RADIO TEST REPORT
FCC 47 CFR PART 15 SUBPART C
INDUSTRY CANADA RSS-247

Test Standard	**FCC Part 15.247 and RSS-247 Issue 1**
FCC ID	**A4C-1000BA**
ISED No.	**10199A-1000BA**
Trade name	**Rand McNally**
Product name	**OverDryve™ 7c**
Model No.	**OD7C**
Test Result	**Pass**

The test Result was tested by Compliance Certification Services Inc. The test data, data evaluation, test procedures, and equipment configurations shown in this report were given in ANSI C63.10: 2013 and compliance standards.

The test results of this report relate only to the tested sample (EUT) identified in this report.
The test Report of full or partial shall not copy. Without written approval of Compliance Certification Services Inc. (Wugu Laboratory)

The sample selected for test was production product and was provided by manufacturer.

Approved by:

Sam Chuang
Manager

Reviewed by:

Ed Chiang
Engineer

Revision History

Rev.	Issue Date	Revisions	Revised By
00	February 7, 2017	Initial Issue	Angel Cheng
01	March 24, 2017	1. Remove Remark in page 4. 2. Revise section 1.3 Antenna Category and Antenna Gain in page 5. 3. Revise section 1.2 Modulation Type and Number of channel in page 5. 3. Revise section 3.3 in page 12. 4. Revise section 4.2.2 in page 16. 5. Revise section 4.6.2 Duty Cycle and VBW in page 39. 6. Add Test Setup Photos in page 76, 77.	Doris Chu
02	March 28, 2017	1. Modify Operation mode	Angel Cheng

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APPENDIX 1 - PHOTOGRAPHS OF EUT

1. GENERAL INFORMATION

1.1 EUT INFORMATION

Applicant	RM Acquisition, LLC 9855 Woods Drive Skokie, IL 60077 USA.
Equipment	OverDryve™ 7c
Model Name	OD7C
Model Discrepancy	N/A
EUT Functions	IEEE 802.11b/g/n+BT+GPS+FM
Received Date	Dec 28, 2016
Date of Test	Jan 03, 2017 ~ Jan 18, 2017
Output Power(W)	IEEE 802.11b mode: 0.1274 (EIRP : 0.2399) IEEE 802.11g mode: 0.1002 (EIRP : 0.1888) IEEE 802.11n HT 20 MHz mode: 0.0807 (EIRP : 0.1521)
Power Operation	☐ AC 120V/60Hz ☐ Adapter(Not for sale) ☐ PoE(Not for sale) ☒ Host system ☒ DC Type : ☒ Battery ☒ Car Charger ☐ DC Power Supply ☐ External DC adapter

1.2 EUT CHANNEL INFORMATION

Frequency Range	2412MHz-2462MHz
Modulation Type	1. IEEE 802.11b mode: CCK 2. IEEE 802.11g mode: OFDM 3. IEEE 802.11n HT 20 MHz mode: OFDM
Number of channel	1. IEEE 802.11b mode: 11 Channels 2. IEEE 802.11g mode: 11 Channels 3. IEEE 802.11n HT 20 MHz mode: 11 Channels

Remark:
Refer as ANSI 63.10:2013 clause 5.6.1 Table 4 and RSS-GEN Table A1 for test channels

Number of frequencies to be tested		
Frequency range in which device operates	**Number of frequencies**	**Location in frequency range of operation**
☐ 1 MHz or less	1	Middle
☐ 1 MHz to 10 MHz	2	1 near top and 1 near bottom
☒ More than 10 MHz	3	1 near top, 1 near middle, and 1 near bottom

1.3 ANTENNA INFORMATION

Antenna Category	☐ Integral: antenna permanently attached ☒ External dedicated antennas ☐ External Unique antenna connector
Antenna Type	☐ PIFA ☒ PCB ☐ Dipole ☐ Coils
Antenna Gain	2.52dBi

1.4 MEASUREMENT UNCERTAINTY

PARAMETER	UNCERTAINTY
AC Powerline Conducted Emission	+/- 1.2575
Emission bandwidth, 20dB bandwidth	+/- 1.4003
RF output power, conducted	+/- 1.1372
Power density, conducted	+/- 1.4003
3M Semi Anechoic Chamber / 30M~200M	+/- 4.0138
3M Semi Anechoic Chamber / 200M~1000M	+/- 3.9483
3M Semi Anechoic Chamber / 1G~8G	+/- 2.5975
3M Semi Anechoic Chamber / 8G~18G	+/- 2.6112
3M Semi Anechoic Chamber / 18G~26G	+/- 2.7389
3M Semi Anechoic Chamber / 26G~40G	+/- 2.9683
3M Semi Anechoic Chamber / 40G~60G	+/- 1.8509
3M Semi Anechoic Chamber / 60G~75G	+/- 1.9869
3M Semi Anechoic Chamber / 75G~110G	+/- 2.9651
3M Semi Anechoic Chamber / 110G~170G	+/- 2.7807
3M Semi Anechoic Chamber / 170G~220G	+/- 3.6437
3M Semi Anechoic Chamber / 220G~325G	+/- 4.2982

***Remark**:*
1.This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2
2. ISO/IEC 17025 requires that an estimate of the measurement uncertainties associated with the emissions test results be included in the report.

1.5 FACILITIES AND TEST LOCATION

All measurement facilities used to collect the measurement data are located at

1. *No.11, Wugong 6th Rd., Wugu Dist., New Taipei City 24891, Taiwan. (R.O.C.)*
2. *No.163-1, Jhongsheng Rd. Sindian City, Taipei County 23151, Taiwan.*

Test site	Test Engineer	Remark
AC Conduction Room	Jim Lian	The AC conduction room test items was tested at Compliance Certification Services Inc. (Sindian Lab.) The test equipments were listed in page 7 and the test data, please refer page 14-15.
Radiation	Ed Chiang	
RF Conducted	Eric Lee	

***Remark:** The sites are constructed in conformance with the requirements of ANSI C63.7, ANSI C63.4 and CISPR Publication 22.*

1.6 INSTRUMENT CALIBRATION

RF Conducted Test Site					
Equipment	**Manufacturer**	**Model**	**S/N**	**Cal Date**	**Cal Due**
Power Meter	Anritsu	ML2495A	1012009	07/04/2016	07/03/2017
Power Sensor	Anritsu	MA2411B	917072	07/04/2016	07/03/2017
Spectrum Analyzer	R&S	FSV 40	101073	10/05/2016	10/04/2017
Thermostatic/Hrgrosatic Chamber	GWINSTEK	GTC-288MH-CC	TH160402	05/04/2016	05/03/2017
USB Wideband Power Sensor	Agilent	U2021XA	MY54250027	05/12/2016	05/11/2017
USB Wideband Power Sensor	Agilent	U2021XA	MY54260016	05/12/2016	05/11/2017
USB Wideband Power Sensor	Agilent	U2021XA	MY54260020	05/12/2016	05/11/2017
USB Wideband Power Sensor	Agilent	U2021XA	MY54260007	05/12/2016	05/11/2017

3M 966 Chamber Test Site					
Equipment	**Manufacturer**	**Model**	**S/N**	**Cal Due**	**Cal Due**
Spectrum Analyzer	Agilent	E4446A	US42510252	12/05/2016	12/04/2017
Bilog Antenna	Sunol Sciences	JB3	A030105	07/03/2016	07/02/2017
Pre-Amplifier	EMEC	EM330	60609	06/08/2016	06/07/2017
Horn Antenna	ETC	MCTD 1209	DRH13M02003	06/01/2016	05/31/2017
Pre-Amplifier	EMCI	EMC012635	980151	06/23/2016	06/22/2017
Antenna Tower	CCS	CC-A-5F	N/A	N.C.R	N.C.R
Controller	CCS	CC-C-5F	N/A	N.C.R	N.C.R
Turn Table	CCS	CC-T-5F	N/A	N.C.R	N.C.R
Horn Antenna	ETC	MCTD 1209	DRH13M02003	09/02/2016	09/01/2017
Pre-Amplifier	EMEC	EM330	60609	06/08/2016	06/07/2017

AC Conducted Emissions Test Site					
Equipment	**Manufacturer**	**Model**	**S/N**	**Cal Date**	**Cal Due**
BNC Cable	EMCI	CFD300-NL	BNC#B4	05/29/2016	05/28/2017
EMI Test Receiver	R&S	ESCI	101201	08/20/2016	08/19/2017
ISN	Teseq	ISN T800	29449	08/19/2016	08/18/2017
LISN	Schwarzbeck	NSLK 8127	8129-286	08/19/2016	08/18/2017
LISN(EUT)	Schwarzbeck	NSLK 8127	8127527	08/19/2016	08/18/2017
Pulse Limiter	R&S	ESH3-Z2	C3010026-2	08/23/2016	08/22/2017
Thermo-Hygro Meter	Wisewind	201A	No. 02	05/03/2016	05/02/2017
Current Sensor Probe	Teseq	CSP 9160A	73982	06/02/2016	06/01/2017
Capacitive Voltage Probe	Teseq	CVP 2200A	37925	10/26/2016	10/25/2017
Software	EZ-EMC				

Remark: *Each piece of equipment is scheduled for calibration once a year.*

1.7 SUPPORT AND EUT ACCESSORIES EQUIPMENT

EUT Accessories Equipment					
No.	**Equipment**	**Brand**	**Model**	**Series No.**	**FCC ID**
	N/A				

Support Equipment					
No.	**Equipment**	**Brand**	**Model**	**Series No.**	**FCC ID**
1	NB	DELL	PP19L	R33002	E2KWM3945ABG
2	Battery	YUASA	CMF 75D23L	N/A	N/A
3	PS/2 Mouse	hp	M-SBF96	FATSQ0C5BYJQKZ	DOC BSMI:R41126
4	PS/2 Keyboard	Genius	K639	N/A	DOC BSMI:T3A164
5	Microphone & Earphone	INTOPIC	LASS-288	N/A	N/A
6	Monitor	DELL	P2314t	CN-0HMJ1V-74445-46 S-156S	R43004
7	Host PC	DELL	T5810	8G5NKG2	N/A
8	Modem	GALILEO	AL-56ERM	0MERM04A0212	DOC
9	Printer	HP	SNPRB-1202 -01	CN54K182G9	R330D1

1.8 TEST METHODOLOGY AND APPLIED STANDARDS

The test methodology, setups and results comply with all requirements in accordance with ANSI C63.10:2013, FCC Part 2, FCC Part 15.247, KDB 558074 D01 v03r05, RSS-247 Issue 1 and RSS-GEN Issue 4.

1.9 TABLE OF ACCREDITATIONS AND LISTINGS

Country	Agency	Scope of Accreditation	Logo
USA	FCC	3M Semi Anechoic Chamber (FCC MRA: TW1039) to perform FCC Part 15 measurements	FCC MRA: TW1039
Canada	Industry Canada	3M Semi Anechoic Chamber (IC 2324G-1 / IC 2324G-2) to perform	Canada IC 2324G-1 IC 2324G-2

2. TEST SUMMERY

FCC Standard Section	IC Standard Section	Report Section	Test Item	Result
15.203	-	1.2	Antenna Requirement	Pass
15.207(a)	RSS-GEN 8.8	4.1	AC Conducted Emission	Pass
15.247(a)(2)	RSS-247(5.2)(1)	4.2	6 dB Bandwidth	Pass
-	RSS-GEN 6.6	4.2	Occupied Bandwidth (99%)	Pass
15.247(b)	RSS-247(5.4)(4)	4.3	Output Power Measurement	Pass
15.247(e)	RSS-247(5.2)(2)	4.4	Power Spectral Density	Pass
15.247(d)	RSS-247(5.5)	4.5	Conducted Band Edge	Pass
15.247(d)	RSS-247(5.5)	4.5	Conducted Emission	Pass
15.247(d)	RSS-GEN 8.9, 8.10	4.6	Radiation Band Edge	Pass
15.247(d)	RSS-GEN 8.9, 8.10	4.6	Radiation Spurious Emission	Pass

3. DESCRIPTION OF TEST MODES

3.1 THE WORST MODE OF OPERATING CONDITION

Operation mode	IEEE 802.11b mode :1Mbps IEEE 802.11g mode :6Mbps IEEE 802.11n HT20 mode :MCS0
Test Channel Frequencies	**IEEE 802.11b mode :** 1. Lowest Channel : 2412MHz 2. Middle Channel : 2437MHz 3. Highest Channel : 2462MHz **IEEE 802.11g mode :** 1. Lowest Channel : 2412MHz 2. Middle Channel : 2437MHz 3. Highest Channel : 2462MHz **IEEE 802.11n HT20 mode :** 1. Lowest Channel : 2412MHz 2. Middle Channel : 2437MHz 3. Highest Channel : 2462MHz

Remark:
1. EUT pre-scanned data rate of output power for each mode, the worst data rate were recorded in this report.

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3.2 THE WORST MODE OF MEASUREMENT

AC Power Line Conducted Emission	
Test Condition	**AC Power line conducted emission for line and neutral**
Voltage/Hz	**120V/60Hz**
Test Mode	**Mode 1:EUT power by AC adapter via power cable.**
Worst Mode	**☒ Mode 1 ☐ Mode 2 ☐ Mode 3 ☐ Mode 4**

Radiated Emission Measurement Above 1G	
Test Condition	**Band edge, Emission for Unwanted and Fundamental**
Voltage/Hz	**5V DC**
Test Mode	**Mode 1:EUT power by USB cable.**
Worst Mode	**☒ Mode 1 ☐ Mode 2 ☐ Mode 3 ☐ Mode 4**
Worst Position	**☐ Placed in fixed position.** **☐ Placed in fixed position at X-Plane (E2-Plane)** **☒ Placed in fixed position at Y-Plane (E1-Plane)** **☐ Placed in fixed position at Z-Plane (H-Plane)**
Worst Polarity	**☐ Horizontal ☒ Vertical**

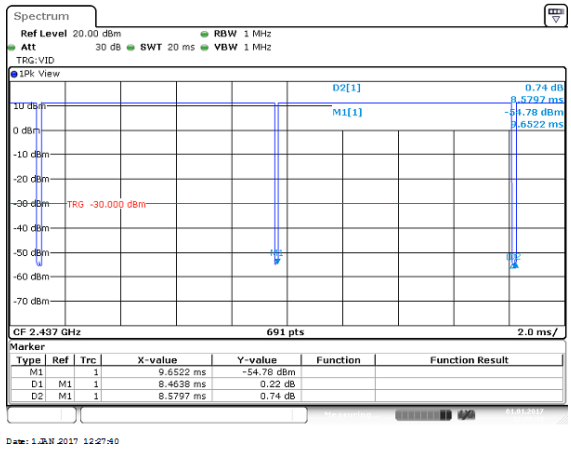
Radiated Emission Measurement Below 1G	
Test Condition	**Radiated Emission Below 1G**
Voltage/Hz	**12V DC and 5V DC**
Test Mode	**Mode 1:EUT power by 12V DC via car charger.** **Mode 2:EUT power by 5V DC via USB.**
Worst Mode	**☒ Mode 1 ☐ Mode 2 ☐ Mode 3 ☐ Mode 4**

Remark:
1. The worst mode was record in this test report.
2. EUT pre-scanned in three axis ,X,Y, Z and two polarity, Horizontal and Vertical for radiated measurement. The worst case(Y-Plane and Vertical) were recorded in this report

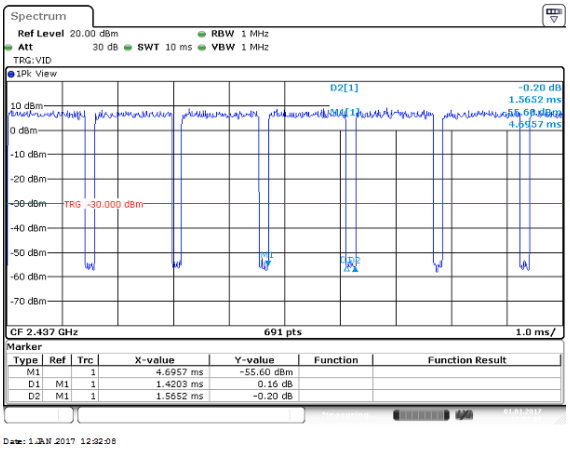
3.3 EUT DUTY CYCLE

Duty Cycle				
Configuration	TX ON (ms)	TX ALL (ms)	Duty Cycle (%)	Duty Factor(dB)
802.11b	8.4638	8.5797	98.76%	0.05
802.11g	1.4203	1.5652	90.74%	0.42
802.11n HT20	1.3188	1.4638	90.10%	0.45

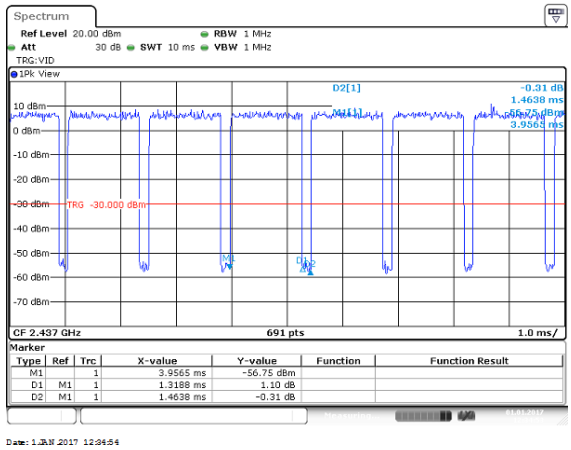
802.11b



802.11g



802.11n HT20



4. TEST RESULT

4.1 AC POWER LINE CONDUCTED EMISSION

4.1.1 Test Limit

According to §15.207(a) and RSS-GEN section 8.8,

Frequency Range (MHz)	Limits(dBμV)	
	Quasi-peak	Average
0.15 to 0.50	66 to 56*	56 to 46*
0.50 to 5	56	46
5 to 30	60	50

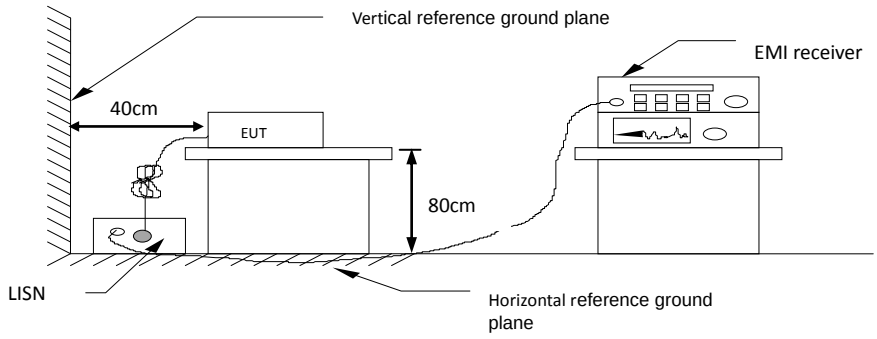
* Decreases with the logarithm of the frequency.

4.1.2 Test Procedure

Test method Refer as ANSI 63.10:2013 clause 6.2,

1. The EUT was placed on a non-conducted table, which is 0.8m above horizontal ground plane and 0.4m above vertical ground plane.
2. EUT connected to the line impedance stabilization network (LISN)
3. Receiver set RBW of 9kHz and Detector Peak, and note as quasi-peak and average.
4. Maximum procedure was performed on the six highest emissions to ensure EUT compliance.
5. Recorded Line for Neutral and Line.

4.1.3 Test Setup

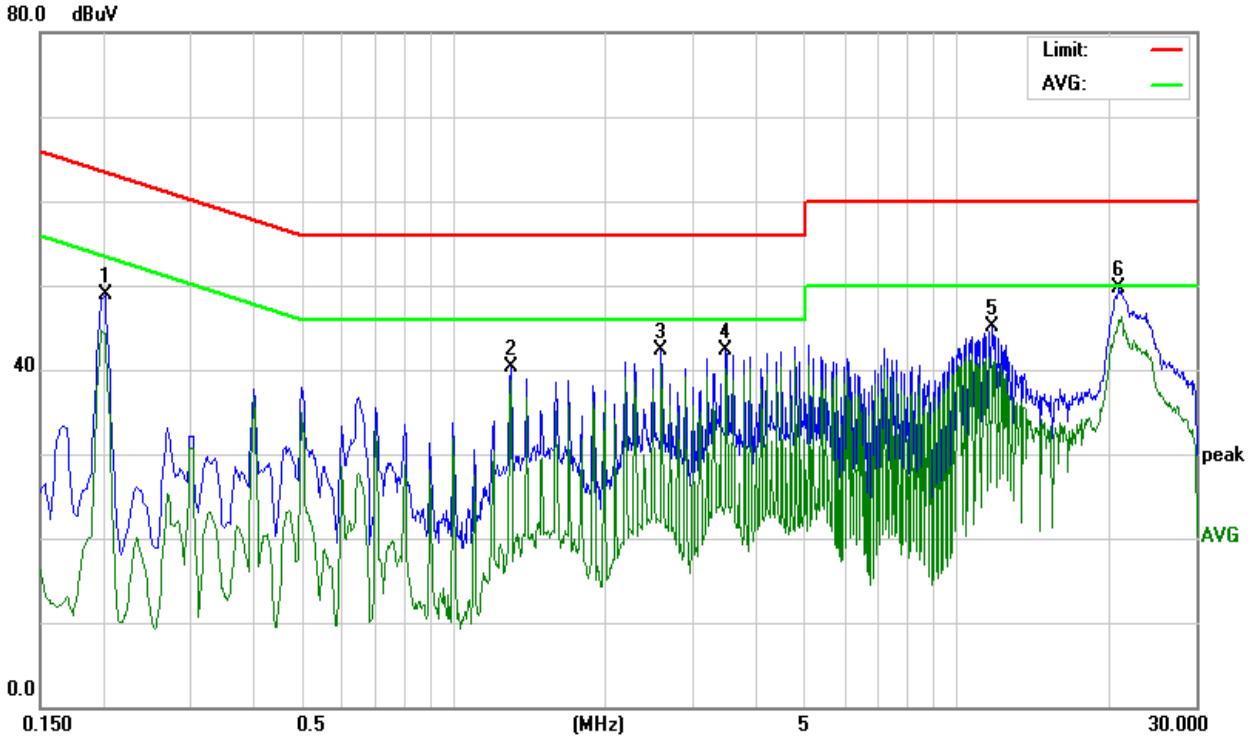


4.1.4 Test Result

Not applicable

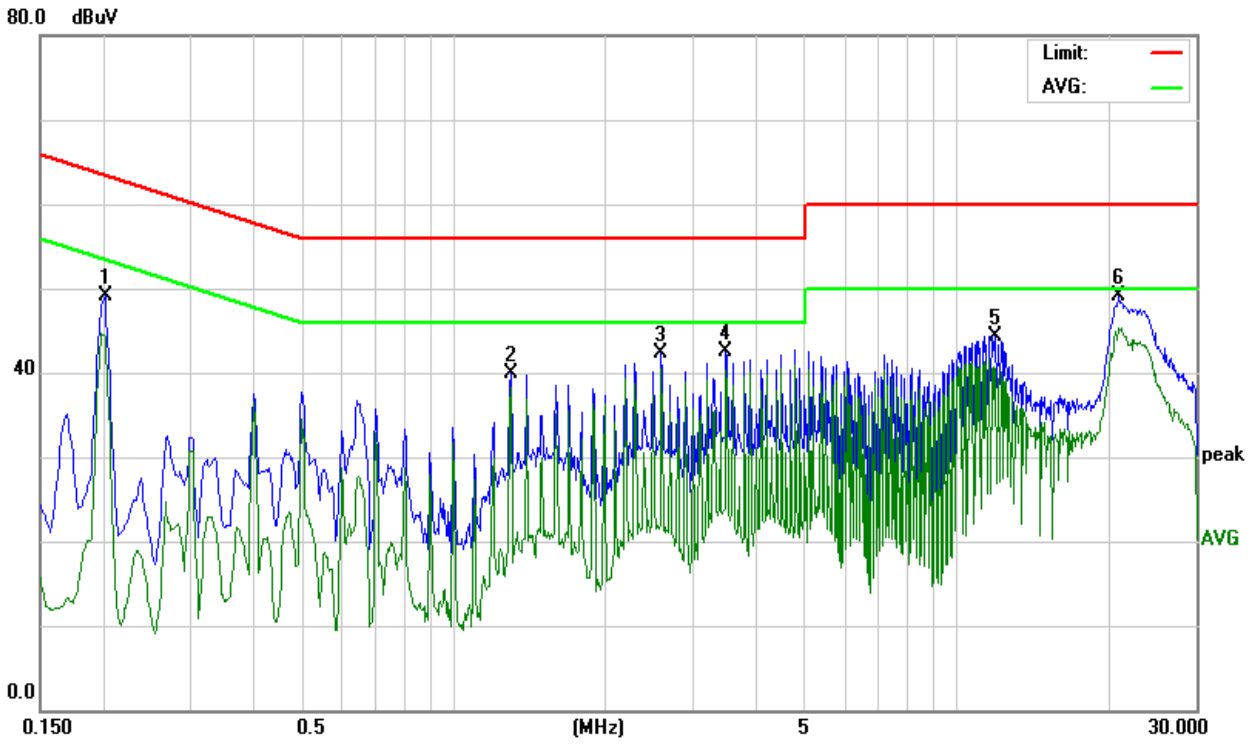
Test Data

Test Mode:	Mode 1	Temp/Hum	27(℃)/ 53%RH
		Test Date	Jan 03, 2017
Phase:	Line	Test Engineer	Jim Lian



