

FCC 47 CFR PART 15 SUBPART E

Applicant : Unitech Electronics Co., Ltd.

Product Type : Rugged Handheld Computer

Trade Name : unitech

Model Number : TB128

Test Specification : FCC 47 CFR PART 15 SUBPART E
ANSI C63.10:2013

Receive Date : Mar. 15, 2017

Test Period : Apr. 01 ~ Apr. 11, 2017

Issue Date : Jun. 14, 2017

Issue by

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Taiwan Accreditation Foundation accreditation number: 1330

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Revision History

Rev.	Issue Date	Revisions	Revised By
00	Apr. 26, 2017	Initial Issue	Nina Lin
01	Jun. 14, 2017	Revised report information.	Nina Lin

Verification of Compliance

Issued Date: Jun. 14, 2017

Applicant : Unitech Electronics Co., Ltd.
Product Type : Rugged Handheld Computer
Trade Name : unitech
Model Number : TB128
FCC ID : HLETB128BTNF
EUT Rated Voltage : DC 5V, 3.0A
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)
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Taiwan Accreditation Foundation accreditation number: 1330

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

A Test Lab Techno Corp. tested the above equipment in accordance with the requirements set forth in the above standards. All indications of Pass/Fail in this report are opinions expressed by A Test Lab Techno Corp. based on interpretations and/or observations of test results. Measurement Uncertainties were not taken into account and are published for informational purposes only. The test results show that the equipment tested is capable of demonstrating compliance with the requirements as documented in this report.

Approved By : Fly Lu
(Manager) (Fly Lu)

Reviewed By : Eric Ou Yang
(Testing Engineer) (Eric Ou Yang)

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1 General Information

1.1. Summary of Test Result

Standard	Item	Result	Remark
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)	26dB RF Bandwidth	Reference	---
15.407(e)	6dB RF Bandwidth	PASS	----
15.407(a)	Peak Power Spectral Density	PASS	---
15.407(g)	Frequency Stability	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. Manufacturer or whom it may concern should recognize the pass or fail of the test result.

1.2. Measurement Uncertainty

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

2 EUT Description

Applicant	Unitech Electronics Co., Ltd. 5F., No.136, Lane 235, Pao-Chiao Rd., Hsin-Tien Dist., New Taipei City, Taiwan 231, R.O.C.			
Manufacturer	Unitech Electronics Co., Ltd. 5F., No.136, Lane 235, Pao-Chiao Rd., Hsin-Tien Dist., New Taipei City, Taiwan 231, R.O.C.			
Product Type	Rugged Handheld Computer			
Trade Name	unitech			
Model No.	TB128			
FCC ID	HLETB128BTNF			
IMEI Number	359570021680979			
Operate Frequency	Frequency Band		Frequency Range (MHz)	Number of Channels
	IEEE 802.11a	U-NII Band I	5180 – 5240	4
		U-NII Band II-A	5260 – 5320	4
		U-NII Band II-C	5500 – 5700	11
		U-NII Band III	5745 – 5825	5
	IEEE 802.11n 20 MHz	U-NII Band I	5180 – 5240	4
		U-NII Band II-A	5260 – 5320	4
		U-NII Band II-C	5500 – 5700	11
		U-NII Band III	5745 – 5825	5
	IEEE 802.11n 40 MHz	U-NII Band I	5190 – 5230	2
		U-NII Band II-A	5270 – 5310	2
		U-NII Band II-C	5510 – 5670	5
		U-NII Band III	5755 – 5795	2
Modulation Type	OFDM			
Equipment Type	Client devices			
Antenna information	Type		Max. Gain (dBi)	
	FPCB Antenna		-3.8	
Antenna Delivery	Reference section 3.1			
Frequency stability specification	± 20 ppm			



Frequency Band		RF Output Power (W)
IEEE 802.11a	U-NII Band I	0.027
	U-NII Band II-A	0.025
	U-NII Band II-C	0.027
	U-NII Band III	0.024
IEEE 802.11n 20 MHz	U-NII Band I	0.029
	U-NII Band II-A	0.024
	U-NII Band II-C	0.027
	U-NII Band III	0.024
IEEE 802.11n 40 MHz	U-NII Band I	0.019
	U-NII Band II-A	0.018
	U-NII Band II-C	0.016
	U-NII Band III	0.018

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: Continuous TX mode
Mode 2: IEEE 802.11a Link Mode
Mode 3: IEEE 802.11n 20MHz Link Mode
Mode 4: IEEE 802.11n 40MHz Link Mode

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

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

Note : EUT connected to the cradle charging data than the power cord charging data is even worse, so the report only shows EUT connected to cradle charging test data.

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

Test Mode	ANT-0
Mode 2	V
Mode 3	V
Mode 4	V



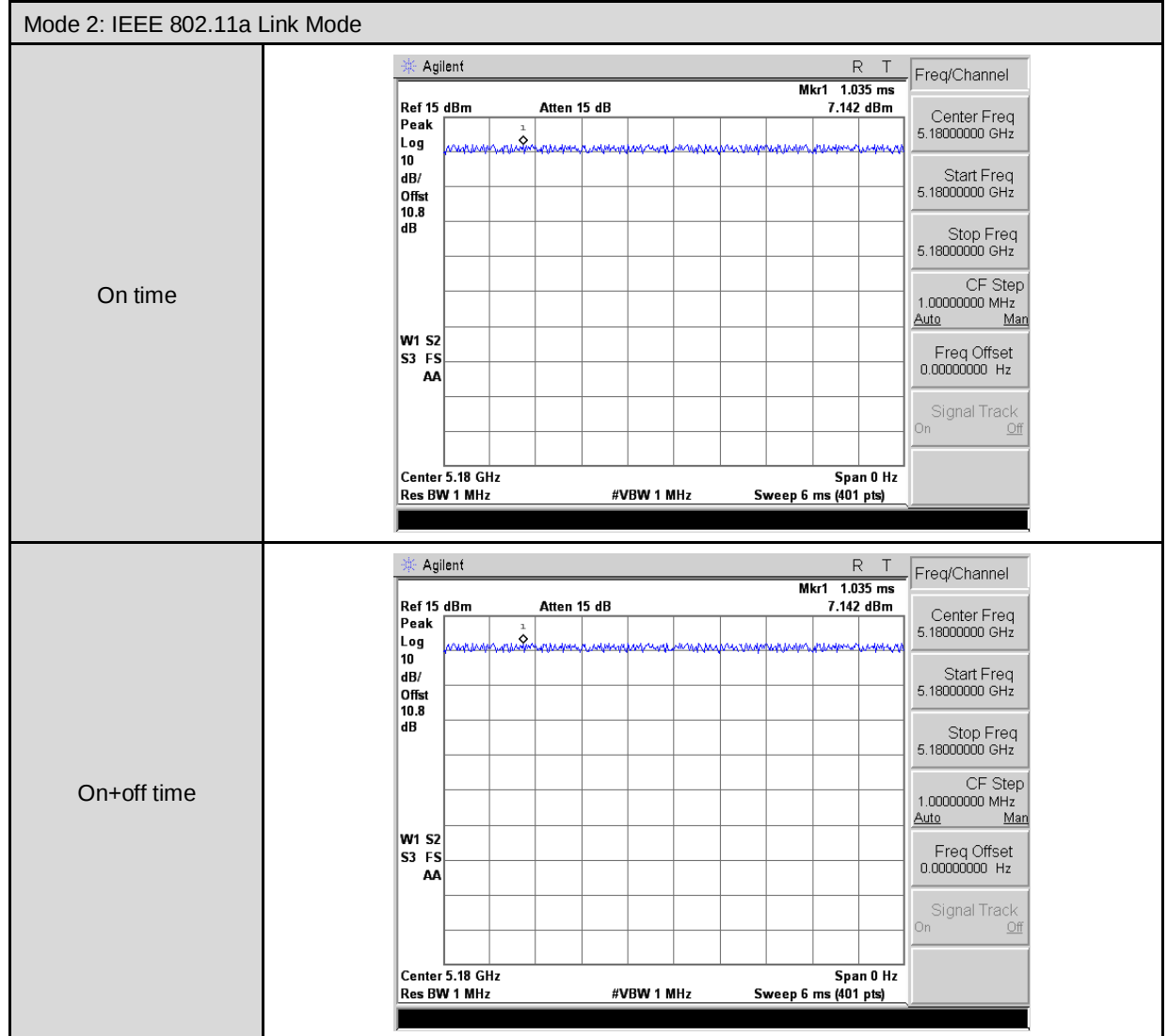
Test Mode	Band	Data Rate	Test Channel
Mode 2	U-NII Band I	6M	36, 40, 48
	U-NII Band II-A		52, 56, 64
	U-NII Band II-C		100, 112, 140
	U-NII Band III		149, 157, 165
Mode 3	U-NII Band I	13M	36, 40, 48
	U-NII Band II-A		52, 56, 64
	U-NII Band II-C		100, 112, 140
	U-NII Band III		149, 157, 165
Mode 4	U-NII Band I	27M	38, 46
	U-NII Band II-A		54, 62
	U-NII Band II-C		102, 110, 134
	U-NII Band III		151,159

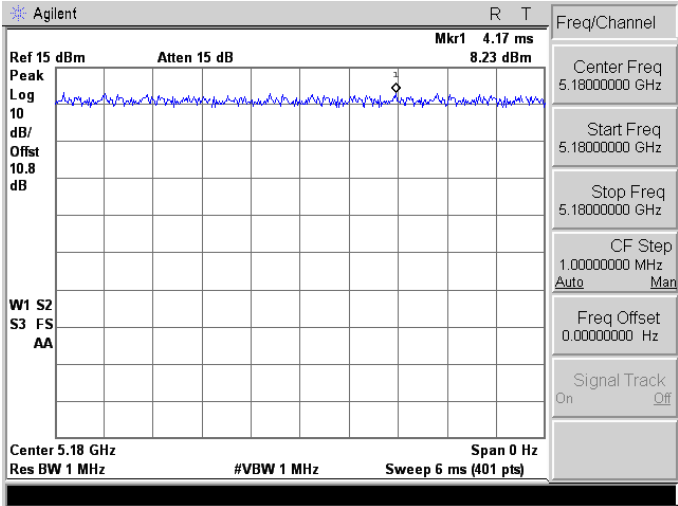
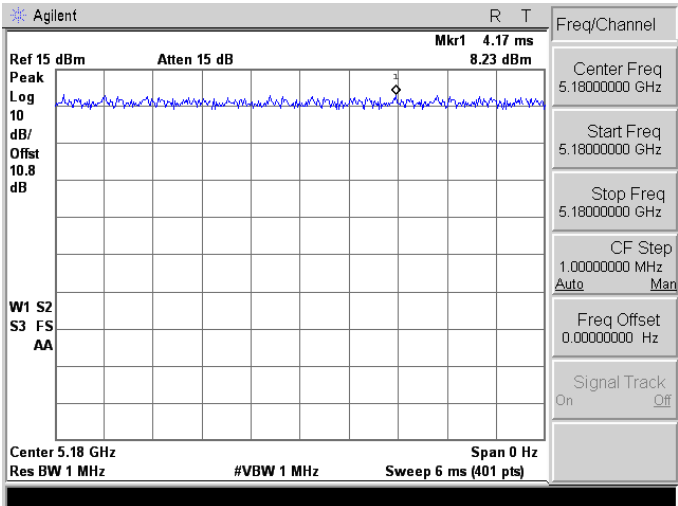
Duty cycle

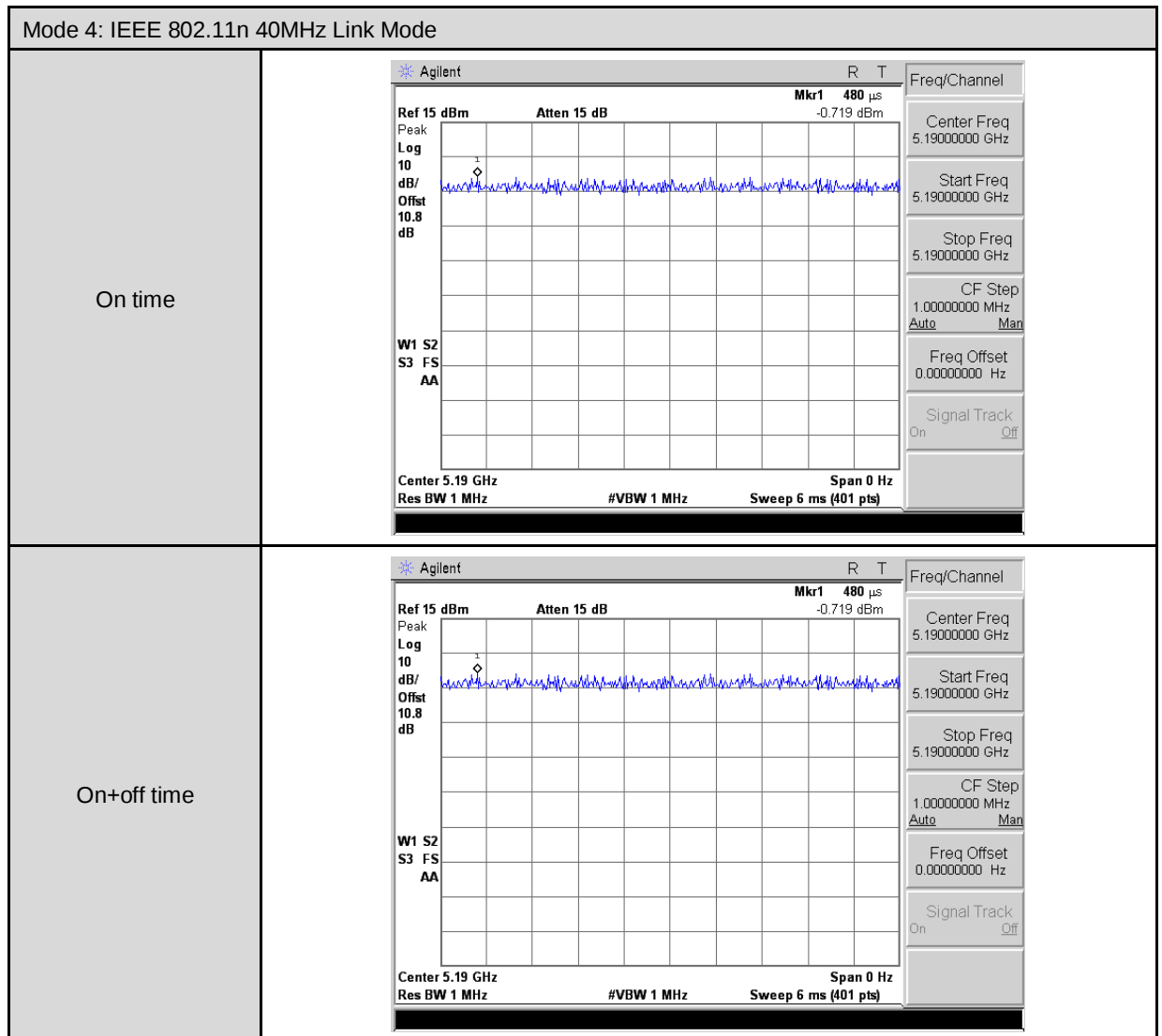
Test Mode	Frequency (MHz)	on time (ms)	on+off time (ms)	Duty cycle	Duty Factor (dB)	1/T Minimum VBW (kHz)
Mode 2: IEEE 802.11a Link Mode	5180.0	1.000	1.000	1.000	0.000	0.010
Mode 3: IEEE 802.11n 20MHz Link Mode	5180.0	1.000	1.000	1.000	0.000	0.010
Mode 4: IEEE 802.11n 40MHz Link Mode	5190.0	1.000	1.000	1.000	0.000	0.010



Duty Cycle Graphs



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



3.2. EUT Exercise Software

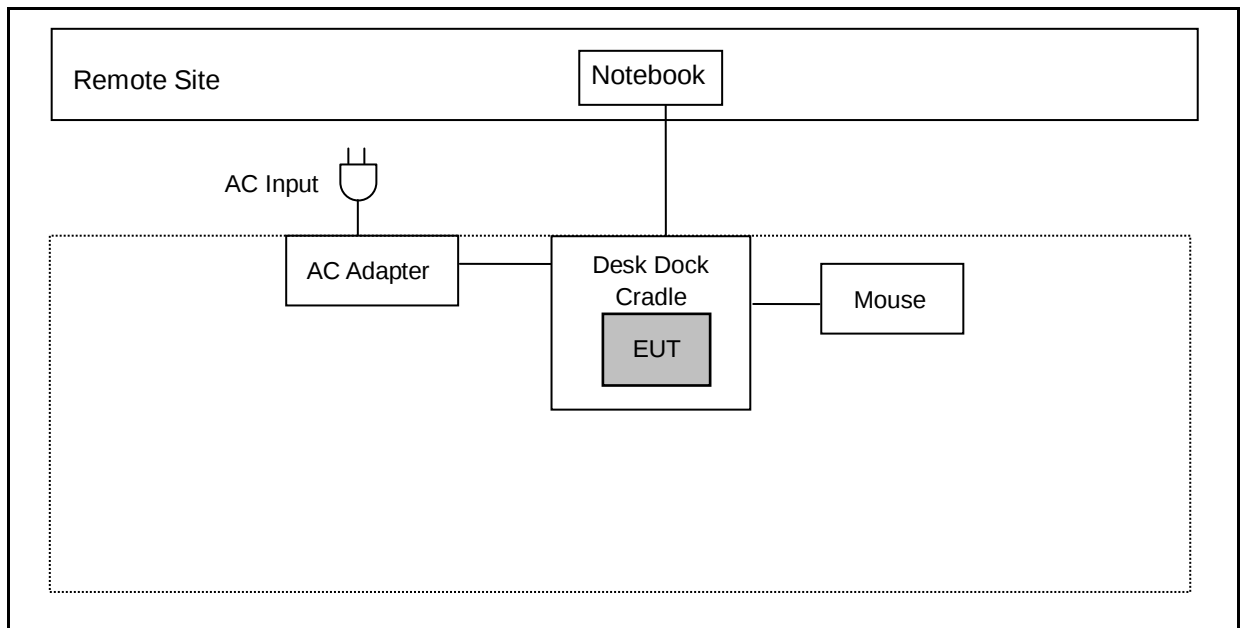
The EUT is operated in the engineering mode to fix the TX frequency for the purposes of measurement. According to its specifications, the EUT must comply with the requirements of Section 15.407 under the FCC Rules Part 15 Subpart E.

1.	Setup the EUT shown on 3.3.
2.	Turn on the power of all equipment.
3.	EUT run test program.

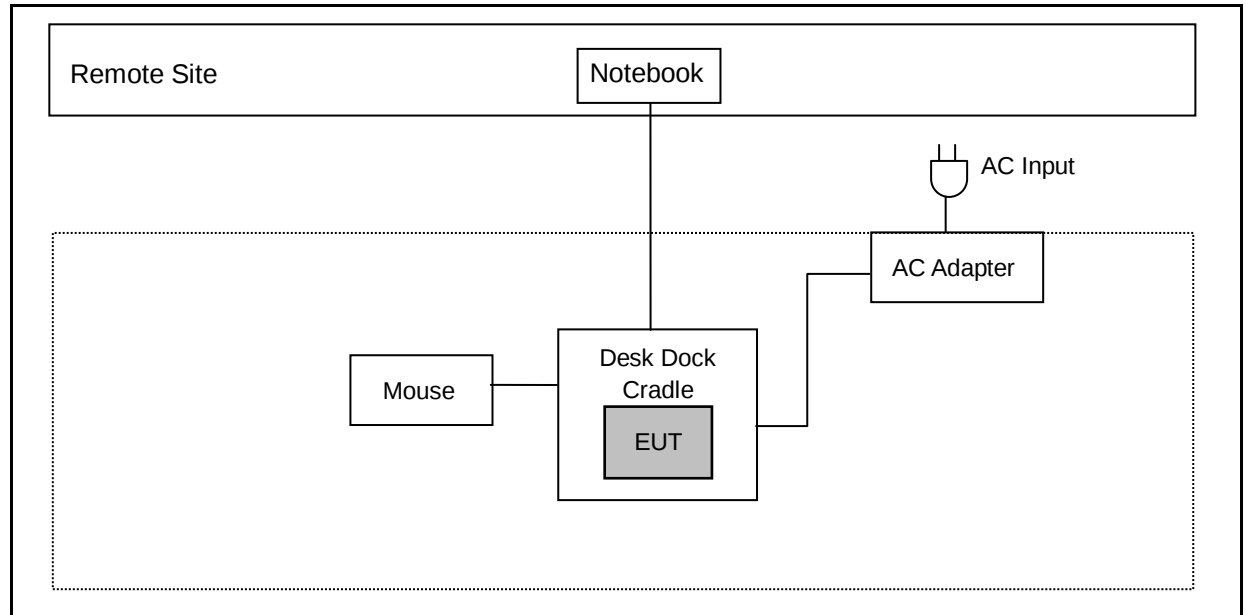
Measurement Software	
1	EZ-EMC Ver. ATL-03A1-1
2	EZ-EMC Ver ATL-ITC-3A1-1

3.3. Configuration of Test System Details

Conducted Emission



Radiated Emission



3.4. Test Site Environment

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

4 Test Results

4.1. AC Power Conducted Emission Measurement

■ Limit

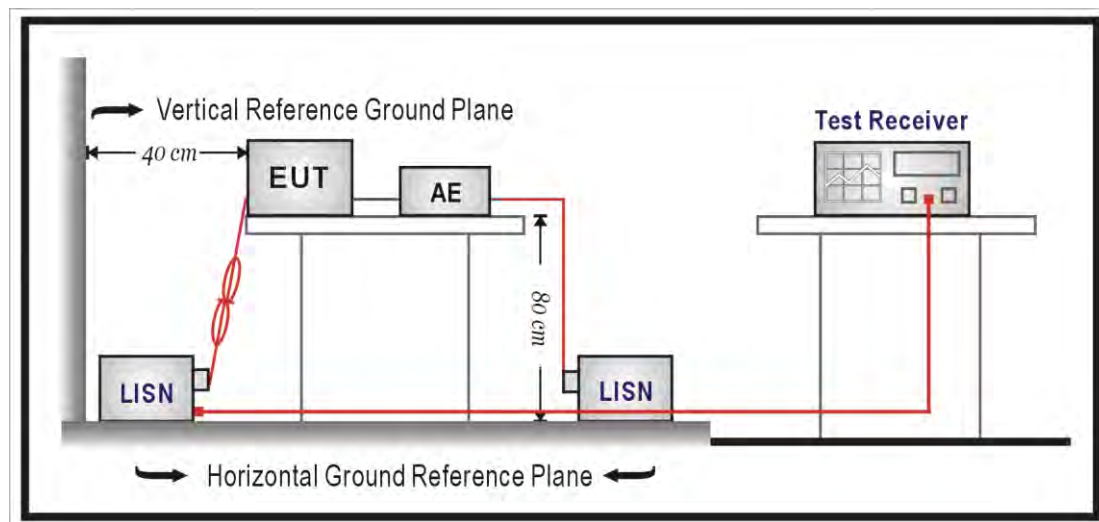
Frequency (MHz)	Quasi-peak	Average
0.15 - 0.5	66 to 56	56 to 46
0.50 - 5.0	56	46
5.0 - 30.0	60	50

■ Test Instruments

Describe	Manufacturer	Model Number	Serial Number	Cal. Date	Remark
Test Receiver	R&S	ESCI	100367	05/31/2016	1 year
LISN	R&S	ENV216	101040	04/01/2017	1 year
LISN	R&S	ENV216	101041	03/15/2017	1 year
RF Cable	Woken	00100D1380194M	TE-02-02	05/31/2016	1 year
Test Site	ATL	TE02	TE02	N.C.R.	-----

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

■ Test Setup



4.2. Test Procedure

The EUT and simulators are connected to the main power through a line impedance stabilization network (L.I.S.N.). This provides a $50\Omega // 50\mu\text{H}$ coupling impedance for the measuring equipment. The peripheral devices are also connected to the main power through a LISN that provides a $50\Omega // 50\mu\text{H}$ coupling impedance with 50ohm termination.

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

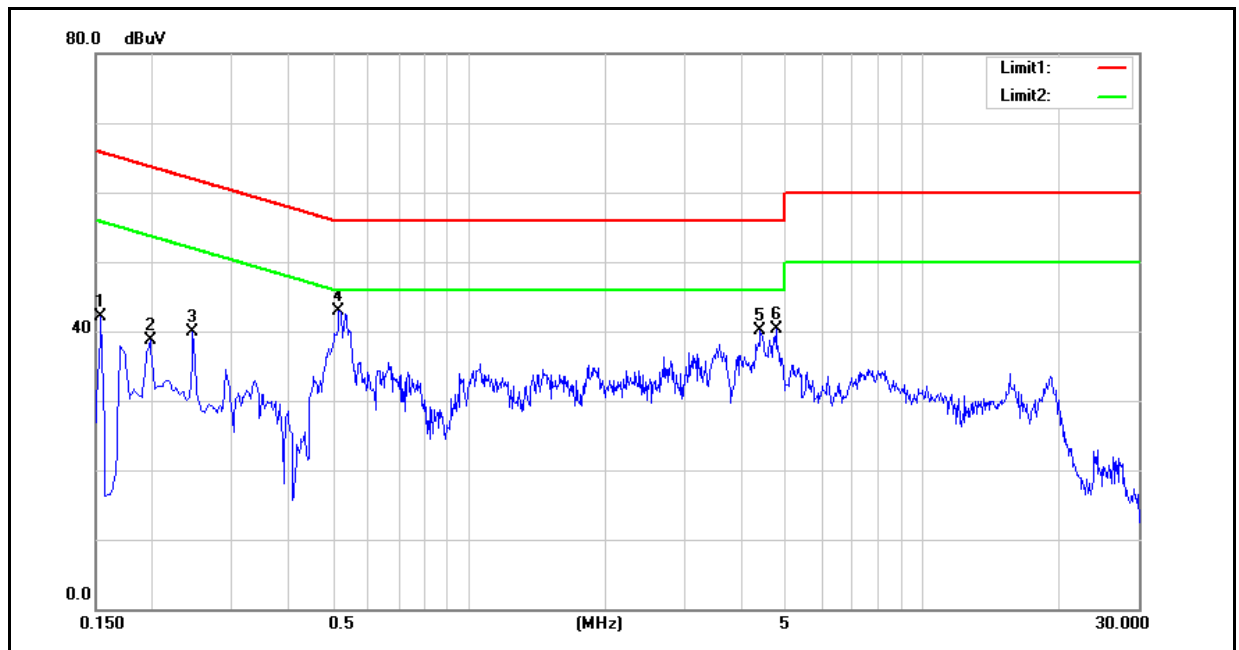
Conducted emissions were investigated over the frequency range from 0.15 MHz to 30 MHz using a resolution bandwidth of 9 kHz. The equipment under test (EUT) shall be meet the limits in section 4.1, as applicable, including the average limit and the quasi-peak limit when using respectively, an average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

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

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

Test Result

Standard:	FCC Part 15.407	Line:	L1
Test item:	Conducted Emission	Power:	AC 120V/60Hz
Model Number:	TB128	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Test Mode:	Mode 1	Date:	04/02/2017
		Test By:	
Description:			

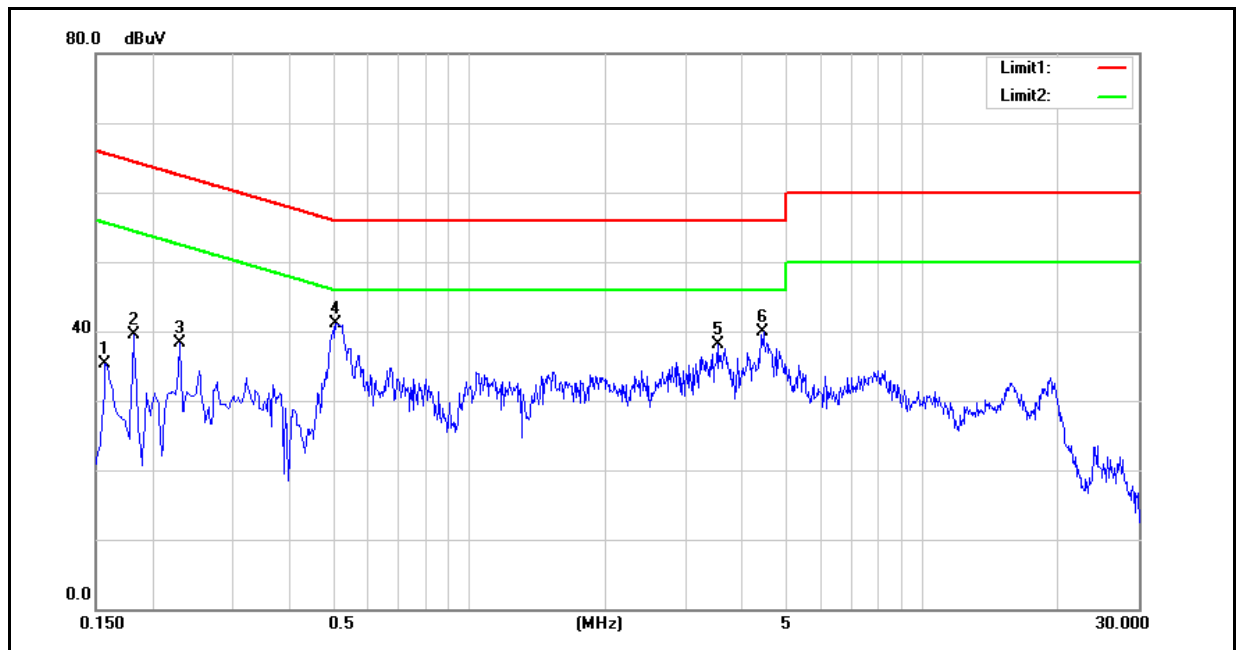


No.	Frequency (MHz)	QP reading (dBμV)	AVG reading (dBμV)	Correction factor (dB)	QP result (dBμV)	AVG result (dBμV)	QP limit (dBμV)	AVG limit (dBμV)	QP margin (dB)	AVG margin (dB)	Remark
1	0.1540	25.60	16.11	9.60	35.20	25.71	65.78	55.78	-30.58	-30.07	Pass
2	0.1980	25.83	14.85	9.59	35.42	24.44	63.69	53.69	-28.27	-29.25	Pass
3	0.2460	23.08	13.66	9.59	32.67	23.25	61.89	51.89	-29.22	-28.64	Pass
4	0.5180	31.46	25.24	9.61	41.07	34.85	56.00	46.00	-14.93	-11.15	Pass
5	4.3900	24.92	19.94	9.76	34.68	29.70	56.00	46.00	-21.32	-16.30	Pass
6	4.7540	24.37	19.88	9.78	34.15	29.66	56.00	46.00	-21.85	-16.34	Pass

Note: 1. Result = Correction factor + Reading

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

Standard:	FCC Part 15.407	Line:	N
Test item:	Conducted Emission	Power:	AC 120V/60Hz
Model Number:	TB128	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Test Mode:	Mode 1	Date:	04/02/2017
		Test By:	
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	26.77	12.27	9.59	36.36	21.86	65.57	55.57	-29.21	-33.71	Pass
2	0.1820	24.94	12.54	9.58	34.52	22.12	64.39	54.39	-29.87	-32.27	Pass
3	0.2300	23.35	15.02	9.58	32.93	24.60	62.45	52.45	-29.52	-27.85	Pass
4	0.5100	30.39	24.21	9.60	39.99	33.81	56.00	46.00	-16.01	-12.19	Pass
5	3.5340	23.59	17.13	9.74	33.33	26.87	56.00	46.00	-22.67	-19.13	Pass
6	4.4740	21.96	20.72	9.77	31.73	30.49	56.00	46.00	-24.27	-15.51	Pass

Note: 1. Result = Correction factor + Reading

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

4.3. 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 1000MHz, 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 20dB under any condition of modulation.

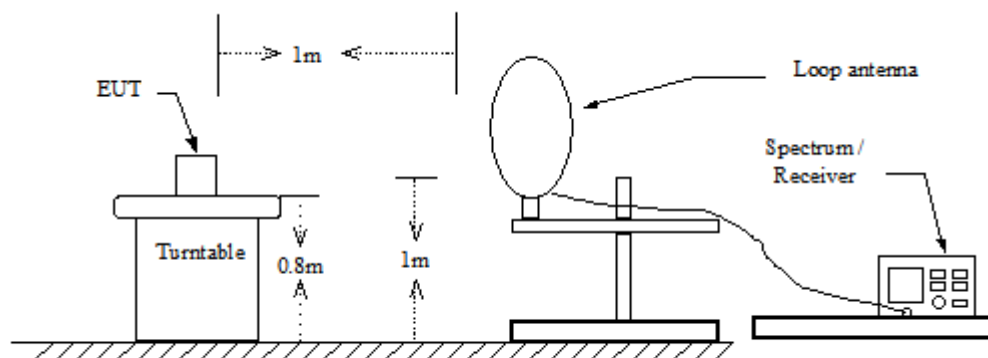
■ Test Instruments

3 Meter Chamber					
Equipment	Manufacturer	Model Number	Serial Number	Cal. Date	Remark
RF Pre-selector	Agilent	N9039A	MY46520256	06/22/2016	1 year
Spectrum Analyzer	Agilent	E4446A	MY46180578	06/22/2016	1 year
Pre Amplifier	Agilent	8449B	3008A02237	10/11/2016	1 year
Pre Amplifier	Agilent	8447D	2944A11119	01/12/2017	1 year
Broadband Antenna	Schwarzbeck	VULB9168	416	10/13/2016	1 year
Horn Antenna (1~18GHz)	SCHWARZBECK MESS-ELEKTRONIK	BBHA9120D	9120D-550	06/06/2016	1 year
Horn Antenna (18~40GHz)	ETS	3116	86467	09/05/2016	1 year
Loop Antenna	COM-POWER CORPORATION	AL-130	121014	01/26/2017	1 year
Microwave Cable	EMCI	EMC102-KM-KM-1 4000	151001	02/20/2017	1 year
Microwave Cable	EMCI	EMC-104-SM-SM- 14000	140202	02/20/2017	1 year
Microwave Cable	EMCI	EMC104-SM-SM-6 00	140301	02/20/2017	1 year
Test Site	ATL	TE01	888001	08/29/2016	1 year

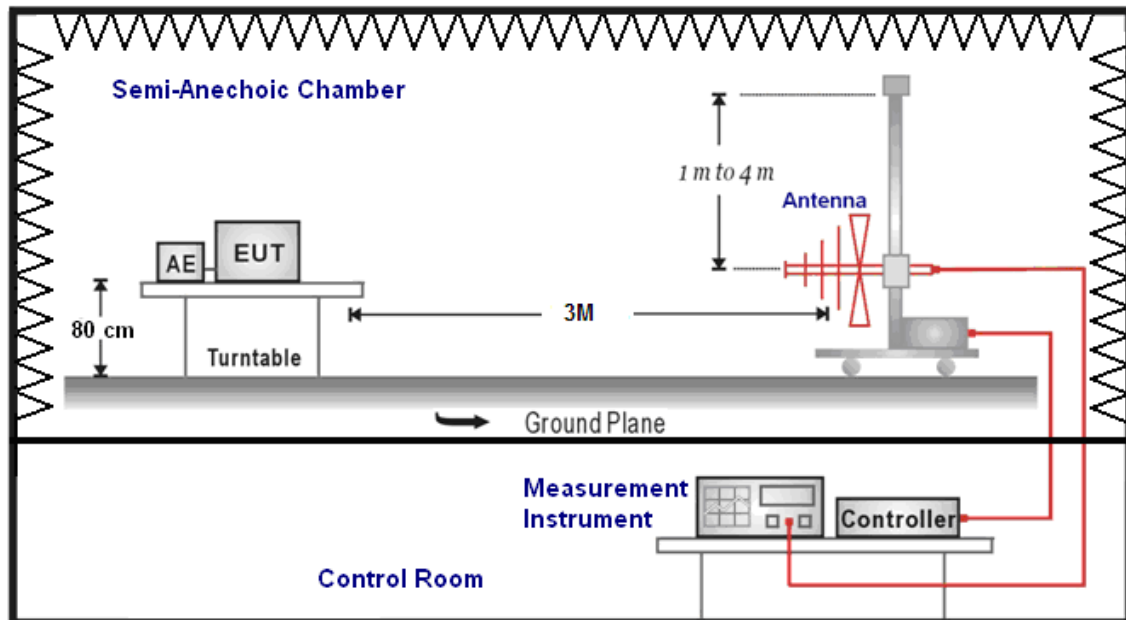
Note: N.C.R. = No Calibration Request.

■ Setup

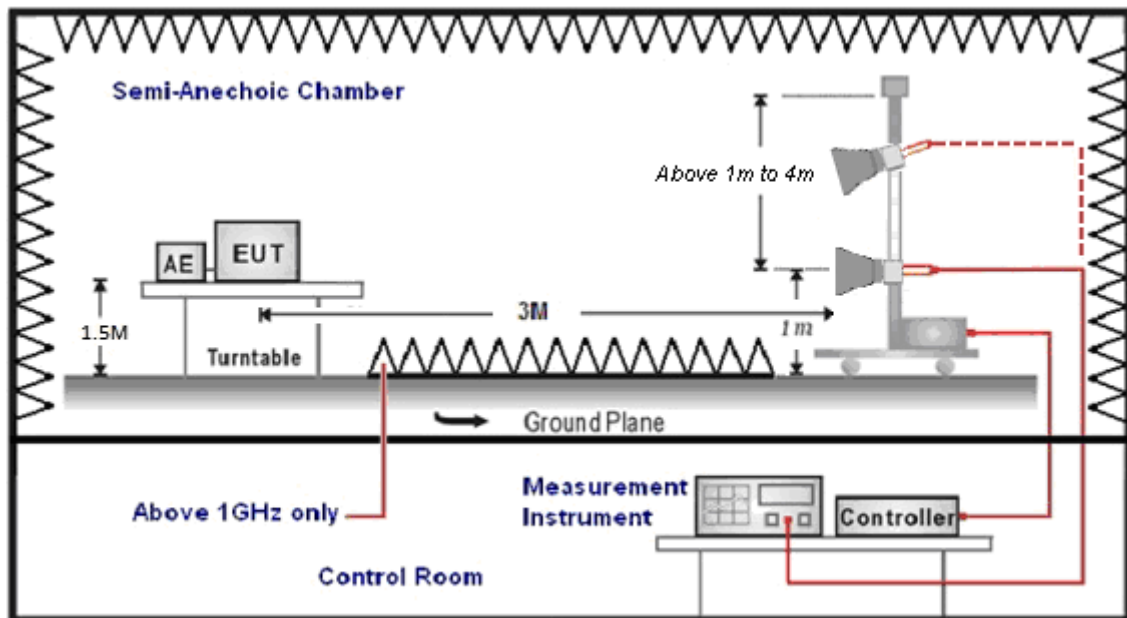
9kHz ~ 30MHz



30MHz ~ 1GHz



Above 1GHz



■ Test Procedure

Final radiation measurements were made on a three-meter, Semi Anechoic Chamber. The EUT system was placed on a nonconductive turntable which is 0.8 or 1.5 meters height (below 1GHz use 0.8m turntable / above 1GHz use 1.5m turntable), top surface 1.0 x 1.5 meter. The spectrum was examined from 250 MHz to 2.5 GHz in order to cover the whole spectrum below 10th harmonic which could generate from the EUT. During the test, EUT was set to transmit continuously & Measurements spectrum range from 9 kHz to 40 GHz is investigated.

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

For restricted measurements above 1 GHz the resolution bandwidth is set to 1 MHz, and then the video bandwidth is set to 3 MHz for peak measurements and 10 Hz for average measurements when Duty cycle > 0.98 / 1/T for average measurements when Duty cycle < 0.98.

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

A nonconductive material surrounded the EUT to supporting the EUT for standing on three orthogonal planes. At each condition, the EUT was rotated 360 degrees, and the antenna was raised and lowered from one to four meters to find the maximum emission levels. Measurements were taken using both horizontal and vertical antenna polarization.

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

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

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

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

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

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

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

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

FI= Reading of the field intensity.

AF= Antenna factor.

CL= Cable loss.

P.S Amplitude is auto calculate in spectrum analyzer.

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

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

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

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

Measuring Instruments and setting

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

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



■ Test Result

Below 1GHz

Standard:		FCC Part 15.407		Test Distance:		3m	
Test item:		Radiated Emission		Power:		AC 120V/60Hz	
Model Number:		TB128		Temp.(℃)/Hum.(%RH):		26(℃)/60%RH	
Test Mode:		Mode 1		Date:		04/06/2017	
Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Polar. H / V
427.5000	30.54	-1.75	28.79	46.00	-17.21	QP	H
464.5000	32.81	-1.13	31.68	46.00	-14.32	QP	H
570.0000	26.47	0.78	27.25	46.00	-18.75	QP	H
653.0000	27.55	2.10	29.65	46.00	-16.35	QP	H
739.0000	26.64	3.64	30.28	46.00	-15.72	QP	H
827.5000	25.60	5.05	30.65	46.00	-15.35	QP	H
464.0000	30.62	-1.13	29.49	46.00	-16.51	QP	V
493.0000	29.88	-0.73	29.15	46.00	-16.85	QP	V
645.0000	26.61	1.99	28.60	46.00	-17.40	QP	V
762.0000	26.71	4.07	30.78	46.00	-15.22	QP	V
776.0000	29.56	4.26	33.82	46.00	-12.18	QP	V
880.0000	24.79	5.98	30.77	46.00	-15.23	QP	V

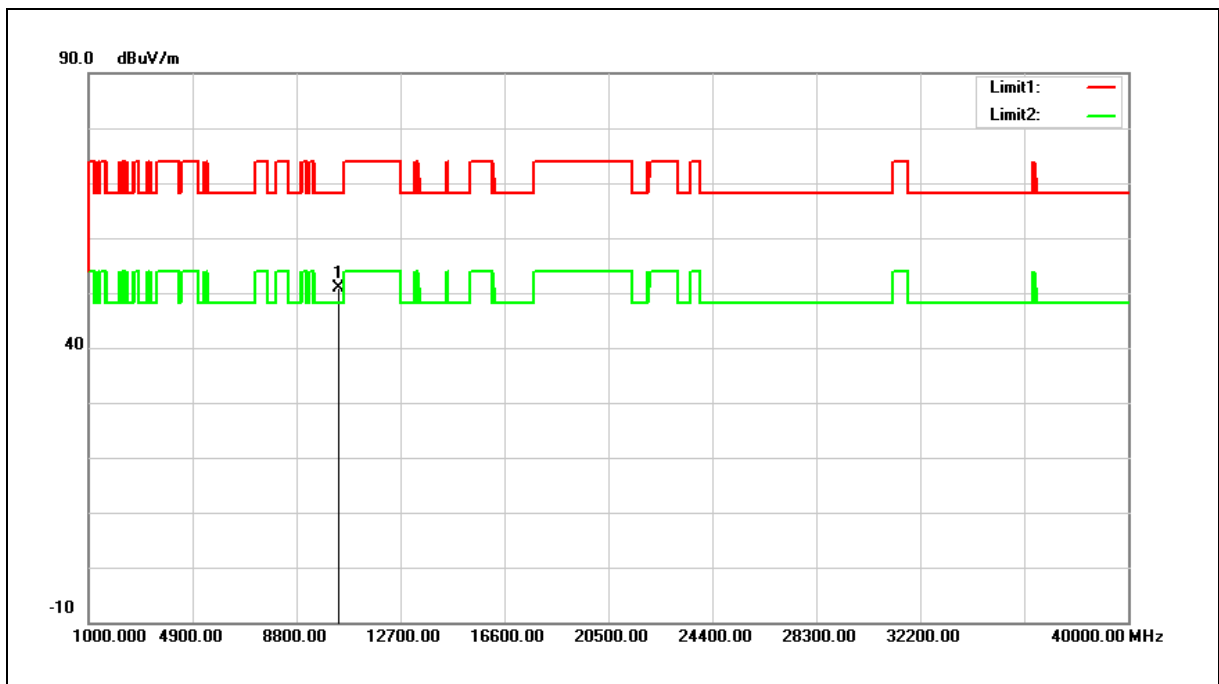
Note: 1. No emission found between lowest internal used/generated frequency to 30MHz (9kHz~30MHz).

2. Result = Correction factor + Reading

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

Above 1GHz

Standard:	FCC Part 15.407	Test Distance:	3m
Test item:	Harmonic	Power:	AC 120V/60Hz
Frequency:	5180MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 2	Date:	04/06/2017
Ant.Polar.:	Horizontal		



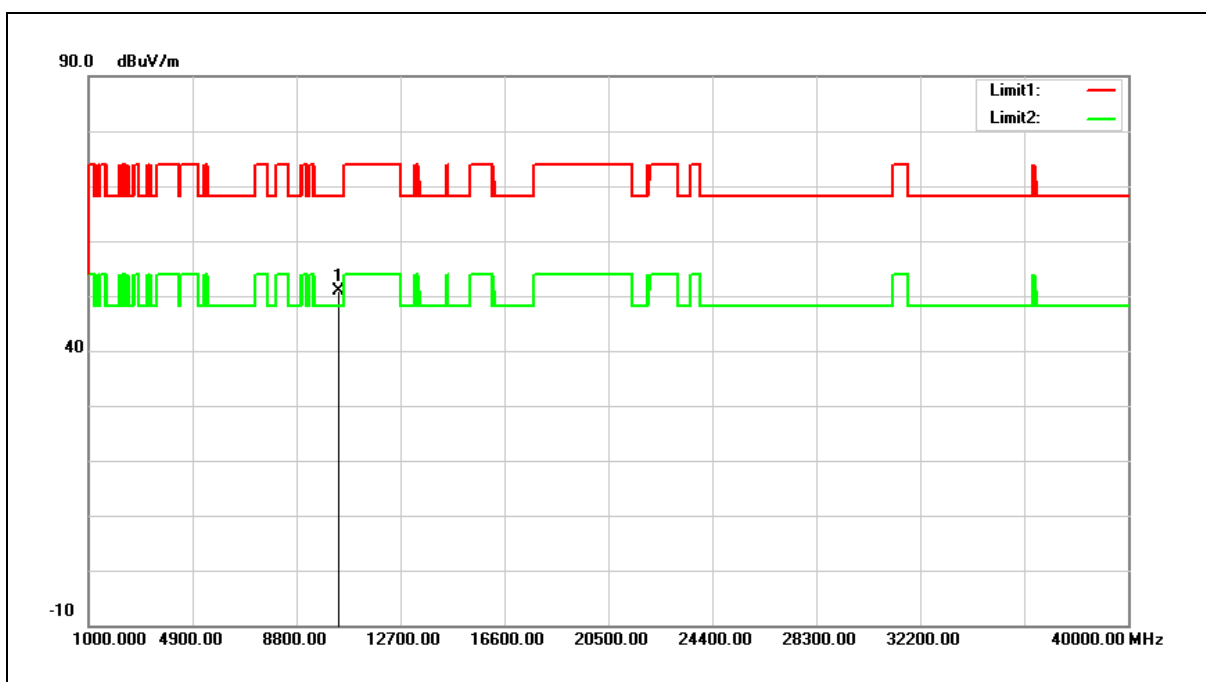
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	10360.000	33.58	17.29	50.87	68.20	-17.33	peak

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

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

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

Standard:	FCC Part 15.407	Test Distance:	3m
Test item:	Harmonic	Power:	AC 120V/60Hz
Frequency:	5180MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 2	Date:	04/06/2017
Ant.Polar.:	Vertical		



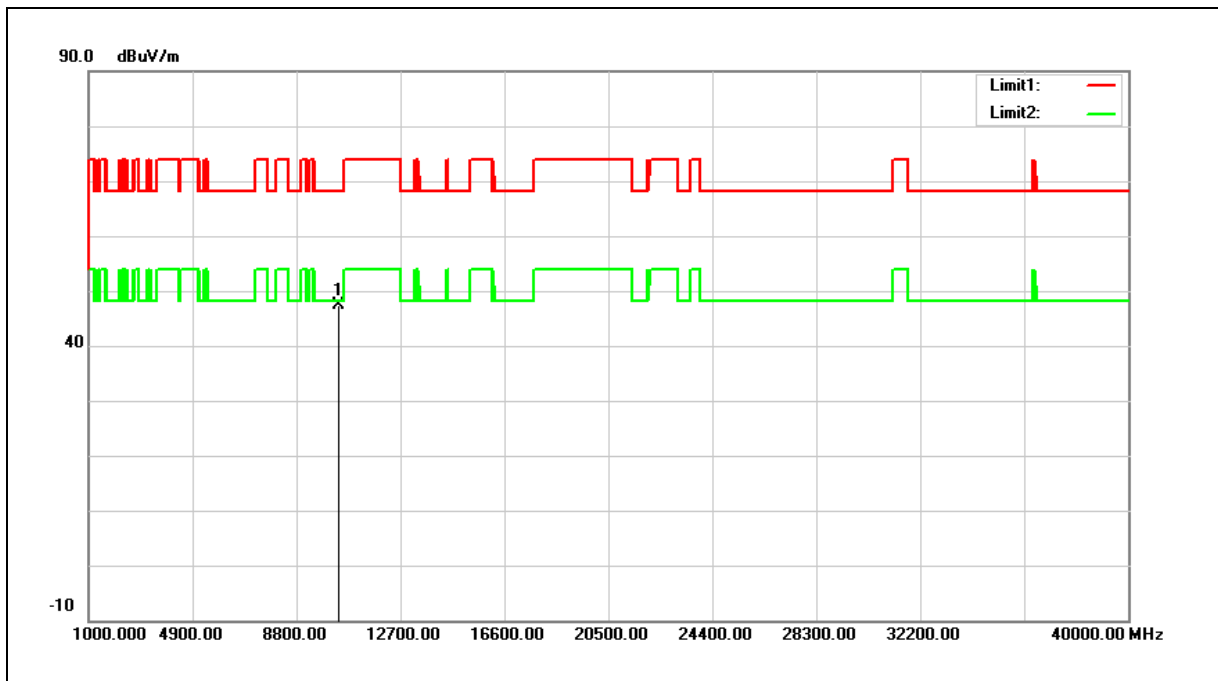
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	10360.000	33.53	17.29	50.82	68.20	-17.38	peak

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

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

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

Standard:	FCC Part 15.407	Test Distance:	3m
Test item:	Harmonic	Power:	AC 120V/60Hz
Frequency:	5200MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 2	Date:	04/08/2017
Ant.Polar.:	Horizontal		



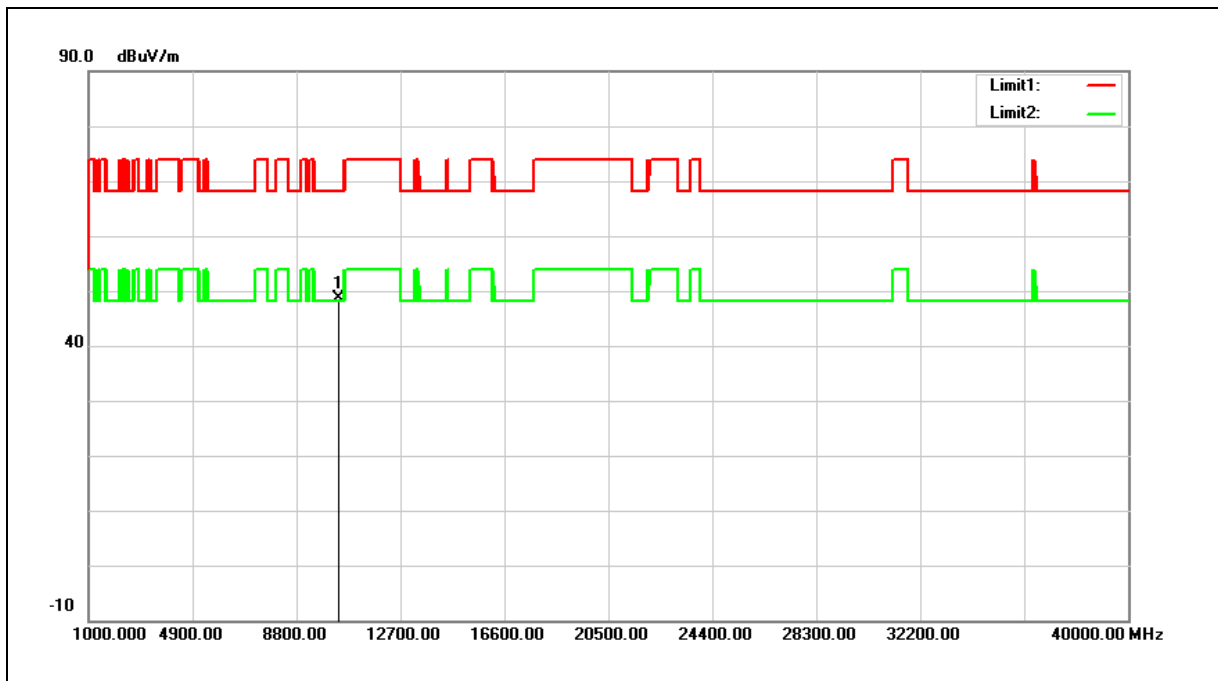
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	10400.000	30.05	17.41	47.46	68.20	-20.74	peak

