RF Test Report

Applicant	:	D-Link Corporation
Product Type	:	AC1300 MU-MIMO Wi-Fi Nano USB Adapter
Trade Name	:	D-Link
Model Number	:	DWA-181
Test Specification	:	FCC 47 CFR PART 15 SUBPART E ANSI C63.10:2013
Receive Date	:	Jul. 27, 2016
Test Period	:	Jul. 29 ~ Nov. 10, 2016
Issue Date	:	Mar. 20, 2019

Issue by

A Test Lab Techno Corp.
No. 140-1, Changan Street, Bade District,
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Taiwan Accreditation Foundation accreditation number: 1330
Test Firm MRA designation number: TW0010

Revision History

Rev.	Issue Date	Revisions	Revised By
00	Mar. 20, 2019	Initial Issue	Nina Lin

Verification of Compliance

Issued Date: Mar. 20, 2019

Applicant	:	D-Link Corporation
Product Type	:	AC1300 MU-MIMO Wi-Fi Nano USB Adapter
Trade Name	:	D-Link
Model Number	:	DWA-181
FCC ID	:	KA2WA181A1
EUT Rated Voltage	:	DC 5 V
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	:	Fly Lu	Reviewed By	: Eric Ou Yang
(Manager)		(Fly Lu)	(Testing Engineer)	(Eric Ou Yang)

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1 General Information

1.1. Summary of Test Result

Standard	Item	Result	Remark
FCC			
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(g)	Frequency Stability	PASS	---
15.407(c)	Automatically discontinue transmission	PASS	---
15.407(a) 15.203	Antenna Requirement	PASS	---

The test results of this report relate only to the tested sample(s) identified in this report.

Standard	Description
CFR47, Part 15, Subpart C	Intentional Radiators
CFR47, Part 15, Subpart E	Unlicensed National Information Infrastructure Devices
ANSI C63. 10: 2013	American National Standard of Procedures for Compliance Testing of Unlicensed Wireless Devices
KDB789033: D02	Guidelines for Compliance Testing of Unlicensed National Information Infrastructure (U-NII) Devices Part 15, Subpart E
KDB 662911 D01 v02r01	Emissions Testing of Transmitters with Multiple Outputs in the Same Band (e.g., MIMO, Smart Antenna, etc)

1.2. Measurement Uncertainty

Test Item	Frequency Range	Uncertainty (dB)
Conducted Emission	9 kHz ~ 150 kHz	2.7
	150 kHz ~ 30 MHz	2.7
Radiated Emission	9 kHz ~ 30 MHz	1.7
	30 MHz ~ 1000 MHz	5.7
	1000 MHz ~ 18000 MHz	5.5
	18000 MHz ~ 26500 MHz	4.8
	26500 MHz ~ 40000 MHz	4.8
Conducted Output Power		+0.27 dB / -0.28 dB
RF Bandwidth		4.96 %
Power Spectral Density		+0.71 dB / -0.77 dB
Frequency Stability		+ 2.212 x 10-7 % / - 2.170 x 10-7
Duty Cycle		1.06 %
Time Occupancy		1.40 %

2 EUT Description

Applicant	D-Link Corporation 17595 Mt. Herrmann, Fountain Valley, CA 92708, United States			
Manufacturer	EDIMAX TECHNOLOGY CO., LTD. No.278, Xinhu 1st Rd., Neihu Dist., Taipei City, Taiwan			
Product Type	AC1300 MU-MIMO Wi-Fi Nano USB Adapter			
Trade Name	D-Link			
Model No.	DWA-181			
FCC ID	KA2WA181A1			
Operate Frequency	Frequency Band		Frequency Range (MHz)	Number of Channels
	IEEE 802.11a	U-NII Band I	5180 – 5240	4
		U-NII Band III	5745 – 5825	5
	IEEE 802.11n 5 GHz 20 MHz / IEEE 802.11ac 20 MHz	U-NII Band I	5180 – 5240	4
		U-NII Band III	5745 – 5825	5
	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	Client devices			
Antenna information	Antenna	Model	Type	Max. Gain (dBi)
	ANT-0 (Main)	GY197HT632-003	Monopole Antenna	1.71
	ANT-1 (AUX)	GY197HT632-003	Monopole Antenna	-0.23
Antenna Delivery	Reference section 3.1			
Frequency stability specification	± 20 ppm			
Operate Temp. Range	0 ~ +40 ℃			

EUT Modify Description：

Modify Description: Change the applicant, applicant address, manufacturer address, product type, trade name, model number, FCC ID, the logo of the product and remove label. All differences won't influence the test results. Therefore, all test items don't need to be re-evaluated.
Original Report : 1611FR19 Modify: 1903FR14

Frequency Band		RF Output Power (W)
IEEE 802.11a	U-NII Band I	0.032
	U-NII Band III	0.027
IEEE 802.11ac 20 MHz	U-NII Band I	0.057
	U-NII Band III	0.051
IEEE 802.11ac 40 MHz	U-NII Band I	0.052
	U-NII Band III	0.054
IEEE 802.11ac 80 MHz	U-NII Band I	0.041
	U-NII Band III	0.040
Beamforming on		
IEEE 802.11ac 20 MHz	U-NII Band I	0.056
	U-NII Band III	0.054
IEEE 802.11ac 40 MHz	U-NII Band I	0.050
	U-NII Band III	0.050
IEEE 802.11ac 80 MHz	U-NII Band I	0.021
	U-NII Band III	0.049

Equipment Type		
Outdoor access point	point-to-point	---
	point-to-multipoint	---
Indoor access point		---
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.

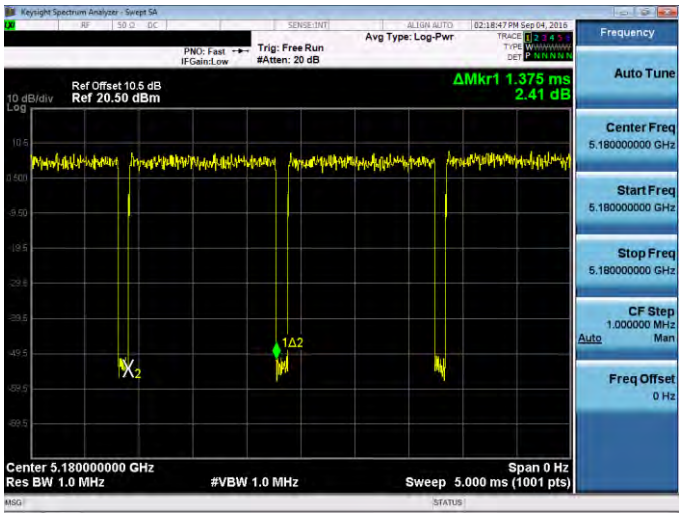
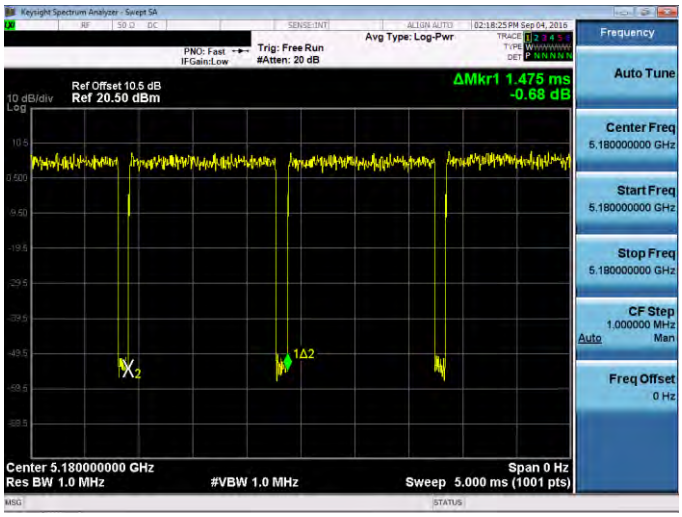
Test Mode	ANT-0	ANT-1	ANT-0+1
Mode 2	V	---	---
Mode 3	V	V	V
Mode 4	V	V	V
Mode 5	V	V	V

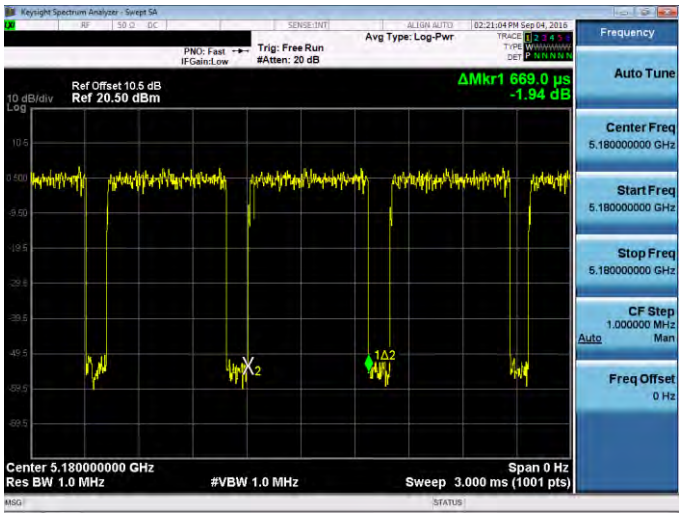
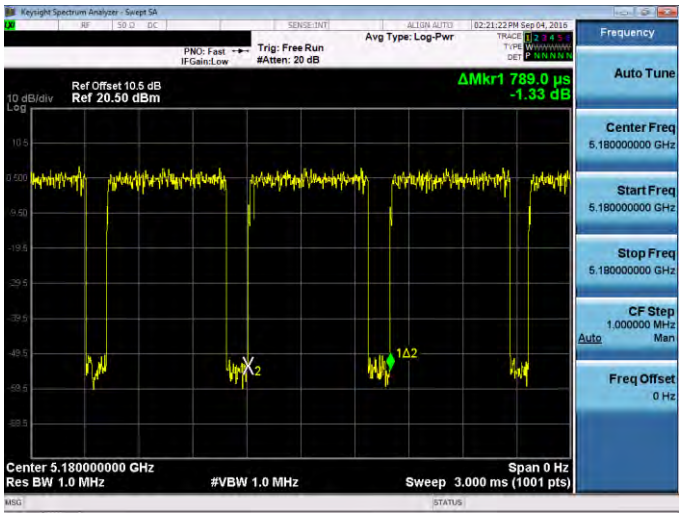
Test Mode	Band	Data Rate	Test Channel
Mode 2	U-NII Band I	6 M	36, 40, 44, 48
	U-NII Band III		149,153,157,161,165
Mode 3	U-NII Band I	13 M	36, 40, 44, 48
	U-NII Band III		149,153,157,161,165
Mode 4	U-NII Band I	27 M	38, 46
	U-NII Band III		151,159
Mode 5	U-NII Band I	58.6 M	42
	U-NII Band III		155

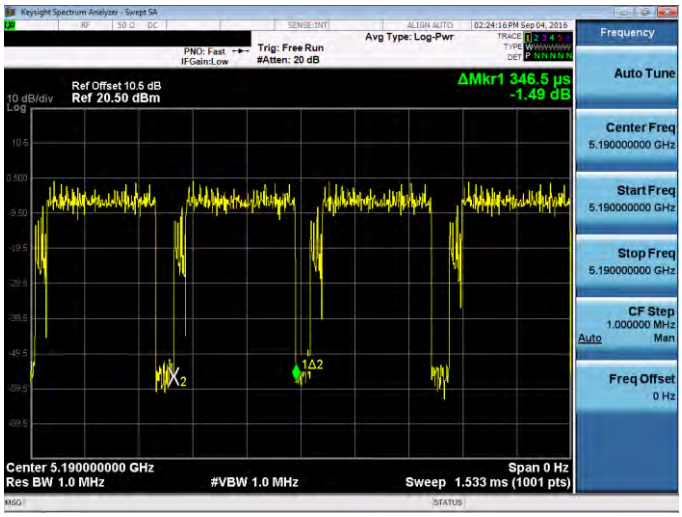
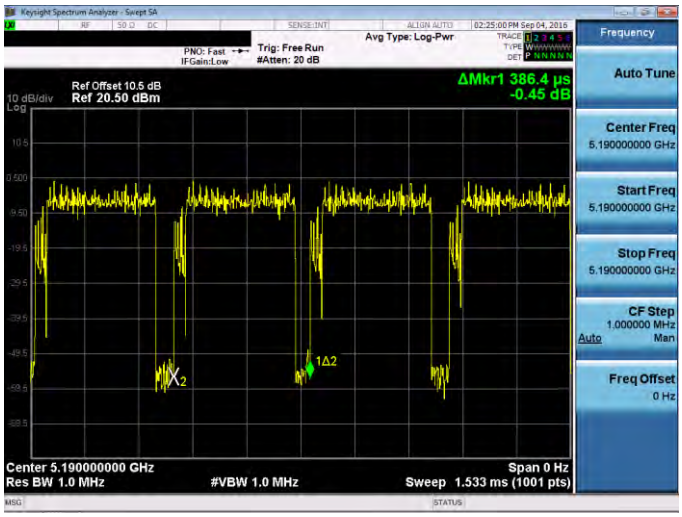
Duty cycle

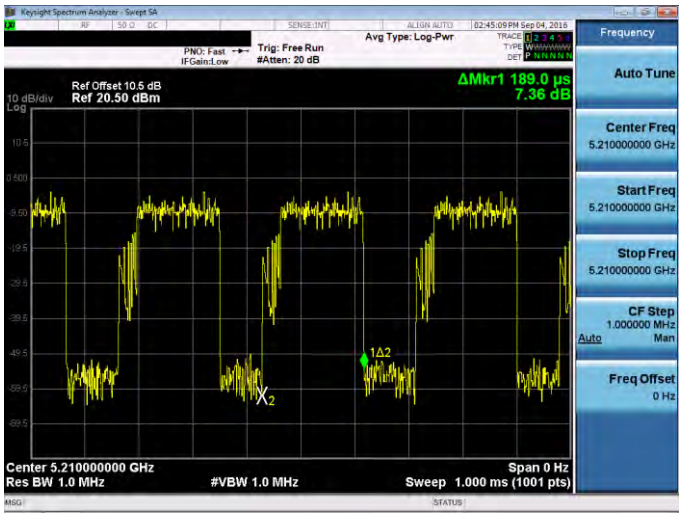
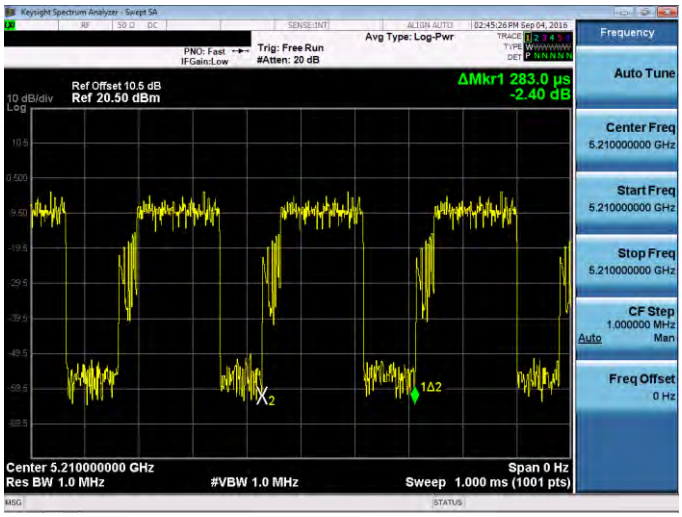
Test Mode	Frequency (MHz)	on time (ms)	on+off time (ms)	Duty cycle	Duty Factor (dB)	1/T Minimum VBW (kHz)
Mode 2: IEEE 802.11a Link Mode	5180.0	1.375	1.475	0.932	0.305	0.727
Mode 3: IEEE 802.11ac 20 MHz Link Mode	5180.0	0.669	0.789	0.848	0.717	1.495
Mode 4: IEEE 802.11ac 40 MHz Link Mode	5190.0	0.347	0.386	0.897	0.473	2.886
Mode 5: IEEE 802.11ac 80 MHz Link Mode	5210.0	0.189	0.283	0.668	1.753	5.291
Beamforming on						
Mode 3: IEEE 802.11ac 20 MHz Link Mode	5180.0	1.284	1.320	0.973	0.120	0.779
Mode 4: IEEE 802.11ac 40 MHz Link Mode	5190.0	0.644	0.804	0.801	0.964	1.553
Mode 5: IEEE 802.11ac 80 MHz Link Mode	5210.0	0.189	0.284	0.665	1.769	5.291

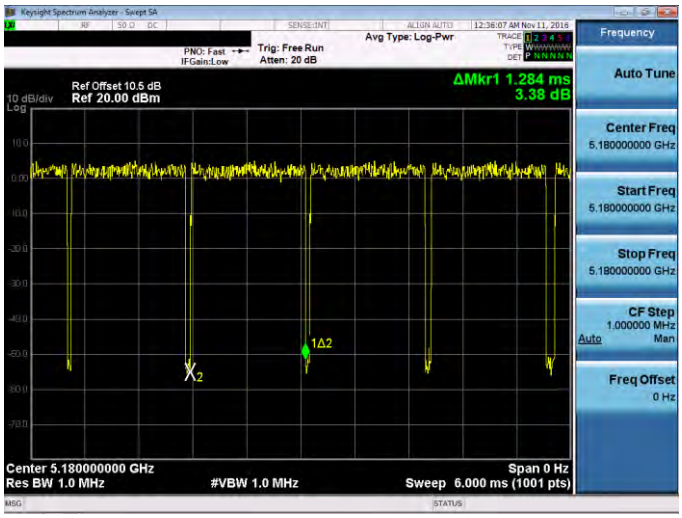
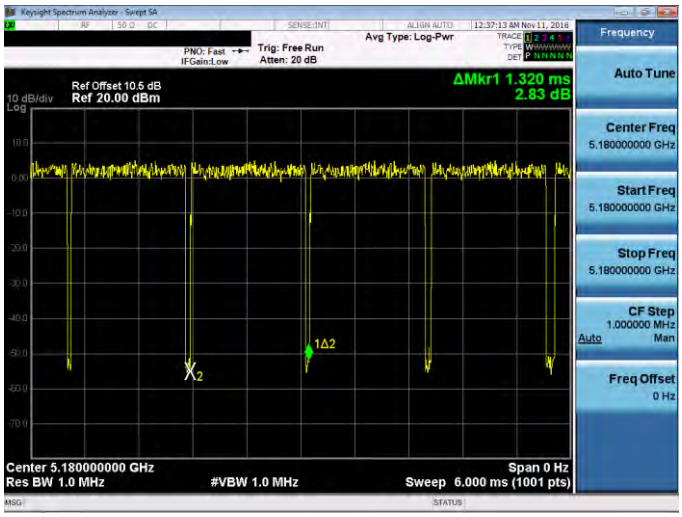
Duty Cycle Graphs

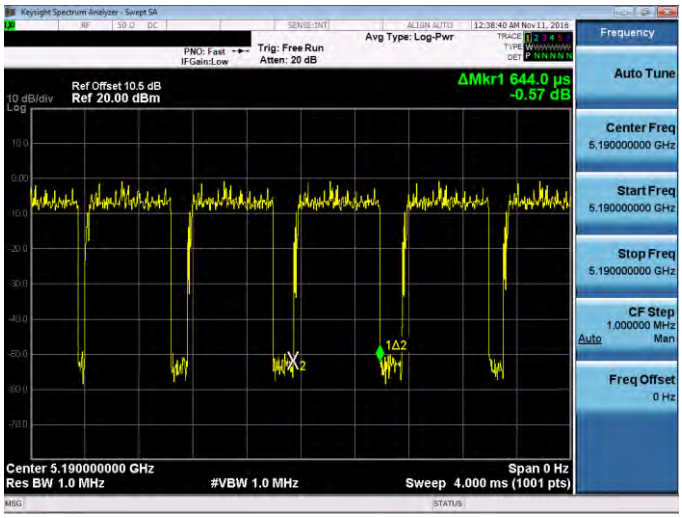
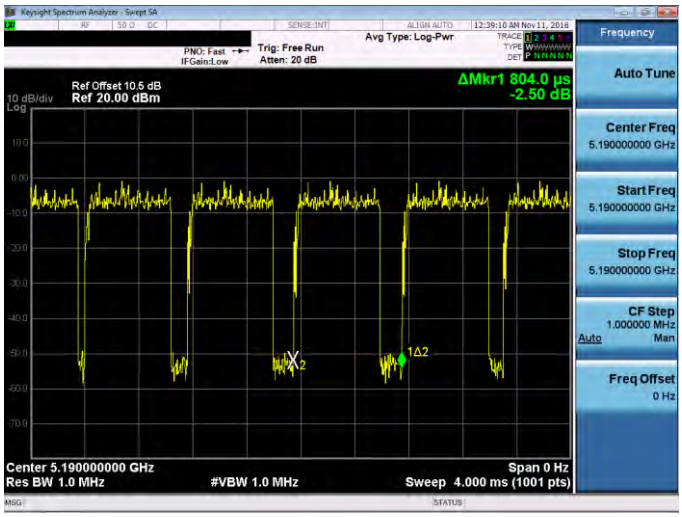
Mode 2: IEEE 802.11a Link Mode	
On time	
On+off time	

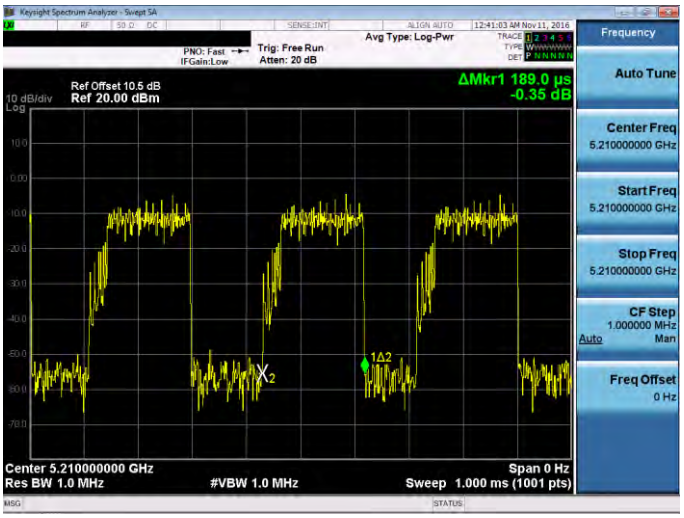
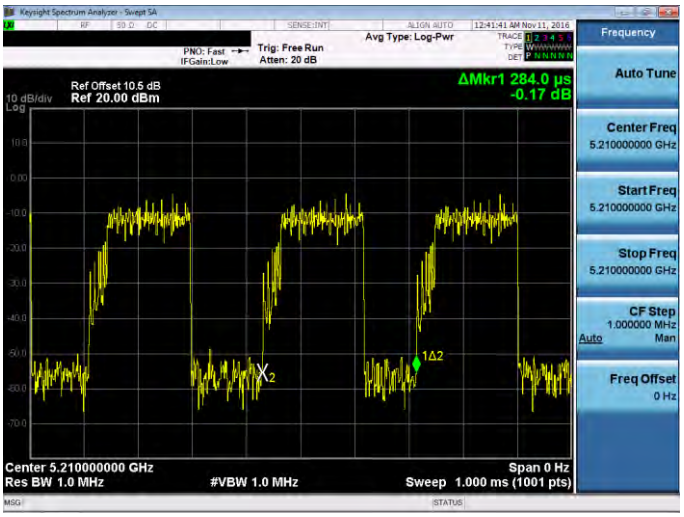
Mode 3: IEEE 802.11ac 20 MHz Link Mode	
On time	
On+off time	

Mode 4: IEEE 802.11ac 40 MHz Link Mode	
On time	
On+off time	

Mode 5: IEEE 802.11ac 80 MHz Link Mode	
On time	
On+off time	

Mode 3: IEEE 802.11ac 20 MHz Link Mode	
Beamforming on	
On time	
On+off time	

Mode 4: IEEE 802.11ac 40 MHz Link Mode	
Beamforming on	
On time	
On+off time	

Mode 5: IEEE 802.11ac 80 MHz Link Mode	
Beamforming on	
On time	
On+off time	

3.2. EUT Test Step

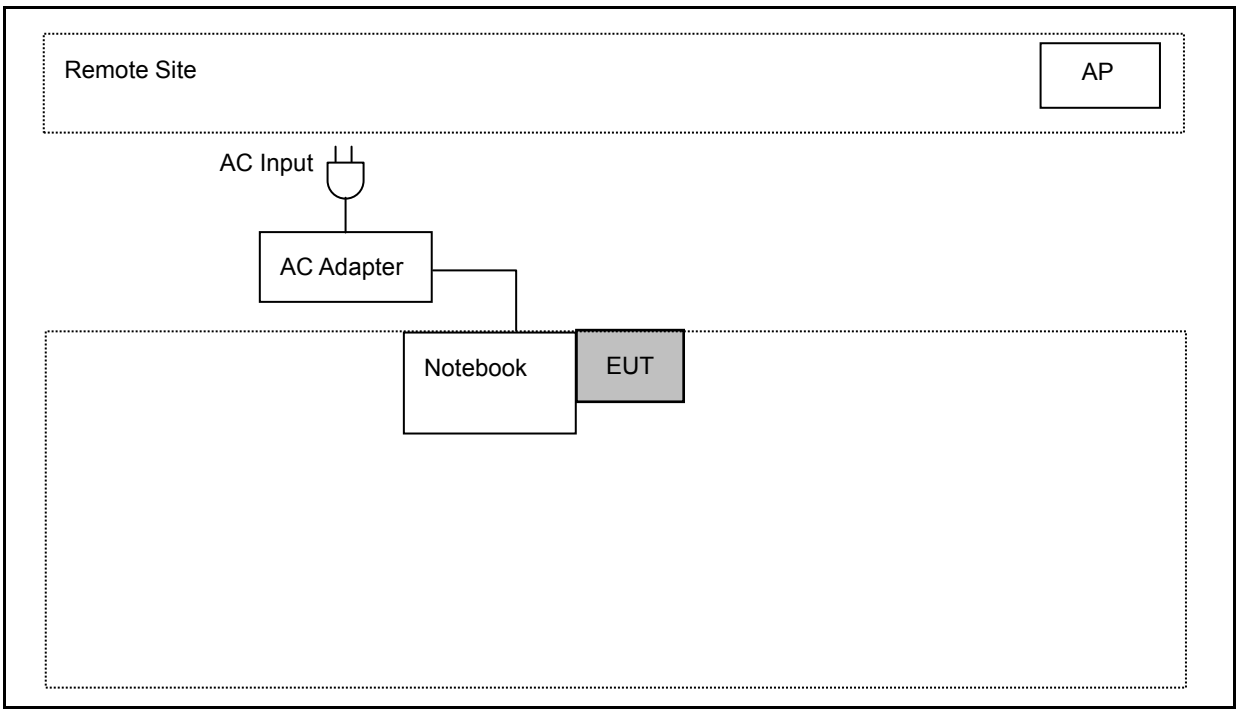
The EUT is operated in the engineering mode to fix the TX frequency for the purposes of measurement. According to its specifications, the EUT must comply with the requirements of Section 15.407 under the FCC Rules Part 15 Subpart E.

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.

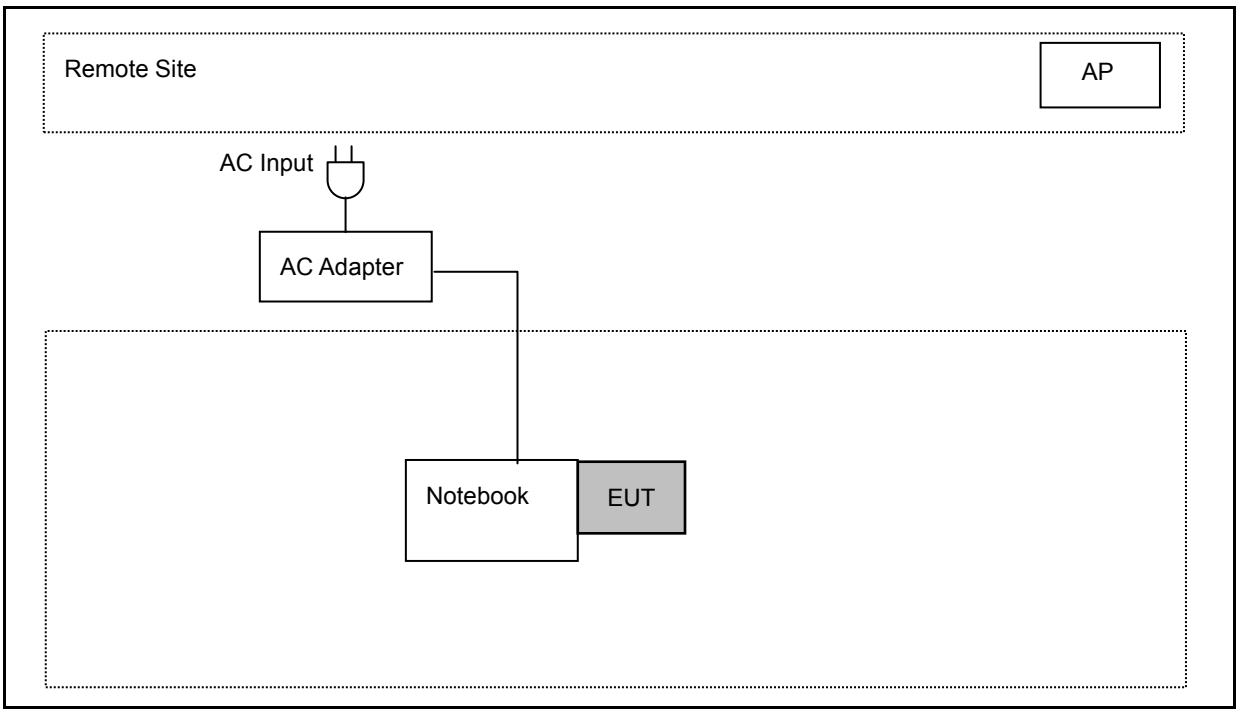
Measurement Software			
No.	Description	Software	Version
1	Conducted Emission	EZ EMC	1.1.4.3
2	Radiated Emission	EZ EMC	1.1.4.4

3.3. Configuration of Test System Details

Conducted Emission



Radiated Emission



3.4. Test Instruments

For Conducted Emission

Test Period: Aug. 22, 2016

Equipment	Manufacturer	Model Number	Serial Number	Cal. Date	Cal. Period
Test Receiver	R&S	ESCI	100367	05/31/2016	1 year
LISN	R&S	ENV216	101040	03/15/2016	1 year
LISN	R&S	ENV216	101041	03/07/2016	1 year
RF Cable	Woken	00100D1380194M	TE-02-02	05/31/2016	1 year
Test Site	ATL	TE02	TE02	N.C.R.	-----

For Radiated Emissions

Test Period: Jul. 29 ~ Oct. 09, 2016

Equipment	Manufacturer	Model Number	Serial Number	Cal. Date	Cal. Period
RF Pre-selector	Agilent	N9039A	MY46520256	01/08/2016	1 year
Spectrum Analyzer	Agilent	E4446A	MY46180578	01/08/2016	1 year
Pre Amplifier	Agilent	8449B	3008A02237	10/11/2016	1 year
Pre Amplifier	Agilent	8447D	2944A11119	01/11/2016	1 year
Broadband Antenna	Schwarzbeck	VULB9168	416	10/13/2016	1 year
Horn Antenna (1~18 GHz)	SCHWARZBECK MESS-ELEKTRONIK	BBHA9120D	9120D-550	06/06/2016	1 year
Horn Antenna (18~40 GHz)	ETS	3116	86467	09/05/2016	1 year
Loop Antenna	COM-POWER CORPORATION	AL-130	121014	02/01/2016	1 year
Microwave Cable	EMCI	EMC102-KM-KM-14000	151001	02/23/2016	1 year
Microwave Cable	EMCI	EMC-104-SM-SM-14000	140202	02/23/2016	1 year
Microwave Cable	EMCI	EMC104-SM-SM-600	140301	02/23/2016	1 year
Test Site	ATL	TE01	888001	08/29/2016	1 year

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

For Conducted
Test Period: Jul. 29 ~ Nov. 10, 2016

Equipment	Manufacturer	Model Number	Serial Number	Cal. Date	Cal. Period
Power Sensor	Anritsu	MA2411B	1126022	08/29/2016	1 year
Power Meter	Anritsu	ML2495A	1135009	08/29/2016	1 year
Microwave Cable	EMCI	EMC104-SM-SM-1500	140303	02/23/2016	1 year
Spectrum Analyzer	Agilent	E4445A	MY45300744	12/15/2015	1 year
Spectrum Analyzer	Agilent	E4408B	MY45107753	08/08/2016	1 year
Temperature & Humidity Chamber	TAICHY	MHU-225LA	980729	04/18/2016	1 year
Test Site	ATL	TE05	TE05	N.C.R.	-----

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

3.5. Test Site Environment

Items	Required (IEC 60068-1)	Actual
Temperature (°C)	15-35	26
Humidity (%RH)	25-75	60
Barometric pressure (mbar)	860-1060	990

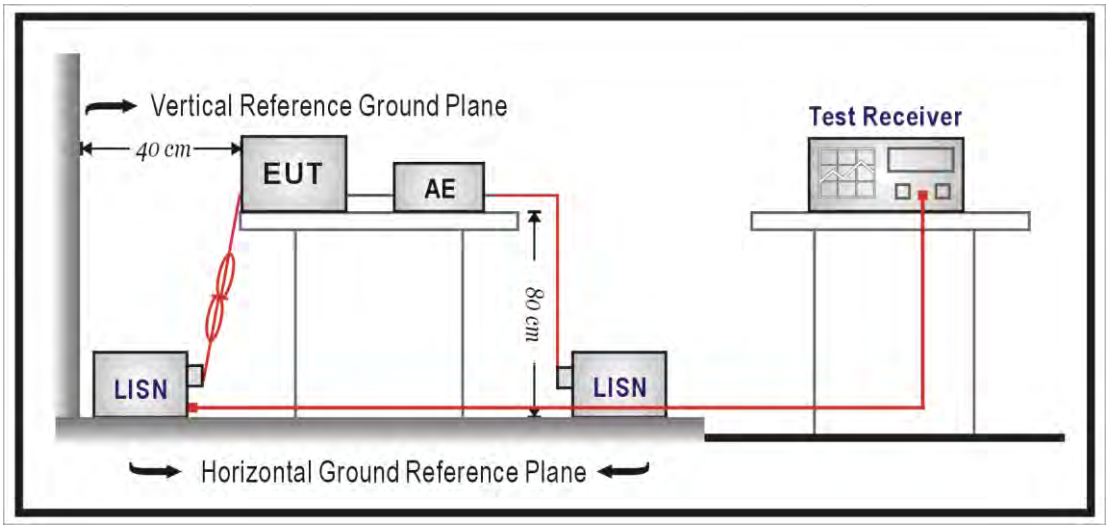
4 Measurement Procedure

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 Ω// 50 uH coupling impedance for the measuring equipment. The peripheral devices are also connected to the main power through a LISN that provides a 50 Ω// 50 uH 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

