

Project No: TM-2203000166P
Report No.: TMWK2203000914KR

FCC ID: SW8TM51010

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RADIO TEST REPORT

FCC 47 CFR PART 15 SUBPART E

Test Standard	FCC Part 15.407
Product name	Wi-Fi & BLE M.2 Wireless Module
Brand Name	GOOD WAY
Model No.	TM51010
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:



Shawn Wu
Supervisor

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.

除非另有說明，此報告結果僅對測試之樣品負責，同時此樣品僅保留90天。本報告未經本公司書面許可，不可部份複製。

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Revision History

Rev.	Issue Date	Revisions	Effect Page	Revised By
00	May 16, 2022	Initial Issue	ALL	Doris Chu
01	May 19, 2022	See the following Note Rev. (01)	P.35, P.47	Doris Chu

Rev. (01)

1. Remove E.2.b for BW 80MHz in section 4.3.2.
2. Remove BW 80MHz test setup in section 4.3.3.
3. Revised limit in section 4.3.1.
4. Remove IC test limit in section 4.5.1.

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1. GENERAL INFORMATION

1.1 EUT INFORMATION

Applicant	GOOD WAY TECHNOLOGY CO., LTD. 3F, No. 135, Ln. 235, Baociao Rd., Sindian Dist., New Taipei City 231, Taiwan
Manufacturer	GOOD WAY TECHNOLOGY CO., LTD. 3F, No. 135, Ln. 235, Baociao Rd., Sindian Dist., New Taipei City 231, Taiwan
Equipment	Wi-Fi & BLE M.2 Wireless Module
Model No.	TM51010
Model Discrepancy	N/A
Trade Name	GOOD WAY
Received Date	March 10, 2022
Date of Test	March 18 ~ May 6, 2022
Power Supply	Power from host system. 3.3VDC, 1A
HW Version	V1.0
SW Version	V3.2.4.0
Host	The subject approved module is being used in a specific host. [Product: USB-C Smart Dock, Brand name/ Model: GOOD WAY / DUD8070, Adapter: Chicony / A18-135P1B I/P: 100-240VAC, 50-60Hz, 2.37A O/P: 20VDC, 6.75A, 135W]

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	UNII-1	
	IEEE 802.11a	5180 ~ 5240 MHz
	IEEE 802.11n HT 20 MHz	5180 ~ 5240 MHz
	IEEE 802.11n HT 40 MHz	5190 ~ 5230 MHz
	UNII-3	
	IEEE 802.11a	5745 ~ 5825 MHz
	IEEE 802.11n HT 20 MHz	5745 ~ 5825 MHz
	IEEE 802.11n HT 40 MHz	5755 ~ 5795 MHz
Modulation Type	1. IEEE 802.11a mode: OFDM 2. IEEE 802.11n HT 20 MHz mode: OFDM 3. IEEE 802.11n HT 40 MHz mode: OFDM	

Remark:

1. Refer as ANSI C63.10: 2013 clause 5.6.1 Table 4 for test channels.

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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	5150~5250: Gain:2.98 dBi 5725~5850: Gain:4.38 dBi
Antenna Connector	N/A

Notes:

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 and RSS-Gen 6.8.

1.4 MEASUREMENT UNCERTAINTY

PARAMETER	UNCERTAINTY
AC Powerline Conducted Emission	+/- 1.2575
Emission bandwidth, 20dB bandwidth	+/- 0.0014
RF output power, conducted	+/- 1.14
Power density, conducted	+/- 1.40
Radiated Emission_9kHz-30MHz	+/- 3.814
Radiated Emission_30MHz-200MHz	+/- 4.272
Radiated Emission_200MHz-1GHz	+/- 4.619
Radiated Emission_1GHz-6GHz	+/- 5.522
Radiated Emission_6GHz-18GHz	+/- 5.228
Radiated Emission_18GHz-26GHz	+/- 4.089
Radiated Emission_26GHz-40GHz	+/- 4.019

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	-
RF Conducted	Allen Shen	-

Remark: The lab has been recognized as the FCC accredited lab under the KDB 974614 D01 and is listed in the FCC public 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	MY55460167	09/07/2021	09/06/2022
Power Meter	Anritsu	ML2496A	2136002	12/06/2021	12/05/2022
Power Sensor	Anritsu	MA2411B	1911386	08/19/2021	08/18/2022
Power Sensor	Anritsu	MA2411B	1911387	08/19/2021	08/18/2022
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	02/15/2022	02/14/2023
Software	EZ-EMC(CCS-3A1-CE-WUGU)				

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3M 966 Chamber Test Site					
Equipment	Manufacturer	Model	Serial Number	Cal Date	Cal Due
Bilog Antenna	Sunol Sciences	JB3	A030105	07/19/2021	07/18/2022
Coaxial Cable	HUBER SUHNER	SUCOFLEX 104PEA	20995	02/23/2022	02/22/2023
Coaxial Cable	EMCI	EMC105	190914+1111	09/17/2021	09/16/2022
Coaxial Cable	Woken	J-1099	201709090004	12/23/2021	12/22/2022
Digital Thermo-Hygro Meter	WISEWIND	1206	D07	12/28/2021	12/27/2022
High Pass Filters	MICRO TRONICS	HPM13195	003	02/10/2022	02/09/2023
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
Pre-Amplifier	EMEC	EM330	060609	02/23/2022	02/22/2023
Pre-Amplifier	HP	8449B	3008A00965	12/24/2021	12/23/2022
Pre-Amplifier	MITEQ	AMF-6F-18004 000-37-8P	985646	09/08/2021	09/07/2022
PSA Series Spectrum Analyzer	Agilent	E4446A	MY46180323	12/06/2021	12/05/2022
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	20175	N/A	TX2-RTL8723AS	6317A-RTL8723AS
2	AC power Source	Extech	6805	N/A	N/A	N/A
3	NB(E)	Lenovo	IBM 7663	N/A	N/A	N/A
4	NB(L)	Toshiba	PORTEGE R30-A	N/A	PD97260H	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 15.407, KDB 789033 D02.

2. TEST SUMMARY

FCC Standard Sec.	Chapter	Test Item	Result
15.203	1.3	Antenna Requirement	Pass
15.207	4.1	AC Conducted Emission	Pass
15.403(i)	4.2	26dB Bandwidth	Pass
15.407(e)	4.2	6dB Bandwidth	Pass
15.403(i)	4.2	Occupied Bandwidth (99%)	Pass
15.407(a)	4.3	Output Power Measurement	Pass
15.407(a)	4.4	Power Spectral Density	Pass
15.407(b)	4.5	Radiation Band Edge	Pass
15.407(b)	4.5	Radiation Spurious Emission	Pass

3. DESCRIPTION OF TEST MODES

3.1 THE EUT CHANNEL NUMBER OF OPERATING CONDITION

Operation mode	1. IEEE 802.11a mode: 6Mbps 2. IEEE 802.11n HT 20 MHz mode: MCS0 3. IEEE 802.11n HT 40 MHz mode: MCS0		
Operating Frequency		Mode	Frequency Range (MHz)
	U-NII-1	IEEE 802.11a	5180, 5220, 5240
		IEEE 802.11n HT 20 MHz	5180, 5220, 5240
		IEEE 802.11n HT 40 MHz	5190, 5230
	U-NII-3	IEEE 802.11a	5745, 5785, 5825
		IEEE 802.11n HT 20 MHz	5745, 5785, 5825
		IEEE 802.11n HT 40 MHz	5755, 5795

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 Adapter
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 Adapter
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 Adapter
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(X-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.

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3.3 EUT DUTY CYCLE

Temperature: 19.8 ~ 24.5°C

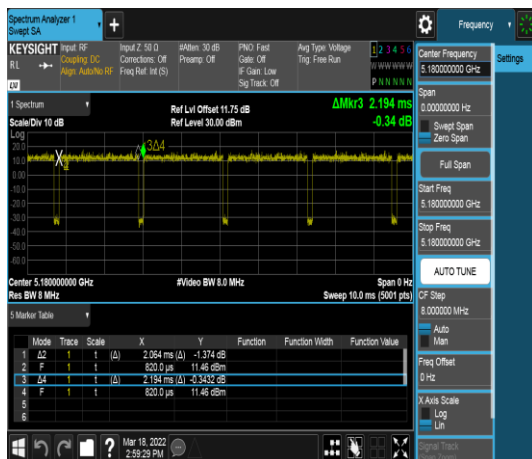
Humidity: 50 ~ 67% RH

Tested by: Allen Shen

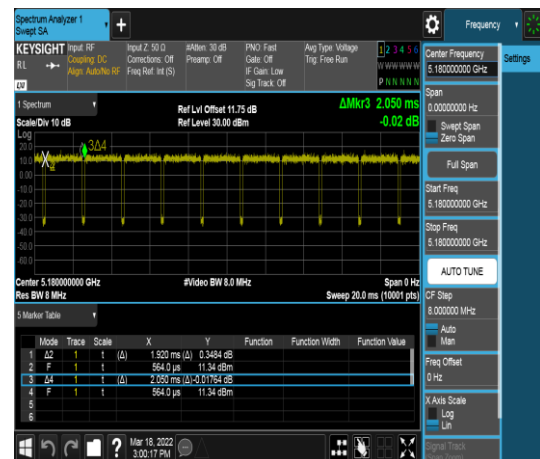
Test date: March 18 ~ May 6, 2022

Duty Cycle				
Configuration	Duty Cycle (%)	Duty Factor (dB) =10*log (1/Duty Cycle)	1/T (kHz)	VBW setting (kHz)
802.11a	94.07	0.27	0.48	1.00
802.11n HT20	93.66	0.28	0.52	1.00
802.11n HT40	87.90	0.56	1.06	2.00

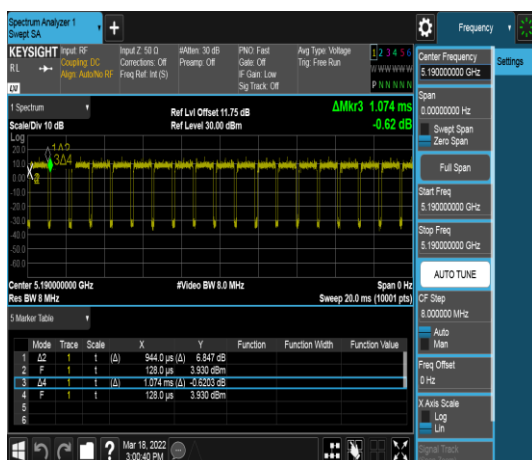
802.11a



802.11n HT20



802.11n HT40



4. TEST RESULT

4.1 AC POWER LINE CONDUCTED EMISSION

4.1.1 Test Limit

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

Frequency Range (MHz)	Limits(dB μ V)	
	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

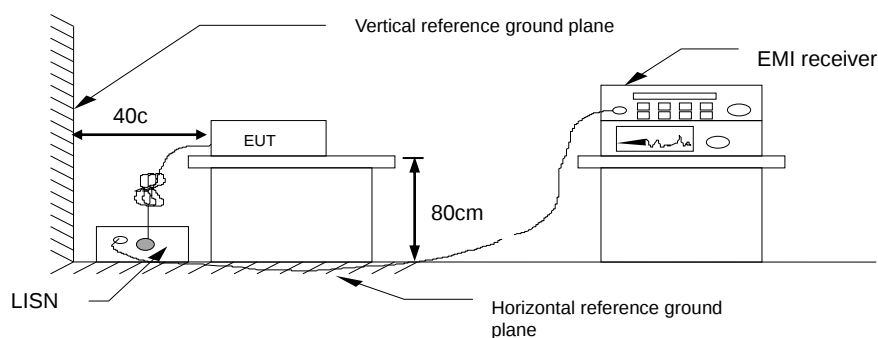
* Decreases with the logarithm of the frequency.

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

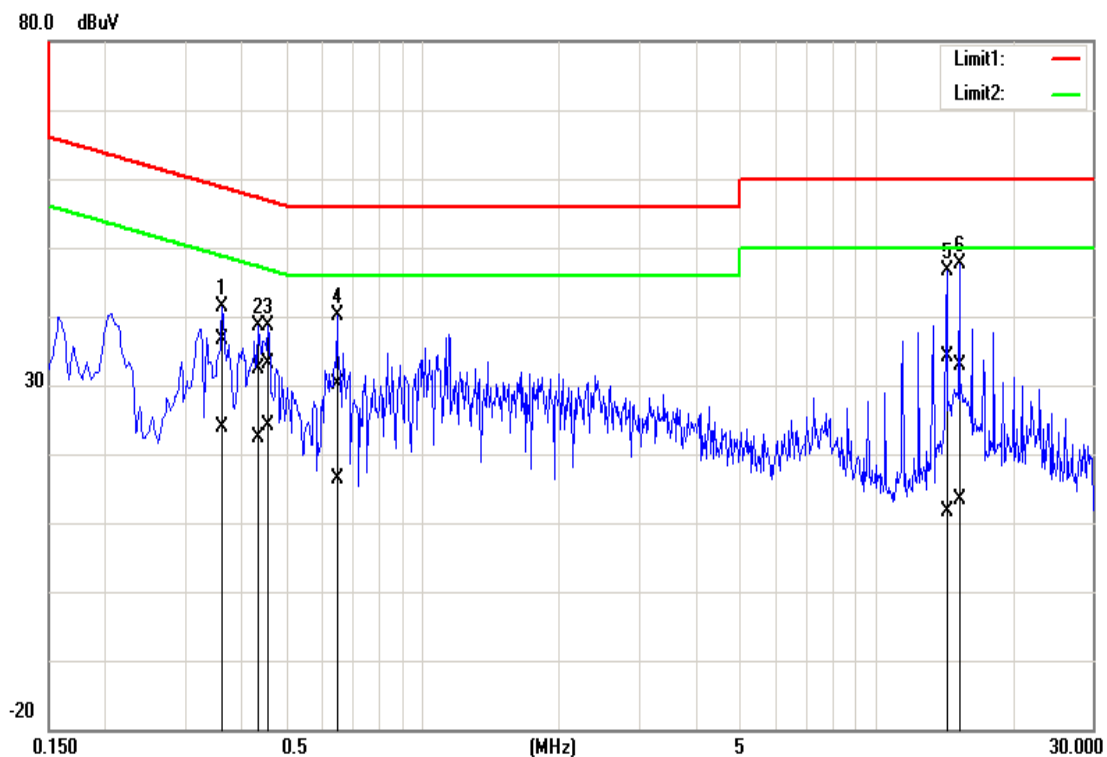


4.1.4 Test Result

Pass.

Test Data

Test Mode:	Mode 1	Temp/Hum	24(°C)/ 61%RH
Phase:	Line	Test Date	March 21, 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
0.3620	26.54	13.59	10.19	36.73	23.78	58.68	48.68	-21.95	-24.90	Pass
0.4340	22.12	12.23	10.19	32.31	22.42	57.18	47.18	-24.87	-24.76	Pass
0.4580	22.88	13.91	10.19	33.07	24.10	56.73	46.73	-23.66	-22.63	Pass
0.6500	20.02	6.07	10.19	30.21	16.26	56.00	46.00	-25.79	-29.74	Pass
14.3020	23.66	1.37	10.36	34.02	11.73	60.00	50.00	-25.98	-38.27	Pass
15.3020	22.60	2.99	10.37	32.97	13.36	60.00	50.00	-27.03	-36.64	Pass

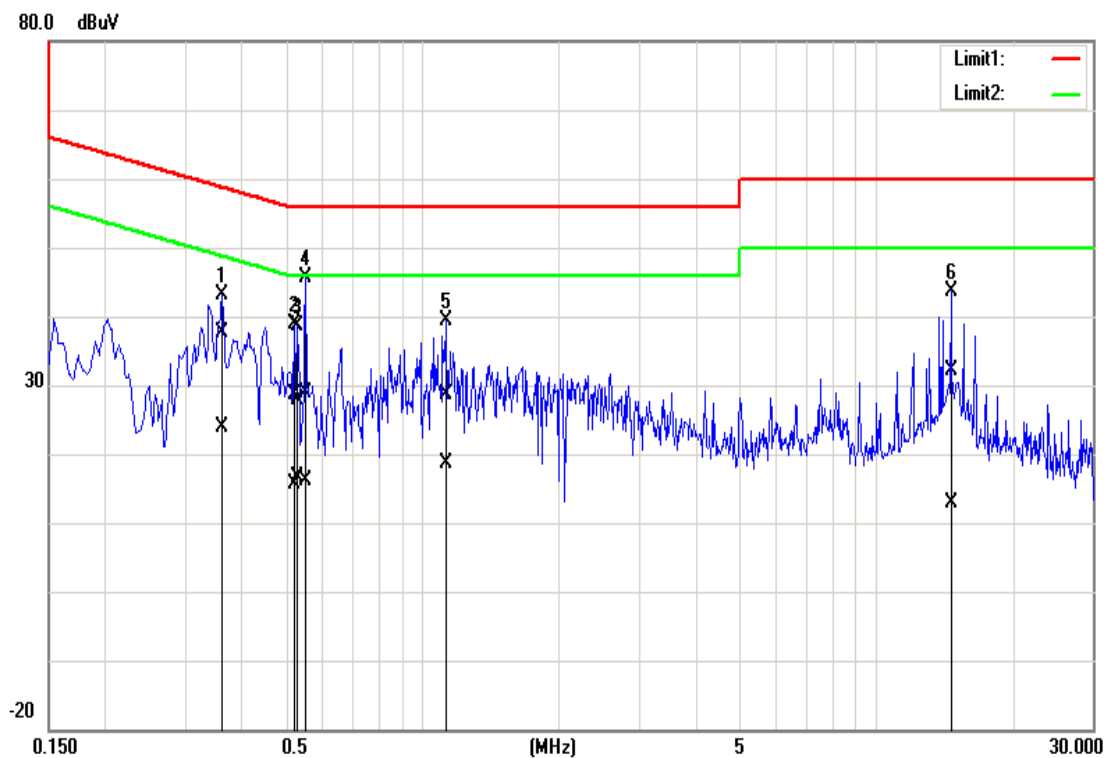
Note: Correction factor = LISN loss + Cable loss.

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Test Mode:	Mode 1	Temp/Hum	24(°C)/ 61%RH
Phase:	Line	Test Date	March 21, 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
0.3620	27.38	13.76	10.18	37.56	23.94	58.68	48.68	-21.12	-24.74	Pass
0.5220	18.40	5.43	10.18	28.58	15.61	56.00	46.00	-27.42	-30.39	Pass
0.5300	17.61	6.45	10.18	27.79	16.63	56.00	46.00	-28.21	-29.37	Pass
0.5540	18.71	5.86	10.18	28.89	16.04	56.00	46.00	-27.11	-29.96	Pass
1.1260	18.51	8.48	10.20	28.71	18.68	56.00	46.00	-27.29	-27.32	Pass
14.6700	21.72	2.53	10.38	32.10	12.91	60.00	50.00	-27.90	-37.09	Pass

Note: Correction factor = LISN loss + Cable loss.

4.2 26dB BANDWIDTH, 6dB BANDWIDTH AND OCCUPIED BANDWIDTH (99%)

4.2.1 Test Limit

26 dB Bandwidth : For reporting purposes only.

6 dB Bandwidth : Least 500kHz.

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

4.2.2 Test Procedure

26dB

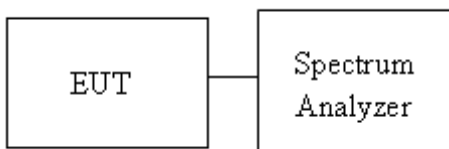
1. This measurement setting are specified in section D of KDB 789033 D02 General UNII Test Procedures New Rules v02r01.
2. Set RBW: approximately 1% of the emission bandwidth.
3. Set the VBW>RBW.
4. Detector = Peak.
5. Trace mode = max hold.
6. Measure the maximum width of the emission that is 26dB down from the peak of the emission. Compare this with the RBW setting of the analyser. Readjust RBW and repeat measurement as needed until the RBW/EBW ratio is approximately 1%.

6dB

1. This measurement setting are specified in section D of KDB 789033 D02 General UNII Test Procedures New Rules v02r01.
2. Set RBW = 100 kHz.
3. Set the video bandwidth (VBW) $\geq 3 \times$ RBW.
4. Detector = Peak.
5. Trace mode = max hold.
6. Sweep = auto couple.
7. Allow the trace to stabilize.
8. Measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower frequencies) that are attenuated by 6 dB relative to the maximum level measured in the fundamental emission.

99%

1. This measurement setting are specified in section D of KDB 789033 D02 General UNII Test Procedures New Rules v02r01.
2. Set center frequency to the nominal EUT channel center frequency.
3. Set span = 1.5 times to 5.0 times the OBW.
4. Set RBW = 1 % to 5% of the OBW.
5. Set VBW $\geq 3 \times \text{RBW}$

4.2.3 Test Setup

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4.2.4 Test Result

Temperature: 19.8 ~ 24.5°C

Humidity: 50 ~ 67% RH

Tested by: Allen Shen

Test date: March 18 ~ May 6, 2022

UNII-1 5150-5250 MHz			
Test mode: IEEE 802.11a mode			
Channel	Frequency (MHz)	OBW (99%) (MHz)	26dB BW (MHz)
Low	5180	16.640	21.49
Mid	5220	16.558	20.83
High	5240	16.550	20.86

Test mode: IEEE 802.11n HT20 mode			
Channel	Frequency (MHz)	OBW (99%) (MHz)	26dB BW (MHz)
Low	5180	17.730	23.27
Mid	5220	17.694	21.40
High	5240	17.750	21.40

Test mode: IEEE 802.11n HT40 mode			
Channel	Frequency (MHz)	OBW (99%) (MHz)	26dB BW (MHz)
Low	5190	35.893	45.93
High	5230	35.872	38.68

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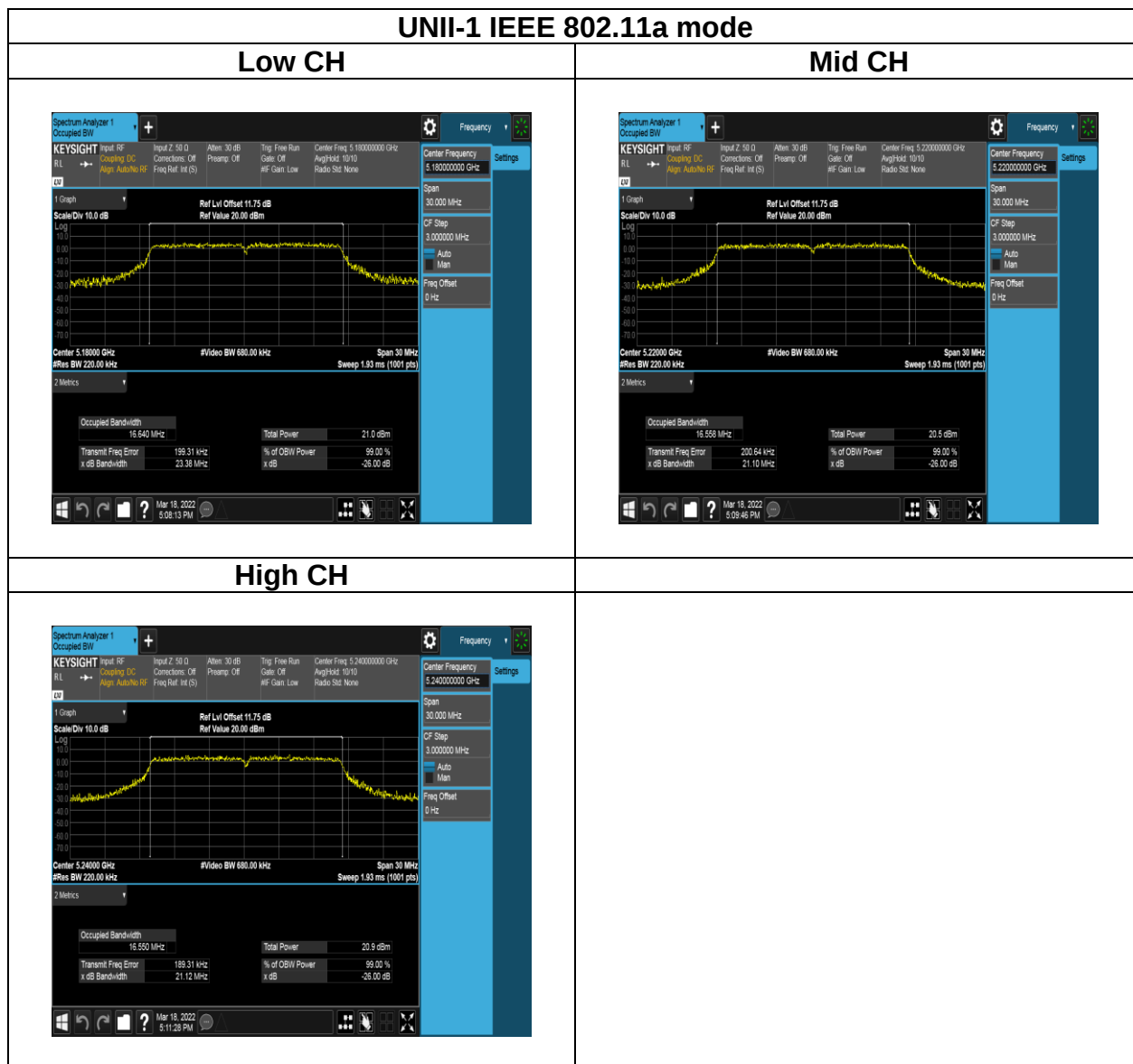
UNII-3 5725-5825MHz			
Test mode: IEEE 802.11a mode			
Channel	Frequency (MHz)	OBW (99%) (MHz)	6dB BW (MHz)
Low	5745	16.668	16.36
Mid	5785	16.622	16.30
High	5825	16.622	16.34

