

FCC 47 CFR PART 15 SUBPART C

TEST REPORT

For

Product Name: Notebook / Tablet Computer

Brand Name: Lenovo

Model No.:

Lenovo ideapad MIIX 510-12IKB*****;80XE*****

(* can be 0-9,A-Z,a-z,- or blank)

Series Model: N/A

FCC ID: PPD-QCNFA435

IC: 4104A-QCNFA435

Test Report Number:

C161111R03-C-RPW

Issued for

Shenzhen 3NOD Information Technology Co., Ltd

Tangxiayong, Zhongf Road 15 building five , Songgang, Baoan, Shenzhen, 518105 P.R.China

Issued by

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TESTING CERT #2541.01

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Revision History

Rev.	Issue Date	Report NO.	Effect Page	Contents
00	September 7, 2016	C160812R01-RPW	ALL	N/A
Update	September 19, 2016	C160817R01-RPW	P1,P4,P5	Update the Product Name
01	September 29, 2016	C160817R01-RPW	P16,P36~P57	Add radiated emissions test plots and VBW description
Update	December 22, 2016	C161111R03-C-RPW	P1,P4,P5	Update Model No.



1. TEST RESULT CERTIFICATION

Product Name:	Notebook / Tablet Computer
Trade Name:	Lenovo
Model Name.:	Lenovo ideapad MIIX 510-12IKB*****;80XE*****(* can be 0-9,A-Z,a-z,- or blank)
Series Model:	N/A
Applicant Discrepancy:	Initial
Device Category:	Mobile unit
Date of Test:	September 2, 2016 & September 7, 2016
Applicant:	Shenzhen 3NOD Information Technology Co., Ltd Tangxiayong, Zhongf Road 15 building five , Songgang, Baoan, Shenzhen, 518105 P.R.China
Manufacturer:	Lenovo PC HK Limited 23/F, Lincoln House, Taikoo Place979 King's Road, Quarry Bay, Hong Kong
Application Type:	Certification

APPLICABLE STANDARDS	
STANDARD	TEST RESULT
FCC 47 CFR Part 15 Subpart C	No non-compliance noted
Canada RSS-247 Issue 1	No non-compliance noted
Canada RSS-Gen Issue 4	No non-compliance noted

We hereby certify that:

The above equipment was tested by Compliance Certification Services Inc. The test data, data evaluation, test procedures, and equipment configurations shown in this report were made in accordance with the procedures given in ANSI C63.10: 2013 and the energy emitted by the sample EUT tested as described in this report is in compliance with the requirements of FCC Rules Part 15.207, 15.209, 15.247& Canada RSS-247 Issue 1.

The test results of this report relate only to the tested sample EUT identified in this report.

Approved by:

Tested by:

Jeff.Fang
RF Manager
Compliance Certification Service Inc.

James.Yan
Test Engineer
Compliance Certification Service Inc.

2. EUT DESCRIPTION

Product Name:	Notebook / Tablet Computer	
Brand Name:	Lenovo	
Model Name:	Lenovo ideapad MIIX 510-12IKB*****;80XE***** (* can be 0-9,A-Z,a-z,- or blank)	
Series Model:	N/A	
Model Discrepancy:	N/A	
Module:	QCNFA435	
Power Adapter Power Rating :	Adapter 1 Brand Name: Lenovo Model : ADL45WCC Input: 100-240V~1.5A 50-60Hz Output: 20V 2.25A	Adapter 2 Brand Name: Lenovo Model :PA-1450-55LL Input: 100-240V~1.7A 50-60Hz Output: 20V 2.25A
	Adapter 3 Brand Name: Lenovo Model : ADP-45DW B Input: 100-240V~1A 50-60Hz Output: 20V 2.25A	
Frequency Range:	IEEE 802.11b/g: 2412MHz to 2462 MHz IEEE 802.11n HT20: 2412MHz to 2462 MHz IEEE 802.11n HT40: 2422MHz to 2452 MHz Bluetooth:2402~2480MHz	
Modulation Technique:	IEEE 802.11b: DSSS (CCK, DQPSK, DBPSK) IEEE 802.11g: OFDM (64QAM, 16QAM, QPSK, BPSK) IEEE 802.11n HT20/40: OFDM (64QAM, 16QAM, QPSK, BPSK) Bluetooth 2.1+EDR:GFSK for 1Mbps; $\pi/4$ -DQPSK for 2Mbps; 8DPSK for 3Mbps Bluetooth 4.0:GFSK	
Number of Channels:	IEEE 802.11b /g :11 Channels IEEE 802.11n HT20 :11 Channels IEEE 802.11n HT40: 9 Channels Bluetooth 2.1+EDR :79Channels Bluetooth 4.0 :40Channels(37hopping+3advertising Channel)	
Antenna Specification:	Gain(dBi)	
	2.4GHz:1.76dBi	5GHz:2.27dBi

Remark:

- 1.The sample selected for test was engineering sample that approximated to production product and was provided by manufacturer.
- 2.This submittal(s) (test report) is intended for **FCC ID: PPD-QCNFA435** filing to comply with Section 15.207, 15.209 and 15.247 of the FCC Part 15, Subpart C Rules.
- 3.This submittal(s) (test report) is intended for **IC: 4104A-QCNFA435** filing to comply with Canada RSS-247 Issue 1 and Canada RSS-Gen Issue 3 Rules.

EUT Conducted output power(dBm)

WLAN 2.4G

Mode	Channel	Frequency (MHZ)	Chain0 Target power(dBm)	Turn up tolerance (dBm)	Maximum Turn up power (dBm)	Average power (dBm)
802.11 b	1	2412	13.5	±1.5	15	14.76
	6	2437	13.5	±1.5	15	14.93
	11	2462	13.5	±1.5	15	14.72
802.11 g	1	2412	13.5	±1.5	15	14.95
	6	2437	13.5	±1.5	15	14.86
	11	2462	13.5	±1.5	15	14.90
802.11 n 20MHz	1	2412	13.5	±1.5	15	14.70
	6	2437	13.5	±1.5	15	14.85
	11	2462	13.5	±1.5	15	14.70
802.11 n 40MHz	3	2422	12	±1.5	13.5	13.17
	6	2437	13.5	±1.5	15	14.80
	9	2452	11.5	±1.5	13	12.90

3. TEST METHODOLOGY

The tests documented in this report were performed in accordance with ANSI C63.10 2013 and FCC CFR 47 15.207, 15.209 and 15.247, RSS 247.

3.1.EUT CONFIGURATION

The EUT configuration for testing is installed on RF field strength measurement to meet the Commissions requirement and operating in a manner that intends to maximize its emission characteristics in a continuous normal application.

3.2.EUT EXERCISE

The EUT was operated in the engineering mode to fix the TX frequency that was for the purpose of the measurements.

According to its specifications, the EUT must comply with the requirements of the Section 15.207, 15.209 and 15.247 under the FCC Rules Part 15 Subpart C.

3.3.GENERAL TEST PROCEDURES

Conducted Emissions

The EUT is placed on the turntable, which is positioned at 0.8 m above the ground plane. According to the requirements in Section 13.3 of ANSI C63.10:2013, the conducted emission from the EUT is measured in the frequency range between 0.15 MHz and 30MHz, using the CISPR Quasi-Peak detector mode.

Radiated Emissions

Under 1GHz

The EUT is placed on a turn table, which is 0.8 m above ground plane. The turntable shall rotate 360 degrees to determine the position of maximum emission level. EUT is set 3m away from the receiving antenna, which varied from 1m to 4m to find out the highest emission. And also, each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical. In order to find out the maximum emissions, exploratory radiated emission measurements were made according to the requirements in Section 13.1.4.1 of ANSI C63.10:2013.

Above 1GHz

The EUT is placed on a turn table, which is 1.5 m above ground plane. The turntable shall rotate 360 degrees to determine the position of maximum emission level. EUT is set 3m away from the receiving antenna, which varied from 1m to 4m to find out the highest emission. And also, each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical. In order to find out the maximum emissions, exploratory radiated emission measurements were made according to the requirements in Section 13.1.4.1 of ANSI C63.10:2013.

3.4.FCC PART 15.205 RESTRICTED BANDS OF OPERATIONS

Except as shown in paragraph (d) of this section, only spurious emissions are permitted in any of the frequency bands listed below:

MHz	MHz	MHz	GHz
0.090 - 0.110	16.42 - 16.423	399.9 - 410	4.5 - 5.15
¹ 0.495 - 0.505	16.69475 - 16.69525	608 - 614	5.35 - 5.46
2.1735 - 2.1905	16.80425 - 16.80475	960 - 1240	7.25 - 7.75
4.125 - 4.128	25.5 - 25.67	1300 - 1427	8.025 - 8.5
4.17725 - 4.17775	37.5 - 38.25	1435 - 1626.5	9.0 - 9.2
4.20725 - 4.20775	73 - 74.6	1645.5 - 1646.5	9.3 - 9.5
6.215 - 6.218	74.8 - 75.2	1660 - 1710	10.6 - 12.7
6.26775 - 6.26825	108 - 121.94	1718.8 - 1722.2	13.25 - 13.4
6.31175 - 6.31225	123 - 138	2200 - 2300	14.47 - 14.5
8.291 - 8.294	149.9 - 150.05	2310 - 2390	15.35 - 16.2
8.362 - 8.366	156.52475 - 156.52525	2483.5 - 2500	17.7 - 21.4
8.37625 - 8.38675	156.7 - 156.9	2655 - 2900	22.01 - 23.12
8.41425 - 8.41475	162.0125 - 167.17	3260 - 3267	23.6 - 24.0
12.29 - 12.293	167.72 - 173.2	3332 - 3339	31.2 - 31.8
12.51975 - 12.52025	240 - 285	3345.8 - 3358	36.43 - 36.5
12.57675 - 12.57725	322 - 335.4	3600 - 4400	(²)
13.36 - 13.41			

¹ Until February 1, 1999, this restricted band shall be 0.490-0.510 MHz.

² Above 38.6

Except as provided in paragraphs (d) and (e), the field strength of emissions appearing within these frequency bands shall not exceed the limits shown in Section 15.209. At frequencies equal to or less than 1000 MHz, compliance with the limits in Section 15.209 shall be demonstrated using measurement instrumentation employing a CISPR quasi-peak detector. Above 1000 MHz, compliance with the emission limits in Section 15.209 shall be demonstrated based on the average value of the measured emissions. The provisions in Section 15.35 apply to these measurements.

3.5.DESCRPTION OF TEST MODES

The EUT transmitting and receiving with one antennas working at b/g/n mode, so 1x1configuration was used for all testing in this report.

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, which worst case was in normal link mode only.

The worst-case data rates:

IEEE802.11b mode:

Channel Low (2412MHz)

Channel Mid (2437MHz)

Channel High (2462MHz) with 1Mbps data rate was chosen for full testing.

IEEE802.11g mode:

Channel Low (2412MHz)

Channel Mid (2437MHz)

Channel High (2462MHz) with 6Mbps data rate was chosen for full testing.

IEEE 802.11n HT20 MHz Channel mode:

Channel Low (2412MHz)

Channel Mid (2437MHz)

Channel High (2462MHz) with MCS0 data rate was chosen for full testing.

IEEE 802.11n HT40 MHz Channel mode:

Channel Low (2422MHz)

Channel Mid (2437MHz)

Channel High (2452MHz) with MCS0 data rate was chosen for full testing.

GFSK mode:

Channel Low (2402MHz)

Channel Mid (2441MHz)

Channel High (2480MHz) with 1Mbps data rate was chosen for full testing.

8DPSK mode:

Channel Low (2402MHz)

Channel Mid (2441MHz)

Channel High (2480MHz) with 3Mbps data rate was chosen for full testing.

LE4.0 mode:

Channel Low (2402MHz)

Channel Mid (2440MHz)

Channel High (2480MHz) with 1Mbps data rate was chosen for full testing.

Note : After the preliminary scan the EUT with Adapter 3 was the worst mode, which mode data was recorded.

4. INSTRUMENT CALIBRATION

4.1.MEASURING INSTRUMENT CALIBRATION

The measuring equipment, which was utilized in performing the tests documented herein, has been calibrated in accordance with the manufacturer's recommendations for utilizing calibration equipment, which is traceable to recognized national standards.

977 Chamber					
Name of Equipment	Manufacturer	Model	Serial Number	Calibration Date	Calibration Due
Spectrum Analyzer	RS	FSU26	200789	2016-7-21	2017-7-20
Spectrum Analyzer	Agilent	E4446A	MY44020154	2015-9-11	2016-9-10
EMI Test Receiver	R&S	ESCI	101378	2016-1-6	2017-1-5
Pre-Amplifier	MINI	ZFL-1000VH2	070306	2016-1-13	2017-1-12
Pre-Amplifier	Miteq	JS41-00101800-32-10P	1675713	2016-7-21	2017-7-20
Bilog Antenna	Sunol	JB1	A062604	2016-5-29	2017-5-28
Bilog Antenna	Sunol	JB1	A110204-1	2015-5-29	2017-5-28
Horn-antenna	SCHWARZBECK	9120D	266	2016-3-6	2017-3-5
Horn-antenna	SCHWARZBECK	9120D	267	2015-11-10	2016-11-9
Turn Table	CT	CT123	4165	N.C.R	N.C.R
Antenna Tower	CT	CTERG23	3256	N.C.R	N.C.R
Controller	CT	CT100	95637	N.C.R	N.C.R
Test Software			EZ-EMC		

Remark: The measurement uncertainty is less than +/- 2.81dB, which is evaluated as per the NAMAS NIS 81 and CISPR/A/291/CDV.

Expanded Uncertainty (95% CONFIDENCE INTERVAL): K=2

5. FACILITIES AND ACCREDITATIONS

5.1.FACILITIES

All measurement facilities used to collect the measurement data are located at CCS China Kunshan Lab at 10#Weiye Rd, Innovation Park Eco. & Tec. Development Zone Kunshan city JiangSu, (215300), CHINA.

The sites are constructed in conformance with the requirements of ANSI C63.7, ANSI C63.10 2013 and CISPR Publication 22.

5.2.EQUIPMENT

Radiated emissions are measured with one or more of the following types of linearly polarized antennas: tuned dipole, biconical, log periodic, bi-log, and/or ridged waveguide, horn. Spectrum analyzers with pre-selectors and quasi-peak detectors are used to perform radiated measurements.

Conducted emissions are measured with Line Impedance Stabilization Networks and EMI Test Receivers.

Calibrated wideband preamplifiers, coaxial cables, and coaxial attenuators are also used for making measurements.

All receiving equipment conforms to CISPR Publication 16-1, "Radio Interference Measuring Apparatus and Measurement Methods."

5.3.LABORATORY ACCREDITATIONS AND LISTING

The test facilities used to perform radiated and conducted emissions tests are accredited by American Association for Laboratory Accreditation Program for the specific scope accreditation under Lab Code: 200581-0 to perform Electromagnetic Interference tests according to FCC Part 15 and CISPR 22 requirements. In addition, the test facilities are listed with Industry Canada, Certification and Engineering Bureau, IC5743 for 10m chamber 10m, IC5743 for 10m chamber 3m.

5.4.TABLE OF ACCREDITATIONS AND LISTINGS

Country	Agency	Scope of Accreditation	Logo
USA	A2LA	47 CFR FCC Part 15/18 (using ANSI C63.10 :2013); VCCI V3; CNS 13438; CNS 13439; CNS 13803; CISPR 11; EN 55011; CISPR 13; EN 55013; CISPR 22:2005; CISPR 22:1997 +A1 :2000+A2 :2002; EN 55022:2006; EN55022 :1998 +A1 :2001+A2 :2003; EN 61000-6-3 (excluding discontinuous interference); EN 61000-6-4; AS/NZS CISPR 22; CAN/CSA-CEI/IEC CISPR 22; EN 61000-3-2; EN 61000-3-3; EN550024; EN 61000-4-2; EN 61000-4-3; EN61000-4-4; EN 61000-4-5; EN 61000-4-6; IEC 61000-4-8; EN 61000-4-11; IEC61000-3-2; IEC61000-3-3; IEC 61000-4-2; IEC 61000-4-3; IEC 61000-4-4; IEC 61000-4-5; IEC 61000-4-6; IEC 61000-4-8; IEC 61000-4-11; EN 300 220-3; EN 300 328; EN 300 330-2; EN 300 440-1; EN 300-440-2; EN 300 893; EN 301 489-01; EN 301 489-3; EN 301 489-07; EN 301 489-17; 47 CFR FCC Part 15, 22, 24	
USA	FCC	3/10 meter Sites to perform FCC Part 15/18 measurements	 93105, 90471
Japan	VCCI	3/10 meter Sites and conducted test sites to perform radiated/conducted measurements	VCCI R-1600 C-1707 G-216

* No part of this report may be used to claim or imply product endorsement by A2LA or any agency of the US Government.

6. SETUP OF EQUIPMENT UNDER TEST

6.1.SETUP CONFIGURATION OF EUT

See test photographs attached in Appendix 1 for the actual connections between EUT and support equipment.

6.2.SUPPORT EQUIPMENT

No.	Device Type	Brand	Model	Series No.	FCC ID
1.	N/A	N/A	N/A	N/A	N/A

Remark:

1. All the equipment/cables were placed in the worst-case configuration to maximize the emission during the test.
2. Grounding was established in accordance with the manufacturer's requirements and conditions for the intended use.

7. FCC PART 15.247 REQUIREMENTS

7.1.RADIATED BAND EDGES AND SPURIOUS EMISSIONS

LIMIT

Radiated emissions from 9 kHz to 25 GHz were measured according to the methods defines in ANSI C63.10-2013. The EUT was placed above the ground plane, 0.8 meter for frequency below 1GHz and 1.5 meter for frequency above 1GHz. The interface cables and equipment positions were varied within limits of reasonable applications to determine the positions producing maximum radiated emissions

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

FREQUENCIES(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	100	3
88~216	150	3
216~960	200	3
Above 960	500	3

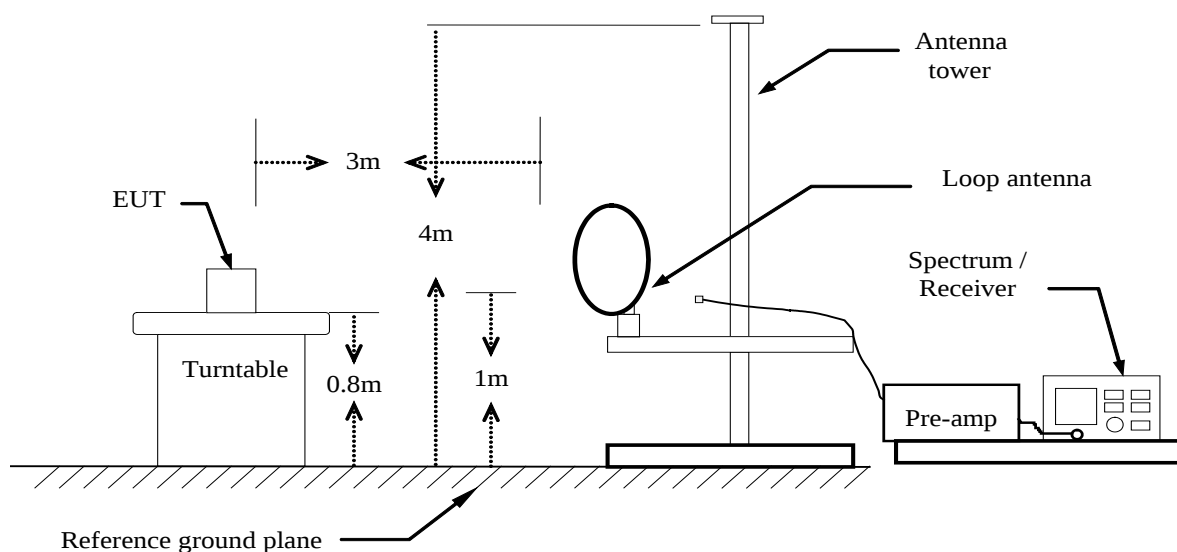
Remark: Except as provided in paragraph (g), fundamental emissions from intentional radiators operating under this Section shall not be located in the frequency bands 54-72 MHz, 76-88 MHz, 174-216 MHz or 470-806 MHz. However, operation within these frequency bands is permitted under other sections of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

2. In the emission table above, the tighter limit applies at the band edges.

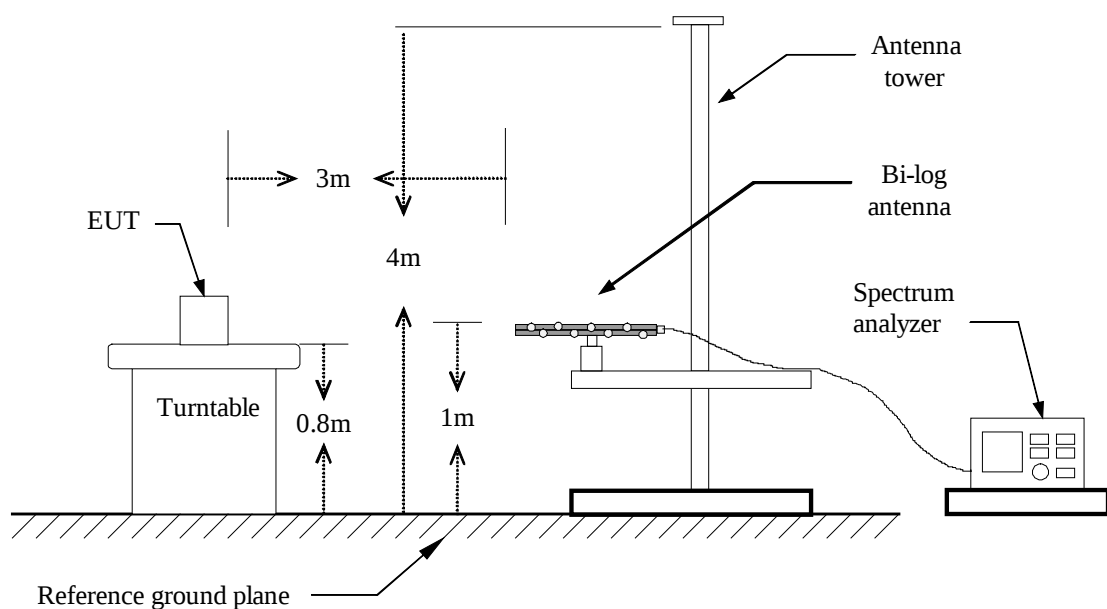
Frequency (MHz)	Field Strength (μ V/m at 3-meter)	Field Strength (dB μ V/m at 3-meter)
30-88	100	40
88-216	150	43.5
216-960	200	46
Above 960	500	54

Test Configuration

Below 30MHz



Below 1 GHz





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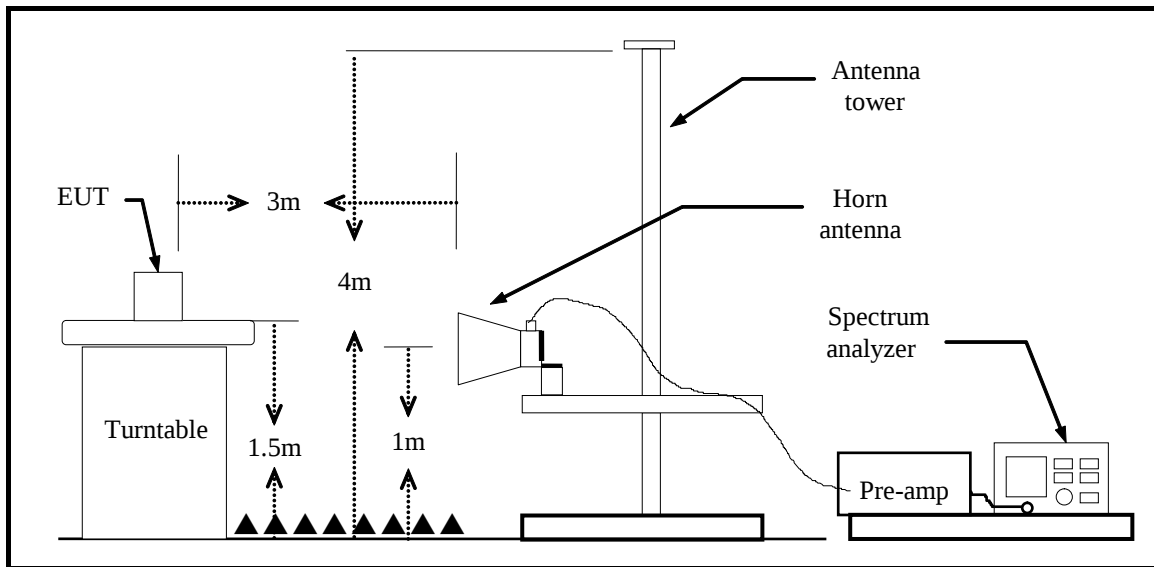
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Above 1 GHz**TEST PROCEDURE**

1. The EUT is placed on a turntable above ground plane, which is 0.8 meter for frequency below 1GHz and 1.5 meter for frequency above 1GHz.
2. The turntable shall be rotated for 360 degrees to determine the position of maximum emission level.
3. EUT is set 3m away from the receiving antenna, which is varied from 1m to 4m to find out the highest emissions.
4. Maximum procedure was performed on the six highest emissions to ensure EUT compliance.
5. And also, each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical.
6. Set the spectrum analyzer in the following setting as:

Below 1GHz:

RBW=100kHz / VBW=300kHz / Sweep=AUTO

Above 1GHz:

PEAK: RBW=VBW=1MHz / Sweep=AUTO

AVERAGE: RBW=1MHz / Sweep=AUTO

VBW=10Hz, when duty cycle is no less than 98 percent.

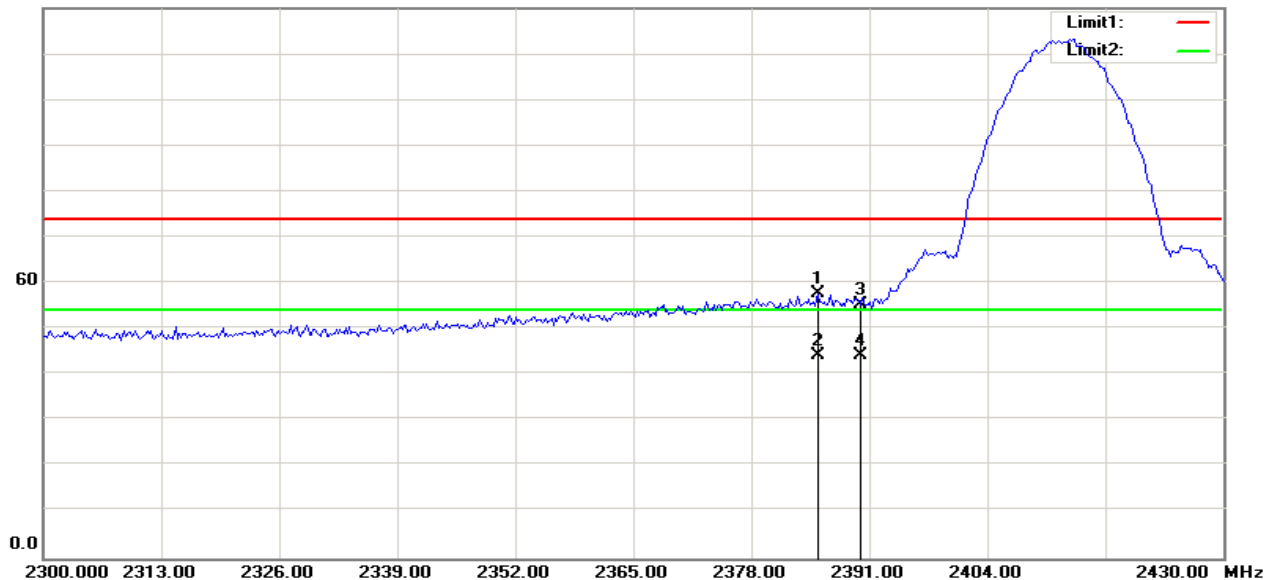
$VBW \geq 1/T$, when duty cycle is less than 98 percent, where T is the minimum transmission duration over which the transmitter is on and is transmitting at its maximum power control level for the tested mode of operation.

