



TEST REPORT

Applicant: Nework LLC
Address of Applicant: 196 W Holt Ave Pomona CA 91768 United States
Manufacturer: Nework LLC
Address of Manufacturer: 196 W Holt Ave Pomona CA 91768 United States
Product Name: MoveMate Hi-Fi
Model No.: MM-27H1A-WW-W, MM-27H1A-WW-B, MM-27H1A-WW-S, MM-27H2A-WW-W, MM-27H2A-WW-B, MM-27H1A-AM-W, MM-27H1A-AM-B, MM-27H1A-AM-S, MM-27H1A-JP-W, MM-27H1A-JP-B
Trade Mark: N/A
FCC ID: 2BLG9-27H1A
Applicable standards: FCC CFR Title 47 Part 15 Subpart E Section 15.407
Date of Test: Oct.21, 2025-Nov.11, 2025
Date of report issued: Nov.12, 2025

Remark:

The results shown in this test report refer only to the sample(s) tested , this test report cannot be reproduced, except in full without prior written permission of the company.

The report would be invalid without specific stamp of test institute and the signatures of compiler and approver

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Reviewed by:

Approved by:

Project Engineer

Project Manager

Authorized Signature



Report Revision History		
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1 Test Summary

Test Item	Section in CFR 47	Result	Test by
Antenna requirement	47CFR part 15.203	Pass	/
AC Power Line Conducted Emission	47CFR part 15.207	Pass	Jason Huang
Conducted Output Power	47CFR part 15.407 (a)(1)/(a)(3)	Pass	Kara Wu
26dB Bandwidth and 99% Occupied Bandwidth	47CFR part 15.407 (a)(12)	Pass	Kara Wu
6dB Bandwidth	47CFR part 15.407 (e)	Pass	Kara Wu
Power Spectral Density	47CFR part 15.407(a)(1)/(a)(3)	Pass	Kara Wu
Band Edge	47CFR part 15.407(b)(1)/(b)(4)	Pass	Kara Wu
Spurious Emission	47CFR part 15.205/15.209 47CFR part 15.407(b)(1)/(b)(4)/(b)(8)	Pass	Jason Huang
Frequency Stability	47CFR part 15.407(g)	Pass	Kara Wu

Remarks:

1. Pass: The EUT complies with the essential requirements in the standard.
2. Test according to ANSI C63.10-2020 KDB 789033 D02 General U-NII Test Procedures New Rules v02r01
3. Note: Compliance determination rules
 - 1).The Compliance determination of test results does not take into account measurement uncertainty. Measurement results are determined based on regulatory limitations or requirements specified by the applicant/manufacturer. If measurement uncertainty is taken into account, the applicant/manufacturer will bear all possible risks of non-compliance.
 - 2).The measurement uncertainty please refer to each test result in the "Measurement Uncertainty"

1.1 Measurement Uncertainty

Test Item	Measurement Uncertainty	Notes
Occupied Channel Bandwidth	0.55%	(1)
RF output power, conducted	±0.57 dB	(1)
Power Spectral Density, conducted	±0.61 dB	(1)
Unwanted Emissions, conducted	±0.64 dB	(1)
AC Power Line Conducted Emission	± 2.55 dB	(1)
Radiated emissions 9K-30MHz	±3.79 dB	(1)
Radiated emissions 30M- 1GHz	± 4.24 dB	(1)
Radiated emissions 1GHz-18GHz	± 4.26 dB	(1)
Radiated emissions 18GHz-40GHz	±4.17 dB	(1)
Frequency error	Uc=1X10-7	(1)
Duty Cycle	0.03%	(1)
Note (1): The measurement uncertainty is for coverage factor of k=2 and a level of confidence of 95%.		

2 General Information

2.1 General Description of EUT

Product Name:	MoveMate Hi-Fi
Model No.:	MM-27H1A-WW-W, MM-27H1A-WW-B, MM-27H1A-WW-S, MM-27H2A-WW-W, MM-27H2A-WW-B, MM-27H1A-AM-W, MM-27H1A-AM-B, MM-27H1A-AM-S, MM-27H1A-JP-W, MM-27H1A-JP-B
Difference of model(s)	All models have the same circuit and RF module, except for the model name
Test Model:	MM-27H1A-WW-W
Hardware Version:	N/A
Software Version:	N/A
Sample(s) Status:	Engineer sample
Operation Frequency:	☒ 5180-5240MHz for 802.11a/n(HT20)/ac20(VHT20) /ax20(HE20); 5190-5230MHz for 802.11n(HT40)/ac40(VHT40) /ax40(HE40); 5210MHz for 802.11 ac80(VHT80) /ax80(HE80); ☒ 5745-5825 MHz for 802.11a/n(HT20)/ac20(VHT20) /ax20(HE20); 5755-5795 MHz for 802.11n(HT40)/ac40(VHT40) /ax40(HE40); 5775MHz for 802.11 ac80(VHT80) /ax80(HE80);
Channel numbers:	☒ 4 channels for 802.11a/n20(HT20)/ac20(VHT20)/ax20(HE20) in the 5180-5240MHz band; 2 channels for 802.11 n40(HT40)/ac40(VHT40)/ax40(HE40) in the 5190-5230MHz band ; 1 channels for 802.11 ac80(VHT80)/ax80(HE80) in the 5210MHz band ; ☒ 5 channels for 802.11802.11a/n20(HT20)/ac20(VHT20)/ax20(HE20)in the 5745-5825MHz band ; 2 channels for 802.11 n40(HT40)/ac40(VHT40)/ax40(HE40) in the 5755-5795MHz band ; 1 channels for 802.11 ac80(VHT80)/ax80(HE80) in the 5775MHz band
Channel bandwidth:	802.11a/802.11n(HT20)/ 802.11ac(VHT20) /ax20(HE20): 20MHz 802.11n(HT40)/ 802.11ac(VHT40) /ax40(HE40) : 40MHz 802.11ac(VHT80) /ax80(HE80): 80MHz
Data Rate	802.11a: 6,9,12,18,24,36,48,54Mbps; 802.11n(HT20/HT40):MCS0-MCS15; 802.11ac(VHT/20/40/80):NSS1, MCS0-MCS9 802.11ax(HE/20/40/80): MCS0-MCS11
Modulation technology:	Orthogonal Frequency Division Multiplexing (OFDM/ OFDMA) with BPSK, BPSK_DCM, QPSK, QPSK_DCM, 16QAM, 16QAM_DCM, 64QAM, 256QAM,1024QAM
Antenna Type:	FPCB antenna
Antenna gain:	2.75dBi (Note: Antenna information is provided by applicant, Testing lab is not responsible for the accuracy of the information.)
Battery	DC 14.4V 5000mAh
Power supply:	DC 11.1V from Battery or 19VDC from adapter with 100-240Vac
Adapter Model:	Model: SOY-1900342-327 Input:100-240Vac 50/60Hz 1.7A Output: 19V/3.42A

Operation Frequency each of channel							
Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
36	5180MHz	38	5190MHz	40	5200MHz	42	5210MHz
44	5220MHz	46	5230MHz	48	5240MHz	/	/
Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
149	5745MHz	151	5755MHz	153	5765MHz	155	5775MHz
157	5785MHz	159	5795MHz	161	5805MHz	/	/
165	5825MHz	/					

Note:

In section 15.31(m), regards to the operating frequency range over 10 MHz, the Lowest frequency, the middle frequency, and the highest frequency of channel were selected to perform the test, and the selected channel see below:

Test channel	Frequency (MHz)		
	802.11 a /n(HT20)/ac(VHT20) /ax(HE20)	802.11 n(HT40)/ac(VHT40) /ax(HE40)	802.11ac(VHT80) /ax(HE80)
Lowest channel	5180	5190	5210
Middle channel	5200	X	
Highest channel	5240		

Test channel	Frequency (MHz)		
	802.11 a /n(HT20)/ac(VHT20)/ ax(HE20)	802.11 n(HT40)/ac(VHT40) / ax(HE40)	802.11ac(VHT80)/ ax(HE80)
Lowest channel	5745	5755	5775
Middle channel	5785	X	
Highest channel	5825		

2.2 Test mode

Transmitting mode	Keep the EUT in continuously transmitting mode.
<i>Remark: For battery operated equipment, the EUT was performed using a new DC 11.1V battery</i>	

We have verified the construction and function in typical operation. All the test modes were carried out with the EUT in transmitting operation, which was shown in this test report and defined as follows:

Pretest Mode	Description
Mode 1	802.11a / n 20/ ac 20/ax 20 CH36/ CH40/ CH 48 802.11a /n 20/ac 20 /ax 20 CH149/ CH157/ CH 165
Mode 2	802.11n 40/ac 40/ ax 40 CH38/ CH 46 802.11n 40/ac 40/ ax 40 CH 151 / CH 159
Mode 3	802.11 ac80/ ax 80 CH 42/CH 155
Mode 4	/
Mode 5	Link Mode

Conducted Emission	
Final Test Mode	Description
Mode 5	Link Mode

For Radiated Emission	
Final Test Mode	Description
Mode 1	802.11a / n 20/ ac 20/ax 20 CH36/ CH40/ CH 48 802.11a / n 20/ ac 20/ax 20 CH149/ CH157/ CH 165
Mode 2	802.11n 40/ac 40/ ax 40 CH38/ CH 46 802.11n 40/ac 40/ ax 40 CH 151 / CH 159
Mode 3	802.11 ac80/ ax 80 CH 42/CH 155
Mode 4	/

Note:

(1) The measurements are performed at all Bit Rate of Transmitter, the worst data was reported.

2.3 Description of Support Units

No.	Description	Manufacturer	Model	Serial Number
1	MOUSE	DELL	MS116	/

2.4 Test Facility

Test laboratory:	Shenzhen ETR Standard Technology Co., Ltd.
CNAS Registration Number:	L11864
A2LA Certificate Number:	6640.01
FCC Designation Number:	CN1326
FCC Test Firm Registration:	183064
IC Company Number:	28440
IC CAB identifier:	CN0132
Laboratory location:	No.103, No.10, Phase I, Zone 3, Xinxing Industrial Park, Xinhe, Fuhai Street, Bao'an District, Shenzhen, Guangdong, China

2.5 Additional Instructions

Test Software	ADB Special Serial Port Commands
Power level setup	Default

3 Test Instruments list

Conducted Emission

Item	Equipment name	Manufacturer	Model	Serial No.	Calibration date	Due date
1	EMI Test Receiver	Rohde&schwarz	ESCI3	100605	2025.3.06	2026.3.05
2	Artificial power network	schwarabeck	NSLK8127	8127483	2025.3.06	2026.3.05
3	Artificial power network	ETS	3186/2NM	1132	2025.3.06	2026.3.05
4	10dB attenuator	HUBER+SUHNER	10dB	/	2025.3.06	2026.3.05
5	Cable 4	HUBER SUNNER	3M	/	2025.3.06	2026.3.05
6	Absorbing Clamp	schwarabeck	MDS21	D69250	2025.3.06	2026.3.05

Radiated Emission &RF Conducted test:

Item	Equipment name	Manufacturer	Model	Serial No.	Calibration date	Due date
1	EMI Test Receiver	Rohde&schwarz	ESCI7	101032	2025.3.06	2026.3.05
2	Broadband antenna	schwarabeck	VULB9168	1064	2024.3.26	2026.3.25
3	Horn antenna	schwarabeck	BBHA9120D	9120D-1145	2024.3.22	2026.3.21
4	Amplifier	EMtrace	RP01A	50117	2025.3.06	2026.3.05
5	Amplifier	Space-Dtronic	EWLAN0118G-P40	19113001	2025.3.06	2026.3.05
6	Spectrum analyzer	KEYSIGHT	N9020A	MY55370280	2025.3.06	2026.3.05
7	Power detector meter	MWRFtest	MW100-PSB	MW201020JYT	2025.3.06	2026.3.05
8	Signal generator	Agilent	N5182A	MY49060455	2025.3.06	2026.3.05
9	Spectrum analyzer	Rohde&schwarz	FSV-40N	101321	2025.3.06	2026.3.05
10	Amplifier	SKET	LNPA_1840-50	SK2019040302	2025.3.06	2026.3.05
11	Horn antenna	schwarabeck	BBHA 9170	946	2024.3.22	2026.3.21
12	Loop antenna	schwarabeck	FMZB 1519 B	1519	2024.3.22	2026.3.21
13	Cable 6	HUBER SUNNER	0.5M	/	2025.3.06	2026.3.05
14	Cable7	HUBER SUNNER	2.0M	/	2025.3.06	2026.3.05
15	Cable8	HUBER SUNNER	6.0M	/	2025.3.06	2026.3.05
16	Filter	Xin bo	XBLBQ-GTA29	210410-3-2	2025.3.06	2026.3.05
17	Power Sensor	Keysight	U2021XA	MY54111006	2025.3.06	2026.3.05
18	Temp. & Humidity Chamber	Jiecheng Instrument	QA-LP-80	20160705001	2025/3/07	2026/3/06

Note: the calibration interval of the above test instruments is 12 or 24 months and the calibrations are traceable to international system unit (SI).

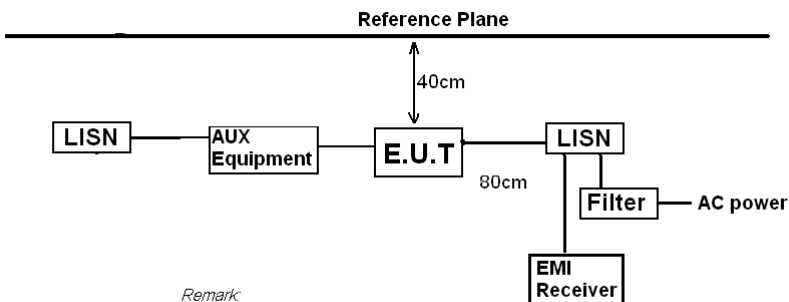
Software Name	Manufacturer	Model	Version
RF test software	MWRFtest	MTS 8310	V2.0.0.0
Conducted test software	EZ-EMC	Farad	Ver.EMC-CON 3A1.1
Radiated test software	EZ-EMC	Farad	Ver.FA-03A2 RE

4 Test results and Measurement Data

4.1 Antenna requirement

Standard requirement:	47CFR Part 15.203
<i>15.203 requirement:</i> <i>An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator, the manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited.</i>	
E.U.T Antenna:	
The antenna is FPCB antenna, the best case gain of the antenna is 2.75 dBi, reference to the <i>Int photo</i> for details.	

