



TEST REPORT

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Manufacturer: Shenzhen Baishi Internet Technology Co. , Ltd.
Address of Manufacturer: Floor 5, Building 1, Baichuanda Industrial Park, No. 102, Longlan Avenue, Dalang Street, Longhua District, Shenzhen, Guangdong China
Product Name: SMART PROJECTOR
Model No.: Gimbal M1,Gimbal M1 Pro,Gimbal M1 MINI,V1,V1S, V1 Plus,P7,P6,H96MAX, B11
Trade Mark: N/A
FCC ID: 2BADK-LV1M1
Applicable standards: FCC CFR Title 47 Part 15 Subpart E Section 15.407
Date of Test: Dec.25, 2024- Dec.27, 2024
Date of report issued: Dec.28, 2024

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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Report Revision History		
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1 Test Summary

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

Remarks:

1. Pass: The EUT complies with the essential requirements in the standard.
2. Test according to ANSI C63.10:2013
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/manufacture. If measurement uncertainty is taken into account, the applicant/manufacture 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	±0.99dB	(1)
Power Spectral Density, conducted	±0.61dB	(1)
Unwanted Emissions, conducted	±0.64dB	(1)
AC Power Line Conducted Emission	± 2.64 dB	(1)
Radiated emissions 9K-30MHz	±3.98dB	(1)
Radiated emissions 30M- 1GHz	±4.32dB	(1)
Radiated emissions 1GHz-18GHz	±4.56dB	(1)
Radiated emissions 18GHz-40GHz	±4.59 dB	(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:	SMART PROJECTOR
Model No.:	Gimbal M1,Gimbal M1 Pro,Gimbal M1 MINI,V1,V1S, V1 Plus,P7,P6,H96MAX, B11
Difference of model(s)	All the model are the same circuit and RF module, except the model names.
Test Model:	Gimbal M1
Hardware Version:	N/A
Software Version:	N/A
Sample(s) Status:	Engineer sample
Operation Frequency:	☒ 5180-5240MHz for 802.11a/n(HT20); 5190-5230MHz for 802.11n(HT40) ☒ 5745-5825 MHz for 802.11a/n(HT20) 5755-5795 MHz for 802.11n(HT40)
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/802.11n(HT20): 20MHz 802.11n(HT40) : 40MHz
Data Rate	802.11a: 6,9,12,18,24,36,48,54Mbps; 802.11n(HT20/HT40):MCS0-MCS15;
Modulation technology:	Orthogonal Frequency Division Multiplexing (OFDM) with BPSK/QPSK/16QAM/64QAM
Antenna Type:	FPC antenna
Antenna gain:	2.67dBi (Note: Antenna information is provided by applicant, Testing lab is not responsible for the accuracy of the information.)
Battery	N/A
Power supply:	AC110-240V 50/60Hz 2A
Adapter Model:	N/A

Operation Frequency each of channel							
Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
36	5180MHz	38	5190MHz	40	5200MHz	/	/
44	5220MHz	46	5230MHz	48	5240MHz	/	/
Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
149	5745MHz	151	5755MHz	153	5765MHz	/	/
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)	802.11 n(HT40)	802.11ac(HT80)
Lowest channel	5180	5190	/
Middle channel	5200	X	X
Highest channel	5240		

Test channel	Frequency (MHz)		
	802.11 a /n(HT20)	802.11 n(HT40)	802.11ac(HT80)
Lowest channel	5745	5755	/
Middle channel	5785	X	X
Highest channel	5825		

2.2 Test mode

Transmitting mode	Keep the EUT in continuously transmitting mode(or with a duty cycle $\geq 98\%$)
<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 CH36/ CH40/ CH 48 802.11a /n 20 CH149/ CH157/ CH 165
Mode 2	802.11n 40 CH38/ CH 46 802.11n 40 CH 151 / CH 159
Mode 3	/
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 CH36/ CH40/ CH 48 802.11a /n 20 CH149/ CH157/ CH 165
Mode 2	802.11n 40 CH38/ CH 46 802.11n 40 CH 151 / CH 159
Mode 3	/
Mode 4	/

Note:

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

2.3 Description of Support Units

No.	Description	Manufacturer	Model	Serial Number
1	Notebook computer	DELL	Vostro 3520	/

2.4 Deviation from Standards

None.

2.5 Abnormalities from Standard Conditions

None.

2.6 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

2.7 Test Location

All tests were performed at:

Laboratory location: No.103, No.10, Phase I, Zone 3, Xinxing Industrial Park, Xinhe, Fuhai Street, Bao'an District, Shenzhen, Guangdong, China
Telephone: +86 755 85259392

2.8 Additional Instructions

Test Software	ADB serial port command
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	2024.3.12	2025.3.11
2	Artificial power network	schwarabeck	NSLK8127	8127483	2024.3.12	2025.3.11
3	Artificial power network	ETS	3186/2NM	1132	2024.3.12	2025.3.11
4	10dB attenuator	HUBER+SUHNER	10dB	/	2024.3.12	2025.3.11
5	Cable 4	HUBER SUNNER	3M	/	2024.3.12	2025.3.11
6	Absorbing Clamp	schwarabeck	MDS21	D69250	2024.3.12	2025.3.11

Radiated Emission & RF Conducted test:

Item	Equipment name	Manufacturer	Model	Serial No.	Calibration date	Due date
1	EMI Test Receiver	Rohde&schwarz	ESCI7	101032	2024.3.12	2025.3.11
2	Broadband antenna	schwarabeck	VULB9168	1064	2024.3.19	2026.3.21
3	Horn antenna	schwarabeck	BBHA9120D	9120D-1145	2024.3.19	2026.3.21
4	Amplifier	EMtrace	RP01A	50117	2024.3.12	2025.3.11
5	Amplifier	Space-Dtronic	EWLAN0118G-P40	19113001	2024.3.12	2025.3.11
6	Spectrum analyzer	KEYSIGHT	N9020A	MY55370280	2024.3.12	2025.3.11
7	Power detector meter	MWRFTtest	MW100-PSB	MW201020JYT	2024.3.12	2025.3.11
8	Signal generator	Agilent	N5182A	MY49060455	2024.3.12	2025.3.11
9	Spectrum analyzer	Rohde&schwarz	FSU40	1166.1660K43	2024.3.12	2025.3.11
10	Amplifier	SKET	LNPA_1840-50	SK2019040302	2024.3.12	2025.3.11
11	Horn antenna	schwarabeck	BBHA 9170	946	2024.3.19	2026.3.21
12	Loop antenna	schwarabeck	FMZB 1519 B	1519	2024.3.19	2026.3.21
13	Cable 6	HUBER SUNNER	0.5M	/	2024.3.12	2025.3.11
14	Cable7	HUBER SUNNER	2.0M	/	2024.3.12	2025.3.11
15	Cable8	HUBER SUNNER	6.0M	/	2024.3.12	2025.3.11
16	Filter	Xin bo	XBLBQ-GTA29	210410-3-2	2024.3.12	2025.3.11
17	Power meter	Rohde&Schwarz	NRP-Z11	1138.3004.02-117725-vh	2024.3.12	2025.3.11
18	Temp. & Humidity Chamber	Jiecheng Instrument	QA-LP-80	20160705001	2024/4/23	2025/4/22

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	MWRFTtest	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:	FCC Part15 C Section 15.203
<i>15.203 requirement: 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:	
<i>The antennas are PCB Antenna, the best case gain of the antennas are 2.67 dBi, reference to the appendix II for details</i>	

4.2 Conducted Emissions

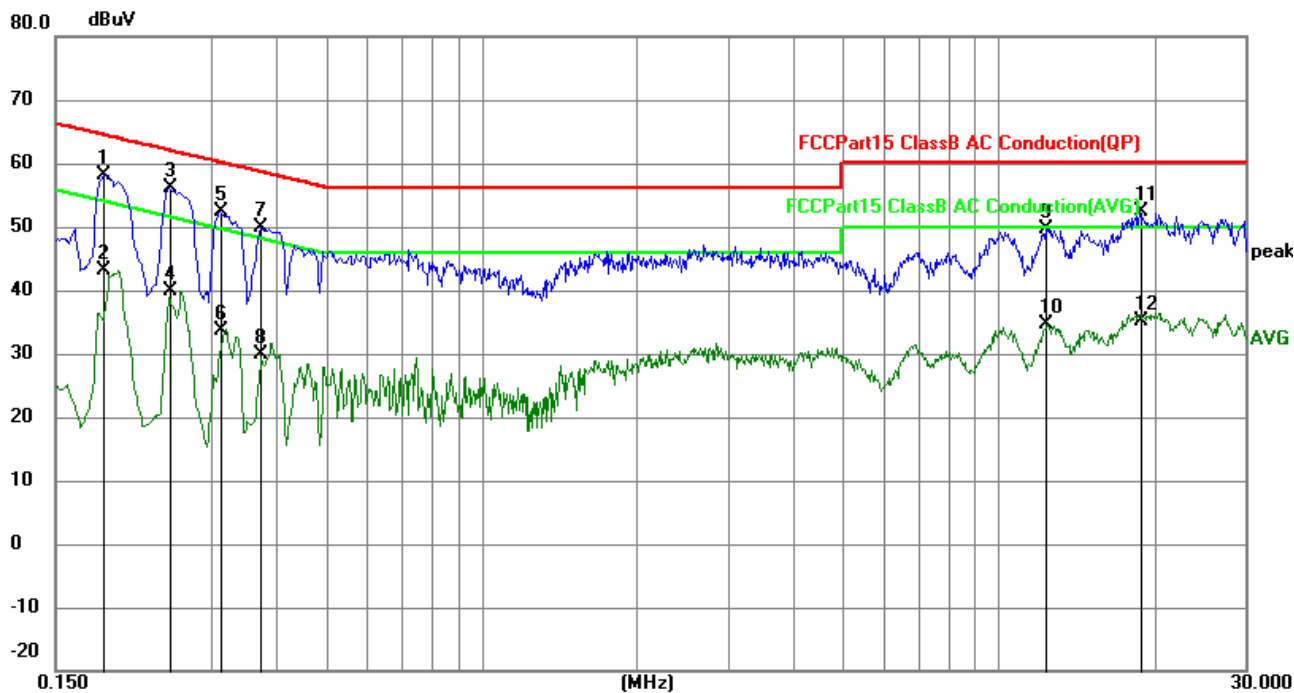
Test Requirement:	FCC Part15 C Section 15.207						
Test Method:	ANSI C63.10:2013						
Test Frequency Range:	150KHz to 30MHz						
Class / Severity:	Class B						
Receiver setup:	RBW=9KHz, VBW=30KHz, Sweep time=auto						
Limit:	Frequency range (MHz)		Limit (dBuV)				
			Quasi-peak		Average		
	0.15-0.5		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 40cm LISN AUX Equipment E.U.T 80cm LISN Filter AC power EMI Receiver Test table/Insulation plane Remark: E.U.T: Equipment Under Test LISN: Line Impedance Stabilization Network Test table height=0.8m						
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 C63.10:2013 on conducted measurement.						
Test Instruments:	Refer to section 3.0 for details						
Test mode:	Refer to section 2.2 for details						
Test environment:	Temp.:	22.3°C	Humid.:	33%	Press.:	1012mbar	
Test voltage:	AC 120V, 60Hz						
Test results:	Pass						

Remark:

1. Both high voltage and low voltage have been tested, and the report only shows the worst case data with AC 120V/60Hz.
2. All mode have been tested, the report only shows the worst mode (802.11a 5825MHz)

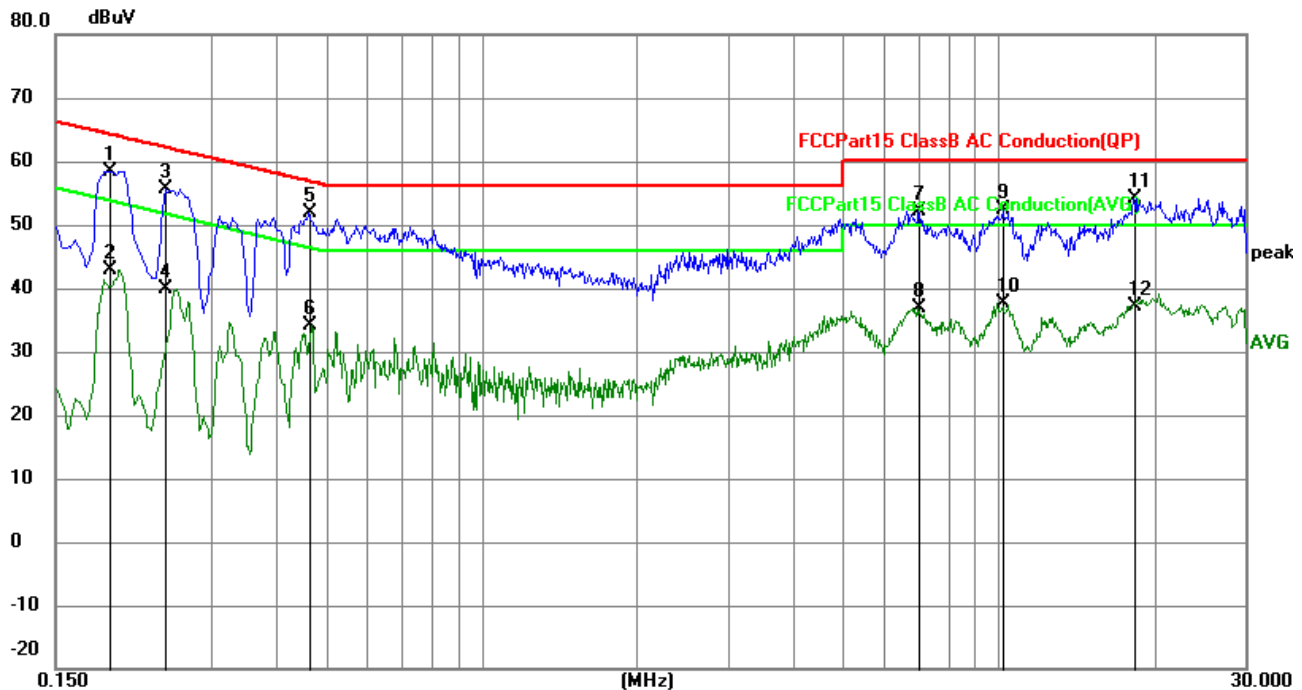
Measurement Result

Line:



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector
1	0.1859	48.37	9.81	58.18	64.22	-6.04	QP
2	0.1859	33.25	9.81	43.06	54.22	-11.16	AVG
3	0.2489	46.23	9.83	56.06	61.79	-5.73	QP
4	0.2489	29.99	9.83	39.82	51.79	-11.97	AVG
5	0.3119	42.44	9.87	52.31	59.92	-7.61	QP
6	0.3119	23.88	9.87	33.75	49.92	-16.17	AVG
7	0.3750	40.10	9.89	49.99	58.39	-8.40	QP
8	0.3750	20.08	9.89	29.97	48.39	-18.42	AVG
9	12.3764	39.90	9.80	49.70	60.00	-10.30	QP
10	12.3764	24.87	9.80	34.67	50.00	-15.33	AVG
11	18.7439	42.71	9.70	52.41	60.00	-7.59	QP
12	18.7439	25.49	9.70	35.19	50.00	-14.81	AVG

Neutral:

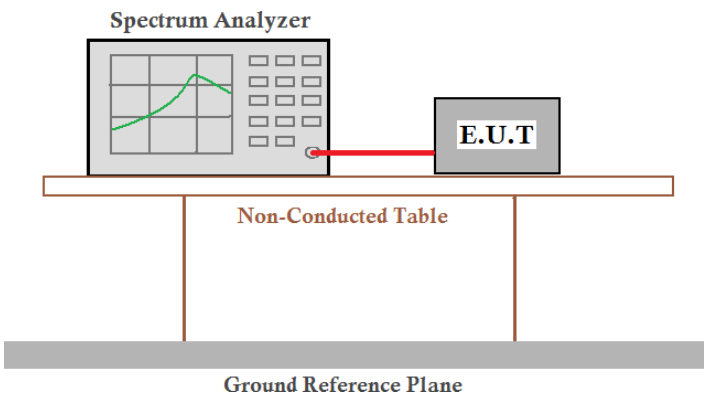


No.	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector
1	0.1905	48.64	9.81	58.45	64.01	-5.56	QP
2	0.1905	33.14	9.81	42.95	54.01	-11.06	AVG
3	0.2454	45.87	9.83	55.70	61.91	-6.21	QP
4	0.2454	30.00	9.83	39.83	51.91	-12.08	AVG
5	0.4650	41.87	9.93	51.80	56.60	-4.80	QP
6	0.4650	24.14	9.93	34.07	46.60	-12.53	AVG
7	6.9988	42.41	9.83	52.24	60.00	-7.76	QP
8	6.9988	27.02	9.83	36.85	50.00	-13.15	AVG
9	10.1850	42.43	9.84	52.27	60.00	-7.73	QP
10	10.1850	27.72	9.84	37.56	50.00	-12.44	AVG
11	18.2713	44.41	9.70	54.11	60.00	-5.89	QP
12	18.2713	27.55	9.70	37.25	50.00	-12.75	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 C63.10:2013	
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 are 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.: 22.9°C	Humid.: 41%RH
Test voltage:	AC120/60Hz	
Test results:	Pass	

