



TEST REPORT

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Address of Applicant: 2nd Floor, Building 4, No. 161 Xingye 1st Road, Fenghuang Community, Fuyong Street, Bao'an District, Shenzhen China
Manufacturer: Shenzhen Shengda Zhilian Technology Co., Ltd
Address of Manufacturer: 2nd Floor, Building 4, No. 161 Xingye 1st Road, Fenghuang Community, Fuyong Street, Bao'an District, Shenzhen China
Product Name: Portable Google TV
Model No.: G27U,G270,G27UA,G27UR,G27UB,G27UC,G27UD,G27UQ,G27UH
Trade Mark: N/A
FCC ID: 2BS83-G27U
Applicable standards: FCC CFR Title 47 Part 15 Subpart E Section 15.407
Date of Test: Oct.17, 2025-Nov.05, 2025
Date of report issued: Nov.06, 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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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:	Portable Google TV
Model No.:	G27U,G270,G27UA,G27UR,G27UB,G27UC,G27UD,G27UQ,G27UH
Difference of model(s)	All models have the same circuit and RF module, except for the model name
Test Model:	G27U
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:	2.89dBi(Declare by applicant) Note: Antenna information is provided by applicant, Testing lab is not responsible for the accuracy of the information.
Battery	DC 14.8V 9600mAh
Power supply:	DC 19V From Adapter or DC 14.8V From Adapter
Adapter Model:	Model: FX65B-19342C INPUT:100-240V 50/60Hz 1.5A max OUTPUT:DC 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)	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 14.8V 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
/	/	/	/	/
/	/	/	/	/
/	/	/	/	/

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	Manufacturer-specific 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).

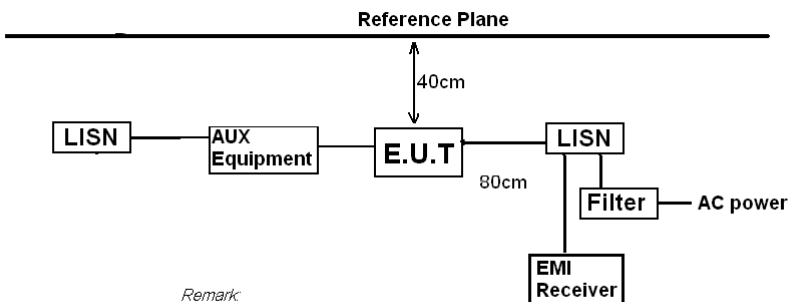
Software Name	Manufacturer	Model	Version
RF test software	MWRFtest	MTS 8310	V2.0.0.0
Conducted test software	EZ-EMC	Farad	Ver.EMC-CON 3A1.1
Radiated test software	EZ-EMC	Farad	Ver.FA-03A2 RE

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 FPC antenna, the best case gain of the is 2.89dBi, reference to the ET-25103884IP Internal photos for details.	

4.2 Conducted Emissions

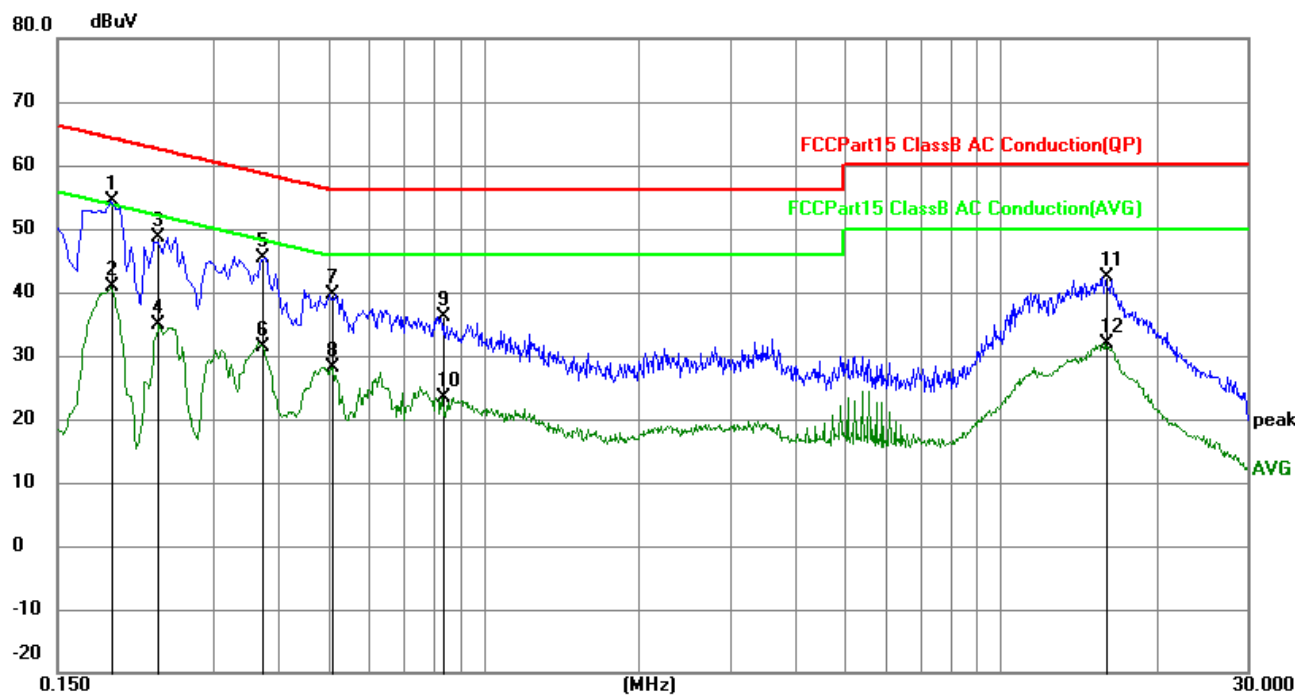
Test Requirement:	47CFR Part 15.207					
Test Method:	ANSI C63.10-2020 §6.2					
Test Frequency Range:	150KHz to 30MHz					
Class / Severity:	Class B					
Receiver setup:	RBW=9KHz, VBW=30KHz, Sweep time=auto					
Limit:	Frequency range (MHz)		Limit (dBuV)			
			Quasi-peak		Average	
	0.15-0.5		66 to 56*		56 to 46*	
	0.5-5		56		46	
	5-30		60		50	
* Decreases with the logarithm of the frequency.						
Test setup:	Reference Plane  <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.:	24.4°C	Humid.:	44%	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 (802.11ac20 5240MHz)

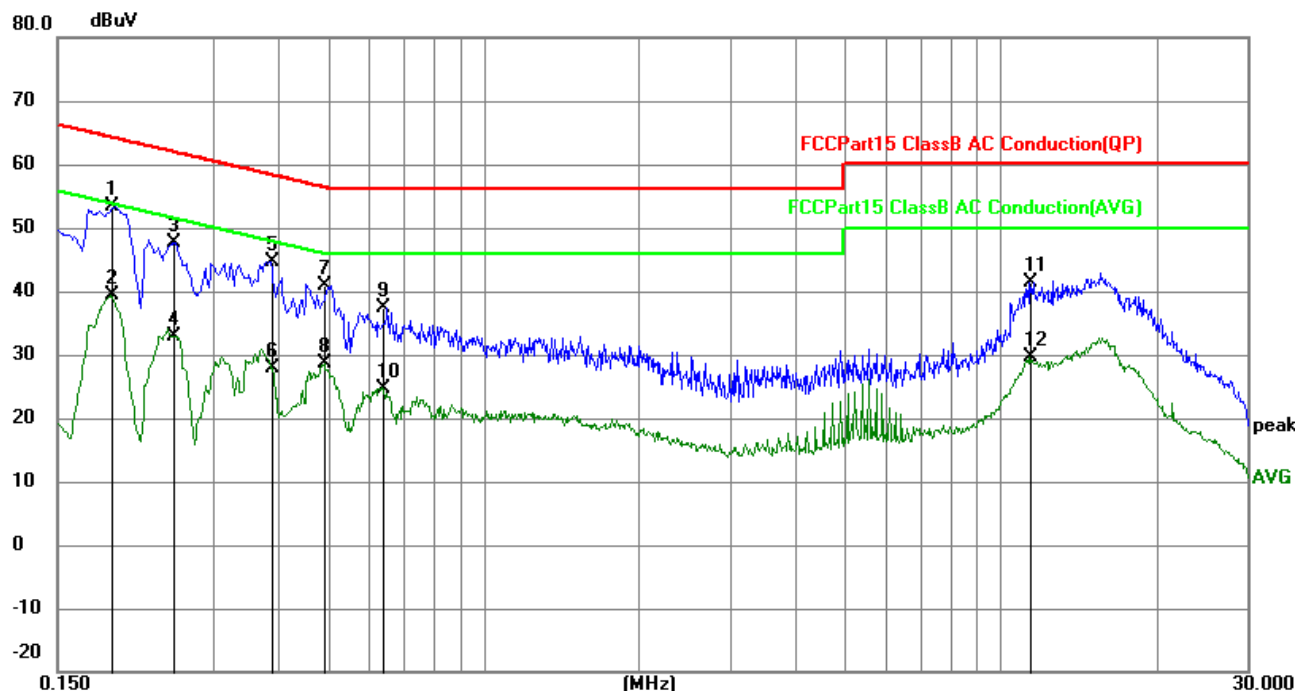
Measurement Result

Line:



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector
1	0.1905	44.56	9.81	54.37	64.01	-9.64	QP
2	0.1905	31.15	9.81	40.96	54.01	-13.05	AVG
3	0.2353	38.80	9.82	48.62	62.26	-13.64	QP
4	0.2353	25.10	9.82	34.92	52.26	-17.34	AVG
5	0.3750	35.45	9.89	45.34	58.39	-13.05	QP
6	0.3750	21.43	9.89	31.32	48.39	-17.07	AVG
7	0.5100	29.61	9.94	39.55	56.00	-16.45	QP
8	0.5100	18.13	9.94	28.07	46.00	-17.93	AVG
9	0.8337	26.29	9.96	36.25	56.00	-19.75	QP
10	0.8337	13.34	9.96	23.30	46.00	-22.70	AVG
11	16.0123	32.66	9.74	42.40	60.00	-17.60	QP
12	16.0123	22.05	9.74	31.79	50.00	-18.21	AVG

Neutral:

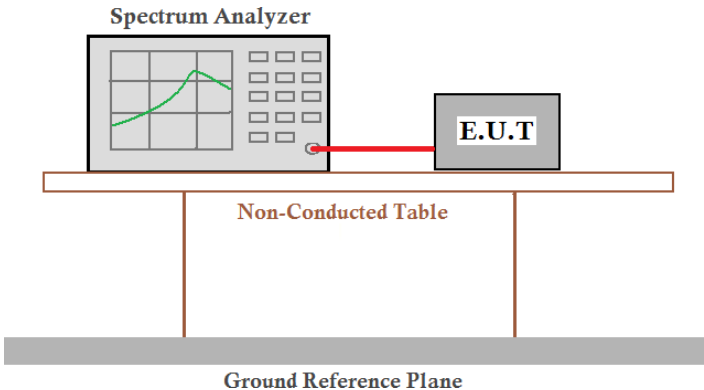


No.	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector
1	0.1905	43.65	9.81	53.46	64.01	-10.55	QP
2	0.1905	29.61	9.81	39.42	54.01	-14.59	AVG
3	0.2519	37.91	9.83	47.74	61.69	-13.95	QP
4	0.2519	22.98	9.83	32.81	51.69	-18.88	AVG
5	0.3891	34.85	9.89	44.74	58.08	-13.34	QP
6	0.3891	18.00	9.89	27.89	48.08	-20.19	AVG
7	0.4919	30.89	9.94	40.83	56.14	-15.31	QP
8	0.4919	18.77	9.94	28.71	46.14	-17.43	AVG
9	0.6402	27.41	9.94	37.35	56.00	-18.65	QP
10	0.6402	14.57	9.94	24.51	46.00	-21.49	AVG
11	11.4000	31.64	9.82	41.46	60.00	-18.54	QP
12	11.4000	19.69	9.82	29.51	50.00	-20.49	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 14.8V	
Test results:	Pass	

Measurement Result

5180-5240MHz

Mode	Duty cycle (%)	Correction Factor (dB)
TX 802.11a Mode	97.62	0.10
TX 802.11n20 Mode	97.60	0.11
TX 802.11ac20 Mode	97.37	0.12
TX 802.11n40 Mode	95.02	0.22
TX 802.11a40 Mode	95.20	0.21
TX 802.11ac80 Mode	90.78	0.42