4.2 Conducted Emissions

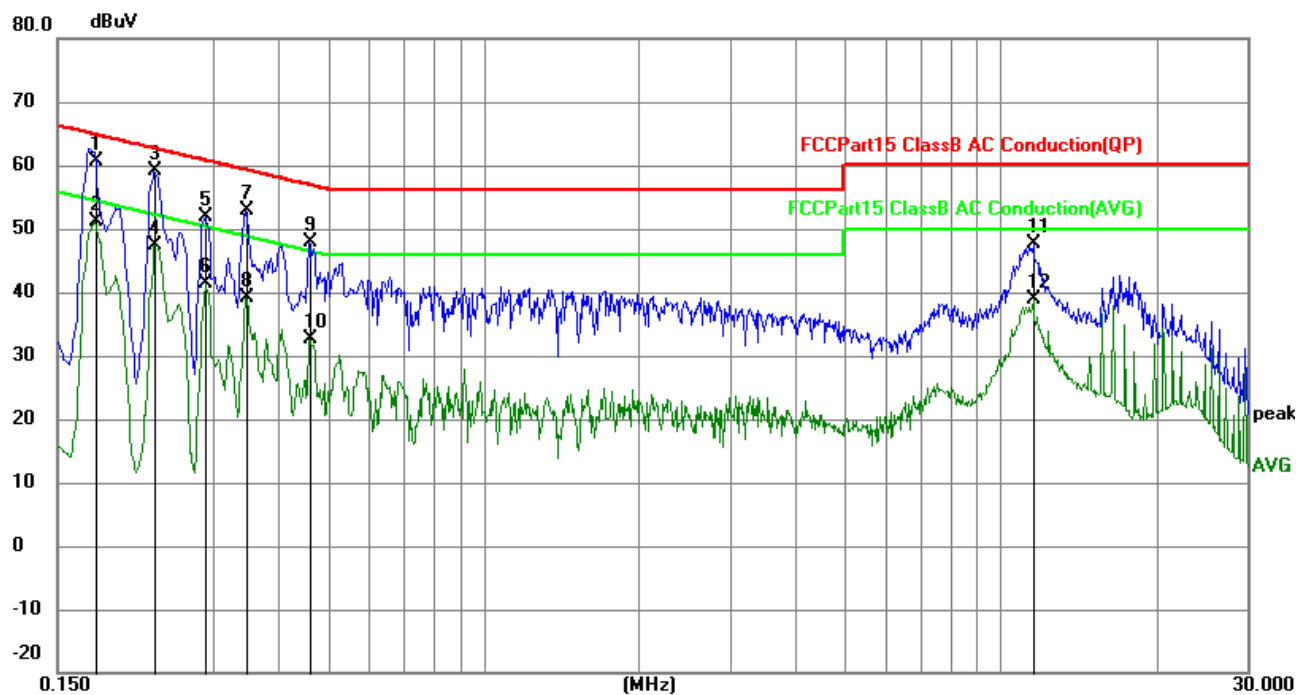
Test Requirement:	47CFR Part 15.207					
Test Method:	ANSI C63.10-2020 §6.2					
Test Frequency Range:	150KHz to 30MHz					
Class / Severity:	Class B					
Receiver setup:	RBW=9KHz, VBW=30KHz, Sweep time=auto					
Limit:	Frequency range (MHz)		Limit (dBuV)			
			Quasi-peak		Average	
	0.15-0.5		66 to 56*		56 to 46*	
	0.5-5		56		46	
	5-30		60		50	
* Decreases with the logarithm of the frequency.						
Test setup:	Reference Plane  <i>Remark</i> E.U.T.: Equipment Under Test LISN: Line Impedance Stabilization Network					
Test procedure:	1. The E.U.T and simulators are connected to the main power through a line impedance stabilization network (L.I.S.N.). This provides a 50ohm/50uH coupling impedance for the measuring equipment. 2. The peripheral devices are also connected to the main power through a LISN that provides a 50ohm/50uH coupling impedance with 50ohm termination. (Please refer to the block diagram of the test setup and photographs). 3. Both sides of A.C. line are checked for maximum conducted interference. In order to find the maximum emission, the relative positions of equipment and all of the interface cables must be changed according to ANSI C63.10-2020 on conducted measurement.					
Test Instruments:	Refer to section 3.0 for details					
Test mode:	Refer to section 2.2 for details					
Test environment:	Temp.:	22.1°C	Humid.:	46%	Press.:	1012mbar
Test voltage:	AC 120V 60Hz					
Test results:	Pass					

Remark:

1. Both high voltage and low voltage have been tested, and the report only shows the worst case data with AC 120V/60Hz.
2. All mode have been tested, the report only shows the worst mode (802.11a 5785MHz)

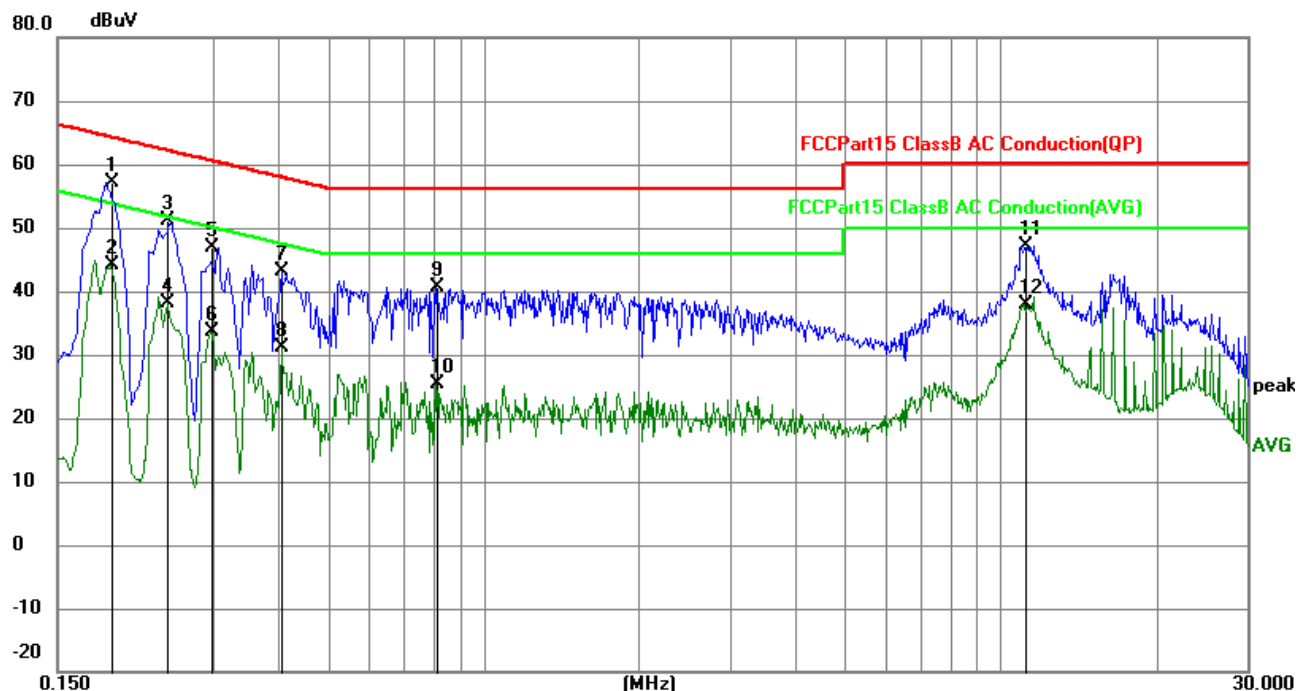
Measurement Result

Line:



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector
1	0.1770	50.79	9.81	60.60	64.63	-4.03	QP
2	0.1770	41.35	9.81	51.16	54.63	-3.47	AVG
3	0.2310	49.23	9.82	59.05	62.41	-3.36	QP
4	0.2310	37.60	9.82	47.42	52.41	-4.99	AVG
5	0.2895	42.02	9.84	51.86	60.54	-8.68	QP
6	0.2895	31.61	9.84	41.45	50.54	-9.09	AVG
7	0.3480	42.92	9.88	52.80	59.01	-6.21	QP
8	0.3480	29.24	9.88	39.12	49.01	-9.89	AVG
9	0.4605	37.92	9.93	47.85	56.68	-8.83	QP
10	0.4605	22.69	9.93	32.62	46.68	-14.06	AVG
11	11.5935	37.72	9.82	47.54	60.00	-12.46	QP
12	11.5935	28.97	9.82	38.79	50.00	-11.21	AVG

Neutral:

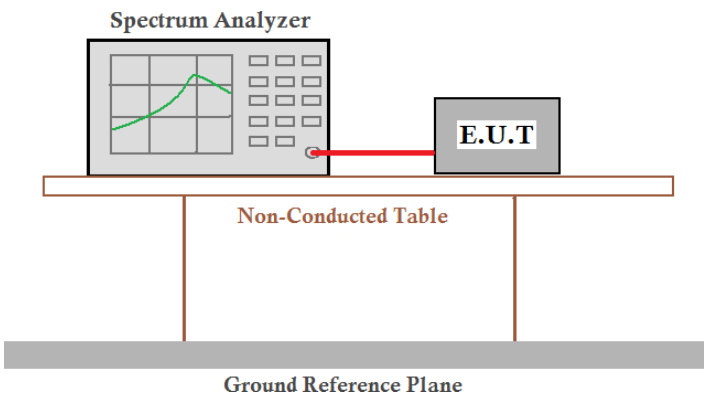


No.	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector
1	0.1905	47.43	9.81	57.24	64.01	-6.77	QP
2	0.1905	34.24	9.81	44.05	54.01	-9.96	AVG
3	0.2445	41.20	9.82	51.02	61.94	-10.92	QP
4	0.2445	28.43	9.82	38.25	51.94	-13.69	AVG
5	0.2985	36.99	9.84	46.83	60.28	-13.45	QP
6	0.2985	23.87	9.84	33.71	50.28	-16.57	AVG
7	0.4065	33.25	9.90	43.15	57.72	-14.57	QP
8	0.4065	21.25	9.90	31.15	47.72	-16.57	AVG
9	0.8114	30.55	9.96	40.51	56.00	-15.49	QP
10	0.8114	15.43	9.96	25.39	46.00	-20.61	AVG
11	11.1479	37.42	9.82	47.24	60.00	-12.76	QP
12	11.1479	28.00	9.82	37.82	50.00	-12.18	AVG

Notes:

1. An initial pre-scan was performed on the line and neutral lines with peak detector.
2. Quasi-Peak and Average measurement were performed at the frequencies with maximized peak emission.
3. Final Level = Receiver Read level + LISN Factor + Cable Loss
4. If the average limit is met when using a quasi-peak detector receiver, the EUT shall be deemed to meet both limits and measurement with the average detector receiver is unnecessary.

4.3 Duty cycle

Test Method :	ANSI C63.10-2020§11.6	
Limit:	/	
Test setup:	 The diagram illustrates the test setup. A Spectrum Analyzer is connected to an E.U.T (Equipment Under Test) via a red cable. Both the Spectrum Analyzer and the E.U.T are placed on a Non-Conducted Table. The table is supported by a Ground Reference Plane.	
Test Instruments:	Refer to section 3.0 for details	
Test mode:	Refer to section 2.2 for details	
Test environment:	Temp.: 24.3°C	Humid.: 51%RH
Test voltage:	DC 11.1V from Battery	
Test results:	Pass	

Measurement Result

5180-5240MHz

Mode	Duty cycle (%)	Correction Factor (dB)
TX 802.11a Mode	100	0
TX 802.11n20 Mode	100	0
TX 802.11ac20 Mode	100	0
TX 802.11ax20 Mode	100	0
TX 802.11n40 Mode	100	0
TX 802.11a40 Mode	100	0
TX 802.11ax40 Mode	100	0
TX 802.11ac80 Mode	100	0
TX 802.11ax80 Mode	100	0

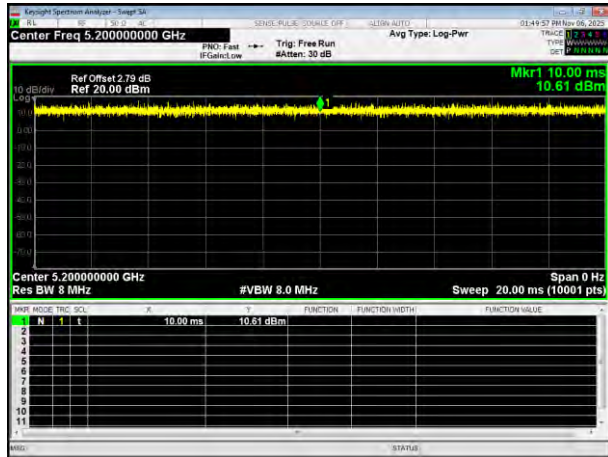
5745-5825 MHz

Mode	Duty cycle (%)	Correction Factor (dB)
TX 802.11a Mode	100	0
TX 802.11n20 Mode	100	0
TX 802.11ac20 Mode	100	0
TX 802.11ax20 Mode	100	0
TX 802.11n40 Mode	100	0
TX 802.11a40 Mode	100	0
TX 802.11ax40 Mode	100	0
TX 802.11ac80 Mode	100	0
TX 802.11ax80 Mode	100	0

