



TEST REPORT

Applicant: Shenzhen Huion Trend Technology Co., Ltd.
Address of Applicant: Huion Science and Technology Park, Keji 1st Road, Bao'an District, Shenzhen, China
Manufacturer: Shenzhen Huion Trend Technology Co., Ltd.
Address of Manufacturer: Huion Science and Technology Park, Keji 1st Road, Bao'an District, Shenzhen, China
Product Name: Creative Drawing Pad
Model No.: KP1202, X50
Trade Mark: 
FCC ID: 2A8IG-D261
Applicable standards: FCC CFR Title 47 Part 15 Subpart E Section 15.407
Date of Test: Dec.04, 2025-Dec.25, 2025
Date of report issued: Dec.26, 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.

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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:	Creative Drawing Pad
Model No.:	KP1202,X50
Difference of model(s)	All models have the same circuit and RF module, except for the model name and color
Test Model:	KP1202
Hardware Version:	N/A
Software Version:	N/A
Sample(s) Status:	Engineer sample
Operation Frequency:	☒ 5180-5240MHz for 802.11a/n(HT20)/ac20(VHT20); 5190-5230MHz for 802.11n(HT40)/ac40(VHT40); 5210MHz for 802.11 ac80(VHT80); ☒ 5745-5825 MHz for 802.11a/n(HT20)/ac20(VHT20); 5755-5795 MHz for 802.11n(HT40)/ac40(VHT40); 5775MHz for 802.11 ac80(VHT80);
Channel numbers:	☒ 4 channels for 802.11a/n20(HT20)/ac20(VHT20) in the 5180-5240MHz band; 2 channels for 802.11 n40(HT40)/ac40(VHT40) in the 5190-5230MHz band ; 1 channels for 802.11 ac80(VHT80) in the 5210MHz band ; ☒ 5 channels for 802.11802.11a/n20(HT20)/ac20(VHT20) in the 5745-5825MHz band ; 2 channels for 802.11 n40(HT40)/ac40(VHT40) in the 5755-5795MHz band ; 1 channels for 802.11 ac80(VHT80) in the 5775MHz band
Channel bandwidth:	802.11a/802.11n(HT20)/ 802.11ac(VHT20): 20MHz 802.11n(HT40)/ 802.11ac(VHT40) : 40MHz 802.11ac(VHT80) : 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
Modulation technology:	Orthogonal Frequency Division Multiplexing (OFDM) with BPSK/QPSK/16QAM/64QAM/256QAM
Antenna Type:	FPC Antenna
Antenna gain:	2.57dBi (Note: Antenna information is provided by applicant, Testing lab is not responsible for the accuracy of the information.)
Battery	DC 3.8V From Battery or DC 5V From Adapter
Power supply:	DC 3.8V 8000mAh
Adapter Model:	N/A

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)	802.11 n(HT40)/ac(VHT40)	802.11ac(VHT80)
Lowest channel	5180	5190	5210
Middle channel	5200	X	
Highest channel	5240		

Test channel	Frequency (MHz)		
	802.11 a /n(HT20)/ac(VHT20)	802.11 n(HT40)/ac(VHT40)	802.11ac(VHT80)
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 3.8V 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 CH36/ CH40/ CH 48 802.11a /n 20/ac 20 CH149/ CH157/ CH 165
Mode 2	802.11n 40/ac 40 CH38/ CH 46 802.11n 40/ac 40 CH 151 / CH 159
Mode 3	802.11 ac80 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 CH36/ CH40/ CH 48 802.11a /n 20/ac 20 CH149/ CH157/ CH 165
Mode 2	802.11n 40/ac 40 CH38/ CH 46 802.11n 40/ac 40 CH 151 / CH 159
Mode 3	802.11 ac80 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	ADAPTER	XIAOMI	MDY-11-EM	/

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	Engineering mode
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).

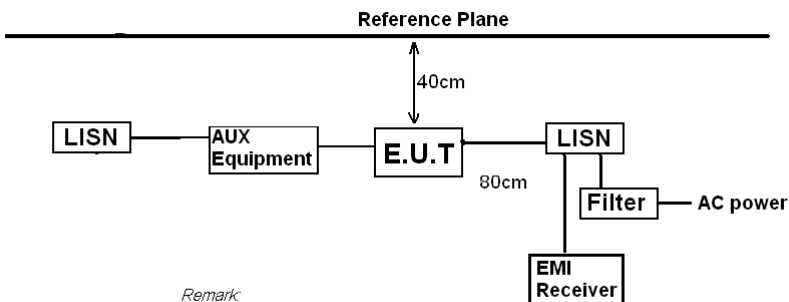
Software Name	Manufacturer	Model	Version
RF test software	MWRFtest	MTS 8310	V2.0.0.0
Conducted test software	EZ-EMC	Farad	Ver.EMC-CON 3A1.1
Radiated test software	EZ-EMC	Farad	Ver.FA-03A2 RE

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 FPC antenna, the best case gain of the is 2.57dBi, reference to the Internal photos for details.	

4.2 Conducted Emissions

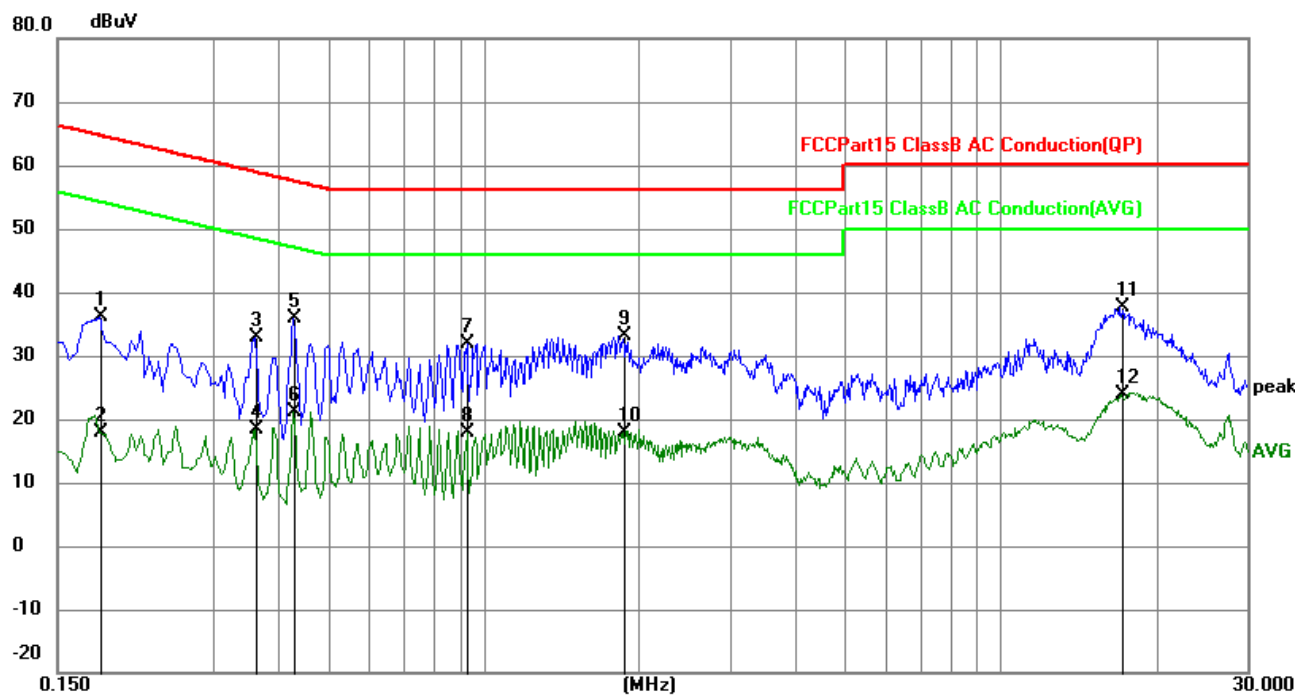
Test Requirement:	47CFR Part 15.207					
Test Method:	ANSI C63.10-2020 §6.2					
Test Frequency Range:	150KHz to 30MHz					
Class / Severity:	Class B					
Receiver setup:	RBW=9KHz, VBW=30KHz, Sweep time=auto					
Limit:	Frequency range (MHz)		Limit (dBuV)			
			Quasi-peak		Average	
	0.15-0.5		66 to 56*		56 to 46*	
	0.5-5		56		46	
	5-30		60		50	
* Decreases with the logarithm of the frequency.						
Test setup:	Reference Plane  Remark 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.:	23.9°C	Humid.:	47%	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 (802.11n20 5745MHz)

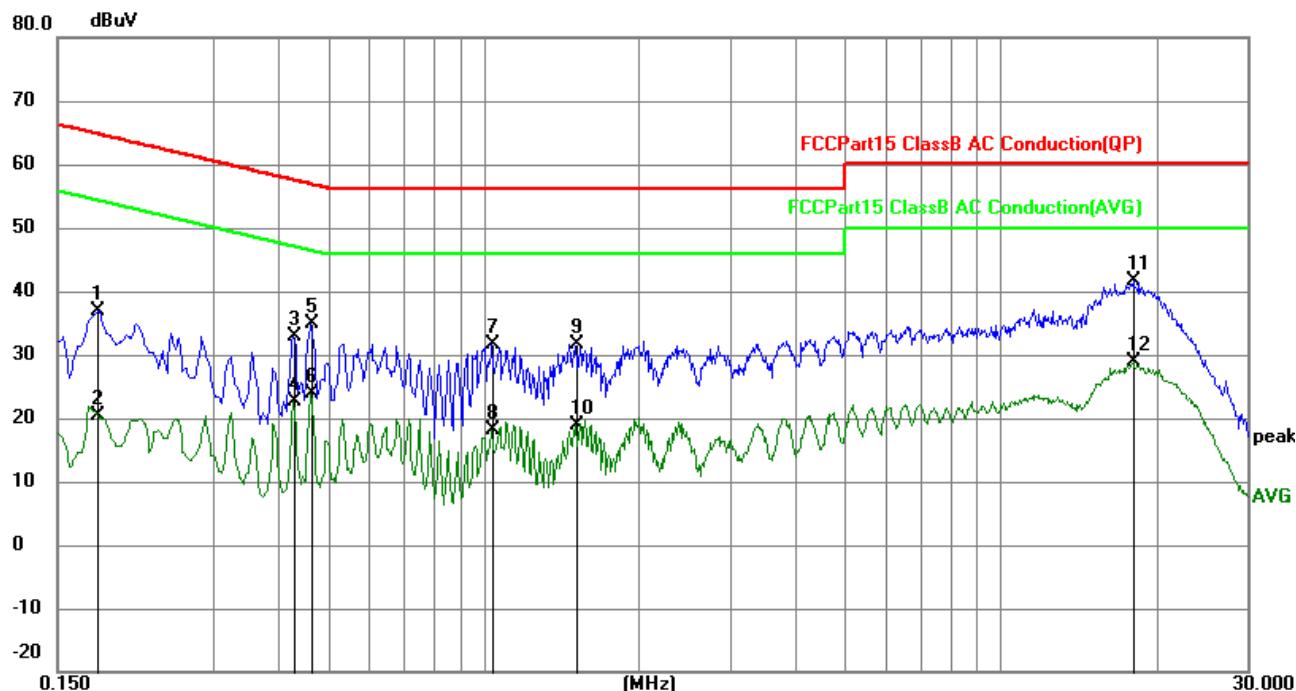
Measurement Result

Line:



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector
1	0.1815	26.28	9.81	36.09	64.42	-28.33	QP
2	0.1815	8.06	9.81	17.87	54.42	-36.55	AVG
3	0.3615	23.00	9.88	32.88	58.69	-25.81	QP
4	0.3615	8.46	9.88	18.34	48.69	-30.35	AVG
5	0.4290	25.89	9.91	35.80	57.27	-21.47	QP
6	0.4290	11.29	9.91	21.20	47.27	-26.07	AVG
7	0.9284	21.93	9.96	31.89	56.00	-24.11	QP
8	0.9284	7.82	9.96	17.78	46.00	-28.22	AVG
9	1.8644	23.31	9.86	33.17	56.00	-22.83	QP
10	1.8644	8.09	9.86	17.95	46.00	-28.05	AVG
11	17.1330	27.79	9.72	37.51	60.00	-22.49	QP
12	17.1330	14.05	9.72	23.77	50.00	-26.23	AVG

Neutral:

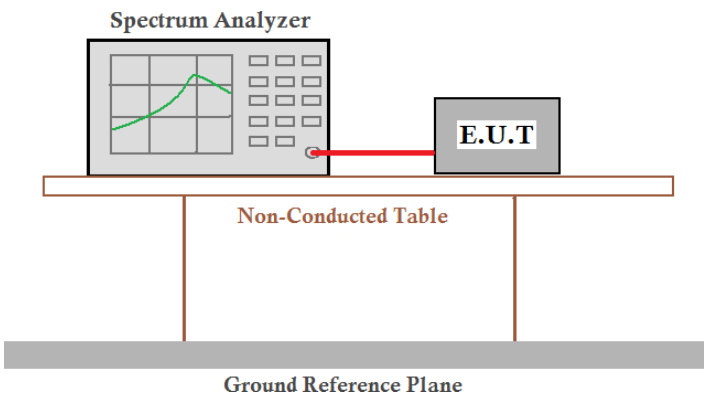


No.	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector
1	0.1796	27.13	9.81	36.94	64.50	-27.56	QP
2	0.1796	10.63	9.81	20.44	54.50	-34.06	AVG
3	0.4290	22.94	9.91	32.85	57.27	-24.42	QP
4	0.4290	12.84	9.91	22.75	47.27	-24.52	AVG
5	0.4650	24.98	9.93	34.91	56.60	-21.69	QP
6	0.4650	14.05	9.93	23.98	46.60	-22.62	AVG
7	1.0409	21.65	9.96	31.61	56.00	-24.39	QP
8	1.0409	8.22	9.96	18.18	46.00	-27.82	AVG
9	1.5044	21.66	9.90	31.56	56.00	-24.44	QP
10	1.5044	8.86	9.90	18.76	46.00	-27.24	AVG
11	18.0465	31.98	9.70	41.68	60.00	-18.32	QP
12	18.0465	19.09	9.70	28.79	50.00	-21.21	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.: 24.9°C	Humid.: 53%RH
Test voltage:	DC 3.8V	
Test results:	Pass	

Measurement Result

5180-5240MHz

Mode	Duty cycle (%)	Correction Factor (dB)
TX 802.11a Mode	100	0.00
TX 802.11n20 Mode	100	0.00
TX 802.11ac20 Mode	100	0.00
TX 802.11n40 Mode	100	0.00
TX 802.11a40 Mode	100	0.00
TX 802.11ac80 Mode	100	0.00

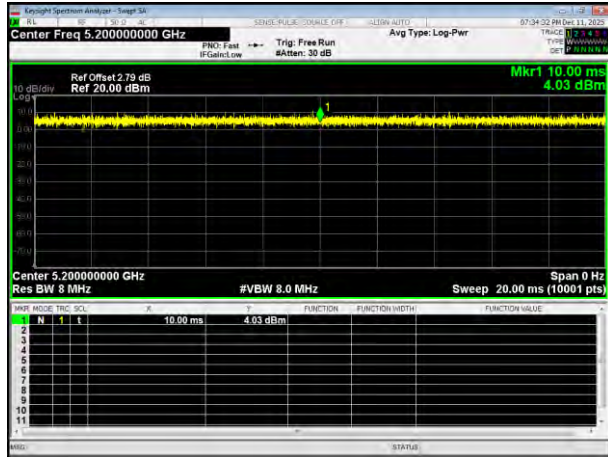
5745-5825 MHz

Mode	Duty cycle (%)	Correction Factor (dB)
TX 802.11a Mode	100	0.00
TX 802.11n20 Mode	100	0.00
TX 802.11ac20 Mode	100	0.00
TX 802.11n40 Mode	100	0.00
TX 802.11a40 Mode	100	0.00
TX 802.11ac80 Mode	100	0.00

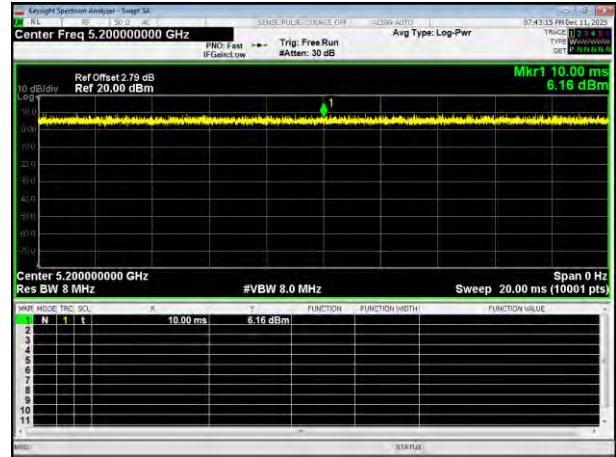
Test plot

5180-5240MHz

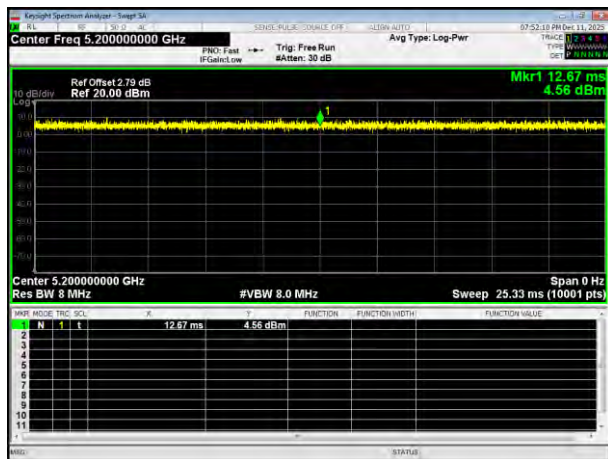
(802.11a) plot



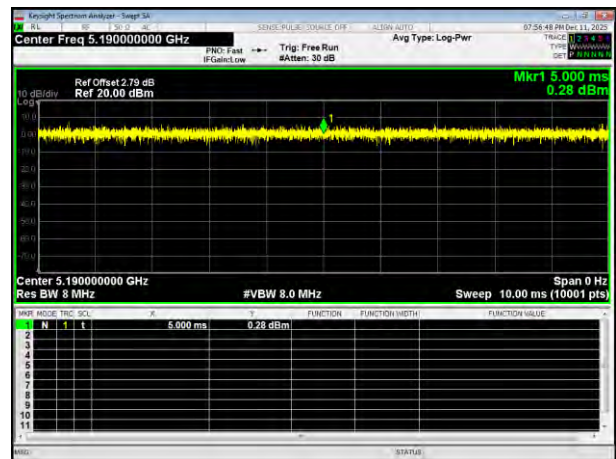
(802.11 n20) plot



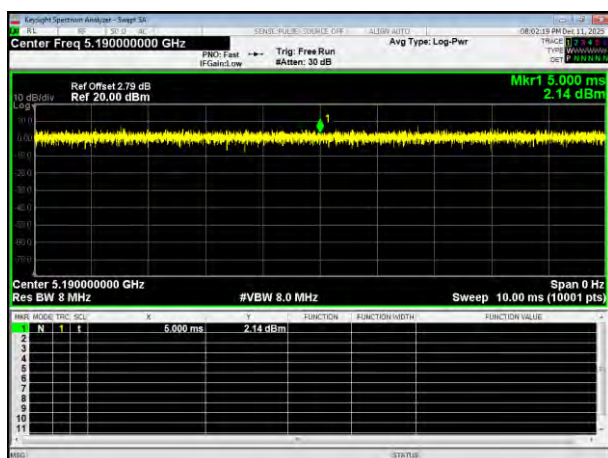
(802.11ac20) plot



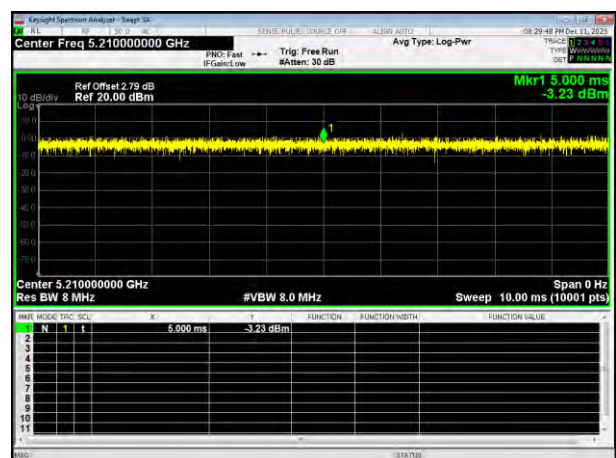
(802.11 n40) plot



(802.11ac40) plot

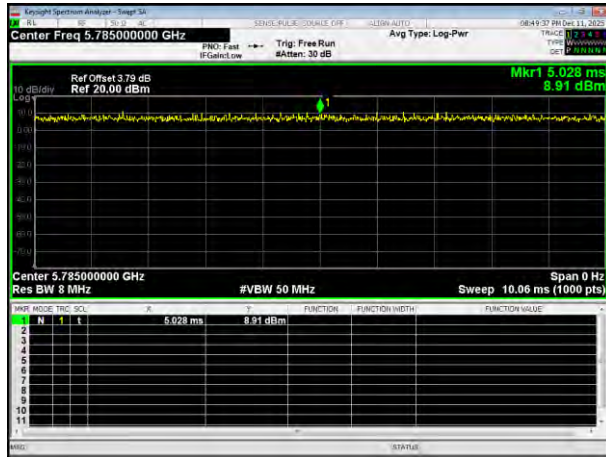


(802.11ac80) plot

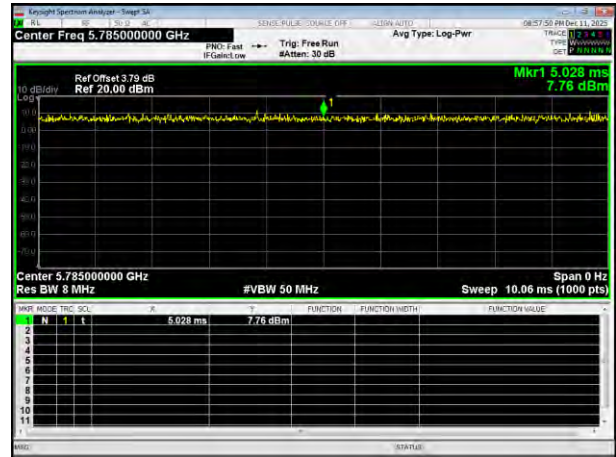


5745-5825 MHz

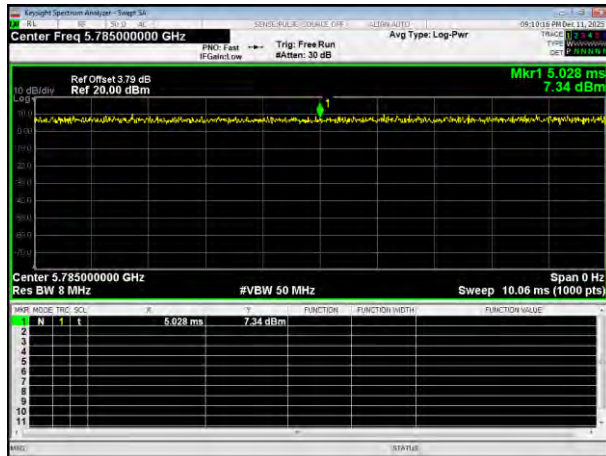
(802.11a) plot



(802.11 n20) plot



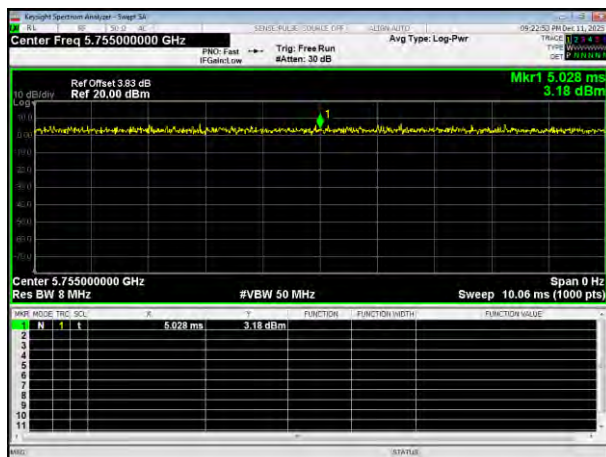
(802.11ac20) plot



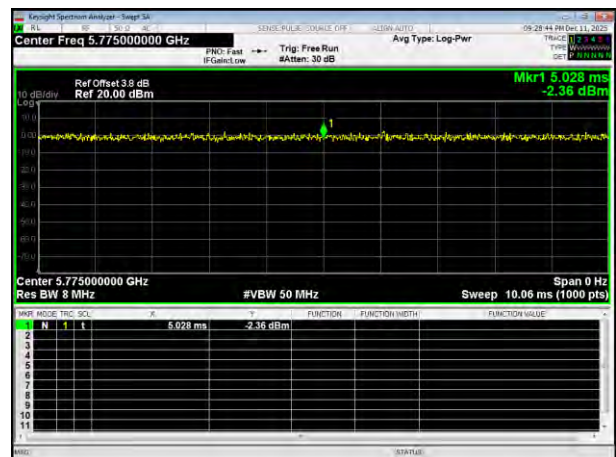
(802.11 n40) plot



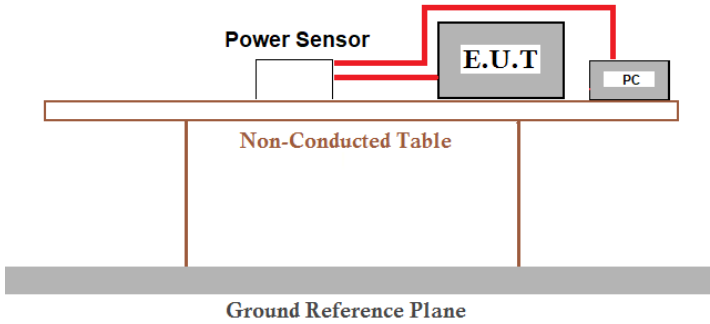
(802.11ac40) plot



(802.11ac80) 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:	 The diagram illustrates the test setup. A 'Power Sensor' is connected via red lines to the 'E.U.T.' (Equipment Under Test) and a 'PC'. Both the E.U.T. and the PC are placed on a 'Non-Conducted Table'. The table is supported by two vertical legs, and a 'Ground Reference Plane' is indicated below the table.	
Test Instruments:	Refer to section 3.0 for details	
Test mode:	Refer to section 2.2 for details	
Test environment:	Temp.: 24.9°C	Humid.: 53%RH
Test voltage:	DC 3.8V	
Test results:	Pass	

