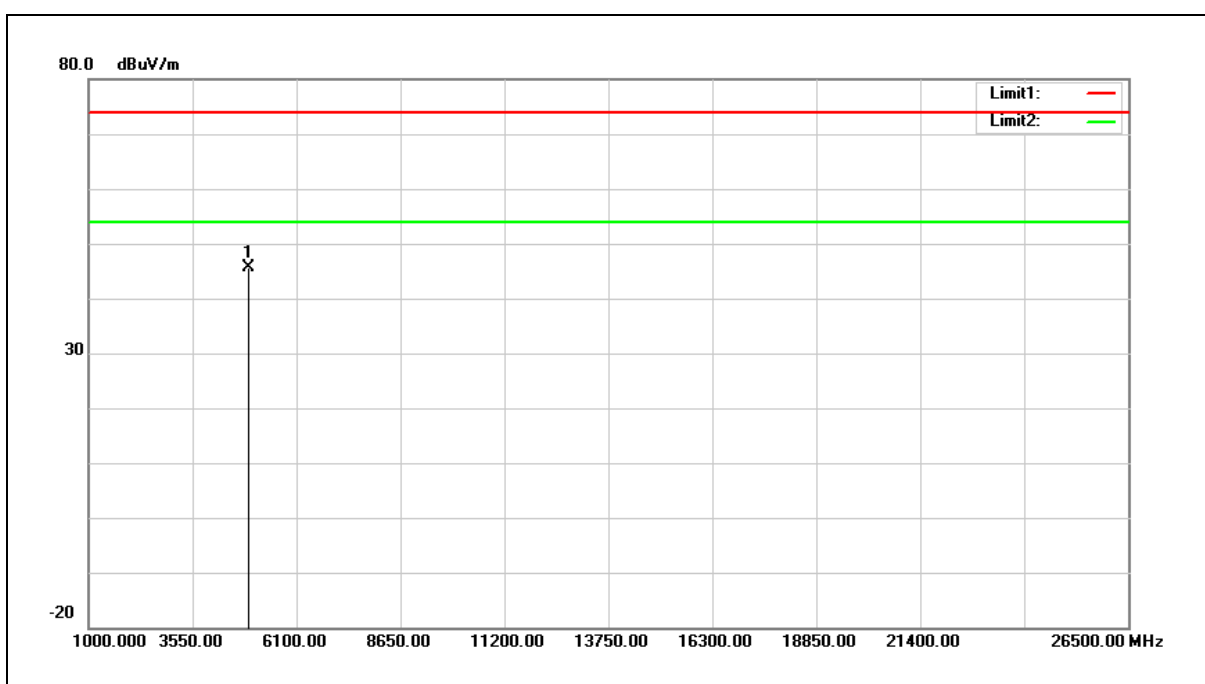
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4924.000	52.23	-4.39	47.84	74.00	-26.16	peak

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:	AC 120V/60Hz
Frequency:	2462MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 2		
Ant.Polar.:	Vertical		



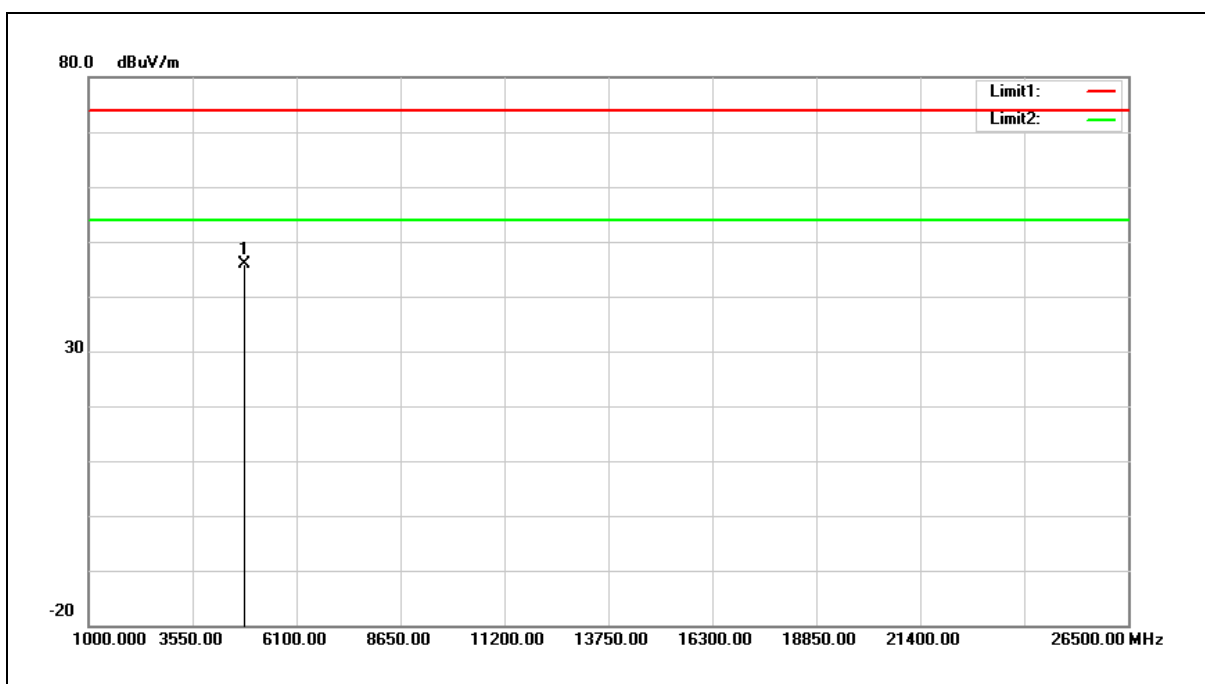
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4924.000	49.98	-4.39	45.59	74.00	-28.41	peak

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

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

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

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



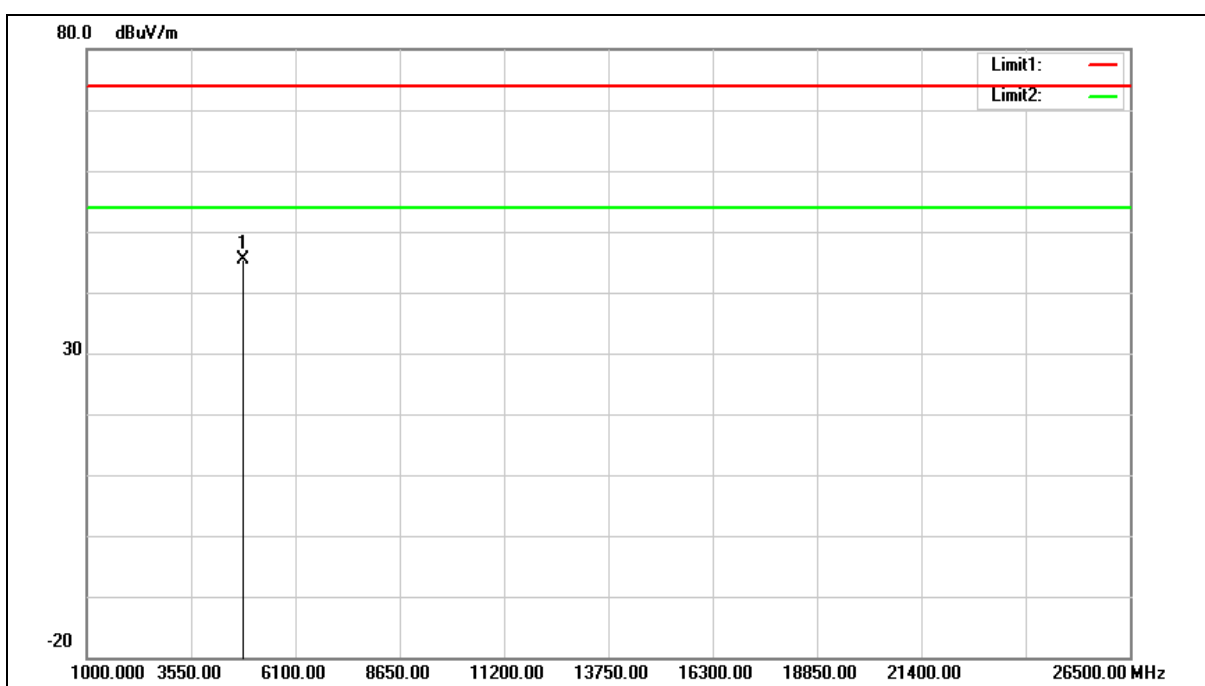
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4824.000	50.28	-4.36	45.92	74.00	-28.08	peak

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

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

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

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



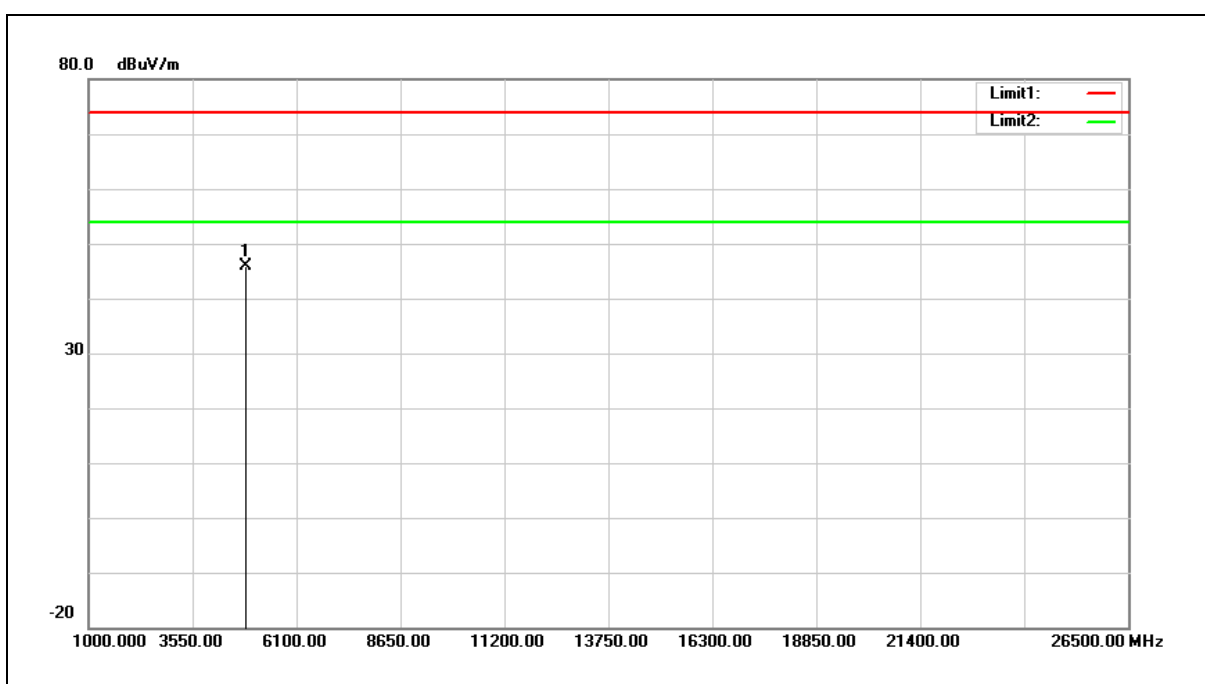
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4824.000	49.66	-4.36	45.30	74.00	-28.70	peak

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

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

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

Standard:	FCC Part 15.247	Test Distance:	3m
Test item:	Harmonic	Power:	AC 120V/60Hz
Frequency:	2437MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 3		
Ant.Polar.:	Horizontal		



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4874.000	50.20	-4.37	45.83	74.00	-28.17	peak

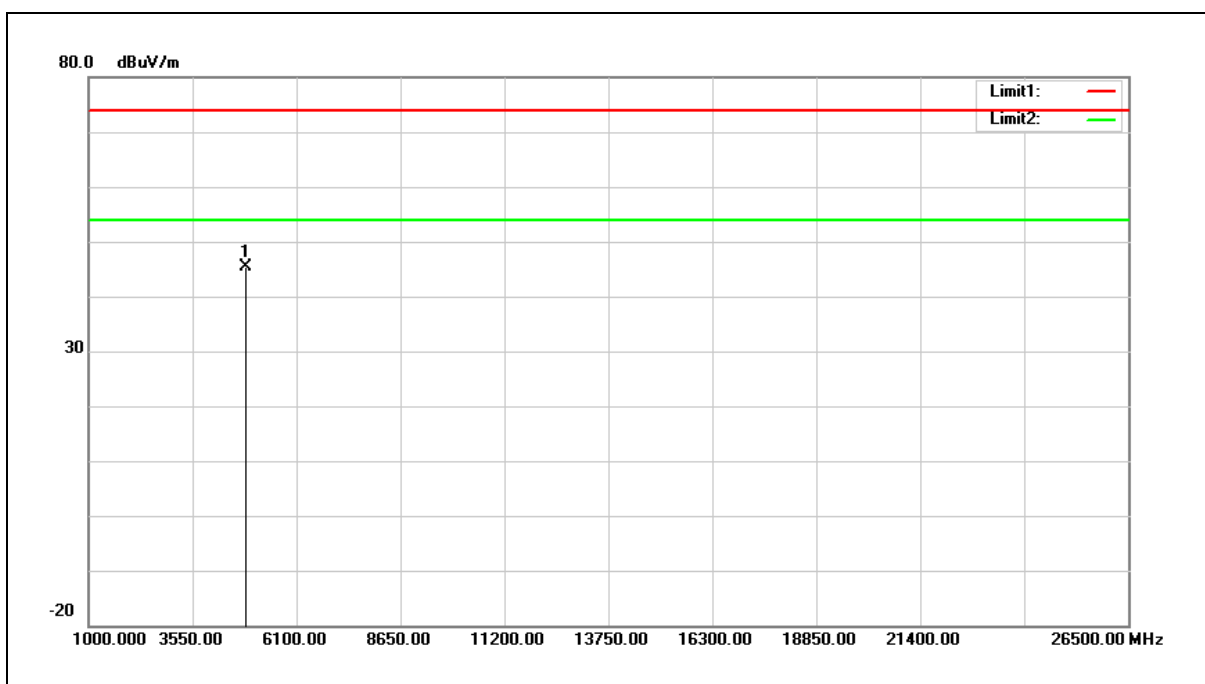
Note:1.Result (dBuV/m) = Correct Factor (dB/m) + Reading(dBuV).

