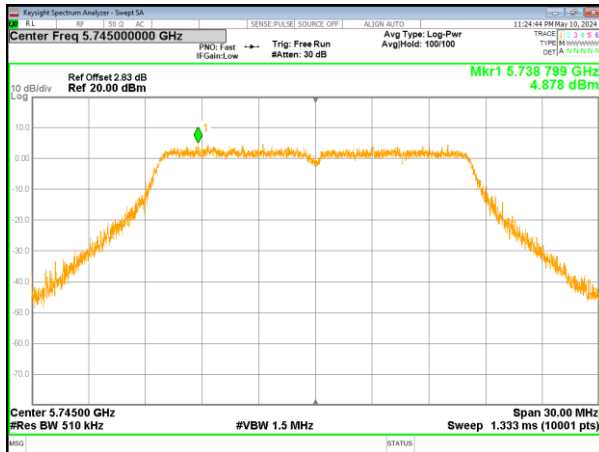
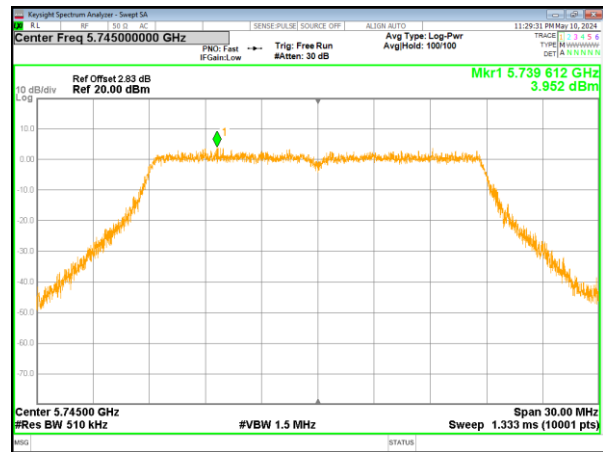