Frequency (MHz)	Reading (dBuV)	Factor (dB)	Result (dB)	Limit (dBuV)	Margin (dBuV)	Detector (dBuV)
0.2020	38.83	10.10	48.93	63.52	-14.59	peak
1.2980	30.21	10.17	40.38	56.00	-15.62	peak
2.5939	32.02	10.32	42.34	56.00	-13.66	peak
3.4900	32.07	10.33	42.40	56.00	-13.60	peak
11.7698	34.36	10.67	45.03	60.00	-14.97	peak
21.0457	38.52	11.22	49.74	60.00	-10.26	peak

Test Mode:	Mode 1	Temp/Hum	27(℃)/ 53%RH
		Test Date	Jan 03, 2017
Phase:	Neutral	Test Engineer	Jim Lian



Frequency (MHz)	Reading (dBuV)	Factor (dB)	Result (dB)	Limit (dBuV)	Margin (dBuV)	Detector (dBuV)
0.2020	38.97	10.10	49.07	63.52	-14.45	peak
1.2980	29.79	10.17	39.96	56.00	-16.04	peak
2.5939	32.02	10.32	42.34	56.00	-13.66	peak
3.4900	32.20	10.33	42.53	56.00	-13.47	peak
11.9699	33.71	10.68	44.39	60.00	-15.61	peak
21.1460	37.86	11.24	49.10	60.00	-10.90	peak

4.2 6DB BANDWIDTH AND OCCUPIED BANDWIDTH(99%)

4.2.1 Test Limit

According to §15.247(a)(2) and RSS-247 section 5.2(1)

6 dB Bandwidth ：

Limit	Shall be at least 500kHz

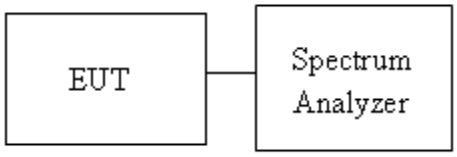
Occupied Bandwidth(99%) ： For reporting purposes only.

4.2.2 Test Procedure

Test method Refer as KDB 558074 D01 v03r05, Section 8.1 and ANSI 63.10:2013 clause 6.9.3,

1. The EUT RF output connected to the spectrum analyzer by RF cable.
2. Setting maximum power transmit of EUT
3. SA set RBW = 100kHz, VBW = 300kHz and Detector = Peak, to measurement 6 dB Bandwidth and 99% Bandwidth.
4. Measure and record the result of 6 dB Bandwidth and 99% Bandwidth. in the test report.

4.2.3 Test Setup



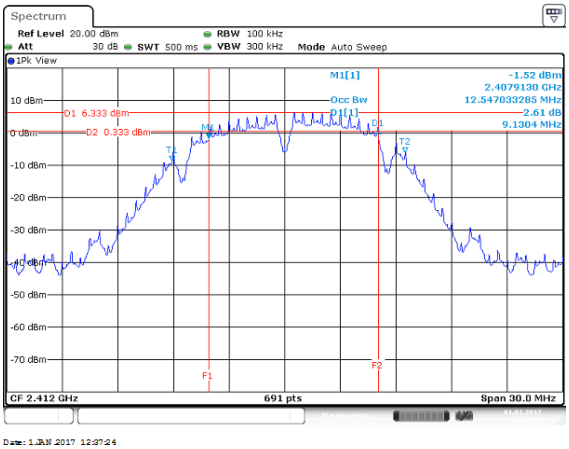
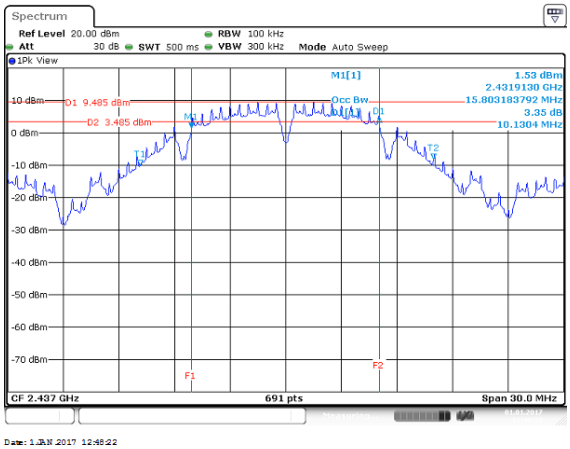
4.2.4 Test Result

Test mode: IEEE 802.11b mode / 2412-2462 MHz				
Channel	**Frequency (MHz)**	**OBW(99%) (MHz)**	**6dB BW (MHz)**	**6dB limit (kHz)**
Low	2412	12.5470	9.1304	≥500
Mid	2437	15.8031	10.1304	
High	2462	16.1070	10.1304	

Test mode: IEEE 802.11g mode / 2412-2462 MHz				
Channel	**Frequency (MHz)**	**OBW(99%) (MHz)**	**6dB BW (MHz)**	**6dB limit (kHz)**
Low	2412	16.1939	13.9130	≥500
Mid	2437	17.0188	15.7391	
High	2462	17.4963	16.3478	

Test mode: IEEE 802.11n HT 20 MHz mode / 2412-2462 MHz				
Channel	**Frequency (MHz)**	**OBW(99%) (MHz)**	**6dB BW (MHz)**	**6dB limit (kHz)**
Low	2412	17.3227	13.8696	≥500
Mid	2437	17.9739	17.6070	
High	2462	18.2344	17.6522	

Test Data

IEEE 802.11b mode	
Low CH	**Mid CH**
	
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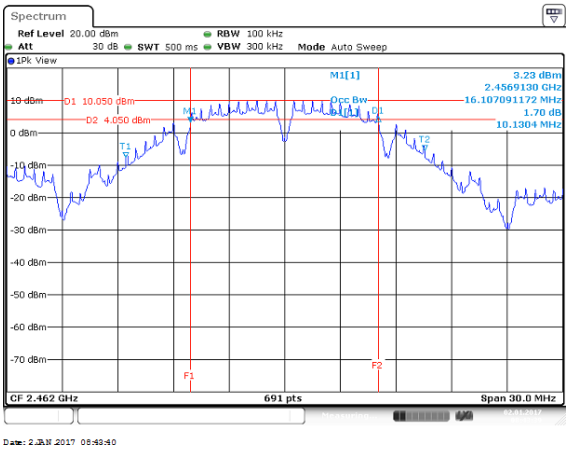
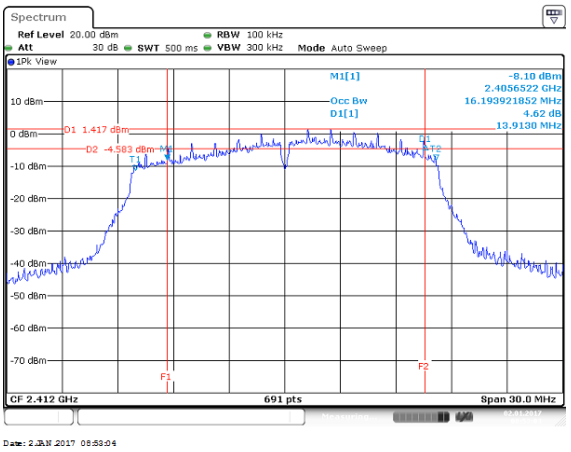
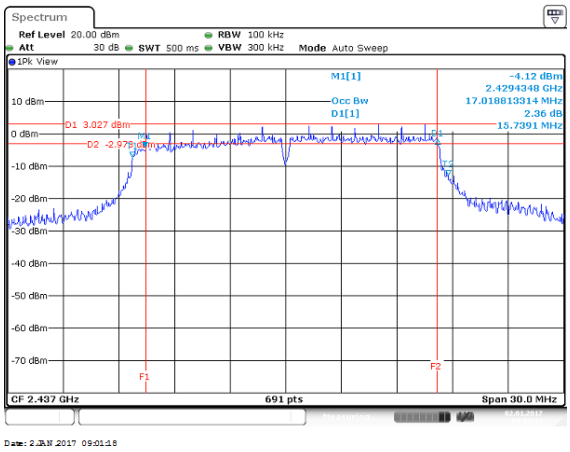
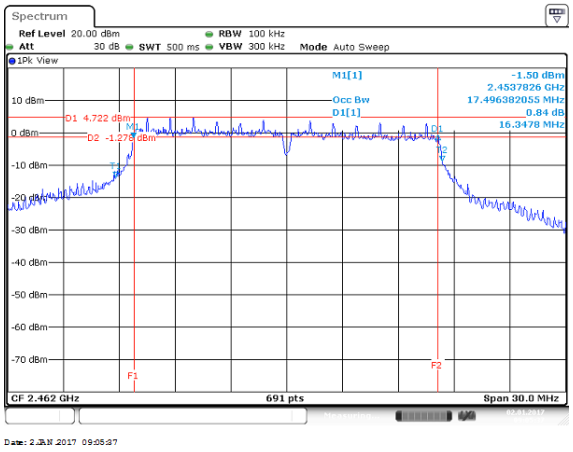
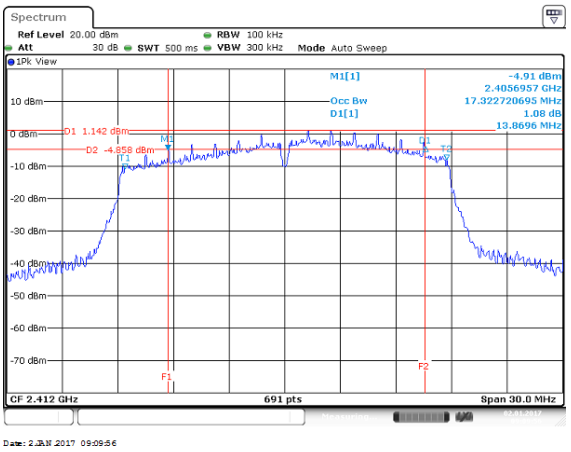
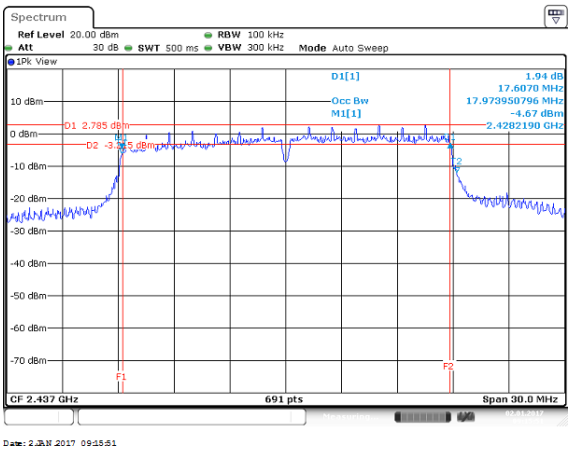
	

IEEE 802.11g mode	
Low CH	**Mid CH**
	
High CH	
	

IEEE 802.11n HT20 mode	
Low CH	**Mid CH**
	
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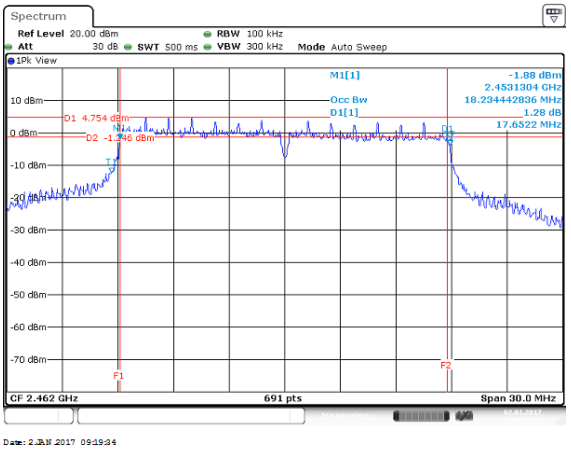
	

4.3 OUTPUT POWER MEASUREMENT

4.3.1 Test Limit

According to §15.247(b) and RSS-247 section 5.4(4)

Peak output power：

For systems using digital modulation in the 2400-2483.5 MHz, and 5725-5850 MHz bands: 1 Watt(30 dBm), base on the use of antennas with directional gain not exceed 6 dBi If transmitting antennas of directional gain greater than 6dBi are used the peak output power the conducted output power from the intentional radiator shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi. In case of point-to-point operation, the limit has to be reduced by 1dB for every 3 dB that the directional gain of the antenna exceeds 6 dBi.

Limit	☒ Antenna not exceed 6 dBi：30dBm ☐ Antenna with DG greater than 6 dBi： [Limit = 30 – (DG – 6)] ☐ Point-to-point operation：

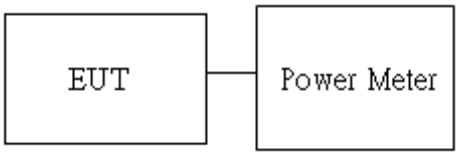
Average output power：For reporting purposes only.

4.3.2 Test Procedure

Test method Refer as KDB 558074 D01 v03r05, Section 9.1.2.

1. The EUT RF output connected to the power meter by RF cable.
2. Setting maximum power transmit of EUT.
3. The path loss was compensated to the results for each measurement.
4. Measure and record the result of Peak output power and Average output power. in the test report.

4.3.3 Test Setup



4.3.4 Test Result

Peak output power：

Wifi 2.4G Mode							
Config.	CH	Freq. (MHz)	PK Power (dBm)	EIRP PK Power (dBm)	PK Power (W)	EIRP PK Power (W)	FCC/IC Limit (dBm)
IEEE 802.11b Data rate: 1Mbps	1	2412	20.46	23.21	0.1112	0.2094	30
	6	2437	20.21	22.96	0.1050	0.1977	
	11	2462	21.05	23.80	0.1274	0.2399	
IEEE 802.11g Data rate: 6Mbps	1	2412	20.01	22.76	0.1002	0.1888	
	6	2437	17.07	19.82	0.0509	0.0959	
	11	2462	17.77	20.52	0.0598	0.1127	
IEEE 802.11n HT20 Data rate: MCS0	1	2412	18.71	21.46	0.0743	0.1400	
	6	2437	17.73	20.48	0.0593	0.1117	
	11	2462	19.07	21.82	0.0807	0.1521	

Average output power：

Wifi 2.4G Mode			
Config.	CH	Freq. (MHz)	AV Power (dBm)
IEEE 802.11b Data rate: 1Mbps	1	2412	17.27
	6	2437	17.24
	11	2462	18.12
IEEE 802.11g Data rate: 6Mbps	1	2412	8.93
	6	2437	6.56
	11	2462	6.41
IEEE 802.11n HT20 Data rate: MCS0	1	2412	7.47
	6	2437	6.72
	11	2462	7.63

4.4 POWER SPECTRAL DENSITY

4.4.1 Test Limit

According to §15.247(e) and RSS-247 section 5.2(2)

For digitally modulated systems, the power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission.

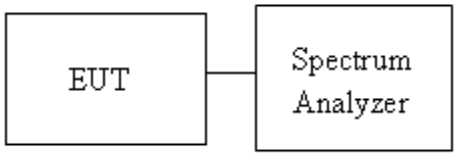
Limit	☒ Antenna not exceed 6 dBi：8dBm ☐ Antenna with DG greater than 6 dBi：8dBm [Limit = 8 – (DG – 6)] ☐ Point-to-point operation：

4.4.2 Test Procedure

Test method Refer as KDB 558074 D01 v03r05, Section 10.2

1. The EUT RF output connected to the spectrum analyzer by RF cable.
2. Setting maximum power transmit of EUT
3. SA set RBW = 3kHz, VBW = 30kHz, Span = 1.5 times DTS Bandwidth (6 dB BW), Detector = Peak, Sweep Time = Auto and Trace = Max hold.
4. The path loss and Duty Factor were compensated to the results for each measurement by SA.
5. Mark the maximum level.
6. Measure and record the result of power spectral density. in the test report.

4.4.3 Test Setup



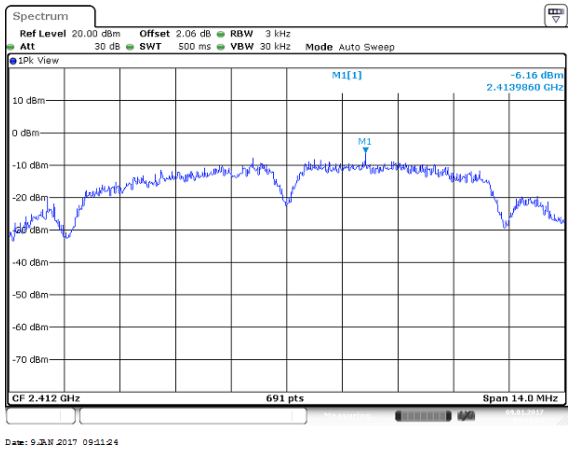
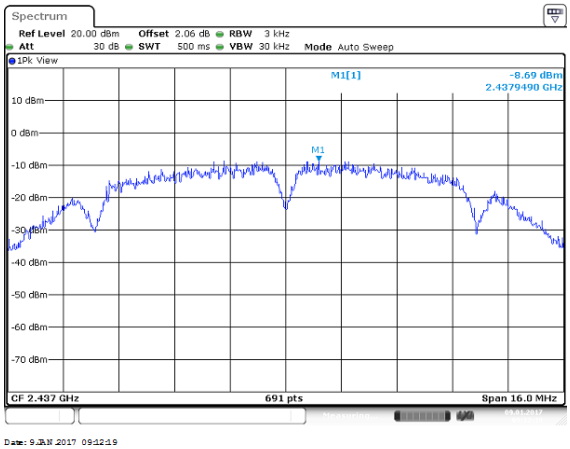
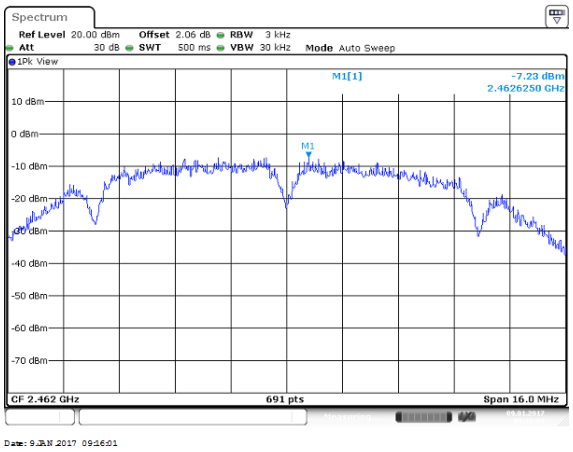
4.4.4 Test Result

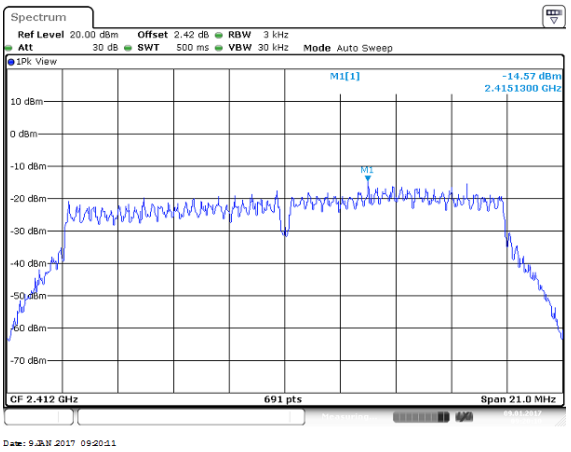
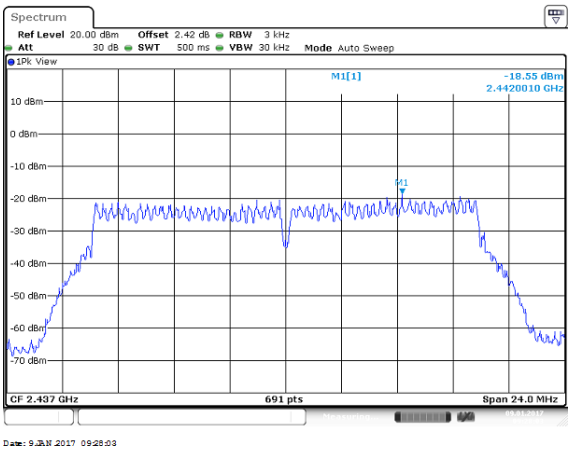
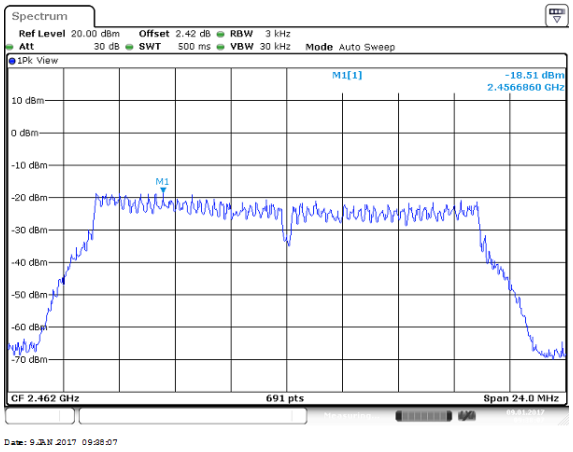
Test mode: IEEE 802.11b mode / 2412-2462 MHz			
Channel	**Frequency (MHz)**	**PPSD (dBm)**	**IC/FCC Limit (dBm)**
Low	2412	-6.16	8
Mid	2437	-8.69	
High	2462	-7.23	

