



TEST REPORT

Applicant: Jiumao (Shenzhen) Industrial Co., LTD.
Address of Applicant: 2nd Floor, Building 9, Jingxuan Industrial Park, Donghuan Road, Longhua District, Shenzhen China
Manufacturer: Jiumao (Shenzhen) Industrial Co., LTD.
Address of Manufacturer: 2nd Floor, Building 9, Jingxuan Industrial Park, Donghuan Road, Longhua District, Shenzhen China
Product Name: Projector
Model No.: JY320PLUS-KTV,JY560,JY580,JY590,JY610,JY650,JY680,JY720,JY750,JY820,JY820PLUS,JY750PRO,JY985
Trade Mark: JIUMAO
FCC ID: 2BB8K-JY320PLUS-KTV
Applicable standards: CFR Title 47 Part 15.407
Date of Test: Aug.02, 2025-Aug.29, 2025
Date of report issued: Aug.30, 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

Prepared By

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Contents

Page

1	TEST SUMMARY	4
	MEASUREMENT UNCERTAINTY	4
2	GENERAL INFORMATION	5
2.1	GENERAL DESCRIPTION OF EUT	5
2.2	TEST MODE	7
2.3	DESCRIPTION OF SUPPORT UNITS	7
2.4	TEST FACILITY	7
2.5	ADDITIONAL INSTRUCTIONS.....	7
3	TEST INSTRUMENTS LIST	8
4	TEST RESULTS AND MEASUREMENT DATA	9
4.1	ANTENNA REQUIREMENT	9
4.2	CONDUCTED EMISSIONS	10
4.3	DUTY CYCLE.....	13
4.4	CONDUCTED OUTPUT POWER	17
4.5	BANDWIDTH	19
4.6	POWER SPECTRAL DENSITY	27
4.7	BAND EDGE.....	36
4.7.1	Conducted test Method	36
4.8	SPURIOUS EMISSION	42
4.8.1	Radiated Emission Method	42
4.9	FREQUENCY STABILITY	52
5	TEST SETUP PHOTO	58
6	EUT CONSTRUCTIONAL DETAILS.....	58

1 Test Summary

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

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:	Projector
Model No.:	JY320PLUS-KTV,JY560,JY580,JY590,JY610,JY650,JY680,JY720,JY750,JY820,JY820PLUS,JY750PRO,JY985
Difference of model(s)	All models have the same circuit and RF module, except for the model name
Test Model:	JY320PLUS-KTV
Hardware Version:	REV2.5
Software Version:	1.0
Sample(s) Status:	Engineer sample
Operation Frequency:	☒ 5180-5240MHz for 802.11a/n20/ac20; 5190-5230MHz for 802.11n40/ac40; ☒ 5745-5825 MHz for 802.11a/n20/ac20; 5755-5795 MHz for 802.11n40/ac40;
Channel numbers:	☒ 4 channels for 802.11a/n20/ac20 in the 5180-5240MHz band; 2 channels for 802.11 n40/ac40 in the 5190-5230MHz band ; ☒ 5 channels for 802.11a/n20/ac20 in the 5745-5825MHz band ; 2 channels for 802.11 n40/ac40 in the 5755-5795MHz band ;
Channel bandwidth:	802.11a/802.11n20/ 802.11ac20/ : 20MHz 802.11n(HT40)/ 802.11ac40 : 40MHz
Data Rate	802.11a: 6,9,12,18,24,36,48,54Mbps; 802.11n(20/40):MCS0-MCS15; 802.11ac(20/40):NSS1, MCS0-MCS9
Modulation technology:	Orthogonal Frequency Division Multiplexing (OFDM) with BPSK/QPSK/16QAM/64QAM/
Antenna Type:	PCB antenna
Antenna gain:	1.81dBi(Declare by applicant) Note: Antenna information is provided by applicant, Testing lab is not responsible for the accuracy of the information.
Power supply:	AC 100-240V 50/60Hz 2A
Battery	N/A
Adapter Model:	N/A

For more details, refer to the user's manual of the EUT.

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 /n20/ac20/	802.11 n40/ac40/	/
Lowest channel	5180	5190	/
Middle channel	5200	X	
Highest channel	5240		

Test channel	Frequency (MHz)		
	802.11 a /n20/ac20	802.11 n40/ac40	/
Lowest channel	5745	5755	/
Middle channel	5785	X	
Highest channel	5825		

2.2 Test mode

Transmitting mode	Keep the EUT in continuously transmitting mode.
<i>Remark: During the test, the test voltage was tuned from 85% to 115% of the nominal rated supply voltage, and found that the worst case was under the nominal rated supply condition. So the report just shows that condition's data.</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 20CH36/CH40/CH48 802.11a / n 20/ac 20CH149/CH157/CH165
Mode 2	802.11n40/CH38/CH46 802.11n 40CH 151/CH159
Mode 3	/
Mode 4	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/ac20CH36/ CH40/ CH 48 802.11a/n 20/ac 20CH149/ CH157/ CH165
Mode 2	802.11n40CH38/ CH46 802.11n40CH 151/CH159
Mode 3	/

Note: 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	Earphone	Feilida	i6	/
2	Notebook computer	DELL	Vostro 3520	/

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's special orders
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:	47CRF Part 15.203
15.203 requirement: <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>	
EUT Antenna:	
The antenna is PCB antenna, the best case gain of the is 1.81dBi, reference to the Internal photos for details.	

4.2 Conducted Emissions

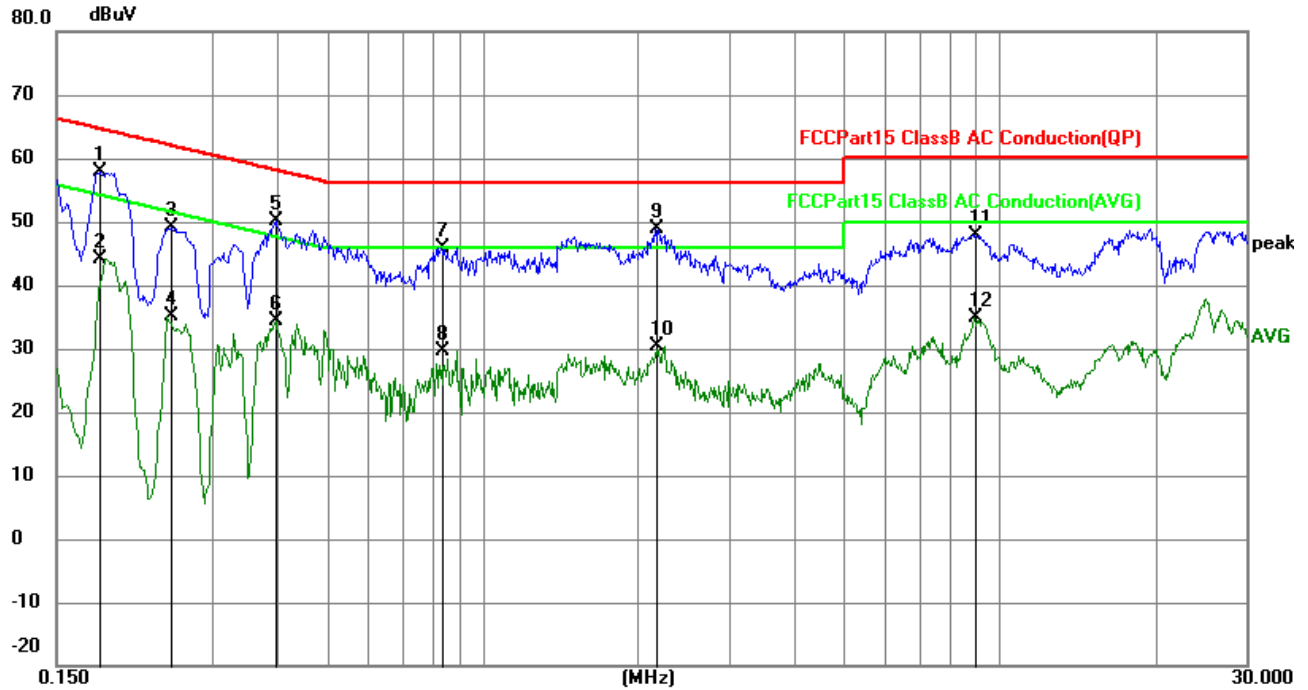
Test Requirement:	47CRF Part 15.207					
Test Method:	ANSI C63.10-2020 §6.2					
Test Frequency Range:	150KHz to 30MHz					
Receiver setup:	RBW=9KHz, VBW=30KHz, Sweep time=auto					
Limit:	Frequency range (MHz)		Limit (dBuV)			
			Quasi-peak		Average	
	0.15-0.5		66 to 56*		56 to 46*	
	0.5-5		56		46	
	5-30		60		50	
* Decreases with the logarithm of the frequency.						
Test setup:	Reference Plane 40cm LISN AUX Equipment E.U.T Test table/Insulation plane 80cm LISN Filter EMI Receiver AC power Remark: E.U.T: Equipment Under Test LISN: Line Impedance Stabilization Network Test table height=0.6m					
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.:	23.2°C	Humid.:	58%	Press.:	1012mbar
Test voltage:	AC 120V 60Hz					
Test results:	Pass					

Remark:

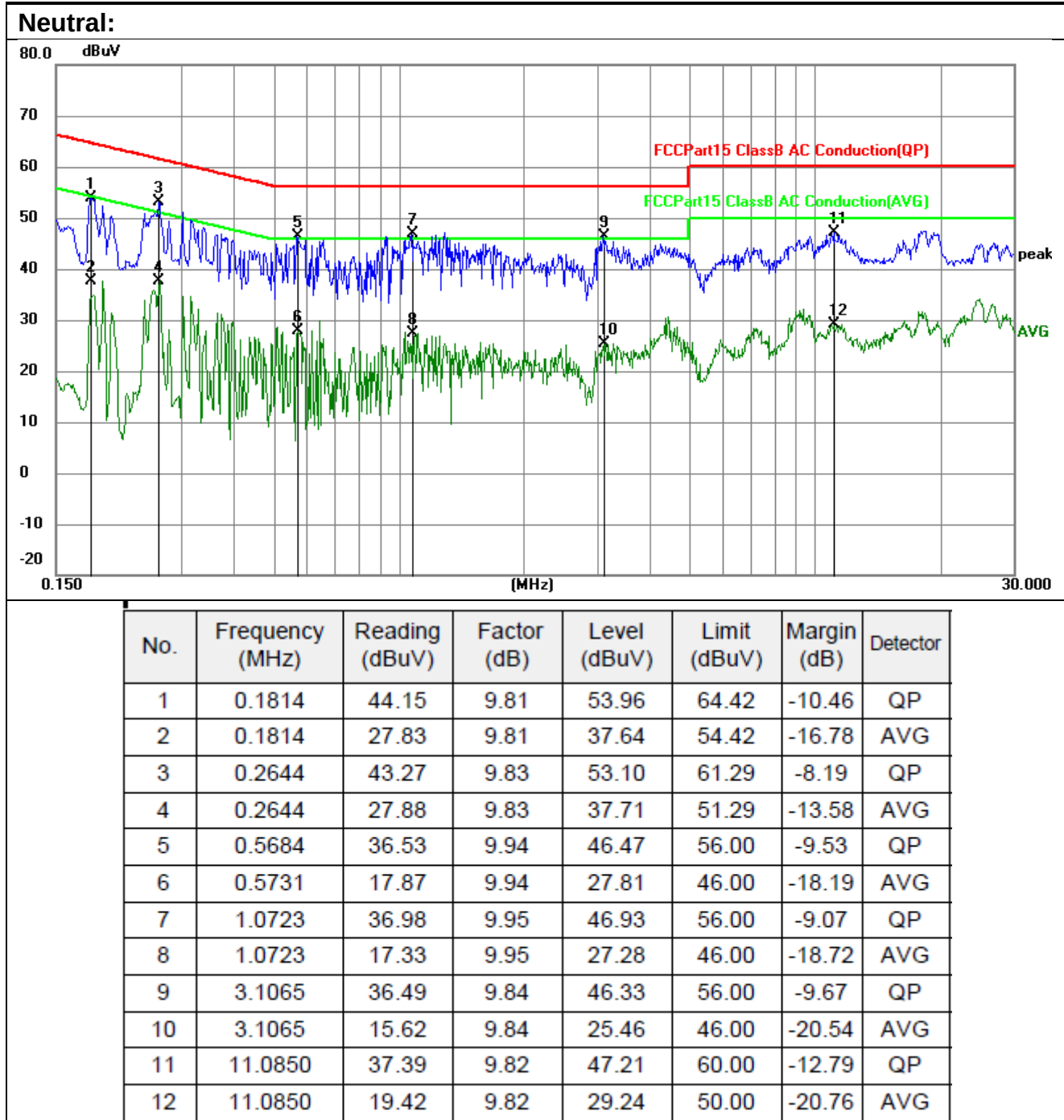
1. Both high voltage and low voltage have been tested, and the report only shows the worst case data with AC 120V/60Hz.
2. All mode have been tested, the report only shows the worst mode (802.11ac20 5200MHz)