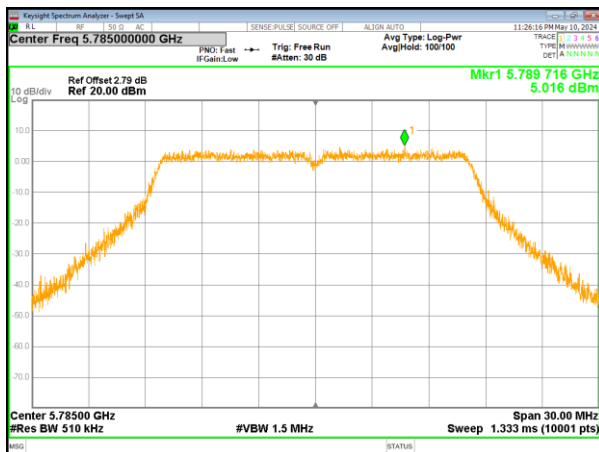
(802.11a) PSD plot on channel 149



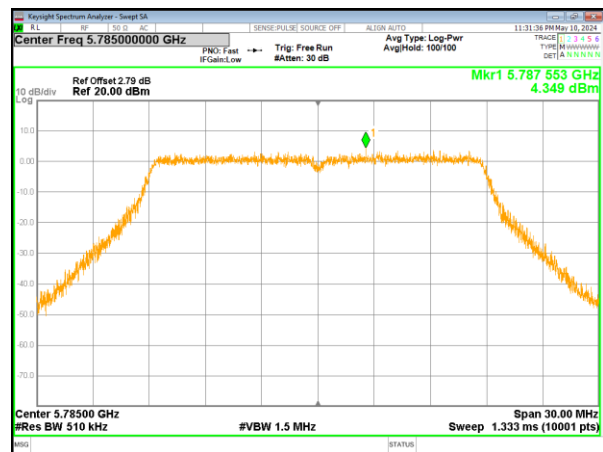
(802.11n20) PSD plot on channel 149



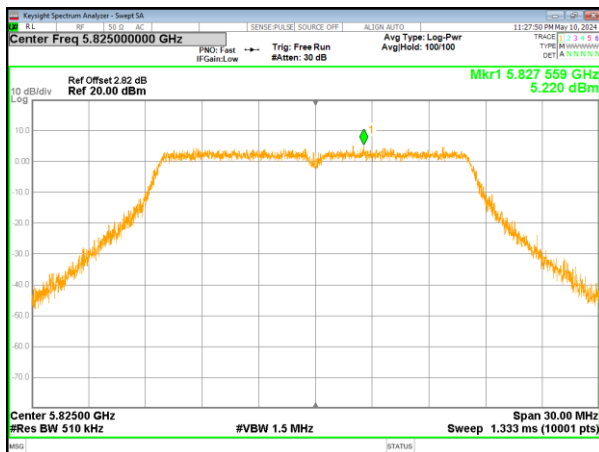
(802.11a) PSD plot on channel 157



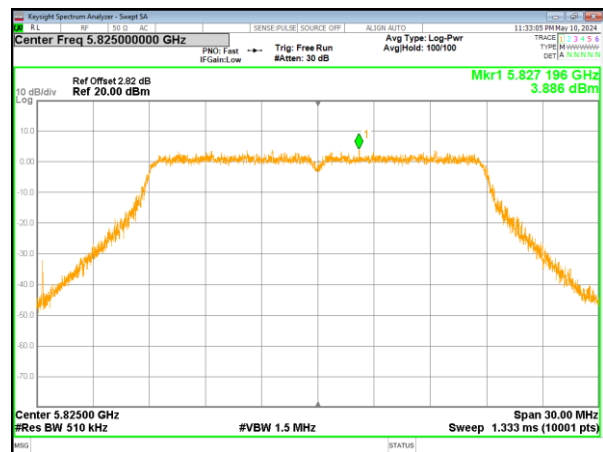
(802.11n20) PSD plot on channel 157



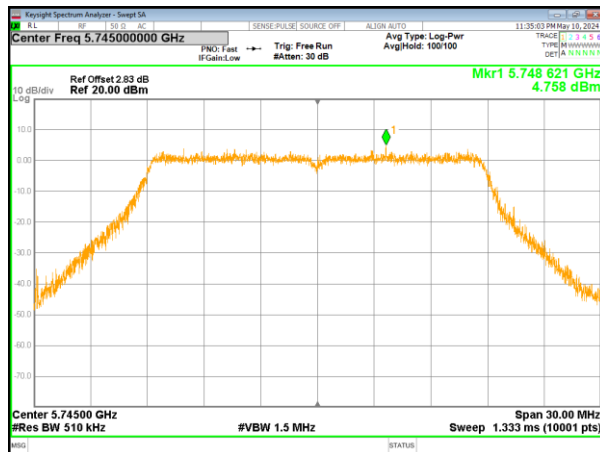
(802.11a) PSD plot on channel 165



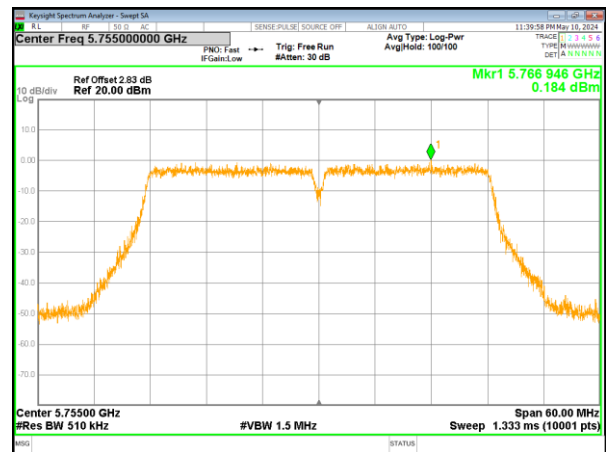
(802.11n20) PSD plot on channel 165



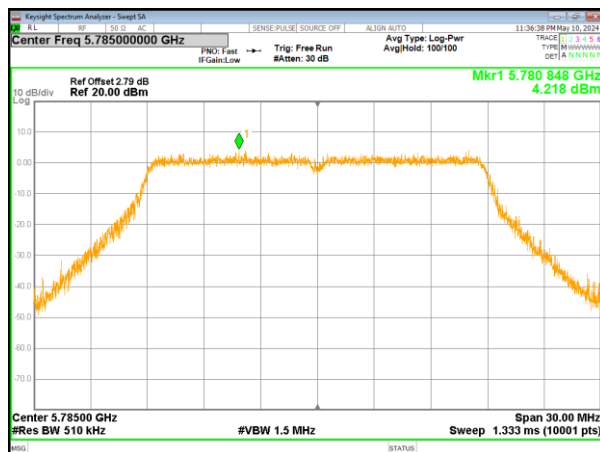
(802.11ac20) PSD plot on channel 149



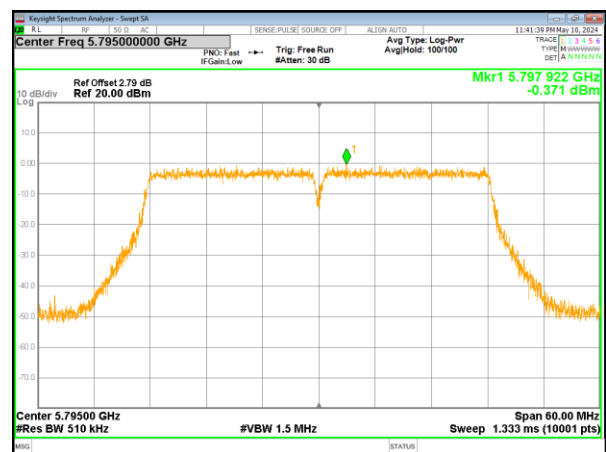
(802.11n40) PSD plot on channel 151



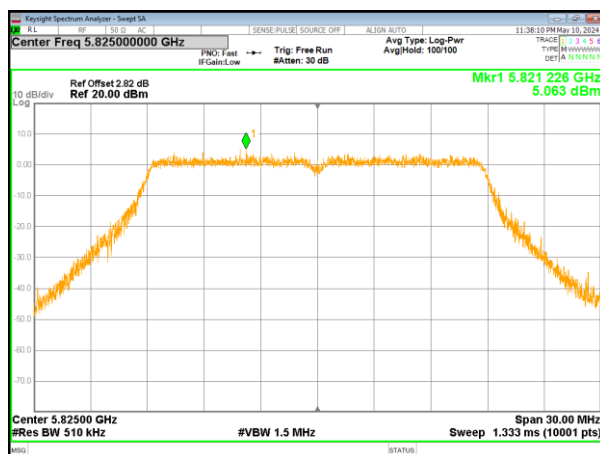
(802.11ac20) PSD plot on channel 157



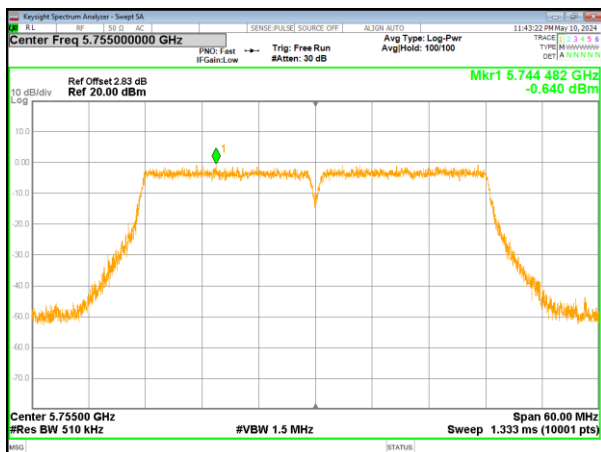
(802.11n40) PSD plot on channel 159



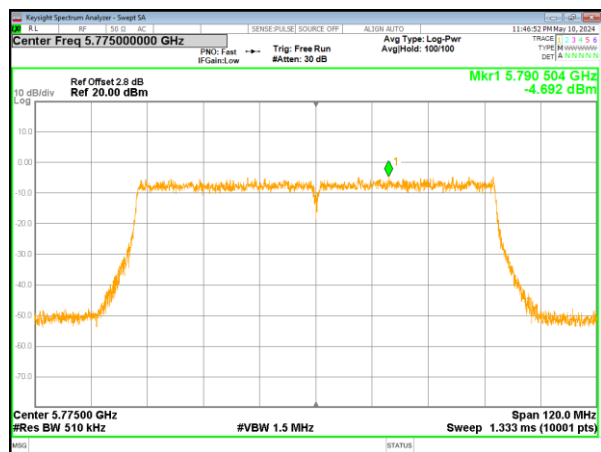
(802.11ac20) PSD plot on channel 165



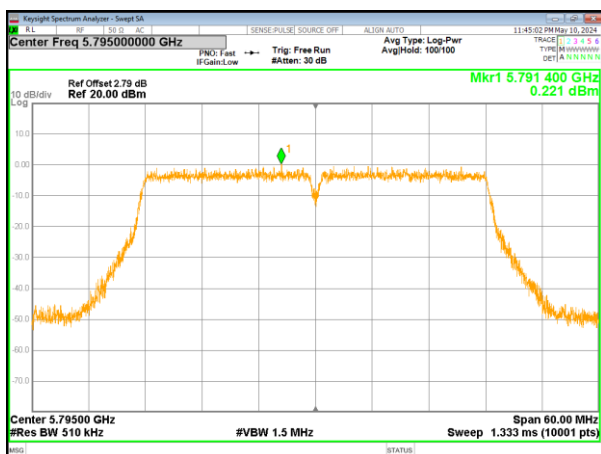
(802.11ac40) PSD plot on channel 151



(802.11ac80) PSD plot on channel 155

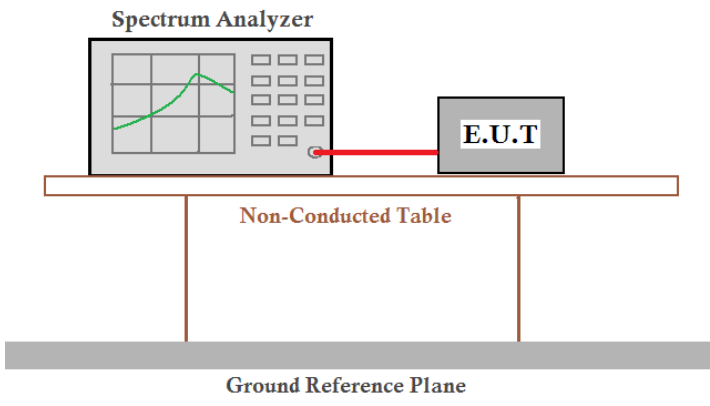


(802.11ac40) PSD plot on channel 159



4.7 Band edge

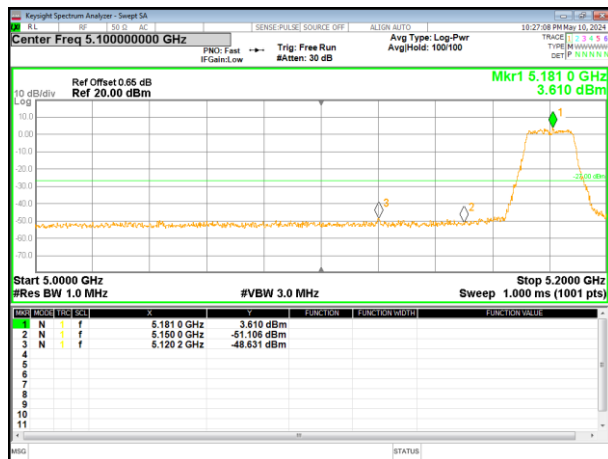
4.7.1 Conducted test Method

Test Requirement:	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.: 24.7°C	Humid.: 53%RH
Test voltage:	DC 19V	
Test results:	Pass	

