

RF Test Report

Applicant : Altai Technologies Limited

Product Type : Altai VX200 Dual-Band CPE/AP

Trade Name : ALTAI

Model Number : VX200

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

Received Date : Nov. 20, 2019

Test Period : Feb. 27 ~ Mar. 05, 2020

Issued Date : May 05, 2020

Issued by

A Test Lab Techno Corp.
No. 140-1, Changan Street, Bade District,
Taoyuan City 33465, Taiwan (R.O.C.)
Tel : +86-3-2710188 / Fax : +86-3-2710190



Taiwan Accreditation Foundation accreditation number: 1330
Test Firm MRA designation number: TW0010

Note:

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



Revision History

Rev.	Issued Date	Revisions	Revised By
00	May 05, 2020	Initial Issue	Tobey Cheng



Verification of Compliance

Issued Date: May 05, 2020

Applicant : Altai Technologies Limited

Product Type : Altai VX200 Dual-Band CPE/AP

Trade Name : ALTAI

Model Number : VX200

FCC ID : UCC-VX200

EUT Rated Voltage : DC 54 V, 0.6 A (PoE)
DC 12-48 V, 1.25 A (Terminal Block)

Test Voltage : 120 Vac / 60 Hz

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

Test Result : Complied

Performing Lab. : A Test Lab Techno Corp.
No. 140-1, Changan Street, Bade District,
Taoyuan City 33465, Taiwan (R.O.C.)
Tel : +86-3-2710188 / Fax : +86-3-2710190



Taiwan Accreditation Foundation accreditation number: 1330

<http://www.atl-lab.com.tw/e-index.htm>

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

Approved By : Eric Ou Yang
(Manager) (Eric Ou Yang)

TABLE OF CONTENTS

1	General Information	5
1.1.	Summary of Test Result.....	5
1.2.	Measurement Uncertainty.....	6
2	EUT Description	7
3	Test Methodology.....	9
3.1.	Mode of Operation.....	9
3.2.	EUT Test Step.....	15
3.3.	Configuration of Test System Details	16
3.4.	Test Instruments	18
3.5.	Test Site Environment.....	19
4	Measurement Procedure.....	20
4.1.	AC Power Conducted Emission Measurement	20
4.2.	Transmitter Radiated Emissions Measurement.....	22
4.3.	Maximum Conducted Output Power Measurement.....	27
4.4.	26 dB RF Bandwidth Measurement & 99 % Occupied Bandwidth Measurement	29
4.5.	6 dB RF Bandwidth Measurement	30
4.6.	Maximum Power Spectral Density Measurement.....	31
4.7.	Automatically discontinue transmission.....	33
4.8.	Antenna Requirement.....	33
5	Test Results.....	36
	Annex A. Conducted Emission	36
	Annex B. Radiated Emission Measurement	38
	Annex C. Conducted Test Results	251



1 General Information

1.1. Summary of Test Result

Standard	Item	Result	Remark
15.407(b)(6) 15.207	AC Power Conducted Emission	PASS	---
15.407(b) 15.205 / 15.209	Transmitter Radiated Emissions	PASS	---
15.407(a)	Maximum Conducted Output Power	PASS	---
15.407(a)	26 dB RF Bandwidth & 99 % Occupied Bandwidth	Reference	---
15.407(e)	6 dB RF Bandwidth	PASS	----
15.407(a)	Maximum Power Spectral Density	PASS	---
15.407(c)	Automatically discontinue transmission	PASS	---
15.407(a) 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
KDB 558074 D01 v05	GUIDANCE FOR COMPLIANCE MEASUREMENTS ON DIGITAL TRANSMISSION SYSTEM, FREQUENCY HOPPING SPREAD SPECTRUM SYSTEM, AND HYBRID SYSTEM DEVICES OPERATING UNDER SECTION 15.247 OF THE FCC RULES

1.2. Measurement Uncertainty

Test Item	Frequency Range	Uncertainty (dB)
Conducted Emission	150 kHz ~ 30 MHz	2.68
Radiated Emission	9 kHz ~ 30 MHz	2.14
	30 MHz ~ 1000 MHz	4.99
	1000 MHz ~ 18000 MHz	4.99
	18000 MHz ~ 26500 MHz	4.23
	26500 MHz ~ 40000 MHz	4.39
Conducted Output Power		0.92 dB
RF Bandwidth		4.79 %
Power Spectral Density		0.92 dB
Frequency Stability		4.1×10^{-8}
Duty Cycle		1.06 %
Time Occupancy		1.40 %

Decision Rule

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

2 EUT Description

Applicant	Altai Technologies Limited Unit 209, 2/F Lakeside 2, 10 Science Park West Avenue, HK Science Park, Shatin Hong Kong				
Manufacturer	Altai Technologies Limited Unit 209, 2/F Lakeside 2, 10 Science Park West Avenue, HK Science Park, Shatin Hong Kong				
Product Type	Altai VX200 Dual-Band CPE/AP				
Trade Name	ALTAI				
Model Number	VX200				
FCC ID	UCC-VX200				
Operate Frequency	Frequency Band		Frequency Range (MHz)	Number of Channels	
	IEEE 802.11a	U-NII Band I	5180 – 5240	3	
		U-NII Band III	5745 – 5825	3	
	IEEE 802.11n 5 GHz 20 MHz / IEEE 802.11ac 20 MHz	U-NII Band I	5180 – 5240	3	
		U-NII Band III	5745 – 5825	3	
	IEEE 802.11n 5 GHz 40 MHz / IEEE 802.11ac 40 MHz	U-NII Band I	5190 – 5230	2	
		U-NII Band III	5755 – 5795	2	
	IEEE 802.11ac 80 MHz	U-NII Band I	5210	1	
U-NII Band III		5775	1		
Modulation Type	OFDM				
Equipment Type	Master / Slave				
Antenna information	Antenna	Model	Type	Max. Gain (dBi)	
	ANT-0 / ANT-1	RF21S00610A	Dipole Antenna	U-NII Band I	4.62
				U-NII Band III	4.59
	Directional Gain			U-NII Band I	7.63
				U-NII Band III	7.60
Antenna Delivery	Reference section 3.1				
Operate Temp. Range	-20 ~ +60 °C				



Master

Frequency Band		RF Output Power (W)
IEEE 802.11a	U-NII Band I	0.542
	U-NII Band III	0.778
IEEE 802.11ac 20 MHz	U-NII Band I	0.503
	U-NII Band III	0.601
IEEE 802.11ac 40 MHz	U-NII Band I	0.465
	U-NII Band III	0.594
IEEE 802.11ac 80 MHz	U-NII Band I	0.115
	U-NII Band III	0.248

Slave

Frequency Band		RF Output Power (W)
IEEE 802.11a	U-NII Band I	0.116
	U-NII Band III	0.778
IEEE 802.11ac 20 MHz	U-NII Band I	0.124
	U-NII Band III	0.601
IEEE 802.11ac 40 MHz	U-NII Band I	0.144
	U-NII Band III	0.594
IEEE 802.11ac 80 MHz	U-NII Band I	0.115
	U-NII Band III	0.248

Equipment Type		
Outdoor access point	point-to-point	---
	point-to-multipoint	---
Indoor access point		V
Fixed point-to-point access points		---
Client devices		V

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 802.11a Continuous TX mode
Mode 3: IEEE 802.11ac 20 MHz Continuous TX mode
Mode 4: IEEE 802.11ac 40 MHz Continuous TX mode
Mode 5: IEEE 802.11ac 80 MHz Continuous TX mode

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

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

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

Test Mode	Antenna Delivery	Data Rate (Mbps)	Band	Test Channel
Mode 2	2TX (CDD)	6	U-NII Band I	36, 40, 48
			U-NII Band III	149, 157, 165
Mode 3	2TX (MMO)	13	U-NII Band I	36, 40, 48
			U-NII Band III	149, 157, 165
Mode 4	2TX (MMO)	27	U-NII Band I	38, 46
			U-NII Band III	151, 159
Mode 5	2TX (MMO)	58.6	U-NII Band I	42
			U-NII Band III	155

Duty cycle

Master						
--------	--	--	--	--	--	--

Test Mode	Frequency (MHz)	on time (ms)	on+off time (ms)	Duty cycle	Duty Factor (dB)	1/T Minimum VBW (kHz)
Mode 2	5180.0	2.060	2.100	0.981	0.084	0.010
Mode 3	5180.0	4.995	5.025	0.994	0.026	0.010
Mode 4	5190.0	2.440	2.490	0.980	0.088	0.410
Mode 5	5210.0	1.145	1.195	0.958	0.186	0.873

Slave						
-------	--	--	--	--	--	--

Test Mode	Frequency (MHz)	on time (ms)	on+off time (ms)	Duty cycle	Duty Factor (dB)	1/T Minimum VBW (kHz)
Mode 2	5180.0	2.060	2.100	0.981	0.084	0.010
Mode 3	5180.0	4.995	5.025	0.994	0.026	0.010
Mode 4	5190.0	2.440	2.490	0.980	0.088	0.410
Mode 5	5210.0	1.145	1.195	0.958	0.186	0.873

Duty Cycle Graphs

Master

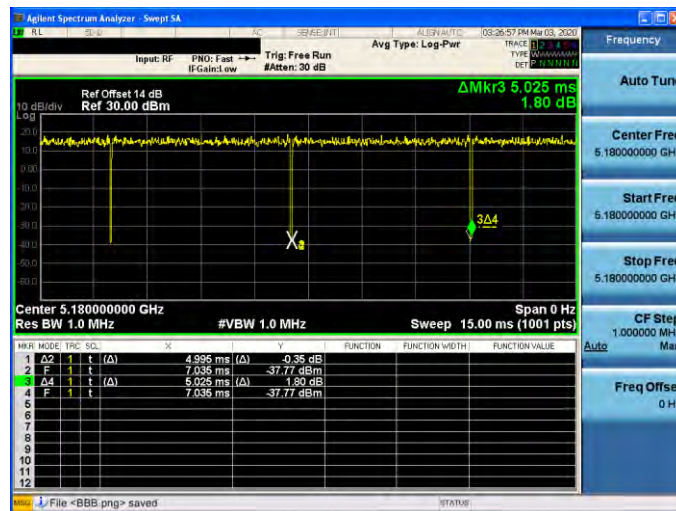
Mode 2: IEEE 802.11a Continuous TX mode

On+off time



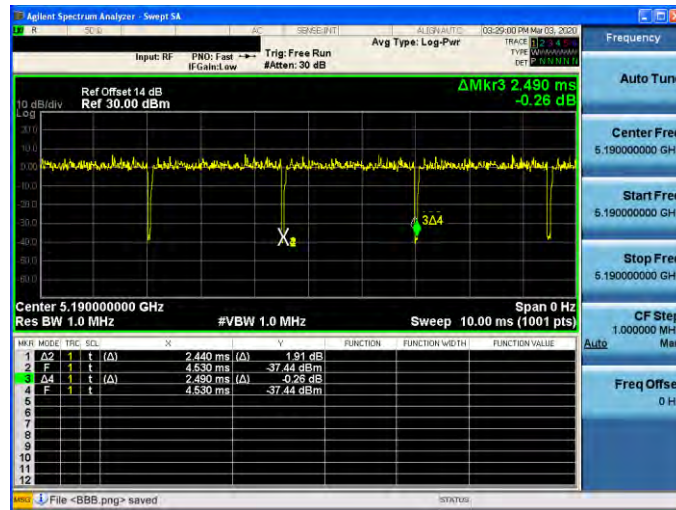
Mode 3: IEEE 802.11ac 20 MHz Continuous TX mode

On+off time



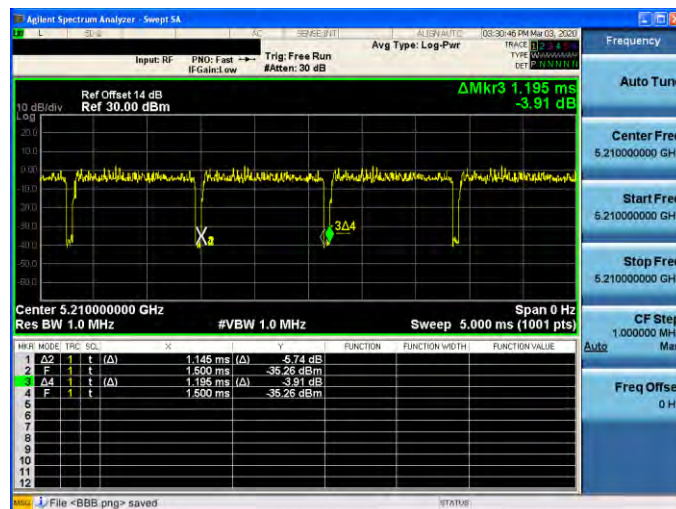
Mode 4: IEEE 802.11ac 40 MHz Continuous TX mode

On+off time



Mode 5: IEEE 802.11ac 80 MHz Continuous TX mode

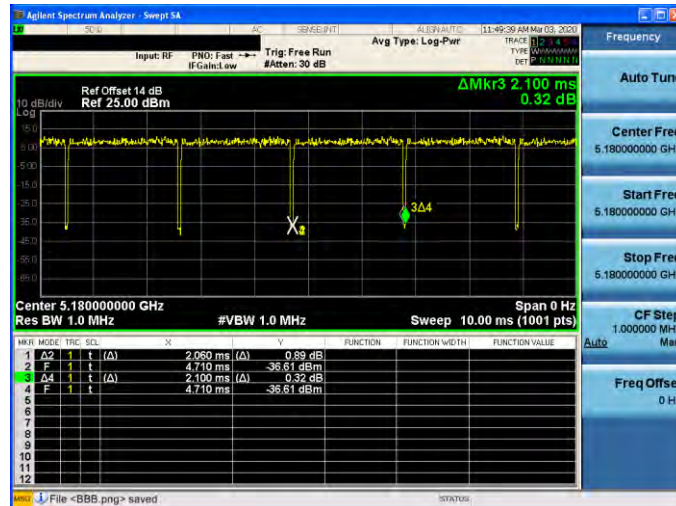
On+off time



Slave

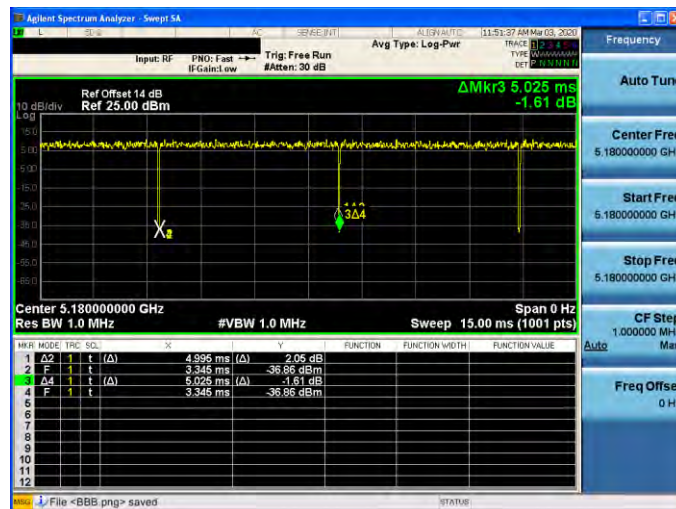
Mode 2: IEEE 802.11a Continuous TX mode

On+off time



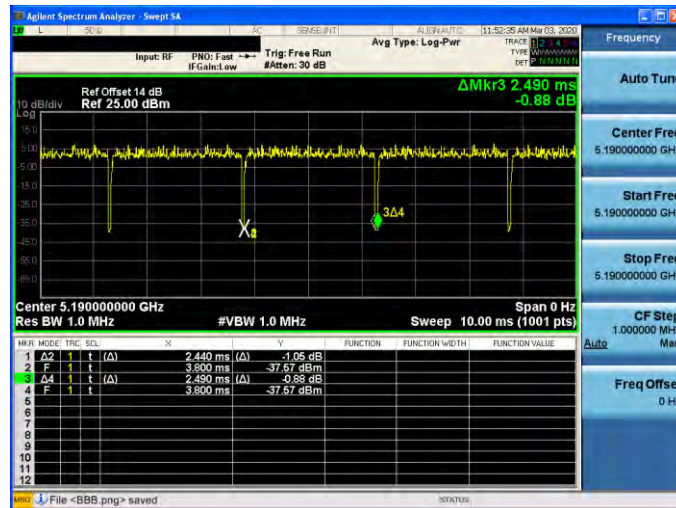
Mode 3: IEEE 802.11ac 20 MHz Continuous TX mode

On+off time



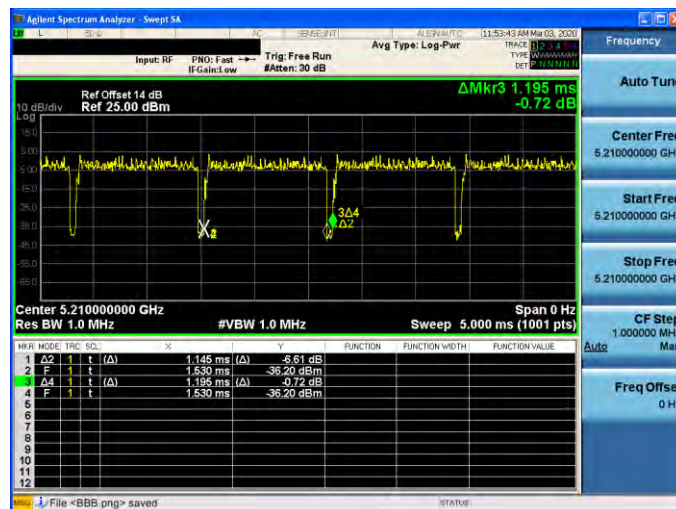
Mode 4: IEEE 802.11ac 40 MHz Continuous TX mode

On+off time



Mode 5: IEEE 802.11ac 80 MHz Continuous TX mode

On+off time



3.2. EUT Test Step

The EUT is operated in the engineering mode to fix the TX frequency for the purposes of measurement.

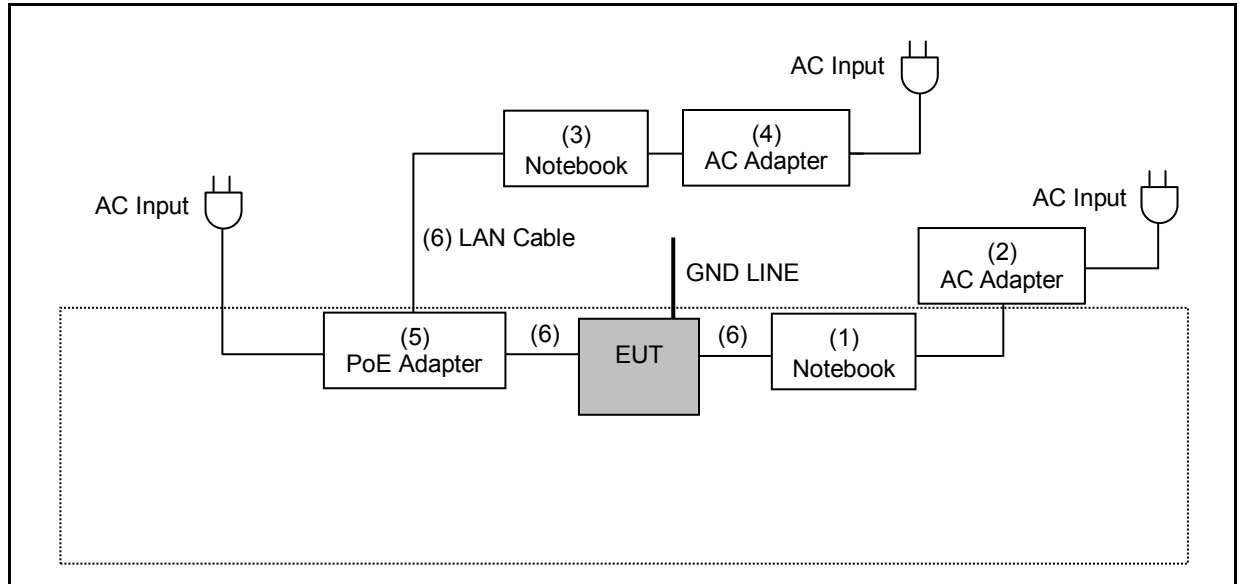
According to its specifications, the EUT must comply with the requirements of Section 15.407 under the FCC Rules Part 15 Subpart E.

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

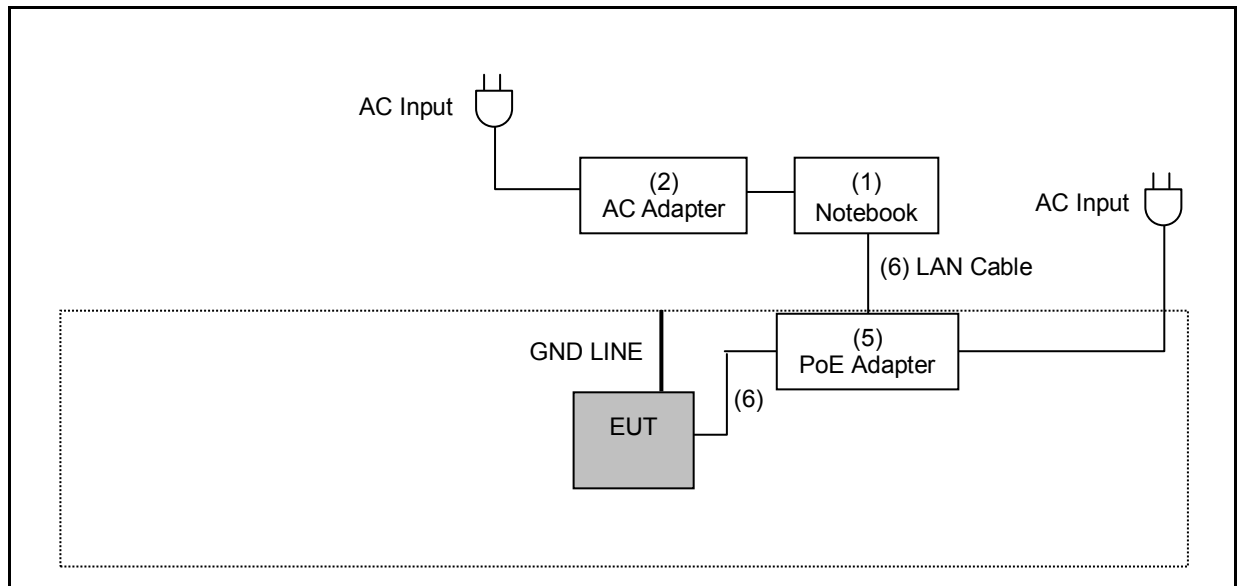
Measurement Software			
No.	Description	Software	Version
1	Conducted Emission	EZ EMC	1.1.4.3
2	Radiated Emission	EZ EMC	1.1.4.4

3.3. Configuration of Test System Details

Conducted Emissions



Radiated Emission



Devices Description					
	Product	Manufacturer	Model Number	Serial Number	Remark
(1)	Notebook	DELL	LATITUDE E6440	5HZBD72	---
(2)	AC Adapter	DELL	HA65NM130	---	Non-Shielded, 0.8 m I/P: 100-240 VAC, 50/60 Hz, 1.7 A O/P: 19.5 VDC, 3.34 A
(3)	Notebook	DELL	LATITUDE E5440	BRTQXY1	---
(4)	AC Adapter	DELL	HA65NM130	---	Non-Shielded, 0.8 m I/P: 100-240 VAC, 50/60 Hz, 1.7 A O/P: 19.5 VDC, 3.34 A
(5)	PoE Adapter	HiPoE	9501G	---	I/P: 100-240 VAC, 50/60 Hz, 1.4 A O/P: 54 VDC, 1.2 A
(6)	LAN Cable	UNITEK	Y-108	---	USB 2.0 to RS-232 Non-Shielded, 1.5 m
(7)	AC Adapter	Leader Electronics	MU24-V480050-A1	---	I/P: 100-240 VAC, 50/60 Hz, 1.0 A O/P: 48 VDC, 0.5 A

Note : The device used two models of adapter, adapter number: 9501G is worst case to perform testing.

3.4. Test Instruments

For Conducted Emission

Test Period: Mar. 02, 2020

Testing Engineer: Louis Shen

Equipment	Manufacturer	Model Number	Serial Number	Cal. Date	Cal. Period
Test Receiver	R&S	ESCI	100367	05/23/2019	1 year
LISN	R&S	ENV216	101040	04/03/2019	1 year
LISN	R&S	ENV216	101041	03/28/2019	1 year
RF Cable	Woken	00100D1380194M	TE-02-03	05/23/2019	1 year

For Radiated Emissions

Test Period: Feb. 27 ~ Mar. 05, 2020

Testing Engineer: Ricky Liu, Js Liao, Marc Yeh

Equipment	Manufacturer	Model Number	Serial Number	Cal. Date	Cal. Period
Spectrum Analyzer (10 Hz~44 GHz)	Keysight	N9010A	MY52221312	01/13/2020	1 year
Pre Amplifier (1~26.5 GHz)	Agilent	8449B	3008A02237	10/18/2019	1 year
Pre Amplifier (100 kHz~1.3 GHz)	Agilent	8447D	2944A11119	01/15/2020	1 year
Pre Amplifier (26.5~40 GHz)	EMCI	EMC2654045	980028	08/23/2019	1 year
Broadband Antenna	Schwarzbeck	VULB9168	416	10/23/2019	1 year
Horn Antenna (1~18 GHz)	SCHWARZBECK MESS-ELEKTRONIK	BBHA9120D	9120D-550	08/22/2019	1 year
Horn Antenna (18~40 GHz)	SCHWARZBECK MESS-ELEKTRONIK	BBHA9170	9170-320	08/14/2019	1 year
Loop Antenna	COM-POWER CORPORATION	AL-130	121014	03/29/2019	1 year
RF Cable	EMCI	EMC104-N-N-6000	TE01-1	02/20/2020	1 year
Microwave Cable	EMCI	EMC104-SM-SM-1 3000	170814	10/29/2019	1 year
Microwave Cable	EMCI	EMC102-KM-KM-1 4000	151001	02/20/2020	1 year

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



For Conducted

Test Period: Mar. 03 ~ Mar. 05, 2020

Testing Engineer: Negi Chiu

Equipment	Manufacturer	Model Number	Serial Number	Cal. Date	Cal. Period
Spectrum Analyzer (20 Hz~26.5 GHz)	Agilent	N9020A	US47520902	09/18/2019	1 year
Power Sensor	Anritsu	MA2411B	1126022	09/03/2019	1 year
Power Meter	Anritsu	ML2495A	1135009	09/03/2019	1 year

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

3.5. Test Site Environment

Items	Required (IEC 60068-1)	Actual
Temperature (°C)	15-35	20-30
Humidity (%RH)	25-75	45-75
Barometric pressure (mbar)	860-1060	990-1005

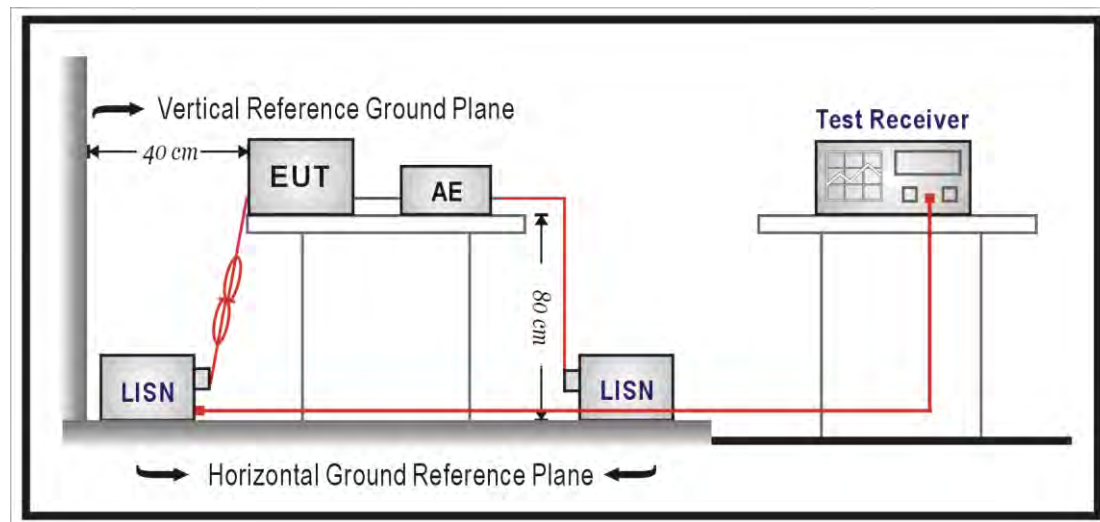
4 Measurement Procedure

4.1. AC Power 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 ohm 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 40 cm to the rear of the EUT. Other surfaces of tabletop or floor standing EUT shall be at least 80 cm from any other ground conducting surface including one or more LISNs. For floor-standing device shall be placed under the EUT with a 12 mm 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 150 kHz to 30 MHz 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 1 m then the cable shall be folded back and forth at the centre of the lead to form a bundle no longer than 0.4 m. All of interconnecting cables that hang closer than 40 cm 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 0.1 m. 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. Transmitter Radiated Emissions Measurement

■ Limit

(1)Undesirable emission limits. Except as shown in paragraph (b)(7) of this section, the maximum emissions outside of the frequency bands of operation shall be attenuated in accordance with the following limits:

- (a)For transmitters operating in the 5.15-5.25 GHz band: All emissions outside of the 5.15-5.35 GHz band shall not exceed an e.i.r.p. of -27 dBm/MHz.
- (b)For transmitters operating in the 5.25-5.35 GHz band: All emissions outside of the 5.15-5.35 GHz band shall not exceed an e.i.r.p. of -27 dBm/MHz.
- (c)For transmitters operating in the 5.47-5.725 GHz band: All emissions outside of the 5.47-5.725 GHz band shall not exceed an e.i.r.p. of -27 dBm/MHz.
- (d)For transmitters operating in the 5.725-5.85 GHz band:
 - (i)All emissions shall be limited to a level of -27 dBm/MHz at 75 MHz or more above or below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above or below the band edge, and from 25 MHz above or below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above or below the band edge, and from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge.