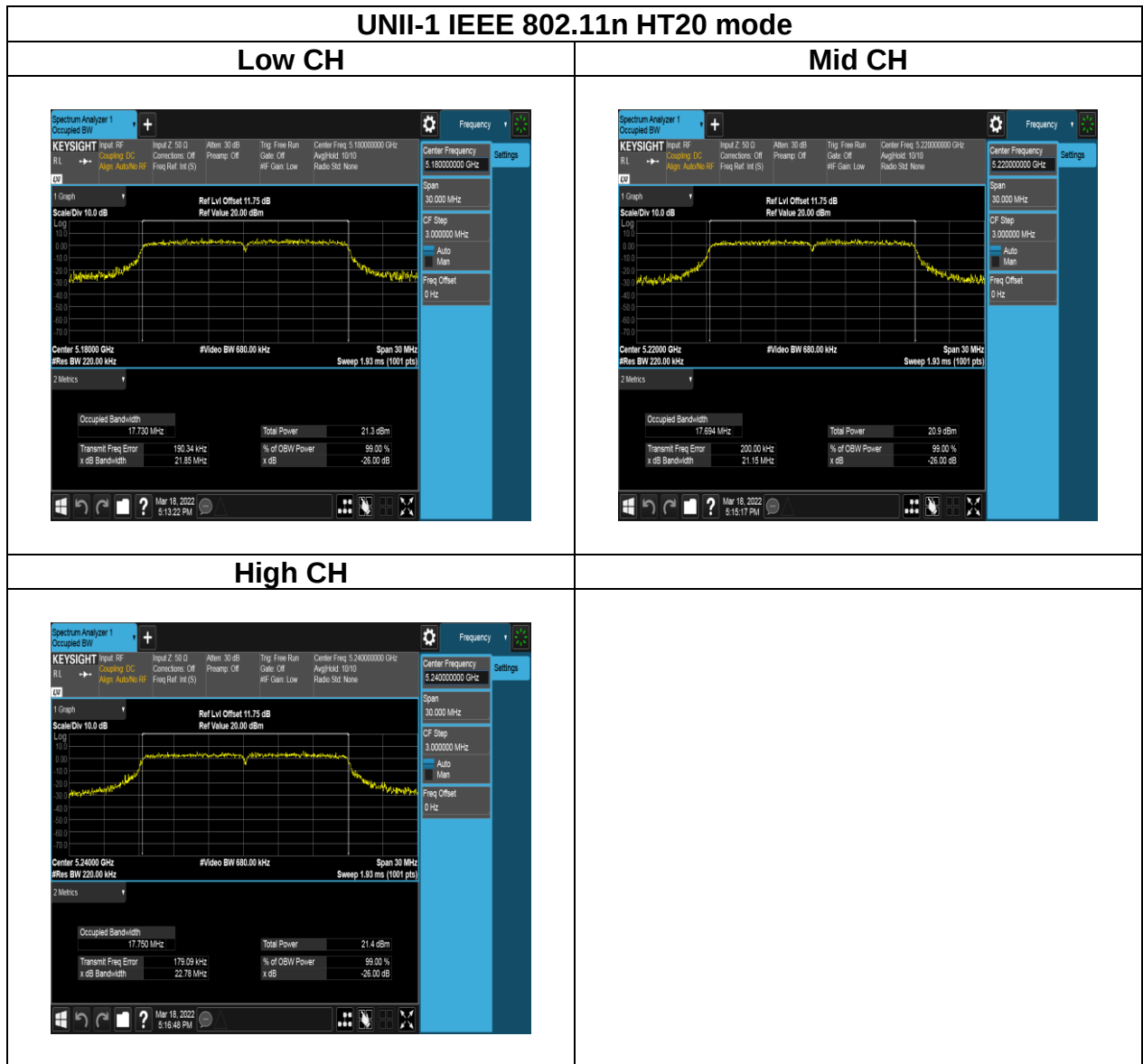
Test mode: IEEE 802.11n HT20 mode			
Channel	Frequency (MHz)	OBW (99%) (MHz)	6dB BW (MHz)
Low	5745	17.760	17.33
Mid	5785	17.729	17.56
High	5825	17.695	17.53

Test mode: IEEE 802.11n HT40 mode			
Channel	Frequency (MHz)	OBW (99%) (MHz)	6dB BW (MHz)
Low	5755	35.849	35.17
High	5795	35.878	35.05

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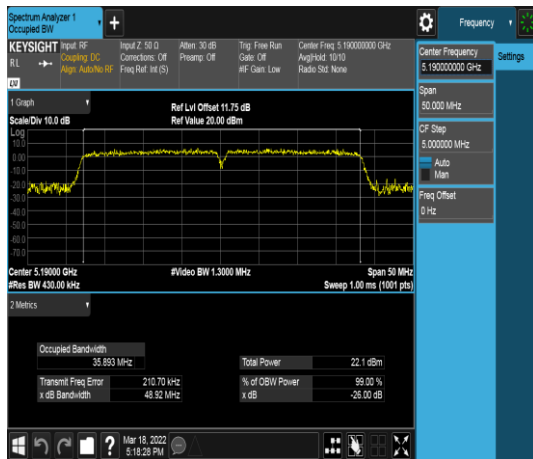
Test Data (99% OBW)



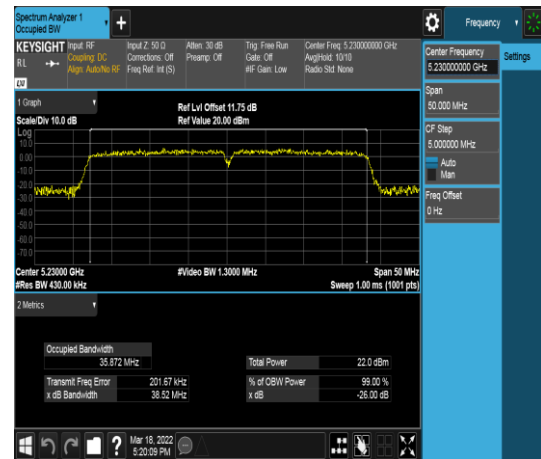


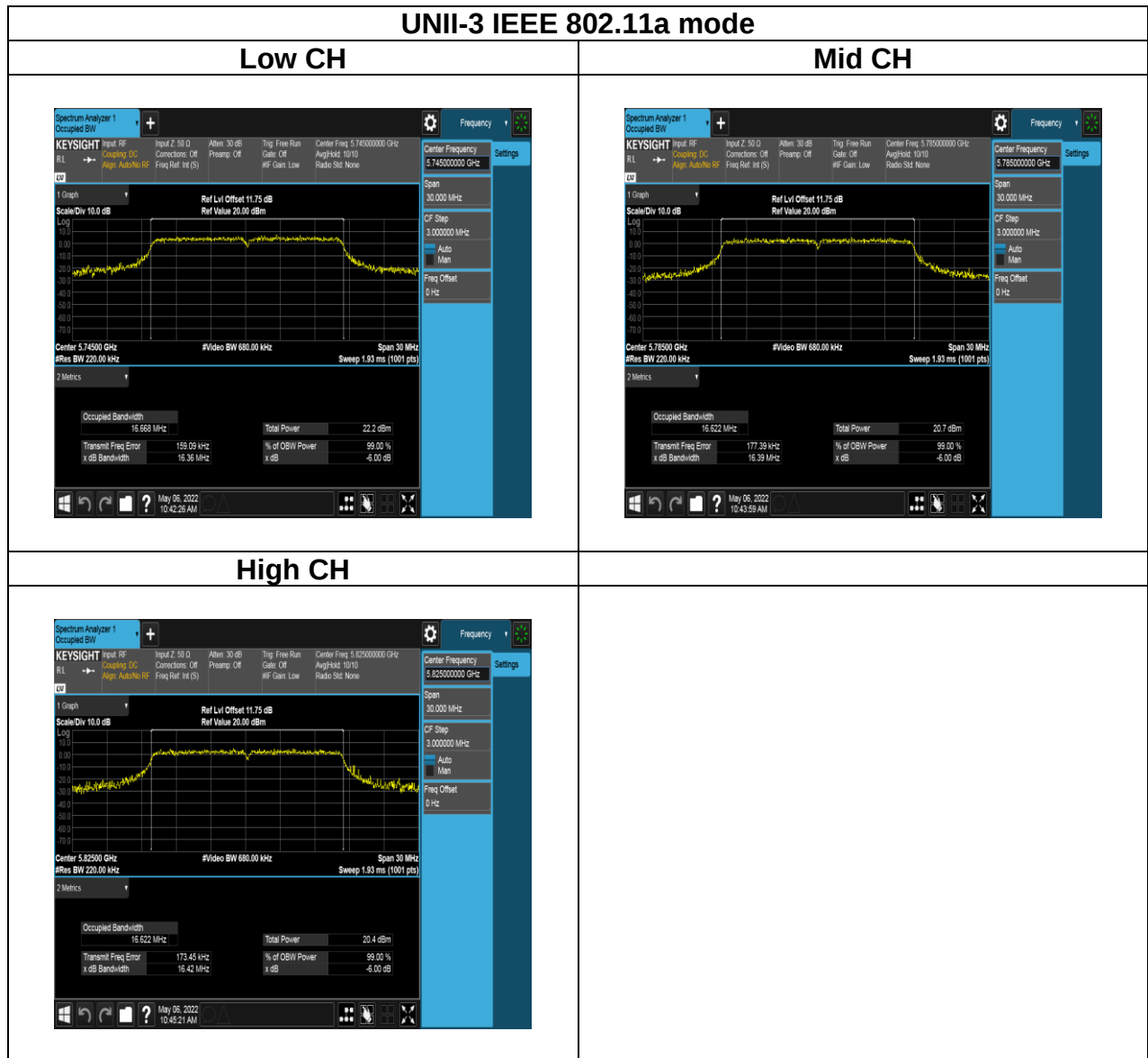
UNII-1 IEEE 802.11n HT40 mode

Low CH



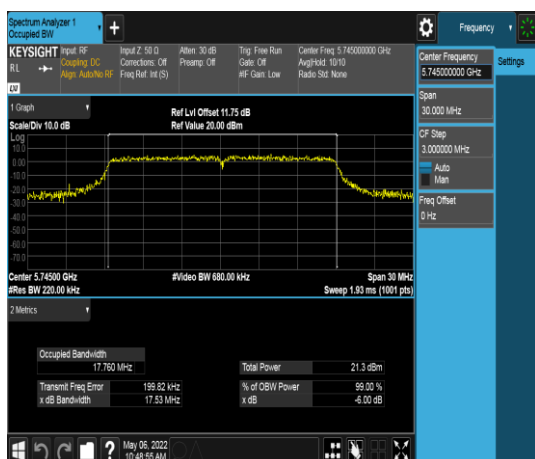
High CH



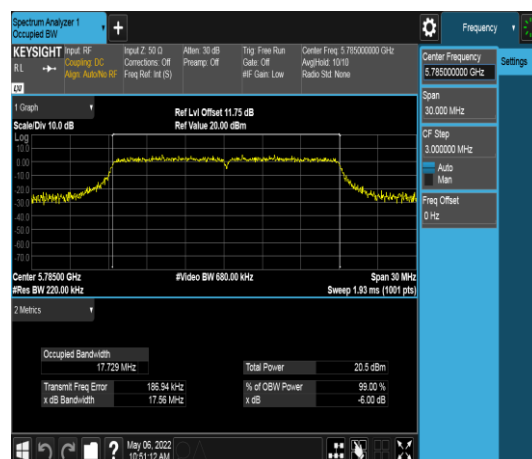


UNII-3 IEEE 802.11n HT20 mode

Low CH



Mid CH

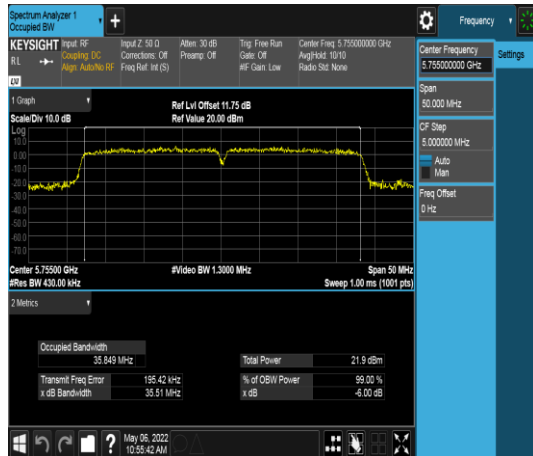


High CH

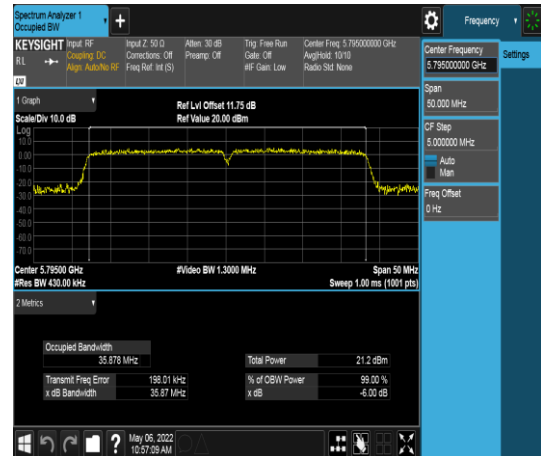


UNII-3 IEEE 802.11n HT40 mode

Low CH

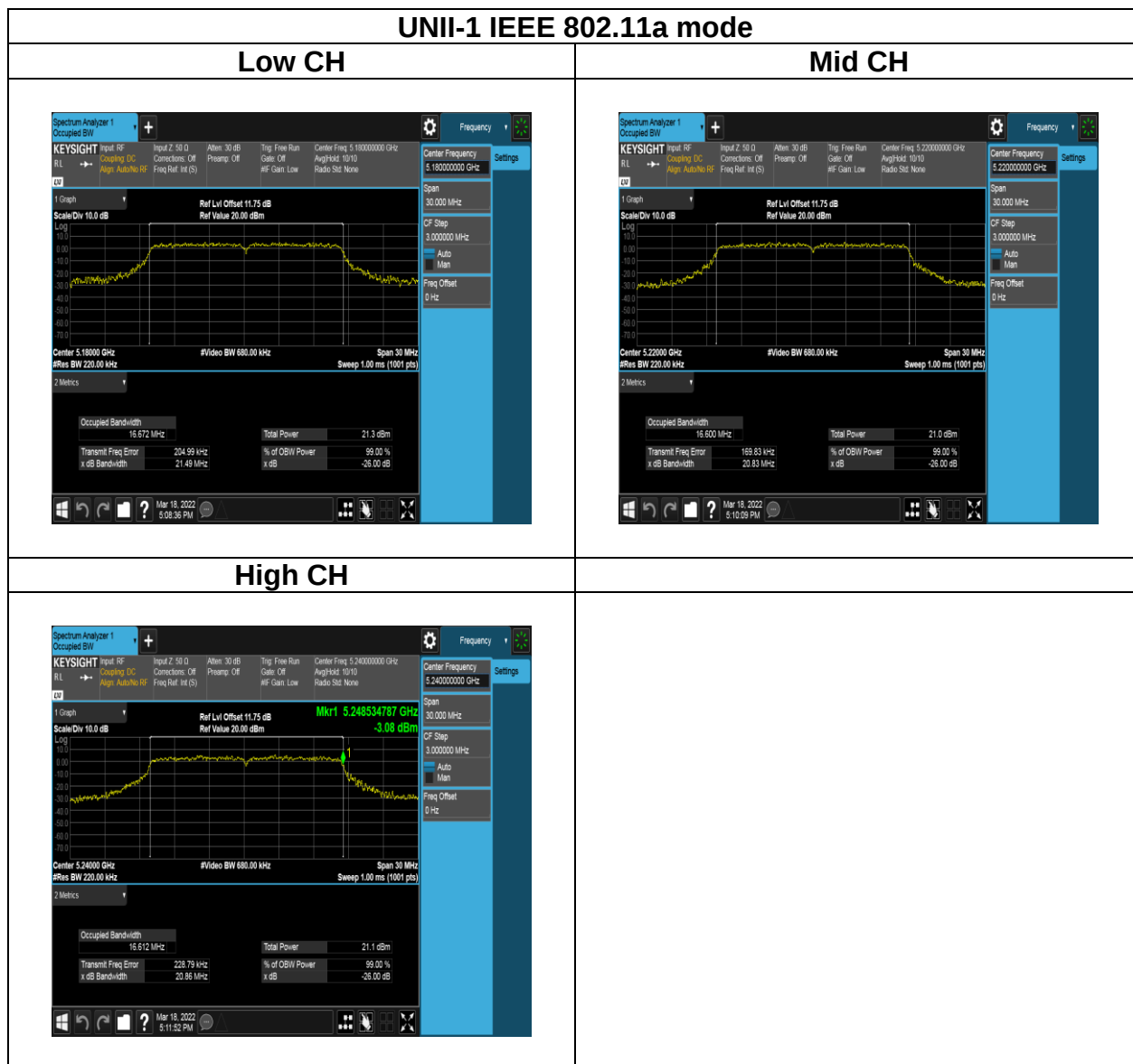


High CH

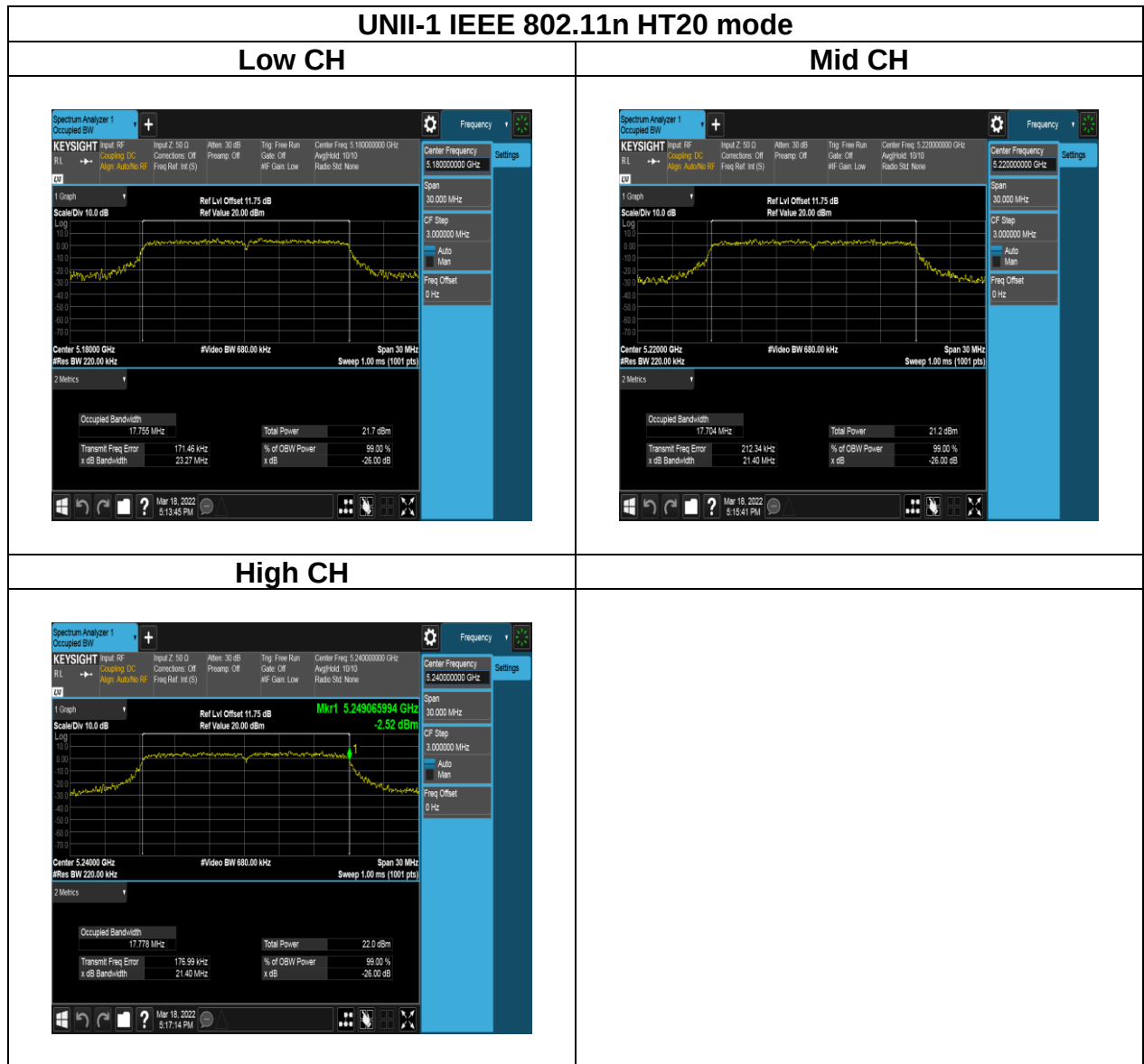


Report No.: TMWK2203000914KR

Test Data (26dB BANDWIDTH)