Measurement Result

Line:



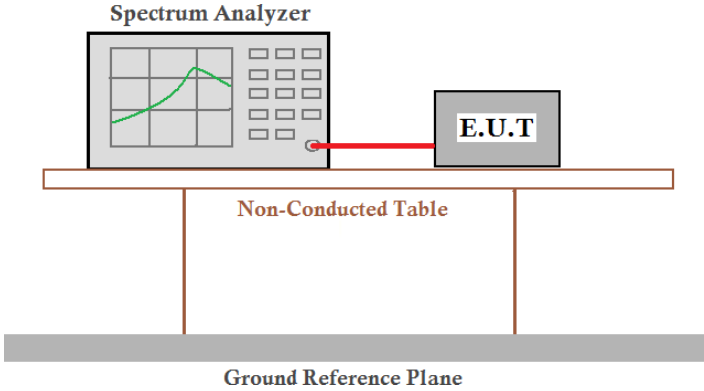
No.	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector
1	0.1814	48.09	9.81	57.90	64.42	-6.52	QP
2	0.1814	34.36	9.81	44.17	54.42	-10.25	AVG
3	0.2505	39.27	9.83	49.10	61.74	-12.64	QP
4	0.2505	25.24	9.83	35.07	51.74	-16.67	AVG
5	0.3976	40.18	9.90	50.08	57.90	-7.82	QP
6	0.3976	24.59	9.90	34.49	47.90	-13.41	AVG
7	0.8336	35.93	9.96	45.89	56.00	-10.11	QP
8	0.8336	19.75	9.96	29.71	46.00	-16.29	AVG
9	2.1613	38.99	9.85	48.84	56.00	-7.16	QP
10	2.1613	20.42	9.85	30.27	46.00	-15.73	AVG
11	8.9250	37.96	9.84	47.80	60.00	-12.20	QP
12	8.9250	24.92	9.84	34.76	50.00	-15.24	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 §12.2	
Limit:	/	
Test setup:	 The diagram illustrates the test setup. A Spectrum Analyzer is connected via a red cable to an E.U.T. (Equipment Under Test). Both are placed on a Non-Conducted Table. The table is supported by two vertical legs and sits on 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.: 22.6°C	Humid.: 63%RH
Test voltage:	AC 120V 60Hz	
Test results:	Pass	



Measurement Result

5180-5240MHz

Mode	Duty cycle (%)	Correction Factor (dB)
TX 802.11a Mode	93.71	0.28
TX 802.11n20 Mode	82.41	0.84
TX 802.11ac20 Mode	60.58	2.18
TX 802.11n40 Mode	86.63	0.62
TX 802.11a40 Mode	63.40	1.98

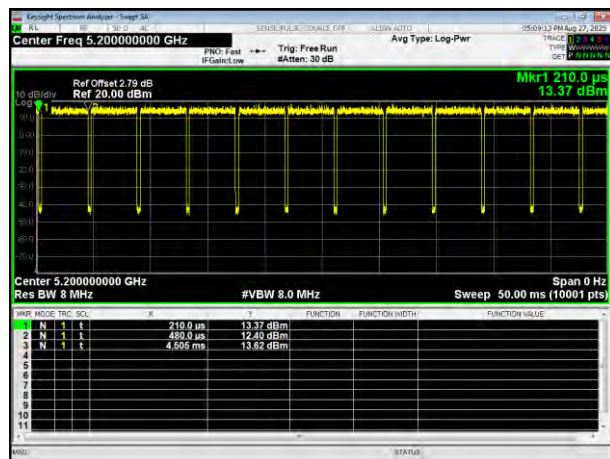
5745-5825 MHz

Mode	Duty cycle (%)	Correction Factor (dB)
TX 802.11a Mode	93.10	0.31
TX 802.11n20 Mode	80.00	0.97
TX 802.11ac20 Mode	80.00	0.97
TX 802.11n40 Mode	66.67	1.76
TX 802.11ac40 Mode	66.67	1.76

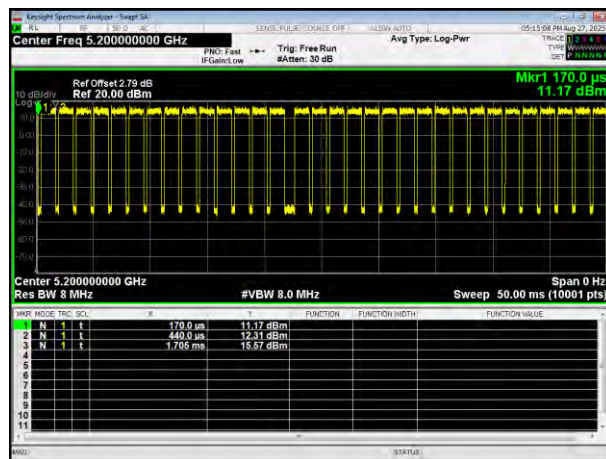
Test plot

5180-5240MHz

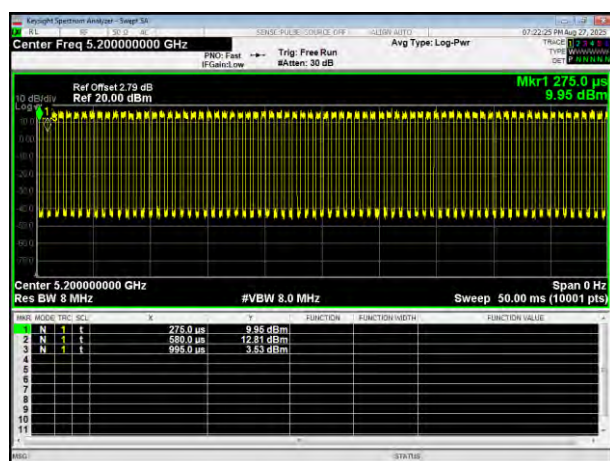
(802.11a) plot



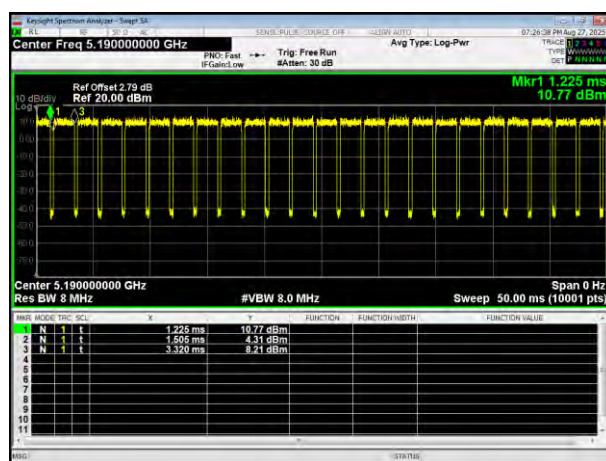
(802.11 n20) plot



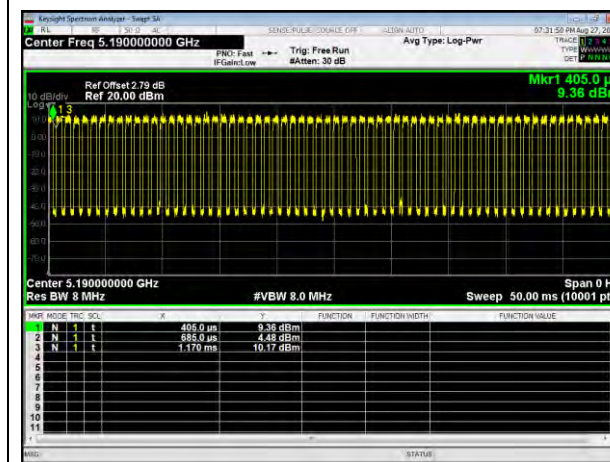
(802.11 ac20) plot



(802.11 n40) plot



(802.11 ac40) plot

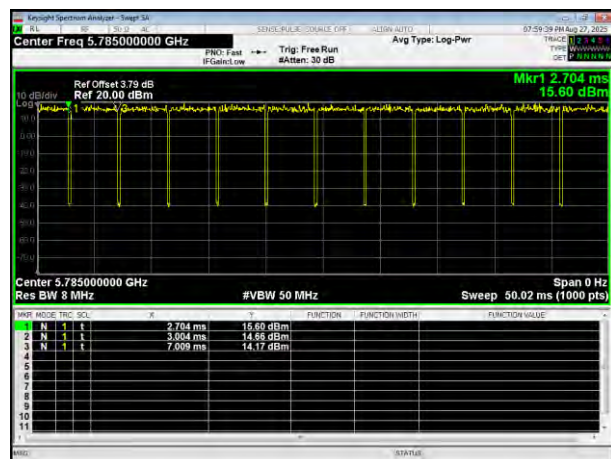


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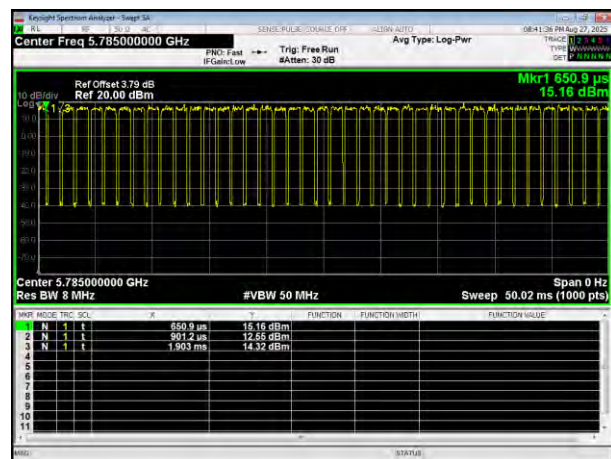
/

