FCC RADIO TEST REPORT
FCC 47 CFR PART 15 SUBPART C

Test Standard	**FCC Part 15.247**
FCC ID	**PPQ-WP8331**
Product name	**802.11ac Dual Band PoE Access Point**

Brand name / Model No.

Model No.	Brand name
C-100	MOJO
	WatchGuard
WP8331	LITE-ON
AP200	WatchGuard

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 CCS. Inc.

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

Approved by:

Sam Chuang
Manager

Reviewed by:

Zeus Chen
Supervisor

Revision History

Rev.	Issue Date	Revisions	Revised By
00	November 22, 2016	Initial Issue	Angel Cheng
01	December 13, 2016	P5. Addressed calculations of the directional antenna gains. P26, Addressed calculations of the directional antenna gains P29, Addressed calculations of the directional antenna gains	Angel Cheng

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1. GENERAL INFORMATION

1.1 EUT INFORMATION

Applicant	Lite-On Technology Corp. Bldg. C, 90, Chien 1 Road, Chung Ho, New Taipei City 23585, Taiwan, R.O.C
Equipment	802.11ac Dual Band PoE Access Point
Brand name / Model No.	**Model No.** / **Brand name** C-100 / MOJO C-100 / WatchGuard WP8331 / LITE-ON AP200 / WatchGuard
Model Discrepancy	All the specification and layout are identical except they come with different model numbers for marketing purposes.
EUT Functions	IEEE 802.11abgn+ac+BT
Received Date	Nov 2, 2016
Date of Test	Nov 11, 2016 ~ Nov 17, 2016
Output Power	IEEE 802.11b mode: 0.5303 IEEE 802.11g mode: 0.7953 IEEE 802.11n HT 20 MHz mode: 0.8054 IEEE 802.11n HT 40 MHz mode: 0.6178
Power Operation	☒ AC 120V/60Hz ☒ Adapter(Not for sale) ☒ PoE(Not for sale) ☐ DC Type : ☐ Battery ☐ DC Power Supply ☐ External DC adapter

Remark:
All listed models are using an identical RF module with the only differences on number of key buttons mounted for additional functions.
Due to similarity of RF product constructions of given model series, only dedicated model as described in test report with the most complexity constructions was selected for testing and record.

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 4. IEEE 802.11n HT 40 MHz mode: OFDM
Bandwidth	1. IEEE 802.11b mode: 11 Channels 2. IEEE 802.11g mode: 11 Channels 3. IEEE 802.11n HT 20 MHz mode: 11 Channels 4. IEEE 802.11n HT 40 MHz mode: 9 Channels

Remark:
Refer as ANSI 63.10:2013 clause 5.6.1 Table 4 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 for ☐ Dipole ☐ Printed ☐ Coils
Antenna Gain	☒ Ant 1: 4.7 (dBi) ☒ Ant 2: 3.3 (dBi)
Power Directional gain	4.06 (dBi)
Power Density Directional gain	7.07 (dBi)

Remark :
1. Power Directional gain
=10log(((10^(Ant1/10)+10^(Ant2/10))/2))=10log(((10^(4.7/10)+10^(3.3/10))/2))=4.06 dBi
2. Power Density Directional gain=10log(((10^(Ant1/10)+10^(Ant2/10))/2))+10log(N_{TX}/Nss)
=10log(((10^(4.7/10)+10^(3.3/10))/2))+10log(2/1)=7.07 dBi

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
No.11, Wugong 6th Rd., Wugu Dist., New Taipei City 24891, Taiwan. (R.O.C.)

Test site	Test Engineer	Remark
AC Conduction Room	Anderson Kuo	
Radiation	Dennis Li	
RF Conducted	Ian Tu	

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 Due**
Spectrum Analyzer 10Hz-40GHz	R&S	FSV 40	101073	07/31/2017

3M 966 Chamber Test Site				
Equipment	**Manufacturer**	**Model**	**S/N**	**Cal Due**
Spectrum Analyzer	Agilent	E4446A	US42510252	12/07/2016
Loop Ant	COM-POWER	AL-130	121051	02/24/2017
Bilog Antenna	Sunol Sciences	JB3	A030105	07/02/2017
Pre-Amplifier	EMEC	EM330	60609	06/07/2017
Horn Antenna	ETC	MCTD 1209	DRH13M02003	09/01/2017
Pre-Amplifier	MITEQ	AMF-6F-260400-40-8P	985646	01/13/2017
Horn Antenna	EMCO	3116	26370	01/14/2017
Antenna Tower	CCS	CC-A-1F	N/A	N.C.R
Controller	CCS	CC-C-1F	N/A	N.C.R
Turn Table	CCS	CC-T-1F	N/A	N.C.R

AC Conducted Emissions Test Site				
Equipment	**Manufacturer**	**Model**	**S/N**	**Cal Due**
LISN	R&S	ENV216	101054	05/10/2017
Receiver	R&S	ESCI	101073	08/19/2017

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**
1	Adapter	APD	WB-18D-12FU	N/A	N/A
2	PoE	I.T.E	PW130	N/A	N/A

Support Equipment					
No.	**Equipment**	**Brand**	**Model**	**Series No.**	**FCC ID**
1	Notebook	ASUS	A&J	N/A	PD9WM3945ABG
2	Notebook	ASUS	K45V	N/A	PPD-AR5B225

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,

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	IC 2324G-1 IC 2324G-2

2. TEST SUMMERY

FCC Standard Sec.	Chapter	Test Item	Result
15.203	1.2	Antenna Requirement	Pass
15.207	4.1	AC Conducted Emission	Pass
15.247(a)(2)	4.2	6 dB Bandwidth	Pass
-	4.2	Occupied Bandwidth (99%)	-
15.247(b)	4.3	Output Power Measurement	Pass
15.247(e)	4.4	Power Spectral Density	Pass
15.247(d)	4.5	Conducted Band Edge	Pass
15.247(d)	4.5	Conducted Emission	Pass
15.247(d)	4.6	Radiation Band Edge	Pass
15.247(d)	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 IEEE 802.11n HT40 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 **IEEE 802.11n HT40 mode :** 1. Lowest Channel : 2422MHz 2. Middle Channel : 2437MHz 3. Highest Channel : 2452MHz

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

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 Mode 2:EUT power by PoE adapter via LAN 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	120V/60Hz
Test Mode	Mode 1:EUT power by AC adapter Mode 2:EUT power by PoE adapter via LAN 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	120V/60Hz
Test Mode	Mode 1:EUT power by AC adapter Mode 2:EUT power by PoE adapter via LAN cable
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 were recorded in this report.

3. For below 1G AC power line conducted emission and radiation emission were performed the EUT transmit at the highest output power channel as worse case.

4. EUT power supply had two ways (Adapter and PoE, both not for sale),that EUT pre-scanned two power supply at Radiated below 1G, and the worst case was Adapter mode. Therefore EUT used adapter mode for Radiated measurement above 1G and Conduction below 1G in test report.

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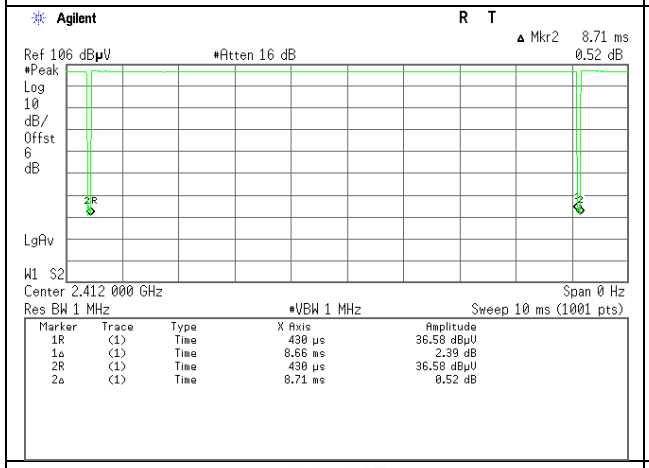
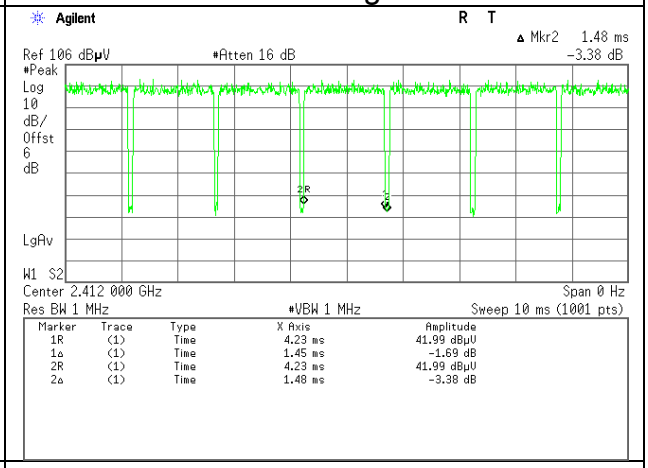
3.3 EUT DUTY CYCLE

Duty Cycle				
Configuration	TX ON (ms)	TX ALL (ms)	Duty Cycle (%)	Duty Factor(dB)
802.11b	8.66	8.71	99.43%	0.03
802.11g	1.45	1.48	97.97%	0.09
802.11n HT20	1.36	1.44	94.44%	0.25
802.11n HT40	0.68	0.75	90.67%	0.43

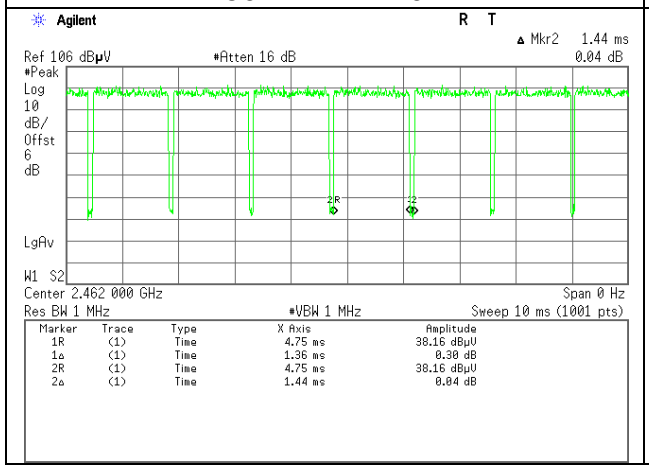
802.11b



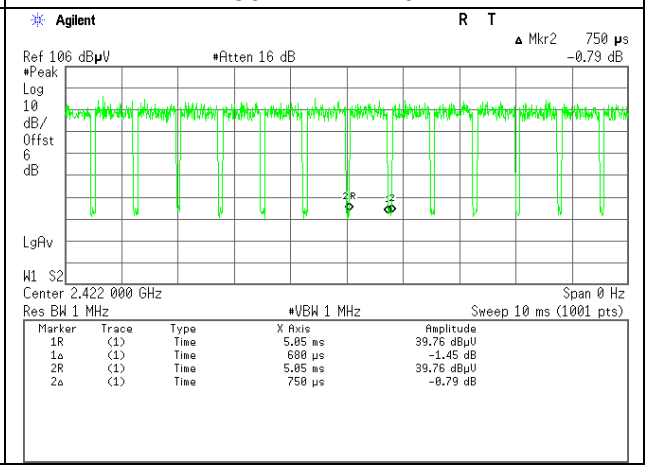
802.11g



802.11n HT20



802.11n HT40



4. TEST RESULT

4.1 AC POWER LINE CONDUCTED EMISSION

4.1.1 Test Limit

According to §15.207(a)(2),

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

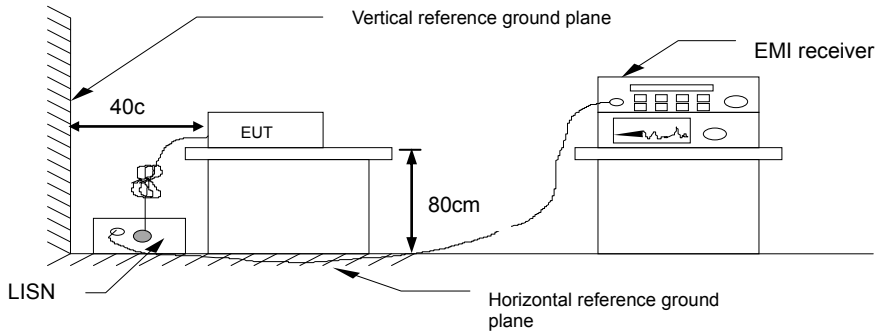
* Decreases with the logarithm of the frequency.

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

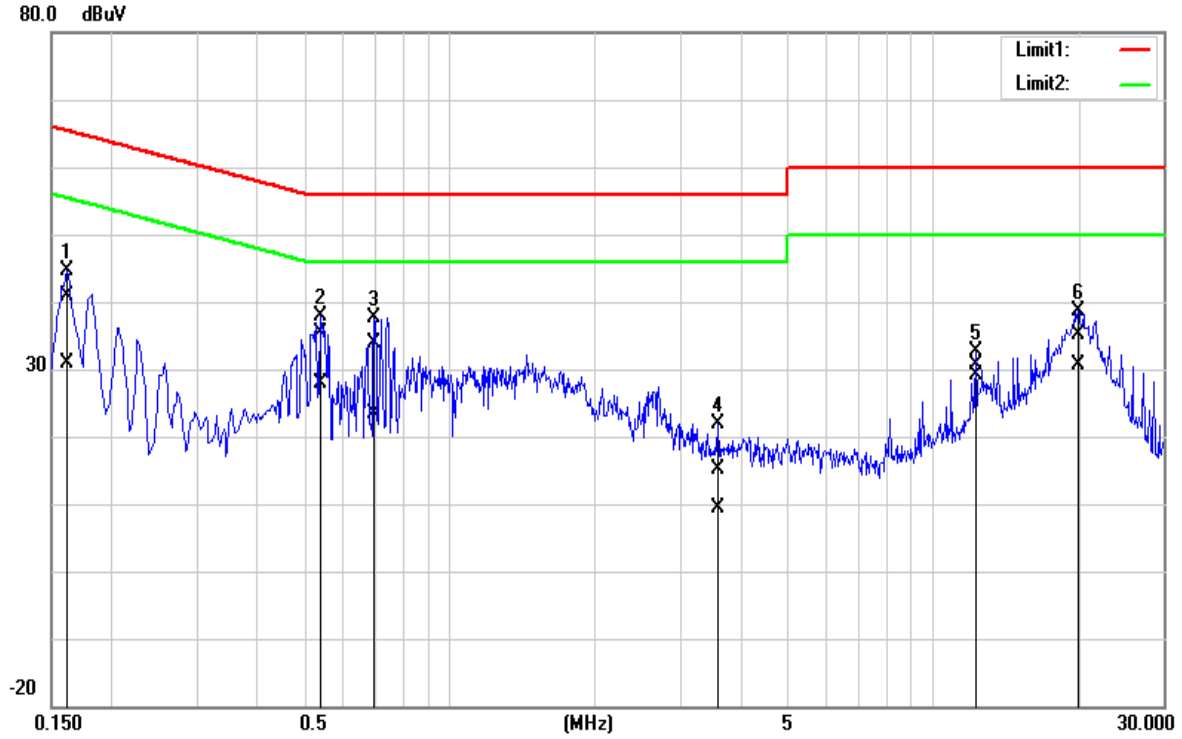


4.1.4 Test Result

Pass.

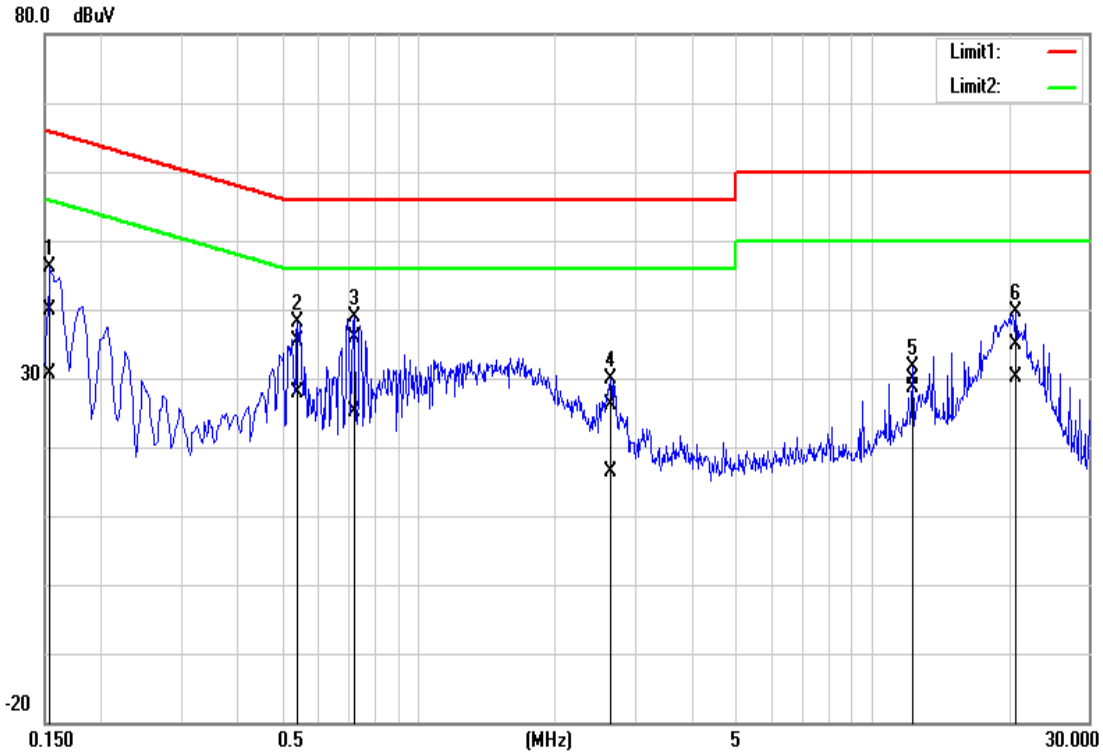
Test Data

Test Mode:	Mode 1	Temp/Hum	24(℃)/ 50%RH
Test Voltage:	120Vac / 60Hz	Test Date	Nov 15, 2016
Phase:	Line	Test Engineer	Anderson Kuo



Frequency (MHz)	Quasi Peak reading (dBuV)	Average reading (dBuV)	Correction factor (dB)	Quasi Peak result (dBuV)	Average result (dBuV)	Quasi Peak limit (dBuV)	Average limit (dBuV)	Quasi Peak margin (dB)	Average margin (dB)	Remark
0.1620	31.14	21.29	9.71	40.85	31.00	65.36	55.36	-24.51	-24.36	Pass
0.5420	25.63	18.23	9.70	35.33	27.93	56.00	46.00	-20.67	-18.07	Pass
0.6980	24.07	13.66	9.70	33.77	23.36	56.00	46.00	-22.23	-22.64	Pass
3.5940	5.33	-0.44	9.74	15.07	9.30	56.00	46.00	-40.93	-36.70	Pass
12.2740	20.89	19.22	9.81	30.70	29.03	60.00	50.00	-29.30	-20.97	Pass
20.0020	25.26	20.75	9.88	35.14	30.63	60.00	50.00	-24.86	-19.37	Pass

Test Mode:	Mode 1	Temp/Hum	27(℃)/ 53%RH
Test Voltage:	120Vac / 60Hz	Test Date	Nov 15, 2016
Phase:	Neutral	Test Engineer	Anderson Kuo



Frequency (MHz)	Quasi Peak reading (dBuV)	Average reading (dBuV)	Correction factor (dB)	Quasi Peak result (dBuV)	Average result (dBuV)	Quasi Peak limit (dBuV)	Average limit (dBuV)	Quasi Peak margin (dB)	Average margin (dB)	Remark
0.1540	30.04	20.93	9.78	39.82	30.71	65.78	55.78	-25.96	-25.07	Pass
0.5420	25.56	18.06	9.76	35.32	27.82	56.00	46.00	-20.68	-18.18	Pass
0.7220	26.23	15.45	9.76	35.99	25.21	56.00	46.00	-20.01	-20.79	Pass
2.6540	16.32	6.64	9.80	26.12	16.44	56.00	46.00	-29.88	-29.56	Pass
12.2740	19.87	18.51	10.08	29.95	28.59	60.00	50.00	-30.05	-21.41	Pass
20.7300	24.72	19.95	10.28	35.00	30.23	60.00	50.00	-25.00	-19.77	Pass

4.2 6DB BANDWIDTH AND OCCUPIED BANDWIDTH(99%)

4.2.1 Test Limit

According to §15.247(a)(2)

6 dB Bandwidth ：

Limit	Shall be at least 500kHz

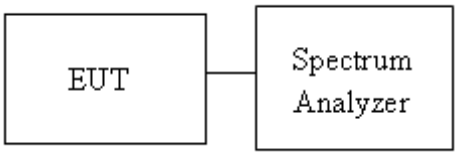
Occupied Bandwidth(99%) ： For reporting purposes only.

4.2.2 Test Procedure

Test method Refer as KDB 558074 D01 v03r05, Section 8.1 and ANSI 63.10:2013 clause 6.9.2,

1. The EUT RF output connected to the spectrum analyzer by RF cable.
2. Setting maximum power transmit of EUT
3. SA set RBW = 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

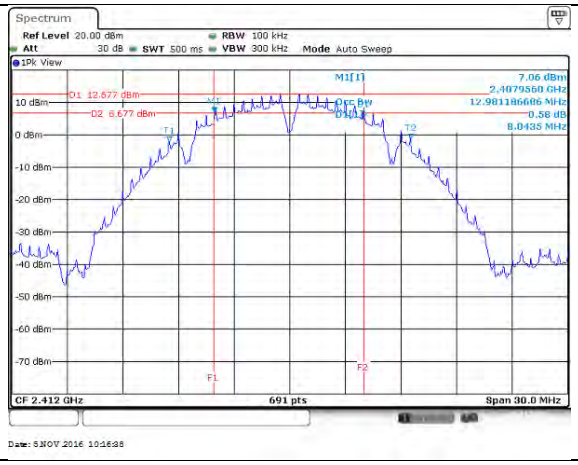
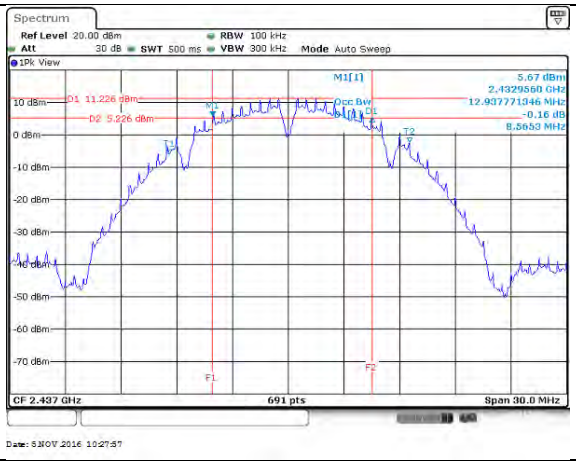
Test mode: IEEE 802.11b mode / 2412-2462 MHz						
Channel	Frequency (MHz)	Chain 0 OBW(99%) (MHz)	Chain 1 OBW(99%) (MHz)	Chain 0 6dB BW (MHz)	Chain 1 6dB BW (MHz)	6dB limit (kHz)
Low	2412	12.9811	13.1548	8.0435	8.6087	≥500
Mid	2437	12.9377	13.0680	8.5653	8.6087	
High	2462	12.8075	12.7206	8.5218	8.0435	

Test mode: IEEE 802.11g mode / 2412-2462 MHz						
Channel	Frequency (MHz)	Chain 0 OBW(99%) (MHz)	Chain 1 OBW(99%) (MHz)	Chain 0 6dB BW (MHz)	Chain 1 6dB BW (MHz)	6dB limit (kHz)
Low	2412	16.4544	16.4544	16.3478	16.3913	≥500
Mid	2437	17.1490	16.8885	16.3478	16.3913	
High	2462	16.4109	16.4544	16.3478	16.3913	

Test mode: IEEE 802.11n HT 20 MHz mode / 2412-2462 MHz						
Channel	Frequency (MHz)	Chain 0 OBW(99%) (MHz)	Chain 1 OBW(99%) (MHz)	Chain 0 6dB BW (MHz)	Chain 1 6dB BW (MHz)	6dB limit (kHz)
Low	2412	17.6266	17.7134	17.6087	17.6088	≥500
Mid	2437	18.0607	17.9739	17.6087	17.6522	
High	2462	17.6266	17.6700	17.6087	17.6522	

Test mode: IEEE 802.11n HT 40 MHz mode / 2422-2452 MHz						
Channel	Frequency (MHz)	Chain 0 OBW(99%) (MHz)	Chain 1 OBW(99%) (MHz)	Chain 0 6dB BW (MHz)	Chain 1 6dB BW (MHz)	6dB limit (kHz)
Low	2422	36.1215	36.1215	36.29	36.826	>500
Mid	2437	36.2373	36.1215	36.29	36.594	
High	2452	36.1215	36.1215	36.29	36.174	

Test Data

IEEE 802.11b mode- chain 0	
Low CH	**Mid CH**
	
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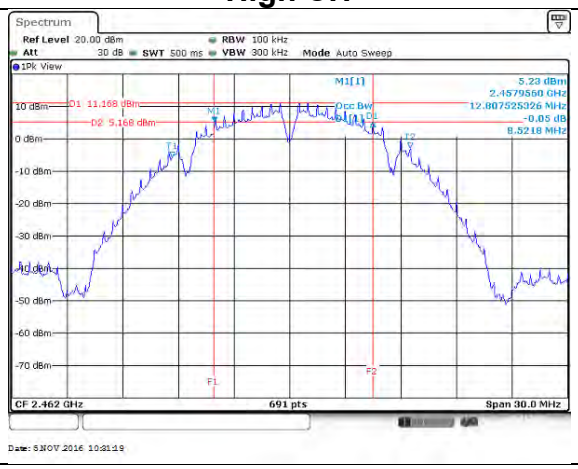
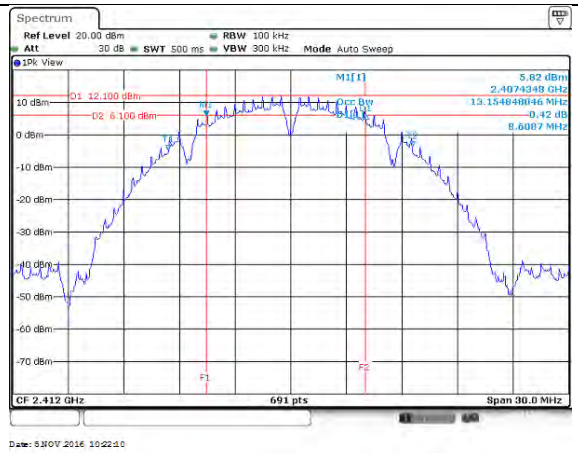
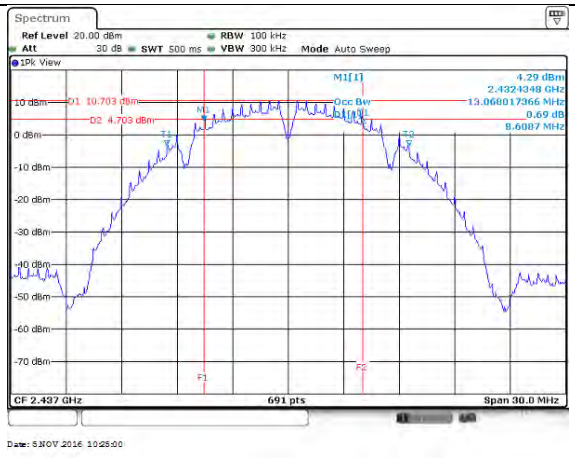
	

IEEE 802.11b mode- chain 1	
Low CH	**Mid CH**
	
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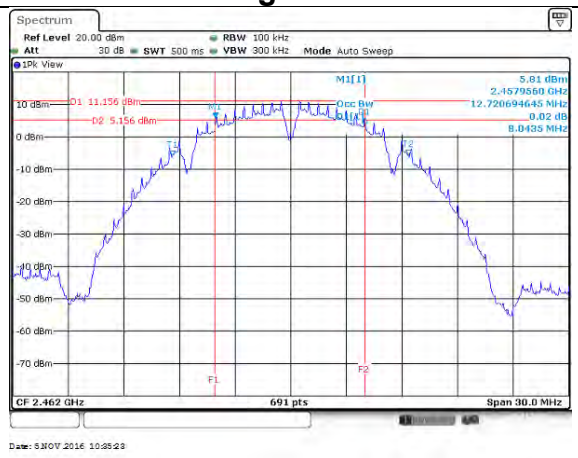
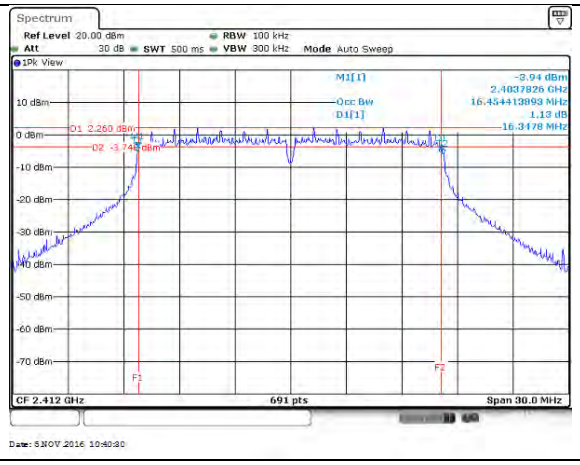
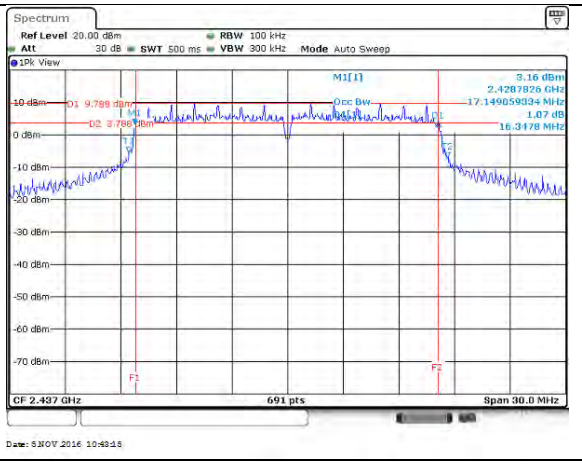
	