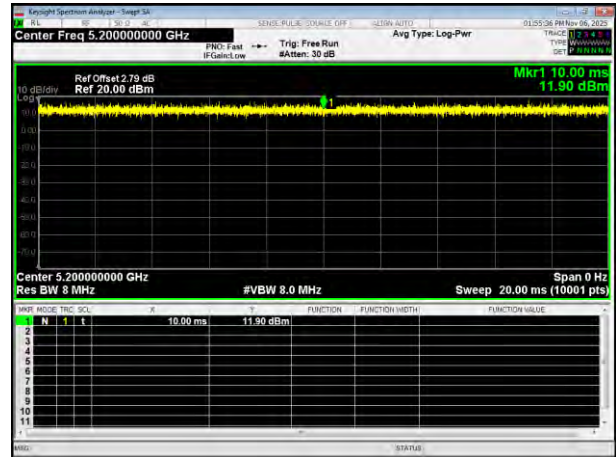
Test plot

5180-5240MHz

(802.11a) plot



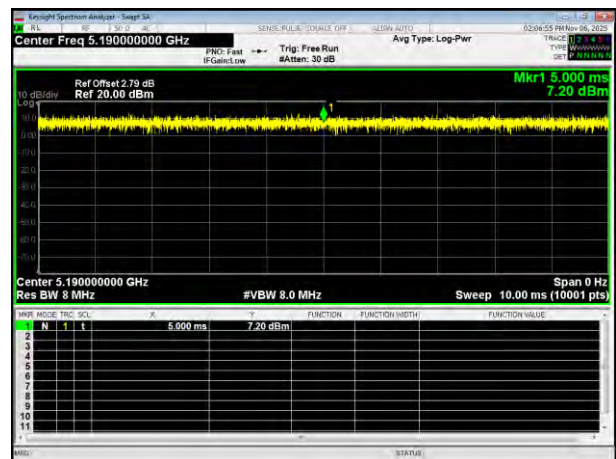
(802.11 n20) plot



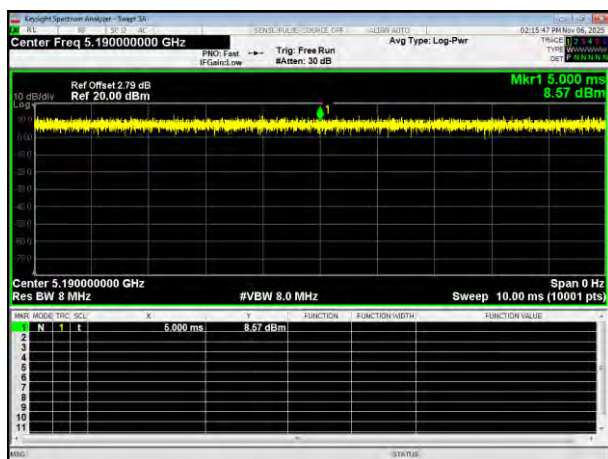
(802.11ac20) plot



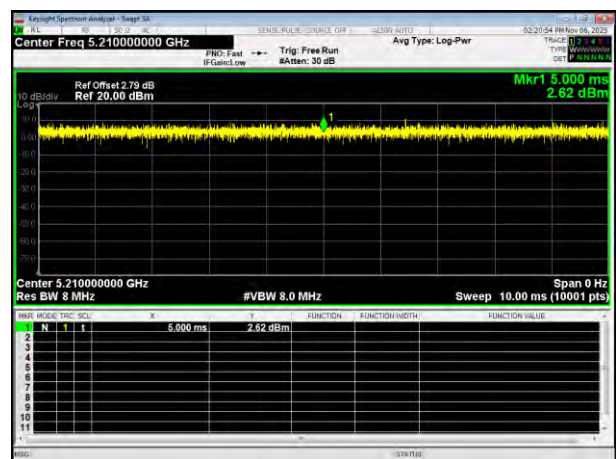
(802.11 n40) plot



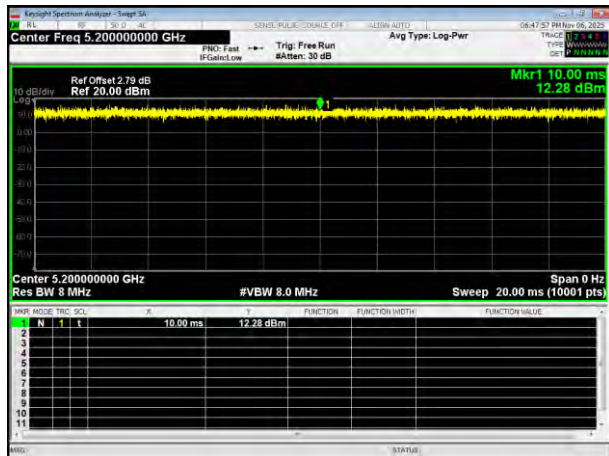
(802.11ac40) plot



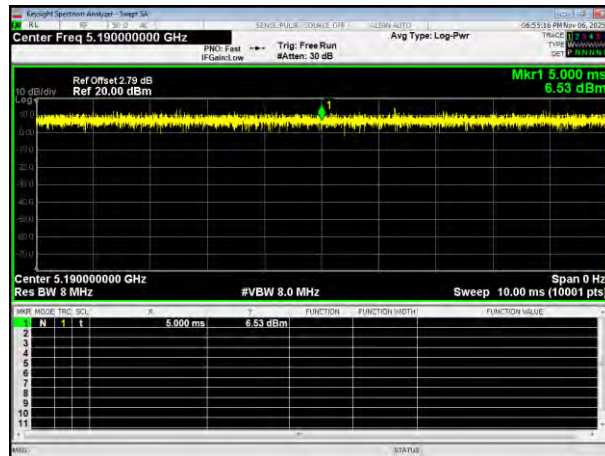
(802.11ac80) plot



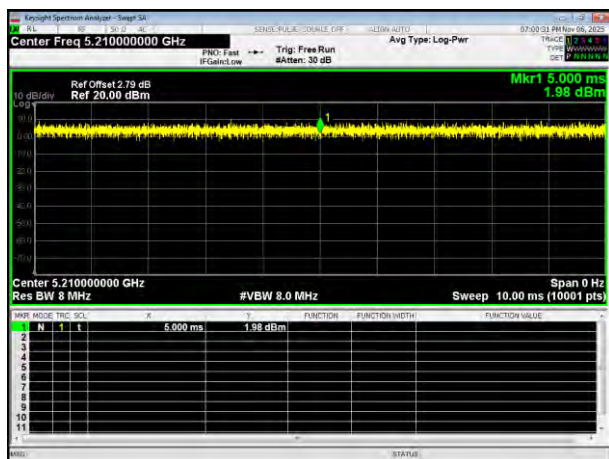
(802.11ax20) plot



(802.11ax40) plot



(802.11ax80) plot

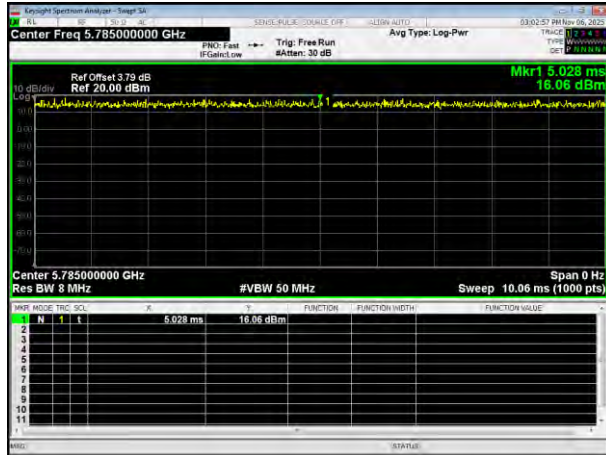


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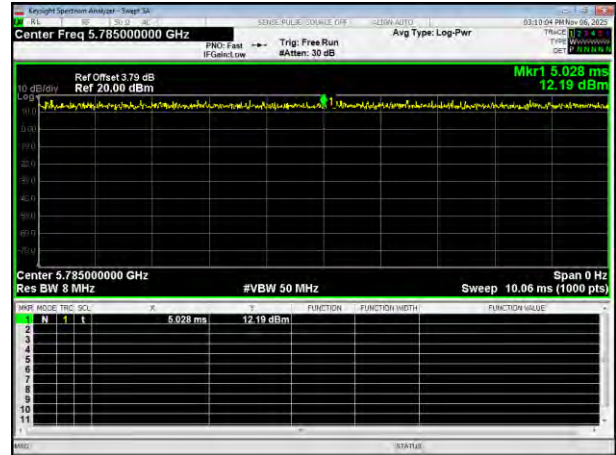
/

5745-5825 MHz

(802.11a) plot



(802.11 n20) plot



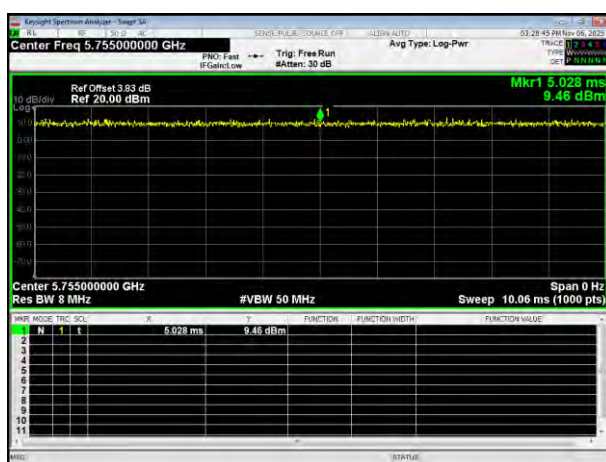
(802.11ac20) plot



(802.11 n40) plot



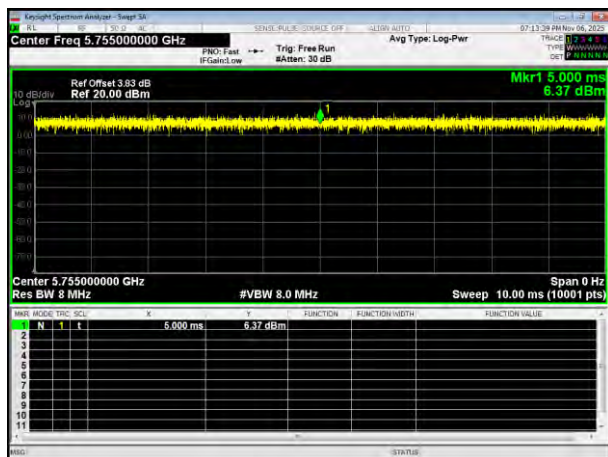
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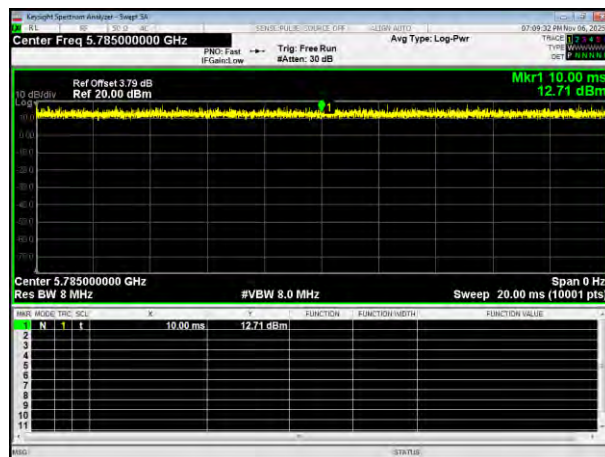
(802.11ac80) plot



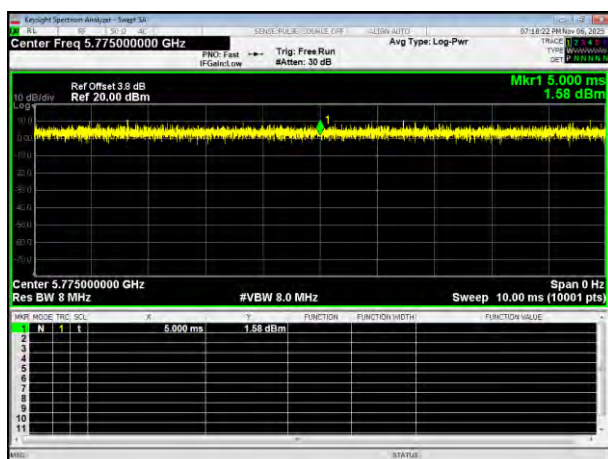
(802.11ax20) plot



(802.11 ax40) plot



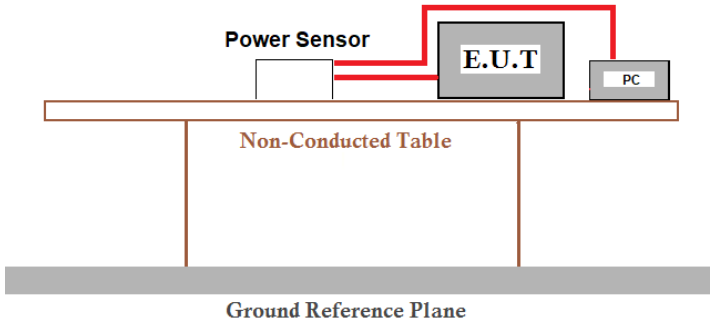
(802.11ax80) plot



/

/

4.4 Conducted Output Power

Test Requirement:	47CFR Part 15.407 (a)(1)/(a)(3)	
Test Method:	KDB 789033 D02 General U-NII Test Procedures New Rules v02r01 ANSI C63.10-2020 § 12.4	
Limit:	5150-5250MHz : 250mW 5725~5850MHz : 1W	
Test setup:		
Test Instruments:	Refer to section 3.0 for details	
Test mode:	Refer to section 2.2 for details	
Test environment:	Temp.: 24.3°C	Humid.: 51%RH
Test voltage:	DC 11.1V from Battery	
Test results:	Pass	

Measurement Result

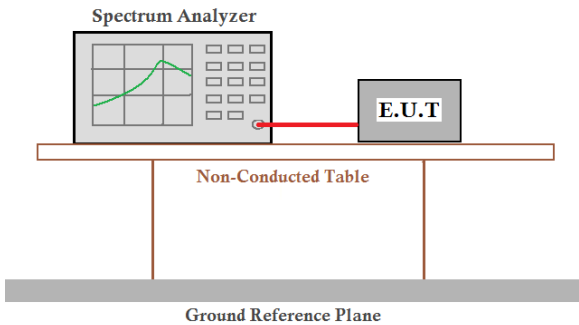
5180-5240MHz

Test Channel	Frequency	Correction Factor	Maximum output power	Total Power	LIMIT	Result
	(MHz)	(dB)	(dBm)	(dBm)	dBm	
TX 802.11a Mode						
CH36	5180	0.00	14.54	14.54	23.98	Pass
CH40	5200	0.00	14.06	14.06	23.98	Pass
CH48	5240	0.00	14.21	14.21	23.98	Pass
TX 802.11 n20 Mode						
CH36	5180	0.00	14.31	14.31	23.98	Pass
CH40	5200	0.00	14.57	14.57	23.98	Pass
CH48	5240	0.00	14.12	14.12	23.98	Pass
TX 802.11 ac20 Mode						
CH36	5180	0.00	14.20	14.20	23.98	Pass
CH40	5200	0.00	14.44	14.44	23.98	Pass
CH48	5240	0.00	14.49	14.49	23.98	Pass
TX 802.11 aX20 Mode						
CH36	5180	0.00	14.31	14.31	23.98	Pass
CH40	5200	0.00	14.09	14.09	23.98	Pass
CH48	5240	0.00	14.56	14.56	23.98	Pass
TX 802.11 n40 Mode						
CH38	5190	0.00	13.35	13.35	23.98	Pass
CH46	5230	0.00	13.39	13.39	23.98	Pass
TX 802.11 ac40 Mode						
CH38	5190	0.00	13.34	13.34	23.98	Pass
CH46	5230	0.00	13.57	13.57	23.98	Pass
TX 802.11 ax40 Mode						
CH38	5190	0.00	13.08	13.08	23.98	Pass
CH46	5230	0.00	13.15	13.15	23.98	Pass
TX 802.11 ac80 Mode						
CH42	5210	0.00	12.57	12.57	23.98	Pass
TX 802.11 ax80 Mode						
CH42	5210	0.00	12.71	12.71	23.98	Pass

5745-5825 MHz

Test Channel	Frequency	Correction Factor	Maximum output power	Total Power	Limit	Result
	(MHz)	(dB)	(dBm)	(dBm)	dBm	
TX 802.11a Mode						
CH149	5745	0.00	14.28	14.28	30	Pass
CH157	5785	0.00	14.89	14.89	30	Pass
CH165	5825	0.00	14.60	14.60	30	Pass
TX 802.11 n20 Mode						
CH149	5745	0.00	14.37	14.37	30	Pass
CH157	5785	0.00	14.42	14.42	30	Pass
CH165	5825	0.00	14.65	14.65	30	Pass
TX 802.11 ac20 Mode						
CH149	5745	0.00	14.36	14.36	30	Pass
CH157	5785	0.00	14.43	14.43	30	Pass
CH165	5825	0.00	14.65	14.65	30	Pass
TX 802.11 ax20 Mode						
CH149	5745	0.00	14.36	14.36	30	Pass
CH157	5785	0.00	14.35	14.35	30	Pass
CH165	5825	0.00	14.65	14.65	30	Pass
TX 802.11 n40 Mode						
CH151	5755	0.00	13.35	13.35	30	Pass
CH159	5795	0.00	13.77	13.77	30	Pass
TX 802.11 ac40 Mode						
CH151	5755	0.00	13.25	13.25	30	Pass
CH159	5795	0.00	13.36	13.36	30	Pass
TX 802.11 ax40 Mode						
CH151	5755	0.00	13.26	13.26	30	Pass
CH159	5795	0.00	13.21	13.21	30	Pass
TX 802.11 ac80 Mode						
CH155	5775	0.00	12.66	12.66	30	Pass
TX 802.11 ax80						
CH155	5775	0.00	12.57	12.57	30	Pass

4.5 Bandwidth &99% Occupy Bandwidth

Test Requirement:	47CFR Part 15.407(a)(12)&15.407(e),	
Test Method:	KDB 789033 D02 General U-NII Test Procedures New Rules v02r01, ANSI C63.10-2020§12.5	
Limit:	Measurements in the 5.725-5.85 GHz band, the minimum bandwidth 6 dB bandwidth of U-NII devices shall be at least 500KHz. Measurements in the 5.15-5.25 GHz, 5.25-5.35 GHz, and the 5.47-5.725 GHz bands are made over a bandwidth of 1 MHz or the 26 dB emission bandwidth of the device, whichever is less. A narrower resolution bandwidth can be used, provided that the measured power is integrated over the full reference bandwidth.	
Test setup:		
Test Instruments:	Refer to section 3.0 for details	
Test mode:	Refer to section 2.2 for details	
Test environment:	Temp.: 24.3°C	Humid.: 51%RH
Test voltage:	DC 11.1V from Battery	
Test results:	Pass	

Measurement Result

5180-5240MHz

Test CH	-26dB Channel Bandwidth (MHz)									Result
	a	n(HT20)	ac(VHT20)	ax(HE20)	n(HT40)	ac(VHT40)	ax(HE40)	ac(VHT80)	ax(HE80)	
Lowest	22.791	23.203	23.583	21.104	40.455	40.84	40.72	--	--	Pass
Middle	22.308	24.168	25.363	24.606	--	--	--	79.69	79.637	
Highest	19.393	19.787	19.928	19.721	39.805	39.863	39.938	--	--	

