FCC RADIO TEST REPORT
FCC 47 CFR PART 15 SUBPART C

Test Standard	**FCC Part 15.247**
FCC ID	**2API8-RITGAA00A1001**
Brand name	**Renown**
Product name	**Patient Information Display**
Model No.	**PID-1000S**
Test Result	**Pass**

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

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

Testing Laboratory
1309

Approved by:

Sam Chuang
Manager

Tested by:

Jerry Chuang
Engineer

Revision History

Rev.	Issue Date	Revisions	Revised By
00	March 5, 2018	Initial Issue	Becca Chen
01	May 18, 2018	1. Modify FCC ID in page 1. 2. Modify Instrument calibration in page 7. 3. Modify The worst mode of measurement remark 2 in page 11.	Becca Chen
02	May 22, 2018	1. Modify The worst mode of measurement remark 2 in page 11.	Becca Chen

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1. GENERAL INFORMATION

1.1 EUT INFORMATION

Applicant	Renown Information Technology Corp. 15F., NO.207-3, SEC. 3, BEIXIN RD., XINDIAN DIST., NEW TAIPEI CITY 23143, TAIWAN (R.O.C)
Manufacturer	Renown Information Technology Corp. 15F., NO.207-3, SEC. 3, BEIXIN RD., XINDIAN DIST., NEW TAIPEI CITY 23143, TAIWAN (R.O.C)
Equipment	Patient Information Display
Model No.	PID-1000S
Model Discrepancy	N/A
Received Date	February 7, 2018
Date of Test	February 21 ~ 27, 2018
Output Power(W)	IEEE 802.11b mode: 0.0592 IEEE 802.11g mode: 0.1002 IEEE 802.11n HT 20 MHz mode: 0.0991
Power Supply	Powered from host device via USB Cable: 5Vdc, 1A

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
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

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 Type	☐ PIFA ☒ PCB ☐ Dipole ☐ Coils
Antenna Gain	Gain: -2.41dBi

1.4 MEASUREMENT UNCERTAINTY

PARAMETER	UNCERTAINTY
AC Powerline Conducted Emission	+/- 2.96
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	Eric Lee	-
Radiation	Jerry Chuang	-
RF Conducted	Eric Lee	-

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

1.6 INSTRUMENT CALIBRATION

RF Conducted Test Site					
Equipment	**Manufacturer**	**Model**	**Serial Number**	**Calibration Date**	**Calibration Due**
Power Meter	Anritsu	ML2495A	1012009	07/03/2017	07/02/2018
Power Sensor	Anritsu	MA2411B	917072	07/03/2017	07/02/2018
Spectrum Analyzer	R&S	FSV 40	101073	10/02/2017	10/01/2018
Directional Coupler	Agilent	87301D	MY44350252	07/25/2017	07/24/2018
SUCOFLEX Cable	HUBER SUHNER	SUCOFLEX 104PEA	25157	07/31/2017	07/30/2018
Divider	Solvang Technology	2-18GHz 4Way	STI08-0015	07/26/2017	07/25/2018

3M 966 Chamber Test Site					
Equipment	**Manufacturer**	**Model**	**Serial Number**	**Calibration Date**	**Calibration Due**
Bilog Antenna	Sunol Sciences	JB3	A030105	06/20/2017	06/19/2018
Horn Antenna	ETC	MCTD 1209	DRH13M02003	08/25/2017	08/24/2018
Loop Ant	COM-POWER	AL-130	121051	03/21/2018	03/20/2019
Pre-Amplifier	EMEC	EM330	60609	06/07/2017	06/06/2018
Spectrum Analyzer	Agilent	E4446A	US42510252	11/27/2017	11/26/2018
Antenna Tower	CCS	CC-A-1F	N/A	N.C.R	N.C.R
Controller	CCS	CC-C-1F	N/A	N.C.R	N.C.R
Turn Table	CCS	CC-T-1F	N/A	N.C.R	N.C.R
Pre-Amplifier	HP	8449B	3008A00965	06/27/2017	06/26/2018
Filter	Micro-Tronics	BRM50702	120	05/15/2017	05/14/2018
Cable	HUBER SUHNER	SUCOFLEX 104PEA	25157	07/31/2017	07/30/2018
Cable	HUBER SUHNER	SUCOFLEX 104PEA	20995	07/31/2017	07/30/2018

AC Conducted Emissions Test Site					
Equipment	**Manufacturer**	**Model**	**Serial Number**	**Calibration Date**	**Calibration Due**
LISN	SCHAFFNER	NNB41	03/10013	02/06/2018	02/05/2019
LISN	SCHWARZBECK	NSLK 8127	8127-541	02/09/2018	02/08/2019
EMI Test Receiver	R&S	ESCI	100064	05/17/2017	05/16/2018

Note:

1. *The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.*
2. *N.C.R. = No Calibration Required.*

1.7 SUPPORT AND EUT ACCESSORIES EQUIPMENT

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

Support Equipment					
No.	**Equipment**	**Brand**	**Model**	**Series No.**	**FCC ID**
1.	NB(B)	TOSHIBA	PORTEGE R30-A	N/A	PD97260H

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 v04

2. TEST SUMMERY

FCC Standard Section	Report Section	Test Item	Result
15.203	1.3	Antenna Requirement	Pass
15.207(a)	4.1	AC Conducted Emission	Pass
15.247(a)(2)	4.2	6 dB Bandwidth	Pass
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
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
Operation Transmitter	IEEE 802.11b mode :1T1R IEEE 802.11g mode :1T1R IEEE 802.11n HT20 mode :1T1R

Remark: *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	**DC 5V**
Test Mode	**Mode 1: Powered from host device via USB 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	**DC 5V**
Test Mode	**Mode 1: Powered from host device via USB Cable.**
Worst Mode	**☒ Mode 1 ☐ Mode 2 ☐ Mode 3 ☐ Mode 4**
Worst Position	**☐ Placed in fixed position.** **☐ Placed in fixed position at X-Plane (E2-Plane)** **☐ Placed in fixed position at Y-Plane (E1-Plane)** **☒ Placed in fixed position at Z-Plane (H-Plane)**
Worst Polarity	**☐ Horizontal ☒ Vertical**

Radiated Emission Measurement Below 1G	
Test Condition	**Radiated Emission Below 1G**
Voltage/Hz	**DC 5V**
Test Mode	**Mode 1: Powered from host device via USB Cable.**
Worst Mode	**☒ Mode 1 ☐ Mode 2 ☐ Mode 3 ☐ Mode 4**

Remark:

1. The worst mode was record in this test report.

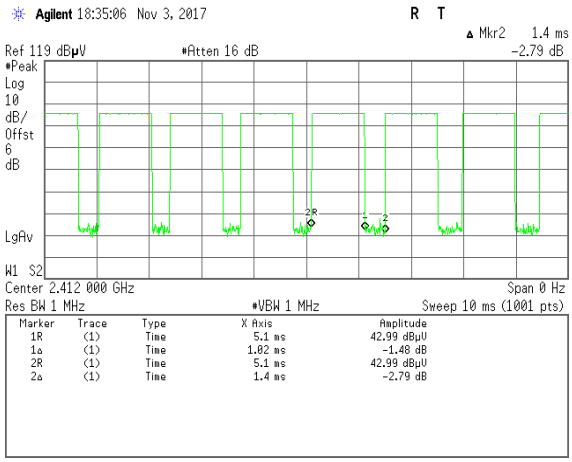
2. EUT pre-scanned in three axis, X, Y, Z and two polarity, Horizontal and Vertical for radiated measurement. The worst case (Z-Plane and Vertical Polarity) were recorded in this report

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.

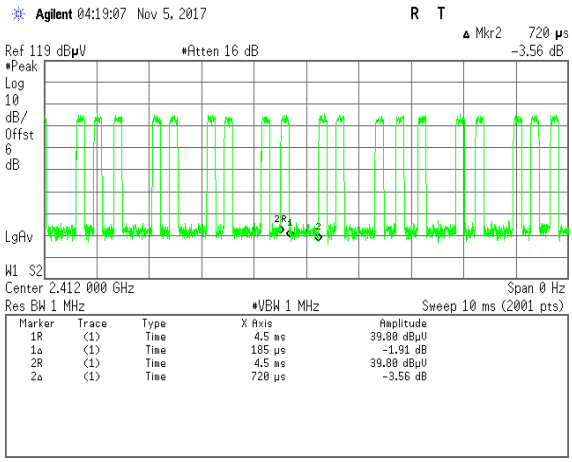
3.3 EUT DUTY CYCLE

Duty Cycle				
Configuration	TX ON (ms)	TX ALL (ms)	Duty Cycle (%)	Duty Factor(dB)
802.11b	1.0200	1.4000	72.86%	1.38
802.11g	0.1850	0.7200	25.69%	5.90
802.11n HT 20	0.1800	0.7150	25.17%	5.99

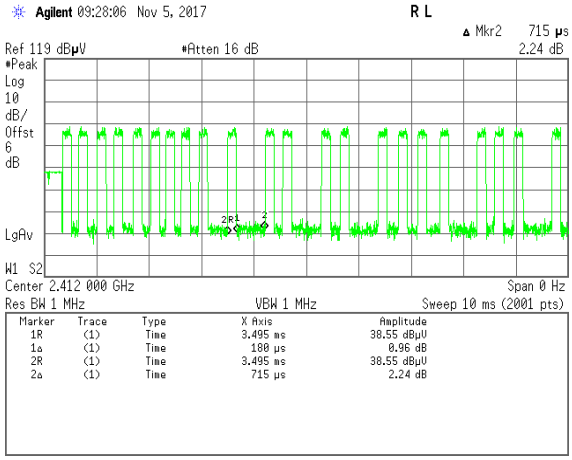
802.11b



802.11g



802.11n HT20



4. TEST RESULT

4.1 AC POWER LINE CONDUCTED EMISSION

4.1.1 Test Limit

According to §15.207(a)(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

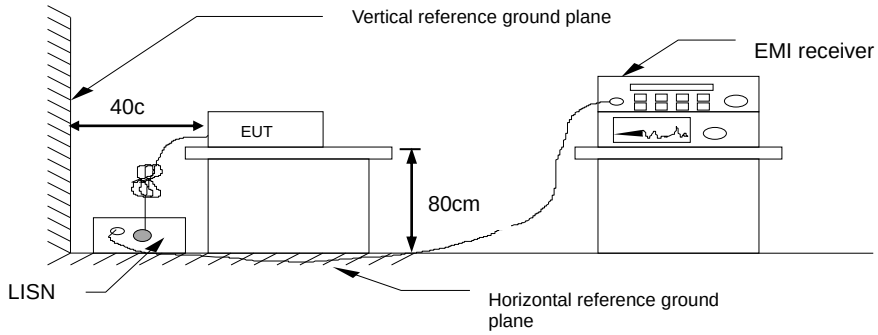
* Decreases with the logarithm of the frequency.

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

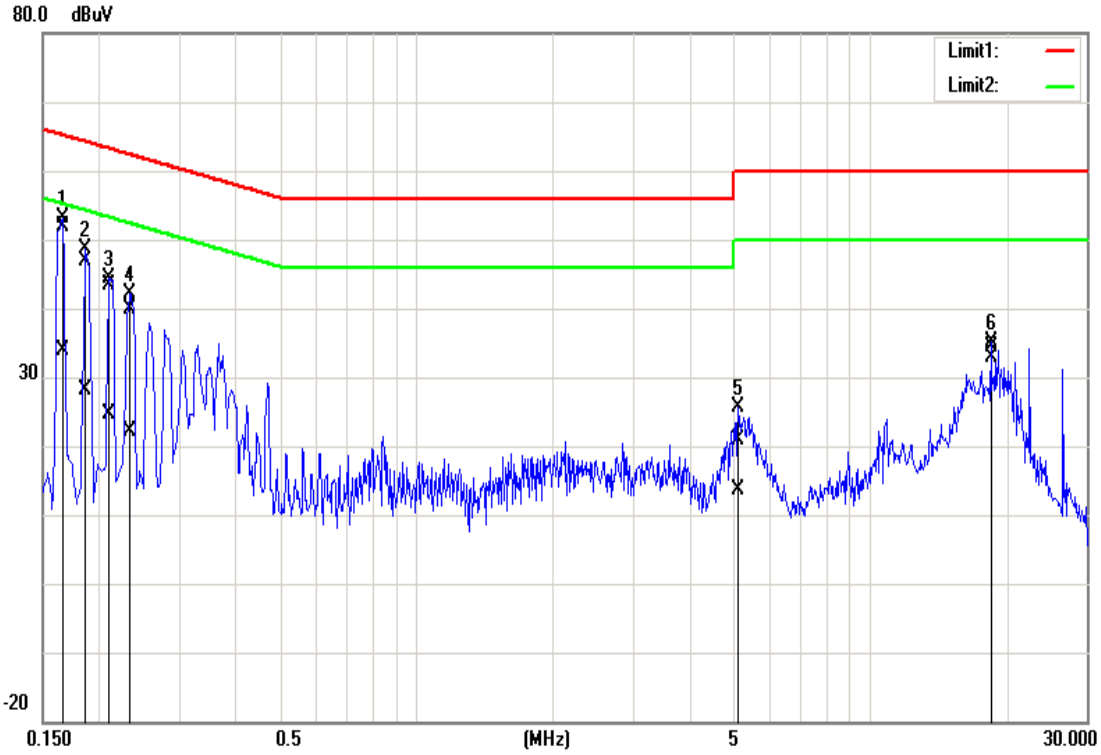


4.1.4 Test Result

Pass.

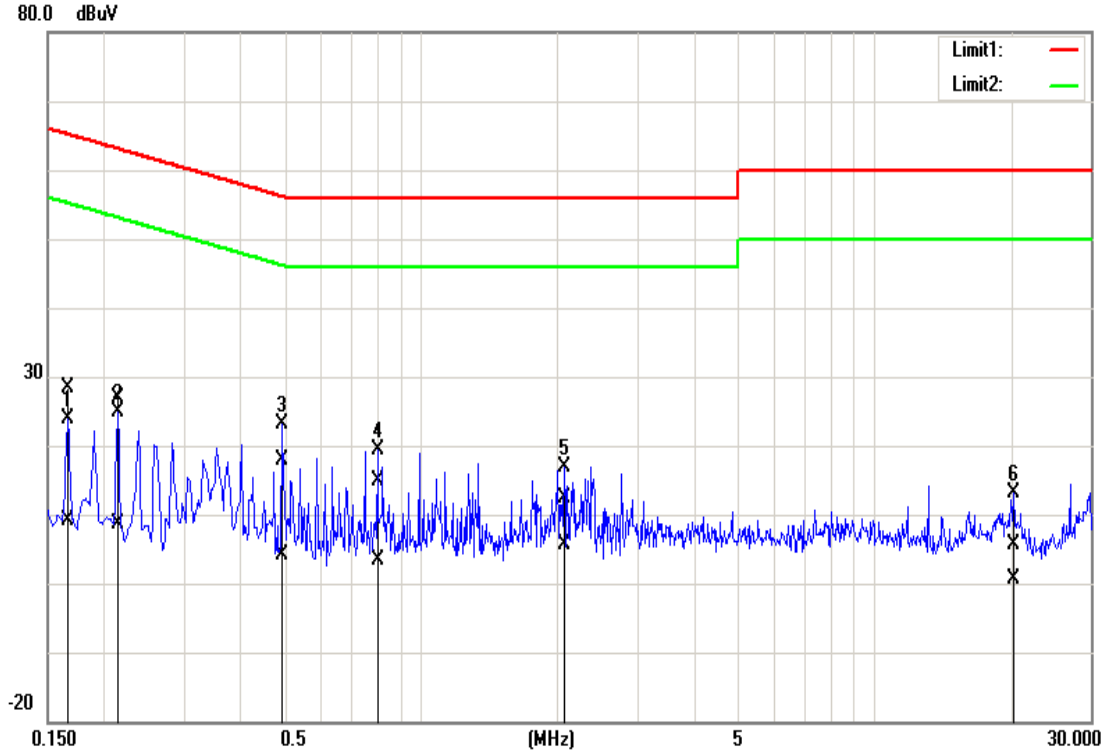
Test Data

Test Mode:	Mode 1	Temp/Hum	24(℃) / 50%RH
Test Voltage:	DC 5V	Test Date	2018/2/21
Phase:	Line	Test Engineer	Eric Lee



No.	Frequency	QuasiPeak reading	Average reading	Correction factor	QuasiPeak result	Average result	QuasiPeak limit	Average limit	QuasiPeak margin	Average margin	Remark
	(MHz)	(dBuV)	(dBuV)	(dB)	(dBuV)	(dBuV)	(dBuV)	(dBuV)	(dB)	(dB)	
1*	0.1660	51.84	33.79	0.05	51.89	33.84	65.16	55.16	-13.27	-21.32	Pass
2	0.1860	46.92	28.17	0.05	46.97	28.22	64.21	54.21	-17.24	-25.99	Pass
3	0.2100	43.26	24.60	0.05	43.31	24.65	63.21	53.21	-19.90	-28.56	Pass
4	0.2340	39.81	22.16	0.05	39.86	22.21	62.31	52.31	-22.45	-30.10	Pass
5	5.1380	20.75	13.59	0.09	20.84	13.68	60.00	50.00	-39.16	-36.32	Pass
6	18.4340	33.89	32.51	0.40	34.29	32.91	60.00	50.00	-25.71	-17.09	Pass

Test Mode:	Mode 1	Temp/Hum	24(℃) / 50%RH
Test Voltage:	DC 5V	Test Date	2018/2/21
Phase:	Neutral	Test Engineer	Eric Lee



No.	Frequency	QuasiPeak reading	Average reading	Correction factor	QuasiPeak result	Average result	QuasiPeak limit	Average limit	QuasiPeak margin	Average margin	Remark
	(MHz)	(dBuV)	(dBuV)	(dB)	(dBuV)	(dBuV)	(dBuV)	(dBuV)	(dB)	(dB)	
1	0.1540	43.30	23.99	0.12	43.42	24.11	65.78	55.78	-22.36	-31.67	Pass
2	0.1780	40.69	20.35	0.12	40.81	20.47	64.58	54.58	-23.77	-34.11	Pass
3	0.2020	36.45	19.19	0.12	36.57	19.31	63.53	53.53	-26.96	-34.22	Pass
4	0.3620	26.29	18.93	0.13	26.42	19.06	58.68	48.68	-32.26	-29.62	Pass
5	5.2340	20.08	13.33	0.24	20.32	13.57	60.00	50.00	-39.68	-36.43	Pass
6*	18.4340	34.04	32.68	0.47	34.51	33.15	60.00	50.00	-25.49	-16.85	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

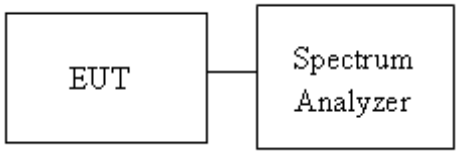
Occupied Bandwidth(99%) ： For reporting purposes only.