(2)Limits of Radiated Emission Measurement

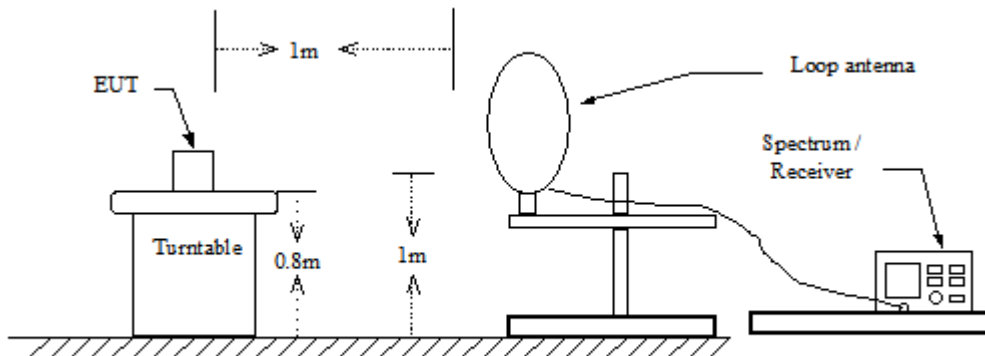
Emissions radiated outside of the specified bands, shall be according to the general radiated limits in 15.209 as following:

Frequency Range (MHz)	Field Strength (microvolts/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	10	3
88 ~ 216	150	3
216 ~ 960	200	3
Above 960	500	3

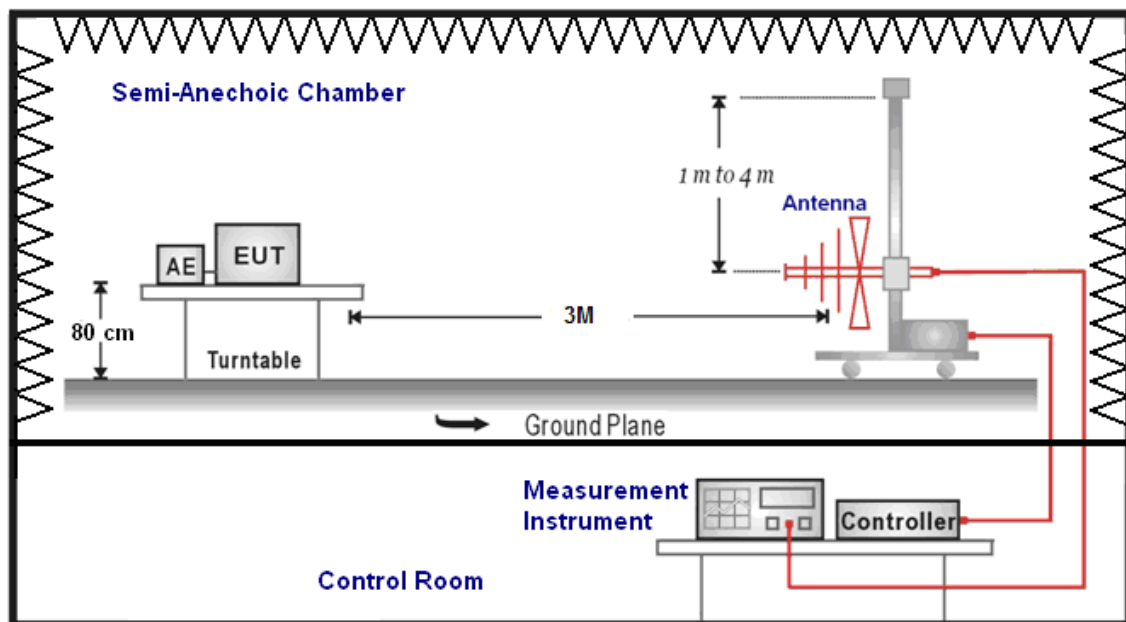
- Note:
1. The lower limit shall apply at the transition frequencies.
 2. Emission level (dBuV/m) = 20 log Emission level (uV/m).
 3. As shown in 15.35(b), for frequencies above 1000 MHz, the field strength limits are based on average detector, however, the peak field strength of any emission shall not exceed the maximum permitted average limits, specified above by more than 20 dB under any condition of modulation.

■ Setup

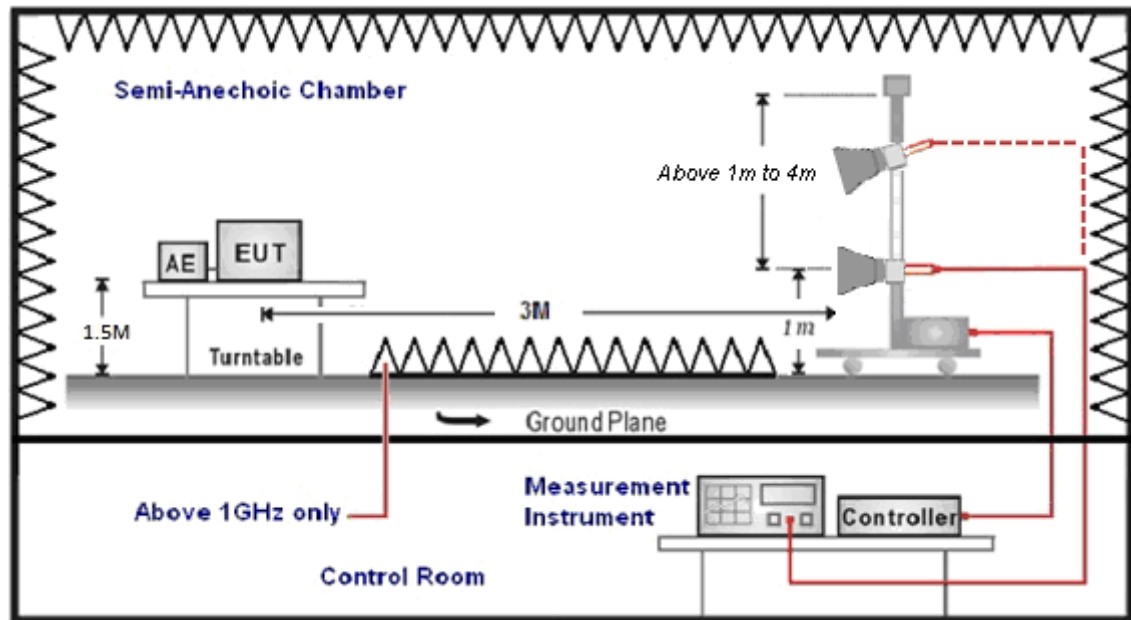
9 kHz ~ 30 MHz



30 MHz ~ 1 GHz



Above 1 GHz



■ Test Procedure

Final radiation measurements were made on a three-meter, Semi Anechoic Chamber. The EUT system was placed on a nonconductive turntable which is 0.8 or 1.5 meters height (below 1 GHz use 0.8 m turntable / above 1 GHz use 1.5 m turntable), top surface 1.0 x 1.5 meter. The spectrum was examined from 250 MHz to 2.5 GHz in order to cover the whole spectrum below 10th harmonic which could generate from the EUT. During the test, EUT was set to transmit continuously & Measurements spectrum range from 9 kHz to 40 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 restricted measurements above 1 GHz the resolution bandwidth is set to 1 MHz, and then the video bandwidth is set to 3 MHz for peak measurements and 10 Hz for average measurements when Duty cycle > 0.98 / 1/T for average measurements when Duty cycle < 0.98.

For out of band measurements above 1 GHz the resolution bandwidth is set to 1 MHz, and then the video bandwidth is set to 3 MHz for peak measurements.

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 Trilog-Broadband Antenna at 3 Meter and the ETS-Lindgren Double-Ridged Waveguide Horn antenna Schwarzbeck Mess-Elektronik Broadband Horn Antenna was used in frequencies 1 – 40 GHz at a distance of 3 meter. The antenna at an angle toward the source of the emission. All test results were extrapolated to equivalent signal at 3 meters utilizing an inverse linear distance extrapolation Factor (20 dB/decade).

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

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

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

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

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

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

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

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 < +30 dBm

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

Measuring Instruments and setting

The following table is the setting of spectrum analyzer and receiver.

Spectrum Parameter	Setting
Attenuation	Auto
Start Frequency	1000 MHz
Stop Frequency	40 GHz
RBW/VBW(Emission in restricted band)	1 MHz / 3 MHz for Peak 1 MHz / (1/T) for Average
RBW/VBW(Emission in non-restricted band)	1 MHz / 3 MHz for Peak

4.3. Maximum Conducted Output Power Measurement

■ Limit

Frequency Range (MHz)	FCC Maximum Conducted Output Power Limit	
	Client	Master
5.150 ~ 5.250 GHz	The lesser of 250 mW (24 dBm)	The lesser of 1 W (30 dBm)
5.725 ~ 5.850 GHz	The lesser of 1 W (30 dBm)	The lesser of 1 W (30 dBm)

According FCC KDB 662911 D01 v02r01 – for power measurements on IEEE802.11 devices,

Master

CDD mode:

Directional = $G_{ANT} = 10 \cdot \log\{[10^{(G1/10)} + 10^{(G2/10)} + \dots + 10^{(Gn/10)}] / NANT\} = 4.62 \text{ dBi} < 6 \text{ dBi}$ (5.150 ~ 5.250 GHz)

Directional = $G_{ANT} = 10 \cdot \log\{[10^{(G1/10)} + 10^{(G2/10)} + \dots + 10^{(Gn/10)}] / NANT\} = 4.59 \text{ dBi} < 6 \text{ dBi}$ (5.725 ~ 5.850 GHz)

MIMO mode:

Directional Gain = $10 \cdot \log\{[10^{(G1/20)} + 10^{(G2/20)} + \dots + 10^{(Gn/20)}]^2 / NANT\} = 7.63 \text{ dBi} > 6 \text{ dBi}$

* power limit shall be reduced = $30 - 1.63 = 28.37 \text{ dBm}$ (5.150 ~ 5.250 GHz)

Directional Gain = $10 \cdot \log\{[10^{(G1/20)} + 10^{(G2/20)} + \dots + 10^{(Gn/20)}]^2 / NANT\} = 7.60 \text{ dBi} > 6 \text{ dBi}$

* power limit shall be reduced = $30 - 1.60 = 28.40 \text{ dBm}$ (5.725 ~ 5.850 GHz)

Slave

CDD mode:

Directional = $G_{ANT} = 10 \cdot \log\{[10^{(G1/10)} + 10^{(G2/10)} + \dots + 10^{(Gn/10)}] / NANT\} = 4.62 \text{ dBi} < 6 \text{ dBi}$ (5.150 ~ 5.250 GHz)

Directional = $G_{ANT} = 10 \cdot \log\{[10^{(G1/10)} + 10^{(G2/10)} + \dots + 10^{(Gn/10)}] / NANT\} = 4.59 \text{ dBi} < 6 \text{ dBi}$ (5.725 ~ 5.850 GHz)

MIMO mode:

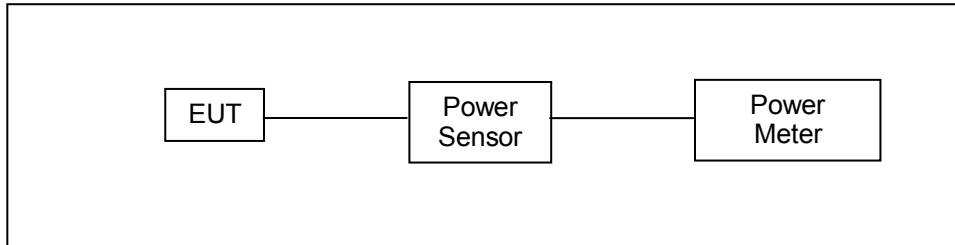
Directional Gain = $10 \cdot \log\{[10^{(G1/20)} + 10^{(G2/20)} + \dots + 10^{(Gn/20)}]^2 / NANT\} = 7.63 \text{ dBi} > 6 \text{ dBi}$

* power limit shall be reduced = $24 - 1.63 = 22.37 \text{ dBm}$ (5.150 ~ 5.250 GHz)

Directional Gain = $10 \cdot \log\{[10^{(G1/20)} + 10^{(G2/20)} + \dots + 10^{(Gn/20)}]^2 / NANT\} = 7.60 \text{ dBi} > 6 \text{ dBi}$

* power limit shall be reduced = $30 - 1.6 = 28.4 \text{ dBm}$ (5.725 ~ 5.850 GHz)

■ Test Setup



■ Test Procedure

The test is performed in accordance with ANSI C63.10:2013 section 12.3.3.2, Guidelines for Compliance Testing of Unlicensed National Information Infrastructure (U-NII) Devices

Section (E) Maximum Conducted Output Power

3. Measurement using a Power Meter (PM)

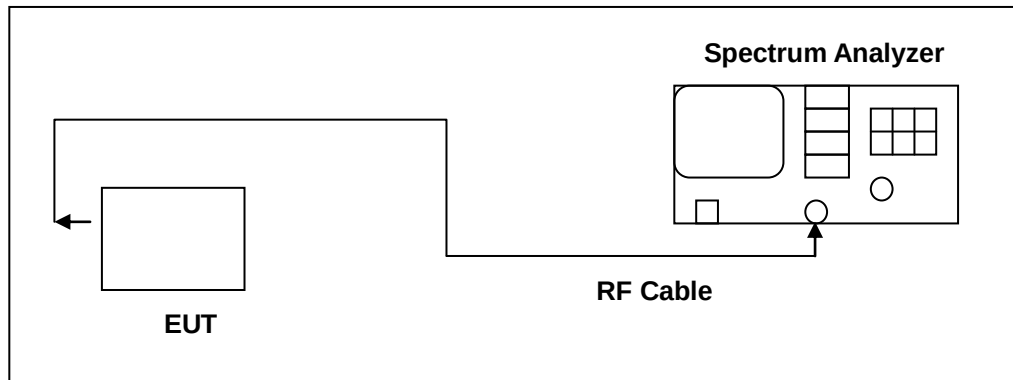
b) Method PM-G (Measurement using a gated RF average power meter)

4.4. 26 dB RF Bandwidth Measurement & 99 % Occupied Bandwidth Measurement

■ **Limit**

N/A

■ **Test Setup**



■ **Test Procedure**

The test is performed in accordance with ANSI C63.10:2013 section 12.4, Guidelines for Compliance Testing of Unlicensed National Information Infrastructure (U-NII) Devices - Part 15, Subpart E.

Spectrum Parameter	Setting
Attenuation	Auto
Span Frequency	>26 dB Bandwidth
RBW	Approximately 1 % of the emission bandwidth
VBW	VBW > RBW
Detector	Peak
Trace	Max Hold
Sweep Time	Auto

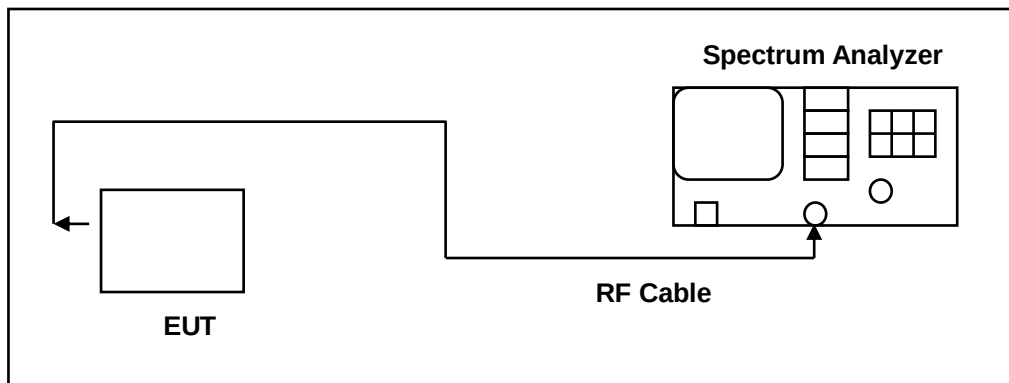
4.5. 6 dB RF Bandwidth Measurement

■ Limit

6 dB RF Bandwidth

Systems using digital modulation techniques may operate in the 5725~5850 MHz bands. The minimum 6 dB band-width shall be at least 500 kHz.

■ Test Setup



■ Test Procedure

6 dB RF Bandwidth

The EUT tested to UNII test procedure of ANSI C63.10:2013 section 6.9.2 for compliance to FCC 47CFR 15.407 requirements.

The antenna port of the EUT was connected to the input of a spectrum analyzer. Analyzer RES BW 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.

4.6. Maximum Power Spectral Density Measurement

■ Limit

Frequency Range (MHz)	FCC Limit	
	Client	Master
5.150 ~ 5.250 GHz	11 dBm/MHz	17 dBm/MHz
5.725 ~ 5.850 GHz	---	30 dBm/500 kHz

According FCC KDB 662911 D01 v02r01 – for power spectral density measurements on IEEE802.11 devices,

Master

CDD/MIMO mode:

Directional Gain = $10 \cdot \log\{[10^{G1/20} + 10^{G2/20} + \dots + 10^{Gn/20}]^2 / NANT\}$ = 7.63 dBi > 6 dBi

* power spectral density limit shall be reduced = 17 - 1.63 = 15.37 dBm/MHz (5.150 ~ 5.250 GHz)

Directional Gain = $10 \cdot \log\{[10^{G1/20} + 10^{G2/20} + \dots + 10^{Gn/20}]^2 / NANT\}$ = 7.60 dBi > 6 dBi

* power spectral density limit shall be reduced = 30 - 1.6 = 28.40 dBm/500 kHz (5.725 ~ 5.850 GHz)

Slave

CDD/MIMO mode:

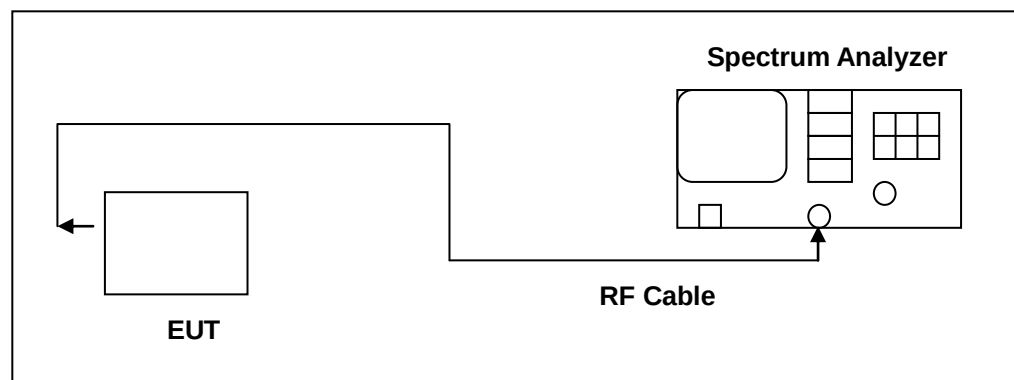
Directional Gain = $10 \cdot \log\{[10^{G1/20} + 10^{G2/20} + \dots + 10^{Gn/20}]^2 / NANT\}$ = 7.63 dBi > 6 dBi

* power spectral density limit shall be reduced = 11 - 1.63 = 9.37 dBm/MHz (5.150 ~ 5.250 GHz)

Directional Gain = $10 \cdot \log\{[10^{G1/20} + 10^{G2/20} + \dots + 10^{Gn/20}]^2 / NANT\}$ = 7.60 dBi > 6 dBi

* power spectral density limit shall be reduced = 30 - 1.6 = 28.40 dBm/500 kHz (5.725 ~ 5.850 GHz)

■ Test Setup





■ **Test Procedure**

The test is performed in accordance with ANSI C63.10:2013 section 12.5, Guidelines for Compliance Testing of Unlicensed National Information Infrastructure (U-NII) Devices - Part 15, Subpart E.

Spectrum Parameter	Setting
Attenuation	Auto
Span Frequency	Encompass the entire emissions bandwidth (EBW) of the signal
RBW	1 MHz (5725 ~ 5850 MHz use 100 kHz)
VBW	3 MHz (5725 ~ 5850 MHz use 300 kHz)
Detector	RMS
Trace	AVERAGE
Sweep Time	Auto
Trace Average	100 times
Note: If measurement bandwidth of Maximum PSD is specified in 500 kHz, add $10 \log(500 \text{ kHz}/100 \text{ kHz})$ to the measured result.	

4.7. Automatically discontinue transmission

The device shall automatically discontinue transmission in case of either absence of information to transmit or operational failure. These provisions are not intended to preclude the transmission of control or signalling information or the use of repetitive codes used by certain digital technologies to complete frame or burst intervals. Applicants shall include in their application for equipment authorization a description of how this requirement is met.

■ Declare

While the EUT is not transmitting any information, the EUT can automatically discontinue transmission and become standby mode for power saving.

The EUT can detect the controlling signal of ACK message transmitting from remote device and verify whether it shall resend or discontinue transmission.

4.8. Antenna Requirement

■ 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 15.407 (a), if transmitting antennas of directional gain greater than 6 dBi are used, the power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

■ Antenna Connector Construction

See section 2 – antenna information.



■ Directional Gain Calculated

Master

For Maximum Conducted Output Power

Operate Freq. Band		Directional Gain (dBi)
IEEE 802.11a	U-NII Band I	4.62
	U-NII Band III	4.59
IEEE 802.11ac 20 MHz	U-NII Band I	7.63
	U-NII Band III	7.60
IEEE 802.11ac 40 MHz	U-NII Band I	7.63
	U-NII Band III	7.60
IEEE 802.11ac 80 MHz	U-NII Band I	7.63
	U-NII Band III	7.60

For Maximum Power Density

Operate Freq. Band		Directional Gain (dBi)
IEEE 802.11a	U-NII Band I	7.63
	U-NII Band III	7.60
IEEE 802.11ac 20 MHz	U-NII Band I	7.63
	U-NII Band III	7.60
IEEE 802.11ac 40 MHz	U-NII Band I	7.63
	U-NII Band III	7.60
IEEE 802.11ac 80 MHz	U-NII Band I	7.63
	U-NII Band III	7.60



Slave

For Maximum Conducted Output Power

Operate Freq. Band		Directional Gain (dBi)
IEEE 802.11a	U-NII Band I	4.62
	U-NII Band III	4.59
IEEE 802.11ac 20 MHz	U-NII Band I	7.63
	U-NII Band III	7.60
IEEE 802.11ac 40 MHz	U-NII Band I	7.63
	U-NII Band III	7.60
IEEE 802.11ac 80 MHz	U-NII Band I	7.63
	U-NII Band III	7.60

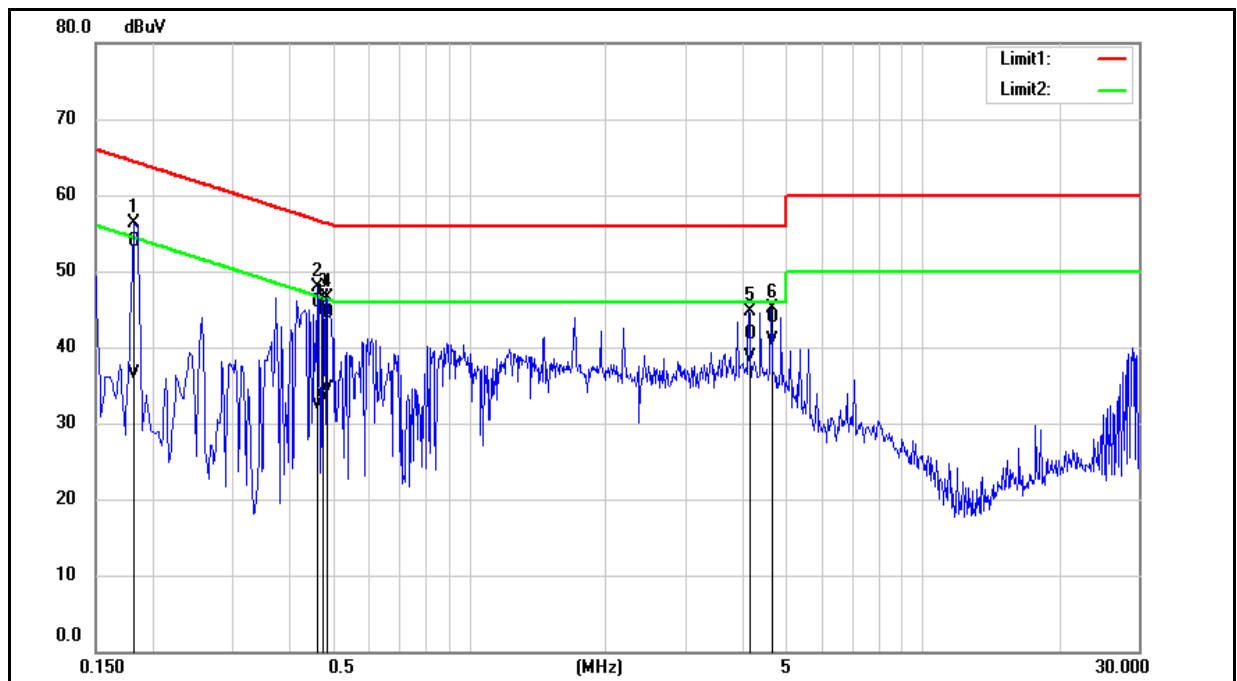
For Maximum Power Density

Operate Freq. Band		Directional Gain (dBi)
IEEE 802.11a	U-NII Band I	7.63
	U-NII Band III	7.60
IEEE 802.11ac 20 MHz	U-NII Band I	7.63
	U-NII Band III	7.60
IEEE 802.11ac 40 MHz	U-NII Band I	7.63
	U-NII Band III	7.60
IEEE 802.11ac 80 MHz	U-NII Band I	7.63
	U-NII Band III	7.60

5 Test Results

Annex A. Conducted Emission

Standard:	FCC Part 15.407	Line:	L1
Test item:	Conducted Emission	Power:	AC 120 V/60 Hz
Mode:	Mode 1	Temp.(°C)/Hum.(%RH):	26(°C)/60 %RH
Description:			

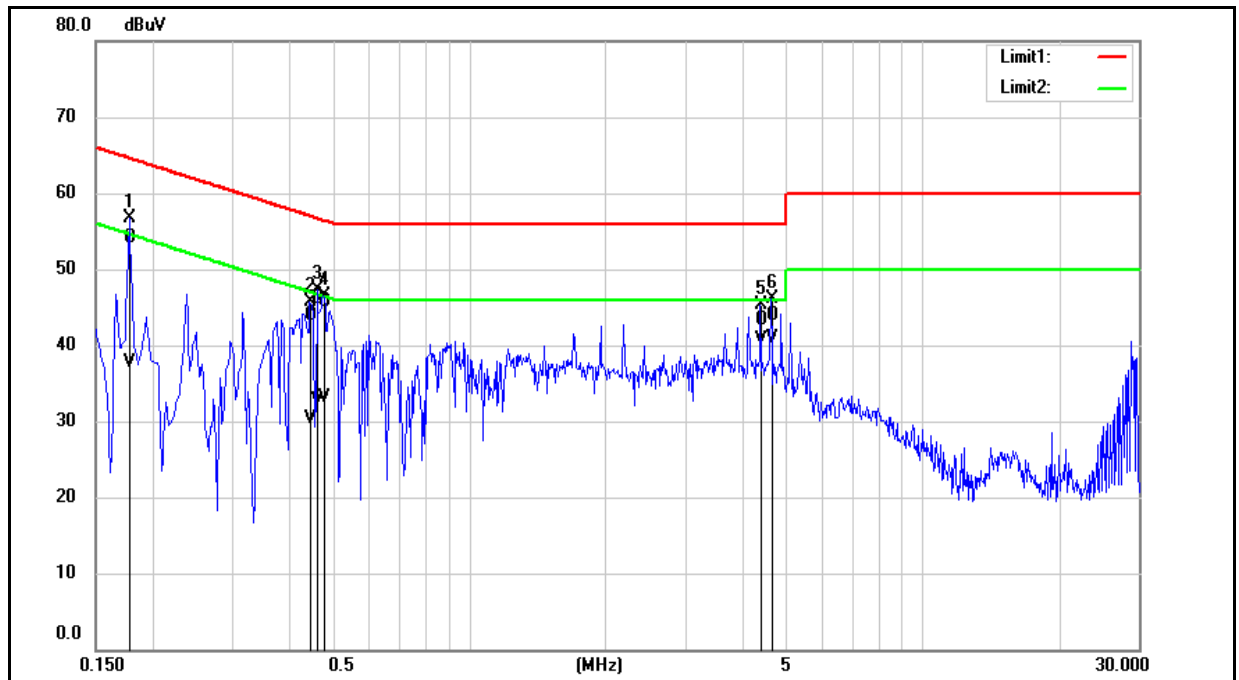


No.	Frequency (MHz)	QP reading (dBuV)	AVG reading (dBuV)	Correction factor (dB)	QP result (dBuV)	AVG result (dBuV)	QP limit (dBuV)	AVG limit (dBuV)	QP margin (dB)	AVG margin (dB)	Remark
1	0.1820	44.25	26.89	9.64	53.89	36.53	64.39	54.39	-10.50	-17.86	Pass
2	0.4620	36.18	22.81	9.66	45.84	32.47	56.66	46.66	-10.82	-14.19	Pass
3	0.4740	35.33	23.59	9.66	44.99	33.25	56.44	46.44	-11.45	-13.19	Pass
4	0.4860	34.82	24.81	9.66	44.48	34.47	56.24	46.24	-11.76	-11.77	Pass
5	4.1500	31.99	28.95	9.78	41.77	38.73	56.00	46.00	-14.23	-7.27	Pass
6	4.6380	34.14	31.14	9.79	43.93	40.93	56.00	46.00	-12.07	-5.07	Pass

Note: 1. Result (dBuV) = Correction factor (dB) + Reading(dBuV).

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

Standard:	FCC Part 15.407	Line:	N
Test item:	Conducted Emission	Power:	AC 120 V/60 Hz
Mode:	Mode 1	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	0.1780	44.40	27.99	9.67	54.07	37.66	64.58	54.58	-10.51	-16.92	Pass
2	0.4460	34.12	20.64	9.69	43.81	30.33	56.95	46.95	-13.14	-16.62	Pass
3	0.4620	36.51	23.08	9.69	46.20	32.77	56.66	46.66	-10.46	-13.89	Pass
4	0.4780	35.92	23.33	9.69	45.61	33.02	56.37	46.37	-10.76	-13.35	Pass
5	4.3940	33.50	30.90	9.82	43.32	40.72	56.00	46.00	-12.68	-5.28	Pass
6	4.6420	34.06	31.14	9.82	43.88	40.96	56.00	46.00	-12.12	-5.04	Pass

Note: 1. Result (dBuV) = Correction factor (dB) + Reading(dBuV).
2. Correction factor (dB) = Cable loss (dB) + L.I.S.N. factor (dB).

Annex B. Radiated Emission Measurement

Master

Below 1 GHz

Standard:	FCC Part 15.407	Test Distance:	3 m
Test item:	Radiated Emission	Power:	AC 120 V/60 Hz
Frequency:	5240 MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60 %RH
Mode:	Mode 3		

Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Polar. H / V
192.9600	42.28	-7.45	34.83	43.50	-8.67	QP	H
356.8900	41.78	-3.22	38.56	46.00	-7.44	QP	H
489.7800	37.20	-0.25	36.95	46.00	-9.05	QP	H
518.8800	38.48	0.31	38.79	46.00	-7.21	QP	H
771.0800	33.76	5.47	39.23	46.00	-6.77	QP	H
938.8900	30.77	8.73	39.50	46.00	-6.50	QP	H
98.8700	47.39	-10.94	36.45	43.50	-7.05	QP	V
242.4300	40.89	-6.12	34.77	46.00	-11.23	QP	V
308.3900	40.51	-4.07	36.44	46.00	-9.56	QP	V
489.7800	37.06	-0.25	36.81	46.00	-9.19	QP	V
773.9900	34.07	5.50	39.57	46.00	-6.43	QP	V
937.9200	30.16	8.70	38.86	46.00	-7.14	QP	V

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

Example: 34.83 = -7.45 + 42.28

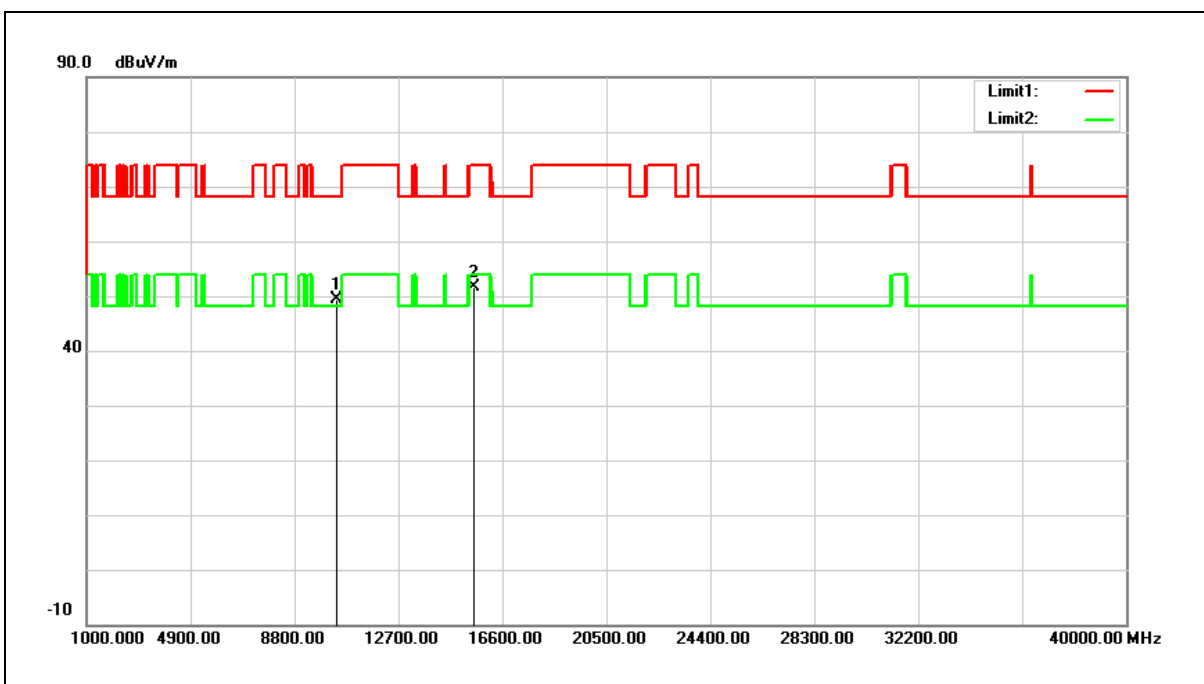
2.Correction factor (dB/m) = Antenna Factor (dB/m) + Cable loss (dB) – Pre-Amplifier gain (dB).