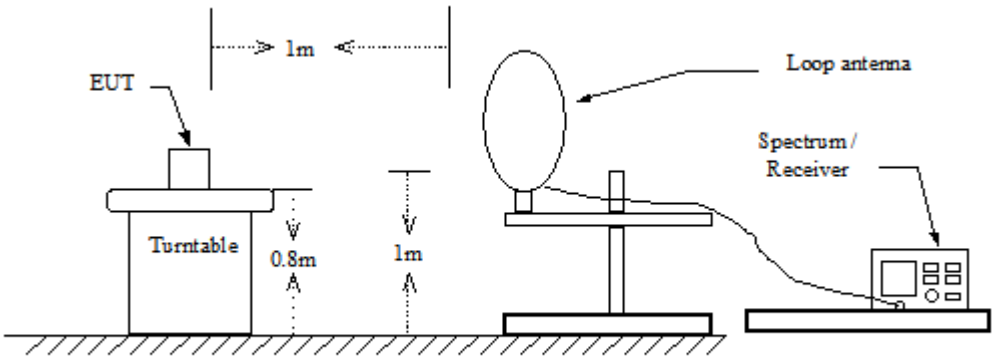
Emissions radiated outside of the specified bands, shall be according to the general radiated limits in 15.209 as following:

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

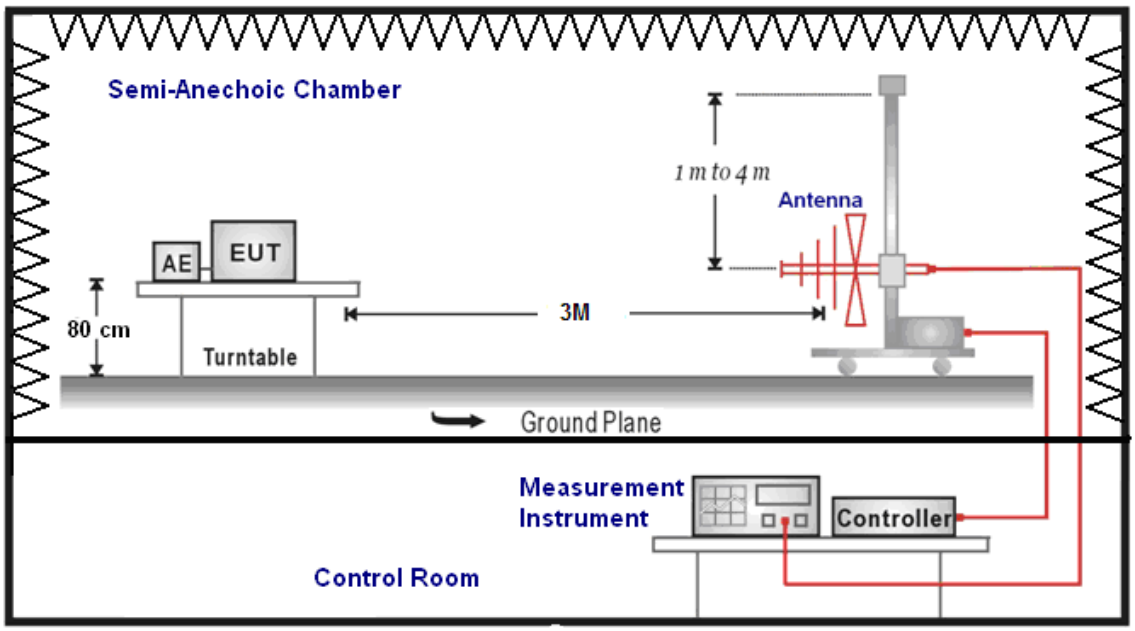
Note: 1. The lower limit shall apply at the transition frequencies.
2. Emission level (dBuV/m) = 20 log Emission level (uV/m).
3. As shown in 15.35(b), for frequencies above 1000 MHz, the field strength limits are based on average detector, however, the peak field strength of any emission shall not exceed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

■ **Setup**

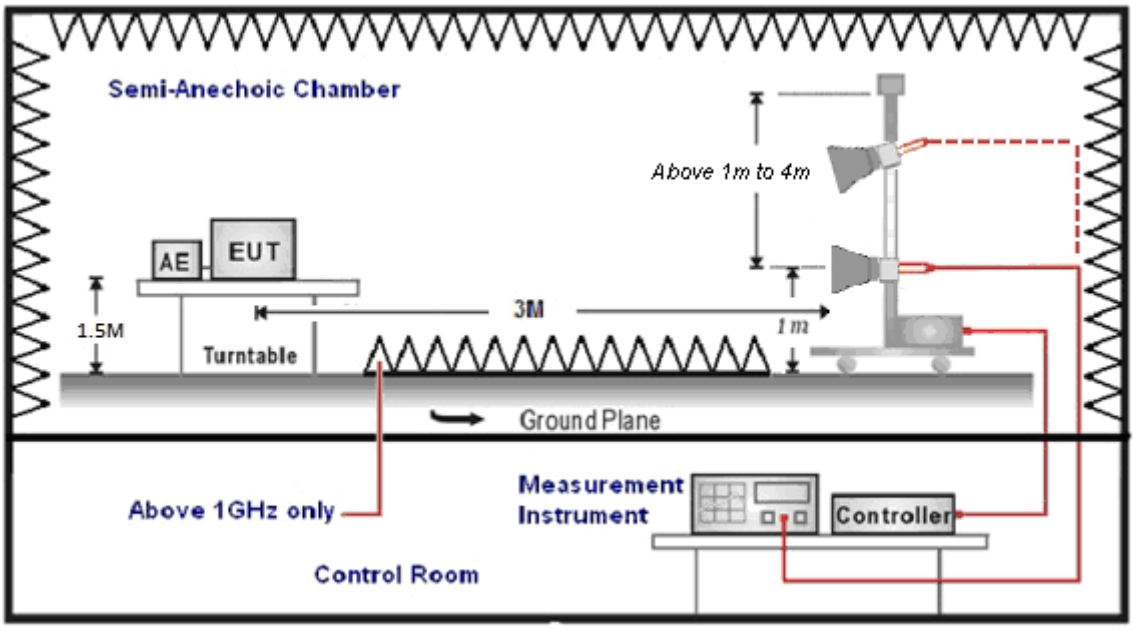
9 kHz ~ 30 MHz



30 MHz ~ 1 GHz



Above 1 GHz


Semi-Anechoic Chamber
Above 1m to 4m
AE
EUT
1.5M
3M
1m
Turntable
Ground Plane
Above 1GHz only
Measurement
Instrument
Controller
Control Room

■ **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 tree 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 antnna 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 pre meter (uV/m).

The actual field intensity in decibels referenced to 1 microvolt in to field intensity in micro colts 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) Amplitude (dBuV/m) = FI (dBuV) +AF (dBuV) +CL (dBuV)-Gain (dB)
FI= Reading of the field intensity.
AF= Antenna factor.
CL= Cable loss.
P.S Amplitude is auto calculate in spectrum analyzer.

(2) Actual Amplitude (dBuV/m) = Amplitude (dBuV)-Dis(dB)
The FCC specified emission limits were calculated according the EUT operating frequency and by following linear interpolation equations:
(a) For fundamental frequency : Transmitter Output < +30 dBm
(b) For spurious frequency : Spurious emission limits = fundamental emission limit /10

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

■ **Limit**

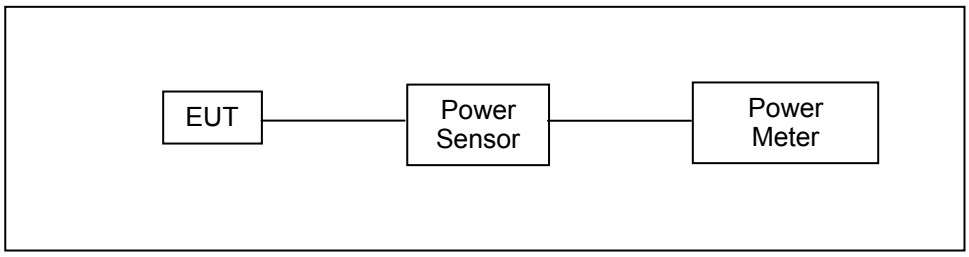
Frequency Range (MHz)	FCC Maximum Conducted Output Power Limit
	Master
5.150 ~ 5.250 GHz	The lesser of 1 W (30 dBm)
5.725 ~ 5.850 GHz	The lesser of 1 W (30 dBm)

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

∗ SISO mode for ANT-0：Max. Gain = 1.71 dBi < 6 dBi

∗ MIMO/BF mode：Directional Gain =10*log{[10^(G1/20)+10^(G2/20)+…+10^(Gn/20)]^2/NANT} = 3.8 dBi < 6 dBi

■ **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)

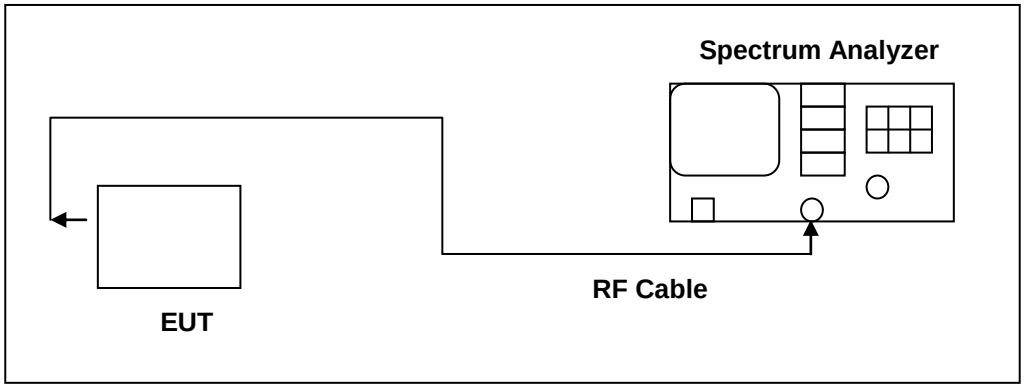
b) Method PM-G (Measurement using a gated RF average power meter)

4.4. 26 dB RF Bandwidth & 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

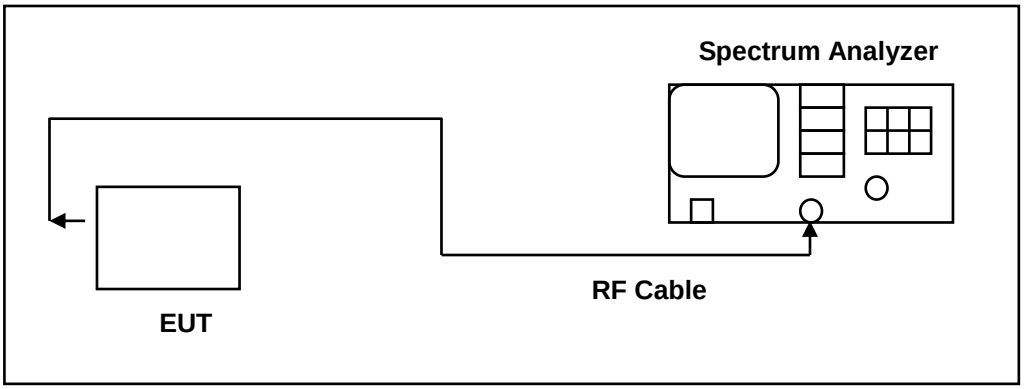
4.5. 6 dB RF Bandwidth Measurement

■ **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**

Conducted power spectral density

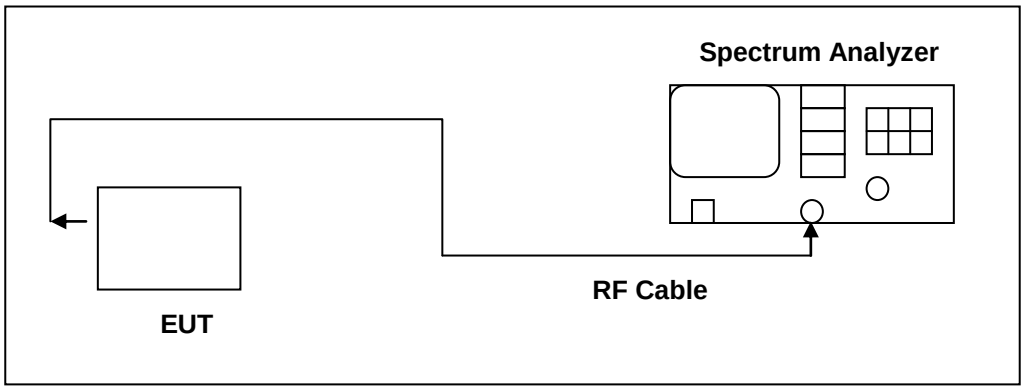
Frequency Range (MHz)	FCC Limit
	Master
5.150 ~ 5.250 GHz	17 dBm/MHz
5.725 ~ 5.850 GHz	30 dBm/500 kHz

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

＊ SISO mode for ANT-0：Max. Gain = 1.71 dBi < 6 dBi

＊ MIMO mode：Directional Gain =10*log{[10^(G1/20)+10^(G2/20)+…+10^(Gn/20)]^2/NANT} = 3.8 dBi < 6 dBi

■ **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.

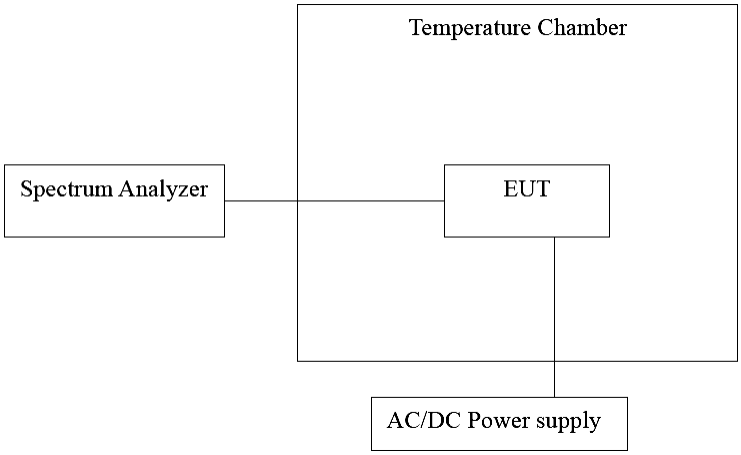
Spectrum Parameter	Setting
Attenuation	Auto
Span Frequency	Encompass the entire emissions bandwidth (EBW) of the signal
RBW	1 MHz (5725 ~ 5850 MHz use 100 kHz)
VBW	3 MHz (5725 ~ 5850 MHz use 300 kHz)
Detector	RMS
Trace	AVERAGE
Sweep Time	Auto
Trace Average	100 times
Note: If measurement bandwidth of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

4.7. Frequency Stability Measurement

■ **Limit**

Manufacturers of U-NII devices are responsible for ensuring frequency stability such that an emission is maintained within the band of operation under all conditions of normal operation as specified in the users manual.

■ **Test Setup**



■ **Test Procedure**

1. The EUT was placed inside the environmental test chamber and powered by nominal AC/DC voltage.
2. Turn the EUT on and couple its output to a spectrum analyzer.
3. Turn the EUT off and set the chamber to the highest temperature specified.
4. Allow sufficient time (approximately 30 min) for the temperature of the chamber to stabilize.
5. Repeat step 2 and 3 with the temperature chamber set to the lowest temperature.
6. The test chamber was allowed to stabilize at +20 degree C for a minimum of 30 minutes. The supply voltage was then adjusted on the EUT from 85 % to 115 % and the frequency record.

4.8. 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.

4.9. 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**

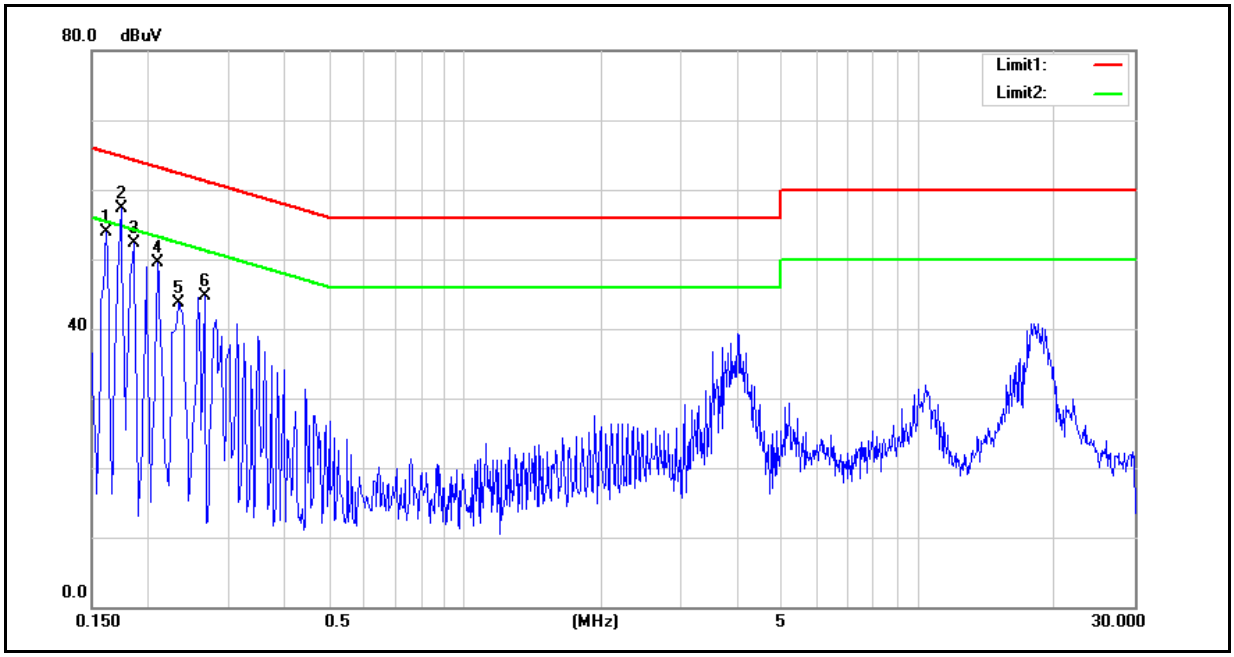
Directional Gain = 10*log{[10^(G1/20)+10^(G2/20)+…+10^(Gn/20)]^2/NANT} = 3.8 dBi < 6 dBi

Operate Freq. Band		Directional Gain (dBi)
IEEE 802.11ac 20 MHz	U-NII Band I	3.8
	U-NII Band III	3.8
IEEE 802.11ac 40 MHz	U-NII Band I	3.8
	U-NII Band III	3.8
IEEE 802.11ac 80 MHz	U-NII Band I	3.8
	U-NII Band III	3.8

5 Test Results

5.1. AC Power Conducted Emission Measurement

Standard:	FCC Part 15E	Line:	L1
Test item:	Conducted Emission	Power:	AC 120 V/60 Hz
Model Number:	DWA-181	Temp.(℃)/Hum.(%RH):	26(℃)/60 %RH
Test Mode:	Mode 1	Date:	08/22/2016
		Test By:	Eric Ou Yang
Description:			

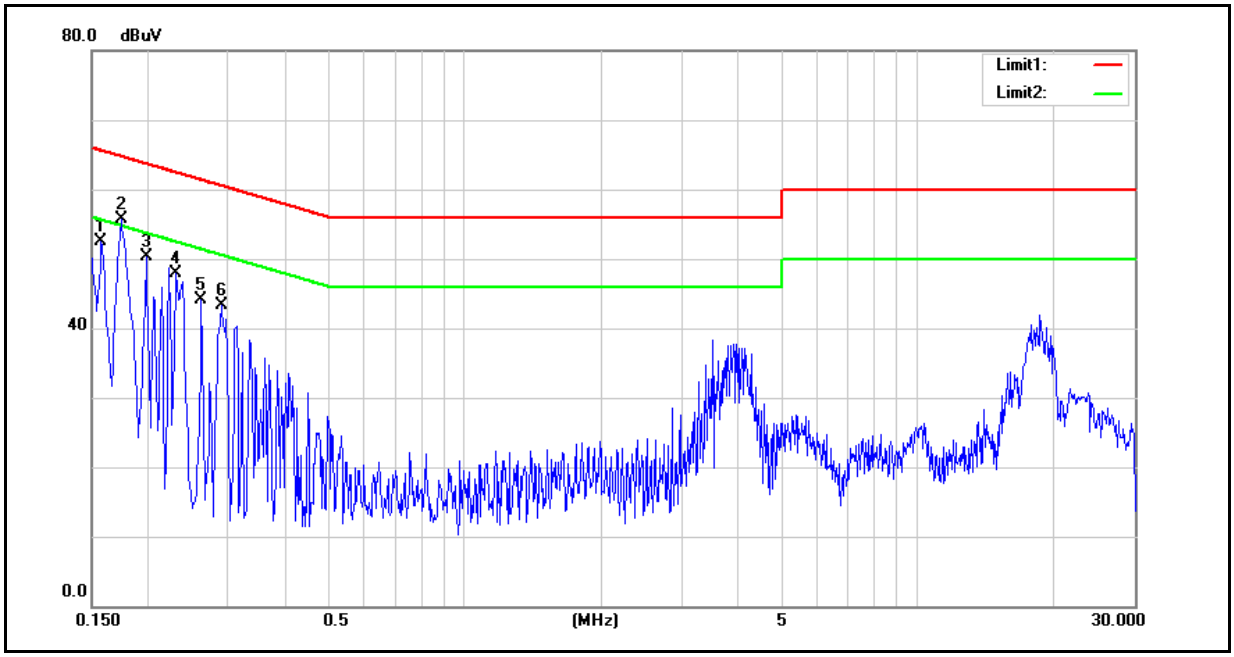


No.	Frequency (MHz)	QP reading (dBuV)	AVG reading (dBuV)	Correction factor (dB)	QP result (dBuV)	AVG result (dBuV)	QP limit (dBuV)	AVG limit (dBuV)	QP margin (dB)	AVG margin (dB)	Remark
1	0.1620	38.83	10.82	9.60	48.43	20.42	65.36	55.36	-16.93	-34.94	Pass
2	0.1740	42.40	29.74	9.60	52.00	39.34	64.77	54.77	-12.77	-15.43	Pass
3	0.1860	35.94	10.40	9.59	45.53	19.99	64.21	54.21	-18.68	-34.22	Pass
4	0.2100	32.89	5.70	9.59	42.48	15.29	63.21	53.21	-20.73	-37.92	Pass
5	0.2340	35.01	23.17	9.59	44.60	32.76	62.31	52.31	-17.71	-19.55	Pass
6	0.2660	27.38	1.90	9.60	36.98	11.50	61.24	51.24	-24.26	-39.74	Pass

Note: 1. Result = Correction factor + Reading

2. Correction factor = Antenna Factor + Cable loss – Pre-Amplifier gain.

Standard:	FCC Part 15E	Line:	N
Test item:	Conducted Emission	Power:	AC 120 V/60 Hz
Model Number:	DWA-181	Temp.(℃)/Hum.(%RH):	26(℃)/60 %RH
Test Mode:	Mode 1	Date:	08/22/2016
		Test By:	Eric Ou Yang
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	0.1580	39.57	10.79	9.59	49.16	20.38	65.57	55.57	-16.41	-35.19	Pass
2	0.1740	42.36	29.07	9.59	51.95	38.66	64.77	54.77	-12.82	-16.11	Pass
3	0.1980	34.19	7.25	9.58	43.77	16.83	63.69	53.69	-19.92	-36.86	Pass
4	0.2300	32.39	18.47	9.58	41.97	28.05	62.45	52.45	-20.48	-24.40	Pass
5	0.2620	27.72	2.17	9.59	37.31	11.76	61.37	51.37	-24.06	-39.61	Pass
6	0.2900	28.47	15.73	9.59	38.06	25.32	60.52	50.52	-22.46	-25.20	Pass

Note: 1. Result = Correction factor + Reading

2. Correction factor = Antenna Factor + Cable loss – Pre-Amplifier gain.

5.2. Transmitter Radiated Emissions Measurement

Below 1 GHz

Standard:	FCC Part 15E	Test Distance:	3 m
Test item:	Harmonic	Power:	AC 120 V/60 Hz
Model Number:	DWA-181	Temp.(℃)/Hum.(%RH):	26(℃)/60 %RH
Test Mode:	Mode 1	Date:	07/31/2016
Description:		Test By:	Eric Ou Yang

Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Polar. H / V
177.5000	37.56	-6.00	31.56	43.50	-11.94	QP	H
202.5000	38.58	-7.77	30.81	43.50	-12.69	QP	H
343.0000	33.24	-2.78	30.46	46.00	-15.54	QP	H
457.5000	31.73	-0.03	31.70	46.00	-14.30	QP	H
505.5000	30.28	0.82	31.10	46.00	-14.90	QP	H
842.5000	28.12	7.43	35.55	46.00	-10.45	QP	H
191.0000	34.40	-7.44	26.96	43.50	-16.54	QP	V
228.5000	33.27	-7.22	26.05	46.00	-19.95	QP	V
344.0000	30.70	-2.77	27.93	46.00	-18.07	QP	V
457.5000	29.73	-0.03	29.70	46.00	-16.30	QP	V
505.5000	31.15	0.82	31.97	46.00	-14.03	QP	V
602.0000	29.77	2.95	32.72	46.00	-13.28	QP	V

Note:1.Result (dBuV/m) = Correct Factor (dB/m) + Reading(dBuV).
Example: 31.56=-6.00+37.56.
2.Correction factor (dB/m) = Antenna Factor (dB/m) + Cable loss (dB) – Pre-Amplifier gain (dB).
3.When the peak results are less than average limit, so not need to evaluate the average.

Above 1 GHz

Standard:	FCC Part 15E	Test Distance:	3 m
Test item:	Harmonic	Power:	AC 120 V/60 Hz
Model Number:	DWA-181	Temp.(℃)/Hum.(%RH):	26(℃)/60 %RH
Test Mode:	Mode 2	Date:	07/31/2016
Frequency:	5180 MHz	Test By:	Eric Ou Yang
Description:			

Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Polar. H / V
10360.000	54.44	4.97	59.41	68.20	-8.79	peak	H
10360.000	52.42	4.97	57.39	68.20	-10.81	peak	V

Note: 1. Result = Correction factor + Reading
Example: 59.41=4.97+54.44.
2. Correction factor = Antenna Factor + Cable loss – Pre-Amplifier gain.
3. When the peak results are less than average limit, so not need to evaluate the average.

Standard:	FCC Part 15E	Test Distance:	3 m
Test item:	Harmonic	Power:	AC 120 V/60 Hz
Model Number:	DWA-181	Temp.(℃)/Hum.(%RH):	26(℃)/60 %RH
Test Mode:	Mode 2	Date:	07/31/2016
Frequency:	5200 MHz	Test By:	Eric Ou Yang
Description:			

Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Polar. H / V
10400.000	56.66	5.07	61.73	68.20	-6.47	peak	H
10400.000	53.40	5.07	58.47	68.20	-9.73	peak	V

Note: 1. Result = Correction factor + Reading
2. Correction factor = Antenna Factor + Cable loss – Pre-Amplifier gain.
3. When the peak results are less than average limit, so not need to evaluate the average.

Standard:	FCC Part 15E	Test Distance:	3 m
Test item:	Harmonic	Power:	AC 120 V/60 Hz
Model Number:	DWA-181	Temp.(℃)/Hum.(%RH):	26(℃)/60 %RH
Test Mode:	Mode 2	Date:	07/31/2016
Frequency:	5240 MHz	Test By:	Eric Ou Yang
Description:			

Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Polar. H / V
10480.000	55.86	5.25	61.11	68.20	-7.09	peak	H
10480.000	54.87	5.25	60.12	68.20	-8.08	peak	V

Note: 1. Result = Correction factor + Reading

2. Correction factor = Antenna Factor + Cable loss – Pre-Amplifier gain.

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

Standard:	FCC Part 15E	Test Distance:	3 m
Test item:	Harmonic	Power:	AC 120 V/60 Hz
Model Number:	DWA-181	Temp.(℃)/Hum.(%RH):	26(℃)/60 %RH
Test Mode:	Mode 2	Date:	07/31/2016
Frequency:	5745 MHz	Test By:	Eric Ou Yang
Description:			

Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Polar. H / V
11490.000	55.73	6.14	61.87	74.00	-12.13	peak	H
11490.000	46.72	6.14	52.86	54.00	-1.14	AVG	H
11490.000	55.07	6.14	61.21	74.00	-12.79	peak	V
11490.000	44.63	6.14	50.77	54.00	-3.23	AVG	V

Note: 1. Result = Correction factor + Reading

2. Correction factor = Antenna Factor + Cable loss – Pre-Amplifier gain.

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

Standard:	FCC Part 15E	Test Distance:	3 m
Test item:	Harmonic	Power:	AC 120 V/60 Hz
Model Number:	DWA-181	Temp.(℃)/Hum.(%RH):	26(℃)/60 %RH
Test Mode:	Mode 2	Date:	07/31/2016
Frequency:	5785 MHz	Test By:	Eric Ou Yang
Description:			

Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Polar. H / V
11570.000	54.99	6.35	61.34	74.00	-12.66	peak	H
11570.000	46.58	6.35	52.93	54.00	-1.07	AVG	H
11570.000	53.42	6.35	59.77	74.00	-14.23	peak	V
11570.000	43.99	6.35	50.34	54.00	-3.66	AVG	V

Note: 1. Result = Correction factor + Reading

2. Correction factor = Antenna Factor + Cable loss – Pre-Amplifier gain.

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

Standard:	FCC Part 15E	Test Distance:	3 m
Test item:	Harmonic	Power:	AC 120 V/60 Hz
Model Number:	DWA-181	Temp.(℃)/Hum.(%RH):	26(℃)/60 %RH
Test Mode:	Mode 2	Date:	07/31/2016
Frequency:	5825 MHz	Test By:	Eric Ou Yang
Description:			

Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Polar. H / V
11650.000	55.77	6.58	62.35	74.00	-11.65	peak	H
11650.000	46.37	6.58	52.95	54.00	-1.05	AVG	H
11650.000	53.63	6.58	60.21	74.00	-13.79	peak	V
11650.000	44.45	6.58	51.03	54.00	-2.97	AVG	V

Note: 1. Result = Correction factor + Reading

2. Correction factor = Antenna Factor + Cable loss – Pre-Amplifier gain.

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

Standard:	FCC Part 15E	Test Distance:	3 m
Test item:	Harmonic	Power:	AC 120 V/60 Hz
Model Number:	DWA-181	Temp.(℃)/Hum.(%RH):	26(℃)/60 %RH
Test Mode:	Mode 3	Date:	07/31/2016
Frequency:	5180 MHz	Test By:	Eric Ou Yang
Description:			

Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Polar. H / V
10360.000	54.79	4.97	59.76	68.20	-8.44	peak	H
10360.000	53.55	4.97	58.52	68.20	-9.68	peak	V

Note: 1. Result = Correction factor + Reading

2. Correction factor = Antenna Factor + Cable loss – Pre-Amplifier gain.

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

Standard:	FCC Part 15E	Test Distance:	3 m
Test item:	Harmonic	Power:	AC 120 V/60 Hz
Model Number:	DWA-181	Temp.(℃)/Hum.(%RH):	26(℃)/60 %RH
Test Mode:	Mode 3	Date:	07/31/2016
Frequency:	5200 MHz	Test By:	Eric Ou Yang
Description:			

Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Polar. H / V
10400.000	54.72	5.07	59.79	68.20	-8.41	peak	H
10400.000	51.95	5.07	57.02	68.20	-11.18	peak	V

Note: 1. Result = Correction factor + Reading

2. Correction factor = Antenna Factor + Cable loss – Pre-Amplifier gain.

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

Standard:	FCC Part 15E	Test Distance:	3 m
Test item:	Harmonic	Power:	AC 120 V/60 Hz
Model Number:	DWA-181	Temp.(℃)/Hum.(%RH):	26(℃)/60 %RH
Test Mode:	Mode 3	Date:	07/31/2016
Frequency:	5240 MHz	Test By:	Eric Ou Yang
Description:			

Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Polar. H / V
10480.000	56.67	5.25	61.92	68.20	-6.28	peak	H
10480.000	55.14	5.25	60.39	68.20	-7.81	peak	V

Note: 1. Result = Correction factor + Reading

2. Correction factor = Antenna Factor + Cable loss – Pre-Amplifier gain.

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

Standard:	FCC Part 15E	Test Distance:	3 m
Test item:	Harmonic	Power:	AC 120 V/60 Hz
Model Number:	DWA-181	Temp.(℃)/Hum.(%RH):	26(℃)/60 %RH
Test Mode:	Mode 3	Date:	07/31/2016
Frequency:	5745 MHz	Test By:	Eric Ou Yang
Description:			

Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Polar. H / V
11490.000	56.46	6.14	62.60	74.00	-11.40	peak	H
11490.000	46.75	6.14	52.89	54.00	-1.11	AVG	H
11490.000	54.56	6.14	60.70	74.00	-13.30	peak	V
11490.000	45.05	6.14	51.19	54.00	-2.81	AVG	V

Note: 1. Result = Correction factor + Reading

2. Correction factor = Antenna Factor + Cable loss – Pre-Amplifier gain.

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

Standard:	FCC Part 15E	Test Distance:	3 m
Test item:	Harmonic	Power:	AC 120 V/60 Hz
Model Number:	DWA-181	Temp.(℃)/Hum.(%RH):	26(℃)/60 %RH
Test Mode:	Mode 3	Date:	07/31/2016
Frequency:	5785 MHz	Test By:	Eric Ou Yang
Description:			

Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Polar. H / V
11570.000	56.99	6.35	63.34	74.00	-10.66	peak	H
11570.000	46.50	6.35	52.85	54.00	-1.15	AVG	H
11570.000	54.61	6.35	60.96	74.00	-13.04	peak	V
11570.000	43.63	6.35	49.98	54.00	-4.02	AVG	V

Note: 1. Result = Correction factor + Reading

2. Correction factor = Antenna Factor + Cable loss – Pre-Amplifier gain.

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

Standard:	FCC Part 15E	Test Distance:	3 m
Test item:	Harmonic	Power:	AC 120 V/60 Hz
Model Number:	DWA-181	Temp.(℃)/Hum.(%RH):	26(℃)/60 %RH
Test Mode:	Mode 3	Date:	07/31/2016
Frequency:	5825 MHz	Test By:	Eric Ou Yang
Description:			

Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Polar. H / V
11650.000	55.08	6.58	61.66	74.00	-12.34	peak	H
11650.000	46.32	6.58	52.90	54.00	-1.10	AVG	H
11650.000	53.23	6.58	59.81	74.00	-14.19	peak	V
11650.000	43.75	6.58	50.33	54.00	-3.67	AVG	V

Note: 1. Result = Correction factor + Reading

2. Correction factor = Antenna Factor + Cable loss – Pre-Amplifier gain.

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

Standard:	FCC Part 15E	Test Distance:	3 m
Test item:	Harmonic	Power:	AC 120 V/60 Hz
Model Number:	DWA-181	Temp.(℃)/Hum.(%RH):	26(℃)/60 %RH
Test Mode:	Mode 4	Date:	07/31/2016
Frequency:	5190 MHz	Test By:	Eric Ou Yang
Description:			

Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Polar. H / V
10380.000	51.46	5.01	56.47	68.20	-11.73	peak	H
10380.000	48.54	5.01	53.55	68.20	-14.65	peak	V

Note: 1. Result = Correction factor + Reading

2. Correction factor = Antenna Factor + Cable loss – Pre-Amplifier gain.

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

Standard:	FCC Part 15E	Test Distance:	3 m
Test item:	Harmonic	Power:	AC 120 V/60 Hz
Model Number:	DWA-181	Temp.(℃)/Hum.(%RH):	26(℃)/60 %RH
Test Mode:	Mode 4	Date:	07/31/2016
Frequency:	5230 MHz	Test By:	Eric Ou Yang
Description:			

Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Polar. H / V
10460.000	53.33	5.22	58.55	68.20	-9.65	peak	H
10460.000	51.85	5.22	57.07	68.20	-11.13	peak	V

Note: 1. Result = Correction factor + Reading

2. Correction factor = Antenna Factor + Cable loss – Pre-Amplifier gain.

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

Standard:	FCC Part 15E	Test Distance:	3 m
Test item:	Harmonic	Power:	AC 120 V/60 Hz
Model Number:	DWA-181	Temp.(℃)/Hum.(%RH):	26(℃)/60 %RH
Test Mode:	Mode 4	Date:	07/31/2016
Frequency:	5755 MHz	Test By:	Eric Ou Yang
Description:			

Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Polar. H / V
11510.000	55.13	6.17	61.30	74.00	-12.70	peak	H
11510.000	46.69	6.17	52.86	54.00	-1.14	AVG	H
11510.000	53.20	6.17	59.37	74.00	-14.63	peak	V
11510.000	43.62	6.17	49.79	54.00	-4.21	AVG	V

Note: 1. Result = Correction factor + Reading

2. Correction factor = Antenna Factor + Cable loss – Pre-Amplifier gain.

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

Standard:	FCC Part 15E	Test Distance:	3 m
Test item:	Harmonic	Power:	AC 120 V/60 Hz
Model Number:	DWA-181	Temp.(℃)/Hum.(%RH):	26(℃)/60 %RH
Test Mode:	Mode 4	Date:	07/31/2016
Frequency:	5795 MHz	Test By:	Eric Ou Yang
Description:			

Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Polar. H / V
11590.000	54.53	6.41	60.94	74.00	-13.06	peak	H
11590.000	46.41	6.41	52.82	54.00	-1.18	AVG	H
11590.000	53.19	6.41	59.60	74.00	-14.40	peak	V
11590.000	44.02	6.41	50.43	54.00	-3.57	AVG	V

Note: 1. Result = Correction factor + Reading

2. Correction factor = Antenna Factor + Cable loss – Pre-Amplifier gain.

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

Standard:	FCC Part 15E	Test Distance:	3 m
Test item:	Harmonic	Power:	AC 120 V/60 Hz
Model Number:	DWA-181	Temp.(℃)/Hum.(%RH):	26(℃)/60 %RH
Test Mode:	Mode 5	Date:	07/31/2016
Frequency:	5210 MHz	Test By:	Eric Ou Yang
Description:			

Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Polar. H / V
10420.000	47.05	5.11	52.16	68.20	-16.04	peak	H
10420.000	47.86	5.11	52.97	68.20	-15.23	peak	V

Note: 1. Result = Correction factor + Reading

2. Correction factor = Antenna Factor + Cable loss – Pre-Amplifier gain.

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

Standard:	FCC Part 15E	Test Distance:	3 m
Test item:	Harmonic	Power:	AC 120 V/60 Hz
Model Number:	DWA-181	Temp.(℃)/Hum.(%RH):	26(℃)/60 %RH
Test Mode:	Mode 5	Date:	07/31/2016
Frequency:	5775 MHz	Test By:	Eric Ou Yang
Description:			

Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Polar. H / V
11550.000	58.06	6.29	64.35	74.00	-9.65	peak	H
11550.000	45.26	6.29	51.55	54.00	-2.45	AVG	H
11550.000	55.93	6.29	62.22	74.00	-11.78	peak	V
11550.000	41.36	6.29	47.65	54.00	-6.35	AVG	V

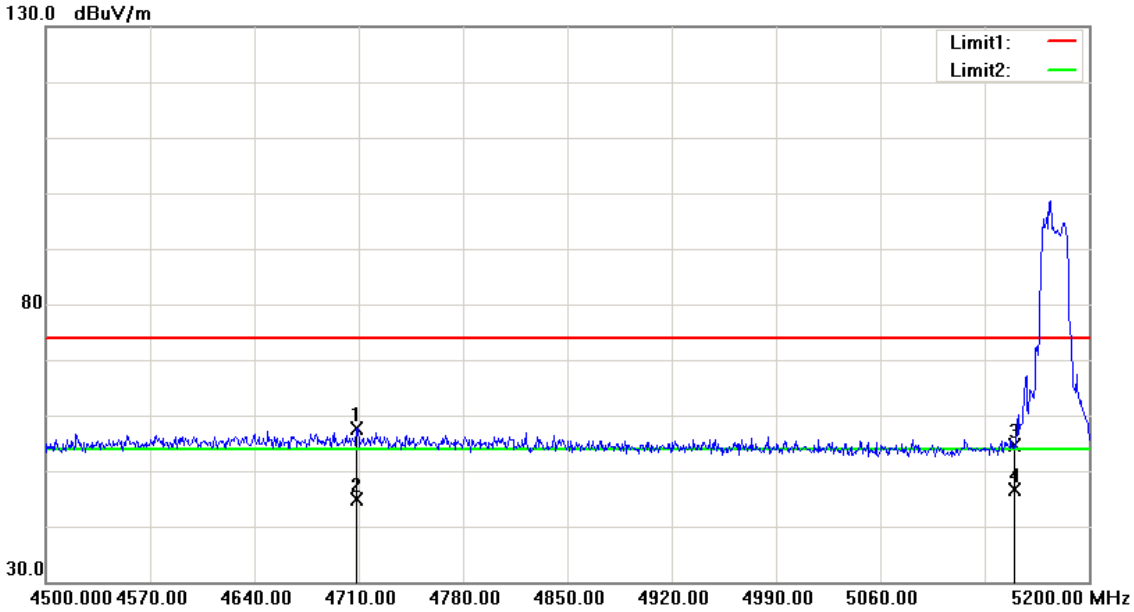
Note: 1. Result = Correction factor + Reading

2. Correction factor = Antenna Factor + Cable loss – Pre-Amplifier gain.

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

Band Edge

Standard:	FCC Part 15E	Test Distance:	3 m
Test item:	Band edge	Power:	AC 120 V/60 Hz
Test Mode:	Mode 2	Temp.(℃)/Hum.(%RH):	26(℃)/60 %RH
Frequency:	5180 MHz	Date:	07/29/2016
Ant.Polar.:	Horizontal		



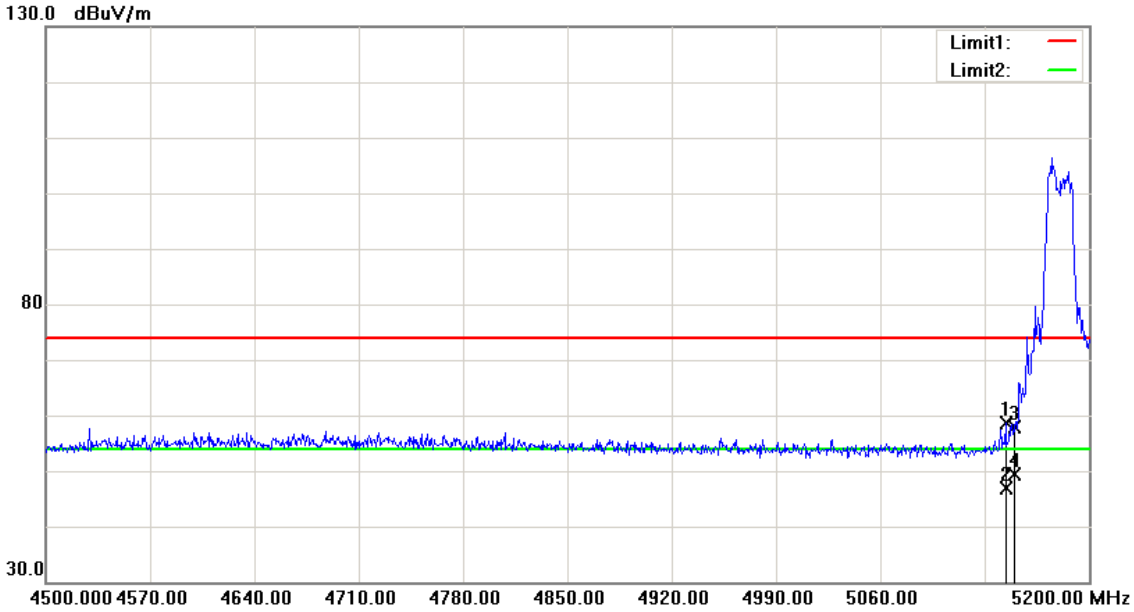
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4708.600	50.76	6.99	57.75	74.00	-16.25	peak
2	4708.600	37.95	6.99	44.94	54.00	-9.06	AVG
3	5150.000	46.45	8.16	54.61	74.00	-19.39	peak
4	5150.000	38.59	8.16	46.75	54.00	-7.25	AVG

Note: 1. Result = Correction factor + Reading

2. Correction factor = Antenna Factor + Cable loss – Pre-Amplifier gain.

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

Standard:	FCC Part 15E	Test Distance:	3 m
Test item:	Band edge	Power:	AC 120 V/60 Hz
Test Mode:	Mode 2	Temp.(℃)/Hum.(%RH):	26(℃)/60 %RH
Frequency:	5180 MHz	Date:	07/29/2016
Ant.Polar.:	Vertical		



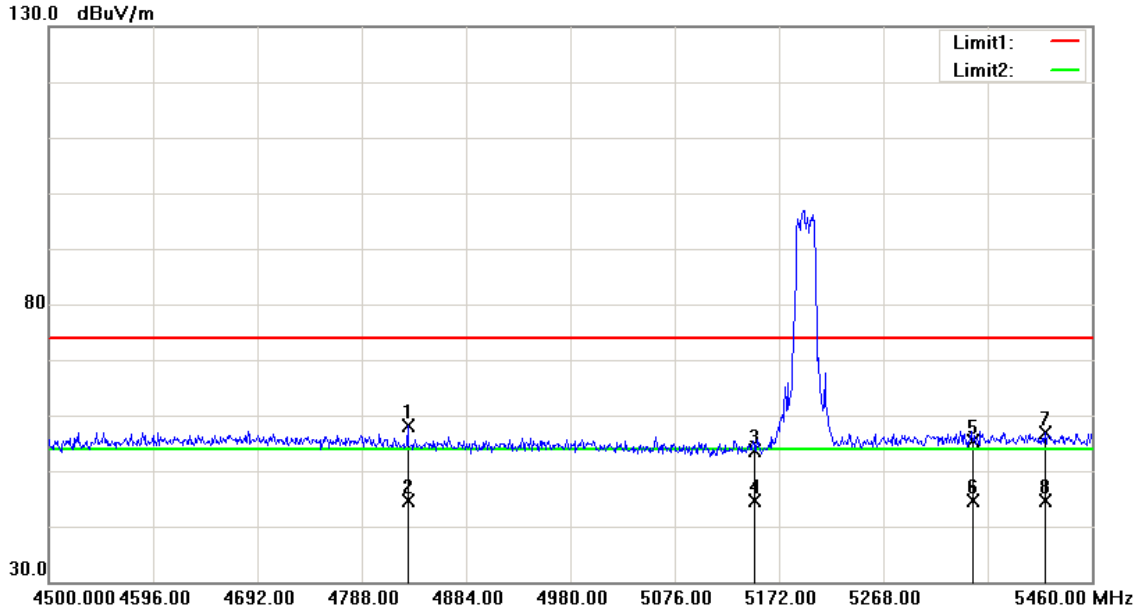
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	5144.000	50.42	8.15	58.57	74.00	-15.43	peak
2	5144.000	38.80	8.15	46.95	54.00	-7.05	AVG
3	5150.000	49.65	8.16	57.81	74.00	-16.19	peak
4	5150.000	41.16	8.16	49.32	54.00	-4.68	AVG

Note: 1. Result = Correction factor + Reading

2. Correction factor = Antenna Factor + Cable loss – Pre-Amplifier gain.

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

Standard:	FCC Part 15E	Test Distance:	3 m
Test item:	Band edge	Power:	AC 120 V/60 Hz
Test Mode:	Mode 2	Temp.(℃)/Hum.(%RH):	26(℃)/60 %RH
Frequency:	5200 MHz	Date:	07/29/2016
Ant.Polar.:	Horizontal		



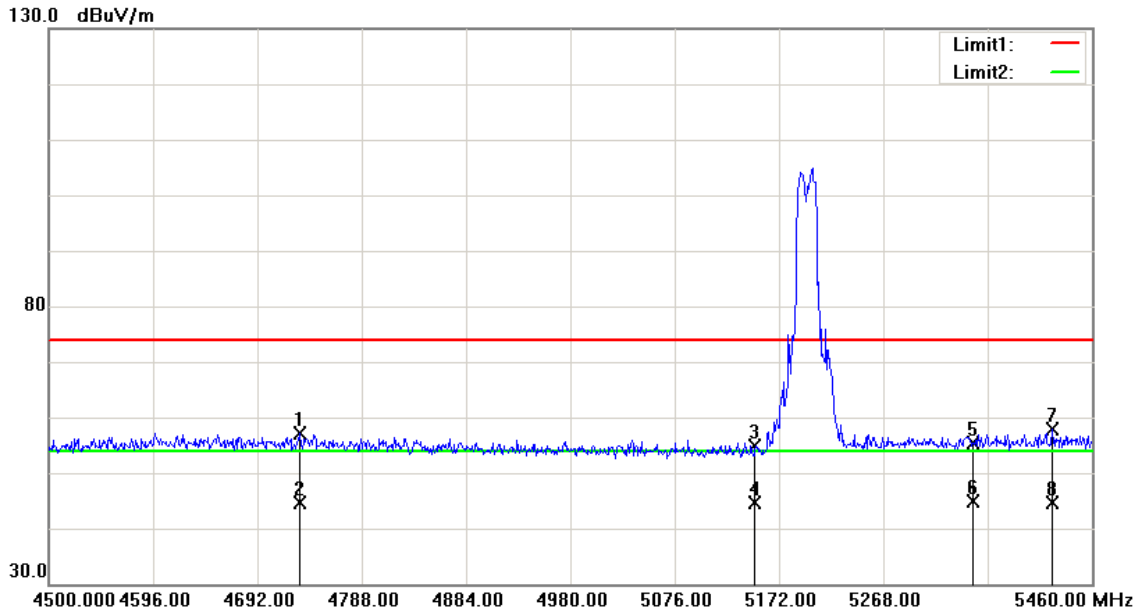
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4830.240	50.64	7.43	58.07	74.00	-15.93	peak
2	4830.240	37.25	7.43	44.68	54.00	-9.32	AVG
3	5150.000	45.58	8.16	53.74	74.00	-20.26	peak
4	5150.000	36.58	8.16	44.74	54.00	-9.26	AVG
5	5350.000	46.93	8.33	55.26	74.00	-18.74	peak
6	5350.000	36.26	8.33	44.59	54.00	-9.41	AVG
7	5416.800	48.48	8.39	56.87	74.00	-17.13	peak
8	5416.800	36.27	8.39	44.66	54.00	-9.34	AVG

Note: 1. Result = Correction factor + Reading

2. Correction factor = Antenna Factor + Cable loss – Pre-Amplifier gain.

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

Standard:	FCC Part 15E	Test Distance:	3 m
Test item:	Band edge	Power:	AC 120 V/60 Hz
Test Mode:	Mode 2	Temp.(℃)/Hum.(%RH):	26(℃)/60 %RH
Frequency:	5200 MHz	Date:	07/29/2016
Ant.Polar.:	Vertical		



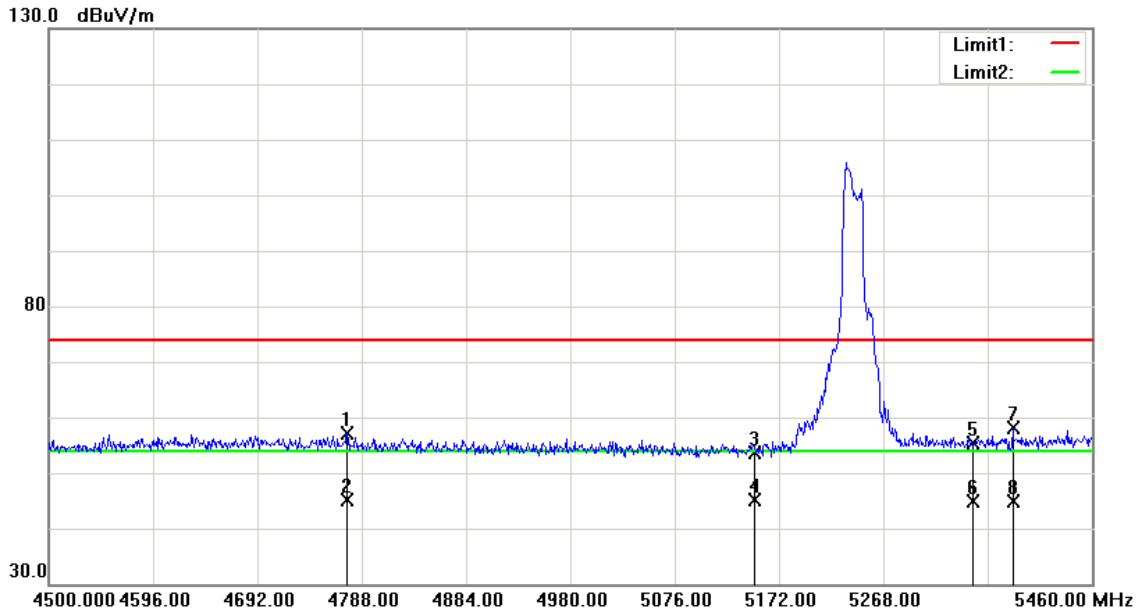
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4730.400	50.08	7.08	57.16	74.00	-16.84	peak
2	4730.400	37.45	7.08	44.53	54.00	-9.47	AVG
3	5150.000	46.79	8.16	54.95	74.00	-19.05	peak
4	5150.000	36.53	8.16	44.69	54.00	-9.31	AVG
5	5350.000	47.16	8.33	55.49	74.00	-18.51	peak
6	5350.000	36.44	8.33	44.77	54.00	-9.23	AVG
7	5423.520	49.59	8.40	57.99	74.00	-16.01	peak
8	5423.520	36.29	8.40	44.69	54.00	-9.31	AVG

Note: 1. Result = Correction factor + Reading

2. Correction factor = Antenna Factor + Cable loss – Pre-Amplifier gain.

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

Standard:	FCC Part 15E	Test Distance:	3 m
Test item:	Band edge	Power:	AC 120 V/60 Hz
Test Mode:	Mode 2	Temp.(℃)/Hum.(%RH):	26(℃)/60 %RH
Frequency:	5240 MHz	Date:	07/29/2016
Ant.Polar.:	Horizontal		



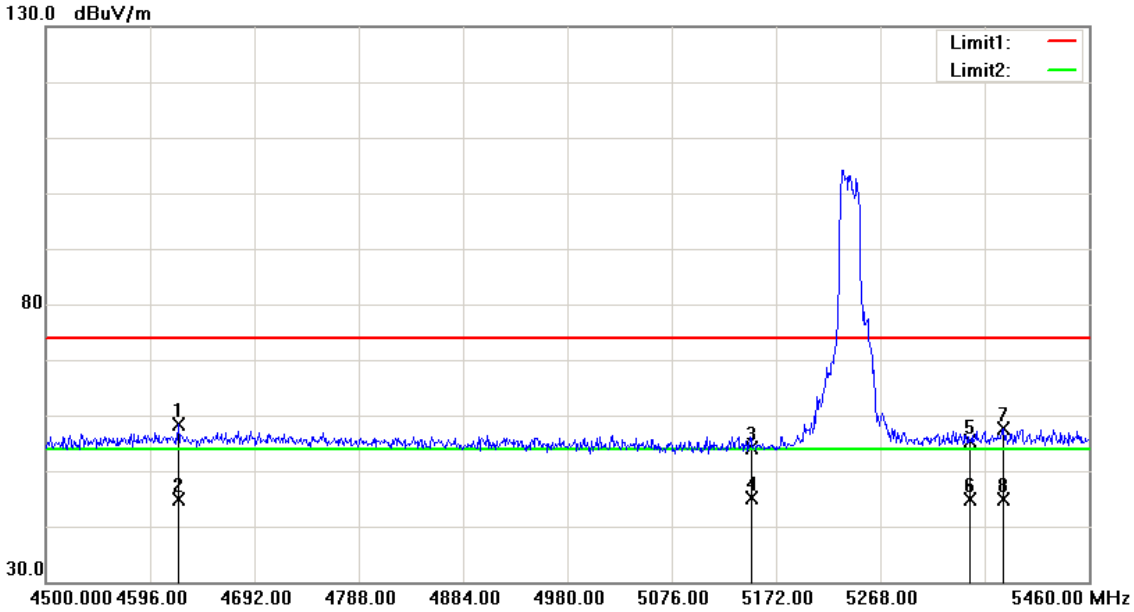
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4774.560	50.02	7.23	57.25	74.00	-16.75	peak
2	4774.560	37.88	7.23	45.11	54.00	-8.89	AVG
3	5150.000	45.55	8.16	53.71	74.00	-20.29	peak
4	5150.000	36.86	8.16	45.02	54.00	-8.98	AVG
5	5350.000	47.04	8.33	55.37	74.00	-18.63	peak
6	5350.000	36.63	8.33	44.96	54.00	-9.04	AVG
7	5387.040	49.79	8.36	58.15	74.00	-15.85	peak
8	5387.040	36.55	8.36	44.91	54.00	-9.09	AVG

Note: 1. Result = Correction factor + Reading

2. Correction factor = Antenna Factor + Cable loss – Pre-Amplifier gain.

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

Standard:	FCC Part 15E	Test Distance:	3 m
Test item:	Band edge	Power:	AC 120 V/60 Hz
Test Mode:	Mode 2	Temp.(℃)/Hum.(%RH):	26(℃)/60 %RH
Frequency:	5240 MHz	Date:	07/29/2016
Ant.Polar.:	Vertical		



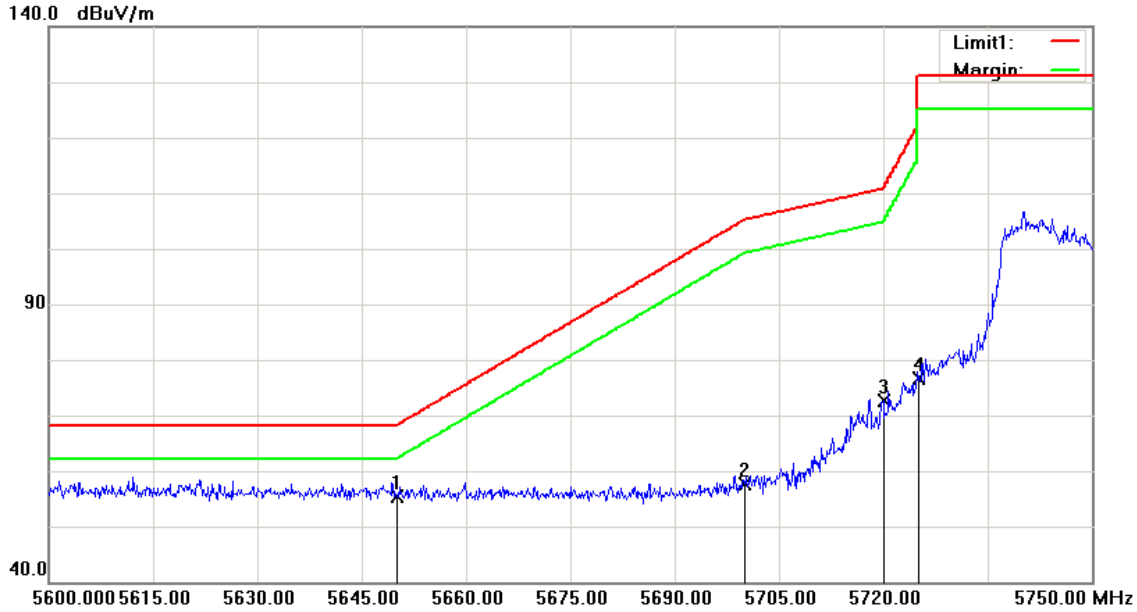
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4621.920	51.74	6.70	58.44	74.00	-15.56	peak
2	4621.920	38.16	6.70	44.86	54.00	-9.14	AVG
3	5150.000	45.90	8.16	54.06	74.00	-19.94	peak
4	5150.000	36.88	8.16	45.04	54.00	-8.96	AVG
5	5350.000	46.93	8.33	55.26	74.00	-18.74	peak
6	5350.000	36.43	8.33	44.76	54.00	-9.24	AVG
7	5381.280	49.17	8.36	57.53	74.00	-16.47	peak
8	5381.280	36.44	8.36	44.80	54.00	-9.20	AVG

Note: 1. Result = Correction factor + Reading

2. Correction factor = Antenna Factor + Cable loss – Pre-Amplifier gain.

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

Standard:	FCC Part 15E	Test Distance:	3 m
Test item:	Band edge	Power:	AC 120 V/60 Hz
Test Mode:	Mode 2	Temp.(℃)/Hum.(%RH):	26(℃)/60 %RH
Frequency:	5745 MHz	Date:	07/29/2016
Ant.Polar.:	Horizontal		



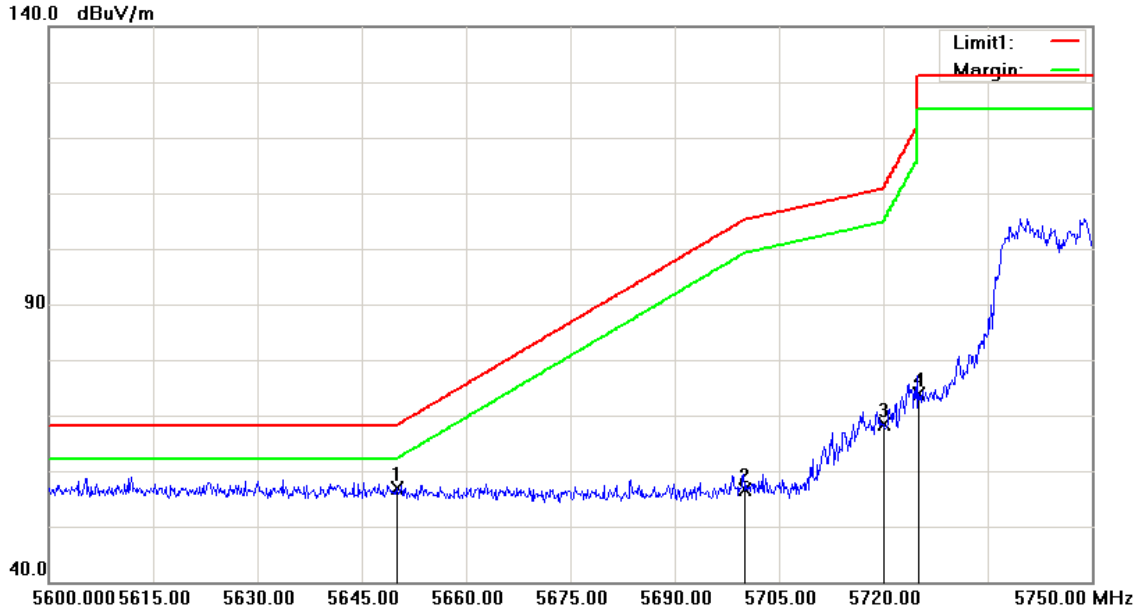
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	5650.000	46.55	8.84	55.39	68.20	-12.81	peak
2	5700.000	48.58	8.97	57.55	105.20	-47.65	peak
3	5720.000	63.72	9.01	72.73	110.80	-38.07	peak
4	5725.000	67.66	9.03	76.69	122.20	-45.51	peak

Note: 1. Result = Correction factor + Reading

2. Correction factor = Antenna Factor + Cable loss – Pre-Amplifier gain.

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

Standard:	FCC Part 15E	Test Distance:	3 m
Test item:	Band edge	Power:	AC 120 V/60 Hz
Test Mode:	Mode 2	Temp.(℃)/Hum.(%RH):	26(℃)/60 %RH
Frequency:	5745 MHz	Date:	07/29/2016
Ant.Polar.:	Vertical		



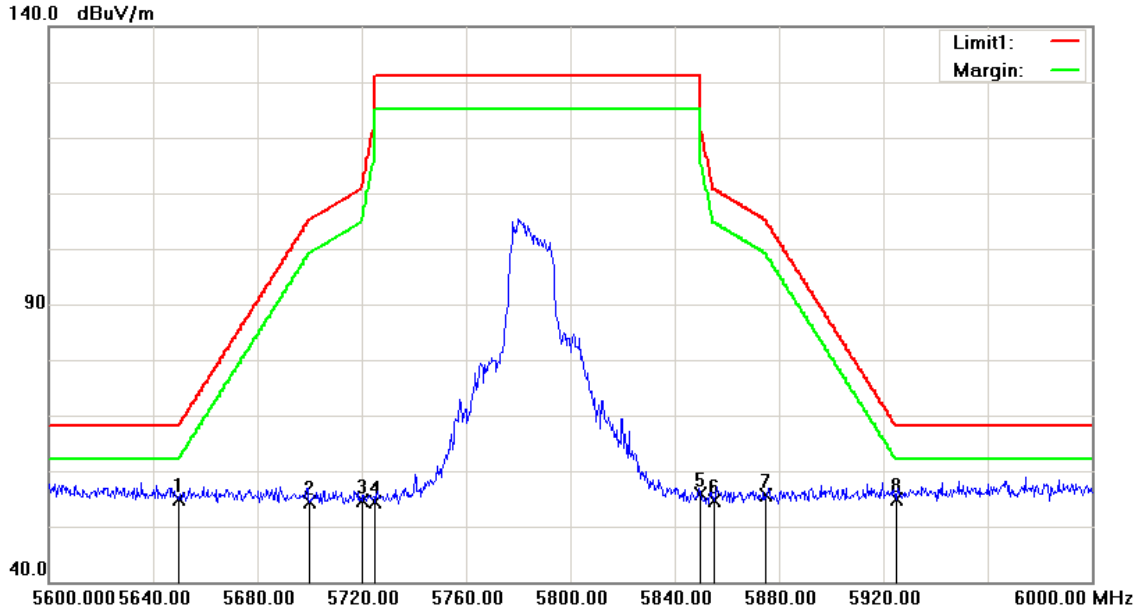
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	5650.000	47.96	8.84	56.80	68.20	-11.40	peak
2	5700.000	47.54	8.97	56.51	105.20	-48.69	peak
3	5720.000	59.36	9.01	68.37	110.80	-42.43	peak
4	5725.000	64.96	9.03	73.99	122.20	-48.21	peak

Note: 1. Result = Correction factor + Reading

2. Correction factor = Antenna Factor + Cable loss – Pre-Amplifier gain.

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

Standard:	FCC Part 15E	Test Distance:	3 m
Test item:	Band edge	Power:	AC 120 V/60 Hz
Test Mode:	Mode 2	Temp.(℃)/Hum.(%RH):	26(℃)/60 %RH
Frequency:	5785 MHz	Date:	07/29/2016
Ant.Polar.:	Horizontal		