Band	Duty Cycle(%)	T(ms)	1/T(kHz)	VBW Setting
IEEE 802.11b	100	-	-	10Hz
IEEE 802.11g	95	2.075	0.482	0.5kHz
IEEE 802.11n HT20	95	1.931	0.518	1.0kHz
IEEE 802.11n HT40	90	0.954	1.048	2.0kHz

7. Repeat above procedures until the measurements for all frequencies are complete.

TEST RESULTS**RESTRICTED BANDEDGE (b Mode, Low Channel, Horizontal)**

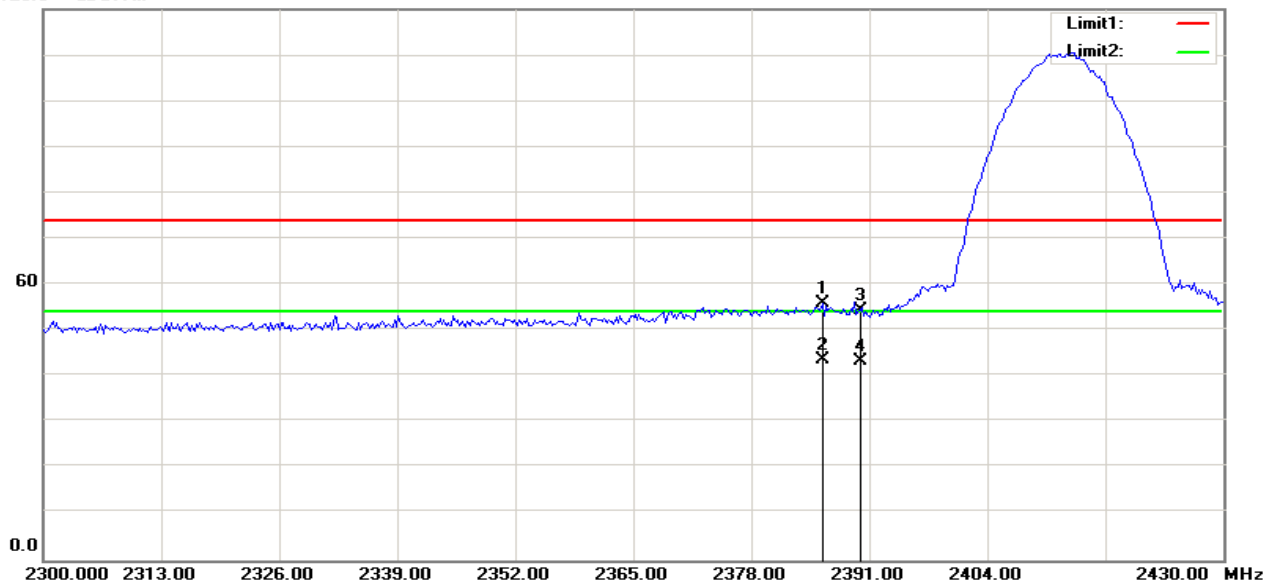
120.0 dBuV/m



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Remark
1	2385.417	65.01	-9.53	55.48	74.00	-18.52	100	127	peak
2	2385.417	51.54	-9.53	42.01	54.00	-11.99	100	123	AVG
3	2390.000	62.74	-9.49	53.25	74.00	-20.75	100	127	peak
4	2390.000	51.60	-9.49	42.11	54.00	-11.89	100	125	AVG

RESTRICTED BANDEDGE (b Mode, Low Channel, Vertical)

120.0 dBuV/m



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Remark
1	2385.833	63.11	-9.53	53.58	74.00	-20.42	100	264	peak
2	2385.833	50.85	-9.53	41.32	54.00	-12.68	100	262	AVG
3	2390.000	61.57	-9.49	52.08	74.00	-21.92	100	266	peak
4	2390.000	50.62	-9.49	41.13	54.00	-12.87	100	264	AVG



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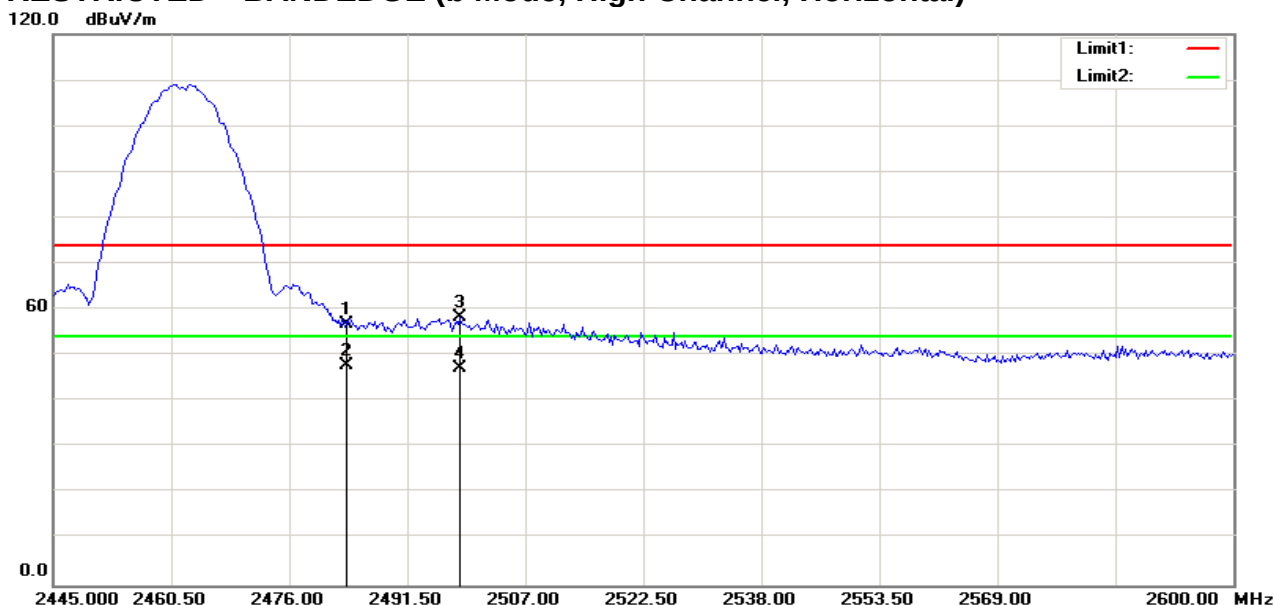
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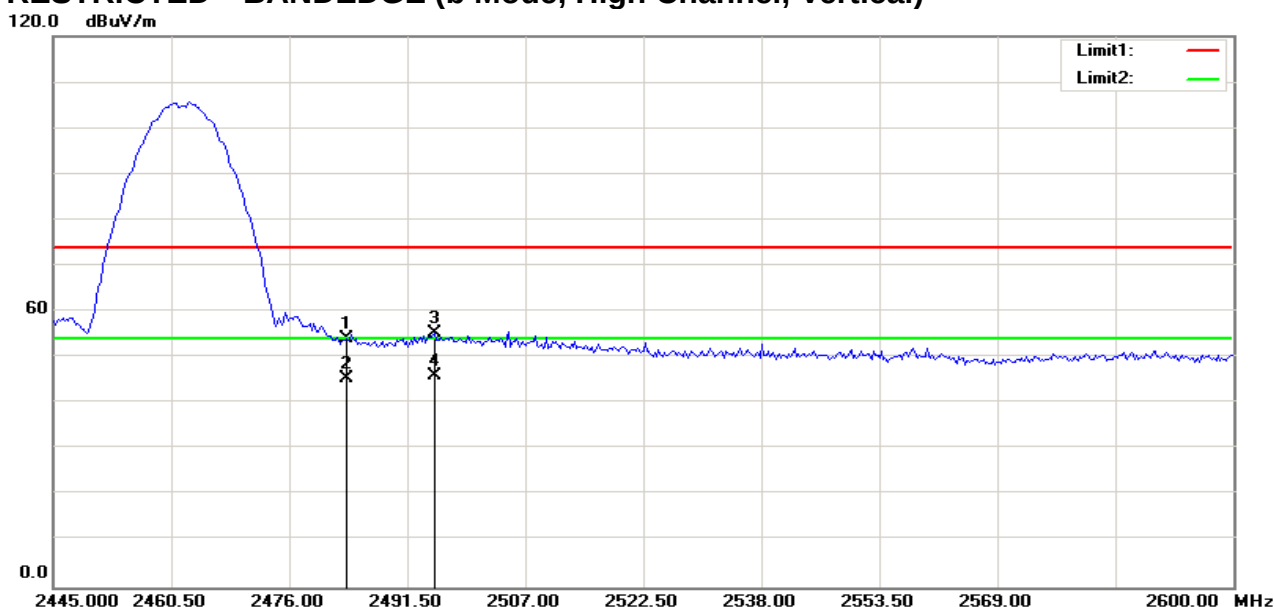
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RESTRICTED BANDEDGE (b Mode, High Channel, Horizontal)



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Remark
1	2483.500	66.01	-9.19	56.82	74.00	-17.18	124	247	peak
2	2483.500	56.96	-9.19	47.77	54.00	-6.23	124	246	AVG
3	2498.405	67.34	-9.06	58.28	74.00	-15.72	124	244	peak
4	2498.405	56.35	-9.06	47.29	54.00	-6.71	124	244	AVG

RESTRICTED BANDEDGE (b Mode, High Channel, Vertical)



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Remark
1	2483.500	63.36	-9.19	54.17	74.00	-19.83	108	270	peak
2	2483.500	54.64	-9.19	45.45	54.00	-8.55	108	272	AVG
3	2495.176	64.48	-9.09	55.39	74.00	-18.61	108	268	peak
4	2495.176	55.13	-9.09	46.04	54.00	-7.96	108	271	AVG



Compliance Certification Services (KunShan) Inc.

Date of Issue :December 22, 2016

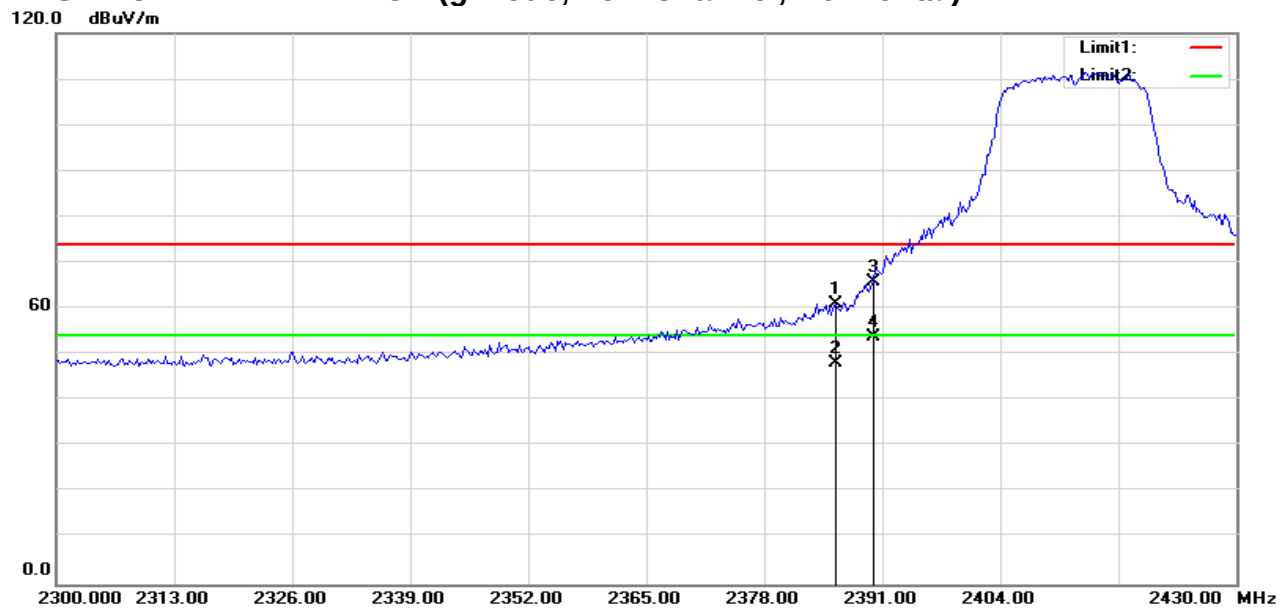
Reference No: C160817R01-RPW

FCC ID: PPD-QCNFA435

IC: 4104A-QCNFA435

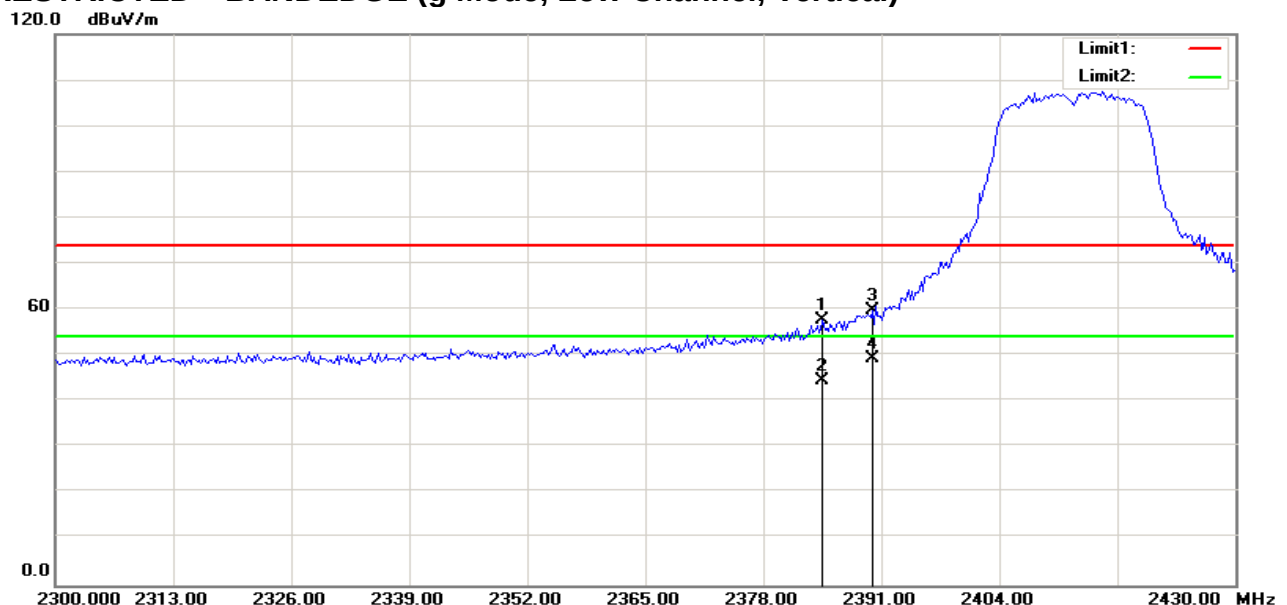
Report No: C161111R03-C-RPW

RESTRICTED BANDEDGE (g Mode, Low Channel, Horizontal)



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Remark
1	2385.833	70.72	-9.53	61.19	74.00	-12.81	129	246	peak
2	2385.833	57.75	-9.53	48.22	54.00	-5.78	129	244	AVG
3	2390.000	75.20	-9.49	65.71	74.00	-8.29	129	248	peak
4	2390.000	63.33	-9.49	53.84	54.00	-0.16	129	245	AVG

RESTRICTED BANDEDGE (g Mode, Low Channel, Vertical)



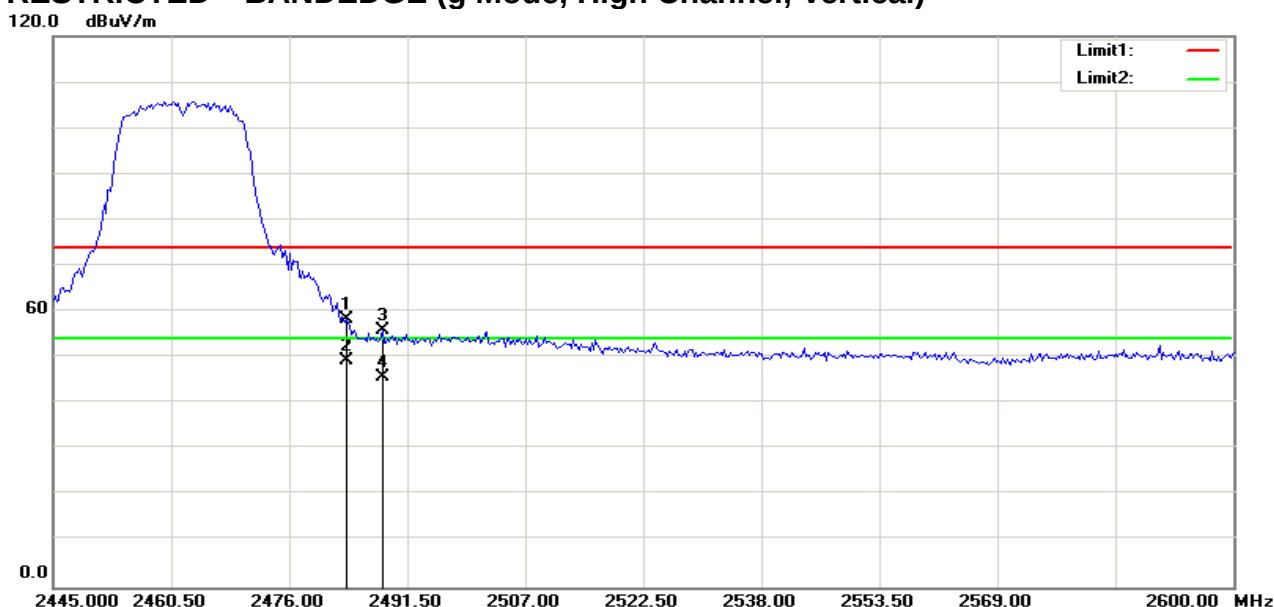
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Remark
1	2384.583	67.32	-9.54	57.78	74.00	-16.22	113	264	peak
2	2384.583	54.10	-9.54	44.56	54.00	-9.44	113	263	AVG
3	2390.000	69.29	-9.49	59.80	74.00	-14.20	113	262	peak
4	2390.000	58.87	-9.49	49.38	54.00	-4.62	113	262	AVG

RESTRICTED BANDEDGE (g Mode, High Channel, Horizontal)



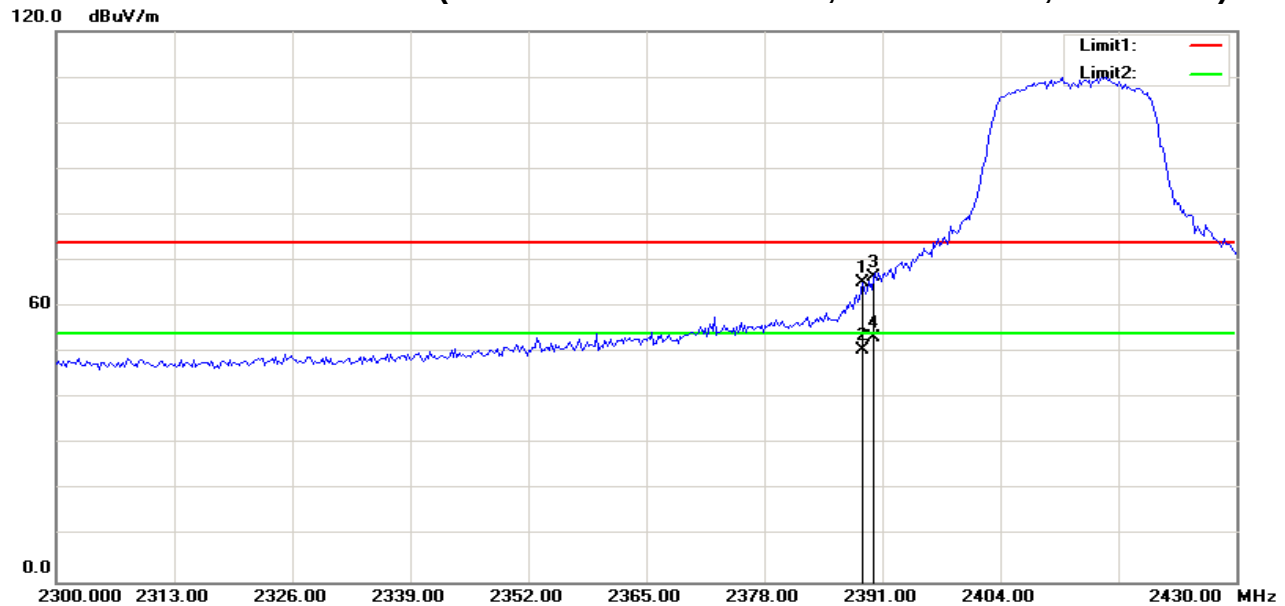
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Remark
1	2483.500	74.21	-9.19	65.02	74.00	-8.98	124	243	peak
2	2483.500	62.12	-9.19	52.93	54.00	-1.07	124	241	AVG
3	2484.495	71.68	-9.18	62.50	74.00	-11.50	124	241	peak
4	2484.495	60.04	-9.18	50.86	54.00	-3.14	124	243	AVG

RESTRICTED BANDEDGE (g Mode, High Channel, Vertical)



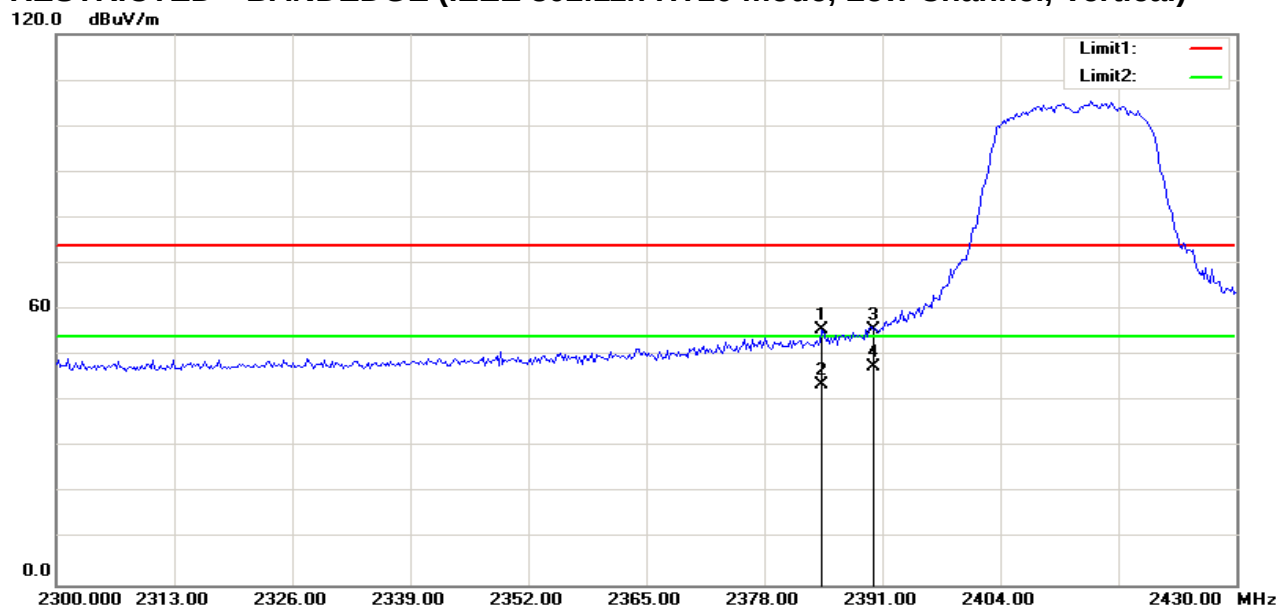
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Remark
1	2483.500	67.41	-9.19	58.22	74.00	-15.78	109	274	peak
2	2483.500	58.53	-9.19	49.34	54.00	-4.66	109	272	AVG
3	2488.221	65.19	-9.15	56.04	74.00	-17.96	109	285	peak
4	2488.221	54.81	-9.15	45.66	54.00	-8.34	109	286	AVG

RESTRICTED BANDEDGE (IEEE 802.11n HT20 mode, Low Channel, Horizontal)



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Remark
1	2388.750	74.83	-9.50	65.33	74.00	-8.67	128	242	peak
2	2388.750	60.14	-9.50	50.64	54.00	-3.36	129	244	AVG
3	2390.000	75.99	-9.49	66.50	74.00	-7.50	128	244	peak
4	2390.000	62.83	-9.49	53.34	54.00	-0.66	128	244	AVG

RESTRICTED BANDEDGE (IEEE 802.11n HT20 mode, Low Channel, Vertical)



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Remark
1	2384.375	65.32	-9.54	55.78	74.00	-18.22	115	261	peak
2	2384.375	53.23	-9.54	43.69	54.00	-10.31	115	263	AVG
3	2390.000	65.20	-9.49	55.71	74.00	-18.29	115	262	peak
4	2390.000	57.14	-9.49	47.65	54.00	-6.35	115	261	AVG



Compliance Certification Services (KunShan) Inc.

Date of Issue :December 22, 2016

Reference No: C160817R01-RPW

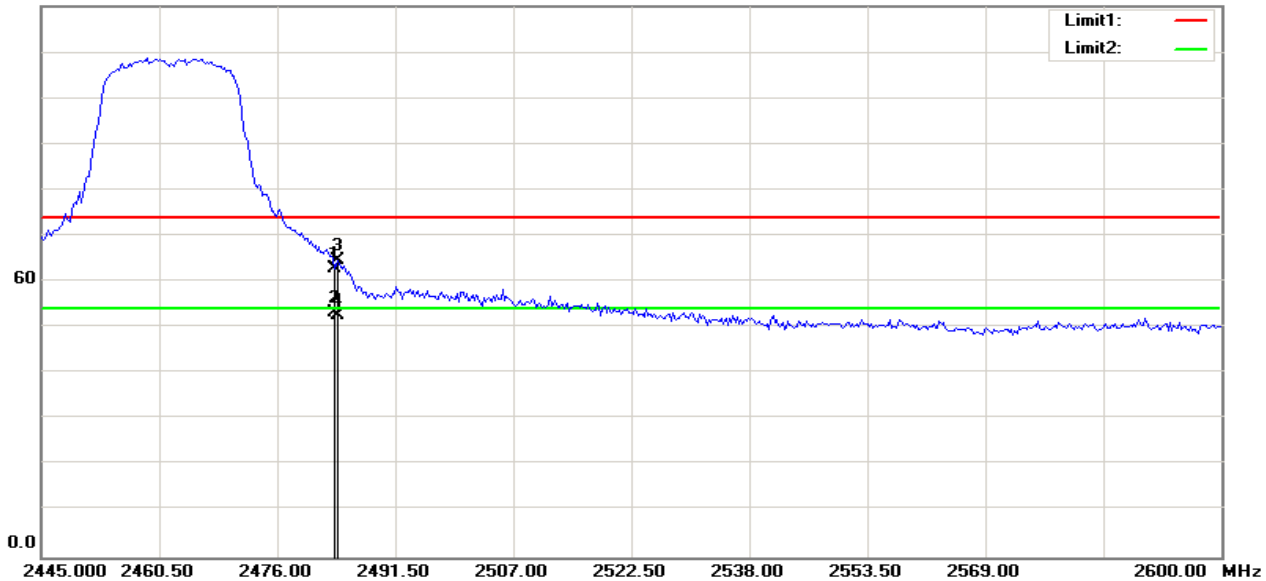
FCC ID: PPD-QCNFA435

IC: 4104A-QCNFA435

Report No: C161111R03-C-RPW

RESTRICTED BANDEDGE (IEEE 802.11n HT20 mode, High Channel, Horizontal)

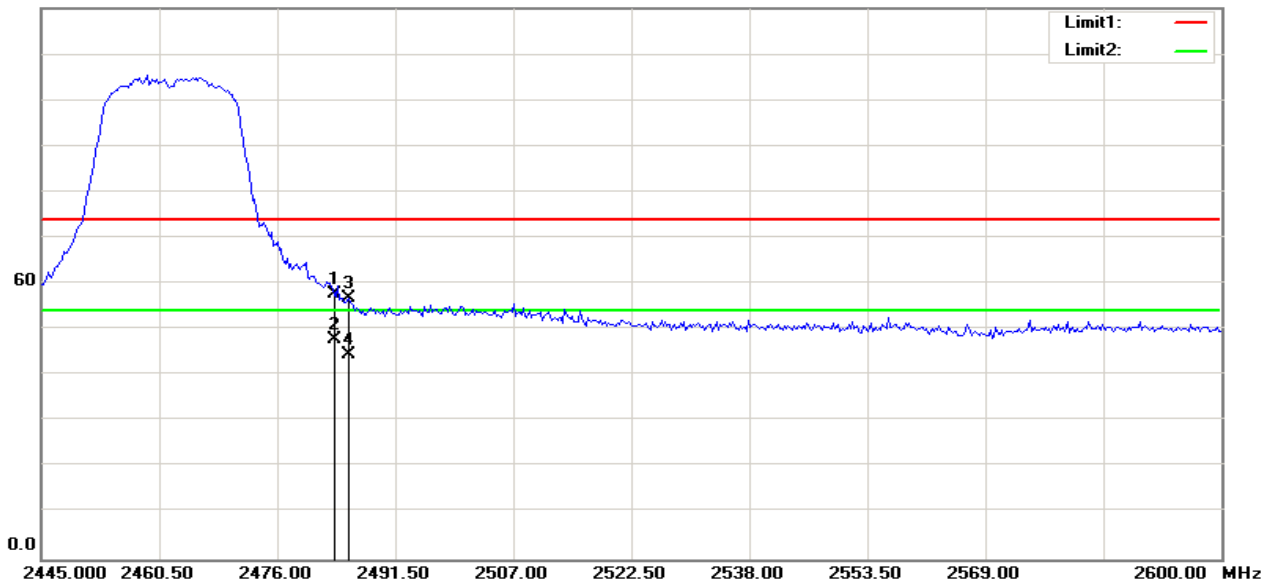
120.0 dBuV/m



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Remark
1	2483.500	72.15	-9.19	62.96	74.00	-11.04	100	239	peak
2	2483.500	62.39	-9.19	53.20	54.00	-0.80	124	242	AVG
3	2483.998	73.90	-9.18	64.72	74.00	-9.28	100	237	peak
4	2483.998	61.74	-9.18	52.56	54.00	-1.44	124	240	AVG

RESTRICTED BANDEDGE (IEEE 802.11n HT20 mode, High Channel, Vertical)

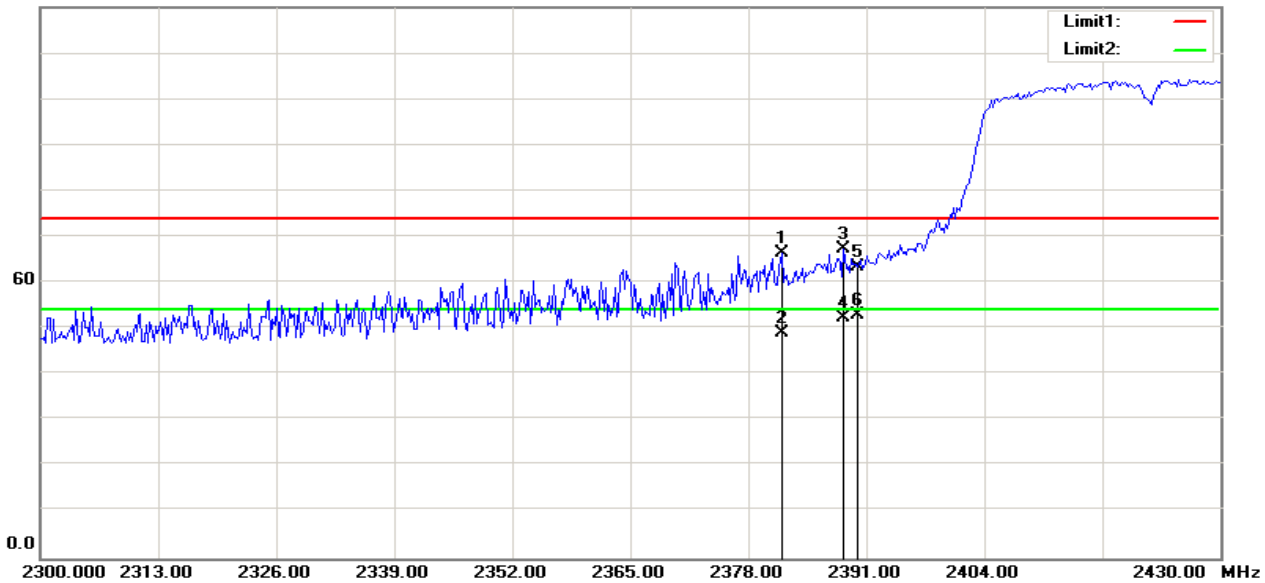
120.0 dBuV/m



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Remark
1	2483.500	66.87	-9.19	57.68	74.00	-16.32	109	255	peak
2	2483.500	56.95	-9.19	47.76	54.00	-6.24	109	256	AVG
3	2485.489	66.01	-9.17	56.84	74.00	-17.16	109	112	peak
4	2485.489	53.84	-9.17	44.67	54.00	-9.33	109	253	AVG

RESTRICTED BANDEDGE (IEEE 802.11n HT40 mode, Low Channel, Horizontal)

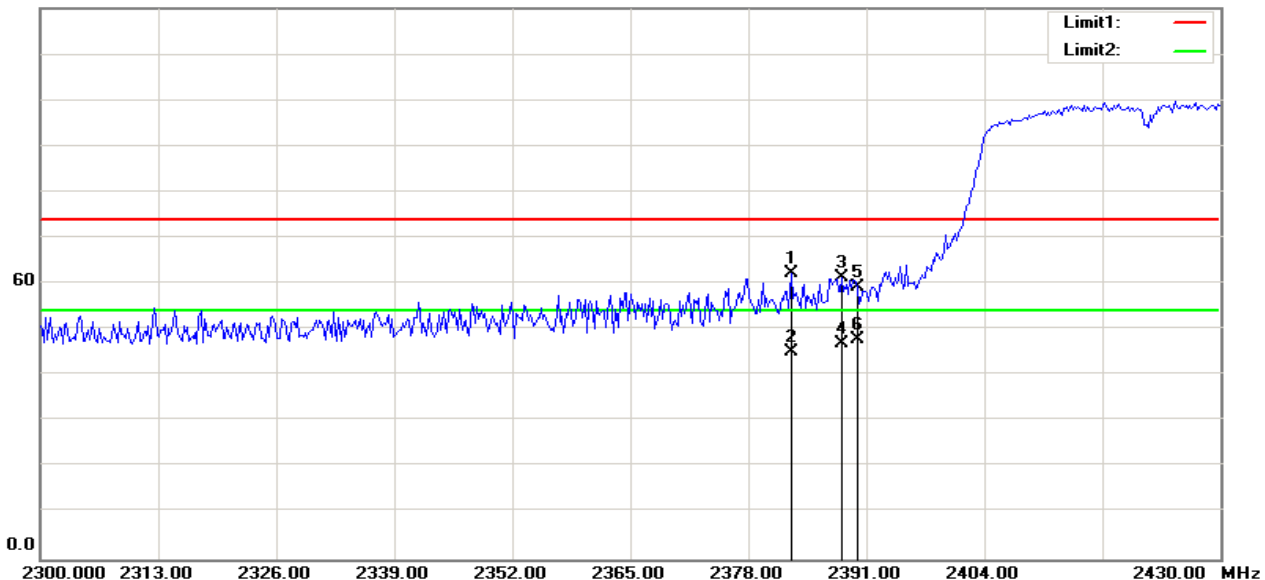
120.0 dBuV/m



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Remark
1	2381.667	75.92	-9.57	66.35	74.00	-7.65	100	246	peak
2	2381.667	58.75	-9.57	49.18	54.00	-4.82	128	245	AVG
3	2388.542	76.91	-9.51	67.40	74.00	-6.60	100	242	peak
4	2388.542	61.81	-9.51	52.30	54.00	-1.70	128	245	AVG
5	2390.000	72.82	-9.49	63.33	74.00	-10.67	100	244	peak
6	2390.000	62.57	-9.49	53.08	54.00	-0.92	128	245	AVG

RESTRICTED BANDEDGE (IEEE 802.11n HT40 mode, Low Channel, Vertical)

120.0 dBuV/m



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Remark
1	2382.708	71.50	-9.26	62.24	74.00	-11.76	115	261	peak
2	2382.708	54.56	-9.26	45.30	54.00	-8.70	115	260	AVG
3	2388.333	70.48	-9.21	61.27	74.00	-12.73	115	262	peak
4	2388.333	56.28	-9.21	47.07	54.00	-6.93	115	260	AVG
5	2390.000	68.36	-9.19	59.17	74.00	-14.83	115	262	peak



Compliance Certification Services (KunShan) Inc.