Measurement Result

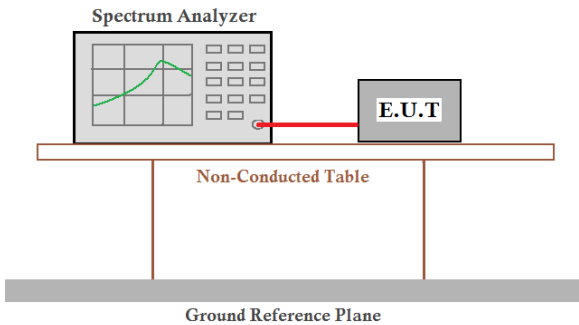
5180-5240MHz

Test Channel	Frequency	Correction Factor	Maximum output power	Total Power	Result
	(MHz)	(dB)	(dBm)	(dBm)	
TX 802.11a Mode					
CH36	5180	0.00	7.79	7.79	Pass
CH40	5200	0.00	7.64	7.64	Pass
CH48	5240	0.00	7.64	7.64	Pass
TX 802.11 n20 Mode					
CH36	5180	0.00	7.81	7.81	Pass
CH40	5200	0.00	7.56	7.56	Pass
CH48	5240	0.00	7.71	7.71	Pass
TX 802.11 ac20 Mode					
CH36	5180	0.00	7.77	7.77	Pass
CH40	5200	0.00	7.60	7.60	Pass
CH48	5240	0.00	7.70	7.70	Pass
TX 802.11 n40 Mode					
CH38	5190	0.00	6.68	6.68	Pass
CH46	5230	0.00	6.81	6.81	Pass
TX 802.11 ac40 Mode					
CH38	5190	0.00	6.81	6.81	Pass
CH46	5230	0.00	6.76	6.76	Pass
TX 802.11 ac80 Mode					
CH42	5210	0.00	5.86	5.86	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	7.91	7.91	30	Pass
CH157	5785	0.00	7.60	7.60	30	Pass
CH165	5825	0.00	7.73	7.73	30	Pass
TX 802.11 n20 Mode						
CH149	5745	0.00	7.93	7.93	30	Pass
CH157	5785	0.00	7.67	7.67	30	Pass
CH165	5825	0.00	7.56	7.56	30	Pass
TX 802.11 ac20 Mode						
CH149	5745	0.00	7.88	7.88	30	Pass
CH157	5785	0.00	7.61	7.61	30	Pass
CH165	5825	0.00	7.68	7.68	30	Pass
TX 802.11 n40 Mode						
CH151	5755	0.00	6.43	6.43	30	Pass
CH159	5795	0.00	6.90	6.90	30	Pass
TX 802.11 ac40 Mode						
CH151	5755	0.00	6.55	6.55	30	Pass
CH159	5795	0.00	6.92	6.92	30	Pass
TX 802.11 ac80 Mode						
CH155	5775	0.00	5.83	5.83	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.: 24.9°C	Humid.: 53%RH
Test voltage:	DC 3.8V	
Test results:	Pass	

Measurement Result

5180-5240MHz

Test CH	-26dB Channel Bandwidth (MHz)						Result
	802.11a	802.11n (HT20)	802.11ac (VHT20)	802.11n (HT40)	802.11ac (VHT40)	802.11ac (VHT80)	
Lowest	22.84	24.31	23.52	41.32	40.79	--	Pass
Middle	22.23	24.05	22.93	--	--	79.64	
Highest	19.86	19.78	19.61	39.71	39.77	--	

(802.11a) plot on channel 36



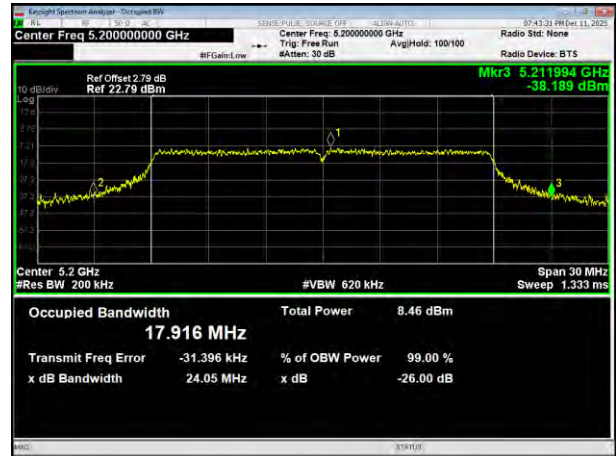
(802.11 n20) plot on channel 36



(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

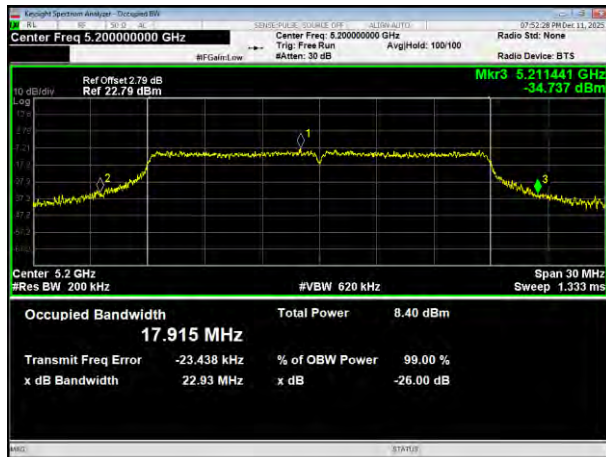
(802.11ac20) plot on channel 36



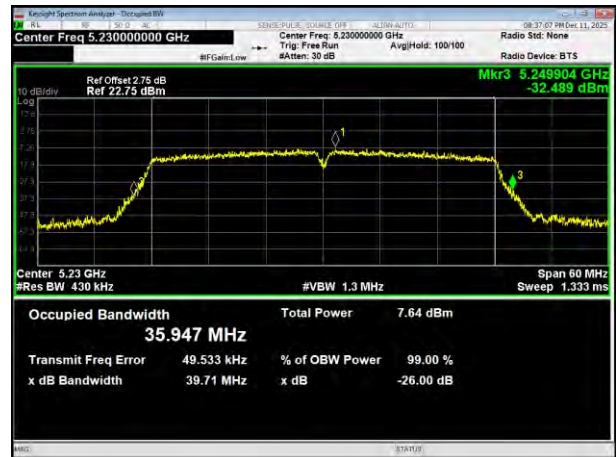
(802.11 n40) plot on channel 38



(802.11ac20) plot on channel 40



(802.11 n40) plot on channel 46

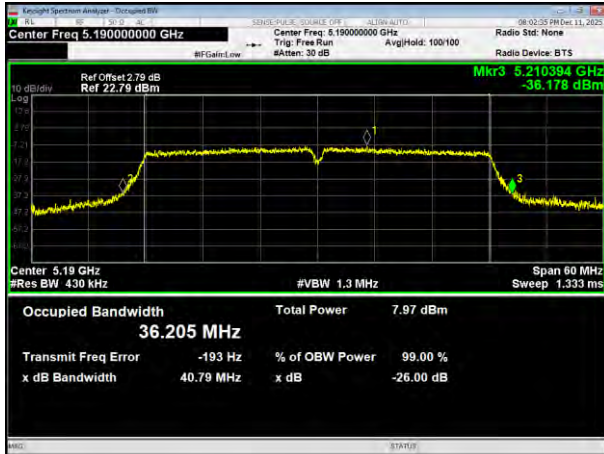


(802.11ac20) plot on channel 48

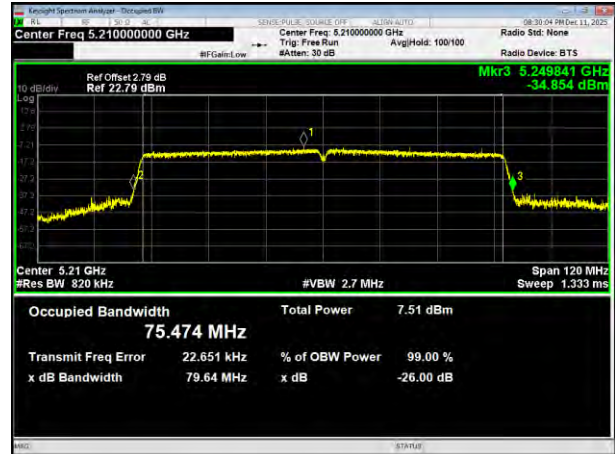


Test plot

(802.11ac40) plot on channel 38



(802.11ac80) plot on channel 42



(802.11ac40) plot on channel 46



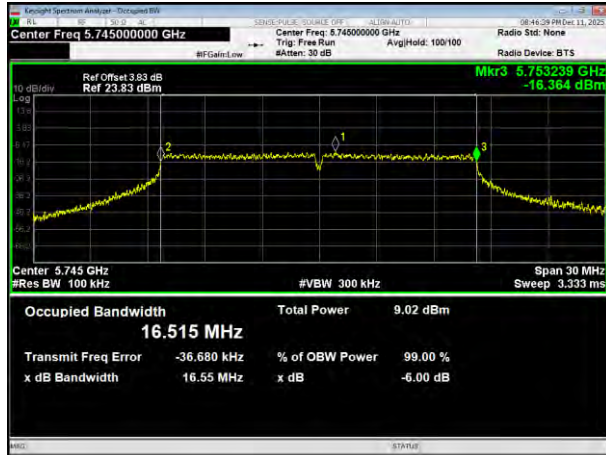
5745-5825MHz

Test CH	-6dB Channel Bandwidth (MHz)						Limit (KHz)	Result
	802.11a	802.11n (HT20)	802.11ac (VHT20)	802.11n (HT40)	802.11ac (VHT40)	802.11ac (VHT80)		
Lowest	16.55	17.84	17.83	36.39	36.37	--	>500	Pass
Middle	16.58	17.78	17.81	--	--	76.37		
Highest	16.55	17.80	17.80	36.37	36.36	--		

