RADIO TEST REPORT
FCC 47 CFR PART 15 SUBPART C

Test Standard	**FCC Part 15.247**
Product name	**Enkore Smart Wall Reader Narrow**
Brand Name	**Pamex**
Model No.	**EKS-WR1N**
Test Result	**Pass**
Statements of Conformity	**Determination of compliance is based on the results of the compliance measurement, not taking into account measurement instrumentation uncertainty.**

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).

Approved by:

Sehni Hu
Supervisor

Revision History

Rev.	Issue Date	Revisions	Effect Page	Revised By
00	January 19, 2022	Initial Issue	ALL	Doris Chu
01	January 26, 2022	See the following Note Rev. (01)	P.7, P.12, P.15~16, A-3~A-4	Doris Chu

Rev. (01)
1. Added conduction data in section 4.1.

Table of contents

1. GENERAL INFORMATION

1.1 EUT INFORMATION

Applicant	Pamex Inc. 4680 Vinita Court, Chino, CA, 91710, United States
Manufacturer	ALZK Co., Ltd. 9F., No. 36, Sec. 3, Bade Rd., Songshan Dist., Taipei City, Taiwan
Equipment	Enkore Smart Wall Reader Narrow
Model No.	EKS-WR1N
Model Discrepancy	N/A
Trade Name	Pamex
Received Date	December 24, 2021
Date of Test	December 29, 2021 ~ January 24, 2022
Power Supply	Power from Power supply. (12V)
HW Version	V0.0.2
SW Version	W1-DVT-003

Remark:
1. For more details, please refer to the User's manual of the EUT.
2. Disclaimer: Antenna information is provided by the applicant, test results of this report are applicable to the sample EUT received.

1.2 EUT CHANNEL INFORMATION

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

Remark:
Refer as ANSI C63.10: 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	☒ Chip ☐ PCB ☐ Dipole ☐ Coils
Antenna Gain	Gain: 4.97 dBi

Remark:
1.The antenna(s) of the EUT are permanently attached and there are no provisions for connection to an external antenna. So the EUT complies with the requirements of §15.203.

1.4 MEASUREMENT UNCERTAINTY

PARAMETER	UNCERTAINTY
AC Powerline Conducted Emission	+/- 1.2575
Emission bandwidth, 6dB bandwidth	+/- 0.0014
RF output power, conducted	+/- 1.14
Power density, conducted	+/- 1.40
3M Semi Anechoic Chamber / 30 MHz ~1 GHz (Horizontally)	+/- 3.91
3M Semi Anechoic Chamber / 30 MHz ~1 GHz (Vertically)	+/- 4.57
3M Semi Anechoic Chamber / 1 GHz ~ 6 GHz	+/- 5.20
3M Semi Anechoic Chamber / 6 GHz ~ 18 GHz	+/- 5.18
3M Semi Anechoic Chamber / 18 GHz ~ 40 GHz	+/- 3.68

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, Taiwan. (R.O.C.)
CAB identifier: TW1309

Test site	Test Engineer	Remark
AC Conduction Room	Jack Chen	-
Radiation	Ray Li, Tony Chao	-
RF Conducted	Marco Chan	-

Remark: The lab has been recognized as the FCC accredited lad under the KDB 974614 D01 and is listed in the FCC pubic Access Link (PAL) database, FCC Registration No. :444940, the FCC Designation No.:TW1309

1.6 INSTRUMENT CALIBRATION

RF Conducted Test Site					
Name of Equipment	**Manufacturer**	**Model**	**Serial Number**	**Calibration Date**	**Calibration Due**
EXA Signal Analyzer	KEYSIGHT	N9010B	MY59071573	05/25/2021	05/24/2022
Power Meter	Anritsu	ML2496A	2136002	12/06/2021	12/05/2022
Power Seneor	Anritsu	MA2411B	1911387	08/19/2021	08/18/2022
Power Seneor	Anritsu	MA2411B	1911386	08/19/2021	08/18/2022
DC Power Supplies	GW Instek	SPS-3610	GPE880163	12/21/2021	12/20/2022
Software	Radio Test Software				

Conducted Emission Room					
Name of Equipment	**Manufacturer**	**Model**	**Serial Number**	**Calibration Date**	**Calibration Due**
CABLE	EMCI	CFD300-NL	CERF	06/28/2021	06/27/2022
EMI Test Receiver	R&S	ESCI	100064	07/05/2021	07/04/2022
LISN	SCHAFFNER	NNB 41	03/10013	02/02/2021	02/01/2022
DC Power Supplies	GW Instek	SPS-3610	GPE880163	12/21/2021	12/20/2022
Software	EZ-EMC(CCS-3A1-CE-WUGU)				

3M 966 Chamber Test Site					
Equipment	**Manufacturer**	**Model**	**Serial Number**	**Cal Date**	**Cal Due**
Band Reject Filters	MICRO TRONICS	BRM 50702	112	11/23/2021	11/22/2022
Bilog Antenna	Sunol Sciences	JB3	A030105	07/19/2021	07/18/2022
Coaxial Cable	HUBER SUHNER	SUCOFLEX 104PEA	20995	02/24/2021	02/23/2022
Coaxial Cable	EMCI	EMC105	190914+1111	09/17/2021	09/16/2022
Coaxial Cable	Woken	J-1099	201709090004	12/21/2021	12/20/2022
Digital Thermo-Hygro Meter	WISEWIND	1206	D07	12/28/2021	12/27/2022
Horn Antenna	ETS LINDGREN	3116	00026370	11/30/2021	11/29/2022
Horn Antenna	ETS LINDGREN	3117	00055165	07/29/2021	07/28/2022
K Type Cable	Huber+Suhner	SUCOFLEX 102	29406/2	12/05/2021	12/04/2022
Loop Ant	COM-POWER	AL-130	121051	04/07/2021	04/06/2022
Pre-Amplifier	EMEC	EM330	060609	02/24/2021	02/23/2022
Pre-Amplifier	HP	8449B	3008A00965	12/24/2021	12/23/2022
PSA Series Spectrum Analyzer	Agilent	E4446A	MY46180323	12/06/2021	12/05/2022
DC Power Supplies	GW Instek	SPS-3610	GPE880163	12/21/2021	12/20/2022
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
Software	e3 6.11-20180413				

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

1.7 SUPPORT AND EUT ACCESSORIES EQUIPMENT

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

Support Equipment						
No.	**Equipment**	**Brand**	**Model**	**Series No.**	**FCC ID**	**IC**
1	NB	Lenovo	T460P	N/A	N/A	N/A
2	NB(J)	TOSHIBA	PT345T-00L002	N/A	PD97260H	1000M-7260H
3	Micro to USB	ADATA	AMUCAL-100CMK	N/A	N/A	N/A

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 and FCC KDB 558074.

2. TEST SUMMARY

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
-	4.2	Occupied Bandwidth (99%)	Pass
15.247(b)(3)	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:
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
Power supply Mode	Mode 1: EUT power by Power Supply
Worst Mode	☒ Mode 1 ☐ Mode 2 ☐ Mode 3 ☐ Mode 4

Radiated Emission Measurement Above 1G	
Test Condition	Radiated Emission Above 1G
Power supply Mode	Mode 1: EUT power by Power supply
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)

Radiated Emission Measurement Below 1G	
Test Condition	Radiated Emission Below 1G
Power supply Mode	Mode 1: EUT power by Power supply
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, for radiated measurement. The worst case(Y-Plane) were recorded in this report
3. AC power line conducted emission and for below 1G radiation emission were performed the EUT transmit at the highest output power channel as worse case.

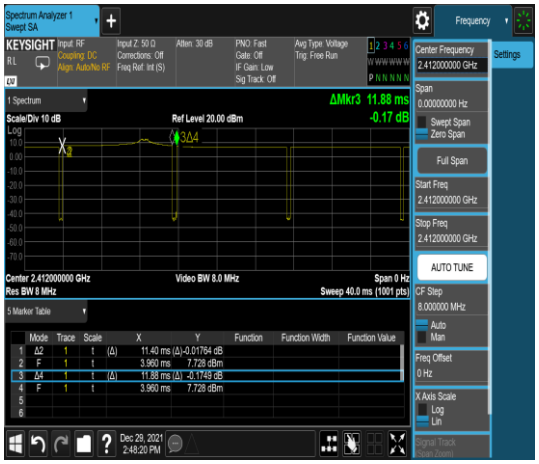
3.3 EUT DUTY CYCLE

Temperature: 19.4 ~ 21.4℃ **Humidity:** 51 ~ 63% RH

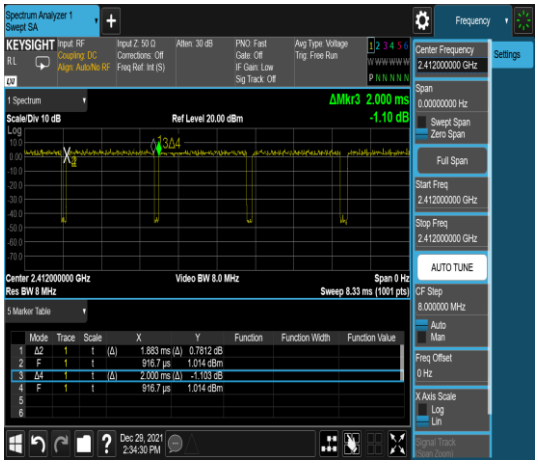
Tested by: Marco Chan **Test date:** December 29 ~ 30, 2021

Duty Cycle				
Configuration	Duty Cycle (%)	Duty Factor (dB) =10*log (1/Duty Cycle)	1/T (kHz)	VBW setting (kHz)
802.11b	95.95	0.18	0.09	1.00
802.11g	94.15	0.26	0.53	1.00
802.11n HT20	92.61	0.33	0.57	1.00

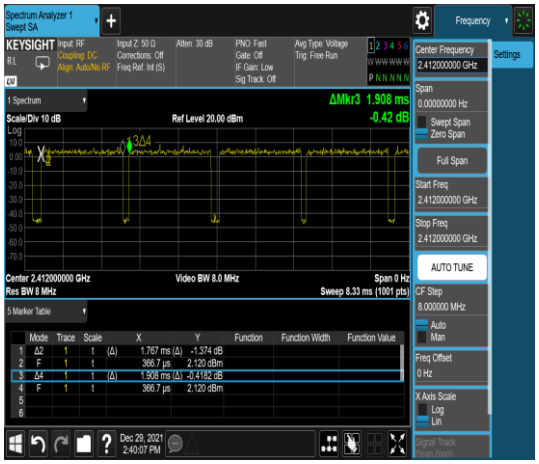
802.11b



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

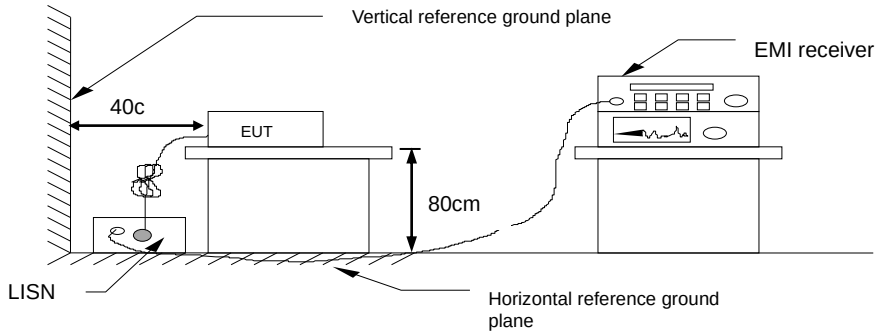
* Decreases with the logarithm of the frequency.

4.1.2 Test Procedure

Test method Refer as ANSI C63.10: 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

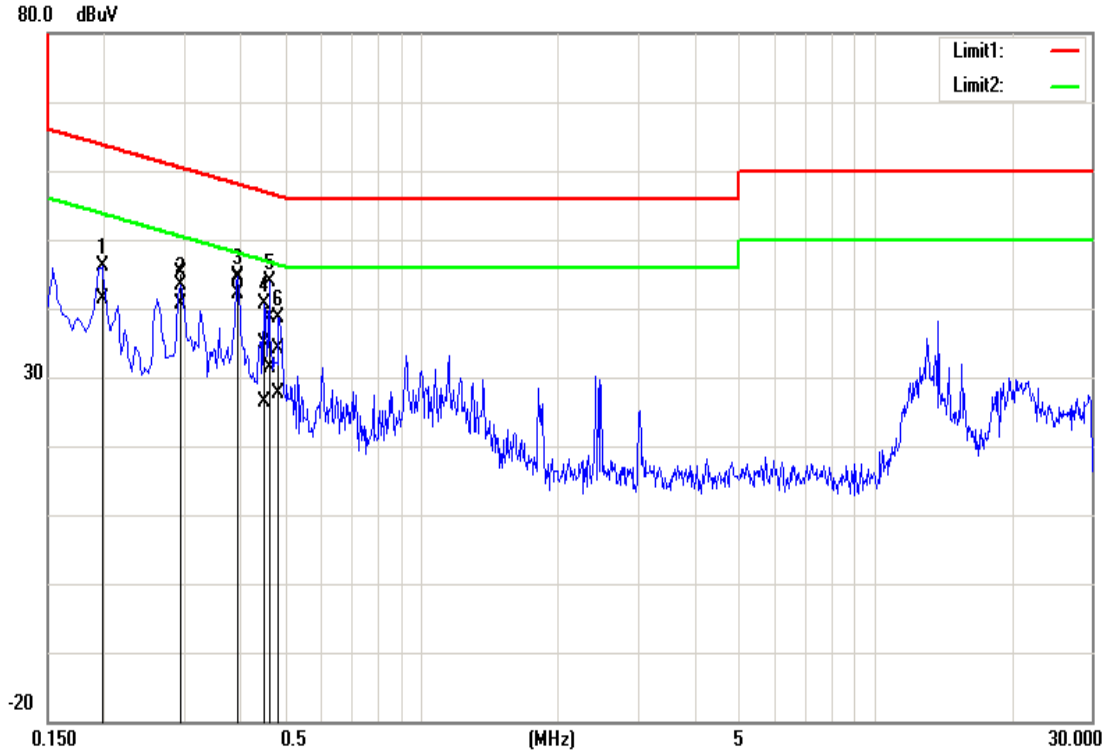
Test Data

Test Mode:	Mode 1	Temp/Hum	20.1(℃)/ 63%RH
Phase:	Line	Test Date	January 24, 2022
		Test Engineer	Jack Chen

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
0.1780	27.29	20.33	10.29	37.58	30.62	64.58	54.58	-27.00	-23.96	Pass
0.2860	21.18	15.24	10.29	31.47	25.53	60.64	50.64	-29.17	-25.11	Pass
0.9620	14.46	9.17	10.31	24.77	19.48	56.00	46.00	-31.23	-26.52	Pass
0.9780	12.60	7.40	10.31	22.91	17.71	56.00	46.00	-33.09	-28.29	Pass
0.9940	12.63	7.35	10.31	22.94	17.66	56.00	46.00	-33.06	-28.34	Pass
13.5580	43.23	26.58	10.46	53.69	37.04	60.00	50.00	-6.31	-12.96	Pass

Note: Correction factor = LISN loss + Cable loss.

Test Mode:	Mode 1	Temp/Hum	20.1(℃)/ 63%RH
Phase:	Neutral	Test Date	January 24, 2022
		Test Engineer	Jack Chen



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
0.1980	35.95	31.05	10.29	46.24	41.34	63.69	53.69	-17.45	-12.35	Pass
0.2940	34.75	30.26	10.29	45.04	40.55	60.41	50.41	-15.37	-9.86	Pass
0.3940	34.07	31.80	10.29	44.36	42.09	57.98	47.98	-13.62	-5.89	Pass
0.4500	24.62	16.13	10.29	34.91	26.42	56.88	46.88	-21.97	-20.46	Pass
0.4620	28.30	20.97	10.29	38.59	31.26	56.66	46.66	-18.07	-15.40	Pass
0.4860	23.87	17.27	10.29	34.16	27.56	56.24	46.24	-22.08	-18.68	Pass

Note: Correction factor = LISN loss + Cable loss.

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

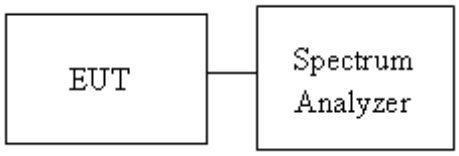
Occupied Bandwidth(99%) ： For reporting purposes only.