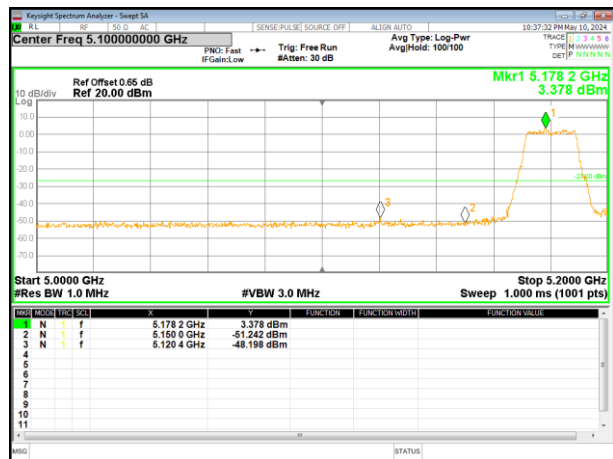
Remark: Due to the margin value of the sideband test being greater than the antenna gain value, the test meets the requirements

5.180~5.240 GHz

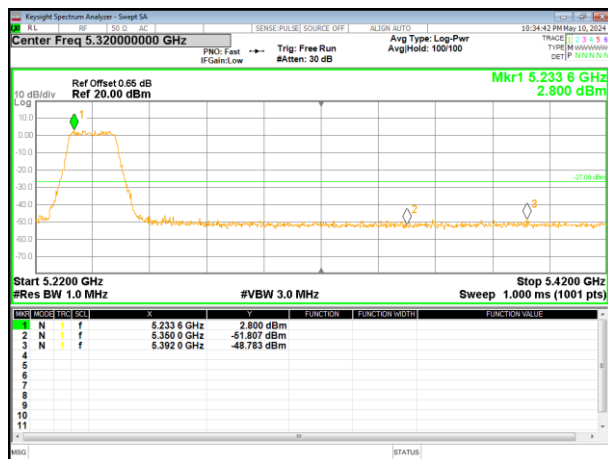
(802.11a) Band Edge, Left Side



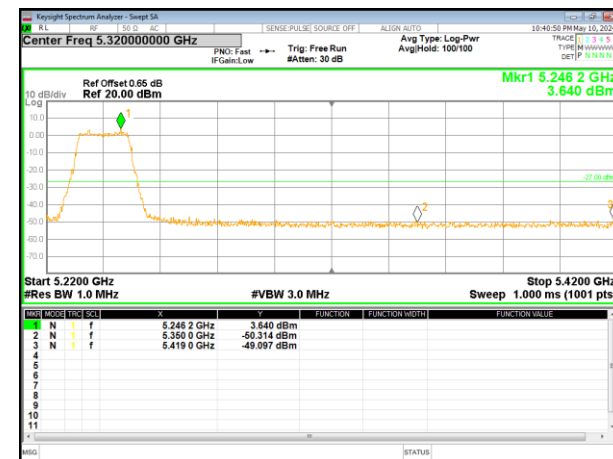
(802.11n20) Band Edge, Left Side



(802.11a) Band Edge, Right Side

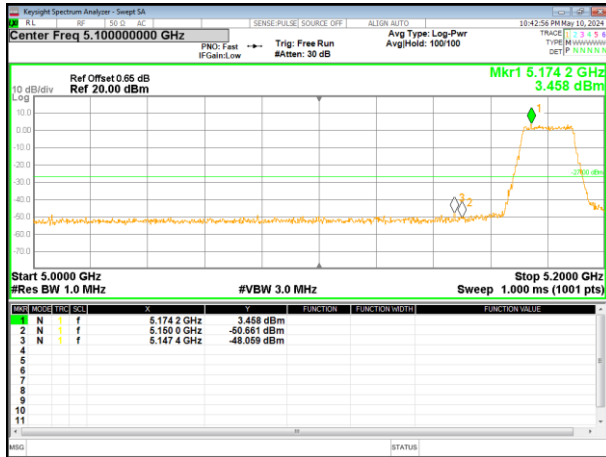


(802.11n20) Band Edge, Right Side

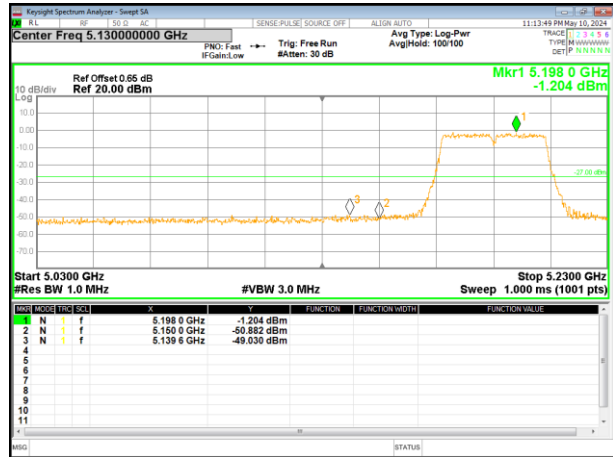


5.180~5.240 GHz

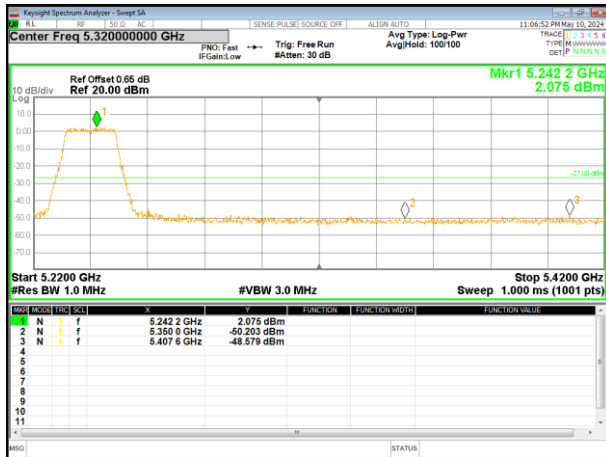
(802.11ac20) Band Edge, Left Side



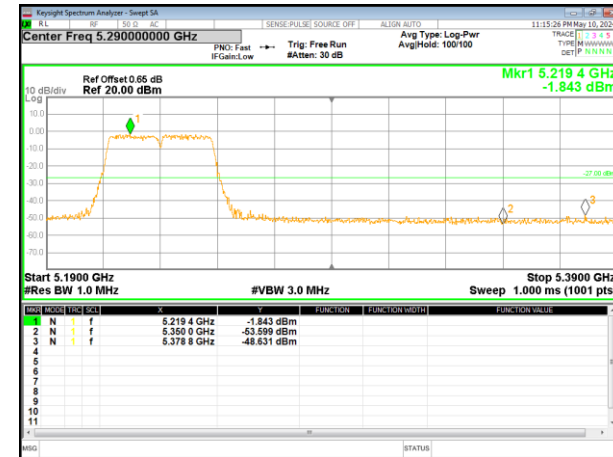
(802.11n40) Band Edge, Left Side



(802.11ac20) Band Edge, Right Side

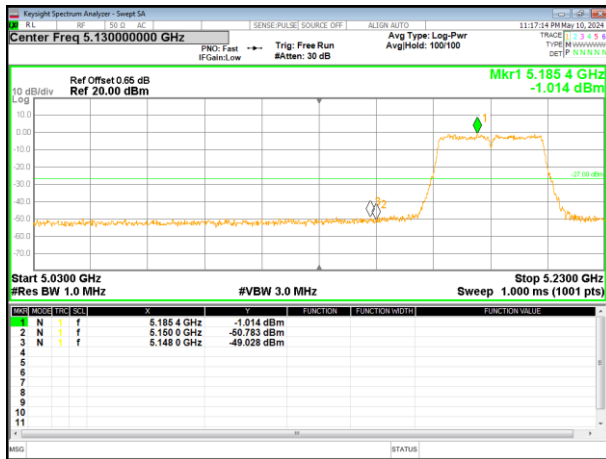


(802.11n40) Band Edge, Right Side

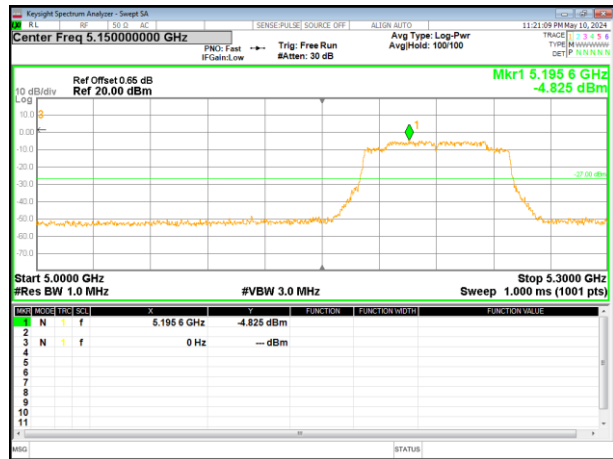