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

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

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

Standard:	FCC Part 15.407	Test Distance:	3m
Test item:	Harmonic	Power:	AC 120V/60Hz
Frequency:	5200MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 2	Date:	04/08/2017
Ant.Polar.:	Vertical		



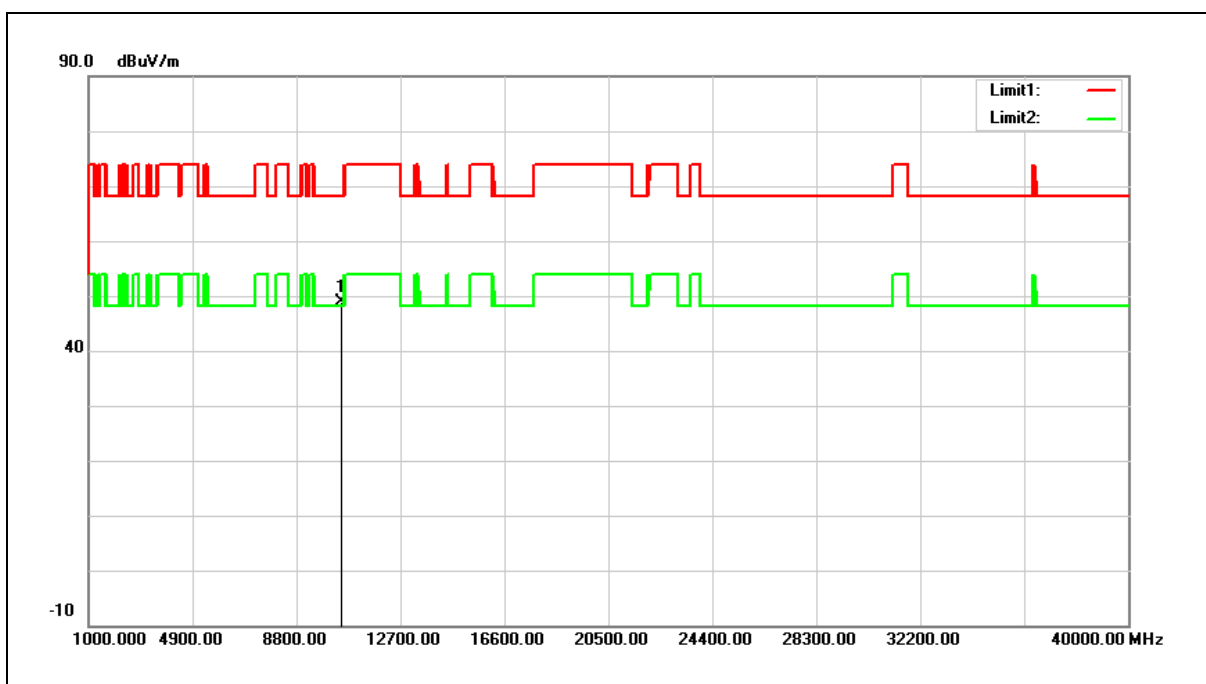
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	10400.000	31.26	17.41	48.67	68.20	-19.53	peak

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

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

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

Standard:	FCC Part 15.407	Test Distance:	3m
Test item:	Harmonic	Power:	AC 120V/60Hz
Frequency:	5240MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 2	Date:	04/08/2017
Ant.Polar.:	Horizontal		



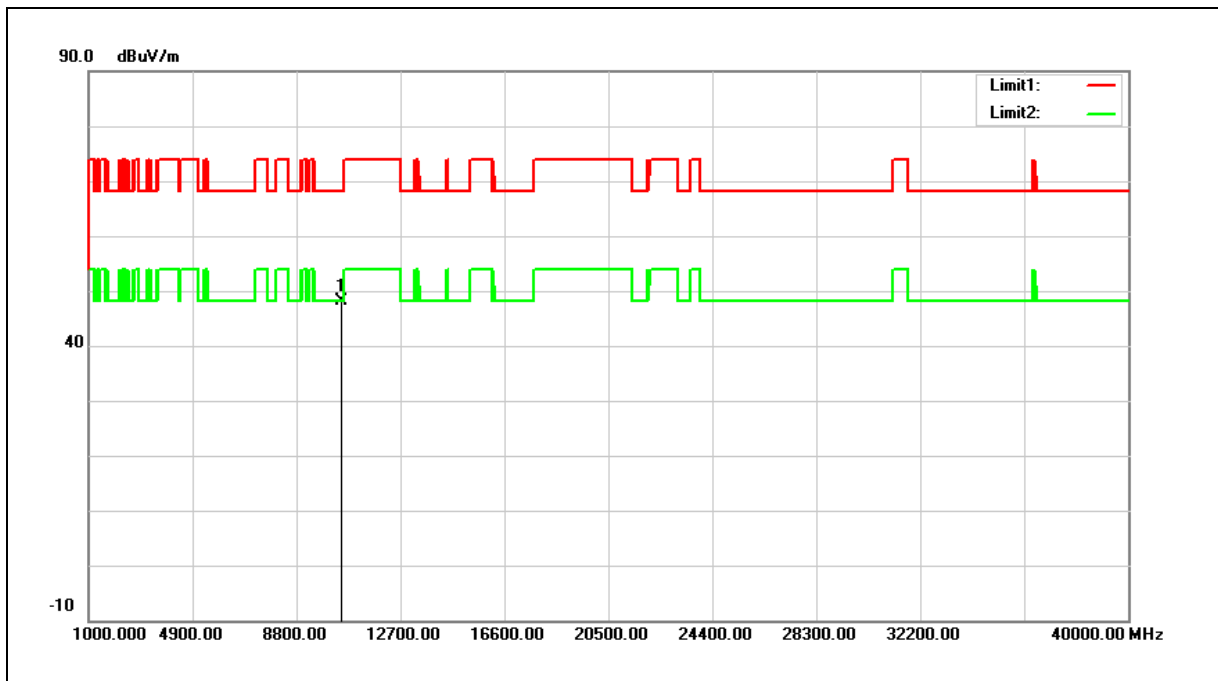
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	10480.000	31.32	17.64	48.96	68.20	-19.24	peak

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

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

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

Standard:	FCC Part 15.407	Test Distance:	3m
Test item:	Harmonic	Power:	AC 120V/60Hz
Frequency:	5240MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 2	Date:	04/08/2017
Ant.Polar.:	Vertical		



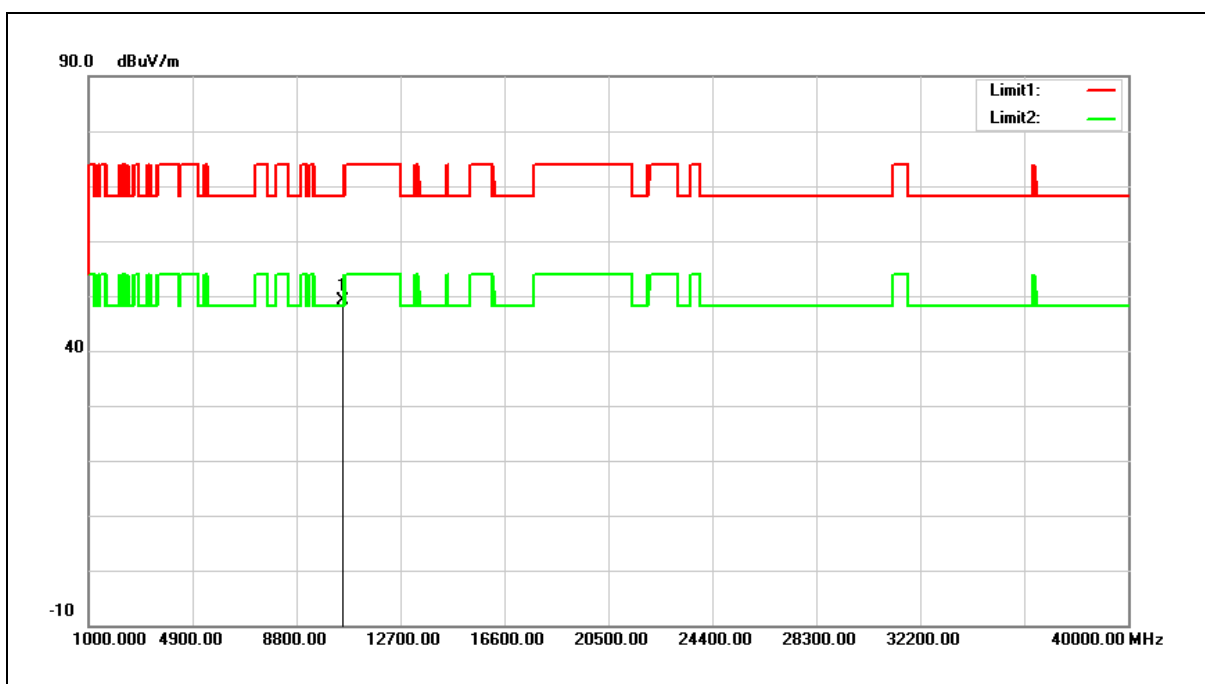
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	10480.000	30.39	17.64	48.03	68.20	-20.17	peak

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

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

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

Standard:	FCC Part 15.407	Test Distance:	3m
Test item:	Harmonic	Power:	AC 120V/60Hz
Frequency:	5260MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 2	Date:	04/08/2017
Ant.Polar.:	Horizontal		



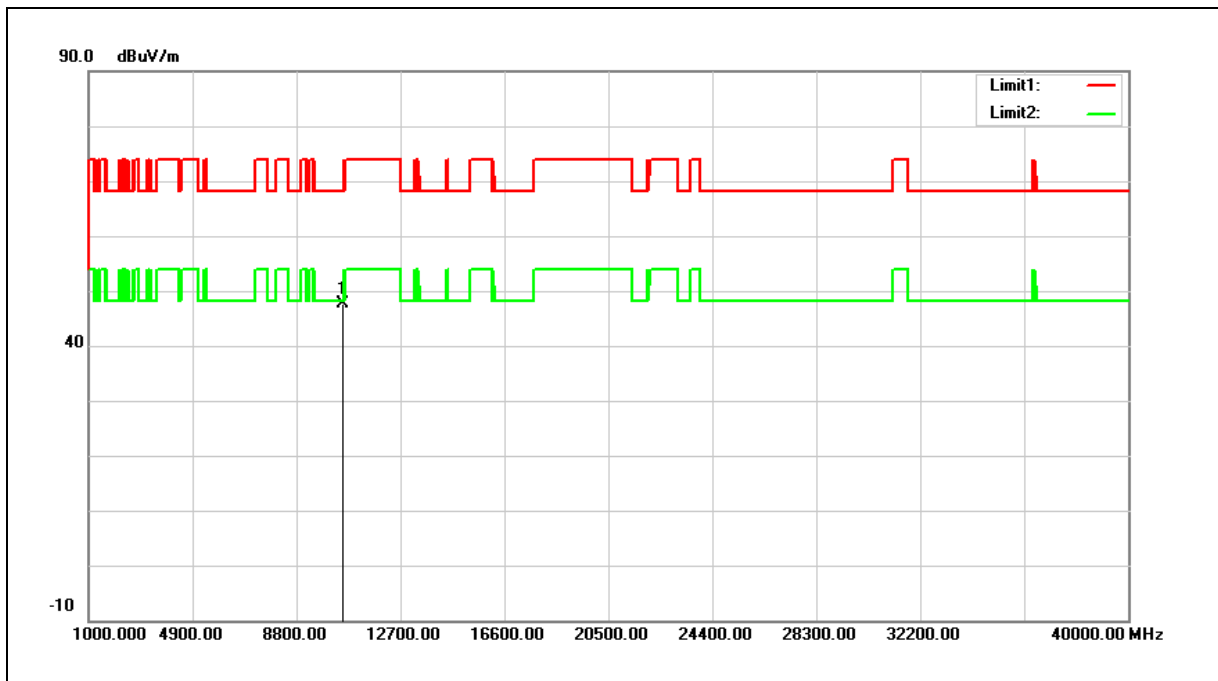
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	10520.000	31.34	17.71	49.05	68.20	-19.15	peak

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

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

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

Standard:	FCC Part 15.407	Test Distance:	3m
Test item:	Harmonic	Power:	AC 120V/60Hz
Frequency:	5260MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 2	Date:	04/08/2017
Ant.Polar.:	Vertical		



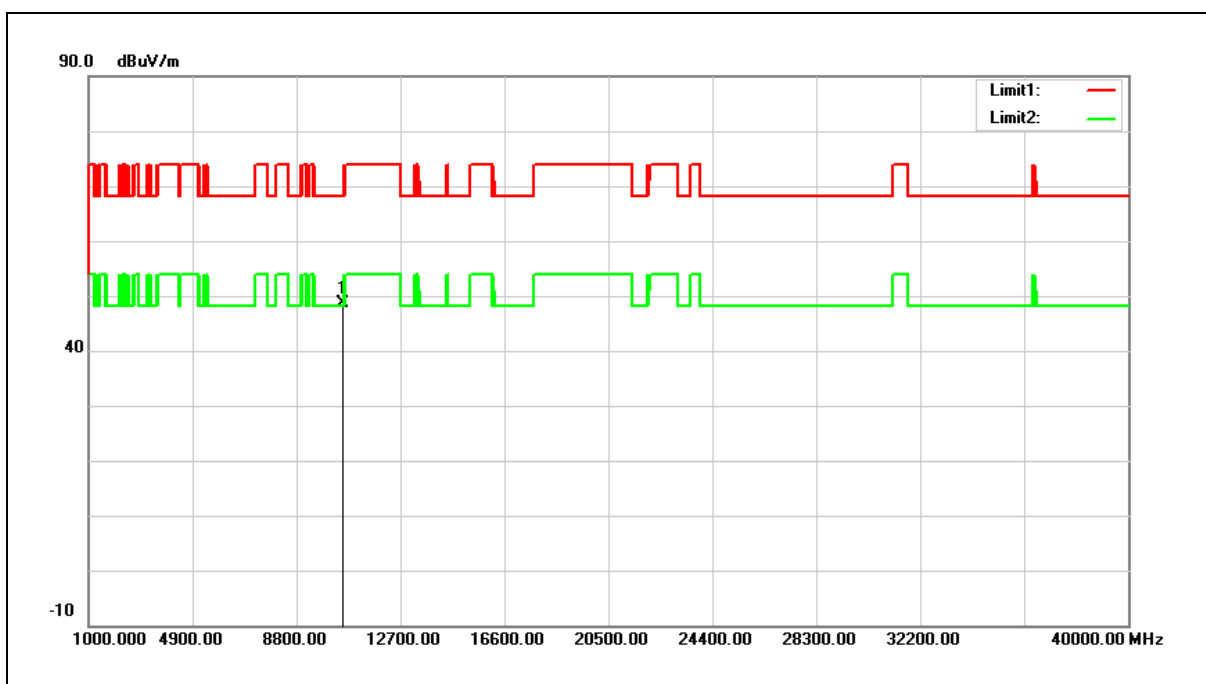
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	10520.000	29.81	17.71	47.52	68.20	-20.68	peak

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

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

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

Standard:	FCC Part 15.407	Test Distance:	3m
Test item:	Harmonic	Power:	AC 120V/60Hz
Frequency:	5280MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 2	Date:	04/08/2017
Ant.Polar.:	Horizontal		



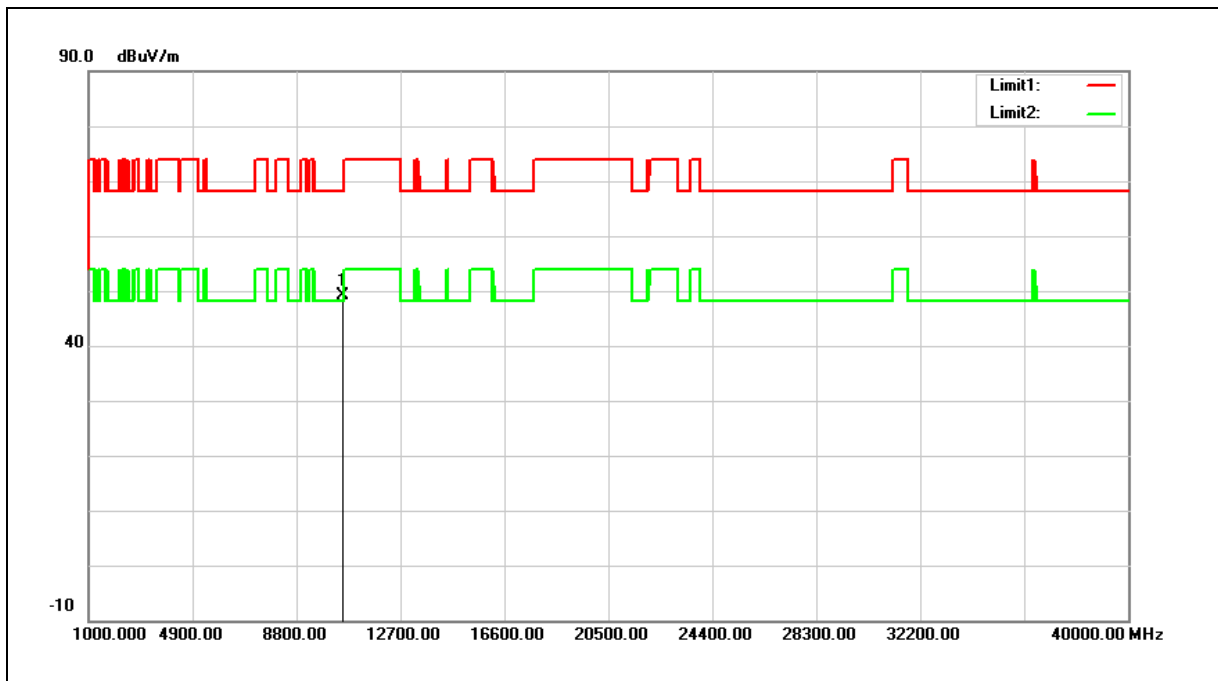
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	10560.000	30.75	17.76	48.51	68.20	-19.69	peak

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

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

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

Standard:	FCC Part 15.407	Test Distance:	3m
Test item:	Harmonic	Power:	AC 120V/60Hz
Frequency:	5280MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 2	Date:	04/08/2017
Ant.Polar.:	Vertical		



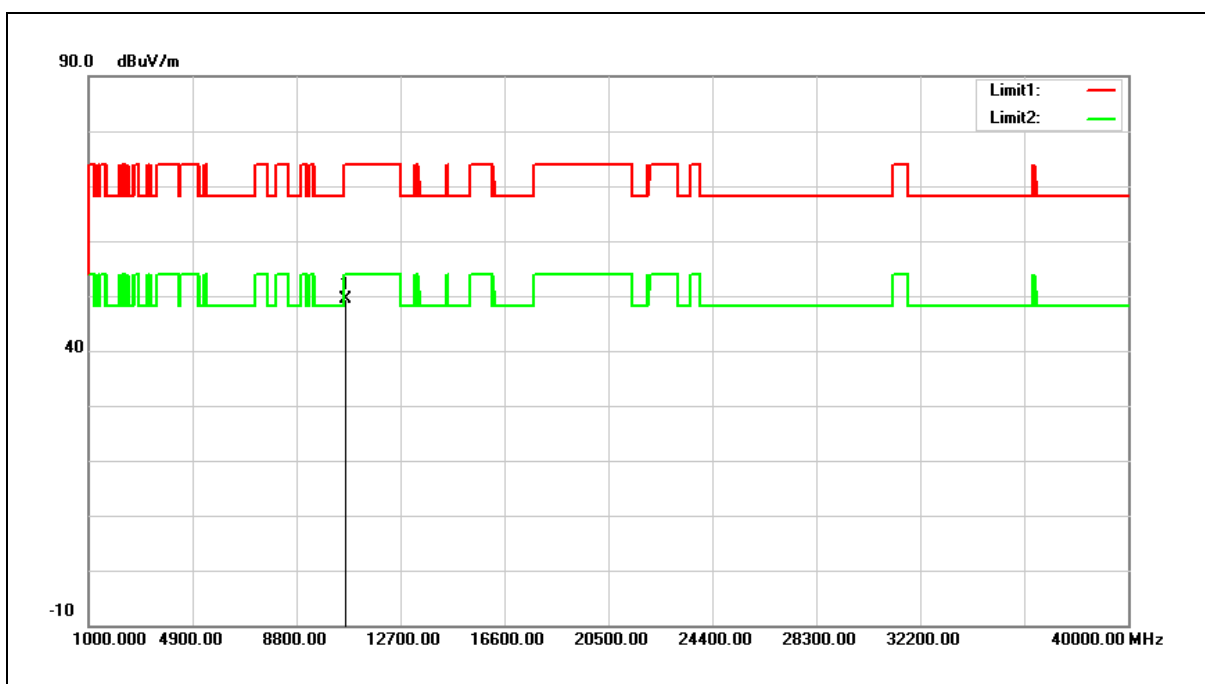
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	10560.000	31.33	17.76	49.09	68.20	-19.11	peak

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

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

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

Standard:	FCC Part 15.407	Test Distance:	3m
Test item:	Harmonic	Power:	AC 120V/60Hz
Frequency:	5320MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 2	Date:	04/08/2017
Ant.Polar.:	Horizontal		



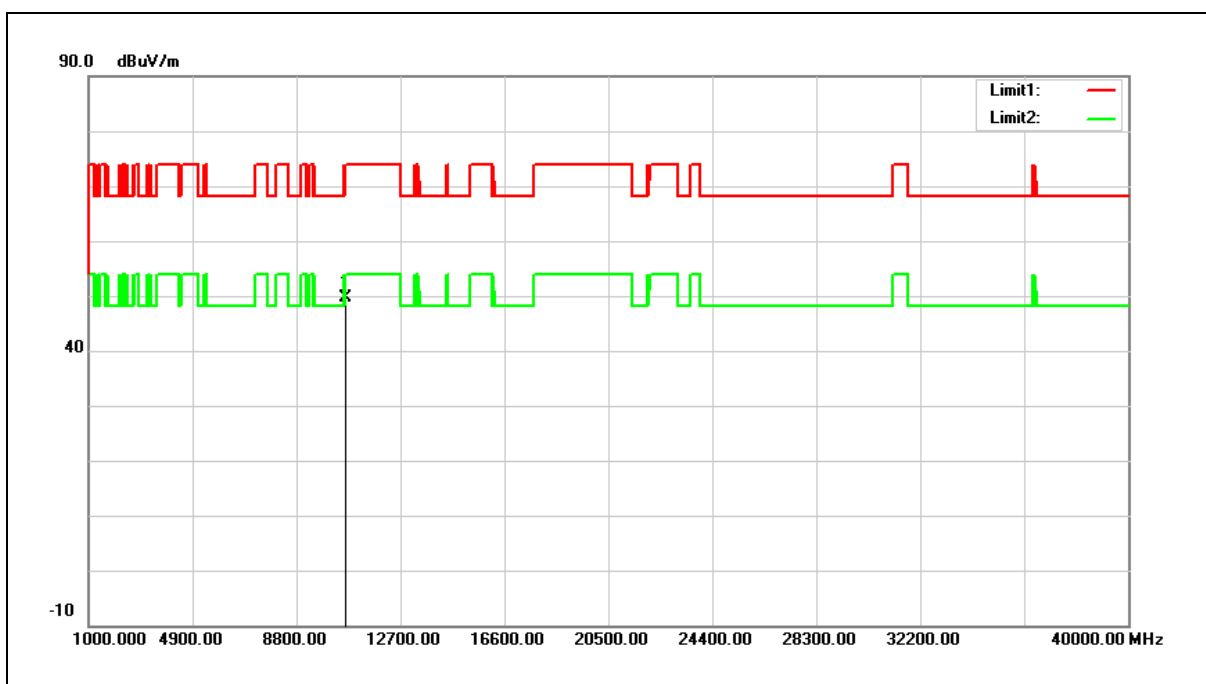
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	10640.000	31.43	17.84	49.27	74.00	-24.73	peak

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

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

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

Standard:	FCC Part 15.407	Test Distance:	3m
Test item:	Harmonic	Power:	AC 120V/60Hz
Frequency:	5320MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 2	Date:	04/08/2017
Ant.Polar.:	Vertical		



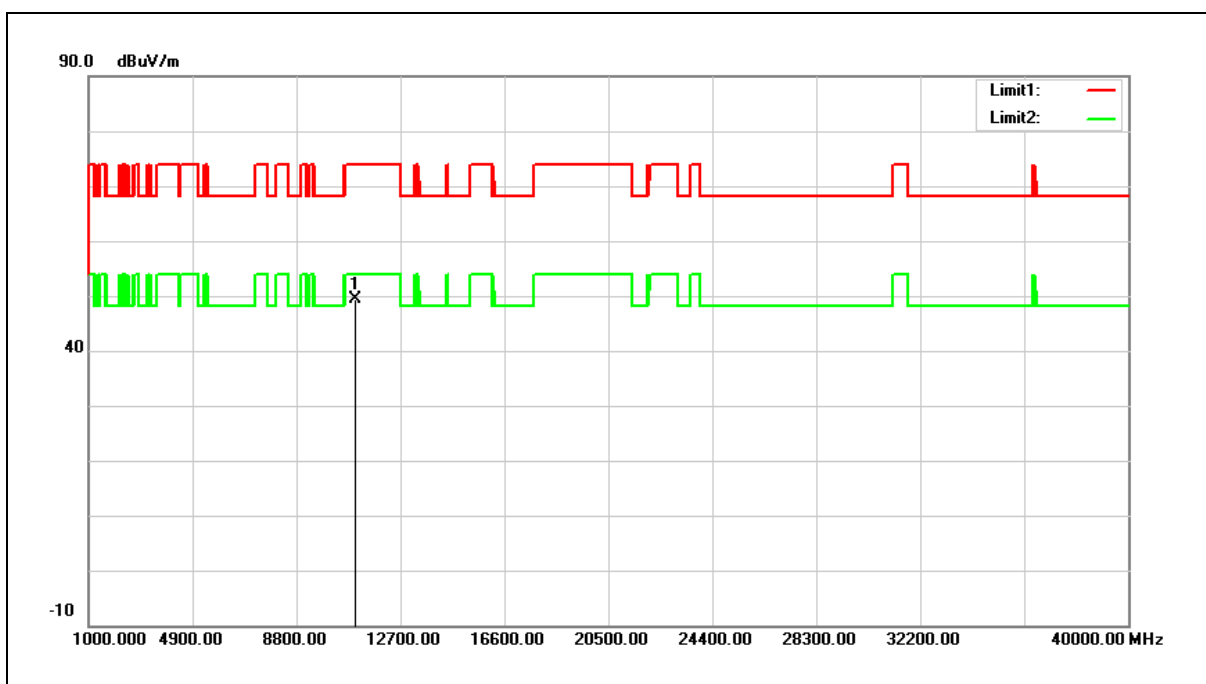
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	10640.000	31.68	17.84	49.52	74.00	-24.48	peak

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

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

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

Standard:	FCC Part 15.407	Test Distance:	3m
Test item:	Harmonic	Power:	AC 120V/60Hz
Frequency:	5500MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 2	Date:	04/08/2017
Ant.Polar.:	Horizontal		



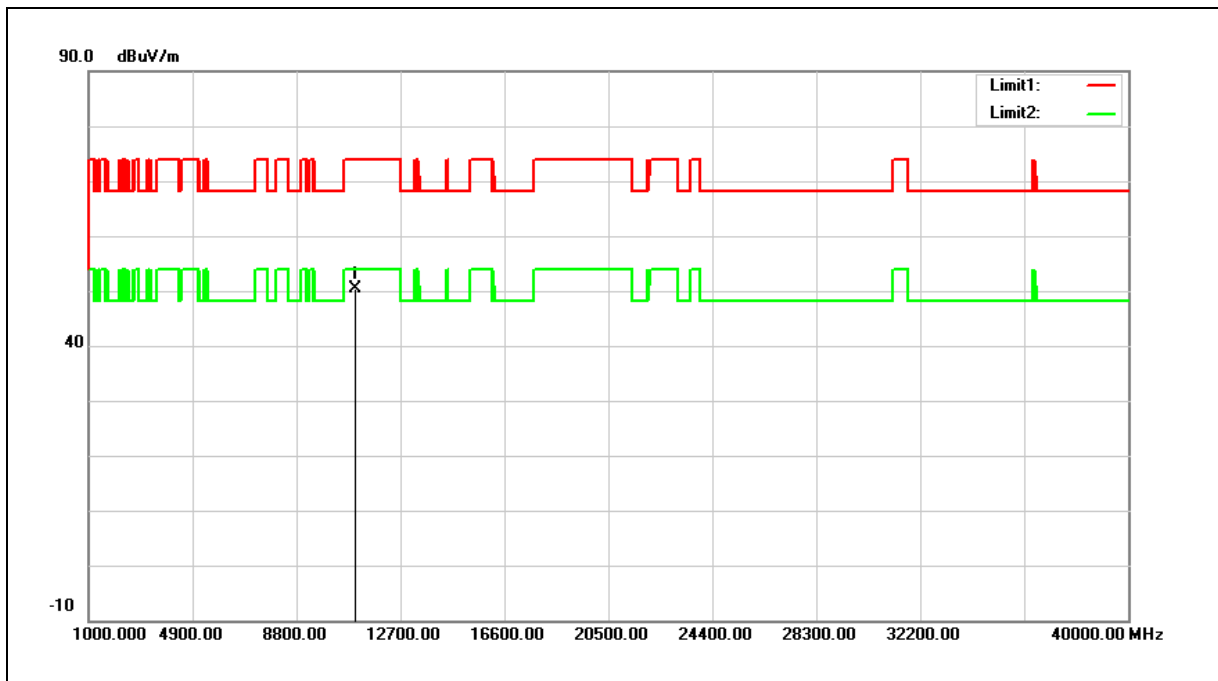
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	11000.000	31.17	18.26	49.43	74.00	-24.57	peak

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

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

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

Standard:	FCC Part 15.407	Test Distance:	3m
Test item:	Harmonic	Power:	AC 120V/60Hz
Frequency:	5500MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 2	Date:	04/08/2017
Ant.Polar.:	Vertical		



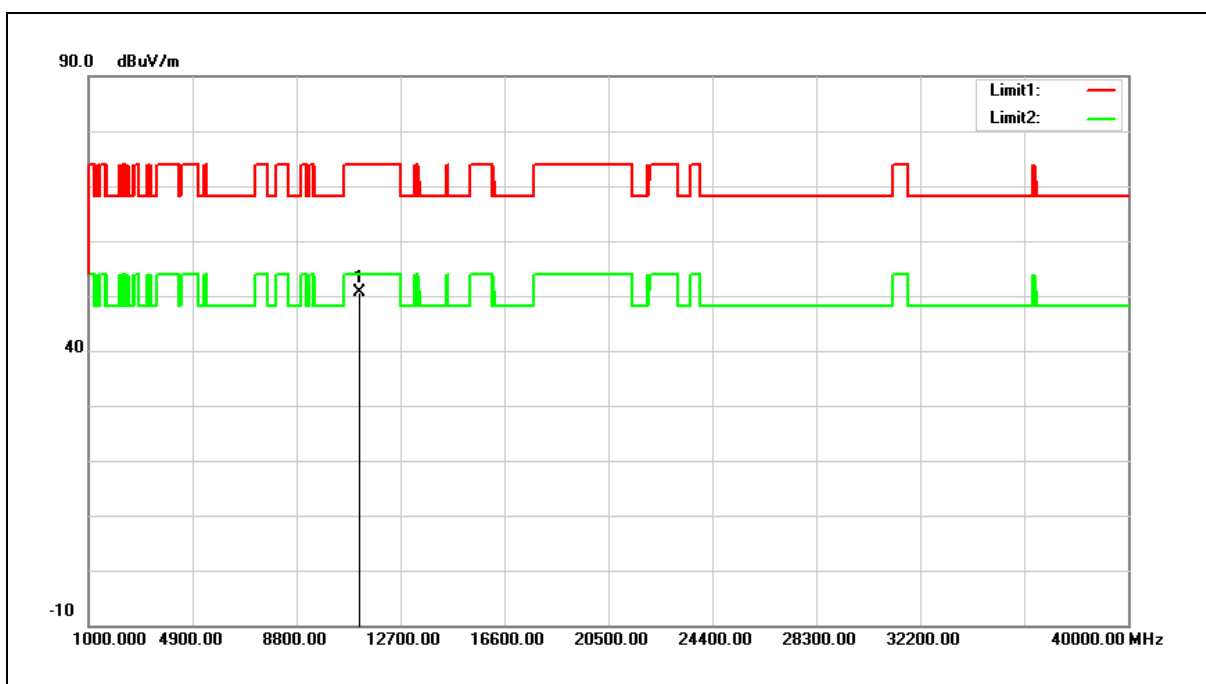
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	11000.000	32.03	18.26	50.29	74.00	-23.71	peak

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

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

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

Standard:	FCC Part 15.407	Test Distance:	3m
Test item:	Harmonic	Power:	AC 120V/60Hz
Frequency:	5560MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 2	Date:	04/08/2017
Ant.Polar.:	Horizontal		



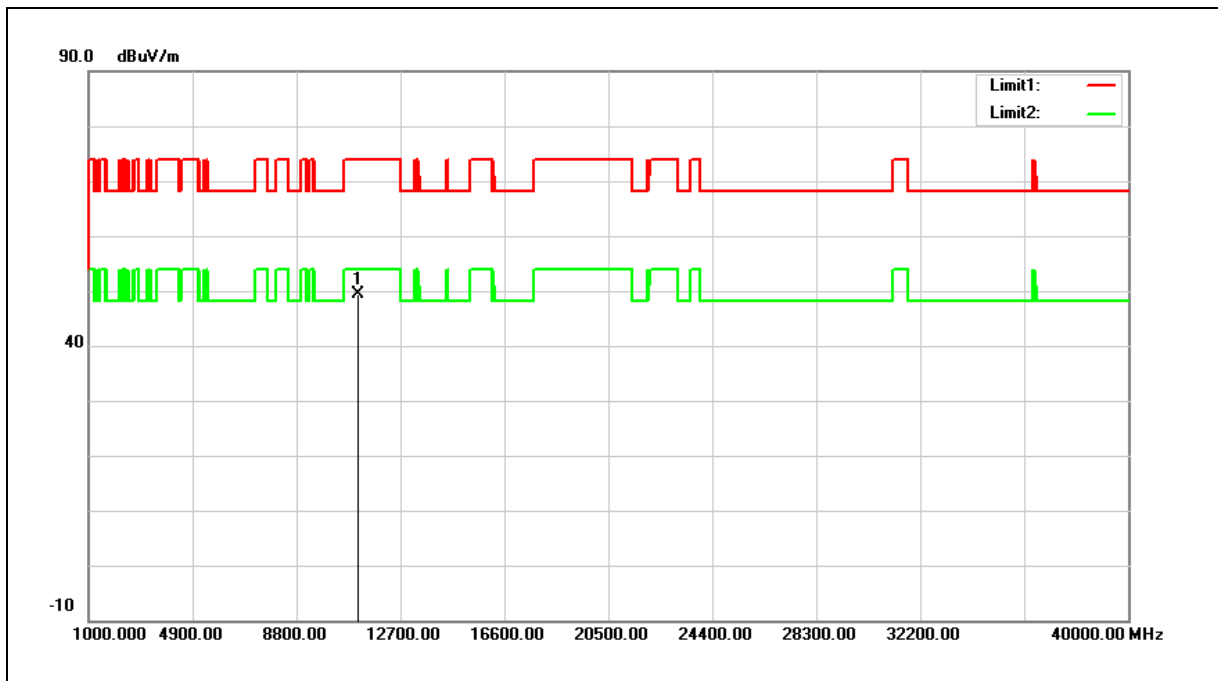
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	11120.000	32.24	18.47	50.71	74.00	-23.29	peak

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

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

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

Standard:	FCC Part 15.407	Test Distance:	3m
Test item:	Harmonic	Power:	AC 120V/60Hz
Frequency:	5560MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 2	Date:	04/08/2017
Ant.Polar.:	Vertical		



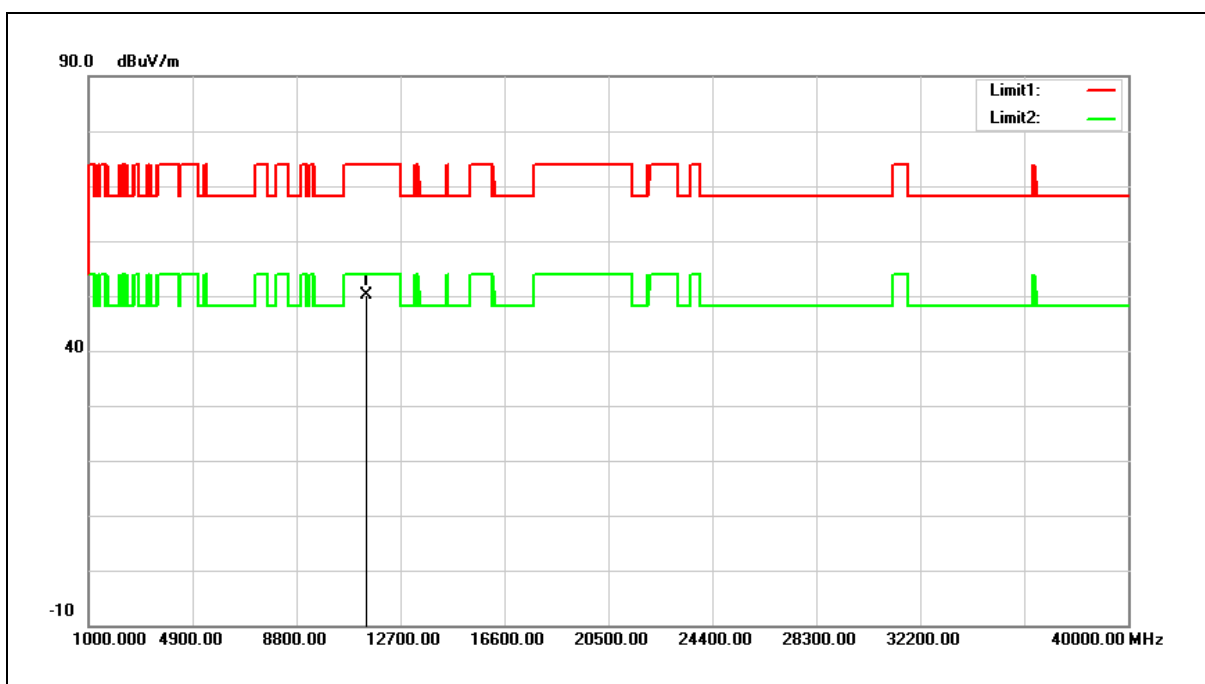
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	11120.000	30.88	18.47	49.35	74.00	-24.65	peak

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

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

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

Standard:	FCC Part 15.407	Test Distance:	3m
Test item:	Harmonic	Power:	AC 120V/60Hz
Frequency:	5700MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 2	Date:	04/08/2017
Ant.Polar.:	Horizontal		



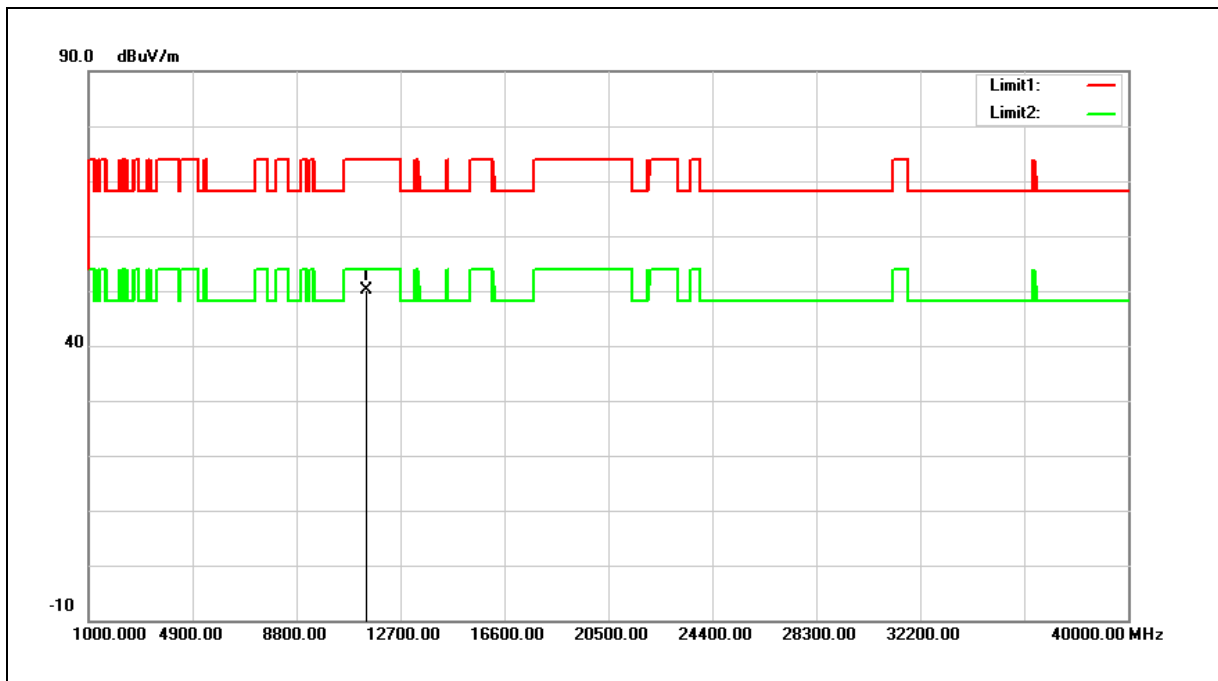
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	11400.000	31.12	18.96	50.08	74.00	-23.92	peak

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

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

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

Standard:	FCC Part 15.407	Test Distance:	3m
Test item:	Harmonic	Power:	AC 120V/60Hz
Frequency:	5700MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 2	Date:	04/08/2017
Ant.Polar.:	Vertical		



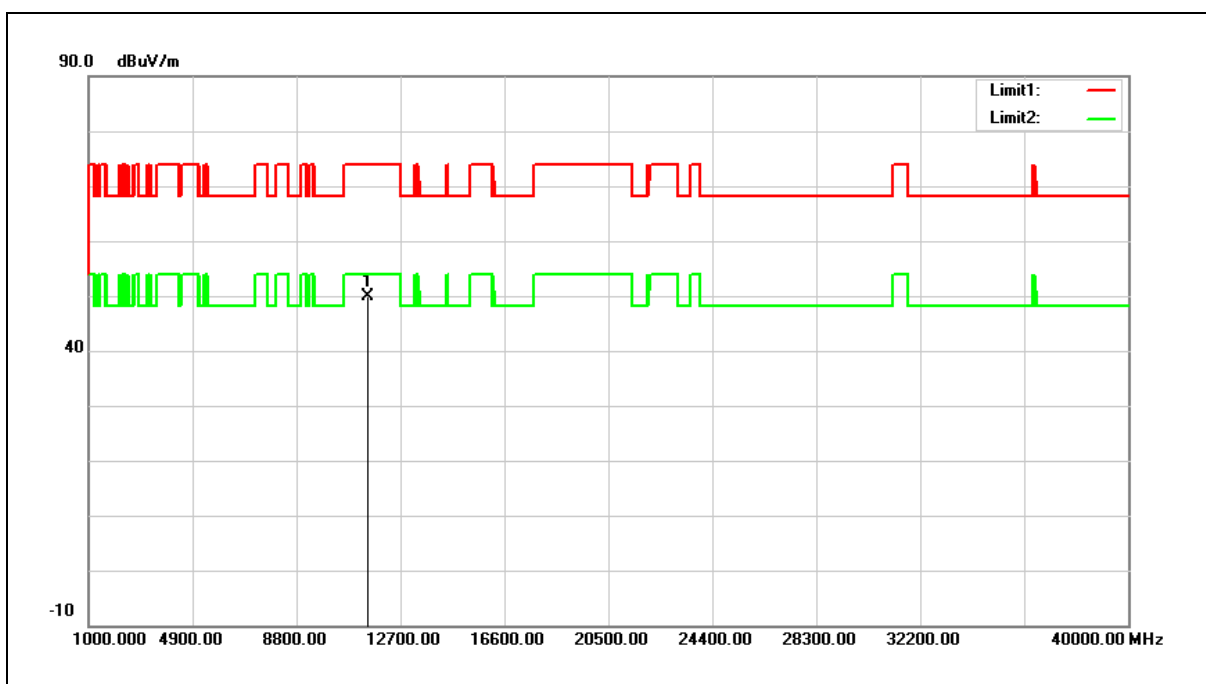
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	11400.000	31.20	18.96	50.16	74.00	-23.84	peak

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

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

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

Standard:	FCC Part 15.407	Test Distance:	3m
Test item:	Harmonic	Power:	AC 120V/60Hz
Frequency:	5745MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 2	Date:	04/08/2017
Ant.Polar.:	Horizontal		



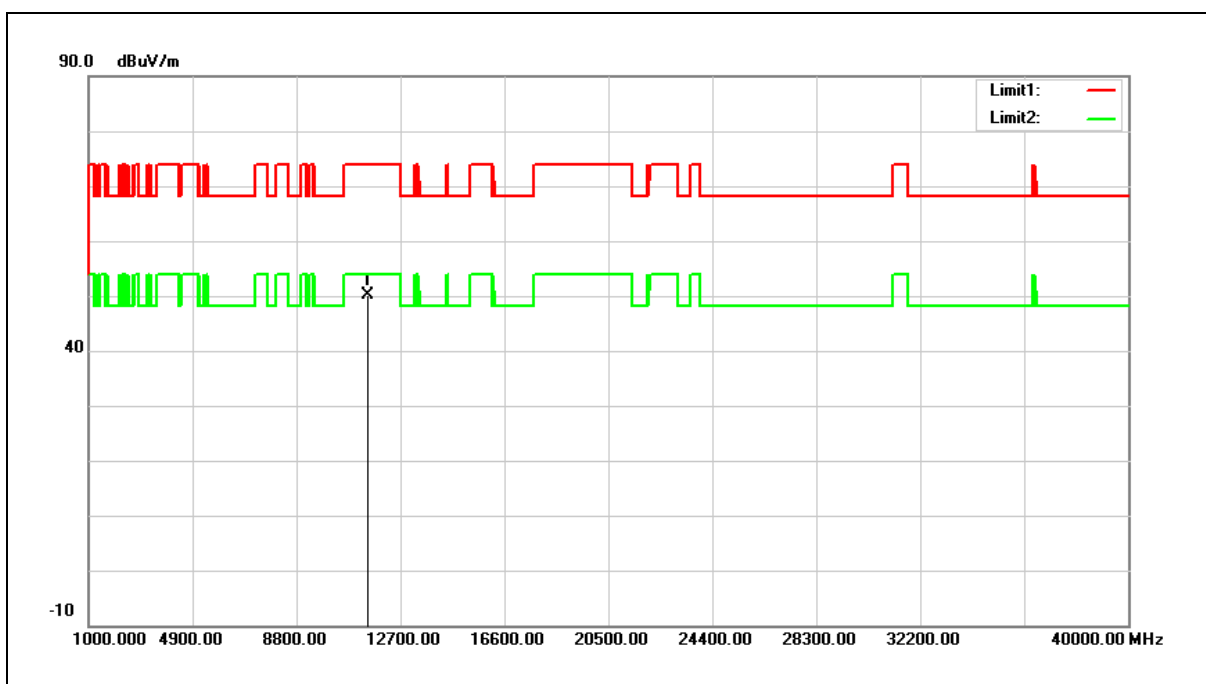
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	11490.000	30.83	19.12	49.95	74.00	-24.05	peak

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

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

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

Standard:	FCC Part 15.407	Test Distance:	3m
Test item:	Harmonic	Power:	AC 120V/60Hz
Frequency:	5745MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 2	Date:	04/08/2017
Ant.Polar.:	Vertical		



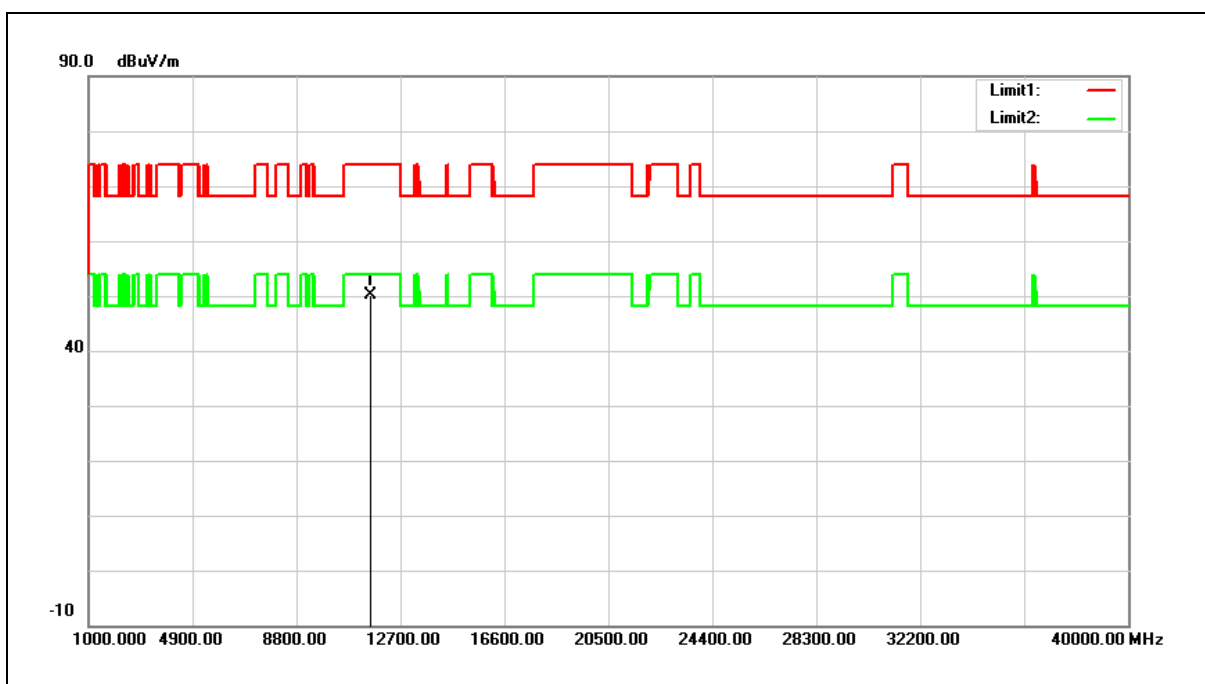
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	11490.000	30.89	19.12	50.01	74.00	-23.99	peak

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

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

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

Standard:	FCC Part 15.407	Test Distance:	3m
Test item:	Harmonic	Power:	AC 120V/60Hz
Frequency:	5785MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 2	Date:	04/08/2017
Ant.Polar.:	Horizontal		



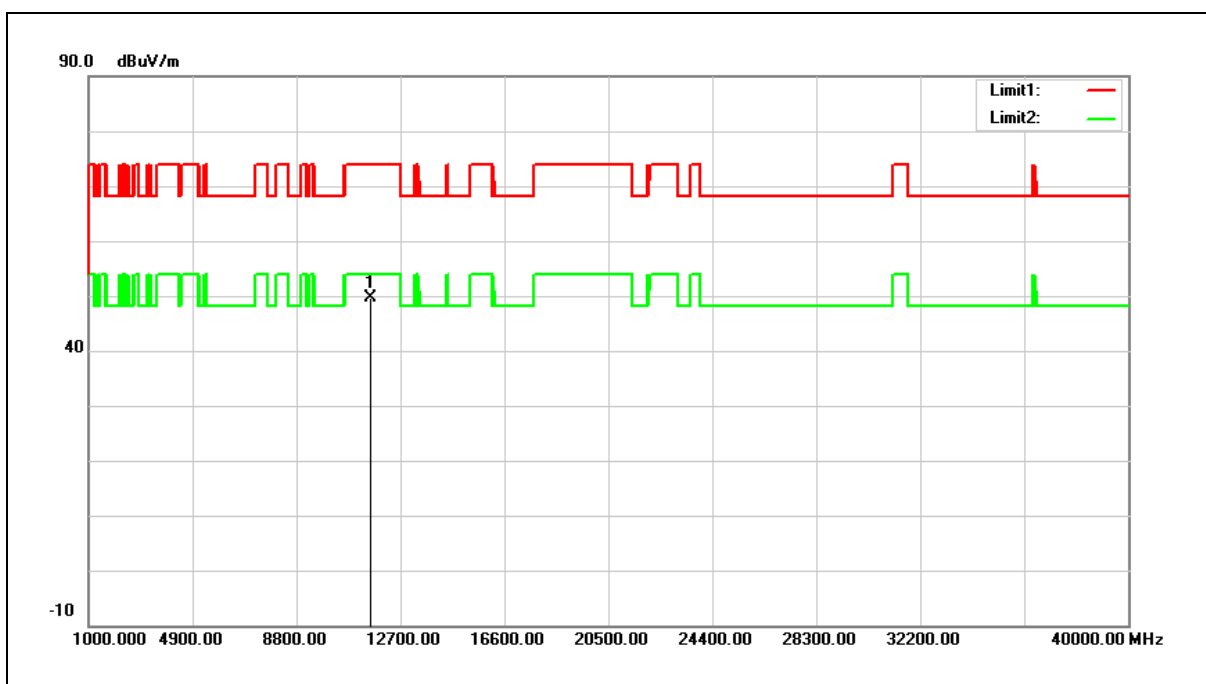
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	11570.000	30.89	19.23	50.12	74.00	-23.88	peak