4.2.2 Test Procedure

Test method Refer as KDB 558074 D01 v04, 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 6dB Bandwidth
4. SA set RBW = 1% ~ 5% OBW, VBW = three times the RBW and Detector = Peak, to measurement 99% Bandwidth
5. 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	14.0231	--	9.1304	--	≥500
Mid	2437	14.0665	--	9.1304	--	
High	2462	14.0665	--	9.1304	--	

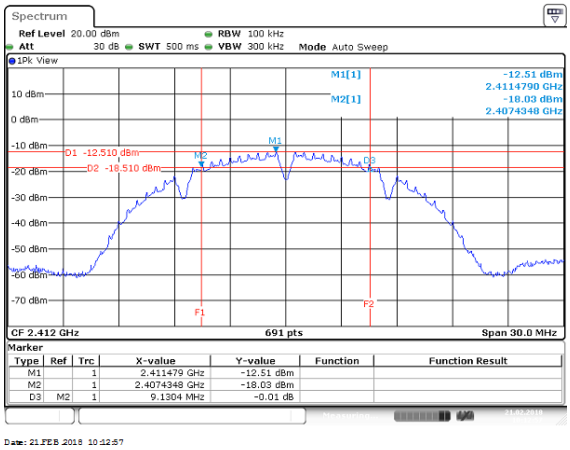
Test mode: IEEE 802.11g mode / 2412-2462 MHz						
Channel	Frequency (MHz)	Chain 0 OBW(99%) (MHz)	Chain 1 OBW(99%) (MHz)	Chain 0 6dB BW (MHz)	Chain 1 6dB BW (MHz)	6dB limit (kHz)
Low	2412	16.3675	--	15.1304	--	≥500
Mid	2437	16.3675	--	15.1304	--	
High	2462	16.4109	--	15.1304	--	

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	17.4963	--	15.1304	--	≥500
Mid	2437	17.5397	--	15.1304	--	
High	2462	17.4529	--	15.1304	--	

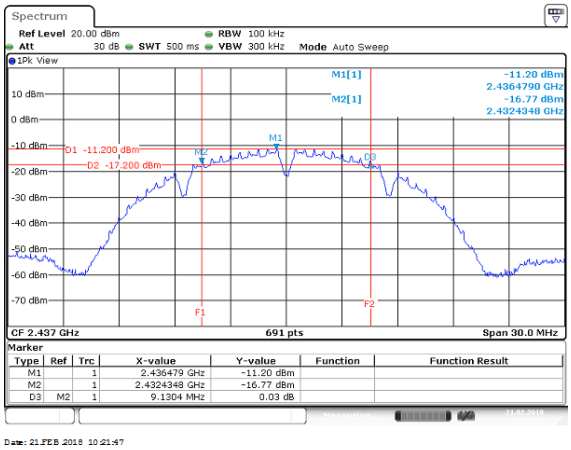
6dB BW Test Data

IEEE 802.11b mode- chain 0

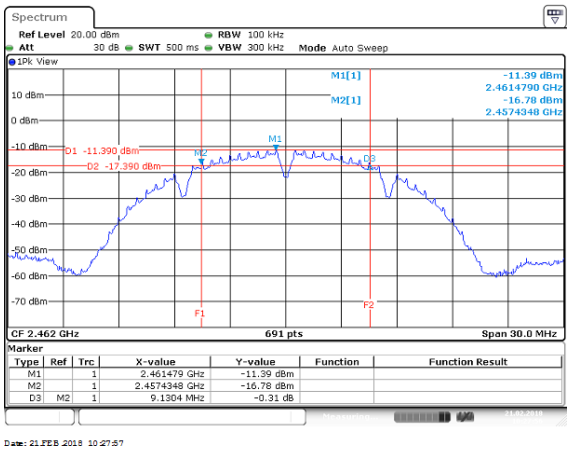
Low CH



Mid CH

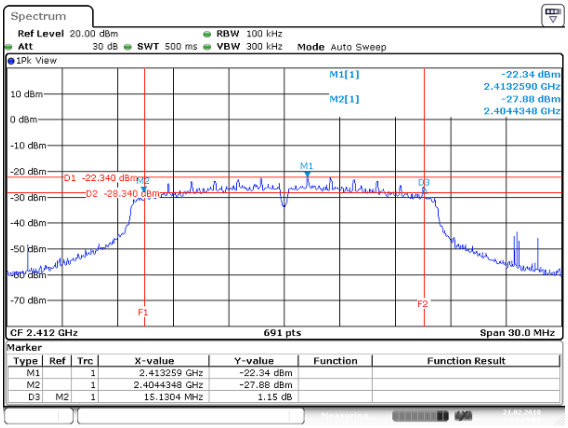


High CH

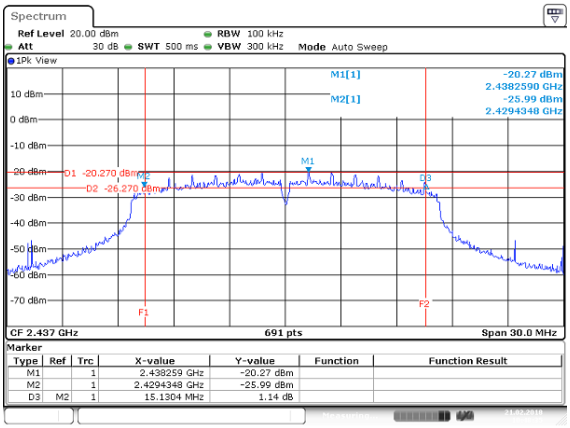


IEEE 802.11g mode- chain 0

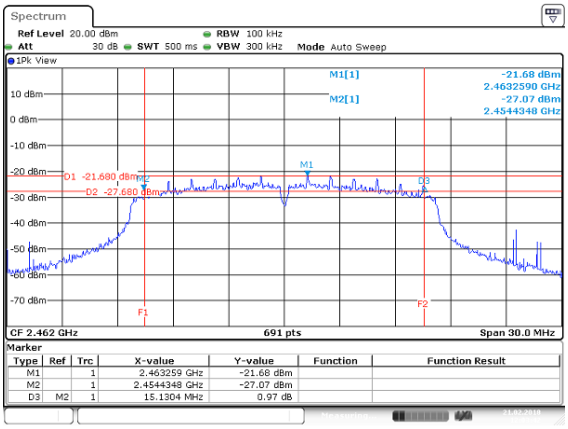
Low CH



Mid CH

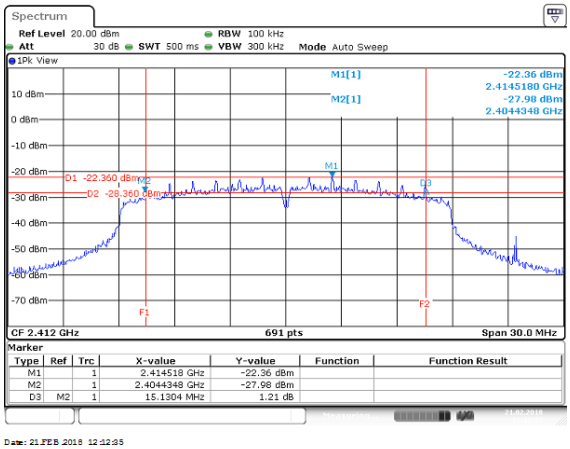


High CH



IEEE 802.11n HT20 mode- chain 0

Low CH



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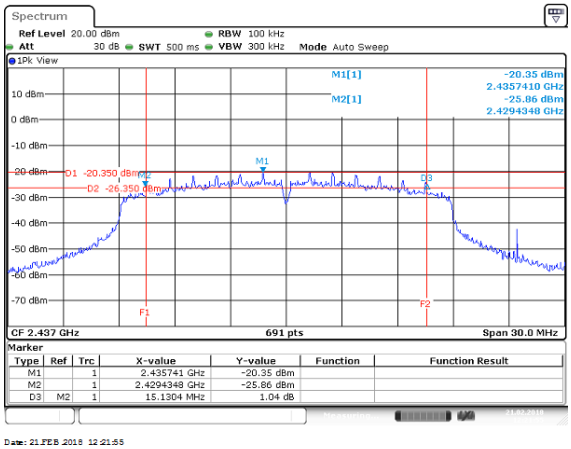
Mid CH



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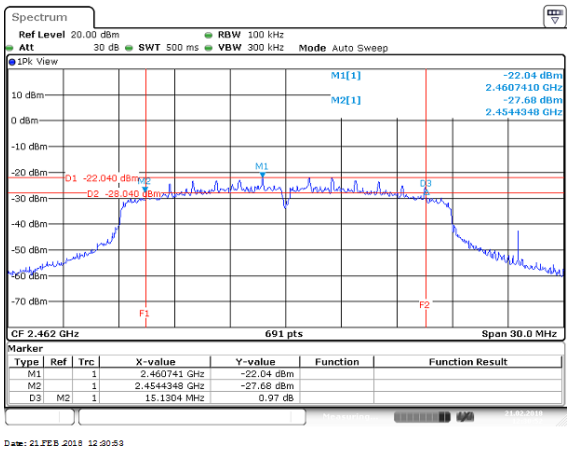
High CH



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OBW(99%) Test Data

IEEE 802.11b mode- chain 0	
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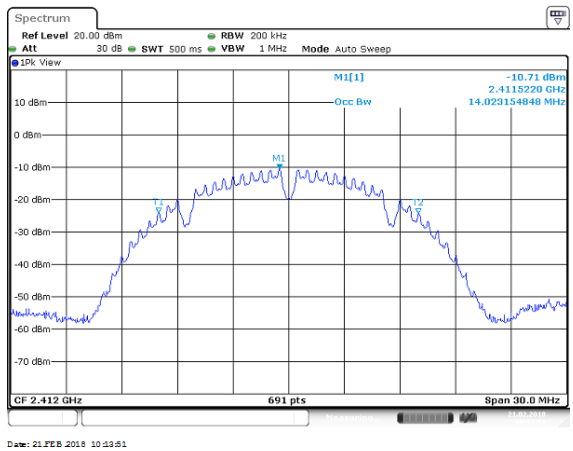
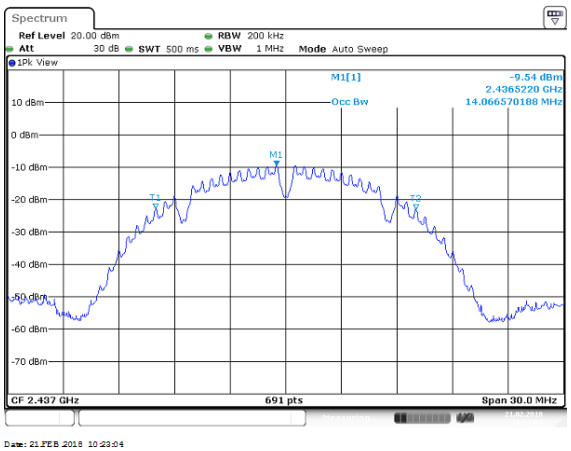
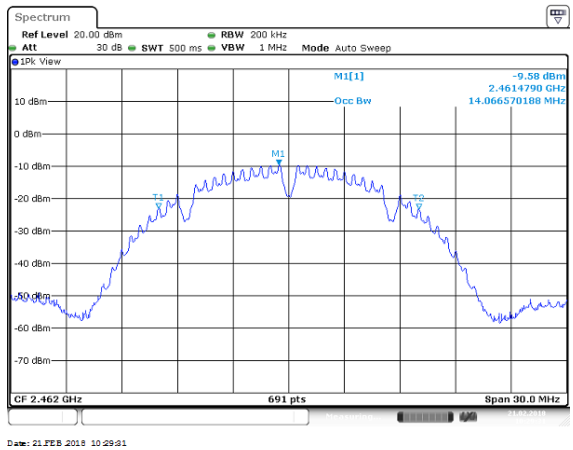
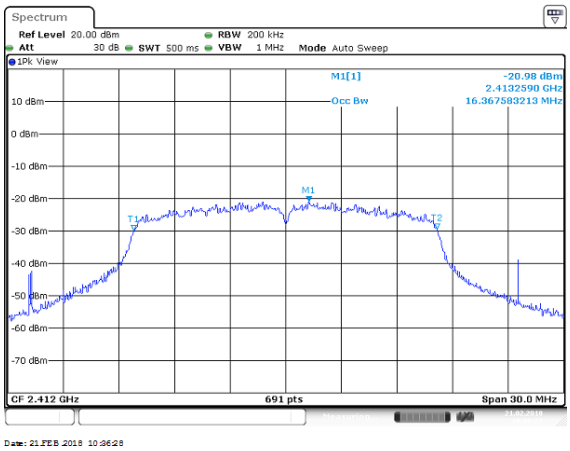
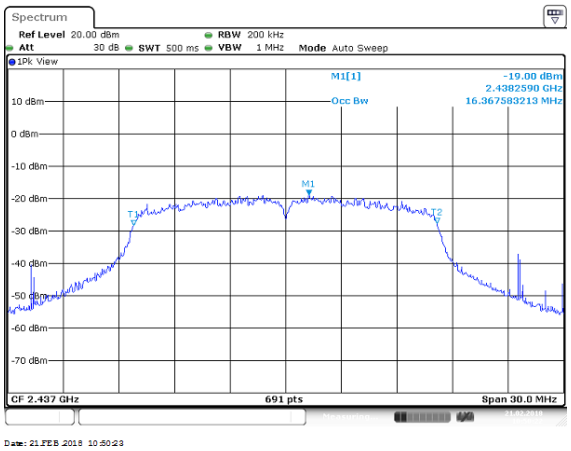
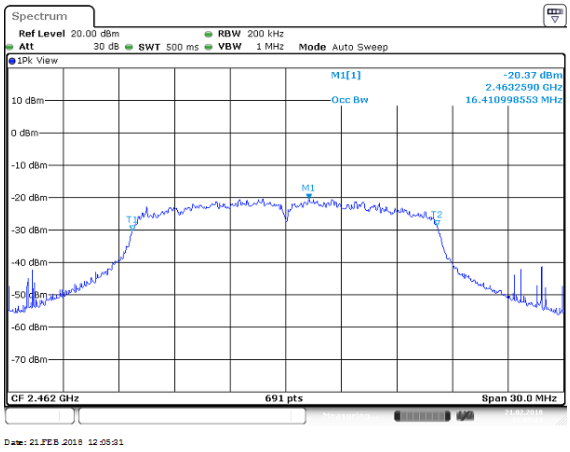
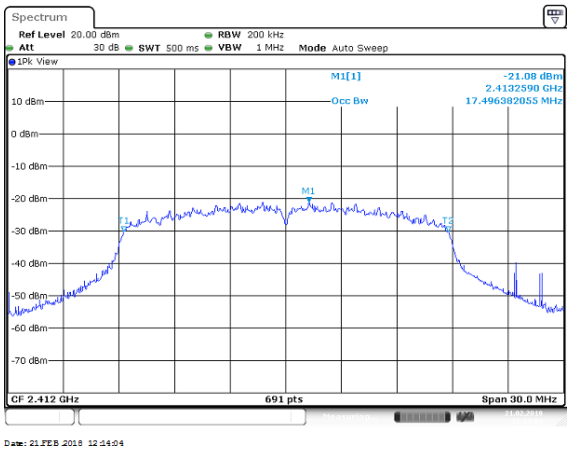
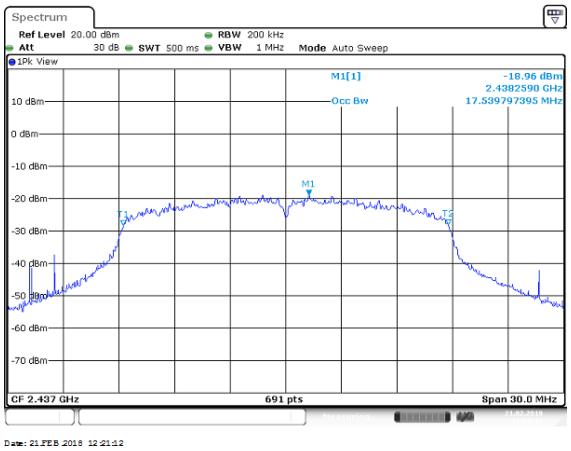
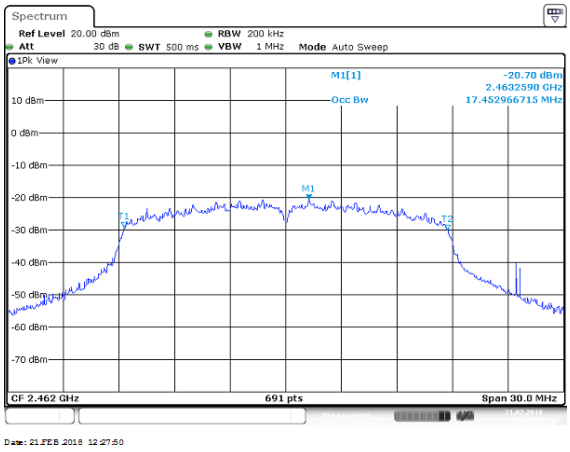
	
High CH	
	

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

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

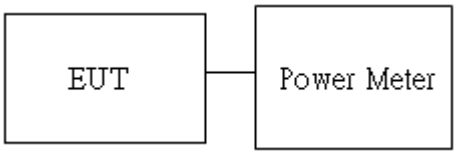
Average output power：For reporting purposes only.

4.3.2 Test Procedure

Test method Refer as KDB 558074 D01 v04, 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									
Config	CH	Freq. (MHz)	Power Set		PK Power (dBm)		PK Total Power (dBm)	PK Total Power (W)	Limit
			Chain 0	Chain 1	Chain 0	Chain 1			
IEEE 802.11b Data rate: 1Mbps	Low	2412	de fault	--	16.41	--	16.41	0.0438	30
	Mid	2437	de fault	--	17.72	--	17.72	0.0592	
	High	2462	de fault	--	17.08	--	17.08	0.0511	
IEEE 802.11g Data rate: 6Mbps	Low	2412	de fault	--	19.36	--	19.36	0.0863	
	Mid	2437	de fault	--	20.01	--	20.01	0.1002	
	High	2462	de fault	--	19.51	--	19.51	0.0893	
IEEE 802.11n HT 20 Data rate: MCS 0	Low	2412	de fault	--	19.34	--	19.34	0.0859	
	Mid	2437	de fault	--	19.96	--	19.96	0.0991	
	High	2462	de fault	--	19.56	--	19.56	0.0904	

Average output power：

WIFI 2.4G					
Config	CH	Freq. (MHz)	AV Power (dBm)		AV Total Power (dBm)
			Chain 0	Chain 1	
IEEE 802.11b Data rate: 1Mbps	Low	2412	14.20	--	14.20
	Mid	2437	15.69	--	15.69
	High	2462	14.84	--	14.84
IEEE 802.11g Data rate: 6Mbps	Low	2412	10.05	--	10.05
	Mid	2437	14.87	--	14.87
	High	2462	10.91	--	10.91
IEEE 802.11n HT 20 Data rate: MCS 0	Low	2412	9.19	--	9.19
	Mid	2437	12.87	--	12.87
	High	2462	9.64	--	9.64

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.

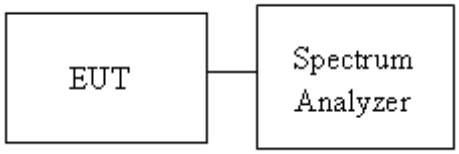
Limit	☒ Antenna not exceed 6 dBi：8dBm ☐ Antenna with DG greater than 6 dBi： [Limit = 8 – (DG – 6)] ☐ Point-to-point operation：

4.4.2 Test Procedure

Test method Refer as KDB 558074 D01 v04, 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



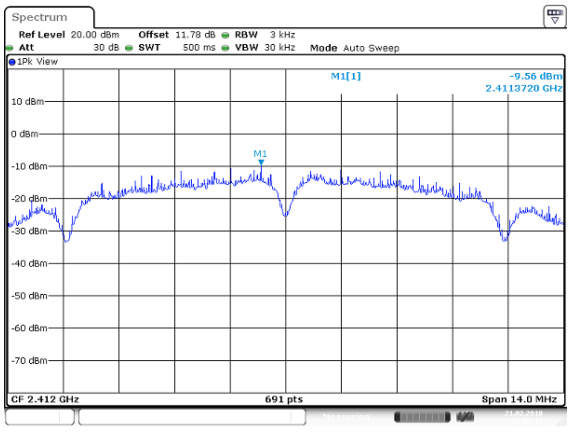
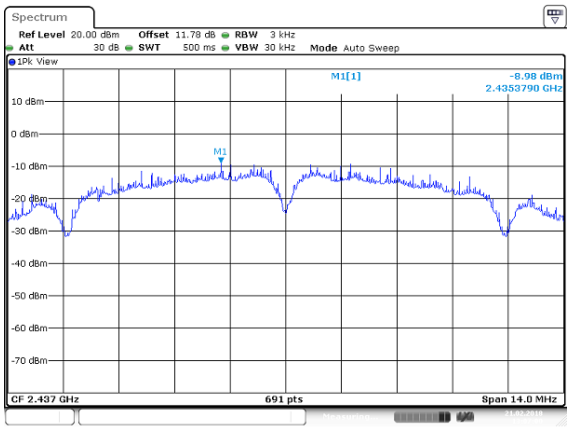
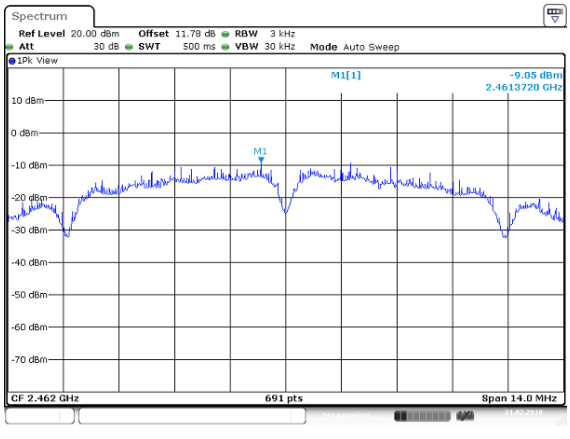
4.4.4 Test Result

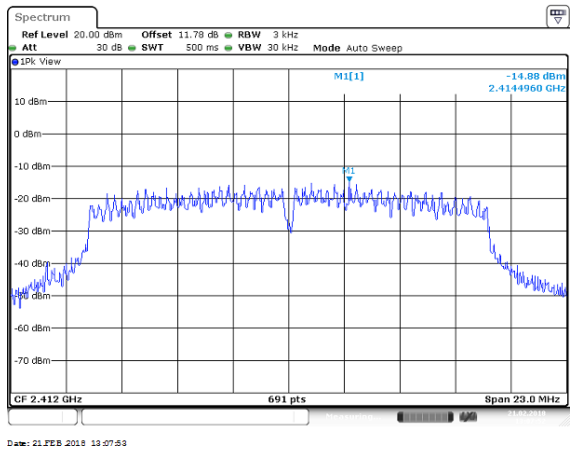
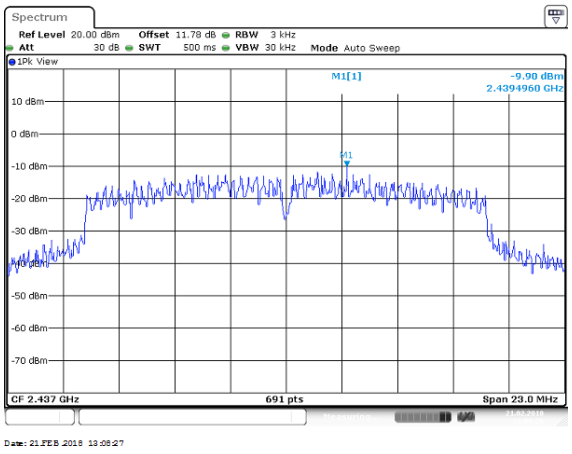
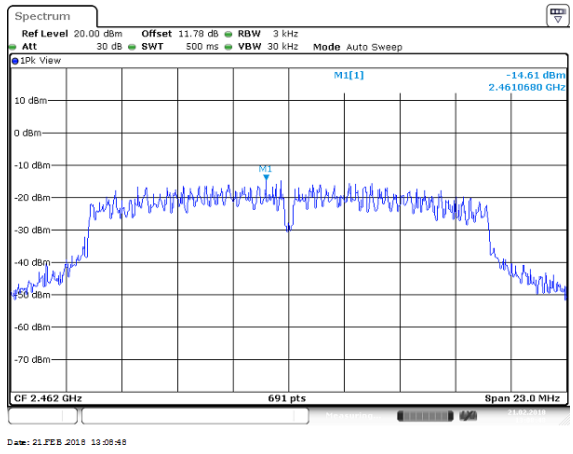
Test mode: IEEE 802.11b mode / 2412-2462 MHz					
Channel	**Frequency (MHz)**	**Chain 0 PPSD (dBm)**	**Chain 1 PPSD (dBm)**	**Total PSSD (dBm)**	**Limit (dBm)**
Low	2412	-9.56	-	-9.56	8
Mid	2437	-8.98	-	-8.98	
High	2462	-9.05	-	-9.05	