5745-5825 MHz

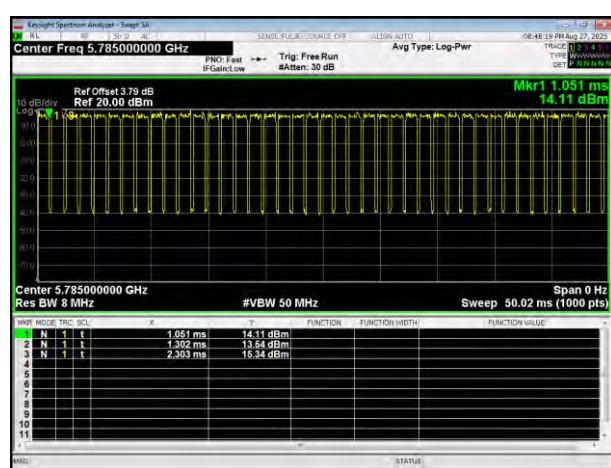
(802.11a) plot



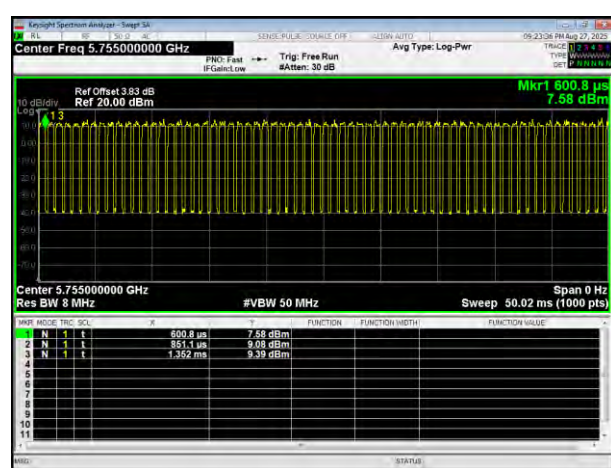
(802.11 n20) plot



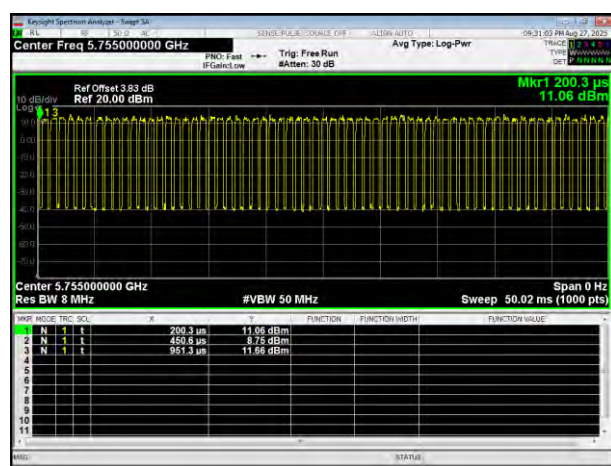
(802.11ac20) plot



(802.11 n40) plot



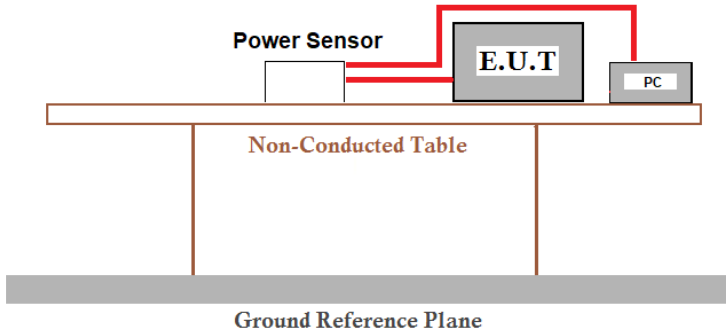
(802.11 ac40) plot



/

/

4.4 Conducted Output Power

Test Requirement:	47CRF 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 an 'E.U.T.' (Equipment Under Test) and a 'PC'. Both the E.U.T. and the PC are placed on a 'Non-Conducted Table'. This table is supported by two vertical legs and sits on a 'Ground Reference Plane', which is represented by a thick grey horizontal bar at the bottom.	
Test Instruments:	Refer to section 3.0 for details	
Test mode:	Refer to section 2.2 for details	
Test environment:	Temp.: 22.6°C	Humid.: 63%RH
Test voltage:	AC 120V 60Hz	
Test results:	Pass	



Measurement Result

5180-5240MHz

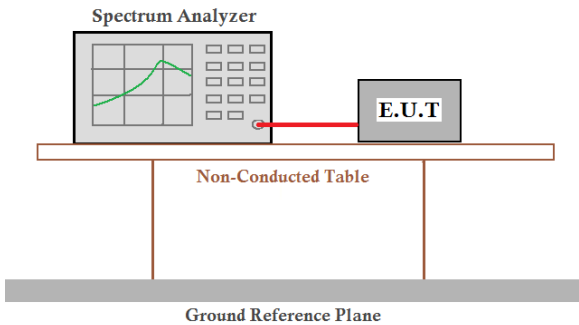
Test Channel	Frequency	Correction Factor	Maximum output power	Total Power	LIMIT	Result
	(MHz)	(dB)	(dBm)	(dBm)	dBm	
TX 802.11a Mode						
CH36	5180	0.28	14.36	14.64	23.98	Pass
CH40	5200	0.28	14.60	14.88	23.98	Pass
CH48	5240	0.28	14.39	14.67	23.98	Pass
TX 802.11 n20 Mode						
CH36	5180	0.84	14.49	15.33	23.98	Pass
CH40	5200	0.84	14.41	15.25	23.98	Pass
CH48	5240	0.84	14.18	15.02	23.98	Pass
TX 802.11 ac20 Mode						
CH36	5180	2.18	14.41	16.59	23.98	Pass
CH40	5200	2.18	14.70	16.88	23.98	Pass
CH48	5240	2.18	14.43	16.61	23.98	Pass
TX 802.11 n40 Mode						
CH38	5190	0.62	13.14	13.76	23.98	Pass
CH46	5230	0.62	13.21	13.83	23.98	Pass
TX 802.11 ac40 Mode						
CH38	5190	1.98	13.73	15.71	23.98	Pass
CH46	5230	1.98	13.39	15.37	23.98	Pass

5745-5825 MHz

CH 149 5745 MHz

Test Channel	Frequency	Correction Factor	Maximum output power	Total Power	Limit	Result
	(MHz)	(dB)	(dBm)	(dBm)	dBm	
TX 802.11a Mode						
CH149	5745	0.31	14.04	14.35	30	Pass
CH157	5785	0.31	14.91	15.22	30	Pass
CH165	5825	0.31	14.82	15.13	30	Pass
TX 802.11 n20 Mode						
CH149	5745	0.97	14.62	15.59	30	Pass
CH157	5785	0.97	14.85	15.82	30	Pass
CH165	5825	0.97	14.39	15.36	30	Pass
TX 802.11 ac20 Mode						
CH149	5745	0.97	14.67	15.64	30	Pass
CH157	5785	0.97	14.96	15.93	30	Pass
CH165	5825	0.97	14.98	15.95	30	Pass
TX 802.11 n40 Mode						
CH151	5755	1.76	13.09	14.85	30	Pass
CH159	5795	1.76	13.06	14.82	30	Pass
TX 802.11 ac40 Mode						
CH151	5755	1.76	13.96	15.72	30	Pass
CH159	5795	1.76	13.61	15.37	30	Pass

4.5 Bandwidth

Test Requirement:	47CRF 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.: 22.6°C	Humid.: 63%RH
Test voltage:	AC 120V 60Hz	
Test results:	Pass	

Measurement Result

5180-5240MHz

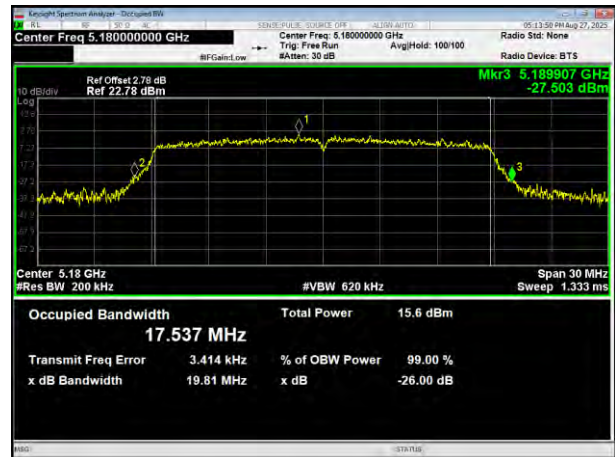
Test CH	-26dB Channel Bandwidth (MHz)						Result
	802.11a	802.11n20	802.11ac20	802.11n40	802.11ac40	802.11ac80	
Lowest	19.57	19.81	19.78	40.15	39.82	--	Pass
Middle	21.23	19.94	19.68	--	--	--	
Highest	19.94	19.71	19.75	39.93	39.44	--	

Remark: "---"is not applicable

(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



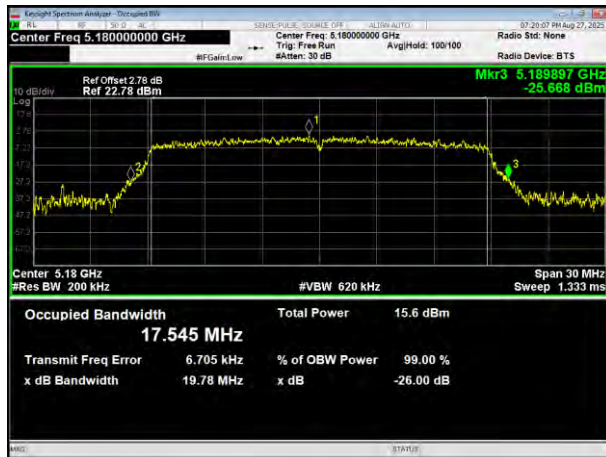
(802.11a) plot on channel 48



(802.11 n20) plot on channel 48



(802.11ac20) plot on channel 36



(802.11n40) plot on channel 38



(802.11ac20) plot on channel 40



(802.11n40) plot on channel 46

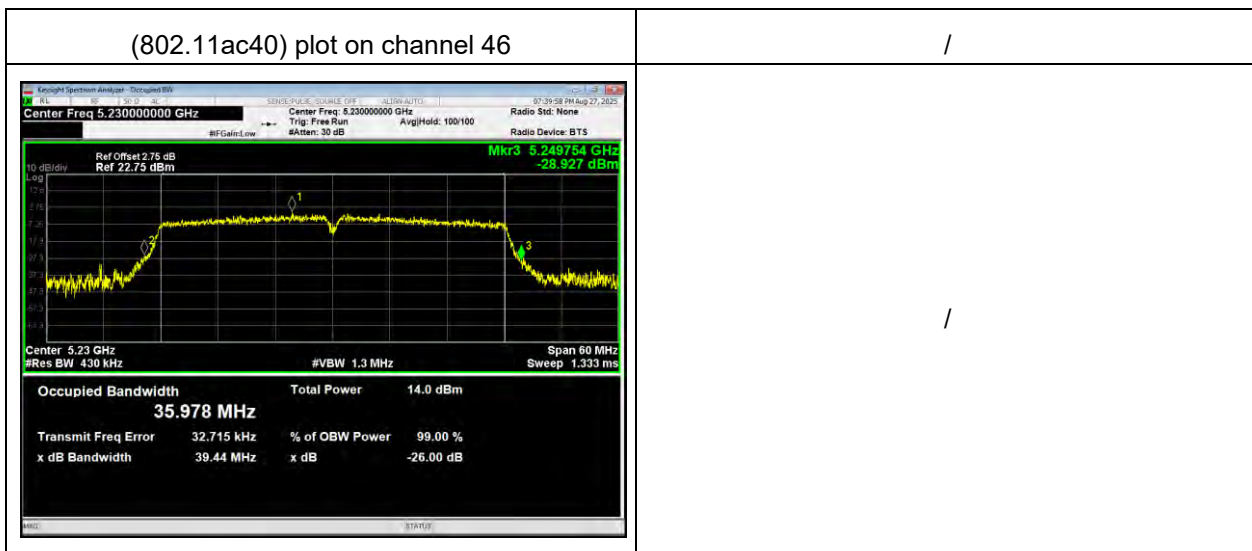


(802.11ac20) plot on channel 48



(802.11ac40) plot on channel 38







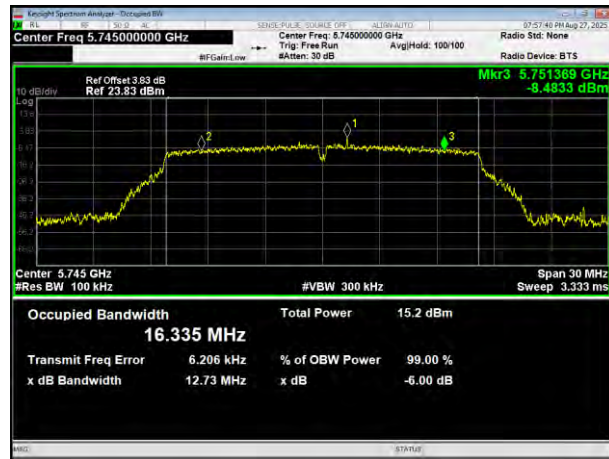
5745-5825MHz

Test CH	-6dB Channel Bandwidth (MHz)						Limit (KHz)	Result
	802.11a	802.11n 20	802.11ac 20	802.11n 40	802.11ac 40	802.11ac 80		
Lowest	12.73	15.35	17.54	33.80	34.41	--	>500	Pass
Middle	13.34	16.25	15.33			--		
Highest	13.18	16.35	17.27	35.11	35.12	--		