4.2.2 Test Procedure

Test method Refer as ANSI C63.10: 2013,

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.
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

Temperature: 19.4 ~ 21.4℃ **Humidity:** 51 ~ 63% RH

Tested by: Marco Chan **Test date:** December 29 ~ 30, 2021

Test mode: IEEE 802.11b mode / 2412-2462 MHz				
Channel	**Frequency (MHz)**	**OBW(99%) (MHz)**	**6dB BW (MHz)**	**6dB limit (kHz)**
Low	2412	14.088	9.131	≥500
Mid	2437	**14.099**	9.129	
High	2462	14.067	**9.138**	

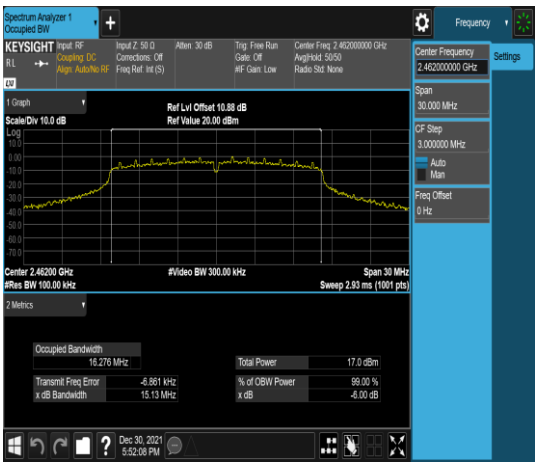
Test mode: IEEE 802.11g mode / 2412-2462 MHz				
Channel	**Frequency (MHz)**	**OBW(99%) (MHz)**	**6dB BW (MHz)**	**6dB limit (kHz)**
Low	2412	16.571	15.12	≥500
Mid	2437	**17.027**	**15.13**	
High	2462	16.574	**15.13**	

Test mode: IEEE 802.11n HT 20 MHz mode / 2412-2462 MHz				
Channel	**Frequency (MHz)**	**OBW(99%) (MHz)**	**6dB BW (MHz)**	**6dB limit (kHz)**
Low	2412	17.567	**15.13**	≥500
Mid	2437	**17.809**	**15.13**	
High	2462	17.561	15.12	

Test Data

6dB BANDWIDTH

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

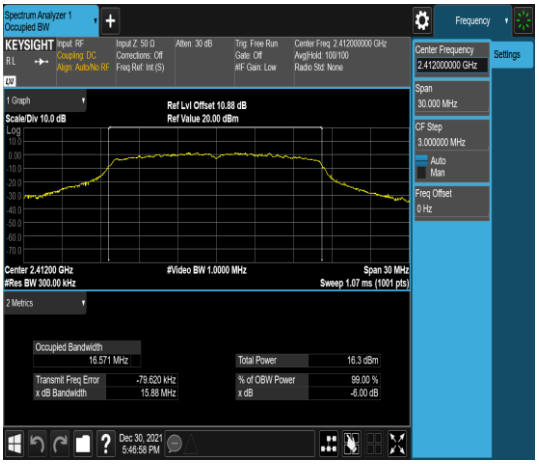
IEEE 802.11g mode	
Low CH	**Mid CH**
	
High CH	
	

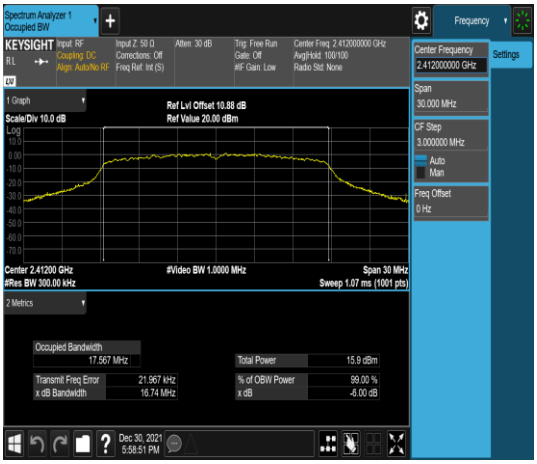
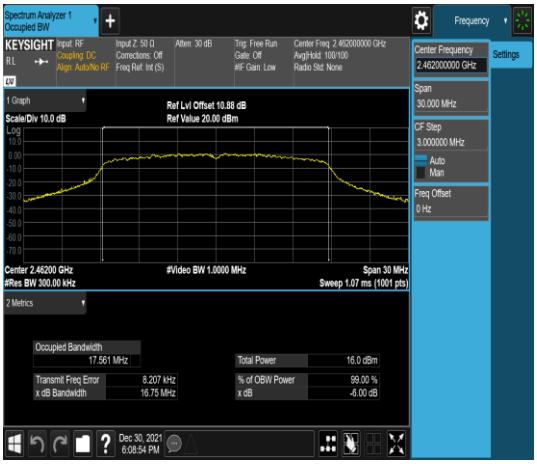
IEEE 802.11n HT20 mode	
Low CH	**Mid CH**
	
High CH	
	

Test Data

BANDWIDTH 99%

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

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

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

4.3 OUTPUT POWER MEASUREMENT

4.3.1 Test Limit

According to §15.247(b),

Peak output power：

FCC:

For systems using digital modulation in the 902-928 MHz, 2400-2483.5 MHz, and 5725-5850 MHz bands: 1 Watt. As an alternative to a peak power measurement,

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

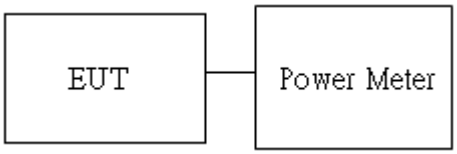
Average output power：For reporting purposes only.

4.3.2 Test Procedure

Test method Refer as ANSI C63.10:2013.

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

Temperature: 19.4 ~ 21.4℃ **Humidity:** 51 ~ 63% RH

Tested by: Marco Chan **Test date:** December 29 ~ 30, 2021

Peak output power：

802.11b Ch0						
CH	**Freq. (MHz)**	**Data Rate**	**Power set**	**Peak Output Power (dBm)**	**Limit (dBm)**	**RESULT**
1	2412	1	0	16.93	30.00	PASS
6	2437	1	0	**17.25**	30.00	PASS
11	2462	1	0	17.17	30.00	PASS

802.11g Ch0						
CH	**Freq. (MHz)**	**Data Rate**	**Power set**	**Peak Output Power (dBm)**	**Limit (dBm)**	**RESULT**
1	2412	6	0	18.35	30.00	PASS
6	2437	6	0	**19.25**	30.00	PASS
11	2462	6	0	18.61	30.00	PASS

802.11nHT_20M Ch0						
CH	**Freq. (MHz)**	**Data Rate**	**Power set**	**Peak Output Power (dBm)**	**Limit (dBm)**	**RESULT**
1	2412	MCS0	0	18.28	30.00	PASS
6	2437	MCS0	0	**18.82**	30.00	PASS
11	2462	MCS0	0	18.47	30.00	PASS

Average output power：

802.11b Ch0						
CH	**Freq. (MHz)**	**Data Rate**	**Power set**	**Max. Avg. Output include tune up tolerance Power (dBm)**	**Limit (dBm)**	**RESULT**
1	2412	1	0	14.96	30.00	PASS
6	2437	1	0	15.35	30.00	PASS
11	2462	1	0	**15.55**	30.00	PASS

802.11g Ch0						
CH	**Freq. (MHz)**	**Data Rate**	**Power set**	**Max. Avg. Output include tune up tolerance Power (dBm)**	**Limit (dBm)**	**RESULT**
1	2412	6	0	9.97	30.00	PASS
6	2437	6	0	**14.70**	30.00	PASS
11	2462	6	0	10.22	30.00	PASS

802.11nHT_20M Ch0						
CH	**Freq. (MHz)**	**Data Rate**	**Power set**	**Max. Avg. Output include tune up tolerance Power (dBm)**	**Limit (dBm)**	**RESULT**
1	2412	MCS0	0	9.68	30.00	PASS
6	2437	MCS0	0	**13.48**	30.00	PASS
11	2462	MCS0	0	10.00	30.00	PASS

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.

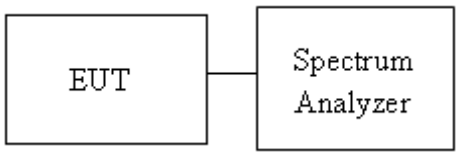
Limit	☒ Antenna not exceed 6 dBi：8dBm ☐ Antenna with DG greater than 6 dBi： [Limit = 8 – (DG – 6)] ☐ Point-to-point operation：

4.4.2 Test Procedure

Test method Refer as ANSI C63.10:2013

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 = 10kHz, 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

Temperature: 19.4 ~ 21.4℃ **Humidity:** 51 ~ 63% RH

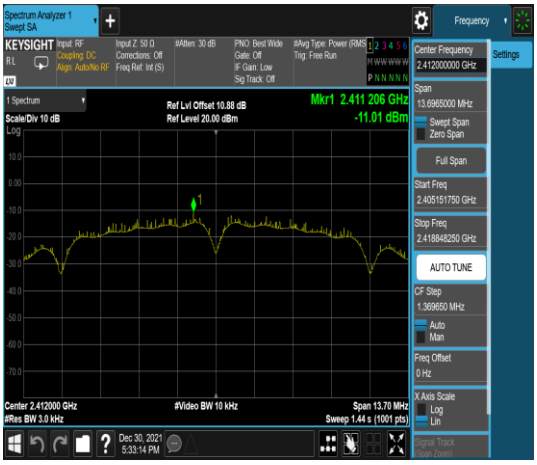
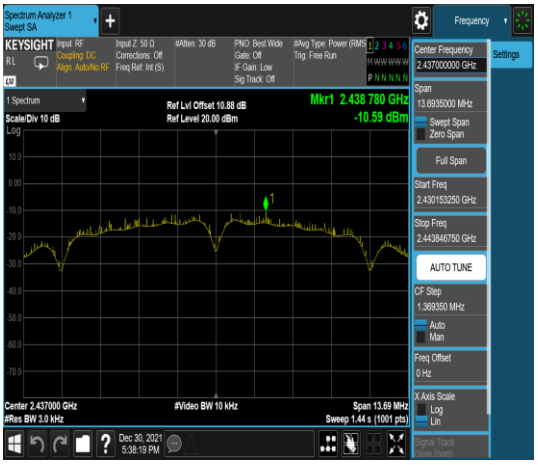
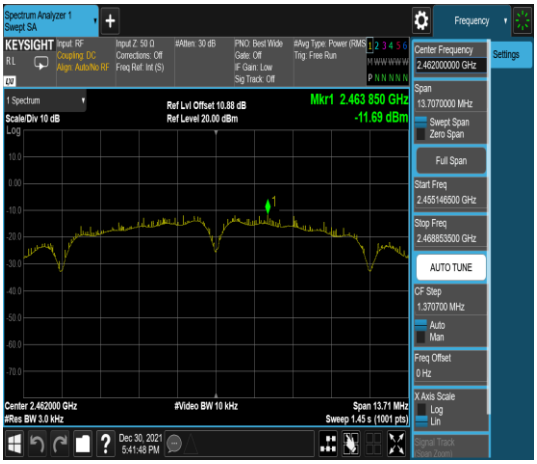
Tested by: Marco Chan **Test date:** December 29 ~ 30, 2021

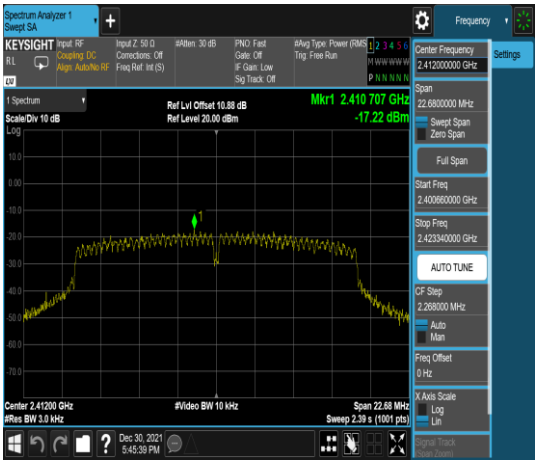
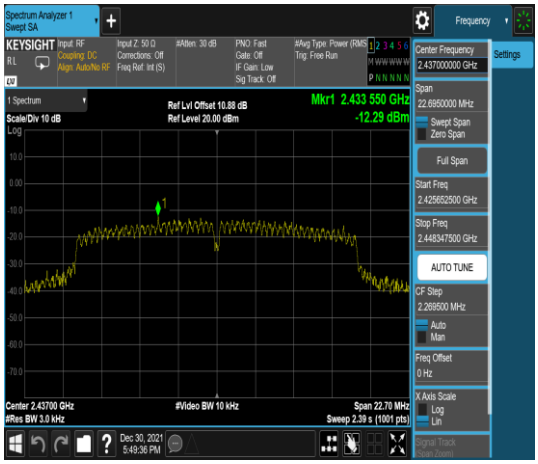
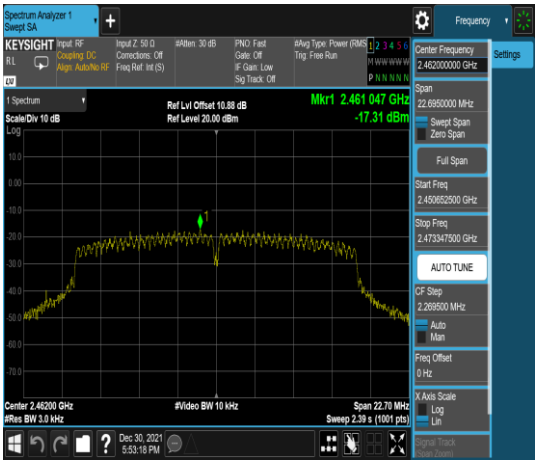
POWER DENSITY 802.11b				
Freq. (MHz)	Ch0 PSD	PSD (dBm/3kHz)	Limit (dBm/3kHz)	Result
2412	-11.01	-11.01	8.00	PASS
2437	-10.59	-10.59	8.00	PASS
2462	-11.69	-11.69	8.00	PASS

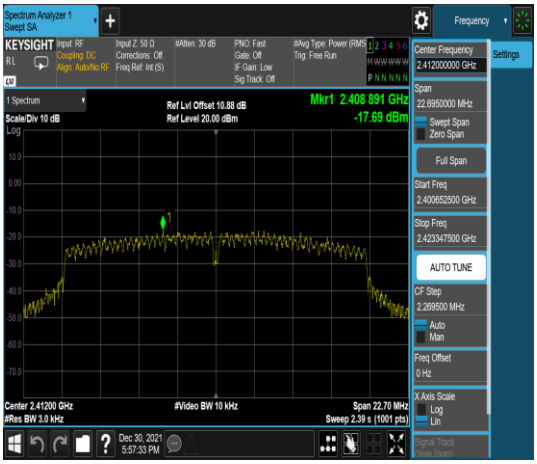
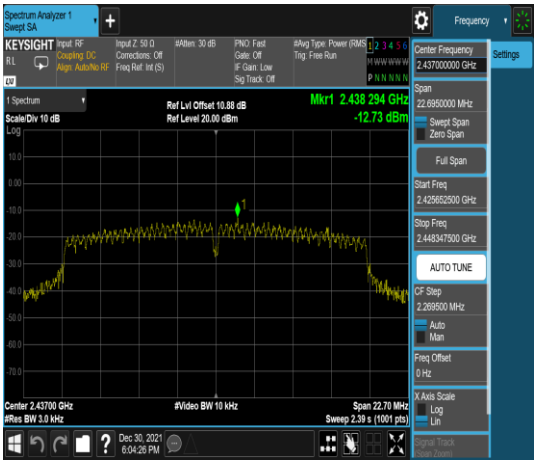
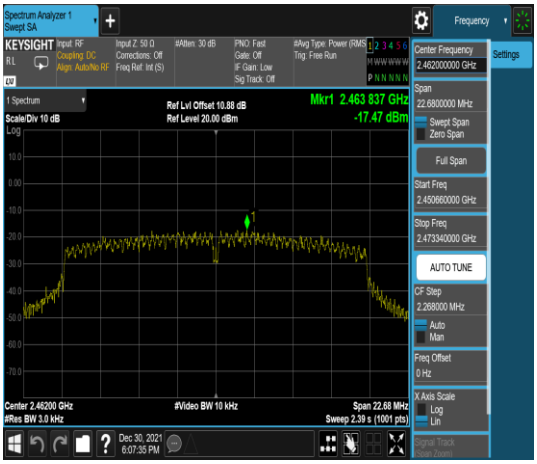
POWER DENSITY 802.11g				
Freq. (MHz)	Ch0 PSD	PSD (dBm/3kHz)	Limit (dBm/3kHz)	Result
2412	-17.22	-17.22	8.00	PASS
2437	-12.29	-12.29	8.00	PASS
2462	-17.31	-17.31	8.00	PASS

POWER DENSITY 802.11n HT20				
Freq. (MHz)	Ch0 PSD	PSD (dBm/3kHz)	Limit (dBm/3kHz)	Result
2412	-17.69	-17.69	8.00	PASS
2437	-12.73	-12.73	8.00	PASS
2462	-17.47	-17.47	8.00	PASS

Test Data

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

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

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

4.5 CONDUCTED BANDEDGE AND SPURIOUS EMISSION

4.5.1 Test Limit

According to §15.247(d),

FCC:

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

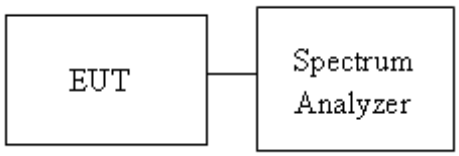
Test method Refer as ANSI C63.10:2013.

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.

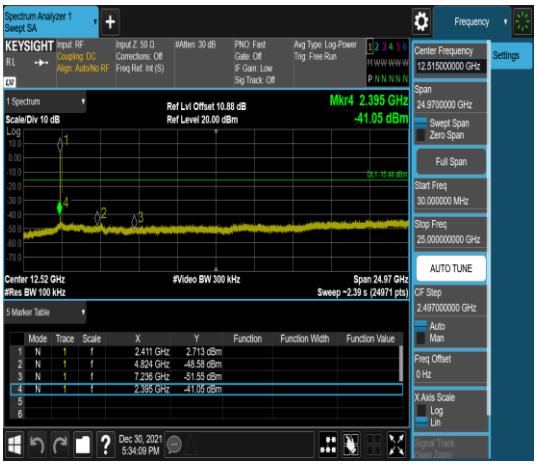
4.5.3 Test Setup



4.5.4 Test Result

Test Data

Temperature:	19.4 ~ 21.4℃	**Humidity:**	51 ~ 63% RH
Tested by:	Marco Chan	**Test date:**	December 29 ~ 30, 2021