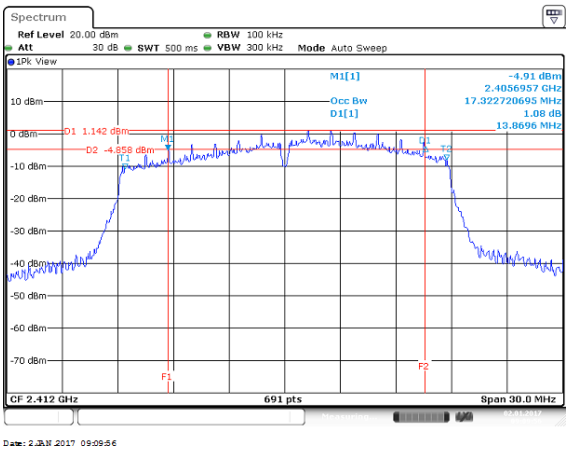
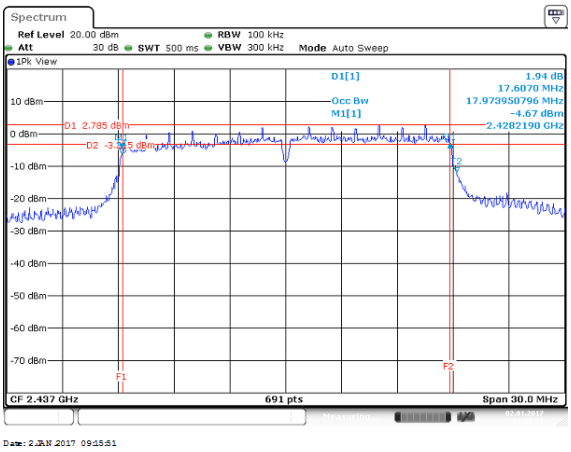
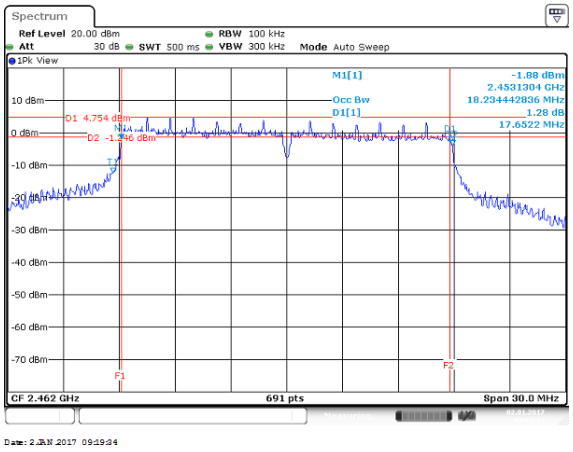
Test mode: IEEE 802.11g mode / 2412-2462 MHz			
Channel	**Frequency (MHz)**	**PPSD (dBm)**	**IC/FCC Limit (dBm)**
Low	2412	-14.57	8
Mid	2437	-18.55	
High	2462	-18.51	

Test mode: IEEE 802.11n HT 20 MHz mode / 2412-2462 MHz			
Channel	**Frequency (MHz)**	**PPSD (dBm)**	**IC/FCC Limit (dBm)**
Low	2412	-4.91	8
Mid	2437	-4.67	
High	2462	-1.88	

Test Data

IEEE 802.11b mode	
Low CH	**Mid CH**
	
High CH	
	

IEEE 802.11g mode	
Low CH	**Mid CH**
	
High CH	
	

IEEE 802.11n HT20 mode	
Low CH	**Mid CH**
	
High CH	
	

4.5 CONDUCTED BANDEDGE AND SPURIOUS EMISSION

4.5.1 Test Limit

According to §15.247(d) and RSS-247 section 5.5

In any 100 kHz bandwidth outside the authorized frequency band,

Non-restricted bands shall be attenuated at least 20 dB/30 dB relative to the maximum PSD level in 100 kHz by RF conducted or a radiated measurement which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in §15.209(a).

4.5.2 Test Procedure

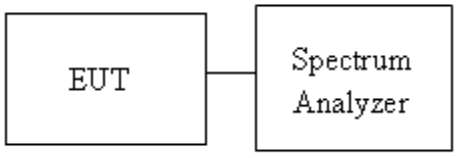
Test method Refer as KDB 558074 D01 v03r05, Section 11.

1. EUT RF output port connected to the SA by RF cable, and the path loss was compensated to result.

2. SA setting, RBW=100kHz, VBW=300kHz, Detector=Peak, Trace mode = max hold, SWT = Auto.

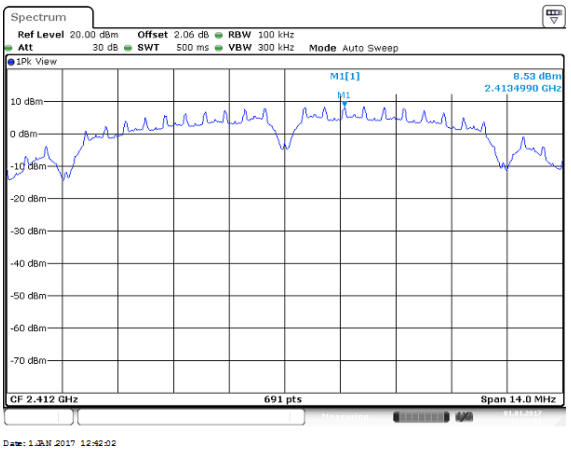
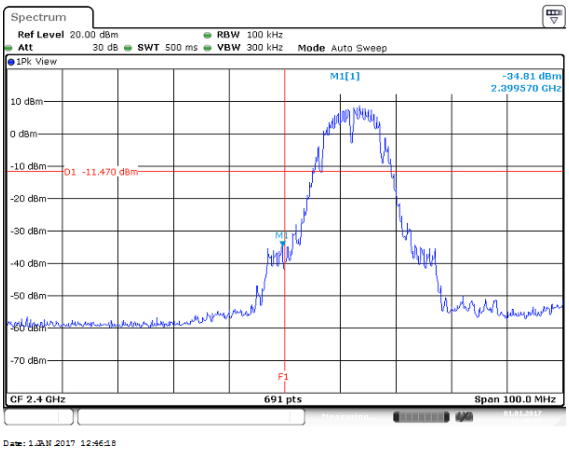
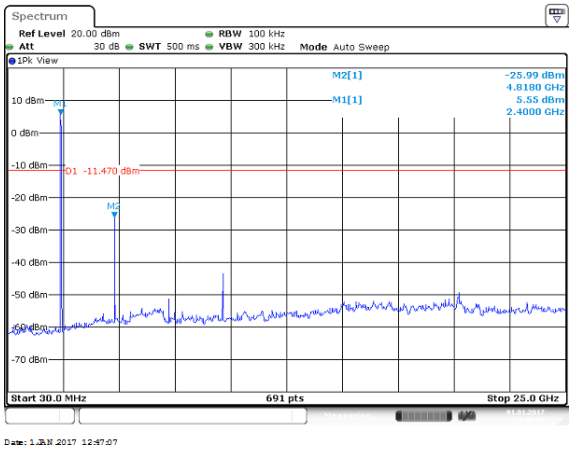
3. In any 100 kHz bandwidth outside the authorized frequency band, shall be attenuated at least 20 dB relative to the maximum in-band peak PSD level in 100 kHz when conducted power procedure is used. f the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, the attenuation required under this paragraph shall be 30 dB instead of 20 dB.

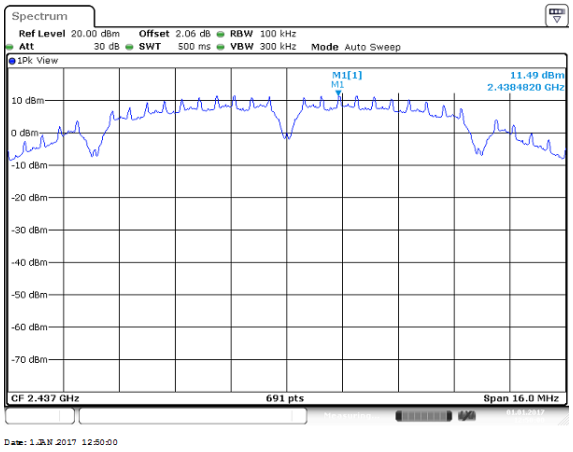
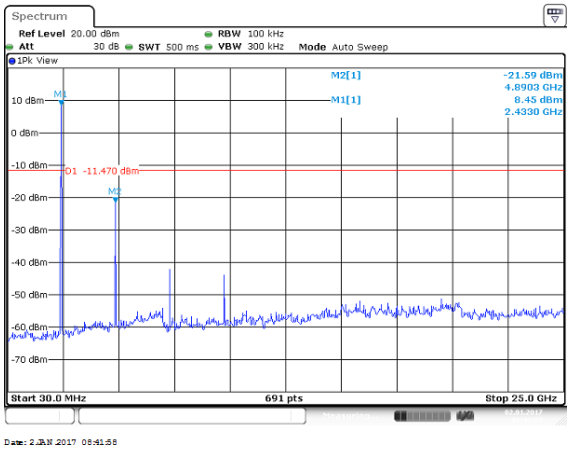
4.5.3Test Setup

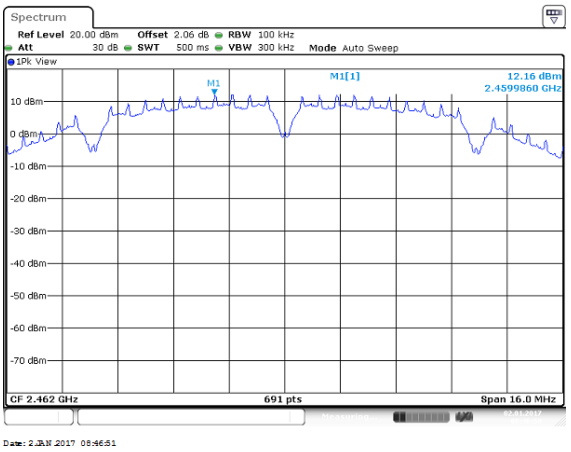
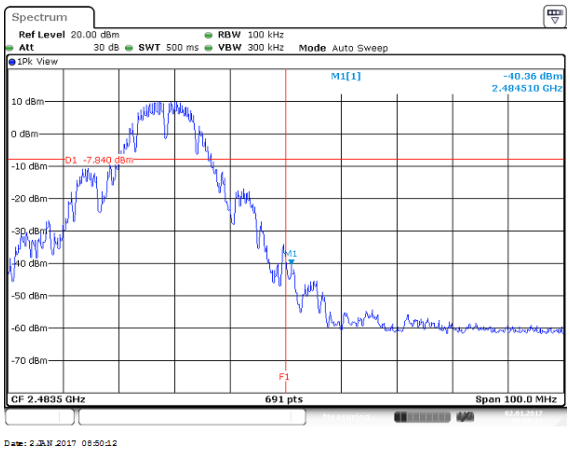
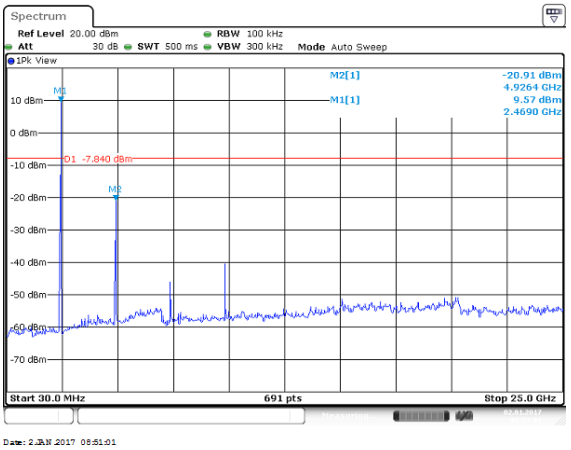


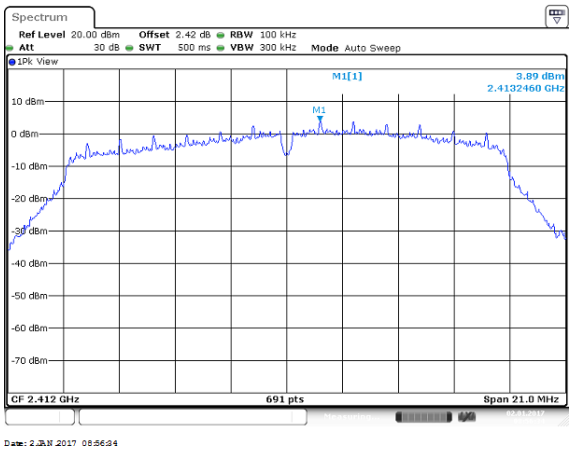
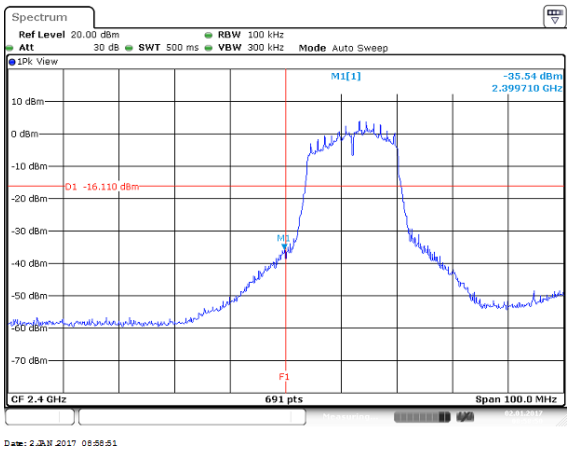
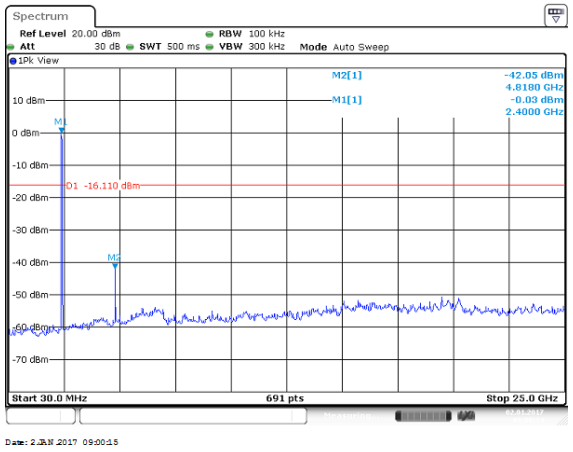
4.5.4 Test Result

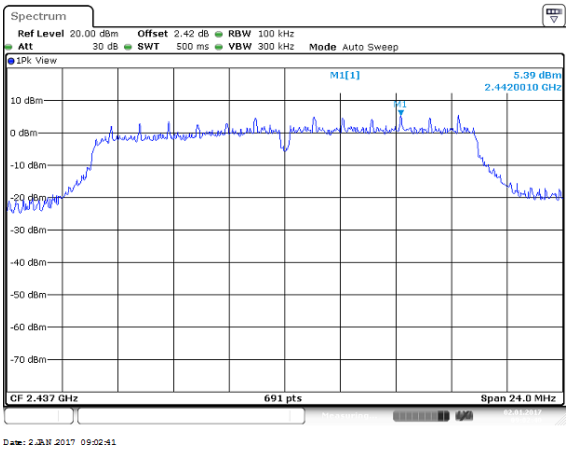
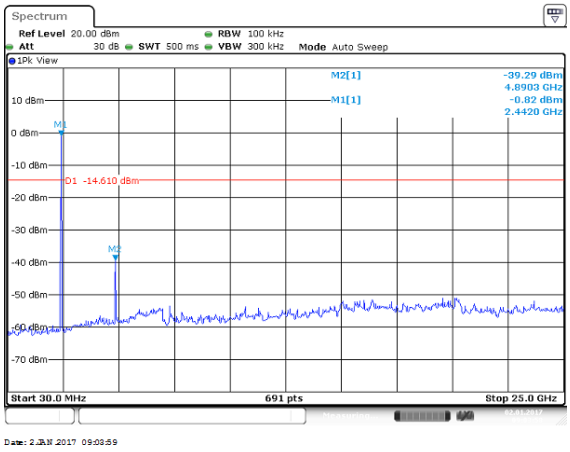
Test Data

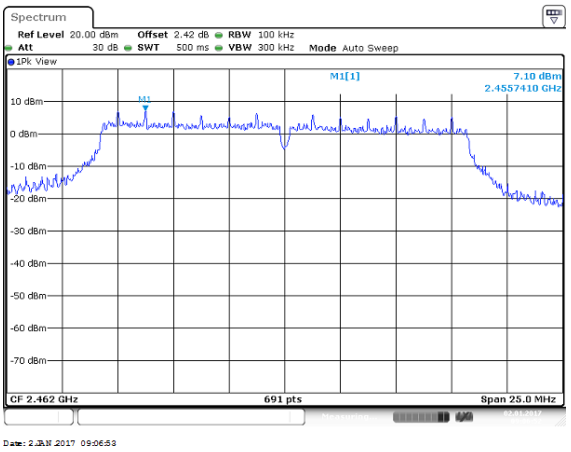
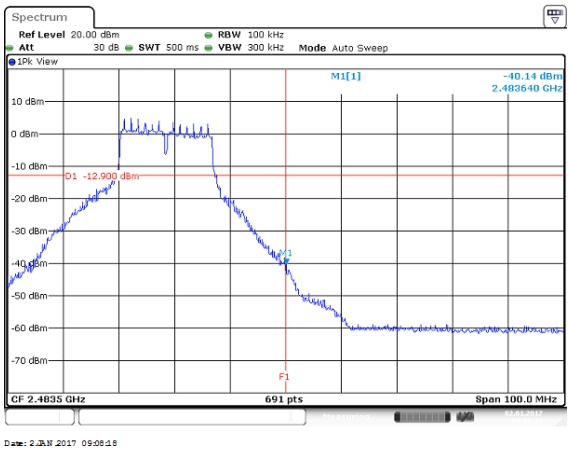
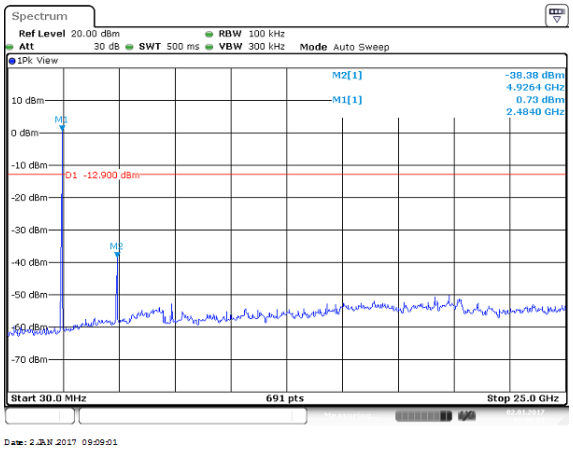
IEEE 802.11b mode Low CH	
Reference Level of PSD in 100kHz	**Band Edge**
	
Spurious Emission 30MHz-25GHz	
	

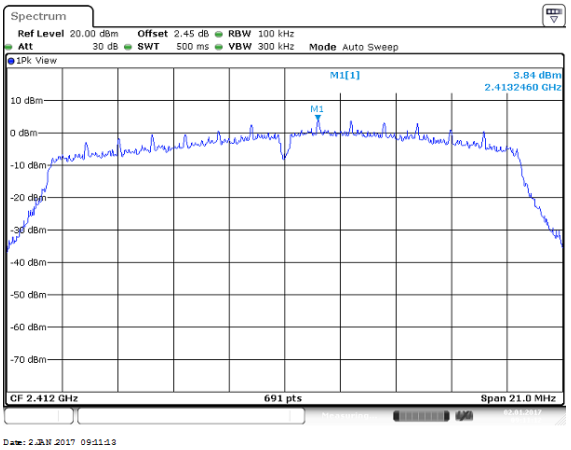
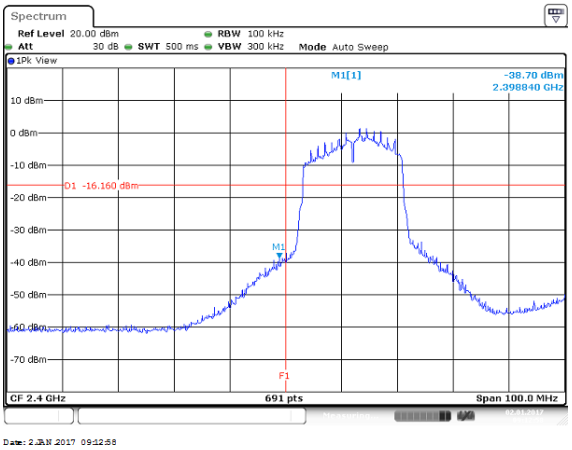
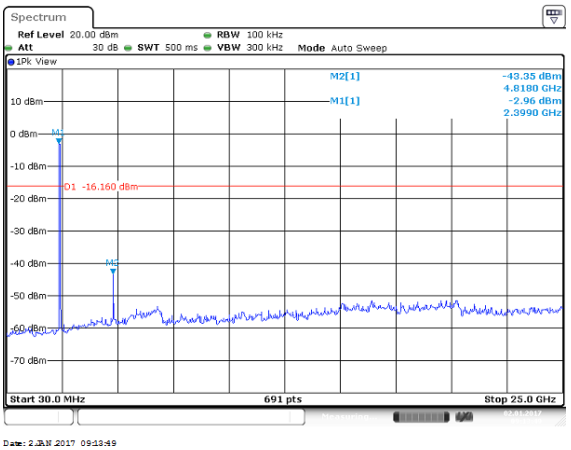
IEEE 802.11b mode Mid CH	
Reference Level of PSD in 100kHz	**Spurious Emission 30MHz-25GHz**
	

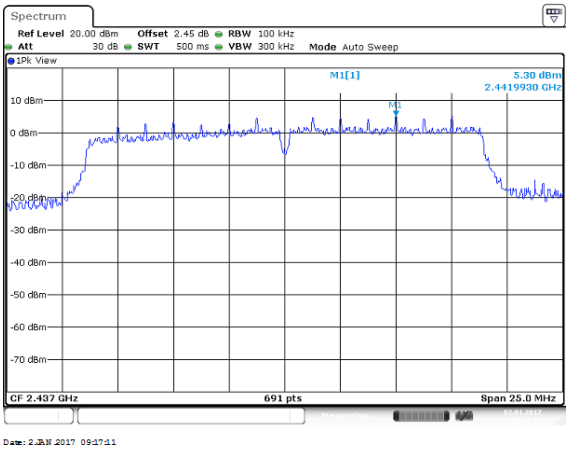
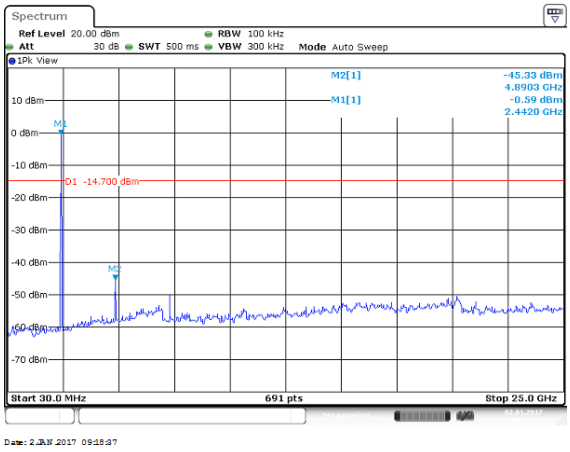
IEEE 802.11b mode High CH	
Reference Level of PSD in 100kHz	**Band Edge**
	