Remark: "---" is not applicable

Test plot -6dB Channel Bandwidth

(802.11a) plot on channel 149



(802.11 n20) plot on channel 149



(802.11a) plot on channel 157



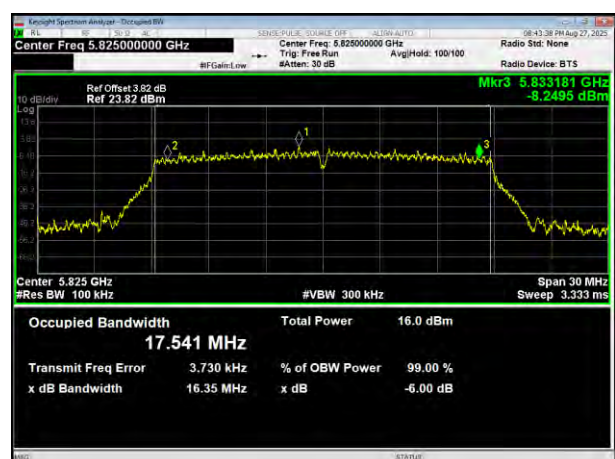
(802.11 n20) plot on channel 157



(802.11a) plot on channel 165



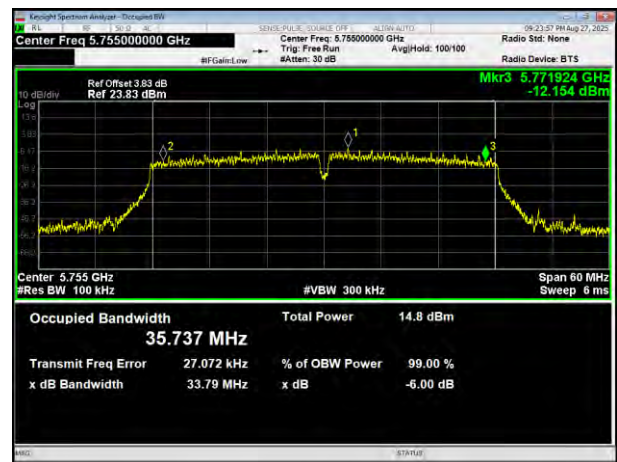
(802.11 n20) plot on channel 165



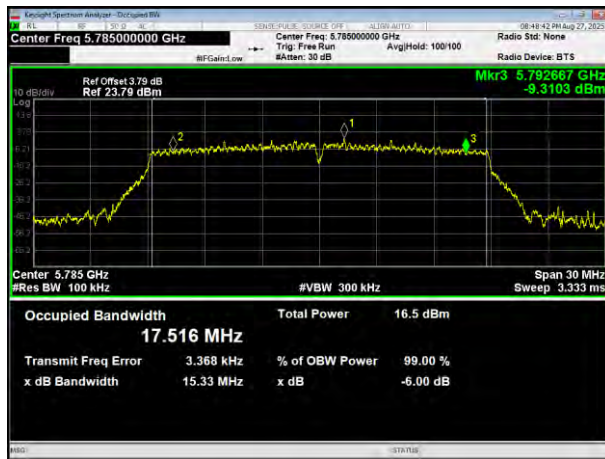
(802.11ac20) plot on channel 149



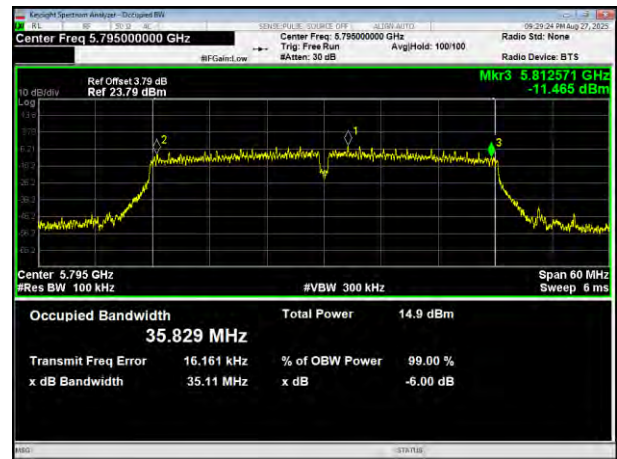
(802.11 n40) plot on channel 151



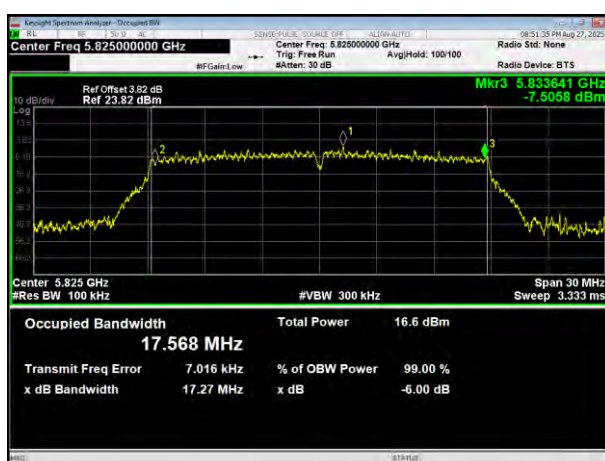
(802.11ac20) plot on channel 157



(802.11 n40) plot on channel 159

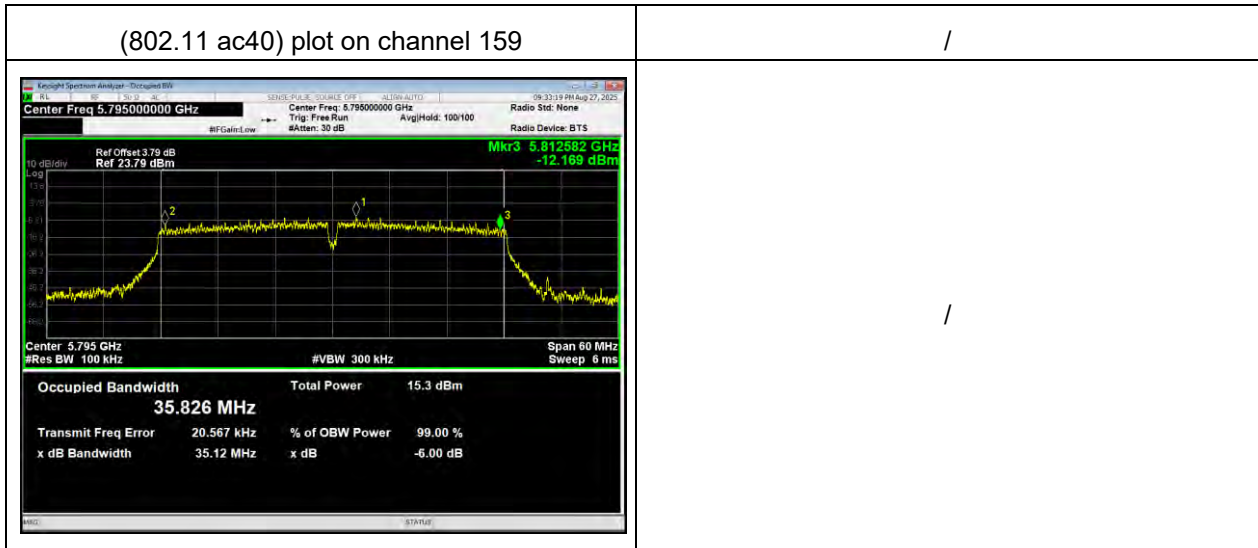


(802.11ac20) plot on channel 165

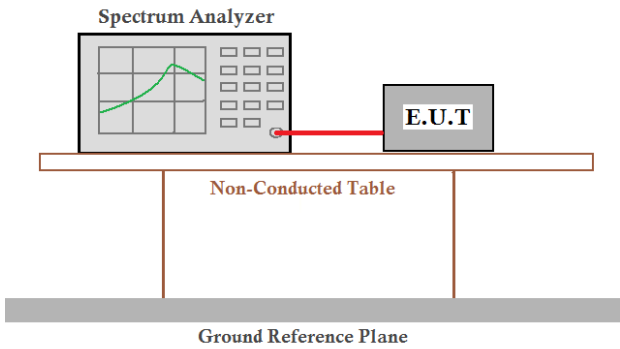


(802.11 ac40) plot on channel 151





4.6 Power Spectral Density

Test Requirement:	47CFR Part 15.407(a)(1)/ (a)(3)	
Test Method:	KDB 789033 D02 General U-NII Test Procedures New Rules v02r01, ANSI C63.10-2020§12.6	
Limit:	Frequency band (MHz)	Limit
	5150-5250	≤17dBm/1MHz for master device
		≤11dBm/1MHz for client device
	5250-5350	≤11dBm/1MHz for client device
	5470-5725	≤11dBm/1MHz for client device
	5725-5850	≤30dBm/500kHz
Test setup:	 The diagram illustrates the test setup. A Spectrum Analyzer is connected via a red cable to an E.U.T. (Equipment Under Test). Both are placed on a Non-Conducted Table. Below the table is a Ground Reference Plane.	
Test Instruments:	Refer to section 3.0 for details	
Test mode:	Refer to section 2.2 for details	
Test environment:	Temp.: 22.6°C	Humid.: 63%RH
Test voltage:	AC 120V 60Hz	
Test results:	Pass	

Measurement Result See next page



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	-0.22	0.28	0.06	11
	5200 MHz	0.404	0.28	0.68	11
	5240 MHz	-0.055	0.28	0.23	11
802.11 n20	5180 MHz	-0.122	0.84	0.72	11
	5200 MHz	-0.291	0.84	0.55	11
	5240 MHz	-2.114	0.84	-1.27	11
802.11 ac20	5180 MHz	-1.988	2.18	0.19	11
	5200 MHz	-1.442	2.18	0.74	11
	5240 MHz	-1.963	2.18	0.22	11
802.11 n40	5190 MHz	-4.602	0.62	-3.98	11
	5230 MHz	-4.371	0.62	-3.75	11
802.11 ac40	5190 MHz	-4.696	1.98	-2.72	11
	5230 MHz	-5.129	1.98	-3.15	11