Measurement Result

5180-5240MHz

Mode	Duty cycle (%)	Correction Factor (dB)
TX 802.11a Mode	92.76	0.33
TX 802.11n20 Mode	92.67	0.33
TX 802.11n40 Mode	93.55	0.29

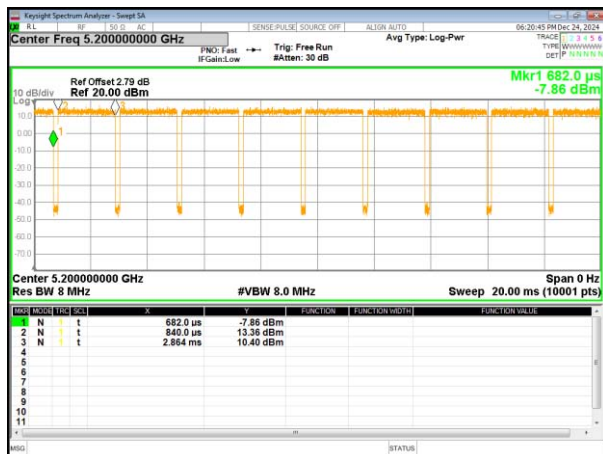
5745-5825 MHz

Mode	Duty cycle (%)	Correction Factor (dB)
TX 802.11a Mode	90.48	0.43
TX 802.11n20 Mode	96.67	0.15
TX 802.11n40 Mode	98.7	0.06

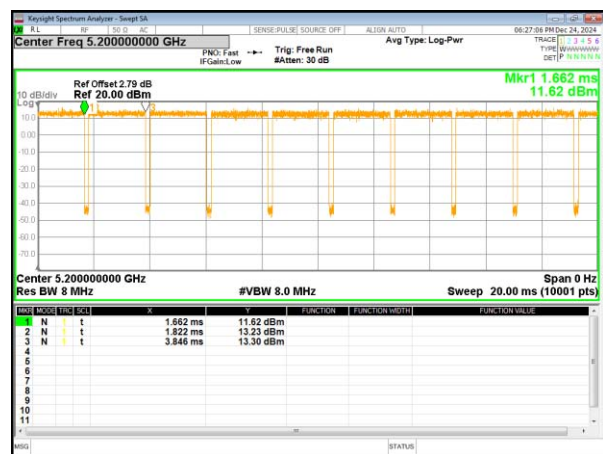
Test plot

5180-5240MHz

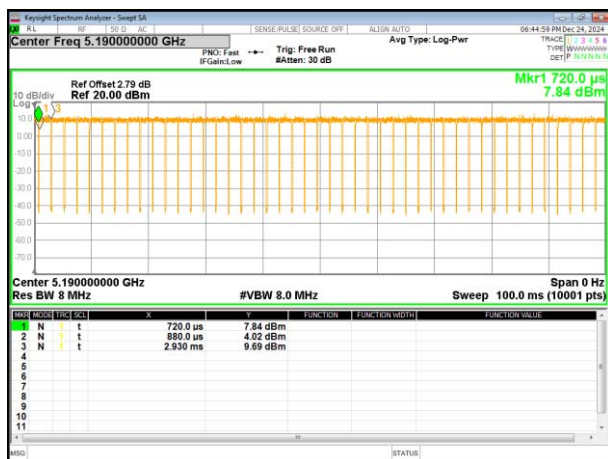
(802.11a) plot



(802.11 n20) plot

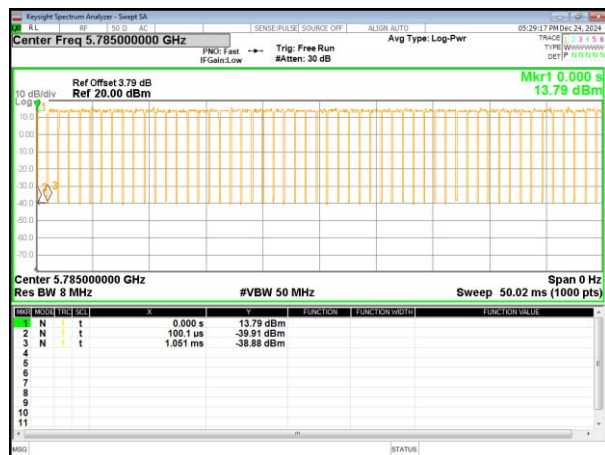


(802.11n40)lot

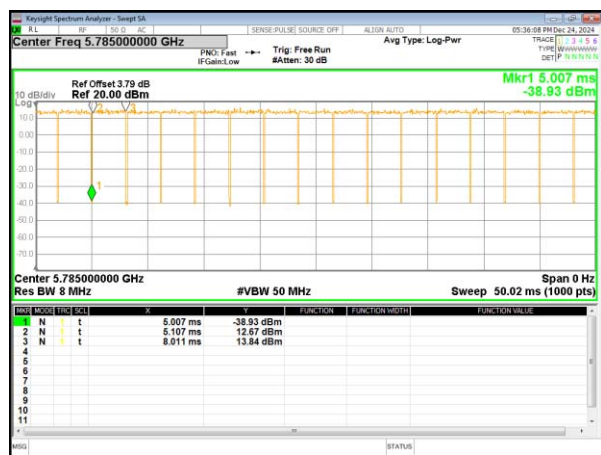


5745-5825 MHz

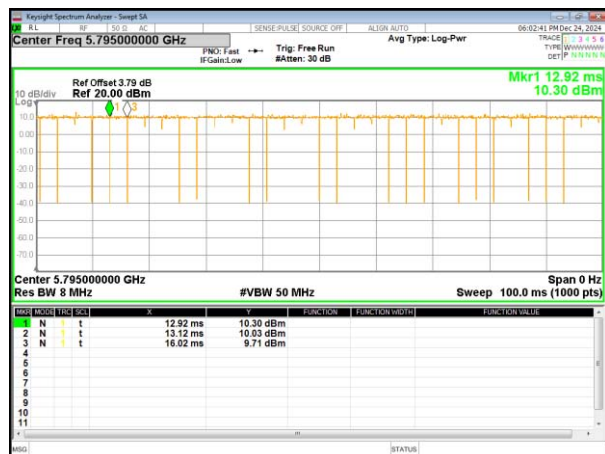
(802.11a) plot



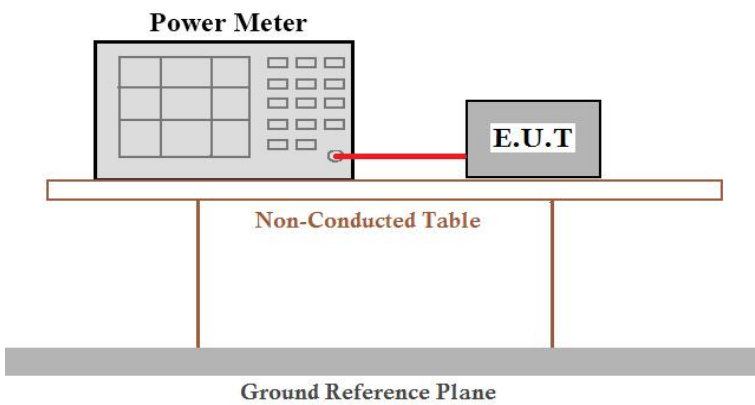
(802.11 n20) plot



(802.11 n40) plot



4.4 Conducted Output Power

Test Requirement:	FCC Part15 E Section 15.407 (a)(1)/(a)(3)	
Test Method:	ANSI C63.10:2013 and KDB 789033 D02 General U-NII Test Procedures New Rules v02r01	
Limit:	5150-5250MHz : 250mW 5725~5850MHz : 1W	
Test setup:	 The diagram illustrates the test setup. A 'Power Meter' is connected to an 'E.U.T' (Equipment Under Test) via a red cable. Both components 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.: 22.9°C	Humid.: 41%RH
Test voltage:	AC120/60Hz	
Test results:	Pass	

Measurement Result

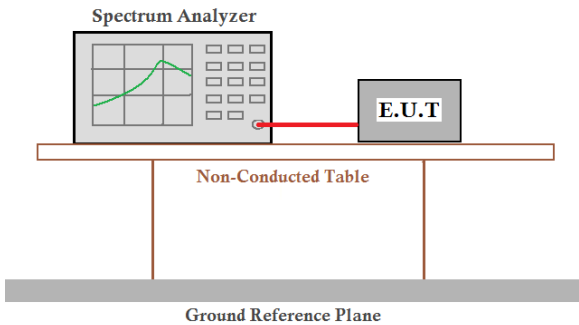
5180-5240MHz

Test Channel	Frequency	Correction Factor	Maximum output power	Total Power	LIMIT	Result
	(MHz)	(dB)	(dBm)	(dBm)	dBm	
TX 802.11a Mode						
CH36	5180	0.33	11.54	11.87	23.98	Pass
CH40	5200	0.33	11.31	11.64	23.98	Pass
CH48	5240	0.33	10.73	11.06	23.98	Pass
TX 802.11 n20 Mode						
CH36	5180	0.33	11.48	11.81	23.98	Pass
CH40	5200	0.33	11.21	11.54	23.98	Pass
CH48	5240	0.33	10.58	10.91	23.98	Pass
TX 802.11 n40 Mode						
CH38	5190	0.29	10.88	11.17	23.98	Pass
CH46	5230	0.29	10.24	10.53	23.98	Pass

5745-5825 MHz

Test Channel	Frequency	Correction Factor	Maximum output power	Total Power	LIMIT	Result
	(MHz)	(dB)	(dBm)	(dBm)	dBm	
TX 802.11a Mode						
CH149	5745	0.43	13.81	14.24	30	Pass
CH157	5785	0.43	14.50	14.93	30	Pass
CH165	5825	0.43	14.95	15.38	30	Pass
TX 802.11 n20 Mode						
CH149	5745	0.15	13.71	13.86	30	Pass
CH157	5785	0.15	14.48	14.63	30	Pass
CH165	5825	0.15	14.70	14.85	30	Pass
TX 802.11 n40 Mode						
CH151	5755	0.06	13.17	13.23	30	Pass
CH159	5795	0.06	13.82	13.88	30	Pass

4.5 Bandwidth & 99% Occupy Bandwidth

Test Requirement:	FCC Part15 E Section 15.407(a)(12)&15.407(e)	
Test Method:	ANSI C63.10:2013 and KDB 789033 D02 General U-NII Test Procedures New Rules v02r01	
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.: 22.9°C	Humid.: 41%RH
Test voltage:	AC120/60Hz	
Test results:	Pass	

Measurement Result

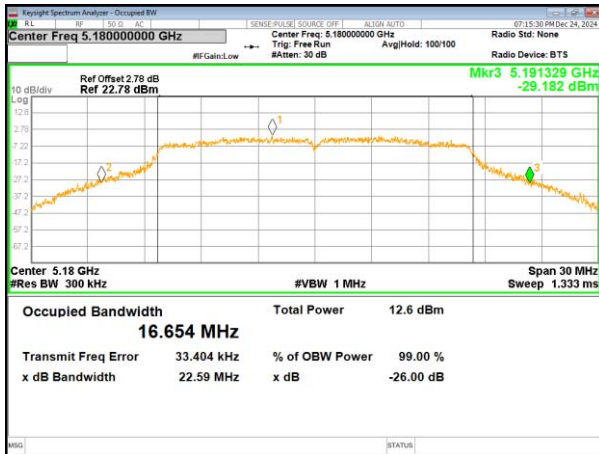
5180-5240MHz

Test CH	-26dB Channel Bandwidth (MHz)						Result
	802.11a	802.11n (HT20)	802.11ac (HT20)	802.11n (HT40)	802.11ac (HT40)	802.11ac (HT80)	
Lowest	22.59	23.43	--	42.55	--	--	Pass
Middle	22.86	23.51	--	--	--	--	
Highest	23.75	24.28	--	42.50	--	--	

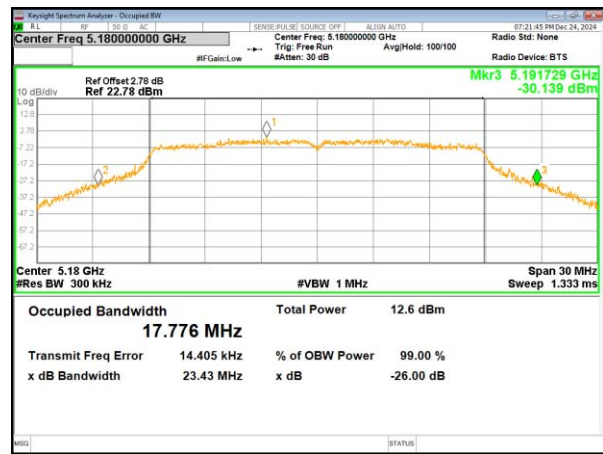
Test CH	99% Occupy Bandwidth (MHz)						Result
	802.11a	802.11n (HT20)	802.11ac (HT20)	802.11n (HT40)	802.11ac (HT40)	802.11ac (HT80)	
Lowest	16.551	17.672	--	36.062	--	--	Pass
Middle	16.521	17.658	--	--	--	--	
Highest	16.503	17.645	--	36.008	--	--	