Date of Issue :December 22, 2016

Reference No: C160817R01-RPW

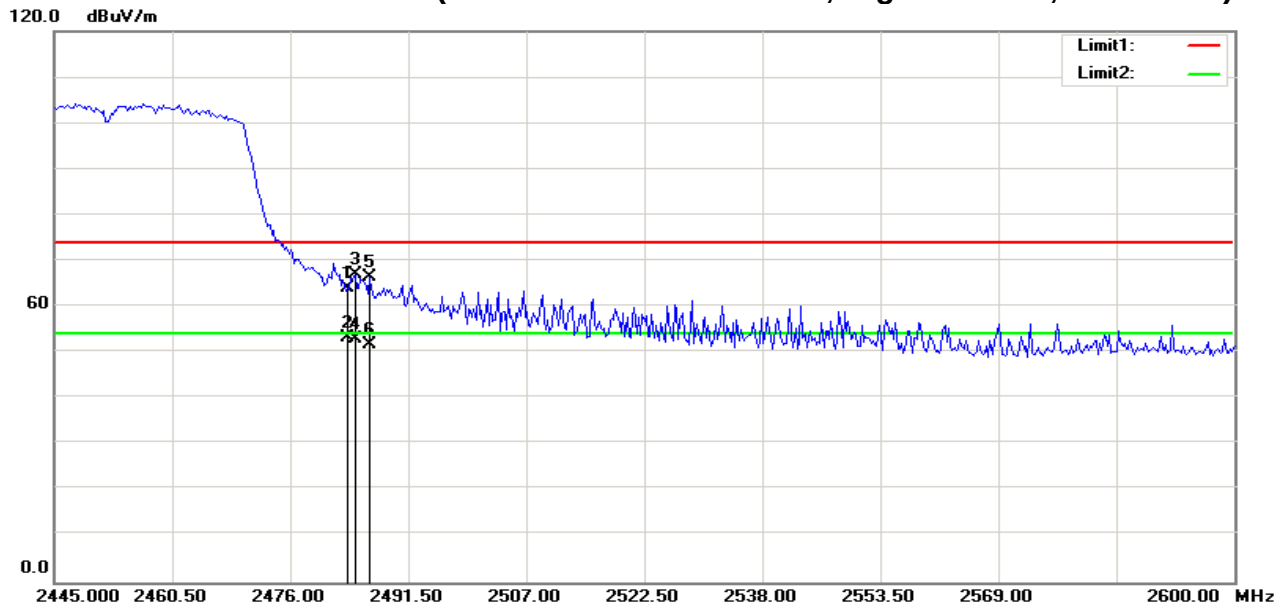
FCC ID: PPD-QCNFA435

IC: 4104A-QCNFA435

Report No: C161111R03-C-RPW

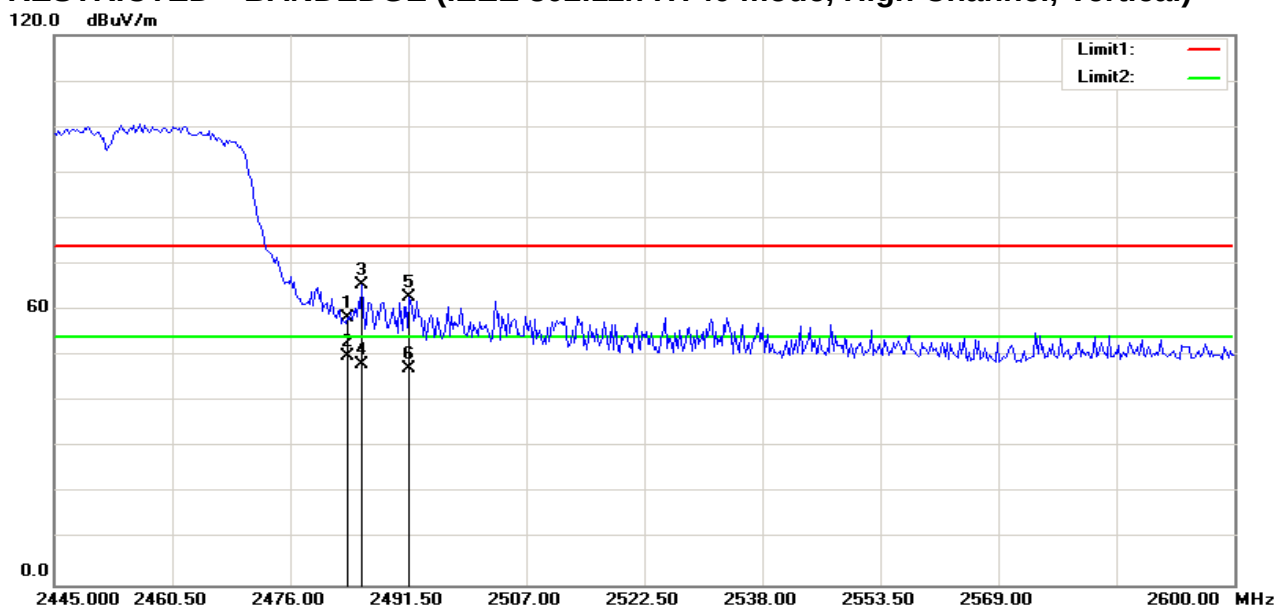
6	2390.000	57.10	-9.19	47.91	54.00	-6.09	115	261	AVG
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RESTRICTED BANDEDGE (IEEE 802.11n HT40 mode, High Channel, Horizontal)



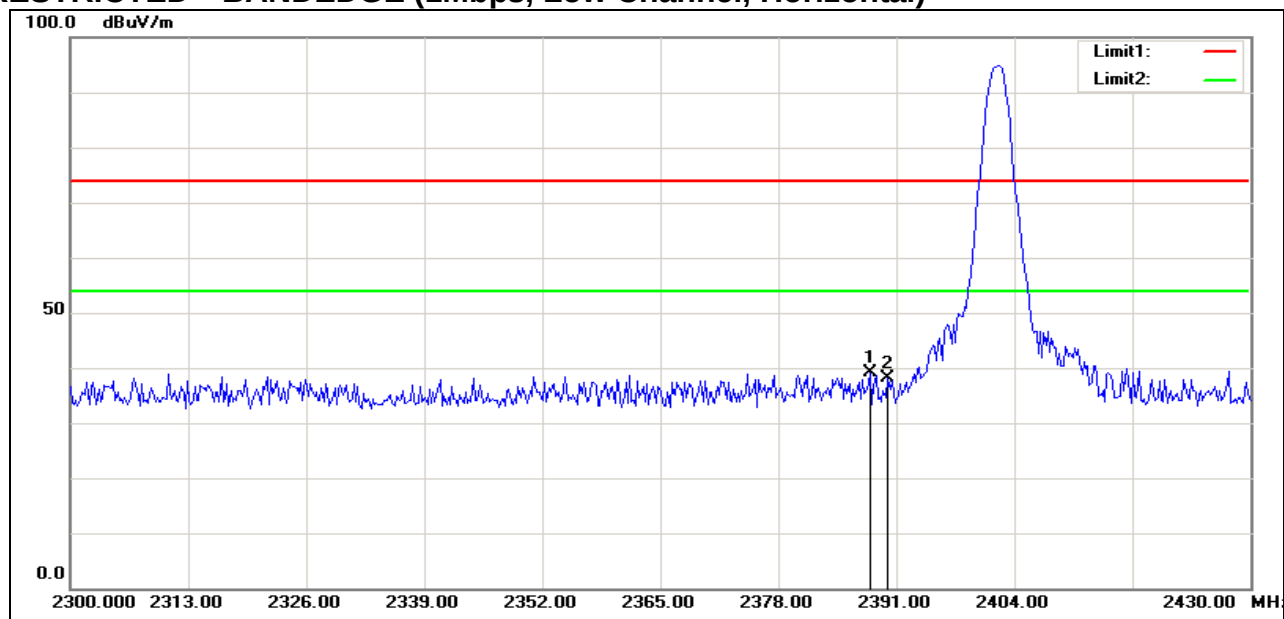
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Remark
1	2483.500	73.30	-9.19	64.11	74.00	-9.89	126	247	peak
2	2483.500	62.57	-9.19	53.38	54.00	-0.62	126	246	AVG
3	2484.495	76.19	-9.18	67.01	74.00	-6.99	126	247	peak
4	2484.495	62.14	-9.18	52.96	54.00	-1.04	126	245	AVG
5	2486.482	75.57	-9.15	66.42	74.00	-7.58	126	246	peak
6	2486.482	60.85	-9.15	51.70	54.00	-2.30	126	246	AVG

RESTRICTED BANDEDGE (IEEE 802.11n HT40 mode, High Channel, Vertical)



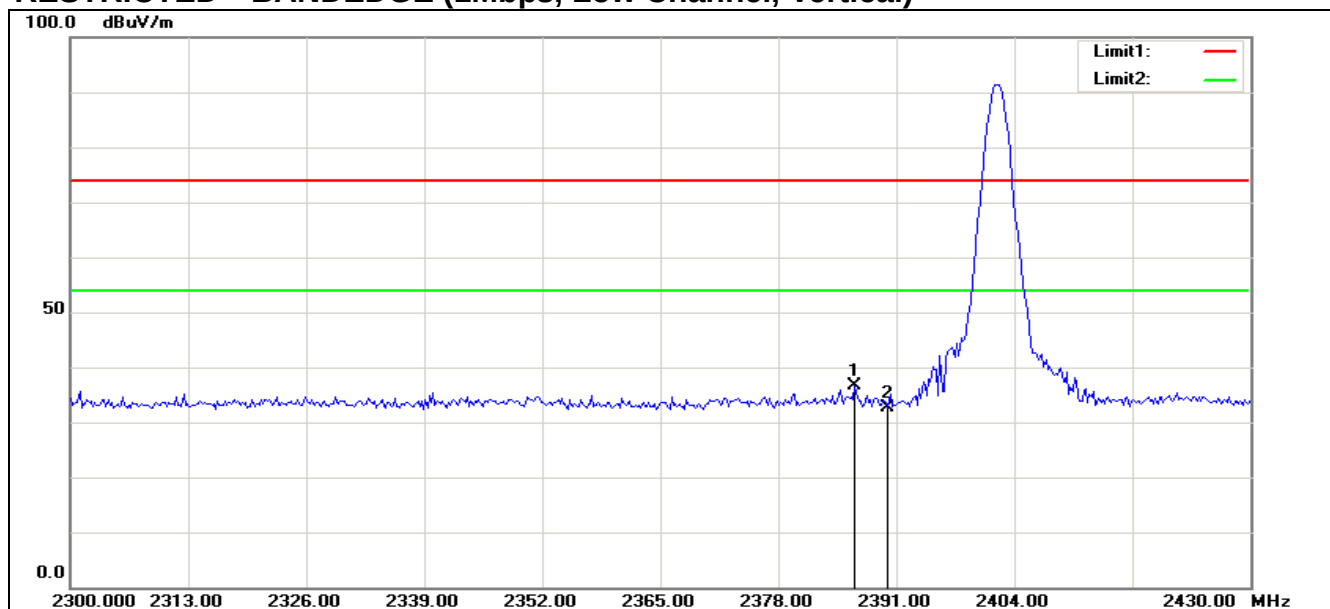
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Remark
1	2483.500	67.56	-9.19	58.37	74.00	-15.63	135	289	peak
2	2483.500	59.16	-9.19	49.97	54.00	-4.03	135	290	AVG
3	2485.489	74.77	-9.17	65.60	74.00	-8.40	135	287	peak
4	2485.489	57.42	-9.17	48.25	54.00	-5.75	135	288	AVG
5	2491.699	71.86	-9.12	62.74	74.00	-11.26	135	284	peak
6	2491.699	56.32	-9.12	47.20	54.00	-6.80	135	286	AVG

RESTRICTED BANDEDGE (1Mbps, Low Channel, Horizontal)

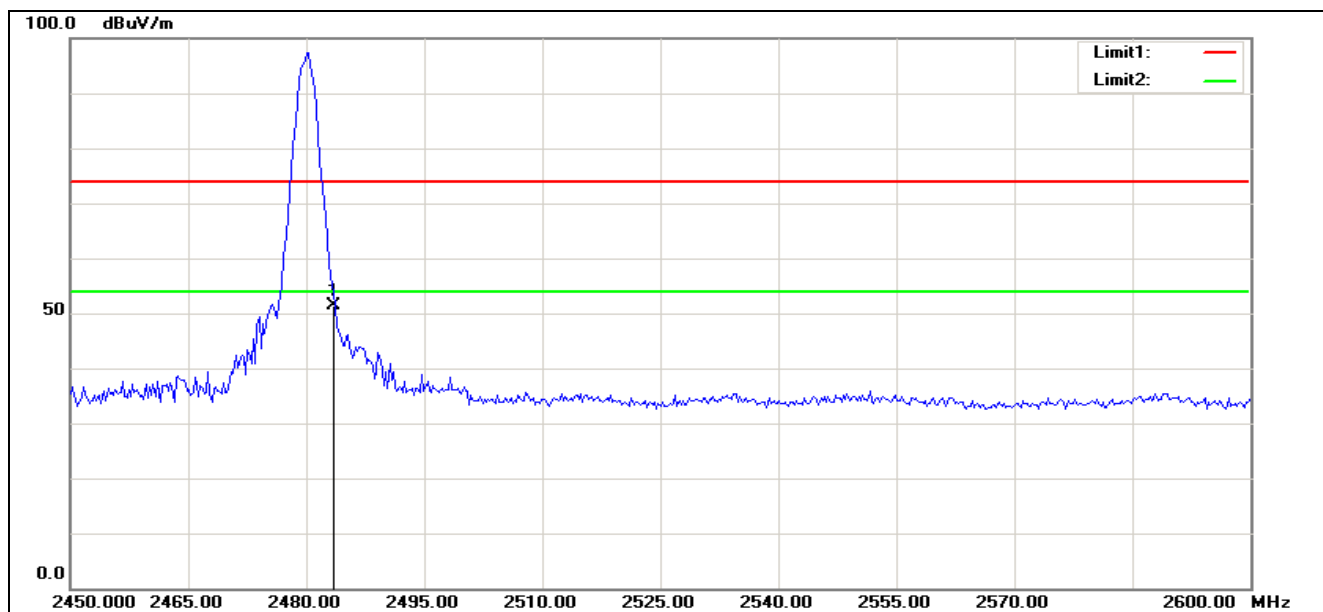


No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Remark
1	2388.125	48.54	-9.50	39.04	74.00	-34.96	100	298	peak
2	2390.000	47.56	-9.49	38.07	74.00	-35.93	100	286	peak

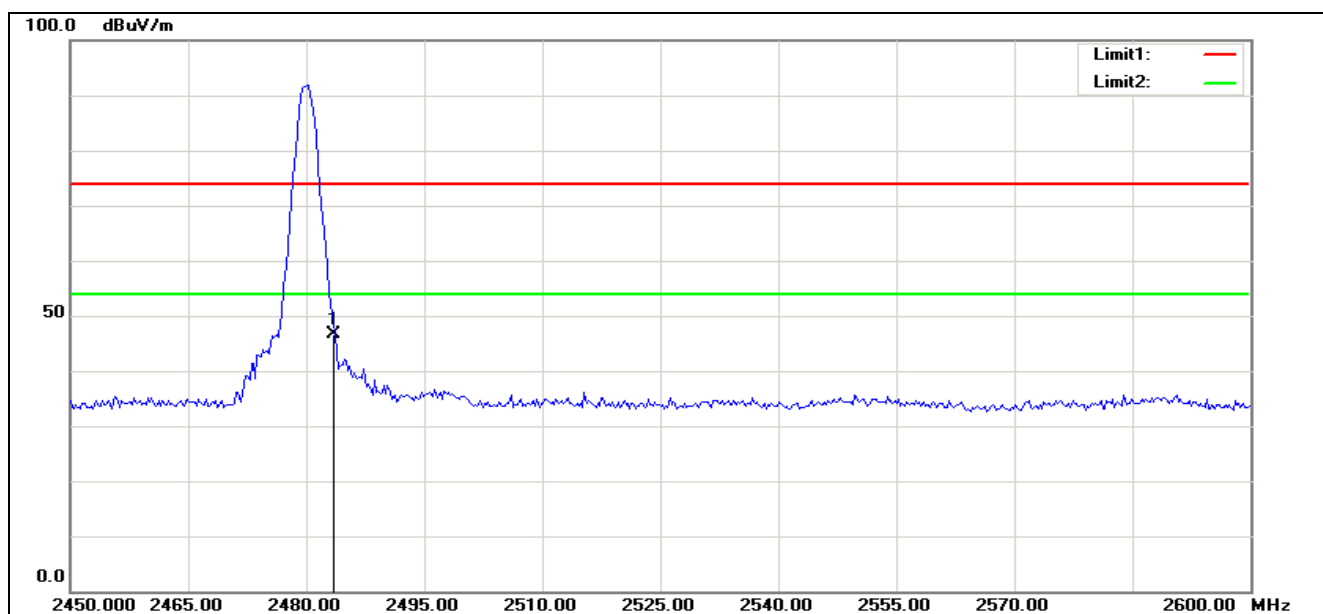
RESTRICTED BANDEDGE (1Mbps, Low Channel, Vertical)



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Remark
1	2386.458	46.14	-9.51	36.63	74.00	-37.37	100	279	peak
2	2390.000	42.21	-9.49	32.72	74.00	-41.28	100	152	peak

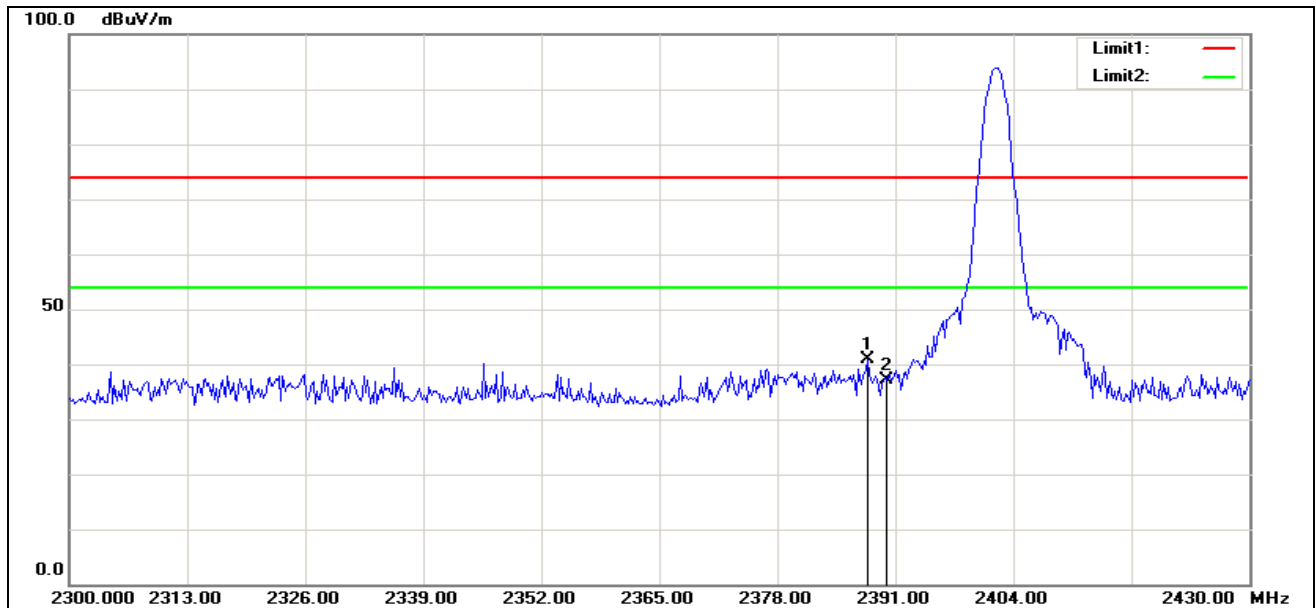
RESTRICTED BANDEDGE (1Mbps Mode, High Channel, Horizontal)


No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Remark
1	2483.500	60.67	-9.19	51.48	74.00	-22.52	100	298	peak

RESTRICTED BANDEDGE (1Mbps, High Channel, Vertical)


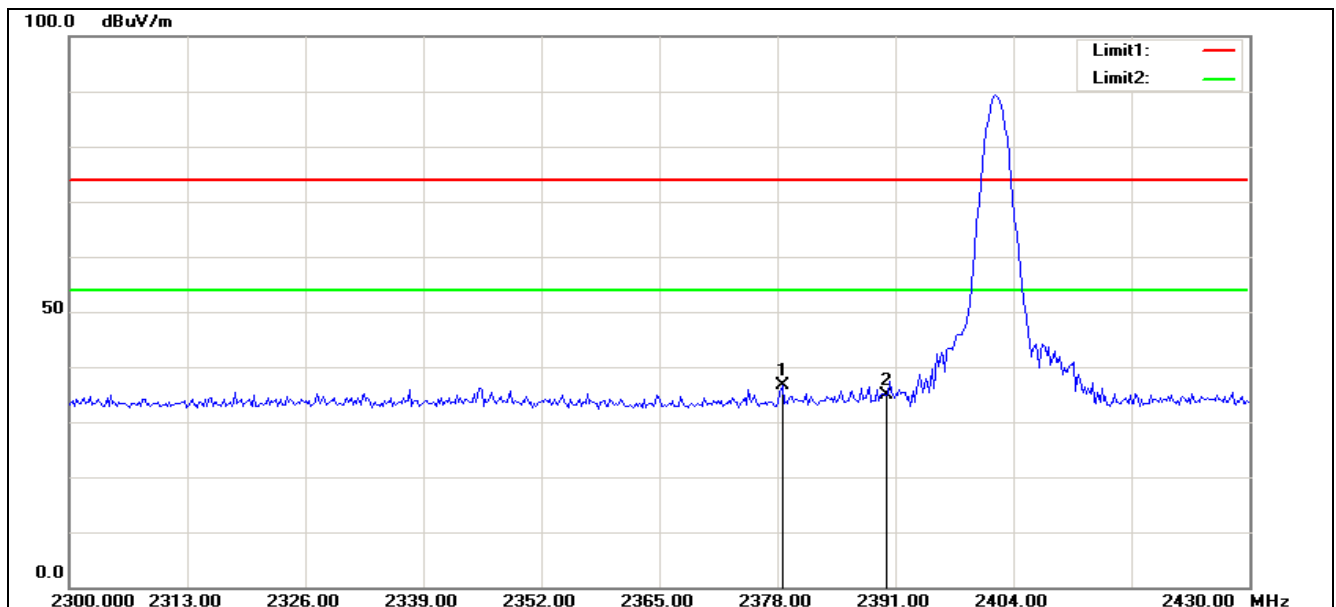
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Remark
1	2483.500	55.85	-9.19	46.66	74.00	-27.34	100	256	peak

RESTRICTED BANDEDGE (3Mbps, Low Channel, Horizontal)



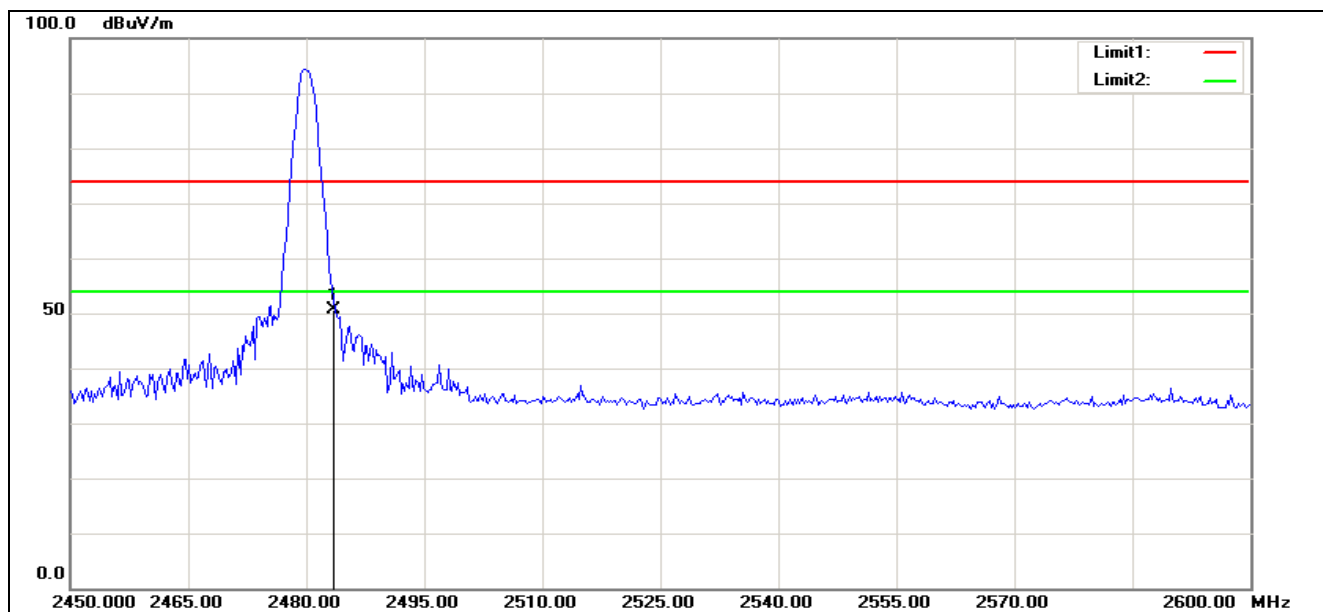
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Remark
1	2387.917	50.36	-9.50	40.86	74.00	-33.14	100	297	peak
2	2390.000	46.58	-9.49	37.09	74.00	-36.91	100	248	peak

RESTRICTED BANDEDGE (3Mbps, Low Channel, Vertical)



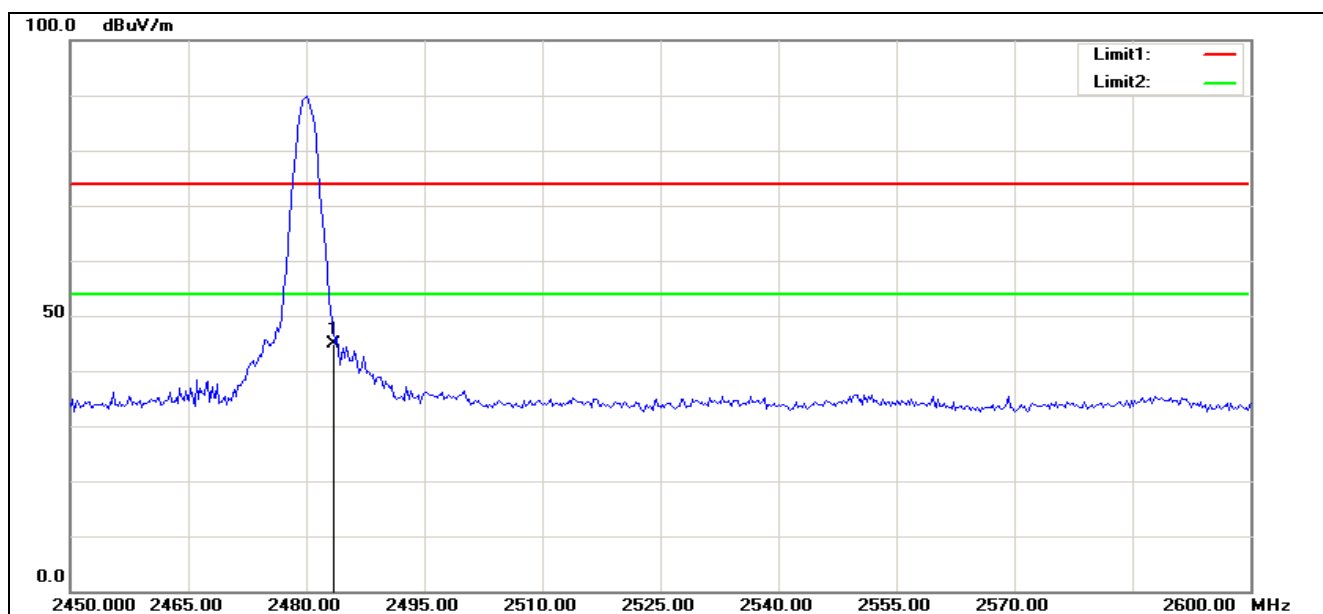
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Remark
1	2378.542	46.20	-9.53	36.67	74.00	-37.33	100	264	peak
2	2390.000	44.30	-9.49	34.81	74.00	-39.19	100	251	peak

RESTRICTED BANDEDGE (3Mbps, High Channel, Horizontal)