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

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

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

Standard:	FCC Part 15.407	Test Distance:	3m
Test item:	Harmonic	Power:	AC 120V/60Hz
Frequency:	5785MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 2	Date:	04/08/2017
Ant.Polar.:	Vertical		



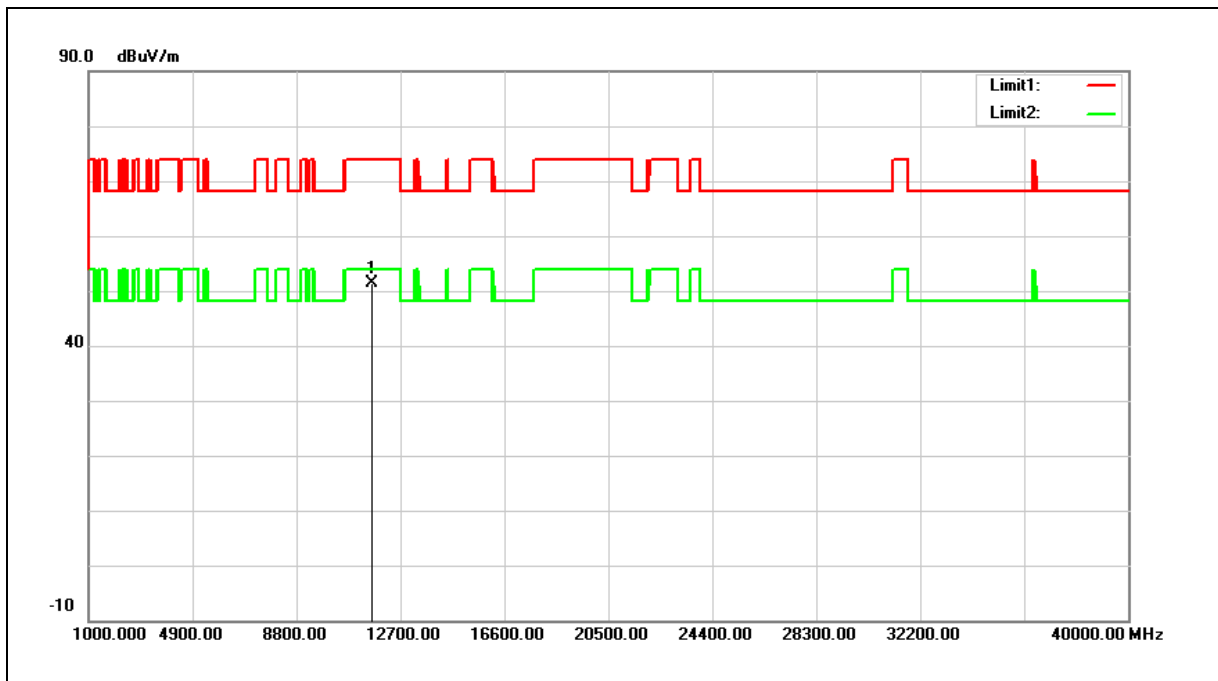
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	11570.000	30.42	19.23	49.65	74.00	-24.35	peak

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

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

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

Standard:	FCC Part 15.407	Test Distance:	3m
Test item:	Harmonic	Power:	AC 120V/60Hz
Frequency:	5825MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 2	Date:	04/08/2017
Ant.Polar.:	Horizontal		



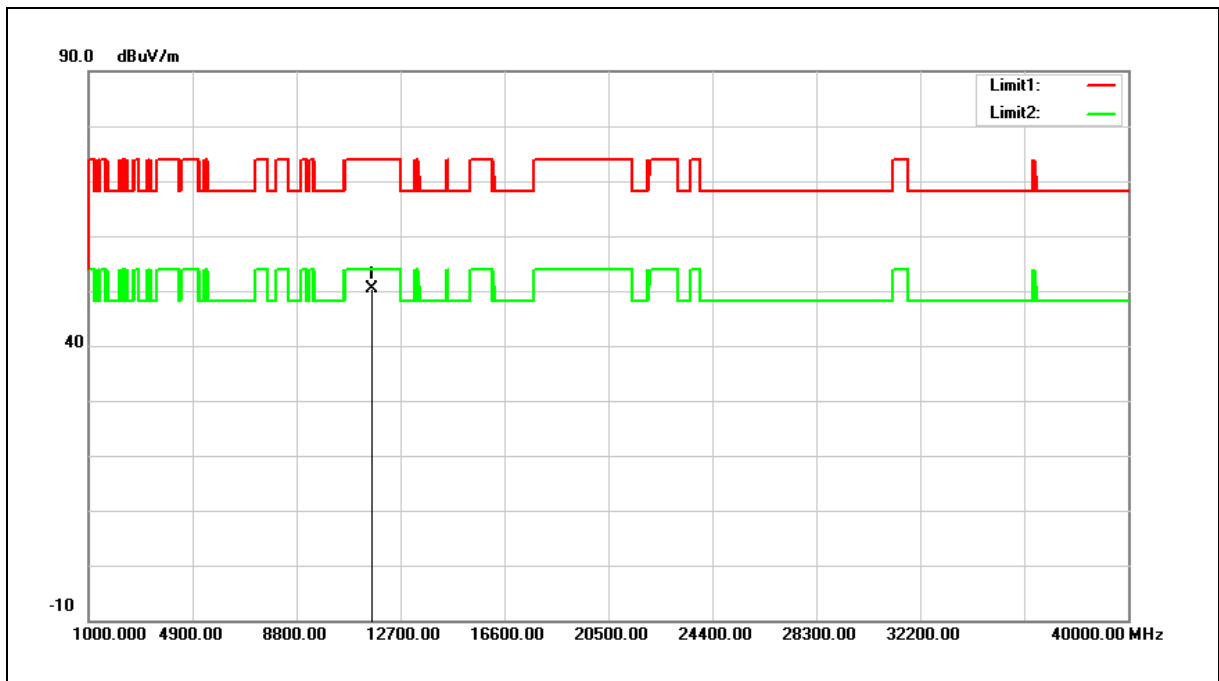
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	11650.000	32.12	19.34	51.46	74.00	-22.54	peak

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

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

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

Standard:	FCC Part 15.407	Test Distance:	3m
Test item:	Harmonic	Power:	AC 120V/60Hz
Frequency:	5825MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 2	Date:	04/08/2017
Ant.Polar.:	Vertical		



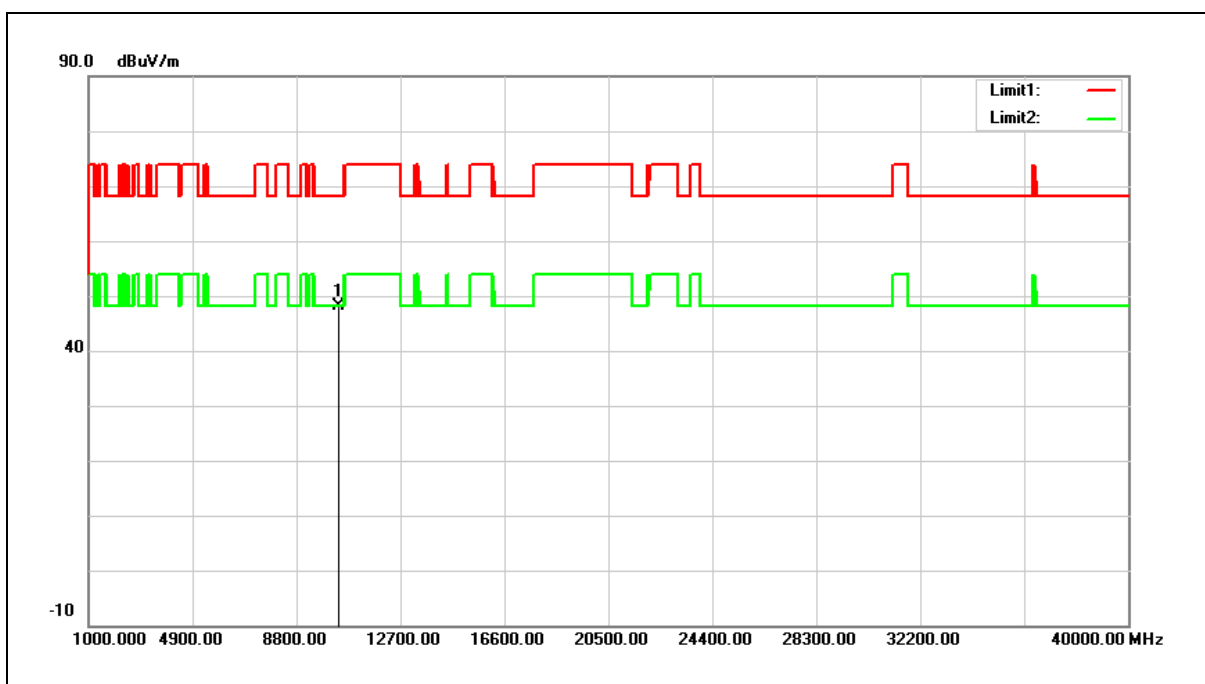
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	11650.000	30.97	19.34	50.31	74.00	-23.69	peak

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

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

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

Standard:	FCC Part 15.407	Test Distance:	3m
Test item:	Harmonic	Power:	AC 120V/60Hz
Frequency:	5180MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 3	Date:	04/08/2017
Ant.Polar.:	Horizontal		



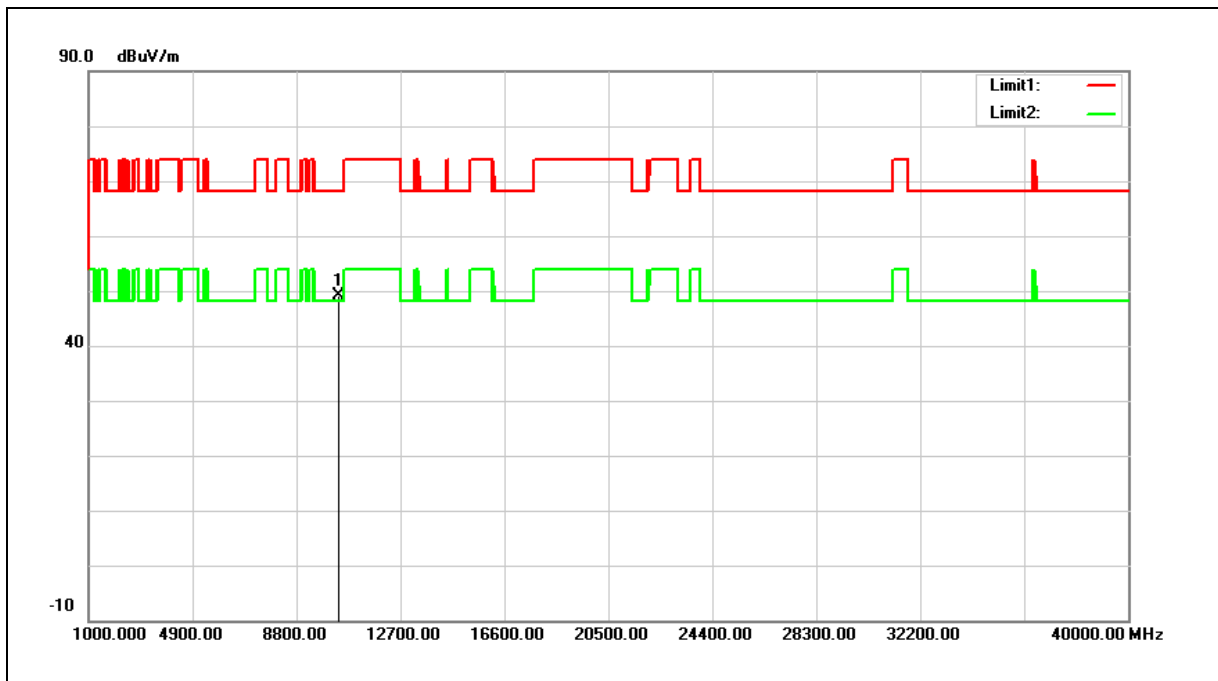
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	10360.000	30.76	17.29	48.05	68.20	-20.15	peak

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

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

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

Standard:	FCC Part 15.407	Test Distance:	3m
Test item:	Harmonic	Power:	AC 120V/60Hz
Frequency:	5180MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 3	Date:	04/08/2017
Ant.Polar.:	Vertical		



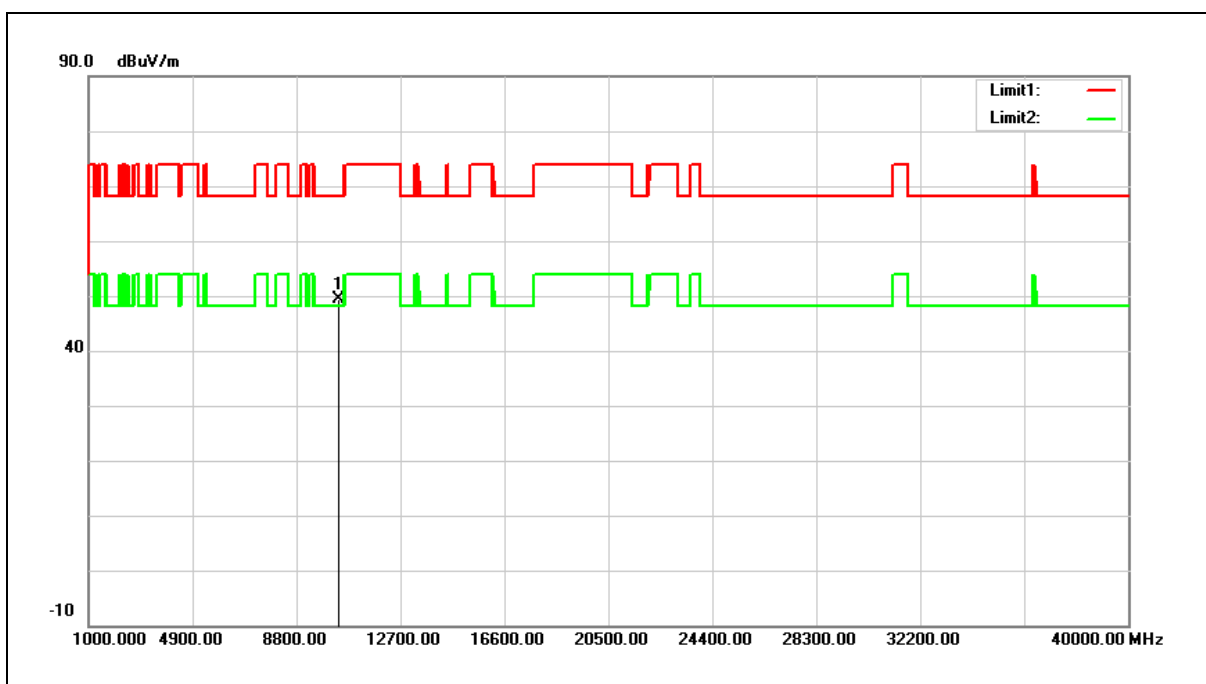
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	10360.000	31.87	17.29	49.16	68.20	-19.04	peak

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

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

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

Standard:	FCC Part 15.407	Test Distance:	3m
Test item:	Harmonic	Power:	AC 120V/60Hz
Frequency:	5200MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 3	Date:	04/08/2017
Ant.Polar.:	Horizontal		



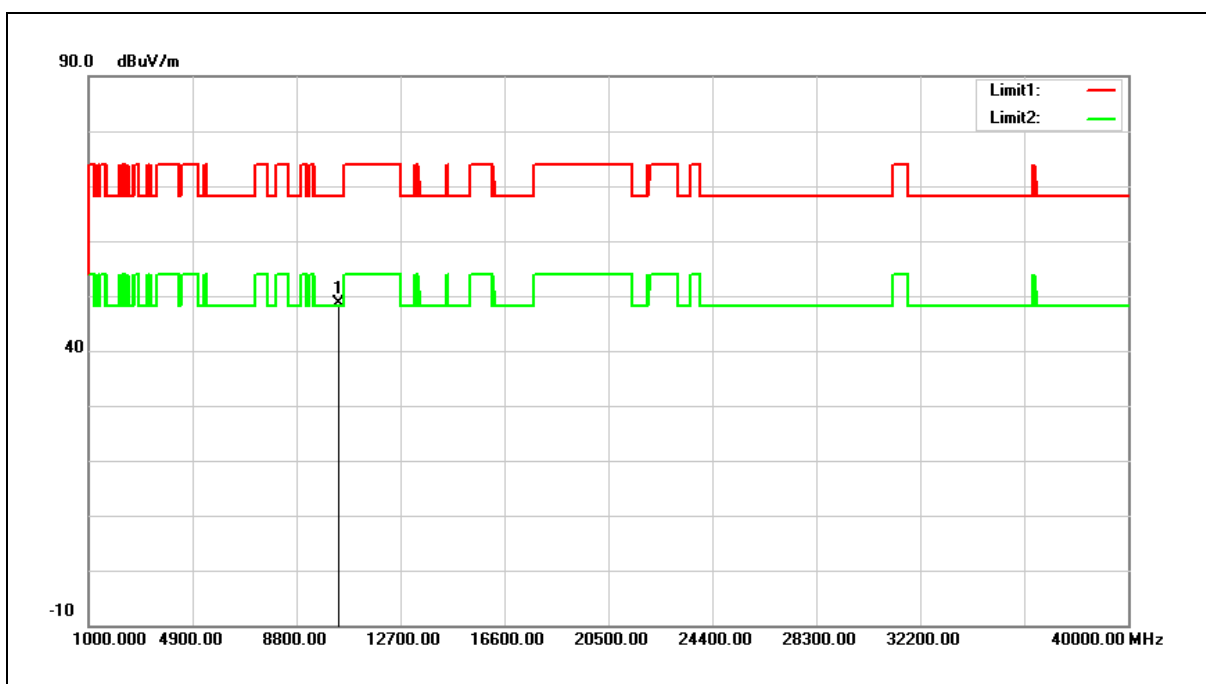
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	10400.000	31.93	17.41	49.34	68.20	-18.86	peak

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

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

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

Standard:	FCC Part 15.407	Test Distance:	3m
Test item:	Harmonic	Power:	AC 120V/60Hz
Frequency:	5200MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 3	Date:	04/08/2017
Ant.Polar.:	Vertical		



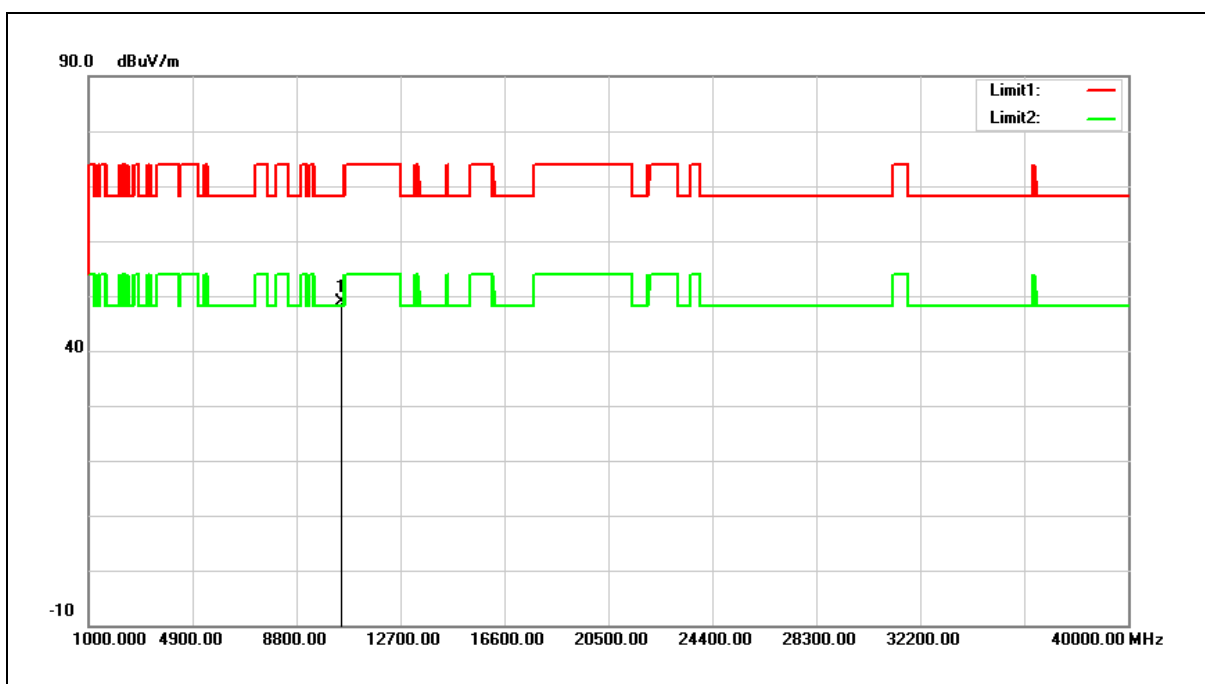
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	10400.000	31.32	17.41	48.73	68.20	-19.47	peak

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

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

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

Standard:	FCC Part 15.407	Test Distance:	3m
Test item:	Harmonic	Power:	AC 120V/60Hz
Frequency:	5240MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 3	Date:	04/08/2017
Ant.Polar.:	Horizontal		



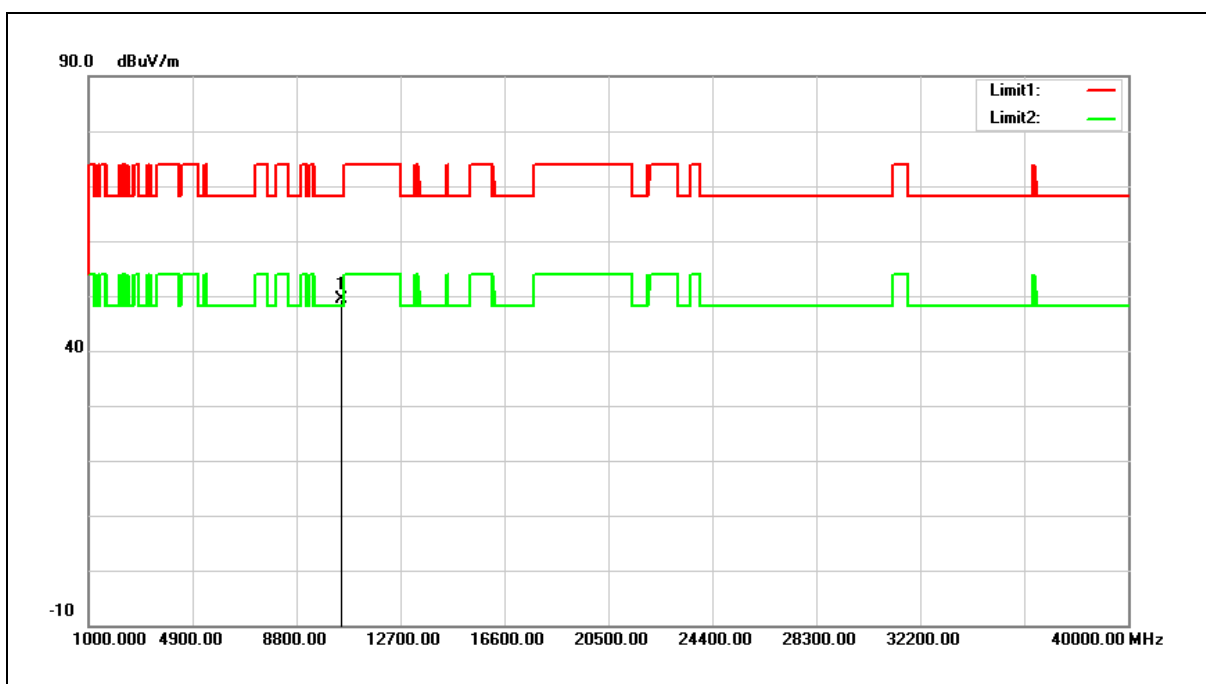
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	10480.000	31.18	17.64	48.82	68.20	-19.38	peak

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

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

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

Standard:	FCC Part 15.407	Test Distance:	3m
Test item:	Harmonic	Power:	AC 120V/60Hz
Frequency:	5240MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 3	Date:	04/08/2017
Ant.Polar.:	Vertical		



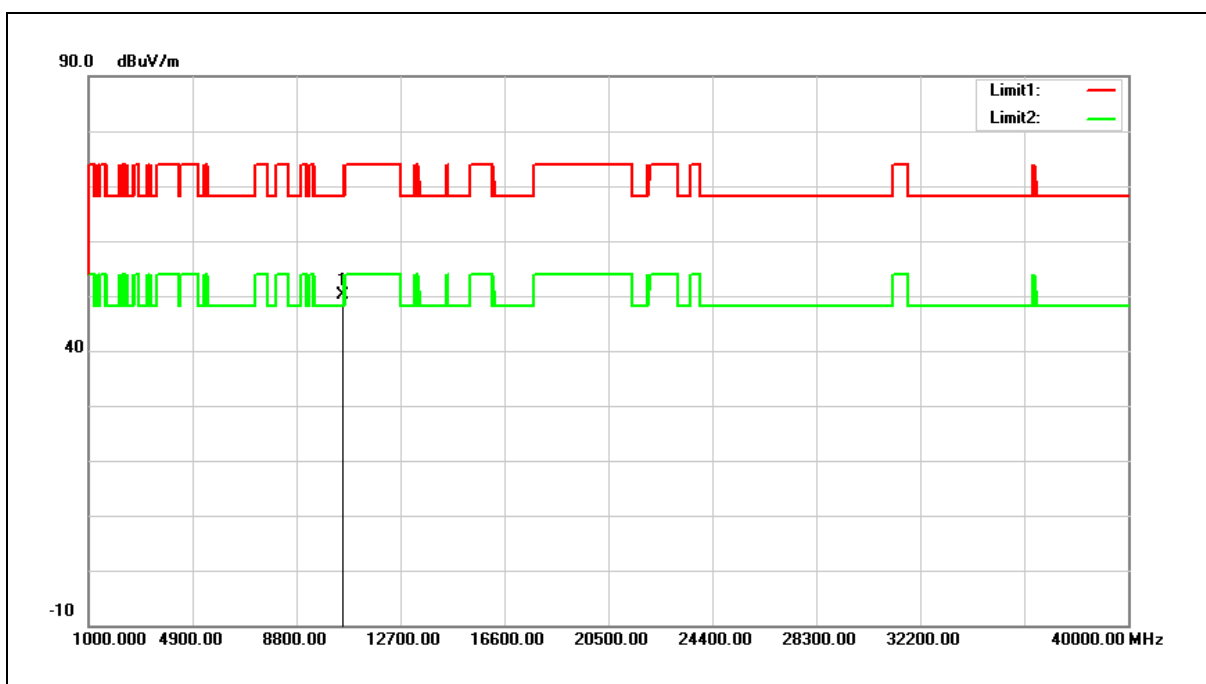
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	10480.000	31.76	17.64	49.40	68.20	-18.80	peak

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

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

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

Standard:	FCC Part 15.407	Test Distance:	3m
Test item:	Harmonic	Power:	AC 120V/60Hz
Frequency:	5260MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 3	Date:	04/08/2017
Ant.Polar.:	Horizontal		



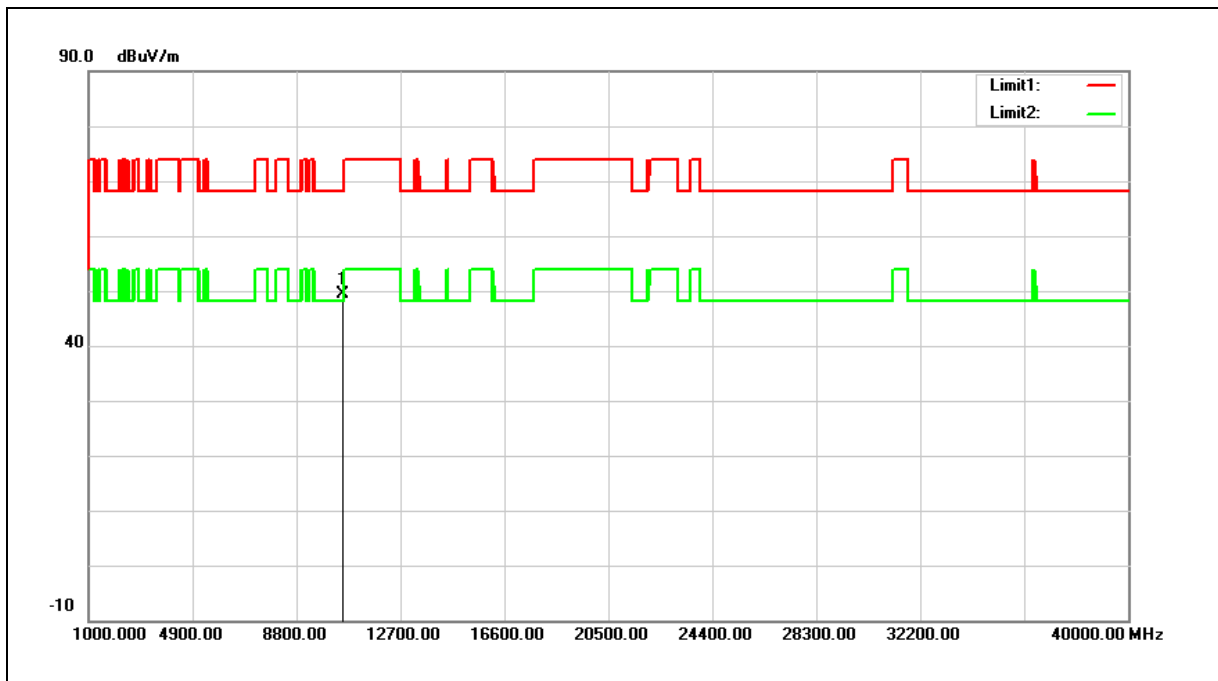
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	10520.000	32.37	17.71	50.08	68.20	-18.12	peak

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

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

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

Standard:	FCC Part 15.407	Test Distance:	3m
Test item:	Harmonic	Power:	AC 120V/60Hz
Frequency:	5260MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 3	Date:	04/08/2017
Ant.Polar.:	Vertical		



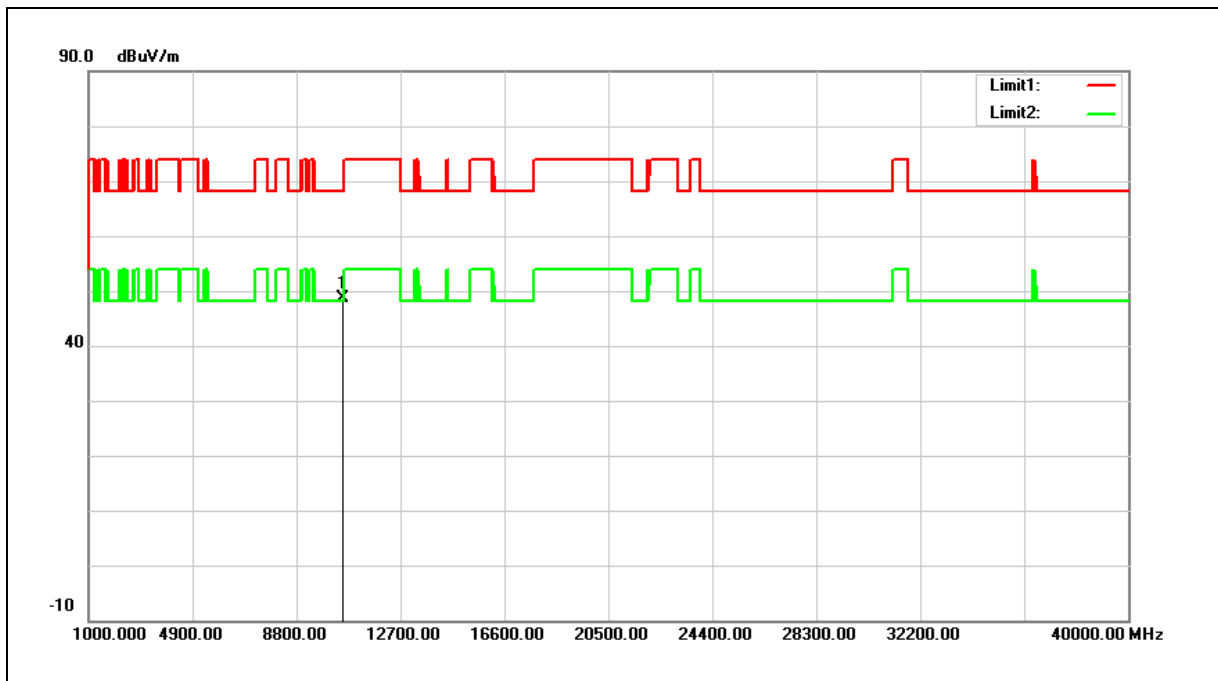
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	10520.000	31.65	17.71	49.36	68.20	-18.84	peak

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

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

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

Standard:	FCC Part 15.407	Test Distance:	3m
Test item:	Harmonic	Power:	AC 120V/60Hz
Frequency:	5280MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 3	Date:	04/08/2017
Ant.Polar.:	Horizontal		



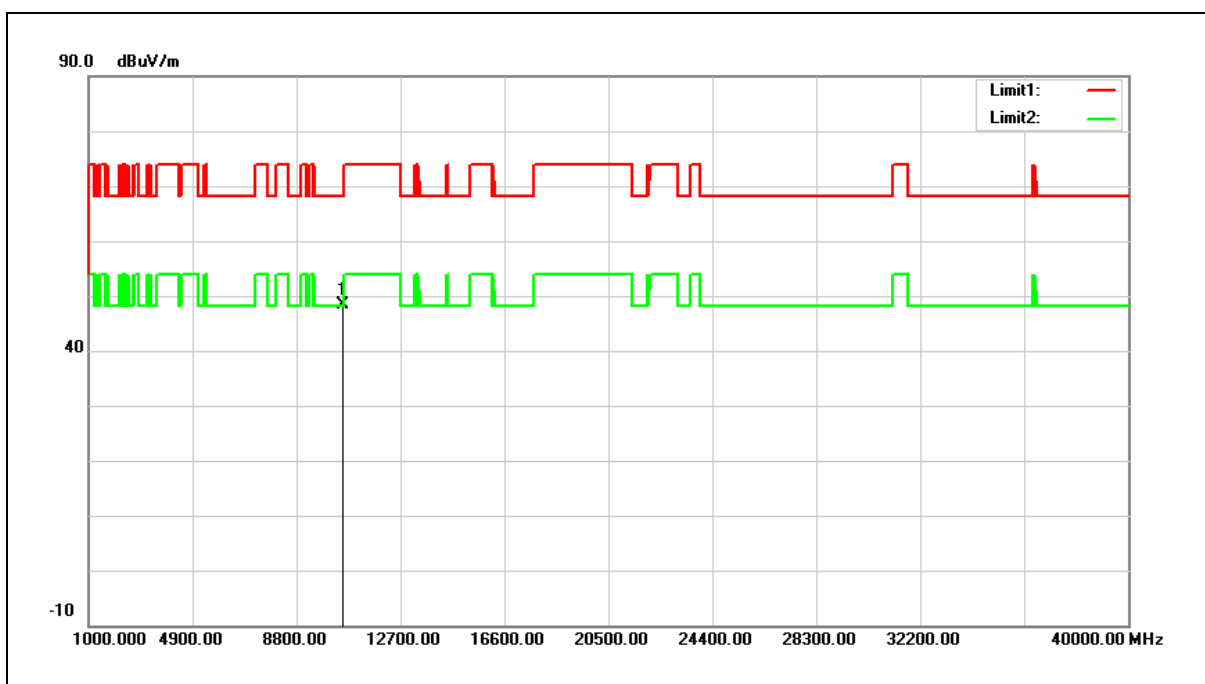
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	10560.000	30.83	17.76	48.59	68.20	-19.61	peak

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

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

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

Standard:	FCC Part 15.407	Test Distance:	3m
Test item:	Harmonic	Power:	AC 120V/60Hz
Frequency:	5280MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 3	Date:	04/08/2017
Ant.Polar.:	Vertical		



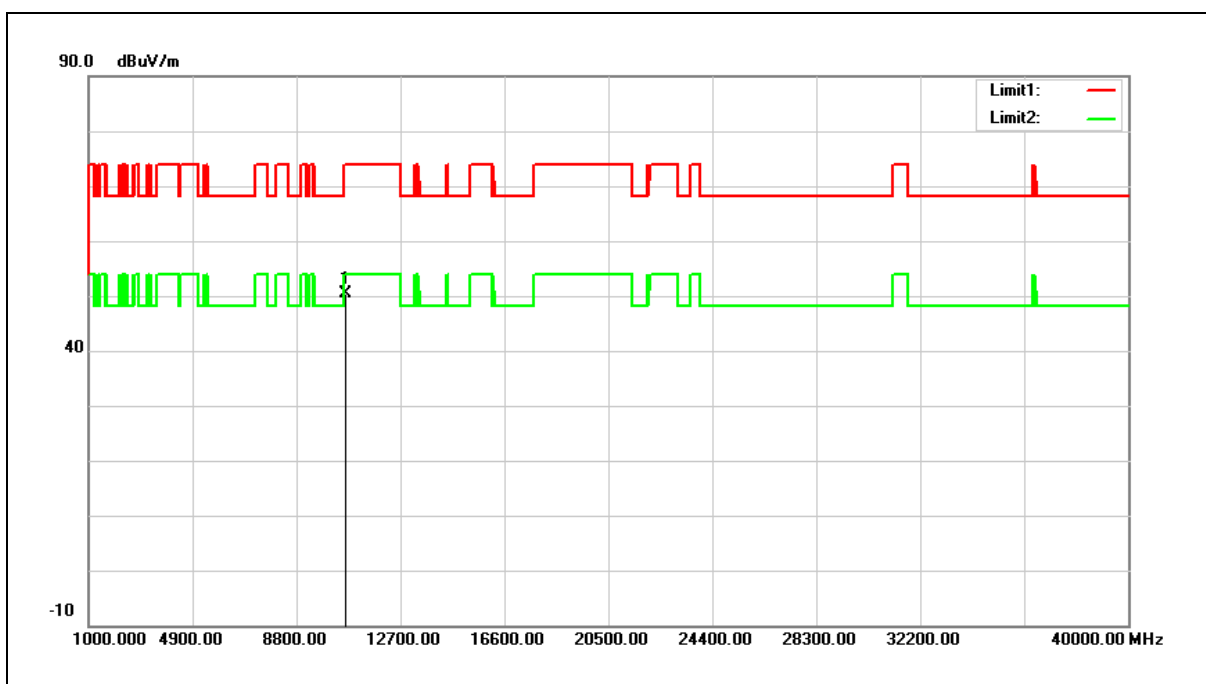
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	10560.000	30.60	17.76	48.36	68.20	-19.84	peak

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

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

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

Standard:	FCC Part 15.407	Test Distance:	3m
Test item:	Harmonic	Power:	AC 120V/60Hz
Frequency:	5320MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 3	Date:	04/08/2017
Ant.Polar.:	Horizontal		



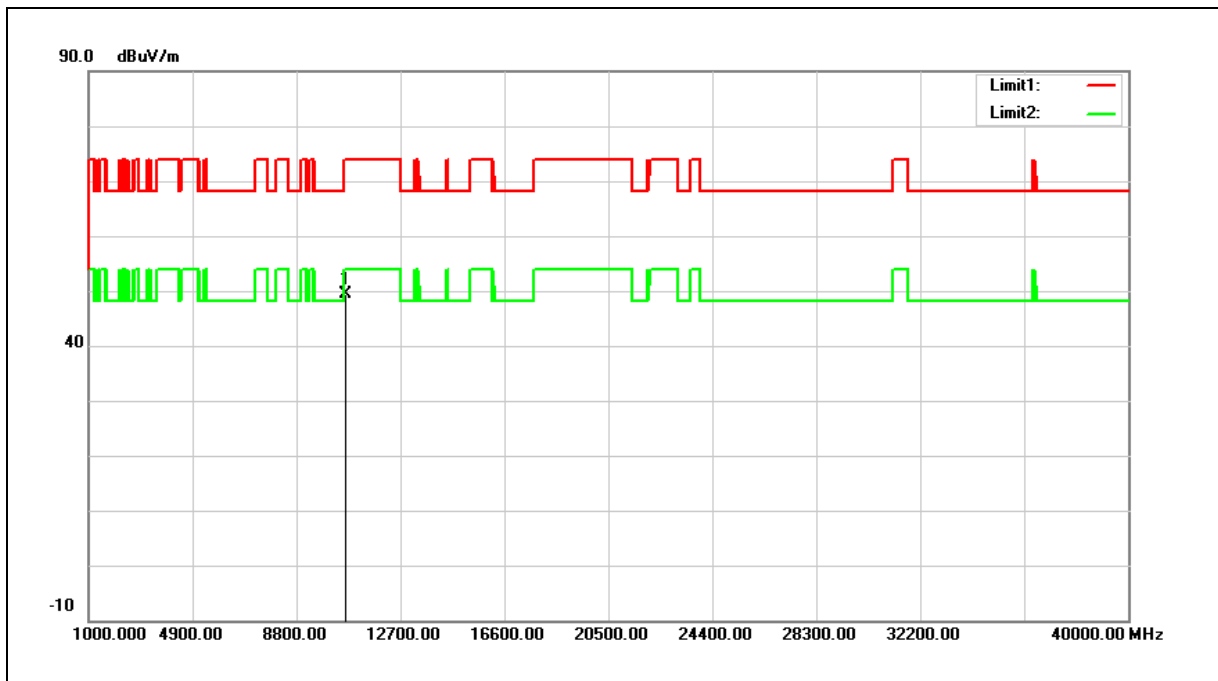
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	10640.000	32.63	17.84	50.47	74.00	-23.53	peak

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

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

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

Standard:	FCC Part 15.407	Test Distance:	3m
Test item:	Harmonic	Power:	AC 120V/60Hz
Frequency:	5320MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 3	Date:	04/08/2017
Ant.Polar.:	Vertical		



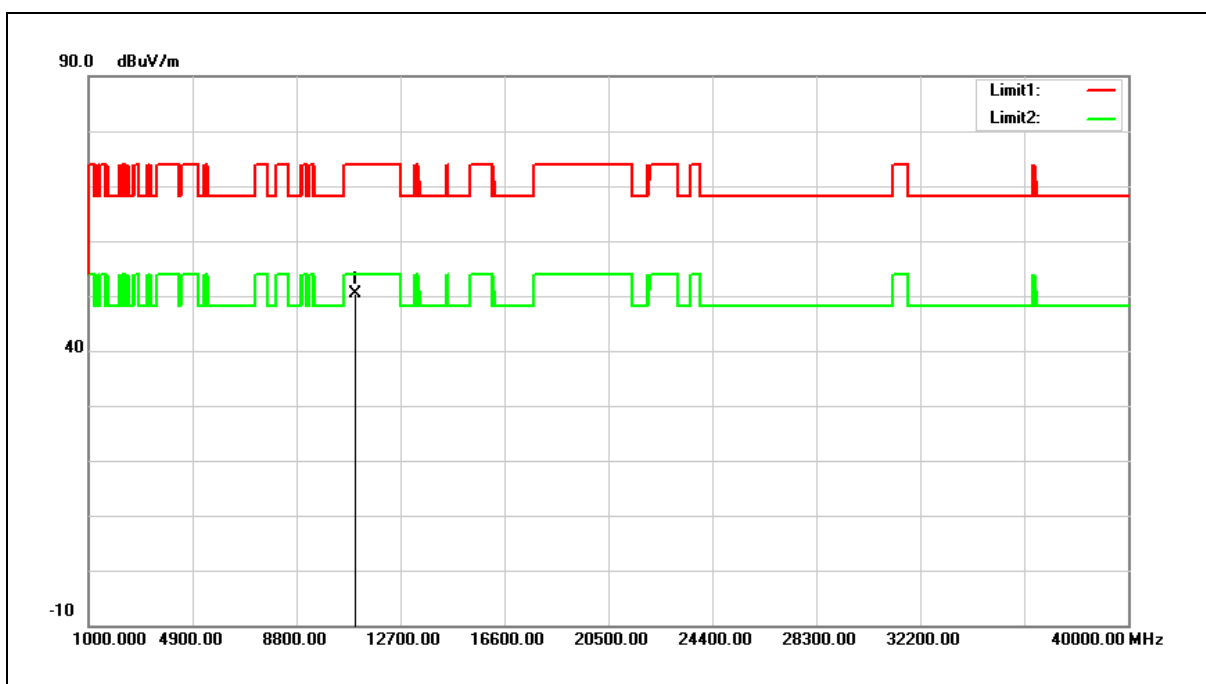
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	10640.000	31.60	17.84	49.44	74.00	-24.56	peak

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

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

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

Standard:	FCC Part 15.407	Test Distance:	3m
Test item:	Harmonic	Power:	AC 120V/60Hz
Frequency:	5500MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 3	Date:	04/08/2017
Ant.Polar.:	Horizontal		



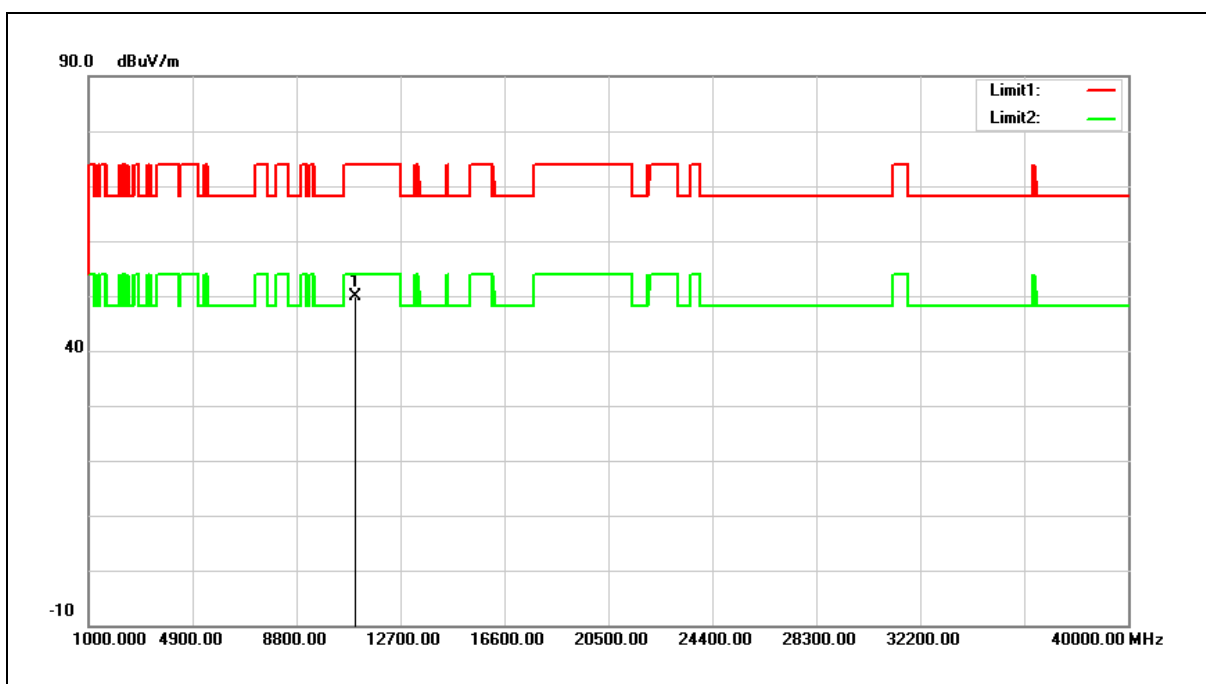
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	11000.000	32.12	18.26	50.38	74.00	-23.62	peak

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

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

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

Standard:	FCC Part 15.407	Test Distance:	3m
Test item:	Harmonic	Power:	AC 120V/60Hz
Frequency:	5500MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 3	Date:	04/08/2017
Ant.Polar.:	Vertical		



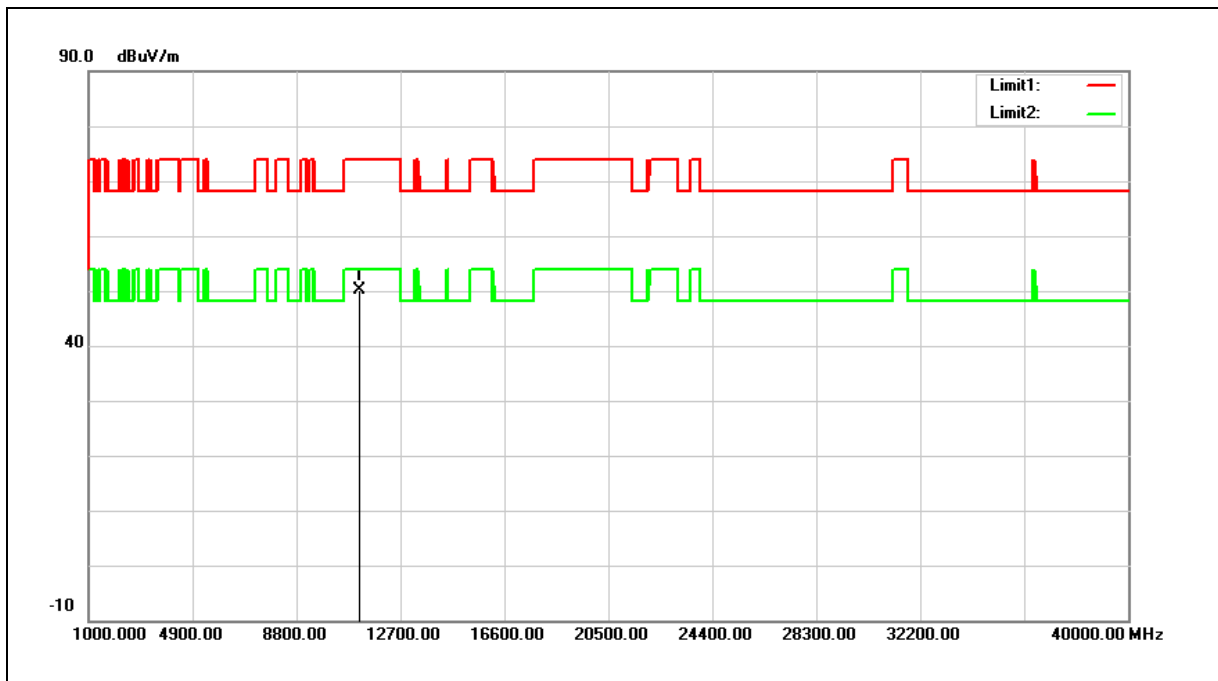
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	11000.000	31.69	18.26	49.95	74.00	-24.05	peak

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

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

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

Standard:	FCC Part 15.407	Test Distance:	3m
Test item:	Harmonic	Power:	AC 120V/60Hz
Frequency:	5560MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 3	Date:	04/08/2017
Ant.Polar.:	Horizontal		