<table>
<tr><th colspan="2">IEEE 802.11b mode Low CH</th></tr>
<tr><th>Reference Level of PSD in 100kHz</th><th>Band Edge</th></tr>
<tr><td> 
</td><td> 
</td></tr>
<tr><th colspan="2">Spurious Emission 30MHz-25GHz</th></tr>
<tr><td> 
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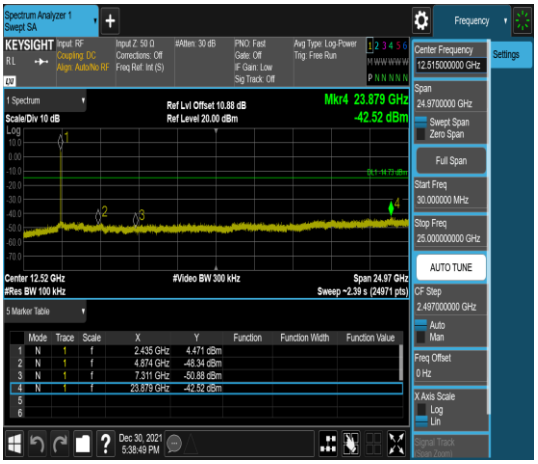
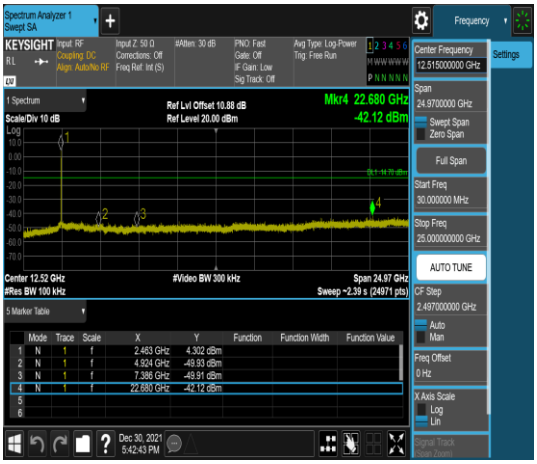
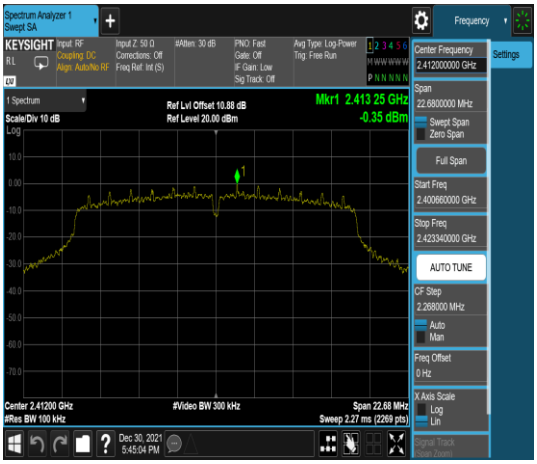
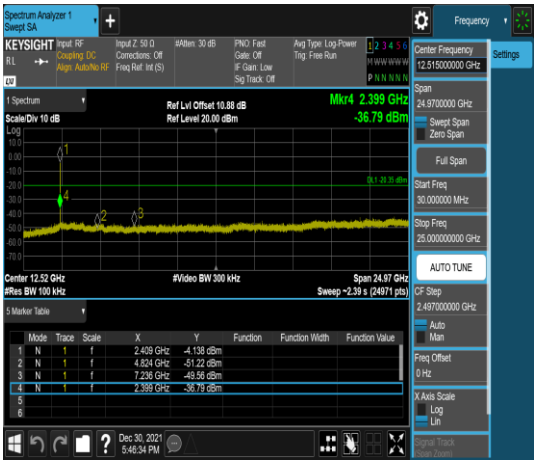
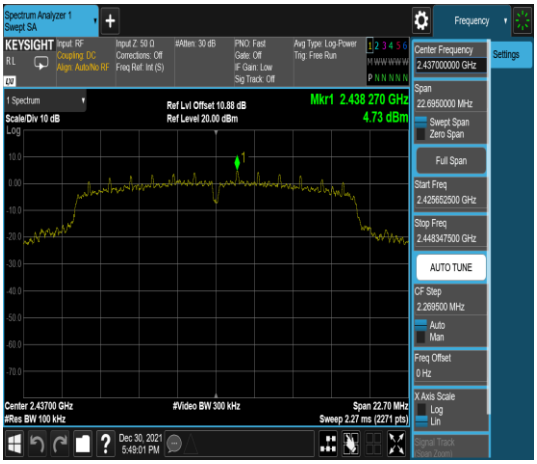
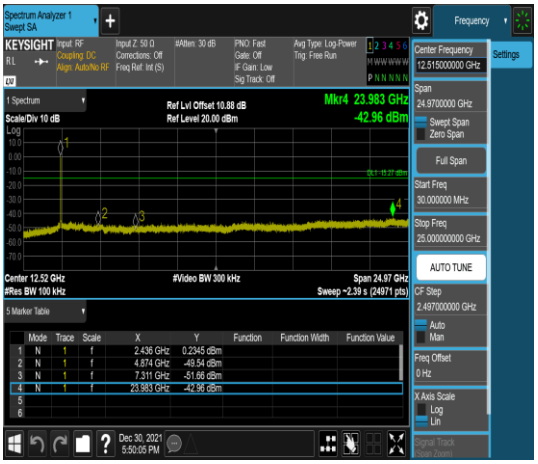
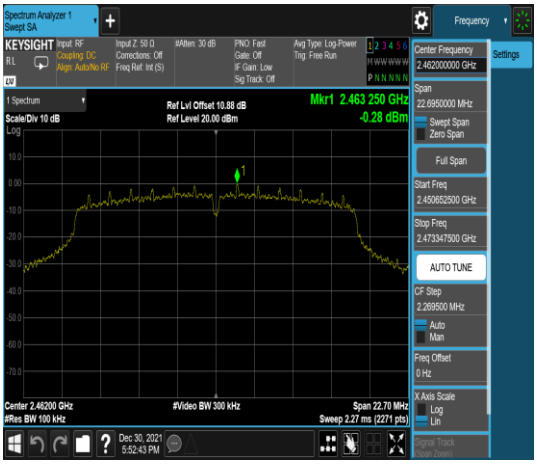
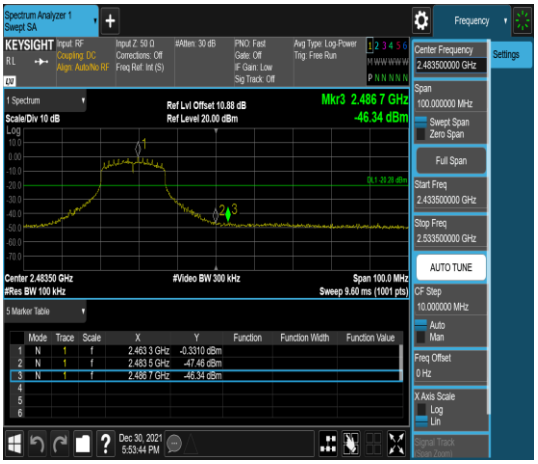
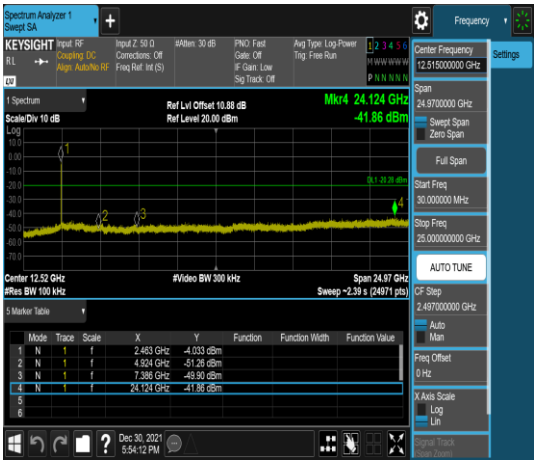
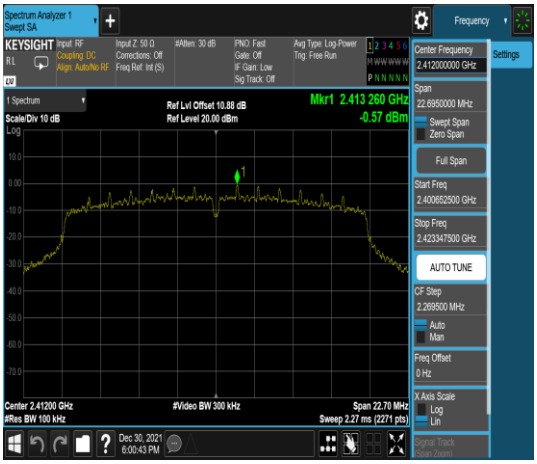
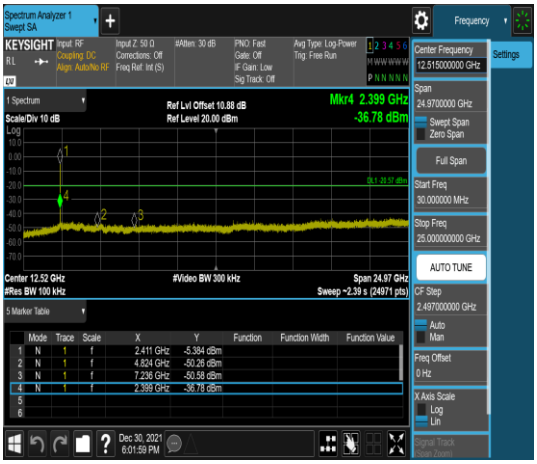
IEEE 802.11b mode Mid CH	
Reference Level of PSD in 100kHz	**Spurious Emission 30MHz-25GHz**
	

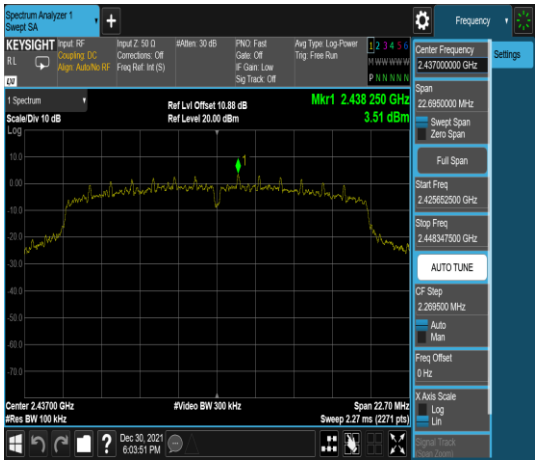
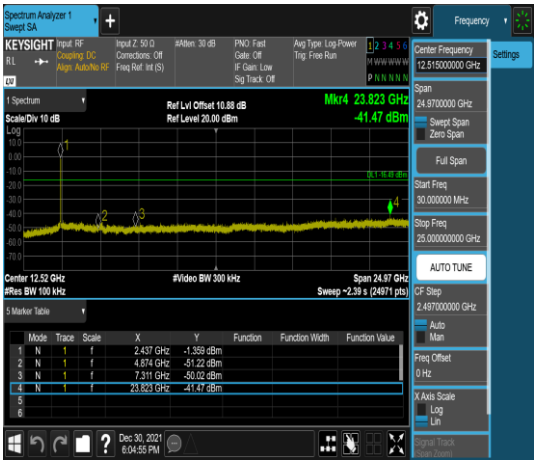
IEEE 802.11b mode High CH	
Reference Level of PSD in 100kHz	**Band Edge**
	
Spurious Emission 30MHz-25GHz	
	

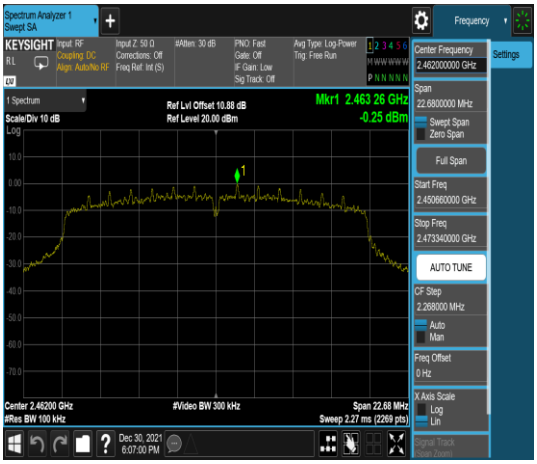
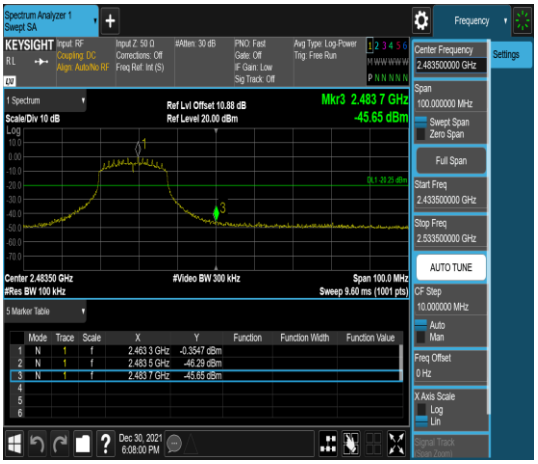
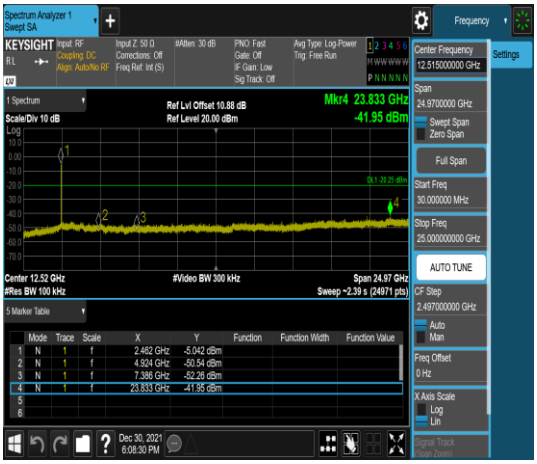
IEEE 802.11g mode Low CH	
Reference Level of PSD in 100kHz	**Band Edge**
	
Spurious Emission 30MHz-25GHz	
	

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

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

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

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

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

4.6 RADIATION BANDEDGE AND SPURIOUS EMISSION

4.6.1 Test Limit

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

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

Remark:
Although these tests were performed other than open area test site, adequate comparison measurements were confirmed against 30 m open are test site. Therefore sufficient tests were made to demonstrate that the alternative site produces results that correlate with the ones of tests made in an open field based on KDB 414788.

4.6.2 Test Procedure

Test method Refer as ANSI C63.10:2013.

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: 2013, 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)

Remark:

Although these tests were performed other than open area test site, adequate comparison measurements were confirmed against 30 m open are test site. Therefore sufficient tests were made to demonstrate that the alternative site produces results that correlate with the ones of tests made in an open field based on KDB 414788.

4. 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.