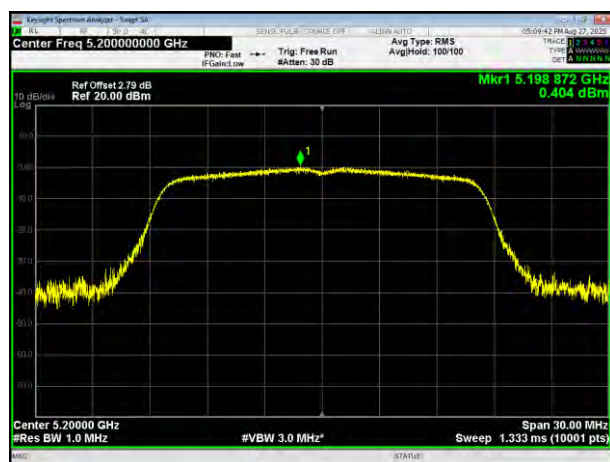
(802.11a) PSD plot on channel 36



(802.11n20) PSD plot on channel 36



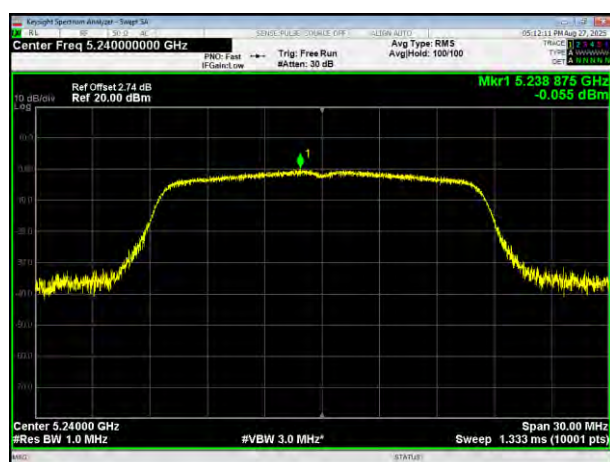
(802.11a) PSD plot on channel 40



(802.11n20) PSD plot on channel 40



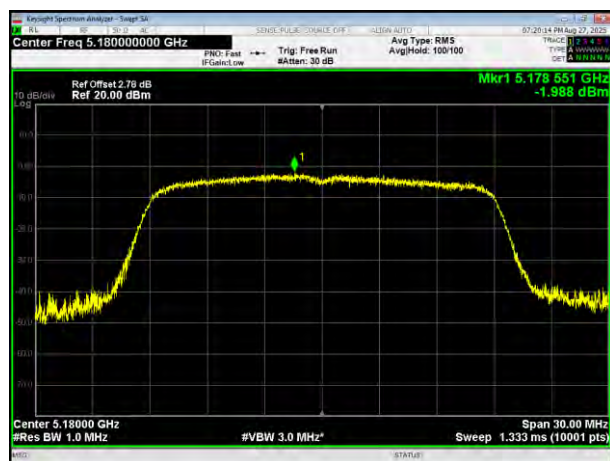
(802.11a) PSD plot on channel 48



(802.11n20) PSD plot on channel 48



(802.11ac20) PSD plot on channel 36



(802.11n40) PSD plot on channel 38



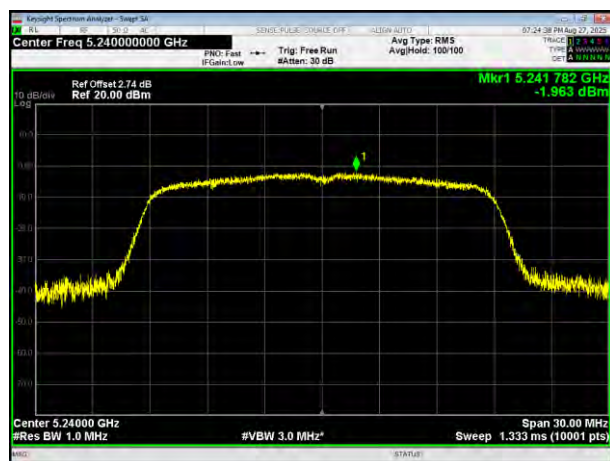
(802.11ac20) PSD plot on channel 40



(802.11n40) PSD plot on channel 46

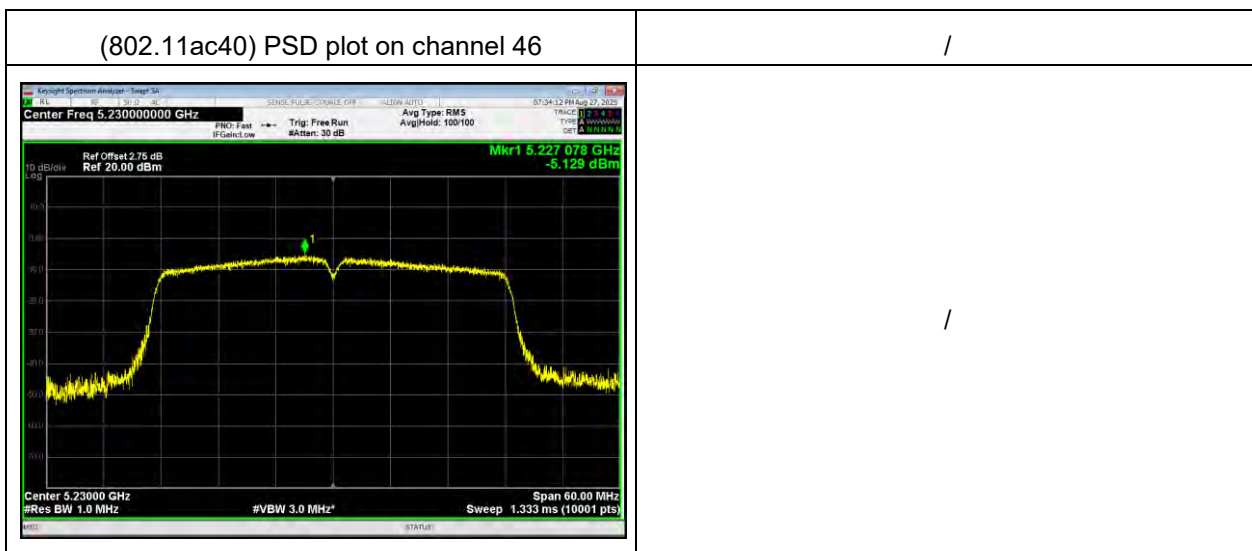


(802.11ac20) PSD plot on channel 48



(802.11ac40) PSD plot on channel 38





5745-5825MHz

Mode	Frequency	Measured Power Density (dBm/510KHz)	Measured Power Density (dBm/500KHz)	Correction Factor (dB)	Total Measured Power Density (dBm/500KHz)	Limit (dBm/500KHz)
802.11 a	5745 MHz	-3.006	-3.092	0.310	-2.782	30
	5785 MHz	-2.628	-2.714	0.310	-2.404	30
	5825 MHz	-2.814	-2.900	0.310	-2.590	30
802.11 n20	5745 MHz	-4.121	-4.207	0.970	-3.237	30
	5785 MHz	-3.370	-3.456	0.970	-2.486	30
	5825 MHz	-4.105	-4.191	0.970	-3.221	30
802.11ac20	5745 MHz	-3.759	-3.845	0.970	-2.875	30
	5785 MHz	-3.491	-3.577	0.970	-2.607	30
	5825 MHz	-3.474	-3.560	0.970	-2.590	30
802.11 n40	5755 MHz	-8.631	-8.717	1.760	-6.957	30
	5795 MHz	-8.510	-8.596	1.760	-6.836	30
802.11ac40	5755 MHz	-7.219	-7.305	1.760	-5.545	30
	5795 MHz	-8.442	-8.528	1.760	-6.768	30

Note:

1. Correction Factor (dB)= duty cycle factor
2. RBW Factor (dB) = $10 \cdot \log(500/510) = -0.086$
3. Measured PSD (dBm/500kHz) = Measured PSD (dBm/510kHz) + RBW Factor (dB)
4. Total Measured Power Density (dBm/500KHz) = Measured PSD (dBm/500kHz) + Correction Factor (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



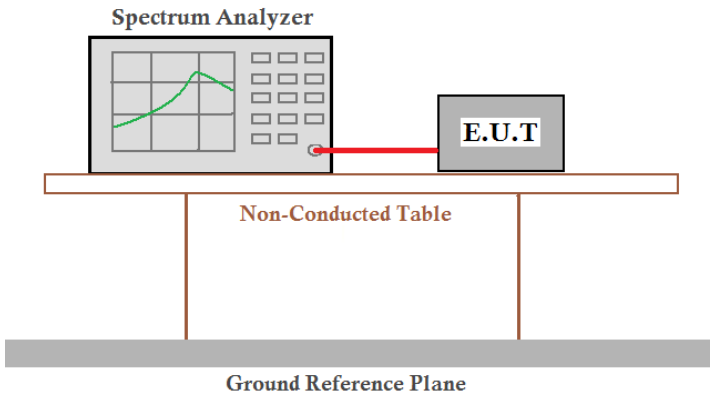
(802.11ac40) PSD plot on channel 151





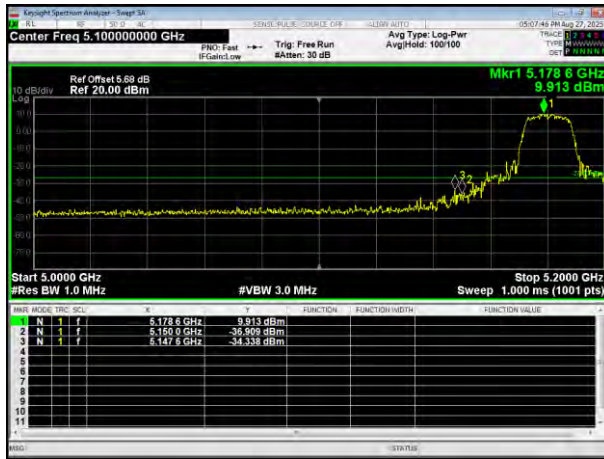
4.7 Band edge

4.7.1 Conducted test Method

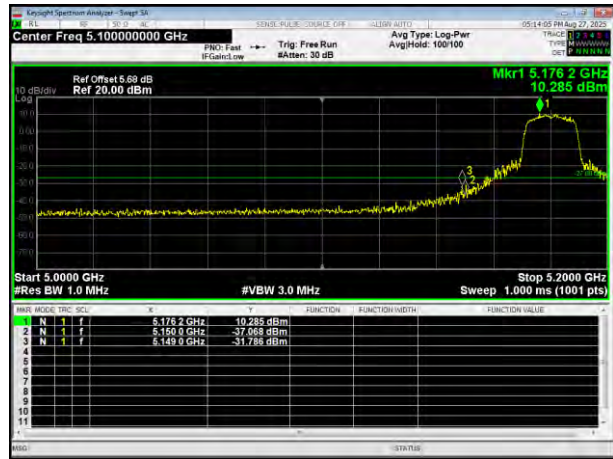
Test Requirement:	47CRF Part 15.209 and 15.205	
Test Method:	ANSI C63.10-2020 § 6.10	
Limit:	All emissions shall be limited to a level of -27 dBm/MHz at 75 MHz or more above or below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above or below the band edge, and from 25 MHz above or below 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 two vertical legs and sits on a Ground Reference Plane, which is represented by a thick grey bar at the bottom.	
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.: 22.6°C	Humid.: 63%RH
Test voltage:	AC 120V 60Hz	
Test results:	Pass	