5.180~5.240 GHz

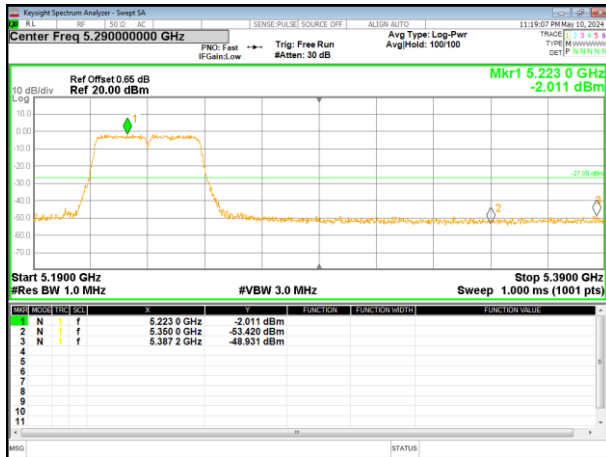
(802.11ac40) Band Edge, Left Side



(802.11ac80) Band Edge

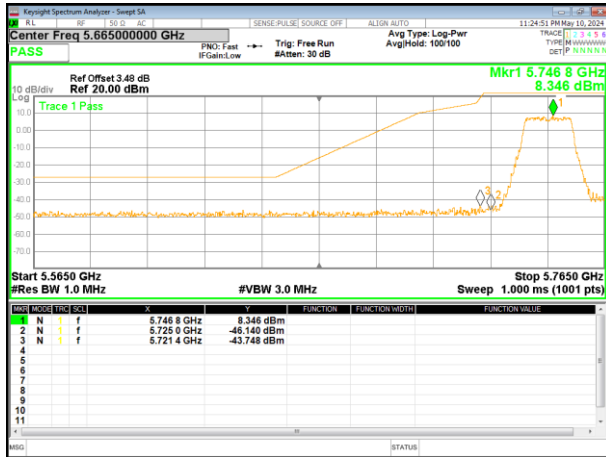


(802.11ac40) Band Edge, Right Side

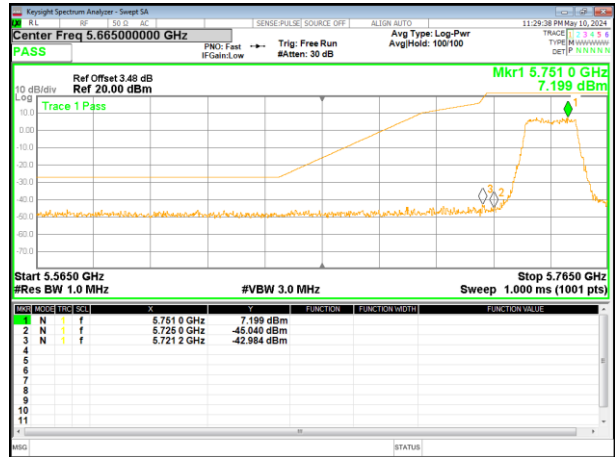


5.745~5.825 GHz

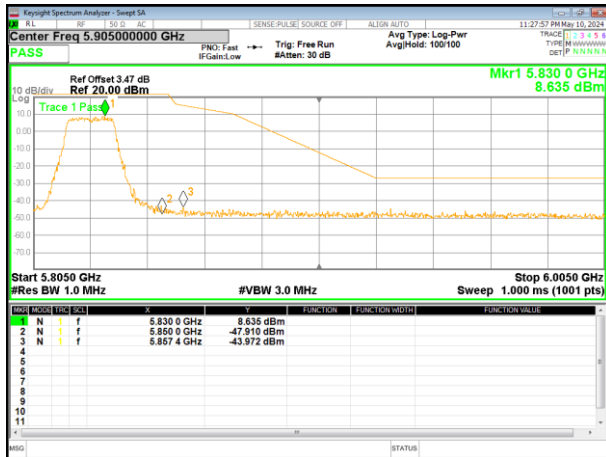
(802.11a) Band Edge, Left Side



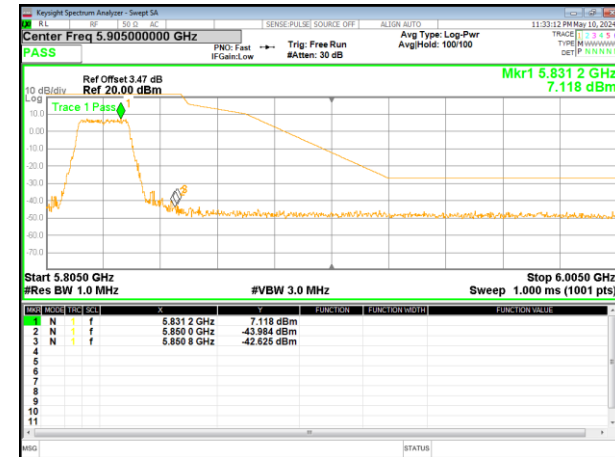
(802.11n20) Band Edge, Left Side



(802.11a) Band Edge, Right Side

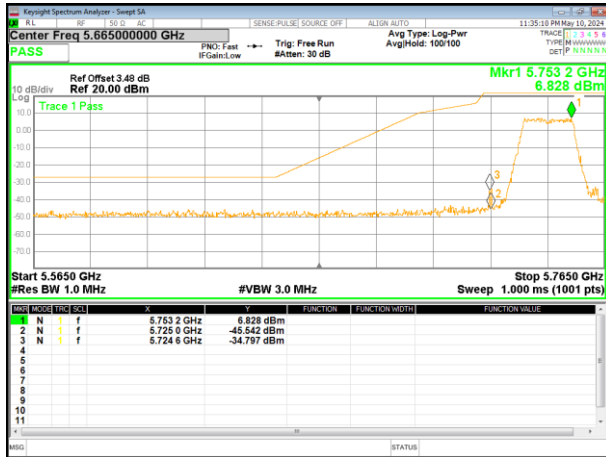


(802.11n20) Band Edge, Right Side

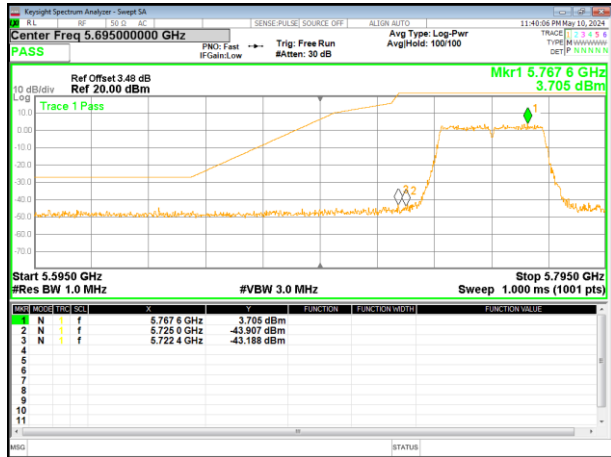


5.745~5.825 GHz

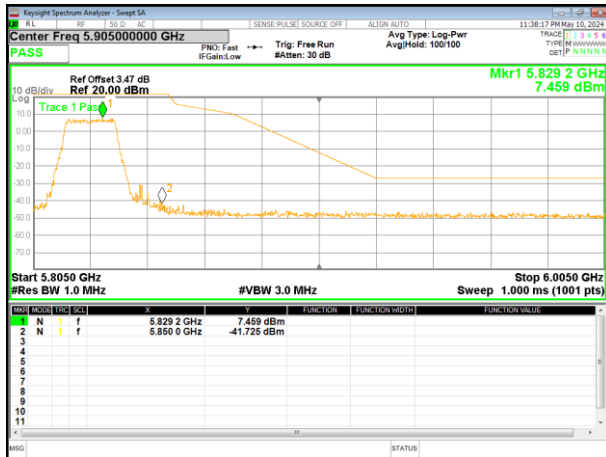
(802.11ac20) Band Edge, Left Side



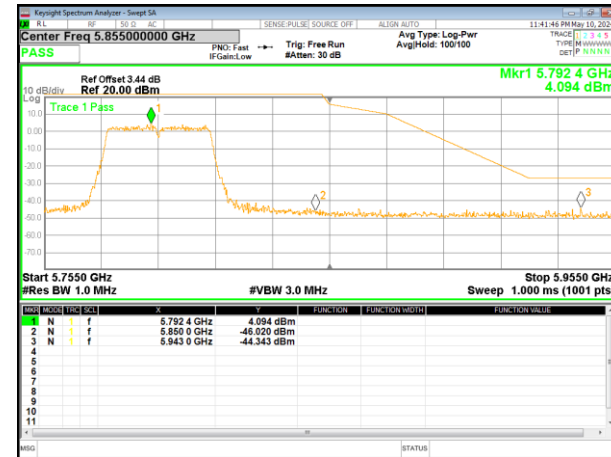
(802.11n40) Band Edge, Left Side



(802.11ac20) Band Edge, Right Side