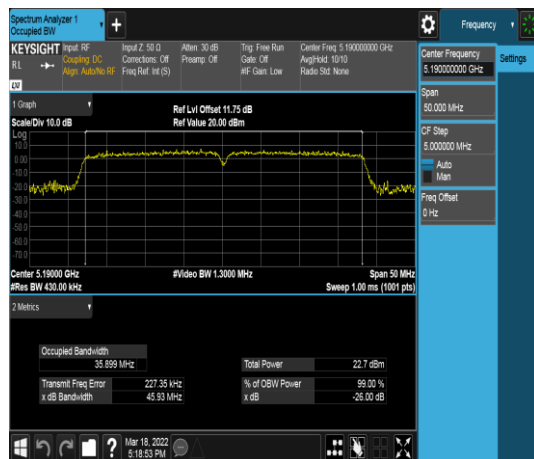


Report No.: TMWK2203000914KR

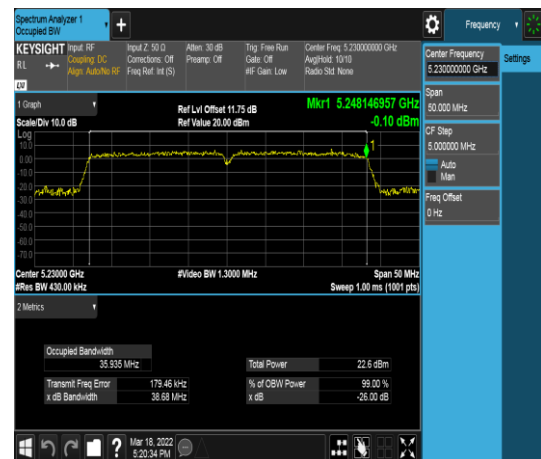


UNII-1 IEEE 802.11n HT40 mode

Low CH

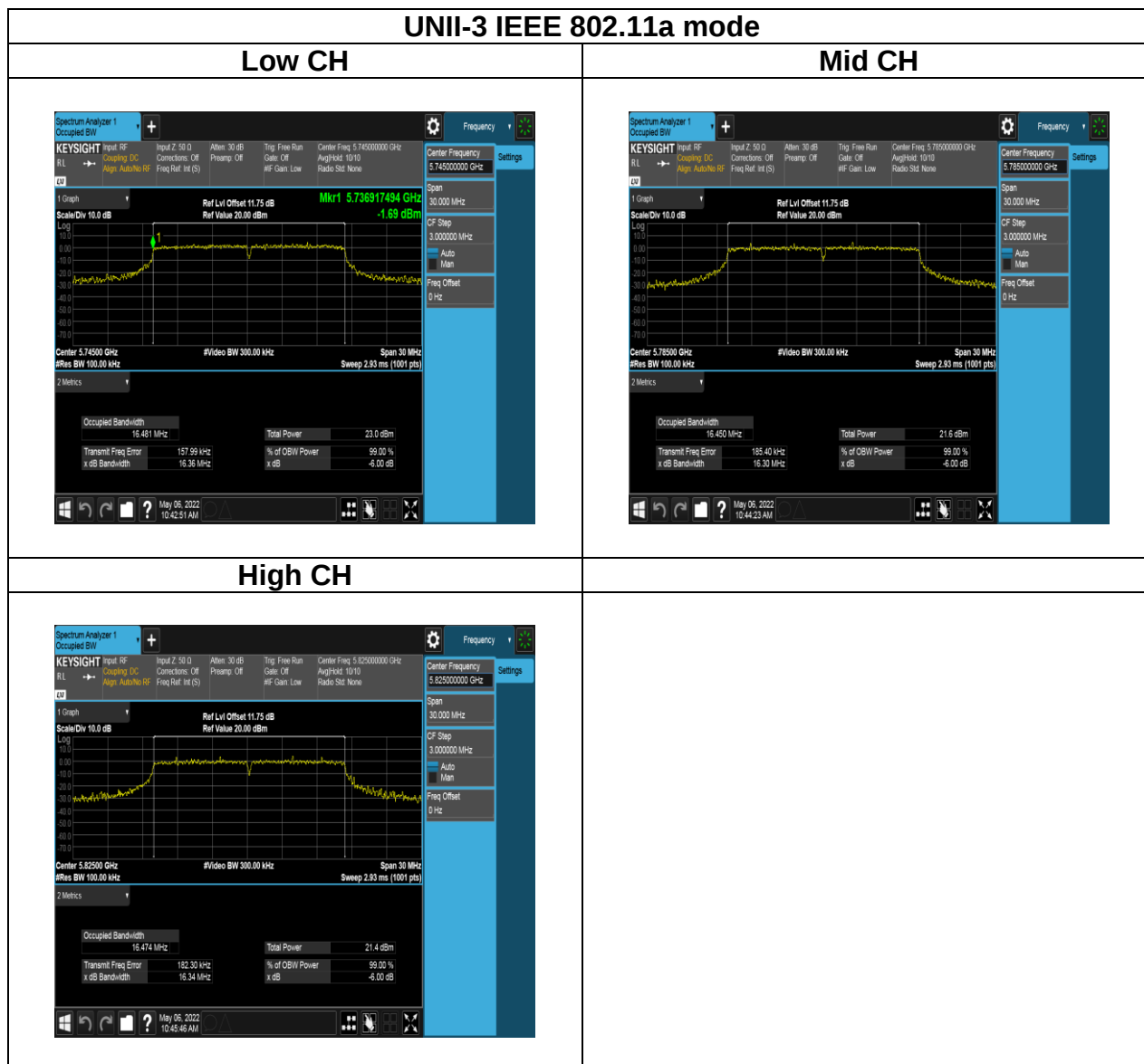


High CH



Report No.: TMWK2203000914KR

Test Data (6dB BANDWIDTH)



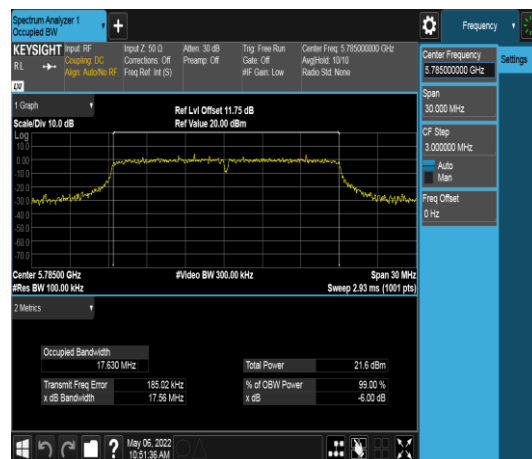
Report No.: TMWK2203000914KR

UNII-3 IEEE 802.11n HT20 mode

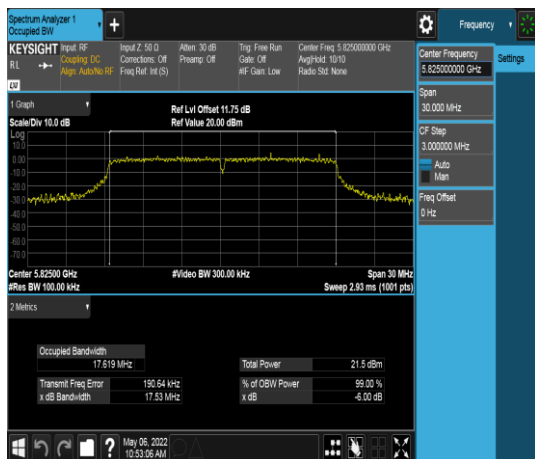
Low CH



Mid CH

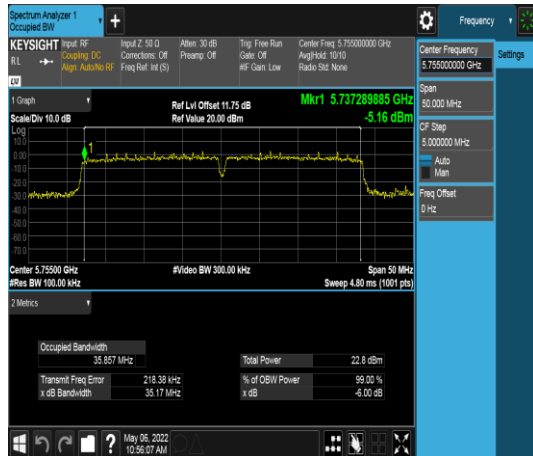


High CH

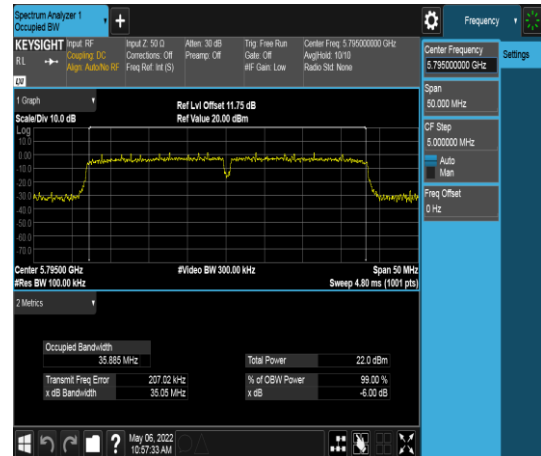


UNII-3 IEEE 802.11n HT40 mode

Low CH



High CH



4.3 OUTPUT POWER MEASUREMENT

4.3.1 Test Limit

According to §15.407 (a)(1), 15.407(a)(2) and 15.407(a)(3)

FCC:

UNII-1 :

For client devices in the 5.15-5.25 GHz band, the maximum conducted output power over the frequency band of operation shall not exceed 250 mW(24 dBm), provided the maximum antenna gain does not exceed 6 dBi. In addition, the maximum power spectral density shall not exceed 11 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

UNII-3:

For the band 5.725-5.85 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W. In addition, the maximum power spectral density shall not exceed 30 dBm in any 500-kHz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

UNII-1 Limit	☒ Antenna not exceed 6 dBi : 23.98dBm ☐ Antenna with DG greater than 6 dBi : [Limit = 24 – (DG – 6)]
UNII-3 Limit	☐ Antenna not exceed 6 dBi : 30dBm ☒ Antenna with DG greater than 6 dBi : [Limit = 30 – (DG – 6)]

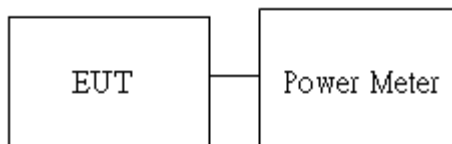
4.3.2 Test Procedure

Test method Refer as KDB 789033 D02, Section E.3.b for BW 20MHz and 40MHz.

1. The EUT RF output connected to the power meter or spectrum 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 Average output power. in the test report.

4.3.3 Test Setup

For BW 20MHz and 40MHz



4.3.4 Test Result

Temperature: 19.8 ~ 24.5°C

Humidity: 50 ~ 67% RH

Tested by: Allen Shen

Test date: March 18 ~ May 6, 2022

FCC AVG Power :

802.11a_Ch0

CH	Frequency (MHz)	Data Rate	Power set	TOTAL POWER (dBm)	TOTAL POWER (mW)	REQUIRED LIMIT (dBm)	RESULT
36	5180	6	106	15.90	38.864	23.98	PASS
44	5220	6	103	15.99	39.678	23.98	PASS
48	5240	6	103	15.91	38.954	23.98	PASS
149	5745	6	127	19.59	90.897	30	PASS
157	5785	6	127	18.80	75.779	30	PASS
165	5825	6	127	18.50	70.721	30	PASS

802.11n_HT20_Ch0

CH	Frequency (MHz)	Data Rate	Power set	TOTAL POWER (dBm)	TOTAL POWER (mW)	REQUIRED LIMIT (dBm)	RESULT
36	5180	MCS0	107	15.88	38.766	23.98	PASS
44	5220	MCS0	104	15.98	39.669	23.98	PASS
48	5240	MCS0	104	15.99	39.760	23.98	PASS
149	5745	MCS0	127	19.40	87.186	30	PASS
157	5785	MCS0	127	18.64	73.189	30	PASS
165	5825	MCS0	127	18.49	70.704	30	PASS

802.11n_HT40_Ch0

CH	Frequency (MHz)	Data Rate	Power set	TOTAL POWER (dBm)	TOTAL POWER (mW)	REQUIRED LIMIT (dBm)	RESULT
38	5190	MCS0	102	12.90	19.499	23.98	PASS
46	5230	MCS0	107	15.90	38.906	23.98	PASS
151	5755	MCS0	127	19.63	91.836	30	PASS
159	5795	MCS0	127	18.96	78.707	30	PASS

4.4 POWER SPECTRAL DENSITY

4.4.1 Test Limit

According to §15.407 (a)(1), 15.407(a)(2) and 15.407(a)(3)

UNII-1:

FCC: The maximum power spectral density shall not exceed 11 dBm in any 1 megahertz band.

UNII-2a and 2c:

The maximum power spectral density shall not exceed 11 dBm in any 1 megahertz band.

If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

UNII-3:

For the band 5.725-5.85 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W. In addition, the maximum power spectral density shall not exceed 30 dBm in any 500-kHz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

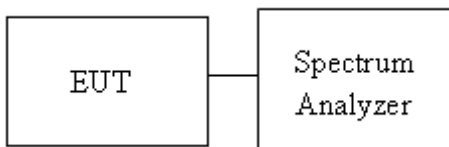
UNII-1 Limit	☒ Antenna not exceed 6 dBi : 11 dBm/MHz ☐ Antenna with DG greater than 6 dBi : [Limit = 11 – (DG – 6)]
UNII-2a Limit	☒ Antenna not exceed 6 dBi : 11 dBm/MHz ☐ Antenna with DG greater than 6 dBi : [Limit = 11 – (DG – 6)]
UNII-2c Limit	☒ Antenna not exceed 6 dBi : 11 dBm/MHz ☐ Antenna with DG greater than 6 dBi : [Limit = 11 – (DG – 6)]
UNII-3 Limit	☐ Antenna not exceed 6 dBi : 30 dBm/500kHz ☒ Antenna with DG greater than 6 dBi : [Limit = 30 – (DG – 6)]

4.4.2 Test Procedure

Test method Refer as KDB 789033 D02

1. The EUT RF output connected to the spectrum analyzer by RF cable.
2. Setting maximum power transmit of EUT
3. UNII-1, UNII-2a and UNII-2c, SA set RBW = 1MHz, VBW = 3MHz and Detector = RMS, to measurement Power Density.
4. UNII-3, SA set RBW = 300kHz, VBW = 1MHz and Detector = RMS, to measurement Power Density
5. The path loss and Duty Factor were compensated to the results for each measurement by SA.
6. Mark the maximum level.
7. Measure and record the result of power spectral density. in the test report.

4.4.3 Test Setup



4.4.4 Test Result

Temperature: 19.8 ~ 24.5°C

Humidity: 50 ~ 67% RH

Tested by: Allen Shen

Test date: March 18 ~ May 6, 2022

UNII-1 5150-5250 MHz					
POWER DENSITY 802.11a MODE					
Frequency (MHz)	Ch0 meas PSD (dBm/MHz)	Duty Factor (dB)	Maximum Corr'd PSD(dBm/MHz)	Limit	Margin (dB)
5180	5.094	0.27	5.36	11.00 dBm/MHz	-5.64
5220	4.733	0.27	5.00	11.00 dBm/MHz	-6.00
5240	4.925	0.27	5.20	11.00 dBm/MHz	-5.81

POWER DENSITY 802.11n HT20 MODE					
Frequency (MHz)	Ch0 meas PSD (dBm/MHz)	Duty Factor (dB)	Maximum Corr'd PSD(dBm/MHz)	Limit	Margin (dB)
5180	5.599	0.28	5.88	11.00 dBm/MHz	-5.12
5220	4.799	0.28	5.08	11.00 dBm/MHz	-5.92
5240	5.435	0.28	5.72	11.00 dBm/MHz	-5.29

POWER DENSITY 802.11n HT40 MODE					
Frequency (MHz)	Ch0 meas PSD (dBm/MHz)	Duty Factor (dB)	Maximum Corr'd PSD(dBm/MHz)	Limit	Margin (dB)
5190	-1.751	0.56	-1.19	11.00 dBm/MHz	-12.19
5230	2.323	0.56	2.88	11.00 dBm/MHz	-8.12

UNII-3 5725-5825MHz						
POWER DENSITY 802.11a MODE						
Frequency (MHz)	Ch0 meas PSD (dBm/300kHz)	Duty Factor (dB)	10log (500kHz/RBW) Factor(dB)	Maximum Corr'd PSD (dBm/500kHz)	Limit	Margin (dB)
5745	0.791	0.27	2.22	3.28	30.00 dBm/500kHz	-26.72
5785	-0.293	0.27	2.22	2.20	30.00 dBm/500kHz	-27.80
5825	-0.152	0.27	2.22	2.34	30.00 dBm/500kHz	-27.66

POWER DENSITY 802.11n HT20 MODE						
Frequency (MHz)	Ch0 meas PSD (dBm/300kHz)	Duty Factor (dB)	10log (500kHz/RBW) Factor(dB)	Maximum Corr'd PSD(dBm/500kHz)	Limit	Margin (dB)
5745	0.195	0.28	2.22	2.70	30.00 dBm/500kHz	-27.31
5785	-0.468	0.28	2.22	2.03	30.00 dBm/500kHz	-27.97
5825	-0.103	0.28	2.22	2.40	30.00 dBm/500kHz	-27.60

POWER DENSITY 802.11n HT40 MODE						
Frequency (MHz)	Ch0 meas PSD (dBm/300kHz)	Duty Factor (dB)	10log (500kHz/RBW) Factor(dB)	Maximum Corr'd PSD(dBm/500kHz)	Limit	Margin (dB)
5755	-2.88	0.56	2.22	-0.10	30.00 dBm/500kHz	-30.10
5795	-3.28	0.56	2.22	-0.50	30.00 dBm/500kHz	-30.50

Report No.: TMWK2203000914KR

Test Data

UNII-1 IEEE 802.11a mode

Low CH



Mid CH



High CH



UNII-1 IEEE 802.11n HT20 mode

Low CH



Mid CH



High CH



UNII-1 IEEE 802.11n HT40 mode

Low CH



High CH



UNII-3 IEEE 802.11a mode

Low CH



Mid CH



High CH



UNII-3 IEEE 802.11n HT20 mode

Low CH



Mid CH



High CH



UNII-3 IEEE 802.11n HT40 mode

Low CH



High CH



4.5 RADIATION BANDEDGE AND SPURIOUS EMISSION

4.5.1 Test Limit

According to §15.407, §15.209 and §15.205,

Below 30 MHz

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

Above 30 MHz

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

4.5.2 Test Procedure

Test method Refer as KDB 789033 D02.

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.
4. No emission found between lowest internal used/generated frequency to 30MHz (9KHz~30MHz)
5. The SA setting following :
 - (1) Below 1G : RBW = 100kHz, VBW $\geq 3 \times$ RBW, Sweep = Auto, Detector = Peak, Trace = Max hold.
 - (2) Above 1G :
 - (2.1) For Peak measurement : RBW = 1MHz, VBW $\geq 3 \times$ RBW, Sweep = Auto, Detector = Peak, Trace = Max hold.
 - (2.2) For Average measurement : RBW = 1MHz, VBW
If Duty Cycle $\geq 98\%$, VBW=10Hz.
If Duty Cycle $< 98\%$, VBW=1/T.

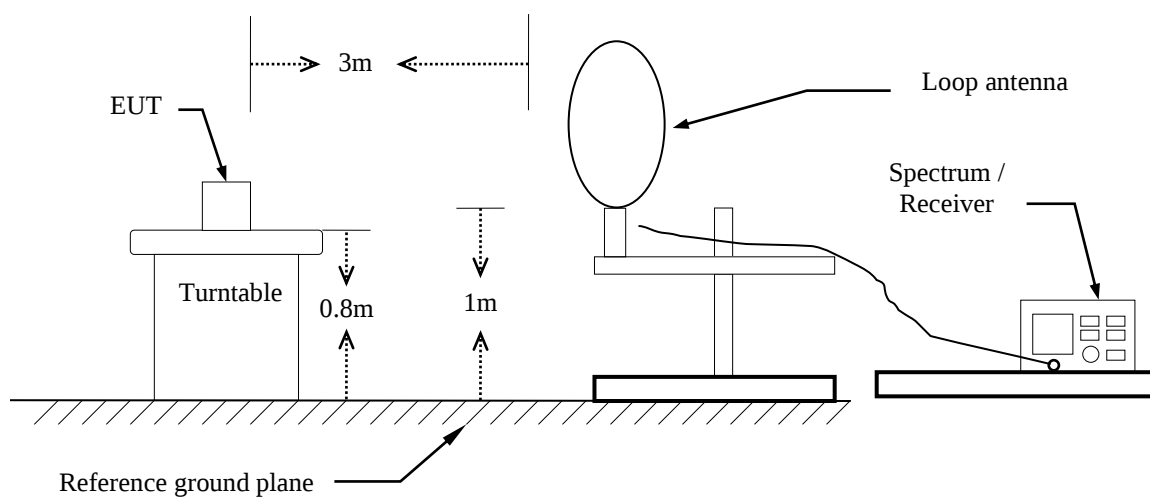
6. Data result

Actual FS=Spectrum Reading Level + Factor

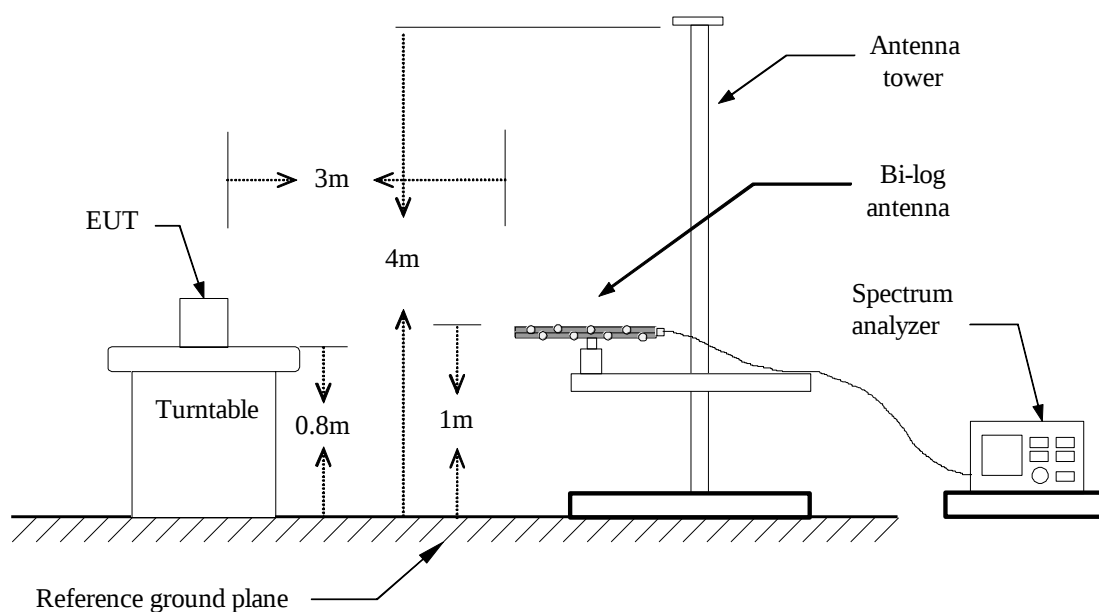
Margin=Actual FS- Limit

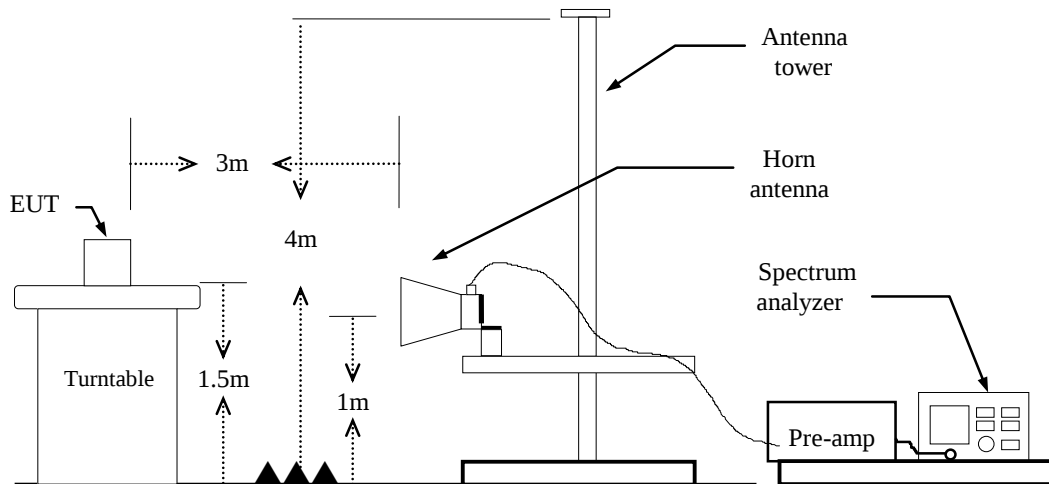
4.5.3 Test Setup

9kHz ~ 30MHz



30MHz ~ 1GHz



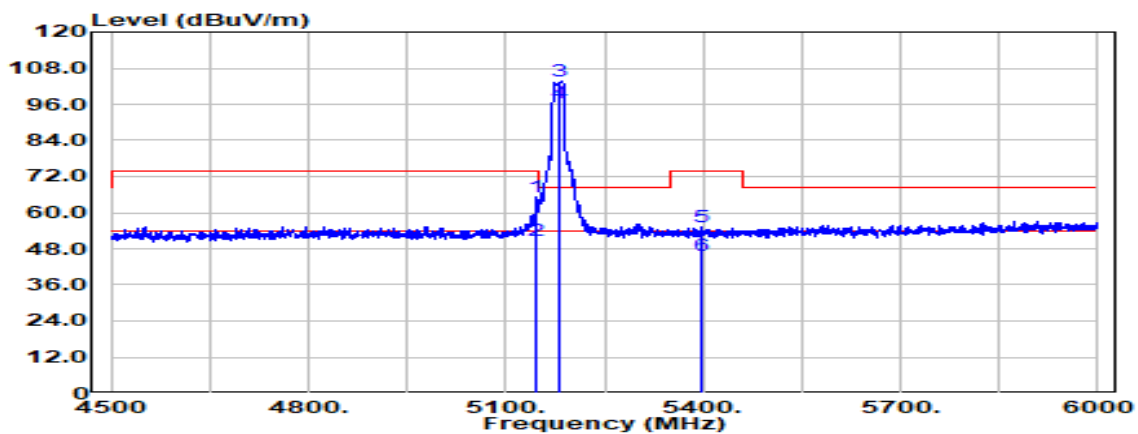
Above 1 GHz

4.5.4 Test Result

Band Edge Test Data

Test Data for UNII-1

Test Mode	IEEE 802.11a / 5180MHZ	Temp/Hum	21.4(°C)/ 60%RH
Test Item	Band Edge	Test Date	March 28, 2022
Polarize	Vertical	Test Engineer	Ray Li
Detector	Peak / Average		