IEEE 802.11g mode- chain 0	
Low CH	**Mid CH**
	
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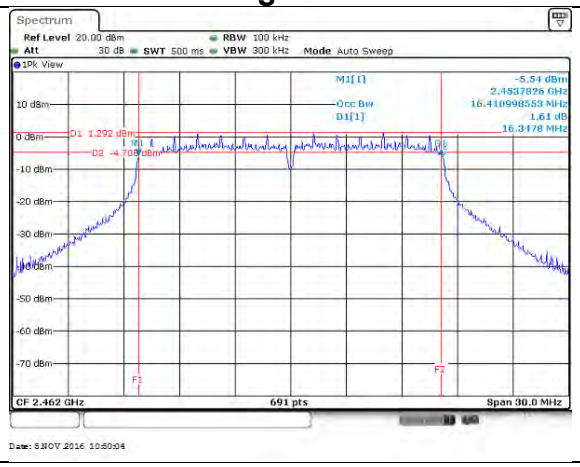
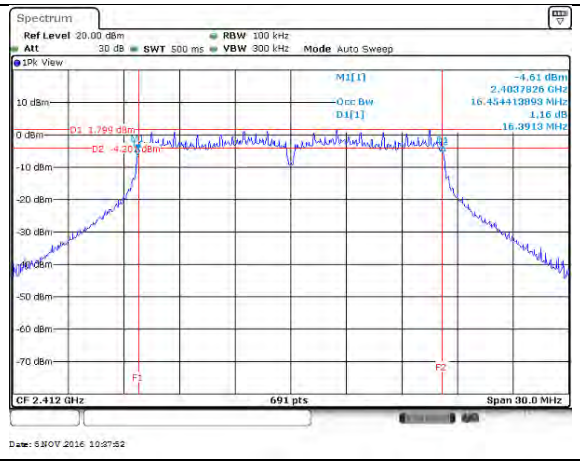
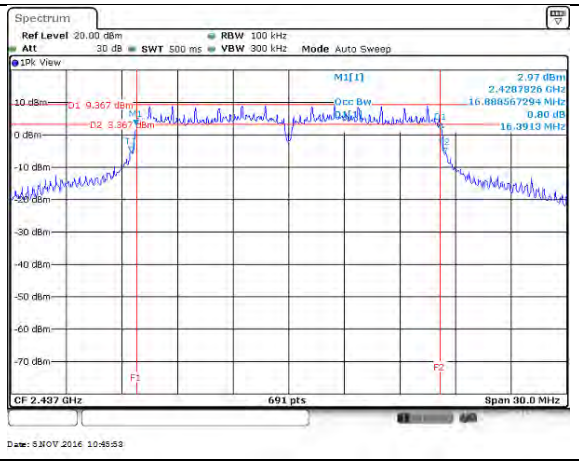
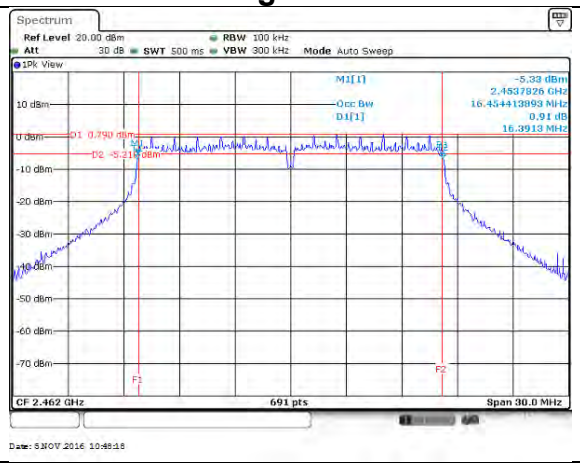
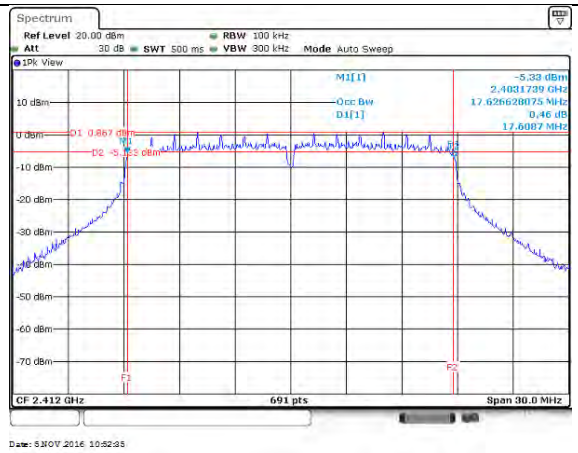
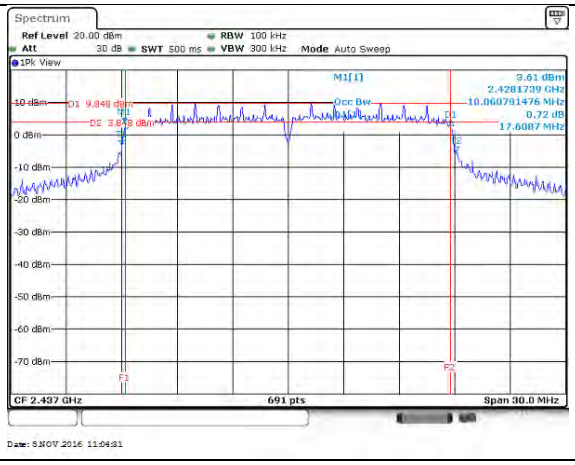
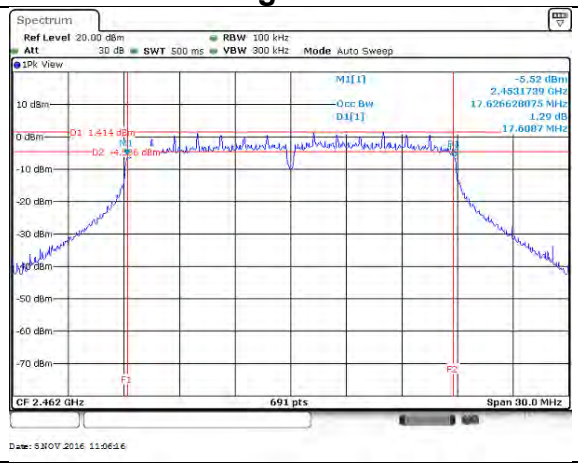
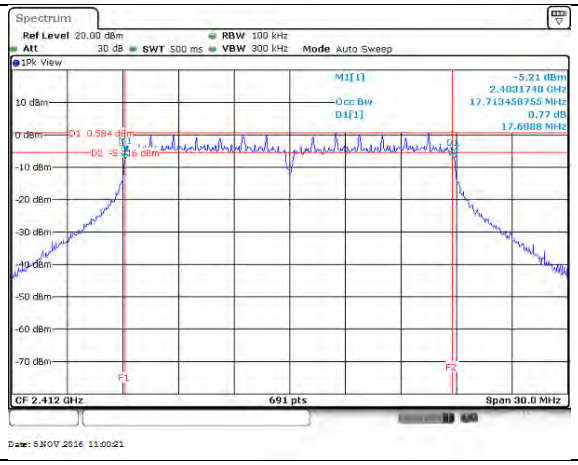
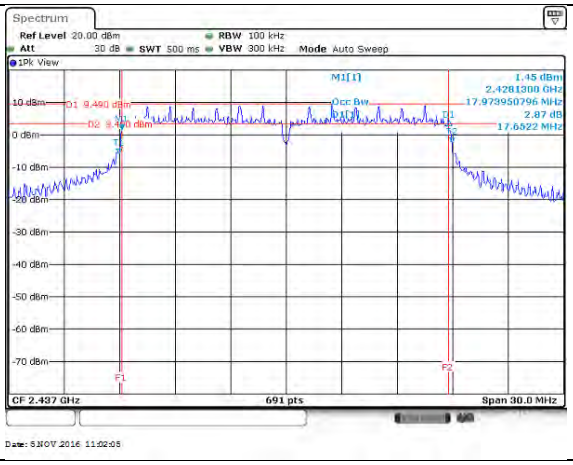
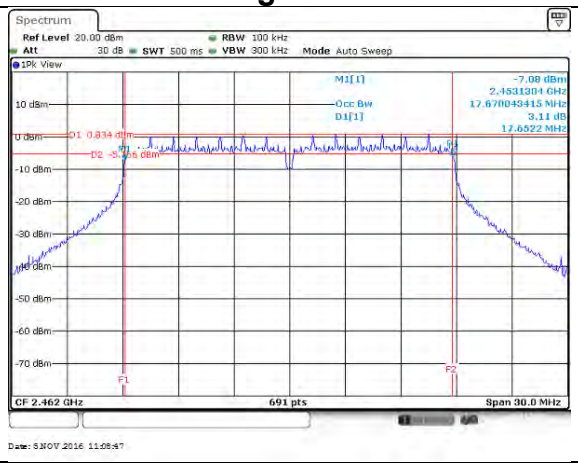
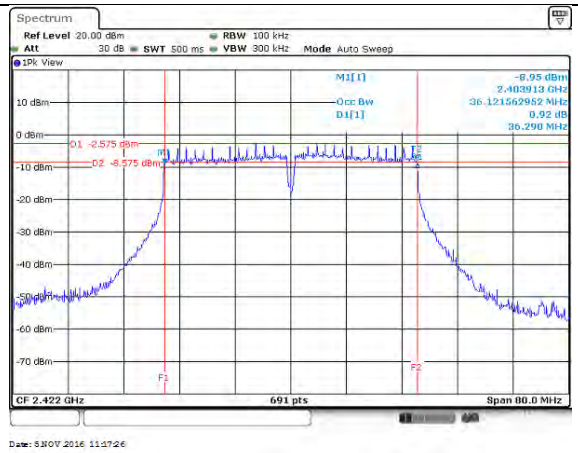
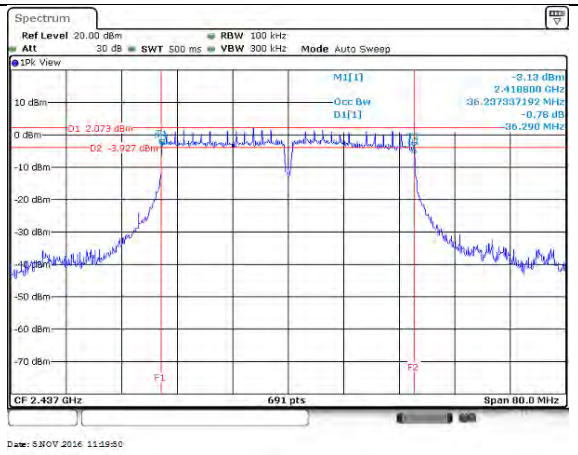
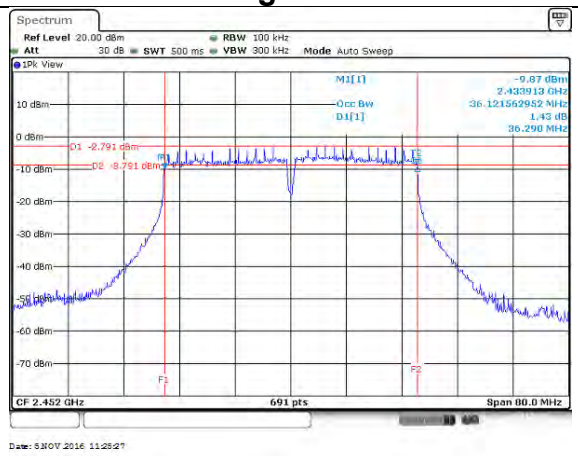
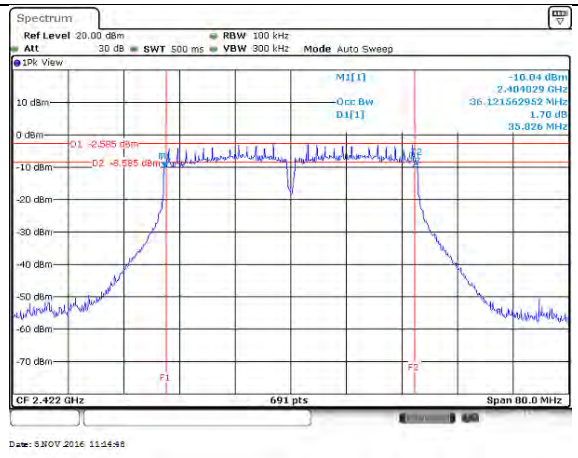
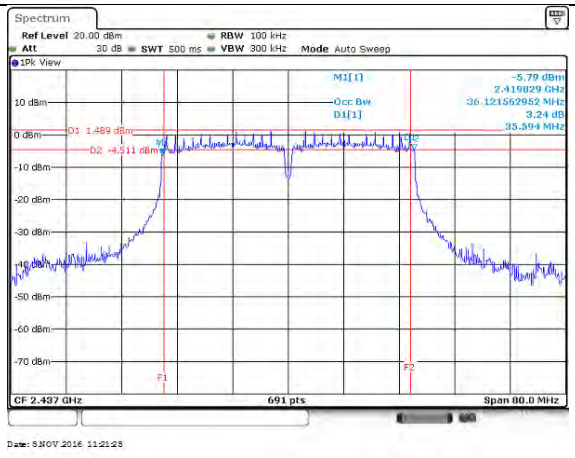
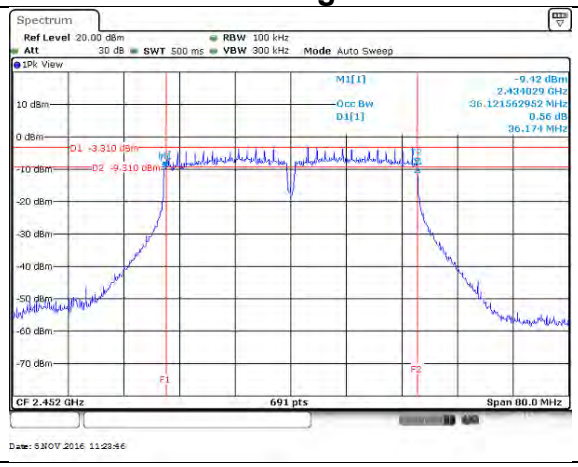
	

IEEE 802.11g mode- chain 1	
Low CH	**Mid CH**
	
High CH	
	

IEEE 802.11n HT20 mode- chain 0	
Low CH	**Mid CH**
	
High CH	
	

IEEE 802.11n HT20 mode- chain 1	
Low CH	Mid CH
	
High CH	
	

IEEE 802.11n HT40 mode- chain 0	
Low CH	**Mid CH**
	
High CH	
	

IEEE 802.11n HT40 mode- chain 1	
Low CH	**Mid CH**
	
chain 1 High CH	
	

4.3 OUTPUT POWER MEASUREMENT

4.3.1 Test Limit

According to §15.247(b),

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.

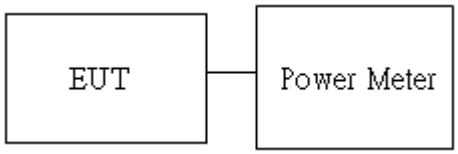
*Directional gain(DG) reference Page 5 for calculations.

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-2Tx								
Config	CH	Freq. (MHz)	PK Power(dBm)		PK Total Power (dBm)	PK Total Power (W)	DG (dBi)	Limit (dBm)
			chain0	chain1				
IEEE 802.11b Data rate: 1Mbps	Low	2412	24.22	24.25	27.25	0.5303	4.06	30
	Mid	2437	23.37	23.07	26.23	0.4200		
	High	2462	23.43	23.11	26.28	0.4249		
IEEE 802.11g Data rate: 6Mbps	Low	2412	24.34	23.44	26.92	0.4924		
	Mid	2437	25.97	26.02	29.01	0.7953		
	High	2462	23.71	23.37	26.55	0.4522		
IEEE 802.11n HT20 Data rate: MCS0	Low	2412	22.02	21.73	24.89	0.3082		
	Mid	2437	26.07	26.03	29.06	0.8054		
	High	2462	23.18	22.85	26.03	0.4007		
IEEE 802.11n HT40 Data rate: MCS0	Low	2422	21.47	21.27	24.38	0.2742		
	Mid	2437	25.16	24.62	27.91	0.6178		
	High	2452	21.57	21.15	24.38	0.2739		

Average output power：

Wifi 2.4G-2Tx					
Config	CH	Freq. (MHz)	AV Power(dBm)		AV Total Power (dBm)
			chain0	chain1	
IEEE 802.11b Data rate: 1Mbps	Low	2412	21.66	21.58	24.63
	Mid	2437	20.72	20.23	23.50
	High	2462	20.69	20.38	23.55
IEEE 802.11g Data rate: 6Mbps	Low	2412	14.10	13.15	16.66
	Mid	2437	21.37	20.92	24.16
	High	2462	13.15	12.75	15.96
IEEE 802.11n HT20 Data rate: MCS0	Low	2412	12.69	12.04	15.39
	Mid	2437	21.57	21.07	24.34
	High	2462	13.29	13.03	16.18
IEEE 802.11n HT40 Data rate: MCS0	Low	2422	11.99	11.74	14.87
	Mid	2437	16.85	15.91	19.41
	High	2452	12.10	11.66	14.89

4.4 POWER SPECTRAL DENSITY

4.4.1 Test Limit

According to §15.247(e),

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.

*Directional gain(DG) reference P5 for calculations

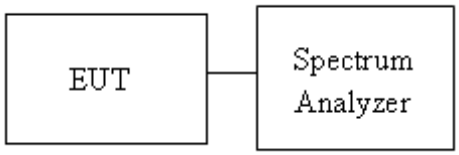
Limit	☐ Antenna not exceed 6 dBi：8dBm ☒ Antenna with DG greater than 6 dBi：6.93dBm [Limit = 8 – (DG – 6) = 8-1.07 = 6.93, DG = 7.07] ☐ Point-to-point operation：

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

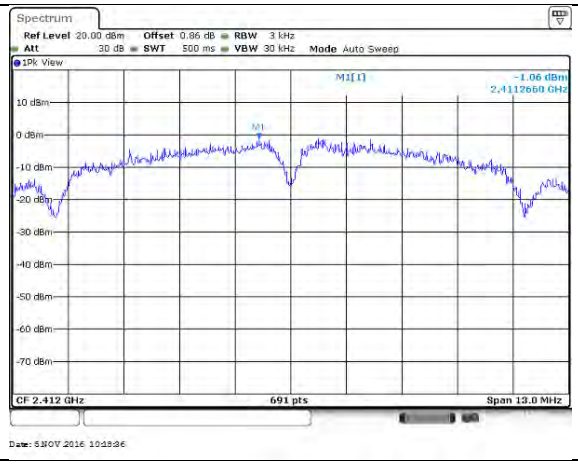
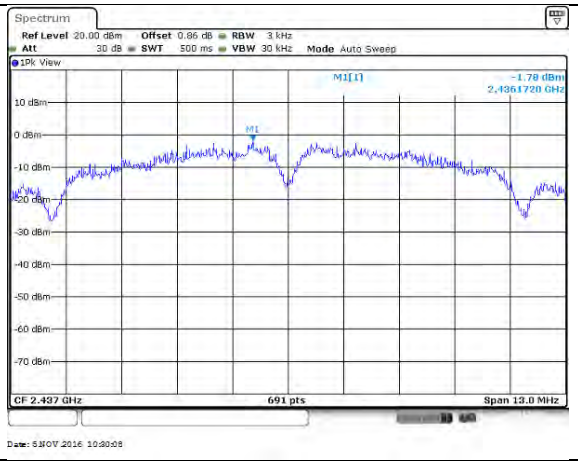
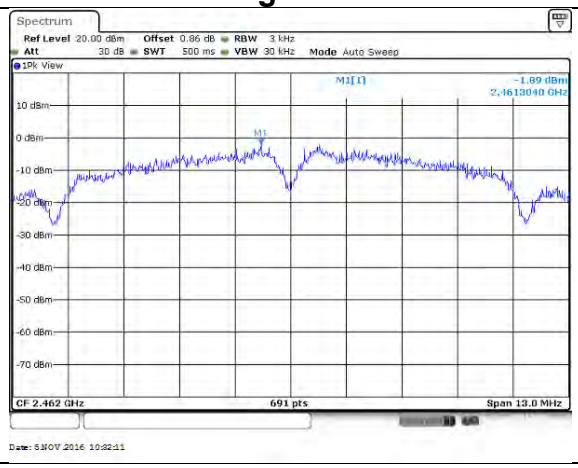
Test mode: IEEE 802.11b mode / 2412-2462 MHz					
Channel	**Frequency (MHz)**	**Chain 0 PPSD (dBm)**	**Chain 1 PPSD (dBm)**	**Total PSSD (dBm)**	**limit (dBm)**
Low	2412	-1.06	-2.39	1.34	6.93
Mid	2437	-1.78	-2.62	0.83	
High	2462	-1.89	-1.91	1.11	

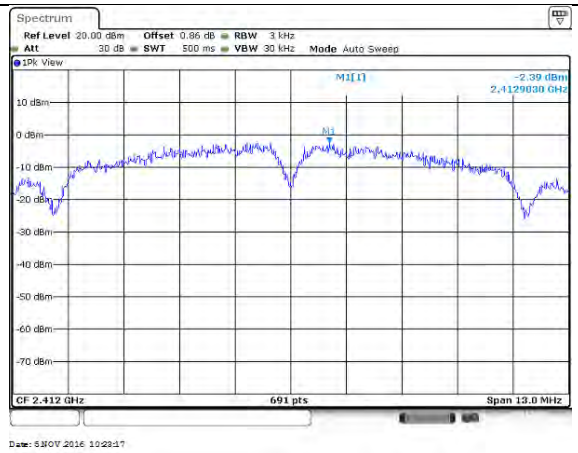
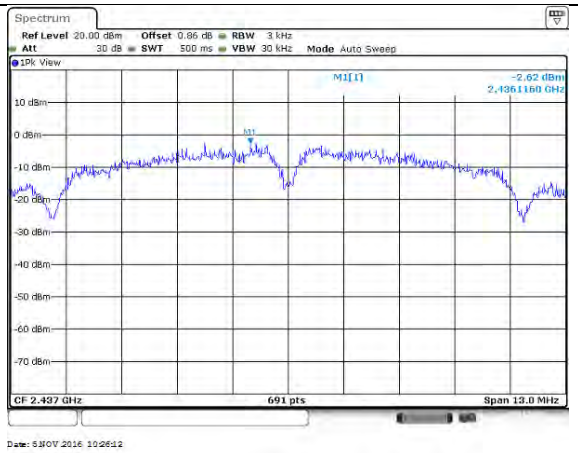
Test mode: IEEE 802.11g mode / 2412-2462 MHz					
Channel	**Frequency (MHz)**	**Chain 0 PPSD (dBm)**	**Chain 1 PPSD (dBm)**	**Total PSSD (dBm)**	**limit (dBm)**
Low	2412	-11.15	-11.66	-8.39	6.93
Mid	2437	-4.45	2.97	3.69	
High	2462	-11.81	-3.44	-2.85	

Test mode: IEEE 802.11n HT 20 MHz mode / 2412-2462 MHz					
Channel	**Frequency (MHz)**	**Chain 0 PPSD (dBm)**	**Chain 1 PPSD (dBm)**	**Total PSSD (dBm)**	**limit (dBm)**
Low	2412	-12.86	-14.18	-10.46	6.93
Mid	2437	-3.71	-2.78	-0.21	
High	2462	-10.53	-12.84	-8.52	

Test mode: IEEE 802.11n HT 40 MHz mode / 2422-2452 MHz					
Channel	**Frequency (MHz)**	**Chain 0 PPSD (dBm)**	**Chain 1 PPSD (dBm)**	**Total PSSD (dBm)**	**limit (dBm)**
Low	2422	-14.31	-14.64	-11.46	6.93
Mid	2437	-9.82	-10.83	-7.29	
High	2452	-14.7	-14.82	-11.75	

Test Data

IEEE 802.11b mode- chain 0	
Low CH	**Mid CH**
	
High CH	
	

IEEE 802.11b mode- chain 1	
Low CH	**Mid CH**
	
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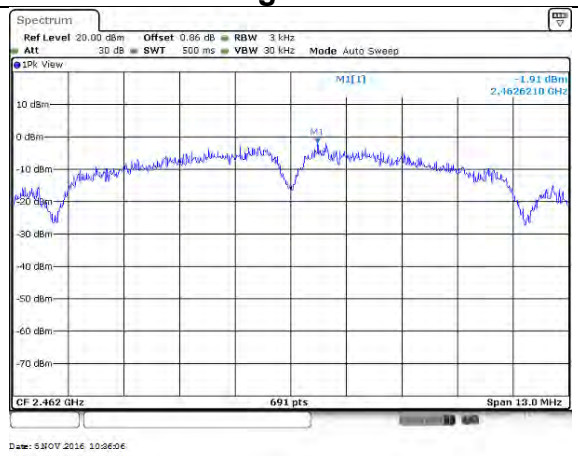
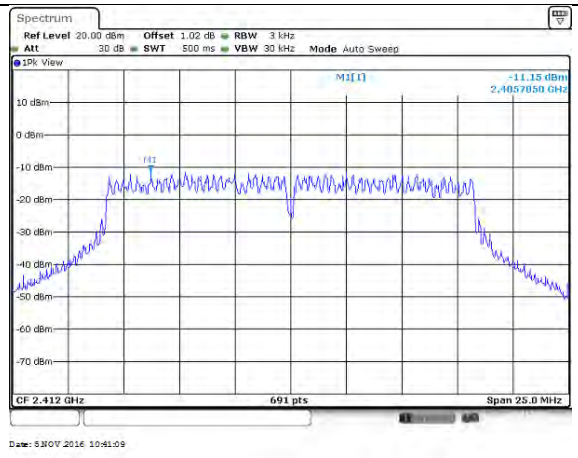
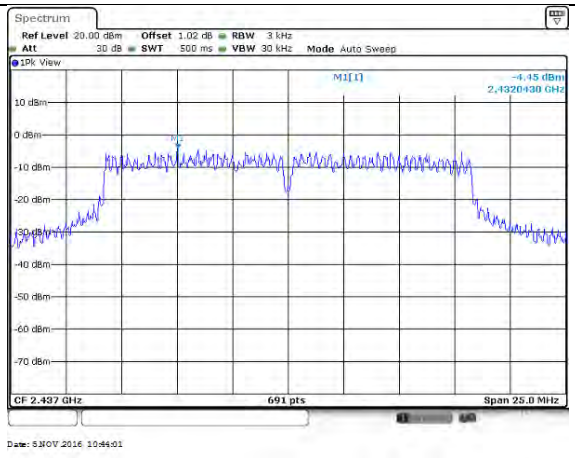
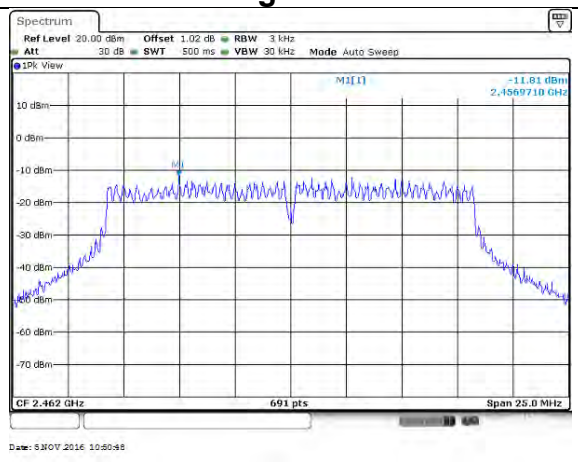
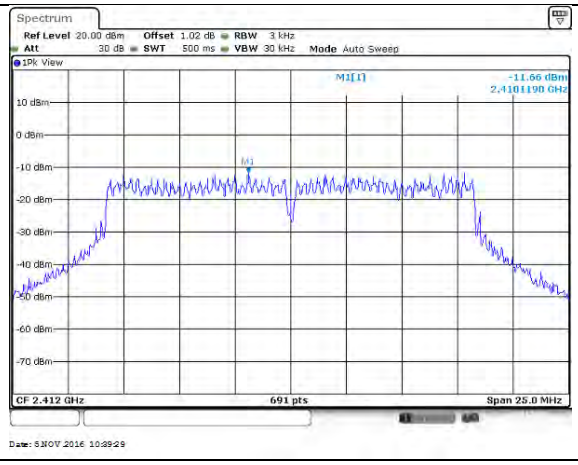
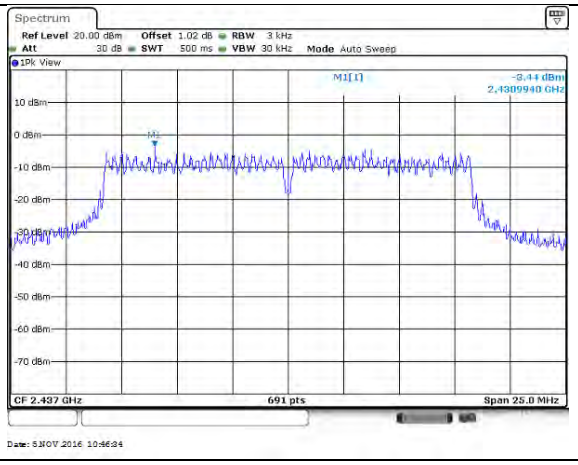
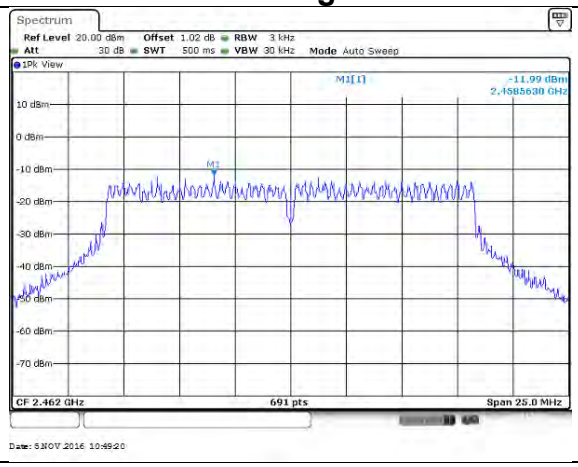
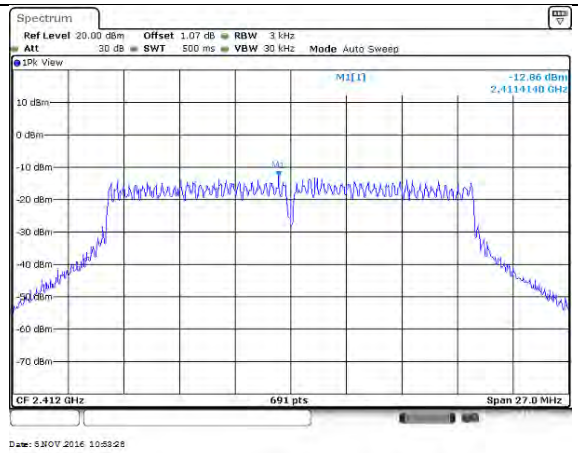
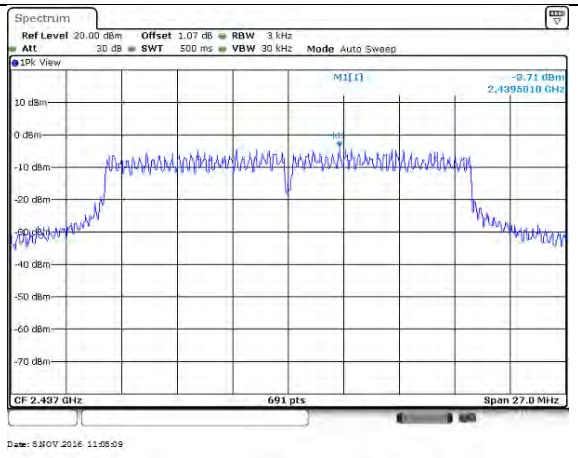
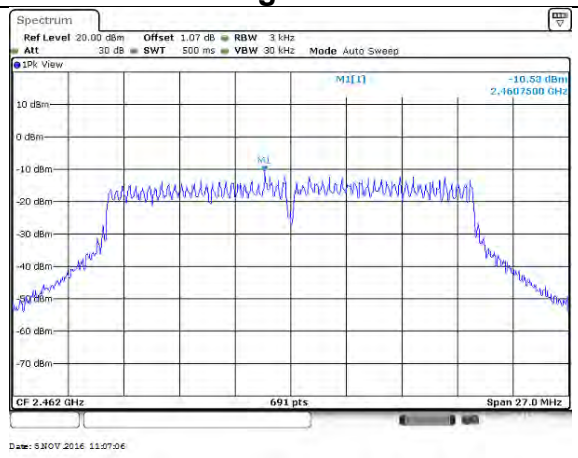
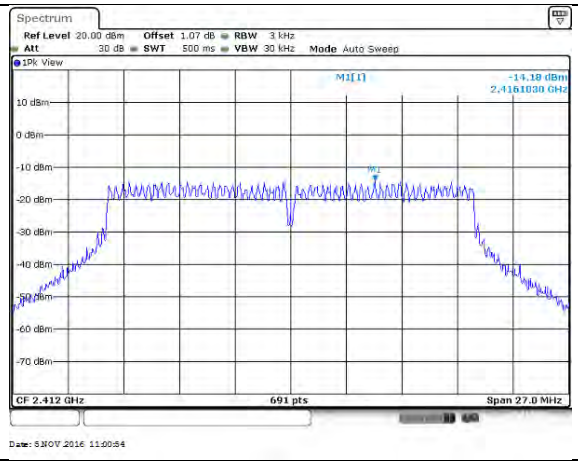
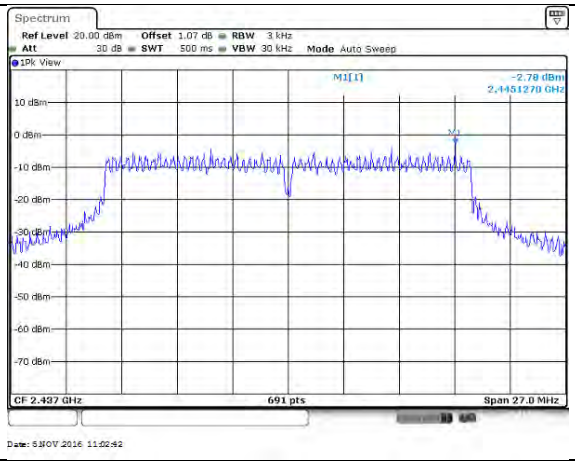
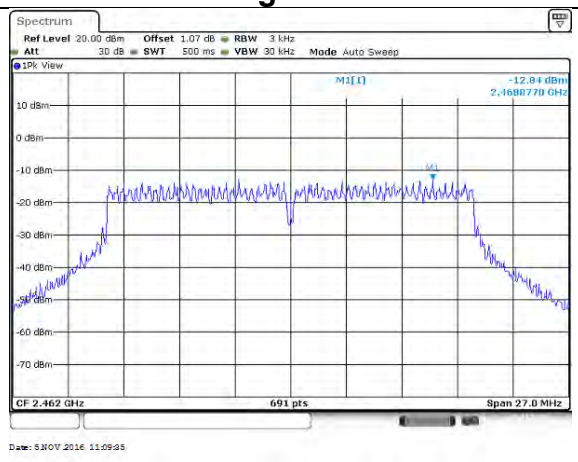
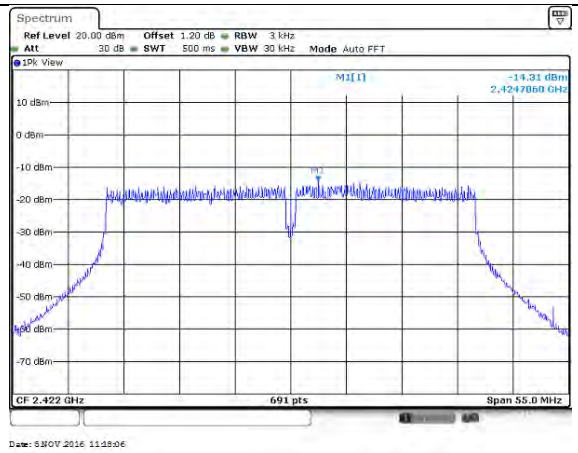
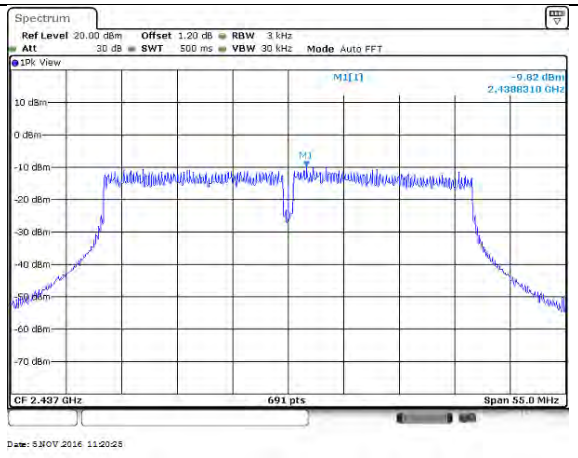
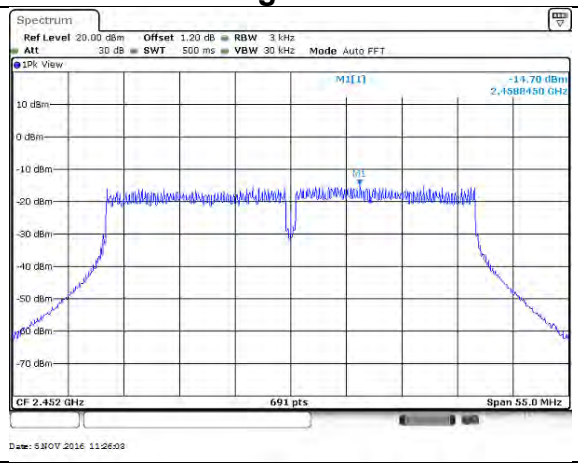
	

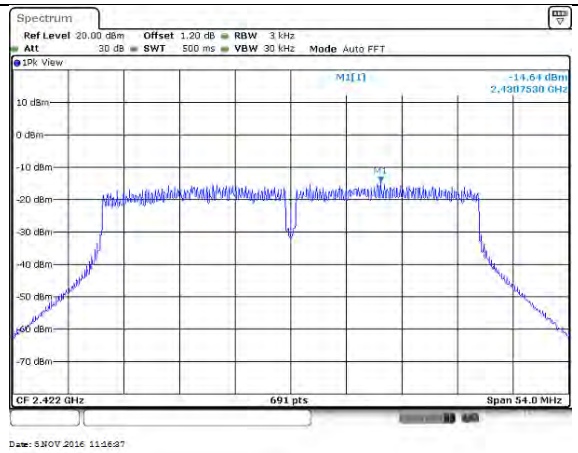
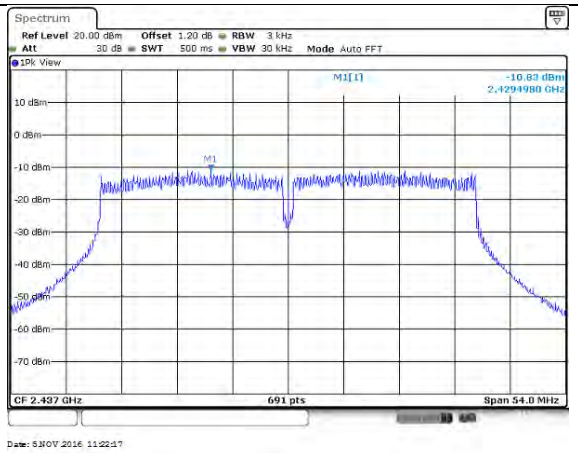
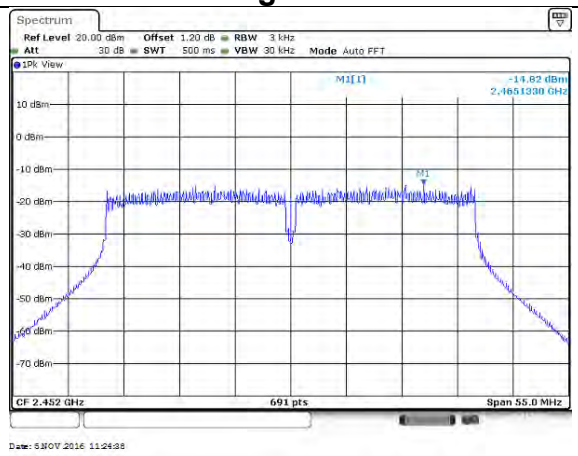
IEEE 802.11g mode- chain 0	
Low CH	**Mid CH**
	
High CH	
	

IEEE 802.11g mode-chain 1	
Low CH	**Mid CH**
	
chain 1 High CH	
	

IEEE 802.11n HT20 mode- chain 0	
Low CH	**Mid CH**
	
High CH	
	

IEEE 802.11n HT20 mode-chain 1	
Low CH	**Mid CH**
	
High CH	
	

IEEE 802.11n HT40 mode-chain 0	
Low CH	**Mid CH**
	
High CH	
	

IEEE 802.11n HT40 mode-chain 1	
Low CH	**Mid CH**
	
High CH	
	

4.5 CONDUCTED BANDEDGE AND SPURIOUS EMISSION

4.5.1 Test Limit

According to §15.247(d),

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

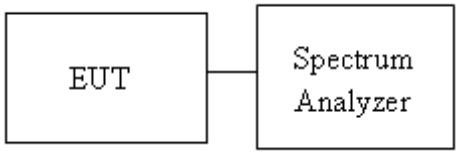
Test method Refer as KDB 558074 D01 v03r05, Section 11.