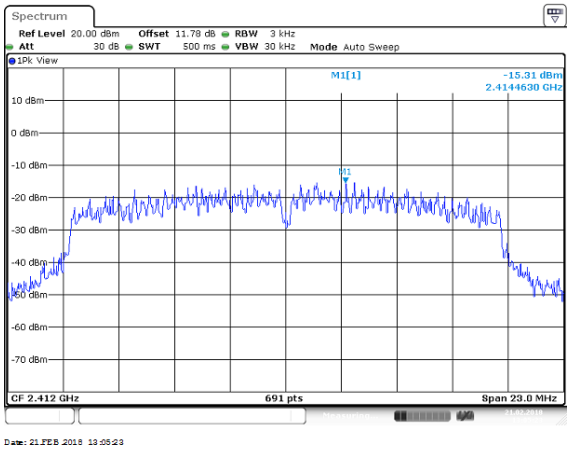
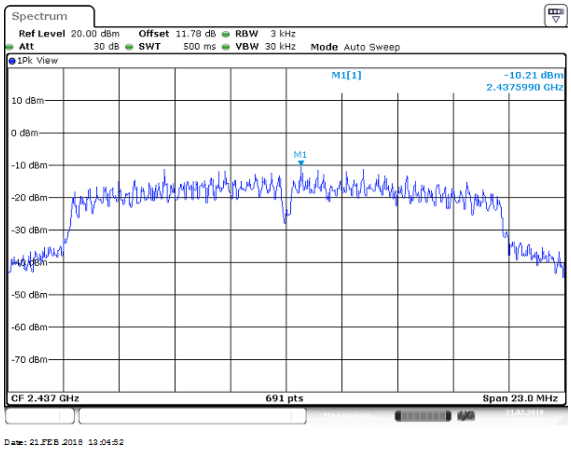
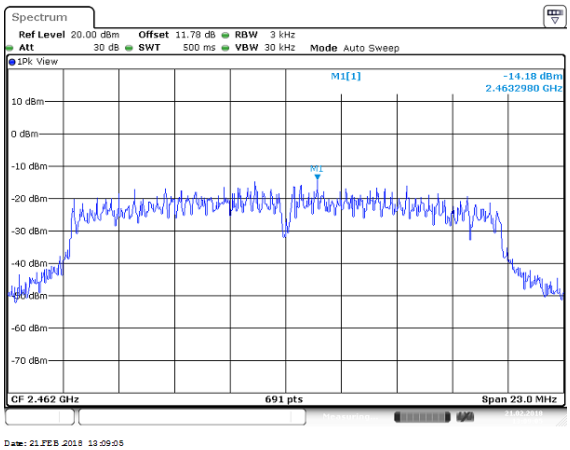
Test mode: IEEE 802.11g mode / 2412-2462 MHz					
Channel	**Frequency (MHz)**	**Chain 0 PPSD (dBm)**	**Chain 1 PPSD (dBm)**	**Total PSSD (dBm)**	**Limit (dBm)**
Low	2412	-14.88	-	-14.88	8
Mid	2437	-9.90	-	-9.90	
High	2462	-14.61	-	-14.61	

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	-15.31	-	-15.31	8
Mid	2437	-10.21	-	-10.21	
High	2462	-14.18	-	-14.18	

Test Data

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

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

IEEE 802.11n HT20 mode- chain 0	
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

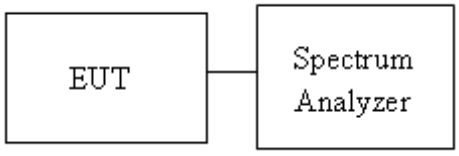
Test method Refer as KDB 558074 D01 v04, Section 11.

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.

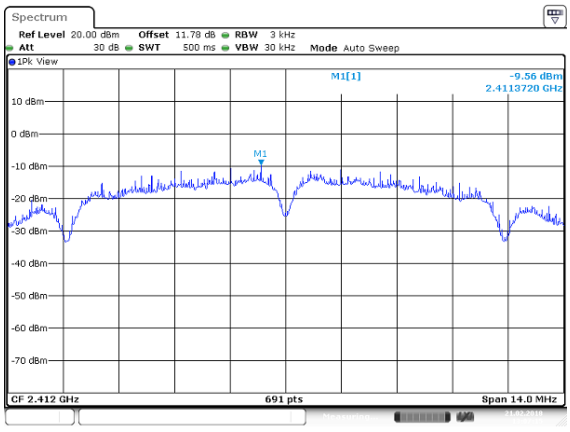
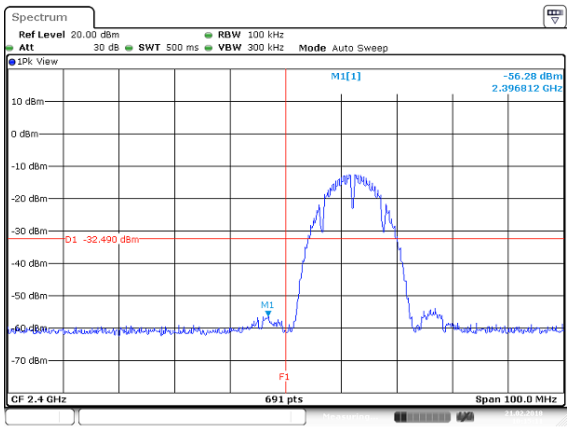
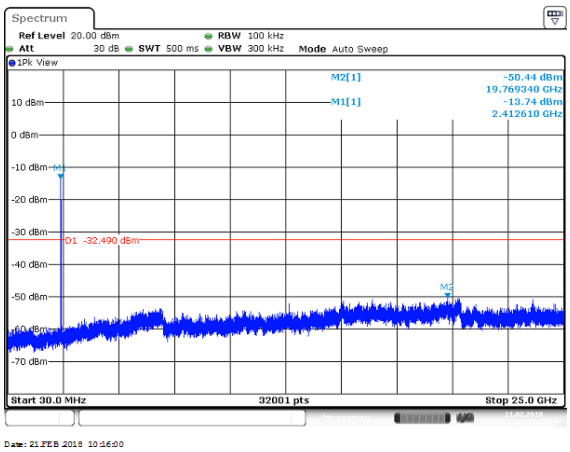
3. In any 100 kHz bandwidth outside the authorized frequency band, shall be attenuated at least 20 dB relative to the maximum in-band peak PSD level in 100 kHz when conducted power procedure is used. f the transmitter complies with the conducted power limits based on the use of RMS averaging over a time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

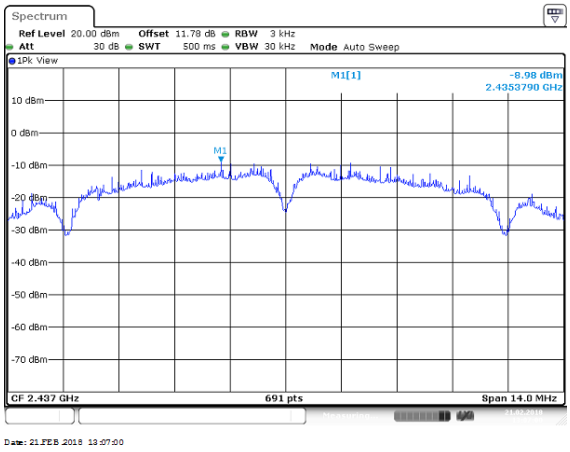
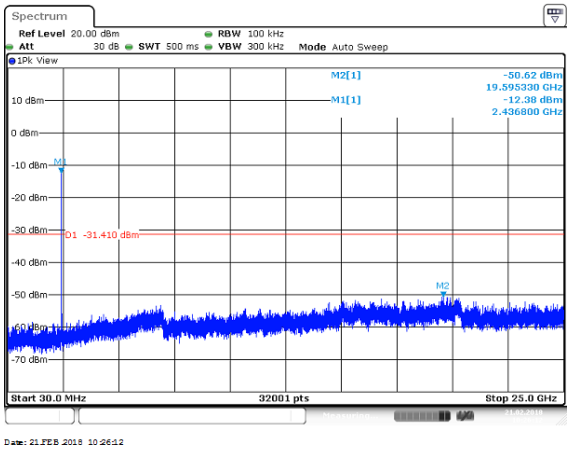
4.5.3 Test Setup

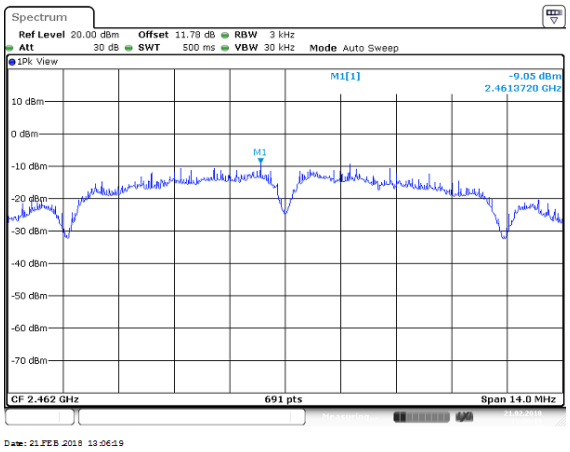
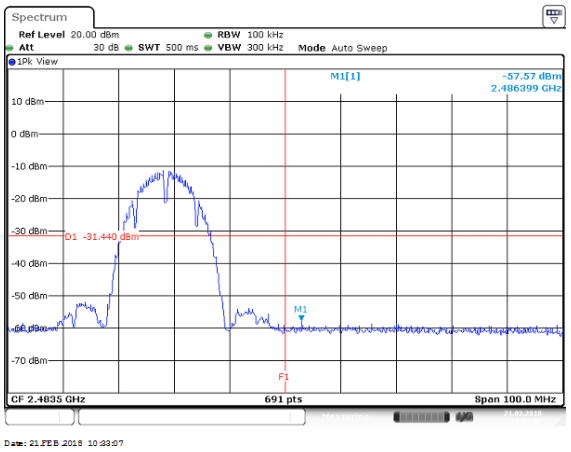
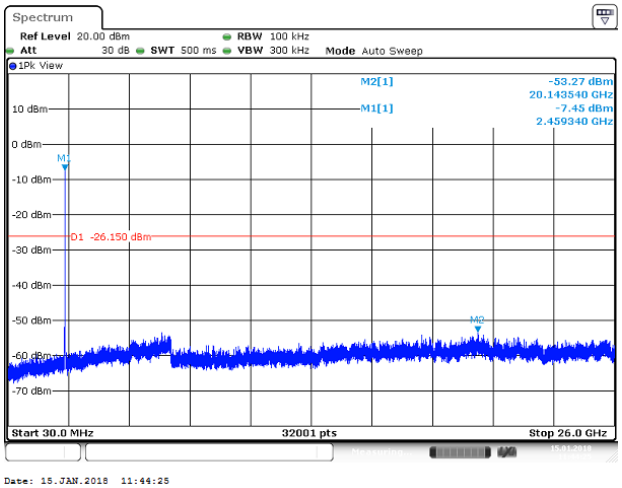


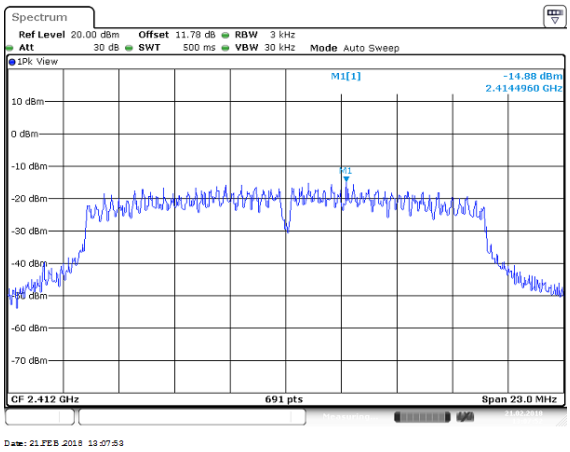
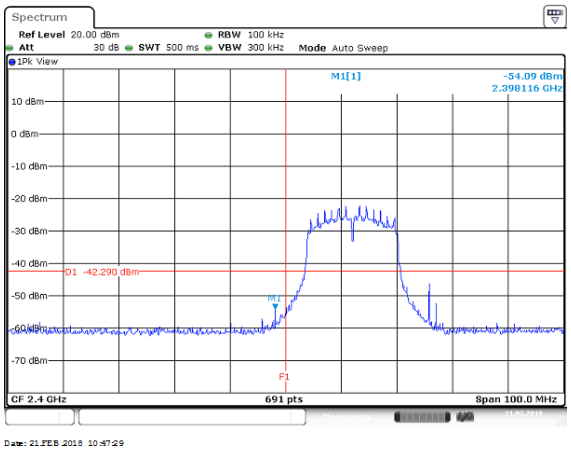
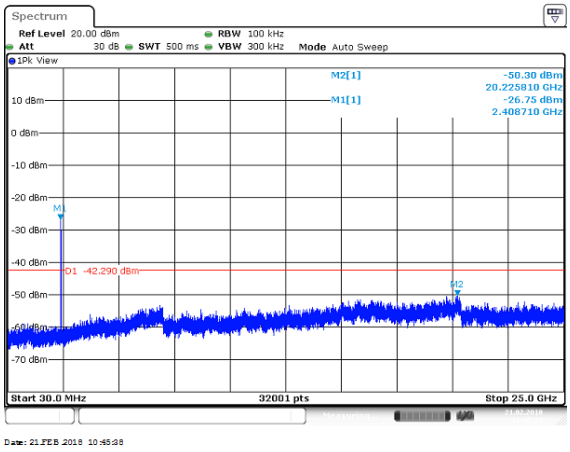
4.5.4 Test Result

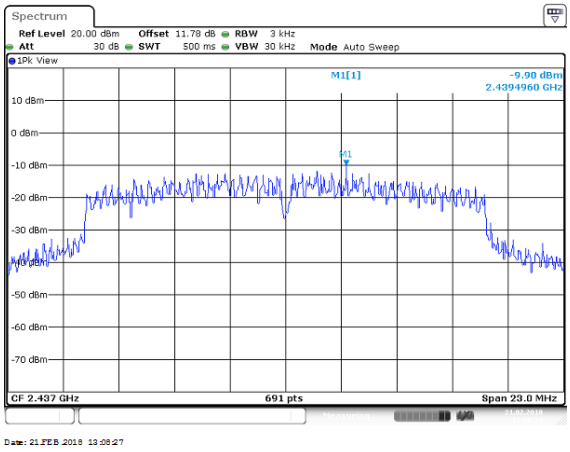
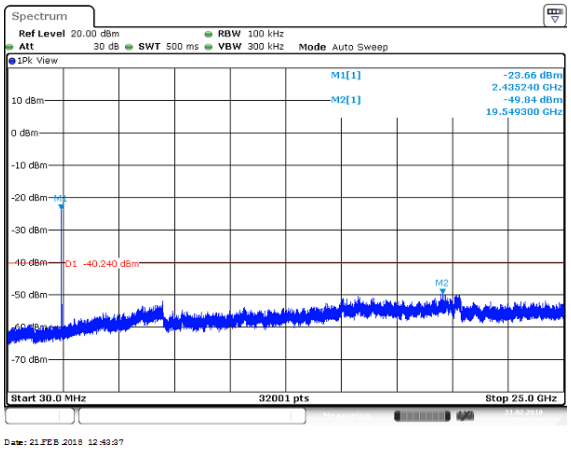
Test Data

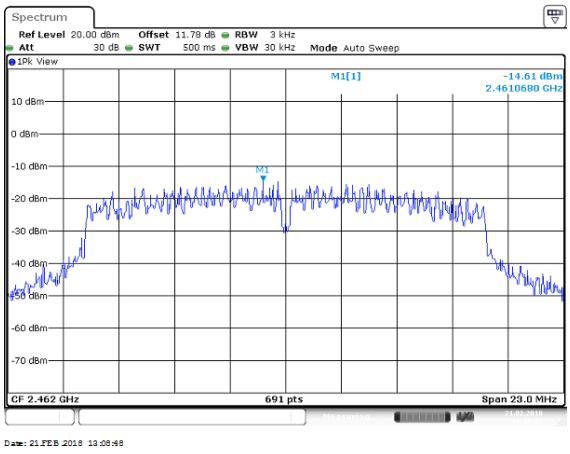
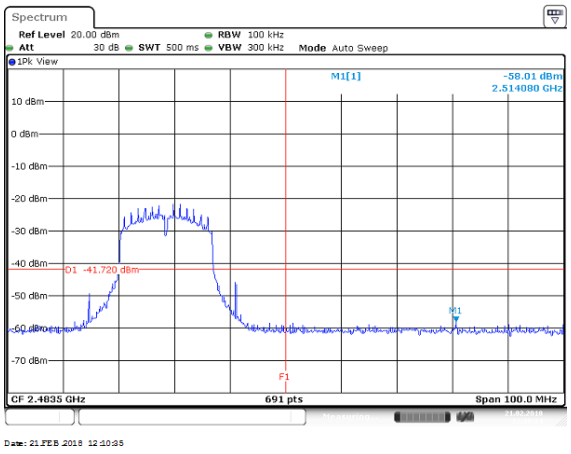
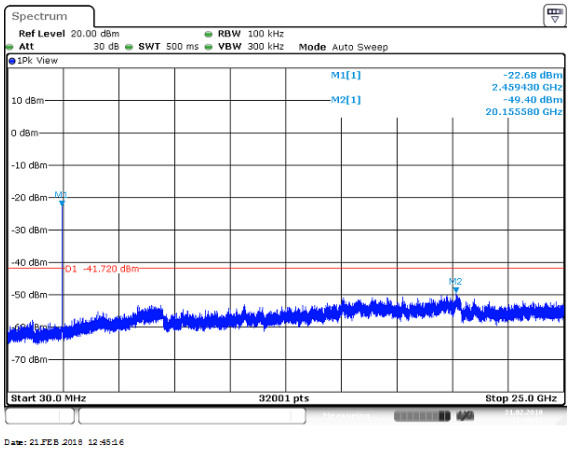
IEEE 802.11b mode Low CH chain 0	
Reference Level of PSD in 100kHz	**Band Edge**
	
Spurious Emission 30MHz-25GHz	
	

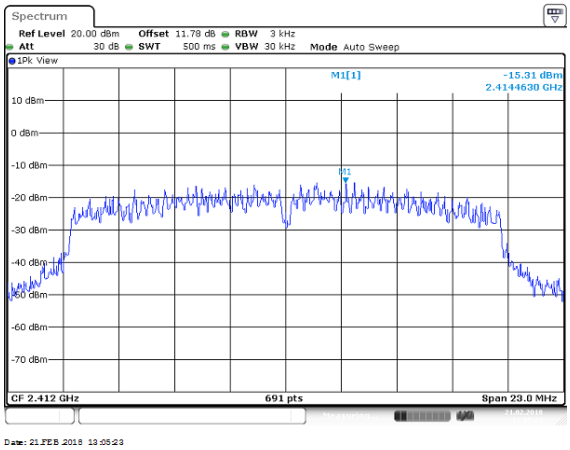
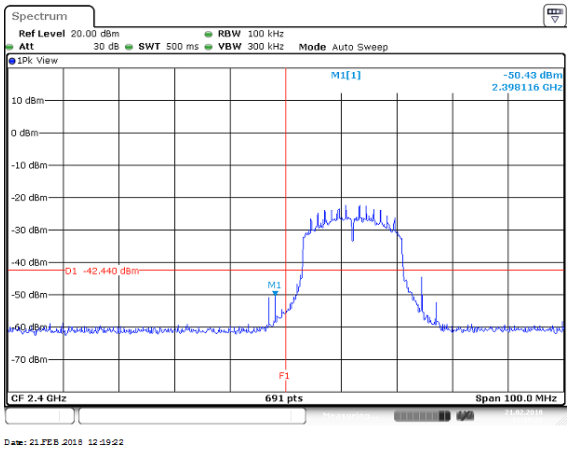
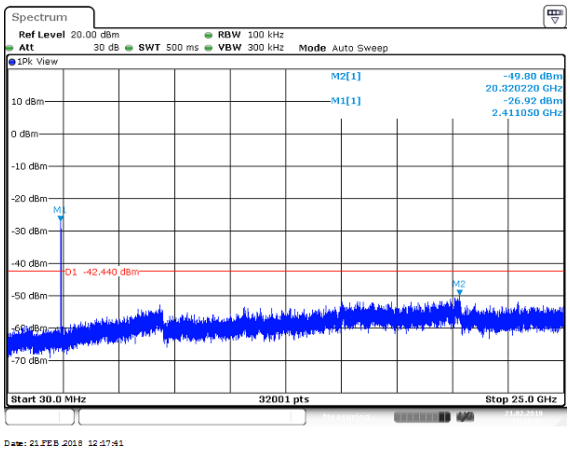
IEEE 802.11b mode Mid CH chain 0	
Reference Level of PSD in 100kHz	**Spurious Emission 30MHz-25GHz**
	

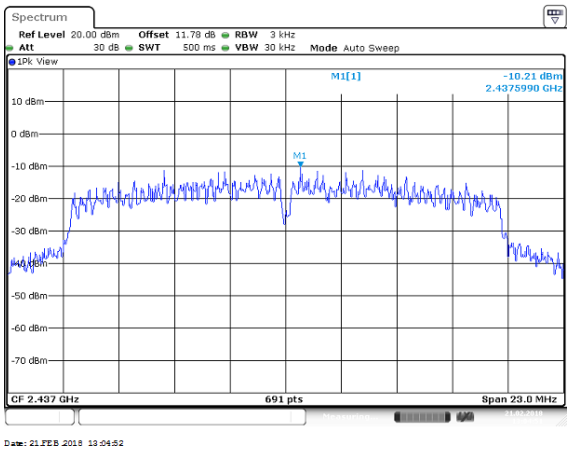
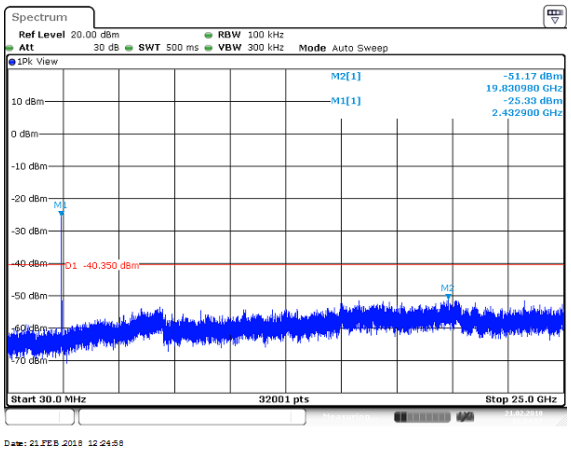
IEEE 802.11b mode High CH chain 0	
Reference Level of PSD in 100kHz	**Band Edge**
	