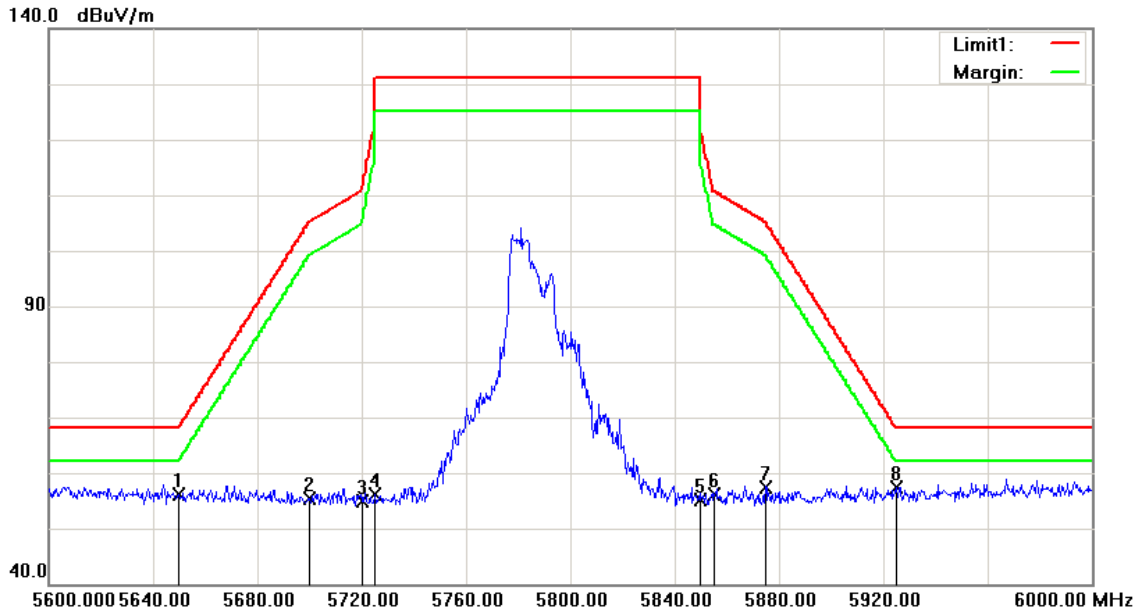
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	5650.000	46.09	8.84	54.93	68.20	-13.27	peak
2	5700.000	45.38	8.97	54.35	105.20	-50.85	peak
3	5720.000	45.60	9.01	54.61	110.80	-56.19	peak
4	5725.000	45.44	9.03	54.47	122.20	-67.73	peak
5	5850.000	46.57	9.33	55.90	122.20	-66.30	peak
6	5855.000	45.35	9.35	54.70	110.80	-56.10	peak
7	5875.000	46.20	9.40	55.60	105.20	-49.60	peak
8	5925.000	45.38	9.53	54.91	68.20	-13.29	peak

Note: 1. Result = Correction factor + Reading

2. Correction factor = Antenna Factor + Cable loss – Pre-Amplifier gain.

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

Standard:	FCC Part 15E	Test Distance:	3 m
Test item:	Band edge	Power:	AC 120 V/60 Hz
Test Mode:	Mode 2	Temp.(℃)/Hum.(%RH):	26(℃)/60 %RH
Frequency:	5785 MHz	Date:	07/29/2016
Ant.Polar.:	Vertical		



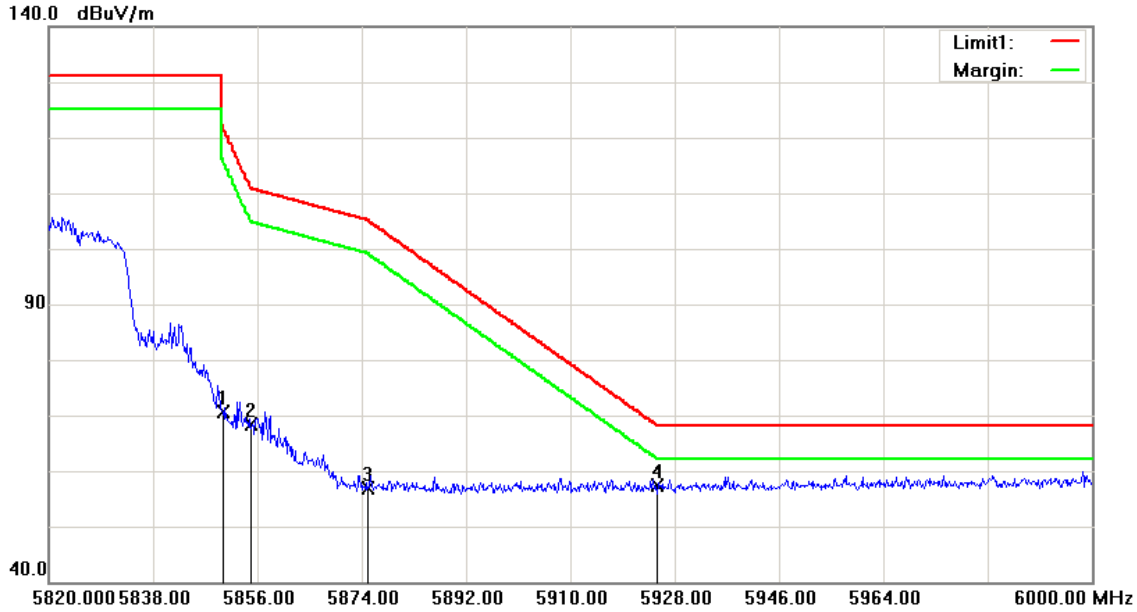
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	5650.000	47.27	8.84	56.11	68.20	-12.09	peak
2	5700.000	46.38	8.97	55.35	105.20	-49.85	peak
3	5720.000	45.89	9.01	54.90	110.80	-55.90	peak
4	5725.000	46.98	9.03	56.01	122.20	-66.19	peak
5	5850.000	45.78	9.33	55.11	122.20	-67.09	peak
6	5855.000	46.89	9.35	56.24	110.80	-54.56	peak
7	5875.000	47.87	9.40	57.27	105.20	-47.93	peak
8	5925.000	47.97	9.53	57.50	68.20	-10.70	peak

Note: 1. Result = Correction factor + Reading

2. Correction factor = Antenna Factor + Cable loss – Pre-Amplifier gain.

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

Standard:	FCC Part 15E	Test Distance:	3 m
Test item:	Band edge	Power:	AC 120 V/60 Hz
Test Mode:	Mode 2	Temp.(℃)/Hum.(%RH):	26(℃)/60 %RH
Frequency:	5825 MHz	Date:	07/29/2016
Ant.Polar.:	Horizontal		



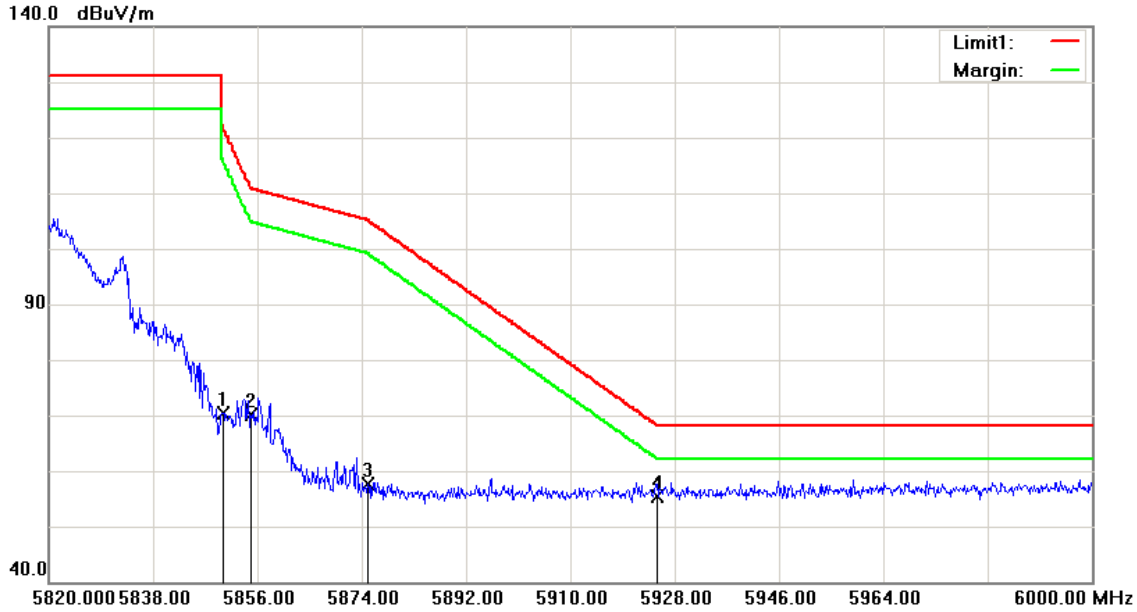
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	5850.000	61.35	9.33	70.68	122.20	-51.52	peak
2	5855.000	58.96	9.35	68.31	110.80	-42.49	peak
3	5875.000	47.43	9.40	56.83	105.20	-48.37	peak
4	5925.000	47.79	9.53	57.32	68.20	-10.88	peak

Note: 1. Result = Correction factor + Reading

2. Correction factor = Antenna Factor + Cable loss – Pre-Amplifier gain.

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

Standard:	FCC Part 15E	Test Distance:	3 m
Test item:	Band edge	Power:	AC 120 V/60 Hz
Test Mode:	Mode 2	Temp.(℃)/Hum.(%RH):	26(℃)/60 %RH
Frequency:	5825 MHz	Date:	07/29/2016
Ant.Polar.:	Vertical		



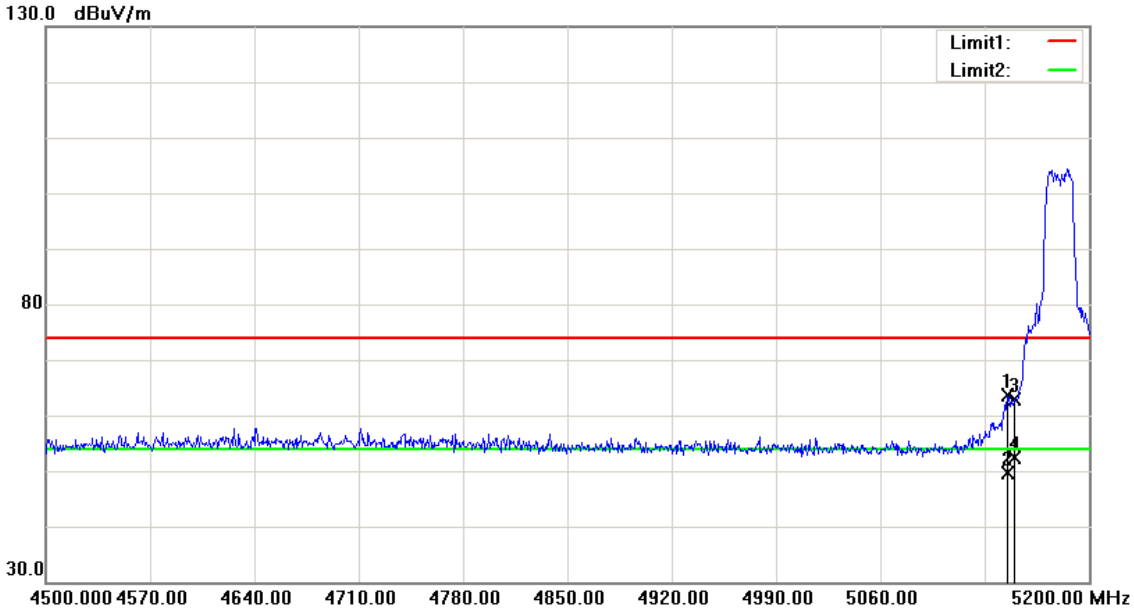
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	5850.000	61.05	9.33	70.38	122.20	-51.82	peak
2	5855.000	60.68	9.35	70.03	110.80	-40.77	peak
3	5875.000	48.19	9.40	57.59	105.20	-47.61	peak
4	5925.000	45.80	9.53	55.33	68.20	-12.87	peak

Note: 1. Result = Correction factor + Reading

2. Correction factor = Antenna Factor + Cable loss – Pre-Amplifier gain.

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

Standard:	FCC Part 15E	Test Distance:	3 m
Test item:	Band edge	Power:	AC 120 V/60 Hz
Test Mode:	Mode 3	Temp.(℃)/Hum.(%RH):	26(℃)/60 %RH
Frequency:	5180 MHz	Date:	07/29/2016
Ant.Polar.:	Horizontal		



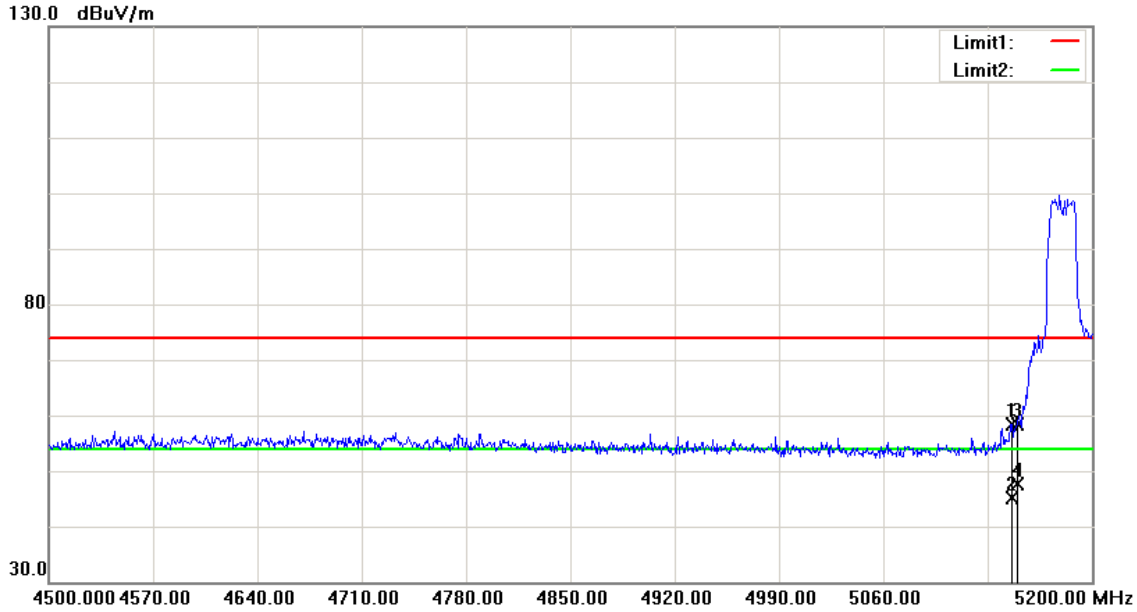
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	5145.400	55.40	8.15	63.55	74.00	-10.45	peak
2	5145.400	41.46	8.15	49.61	54.00	-4.39	AVG
3	5150.000	54.72	8.16	62.88	74.00	-11.12	peak
4	5150.000	44.21	8.16	52.37	54.00	-1.63	AVG

Note: 1. Result = Correction factor + Reading

2. Correction factor = Antenna Factor + Cable loss – Pre-Amplifier gain.

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

Standard:	FCC Part 15E	Test Distance:	3 m
Test item:	Band edge	Power:	AC 120 V/60 Hz
Test Mode:	Mode 3	Temp.(℃)/Hum.(%RH):	26(℃)/60 %RH
Frequency:	5180 MHz	Date:	07/29/2016
Ant.Polar.:	Vertical		



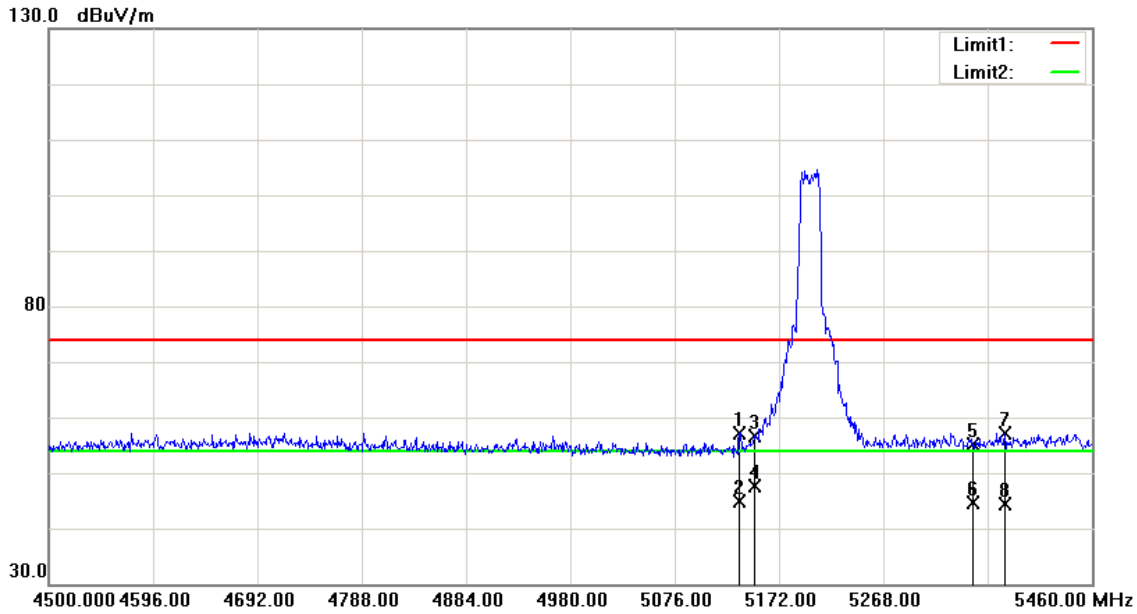
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	5146.100	50.26	8.15	58.41	74.00	-15.59	peak
2	5146.100	37.07	8.15	45.22	54.00	-8.78	AVG
3	5150.000	50.24	8.16	58.40	74.00	-15.60	peak
4	5150.000	39.53	8.16	47.69	54.00	-6.31	AVG

Note: 1. Result = Correction factor + Reading

2. Correction factor = Antenna Factor + Cable loss – Pre-Amplifier gain.

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

Standard:	FCC Part 15E	Test Distance:	3 m
Test item:	Band edge	Power:	AC 120 V/60 Hz
Test Mode:	Mode 3	Temp.(℃)/Hum.(%RH):	26(℃)/60 %RH
Frequency:	5200 MHz	Date:	07/29/2016
Ant.Polar.:	Horizontal		



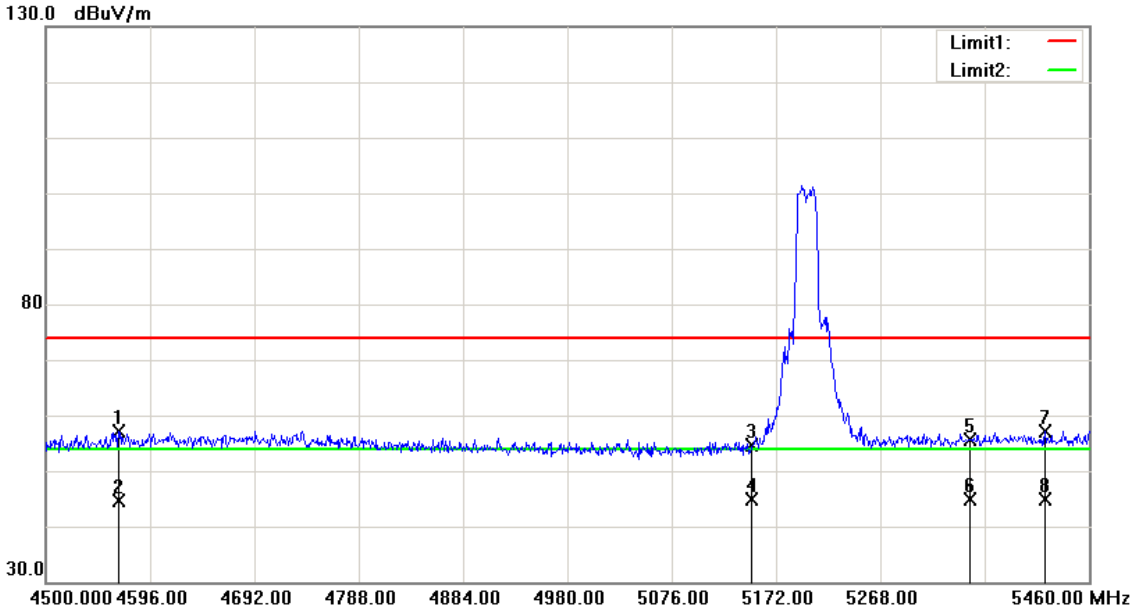
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	5135.520	49.11	8.14	57.25	74.00	-16.75	peak
2	5135.520	36.62	8.14	44.76	54.00	-9.24	AVG
3	5150.000	48.36	8.16	56.52	74.00	-17.48	peak
4	5150.000	39.47	8.16	47.63	54.00	-6.37	AVG
5	5350.000	46.75	8.33	55.08	74.00	-18.92	peak
6	5350.000	36.35	8.33	44.68	54.00	-9.32	AVG
7	5379.360	48.86	8.36	57.22	74.00	-16.78	peak
8	5379.360	36.13	8.36	44.49	54.00	-9.51	AVG

Note: 1. Result = Correction factor + Reading

2. Correction factor = Antenna Factor + Cable loss – Pre-Amplifier gain.

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

Standard:	FCC Part 15E	Test Distance:	3 m
Test item:	Band edge	Power:	AC 120 V/60 Hz
Test Mode:	Mode 3	Temp.(℃)/Hum.(%RH):	26(℃)/60 %RH
Frequency:	5200 MHz	Date:	07/29/2016
Ant.Polar.:	Vertical		



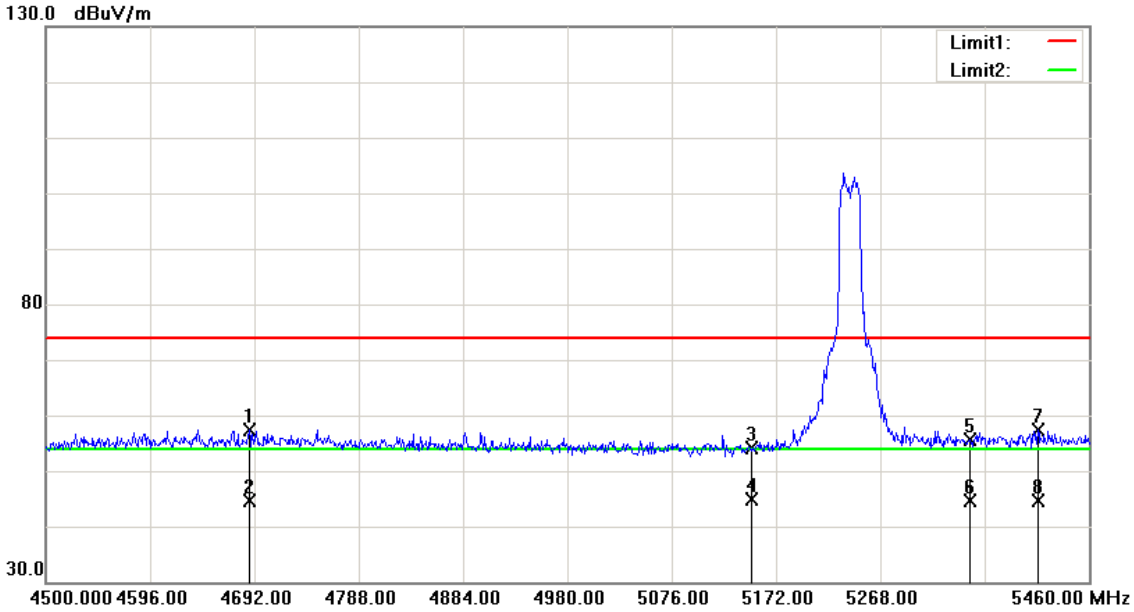
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4567.200	50.72	6.51	57.23	74.00	-16.77	peak
2	4567.200	38.09	6.51	44.60	54.00	-9.40	AVG
3	5150.000	46.55	8.16	54.71	74.00	-19.29	peak
4	5150.000	36.75	8.16	44.91	54.00	-9.09	AVG
5	5350.000	47.41	8.33	55.74	74.00	-18.26	peak
6	5350.000	36.50	8.33	44.83	54.00	-9.17	AVG
7	5419.680	48.72	8.39	57.11	74.00	-16.89	peak
8	5419.680	36.40	8.39	44.79	54.00	-9.21	AVG

Note: 1. Result = Correction factor + Reading

2. Correction factor = Antenna Factor + Cable loss – Pre-Amplifier gain.

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

Standard:	FCC Part 15E	Test Distance:	3 m
Test item:	Band edge	Power:	AC 120 V/60 Hz
Test Mode:	Mode 3	Temp.(℃)/Hum.(%RH):	26(℃)/60 %RH
Frequency:	5240 MHz	Date:	07/29/2016
Ant.Polar.:	Horizontal		



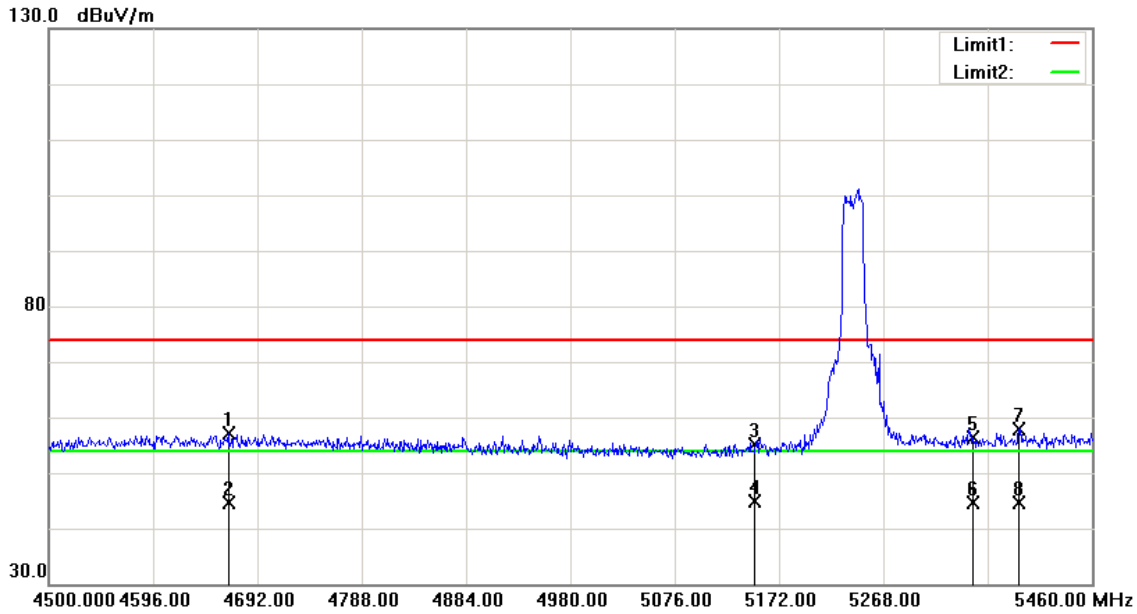
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4687.200	50.57	6.92	57.49	74.00	-16.51	peak
2	4687.200	37.60	6.92	44.52	54.00	-9.48	AVG
3	5150.000	45.97	8.16	54.13	74.00	-19.87	peak
4	5150.000	36.60	8.16	44.76	54.00	-9.24	AVG
5	5350.000	47.41	8.33	55.74	74.00	-18.26	peak
6	5350.000	36.25	8.33	44.58	54.00	-9.42	AVG
7	5412.960	48.88	8.39	57.27	74.00	-16.73	peak
8	5412.960	36.25	8.39	44.64	54.00	-9.36	AVG

Note: 1. Result = Correction factor + Reading

2. Correction factor = Antenna Factor + Cable loss – Pre-Amplifier gain.

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

Standard:	FCC Part 15E	Test Distance:	3 m
Test item:	Band edge	Power:	AC 120 V/60 Hz
Test Mode:	Mode 3	Temp.(℃)/Hum.(%RH):	26(℃)/60 %RH
Frequency:	5240 MHz	Date:	07/29/2016
Ant.Polar.:	Vertical		



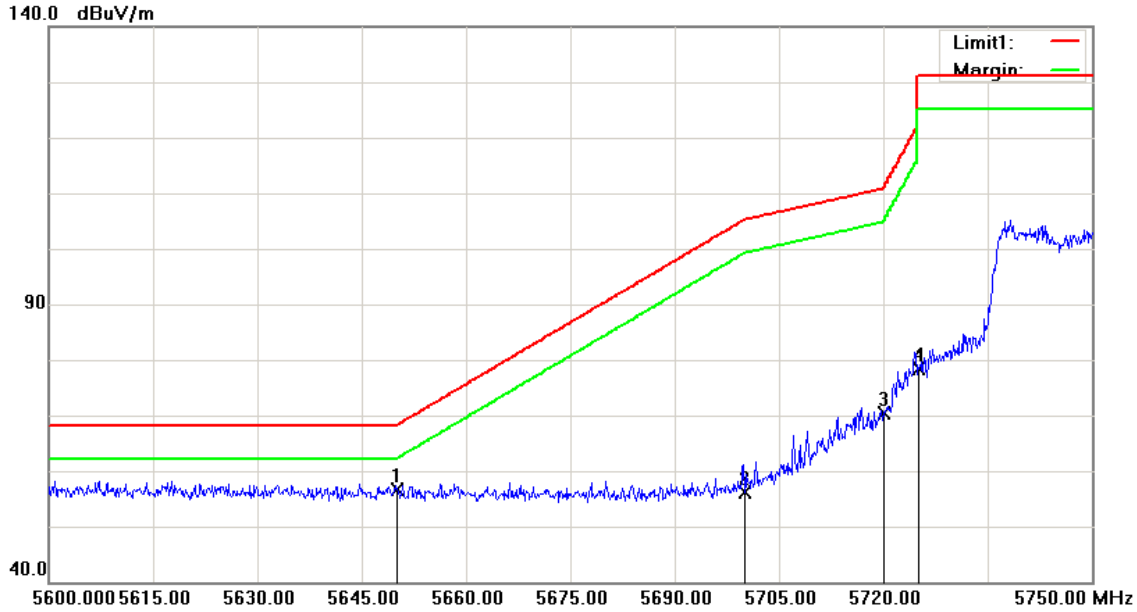
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4665.120	50.38	6.84	57.22	74.00	-16.78	peak
2	4665.120	37.81	6.84	44.65	54.00	-9.35	AVG
3	5150.000	47.00	8.16	55.16	74.00	-18.84	peak
4	5150.000	36.71	8.16	44.87	54.00	-9.13	AVG
5	5350.000	48.14	8.33	56.47	74.00	-17.53	peak
6	5350.000	36.26	8.33	44.59	54.00	-9.41	AVG
7	5392.800	49.51	8.37	57.88	74.00	-16.12	peak
8	5392.800	36.34	8.37	44.71	54.00	-9.29	AVG

Note: 1. Result = Correction factor + Reading

2. Correction factor = Antenna Factor + Cable loss – Pre-Amplifier gain.

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

Standard:	FCC Part 15E	Test Distance:	3 m
Test item:	Band edge	Power:	AC 120 V/60 Hz
Test Mode:	Mode 3	Temp.(℃)/Hum.(%RH):	26(℃)/60 %RH
Frequency:	5745 MHz	Date:	07/29/2016
Ant.Polar.:	Horizontal		



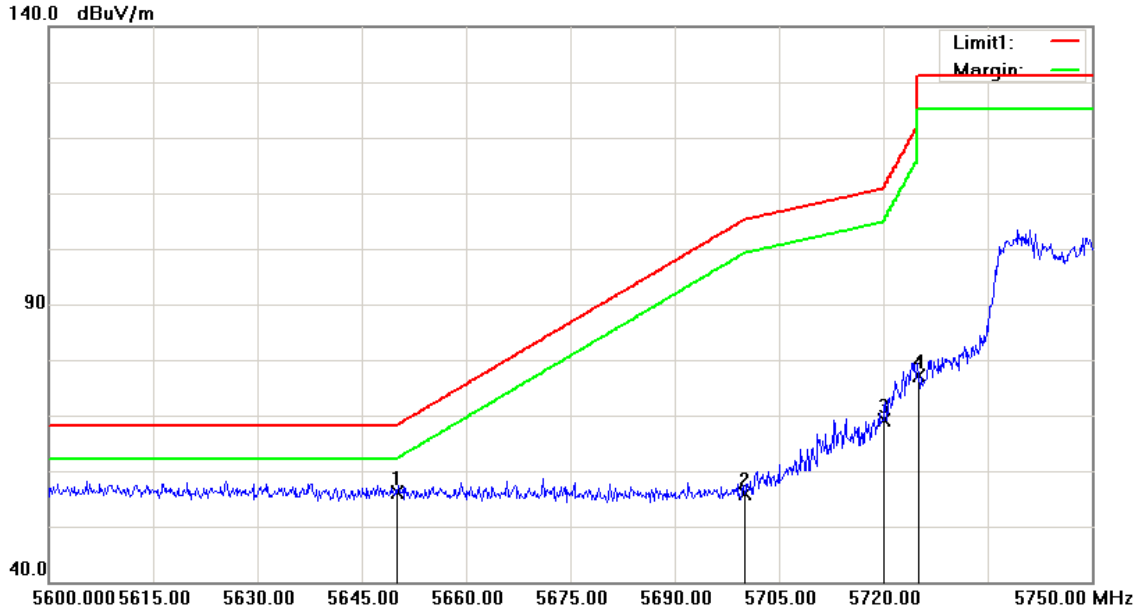
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	5650.000	47.91	8.84	56.75	68.20	-11.45	peak
2	5700.000	47.22	8.97	56.19	105.20	-49.01	peak
3	5720.000	61.46	9.01	70.47	110.80	-40.33	peak
4	5725.000	69.41	9.03	78.44	122.20	-43.76	peak

Note: 1. Result = Correction factor + Reading

2. Correction factor = Antenna Factor + Cable loss – Pre-Amplifier gain.

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

Standard:	FCC Part 15E	Test Distance:	3 m
Test item:	Band edge	Power:	AC 120 V/60 Hz
Test Mode:	Mode 3	Temp.(℃)/Hum.(%RH):	26(℃)/60 %RH
Frequency:	5745 MHz	Date:	07/29/2016
Ant.Polar.:	Vertical		