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.

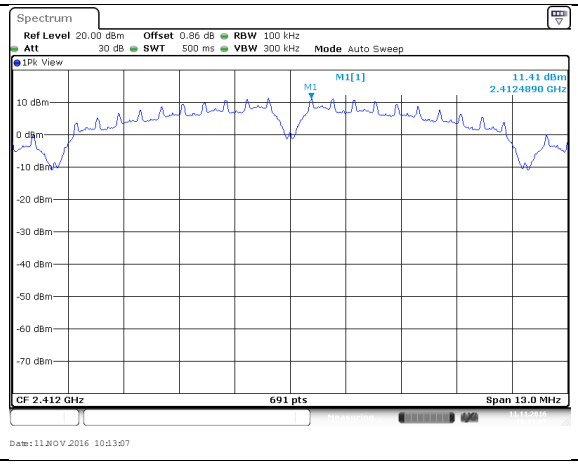
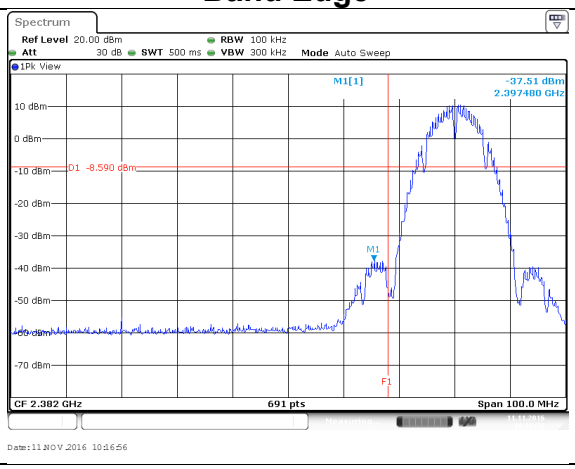
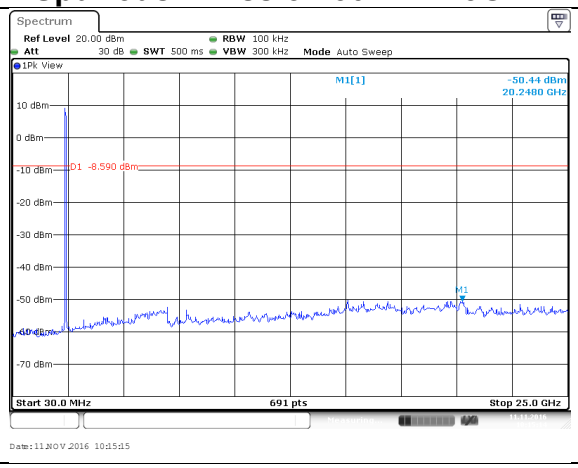
3. In any 100 kHz bandwidth outside the authorized frequency band, shall be attenuated at least 20 dB relative to the maximum in-band peak PSD level in 100 kHz when conducted power procedure is used. f the transmitter complies with the conducted power limits based on the use of RMS averaging over a time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

4.5.3 Test Setup



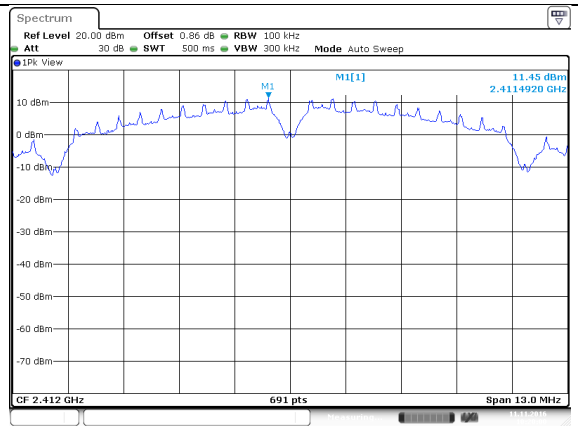
4.5.4 Test Result

Test Data

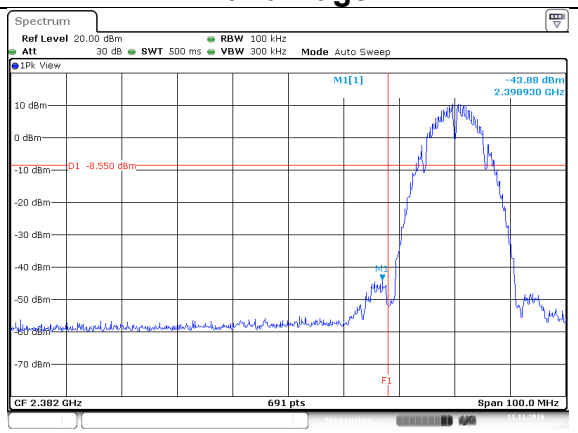
IEEE 802.11b mode Low CH chain 0	
Reference Level of PSD in 100kHz	Band Edge
	
Spurious Emission 30MHz-25GHz	
	

IEEE 802.11b mode Low CH chain 1

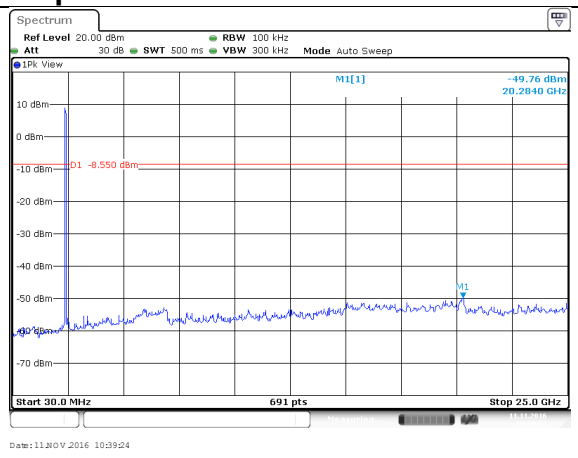
Reference Level of PSD in 100kHz

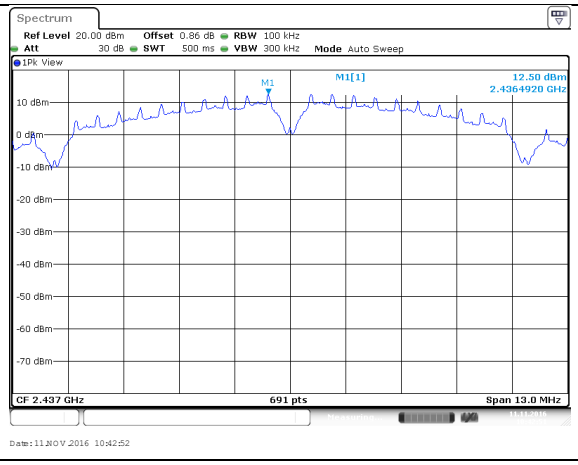
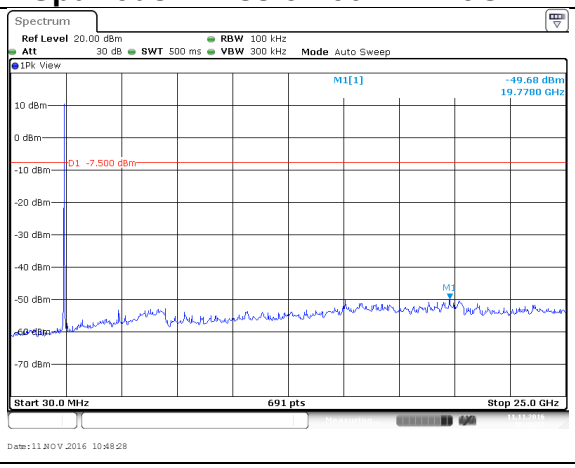


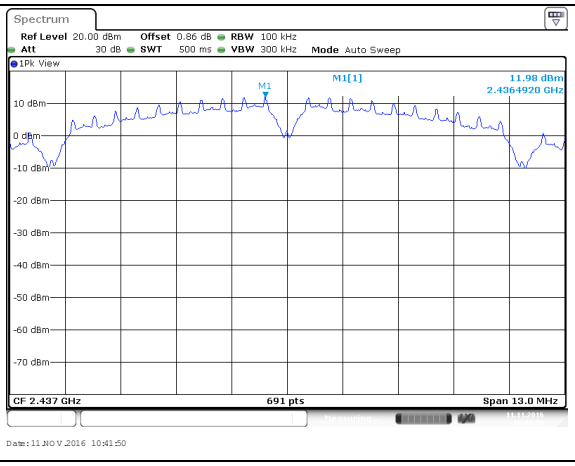
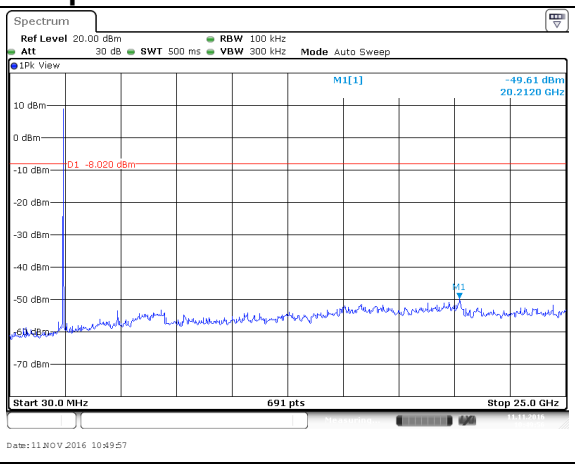
Band Edge



Spurious Emission 30MHz-25GHz

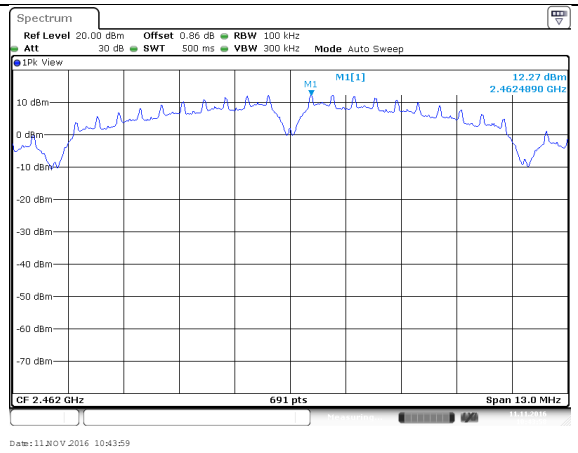


IEEE 802.11b mode Mid CH chain 0	
Reference Level of PSD in 100kHz	**Spurious Emission 30MHz-25GHz**
	

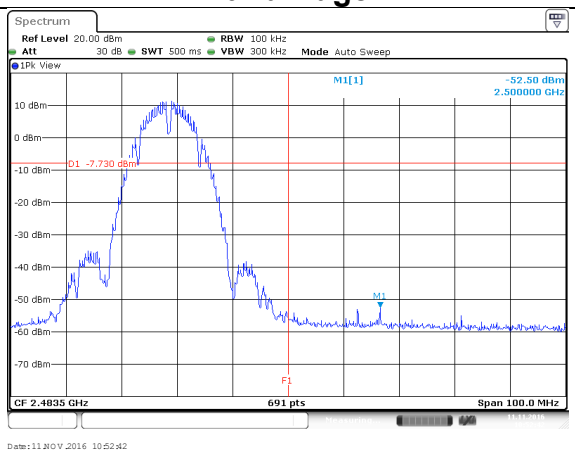
IEEE 802.11b mode Mid CH chain 1	
Reference Level of PSD in 100kHz	**Spurious Emission 30MHz-25GHz**
	

IEEE 802.11b mode High CH chain 0

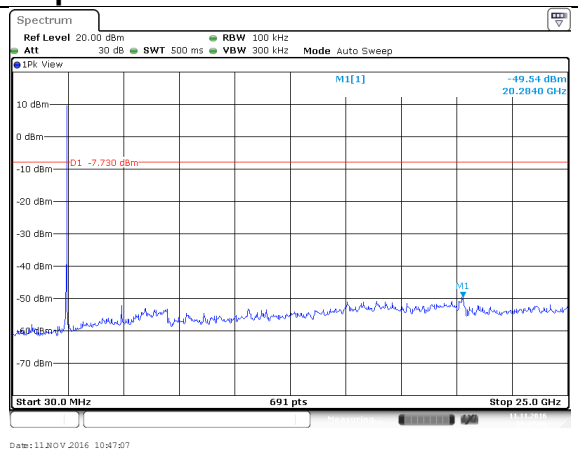
Reference Level of PSD in 100kHz



Band Edge

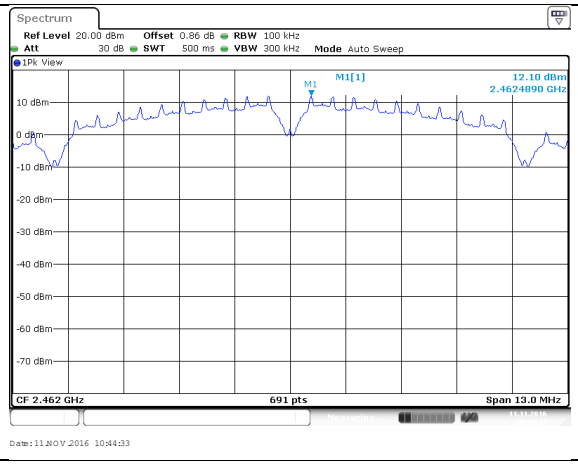


Spurious Emission 30MHz-25GHz

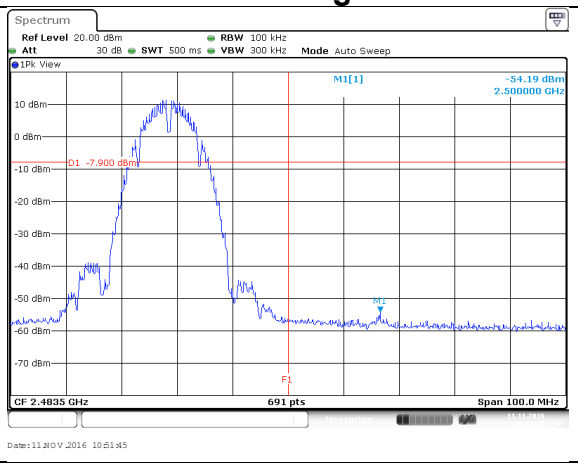


IEEE 802.11b mode High CH chain 1

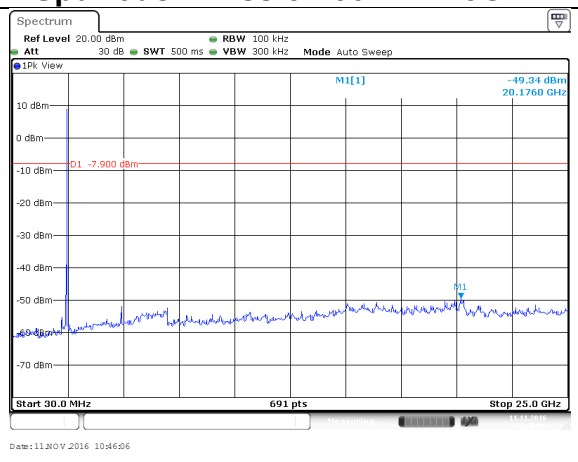
Reference Level of PSD in 100kHz



Band Edge

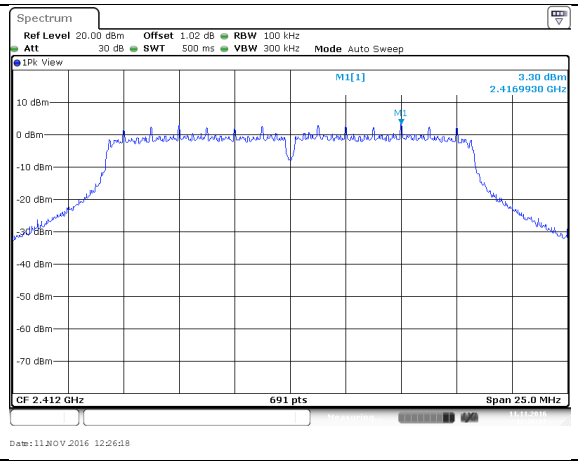


Spurious Emission 30MHz-25GHz

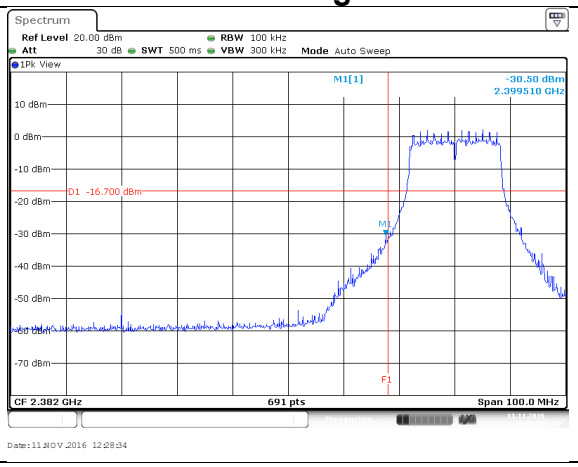


IEEE 802.11g mode Low CH chain 0

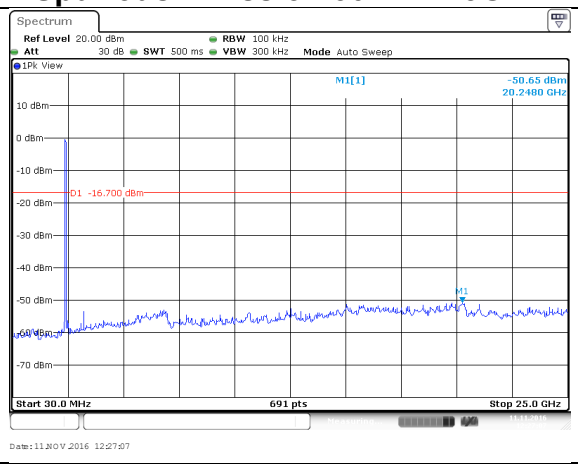
Reference Level of PSD in 100kHz



Band Edge

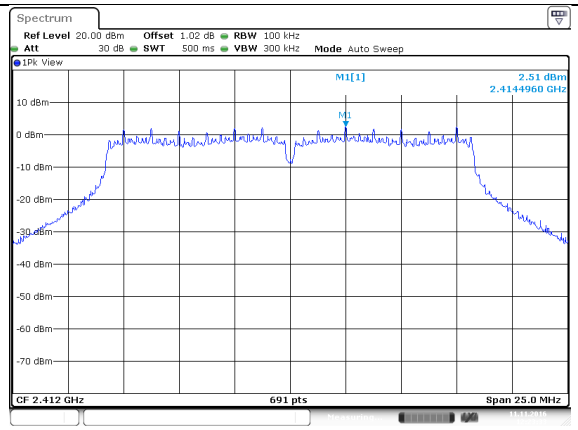


Spurious Emission 30MHz-25GHz

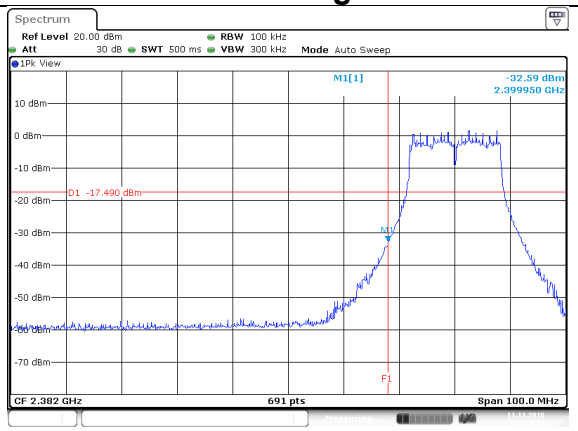


IEEE 802.11g mode Low CH chain 1

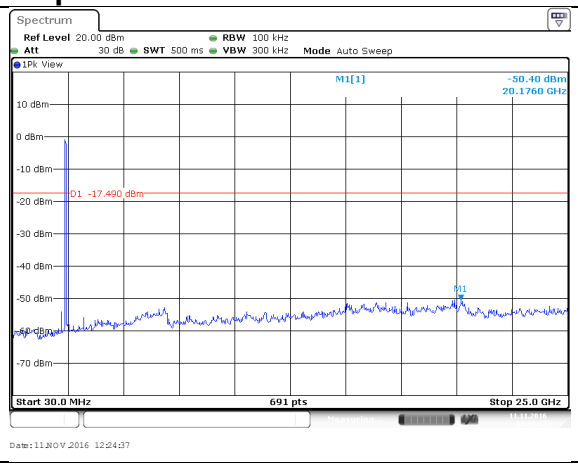
Reference Level of PSD in 100kHz

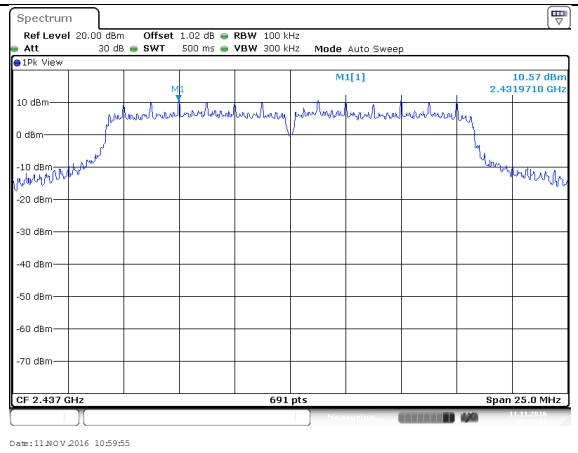
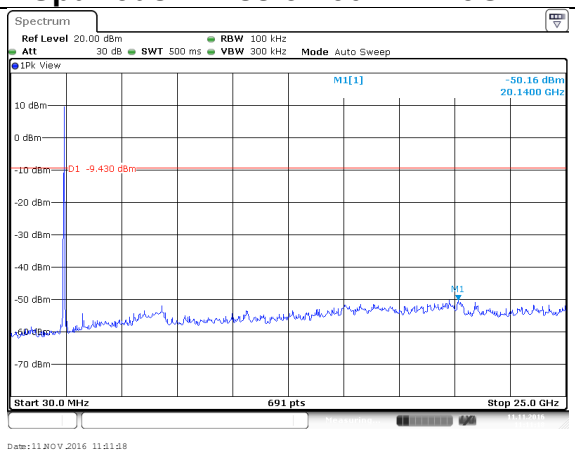


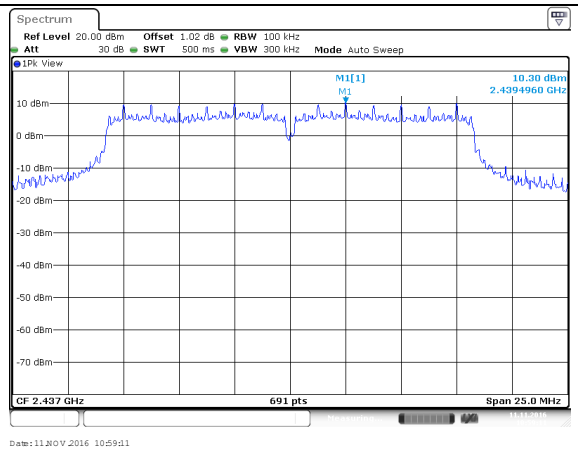
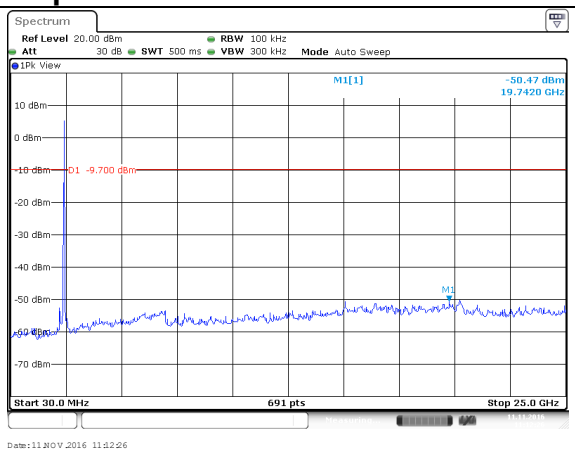
Band Edge



Spurious Emission 30MHz-25GHz

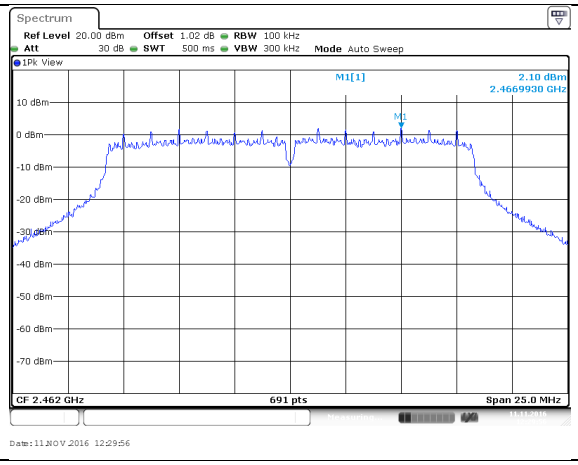


IEEE 802.11g mode Mid CH chain 0	
Reference Level of PSD in 100kHz	Spurious Emission 30MHz-25GHz
	

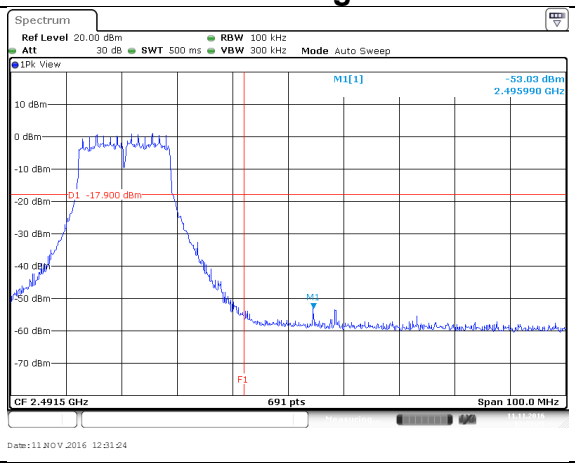
IEEE 802.11g mode Mid CH chain 1	
Reference Level of PSD in 100kHz	Spurious Emission 30MHz-25GHz
	

IEEE 802.11g mode High CH chain 0

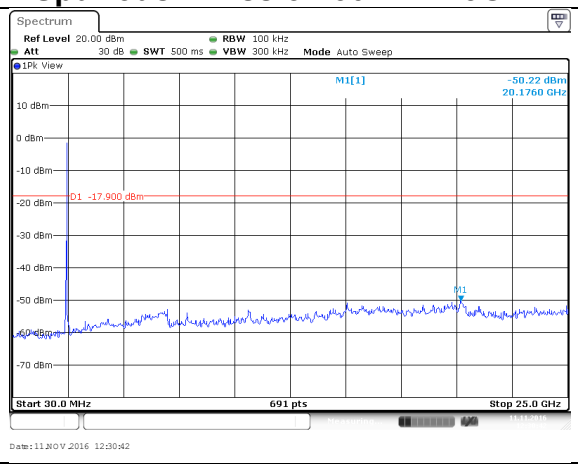
Reference Level of PSD in 100kHz



Band Edge

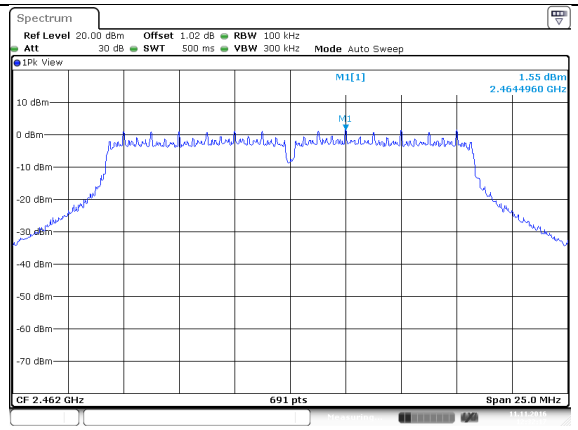


Spurious Emission 30MHz-25GHz

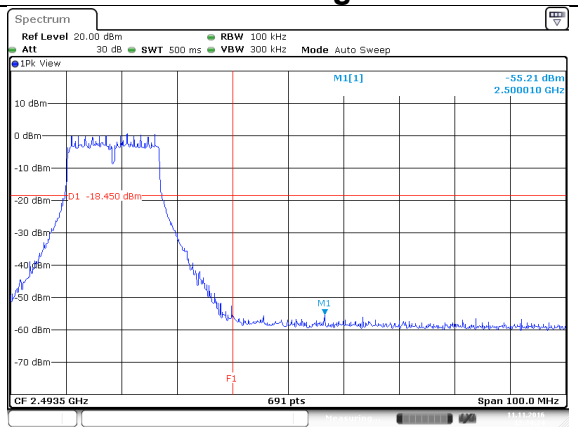


IEEE 802.11g mode High CH chain 1

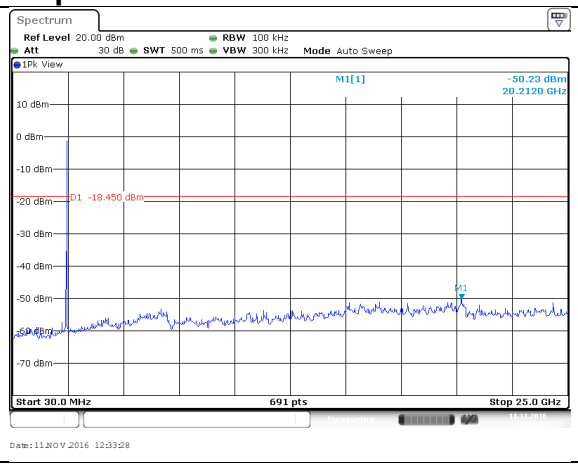
Reference Level of PSD in 100kHz



Band Edge

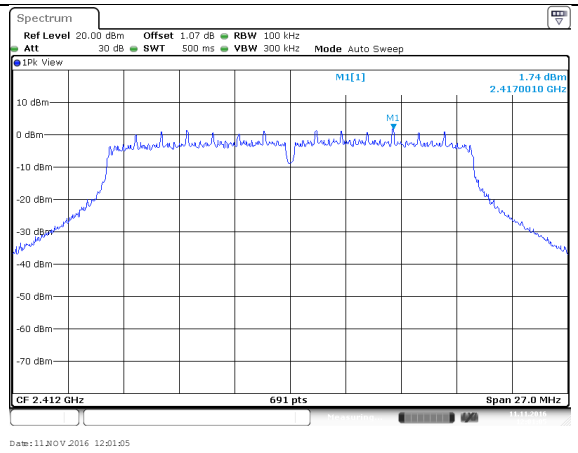


Spurious Emission 30MHz-25GHz

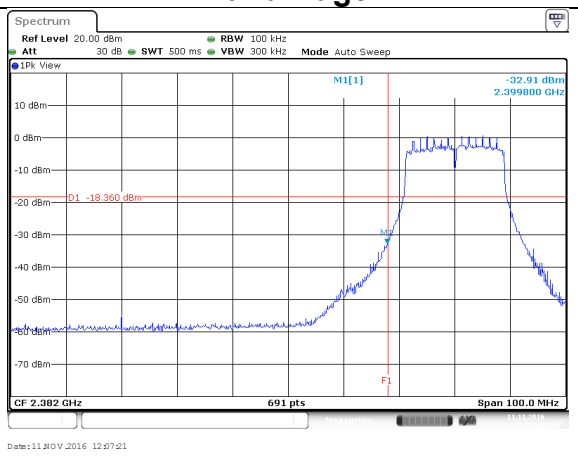


IEEE 802.11 n HT20 mode Low CH chain 0

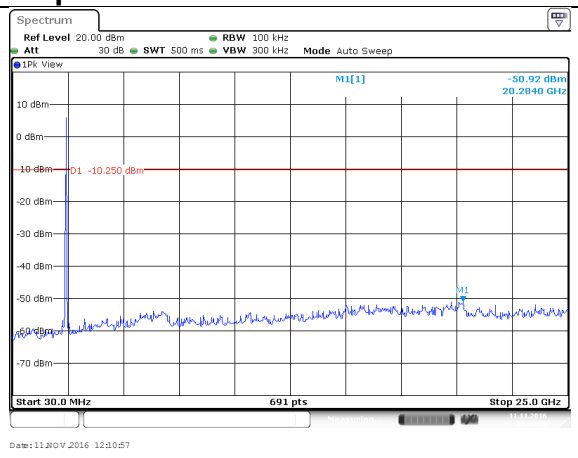
Reference Level of PSD in 100kHz



Band Edge

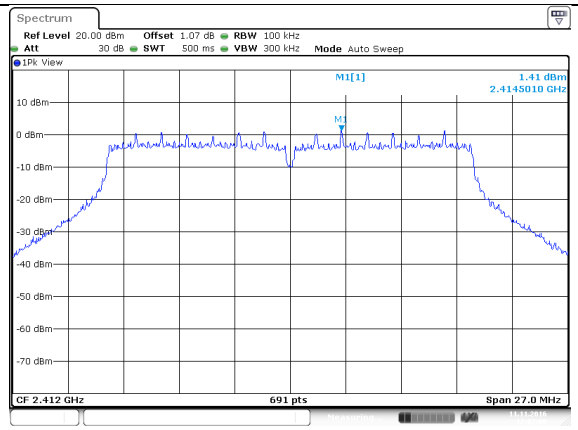


Spurious Emission 30MHz-25GHz

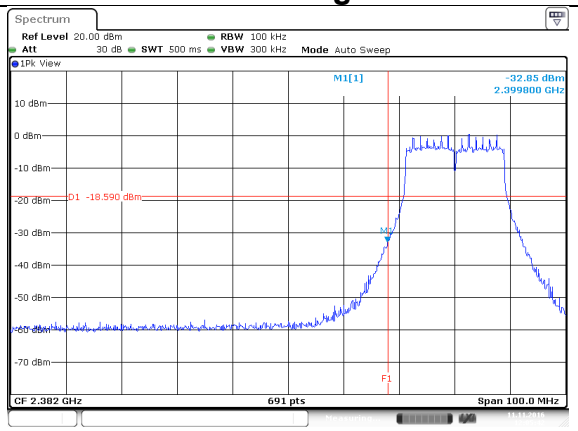


IEEE 802.11 n HT20 mode Low CH chain 1

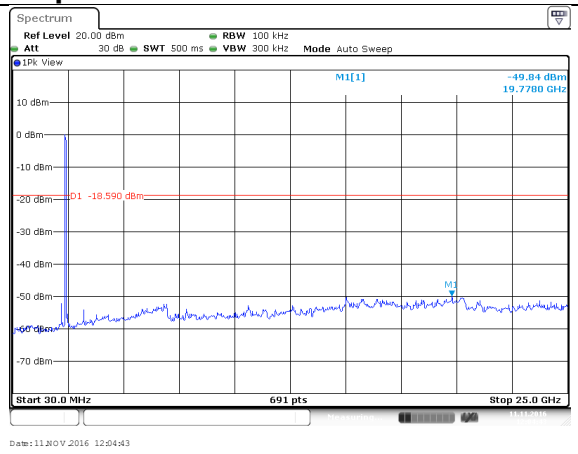
Reference Level of PSD in 100kHz

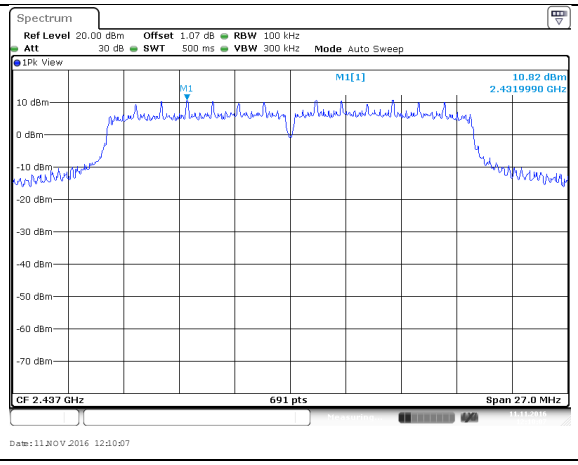
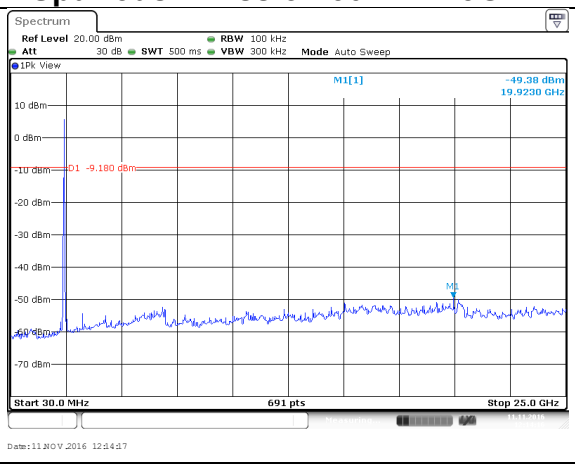