Spurious Emission 30MHz-25GHz	
	

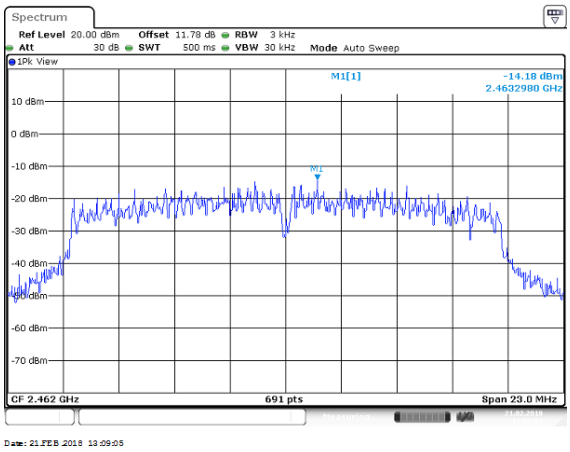
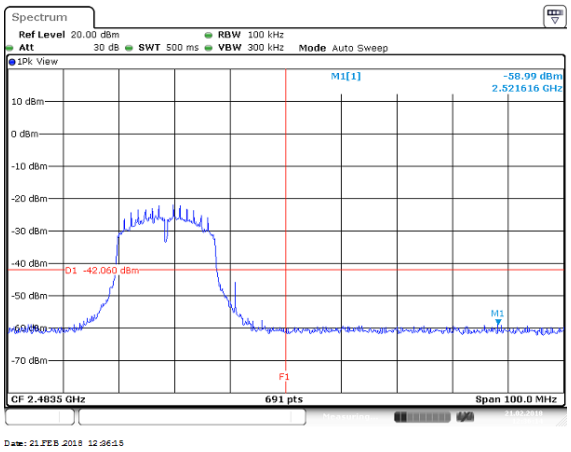
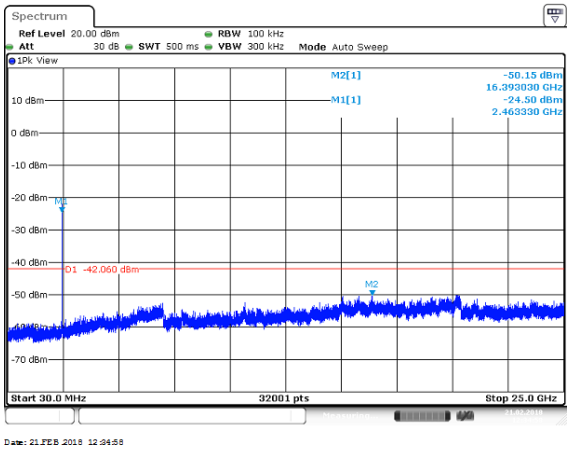
IEEE 802.11g mode Low CH chain 0	
Reference Level of PSD in 100kHz	**Band Edge**
	
Spurious Emission 30MHz-25GHz	
	

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

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

IEEE 802.11 n HT 20 mode Low CH chain 0	
Reference Level of PSD in 100kHz	**Band Edge**
	
Spurious Emission 30MHz-25GHz	
	

IEEE 802.11 n HT 20 mode Mid CH chain 0	
Reference Level of PSD in 100kHz	**Spurious Emission 30MHz-25GHz**
	

IEEE 802.11n HT 20 mode High CH chain 0	
Reference Level of PSD in 100kHz	**Band Edge**
	
Spurious Emission 30MHz-25GHz	
	

4.6 RADIATION BANDEDGE AND SPURIOUS EMISSION

4.6.1 Test Limit

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

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	Field Strength (microvolts/m)	Measurement Distance (metres)
30-88	100	3
88-216	150	3
216-960	200	3
Above 960	500	3

4.6.2 Test Procedure

Test method Refer as KDB 558074 D01 v04, 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 9kHz to 26.5GHz set to the low, Mid and High channels with the EUT transmit.

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

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.

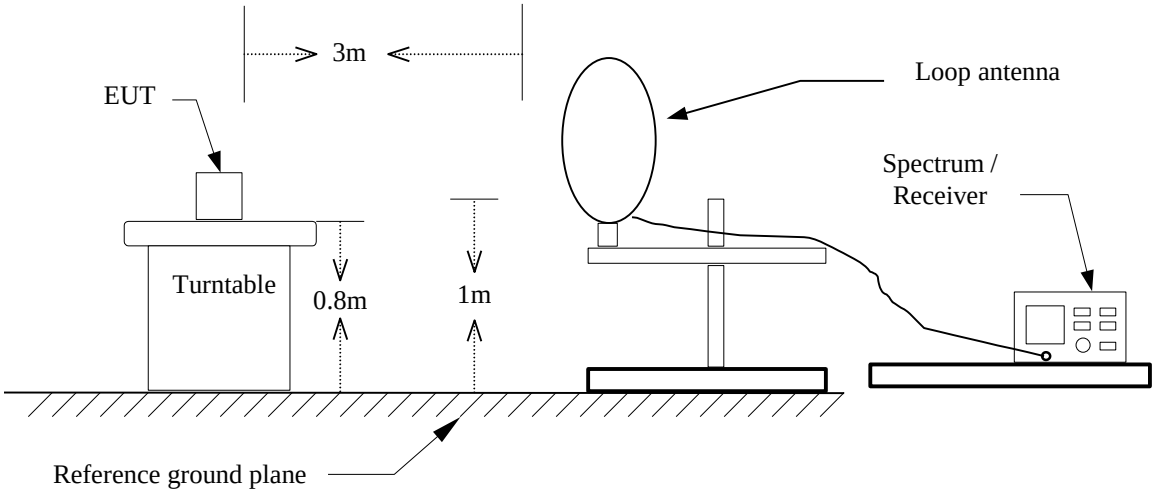
(2.2) For Average measurement：RBW = 1MHz, VBW

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

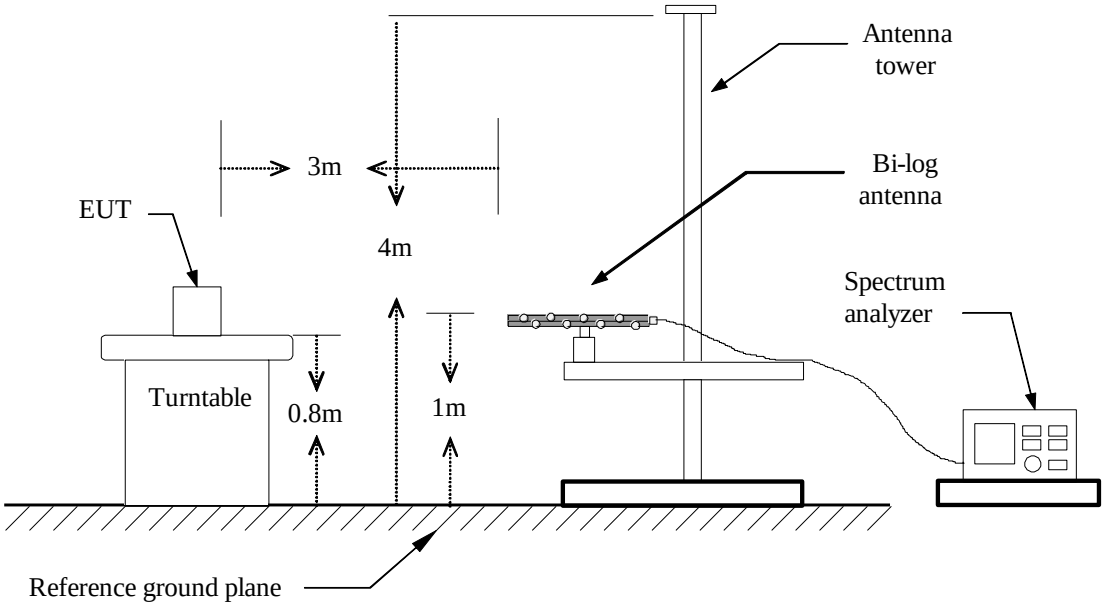
Configuration	Duty Cycle (%)	T(ms)	1/T (kHz)	VBW Setting
802.11b	73%	1.0200	980.392	1kHz
802.11g	26%	0.1850	5.405	5.6kHz
802.11n HT20	25%	0.1800	5.556	5.6kHz

4.6.3 Test Setup

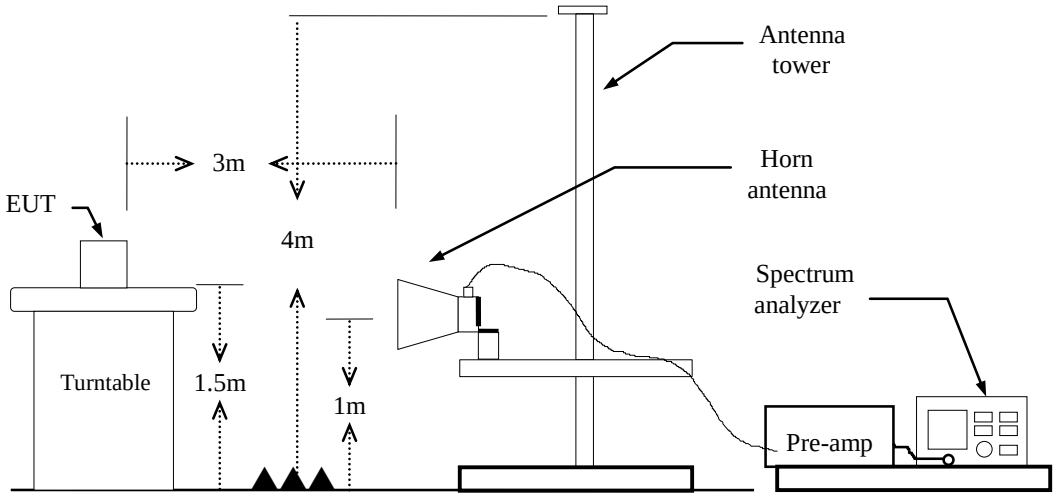
9kHz ~ 30MHz



30MHz ~ 1GHz



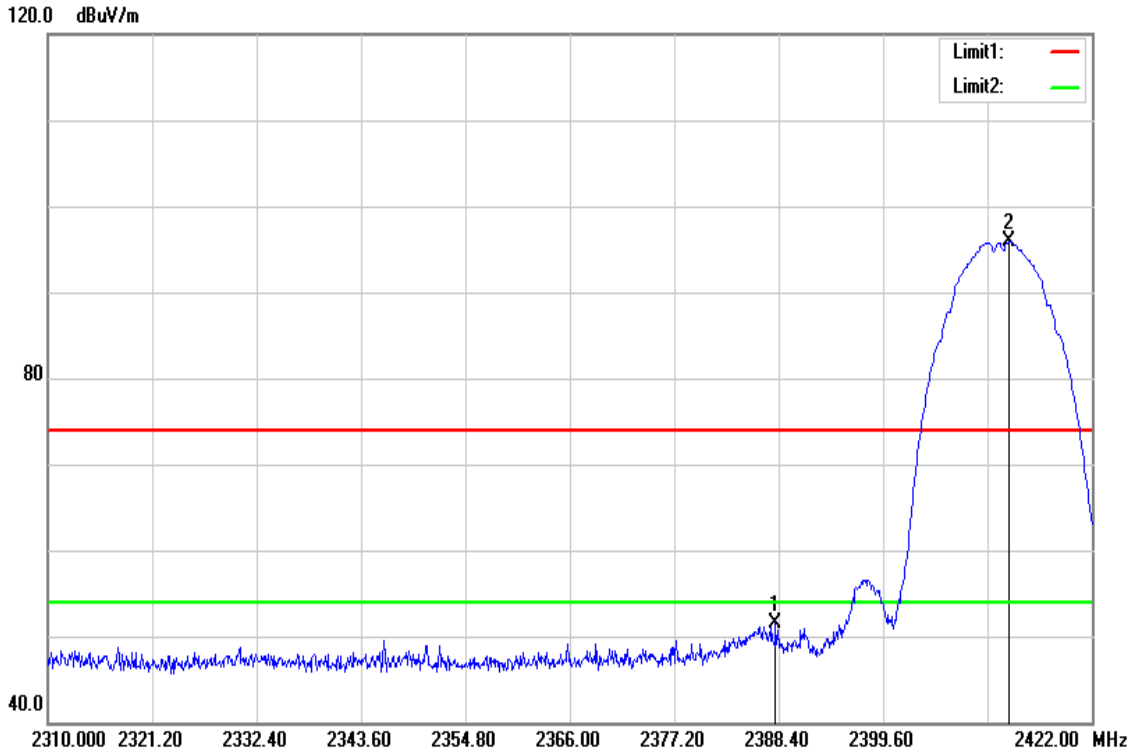
Above 1 GHz



4.6.4 Test Result

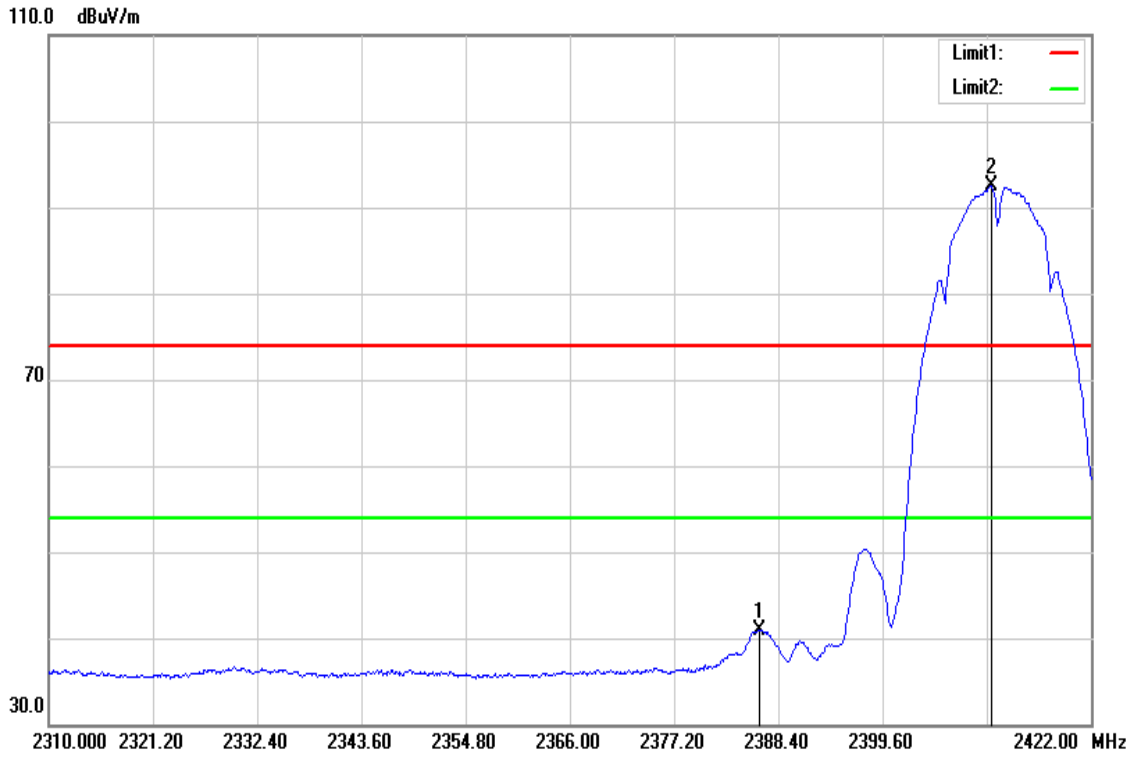
Band Edge Test Data

Test Mode	IEEE 802.11b Low CH	Temp/Hum	22(℃) / 34%RH
Test Item	Band Edge	Test Date	February 23, 2018
Polarize	Horizontal	Test Engineer	Jerry Chuang
Detector	Peak	Test Voltage	DC 5V



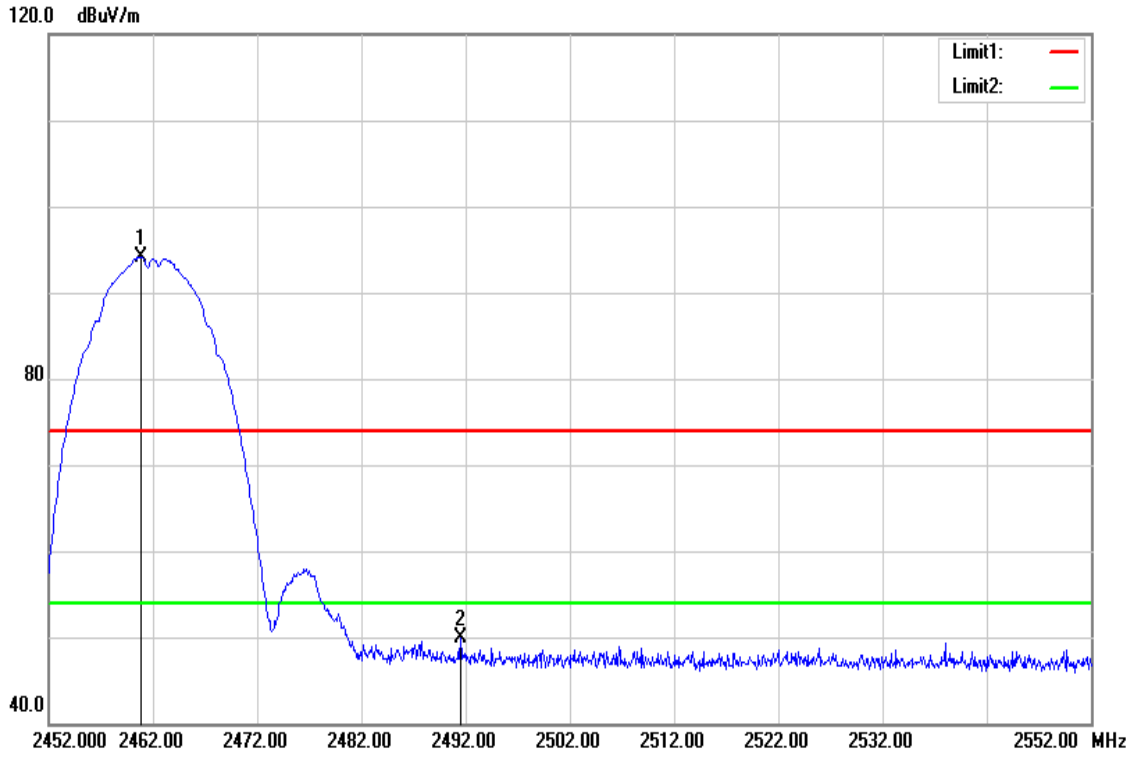
Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
2388.064	54.42	-2.98	51.44	74.00	-22.56	peak
2413.040	98.76	-2.90	95.86	--	--	peak

Test Mode	IEEE 802.11b Low CH	Temperature:	22(℃) / 34%RH
Test Item	Band Edge	Test Date	February 23, 2018
Polarize	Horizontal	Test Engineer	Jerry Chuang
Detector	Average	Test Voltage	DC 5V



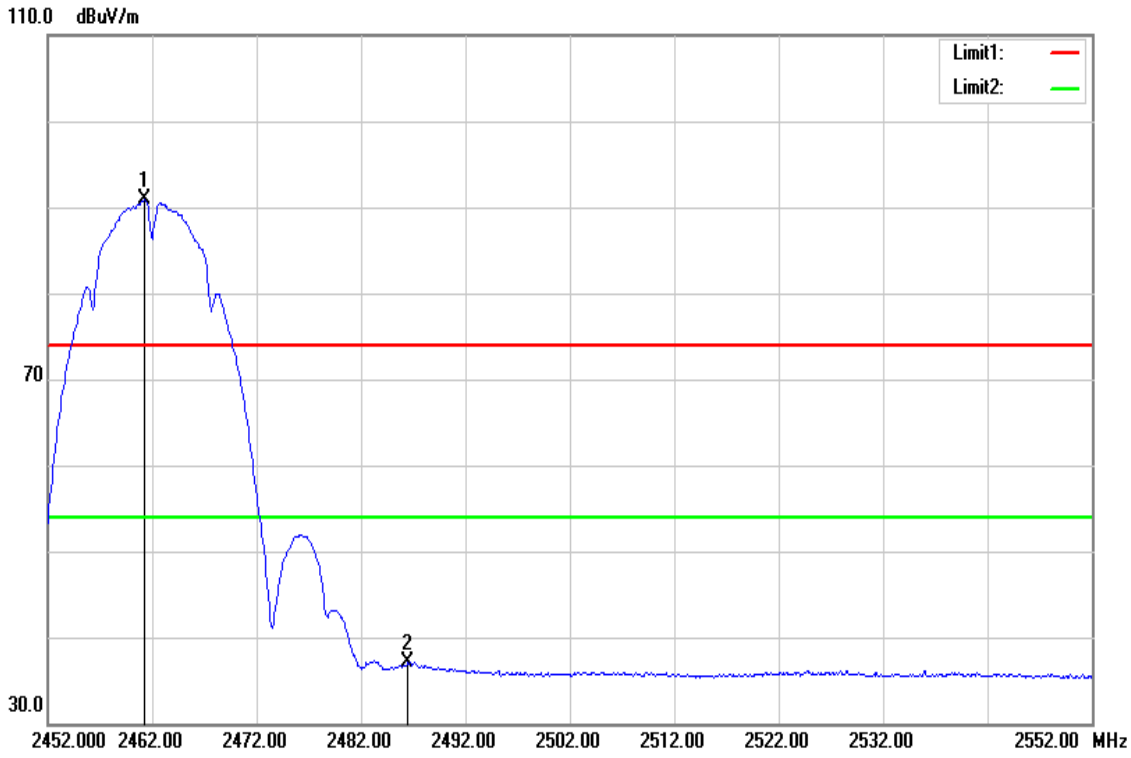
Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
2386.384	43.99	-2.99	41.00	54.00	-13.00	AVG
2411.248	95.42	-2.92	92.50	--	--	AVG