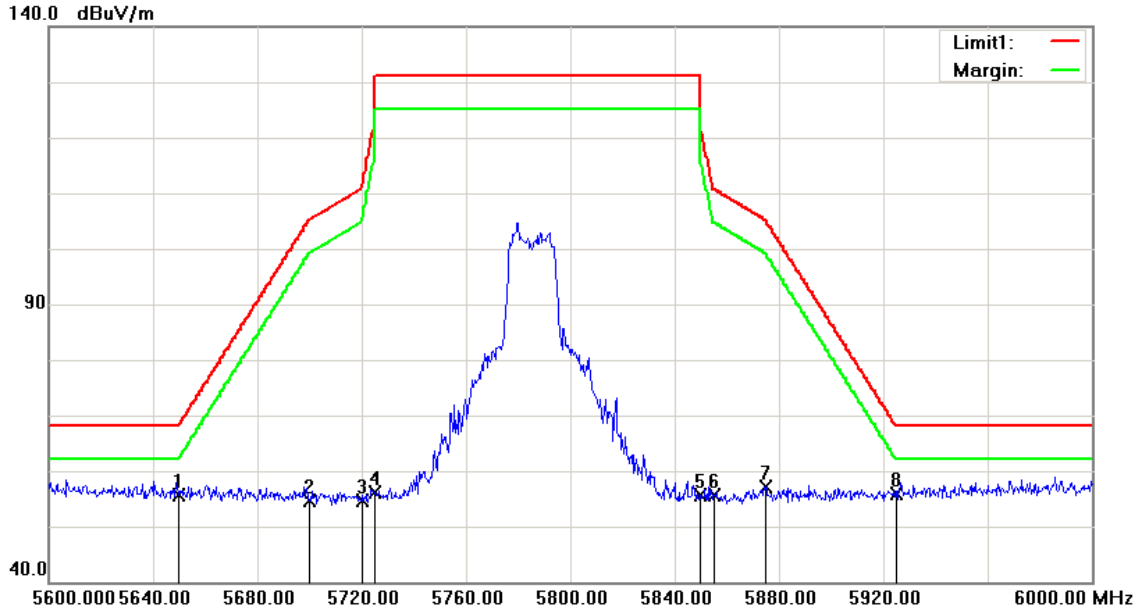
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	5650.000	47.25	8.84	56.09	68.20	-12.11	peak
2	5700.000	46.88	8.97	55.85	105.20	-49.35	peak
3	5720.000	60.05	9.01	69.06	110.80	-41.74	peak
4	5725.000	68.17	9.03	77.20	122.20	-45.00	peak

Note: 1. Result = Correction factor + Reading

2. Correction factor = Antenna Factor + Cable loss – Pre-Amplifier gain.

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

Standard:	FCC Part 15E	Test Distance:	3 m
Test item:	Band edge	Power:	AC 120 V/60 Hz
Test Mode:	Mode 3	Temp.(℃)/Hum.(%RH):	26(℃)/60 %RH
Frequency:	5785 MHz	Date:	07/29/2016
Ant.Polar.:	Horizontal		



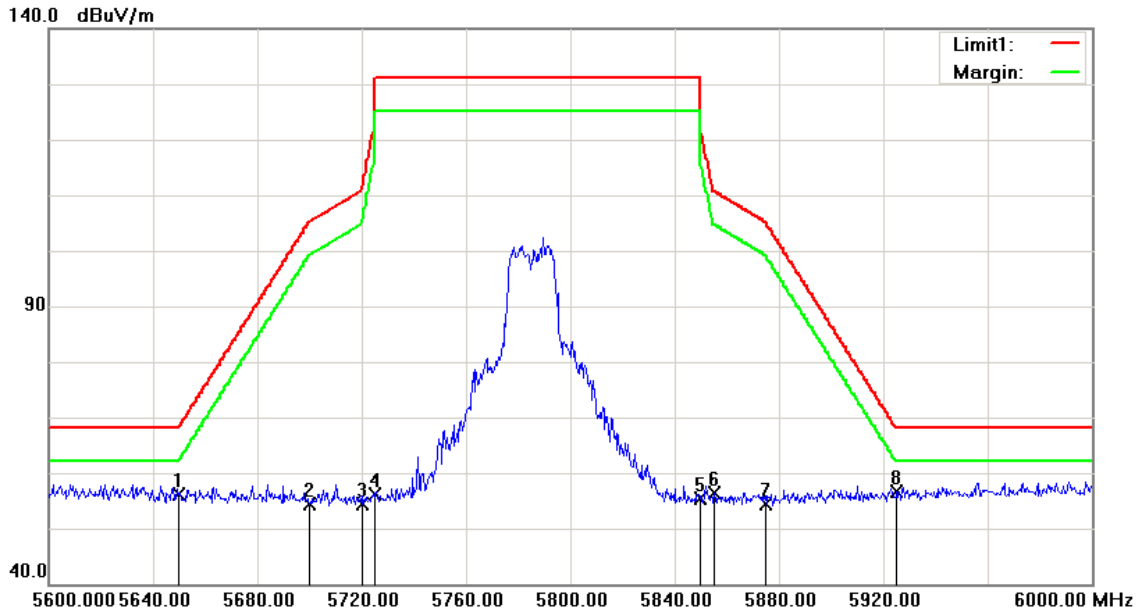
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	5650.000	46.71	8.84	55.55	68.20	-12.65	peak
2	5700.000	45.68	8.97	54.65	105.20	-50.55	peak
3	5720.000	45.66	9.01	54.67	110.80	-56.13	peak
4	5725.000	47.00	9.03	56.03	122.20	-66.17	peak
5	5850.000	46.37	9.33	55.70	122.20	-66.50	peak
6	5855.000	46.40	9.35	55.75	110.80	-55.05	peak
7	5875.000	47.78	9.40	57.18	105.20	-48.02	peak
8	5925.000	46.30	9.53	55.83	68.20	-12.37	peak

Note: 1. Result = Correction factor + Reading

2. Correction factor = Antenna Factor + Cable loss – Pre-Amplifier gain.

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

Standard:	FCC Part 15E	Test Distance:	3 m
Test item:	Band edge	Power:	AC 120 V/60 Hz
Test Mode:	Mode 3	Temp.(℃)/Hum.(%RH):	26(℃)/60 %RH
Frequency:	5785 MHz	Date:	07/29/2016
Ant.Polar.:	Vertical		



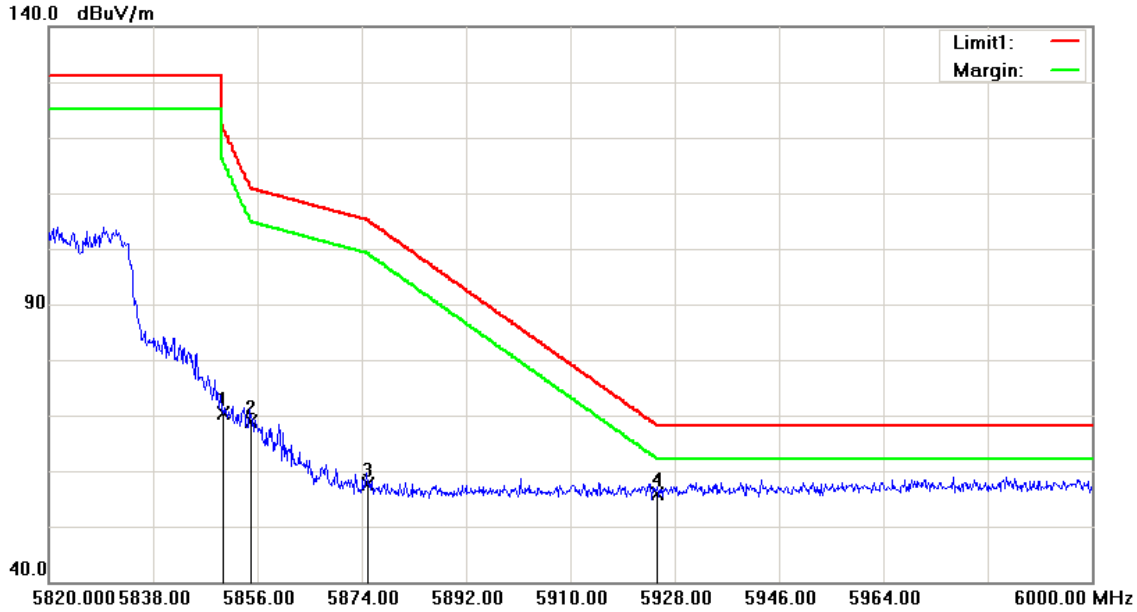
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	5650.000	47.26	8.84	56.10	68.20	-12.10	peak
2	5700.000	45.46	8.97	54.43	105.20	-50.77	peak
3	5720.000	45.49	9.01	54.50	110.80	-56.30	peak
4	5725.000	47.12	9.03	56.15	122.20	-66.05	peak
5	5850.000	45.96	9.33	55.29	122.20	-66.91	peak
6	5855.000	47.04	9.35	56.39	110.80	-54.41	peak
7	5875.000	44.99	9.40	54.39	105.20	-50.81	peak
8	5925.000	47.12	9.53	56.65	68.20	-11.55	peak

Note: 1. Result = Correction factor + Reading

2. Correction factor = Antenna Factor + Cable loss – Pre-Amplifier gain.

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

Standard:	FCC Part 15E	Test Distance:	3 m
Test item:	Band edge	Power:	AC 120 V/60 Hz
Test Mode:	Mode 3	Temp.(℃)/Hum.(%RH):	26(℃)/60 %RH
Frequency:	5825 MHz	Date:	07/29/2016
Ant.Polar.:	Horizontal		



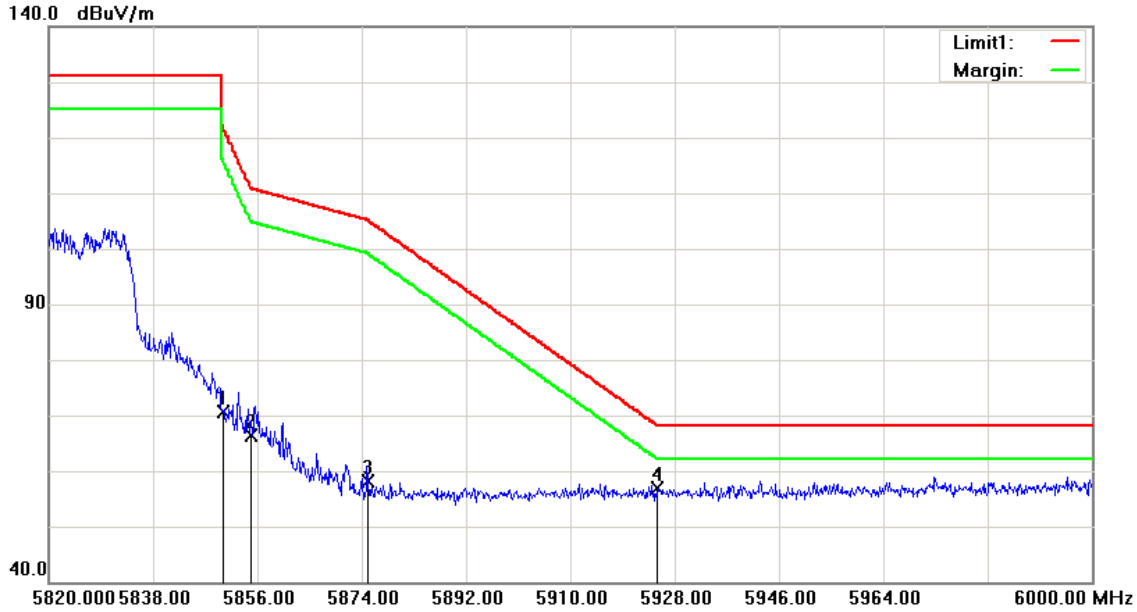
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	5850.000	61.01	9.33	70.34	122.20	-51.86	peak
2	5855.000	59.57	9.35	68.92	110.80	-41.88	peak
3	5875.000	48.30	9.40	57.70	105.20	-47.50	peak
4	5925.000	46.45	9.53	55.98	68.20	-12.22	peak

Note: 1. Result = Correction factor + Reading

2. Correction factor = Antenna Factor + Cable loss – Pre-Amplifier gain.

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

Standard:	FCC Part 15E	Test Distance:	3 m
Test item:	Band edge	Power:	AC 120 V/60 Hz
Test Mode:	Mode 3	Temp.(℃)/Hum.(%RH):	26(℃)/60 %RH
Frequency:	5825 MHz	Date:	07/29/2016
Ant.Polar.:	Vertical		



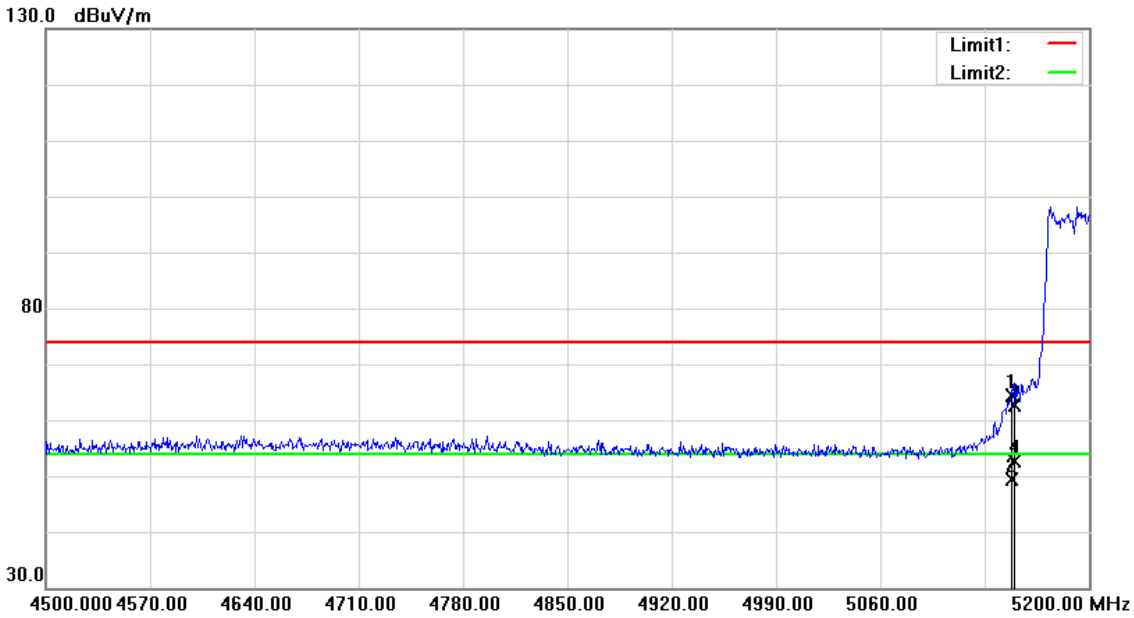
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	5850.000	61.24	9.33	70.57	122.20	-51.63	peak
2	5855.000	57.14	9.35	66.49	110.80	-44.31	peak
3	5875.000	48.71	9.40	58.11	105.20	-47.09	peak
4	5925.000	47.46	9.53	56.99	68.20	-11.21	peak

Note: 1. Result = Correction factor + Reading

2. Correction factor = Antenna Factor + Cable loss – Pre-Amplifier gain.

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

Standard:	FCC Part 15E	Test Distance:	3 m
Test item:	Band edge	Power:	AC 120 V/60 Hz
Test Mode:	Mode 4	Temp.(℃)/Hum.(%RH):	26(℃)/60 %RH
Frequency:	5190 MHz	Date:	07/29/2016
Ant.Polar.:	Horizontal		



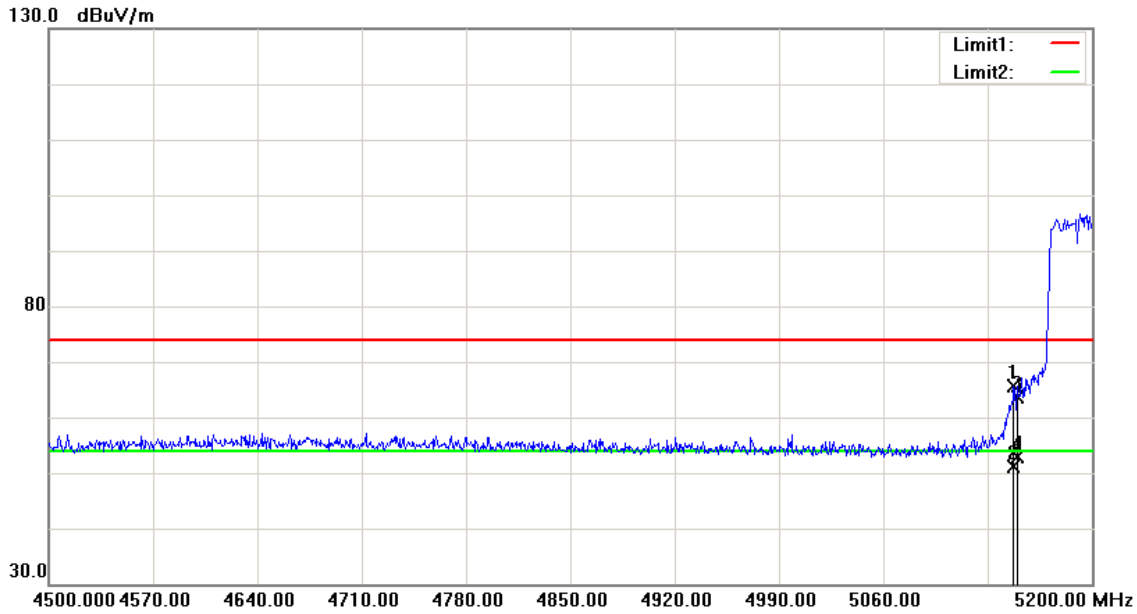
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	5148.200	56.32	8.16	64.48	74.00	-9.52	peak
2	5148.200	41.30	8.16	49.46	54.00	-4.54	AVG
3	5150.000	54.48	8.16	62.64	74.00	-11.36	peak
4	5150.000	44.56	8.16	52.72	54.00	-1.28	AVG

Note: 1. Result = Correction factor + Reading

2. Correction factor = Antenna Factor + Cable loss – Pre-Amplifier gain.

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

Standard:	FCC Part 15E	Test Distance:	3 m
Test item:	Band edge	Power:	AC 120 V/60 Hz
Test Mode:	Mode 4	Temp.(℃)/Hum.(%RH):	26(℃)/60 %RH
Frequency:	5190 MHz	Date:	07/29/2016
Ant.Polar.:	Vertical		



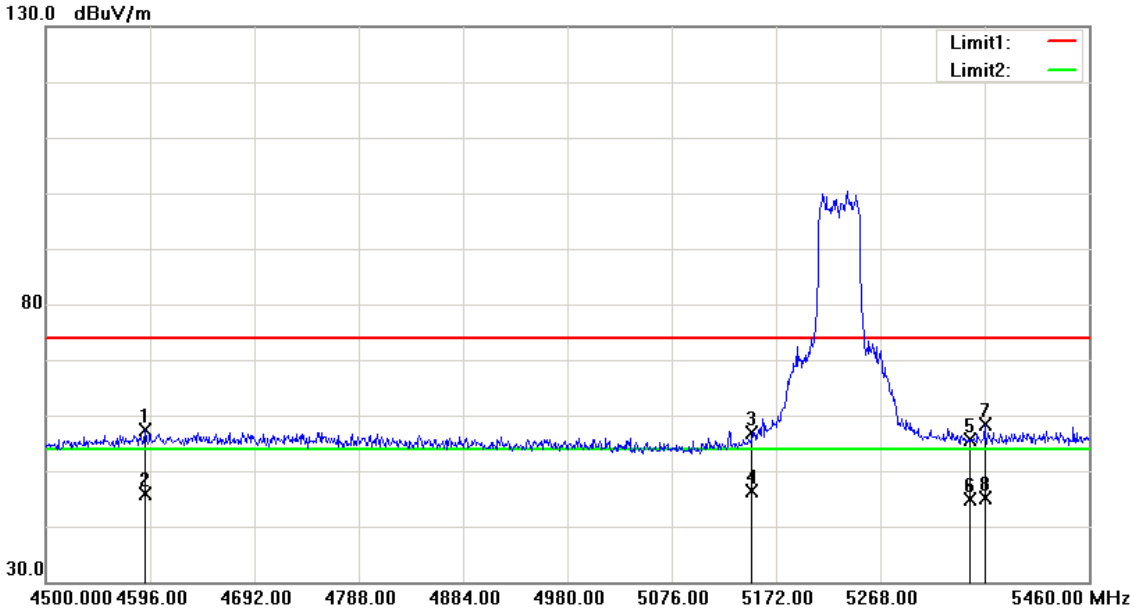
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	5147.500	57.40	8.15	65.55	74.00	-8.45	peak
2	5147.500	43.05	8.15	51.20	54.00	-2.80	AVG
3	5150.000	55.35	8.16	63.51	74.00	-10.49	peak
4	5150.000	44.64	8.16	52.80	54.00	-1.20	AVG

Note: 1. Result = Correction factor + Reading

2. Correction factor = Antenna Factor + Cable loss – Pre-Amplifier gain.

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

Standard:	FCC Part 15E	Test Distance:	3 m
Test item:	Band edge	Power:	AC 120 V/60 Hz
Test Mode:	Mode 4	Temp.(℃)/Hum.(%RH):	26(℃)/60 %RH
Frequency:	5230 MHz	Date:	07/29/2016
Ant.Polar.:	Horizontal		



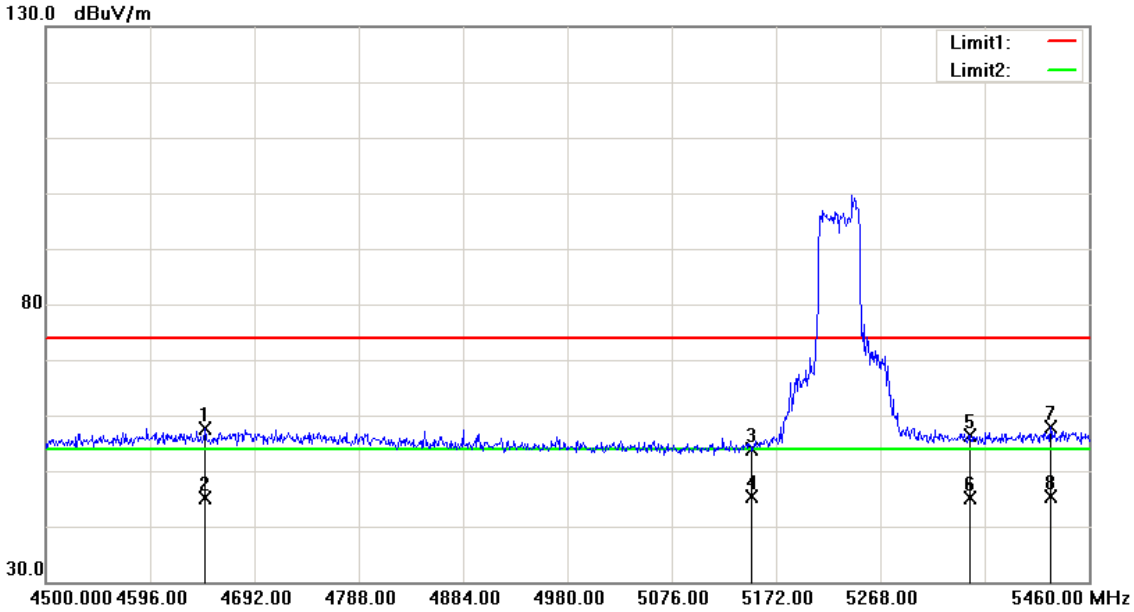
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4591.200	50.78	6.58	57.36	74.00	-16.64	peak
2	4591.200	39.21	6.58	45.79	54.00	-8.21	AVG
3	5150.000	48.78	8.16	56.94	74.00	-17.06	peak
4	5150.000	38.29	8.16	46.45	54.00	-7.55	AVG
5	5350.000	47.40	8.33	55.73	74.00	-18.27	peak
6	5350.000	36.60	8.33	44.93	54.00	-9.07	AVG
7	5364.000	50.07	8.35	58.42	74.00	-15.58	peak
8	5364.000	36.77	8.35	45.12	54.00	-8.88	AVG

Note: 1. Result = Correction factor + Reading

2. Correction factor = Antenna Factor + Cable loss – Pre-Amplifier gain.

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

Standard:	FCC Part 15E	Test Distance:	3 m
Test item:	Band edge	Power:	AC 120 V/60 Hz
Test Mode:	Mode 4	Temp.(℃)/Hum.(%RH):	26(℃)/60 %RH
Frequency:	5230 MHz	Date:	07/29/2016
Ant.Polar.:	Vertical		



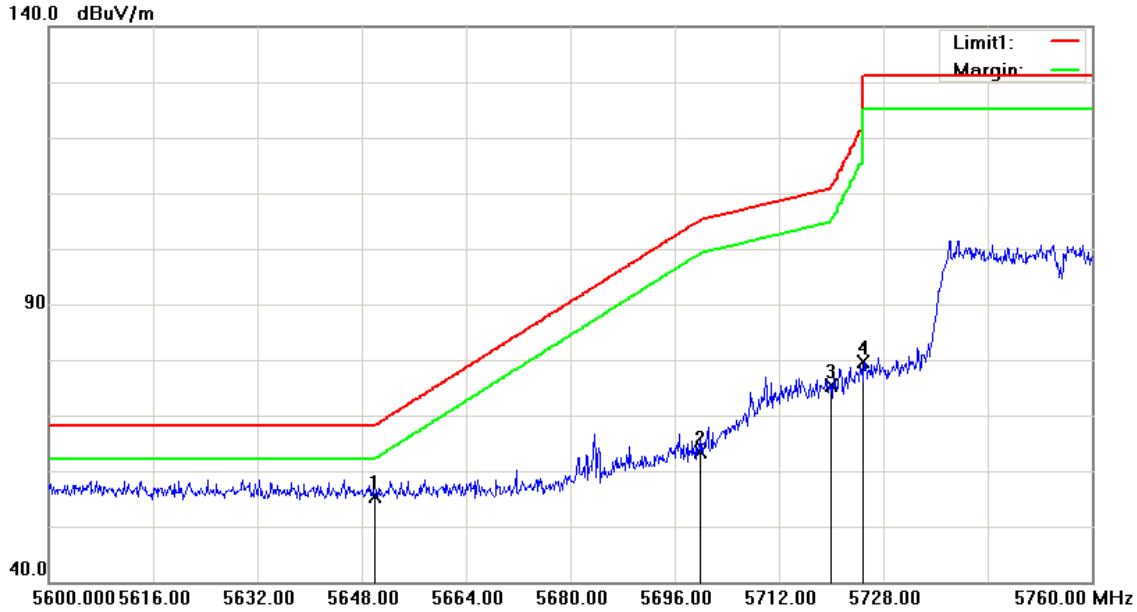
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4646.880	50.76	6.77	57.53	74.00	-16.47	peak
2	4646.880	38.36	6.77	45.13	54.00	-8.87	AVG
3	5150.000	45.82	8.16	53.98	74.00	-20.02	peak
4	5150.000	37.22	8.16	45.38	54.00	-8.62	AVG
5	5350.000	48.12	8.33	56.45	74.00	-17.55	peak
6	5350.000	36.89	8.33	45.22	54.00	-8.78	AVG
7	5424.480	49.41	8.40	57.81	74.00	-16.19	peak
8	5424.480	36.91	8.40	45.31	54.00	-8.69	AVG

Note: 1. Result = Correction factor + Reading

2. Correction factor = Antenna Factor + Cable loss – Pre-Amplifier gain.

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

Standard:	FCC Part 15E	Test Distance:	3 m
Test item:	Band edge	Power:	AC 120 V/60 Hz
Test Mode:	Mode 4	Temp.(℃)/Hum.(%RH):	26(℃)/60 %RH
Frequency:	5755 MHz	Date:	07/29/2016
Ant.Polar.:	Horizontal		



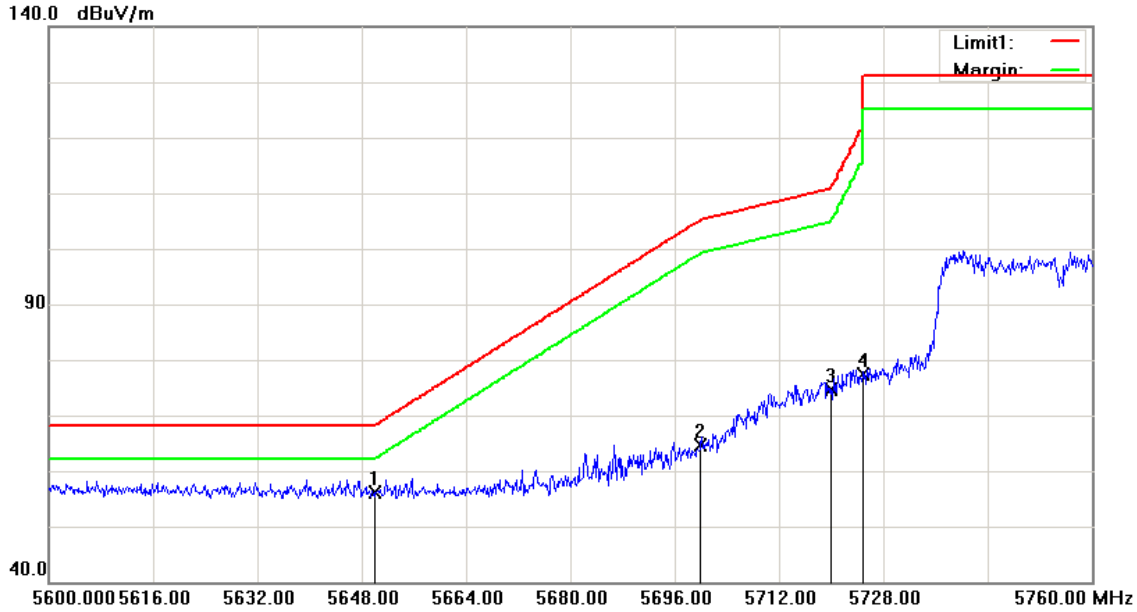
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	5650.000	46.65	8.84	55.49	68.20	-12.71	peak
2	5700.000	54.51	8.97	63.48	105.20	-41.72	peak
3	5720.000	66.32	9.01	75.33	110.80	-35.47	peak
4	5725.000	70.61	9.03	79.64	122.20	-42.56	peak

Note: 1. Result = Correction factor + Reading

2. Correction factor = Antenna Factor + Cable loss – Pre-Amplifier gain.

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

Standard:	FCC Part 15E	Test Distance:	3 m
Test item:	Band edge	Power:	AC 120 V/60 Hz
Test Mode:	Mode 4	Temp.(℃)/Hum.(%RH):	26(℃)/60 %RH
Frequency:	5755 MHz	Date:	07/29/2016
Ant.Polar.:	Vertical		



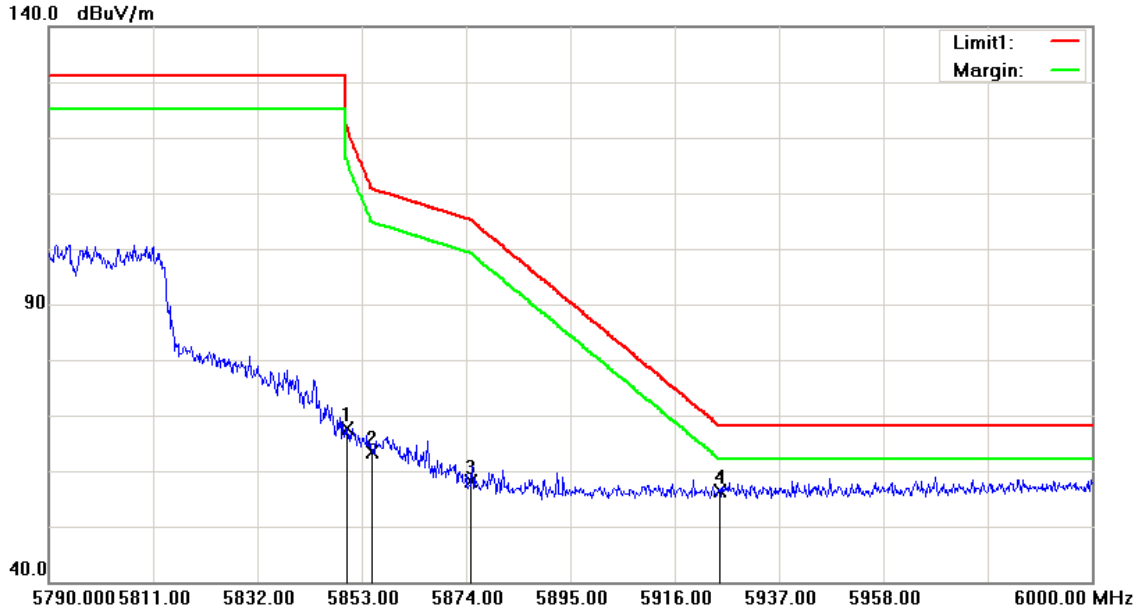
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	5650.000	47.22	8.84	56.06	68.20	-12.14	peak
2	5700.000	55.71	8.97	64.68	105.20	-40.52	peak
3	5720.000	65.59	9.01	74.60	110.80	-36.20	peak
4	5725.000	68.32	9.03	77.35	122.20	-44.85	peak

Note: 1. Result = Correction factor + Reading

2. Correction factor = Antenna Factor + Cable loss – Pre-Amplifier gain.

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

Standard:	FCC Part 15E	Test Distance:	3 m
Test item:	Band edge	Power:	AC 120 V/60 Hz
Test Mode:	Mode 4	Temp.(℃)/Hum.(%RH):	26(℃)/60 %RH
Frequency:	5795 MHz	Date:	07/29/2016
Ant.Polar.:	Horizontal		