Spurious Emission 30MHz-25GHz	
	

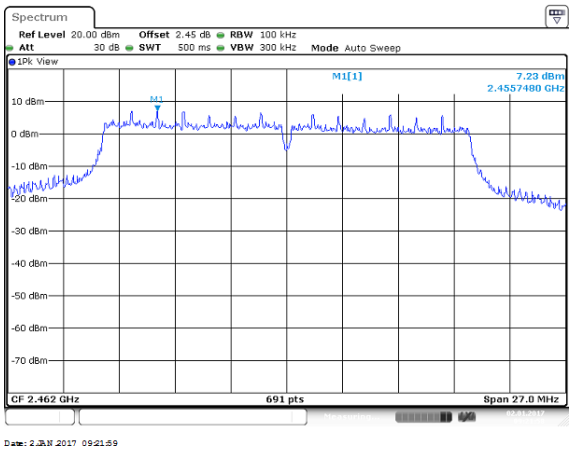
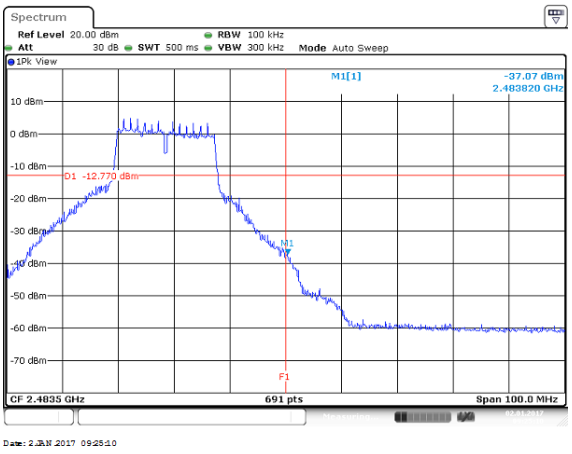
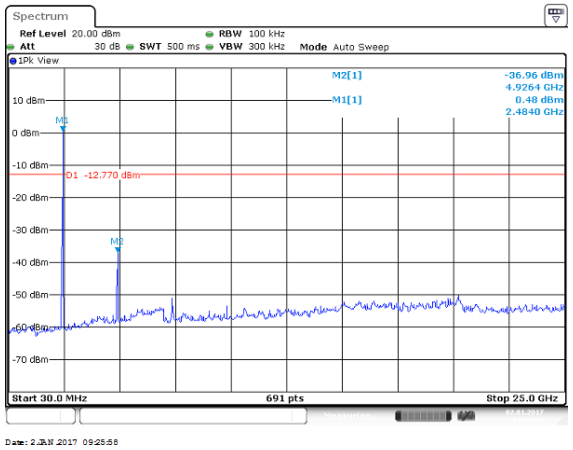
IEEE 802.11g mode Low CH	
Reference Level of PSD in 100kHz	**Band Edge**
	
Spurious Emission 30MHz-25GHz	
	

IEEE 802.11g mode Mid CH	
Reference Level of PSD in 100kHz	**Spurious Emission 30MHz-25GHz**
	

IEEE 802.11g mode High CH	
Reference Level of PSD in 100kHz	**Band Edge**
	
Spurious Emission 30MHz-25GHz	
	

IEEE 802.11n HT20 mode Low CH	
Reference Level of PSD in 100kHz	**Band Edge**
	
Spurious Emission 30MHz-25GHz	
	

IEEE 802.11n HT20 mode Mid CH	
Reference Level of PSD in 100kHz	**Spurious Emission 30MHz-25GHz**
	

IEEE 802.11n HT20 mode High CH	
Reference Level of PSD in 100kHz	**Band Edge**
	
Spurious Emission 30MHz-25GHz	
	

4.6 RADIATION BANDEDGE AND SPURIOUS EMISSION

4.6.1 Test Limit

FCC according to §15.247(d), §15.209 and §15.205,

IC according to RSS-247 section 5.5, RSS-Gen, Section 8.9 and 8.10

In any 100 kHz bandwidth outside the authorized frequency band, all harmonic and spurious must be least 20 dB below the highest emission level with the authorized frequency band. Radiation emission which fall in the restricted bands must also follow the FCC section 15.209 as below limit i n table.

Below 30 MHz

Frequency	Field Strength (microvolts/m)	Magnetic H-Field (microamperes/m)	Measurement Distance (metres)
9-490 kHz	2,400/F (F in kHz)	2,400/F (F in kHz)	300
490-1,705 kHz	24,000/F (F in kHz)	24,000/F (F in kHz)	30
1.705-30 MHz	30	N/A	30

Above 30 MHz

Frequency (MHz)	Field Strength microvolts/m at 3 metres (watts, e.i.r.p.)	
	Transmitters	Receivers
30-88	100 (3 nW)	100 (3 nW)
88-216	150 (6.8 nW)	150 (6.8 nW)
216-960	200 (12 nW)	200 (12 nW)
Above 960	500 (75 nW)	500 (75 nW)

4.6.2 Test Procedure

Test method Refer as KDB 558074 D01 v03r05, Section 12.1.

1. The EUT is placed on a turntable, Above 1 GHz is 1.5m and below 1 GHz is 0.8m above ground plane. The EUT Configured un accordance with ANSI C63.10, and the EUT set in a continuous mode.

2. The turntable shall be rotated for 360 degrees to determine the position of maximum emission level. And EUT is set 3m away from the receiving antenna, which is scanned from 1m to 4m above the ground plane to find out the highest emissions. Measurement are made polarized in both the vertical and the horizontal positions with antenna.

3. Span shall wide enough to full capture the emission measured. The SA from 30MHz to 26.5GHz set to the low, Mid and High channels with the EUT transmit.

5. The SA setting following：

(1) Below 1G：RBW = 100kHz, VBW ≥ 3 RBW, Sweep = Auto, Detector = Peak, Trace = Max hold.

(2) Above 1G：

(2.1) For Peak measurement：RBW = 1MHz, VBW ≥ 3 RBW, Sweep = Auto, Detector = Peak, Trace = Max hold.

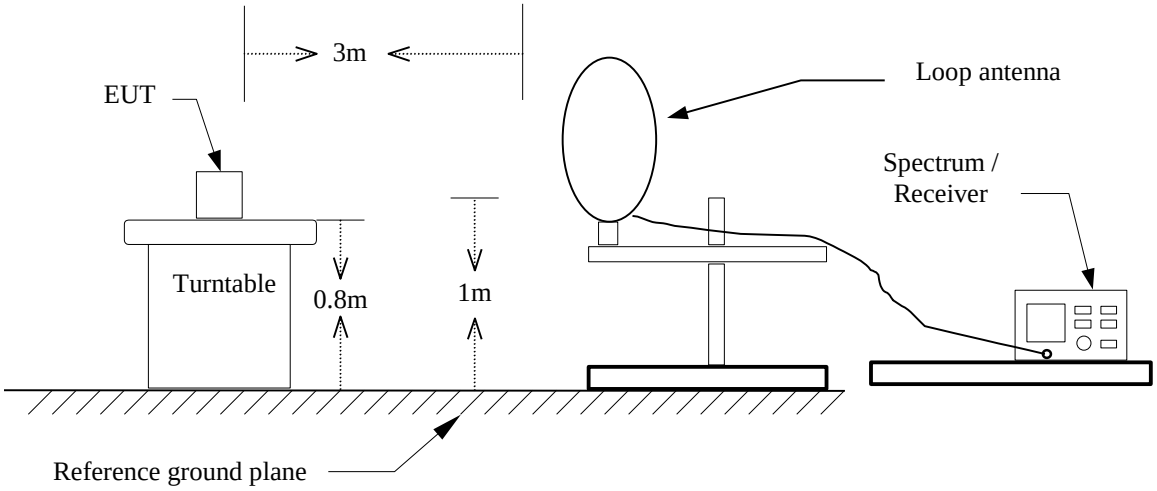
(2.2) For Average measurement：RBW = 1MHz, VBW

- If Duty Cycle ≥ 98%, VBW=10Hz.
- If Duty Cycle < 98%, VBW=1/T.

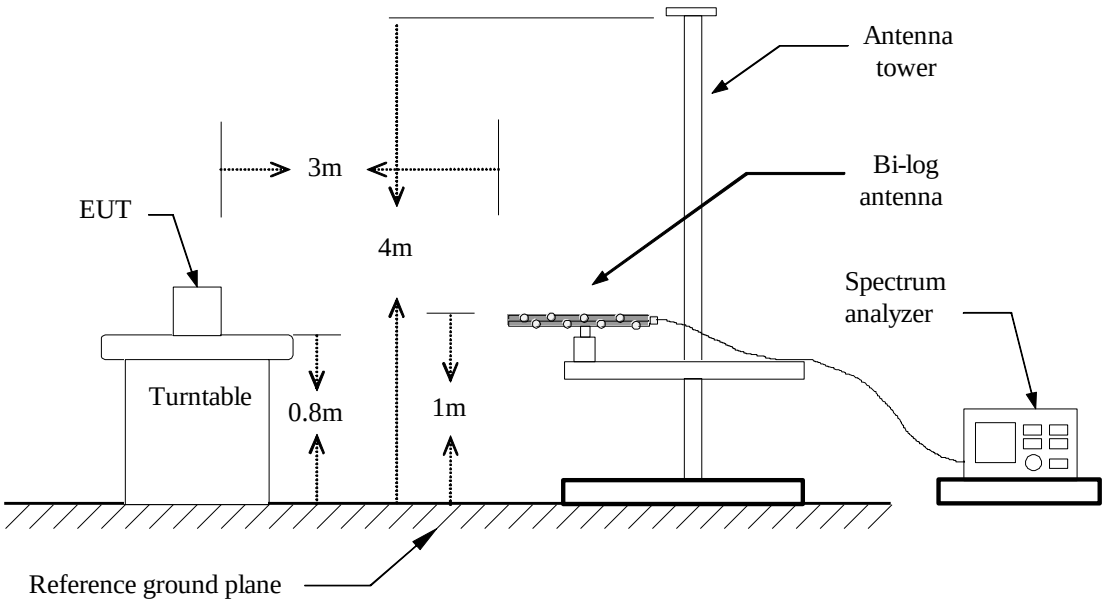
Configuration	Duty Cycle (%)	VBW
802.11b	98.76%	10 Hz
802.11g	90.74%	750 Hz
802.11n HT20	90.10%	820 Hz

4.6.3 Test Setup

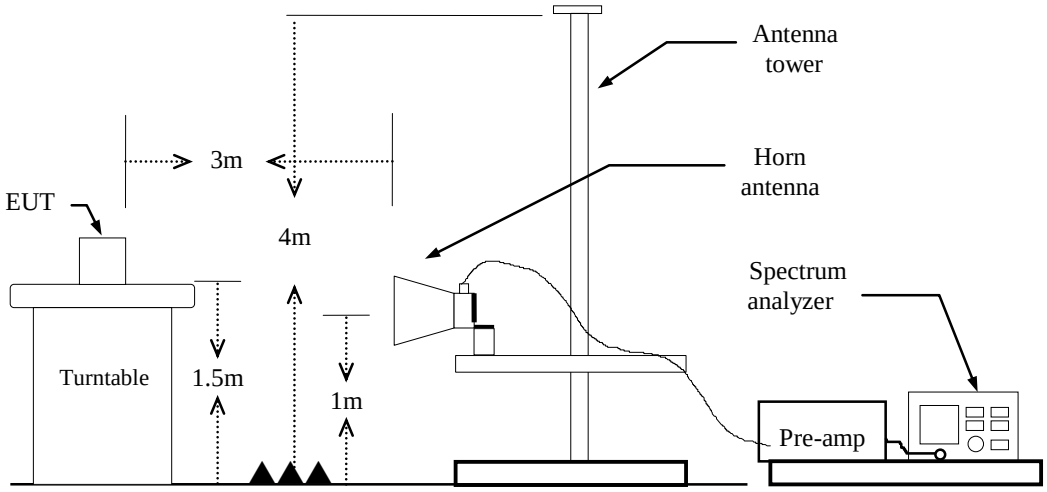
9kHz ~ 30MHz



30MHz ~ 1GHz



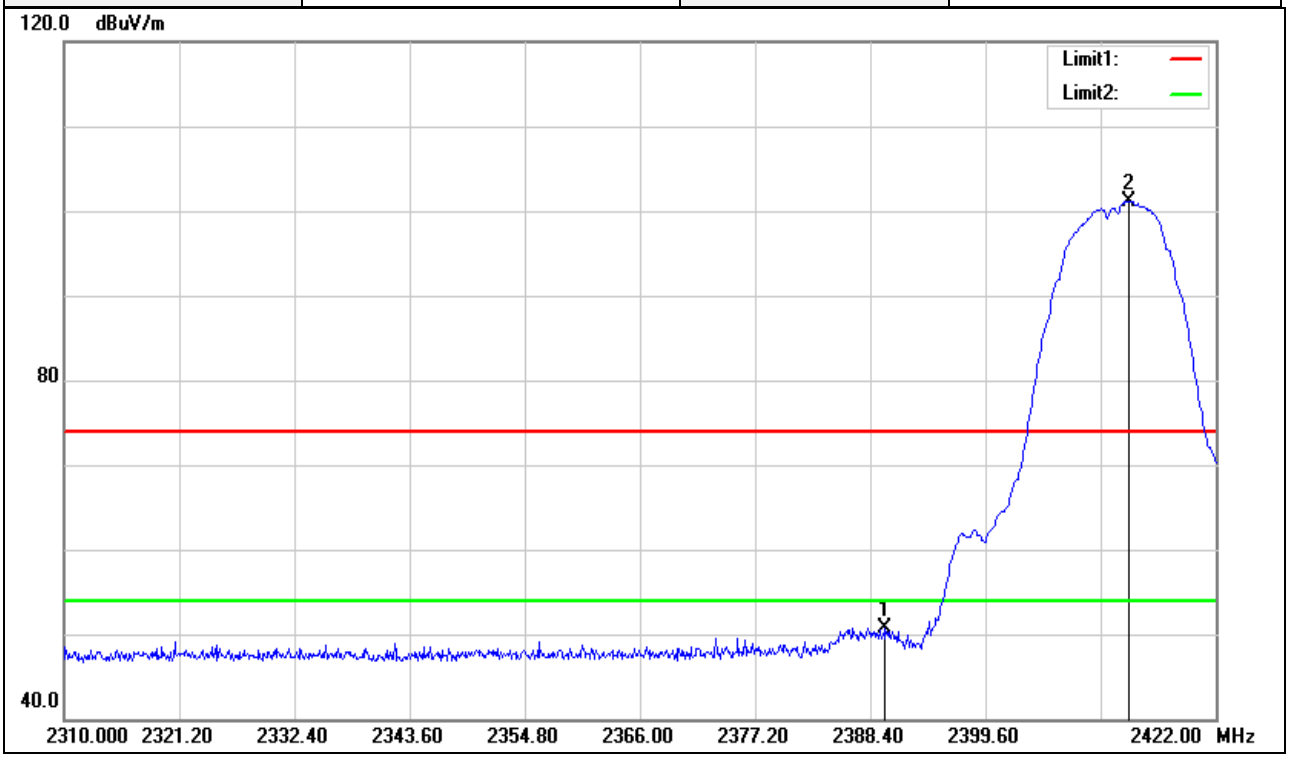
Above 1 GHz



4.6.4 Test Result

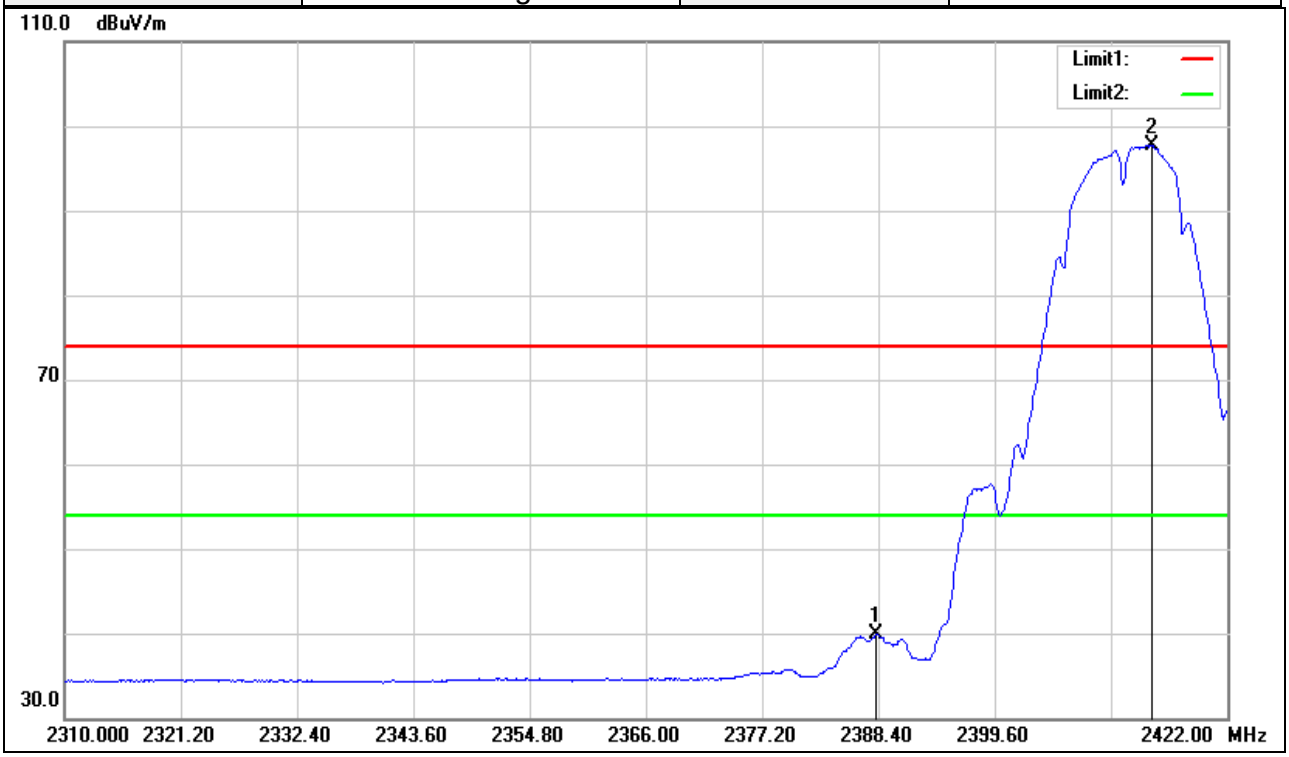
Band Edge Test Data

Test Mode:	IEEE 802.11b Low CH	Temp/Hum	27(℃)/ 53%RH
Test Item	Band Edge	Test Date	Jan 14, 2017
Polarize	Vertical	Test Engineer	Ed Chiang
Detector	Peak		



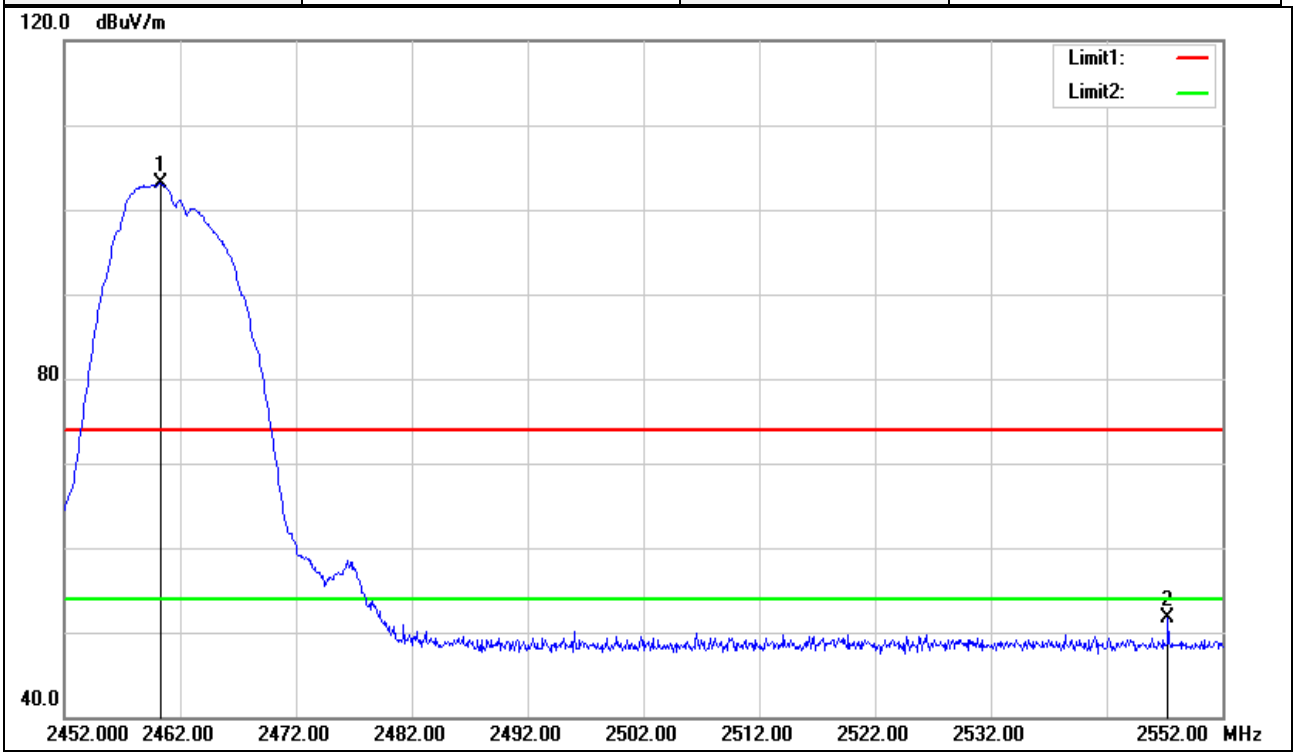
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2389.856	53.17	-2.49	50.68	74.00	-23.32	peak
2	2413.488	103.57	-2.40	101.17	-	-	peak

Test Mode:	IEEE 802.11b Low CH	Temperature:	27(℃)/ 53%RH
Test Item	Band Edge	Test Date	Jan 14, 2017
Polarize	Vertical	Test Engineer	Ed Chiang
Detector	Average		