Test plot -26dB Channel Bandwidth

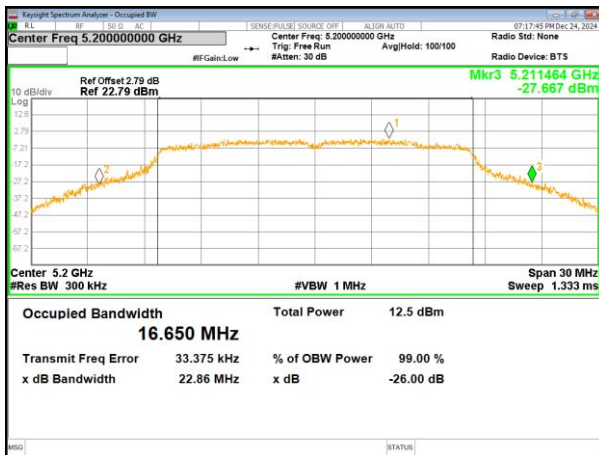
(802.11a) plot on channel 36



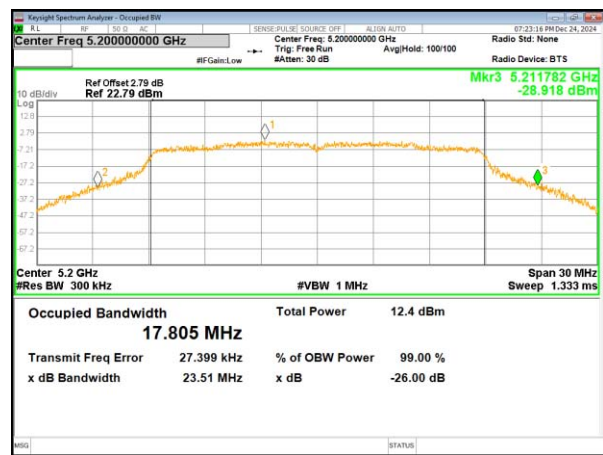
(802.11 n20) plot on channel 36



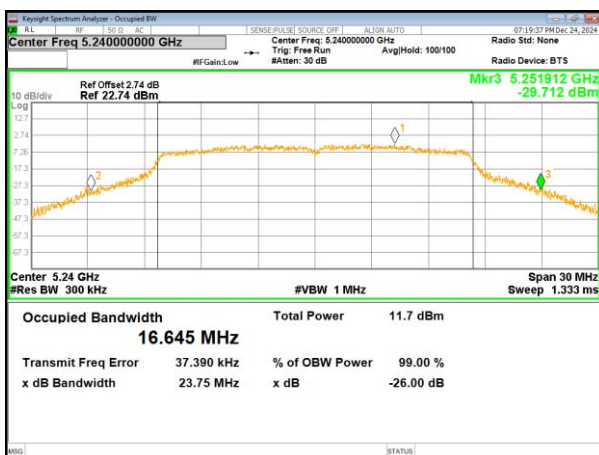
(802.11a) plot on channel 40



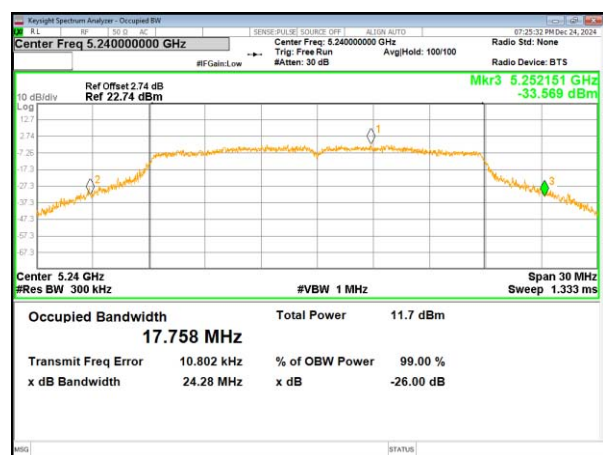
(802.11 n20) plot on channel 40



(802.11a) plot on channel 48

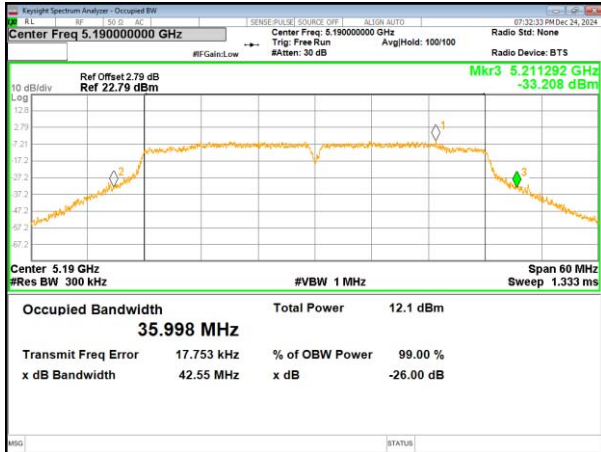


(802.11 n20) plot on channel 48



Test plot

(802.11 n40) plot on channel 38

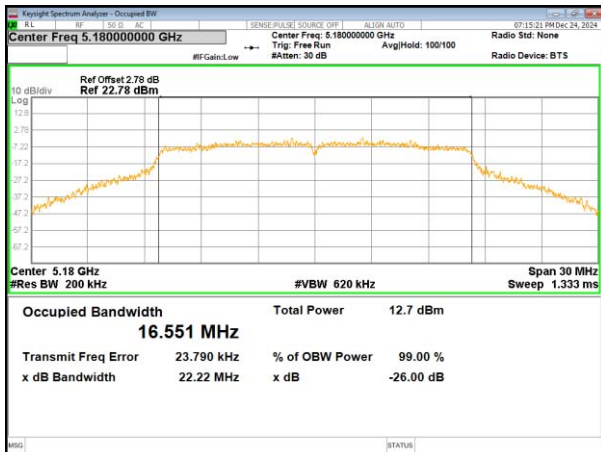


(802.11 n40) plot on channel 46

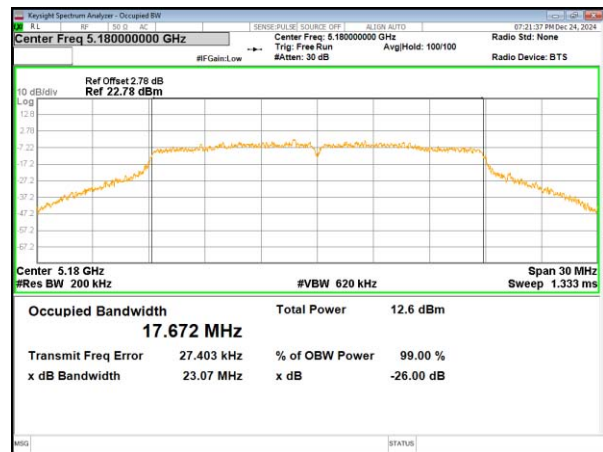


Test plot 99% Occupy Bandwidth

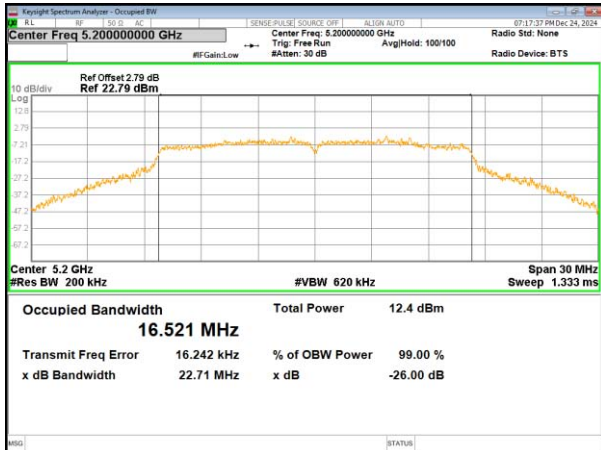
(802.11a) plot on channel 36



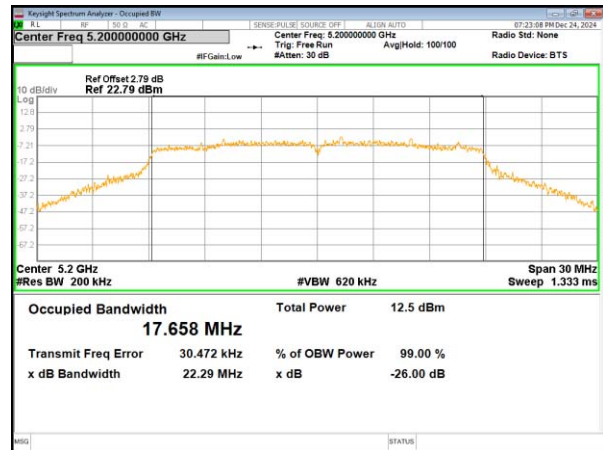
(802.11 n20) plot on channel 36



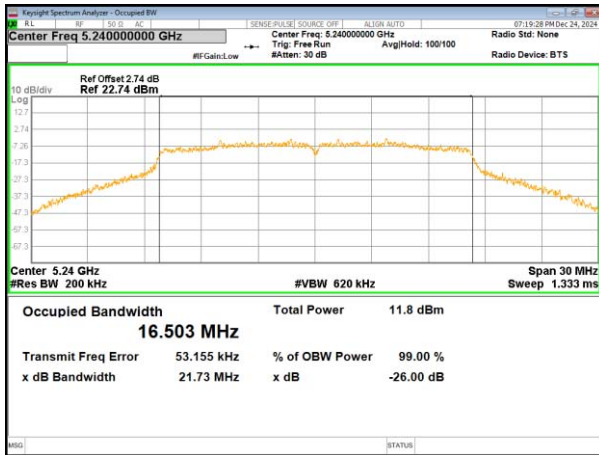
(802.11a) plot on channel 40



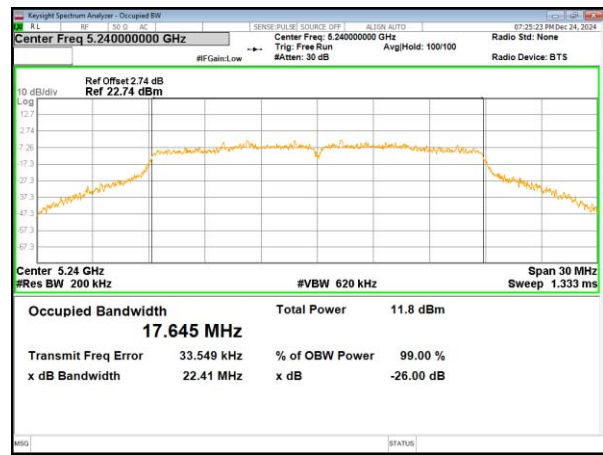
(802.11 n20) plot on channel 40



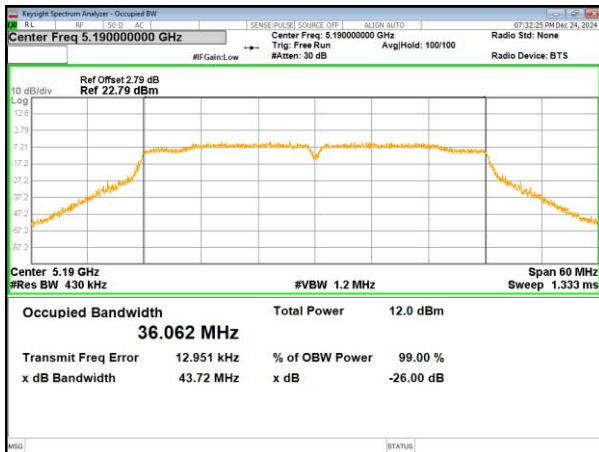
(802.11a) plot on channel 48



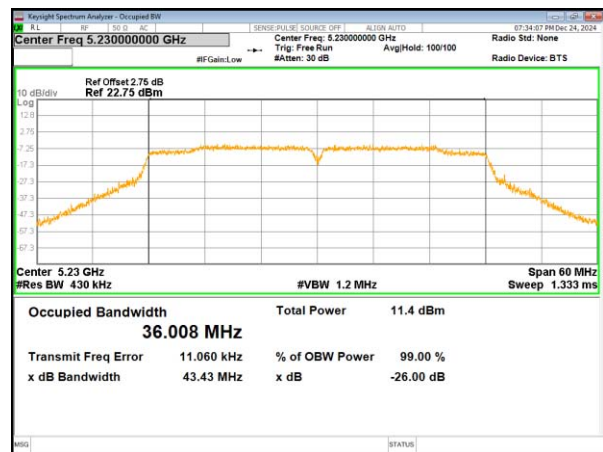
(802.11 n20) plot on channel 48



(802.11 n40) plot on channel 38



(802.11 n40) plot on channel 46



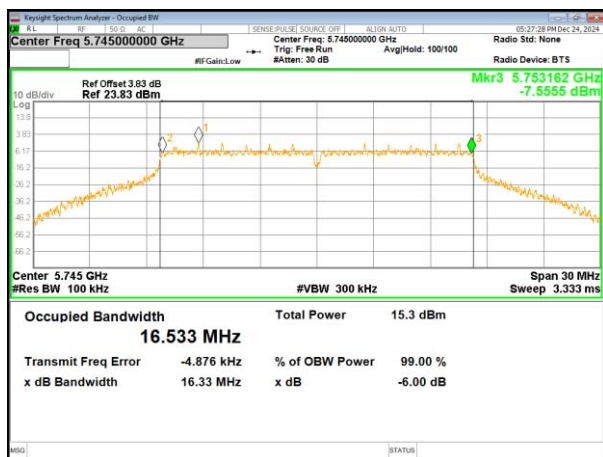
5745-5825MHz

Test CH	-6dB Channel Bandwidth (MHz)						Limit (KHz)	Result
	802.11a	802.11n (HT20)	802.11ac (HT20)	802.11n (HT40)	802.11ac (HT40)	802.11ac (HT80)		
Lowest	16.33	17.58	--	36.33	--	--	>500	Pass
Middle	16.33	17.58	--	--	--	--		
Highest	16.35	17.55	--	36.32	--	--		