5.180~5.240 GHz

(802.11a) Band Edge, Left Side



(802.11n20) Band Edge, Left Side



(802.11a) Band Edge, Right Side



(802.11n20) Band Edge, Right Side

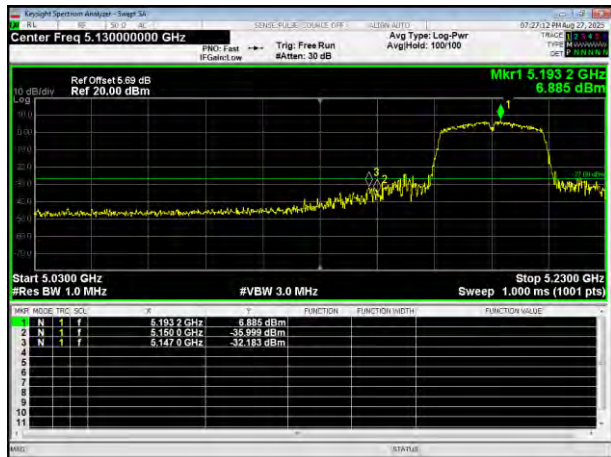


Remark: The antenna gain and cable loss were not compensated in the test data, and the margin value of the Band Edge test was greater than the sum of the antenna gain and cable loss, so the test met the requirements

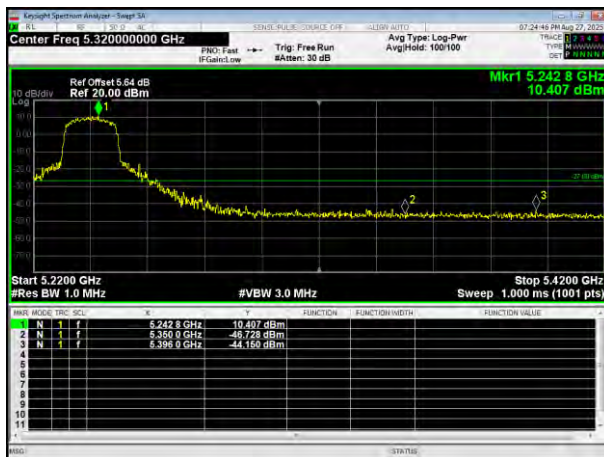
(802.11ac20) Band Edge, Left Side



(802.11n40) Band Edge, Left Side



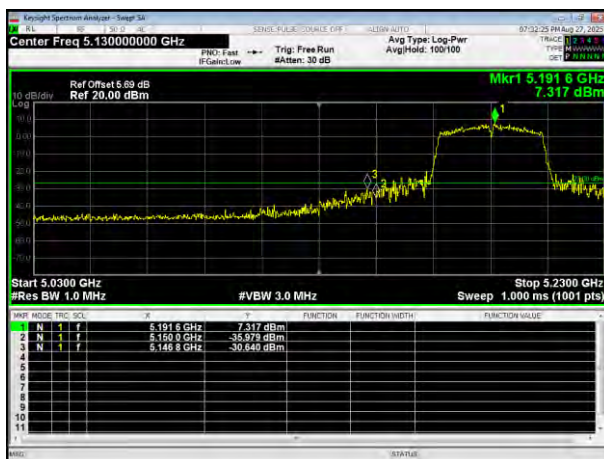
(802.11ac20) Band Edge, Right Side



(802.11n40) Band Edge, Right Side



(802.11ac40) Band Edge, Left Side



(802.11ac40) Band Edge, Right Side

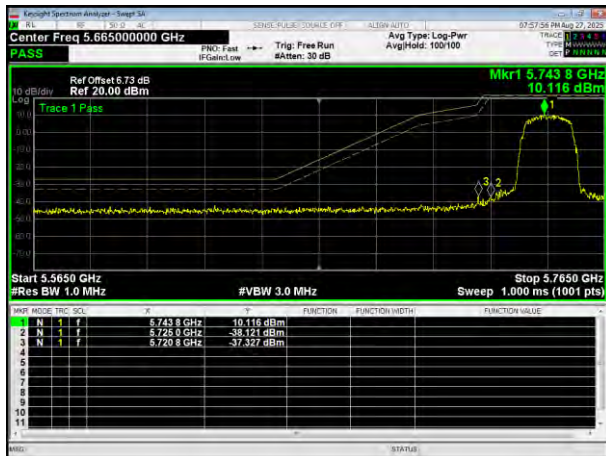


Remark: The antenna gain and cable loss were not compensated in the test data, and the margin value of the Band Edge test was greater than the sum of the antenna gain and cable loss, so the test met the requirements

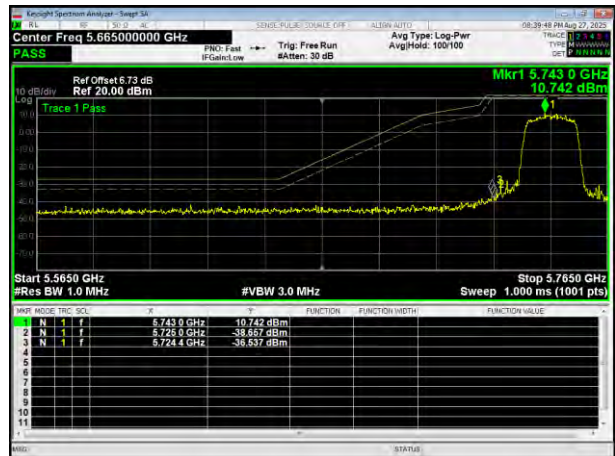


5.745~5.825 GHz

(802.11a) Band Edge, Left Side



(802.11n20) Band Edge, Left Side



(802.11a) Band Edge, Right Side



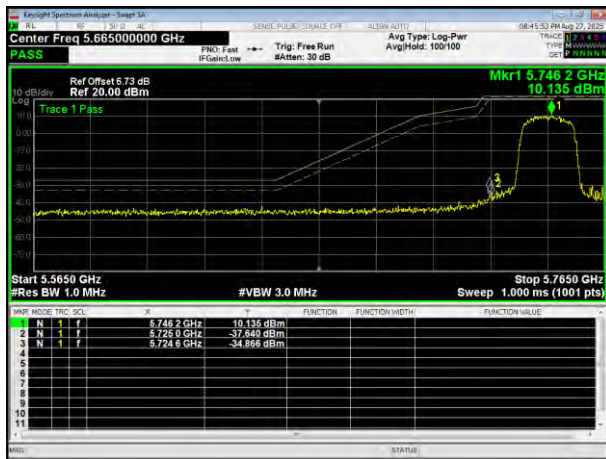
(802.11n20) Band Edge, Right Side



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



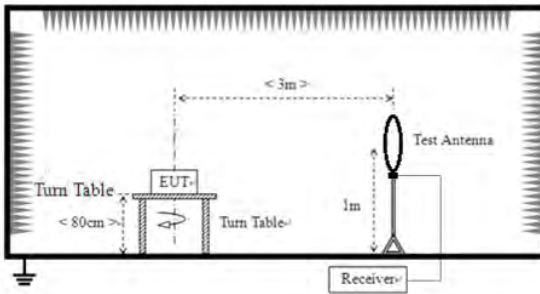
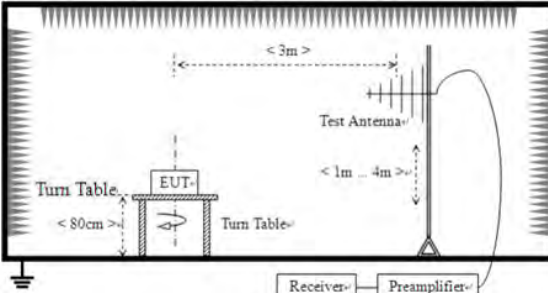
(802.11ac40) Band Edge, Right Side

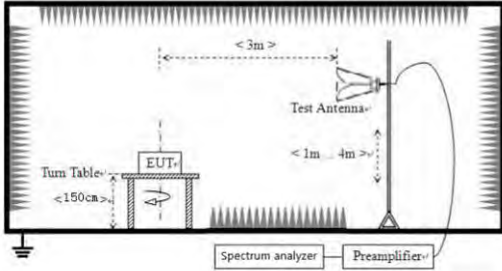


Remark: Antenna gain and cable loss data included in Offset.

4.8 Spurious Emission

4.8.1 Radiated Emission Method

Test Requirement:	47CRF 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				
					
Test setup:	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.

Measurement Data:

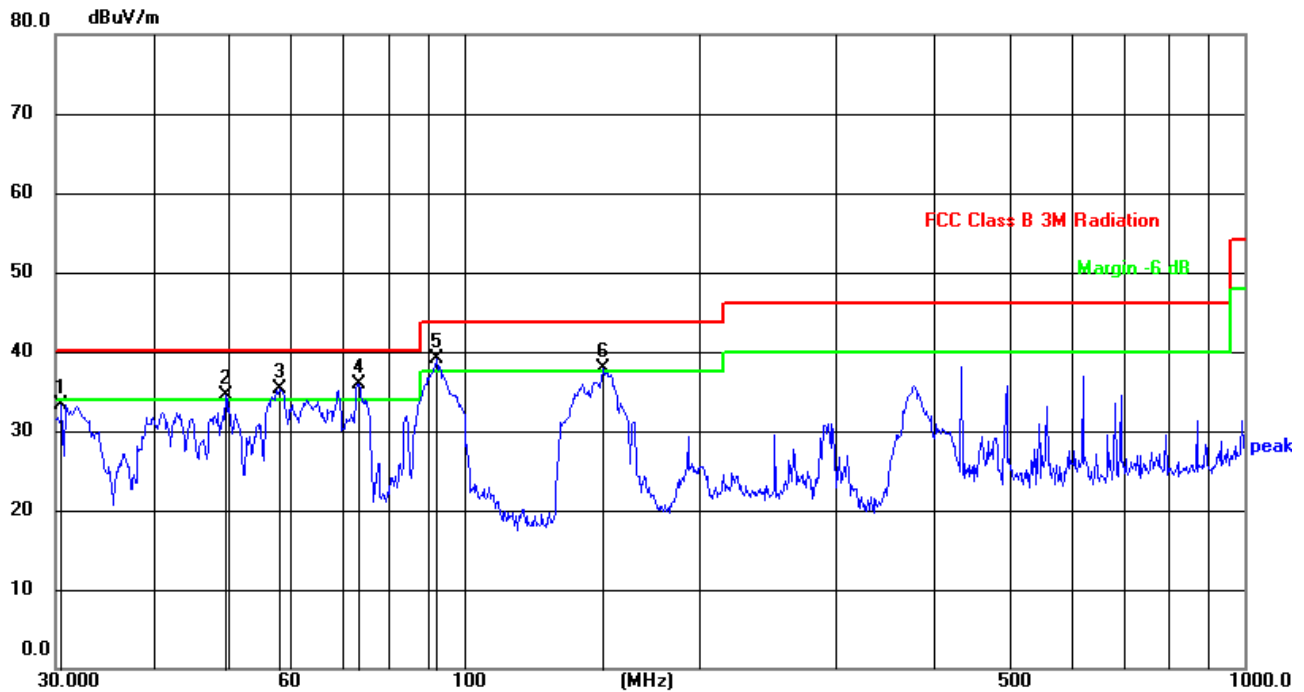
9 kHz ~ 30 MHz

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

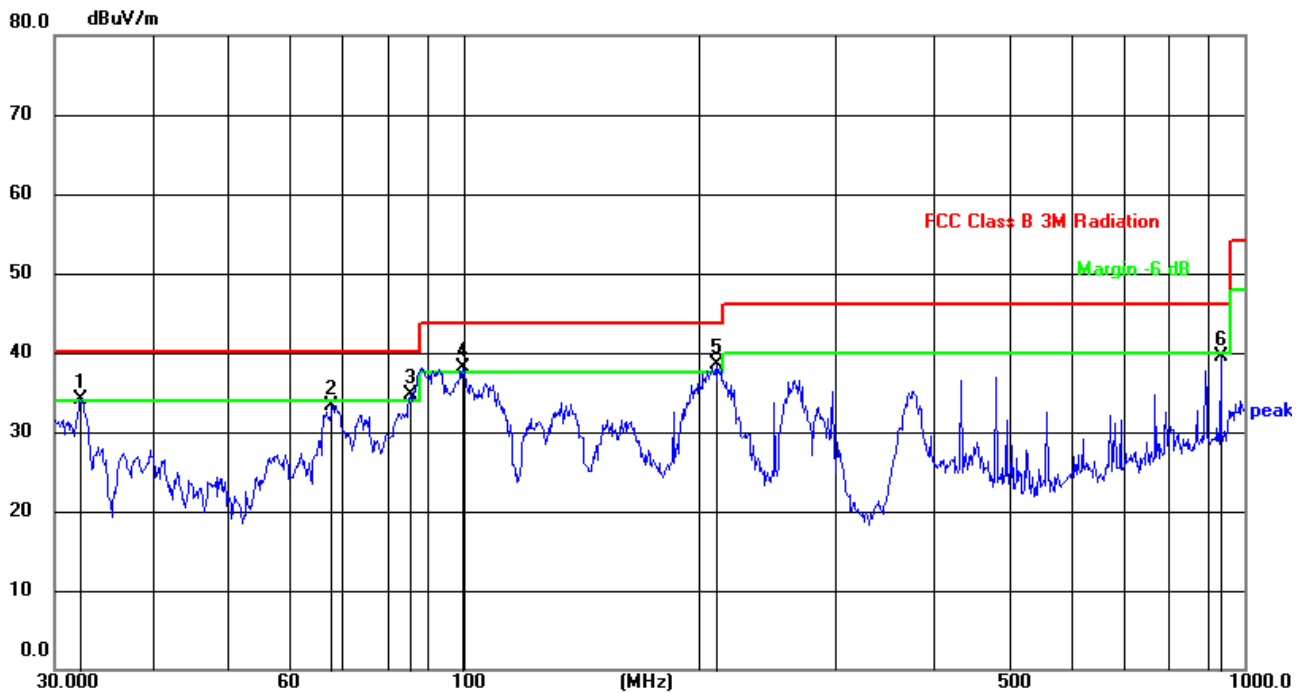
Temperature:	22.6°C	Relative Humidity:	63%RH
Pressure:	101.2kPa	Test Voltage :	AC 120V 60Hz
Test Mode :	TX- 802.11ac20 (5200MHz)		

Horizontal:



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	30.5304	54.87	-21.52	33.35	40.00	-6.65	QP
2	49.5328	55.52	-20.98	34.54	40.00	-5.46	QP
3	58.2028	55.98	-20.75	35.23	40.00	-4.77	QP
4	73.3593	56.31	-20.46	35.85	40.00	-4.15	QP
5	92.4624	59.15	-20.06	39.09	43.50	-4.41	QP
6	151.0663	56.80	-18.99	37.81	43.50	-5.69	QP

Vertical:



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	32.4059	55.60	-21.44	34.16	40.00	-5.84	QP
2	67.9128	53.93	-20.64	33.29	40.00	-6.71	QP
3	85.5973	55.00	-20.37	34.63	40.00	-5.37	QP
4	99.8777	58.14	-20.10	38.04	43.50	-5.46	QP
5	211.5261	57.10	-18.57	38.53	43.50	-4.97	QP
6	932.2712	45.65	-6.20	39.45	46.00	-6.55	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 802.11n20 mode.



Above 1GHz:

Remark: The test data shows only the worst case 802.11ac20 mode.

Temperature:	22.6℃	Relative Humidity:	63%RH
Pressure:	101.2kPa	Test Voltage :	AC 120V 60Hz
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	45.62	1.77	47.39	68.20	-20.81	PK
V	10360.00	40.41	1.77	42.18	54.00	-11.82	AV
V	15540.00	48.22	7.72	55.94	74.00	-18.06	PK
V	15540.00	36.23	7.72	43.95	54.00	-10.05	AV
V	20720.00	53.11	-5.73	47.38	68.20	-20.82	PK
V	20720.00	47.12	-5.73	41.39	54.00	-12.61	AV
V	25900.00	50.01	-2.89	47.12	68.20	-21.08	PK
V	25900.00	44.78	-2.89	41.89	54.00	-12.11	AV
V	31080.00	51.73	1.66	53.39	68.20	-14.81	PK
V	31080.00	45.26	1.66	46.92	54.00	-7.08	AV
V	36260.00	48.47	4.63	53.10	68.20	-15.10	PK
V	36260.00	41.92	4.63	46.55	54.00	-7.45	AV
H	10360.00	45.96	1.77	47.73	68.20	-20.47	PK
H	10360.00	40.58	1.77	42.35	54.00	-11.65	AV
H	15540.00	47.57	7.72	55.29	74.00	-18.71	PK
H	15540.00	36.35	7.72	44.07	54.00	-9.93	AV
H	20720.00	52.16	-5.73	46.43	68.20	-21.77	PK
H	20720.00	45.78	-5.73	40.05	54.00	-13.95	AV
H	25900.00	49.98	-2.89	47.09	68.20	-21.11	PK
H	25900.00	43.96	-2.89	41.07	54.00	-12.93	AV
H	31080.00	50.69	1.66	52.35	68.20	-15.85	PK
H	31080.00	44.84	1.66	46.50	54.00	-7.50	AV
H	36260.00	47.98	4.63	52.61	68.20	-15.59	PK
H	36260.00	42.35	4.63	46.98	54.00	-7.02	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	45.57	1.85	47.42	68.20	-20.78	PK
V	10400.00	40.40	1.85	42.25	54.00	-11.75	AV
V	15600.00	47.54	7.64	55.18	74.00	-18.82	PK
V	15600.00	35.55	7.64	43.19	54.00	-10.81	AV
V	20800.00	56.66	-5.67	50.99	68.20	-17.21	PK
V	20800.00	51.70	-5.67	46.03	54.00	-7.97	AV
V	26000.00	50.51	-2.85	47.66	68.20	-20.54	PK
V	26000.00	44.87	-2.85	42.02	54.00	-11.98	AV
V	31200.00	49.08	1.57	50.65	68.20	-17.55	PK
V	31200.00	44.89	1.57	46.46	54.00	-7.54	AV
V	36400.00	48.67	4.93	53.60	68.20	-14.60	PK
V	36400.00	43.28	4.93	48.21	54.00	-5.79	AV
H	10400.00	45.75	1.85	47.60	68.20	-20.60	PK
H	10400.00	40.84	1.85	42.69	54.00	-11.31	AV
H	15600.00	47.34	7.64	54.98	74.00	-19.02	PK
H	15600.00	35.79	7.64	43.43	54.00	-10.57	AV
H	20800.00	53.14	-5.67	47.47	68.20	-20.73	PK
H	20800.00	47.94	-5.67	42.27	54.00	-11.73	AV
H	26000.00	52.25	-2.85	49.40	68.20	-18.80	PK
H	26000.00	46.88	-2.85	44.03	54.00	-9.97	AV
H	31200.00	51.00	1.57	52.57	68.20	-15.63	PK
H	31200.00	45.07	1.57	46.64	54.00	-7.36	AV
H	36400.00	48.08	4.93	53.01	68.20	-15.19	PK
H	36400.00	43.11	4.93	48.04	54.00	-5.96	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	43.31	2.02	45.33	68.20	-22.87	PK
V	10480.00	37.85	2.02	39.87	54.00	-14.13	AV
V	15720.00	43.74	7.46	51.20	74.00	-22.80	PK
V	15720.00	33.17	7.46	40.63	54.00	-13.37	AV
V	20960.00	49.79	-5.56	44.23	68.20	-23.97	PK
V	20960.00	44.70	-5.56	39.14	54.00	-14.86	AV
V	26200.00	47.35	-2.50	44.85	68.20	-23.35	PK
V	26200.00	42.92	-2.50	40.42	54.00	-13.58	AV
V	31440.00	48.67	1.39	50.06	68.20	-18.14	PK
V	31440.00	43.78	1.39	45.17	54.00	-8.84	AV
V	36680.00	44.65	5.25	49.90	68.20	-18.30	PK
V	36680.00	40.09	5.25	45.34	54.00	-8.66	AV
H	10480.00	43.73	2.02	45.75	68.20	-22.45	PK
H	10480.00	38.78	2.02	40.80	54.00	-13.20	AV
H	15720.00	44.04	7.46	51.50	74.00	-22.50	PK
H	15720.00	33.23	7.46	40.69	54.00	-13.31	AV
H	20960.00	49.57	-5.56	44.01	68.20	-24.19	PK
H	20960.00	44.81	-5.56	39.25	54.00	-14.76	AV
H	26200.00	49.45	-2.50	46.95	68.20	-21.25	PK
H	26200.00	45.98	-2.50	43.48	54.00	-10.52	AV
H	31440.00	48.00	1.39	49.39	68.20	-18.81	PK
H	31440.00	43.02	1.39	44.41	54.00	-9.59	AV
H	36680.00	44.93	5.15	50.08	68.20	-18.12	PK
H	36680.00	39.78	5.15	44.93	54.00	-9.07	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:	22.6℃	Relative Humidity:	63%RH
Pressure:	101.2kPa	Test Voltage :	AC 120V 60Hz
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	51.47	3.31	54.78	74.00	-19.22	PK
V	11490.00	40.48	3.31	43.79	54.00	-10.21	AV
V	17235.00	39.73	10.10	49.83	68.20	-18.37	PK
V	17235.00	34.25	10.10	44.35	54.00	-9.65	AV
V	22980.00	58.75	-4.61	54.14	74.00	-19.86	PK
V	22980.00	46.83	-4.61	42.22	54.00	-11.78	AV
V	28725.00	48.56	0.87	49.43	68.20	-18.77	PK
V	28725.00	43.79	0.87	44.66	54.00	-9.34	AV
V	34470.00	49.16	3.82	52.98	68.20	-15.22	PK
V	34470.00	43.30	3.82	47.12	54.00	-6.88	AV
H	11490.00	52.19	3.31	55.50	74.00	-18.50	PK
H	11490.00	40.69	3.31	44.00	54.00	-10.01	AV
H	17235.00	38.76	10.10	48.86	68.20	-19.34	PK
H	17235.00	33.44	10.10	43.54	54.00	-10.46	AV
H	22980.00	58.29	-4.61	53.68	74.00	-20.32	PK
H	22980.00	46.59	-4.61	41.98	54.00	-12.02	AV
H	28725.00	51.09	0.87	51.96	68.20	-16.24	PK
H	28725.00	46.44	0.87	47.31	54.00	-6.69	AV
H	34470.00	49.71	3.82	53.53	68.20	-14.67	PK
H	34470.00	44.73	3.82	48.55	54.00	-5.45	AV

Remark:

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



Polar (H/V)	Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detect or Type
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB	
Low Channel:5785MHz							
V	11570.00	50.73	3.34	54.07	74.00	-19.93	PK
V	11570.00	39.69	3.34	43.03	54.00	-10.97	AV
V	17355.00	37.80	10.52	48.32	68.20	-19.88	PK
V	17355.00	32.73	10.52	43.25	54.00	-10.75	AV
V	23140.00	57.81	-4.66	53.15	74.00	-20.85	PK
V	23140.00	46.74	-4.66	42.08	54.00	-11.92	AV
V	28925.00	50.07	1.36	51.43	68.20	-16.77	PK
V	28925.00	44.75	1.36	46.11	54.00	-7.89	AV
V	34710.00	49.60	3.95	53.55	68.20	-14.65	PK
V	34710.00	43.90	3.95	47.85	54.00	-6.15	AV
H	11570.00	51.87	3.34	55.21	74.00	-18.79	PK
H	11570.00	40.83	3.34	44.17	54.00	-9.83	AV
H	17355.00	36.87	10.52	47.39	68.20	-20.81	PK
H	17355.00	33.11	10.52	43.63	54.00	-10.37	AV
H	23140.00	58.41	-4.66	53.75	74.00	-20.25	PK
H	23140.00	46.58	-4.66	41.92	54.00	-12.08	AV
H	28925.00	50.91	1.36	52.27	68.20	-15.93	PK
H	28925.00	46.15	1.36	47.51	54.00	-6.49	AV
H	34710.00	50.24	3.95	54.19	68.20	-14.01	PK
H	34710.00	44.28	3.95	48.23	54.00	-5.77	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.