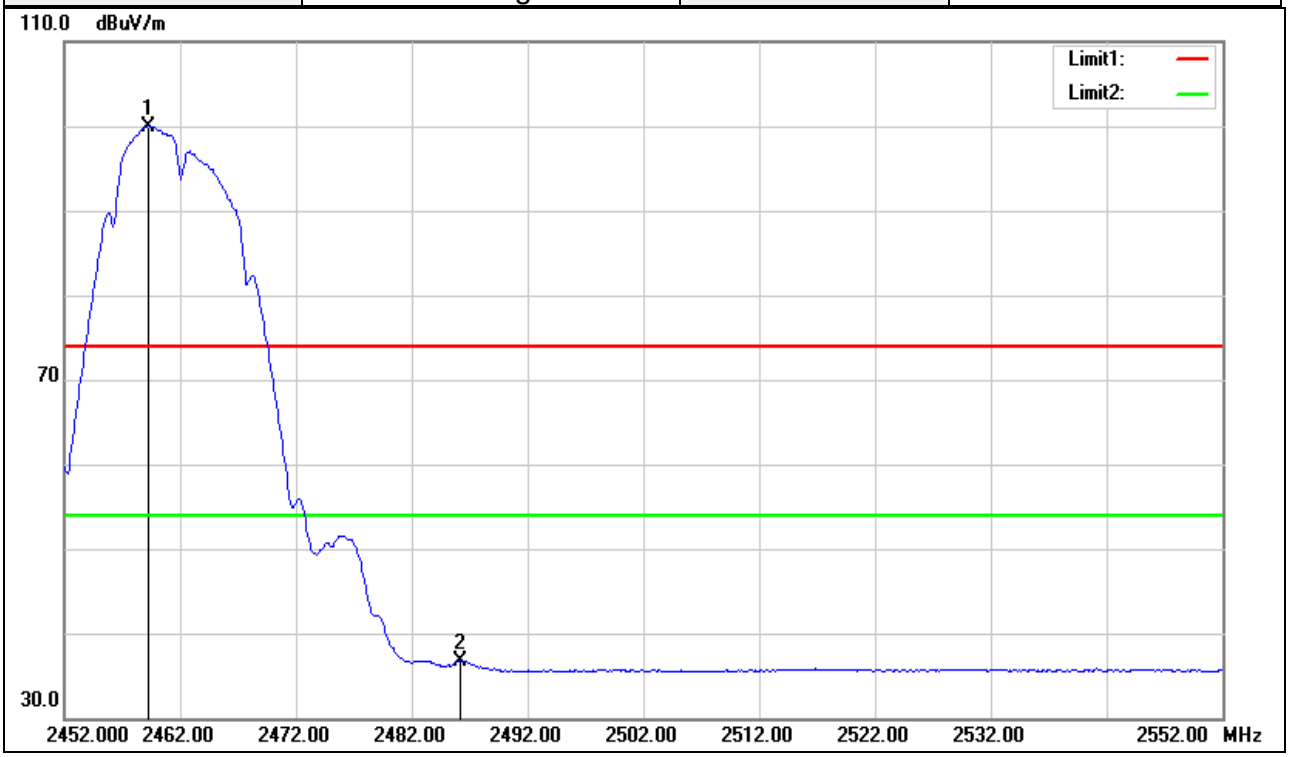
No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	2388.176	42.37	-2.51	39.86	54.00	-14.14	AVG
2	2414.720	100.14	-2.40	97.74	-	-	AVG

Test Mode:	IEEE 802.11b High CH	Temp/Hum	27(℃)/ 53%RH
Test Item	Band Edge	Test Date	Jan 14, 2017
Polarize	Vertical	Test Engineer	Ed Chiang
Detector	Peak		



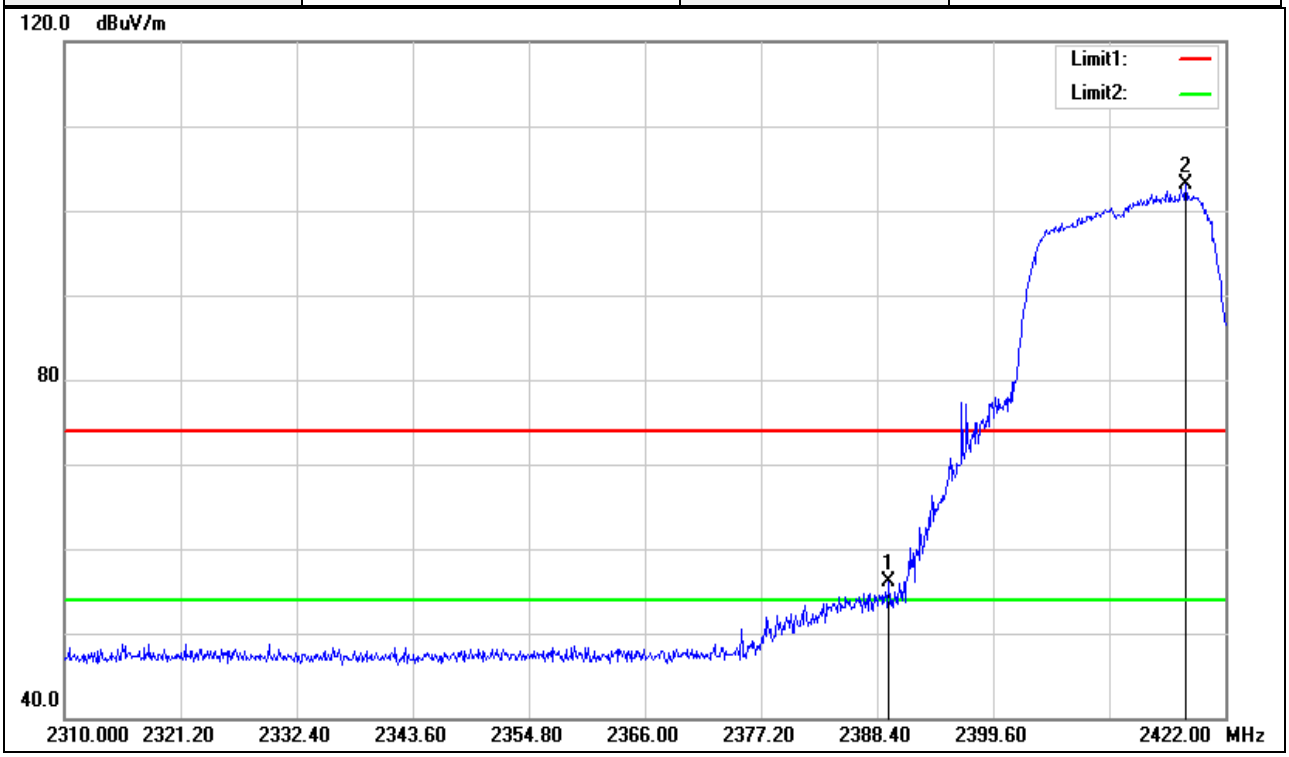
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2460.300	105.15	-2.10	103.05	-	-	peak
2	2547.300	53.43	-1.74	51.69	74.00	-22.31	peak

Test Mode:	IEEE 802.11b High CH	Temperature:	27(℃)/ 53%RH
Test Item	Band Edge	Test Date	Jan 14, 2017
Polarize	Vertical	Test Engineer	Ed Chiang
Detector	Average		



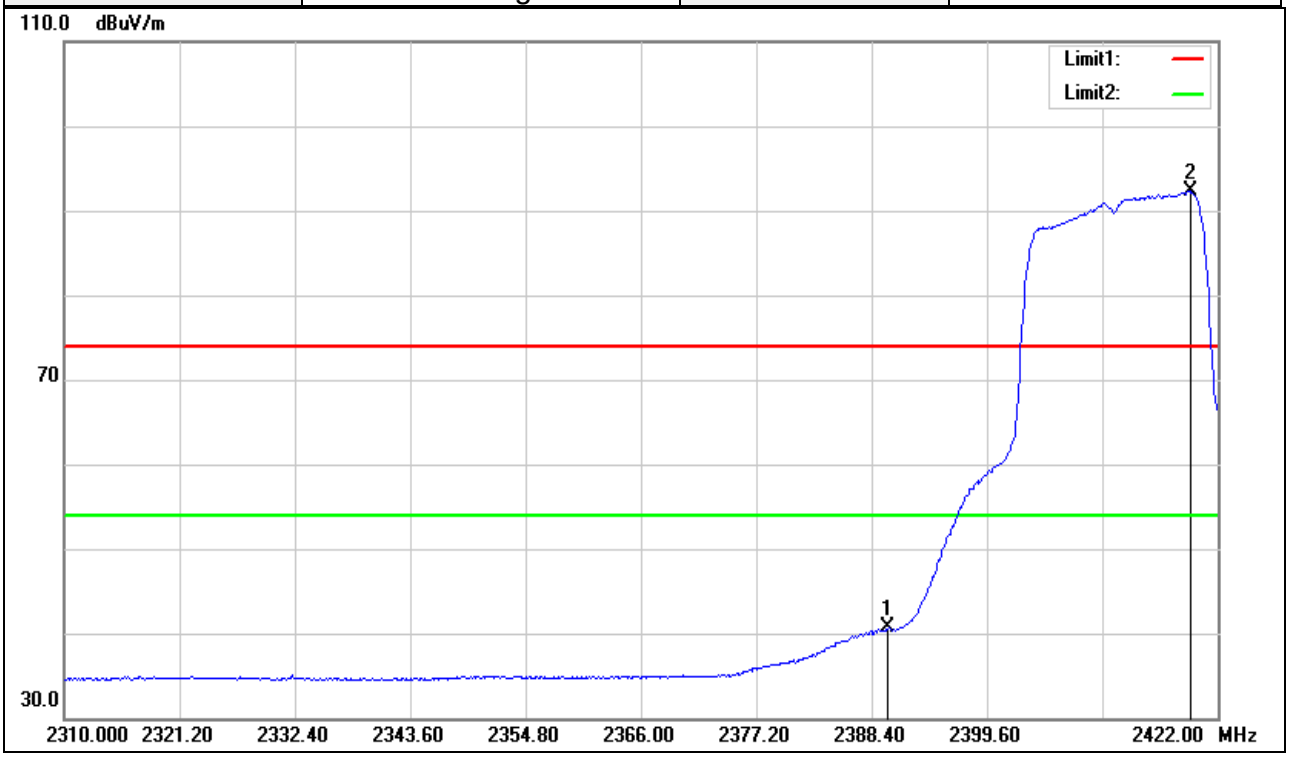
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2459.200	102.11	-2.11	100.00	-	-	AVG
2	2486.200	38.77	-1.97	36.80	54.00	-17.20	AVG

Test Mode:	IEEE 802.11g Low CH	Temp/Hum	27(℃)/ 53%RH
Test Item	Band Edge	Test Date	Jan 14, 2017
Polarize	Vertical	Test Engineer	Ed Chiang
Detector	Peak		



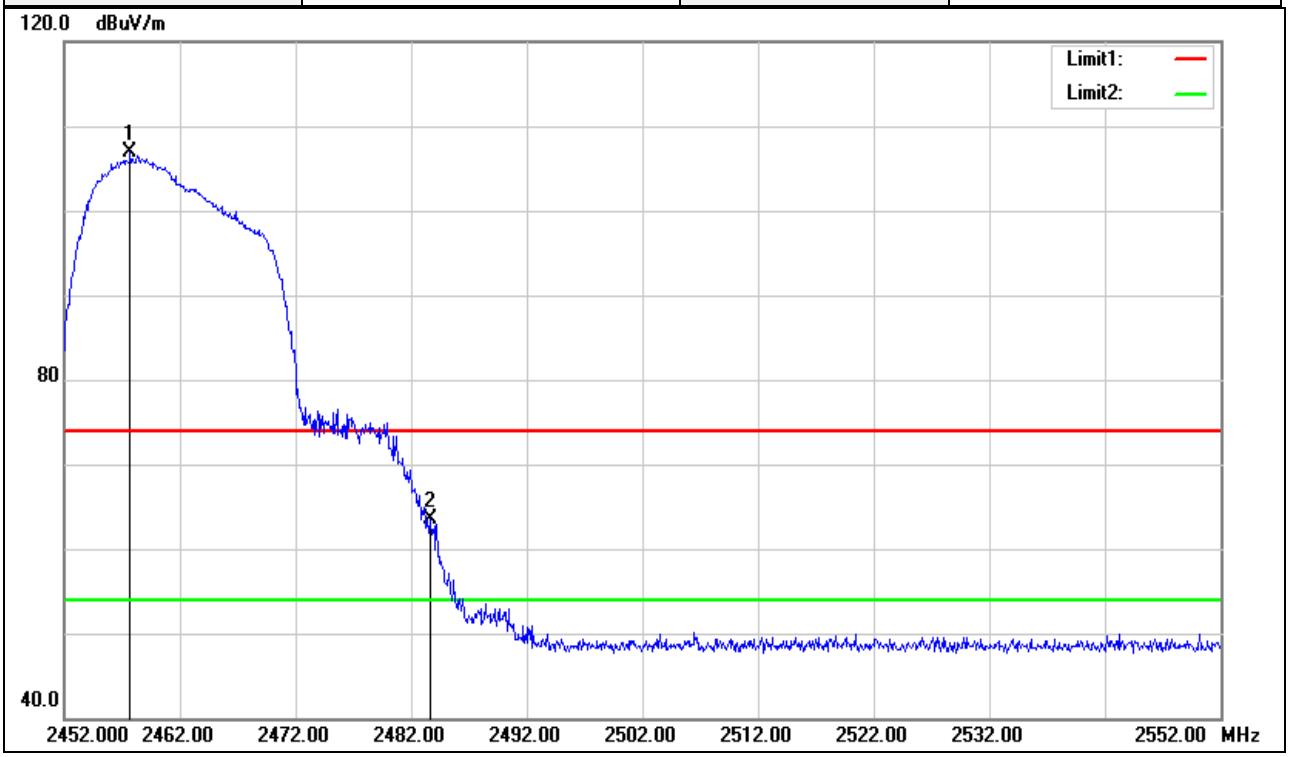
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2389.520	58.60	-2.49	56.11	74.00	-17.89	peak
2	2418.192	105.55	-2.37	103.18	-	-	peak

Test Mode:	IEEE 802.11g Low CH	Temperature:	27(℃)/ 53%RH
Test Item	Band Edge	Test Date	Jan 14, 2017
Polarize	Vertical	Test Engineer	Ed Chiang
Detector	Average		



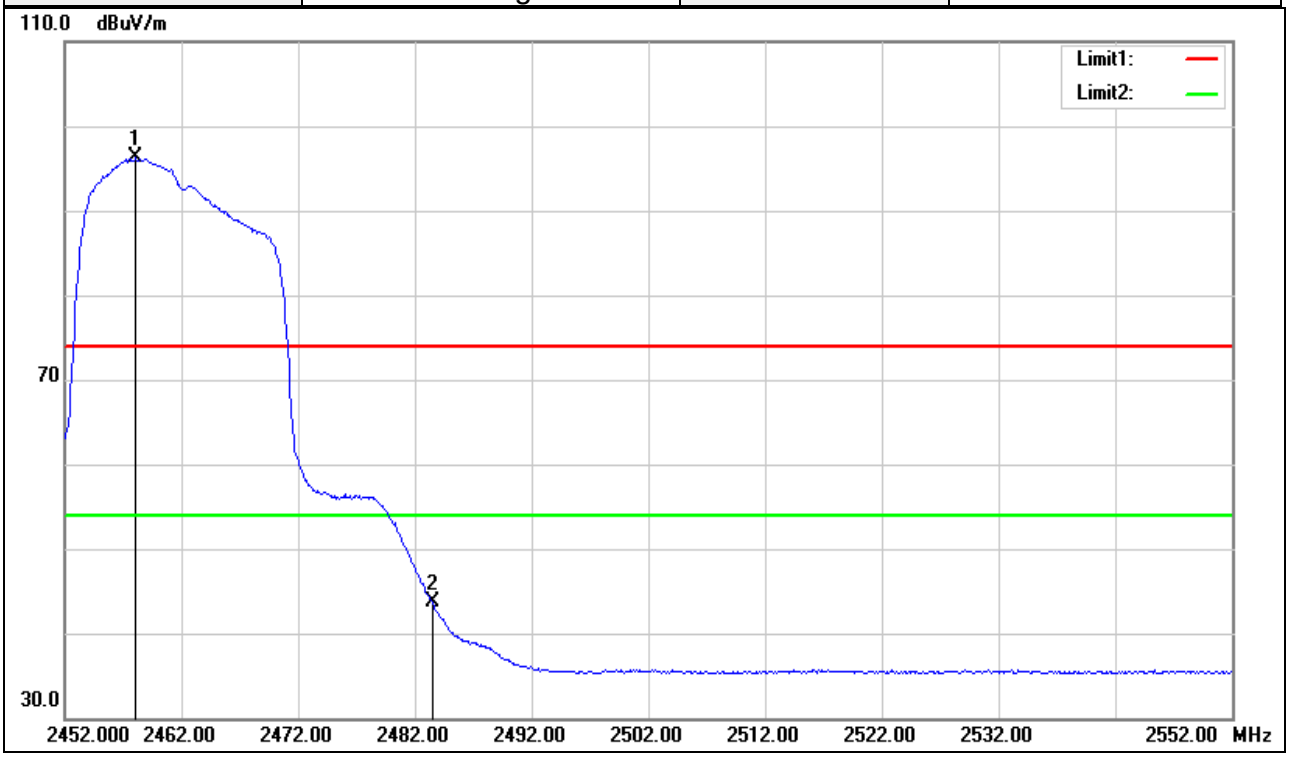
No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	2390.000	43.16	-2.49	40.67	54.00	-13.33	AVG
2	2419.312	94.67	-2.36	92.31	-	-	AVG

Test Mode:	IEEE 802.11g High CH	Temp/Hum	27(℃)/ 53%RH
Test Item	Band Edge	Test Date	Jan 14, 2017
Polarize	Vertical	Test Engineer	Ed Chiang
Detector	Peak		



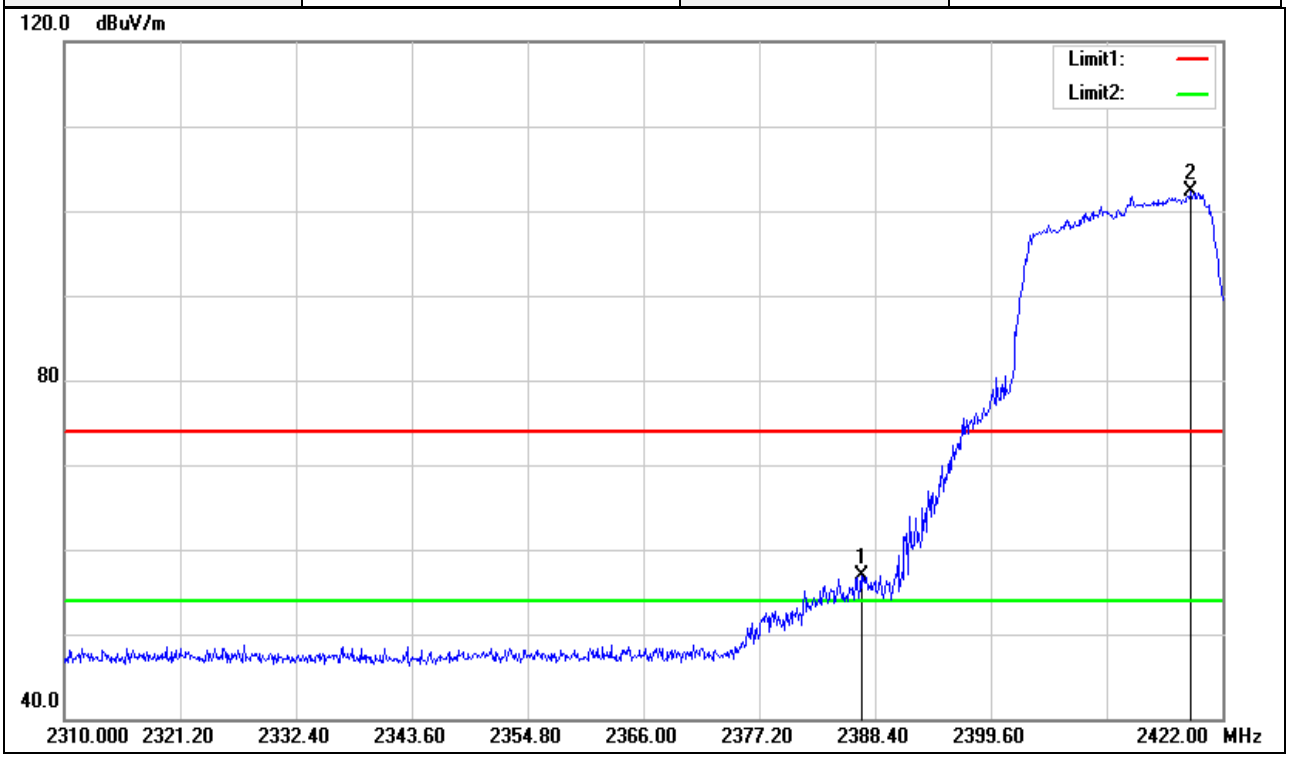
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2457.700	108.93	-2.11	106.82	-	-	peak
2	2483.600	65.53	-1.99	63.54	74.00	-10.46	peak

Test Mode:	IEEE 802.11g High CH	Temperature:	27(℃)/ 53%RH
Test Item	Band Edge	Test Date	Jan 14, 2017
Polarize	Vertical	Test Engineer	Ed Chiang
Detector	Average		



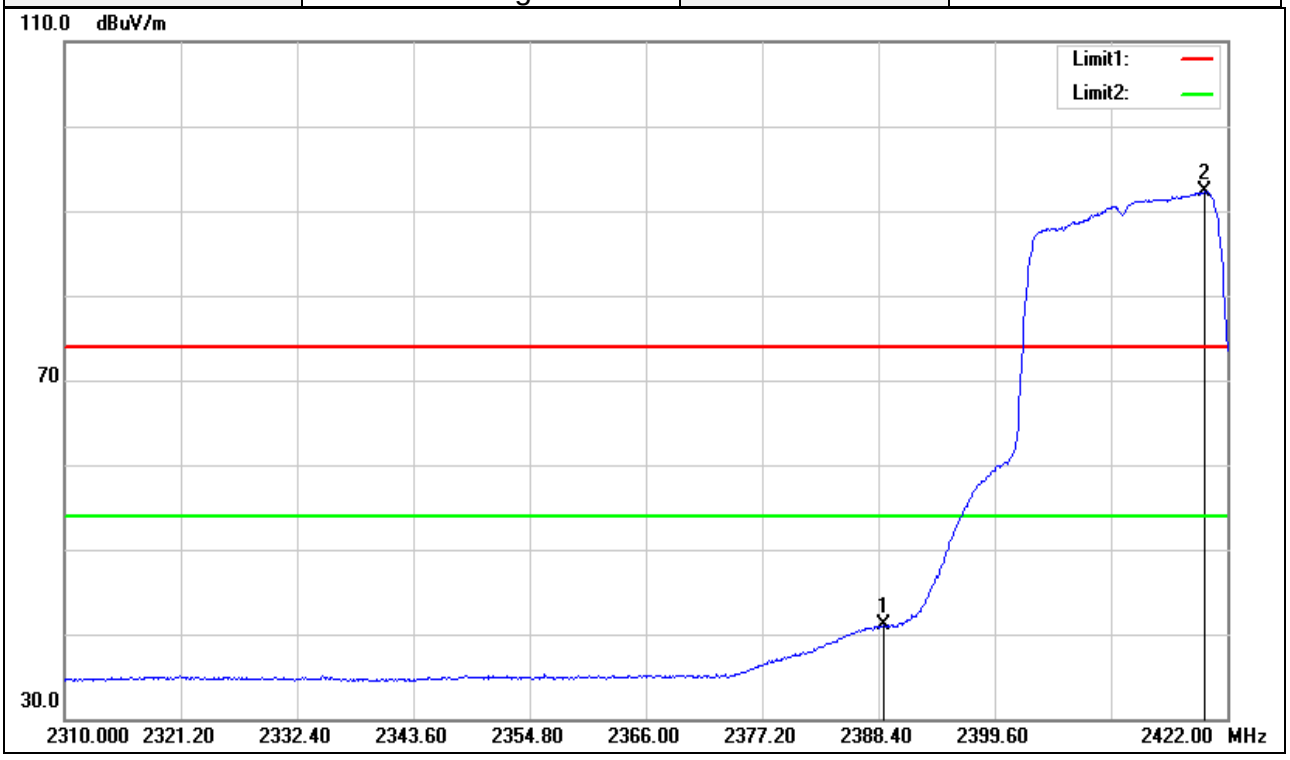
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2458.100	98.49	-2.11	96.38	-	-	AVG
2	2483.500	45.62	-1.99	43.63	54.00	-10.37	AVG