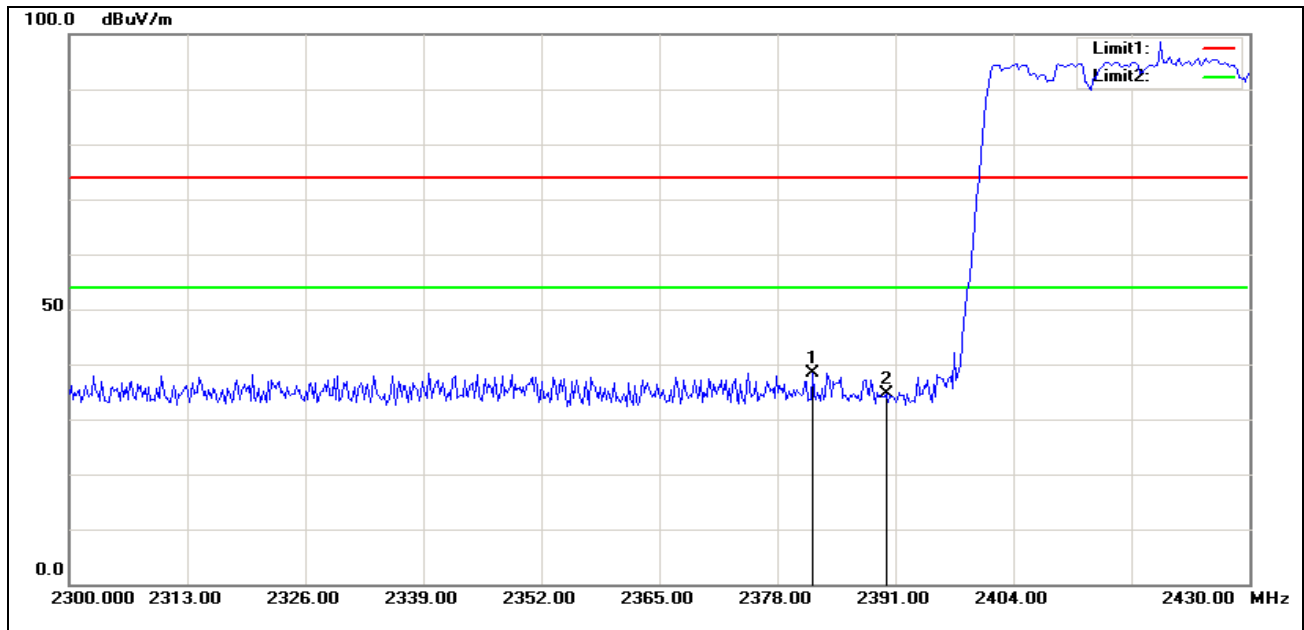
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Remark
1	2483.500	59.70	-9.19	50.51	74.00	-23.49	100	296	peak

RESTRICTED BANDEDGE (3Mbps, High Channel, Vertical)



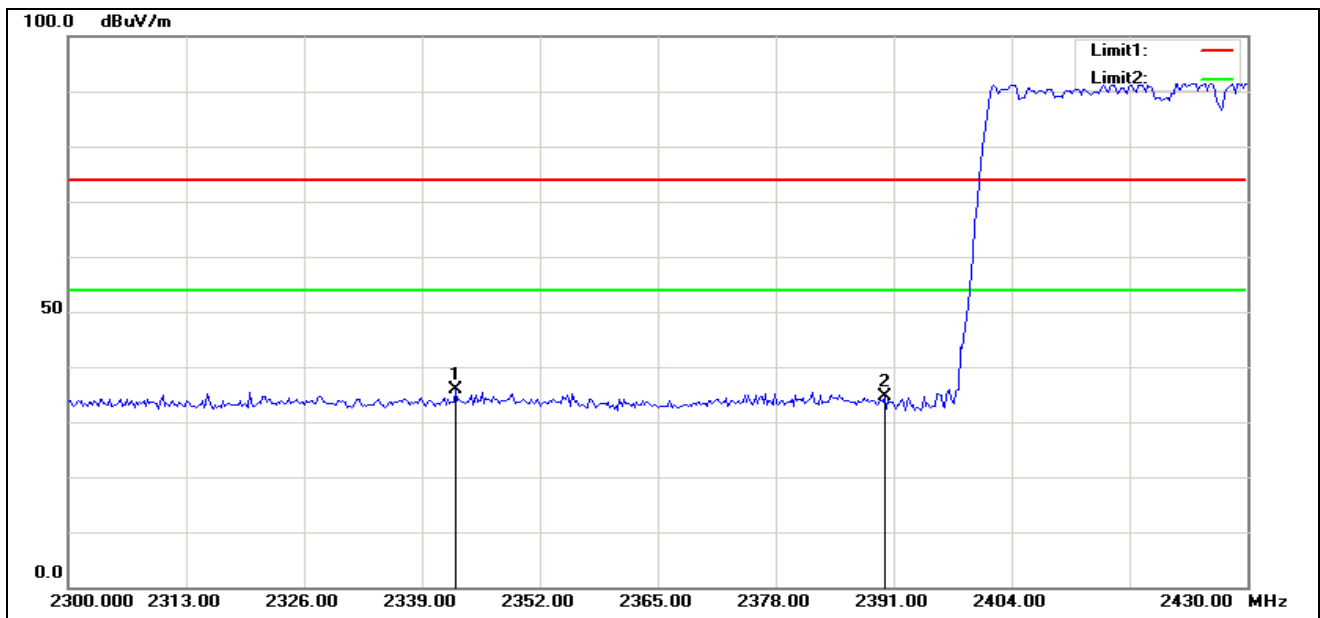
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Remark
1	2483.500	54.19	-9.19	45.00	74.00	-29.00	100	278	peak

RESTRICTED BANDEDGE (1Mbps, Low Channel, Horizontal, hopping)

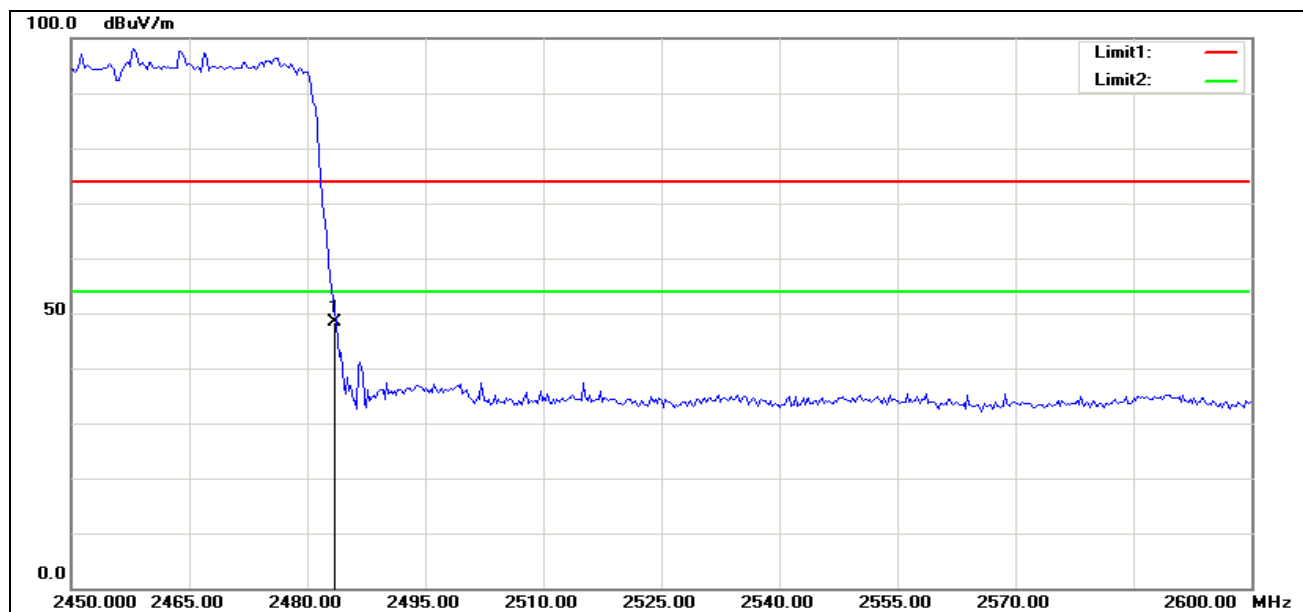


No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Remark
1	2381.875	47.92	-9.52	38.40	74.00	-35.60	100	296	peak
2	2390.000	44.20	-9.49	34.71	74.00	-39.29	100	248	peak

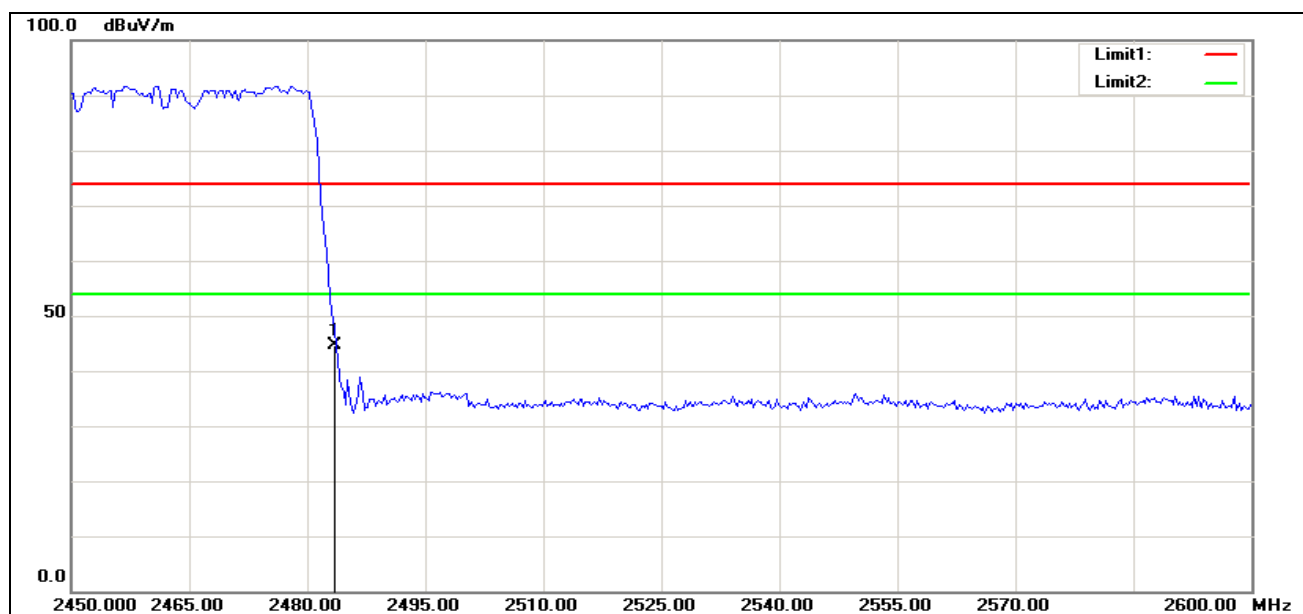
RESTRICTED BANDEDGE (1Mbps, Low Channel, Vertical, hopping)



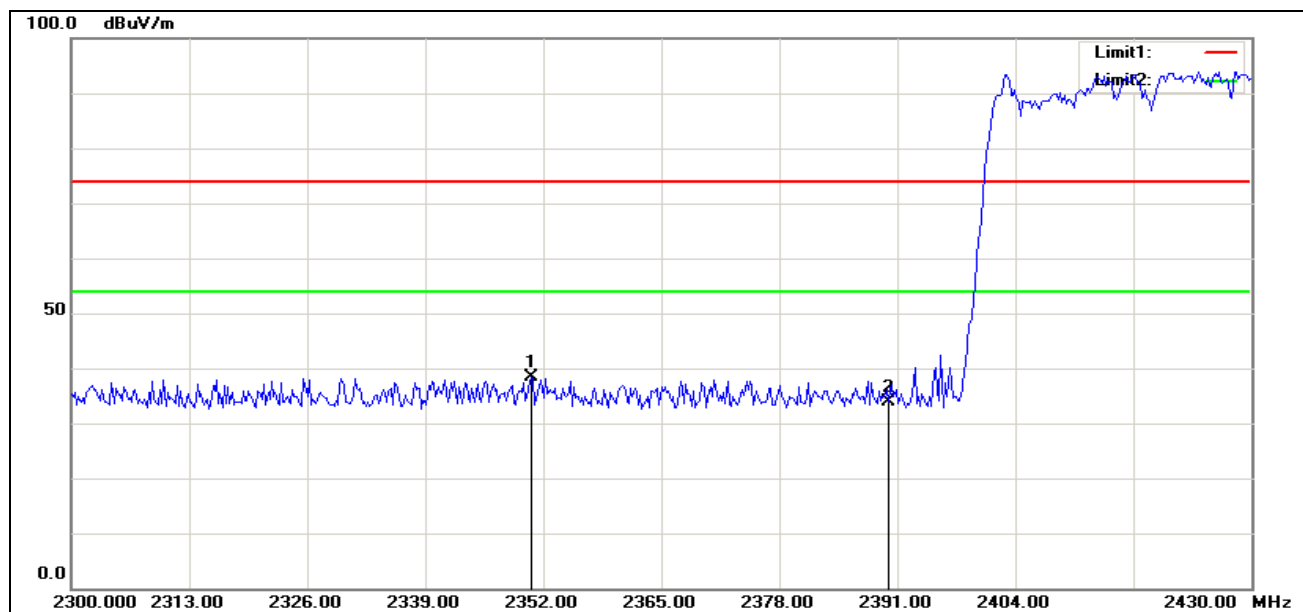
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Remark
1	2342.708	45.46	-9.65	35.81	74.00	-38.19	100	14	peak
2	2390.000	44.10	-9.49	34.61	74.00	-39.39	100	271	peak

RESTRICTED BANDEDGE (1Mbps Mode, High Channel, Horizontal, hopping)


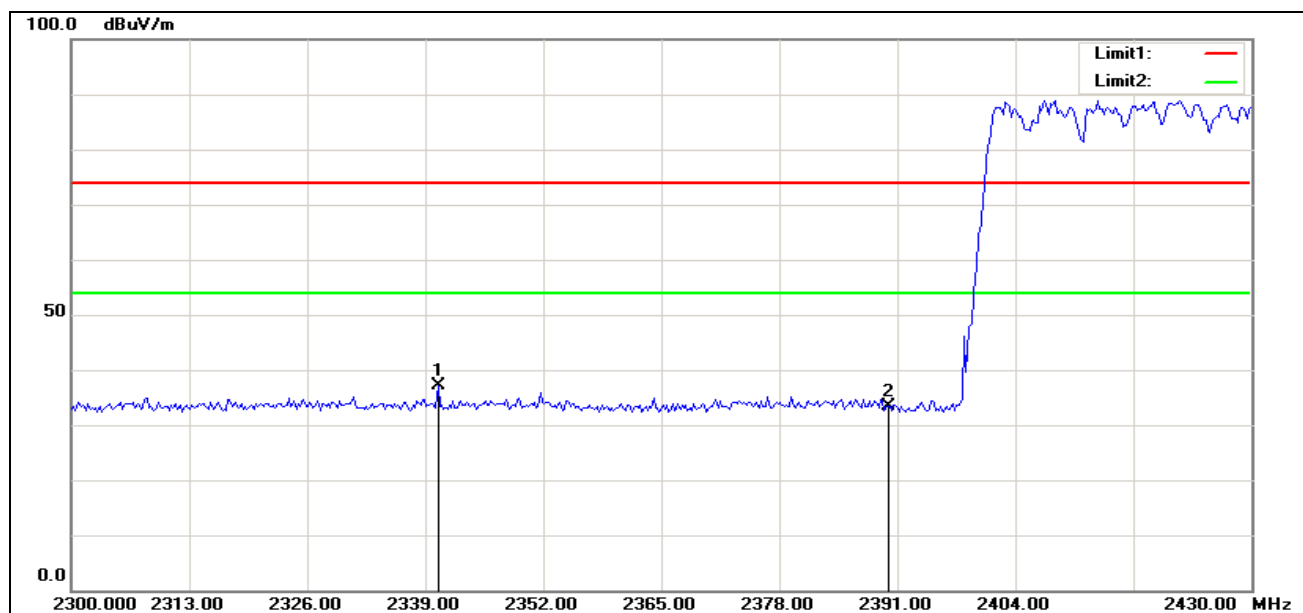
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Remark
1	2483.500	57.45	-9.19	48.26	74.00	-25.74	100	280	peak

RESTRICTED BANDEDGE (1Mbps, High Channel, Vertical, hopping)


No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Remark
1	2483.500	53.90	-9.19	44.71	74.00	-29.29	100	270	peak

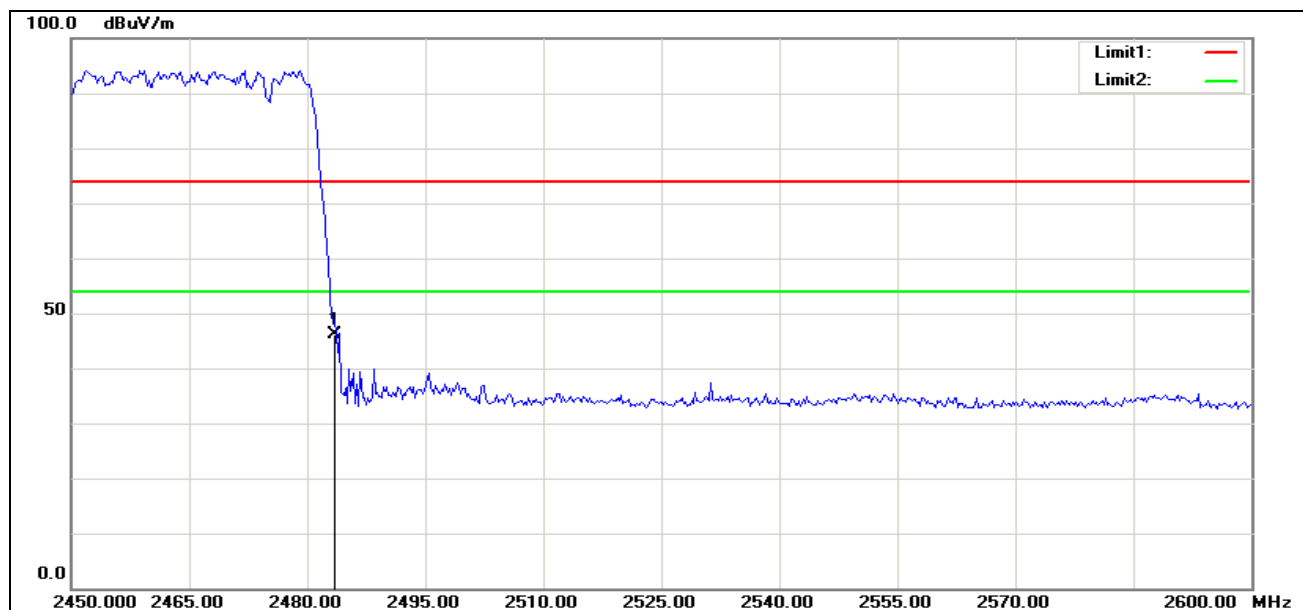
RESTRICTED BANDEDGE (3Mbps, Low Channel, Horizontal, hopping)


No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Remark
1	2350.625	47.95	-9.62	38.33	74.00	-35.67	100	287	peak
2	2390.000	43.34	-9.49	33.85	74.00	-40.15	100	279	peak

RESTRICTED BANDEDGE (3Mbps, Low Channel, Vertical, hopping)


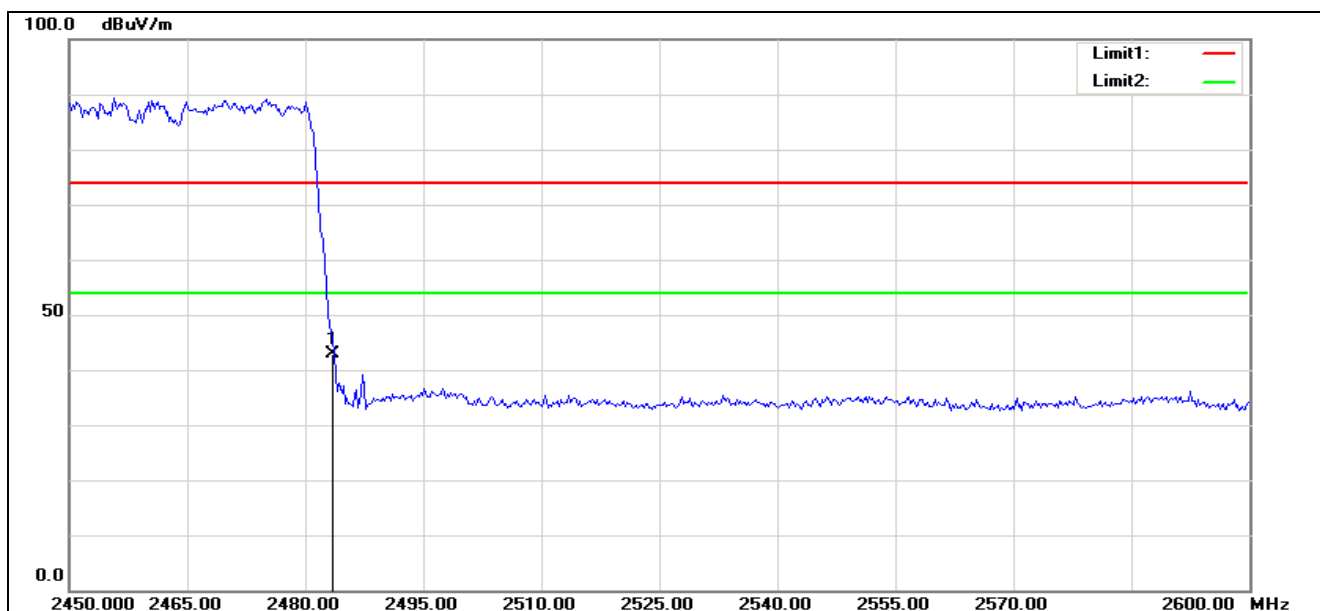
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Remark
1	2340.417	46.73	-9.66	37.07	74.00	-36.93	100	269	peak
2	2390.000	42.87	-9.49	33.38	74.00	-40.62	100	281	peak

RESTRICTED BANDEDGE (3Mbps, High Channel, Horizontal, hopping)



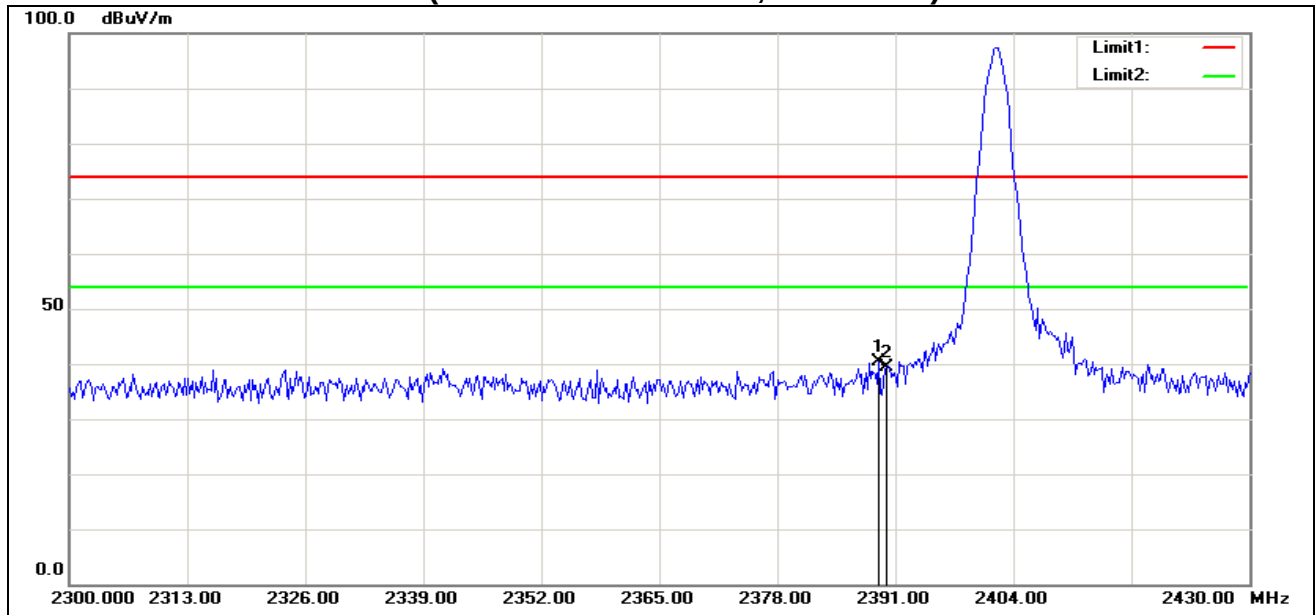
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Remark
1	2483.500	55.21	-9.19	46.02	74.00	-27.98	100	282	peak

RESTRICTED BANDEDGE (3Mbps, High Channel, Vertical, hopping)



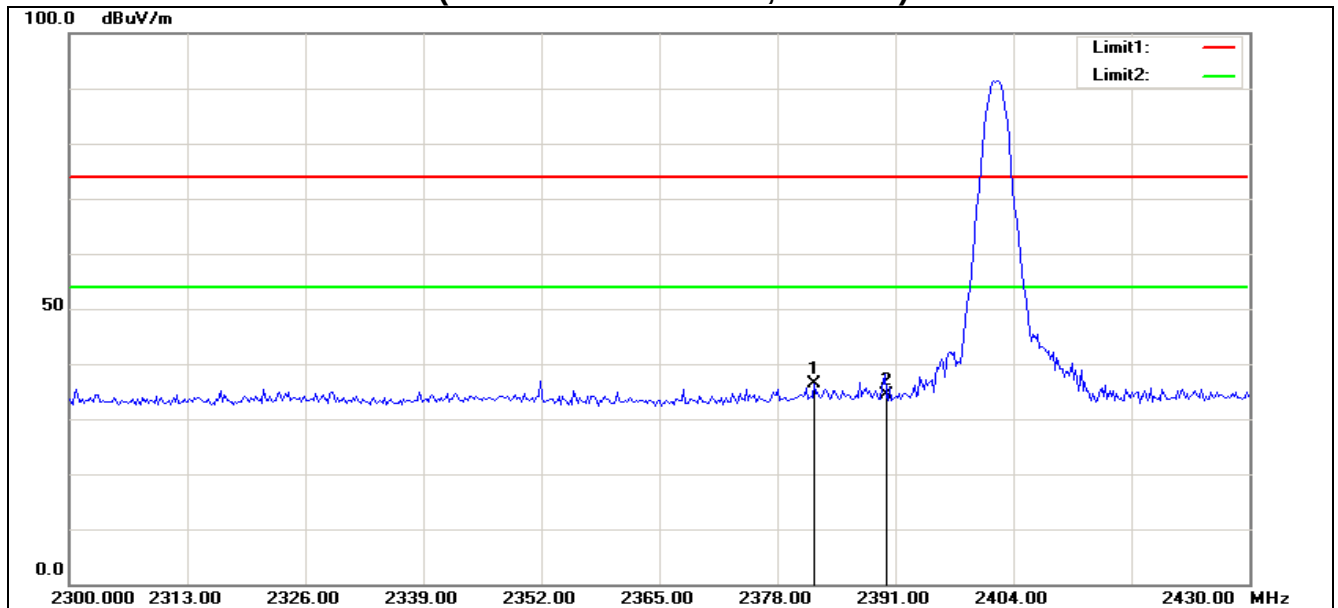
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Remark
1	2483.500	52.08	-9.19	42.89	74.00	-31.11	100	320	peak

RESTRICTED BANDEDGE (BLE4.0 on Channel 0, Horizontal)



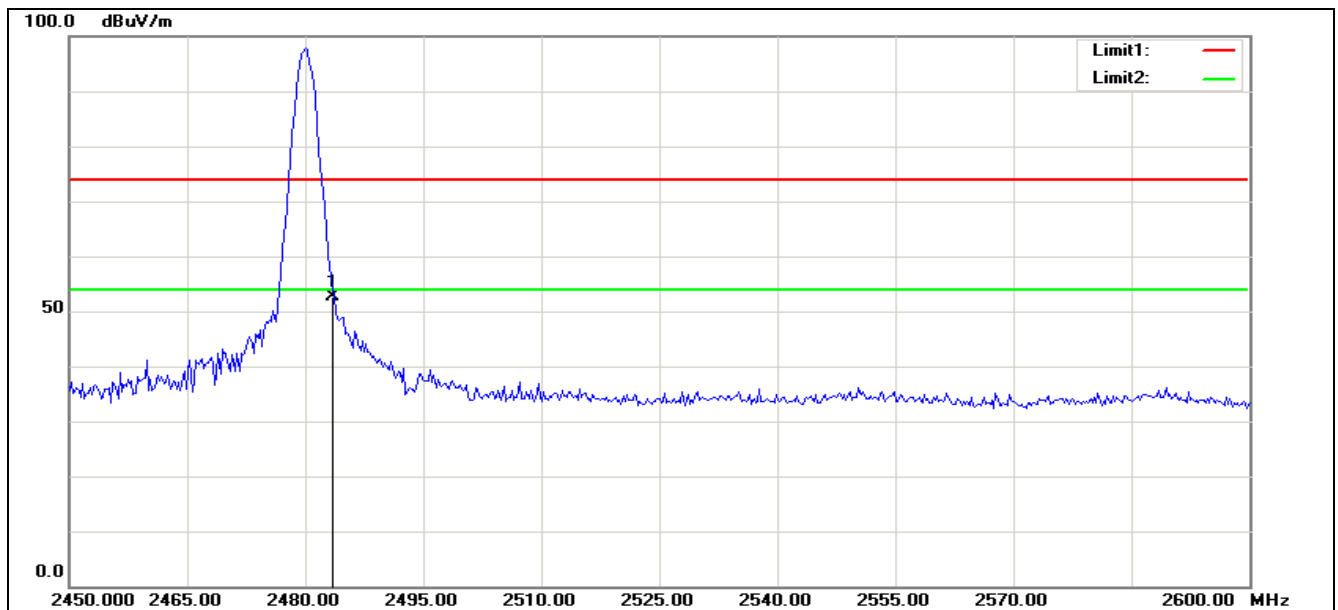
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Remark
1	2389.167	49.94	-9.50	40.44	74.00	-33.56	100	288	peak
2	2390.000	48.94	-9.49	39.45	74.00	-34.55	100	300	peak

RESTRICTED BANDEDGE (BLE4.0 on Channel 0, Vertical)



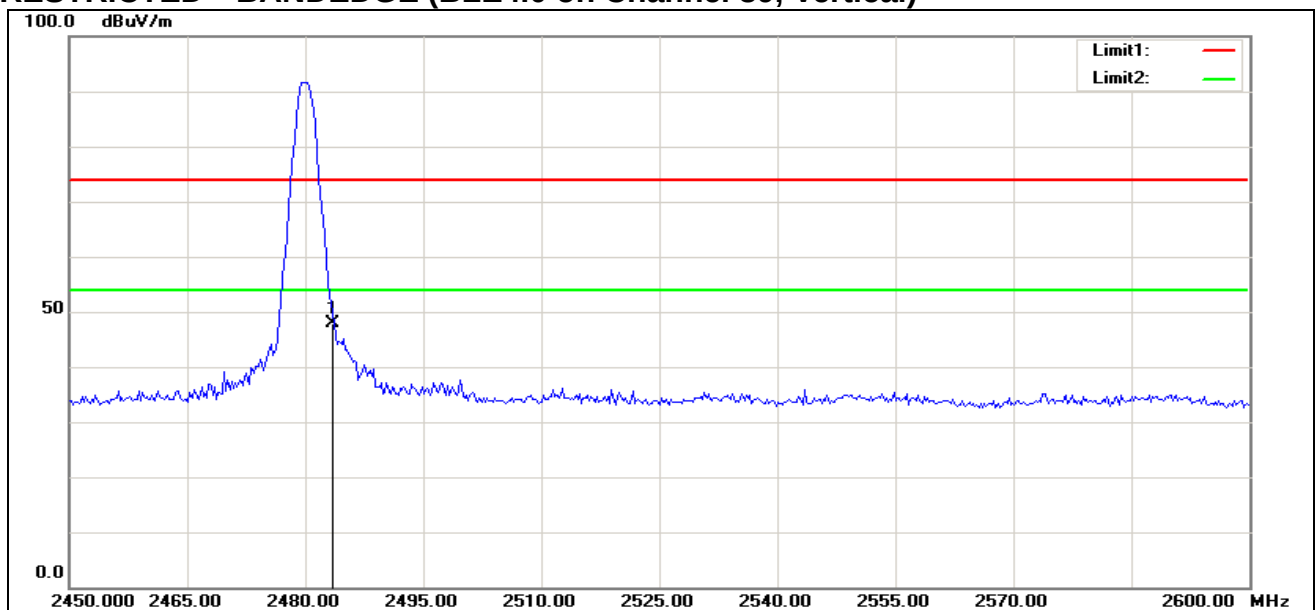
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Remark
1	2382.083	45.82	-9.52	36.30	74.00	-37.70	100	251	peak
2	2390.000	43.78	-9.49	34.29	74.00	-39.71	100	258	peak

RESTRICTED BANDEDGE (BLE4.0 on Channel 39, Horizontal)



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Remark
1	2483.500	61.79	-9.19	52.60	74.00	-21.40	100	295	peak

RESTRICTED BANDEDGE (BLE4.0 on Channel 39, Vertical)



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Remark
1	2483.500	57.11	-9.19	47.92	74.00	-26.08	100	262	peak

Below 30MHz

The interference of the frequency value is lower than the limit below 20 db, measured as the background noise values and will not be recorded.