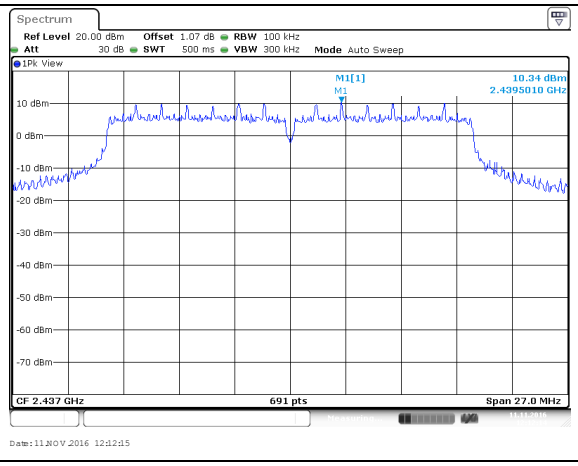
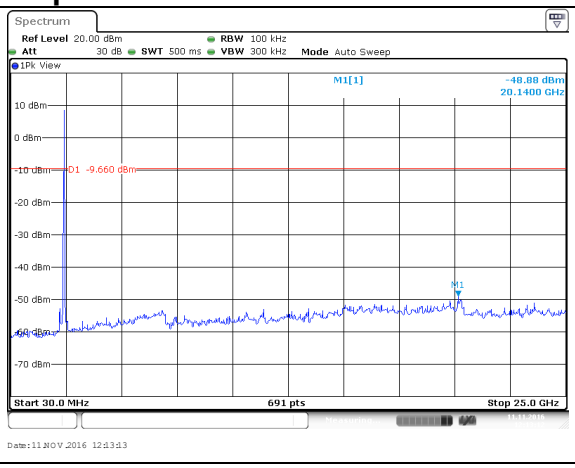
Band Edge



Spurious Emission 30MHz-25GHz

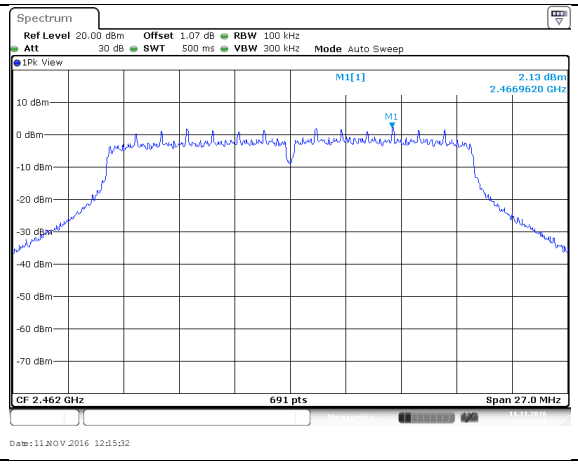


IEEE 802.11 n HT20 mode Mid CH chain 0	
Reference Level of PSD in 100kHz	**Spurious Emission 30MHz-25GHz**
	

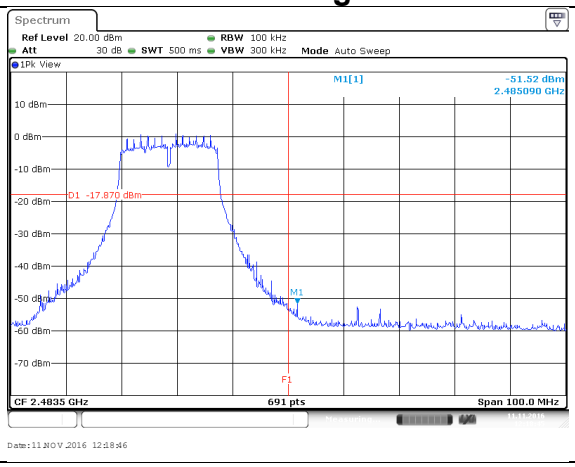
IEEE 802.11 n HT20 mode Mid CH chain 1	
Reference Level of PSD in 100kHz	**Spurious Emission 30MHz-25GHz**
	

IEEE 802.11n HT20 mode High CH chain 0

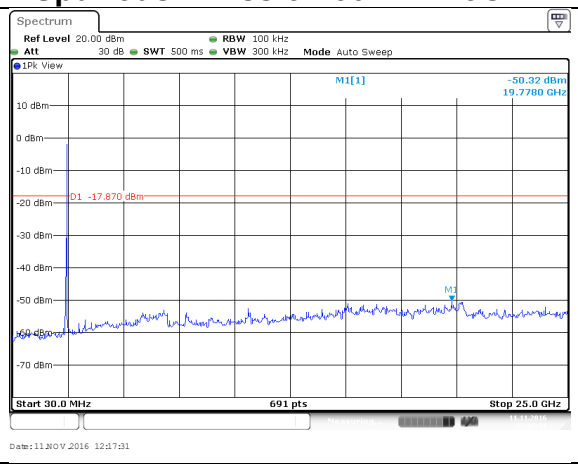
Reference Level of PSD in 100kHz



Band Edge

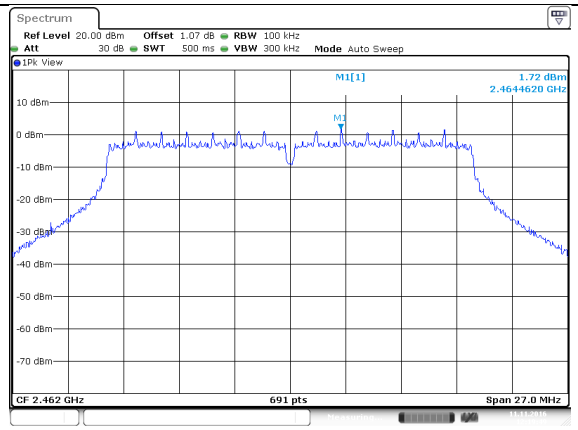


Spurious Emission 30MHz-25GHz

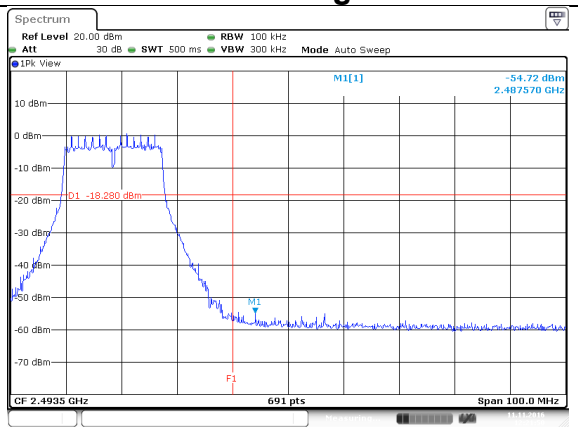


IEEE 802.11n HT20 mode High CH chain 1

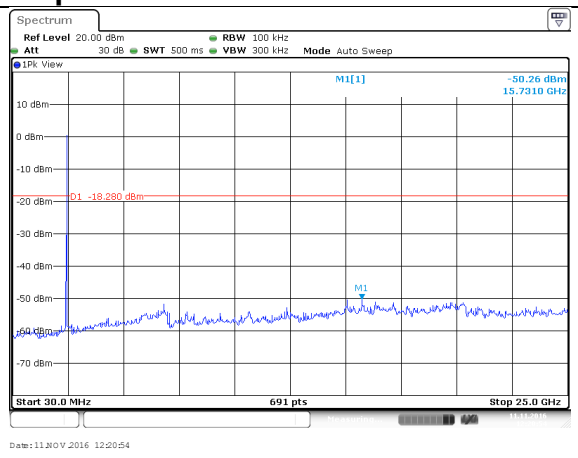
Reference Level of PSD in 100kHz



Band Edge

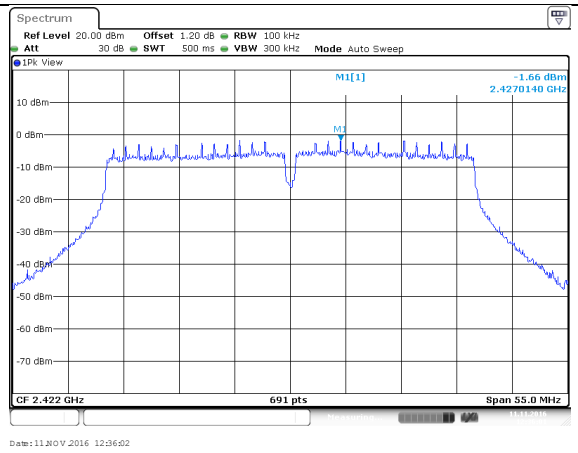


Spurious Emission 30MHz-25GHz

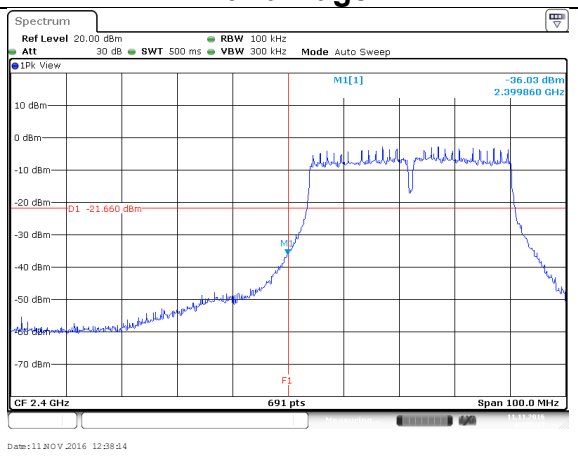


IEEE 802.11 n HT40 mode Low CH chain 0

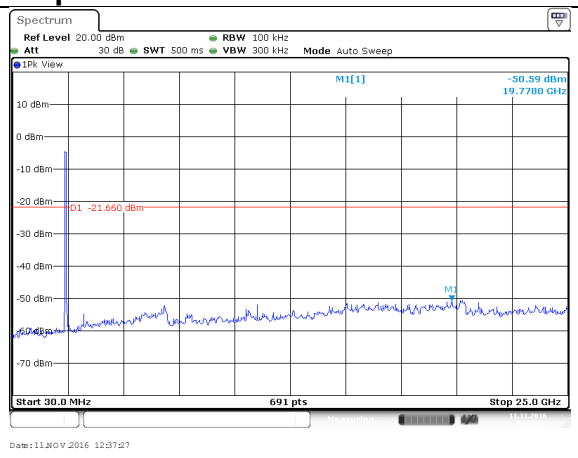
Reference Level of PSD in 100kHz



Band Edge

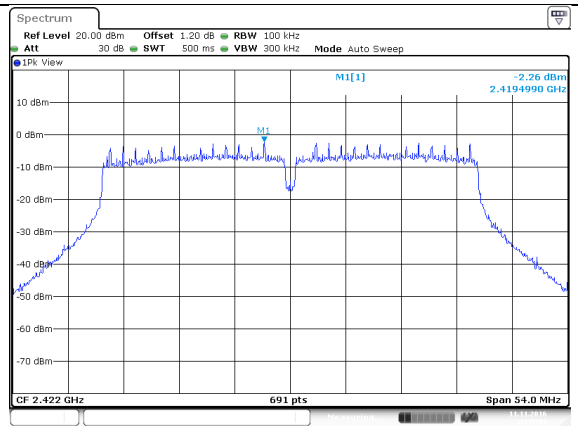


Spurious Emission 30MHz-25GHz

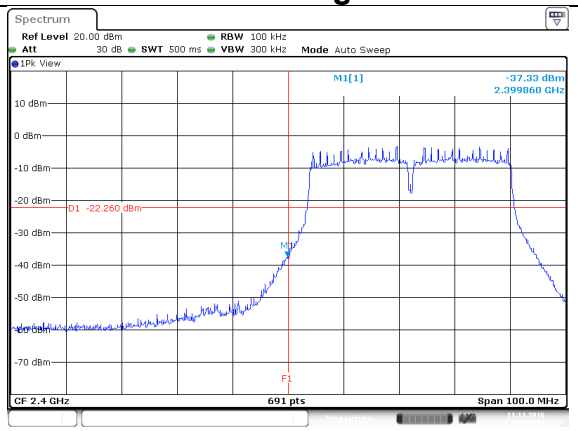


IEEE 802.11 n HT40 mode Low CH chain 1

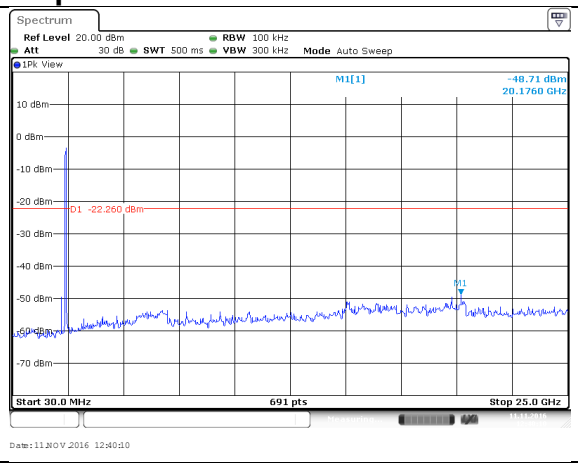
Reference Level of PSD in 100kHz

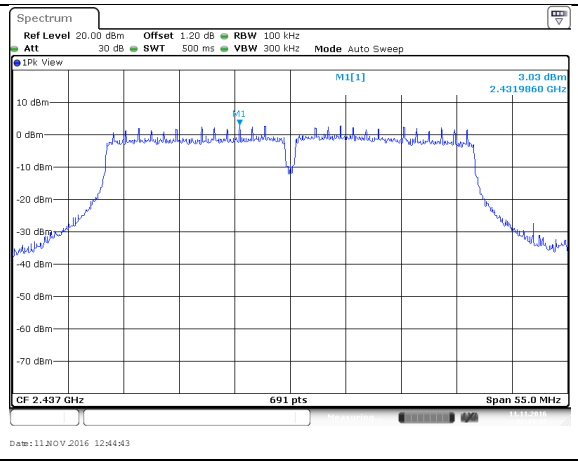
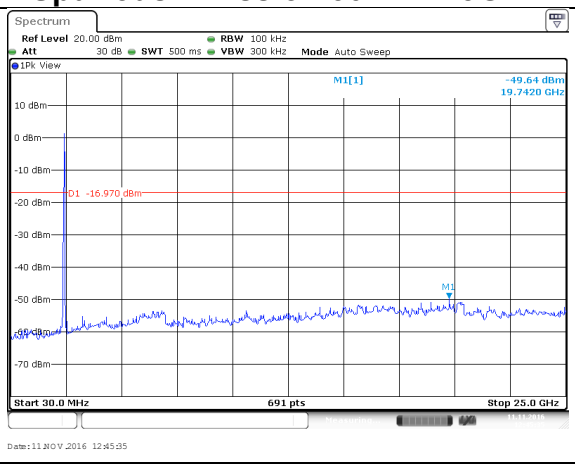


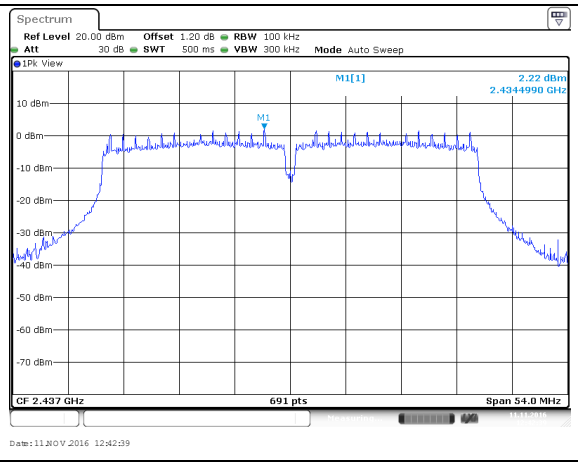
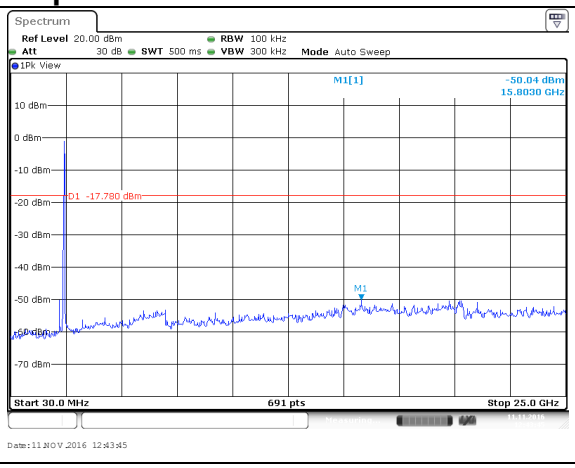
Band Edge



Spurious Emission 30MHz-25GHz

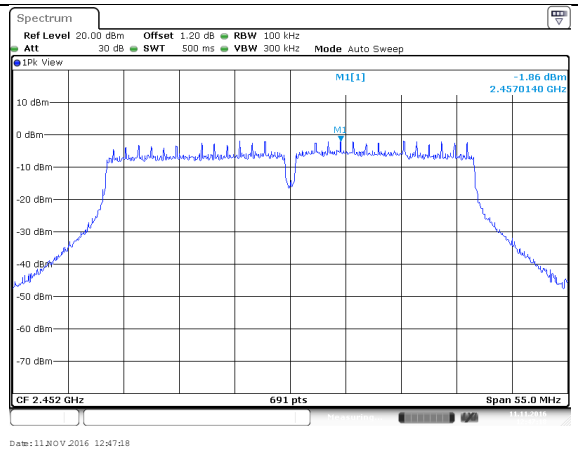


IEEE 802.11 n HT40 mode Mid CH chain 0	
Reference Level of PSD in 100kHz	**Spurious Emission 30MHz-25GHz**
	

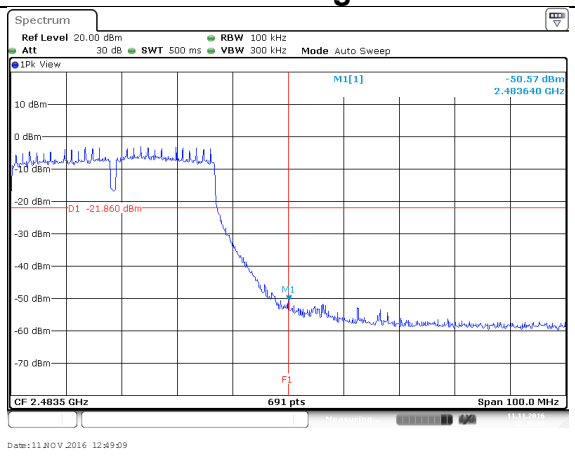
IEEE 802.11 n HT40 mode Mid CH chain 1	
Reference Level of PSD in 100kHz	**Spurious Emission 30MHz-25GHz**
	

IEEE 802.11n HT40 mode High CH chain 0

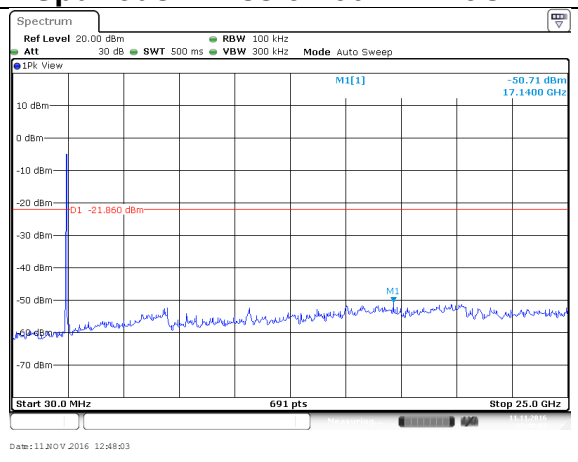
Reference Level of PSD in 100kHz



Band Edge

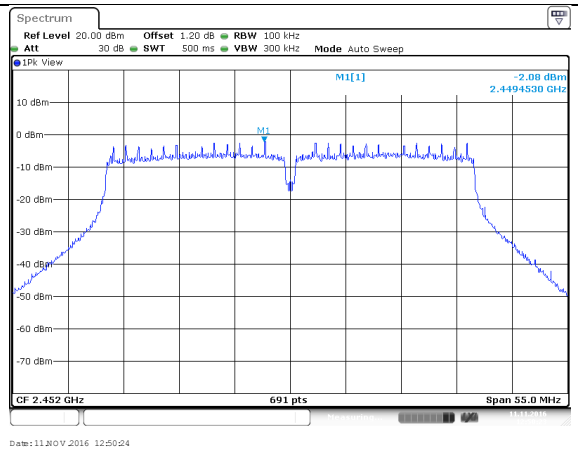


Spurious Emission 30MHz-25GHz

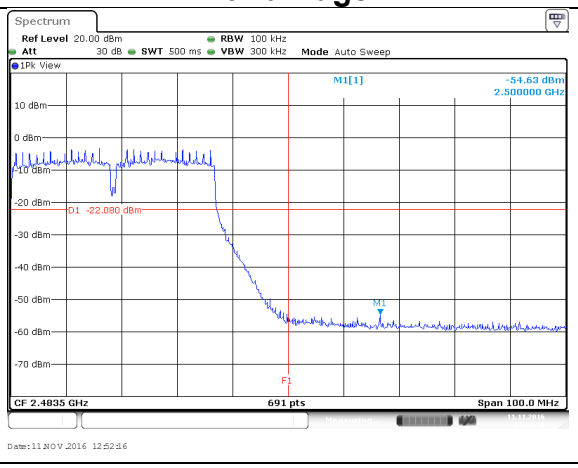


IEEE 802.11n HT40 mode High CH chain 1

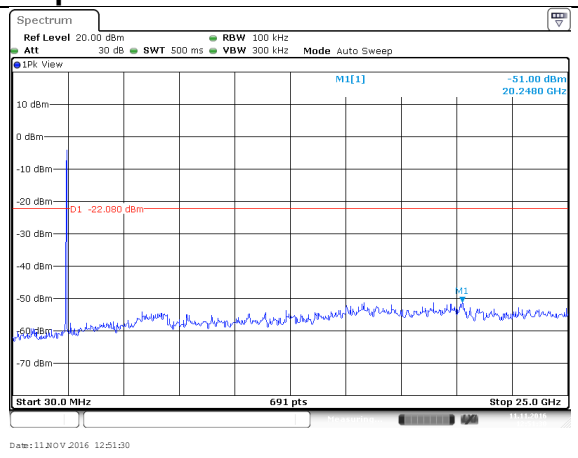
Reference Level of PSD in 100kHz



Band Edge



Spurious Emission 30MHz-25GHz



4.6 RADIATION BANDEDGE AND SPURIOUS EMISSION

4.6.1 Test Limit

According to §15.247(d), §15.209 and §15.205,

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 in 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.

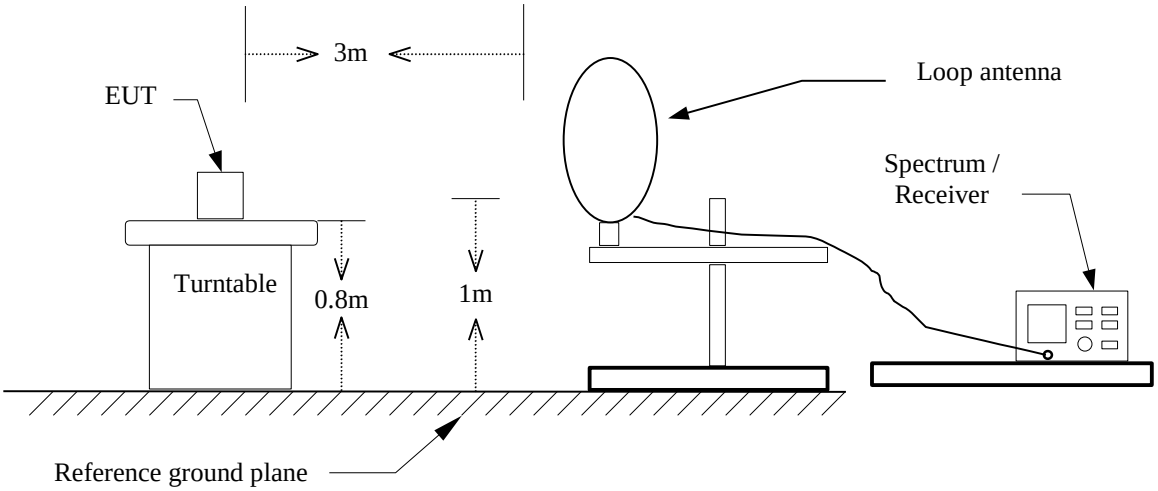
(2.2) For Average measurement：RBW = 1MHz, VBW

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

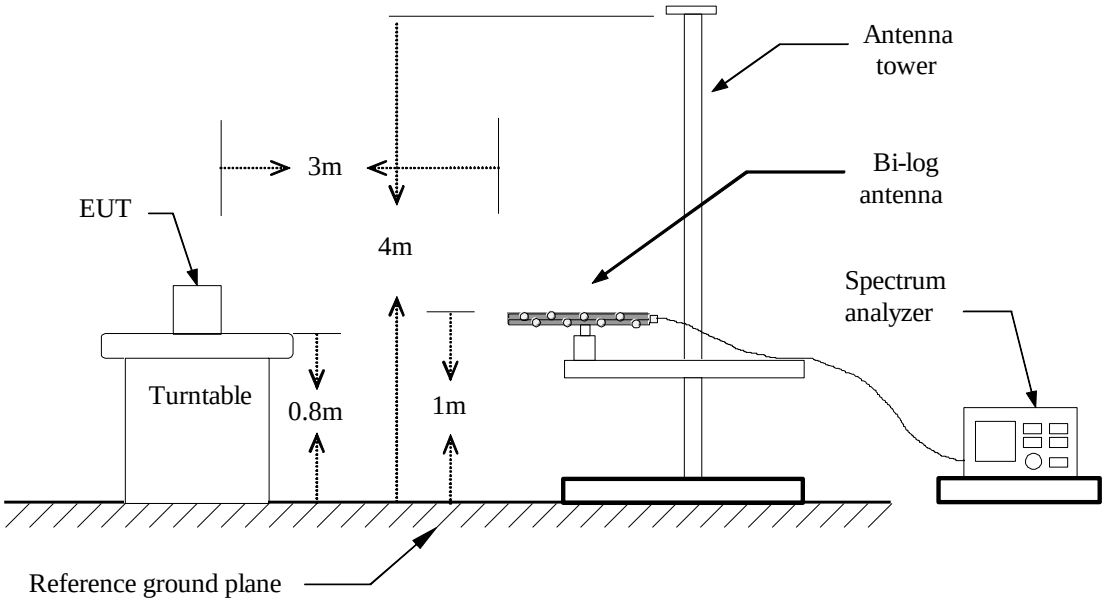
Configuration	Duty Cycle (%)	VBW
802.11b	99.43%	10Hz
802.11g	97.97%	10Hz
802.11n HT20	94.44%	750Hz
802.11n HT40	90.67%	1.5kHz

4.6.3 Test Setup

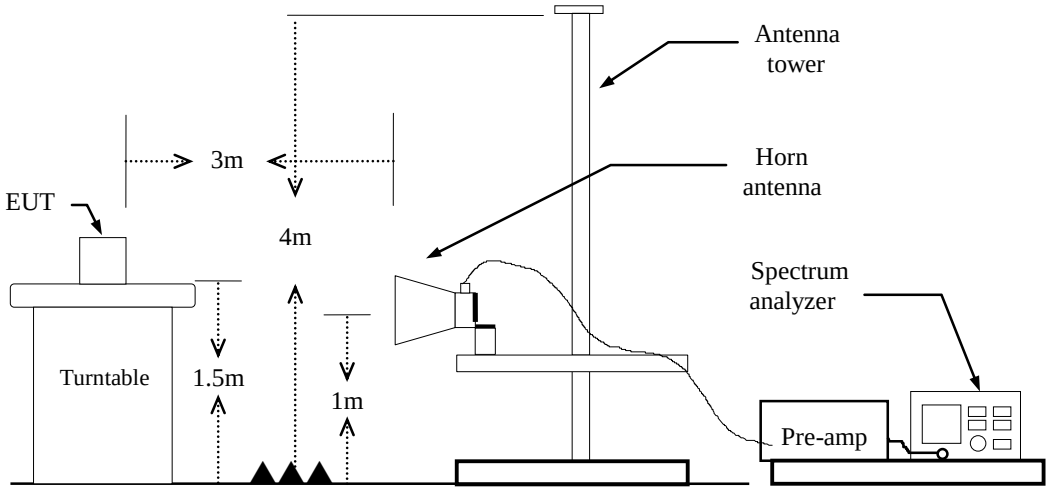
9kHz ~ 30MHz



30MHz ~ 1GHz



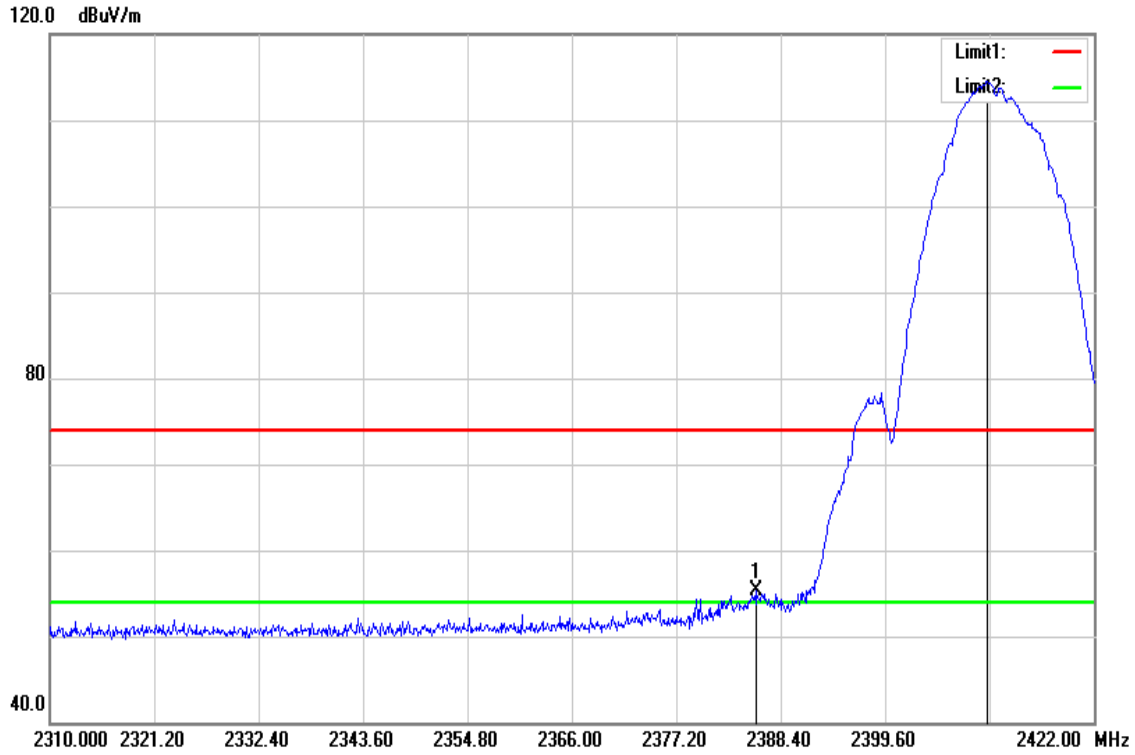
Above 1 GHz



4.6.4 Test Result

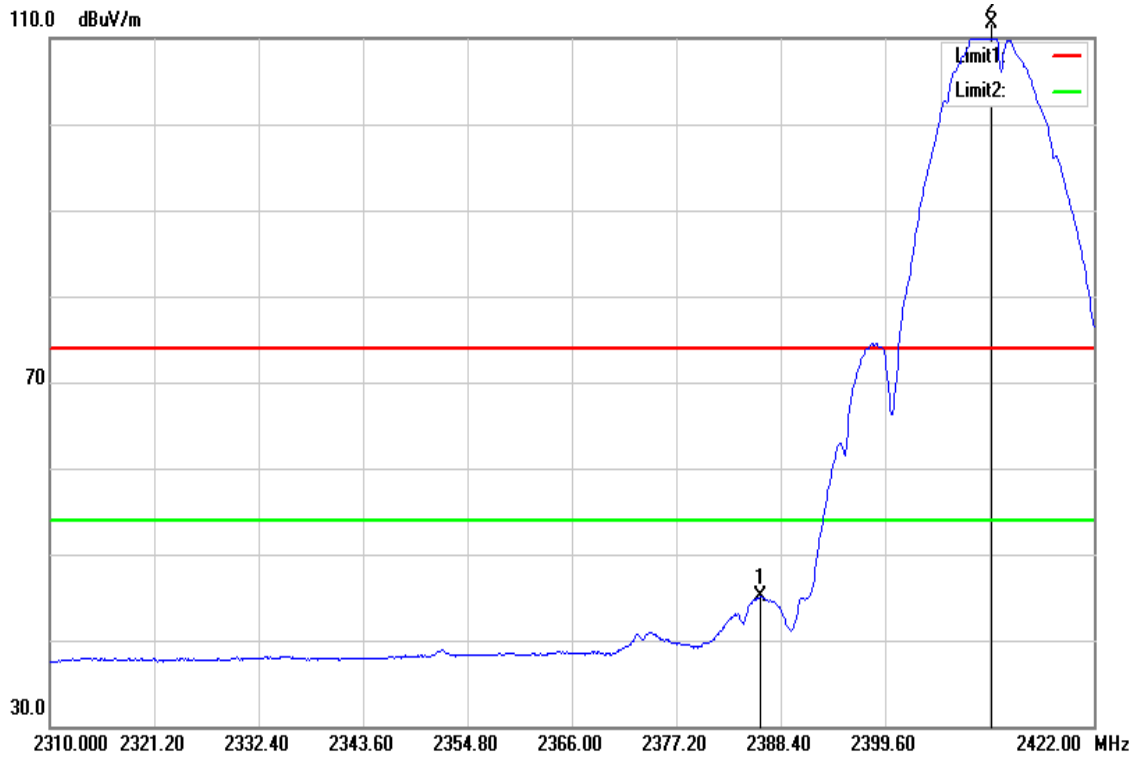
Band Edge Test Data

Test Mode	IEEE 802.11b Low CH	Temp/Hum	27(℃)/ 53%RH
Test Item	Band Edge	Test Date	Nov 08, 2016
Polarize	Horizontal	Test Engineer	Dennis Li
Detector	Peak	Test Voltage	120Vac / 60Hz