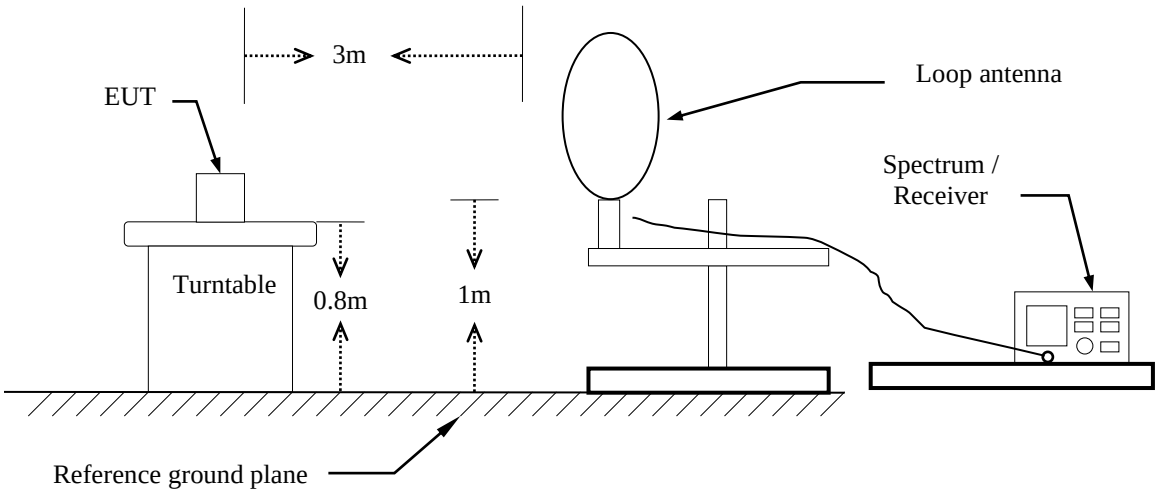
5. Data result

Actual FS=Spectrum Reading Level + Factor

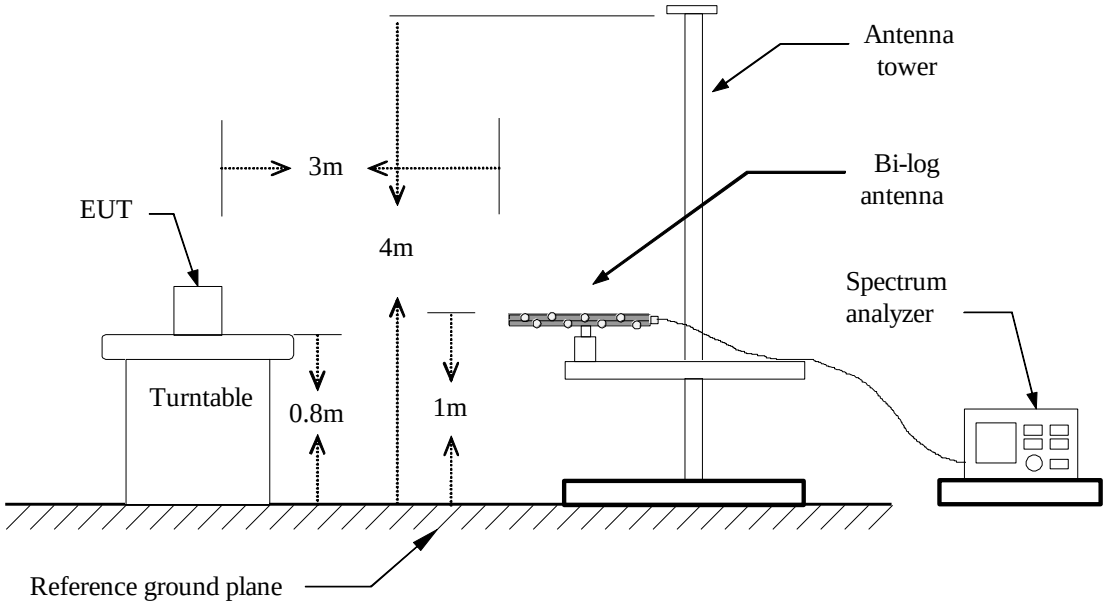
Margin=Actual FS- Limit

4.6.3 Test Setup

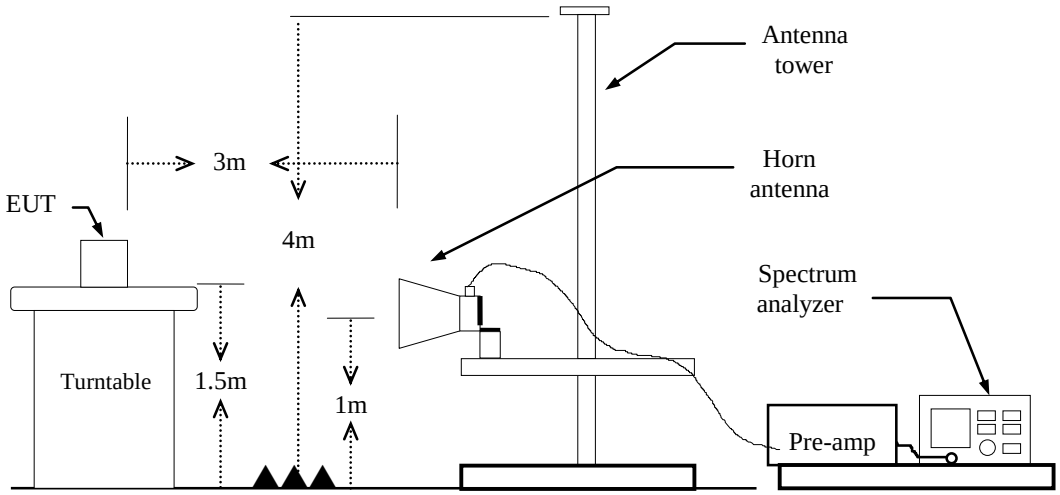
9kHz ~ 30MHz



30MHz ~ 1GHz



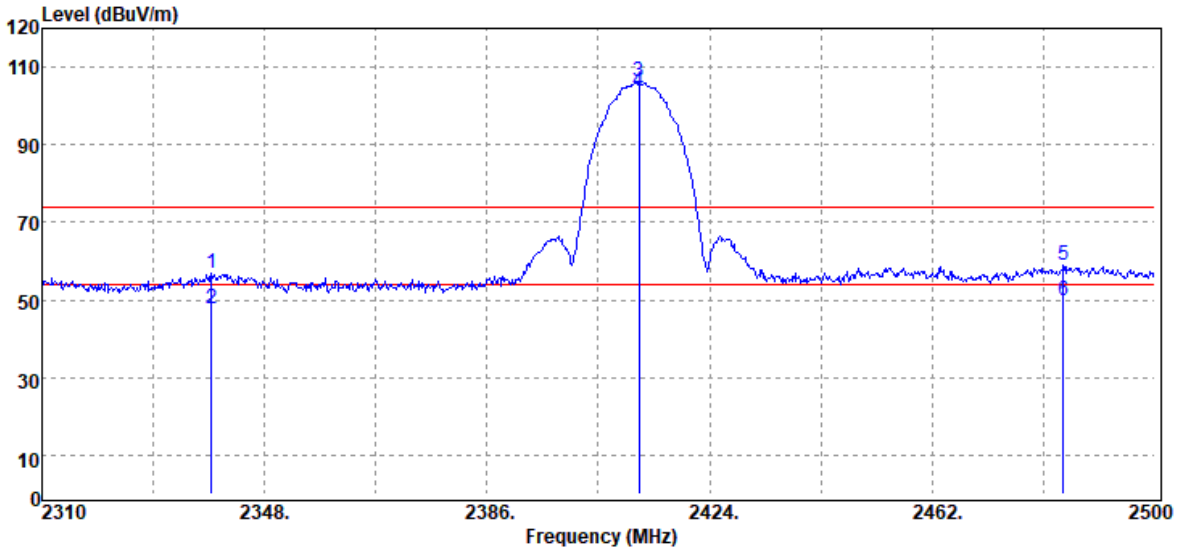
Above 1 GHz



4.6.4 Test Result

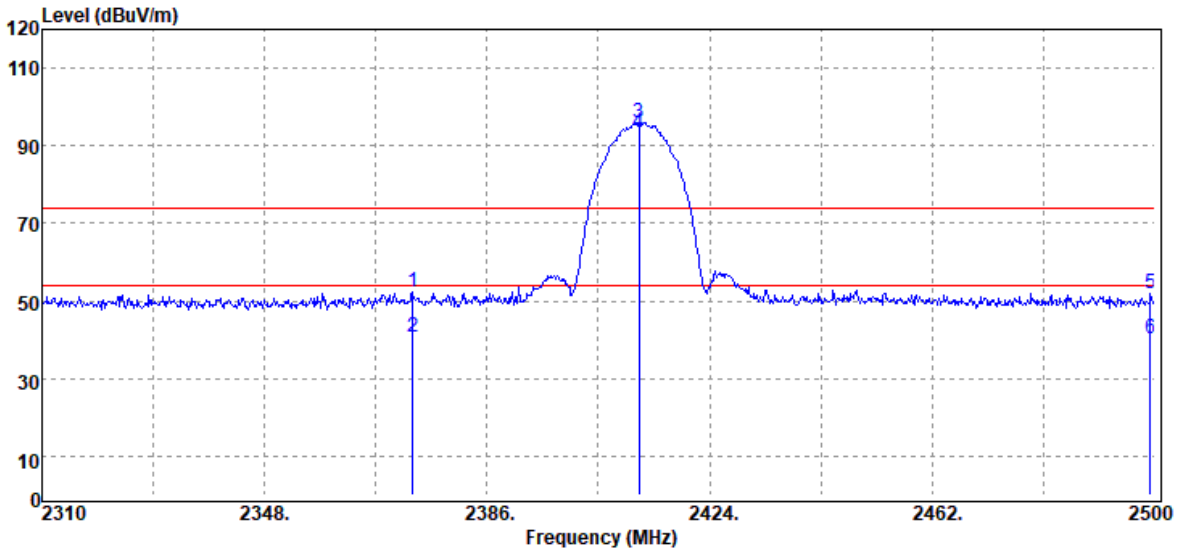
Band Edge Test Data

Test Mode	IEEE 802.11b Low CH 2412MHz	Temp/Hum	21.6(℃)/ 64%RH
Test Item	Band Edge	Test Date	January 3, 2022
Polarize	Vertical	Test Engineer	Tony Chao
Detector	Peak / Average		



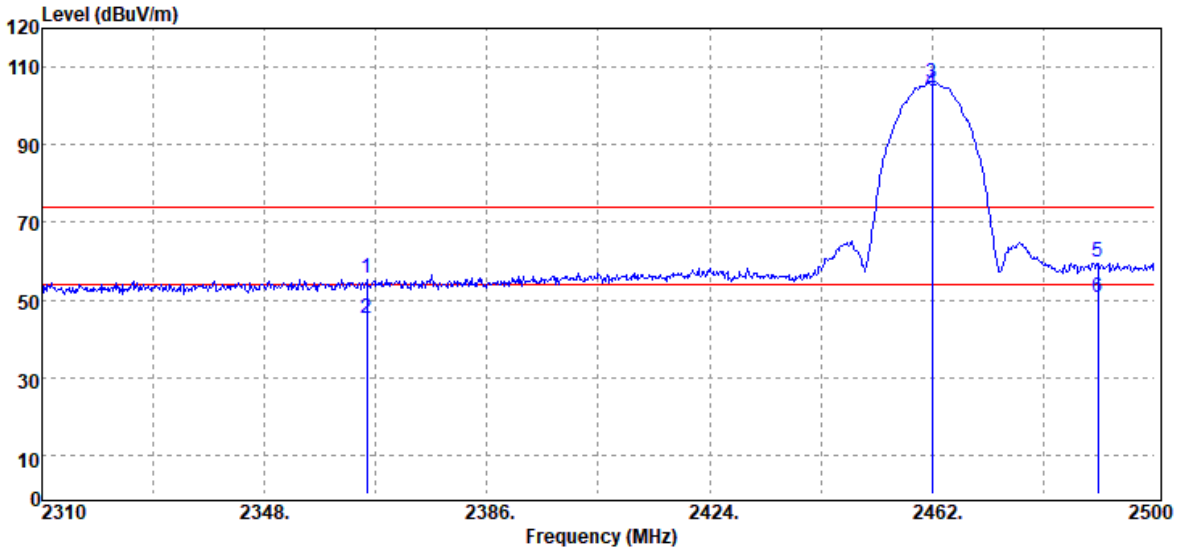
Frequency (MHz)	Detector Mode (PK/QP/AV)	Spectrum Reading Level (dBµV)	Factor (dB)	Actual FS (dBµV/m)	Limit @3m (dBµV/m)	Margin (dB)
2338.88	Peak	44.49	12.33	56.82	74.00	-17.18
2338.88	Average	35.25	12.33	47.58	54.00	-6.42
2412.00	Peak	93.42	12.71	106.13	-	-
2412.00	Average	91.10	12.71	103.81	-	-
2484.42	Peak	45.74	13.20	58.94	74.00	-15.06
2484.42	Average	36.51	13.20	49.71	54.00	-4.29

Test Mode	IEEE 802.11b Low CH 2412MHz	Temp/Hum	21.6(℃)/ 64%RH
Test Item	Band Edge	Test Date	January 3, 2022
Polarize	Horizontal	Test Engineer	Tony Chao
Detector	Peak / Average		



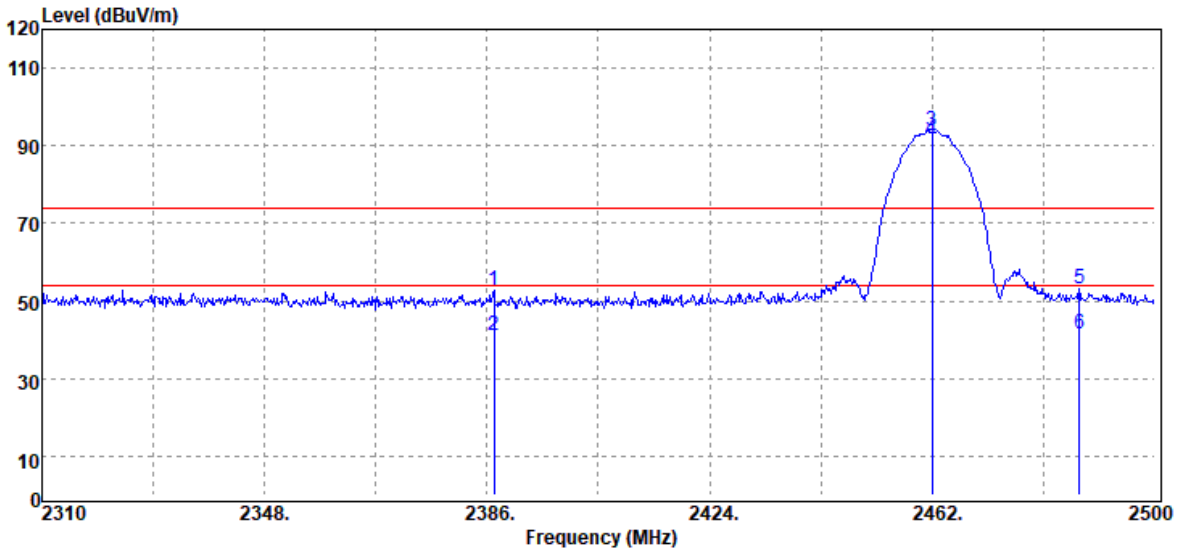
Frequency (MHz)	Detector Mode (PK/QP/AV)	Spectrum Reading Level (dBµV)	Factor (dB)	Actual FS (dBµV/m)	Limit @3m (dBµV/m)	Margin (dB)
2373.27	Peak	39.66	12.48	52.14	74.00	-21.86
2373.27	Average	28.24	12.48	40.72	54.00	-13.28
2412.00	Peak	83.05	12.71	95.76	-	-
2412.00	Average	80.70	12.71	93.41	-	-
2499.24	Peak	38.65	13.31	51.96	74.00	-22.04
2499.24	Average	26.93	13.31	40.24	54.00	-13.76

Test Mode	IEEE 802.11b High CH 2462MHz	Temp/Hum	21.6(℃)/ 64%RH
Test Item	Band Edge	Test Date	January 3, 2022
Polarize	Vertical	Test Engineer	Tony Chao
Detector	Peak / Average		



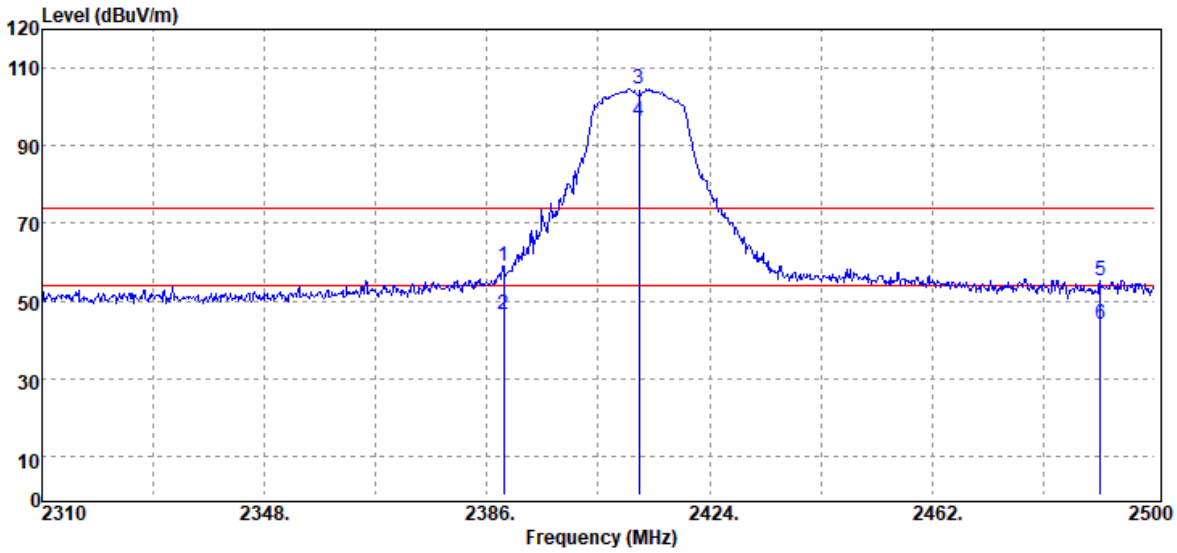
Frequency (MHz)	Detector Mode (PK/QP/AV)	Spectrum Reading Level (dBµV)	Factor (dB)	Actual FS (dBµV/m)	Limit @3m (dBµV/m)	Margin (dB)
2365.48	Peak	43.32	12.44	55.76	74.00	-18.24
2365.48	Average	32.88	12.44	45.32	54.00	-8.68
2462.00	Peak	93.00	13.03	106.03	-	-
2462.00	Average	90.75	13.03	103.78	-	-
2490.31	Peak	46.62	13.23	59.85	74.00	-14.15
2490.31	Average	37.43	13.23	50.66	54.00	-3.34

Test Mode	IEEE 802.11b High CH 2462MHz	Temp/Hum	21.6(℃)/ 64%RH
Test Item	Band Edge	Test Date	January 3, 2022
Polarize	Horizontal	Test Engineer	Tony Chao
Detector	Peak / Average		



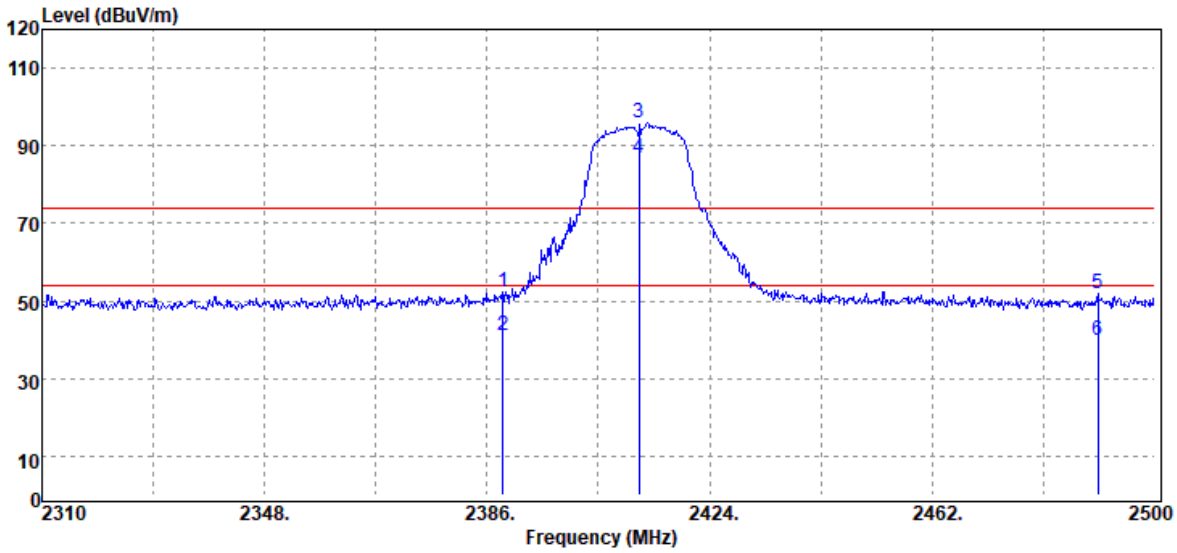
Frequency (MHz)	Detector Mode (PK/QP/AV)	Spectrum Reading Level (dBµV)	Factor (dB)	Actual FS (dBµV/m)	Limit @3m (dBµV/m)	Margin (dB)
2387.14	Peak	40.16	12.57	52.73	74.00	-21.27
2387.14	Average	28.37	12.57	40.94	54.00	-13.06
2462.00	Peak	80.92	13.03	93.95	-	-
2462.00	Average	78.65	13.03	91.68	-	-
2487.08	Peak	39.73	13.22	52.95	74.00	-21.05
2487.08	Average	28.48	13.22	41.70	54.00	-12.30

Test Mode	IEEE 802.11g Low CH 2412MHz	Temp/Hum	21.6(℃)/ 64%RH
Test Item	Band Edge	Test Date	January 3, 2022
Polarize	Vertical	Test Engineer	Tony Chao
Detector	Peak / Average		



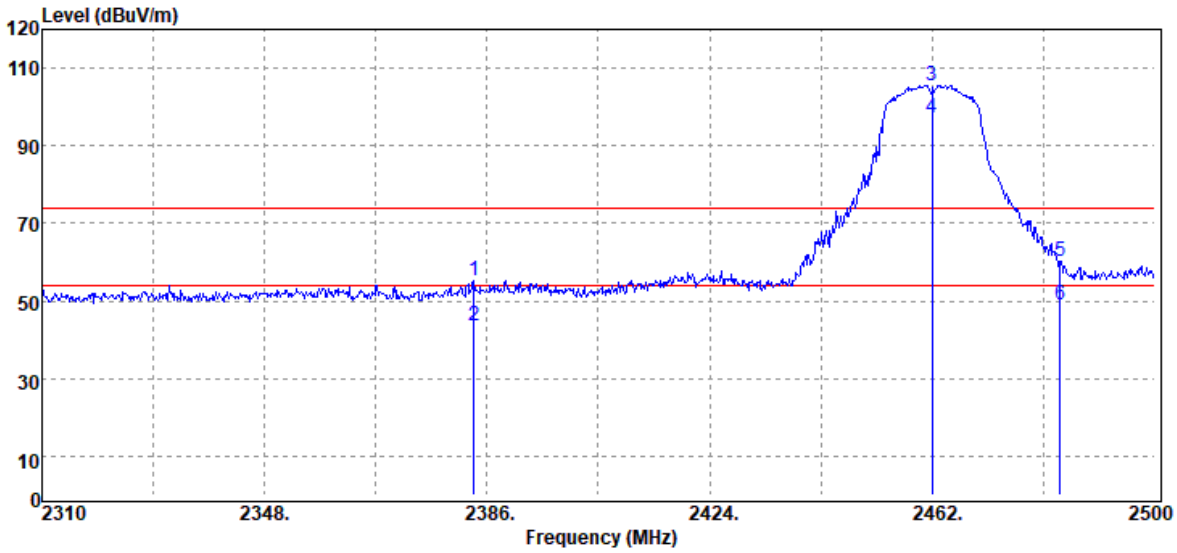
Frequency (MHz)	Detector Mode (PK/QP/AV)	Spectrum Reading Level (dBµV)	Factor (dB)	Actual FS (dBµV/m)	Limit @3m (dBµV/m)	Margin (dB)
2388.85	Peak	46.39	12.58	58.97	74.00	-15.03
2388.85	Average	34.07	12.58	46.65	54.00	-7.35
2412.00	Peak	91.85	12.71	104.56	-	-
2412.00	Average	83.60	12.71	96.31	-	-
2490.69	Peak	42.01	13.24	55.25	74.00	-18.75
2490.69	Average	30.87	13.24	44.11	54.00	-9.89