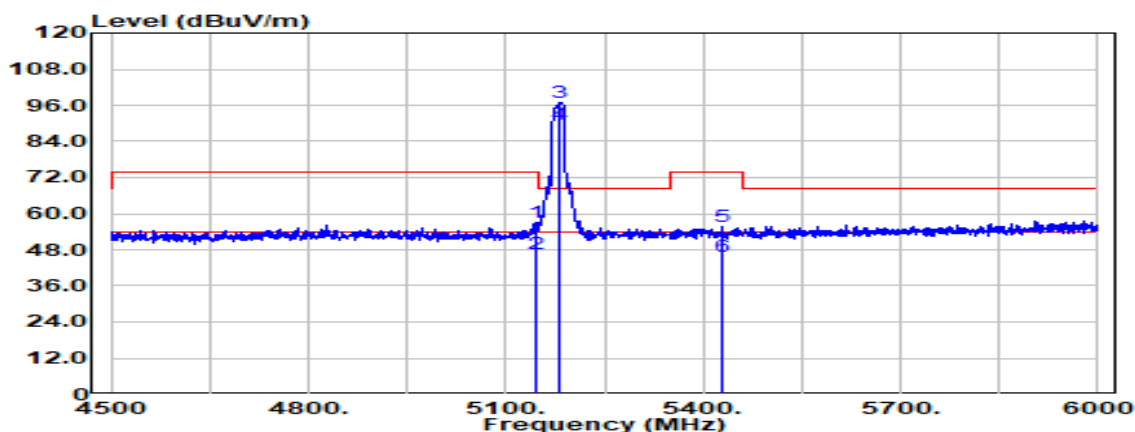
Frequency (MHz)	Detector Mode PK/QP/AV	Spectrum Reading Level dBμV	Factor dB	Actual FS dBμV/m	Limit @3m dBμV/m	Margin dB
5145.750	Peak	46.07	18.99	65.06	74.00	-8.94
5145.750	Average	31.67	18.99	50.66	54.00	-3.34
5180.000	Peak	84.39	19.19	103.58	-	-
5180.000	Average	77.38	19.19	96.57	-	-
5396.250	Peak	35.31	20.04	55.35	74.00	-18.65
5396.250	Average	25.73	20.04	45.77	54.00	-8.23

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Test Mode	IEEE 802.11a / 5180MHZ	Temp/Hum	21.4(°C) / 60%RH
Test Item	Band Edge	Test Date	March 28, 2022
Polarize	Horizontal	Test Engineer	Ray Li
Detector	Peak / Average		



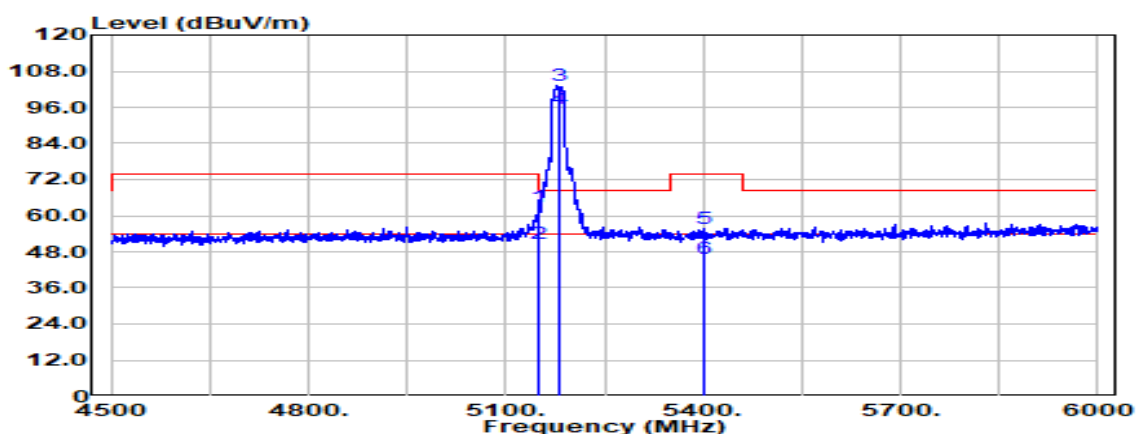
Frequency (MHz)	Detector Mode PK/QP/AV	Spectrum Reading Level dBμV	Factor dB	Actual FS dBμV/m	Limit @3m dBμV/m	Margin dB
5146.500	Peak	38.20	18.99	57.19	74.00	-16.81
5146.500	Average	27.71	18.99	46.70	54.00	-7.30
5180.000	Peak	77.93	19.19	97.13	-	-
5180.000	Average	70.68	19.19	89.87	-	-
5430.000	Peak	35.85	20.07	55.92	74.00	-18.08
5430.000	Average	25.54	20.07	45.61	54.00	-8.39

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Test Mode	IEEE 802.11n 20 MHz / 5180MHZ	Temp/Hum	21.4(°C)/ 60%RH
Test Item	Band Edge	Test Date	March 28, 2022
Polarize	Vertical	Test Engineer	Ray Li
Detector	Peak / Average		



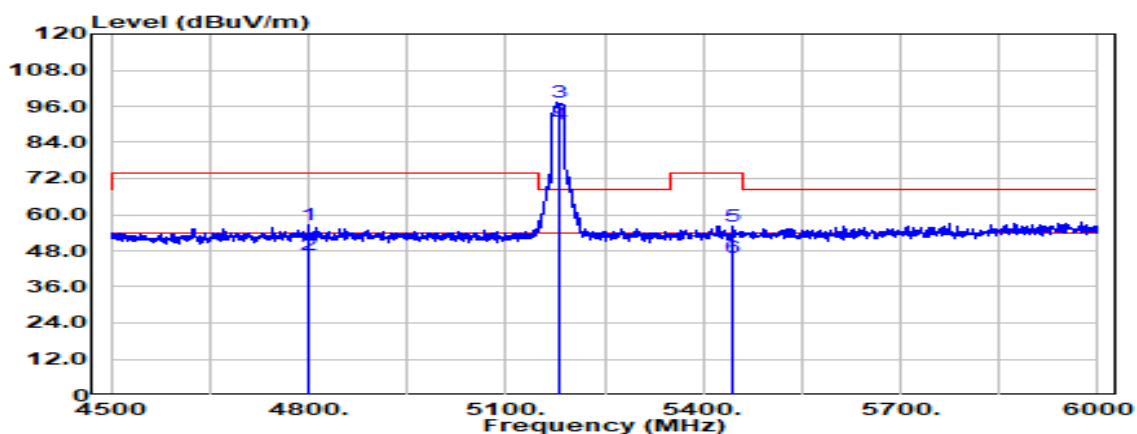
Frequency (MHz)	Detector Mode PK/QP/AV	Spectrum Reading Level dBμV	Factor dB	Actual FS dBUV/m	Limit @3m dBUV/m	Margin dB
5148.750	Peak	43.78	19.00	62.78	74.00	-11.22
5148.750	Average	31.78	19.00	50.78	54.00	-3.22
5180.000	Peak	83.85	19.19	103.04	-	-
5180.000	Average	76.50	19.19	95.69	-	-
5402.250	Peak	35.77	20.06	55.83	74.00	-18.17
5402.250	Average	25.72	20.06	45.78	54.00	-8.22

Report No.: TMWK2203000914KR

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Test Mode	IEEE 802.11n 20 MHz / 5180MHz	Temp/Hum	21.4(°C)/ 60%RH
Test Item	Band Edge	Test Date	March 28, 2022
Polarize	Horizontal	Test Engineer	Ray Li
Detector	Peak / Average		



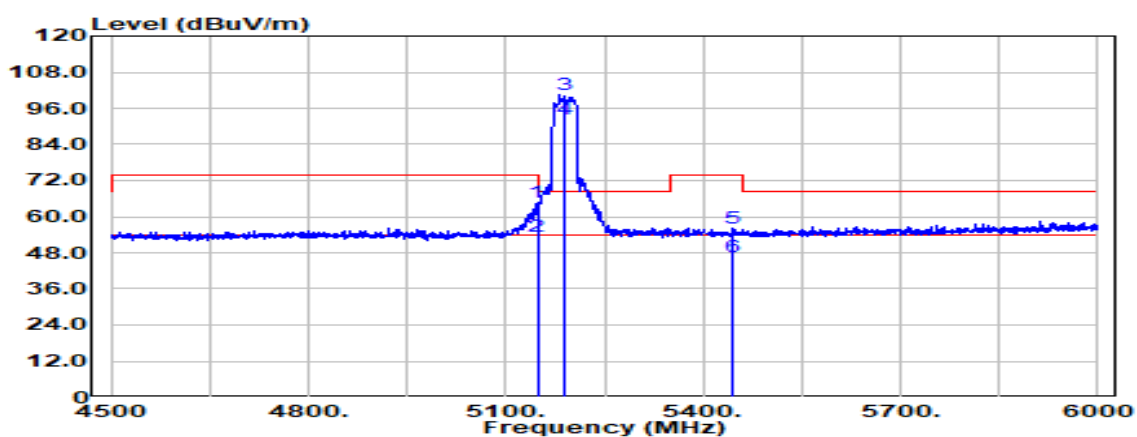
Frequency (MHz)	Detector Mode PK/QP/AV	Spectrum Reading Level dBμV	Factor dB	Actual FS dBμV/m	Limit @3m dBμV/m	Margin dB
4799.250	Peak	38.21	18.45	56.66	74.00	-17.34
4799.250	Average	28.39	18.45	46.84	54.00	-7.16
5180.000	Peak	78.01	19.19	97.20	-	-
5180.000	Average	70.92	19.19	90.11	-	-
5444.250	Peak	35.96	20.07	56.02	74.00	-17.98
5444.250	Average	25.56	20.07	45.63	54.00	-8.37

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Test Mode	IEEE 802.11n 40 MHz / 5190MHz	Temp/Hum	21.4(°C) / 60%RH
Test Item	Band Edge	Test Date	March 28, 2022
Polarize	Vertical	Test Engineer	Ray Li
Detector	Peak / Average		



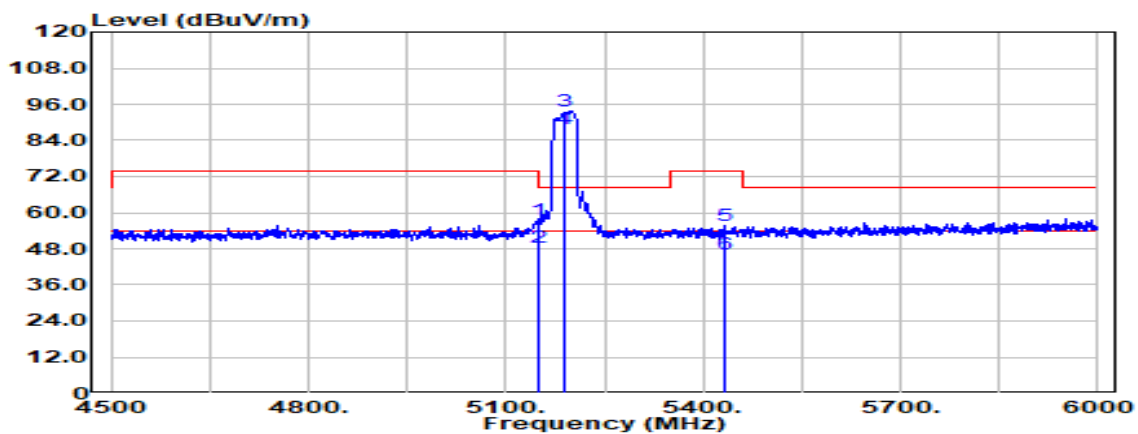
Frequency (MHz)	Detector Mode PK/QP/AV	Spectrum Reading Level dBμV	Factor dB	Actual FS dBμV/m	Limit @3m dBμV/m	Margin dB
5148.000	Peak	45.66	18.99	64.66	74.00	-9.34
5148.000	Average	34.23	18.99	53.22	54.00	-0.78
5190.000	Peak	81.07	19.26	100.32	-	-
5190.000	Average	73.31	19.26	92.57	-	-
5445.000	Peak	36.27	20.07	56.34	74.00	-17.66
5445.000	Average	26.37	20.07	46.44	54.00	-7.56

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Test Mode	IEEE 802.11n 40 MHz / 5190MHz	Temp/Hum	21.4(°C)/ 60%RH
Test Item	Band Edge	Test Date	March 28, 2022
Polarize	Horizontal	Test Engineer	Ray Li
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
5149.500	Peak	38.66	19.00	57.66	74.00	-16.34
5149.500	Average	29.60	19.00	48.60	54.00	-5.40
5190.000	Peak	74.69	19.26	93.95	-	-
5190.000	Average	68.42	19.26	87.67	-	-
5433.750	Peak	35.56	20.07	55.62	74.00	-18.38
5433.750	Average	26.04	20.07	46.11	54.00	-7.89

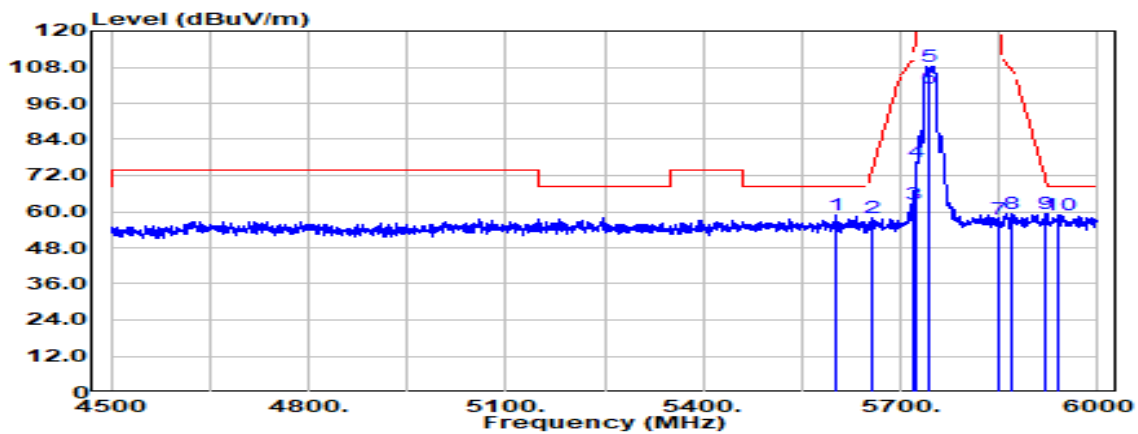
Report No.: TMWK2203000914KR

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Test Data for UNII-3

Test Mode	IEEE 802.11a / CH 5745	Temp/Hum	23.8(°C)/ 68%RH
Test Item	Band Edge	Test Date	May 5, 2022
Polarize	Vertical	Test Engineer	Ray Li
Detector	Peak		



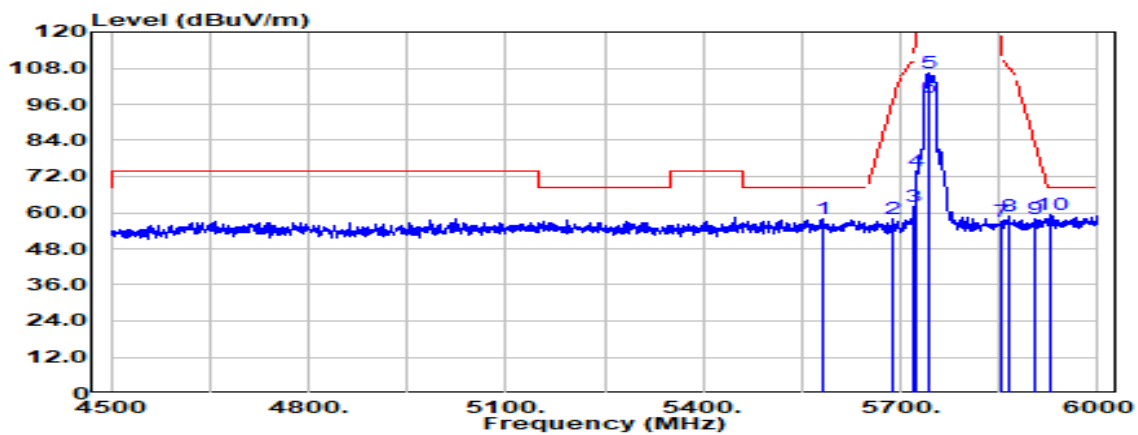
Frequency (MHz)	Detector Mode PK/QP/AV	Spectrum Reading Level dBuV	Factor dB	Actual FS dBuV/m	Limit @3m dBuV/m	Margin dB
5600.250	Peak	38.70	20.07	58.77	68.20	-9.43
5657.250	Peak	37.77	20.15	57.92	73.59	-15.66
5718.750	Peak	42.28	20.28	62.56	110.45	-47.89
5724.000	Peak	56.34	20.31	76.66	119.92	-43.26
5745.000	Peak	87.66	20.45	108.10	-	-
5745.000	Average	80.62	20.45	101.07	-	-
5850.000	Peak	36.75	20.73	57.48	122.20	-64.72
5868.000	Peak	38.61	20.81	59.42	107.16	-47.74
5921.250	Peak	38.37	21.04	59.41	70.96	-11.55
5938.500	Peak	37.63	21.11	58.74	68.20	-9.46

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Test Mode	IEEE 802.11a/ CH 5745	Temp/Hum	23.8(°C)/ 68%RH
Test Item	Band Edge	Test Date	May 5, 2022
Polarize	Vertical	Test Engineer	Ray Li
Detector	Average		



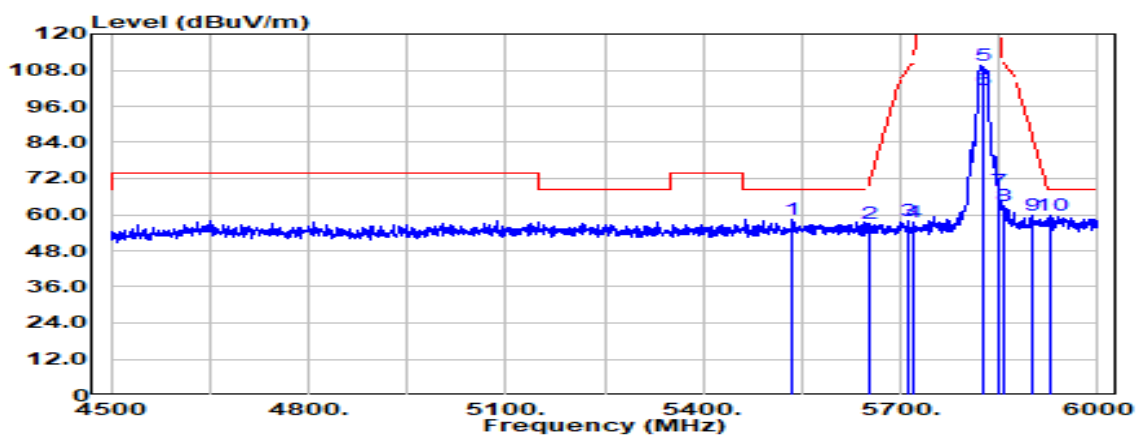
Frequency (MHz)	Detector Mode PK/QP/AV	Spectrum Reading Level dBμV	Factor dB	Actual FS dBμV/m	Limit @3m dBμV/m	Margin dB
5581.500	Peak	38.12	20.06	58.18	68.20	-10.02
5688.750	Peak	37.76	20.16	57.92	96.90	-38.98
5719.500	Peak	41.59	20.28	61.88	110.66	-48.78
5724.750	Peak	53.58	20.32	73.90	121.63	-47.73
5745.000	Peak	85.90	20.45	106.35	-	-
5745.000	Average	77.99	20.45	98.44	-	-
5852.250	Peak	36.44	20.74	57.18	117.07	-59.89
5865.750	Peak	38.08	20.80	58.88	107.79	-48.91
5903.250	Peak	37.03	20.96	57.99	84.26	-26.27
5929.500	Peak	38.03	21.07	59.11	68.20	-9.09

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Test Mode	IEEE 802.11a / CH 5825	Temp/Hum	23.8(°C)/ 68%RH
Test Item	Band Edge	Test Date	May 5, 2022
Polarize	Vertical	Test Engineer	Ray Li
Detector	Peak		



Frequency (MHz)	Detector Mode PK/QP/AV	Spectrum Reading Level dBμV	Factor dB	Actual FS dBμV/m	Limit @3m dBμV/m	Margin dB
5536.500	Peak	38.37	20.03	58.40	68.20	-9.80
5653.500	Peak	36.92	20.15	57.08	70.80	-13.73
5712.750	Peak	37.66	20.24	57.90	108.77	-50.87
5720.250	Peak	37.13	20.29	57.42	111.37	-53.95
5825.000	Peak	88.92	20.64	109.55	-	-
5825.000	Average	80.89	20.64	101.52	-	-
5850.000	Peak	47.11	20.73	67.84	122.20	-54.36
5856.750	Peak	42.12	20.76	62.88	110.31	-47.43
5898.750	Peak	38.77	20.94	59.71	87.59	-27.87
5928.000	Peak	38.76	21.07	59.82	68.20	-8.38

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Test Mode	IEEE 802.11a / CH 5825	Temp/Hum	23.8(°C) / 68%RH
Test Item	Band Edge	Test Date	May 5, 2022
Polarize	Vertical	Test Engineer	Ray Li
Detector	Average		



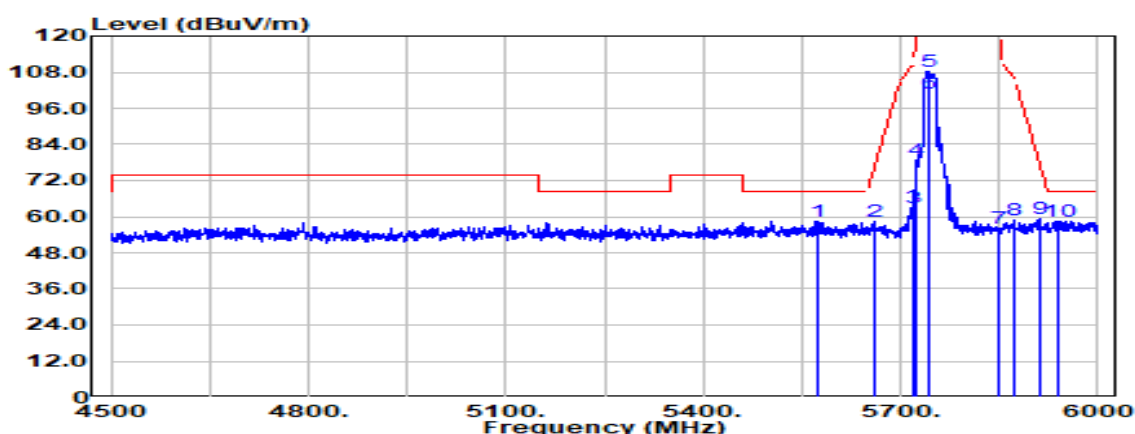
Frequency (MHz)	Detector Mode PK/QP/AV	Spectrum Reading Level dBμV	Factor dB	Actual FS dBμV/m	Limit @3m dBμV/m	Margin dB
5512.500	Peak	38.37	20.02	58.39	68.20	-9.81
5670.750	Peak	37.88	20.15	58.03	83.59	-25.56
5709.000	Peak	37.13	20.22	57.35	107.72	-50.37
5723.250	Peak	35.43	20.31	55.74	118.21	-62.47
5825.000	Peak	83.77	20.64	104.41	-	-
5825.000	Average	76.53	20.64	97.17	-	-
5851.500	Peak	40.55	20.74	61.28	118.78	-57.50
5862.000	Peak	38.30	20.78	59.09	108.84	-49.75
5919.000	Peak	37.58	21.03	58.61	72.62	-14.01
5951.250	Peak	38.29	21.16	59.46	68.20	-8.74