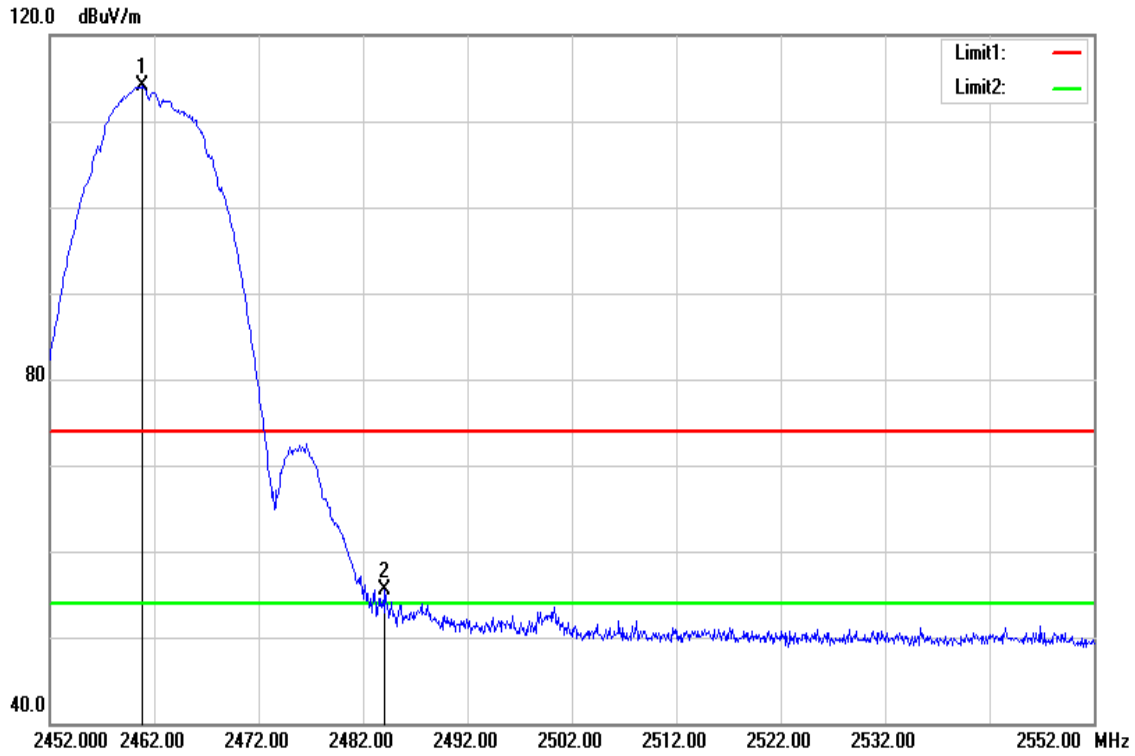
Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
2385.824	58.69	-3.31	55.38	74.00	-18.62	peak
2410.576	117.70	-3.24	114.46	-	-	peak

Test Mode	IEEE 802.11b Low CH	Temperature:	27(℃)/ 53%RH
Test Item	Band Edge	Test Date	Nov 08, 2016
Polarize	Horizontal	Test Engineer	Dennis Li
Detector	Average	Test Voltage	120Vac / 60Hz



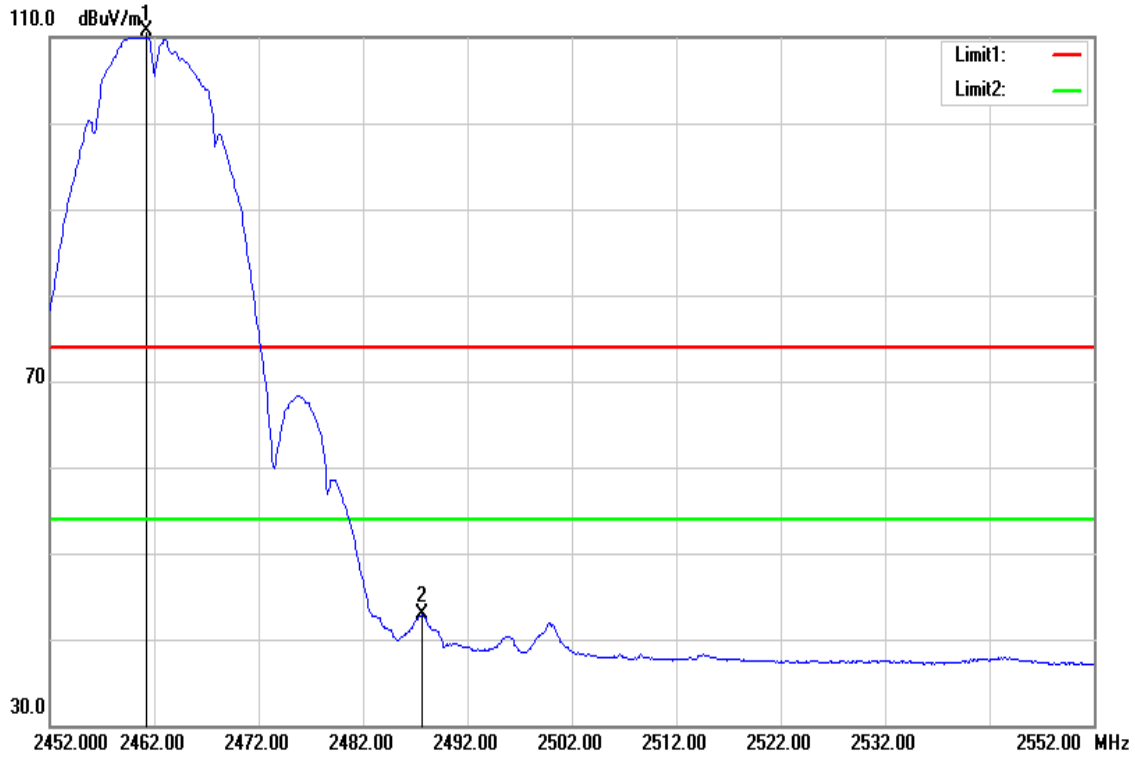
Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
2386.160	48.39	-3.31	45.08	54.00	-8.92	AVG
2411.024	114.94	-3.24	111.70	-	-	AVG

Test Mode	IEEE 802.11b High CH	Temp/Hum	27(℃)/ 53%RH
Test Item	Band Edge	Test Date	Nov 08, 2016
Polarize	Horizontal	Test Engineer	Dennis Li
Detector	Peak	Test Voltage	120Vac / 60Hz



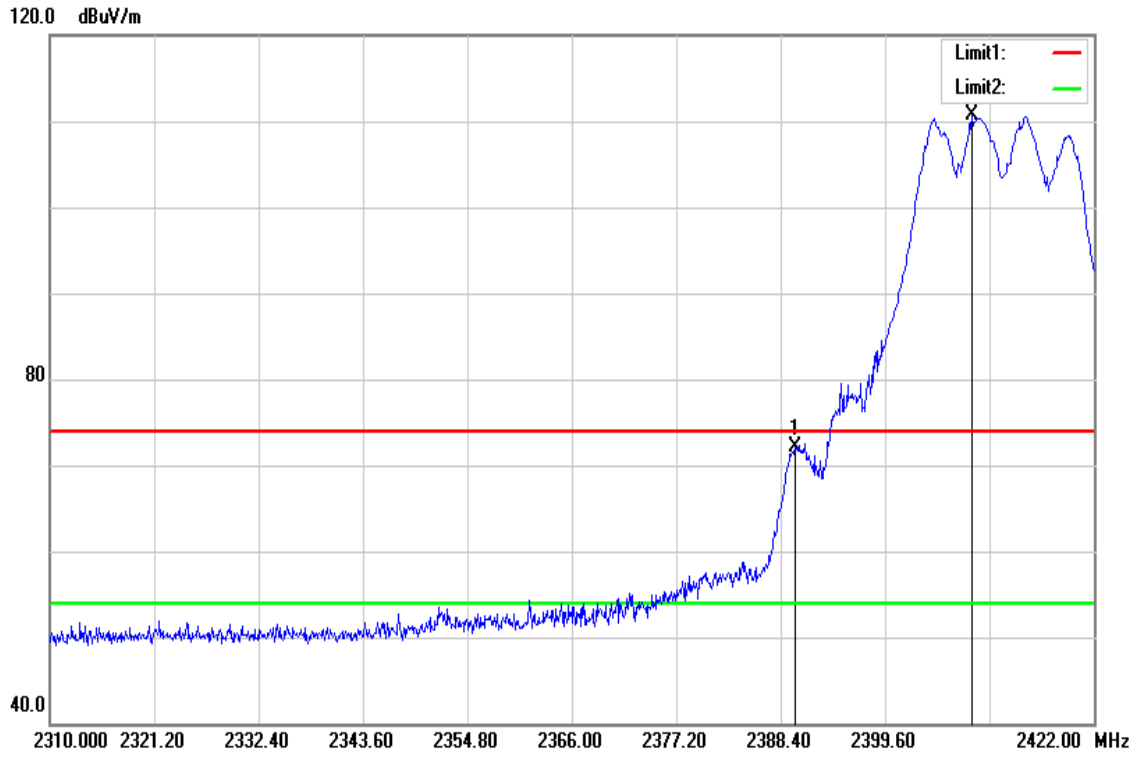
Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
2460.800	116.19	-2.10	114.09	-	-	peak
2484.100	57.46	-1.99	55.47	74.00	-18.53	peak

Test Mode	IEEE 802.11b High CH	Temperature:	27(℃)/ 53%RH
Test Item	Band Edge	Test Date	Nov 08, 2016
Polarize	Horizontal	Test Engineer	Dennis Li
Detector	Average	Test Voltage	120Vac / 60Hz



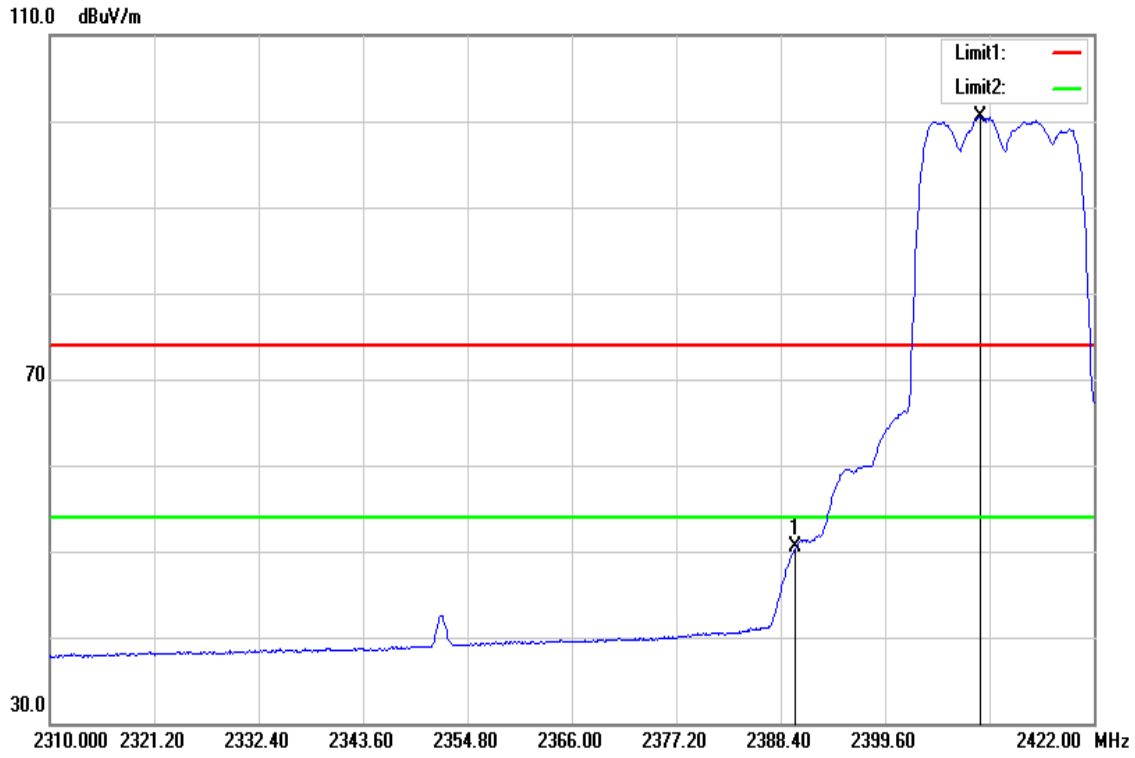
Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
2461.200	112.75	-2.10	110.65	-	-	AVG
2487.600	44.82	-1.95	42.87	54.00	-11.13	AVG

Test Mode	IEEE 802.11g Low CH	Temp/Hum	27(℃)/ 53%RH
Test Item	Band Edge	Test Date	Nov 08, 2016
Polarize	Horizontal	Test Engineer	Dennis Li
Detector	Peak	Test Voltage	120Vac / 60Hz



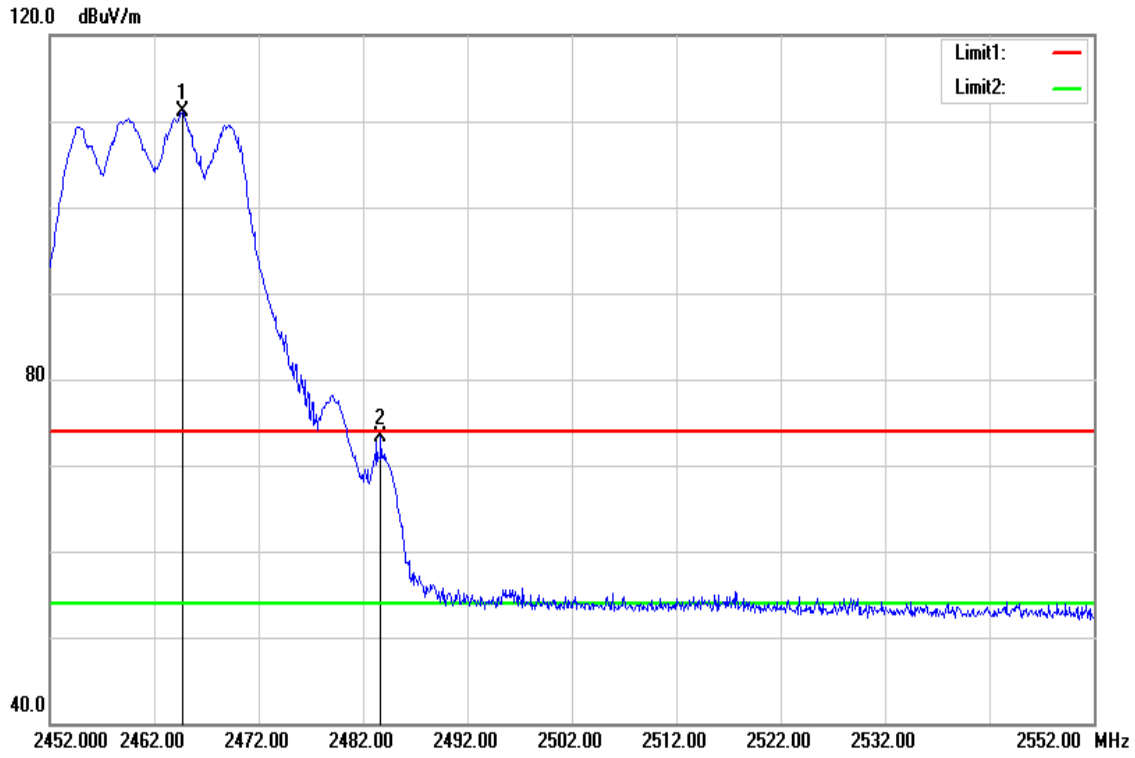
Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
2389.968	75.46	-3.28	72.18	74.00	-1.82	peak
2408.896	114.02	-3.24	110.78	-	-	peak

Test Mode	IEEE 802.11g Low CH	Temperature:	27(℃)/ 53%RH
Test Item	Band Edge	Test Date	Nov 08, 2016
Polarize	Horizontal	Test Engineer	Dennis Li
Detector	Average	Test Voltage	120Vac / 60Hz



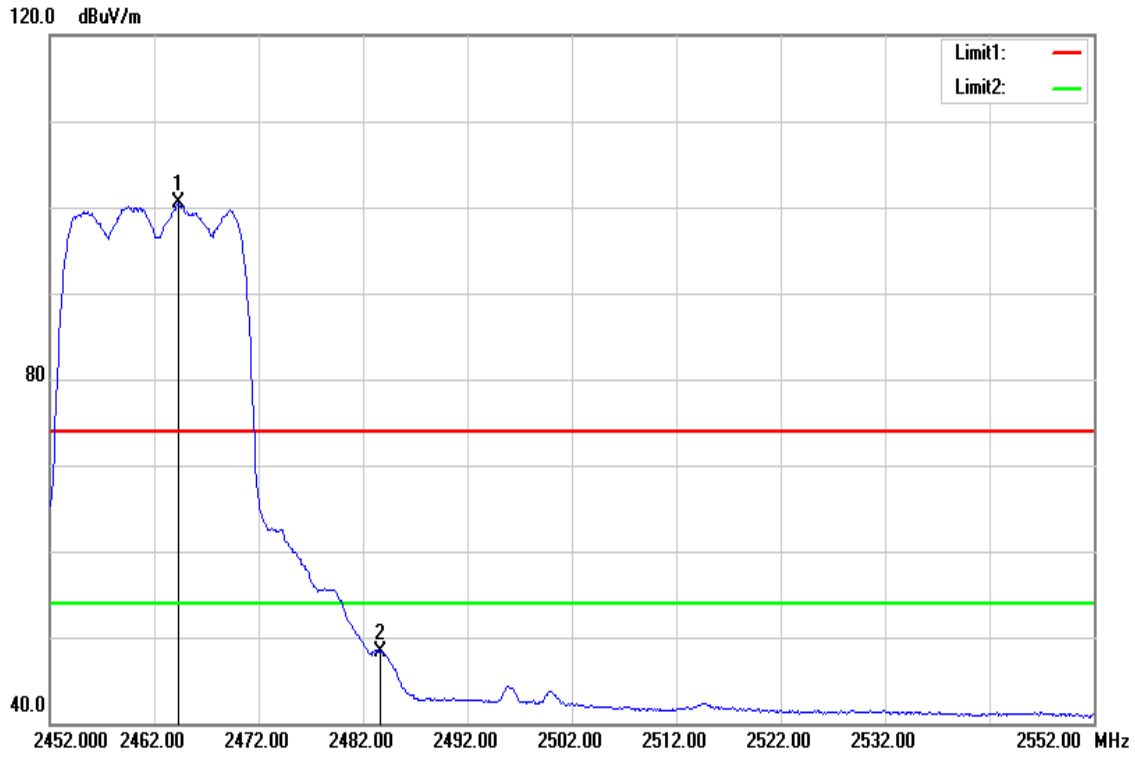
Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
2390.000	53.82	-3.28	50.54	54.00	-3.46	AVG
2409.792	103.65	-3.24	100.41	-	-	AVG

Test Mode	IEEE 802.11g High CH	Temp/Hum	27(℃)/ 53%RH
Test Item	Band Edge	Test Date	Nov 08, 2016
Polarize	Horizontal	Test Engineer	Dennis Li
Detector	Peak	Test Voltage	120Vac / 60Hz



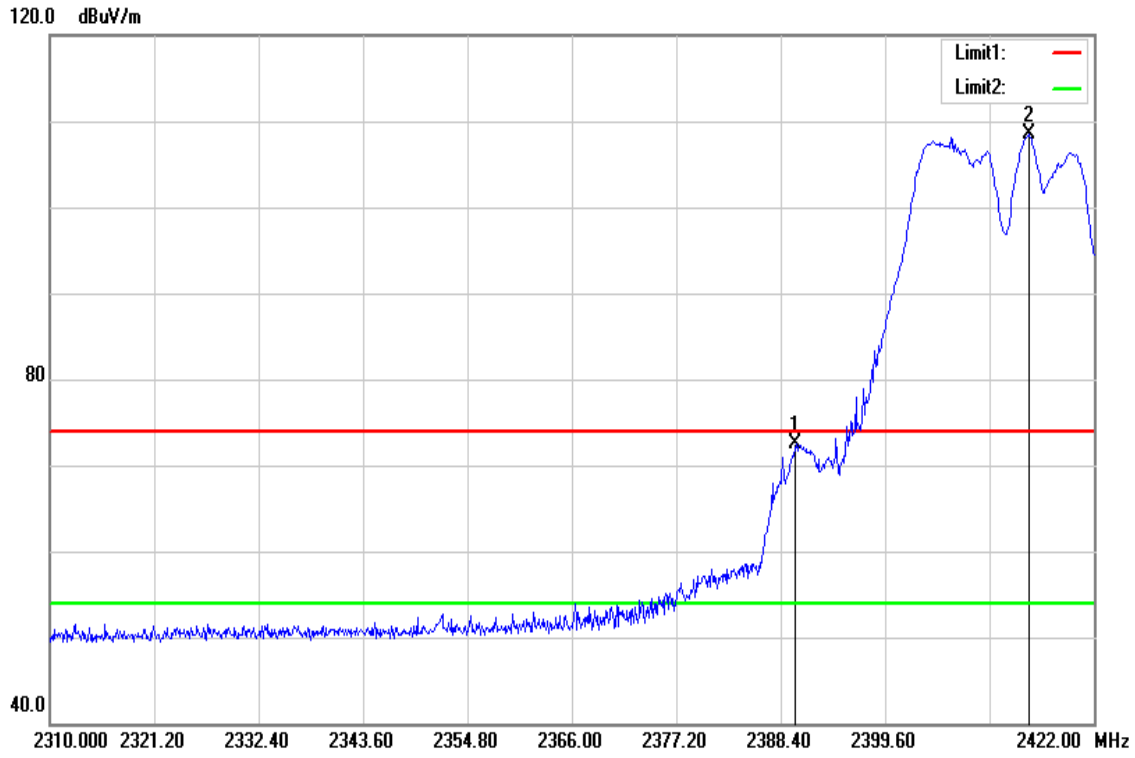
Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
2464.700	113.16	-2.09	111.07	-	-	peak
2483.700	75.27	-1.99	72.28	74.00	-1.72	peak

Test Mode	IEEE 802.11g High CH	Temperature:	27(℃)/ 53%RH
Test Item	Band Edge	Test Date	Nov 08, 2016
Polarize	Horizontal	Test Engineer	Dennis Li
Detector	Average	Test Voltage	120Vac / 60Hz



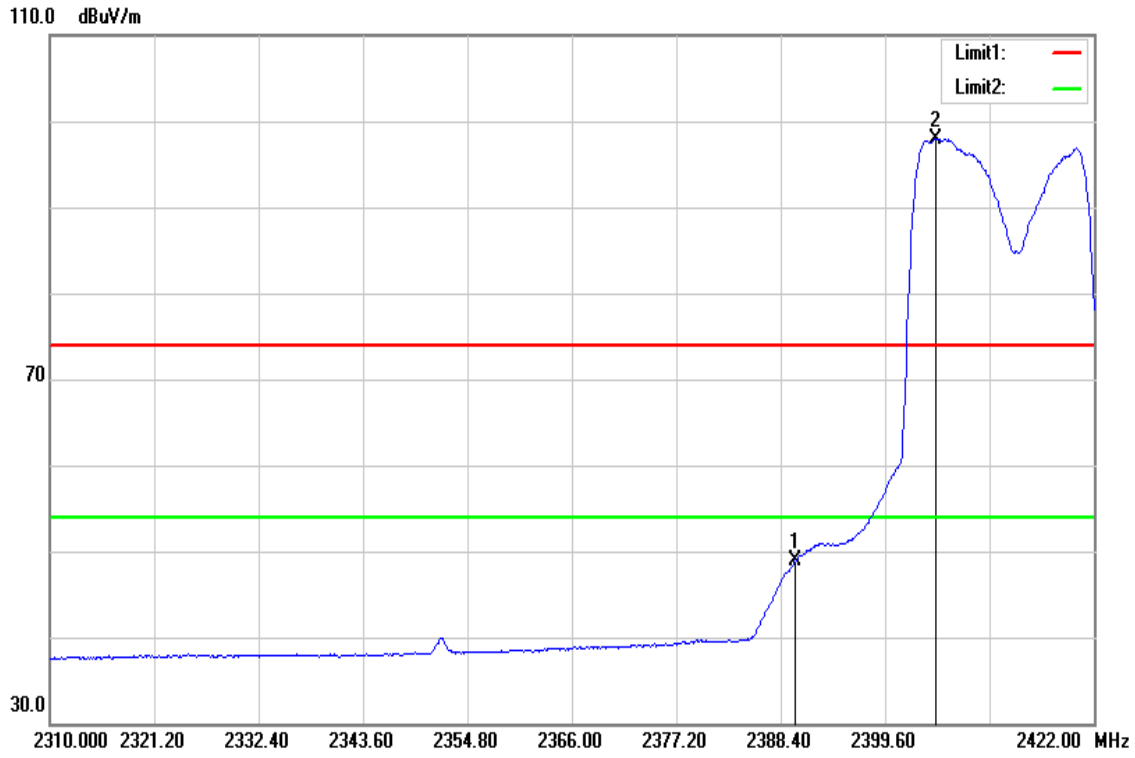
Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
2464.300	102.55	-2.09	100.46	-	-	peak
2483.600	50.39	-1.99	48.40	74.00	-25.60	peak

Test Mode	IEEE 802.11n HT20 Low CH	Temp/Hum	27(℃)/ 53%RH
Test Item	Band Edge	Test Date	Nov 08, 2016
Polarize	Horizontal	Test Engineer	Dennis Li
Detector	Peak	Test Voltage	120Vac / 60Hz



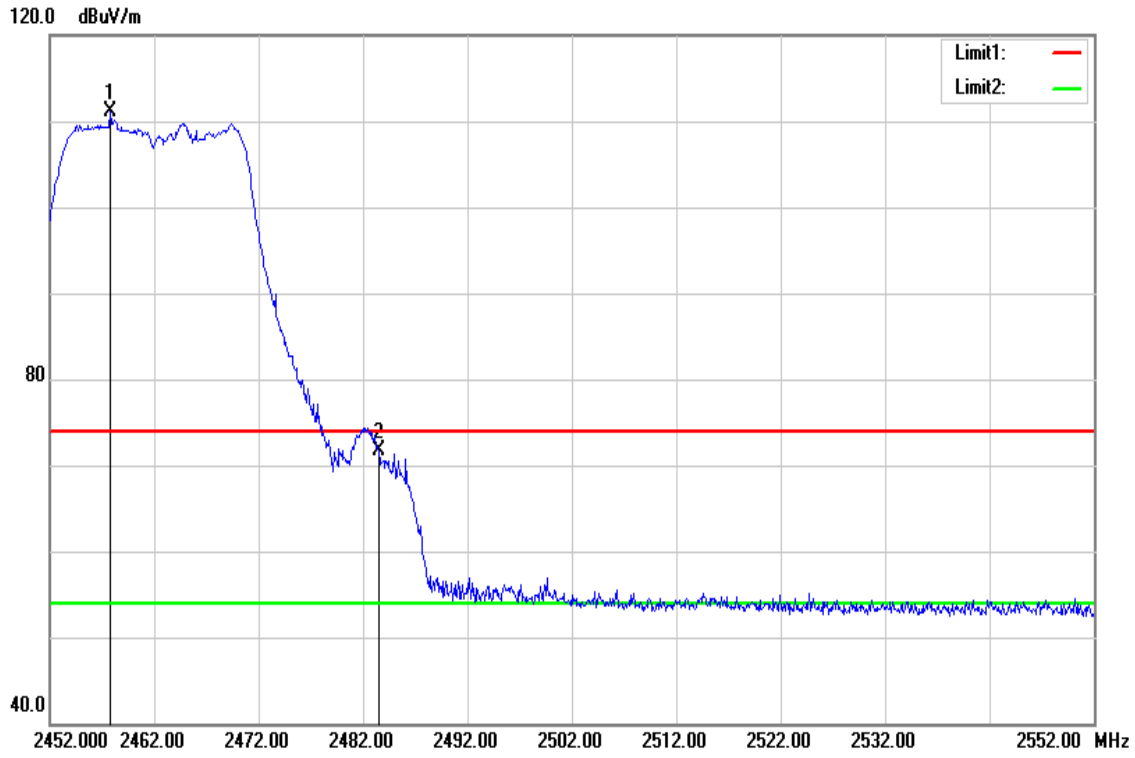
Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
2390.000	75.77	-3.28	72.49	74.00	-1.51	peak
2415.056	111.65	-3.23	108.42	-	-	peak

Test Mode	IEEE 802.11n HT20 Low CH	Temperature:	27(℃)/ 53%RH
Test Item	Band Edge	Test Date	Nov 08, 2016
Polarize	Horizontal	Test Engineer	Dennis Li
Detector	Average	Test Voltage	120Vac / 60Hz



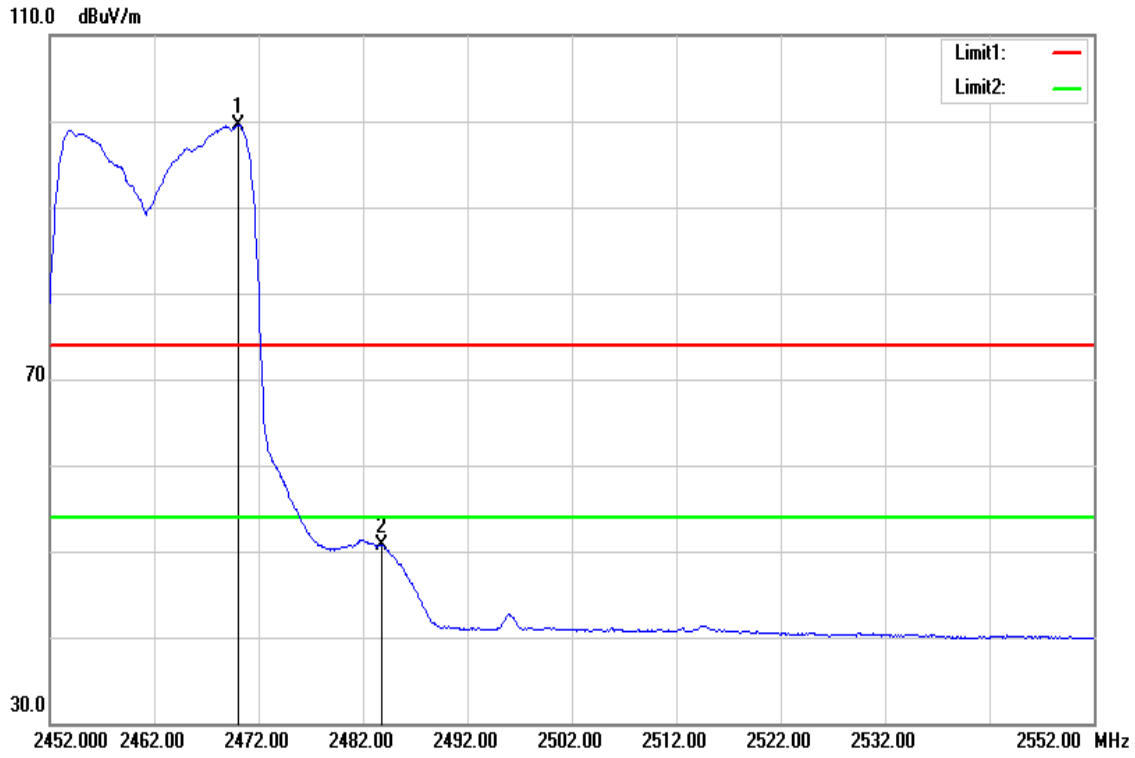
Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
2390.000	52.28	-3.28	49.00	54.00	-5.00	AVG
2405.088	101.24	-3.24	98.00	-	-	AVG

Test Mode	IEEE 802.11n HT20 High CH	Temp/Hum	27(℃)/ 53%RH
Test Item	Band Edge	Test Date	Nov 08, 2016
Polarize	Horizontal	Test Engineer	Dennis Li
Detector	Peak	Test Voltage	120Vac / 60Hz