Test Mode	IEEE 802.11g Low CH 2412MHz	Temp/Hum	21.6(℃)/ 64%RH
Test Item	Band Edge	Test Date	January 3, 2022
Polarize	Horizontal	Test Engineer	Tony Chao
Detector	Peak / Average		



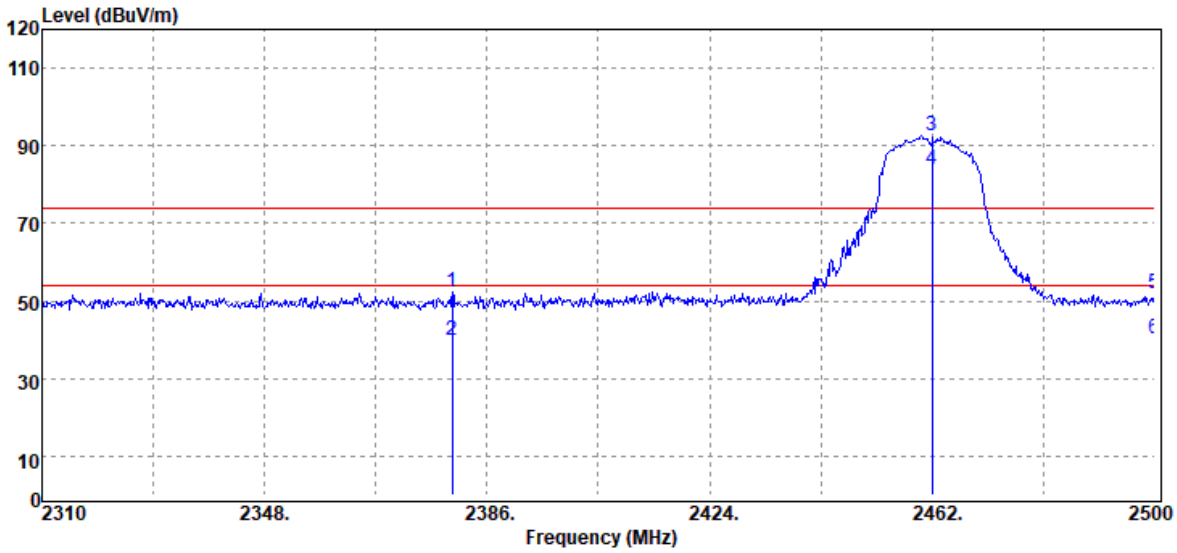
Frequency (MHz)	Detector Mode (PK/QP/AV)	Spectrum Reading Level (dBµV)	Factor (dB)	Actual FS (dBµV/m)	Limit @3m (dBµV/m)	Margin (dB)
2388.66	Peak	39.74	12.57	52.31	74.00	-21.69
2388.66	Average	28.39	12.57	40.96	54.00	-13.04
2412.00	Peak	83.27	12.71	95.98	-	-
2412.00	Average	74.17	12.71	86.88	-	-
2490.31	Peak	38.65	13.23	51.88	74.00	-22.12
2490.31	Average	26.70	13.23	39.93	54.00	-14.07

Test Mode	IEEE 802.11g High CH 2462MHz	Temp/Hum	21.6(℃)/ 64%RH
Test Item	Band Edge	Test Date	January 3, 2022
Polarize	Vertical	Test Engineer	Tony Chao
Detector	Peak / Average		



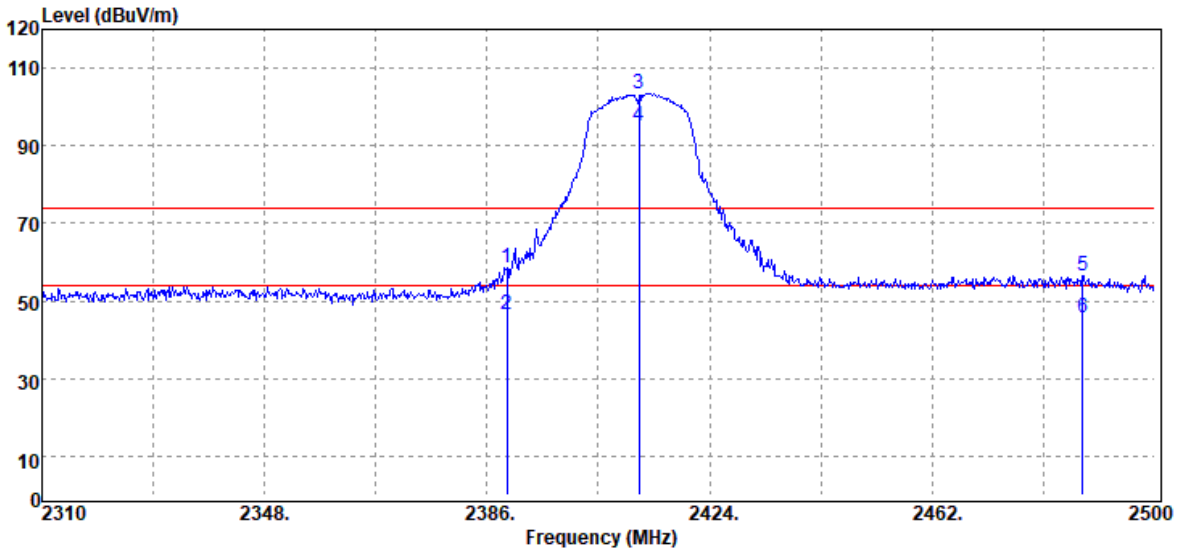
Frequency (MHz)	Detector Mode (PK/QP/AV)	Spectrum Reading Level (dBµV)	Factor (dB)	Actual FS (dBµV/m)	Limit @3m (dBµV/m)	Margin (dB)
2383.72	Peak	42.70	12.55	55.25	74.00	-18.75
2383.72	Average	31.12	12.55	43.67	54.00	-10.33
2462.00	Peak	92.62	13.03	105.65	-	-
2462.00	Average	84.31	13.03	97.34	-	-
2483.85	Peak	47.07	13.19	60.26	74.00	-13.74
2483.85	Average	35.60	13.19	48.79	54.00	-5.21

Test Mode	IEEE 802.11g High CH 2462MHz	Temp/Hum	21.6(℃)/ 64%RH
Test Item	Band Edge	Test Date	January 3, 2022
Polarize	Horizontal	Test Engineer	Tony Chao
Detector	Peak / Average		



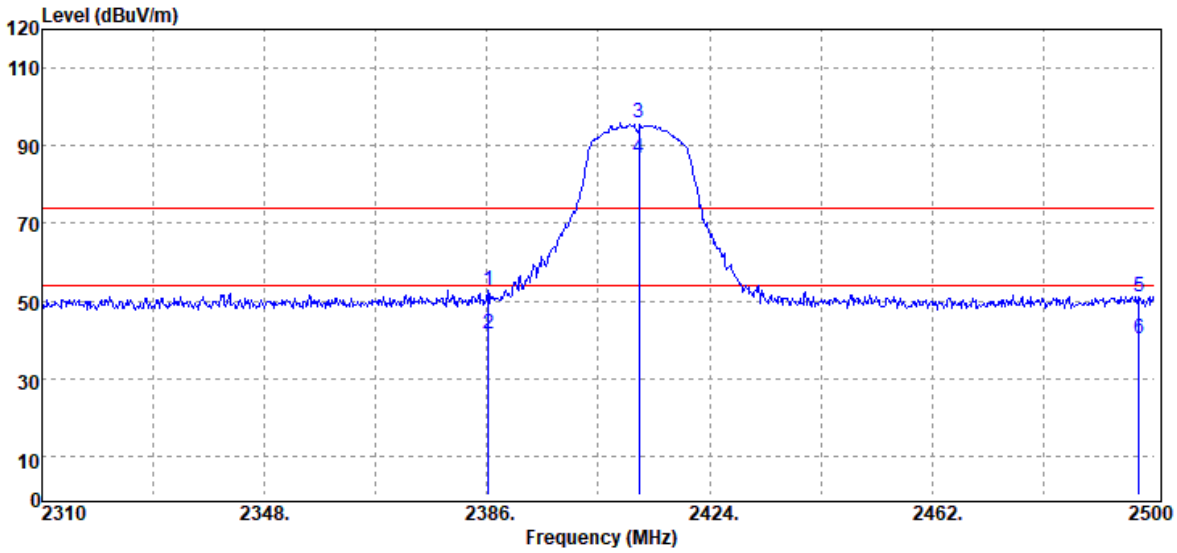
Frequency (MHz)	Detector Mode (PK/QP/AV)	Spectrum Reading Level (dBµV)	Factor (dB)	Actual FS (dBµV/m)	Limit @3m (dBµV/m)	Margin (dB)
2380.11	Peak	39.63	12.53	52.16	74.00	-21.84
2380.11	Average	27.47	12.53	40.00	54.00	-14.00
2462.00	Peak	79.43	13.03	92.46	-	-
2462.00	Average	70.73	13.03	83.76	-	-
2500.00	Peak	38.73	13.31	52.04	74.00	-21.96
2500.00	Average	26.95	13.31	40.26	54.00	-13.74

Test Mode	IEEE 802.11n HT20 Low CH 2412MHz	Temp/Hum	21.6(℃)/ 64%RH
Test Item	Band Edge	Test Date	January 3, 2022
Polarize	Vertical	Test Engineer	Tony Chao
Detector	Peak / Average		



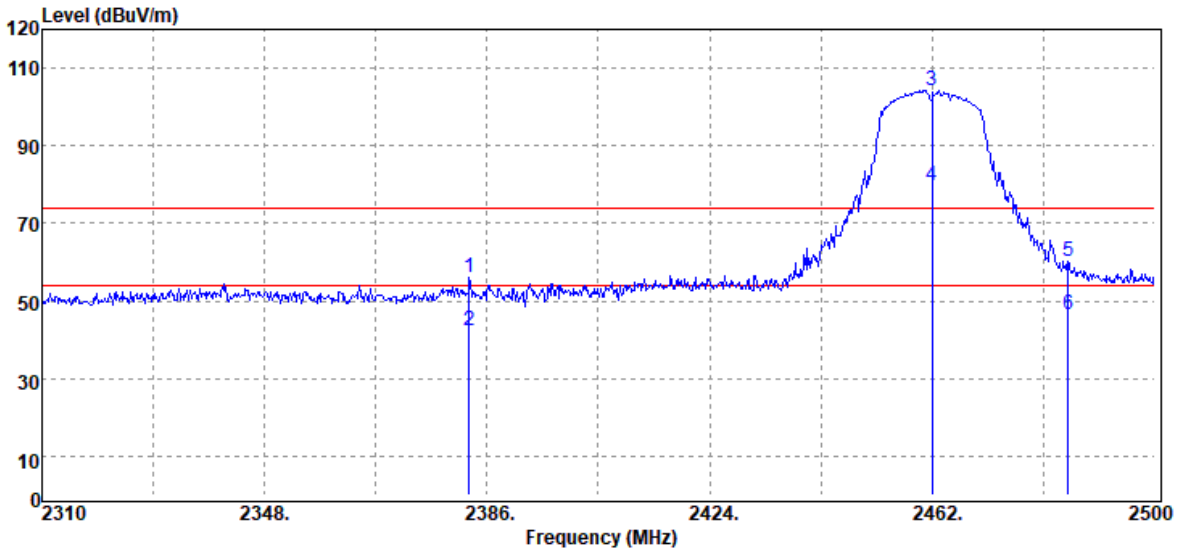
Frequency (MHz)	Detector Mode (PK/QP/AV)	Spectrum Reading Level (dBµV)	Factor (dB)	Actual FS (dBµV/m)	Limit @3m (dBµV/m)	Margin (dB)
2389.42	Peak	45.90	12.59	58.49	74.00	-15.51
2389.42	Average	33.77	12.59	46.36	54.00	-7.64
2412.00	Peak	90.78	12.71	103.49	-	-
2412.00	Average	82.32	12.71	95.03	-	-
2487.65	Peak	43.38	13.22	56.60	74.00	-17.40
2487.65	Average	32.26	13.22	45.48	54.00	-8.52

Test Mode	IEEE 802.11 n20 Low CH 2412MHz	Temp/Hum	21.6(℃)/ 64%RH
Test Item	Band Edge	Test Date	January 3, 2022
Polarize	Horizontal	Test Engineer	Tony Chao
Detector	Peak / Average		



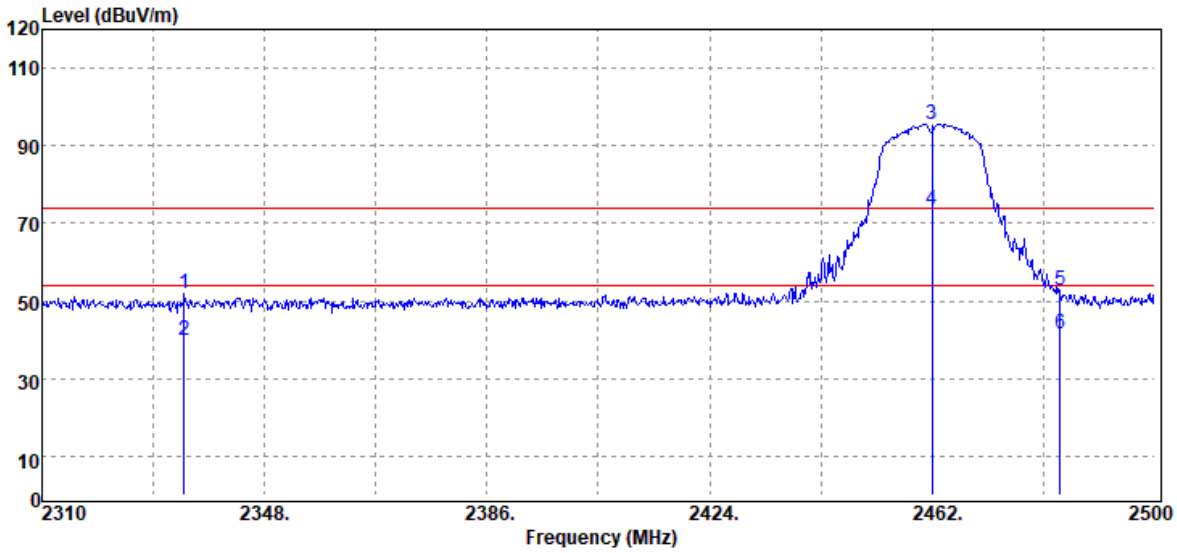
Frequency (MHz)	Detector Mode (PK/QP/AV)	Spectrum Reading Level (dBµV)	Factor (dB)	Actual FS (dBµV/m)	Limit @3m (dBµV/m)	Margin (dB)
2386.19	Peak	40.03	12.56	52.59	74.00	-21.41
2386.19	Average	29.04	12.56	41.60	54.00	-12.40
2412.00	Peak	83.03	12.71	95.74	-	-
2412.00	Average	74.18	12.71	86.89	-	-
2497.34	Peak	37.90	13.30	51.20	74.00	-22.80
2497.34	Average	26.86	13.30	40.16	54.00	-13.84

Test Mode	IEEE 802.11n HT20 High CH 2462MHz	Temp/Hum	21.6(℃)/ 64%RH
Test Item	Band Edge	Test Date	January 3, 2022
Polarize	Vertical	Test Engineer	Tony Chao
Detector	Peak / Average		



Frequency (MHz)	Detector Mode (PK/QP/AV)	Spectrum Reading Level (dBµV)	Factor (dB)	Actual FS (dBµV/m)	Limit @3m (dBµV/m)	Margin (dB)
2382.96	Peak	43.38	12.55	55.93	74.00	-18.07
2382.96	Average	29.60	12.55	42.15	54.00	-11.85
2462.00	Peak	91.24	13.03	104.27	-	-
2462.00	Average	66.67	13.03	79.70	-	-
2485.18	Peak	47.11	13.20	60.31	74.00	-13.69
2485.18	Average	33.40	13.20	46.60	54.00	-7.40

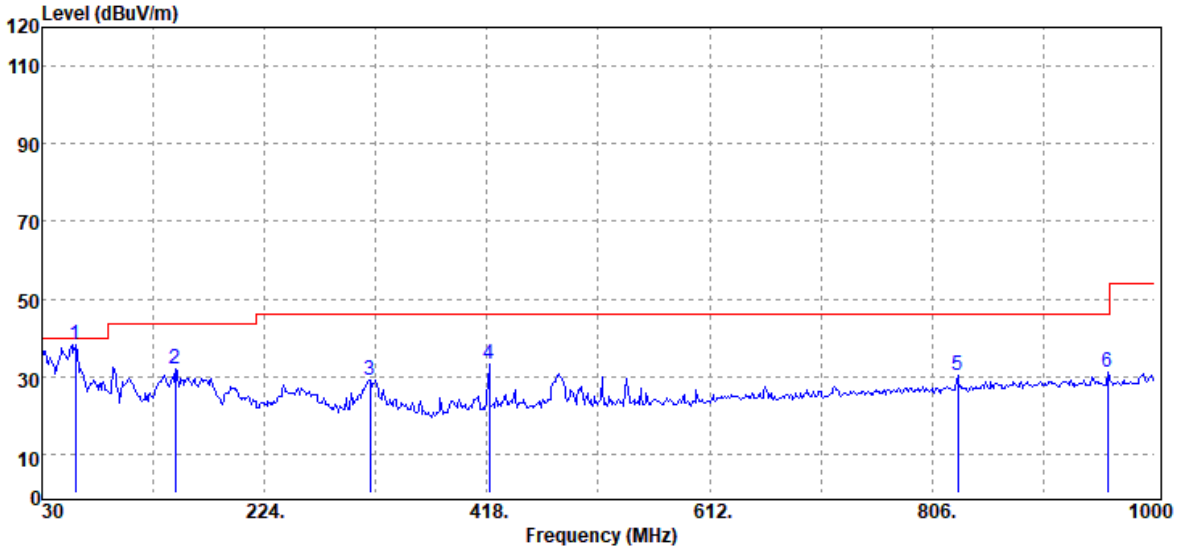
Test Mode	IEEE 802.11n20 High CH 2462MHz	Temp/Hum	21.6(℃)/ 64%RH
Test Item	Band Edge	Test Date	January 3, 2022
Polarize	Horizontal	Test Engineer	Tony Chao
Detector	Peak / Average		