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Test Mode	IEEE 802.11n HT20 / CH 5745	Temp/Hum	23.8(°C)/ 68%RH
Test Item	Band Edge	Test Date	May 5, 2022
Polarize	Vertical	Test Engineer	Ray Li
Detector	Peak		



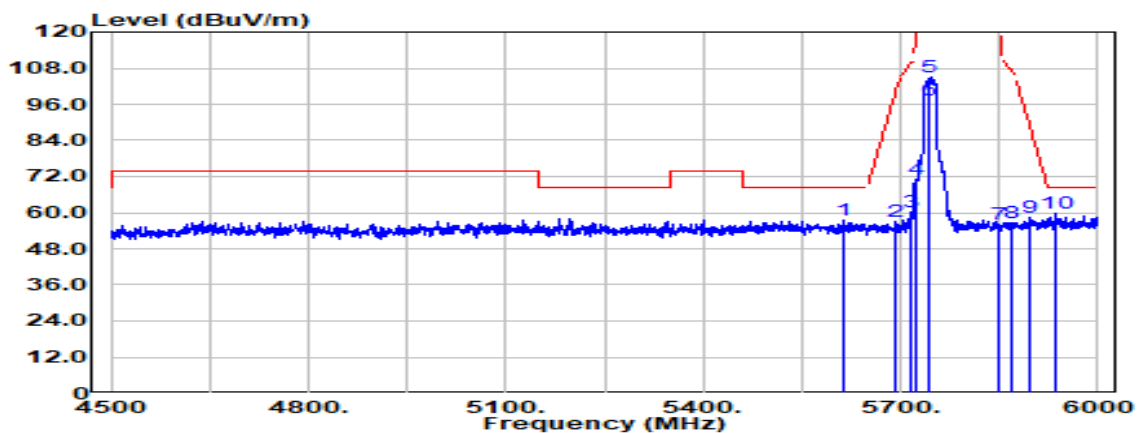
Frequency (MHz)	Detector Mode PK/QP/AV	Spectrum Reading Level dBμV	Factor dB	Actual FS dBμV/m	Limit @3m dBμV/m	Margin dB
5572.500	Peak	38.46	20.05	58.51	68.20	-9.69
5661.750	Peak	38.43	20.15	58.58	76.92	-18.34
5718.000	Peak	42.66	20.28	62.94	110.24	-47.30
5724.750	Peak	58.43	20.32	78.75	121.63	-42.88
5745.000	Peak	87.72	20.45	108.17	-	-
5745.000	Average	80.61	20.45	101.06	-	-
5850.750	Peak	35.46	20.73	56.20	120.49	-64.29
5872.500	Peak	38.03	20.83	58.86	105.90	-47.04
5910.750	Peak	38.35	21.00	59.35	78.71	-19.37
5938.500	Peak	37.45	21.11	58.57	68.20	-9.63

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Test Mode	IEEE 802.11n HT20 / CH 5745	Temp/Hum	23.8(°C) / 68%RH
Test Item	Band Edge	Test Date	May 5, 2022
Polarize	Vertical	Test Engineer	Ray Li
Detector	Average		



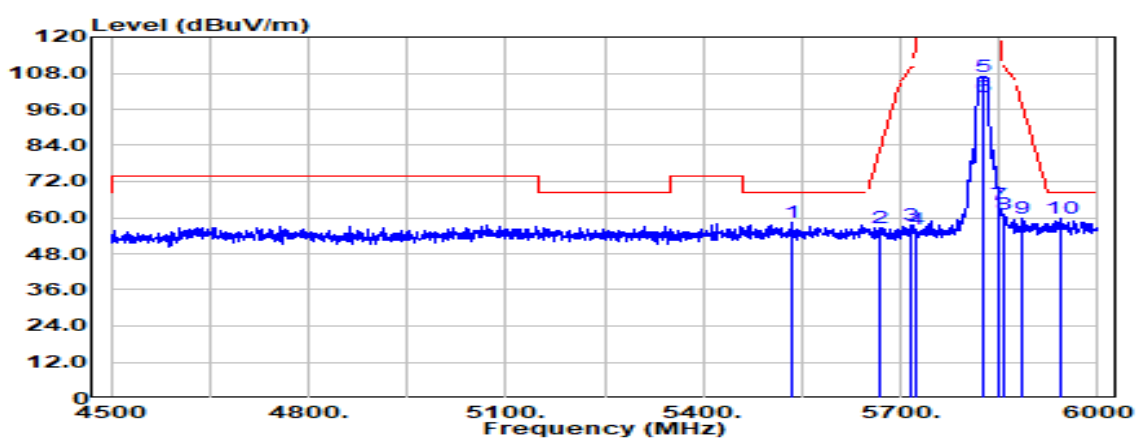
Frequency (MHz)	Detector Mode PK/QP/AV	Spectrum Reading Level dBμV	Factor dB	Actual FS dBμV/m	Limit @3m dBμV/m	Margin dB
5612.250	Peak	37.26	20.09	57.35	68.20	-10.85
5693.250	Peak	36.76	20.16	56.92	100.22	-43.31
5716.500	Peak	39.77	20.27	60.04	109.82	-49.78
5724.750	Peak	50.96	20.32	71.28	121.63	-50.35
5745.000	Peak	84.62	20.45	105.07	-	-
5745.000	Average	76.86	20.45	97.30	-	-
5850.750	Peak	35.56	20.73	56.29	120.49	-64.20
5870.250	Peak	35.98	20.82	56.80	106.53	-49.73
5895.750	Peak	37.60	20.93	58.53	89.81	-31.28
5934.750	Peak	38.79	21.10	59.89	68.20	-8.31

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Test Mode	IEEE 802.11n HT20 / CH 5825	Temp/Hum	23.8(°C)/ 68%RH
Test Item	Band Edge	Test Date	May 5, 2022
Polarize	Vertical	Test Engineer	Ray Li
Detector	Peak		



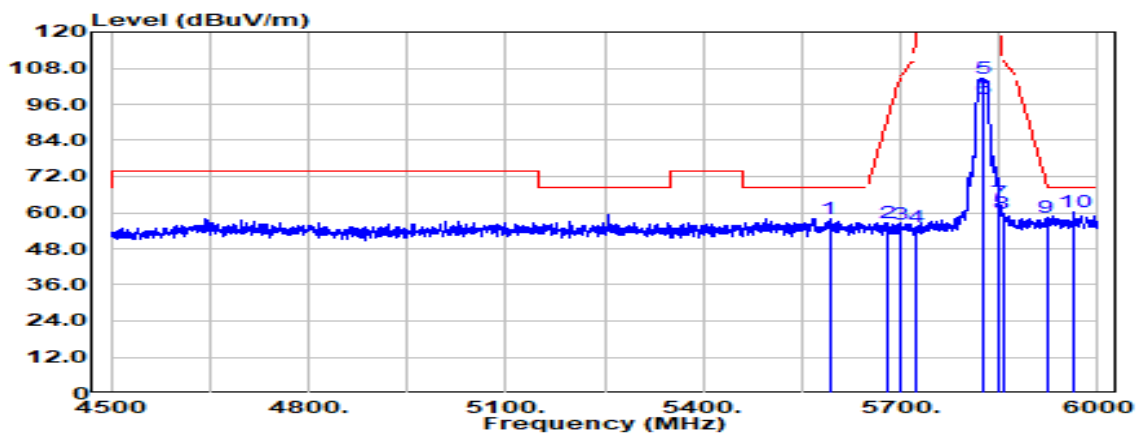
Frequency (MHz)	Detector Mode PK/QP/AV	Spectrum Reading Level dBμV	Factor dB	Actual FS dBμV/m	Limit @3m dBμV/m	Margin dB
5535.750	Peak	38.51	20.03	58.54	68.20	-9.66
5668.500	Peak	36.64	20.15	56.80	81.93	-25.13
5717.250	Peak	37.27	20.27	57.54	110.03	-52.49
5724.000	Peak	35.80	20.31	56.11	119.92	-63.81
5825.000	Peak	86.45	20.64	107.09	-	-
5825.000	Average	79.49	20.64	100.12	-	-
5850.000	Peak	43.63	20.73	64.36	122.20	-57.84
5859.000	Peak	40.28	20.77	61.05	109.68	-48.63
5885.250	Peak	38.72	20.89	59.61	97.59	-37.98
5943.000	Peak	38.44	21.13	59.57	68.20	-8.63

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Test Mode	IEEE 802.11n HT20 / CH 5825	Temp/Hum	23.8(°C)/ 68%RH
Test Item	Band Edge	Test Date	May 5, 2022
Polarize	Vertical	Test Engineer	Ray Li
Detector	Average		



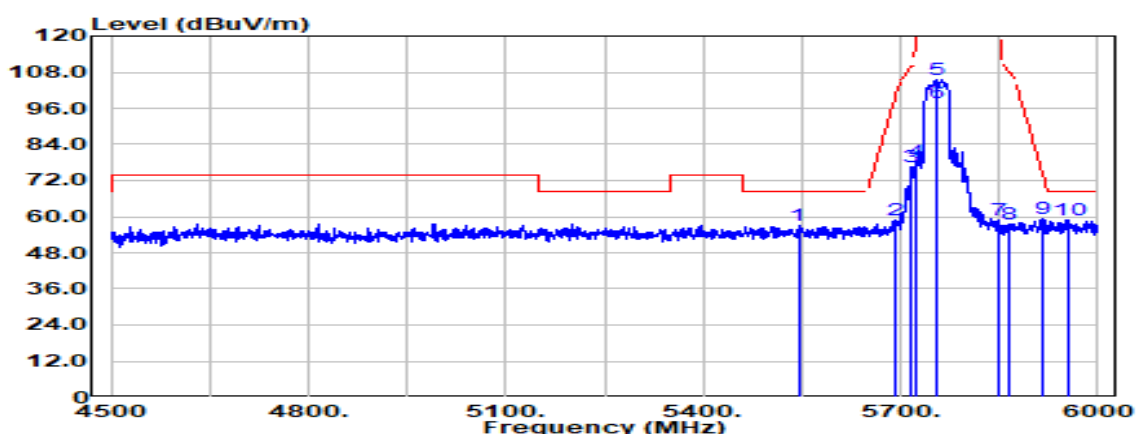
Frequency (MHz)	Detector Mode PK/QP/AV	Spectrum Reading Level dBμV	Factor dB	Actual FS dBμV/m	Limit @3m dBμV/m	Margin dB
5592.000	Peak	38.05	20.06	58.11	68.20	-10.09
5679.750	Peak	36.59	20.16	56.74	90.25	-33.51
5700.000	Peak	36.21	20.16	56.37	105.20	-48.83
5723.250	Peak	35.15	20.31	55.46	118.21	-62.75
5825.000	Peak	84.18	20.64	104.82	-	-
5825.000	Average	77.16	20.64	97.80	-	-
5850.750	Peak	42.81	20.73	63.55	120.49	-56.94
5855.250	Peak	39.15	20.75	59.90	110.73	-50.83
5922.000	Peak	37.56	21.04	58.60	70.41	-11.81
5964.750	Peak	38.89	21.16	60.05	68.20	-8.15

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Test Mode	IEEE 802.11n HT40 / CH 5755	Temp/Hum	23.8(°C)/ 68%RH
Test Item	Band Edge	Test Date	May 5, 2022
Polarize	Vertical	Test Engineer	Ray Li
Detector	Peak		



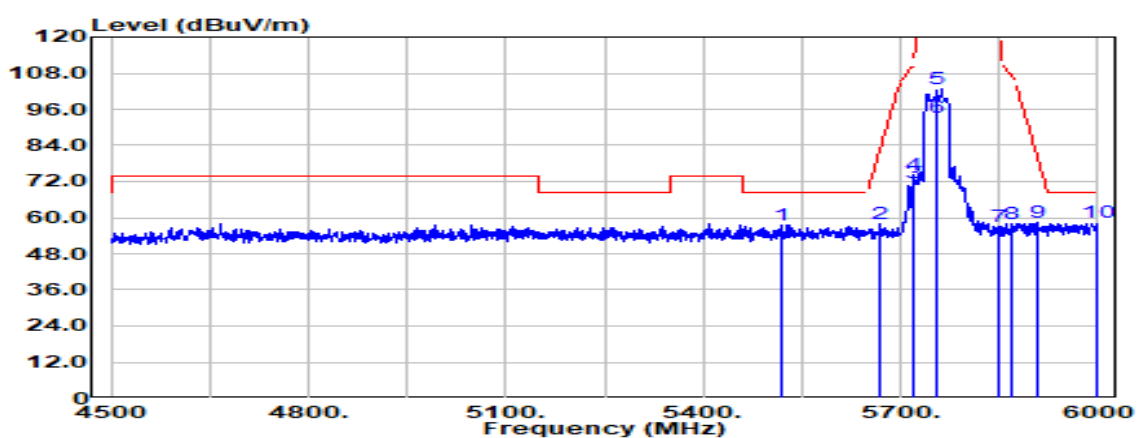
Frequency (MHz)	Detector Mode PK/QP/AV	Spectrum Reading Level dBμV	Factor dB	Actual FS dBμV/m	Limit @3m dBμV/m	Margin dB
5544.750	Peak	36.88	20.03	56.91	68.20	-11.29
5694.000	Peak	38.54	20.16	58.69	100.78	-42.08
5716.500	Peak	56.12	20.27	76.39	109.82	-33.43
5724.750	Peak	57.83	20.32	78.15	121.63	-43.48
5755.000	Peak	85.23	20.49	105.72	-	-
5755.000	Average	77.28	20.49	97.77	-	-
5850.000	Peak	38.04	20.73	58.77	122.20	-63.43
5865.750	Peak	36.92	20.80	57.72	107.79	-50.07
5915.250	Peak	38.42	21.01	59.44	75.39	-15.95
5956.500	Peak	37.77	21.16	58.93	68.20	-9.27

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Test Mode	IEEE 802.11n HT40 / CH 5755	Temp/Hum	23.8(°C) / 68%RH
Test Item	Band Edge	Test Date	May 5, 2022
Polarize	Vertical	Test Engineer	Ray Li
Detector	Average		



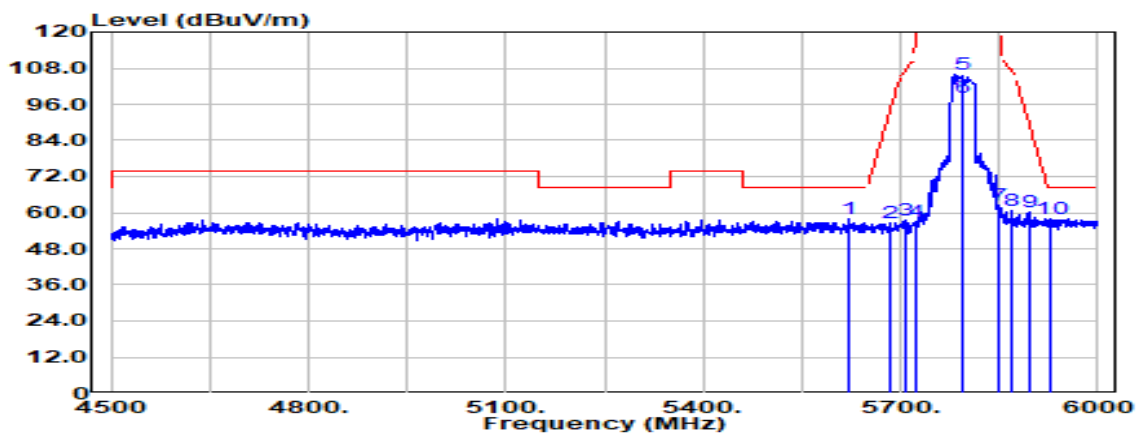
Frequency (MHz)	Detector Mode PK/QP/AV	Spectrum Reading Level dBμV	Factor dB	Actual FS dBμV/m	Limit @3m dBμV/m	Margin dB
5520.750	Peak	37.60	20.02	57.63	68.20	-10.57
5670.000	Peak	38.00	20.15	58.15	83.04	-24.89
5719.500	Peak	51.34	20.28	71.63	110.66	-39.03
5721.000	Peak	53.80	20.29	74.09	113.08	-38.99
5755.000	Peak	82.15	20.49	102.64	-	-
5755.000	Average	72.79	20.49	93.28	-	-
5850.750	Peak	36.28	20.73	57.02	120.49	-63.47
5867.250	Peak	37.24	20.81	58.04	107.37	-49.33
5909.250	Peak	37.49	20.99	58.48	79.82	-21.34
6000.000	Peak	37.02	21.17	58.19	68.20	-10.01

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Test Mode	IEEE 802.11n HT40 / CH 5795	Temp/Hum	23.8(°C) / 68%RH
Test Item	Band Edge	Test Date	May 5, 2022
Polarize	Vertical	Test Engineer	Ray Li
Detector	Peak		



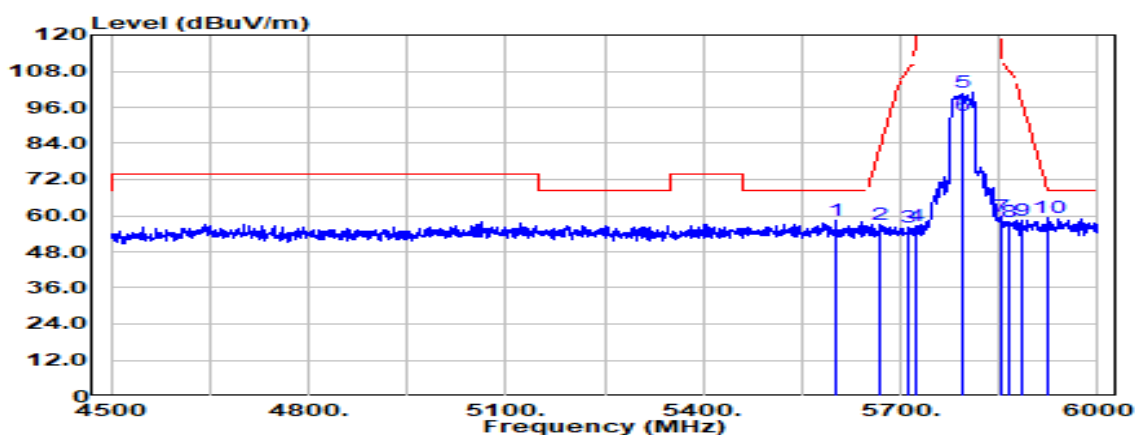
Frequency (MHz)	Detector Mode PK/QP/AV	Spectrum Reading Level dBμV	Factor dB	Actual FS dBμV/m	Limit @3m dBμV/m	Margin dB
5619.750	Peak	37.90	20.10	58.00	68.20	-10.20
5684.250	Peak	36.66	20.16	56.81	93.58	-36.77
5706.000	Peak	37.24	20.20	57.44	106.88	-49.44
5724.750	Peak	36.96	20.32	57.28	121.63	-64.35
5795.000	Peak	85.60	20.53	106.13	-	-
5795.000	Average	77.57	20.53	98.10	-	-
5850.750	Peak	41.73	20.73	62.47	120.49	-58.02
5869.500	Peak	39.70	20.82	60.51	106.74	-46.22
5895.000	Peak	39.26	20.93	60.19	90.36	-30.17
5928.750	Peak	36.99	21.07	58.06	68.20	-10.14

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Test Mode	IEEE 802.11n HT40 / CH 5795	Temp/Hum	23.8(°C) / 68%RH
Test Item	Band Edge	Test Date	May 5, 2022
Polarize	Vertical	Test Engineer	Ray Li
Detector	Average		



Frequency (MHz)	Detector Mode PK/QP/AV	Spectrum Reading Level dBμV	Factor dB	Actual FS dBμV/m	Limit @3m dBμV/m	Margin dB
5601.750	Peak	38.12	20.07	58.20	68.20	-10.00
5669.250	Peak	36.79	20.15	56.94	82.48	-25.54
5713.500	Peak	36.07	20.25	56.32	108.98	-52.66
5724.000	Peak	36.15	20.31	56.46	119.92	-63.46
5795.000	Peak	80.38	20.53	100.92	-	-
5795.000	Average	72.62	20.53	93.16	-	-
5852.250	Peak	39.21	20.74	59.95	117.07	-57.12
5863.500	Peak	37.37	20.79	58.16	108.42	-50.26
5885.250	Peak	37.52	20.89	58.40	97.59	-39.19
5925.750	Peak	38.17	21.06	59.23	68.20	-8.97

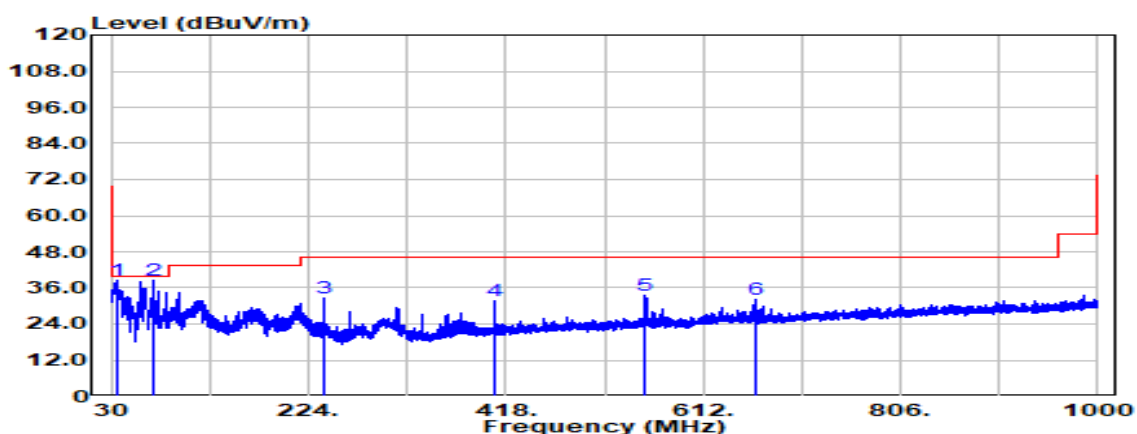
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Below 1G Test Data

Test Mode	Mode 1	Temp/Hum	19.9(°C)/ 62%RH
Test Item	30MHz-1GHz	Test Date	March 25, 2022
Polarize	Vertical	Test Engineer	Ray Li
Detector	Peak		



Freq. MHz	Detector Mode PK/QP/AV	Spectrum Reading Level dBμV	Factor dB	Actual FS dBμV/m	Limit @3m dBμV/m	Margin dB
35.941	Peak	45.52	-6.97	38.55	40.00	-1.45
71.953	Peak	53.98	-15.40	38.58	40.00	-1.42
239.763	Peak	43.57	-10.88	32.69	46.00	-13.31
408.058	Peak	37.64	-5.81	31.83	46.00	-14.17
555.619	Peak	35.94	-2.59	33.35	46.00	-12.65
663.531	Peak	33.00	-0.91	32.09	46.00	-13.91

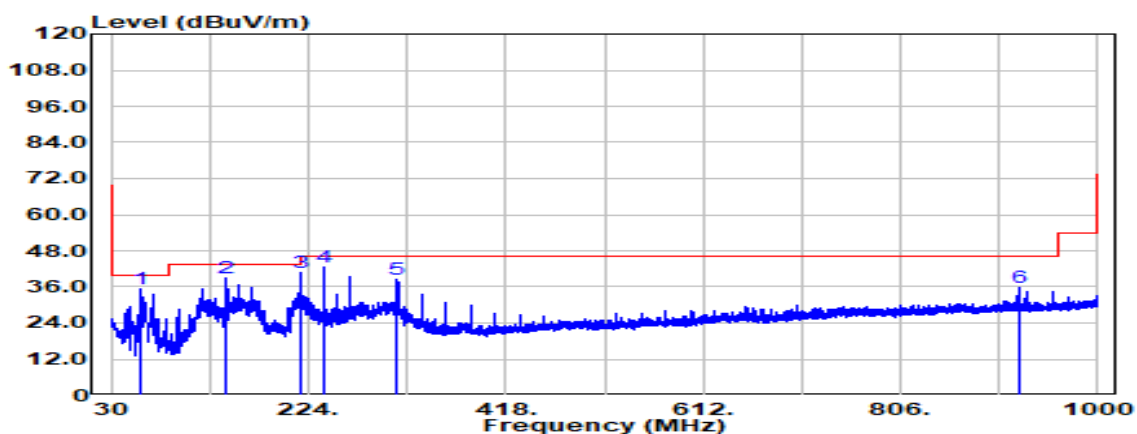
Note: 1. No emission found between lowest internal used/generated frequency to 30MHz(9KHz~30MHz)
 2. For below 1GHz, the EUT peak value was under average limit, therefore the Average value compliance with the average limit.