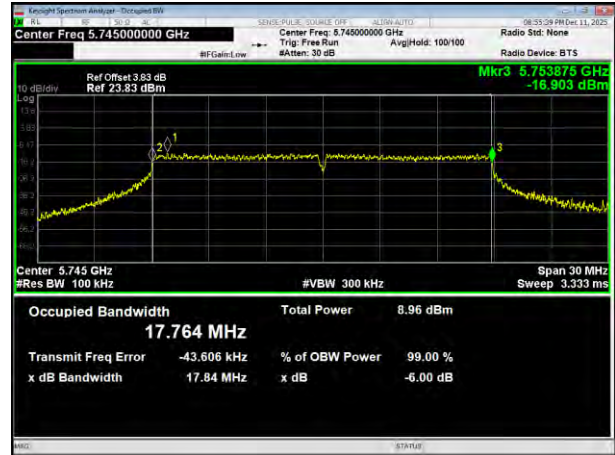
Remark: "---" is not applicable

Test plot

(802.11a) plot on channel 149



(802.11 n20) plot on channel 149



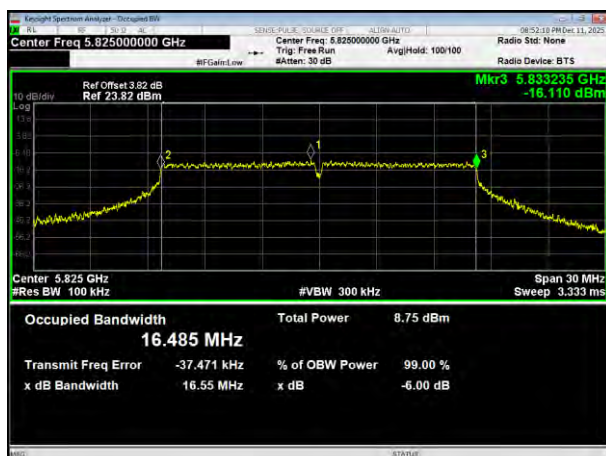
(802.11a) plot on channel 157



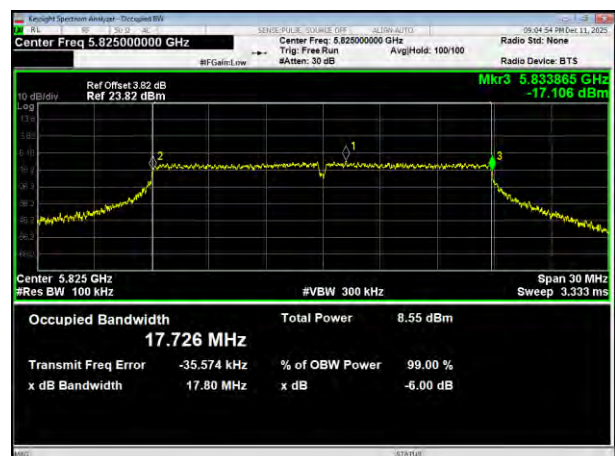
(802.11 n20) plot on channel 157



(802.11a) plot on channel 165



(802.11 n20) plot on channel 165



Test plot

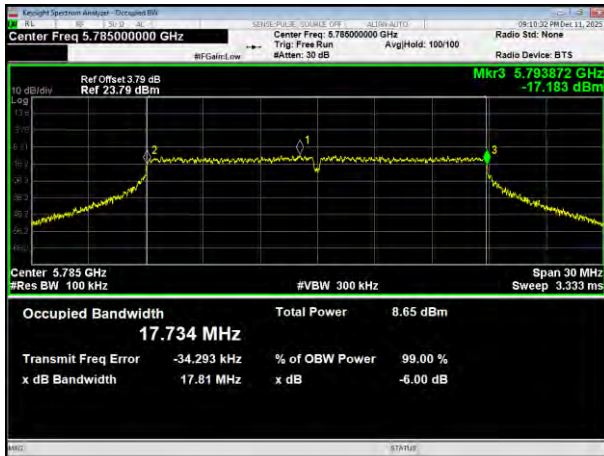
(802.11ac20) plot on channel 149



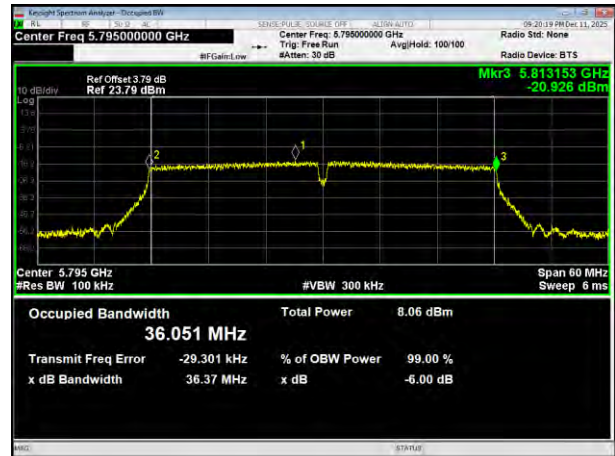
(802.11 n40) plot on channel 151



(802.11ac20) plot on channel 157



(802.11 n40) plot on channel 159



(802.11ac20) plot on channel 165

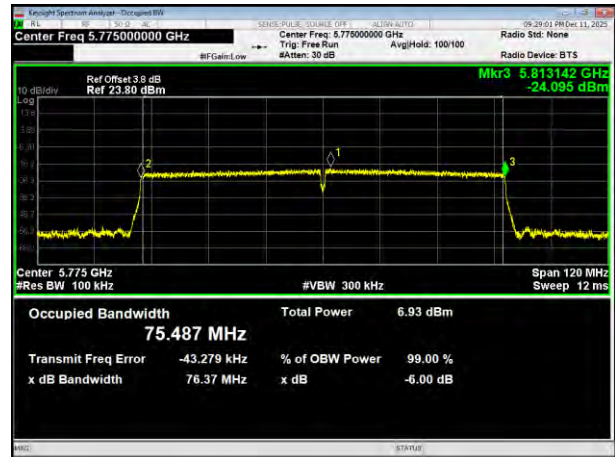


Test plot

(802.11 ac40) plot on channel 151



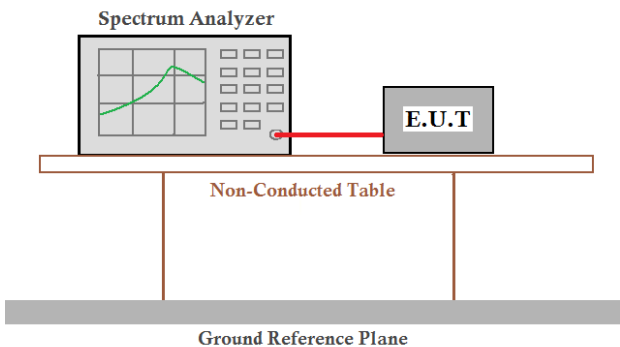
(802.11 ac80) plot on channel 155



(802.11 ac40) plot on channel 159



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:		
Test Instruments:	Refer to section 3.0 for details	
Test mode:	Refer to section 2.2 for details	
Test environment:	Temp.: 24.9°C	Humid.: 53%RH
Test voltage:	DC 3.8V	
Test results:	Pass	

Measurement Result

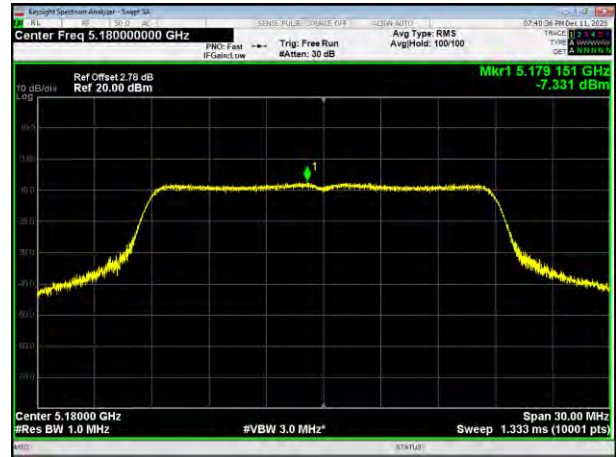
5180-5240MHz

Mode	Frequency	Measured Power Density (dBm/MHz)	Correction Factor (dB)	Total Measured Power Density (dBm/MHz)	Limit (dBm/MHz)
802.11 a	5180 MHz	-7.169	0.00	-7.169	11
	5200 MHz	-7.24	0.00	-7.24	11
	5240 MHz	-7.331	0.00	-7.331	11
802.11 n20	5180 MHz	-7.331	0.00	-7.331	11
	5200 MHz	-7.767	0.00	-7.767	11
	5240 MHz	-7.79	0.00	-7.79	11
802.11 ac20	5180 MHz	-10.883	0.00	-10.883	11
	5200 MHz	-10.809	0.00	-10.809	11
	5240 MHz	-7.403	0.00	-7.403	11
802.11 n40	5190 MHz	-7.541	0.00	-7.541	11
	5230 MHz	-7.702	0.00	-7.702	11
802.11 ac40	5190 MHz	-10.491	0.00	-10.491	11
	5230 MHz	-11.217	0.00	-11.217	11
802.11 ac80	5210 MHz	-15.18	0.00	-15.18	11

(802.11a) PSD plot on channel 36



(802.11n20) PSD plot on channel 36



(802.11a) PSD plot on channel 40



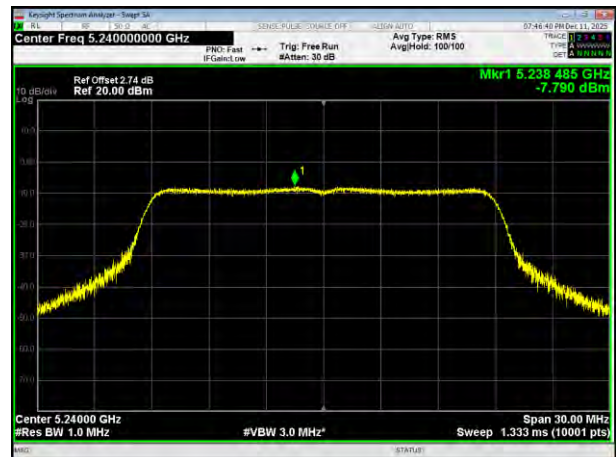
(802.11n20) PSD plot on channel 40



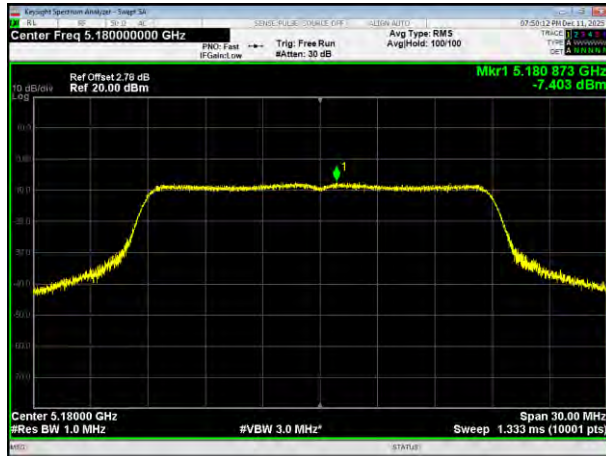
(802.11a) PSD plot on channel 48



(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



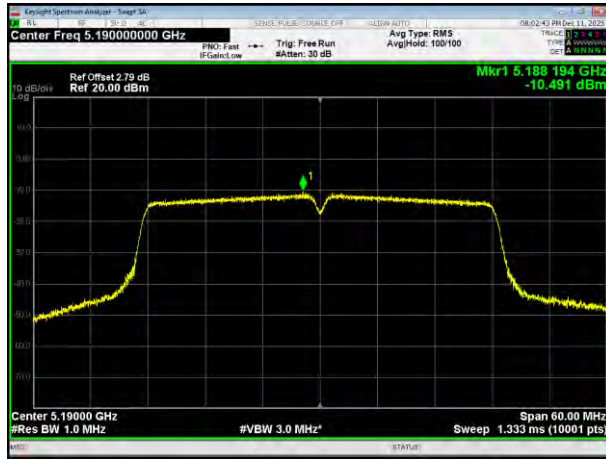
(802.11n40) PSD plot on channel 46



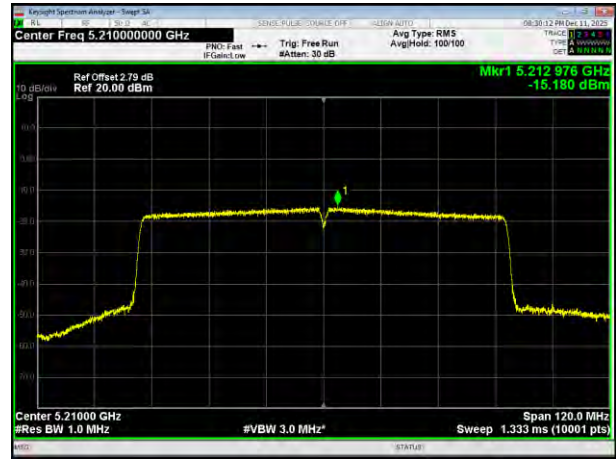
(802.11ac20) PSD plot on channel 48



(802.11ac40) PSD plot on channel 38



(802.11ac80) PSD plot on channel 42



(802.11ac40) PSD plot on channel 46



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	-9.85	-9.936	0.00	-9.936	30
	5785 MHz	-10.318	-10.404	0.00	-10.404	30
	5825 MHz	-9.868	-9.954	0.00	-9.954	30
802.11 n20	5745 MHz	-10.305	-10.391	0.00	-10.391	30
	5785 MHz	-10.376	-10.462	0.00	-10.462	30
	5825 MHz	-10.317	-10.403	0.00	-10.403	30
802.11ac20	5745 MHz	-14.375	-14.461	0.00	-14.461	30
	5785 MHz	-13.831	-13.917	0.00	-13.917	30
	5825 MHz	-10.619	-10.705	0.00	-10.705	30
802.11 n40	5755 MHz	-10.57	-10.656	0.00	-10.656	30
	5795 MHz	-10.451	-10.537	0.00	-10.537	30
802.11ac40	5755 MHz	-14.122	-14.208	0.00	-14.208	30
	5795 MHz	-13.703	-13.789	0.00	-13.789	30
802.11ac80	5775 MHz	-18.456	-18.542	0.00	-18.542	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