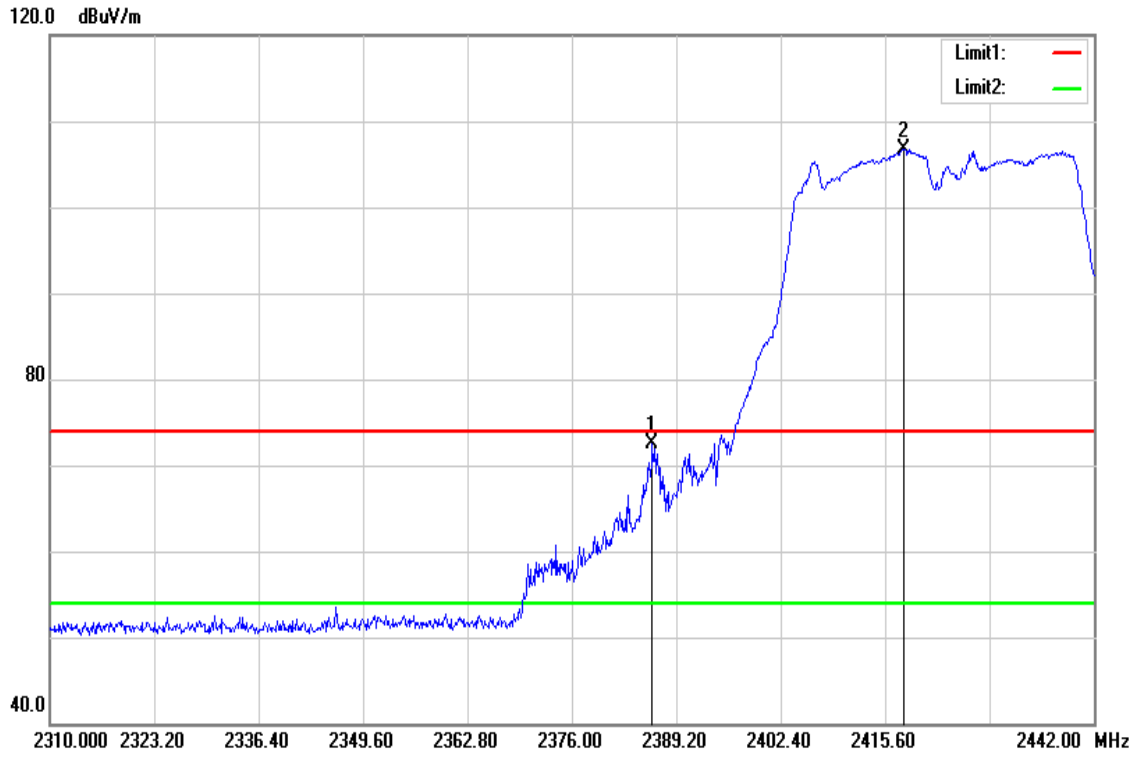
Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
2457.800	113.31	-2.11	111.20	-	-	peak
2483.500	73.67	-1.99	71.68	74.00	-2.32	peak

Test Mode	IEEE 802.11n HT20 High CH	Temperature:	27(℃)/ 53%RH
Test Item	Band Edge	Test Date	Nov 08, 2016
Polarize	Horizontal	Test Engineer	Dennis Li
Detector	Average	Test Voltage	120Vac / 60Hz



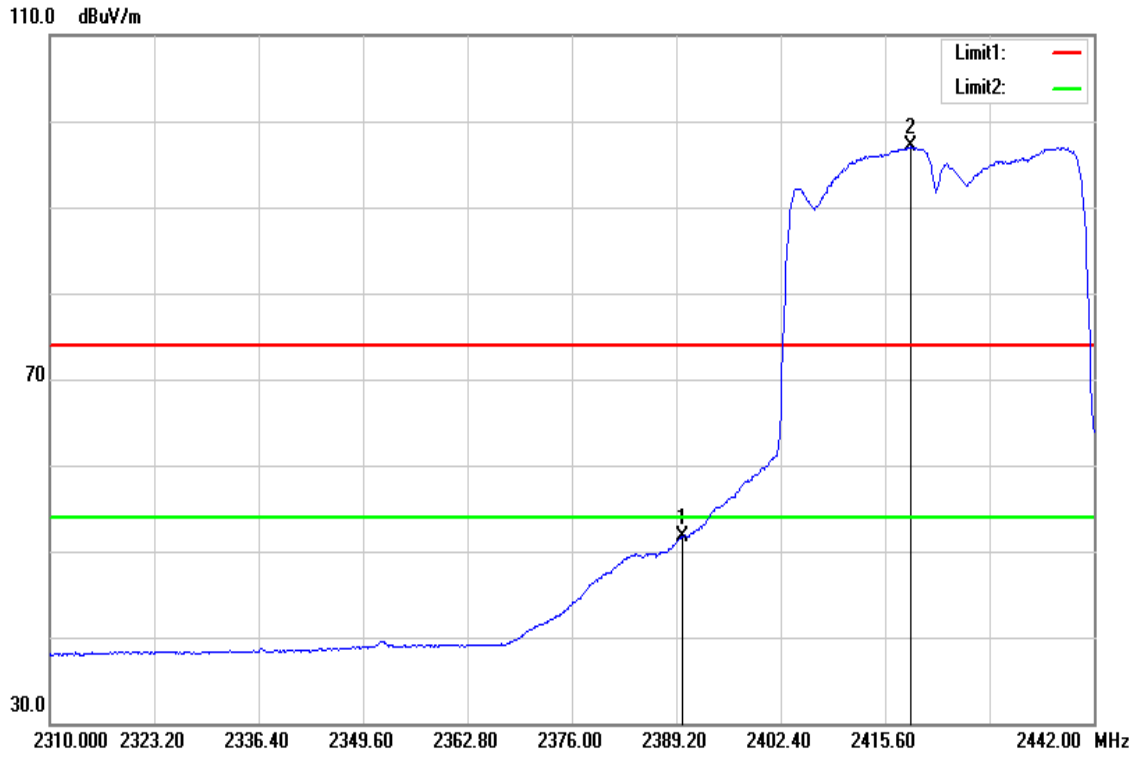
Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
2470.100	101.62	-2.07	99.55	-	-	AVG
2483.800	52.67	-1.99	50.68	54.00	-3.32	AVG

Test Mode	IEEE 802.11n HT40 Low CH	Temp/Hum	27(℃)/ 53%RH
Test Item	Band Edge	Test Date	Nov 08, 2016
Polarize	Horizontal	Test Engineer	Dennis Li
Detector	Peak	Test Voltage	120Vac / 60Hz



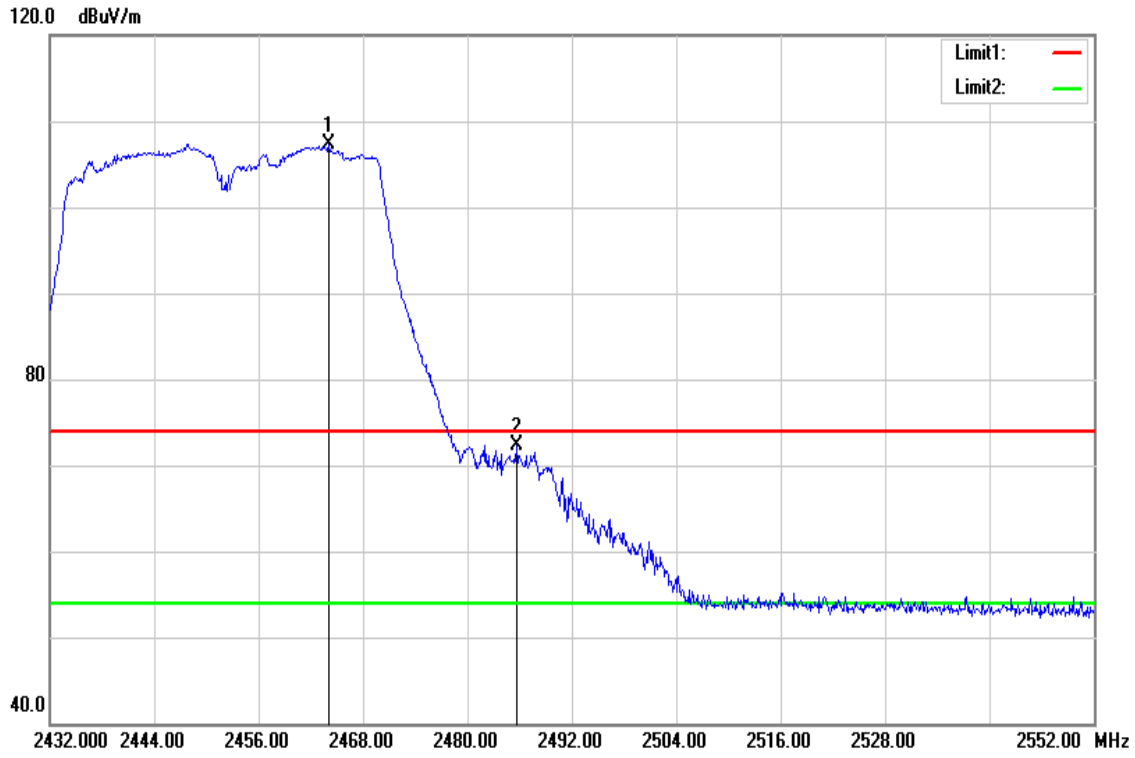
Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
2386.164	75.08	-2.52	72.56	74.00	-1.44	peak
2417.976	109.13	-2.37	106.76	-	-	peak

Test Mode	IEEE 802.11n HT40 Low CH	Temperature:	27(℃)/ 53%RH
Test Item	Band Edge	Test Date	Nov 08, 2016
Polarize	Horizontal	Test Engineer	Dennis Li
Detector	Average	Test Voltage	120Vac / 60Hz



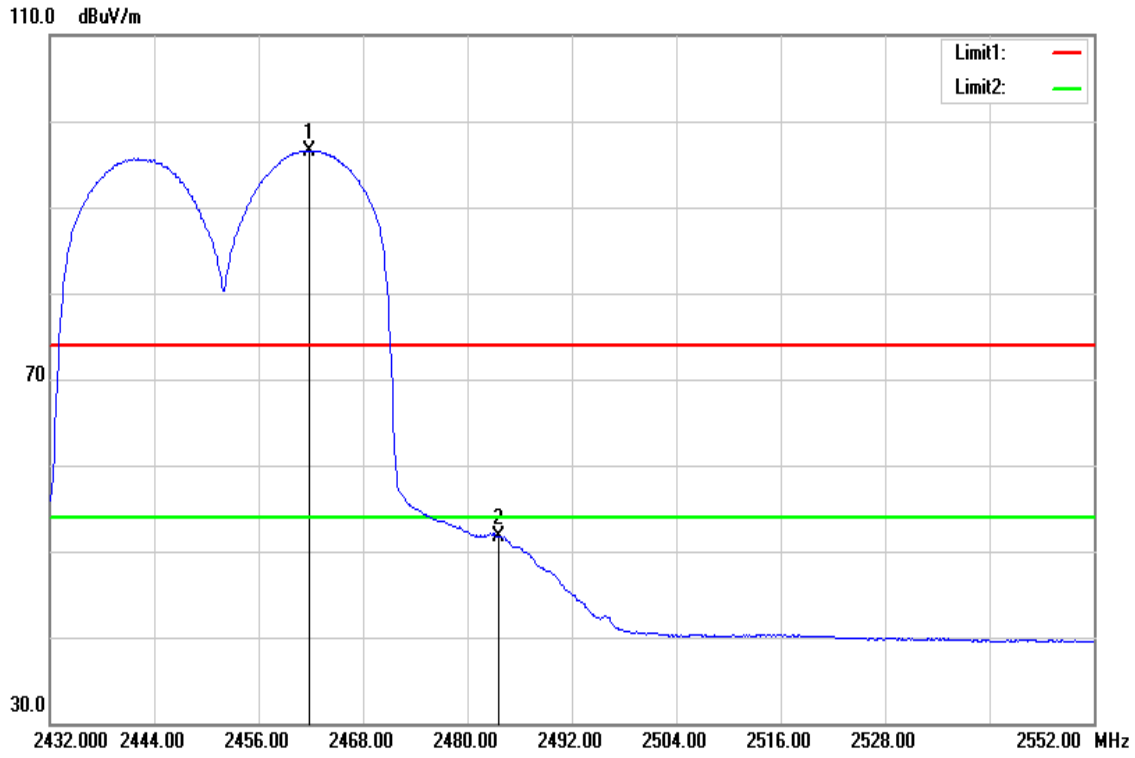
Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
2390.000	54.26	-2.49	51.77	54.00	-2.23	AVG
2418.768	99.39	-2.37	97.02	-	-	AVG

Test Mode	IEEE 802.11n HT40 High CH	Temp/Hum	27(℃)/ 53%RH
Test Item	Band Edge	Test Date	Nov 08, 2016
Polarize	Horizontal	Test Engineer	Dennis Li
Detector	Peak	Test Voltage	120Vac / 60Hz



Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
2464.040	109.37	-2.09	107.28	-	-	peak
2485.640	74.23	-1.97	72.26	74.00	-1.74	peak

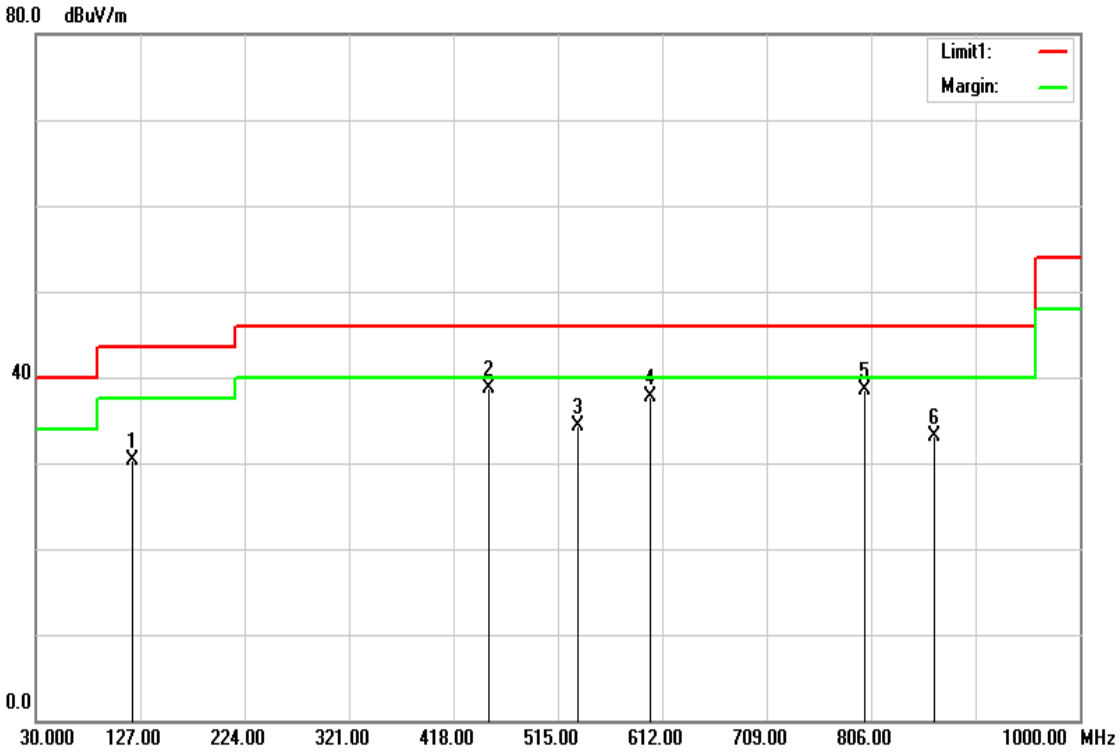
Test Mode	IEEE 802.11n HT40 High CH	Temperature:	27(℃)/ 53%RH
Test Item	Band Edge	Test Date	Nov 08, 2016
Polarize	Horizontal	Test Engineer	Dennis Li
Detector	Average	Test Voltage	120Vac / 60Hz



Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
2461.760	98.68	-2.10	96.58	-	-	AVG
2483.600	53.78	-1.99	51.79	54.00	-2.21	AVG

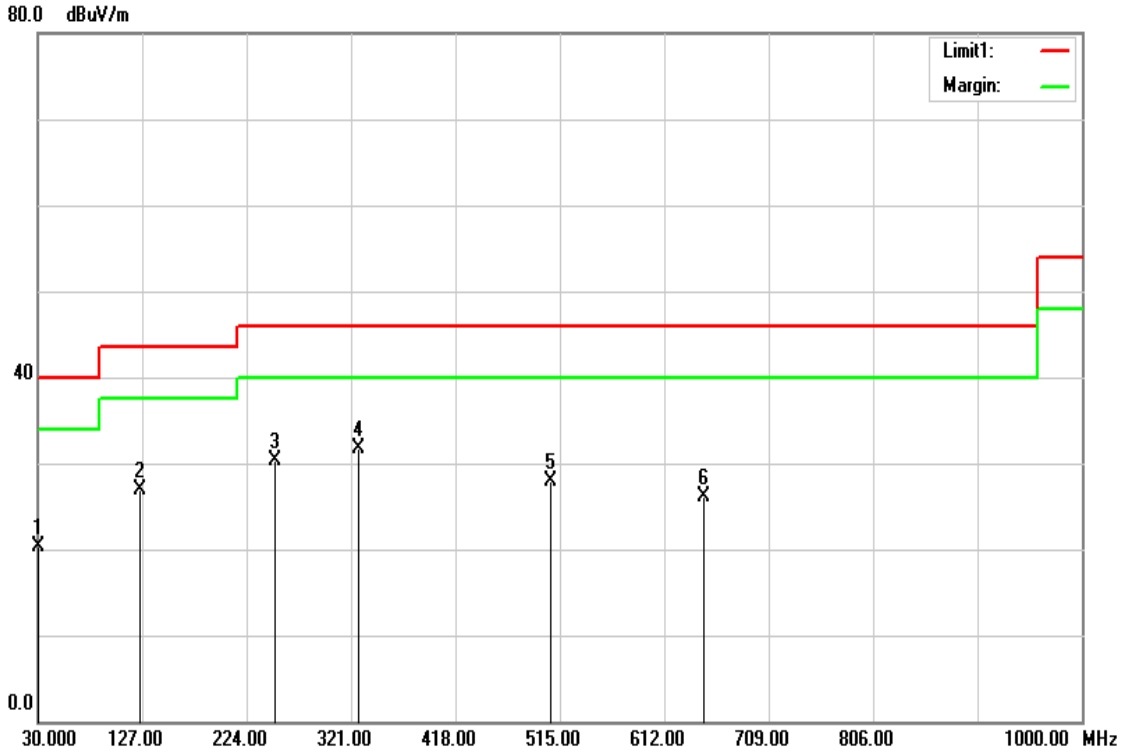
Below 1G Test Data

Test Mode	Mode 1	Temp/Hum	27(℃)/ 53%RH
Test Item	30MHz-1GHz	Test Date	Nov 17, 2016
Polarize	Vertical	Test Engineer	Dennis Li
Detector	Peak and Qusi-peak	Test Voltage	120Vac / 60Hz



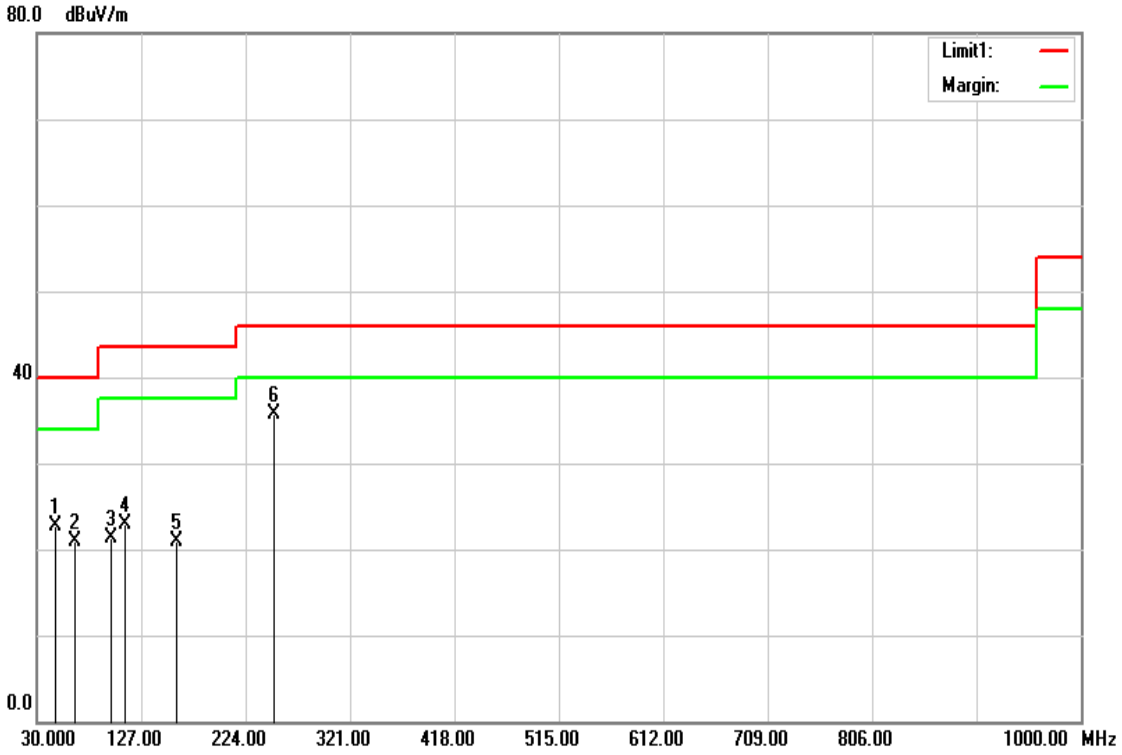
Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
120.2100	45.74	-15.50	30.24	43.50	-13.26	peak
450.9800	48.87	-10.17	38.70	46.00	-7.30	peak
533.4300	43.13	-8.74	34.39	46.00	-11.61	peak
600.3600	45.49	-7.75	37.74	46.00	-8.26	peak
800.1800	42.94	-4.50	38.44	46.00	-7.56	peak
864.2000	36.74	-3.61	33.13	46.00	-12.87	peak

Test Mode	Mode 1	Temp/Hum	27(℃)/ 53%RH
Test Item	30MHz-1GHz	Test Date	Nov 17, 2016
Polarize	Vertical	Test Engineer	Dennis Li
Detector	Peak and Qusi-peak	Test Voltage	120Vac / 60Hz



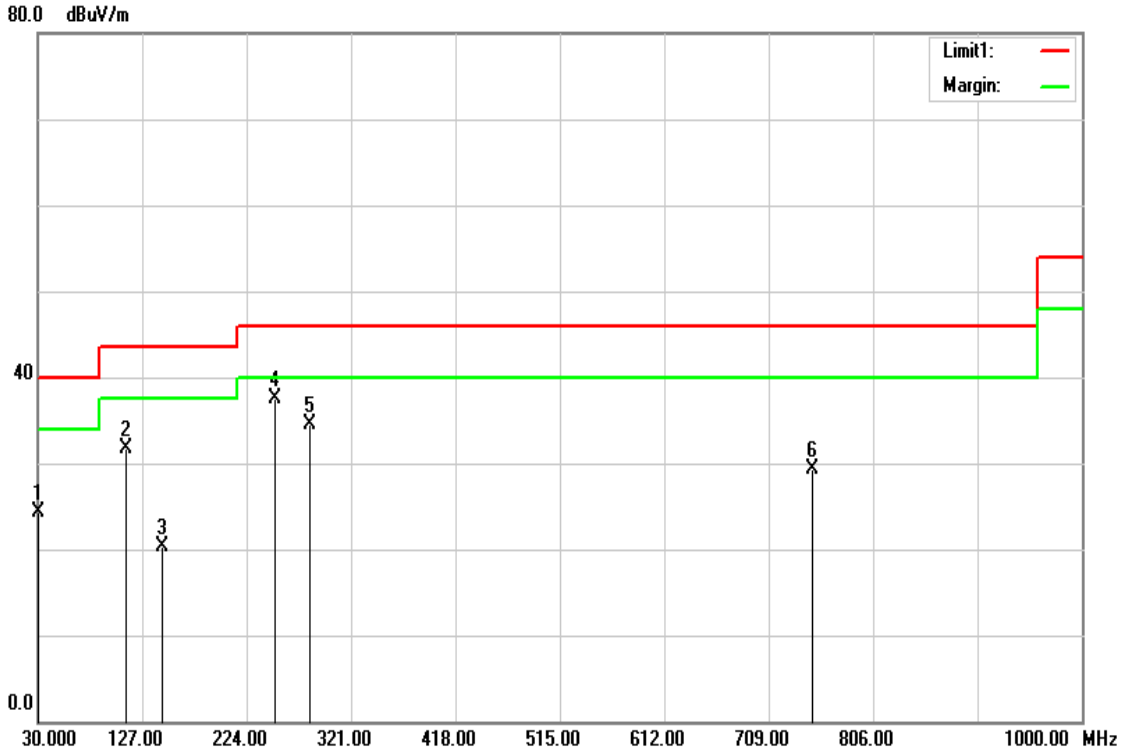
Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
30.0000	28.24	-7.91	20.33	40.00	-19.67	QP
125.0600	42.40	-15.57	26.83	43.50	-16.67	peak
250.1900	46.51	-16.27	30.24	46.00	-15.76	peak
327.7900	45.11	-13.49	31.62	46.00	-14.38	peak
506.2700	36.96	-9.15	27.81	46.00	-18.19	peak
648.8600	32.76	-6.60	26.16	46.00	-19.84	peak

Test Mode	Mode 2	Temp/Hum	27(℃)/ 53%RH
Test Item	30MHz-1GHz	Test Date	Nov 17, 2016
Polarize	Vertical	Test Engineer	Dennis Li
Detector	Peak and Qusi-peak	Test Voltage	120Vac / 60Hz



Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
47.4600	42.26	-19.61	22.65	40.00	-17.35	QP
64.9200	42.28	-21.43	20.85	40.00	-19.15	QP
98.8700	40.67	-19.31	21.36	43.50	-22.14	QP
111.4800	39.85	-17.00	22.85	43.50	-20.65	QP
159.9800	37.34	-16.36	20.98	43.50	-22.52	QP
250.1900	51.90	-16.27	35.63	46.00	-10.37	peak

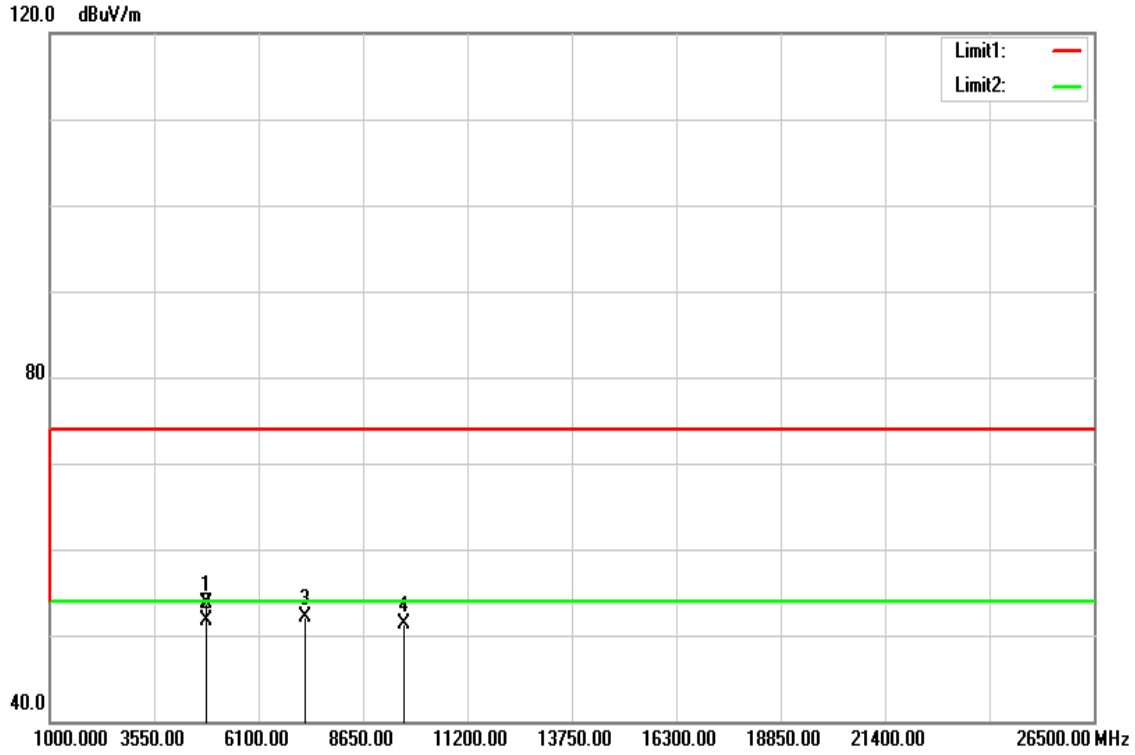
Test Mode	Mode 2	Temp/Hum	27(℃)/ 53%RH
Test Item	30MHz-1GHz	Test Date	Nov 17, 2016
Polarize	Vertical	Test Engineer	Dennis Li
Detector	Peak and Qusi-peak	Test Voltage	120Vac / 60Hz



Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
30.0000	32.23	-7.91	24.32	40.00	-15.68	QP
111.4800	48.78	-17.00	31.78	43.50	-11.72	peak
145.4300	36.16	-15.94	20.22	43.50	-23.28	QP
250.1900	53.77	-16.27	37.50	46.00	-8.50	peak
282.2000	49.10	-14.57	34.53	46.00	-11.47	peak
749.7400	34.18	-4.93	29.25	46.00	-16.75	peak

Above 1G Test Data

Test Mode	IEEE 802.11b Low CH	Temp/Hum	27(℃)/ 53%RH
Test Item	Harmonic	Test Date	Nov 17, 2016
Polarize	Vertical	Test Engineer	Dennis Li
Detector	Peak and Average	Test Voltage	120Vac / 60Hz

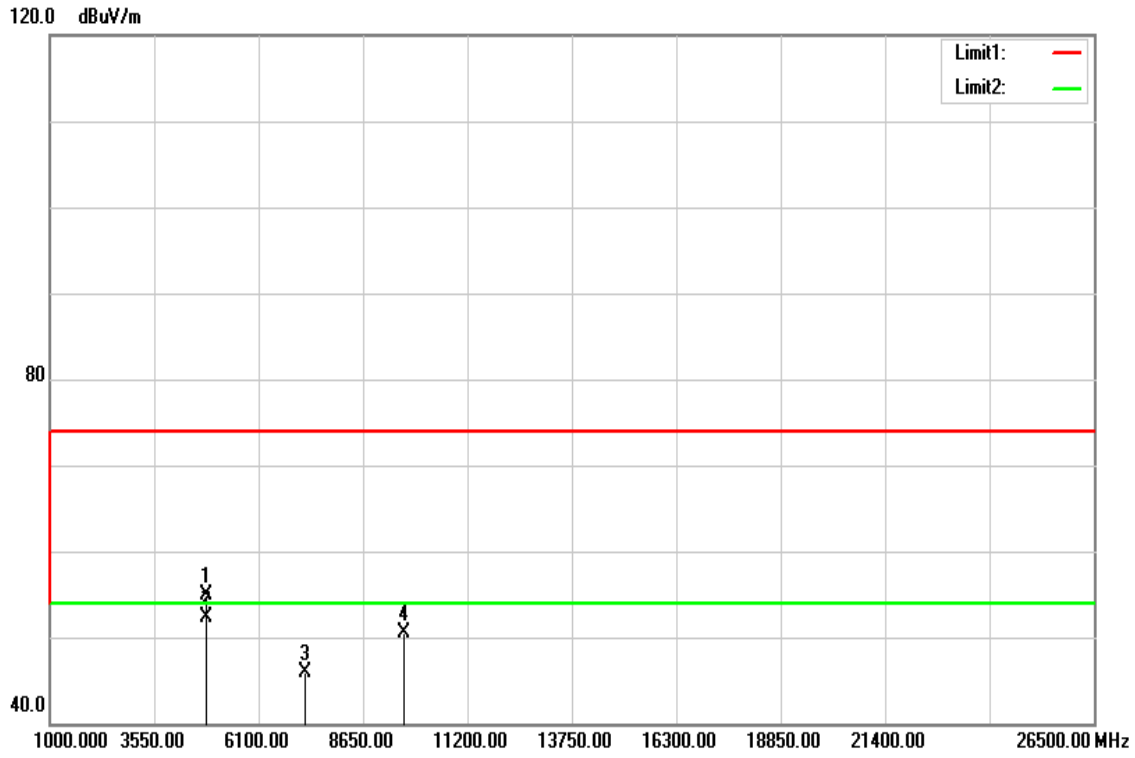


Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
4827.000	48.68	5.11	53.79	74.00	-20.21	peak
4827.000	46.69	5.11	51.80	54.00	-2.20	AVG
7236.000	39.47	12.71	52.18	74.00	-21.82	peak
9648.000	33.66	17.60	51.26	74.00	-22.74	peak

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	Nov 08, 2016
Polarize	Horizontal	Test Engineer	Dennis Li
Detector	Peak and Average	Test Voltage	120Vac / 60Hz

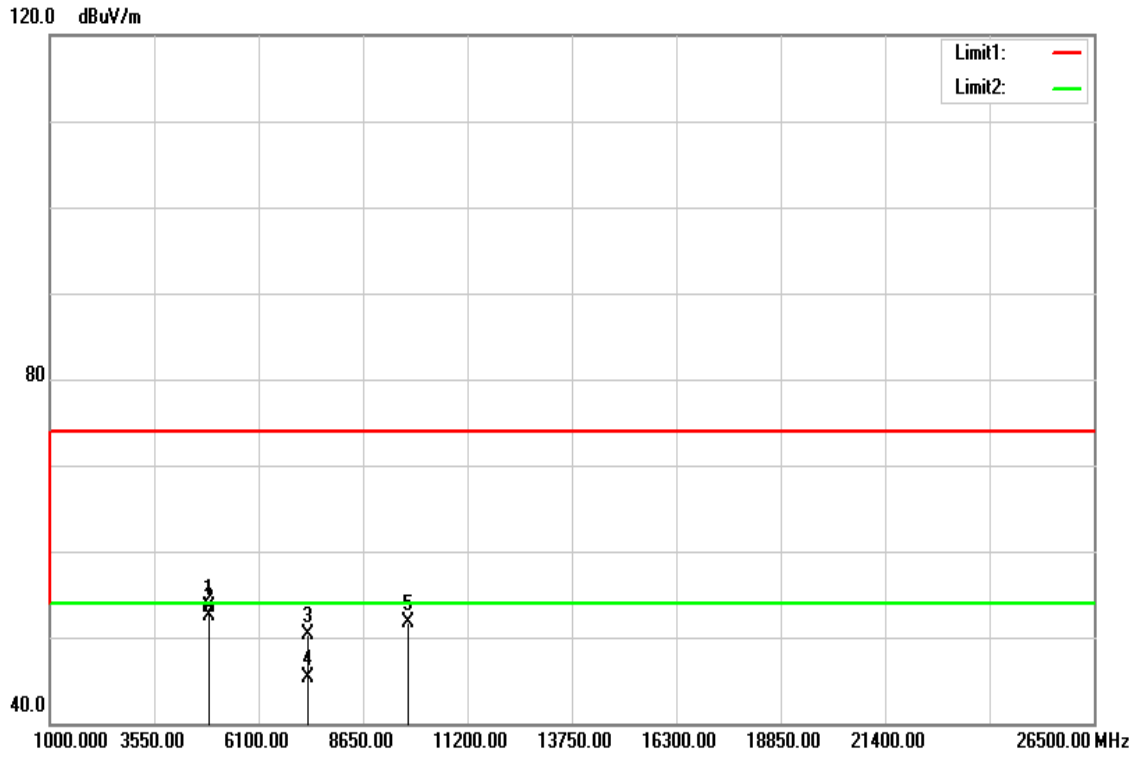


Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
4827.000	49.70	5.11	54.81	74.00	-19.19	peak
4827.000	47.28	5.11	52.39	54.00	-1.61	AVG
7236.000	33.26	12.71	45.97	74.00	-28.03	peak
9648.000	32.89	17.60	50.49	74.00	-23.51	peak