Test Mode	IEEE 802.11b High CH	Temp/Hum	22(℃) / 34%RH
Test Item	Band Edge	Test Date	February 23, 2018
Polarize	Horizontal	Test Engineer	Jerry Chuang
Detector	Peak	Test Voltage	DC 5V



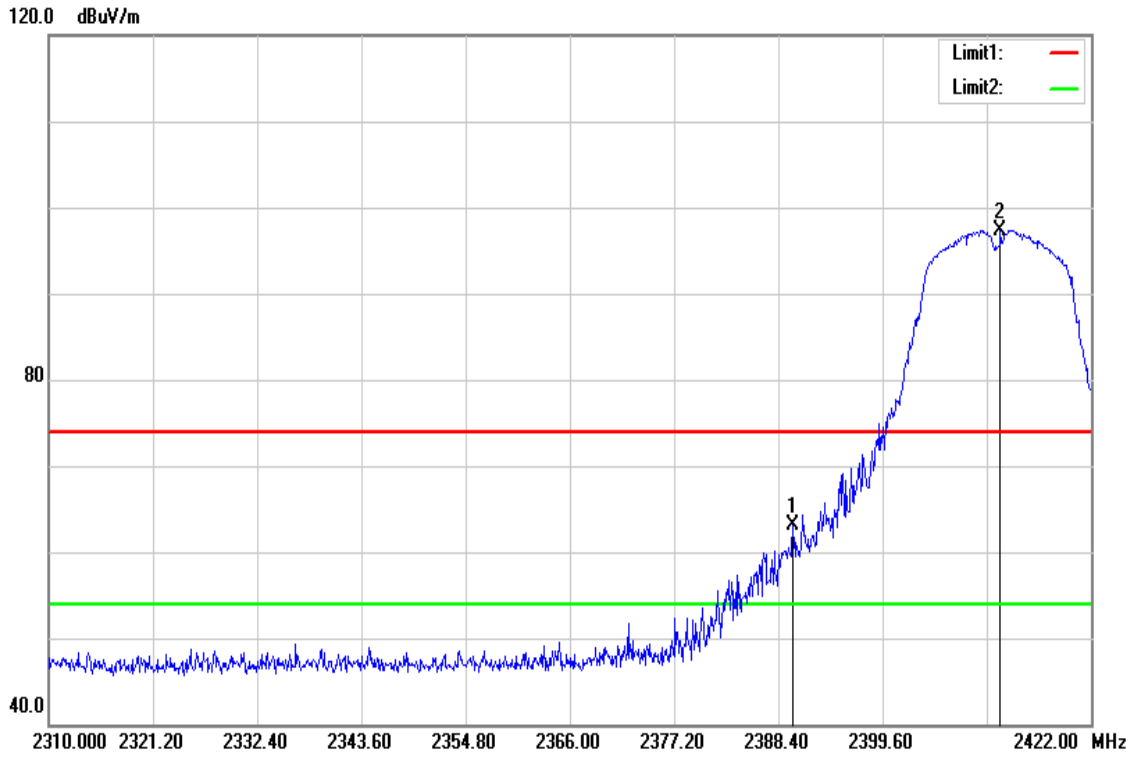
Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
2460.900	96.89	-2.76	94.13	--	--	peak
2491.500	52.51	-2.67	49.84	74.00	-24.16	peak

Test Mode	IEEE 802.11b High CH	Temperature:	22(℃) / 34%RH
Test Item	Band Edge	Test Date	February 23, 2018
Polarize	Horizontal	Test Engineer	Jerry Chuang
Detector	Average	Test Voltage	DC 5V



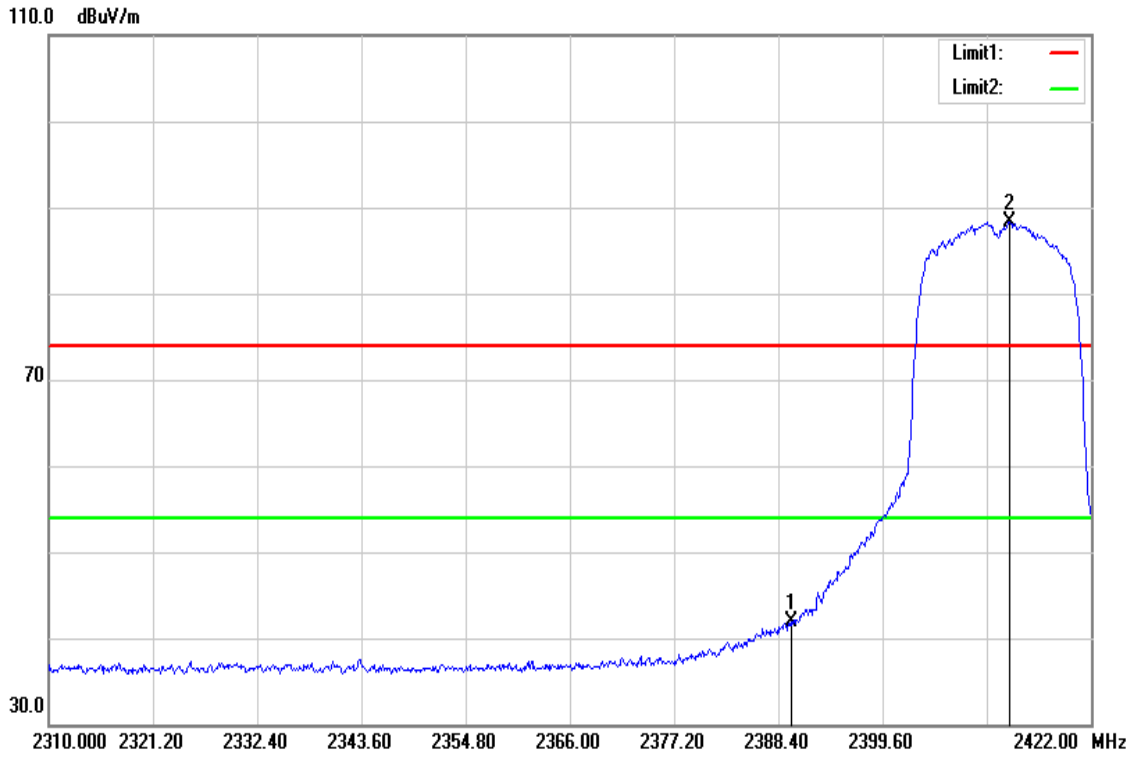
Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
2461.300	93.63	-2.76	90.87	--	--	AVG
2486.500	39.83	-2.68	37.15	54.00	-16.85	AVG

Test Mode	IEEE 802.11g Low CH	Temp/Hum	22(℃) / 34%RH
Test Item	Band Edge	Test Date	February 27, 2018
Polarize	Horizontal	Test Engineer	Jerry Chuang
Detector	Peak	Test Voltage	DC 5V



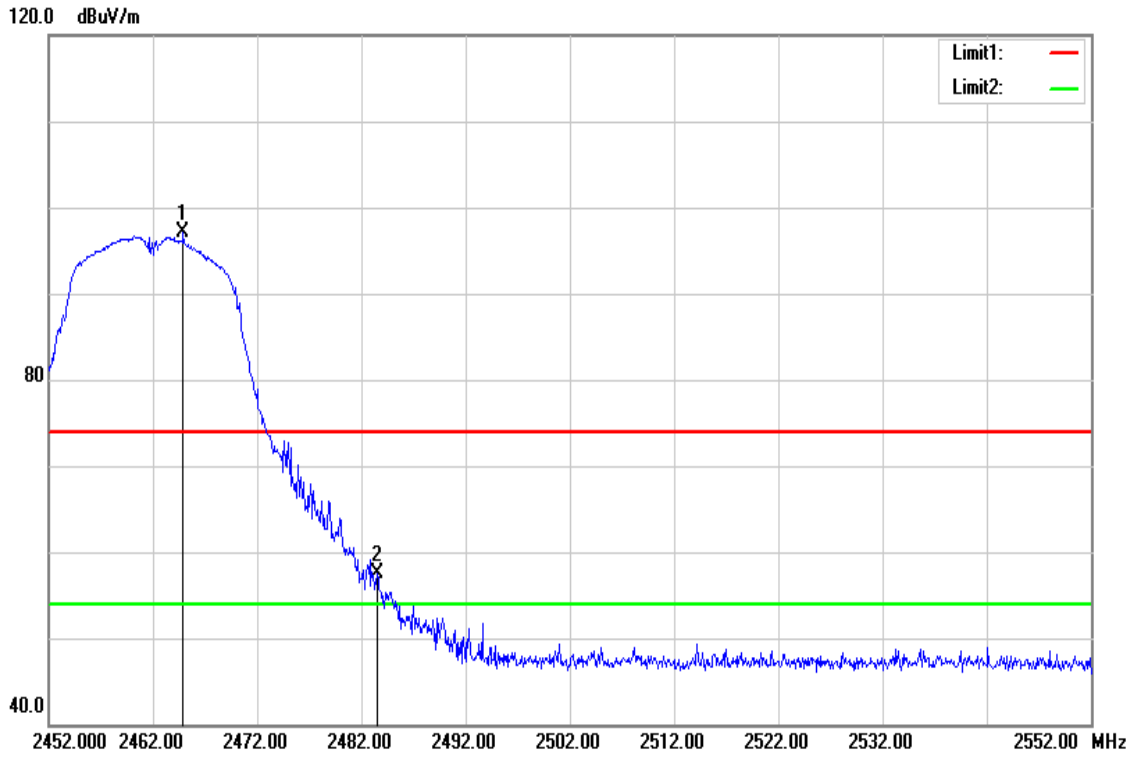
Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
2390.000	66.13	-2.98	63.15	74.00	-10.85	peak
2412.256	100.31	-2.91	97.40	--	--	peak

Test Mode	IEEE 802.11g Low CH	Temperature:	22(℃) / 34%RH
Test Item	Band Edge	Test Date	February 27, 2018
Polarize	Horizontal	Test Engineer	Jerry Chuang
Detector	Average	Test Voltage	DC 5V



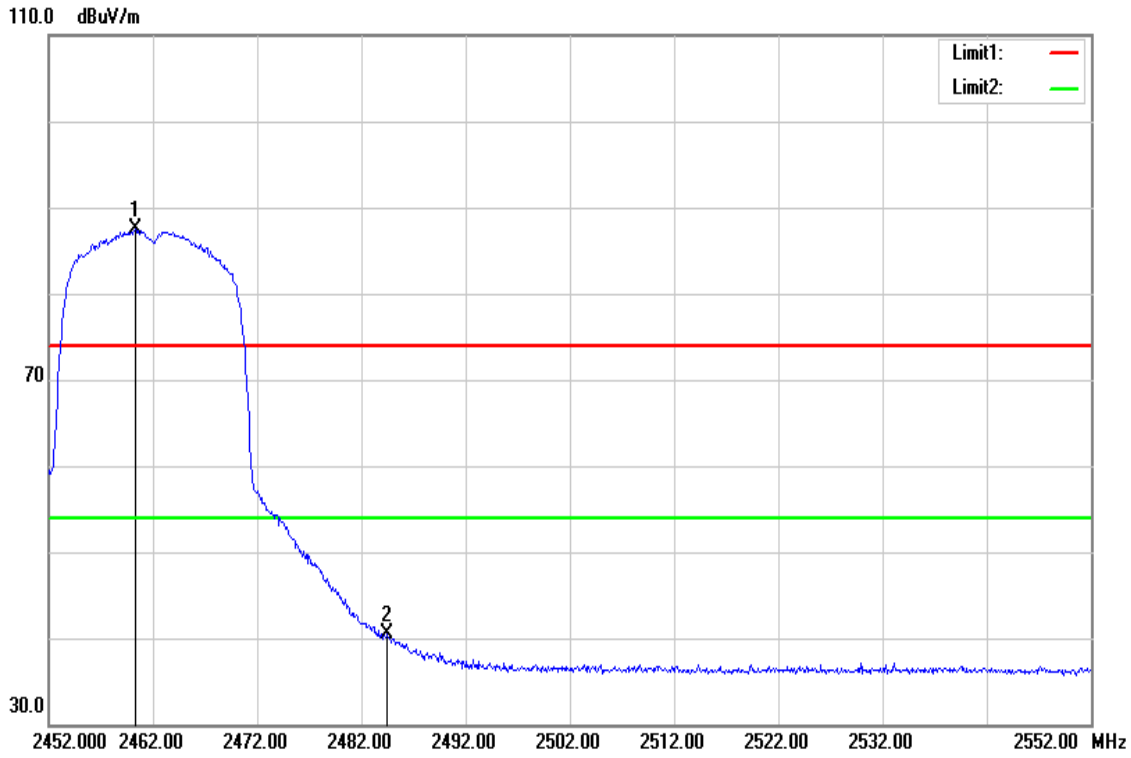
Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
2389.744	44.85	-2.98	41.87	54.00	-12.13	AVG
2413.264	91.17	-2.90	88.27	--	--	AVG

Test Mode	IEEE 802.11g High CH	Temp/Hum	22(℃) / 34%RH
Test Item	Band Edge	Test Date	February 27, 2018
Polarize	Horizontal	Test Engineer	Jerry Chuang
Detector	Peak	Test Voltage	DC 5V



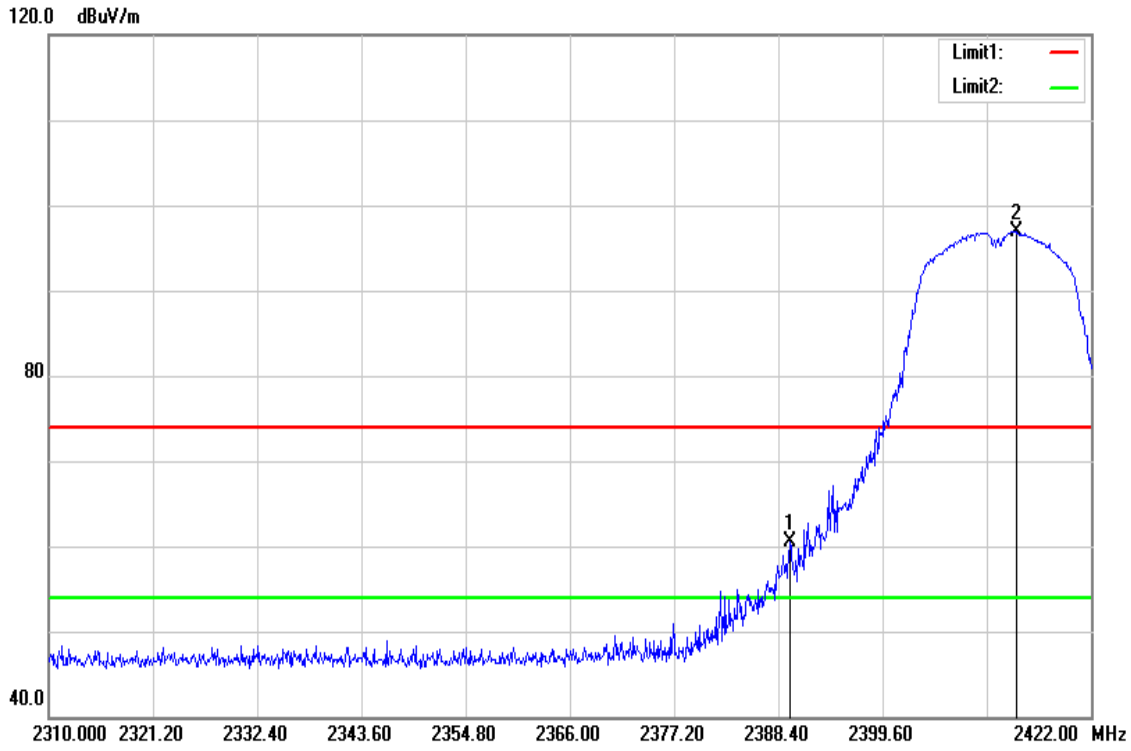
Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
2464.950	99.82	-2.75	97.07	--	--	peak
2483.550	60.19	-2.69	57.50	74.00	-16.50	peak

Test Mode	IEEE 802.11g High CH	Temp/Hum	22(℃) / 34%RH
Test Item	Band Edge	Test Date	February 27, 2018
Polarize	Horizontal	Test Engineer	Jerry Chuang
Detector	Average	Test Voltage	DC 5V



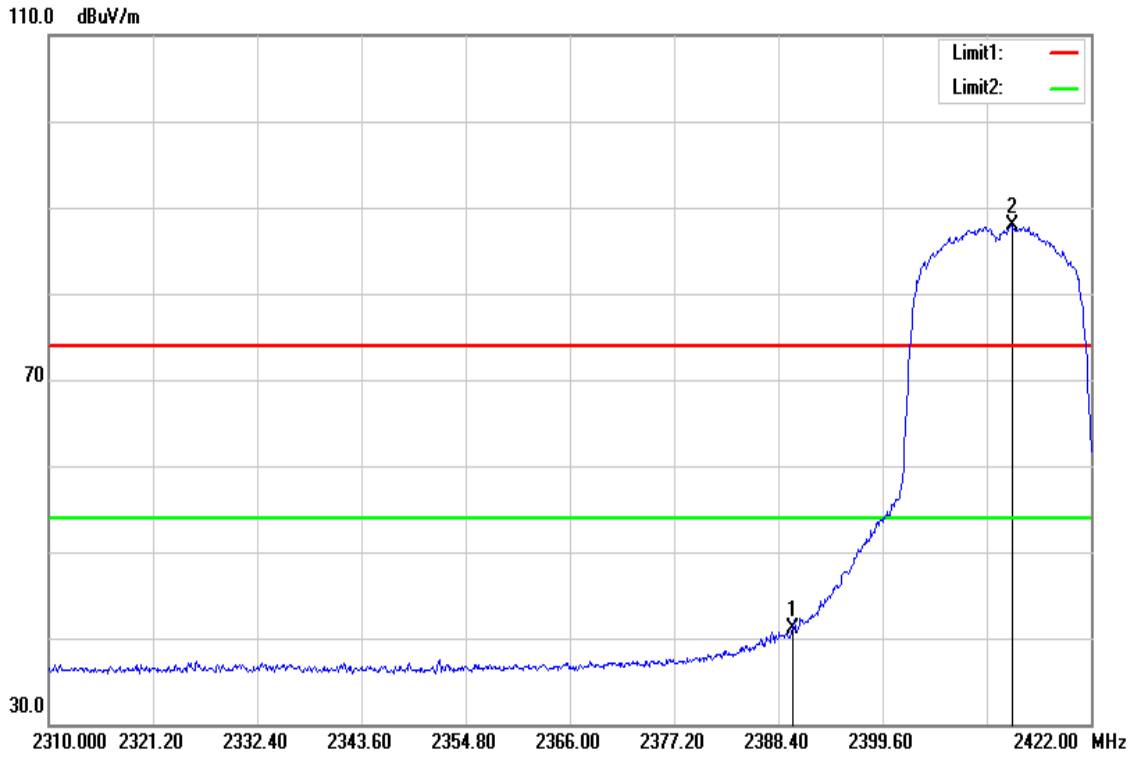
Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
2460.350	90.18	-2.76	87.42	--	--	AVG
2484.550	43.18	-2.69	40.49	54.00	-13.51	AVG

Test Mode	IEEE 802.11n HT 20 Low CH	Temp/Hum	22(℃) / 34%RH
Test Item	Band Edge	Test Date	February 27, 2018
Polarize	Horizontal	Test Engineer	Jerry Chuang
Detector	Peak	Test Voltage	DC 5V



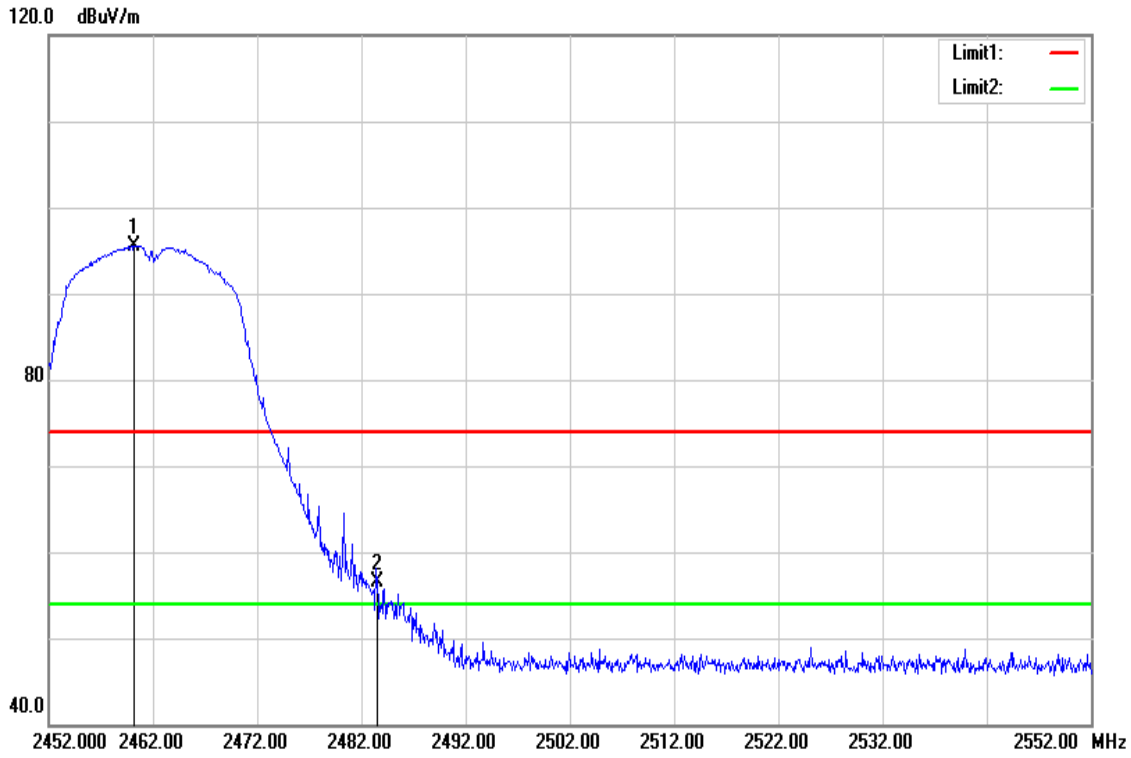
Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
2389.632	63.40	-2.98	60.42	74.00	-13.58	peak
2413.992	99.81	-2.90	96.91	--	--	peak