30MHz-1GHz

Operation Mode: Normal Link

Test Date: 2016-9-7

Temperature: 24°C

Tested by: James.Yan

Humidity: 48% RH

Polarity: Ver. / Hor.

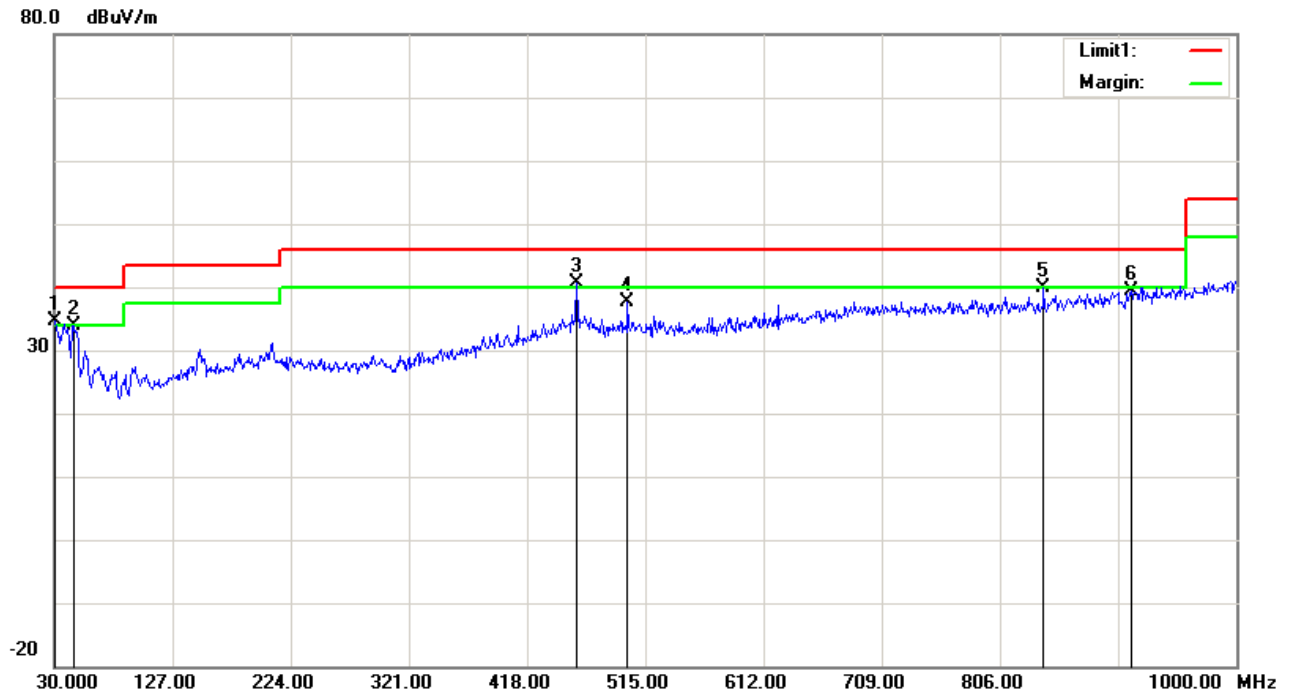
Frequency (MHz)	Ant. Pol. (H/V)	Reading (dBuV)	Correction Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
30.9700	V	13.08	21.62	34.70	40.00	-5.30	Peak
46.4900	V	20.64	13.36	34.00	40.00	-6.00	Peak
458.7400	V	19.25	21.49	40.74	46.00	-5.26	Peak
500.4500	V	15.38	22.19	37.57	46.00	-8.43	Peak
841.8900	V	13.98	25.80	39.78	46.00	-6.22	Peak
913.6700	V	12.50	26.81	39.31	46.00	-6.69	Peak
30.0000	H	11.72	22.10	33.82	40.00	-6.18	Peak
208.4800	H	18.05	16.39	34.44	43.50	-9.06	Peak
382.1100	H	18.68	19.78	38.46	46.00	-7.54	Peak
540.2200	H	13.94	22.47	36.41	46.00	-9.59	Peak
947.6200	H	12.92	27.41	40.33	46.00	-5.67	Peak
996.1200	H	14.51	28.26	42.77	54.00	-11.23	Peak

Remark:

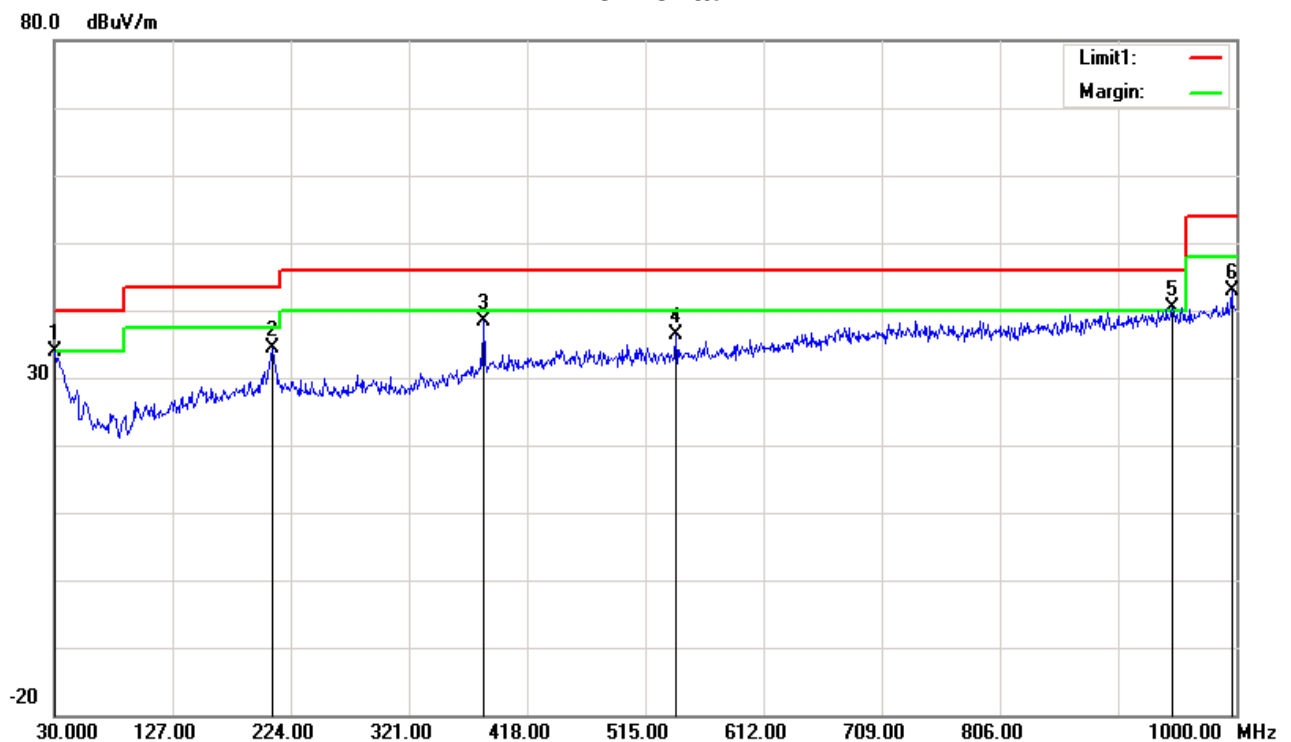
1. Measuring frequencies from 30 MHz to the 1GHz (No emission found between lowest internal used/generated frequency to 30 MHz).
2. Radiated emissions measured in frequency range from 30 MHz to 1000MHz were made with an instrument using peak/quasi-peak detector mode.
3. Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.
4. Margin (dB) = Result (dBuV/m) – Limit (dBuV/m).

Test Plots:

Vertical



Horizontal



Above 1 GHz

Operation Mode: IEEE802.11b / TX (CH Low)

Test Date: 2016-9-4

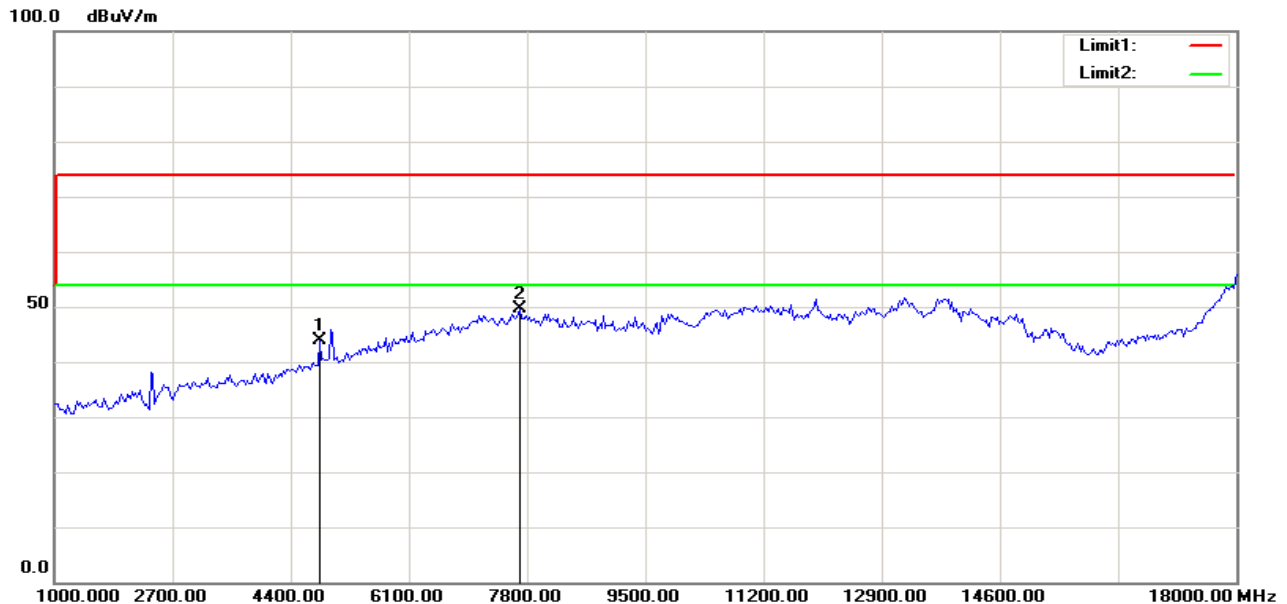
Temperature: 24°C

Tested by: James.Yan

Humidity: 48 % RH

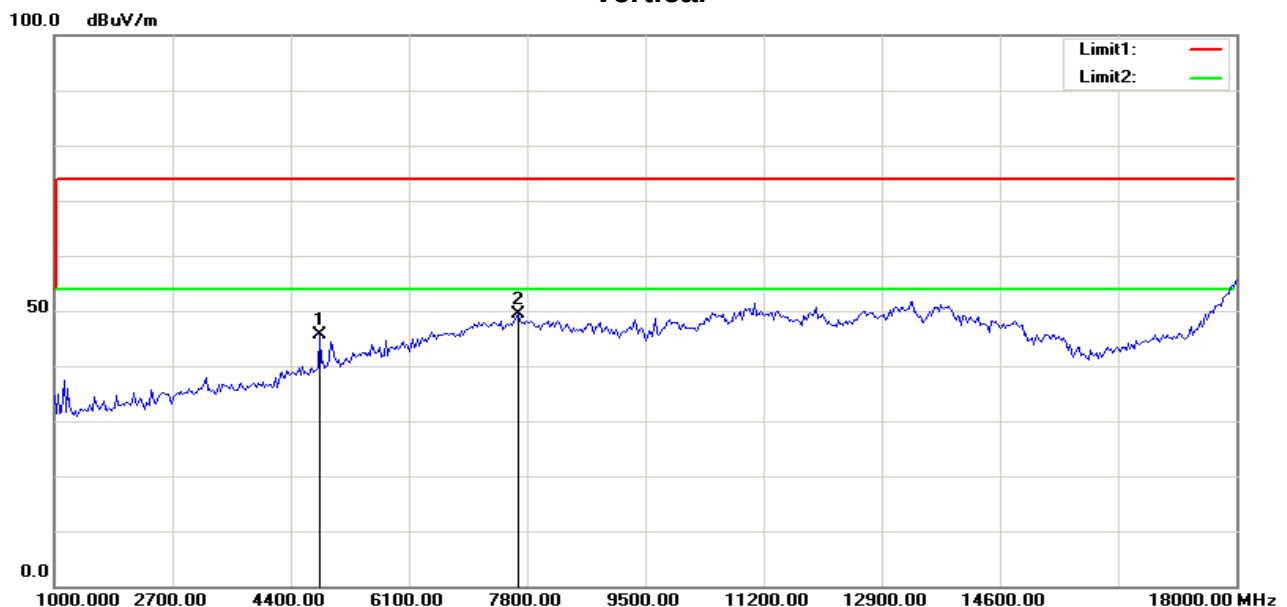
Polarity: Ver. / Hor.

Horizontal



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Remark
1	4814.103	46.21	-2.42	43.79	74.00	-30.21	100	112	peak
2	7701.923	43.32	6.42	49.74	74.00	-24.26	100	203	peak
N/A									

Vertical



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Remark
1	4814.103	47.99	-2.42	45.57	74.00	-28.43	100	9	peak
2	7674.680	43.01	6.37	49.38	74.00	-24.62	100	236	peak

Operation Mode: IEEE802.11b / TX (CH Mid)

Test Date: 2016-9-4

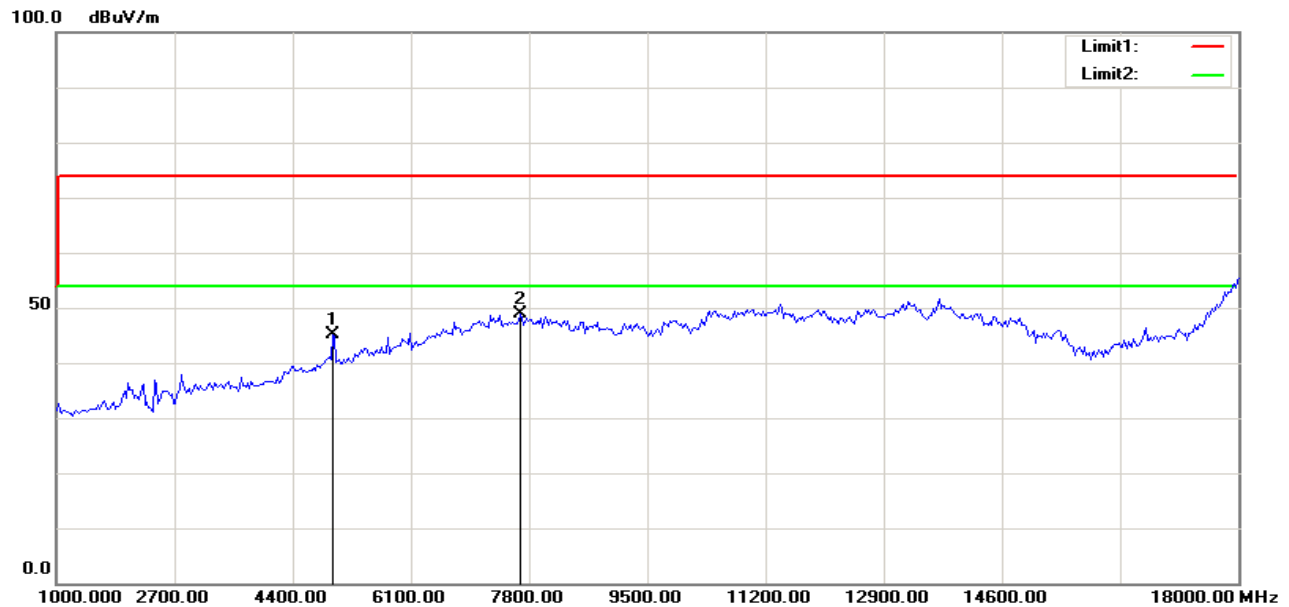
Temperature: 24°C

Tested by: James.Yan

Humidity: 48 % RH

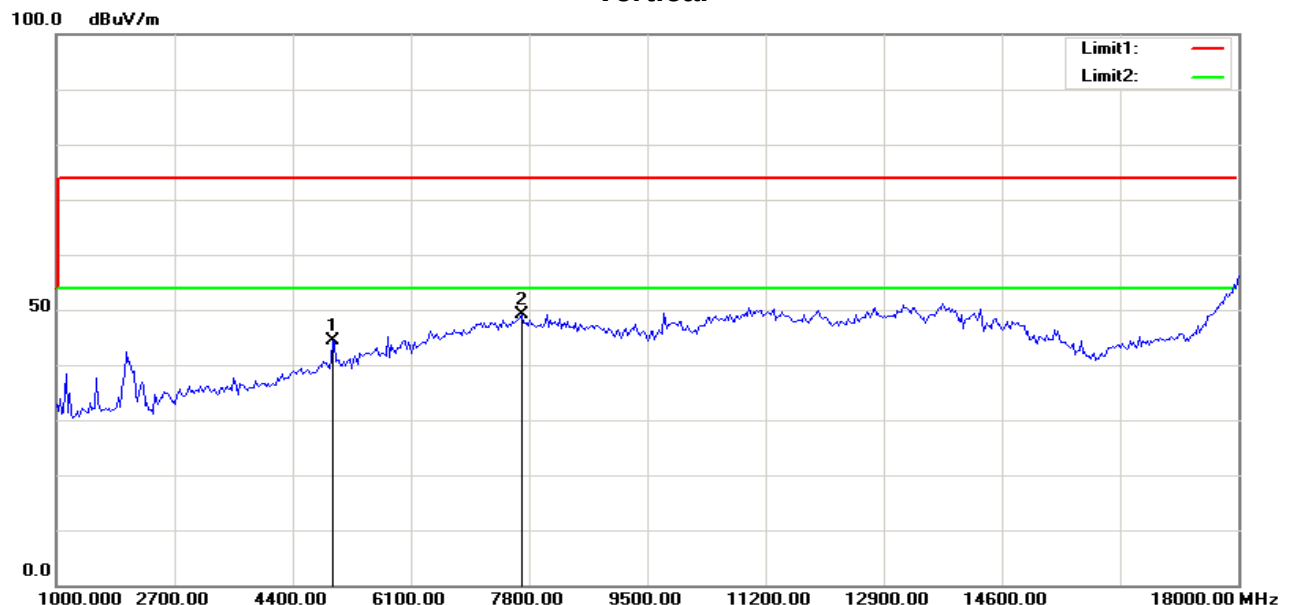
Polarity: Ver. / Hor.

Horizontal



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Remark
1	4977.564	46.98	-1.78	45.20	74.00	-28.80	100	162	peak
2	7674.680	42.39	6.37	48.76	74.00	-25.24	100	233	peak
N/A									

Vertical



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Remark
1	4977.564	46.09	-1.78	44.31	74.00	-29.69	100	179	peak
2	7701.923	42.72	6.42	49.14	74.00	-24.86	100	342	peak
N/A									

Operation Mode: IEEE802.11b / TX (CH High)

Test Date: 2016-9-4

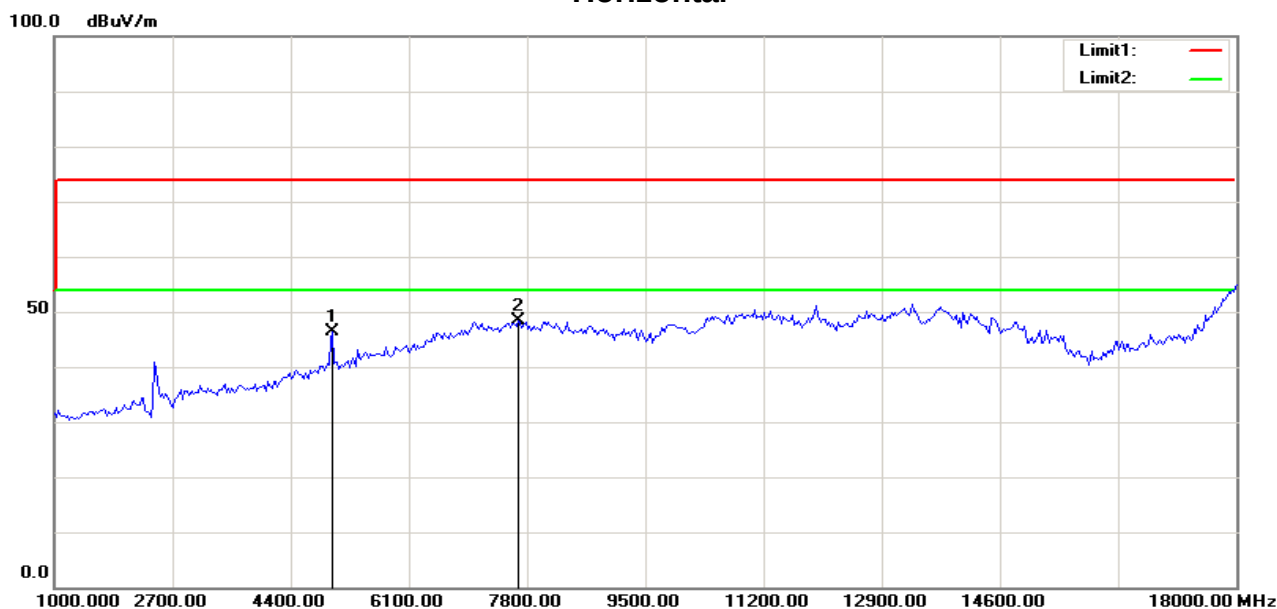
Temperature: 24°C

Tested by: James.Yan

Humidity: 48 % RH

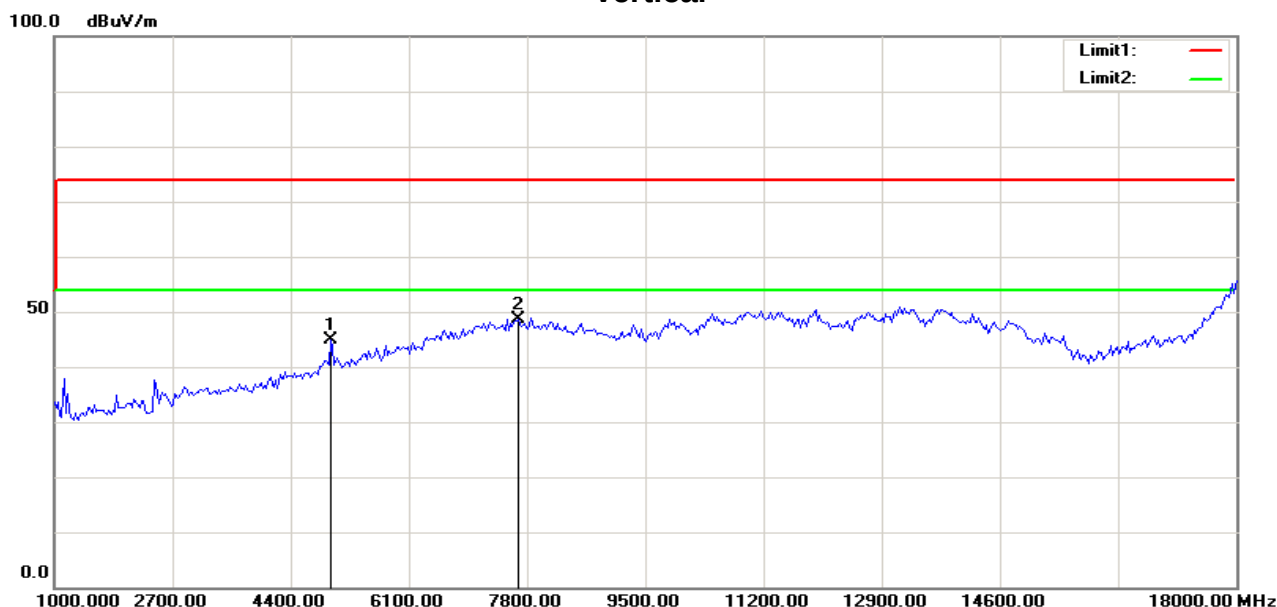
Polarity: Ver. / Hor.

Horizontal



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Remark
1	5004.808	47.95	-1.67	46.28	74.00	-27.72	100	160	peak
2	7674.680	42.00	6.37	48.37	74.00	-25.63	100	28	peak
N/A									

Vertical



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Remark
1	4977.564	46.55	-1.78	44.77	74.00	-29.23	100	160	peak
2	7674.680	42.25	6.37	48.62	74.00	-25.38	100	101	peak
N/A									

Operation Mode: IEEE802.11g / TX (CH Low)

Test Date: 2016-9-4

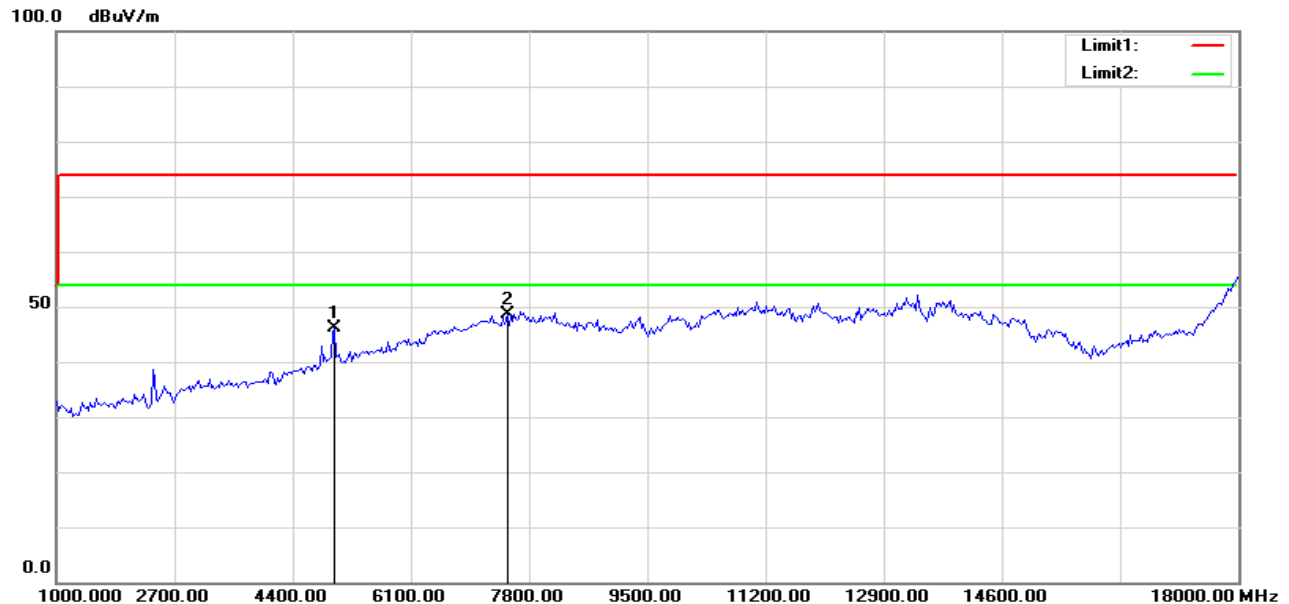
Temperature: 24°C

Tested by: James.Yan

Humidity: 48 % RH

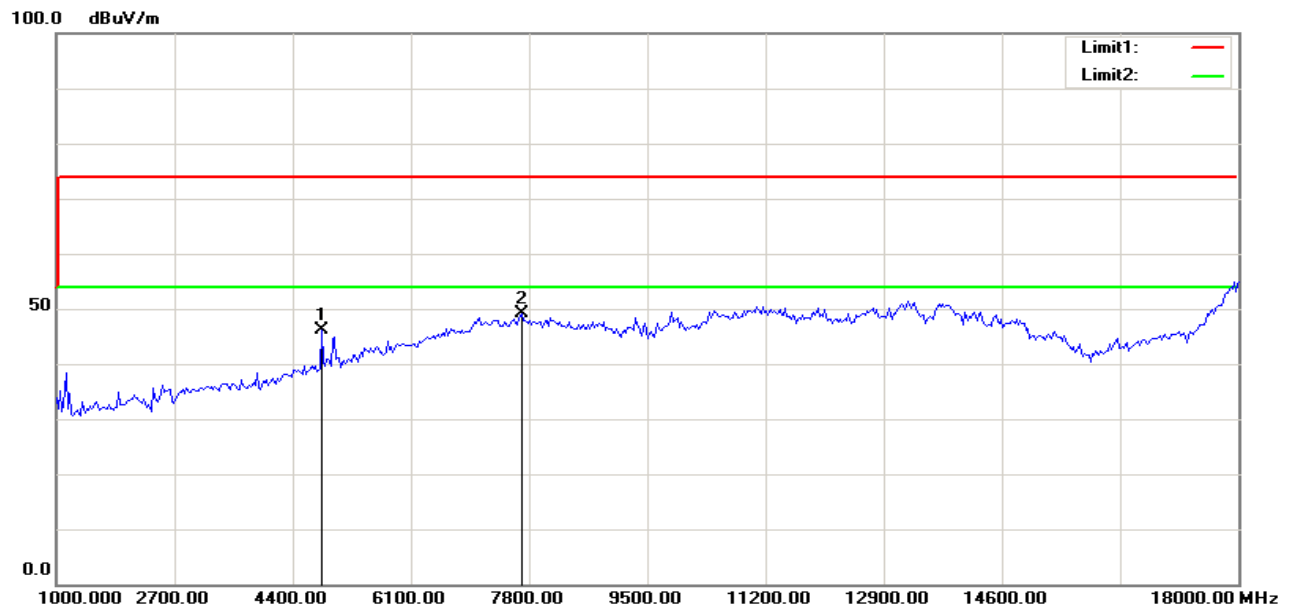
Polarity: Ver. / Hor.