Frequency (MHz)	Detector Mode (PK/QP/AV)	Spectrum Reading Level (dBµV)	Factor (dB)	Actual FS (dBµV/m)	Limit @3m (dBµV/m)	Margin (dB)
2334.32	Peak	39.50	12.31	51.81	74.00	-22.19
2334.32	Average	27.56	12.31	39.87	54.00	-14.13
2462.00	Peak	82.67	13.03	95.70	-	-
2462.00	Average	60.65	13.03	73.68	-	-
2483.85	Peak	39.43	13.19	52.62	74.00	-21.38
2483.85	Average	28.23	13.19	41.42	54.00	-12.58

Below 1G Test Data

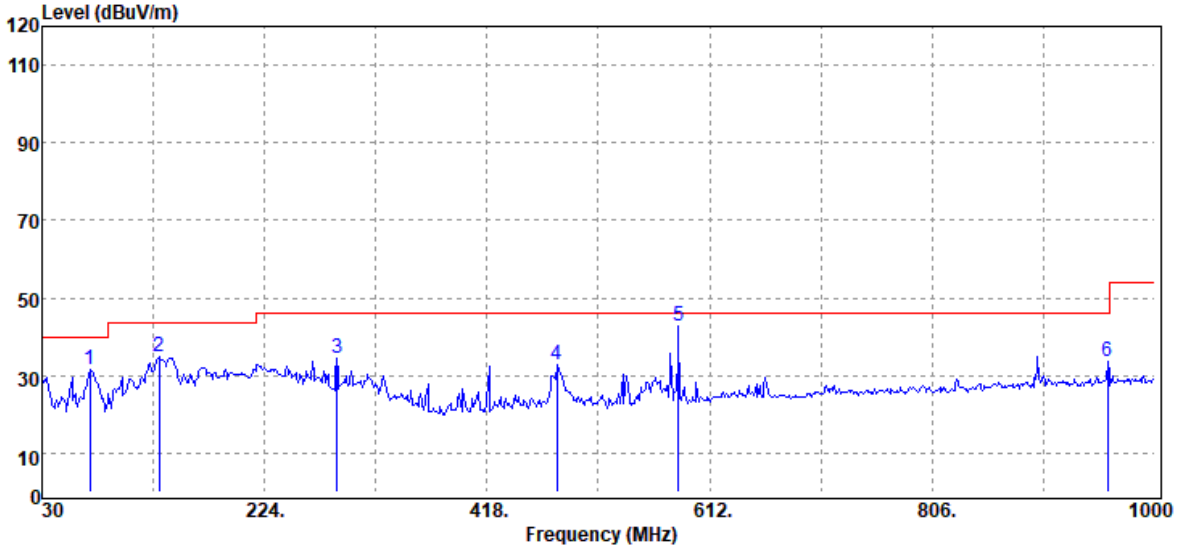
Test Mode	Mode 1	Temp/Hum	21.4(℃)/ 58%RH
Test Item	30MHz-1GHz	Test Date	January 4, 2022
Polarize	Vertical	Test Engineer	Ray Li
Detector	Peak	Test Voltage	



Freq. (MHz)	Detector Mode (PK/QP/AV)	Spectrum Reading Level (dBµV)	Factor (dB)	Actual FS (dBµV/m)	Limit @3m (dBµV/m)	Margin (dB)
59.10	Peak	54.28	-15.96	38.32	40.00	-1.68
146.40	Peak	42.14	-10.29	31.85	43.50	-11.65
316.15	Peak	37.24	-8.25	28.99	46.00	-17.01
419.94	Peak	38.46	-5.26	33.20	46.00	-12.80
828.31	Peak	28.51	1.95	30.46	46.00	-15.54
959.26	Peak	27.45	3.83	31.28	46.00	-14.72

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

Test Mode	Mode 1	Temp/Hum	21.4(℃)/ 58%RH
Test Item	30MHz-1GHz	Test Date	January 4, 2022
Polarize	Horizontal	Test Engineer	Ray Li
Detector	Peak	Test Voltage	

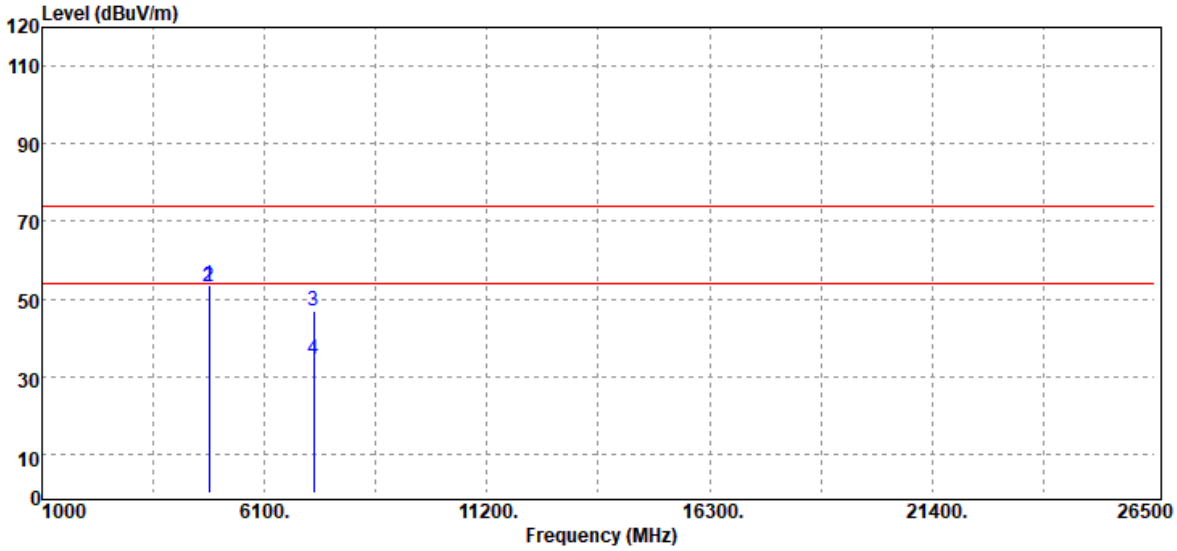


Freq. (MHz)	Detector Mode (PK/QP/AV)	Spectrum Reading Level (dBµV)	Factor (dB)	Actual FS (dBµV/m)	Limit @3m (dBµV/m)	Margin (dB)
71.71	Peak	46.51	-15.15	31.36	40.00	-8.64
131.85	Peak	44.17	-9.34	34.83	43.50	-8.67
287.05	Peak	43.35	-8.84	34.51	46.00	-11.49
479.11	Peak	36.38	-3.39	32.99	46.00	-13.01
584.84	Peak	45.22	-2.26	42.96	46.00	-3.04
959.26	Peak	29.94	3.83	33.77	46.00	-12.23

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

Above 1G Test Data

Test Mode	IEEE 802.11b Low CH	Temp/Hum	21.6(℃)/ 64%RH
Test Item	Harmonic	Test Date	January 3, 2022
Polarize	Vertical	Test Engineer	Ray Li
Detector	Peak & Average		

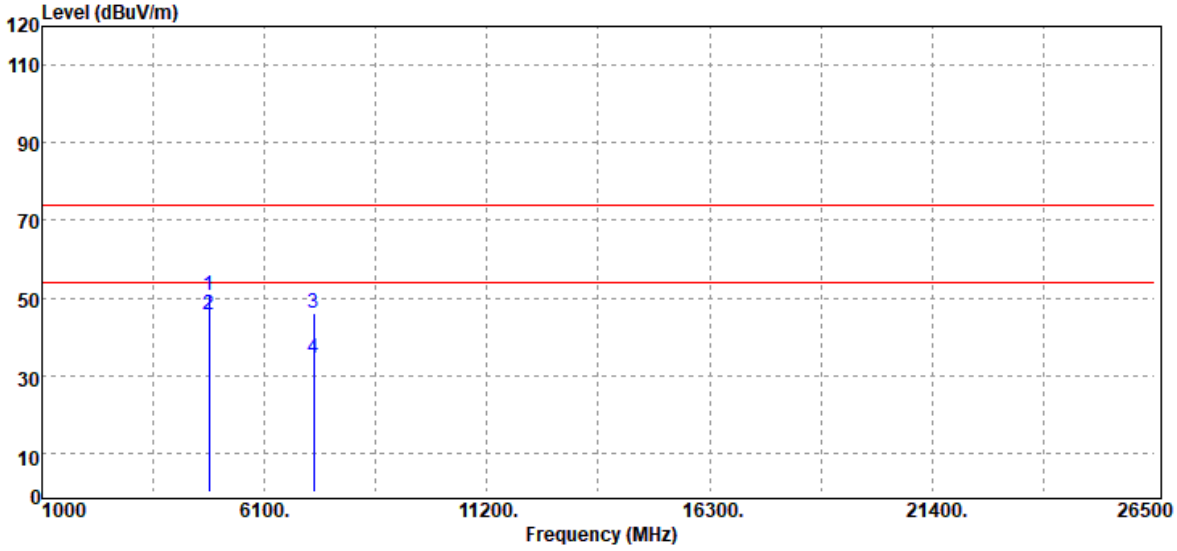


Freq. (MHz)	Detector Mode (PK/QP/AV)	Spectrum Reading Level (dBµV)	Factor (dB)	Actual FS (dBµV/m)	Limit @3m (dBµV/m)	Margin (dB)
4824.00	Peak	44.11	9.51	53.62	74.00	-20.38
4824.00	Average	43.67	9.51	53.18	54.00	-0.82
7236.00	Peak	33.70	13.28	46.98	74.00	-27.02
7236.00	Average	21.04	13.28	34.32	54.00	-19.68

Remark:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.

Test Mode	IEEE 802.11b Low CH	Temp/Hum	21.6(℃)/ 64%RH
Test Item	Harmonic	Test Date	January 3, 2022
Polarize	Horizontal	Test Engineer	Ray Li
Detector	Peak & Average		

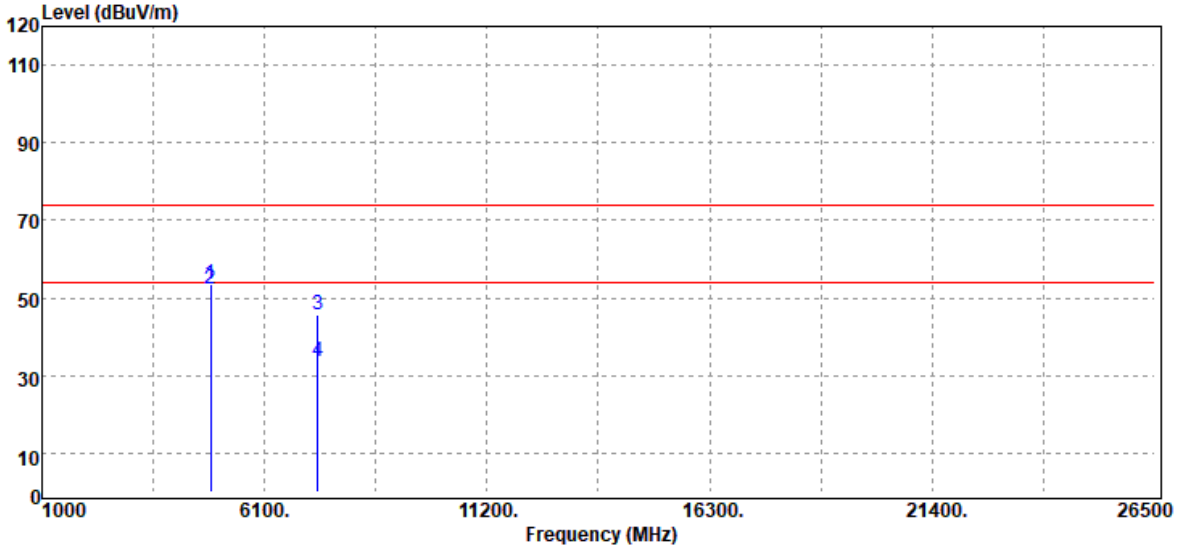


Freq. (MHz)	Detector Mode (PK/QP/AV)	Spectrum Reading Level (dBµV)	Factor (dB)	Actual FS (dBµV/m)	Limit @3m (dBµV/m)	Margin (dB)
4824.00	Peak	41.07	9.51	50.58	74.00	-23.42
4824.00	Average	36.16	9.51	45.67	54.00	-8.33
7236.00	Peak	32.77	13.28	46.05	74.00	-27.95
7236.00	Average	21.24	13.28	34.52	54.00	-19.48

Remark:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.

Test Mode	IEEE 802.11b Mid CH	Temp/Hum	21.6(℃)/ 64%RH
Test Item	Harmonic	Test Date	January 3, 2022
Polarize	Vertical	Test Engineer	Ray Li
Detector	Peak & Average		

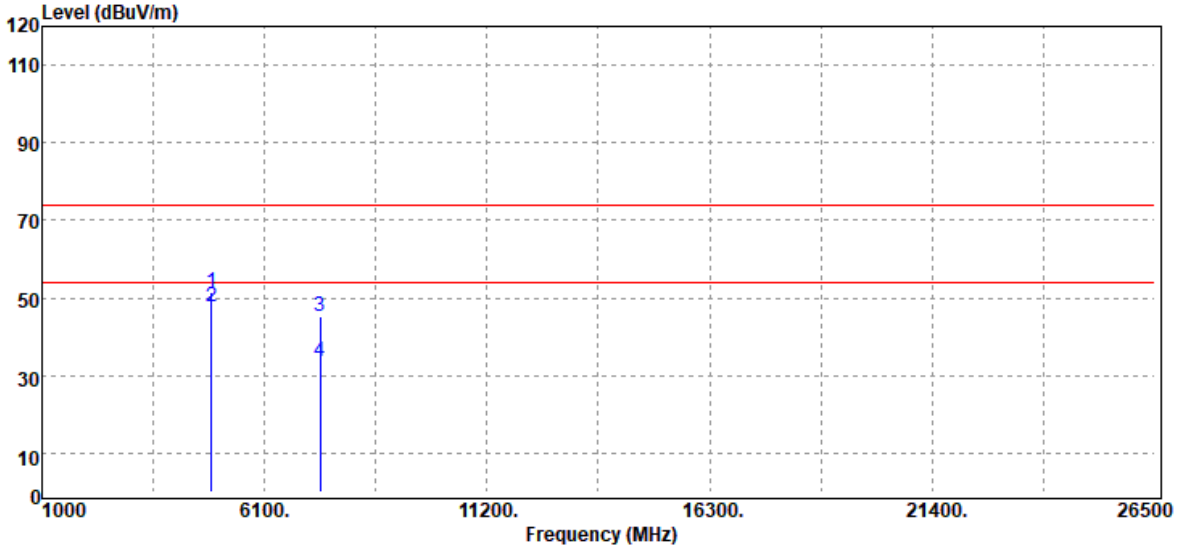


Freq. (MHz)	Detector Mode (PK/QP/AV)	Spectrum Reading Level (dBµV)	Factor (dB)	Actual FS (dBµV/m)	Limit @3m (dBµV/m)	Margin (dB)
4874.00	Peak	43.87	9.57	53.44	74.00	-20.56
4874.00	Average	42.58	9.57	52.15	54.00	-1.85
7311.00	Peak	32.59	13.14	45.73	74.00	-28.27
7311.00	Average	20.61	13.14	33.75	54.00	-20.25

Remark:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.

Test Mode	IEEE 802.11b Mid CH	Temp/Hum	21.6(℃)/ 64%RH
Test Item	Harmonic	Test Date	January 3, 2022
Polarize	Horizontal	Test Engineer	Ray Li
Detector	Peak & Average		

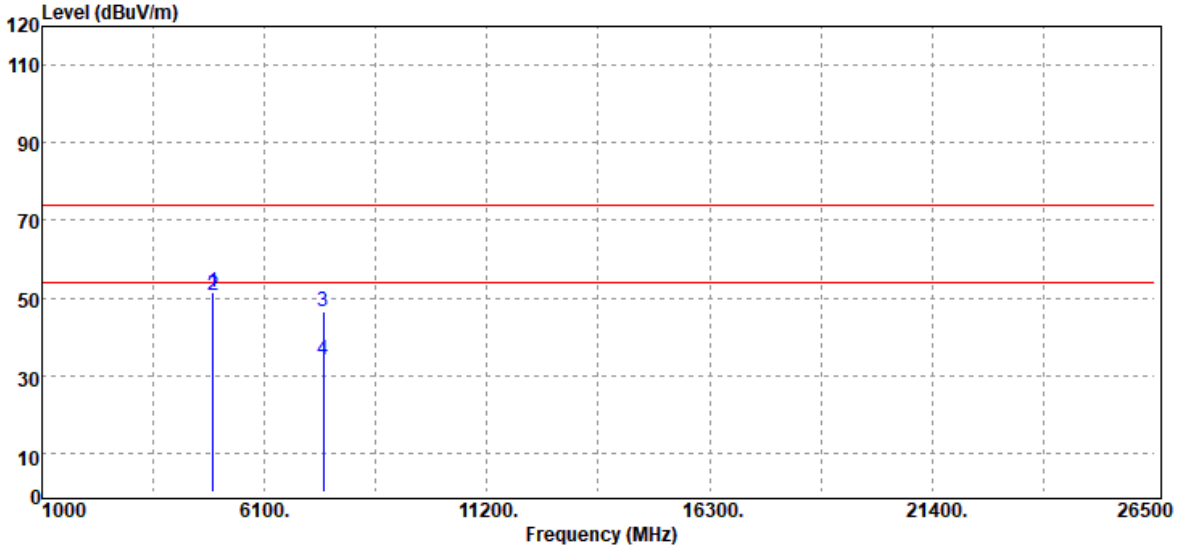


Freq. (MHz)	Detector Mode (PK/QP/AV)	Spectrum Reading Level (dBµV)	Factor (dB)	Actual FS (dBµV/m)	Limit @3m (dBµV/m)	Margin (dB)
4876.60	Peak	42.02	9.58	51.60	74.00	-22.40
4876.60	Average	38.22	9.58	47.80	54.00	-6.20
7375.80	Peak	31.94	13.30	45.24	74.00	-28.76
7375.80	Average	20.54	13.30	33.84	54.00	-20.16

Remark:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.