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

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



Standard:	FCC Part 15.247	Test Distance:	3m
Test item:	Harmonic	Power:	AC 120V/60Hz
Frequency:	2437MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 3		
Ant.Polar.:	Vertical		



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4874.000	49.66	-4.37	45.29	74.00	-28.71	peak

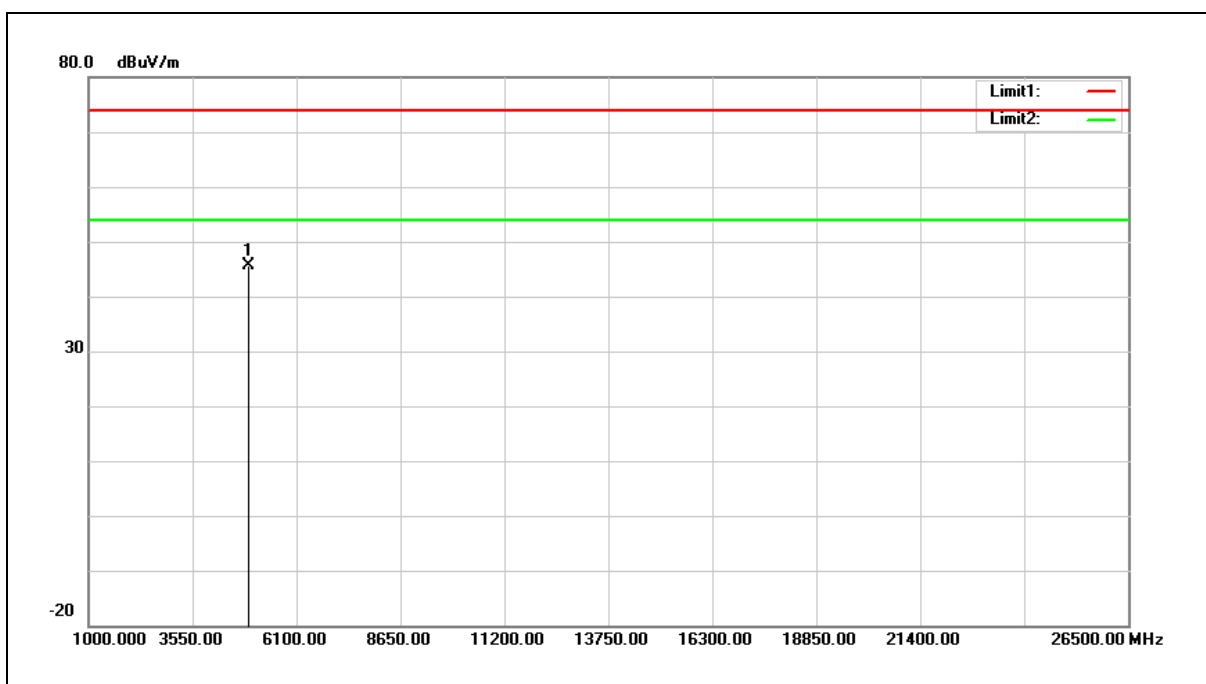
Note:1.Result (dBuV/m) = Correct Factor (dB/m) + Reading(dBuV).

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:	3m
Test item:	Harmonic	Power:	AC 120V/60Hz
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	49.93	-4.39	45.54	74.00	-28.46	peak

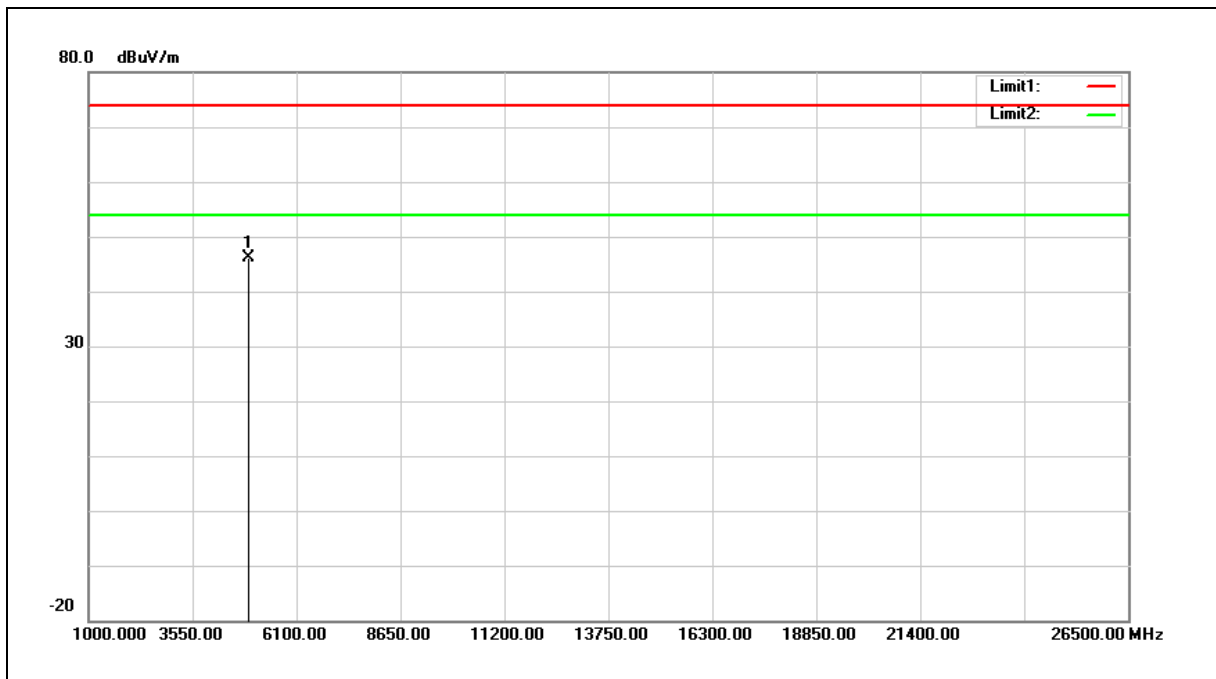
Note:1.Result (dBuV/m) = Correct Factor (dB/m) + Reading(dBuV).

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



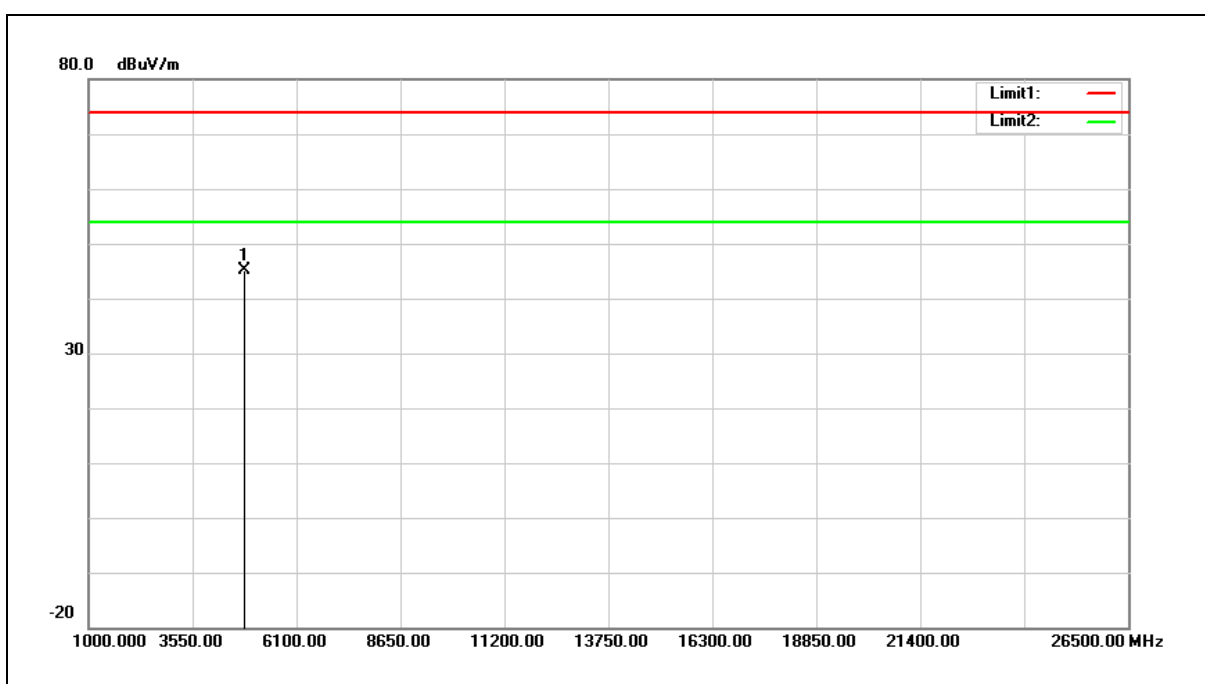
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4924.000	50.57	-4.39	46.18	74.00	-27.82	peak

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:	Harmonic	Power:	AC 120V/60Hz
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	49.43	-4.36	45.07	74.00	-28.93	peak

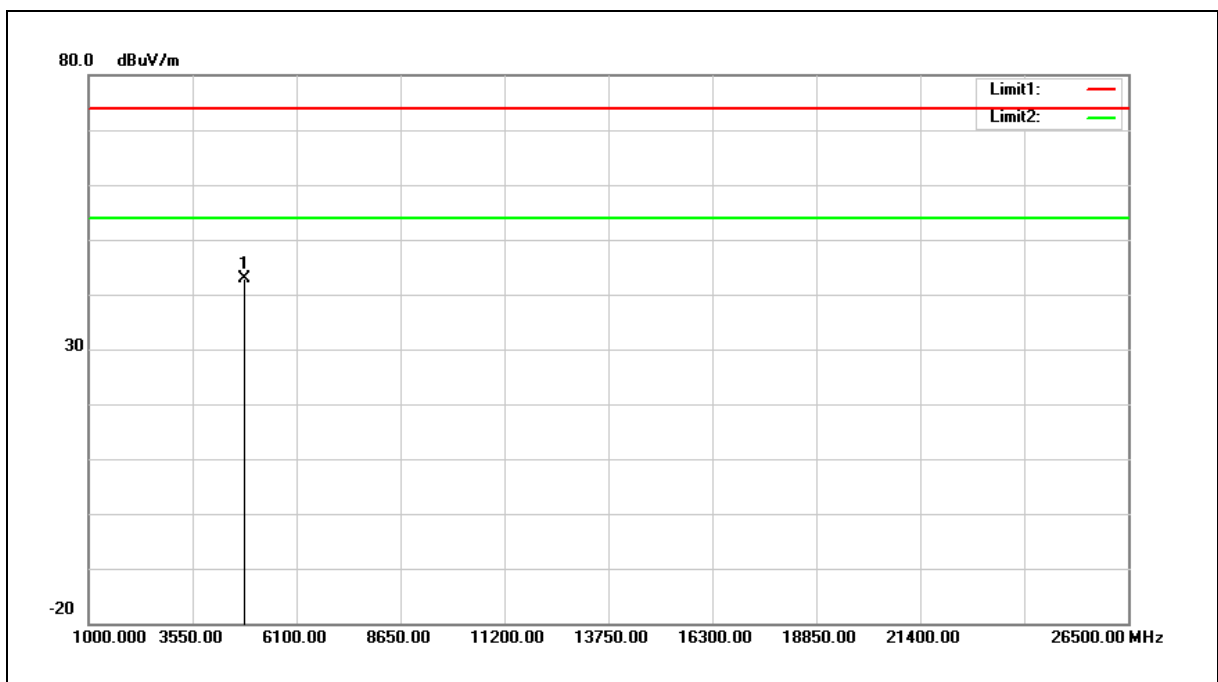
Note:1.Result (dBuV/m) = Correct Factor (dB/m) + Reading(dBuV).