Test Mode	IEEE 802.11n HT 20 Low CH	Temperature:	22(℃) / 34%RH
Test Item	Band Edge	Test Date	February 27, 2018
Polarize	Horizontal	Test Engineer	Jerry Chuang
Detector	Average	Test Voltage	DC 5V



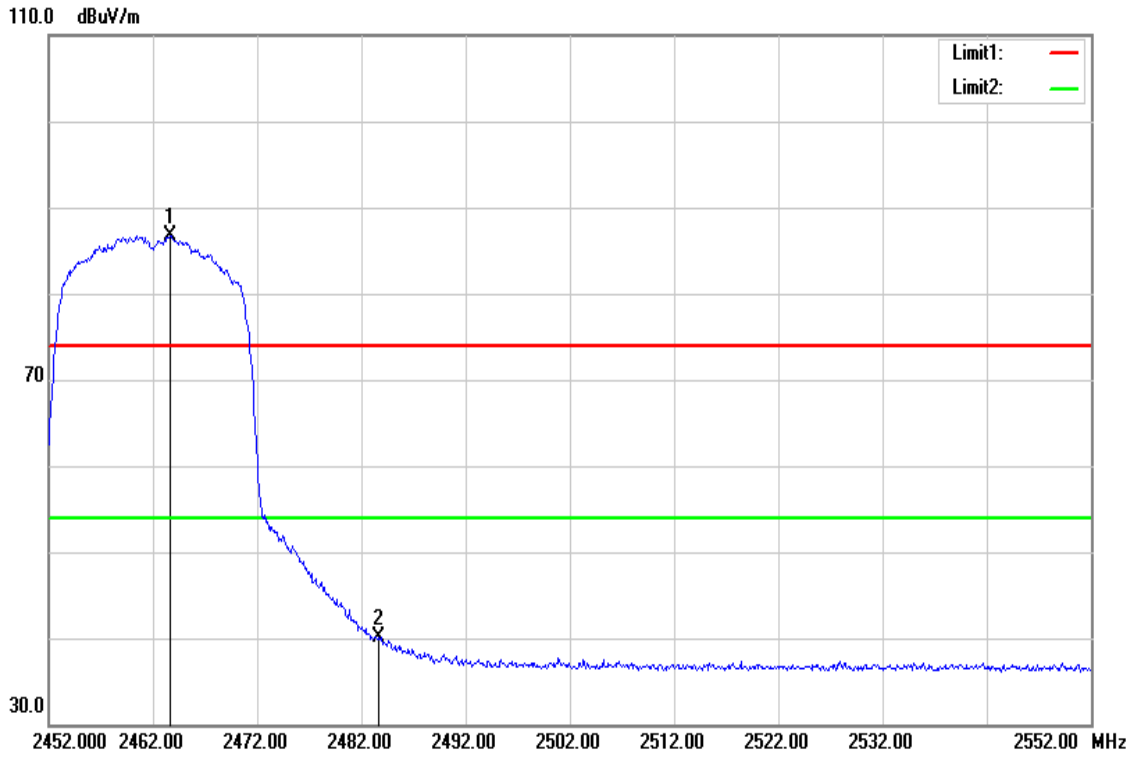
Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
2390.000	44.01	-2.98	41.03	54.00	-12.97	AVG
2413.488	90.87	-2.90	87.97	--	--	AVG

Test Mode	IEEE 802.11n HT 20 High CH	Temp/Hum	22(℃) / 34%RH
Test Item	Band Edge	Test Date	February 27, 2018
Polarize	Horizontal	Test Engineer	Jerry Chuang
Detector	Peak	Test Voltage	DC 5V



Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
2460.250	98.34	-2.76	95.58	--	--	peak
2483.500	59.21	-2.69	56.52	74.00	-17.48	peak

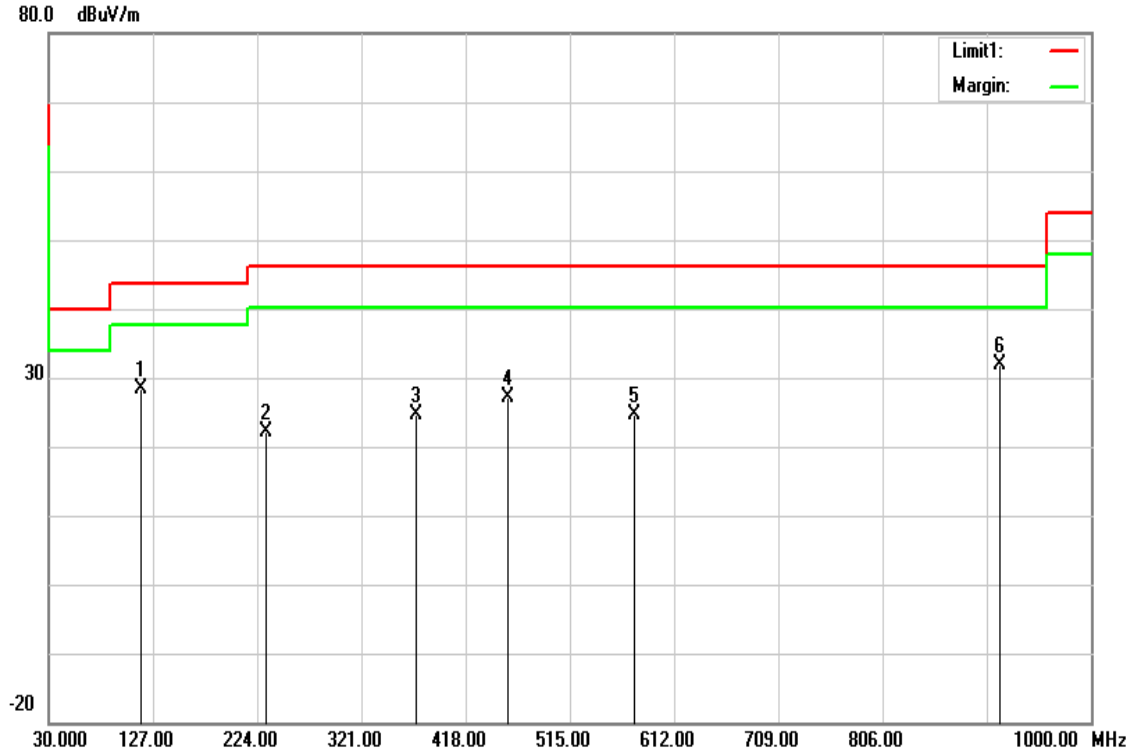
Test Mode	IEEE 802.11n HT 20 High CH	Temperature:	22(℃) / 34%RH
Test Item	Band Edge	Test Date	February 27, 2018
Polarize	Horizontal	Test Engineer	Jerry Chuang
Detector	Average	Test Voltage	DC 5V



Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
2463.650	89.50	-2.75	86.75	--	--	AVG
2483.750	42.80	-2.69	40.11	54.00	-13.89	AVG

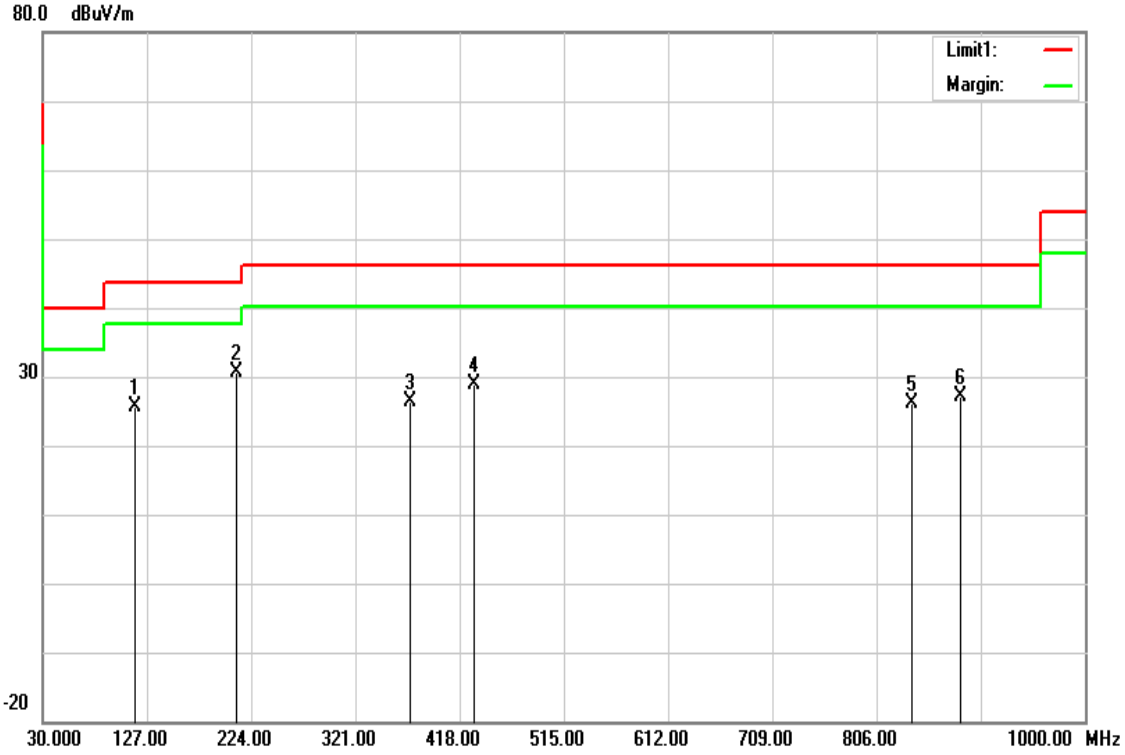
Below 1G Test Data

Test Mode	Mode 1	Temp/Hum	22(℃) / 34%RH
Test Item	30MHz-1GHz	Test Date	February 23, 2018
Polarize	Vertical	Test Engineer	Jerry Chuang
Detector	Peak	Test Voltage	DC 5V



Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
115.3600	44.09	-15.82	28.27	43.52	-15.25	peak
232.7300	38.82	-16.57	22.25	46.02	-23.77	peak
372.4100	36.98	-12.27	24.71	46.02	-21.31	peak
457.7700	36.47	-9.43	27.04	46.02	-18.98	peak
575.1400	31.77	-7.23	24.54	46.02	-21.48	peak
915.6100	33.54	-1.75	31.79	46.02	-14.23	peak

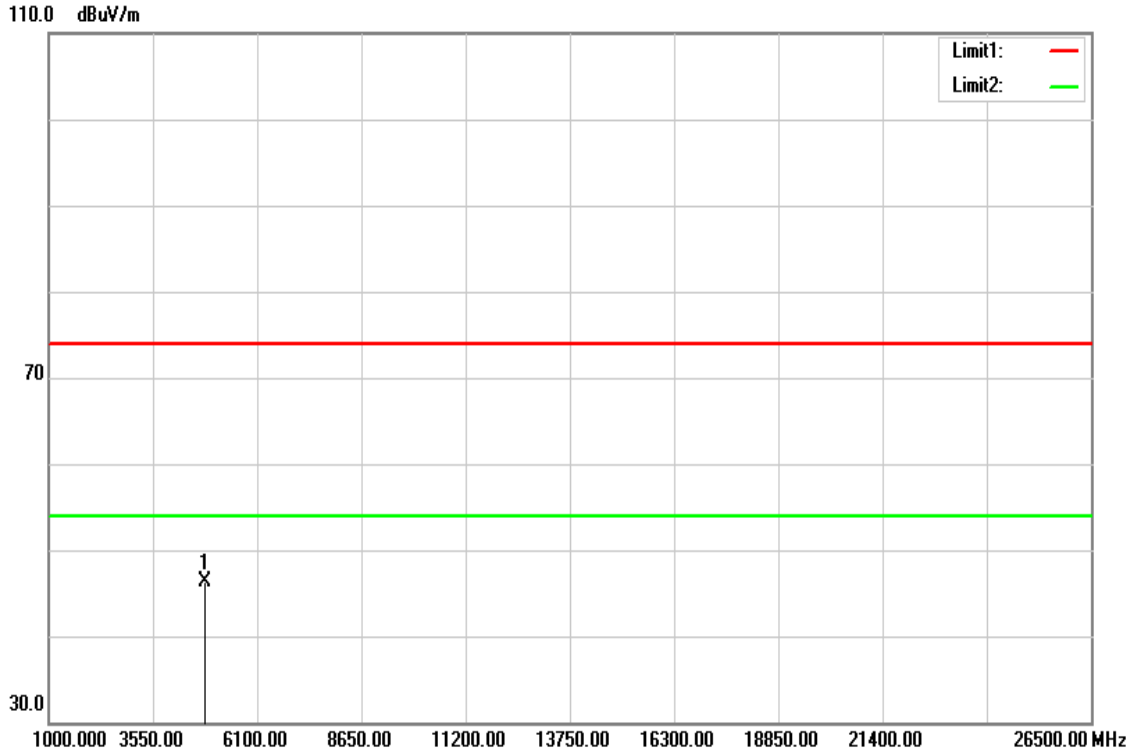
Test Mode	Mode 1	Temp/Hum	22(℃) / 34%RH
Test Item	30MHz-1GHz	Test Date	February 23, 2018
Polarize	Horizontal	Test Engineer	Jerry Chuang
Detector	Peak	Test Voltage	DC 5V



Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB	Remark
115.3600	41.37	-15.82	25.55	43.52	-17.97	peak
210.4200	47.10	-16.37	30.73	43.52	-12.79	peak
372.4100	38.53	-12.27	26.26	46.02	-19.76	peak
431.5800	39.07	-10.25	28.82	46.02	-17.20	peak
838.9800	29.11	-2.98	26.13	46.02	-19.89	peak
884.5700	29.43	-2.28	27.15	46.02	-18.87	peak

Above 1G Test Data

Test Mode	IEEE 802.11b Low CH	Temp/Hum	22(℃) / 34%RH
Test Item	Harmonic	Test Date	February 27, 2018
Polarize	Vertical	Test Engineer	Jerry Chuang
Detector	Peak and Average	Test Voltage	DC 5V

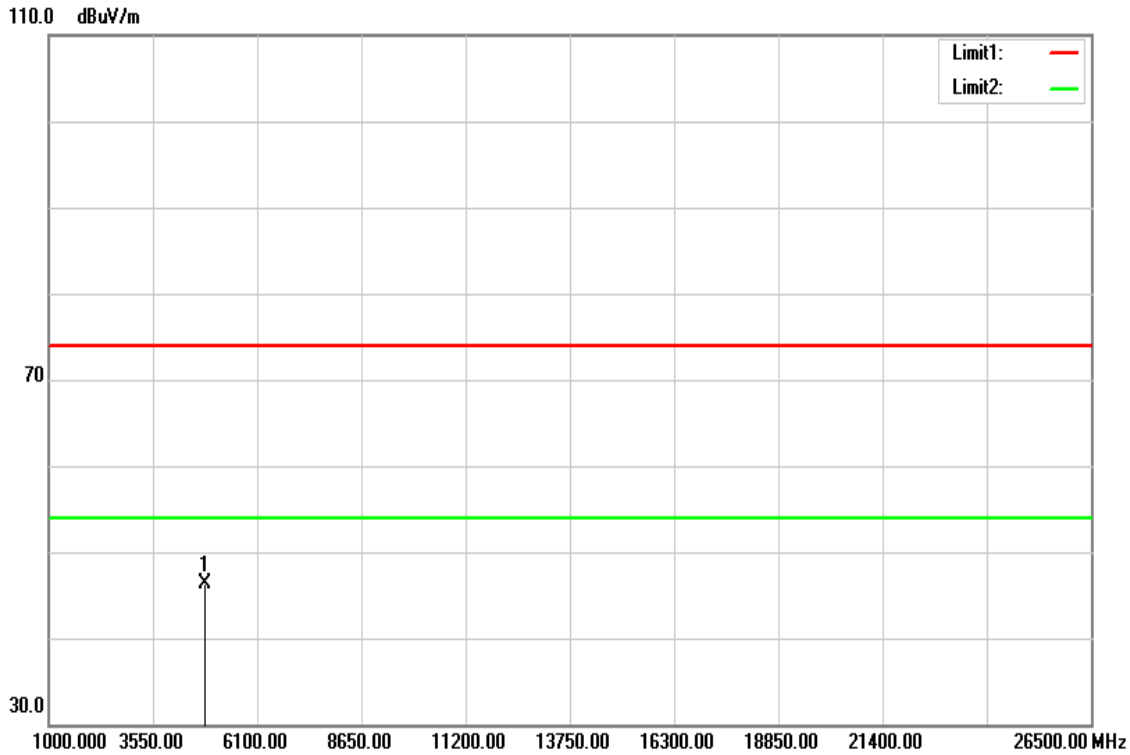


Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
4823.500	41.89	4.38	46.27	74.00	-27.73	peak
N/A						

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	22(℃) / 34%RH
Test Item	Harmonic	Test Date	February 27, 2018
Polarize	Horizontal	Test Engineer	Jerry Chuang
Detector	Peak and Average	Test Voltage	DC 5V

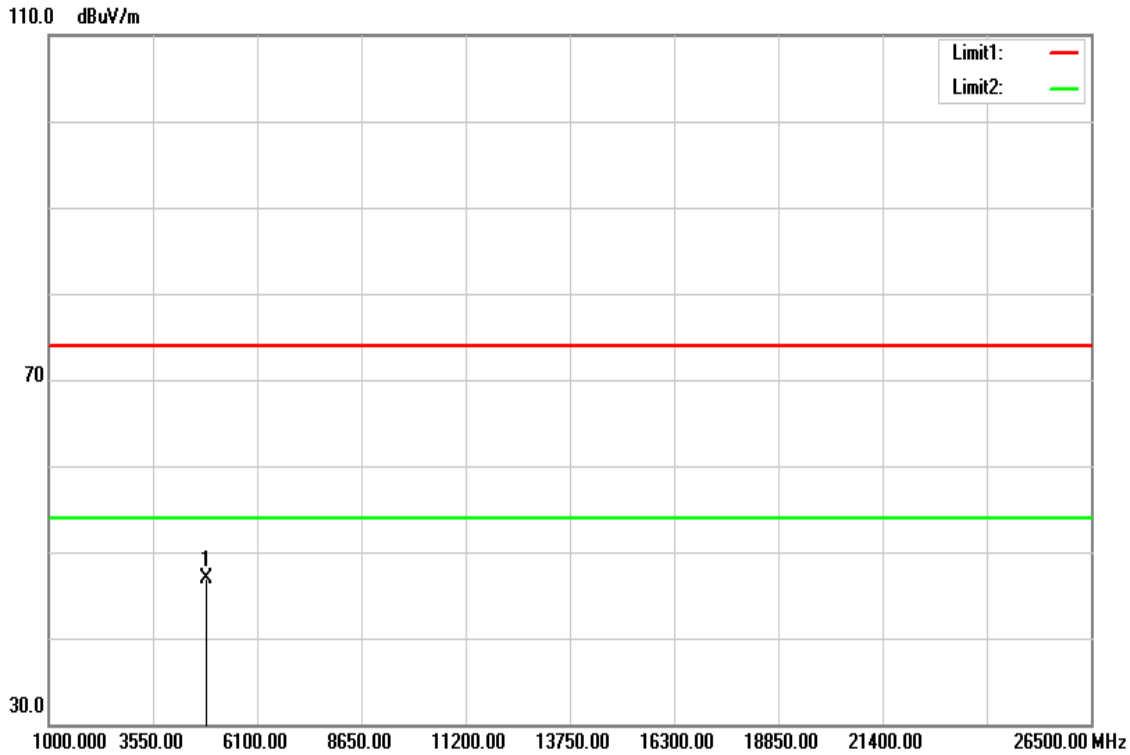


Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
4823.500	44.44	4.38	48.82	74.00	-25.18	peak
N/A						

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	22(℃) / 34%RH
Test Item	Harmonic	Test Date	February 27, 2018
Polarize	Vertical	Test Engineer	Jerry Chuang
Detector	Peak and Average	Test Voltage	DC 5V