Horizontal



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Remark
1	5004.808	47.90	-1.67	46.23	74.00	-27.77	100	146	peak
2	7483.974	42.48	6.04	48.52	74.00	-25.48	100	63	peak
N/A									

Vertical



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Remark
1	4814.103	48.48	-2.42	46.06	74.00	-27.94	100	10	peak
2	7701.923	42.77	6.42	49.19	74.00	-24.81	100	75	peak
N/A									

Operation Mode: IEEE802.11g / TX (CH Mid)

Test Date: 2016-9-4

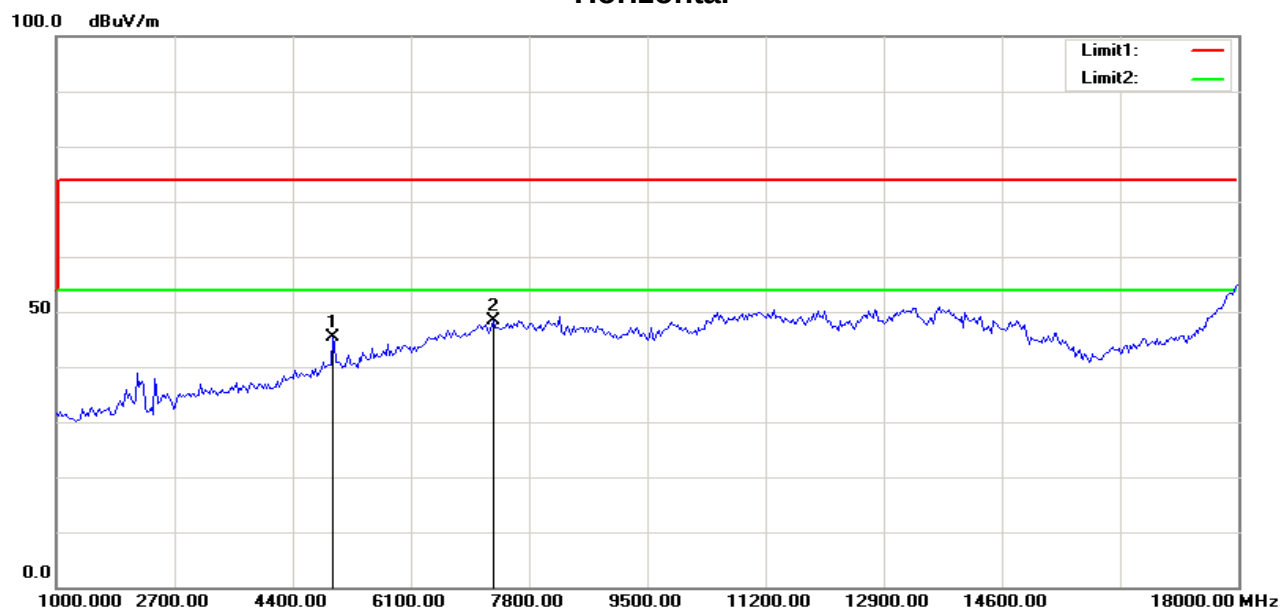
Temperature: 24°C

Tested by: James.Yan

Humidity: 48 % RH

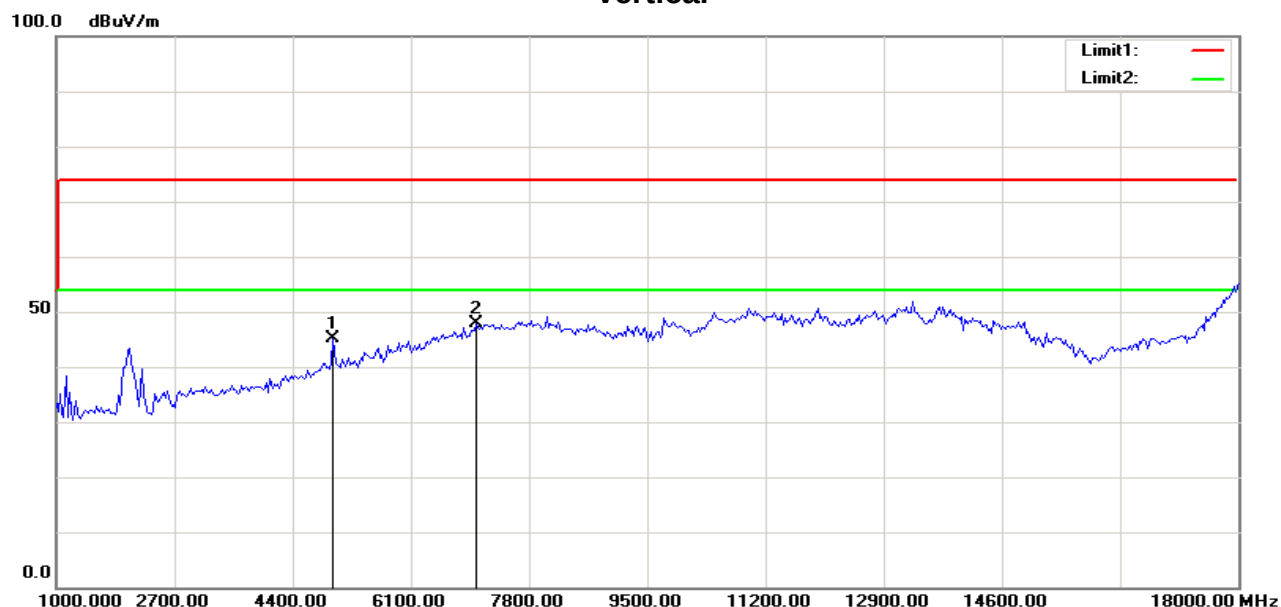
Polarity: Ver. / Hor.

Horizontal



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Remark
1	4977.564	47.19	-1.78	45.41	74.00	-28.59	100	148	peak
2	7293.269	42.63	5.71	48.34	74.00	-25.66	100	323	peak
N/A									

Vertical



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Remark
1	4977.564	46.85	-1.78	45.07	74.00	-28.93	100	161	peak
2	7048.077	42.60	5.29	47.89	74.00	-26.11	100	280	peak
N/A									

Operation Mode: IEEE802.11g / TX (CH High)

Test Date: 2016-9-4

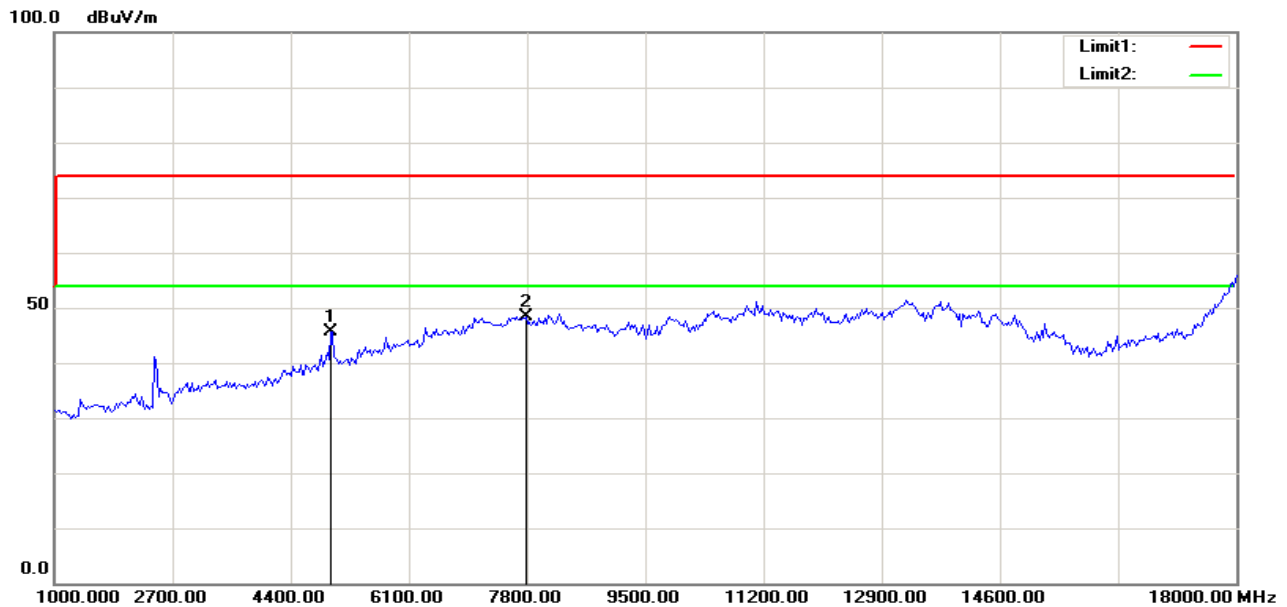
Temperature: 24°C

Tested by: James.Yan

Humidity: 48 % RH

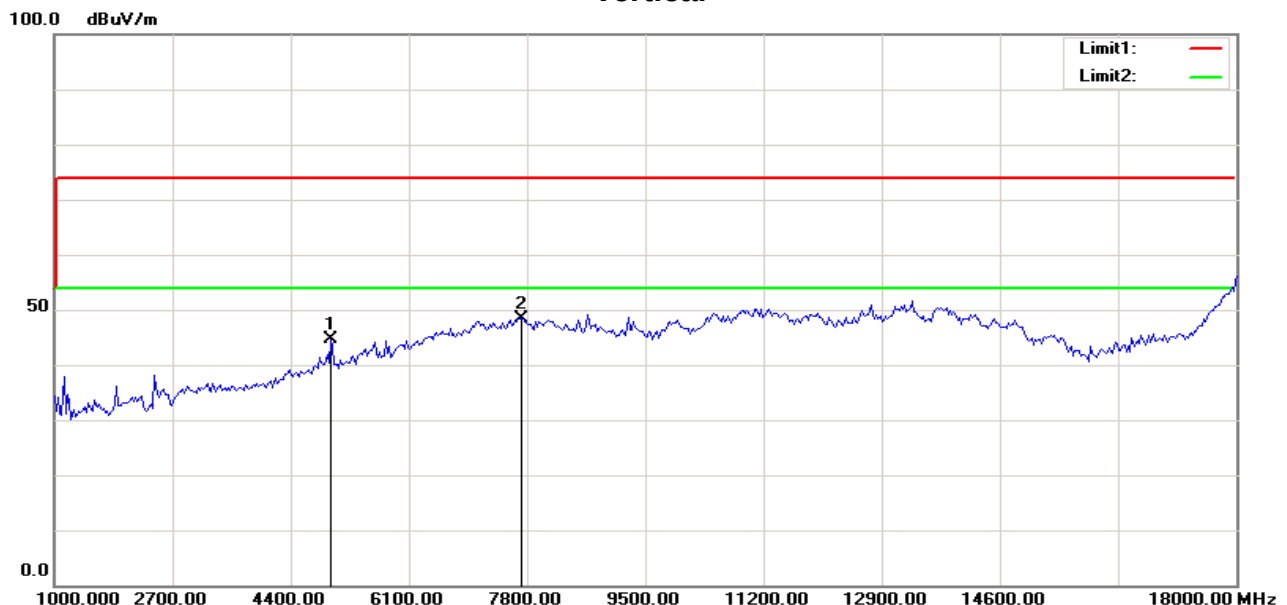
Polarity: Ver. / Hor.

Horizontal



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Remark
1	4977.564	47.32	-1.78	45.54	74.00	-28.46	100	160	peak
2	7783.654	41.91	6.56	48.47	74.00	-25.53	100	94	peak
N/A									

Vertical



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Remark
1	4977.564	46.46	-1.78	44.68	74.00	-29.32	100	163	peak
2	7729.167	42.03	6.46	48.49	74.00	-25.51	100	34	peak
N/A									

Operation Mode: IEEE802.11n HT20 / TX (CH Low)

Test Date: 2016-9-4

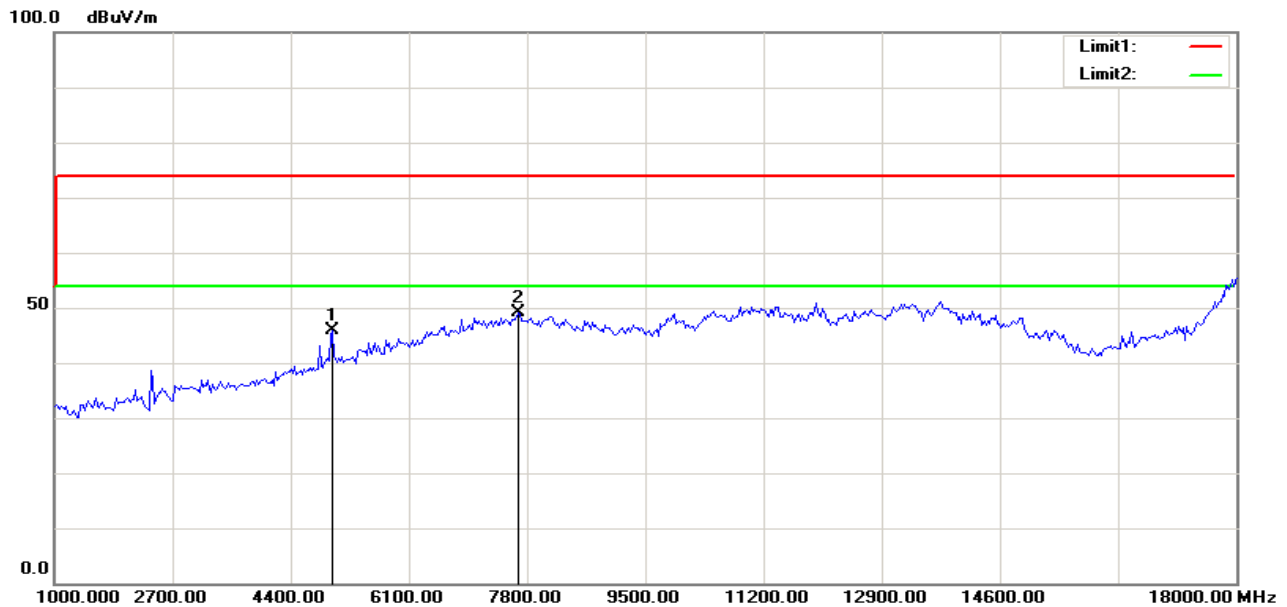
Temperature: 24°C

Tested by: James.Yan

Humidity: 48 % RH

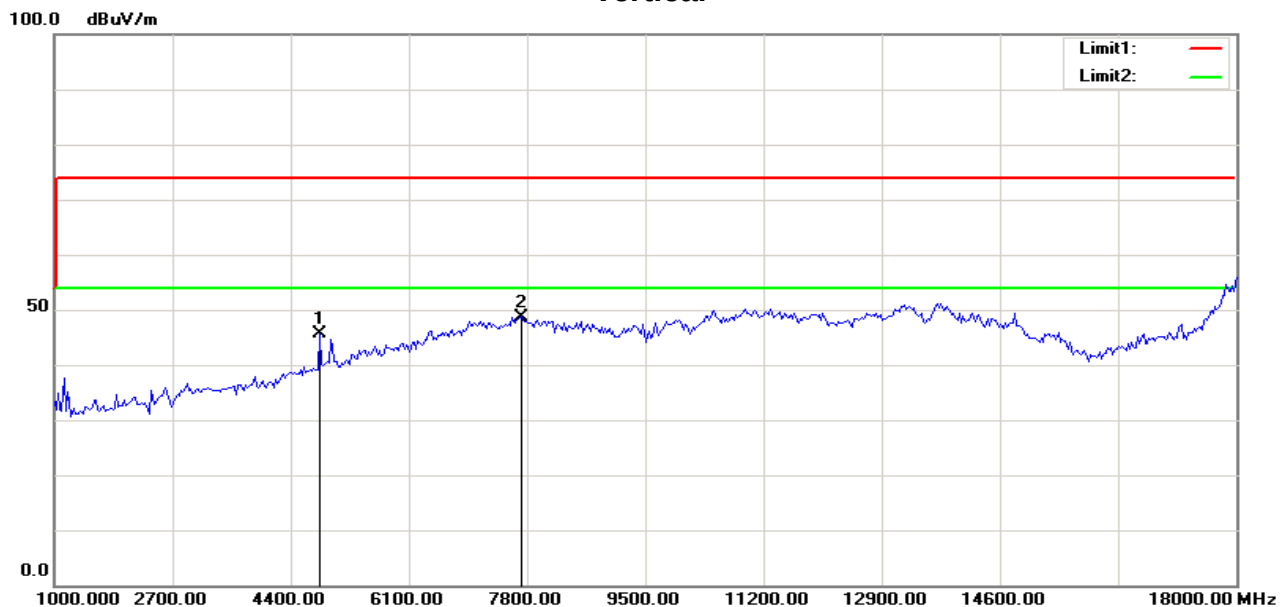
Polarity: Ver. / Hor.

Horizontal



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Remark
1	5004.808	47.53	-1.67	45.86	74.00	-28.14	100	175	peak
2	7674.680	42.83	6.37	49.20	74.00	-24.80	100	13	peak
N/A									

Vertical



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Remark
1	4814.103	48.12	-2.42	45.70	74.00	-28.30	100	4	peak
2	7729.167	42.29	6.46	48.75	74.00	-25.25	100	283	peak
N/A									

Operation Mode: IEEE802.11n HT20 / TX (CH Mid)

Test Date: 2016-9-4

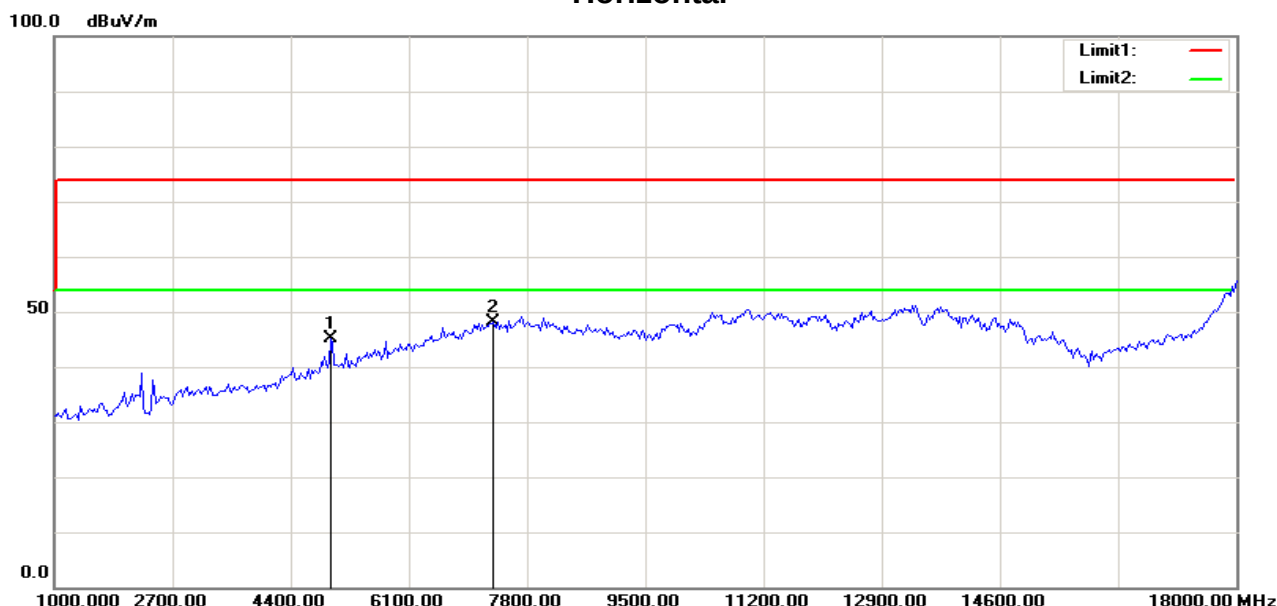
Temperature: 24°C

Tested by: James.Yan

Humidity: 48 % RH

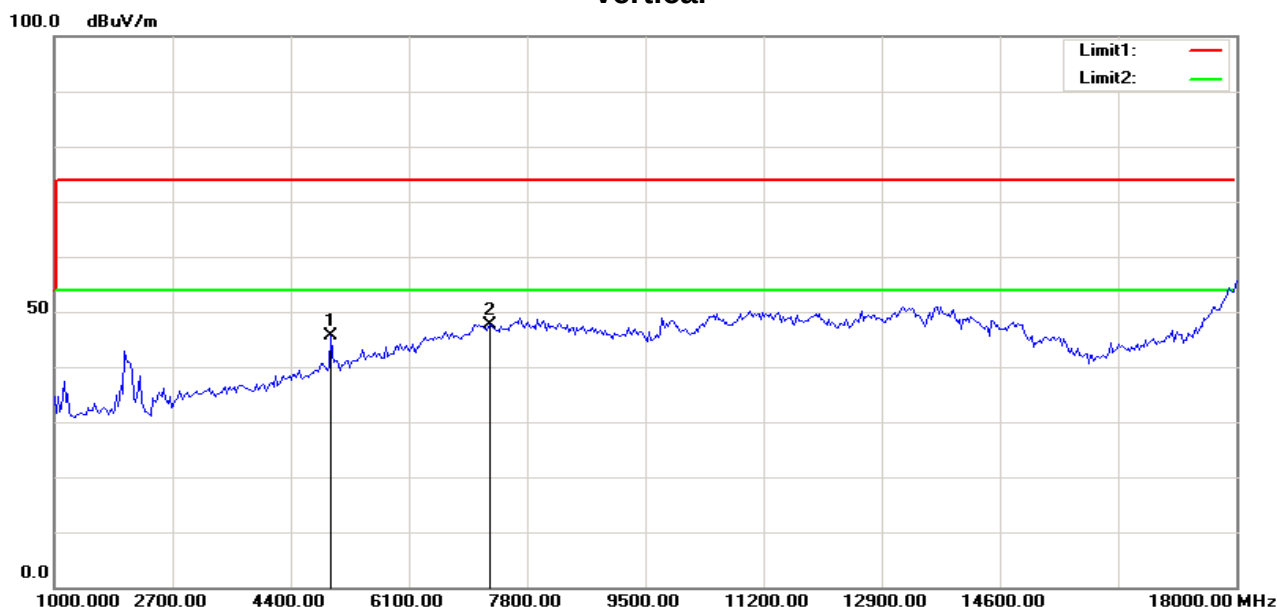
Polarity: Ver. / Hor.

Horizontal



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Remark
1	4977.564	47.03	-1.78	45.25	74.00	-28.75	100	147	peak
2	7320.513	42.43	5.76	48.19	74.00	-25.81	100	276	peak
N/A									

Vertical



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Remark
1	4977.564	47.48	-1.78	45.70	74.00	-28.30	100	163	peak
2	7266.026	42.00	5.67	47.67	74.00	-26.33	100	150	peak
N/A									

Operation Mode: IEEE802.11n HT20 / TX (CH High)

Test Date: 2016-9-4

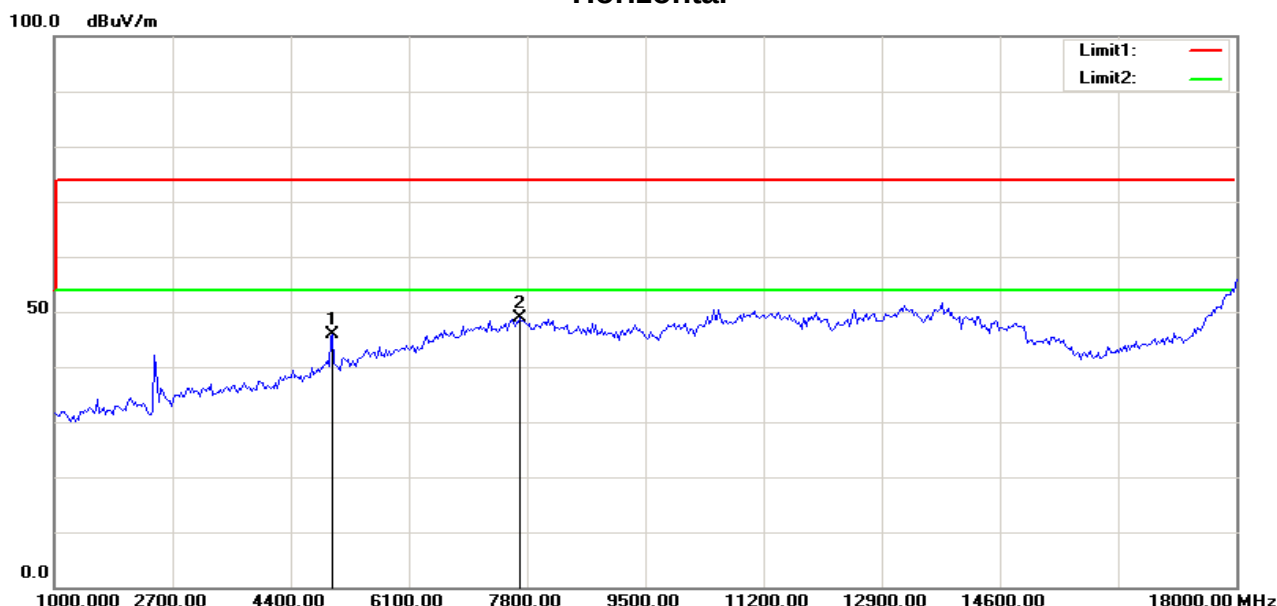
Temperature: 24°C

Tested by: James.Yan

Humidity: 48 % RH

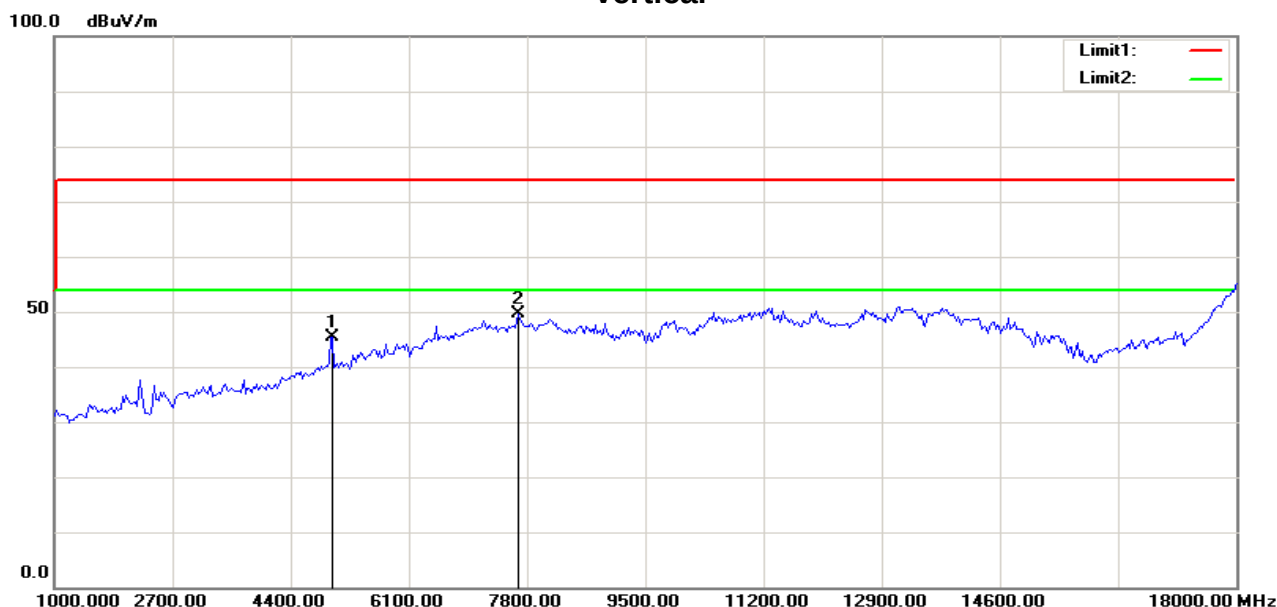
Polarity: Ver. / Hor.