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

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



Standard:	FCC Part 15.247	Test Distance:	3m
Test item:	Harmonic	Power:	AC 120V/60Hz
Frequency:	2412MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 4		
Ant.Polar.:	Vertical		



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4824.000	47.34	-4.36	42.98	74.00	-31.02	peak

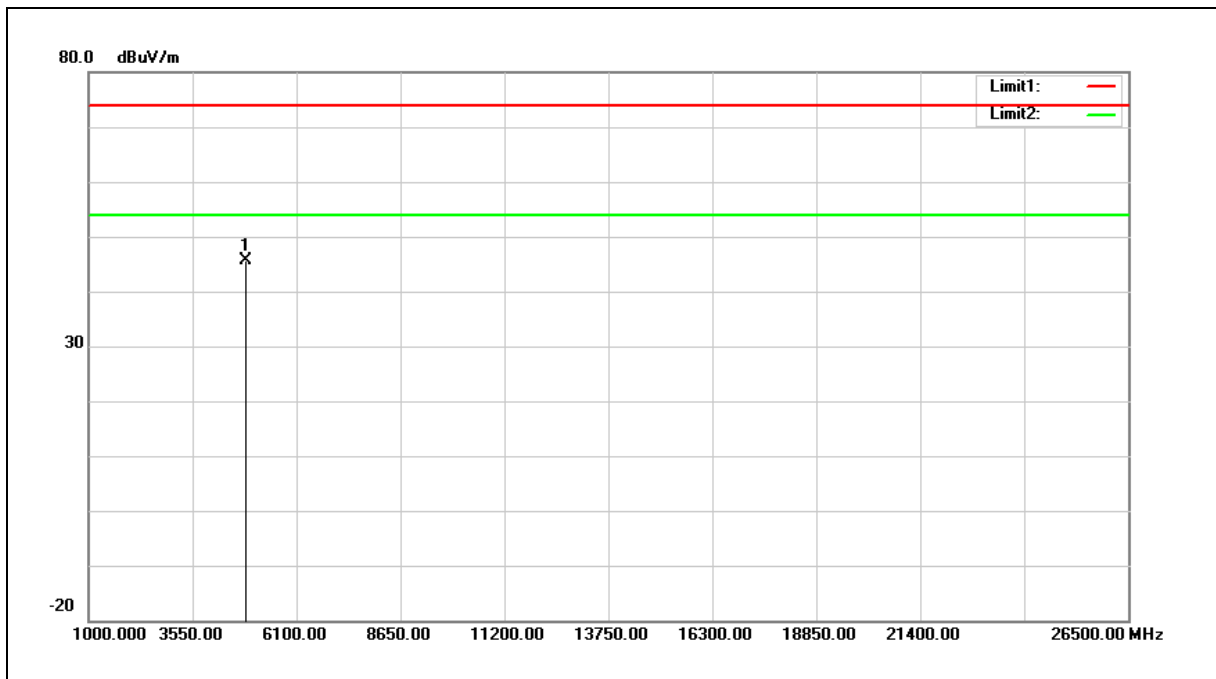
Note:1.Result (dBuV/m) = Correct Factor (dB/m) + Reading(dBuV).

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

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



Standard:	FCC Part 15.247	Test Distance:	3m
Test item:	Harmonic	Power:	AC 120V/60Hz
Frequency:	2437MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 4		
Ant.Polar.:	Horizontal		



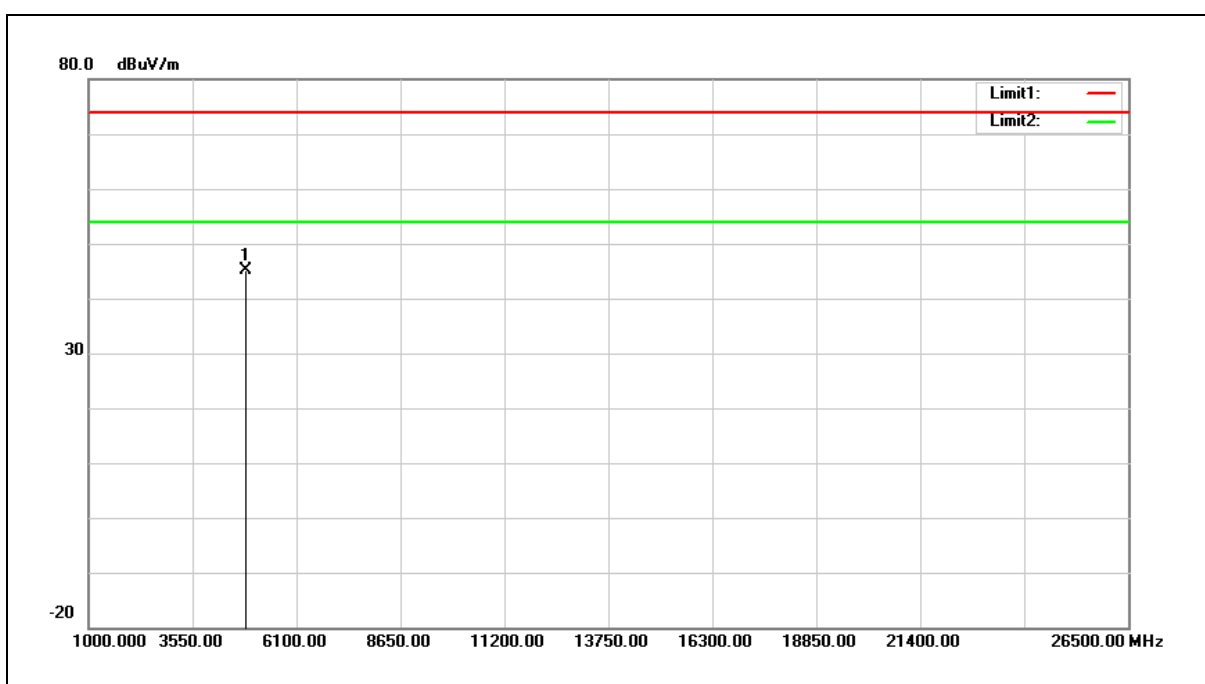
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4874.000	50.09	-4.37	45.72	74.00	-28.28	peak

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

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

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

Standard:	FCC Part 15.247	Test Distance:	3m
Test item:	Harmonic	Power:	AC 120V/60Hz
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	49.60	-4.37	45.23	74.00	-28.77	peak

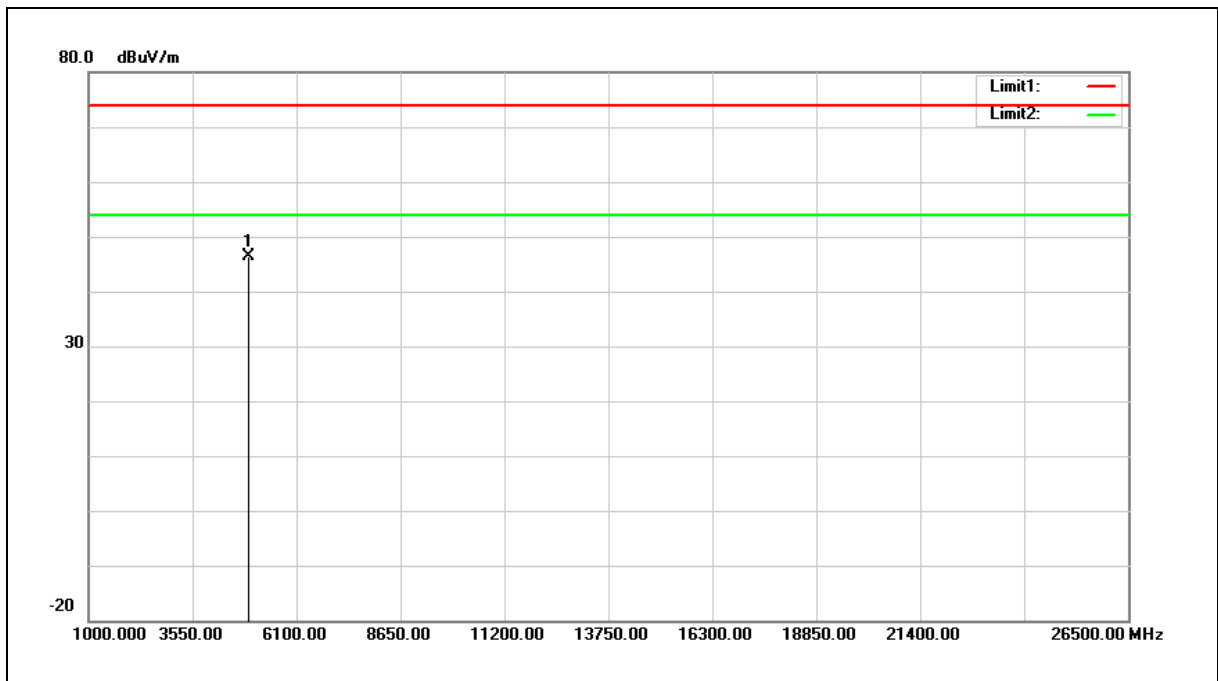
Note:1.Result (dBuV/m) = Correct Factor (dB/m) + Reading(dBuV).

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

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



Standard:	FCC Part 15.247	Test Distance:	3m
Test item:	Harmonic	Power:	AC 120V/60Hz
Frequency:	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	50.88	-4.39	46.49	74.00	-27.51	peak

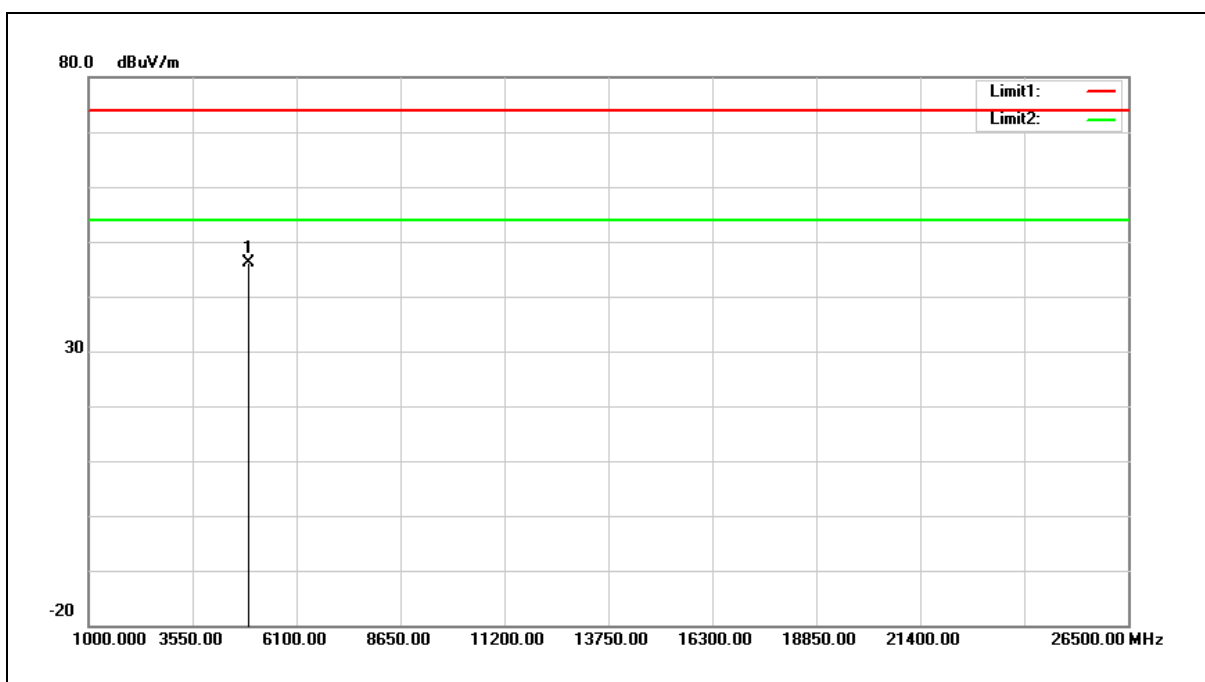
Note:1.Result (dBuV/m) = Correct Factor (dB/m) + Reading(dBuV).