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	Nov 08, 2016
Polarize	Vertical	Test Engineer	Dennis Li
Detector	Peak and Average	Test Voltage	120Vac / 60Hz

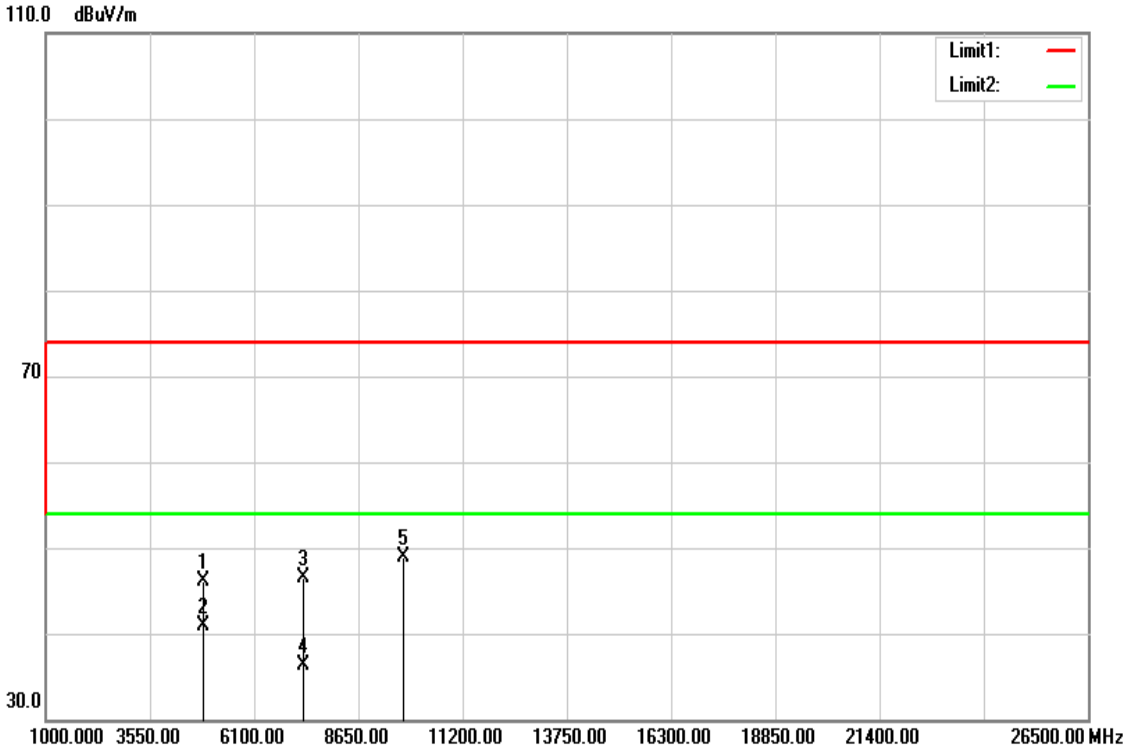


Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
4876.000	48.35	5.24	53.59	74.00	-20.41	peak
4876.000	47.22	5.24	52.46	54.00	-1.54	AVG
7312.000	37.33	12.94	50.27	74.00	-23.73	peak
7312.000	32.42	12.94	45.36	54.00	-8.64	AVG
9748.000	34.19	17.60	51.79	74.00	-22.21	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	Nov 08, 2016
Polarize	Horizontal	Test Engineer	Dennis Li
Detector	Peak and Average	Test Voltage	120Vac / 60Hz

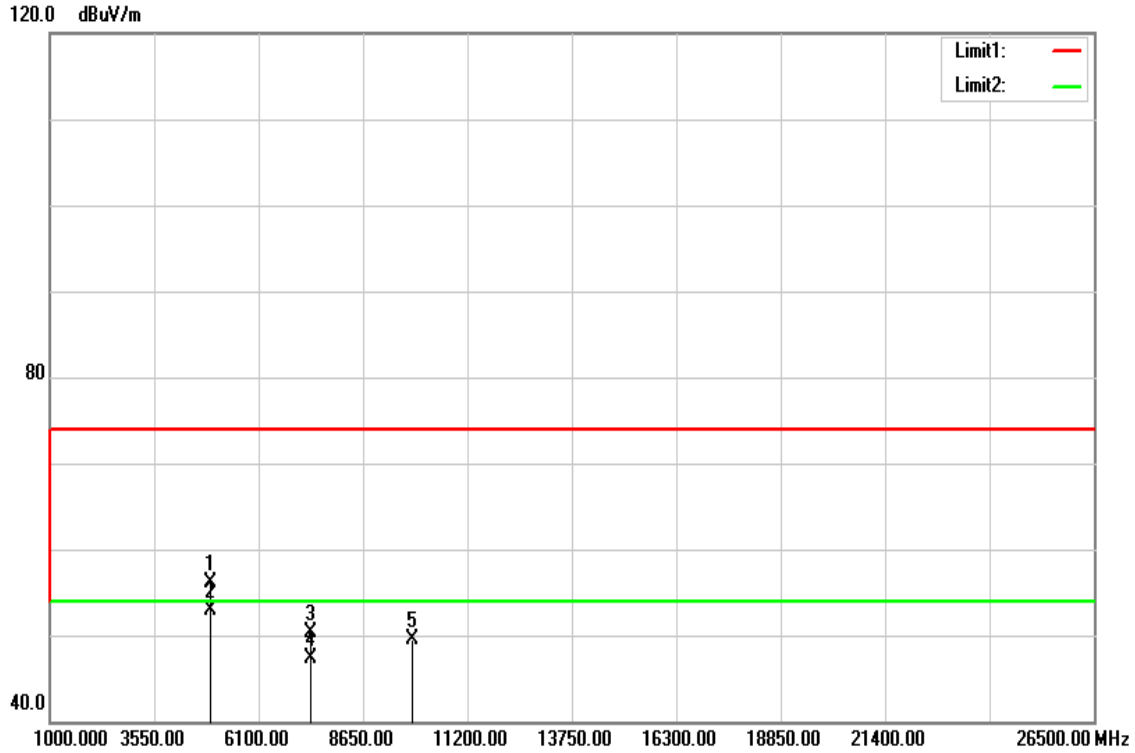


Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
4876.000	49.83	5.24	55.07	74.00	-18.93	peak
4876.000	47.23	5.24	52.47	54.00	-1.53	AVG
7312.000	36.91	12.94	49.85	74.00	-24.15	peak
7312.000	32.41	12.94	45.35	54.00	-8.65	AVG
9748.000	31.70	17.60	49.30	74.00	-24.70	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	Nov 08, 2016
Polarize	Vertical	Test Engineer	Dennis Li
Detector	Peak and Average	Test Voltage	120Vac / 60Hz

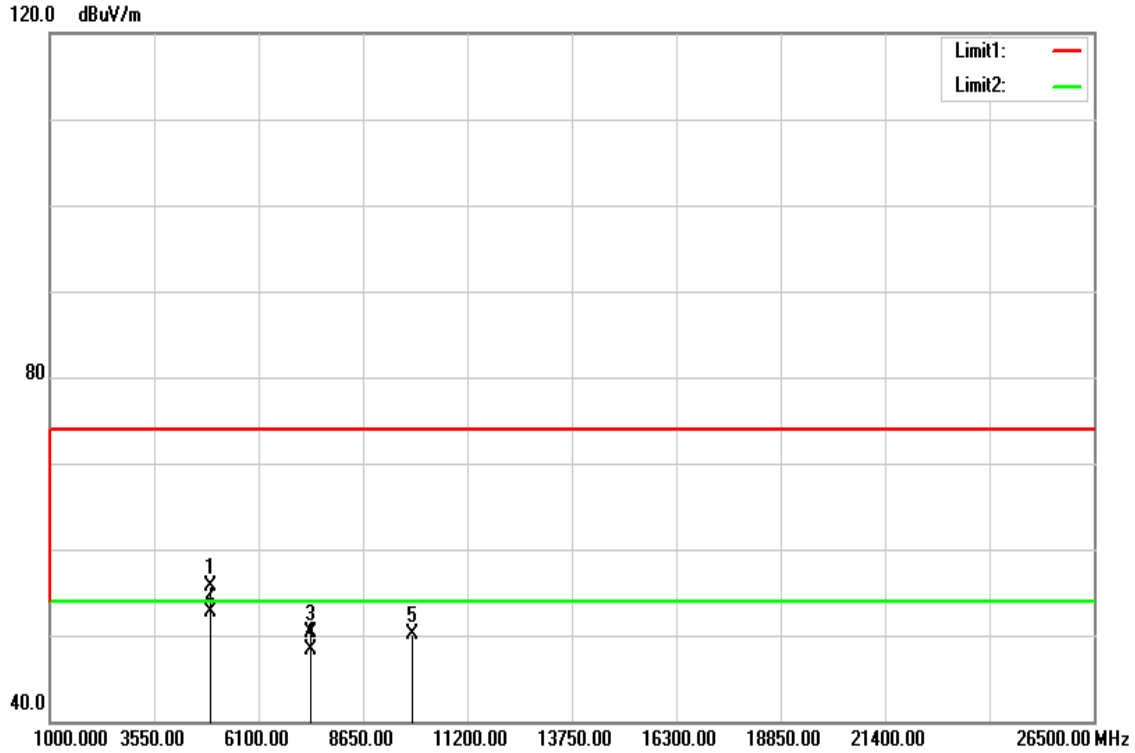


Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
4925.000	50.69	5.37	56.06	74.00	-17.94	peak
4925.000	47.59	5.37	52.96	54.00	-1.04	AVG
7382.000	37.17	13.15	50.32	74.00	-23.68	peak
7382.000	34.21	13.15	47.36	54.00	-6.64	AVG
9848.000	31.81	17.60	49.41	74.00	-24.59	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	Nov 08, 2016
Polarize	Horizontal	Test Engineer	Dennis Li
Detector	Peak and Average	Test Voltage	120Vac / 60Hz

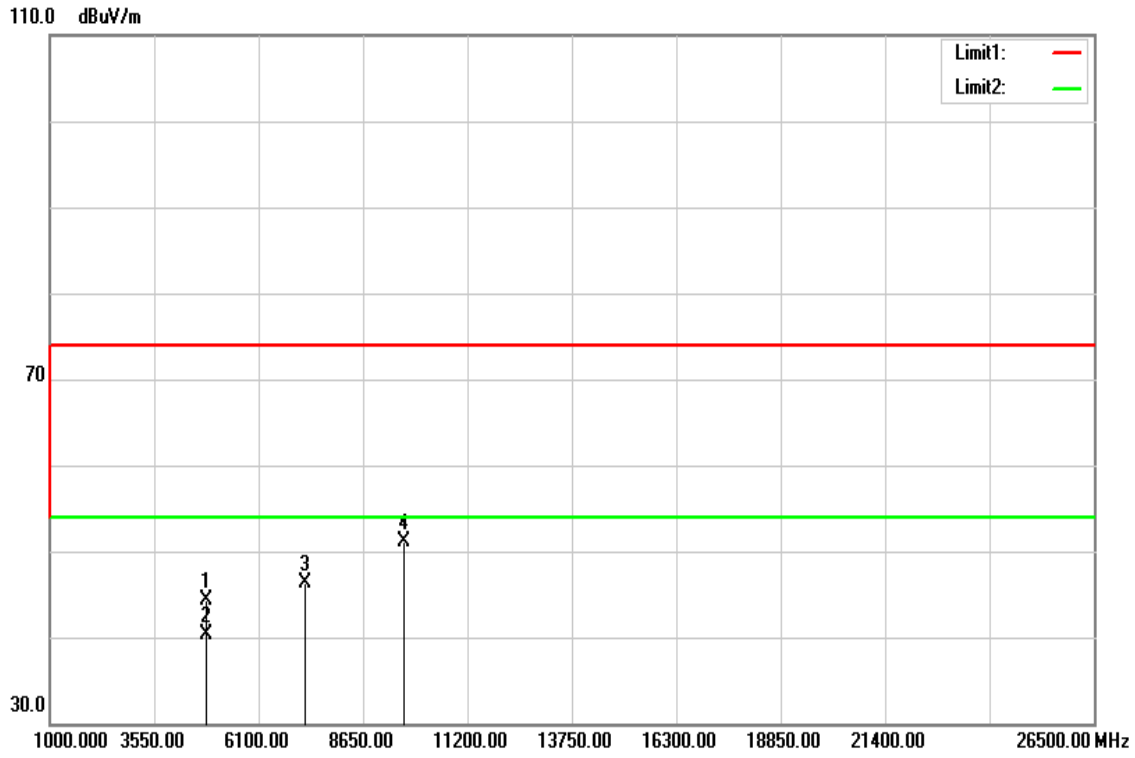


Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
4925.000	50.32	5.37	55.69	74.00	-18.31	peak
4925.000	47.35	5.37	52.72	54.00	-1.28	AVG
7382.000	37.07	13.15	50.22	74.00	-23.78	peak
7382.000	35.21	13.15	48.36	54.00	-5.64	AVG
9848.000	32.48	17.60	50.08	74.00	-23.92	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	Nov 08, 2016
Polarize	Vertical	Test Engineer	Dennis Li
Detector	Peak and Average	Test Voltage	120Vac / 60Hz

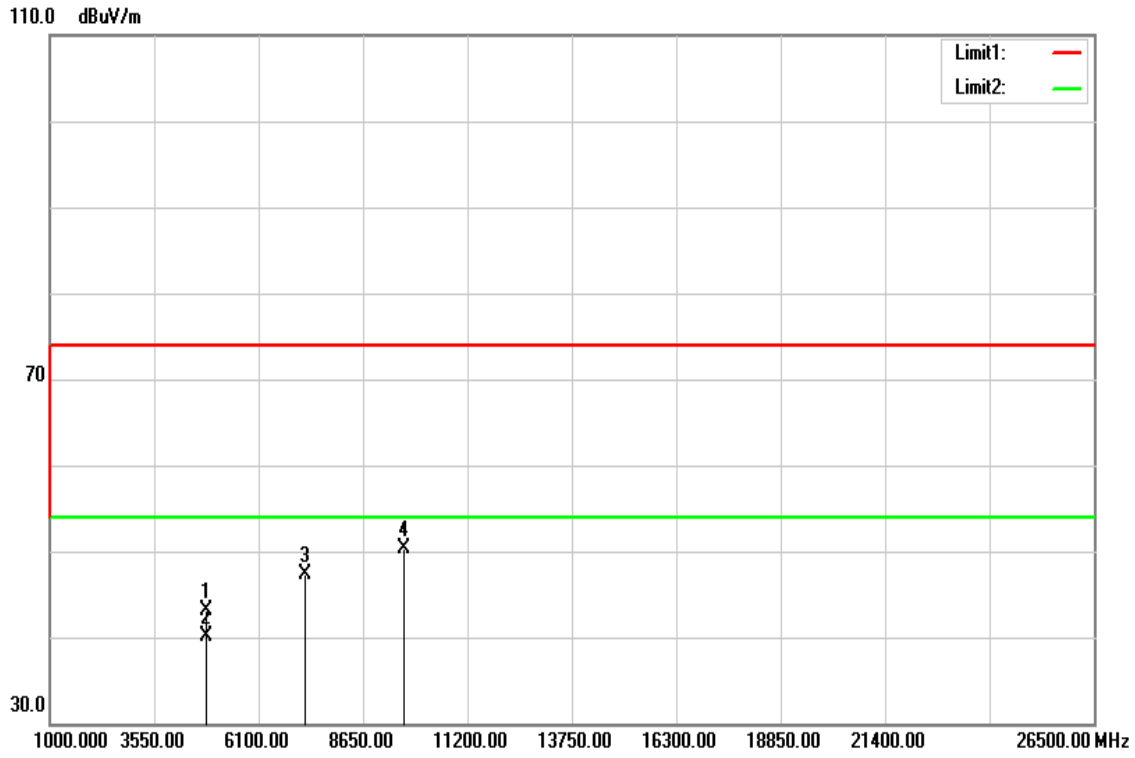


Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
4824.000	39.12	5.10	44.22	74.00	-29.78	peak
4824.000	35.14	5.10	40.24	54.00	-13.76	AVG
7236.000	33.57	12.71	46.28	74.00	-27.72	peak
9648.000	33.48	17.60	51.08	74.00	-22.92	peak

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	Nov 08, 2016
Polarize	Horizontal	Test Engineer	Dennis Li
Detector	Peak and Average	Test Voltage	120Vac / 60Hz

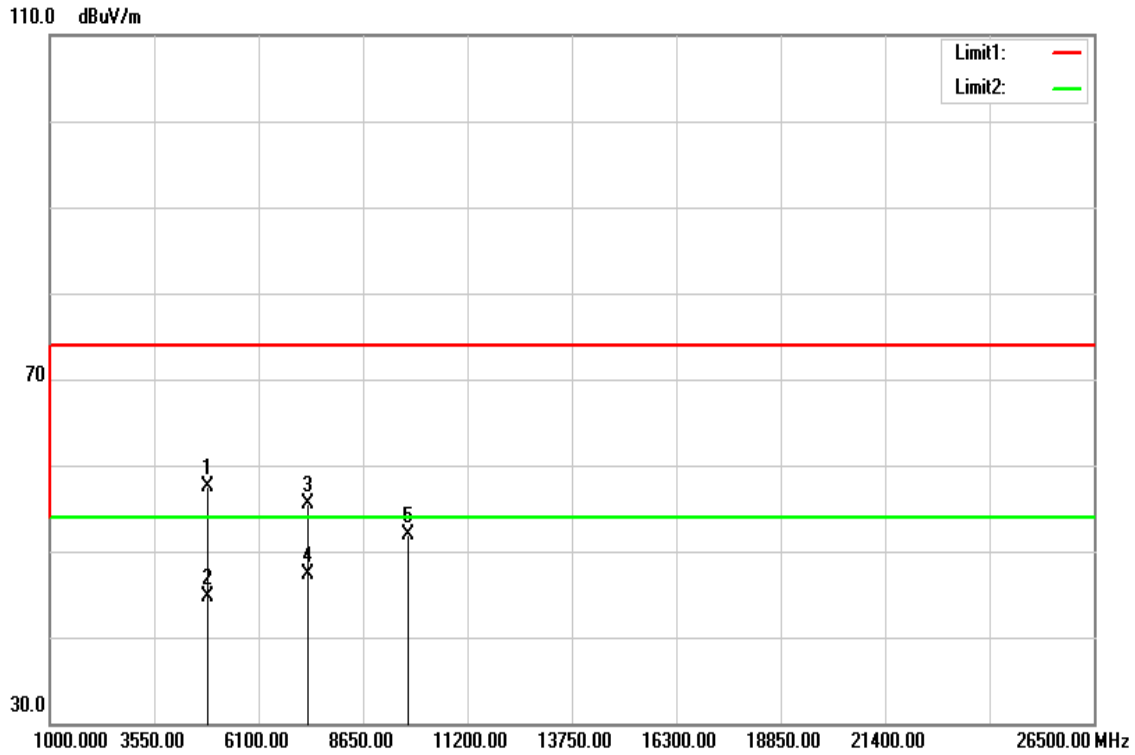


Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
4824.000	38.06	5.10	43.16	74.00	-30.84	peak
4824.000	35.01	5.10	40.11	54.00	-13.89	AVG
7236.000	34.67	12.71	47.38	74.00	-26.62	peak
9648.000	32.64	17.60	50.24	74.00	-23.76	peak

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 Mid CH	Temp/Hum	27(℃)/ 53%RH
Test Item	Harmonic	Test Date	Nov 08, 2016
Polarize	Vertical	Test Engineer	Dennis Li
Detector	Peak and Average	Test Voltage	120Vac / 60Hz

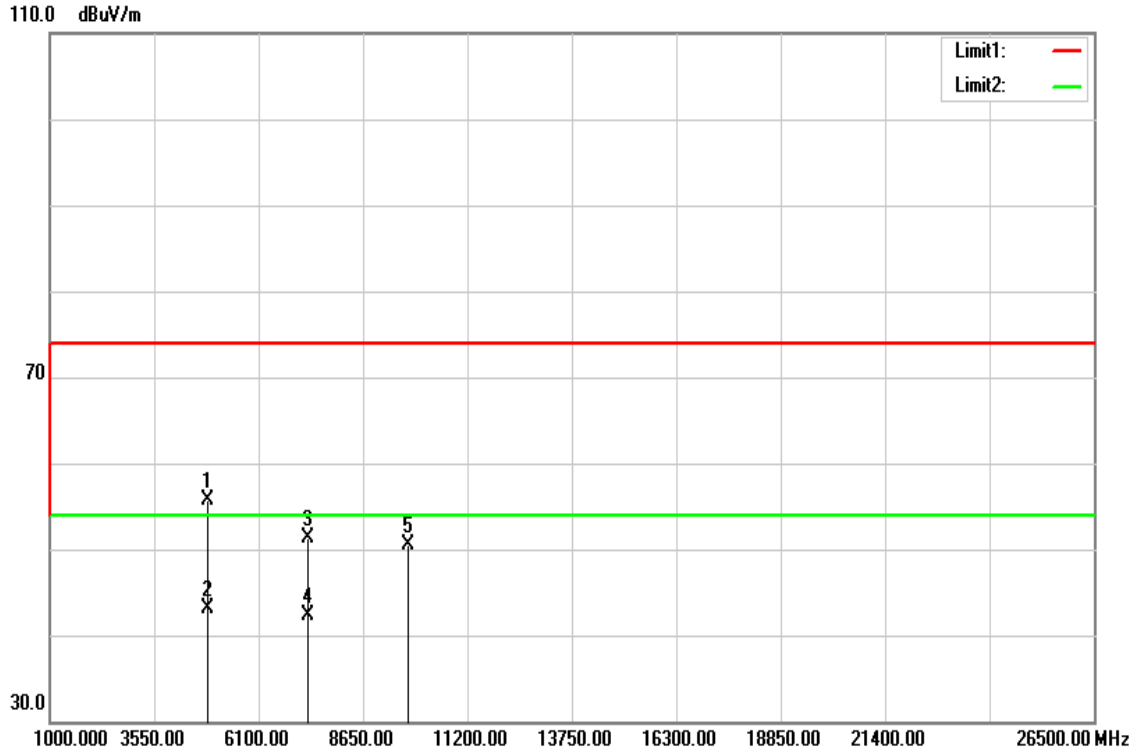


Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
4869.000	52.30	5.22	57.52	74.00	-16.48	peak
4869.000	39.56	5.22	44.78	54.00	-9.22	AVG
7312.000	42.51	12.94	55.45	74.00	-18.55	peak
7312.000	34.27	12.94	47.21	54.00	-6.79	AVG
9748.000	34.23	17.60	51.83	74.00	-22.17	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 Mid CH	Temp/Hum	27(℃)/ 53%RH
Test Item	Harmonic	Test Date	Nov 08, 2016
Polarize	Horizontal	Test Engineer	Dennis Li
Detector	Peak and Average	Test Voltage	120Vac / 60Hz

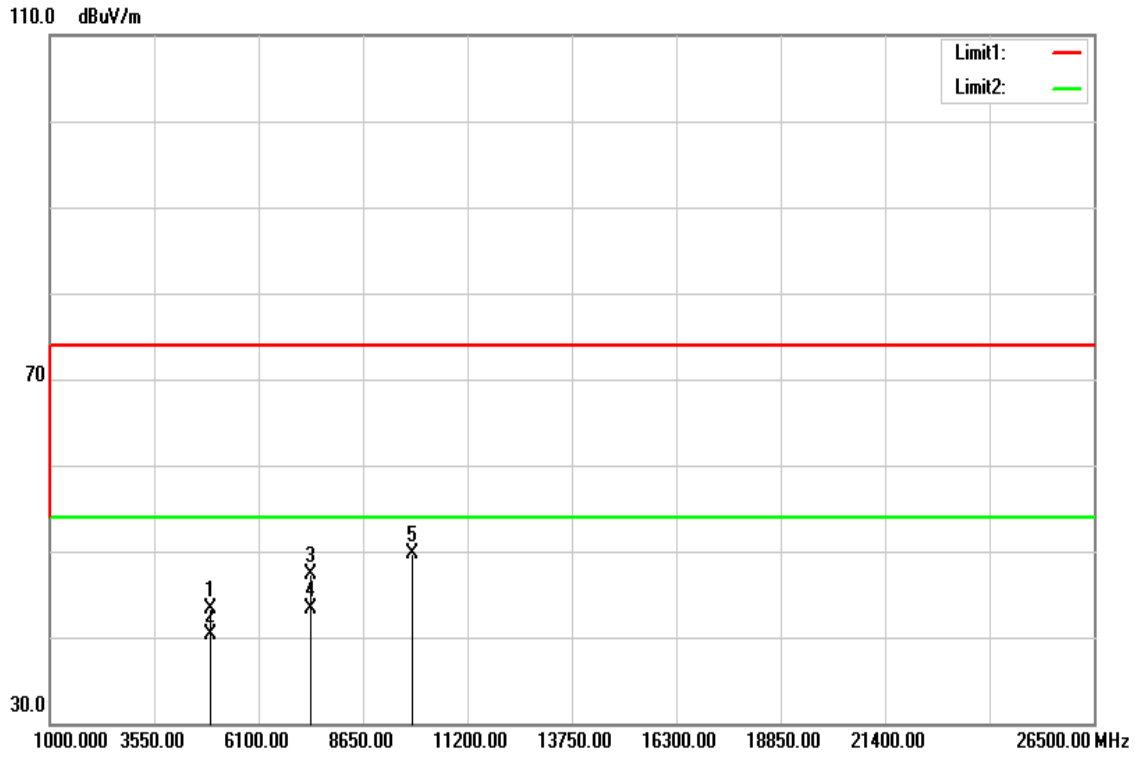


Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
4869.000	50.55	5.22	55.77	74.00	-18.23	peak
4869.000	37.85	5.22	43.07	54.00	-10.93	AVG
7312.000	38.32	12.94	51.26	74.00	-22.74	peak
7312.000	29.31	12.94	42.25	54.00	-11.75	AVG
9748.000	32.91	17.60	50.51	74.00	-23.49	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 High CH	Temp/Hum	27(℃)/ 53%RH
Test Item	Harmonic	Test Date	Nov 08, 2016
Polarize	Vertical	Test Engineer	Dennis Li
Detector	Peak and Average	Test Voltage	120Vac / 60Hz

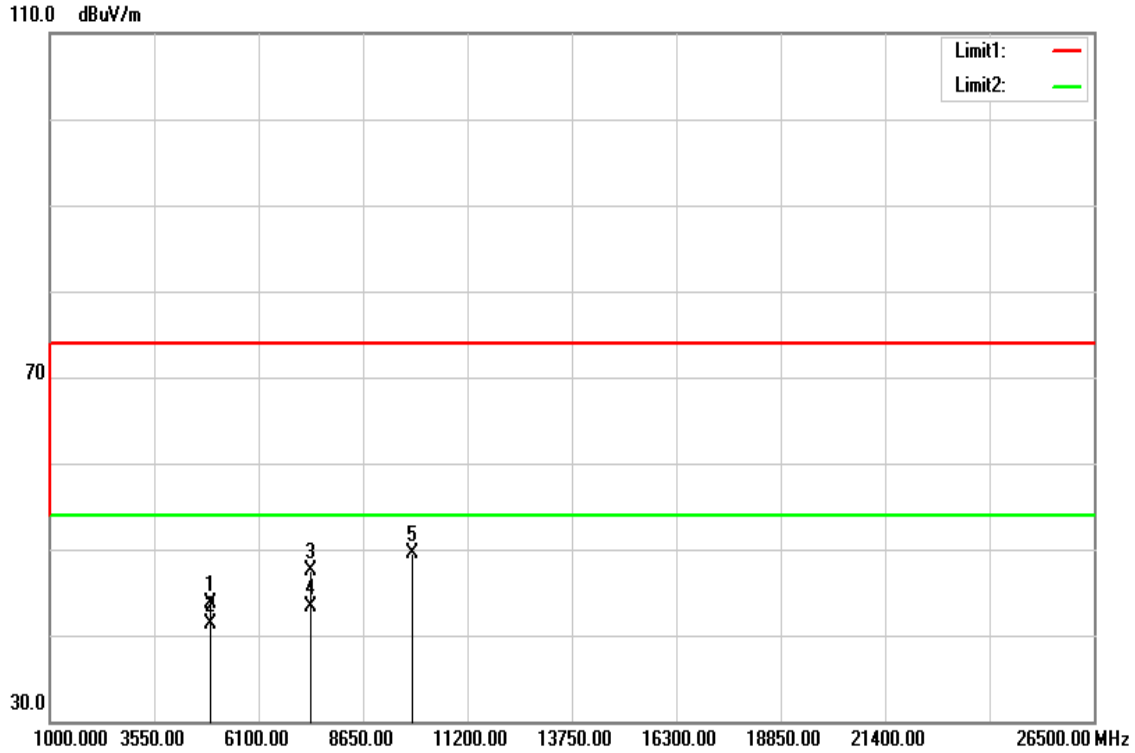


Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
4925.000	38.01	5.37	43.38	74.00	-30.62	peak
4925.000	34.86	5.37	40.23	54.00	-13.77	AVG
7382.000	34.09	13.15	47.24	74.00	-26.76	peak
7382.000	30.21	13.15	43.36	54.00	-10.64	AVG
9848.000	32.12	17.60	49.72	74.00	-24.28	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 High CH	Temp/Hum	27(℃)/ 53%RH
Test Item	Harmonic	Test Date	Nov 08, 2016
Polarize	Horizontal	Test Engineer	Dennis Li
Detector	Peak and Average	Test Voltage	120Vac / 60Hz

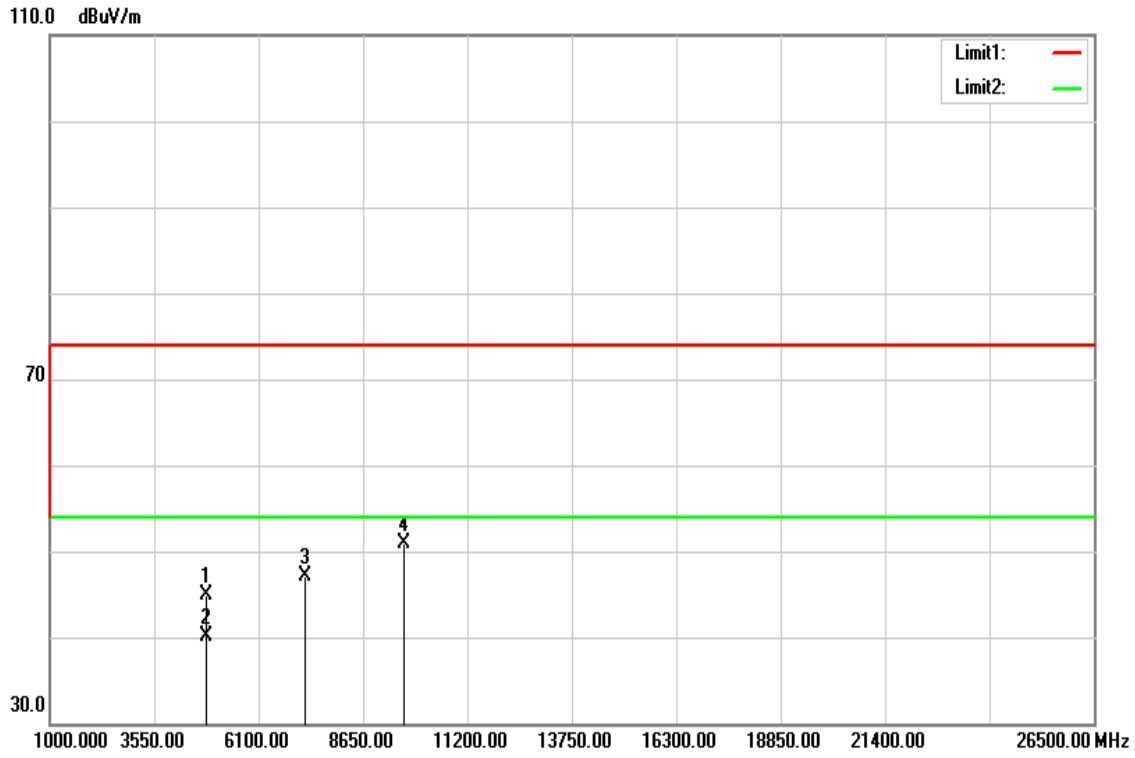


Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
4925.000	38.29	5.37	43.66	74.00	-30.34	peak
4925.000	35.88	5.37	41.25	54.00	-12.75	AVG
7382.000	34.41	13.15	47.56	74.00	-26.44	peak
7382.000	30.10	13.15	43.25	54.00	-10.75	AVG
9848.000	31.83	17.60	49.43	74.00	-24.57	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 802.11n HT20 Low CH	Temp/Hum	27(℃)/ 53%RH
Test Item	Harmonic	Test Date	Nov 08, 2016
Polarize	Vertical	Test Engineer	Dennis Li
Detector	Peak and Average	Test Voltage	120Vac / 60Hz

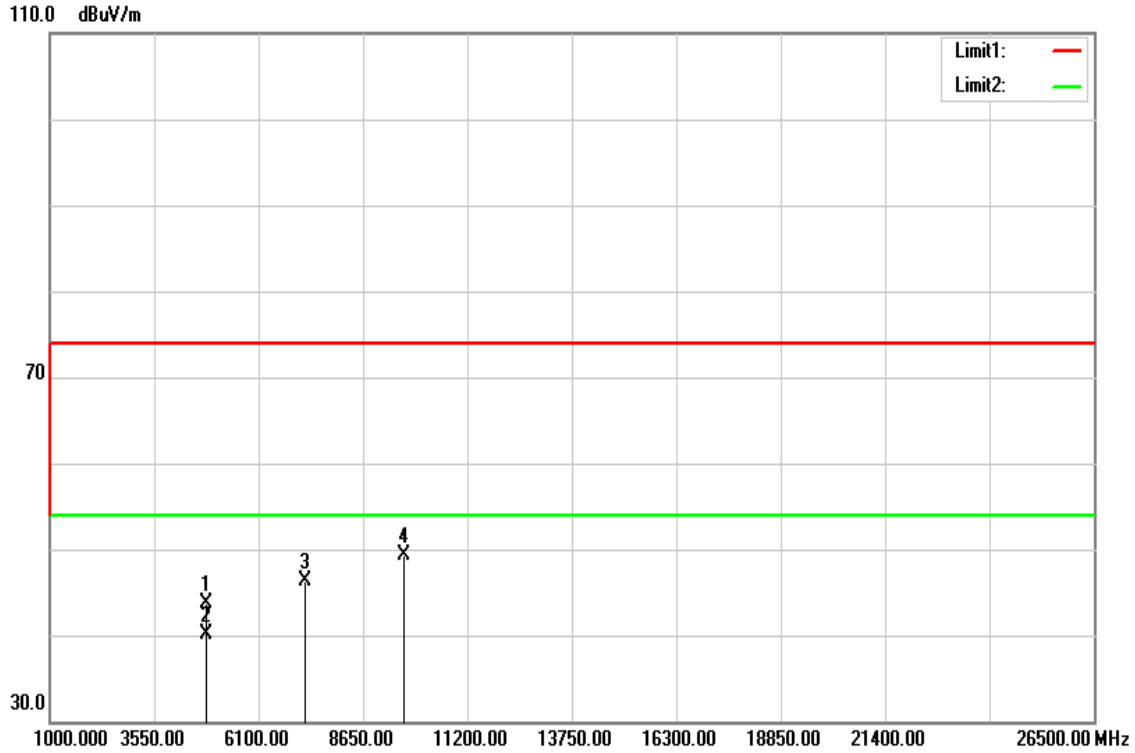


Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
4824.000	39.74	5.10	44.84	74.00	-29.16	peak
4824.000	35.04	5.10	40.14	54.00	-13.86	AVG
7236.000	34.42	12.71	47.13	74.00	-26.87	peak
9648.000	33.37	17.60	50.97	74.00	-23.03	peak