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

Harmonic

Above 1 GHz

Standard:	FCC Part 15.407	Test Distance:	3 m
Test item:	Harmonic	Power:	AC 120 V/60 Hz
Frequency:	5180 MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60 %RH
Mode:	Mode 2		
Ant.Polar.:	Horizontal		



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	10360.000	32.12	17.29	49.41	68.20	-18.79	peak
2	15540.000	30.83	20.75	51.58	74.00	-22.42	peak

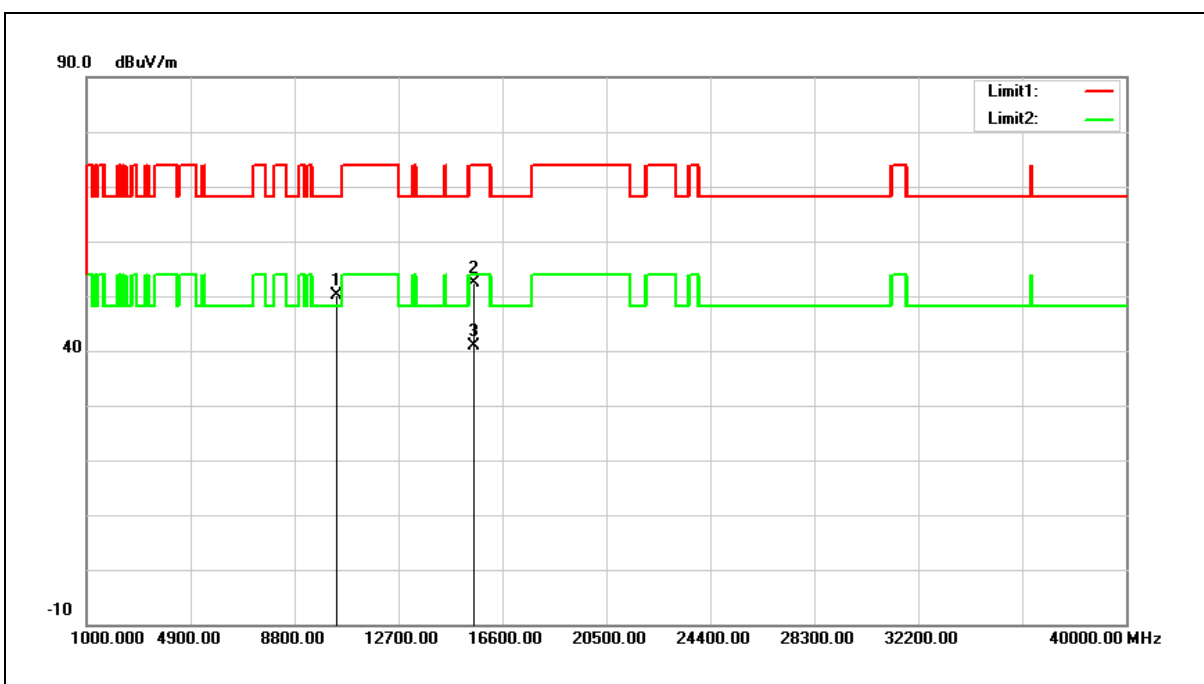
Note:1.Result (dBuV/m) = Correct Factor (dB/m) + Reading(dBuV).

Example: 49.41 = 17.29 + 32.12

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

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

Standard:	FCC Part 15.407	Test Distance:	3 m
Test item:	Harmonic	Power:	AC 120 V/60 Hz
Frequency:	5180 MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60 %RH
Mode:	Mode 2		
Ant.Polar.:	Vertical		



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	10360.000	32.92	17.29	50.21	68.20	-17.99	peak
2	15540.000	31.55	20.75	52.30	74.00	-21.70	peak
3	15540.000	20.05	20.75	40.80	54.00	-13.20	AVG

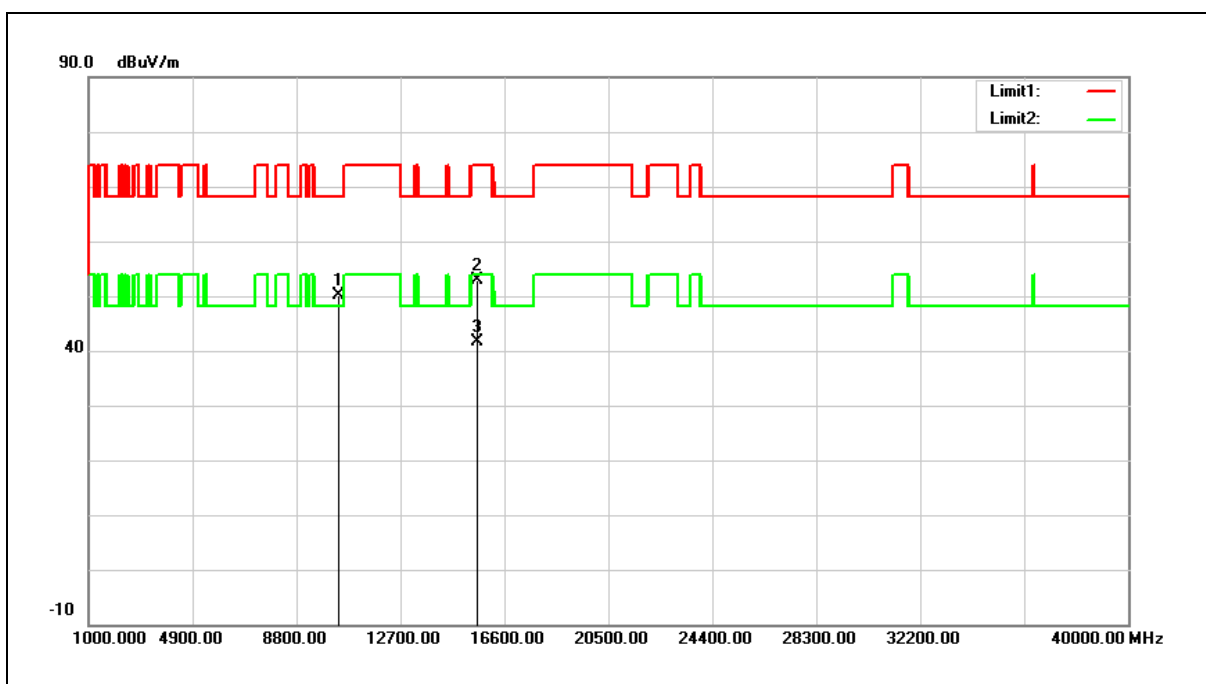
Note:1.Result (dBuV/m) = Correct Factor (dB/m) + Reading(dBuV).

Example: 50.21 = 17.29 + 32.92

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

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

Standard:	FCC Part 15.407	Test Distance:	3 m
Test item:	Harmonic	Power:	AC 120 V/60 Hz
Frequency:	5200 MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60 %RH
Mode:	Mode 2		
Ant.Polar.:	Horizontal		



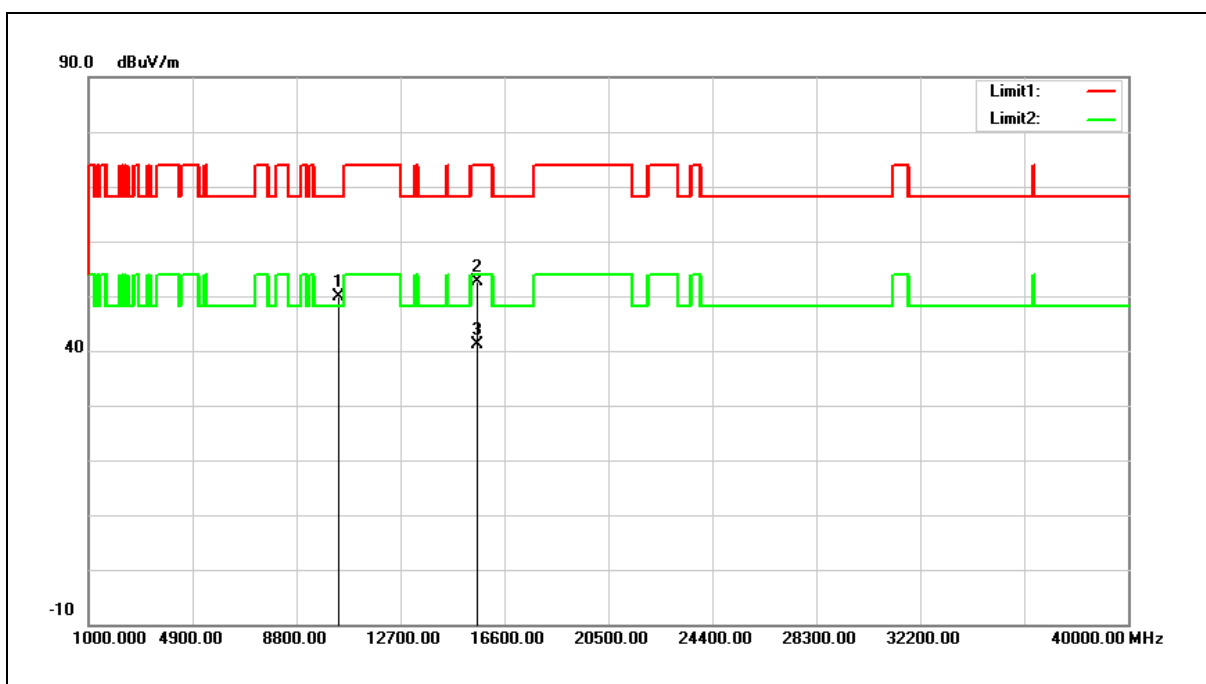
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	10400.000	32.74	17.40	50.14	68.20	-18.06	peak
2	15600.000	32.36	20.60	52.96	74.00	-21.04	peak
3	15600.000	20.99	20.60	41.59	54.00	-12.41	AVG

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 15.407	Test Distance:	3 m
Test item:	Harmonic	Power:	AC 120 V/60 Hz
Frequency:	5200 MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60 %RH
Mode:	Mode 2		
Ant.Polar.:	Vertical		



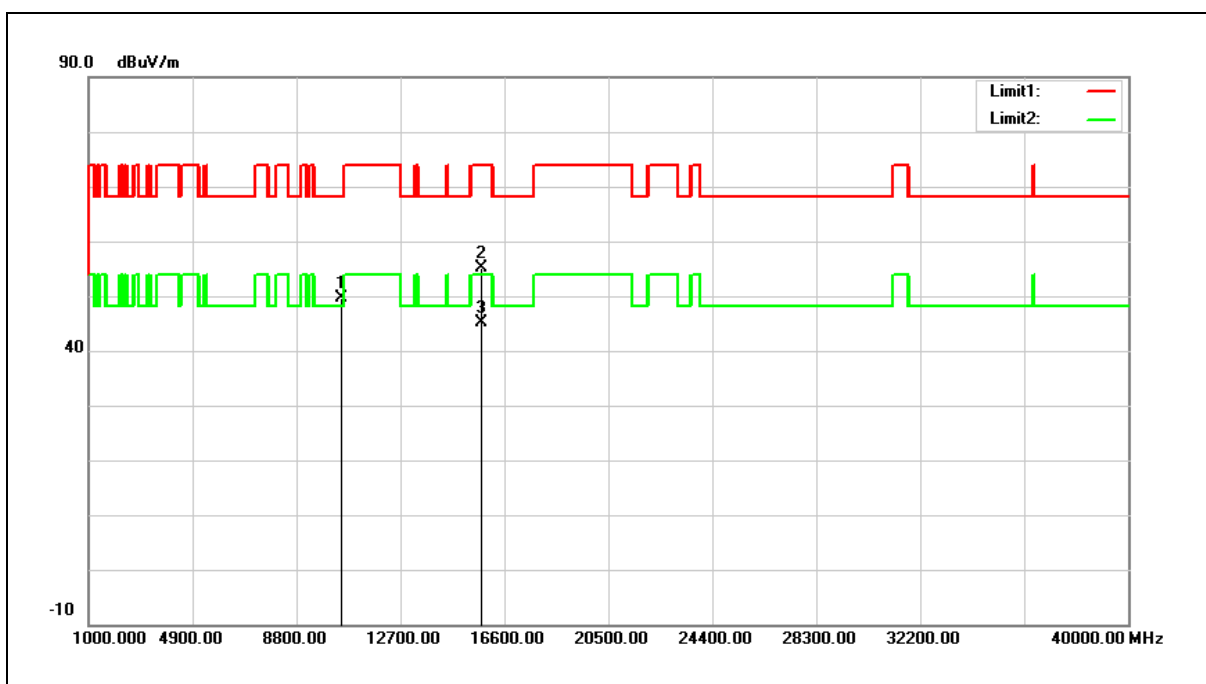
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	10400.000	32.39	17.40	49.79	68.20	-18.41	peak
2	15600.000	31.91	20.60	52.51	74.00	-21.49	peak
3	15600.000	20.45	20.60	41.05	54.00	-12.95	AVG

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

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

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

Standard:	FCC Part 15.407	Test Distance:	3 m
Test item:	Harmonic	Power:	AC 120 V/60 Hz
Frequency:	5240 MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60 %RH
Mode:	Mode 2		
Ant.Polar.:	Horizontal		



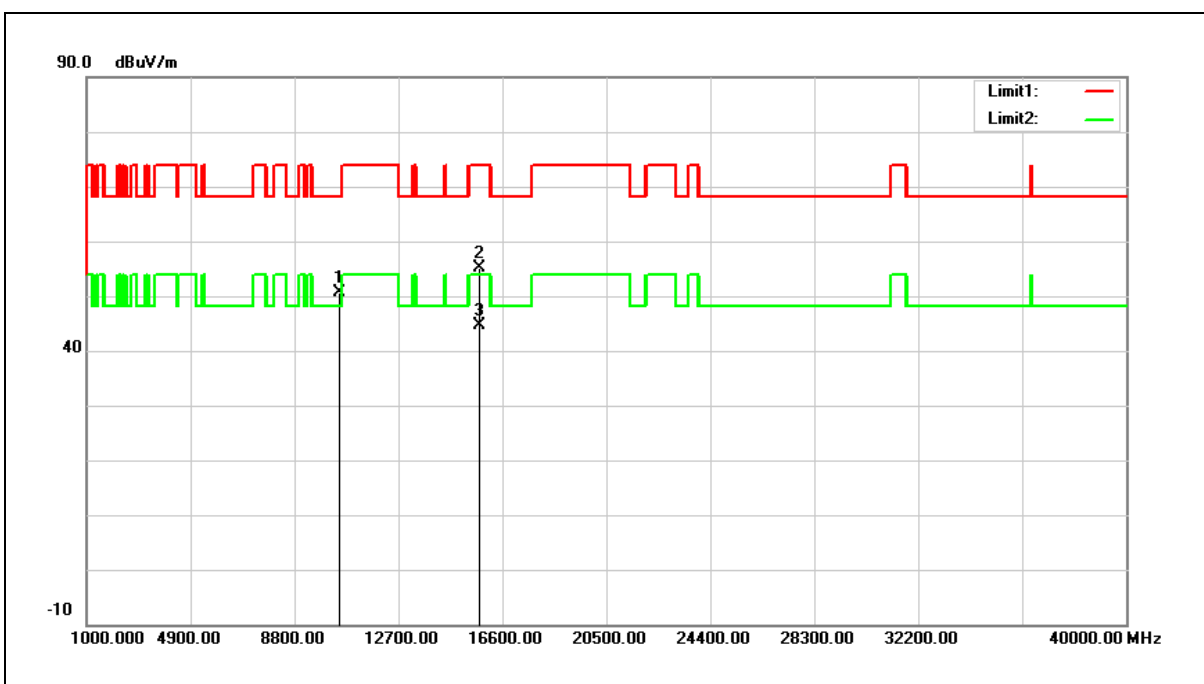
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	10480.000	32.08	17.64	49.72	68.20	-18.48	peak
2	15720.000	34.92	20.30	55.22	74.00	-18.78	peak
3	15720.000	24.88	20.30	45.18	54.00	-8.82	AVG

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 15.407	Test Distance:	3 m
Test item:	Harmonic	Power:	AC 120 V/60 Hz
Frequency:	5240 MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60 %RH
Mode:	Mode 2		
Ant.Polar.:	Vertical		



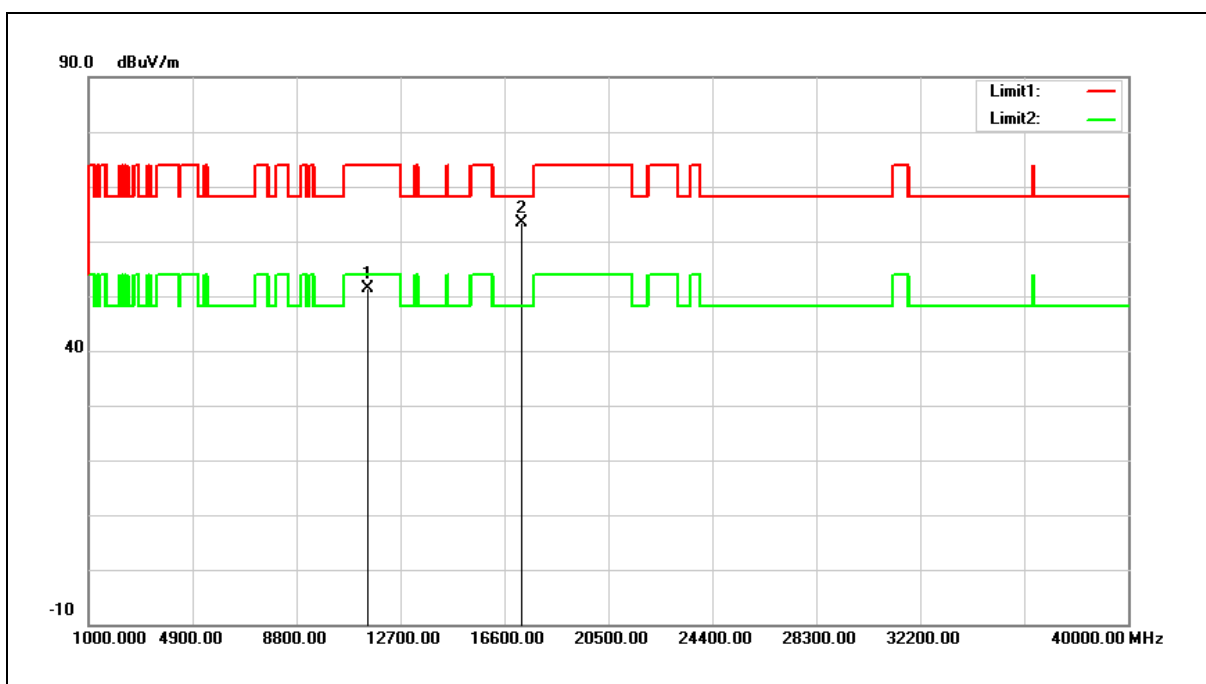
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	10480.000	33.00	17.64	50.64	68.20	-17.56	peak
2	15720.000	34.92	20.30	55.22	74.00	-18.78	peak
3	15720.000	24.21	20.30	44.51	54.00	-9.49	AVG

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 15.407	Test Distance:	3 m
Test item:	Harmonic	Power:	AC 120 V/60 Hz
Frequency:	5745 MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60 %RH
Mode:	Mode 2		
Ant.Polar.:	Horizontal		



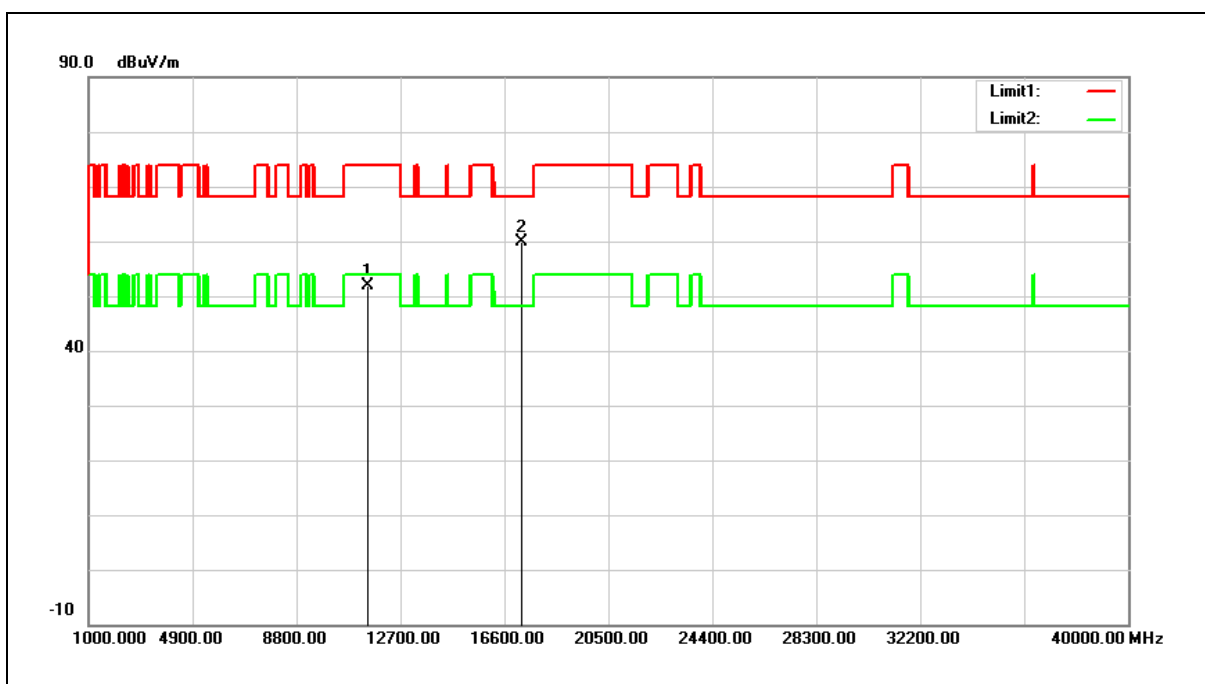
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	11490.000	32.01	19.45	51.46	74.00	-22.54	peak
2	17235.000	38.46	25.01	63.47	68.20	-4.73	peak

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

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

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

Standard:	FCC Part 15.407	Test Distance:	3 m
Test item:	Harmonic	Power:	AC 120 V/60 Hz
Frequency:	5745 MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60 %RH
Mode:	Mode 2		
Ant.Polar.:	Vertical		



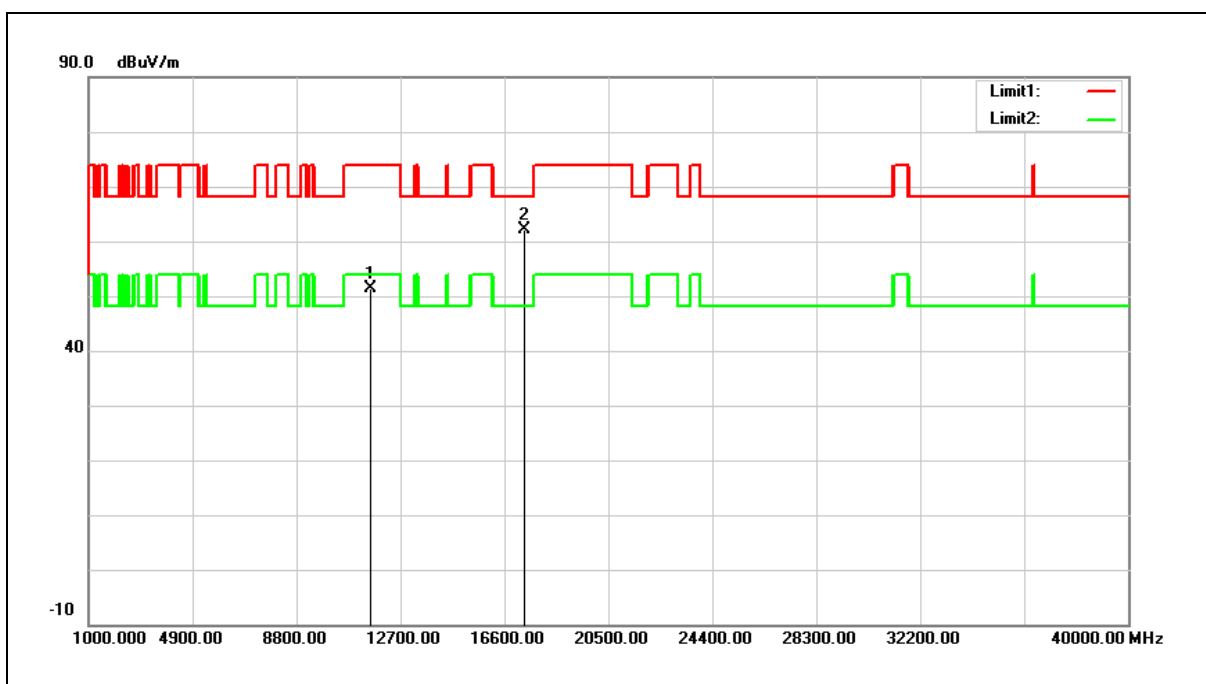
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	11490.000	32.35	19.45	51.80	74.00	-22.20	peak
2	17235.000	34.87	25.01	59.88	68.20	-8.32	peak

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 15.407	Test Distance:	3 m
Test item:	Harmonic	Power:	AC 120 V/60 Hz
Frequency:	5785 MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60 %RH
Mode:	Mode 2		
Ant.Polar.:	Horizontal		



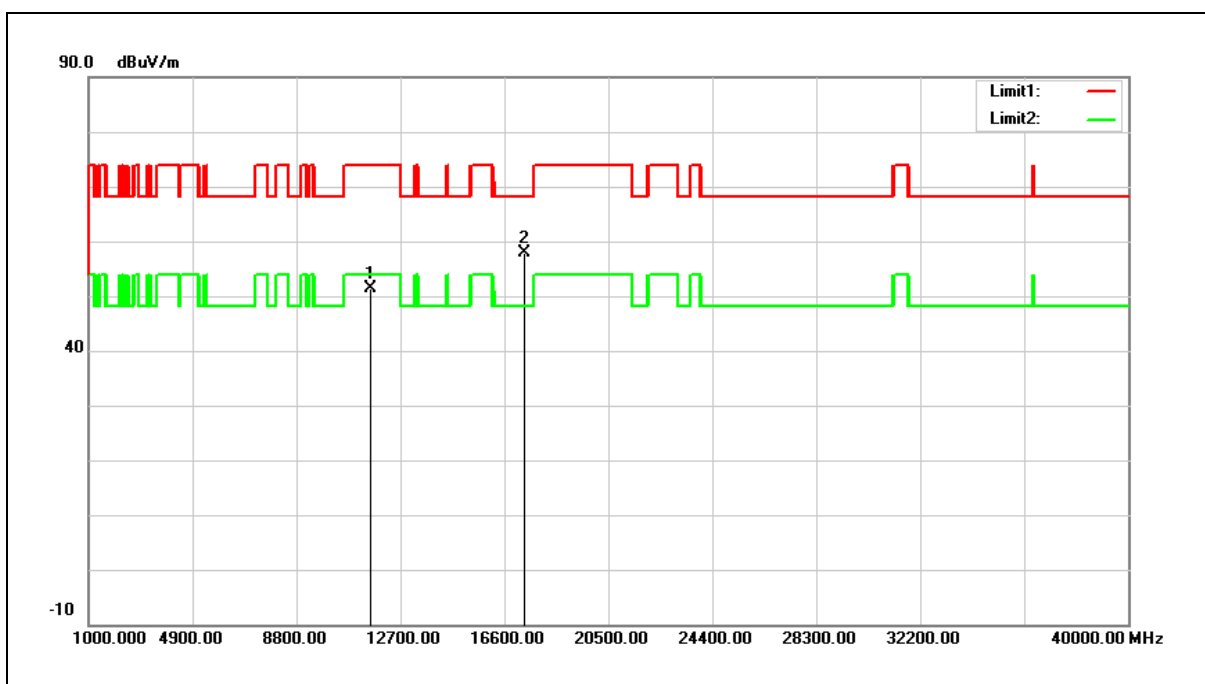
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	11570.000	31.88	19.39	51.27	74.00	-22.73	peak
2	17355.000	36.86	25.34	62.20	68.20	-6.00	peak

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

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

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

Standard:	FCC Part 15.407	Test Distance:	3 m
Test item:	Harmonic	Power:	AC 120 V/60 Hz
Frequency:	5785 MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60 %RH
Mode:	Mode 2		
Ant.Polar.:	Vertical		



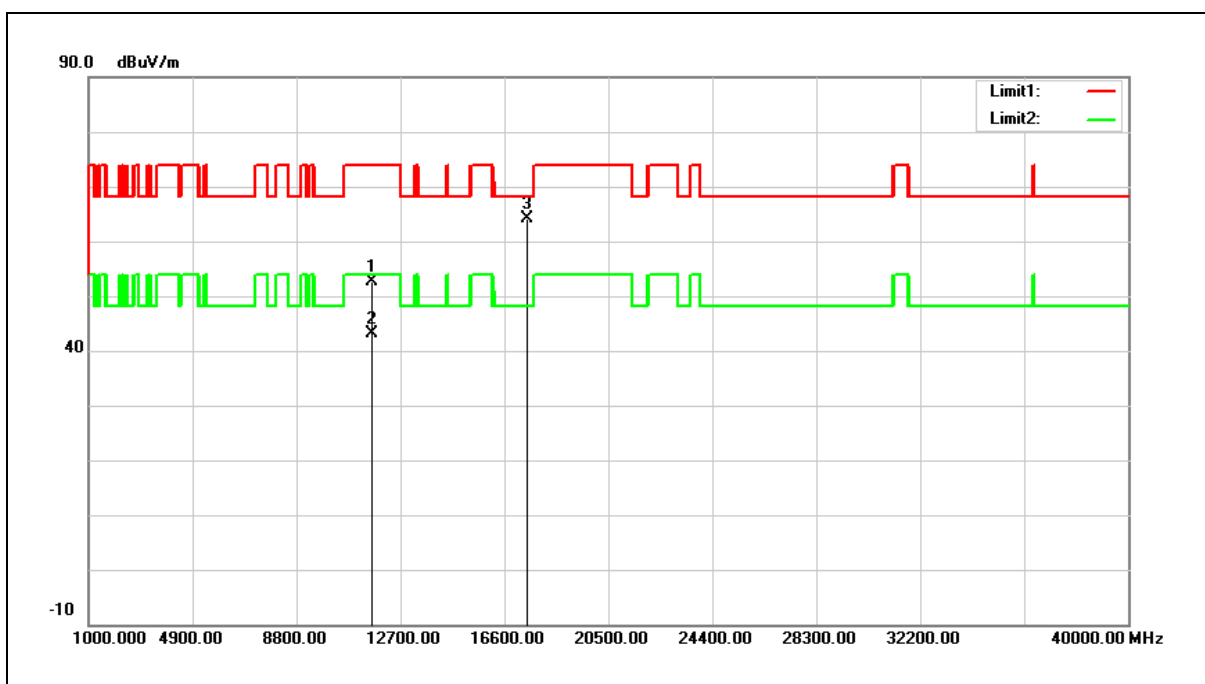
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	11570.000	31.87	19.39	51.26	74.00	-22.74	peak
2	17355.000	32.64	25.34	57.98	68.20	-10.22	peak