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:	3m
Test item:	Harmonic	Power:	AC 120V/60Hz
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	50.52	-4.39	46.13	74.00	-27.87	peak

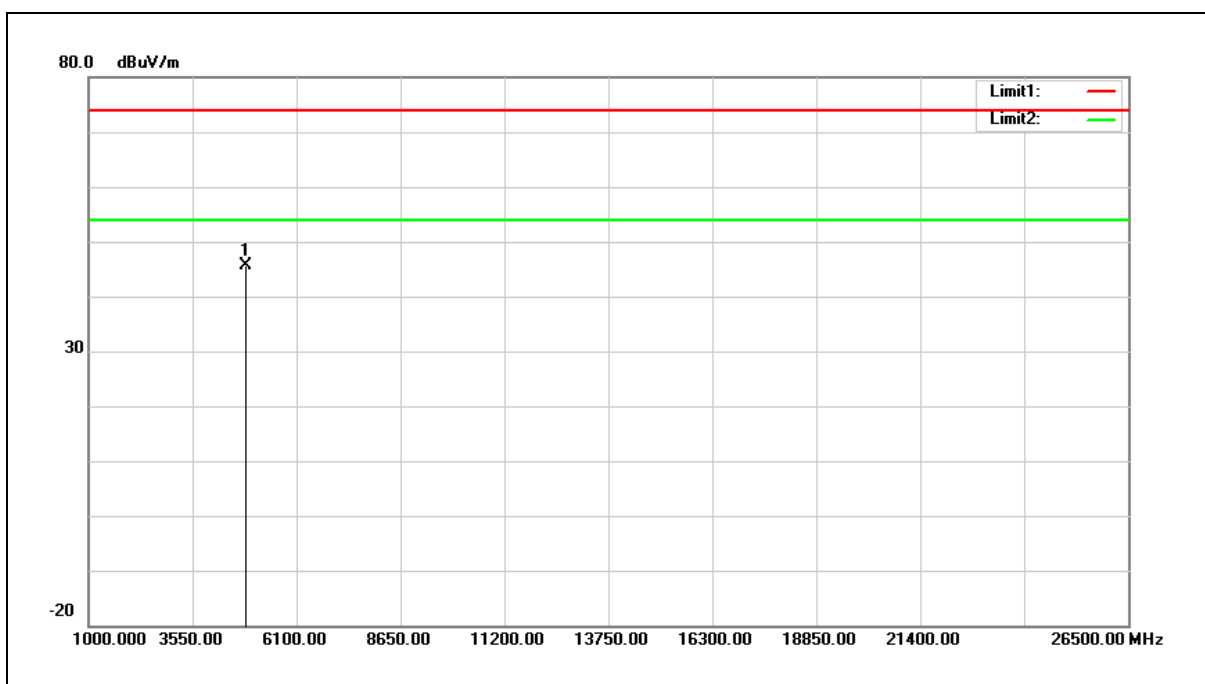
Note:1.Result (dBuV/m) = Correct Factor (dB/m) + Reading(dBuV).

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

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



Standard:	FCC Part 15.247	Test Distance:	3m
Test item:	Harmonic	Power:	AC 120V/60Hz
Frequency:	2422MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 5		
Ant.Polar.:	Horizontal		



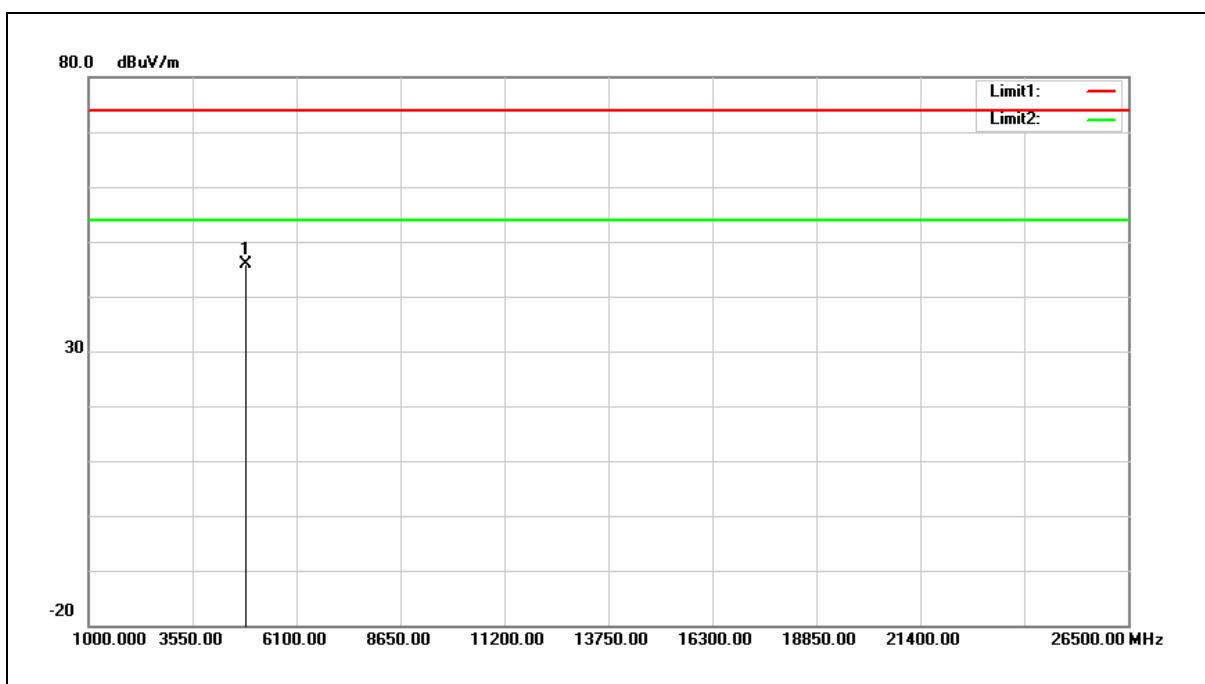
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4844.000	49.94	-4.36	45.58	74.00	-28.42	peak

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

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

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

Standard:	FCC Part 15.247	Test Distance:	3m
Test item:	Harmonic	Power:	AC 120V/60Hz
Frequency:	2422MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 5		
Ant.Polar.:	Vertical		



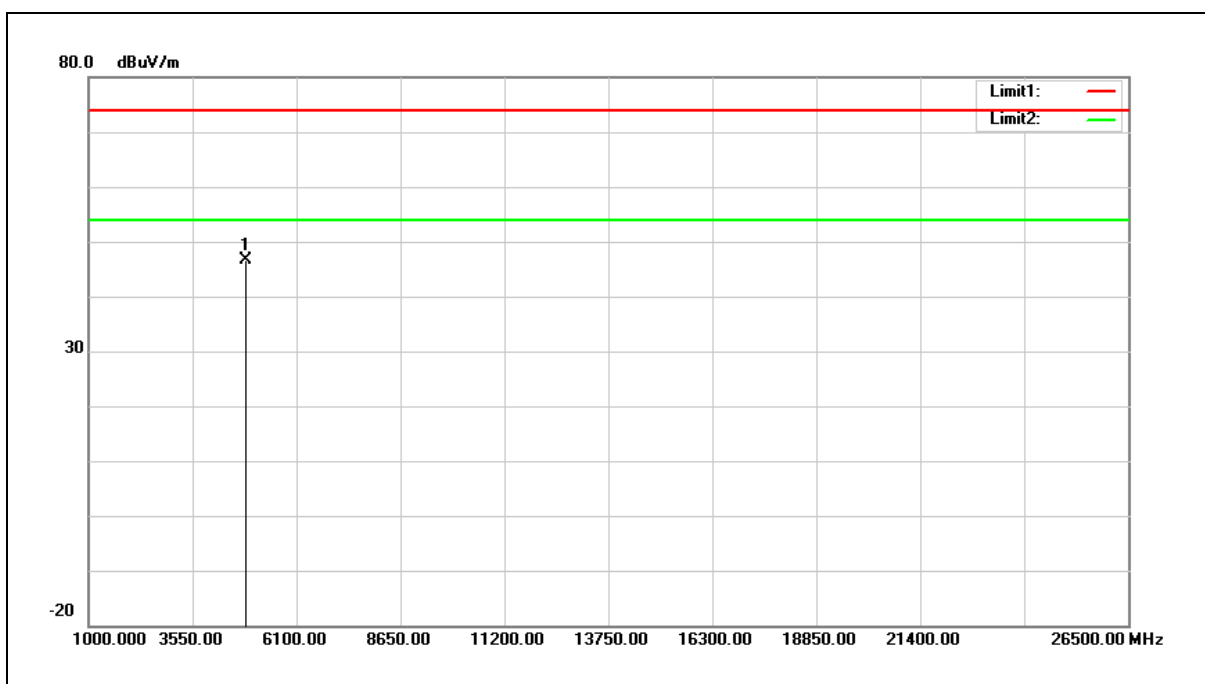
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4844.000	50.13	-4.36	45.77	74.00	-28.23	peak

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

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

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

Standard:	FCC Part 15.247	Test Distance:	3m
Test item:	Harmonic	Power:	AC 120V/60Hz
Frequency:	2437MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 5		
Ant.Polar.:	Horizontal		



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4874.000	50.94	-4.37	46.57	74.00	-27.43	peak

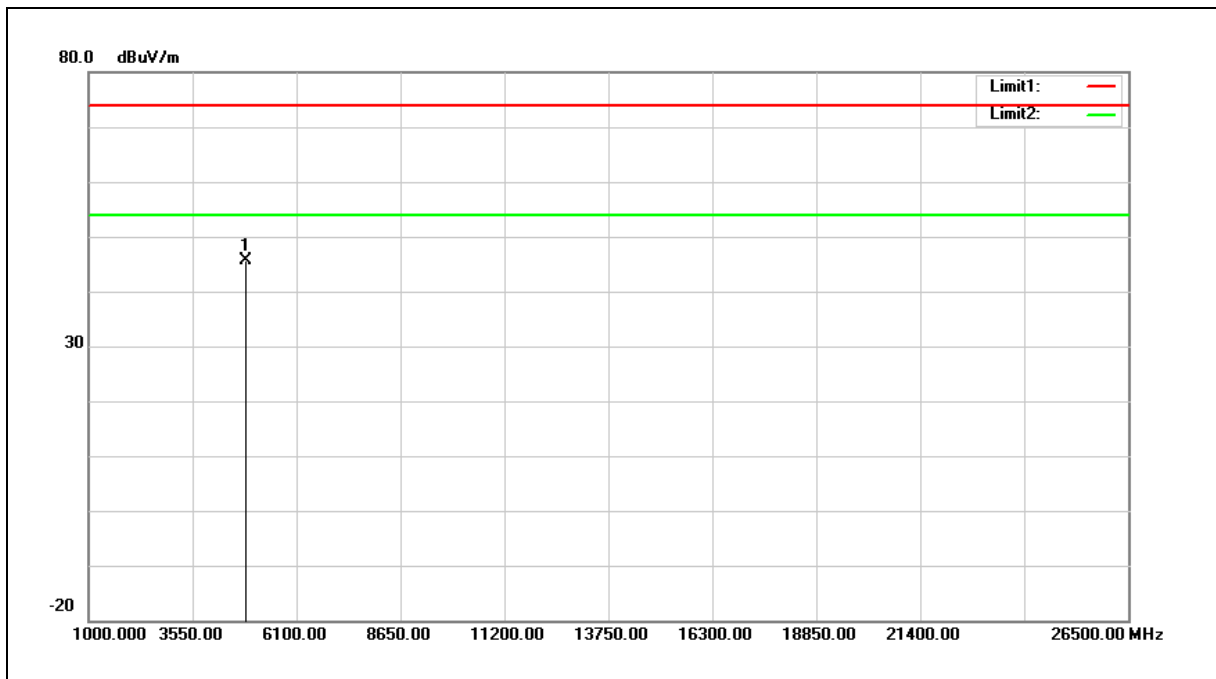
Note:1.Result (dBuV/m) = Correct Factor (dB/m) + Reading(dBuV).