(802.11a) plot on channel 36



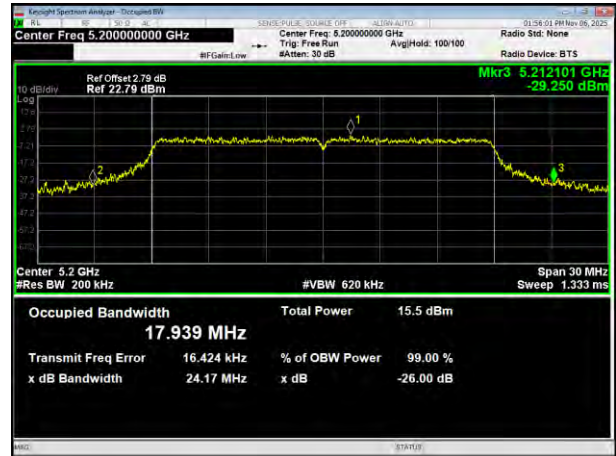
(802.11 n20) plot on channel 36



(802.11a) plot on channel 40



(802.11 n20) plot on channel 40



(802.11a) plot on channel 48



(802.11 n20) plot on channel 48



Test plot

(802.11ac20) plot on channel 36



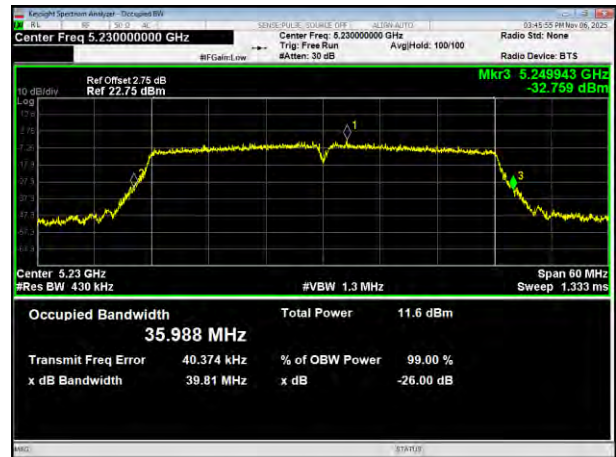
(802.11 n40) plot on channel 38



(802.11ac20) plot on channel 40



(802.11 n40) plot on channel 46



(802.11ac20) plot on channel 48



Test plot

(802.11ax20) plot on channel 36



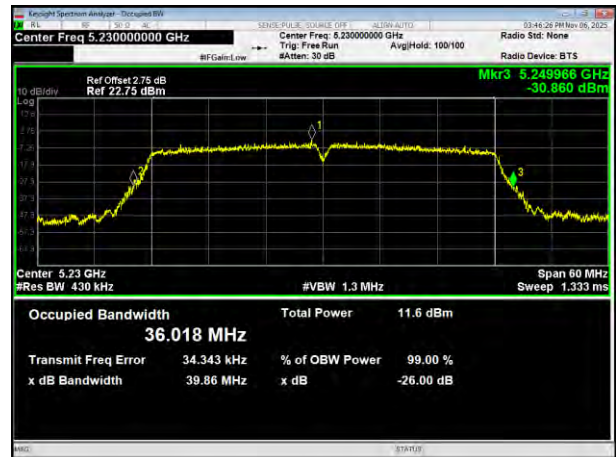
(802.11 ac40) plot on channel 38



(802.11 ax20) plot on channel 40



(802.11 ac40) plot on channel 46



(802.11 ax20) plot on channel 48

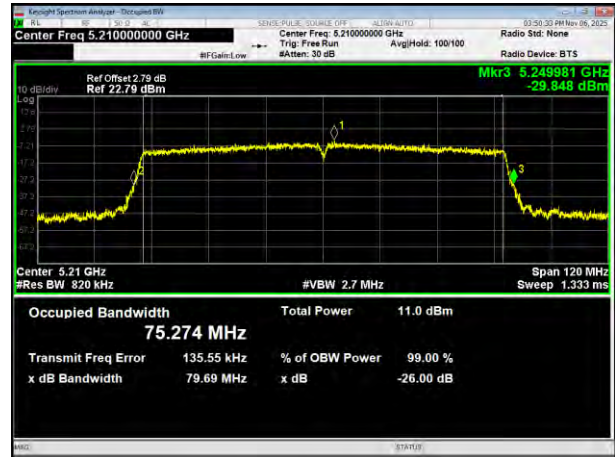


Test plot

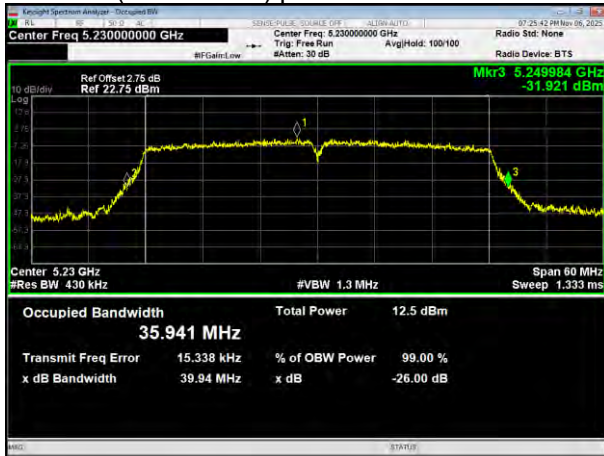
(802.11ax40) plot on channel 38



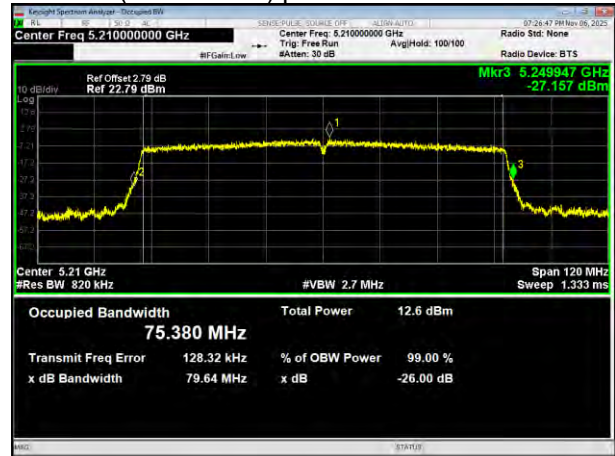
(802.11ac80) plot on channel 42



(802.11ax40) plot on channel 46



(802.11ax80) plot on channel 42



5745-5825MHz

Test CH	-6dB Channel Bandwidth (MHz)									Result
	a	n(HT20)	ac(VHT20)	ax(HE20)	n(HT40)	ac(VHT40)	ax(HE40)	ac(VHT80)	ax(HE80)	
Lowest	16.538	17.824	17.81	17.821	36.396	36.416	36.404	--	--	Pass
Middle	16.531	17.794	17.816	17.812	--	--	--	76.372	76.388	
Highest	16.552	17.814	17.801	17.787	36.375	36.371	36.362	--	--	

Remark:

1. “--”is not applicable
2. Limit(KHz)= -6dB Channel Bandwidth>500

3.

Test plot

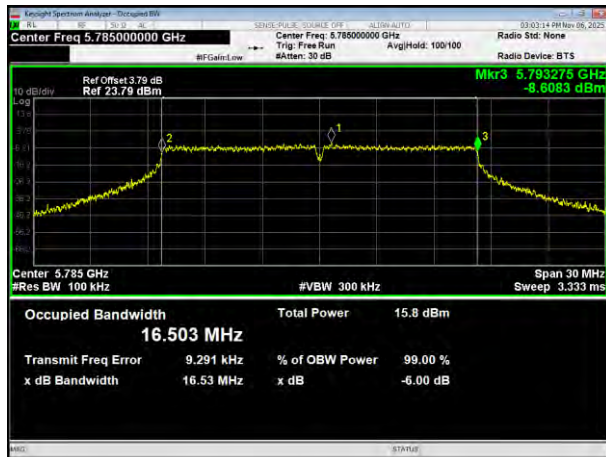
(802.11a) plot on channel 149



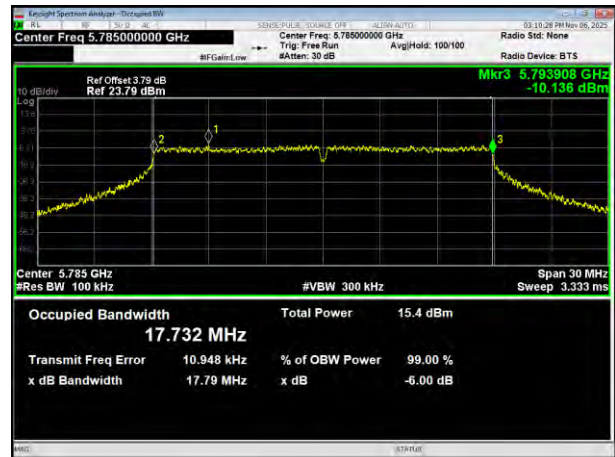
(802.11 n20) plot on channel 149



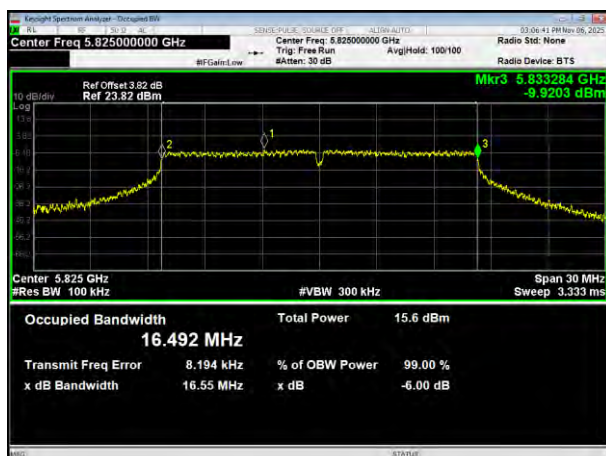
(802.11a) plot on channel 157



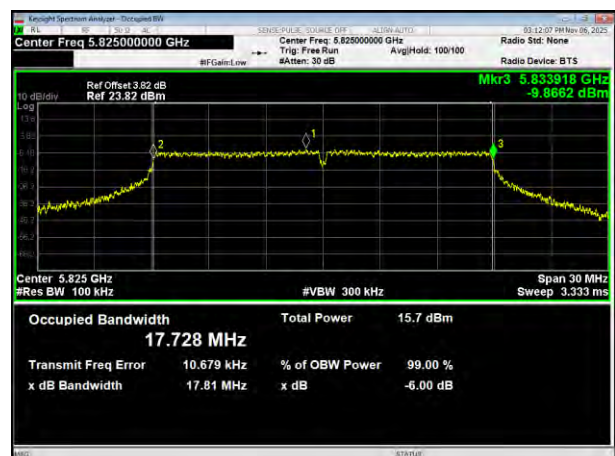
(802.11 n20) plot on channel 157



(802.11a) plot on channel 165



(802.11 n20) plot on channel 165



Test plot

(802.11ac20) plot on channel 149



(802.11 n40) plot on channel 151



(802.11ac20) plot on channel 157



(802.11 n40) plot on channel 159



(802.11ac20) plot on channel 165



(802.11ax20) plot on channel 149



(802.11 ac40) plot on channel 151



(802.11ax20) plot on channel 157



(802.11 ac40) plot on channel 159



(802.11ax20) plot on channel 165

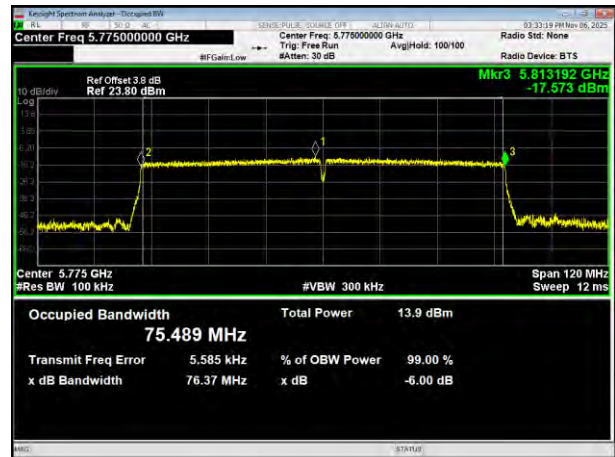


Test plot

(802.11 ax40) plot on channel 151



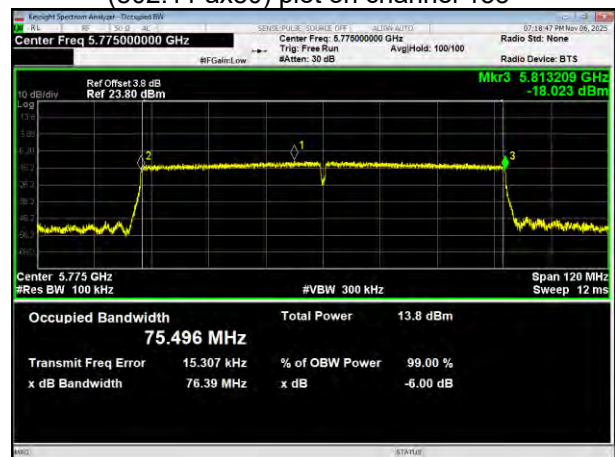
(802.11 ac80) plot on channel 155



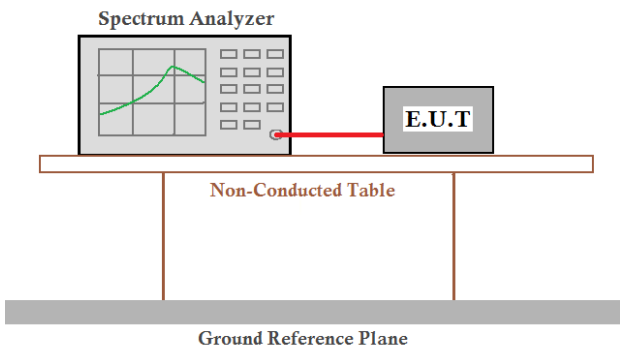
(802.11 ax40) plot on channel 159



(802.11 ax80) plot on channel 155



4.6 Power Spectral Density

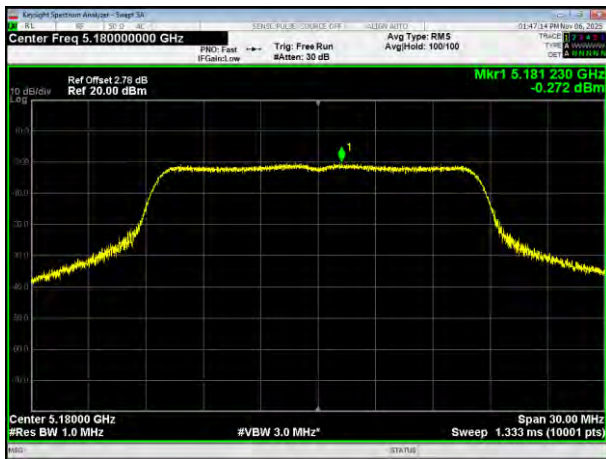
Test Requirement:	47CFR Part 15.407(a)(1)/ (a)(3)	
Test Method:	KDB 789033 D02 General U-NII Test Procedures New Rules v02r01, ANSI C63.10-2020§12.6	
Limit:	Frequency band (MHz)	Limit
	5150-5250	≤17dBm/1MHz for master device
		≤11dBm/1MHz for client device
	5250-5350	≤11dBm/1MHz for client device
	5470-5725	≤11dBm/1MHz for client device
	5725-5850	≤30dBm/500kHz
Test setup:	 The diagram illustrates the test setup. A Spectrum Analyzer is connected via a red cable to an Equipment Under Test (E.U.T.). Both are placed on a Non-Conducted Table. Below the table is a Ground Reference Plane.	
Test Instruments:	Refer to section 3.0 for details	
Test mode:	Refer to section 2.2 for details	
Test environment:	Temp.: 24.3°C	Humid.: 51%RH
Test voltage:	DC 11.1V from Battery	
Test results:	Pass	

Measurement Result

5180-5240MHz

Mode	Frequency	Measured Power Density (dBm/MHz)	Correction Factor (dB)	Total Measured Power Density (dBm/MHz)	Limit (dBm/MHz)
802.11 a	5180 MHz	-0.272	0.00	-0.272	11
	5200 MHz	-0.627	0.00	-0.627	11
	5240 MHz	-0.75	0.00	-0.75	11
802.11 n20	5180 MHz	-0.789	0.00	-0.789	11
	5200 MHz	-0.84	0.00	-0.84	11
	5240 MHz	-1.052	0.00	-1.052	11
802.11 ac20	5180 MHz	-0.993	0.00	-0.993	11
	5200 MHz	-0.846	0.00	-0.846	11
	5240 MHz	-0.747	0.00	-0.747	11
802.11 ax20	5180 MHz	-1.075	0.00	-1.075	11
	5200 MHz	-0.945	0.00	-0.945	11
	5240 MHz	-0.753	0.00	-0.753	11
802.11 n40	5190 MHz	-4.433	0.00	-4.433	11
	5230 MHz	-4.262	0.00	-4.262	11
802.11 ac40	5190 MHz	-4.378	0.00	-4.378	11
	5230 MHz	-4.252	0.00	-4.252	11
802.11 ax40	5190 MHz	-4.508	0.00	-4.508	11
	5230 MHz	-4.646	0.00	-4.646	11
802.11 ac80	5210 MHz	-8.456	0.00	-8.456	11
802.11 ax80	5210 MHz	-8.182	0.00	-8.182	11