Test Mode:	IEEE 802.11n HT20 Low CH	Temp/Hum	27(℃)/ 53%RH
Test Item	Band Edge	Test Date	Jan 14, 2017
Polarize	Vertical	Test Engineer	Ed Chiang
Detector	Peak		



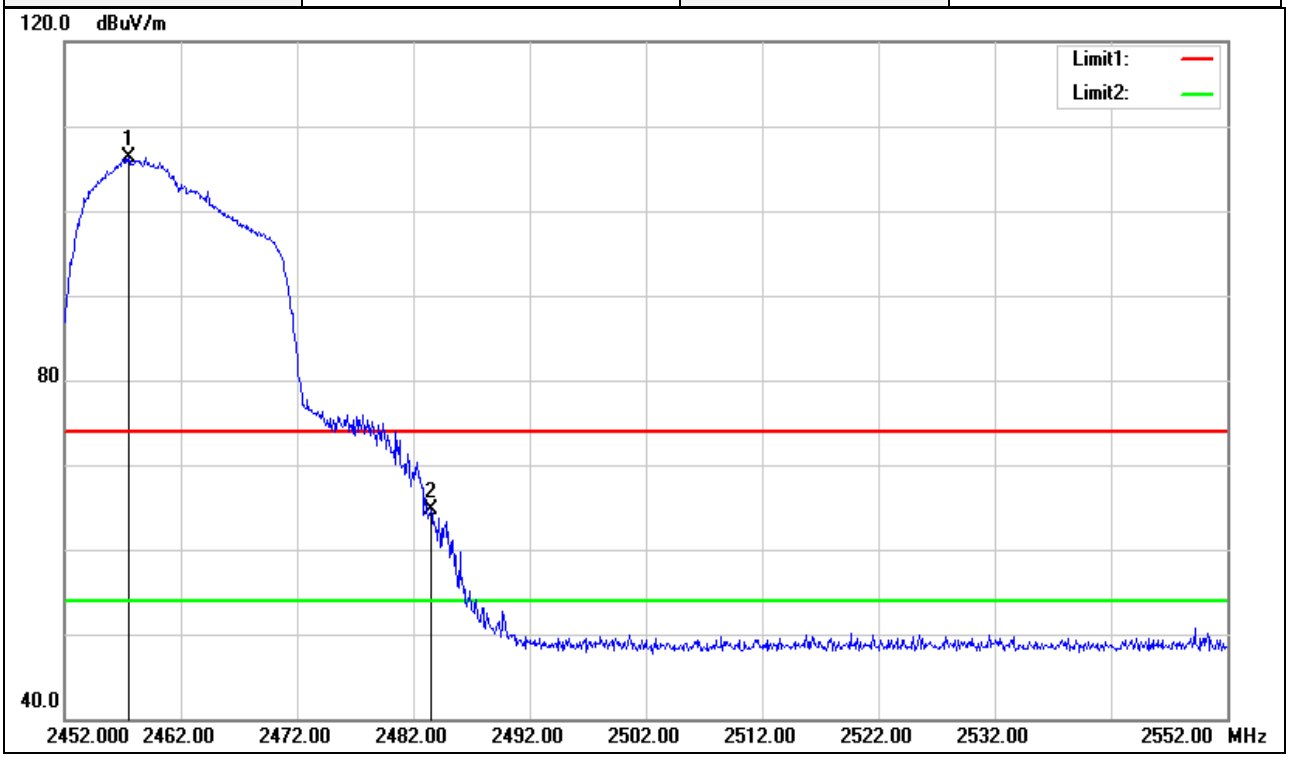
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2387.056	59.42	-2.52	56.90	74.00	-17.10	peak
2	2418.976	104.63	-2.36	102.27	-	-	peak

Test Mode:	IEEE 802.11n HT20 Low CH	Temperature:	27(℃)/ 53%RH
Test Item	Band Edge	Test Date	Jan 14, 2017
Polarize	Vertical	Test Engineer	Ed Chiang
Detector	Average		



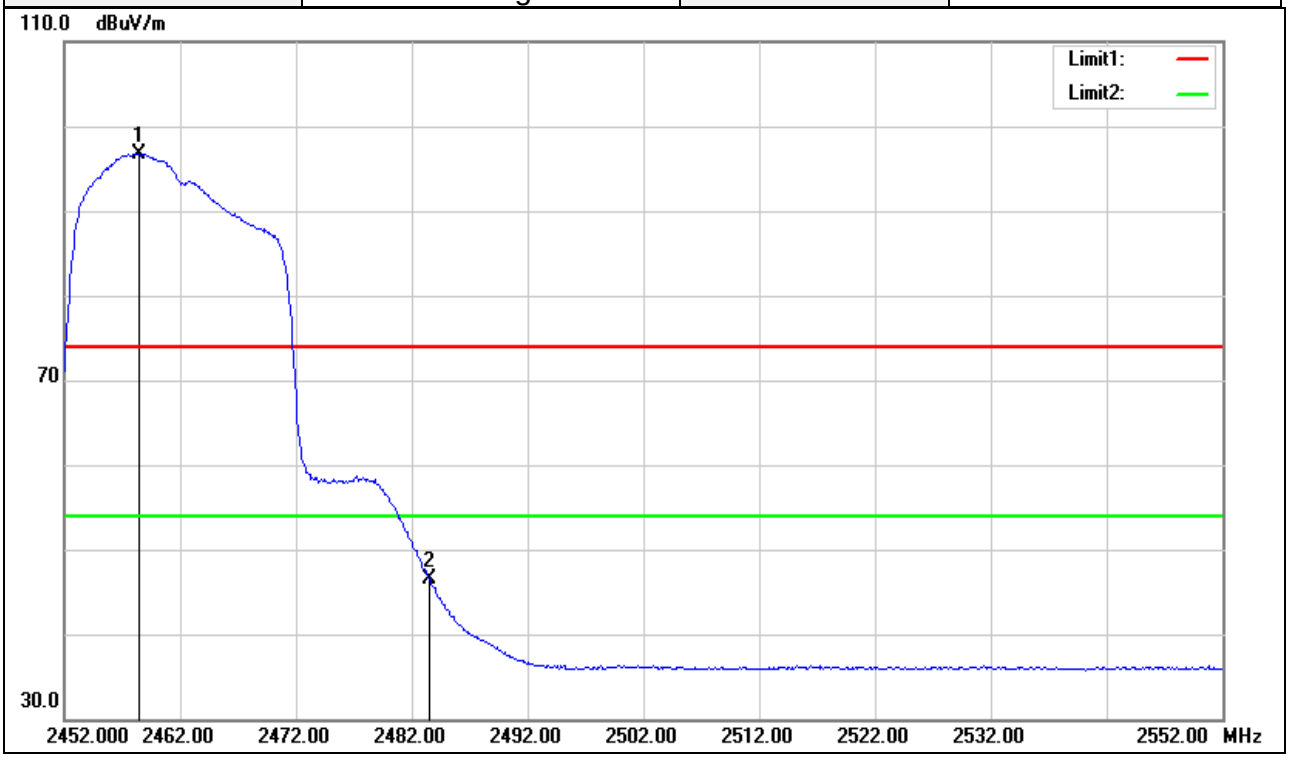
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2388.960	43.65	-2.50	41.15	54.00	-12.85	AVG
2	2419.872	94.62	-2.36	92.26	-	-	AVG

Test Mode:	IEEE 802.11n HT20 High CH	Temp/Hum	27(℃)/ 53%RH
Test Item	Band Edge	Test Date	Jan 14, 2017
Polarize	Vertical	Test Engineer	Ed Chiang
Detector	Peak		



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	2457.500	108.48	-2.11	106.37	-	-	peak
2	2483.500	66.78	-1.99	64.79	74.00	-9.21	peak

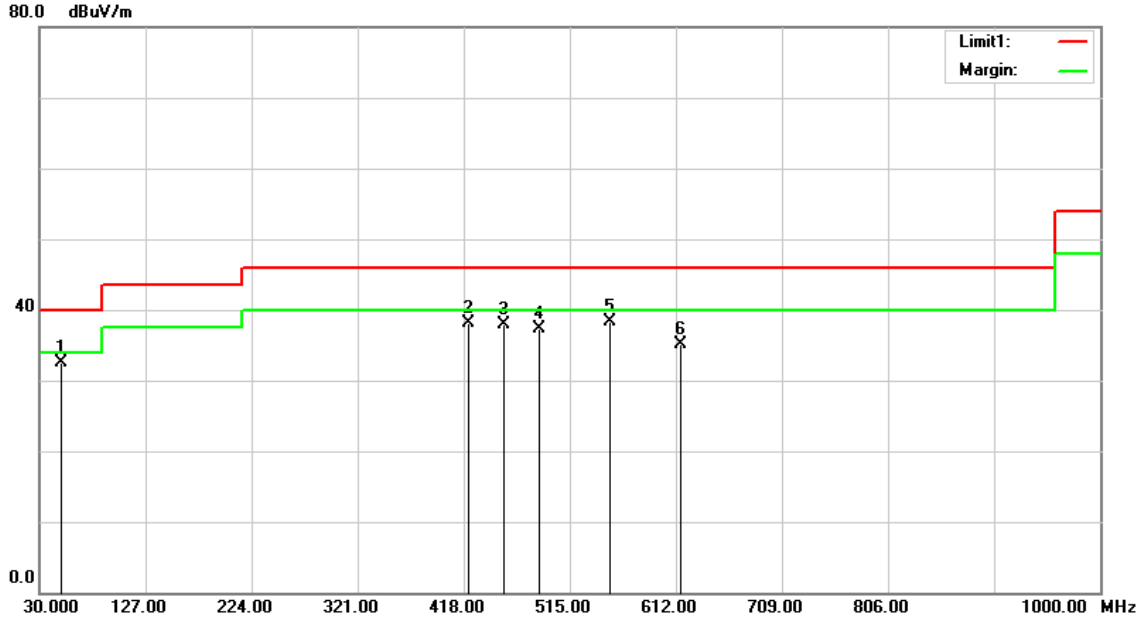
Test Mode:	IEEE 802.11n HT20 High CH	Temperature:	27(℃)/ 53%RH
Test Item	Band Edge	Test Date	Jan 14, 2017
Polarize	Vertical	Test Engineer	Ed Chiang
Detector	Average		



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2458.500	98.87	-2.11	96.76	-	-	AVG
2	2483.500	48.49	-1.99	46.50	54.00	-7.50	AVG

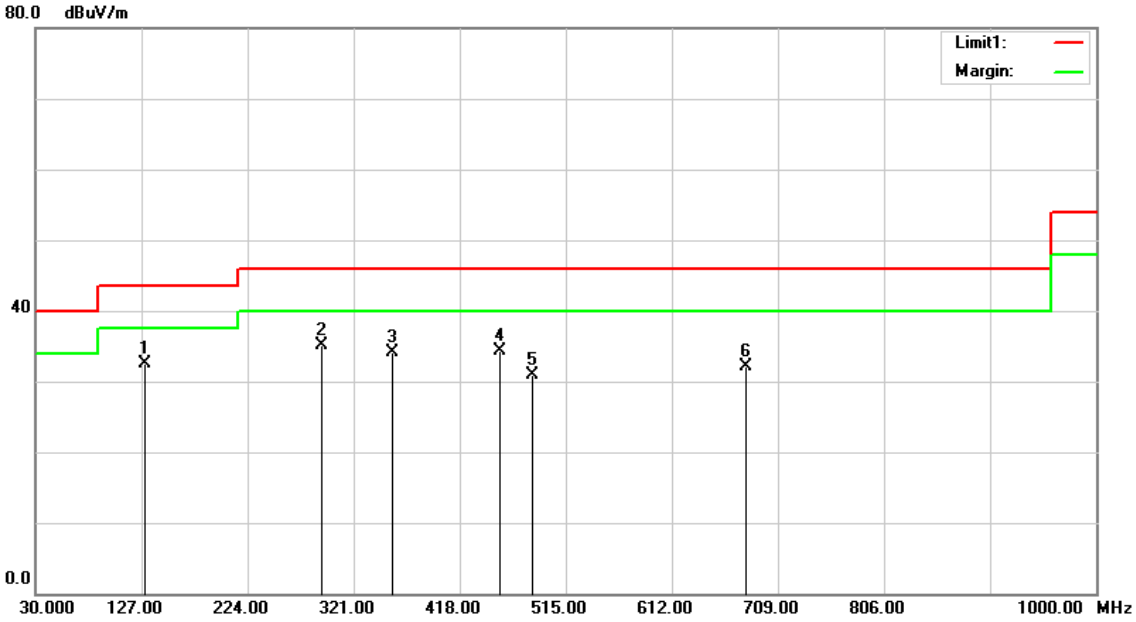
Below 1G Test Data

Test Mode:	Mode 1	Temp/Hum	27(℃)/ 53%RH
Test Item	30MHz-1GHz	Test Date	Jan 18, 2017
Polarize	Vertical	Test Engineer	Ed Chiang
Detector	Peak and Qusi-peak		



Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
50.3700	53.53	-21.11	32.42	40.00	-7.58	QP
421.8800	49.20	-11.04	38.16	46.00	-7.84	QP
454.8600	48.10	-10.10	38.00	46.00	-8.00	QP
486.8700	46.81	-9.49	37.32	46.00	-8.68	QP
551.8600	46.84	-8.46	38.38	46.00	-7.62	peak
615.8800	42.47	-7.38	35.09	46.00	-10.91	peak

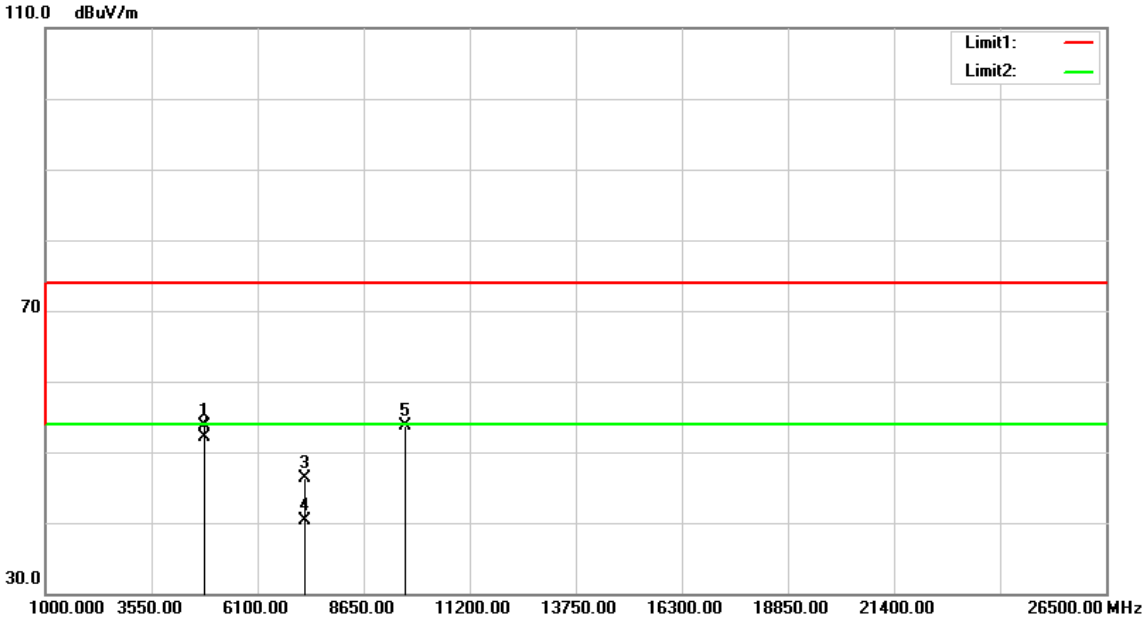
Test Mode:	IEEE 802.11g Low CH	Temp/Hum	27(℃)/ 53%RH
Test Item	30MHz-1GHz	Test Date	Jan 18, 2017
Polarize	Horizontal	Test Engineer	Ed Chiang
Detector	Peak and Qusi-peak		



Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
129.9100	48.05	-15.64	32.41	43.50	-11.09	peak
291.9000	49.49	-14.39	35.10	46.00	-10.90	peak
356.8900	46.82	-12.73	34.09	46.00	-11.91	peak
454.8600	44.37	-10.10	34.27	46.00	-11.73	peak
484.9300	40.47	-9.53	30.94	46.00	-15.06	peak
679.9000	38.29	-6.27	32.02	46.00	-13.98	peak

Above 1G Test Data

Test Mode:	IEEE 802.11b Low CH	Temp/Hum	27(℃)/ 53%RH
Test Item	Harmonic	Test Date	Jan 18, 2017
Polarize	Vertical	Test Engineer	Ed Chiang
Detector	Peak and Average		

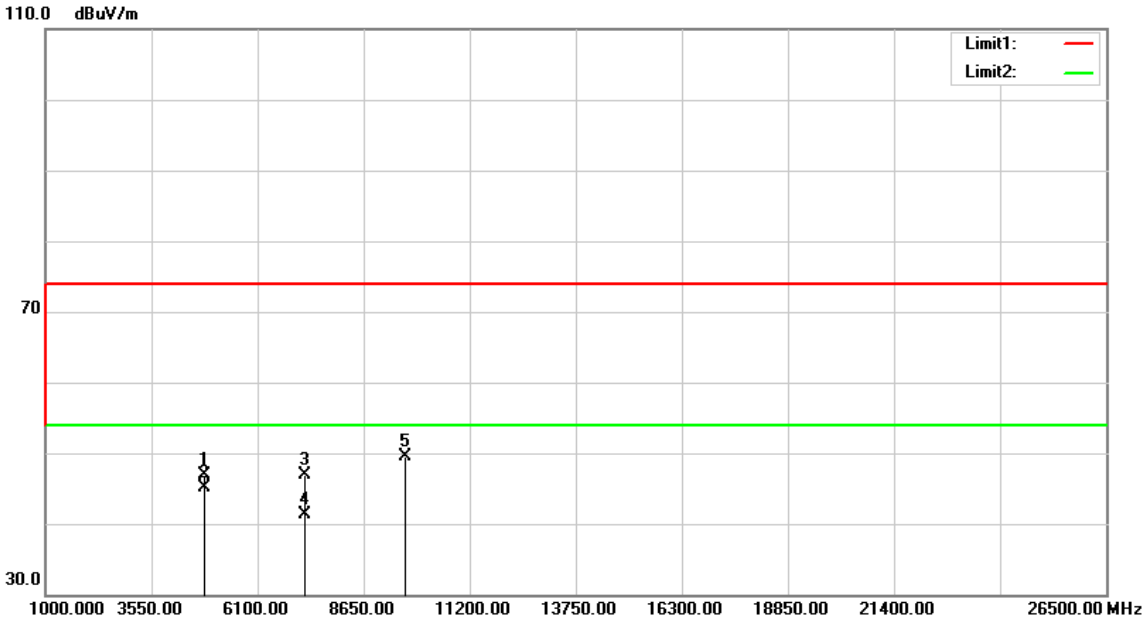


Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
4827.000	48.60	5.11	53.71	74.00	-20.29	peak
4827.000	46.98	5.11	52.09	54.00	-1.91	AVG
7236.000	33.50	12.71	46.21	74.00	-27.79	peak
7236.000	27.52	12.71	40.23	54.00	-13.77	AVG
9648.000	36.02	17.60	53.62	74.00	-20.38	peak

Remark:

1. *Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.*
2. *For above 1GHz,the EUT peak value was under average limit, therefore the Average value compliance with the average limit*

Test Mode:	IEEE 802.11b Low CH	Temp/Hum	27(℃)/ 53%RH
Test Item	Harmonic	Test Date	Jan 18, 2017
Polarize	Horizontal	Test Engineer	Ed Chiang
Detector	Peak and Average		

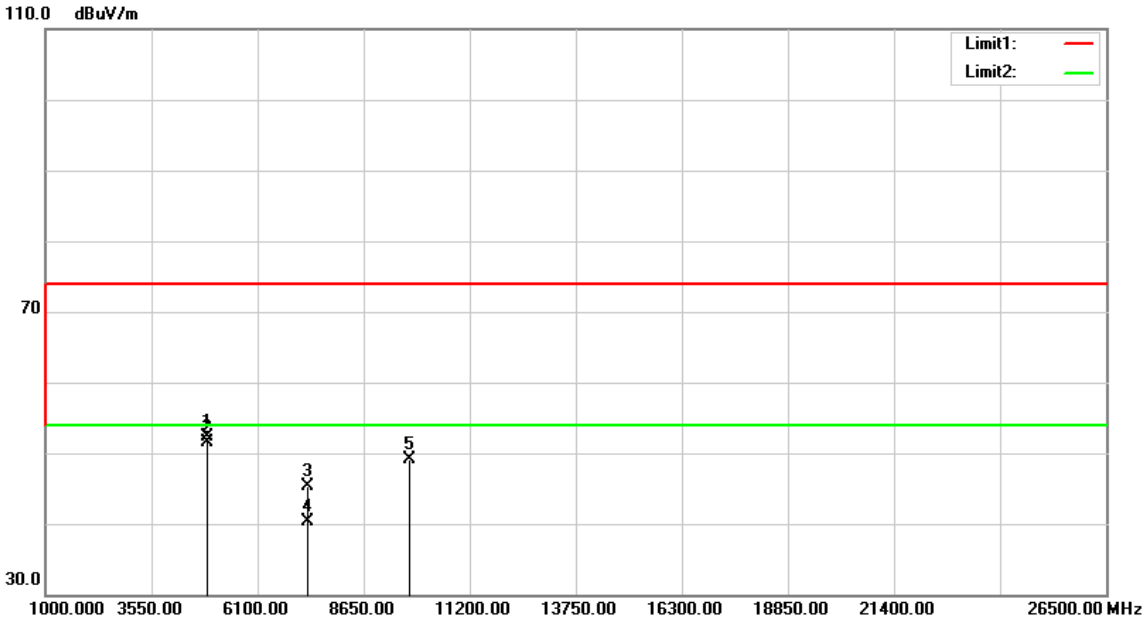


Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
4827.000	41.84	5.11	46.95	74.00	-27.05	peak
4827.000	40.01	5.11	45.12	54.00	-8.88	AVG
7236.000	34.26	12.71	46.97	74.00	-27.03	peak
7236.000	28.52	12.71	41.23	54.00	-12.77	AVG
9648.000	31.96	17.60	49.56	74.00	-24.44	peak

Remark:

1. *Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.*
2. *For above 1GHz,the EUT peak value was under average limit, therefore the Average value compliance with the average limit*

Test Mode:	IEEE 802.11b Mid CH	Temp/Hum	27(℃)/ 53%RH
Test Item	Harmonic	Test Date	Jan 18, 2017
Polarize	Vertical	Test Engineer	Ed Chiang
Detector	Peak and Average		