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:	Harmonic	Power:	AC 120V/60Hz
Frequency:	2437MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 5		
Ant.Polar.:	Vertical		



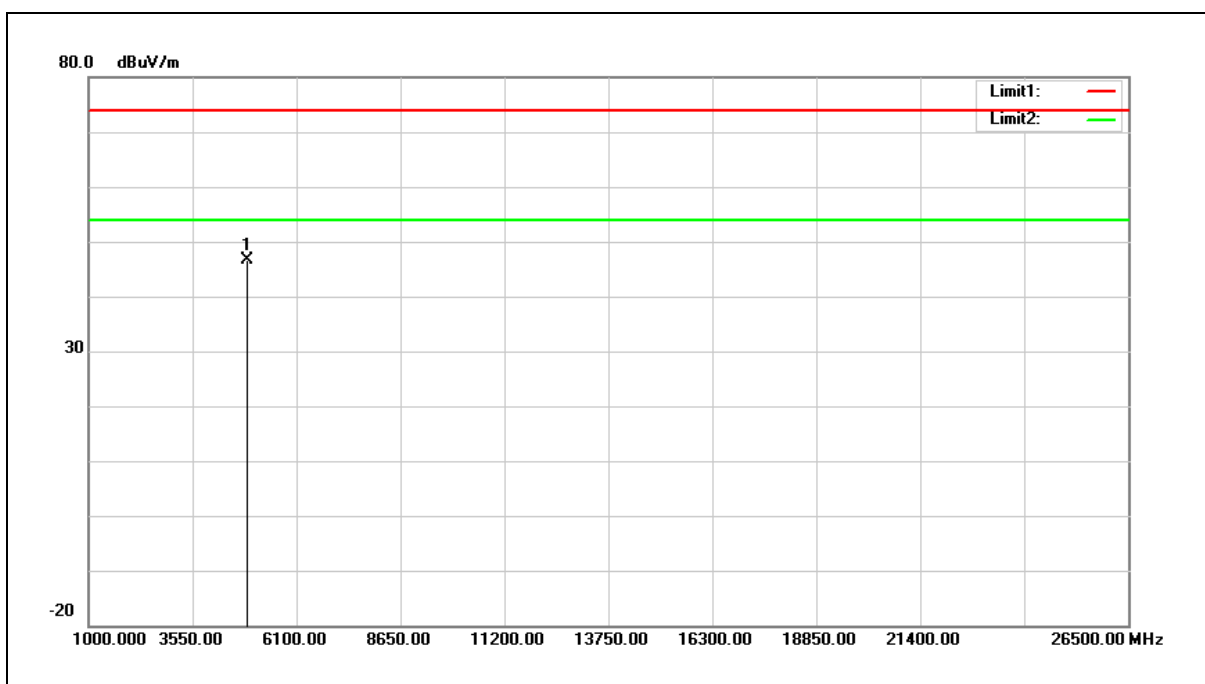
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4874.000	50.05	-4.37	45.68	74.00	-28.32	peak

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

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

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

Standard:	FCC Part 15.247	Test Distance:	3m
Test item:	Harmonic	Power:	AC 120V/60Hz
Frequency:	2452MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 5		
Ant.Polar.:	Horizontal		



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4904.000	51.11	-4.38	46.73	74.00	-27.27	peak

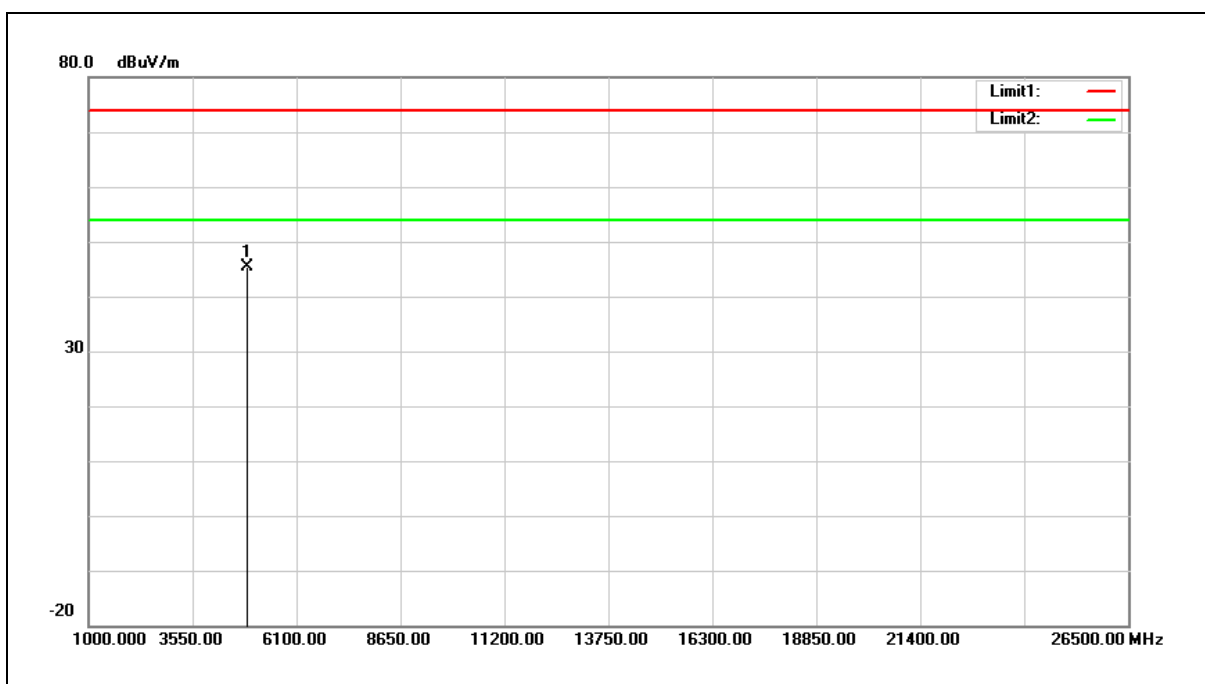
Note:1.Result (dBuV/m) = Correct Factor (dB/m) + Reading(dBuV).

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

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



Standard:	FCC Part 15.247	Test Distance:	3m
Test item:	Harmonic	Power:	AC 120V/60Hz
Frequency:	2452MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 5		
Ant.Polar.:	Vertical		



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4904.000	49.79	-4.38	45.41	74.00	-28.59	peak

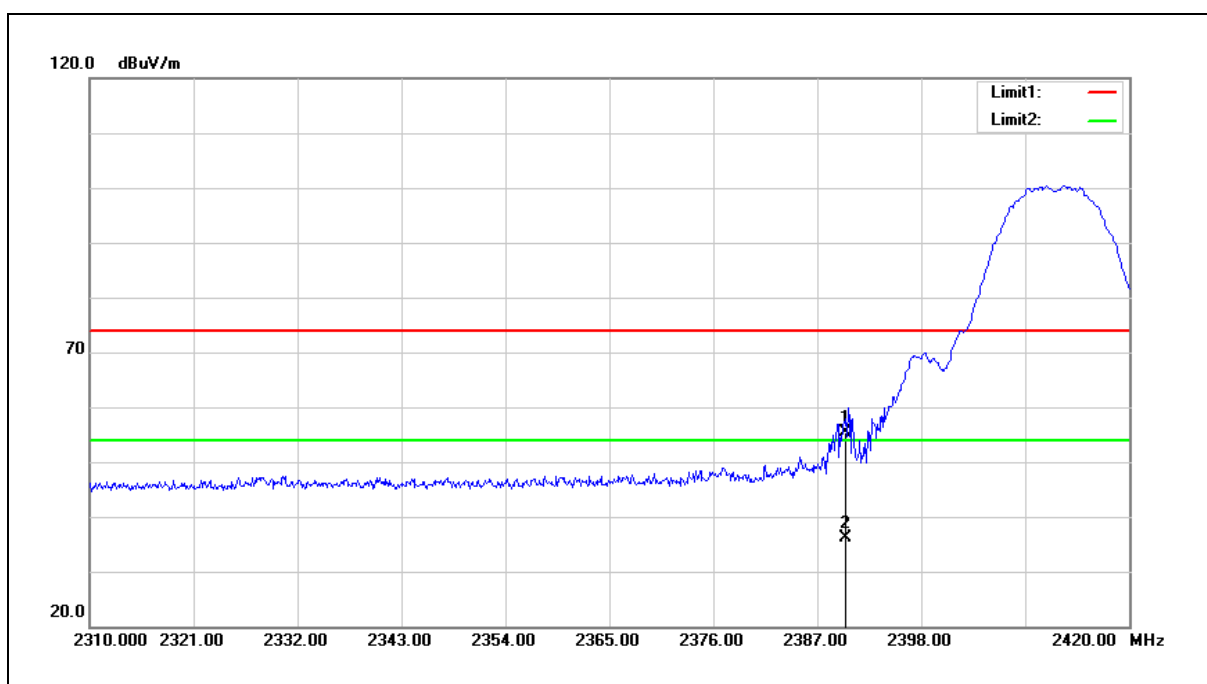
Note:1.Result (dBuV/m) = Correct Factor (dB/m) + Reading(dBuV).

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

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

Band Edge

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



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2390.000	64.88	-9.62	55.26	74.00	-18.74	peak
2	2390.000	45.79	-9.62	36.17	54.00	-17.83	AVG

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

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

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

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



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2390.000	61.34	-9.62	51.72	74.00	-22.28	peak

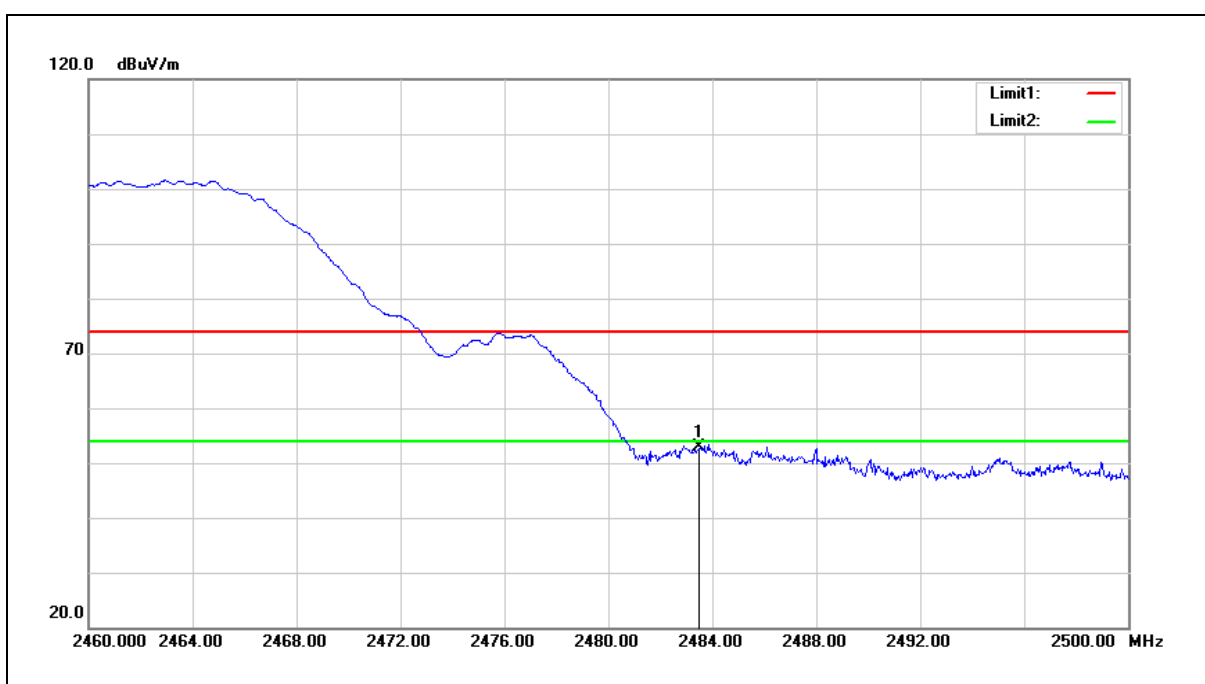
Note:1.Result (dBuV/m) = Correct Factor (dB/m) + Reading(dBuV).