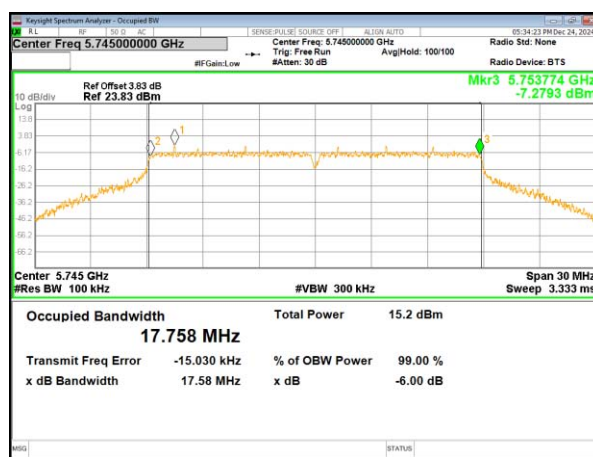
Remark: "---"is not applicable

Test plot

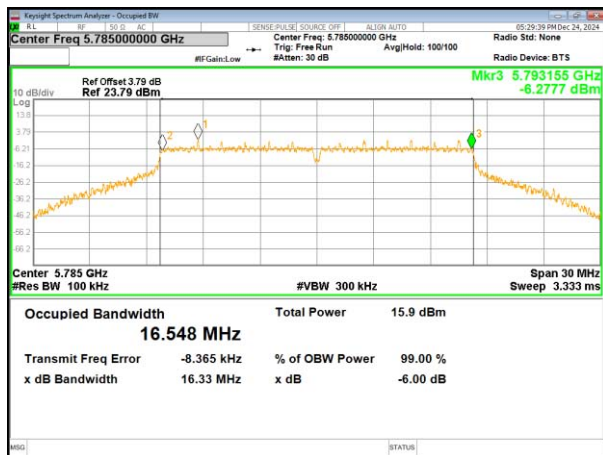
(802.11a) plot on channel 149



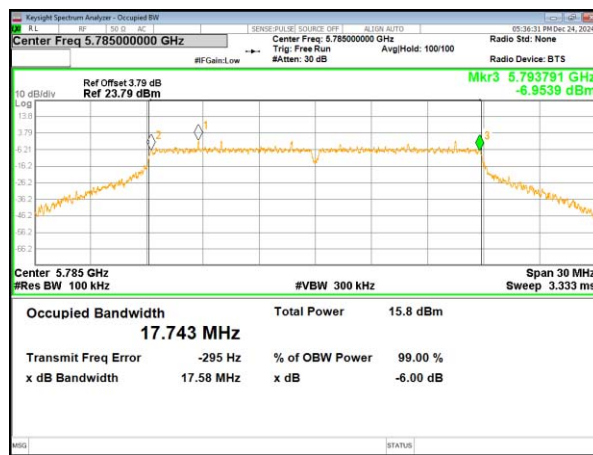
(802.11 n20) plot on channel 149



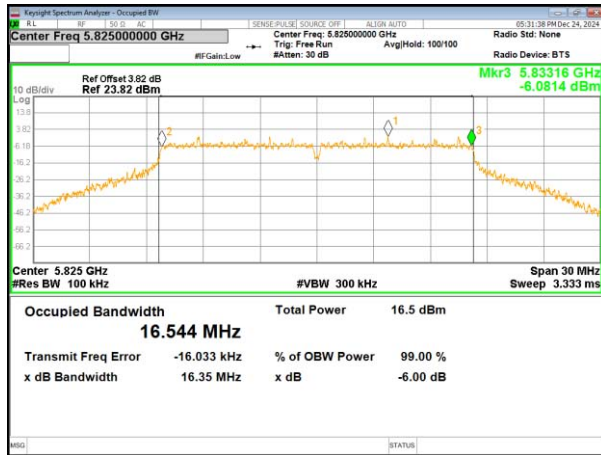
(802.11a) plot on channel 157



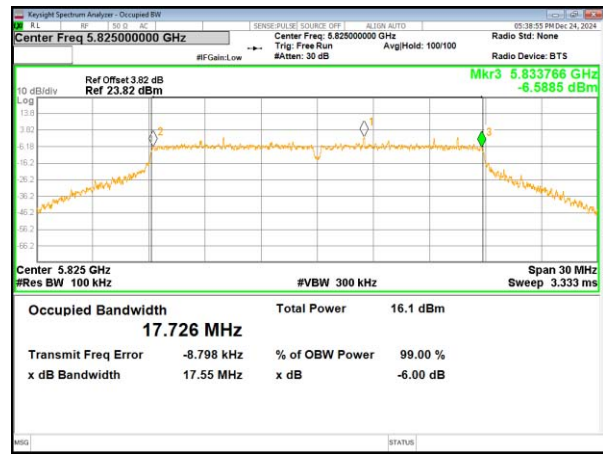
(802.11 n20) plot on channel 157



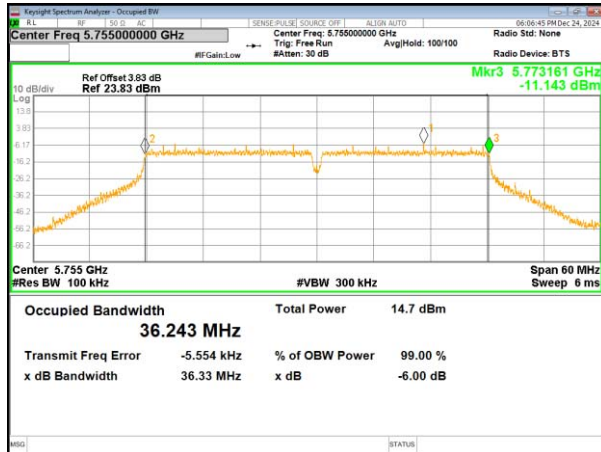
(802.11a) plot on channel 165



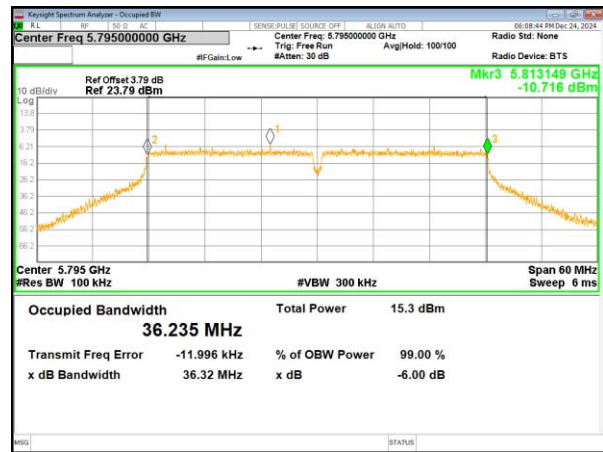
(802.11 n20) plot on channel 165



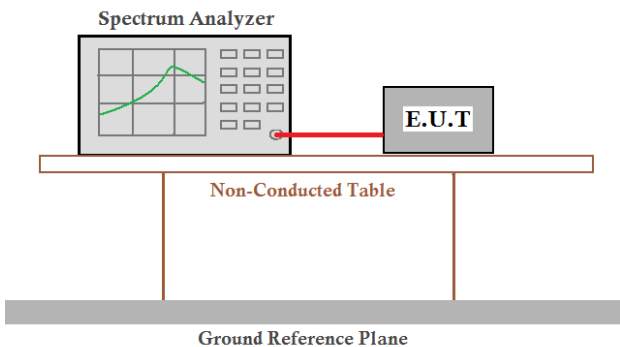
(802.11 n40) plot on channel 151



(802.11 n40) plot on channel 159



4.6 Power Spectral Density

Test Requirement:	FCC Part15 E Section 15.407(a)(1)/ (a)(3)	
Test Method:	ANSI C63.10:2013 and KDB 789033 D02 General U-NII Test Procedures New Rules v02r01	
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.: 22.9°C	Humid.: 41%RH
Test voltage:	AC120/60Hz	
Test results:	Pass	

Measurement Result

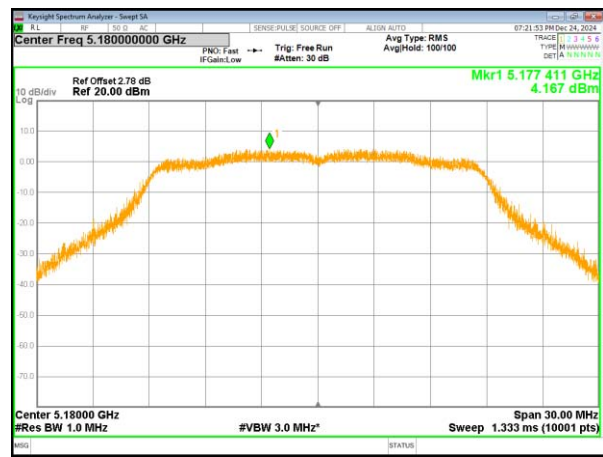
5180-5240MHz

Mode	Frequency	Measured Power Density (dBm/MHz)	Correction Factor (dB)	Total Measured Power Density (dBm/MHz)	Limit (dBm/MHz)
802.11 a	5180 MHz	4.756	0.33	5.086	11
	5200 MHz	4.389	0.33	4.719	11
	5240 MHz	3.833	0.33	4.163	11
802.11 n20	5180 MHz	4.167	0.33	4.497	11
	5200 MHz	4.046	0.33	4.376	11
	5240 MHz	3.625	0.33	3.955	11
802.11 n40	5190 MHz	1.246	0.29	1.536	11
	5230 MHz	0.209	0.29	0.499	11

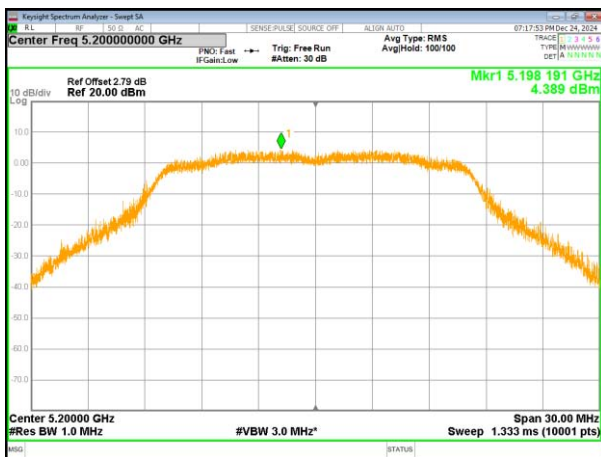
(802.11a) PSD plot on channel 36



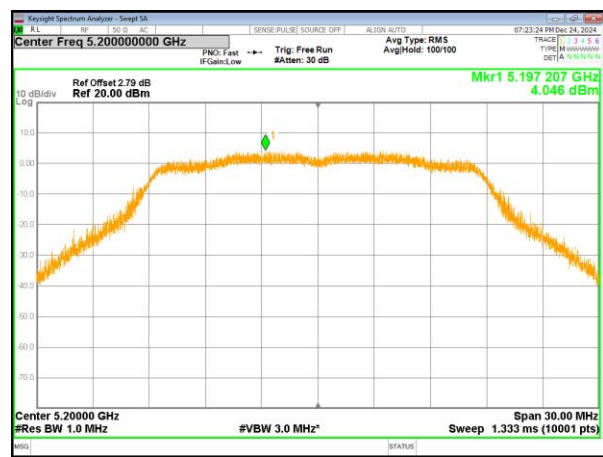
(802.11n20) PSD plot on channel 36



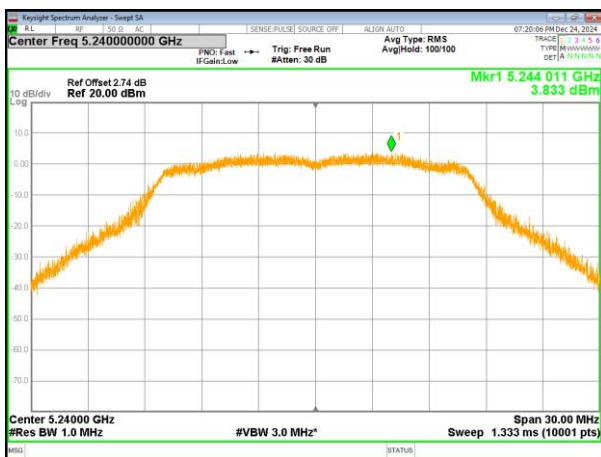
(802.11a) PSD plot on channel 40



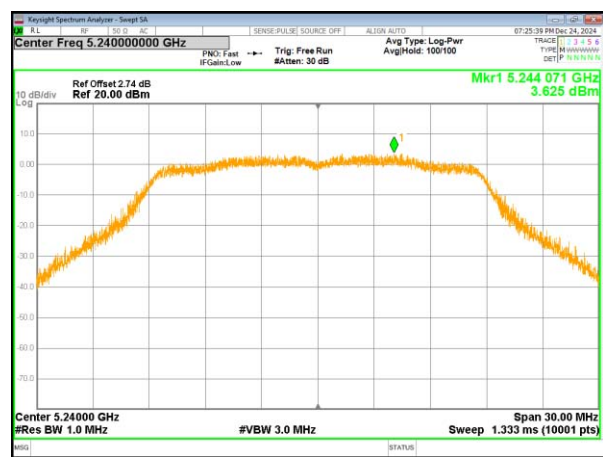
(802.11n20) PSD plot on channel 40



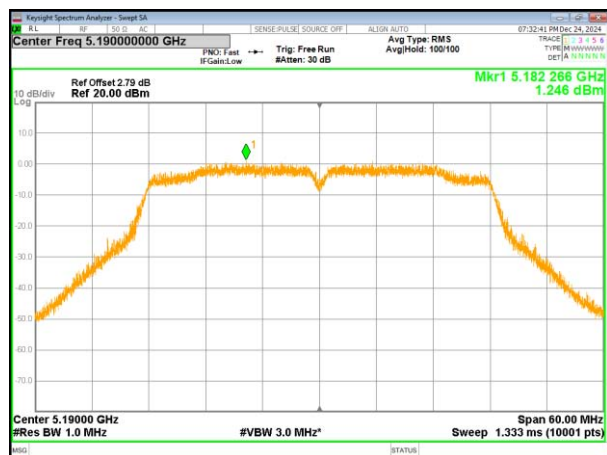
(802.11a) PSD plot on channel 48



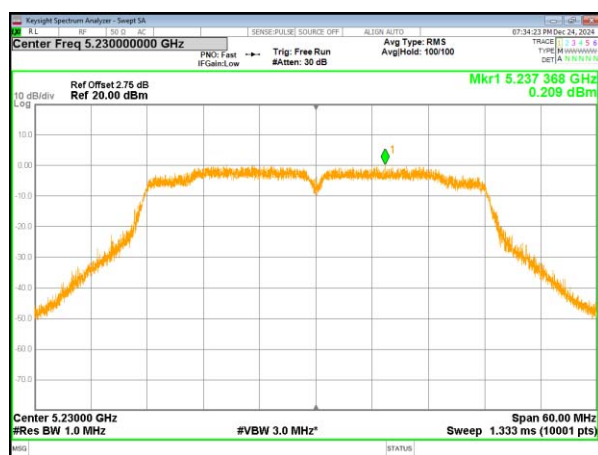
(802.11n20) PSD plot on channel 48



(802.11n40) PSD plot on channel 38



(802.11n40) PSD plot on channel 46

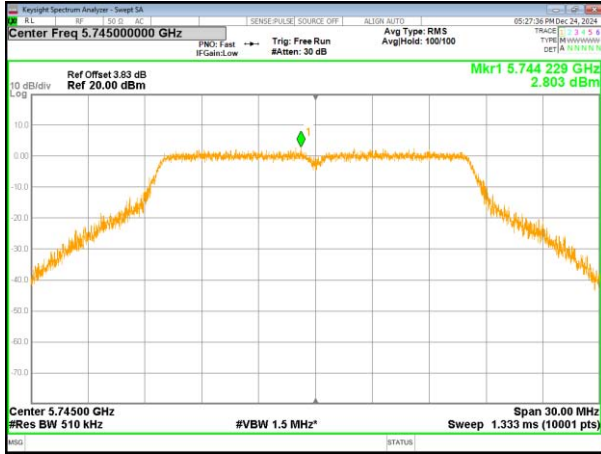


Mode	Frequency	Measured Power Density (dBm/510KHz)	Measured Power Density (dBm/500KHz)	Correction Factor (dB)	Total Measured Power Density (dBm/500KHz)	Limit (dBm/MHz)
802.11 a	5745 MHz	2.803	2.717	0.43	3.147	30
	5785 MHz	3.079	2.993	0.43	3.423	30
	5825 MHz	3.832	3.746	0.43	4.176	30
802.11 n20	5745 MHz	2.431	2.345	0.15	2.495	30
	5785 MHz	3.488	3.402	0.15	3.552	30
	5825 MHz	3.23	3.144	0.15	3.294	30
802.11 n40	5755 MHz	-1.53	-1.616	0.06	-1.556	30
	5795 MHz	-0.632	-0.718	0.06	-0.658	30

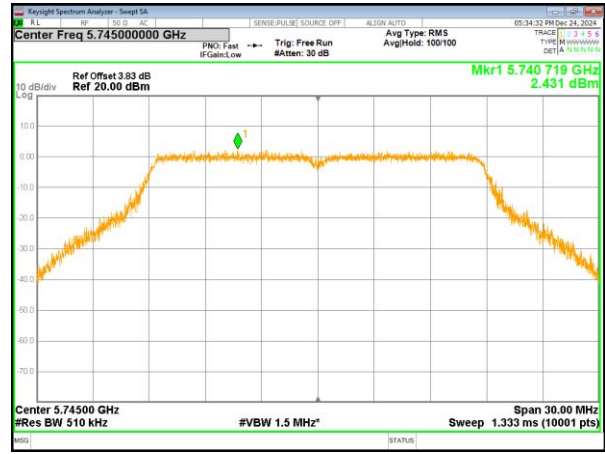
Note: 1. If the measurement is X dBm/510kHz, thus $X \text{ dBm/510kHz} = (10^{X/10}) * (500 / 510) \text{ dBm/500kHz}$