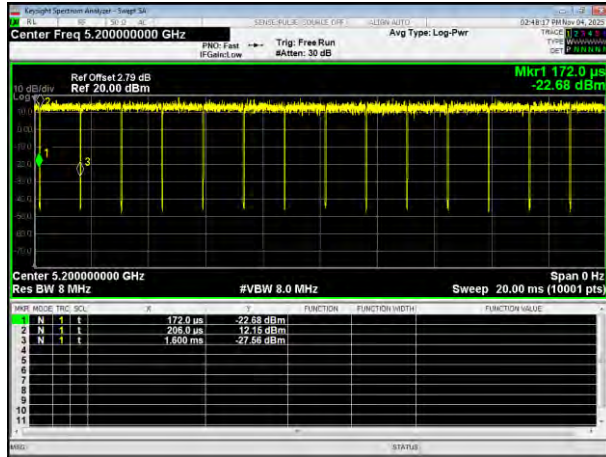
5745-5825 MHz

Mode	Duty cycle (%)	Correction Factor (dB)
TX 802.11a Mode	97.89	0.09
TX 802.11n20 Mode	91.67	0.38
TX 802.11ac20 Mode	96.92	0.14
TX 802.11n40 Mode	94.03	0.27
TX 802.11a40 Mode	94.03	0.27
TX 802.11ac80 Mode	91.43	0.39

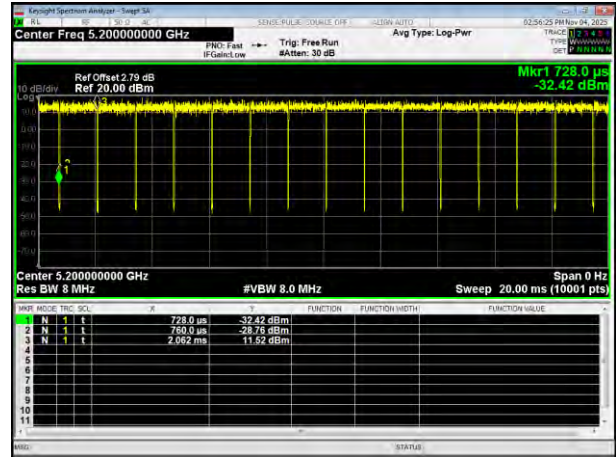
Test plot

5180-5240MHz

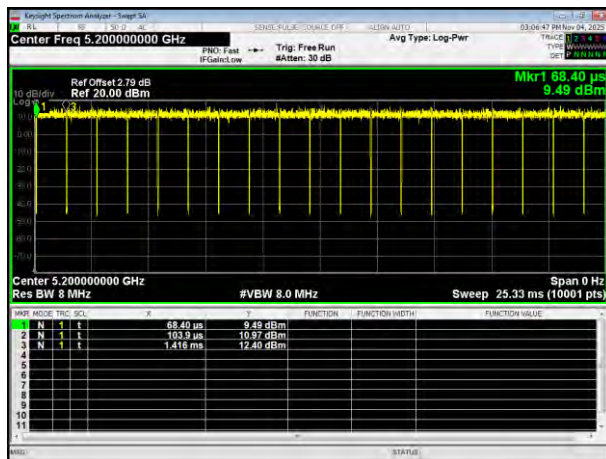
(802.11a) plot



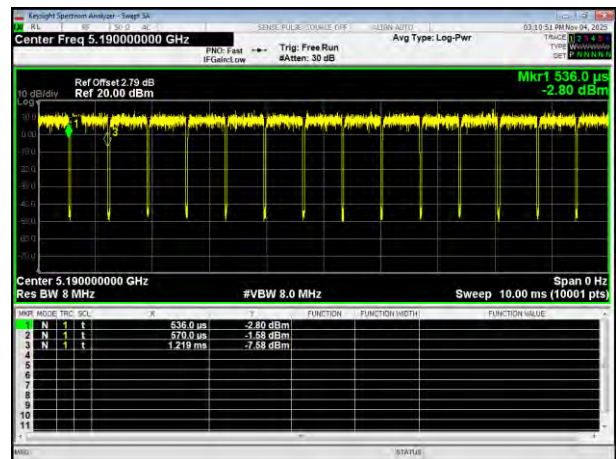
(802.11 n20) plot



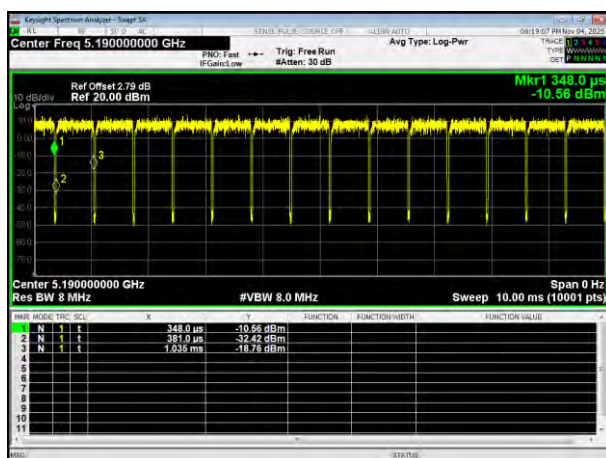
(802.11ac20) plot



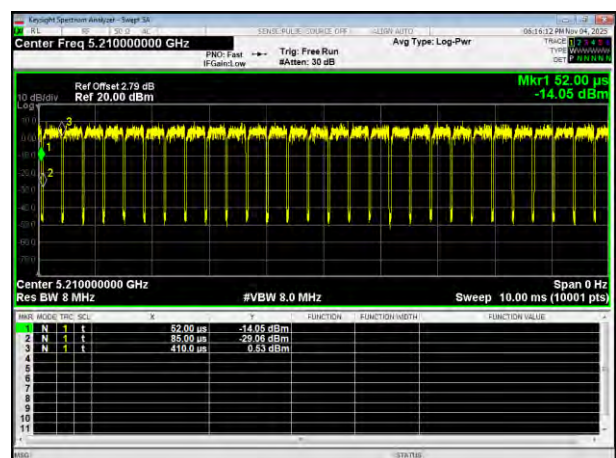
(802.11 n40) plot



(802.11ac40) plot

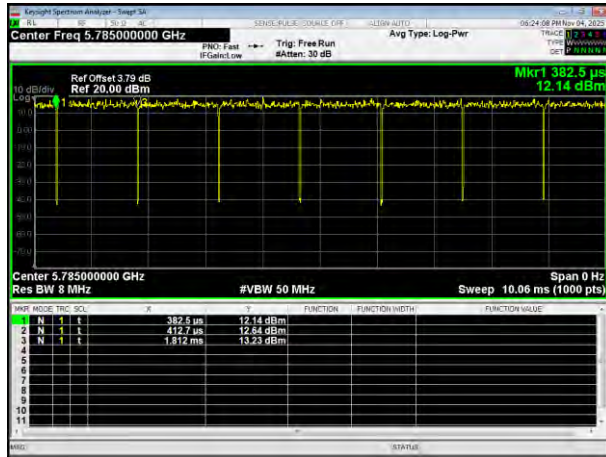


(802.11ac80) plot

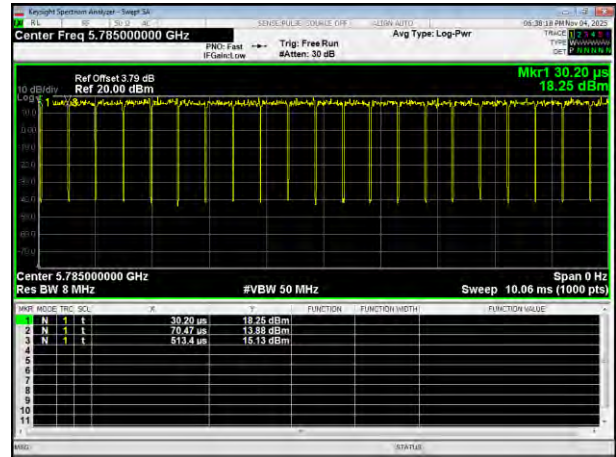


5745-5825 MHz

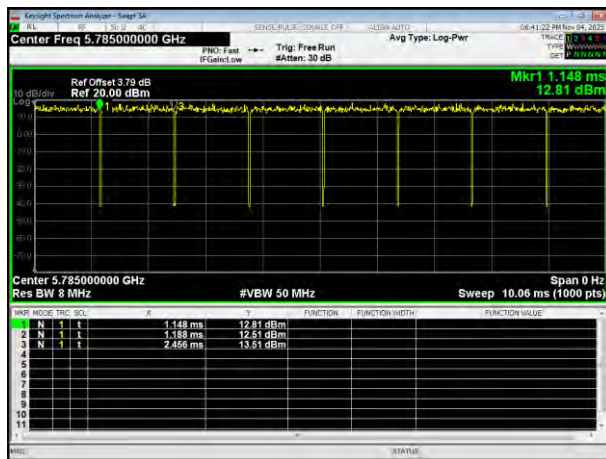
(802.11a) plot



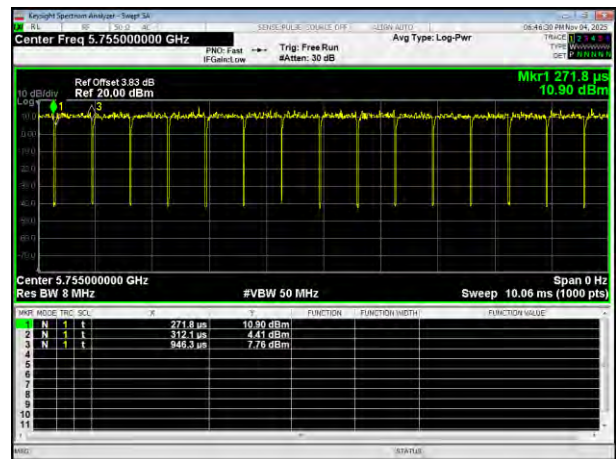
(802.11 n20) plot



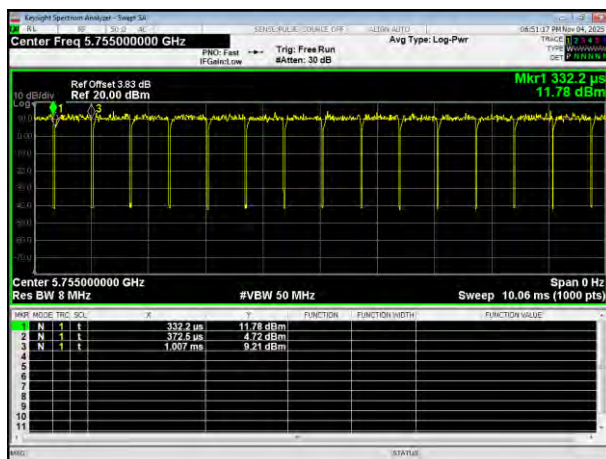
(802.11ac20) plot



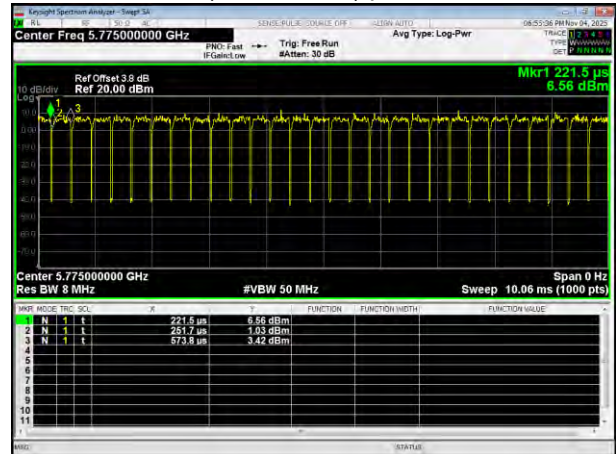
(802.11 n40) plot



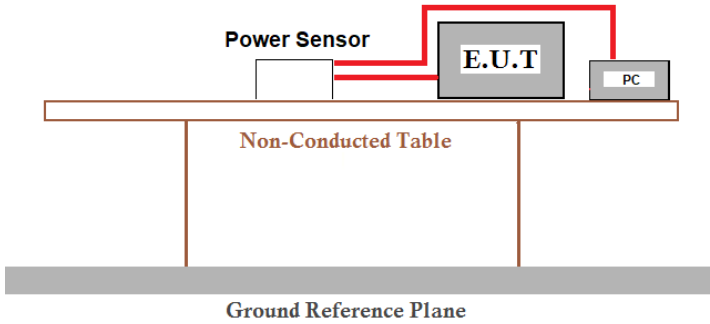
(802.11ac40) plot



(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. The E.U.T. is placed on a Non-Conducted Table, which 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 14.8V	
Test results:	Pass	