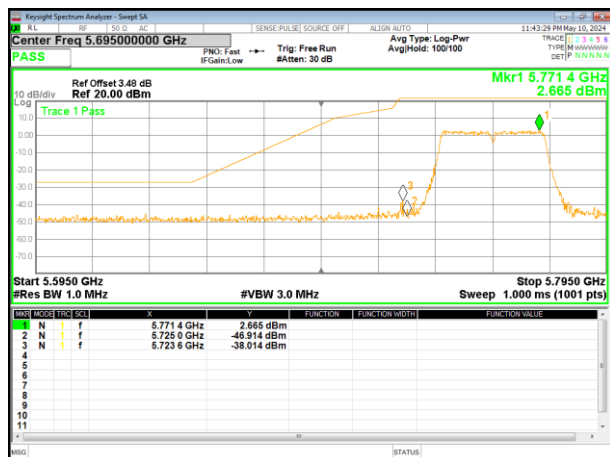


(802.11n40) Band Edge, Right Side

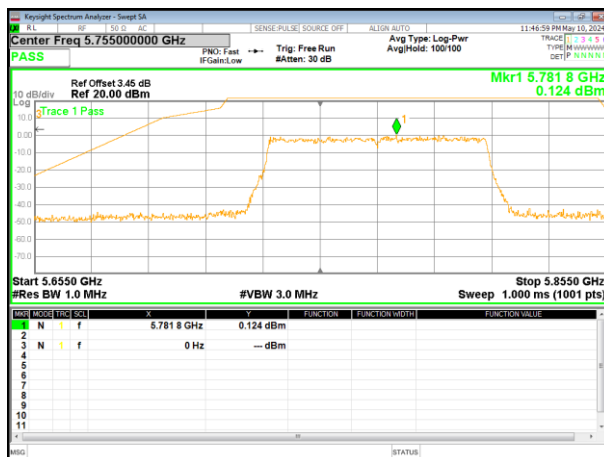


5.745~5.825 GHz

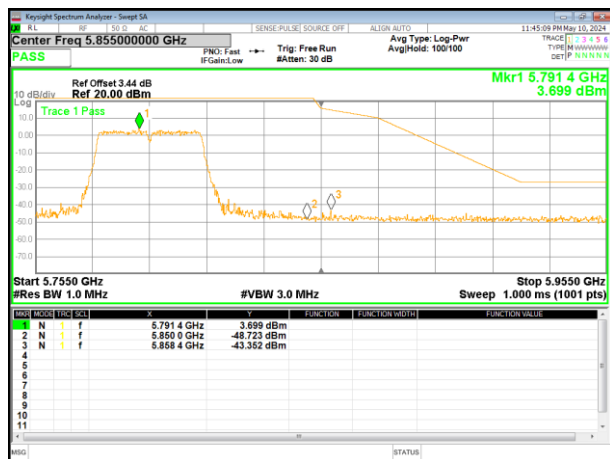
(802.11ac40) Band Edge, Left Side



(802.11ac80) Band Edge

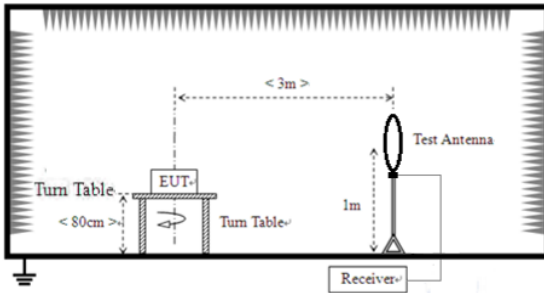
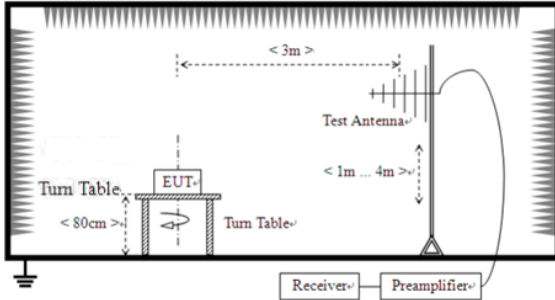


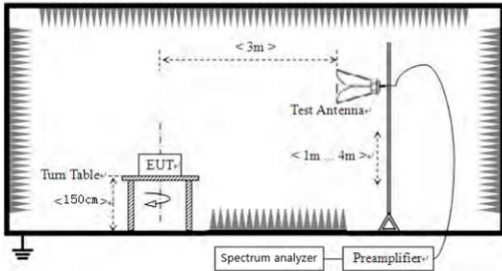
(802.11ac40) Band Edge, Right Side



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				
					
Test setup:	For radiated emissions from 30MHz to1GHz				
					

	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

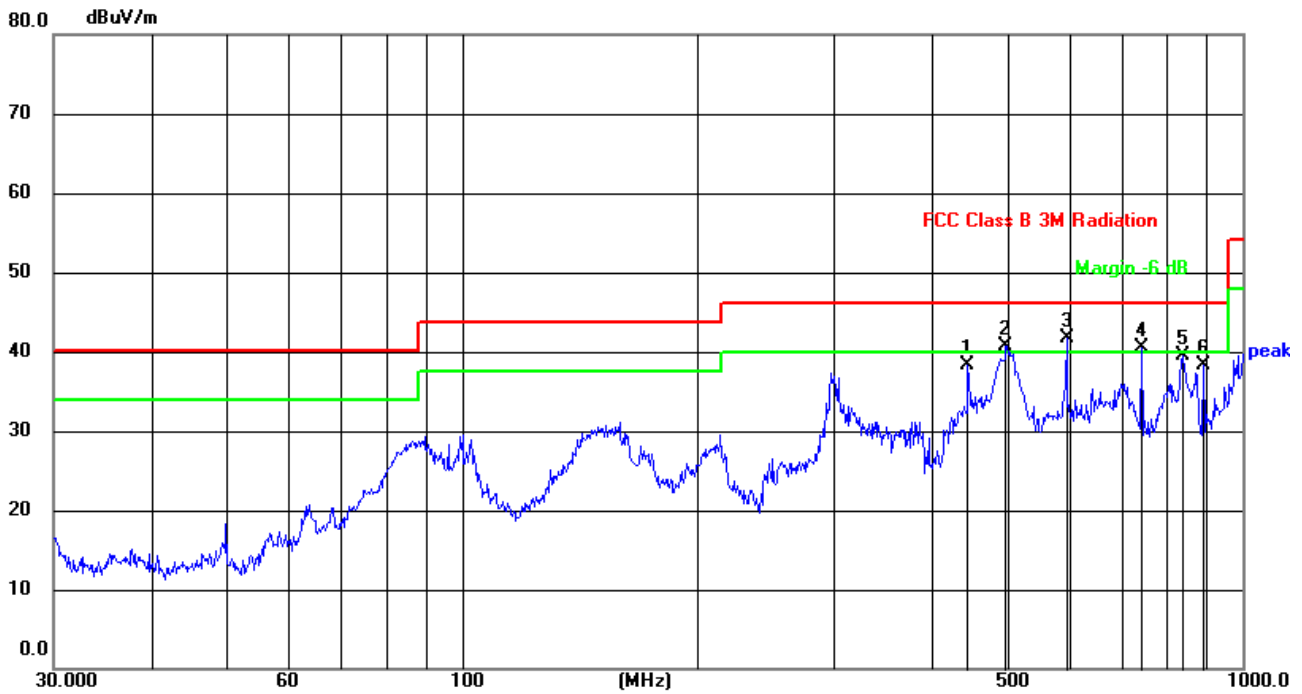
The emission from 9 kHz to 30MHz was pre-tested and found the result was 20dB lower than the limit, and according to 15.31(o) & RSS-Gen 6.13, the test result no need to reported.