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

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



Standard:	FCC Part 15.247	Test Distance:	3m
Test item:	Band edge	Power:	AC 120V/60Hz
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	62.04	-9.20	52.84	74.00	-21.16	peak

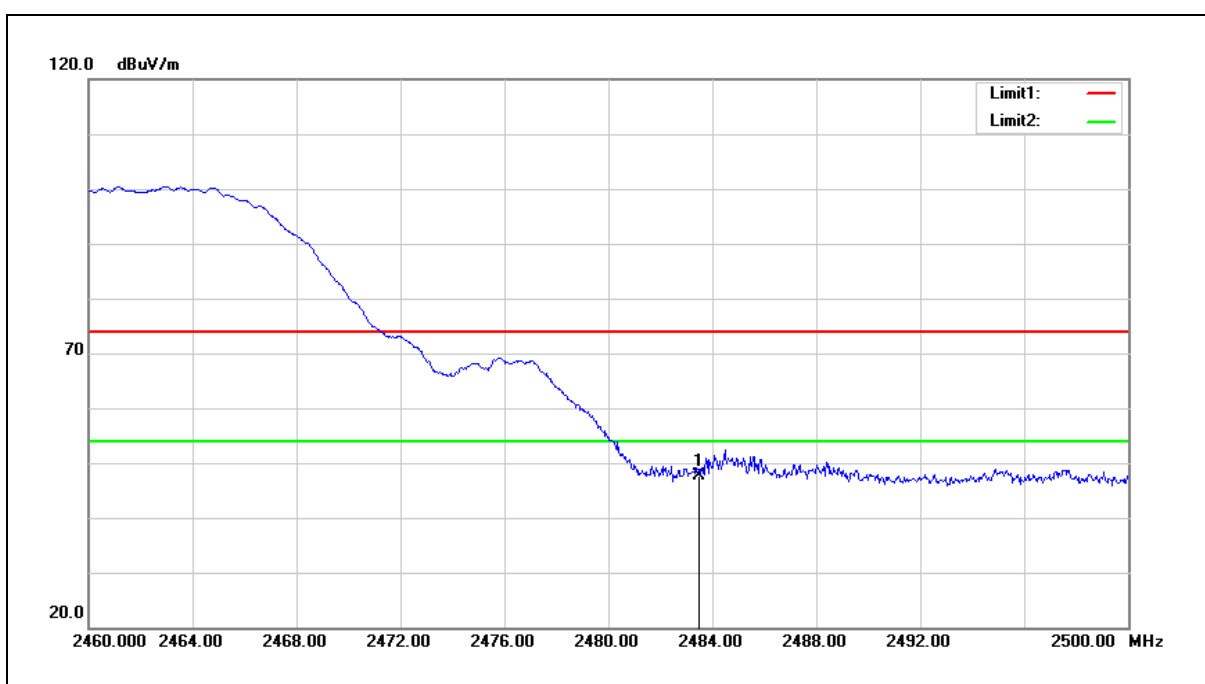
Note:1.Result (dBuV/m) = Correct Factor (dB/m) + Reading(dBuV).

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:	Band edge	Power:	AC 120V/60Hz
Frequency:	2462MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 2		
Ant.Polar.:	Vertical		



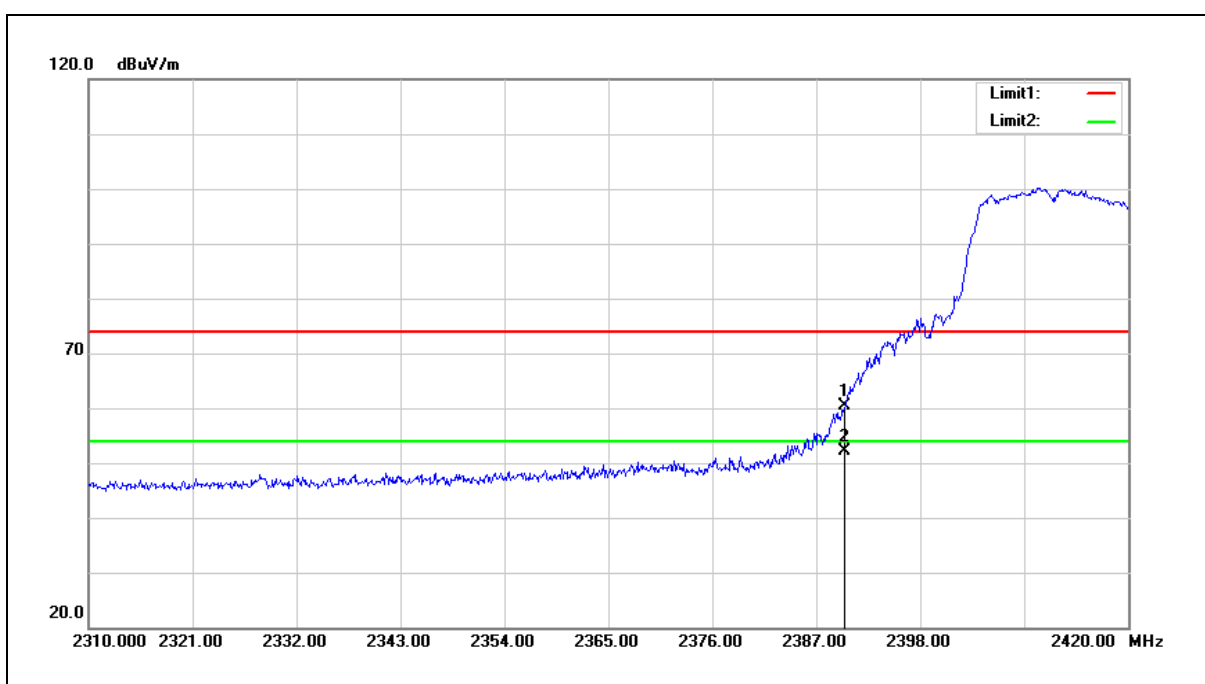
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2483.500	56.89	-9.20	47.69	74.00	-26.31	peak

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:	AC 120V/60Hz
Frequency:	2412MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 3		
Ant.Polar.:	Horizontal		



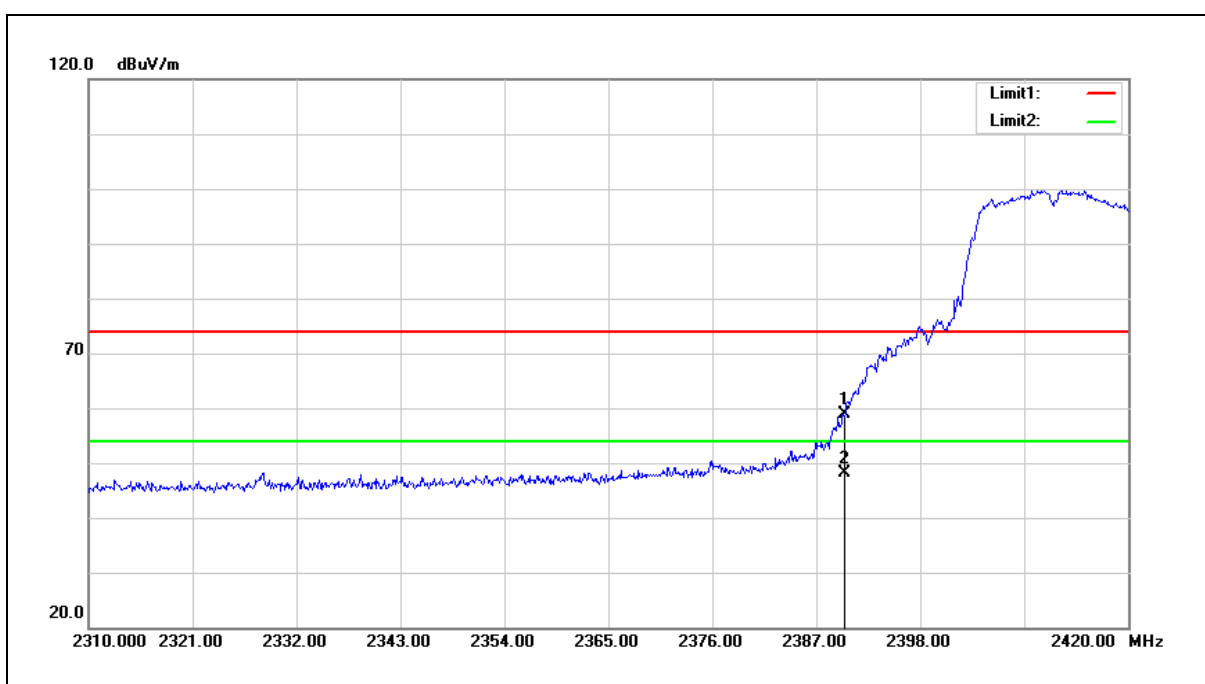
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2390.000	69.99	-9.62	60.37	74.00	-13.63	peak
2	2390.000	61.82	-9.62	52.20	54.00	-1.80	AVG

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

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

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

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



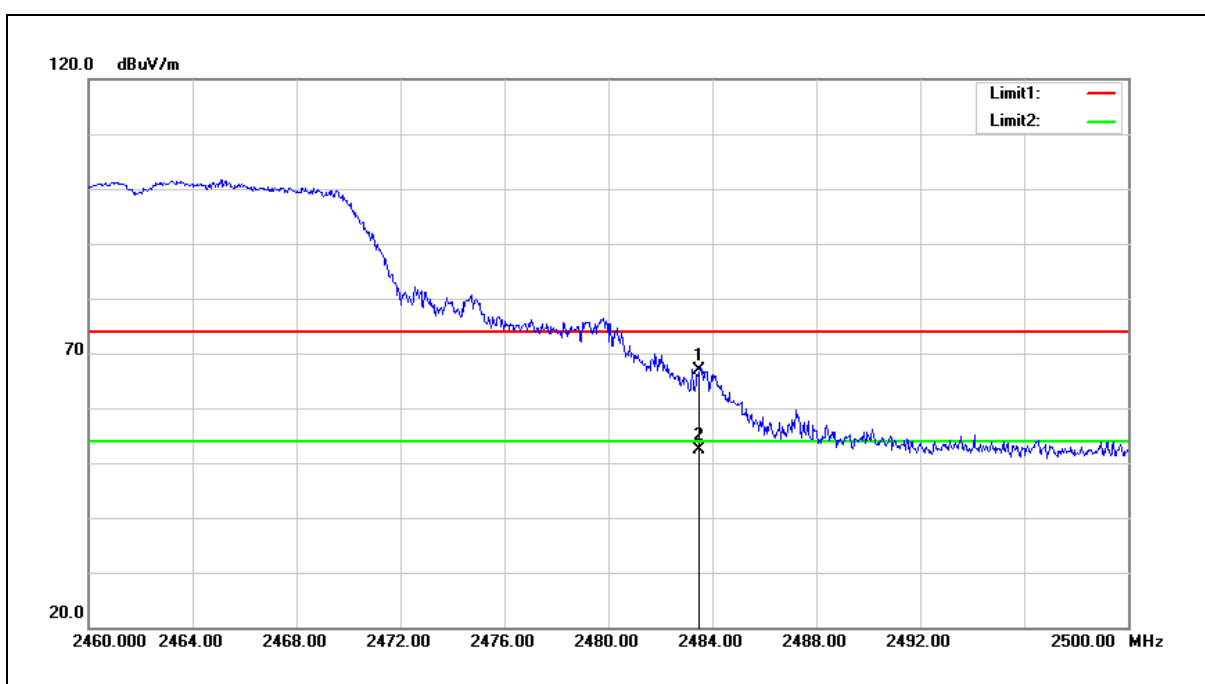
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2390.000	68.39	-9.62	58.77	74.00	-15.23	peak
2	2390.000	57.77	-9.62	48.15	54.00	-5.85	AVG

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

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

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

Standard:	FCC Part 15.247	Test Distance:	3m
Test item:	Band edge	Power:	AC 120V/60Hz
Frequency:	2462MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 3		
Ant.Polar.:	Horizontal		



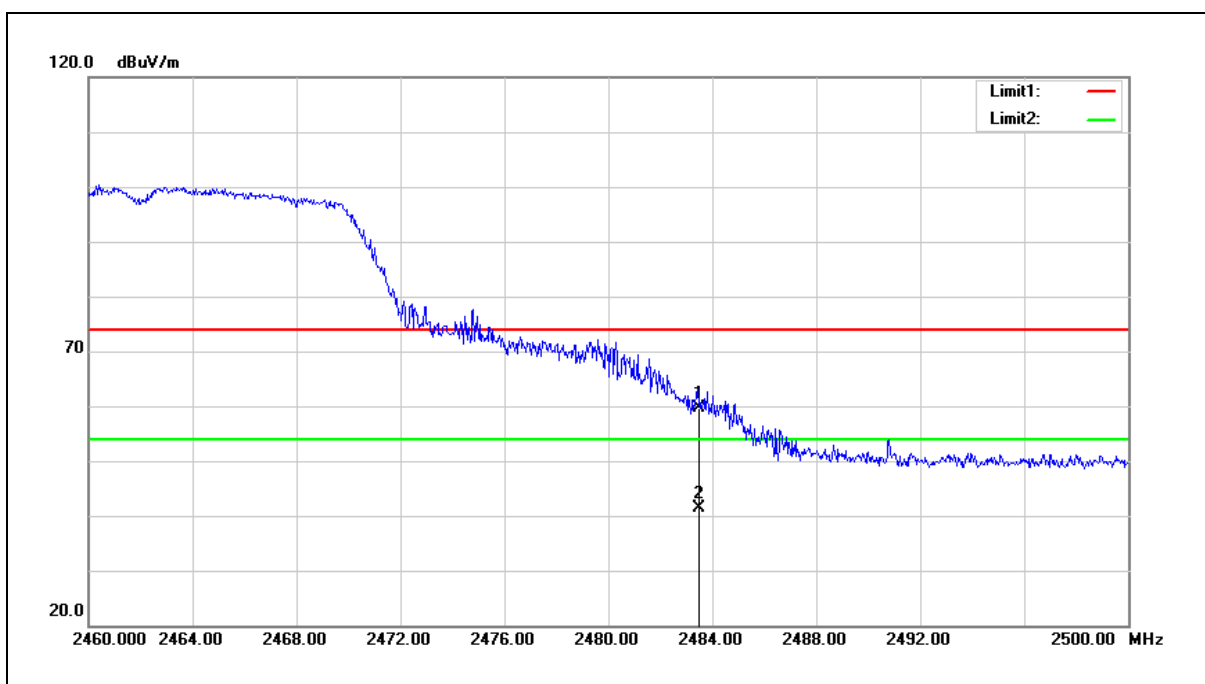
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2483.500	76.06	-9.20	66.86	74.00	-7.14	peak
2	2483.500	61.69	-9.20	52.49	54.00	-1.51	AVG