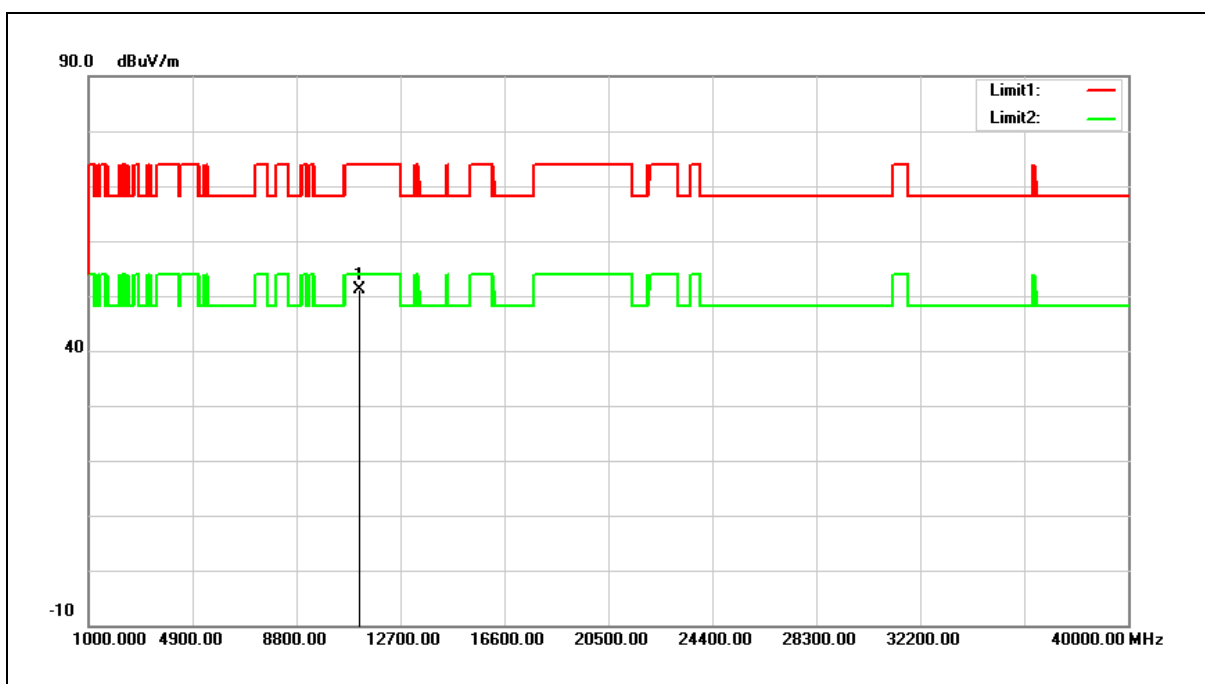
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	11120.000	31.57	18.47	50.04	74.00	-23.96	peak

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

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

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

Standard:	FCC Part 15.407	Test Distance:	3m
Test item:	Harmonic	Power:	AC 120V/60Hz
Frequency:	5560MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 3	Date:	04/08/2017
Ant.Polar.:	Vertical		



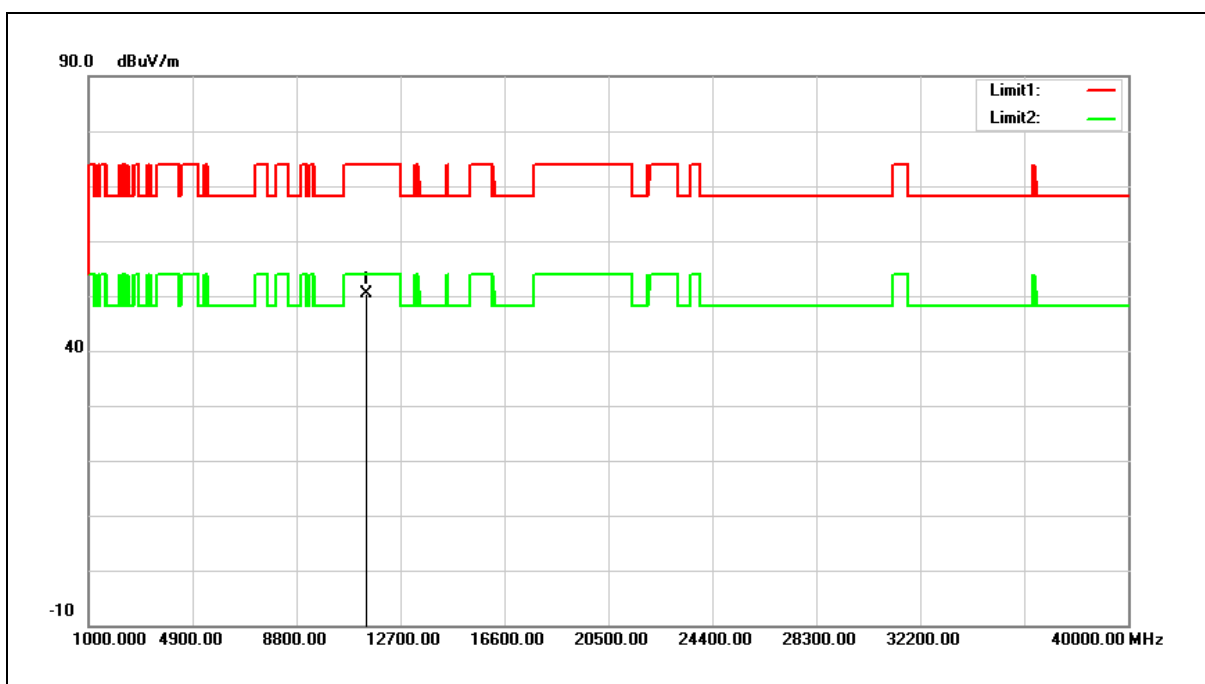
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	11120.000	32.57	18.47	51.04	74.00	-22.96	peak

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

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

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

Standard:	FCC Part 15.407	Test Distance:	3m
Test item:	Harmonic	Power:	AC 120V/60Hz
Frequency:	5700MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 3	Date:	04/08/2017
Ant.Polar.:	Horizontal		



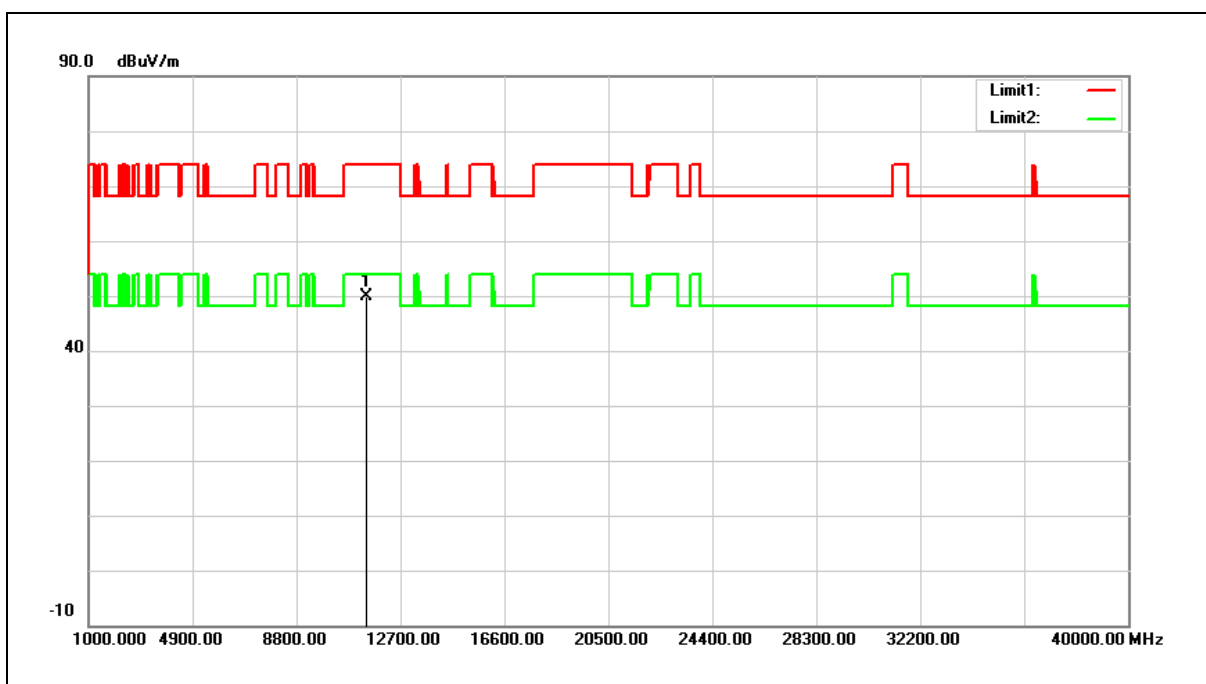
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	11400.000	31.49	18.96	50.45	74.00	-23.55	peak

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

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

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

Standard:	FCC Part 15.407	Test Distance:	3m
Test item:	Harmonic	Power:	AC 120V/60Hz
Frequency:	5700MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 3	Date:	04/08/2017
Ant.Polar.:	Vertical		



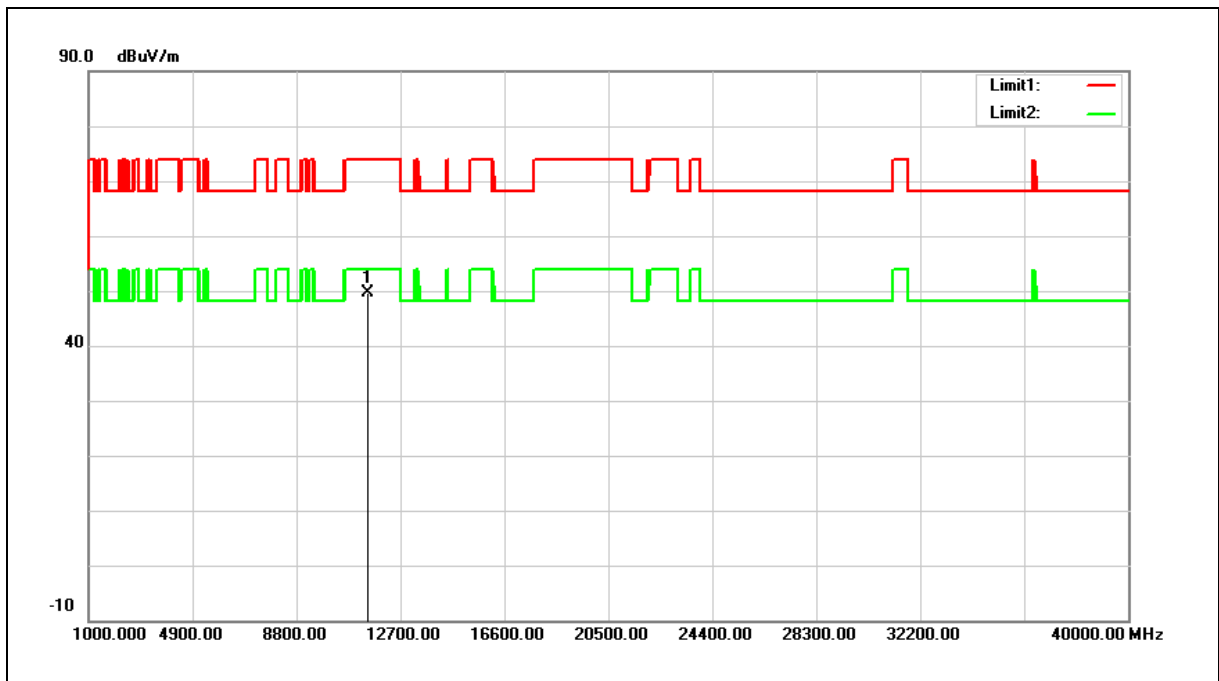
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	11400.000	31.03	18.96	49.99	74.00	-24.01	peak

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

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

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

Standard:	FCC Part 15.407	Test Distance:	3m
Test item:	Harmonic	Power:	AC 120V/60Hz
Frequency:	5745MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 3	Date:	04/08/2017
Ant.Polar.:	Horizontal		



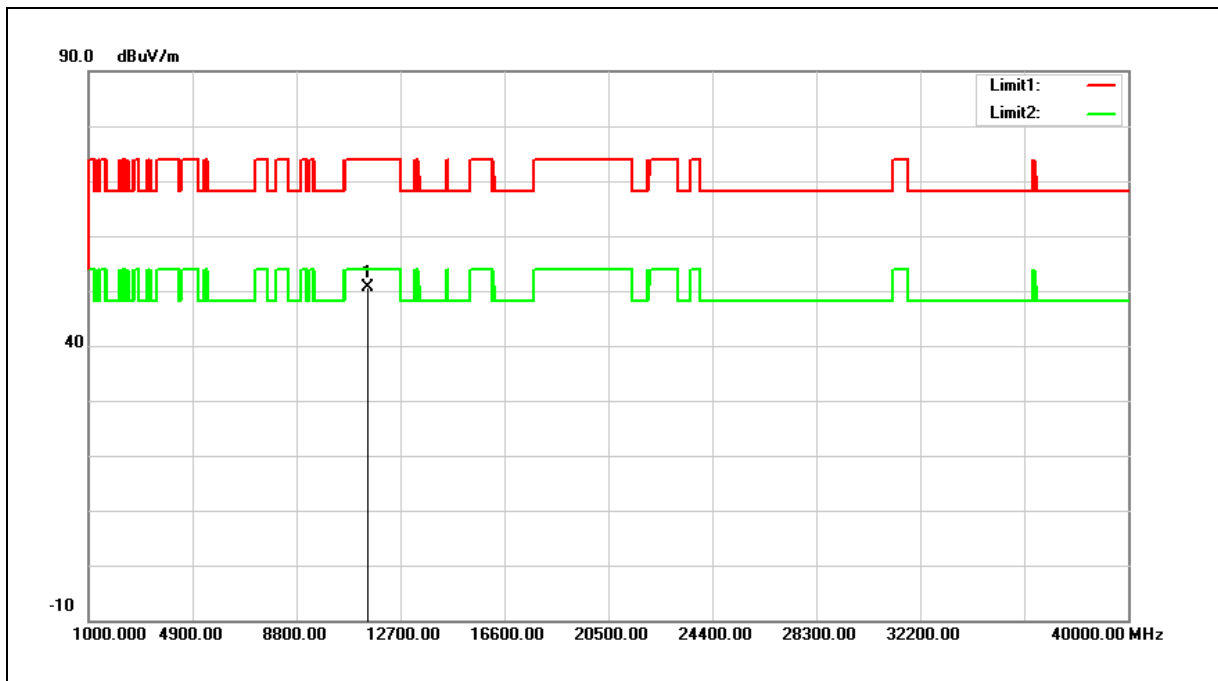
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	11490.000	30.49	19.12	49.61	74.00	-24.39	peak

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

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

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

Standard:	FCC Part 15.407	Test Distance:	3m
Test item:	Harmonic	Power:	AC 120V/60Hz
Frequency:	5745MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 3	Date:	04/08/2017
Ant.Polar.:	Vertical		



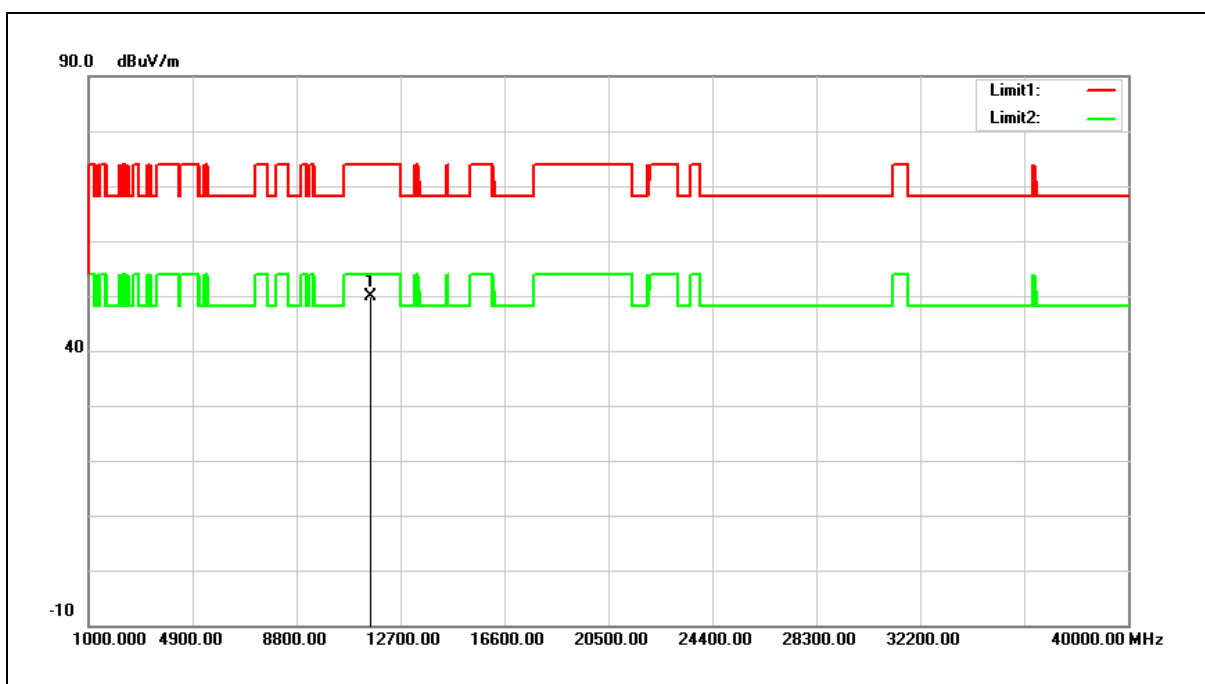
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	11490.000	31.53	19.12	50.65	74.00	-23.35	peak

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

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

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

Standard:	FCC Part 15.407	Test Distance:	3m
Test item:	Harmonic	Power:	AC 120V/60Hz
Frequency:	5785MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 3	Date:	04/08/2017
Ant.Polar.:	Horizontal		



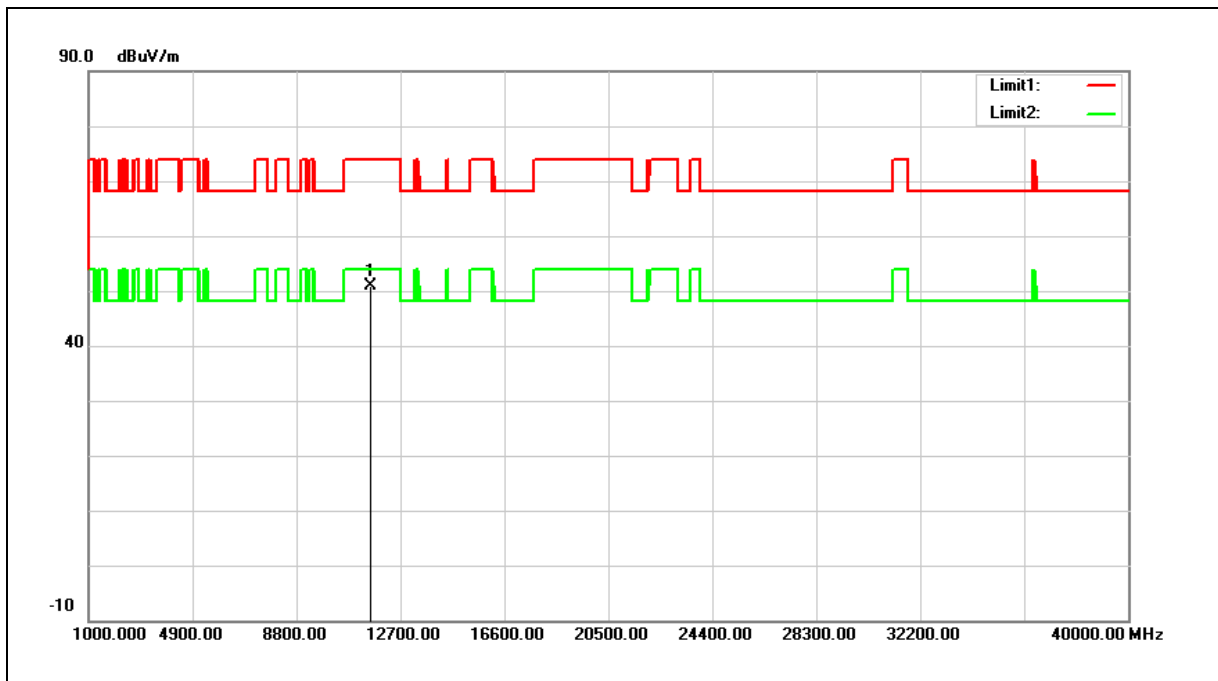
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	11570.000	30.55	19.23	49.78	74.00	-24.22	peak

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

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

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

Standard:	FCC Part 15.407	Test Distance:	3m
Test item:	Harmonic	Power:	AC 120V/60Hz
Frequency:	5785MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 3	Date:	04/08/2017
Ant.Polar.:	Vertical		



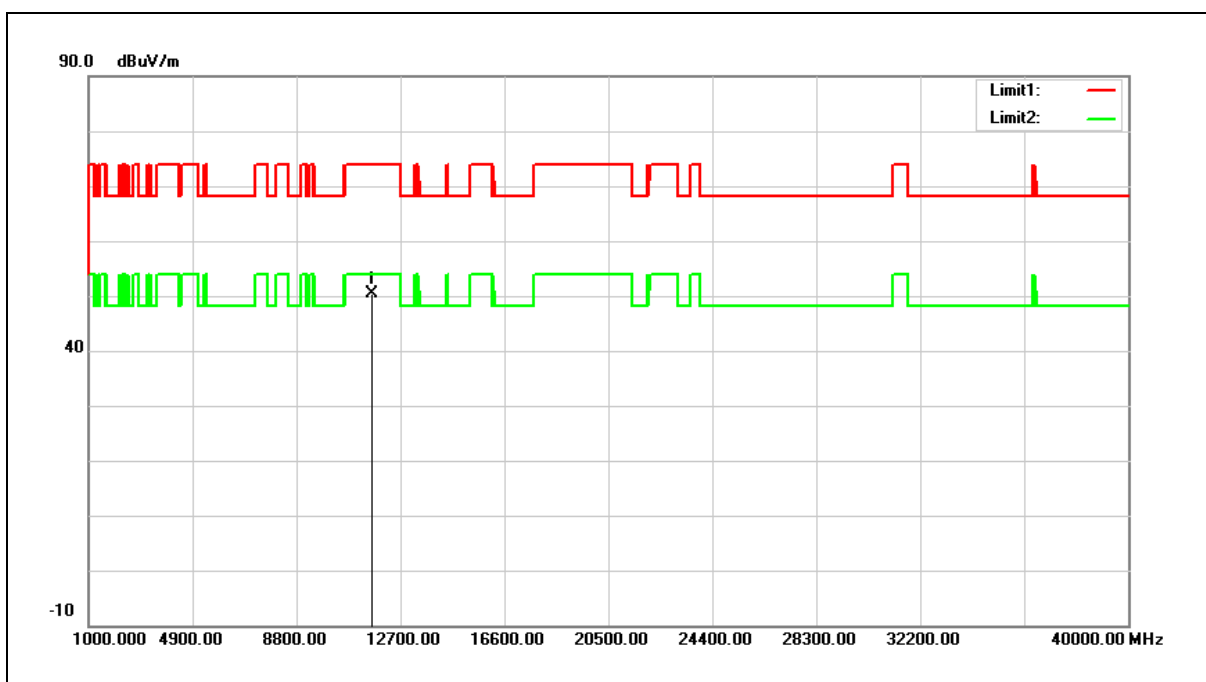
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	11570.000	31.62	19.23	50.85	74.00	-23.15	peak

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

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

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

Standard:	FCC Part 15.407	Test Distance:	3m
Test item:	Harmonic	Power:	AC 120V/60Hz
Frequency:	5825MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 3	Date:	04/08/2017
Ant.Polar.:	Horizontal		



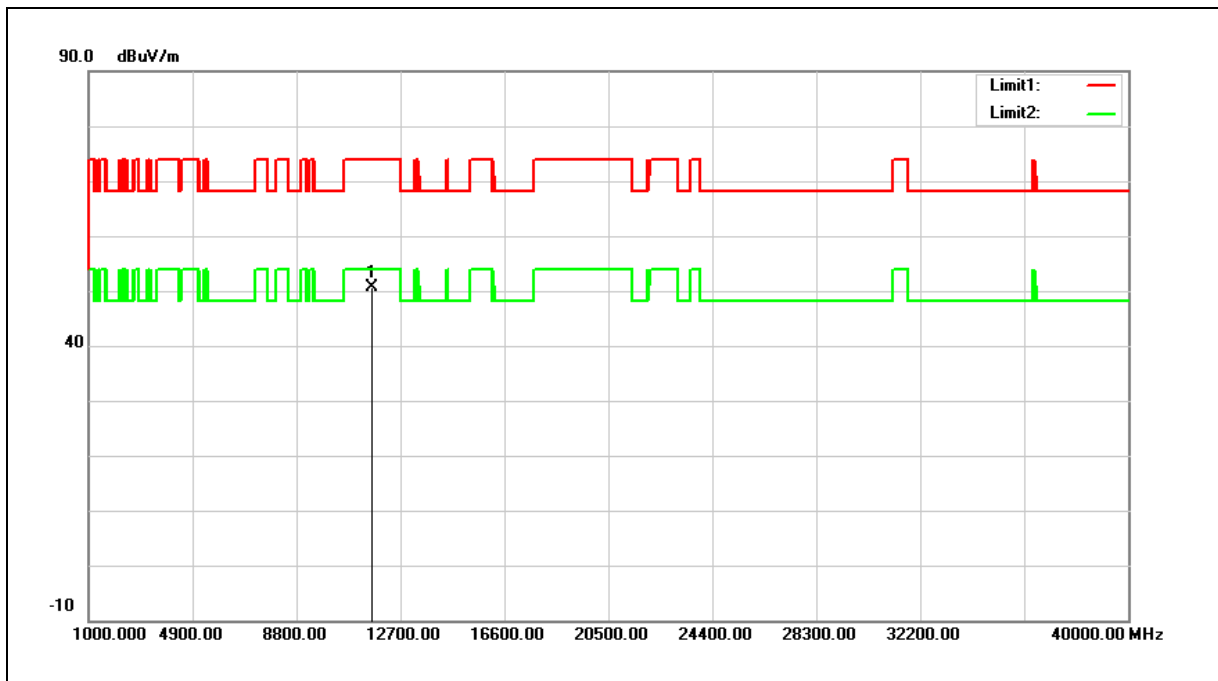
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	11650.000	31.00	19.34	50.34	74.00	-23.66	peak

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

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

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

Standard:	FCC Part 15.407	Test Distance:	3m
Test item:	Harmonic	Power:	AC 120V/60Hz
Frequency:	5825MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 3	Date:	04/08/2017
Ant.Polar.:	Vertical		



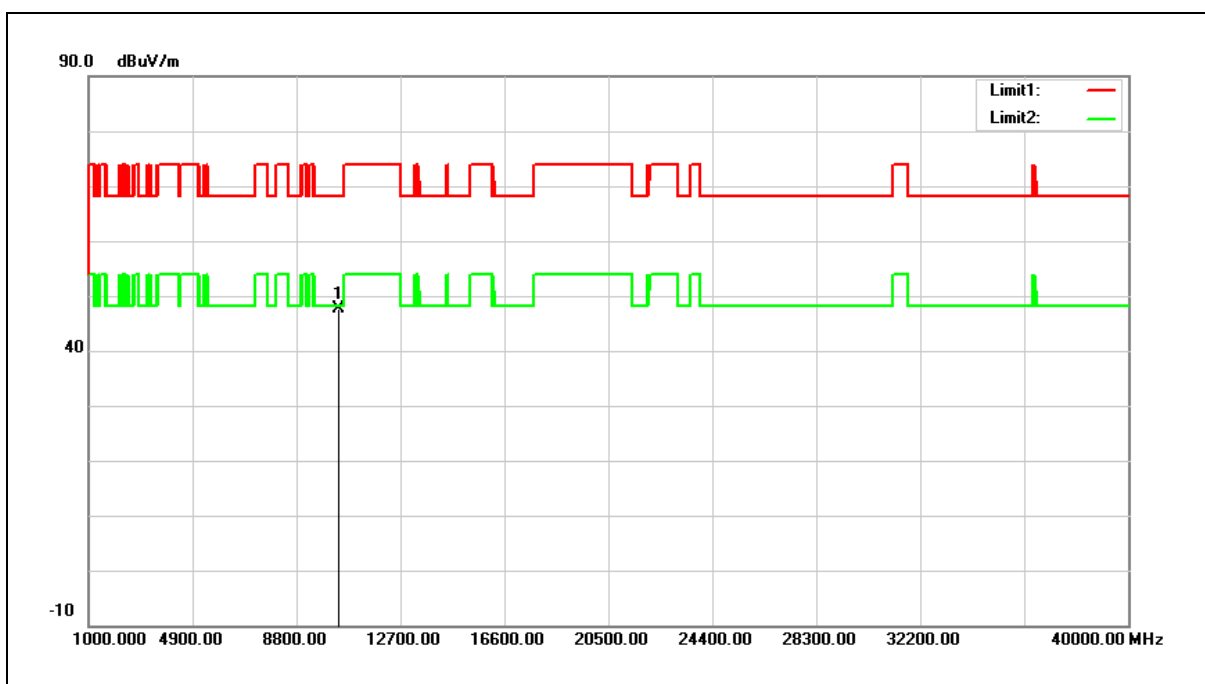
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	11650.000	31.17	19.34	50.51	74.00	-23.49	peak

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

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

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

Standard:	FCC Part 15.407	Test Distance:	3m
Test item:	Harmonic	Power:	AC 120V/60Hz
Frequency:	5190MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 4	Date:	04/10/2017
Ant.Polar.:	Horizontal		



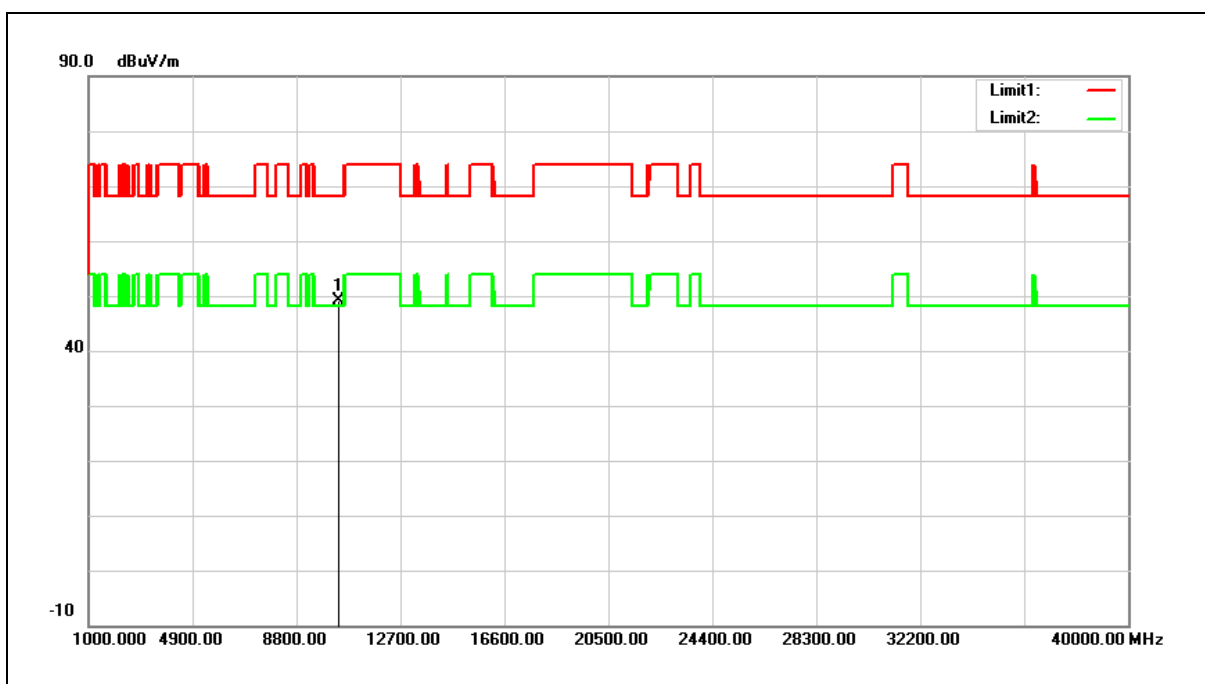
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	10380.000	30.33	17.36	47.69	68.20	-20.51	peak

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

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

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

Standard:	FCC Part 15.407	Test Distance:	3m
Test item:	Harmonic	Power:	AC 120V/60Hz
Frequency:	5190MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 4	Date:	04/10/2017
Ant.Polar.:	Vertical		



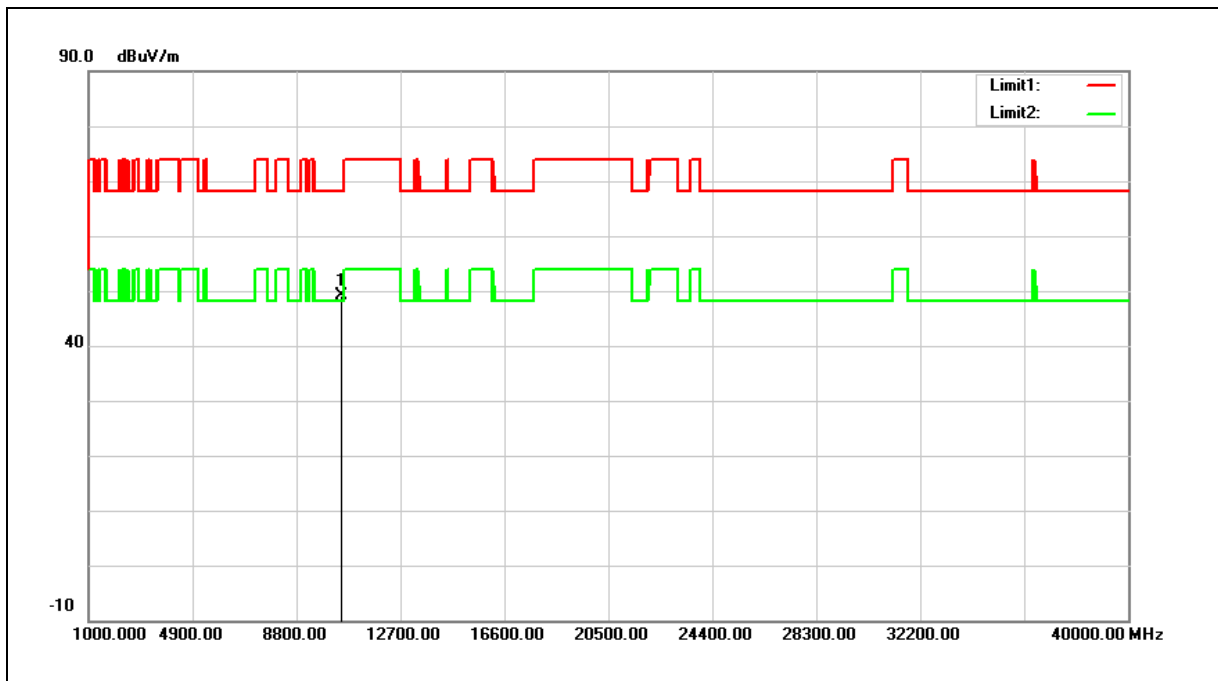
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	10380.000	31.86	17.36	49.22	68.20	-18.98	peak

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

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

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

Standard:	FCC Part 15.407	Test Distance:	3m
Test item:	Harmonic	Power:	AC 120V/60Hz
Frequency:	5230MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 4	Date:	04/10/2017
Ant.Polar.:	Horizontal		



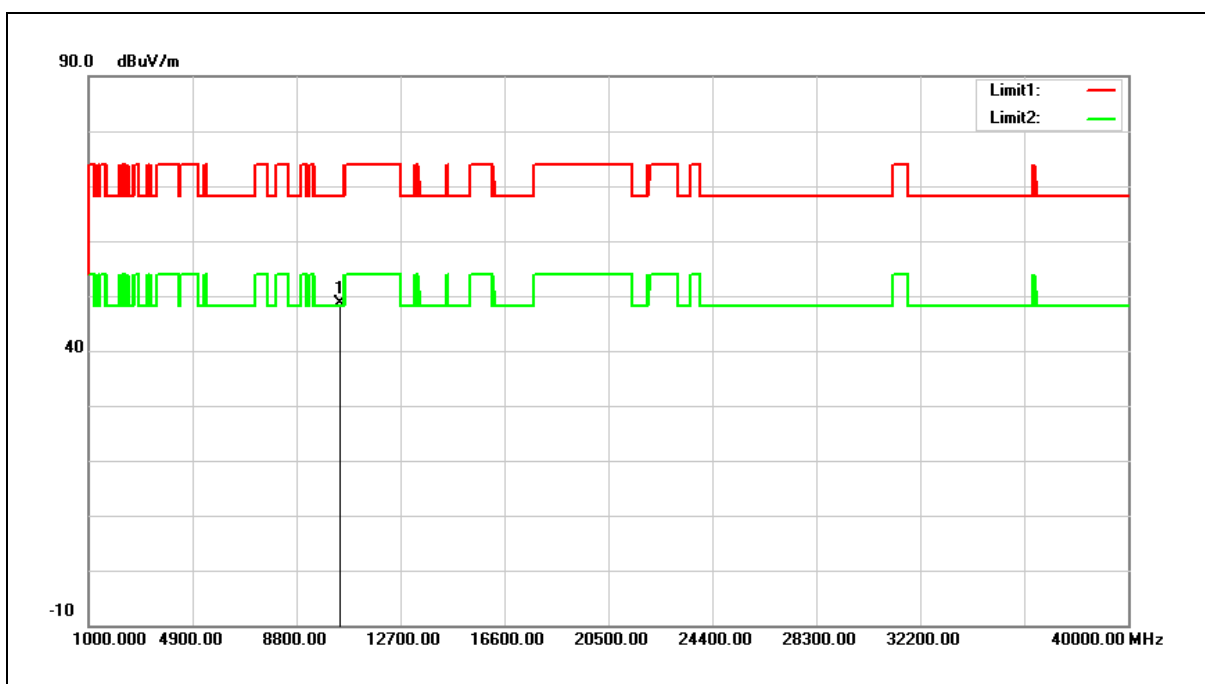
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	10460.000	31.45	17.58	49.03	68.20	-19.17	peak

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

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

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

Standard:	FCC Part 15.407	Test Distance:	3m
Test item:	Harmonic	Power:	AC 120V/60Hz
Frequency:	5230MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 4	Date:	04/10/2017
Ant.Polar.:	Vertical		



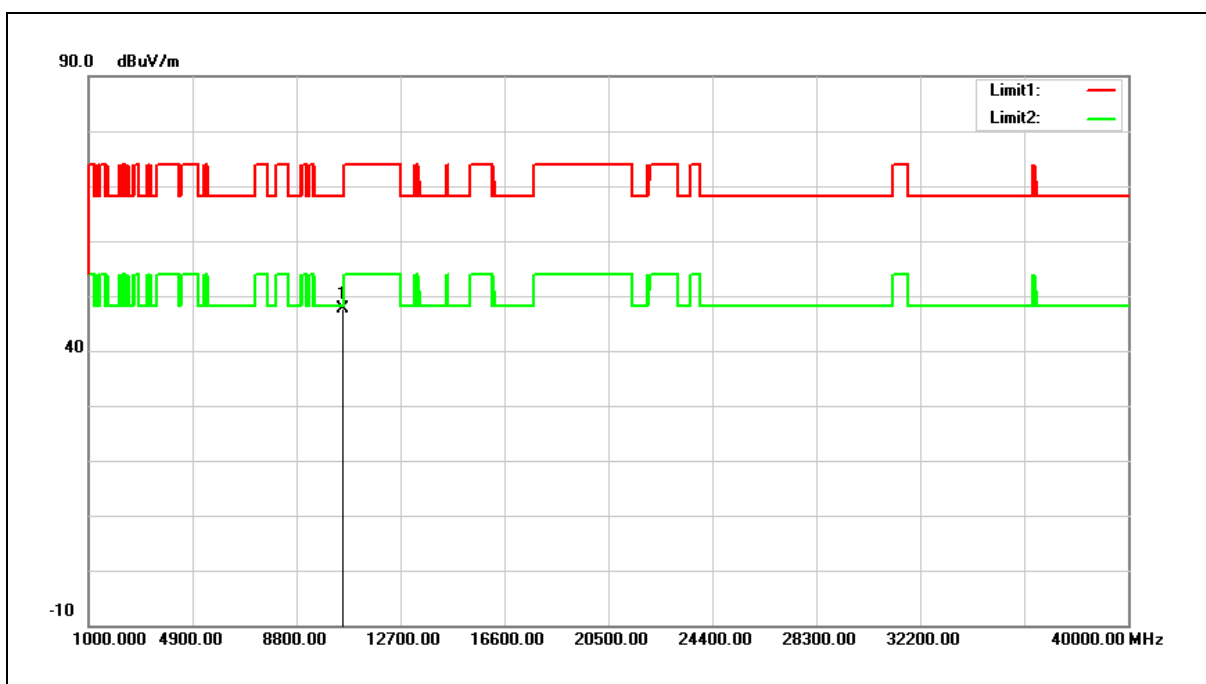
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	10460.000	30.96	17.58	48.54	68.20	-19.66	peak

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

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

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

Standard:	FCC Part 15.407	Test Distance:	3m
Test item:	Harmonic	Power:	AC 120V/60Hz
Frequency:	5270MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 4	Date:	04/10/2017
Ant.Polar.:	Horizontal		



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	10540.000	29.96	17.73	47.69	68.20	-20.51	peak

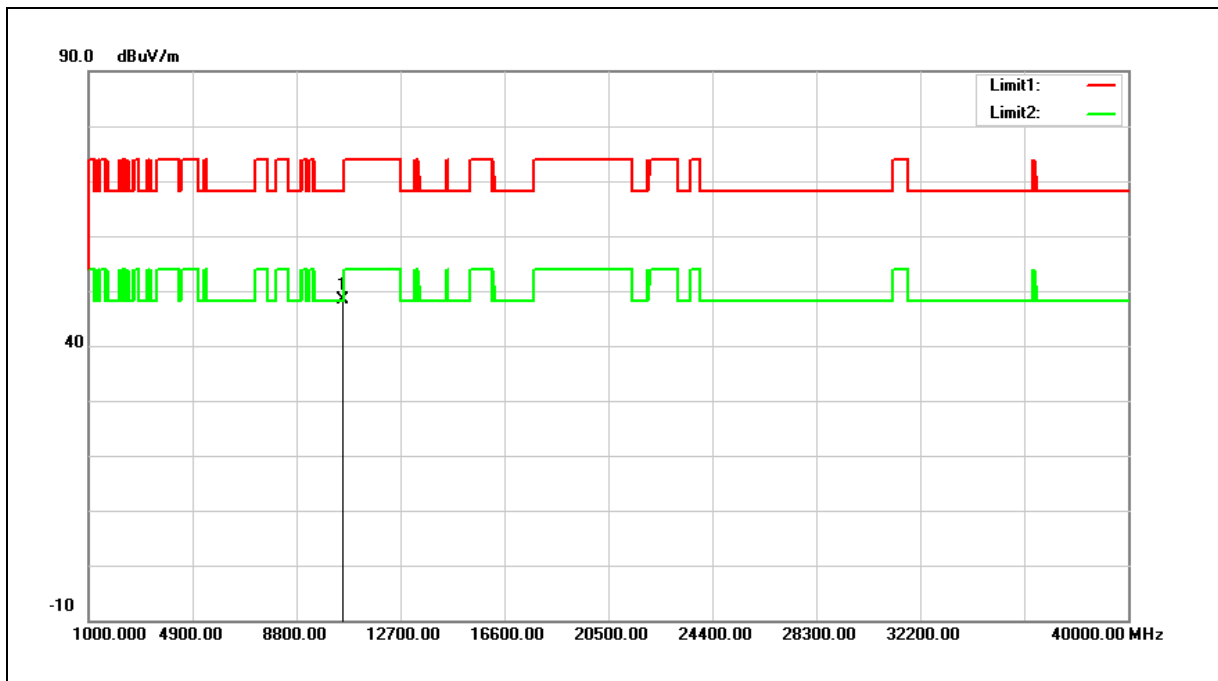
Note:1.Result (dBuV/m) = Correct Factor (dB/m) + Reading(dBuV).

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

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



Standard:	FCC Part 15.407	Test Distance:	3m
Test item:	Harmonic	Power:	AC 120V/60Hz
Frequency:	5270MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 4	Date:	04/10/2017
Ant.Polar.:	Vertical		



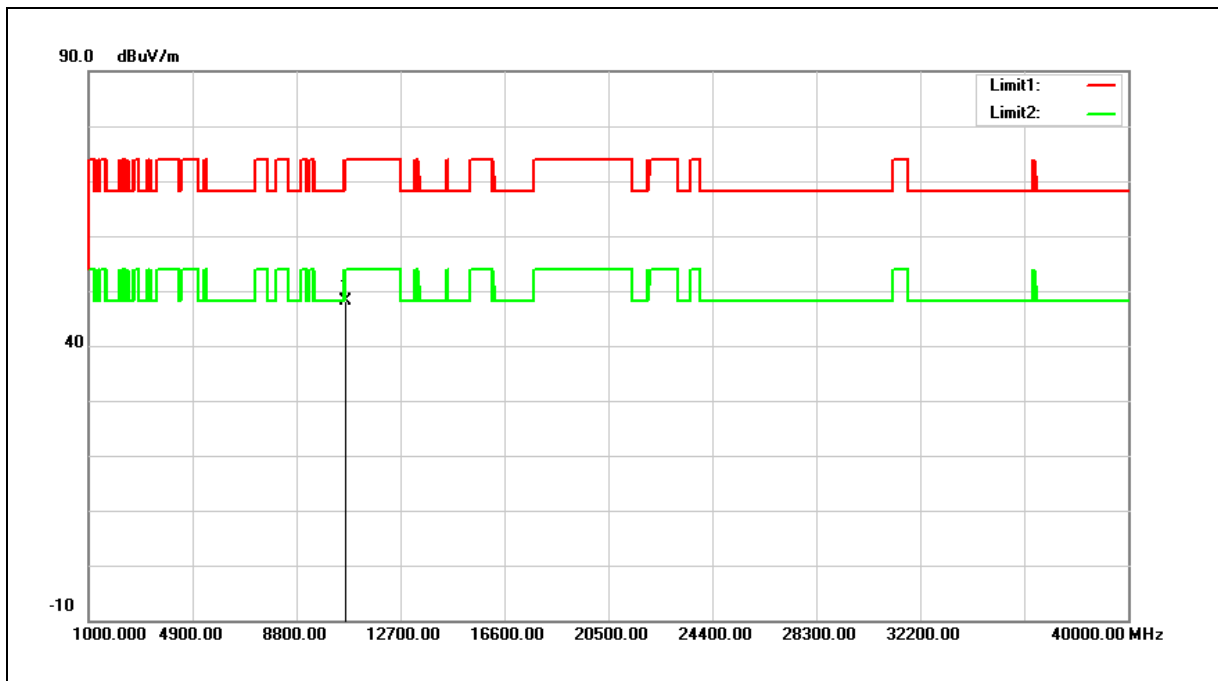
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	10540.000	30.70	17.73	48.43	68.20	-19.77	peak

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

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

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

Standard:	FCC Part 15.407	Test Distance:	3m
Test item:	Harmonic	Power:	AC 120V/60Hz
Frequency:	5310MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 4	Date:	04/10/2017
Ant.Polar.:	Horizontal		



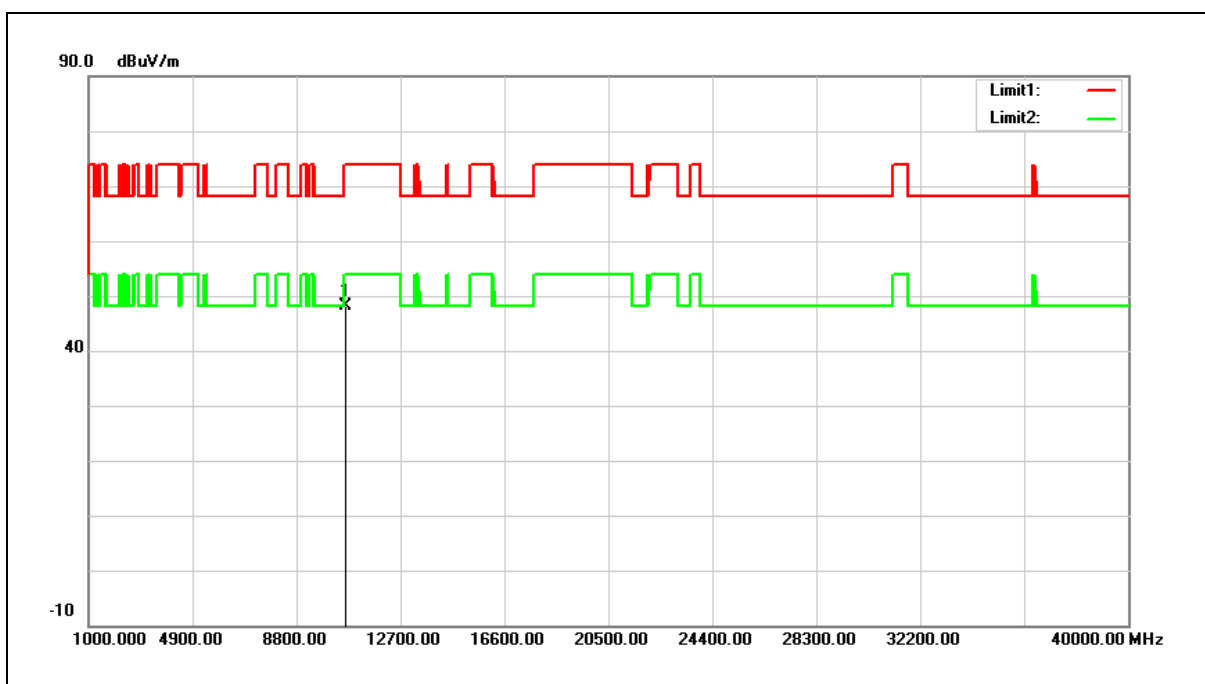
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	10620.000	30.41	17.83	48.24	74.00	-25.76	peak

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

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

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

Standard:	FCC Part 15.407	Test Distance:	3m
Test item:	Harmonic	Power:	AC 120V/60Hz
Frequency:	5310MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 4	Date:	04/10/2017
Ant.Polar.:	Vertical		



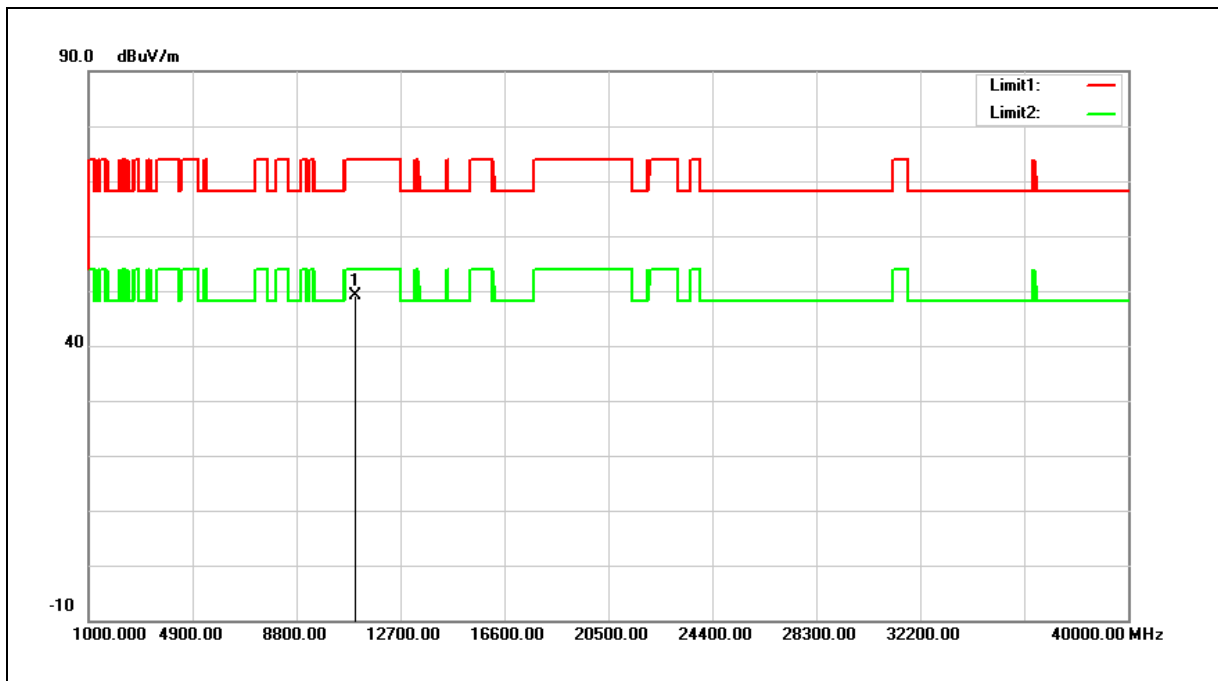
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	10620.000	30.23	17.83	48.06	74.00	-25.94	peak

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

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

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

Standard:	FCC Part 15.407	Test Distance:	3m
Test item:	Harmonic	Power:	AC 120V/60Hz
Frequency:	5510MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 4	Date:	04/10/2017
Ant.Polar.:	Horizontal		