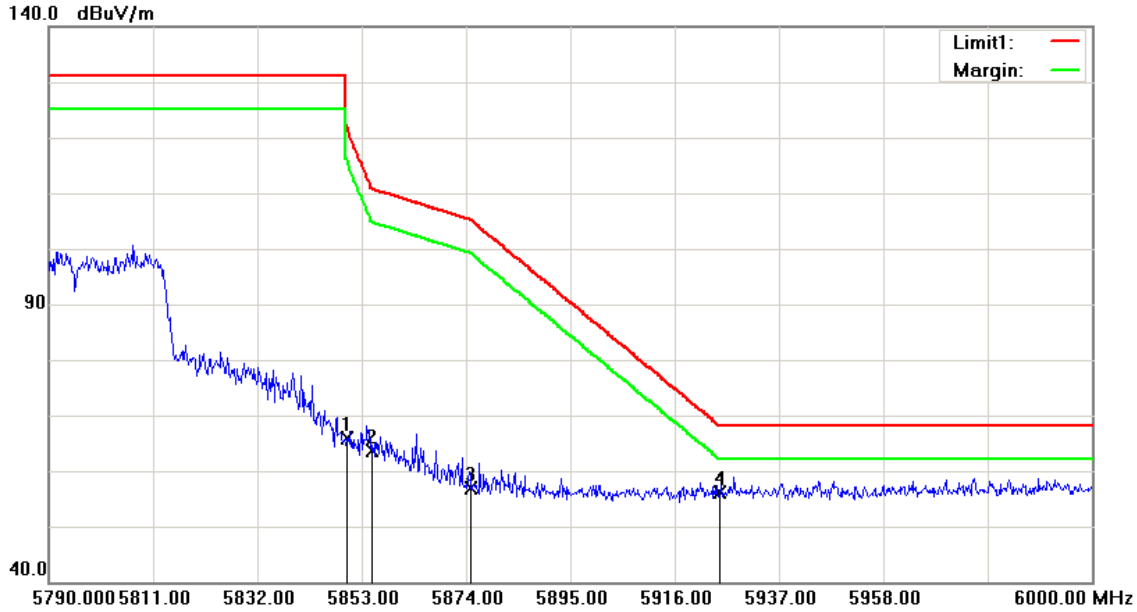
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	5850.000	58.37	9.33	67.70	122.20	-54.50	peak
2	5855.000	54.12	9.35	63.47	110.80	-47.33	peak
3	5875.000	48.69	9.40	58.09	105.20	-47.11	peak
4	5925.000	46.97	9.53	56.50	68.20	-11.70	peak

Note: 1. Result = Correction factor + Reading

2. Correction factor = Antenna Factor + Cable loss – Pre-Amplifier gain.

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

Standard:	FCC Part 15E	Test Distance:	3 m
Test item:	Band edge	Power:	AC 120 V/60 Hz
Test Mode:	Mode 4	Temp.(℃)/Hum.(%RH):	26(℃)/60 %RH
Frequency:	5795 MHz	Date:	07/29/2016
Ant.Polar.:	Vertical		



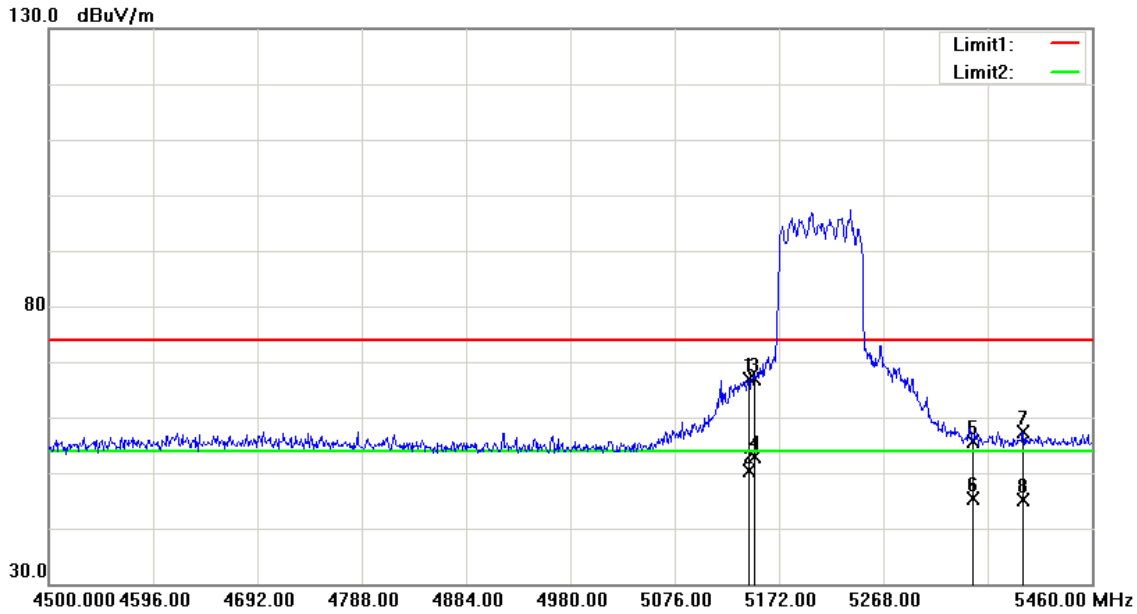
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	5850.000	56.64	9.33	65.97	122.20	-56.23	peak
2	5855.000	54.26	9.35	63.61	110.80	-47.19	peak
3	5875.000	47.44	9.40	56.84	105.20	-48.36	peak
4	5925.000	46.63	9.53	56.16	68.20	-12.04	peak

Note: 1. Result = Correction factor + Reading

2. Correction factor = Antenna Factor + Cable loss – Pre-Amplifier gain.

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

Standard:	FCC Part 15E	Test Distance:	3 m
Test item:	Band edge	Power:	AC 120 V/60 Hz
Test Mode:	Mode 5	Temp.(℃)/Hum.(%RH):	26(℃)/60 %RH
Frequency:	5210 MHz	Date:	07/29/2016
Ant.Polar.:	Horizontal		



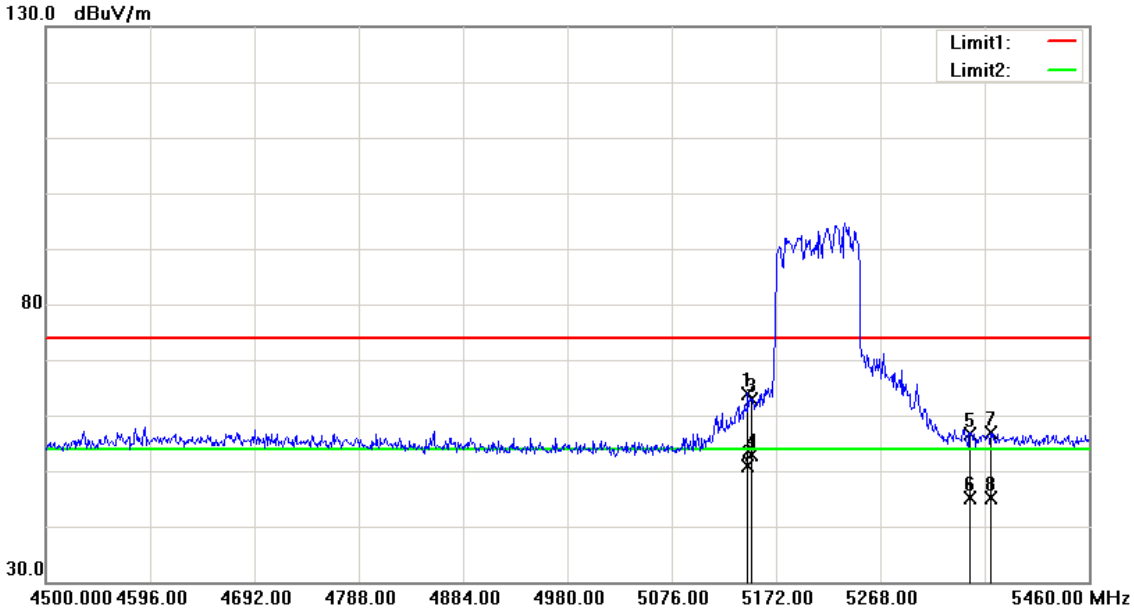
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	5144.160	58.62	8.15	66.77	74.00	-7.23	peak
2	5144.160	42.29	8.15	50.44	54.00	-3.56	AVG
3	5150.000	58.71	8.16	66.87	74.00	-7.13	peak
4	5150.000	44.75	8.16	52.91	54.00	-1.09	AVG
5	5350.000	47.28	8.33	55.61	74.00	-18.39	peak
6	5350.000	36.96	8.33	45.29	54.00	-8.71	AVG
7	5396.640	49.12	8.37	57.49	74.00	-16.51	peak
8	5396.640	36.84	8.37	45.21	54.00	-8.79	AVG

Note: 1. Result = Correction factor + Reading

2. Correction factor = Antenna Factor + Cable loss – Pre-Amplifier gain.

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

Standard:	FCC Part 15E	Test Distance:	3 m
Test item:	Band edge	Power:	AC 120 V/60 Hz
Test Mode:	Mode 5	Temp.(℃)/Hum.(%RH):	26(℃)/60 %RH
Frequency:	5210 MHz	Date:	07/29/2016
Ant.Polar.:	Vertical		



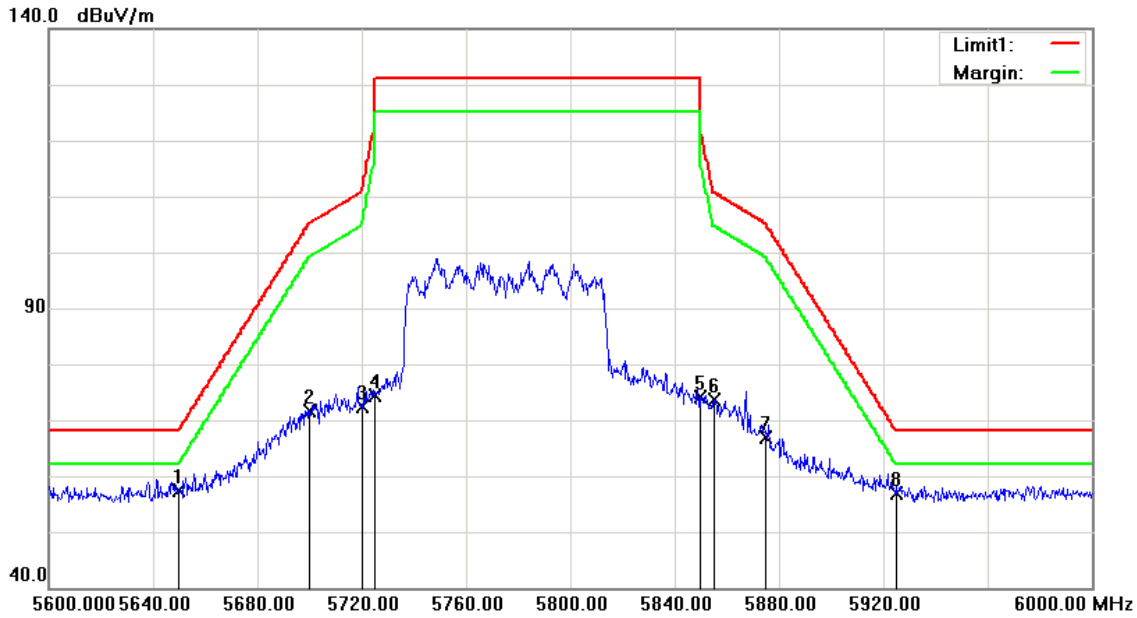
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	5146.080	55.85	8.15	64.00	74.00	-10.00	peak
2	5146.080	42.79	8.15	50.94	54.00	-3.06	AVG
3	5150.000	54.68	8.16	62.84	74.00	-11.16	peak
4	5150.000	44.73	8.16	52.89	54.00	-1.11	AVG
5	5350.000	48.30	8.33	56.63	74.00	-17.37	peak
6	5350.000	36.89	8.33	45.22	54.00	-8.78	AVG
7	5369.760	48.64	8.35	56.99	74.00	-17.01	peak
8	5369.760	36.82	8.35	45.17	54.00	-8.83	AVG

Note: 1. Result = Correction factor + Reading

2. Correction factor = Antenna Factor + Cable loss – Pre-Amplifier gain.

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

Standard:	FCC Part 15E	Test Distance:	3 m
Test item:	Band edge	Power:	AC 120 V/60 Hz
Test Mode:	Mode 5	Temp.(℃)/Hum.(%RH):	26(℃)/60 %RH
Frequency:	5775 MHz	Date:	07/29/2016
Ant.Polar.:	Horizontal		



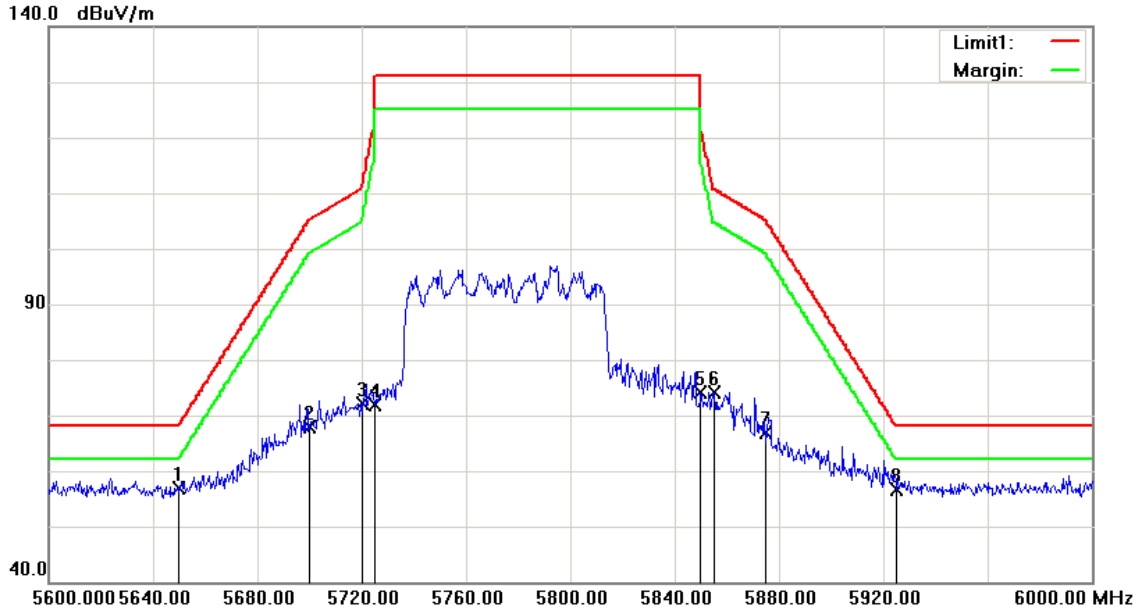
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	5650.000	48.53	8.84	57.37	68.20	-10.83	peak
2	5700.000	62.65	8.97	71.62	105.20	-33.58	peak
3	5720.000	63.46	9.01	72.47	110.80	-38.33	peak
4	5725.000	65.39	9.03	74.42	122.20	-47.78	peak
5	5850.000	64.71	9.33	74.04	122.20	-48.16	peak
6	5855.000	64.27	9.35	73.62	110.80	-37.18	peak
7	5875.000	57.48	9.40	66.88	105.20	-38.32	peak
8	5925.000	47.31	9.53	56.84	68.20	-11.36	peak

Note: 1. Result = Correction factor + Reading

2. Correction factor = Antenna Factor + Cable loss – Pre-Amplifier gain.

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

Standard:	FCC Part 15E	Test Distance:	3 m
Test item:	Band edge	Power:	AC 120 V/60 Hz
Test Mode:	Mode 5	Temp.(℃)/Hum.(%RH):	26(℃)/60 %RH
Frequency:	5775 MHz	Date:	07/29/2016
Ant.Polar.:	Vertical		



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	5650.000	47.93	8.84	56.77	68.20	-11.43	peak
2	5700.000	58.87	8.97	67.84	105.20	-37.36	peak
3	5720.000	63.05	9.01	72.06	110.80	-38.74	peak
4	5725.000	62.94	9.03	71.97	122.20	-50.23	peak
5	5850.000	64.77	9.33	74.10	122.20	-48.10	peak
6	5855.000	64.87	9.35	74.22	110.80	-36.58	peak
7	5875.000	57.52	9.40	66.92	105.20	-38.28	peak
8	5925.000	47.10	9.53	56.63	68.20	-11.57	peak

Note: 1. Result = Correction factor + Reading

2. Correction factor = Antenna Factor + Cable loss – Pre-Amplifier gain.

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

Above 1GHz

Standard:	FCC Part 15E	Test Distance:	3 m
Test item:	Harmonic	Power:	AC 120 V/60 Hz
Model Number:	DWA-181	Temp.(℃)/Hum.(%RH):	26(℃)/60 %RH
Test Mode:	Mode 3	Date:	10/09/2016
Frequency:	5180 MHz	Test By:	Eric Ou Yang
Description:			

Beamforming on							
Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Polar. H / V
10360.000	56.32	4.97	61.29	68.20	-6.91	peak	H
10360.000	54.84	4.97	59.81	68.20	-8.39	peak	V

Note: 1. Result = Correction factor + Reading

Example: 61.29=4.97+56.32.

2. Correction factor = Antenna Factor + Cable loss – Pre-Amplifier gain.

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

Standard:	FCC Part 15E	Test Distance:	3 m
Test item:	Harmonic	Power:	AC 120 V/60 Hz
Model Number:	DWA-181	Temp.(℃)/Hum.(%RH):	26(℃)/60 %RH
Test Mode:	Mode 3	Date:	10/09/2016
Frequency:	5200 MHz	Test By:	Eric Ou Yang
Description:			

Beamforming on							
Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Polar. H / V
10400.000	56.22	5.07	61.29	68.20	-6.91	peak	H
10400.000	53.90	5.07	58.97	68.20	-9.23	peak	V

Note: 1. Result = Correction factor + Reading

2. Correction factor = Antenna Factor + Cable loss – Pre-Amplifier gain.

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

Standard:	FCC Part 15E	Test Distance:	3 m
Test item:	Harmonic	Power:	AC 120 V/60 Hz
Model Number:	DWA-181	Temp.(℃)/Hum.(%RH):	26(℃)/60 %RH
Test Mode:	Mode 3	Date:	10/09/2016
Frequency:	5240 MHz	Test By:	Eric Ou Yang
Description:			

Beamforming on							
Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Polar. H / V
10480.000	58.49	5.25	63.74	68.20	-4.46	peak	H
10480.000	56.21	5.25	61.46	68.20	-6.74	peak	V

Note: 1. Result = Correction factor + Reading

2. Correction factor = Antenna Factor + Cable loss – Pre-Amplifier gain.

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

Standard:	FCC Part 15E	Test Distance:	3 m
Test item:	Harmonic	Power:	AC 120 V/60 Hz
Model Number:	DWA-181	Temp.(℃)/Hum.(%RH):	26(℃)/60 %RH
Test Mode:	Mode 3	Date:	10/09/2016
Frequency:	5745 MHz	Test By:	Eric Ou Yang
Description:			

Beamforming on							
Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Polar. H / V
11490.000	58.11	6.14	64.25	74.00	-9.75	peak	H
11490.000	46.81	6.14	52.95	54.00	-1.05	AVG	H
11490.000	55.83	6.14	61.97	74.00	-12.03	peak	V
11490.000	45.35	6.14	51.49	54.00	-2.51	AVG	V

Note: 1. Result = Correction factor + Reading

2. Correction factor = Antenna Factor + Cable loss – Pre-Amplifier gain.

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

Standard:	FCC Part 15E	Test Distance:	3 m
Test item:	Harmonic	Power:	AC 120 V/60 Hz
Model Number:	DWA-181	Temp.(℃)/Hum.(%RH):	26(℃)/60 %RH
Test Mode:	Mode 3	Date:	10/09/2016
Frequency:	5785 MHz	Test By:	Eric Ou Yang
Description:			

Beamforming on							
Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Polar. H / V
11570.000	56.99	6.35	63.34	74.00	-10.66	peak	H
11570.000	46.55	6.35	52.90	54.00	-1.10	AVG	H
11570.000	55.78	6.35	62.13	74.00	-11.87	peak	V
11570.000	44.03	6.35	50.38	54.00	-3.62	AVG	V

Note: 1. Result = Correction factor + Reading

2. Correction factor = Antenna Factor + Cable loss – Pre-Amplifier gain.

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

Standard:	FCC Part 15E	Test Distance:	3 m
Test item:	Harmonic	Power:	AC 120 V/60 Hz
Model Number:	DWA-181	Temp.(℃)/Hum.(%RH):	26(℃)/60 %RH
Test Mode:	Mode 3	Date:	10/09/2016
Frequency:	5825 MHz	Test By:	Eric Ou Yang
Description:			

Beamforming on							
Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Polar. H / V
11650.000	56.24	6.58	62.82	74.00	-11.18	peak	H
11650.000	46.23	6.58	52.81	54.00	-1.19	AVG	H
11650.000	54.82	6.58	61.40	74.00	-12.60	peak	V
11650.000	44.21	6.58	50.79	54.00	-3.21	AVG	V

Note: 1. Result = Correction factor + Reading

2. Correction factor = Antenna Factor + Cable loss – Pre-Amplifier gain.

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

Standard:	FCC Part 15E	Test Distance:	3 m
Test item:	Harmonic	Power:	AC 120 V/60 Hz
Model Number:	DWA-181	Temp.(℃)/Hum.(%RH):	26(℃)/60 %RH
Test Mode:	Mode 4	Date:	10/09/2016
Frequency:	5190 MHz	Test By:	Eric Ou Yang
Description:			

Beamforming on							
Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Polar. H / V
10380.000	53.20	5.01	58.21	68.20	-9.99	peak	H
10380.000	50.15	5.01	55.16	68.20	-13.04	peak	V

Note: 1. Result = Correction factor + Reading

2. Correction factor = Antenna Factor + Cable loss – Pre-Amplifier gain.

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

Standard:	FCC Part 15E	Test Distance:	3 m
Test item:	Harmonic	Power:	AC 120 V/60 Hz
Model Number:	DWA-181	Temp.(℃)/Hum.(%RH):	26(℃)/60 %RH
Test Mode:	Mode 4	Date:	10/09/2016
Frequency:	5230 MHz	Test By:	Eric Ou Yang
Description:			

Beamforming on							
Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Polar. H / V
10460.000	54.80	5.22	60.02	68.20	-8.18	peak	H
10460.000	53.08	5.22	58.30	68.20	-9.90	peak	V

Note: 1. Result = Correction factor + Reading

2. Correction factor = Antenna Factor + Cable loss – Pre-Amplifier gain.

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

Standard:	FCC Part 15E	Test Distance:	3 m
Test item:	Harmonic	Power:	AC 120 V/60 Hz
Model Number:	DWA-181	Temp.(℃)/Hum.(%RH):	26(℃)/60 %RH
Test Mode:	Mode 4	Date:	10/09/2016
Frequency:	5755 MHz	Test By:	Eric Ou Yang
Description:			

Beamforming on							
Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Polar. H / V
11510.000	56.38	6.17	62.55	74.00	-11.45	peak	H
11510.000	46.46	6.17	52.63	54.00	-1.37	AVG	H
11510.000	54.55	6.17	60.72	74.00	-13.28	peak	V
11510.000	44.10	6.17	50.27	54.00	-3.73	AVG	V

Note: 1. Result = Correction factor + Reading

2. Correction factor = Antenna Factor + Cable loss – Pre-Amplifier gain.

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

Standard:	FCC Part 15E	Test Distance:	3 m
Test item:	Harmonic	Power:	AC 120 V/60 Hz
Model Number:	DWA-181	Temp.(℃)/Hum.(%RH):	26(℃)/60 %RH
Test Mode:	Mode 4	Date:	10/09/2016
Frequency:	5795 MHz	Test By:	Eric Ou Yang
Description:			

Beamforming on							
Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Polar. H / V
11590.000	55.47	6.41	61.88	74.00	-12.12	peak	H
11590.000	46.49	6.41	52.90	54.00	-1.10	AVG	H
11590.000	54.88	6.41	61.29	74.00	-12.71	peak	V
11590.000	44.35	6.41	50.76	54.00	-3.24	AVG	V

Note: 1. Result = Correction factor + Reading

2. Correction factor = Antenna Factor + Cable loss – Pre-Amplifier gain.

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

Standard:	FCC Part 15E	Test Distance:	3 m
Test item:	Harmonic	Power:	AC 120 V/60 Hz
Model Number:	DWA-181	Temp.(℃)/Hum.(%RH):	26(℃)/60 %RH
Test Mode:	Mode 5	Date:	10/09/2016
Frequency:	5210 MHz	Test By:	Eric Ou Yang
Description:			

Beamforming on							
Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Polar. H / V
10420.000	47.44	5.11	52.55	68.20	-15.65	peak	H
10420.000	47.27	5.11	52.38	68.20	-15.82	peak	V

Note: 1. Result = Correction factor + Reading

2. Correction factor = Antenna Factor + Cable loss – Pre-Amplifier gain.

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

Standard:	FCC Part 15E	Test Distance:	3 m
Test item:	Harmonic	Power:	AC 120 V/60 Hz
Model Number:	DWA-181	Temp.(℃)/Hum.(%RH):	26(℃)/60 %RH
Test Mode:	Mode 5	Date:	10/09/2016
Frequency:	5775 MHz	Test By:	Eric Ou Yang
Description:			

Beamforming on							
Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Polar. H / V
11550.000	60.73	6.29	67.02	74.00	-6.98	peak	H
11550.000	46.63	6.29	52.92	54.00	-1.08	AVG	H
11550.000	57.30	6.29	63.59	74.00	-10.41	peak	V
11550.000	43.01	6.29	49.30	54.00	-4.70	AVG	V

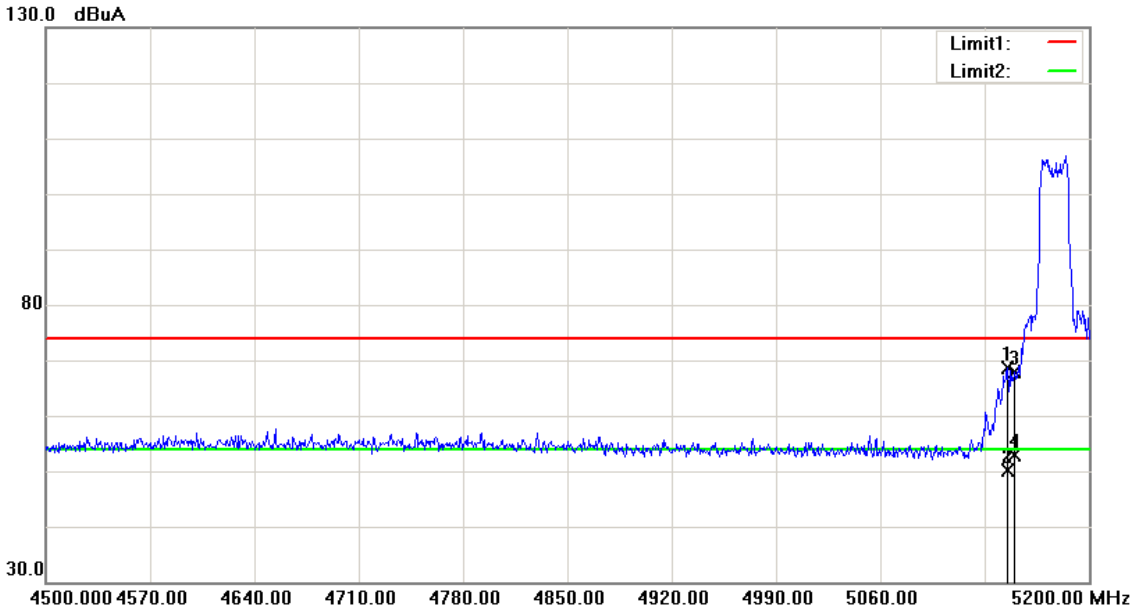
Note: 1. Result = Correction factor + Reading

2. Correction factor = Antenna Factor + Cable loss – Pre-Amplifier gain.

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

Band Edge

Standard:	FCC Part 15E	Test Distance:	3 m
Test item:	Band edge	Power:	AC 120 V/60 Hz
Test Mode:	Mode 3	Temp.(℃)/Hum.(%RH):	26(℃)/60 %RH
Frequency:	5180 MHz	Date:	10/09/2016
Ant.Polar.:	Horizontal		
Beamforming on			



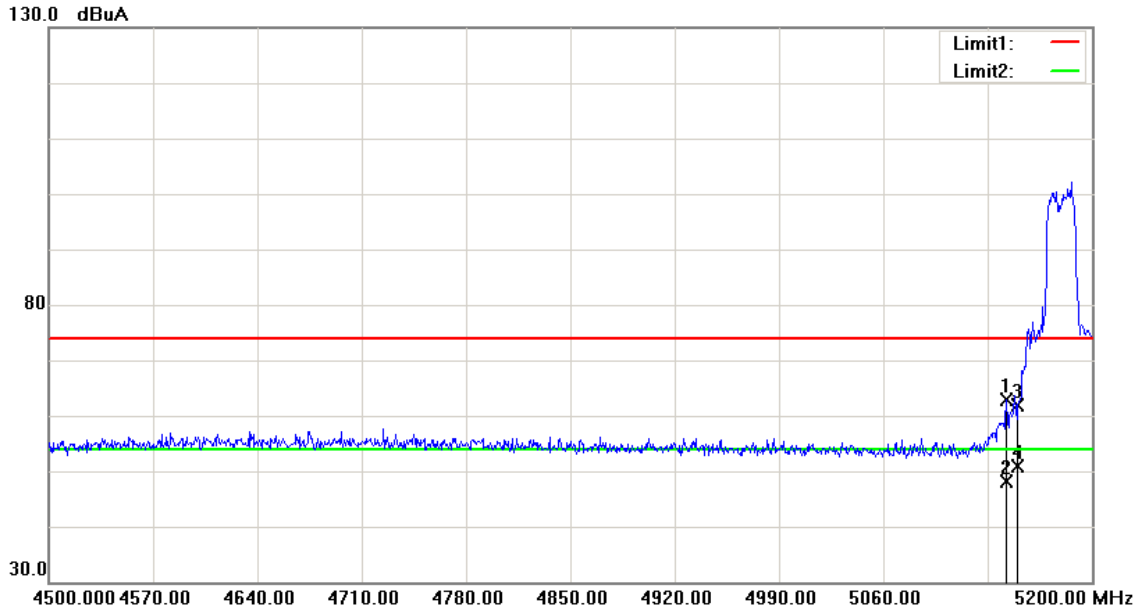
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	5145.400	60.47	8.15	68.62	74.00	-5.38	peak
2	5145.400	41.96	8.15	50.11	54.00	-3.89	AVG
3	5150.000	59.65	8.16	67.81	74.00	-6.19	peak
4	5150.000	44.65	8.16	52.81	54.00	-1.19	AVG

Note: 1. Result = Correction factor + Reading

2. Correction factor = Antenna Factor + Cable loss – Pre-Amplifier gain.

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

Standard:	FCC Part 15E	Test Distance:	3 m
Test item:	Band edge	Power:	AC 120 V/60 Hz
Test Mode:	Mode 3	Temp.(℃)/Hum.(%RH):	26(℃)/60 %RH
Frequency:	5180 MHz	Date:	10/09/2016
Ant.Polar.:	Vertical		
Beamforming on			



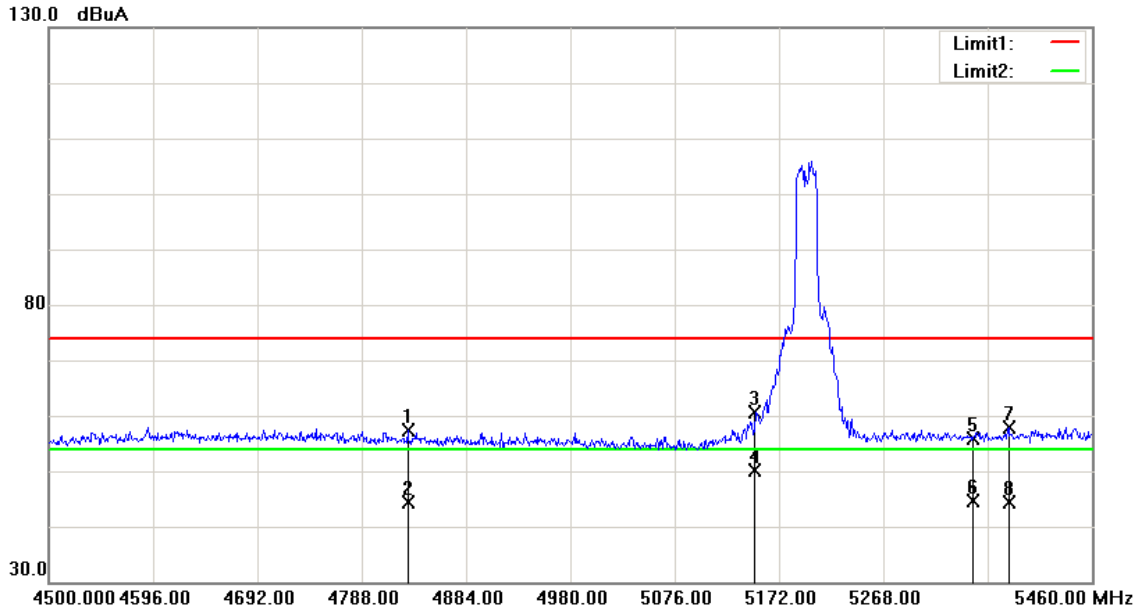
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	5142.600	54.66	8.15	62.81	74.00	-11.19	peak
2	5142.600	39.91	8.15	48.06	54.00	-5.94	AVG
3	5150.000	53.76	8.16	61.92	74.00	-12.08	peak
4	5150.000	42.71	8.16	50.87	54.00	-3.13	AVG

Note: 1. Result = Correction factor + Reading

2. Correction factor = Antenna Factor + Cable loss – Pre-Amplifier gain.

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

Standard:	FCC Part 15E	Test Distance:	3 m
Test item:	Band edge	Power:	AC 120 V/60 Hz
Test Mode:	Mode 3	Temp.(℃)/Hum.(%RH):	26(℃)/60 %RH
Frequency:	5200 MHz	Date:	10/09/2016
Ant.Polar.:	Horizontal		
Beamforming on			