Below 1GHz

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

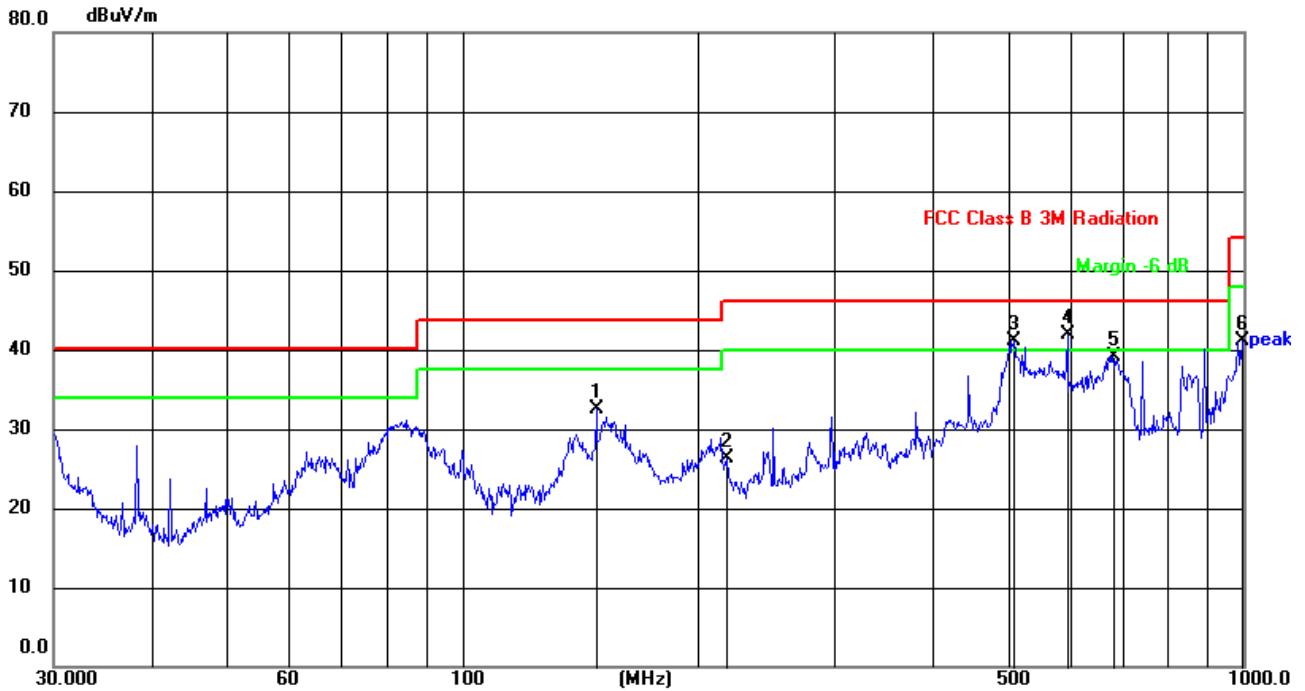
Temperature:	24.7°C	Relative Humidity:	53%
Pressure:	101.2kPa	Test Voltage :	DC 19V
Test Mode :	5.8G TX- 802.11a (5825MHz)		

Horizontal:



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	444.8514	53.93	-15.69	38.24	46.00	-7.76	QP
2	497.6764	55.02	-14.32	40.70	46.00	-5.30	QP
3	595.1326	53.52	-11.86	41.66	46.00	-4.34	QP
4	742.2586	48.84	-8.27	40.57	46.00	-5.43	QP
5	839.1816	45.88	-6.32	39.56	46.00	-6.44	QP
6	890.7277	43.86	-5.60	38.26	46.00	-7.74	QP

Vertical:



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	148.4410	53.09	-20.68	32.41	43.50	-11.09	QP
2	218.3084	49.86	-23.55	26.31	46.00	-19.69	QP
3	508.2581	55.13	-13.97	41.16	46.00	-4.84	QP
4	595.1326	53.73	-11.86	41.87	46.00	-4.13	QP
5	679.9600	48.95	-9.83	39.12	46.00	-6.88	QP
6	996.4995	44.47	-3.39	41.08	54.00	-12.92	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 802.11n20 mode

**Above 1GHz:****Remark: The test data shows only the worst case 802.11a mode.**

Temperature:	24.7°C	Relative Humidity:	53%
Pressure:	101.2kPa	Test Voltage :	DC 19V
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	51.35	46.20	8.27	38.50	51.92	68.20	-16.28	PK
V	10360.00	41.15	46.20	8.27	38.50	41.72	54.00	-12.28	AV
V	15540.00	48.39	46.30	10.35	38.70	51.14	74.00	-22.86	PK
V	15540.00	38.14	46.30	10.35	38.70	40.89	54.00	-13.11	AV
V	20720.00	57.69	57.40	11.93	37.80	50.02	68.20	-18.18	PK
V	20720.00	47.45	57.40	11.93	37.80	39.78	54.00	-14.22	AV
V	25900.00	55.28	56.50	13.45	39.70	51.93	68.20	-16.27	PK
V	25900.00	44.64	56.50	13.45	39.70	41.29	54.00	-12.71	AV
H	10360.00	51.27	46.20	8.27	38.50	51.84	68.20	-16.36	PK
H	10360.00	39.75	46.20	8.27	38.50	40.32	54.00	-13.68	AV
H	15540.00	47.39	46.30	10.35	38.70	50.14	74.00	-23.86	PK
H	15540.00	35.66	46.30	10.35	38.70	38.41	54.00	-15.59	AV
H	20720.00	59.96	57.40	11.93	37.80	52.29	68.20	-15.91	PK
H	20720.00	48.36	57.40	11.93	37.80	40.69	54.00	-13.31	AV
H	25900.00	56.33	56.50	13.45	39.70	52.98	68.20	-15.22	PK
H	25900.00	44.67	56.50	13.45	39.70	41.32	54.00	-12.68	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)	
Middle Channel:5200MHz									
V	10400.00	50.38	46.20	8.27	38.50	50.95	68.20	-17.25	PK
V	10400.00	40.90	46.20	8.27	38.50	41.47	54.00	-12.53	AV
V	15600.00	48.72	46.30	10.35	38.40	51.17	74.00	-22.83	PK
V	15600.00	39.70	46.30	10.35	38.40	42.15	54.00	-11.85	AV
V	20800.00	58.93	57.40	11.93	37.80	51.26	68.20	-16.94	PK
V	20800.00	49.00	57.40	11.93	37.80	41.33	54.00	-12.67	AV
V	26000.00	53.93	56.50	13.45	39.80	50.68	68.20	-17.52	PK
V	26000.00	45.90	56.50	13.45	39.80	42.65	54.00	-11.35	AV
H	10400.00	50.99	46.20	8.27	38.50	51.56	68.20	-16.64	PK
H	10400.00	41.17	46.20	8.27	38.50	41.74	54.00	-12.26	AV
H	15600.00	48.70	46.30	10.35	38.40	51.15	74.00	-22.85	PK
H	15600.00	39.70	46.30	10.35	38.40	42.15	54.00	-11.85	AV
H	20800.00	57.85	57.40	11.93	37.80	50.18	68.20	-18.02	PK
H	20800.00	46.85	57.40	11.93	37.80	39.18	54.00	-14.82	AV
H	26000.00	53.66	56.50	13.45	39.80	50.41	68.20	-17.79	PK
H	26000.00	45.09	56.50	13.45	39.80	41.84	54.00	-12.16	AV