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:	AC 120V/60Hz
Frequency:	2462MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 3		
Ant.Polar.:	Vertical		



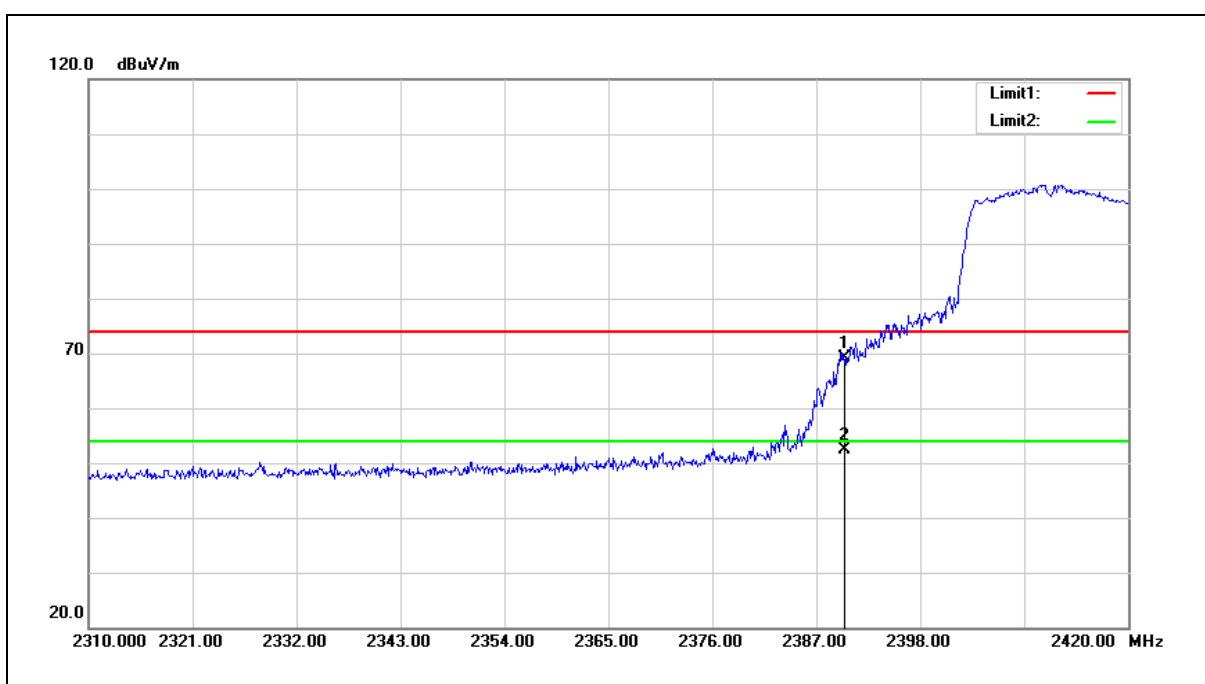
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2483.500	68.94	-9.20	59.74	74.00	-14.26	peak
2	2483.500	50.48	-9.20	41.28	54.00	-12.72	AVG

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

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

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

Standard:	FCC Part 15.247	Test Distance:	3m
Test item:	Band edge	Power:	AC 120V/60Hz
Frequency:	2412MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 4		
Ant.Polar.:	Horizontal		



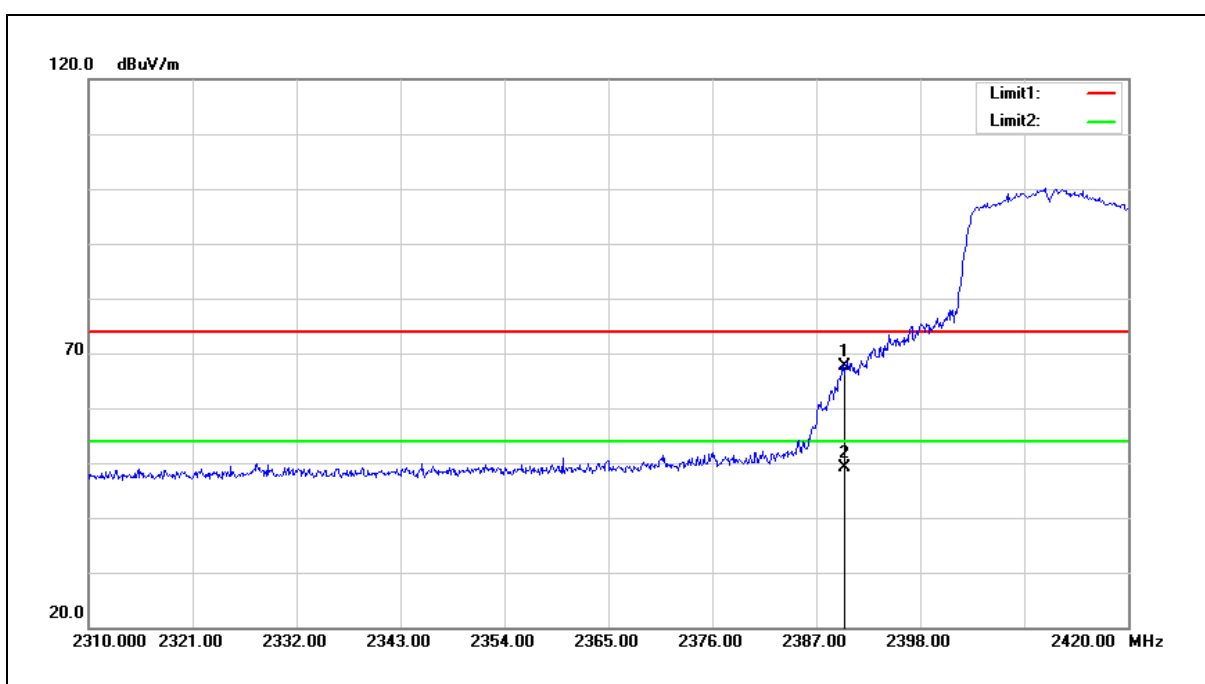
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2390.000	78.68	-9.62	69.06	74.00	-4.94	peak
2	2390.000	62.05	-9.62	52.43	54.00	-1.57	AVG

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:	Band edge	Power:	AC 120V/60Hz
Frequency:	2412MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 4		
Ant.Polar.:	Vertical		



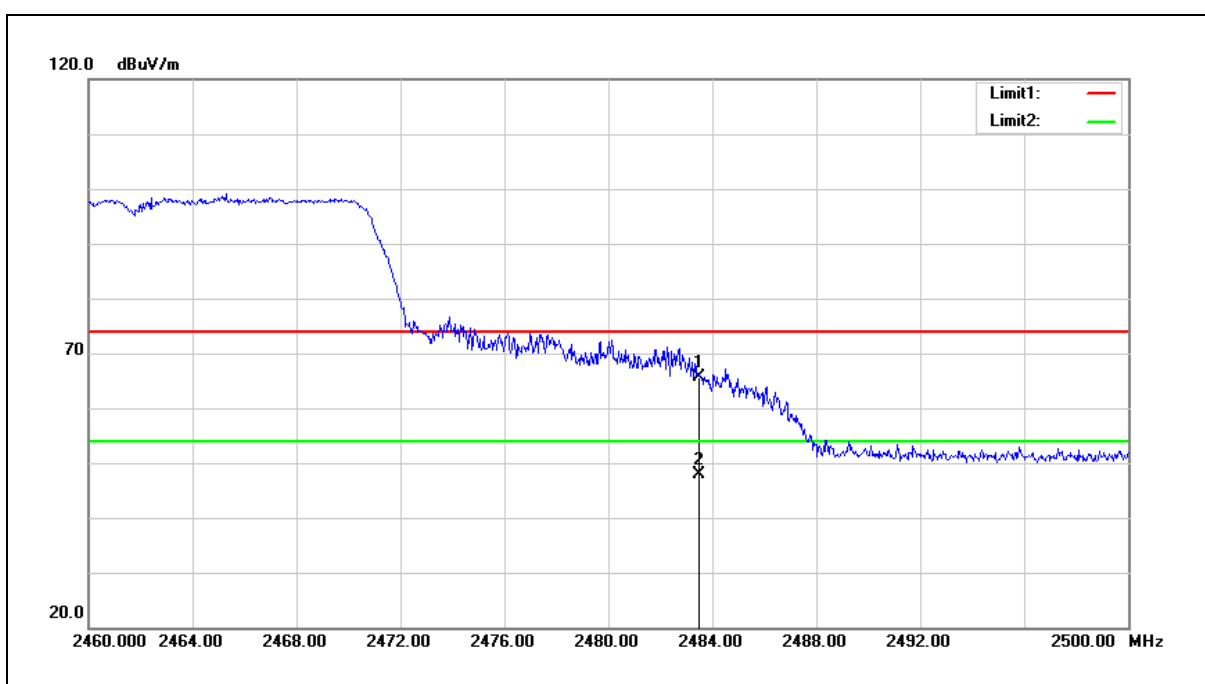
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2390.000	77.16	-9.62	67.54	74.00	-6.46	peak
2	2390.000	58.73	-9.62	49.11	54.00	-4.89	AVG

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

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

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

Standard:	FCC Part 15.247	Test Distance:	3m
Test item:	Band edge	Power:	AC 120V/60Hz
Frequency:	2462MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 4		
Ant.Polar.:	Horizontal		



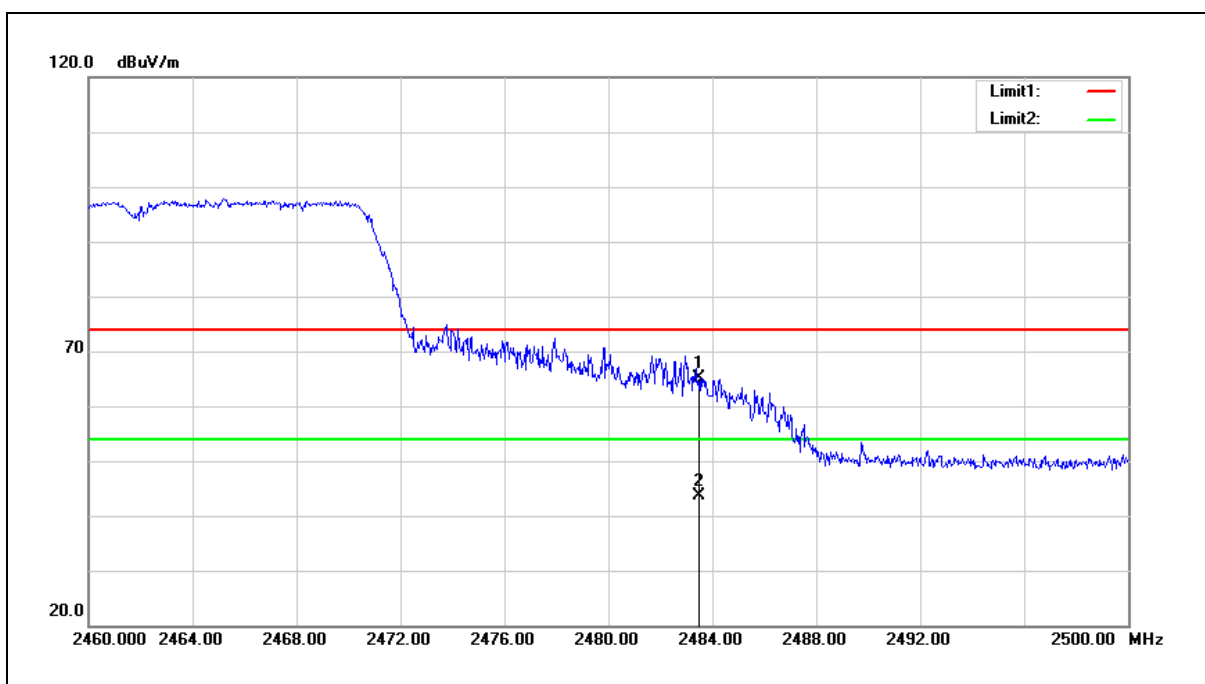
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2483.500	74.91	-9.20	65.71	74.00	-8.29	peak
2	2483.500	57.17	-9.20	47.97	54.00	-6.03	AVG