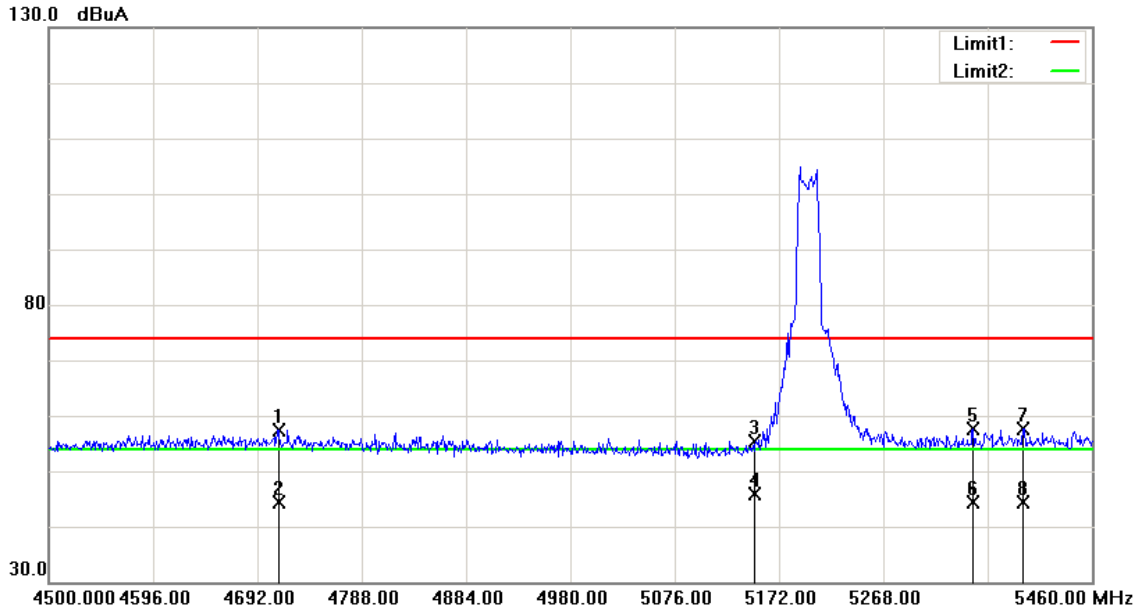
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4830.240	49.98	7.43	57.41	74.00	-16.59	peak
2	4830.240	36.88	7.43	44.31	54.00	-9.69	AVG
3	5150.000	52.50	8.16	60.66	74.00	-13.34	peak
4	5150.000	42.06	8.16	50.22	54.00	-3.78	AVG
5	5350.000	47.65	8.33	55.98	74.00	-18.02	peak
6	5350.000	36.21	8.33	44.54	54.00	-9.46	AVG
7	5383.200	49.51	8.36	57.87	74.00	-16.13	peak
8	5383.200	36.06	8.36	44.42	54.00	-9.58	AVG

Note: 1. Result = Correction factor + Reading

2. Correction factor = Antenna Factor + Cable loss – Pre-Amplifier gain.

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

Standard:	FCC Part 15E	Test Distance:	3 m
Test item:	Band edge	Power:	AC 120 V/60 Hz
Test Mode:	Mode 3	Temp.(℃)/Hum.(%RH):	26(℃)/60 %RH
Frequency:	5200 MHz	Date:	10/09/2016
Ant.Polar.:	Vertical		
Beamforming on			



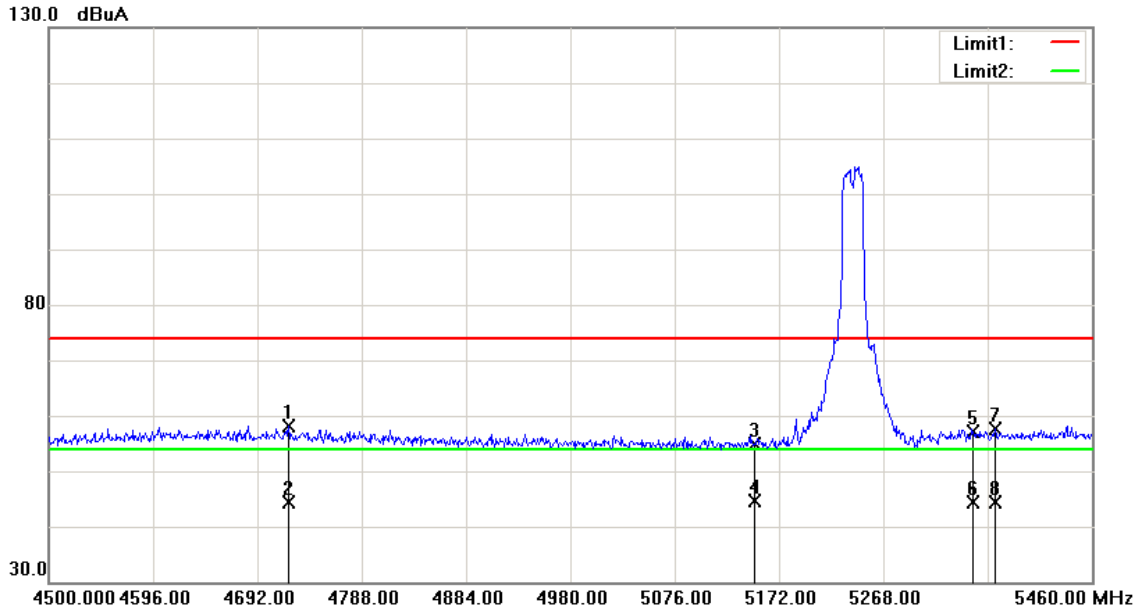
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4711.200	50.40	7.01	57.41	74.00	-16.59	peak
2	4711.200	37.41	7.01	44.42	54.00	-9.58	AVG
3	5150.000	47.17	8.16	55.33	74.00	-18.67	peak
4	5150.000	37.60	8.16	45.76	54.00	-8.24	AVG
5	5350.000	49.19	8.33	57.52	74.00	-16.48	peak
6	5350.000	36.04	8.33	44.37	54.00	-9.63	AVG
7	5396.640	49.26	8.37	57.63	74.00	-16.37	peak
8	5396.640	35.95	8.37	44.32	54.00	-9.68	AVG

Note: 1. Result = Correction factor + Reading

2. Correction factor = Antenna Factor + Cable loss – Pre-Amplifier gain.

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

Standard:	FCC Part 15E	Test Distance:	3 m
Test item:	Band edge	Power:	AC 120 V/60 Hz
Test Mode:	Mode 3	Temp.(℃)/Hum.(%RH):	26(℃)/60 %RH
Frequency:	5240 MHz	Date:	10/09/2016
Ant.Polar.:	Horizontal		
Beamforming on			



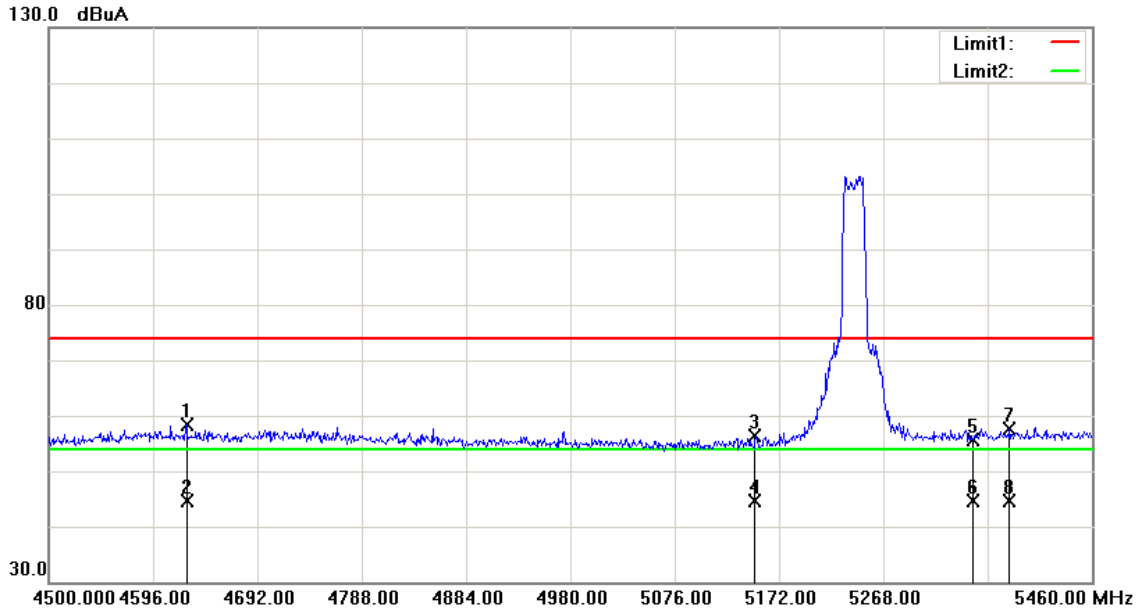
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4720.800	51.07	7.05	58.12	74.00	-15.88	peak
2	4720.800	37.42	7.05	44.47	54.00	-9.53	AVG
3	5150.000	46.72	8.16	54.88	74.00	-19.12	peak
4	5150.000	36.40	8.16	44.56	54.00	-9.44	AVG
5	5350.000	48.89	8.33	57.22	74.00	-16.78	peak
6	5350.000	35.99	8.33	44.32	54.00	-9.68	AVG
7	5370.720	49.20	8.35	57.55	74.00	-16.45	peak

Note: 1. Result = Correction factor + Reading

2. Correction factor = Antenna Factor + Cable loss – Pre-Amplifier gain.

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

Standard:	FCC Part 15E	Test Distance:	3 m
Test item:	Band edge	Power:	AC 120 V/60 Hz
Test Mode:	Mode 3	Temp.(℃)/Hum.(%RH):	26(℃)/60 %RH
Frequency:	5240 MHz	Date:	10/09/2016
Ant.Polar.:	Vertical		
Beamforming on			



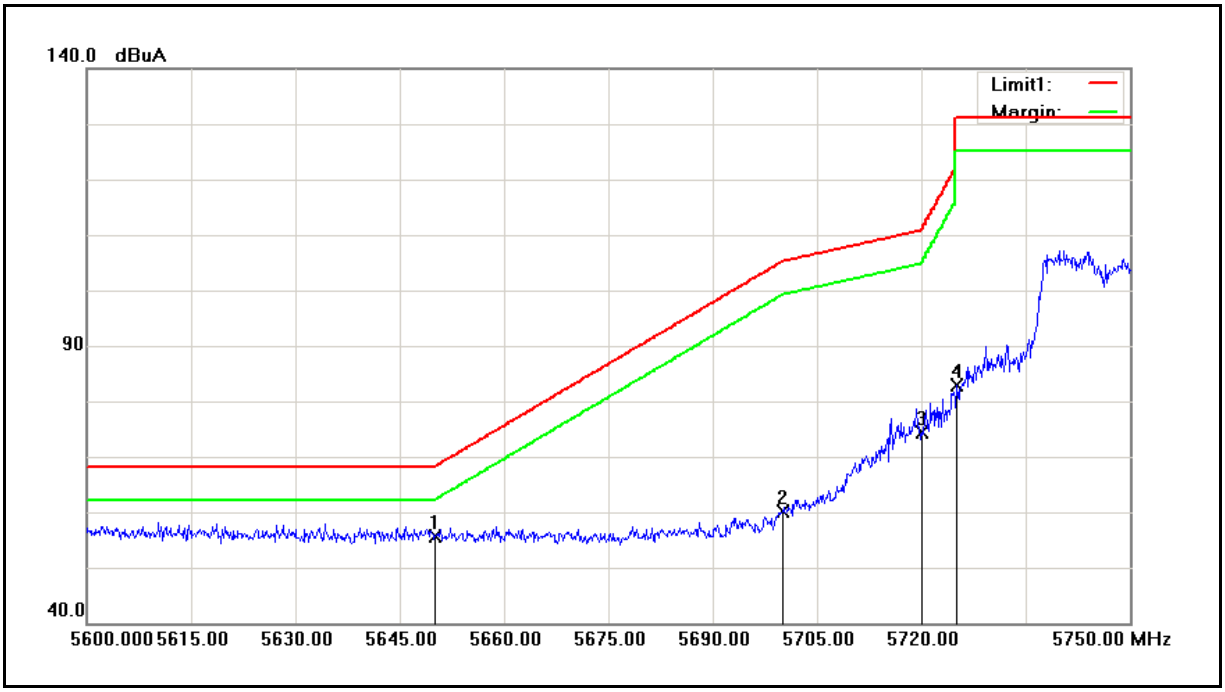
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4626.720	51.56	6.71	58.27	74.00	-15.73	peak
2	4626.720	37.91	6.71	44.62	54.00	-9.38	AVG
3	5150.000	48.21	8.16	56.37	74.00	-17.63	peak
4	5150.000	36.53	8.16	44.69	54.00	-9.31	AVG
5	5350.000	47.25	8.33	55.58	74.00	-18.42	peak
6	5350.000	36.38	8.33	44.71	54.00	-9.29	AVG
7	5384.160	49.20	8.36	57.56	74.00	-16.44	peak
8	5384.160	36.23	8.36	44.59	54.00	-9.41	AVG

Note: 1. Result = Correction factor + Reading

2. Correction factor = Antenna Factor + Cable loss – Pre-Amplifier gain.

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

Standard:	FCC Part 15E	Test Distance:	3 m
Test item:	Band edge	Power:	AC 120 V/60 Hz
Test Mode:	Mode 3	Temp.(℃)/Hum.(%RH):	26(℃)/60 %RH
Frequency:	5745 MHz	Date:	10/09/2016
Ant.Polar.:	Horizontal		
Beamforming on			



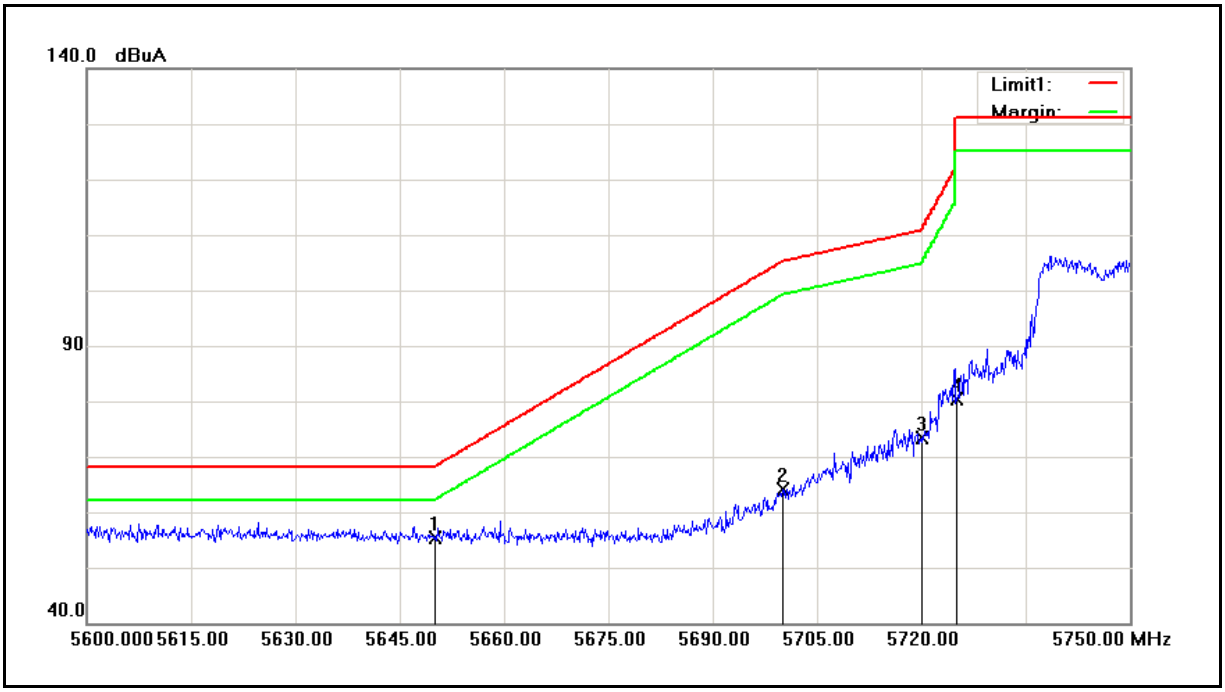
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	5650.000	46.73	8.84	55.57	68.20	-12.63	peak
2	5700.000	51.22	8.97	60.19	105.20	-45.01	peak
3	5720.000	65.34	9.01	74.35	110.80	-36.45	peak
4	5725.000	73.84	9.03	82.87	122.20	-39.33	peak

Note: 1. Result = Correction factor + Reading

2. Correction factor = Antenna Factor + Cable loss – Pre-Amplifier gain.

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

Standard:	FCC Part 15E	Test Distance:	3 m
Test item:	Band edge	Power:	AC 120 V/60 Hz
Test Mode:	Mode 3	Temp.(℃)/Hum.(%RH):	26(℃)/60 %RH
Frequency:	5745 MHz	Date:	10/09/2016
Ant.Polar.:	Vertical		
Beamforming on			



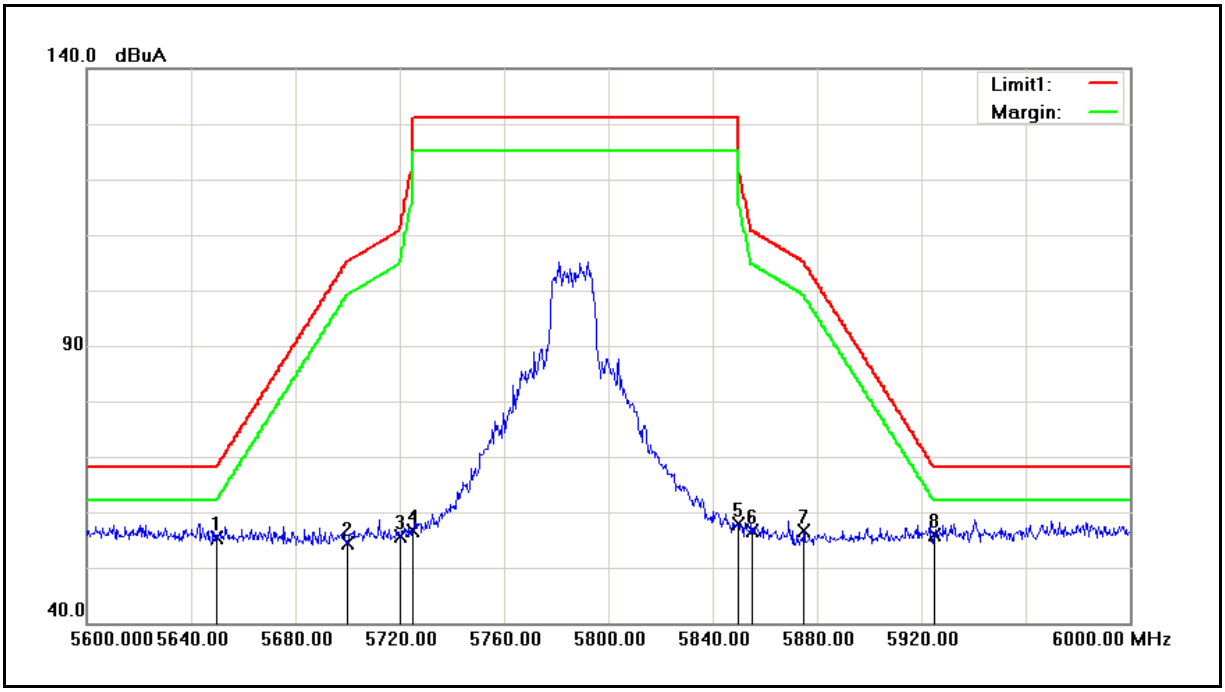
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	5650.000	46.50	8.84	55.34	68.20	-12.86	peak
2	5700.000	55.15	8.97	64.12	105.20	-41.08	peak
3	5720.000	64.43	9.01	73.44	110.80	-37.36	peak
4	5725.000	71.44	9.03	80.47	122.20	-41.73	peak

Note: 1. Result = Correction factor + Reading

2. Correction factor = Antenna Factor + Cable loss – Pre-Amplifier gain.

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

Standard:	FCC Part 15E	Test Distance:	3 m
Test item:	Band edge	Power:	AC 120 V/60 Hz
Test Mode:	Mode 3	Temp.(℃)/Hum.(%RH):	26(℃)/60 %RH
Frequency:	5785 MHz	Date:	10/09/2016
Ant.Polar.:	Horizontal		
Beamforming on			



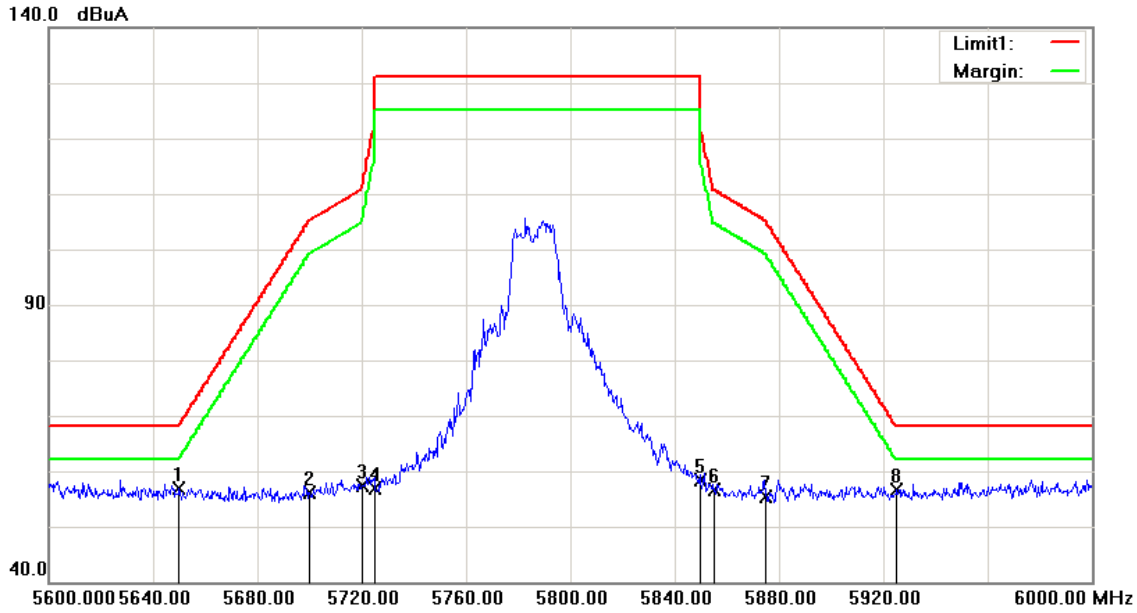
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	5650.000	46.58	8.84	55.42	68.20	-12.78	peak
2	5700.000	45.38	8.97	54.35	105.20	-50.85	peak
3	5720.000	46.52	9.01	55.53	110.80	-55.27	peak
4	5725.000	47.61	9.03	56.64	122.20	-65.56	peak
5	5850.000	48.50	9.33	57.83	122.20	-64.37	peak
6	5855.000	47.16	9.35	56.51	110.80	-54.29	peak
7	5875.000	47.32	9.40	56.72	105.20	-48.48	peak
8	5925.000	46.23	9.53	55.76	68.20	-12.44	peak

Note: 1. Result = Correction factor + Reading

2. Correction factor = Antenna Factor + Cable loss – Pre-Amplifier gain.

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

Standard:	FCC Part 15E	Test Distance:	3 m
Test item:	Band edge	Power:	AC 120 V/60 Hz
Test Mode:	Mode 3	Temp.(℃)/Hum.(%RH):	26(℃)/60 %RH
Frequency:	5785 MHz	Date:	10/09/2016
Ant.Polar.:	Vertical		
Beamforming on			



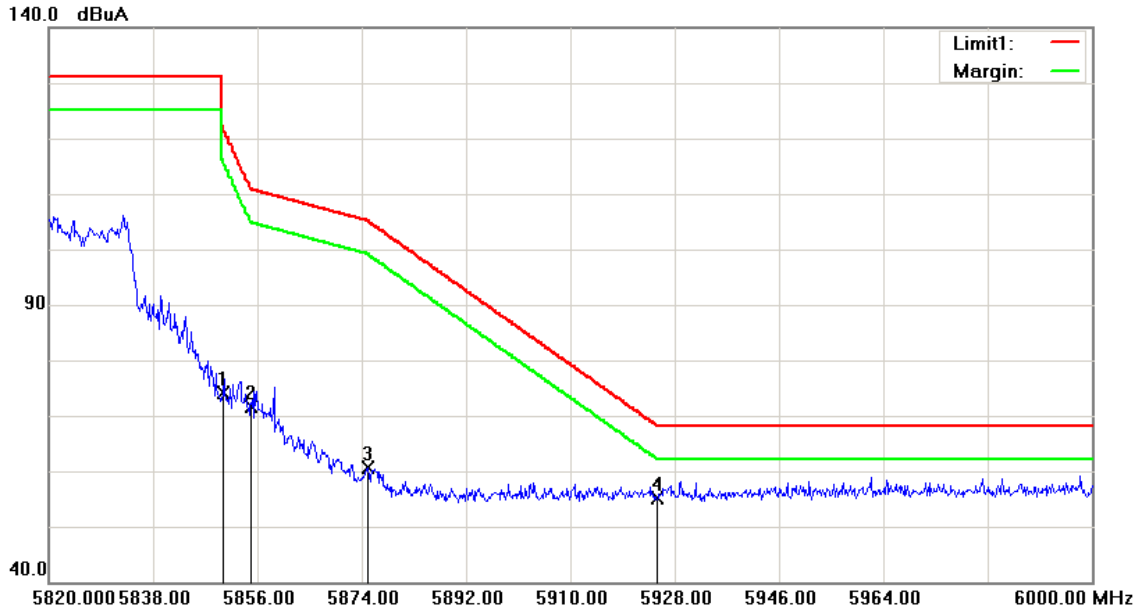
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	5650.000	48.04	8.84	56.88	68.20	-11.32	peak
2	5700.000	47.10	8.97	56.07	105.20	-49.13	peak
3	5720.000	48.40	9.01	57.41	110.80	-53.39	peak
4	5725.000	47.86	9.03	56.89	122.20	-65.31	peak
5	5850.000	49.03	9.33	58.36	122.20	-63.84	peak
6	5855.000	47.29	9.35	56.64	110.80	-54.16	peak
7	5875.000	45.90	9.40	55.30	105.20	-49.90	peak
8	5925.000	47.04	9.53	56.57	68.20	-11.63	peak

Note: 1. Result = Correction factor + Reading

2. Correction factor = Antenna Factor + Cable loss – Pre-Amplifier gain.

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

Standard:	FCC Part 15E	Test Distance:	3 m
Test item:	Band edge	Power:	AC 120 V/60 Hz
Test Mode:	Mode 3	Temp.(℃)/Hum.(%RH):	26(℃)/60 %RH
Frequency:	5825 MHz	Date:	10/09/2016
Ant.Polar.:	Horizontal		
Beamforming on			



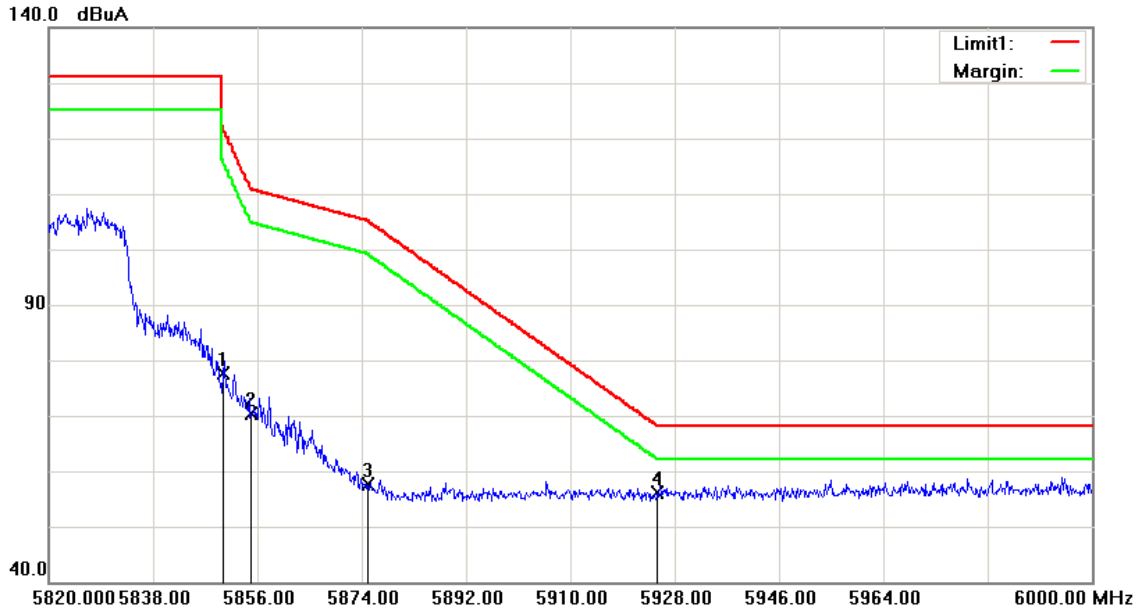
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	5850.000	64.83	9.33	74.16	122.20	-48.04	peak
2	5855.000	62.40	9.35	71.75	110.80	-39.05	peak
3	5875.000	51.13	9.40	60.53	105.20	-44.67	peak
4	5925.000	45.48	9.53	55.01	68.20	-13.19	peak

Note: 1. Result = Correction factor + Reading

2. Correction factor = Antenna Factor + Cable loss – Pre-Amplifier gain.

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

Standard:	FCC Part 15E	Test Distance:	3 m
Test item:	Band edge	Power:	AC 120 V/60 Hz
Test Mode:	Mode 3	Temp.(℃)/Hum.(%RH):	26(℃)/60 %RH
Frequency:	5825 MHz	Date:	10/09/2016
Ant.Polar.:	Vertical		
Beamforming on			



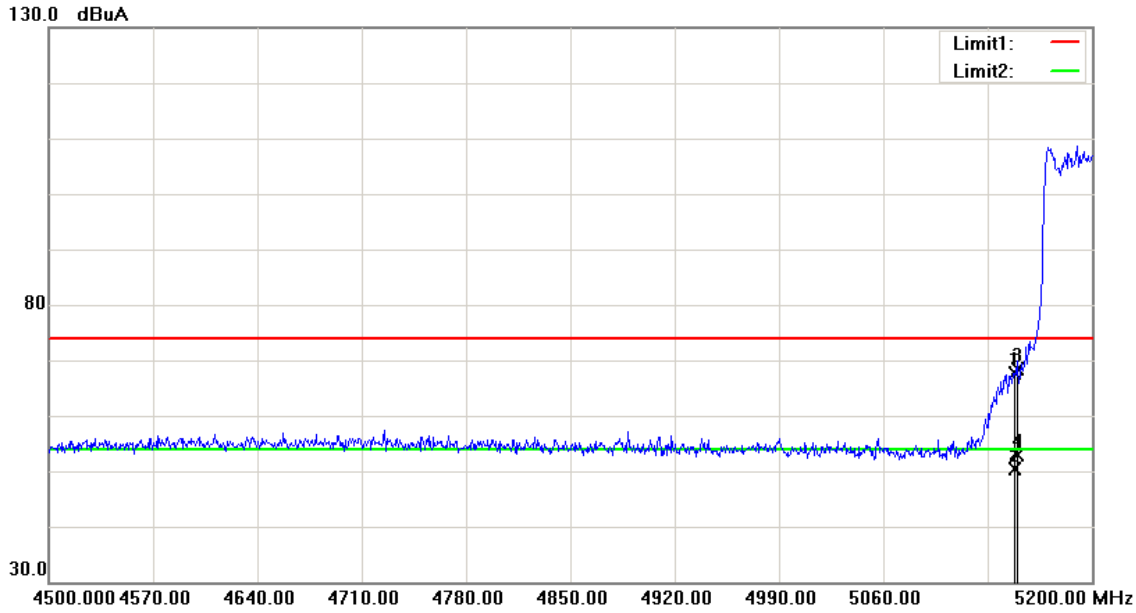
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	5850.000	68.28	9.33	77.61	122.20	-44.59	peak
2	5855.000	60.98	9.35	70.33	110.80	-40.47	peak
3	5875.000	48.11	9.40	57.51	105.20	-47.69	peak
4	5925.000	46.67	9.53	56.20	68.20	-12.00	peak

Note: 1. Result = Correction factor + Reading

2. Correction factor = Antenna Factor + Cable loss – Pre-Amplifier gain.

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

Standard:	FCC Part 15E	Test Distance:	3 m
Test item:	Band edge	Power:	AC 120 V/60 Hz
Test Mode:	Mode 4	Temp.(℃)/Hum.(%RH):	26(℃)/60 %RH
Frequency:	5190 MHz	Date:	10/09/2016
Ant.Polar.:	Horizontal		
Beamforming on			



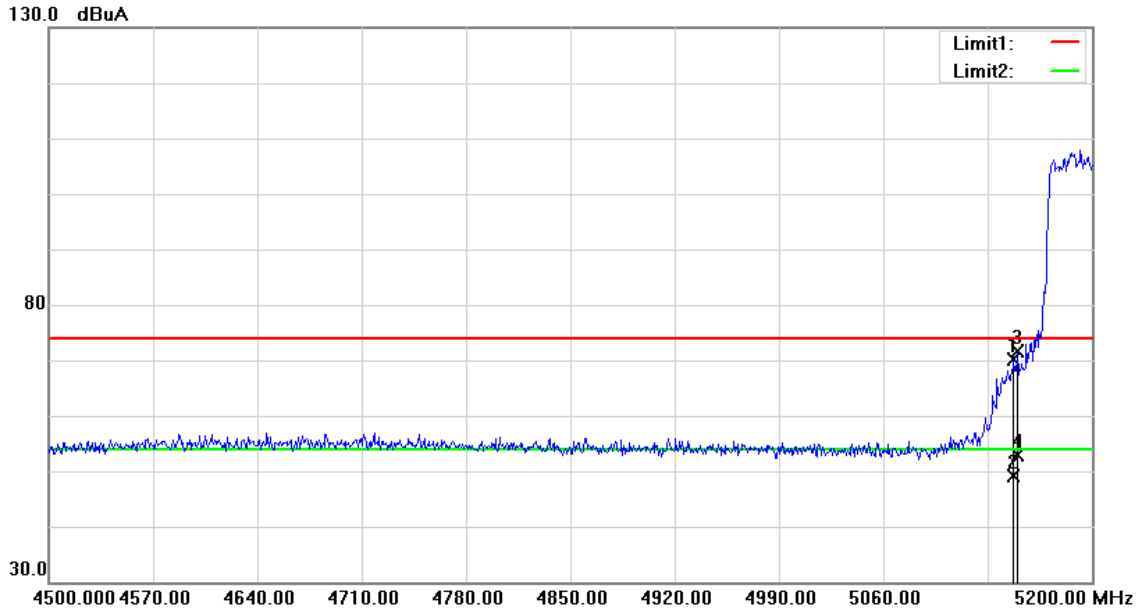
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	5148.200	59.47	8.16	67.63	74.00	-6.37	peak
2	5148.200	42.15	8.16	50.31	54.00	-3.69	AVG
3	5150.000	60.13	8.16	68.29	74.00	-5.71	peak
4	5150.000	44.81	8.16	52.97	54.00	-1.03	AVG