Measurement Result

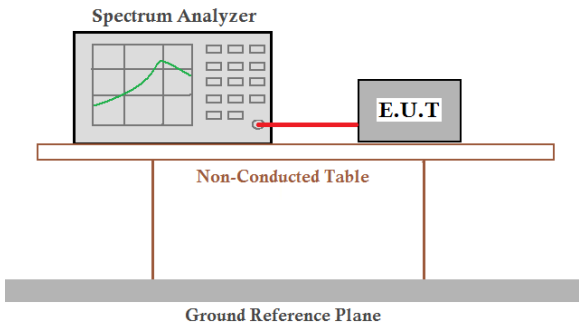
5180-5240MHz

Test Channel	Frequency	Correction Factor	Maximum output power	Total Power	Result
	(MHz)	(dB)	(dBm)	(dBm)	
TX 802.11a Mode					
CH36	5180	0.10	14.27	14.37	Pass
CH40	5200	0.10	14.26	14.36	Pass
CH48	5240	0.10	14.40	14.50	Pass
TX 802.11 n20 Mode					
CH36	5180	0.11	14.24	14.35	Pass
CH40	5200	0.11	14.71	14.82	Pass
CH48	5240	0.11	14.88	14.99	Pass
TX 802.11 ac20 Mode					
CH36	5180	0.12	14.62	14.74	Pass
CH40	5200	0.12	14.49	14.61	Pass
CH48	5240	0.12	14.90	15.02	Pass
TX 802.11 n40 Mode					
CH38	5190	0.22	13.78	14.00	Pass
CH46	5230	0.22	13.18	13.40	Pass
TX 802.11 ac40 Mode					
CH38	5190	0.21	13.57	13.78	Pass
CH46	5230	0.21	13.38	13.59	Pass
TX 802.11 ac80 Mode					
CH42	5210	0.42	12.46	12.88	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	0.09	14.38	14.47	30	Pass
CH157	5785	0.09	14.84	14.93	30	Pass
CH165	5825	0.09	14.87	14.96	30	Pass
TX 802.11 n20 Mode						
CH149	5745	0.38	14.42	14.80	30	Pass
CH157	5785	0.38	14.28	14.66	30	Pass
CH165	5825	0.38	14.37	14.75	30	Pass
TX 802.11 ac20 Mode						
CH149	5745	0.14	14.28	14.42	30	Pass
CH157	5785	0.14	14.61	14.75	30	Pass
CH165	5825	0.14	14.76	14.90	30	Pass
TX 802.11 n40 Mode						
CH151	5755	0.27	13.57	13.84	30	Pass
CH159	5795	0.27	13.30	13.57	30	Pass
TX 802.11 ac40 Mode						
CH151	5755	0.27	13.61	13.88	30	Pass
CH159	5795	0.27	13.29	13.56	30	Pass
TX 802.11 ac80 Mode						
CH155	5775	0.39	12.74	13.13	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 14.8V	
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	19.80	20.17	19.90	40.01	40.00	--	Pass
Middle	19.77	20.06	19.70	--	--	79.48	
Highest	19.54	19.79	19.97	39.99	39.82	--	

(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

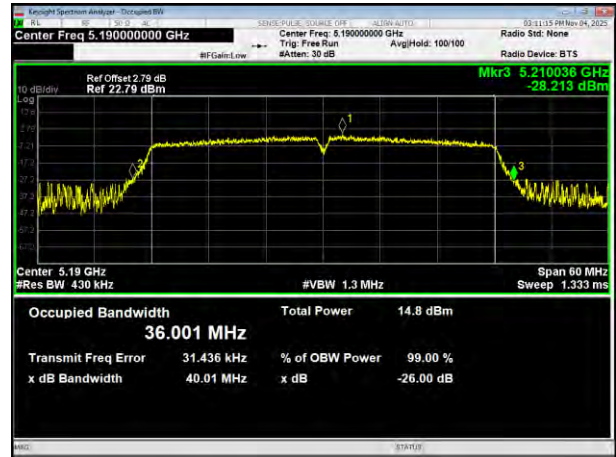


Test plot

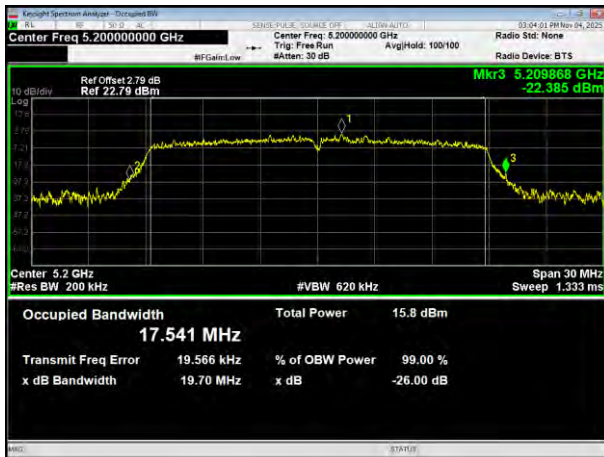
(802.11ac20) plot on channel 36



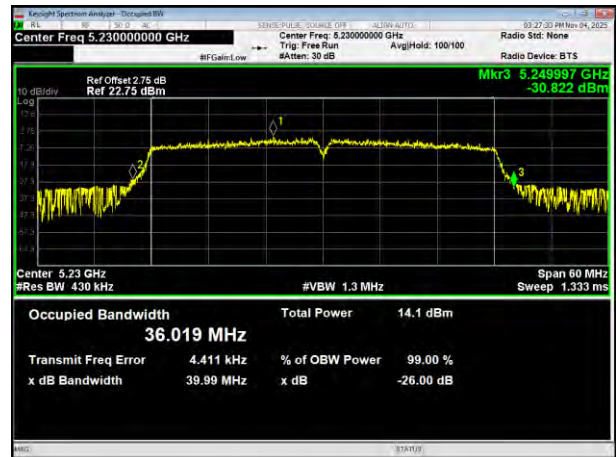
(802.11 n40) plot on channel 38



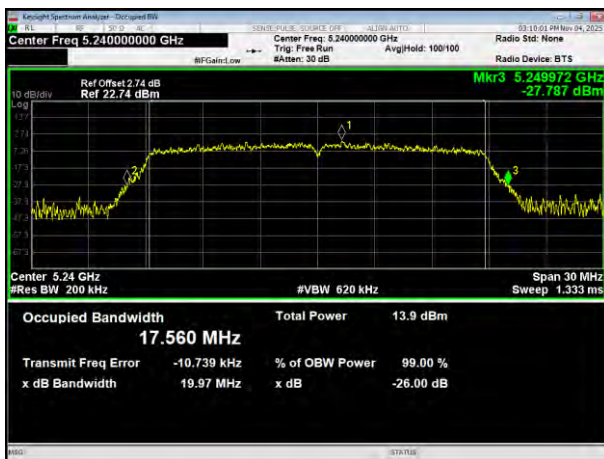
(802.11ac20) plot on channel 40



(802.11 n40) plot on channel 46



(802.11ac20) plot on channel 48

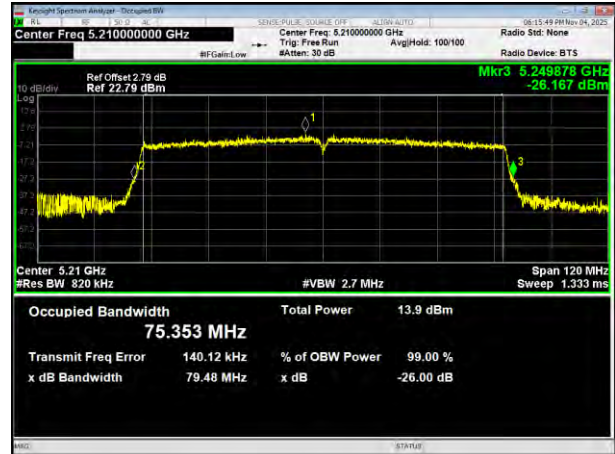


Test plot

(802.11ac40) plot on channel 38



(802.11ac80) plot on channel 42



(802.11ac40) plot on channel 46



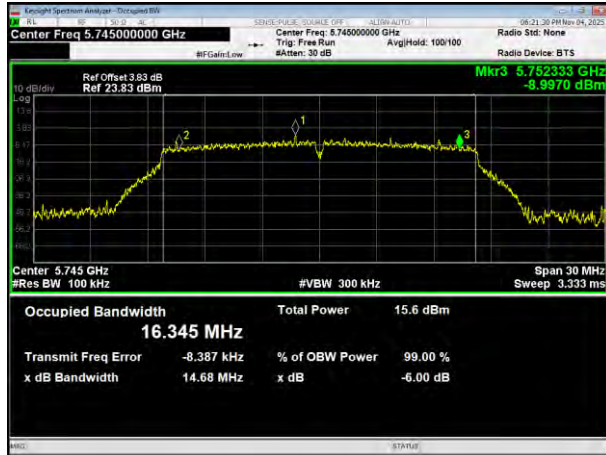
5745-5825MHz

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	14.68	13.83	15.30	33.85	35.10	--	>500	Pass
Middle	14.67	14.93	15.10	--	--	73.80		
Highest	15.08	15.04	14.43	34.99	33.81	--		