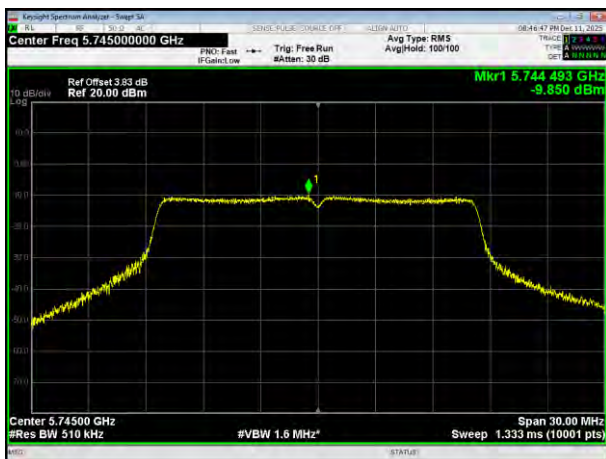
(802.11a) PSD plot on channel 149



(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



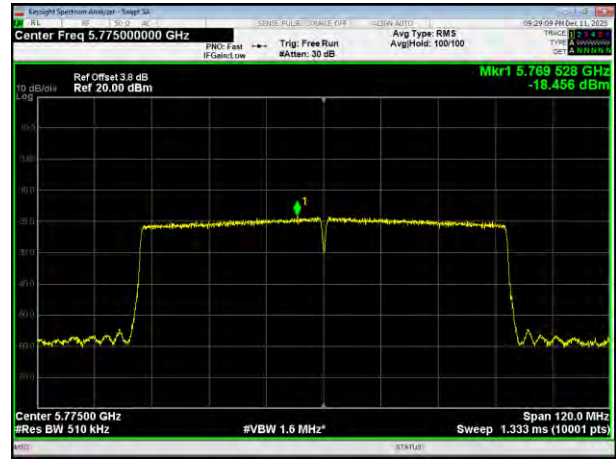
(802.11ac20) PSD plot on channel 165



(802.11ac40) PSD plot on channel 151



(802.11ac80) PSD plot on channel 155

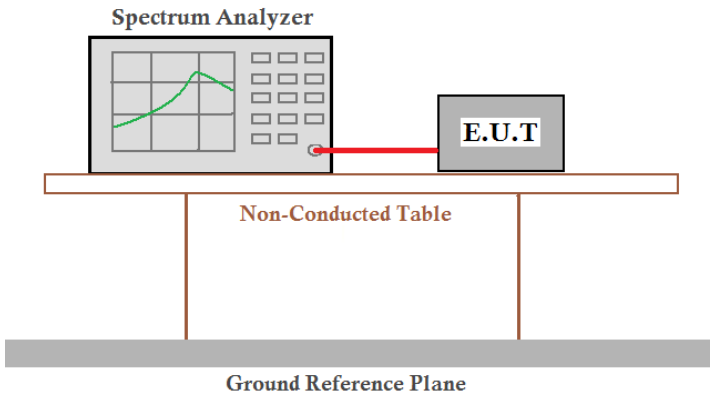


(802.11ac40) PSD plot on channel 159



4.7 Band edge

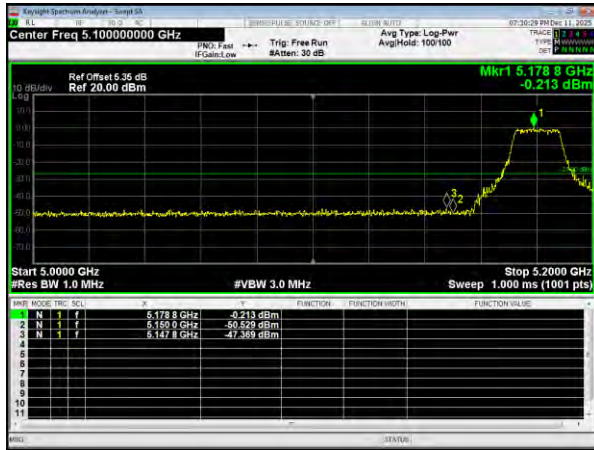
4.7.1 Conducted test Method

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:		
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.: 24.9°C	Humid.: 53%RH
Test voltage:	DC 3.8V	
Test results:	Pass	

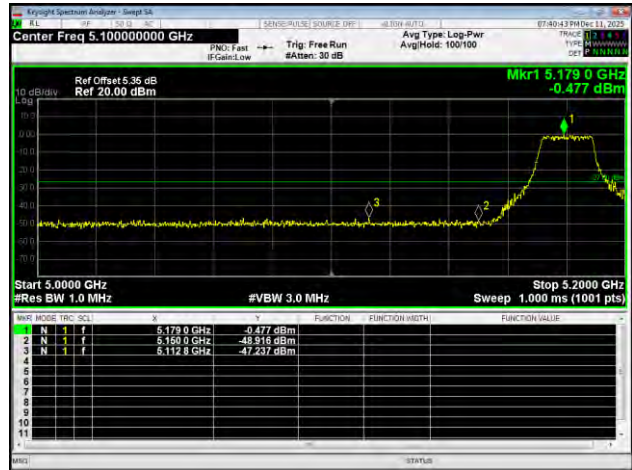
Remark: Antenna gain and cable loss data included in Offset.

5.180~5.240 GHz

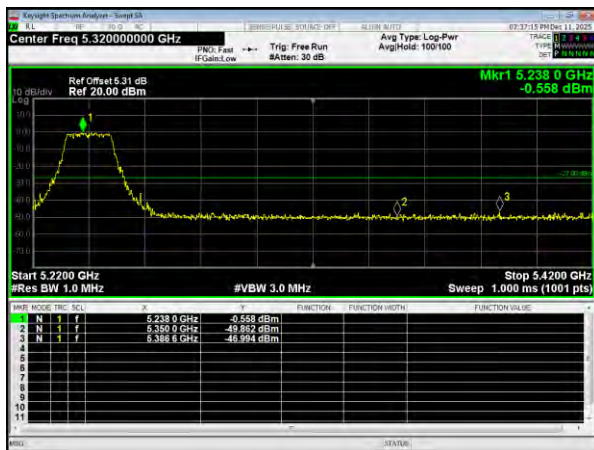
(802.11a) Band Edge, Left Side



(802.11n20) Band Edge, Left Side



(802.11a) Band Edge, Right Side

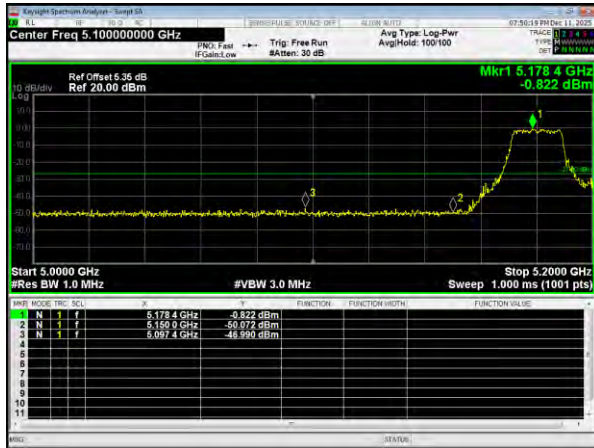


(802.11n20) Band Edge, Right Side

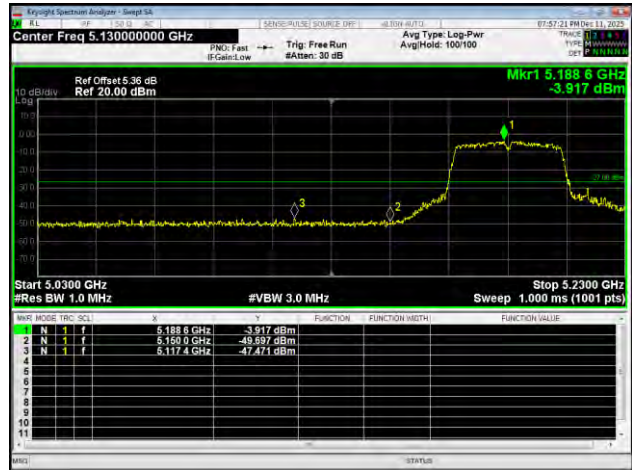


Remark: Antenna gain and cable loss data included in Offset.

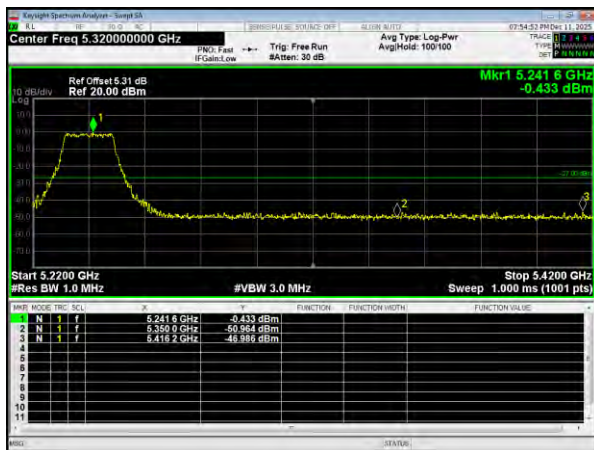
(802.11ac20) Band Edge, Left Side



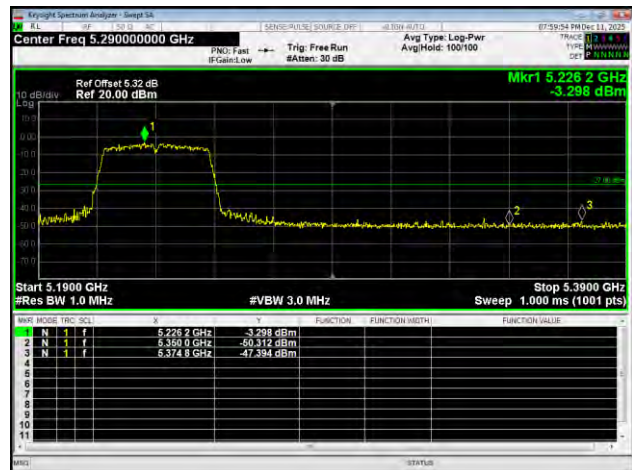
(802.11n40) Band Edge, Left Side



(802.11ac20) Band Edge, Right Side

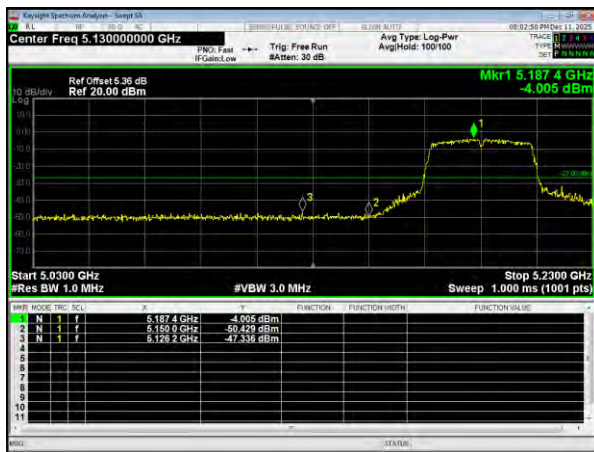


(802.11n40) Band Edge, Right Side



Remark: Antenna gain and cable loss data included in Offset.

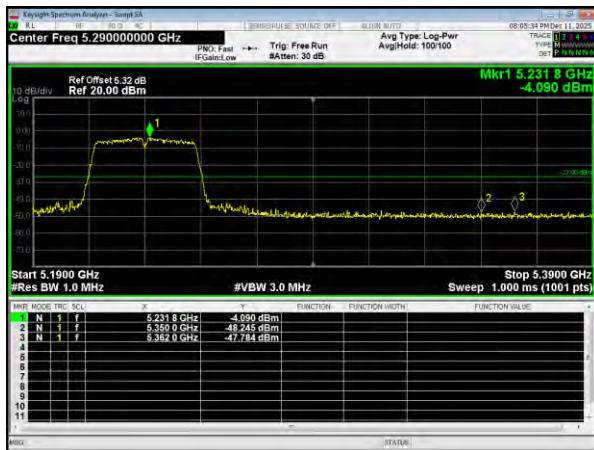
(802.11ac40) Band Edge, Left Side



(802.11ac80) Band Edge



(802.11ac40) Band Edge, Right Side



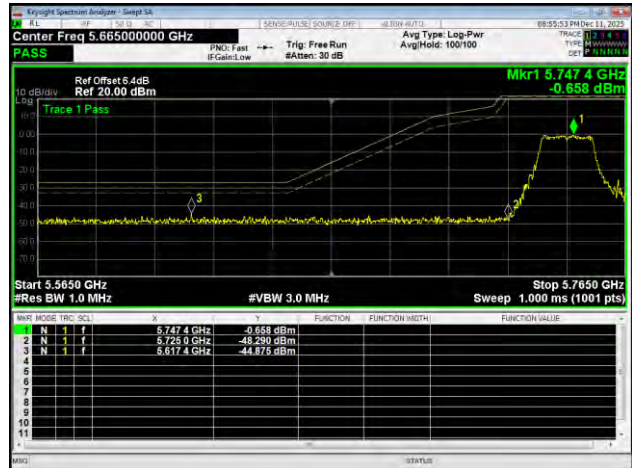
Remark: Antenna gain and cable loss data included in Offset.