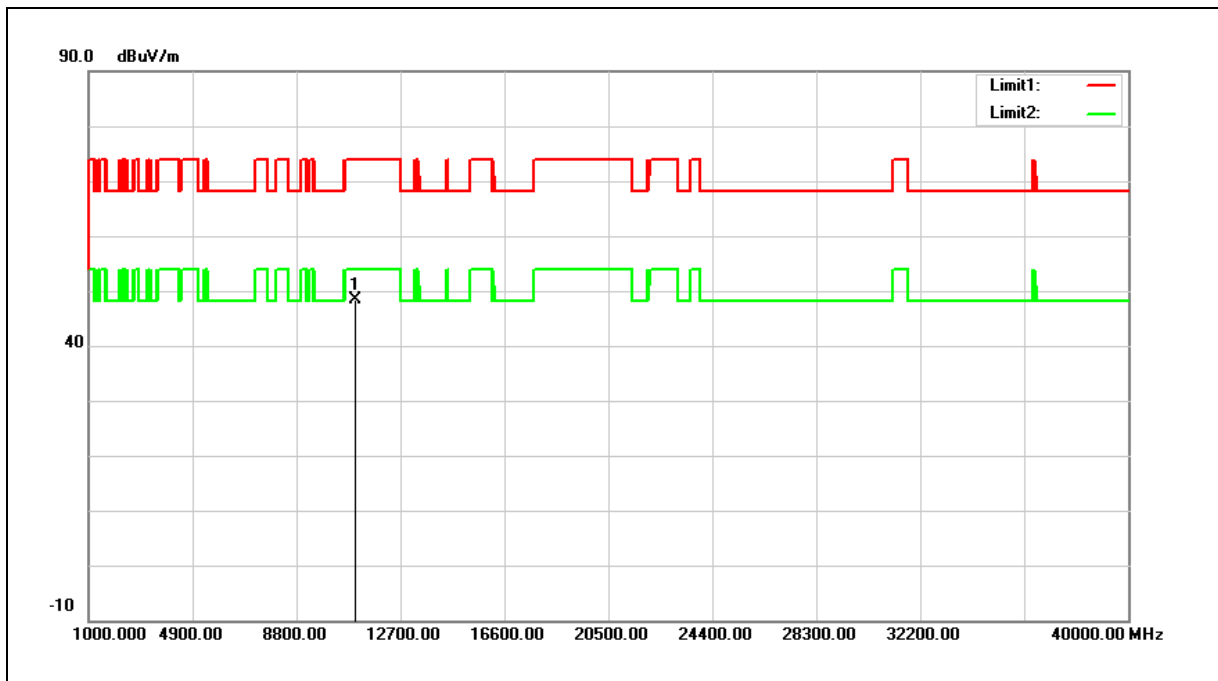
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	11020.000	30.74	18.30	49.04	74.00	-24.96	peak

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

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

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

Standard:	FCC Part 15.407	Test Distance:	3m
Test item:	Harmonic	Power:	AC 120V/60Hz
Frequency:	5510MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 4	Date:	04/10/2017
Ant.Polar.:	Vertical		



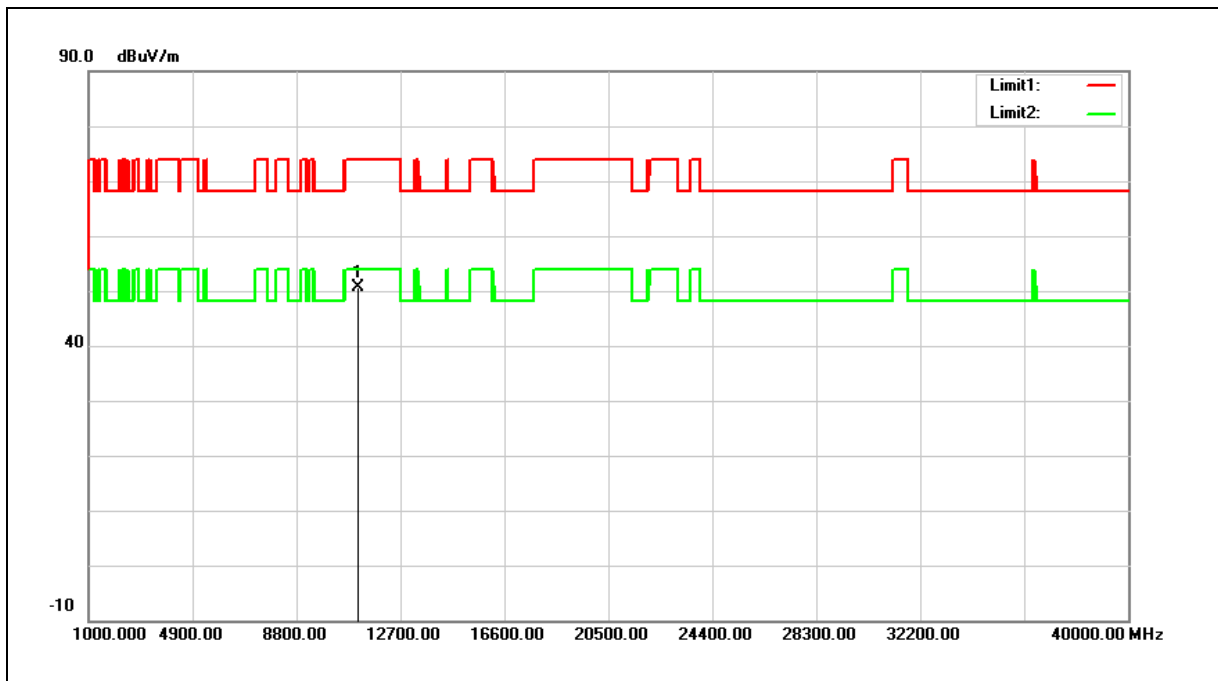
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	11020.000	30.00	18.30	48.30	74.00	-25.70	peak

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

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

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

Standard:	FCC Part 15.407	Test Distance:	3m
Test item:	Harmonic	Power:	AC 120V/60Hz
Frequency:	5550MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 4	Date:	04/10/2017
Ant.Polar.:	Horizontal		



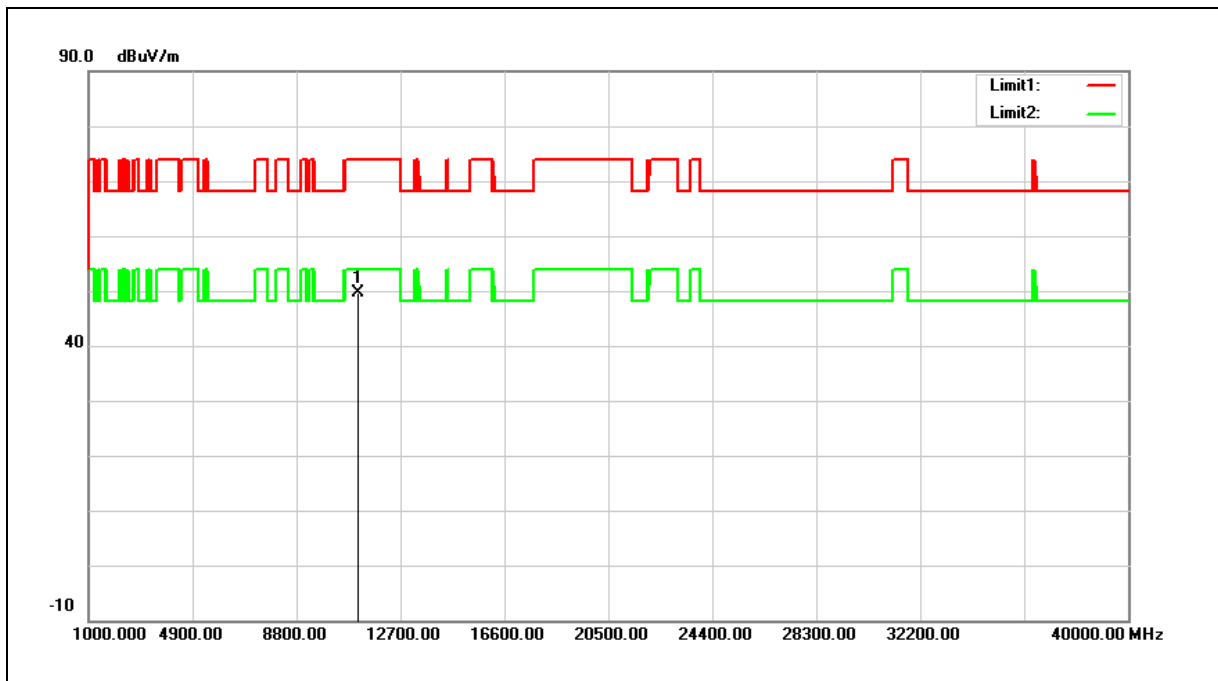
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	11100.000	32.23	18.44	50.67	74.00	-23.33	peak

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

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

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

Standard:	FCC Part 15.407	Test Distance:	3m
Test item:	Harmonic	Power:	AC 120V/60Hz
Frequency:	5550MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 4	Date:	04/10/2017
Ant.Polar.:	Vertical		



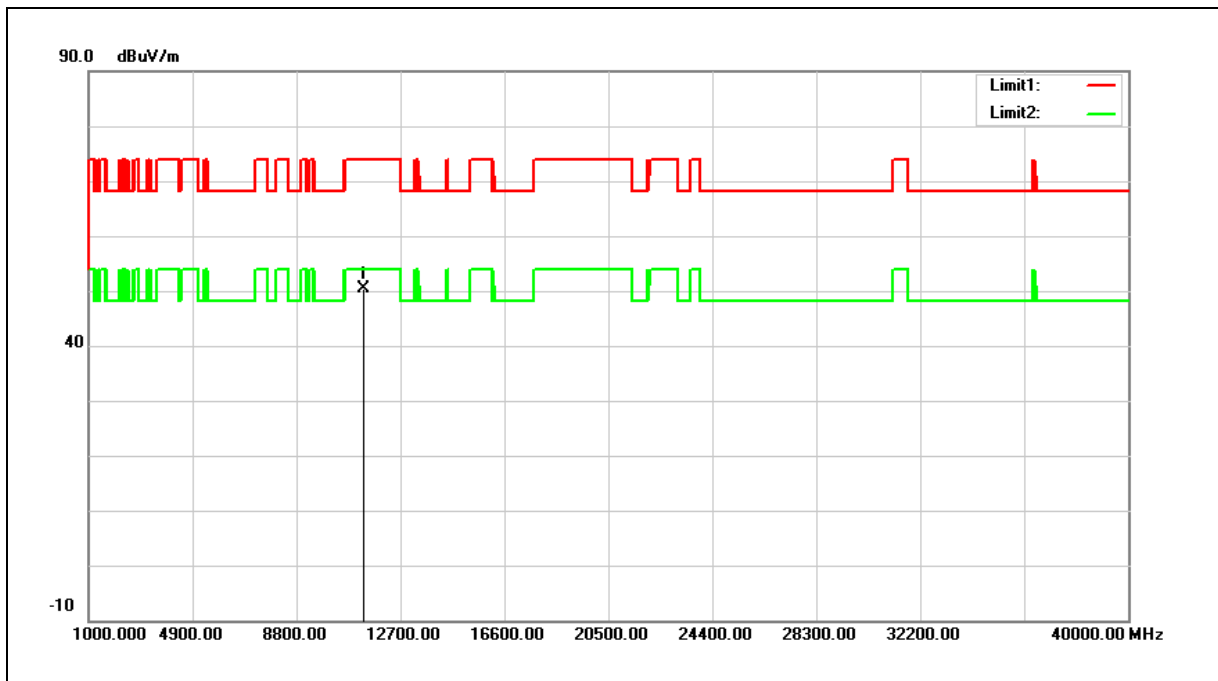
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	11100.000	31.20	18.44	49.64	74.00	-24.36	peak

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

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

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

Standard:	FCC Part 15.407	Test Distance:	3m
Test item:	Harmonic	Power:	AC 120V/60Hz
Frequency:	5670MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 4	Date:	04/10/2017
Ant.Polar.:	Horizontal		



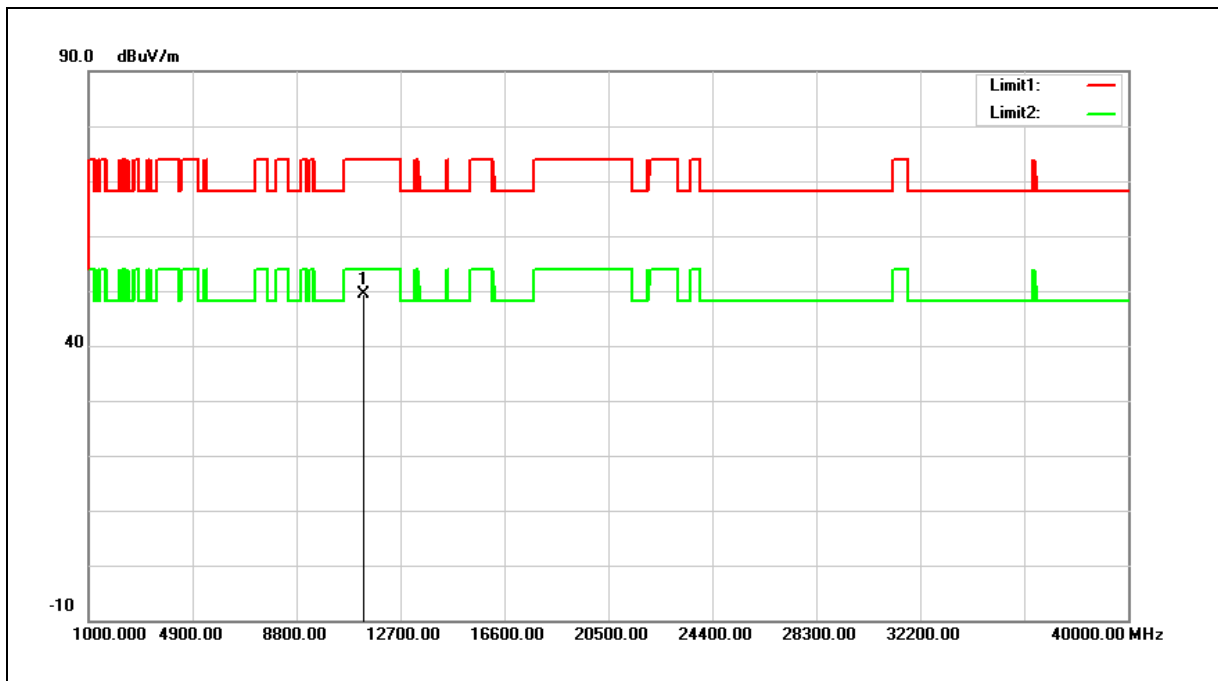
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	11340.000	31.48	18.86	50.34	74.00	-23.66	peak

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

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

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

Standard:	FCC Part 15.407	Test Distance:	3m
Test item:	Harmonic	Power:	AC 120V/60Hz
Frequency:	5670MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 4	Date:	04/10/2017
Ant.Polar.:	Vertical		



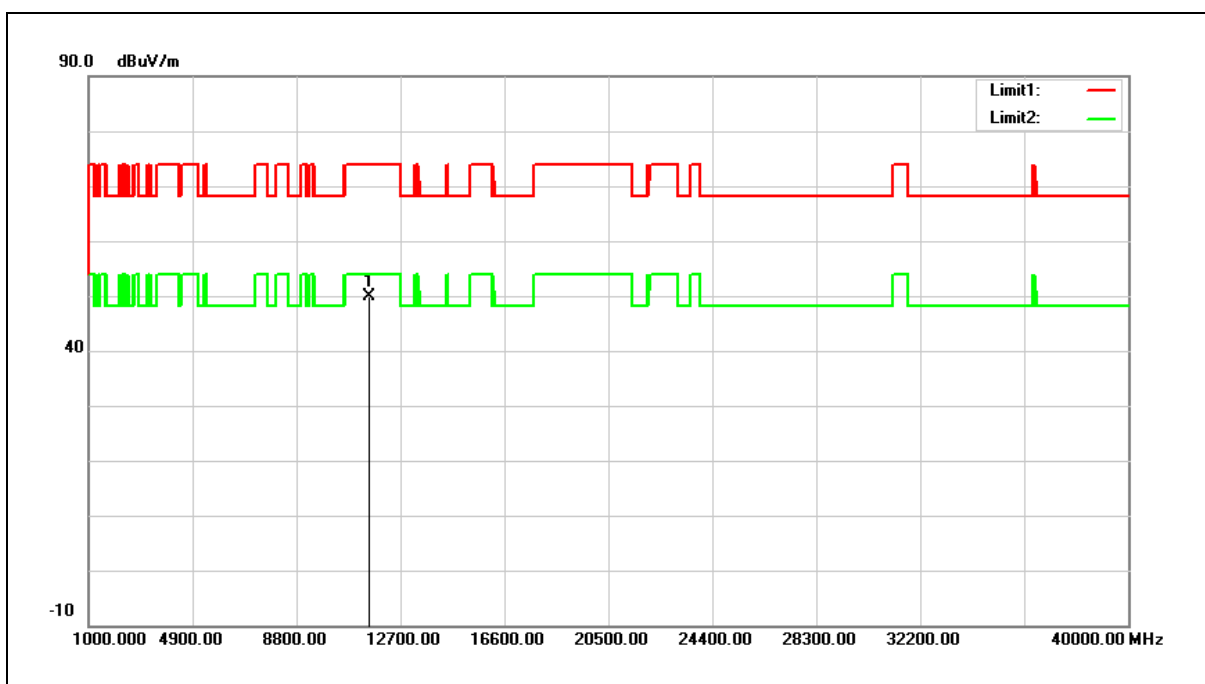
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	11340.000	30.46	18.86	49.32	74.00	-24.68	peak

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

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

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

Standard:	FCC Part 15.407	Test Distance:	3m
Test item:	Harmonic	Power:	AC 120V/60Hz
Frequency:	5755MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 4	Date:	04/10/2017
Ant.Polar.:	Horizontal		



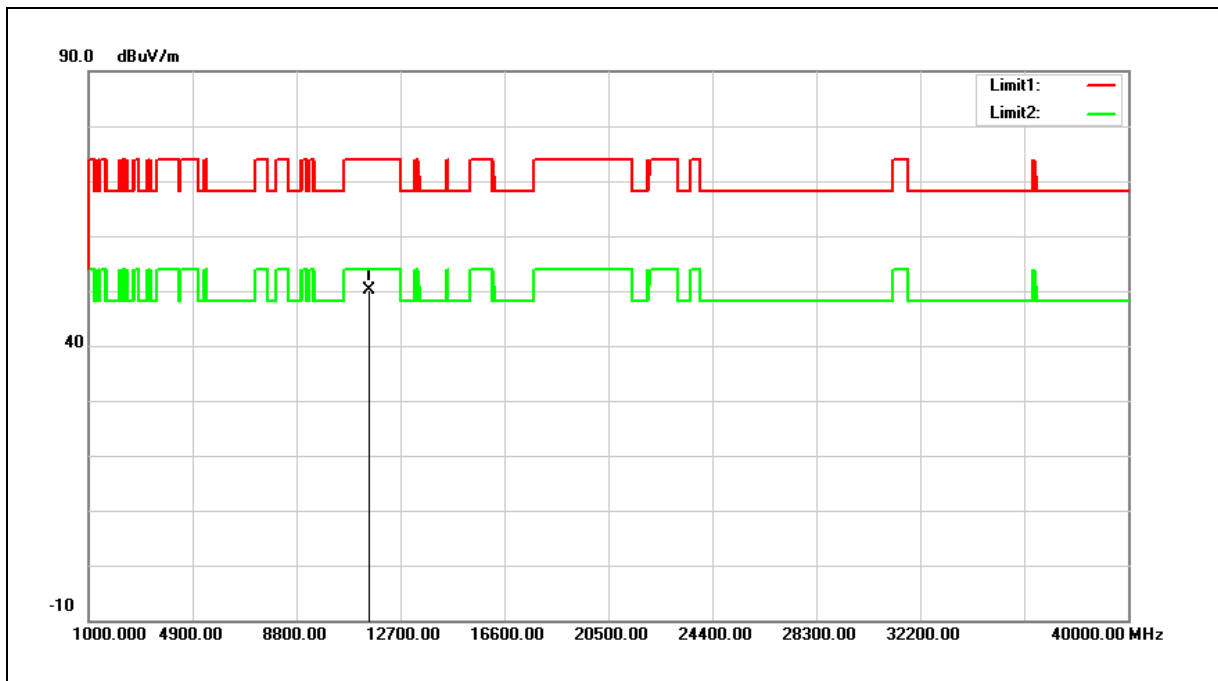
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	11510.000	30.76	19.15	49.91	74.00	-24.09	peak

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

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

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

Standard:	FCC Part 15.407	Test Distance:	3m
Test item:	Harmonic	Power:	AC 120V/60Hz
Frequency:	5755MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 4	Date:	04/10/2017
Ant.Polar.:	Vertical		



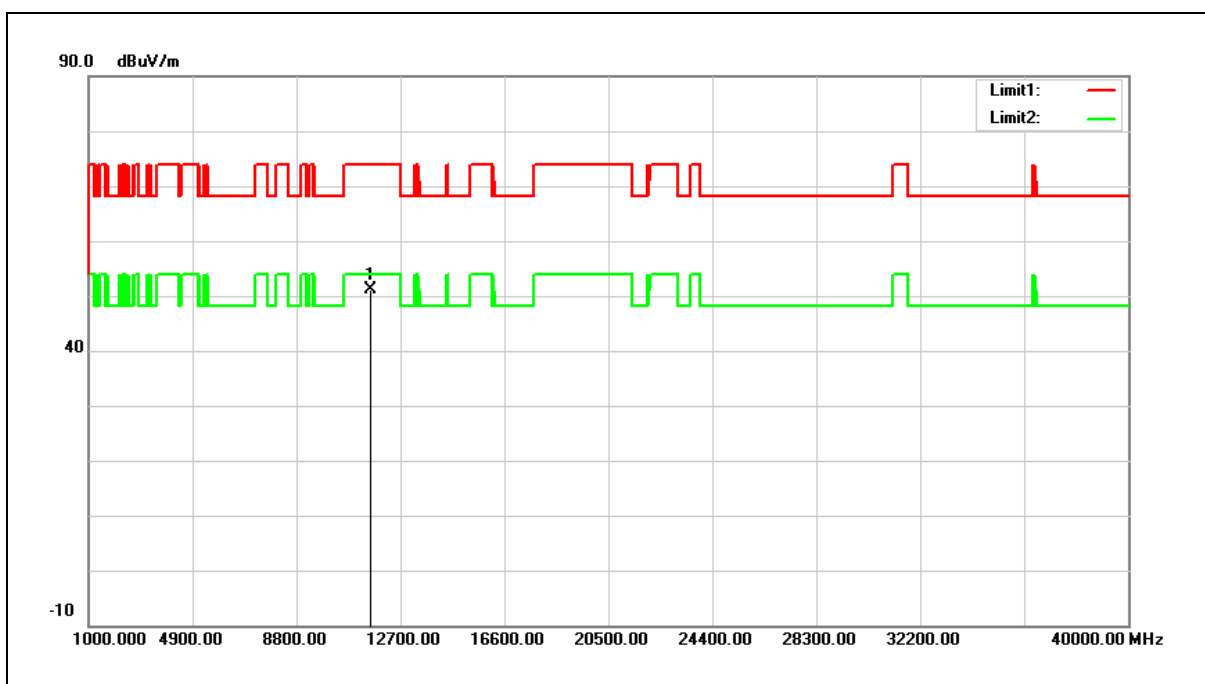
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	11510.000	30.86	19.15	50.01	74.00	-23.99	peak

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

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

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

Standard:	FCC Part 15.407	Test Distance:	3m
Test item:	Harmonic	Power:	AC 120V/60Hz
Frequency:	5795MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 4	Date:	04/10/2017
Ant.Polar.:	Horizontal		



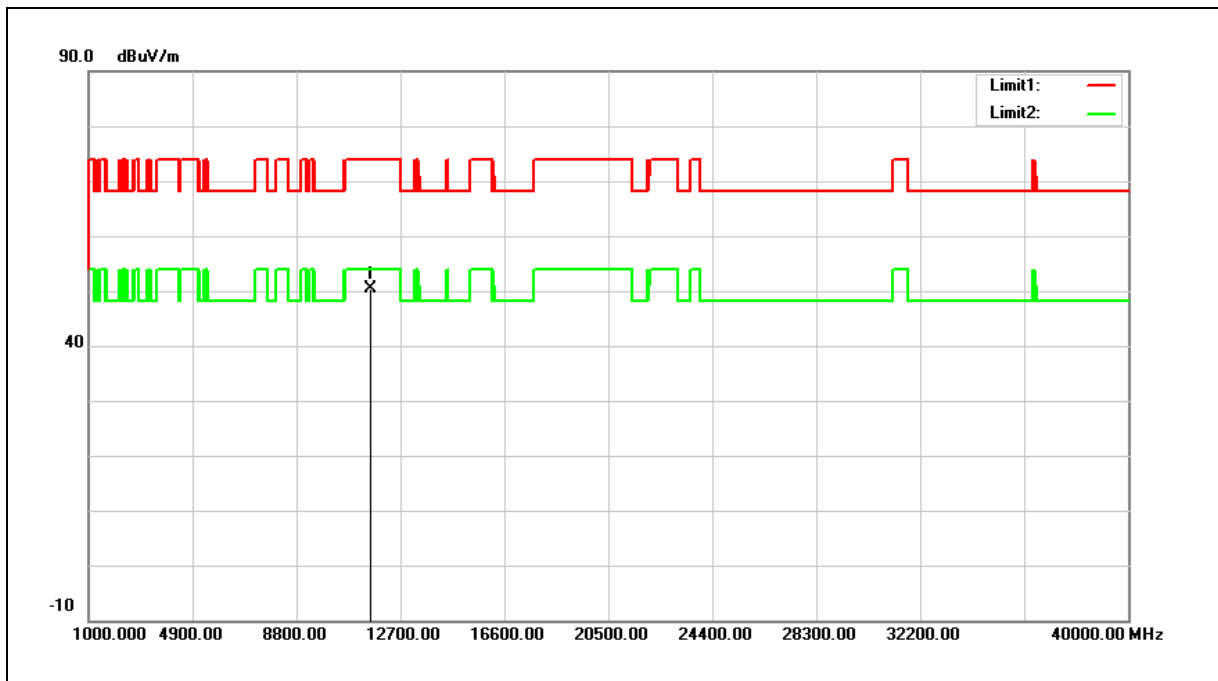
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	11590.000	31.91	19.26	51.17	74.00	-22.83	peak

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

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

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

Standard:	FCC Part 15.407	Test Distance:	3m
Test item:	Harmonic	Power:	AC 120V/60Hz
Frequency:	5795MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 4	Date:	04/10/2017
Ant.Polar.:	Vertical		



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	11590.000	31.12	19.26	50.38	74.00	-23.62	peak

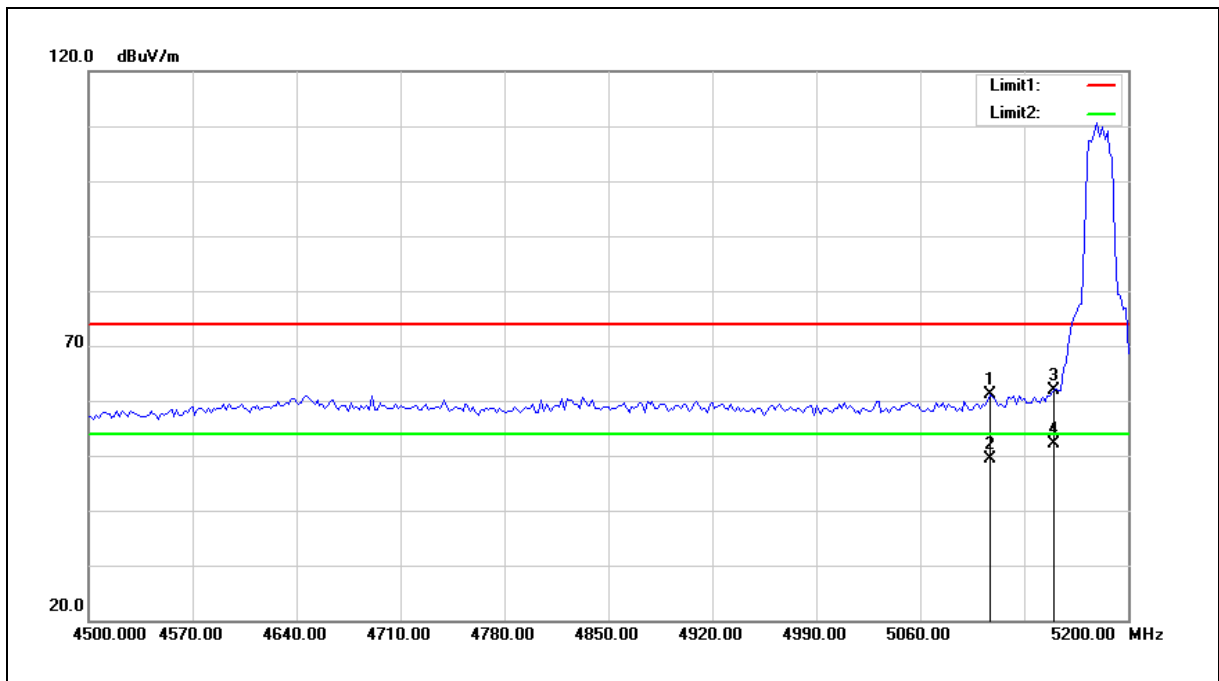
Note:1.Result (dBuV/m) = Correct Factor (dB/m) + Reading(dBuV).

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

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

Band Edge

Standard:	FCC Part 15.407	Test Distance:	3m
Test item:	Band edge	Power:	AC 120V/60Hz
Frequency:	5180MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 2	Date:	04/06/2017
Ant.Polar.:	Horizontal		



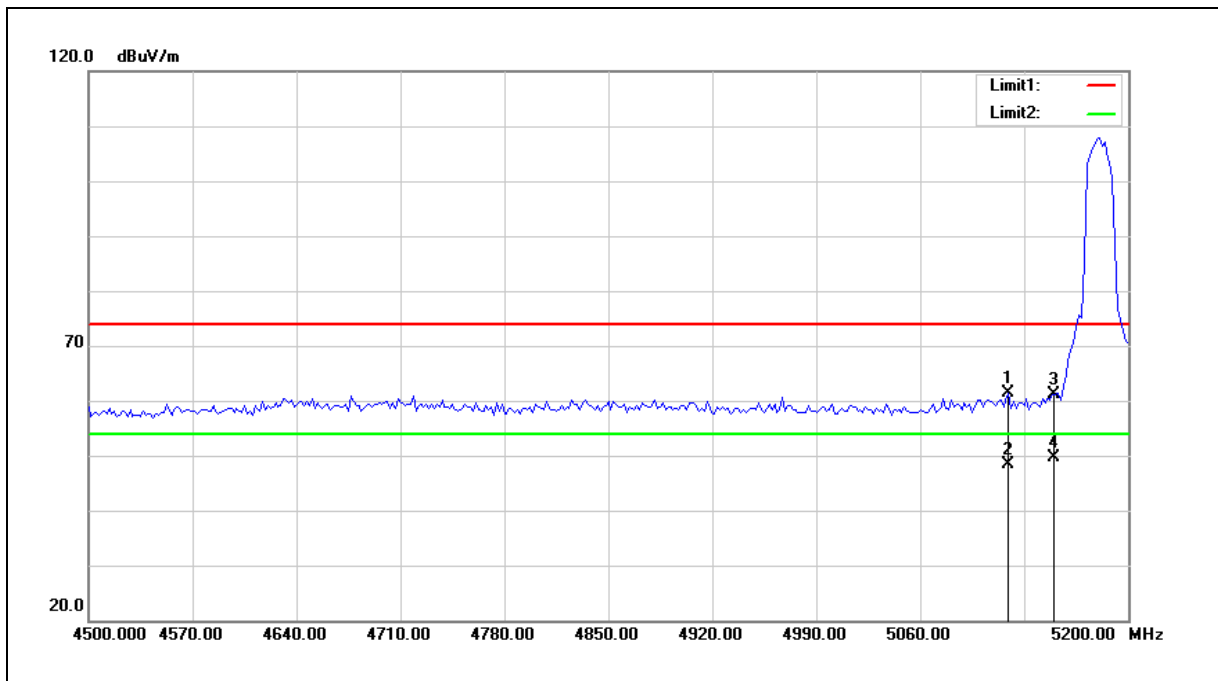
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	5107.250	51.56	9.47	61.03	74.00	-12.97	peak
2	5107.250	39.86	9.47	49.33	54.00	-4.67	AVG
3	5150.000	52.44	9.56	62.00	74.00	-12.00	peak
4	5150.000	42.47	9.56	52.03	54.00	-1.97	AVG

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

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

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

Standard:	FCC Part 15.407	Test Distance:	3m
Test item:	Band edge	Power:	AC 120V/60Hz
Frequency:	5180MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 2	Date:	04/06/2017
Ant.Polar.:	Vertical		



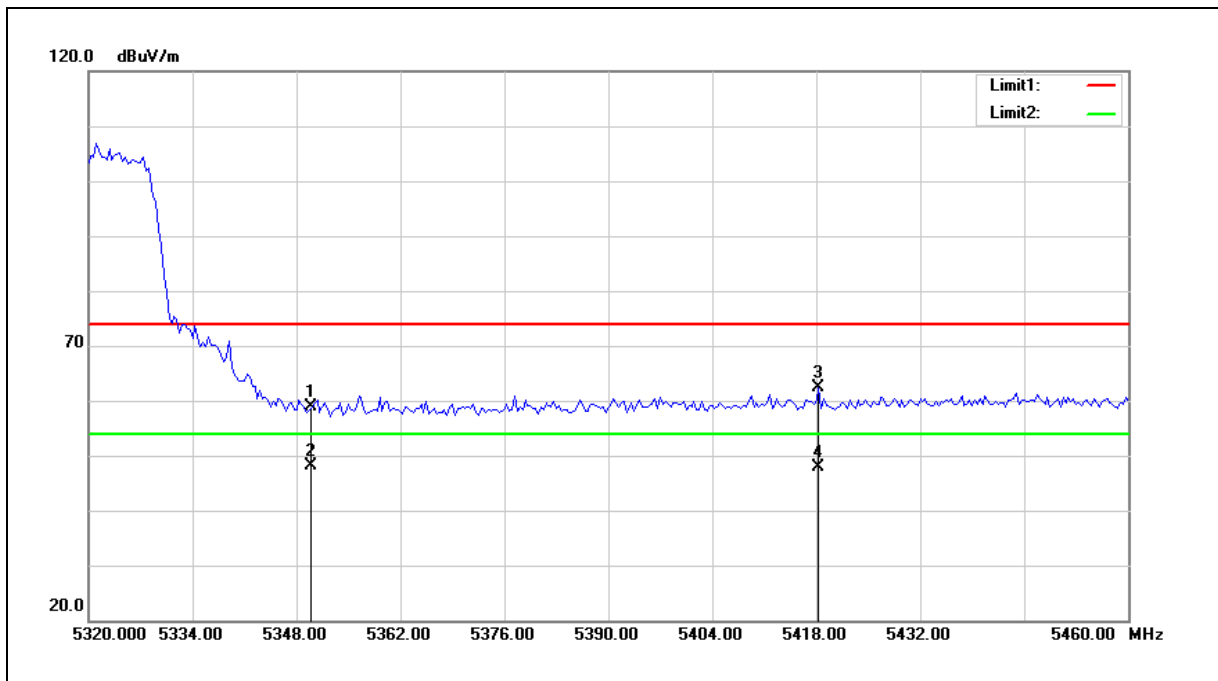
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	5119.500	51.94	9.49	61.43	74.00	-12.57	peak
2	5119.500	38.98	9.49	48.47	54.00	-5.53	AVG
3	5150.000	51.55	9.56	61.11	74.00	-12.89	peak
4	5150.000	39.99	9.56	49.55	54.00	-4.45	AVG

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

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

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

Standard:	FCC Part 15.407	Test Distance:	3m
Test item:	Band edge	Power:	AC 120V/60Hz
Frequency:	5320MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 2	Date:	04/06/2017
Ant.Polar.:	Horizontal		



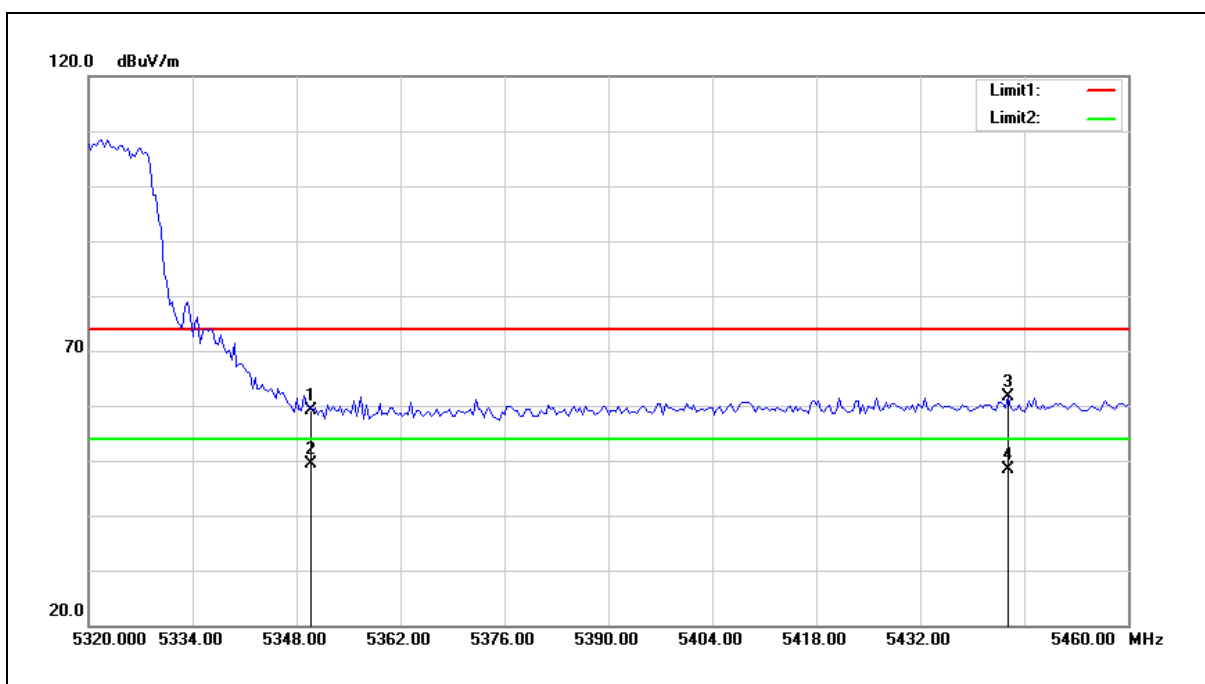
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	5350.000	48.96	10.01	58.97	74.00	-15.03	peak
2	5350.000	38.06	10.01	48.07	54.00	-5.93	AVG
3	5418.350	52.21	10.17	62.38	74.00	-11.62	peak
4	5418.350	37.69	10.17	47.86	54.00	-6.14	AVG

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

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

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

Standard:	FCC Part 15.407	Test Distance:	3m
Test item:	Band edge	Power:	AC 120V/60Hz
Frequency:	5320MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 2	Date:	04/06/2017
Ant.Polar.:	Vertical		



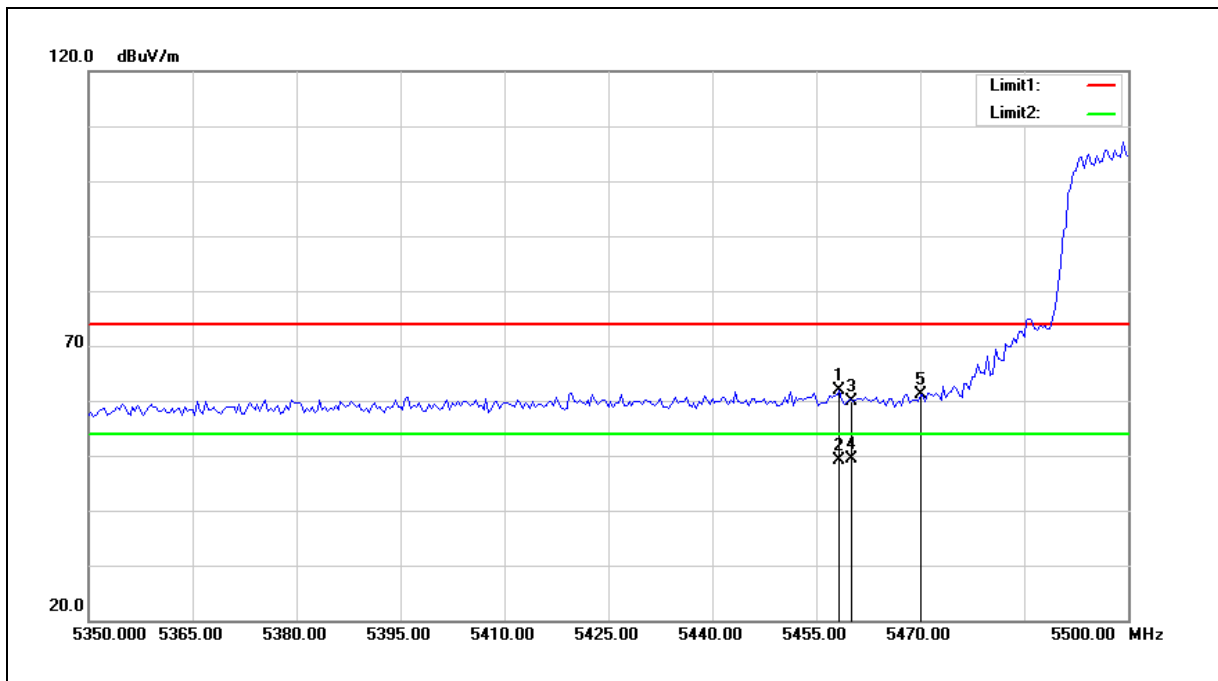
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	5350.000	49.06	10.01	59.07	74.00	-14.93	peak
2	5350.000	39.34	10.01	49.35	54.00	-4.65	AVG
3	5443.900	51.48	10.22	61.70	74.00	-12.30	peak
4	5443.900	38.14	10.22	48.36	54.00	-5.64	AVG

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

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

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

Standard:	FCC Part 15.407	Test Distance:	3m
Test item:	Band edge	Power:	AC 120V/60Hz
Frequency:	5500MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 2	Date:	04/06/2017
Ant.Polar.:	Horizontal		



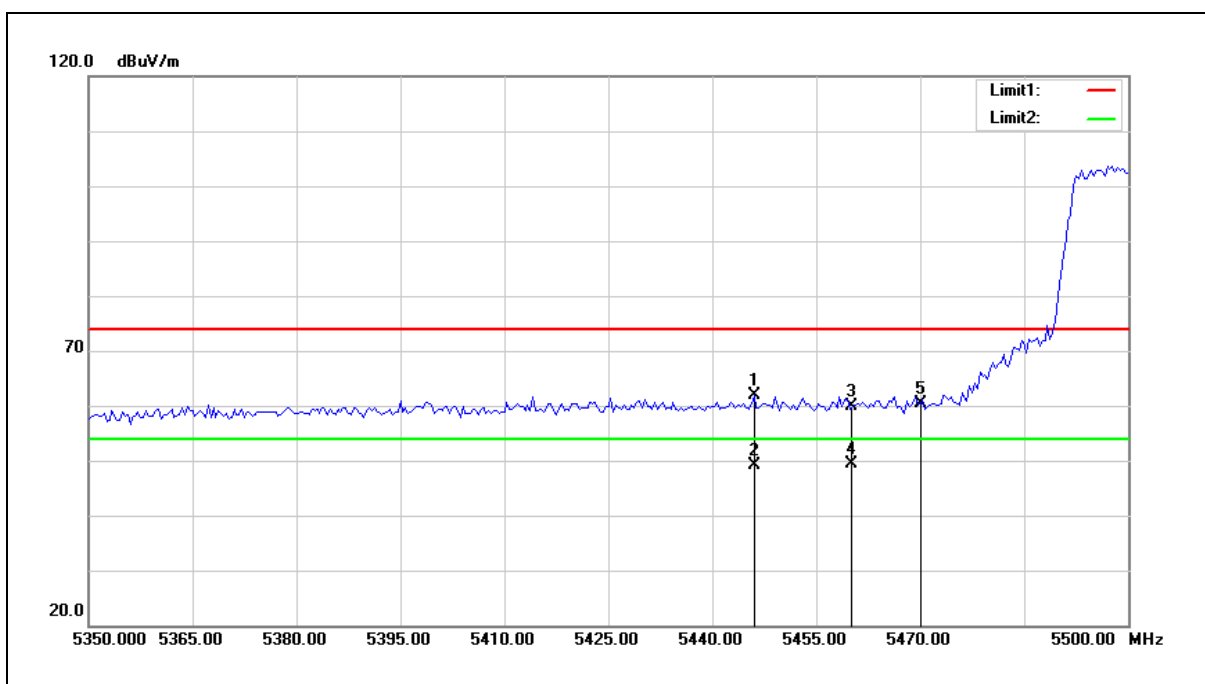
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	5458.375	51.67	10.26	61.93	74.00	-12.07	peak
2	5458.375	38.95	10.26	49.21	54.00	-4.79	AVG
3	5460.000	49.55	10.26	59.81	74.00	-14.19	peak
4	5460.000	39.14	10.26	49.40	54.00	-4.60	AVG
5	5470.000	50.73	10.28	61.01	68.20	-7.19	peak

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

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

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

Standard:	FCC Part 15.407	Test Distance:	3m
Test item:	Band edge	Power:	AC 120V/60Hz
Frequency:	5500MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 2	Date:	04/06/2017
Ant.Polar.:	Vertical		



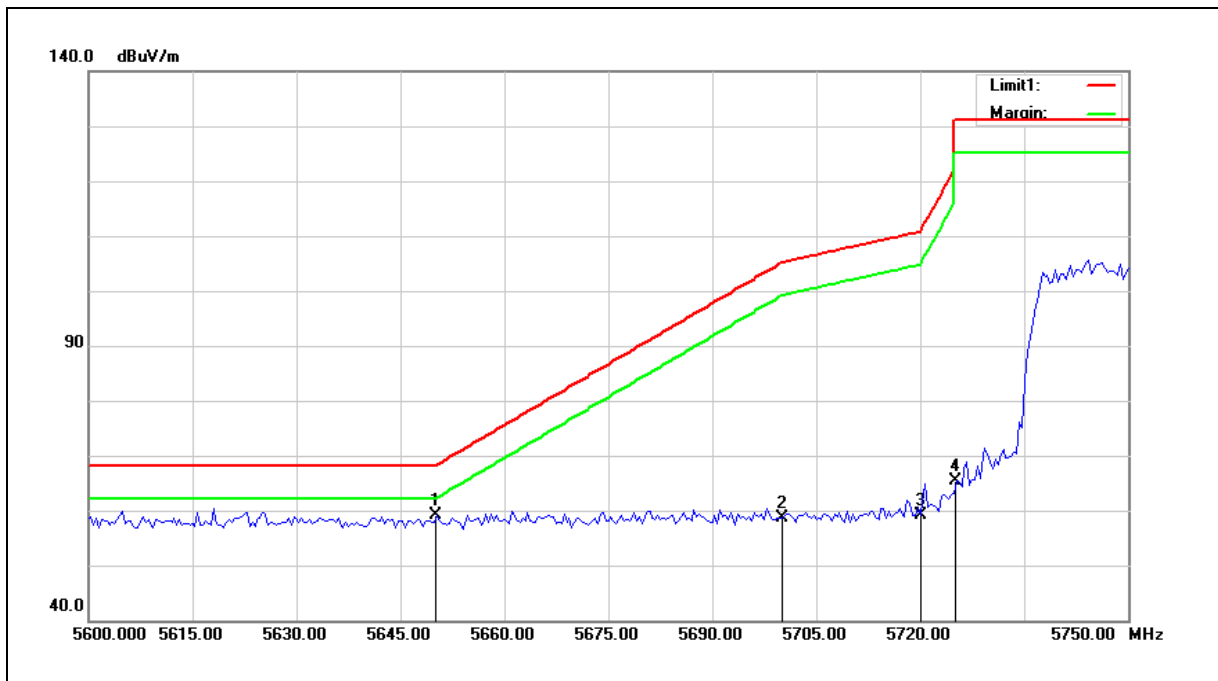
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	5446.000	51.73	10.23	61.96	74.00	-12.04	peak
2	5446.000	38.98	10.23	49.21	54.00	-4.79	AVG
3	5460.000	49.56	10.26	59.82	74.00	-14.18	peak
4	5460.000	39.06	10.26	49.32	54.00	-4.68	AVG
5	5470.000	50.20	10.28	60.48	68.20	-7.72	peak

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

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

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

Standard:	FCC Part 15.407	Test Distance:	3m
Test item:	Band edge	Power:	AC 120V/60Hz
Frequency:	5745MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 2	Date:	04/07/2017
Ant.Polar.:	Horizontal		



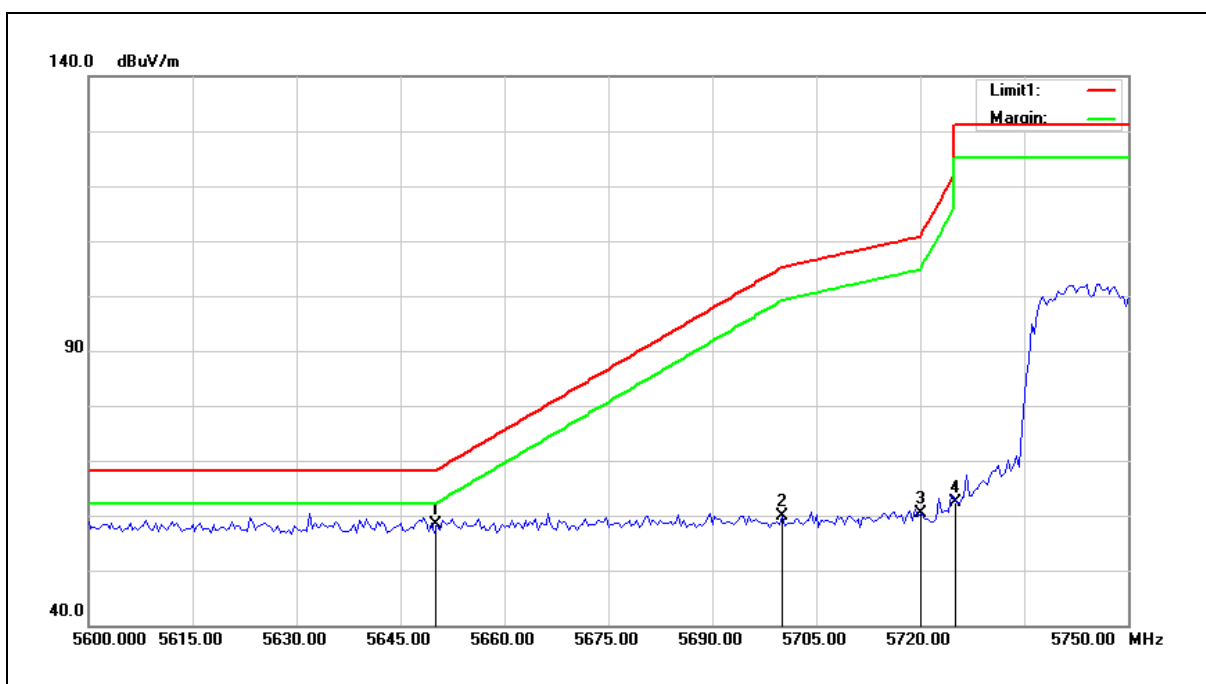
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	5650.000	48.32	10.69	59.01	68.20	-9.19	peak
2	5700.000	47.78	10.80	58.58	105.20	-46.62	peak
3	5720.000	48.19	10.83	59.02	110.80	-51.78	peak
4	5725.000	54.52	10.85	65.37	122.20	-56.83	peak

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

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

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

Standard:	FCC Part 15.407	Test Distance:	3m
Test item:	Band edge	Power:	AC 120V/60Hz
Frequency:	5745MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 2	Date:	04/07/2017
Ant.Polar.:	Vertical		