(802.11a) PSD plot on channel 36



(802.11n20) PSD plot on channel 36



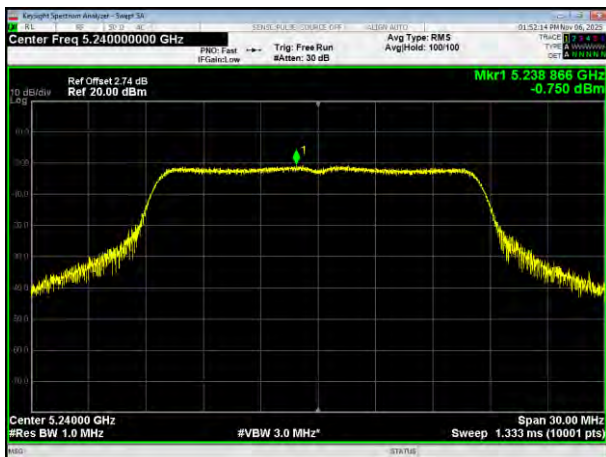
(802.11a) PSD plot on channel 40



(802.11n20) PSD plot on channel 40



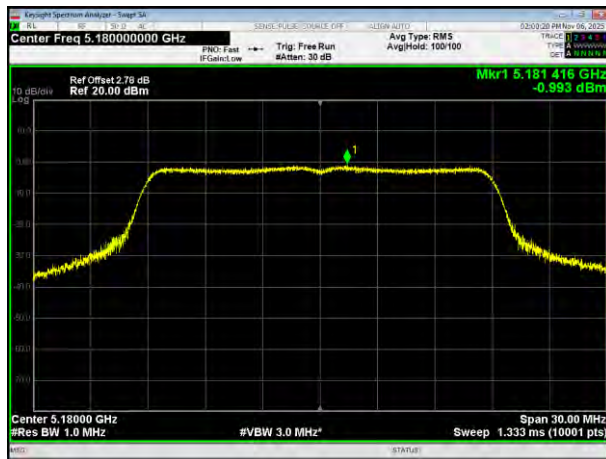
(802.11a) PSD plot on channel 48



(802.11n20) PSD plot on channel 48



(802.11ac20) PSD plot on channel 36



(802.11n40) PSD plot on channel 38



(802.11ac20) PSD plot on channel 40



(802.11n40) PSD plot on channel 46



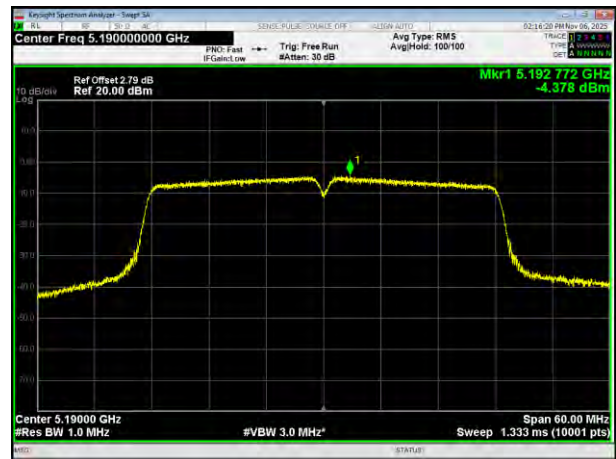
(802.11ac20) PSD plot on channel 48



(802.11ax20) PSD plot on channel 36



(802.11ac40) PSD plot on channel 38



(802.11ax20) PSD plot on channel 40



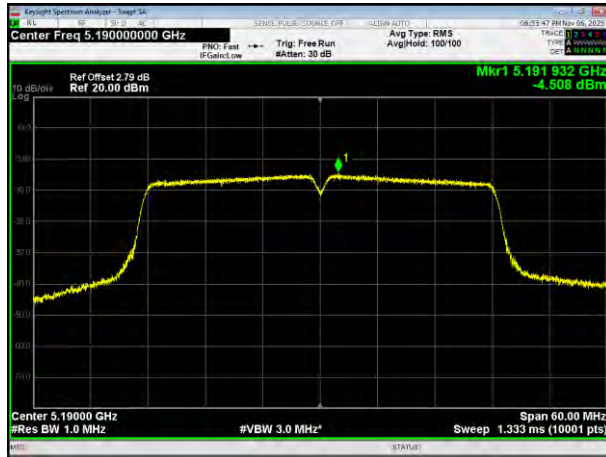
(802.11ac40) PSD plot on channel 46



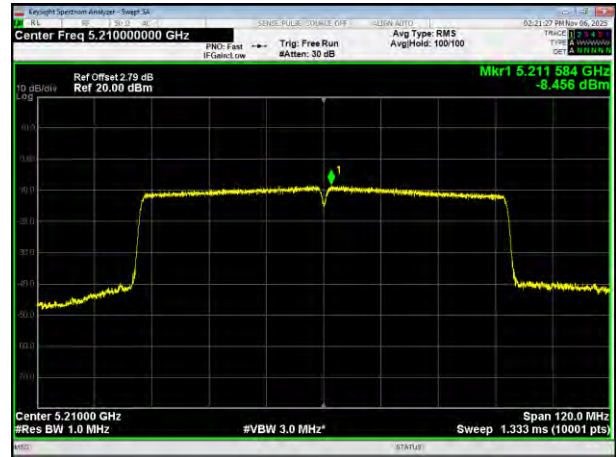
(802.11ax20) PSD plot on channel 48



(802.11ax40) PSD plot on channel 38



(802.11ac80) PSD plot on channel 42



(802.11ax40) PSD plot on channel 46



(802.11ax80) PSD plot on channel 42



Mode	Frequency	Measured Power Density (dBm/510KHz)	Measured Power Density (dBm/500KHz)	Correction Factor (dB)	Total Measured Power Density (dBm/500KHz)	Limit (dBm/500kHz)
802.11 a	5745 MHz	-3.372	-3.458	0.00	-3.458	30
	5785 MHz	-3.016	-3.102	0.00	-3.102	30
	5825 MHz	-3.322	-3.408	0.00	-3.408	30
802.11 n20	5745 MHz	-3.961	-4.047	0.00	-4.047	30
	5785 MHz	-3.961	-4.047	0.00	-4.047	30
	5825 MHz	-3.504	-3.590	0.00	-3.590	30
802.11ac20	5745 MHz	-3.870	-3.956	0.00	-3.956	30
	5785 MHz	-3.844	-3.930	0.00	-3.930	30
	5825 MHz	-3.415	-3.501	0.00	-3.501	30
802.11ax20	5745 MHz	-3.770	-3.856	0.00	-3.856	30
	5785 MHz	-3.874	-3.960	0.00	-3.960	30
	5825 MHz	-3.379	-3.465	0.00	-3.465	30
802.11 n40	5755 MHz	-7.655	-7.741	0.00	-7.741	30
	5795 MHz	-7.069	-7.155	0.00	-7.155	30
802.11ac40	5755 MHz	-7.486	-7.572	0.00	-7.572	30
	5795 MHz	-7.175	-7.261	0.00	-7.261	30
802.11ax40	5755 MHz	-7.426	-7.512	0.00	-7.512	30
	5795 MHz	-7.367	-7.453	0.00	-7.453	30
802.11ac80	5775 MHz	-11.551	-11.637	0.00	-11.637	30
802.11ax80	5775 MHz	-11.593	-11.679	0.00	-11.679	30

Note: 1. Total Measured Power Density (dBm/500KHz)=dbm/510KHz-(10*log(510/500))+Duty cycle factor.

2. Correction Factor (dB)= duty cycle factor, RB Factor=10*log(510KHz/500KHz).

3. Offset= cable loss

(802.11a) PSD plot on channel 149



(802.11n20) PSD plot on channel 149



(802.11a) PSD plot on channel 157



(802.11n20) PSD plot on channel 157



(802.11a) PSD plot on channel 165



(802.11n20) PSD plot on channel 165



(802.11ac20) PSD plot on channel 149



(802.11n40) PSD plot on channel 151



(802.11ac20) PSD plot on channel 157



(802.11n40) PSD plot on channel 159



(802.11ac20) PSD plot on channel 165



(802.11ax20) PSD plot on channel 149



(802.11ac40) PSD plot on channel 151



(802.11ax20) PSD plot on channel 157



(802.11ac40) PSD plot on channel 159



(802.11ax20) PSD plot on channel 165



(802.11ax40) PSD plot on channel 151



(802.11ac80) PSD plot on channel 155



(802.11ax40) PSD plot on channel 159

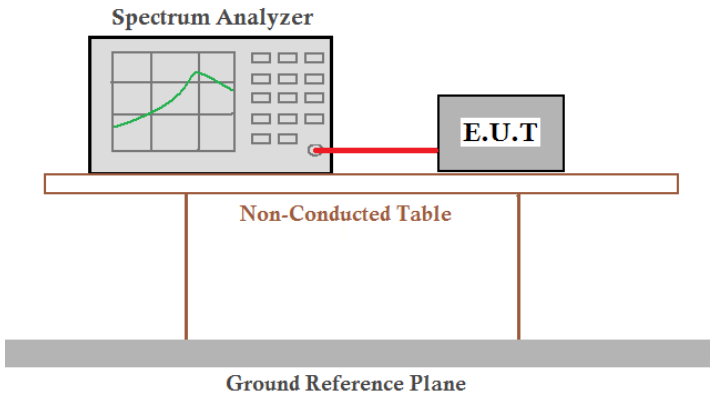


(802.11ax80) PSD plot on channel 155



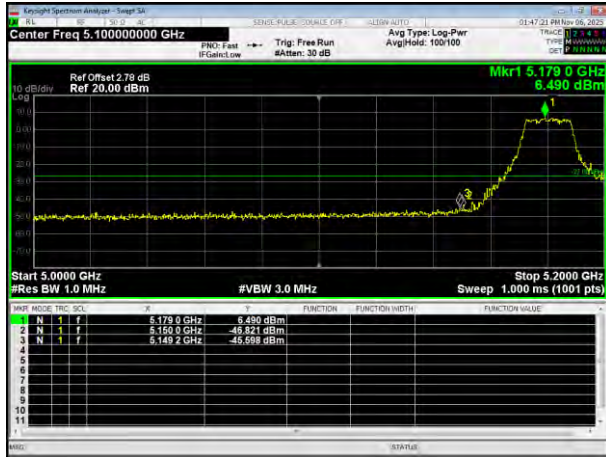
4.7 Band edge

4.7.1 Conducted test Method

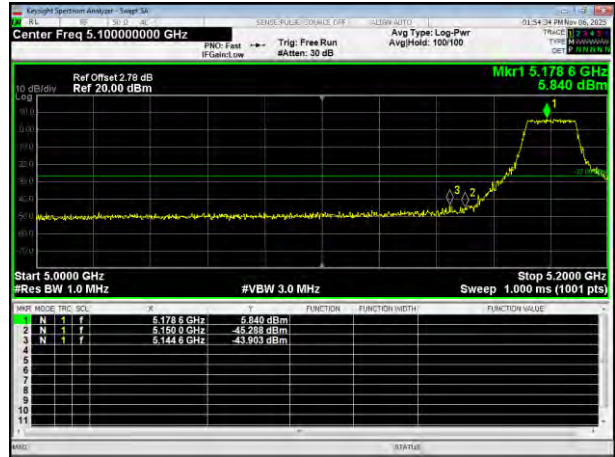
Test Requirement:	47CFR Part 15.209 and 15.205	
Test Method:	ANSI C63.10-2020 § 6.10	
Limit:	All emissions shall be limited to a level of -27 dBm/MHz at 75 MHz or more above or below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above or below the band edge, and from 25 MHz above or below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above or below the band edge, and from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge.	
Test setup:	 The diagram illustrates the test setup. A Spectrum Analyzer is connected to an E.U.T. (Equipment Under Test) via a red cable. The E.U.T. is placed on a Non-Conducted Table, which is supported by a Ground Reference Plane.	
Test Procedure:	1. Check the calibration of the measuring instrument using either an internal calibrator or a known signal from an external generator. 2. Position the EUT without connection to measurement instrument. Turn on the EUT and connect its antenna terminal to measurement instrument via a low loss cable. Then set it to any one measured frequency within its operating range, and make sure the instrument is operated in its linear range. 3. Set RBW of spectrum analyzer to 1 MHz with a convenient frequency span. 4. Measure the highest amplitude appearing on spectral display and set it as a reference level. Plot the graph with marking the highest point and edge frequency. 5. Repeat above procedures until all measured frequencies were complete..	
Test Instruments:	Refer to section 3.0 for details	
Test mode:	Refer to section 2.2 for details	
Test environment:	Temp.: 24.3°C	Humid.: 51%RH
Test voltage:	DC 11.1V from Battery	
Test results:	Pass	

5.180~5.240 GHz

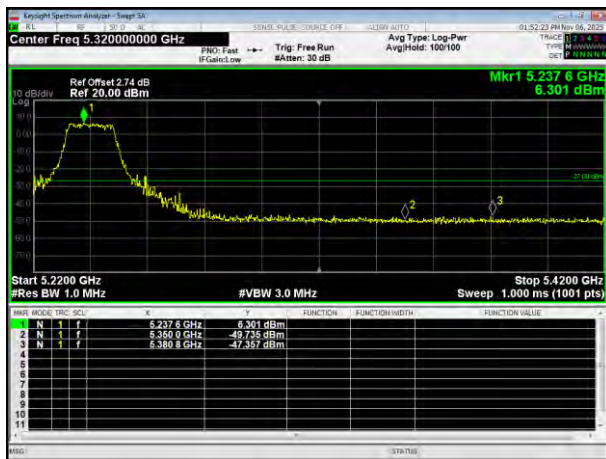
(802.11a) Band Edge, Left Side



(802.11n20) Band Edge, Left Side



(802.11a) Band Edge, Right Side

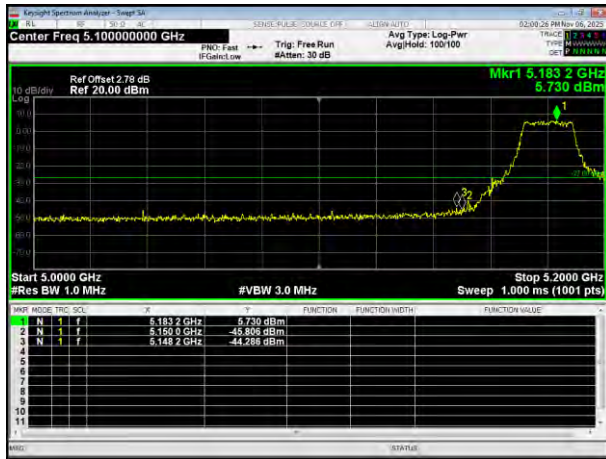


(802.11n20) Band Edge, Right Side

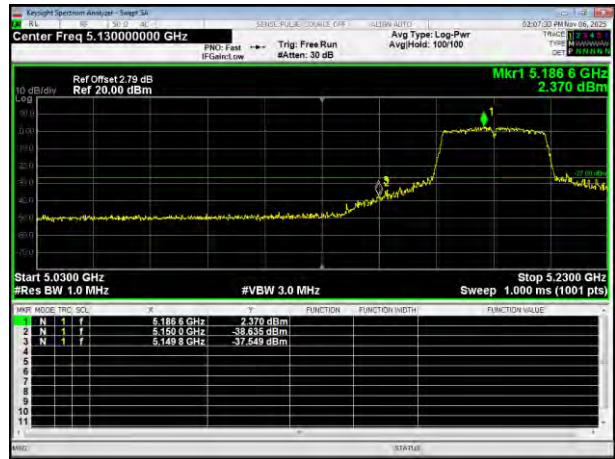


Remark: The test data did not compensate for the antenna gain, and the margin value of the edge test is greater than the sum of the antenna gain and cable loss, so the test meets the requirements

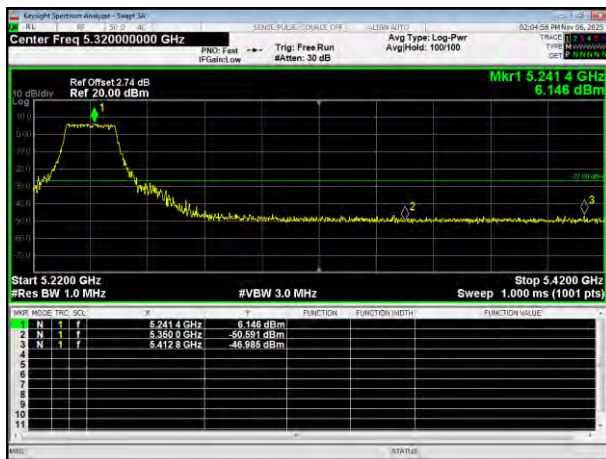
(802.11ac20) Band Edge, Left Side



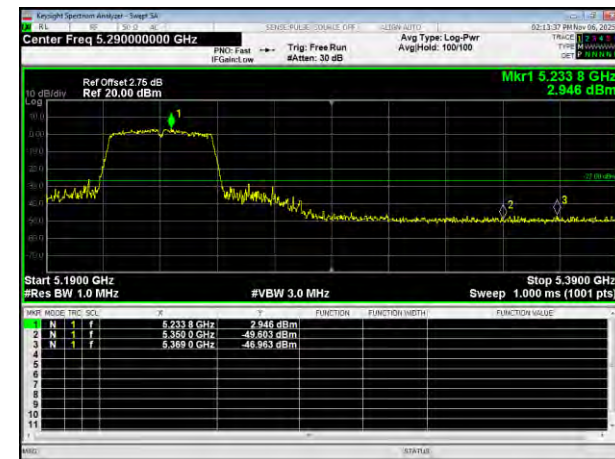
(802.11n40) Band Edge, Left Side



(802.11ac20) Band Edge, Right Side

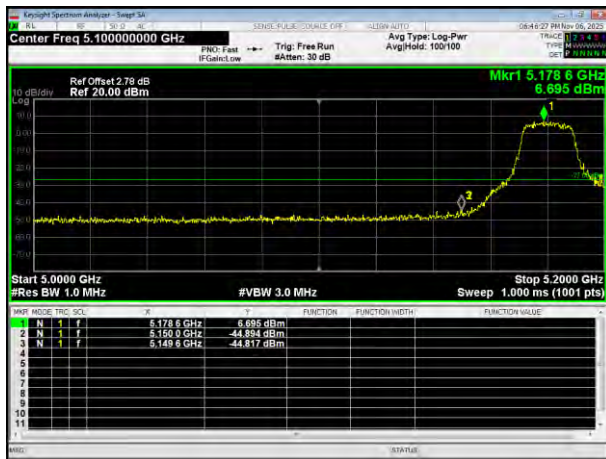


(802.11n40) Band Edge, Right Side

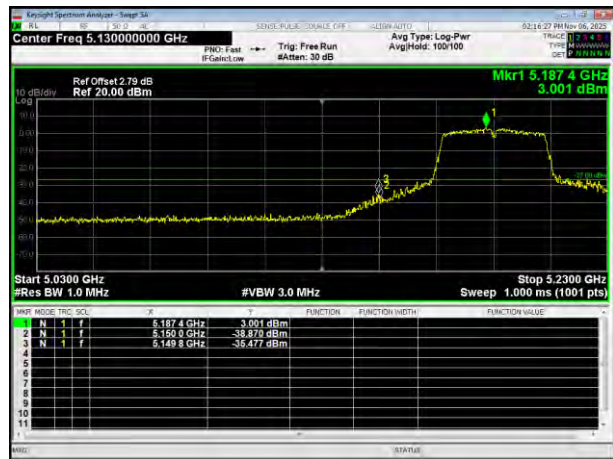


Remark: The test data did not compensate for the antenna gain, and the margin value of the edge test is greater than the sum of the antenna gain and cable loss, so the test meets the requirements