5.745~5.825 GHz

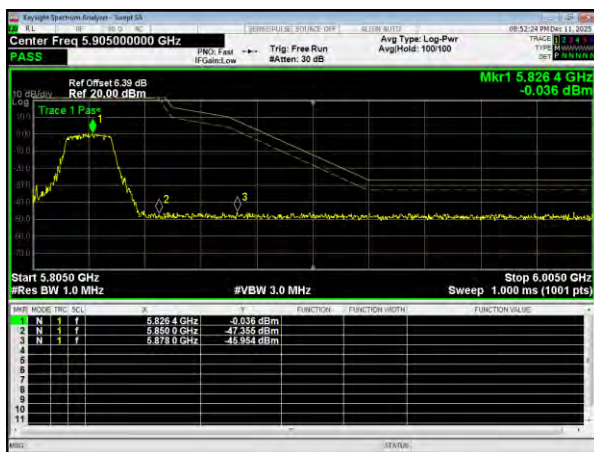
(802.11a) Band Edge, Left Side



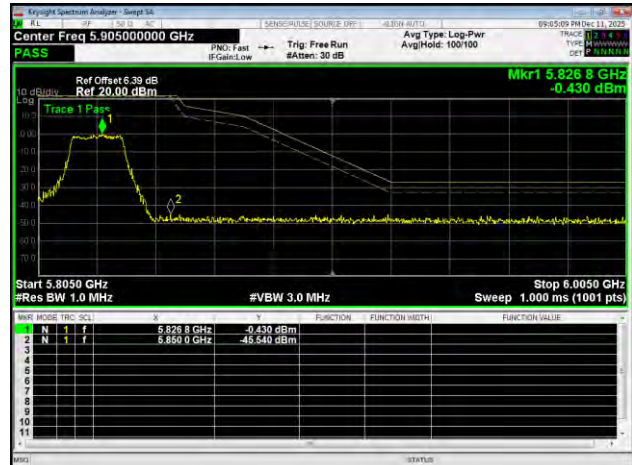
(802.11n20) Band Edge, Left Side



(802.11a) Band Edge, Right Side

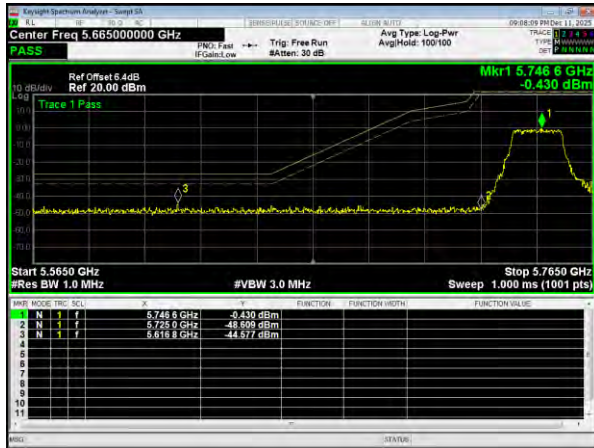


(802.11n20) Band Edge, Right Side

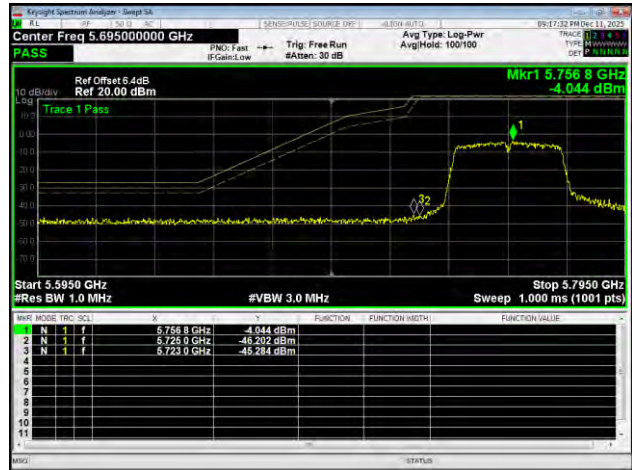


Remark: Antenna gain and cable loss data included in Offset.

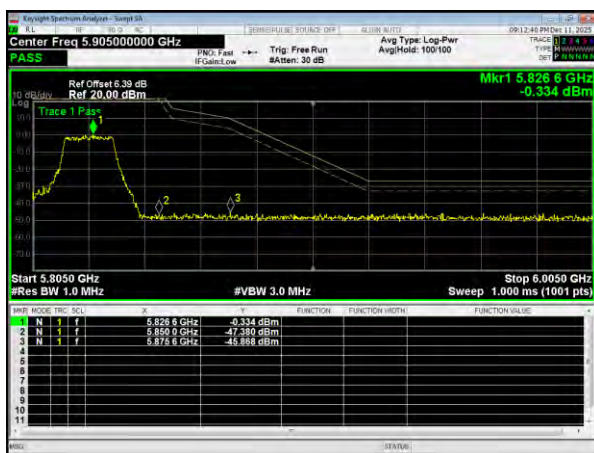
(802.11ac20) Band Edge, Left Side



(802.11n40) Band Edge, Left Side



(802.11ac20) Band Edge, Right Side

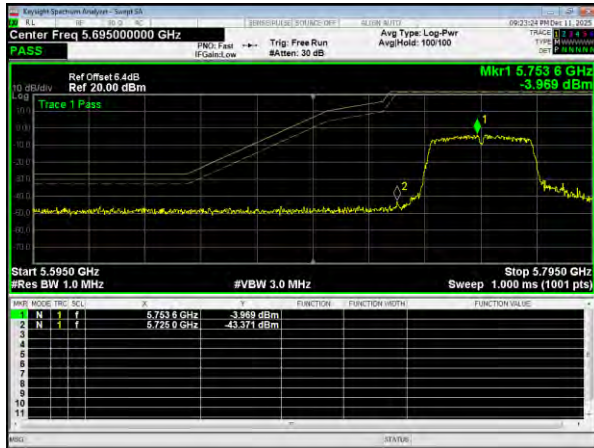


(802.11n40) Band Edge, Right Side



Remark: Antenna gain and cable loss data included in Offset.

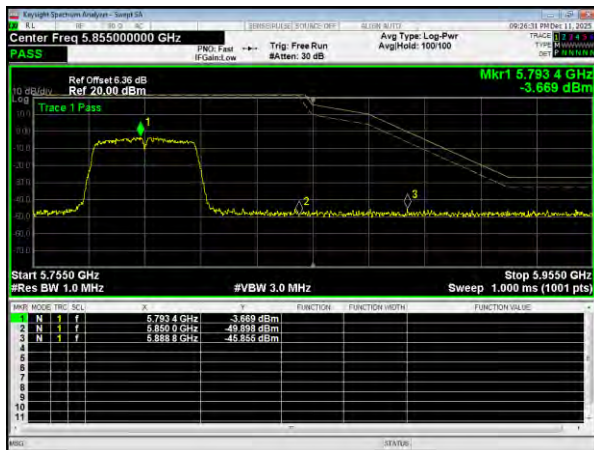
(802.11ac40) Band Edge, Left Side



(802.11ac80) Band Edge



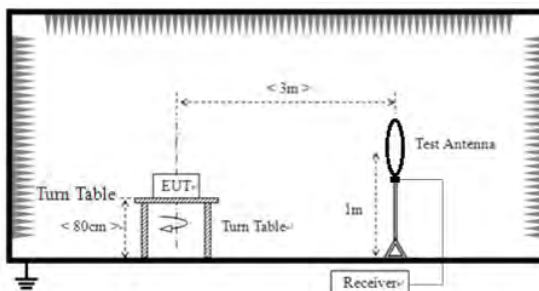
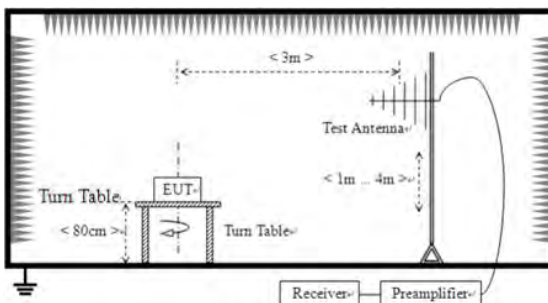
(802.11ac40) Band Edge, Right Side

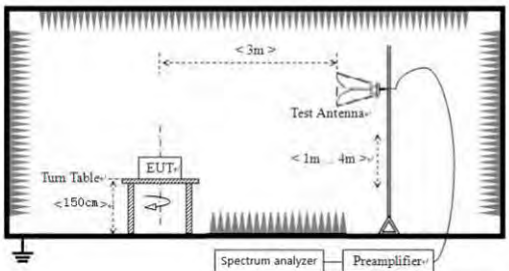


Remark: Antenna gain and cable loss data included in Offset.

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. The EUT was placed on the top of a rotating table (0.8m for below 1GHz and 1.5 meters for above 1GHz) above the ground at a 3 meter camber. The table was rotated 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 802.11n20 (5745MHz) data

Measurement Data:

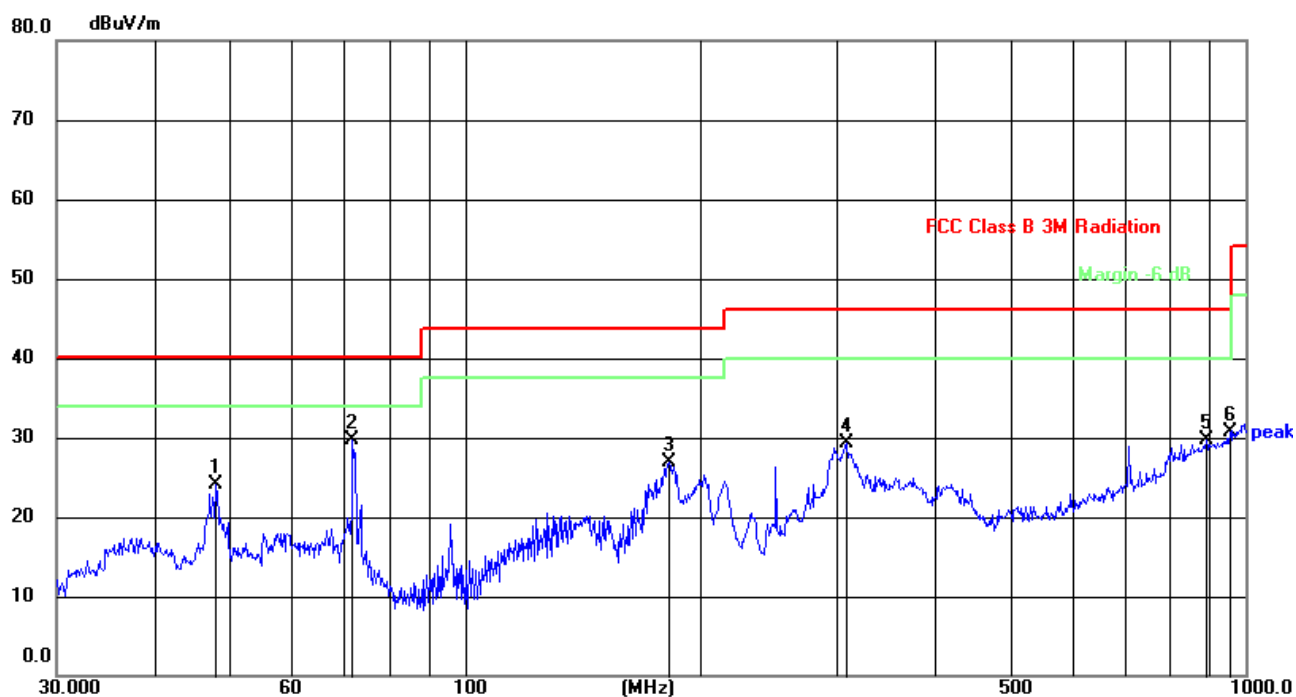
9 kHz ~ 30 MHz

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

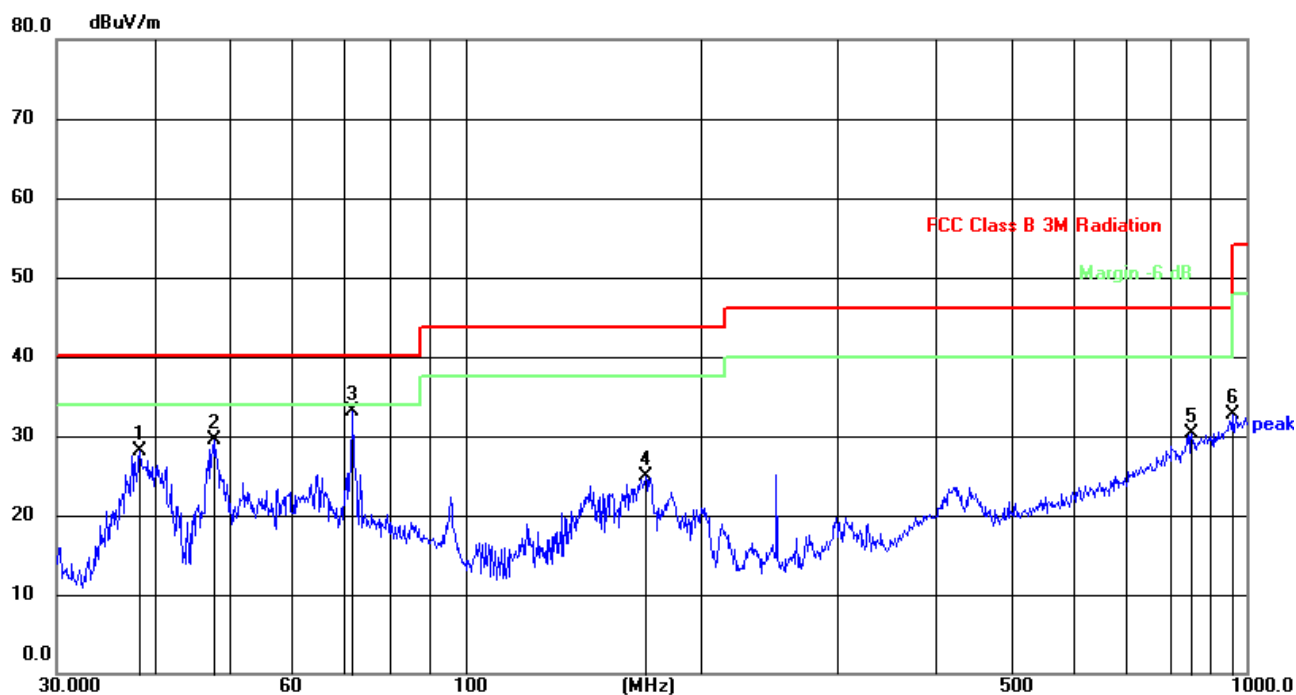
Temperature:	24.9℃	Relative Humidity:	53%RH
Pressure:	101.2kPa	Test Voltage :	DC 3.8V
Test Mode :	TX- 802.11n20 (5745MHz)		

Horizontal:



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	47.9938	45.62	-21.56	24.06	40.00	-15.94	QP
2	71.8319	54.22	-24.52	29.70	40.00	-10.30	QP
3	182.5592	49.62	-22.68	26.94	43.50	-16.56	QP
4	307.8312	49.18	-19.95	29.23	46.00	-16.77	QP
5	890.7277	35.24	-5.60	29.64	46.00	-16.36	QP
6	955.4379	34.53	-3.76	30.77	46.00	-15.23	QP

Vertical:



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	38.3462	49.35	-21.20	28.15	40.00	-11.85	QP
2	47.6584	50.97	-21.52	29.45	40.00	-10.55	QP
3	71.8319	57.62	-24.52	33.10	40.00	-6.90	QP
4	170.1947	45.83	-20.98	24.85	43.50	-18.65	QP
5	851.0353	36.58	-6.26	30.32	46.00	-15.68	QP
6	958.7943	36.36	-3.73	32.63	46.00	-13.37	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:	24.9℃	Relative Humidity:	53%RH
Pressure:	101.2kPa	Test Voltage :	DC 3.8V
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	41.94	1.77	43.71	68.20	-24.49	PK
V	10360.00	37.16	1.77	38.93	54.00	-15.07	AV
V	15540.00	44.34	7.72	52.06	74.00	-21.94	PK
V	15540.00	33.31	7.72	41.03	54.00	-12.97	AV
V	20720.00	48.83	-5.73	43.10	68.20	-25.11	PK
V	20720.00	43.34	-5.73	37.61	54.00	-16.39	AV
V	25900.00	45.97	-2.89	43.08	68.20	-25.12	PK
V	25900.00	41.19	-2.89	38.30	54.00	-15.70	AV
V	31080.00	47.57	1.66	49.23	68.20	-18.98	PK
V	31080.00	41.61	1.66	43.27	54.00	-10.73	AV
V	36260.00	44.57	4.63	49.20	68.20	-19.00	PK
V	36260.00	38.55	4.63	43.18	54.00	-10.82	AV
H	10360.00	42.24	1.77	44.01	68.20	-24.19	PK
H	10360.00	37.34	1.77	39.11	54.00	-14.89	AV
H	15540.00	43.74	7.72	51.46	74.00	-22.54	PK
H	15540.00	33.41	7.72	41.13	54.00	-12.87	AV
H	20720.00	47.93	-5.73	42.20	68.20	-26.00	PK
H	20720.00	42.09	-5.73	36.36	54.00	-17.64	AV
H	25900.00	45.94	-2.89	43.05	68.20	-25.15	PK
H	25900.00	40.41	-2.89	37.52	54.00	-16.48	AV
H	31080.00	46.60	1.66	48.26	68.20	-19.94	PK
H	31080.00	41.22	1.66	42.88	54.00	-11.12	AV
H	36260.00	44.12	4.63	48.75	68.20	-19.45	PK
H	36260.00	38.93	4.63	43.56	54.00	-10.44	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	41.45	1.85	43.30	68.20	-24.90	PK
V	10400.00	36.61	1.85	38.46	54.00	-15.54	AV
V	15600.00	43.33	7.64	50.97	74.00	-23.03	PK
V	15600.00	32.07	7.64	39.71	54.00	-14.29	AV
V	20800.00	51.86	-5.67	46.19	68.20	-22.01	PK
V	20800.00	47.20	-5.67	41.53	54.00	-12.47	AV
V	26000.00	46.08	-2.85	43.23	68.20	-24.97	PK
V	26000.00	40.80	-2.85	37.95	54.00	-16.05	AV
V	31200.00	44.75	1.57	46.32	68.20	-21.88	PK
V	31200.00	40.82	1.57	42.39	54.00	-11.61	AV
V	36400.00	44.37	4.93	49.30	68.20	-18.90	PK
V	36400.00	39.32	4.93	44.25	54.00	-9.75	AV
H	10400.00	41.62	1.85	43.47	68.20	-24.73	PK
H	10400.00	37.02	1.85	38.87	54.00	-15.13	AV
H	15600.00	43.11	7.64	50.75	74.00	-23.25	PK
H	15600.00	32.29	7.64	39.93	54.00	-14.07	AV
H	20800.00	48.56	-5.67	42.89	68.20	-25.31	PK
H	20800.00	43.69	-5.67	38.02	54.00	-15.98	AV
H	26000.00	47.73	-2.85	44.88	68.20	-23.32	PK
H	26000.00	42.69	-2.85	39.84	54.00	-14.16	AV
H	31200.00	46.55	1.57	48.12	68.20	-20.08	PK
H	31200.00	40.98	1.57	42.55	54.00	-11.45	AV
H	36400.00	43.82	4.93	48.75	68.20	-19.45	PK
H	36400.00	39.15	4.93	44.08	54.00	-9.92	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	42.33	2.02	44.35	68.20	-23.85	PK
V	10480.00	36.99	2.02	39.01	54.00	-14.99	AV
V	15720.00	42.75	7.46	50.21	74.00	-23.79	PK
V	15720.00	32.40	7.46	39.86	54.00	-14.14	AV
V	20960.00	48.63	-5.56	43.07	68.20	-25.13	PK
V	20960.00	43.68	-5.56	38.12	54.00	-15.88	AV
V	26200.00	46.24	-2.50	43.74	68.20	-24.46	PK
V	26200.00	41.93	-2.50	39.43	54.00	-14.57	AV
V	31440.00	47.55	1.39	48.94	68.20	-19.26	PK
V	31440.00	42.77	1.39	44.16	54.00	-9.84	AV
V	36680.00	43.61	5.25	48.86	68.20	-19.34	PK
V	36680.00	39.18	5.25	44.43	54.00	-9.57	AV
H	10480.00	42.74	2.02	44.76	68.20	-23.45	PK
H	10480.00	37.87	2.02	39.89	54.00	-14.11	AV
H	15720.00	43.02	7.46	50.48	74.00	-23.52	PK
H	15720.00	32.46	7.46	39.92	54.00	-14.08	AV
H	20960.00	48.43	-5.56	42.87	68.20	-25.33	PK
H	20960.00	43.79	-5.56	38.23	54.00	-15.78	AV
H	26200.00	48.29	-2.50	45.79	68.20	-22.41	PK
H	26200.00	44.93	-2.50	42.43	54.00	-11.57	AV
H	31440.00	46.89	1.39	48.28	68.20	-19.92	PK
H	31440.00	42.02	1.39	43.41	54.00	-10.59	AV
H	36680.00	43.90	5.15	49.05	68.20	-19.15	PK
H	36680.00	38.85	5.15	44.00	54.00	-10.00	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:	24.9℃	Relative Humidity:	53%RH
Pressure:	101.2kPa	Test Voltage :	DC 3.8V
Test Mode :	5.8G 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:5745MHz							
V	11490.00	45.33	3.31	48.64	74.00	-25.36	PK
V	11490.00	35.70	3.31	39.01	54.00	-14.99	AV
V	17235.00	35.05	10.10	45.15	68.20	-23.05	PK
V	17235.00	30.24	10.10	40.34	54.00	-13.66	AV
V	22980.00	51.70	-4.61	47.09	74.00	-26.91	PK
V	22980.00	41.28	-4.61	36.67	54.00	-17.33	AV
V	28725.00	42.79	0.87	43.66	68.20	-24.54	PK
V	28725.00	38.60	0.87	39.47	54.00	-14.53	AV
V	34470.00	43.32	3.82	47.14	68.20	-21.06	PK
V	34470.00	38.18	3.82	42.00	54.00	-12.00	AV
H	11490.00	45.96	3.31	49.27	74.00	-24.73	PK
H	11490.00	35.90	3.31	39.21	54.00	-14.79	AV
H	17235.00	34.19	10.10	44.29	68.20	-23.91	PK
H	17235.00	29.56	10.10	39.66	54.00	-14.34	AV
H	22980.00	51.29	-4.61	46.68	74.00	-27.32	PK
H	22980.00	41.04	-4.61	36.43	54.00	-17.57	AV
H	28725.00	44.98	0.87	45.85	68.20	-22.35	PK
H	28725.00	40.95	0.87	41.82	54.00	-12.18	AV
H	34470.00	43.80	3.82	47.62	68.20	-20.58	PK
H	34470.00	39.44	3.82	43.26	54.00	-10.74	AV

Remark:

- Emission Level = Meter Reading + Factor,
Factor=Antenna Factor + Cable Loss – Pre-amplifier
Margin= Emission Level – Limit
- If peak below the average limit, the average emission was no test.
- 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	45.11	3.34	48.45	74.00	-25.55	PK
V	11570.00	35.35	3.34	38.69	54.00	-15.31	AV
V	17355.00	33.68	10.52	44.20	68.20	-24.00	PK
V	17355.00	29.22	10.52	39.74	54.00	-14.26	AV
V	23140.00	51.37	-4.66	46.71	74.00	-27.29	PK
V	23140.00	41.57	-4.66	36.91	54.00	-17.09	AV
V	28925.00	44.52	1.36	45.88	68.20	-22.32	PK
V	28925.00	39.84	1.36	41.20	54.00	-12.80	AV
V	34710.00	44.12	3.95	48.07	68.20	-20.13	PK
V	34710.00	39.07	3.95	43.02	54.00	-10.98	AV
H	11570.00	46.13	3.34	49.47	74.00	-24.53	PK
H	11570.00	36.37	3.34	39.71	54.00	-14.29	AV
H	17355.00	32.87	10.52	43.39	68.20	-24.82	PK
H	17355.00	29.56	10.52	40.08	54.00	-13.92	AV
H	23140.00	51.89	-4.66	47.23	74.00	-26.77	PK
H	23140.00	41.44	-4.66	36.78	54.00	-17.22	AV
H	28925.00	45.27	1.36	46.63	68.20	-21.57	PK
H	28925.00	41.04	1.36	42.40	54.00	-11.60	AV
H	34710.00	44.69	3.95	48.64	68.20	-19.56	PK
H	34710.00	39.43	3.95	43.38	54.00	-10.62	AV