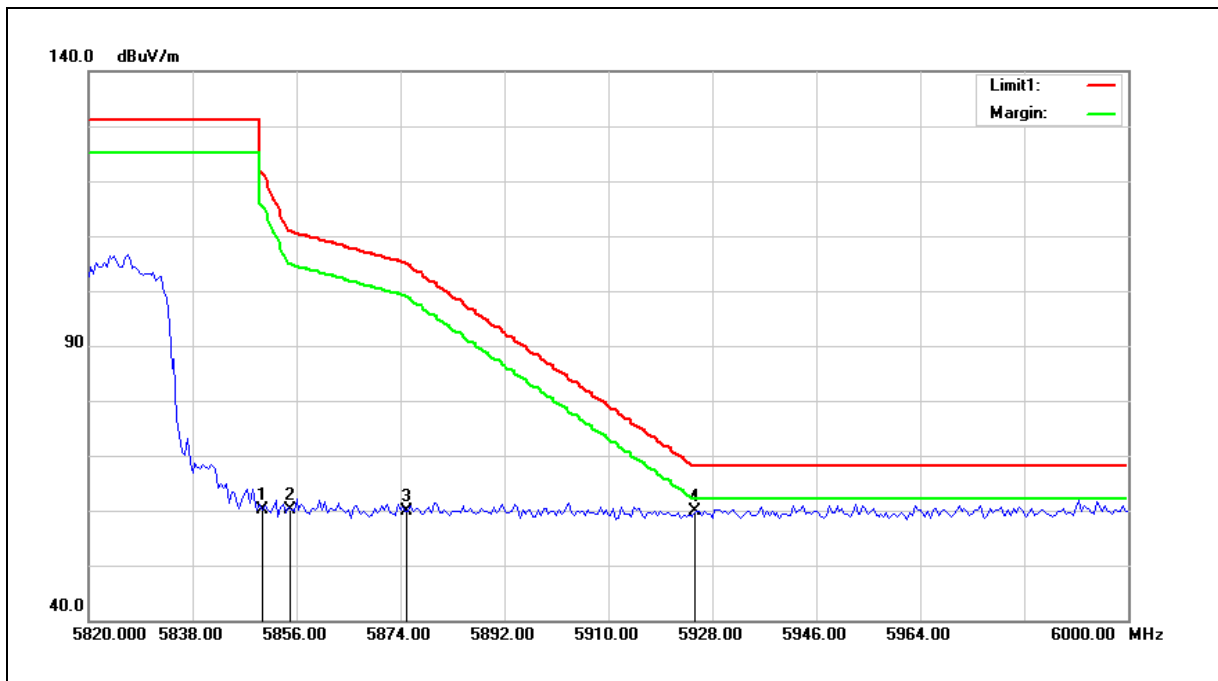
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	5650.000	47.62	10.69	58.31	68.20	-9.89	peak
2	5700.000	49.18	10.80	59.98	105.20	-45.22	peak
3	5720.000	49.63	10.83	60.46	110.80	-50.34	peak
4	5725.000	51.57	10.85	62.42	122.20	-59.78	peak

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

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

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

Standard:	FCC Part 15.407	Test Distance:	3m
Test item:	Band edge	Power:	AC 120V/60Hz
Frequency:	5825MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 2	Date:	04/07/2017
Ant.Polar.:	Horizontal		



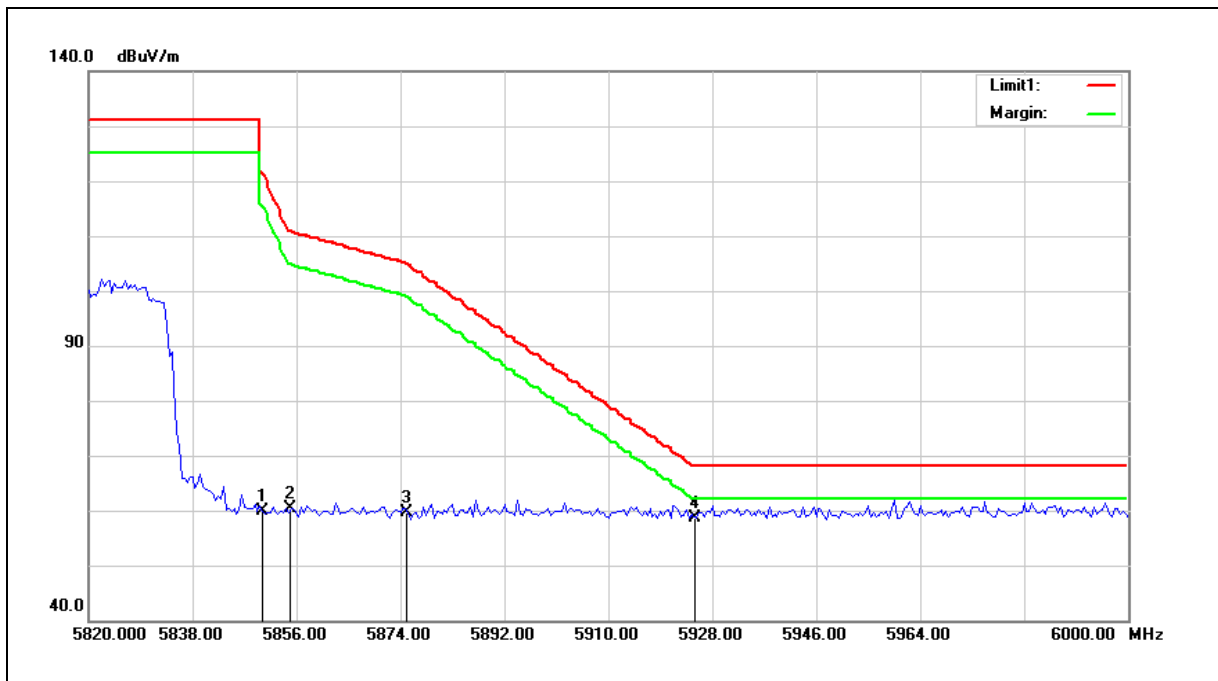
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	5850.000	49.13	11.12	60.25	122.20	-61.95	peak
2	5855.000	48.92	11.13	60.05	110.80	-50.75	peak
3	5875.000	48.81	11.19	60.00	105.20	-45.20	peak
4	5925.000	48.55	11.29	59.84	68.20	-8.36	peak

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

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

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

Standard:	FCC Part 15.407	Test Distance:	3m
Test item:	Band edge	Power:	AC 120V/60Hz
Frequency:	5825MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 2	Date:	04/07/2017
Ant.Polar.:	Vertical		



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	5850.000	48.70	11.12	59.82	122.20	-62.38	peak
2	5855.000	49.26	11.13	60.39	110.80	-50.41	peak
3	5875.000	48.34	11.19	59.53	105.20	-45.67	peak
4	5925.000	47.24	11.29	58.53	68.20	-9.67	peak

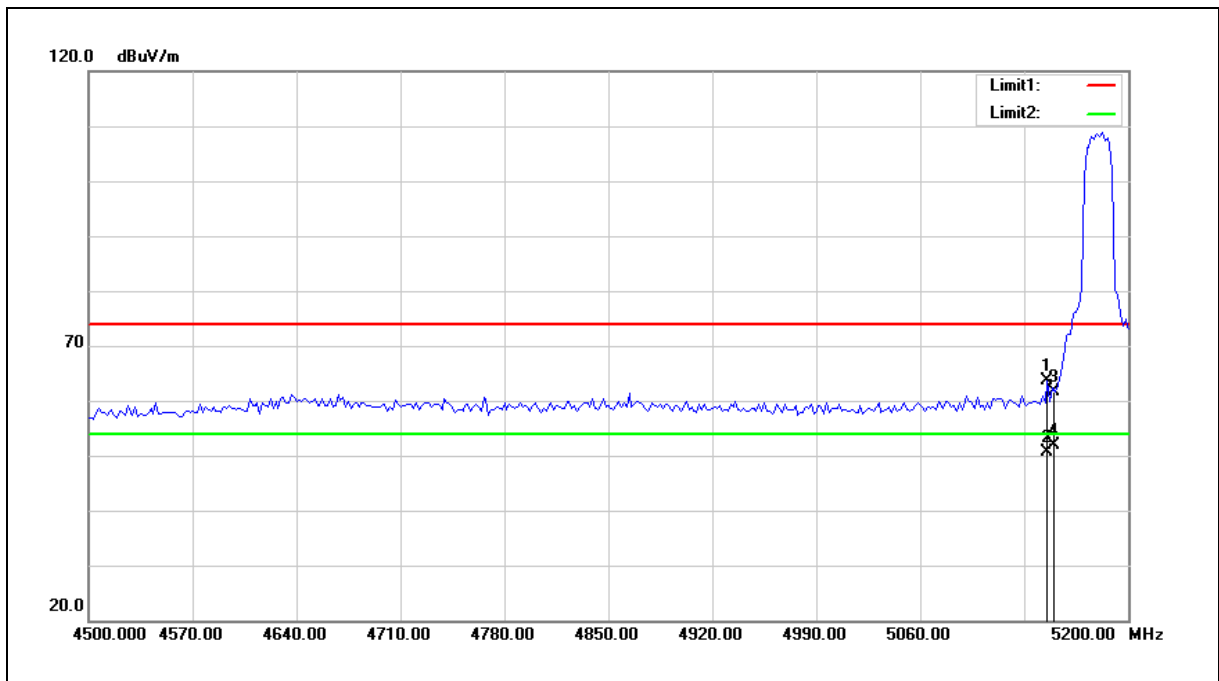
Note:1.Result (dBuV/m) = Correct Factor (dB/m) + Reading(dBuV).

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

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



Standard:	FCC Part 15.407	Test Distance:	3m
Test item:	Band edge	Power:	AC 120V/60Hz
Frequency:	5180MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 3	Date:	04/06/2017
Ant.Polar.:	Horizontal		



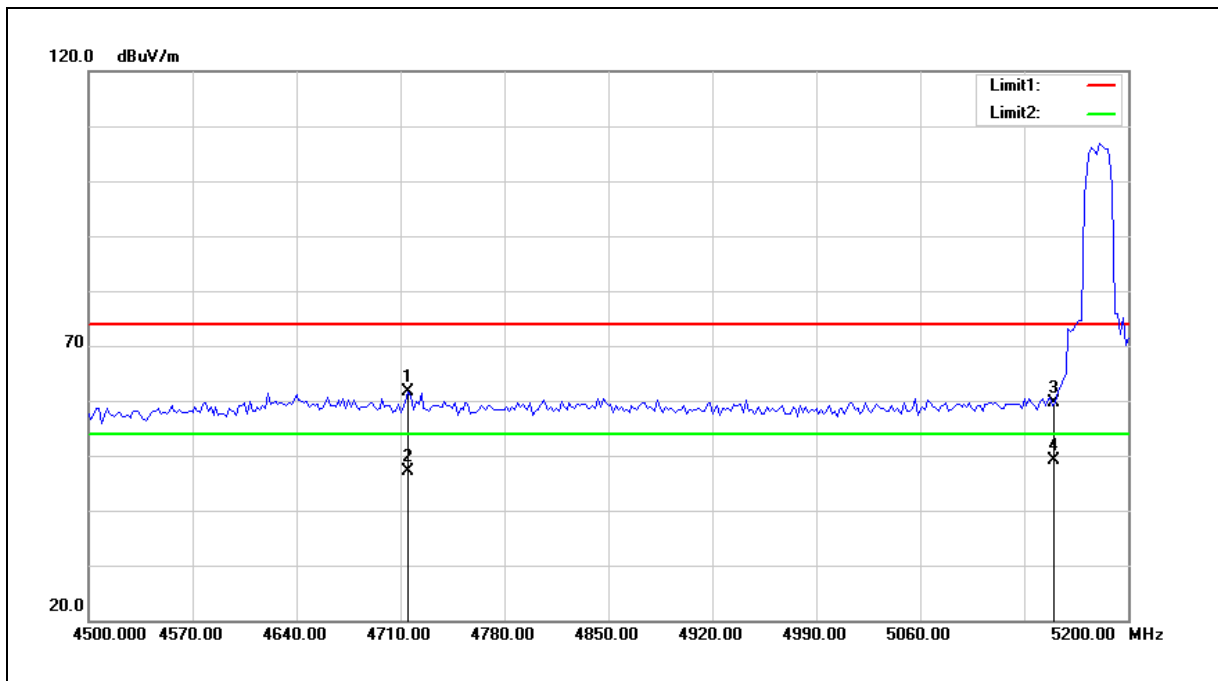
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	5145.750	54.16	9.56	63.72	74.00	-10.28	peak
2	5145.750	41.10	9.56	50.66	54.00	-3.34	AVG
3	5150.000	52.09	9.56	61.65	74.00	-12.35	peak
4	5150.000	42.33	9.56	51.89	54.00	-2.11	AVG

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

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

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

Standard:	FCC Part 15.407	Test Distance:	3m
Test item:	Band edge	Power:	AC 120V/60Hz
Frequency:	5180MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 3	Date:	04/06/2017
Ant.Polar.:	Vertical		



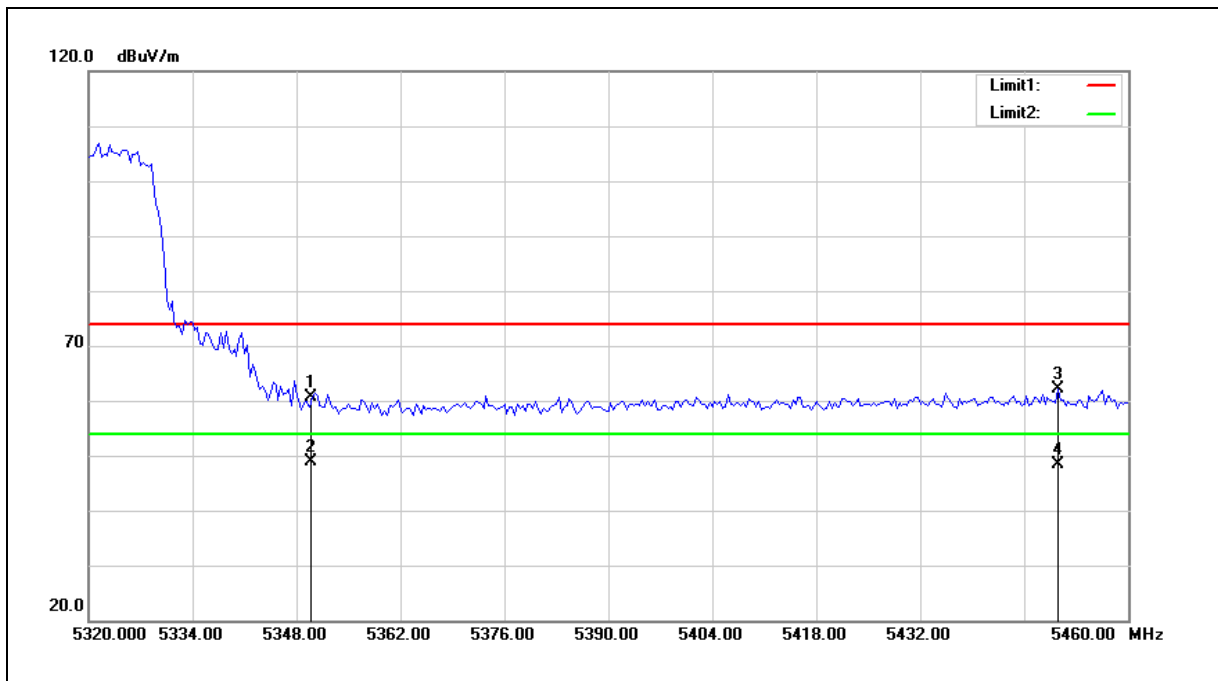
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4715.250	52.57	8.95	61.52	74.00	-12.48	peak
2	4715.250	38.25	8.95	47.20	54.00	-6.80	AVG
3	5150.000	50.18	9.56	59.74	74.00	-14.26	peak
4	5150.000	39.68	9.56	49.24	54.00	-4.76	AVG

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

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

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

Standard:	FCC Part 15.407	Test Distance:	3m
Test item:	Band edge	Power:	AC 120V/60Hz
Frequency:	5320MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 3	Date:	04/06/2017
Ant.Polar.:	Horizontal		



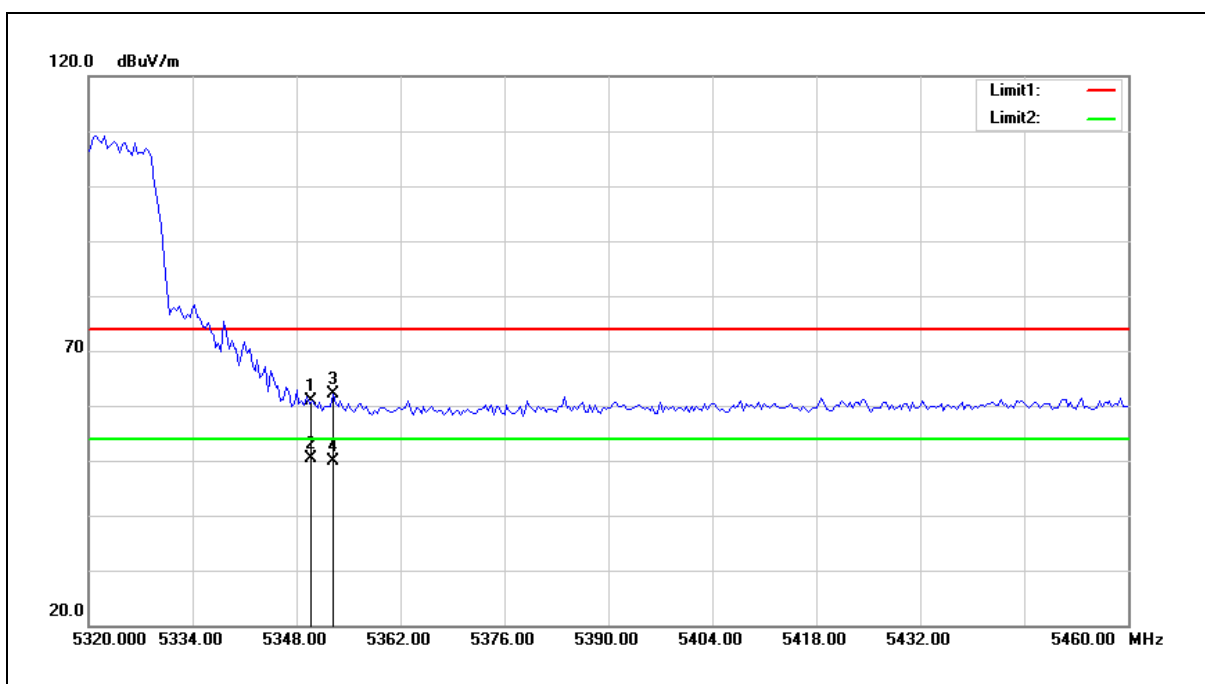
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	5350.000	50.50	10.01	60.51	74.00	-13.49	peak
2	5350.000	38.84	10.01	48.85	54.00	-5.15	AVG
3	5450.550	51.77	10.24	62.01	74.00	-11.99	peak
4	5450.550	38.25	10.24	48.49	54.00	-5.51	AVG

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

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

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

Standard:	FCC Part 15.407	Test Distance:	3m
Test item:	Band edge	Power:	AC 120V/60Hz
Frequency:	5320MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 3	Date:	04/06/2017
Ant.Polar.:	Vertical		



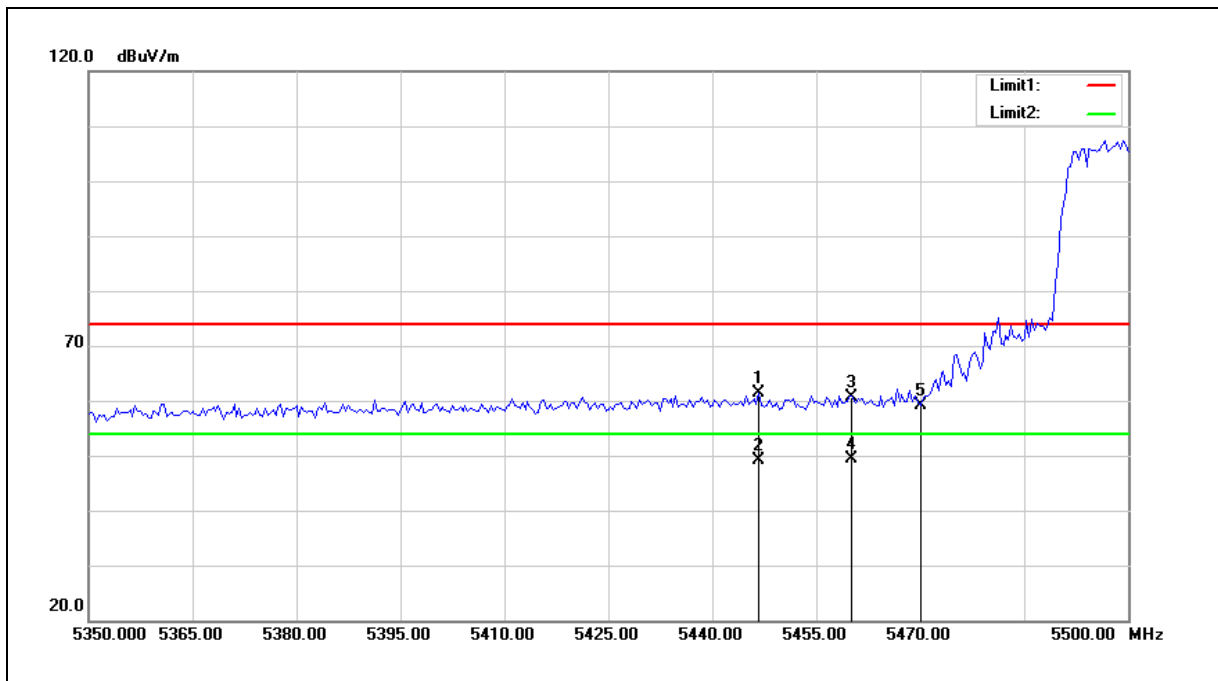
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	5350.000	50.80	10.01	60.81	74.00	-13.19	peak
2	5350.000	40.33	10.01	50.34	54.00	-3.66	AVG
3	5352.900	52.09	10.01	62.10	74.00	-11.90	peak
4	5352.900	39.94	10.01	49.95	54.00	-4.05	AVG

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

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

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

Standard:	FCC Part 15.407	Test Distance:	3m
Test item:	Band edge	Power:	AC 120V/60Hz
Frequency:	5500MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 3	Date:	04/07/2017
Ant.Polar.:	Horizontal		



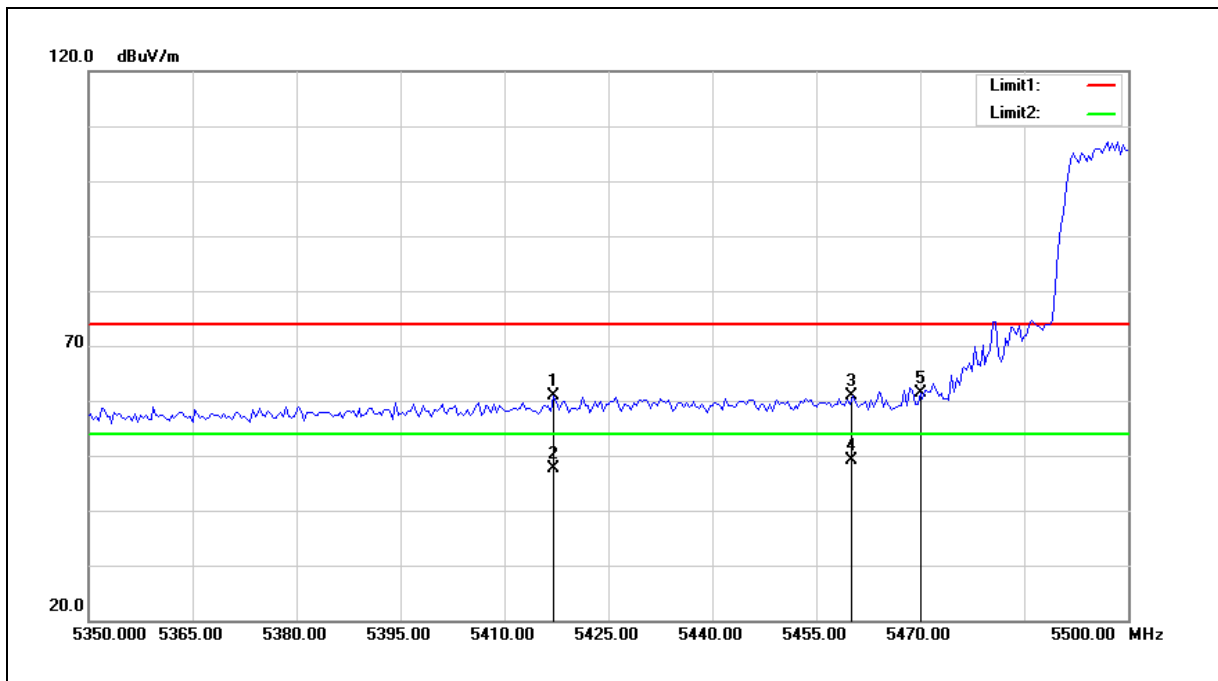
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	5446.750	51.05	10.23	61.28	74.00	-12.72	peak
2	5446.750	38.82	10.23	49.05	54.00	-4.95	AVG
3	5460.000	50.25	10.26	60.51	74.00	-13.49	peak
4	5460.000	39.11	10.26	49.37	54.00	-4.63	AVG
5	5470.000	48.87	10.28	59.15	68.20	-9.05	peak

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

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

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

Standard:	FCC Part 15.407	Test Distance:	3m
Test item:	Band edge	Power:	AC 120V/60Hz
Frequency:	5500MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 3	Date:	04/07/2017
Ant.Polar.:	Vertical		



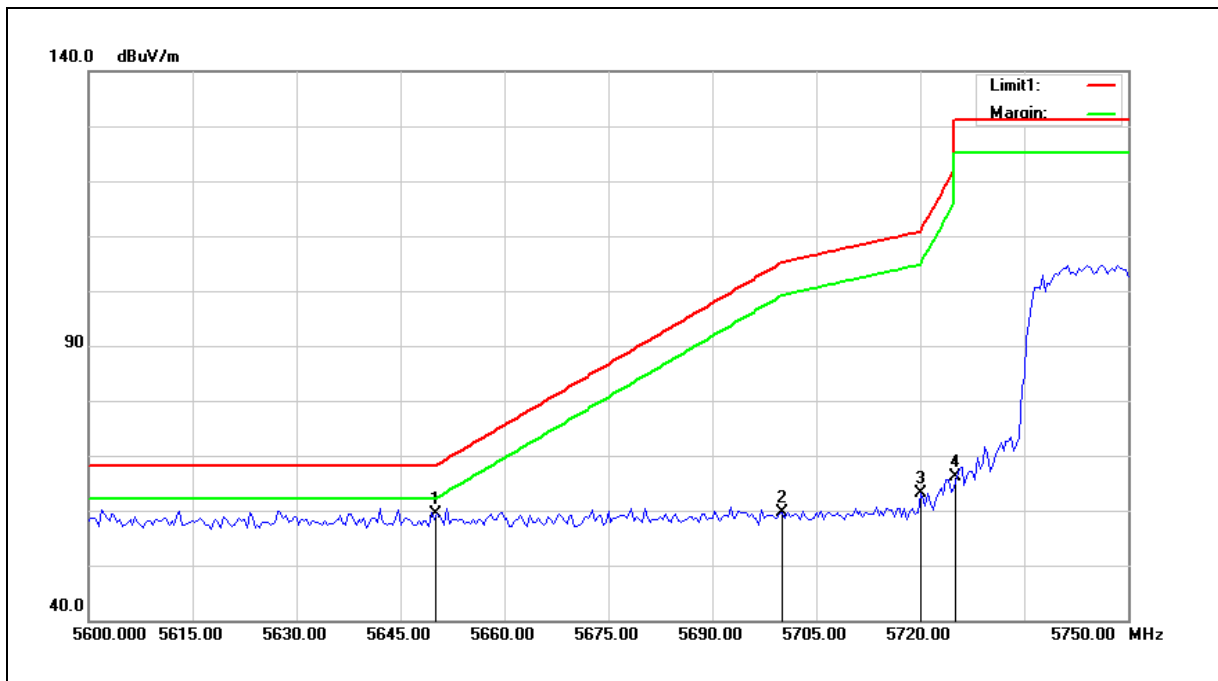
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	5417.125	50.83	10.16	60.99	74.00	-13.01	peak
2	5417.125	37.47	10.16	47.63	54.00	-6.37	AVG
3	5460.000	50.54	10.26	60.80	74.00	-13.20	peak
4	5460.000	38.79	10.26	49.05	54.00	-4.95	AVG
5	5470.000	51.07	10.28	61.35	68.20	-6.85	peak

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

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

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

Standard:	FCC Part 15.407	Test Distance:	3m
Test item:	Band edge	Power:	AC 120V/60Hz
Frequency:	5745MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 3	Date:	04/07/2017
Ant.Polar.:	Horizontal		



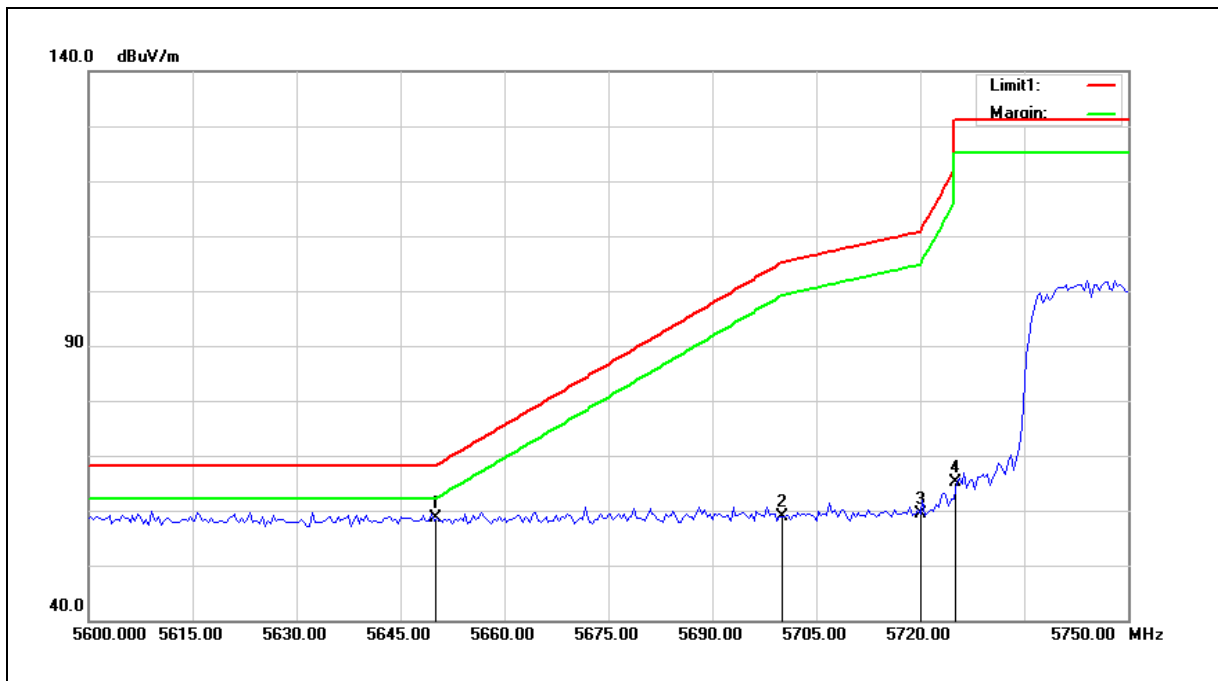
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	5650.000	48.58	10.69	59.27	68.20	-8.93	peak
2	5700.000	48.76	10.80	59.56	105.20	-45.64	peak
3	5720.000	52.41	10.83	63.24	110.80	-47.56	peak
4	5725.000	55.28	10.85	66.13	122.20	-56.07	peak

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

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

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

Standard:	FCC Part 15.407	Test Distance:	3m
Test item:	Band edge	Power:	AC 120V/60Hz
Frequency:	5745MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 3	Date:	04/07/2017
Ant.Polar.:	Vertical		



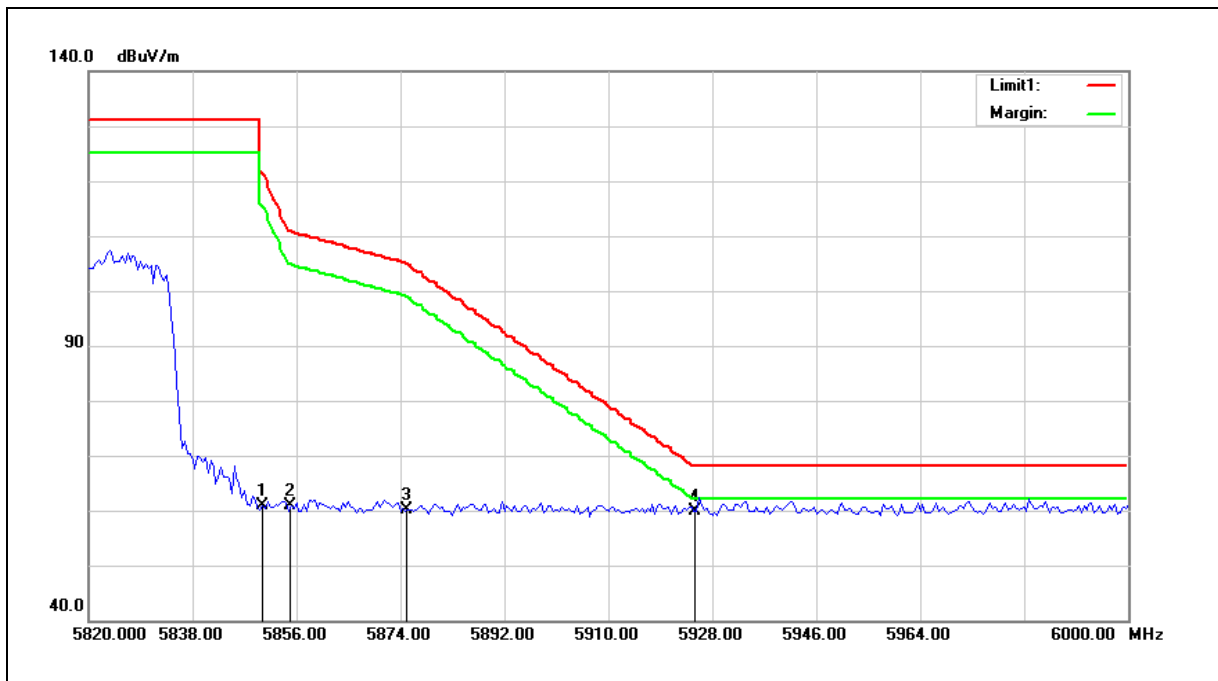
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	5650.000	47.82	10.69	58.51	68.20	-9.69	peak
2	5700.000	48.01	10.80	58.81	105.20	-46.39	peak
3	5720.000	48.59	10.83	59.42	110.80	-51.38	peak
4	5725.000	54.18	10.85	65.03	122.20	-57.17	peak

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

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

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

Standard:	FCC Part 15.407	Test Distance:	3m
Test item:	Band edge	Power:	AC 120V/60Hz
Frequency:	5825MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 3	Date:	04/07/2017
Ant.Polar.:	Horizontal		



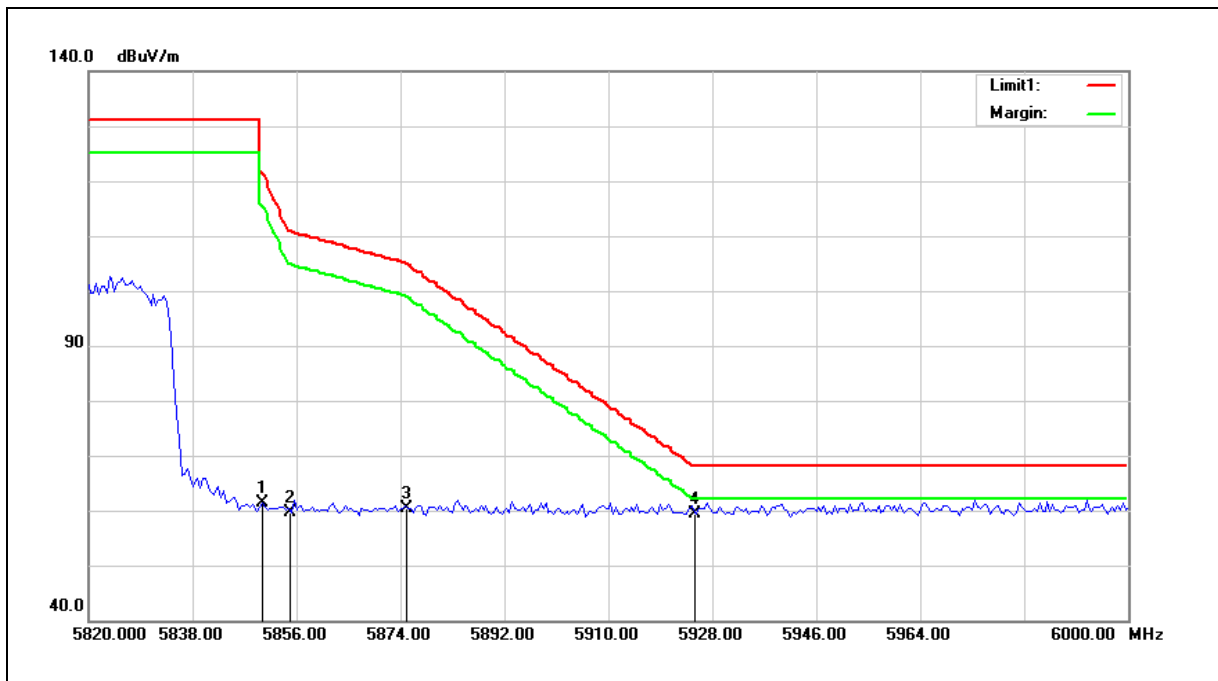
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	5850.000	49.82	11.12	60.94	122.20	-61.26	peak
2	5855.000	49.66	11.13	60.79	110.80	-50.01	peak
3	5875.000	48.98	11.19	60.17	105.20	-45.03	peak
4	5925.000	48.49	11.29	59.78	68.20	-8.42	peak

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

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

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

Standard:	FCC Part 15.407	Test Distance:	3m
Test item:	Band edge	Power:	AC 120V/60Hz
Frequency:	5825MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 3	Date:	04/07/2017
Ant.Polar.:	Vertical		



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	5850.000	50.23	11.12	61.35	122.20	-60.85	peak
2	5855.000	48.55	11.13	59.68	110.80	-51.12	peak
3	5875.000	49.08	11.19	60.27	105.20	-44.93	peak
4	5925.000	48.18	11.29	59.47	68.20	-8.73	peak

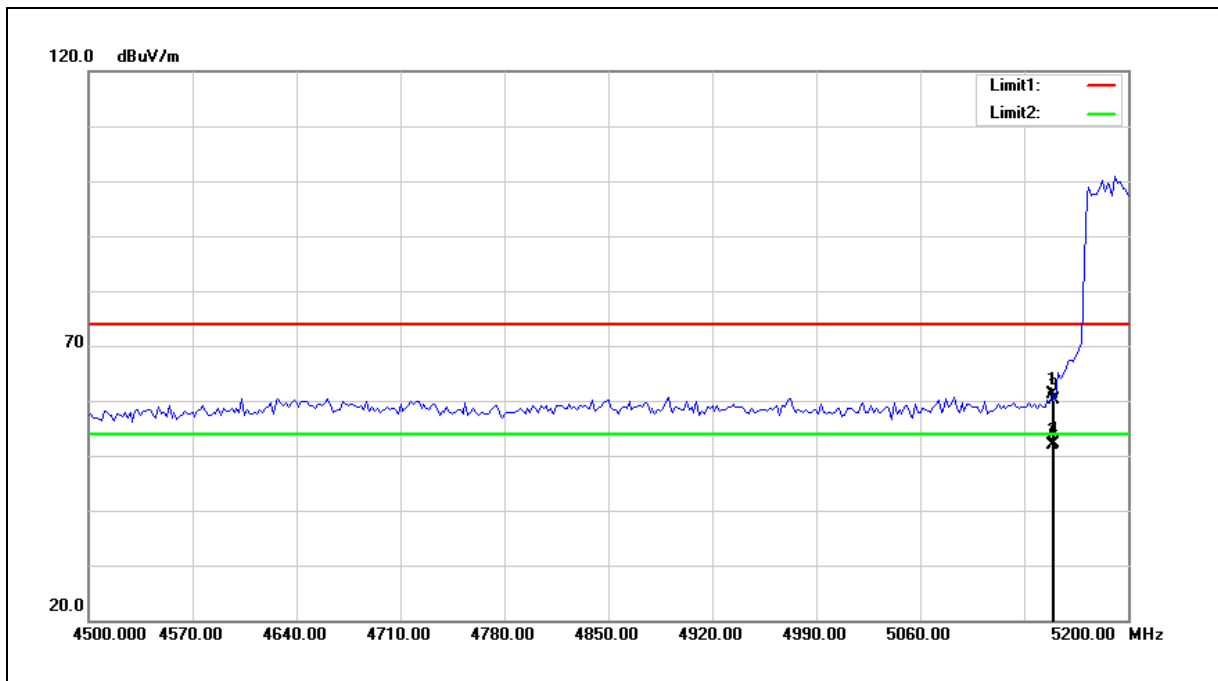
Note:1.Result (dBuV/m) = Correct Factor (dB/m) + Reading(dBuV).

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

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



Standard:	FCC Part 15.407	Test Distance:	3m
Test item:	Band edge	Power:	AC 120V/60Hz
Frequency:	5190MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 4	Date:	04/07/2017
Ant.Polar.:	Horizontal		



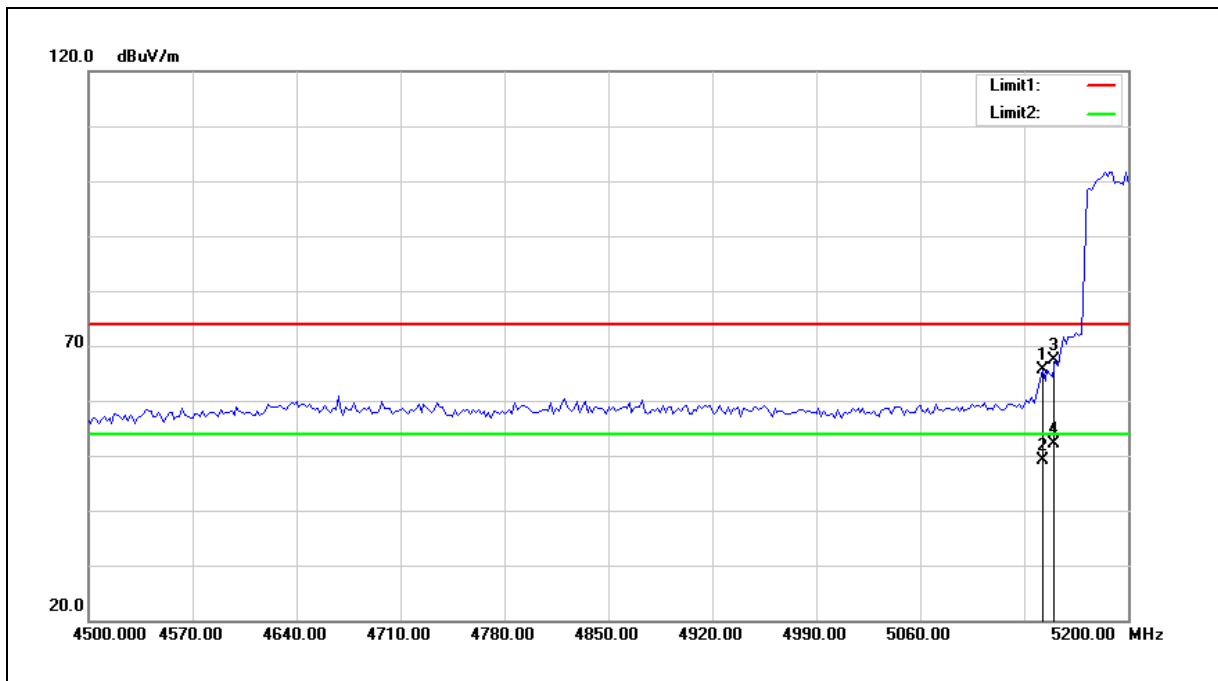
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	5149.250	51.55	9.56	61.11	74.00	-12.89	peak
2	5149.250	42.28	9.56	51.84	54.00	-2.16	AVG
3	5150.000	50.50	9.56	60.06	74.00	-13.94	peak
4	5150.000	42.47	9.56	52.03	54.00	-1.97	AVG

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

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

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

Standard:	FCC Part 15.407	Test Distance:	3m
Test item:	Band edge	Power:	AC 120V/60Hz
Frequency:	5190MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 4	Date:	04/07/2017
Ant.Polar.:	Vertical		



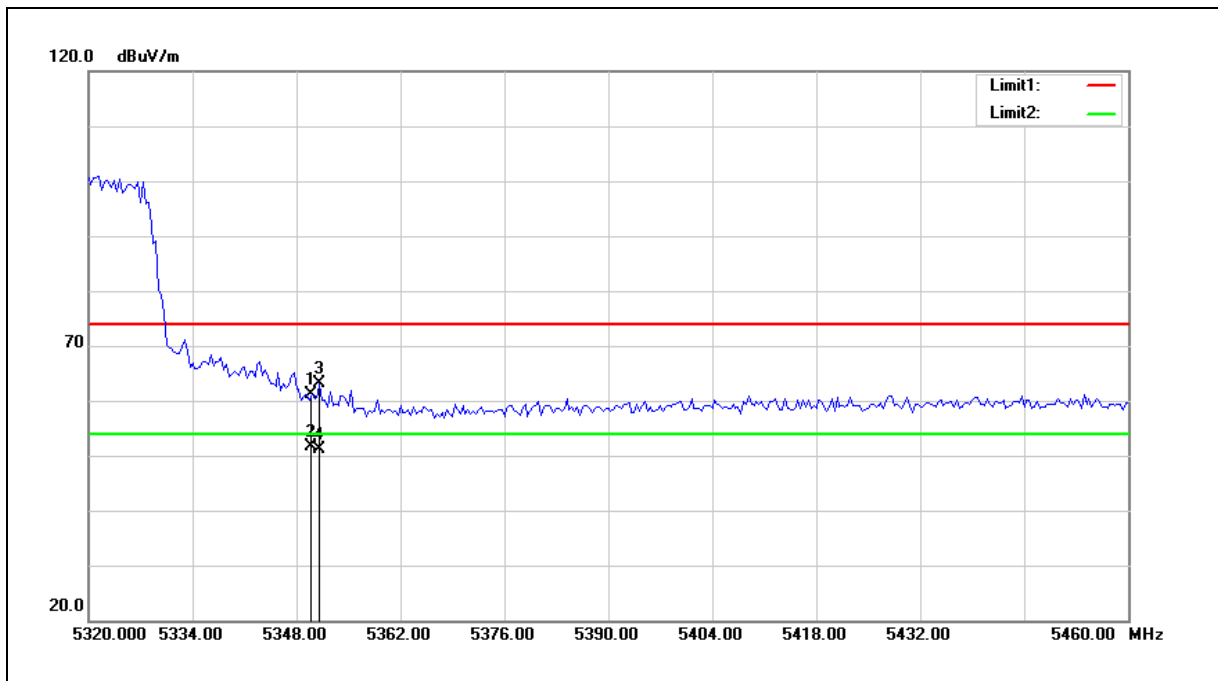
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	5142.250	56.14	9.54	65.68	74.00	-8.32	peak
2	5142.250	39.70	9.54	49.24	54.00	-4.76	AVG
3	5150.000	57.81	9.56	67.37	74.00	-6.63	peak
4	5150.000	42.68	9.56	52.24	54.00	-1.76	AVG

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

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

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

Standard:	FCC Part 15.407	Test Distance:	3m
Test item:	Band edge	Power:	AC 120V/60Hz
Frequency:	5310MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 4	Date:	04/07/2017
Ant.Polar.:	Horizontal		



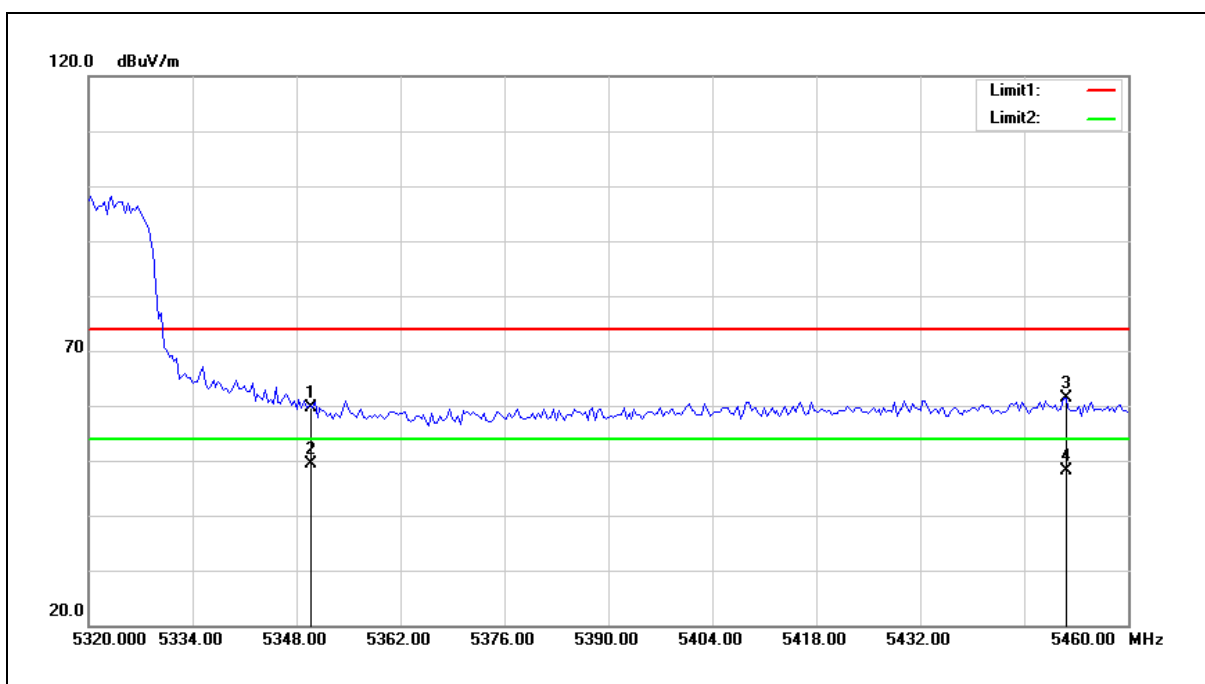
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	5350.000	51.04	10.01	61.05	74.00	-12.95	peak
2	5350.000	41.69	10.01	51.70	54.00	-2.30	AVG
3	5351.150	53.04	10.01	63.05	74.00	-10.95	peak
4	5351.150	41.10	10.01	51.11	54.00	-2.89	AVG

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

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

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

Standard:	FCC Part 15.407	Test Distance:	3m
Test item:	Band edge	Power:	AC 120V/60Hz
Frequency:	5310MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 4	Date:	04/07/2017
Ant.Polar.:	Vertical		



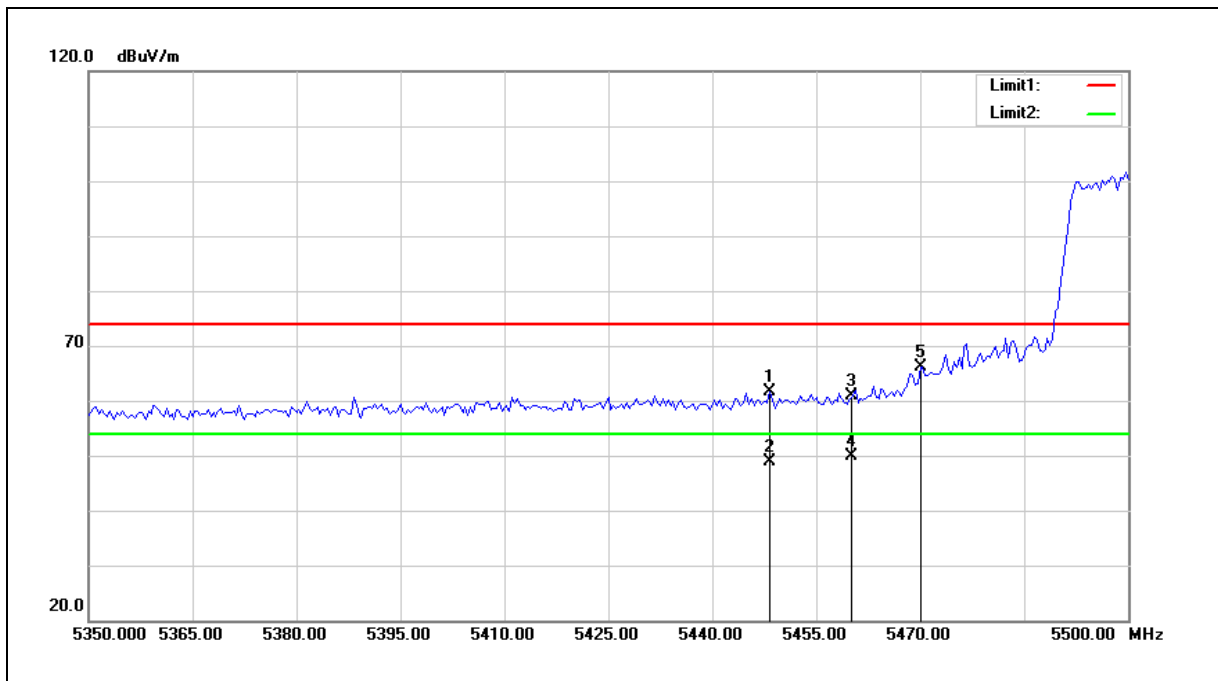
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	5350.000	49.56	10.01	59.57	74.00	-14.43	peak
2	5350.000	39.41	10.01	49.42	54.00	-4.58	AVG
3	5451.600	51.05	10.24	61.29	74.00	-12.71	peak
4	5451.600	38.00	10.24	48.24	54.00	-5.76	AVG