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

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

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

Standard:	FCC Part 15.407	Test Distance:	3 m
Test item:	Harmonic	Power:	AC 120 V/60 Hz
Frequency:	5825 MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60 %RH
Mode:	Mode 2		
Ant.Polar.:	Horizontal		



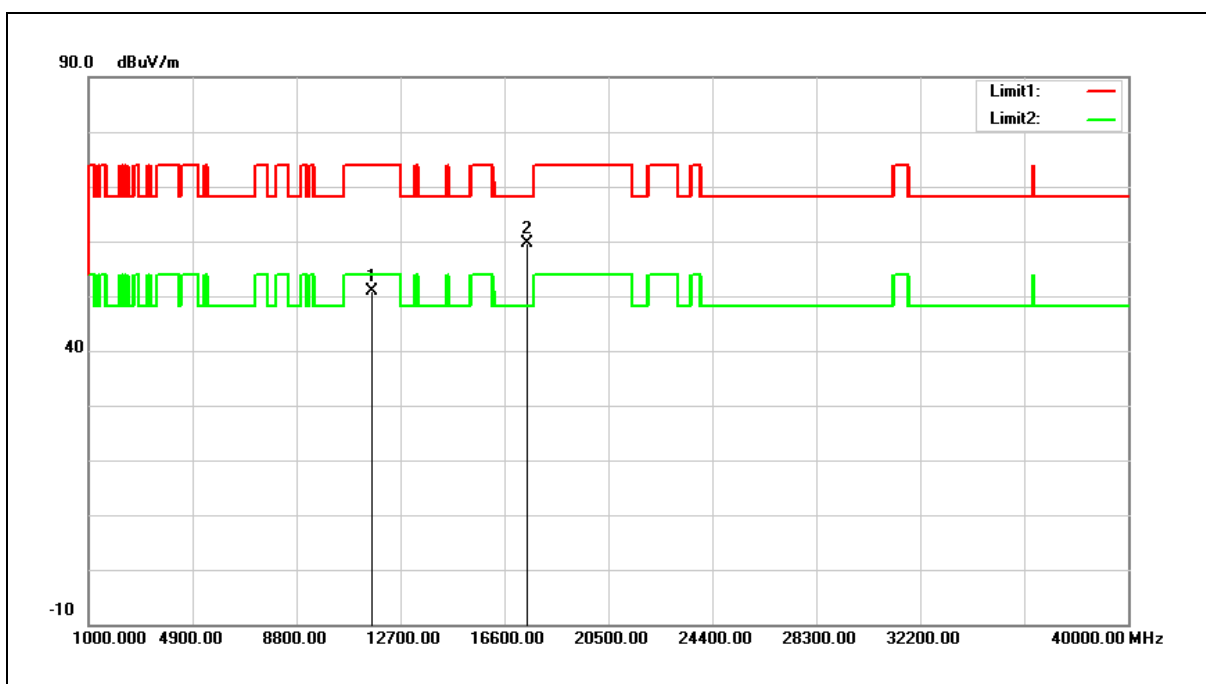
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	11650.000	33.29	19.32	52.61	74.00	-21.39	peak
2	11650.000	23.73	19.32	43.05	54.00	-10.95	AVG
3	17475.000	38.50	25.65	64.15	68.20	-4.05	peak

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

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

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

Standard:	FCC Part 15.407	Test Distance:	3 m
Test item:	Harmonic	Power:	AC 120 V/60 Hz
Frequency:	5825 MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60 %RH
Mode:	Mode 2		
Ant.Polar.:	Vertical		



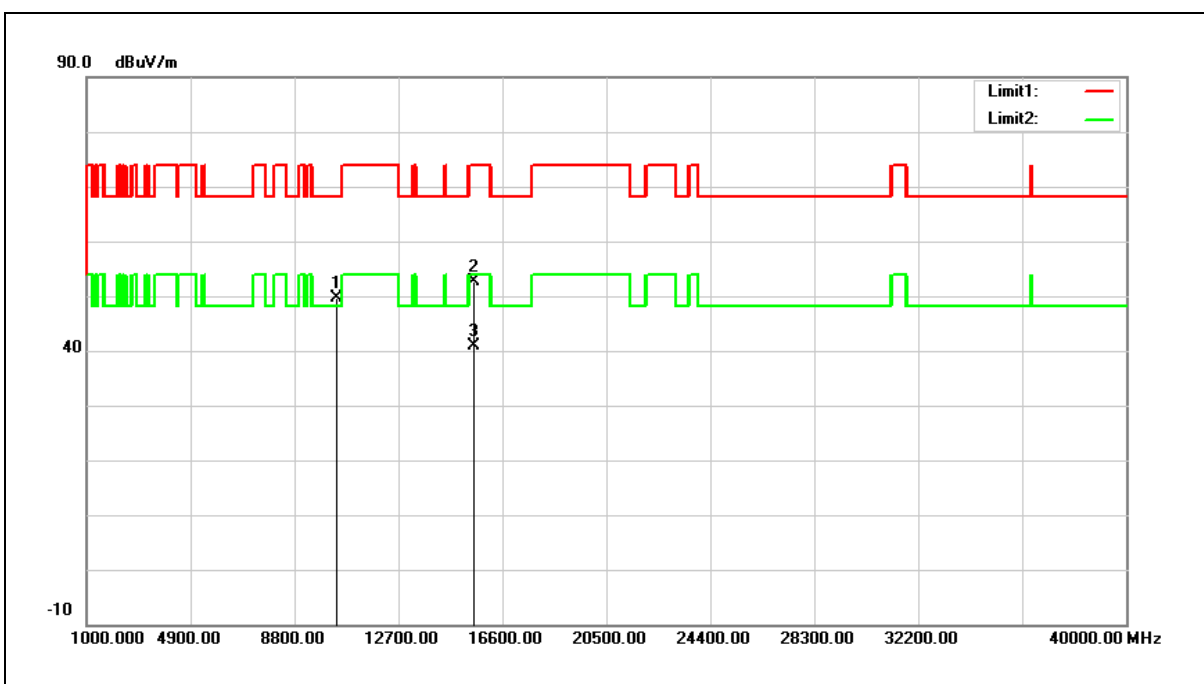
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	11650.000	31.45	19.32	50.77	74.00	-23.23	peak
2	17475.000	33.97	25.65	59.62	68.20	-8.58	peak

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

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

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

Standard:	FCC Part 15.407	Test Distance:	3 m
Test item:	Harmonic	Power:	AC 120 V/60 Hz
Frequency:	5180 MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60 %RH
Mode:	Mode 3		
Ant.Polar.:	Horizontal		



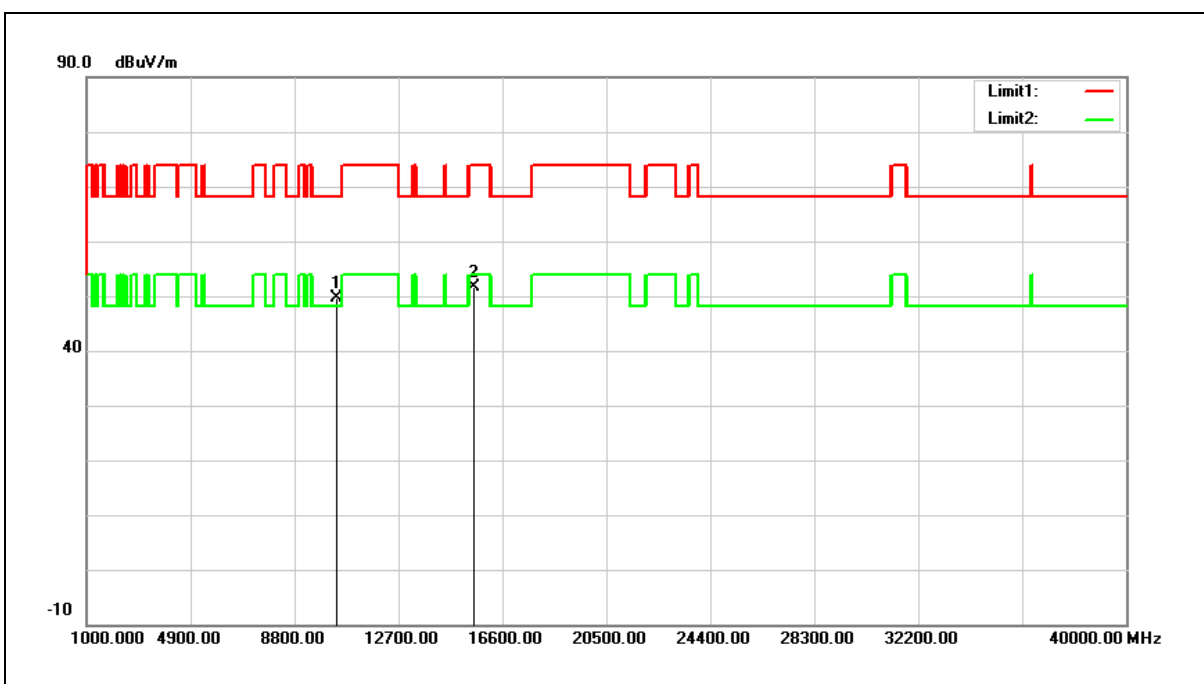
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	10360.000	32.41	17.29	49.70	68.20	-18.50	peak
2	15540.000	31.91	20.75	52.66	74.00	-21.34	peak
3	15540.000	20.12	20.75	40.87	54.00	-13.13	AVG

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 15.407	Test Distance:	3 m
Test item:	Harmonic	Power:	AC 120 V/60 Hz
Frequency:	5180 MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60 %RH
Mode:	Mode 3		
Ant.Polar.:	Vertical		



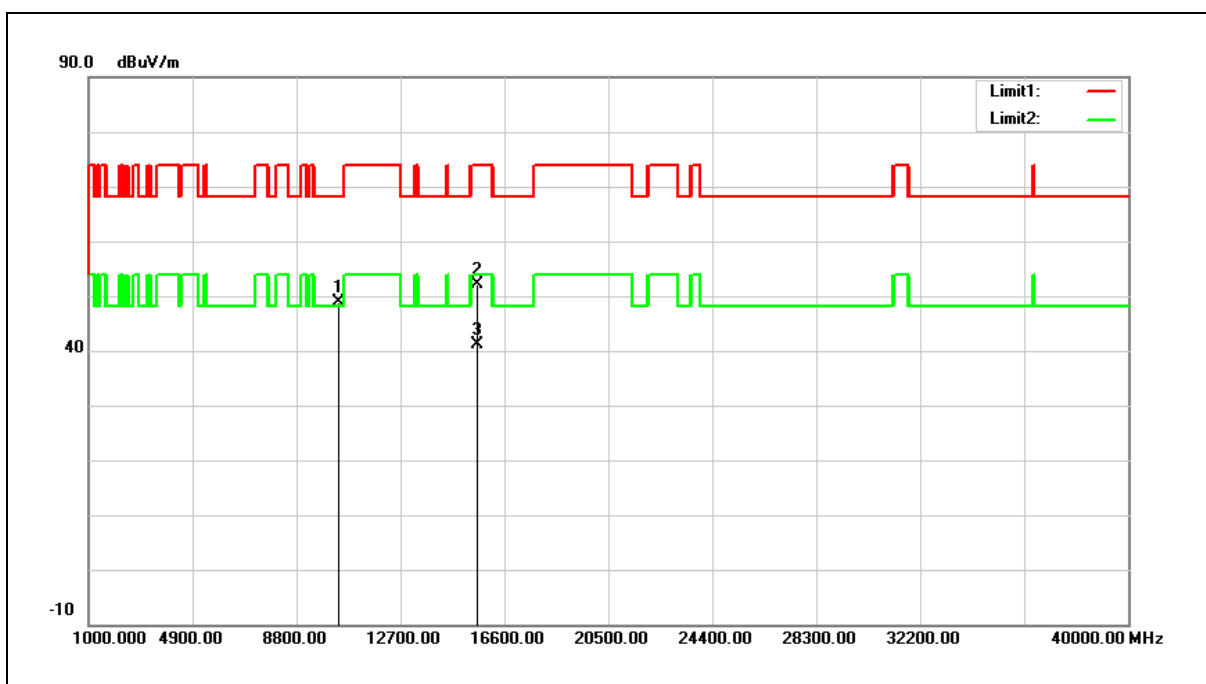
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	10360.000	32.43	17.29	49.72	68.20	-18.48	peak
2	15540.000	30.83	20.75	51.58	74.00	-22.42	peak

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 15.407	Test Distance:	3 m
Test item:	Harmonic	Power:	AC 120 V/60 Hz
Frequency:	5200 MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60 %RH
Mode:	Mode 3		
Ant.Polar.:	Horizontal		



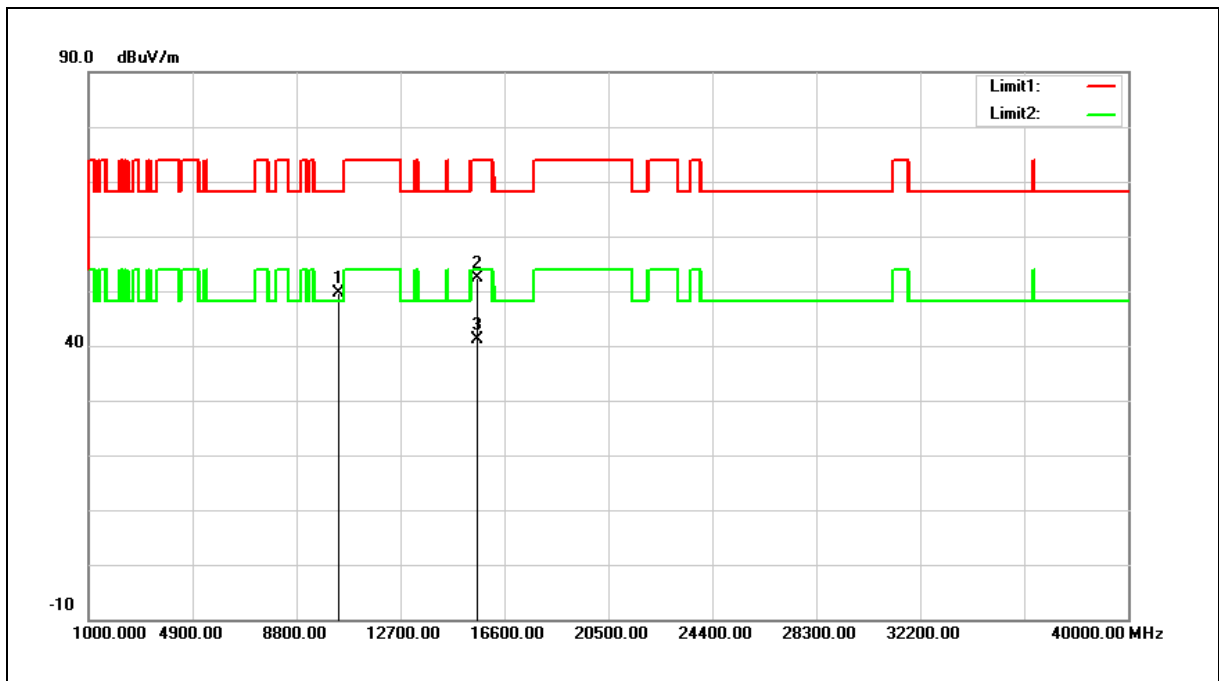
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	10400.000	31.38	17.40	48.78	68.20	-19.42	peak
2	15600.000	31.59	20.60	52.19	74.00	-21.81	peak
3	15600.000	20.58	20.60	41.18	54.00	-12.82	AVG

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 15.407	Test Distance:	3 m
Test item:	Harmonic	Power:	AC 120 V/60 Hz
Frequency:	5200 MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60 %RH
Mode:	Mode 3		
Ant.Polar.:	Vertical		



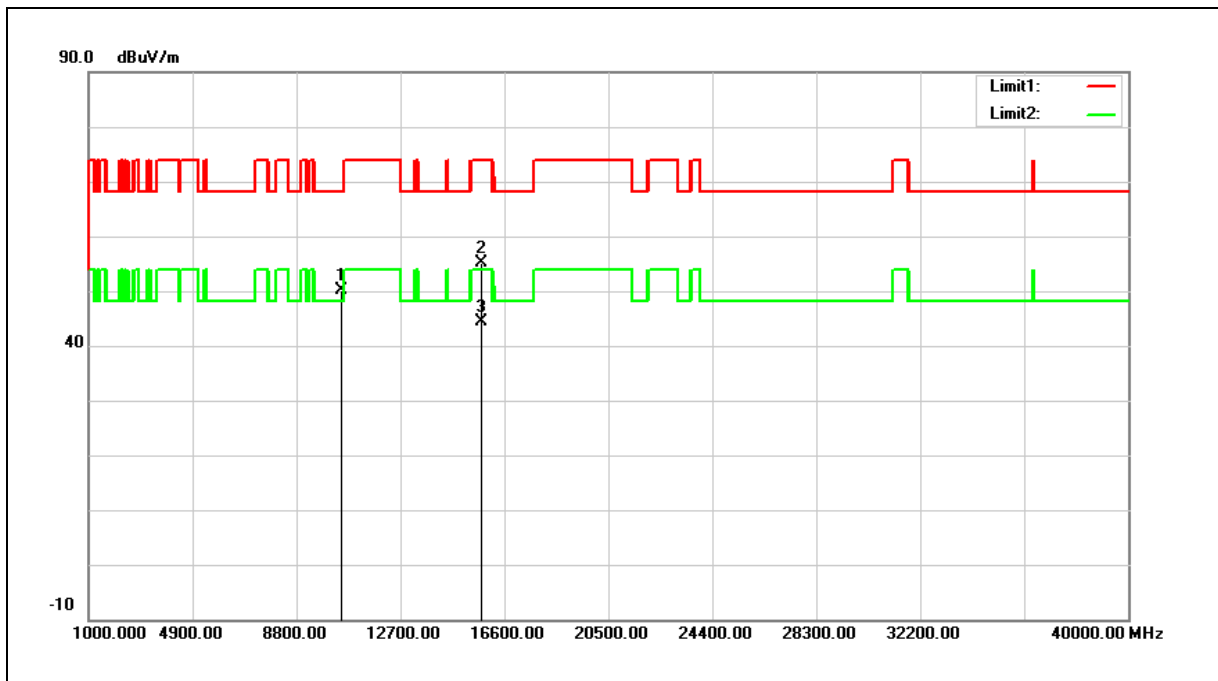
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	10400.000	32.16	17.40	49.56	68.20	-18.64	peak
2	15600.000	31.80	20.60	52.40	74.00	-21.60	peak
3	15600.000	20.41	20.60	41.01	54.00	-12.99	AVG

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 15.407	Test Distance:	3 m
Test item:	Harmonic	Power:	AC 120 V/60 Hz
Frequency:	5240 MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60 %RH
Mode:	Mode 3		
Ant.Polar.:	Horizontal		



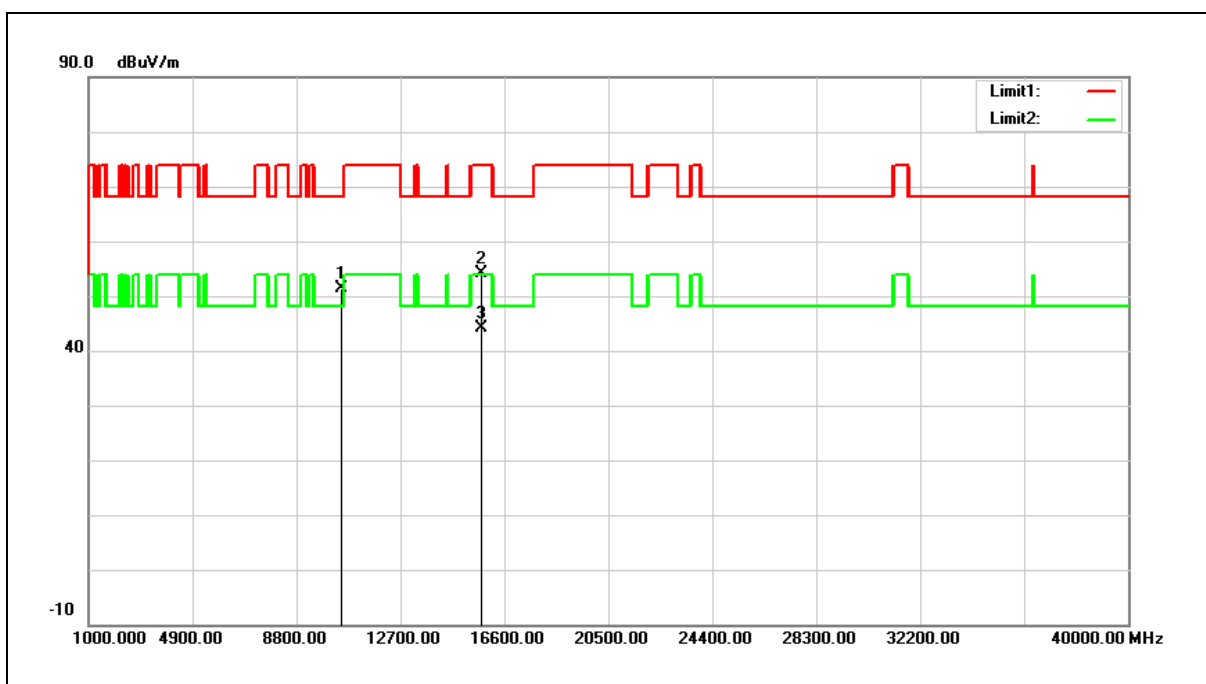
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	10480.000	32.39	17.64	50.03	68.20	-18.17	peak
2	15720.000	34.95	20.30	55.25	74.00	-18.75	peak
3	15720.000	24.05	20.30	44.35	54.00	-9.65	AVG

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 15.407	Test Distance:	3 m
Test item:	Harmonic	Power:	AC 120 V/60 Hz
Frequency:	5240 MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60 %RH
Mode:	Mode 3		
Ant.Polar.:	Vertical		



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	10480.000	33.66	17.64	51.30	68.20	-16.90	peak
2	15720.000	33.90	20.30	54.20	74.00	-19.80	peak
3	15720.000	23.85	20.30	44.15	54.00	-9.85	AVG

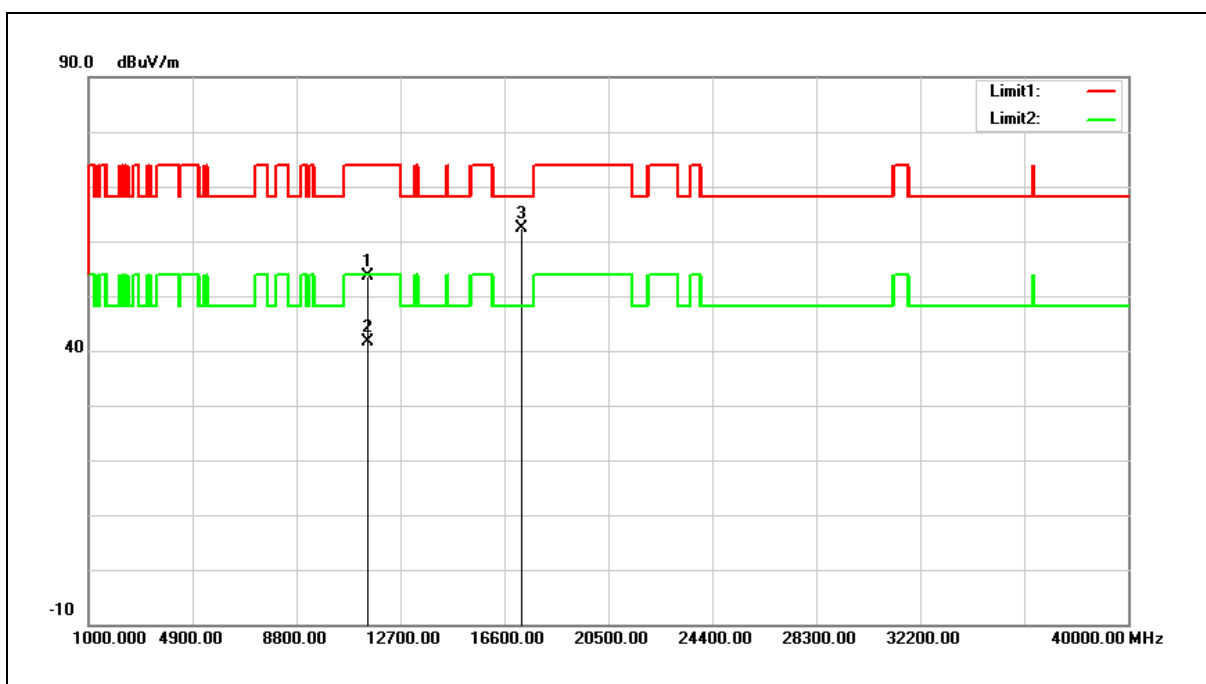
Note:1.Result (dBuV/m) = Correct Factor (dB/m) + Reading(dBuV).

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 15.407	Test Distance:	3 m
Test item:	Harmonic	Power:	AC 120 V/60 Hz
Frequency:	5745 MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60 %RH
Mode:	Mode 3		
Ant.Polar.:	Horizontal		



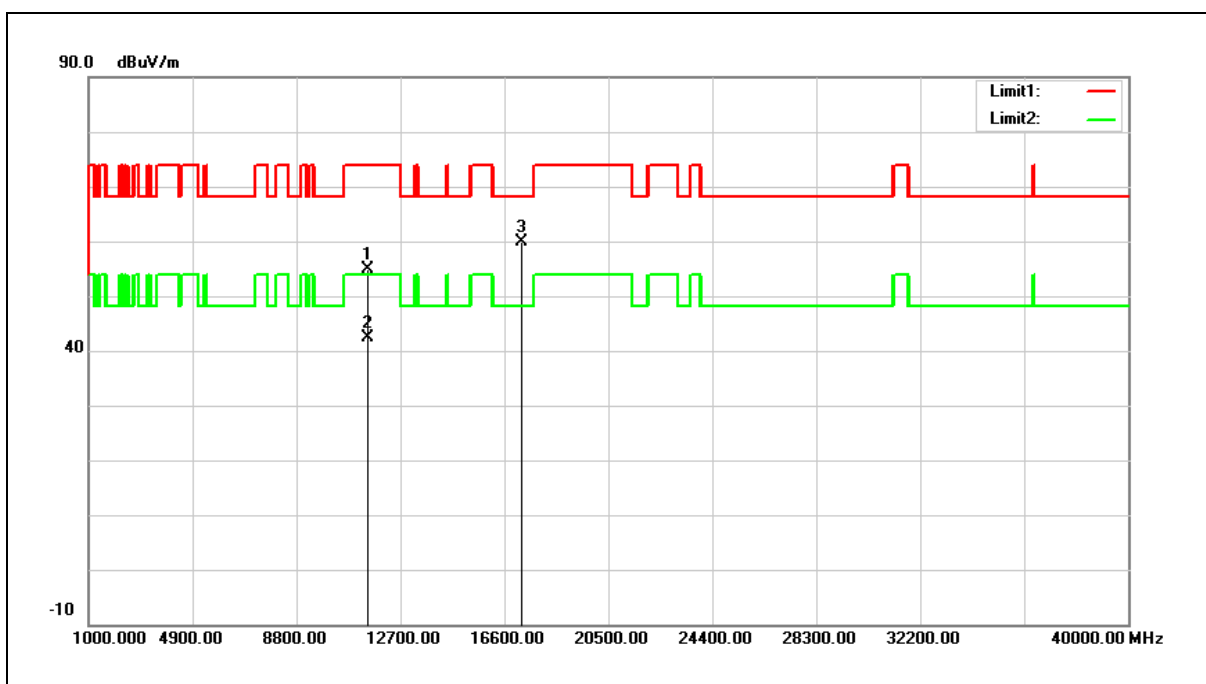
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	11490.000	34.09	19.45	53.54	74.00	-20.46	peak
2	11490.000	22.14	19.45	41.59	54.00	-12.41	AVG
3	17235.000	37.44	25.01	62.45	68.20	-5.75	peak

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

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

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

Standard:	FCC Part 15.407	Test Distance:	3 m
Test item:	Harmonic	Power:	AC 120 V/60 Hz
Frequency:	5745 MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60 %RH
Mode:	Mode 3		
Ant.Polar.:	Vertical		



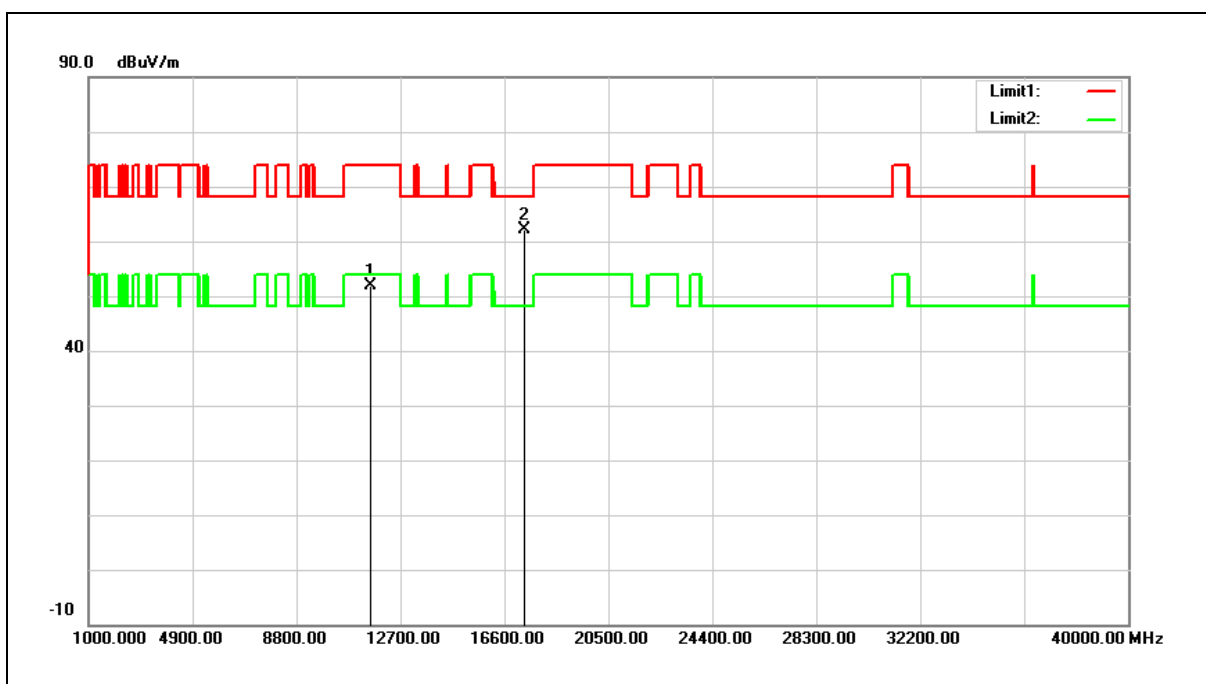
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	11490.000	35.37	19.45	54.82	74.00	-19.18	peak
2	11490.000	22.94	19.45	42.39	54.00	-11.61	AVG
3	17235.000	34.87	25.01	59.88	68.20	-8.32	peak

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 15.407	Test Distance:	3 m
Test item:	Harmonic	Power:	AC 120 V/60 Hz
Frequency:	5785 MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60 %RH
Mode:	Mode 3		
Ant.Polar.:	Horizontal		