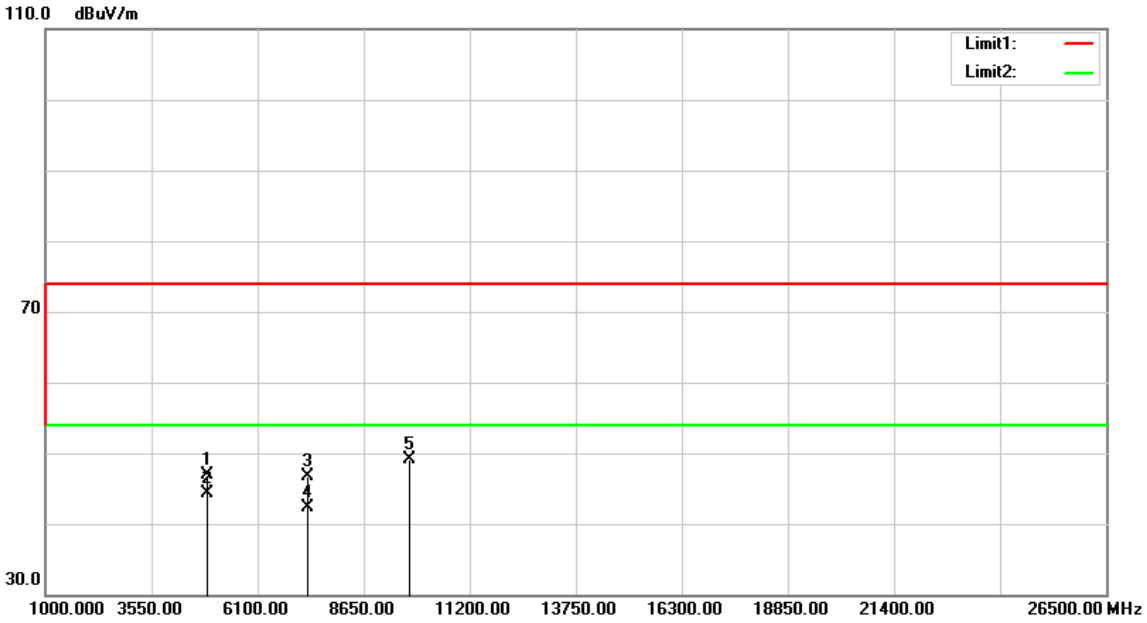


Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
4876.000	47.15	5.24	52.39	74.00	-21.61	peak
4876.000	46.22	5.24	51.46	54.00	-2.54	AVG
7311.000	32.44	12.94	45.38	74.00	-28.62	peak
7311.000	27.28	12.94	40.22	54.00	-13.78	AVG
9748.000	31.59	17.60	49.19	74.00	-24.81	peak

Remark:

1. *Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.*
2. *For above 1GHz,the EUT peak value was under average limit, therefore the Average value compliance with the average limit*

Test Mode:	IEEE 802.11b Mid CH	Temp/Hum	27(℃)/ 53%RH
Test Item	Harmonic	Test Date	Jan 18, 2017
Polarize	Horizontal	Test Engineer	Ed Chiang
Detector	Peak and Average		

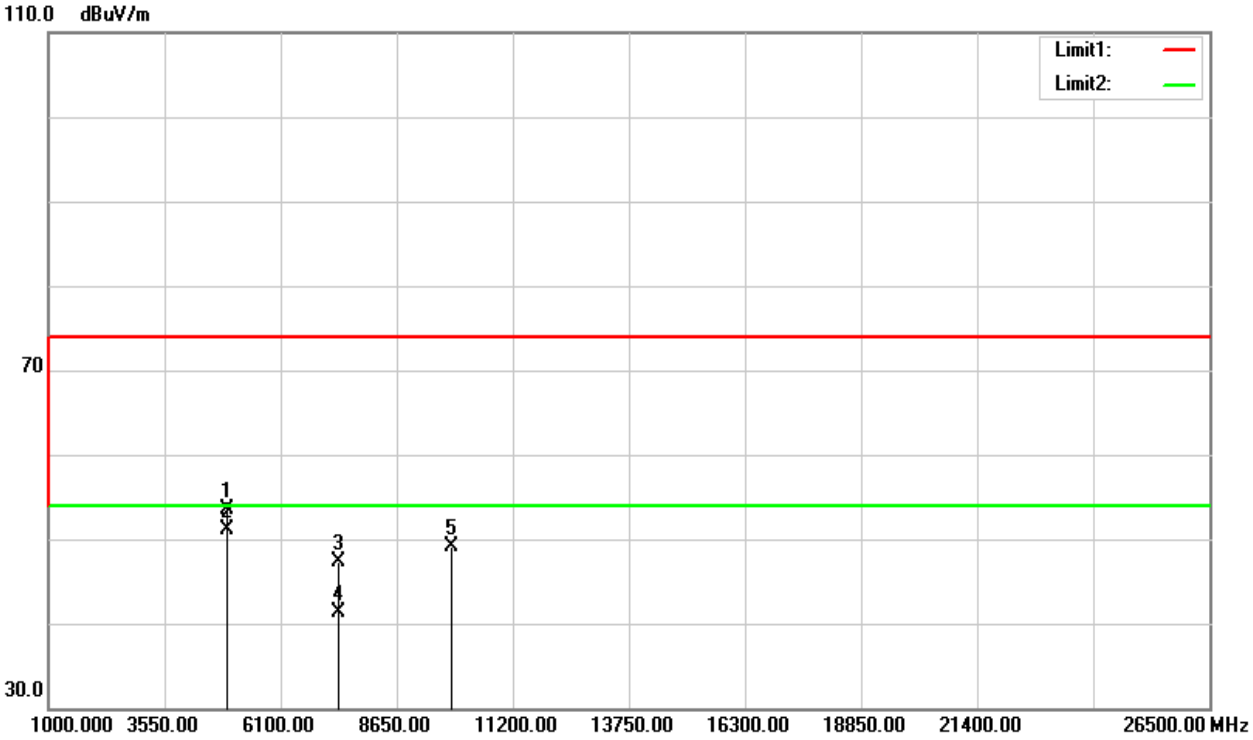


Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
4876.000	41.62	5.24	46.86	74.00	-27.14	peak
4876.000	38.99	5.24	44.23	54.00	-9.77	AVG
7311.000	33.82	12.94	46.76	74.00	-27.24	peak
7311.000	29.39	12.94	42.33	54.00	-11.67	AVG
9748.000	31.55	17.60	49.15	74.00	-24.85	peak

Remark:

1. *Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.*
2. *For above 1GHz,the EUT peak value was under average limit, therefore the Average value compliance with the average limit*

Test Mode:	IEEE 802.11b High CH	Temp/Hum	27(℃)/ 53%RH
Test Item	Harmonic	Test Date	Jan 18, 2017
Polarize	Vertical	Test Engineer	Ed Chiang
Detector	Peak and Average		

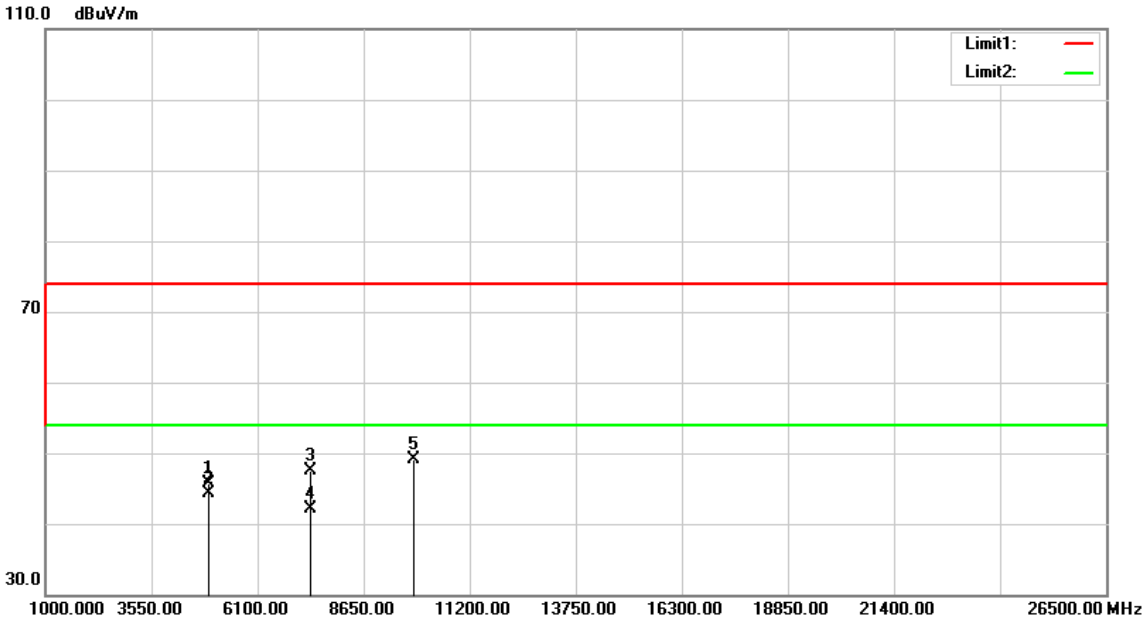


Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
4925.000	48.22	5.37	53.59	74.00	-20.41	peak
4925.000	45.69	5.37	51.06	54.00	-2.94	AVG
7386.000	34.18	13.17	47.35	74.00	-26.65	peak
7386.000	28.05	13.17	41.22	54.00	-12.78	AVG
9848.000	31.46	17.60	49.06	74.00	-24.94	peak

Remark:

1. *Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.*
2. *For above 1GHz,the EUT peak value was under average limit, therefore the Average value compliance with the average limit*

Test Mode:	IEEE 802.11b High CH	Temp/Hum	27(℃)/ 53%RH
Test Item	Harmonic	Test Date	Jan 18, 2017
Polarize	Horizontal	Test Engineer	Ed Chiang
Detector	Peak and Average		

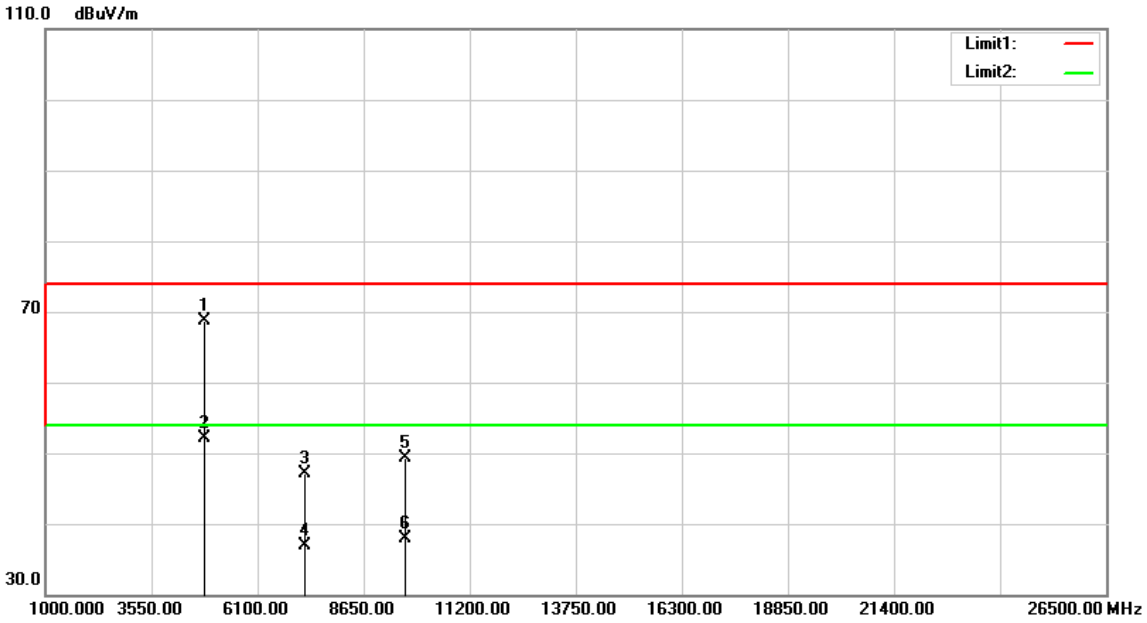


Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
4925.000	40.24	5.37	45.61	74.00	-28.39	peak
4925.000	38.86	5.37	44.23	54.00	-9.77	AVG
7386.000	34.39	13.17	47.56	74.00	-26.44	peak
7386.000	29.00	13.17	42.17	54.00	-11.83	AVG
9848.000	31.44	17.60	49.04	74.00	-24.96	peak

Remark:

1. *Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.*
2. *For above 1GHz,the EUT peak value was under average limit, therefore the Average value compliance with the average limit*

Test Mode:	IEEE 802.11g Low CH	Temp/Hum	27(℃)/ 53%RH
Test Item	Harmonic	Test Date	Jan 18, 2017
Polarize	Vertical	Test Engineer	Ed Chiang
Detector	Peak and Average		

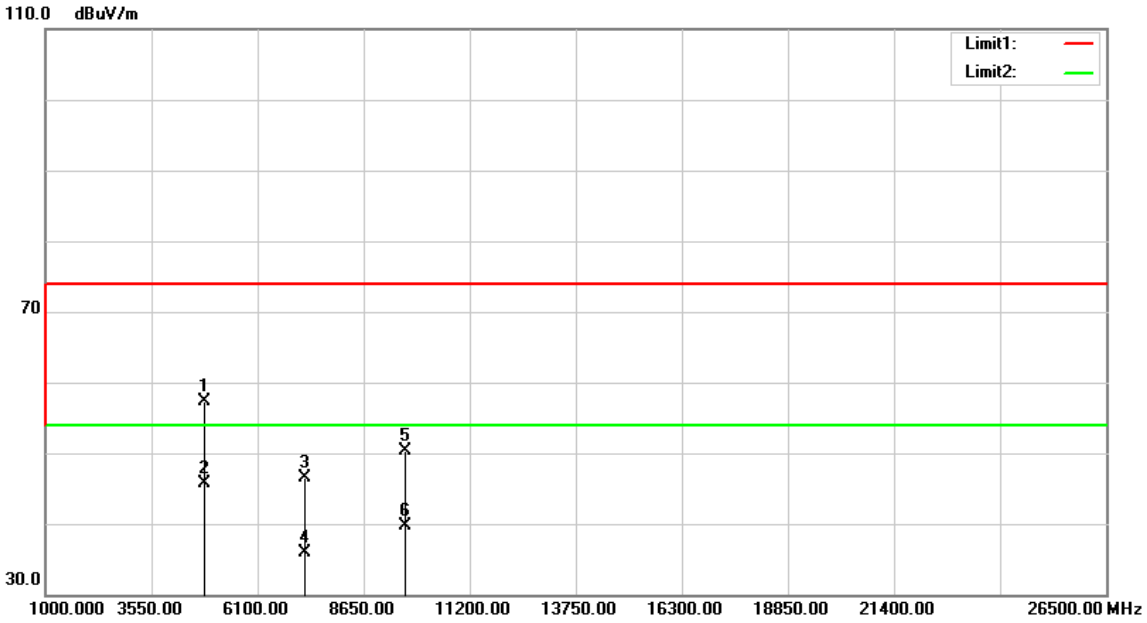


Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
4834.000	63.61	5.13	68.74	74.00	-5.26	peak
4834.000	46.91	5.13	52.04	54.00	-1.96	AVG
7236.000	34.31	12.71	47.02	74.00	-26.98	peak
7236.000	24.10	12.71	36.81	54.00	-17.19	AVG
9648.000	31.76	17.60	49.36	74.00	-24.64	peak
9648.000	20.37	17.60	37.97	54.00	-16.03	AVG

Remark:

1. *Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.*
2. *For above 1GHz,the EUT peak value was under average limit, therefore the Average value compliance with the average limit*

Test Mode:	IEEE 802.11g Low CH	Temp/Hum	27(℃)/ 53%RH
Test Item	Harmonic	Test Date	Jan 18, 2017
Polarize	Horizontal	Test Engineer	Ed Chiang
Detector	Peak and Average		

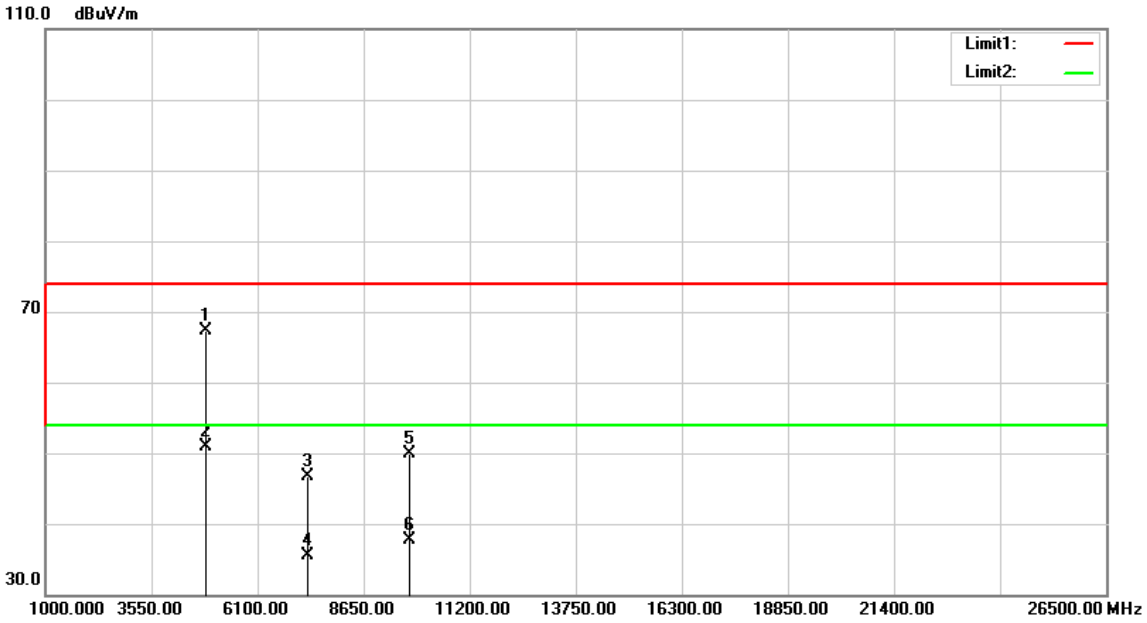


Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
4820.000	52.19	5.09	57.28	74.00	-16.72	peak
4820.000	40.59	5.09	45.68	54.00	-8.32	AVG
7236.000	33.79	12.71	46.50	74.00	-27.50	peak
7236.000	23.18	12.71	35.89	54.00	-18.11	AVG
9648.000	32.68	17.60	50.28	74.00	-23.72	peak
9648.000	22.17	17.60	39.77	54.00	-14.23	AVG

Remark:

1. *Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.*
2. *For above 1GHz,the EUT peak value was under average limit, therefore the Average value compliance with the average limit*

Test Mode:	IEEE 802.11g Mid CH	Temp/Hum	27(℃)/ 53%RH
Test Item	Harmonic	Test Date	Jan 18, 2017
Polarize	Vertical	Test Engineer	Ed Chiang
Detector	Peak and Average		

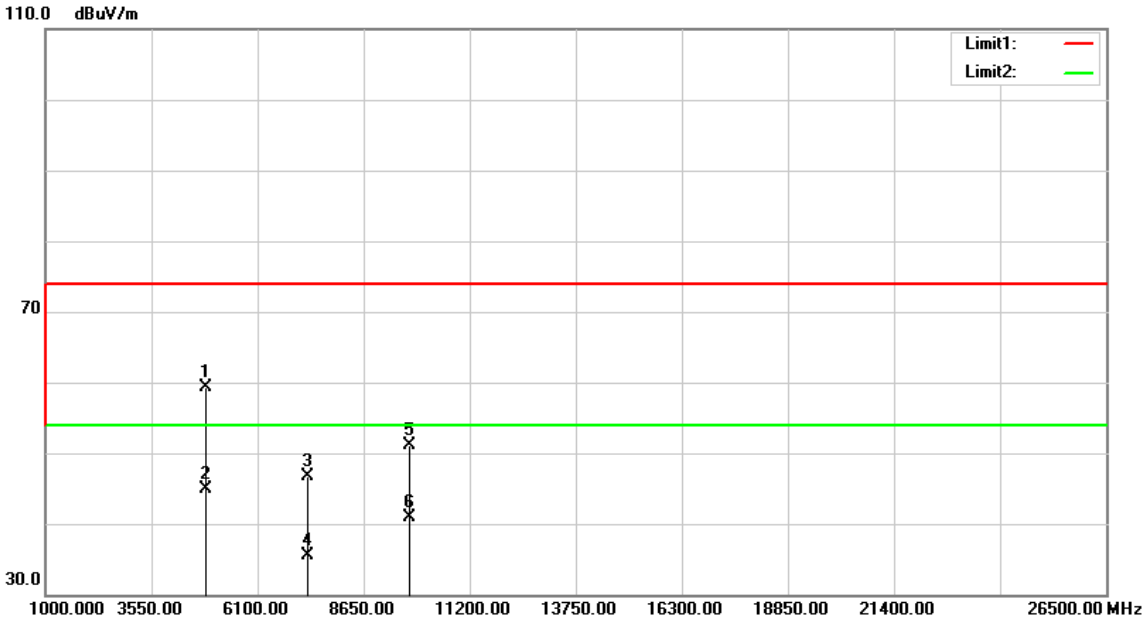


Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
4869.000	62.04	5.22	67.26	74.00	-6.74	peak
4869.000	45.77	5.22	50.99	54.00	-3.01	AVG
7311.000	33.86	12.94	46.80	74.00	-27.20	peak
7311.000	22.54	12.94	35.48	54.00	-18.52	AVG
9748.000	32.36	17.60	49.96	74.00	-24.04	peak
9748.000	20.09	17.60	37.69	54.00	-16.31	AVG

Remark:

1. *Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.*
2. *For above 1GHz,the EUT peak value was under average limit, therefore the Average value compliance with the average limit*

Test Mode:	IEEE 802.11g Mid CH	Temp/Hum	27(℃)/ 53%RH
Test Item	Harmonic	Test Date	Jan 18, 2017
Polarize	Horizontal	Test Engineer	Ed Chiang
Detector	Peak and Average		

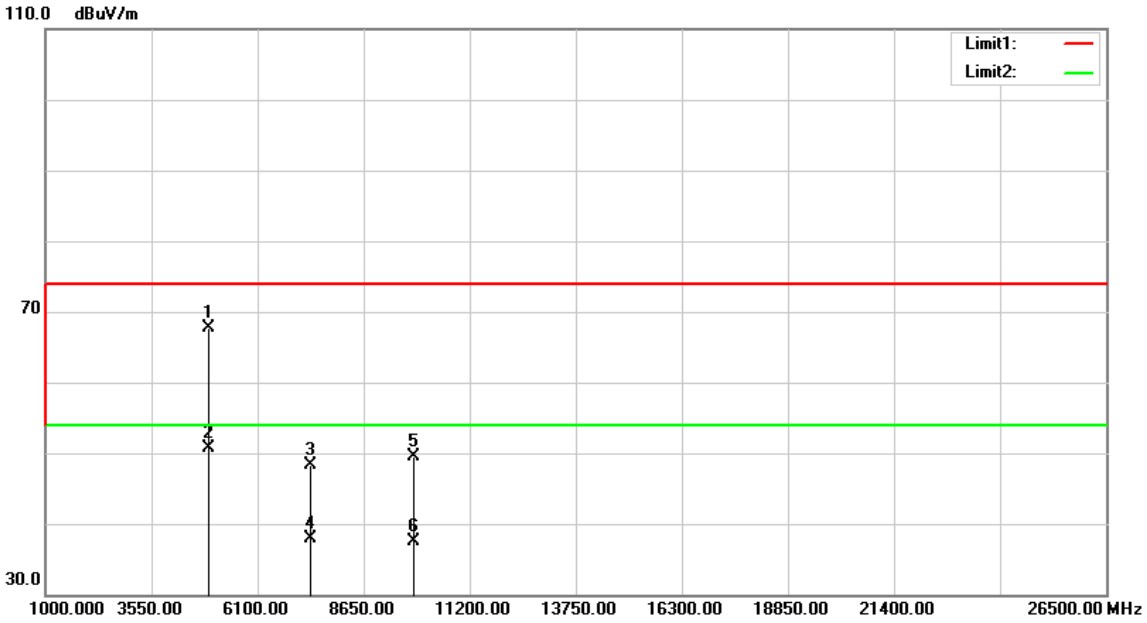


Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
4862.000	54.09	5.20	59.29	74.00	-14.71	peak
4862.000	39.61	5.20	44.81	54.00	-9.19	AVG
7311.000	33.81	12.94	46.75	74.00	-27.25	peak
7311.000	22.53	12.94	35.47	54.00	-18.53	AVG
9748.000	33.57	17.60	51.17	74.00	-22.83	peak
9748.000	23.29	17.60	40.89	54.00	-13.11	AVG