<i>Polar (H/V)</i>	<i>Frequency</i>	<i>Meter Reading</i>	<i>Pre- amplifier</i>	<i>Cable Loss</i>	<i>Antenna Factor</i>	<i>Emission Level</i>	<i>Limits</i>	<i>Margin</i>	<i>Detect or Type</i>
	(MHz)	(dBuV)	(dB)	(dB)	(dB)	(dBuV/m)	(dBuV/m)	(dB)	
High Channel:5240MHz									
V	10480.00	47.12	46.20	8.27	38.60	47.79	68.20	-20.41	PK
V	10480.00	36.87	46.20	8.27	38.60	37.54	54.00	-16.46	AV
V	15720.00	44.64	46.30	10.35	38.40	47.09	74.00	-26.91	PK
V	15720.00	34.57	46.30	10.35	38.40	37.02	54.00	-16.98	AV
V	20960.00	54.96	57.40	11.93	37.50	46.99	68.20	-21.21	PK
V	20960.00	46.21	57.40	11.93	37.50	38.24	54.00	-15.76	AV
V	26200.00	50.85	56.50	13.45	40.10	47.90	68.20	-20.30	PK
V	26200.00	41.22	56.50	13.45	40.10	38.27	54.00	-15.73	AV
H	10480.00	47.36	46.20	8.27	38.60	48.03	68.20	-20.17	PK
H	10480.00	36.87	46.20	8.27	38.60	37.54	54.00	-16.46	AV
H	15720.00	44.96	46.30	10.35	38.40	47.41	74.00	-26.59	PK
H	15720.00	34.65	46.30	10.35	38.40	37.10	54.00	-16.90	AV
H	20960.00	55.17	57.40	11.93	37.50	47.20	68.20	-21.00	PK
H	20960.00	46.09	57.40	11.93	37.50	38.12	54.00	-15.88	AV
H	26200.00	50.56	56.50	13.45	40.10	47.61	68.20	-20.59	PK
H	26200.00	40.58	56.50	13.45	40.10	37.63	54.00	-16.37	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:	24.7°C	Relative Humidity:	53%
Pressure:	101.2kPa	Test Voltage :	DC 19V
Test Mode :	5.8G TX- 802.11a		

Polar (H/V)	Frequency	Meter Reading	Pre- amplifier	Cable Loss	Antenn Factor	Emission Level	Limits	Margin	Detect or Typ
	(MHz)	(dBuV)	(dB)	(dB)	(dB)	(dBuV/m)	(dBuV/m)	(dB)	
Low Channel:5745MHz									
V	11490.00	46.43	46.10	8.77	39.10	48.20	74.00	-25.80	PK
V	11490.00	38.37	46.10	8.77	39.10	40.14	54.00	-13.86	AV
V	17235.00	44.05	47.60	11.10	38.70	46.25	68.20	-21.95	PK
V	17235.00	36.83	47.60	11.10	38.70	39.03	54.00	-14.97	AV
V	22980.00	52.68	56.90	12.73	37.70	46.21	74.00	-27.79	PK
V	22980.00	44.75	56.90	12.73	37.70	38.28	54.00	-15.72	AV
V	28725.00	49.53	55.60	14.25	40.30	48.48	68.20	-19.72	PK
V	28725.00	41.11	55.60	14.25	40.30	40.06	54.00	-13.94	AV
H	11490.00	46.92	46.10	8.77	39.10	48.69	74.00	-25.31	PK
H	11490.00	38.19	46.10	8.77	39.10	39.96	54.00	-14.04	AV
H	17235.00	45.06	47.60	11.10	38.70	47.26	68.20	-20.94	PK
H	17235.00	37.22	47.60	11.10	38.70	39.42	54.00	-14.58	AV
H	22980.00	54.88	56.90	12.73	37.70	48.41	74.00	-25.59	PK
H	22980.00	44.53	56.90	12.73	37.70	38.06	54.00	-15.94	AV
H	28725.00	51.47	55.60	14.25	40.30	50.42	68.20	-17.78	PK
H	28725.00	41.73	55.60	14.25	40.30	40.68	54.00	-13.32	AV

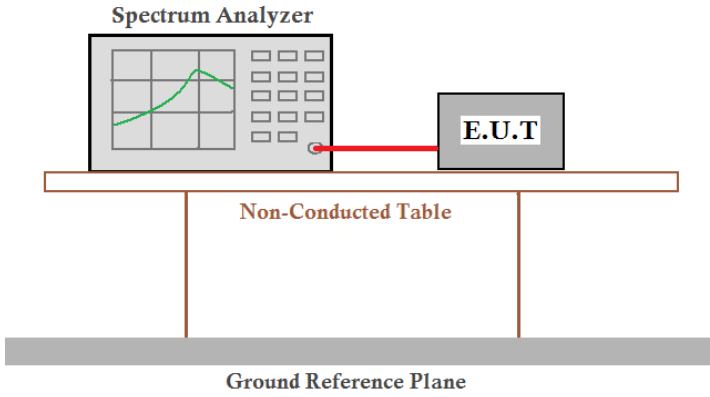
Polar (H/V)	Frequency	Meter Reading	Pre- amplifier	Cable Loss	Antenna Factor	Emission Level	Limits	Margin	Detect or Type
	(MHz)	(dBuV)	(dB)	(dB)	(dB)	(dBuV/m)	(dBuV/m)	(dB)	
Middle Channel:5785MHz									
V	11570.00	46.24	46.10	8.77	39.10	48.01	74.00	-25.99	PK
V	11570.00	38.18	46.10	8.77	39.10	39.95	54.00	-14.05	AV
V	17355.00	43.87	47.60	11.10	38.70	46.07	68.20	-22.13	PK
V	17355.00	36.61	47.60	11.10	38.70	38.81	54.00	-15.19	AV
V	23140.00	52.51	56.90	12.73	37.70	46.04	74.00	-27.96	PK
V	23140.00	44.57	56.90	12.73	37.70	38.10	54.00	-15.90	AV
V	28925.00	49.33	55.60	14.25	40.30	48.28	68.20	-19.92	PK
V	28925.00	40.91	55.60	14.25	40.30	39.86	54.00	-14.14	AV
H	11570.00	46.72	46.10	8.77	39.10	48.49	74.00	-25.51	PK
H	11570.00	37.99	46.10	8.77	39.10	39.76	54.00	-14.24	AV
H	17355.00	44.87	47.60	11.10	38.70	47.07	68.20	-21.13	PK
H	17355.00	37.04	47.60	11.10	38.70	39.24	54.00	-14.76	AV
H	23140.00	54.67	56.90	12.73	37.70	48.20	74.00	-25.80	PK
H	23140.00	44.36	56.90	12.73	37.70	37.89	54.00	-16.11	AV
H	28925.00	51.29	55.60	14.25	40.30	50.24	68.20	-17.96	PK
H	28925.00	41.54	55.60	14.25	40.30	40.49	54.00	-13.51	AV