2. Correction Factor (dB)= duty cycle factor

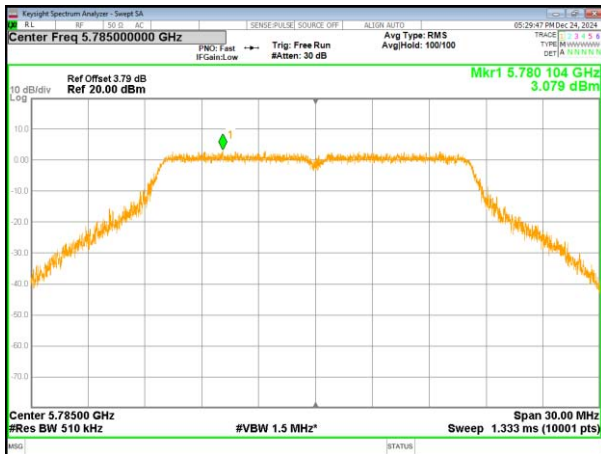
(802.11a) PSD plot on channel 149



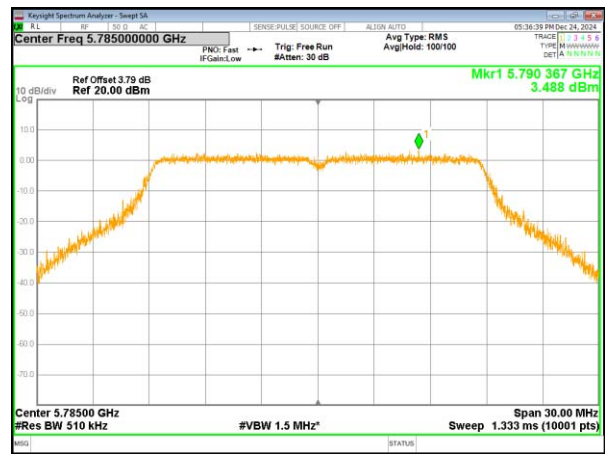
(802.11n20) PSD plot on channel 149



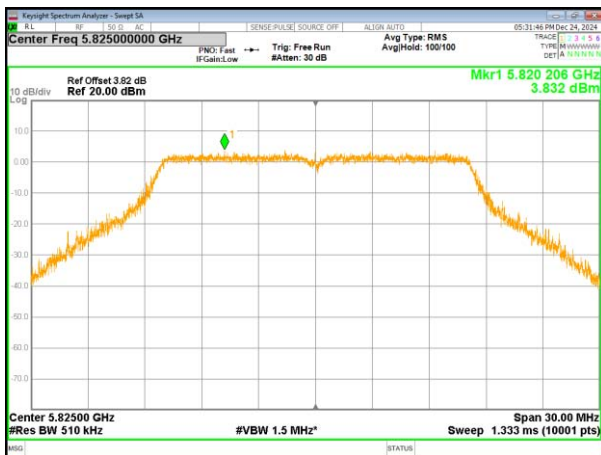
(802.11a) PSD plot on channel 157



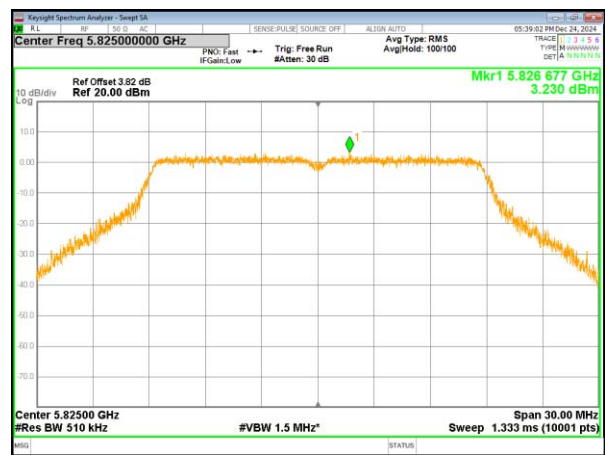
(802.11n20) PSD plot on channel 157



(802.11a) PSD plot on channel 165



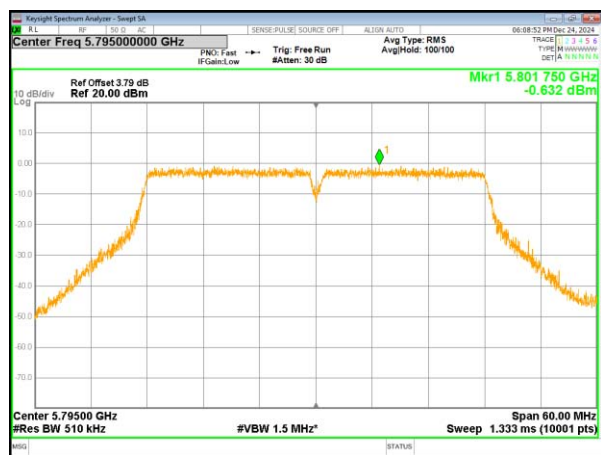
(802.11n20) PSD plot on channel 165



(802.11n40) PSD plot on channel 151

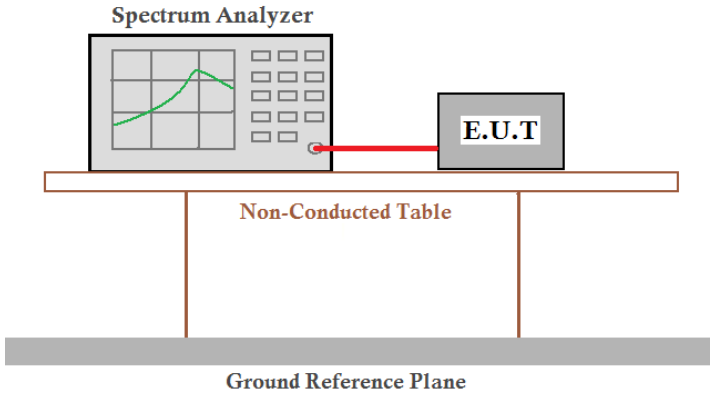


(802.11n40) PSD plot on channel 159



4.7 Band edge

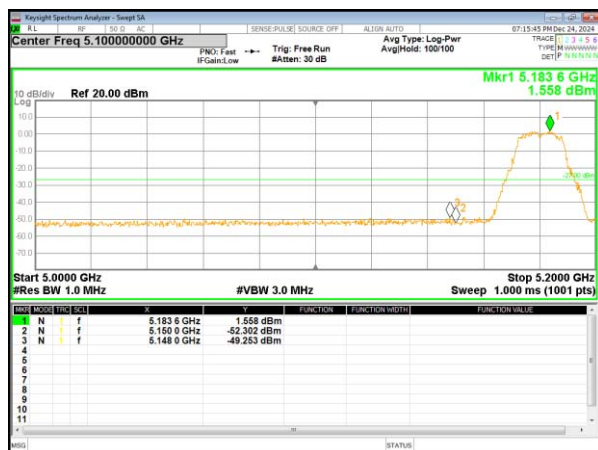
4.7.1 Conducted test Method

Test Requirement:	FCC Part15 C Section 15.209 and 15.205	
Test Method:	ANSI C63.10: 2013	
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, which is supported by a Ground Reference Plane.	
Test Procedure:	1. Check the calibration of the measuring instrument using either an internal calibrator or a known signal from an external generator. 2. Position the EUT without connection to measurement instrument. Turn on the EUT and connect its antenna terminal to measurement instrument via a low loss cable. Then set it to any one measured frequency within its operating range, and make sure the instrument is operated in its linear range. 3. Set RBW of spectrum analyzer to 1 MHz with a convenient frequency span. 4. Measure the highest amplitude appearing on spectral display and set it as a reference level. Plot the graph with marking the highest point and edge frequency. 5. Repeat above procedures until all measured frequencies were complete..	
Test Instruments:	Refer to section 3.0 for details	
Test mode:	Refer to section 2.2 for details	
Test environment:	Temp.: 22.9°C	Humid.: 41%RH
Test voltage:	AC120/60Hz	
Test results:	Pass	

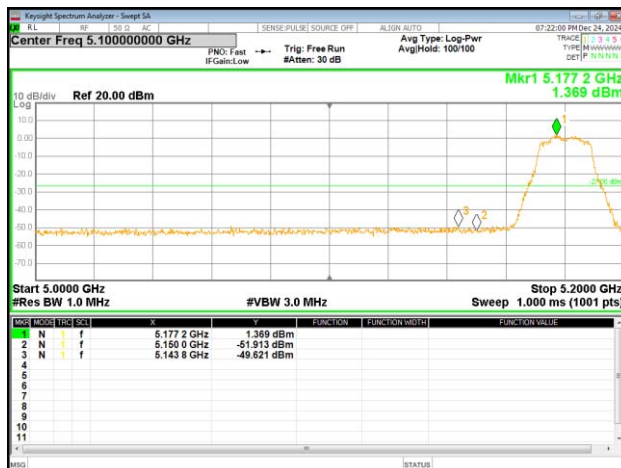
Remark: Due to the margin value of the sideband test being greater than the antenna gain value, the test meets the requirements

5.180~5.240 GHz

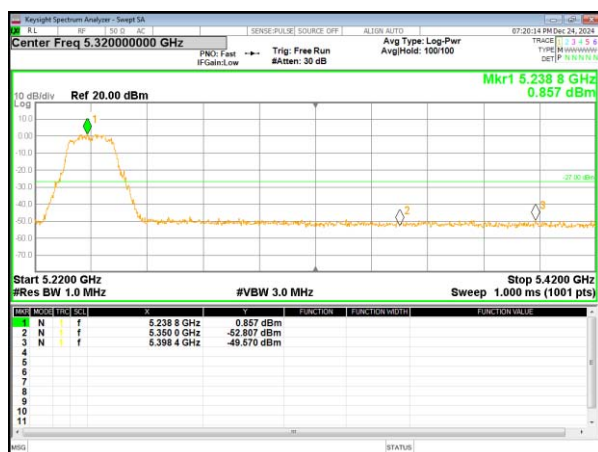
(802.11a) Band Edge, Left Side



(802.11n20) Band Edge, Left Side



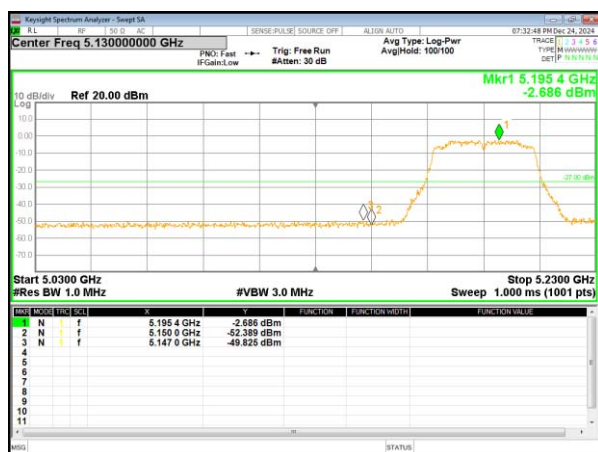
(802.11a) Band Edge, Right Side



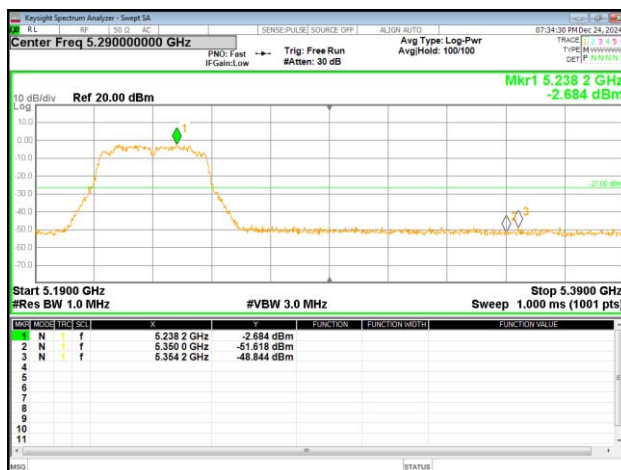
(802.11n20) Band Edge, Right Side



(802.11n40) Band Edge, Left Side



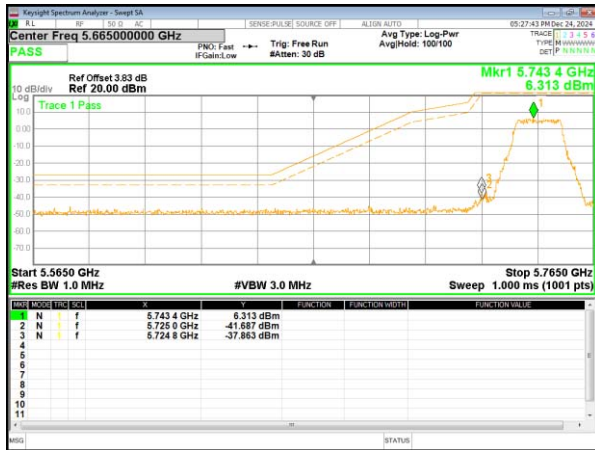
(802.11n40) Band Edge, Right Side



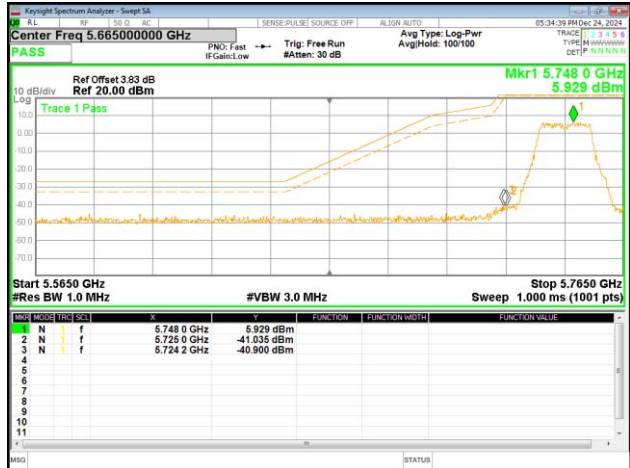
Remark: The antenna gain and cable loss were not compensated in the test data, and the margin value of the Band Edge test was greater than the sum of the antenna gain and cable loss, so the test met the requirements

5.745~5.825 GHz

(802.11a) Band Edge, Left Side



(802.11n20) Band Edge, Left Side



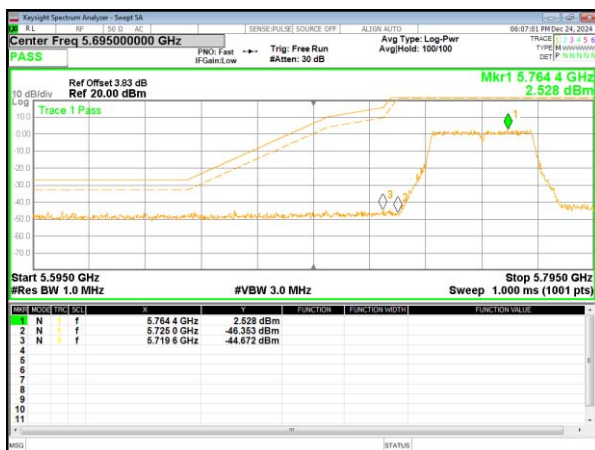
(802.11a) Band Edge, Right Side



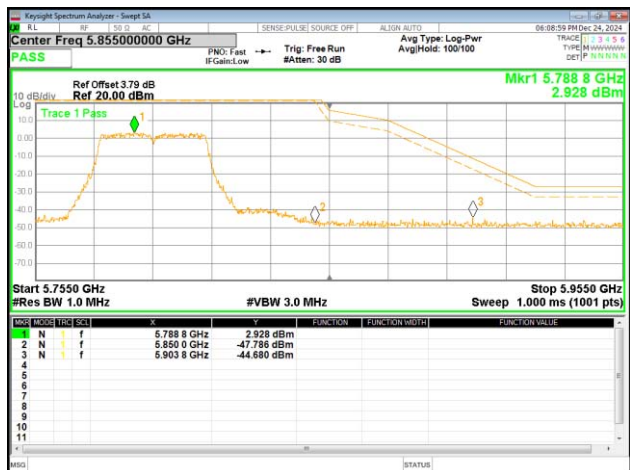
(802.11n20) Band Edge, Right Side



(802.11n40) Band Edge, Left Side



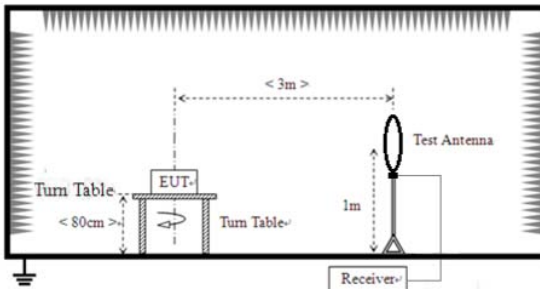
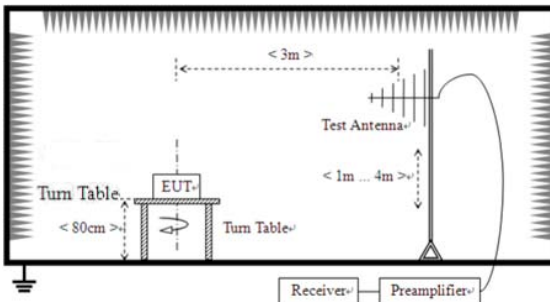
(802.11n40) Band Edge, Right Side

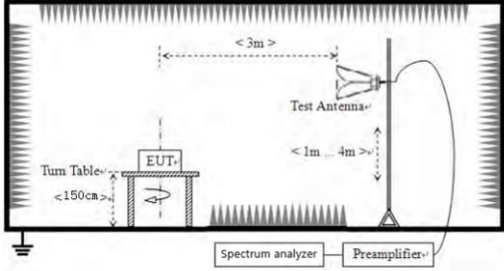


Remark: Antenna gain and cable loss data included in Offset.

4.8 Spurious Emission

4.8.1 Radiated Emission Method

Test Requirement:	FCC Part15 C Section 15.209, Part 15E Section 15.407(b)(4)				
Test Method:	ANSI C63.10:2013				
Test Frequency Range:	9kHz to 40GHz				
Test site:	Measurement Distance: 3m				
Receiver setup:	Frequency	Detector	RBW	VBW	Value
	9kHz-150KHz	Quasi-peak	200Hz	1kHz	Quasi-peak Value
	150kHz-30MHz	Quasi-peak	9kHz	30kHz	Quasi-peak Value
	30MHz-1GHz	Quasi-peak	120KHz	300KHz	Quasi-peak Value
	Above 1GHz	Peak	1MHz	3MHz	Peak Value
		AV	1MHz	3MHz	Average Value
Limit:	Frequency	Limit (uV/m)	Value	Measurement Distance	
	0.009MHz-0.490MHz	2400/F(KHz)	QP	300m	
	0.490MHz-1.705MHz	24000/F(KHz)	QP	300m	
	1.705MHz-30MHz	30	QP	30m	
	30MHz-88MHz	100	QP	3m	
	88MHz-216MHz	150	QP		
	216MHz-960MHz	200	QP		
	960MHz-1GHz	500	QP		
	Frequency	Limit (dBm/MHz)	Remark		
	Above 1GHz	-27.0	Peak Value		
Test setup:	For radiated emissions from 9kHz to 30MHz				
					
	For radiated emissions from 30MHz to 1GHz				
					
	For radiated emissions above 1GHz				

	
Test Procedure:	1. The EUT was placed on the top of a rotating table (0.8m for below 1GHz and 1.5 meters for above 1GHz) above the ground at a 3 meter camber. The table was rotated 360 degrees to determine the position of the highest radiation. 2. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower. 3. The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement. 4. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rota table was turned from 0 degrees to 360 degrees to find the maximum reading. 5. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode. 6. If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet. The radiation measurements are performed in X, Y, Z axis positioning. And found the X axis positioning which it is worse case, only the test worst case mode is recorded in the report.
Test Instruments:	Refer to section 3.0 for details
Test mode:	Refer to section 2.2 for details
Test results:	Pass

Remarks:

1. The report only shows the worst mode.
2. Pre-scan all kind of the place mode (X-axis, Y-axis, Z-axis), and found the Y-axis which it is worse case.