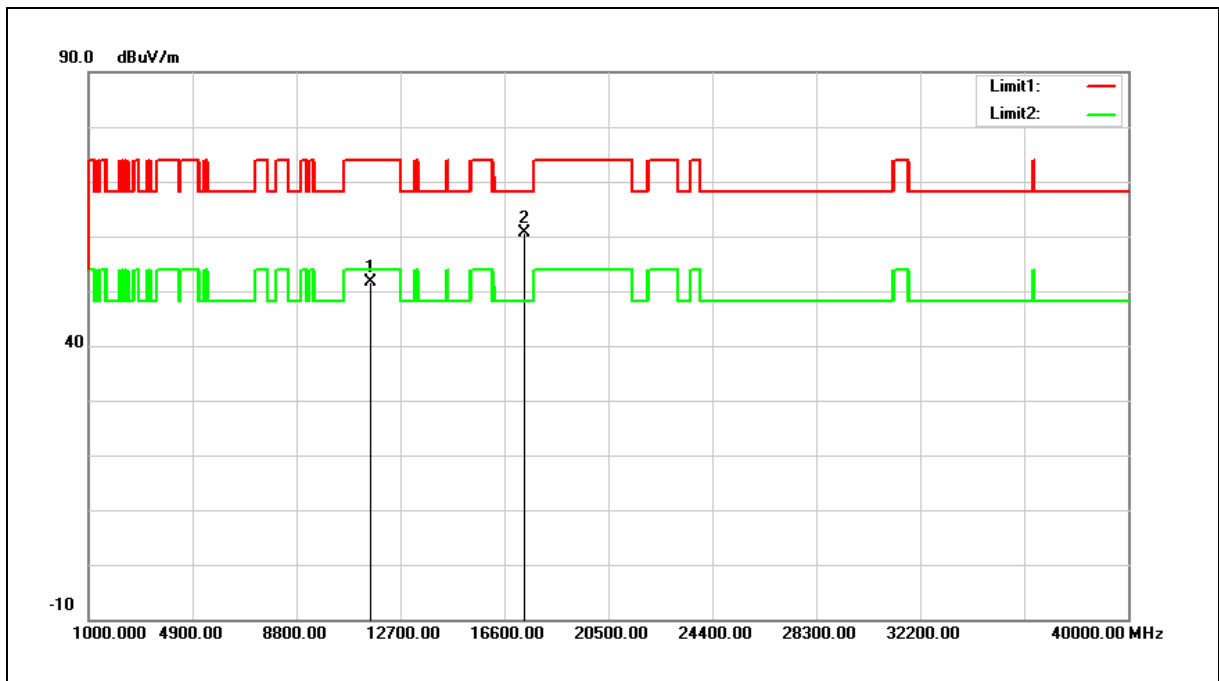
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	11570.000	32.50	19.39	51.89	74.00	-22.11	peak
2	17355.000	36.76	25.34	62.10	68.20	-6.10	peak

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

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

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

Standard:	FCC Part 15.407	Test Distance:	3 m
Test item:	Harmonic	Power:	AC 120 V/60 Hz
Frequency:	5785 MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60 %RH
Mode:	Mode 3		
Ant.Polar.:	Vertical		



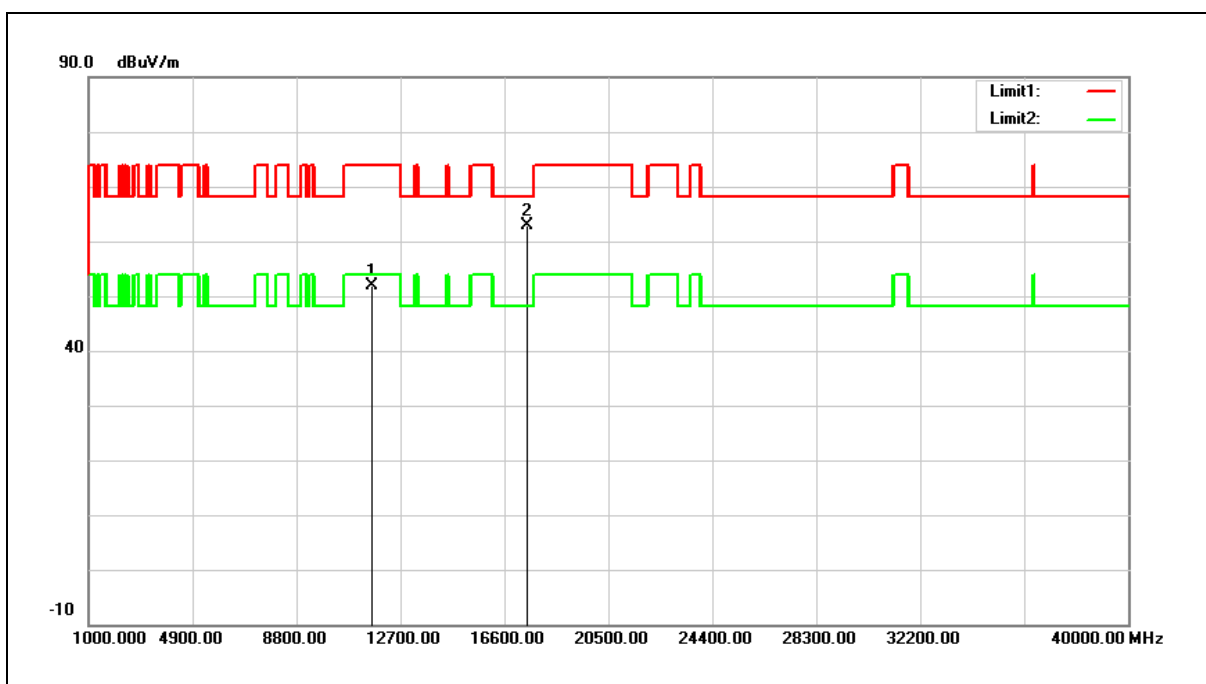
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	11570.000	32.34	19.39	51.73	74.00	-22.27	peak
2	17355.000	35.27	25.34	60.61	68.20	-7.59	peak

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.

Standard:	FCC Part 15.407	Test Distance:	3 m
Test item:	Harmonic	Power:	AC 120 V/60 Hz
Frequency:	5825 MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60 %RH
Mode:	Mode 3		
Ant.Polar.:	Horizontal		



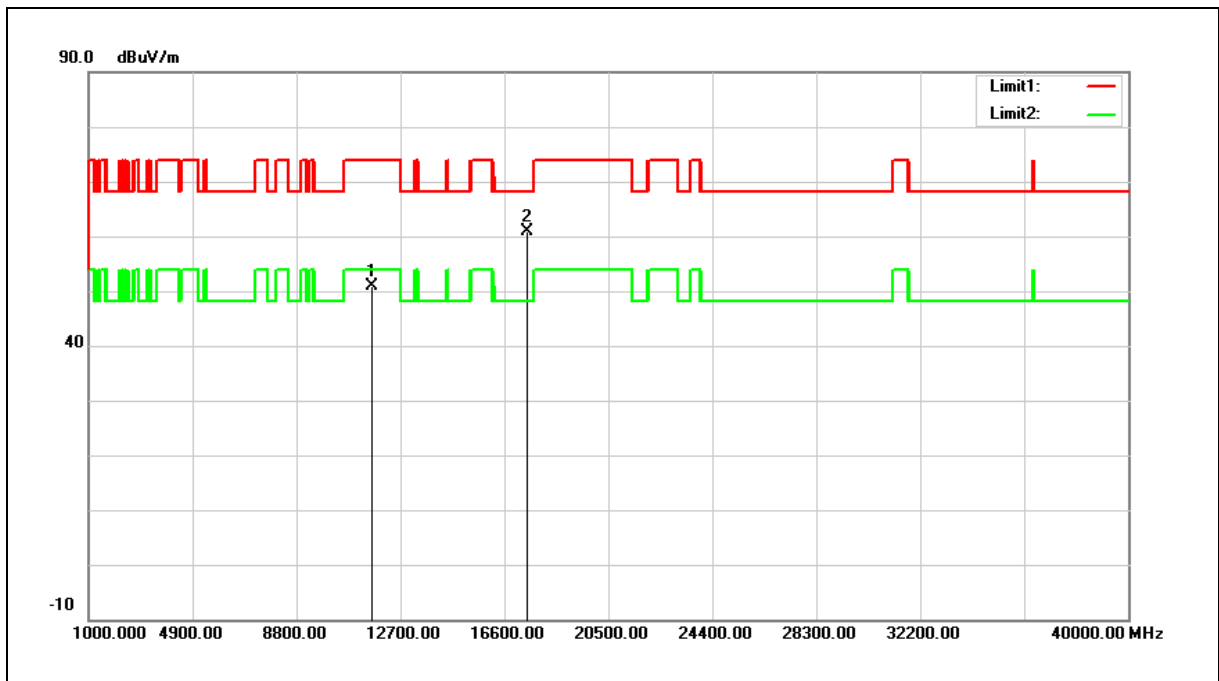
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	11650.000	32.66	19.32	51.98	74.00	-22.02	peak
2	17475.000	37.30	25.65	62.95	68.20	-5.25	peak

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

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

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

Standard:	FCC Part 15.407	Test Distance:	3 m
Test item:	Harmonic	Power:	AC 120 V/60 Hz
Frequency:	5825 MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60 %RH
Mode:	Mode 3		
Ant.Polar.:	Vertical		



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	11650.000	31.52	19.32	50.84	74.00	-23.16	peak
2	17475.000	35.20	25.65	60.85	68.20	-7.35	peak

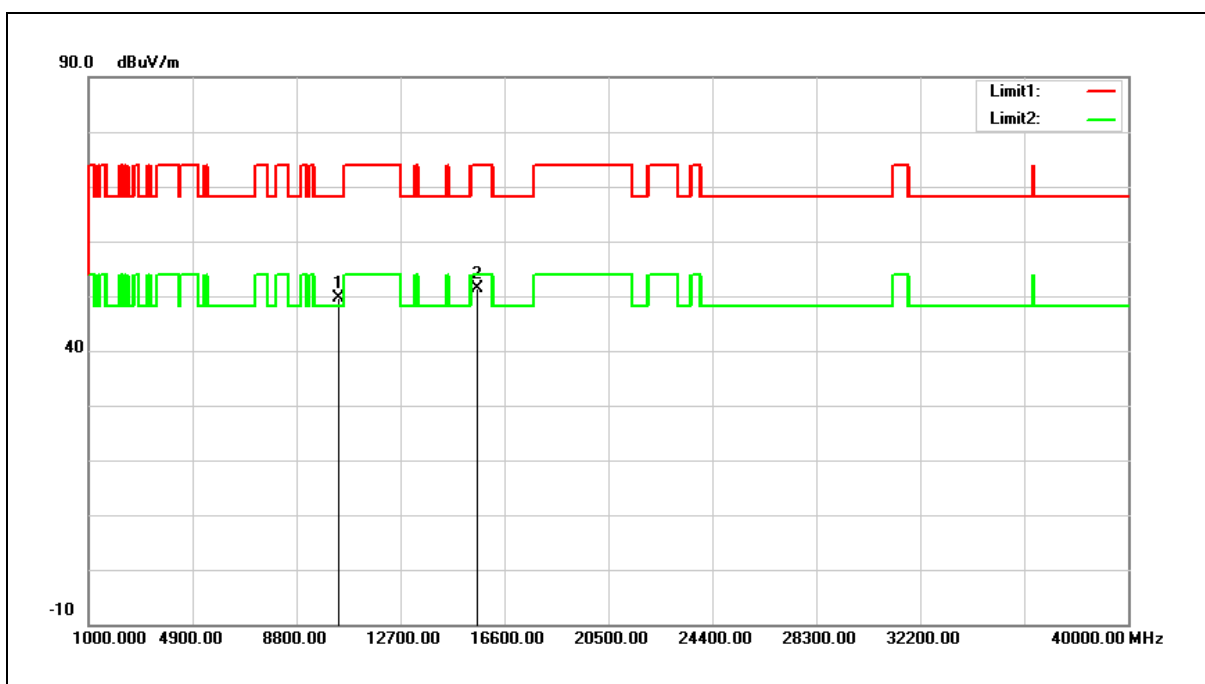
Note:1.Result (dBuV/m) = Correct Factor (dB/m) + Reading(dBuV).

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

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



Standard:	FCC Part 15.407	Test Distance:	3 m
Test item:	Harmonic	Power:	AC 120 V/60 Hz
Frequency:	5190 MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60 %RH
Mode:	Mode 4		
Ant.Polar.:	Horizontal		



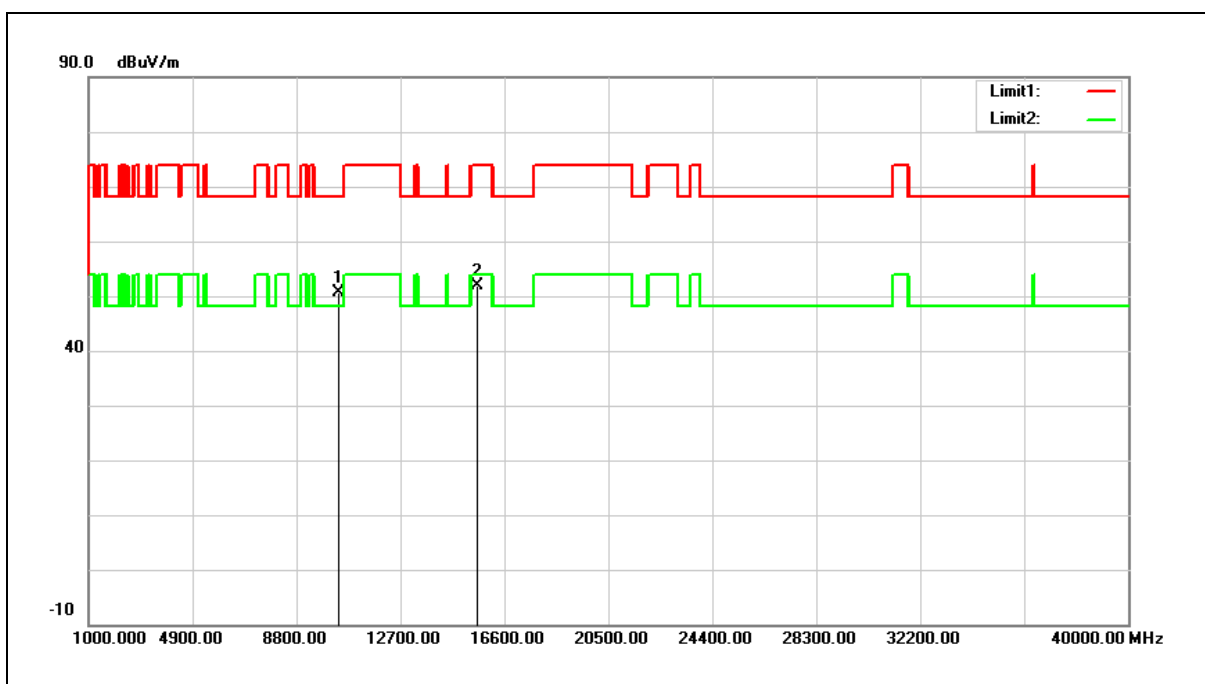
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	10380.000	32.39	17.35	49.74	68.20	-18.46	peak
2	15570.000	30.61	20.68	51.29	74.00	-22.71	peak

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 15.407	Test Distance:	3 m
Test item:	Harmonic	Power:	AC 120 V/60 Hz
Frequency:	5190 MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60 %RH
Mode:	Mode 4		
Ant.Polar.:	Vertical		



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	10380.000	33.31	17.35	50.66	68.20	-17.54	peak
2	15570.000	31.29	20.68	51.97	74.00	-22.03	peak

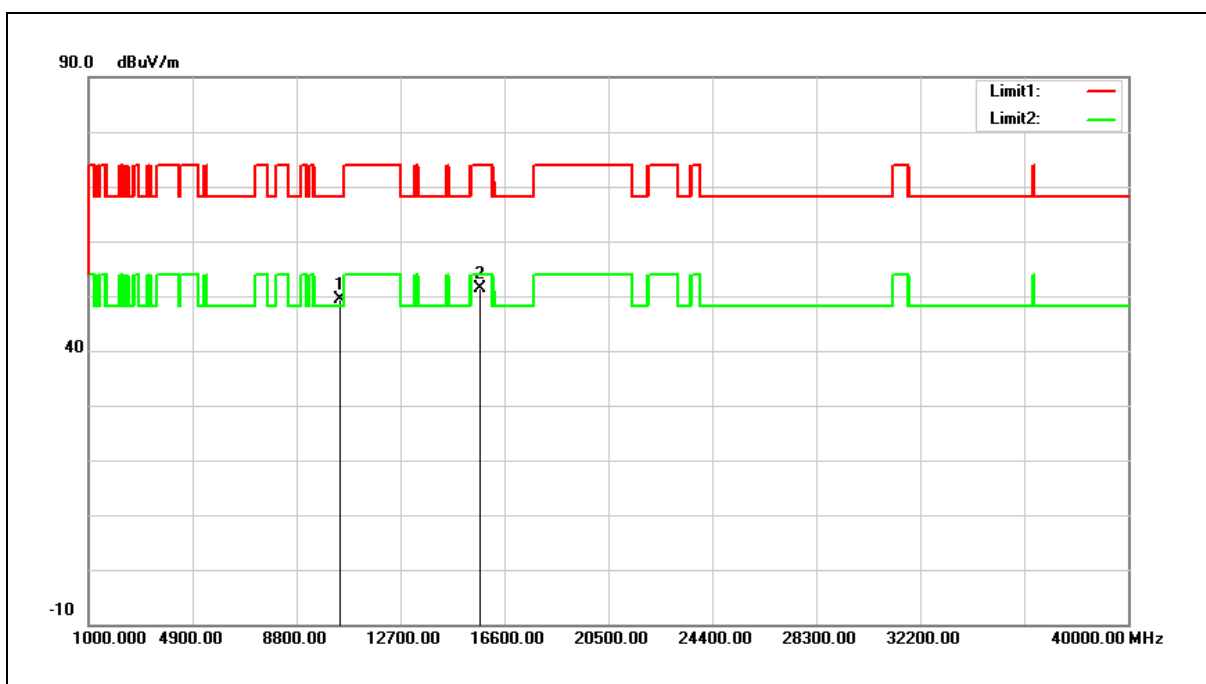
Note:1.Result (dBuV/m) = Correct Factor (dB/m) + Reading(dBuV).

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

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



Standard:	FCC Part 15.407	Test Distance:	3 m
Test item:	Harmonic	Power:	AC 120 V/60 Hz
Frequency:	5230 MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60 %RH
Mode:	Mode 4		
Ant.Polar.:	Horizontal		



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	10460.000	31.84	17.59	49.43	68.20	-18.77	peak
2	15690.000	31.12	20.37	51.49	74.00	-22.51	peak

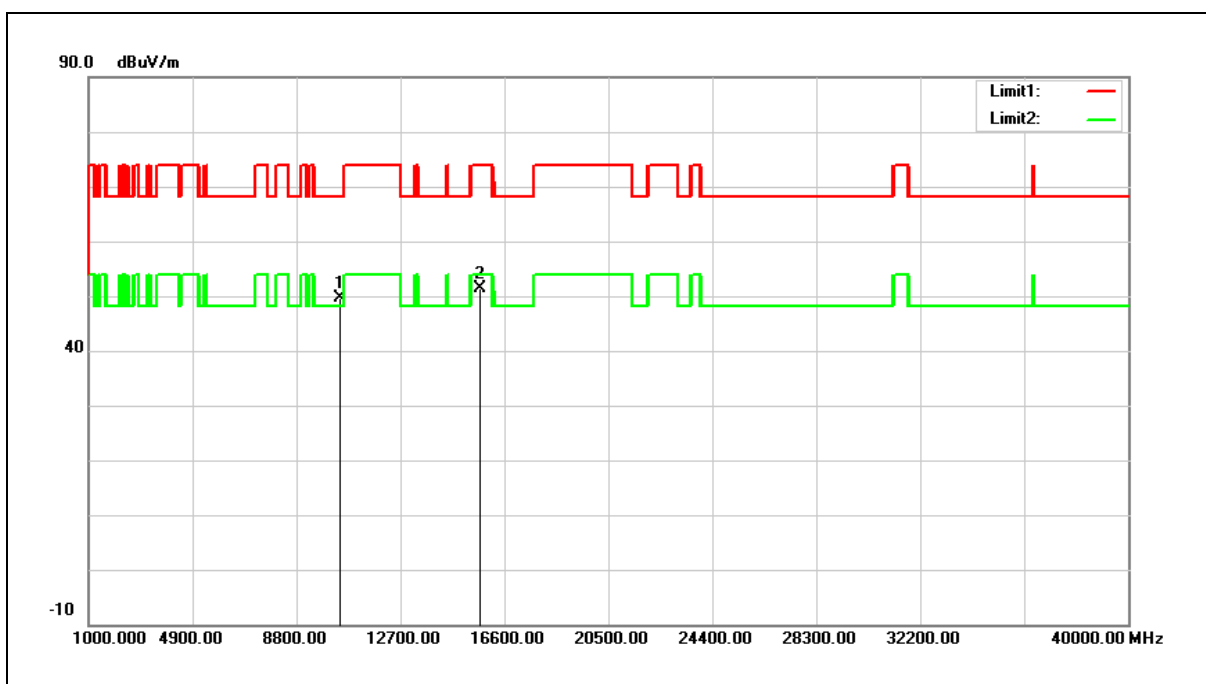
Note:1.Result (dBuV/m) = Correct Factor (dB/m) + Reading(dBuV).

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 15.407	Test Distance:	3 m
Test item:	Harmonic	Power:	AC 120 V/60 Hz
Frequency:	5230 MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60 %RH
Mode:	Mode 4		
Ant.Polar.:	Vertical		



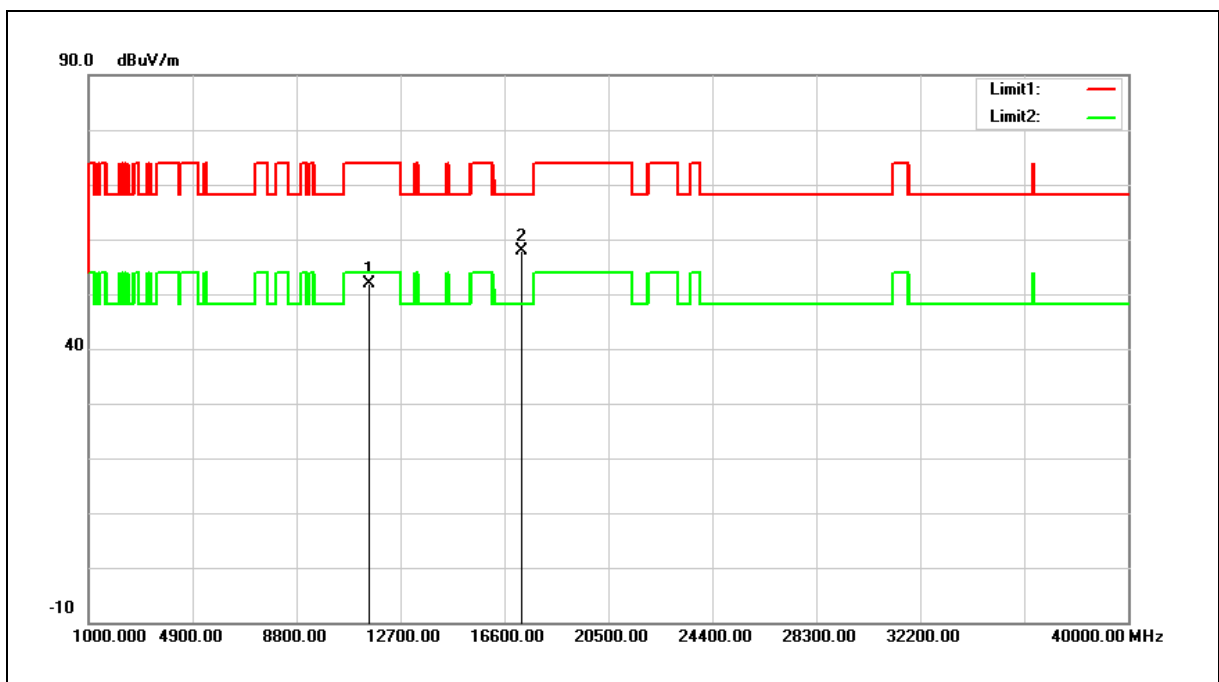
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	10460.000	32.15	17.59	49.74	68.20	-18.46	peak
2	15690.000	30.96	20.37	51.33	74.00	-22.67	peak

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 15.407	Test Distance:	3 m
Test item:	Harmonic	Power:	AC 120 V/60 Hz
Frequency:	5755 MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60 %RH
Mode:	Mode 4		
Ant.Polar.:	Horizontal		



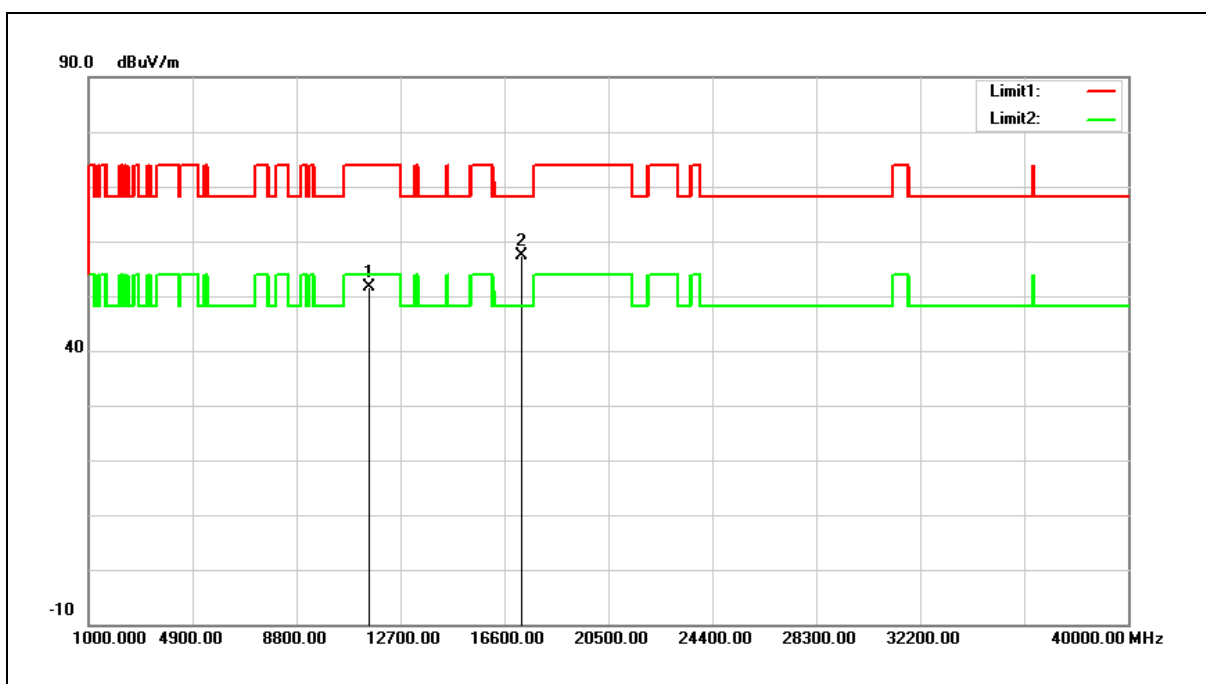
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	11510.000	32.44	19.46	51.90	74.00	-22.10	peak
2	17265.000	32.71	25.09	57.80	68.20	-10.40	peak

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

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

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

Standard:	FCC Part 15.407	Test Distance:	3 m
Test item:	Harmonic	Power:	AC 120 V/60 Hz
Frequency:	5755 MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60 %RH
Mode:	Mode 4		
Ant.Polar.:	Vertical		



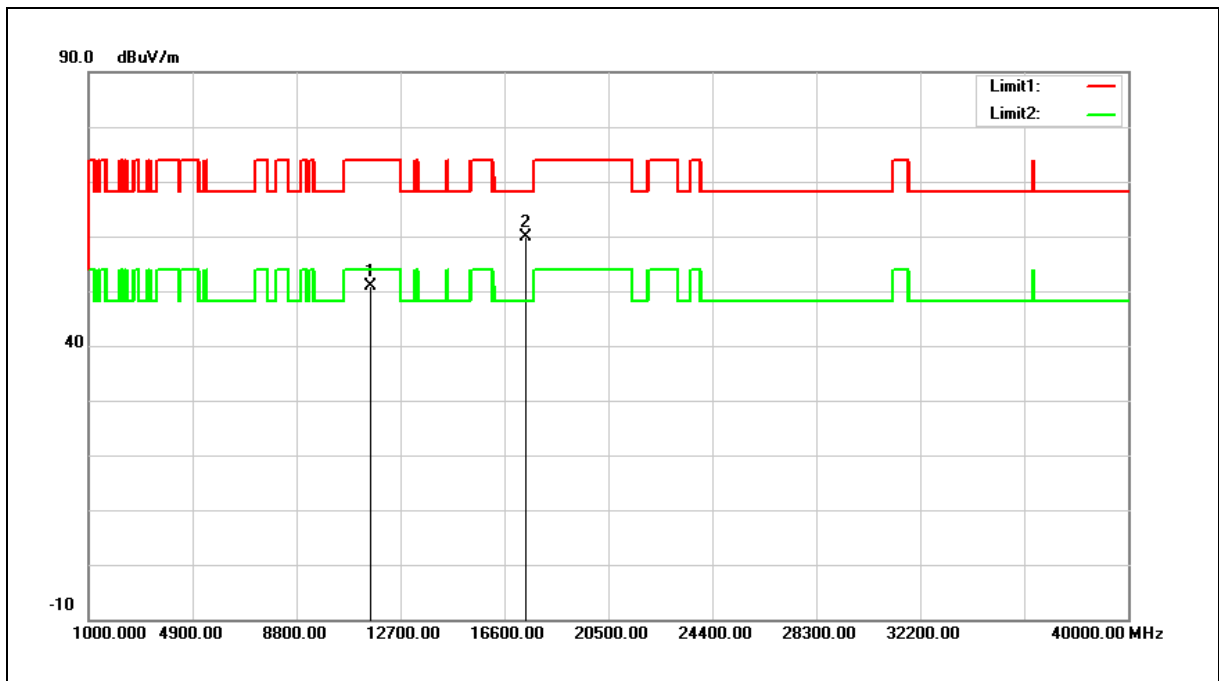
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	11510.000	32.24	19.46	51.70	74.00	-22.30	peak
2	17265.000	32.26	25.09	57.35	68.20	-10.85	peak

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

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

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

Standard:	FCC Part 15.407	Test Distance:	3 m
Test item:	Harmonic	Power:	AC 120 V/60 Hz
Frequency:	5795 MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60 %RH
Mode:	Mode 4		
Ant.Polar.:	Horizontal		



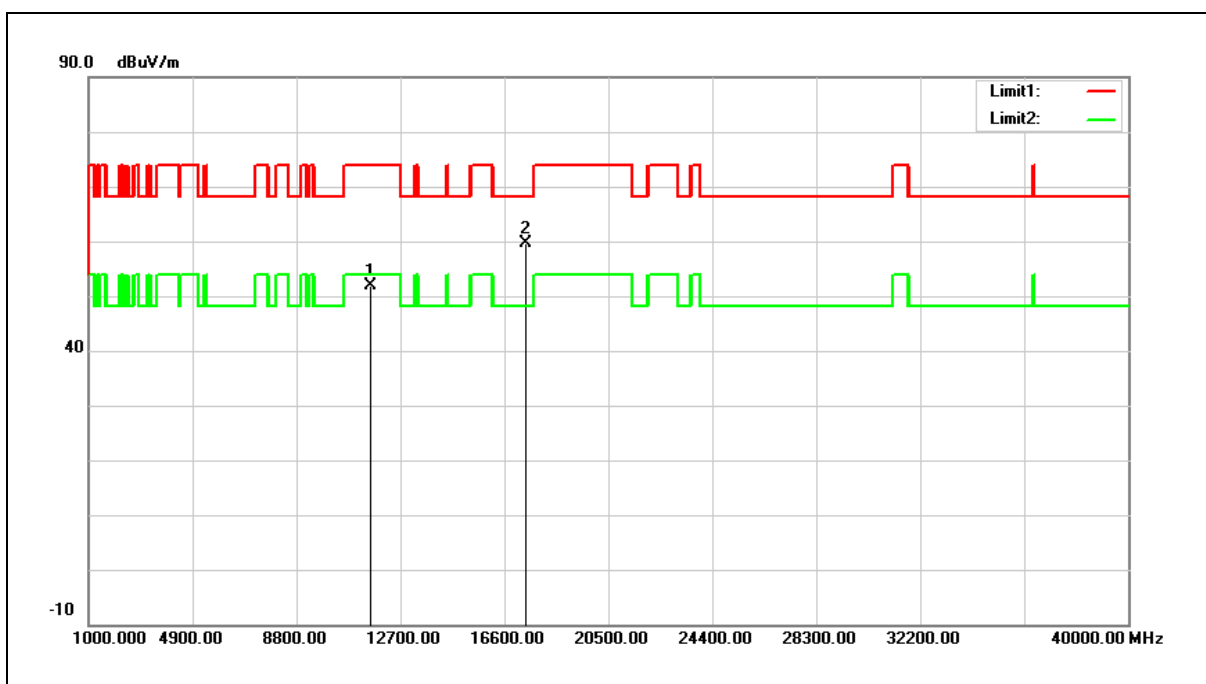
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	11590.000	31.58	19.38	50.96	74.00	-23.04	peak
2	17385.000	34.55	25.41	59.96	68.20	-8.24	peak

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

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

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

Standard:	FCC Part 15.407	Test Distance:	3 m
Test item:	Harmonic	Power:	AC 120 V/60 Hz
Frequency:	5795 MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60 %RH
Mode:	Mode 4		
Ant.Polar.:	Vertical		



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	11590.000	32.39	19.38	51.77	74.00	-22.23	peak
2	17385.000	34.15	25.41	59.56	68.20	-8.64	peak

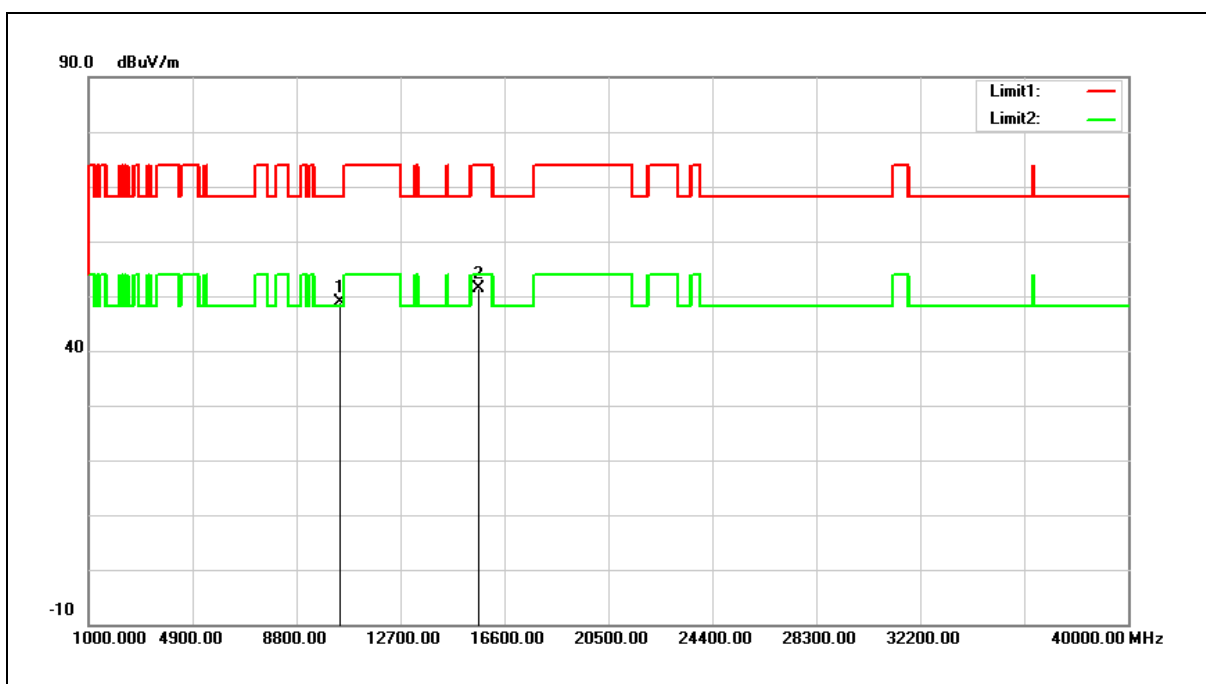
Note:1.Result (dBuV/m) = Correct Factor (dB/m) + Reading(dBuV).