Remark:

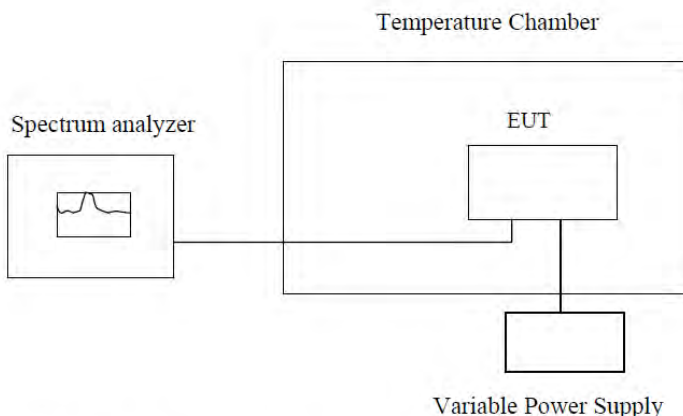
1. Emission Level = Meter Reading + Factor,
Factor=Antenna Factor + Cable Loss – Pre-amplifier
Margin= Emission Level – Limit
2. If peak below the average limit, the average emission was no test.
3. The amplitude of spurious emissions which are attenuated by more than 20dB below the permissible value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

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	45.09	3.36	48.45	74.00	-25.55	PK
V	11650.00	35.10	3.36	38.46	54.00	-15.54	AV
V	17475.00	33.22	10.93	44.15	68.20	-24.05	PK
V	17475.00	29.61	10.93	40.54	54.00	-13.46	AV
V	23300.00	47.54	-4.77	42.77	68.20	-25.43	PK
V	23300.00	43.09	-4.77	38.32	54.00	-15.68	AV
V	29125.00	45.18	1.65	46.83	68.20	-21.37	PK
V	29125.00	39.89	1.65	41.54	54.00	-12.46	AV
V	34950.00	43.46	4.09	47.55	68.20	-20.65	PK
V	34950.00	39.26	4.09	43.35	54.00	-10.65	AV
H	11650.00	46.42	3.36	49.78	74.00	-24.22	PK
H	11650.00	36.35	3.36	39.71	54.00	-14.29	AV
H	17475.00	33.31	10.93	44.24	68.20	-23.96	PK
H	17475.00	28.47	10.93	39.40	54.00	-14.60	AV
H	23300.00	47.11	-4.77	42.34	68.20	-25.86	PK
H	23300.00	42.53	-4.77	37.76	54.00	-16.25	AV
H	29125.00	44.06	1.65	45.71	68.20	-22.49	PK
H	29125.00	40.88	1.65	42.53	54.00	-11.47	AV
H	34950.00	44.42	4.09	48.51	68.20	-19.70	PK
H	34950.00	39.44	4.09	43.53	54.00	-10.47	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: DC 3.8V					
Temp. (°C)	Operating Frequency (MHz)	0 minute	2 minute	5 minute	10 minute
		Measured Frequency (MHz)	Measured Frequency (MHz)	Measured Frequency (MHz)	Measured Frequency (MHz)
-30	5180	5179.990	5179.997	5180.001	5179.987
	5190	5189.986	5189.998	5189.992	5190.017
	5200	5199.981	5199.989	5200.000	5200.042
	5210	5209.987	5209.997	5209.992	5210.026
	5220	5219.982	5219.989	5220.013	5220.017
	5230	5229.980	5230.010	5229.991	5230.045
	5240	5239.993	5239.988	5240.009	5240.033
-20	5180	5179.942	5179.997	5179.989	5180.030
	5190	5189.972	5189.998	5190.000	5190.025
	5200	5199.967	5199.989	5199.991	5200.027
	5210	5209.981	5209.997	5209.992	5210.028
	5220	5219.972	5219.989	5219.999	5220.043
	5230	5229.980	5230.010	5230.007	5230.036
	5240	5239.988	5239.988	5239.989	5240.044
-10	5180	5179.980	5179.997	5180.001	5179.994
	5190	5189.981	5189.998	5189.992	5190.024
	5200	5199.972	5199.989	5200.000	5200.029
	5210	5209.980	5209.997	5209.992	5210.033
	5220	5219.972	5219.989	5220.013	5220.024
	5230	5229.993	5230.010	5229.991	5230.032
	5240	5239.971	5239.988	5240.009	5240.040
0	5180	5179.932	5180.000	5180.007	5180.032
	5190	5189.928	5189.996	5189.997	5190.032
	5200	5199.923	5199.991	5200.007	5200.043
	5210	5209.929	5209.997	5209.957	5210.044
	5220	5219.924	5220.002	5220.003	5220.029
	5230	5229.922	5230.006	5230.009	5230.046
	5240	5239.985	5240.006	5240.010	5240.031
10	5180	5179.969	5179.998	5180.001	5180.035
	5190	5189.980	5189.989	5189.992	5190.035
	5200	5199.971	5199.997	5200.000	5200.031
	5210	5209.972	5209.989	5209.992	5210.026
	5220	5219.979	5220.010	5220.013	5220.042
	5230	5229.987	5229.988	5229.991	5230.027
	5240	5239.969	5240.006	5240.009	5240.025
20	5180	5179.990	5179.997	5180.001	5179.987
	5190	5189.986	5189.998	5189.992	5190.017

	5200	5199.981	5199.989	5200.000	5200.042
	5210	5209.987	5299.997	5209.992	5210.026
	5220	5219.982	5219.989	5220.013	5220.017
	5230	5229.980	5230.010	5229.991	5230.045
	5240	5239.953	5239.988	5240.009	5240.033
30	5180	5179.920	5179.995	5180.000	5180.036
	5190	5189.916	5190.009	5189.831	5190.040
	5200	5199.911	5199.992	5199.999	5200.025
	5210	5209.917	5209.995	5210.001	5210.046
	5220	5219.912	5220.010	5220.002	5220.037
	5230	5229.909	5230.003	5229.999	5230.032
	5240	5239.882	5240.011	5240.003	5240.037
40	5180	5179.980	5179.986	5180.001	5180.025
	5190	5189.981	5189.997	5189.992	5190.026
	5200	5199.911	5199.997	5200.009	5200.025
	5210	5209.917	5209.995	5210.001	5210.033
	5220	5219.912	5220.002	5220.002	5220.037
	5230	5229.993	5230.004	5229.991	5230.038
	5240	5239.971	5239.986	5240.009	5240.016
50	5180	5179.942	5179.997	5179.989	5180.040
	5190	5189.972	5189.998	5190.000	5190.025
	5200	5199.987	5199.989	5199.991	5200.037
	5210	5209.917	5210.009	5210.001	5210.037
	5220	5219.912	5220.004	5220.008	5220.038
	5230	5229.909	5230.011	5230.003	5230.036
	5240	5239.982	5240.009	5239.997	5240.037

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)
DC 3.23V	5180	5179.906	5180.010	5179.999	5180.031
	5190	5189.982	5190.000	5190.000	5190.029
	5200	5199.980	5200.002	5200.001	5200.033
	5210	5209.983	5209.987	5209.997	5210.043
	5220	5219.993	5219.995	5220.001	5220.032
	5230	5229.970	5230.000	5230.000	5300.036
	5240	5239.978	5240.009	5240.009	5240.033
DC 3.8V	5180	5179.920	5180.005	5180.000	5180.036
	5190	5189.976	5189.999	5190.001	5190.020
	5200	5199.981	5199.987	5199.999	5200.025
	5210	5209.917	5209.995	5209.975	5210.043
	5220	5219.912	5220.010	5220.002	5220.037
	5230	5229.909	5230.002	5229.999	5230.029
	5240	5239.982	5240.009	5240.003	5240.037
DC 4.37V	5180	5179.990	5180.007	5179.989	5180.014
	5190	5189.986	5190.003	5190.000	5190.025
	5200	5199.981	5199.998	5199.991	5200.015
	5210	5209.987	5210.004	5209.992	5210.017
	5220	5219.982	5219.999	5219.999	5220.024
	5230	5229.980	5229.997	5230.004	5230.047
	5240	5239.983	5240.000	5239.989	5240.014

Frequency stability versus Temp.					
Power Supply: DC 3.8V					
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	5744.993	5744.999	5745.002	5745.035
	5755	5754.981	5754.995	5755.006	5755.017
	5775	5774.973	5774.994	5775.007	5775.026
	5785	5784.982	5784.997	5785.010	5785.017
	5795	5794.973	5795.008	5794.993	5795.028
	5825	5824.984	5824.989	5824.989	5825.031
-20	5745	5744.887	5744.979	5745.003	5745.018
	5755	5754.912	5754.995	5755.005	5755.044
	5775	5774.892	5774.994	5775.008	5775.040
	5785	5784.901	5784.997	5785.000	5785.024
	5795	5794.979	5795.008	5794.991	5795.013
	5825	5824.984	5824.989	5825.000	5825.027
-10	5745	5744.973	5744.990	5744.987	5745.032
	5755	5754.980	5754.997	5755.012	5755.027
	5775	5774.972	5774.994	5774.993	5775.031
	5785	5784.964	5784.990	5785.002	5785.032
	5795	5794.971	5794.986	5795.000	5795.035
	5825	5824.980	5824.989	5825.010	5825.036
0	5745	5744.967	5744.989	5744.993	5745.037
	5755	5754.977	5754.996	5755.000	5755.036
	5775	5774.988	5774.988	5775.004	5775.027
	5785	5784.974	5784.980	5784.993	5785.024
	5795	5794.970	5794.987	5794.989	5795.042
	5825	5824.968	5824.996	5824.992	5825.034
10	5745	5744.964	5745.000	5744.987	5745.028
	5755	5754.979	5755.002	5755.012	5755.042
	5775	5774.978	5775.005	5774.993	5775.027
	5785	5784.981	5784.997	5785.002	5785.014
	5795	5794.991	5794.988	5795.000	5795.008
	5825	5824.973	5824.997	5825.010	5825.042
20	5745	5744.984	5744.989	5745.003	5745.017
	5755	5754.986	5755.006	5755.007	5755.036
	5775	5774.983	5775.007	5775.002	5775.016
	5785	5784.970	5784.989	5784.989	5785.043
	5795	5794.964	5795.006	5794.983	5795.035
	5825	5824.990	5825.004	5824.953	5825.044
30	5745	5744.963	5745.000	5744.987	5745.036
	5755	5754.979	5755.002	5755.012	5755.042
	5775	5774.978	5775.005	5774.993	5775.027
	5785	5784.981	5784.997	5785.002	5785.014
	5795	5794.992	5794.988	5795.000	5795.008
	5825	5824.973	5824.997	5825.010	5825.042
40	5745	5744.974	5744.989	5744.987	5745.012
	5755	5754.981	5755.006	5755.012	5755.037
	5775	5774.973	5775.007	5774.993	5775.018
	5785	5784.965	5784.989	5785.002	5785.027

50	5795	5794.972	5795.006	5795.000	5795.025
	5825	5824.991	5825.004	5825.010	5825.035
	5745	5744.968	5744.989	5744.992	5745.018
	5755	5754.993	5755.006	5754.999	5755.025
	5775	5774.974	5775.007	5774.991	5775.042
	5785	5784.983	5784.989	5784.983	5785.018
	5795	5794.981	5795.006	5794.990	5795.014
	5825	5824.991	5825.004	5824.919	5825.017

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)
DC 3.23V	5745	5744.983	5744.999	5745.003	5745.032
	5755	5754.979	5754.996	5755.009	5755.037
	5775	5774.978	5774.988	5775.010	5775.018
	5785	5784.981	5784.980	5784.992	5785.027
	5795	5794.992	5794.987	5795.010	5795.025
	5825	5824.973	5825.006	5825.007	5825.035
DC 3.8V	5745	5744.963	5745.000	5744.987	5745.028
	5755	5754.979	5755.002	5755.012	5755.042
	5775	5774.978	5775.005	5774.993	5775.027
	5785	5784.981	5784.997	5785.002	5785.014
	5795	5794.988	5794.988	5795.000	5795.008
	5825	5824.973	5824.997	5825.010	5825.042
DC 4.37V	5745	5744.893	5744.997	5745.003	5745.045
	5755	5754.980	5755.009	5755.007	5755.033
	5775	5774.986	5774.993	5775.002	5775.043
	5785	5784.992	5785.993	5784.989	5785.039
	5795	5794.991	5794.988	5795.000	5795.008
	5825	5824.973	5824.997	5825.010	5825.042

5 Test Setup Photo

Reference to the file No.: ET-25124731SP for details.

6 EUT Constructional Details

Reference to the file No.: ET-25124731EP and ET-25124731IP for details

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