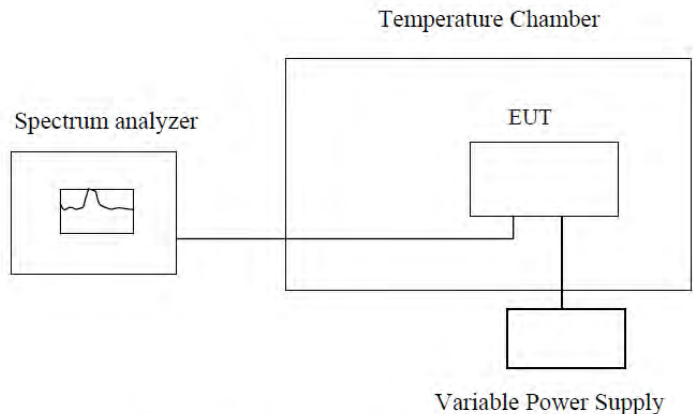


Polar (H/V)	Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detect or Type
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB	
Low Channel:5825MHz							
V	11650.00	48.61	3.36	51.97	74.00	-22.03	PK
V	11650.00	37.66	3.36	41.02	54.00	-12.98	AV
V	17475.00	35.59	10.93	46.52	68.20	-21.68	PK
V	17475.00	31.61	10.93	42.54	54.00	-11.46	AV
V	23300.00	50.24	-4.77	45.47	68.20	-22.73	PK
V	23300.00	45.46	-4.77	40.69	54.00	-13.31	AV
V	29125.00	47.70	1.65	49.35	68.20	-18.85	PK
V	29125.00	42.02	1.65	43.67	54.00	-10.33	AV
V	34950.00	45.86	4.09	49.95	68.20	-18.25	PK
V	34950.00	41.33	4.09	45.42	54.00	-8.58	AV
H	11650.00	49.03	3.36	52.39	74.00	-21.61	PK
H	11650.00	38.21	3.36	41.57	54.00	-12.43	AV
H	17475.00	34.94	10.93	45.87	68.20	-22.33	PK
H	17475.00	29.71	10.93	40.64	54.00	-13.36	AV
H	23300.00	49.79	-4.77	45.02	68.20	-23.18	PK
H	23300.00	44.87	-4.77	40.10	54.00	-13.90	AV
H	29125.00	46.50	1.65	48.15	68.20	-20.05	PK
H	29125.00	43.07	1.65	44.72	54.00	-9.28	AV
H	34950.00	46.88	4.09	50.97	68.20	-17.23	PK
H	34950.00	41.53	4.09	45.62	54.00	-8.38	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:	47CRF 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: AC 120V					
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	5179.999	5179.991	5179.991	5179.978
	5190	5189.995	5189.992	5189.982	5190.009
	5200	5199.990	5199.983	5199.990	5200.034
	5220	5219.991	5219.983	5220.003	5220.009
	5230	5229.989	5230.004	5229.981	5230.037
	5240	5240.002	5239.982	5239.999	5240.025
-20	5180	5179.951	5179.991	5179.979	5180.021
	5190	5189.981	5189.992	5189.990	5190.017
	5200	5199.976	5199.983	5199.981	5200.019
	5220	5219.981	5219.983	5219.989	5220.035
	5230	5229.989	5230.004	5229.997	5230.028
	5240	5239.997	5239.982	5239.979	5240.036
-10	5180	5179.989	5179.991	5179.991	5179.985
	5190	5189.990	5189.992	5189.982	5190.016
	5200	5199.981	5199.983	5199.990	5200.021
	5220	5219.981	5219.983	5220.003	5220.016
	5230	5230.002	5230.004	5229.981	5230.024
	5240	5239.980	5239.982	5239.999	5240.032
0	5180	5179.941	5179.994	5179.997	5180.023
	5190	5189.937	5189.990	5189.987	5190.024
	5200	5199.932	5199.985	5199.997	5200.035
	5220	5219.933	5219.996	5219.993	5220.021
	5230	5229.931	5230.000	5229.999	5230.038
	5240	5239.994	5240.000	5240.000	5240.023
10	5180	5179.978	5179.992	5179.991	5180.026
	5190	5189.989	5189.983	5189.982	5190.027
	5200	5199.980	5199.991	5199.990	5200.023
	5220	5219.988	5220.004	5220.003	5220.034
	5230	5229.996	5229.982	5229.981	5230.019
	5240	5239.978	5240.000	5239.999	5240.017
20	5180	5179.999	5179.991	5179.991	5179.978
	5190	5189.995	5189.992	5189.982	5190.009
	5200	5199.990	5199.983	5199.990	5200.034
	5220	5219.991	5219.983	5220.003	5220.009
	5230	5229.989	5230.004	5229.981	5230.037
	5240	5239.962	5239.982	5239.999	5240.025
30	5180	5179.929	5179.989	5179.990	5180.027



	5190	5189.925	5190.003	5189.821	5190.032
	5200	5199.920	5199.986	5199.989	5200.017
	5220	5219.921	5220.004	5219.992	5220.029
	5230	5229.918	5229.997	5229.989	5230.024
	5240	5239.891	5240.005	5239.993	5240.029
40	5180	5179.989	5179.980	5179.991	5180.016
	5190	5189.990	5189.991	5189.982	5190.018
	5200	5199.920	5199.991	5199.999	5200.017
	5220	5219.921	5219.996	5219.992	5220.029
	5230	5230.002	5229.998	5229.981	5230.030
	5240	5239.980	5239.980	5239.999	5240.008
50	5180	5179.951	5179.991	5179.979	5180.031
	5190	5189.981	5189.992	5189.990	5190.017
	5200	5199.996	5199.983	5199.981	5200.029
	5220	5219.921	5219.998	5219.998	5220.030
	5230	5229.918	5230.005	5229.993	5230.028
	5240	5239.991	5240.003	5239.987	5240.029



Frequency stability versus Voltage					
Temperature: 25°C					
Power Supply (VDC)	Operating Frequency (MHz)	0 minute Measured Frequency (MHz)	2 minute Measured Frequency (MHz)	5 minute Measured Frequency (MHz)	10 minute Measured Frequency (MHz)
AC 102V	5180	5179.915	5180.004	5179.989	5180.022
	5190	5189.991	5189.994	5189.990	5190.021
	5200	5199.989	5199.996	5199.991	5200.025
	5220	5220.002	5219.989	5219.991	5220.024
	5230	5229.979	5229.994	5229.990	5300.028
	5240	5239.987	5240.003	5239.999	5240.025
AC 120V	5180	5179.929	5179.999	5179.990	5180.027
	5190	5189.985	5189.993	5189.991	5190.012
	5200	5199.990	5199.981	5199.989	5200.017
	5220	5219.921	5220.004	5219.992	5220.029
	5230	5229.918	5229.996	5229.989	5230.021
	5240	5239.991	5240.003	5239.993	5240.029
AC 138V	5180	5179.999	5180.001	5179.979	5180.005
	5190	5189.995	5189.997	5189.990	5190.017
	5200	5199.990	5199.992	5199.981	5200.007
	5220	5219.991	5219.993	5219.989	5220.016
	5230	5229.989	5229.991	5229.994	5230.039
	5240	5239.992	5239.994	5239.979	5240.006



Frequency stability versus Temp.					
Power Supply: AC 120V					
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	5745.001	5744.994	5744.991	5745.032
	5755	5754.989	5754.990	5754.994	5755.014
	5785	5784.990	5784.992	5784.998	5785.014
	5795	5794.981	5795.003	5794.981	5795.025
	5825	5824.992	5824.984	5824.977	5825.029
-20	5745	5744.895	5744.974	5744.992	5745.015
	5755	5754.920	5754.990	5754.993	5755.041
	5785	5784.909	5784.992	5784.988	5785.021
	5795	5794.987	5795.003	5794.979	5795.010
	5825	5824.992	5824.984	5824.988	5825.025
-10	5745	5744.981	5744.985	5744.976	5745.029
	5755	5754.988	5754.992	5755.000	5755.024
	5785	5784.972	5784.985	5784.990	5785.029
	5795	5794.979	5794.981	5794.988	5795.032
	5825	5824.988	5824.984	5824.998	5825.034
0	5745	5744.975	5744.984	5744.982	5745.034
	5755	5754.985	5754.991	5754.988	5755.033
	5785	5784.982	5784.975	5784.981	5785.021
	5795	5794.978	5794.982	5794.977	5795.039
	5825	5824.976	5824.991	5824.980	5825.032
10	5745	5744.972	5744.995	5744.976	5745.025
	5755	5754.987	5754.997	5755.000	5755.039
	5785	5784.989	5784.992	5784.990	5785.011
	5795	5794.999	5794.983	5794.988	5795.005
	5825	5824.981	5824.992	5824.998	5825.040
20	5745	5744.992	5744.984	5744.992	5745.014
	5755	5754.994	5755.001	5754.995	5755.033
	5785	5784.978	5784.984	5784.977	5785.040
	5795	5794.972	5795.001	5794.971	5795.032
	5825	5824.998	5824.999	5824.941	5825.042
30	5745	5744.971	5744.995	5744.976	5745.033
	5755	5754.987	5754.997	5755.000	5755.039
	5785	5784.989	5784.992	5784.990	5785.011
	5795	5795.000	5794.983	5794.988	5795.005
	5825	5824.981	5824.992	5824.998	5825.040
40	5745	5744.982	5744.984	5744.976	5745.009
	5755	5754.989	5755.001	5755.000	5755.034
	5785	5784.973	5784.984	5784.990	5785.024
	5795	5794.980	5795.001	5794.988	5795.022
	5825	5824.999	5824.999	5824.998	5825.033
50	5745	5744.976	5744.984	5744.981	5745.015
	5755	5755.001	5755.001	5754.987	5755.022
	5785	5784.991	5784.984	5784.971	5785.015
	5795	5794.989	5795.001	5794.978	5795.011
	5825	5824.999	5824.999	5824.907	5825.015



Frequency stability versus Voltage					
Temperature: 25°C					
Power Supply (VDC)	Operating Frequency (MHz)	0 minute Measured Frequency (MHz)	2 minute Measured Frequency (MHz)	5 minute Measured Frequency (MHz)	10 minute Measured Frequency (MHz)
AC 102V	5745	5744.991	5744.994	5744.992	5745.029
	5755	5754.987	5754.991	5754.997	5755.034
	5785	5784.989	5784.975	5784.980	5785.024
	5795	5795.000	5794.982	5794.998	5795.022
	5825	5824.981	5825.001	5824.995	5825.033
AC 120V	5745	5744.971	5744.995	5744.976	5745.025
	5755	5754.987	5754.997	5755.000	5755.039
	5785	5784.989	5784.992	5784.990	5785.011
	5795	5794.996	5794.983	5794.988	5795.005
	5825	5824.981	5824.992	5824.998	5825.040
AC 138V	5745	5744.901	5744.992	5744.992	5745.042
	5755	5754.988	5755.004	5754.995	5755.030
	5785	5785.000	5785.988	5784.977	5785.036
	5795	5794.999	5794.983	5794.988	5795.005
	5825	5824.981	5824.992	5824.998	5825.040



5 Test Setup Photo

Reference to the file No.: ET-25082726SP for details.

6 EUT Constructional Details

Reference to the file No.: ET-25082726EP and ET-25082726IP for details.

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