Remark: "---" is not applicable

Test plot

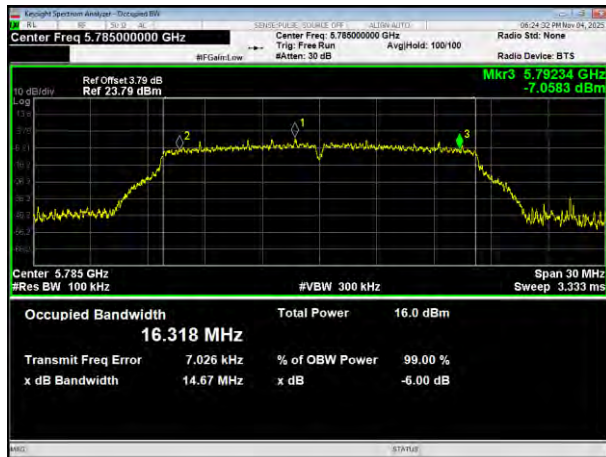
(802.11a) plot on channel 149



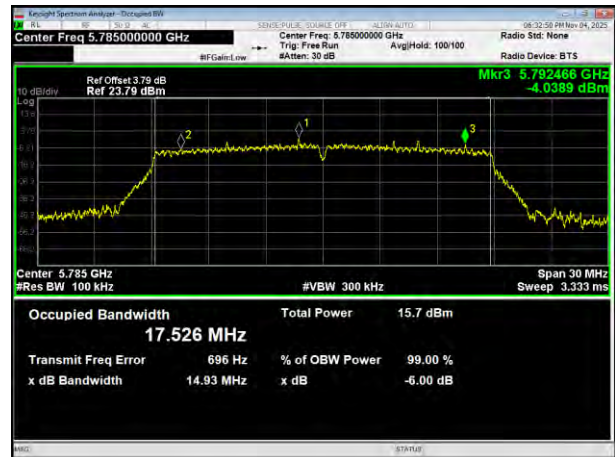
(802.11 n20) plot on channel 149



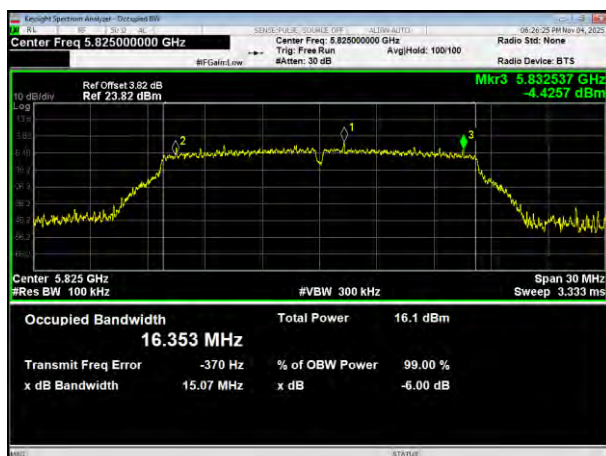
(802.11a) plot on channel 157



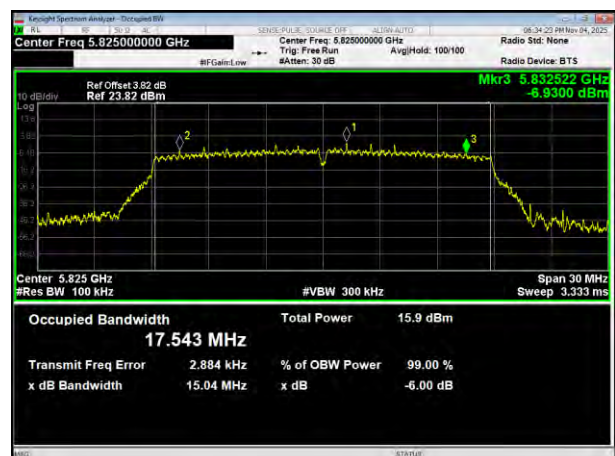
(802.11 n20) plot on channel 157



(802.11a) plot on channel 165

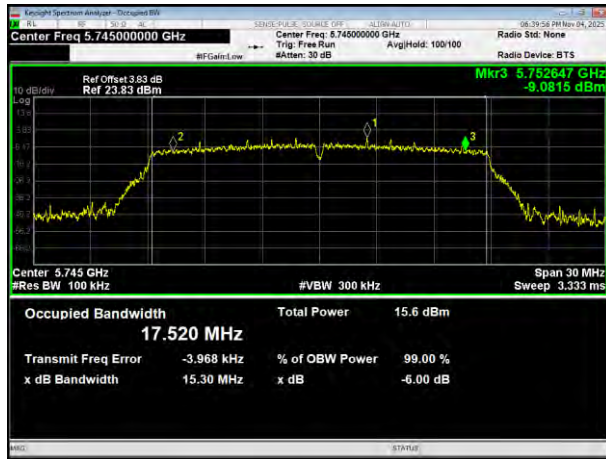


(802.11 n20) plot on channel 165



Test plot

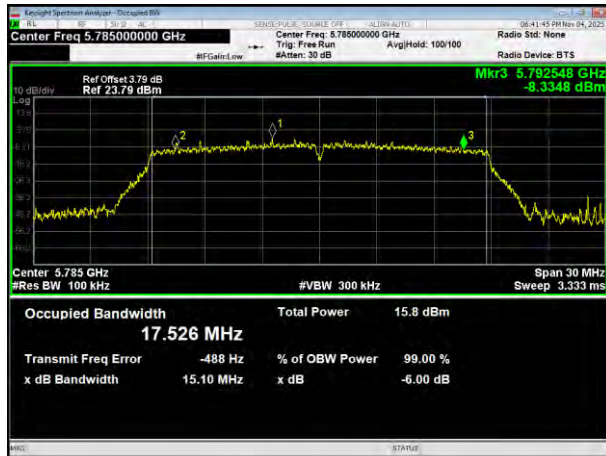
(802.11ac20) plot on channel 149



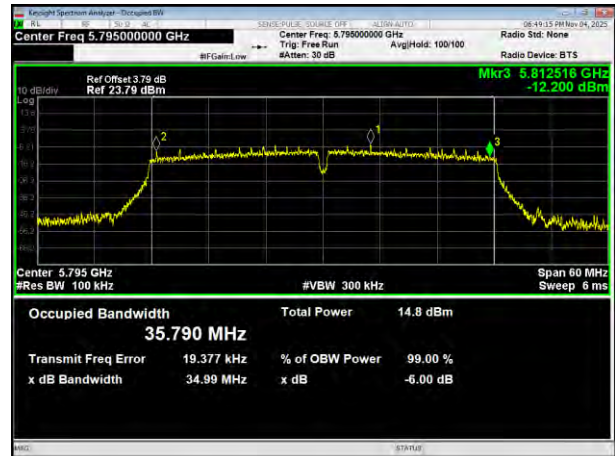
(802.11 n40) plot on channel 151



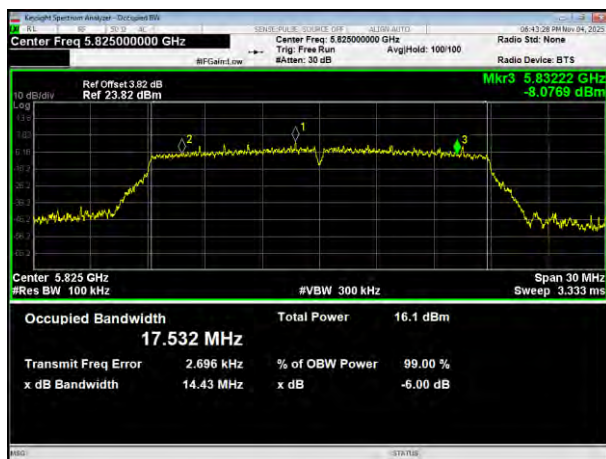
(802.11ac20) plot on channel 157



(802.11 n40) plot on channel 159

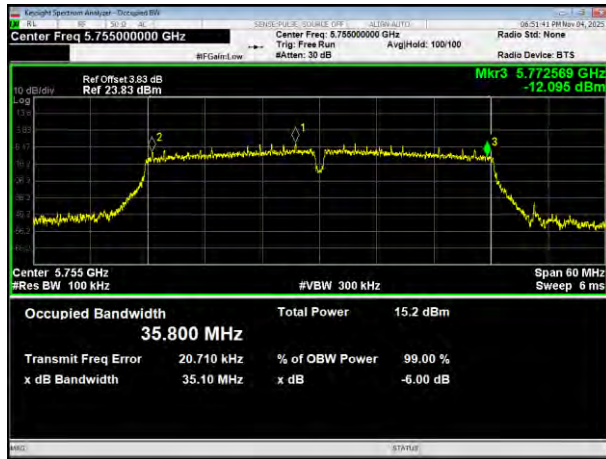


(802.11ac20) plot on channel 165



Test plot

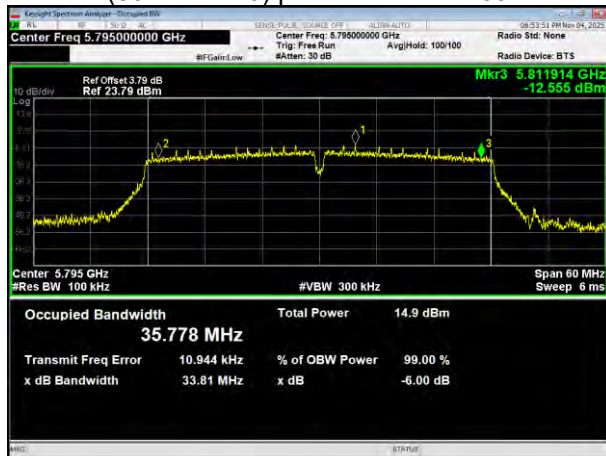
(802.11 ac40) plot on channel 151



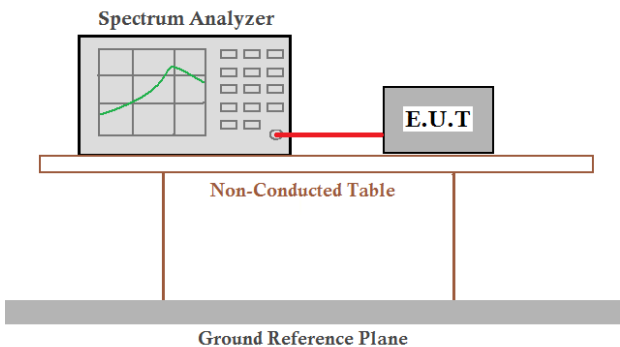
(802.11 ac80) plot on channel 155



(802.11 ac40) plot on channel 159



4.6 Power Spectral Density

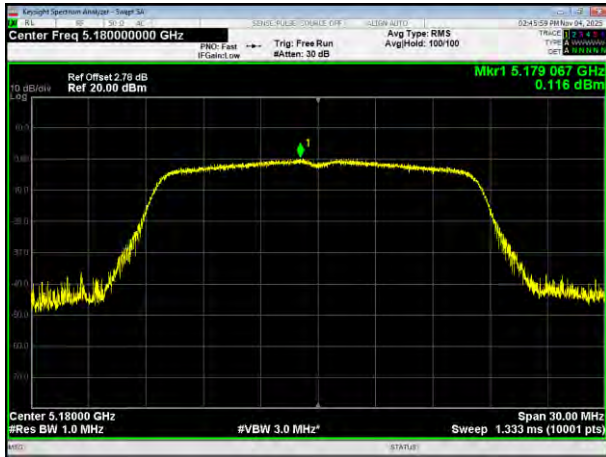
Test Requirement:	47CFR Part 15.407(a)(1)/ (a)(3)	
Test Method:	KDB 789033 D02 General U-NII Test Procedures New Rules v02r01, ANSI C63.10-2020§12.6	
Limit:	Frequency band (MHz)	Limit
	5150-5250	≤17dBm/1MHz for master device
		≤11dBm/1MHz for client device
	5250-5350	≤11dBm/1MHz for client device
	5470-5725	≤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.: 24.3°C	Humid.: 51%RH
Test voltage:	DC 14.8V	
Test results:	Pass	

Measurement Result

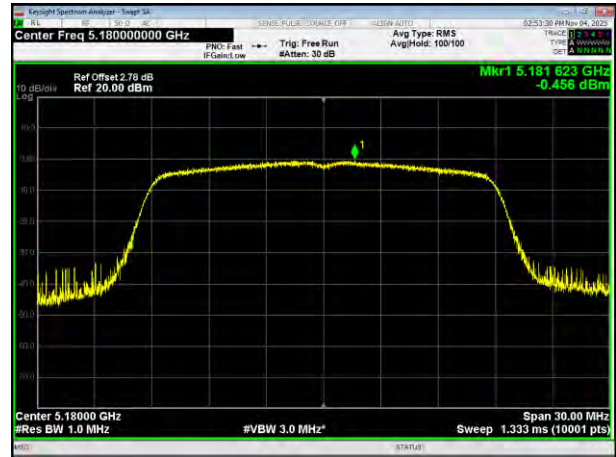
5180-5240MHz

Mode	Frequency	Measured Power Density (dBm/MHz)	Correction Factor (dB)	Total Measured Power Density (dBm/MHz)	Limit (dBm/MHz)
802.11 a	5180 MHz	0.116	0.10	0.22	11
	5200 MHz	0.284	0.10	0.38	11
	5240 MHz	0.289	0.10	0.39	11
802.11 n20	5180 MHz	-0.456	0.11	-0.35	11
	5200 MHz	0.437	0.11	0.55	11
	5240 MHz	0.511	0.11	0.62	11
802.11 ac20	5180 MHz	0.215	0.12	0.34	11
	5200 MHz	0.032	0.12	0.15	11
	5240 MHz	0.517	0.12	0.64	11
802.11 n40	5190 MHz	-3.893	0.22	-3.67	11
	5230 MHz	-4.271	0.22	-4.05	11
802.11 ac40	5190 MHz	-4.952	0.21	-4.74	11
	5230 MHz	-4.754	0.21	-4.54	11
802.11 ac80	5210 MHz	-9.249	0.42	-8.83	11