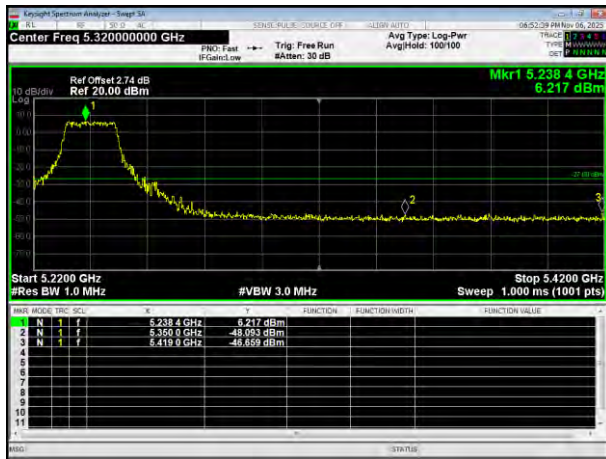
(802.11ax20) Band Edge, Left Side



(802.11ac40) Band Edge, Left Side



(802.11ax20) Band Edge, Right Side

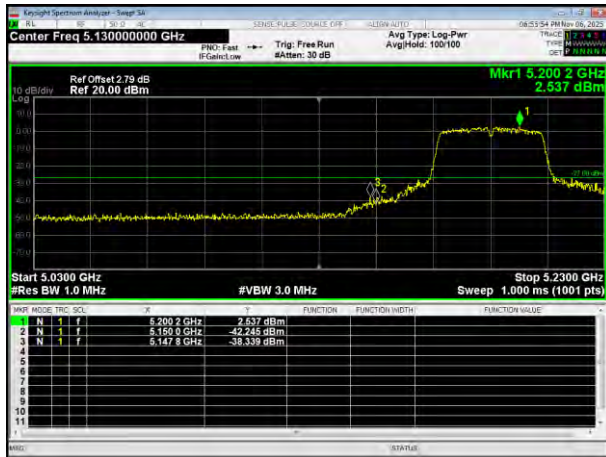


(802.11ac40) Band Edge, Right Side

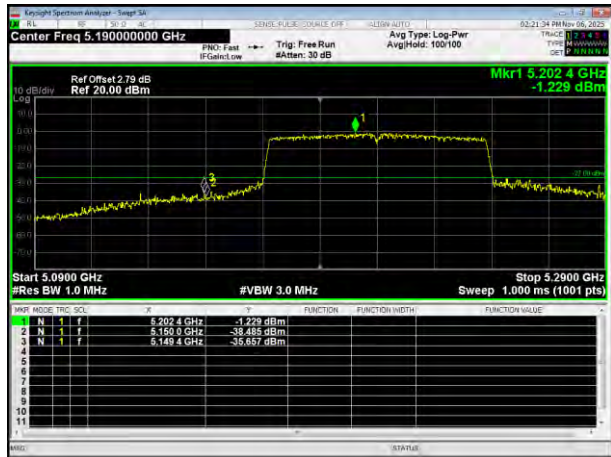


Remark: The test data did not compensate for the antenna gain, and the margin value of the edge test is greater than the sum of the antenna gain and cable loss, so the test meets the requirements

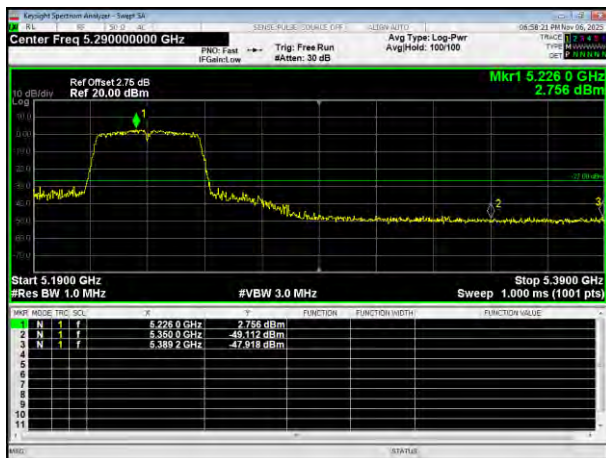
(802.11ax40) Band Edge, Left Side



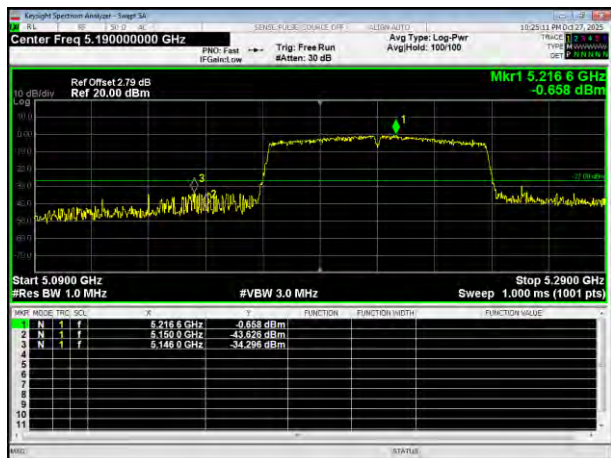
(802.11ac80) Band Edge



(802.11ax40) Band Edge, Right Side



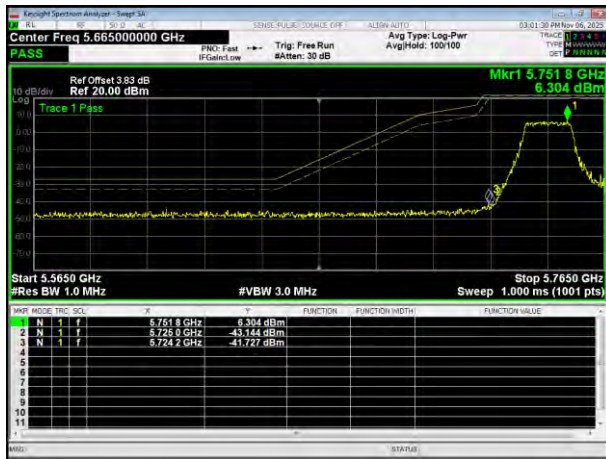
(802.11ax80) Band Edge



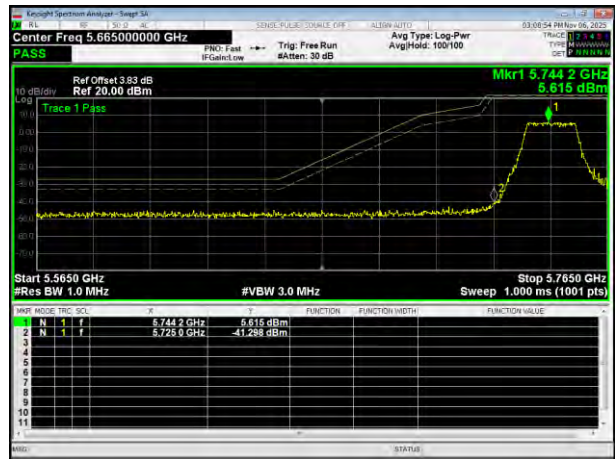
Remark: The test data did not compensate for the antenna gain, and the margin value of the edge test is greater than the sum of the antenna gain and cable loss, so the test meets the requirements

5.745~5.825 GHz

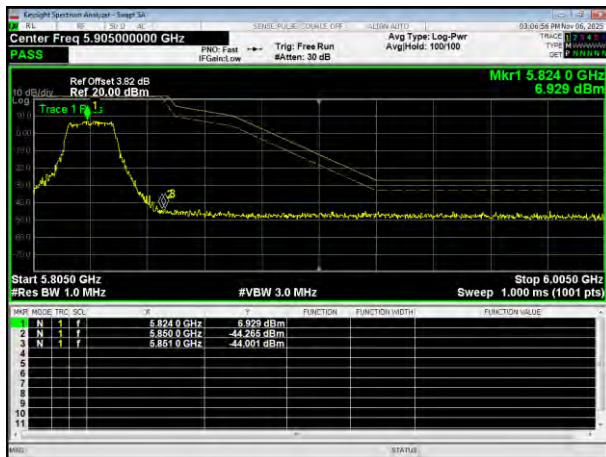
(802.11a) Band Edge, Left Side



(802.11n20) Band Edge, Left Side



(802.11a) Band Edge, Right Side

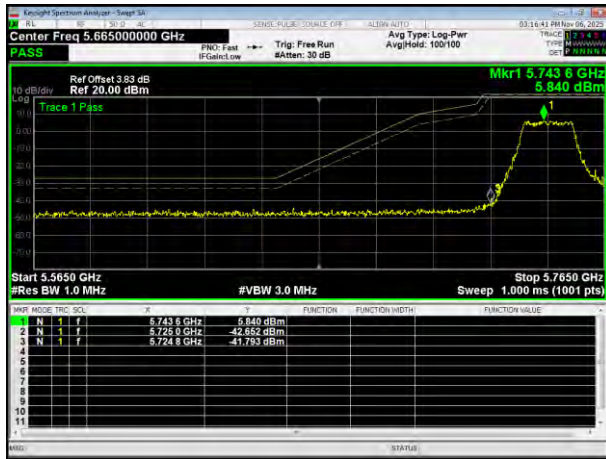


(802.11n20) Band Edge, Right Side

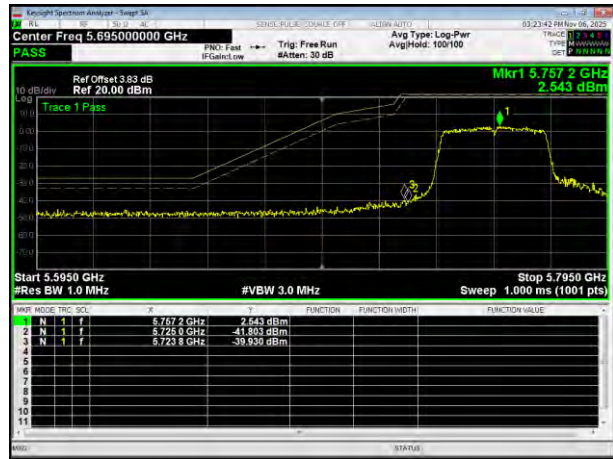


Remark: The test data did not compensate for the antenna gain, and the margin value of the edge test is greater than the sum of the antenna gain and cable loss, so the test meets the requirements

(802.11ac20) Band Edge, Left Side



(802.11n40) Band Edge, Left Side



(802.11ac20) Band Edge, Right Side

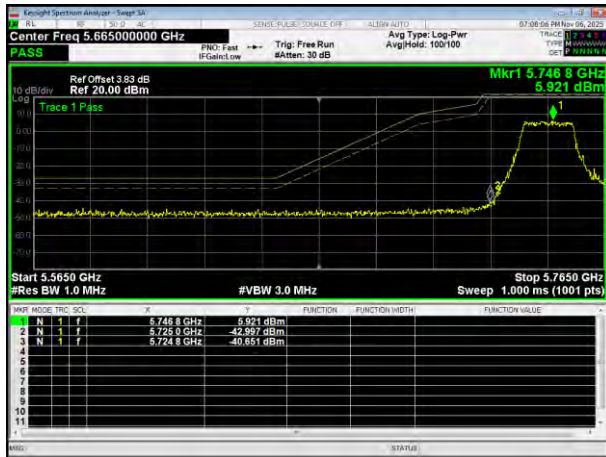


(802.11n40) Band Edge, Right Side



Remark: The test data did not compensate for the antenna gain, and the margin value of the edge test is greater than the sum of the antenna gain and cable loss, so the test meets the requirements

(802.11ax20) Band Edge, Left Side



(802.11ac40) Band Edge, Left Side



(802.11ax20) Band Edge, Right Side



(802.11ac40) Band Edge, Right Side



Remark: The test data did not compensate for the antenna gain, and the margin value of the edge test is greater than the sum of the antenna gain and cable loss, so the test meets the requirements

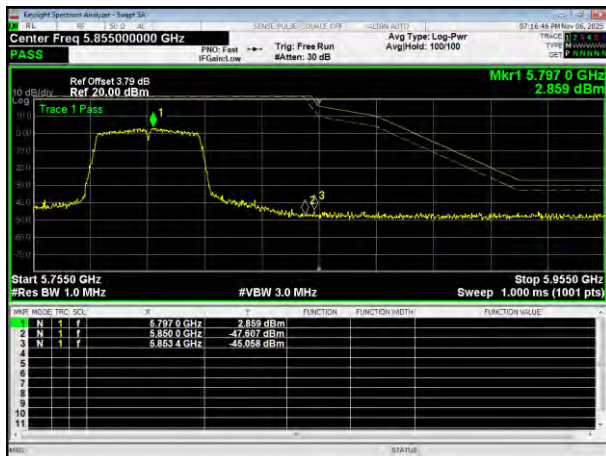
(802.11ax40) Band Edge, Left Side



(802.11ac80) Band Edge



(802.11ax40) Band Edge, Right Side



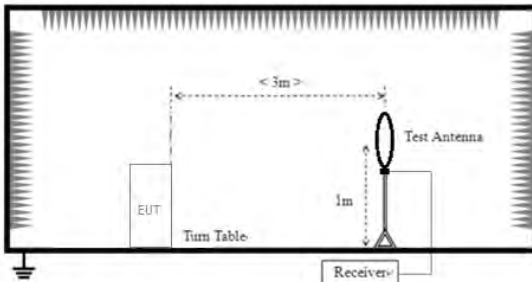
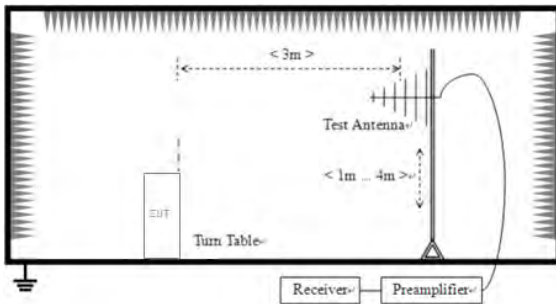
(802.11ax80) Band Edge

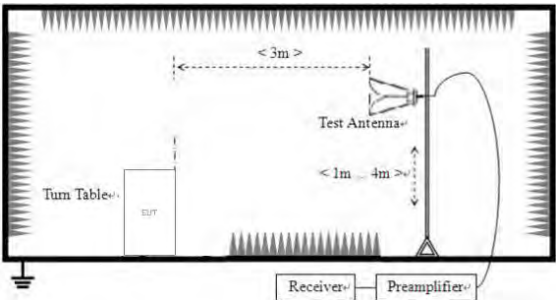


Remark: The test data did not compensate for the antenna gain, and the margin value of the edge test is greater than the sum of the antenna gain and cable loss, so the test meets the requirements

4.8 Spurious Emission

4.8.1 Radiated Emission Method

Test Requirement:	47CFR Part 15.209, Part 15E Section 15.407(b)(4)				
Test Method:	ANSI C63.10-2020§6.4&6.5&6.6				
Test Frequency Range:	9kHz to 40GHz				
Test site:	Measurement Distance: 3m				
Receiver setup:	Frequency	Detector	RBW	VBW	Value
	9kHz-150KHz	Quasi-peak	200Hz	1kHz	Quasi-peak Value
	150kHz-30MHz	Quasi-peak	9kHz	30kHz	Quasi-peak Value
	30MHz-1GHz	Quasi-peak	120KHz	300KHz	Quasi-peak Value
	Above 1GHz	Peak	1MHz	3MHz	Peak Value
		AV	1MHz	3MHz	Average Value
Limit:	Frequency	Limit (uV/m)	Value	Measurement Distance	
	0.009MHz-0.490MHz	2400/F(KHz)	QP	300m	
	0.490MHz-1.705MHz	24000/F(KHz)	QP	300m	
	1.705MHz-30MHz	30	QP	30m	
	30MHz-88MHz	100	QP	3m	
	88MHz-216MHz	150	QP		
	216MHz-960MHz	200	QP		
	960MHz-1GHz	500	QP		
	Frequency	Limit (dBm/MHz)	Remark		
	Above 1GHz	-27.0	Peak Value		
Test setup:	For radiated emissions from 9kHz to 30MHz				
					