Horizontal



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Remark
1	5004.808	47.57	-1.67	45.90	74.00	-28.10	100	160	peak
2	7701.923	42.34	6.42	48.76	74.00	-25.24	100	24	peak
N/A									

Vertical



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Remark
1	5004.808	47.15	-1.67	45.48	74.00	-28.52	100	160	peak
2	7674.680	43.19	6.37	49.56	74.00	-24.44	100	202	peak
N/A									

Operation Mode: IEEE802.11n HT40 / TX (CH Low)

Test Date: 2016-9-4

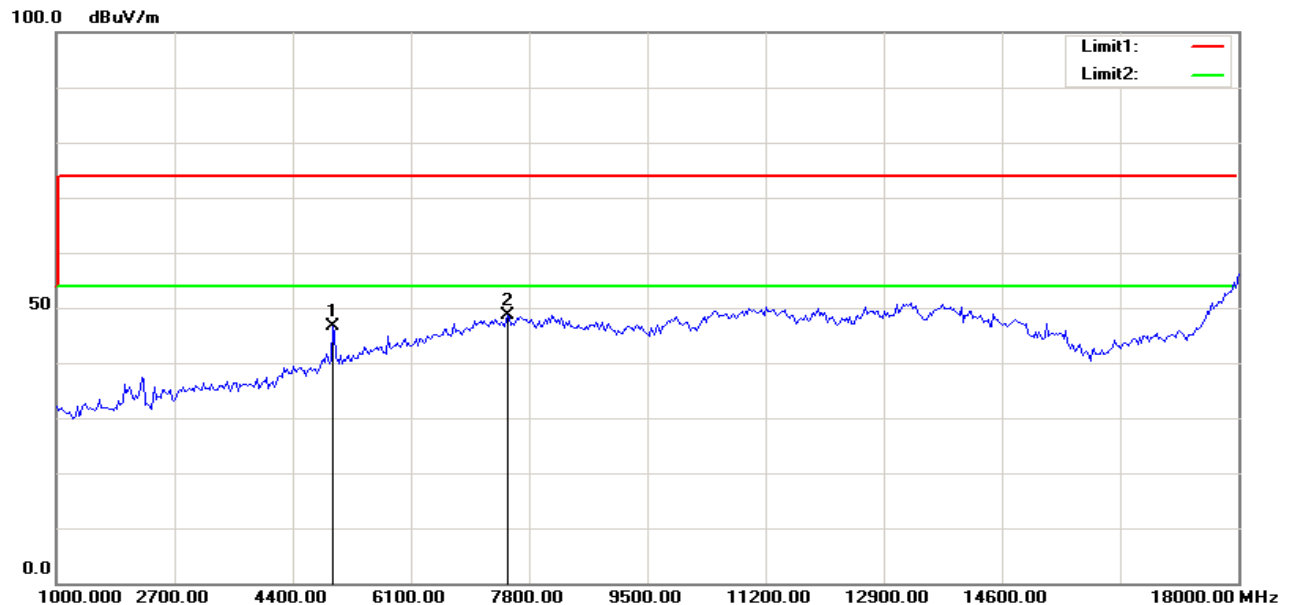
Temperature: 24°C

Tested by: James.Yan

Humidity: 48 % RH

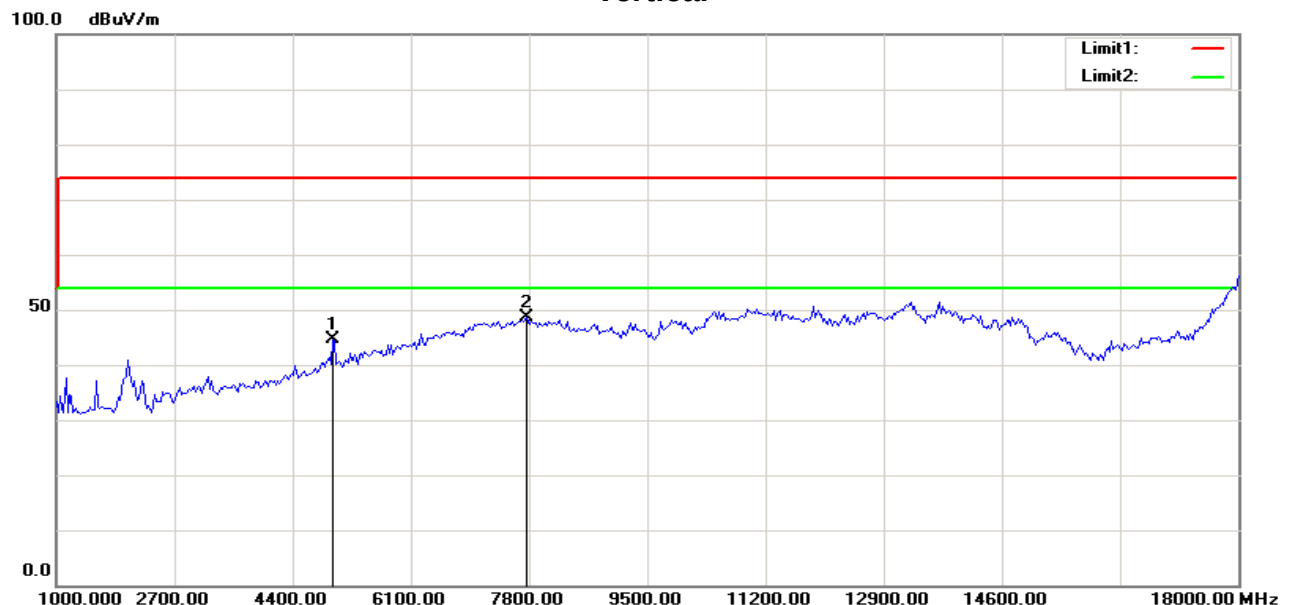
Polarity: Ver. / Hor.

Horizontal



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Remark
1	4977.564	48.33	-1.78	46.55	74.00	-27.45	100	182	peak
2	7483.974	42.48	6.04	48.52	74.00	-25.48	100	185	peak
N/A									

Vertical



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Remark
1	4977.564	46.36	-1.78	44.58	74.00	-29.42	100	162	peak
2	7756.410	42.18	6.51	48.69	74.00	-25.31	100	23	peak
N/A									

Operation Mode: IEEE802.11n HT40 / TX (CH Mid)

Test Date: 2016-9-4

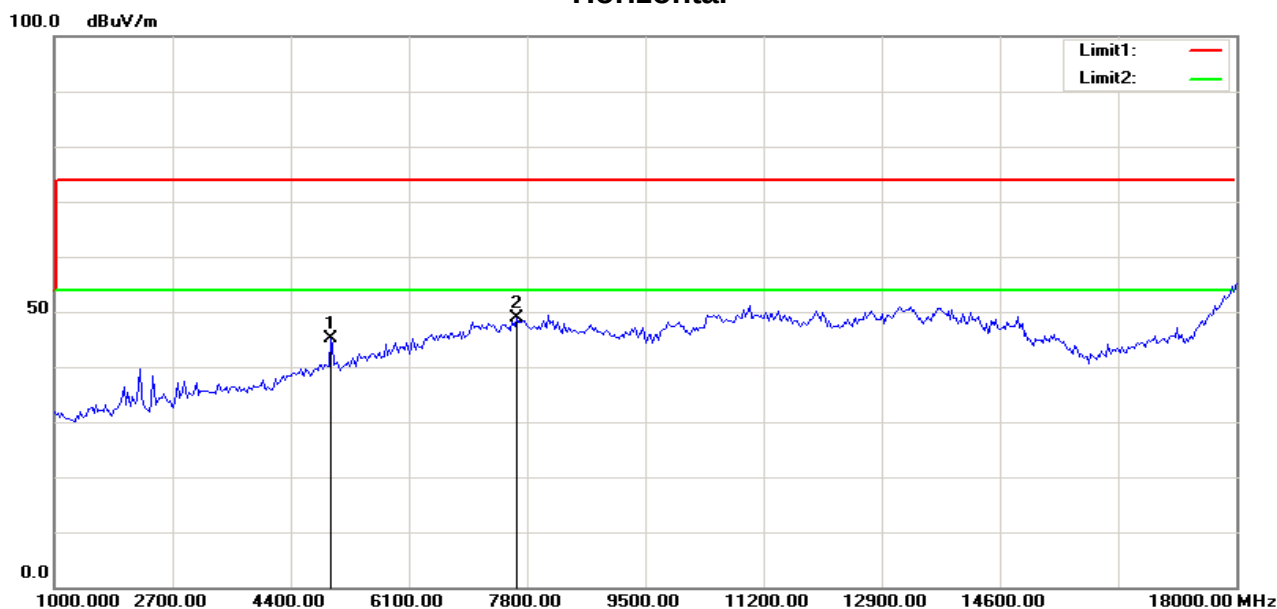
Temperature: 24°C

Tested by: James.Yan

Humidity: 48 % RH

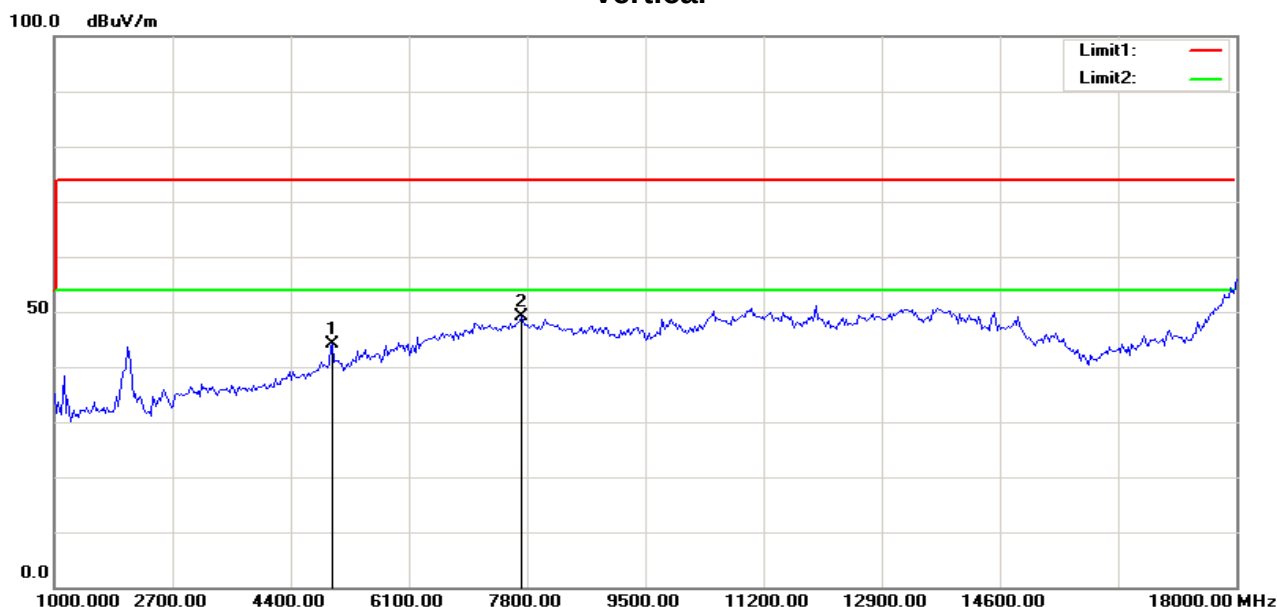
Polarity: Ver. / Hor.

Horizontal



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Remark
1	4977.564	46.93	-1.78	45.15	74.00	-28.85	100	173	peak
2	7647.436	42.51	6.32	48.83	74.00	-25.17	100	147	peak
N/A									

Vertical



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Remark
1	5004.808	45.79	-1.67	44.12	74.00	-29.88	100	162	peak
2	7729.167	42.71	6.46	49.17	74.00	-24.83	100	32	peak
N/A									

Operation Mode: IEEE802.11n HT40 / TX (CH High)

Test Date: 2016-9-4

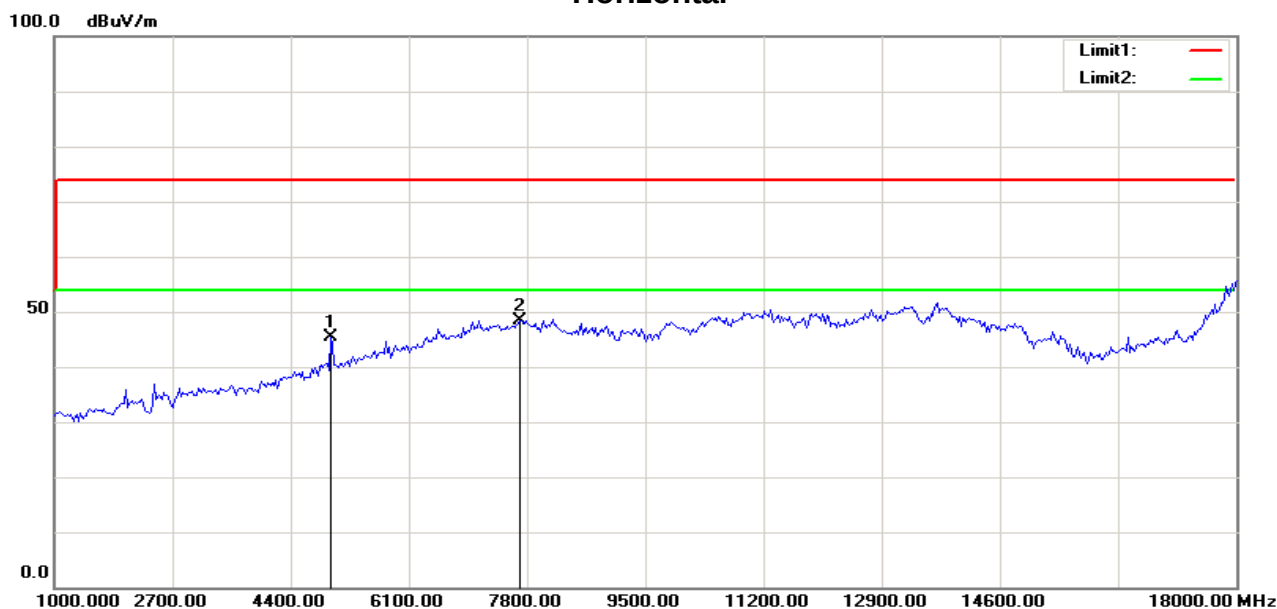
Temperature: 24°C

Tested by: James.Yan

Humidity: 48 % RH

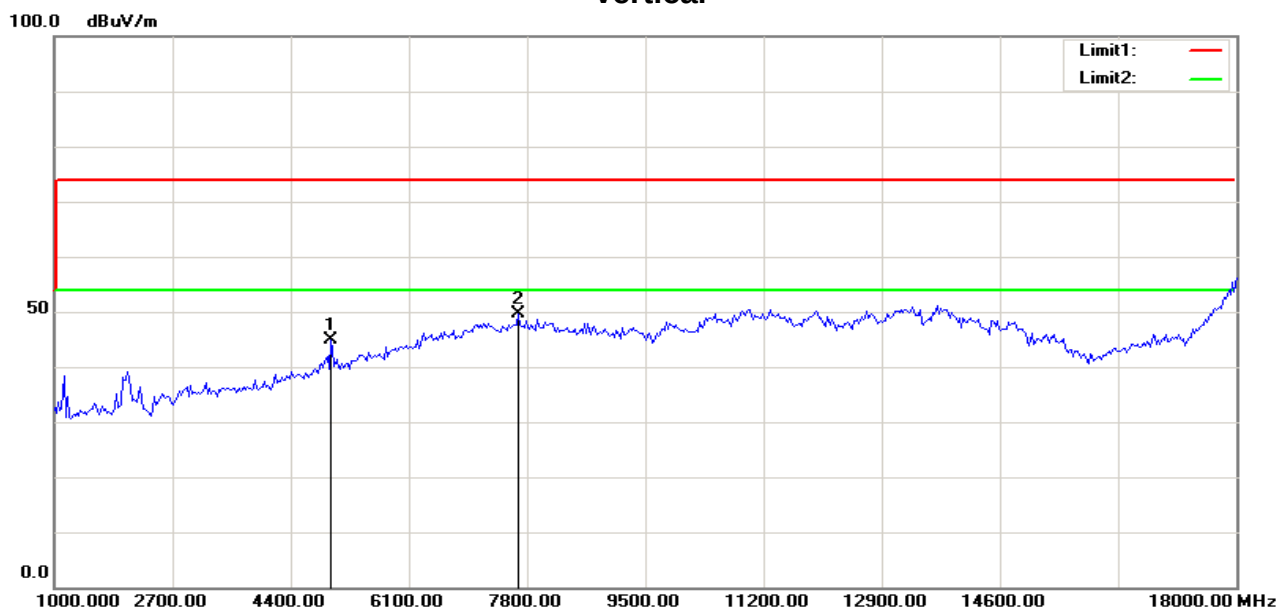
Polarity: Ver. / Hor.

Horizontal



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Remark
1	4977.564	47.16	-1.78	45.38	74.00	-28.62	100	183	peak
2	7701.923	41.94	6.42	48.36	74.00	-25.64	100	344	peak
N/A									

Vertical



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Remark
1	4977.564	46.73	-1.78	44.95	74.00	-29.05	100	217	peak
2	7674.680	43.17	6.37	49.54	74.00	-24.46	100	172	peak
N/A									

Operation Mode: BT For GFSK / TX (CH Low)

Test Date: 2016-9-4

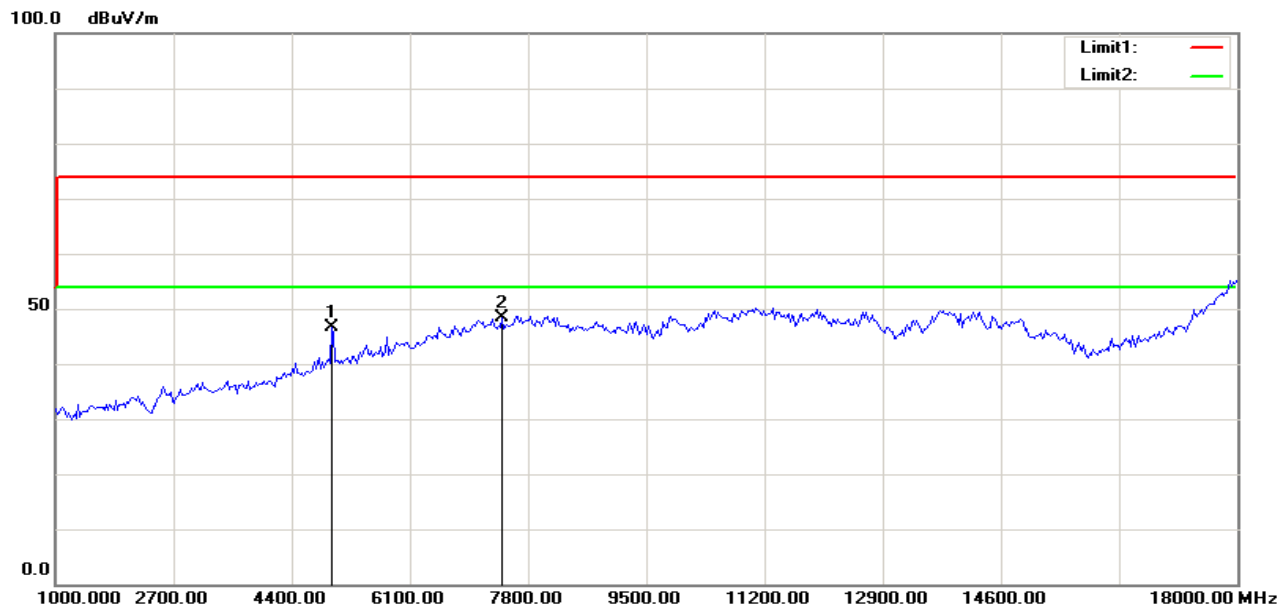
Temperature: 24°C

Tested by: James.Yan

Humidity: 48 % RH

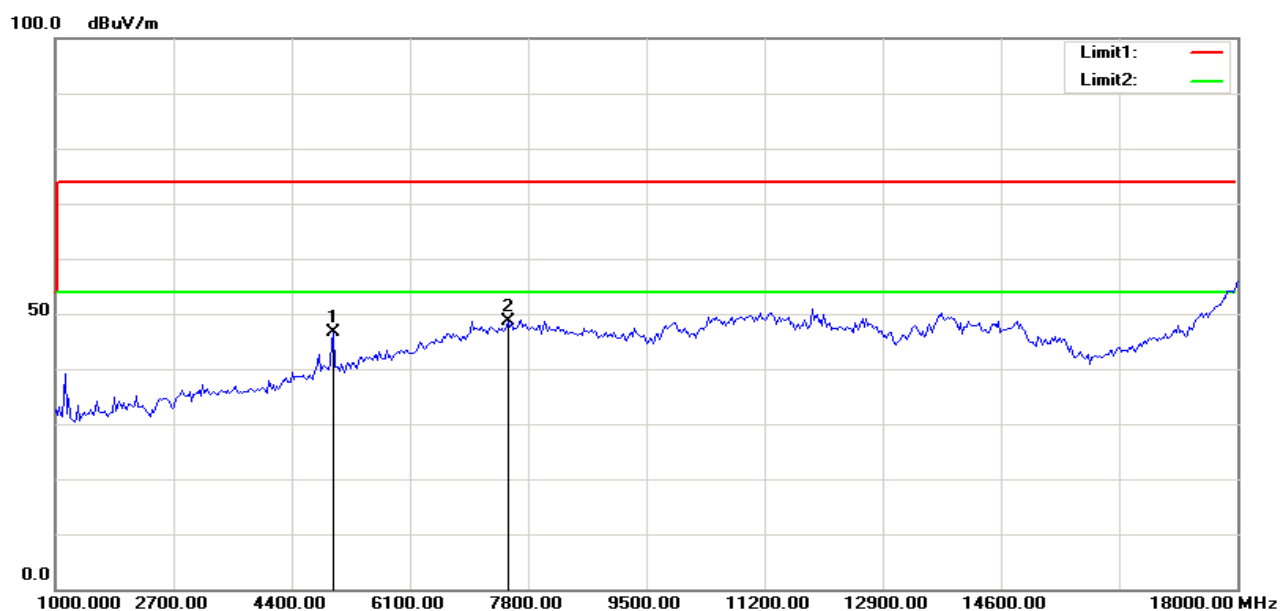
Polarity: Ver. / Hor.

Horizontal



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Remark
1	4977.564	48.51	-1.78	46.73	74.00	-27.27	100	160	peak
2	7429.487	42.33	5.95	48.28	74.00	-25.72	100	112	peak
N/A									

Vertical



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Remark
1	5004.808	48.35	-1.67	46.68	74.00	-27.32	100	175	peak
2	7511.218	42.48	6.09	48.57	74.00	-25.43	100	175	peak

Operation Mode: BT For GFSK / TX (CH Mid)

Test Date: 2016-9-4

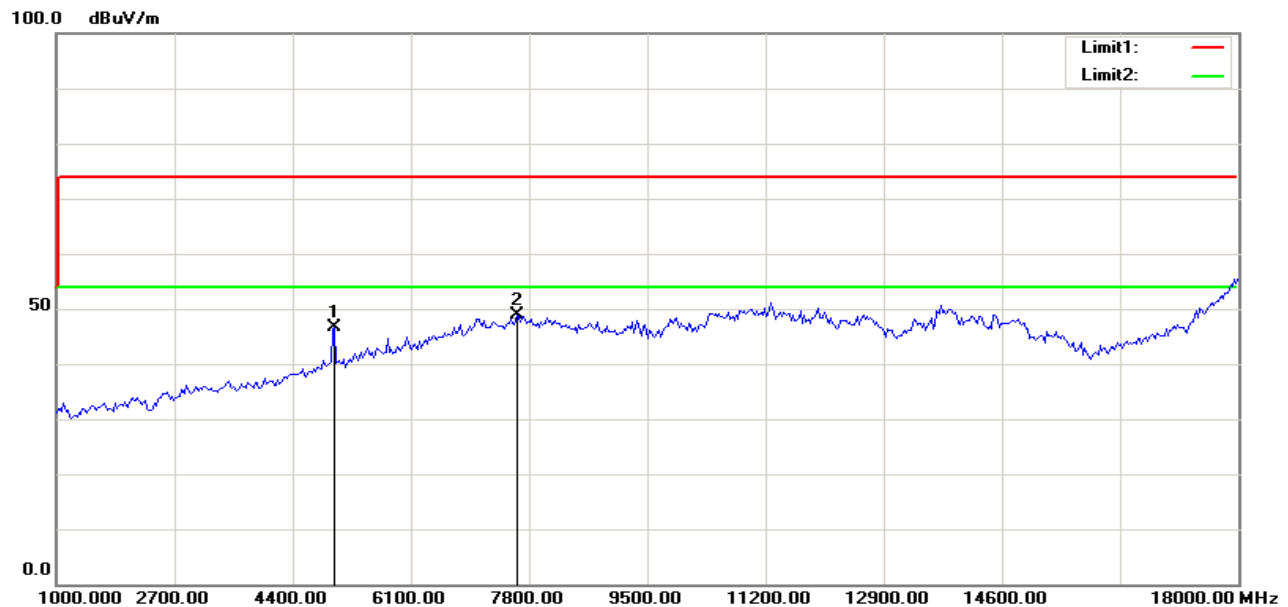
Temperature: 24°C

Tested by: James.Yan

Humidity: 48 % RH

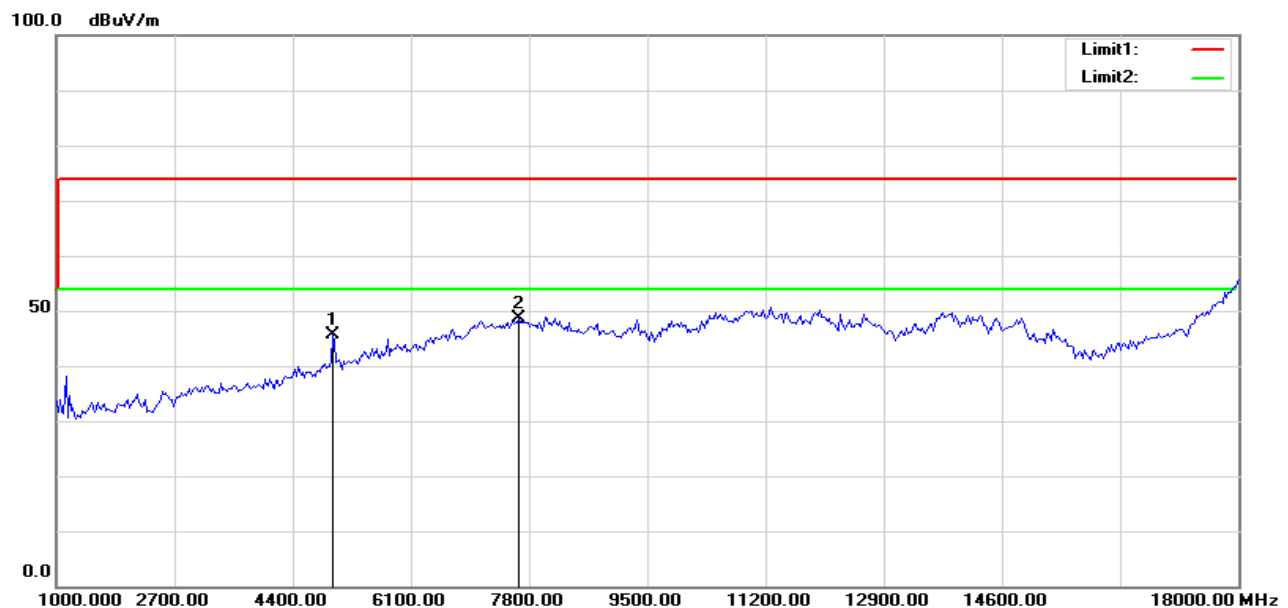
Polarity: Ver. / Hor.

Horizontal



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Remark
1	5004.808	48.24	-1.67	46.57	74.00	-27.43	100	161	peak
2	7620.192	42.52	6.28	48.80	74.00	-25.20	100	275	peak
N/A									

Vertical



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Remark
1	4977.564	47.33	-1.78	45.55	74.00	-28.45	100	179	peak
2	7647.436	42.34	6.32	48.66	74.00	-25.34	100	169	peak

Operation Mode: BT For GFSK / TX (CH High)

Test Date: 2016-9-4

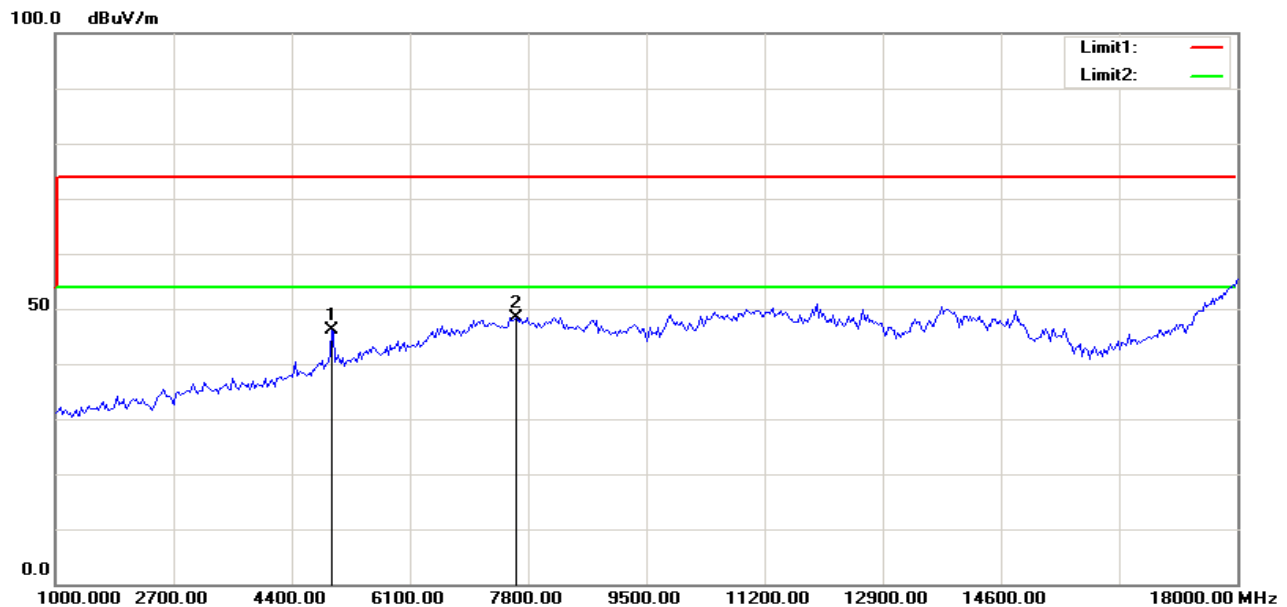
Temperature: 24°C

Tested by: James.Yan

Humidity: 48 % RH

Polarity: Ver. / Hor.

Horizontal



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Remark
1	4977.564	48.01	-1.78	46.23	74.00	-27.77	100	186	peak
2	7620.192	42.16	6.28	48.44	74.00	-25.56	100	240	peak
N/A									

Vertical



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Remark
1	5004.808	47.45	-1.67	45.78	74.00	-28.22	100	167	peak
2	7701.923	42.07	6.42	48.49	74.00	-25.51	100	105	peak

Operation Mode: BT For 8DPSK / TX (CH Low)

Test Date: 2016-9-4

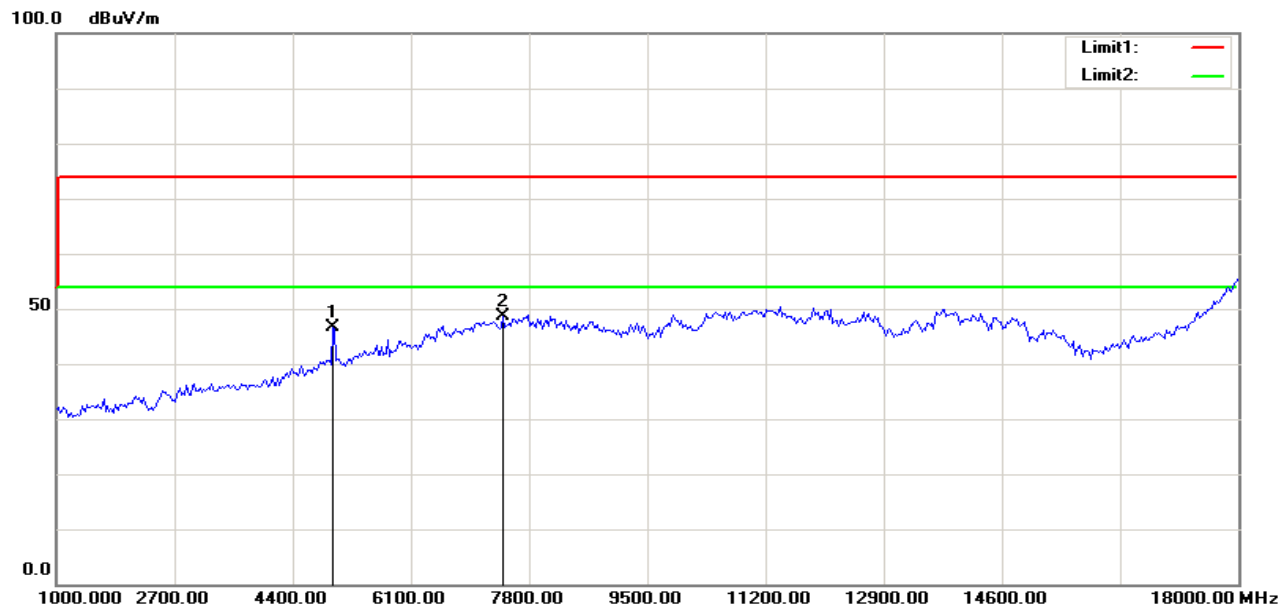
Temperature: 24°C

Tested by: James.Yan

Humidity: 48 % RH

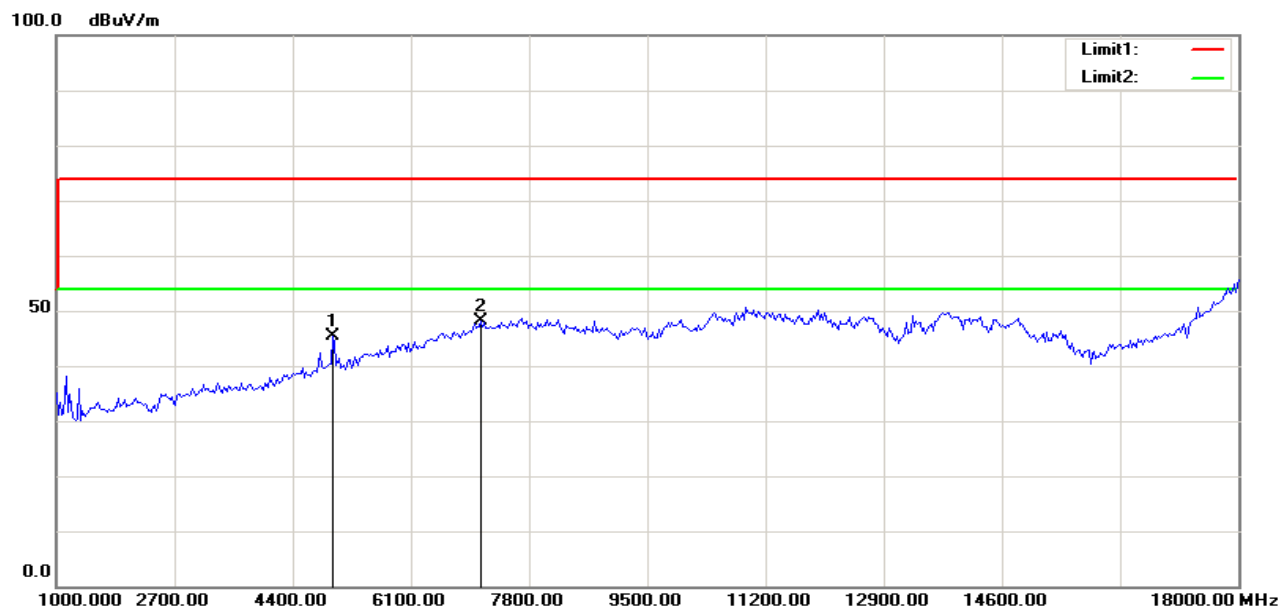
Polarity: Ver. / Hor.