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 802.11n HT20 Low CH	Temp/Hum	27(℃)/ 53%RH
Test Item	Harmonic	Test Date	Nov 08, 2016
Polarize	Horizontal	Test Engineer	Dennis Li
Detector	Peak and Average	Test Voltage	120Vac / 60Hz

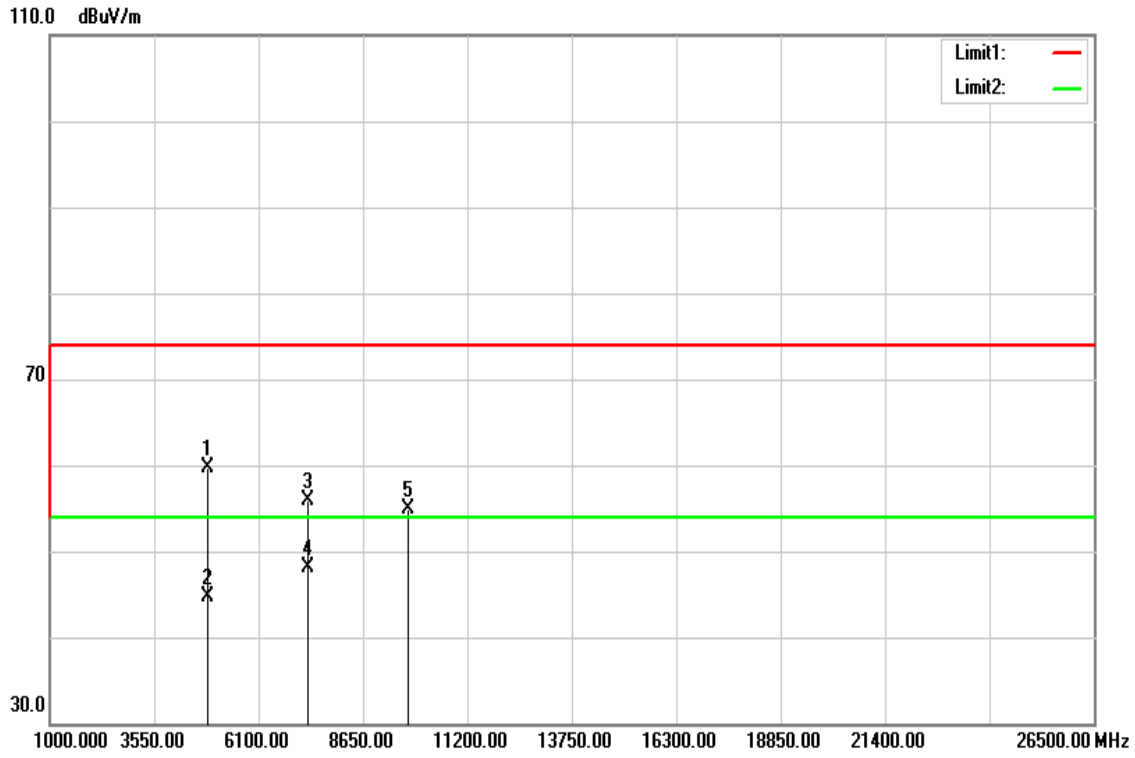


Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
4824.000	38.56	5.10	43.66	74.00	-30.34	peak
4824.000	35.00	5.10	40.10	54.00	-13.90	AVG
7236.000	33.67	12.71	46.38	74.00	-27.62	peak
9648.000	31.78	17.60	49.38	74.00	-24.62	peak

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 802.11n HT20 Mid CH	Temp/Hum	27(℃)/ 53%RH
Test Item	Harmonic	Test Date	Nov 08, 2016
Polarize	Vertical	Test Engineer	Dennis Li
Detector	Peak and Average	Test Voltage	120Vac / 60Hz

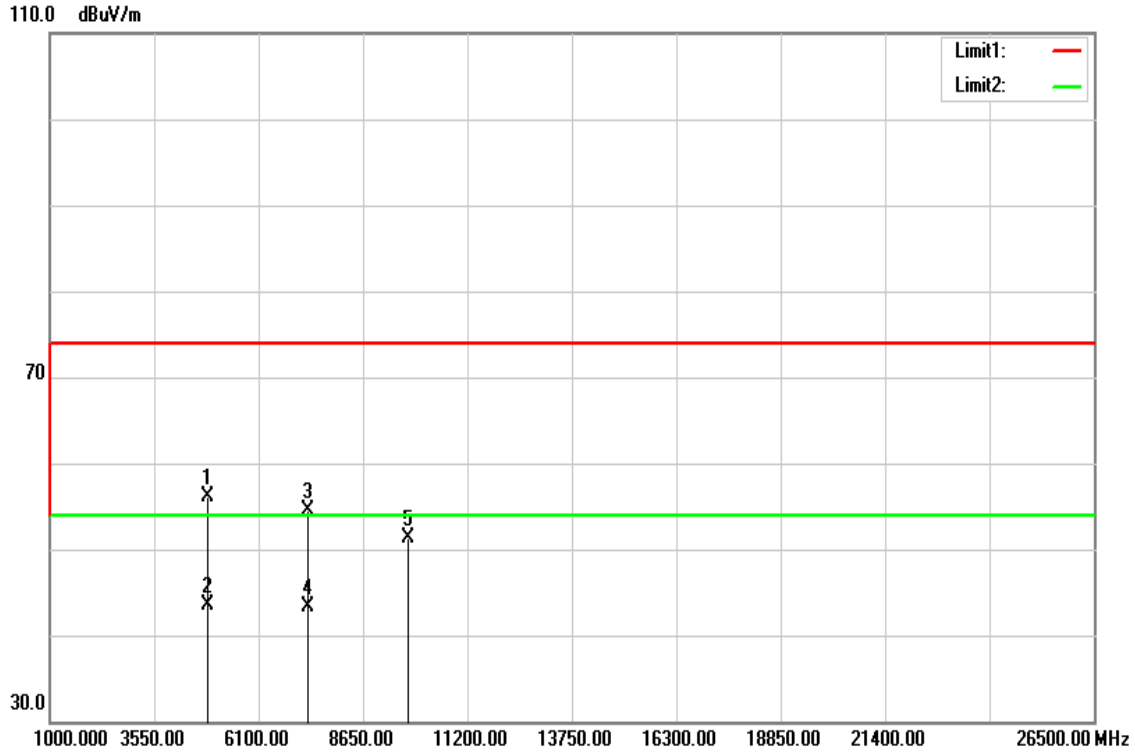


Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
4869.000	54.48	5.22	59.70	74.00	-14.30	peak
4869.000	39.44	5.22	44.66	54.00	-9.34	AVG
7312.000	43.01	12.94	55.95	74.00	-18.05	peak
7312.000	35.10	12.94	48.04	54.00	-5.96	AVG
9741.000	37.36	17.60	54.96	74.00	-19.04	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 802.11n HT20 Mid CH	Temp/Hum	27(℃)/ 53%RH
Test Item	Harmonic	Test Date	Nov 08, 2016
Polarize	Horizontal	Test Engineer	Dennis Li
Detector	Peak and Average	Test Voltage	120Vac / 60Hz

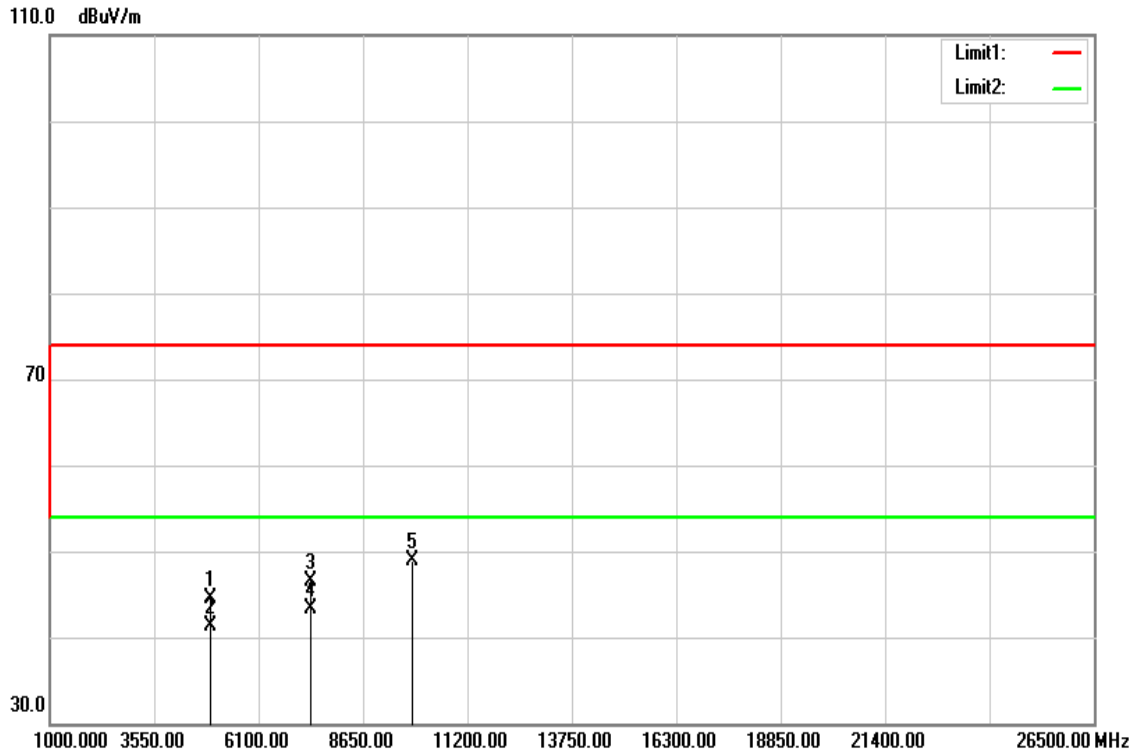


Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
4869.000	50.95	5.22	56.17	74.00	-17.83	peak
4869.000	38.31	5.22	43.53	54.00	-10.47	AVG
7312.000	41.57	12.94	54.51	74.00	-19.49	peak
7312.000	30.31	12.94	43.25	54.00	-10.75	AVG
9741.000	33.75	17.60	51.35	74.00	-22.65	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 802.11n HT20 High CH	Temp/Hum	27(℃)/ 53%RH
Test Item	Harmonic	Test Date	Nov 08, 2016
Polarize	Vertical	Test Engineer	Dennis Li
Detector	Peak and Average	Test Voltage	120Vac / 60Hz

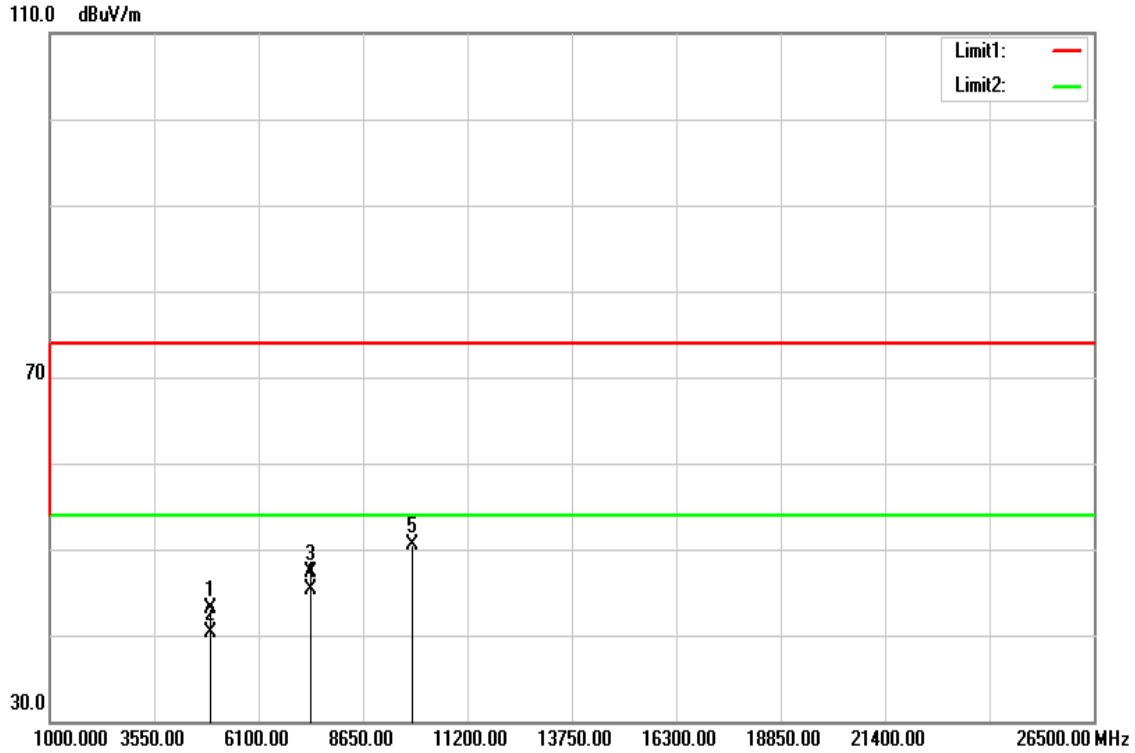


Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
4924.000	39.22	5.37	44.59	74.00	-29.41	peak
4924.000	35.88	5.37	41.25	54.00	-12.75	AVG
7386.000	33.43	13.17	46.60	74.00	-27.40	peak
7386.000	30.19	13.17	43.36	54.00	-10.64	AVG
9848.000	31.29	17.60	48.89	74.00	-25.11	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 802.11n HT20 High CH	Temp/Hum	27(℃)/ 53%RH
Test Item	Harmonic	Test Date	Nov 08, 2016
Polarize	Horizontal	Test Engineer	Dennis Li
Detector	Peak and Average	Test Voltage	120Vac / 60Hz

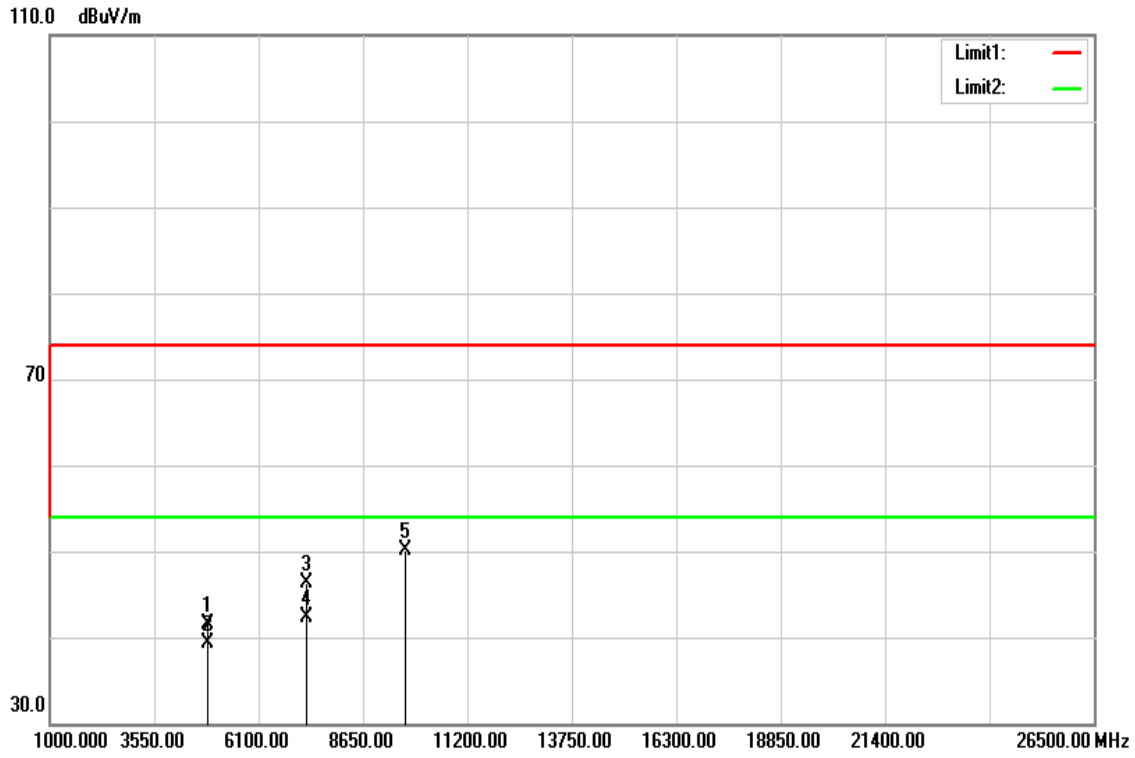


Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
4924.000	37.71	5.37	43.08	74.00	-30.92	peak
4924.000	34.84	5.37	40.21	54.00	-13.79	AVG
7386.000	34.14	13.17	47.31	74.00	-26.69	peak
7386.000	32.19	13.17	45.36	54.00	-8.64	AVG
9848.000	32.93	17.60	50.53	74.00	-23.47	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 802.11n HT40 Low CH	Temp/Hum	27(℃)/ 53%RH
Test Item	Harmonic	Test Date	Nov 08, 2016
Polarize	Vertical	Test Engineer	Dennis Li
Detector	Peak and Average	Test Voltage	120Vac / 60Hz

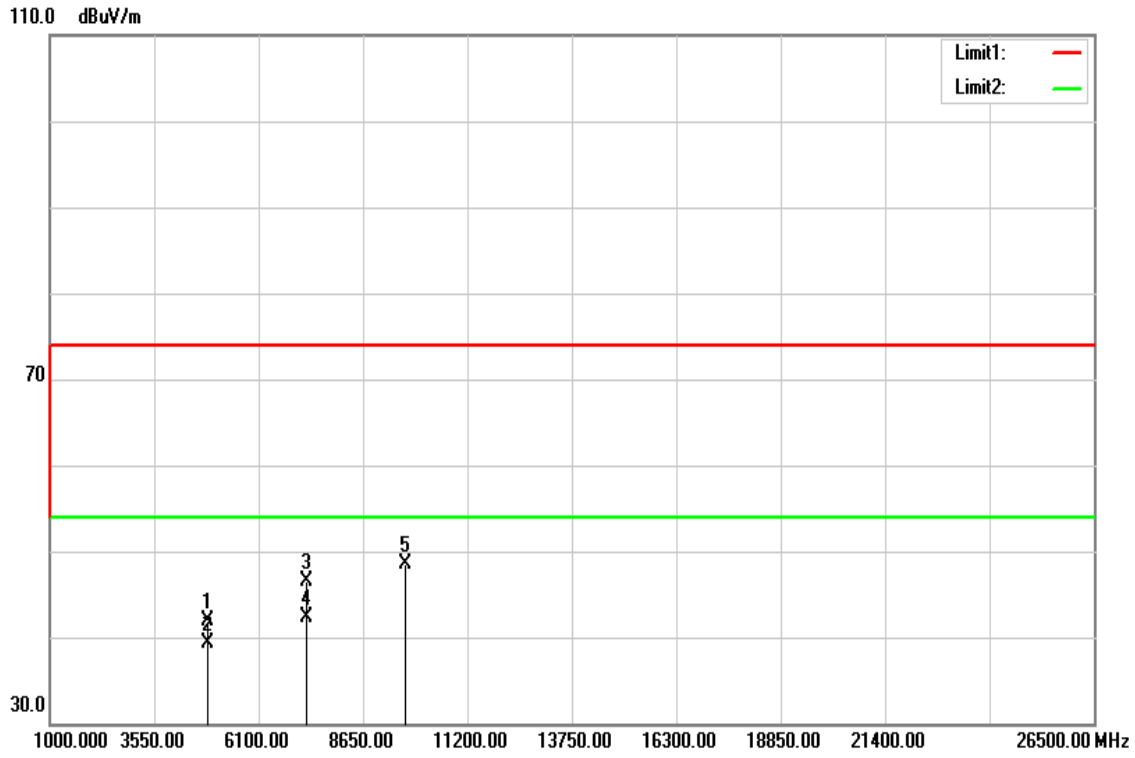


Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
4844.000	36.42	5.15	41.57	74.00	-32.43	peak
4844.000	34.20	5.15	39.35	54.00	-14.65	AVG
7266.000	33.46	12.80	46.26	74.00	-27.74	peak
7266.000	29.56	12.80	42.36	54.00	-11.64	AVG
9688.000	32.42	17.60	50.02	74.00	-23.98	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 802.11n HT40 Low CH	Temp/Hum	27(℃)/ 53%RH
Test Item	Harmonic	Test Date	Nov 08, 2016
Polarize	Horizontal	Test Engineer	Dennis Li
Detector	Peak and Average	Test Voltage	120Vac / 60Hz

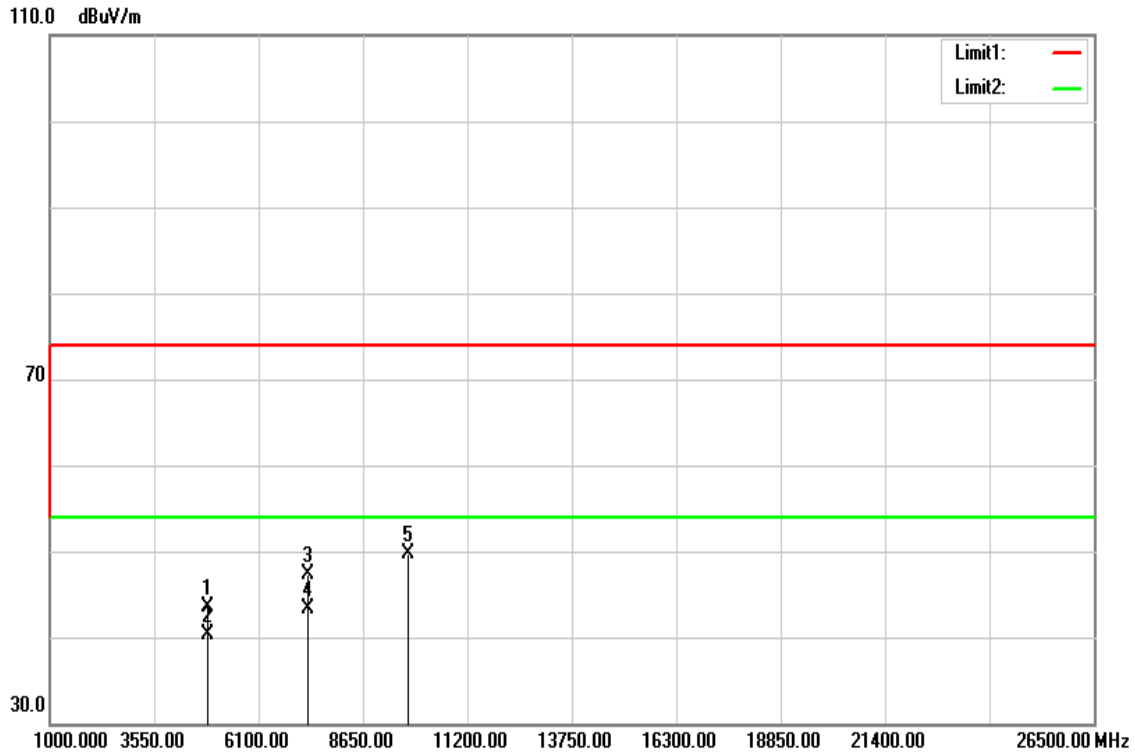


Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
4844.000	36.83	5.15	41.98	74.00	-32.02	peak
4844.000	34.20	5.15	39.35	54.00	-14.65	AVG
7266.000	33.79	12.80	46.59	74.00	-27.41	peak
7266.000	29.45	12.80	42.25	54.00	-11.75	AVG
9688.000	31.00	17.60	48.60	74.00	-25.40	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 802.11n HT40 Mid CH	Temp/Hum	27(℃)/ 53%RH
Test Item	Harmonic	Test Date	Nov 08, 2016
Polarize	Vertical	Test Engineer	Dennis Li
Detector	Peak and Average	Test Voltage	120Vac / 60Hz

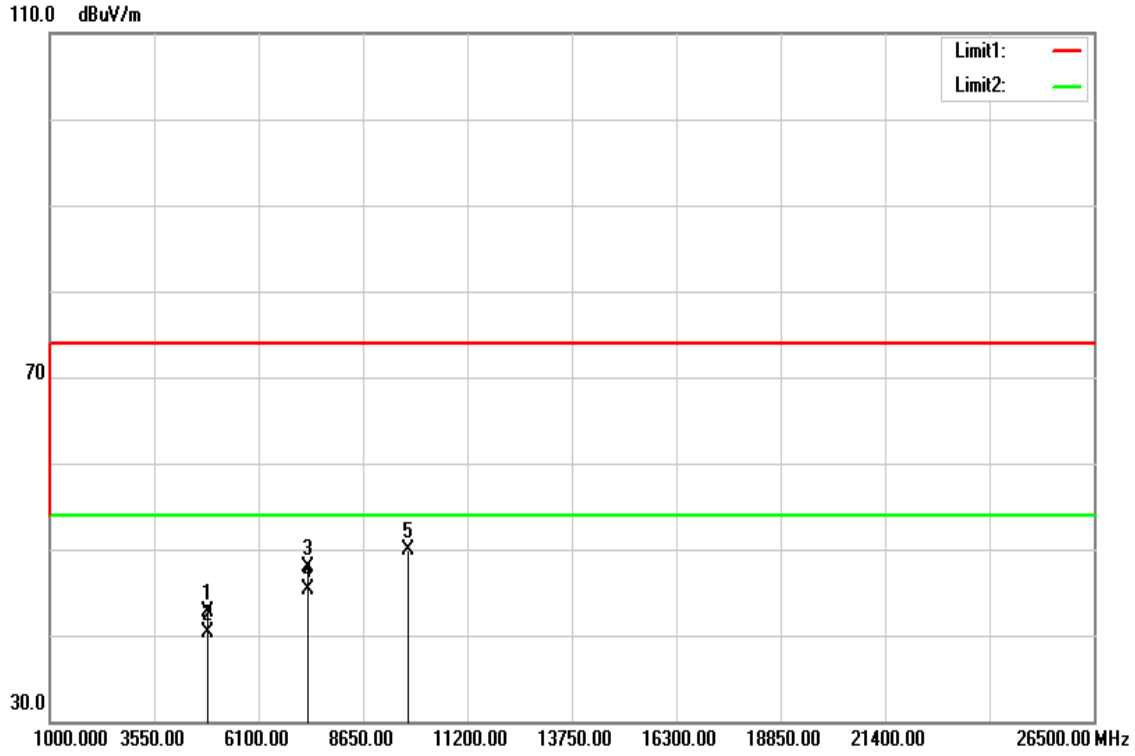


Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
4874.000	38.28	5.23	43.51	74.00	-30.49	peak
4874.000	34.98	5.23	40.21	54.00	-13.79	AVG
7311.000	34.30	12.94	47.24	74.00	-26.76	peak
7311.000	30.42	12.94	43.36	54.00	-10.64	AVG
9748.000	32.20	17.60	49.80	74.00	-24.20	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 802.11n HT40 Mid CH	Temp/Hum	27(℃)/ 53%RH
Test Item	Harmonic	Test Date	Nov 08, 2016
Polarize	Horizontal	Test Engineer	Dennis Li
Detector	Peak and Average	Test Voltage	120Vac / 60Hz

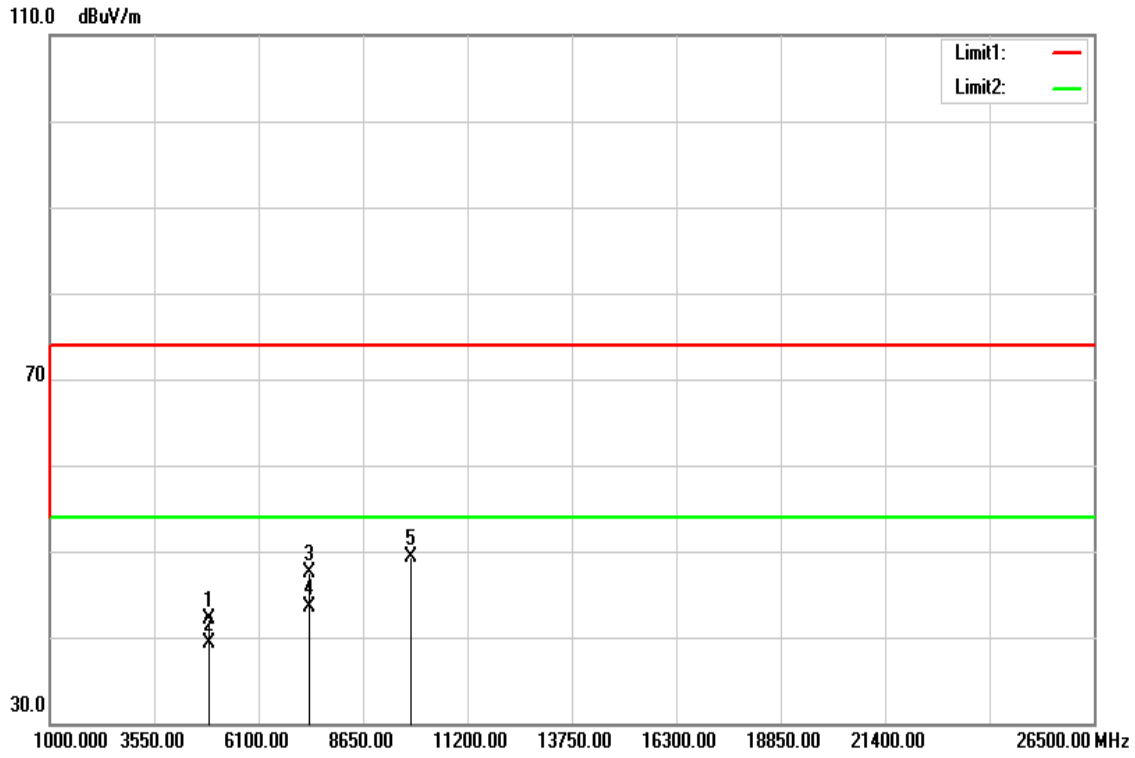


Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
4874.000	37.42	5.23	42.65	74.00	-31.35	peak
4874.000	35.02	5.23	40.25	54.00	-13.75	AVG
7311.000	34.99	12.94	47.93	74.00	-26.07	peak
7311.000	32.29	12.94	45.23	54.00	-8.77	AVG
9748.000	32.38	17.60	49.98	74.00	-24.02	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 802.11n HT40 High CH	Temp/Hum	27(℃)/ 53%RH
Test Item	Harmonic	Test Date	Nov 08, 2016
Polarize	Vertical	Test Engineer	Dennis Li
Detector	Peak and Average	Test Voltage	120Vac / 60Hz

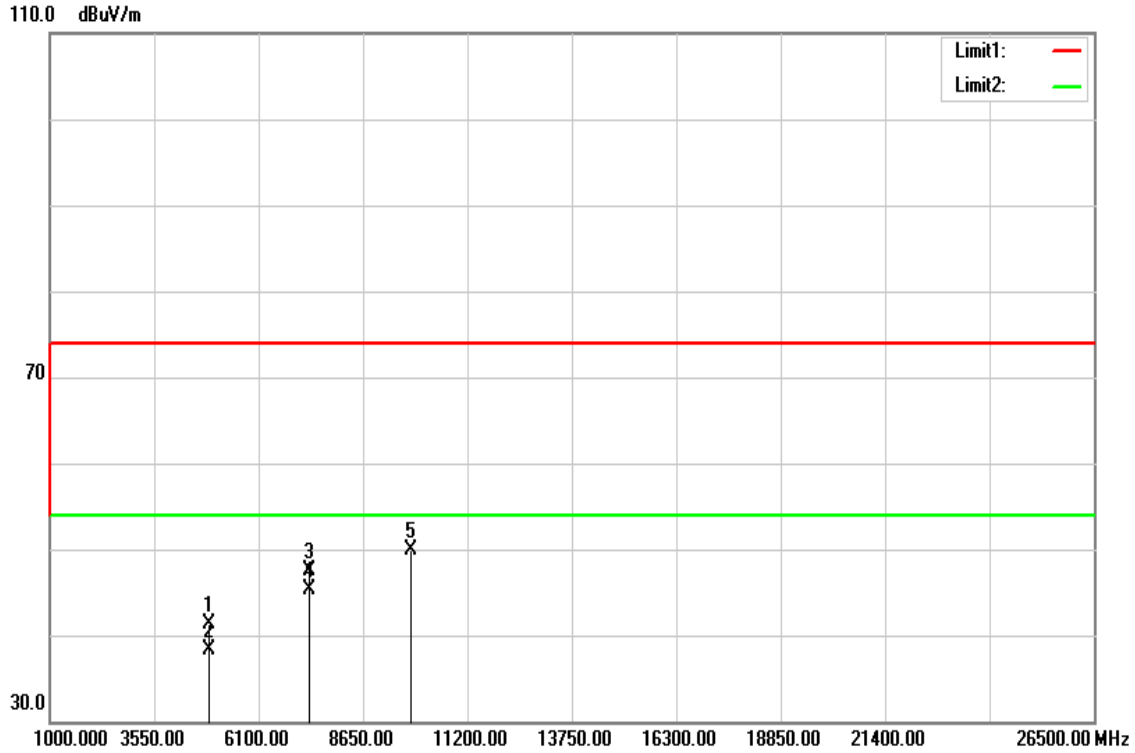


Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
4904.000	36.81	5.31	42.12	74.00	-31.88	peak
4904.000	33.94	5.31	39.25	54.00	-14.75	AVG
7356.000	34.42	13.08	47.50	74.00	-26.50	peak
7356.000	30.46	13.08	43.54	54.00	-10.46	AVG
9808.000	31.79	17.60	49.39	74.00	-24.61	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 802.11n HT40 High CH	Temp/Hum	27(℃)/ 53%RH
Test Item	Harmonic	Test Date	Nov 08, 2016
Polarize	Horizontal	Test Engineer	Dennis Li
Detector	Peak and Average	Test Voltage	120Vac / 60Hz



Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
4904.000	36.01	5.31	41.32	74.00	-32.68	peak
4904.000	33.05	5.31	38.36	54.00	-15.64	AVG
7356.000	34.49	13.08	47.57	74.00	-26.43	peak
7356.000	32.28	13.08	45.36	54.00	-8.64	AVG
9808.000	32.21	17.60	49.81	74.00	-24.19	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*