(802.11a) PSD plot on channel 36



(802.11n20) PSD plot on channel 36



(802.11a) PSD plot on channel 40



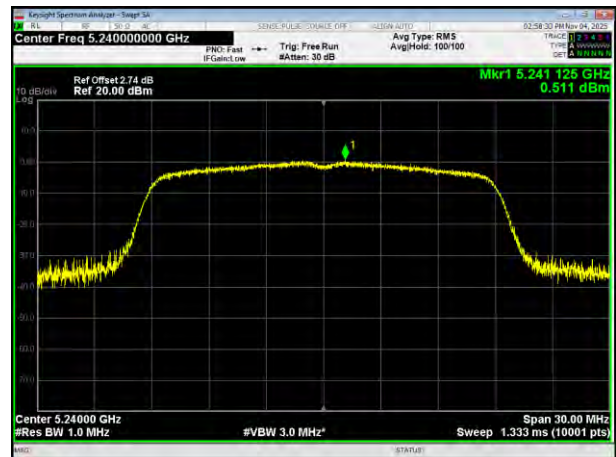
(802.11n20) PSD plot on channel 40



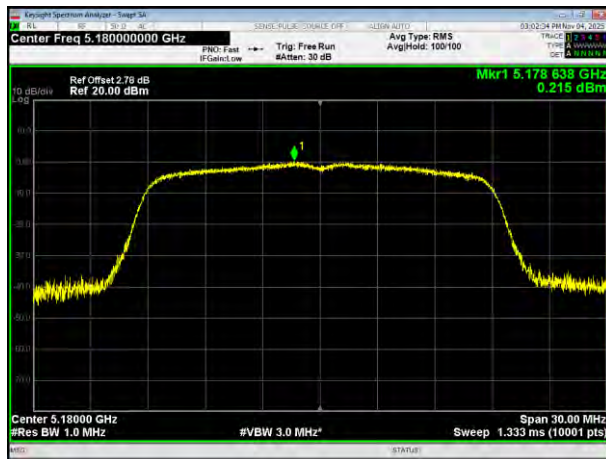
(802.11a) PSD plot on channel 48



(802.11n20) PSD plot on channel 48



(802.11ac20) PSD plot on channel 36



(802.11n40) PSD plot on channel 38



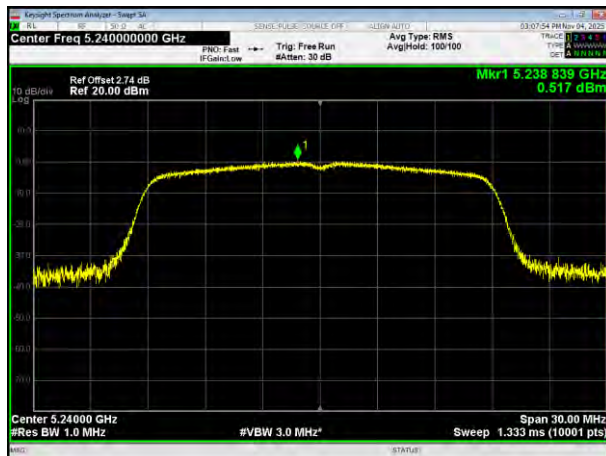
(802.11ac20) PSD plot on channel 40



(802.11n40) PSD plot on channel 46



(802.11ac20) PSD plot on channel 48



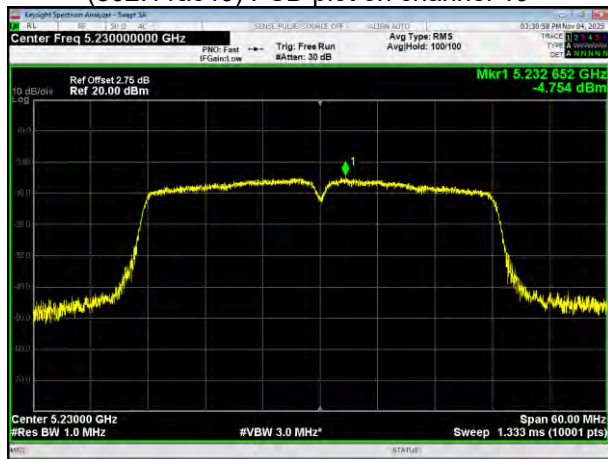
(802.11ac40) PSD plot on channel 38



(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	-2.638	-2.724	0.090	-2.634	30
	5785 MHz	-2.399	-2.485	0.090	-2.395	30
	5825 MHz	-2.252	-2.338	0.090	-2.248	30
802.11 n20	5745 MHz	-3.517	-3.603	0.380	-3.223	30
	5785 MHz	-3.744	-3.830	0.380	-3.450	30
	5825 MHz	-3.688	-3.774	0.380	-3.394	30
802.11ac20	5745 MHz	-3.079	-3.165	0.140	-3.025	30
	5785 MHz	-2.617	-2.703	0.140	-2.563	30
	5825 MHz	-2.729	-2.815	0.140	-2.675	30
802.11 n40	5755 MHz	-6.561	-6.647	0.270	-6.377	30
	5795 MHz	-7.327	-7.413	0.270	-7.143	30
802.11ac40	5755 MHz	-6.882	-6.968	0.270	-6.698	30
	5795 MHz	-7.215	-7.301	0.270	-7.031	30
802.11ac80	5775 MHz	-10.927	-11.013	0.390	-10.623	30

Note: 1. If the measurement is X dBm/510kHz, thus $X \text{ dBm/510kHz} = (10^{X/10}) \cdot (500 / 510) \text{ dBm/500kHz}$

2. Correction Factor (dB)= duty cycle factor

3. Total PSD= Measured PSD (dBm/510kHz) + Correction factor duty cycle (dB)

(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

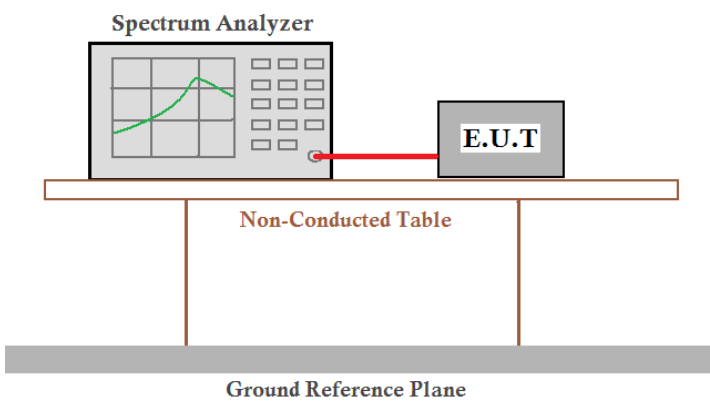


(802.11ac40) PSD plot on channel 159



4.7 Band edge

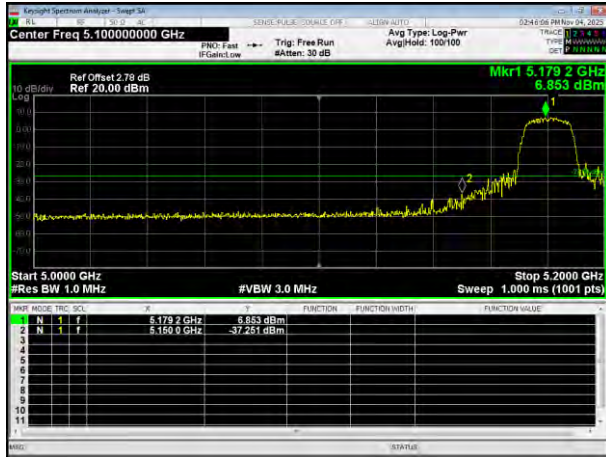
4.7.1 Conducted test Method

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:	 The diagram illustrates the test setup. A Spectrum Analyzer is connected to an E.U.T. (Equipment Under Test) via a red cable. Both are placed on a Non-Conducted Table. The table 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 14.8V	
Test results:	Pass	

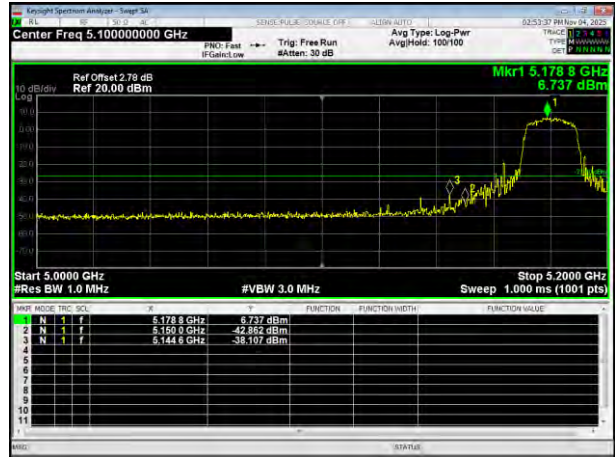
Remark: Due to the margin value of the sideband test being greater than the antenna gain value, the test meets the requirements

5.180~5.240 GHz

(802.11a) Band Edge, Left Side



(802.11n20) Band Edge, Left Side



(802.11a) Band Edge, Right Side

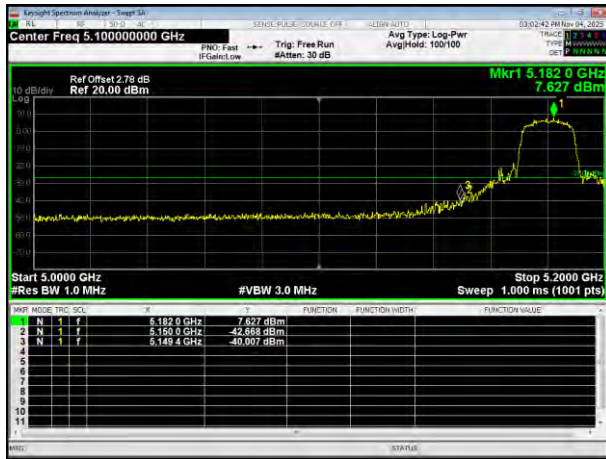


(802.11n20) Band Edge, Right Side

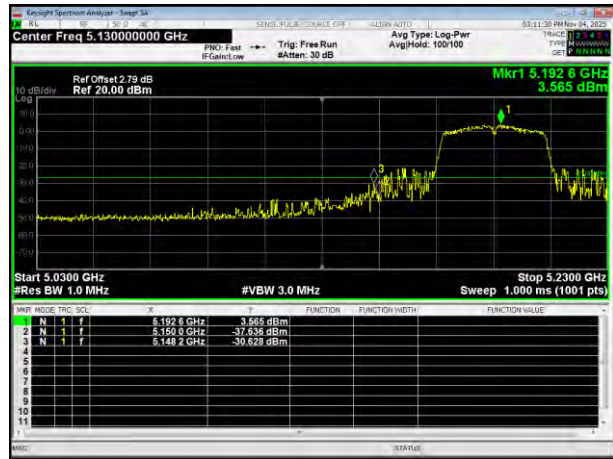


Remark: The antenna gain and cable loss were not compensated in the test data, and the margin value of the Band Edge test was greater than the sum of the antenna gain and cable loss, so the test met the requirements

(802.11ac20) Band Edge, Left Side



(802.11n40) Band Edge, Left Side



(802.11ac20) Band Edge, Right Side

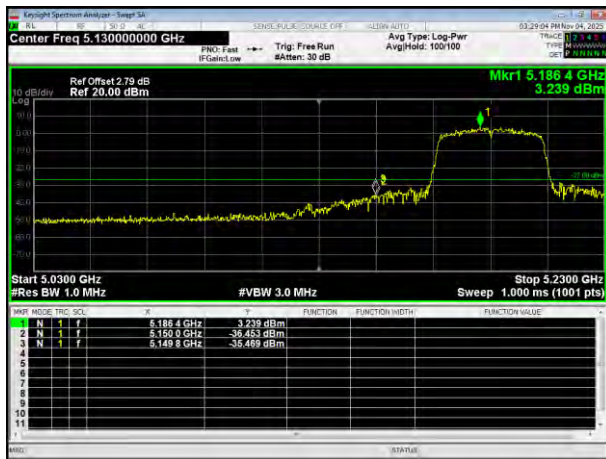


(802.11n40) Band Edge, Right Side

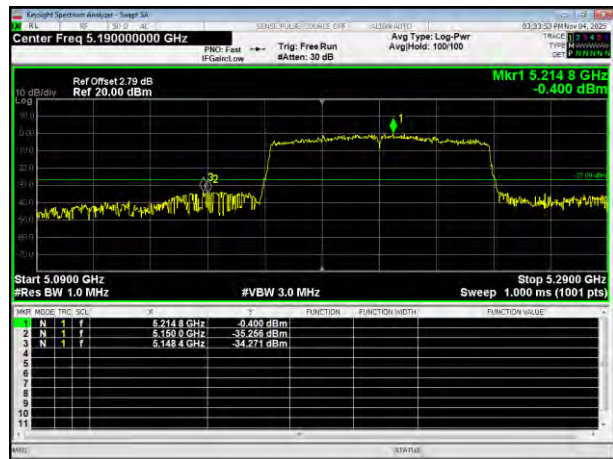


Remark: The antenna gain and cable loss were not compensated in the test data, and the margin value of the Band Edge test was greater than the sum of the antenna gain and cable loss, so the test met the requirements