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

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

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

Standard:	FCC Part 15.247	Test Distance:	3m
Test item:	Band edge	Power:	AC 120V/60Hz
Frequency:	2462MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 4		
Ant.Polar.:	Vertical		



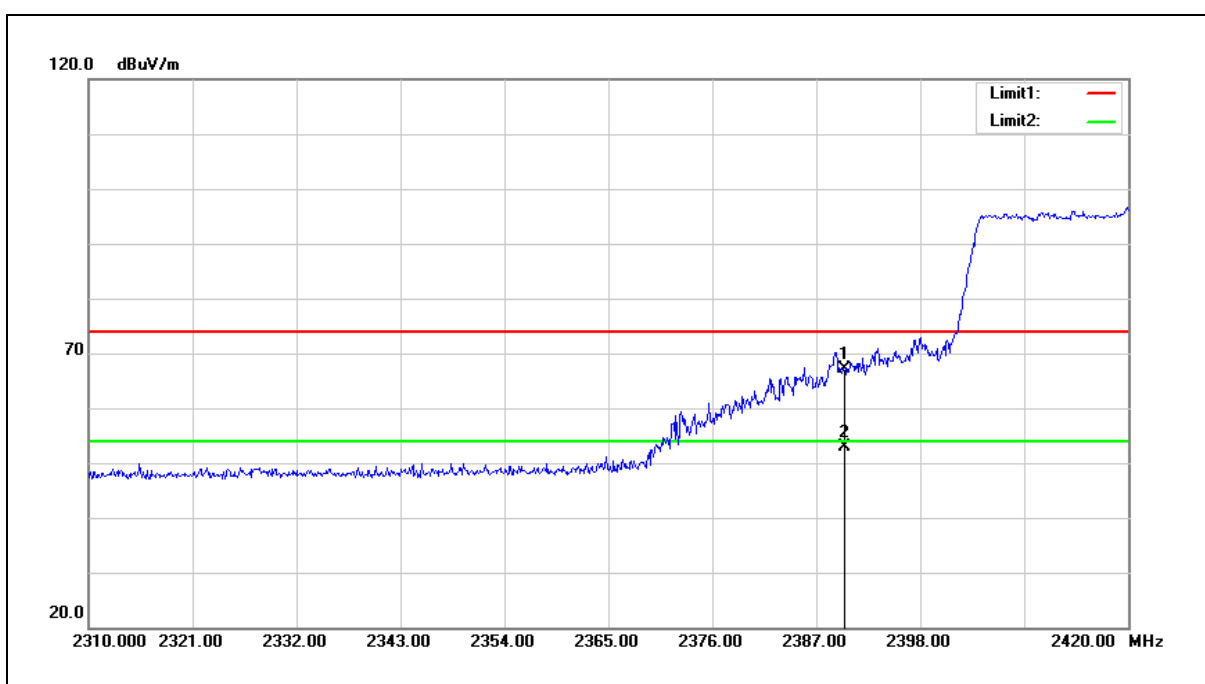
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2483.500	74.41	-9.20	65.21	74.00	-8.79	peak
2	2483.500	52.80	-9.20	43.60	54.00	-10.40	AVG

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

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

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

Standard:	FCC Part 15.247	Test Distance:	3m
Test item:	Band edge	Power:	AC 120V/60Hz
Frequency:	2422MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 5		
Ant.Polar.:	Horizontal		



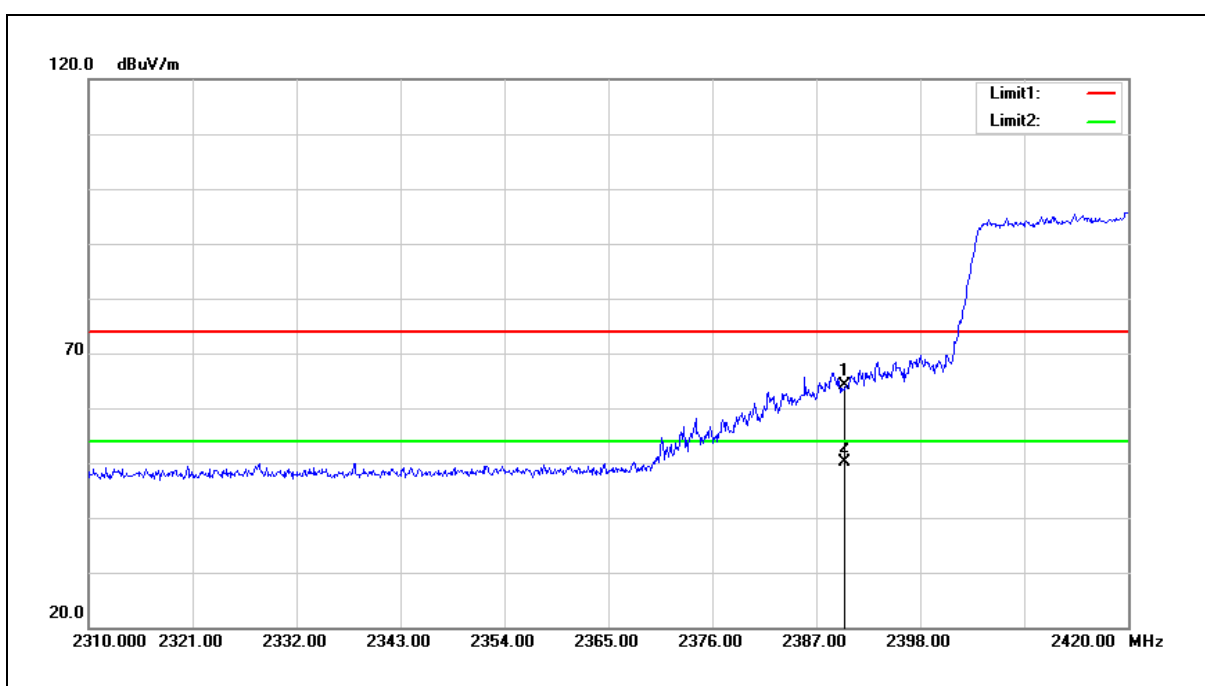
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2390.000	76.71	-9.62	67.09	74.00	-6.91	peak
2	2390.000	62.62	-9.62	53.00	54.00	-1.00	AVG

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

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

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

Standard:	FCC Part 15.247	Test Distance:	3m
Test item:	Band edge	Power:	AC 120V/60Hz
Frequency:	2422MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 5		
Ant.Polar.:	Vertical		



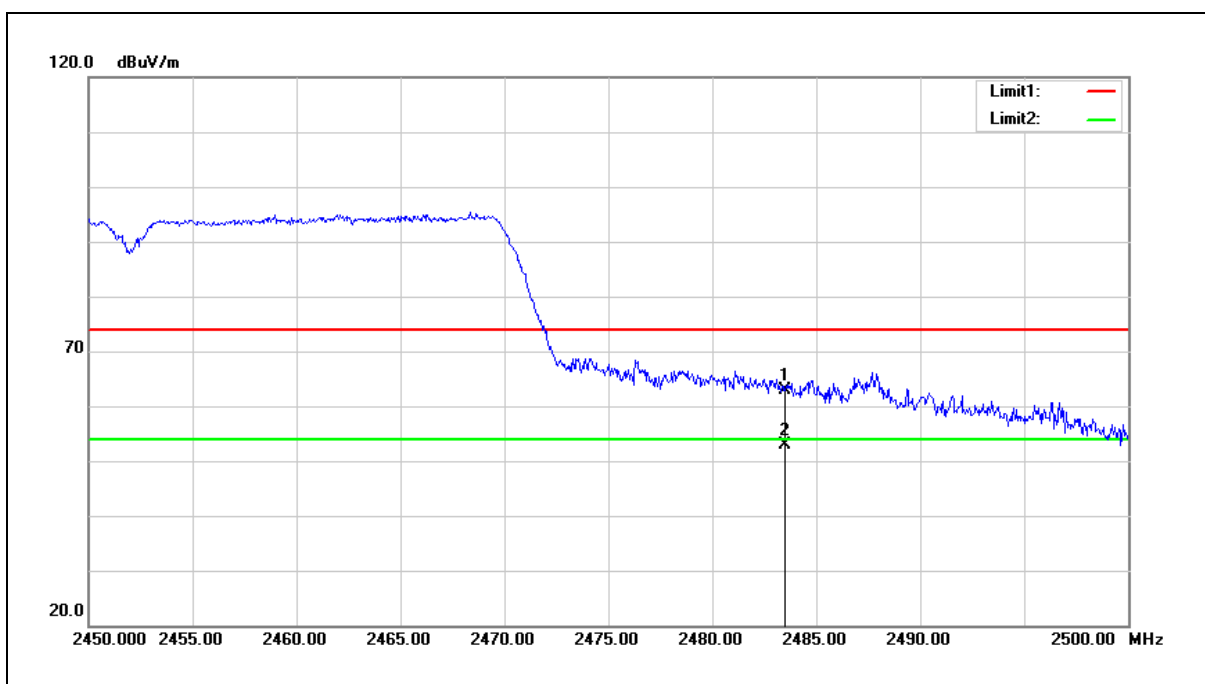
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2390.000	73.65	-9.62	64.03	74.00	-9.97	peak
2	2390.000	59.79	-9.62	50.17	54.00	-3.83	AVG

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

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

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

Standard:	FCC Part 15.247	Test Distance:	3m
Test item:	Band edge	Power:	AC 120V/60Hz
Frequency:	2452MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 5		
Ant.Polar.:	Horizontal		



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2483.500	71.99	-9.20	62.79	74.00	-11.21	peak
2	2483.500	62.08	-9.20	52.88	54.00	-1.12	AVG

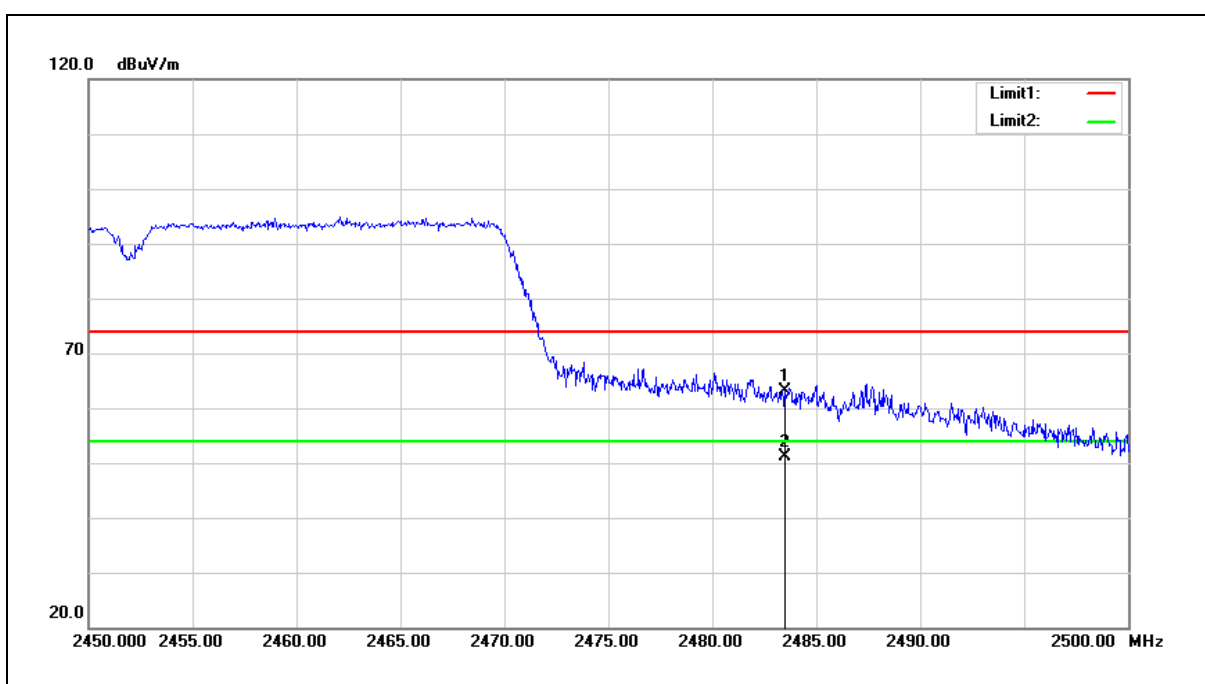
Note:1.Result (dBuV/m) = Correct Factor (dB/m) + Reading(dBuV).

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

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



Standard:	FCC Part 15.247	Test Distance:	3m
Test item:	Band edge	Power:	AC 120V/60Hz
Frequency:	2452MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 5		
Ant.Polar.:	Vertical		



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2483.500	72.33	-9.20	63.13	74.00	-10.87	peak
2	2483.500	60.32	-9.20	51.12	54.00	-2.88	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.