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

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



Standard:	FCC Part 15.407	Test Distance:	3 m
Test item:	Harmonic	Power:	AC 120 V/60 Hz
Frequency:	5210 MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60 %RH
Mode:	Mode 5		
Ant.Polar.:	Horizontal		



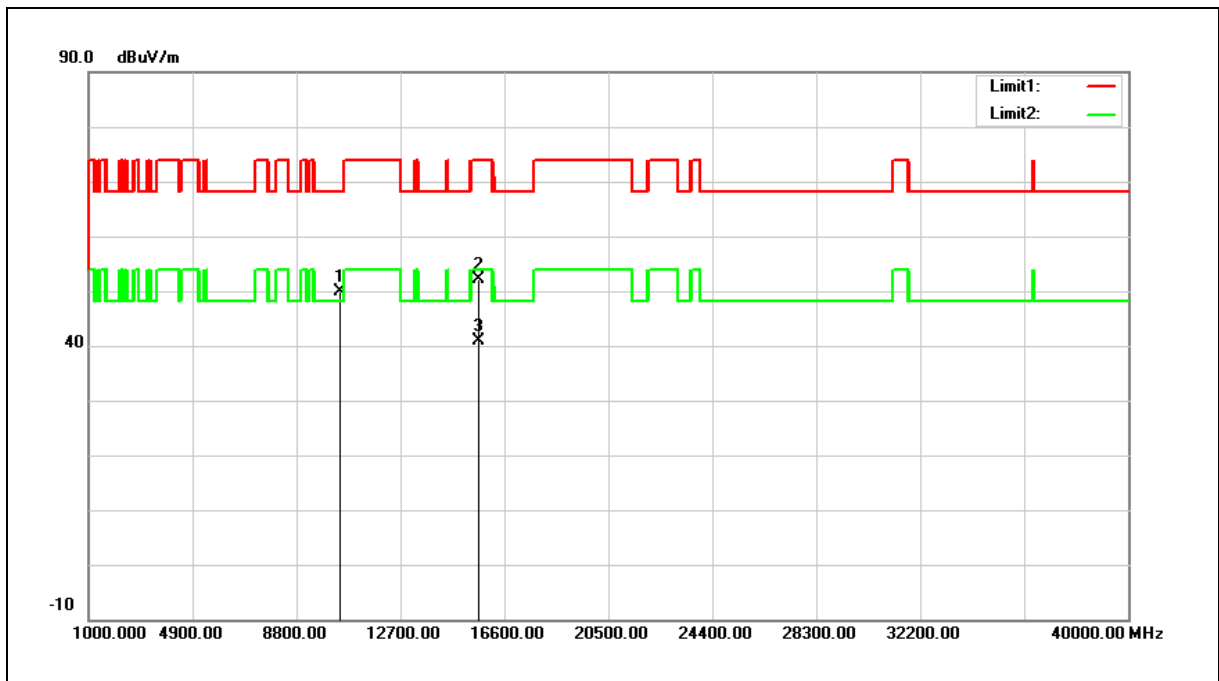
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	10420.000	31.54	17.46	49.00	68.20	-19.20	peak
2	15630.000	30.83	20.53	51.36	74.00	-22.64	peak

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

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

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

Standard:	FCC Part 15.407	Test Distance:	3 m
Test item:	Harmonic	Power:	AC 120 V/60 Hz
Frequency:	5210 MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60 %RH
Mode:	Mode 5		
Ant.Polar.:	Vertical		



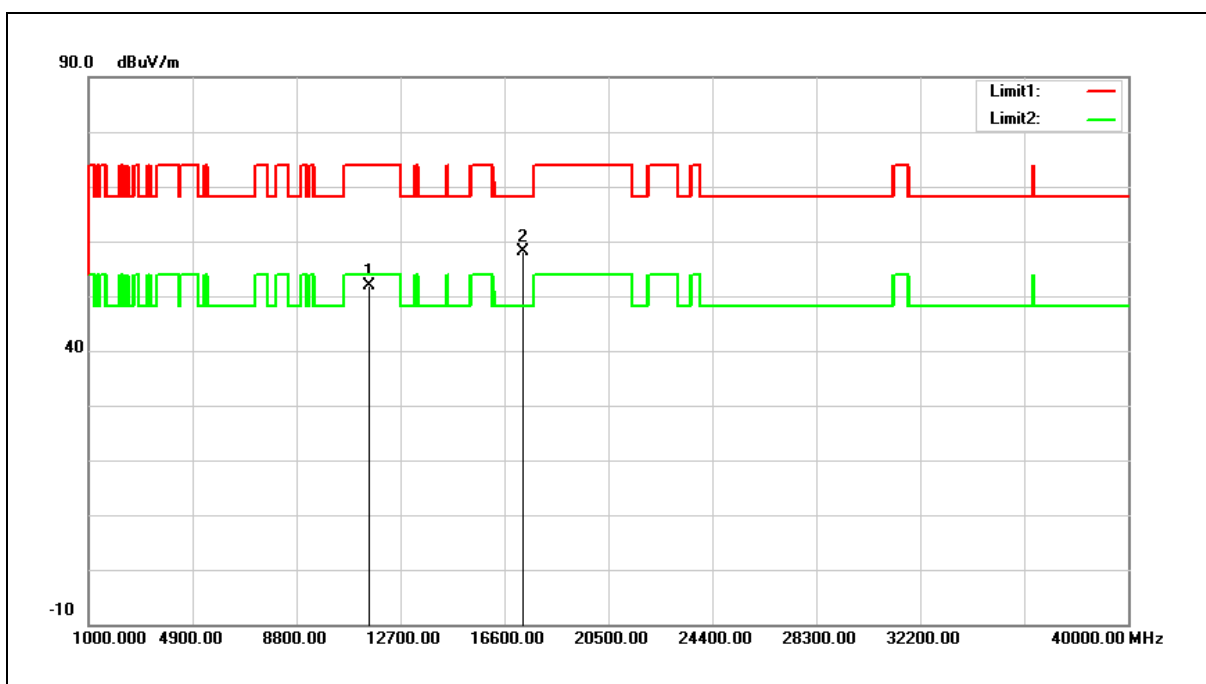
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	10420.000	32.30	17.46	49.76	68.20	-18.44	peak
2	15630.000	31.63	20.53	52.16	74.00	-21.84	peak
3	15630.000	20.23	20.53	40.76	54.00	-13.24	AVG

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

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

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

Standard:	FCC Part 15.407	Test Distance:	3 m
Test item:	Harmonic	Power:	AC 120 V/60 Hz
Frequency:	5775 MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60 %RH
Mode:	Mode 5		
Ant.Polar.:	Horizontal		



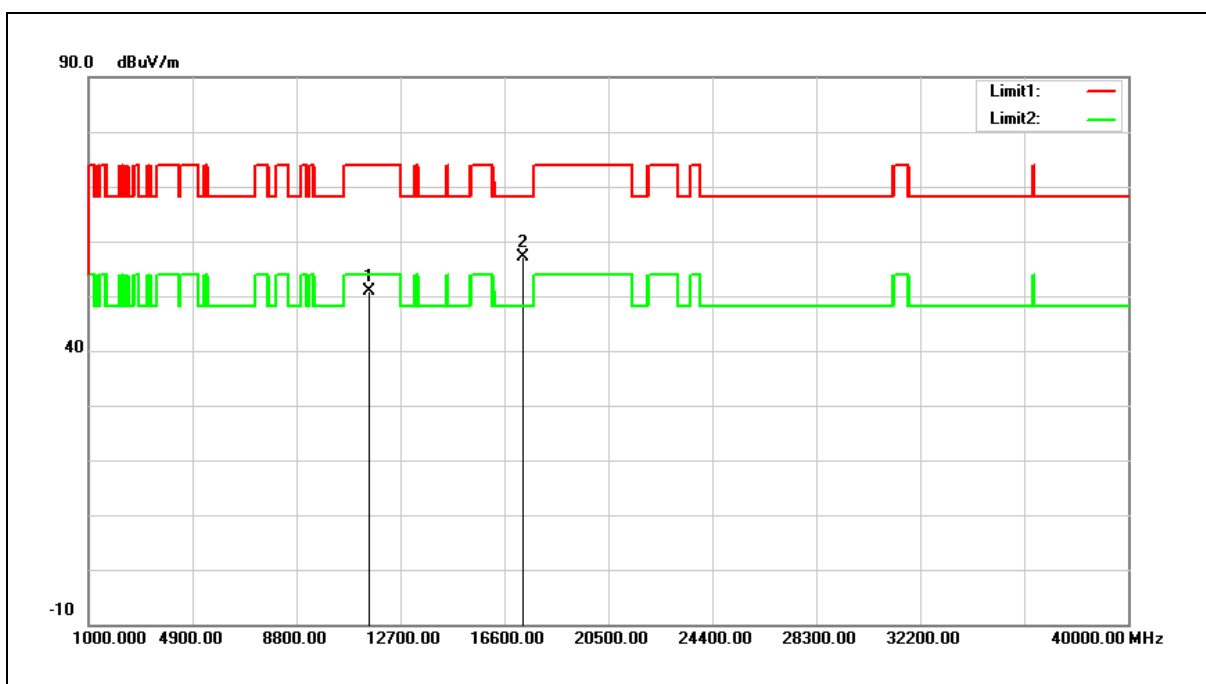
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	11550.000	32.36	19.42	51.78	74.00	-22.22	peak
2	17325.000	32.85	25.25	58.10	68.20	-10.10	peak

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

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

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

Standard:	FCC Part 15.407	Test Distance:	3 m
Test item:	Harmonic	Power:	AC 120 V/60 Hz
Frequency:	5775 MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60 %RH
Mode:	Mode 5		
Ant.Polar.:	Vertical		



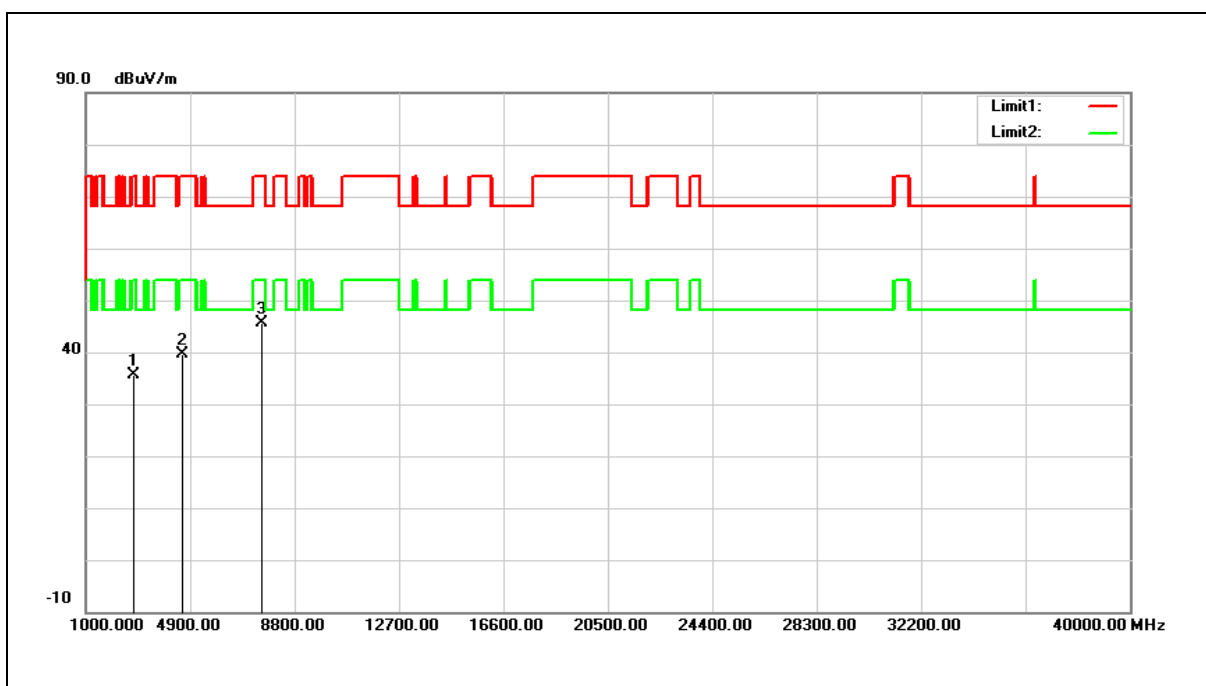
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	11550.000	31.46	19.42	50.88	74.00	-23.12	peak
2	17325.000	31.82	25.25	57.07	68.20	-11.13	peak

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

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

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

Standard:	FCC Part 15.407	Test Distance:	3 m
Test item:	Transmitter Unwanted Emissions	Power:	AC 120 V/60 Hz
Test Mode:	Simultaneous Transmitting (WLAN 2.4 + 5 GHz)	Temp.(°C)/Hum.(%RH):	26(°C)/60 %RH
Ant.Polar.:	Horizontal		



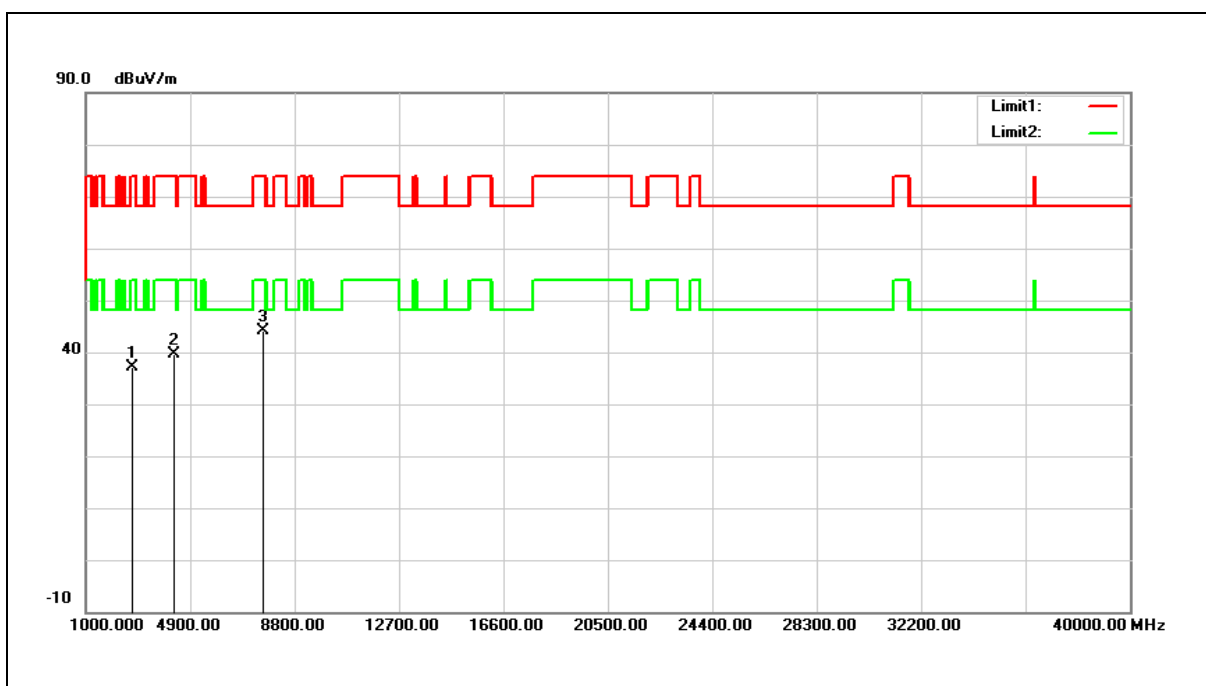
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2785.000	35.07	0.52	35.59	74.00	-38.41	peak
2	4638.000	34.32	5.40	39.72	74.00	-34.28	peak
3	7562.000	32.21	13.51	45.72	74.00	-28.28	peak

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 15.407	Test Distance:	3 m
Test item:	Transmitter Unwanted Emissions	Power:	AC 120 V/60 Hz
Test Mode:	Simultaneous Transmitting (WLAN 2.4 + 5 GHz)	Temp.(°C)/Hum.(%RH):	26(°C)/60 %RH
Ant.Polar.:	Vertical		



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2751.000	36.71	0.42	37.13	74.00	-36.87	peak
2	4247.000	35.02	4.50	39.52	74.00	-34.48	peak
3	7613.000	30.50	13.62	44.12	74.00	-29.88	peak

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

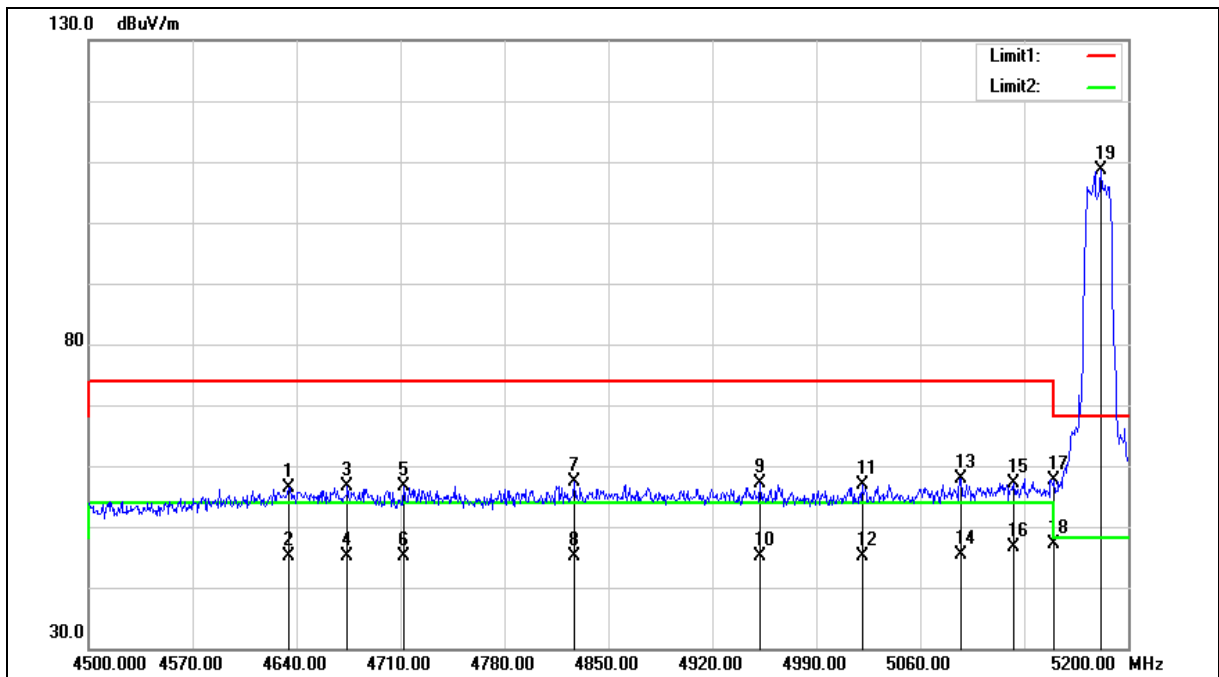
2.Correction factor (dB/m) = Antenna Factor (dB/m) + Cable loss (dB) – Pre-Amplifier gain (dB).

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



Band Edge

Standard:	FCC Part 15.407	Test Distance:	3 m
Test item:	Band edge	Power:	AC 120 V/60 Hz
Frequency:	5180 MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60 %RH
Mode:	Mode 2		
Ant.Polar.:	Horizontal		





Standard:	FCC Part 15.407	Test Distance:	3 m
Test item:	Band edge	Power:	AC 120 V/60 Hz
Frequency:	5180 MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60 %RH
Mode:	Mode 2		
Ant.Polar.:	Horizontal		

No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4635.100	50.99	5.39	56.38	74.00	-17.62	peak
2	4635.100	39.64	5.39	45.03	54.00	-8.97	AVG
3	4674.300	51.22	5.51	56.73	74.00	-17.27	peak
4	4674.300	39.64	5.51	45.15	54.00	-8.85	AVG
5	4712.100	51.05	5.63	56.68	74.00	-17.32	peak
6	4712.100	39.57	5.63	45.20	54.00	-8.80	AVG
7	4826.900	51.37	5.98	57.35	74.00	-16.65	peak
8	4826.900	39.26	5.98	45.24	54.00	-8.76	AVG
9	4952.200	50.67	6.36	57.03	74.00	-16.97	peak
10	4952.200	38.83	6.36	45.19	54.00	-8.81	AVG
11	5020.800	50.41	6.57	56.98	74.00	-17.02	peak
12	5020.800	38.67	6.57	45.24	54.00	-8.76	AVG
13	5087.300	51.12	6.76	57.88	74.00	-16.12	peak
14	5087.300	38.59	6.76	45.35	54.00	-8.65	AVG
15	5123.000	50.37	6.85	57.22	74.00	-16.78	peak
16	5123.000	39.84	6.85	46.69	54.00	-7.31	AVG
17	5150.000	50.57	6.94	57.51	74.00	-16.49	peak
18	5150.000	40.14	6.94	47.08	54.00	-6.92	AVG
19	5181.800	101.66	7.03	108.69	--	--	peak

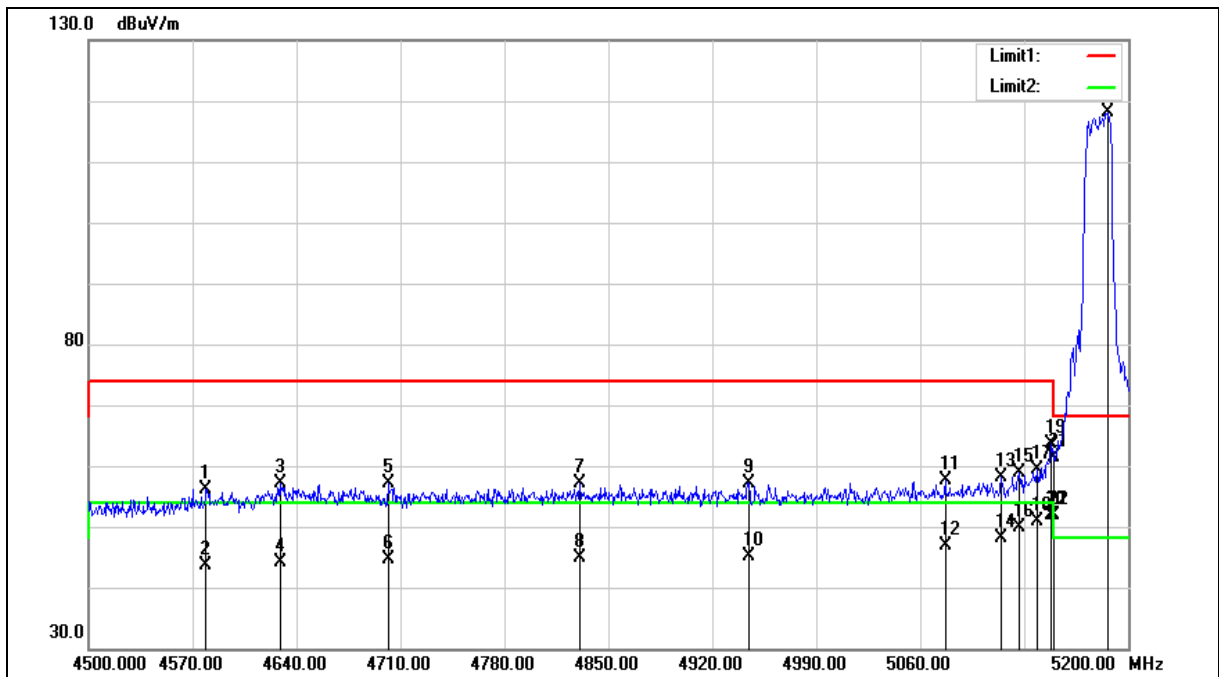
Note:1.Result (dBuV/m) = Correct Factor (dB/m) + Reading(dBuV).

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

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



Standard:	FCC Part 15.407	Test Distance:	3 m
Test item:	Band edge	Power:	AC 120 V/60 Hz
Frequency:	5180 MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60 %RH
Mode:	Mode 2		
Ant.Polar.:	Vertical		



Standard:	FCC Part 15.407	Test Distance:	3 m
Test item:	Band edge	Power:	AC 120 V/60 Hz
Frequency:	5180 MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60 %RH
Mode:	Mode 2		
Ant.Polar.:	Vertical		

No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4579.100	50.96	5.22	56.18	74.00	-17.82	peak
2	4579.100	38.53	5.22	43.75	54.00	-10.25	AVG
3	4628.800	51.67	5.37	57.04	74.00	-16.96	peak
4	4628.800	38.65	5.37	44.02	54.00	-9.98	AVG
5	4701.600	51.59	5.59	57.18	74.00	-16.82	peak
6	4701.600	38.94	5.59	44.53	54.00	-9.47	AVG
7	4830.400	51.09	5.99	57.08	74.00	-16.92	peak
8	4830.400	38.79	5.99	44.78	54.00	-9.22	AVG
9	4944.500	50.88	6.34	57.22	74.00	-16.78	peak
10	4944.500	38.86	6.34	45.20	54.00	-8.80	AVG
11	5076.800	50.98	6.73	57.71	74.00	-16.29	peak
12	5076.800	40.13	6.73	46.86	54.00	-7.14	AVG
13	5114.600	51.36	6.83	58.19	74.00	-15.81	peak
14	5114.600	41.32	6.83	48.15	54.00	-5.85	AVG
15	5126.500	51.99	6.88	58.87	74.00	-15.13	peak
16	5126.500	42.88	6.88	49.76	54.00	-4.24	AVG
17	5138.400	52.48	6.91	59.39	74.00	-14.61	peak
18	5138.400	43.92	6.91	50.83	54.00	-3.17	AVG
19	5148.200	56.71	6.94	63.65	74.00	-10.35	peak
20	5148.200	44.90	6.94	51.84	54.00	-2.16	AVG
21	5150.000	54.47	6.94	61.41	74.00	-12.59	peak
22	5150.000	44.88	6.94	51.82	54.00	-2.18	AVG
23	5186.000	111.00	7.04	118.04	--	--	peak

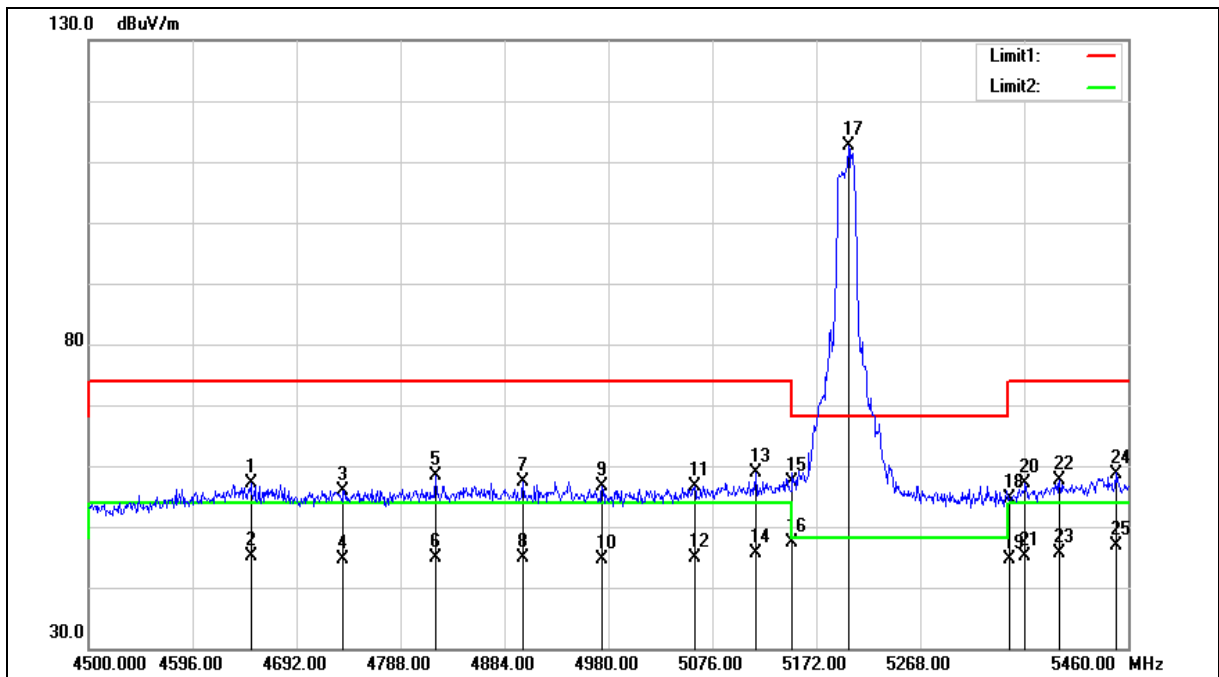
Note:1.Result (dBuV/m) = Correct Factor (dB/m) + Reading(dBuV).