Horizontal



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Remark
1	4977.564	48.33	-1.78	46.55	74.00	-27.45	100	185	peak
2	7429.487	42.56	5.95	48.51	74.00	-25.49	100	343	peak
N/A									

Vertical



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Remark
1	4977.564	47.13	-1.78	45.35	74.00	-28.65	100	165	peak
2	7102.564	42.70	5.39	48.09	74.00	-25.91	100	297	peak

Operation Mode: BT For 8DPSK / TX (CH Mid)

Test Date: 2016-9-4

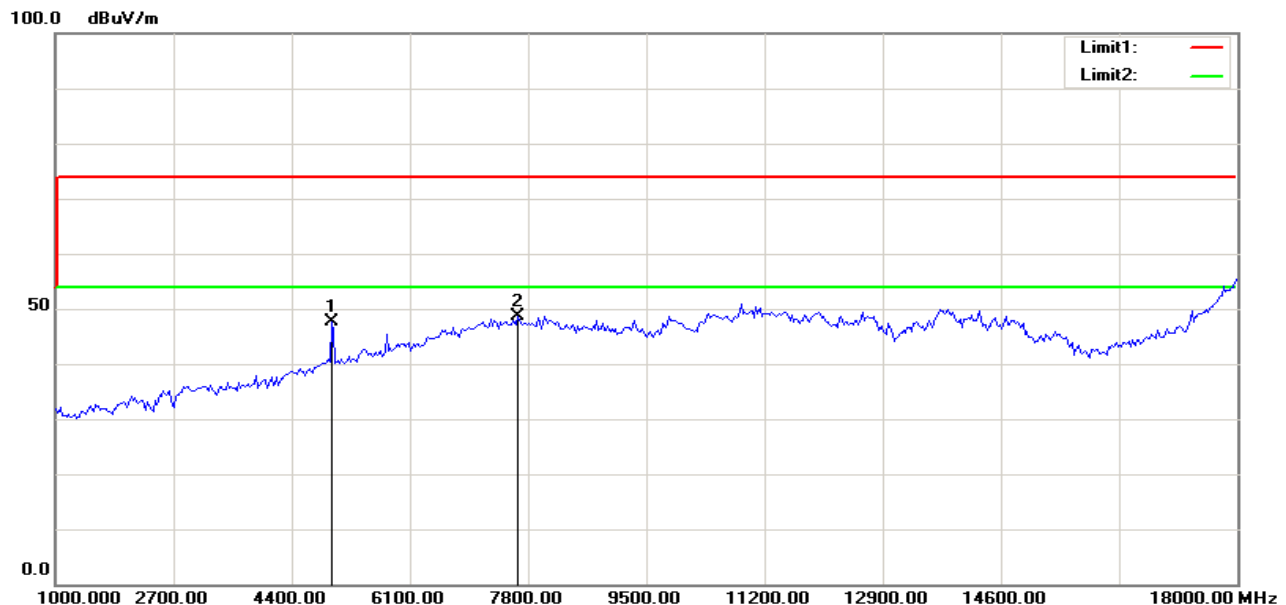
Temperature: 24°C

Tested by: James.Yan

Humidity: 48 % RH

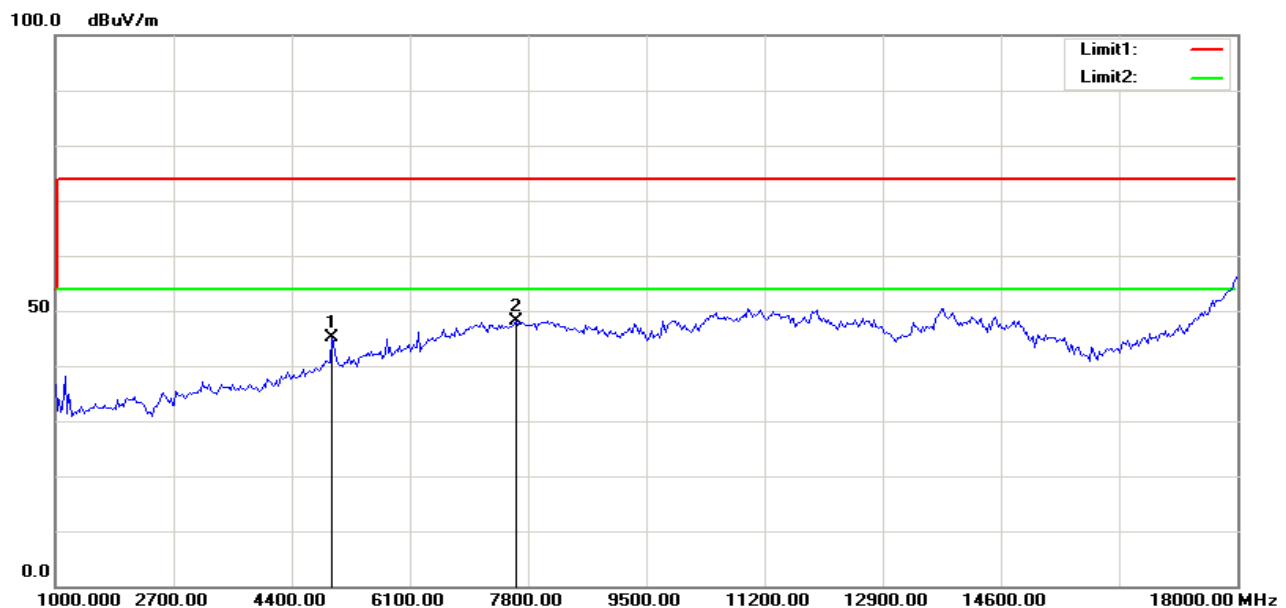
Polarity: Ver. / Hor.

Horizontal



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Remark
1	4977.564	49.46	-1.78	47.68	74.00	-26.32	100	161	peak
2	7647.436	42.37	6.32	48.69	74.00	-25.31	100	11	peak
N/A									

Vertical



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Remark
1	4977.564	46.87	-1.78	45.09	74.00	-28.91	100	165	peak
2	7620.192	41.94	6.28	48.22	74.00	-25.78	100	359	peak

Operation Mode: BT For 8DPSK / TX (CH High)

Test Date: 2016-9-4

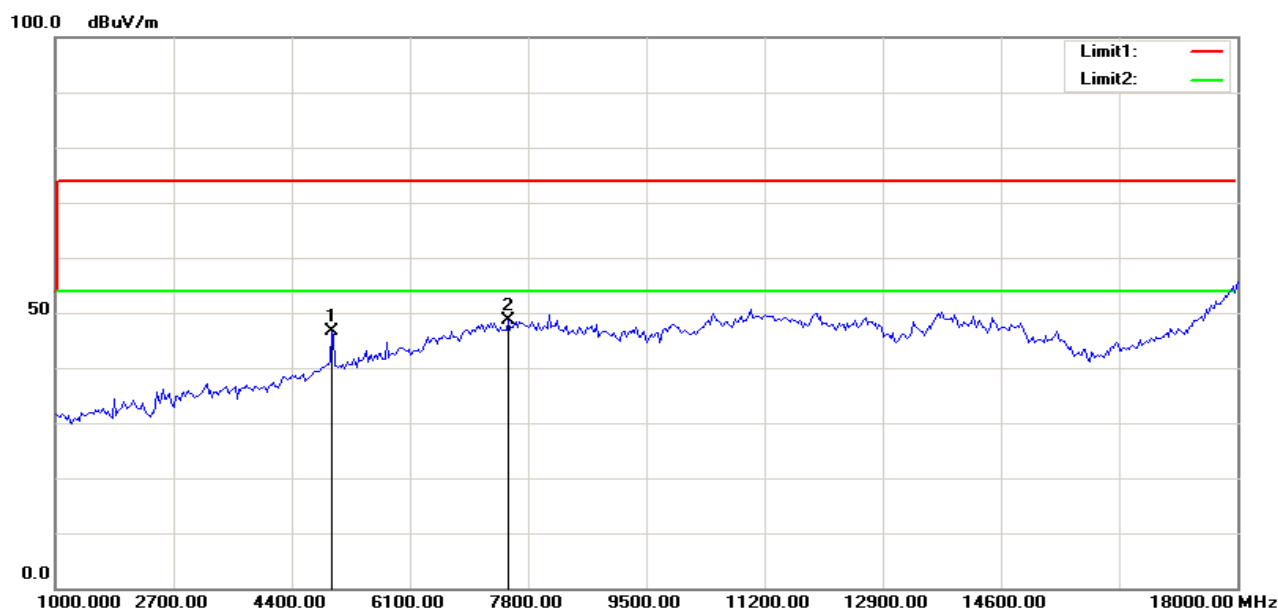
Temperature: 24°C

Tested by:James.Yan

Humidity: 48 % RH

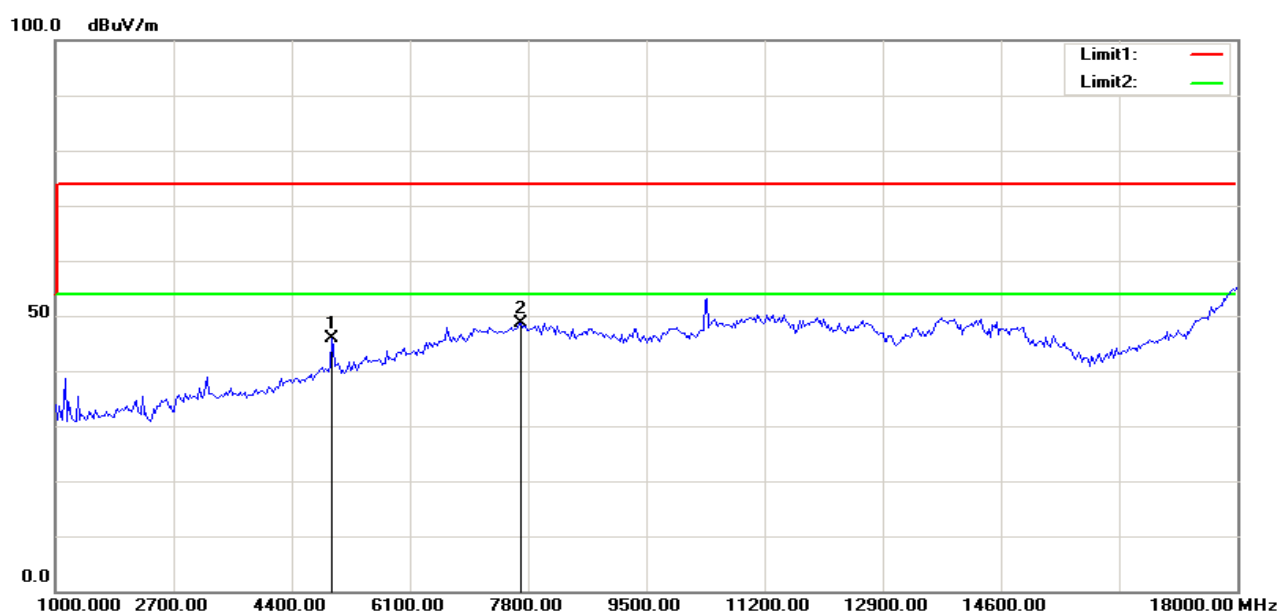
Polarity: Ver. / Hor.

Horizontal



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Remark
1	4977.564	48.52	-1.78	46.74	74.00	-27.26	100	162	peak
2	7511.218	42.45	6.09	48.54	74.00	-25.46	100	168	peak
N/A									

Vertical



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Remark
1	4977.564	47.56	-1.78	45.78	74.00	-28.22	100	172	peak
2	7701.923	42.17	6.42	48.59	74.00	-25.41	100	335	peak

Operation Mode: BT For 4.0 / TX (CH Low)

Test Date: 2016-9-4

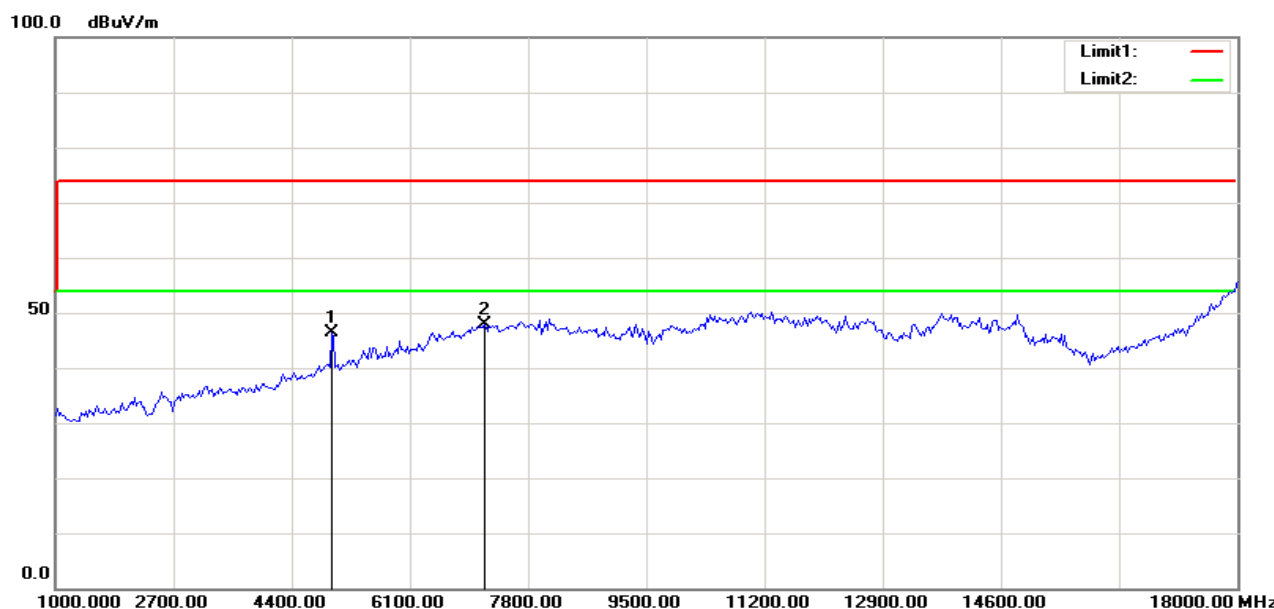
Temperature: 24°C

Tested by: James.Yan

Humidity: 48 % RH

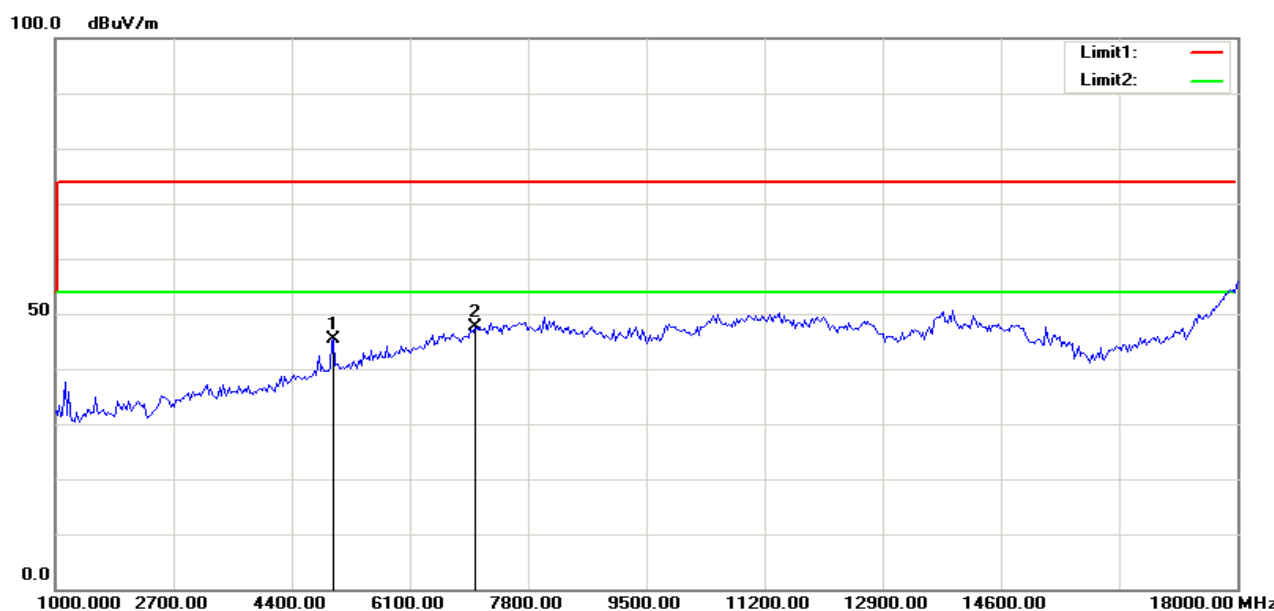
Polarity: Ver. / Hor.

Horizontal



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Remark
1	4977.564	48.11	-1.78	46.33	74.00	-27.67	100	161	peak
2	7184.295	42.36	5.53	47.89	74.00	-26.11	100	276	peak
N/A									

Vertical



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Remark
1	5004.808	46.97	-1.67	45.30	74.00	-28.70	100	165	peak
2	7048.077	42.43	5.29	47.72	74.00	-26.28	100	276	peak

Operation Mode: BT For 4.0 / TX (CH Mid)

Test Date: 2016-9-4

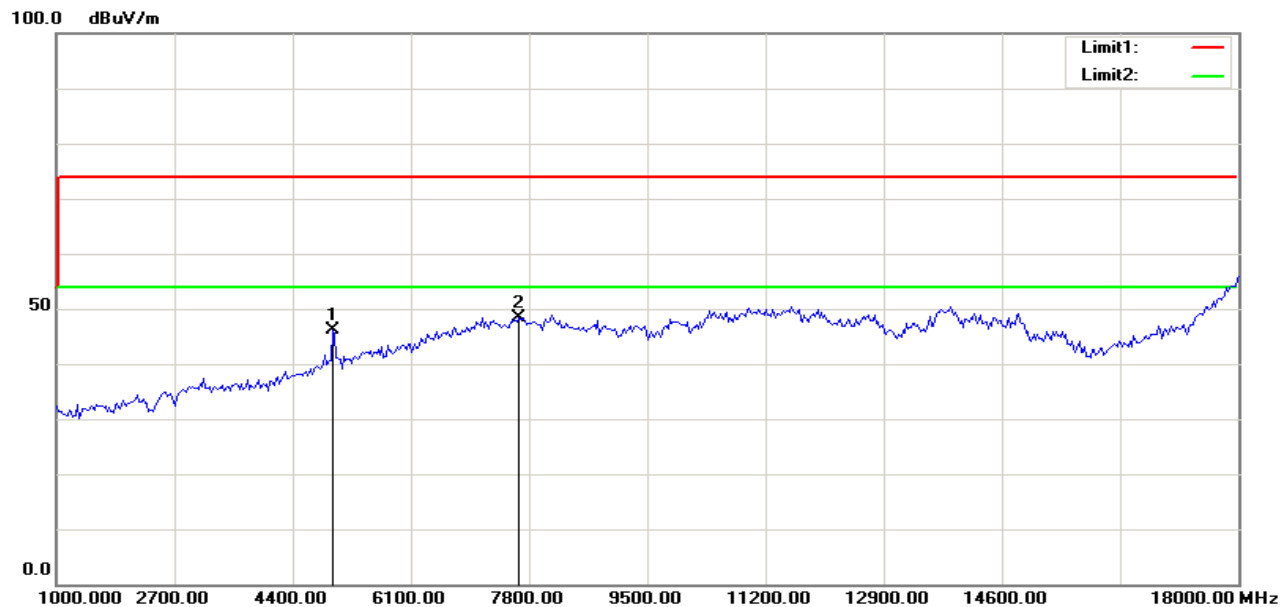
Temperature: 24°C

Tested by: James.Yan

Humidity: 48 % RH

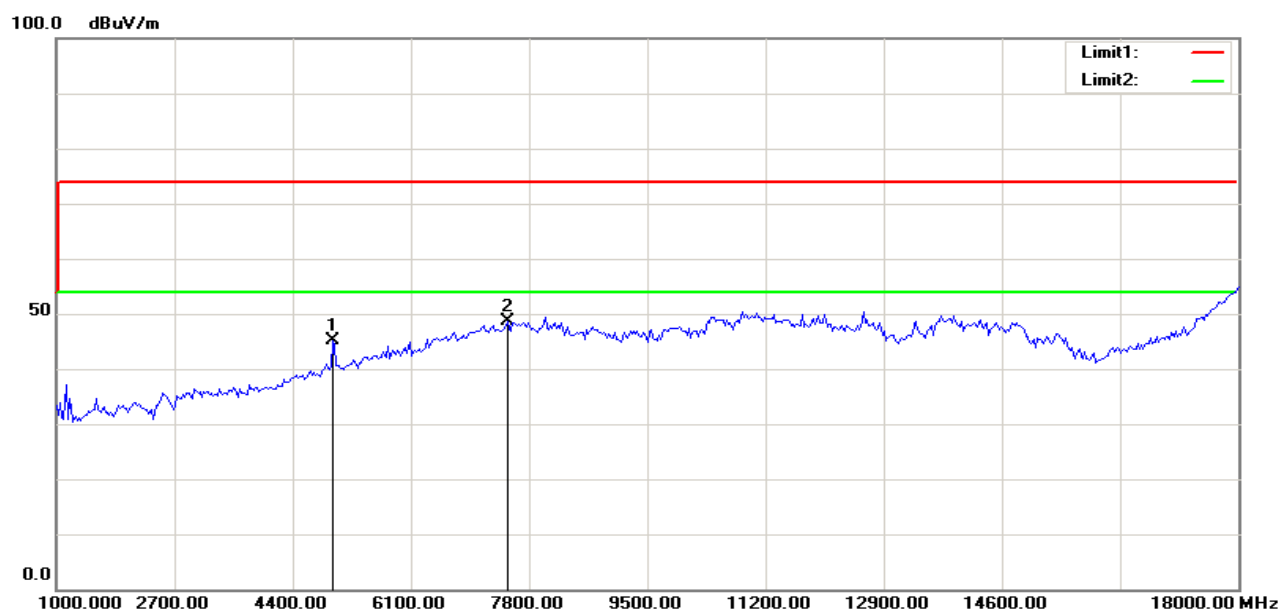
Polarity: Ver. / Hor.

Horizontal



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Remark
1	4977.564	47.90	-1.78	46.12	74.00	-27.88	100	146	peak
2	7647.436	42.12	6.32	48.44	74.00	-25.56	100	180	peak
N/A									

Vertical



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Remark
1	4977.564	46.95	-1.78	45.17	74.00	-28.83	100	178	peak
2	7483.974	42.57	6.04	48.61	74.00	-25.39	100	49	peak

Operation Mode: BT For 4.0 / TX (CH High)

Test Date: 2016-9-4

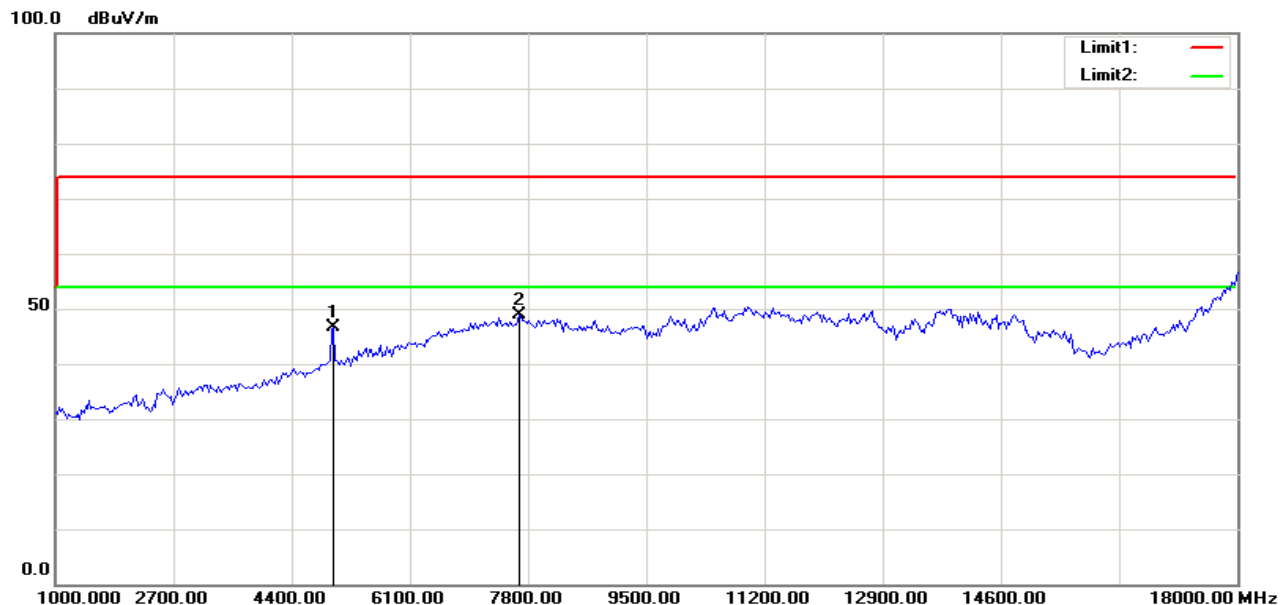
Temperature: 24°C

Tested by: James.Yan

Humidity: 48 % RH

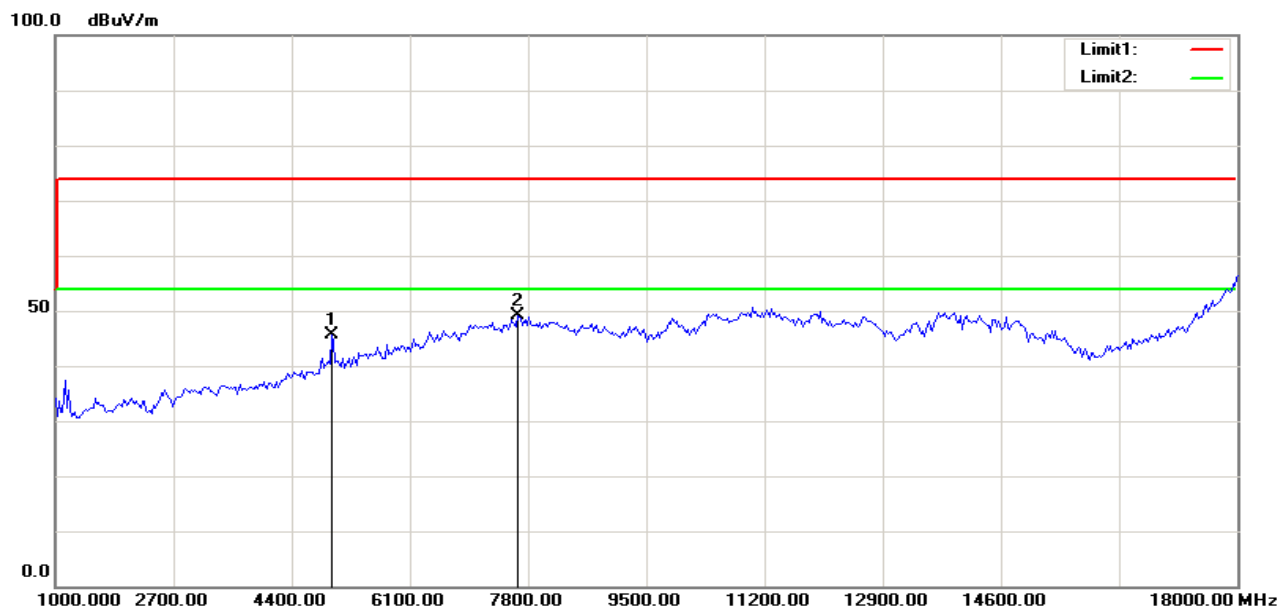
Polarity: Ver. / Hor.

Horizontal



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Remark
1	5004.808	48.37	-1.67	46.70	74.00	-27.30	100	188	peak
2	7674.680	42.63	6.37	49.00	74.00	-25.00	100	153	peak
N/A									

Vertical



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Remark
1	4977.564	47.52	-1.78	45.74	74.00	-28.26	100	171	peak
2	7647.436	42.92	6.32	49.24	74.00	-24.76	100	337	peak



Above 18GHz

The interference of the frequency value is lower than the limit below 20 db, measured as the background noise values and will not be recorded.

Remark:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Radiated emissions measured in frequency above 1000MHz were made with an instrument using peak/average detector mode.
3. Average test would be performed if the peak result were greater than the average limit.
4. Data of measurement within this frequency range shown " --- " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
5. Measurements above show only up to 3 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.
6. Margin (dB) = Remark result (dBuV/m) – Average limit (dBuV/m).

END OF REPORT