	For radiated emissions from 30MHz to 1GHz				
					
	For radiated emissions above 1GHz				

	
Test Procedure:	1. Place the EUT on a rotating table on a horizontal surface. Rotate the table 360 degrees to determine the position of the highest radiation. 2. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower. 3. The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement. 4. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rota table was turned from 0 degrees to 360 degrees to find the maximum reading. 5. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode. 6. If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet. The radiation measurements are performed in X, Y, Z axis positioning. And found the X axis positioning which it is worse case, only the test worst case mode is recorded in the report.
Test Instruments:	Refer to section 3.0 for details
Test mode:	Refer to section 2.2 for details
Test results:	Pass

Remarks:

1. The report only shows the worst mode.
2. Pre-scan all kind of the place mode (X-axis, Y-axis, Z-axis), and found the Y-axis which it is worse case.
3. All models and modes have been tested, and the report only displays the worst mode 802.11a (5785MHz) data

Measurement Data:

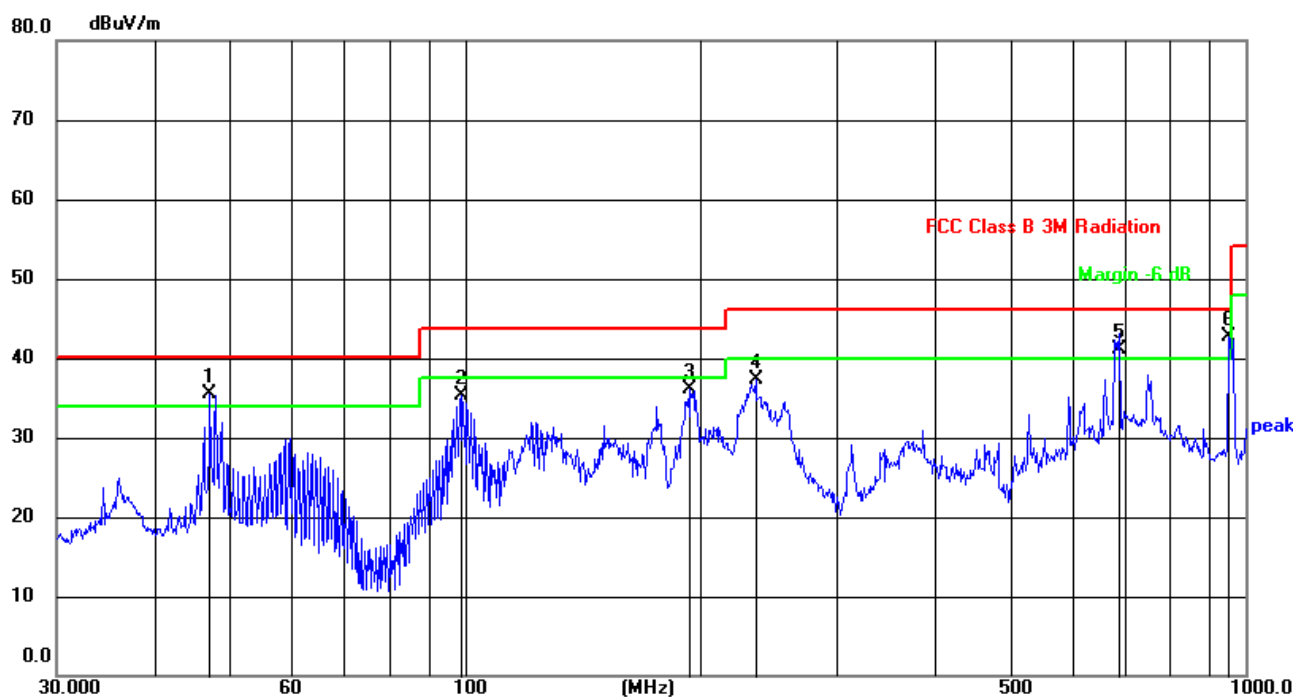
9 kHz ~ 30 MHz

The emission from 9 kHz to 30MHz was pre-tested and found the result was 20dB lower than the limit, and according to 15.31(o) & RSS-Gen 6.13, the test result no need to reported.

Below 1GHz

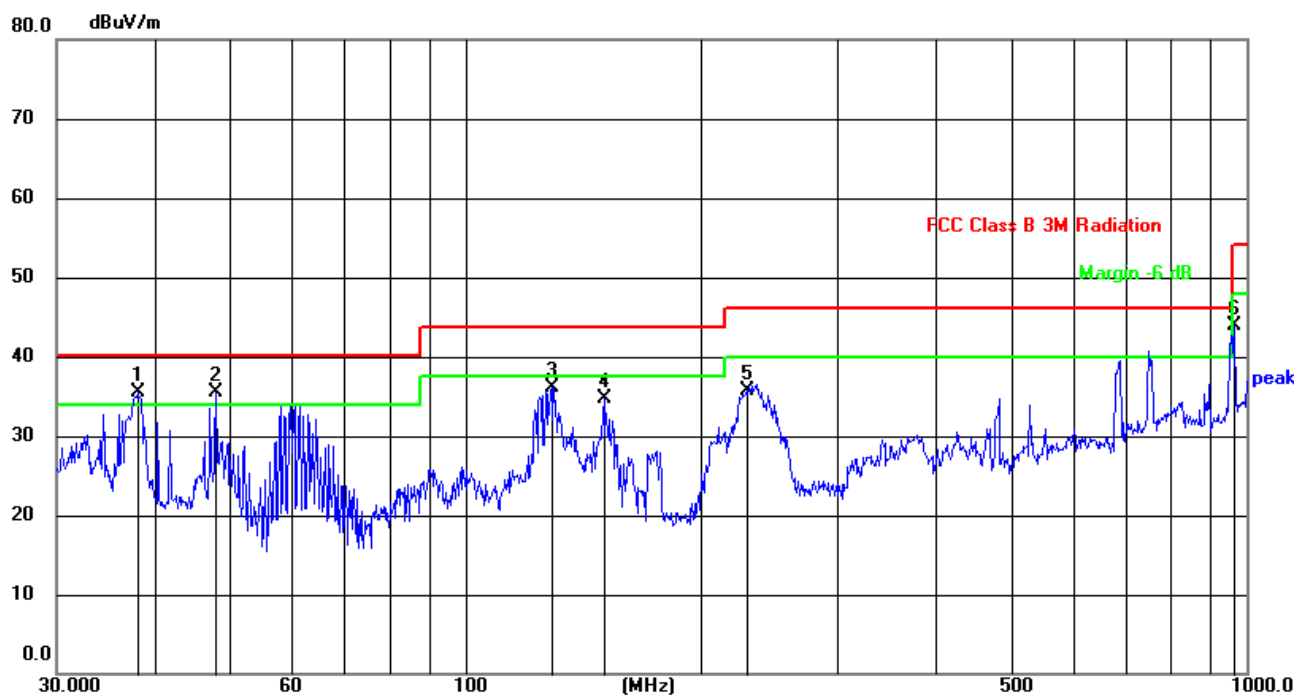
Temperature:	24.3℃	Relative Humidity:	51%RH
Pressure:	101.2kPa	Test Voltage :	DC 11.1V from Battery
Test Mode :	TX- 802.11a (5785MHz)		

Horizontal:



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	47.1597	57.01	-21.46	35.55	40.00	-4.45	QP
2	99.1795	60.51	-25.24	35.27	43.50	-8.23	QP
3	194.4533	59.36	-23.22	36.14	43.50	-7.36	QP
4	235.8163	59.91	-22.70	37.21	46.00	-8.79	QP
5	689.5643	50.59	-9.49	41.10	46.00	-4.90	QP
6	952.0937	46.59	-3.79	42.80	46.00	-3.20	QP

Vertical:



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	38.0782	56.80	-21.24	35.56	40.00	-4.44	QP
2	47.9938	57.11	-21.56	35.55	40.00	-4.45	QP
3	129.0142	58.71	-22.61	36.10	43.50	-7.40	QP
4	150.5377	55.24	-20.51	34.73	43.50	-8.77	QP
5	229.2930	58.73	-23.06	35.67	46.00	-10.33	QP
6	965.5420	47.48	-3.67	43.81	54.00	-10.19	QP

Remarks:

1. Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor
2. The emission levels of other frequencies are very lower than the limit and not show in test report.
3. The test data shows only the worst case 802.11a mode

Above 1GHz:

Remark: The test data shows only the worst case 802.11n20 mode.

Temperature:	24.3°C	Relative Humidity:	51%
Pressure:	101.2kPa	Test Voltage :	DC 11.1V from Battery
Test Mode :	5.2G TX- 802.11n20		

Polar (H/V)	Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detect or Type
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB	
Low Channel:5180MHz							
V	10360.00	37.71	1.77	39.48	68.20	-28.72	PK
V	10360.00	33.42	1.77	35.19	54.00	-18.81	AV
V	15540.00	39.88	7.72	47.60	74.00	-26.40	PK
V	15540.00	29.96	7.72	37.68	54.00	-16.32	AV
V	20720.00	43.90	-5.73	38.17	68.20	-30.03	PK
V	20720.00	38.97	-5.73	33.24	54.00	-20.76	AV
V	25900.00	41.35	-2.89	38.46	68.20	-29.74	PK
V	25900.00	37.04	-2.89	34.15	54.00	-19.85	AV
V	31080.00	42.77	1.66	44.43	68.20	-23.77	PK
V	31080.00	37.43	1.66	39.09	54.00	-14.91	AV
V	36260.00	40.08	4.63	44.71	68.20	-23.49	PK
V	36260.00	34.67	4.63	39.30	54.00	-14.70	AV
H	10360.00	38.01	1.77	39.78	68.20	-28.42	PK
H	10360.00	33.55	1.77	35.32	54.00	-18.68	AV
H	15540.00	39.34	7.72	47.06	74.00	-26.94	PK
H	15540.00	30.06	7.72	37.78	54.00	-16.22	AV
H	20720.00	43.12	-5.73	37.39	68.20	-30.81	PK
H	20720.00	37.86	-5.73	32.13	54.00	-21.87	AV
H	25900.00	41.32	-2.89	38.43	68.20	-29.77	PK
H	25900.00	36.34	-2.89	33.45	54.00	-20.55	AV
H	31080.00	41.90	1.66	43.56	68.20	-24.64	PK
H	31080.00	37.08	1.66	38.74	54.00	-15.26	AV
H	36260.00	39.67	4.63	44.30	68.20	-23.90	PK
H	36260.00	35.02	4.63	39.65	54.00	-14.35	AV

Remark:

1. Emission Level = Meter Reading + Factor,
Factor=Antenna Factor + Cable Loss – Pre-amplifier
Margin= Emission Level – Limit
2. If peak below the average limit, the average emission was no test.
3. The amplitude of spurious emissions which are attenuated by more than 20dB below the permissible value has no need to be reported.

Polar (H/V)	Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detect or Type
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB	
Middle Channel:5200Hz							
V	10400.00	37.28	1.85	39.13	68.20	-29.07	PK
V	10400.00	32.93	1.85	34.78	54.00	-19.22	AV
V	15600.00	38.96	7.64	46.60	74.00	-27.40	PK
V	15600.00	28.83	7.64	36.47	54.00	-17.53	AV
V	20800.00	46.64	-5.67	40.97	68.20	-27.23	PK
V	20800.00	42.45	-5.67	36.78	54.00	-17.22	AV
V	26000.00	41.43	-2.85	38.58	68.20	-29.62	PK
V	26000.00	36.69	-2.85	33.84	54.00	-20.16	AV
V	31200.00	40.24	1.57	41.81	68.20	-26.39	PK
V	31200.00	36.71	1.57	38.28	54.00	-15.72	AV
V	36400.00	39.91	4.93	44.84	68.20	-23.36	PK
V	36400.00	35.36	4.93	40.29	54.00	-13.71	AV
H	10400.00	37.44	1.85	39.29	68.20	-28.91	PK
H	10400.00	33.29	1.85	35.14	54.00	-18.86	AV
H	15600.00	38.76	7.64	46.40	74.00	-27.60	PK
H	15600.00	29.03	7.64	36.67	54.00	-17.33	AV
H	20800.00	43.66	-5.67	37.99	68.20	-30.21	PK
H	20800.00	39.28	-5.67	33.61	54.00	-20.39	AV
H	26000.00	42.92	-2.85	40.07	68.20	-28.13	PK
H	26000.00	38.38	-2.85	35.53	54.00	-18.47	AV
H	31200.00	41.86	1.57	43.43	68.20	-24.77	PK
H	31200.00	36.85	1.57	38.42	54.00	-15.58	AV
H	36400.00	39.41	4.93	44.34	68.20	-23.86	PK
H	36400.00	35.21	4.93	40.14	54.00	-13.86	AV

Remark:

1. Emission Level = Meter Reading + Factor,
Factor=Antenna Factor + Cable Loss – Pre-amplifier
Margin= Emission Level – Limit
2. If peak below the average limit, the average emission was no test.
3. The amplitude of spurious emissions which are attenuated by more than 20dB below the permissible value has no need to be reported.

Polar (H/V)	Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detect or Type
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB	
High Channel:5240MHz							
V	10480.00	36.56	2.02	38.58	68.20	-29.62	PK
V	10480.00	31.96	2.02	33.98	54.00	-20.02	AV
V	15720.00	36.94	7.46	44.40	74.00	-29.60	PK
V	15720.00	27.99	7.46	35.45	54.00	-18.55	AV
V	20960.00	42.03	-5.56	36.47	68.20	-31.73	PK
V	20960.00	37.73	-5.56	32.17	54.00	-21.83	AV
V	26200.00	39.97	-2.50	37.47	68.20	-30.73	PK
V	26200.00	36.23	-2.50	33.73	54.00	-20.27	AV
V	31440.00	41.09	1.39	42.48	68.20	-25.72	PK
V	31440.00	36.96	1.39	38.35	54.00	-15.65	AV
V	36680.00	37.68	5.25	42.93	68.20	-25.27	PK
V	36680.00	33.85	5.25	39.10	54.00	-14.90	AV
H	10480.00	36.93	2.02	38.95	68.20	-29.25	PK
H	10480.00	32.74	2.02	34.76	54.00	-19.24	AV
H	15720.00	37.18	7.46	44.64	74.00	-29.36	PK
H	15720.00	28.04	7.46	35.50	54.00	-18.50	AV
H	20960.00	41.85	-5.56	36.29	68.20	-31.91	PK
H	20960.00	37.82	-5.56	32.26	54.00	-21.74	AV
H	26200.00	41.73	-2.50	39.23	68.20	-28.97	PK
H	26200.00	38.82	-2.50	36.32	54.00	-17.68	AV
H	31440.00	40.51	1.39	41.90	68.20	-26.30	PK
H	31440.00	36.31	1.39	37.70	54.00	-16.30	AV
H	36680.00	37.93	5.15	43.08	68.20	-25.12	PK
H	36680.00	33.57	5.15	38.72	54.00	-15.28	AV

Remark:

1. Emission Level = Meter Reading + Factor,
Factor=Antenna Factor + Cable Loss – Pre-amplifier
Margin= Emission Level – Limit
2. If peak below the average limit, the average emission was no test.
3. The amplitude of spurious emissions which are attenuated by more than 20dB below the permissible value has no need to be reported.

Temperature:	24.3°C	Relative Humidity:	51%
Pressure:	101.2kPa	Test Voltage :	DC 11.1V from Battery
Test Mode :	5.8G TX- 802.11a		

Polar (H/V)	Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detect or Type
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB	
Low Channel:5745MHz							
V	11490.00	43.74	3.31	47.05	74.00	-26.95	PK
V	11490.00	34.45	3.31	37.76	54.00	-16.24	AV
V	17235.00	33.82	10.10	43.92	68.20	-24.28	PK
V	17235.00	29.18	10.10	39.28	54.00	-14.72	AV
V	22980.00	49.88	-4.61	45.27	74.00	-28.73	PK
V	22980.00	39.83	-4.61	35.22	54.00	-18.78	AV
V	28725.00	41.29	0.87	42.16	68.20	-26.04	PK
V	28725.00	37.24	0.87	38.11	54.00	-15.89	AV
V	34470.00	41.80	3.82	45.62	68.20	-22.58	PK
V	34470.00	36.84	3.82	40.66	54.00	-13.34	AV
H	11490.00	44.34	3.31	47.65	74.00	-26.35	PK
H	11490.00	34.64	3.31	37.95	54.00	-16.05	AV
H	17235.00	33.00	10.10	43.10	68.20	-25.10	PK
H	17235.00	28.51	10.10	38.61	54.00	-15.39	AV
H	22980.00	49.50	-4.61	44.89	74.00	-29.11	PK
H	22980.00	39.61	-4.61	35.00	54.00	-19.00	AV
H	28725.00	43.40	0.87	44.27	68.20	-23.93	PK
H	28725.00	39.50	0.87	40.37	54.00	-13.63	AV
H	34470.00	42.26	3.82	46.08	68.20	-22.12	PK
H	34470.00	38.05	3.82	41.87	54.00	-12.13	AV

Remark:

1. Emission Level = Meter Reading + Factor,
Factor=Antenna Factor + Cable Loss – Pre-amplifier
Margin= Emission Level – Limit
2. If peak below the average limit, the average emission was no test.
3. The amplitude of spurious emissions which are attenuated by more than 20dB below the permissible value has no need to be reported.