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Test Mode	Mode 1	Temp/Hum	19.9(°C)/ 62%RH
Test Item	30MHz-1GHz	Test Date	March 25, 2022
Polarize	Horizontal	Test Engineer	Ray Li
Detector	Peak		

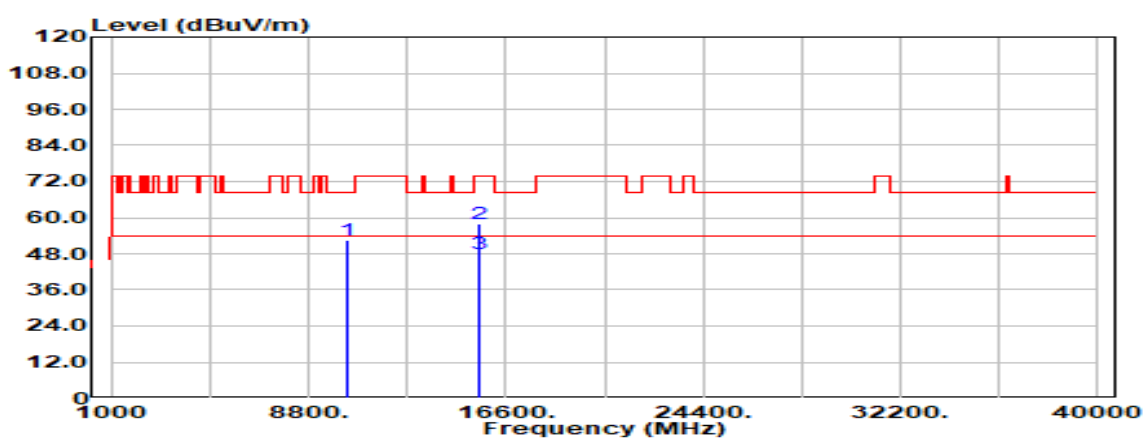


Freq. MHz	Detector Mode PK/QP/AV	Spectrum Reading Level dBμV	Factor dB	Actual FS dBμV/m	Limit @3m dBμV/m	Margin dB
59.949	Peak	51.37	-16.07	35.31	40.00	-4.69
143.854	Peak	49.40	-10.40	38.99	43.50	-4.51
215.755	Peak	52.69	-12.12	40.57	43.50	-2.93
239.763	Peak	53.59	-10.88	42.72	46.00	-3.28
311.664	Peak	46.92	-8.64	38.28	46.00	-7.72
922.158	Peak	32.42	3.16	35.59	46.00	-10.41

Note: 1. No emission found between lowest internal used/generated frequency to 30MHz(9KHz~30MHz)
 2. For below 1GHz, the EUT peak value was under average limit, therefore the Average value compliance with the average limit.

Above 1G**Test Data for UNII-1**

Test Mode	IEEE 802.11a / 5180MHZ	Temp/Hum	21.4(°C)/ 60%RH
Test Item	Harmonic	Test Date	March 28, 2022
Polarize	Vertical	Test Engineer	Ray Li
Detector	Peak & Average		



Freq. MHz	Detector Mode PK/QP/AV	Spectrum Reading Level dB μ V	Factor dB	Actual FS dB μ V/m	Limit @3m dB μ V/m	Margin dB
10360.000	Peak	34.67	17.72	52.39	68.20	-15.81
15540.000	Peak	33.30	24.85	58.14	74.00	-15.86
15540.000	Average	23.11	24.85	47.95	54.00	-6.05
N/A						

Remark:

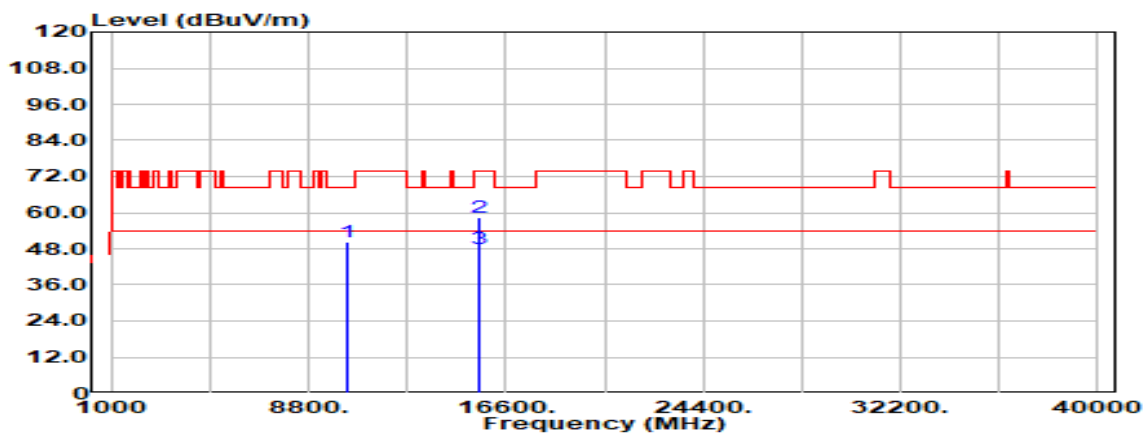
1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.

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Test Mode	IEEE 802.11a / 5180MHZ	Temp/Hum	21.4(°C)/ 60%RH
Test Item	Harmonic	Test Date	March 28, 2022
Polarize	Horizontal	Test Engineer	Ray Li
Detector	Peak & Average		



Freq. MHz	Detector Mode PK/QP/AV	Spectrum Reading Level dBPV	Factor dB	Actual FS dBPV/m	Limit @3m dBPV/m	Margin dB
10360.000	Peak	32.35	17.72	50.07	68.20	-18.13
15540.000	Peak	33.40	24.85	58.25	74.00	-15.76
15540.000	Average	23.01	24.85	47.85	54.00	-6.15
N/A						

Remark:

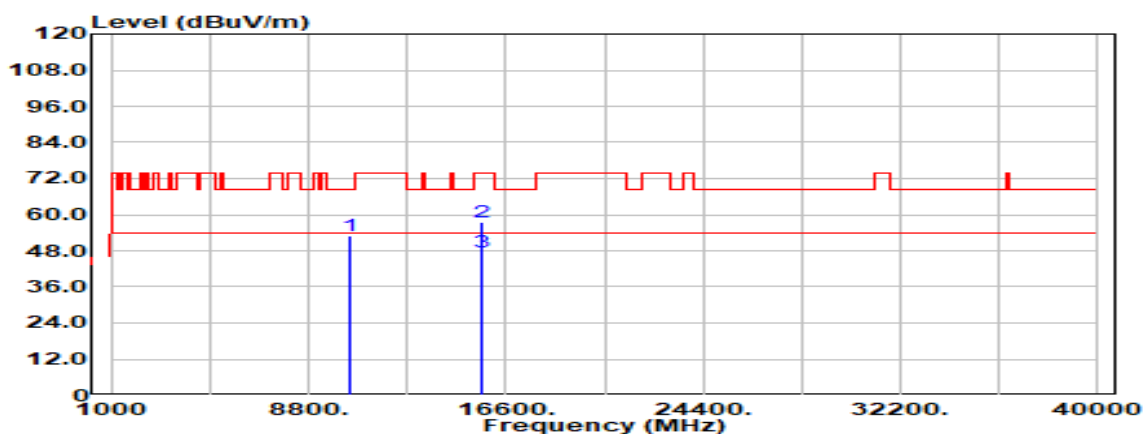
1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.

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Test Mode	IEEE 802.11a / 5220 MHz	Temp/Hum	21.4(°C)/ 60%RH
Test Item	Harmonics	Test Date	March 28, 2022
Polarize	Vertical	Test Engineer	Ray Li
Detector	Peak & Average		



Freq. MHz	Detector Mode PK/QP/AV	Spectrum Reading Level d μ V	Factor dB	Actual FS d μ V/m	Limit @3m d μ V/m	Margin dB
10440.000	Peak	35.04	17.90	52.94	68.20	-15.26
15660.000	Peak	32.16	25.15	57.30	74.00	-16.70
15660.000	Average	22.49	25.15	47.64	54.00	-6.36
N/A						

Remark:

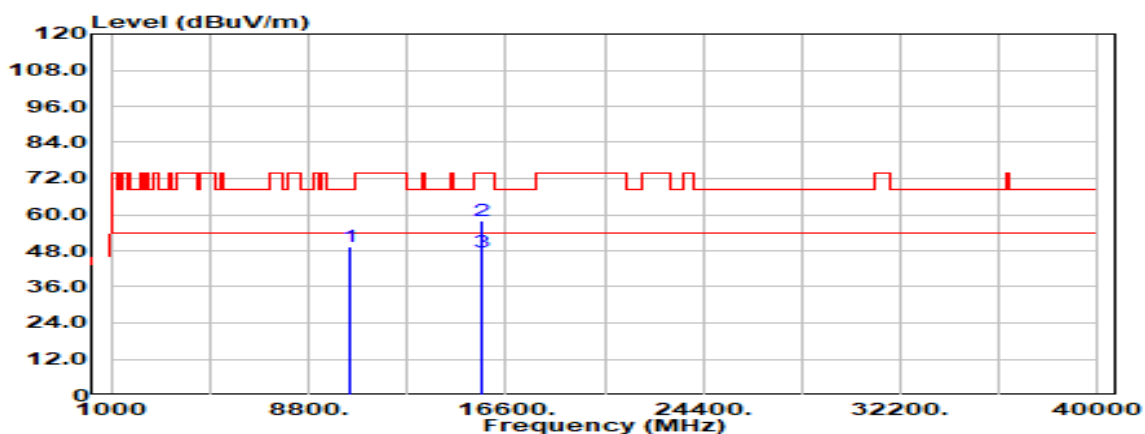
1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.

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Test Mode	IEEE 802.11a / 5220 MHz	Temp/Hum	21.4(°C)/ 60%RH
Test Item	Harmonic	Test Date	March 28, 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
10440.000	Peak	31.67	17.90	49.58	68.20	-18.62
15660.000	Peak	32.84	25.15	57.99	74.00	-16.01
15660.000	Average	22.60	25.15	47.75	54.00	-6.25
N/A						

Remark:

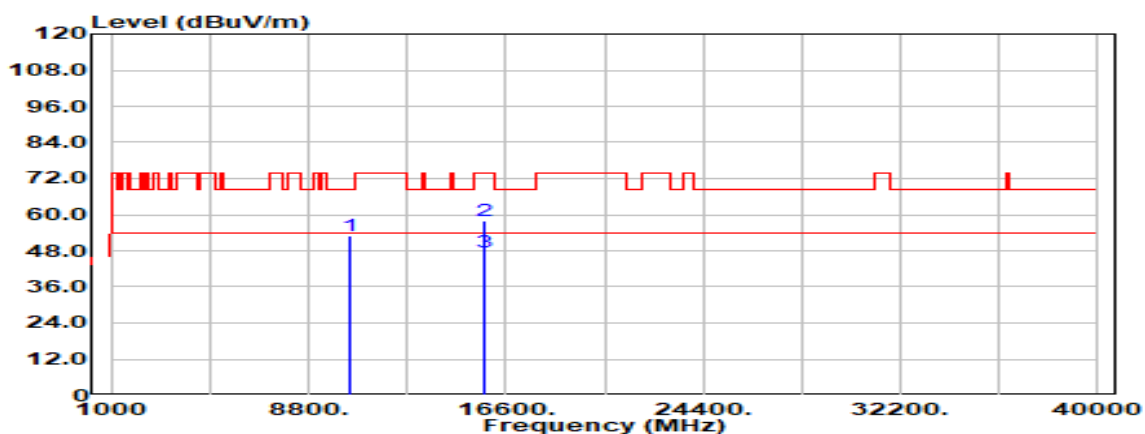
1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.

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Test Mode	IEEE 802.11a / 5240MHZ	Temp/Hum	21.4(°C)/ 60%RH
Test Item	Harmonic	Test Date	March 28, 2022
Polarize	Vertical	Test Engineer	Ray Li
Detector	Peak & Average		

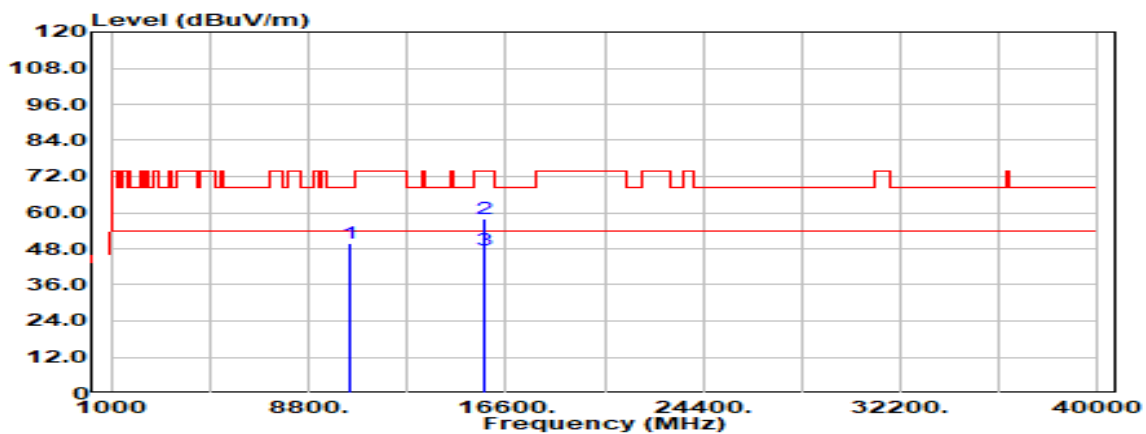


Freq. MHz	Detector Mode PK/QP/AV	Spectrum Reading Level dBμV	Factor dB	Actual FS dBμV/m	Limit @3m dBμV/m	Margin dB
10480.000	Peak	34.93	18.05	52.98	68.20	-15.22
15720.000	Peak	32.27	25.55	57.82	74.00	-16.18
15720.000	Average	21.97	25.55	47.52	54.00	-6.48
N/A						

Remark:

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

Test Mode	IEEE 802.11a / 5240MHZ	Temp/Hum	21.4(°C)/ 60%RH
Test Item	Harmonic	Test Date	March 28, 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 dBUV/m	Limit @3m dBUV/m	Margin dB
10480.000	Peak	31.70	18.05	49.75	68.20	-18.45
15720.000	Peak	32.46	25.55	58.01	74.00	-15.99
15720.000	Average	21.99	25.55	47.54	54.00	-6.46
N/A						

Remark:

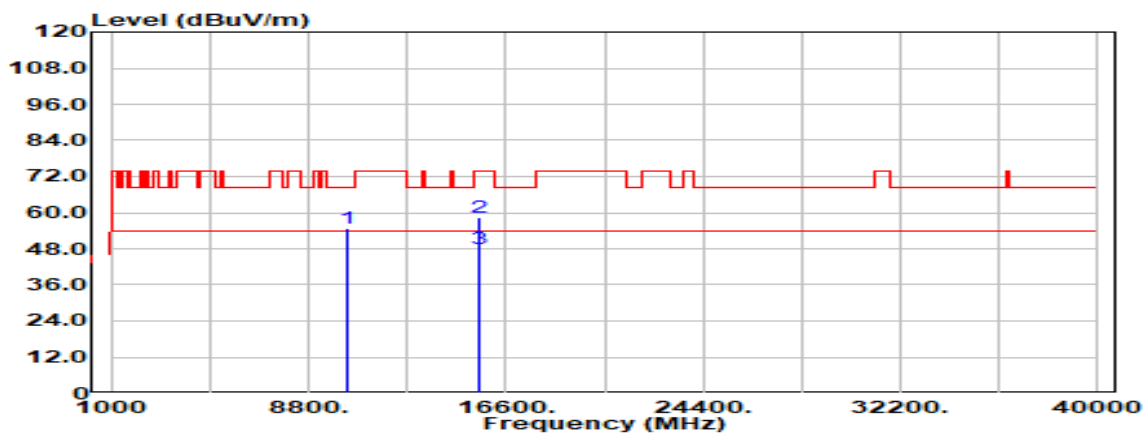
1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.

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Test Mode	IEEE 802.11n 20 MHz / 5180MHz	Temp/Hum	21.4(°C)/ 60%RH
Test Item	Harmonic	Test Date	March 28, 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 dBUV/m	Limit @3m dBUV/m	Margin dB
10360.000	Peak	37.28	17.72	55.00	68.20	-13.20
15540.000	Peak	33.45	24.85	58.30	74.00	-15.70
15540.000	Average	23.20	24.85	48.04	54.00	-5.96
N/A						

Remark:

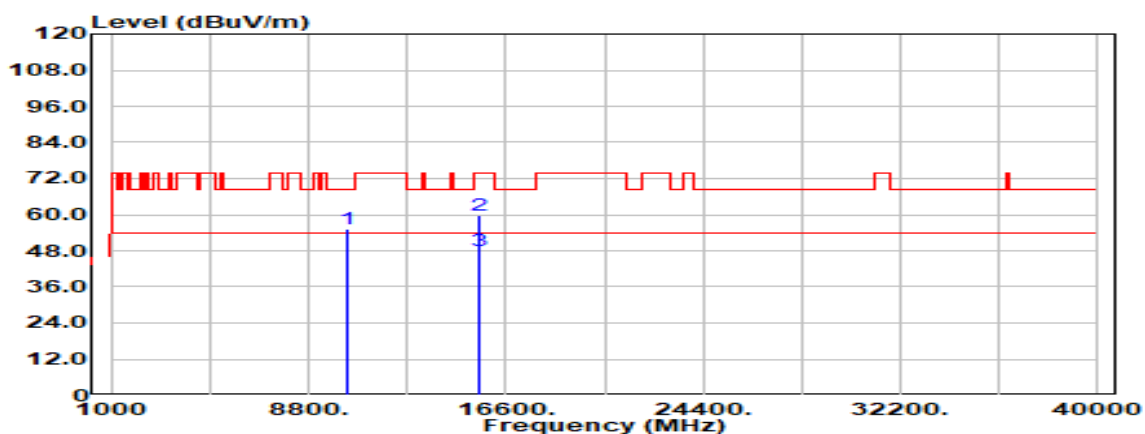
1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.

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Test Mode	IEEE 802.11n 20 MHz/ 5180MHz	Temp/Hum	21.4(°C)/ 60%RH
Test Item	Harmonic	Test Date	March 28, 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
10360.000	Peak	37.65	17.72	55.37	68.20	-12.83
15540.000	Peak	35.10	24.85	59.95	74.00	-14.05
15540.000	Average	23.32	24.85	48.16	54.00	-5.84
N/A						

Remark:

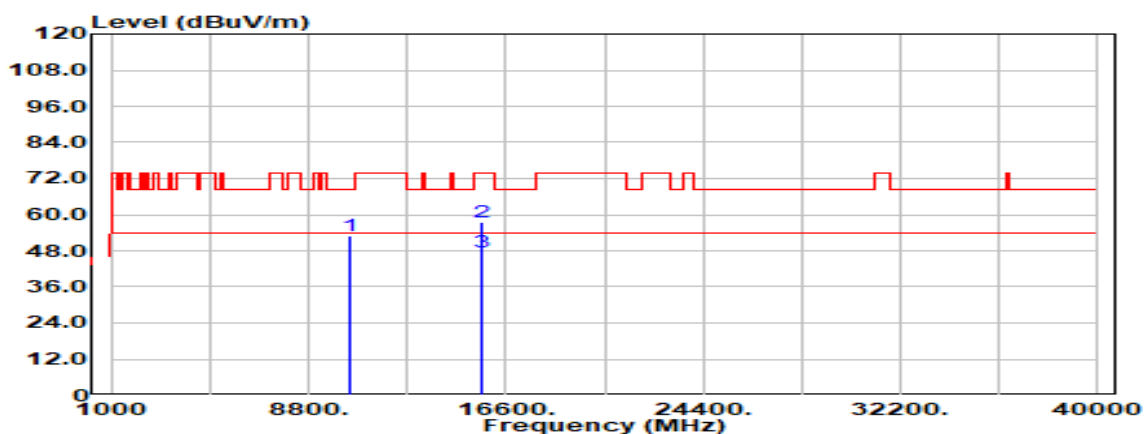
1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.

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Test Mode	IEEE 802.11n 20 MHz / 5220MHz	Temp/Hum	21.4(°C)/ 60%RH
Test Item	Harmonic	Test Date	March 28, 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
10440.000	Peak	35.01	17.90	52.91	68.20	-15.29
15660.000	Peak	32.58	25.15	57.72	74.00	-16.28
15660.000	Average	22.52	25.15	47.67	54.00	-6.33
N/A						

Remark:

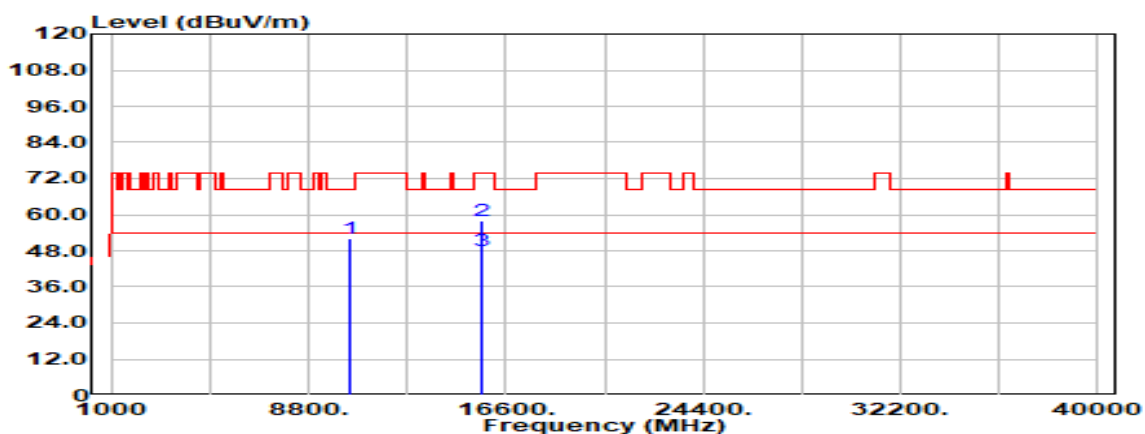
1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.

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Test Mode	IEEE 802.11n 20 MHz / 5220MHz	Temp/Hum	21.4(°C)/ 60%RH
Test Item	Harmonic	Test Date	March 28, 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 dBUV/m	Limit @3m dBUV/m	Margin dB
10440.000	Peak	34.10	17.90	52.00	68.20	-16.20
15660.000	Peak	32.76	25.15	57.91	74.00	-16.09
15660.000	Average	22.79	25.15	47.94	54.00	-6.06
N/A						

Remark:

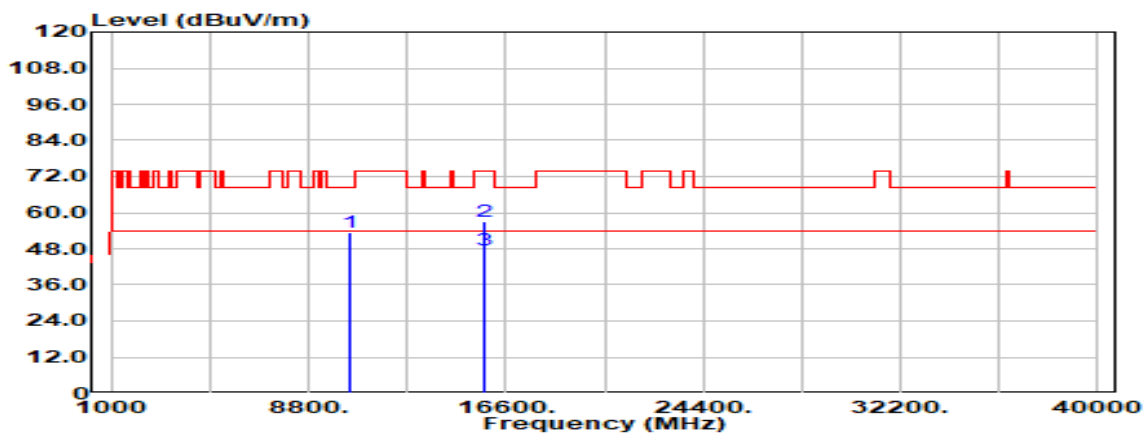
1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.