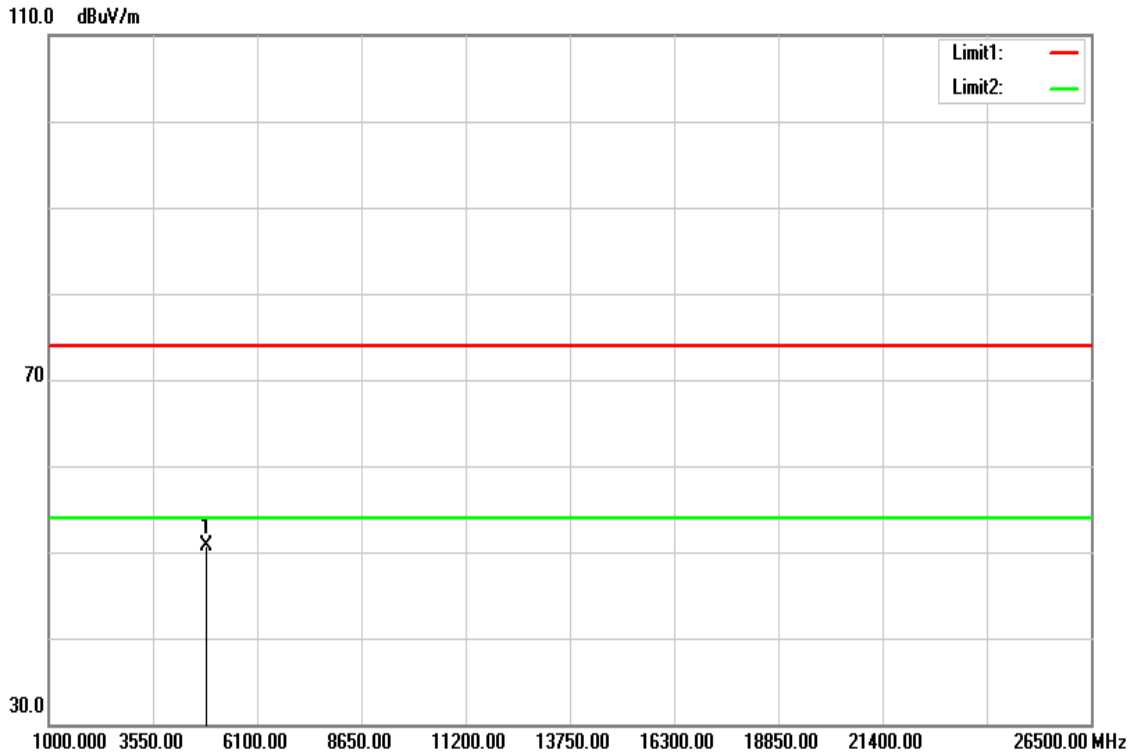


Frequency (MHz)	Reading (dBu)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
4872.000	42.47	4.46	46.93	74.00	-27.07	peak
N/A						

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	22(℃) / 34%RH
Test Item	Harmonic	Test Date	February 27, 2018
Polarize	Horizontal	Test Engineer	Jerry Chuang
Detector	Peak and Average	Test Voltage	DC 5V

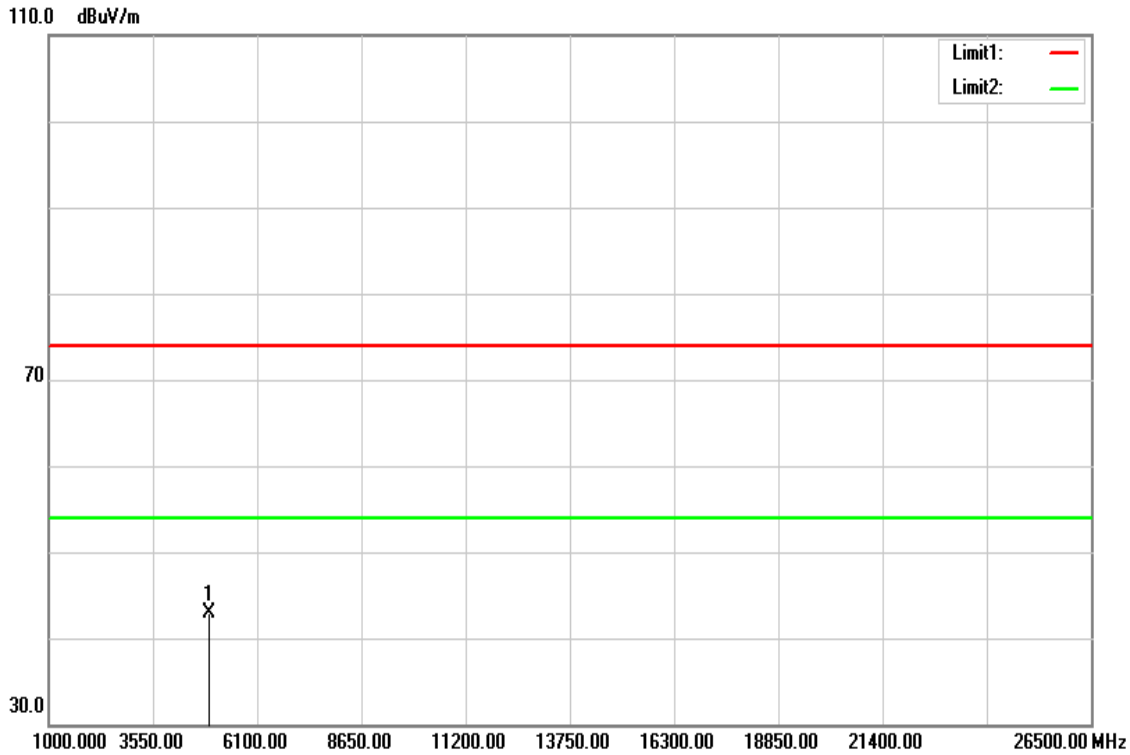


Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
4872.500	46.34	4.46	50.80	74.00	-23.20	peak
N/A						

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	22(℃) / 34%RH
Test Item	Harmonic	Test Date	February 27, 2018
Polarize	Vertical	Test Engineer	Jerry Chuang
Detector	Peak and Average	Test Voltage	DC 5V

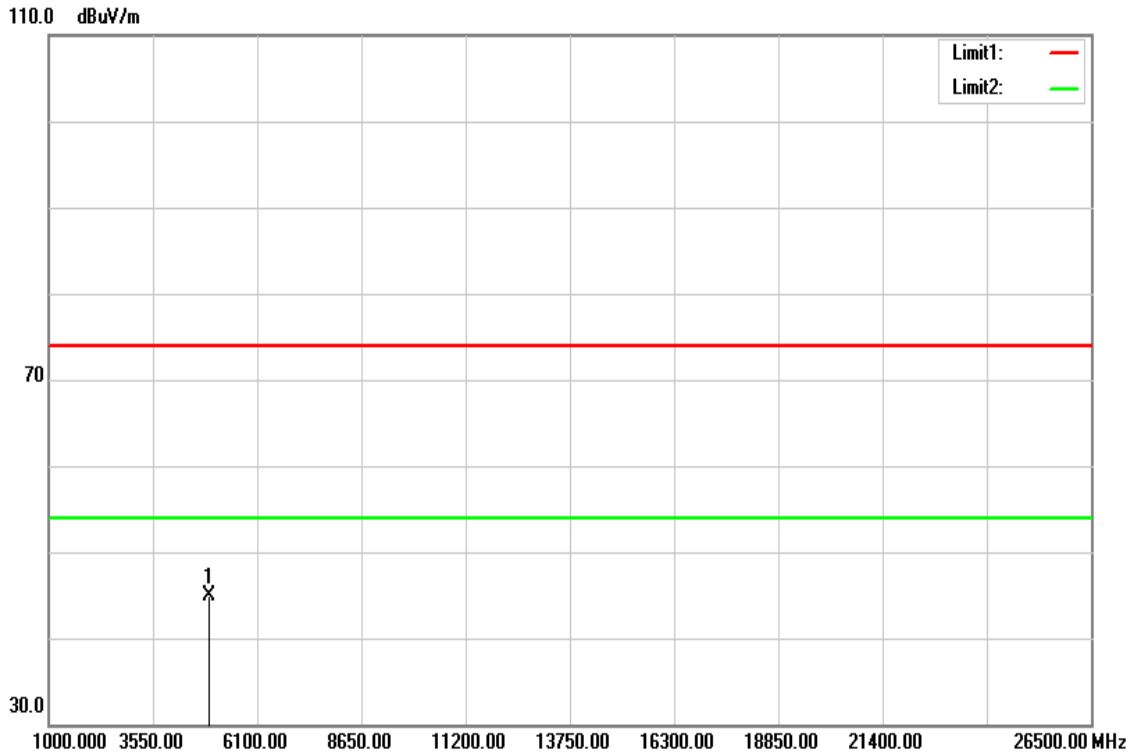


Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
4924.000	38.36	4.55	42.91	74.00	-31.09	peak
N/A						

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	22(℃) / 34%RH
Test Item	Harmonic	Test Date	February 27, 2018
Polarize	Horizontal	Test Engineer	Jerry Chuang
Detector	Peak and Average	Test Voltage	DC 5V

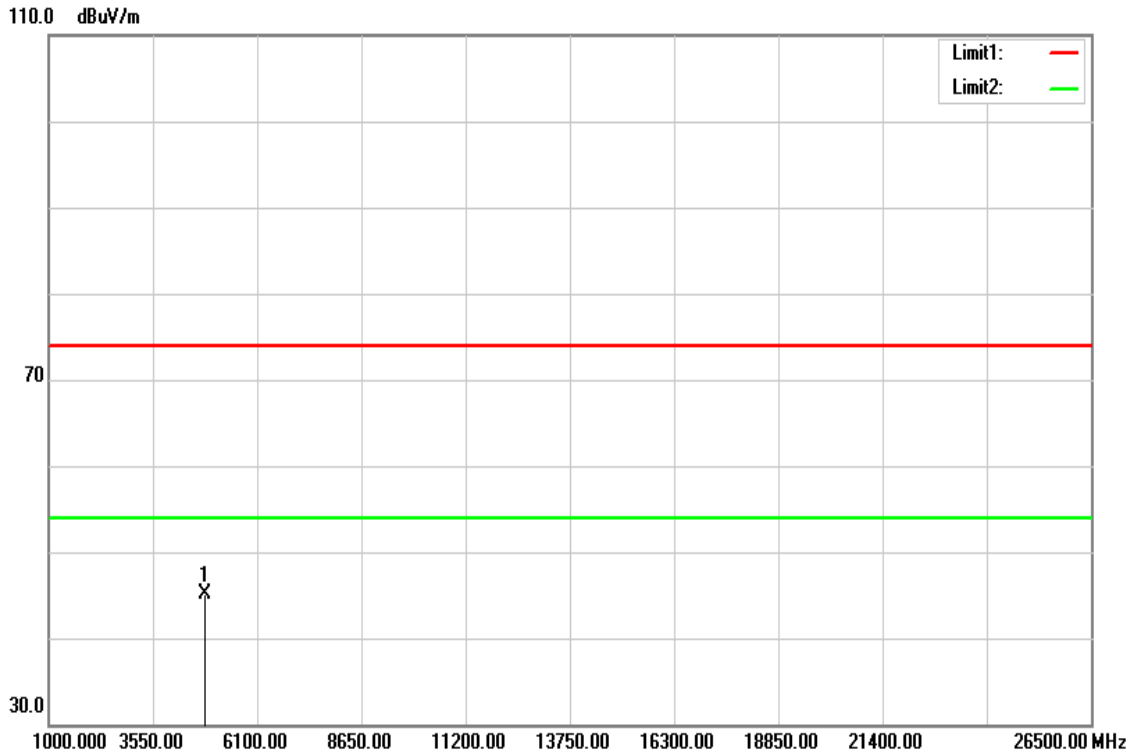


Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
4924.000	40.41	4.55	44.96	74.00	-29.04	peak
N/A						

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	22(℃) / 34%RH
Test Item	Harmonic	Test Date	February 27, 2018
Polarize	Vertical	Test Engineer	Jerry Chuang
Detector	Peak and Average	Test Voltage	DC 5V

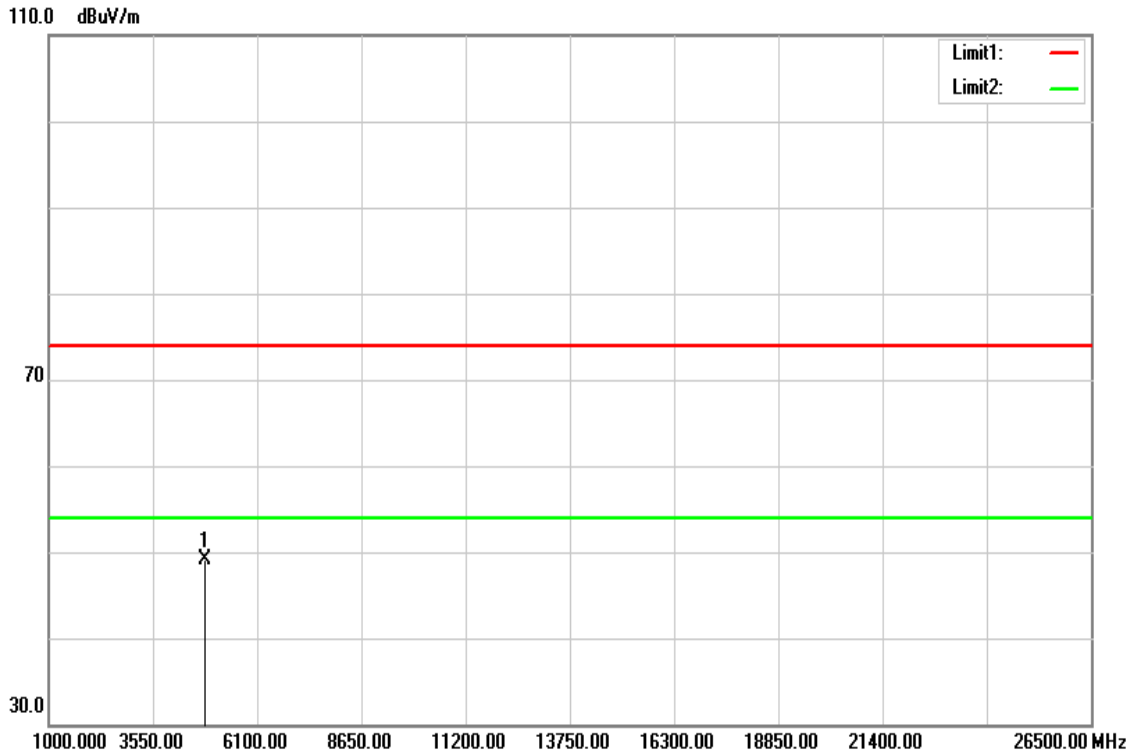


Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
4827.000	40.69	4.38	45.07	74.00	-28.93	peak
N/A						

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	22(℃) / 34%RH
Test Item	Harmonic	Test Date	February 27, 2018
Polarize	Horizontal	Test Engineer	Jerry Chuang
Detector	Peak and Average	Test Voltage	DC 5V

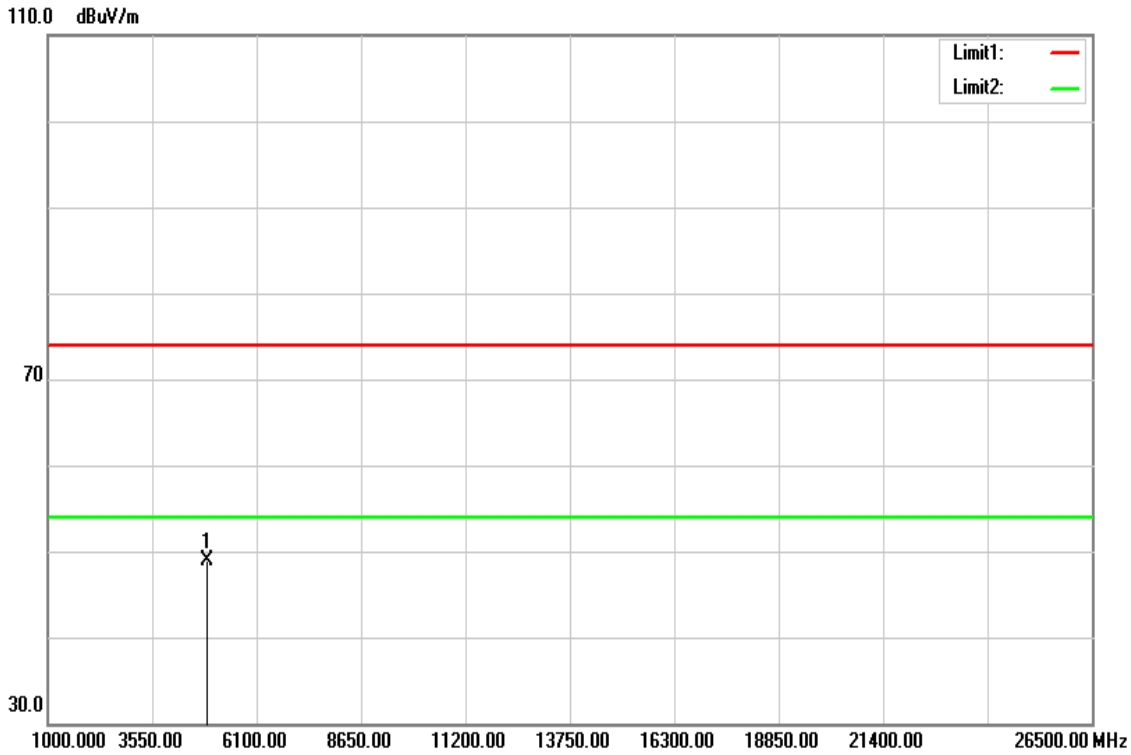


Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
4824.000	44.66	4.38	49.04	74.00	-24.96	peak
N/A						

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	22(℃) / 34%RH
Test Item	Harmonic	Test Date	February 27, 2018
Polarize	Vertical	Test Engineer	Jerry Chuang
Detector	Peak and Average	Test Voltage	DC 5V

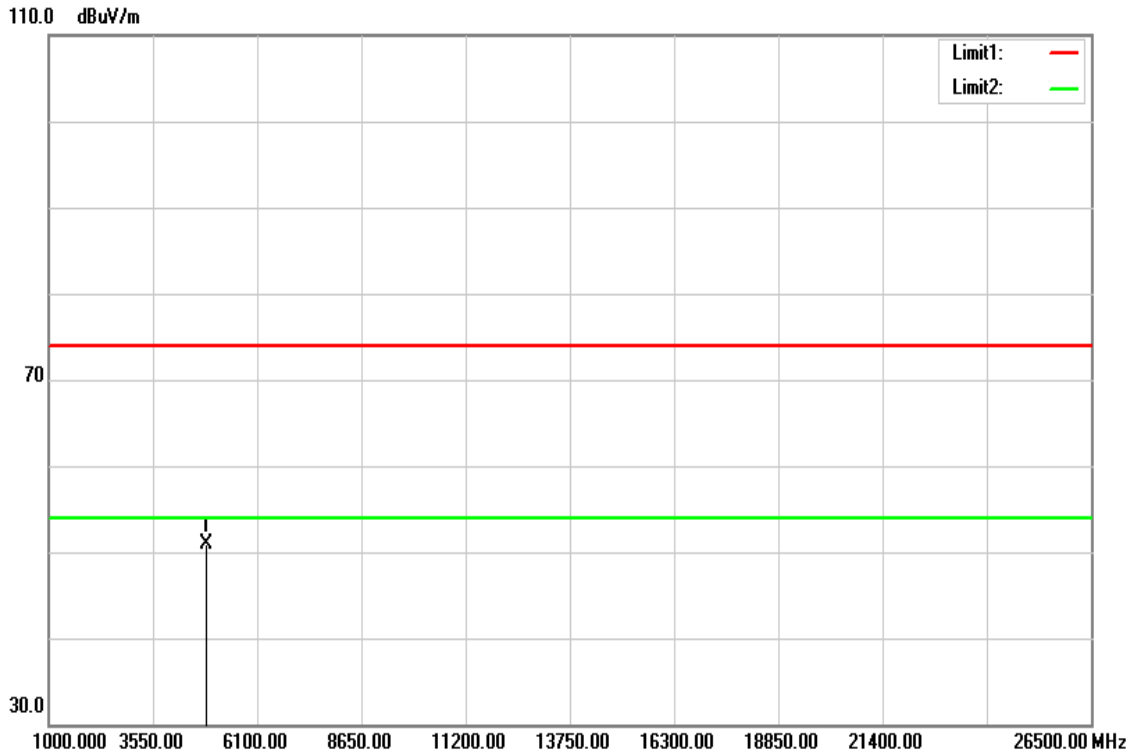


Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
4876.000	44.36	4.47	48.83	74.00	-25.17	peak
N/A						

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	22(℃) / 34%RH
Test Item	Harmonic	Test Date	February 27, 2018
Polarize	Horizontal	Test Engineer	Jerry Chuang
Detector	Peak and Average	Test Voltage	DC 5V

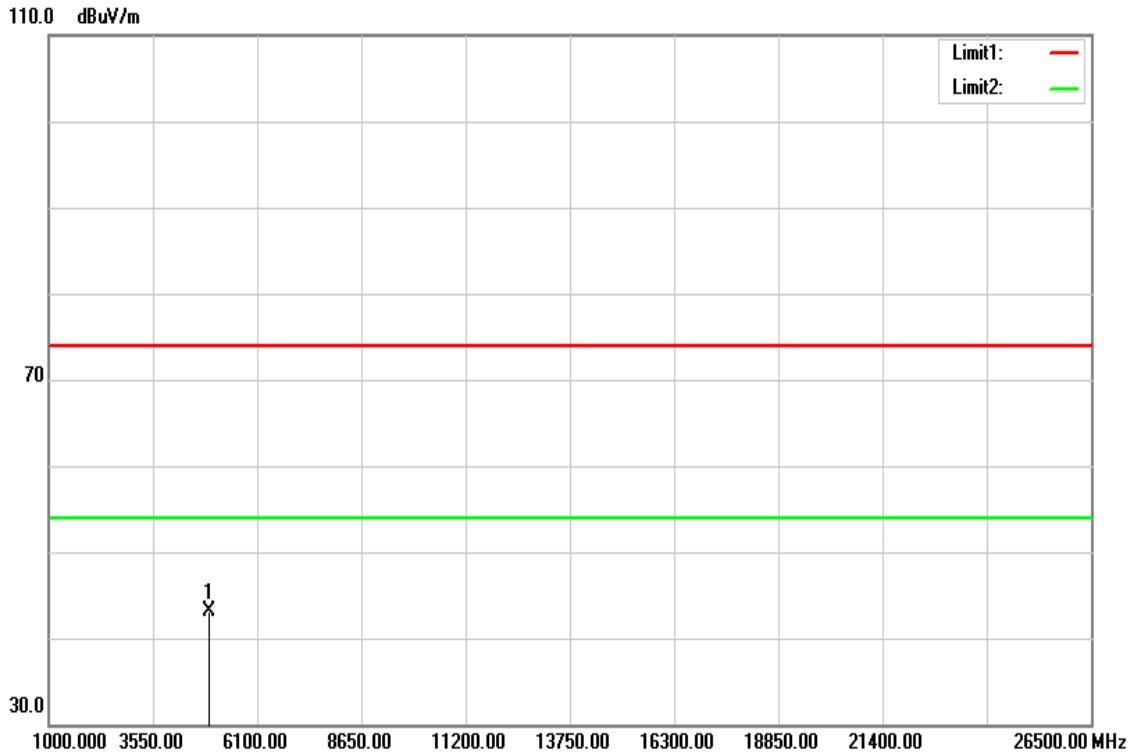


Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
4869.000	46.50	4.45	50.95	74.00	-23.05	peak
N/A						