Measurement Data:

9 kHz ~ 30 MHz

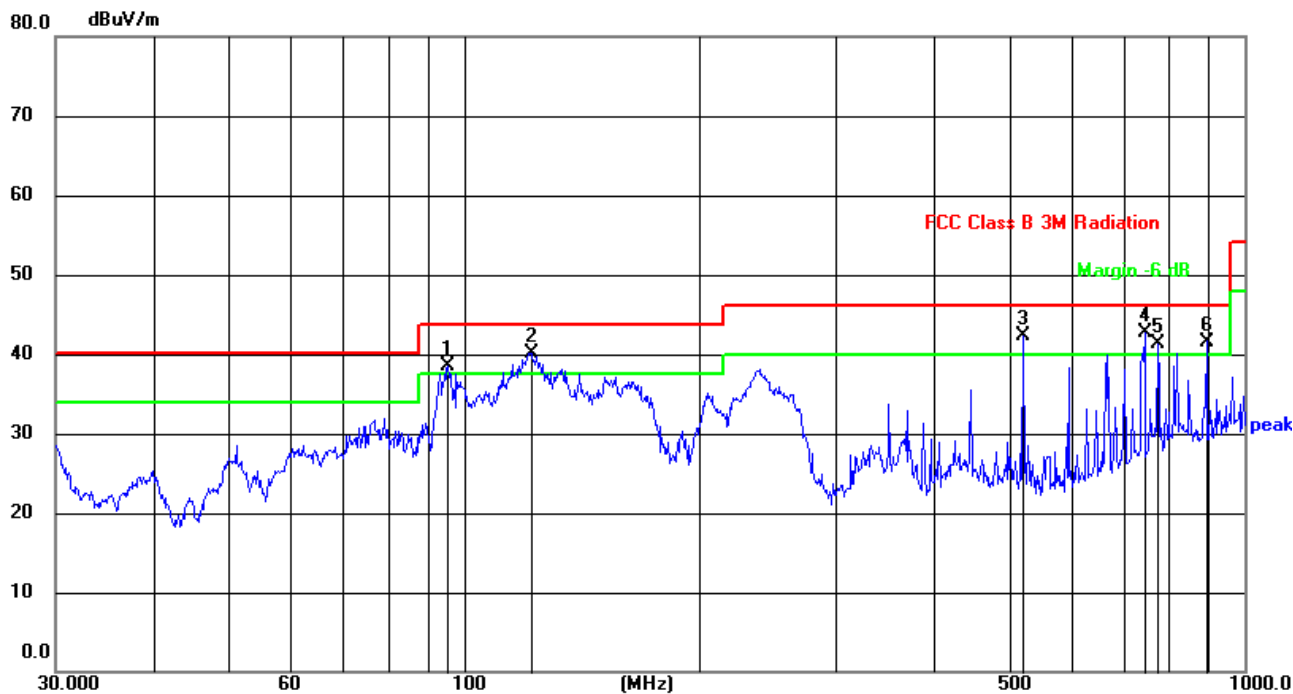
The emission from 9 kHz to 30MHz was pre-tested and found the result was 20dB lower than the limit, and according to 15.31(o) & RSS-Gen 6.13, the test result no need to reported.

Below 1GHz

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

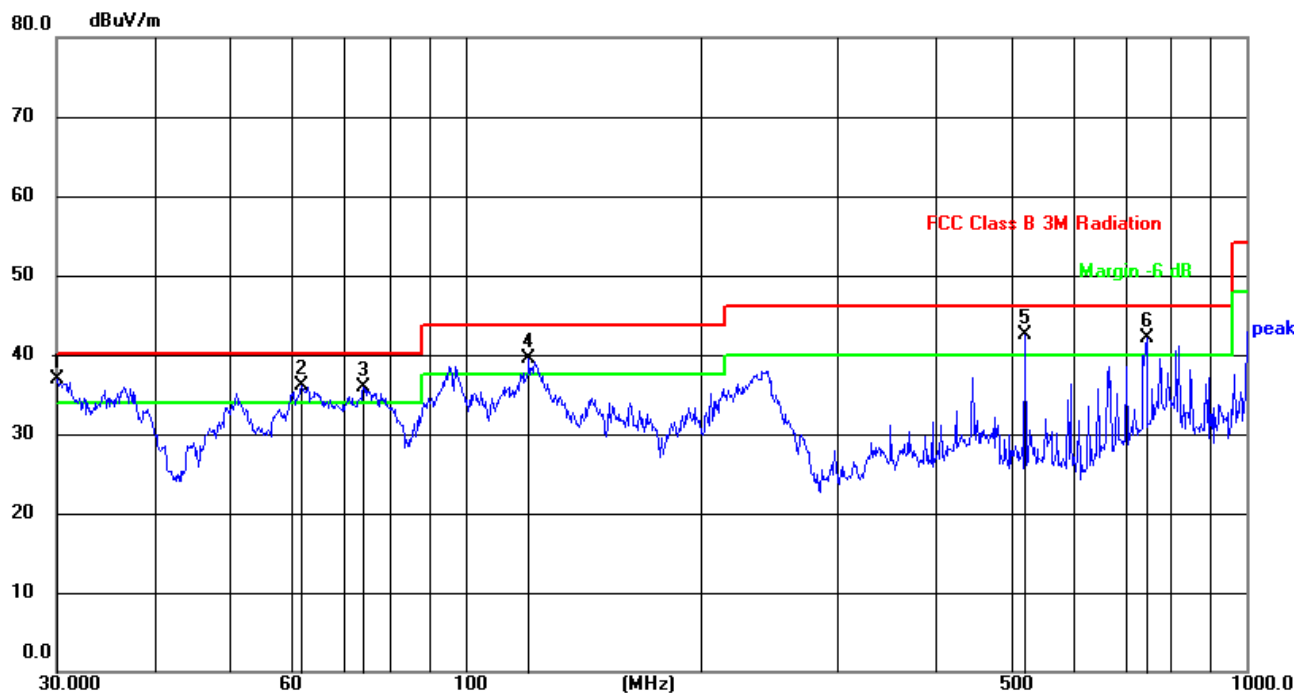
Temperature:	22.9°C	Relative Humidity:	41%
Pressure:	101.2kPa	Test Voltage :	AC120V/60Hz
Test Mode :	5.28G TX- 802.11a (5825MHz)		

Horizontal:



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	95.4269	63.72	-25.31	38.41	43.50	-5.09	QP
2	121.9753	63.12	-23.04	40.08	43.50	-3.42	QP
3	520.8881	55.89	-13.63	42.26	46.00	-3.74	QP
4	744.8659	51.01	-8.21	42.80	46.00	-3.20	QP
5	774.1584	48.61	-7.33	41.28	46.00	-4.72	QP
6	893.8564	47.14	-5.54	41.60	46.00	-4.40	QP

Vertical:



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	30.1051	59.57	-22.75	36.82	40.00	-3.18	QP
2	61.7779	58.91	-22.82	36.09	40.00	-3.91	QP
3	74.1350	60.80	-24.96	35.84	40.00	-4.16	QP
4	120.6991	62.55	-23.13	39.42	43.50	-4.08	QP
5	520.8881	56.23	-13.63	42.60	46.00	-3.40	QP
6	744.8659	50.29	-8.21	42.08	46.00	-3.92	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 802.11a mode.

Temperature:	22.9°C	Relative Humidity:	41%
Pressure:	101.2kPa	Test Voltage :	AC120V/60Hz
Test Mode :	5.2G TX- 802.11a		

Polar (H/V)	Frequency	Meter Reading	Pre- amplifier	Cable Loss	Antenna Factor	Emission Level	Limits	Margin	Detect or Type
	MHz	dBuV	dB	dB	dB	dBuV/m	dBuV/m	dB	
Low Channel:5180MHz									
V	10360.00	49.23	46.20	8.27	38.50	49.80	68.20	-18.40	PK
V	10360.00	39.06	46.20	8.27	38.50	39.63	54.00	-14.37	AV
V	15540.00	44.92	46.30	10.35	38.70	47.67	74.00	-26.33	PK
V	15540.00	34.98	46.30	10.35	38.70	37.73	54.00	-16.27	AV
V	20720.00	53.35	57.40	11.93	37.80	45.68	68.20	-22.52	PK
V	20720.00	43.93	57.40	11.93	37.80	36.26	54.00	-17.74	AV
V	25900.00	50.83	56.50	13.45	39.70	47.48	68.20	-20.72	PK
V	25900.00	41.98	56.50	13.45	39.70	38.63	54.00	-15.37	AV
V	31080.00	49.41	56.10	16.12	41.60	51.03	68.20	-17.17	PK
V	31080.00	41.89	56.10	16.12	41.60	43.51	54.00	-10.49	AV
V	36260.00	46.56	56.80	18.29	42.80	50.85	68.20	-17.35	PK
V	36260.00	39.58	56.80	18.29	42.80	43.87	54.00	-10.13	AV
H	10360.00	48.10	46.20	8.27	38.50	48.67	68.20	-19.53	PK
H	10360.00	36.87	46.20	8.27	38.50	37.44	54.00	-16.56	AV
H	15540.00	43.96	46.30	10.35	38.70	46.71	74.00	-27.29	PK
H	15540.00	33.16	46.30	10.35	38.70	35.91	54.00	-18.09	AV
H	20720.00	55.70	57.40	11.93	37.80	48.03	68.20	-20.17	PK
H	20720.00	44.93	57.40	11.93	37.80	37.26	54.00	-16.74	AV
H	25900.00	52.30	56.50	13.45	39.70	48.95	68.20	-19.25	PK
H	25900.00	42.00	56.50	13.45	39.70	38.65	54.00	-15.35	AV
H	31080.00	49.50	56.10	16.12	41.60	51.12	68.20	-17.08	PK
H	31080.00	41.83	56.10	16.12	41.60	43.45	54.00	-10.55	AV
H	36260.00	45.54	56.80	18.29	42.80	49.83	68.20	-18.37	PK
H	36260.00	40.42	56.80	18.29	42.80	44.71	54.00	-9.29	AV

Polar (H/V)	Frequency (MHz)	Meter Reading (dBuV)	Pre- amplifier (dB)	Cable Loss (dB)	Antenna Factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Detect or Type
Middle Channel:5200MHz									
V	10400.00	46.72	46.20	8.27	38.50	47.29	68.20	-20.91	PK
V	10400.00	37.76	46.20	8.27	38.50	38.33	54.00	-15.67	AV
V	15600.00	44.81	46.30	10.35	38.40	47.26	74.00	-26.74	PK
V	15600.00	36.77	46.30	10.35	38.40	39.22	54.00	-14.78	AV
V	20800.00	54.62	57.40	11.93	37.80	46.95	68.20	-21.25	PK
V	20800.00	45.28	57.40	11.93	37.80	37.61	54.00	-16.39	AV
V	26000.00	50.40	56.50	13.45	39.80	47.15	68.20	-21.05	PK
V	26000.00	42.39	56.50	13.45	39.80	39.14	54.00	-14.86	AV
V	31200.00	49.48	56.10	16.12	41.60	51.10	68.20	-17.10	PK
V	31200.00	42.85	56.10	16.12	41.60	44.47	54.00	-9.53	AV
V	36400.00	45.87	56.80	18.29	42.80	50.16	68.20	-18.04	PK
V	36400.00	39.39	56.80	18.29	42.80	43.68	54.00	-10.32	AV
H	10400.00	47.31	46.20	8.27	38.50	47.88	68.20	-20.32	PK
H	10400.00	38.32	46.20	8.27	38.50	38.89	54.00	-15.11	AV
H	15600.00	45.19	46.30	10.35	38.40	47.64	74.00	-26.36	PK
H	15600.00	36.85	46.30	10.35	38.40	39.30	54.00	-14.70	AV
H	20800.00	53.28	57.40	11.93	37.80	45.61	68.20	-22.59	PK
H	20800.00	43.02	57.40	11.93	37.80	35.35	54.00	-18.65	AV
H	26000.00	49.80	56.50	13.45	39.80	46.55	68.20	-21.65	PK
H	26000.00	41.49	56.50	13.45	39.80	38.24	54.00	-15.76	AV
H	31200.00	48.72	56.10	16.12	41.60	50.34	68.20	-17.86	PK
H	31200.00	41.68	56.10	16.12	41.60	43.30	54.00	-10.70	AV
H	36400.00	46.00	56.80	18.29	42.80	50.29	68.20	-17.91	PK
H	36400.00	40.22	56.80	18.29	42.80	44.51	54.00	-9.49	AV

Polar (H/V)	Frequency (MHz)	Meter Reading (dBuV)	Pre- amplifier (dB)	Cable Loss (dB)	Antenna Factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Detect or Type
High Channel:5240MHz									
V	10480.00	43.83	46.20	8.27	38.60	44.50	68.20	-23.70	PK
V	10480.00	34.12	46.20	8.27	38.60	34.79	54.00	-19.21	AV
V	15720.00	42.25	46.30	10.35	38.40	44.70	74.00	-29.30	PK
V	15720.00	31.86	46.30	10.35	38.40	34.31	54.00	-19.69	AV
V	20960.00	51.02	57.40	11.93	37.50	43.05	68.20	-25.15	PK
V	20960.00	42.87	57.40	11.93	37.50	34.90	54.00	-19.10	AV
V	26200.00	47.24	56.50	13.45	40.10	44.29	68.20	-23.91	PK
V	26200.00	37.97	56.50	13.45	40.10	35.02	54.00	-18.98	AV
V	31440.00	49.44	56.10	16.12	41.30	50.76	68.20	-17.44	PK
V	31440.00	42.55	56.10	16.12	41.30	43.87	54.00	-10.13	AV
V	36680.00	44.76	56.80	18.29	43.10	49.35	68.20	-18.85	PK
V	36680.00	39.37	56.80	18.29	43.10	43.96	54.00	-10.04	AV
H	10480.00	43.67	46.20	8.27	38.60	44.34	68.20	-23.86	PK
H	10480.00	34.18	46.20	8.27	38.60	34.85	54.00	-19.15	AV
H	15720.00	41.89	46.30	10.35	38.40	44.34	74.00	-29.66	PK
H	15720.00	31.93	46.30	10.35	38.40	34.38	54.00	-19.62	AV
H	20960.00	51.46	57.40	11.93	37.50	43.49	68.20	-24.71	PK
H	20960.00	42.44	57.40	11.93	37.50	34.47	54.00	-19.53	AV
H	26200.00	46.45	56.50	13.45	40.10	43.50	68.20	-24.70	PK
H	26200.00	37.04	56.50	13.45	40.10	34.09	54.00	-19.91	AV
H	31440.00	48.68	56.10	16.12	41.30	50.00	68.20	-18.20	PK
H	31440.00	42.81	56.10	16.12	41.30	44.13	54.00	-9.87	AV
H	36680.00	45.83	56.80	18.29	43.10	50.42	68.20	-17.78	PK
H	36680.00	40.13	56.80	18.29	43.10	44.72	54.00	-9.28	AV

Remark:

1. Emission Level = Meter Reading + 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:	22.9°C	Relative Humidity:	41%
Pressure:	101.2kPa	Test Voltage :	AC120V/60Hz
Test Mode :	5.8G TX- 802.11a		