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Test Mode	IEEE 802.11n 20 MHz / 5240MHz	Temp/Hum	21.4(°C)/ 60%RH
Test Item	Harmonic	Test Date	March 28, 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
10480.000	Peak	35.45	18.05	53.50	68.20	-14.70
15720.000	Peak	31.51	25.55	57.06	74.00	-16.94
15720.000	Average	22.03	25.55	47.58	54.00	-6.42
N/A						

Remark:

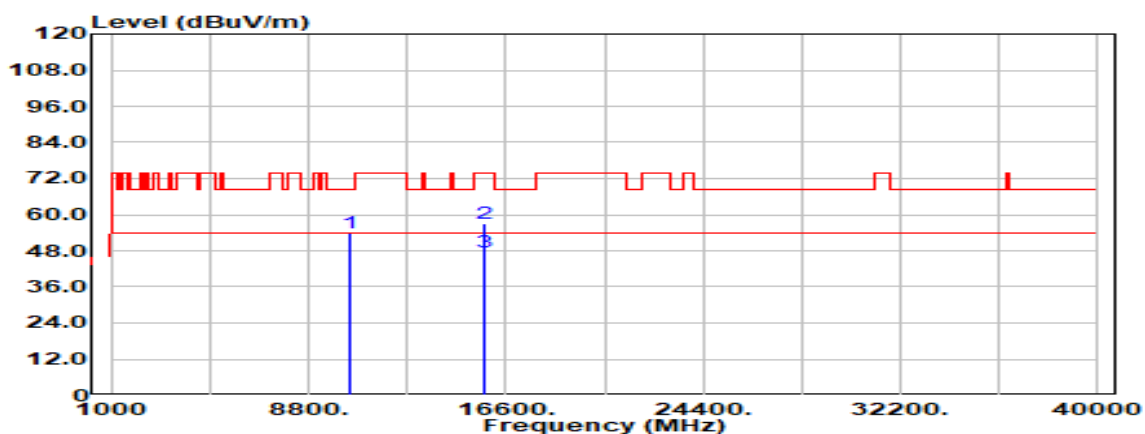
1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.

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Test Mode	IEEE 802.11n 20 MHz / 5240MHz	Temp/Hum	21.4(°C) / 60%RH
Test Item	Harmonic	Test Date	March 28, 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
10480.000	Peak	35.75	18.05	53.80	68.20	-14.40
15720.000	Peak	31.50	25.55	57.06	74.00	-16.94
15720.000	Average	21.98	25.55	47.53	54.00	-6.47
N/A						

Remark:

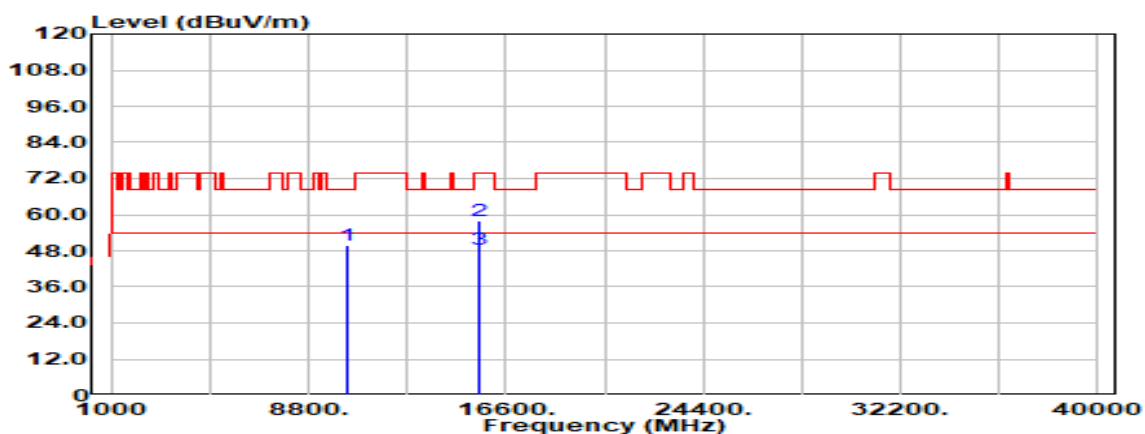
1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.

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Test Mode	IEEE 802.11n 40 MHz / 5190MHZ	Temp/Hum	21.4(°C)/ 60%RH
Test Item	Harmonic	Test Date	March 28, 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
10380.000	Peak	32.26	17.76	50.02	68.20	-18.18
15570.000	Peak	32.96	24.85	57.81	74.00	-16.19
15570.000	Average	23.39	24.85	48.24	54.00	-5.76
N/A						

Remark:

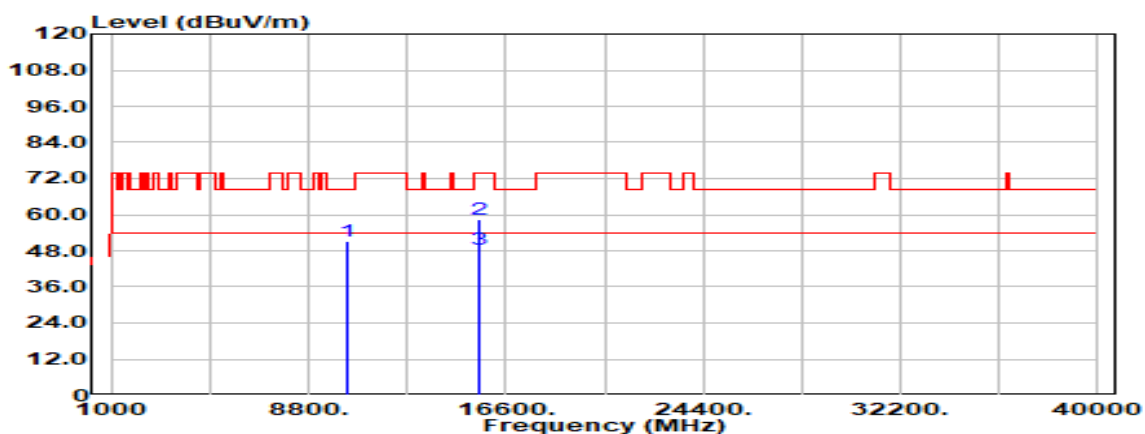
1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.

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Test Mode	IEEE 802.11n 40 MHz / 5190MHz	Temp/Hum	21.4(°C)/ 60%RH
Test Item	Harmonic	Test Date	March 28, 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
10380.000	Peak	33.20	17.76	50.96	68.20	-17.24
15570.000	Peak	33.45	24.85	58.30	74.00	-15.70
15570.000	Average	23.53	24.85	48.38	54.00	-5.62
N/A						

Remark:

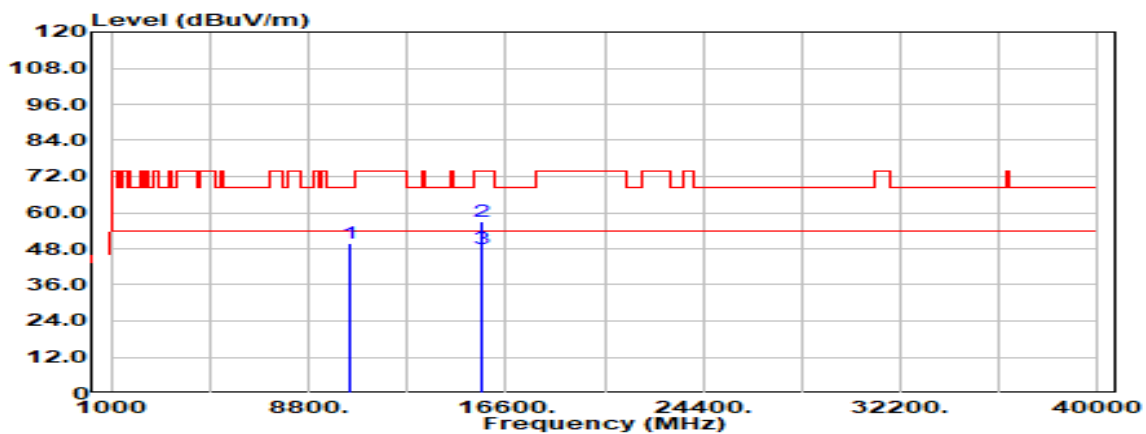
1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.

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Test Mode	IEEE 802.11n 40 MHz / 5230MHz	Temp/Hum	21.4(°C)/ 60%RH
Test Item	Harmonic	Test Date	March 28, 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
10460.000	Peak	31.94	17.97	49.91	68.20	-18.29
15690.000	Peak	31.50	25.38	56.88	74.00	-17.12
15690.000	Average	22.77	25.38	48.15	54.00	-5.85
N/A						

Remark:

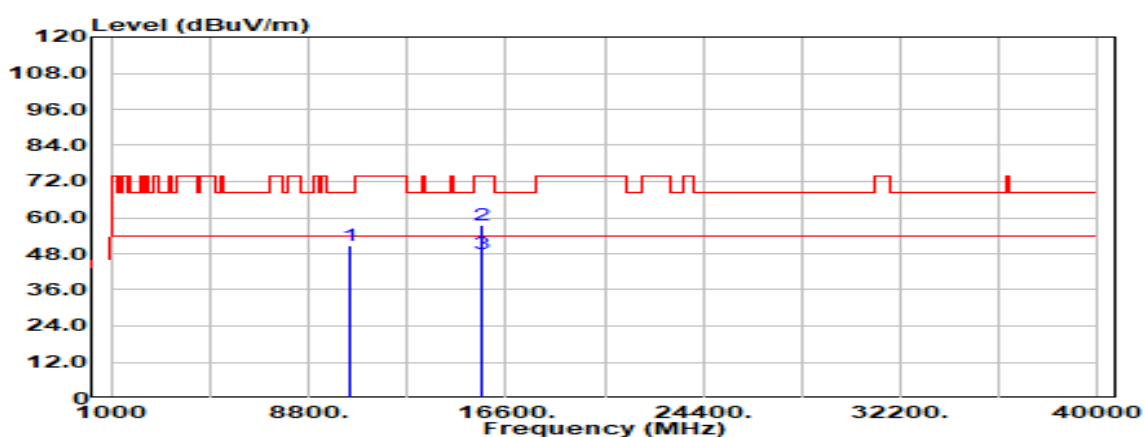
1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.

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Test Mode	IEEE 802.11n 40 MHz / 5230MHz	Temp/Hum	21.4(°C) / 60%RH
Test Item	Harmonic	Test Date	March 28, 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 dBUV/m	Limit @3m dBUV/m	Margin dB
10460.000	Peak	32.65	17.97	50.62	68.20	-17.58
15690.000	Peak	32.30	25.38	57.68	74.00	-16.32
15690.000	Average	22.63	25.38	48.01	54.00	-5.99
N/A						

Remark:

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

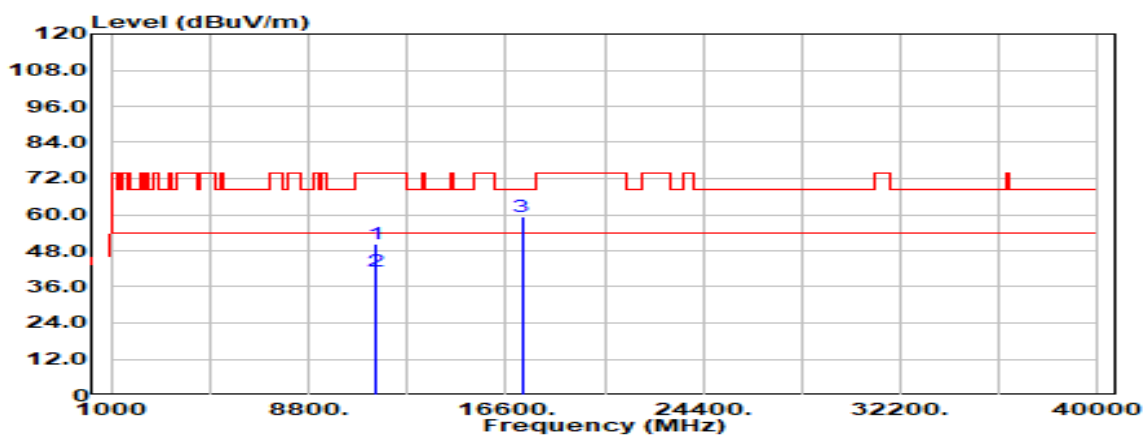
Report No.: TMWK2203000914KR

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Test Data for UNII-3

Test Mode	IEEE 802.11a / 5745 MHz	Temp/Hum	23.8(°C)/ 68%RH
Test Item	Harmonic	Test Date	May 5, 2022
Polarize	Vertical	Test Engineer	Ray Li
Detector	Peak and Average		



Freq. MHz	Detector Mode PK/QP/AV	Spectrum Reading Level dBμV	Factor dB	Actual FS dBμV/m	Limit @3m dBμV/m	Margin dB
11490.000	Peak	30.66	19.70	50.35	74.00	-23.65
11490.000	Average	21.71	19.70	41.41	54.00	-12.59
17235.000	Peak	29.51	30.01	59.52	68.20	-8.68
N/A						

Remark:

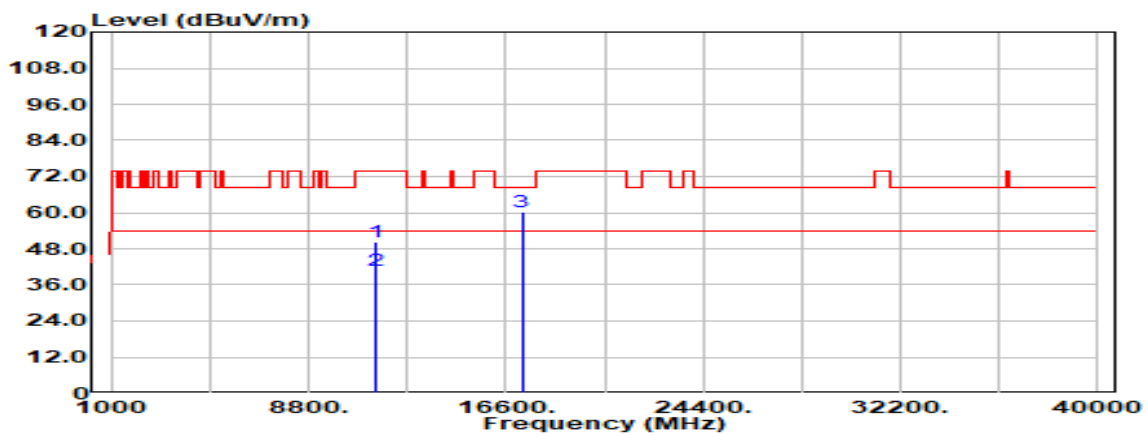
1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.

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Test Mode	IEEE 802.11a / 5745 MHz	Temp/Hum	23.8(°C) / 68%RH
Test Item	Harmonic	Test Date	May 5, 2022
Polarize	Horizontal	Test Engineer	Ray Li
Detector	Peak and Average		



Freq. MHz	Detector Mode PK/QP/AV	Spectrum Reading Level dBPV	Factor dB	Actual FS dBPV/m	Limit @3m dBPV/m	Margin dB
11490.000	Peak	30.36	19.70	50.06	74.00	-23.94
11490.000	Average	21.24	19.70	40.94	54.00	-13.06
17235.000	Peak	30.02	30.01	60.03	68.20	-8.17
N/A						

Remark:

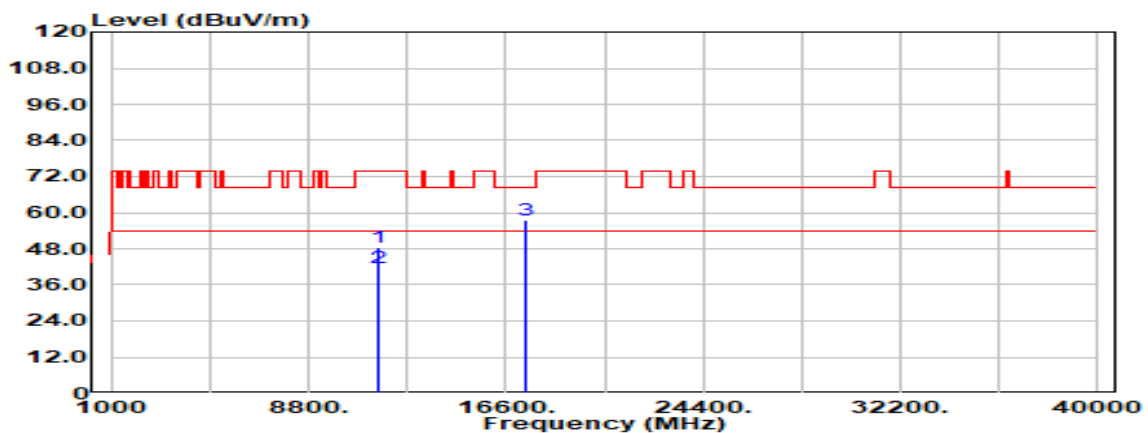
1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.

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Test Mode	IEEE 802.11a / 5785 MHz	Temp/Hum	23.8(°C) / 68%RH
Test Item	Harmonic	Test Date	May 5, 2022
Polarize	Vertical	Test Engineer	Ray Li
Detector	Peak and Average		



Freq. MHz	Detector Mode PK/QP/AV	Spectrum Reading Level dBμV	Factor dB	Actual FS dBUV/m	Limit @3m dBUV/m	Margin dB
11570.000	Peak	28.83	19.83	48.66	74.00	-25.34
11570.000	Average	21.80	19.83	41.64	54.00	-12.36
17355.000	Peak	27.99	29.33	57.32	68.20	-10.88
N/A						

Remark:

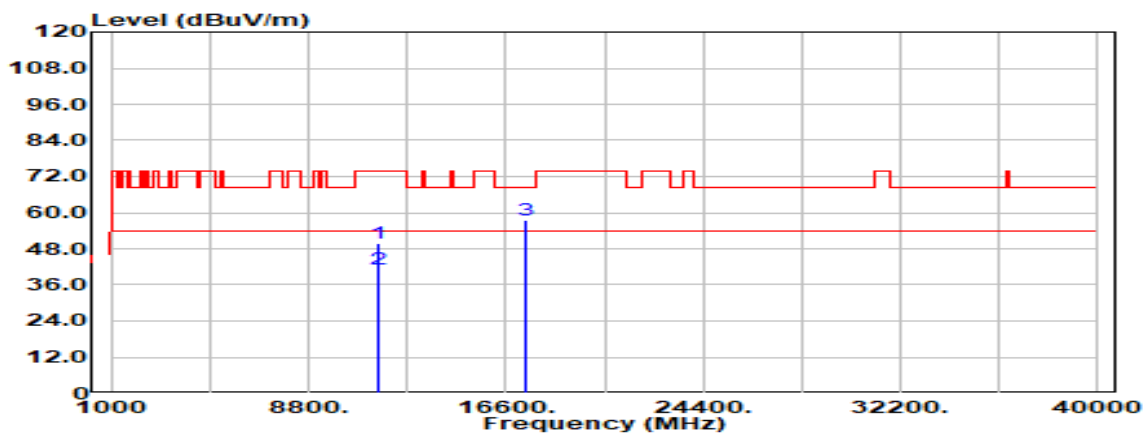
1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.

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Test Mode	IEEE 802.11a / 5785 MHz	Temp/Hum	23.8(°C) / 68%RH
Test Item	Harmonic	Test Date	May 5, 2022
Polarize	Horizontal	Test Engineer	Ray Li
Detector	Peak and Average		



Freq. MHz	Detector Mode PK/QP/AV	Spectrum Reading Level dBμV	Factor dB	Actual FS dBμV/m	Limit @3m dBμV/m	Margin dB
11570.000	Peak	29.87	19.83	49.70	74.00	-24.30
11570.000	Average	21.43	19.83	41.26	54.00	-12.74
17355.000	Peak	28.13	29.33	57.46	68.20	-10.74
N/A						

Remark:

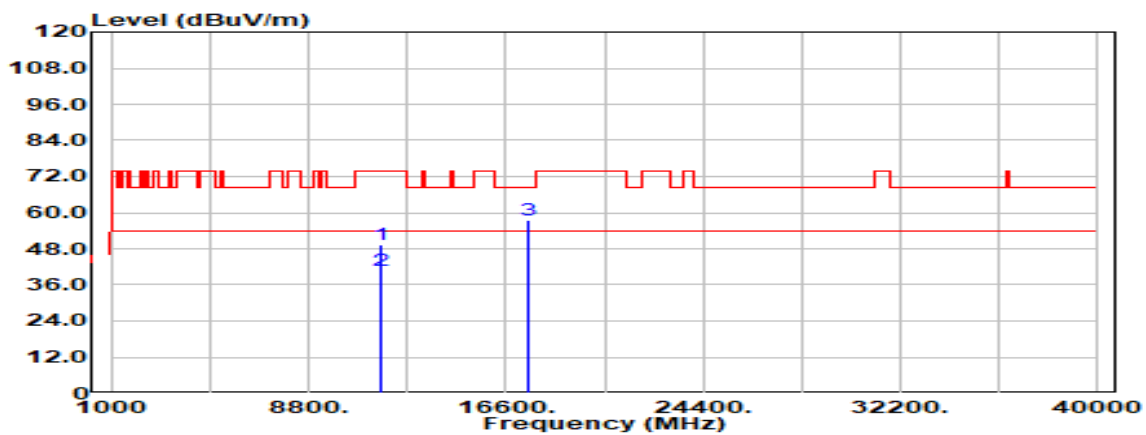
- Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.

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Test Mode	IEEE 802.11a / 5825 MHz	Temp/Hum	23.8(°C) / 68%RH
Test Item	Harmonic	Test Date	May 5, 2022
Polarize	Vertical	Test Engineer	Ray Li
Detector	Peak and Average		



Freq. MHz	Detector Mode PK/QP/AV	Spectrum Reading Level dBμV	Factor dB	Actual FS dBμV/m	Limit @3m dBμV/m	Margin dB
11650.000	Peak	29.29	19.90	49.19	74.00	-24.81
11650.000	Average	20.82	19.90	40.72	54.00	-13.28
17475.000	Peak	28.62	29.11	57.72	68.20	-10.48
N/A						

Remark:

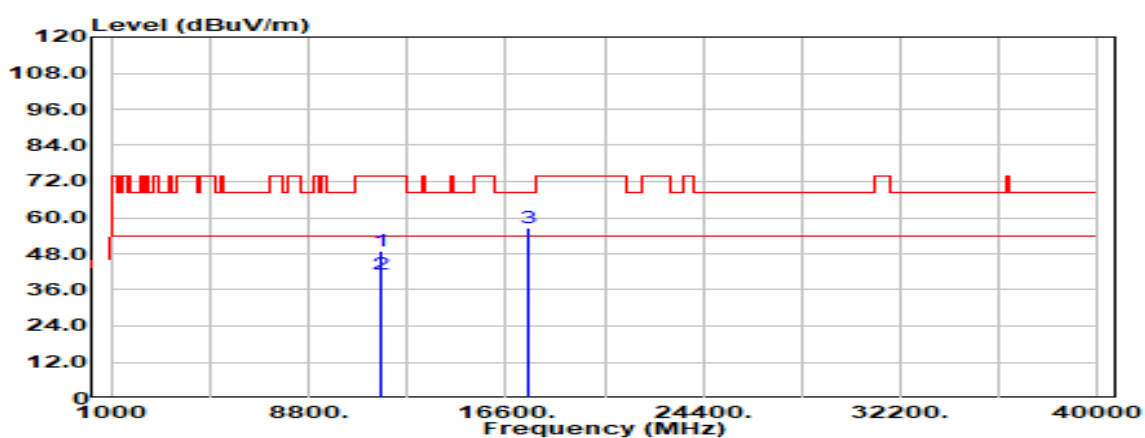
1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.