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	22(℃) / 34%RH
Test Item	Harmonic	Test Date	February 27, 2018
Polarize	Vertical	Test Engineer	Jerry Chuang
Detector	Peak and Average	Test Voltage	DC 5V

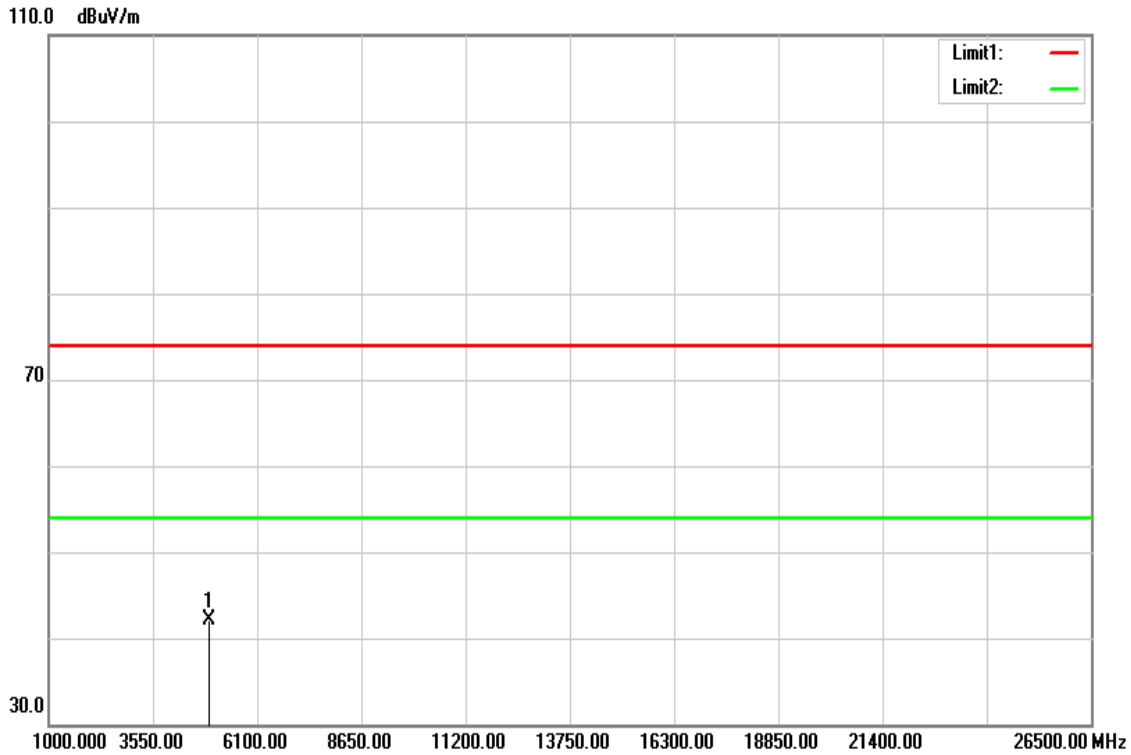


Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
4924.000	38.48	4.55	43.03	74.00	-30.97	peak
N/A						

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	22(℃) / 34%RH
Test Item	Harmonic	Test Date	February 27, 2018
Polarize	Horizontal	Test Engineer	Jerry Chuang
Detector	Peak and Average	Test Voltage	DC 5V

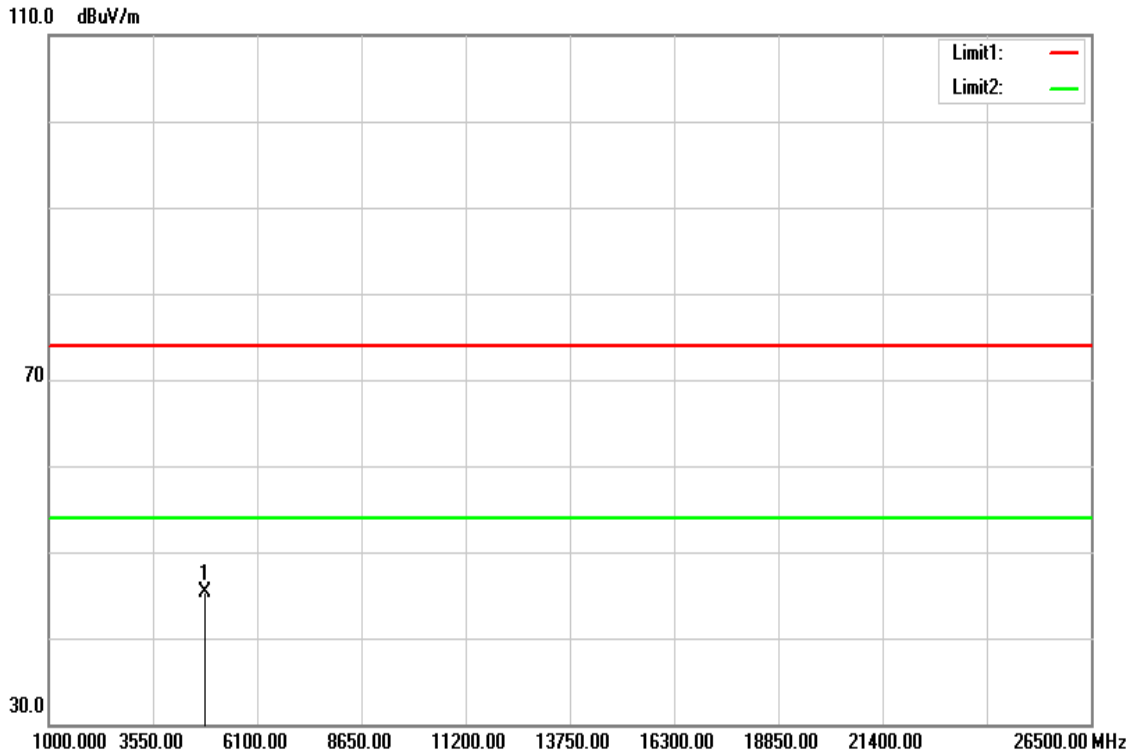


Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
4924.000	37.55	4.55	42.10	74.00	-31.90	peak
N/A						

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 HT 20 Low CH	Temp/Hum	22(℃) / 34%RH
Test Item	Harmonic	Test Date	February 27, 2018
Polarize	Vertical	Test Engineer	Jerry Chuang
Detector	Peak and Average	Test Voltage	DC 5V

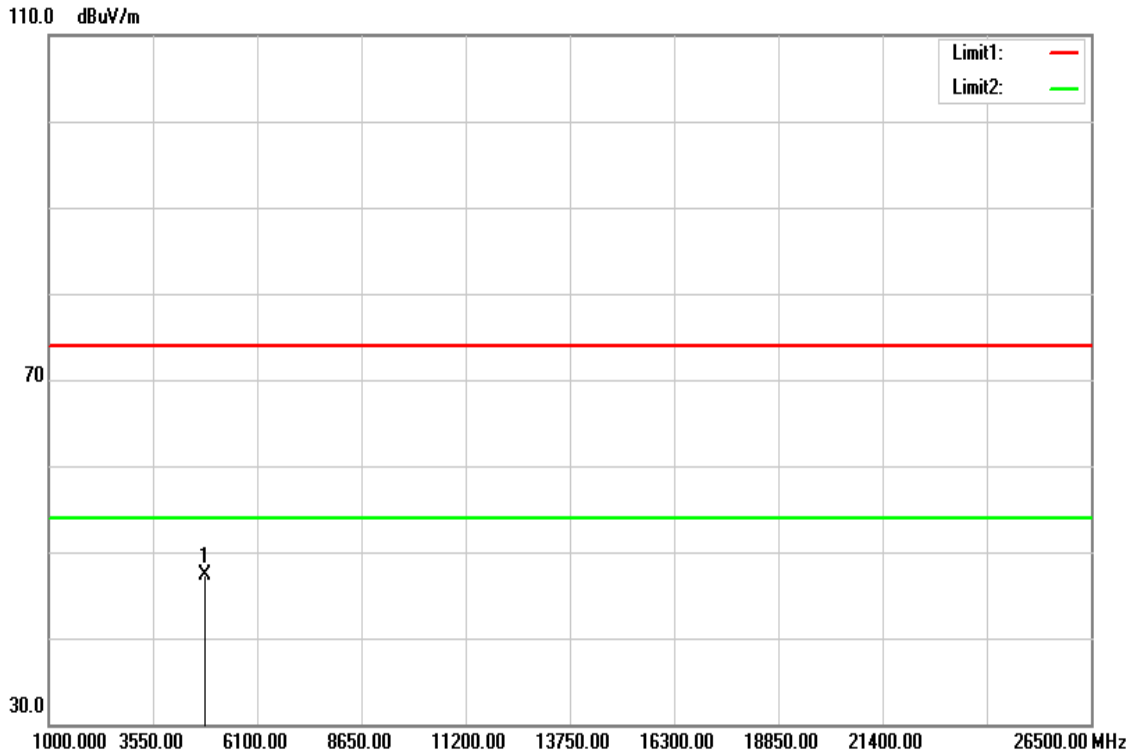


Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
4824.000	40.86	4.38	45.24	74.00	-28.76	peak
N/A						

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 HT 20 Low CH	Temp/Hum	22(℃) / 34%RH
Test Item	Harmonic	Test Date	February 27, 2018
Polarize	Horizontal	Test Engineer	Jerry Chuang
Detector	Peak and Average	Test Voltage	DC 5V

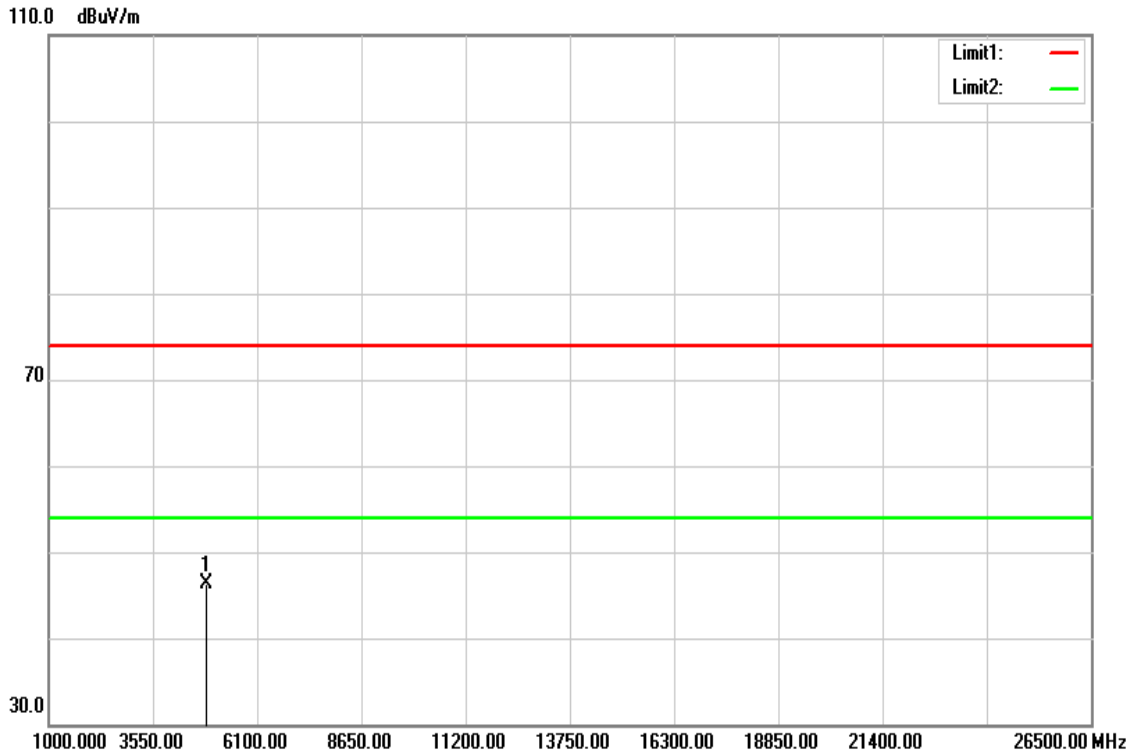


Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
4823.500	42.88	4.38	47.26	74.00	-26.74	peak
N/A						

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 HT 20 Mid CH	Temp/Hum	22(℃) / 34%RH
Test Item	Harmonic	Test Date	February 27, 2018
Polarize	Vertical	Test Engineer	Jerry Chuang
Detector	Peak and Average	Test Voltage	DC 5V

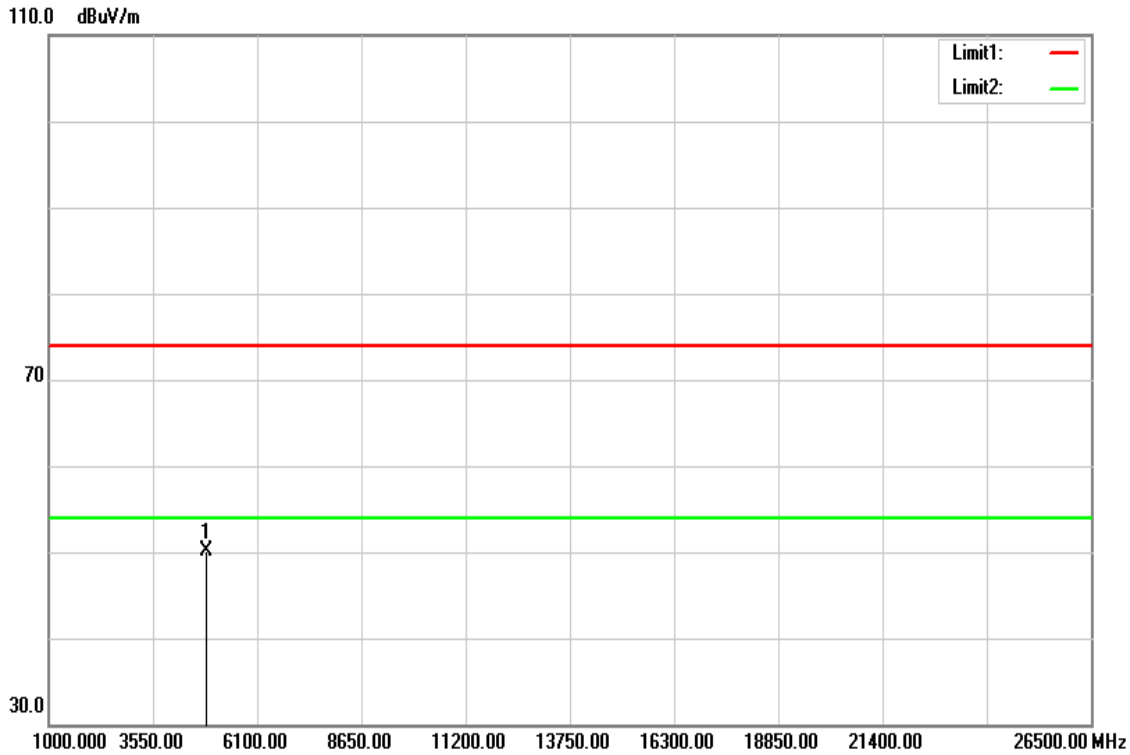


Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
4874.000	41.79	4.47	46.26	74.00	-27.74	peak
N/A						

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 HT 20 Mid CH	Temp/Hum	22(℃) / 34%RH
Test Item	Harmonic	Test Date	February 27, 2018
Polarize	Horizontal	Test Engineer	Jerry Chuang
Detector	Peak and Average	Test Voltage	DC 5V

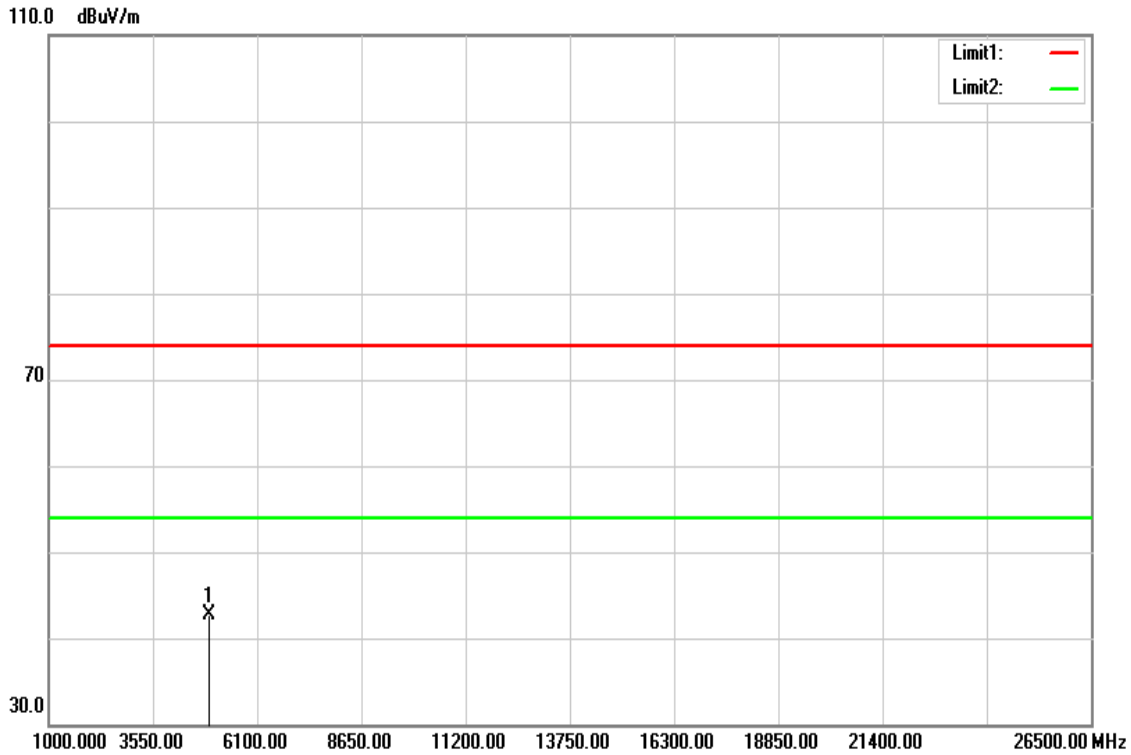


Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
4865.000	45.56	4.46	50.02	74.00	-23.98	peak
N/A						

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 HT 20 High CH	Temp/Hum	22(℃) / 34%RH
Test Item	Harmonic	Test Date	February 27, 2018
Polarize	Vertical	Test Engineer	Jerry Chuang
Detector	Peak and Average	Test Voltage	DC 5V

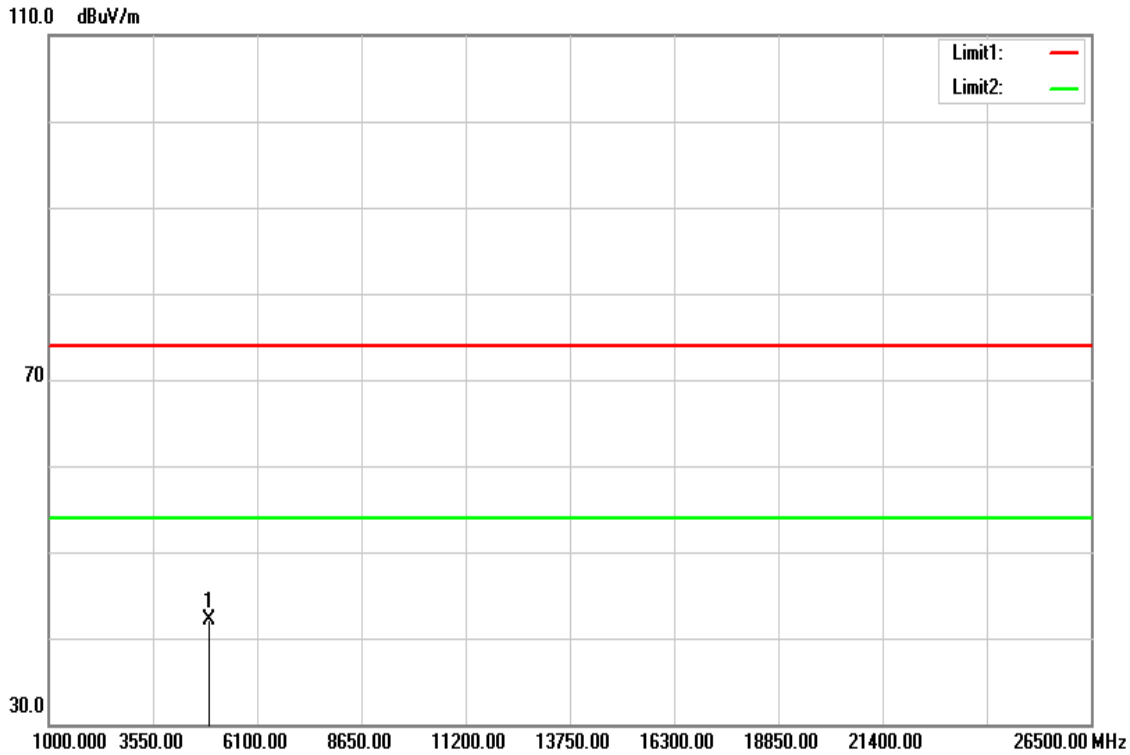


Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
4924.000	38.11	4.55	42.66	74.00	-31.34	peak
N/A						

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 HT 20 High CH	Temp/Hum	22(℃) / 34%RH
Test Item	Harmonic	Test Date	February 27, 2018
Polarize	Horizontal	Test Engineer	Jerry Chuang
Detector	Peak and Average	Test Voltage	DC 5V



Frequency (MHz	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
4924.000	37.60	4.55	42.15	74.00	-31.85	peak
N/A						

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*

--End of Test Report--