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

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

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

Standard:	FCC Part 15.407	Test Distance:	3m
Test item:	Band edge	Power:	AC 120V/60Hz
Frequency:	5510MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 4	Date:	04/07/2017
Ant.Polar.:	Horizontal		



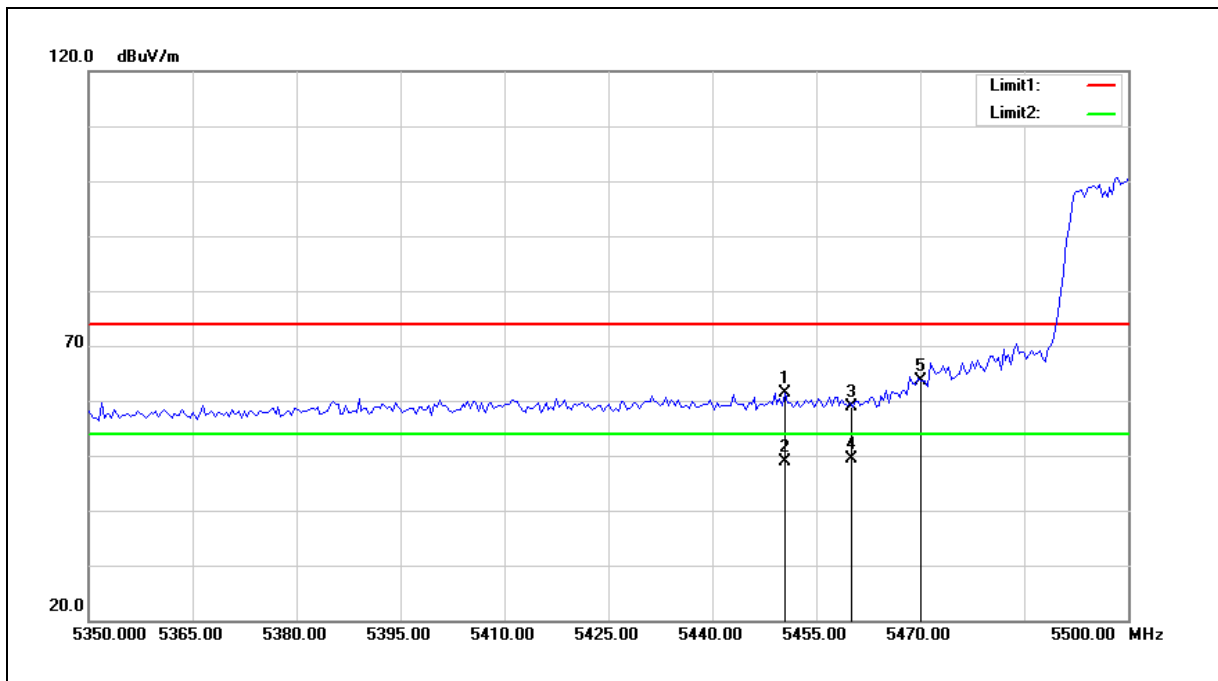
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	5448.250	51.33	10.23	61.56	74.00	-12.44	peak
2	5448.250	38.69	10.23	48.92	54.00	-5.08	AVG
3	5460.000	50.58	10.26	60.84	74.00	-13.16	peak
4	5460.000	39.72	10.26	49.98	54.00	-4.02	AVG
5	5470.000	55.90	10.28	66.18	68.20	-2.02	peak

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

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

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

Standard:	FCC Part 15.407	Test Distance:	3m
Test item:	Band edge	Power:	AC 120V/60Hz
Frequency:	5510MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 4	Date:	04/07/2017
Ant.Polar.:	Vertical		



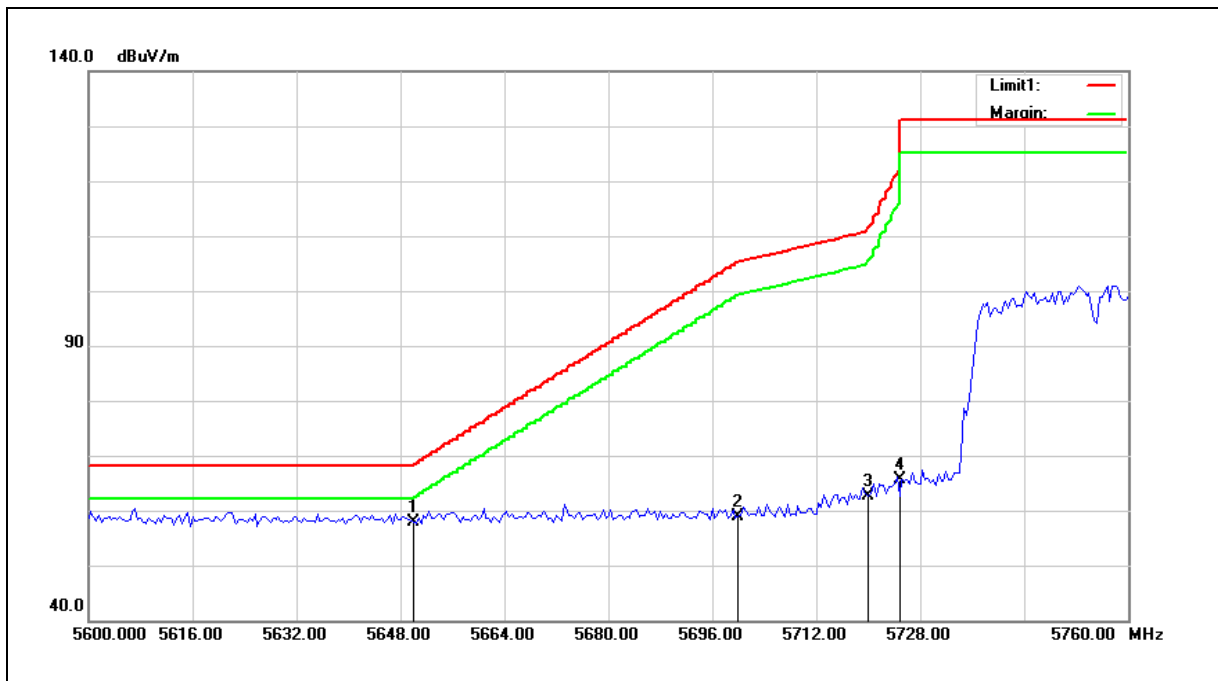
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	5450.500	51.06	10.24	61.30	74.00	-12.70	peak
2	5450.500	38.61	10.24	48.85	54.00	-5.15	AVG
3	5460.000	48.50	10.26	58.76	74.00	-15.24	peak
4	5460.000	39.17	10.26	49.43	54.00	-4.57	AVG
5	5470.000	53.27	10.28	63.55	68.20	-4.65	peak

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

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

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

Standard:	FCC Part 15.407	Test Distance:	3m
Test item:	Band edge	Power:	AC 120V/60Hz
Frequency:	5755MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 4	Date:	04/07/2017
Ant.Polar.:	Horizontal		



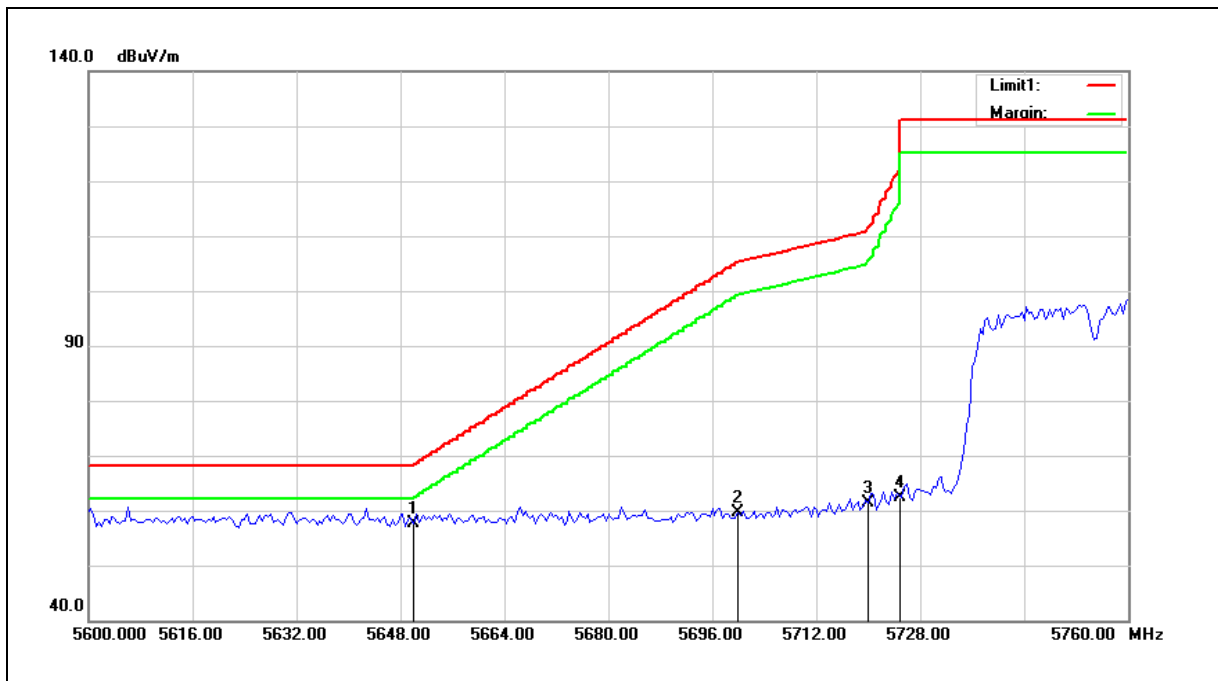
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	5650.000	47.26	10.69	57.95	68.20	-10.25	peak
2	5700.000	48.08	10.80	58.88	105.20	-46.32	peak
3	5720.000	51.80	10.83	62.63	110.80	-48.17	peak
4	5725.000	54.70	10.85	65.55	122.20	-56.65	peak

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

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

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

Standard:	FCC Part 15.407	Test Distance:	3m
Test item:	Band edge	Power:	AC 120V/60Hz
Frequency:	5755MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 4	Date:	04/07/2017
Ant.Polar.:	Vertical		



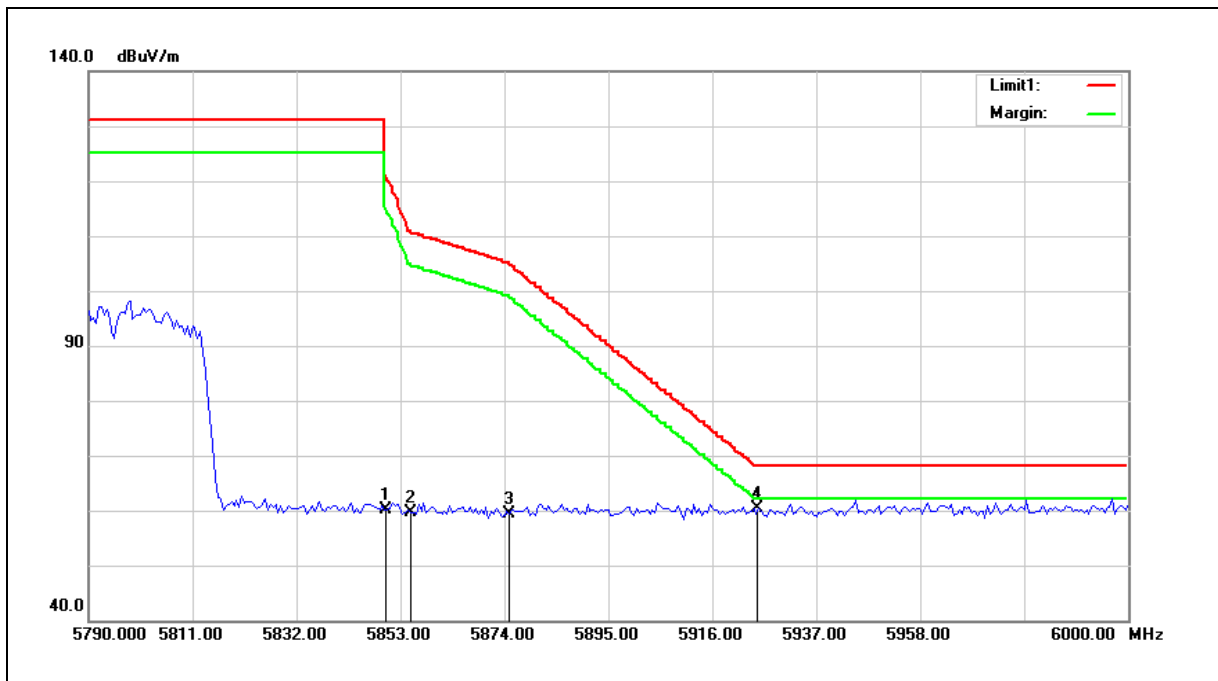
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	5650.000	47.05	10.69	57.74	68.20	-10.46	peak
2	5700.000	48.76	10.80	59.56	105.20	-45.64	peak
3	5720.000	50.55	10.83	61.38	110.80	-49.42	peak
4	5725.000	51.47	10.85	62.32	122.20	-59.88	peak

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

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

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

Standard:	FCC Part 15.407	Test Distance:	3m
Test item:	Band edge	Power:	AC 120V/60Hz
Frequency:	5795MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 4	Date:	04/07/2017
Ant.Polar.:	Horizontal		



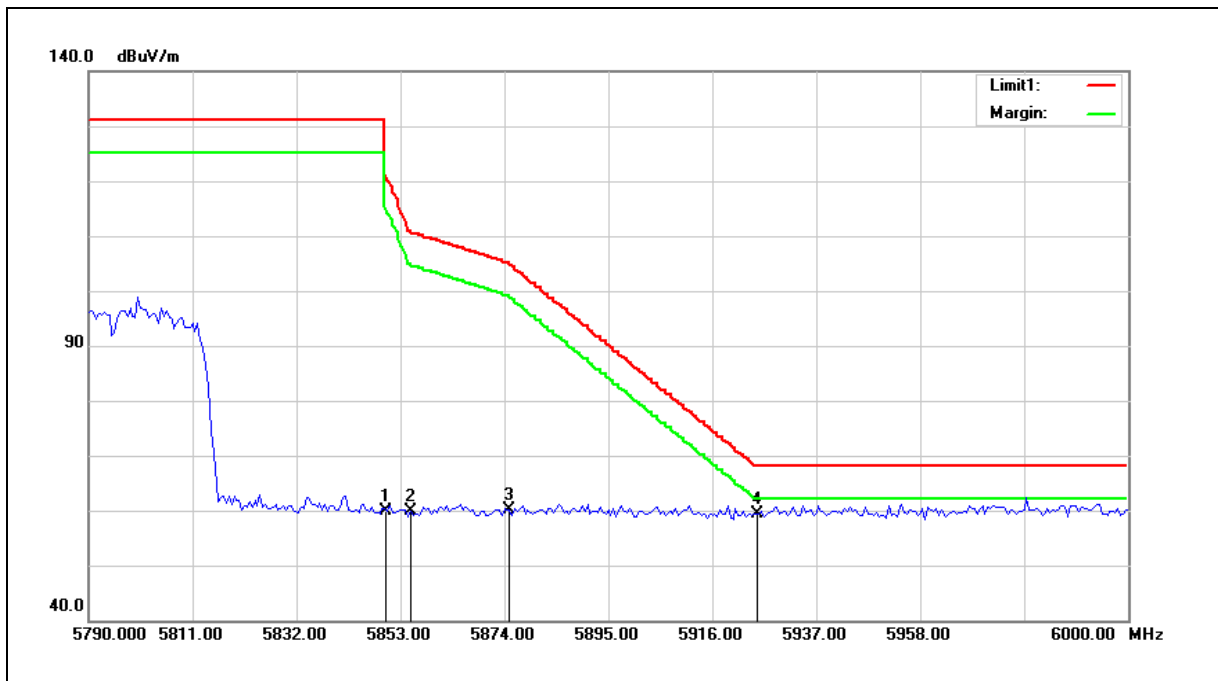
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	5850.000	48.98	11.12	60.10	122.20	-62.10	peak
2	5855.000	48.57	11.13	59.70	110.80	-51.10	peak
3	5875.000	48.07	11.19	59.26	105.20	-45.94	peak
4	5925.000	49.08	11.29	60.37	68.20	-7.83	peak

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

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

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

Standard:	FCC Part 15.407	Test Distance:	3m
Test item:	Band edge	Power:	AC 120V/60Hz
Frequency:	5795MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 4	Date:	04/07/2017
Ant.Polar.:	Vertical		



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	5850.000	48.85	11.12	59.97	122.20	-62.23	peak
2	5855.000	48.71	11.13	59.84	110.80	-50.96	peak
3	5875.000	48.92	11.19	60.11	105.20	-45.09	peak
4	5925.000	48.18	11.29	59.47	68.20	-8.73	peak

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

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

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

4.4. Maximum Conducted Output Power Measurement

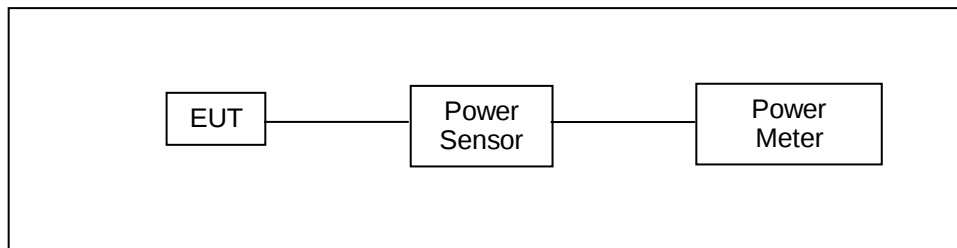
■ Limit

Frequency Range (MHz)	FCC Maximum Conducted Output Power Limit
	Client
5.150 ~ 5.250 GHz	The lesser of 250mW (24dBm)
5.250 ~ 5.350 GHz	The lesser of 250mW (24dBm) or 11dBm + 10log (B)
5.470 ~ 5.725 GHz	The lesser of 250mW (24dBm) or 11dBm + 10log (B)
5.725 ~ 5.850 GHz	The lesser of 1W (30dBm)

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

* SISO mode for ANT-0 : Max. Gain = -3.8 dBi < 6dBi

■ Test Setup



**■ Test Instruments**

Equipment	Manufacturer	Model Number	Serial Number	Cal. Date	Remark
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-1 500	140303	02/22/2017	1 year
Test Site	ATL	TE05	TE05	N.C.R.	-----

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

■ Test Procedure

The test is performed in accordance with KDB789033: D02 General UNII Test Procedures New Rules v01r02, 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)

Test Result

Model Number		TB128		
Test Item		Maximum Conducted Output Power		
Test Mode		Mode 2: IEEE 802.11a Link Mode		
Date of Test		04/01/2017		
Frequency (MHz)	Data Rate	ANT-0		FCC Limit (dBm)
		Max. Output Power		
		(dBm)	(W)	
5180	6M	14.32	0.027	≤ 24
5200		14.27	0.027	
5220		14.21	0.026	
5240		13.66	0.023	
5260		13.76	0.024	≤ 23.92
5280		13.92	0.025	
5300		13.89	0.024	
5320		13.96	0.025	
5500		13.69	0.023	≤ 23.91
5520		13.73	0.024	
5540		13.62	0.023	
5560		13.68	0.023	
5580		13.64	0.023	
5600		13.92	0.025	
5620		13.88	0.024	
5640		14.27	0.027	
5660		13.96	0.025	
5680		14.12	0.026	
5700		14.09	0.026	
5745		13.82	0.024	≤ 30
5765		13.54	0.023	
5785		13.52	0.022	
5805		13.53	0.023	
5825		13.49	0.022	

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



Model Number		TB128		
Test Item		Maximum Conducted Output Power		
Test Mode		Mode 2: IEEE 802.11a Link Mode		
Date of Test		04/01/2017		
Frequency (MHz)	Data Rate	ANT-0		FCC Limit (dBm)
		Max. Output Power		
		(dBm)	(W)	
5180	54M	14.29	0.027	≤ 24
5200		14.23	0.026	
5220		14.14	0.026	
5240		13.64	0.023	
5260		13.71	0.023	≤ 23.92
5280		13.86	0.024	
5300		13.87	0.024	
5320		13.90	0.025	
5500		13.63	0.023	≤ 23.91
5520		13.70	0.023	
5540		13.59	0.023	
5560		13.63	0.023	
5580		13.59	0.023	
5600		13.89	0.024	
5620		13.82	0.024	
5640		14.24	0.027	
5660		13.93	0.025	
5680		14.07	0.026	
5700		14.03	0.025	
5745		13.75	0.024	≤ 30
5765		13.52	0.022	
5785		13.45	0.022	
5805		13.50	0.022	
5825		13.44	0.022	



Model Number		TB128		
Test Item		Maximum Conducted Output Power		
Test Mode		Mode 3: IEEE 802.11n 20MHz Link Mode		
Date of Test		04/01/2017		
Frequency (MHz)	Data Rate	ANT-0		FCC Limit (dBm)
		Max. Output Power		
		(dBm)	(W)	
5180	6.5M	14.59	0.029	≤ 24
5200		14.22	0.026	
5220		14.13	0.026	
5240		14.42	0.028	
5260		13.86	0.024	≤ 23.98
5280		13.78	0.024	
5300		13.71	0.023	
5320		13.59	0.023	
5500		13.65	0.023	
5520		13.65	0.023	
5540		13.68	0.023	
5560		13.68	0.023	
5580		13.71	0.023	
5600		14.10	0.026	
5620		13.65	0.023	
5640		14.26	0.027	
5660		13.94	0.025	
5680		13.92	0.025	
5700		13.88	0.024	
5745		13.76	0.024	≤ 30
5765		13.33	0.022	
5785		13.77	0.024	
5805		13.32	0.021	
5825		13.29	0.021	

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



Model Number		TB128		
Test Item		Maximum Conducted Output Power		
Test Mode		Mode 3: IEEE 802.11n 20MHz Link Mode		
Date of Test		04/01/2017		
Frequency (MHz)	Data Rate	ANT-0		FCC Limit (dBm)
		Max. Output Power		
		(dBm)	(W)	
5180	72.2M	14.32	0.027	≤ 24
5200		14.01	0.025	
5220		13.92	0.025	
5240		14.17	0.026	
5260		13.67	0.023	≤ 23.98
5280		13.52	0.022	
5300		13.45	0.022	
5320		13.38	0.022	
5500		13.45	0.022	
5520		13.46	0.022	
5540		13.42	0.022	
5560		13.45	0.022	
5580		13.49	0.022	
5600		13.85	0.024	
5620		13.45	0.022	
5640		14.01	0.025	
5660		13.75	0.024	
5680		13.73	0.024	
5700		13.62	0.023	
5745		13.58	0.023	
5765		13.12	0.021	
5785		13.52	0.022	
5805		13.12	0.021	
5825		13.01	0.020	

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



Model Number		TB128		
Test Item		Maximum Conducted Output Power		
Test Mode		Mode 4: IEEE 802.11n 40MHz Link Mode		
Date of Test		04/01/2017		
Frequency (MHz)	Data Rate	ANT-0		FCC Limit (dBm)
		Max. Output Power		
		(dBm)	(W)	
5190	13.5M	12.68	0.019	≤ 24
5230		12.52	0.018	
5755		12.66	0.018	
5795		12.51	0.018	
5270		11.66	0.015	
5310		11.68	0.015	
5510		11.93	0.016	
5550		11.85	0.015	
5590		11.95	0.016	
5630		11.83	0.015	
5670		12.57	0.018	
5755		12.68	0.019	≤ 30
5795		12.52	0.018	
5190	150M	12.55	0.018	≤ 24
5230		12.41	0.017	
5755		12.52	0.018	
5795		12.41	0.017	
5270		11.57	0.014	
5310		11.59	0.014	
5510		11.79	0.015	
5550		11.70	0.015	
5590		11.84	0.015	
5630		11.73	0.015	
5670		12.41	0.017	
5755		12.55	0.018	≤ 30
5795		12.41	0.017	

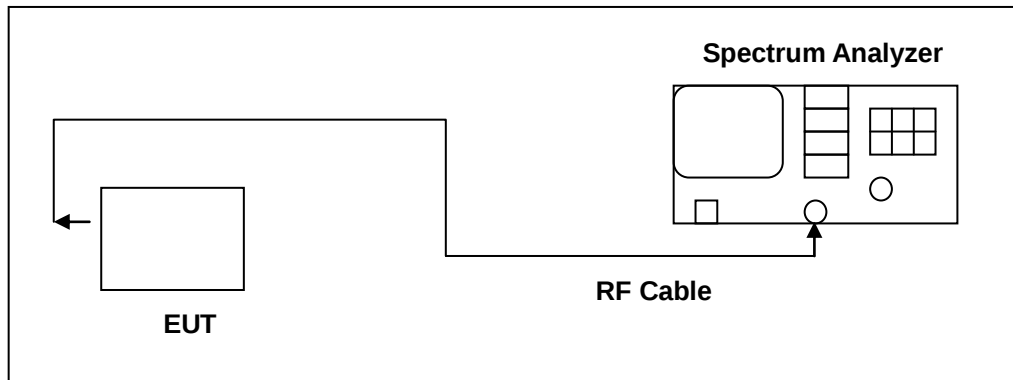
Note: The relevant measured result has the offset with cable loss already.

4.5. 26dB RF Bandwidth Measurement

■ Limit

N/A

■ Test Setup



■ Test Instruments

Equipment	Manufacturer	Model Number	Serial Number	Cal. Date	Remark
Spectrum Analyzer	Agilent	E4445A	MY45300744	12/19/2016	1 year
Microwave Cable	EMCI	EMC104-SM-SM-1500	140303	02/22/2017	1 year
Test Site	ATL	TE05	TE05	N.C.R.	-----

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

■ Test Procedure

The test is performed in accordance with KDB789033: D02 General UNII Test Procedures New Rules v01r02, Guidelines for Compliance Testing of Unlicensed National Information Infrastructure (U-NII) Devices - Part 15, Subpart E.

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



■ Test Result

Model Number	TB128
Test Item	26dB RF Bandwidth Measurement
Test Mode	Mode 2: IEEE 802.11a Link Mode
Date of Test	04/11/2017
Frequency (MHz)	ANT-0
	26dB Bandwidth (MHz)
5180	19.724
5200	19.862
5240	19.661
5260	19.581
5280	19.810
5320	19.907
5500	19.549
5560	19.832
5700	19.941

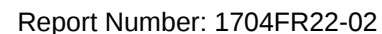
Model Number	TB128
Test Item	26dB RF Bandwidth Measurement
Test Mode	Mode 3: IEEE 802.11n 20MHz Link Mode
Date of Test	04/11/2017
Frequency (MHz)	ANT-0
	26dB Bandwidth (MHz)
5180	19.970
5200	19.935
5240	20.082
5260	19.951
5280	19.841
5320	19.978
5500	19.905
5560	19.846
5700	19.900

Note: The 99% occupied bandwidth not crossed 5250MHz.



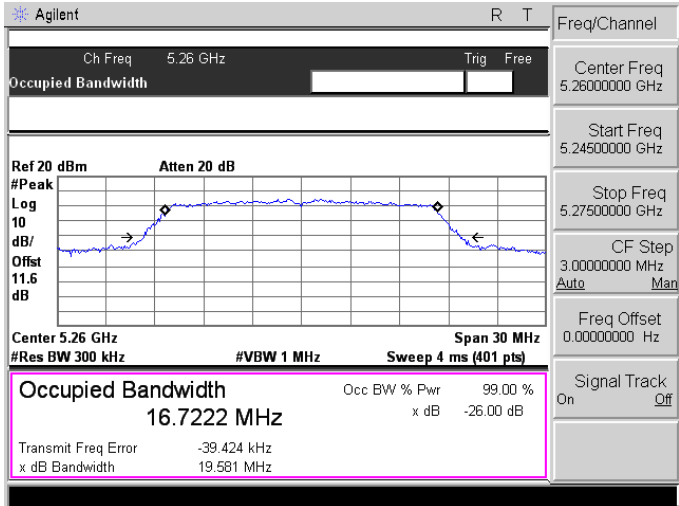
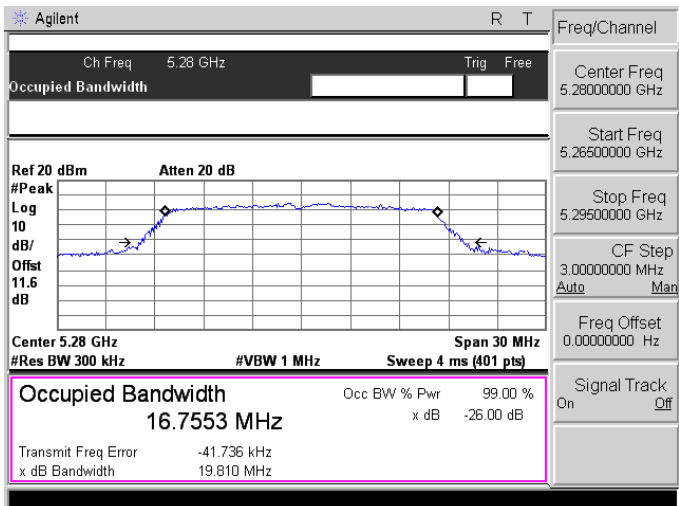
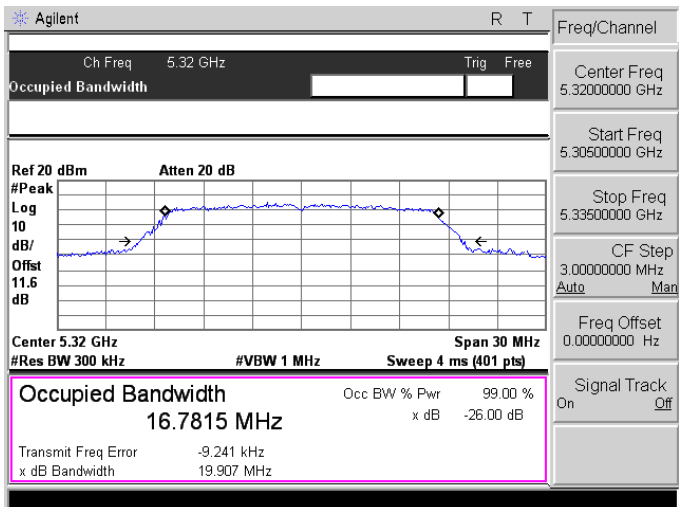
Model Number	TB128
Test Item	26dB RF Bandwidth Measurement
Test Mode	Mode 4: IEEE 802.11n 40MHz Link Mode
Date of Test	04/11/2017
Frequency (MHz)	ANT-0
	26dB Bandwidth (MHz)
5190	40.864
5230	40.948
5270	40.885
5310	40.784
5510	41.025
5550	40.726
5670	40.816

Note: The 99% occupied bandwidth not crossed 5250MHz.

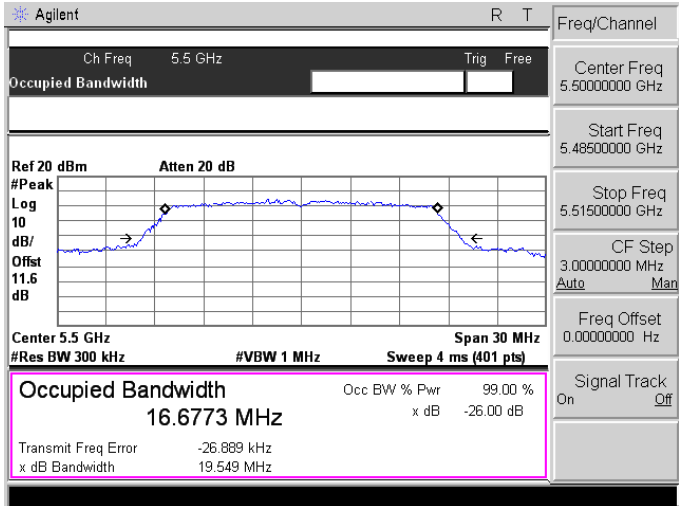
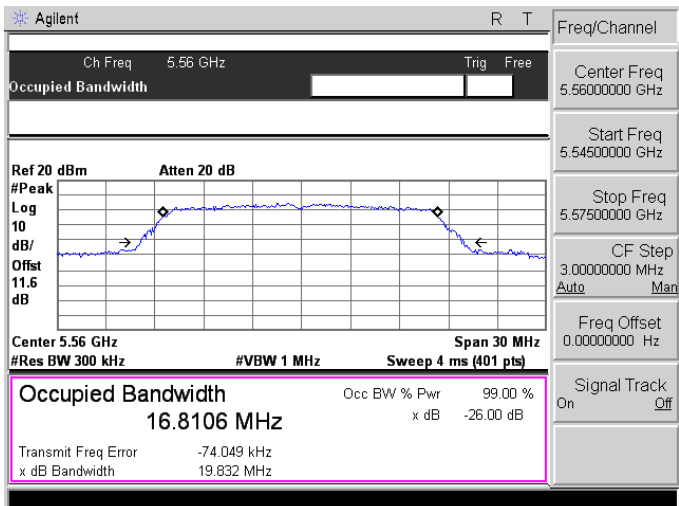
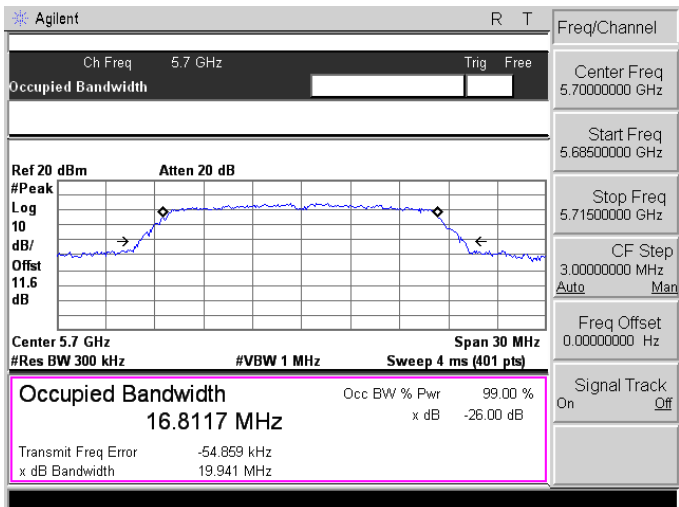


Mode 2: IEEE 802.11a Link Mode_ ANT-0 5180 MHz	Agilent R T Ch Freq 5.18 GHz Trig Free Occupied Bandwidth Ref 20 dBm Atten 20 dB #Peak Log 10 dB/Offset 11.6 dB Center 5.18 GHz Span 30 MHz #Res BW 300 kHz #VBW 1 MHz Sweep 4 ms (401 pts) Occupied Bandwidth 16.7014 MHz Occ BW % Pwr 99.00 % x dB -26.00 dB Transmit Freq Error -49.545 kHz x dB Bandwidth 19.724 MHz Freq/Channel Center Freq 5.18000000 GHz Start Freq 5.16500000 GHz Stop Freq 5.19500000 GHz CF Step 3.00000000 MHz Auto Man Freq Offset 0.00000000 Hz Signal Track On Off
5200 MHz	Agilent R T Ch Freq 5.2 GHz Trig Free Occupied Bandwidth Ref 20 dBm Atten 20 dB #Peak Log 10 dB/Offset 11.6 dB Center 5.2 GHz Span 30 MHz #Res BW 300 kHz #VBW 1 MHz Sweep 4 ms (401 pts) Occupied Bandwidth 16.7419 MHz Occ BW % Pwr 99.00 % x dB -26.00 dB Transmit Freq Error -31.873 kHz x dB Bandwidth 19.862 MHz Freq/Channel Center Freq 5.20000000 GHz Start Freq 5.18500000 GHz Stop Freq 5.21500000 GHz CF Step 3.00000000 MHz Auto Man Freq Offset 0.00000000 Hz Signal Track On Off
5240 MHz	Agilent R T Ch Freq 5.24 GHz Trig Free Occupied Bandwidth Ref 20 dBm Atten 20 dB #Peak Log 10 dB/Offset 11.6 dB Center 5.24 GHz Span 30 MHz #Res BW 300 kHz #VBW 1 MHz Sweep 4 ms (401 pts) Occupied Bandwidth 16.6630 MHz Occ BW % Pwr 99.00 % x dB -26.00 dB Transmit Freq Error -18.457 kHz x dB Bandwidth 19.661 MHz Freq/Channel Center Freq 5.24000000 GHz Start Freq 5.22500000 GHz Stop Freq 5.25500000 GHz CF Step 3.00000000 MHz Auto Man Freq Offset 0.00000000 Hz Signal Track On Off

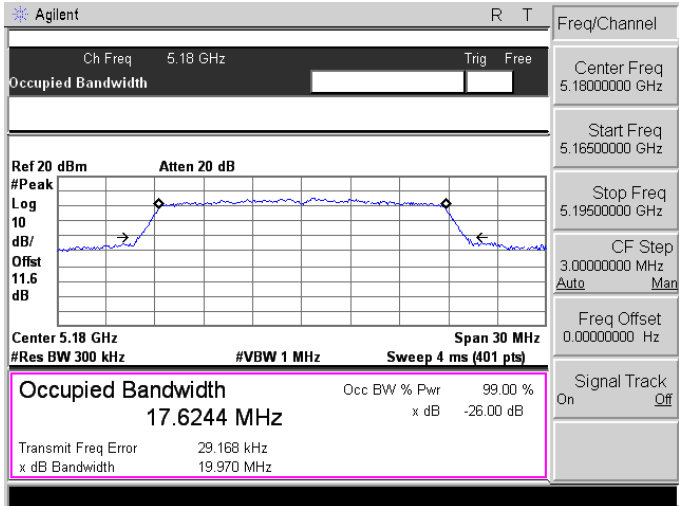
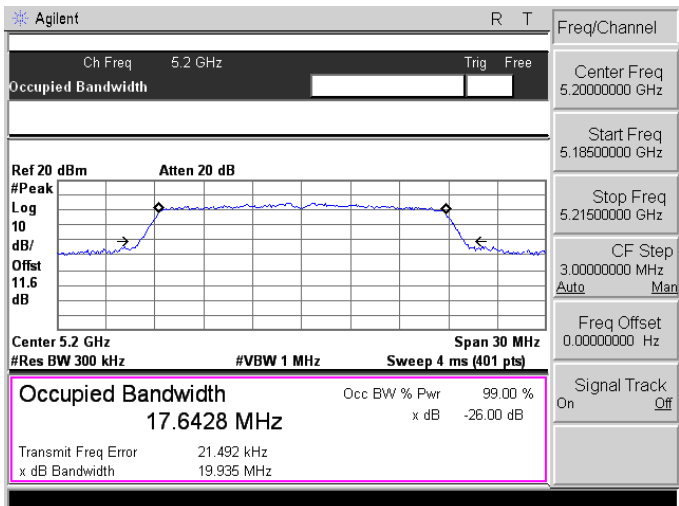
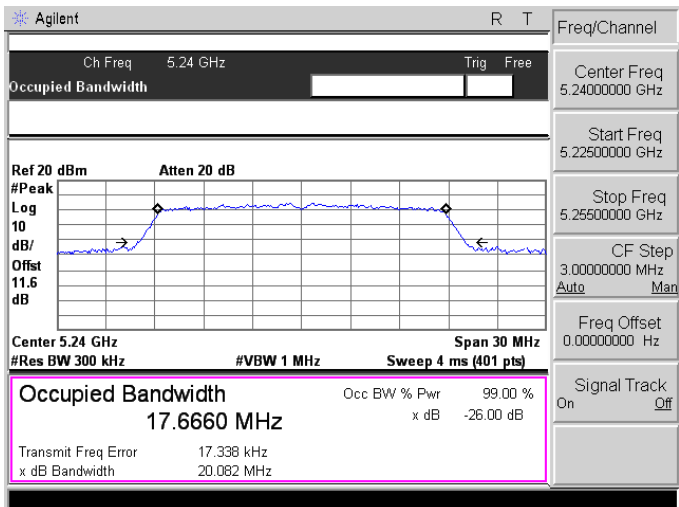


Mode 2: IEEE 802.11a Link Mode_ ANT-0	
5260 MHz	
5280 MHz	
5320 MHz	



Mode 2: IEEE 802.11a Link Mode_ ANT-0	
5500 MHz	
5560 MHz	
5700 MHz	

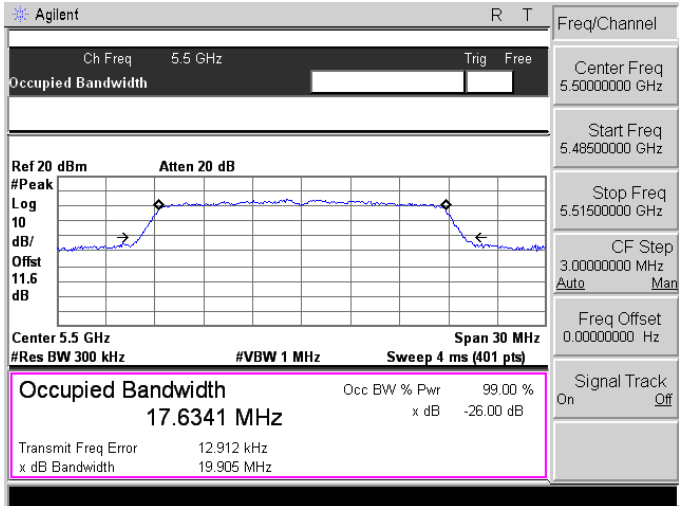
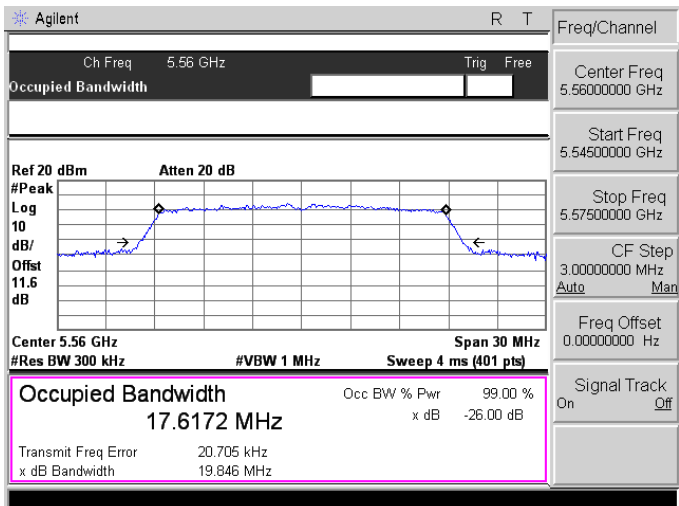
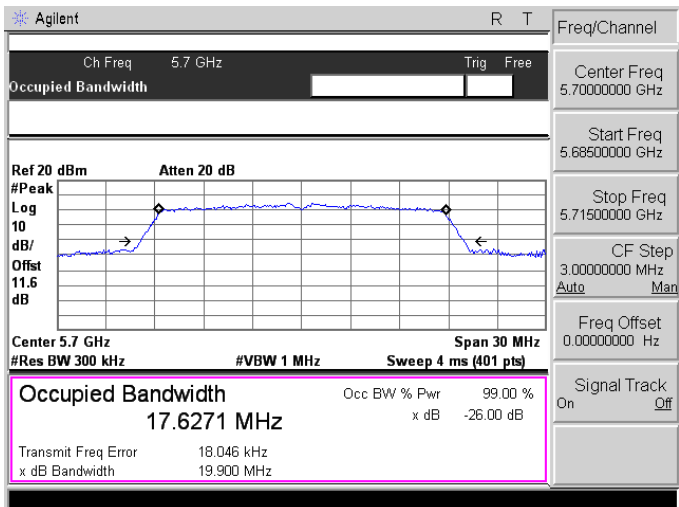


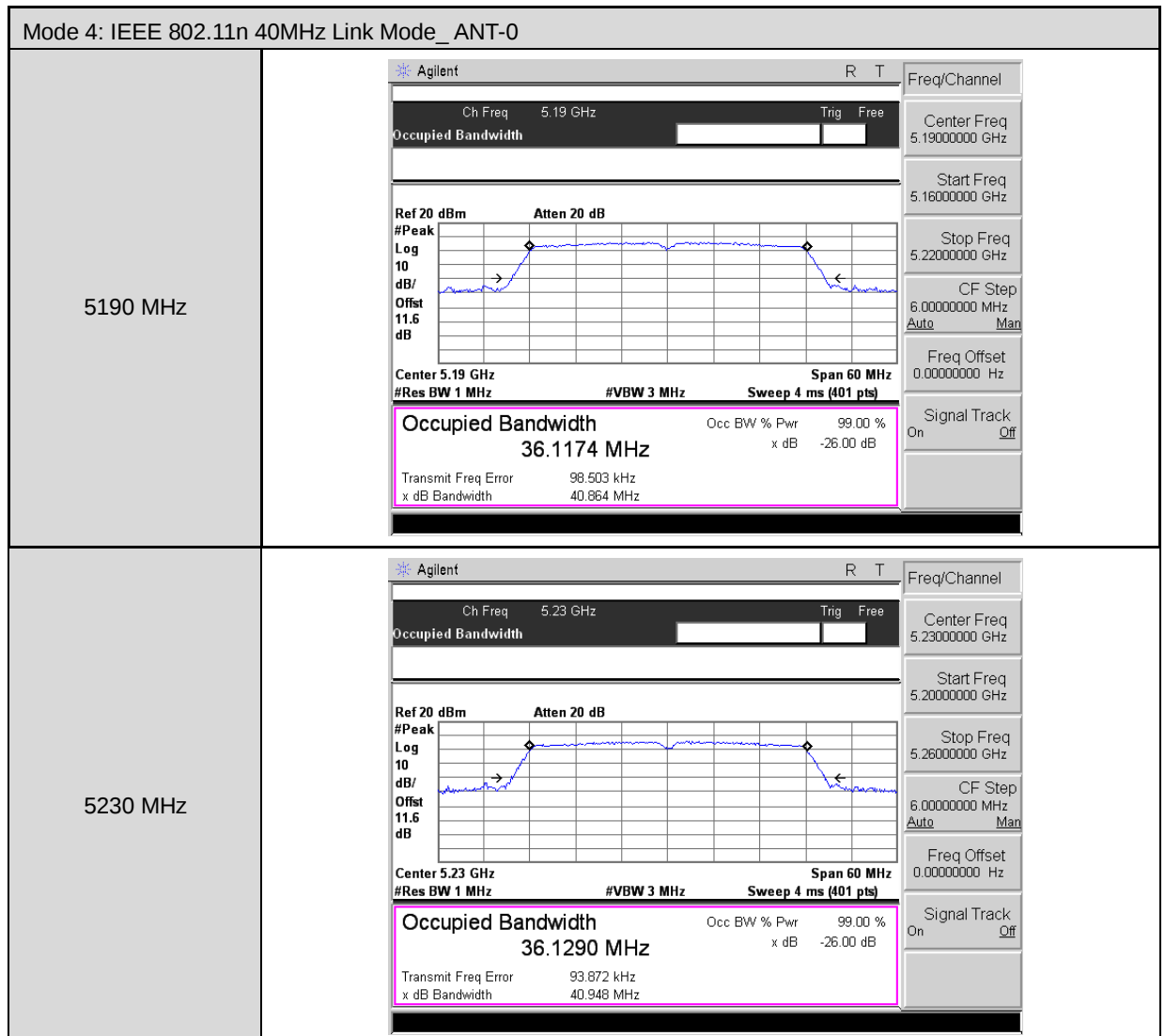
Mode 3: IEEE 802.11n 20MHz Link Mode_ ANT-0	
5180 MHz	
5200 MHz	
5240 MHz	

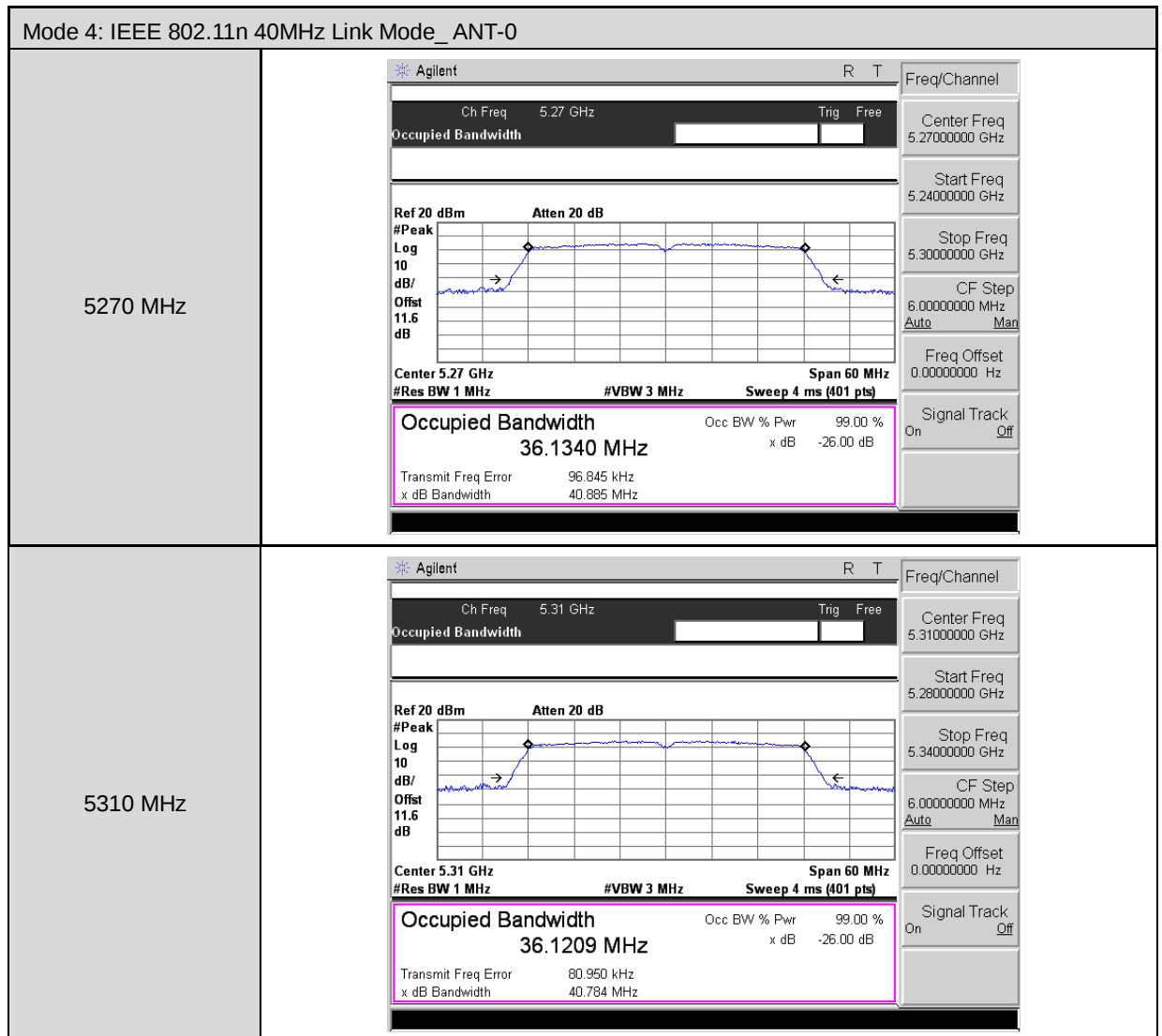


Mode 3: IEEE 802.11n 20MHz Link Mode_ ANT-0	
5260 MHz	Agilent R T Ch Freq 5.26 GHz Trng Free Occupied Bandwidth Ref 20 dBm Atten 20 dB #Peak Log 10 dB/ Offst 11.6 dB Center 5.26 GHz Span 30 MHz #Res BW 300 kHz #VBW 1 MHz Sweep 4 ms (401 pts) Occupied Bandwidth 17.5958 MHz Occ BW % Pwr 99.00 % x dB -26.00 dB Transmit Freq Error 20.480 kHz x dB Bandwidth 19.951 MHz Freq/Channel Center Freq 5.26000000 GHz Start Freq 5.24500000 GHz Stop Freq 5.27500000 GHz CF Step 3.00000000 MHz Auto Man Freq Offset 0.00000000 Hz Signal Track On Off
5280 MHz	Agilent R T Ch Freq 5.28 GHz Trng Free Occupied Bandwidth Ref 20 dBm Atten 20 dB #Peak Log 10 dB/ Offst 11.6 dB Center 5.28 GHz Span 30 MHz #Res BW 300 kHz #VBW 1 MHz Sweep 4 ms (401 pts) Occupied Bandwidth 17.6296 MHz Occ BW % Pwr 99.00 % x dB -26.00 dB Transmit Freq Error 34.569 kHz x dB Bandwidth 19.841 MHz Freq/Channel Center Freq 5.28000000 GHz Start Freq 5.26500000 GHz Stop Freq 5.29500000 GHz CF Step 3.00000000 MHz Auto Man Freq Offset 0.00000000 Hz Signal Track On Off
5320 MHz	Agilent R T Ch Freq 5.32 GHz Trng Free Occupied Bandwidth Ref 20 dBm Atten 20 dB #Peak Log 10 dB/ Offst 11.6 dB Center 5.32 GHz Span 30 MHz #Res BW 300 kHz #VBW 1 MHz Sweep 4 ms (401 pts) Occupied Bandwidth 17.6558 MHz Occ BW % Pwr 99.00 % x dB -26.00 dB Transmit Freq Error 12.680 kHz x dB Bandwidth 19.978 MHz Freq/Channel Center Freq 5.32000000 GHz Start Freq 5.30500000 GHz Stop Freq 5.33500000 GHz CF Step 3.00000000 MHz Auto Man Freq Offset 0.00000000 Hz Signal Track On Off



Mode 3: IEEE 802.11n 20MHz Link Mode_ ANT-0	
5500 MHz	
5560 MHz	
5700 MHz	







Mode 4: IEEE 802.11n 40MHz Link Mode_ ANT-0	
5510 MHz	Agilent R T Ch Freq 5.51 GHz Trng Free Occupied Bandwidth Ref 20 dBm Atten 20 dB #Peak Log 10 dB/ Offst 11.6 dB Center 5.51 GHz Span 60 MHz #Res BW 1 MHz #VBW 3 MHz Sweep 4 ms (401 pts) Occupied Bandwidth 36.1601 MHz Occ BW % Pwr 99.00 % x dB -26.00 dB Transmit Freq Error 96.417 kHz x dB Bandwidth 41.025 MHz Freq/Channel Center Freq 5.51000000 GHz Start Freq 5.48000000 GHz Stop Freq 5.54000000 GHz CF Step 6.00000000 MHz Auto Man Freq Offset 0.00000000 Hz Signal Track On Off
5550 MHz	Agilent R T Ch Freq 5.55 GHz Trng Free Occupied Bandwidth Ref 20 dBm Atten 20 dB #Peak Log 10 dB/ Offst 11.6 dB Center 5.55 GHz Span 60 MHz #Res BW 1 MHz #VBW 3 MHz Sweep 4 ms (401 pts) Occupied Bandwidth 36.1288 MHz Occ BW % Pwr 99.00 % x dB -26.00 dB Transmit Freq Error 76.927 kHz x dB Bandwidth 40.726 MHz Freq/Channel Center Freq 5.55000000 GHz Start Freq 5.52000000 GHz Stop Freq 5.58000000 GHz CF Step 6.00000000 MHz Auto Man Freq Offset 0.00000000 Hz Signal Track On Off
5670 MHz	Agilent R T Ch Freq 5.67 GHz Trng Free Occupied Bandwidth Ref 20 dBm Atten 20 dB #Peak Log 10 dB/ Offst 11.6 dB Center 5.67 GHz Span 60 MHz #Res BW 1 MHz #VBW 3 MHz Sweep 4 ms (401 pts) Occupied Bandwidth 36.1487 MHz Occ BW % Pwr 99.00 % x dB -26.00 dB Transmit Freq Error 92.735 kHz x dB Bandwidth 40.816 MHz Freq/Channel Center Freq 5.67000000 GHz Start Freq 5.64000000 GHz Stop Freq 5.70000000 GHz CF Step 6.00000000 MHz Auto Man Freq Offset 0.00000000 Hz Signal Track On Off

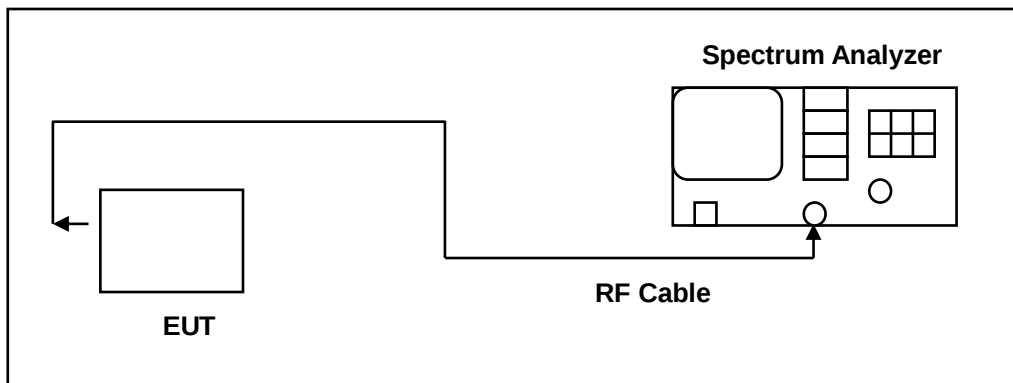
4.6. 6dB RF Bandwidth Measurement

■ Limit

6dB RF Bandwidth

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

■ Test Setup



■ Test Instruments

Equipment	Manufacturer	Model Number	Serial Number	Cal. Date	Cal. Period
Spectrum Analyzer	Agilent	E4445A	MY45300744	12/19/2016	1 year
Test Site	ATL	TE05	TE05	N.C.R.	-----

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

■ Test Procedure

6dB RF Bandwidth

The EUT tested to UNII test procedure of KDB789033 D02 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.