(802.11ac40) Band Edge, Left Side



(802.11ac80) Band Edge



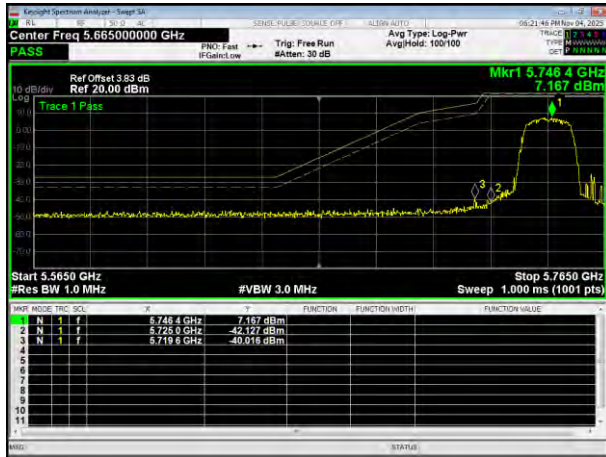
(802.11ac40) Band Edge, Right Side



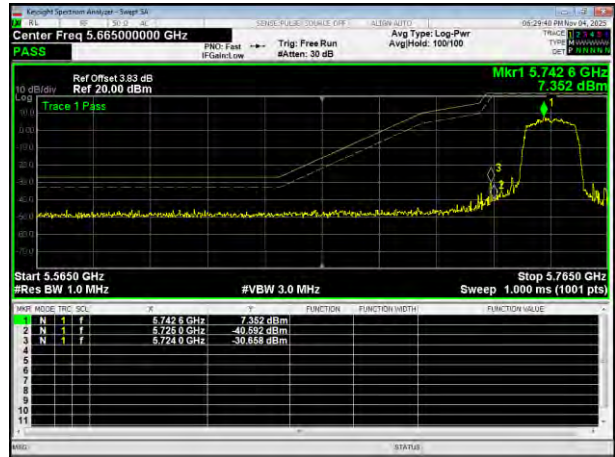
Remark: The antenna gain and cable loss were not compensated in the test data, and the margin value of the Band Edge test was greater than the sum of the antenna gain and cable loss, so the test met the requirements

5.745~5.825 GHz

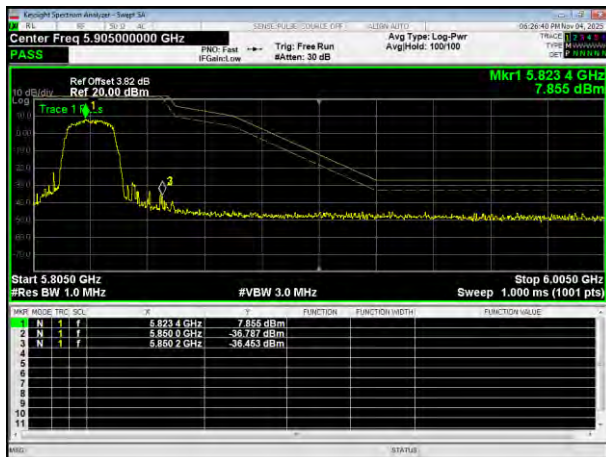
(802.11a) Band Edge, Left Side



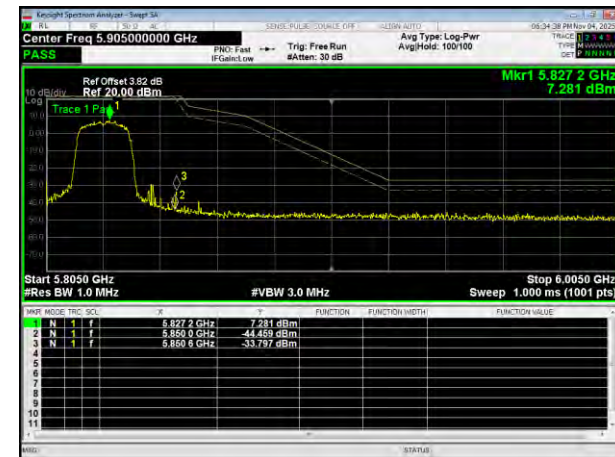
(802.11n20) Band Edge, Left Side



(802.11a) Band Edge, Right Side

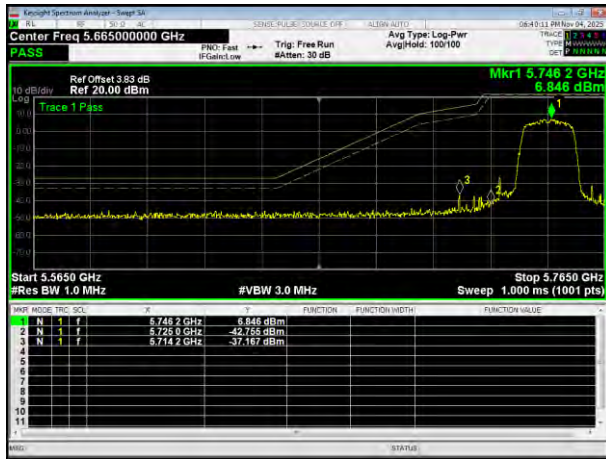


(802.11n20) Band Edge, Right Side

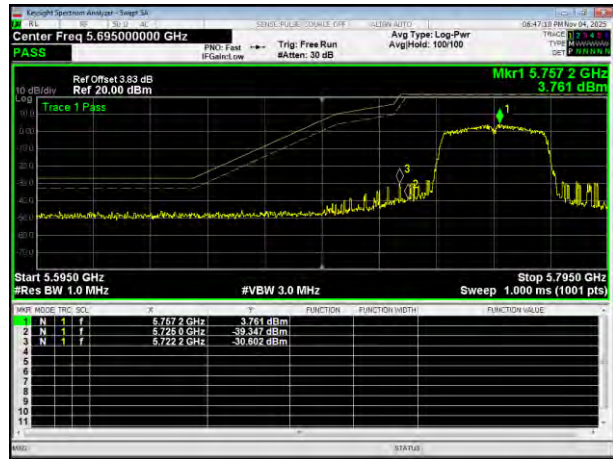


Remark: Antenna gain and cable loss data included in Offset.

(802.11ac20) Band Edge, Left Side



(802.11n40) Band Edge, Left Side



(802.11ac20) Band Edge, Right Side

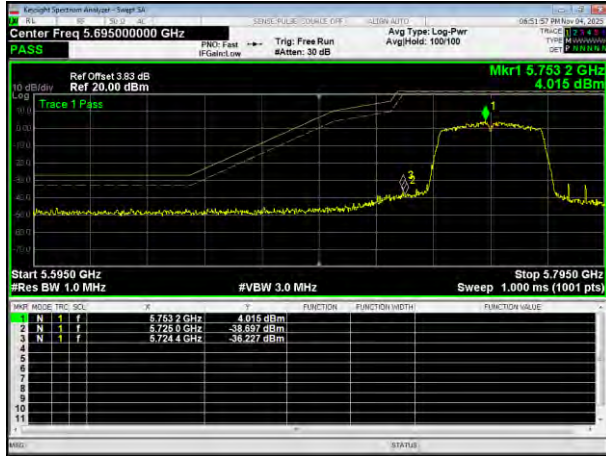


(802.11n40) Band Edge, Right Side



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

(802.11ac40) Band Edge, Left Side



(802.11ac80) Band Edge



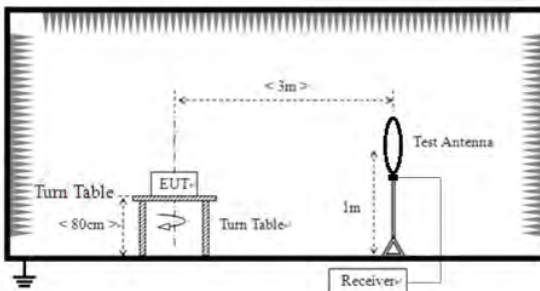
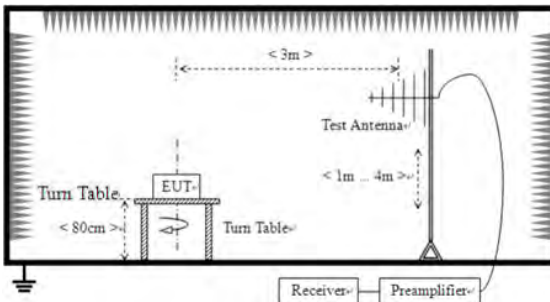
(802.11ac40) Band Edge, Right Side

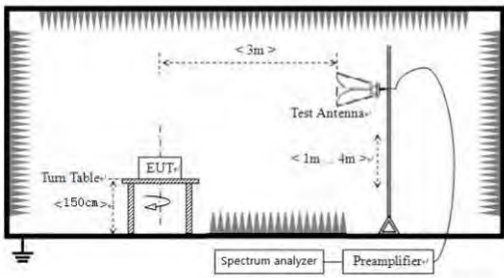


Remark: Antenna gain and cable loss data included in Offset.

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				
Test setup:					
	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 802.11ac20 (5240MHz) data

Measurement Data:

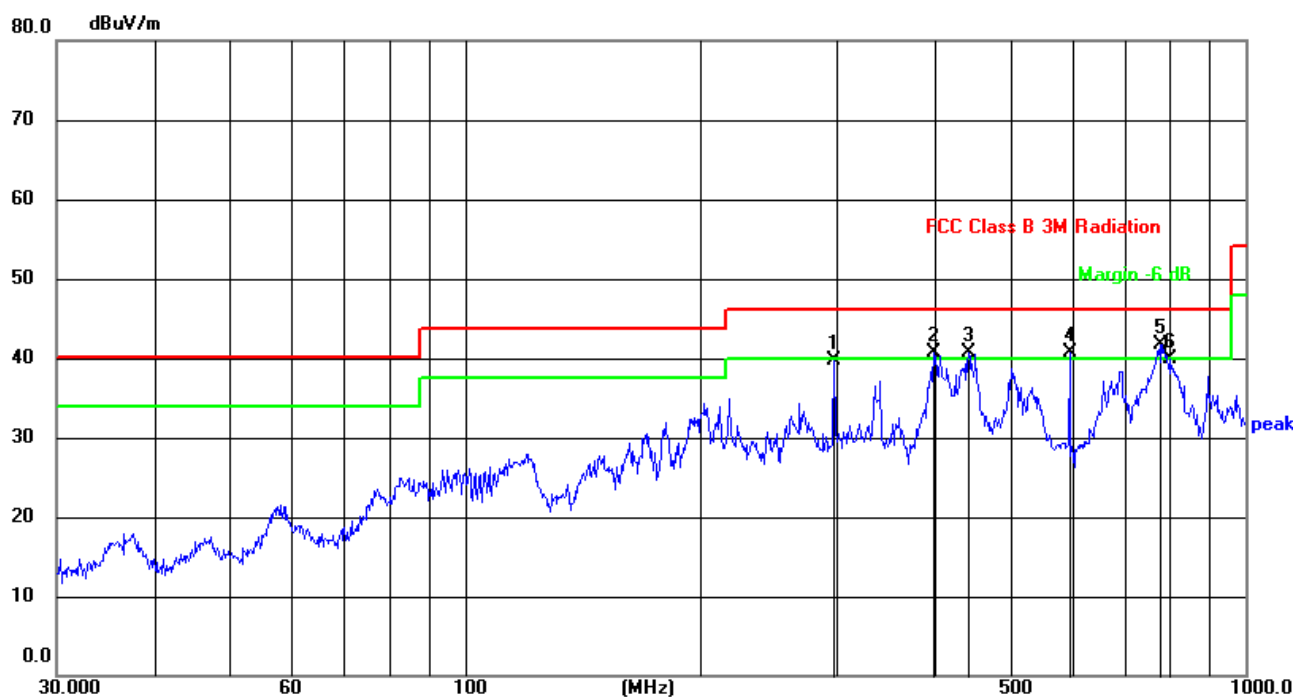
9 kHz ~ 30 MHz

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

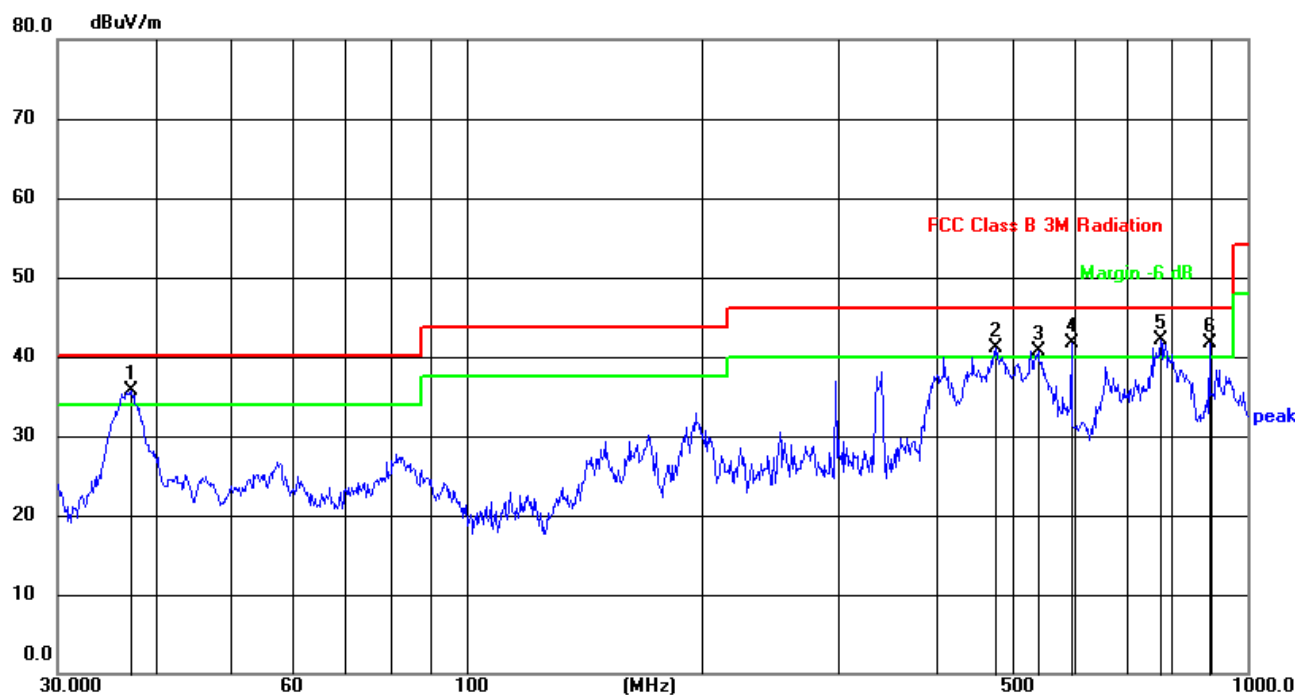
Temperature:	24.3℃	Relative Humidity:	51%RH
Pressure:	101.2kPa	Test Voltage :	DC 14.8V
Test Mode :	TX- 802.11ac20 (5240MHz)		

Horizontal:



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	297.2238	60.14	-20.40	39.74	46.00	-6.26	QP
2	399.0300	58.05	-17.32	40.73	46.00	-5.27	QP
3	441.7425	56.42	-15.79	40.63	46.00	-5.37	QP
4	595.1326	52.56	-11.86	40.70	46.00	-5.30	QP
5	776.8777	48.95	-7.24	41.71	46.00	-4.29	QP
6	798.9796	46.47	-6.53	39.94	46.00	-6.06	QP

Vertical:



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	37.2854	57.12	-21.36	35.76	40.00	-4.24	QP
2	477.1693	56.42	-15.41	41.01	46.00	-4.99	QP
3	539.4773	53.91	-13.12	40.79	46.00	-5.21	QP
4	595.1326	53.60	-11.86	41.74	46.00	-4.26	QP
5	774.1584	49.38	-7.33	42.05	46.00	-3.95	QP
6	893.8564	47.27	-5.54	41.73	46.00	-4.27	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 802.11ac20 mode.

Temperature:	24.3℃	Relative Humidity:	51%RH
Pressure:	101.2kPa	Test Voltage :	DC 14.8V
Test Mode :	5.2G TX- 802.11ac20		

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	41.60	1.77	43.37	68.20	-24.84	PK
V	10360.00	36.86	1.77	38.63	54.00	-15.37	AV
V	15540.00	43.99	7.72	51.71	74.00	-22.29	PK
V	15540.00	33.04	7.72	40.76	54.00	-13.24	AV
V	20720.00	48.44	-5.73	42.71	68.20	-25.49	PK
V	20720.00	43.00	-5.73	37.27	54.00	-16.73	AV
V	25900.00	45.60	-2.89	42.71	68.20	-25.49	PK
V	25900.00	40.86	-2.89	37.97	54.00	-16.03	AV
V	31080.00	47.19	1.66	48.85	68.20	-19.35	PK
V	31080.00	41.28	1.66	42.94	54.00	-11.06	AV
V	36260.00	44.22	4.63	48.85	68.20	-19.35	PK
V	36260.00	38.24	4.63	42.87	54.00	-11.13	AV
H	10360.00	41.91	1.77	43.68	68.20	-24.52	PK
H	10360.00	37.04	1.77	38.81	54.00	-15.19	AV
H	15540.00	43.40	7.72	51.12	74.00	-22.88	PK
H	15540.00	33.15	7.72	40.87	54.00	-13.13	AV
H	20720.00	47.55	-5.73	41.82	68.20	-26.38	PK
H	20720.00	41.76	-5.73	36.03	54.00	-17.97	AV
H	25900.00	45.57	-2.89	42.68	68.20	-25.52	PK
H	25900.00	40.09	-2.89	37.20	54.00	-16.80	AV
H	31080.00	46.23	1.66	47.89	68.20	-20.31	PK
H	31080.00	40.90	1.66	42.56	54.00	-11.44	AV
H	36260.00	43.77	4.63	48.40	68.20	-19.80	PK
H	36260.00	38.62	4.63	43.25	54.00	-10.75	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	41.12	1.85	42.97	68.20	-25.23	PK
V	10400.00	36.32	1.85	38.17	54.00	-15.83	AV
V	15600.00	42.99	7.64	50.63	74.00	-23.37	PK
V	15600.00	31.81	7.64	39.45	54.00	-14.55	AV
V	20800.00	51.45	-5.67	45.78	68.20	-22.42	PK
V	20800.00	46.82	-5.67	41.15	54.00	-12.85	AV
V	26000.00	45.72	-2.85	42.87	68.20	-25.33	PK
V	26000.00	40.48	-2.85	37.63	54.00	-16.37	AV
V	31200.00	44.40	1.57	45.97	68.20	-22.23	PK
V	31200.00	40.50	1.57	42.07	54.00	-11.93	AV
V	36400.00	44.02	4.93	48.95	68.20	-19.25	PK
V	36400.00	39.01	4.93	43.94	54.00	-10.06	AV
H	10400.00	41.29	1.85	43.14	68.20	-25.06	PK
H	10400.00	36.73	1.85	38.58	54.00	-15.42	AV
H	15600.00	42.77	7.64	50.41	74.00	-23.59	PK
H	15600.00	32.03	7.64	39.67	54.00	-14.33	AV
H	20800.00	48.18	-5.67	42.51	68.20	-25.70	PK
H	20800.00	43.34	-5.67	37.67	54.00	-16.33	AV
H	26000.00	47.35	-2.85	44.50	68.20	-23.70	PK
H	26000.00	42.35	-2.85	39.50	54.00	-14.50	AV
H	31200.00	46.18	1.57	47.75	68.20	-20.45	PK
H	31200.00	40.66	1.57	42.23	54.00	-11.78	AV
H	36400.00	43.47	4.93	48.40	68.20	-19.80	PK
H	36400.00	38.84	4.93	43.77	54.00	-10.23	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	41.99	2.02	44.01	68.20	-24.19	PK
V	10480.00	36.70	2.02	38.72	54.00	-15.28	AV
V	15720.00	42.41	7.46	49.87	74.00	-24.13	PK
V	15720.00	32.15	7.46	39.61	54.00	-14.39	AV
V	20960.00	48.24	-5.56	42.68	68.20	-25.52	PK
V	20960.00	43.33	-5.56	37.77	54.00	-16.23	AV
V	26200.00	45.88	-2.50	43.38	68.20	-24.82	PK
V	26200.00	41.59	-2.50	39.09	54.00	-14.91	AV
V	31440.00	47.18	1.39	48.57	68.20	-19.63	PK
V	31440.00	42.43	1.39	43.82	54.00	-10.18	AV
V	36680.00	43.26	5.25	48.51	68.20	-19.69	PK
V	36680.00	38.86	5.25	44.11	54.00	-9.89	AV
H	10480.00	42.40	2.02	44.42	68.20	-23.78	PK
H	10480.00	37.57	2.02	39.59	54.00	-14.41	AV
H	15720.00	42.68	7.46	50.14	74.00	-23.86	PK
H	15720.00	32.20	7.46	39.66	54.00	-14.35	AV
H	20960.00	48.04	-5.56	42.48	68.20	-25.72	PK
H	20960.00	43.44	-5.56	37.88	54.00	-16.12	AV
H	26200.00	47.91	-2.50	45.41	68.20	-22.79	PK
H	26200.00	44.57	-2.50	42.07	54.00	-11.93	AV
H	31440.00	46.52	1.39	47.91	68.20	-20.29	PK
H	31440.00	41.69	1.39	43.08	54.00	-10.92	AV
H	36680.00	43.55	5.15	48.70	68.20	-19.50	PK
H	36680.00	38.54	5.15	43.69	54.00	-10.31	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:	27.0℃	Relative Humidity:	63%RH
Pressure:	101.2kPa	Test Voltage :	DC 14.8V
Test Mode :	5.8G TX- 802.11ac20		

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	44.97	3.31	48.28	74.00	-25.72	PK
V	11490.00	35.42	3.31	38.73	54.00	-15.27	AV
V	17235.00	34.77	10.10	44.87	68.20	-23.33	PK
V	17235.00	30.00	10.10	40.10	54.00	-13.90	AV
V	22980.00	51.29	-4.61	46.68	74.00	-27.32	PK
V	22980.00	40.95	-4.61	36.34	54.00	-17.66	AV
V	28725.00	42.45	0.87	43.32	68.20	-24.88	PK
V	28725.00	38.29	0.87	39.16	54.00	-14.84	AV
V	34470.00	42.98	3.82	46.80	68.20	-21.40	PK
V	34470.00	37.87	3.82	41.69	54.00	-12.31	AV
H	11490.00	45.59	3.31	48.90	74.00	-25.10	PK
H	11490.00	35.61	3.31	38.92	54.00	-15.08	AV
H	17235.00	33.92	10.10	44.02	68.20	-24.18	PK
H	17235.00	29.32	10.10	39.42	54.00	-14.58	AV
H	22980.00	50.89	-4.61	46.28	74.00	-27.72	PK
H	22980.00	40.72	-4.61	36.11	54.00	-17.89	AV
H	28725.00	44.62	0.87	45.49	68.20	-22.71	PK
H	28725.00	40.62	0.87	41.49	54.00	-12.51	AV
H	34470.00	43.45	3.82	47.27	68.20	-20.93	PK
H	34470.00	39.12	3.82	42.94	54.00	-11.06	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	44.75	3.34	48.09	74.00	-25.91	PK
V	11570.00	35.07	3.34	38.41	54.00	-15.59	AV
V	17355.00	33.42	10.52	43.94	68.20	-24.26	PK
V	17355.00	28.99	10.52	39.51	54.00	-14.49	AV
V	23140.00	50.96	-4.66	46.30	74.00	-27.70	PK
V	23140.00	41.24	-4.66	36.58	54.00	-17.42	AV
V	28925.00	44.17	1.36	45.53	68.20	-22.67	PK
V	28925.00	39.52	1.36	40.88	54.00	-13.12	AV
V	34710.00	43.77	3.95	47.72	68.20	-20.48	PK
V	34710.00	38.76	3.95	42.71	54.00	-11.29	AV
H	11570.00	45.76	3.34	49.10	74.00	-24.90	PK
H	11570.00	36.08	3.34	39.42	54.00	-14.58	AV
H	17355.00	32.60	10.52	43.12	68.20	-25.08	PK
H	17355.00	29.32	10.52	39.84	54.00	-14.16	AV
H	23140.00	51.48	-4.66	46.82	74.00	-27.18	PK
H	23140.00	41.11	-4.66	36.45	54.00	-17.55	AV
H	28925.00	44.91	1.36	46.27	68.20	-21.93	PK
H	28925.00	40.72	1.36	42.08	54.00	-11.92	AV
H	34710.00	44.33	3.95	48.28	68.20	-19.92	PK
H	34710.00	39.11	3.95	43.06	54.00	-10.94	AV