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 15.407	Test Distance:	3 m
Test item:	Band edge	Power:	AC 120 V/60 Hz
Frequency:	5200 MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60 %RH
Mode:	Mode 2		
Ant.Polar.:	Horizontal		





Standard:	FCC Part 15.407	Test Distance:	3 m
Test item:	Band edge	Power:	AC 120 V/60 Hz
Frequency:	5200 MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60 %RH
Mode:	Mode 2		
Ant.Polar.:	Horizontal		

No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4649.760	51.59	5.43	57.02	74.00	-16.98	peak
2	4649.760	39.75	5.43	45.18	54.00	-8.82	AVG
3	4735.200	50.28	5.70	55.98	74.00	-18.02	peak
4	4735.200	39.02	5.70	44.72	54.00	-9.28	AVG
5	4820.640	52.51	5.96	58.47	74.00	-15.53	peak
6	4820.640	39.00	5.96	44.96	54.00	-9.04	AVG
7	4901.280	51.26	6.20	57.46	74.00	-16.54	peak
8	4901.280	38.69	6.20	44.89	54.00	-9.11	AVG
9	4974.240	50.22	6.43	56.65	74.00	-17.35	peak
10	4974.240	38.18	6.43	44.61	54.00	-9.39	AVG
11	5059.680	50.03	6.68	56.71	74.00	-17.29	peak
12	5059.680	38.21	6.68	44.89	54.00	-9.11	AVG
13	5116.320	52.01	6.84	58.85	74.00	-15.15	peak
14	5116.320	38.85	6.84	45.69	54.00	-8.31	AVG
15	5150.000	50.52	6.94	57.46	74.00	-16.54	peak
16	5150.000	40.45	6.94	47.39	54.00	-6.61	AVG
17	5201.760	105.55	7.08	112.63	--	--	peak
18	5350.000	47.18	7.50	54.68	74.00	-19.32	peak
19	5350.000	37.08	7.50	44.58	54.00	-9.42	AVG
20	5364.960	49.71	7.54	57.25	74.00	-16.75	peak
21	5364.960	37.61	7.54	45.15	54.00	-8.85	AVG
22	5396.640	49.99	7.64	57.63	74.00	-16.37	peak
23	5396.640	38.08	7.64	45.72	54.00	-8.28	AVG
24	5448.480	50.96	7.79	58.75	74.00	-15.25	peak
25	5448.480	39.12	7.79	46.91	54.00	-7.09	AVG

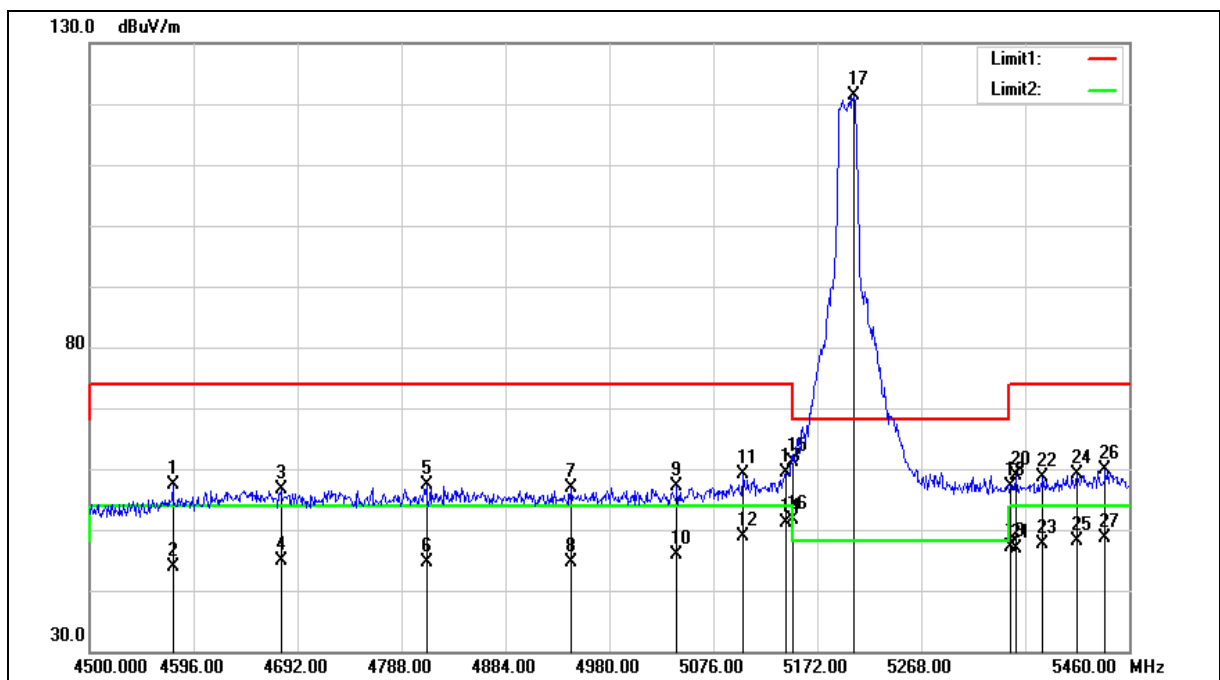
Note:1.Result (dBuV/m) = Correct Factor (dB/m) + Reading(dBuV).

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

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



Standard:	FCC Part 15.407	Test Distance:	3 m
Test item:	Band edge	Power:	AC 120 V/60 Hz
Frequency:	5200 MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60 %RH
Mode:	Mode 2		
Ant.Polar.:	Vertical		



Standard:	FCC Part 15.407	Test Distance:	3 m
Test item:	Band edge	Power:	AC 120 V/60 Hz
Frequency:	5200 MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60 %RH
Mode:	Mode 2		
Ant.Polar.:	Vertical		

No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4576.800	52.26	5.21	57.47	74.00	-16.53	peak
2	4576.800	38.58	5.21	43.79	54.00	-10.21	AVG
3	4676.640	51.06	5.52	56.58	74.00	-17.42	peak
4	4676.640	39.45	5.52	44.97	54.00	-9.03	AVG
5	4811.040	51.55	5.93	57.48	74.00	-16.52	peak
6	4811.040	38.67	5.93	44.60	54.00	-9.40	AVG
7	4944.480	50.55	6.34	56.89	74.00	-17.11	peak
8	4944.480	38.36	6.34	44.70	54.00	-9.30	AVG
9	5042.400	50.49	6.63	57.12	74.00	-16.88	peak
10	5042.400	39.34	6.63	45.97	54.00	-8.03	AVG
11	5103.840	52.27	6.80	59.07	74.00	-14.93	peak
12	5103.840	42.05	6.80	48.85	54.00	-5.15	AVG
13	5143.200	52.51	6.92	59.43	74.00	-14.57	peak
14	5143.200	44.24	6.92	51.16	54.00	-2.84	AVG
15	5150.000	54.24	6.94	61.18	74.00	-12.82	peak
16	5150.000	44.78	6.94	51.72	54.00	-2.28	AVG
17	5205.600	114.23	7.10	121.33	--	--	peak
18	5350.000	49.69	7.50	57.19	74.00	-16.81	peak
19	5350.000	39.53	7.50	47.03	54.00	-6.97	AVG
20	5355.360	51.28	7.52	58.80	74.00	-15.20	peak
21	5355.360	39.40	7.52	46.92	54.00	-7.08	AVG
22	5380.320	51.10	7.59	58.69	74.00	-15.31	peak
23	5380.320	40.12	7.59	47.71	54.00	-6.29	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 15.407	Test Distance:	3 m
Test item:	Band edge	Power:	AC 120 V/60 Hz
Frequency:	5200 MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60 %RH
Mode:	Mode 2		
Ant.Polar.:	Vertical		

No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
24	5412.000	51.44	7.68	59.12	74.00	-14.88	peak
25	5412.000	40.44	7.68	48.12	54.00	-5.88	AVG
26	5437.920	52.16	7.76	59.92	74.00	-14.08	peak
27	5437.920	40.80	7.76	48.56	54.00	-5.44	AVG

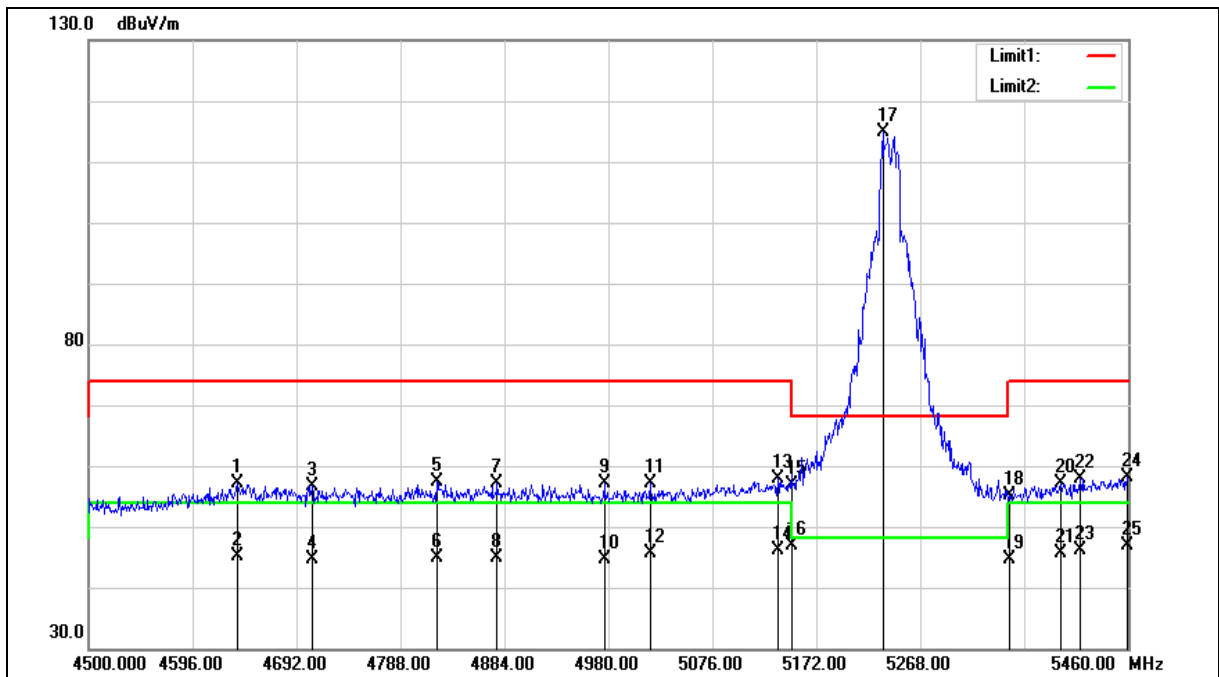
Note:1.Result (dBuV/m) = Correct Factor (dB/m) + Reading(dBuV).

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 15.407	Test Distance:	3 m
Test item:	Band edge	Power:	AC 120 V/60 Hz
Frequency:	5240 MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60 %RH
Mode:	Mode 2		
Ant.Polar.:	Horizontal		





Standard:	FCC Part 15.407	Test Distance:	3 m
Test item:	Band edge	Power:	AC 120 V/60 Hz
Frequency:	5240 MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60 %RH
Mode:	Mode 2		
Ant.Polar.:	Horizontal		

No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4637.280	51.61	5.40	57.01	74.00	-16.99	peak
2	4637.280	39.82	5.40	45.22	54.00	-8.78	AVG
3	4706.400	51.02	5.60	56.62	74.00	-17.38	peak
4	4706.400	39.09	5.60	44.69	54.00	-9.31	AVG
5	4821.600	51.30	5.97	57.27	74.00	-16.73	peak
6	4821.600	38.92	5.97	44.89	54.00	-9.11	AVG
7	4877.280	51.02	6.13	57.15	74.00	-16.85	peak
8	4877.280	38.84	6.13	44.97	54.00	-9.03	AVG
9	4976.160	50.68	6.44	57.12	74.00	-16.88	peak
10	4976.160	38.20	6.44	44.64	54.00	-9.36	AVG
11	5018.400	50.47	6.56	57.03	74.00	-16.97	peak
12	5018.400	39.01	6.56	45.57	54.00	-8.43	AVG
13	5136.480	50.92	6.91	57.83	74.00	-16.17	peak
14	5136.480	39.26	6.91	46.17	54.00	-7.83	AVG
15	5150.000	49.88	6.94	56.82	74.00	-17.18	peak
16	5150.000	39.99	6.94	46.93	54.00	-7.07	AVG
17	5233.440	107.74	7.17	114.91	--	--	peak
18	5350.000	47.63	7.50	55.13	74.00	-18.87	peak
19	5350.000	37.18	7.50	44.68	54.00	-9.32	AVG
20	5397.600	49.38	7.65	57.03	74.00	-16.97	peak
21	5397.600	38.10	7.65	45.75	54.00	-8.25	AVG
22	5415.840	50.28	7.70	57.98	74.00	-16.02	peak
23	5415.840	38.38	7.70	46.08	54.00	-7.92	AVG
24	5459.040	50.20	7.82	58.02	74.00	-15.98	peak
25	5459.040	38.94	7.82	46.76	54.00	-7.24	AVG

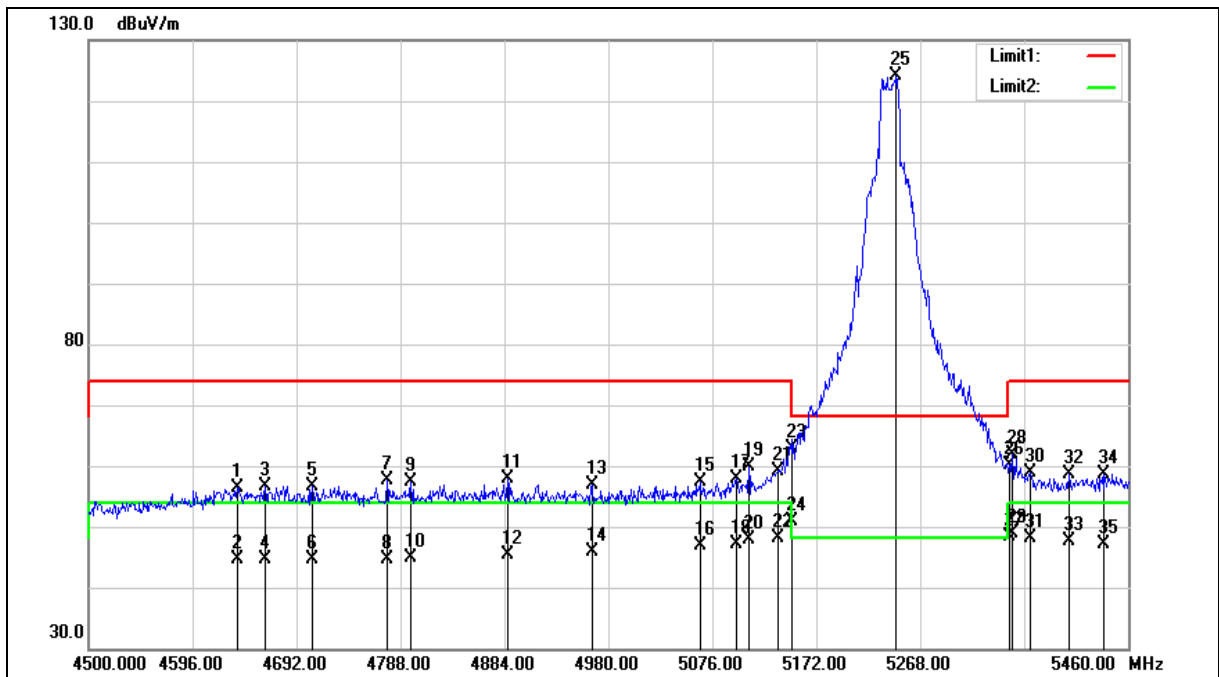
Note:1.Result (dBuV/m) = Correct Factor (dB/m) + Reading(dBuV).

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

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



Standard:	FCC Part 15.407	Test Distance:	3 m
Test item:	Band edge	Power:	AC 120 V/60 Hz
Frequency:	5240 MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60 %RH
Mode:	Mode 2		
Ant.Polar.:	Vertical		





Standard:	FCC Part 15.407	Test Distance:	3 m
Test item:	Band edge	Power:	AC 120 V/60 Hz
Frequency:	5240 MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60 %RH
Mode:	Mode 2		
Ant.Polar.:	Vertical		

No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4637.280	50.95	5.40	56.35	74.00	-17.65	peak
2	4637.280	39.12	5.40	44.52	54.00	-9.48	AVG
3	4663.200	51.27	5.48	56.75	74.00	-17.25	peak
4	4663.200	39.09	5.48	44.57	54.00	-9.43	AVG
5	4706.400	51.08	5.60	56.68	74.00	-17.32	peak
6	4706.400	39.05	5.60	44.65	54.00	-9.35	AVG
7	4775.520	51.70	5.82	57.52	74.00	-16.48	peak
8	4775.520	38.89	5.82	44.71	54.00	-9.29	AVG
9	4797.600	51.47	5.89	57.36	74.00	-16.64	peak
10	4797.600	38.97	5.89	44.86	54.00	-9.14	AVG
11	4886.880	51.69	6.16	57.85	74.00	-16.15	peak
12	4886.880	39.20	6.16	45.36	54.00	-8.64	AVG
13	4964.640	50.38	6.40	56.78	74.00	-17.22	peak
14	4964.640	39.59	6.40	45.99	54.00	-8.01	AVG
15	5064.480	50.61	6.69	57.30	74.00	-16.70	peak
16	5064.480	40.29	6.69	46.98	54.00	-7.02	AVG
17	5098.080	51.21	6.79	58.00	74.00	-16.00	peak
18	5098.080	40.42	6.79	47.21	54.00	-6.79	AVG
19	5109.600	52.97	6.82	59.79	74.00	-14.21	peak
20	5109.600	41.12	6.82	47.94	54.00	-6.06	AVG
21	5136.480	52.31	6.91	59.22	74.00	-14.78	peak
22	5136.480	41.11	6.91	48.02	54.00	-5.98	AVG
23	5150.000	55.93	6.94	62.87	74.00	-11.13	peak

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

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

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



Standard:	FCC Part 15.407	Test Distance:	3 m
Test item:	Band edge	Power:	AC 120 V/60 Hz
Frequency:	5240 MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60 %RH
Mode:	Mode 2		
Ant.Polar.:	Vertical		

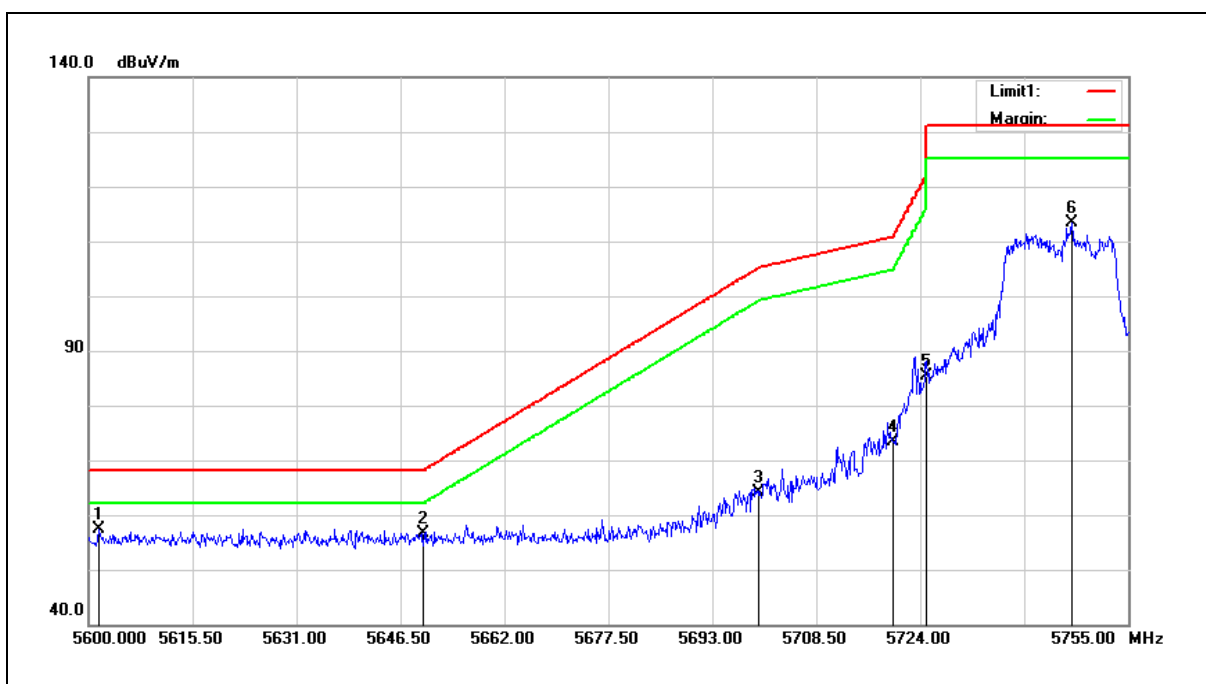
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
24	5150.000	43.89	6.94	50.83	54.00	-3.17	AVG
25	5245.920	116.80	7.21	124.01	--	--	peak
26	5350.000	52.61	7.50	60.11	74.00	-13.89	peak
27	5350.000	40.91	7.50	48.41	54.00	-5.59	AVG
28	5352.480	54.44	7.50	61.94	74.00	-12.06	peak
29	5352.480	41.43	7.50	48.93	54.00	-5.07	AVG
30	5369.760	51.28	7.56	58.84	74.00	-15.16	peak
31	5369.760	40.62	7.56	48.18	54.00	-5.82	AVG
32	5405.280	51.04	7.67	58.71	74.00	-15.29	peak
33	5405.280	39.99	7.67	47.66	54.00	-6.34	AVG
34	5437.920	50.98	7.76	58.74	74.00	-15.26	peak
35	5437.920	39.33	7.76	47.09	54.00	-6.91	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 15.407	Test Distance:	3 m
Test item:	Band edge	Power:	AC 120 V/60 Hz
Frequency:	5745 MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60 %RH
Mode:	Mode 2		
Ant.Polar.:	Horizontal		



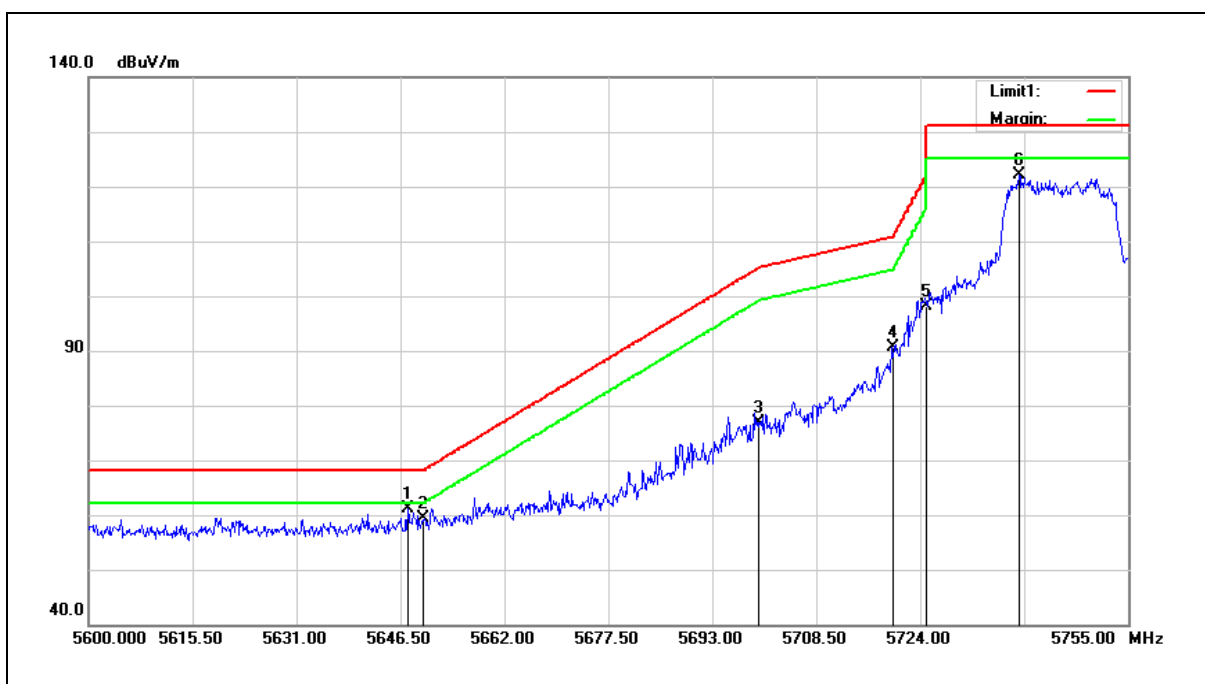
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	5601.550	49.29	8.13	57.42	68.20	-10.78	peak
2	5650.000	48.33	8.24	56.57	68.20	-11.63	peak
3	5700.000	55.76	8.34	64.10	105.20	-41.10	peak
4	5720.000	65.08	8.38	73.46	110.80	-37.34	peak
5	5725.000	76.96	8.39	85.35	122.20	-36.85	peak
6	5746.630	104.92	8.43	113.35	--	--	peak

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

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

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

Standard:	FCC Part 15.407	Test Distance:	3 m
Test item:	Band edge	Power:	AC 120 V/60 Hz
Frequency:	5745 MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60 %RH
Mode:	Mode 2		
Ant.Polar.:	Vertical		



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	5647.585	52.78	8.23	61.01	68.20	-7.19	peak
2	5650.000	51.25	8.24	59.49	68.20	-8.71	peak
3	5700.000	68.43	8.34	76.77	105.20	-28.43	peak
4	5720.000	82.33	8.38	90.71	110.80	-20.09	peak
5	5725.000	89.79	8.39	98.18	122.20	-24.02	peak
6	5738.725	113.73	8.41	122.14	--	--	peak

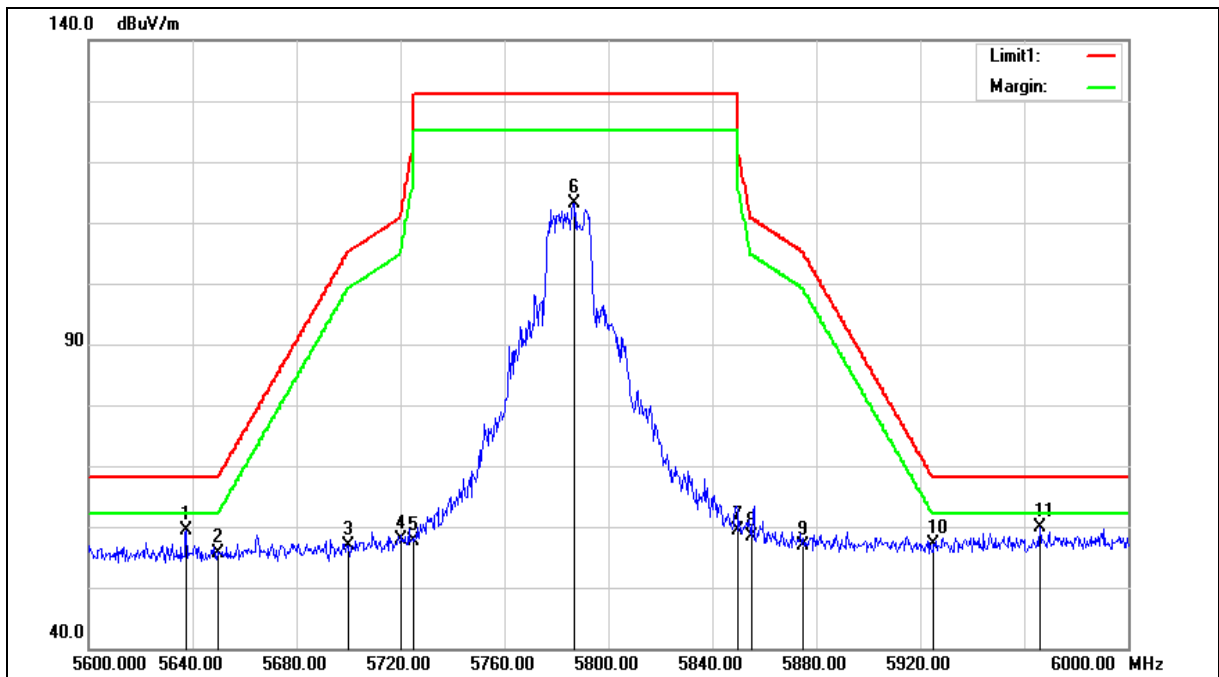
Note:1.Result (dBuV/m) = Correct Factor (dB/m) + Reading(dBuV).

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

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



Standard:	FCC Part 15.407	Test Distance:	3 m
Test item:	Band edge	Power:	AC 120 V/60 Hz
Frequency:	5785 MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60 %RH
Mode:	Mode 2		
Ant.Polar.:	Horizontal		





Standard:	FCC Part 15.407	Test Distance:	3 m
Test item:	Band edge	Power:	AC 120 V/60 Hz
Frequency:	5785 MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60 %RH
Mode:	Mode 2		
Ant.Polar.:	Horizontal		

No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	5637.600	51.27	8.21	59.48	68.20	-8.72	peak
2	5650.000	47.46	8.24	55.70	68.20	-12.50	peak
3	5700.000	48.54	8.34	56.88	105.20	-48.32	peak
4	5720.000	49.59	8.38	57.97	110.80	-52.83	peak
5	5725.000	49.35	8.39	57.74	122.20	-64.46	peak
6	5786.800	104.63	8.51	113.14	--	--	peak
7	5850.000	50.71	8.63	59.34	122.20	-62.86	peak
8	5855.000	49.81	8.64	58.45	110.80	-52.35	peak
9	5875.000	48.12	8.69	56.81	105.20	-48.39	peak
10	5925.000	48.34	8.79	57.13	68.20	-11.07	peak
11	5966.000	51.12	8.88	60.00	68.20	-8.20	peak

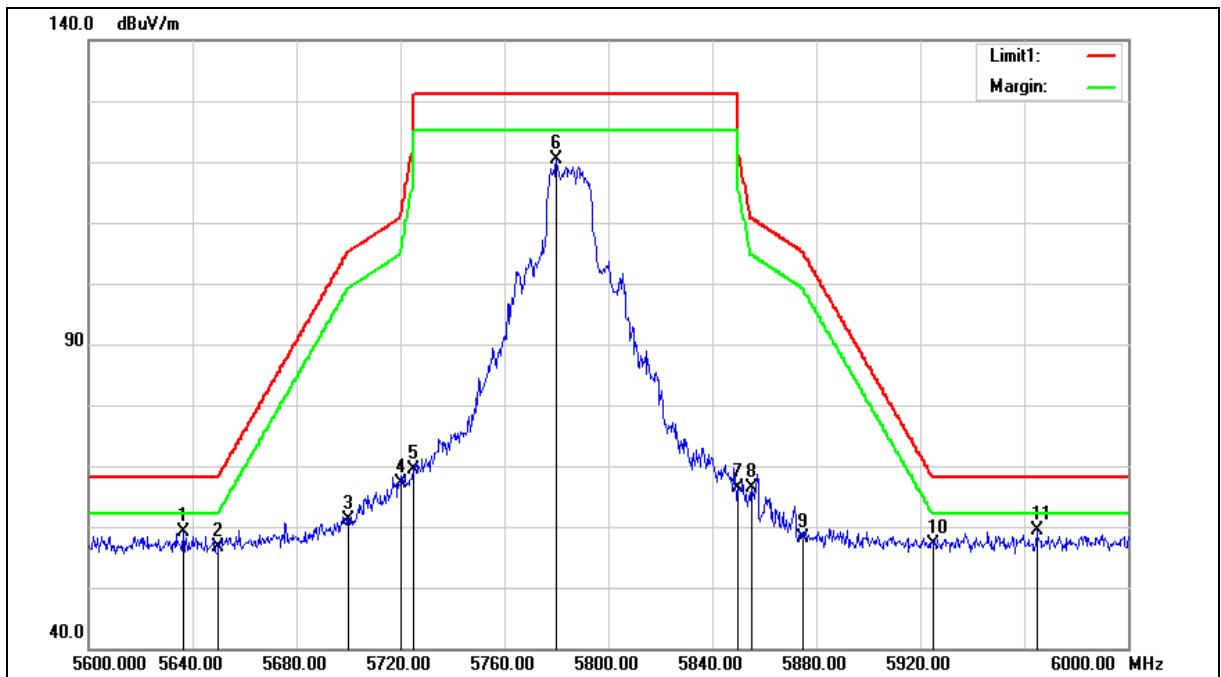
Note:1.Result (dBuV/m) = Correct Factor (dB/m) + Reading(dBuV).