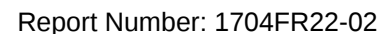


■ Test Result

Model Number	TB128	
Test Item	6dB RF Bandwidth	
Test Mode	Mode 2: IEEE 802.11a Link Mode	
Date of Test	04/11/2017	
Frequency (MHz)	6dB Bandwidth (kHz)	Limit (kHz)
	ANT-0	
5745	16399	> 500
5785	16373	> 500
5825	16382	> 500

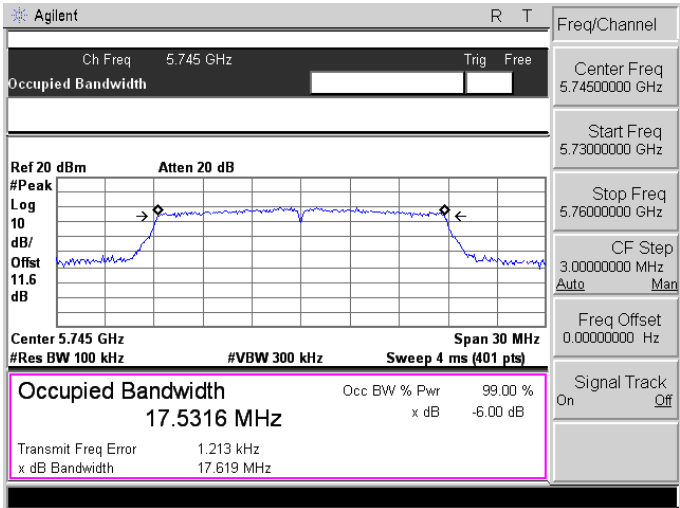
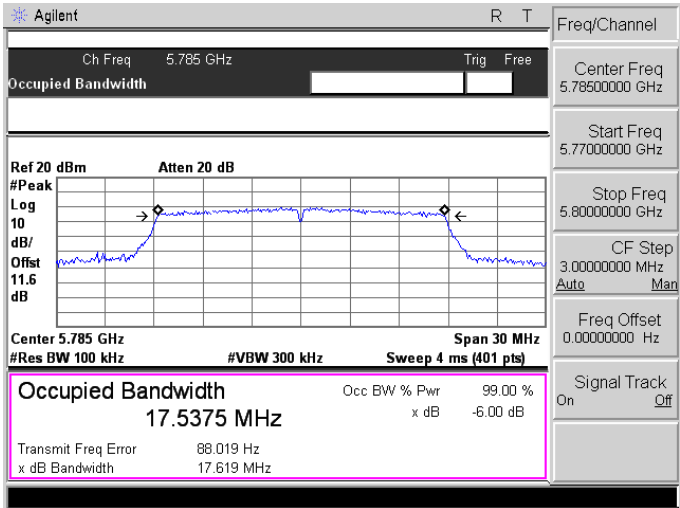
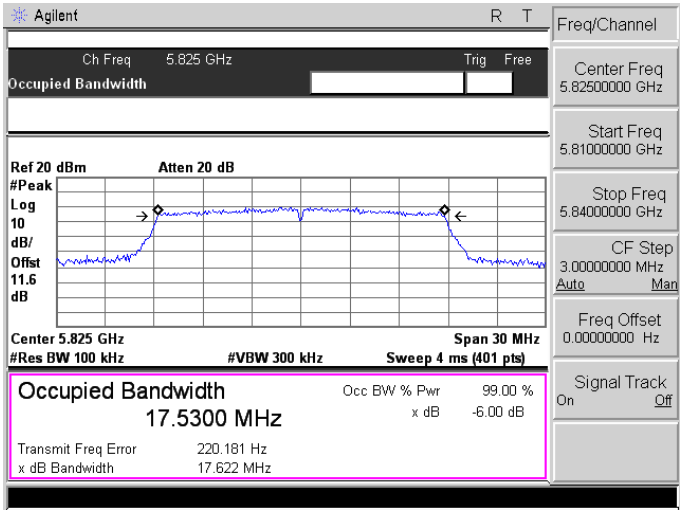
Model Number	TB128	
Test Item	6dB RF Bandwidth	
Test Mode	Mode 3: IEEE 802.11n 20MHz Link Mode	
Date of Test	04/11/2017	
Frequency (MHz)	6dB Bandwidth (kHz)	Limit (kHz)
	ANT-0	
5745	17619	> 500
5785	17619	> 500
5825	17622	> 500

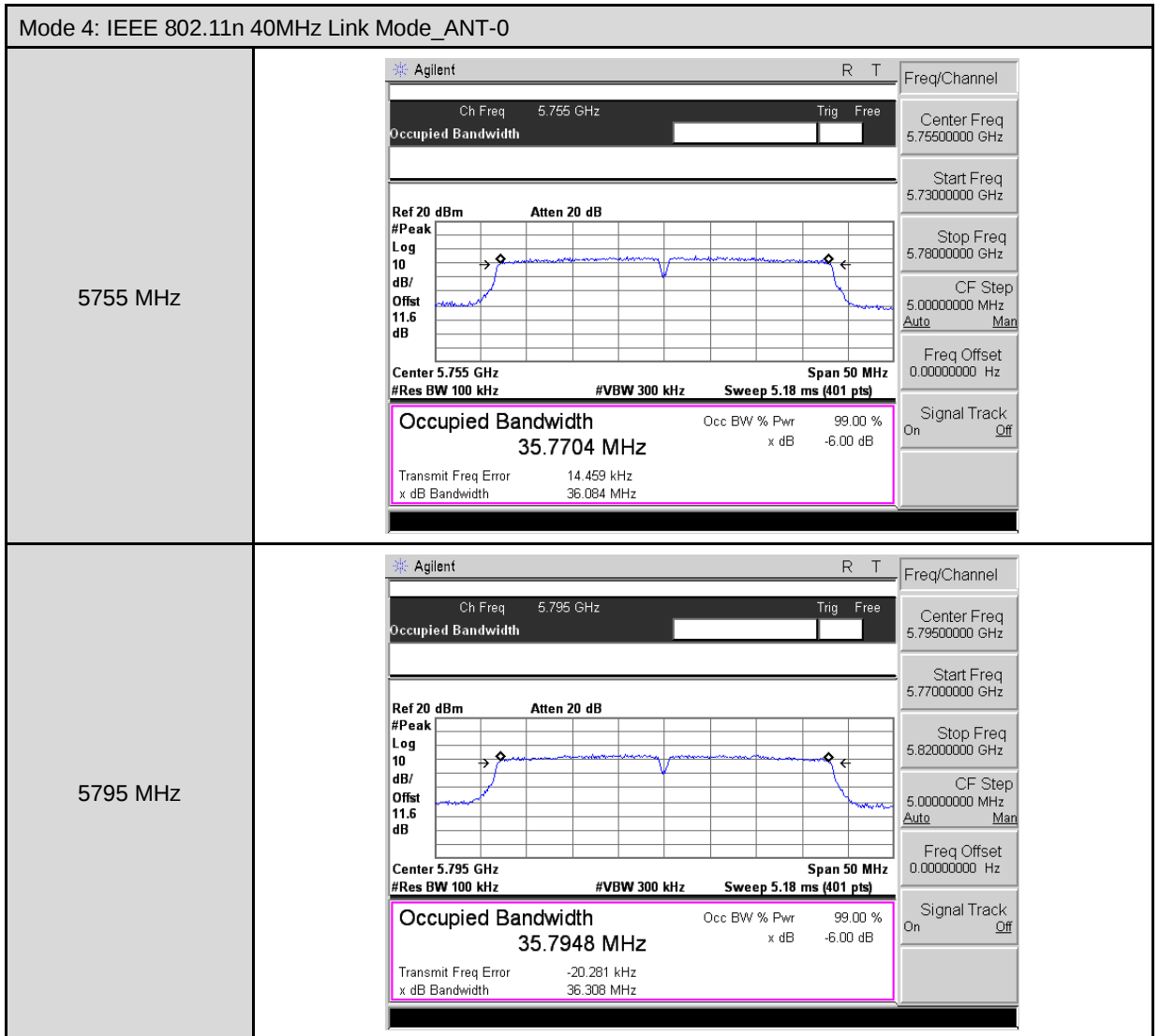
Model Number	TB128	
Test Item	6dB RF Bandwidth	
Test Mode	Mode 4: IEEE 802.11n 40MHz Link Mode	
Date of Test	04/11/2017	
Frequency (MHz)	6dB Bandwidth (kHz)	Limit (kHz)
	ANT-0	
5755	36084	> 500
5795	36308	> 500



Mode 2: IEEE 802.11a Link Mode_ANT-0 5745 MHz	Agilent R T Ch Freq 5.745 GHz Trig Free Occupied Bandwidth Ref 20 dBm Atten 20 dB #Peak Log 10 dB/ Offset 11.6 dB Center 5.745 GHz Span 30 MHz #Res BW 100 kHz #VBW 300 kHz Sweep 4 ms (401 pts) Occupied Bandwidth 16.3616 MHz Occ BW % Pwr 99.00 % x dB -6.00 dB Transmit Freq Error -6.531 kHz x dB Bandwidth 16.399 MHz Freq/Channel Center Freq 5.74500000 GHz Start Freq 5.73000000 GHz Stop Freq 5.76000000 GHz CF Step 3.00000000 MHz Auto Man Freq Offset 0.00000000 Hz Signal Track On Off
5785 MHz	Agilent R T Ch Freq 5.785 GHz Trig Free Occupied Bandwidth Ref 20 dBm Atten 20 dB #Peak Log 10 dB/ Offset 11.6 dB Center 5.785 GHz Span 30 MHz #Res BW 100 kHz #VBW 300 kHz Sweep 4 ms (401 pts) Occupied Bandwidth 16.3672 MHz Occ BW % Pwr 99.00 % x dB -6.00 dB Transmit Freq Error -8.856 kHz x dB Bandwidth 16.373 MHz Freq/Channel Center Freq 5.78500000 GHz Start Freq 5.77000000 GHz Stop Freq 5.80000000 GHz CF Step 3.00000000 MHz Auto Man Freq Offset 0.00000000 Hz Signal Track On Off
5825 MHz	Agilent R T Ch Freq 5.825 GHz Trig Free Occupied Bandwidth Ref 20 dBm Atten 20 dB #Peak Log 10 dB/ Offset 11.6 dB Center 5.825 GHz Span 30 MHz #Res BW 100 kHz #VBW 300 kHz Sweep 4 ms (401 pts) Occupied Bandwidth 16.3500 MHz Occ BW % Pwr 99.00 % x dB -6.00 dB Transmit Freq Error -7.521 kHz x dB Bandwidth 16.382 MHz Freq/Channel Center Freq 5.82500000 GHz Start Freq 5.81000000 GHz Stop Freq 5.84000000 GHz CF Step 3.00000000 MHz Auto Man Freq Offset 0.00000000 Hz Signal Track On Off



Mode 3: IEEE 802.11n 20MHz Link Mode_ANT-0	
5745 MHz	
5785 MHz	
5825 MHz	



4.7. Peak Power Spectral Density Measurement

■ Limit

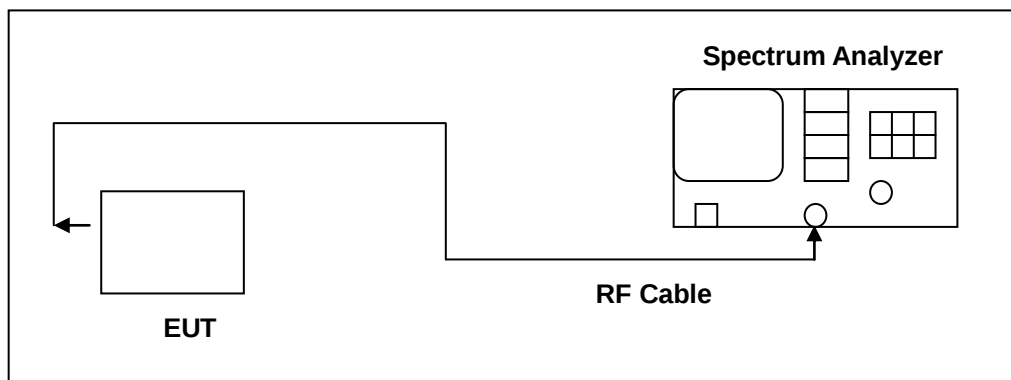
Conducted power spectral density

Frequency Range (MHz)	FCC Limit
	Client
5.150 ~ 5.250 GHz	11 dBm/MHz
5.250 ~ 5.350 GHz	11 dBm/MHz
5.470 ~ 5.725 GHz	11 dBm/MHz
5.725 ~ 5.850 GHz	30 dBm/500KHz

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

* SISO mode for ANT-0 : Max. Gain = -3.8 dBi < 6dBi

■ Test Setup



■ Test Instruments

Equipment	Manufacturer	Model Number	Serial Number	Cal. Date	Remark
Spectrum Analyzer	Agilent	E4445A	MY45300744	12/19/2016	1 year
Test Site	ATL	TE05	TE05	N.C.R.	-----

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

**■ Test Procedure**

The test is performed in accordance with KDB789033: D02 General UNII Test Procedures New Rules v01r02, 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 ~ 5850MHz use 100 kHz)
VBW	3 MHz (5725 ~ 5850MHz use 300 kHz)
Detector	RMS
Trace	AVERAGE
Sweep Time	Auto
Trace Average	100 times
Note: If measurement bandwidth of Maximum PSD is specified in 500 kHz, add $10\log(500\text{kHz}/100\text{kHz})$ to the measured result.	



Test Result

Model Number	TB128			
Test Item	Conducted power spectral density			
Test Mode	Mode 2: IEEE 802.11a link mode			
Date of Test	04/11/2017			
Frequency (MHz)	ANT-0			
	Measurement (dBm/MHz)	Duty Factor (dB)	Calculated (dBm/MHz)	Limit (dBm/MHz)
5180	3.304	0.000	3.304	< 11
5200	3.215	0.000	3.215	
5240	3.605	0.000	3.605	
5260	2.575	0.000	2.575	< 11
5280	2.225	0.000	2.225	
5320	2.403	0.000	2.403	
5500	2.493	0.000	2.493	< 11
5560	2.103	0.000	2.103	
5700	2.701	0.000	2.701	

Note: Method SA-2, Power density = measured result + 10log(1/duty cycle) + Conversion ratio = measured result + duty factor.

Model Number	TB128			
Test Item	Conducted power spectral density			
Test Mode	Mode 2: IEEE 802.11a link mode			
Date of Test	04/11/2017			
Frequency (MHz)	ANT-0			
	Measurement (dBm/100KHz)	Duty Factor (dB)	Calculated (dBm/500KHz)	Limit (dBm/500KHz)
5745	-7.79	0.000	-0.80	< 30
5785	-6.37	0.000	0.62	
5825	-8.73	0.000	-1.74	

Note: Method SA-2, Power density = measured result + 10log(1/duty cycle) + Conversion ratio = measured result + duty factor.

Conversion ratio = 10*Log(500k/100k)



Model Number	TB128			
Test Item	Conducted power spectral density			
Test Mode	Mode 3: IEEE 802.11n 20MHz Link Mode			
Date of Test	04/11/2017			
Frequency (MHz)	ANT-0			
	Measurement (dBm/MHz)	Duty Factor (dB)	Calculated (dBm/MHz)	Limit (dBm/MHz)
5180	3.047	0.000	3.047	< 11
5200	2.670	0.000	2.670	
5240	2.921	0.000	2.921	
5260	3.019	0.000	3.019	< 11
5280	2.046	0.000	2.046	
5320	1.870	0.000	1.870	
5500	1.995	0.000	1.995	< 11
5560	2.337	0.000	2.337	
5700	1.782	0.000	1.782	

Note: Method SA-2, Power density = measured result + 10log(1/duty cycle) + Conversion ratio = measured result + duty factor.

Model Number	TB128			
Test Item	Conducted power spectral density			
Test Mode	Mode 3: IEEE 802.11n 20MHz Link Mode			
Date of Test	04/11/2017			
Frequency (MHz)	ANT-0			
	Measurement (dBm/100KHz)	Duty Factor (dB)	Calculated (dBm/500KHz)	Limit (dBm/500KHz)
5745	-8.11	0.000	-1.12	< 30
5785	-8.26	0.000	-1.27	
5825	-8.94	0.000	-1.95	

Note: Method SA-2, Power density = measured result + 10log(1/duty cycle) + Conversion ratio = measured result + duty factor.

Conversion ratio = 10*Log(500k/100k)



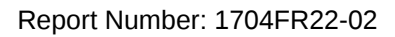
Model Number	TB128			
Test Item	Conducted power spectral density			
Test Mode	Mode 4: IEEE 802.11n 40MHz Link Mode			
Date of Test	04/11/2017			
Frequency (MHz)	ANT-0			
	Measurement (dBm/MHz)	Duty Factor (dB)	Calculated (dBm/MHz)	Limit (dBm/MHz)
5190	-2.531	0.000	-3.077	< 11
5230	-3.077	0.000	-0.916	
5270	-0.916	0.000	-1.186	< 11
5310	-1.186	0.000	-3.568	
5510	-3.568	0.000	-3.933	< 11
5550	-3.933	0.000	-2.939	
5670	-2.939	0.000	-3.077	

Note: Method SA-2, Power density = measured result + 10log(1/duty cycle) + Conversion ratio = measured result + duty factor.

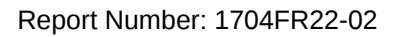
Model Number	TB128			
Test Item	Conducted power spectral density			
Test Mode	Mode 4: IEEE 802.11n 40MHz Link Mode			
Date of Test	04/11/2017			
Frequency (MHz)	ANT-0			
	Measurement (dBm/100KHz)	Duty Factor (dB)	Calculated (dBm/500KHz)	Limit (dBm/500KHz)
5755	-11.98	0.000	-4.99	< 30
5795	-12.38	0.000	-5.39	

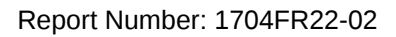
Note: Method SA-2, Power density = measured result + 10log(1/duty cycle) + Conversion ratio = measured result + duty factor.

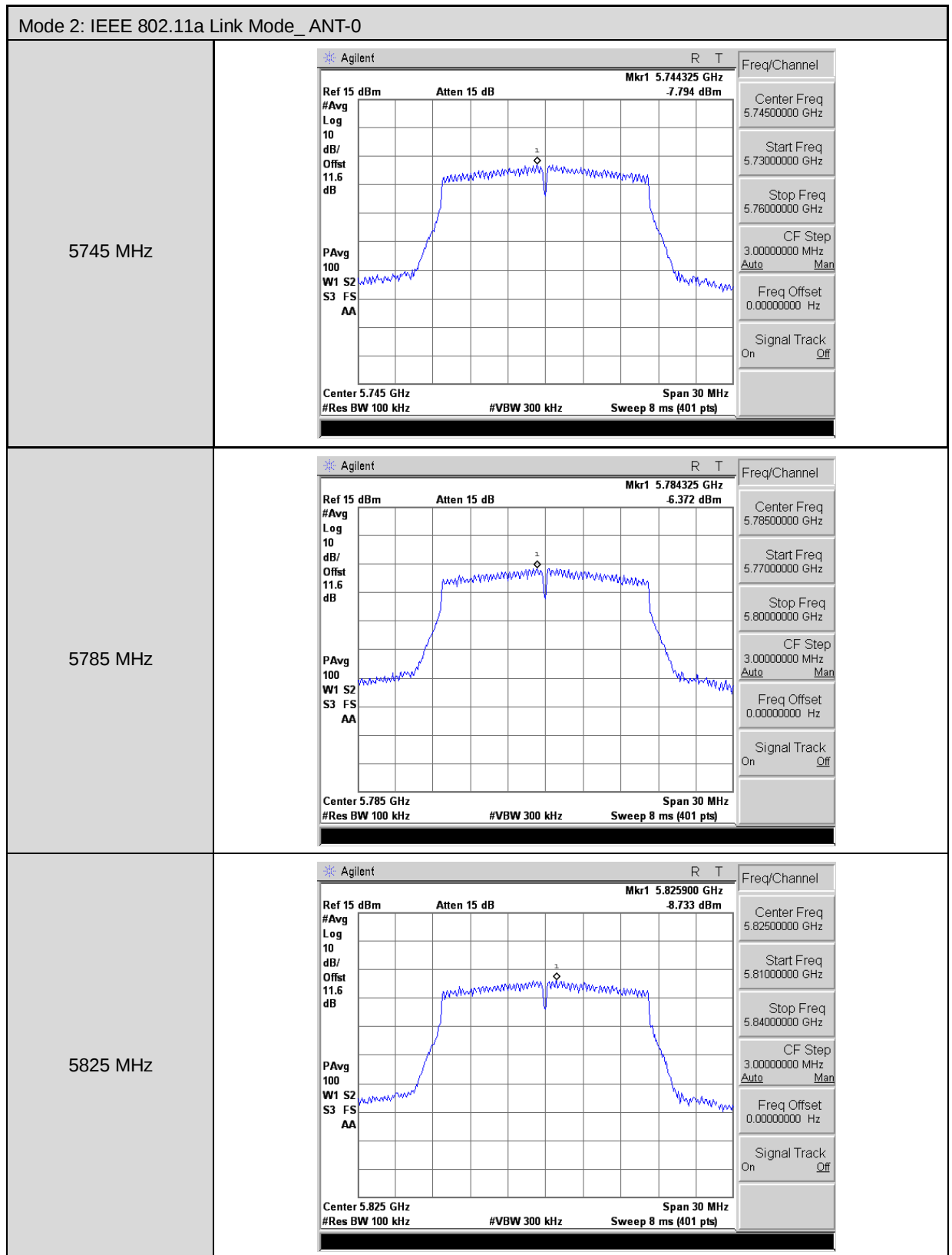
Conversion ratio = 10*Log(500k/100k)



Mode 2: IEEE 802.11a Link Mode_ ANT_0	
5180 MHz	Agilent R T Ref 15 dBm Atten 15 dB Mkr1 5.181045 GHz 3.304 dBm #Avg Log 10 dB/ Offst 11.6 dB PAvg 100 W1 S2 S3 FS AA Center 5.18 GHz #Res BW 1 MHz #VBW 3 MHz Span 22 MHz Sweep 8 ms (401 pts) Freq/Channel Center Freq 5.18000000 GHz Start Freq 5.16900000 GHz Stop Freq 5.19100000 GHz CF Step 2.20000000 MHz Auto Man Freq Offset 0.00000000 Hz Signal Track On Off
5200 MHz	Agilent R T Ref 15 dBm Atten 15 dB Mkr1 5.198625 GHz 3.215 dBm #Avg Log 10 dB/ Offst 11.6 dB PAvg 100 W1 S2 S3 FS AA Center 5.2 GHz #Res BW 1 MHz #VBW 3 MHz Span 22 MHz Sweep 8 ms (401 pts) Freq/Channel Center Freq 5.20000000 GHz Start Freq 5.18900000 GHz Stop Freq 5.21100000 GHz CF Step 2.20000000 MHz Auto Man Freq Offset 0.00000000 Hz Signal Track On Off
5240 MHz	Agilent R T Ref 15 dBm Atten 15 dB Mkr1 5.241265 GHz 3.605 dBm #Avg Log 10 dB/ Offst 11.6 dB PAvg 100 W1 S2 S3 FS AA Center 5.24 GHz #Res BW 1 MHz #VBW 3 MHz Span 22 MHz Sweep 8 ms (401 pts) Freq/Channel Center Freq 5.24000000 GHz Start Freq 5.22900000 GHz Stop Freq 5.25100000 GHz CF Step 2.20000000 MHz Auto Man Freq Offset 0.00000000 Hz Signal Track On Off

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Mode 3: IEEE 802.11n 20MHz Link Mode _ ANT-0	
5180 MHz	
5200 MHz	
5240 MHz	

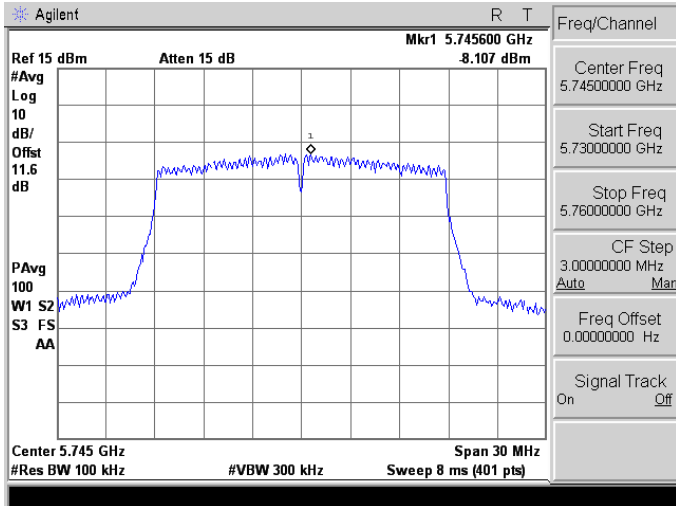
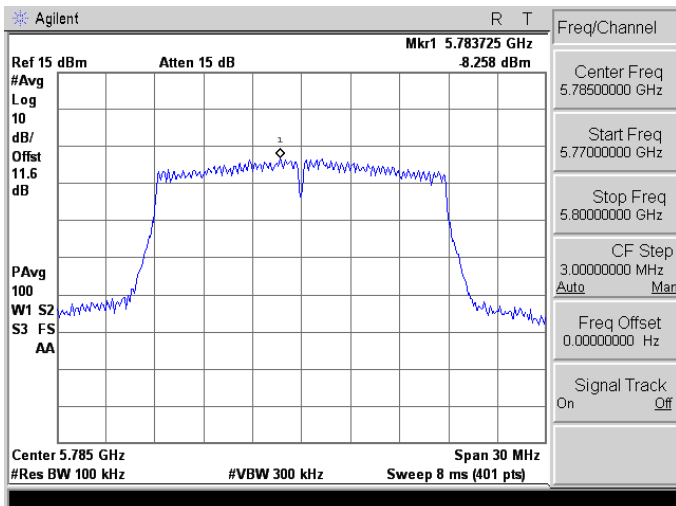
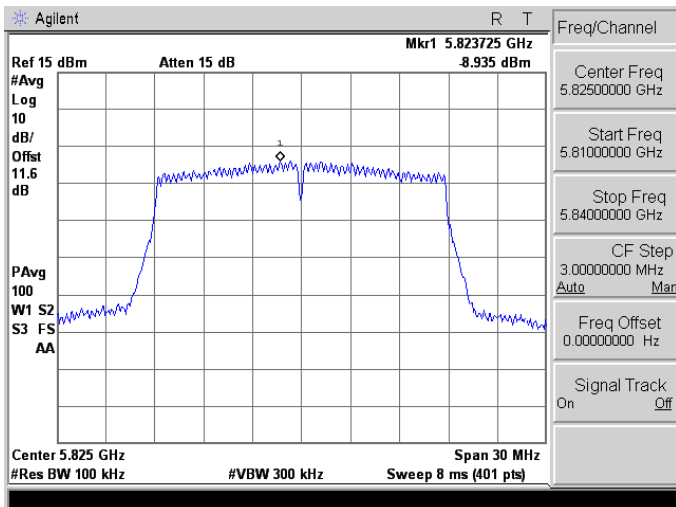


Mode 3: IEEE 802.11n 20MHz Link Mode _ ANT-0	
5260 MHz	
5280 MHz	
5320 MHz	



Mode 3: IEEE 802.11n 20MHz Link Mode _ ANT-0	
5500 MHz	Agilent R T Ref 15 dBm Atten 15 dB Mkr1 5.4990225 GHz 1.995 dBm #Avg Log 10 dB/ Offst 11.6 dB PAvg 100 W1 S2 S3 F-S AA Center 5.5 GHz #Res BW 1 MHz #VBW 3 MHz Span 23 MHz Sweep 8 ms (401 pts) Freq/Channel Center Freq 5.50000000 GHz Start Freq 5.48850000 GHz Stop Freq 5.51150000 GHz CF Step 2.30000000 MHz Auto Man Freq Offset 0.00000000 Hz Signal Track On Off
5560 MHz	Agilent R T Ref 15 dBm Atten 15 dB Mkr1 5.5610925 GHz 2.337 dBm #Avg Log 10 dB/ Offst 11.6 dB PAvg 100 W1 S2 S3 F-S AA Center 5.56 GHz #Res BW 1 MHz #VBW 3 MHz Span 23 MHz Sweep 8 ms (401 pts) Freq/Channel Center Freq 5.56000000 GHz Start Freq 5.54850000 GHz Stop Freq 5.57150000 GHz CF Step 2.30000000 MHz Auto Man Freq Offset 0.00000000 Hz Signal Track On Off
5700 MHz	Agilent R T Ref 15 dBm Atten 15 dB Mkr1 5.6991375 GHz 1.782 dBm #Avg Log 10 dB/ Offst 11.6 dB PAvg 100 W1 S2 S3 F-S AA Center 5.7 GHz #Res BW 1 MHz #VBW 3 MHz Span 23 MHz Sweep 8 ms (401 pts) Freq/Channel Center Freq 5.70000000 GHz Start Freq 5.68850000 GHz Stop Freq 5.71150000 GHz CF Step 2.30000000 MHz Auto Man Freq Offset 0.00000000 Hz Signal Track On Off

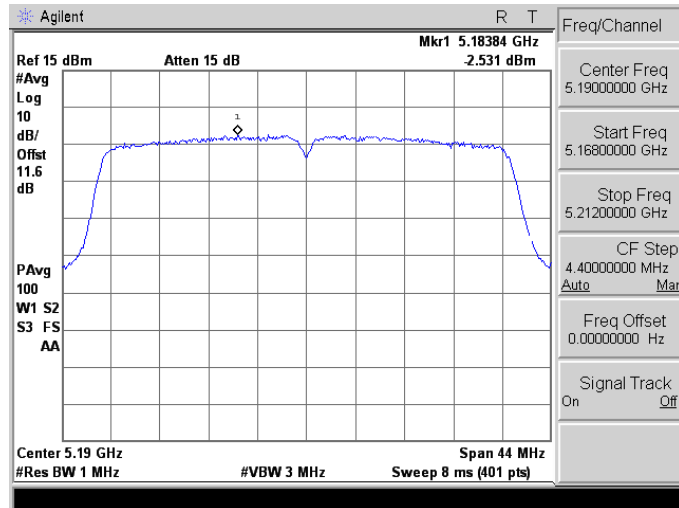


Mode 3: IEEE 802.11n 20MHz Link Mode _ANT-0	
5745 MHz	
5785 MHz	
5825 MHz	

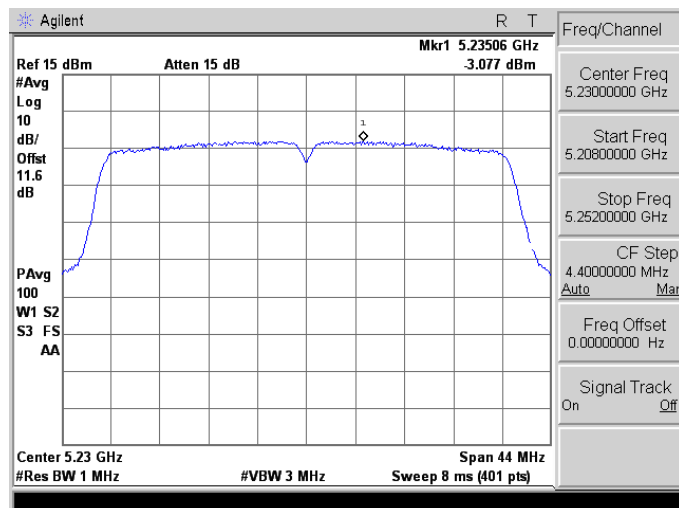


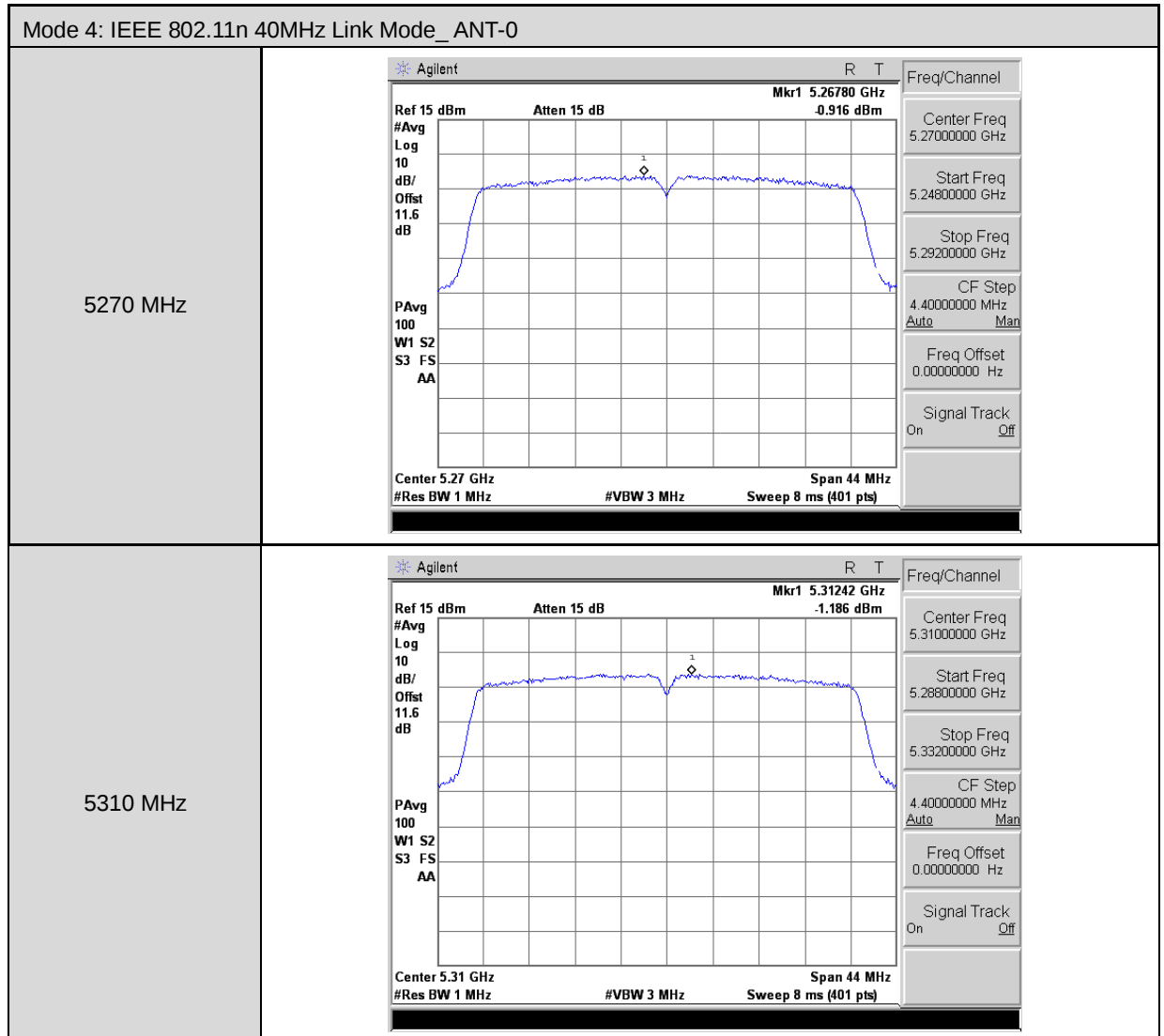
Mode 4: IEEE 802.11n 40MHz Link Mode_ ANT-0

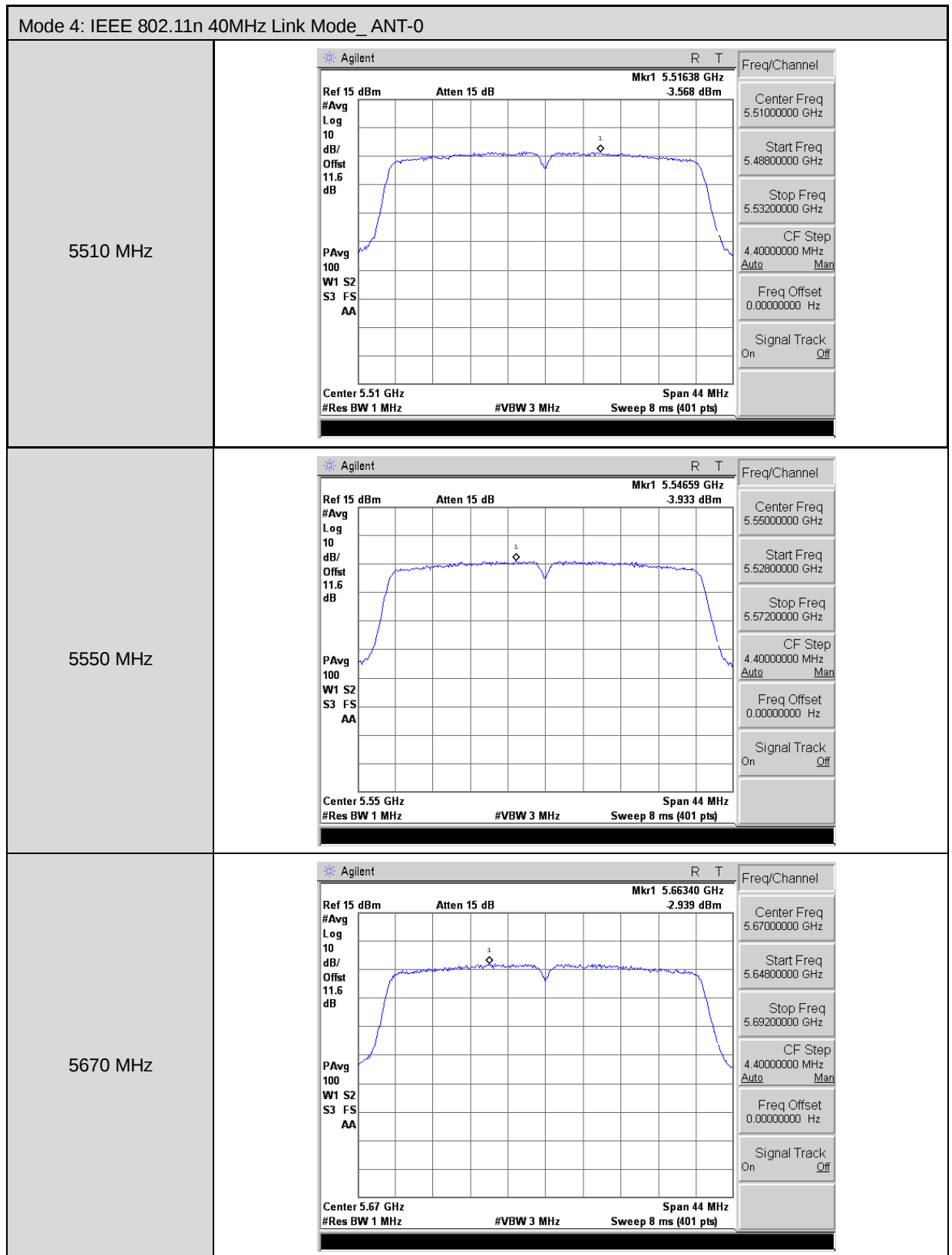
5190 MHz

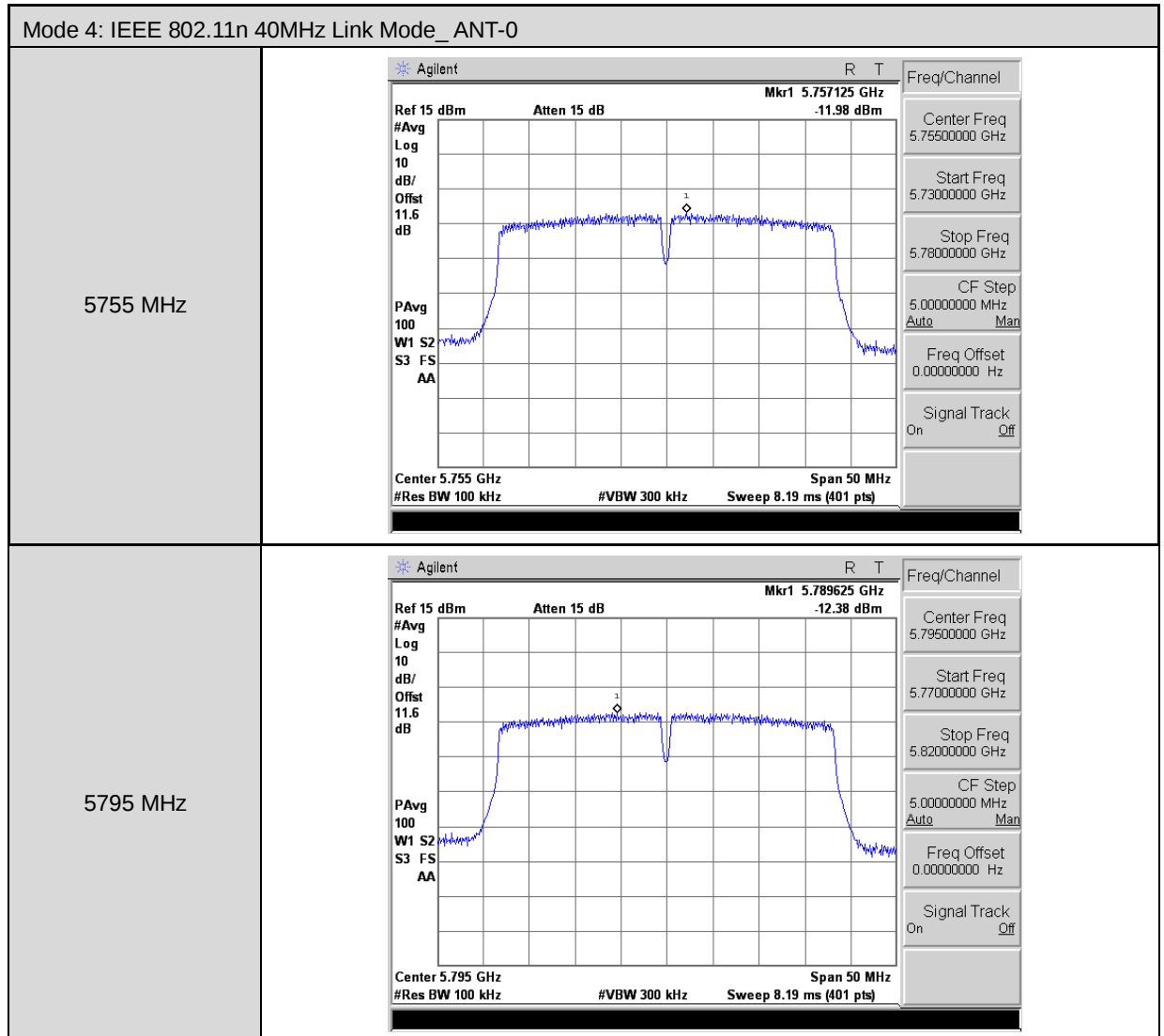


5230 MHz







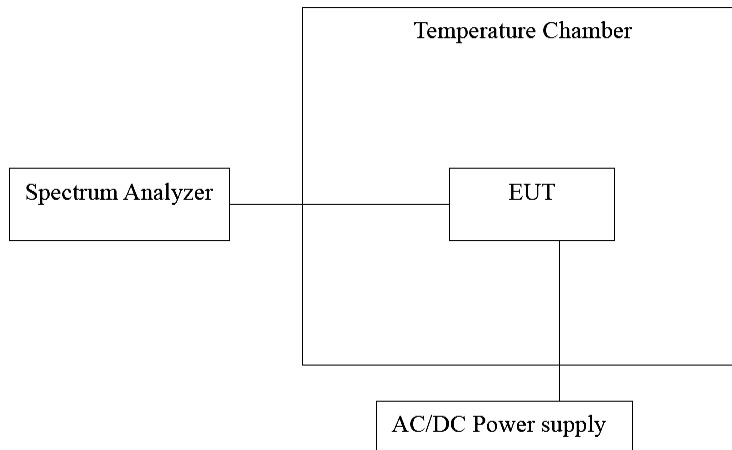


4.8. Frequency Stability Measurement

■ 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 Instruments

Equipment	Manufacturer	Model Number	Serial Number	Cal. Date	Remark
Spectrum Analyzer	Agilent	E4408B	MY45107753	08/08/2016	1 year
Temperature & Humidity Chamber	TAICHY	MHU-225LA	980729	04/17/2017	1 year
Test Site	ATL	TE05	TE05	N.C.R.	-----

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

■ 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.



■ Test Result

Temperature Variations

Model Number	TB128					
Test Item	Frequency Stability					
Date of Test	04/21/2017					
Frequency	Temp. (°C)	Voltage (Vac)	Measured Freq. (MHz)	Delta Freq. (Hz)	Tolerance (ppm)	Result (Pass/Fail)
5200 MHz	0	120	5199.9716	-28400	-5.462	Pass
	10		5199.977	-23000	-4.423	Pass
	20		5199.9874	-12600	-2.423	Pass
	30		5199.9951	-4900	-0.942	Pass
	40		5200.0085	8500	1.635	Pass
5280 MHz	0	120	5279.979	-21000	-3.977	Pass
	10		5279.9893	-10700	-2.027	Pass
	20		5279.9931	-6900	-1.307	Pass
	30		5280.0047	4700	0.890	Pass
	40		5280.0162	16200	3.068	Pass
5560 MHz	0	120	5559.9885	-11500	-2.068	Pass
	10		5559.99	-10000	-1.799	Pass
	20		5560.0052	5200	0.935	Pass
	30		5560.0085	8500	1.529	Pass
	40		5560.0255	25500	4.586	Pass
5785 MHz	0	120	5784.9892	-10800	-1.867	Pass
	10		5784.9912	-8800	-1.521	Pass
	20		5785.0013	1300	0.225	Pass
	30		5785.013	13000	2.247	Pass
	40		5785.0282	28200	4.875	Pass

**Voltage Variations**

Model Number	TB128					
Test Item	Frequency Stability					
Date of Test	04/21/2017					
Frequency	Temp. (°C)	Voltage (Vac)	Measured Freq. (MHz)	Delta Freq. (Hz)	Tolerance (ppm)	Result (Pass/Fail)
5200 MHz	20	138.00	5200.023	23000	4.423	Pass
		120.00	5200.0276	27600	5.308	Pass
		102.00	5200.0441	44100	8.481	Pass
5280 MHz	20	138.00	5280.0288	28800	5.455	Pass
		120.00	5280.033	33000	6.250	Pass
		102.00	5280.0484	48400	9.167	Pass
5560 MHz	20	138.00	5560.023	23000	4.137	Pass
		120.00	5560.0364	36400	6.547	Pass
		102.00	5560.0473	47300	8.507	Pass
5785 MHz	20	138.00	5785.0278	27800	4.806	Pass
		120.00	5785.0359	35900	6.206	Pass
		102.00	5785.0473	47300	8.176	Pass

Note: The manufacturer's frequency stability specification is better than 20ppm.



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 6dBi.

■ Antenna Connector Construction

See section 2 – antenna information.