Remark:

1. *Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.*
2. *For above 1GHz,the EUT peak value was under average limit, therefore the Average value compliance with the average limit*

Test Mode:	IEEE 802.11g High CH	Temp/Hum	27(℃)/ 53%RH
Test Item	Harmonic	Test Date	Jan 18, 2017
Polarize	Vertical	Test Engineer	Ed Chiang
Detector	Peak and Average		

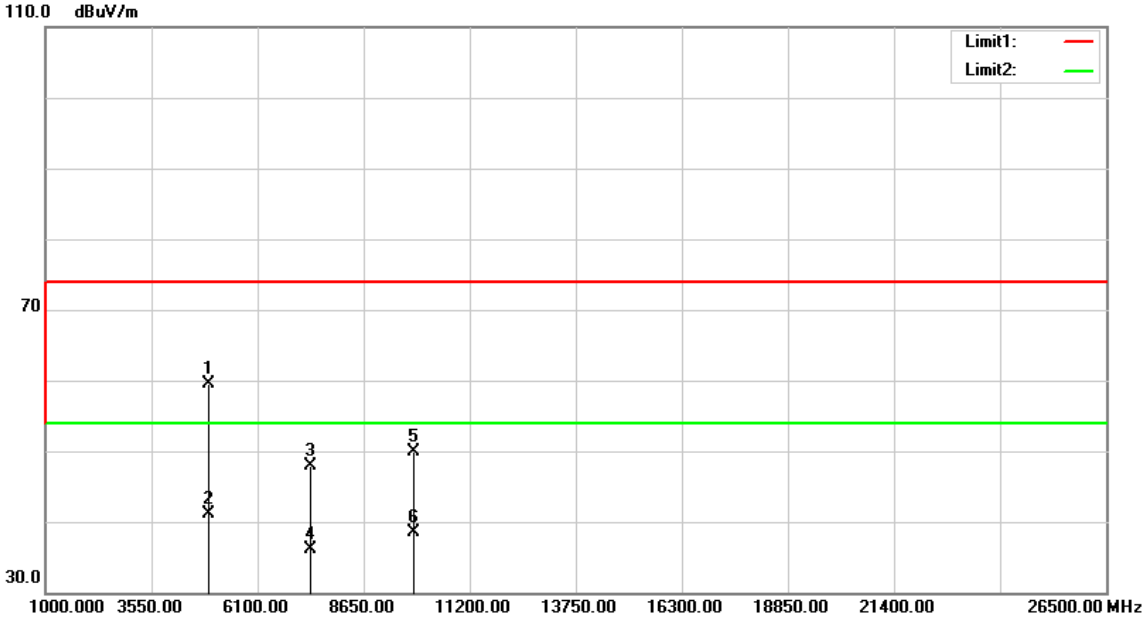


Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
4918.000	62.40	5.35	67.75	74.00	-6.25	peak
4918.000	45.27	5.35	50.62	54.00	-3.38	AVG
7386.000	35.06	13.17	48.23	74.00	-25.77	peak
7386.000	24.78	13.17	37.95	54.00	-16.05	AVG
9848.000	31.84	17.60	49.44	74.00	-24.56	peak
9848.000	19.88	17.60	37.48	54.00	-16.52	AVG

Remark:

1. *Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.*
2. *For above 1GHz,the EUT peak value was under average limit, therefore the Average value compliance with the average limit*

Test Mode:	IEEE 802.11g High CH	Temp/Hum	27(℃)/ 53%RH
Test Item	Harmonic	Test Date	Jan 18, 2017
Polarize	Horizontal	Test Engineer	Ed Chiang
Detector	Peak and Average		

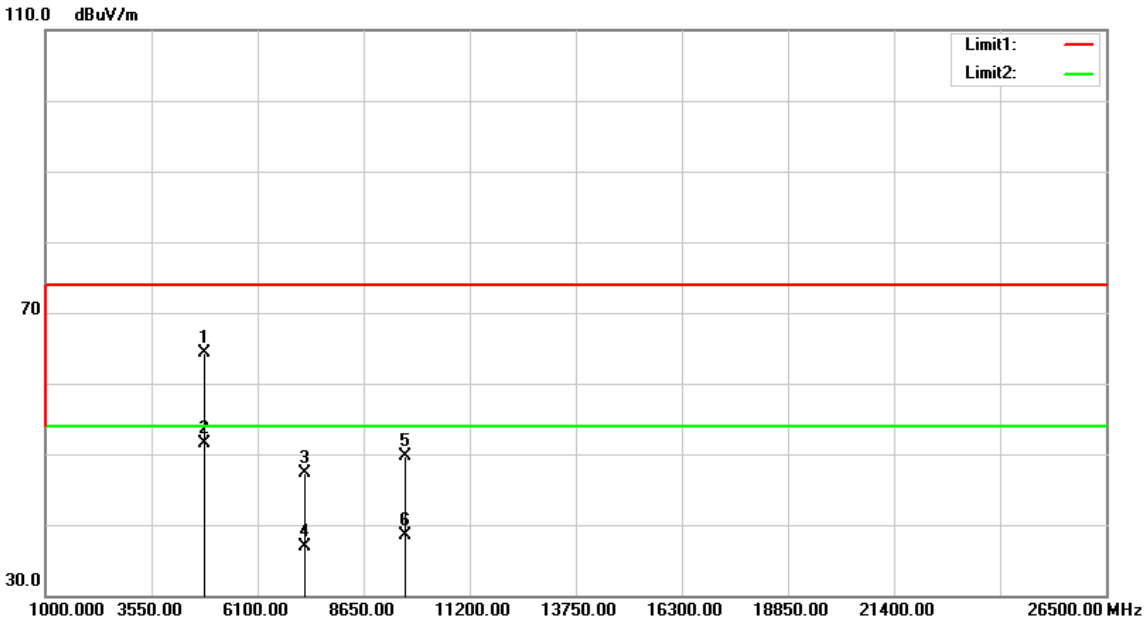


Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
4911.000	54.09	5.33	59.42	74.00	-14.58	peak
4911.000	35.82	5.33	41.15	54.00	-12.85	AVG
7386.000	34.80	13.17	47.97	74.00	-26.03	peak
7386.000	23.01	13.17	36.18	54.00	-17.82	AVG
9848.000	32.21	17.60	49.81	74.00	-24.19	peak
9848.000	20.98	17.60	38.58	54.00	-15.42	AVG

Remark:

1. *Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.*
2. *For above 1GHz,the EUT peak value was under average limit, therefore the Average value compliance with the average limit*

Test Mode:	IEEE 802.11n HT20 Low CH	Temp/Hum	27(℃)/ 53%RH
Test Item	Harmonic	Test Date	Jan 18, 2017
Polarize	Vertical	Test Engineer	Ed Chiang
Detector	Peak and Average		

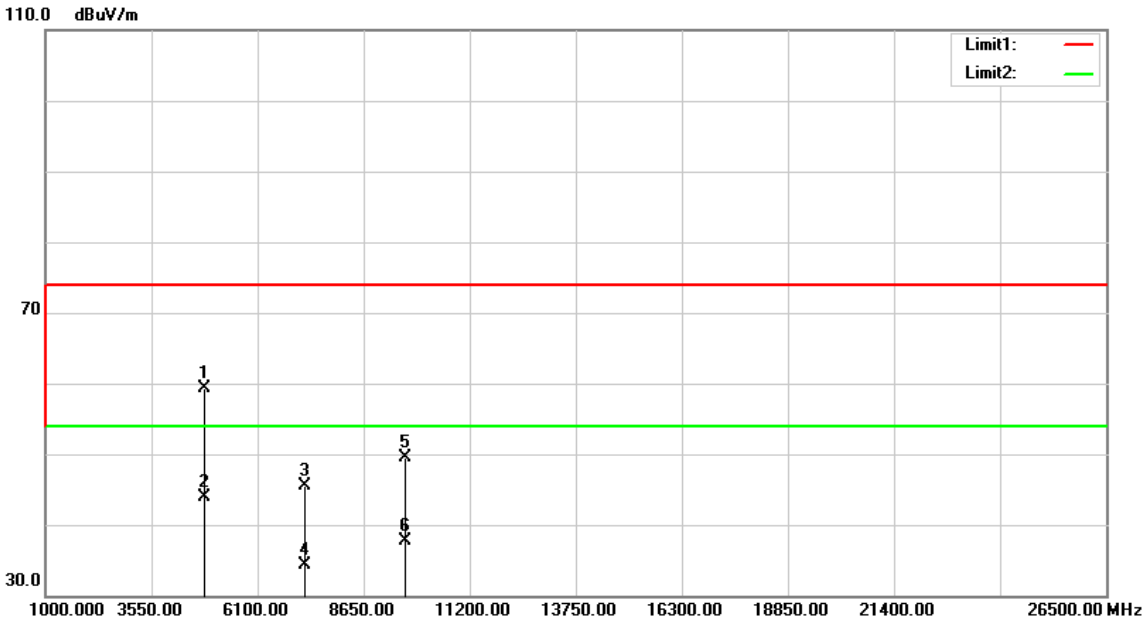


Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
4827.000	59.13	5.11	64.24	74.00	-9.76	peak
4827.000	46.48	5.11	51.59	54.00	-2.41	AVG
7236.000	34.64	12.71	47.35	74.00	-26.65	peak
7236.000	24.14	12.71	36.85	54.00	-17.15	AVG
9648.000	32.06	17.60	49.66	74.00	-24.34	peak
9648.000	20.84	17.60	38.44	54.00	-15.56	AVG

Remark:

1. *Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.*
2. *For above 1GHz,the EUT peak value was under average limit, therefore the Average value compliance with the average limit*

Test Mode:	IEEE 802.11n HT20 Low CH	Temp/Hum	27(℃)/ 53%RH
Test Item	Harmonic	Test Date	Jan 18, 2017
Polarize	Horizontal	Test Engineer	Ed Chiang
Detector	Peak and Average		

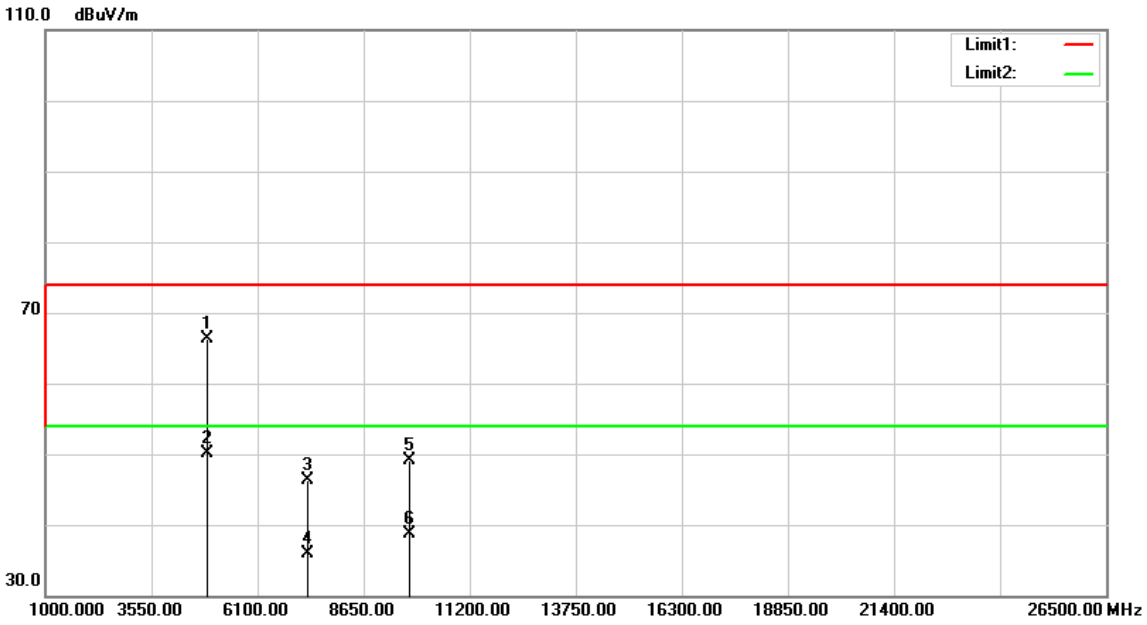


Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
4827.000	54.28	5.11	59.39	74.00	-14.61	peak
4827.000	38.78	5.11	43.89	54.00	-10.11	AVG
7236.000	32.84	12.71	45.55	74.00	-28.45	peak
7236.000	21.54	12.71	34.25	54.00	-19.75	AVG
9648.000	31.91	17.60	49.51	74.00	-24.49	peak
9648.000	20.08	17.60	37.68	54.00	-16.32	AVG

Remark:

1. *Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.*
2. *For above 1GHz,the EUT peak value was under average limit, therefore the Average value compliance with the average limit*

Test Mode:	IEEE 802.11n HT20 Mid CH	Temp/Hum	27(℃)/ 53%RH
Test Item	Harmonic	Test Date	Jan 18, 2017
Polarize	Vertical	Test Engineer	Ed Chiang
Detector	Peak and Average		

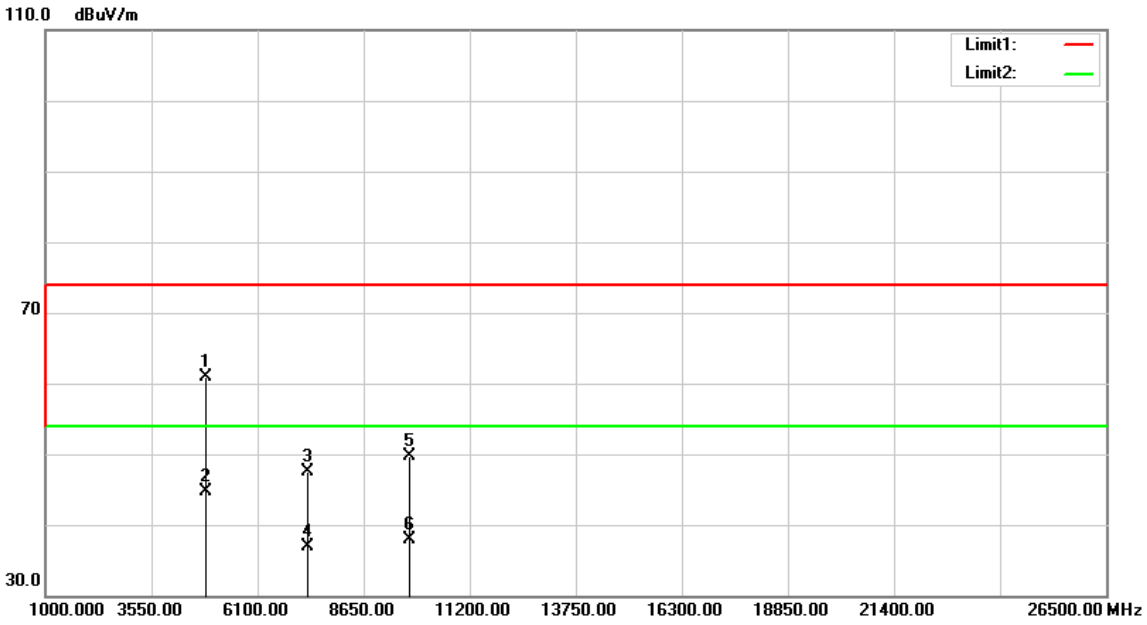


Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
4876.000	61.08	5.24	66.32	74.00	-7.68	peak
4876.000	44.80	5.24	50.04	54.00	-3.96	AVG
7311.000	33.45	12.94	46.39	74.00	-27.61	peak
7311.000	23.00	12.94	35.94	54.00	-18.06	AVG
9748.000	31.47	17.60	49.07	74.00	-24.93	peak
9748.000	21.14	17.60	38.74	54.00	-15.26	AVG

Remark:

1. *Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.*
2. *For above 1GHz,the EUT peak value was under average limit, therefore the Average value compliance with the average limit*

Test Mode:	IEEE 802.11n HT20 Mid CH	Temp/Hum	27(℃)/ 53%RH
Test Item	Harmonic	Test Date	Jan 18, 2017
Polarize	Horizontal	Test Engineer	Ed Chiang
Detector	Peak and Average		

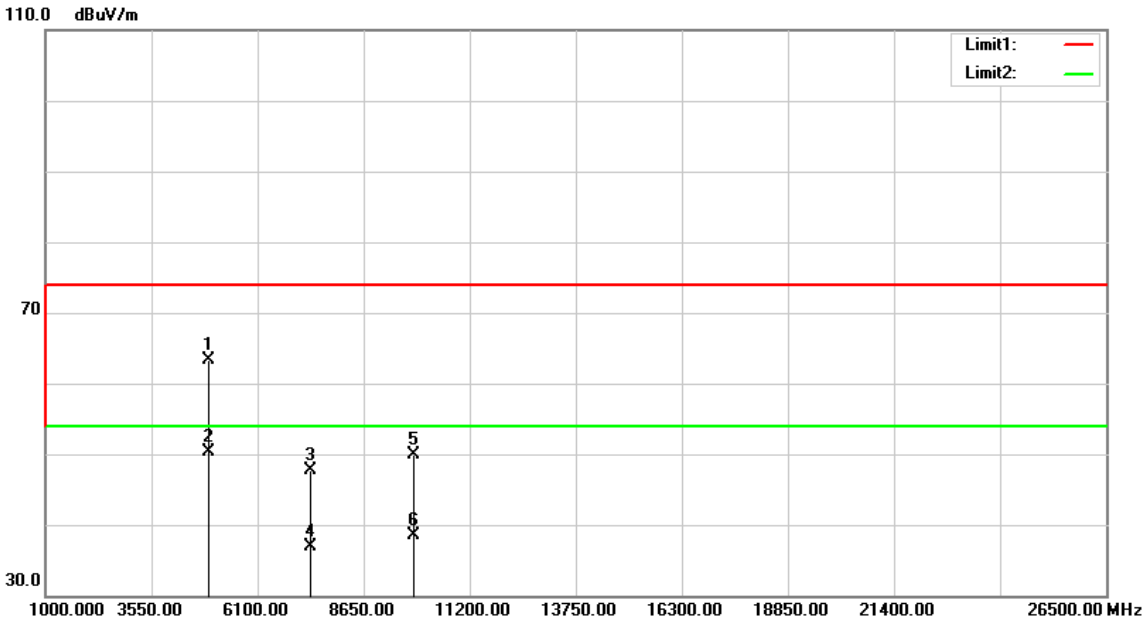


Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
4869.000	55.71	5.22	60.93	74.00	-13.07	peak
4869.000	39.45	5.22	44.67	54.00	-9.33	AVG
7311.000	34.54	12.94	47.48	74.00	-26.52	peak
7311.000	24.01	12.94	36.95	54.00	-17.05	AVG
9748.000	32.14	17.60	49.74	74.00	-24.26	peak
9748.000	20.25	17.60	37.85	54.00	-16.15	AVG

Remark:

1. *Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.*
2. *For above 1GHz,the EUT peak value was under average limit, therefore the Average value compliance with the average limit*

Test Mode:	IEEE 802.11n HT20 High CH	Temp/Hum	27(℃)/ 53%RH
Test Item	Harmonic	Test Date	Jan 18, 2017
Polarize	Vertical	Test Engineer	Ed Chiang
Detector	Peak and Average		

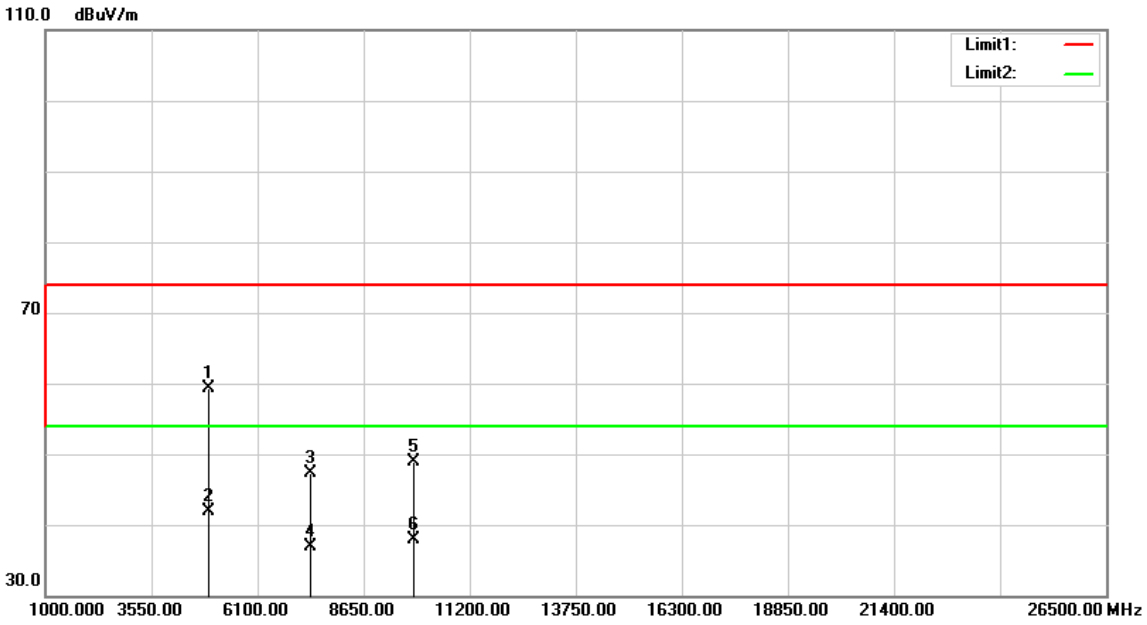


Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
4918.000	57.94	5.35	63.29	74.00	-10.71	peak
4918.000	44.95	5.35	50.30	54.00	-3.70	AVG
7386.000	34.54	13.17	47.71	74.00	-26.29	peak
7386.000	23.67	13.17	36.84	54.00	-17.16	AVG
9848.000	32.27	17.60	49.87	74.00	-24.13	peak
9848.000	20.88	17.60	38.48	54.00	-15.52	AVG

Remark:

1. *Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.*
2. *For above 1GHz,the EUT peak value was under average limit, therefore the Average value compliance with the average limit*

Test Mode:	IEEE 802.11n HT20 High CH	Temp/Hum	27(℃)/ 53%RH
Test Item	Harmonic	Test Date	Jan 18, 2017
Polarize	Horizontal	Test Engineer	Ed Chiang
Detector	Peak and Average		



Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
4918.000	53.97	5.35	59.32	74.00	-14.68	peak
4918.000	36.64	5.35	41.99	54.00	-12.01	AVG
7386.000	34.10	13.17	47.27	74.00	-26.73	peak
7386.000	23.65	13.17	36.82	54.00	-17.18	AVG
9848.000	31.29	17.60	48.89	74.00	-25.11	peak
9848.000	20.32	17.60	37.92	54.00	-16.08	AVG

Remark:

1. *Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.*
2. *For above 1GHz,the EUT peak value was under average limit, therefore the Average value compliance with the average limit*