Note: 1. Result = Correction factor + Reading

2. Correction factor = Antenna Factor + Cable loss – Pre-Amplifier gain.

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

Standard:	FCC Part 15E	Test Distance:	3 m
Test item:	Band edge	Power:	AC 120 V/60 Hz
Test Mode:	Mode 4	Temp.(℃)/Hum.(%RH):	26(℃)/60 %RH
Frequency:	5190 MHz	Date:	10/09/2016
Ant.Polar.:	Vertical		
Beamforming on			



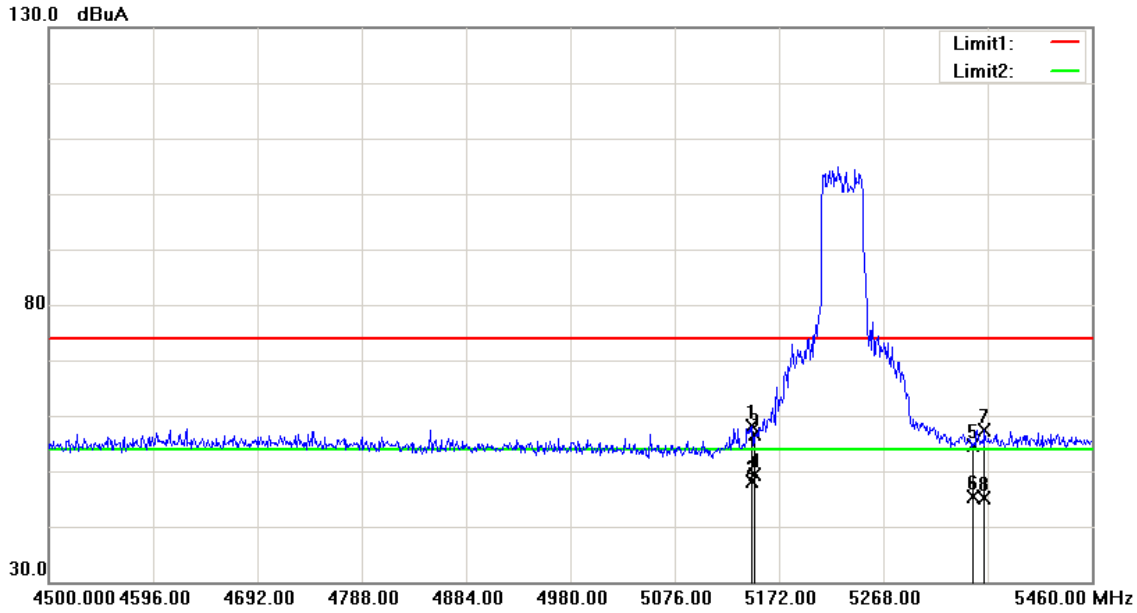
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	5147.500	61.87	8.15	70.02	74.00	-3.98	peak
2	5147.500	41.09	8.15	49.24	54.00	-4.76	AVG
3	5150.000	63.37	8.16	71.53	74.00	-2.47	peak
4	5150.000	44.73	8.16	52.89	54.00	-1.11	AVG

Note: 1. Result = Correction factor + Reading

2. Correction factor = Antenna Factor + Cable loss – Pre-Amplifier gain.

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

Standard:	FCC Part 15E	Test Distance:	3 m
Test item:	Band edge	Power:	AC 120 V/60 Hz
Test Mode:	Mode 4	Temp.(℃)/Hum.(%RH):	26(℃)/60 %RH
Frequency:	5230 MHz	Date:	10/09/2016
Ant.Polar.:	Horizontal		
Beamforming on			



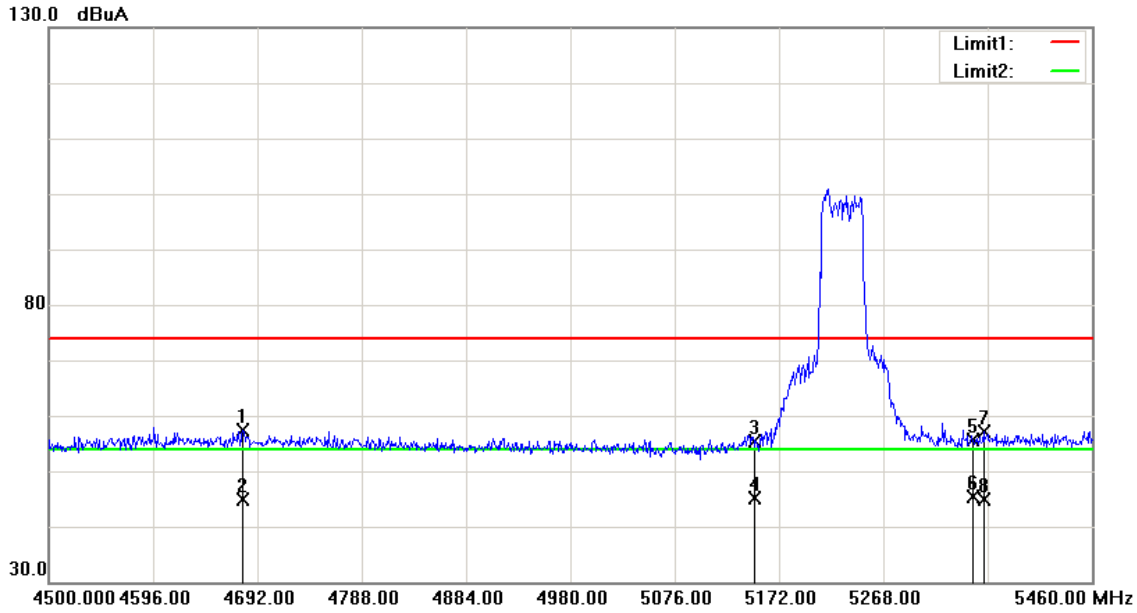
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	5147.040	49.97	8.15	58.12	74.00	-15.88	peak
2	5147.040	40.02	8.15	48.17	54.00	-5.83	AVG
3	5150.000	48.55	8.16	56.71	74.00	-17.29	peak
4	5150.000	41.23	8.16	49.39	54.00	-4.61	AVG
5	5350.000	46.29	8.33	54.62	74.00	-19.38	peak
6	5350.000	36.93	8.33	45.26	54.00	-8.74	AVG
7	5361.120	48.93	8.34	57.27	74.00	-16.73	peak
8	5361.120	36.87	8.34	45.21	54.00	-8.79	AVG

Note: 1. Result = Correction factor + Reading

2. Correction factor = Antenna Factor + Cable loss – Pre-Amplifier gain.

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

Standard:	FCC Part 15E	Test Distance:	3 m
Test item:	Band edge	Power:	AC 120 V/60 Hz
Test Mode:	Mode 4	Temp.(℃)/Hum.(%RH):	26(℃)/60 %RH
Frequency:	5230 MHz	Date:	10/09/2016
Ant.Polar.:	Vertical		
Beamforming on			



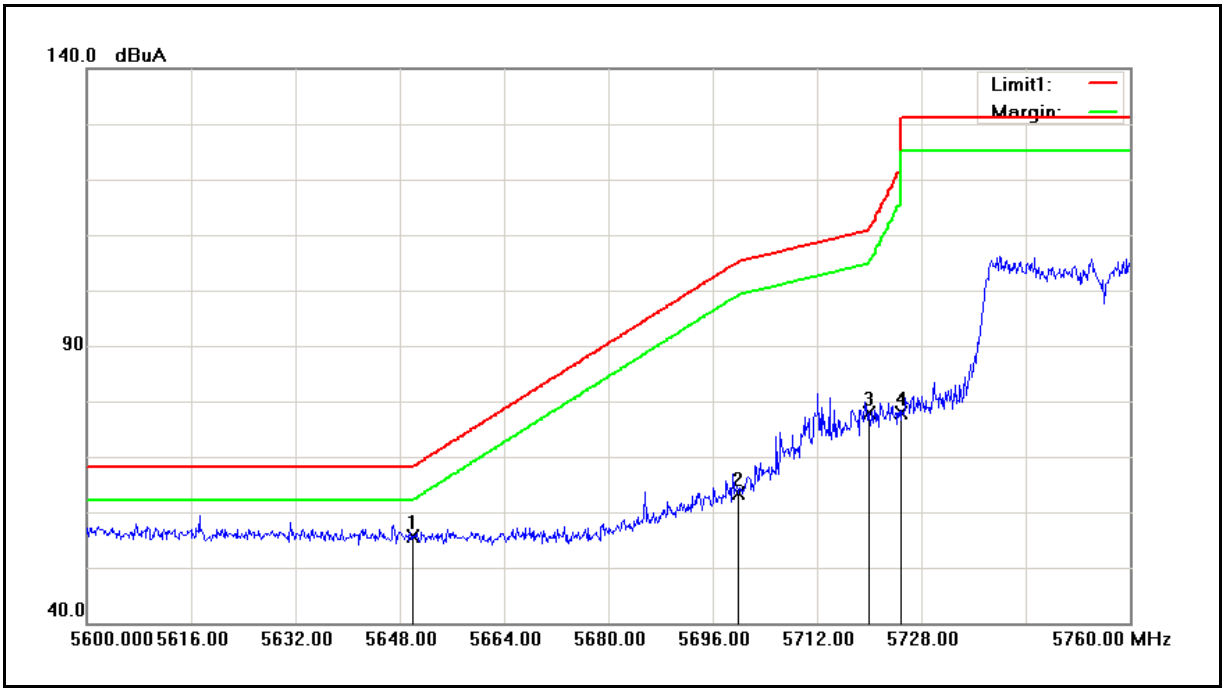
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4678.560	50.51	6.89	57.40	74.00	-16.60	peak
2	4678.560	38.04	6.89	44.93	54.00	-9.07	AVG
3	5150.000	47.17	8.16	55.33	74.00	-18.67	peak
4	5150.000	37.01	8.16	45.17	54.00	-8.83	AVG
5	5350.000	47.22	8.33	55.55	74.00	-18.45	peak
6	5350.000	37.05	8.33	45.38	54.00	-8.62	AVG
7	5360.160	48.84	8.34	57.18	74.00	-16.82	peak
8	5360.160	36.52	8.34	44.86	54.00	-9.14	AVG

Note: 1. Result = Correction factor + Reading

2. Correction factor = Antenna Factor + Cable loss – Pre-Amplifier gain.

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

Standard:	FCC Part 15E	Test Distance:	3 m
Test item:	Band edge	Power:	AC 120 V/60 Hz
Test Mode:	Mode 4	Temp.(℃)/Hum.(%RH):	26(℃)/60 %RH
Frequency:	5755 MHz	Date:	10/09/2016
Ant.Polar.:	Horizontal		
Beamforming on			



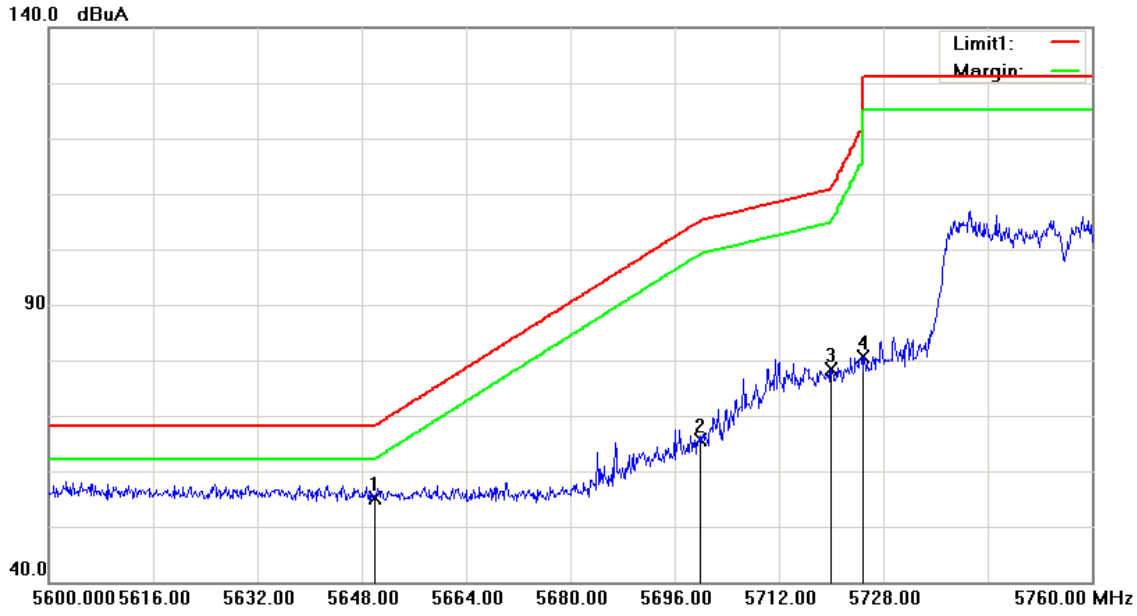
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	5650.000	46.76	8.84	55.60	68.20	-12.60	peak
2	5700.000	54.49	8.97	63.46	105.20	-41.74	peak
3	5720.000	68.90	9.01	77.91	110.80	-32.89	peak
4	5725.000	68.79	9.03	77.82	122.20	-44.38	peak

Note: 1. Result = Correction factor + Reading

2. Correction factor = Antenna Factor + Cable loss – Pre-Amplifier gain.

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

Standard:	FCC Part 15E	Test Distance:	3 m
Test item:	Band edge	Power:	AC 120 V/60 Hz
Test Mode:	Mode 4	Temp.(℃)/Hum.(%RH):	26(℃)/60 %RH
Frequency:	5755 MHz	Date:	10/09/2016
Ant.Polar.:	Vertical		
Beamforming on			



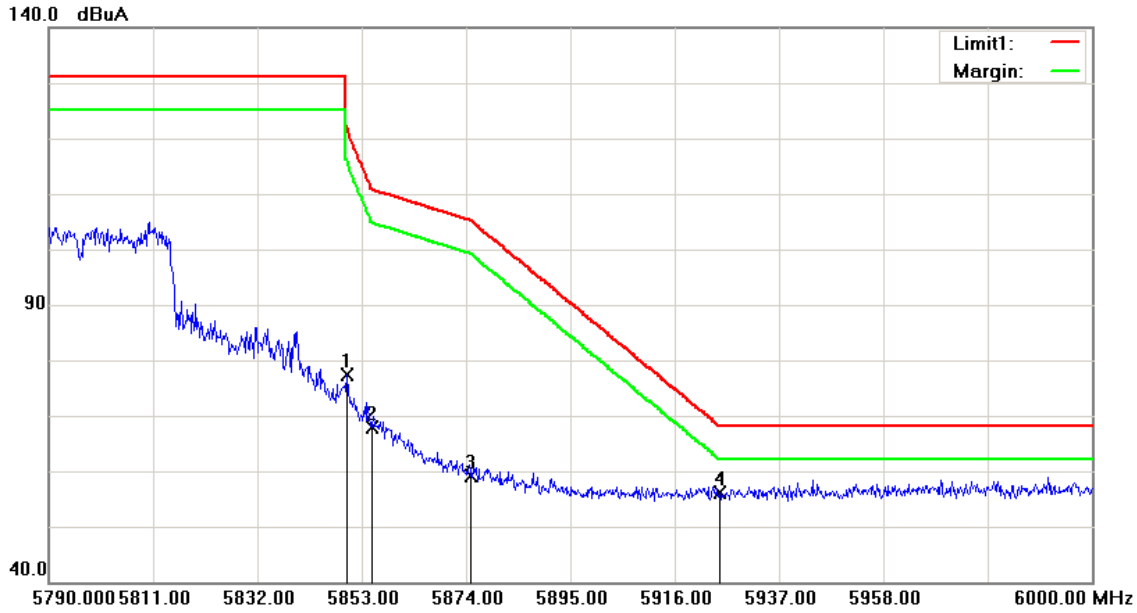
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	5650.000	46.38	8.84	55.22	68.20	-12.98	peak
2	5700.000	56.62	8.97	65.59	105.20	-39.61	peak
3	5720.000	69.41	9.01	78.42	110.80	-32.38	peak
4	5725.000	71.48	9.03	80.51	122.20	-41.69	peak

Note: 1. Result = Correction factor + Reading

2. Correction factor = Antenna Factor + Cable loss – Pre-Amplifier gain.

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

Standard:	FCC Part 15E	Test Distance:	3 m
Test item:	Band edge	Power:	AC 120 V/60 Hz
Test Mode:	Mode 4	Temp.(℃)/Hum.(%RH):	26(℃)/60 %RH
Frequency:	5795 MHz	Date:	10/09/2016
Ant.Polar.:	Horizontal		
Beamforming on			



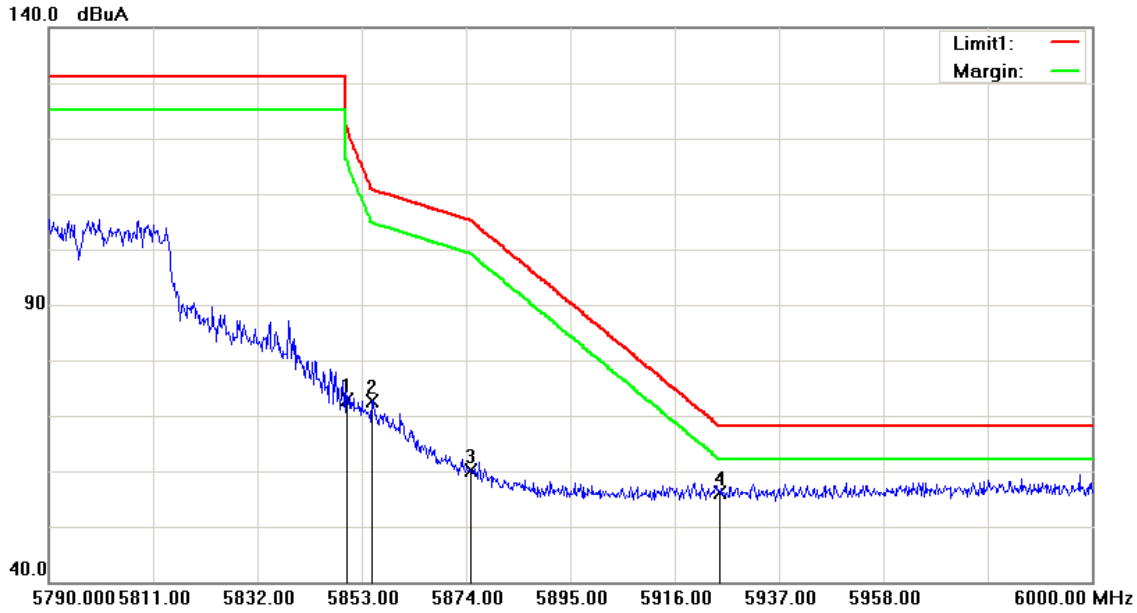
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	5850.000	68.11	9.33	77.44	122.20	-44.76	peak
2	5855.000	58.64	9.35	67.99	110.80	-42.81	peak
3	5875.000	49.71	9.40	59.11	105.20	-46.09	peak
4	5925.000	46.48	9.53	56.01	68.20	-12.19	peak

Note: 1. Result = Correction factor + Reading

2. Correction factor = Antenna Factor + Cable loss – Pre-Amplifier gain.

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

Standard:	FCC Part 15E	Test Distance:	3 m
Test item:	Band edge	Power:	AC 120 V/60 Hz
Test Mode:	Mode 4	Temp.(℃)/Hum.(%RH):	26(℃)/60 %RH
Frequency:	5795 MHz	Date:	10/09/2016
Ant.Polar.:	Vertical		
Beamforming on			



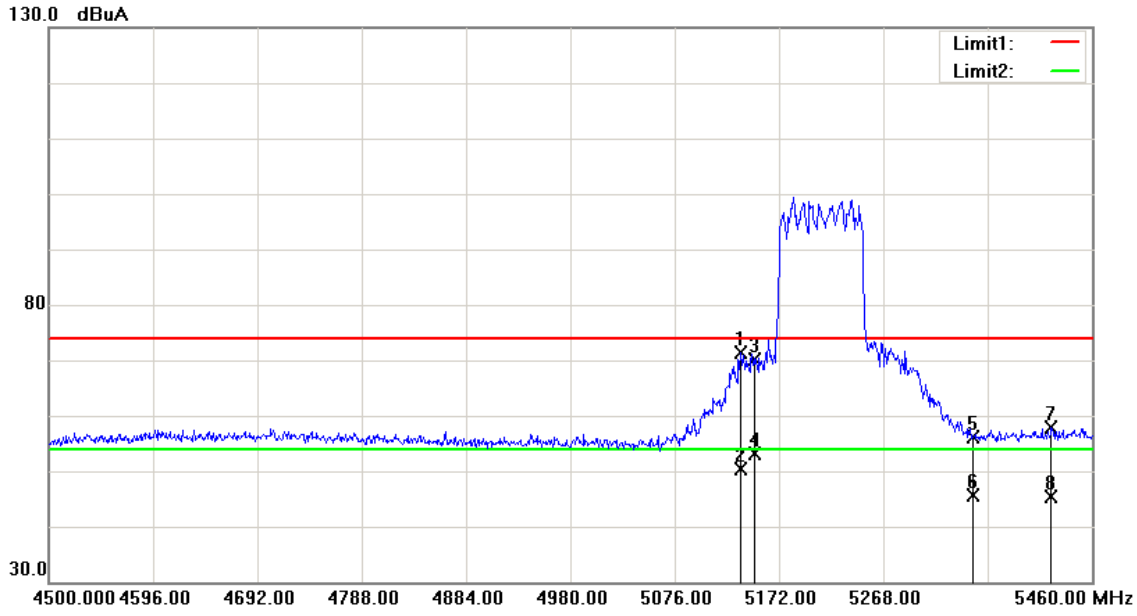
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	5850.000	63.55	9.33	72.88	122.20	-49.32	peak
2	5855.000	63.23	9.35	72.58	110.80	-38.22	peak
3	5875.000	50.66	9.40	60.06	105.20	-45.14	peak
4	5925.000	46.69	9.53	56.22	68.20	-11.98	peak

Note: 1. Result = Correction factor + Reading

2. Correction factor = Antenna Factor + Cable loss – Pre-Amplifier gain.

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

Standard:	FCC Part 15E	Test Distance:	3 m
Test item:	Band edge	Power:	AC 120 V/60 Hz
Test Mode:	Mode 5	Temp.(℃)/Hum.(%RH):	26(℃)/60 %RH
Frequency:	5210 MHz	Date:	10/09/2016
Ant.Polar.:	Horizontal		
Beamforming on			



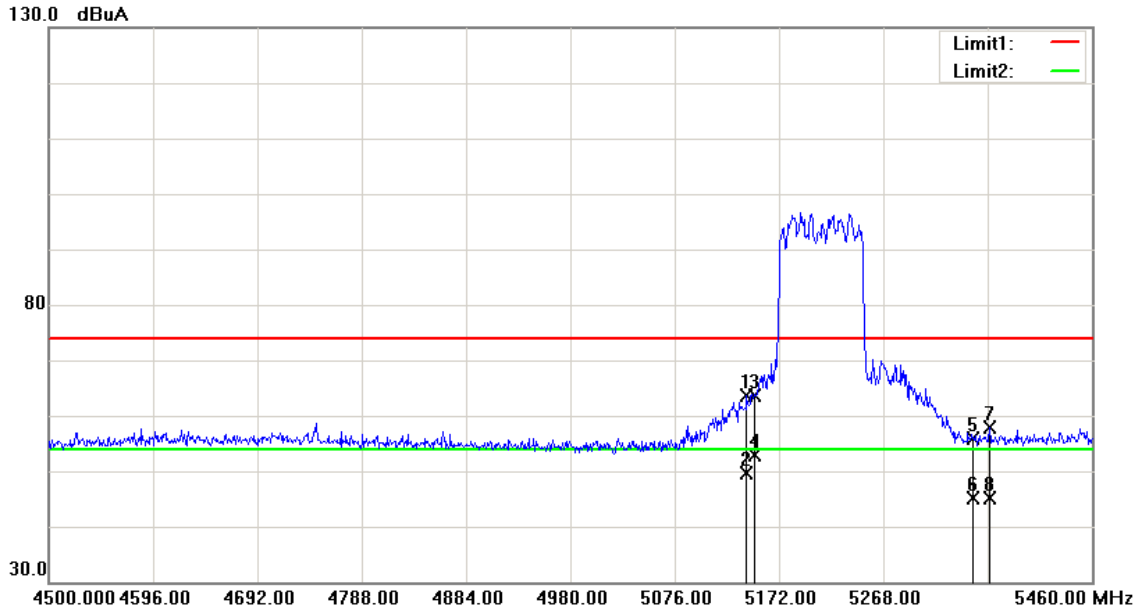
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	5136.480	63.12	8.14	71.26	74.00	-2.74	peak
2	5136.480	42.23	8.14	50.37	54.00	-3.63	AVG
3	5150.000	61.96	8.16	70.12	74.00	-3.88	peak
4	5150.000	44.88	8.16	53.04	54.00	-0.96	AVG
5	5350.000	47.85	8.33	56.18	74.00	-17.82	peak
6	5350.000	37.33	8.33	45.66	54.00	-8.34	AVG
7	5422.560	49.39	8.40	57.79	74.00	-16.21	peak
8	5422.560	37.10	8.40	45.50	54.00	-8.50	AVG

Note: 1. Result = Correction factor + Reading

2. Correction factor = Antenna Factor + Cable loss – Pre-Amplifier gain.

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

Standard:	FCC Part 15E	Test Distance:	3 m
Test item:	Band edge	Power:	AC 120 V/60 Hz
Test Mode:	Mode 5	Temp.(℃)/Hum.(%RH):	26(℃)/60 %RH
Frequency:	5210 MHz	Date:	10/09/2016
Ant.Polar.:	Vertical		
Beamforming on			



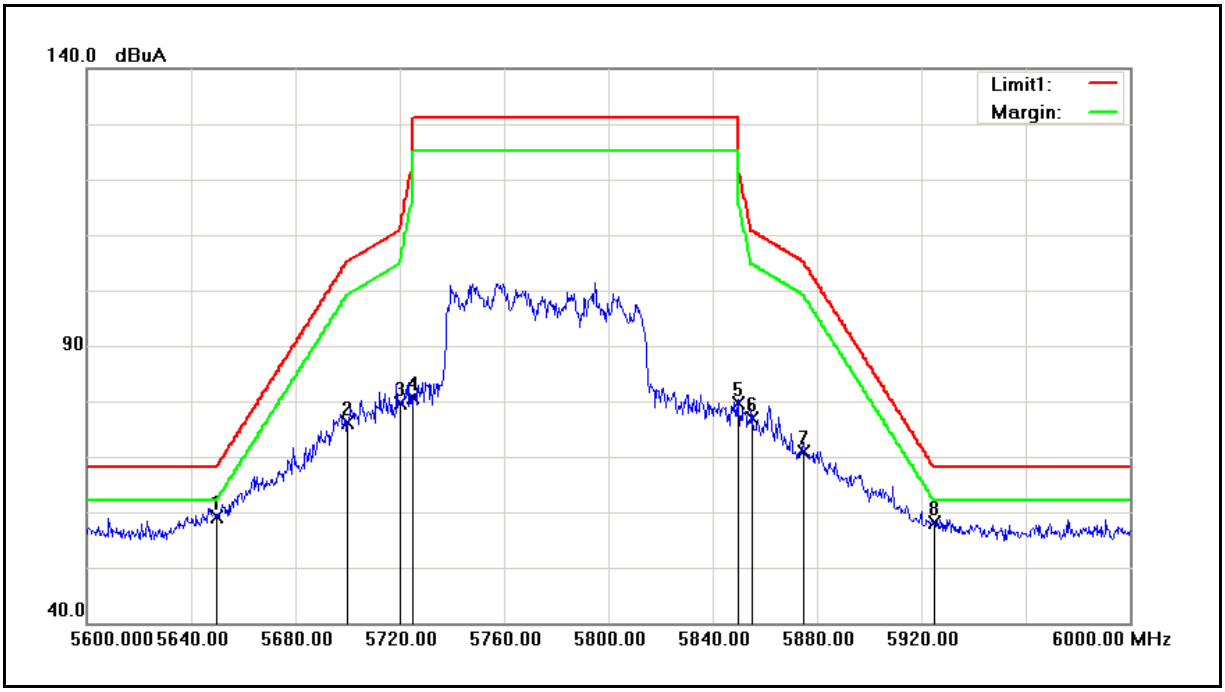
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	5142.240	55.43	8.15	63.58	74.00	-10.42	peak
2	5142.240	41.42	8.15	49.57	54.00	-4.43	AVG
3	5150.000	55.51	8.16	63.67	74.00	-10.33	peak
4	5150.000	44.80	8.16	52.96	54.00	-1.04	AVG
5	5350.000	47.46	8.33	55.79	74.00	-18.21	peak
6	5350.000	36.76	8.33	45.09	54.00	-8.91	AVG
7	5365.920	49.48	8.35	57.83	74.00	-16.17	peak
8	5365.920	36.77	8.35	45.12	54.00	-8.88	AVG

Note: 1. Result = Correction factor + Reading

2. Correction factor = Antenna Factor + Cable loss – Pre-Amplifier gain.

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

Standard:	FCC Part 15E	Test Distance:	3 m
Test item:	Band edge	Power:	AC 120 V/60 Hz
Test Mode:	Mode 5	Temp.(℃)/Hum.(%RH):	26(℃)/60 %RH
Frequency:	5775 MHz	Date:	10/09/2016
Ant.Polar.:	Horizontal		
Beamforming on			



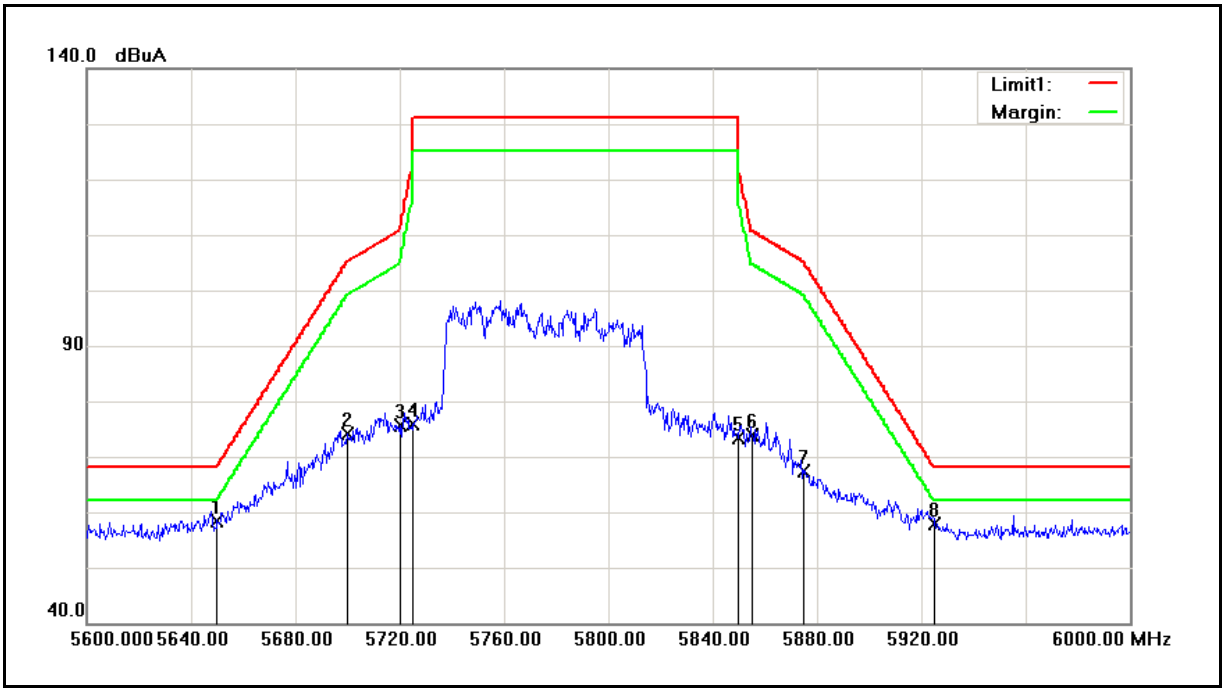
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	5650.000	50.27	8.84	59.11	68.20	-9.09	peak
2	5700.000	67.09	8.97	76.06	105.20	-29.14	peak
3	5720.000	70.71	9.01	79.72	110.80	-31.08	peak
4	5725.000	71.72	9.03	80.75	122.20	-41.45	peak
5	5850.000	70.23	9.33	79.56	122.20	-42.64	peak
6	5855.000	67.41	9.35	76.76	110.80	-34.04	peak
7	5875.000	61.51	9.40	70.91	105.20	-34.29	peak
8	5925.000	48.63	9.53	58.16	68.20	-10.04	peak

Note: 1. Result = Correction factor + Reading

2. Correction factor = Antenna Factor + Cable loss – Pre-Amplifier gain.

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

Standard:	FCC Part 15E	Test Distance:	3 m
Test item:	Band edge	Power:	AC 120 V/60 Hz
Test Mode:	Mode 5	Temp.(℃)/Hum.(%RH):	26(℃)/60 %RH
Frequency:	5775 MHz	Date:	10/09/2016
Ant.Polar.:	Vertical		
Beamforming on			



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	5650.000	49.66	8.84	58.50	68.20	-9.70	peak
2	5700.000	65.27	8.97	74.24	105.20	-30.96	peak
3	5720.000	66.52	9.01	75.53	110.80	-35.27	peak
4	5725.000	66.81	9.03	75.84	122.20	-46.36	peak
5	5850.000	64.16	9.33	73.49	122.20	-48.71	peak
6	5855.000	64.63	9.35	73.98	110.80	-36.82	peak
7	5875.000	57.91	9.40	67.31	105.20	-37.89	peak
8	5925.000	48.39	9.53	57.92	68.20	-10.28	peak

Note: 1. Result = Correction factor + Reading

2. Correction factor = Antenna Factor + Cable loss – Pre-Amplifier gain.

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