Polar (H/V)	Frequency (MHz)	Meter Reading (dBuV)	Pre- amplifier (dB)	Cable Loss (dB)	Antenn Factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Detect or Typ
Low Channel:5745MHz									
V	11490.00	47.70	46.10	8.77	39.10	49.47	74.00	-24.53	PK
V	11490.00	35.61	46.10	8.77	39.10	37.38	54.00	-16.62	AV
V	17235.00	41.91	47.60	11.10	38.70	44.11	68.20	-24.09	PK
V	17235.00	34.29	47.60	11.10	38.70	36.49	54.00	-17.51	AV
V	22980.00	55.20	56.90	12.73	37.70	48.73	74.00	-25.27	PK
V	22980.00	42.17	56.90	12.73	37.70	35.70	54.00	-18.30	AV
V	28725.00	48.79	55.60	14.25	40.30	47.74	68.20	-20.46	PK
V	28725.00	42.15	55.60	14.25	40.30	41.10	54.00	-12.90	AV
V	34470.00	48.45	55.90	17.26	42.10	51.91	68.20	-16.29	PK
V	34470.00	40.60	55.90	17.26	42.10	44.06	54.00	-9.94	AV
H	11490.00	46.43	46.10	8.77	39.10	48.20	74.00	-25.80	PK
H	11490.00	35.30	46.10	8.77	39.10	37.07	54.00	-16.93	AV
H	17235.00	40.96	47.60	11.10	38.70	43.16	68.20	-25.04	PK
H	17235.00	34.57	47.60	11.10	38.70	36.77	54.00	-17.23	AV
H	22980.00	56.82	56.90	12.73	37.70	50.35	74.00	-23.65	PK
H	22980.00	47.18	56.90	12.73	37.70	40.71	54.00	-13.30	AV
H	28725.00	48.03	55.60	14.25	40.30	46.98	68.20	-21.22	PK
H	28725.00	42.51	55.60	14.25	40.30	41.46	54.00	-12.54	AV
H	34470.00	47.63	55.90	17.26	42.10	51.09	68.20	-17.11	PK
H	34470.00	40.83	55.90	17.26	42.10	44.29	54.00	-9.71	AV

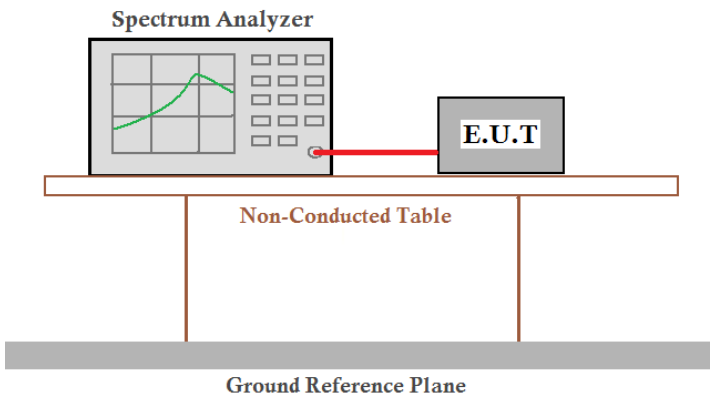
Polar (H/V)	Frequency (MHz)	Meter Reading (dBuV)	Pre- amplifier (dB)	Cable Loss (dB)	Antenna Factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Detect or Type
Middle Channel:5785MHz									
V	11570.00	47.14	46.10	8.77	39.10	48.91	74.00	-25.09	PK
V	11570.00	35.81	46.10	8.77	39.10	37.58	54.00	-16.42	AV
V	17355.00	41.57	47.60	11.10	38.70	43.77	68.20	-24.44	PK
V	17355.00	35.98	47.60	11.10	38.70	38.18	54.00	-15.82	AV
V	23140.00	57.08	56.90	12.73	37.70	50.61	74.00	-23.39	PK
V	23140.00	46.13	56.90	12.73	37.70	39.66	54.00	-14.34	AV
V	28925.00	45.73	55.60	14.25	40.30	44.68	68.20	-23.52	PK
V	28925.00	41.80	55.60	14.25	40.30	40.75	54.00	-13.25	AV
V	34710.00	47.21	55.90	17.26	42.40	50.97	68.20	-17.23	PK
V	34710.00	41.16	55.90	17.26	42.40	44.92	54.00	-9.08	AV
H	11570.00	47.74	46.10	8.77	39.10	49.51	74.00	-24.49	PK
H	11570.00	36.69	46.10	8.77	39.10	38.46	54.00	-15.54	AV
H	17355.00	42.48	47.60	11.10	38.70	44.68	68.20	-23.52	PK
H	17355.00	35.73	47.60	11.10	38.70	37.93	54.00	-16.07	AV
H	23140.00	58.33	56.90	12.73	37.70	51.86	74.00	-22.14	PK
H	23140.00	46.97	56.90	12.73	37.70	40.50	54.00	-13.50	AV
H	28925.00	47.82	55.60	14.25	40.30	46.77	68.20	-21.43	PK
H	28925.00	41.45	55.60	14.25	40.30	40.40	54.00	-13.60	AV
H	34710.00	45.68	55.90	17.26	42.40	49.44	68.20	-18.76	PK
H	34710.00	41.07	55.90	17.26	42.40	44.83	54.00	-9.17	AV

Polar (H/V)	Frequency	Meter Reading	Pre- amplifier	Cable Loss	Antenna Factor	Emission Level	Limits	Margin	Detect or Type
	(MHz)	(dBuV)	(dB)	(dB)	(dB)	(dBuV/m)	(dBuV/m)	(dB)	
High Channel:5825MHz									
V	11650.00	47.40	46.10	8.77	39.10	49.17	74.00	-24.83	PK
V	11650.00	35.61	46.10	8.77	39.10	37.38	54.00	-16.62	AV
V	17475.00	42.33	47.90	11.23	38.90	44.56	68.20	-23.64	PK
V	17475.00	37.36	47.90	11.23	38.90	39.59	54.00	-14.41	AV
V	23300.00	51.35	57.10	12.73	37.80	44.78	68.20	-23.42	PK
V	23300.00	46.22	57.10	12.73	37.80	39.65	54.00	-14.35	AV
V	29125.00	47.44	55.80	14.25	40.50	46.39	68.20	-21.81	PK
V	29125.00	42.67	55.80	14.25	40.50	41.62	54.00	-12.38	AV
V	34950.00	46.46	56.30	17.91	42.50	50.57	68.20	-17.63	PK
V	34950.00	40.80	56.30	17.91	42.50	44.91	54.00	-9.09	AV
H	11650.00	48.03	46.10	8.77	39.10	49.80	74.00	-24.20	PK
H	11650.00	34.24	46.10	8.77	39.10	36.01	54.00	-17.99	AV
H	17475.00	42.21	47.90	11.23	38.90	44.44	68.20	-23.76	PK
H	17475.00	37.13	47.90	11.23	38.90	39.36	54.00	-14.64	AV
H	23300.00	52.64	57.10	12.73	37.80	46.07	68.20	-22.13	PK
H	23300.00	46.97	57.10	12.73	37.80	40.40	54.00	-13.60	AV
H	29125.00	48.85	55.80	14.25	40.50	47.80	68.20	-20.40	PK
H	29125.00	42.72	55.80	14.25	40.50	41.67	54.00	-12.33	AV
H	34950.00	46.18	56.30	17.91	42.50	50.29	68.20	-17.91	PK
H	34950.00	40.64	56.30	17.91	42.50	44.75	54.00	-9.25	AV

Remark:

1. Emission Level = Meter Reading + 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.

4.8.2 Conducted Emission Method

Test Requirement:	FCC Part15 C Section 15.209, Part 15E Section 15.407(b)(4)	
Test Method:	ANSI C63.10:2013	
Limit:	-27dBm/MHz	
Test setup:		
Test Instruments:	Refer to section 3.0 for details	
Test mode:	Refer to section 2.2 for details	
Test environment:	Temp.: 22.9°C	Humid.: 41%RH
Test voltage:	AC120/60Hz	
Test results:	Pass	

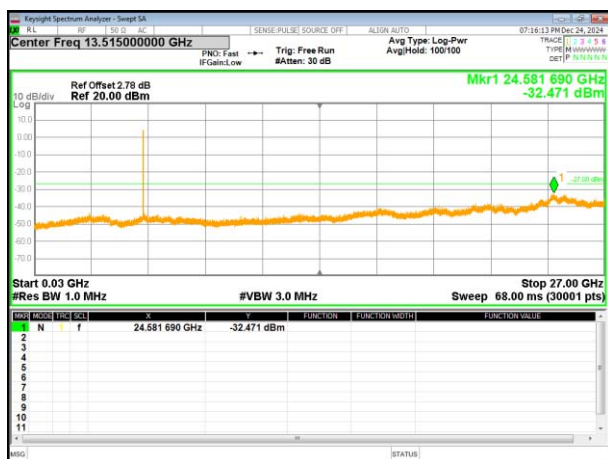
Remark:

1. Antenna gain and cable loss data included in Offset.
2. We tested 30MHz-40GHz frequency and found 27GHz-40GHz test data was very lower (close to the noise of the spectrum analyzer). The test report only showed data for 30MHz-27GHz.