Remark:

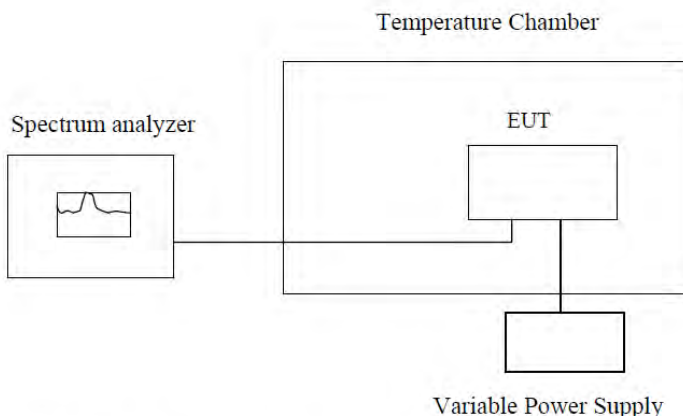
1. Emission Level = Meter Reading + Factor,
Factor=Antenna Factor + Cable Loss – Pre-amplifier
Margin= Emission Level – Limit
2. If peak below the average limit, the average emission was no test.
3. The amplitude of spurious emissions which are attenuated by more than 20dB below the permissible value 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	44.73	3.36	48.09	74.00	-25.91	PK
V	11650.00	34.82	3.36	38.18	54.00	-15.82	AV
V	17475.00	32.96	10.93	43.89	68.20	-24.31	PK
V	17475.00	29.38	10.93	40.31	54.00	-13.70	AV
V	23300.00	46.20	-4.77	41.43	68.20	-26.77	PK
V	23300.00	41.88	-4.77	37.11	54.00	-16.89	AV
V	29125.00	43.91	1.65	45.56	68.20	-22.64	PK
V	29125.00	38.77	1.65	40.42	54.00	-13.58	AV
V	34950.00	42.23	4.09	46.32	68.20	-21.88	PK
V	34950.00	38.15	4.09	42.24	54.00	-11.76	AV
H	11650.00	45.11	3.36	48.47	74.00	-25.53	PK
H	11650.00	35.33	3.36	38.69	54.00	-15.31	AV
H	17475.00	32.37	10.93	43.30	68.20	-24.90	PK
H	17475.00	27.66	10.93	38.59	54.00	-15.41	AV
H	23300.00	45.79	-4.77	41.02	68.20	-27.18	PK
H	23300.00	41.33	-4.77	36.56	54.00	-17.44	AV
H	29125.00	42.82	1.65	44.47	68.20	-23.73	PK
H	29125.00	39.72	1.65	41.37	54.00	-12.64	AV
H	34950.00	43.16	4.09	47.25	68.20	-20.95	PK
H	34950.00	38.33	4.09	42.42	54.00	-11.58	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 14.8V					
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	5179.983	5180.001	5179.997	5179.994
	5190	5189.979	5190.002	5189.988	5190.024
	5200	5199.974	5199.993	5199.996	5200.049
	5210	5209.980	5210.001	5209.988	5210.033
	5220	5219.975	5219.993	5220.009	5220.024
	5230	5229.973	5230.014	5229.987	5230.052
	5240	5239.986	5239.992	5240.005	5240.040
-20	5180	5179.935	5180.001	5179.985	5180.037
	5190	5189.965	5190.002	5189.996	5190.032
	5200	5199.960	5199.993	5199.987	5200.034
	5210	5209.974	5210.001	5209.988	5210.035
	5220	5219.965	5219.993	5219.995	5220.050
	5230	5229.973	5230.014	5230.003	5230.043
	5240	5239.981	5239.992	5239.985	5240.051
-10	5180	5179.973	5180.001	5179.997	5180.001
	5190	5189.974	5190.002	5189.988	5190.031
	5200	5199.965	5199.993	5199.996	5200.036
	5210	5209.973	5210.001	5209.988	5210.040
	5220	5219.965	5219.993	5220.009	5220.031
	5230	5229.986	5230.014	5229.987	5230.039
	5240	5239.964	5239.992	5240.005	5240.047
0	5180	5179.925	5180.004	5180.003	5180.039
	5190	5189.921	5190.000	5189.993	5190.039
	5200	5199.916	5199.995	5200.003	5200.050
	5210	5209.922	5210.001	5209.953	5210.051
	5220	5219.917	5220.006	5219.999	5220.036
	5230	5229.915	5230.010	5230.005	5230.053
	5240	5239.978	5240.010	5240.006	5240.038
10	5180	5179.962	5180.002	5179.997	5180.042
	5190	5189.973	5189.993	5189.988	5190.042
	5200	5199.964	5200.001	5199.996	5200.038
	5210	5209.965	5209.993	5209.988	5210.033
	5220	5219.972	5220.014	5220.009	5220.049
	5230	5229.980	5229.992	5229.987	5230.034
	5240	5239.962	5240.010	5240.005	5240.032
20	5180	5179.983	5180.001	5179.997	5179.994
	5190	5189.979	5190.002	5189.988	5190.024

	5200	5199.974	5199.993	5199.996	5200.049
	5210	5209.980	5300.001	5209.988	5210.033
	5220	5219.975	5219.993	5220.009	5220.024
	5230	5229.973	5230.014	5229.987	5230.052
	5240	5239.946	5239.992	5240.005	5240.040
30	5180	5179.913	5179.999	5179.996	5180.043
	5190	5189.909	5190.013	5189.827	5190.047
	5200	5199.904	5199.996	5199.995	5200.032
	5210	5209.910	5209.999	5209.997	5210.053
	5220	5219.905	5220.014	5219.998	5220.044
	5230	5229.902	5230.007	5229.995	5230.039
	5240	5239.875	5240.015	5239.999	5240.044
40	5180	5179.973	5179.990	5179.997	5180.032
	5190	5189.974	5190.001	5189.988	5190.033
	5200	5199.904	5200.001	5200.005	5200.032
	5210	5209.910	5209.999	5209.997	5210.040
	5220	5219.905	5220.006	5219.998	5220.044
	5230	5229.986	5230.008	5229.987	5230.045
	5240	5239.964	5239.990	5240.005	5240.023
50	5180	5179.935	5180.001	5179.985	5180.047
	5190	5189.965	5190.002	5189.996	5190.032
	5200	5199.980	5199.993	5199.987	5200.044
	5210	5209.910	5210.013	5209.997	5210.044
	5220	5219.905	5220.008	5220.004	5220.045
	5230	5229.902	5230.015	5229.999	5230.043
	5240	5239.975	5240.013	5239.993	5240.044

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 12.58V	5180	5179.899	5180.014	5179.995	5180.038
	5190	5189.975	5190.004	5189.996	5190.036
	5200	5199.973	5200.006	5199.997	5200.040
	5210	5209.976	5209.991	5209.993	5210.050
	5220	5219.986	5219.999	5219.997	5220.039
	5230	5229.963	5230.004	5229.996	5300.043
	5240	5239.971	5240.013	5240.005	5240.040
DC 14.8V	5180	5179.913	5180.009	5179.996	5180.043
	5190	5189.969	5190.003	5189.997	5190.027
	5200	5199.974	5199.991	5199.995	5200.032
	5210	5209.910	5209.999	5209.971	5210.050
	5220	5219.905	5220.014	5219.998	5220.044
	5230	5229.902	5230.006	5229.995	5230.036
	5240	5239.975	5240.013	5239.999	5240.044
DC 17.02V	5180	5179.983	5180.011	5179.985	5180.021
	5190	5189.979	5190.007	5189.996	5190.032
	5200	5199.974	5200.002	5199.987	5200.022
	5210	5209.980	5210.008	5209.988	5210.024
	5220	5219.975	5220.003	5219.995	5220.031
	5230	5229.973	5230.001	5230.000	5230.054
	5240	5239.976	5240.004	5239.985	5240.021

Frequency stability versus Temp.					
Power Supply: DC 14.8V					
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	5744.986	5745.003	5744.998	5745.042
	5755	5754.974	5754.999	5755.002	5755.024
	5775	5774.966	5774.998	5775.003	5775.033
	5785	5784.975	5785.001	5785.006	5785.024
	5795	5794.966	5795.012	5794.989	5795.035
	5825	5824.977	5824.993	5824.985	5825.038
-20	5745	5744.880	5744.983	5744.999	5745.025
	5755	5754.905	5754.999	5755.001	5755.051
	5775	5774.885	5774.998	5775.004	5775.047
	5785	5784.894	5785.001	5784.996	5785.031
	5795	5794.972	5795.012	5794.987	5795.020
	5825	5824.977	5824.993	5824.996	5825.034
-10	5745	5744.966	5744.994	5744.983	5745.039
	5755	5754.973	5755.001	5755.008	5755.034
	5775	5774.965	5774.998	5774.989	5775.038
	5785	5784.957	5784.994	5784.998	5785.039
	5795	5794.964	5794.990	5794.996	5795.042
	5825	5824.973	5824.993	5825.006	5825.043
0	5745	5744.960	5744.993	5744.989	5745.044
	5755	5754.970	5755.000	5754.996	5755.043
	5775	5774.981	5774.992	5775.000	5775.034
	5785	5784.967	5784.984	5784.989	5785.031
	5795	5794.963	5794.991	5794.985	5795.049
	5825	5824.961	5825.000	5824.988	5825.041
10	5745	5744.957	5745.004	5744.983	5745.035
	5755	5754.972	5755.006	5755.008	5755.049
	5775	5774.971	5775.009	5774.989	5775.034
	5785	5784.974	5785.001	5784.998	5785.021
	5795	5794.984	5794.992	5794.996	5795.015
	5825	5824.966	5825.001	5825.006	5825.049
20	5745	5744.977	5744.993	5744.999	5745.024
	5755	5754.979	5755.010	5755.003	5755.043
	5775	5774.976	5775.011	5774.998	5775.023
	5785	5784.963	5784.993	5784.985	5785.050
	5795	5794.957	5795.010	5794.979	5795.042
	5825	5824.983	5825.008	5824.949	5825.051
30	5745	5744.956	5745.004	5744.983	5745.043
	5755	5754.972	5755.006	5755.008	5755.049
	5775	5774.971	5775.009	5774.989	5775.034
	5785	5784.974	5785.001	5784.998	5785.021
	5795	5794.985	5794.992	5794.996	5795.015
	5825	5824.966	5825.001	5825.006	5825.049
40	5745	5744.967	5744.993	5744.983	5745.019
	5755	5754.974	5755.010	5755.008	5755.044
	5775	5774.966	5775.011	5774.989	5775.025

	5785	5784.958	5784.993	5784.998	5785.034
	5795	5794.965	5795.010	5794.996	5795.032
	5825	5824.984	5825.008	5825.006	5825.042
50	5745	5744.961	5744.993	5744.988	5745.025
	5755	5754.986	5755.010	5754.995	5755.032
	5775	5774.967	5775.011	5774.987	5775.049
	5785	5784.976	5784.993	5784.979	5785.025
	5795	5794.974	5795.010	5794.986	5795.021
	5825	5824.984	5825.008	5824.915	5825.024

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 12.58V	5745	5744.976	5745.003	5744.999	5745.039
	5755	5754.972	5755.000	5755.005	5755.044
	5775	5774.971	5774.992	5775.006	5775.025
	5785	5784.974	5784.984	5784.988	5785.034
	5795	5794.985	5794.991	5795.006	5795.032
	5825	5824.966	5825.010	5825.003	5825.042
DC 14.8V	5745	5744.956	5745.004	5744.983	5745.035
	5755	5754.972	5755.006	5755.008	5755.049
	5775	5774.971	5775.009	5774.989	5775.034
	5785	5784.974	5785.001	5784.998	5785.021
	5795	5794.981	5794.992	5794.996	5795.015
	5825	5824.966	5825.001	5825.006	5825.049
DC 17.02V	5745	5744.886	5745.001	5744.999	5745.052
	5755	5754.973	5755.013	5755.003	5755.040
	5775	5774.979	5774.997	5774.998	5775.050
	5785	5784.985	5785.997	5784.985	5785.046
	5795	5794.984	5794.992	5794.996	5795.015
	5825	5824.966	5825.001	5825.006	5825.049

5 Test Setup Photo

Reference to the file No.: ET-25103884SP for details.

6 EUT Constructional Details

Reference to the file No.: ET-25103884EP and ET-25103884IP for details

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