Test Mode	IEEE 802.11b High CH	Temp/Hum	21.6(℃)/ 64%RH
Test Item	Harmonic	Test Date	January 3, 2022
Polarize	Vertical	Test Engineer	Ray Li
Detector	Peak & Average		

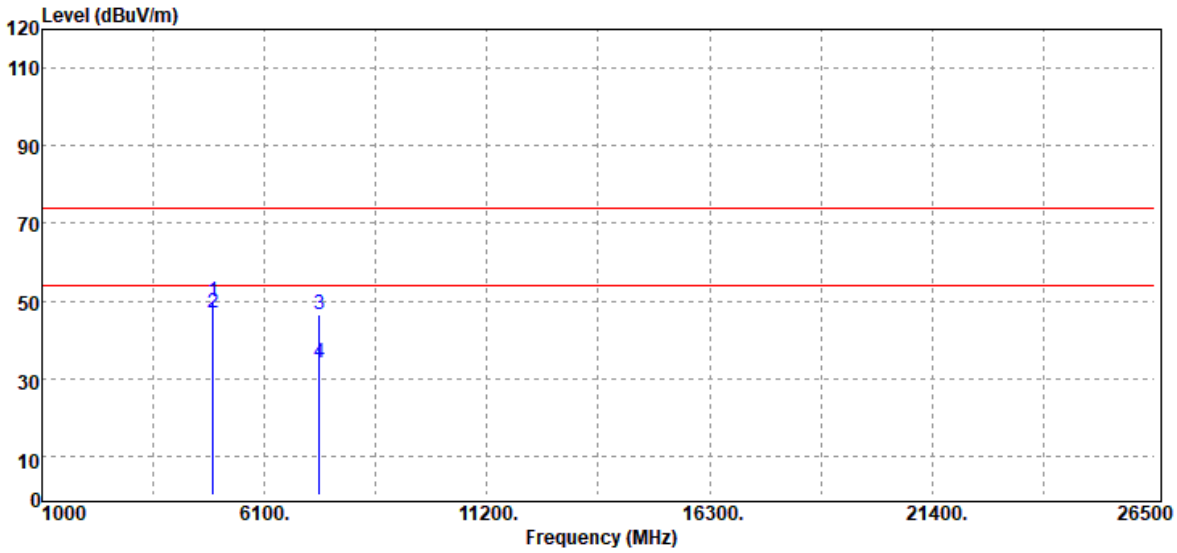


Freq. (MHz)	Detector Mode (PK/QP/AV)	Spectrum Reading Level (dBµV)	Factor (dB)	Actual FS (dBµV/m)	Limit @3m (dBµV/m)	Margin (dB)
4926.30	Peak	41.71	9.59	51.30	74.00	-22.70
4926.30	Average	41.13	9.59	50.72	54.00	-3.28
7439.70	Peak	32.95	13.42	46.37	74.00	-27.63
7439.70	Average	20.54	13.42	33.96	54.00	-20.04

Remark:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.

Test Mode	IEEE 802.11b High CH	Temp/Hum	21.6(℃)/ 64%RH
Test Item	Harmonic	Test Date	January 3, 2022
Polarize	Horizontal	Test Engineer	Ray Li
Detector	Peak & Average		

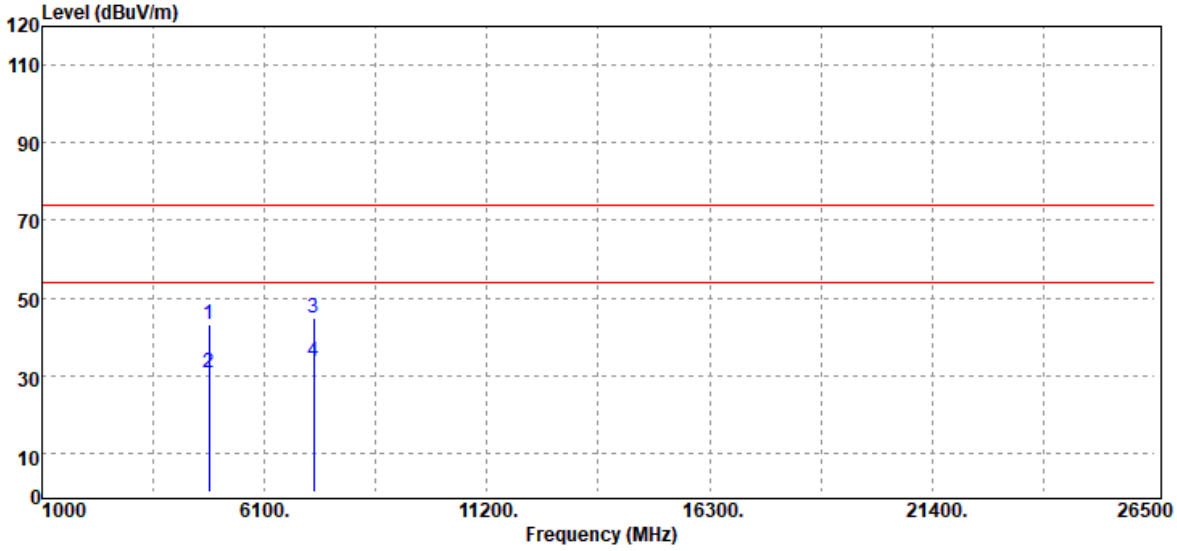


Freq. (MHz)	Detector Mode (PK/QP/AV)	Spectrum Reading Level (dBµV)	Factor (dB)	Actual FS (dBµV/m)	Limit @3m (dBµV/m)	Margin (dB)
4926.30	Peak	40.24	9.59	49.83	74.00	-24.17
4926.30	Average	37.23	9.59	46.82	54.00	-7.18
7354.50	Peak	33.27	13.23	46.50	74.00	-27.50
7354.50	Average	20.87	13.23	34.10	54.00	-19.90

Remark:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.

Test Mode	IEEE 802.11g Low CH	Temp/Hum	21.6(℃)/ 64%RH
Test Item	Harmonic	Test Date	January 3, 2022
Polarize	Vertical	Test Engineer	Ray Li
Detector	Peak & Average		

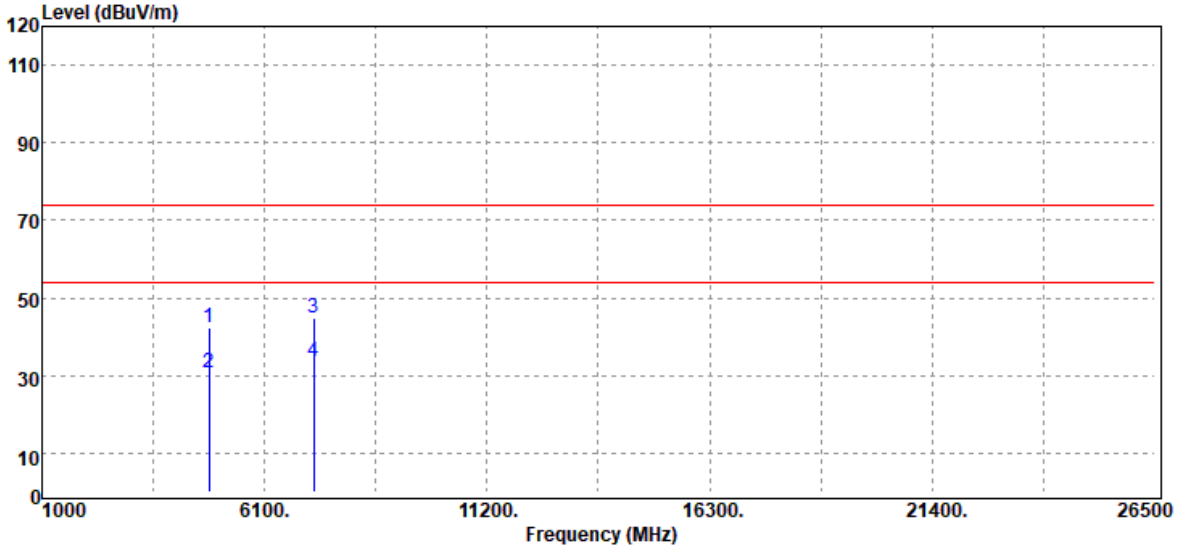


Freq. (MHz)	Detector Mode (PK/QP/AV)	Spectrum Reading Level (dBµV)	Factor (dB)	Actual FS (dBµV/m)	Limit @3m (dBµV/m)	Margin (dB)
4824.00	Peak	33.54	9.51	43.05	74.00	-30.95
4824.00	Average	21.14	9.51	30.65	54.00	-23.35
7236.00	Peak	31.77	13.28	45.05	74.00	-28.95
7236.00	Average	20.35	13.28	33.63	54.00	-20.37

Remark:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.

Test Mode	IEEE 802.11g Low CH	Temp/Hum	21.6(℃)/ 64%RH
Test Item	Harmonic	Test Date	January 3, 2022
Polarize	Horizontal	Test Engineer	Ray Li
Detector	Peak & Average		

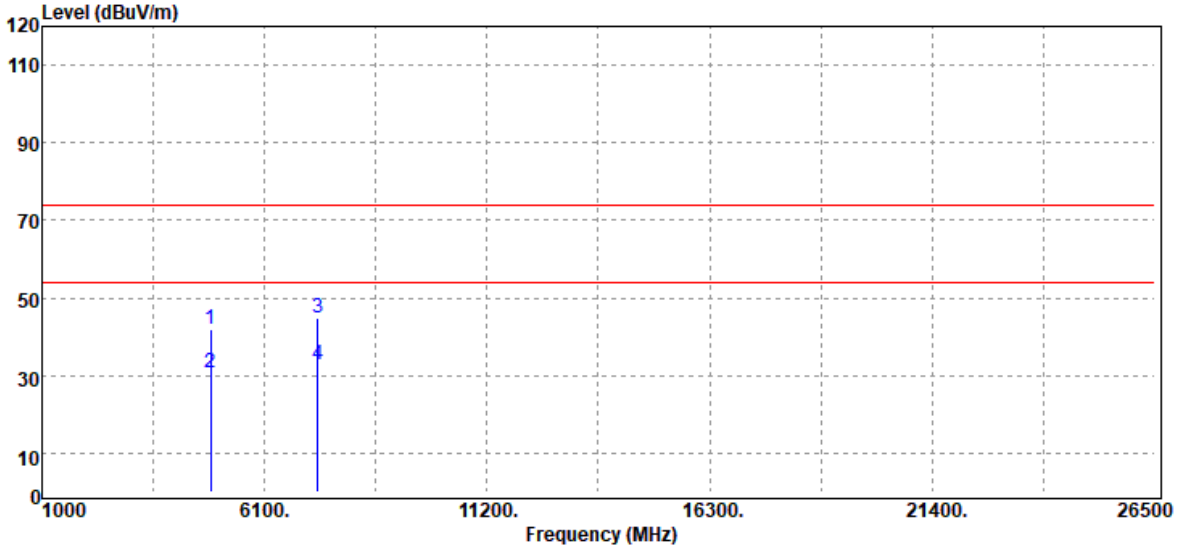


Freq. (MHz)	Detector Mode (PK/QP/AV)	Spectrum Reading Level (dBµV)	Factor (dB)	Actual FS (dBµV/m)	Limit @3m (dBµV/m)	Margin (dB)
4824.00	Peak	32.89	9.51	42.40	74.00	-31.60
4824.00	Average	21.18	9.51	30.69	54.00	-23.31
7236.00	Peak	31.68	13.28	44.96	74.00	-29.04
7236.00	Average	20.35	13.28	33.63	54.00	-20.37

Remark:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.

Test Mode	IEEE 802.11g Mid CH	Temp/Hum	21.6(℃)/ 64%RH
Test Item	Harmonic	Test Date	January 3, 2022
Polarize	Vertical	Test Engineer	Ray Li
Detector	Peak & Average		

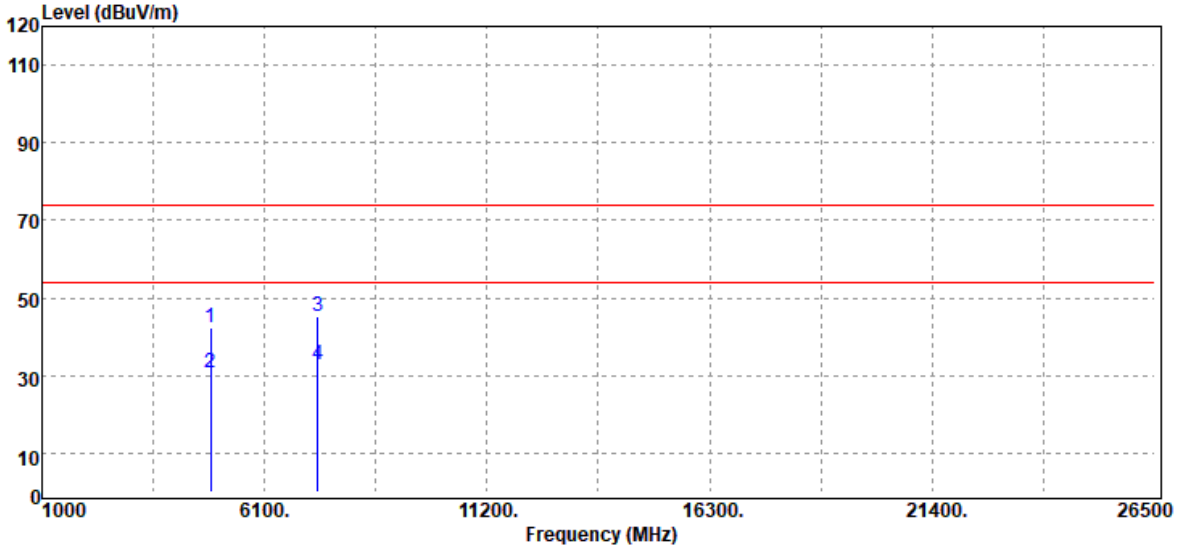


Freq. (MHz)	Detector Mode (PK/QP/AV)	Spectrum Reading Level (dBµV)	Factor (dB)	Actual FS (dBµV/m)	Limit @3m (dBµV/m)	Margin (dB)
4874.00	Peak	32.54	9.57	42.11	74.00	-31.89
4874.00	Average	20.99	9.57	30.56	54.00	-23.44
7311.00	Peak	31.58	13.14	44.72	74.00	-29.28
7311.00	Average	19.76	13.14	32.90	54.00	-21.10

Remark:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.

Test Mode	IEEE 802.11g Mid CH	Temp/Hum	21.6(℃)/ 64%RH
Test Item	Harmonic	Test Date	January 3, 2022
Polarize	Horizontal	Test Engineer	Ray Li
Detector	Peak & Average		

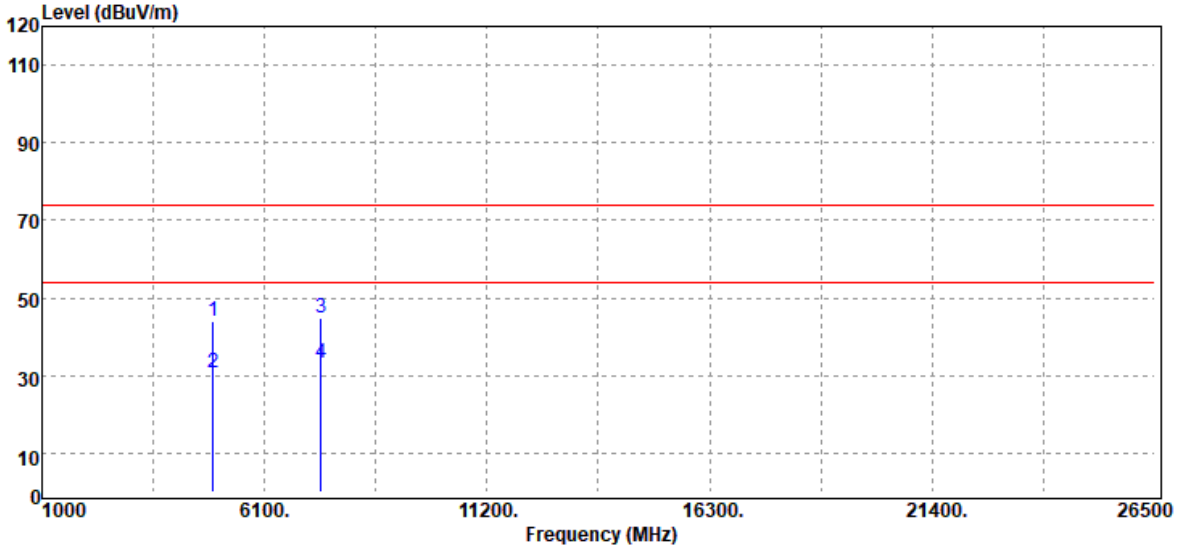


Freq. (MHz)	Detector Mode (PK/QP/AV)	Spectrum Reading Level (dBµV)	Factor (dB)	Actual FS (dBµV/m)	Limit @3m (dBµV/m)	Margin (dB)
4874.00	Peak	32.87	9.57	42.44	74.00	-31.56
4874.00	Average	20.98	9.57	30.55	54.00	-23.45
7311.00	Peak	31.97	13.14	45.11	74.00	-28.89
7311.00	Average	19.71	13.14	32.85	54.00	-21.15

Remark:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.

Test Mode	IEEE 802.11g High CH	Temp/Hum	21.6(℃)/ 64%RH
Test Item	Harmonic	Test Date	January 3, 2022
Polarize	Vertical	Test Engineer	Ray Li
Detector	Peak & Average		

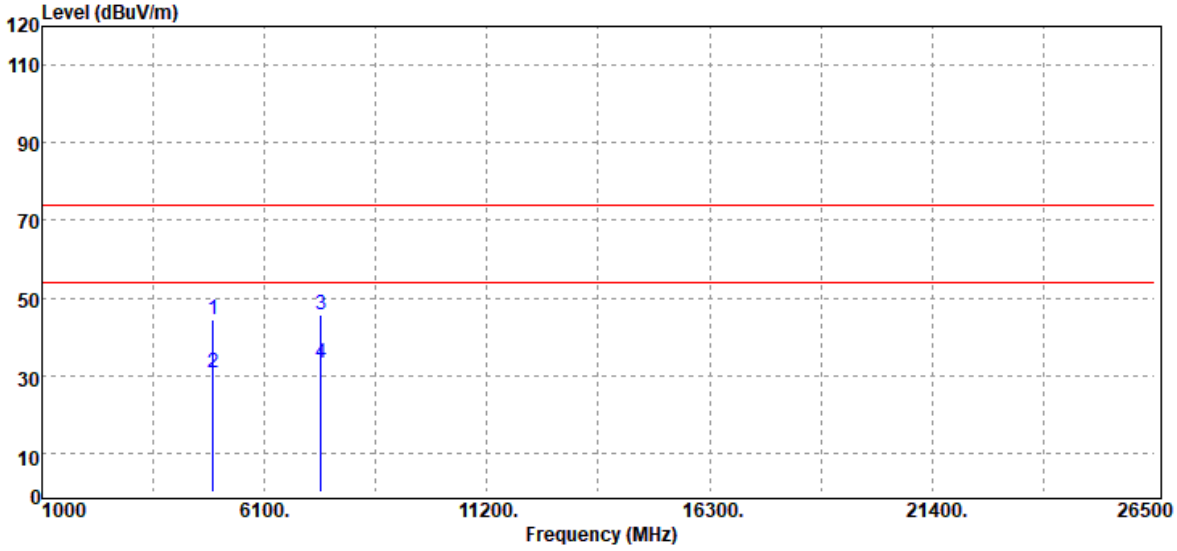


Freq. (MHz)	Detector Mode (PK/QP/AV)	Spectrum Reading Level (dBµV)	Factor (dB)	Actual FS (dBµV/m)	Limit @3m (dBµV/m)	Margin (dB)
4924.00	Peak	34.29	9.60	43.89	74.00	-30.11
4924.00	Average	21.09	9.60	30.69	54.00	-23.31
7386.00	Peak	31.58	13.33	44.91	74.00	-29.09
7386.00	Average	19.95	13.33	33.28	54.00	-20.72

Remark:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.