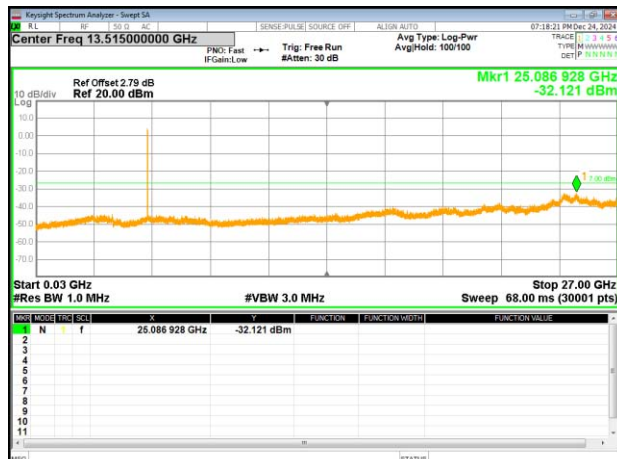
5180-5240MHz

Test Plot

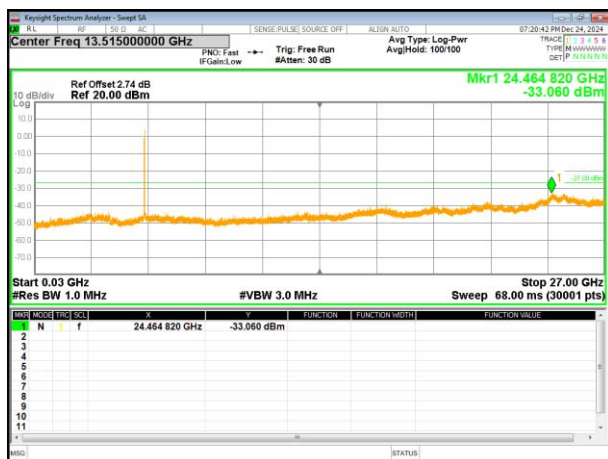
802.11a on channel 36



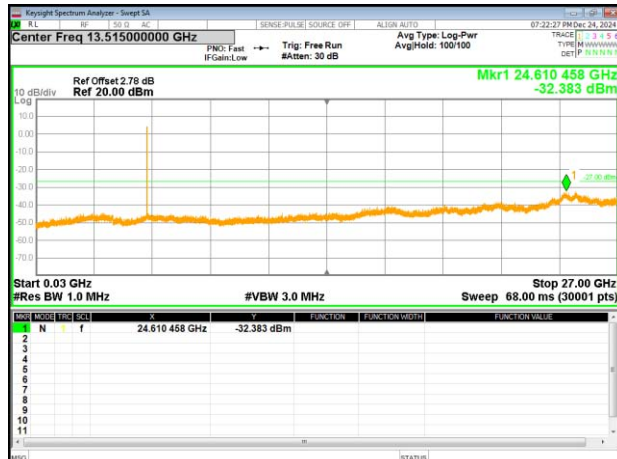
802.11a on channel 40



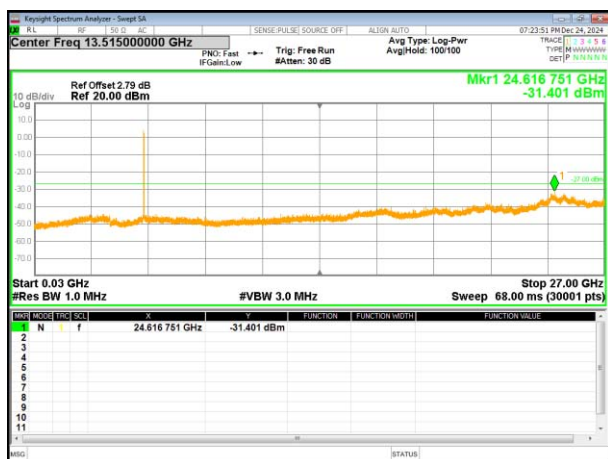
802.11a on channel 48



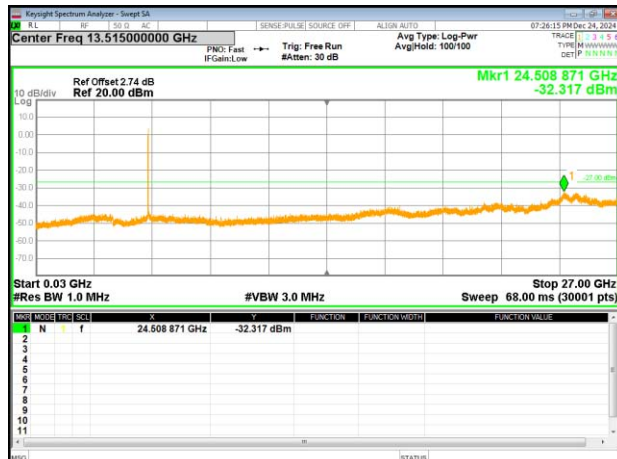
802.11n20 on channel 36



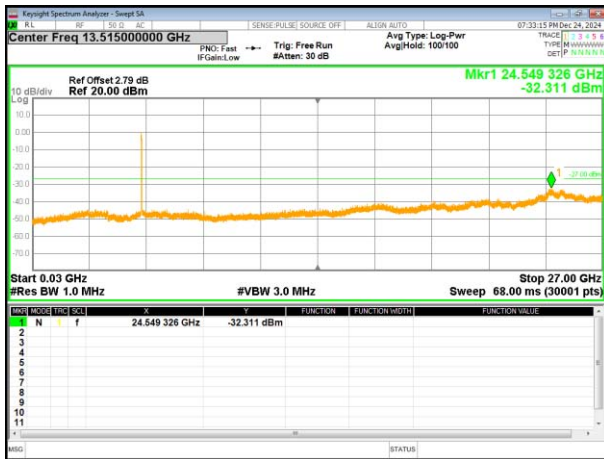
802.11n20 on channel 40



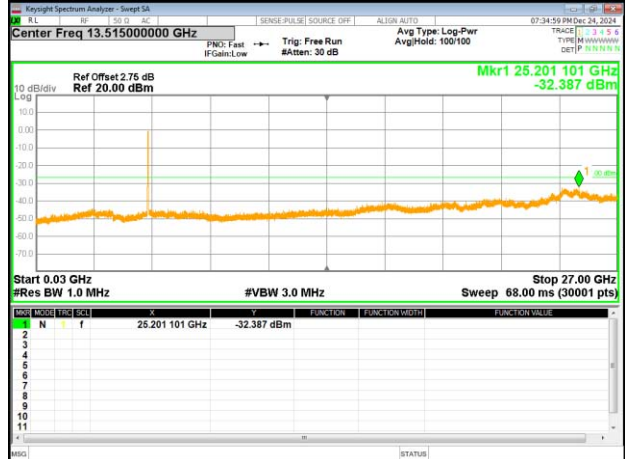
802.11n20 on channel 48



802.11n40 on channel 38



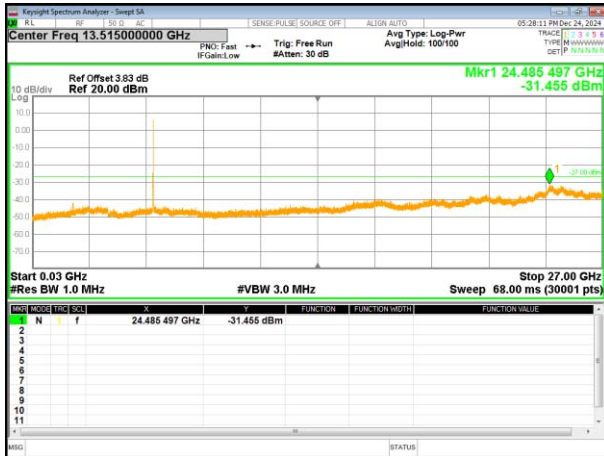
802.11n40 on channel 46



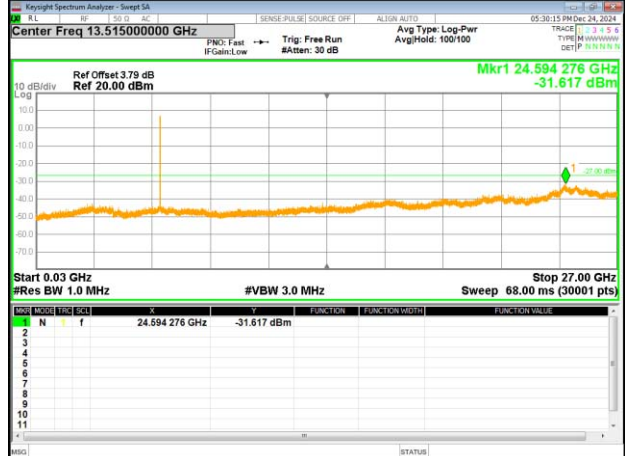
5745-5825MHz

Test Plot

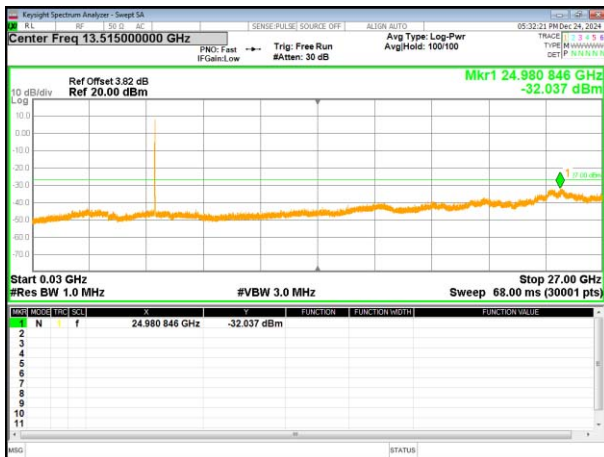
802.11a on channel 149



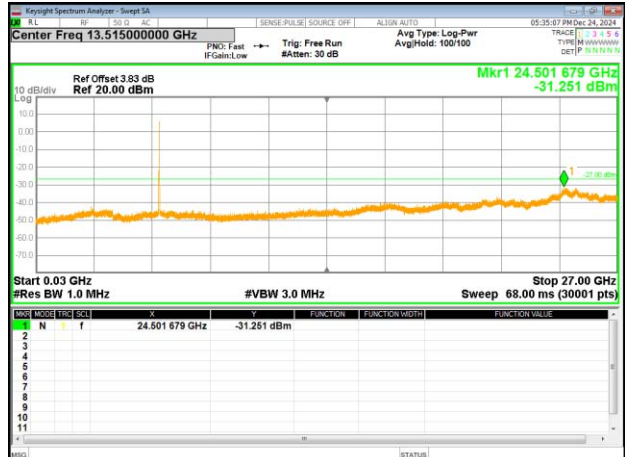
802.11a on channel 157



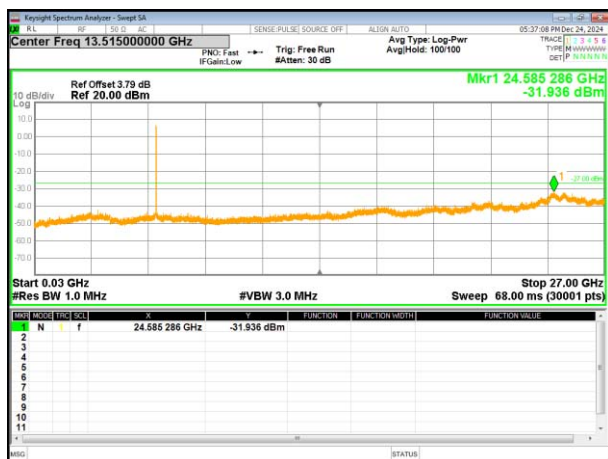
802.11a on channel 165



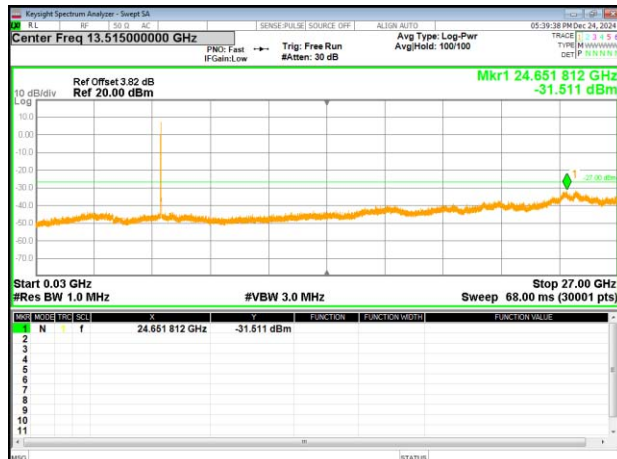
802.11n20 on channel 149



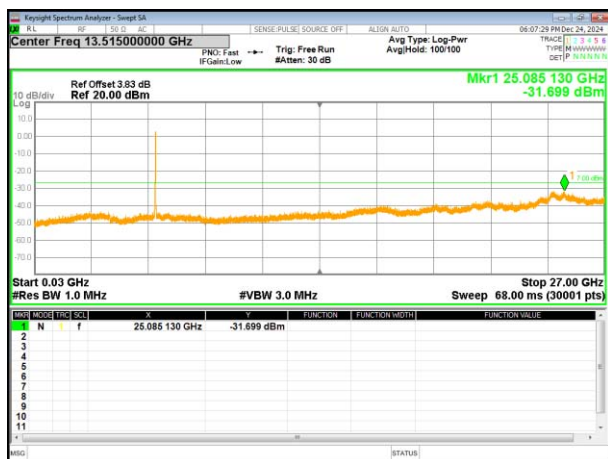
802.11n20 on channel 157



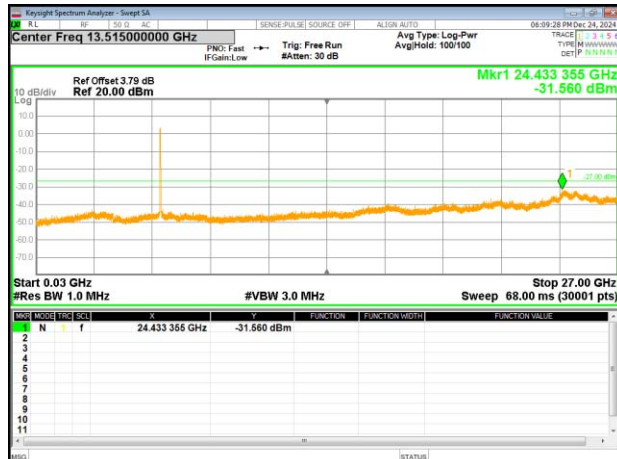
802.11n20 on channel 165



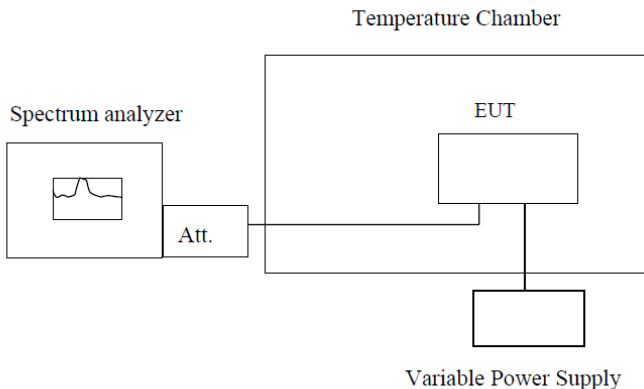
802.11n40 on channel 151



802.11n40 on channel 159



4.9 Frequency stability

Test Requirement:	FCC Part15 C Section 15.407(g)
Test Method:	ANSI C63.10:2013, FCC Part 2.1055
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:AC120V					
Temp. (°C)	Operating Frequency (MHz)	0 minute	2 minute	5 minute	10 minute
		Measured Frequency (MHz)	Measured Frequency (MHz)	Measured Frequency (MHz)	Measured Frequency (MHz)
-30	5180	5179.990	5180.063	5179.800	5179.949
	5190	5189.986	5199.937	5199.674	5189.960
	5200	5199.981	5199.962	5199.699	5199.951
	5220	5219.982	5219.955	5219.691	5219.958
	5230	5229.980	5229.948	5229.683	5229.976
	5240	5239.953	5239.956	5239.691	5239.961
-20	5180	5179.985	5179.998	5179.986	5180.006
	5190	5189.976	5180.104	5189.987	5190.005
	5200	5199.984	5199.979	5199.978	5199.999
	5220	5219.997	5219.982	5219.978	5219.999
	5230	5229.975	5229.997	5229.999	5299.997
	5240	5239.993	5239.990	5239.977	5240.001
-10	5180	5179.990	5179.948	5179.664	5179.949
	5190	5189.986	5189.943	5189.675	5189.960
	5200	5199.981	5199.938	5199.665	5199.951
	5220	5219.982	5219.939	5219.672	5219.958
	5230	5229.980	5229.937	5229.689	5229.976
	5240	5239.953	5239.910	5239.661	5239.948
0	5180	5179.767	5179.927	5179.676	5179.960
	5190	5199.939	5189.937	5189.667	5189.961
	5200	5199.937	5199.928	5199.674	5199.952
	5220	5219.981	5219.936	5219.686	5219.951
	5230	5229.968	5229.954	5229.663	5229.972
	5240	5239.985	5239.926	5239.681	5239.950
10	5180	5179.969	5179.939	5179.685	5179.961
	5190	5189.980	5189.929	5189.681	5189.952
	5200	5199.971	5199.937	5199.675	5199.960
	5220	5219.979	5219.950	5219.675	5219.972
	5230	5229.997	5229.928	5229.672	5229.950
	5240	5239.982	5239.946	5239.645	5239.968
20	5180	5179.771	5179.968	5179.987	5179.996
	5190	5199.943	5189.979	5189.978	5189.997
	5200	5199.941	5199.970	5199.986	5199.988
	5220	5219.985	5219.978	5219.999	5219.988
	5230	5229.972	5229.996	5229.977	5230.009
	5240	5239.989	5239.968	5239.995	5239.987
30	5180	5179.946	5179.979	5179.975	5180.121

	5190	5189.976	5189.980	5189.986	5199.996
	5200	5200.001	5199.971	5199.977	5200.021
	5220	5219.976	5219.971	5219.985	5220.014
	5230	5230.004	5229.992	5230.003	5230.007
	5240	5239.992	5239.970	5239.975	5240.015
40	5180	5179.771	5179.968	5179.987	5179.996
	5190	5199.943	5189.979	5189.978	5189.997
	5200	5199.941	5199.970	5199.986	5199.988
	5220	5219.985	5219.978	5219.999	5219.988
	5230	5229.972	5229.996	5229.977	5230.009
	5240	5239.989	5239.968	5239.995	5239.987
50	5180	5179.973	5179.980	5179.987	5180.006
	5190	5189.984	5189.971	5189.978	5180.006
	5200	5199.975	5199.979	5199.986	5190.002
	5220	5219.983	5219.992	5219.999	5210.003
	5230	5230.001	5229.970	5229.977	5219.998
	5240	5239.973	5239.988	5239.995	5229.996

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)
AC 102V	5180	5179.979	5179.968	5179.996	5180.002
	5190	5189.973	5189.979	5189.992	5189.988
	5200	5199.986	5199.970	5199.987	5199.989
	5220	5219.976	5219.978	5219.988	5219.997
	5230	5229.969	5229.996	5229.986	5230.007
	5240	5180.109	5179.984	5179.987	5179.985
AC 120V	5180	5199.984	5189.978	5189.978	5189.996
	5190	5200.009	5199.978	5199.986	5199.987
	5200	5209.987	5209.990	5209.978	5209.988
	5220	5229.995	5299.984	5229.977	5230.013
	5230	5240.003	5239.981	5239.995	5239.998
	5240	5180.109	5179.984	5179.987	5179.985
AC 138V	5180	5179.984	5179.980	5179.986	5179.996
	5190	5189.985	5189.971	5189.987	5189.997
	5200	5199.976	5199.979	5199.978	5199.988
	5220	5219.976	5219.992	5219.978	5219.988
	5230	5229.997	5229.970	5229.999	5230.009
	5240	5239.975	5239.988	5239.977	5239.987

Frequency stability versus Temp.					
Power Supply: AC120V					
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	5744.966	5744.971	5744.978	5744.983
	5755	5754.982	5754.978	5754.995	5755.008
	5785	5784.984	5784.962	5784.978	5784.998
	5795	5794.995	5794.969	5794.996	5794.996
	5825	5824.976	5824.898	5824.993	5825.006
-20	5745	5744.966	5744.982	5744.973	5744.999
	5755	5754.982	5754.984	5754.998	5755.013
	5785	5784.984	5784.979	5784.988	5784.985
	5795	5794.991	5794.970	5794.986	5794.979
	5825	5824.976	5824.979	5824.996	5825.013
-10	5745	5744.987	5744.995	5744.989	5744.988
	5755	5755.001	5754.968	5755.003	5755.007
	5785	5784.973	5784.991	5784.975	5785.014
	5795	5794.967	5794.982	5794.969	5795.006
	5825	5825.001	5824.997	5825.003	5825.015
0	5745	5744.970	5744.971	5744.979	5744.988
	5755	5754.980	5754.978	5754.986	5754.977
	5785	5784.977	5784.962	5784.979	5784.995
	5795	5794.973	5794.969	5794.975	5795.013
	5825	5824.971	5824.898	5824.978	5825.005
10	5745	5744.967	5744.982	5744.973	5744.999
	5755	5754.982	5754.984	5754.998	5755.013
	5785	5784.984	5784.979	5784.988	5784.985
	5795	5794.994	5794.970	5794.986	5794.979
	5825	5824.976	5824.979	5824.996	5825.013
20	5745	5744.977	5744.972	5744.989	5744.619
	5755	5755.003	5754.979	5754.991	5755.002
	5785	5784.983	5784.972	5784.986	5785.006
	5795	5794.972	5794.968	5794.977	5794.989
	5825	5824.907	5824.970	5824.986	5824.985
30	5745	5744.967	5744.982	5744.973	5744.999
	5755	5754.982	5754.984	5754.998	5755.013
	5785	5784.984	5784.979	5784.988	5784.985
	5795	5794.994	5794.970	5794.986	5794.979
	5825	5824.976	5824.979	5824.996	5825.013
40	5745	5744.977	5744.972	5744.989	5744.619
	5755	5755.003	5754.979	5754.991	5755.002
	5785	5784.983	5784.972	5784.986	5785.006
	5795	5794.995	5794.969	5794.996	5794.996
	5825	5824.976	5824.898	5824.993	5825.006
50	5745	5744.970	5744.971	5744.979	5744.988
	5755	5754.980	5754.978	5754.986	5754.977
	5785	5784.977	5784.962	5784.979	5784.995
	5795	5794.973	5794.969	5794.975	5795.013
	5825	5824.971	5824.898	5824.978	5825.005

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)
AC 108V	5745	5744.971	5744.971	5744.978	5744.984
	5755	5754.996	5754.988	5754.985	5754.996
	5785	5784.986	5784.971	5784.969	5784.989
	5795	5794.984	5794.988	5794.976	5794.985
	5825	5824.994	5824.986	5824.905	5824.988
AC 120V	5745	5744.987	5744.996	5744.987	5744.988
	5755	5755.001	5754.968	5755.003	5755.007
	5785	5784.973	5784.991	5784.975	5785.014
	5795	5794.967	5794.982	5794.969	5795.006
	5825	5825.001	5824.997	5825.003	5825.015
AC 132V	5745	5744.977	5744.982	5744.972	5745.013
	5755	5754.984	5754.984	5754.995	5754.985
	5785	5784.977	5784.979	5784.978	5785.008
	5795	5794.973	5794.970	5794.995	5794.999
	5825	5824.976	5824.979	5824.993	5825.014

5 Test Setup Photo

Reference to the **appendix I** for details.

6 EUT Constructional Details

Reference to the **appendix II** for details.

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