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

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



Standard:	FCC Part 15.407	Test Distance:	3 m
Test item:	Band edge	Power:	AC 120 V/60 Hz
Frequency:	5785 MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60 %RH
Mode:	Mode 2		
Ant.Polar.:	Vertical		





Standard:	FCC Part 15.407	Test Distance:	3 m
Test item:	Band edge	Power:	AC 120 V/60 Hz
Frequency:	5785 MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60 %RH
Mode:	Mode 2		
Ant.Polar.:	Vertical		

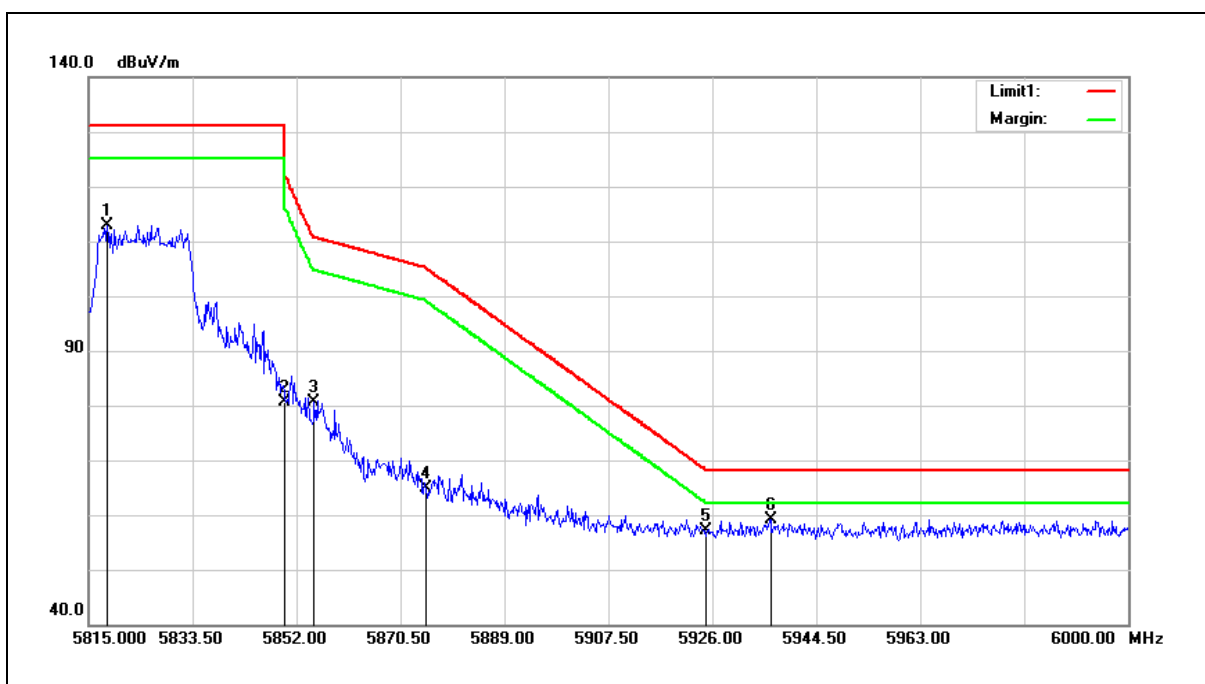
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	5636.400	50.81	8.21	59.02	68.20	-9.18	peak
2	5650.000	48.30	8.24	56.54	68.20	-11.66	peak
3	5700.000	52.85	8.34	61.19	105.20	-44.01	peak
4	5720.000	58.87	8.38	67.25	110.80	-43.55	peak
5	5725.000	60.95	8.39	69.34	122.20	-52.86	peak
6	5780.000	111.96	8.49	120.45	--	--	peak
7	5850.000	57.84	8.63	66.47	122.20	-55.73	peak
8	5855.000	57.75	8.64	66.39	110.80	-44.41	peak
9	5875.000	49.51	8.69	58.20	105.20	-47.00	peak
10	5925.000	48.25	8.79	57.04	68.20	-11.16	peak
11	5964.800	50.62	8.87	59.49	68.20	-8.71	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 15.407	Test Distance:	3 m
Test item:	Band edge	Power:	AC 120 V/60 Hz
Frequency:	5825 MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60 %RH
Mode:	Mode 2		
Ant.Polar.:	Horizontal		



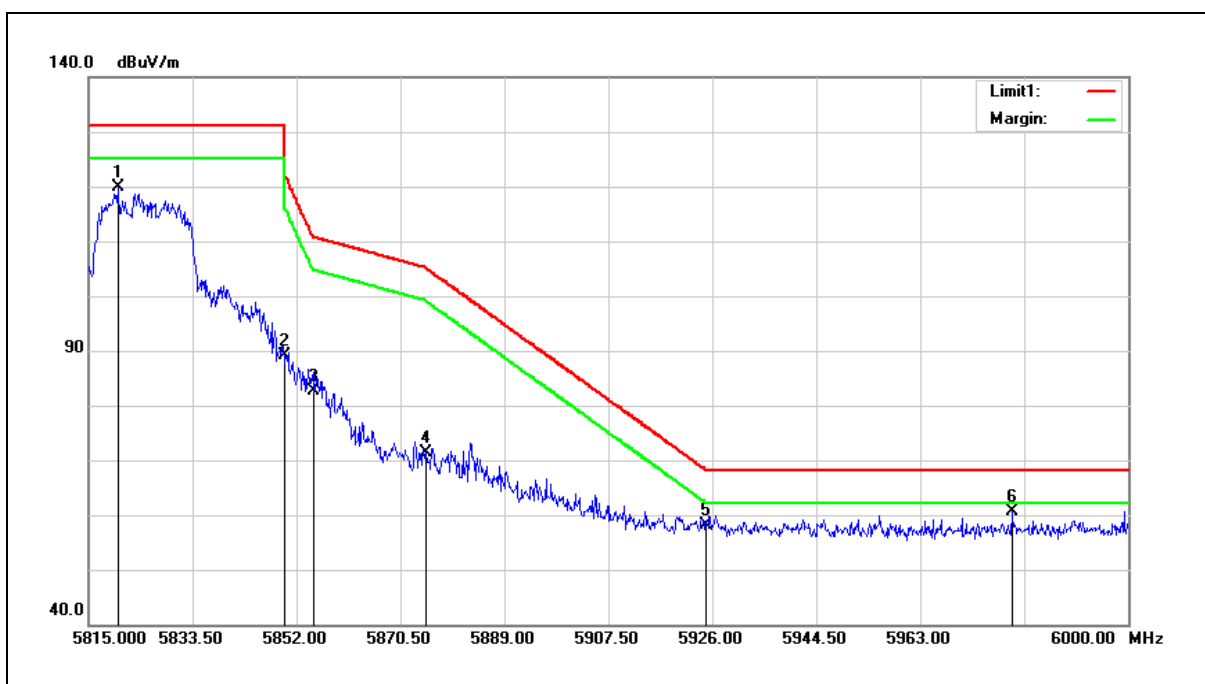
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	5818.330	104.28	8.57	112.85	--	--	peak
2	5850.000	72.09	8.63	80.72	122.20	-41.48	peak
3	5855.000	71.99	8.64	80.63	110.80	-30.17	peak
4	5875.000	56.23	8.69	64.92	105.20	-40.28	peak
5	5925.000	48.30	8.79	57.09	68.20	-11.11	peak
6	5936.360	50.42	8.82	59.24	68.20	-8.96	peak

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

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

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

Standard:	FCC Part 15.407	Test Distance:	3 m
Test item:	Band edge	Power:	AC 120 V/60 Hz
Frequency:	5825 MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60 %RH
Mode:	Mode 2		
Ant.Polar.:	Vertical		



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	5820.180	111.31	8.57	119.88	--	--	peak
2	5850.000	80.42	8.63	89.05	122.20	-33.15	peak
3	5855.000	74.02	8.64	82.66	110.80	-28.14	peak
4	5875.000	62.63	8.69	71.32	105.20	-33.88	peak
5	5925.000	49.34	8.79	58.13	68.20	-10.07	peak
6	5979.280	51.80	8.90	60.70	68.20	-7.50	peak

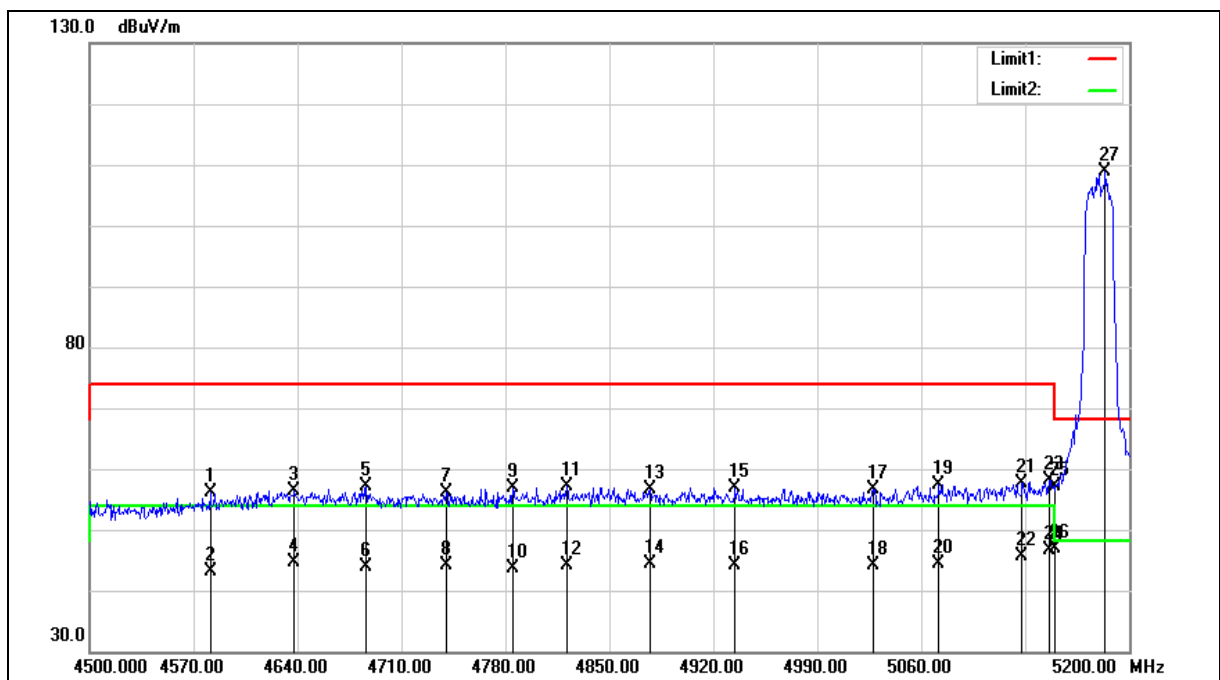
Note:1.Result (dBuV/m) = Correct Factor (dB/m) + Reading(dBuV).

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 15.407	Test Distance:	3 m
Test item:	Band edge	Power:	AC 120 V/60 Hz
Frequency:	5180 MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60 %RH
Mode:	Mode 3		
Ant.Polar.:	Horizontal		





Standard:	FCC Part 15.407	Test Distance:	3 m
Test item:	Band edge	Power:	AC 120 V/60 Hz
Frequency:	5180 MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60 %RH
Mode:	Mode 3		
Ant.Polar.:	Horizontal		

No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4581.200	51.02	5.23	56.25	74.00	-17.75	peak
2	4581.200	37.83	5.23	43.06	54.00	-10.94	AVG
3	4637.900	50.96	5.40	56.36	74.00	-17.64	peak
4	4637.900	39.17	5.40	44.57	54.00	-9.43	AVG
5	4686.200	51.66	5.55	57.21	74.00	-16.79	peak
6	4686.200	38.44	5.55	43.99	54.00	-10.01	AVG
7	4740.100	50.46	5.72	56.18	74.00	-17.82	peak
8	4740.100	38.34	5.72	44.06	54.00	-9.94	AVG
9	4784.900	51.02	5.86	56.88	74.00	-17.12	peak
10	4784.900	37.81	5.86	43.67	54.00	-10.33	AVG
11	4821.300	51.19	5.96	57.15	74.00	-16.85	peak
12	4821.300	38.22	5.96	44.18	54.00	-9.82	AVG
13	4877.300	50.54	6.13	56.67	74.00	-17.33	peak
14	4877.300	38.15	6.13	44.28	54.00	-9.72	AVG
15	4934.700	50.58	6.31	56.89	74.00	-17.11	peak
16	4934.700	37.87	6.31	44.18	54.00	-9.82	AVG
17	5027.800	50.12	6.59	56.71	74.00	-17.29	peak
18	5027.800	37.48	6.59	44.07	54.00	-9.93	AVG
19	5071.900	50.78	6.71	57.49	74.00	-16.51	peak
20	5071.900	37.76	6.71	44.47	54.00	-9.53	AVG
21	5127.900	50.79	6.88	57.67	74.00	-16.33	peak
22	5127.900	38.71	6.88	45.59	54.00	-8.41	AVG
23	5146.100	51.15	6.93	58.08	74.00	-15.92	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 15.407	Test Distance:	3 m
Test item:	Band edge	Power:	AC 120 V/60 Hz
Frequency:	5180 MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60 %RH
Mode:	Mode 3		
Ant.Polar.:	Horizontal		

No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
24	5146.100	39.69	6.93	46.62	54.00	-7.38	AVG
25	5150.000	50.09	6.94	57.03	74.00	-16.97	peak
26	5150.000	39.98	6.94	46.92	54.00	-7.08	AVG
27	5183.900	101.81	7.03	108.84	--	--	peak

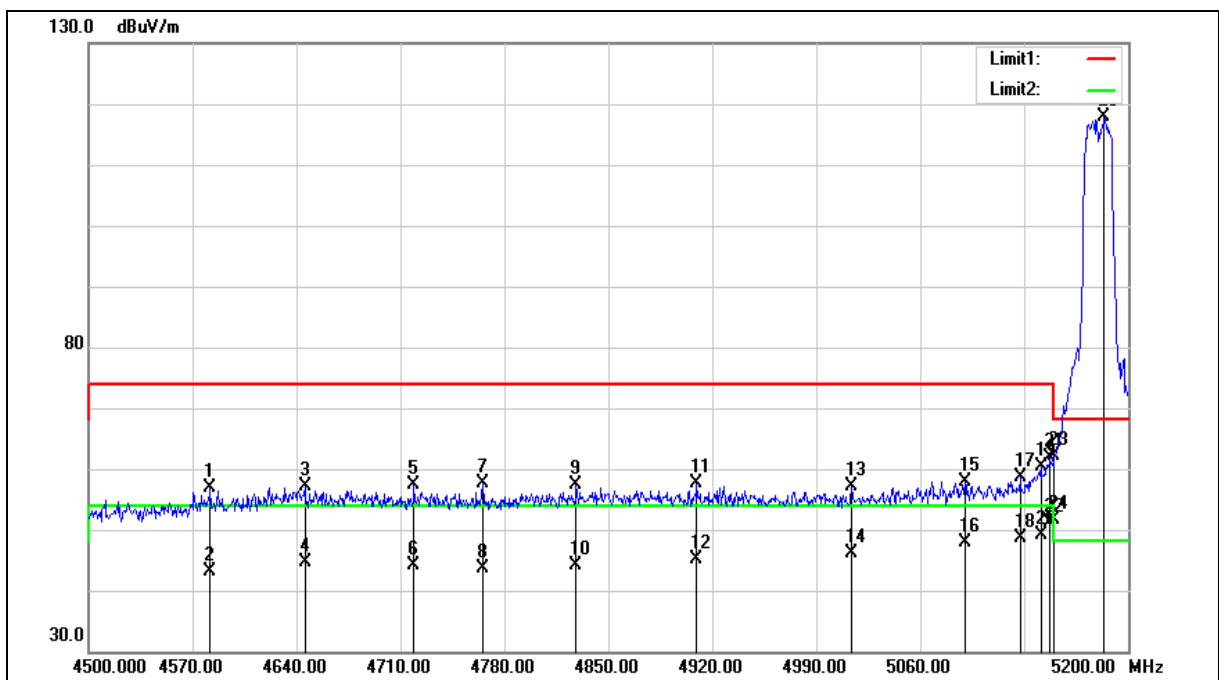
Note:1.Result (dBuV/m) = Correct Factor (dB/m) + Reading(dBuV).

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

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



Standard:	FCC Part 15.407	Test Distance:	3 m
Test item:	Band edge	Power:	AC 120 V/60 Hz
Frequency:	5180 MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60 %RH
Mode:	Mode 3		
Ant.Polar.:	Vertical		





Standard:	FCC Part 15.407	Test Distance:	3 m
Test item:	Band edge	Power:	AC 120 V/60 Hz
Frequency:	5180 MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60 %RH
Mode:	Mode 3		
Ant.Polar.:	Vertical		

No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4581.900	51.72	5.23	56.95	74.00	-17.05	peak
2	4581.900	37.85	5.23	43.08	54.00	-10.92	AVG
3	4645.600	51.70	5.42	57.12	74.00	-16.88	peak
4	4645.600	39.18	5.42	44.60	54.00	-9.40	AVG
5	4719.100	51.77	5.65	57.42	74.00	-16.58	peak
6	4719.100	38.47	5.65	44.12	54.00	-9.88	AVG
7	4765.300	51.83	5.79	57.62	74.00	-16.38	peak
8	4765.300	37.86	5.79	43.65	54.00	-10.35	AVG
9	4828.300	51.50	5.98	57.48	74.00	-16.52	peak
10	4828.300	38.22	5.98	44.20	54.00	-9.80	AVG
11	4909.500	51.34	6.24	57.58	74.00	-16.42	peak
12	4909.500	38.86	6.24	45.10	54.00	-8.90	AVG
13	5013.800	50.68	6.54	57.22	74.00	-16.78	peak
14	5013.800	39.69	6.54	46.23	54.00	-7.77	AVG
15	5090.100	51.14	6.76	57.90	74.00	-16.10	peak
16	5090.100	41.17	6.76	47.93	54.00	-6.07	AVG
17	5127.200	51.70	6.88	58.58	74.00	-15.42	peak
18	5127.200	41.80	6.88	48.68	54.00	-5.32	AVG
19	5141.200	53.35	6.91	60.26	74.00	-13.74	peak
20	5141.200	42.16	6.91	49.07	54.00	-4.93	AVG
21	5147.500	55.01	6.94	61.95	74.00	-12.05	peak
22	5147.500	44.24	6.94	51.18	54.00	-2.82	AVG
23	5150.000	55.25	6.94	62.19	74.00	-11.81	peak
24	5150.000	44.73	6.94	51.67	54.00	-2.33	AVG
25	5183.900	110.89	7.03	117.92	--	--	peak

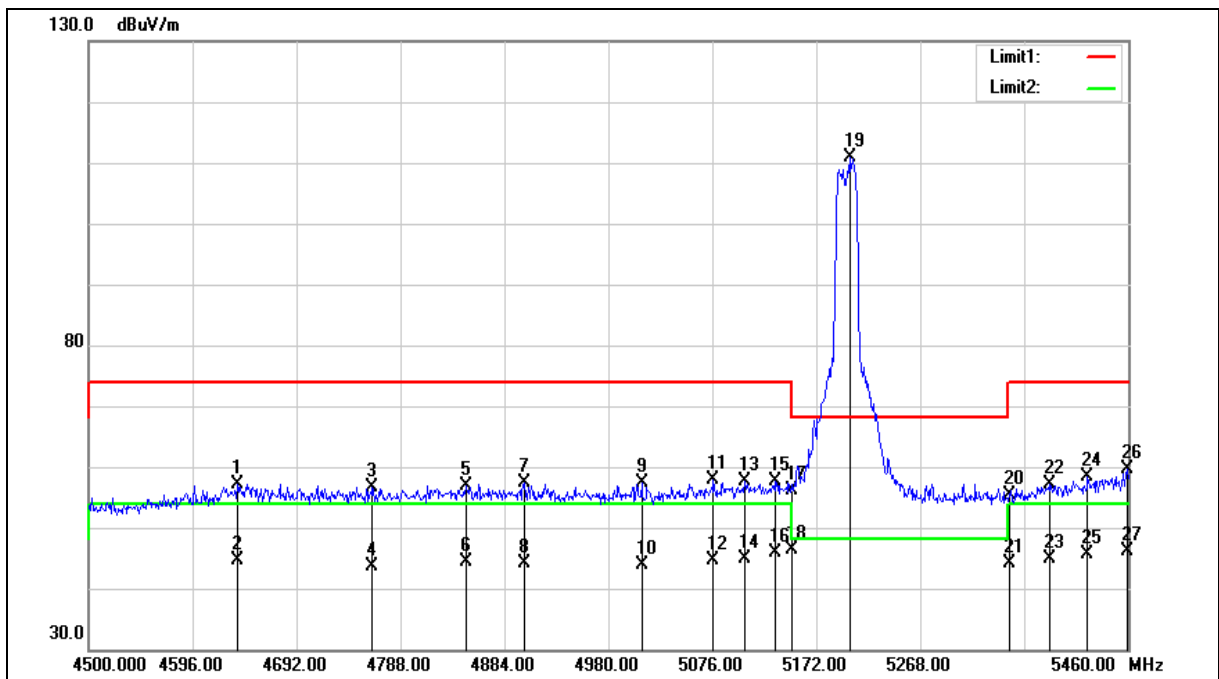
Note:1.Result (dBuV/m) = Correct Factor (dB/m) + Reading(dBuV).

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 15.407	Test Distance:	3 m
Test item:	Band edge	Power:	AC 120 V/60 Hz
Frequency:	5200 MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60 %RH
Mode:	Mode 3		
Ant.Polar.:	Horizontal		



Standard:	FCC Part 15.407	Test Distance:	3 m
Test item:	Band edge	Power:	AC 120 V/60 Hz
Frequency:	5200 MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60 %RH
Mode:	Mode 3		
Ant.Polar.:	Horizontal		

No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4637.280	51.83	5.40	57.23	74.00	-16.77	peak
2	4637.280	39.17	5.40	44.57	54.00	-9.43	AVG
3	4762.080	50.88	5.78	56.66	74.00	-17.34	peak
4	4762.080	37.89	5.78	43.67	54.00	-10.33	AVG
5	4848.480	50.89	6.05	56.94	74.00	-17.06	peak
6	4848.480	38.31	6.05	44.36	54.00	-9.64	AVG
7	4902.240	51.12	6.20	57.32	74.00	-16.68	peak
8	4902.240	38.04	6.20	44.24	54.00	-9.76	AVG
9	5010.720	50.80	6.54	57.34	74.00	-16.66	peak
10	5010.720	37.42	6.54	43.96	54.00	-10.04	AVG
11	5076.960	51.19	6.73	57.92	74.00	-16.08	peak
12	5076.960	37.88	6.73	44.61	54.00	-9.39	AVG
13	5105.760	50.91	6.81	57.72	74.00	-16.28	peak
14	5105.760	37.97	6.81	44.78	54.00	-9.22	AVG
15	5133.600	50.78	6.89	57.67	74.00	-16.33	peak
16	5133.600	39.06	6.89	45.95	54.00	-8.05	AVG
17	5150.000	49.22	6.94	56.16	74.00	-17.84	peak
18	5150.000	39.55	6.94	46.49	54.00	-7.51	AVG
19	5202.720	103.72	7.08	110.80	--	--	peak
20	5350.000	47.98	7.50	55.48	74.00	-18.52	peak
21	5350.000	36.53	7.50	44.03	54.00	-9.97	AVG
22	5387.040	49.41	7.62	57.03	74.00	-16.97	peak
23	5387.040	37.23	7.62	44.85	54.00	-9.15	AVG

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

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

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



Standard:	FCC Part 15.407	Test Distance:	3 m
Test item:	Band edge	Power:	AC 120 V/60 Hz
Frequency:	5200 MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60 %RH
Mode:	Mode 3		
Ant.Polar.:	Horizontal		

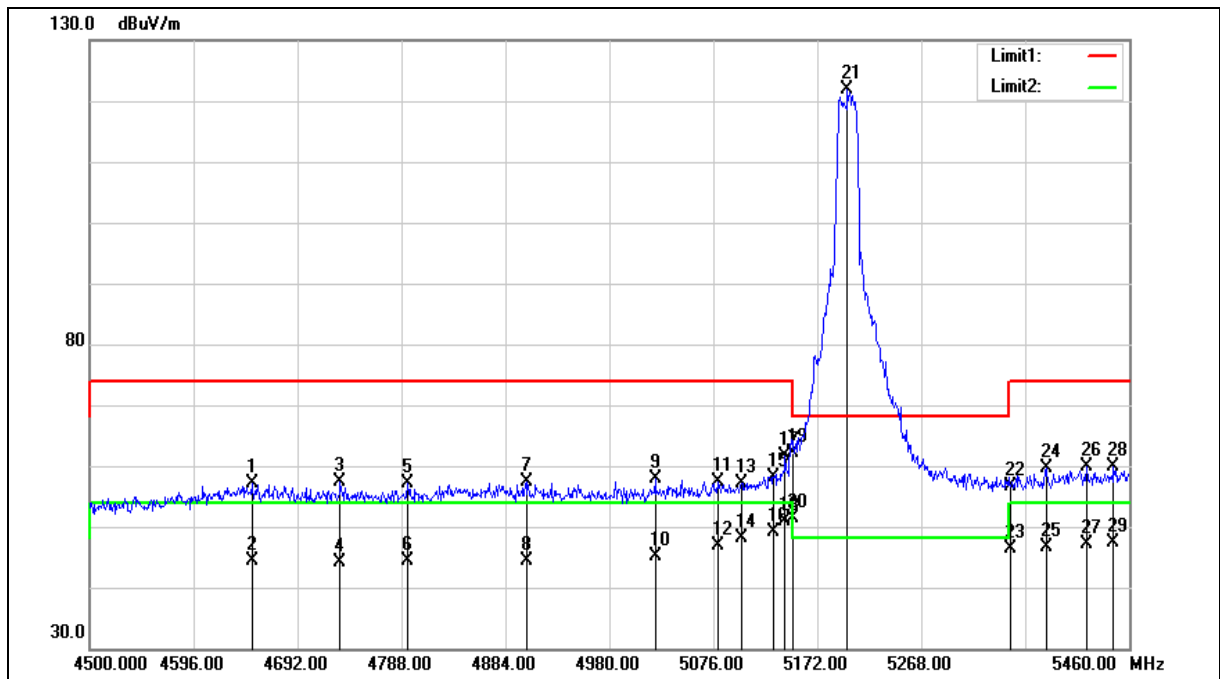
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
24	5422.560	50.57	7.71	58.28	74.00	-15.72	peak
25	5422.560	37.88	7.71	45.59	54.00	-8.41	AVG
26	5459.040	51.92	7.82	59.74	74.00	-14.26	peak
27	5459.040	38.41	7.82	46.23	54.00	-7.77	AVG

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 15.407	Test Distance:	3 m
Test item:	Band edge	Power:	AC 120 V/60 Hz
Frequency:	5200 MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60 %RH
Mode:	Mode 3		
Ant.Polar.:	Vertical		



Standard:	FCC Part 15.407	Test Distance:	3 m
Test item:	Band edge	Power:	AC 120 V/60 Hz
Frequency:	5200 MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60 %RH
Mode:	Mode 3		
Ant.Polar.:	Vertical		

No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4649.760	51.62	5.43	57.05	74.00	-16.95	peak
2	4649.760	39.02	5.43	44.45	54.00	-9.55	AVG
3	4731.360	51.59	5.69	57.28	74.00	-16.72	peak
4	4731.360	38.52	5.69	44.21	54.00	-9.79	AVG
5	4793.760	51.33	5.89	57.22	74.00	-16.78	peak
6	4793.760	38.43	5.89	44.32	54.00	-9.68	AVG
7	4903.200	51.05	6.21	57.26	74.00	-16.74	peak
8	4903.200	38.15	6.21	44.36	54.00	-9.64	AVG
9	5022.240	51.39	6.57	57.96	74.00	-16.04	peak
10	5022.240	38.52	6.57	45.09	54.00	-8.91	AVG
11	5079.840	50.77	6.73	57.50	74.00	-16.50	peak
12	5079.840	40.16	6.73	46.89	54.00	-7.11	AVG
13	5101.920	50.24	6.79	57.03	74.00	-16.97	peak
14	5101.920	41.34	6.79	48.13	54.00	-5.87	AVG
15	5131.680	51.33	6.89	58.22	74.00	-15.78	peak
16	5131.680	42.14	6.89	49.03	54.00	-4.97	AVG
17	5142.240	54.73	6.92	61.65	74.00	-12.35	peak
18	5142.240	43.94	6.92	50.86	54.00	-3.14	AVG
19	5150.000	55.14	6.94	62.08	74.00	-11.92	peak
20	5150.000	44.47	6.94	51.41	54.00	-2.59	AVG
21	5199.840	114.75	7.08	121.83	--	--	peak
22	5350.000	49.12	7.50	56.62	74.00	-17.38	peak
23	5350.000	38.80	7.50	46.30	54.00	-7.70	AVG

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

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

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



Standard:	FCC Part 15.407	Test Distance:	3 m
Test item:	Band edge	Power:	AC 120 V/60 Hz
Frequency:	5200 MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60 %RH
Mode:	Mode 3		
Ant.Polar.:	Vertical		

No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
24	5383.200	51.94	7.60	59.54	74.00	-14.46	peak
25	5383.200	39.01	7.60	46.61	54.00	-7.39	AVG
26	5420.640	52.13	7.71	59.84	74.00	-14.16	peak
27	5420.640	39.39	7.71	47.10	54.00	-6.90	AVG
28	5445.600	51.99	7.78	59.77	74.00	-14.23	peak
29	5445.600	39.68	7.78	47.46	54.00	-6.54	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 15.407	Test Distance:	3 m
Test item:	Band edge	Power:	AC 120 V/60 Hz
Frequency:	5240 MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60 %RH
Mode:	Mode 3		
Ant.Polar.:	Horizontal		