Polar (H/V)	Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detect or Type
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB	
Low Channel:5785MHz							
V	11570.00	43.53	3.34	46.87	74.00	-27.13	PK
V	11570.00	34.11	3.34	37.45	54.00	-16.55	AV
V	17355.00	32.51	10.52	43.03	68.20	-25.17	PK
V	17355.00	28.20	10.52	38.72	54.00	-15.28	AV
V	23140.00	49.56	-4.66	44.90	74.00	-29.10	PK
V	23140.00	40.11	-4.66	35.45	54.00	-18.55	AV
V	28925.00	42.96	1.36	44.32	68.20	-23.88	PK
V	28925.00	38.44	1.36	39.80	54.00	-14.20	AV
V	34710.00	42.57	3.95	46.52	68.20	-21.68	PK
V	34710.00	37.70	3.95	41.65	54.00	-12.35	AV
H	11570.00	44.51	3.34	47.85	74.00	-26.15	PK
H	11570.00	35.09	3.34	38.43	54.00	-15.57	AV
H	17355.00	31.71	10.52	42.23	68.20	-25.97	PK
H	17355.00	28.51	10.52	39.03	54.00	-14.97	AV
H	23140.00	50.07	-4.66	45.41	74.00	-28.59	PK
H	23140.00	39.98	-4.66	35.32	54.00	-18.68	AV
H	28925.00	43.68	1.36	45.04	68.20	-23.16	PK
H	28925.00	39.61	1.36	40.97	54.00	-13.03	AV
H	34710.00	43.11	3.95	47.06	68.20	-21.14	PK
H	34710.00	38.04	3.95	41.99	54.00	-12.01	AV

Remark:

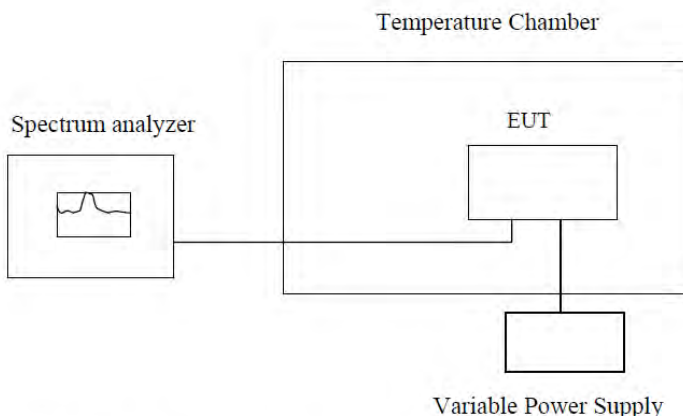
1. Emission Level = Meter Reading + Factor,
Factor=Antenna Factor + Cable Loss – Pre-amplifier
Margin= Emission Level – Limit
2. If peak below the average limit, the average emission was no test.
3. The amplitude of spurious emissions which are attenuated by more than 20dB below the permissible value has no need to be reported.

Polar (H/V)	Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detect or Type
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB	
Low Channel:5825MHz							
V	11650.00	43.50	3.36	46.86	74.00	-27.14	PK
V	11650.00	33.87	3.36	37.23	54.00	-16.77	AV
V	17475.00	32.05	10.93	42.98	68.20	-25.22	PK
V	17475.00	28.57	10.93	39.50	54.00	-14.50	AV
V	23300.00	44.94	-4.77	40.17	68.20	-28.03	PK
V	23300.00	40.73	-4.77	35.96	54.00	-18.04	AV
V	29125.00	42.71	1.65	44.36	68.20	-23.84	PK
V	29125.00	37.71	1.65	39.36	54.00	-14.64	AV
V	34950.00	41.08	4.09	45.17	68.20	-23.03	PK
V	34950.00	37.11	4.09	41.20	54.00	-12.80	AV
H	11650.00	43.87	3.36	47.23	74.00	-26.77	PK
H	11650.00	34.36	3.36	37.72	54.00	-16.28	AV
H	17475.00	31.49	10.93	42.42	68.20	-25.78	PK
H	17475.00	26.91	10.93	37.84	54.00	-16.16	AV
H	23300.00	44.53	-4.77	39.76	68.20	-28.44	PK
H	23300.00	40.20	-4.77	35.43	54.00	-18.57	AV
H	29125.00	41.64	1.65	43.29	68.20	-24.91	PK
H	29125.00	38.63	1.65	40.28	54.00	-13.72	AV
H	34950.00	41.97	4.09	46.06	68.20	-22.14	PK
H	34950.00	37.29	4.09	41.38	54.00	-12.62	AV

Remark:

1. Emission Level = Meter Reading + Factor,
Factor=Antenna Factor + Cable Loss – Pre-amplifier
Margin= Emission Level – Limit
2. If peak below the average limit, the average emission was no test.
3. The amplitude of spurious emissions which are attenuated by more than 20dB below the permissible value has no need to be reported.

4.9 Frequency stability

Test Requirement:	47CFR Part 15.407(g)
Test Method:	ANSI C63.10-2020§6.8
Limit:	Manufactures of U-NII devices are responsible for ensuring frequency stability such that an emission is maintained within the band of operation under all conditions of normal operation as specified
Test Procedure:	a. The EUT was placed inside the environmental test chamber and powered by nominal DC voltage. b. Turn the EUT on and couple its output to a spectrum analyzer. c. Turn the EUT off and set the chamber to the highest temperature specified. d. Allow sufficient time (approximately 30 min) for the temperature of the chamber to stabilize, turn the EUT on and measure the operating frequency after 2, 5, and 10 Minutes. e. Repeat step 2 and 3 with the temperature chamber set to the lowest temperature. f. The test chamber was allowed to stabilize at +20 degree C for a minimum of 30 Minute s. The supply voltage was then adjusted on the EUT from 85% to 115% and the frequency record.
Test setup:	 Note : Measurement setup for testing on Antenna connector
Test Instruments:	Refer to section 3.0 for details
Test mode:	Refer to section 2.2 for details
Test results:	Pass

Remark: Set the EUT transmits at un-modulation mode to test frequency stability.

Measurement data:

Frequency stability versus Temp.					
Power Supply: 11.1V DC					
Temp. (°C)	Operating Frequency (MHz)	0 minute Measured Frequency (MHz)	2 minute Measured Frequency (MHz)	5 minute Measured Frequency (MHz)	10 minute Measured Frequency (MHz)
-30	5180	5179.986	5179.995	5179.992	5179.993
	5190	5189.982	5189.996	5189.983	5190.023
	5200	5199.977	5199.987	5199.991	5200.048
	5210	5209.983	5209.995	5209.983	5210.032
	5220	5219.978	5219.987	5220.004	5220.023
	5230	5229.976	5230.008	5229.982	5230.051
	5240	5239.989	5239.986	5240.000	5240.039
-20	5180	5179.938	5179.995	5179.980	5180.036
	5190	5189.968	5189.996	5189.991	5190.031
	5200	5199.963	5199.987	5199.982	5200.033
	5210	5209.977	5209.995	5209.983	5210.034
	5220	5219.968	5219.987	5219.990	5220.049
	5230	5229.976	5230.008	5229.998	5230.042
	5240	5239.984	5239.986	5239.980	5240.050
-10	5180	5179.976	5179.995	5179.992	5180.000
	5190	5189.977	5189.996	5189.983	5190.030
	5200	5199.968	5199.987	5199.991	5200.035
	5210	5209.976	5209.995	5209.983	5210.039
	5220	5219.968	5219.987	5220.004	5220.030
	5230	5229.989	5230.008	5229.982	5230.038
	5240	5239.967	5239.986	5240.000	5240.046
0	5180	5179.928	5179.998	5179.998	5180.038
	5190	5189.924	5189.994	5189.988	5190.038
	5200	5199.919	5199.989	5199.998	5200.049
	5210	5209.925	5209.995	5209.948	5210.050
	5220	5219.920	5220.000	5219.994	5220.035
	5230	5229.918	5230.004	5230.000	5230.052
	5240	5239.981	5240.004	5240.001	5240.037
10	5180	5179.965	5179.996	5179.992	5180.041
	5190	5189.976	5189.987	5189.983	5190.041
	5200	5199.967	5199.995	5199.991	5200.037
	5210	5209.968	5209.987	5209.983	5210.032

	5220	5219.975	5220.008	5220.004	5220.048
	5230	5229.983	5229.986	5229.982	5230.033
	5240	5239.965	5240.004	5240.000	5240.031
20	5180	5179.986	5179.995	5179.992	5179.993
	5190	5189.982	5189.996	5189.983	5190.023
	5200	5199.977	5199.987	5199.991	5200.048
	5210	5209.983	5209.995	5209.983	5210.032
	5220	5219.978	5219.987	5220.004	5220.023
	5230	5229.976	5230.008	5229.982	5230.051
	5240	5239.949	5239.986	5240.000	5240.039
30	5180	5179.916	5179.993	5179.991	5180.042
	5190	5189.912	5190.007	5189.822	5190.046
	5200	5199.907	5199.990	5199.990	5200.031
	5210	5209.913	5209.993	5209.992	5210.052
	5220	5219.908	5220.008	5219.993	5220.043
	5230	5229.905	5230.001	5229.990	5230.038
	5240	5239.878	5240.009	5239.994	5240.043
40	5180	5179.976	5179.984	5179.992	5180.031
	5190	5189.977	5189.995	5189.983	5190.032
	5200	5199.907	5199.995	5200.000	5200.031
	5210	5209.913	5209.993	5209.992	5210.039
	5220	5219.908	5220.000	5219.993	5220.043
	5230	5229.989	5230.002	5229.982	5230.044
	5240	5239.967	5239.984	5240.000	5240.022
50	5180	5179.938	5179.995	5179.980	5180.046
	5190	5189.968	5189.996	5189.991	5190.031
	5200	5199.983	5199.987	5199.982	5200.043
	5210	5209.913	5210.007	5209.992	5210.043
	5220	5219.908	5220.002	5219.999	5220.044
	5230	5229.905	5230.009	5229.994	5230.042
	5240	5239.978	5240.007	5239.988	5240.043

Frequency stability versus Voltage					
Temperature: 25°C					
Power Supply (VAC)	Operating Frequency (MHz)	0 minute Measured Frequency (MHz)	2 minute Measured Frequency (MHz)	5 minute Measured Frequency (MHz)	10 minute Measured Frequency (MHz)
9.435V DC	5180	5179.902	5180.008	5179.990	5180.037
	5190	5189.978	5189.998	5189.991	5190.035
	5200	5199.976	5200.000	5199.992	5200.039
	5210	5209.979	5209.985	5209.988	5210.049
	5220	5219.989	5219.993	5219.992	5220.038
	5230	5229.966	5229.998	5229.991	5300.042
	5240	5239.974	5240.007	5240.000	5240.039
11.1V DC	5180	5179.916	5180.003	5179.991	5180.042
	5190	5189.972	5189.997	5189.992	5190.026
	5200	5199.977	5199.985	5199.990	5200.031
	5210	5209.913	5209.993	5209.966	5210.049
	5220	5219.908	5220.008	5219.993	5220.043
	5230	5229.905	5230.000	5229.990	5230.035
	5240	5239.978	5240.007	5239.994	5240.043
12.765V DC	5180	5179.986	5180.005	5179.980	5180.020
	5190	5189.982	5190.001	5189.991	5190.031
	5200	5199.977	5199.996	5199.982	5200.021
	5210	5209.983	5210.002	5209.983	5210.023
	5220	5219.978	5219.997	5219.990	5220.030
	5230	5229.976	5229.995	5229.995	5230.053
	5240	5239.979	5239.998	5239.980	5240.020

Frequency stability versus Temp.					
Power Supply: 11.1V DC					
Temp. (°C)	Operating Frequency (MHz)	0 minute Measured Frequency (MHz)	2 minute Measured Frequency (MHz)	5 minute Measured Frequency (MHz)	10 minute Measured Frequency (MHz)
-30	5745	5744.989	5744.997	5744.993	5745.041
	5755	5754.977	5754.993	5754.997	5755.023
	5775	5774.969	5774.992	5774.998	5775.032
	5785	5784.978	5784.995	5785.001	5785.023
	5795	5794.969	5795.006	5794.984	5795.034
	5825	5824.980	5824.987	5824.980	5825.037
-20	5745	5744.883	5744.977	5744.994	5745.024
	5755	5754.908	5754.993	5754.996	5755.050
	5775	5774.888	5774.992	5774.999	5775.046
	5785	5784.897	5784.995	5784.991	5785.030
	5795	5794.975	5795.006	5794.982	5795.019
	5825	5824.980	5824.987	5824.991	5825.033
-10	5745	5744.969	5744.988	5744.978	5745.038
	5755	5754.976	5754.995	5755.003	5755.033
	5775	5774.968	5774.992	5774.984	5775.037
	5785	5784.960	5784.988	5784.993	5785.038
	5795	5794.967	5794.984	5794.991	5795.041
	5825	5824.976	5824.987	5825.001	5825.042
0	5745	5744.963	5744.987	5744.984	5745.043
	5755	5754.973	5754.994	5754.991	5755.042
	5775	5774.984	5774.986	5774.995	5775.033
	5785	5784.970	5784.978	5784.984	5785.030
	5795	5794.966	5794.985	5794.980	5795.048
	5825	5824.964	5824.994	5824.983	5825.040
10	5745	5744.960	5744.998	5744.978	5745.034
	5755	5754.975	5755.000	5755.003	5755.048
	5775	5774.974	5775.003	5774.984	5775.033
	5785	5784.977	5784.995	5784.993	5785.020
	5795	5794.987	5794.986	5794.991	5795.014
	5825	5824.969	5824.995	5825.001	5825.048
20	5745	5744.980	5744.987	5744.994	5745.023
	5755	5754.982	5755.004	5754.998	5755.042
	5775	5774.979	5775.005	5774.993	5775.022
	5785	5784.966	5784.987	5784.980	5785.049
	5795	5794.960	5795.004	5794.974	5795.041
	5825	5824.986	5825.002	5824.944	5825.050
30	5745	5744.959	5744.998	5744.978	5745.042
	5755	5754.975	5755.000	5755.003	5755.048
	5775	5774.974	5775.003	5774.984	5775.033
	5785	5784.977	5784.995	5784.993	5785.020
	5795	5794.988	5794.986	5794.991	5795.014
	5825	5824.969	5824.995	5825.001	5825.048
40	5745	5744.970	5744.987	5744.978	5745.018
	5755	5754.977	5755.004	5755.003	5755.043
	5775	5774.969	5775.005	5774.984	5775.024
	5785	5784.961	5784.987	5784.993	5785.033

50	5795	5794.968	5795.004	5794.991	5795.031
	5825	5824.987	5825.002	5825.001	5825.041
	5745	5744.964	5744.987	5744.983	5745.024
	5755	5754.989	5755.004	5754.990	5755.031
	5775	5774.970	5775.005	5774.982	5775.048
	5785	5784.979	5784.987	5784.974	5785.024
	5795	5794.977	5795.004	5794.981	5795.020
	5825	5824.987	5825.002	5824.910	5825.023

Frequency stability versus Voltage					
Temperature: 25°C					
Power Supply (VAC)	Operating Frequency (MHz)	0 minute Measured Frequency (MHz)	2 minute Measured Frequency (MHz)	5 minute Measured Frequency (MHz)	10 minute Measured Frequency (MHz)
9.435V DC	5745	5744.979	5744.997	5744.994	5745.038
	5755	5754.975	5754.994	5755.000	5755.043
	5775	5774.974	5774.986	5775.001	5775.024
	5785	5784.977	5784.978	5784.983	5785.033
	5795	5794.988	5794.985	5795.001	5795.031
	5825	5824.969	5825.004	5824.998	5825.041
11.1V DC	5745	5744.959	5744.998	5744.978	5745.034
	5755	5754.975	5755.000	5755.003	5755.048
	5775	5774.974	5775.003	5774.984	5775.033
	5785	5784.977	5784.995	5784.993	5785.020
	5795	5794.984	5794.986	5794.991	5795.014
	5825	5824.969	5824.995	5825.001	5825.048
12.765V DC	5745	5744.889	5744.995	5744.994	5745.051
	5755	5754.976	5755.007	5754.998	5755.039
	5775	5774.982	5774.991	5774.993	5775.049
	5785	5784.988	5785.991	5784.980	5785.045
	5795	5794.987	5794.986	5794.991	5795.014
	5825	5824.969	5824.995	5825.001	5825.048

5 Test Setup Photo

Reference to the file No.: ET-25103929SP for details.

6 EUT Constructional Details

Reference to the file No.: ET-25103929EP and ET-25103929IP for details

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