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Test Mode	IEEE 802.11a / 5825 MHz	Temp/Hum	23.8(°C) / 68%RH
Test Item	Harmonic	Test Date	May 5, 2022
Polarize	Horizontal	Test Engineer	Ray Li
Detector	Peak and Average		



Freq. MHz	Detector Mode PK/QP/AV	Spectrum Reading Level dBμV	Factor dB	Actual FS dBμV/m	Limit @3m dBμV/m	Margin dB
11650.000	Peak	28.79	19.90	48.69	74.00	-25.31
11650.000	Average	21.09	19.90	40.99	54.00	-13.01
17475.000	Peak	27.34	29.11	56.44	68.20	-11.76
N/A						

Remark:

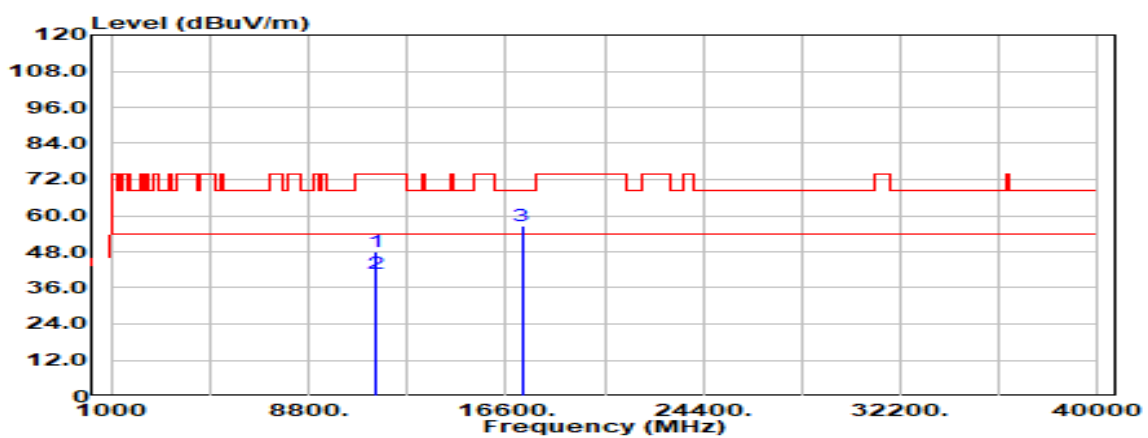
- Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.

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Test Mode	IEEE 802.11n HT20 / 5745 MHz	Temp/Hum	23.8(°C)/ 68%RH
Test Item	Harmonic	Test Date	May 5, 2022
Polarize	Vertical	Test Engineer	Ray Li
Detector	Peak and Average		



Freq. MHz	Detector Mode PK/QP/AV	Spectrum Reading Level dBμV	Factor dB	Actual FS dBμV/m	Limit @3m dBμV/m	Margin dB
11490.000	Peak	28.50	19.70	48.19	74.00	-25.81
11490.000	Average	21.28	19.70	40.97	54.00	-13.03
17235.000	Peak	26.66	30.01	56.67	68.20	-11.53
N/A						

Remark:

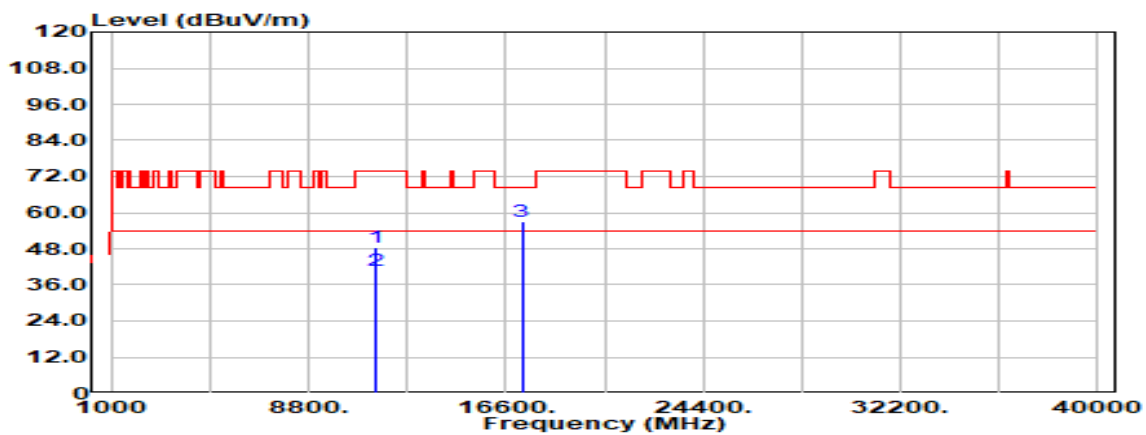
1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.

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Test Mode	IEEE 802.11n HT20 / 5745 MHz	Temp/Hum	23.8(°C) / 68%RH
Test Item	Harmonic	Test Date	May 5, 2022
Polarize	Horizontal	Test Engineer	Ray Li
Detector	Peak and Average		



Freq. MHz	Detector Mode PK/QP/AV	Spectrum Reading Level dBμV	Factor dB	Actual FS dBUV/m	Limit @3m dBUV/m	Margin dB
11490.000	Peak	28.55	19.70	48.24	74.00	-25.76
11490.000	Average	21.17	19.70	40.86	54.00	-13.14
17235.000	Peak	27.01	30.01	57.02	68.20	-11.18
N/A						

Remark:

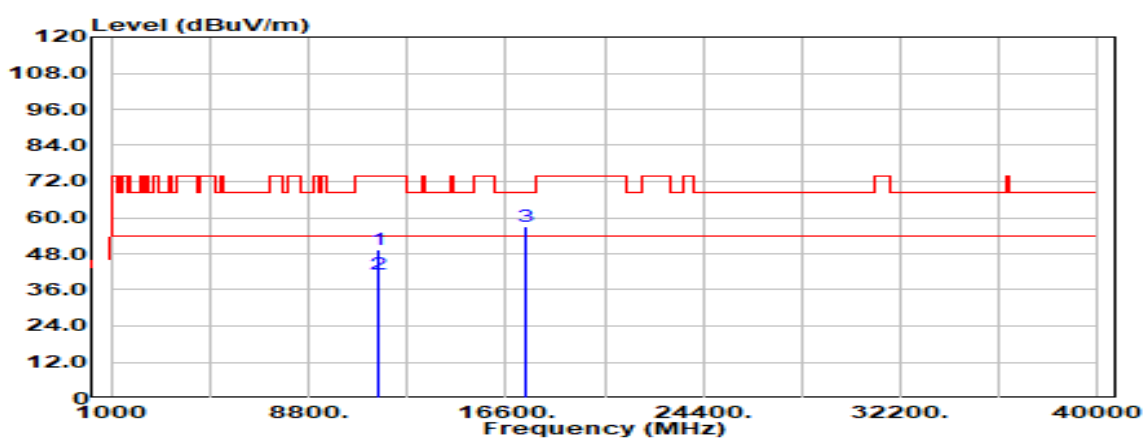
1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.

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Test Mode	IEEE 802.11n HT20 / 5785 MHz	Temp/Hum	23.8(°C) / 68%RH
Test Item	Harmonic	Test Date	May 5, 2022
Polarize	Vertical	Test Engineer	Ray Li
Detector	Peak and Average		



Freq. MHz	Detector Mode PK/QP/AV	Spectrum Reading Level dBPV	Factor dB	Actual FS dBPV/m	Limit @3m dBPV/m	Margin dB
11570.000	Peak	29.41	19.83	49.24	74.00	-24.76
11570.000	Average	21.45	19.83	41.29	54.00	-12.71
17355.000	Peak	27.82	29.33	57.15	68.20	-11.05
N/A						

Remark:

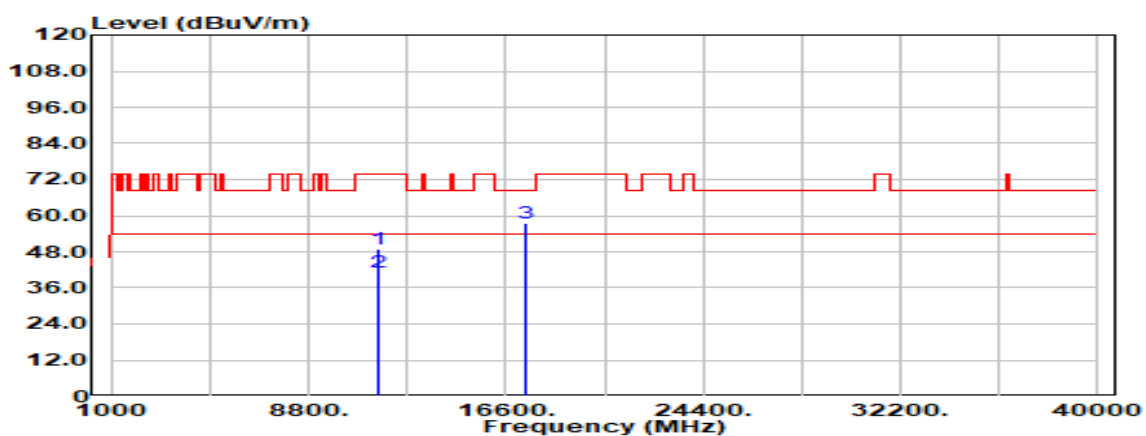
1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.

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Test Mode	IEEE 802.11n HT20 / 5785 MHz	Temp/Hum	23.8(°C) / 68%RH
Test Item	Harmonic	Test Date	May 5, 2022
Polarize	Horizontal	Test Engineer	Ray Li
Detector	Peak and Average		



Freq. MHz	Detector Mode PK/QP/AV	Spectrum Reading Level dBPV	Factor dB	Actual FS dBPV/m	Limit @3m dBPV/m	Margin dB
11570.000	Peak	29.06	19.83	48.89	74.00	-25.11
11570.000	Average	21.26	19.83	41.09	54.00	-12.91
17355.000	Peak	28.21	29.33	57.54	68.20	-10.66
N/A						

Remark:

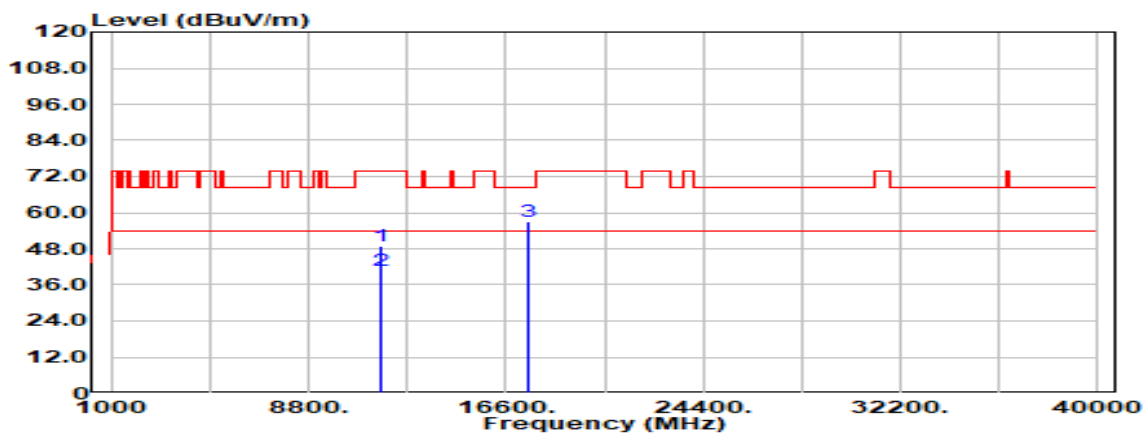
1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.

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Test Mode	IEEE 802.11n HT20 / 5825 MHz	Temp/Hum	23.8(°C) / 68%RH
Test Item	Harmonic	Test Date	May 5, 2022
Polarize	Vertical	Test Engineer	Ray Li
Detector	Peak and Average		



Freq. MHz	Detector Mode PK/QP/AV	Spectrum Reading Level d μ V	Factor dB	Actual FS d μ V/m	Limit @3m d μ V/m	Margin dB
11650.000	Peak	29.00	19.90	48.90	74.00	-25.10
11650.000	Average	21.01	19.90	40.91	54.00	-13.09
17475.000	Peak	28.17	29.11	57.27	68.20	-10.93
N/A						

Remark:

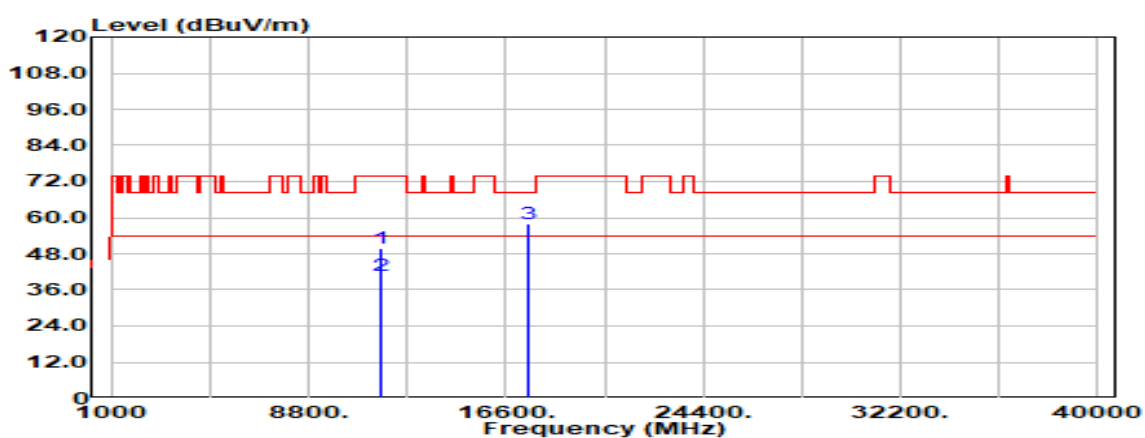
1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.

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Test Mode	IEEE 802.11n HT20 / 5825 MHz	Temp/Hum	23.8(°C)/ 68%RH
Test Item	Harmonic	Test Date	May 5, 2022
Polarize	Horizontal	Test Engineer	Ray Li
Detector	Peak and Average		



Freq. MHz	Detector Mode PK/QP/AV	Spectrum Reading Level dBμV	Factor dB	Actual FS dBμV/m	Limit @3m dBμV/m	Margin dB
11650.000	Peak	29.70	19.90	49.60	74.00	-24.40
11650.000	Average	20.91	19.90	40.81	54.00	-13.19
17475.000	Peak	28.95	29.11	58.06	68.20	-10.14
N/A						

Remark:

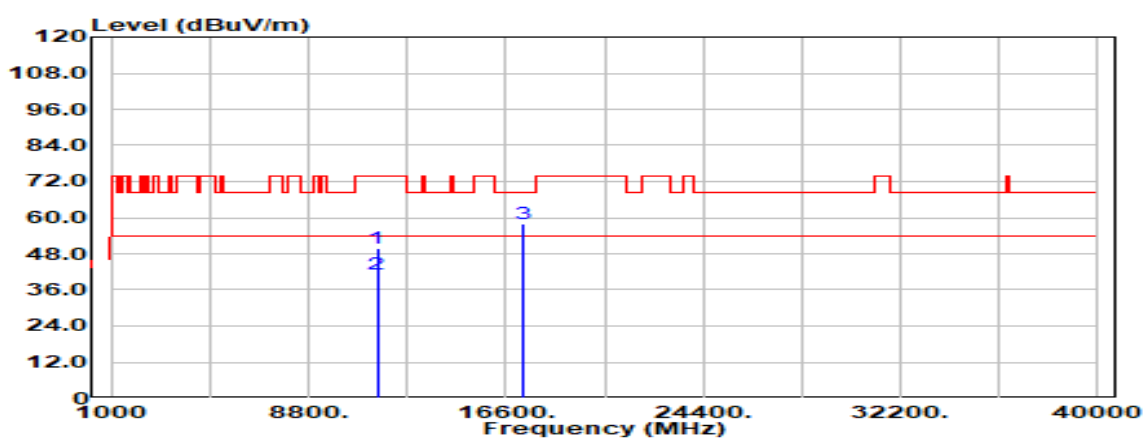
1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.

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Rev.: 01

Test Mode	IEEE 802.11n HT40 / 5755 MHz	Temp/Hum	23.8(°C) / 68%RH
Test Item	Harmonic	Test Date	May 5, 2022
Polarize	Vertical	Test Engineer	Ray Li
Detector	Peak and Average		



Freq. MHz	Detector Mode PK/QP/AV	Spectrum Reading Level dBμV	Factor dB	Actual FS dBμV/m	Limit @3m dBμV/m	Margin dB
11510.000	Peak	30.10	19.73	49.83	74.00	-24.17
11510.000	Average	21.30	19.73	41.03	54.00	-12.97
17265.000	Peak	28.04	29.80	57.84	68.20	-10.36
N/A						

Remark:

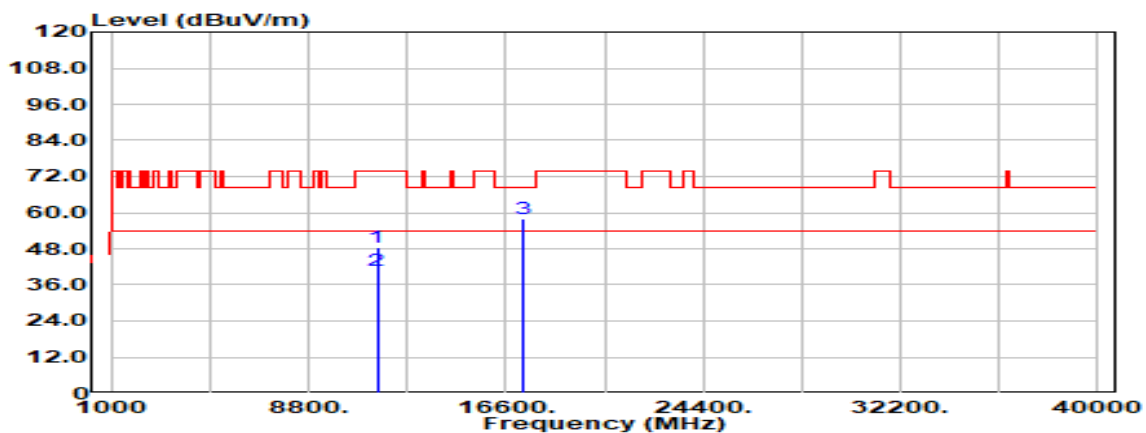
1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.

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Rev.: 01

Test Mode	IEEE 802.11n HT40 / 5755 MHz	Temp/Hum	23.8(°C) / 68%RH
Test Item	Harmonic	Test Date	May 5, 2022
Polarize	Horizontal	Test Engineer	Ray Li
Detector	Peak and Average		



Freq. MHz	Detector Mode PK/QP/AV	Spectrum Reading Level dBμV	Factor dB	Actual FS dBμV/m	Limit @3m dBμV/m	Margin dB
11510.000	Peak	28.58	19.73	48.31	74.00	-25.69
11510.000	Average	21.19	19.73	40.92	54.00	-13.08
17265.000	Peak	28.24	29.80	58.04	68.20	-10.16
N/A						

Remark:

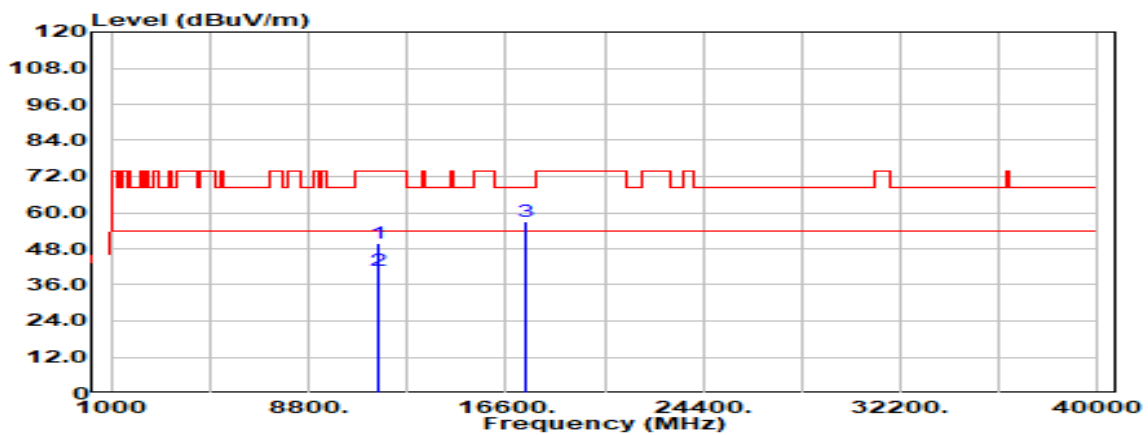
- Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.

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Rev.: 01

Test Mode	IEEE 802.11n HT40 / 5795 MHz	Temp/Hum	23.8(°C) / 68%RH
Test Item	Harmonic	Test Date	May 5, 2022
Polarize	Vertical	Test Engineer	Ray Li
Detector	Peak and Average		



Freq. MHz	Detector Mode PK/QP/AV	Spectrum Reading Level dBμV	Factor dB	Actual FS dBμV/m	Limit @3m dBμV/m	Margin dB
11590.000	Peak	29.75	19.86	49.61	74.00	-24.39
11590.000	Average	21.10	19.86	40.96	54.00	-13.04
17385.000	Peak	27.86	29.24	57.10	68.20	-11.10
N/A						

Remark:

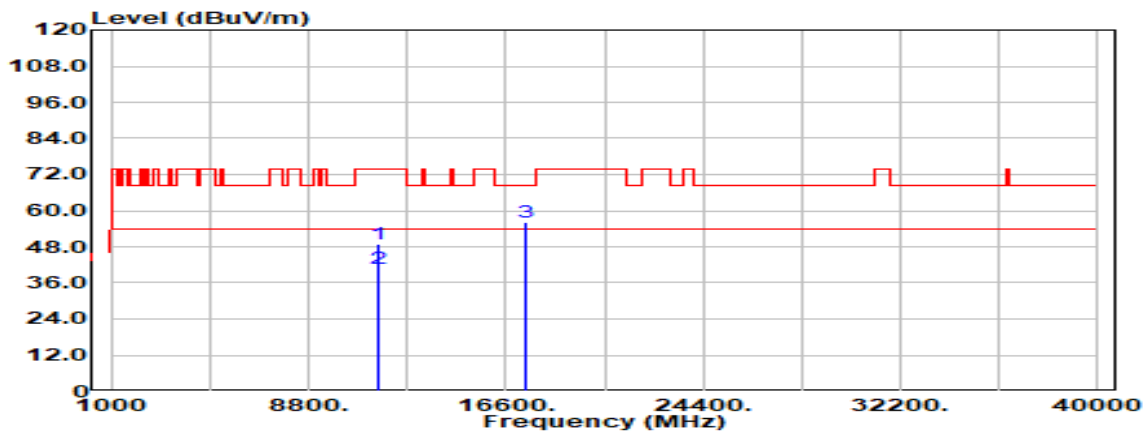
1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.

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Rev.: 01

Test Mode	IEEE 802.11n HT40 / 5795 MHz	Temp/Hum	23.8(°C)/ 68%RH
Test Item	Harmonic	Test Date	May 5, 2022
Polarize	Horizontal	Test Engineer	Ray Li
Detector	Peak and Average		



Freq. MHz	Detector Mode PK/QP/AV	Spectrum Reading Level dBμV	Factor dB	Actual FS dBμV/m	Limit @3m dBμV/m	Margin dB
11590.000	Peak	29.17	19.86	49.04	74.00	-24.96
11590.000	Average	20.93	19.86	40.79	54.00	-13.21
17385.000	Peak	27.02	29.24	56.26	68.20	-11.94
N/A						

Remark:

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

- End of Test Report -