Test Mode	IEEE 802.11g High CH	Temp/Hum	21.6(℃)/ 64%RH
Test Item	Harmonic	Test Date	January 3, 2022
Polarize	Horizontal	Test Engineer	Ray Li
Detector	Peak & Average		

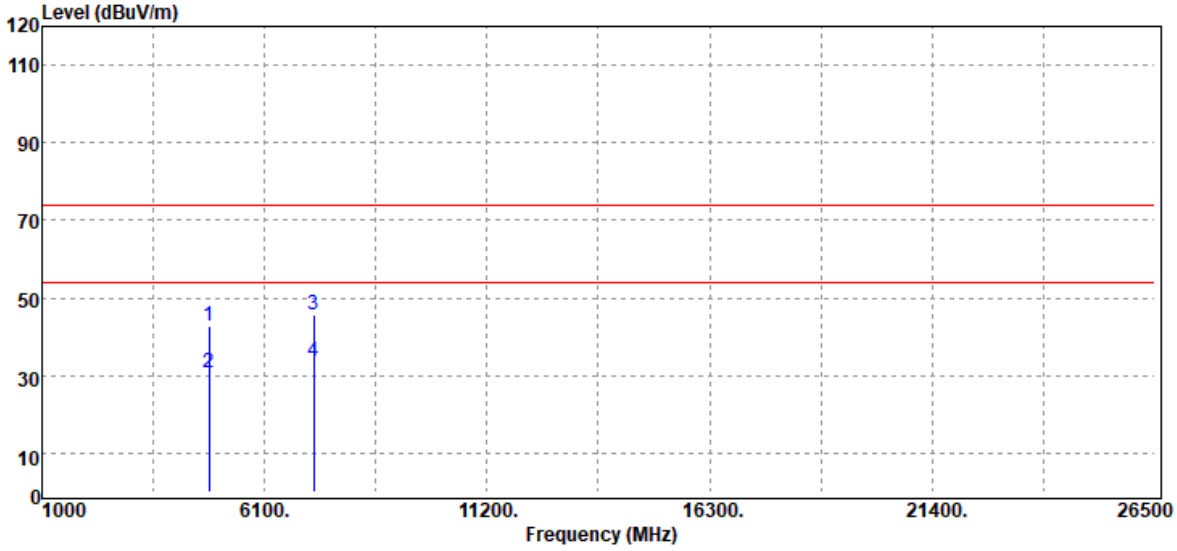


Freq. (MHz)	Detector Mode (PK/QP/AV)	Spectrum Reading Level (dBµV)	Factor (dB)	Actual FS (dBµV/m)	Limit @3m (dBµV/m)	Margin (dB)
4924.00	Peak	34.78	9.60	44.38	74.00	-29.62
4924.00	Average	20.93	9.60	30.53	54.00	-23.47
7386.00	Peak	32.45	13.33	45.78	74.00	-28.22
7386.00	Average	19.96	13.33	33.29	54.00	-20.71

Remark:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.

Test Mode	IEEE 802.11n HT20 Low CH	Temp/Hum	21.6(℃)/ 64%RH
Test Item	Harmonic	Test Date	January 3, 2022
Polarize	Vertical	Test Engineer	Ray Li
Detector	Peak & Average		

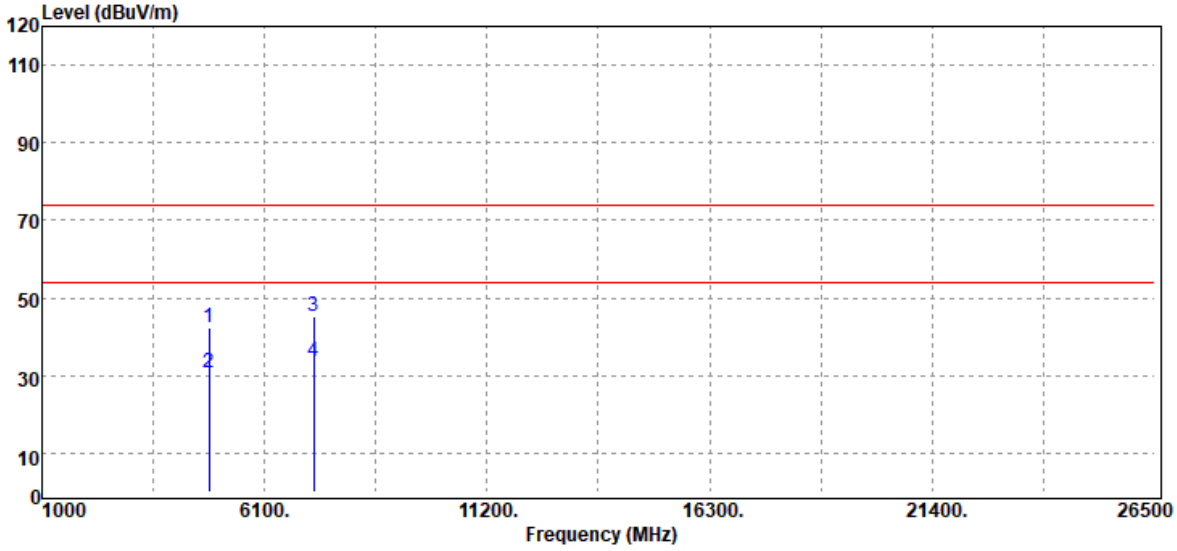


Freq. (MHz)	Detector Mode (PK/QP/AV)	Spectrum Reading Level (dBµV)	Factor (dB)	Actual FS (dBµV/m)	Limit @3m (dBµV/m)	Margin (dB)
4824.00	Peak	33.23	9.51	42.74	74.00	-31.26
4824.00	Average	21.15	9.51	30.66	54.00	-23.34
7236.00	Peak	32.33	13.28	45.61	74.00	-28.39
7236.00	Average	20.45	13.28	33.73	54.00	-20.27

Remark:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.

Test Mode	IEEE 802.11n HT20 Low CH	Temp/Hum	21.6(℃)/ 64%RH
Test Item	Harmonic	Test Date	January 3, 2022
Polarize	Horizontal	Test Engineer	Ray Li
Detector	Peak & Average		

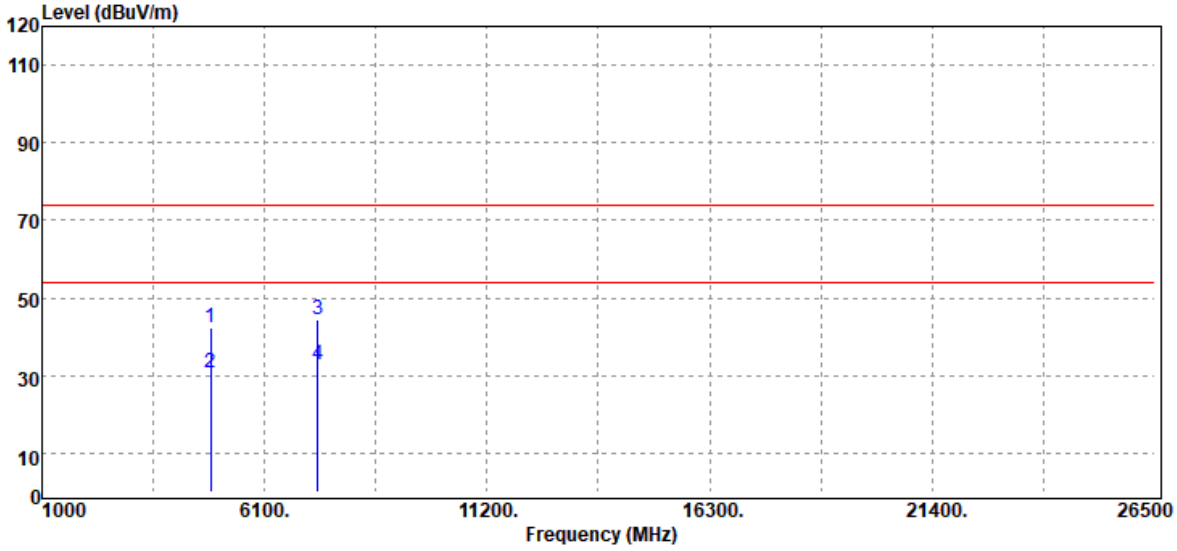


Freq. (MHz)	Detector Mode (PK/QP/AV)	Spectrum Reading Level (dBµV)	Factor (dB)	Actual FS (dBµV/m)	Limit @3m (dBµV/m)	Margin (dB)
4824.00	Peak	32.64	9.51	42.15	74.00	-31.85
4824.00	Average	21.26	9.51	30.77	54.00	-23.23
7236.00	Peak	31.92	13.28	45.20	74.00	-28.80
7236.00	Average	20.39	13.28	33.67	54.00	-20.33

Remark:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.

Test Mode	IEEE 802.11n HT20 Mid CH	Temp/Hum	21.6(℃)/ 64%RH
Test Item	Harmonic	Test Date	January 3, 2022
Polarize	Vertical	Test Engineer	Ray Li
Detector	Peak & Average		

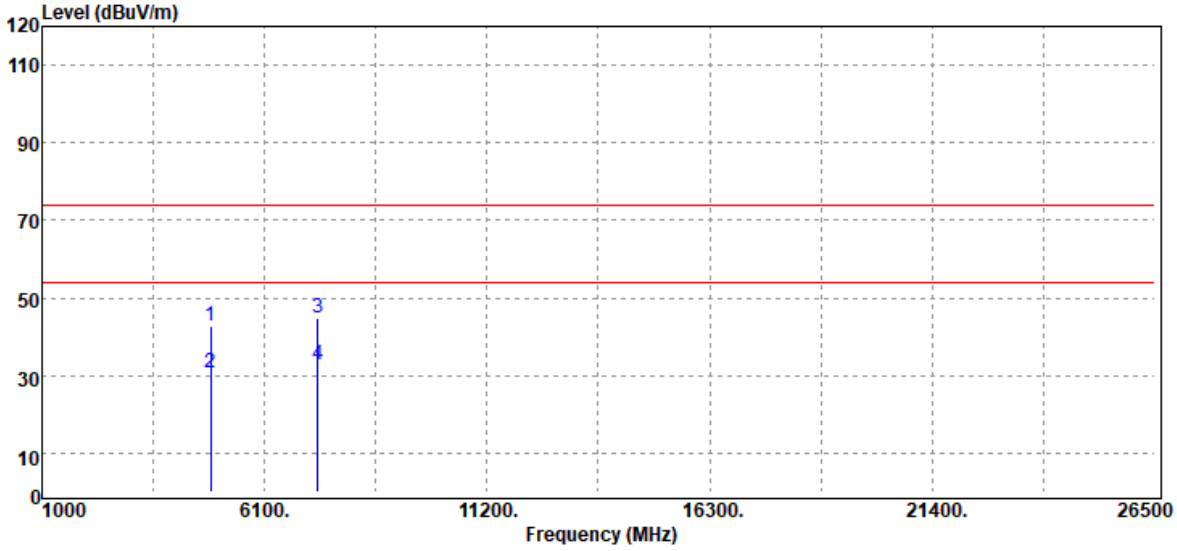


Freq. (MHz)	Detector Mode (PK/QP/AV)	Spectrum Reading Level (dBµV)	Factor (dB)	Actual FS (dBµV/m)	Limit @3m (dBµV/m)	Margin (dB)
4874.00	Peak	32.92	9.57	42.49	74.00	-31.51
4874.00	Average	21.03	9.57	30.60	54.00	-23.40
7311.00	Peak	31.32	13.14	44.46	74.00	-29.54
7311.00	Average	19.78	13.14	32.92	54.00	-21.08

Remark:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.

Test Mode	IEEE 802.11n HT20 Mid CH	Temp/Hum	21.6(℃)/ 64%RH
Test Item	Harmonic	Test Date	January 3, 2022
Polarize	Horizontal	Test Engineer	Ray Li
Detector	Peak & Average		

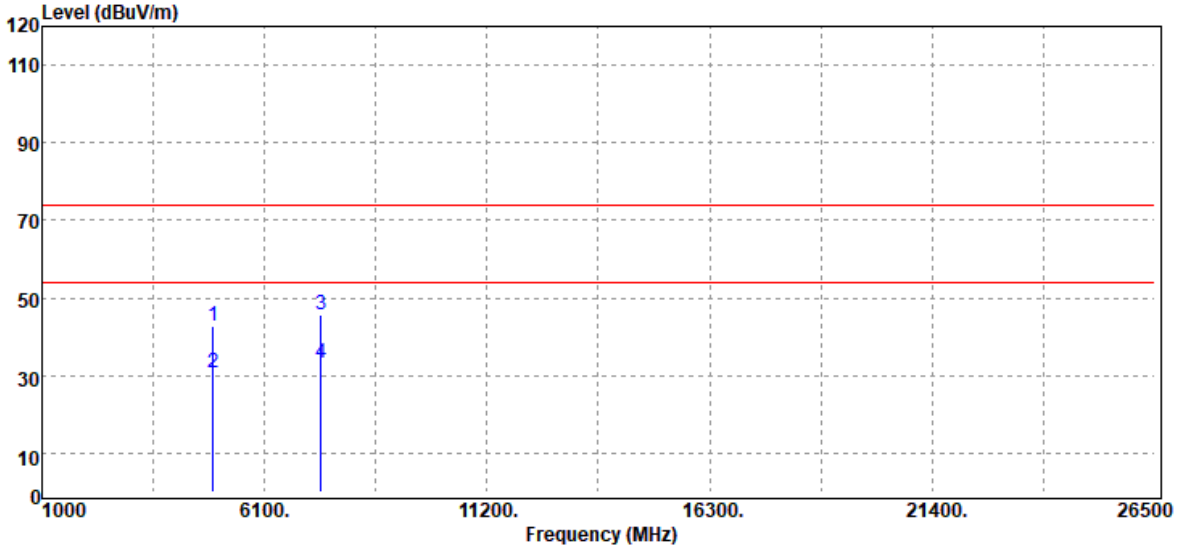


Freq. (MHz)	Detector Mode (PK/QP/AV)	Spectrum Reading Level (dBµV)	Factor (dB)	Actual FS (dBµV/m)	Limit @3m (dBµV/m)	Margin (dB)
4874.00	Peak	33.05	9.57	42.62	74.00	-31.38
4874.00	Average	21.13	9.57	30.70	54.00	-23.30
7311.00	Peak	31.87	13.14	45.01	74.00	-28.99
7311.00	Average	19.78	13.14	32.92	54.00	-21.08

Remark:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.

Test Mode	IEEE 802.11n HT20 High CH	Temp/Hum	21.6(℃)/ 64%RH
Test Item	Harmonic	Test Date	January 3, 2022
Polarize	Vertical	Test Engineer	Ray Li
Detector	Peak & Average		

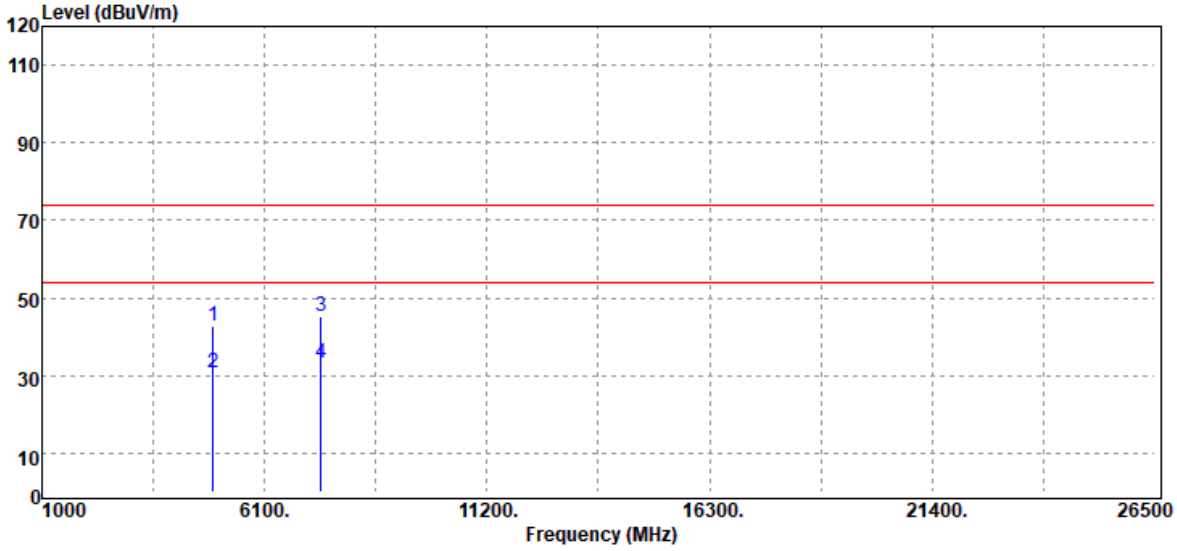


Freq. (MHz)	Detector Mode (PK/QP/AV)	Spectrum Reading Level (dBµV)	Factor (dB)	Actual FS (dBµV/m)	Limit @3m (dBµV/m)	Margin (dB)
4924.00	Peak	33.00	9.60	42.60	74.00	-31.40
4924.00	Average	21.18	9.60	30.78	54.00	-23.22
7386.00	Peak	32.23	13.33	45.56	74.00	-28.44
7386.00	Average	19.92	13.33	33.25	54.00	-20.75

Remark:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.

Test Mode	IEEE 802.11n HT20 High CH	Temp/Hum	21.6(℃)/ 64%RH
Test Item	Harmonic	Test Date	January 3, 2022
Polarize	Horizontal	Test Engineer	Ray Li
Detector	Peak & Average		



Freq. (MHz)	Detector Mode (PK/QP/AV)	Spectrum Reading Level (dBµV)	Factor (dB)	Actual FS (dBµV/m)	Limit @3m (dBµV/m)	Margin (dB)
4924.00	Peak	33.03	9.60	42.63	74.00	-31.37
4924.00	Average	21.28	9.60	30.88	54.00	-23.12
7386.00	Peak	31.88	13.33	45.21	74.00	-28.79
7386.00	Average	19.94	13.33	33.27	54.00	-20.73

Remark:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.

- End of Test Report -