<i>Polar (H/V)</i>	<i>Frequency</i>	<i>Meter Reading</i>	<i>Pre- amplifier</i>	<i>Cable Loss</i>	<i>Antenna Factor</i>	<i>Emission Level</i>	<i>Limits</i>	<i>Margin</i>	<i>Detect or Type</i>
	(MHz)	(dBuV)	(dB)	(dB)	(dB)	(dBuV/m)	(dBuV/m)	(dB)	
High Channel:5825MHz									
V	11650.00	47.33	46.10	8.77	39.10	49.10	74.00	-24.90	PK
V	11650.00	38.37	46.10	8.77	39.10	40.14	54.00	-13.86	AV
V	17475.00	45.21	47.90	11.23	38.90	47.44	68.20	-20.76	PK
V	17475.00	37.64	47.90	11.23	38.90	39.87	54.00	-14.13	AV
V	23300.00	54.80	57.10	12.73	37.80	48.23	68.20	-19.97	PK
V	23300.00	45.48	57.10	12.73	37.80	38.91	54.00	-15.09	AV
V	29125.00	51.56	55.80	14.25	40.50	50.51	68.20	-17.69	PK
V	29125.00	42.79	55.80	14.25	40.50	41.74	54.00	-12.26	AV
H	11650.00	49.31	46.10	8.77	39.10	51.08	74.00	-22.92	PK
H	11650.00	40.73	46.10	8.77	39.10	42.50	54.00	-11.50	AV
H	17475.00	46.42	47.90	11.23	38.90	48.65	68.20	-19.55	PK
H	17475.00	38.91	47.90	11.23	38.90	41.14	54.00	-12.86	AV
H	23300.00	56.18	57.10	12.73	37.80	49.61	68.20	-18.59	PK
H	23300.00	46.94	57.10	12.73	37.80	40.37	54.00	-13.63	AV
H	29125.00	52.61	55.80	14.25	40.50	51.56	68.20	-16.64	PK
H	29125.00	43.50	55.80	14.25	40.50	42.45	54.00	-11.55	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:	 The diagram illustrates the test setup for conducted emissions. A Spectrum Analyzer is connected to an Equipment Under Test (E.U.T.) via a red cable. Both the Spectrum Analyzer and the E.U.T. are placed on a Non-Conducted Table. The table is supported by 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.: 24.7°C	Humid.:43%RH
Test voltage:	DC 19V	
Test results:	Pass	

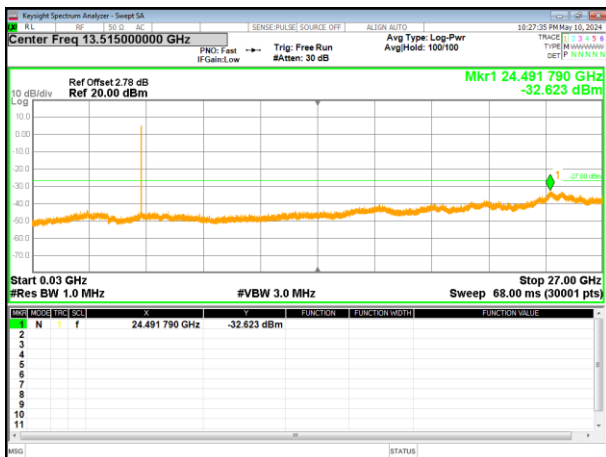
Remark:1. Antenna gain and cable loss data included in Offset.



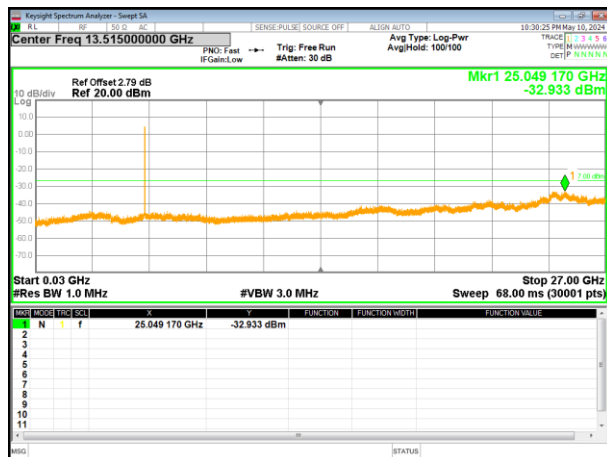
5180-5240MHz

Test Plot

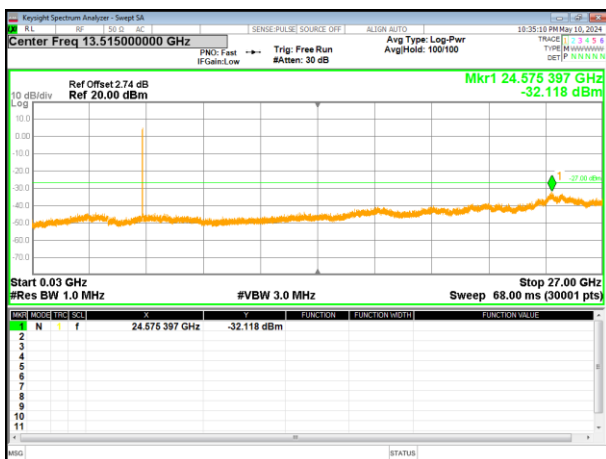
802.11a on channel 36



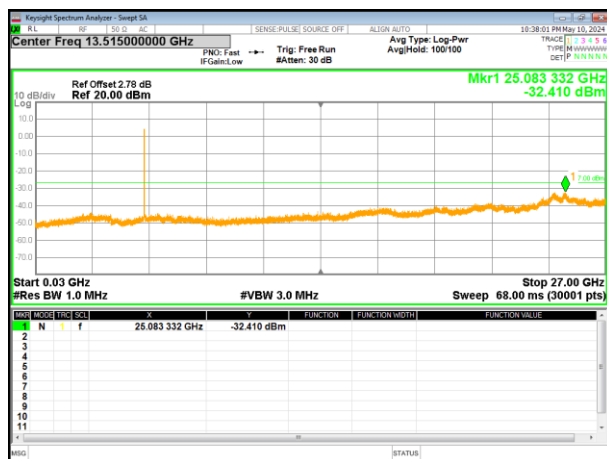
802.11a on channel 40



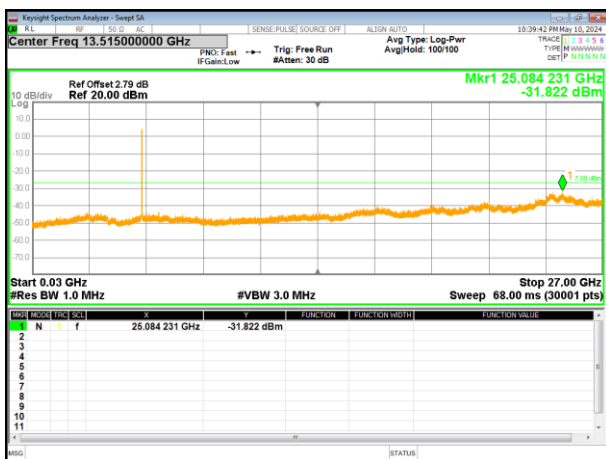
802.11a on channel 48



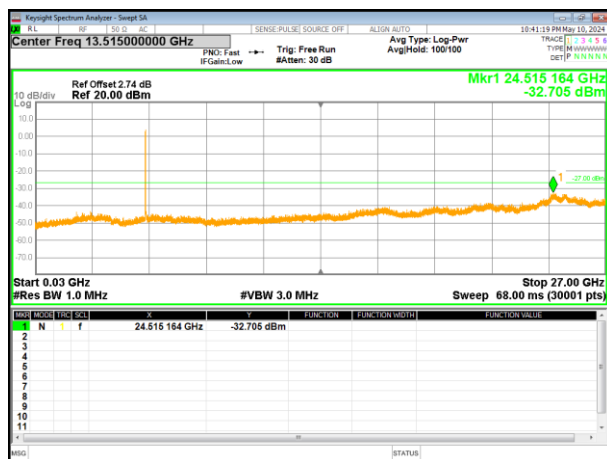
802.11n20 on channel 36



802.11n20 on channel 40

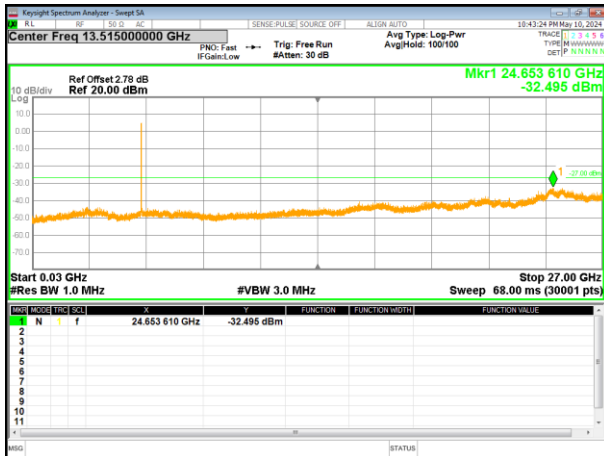


802.11n20 on channel 48

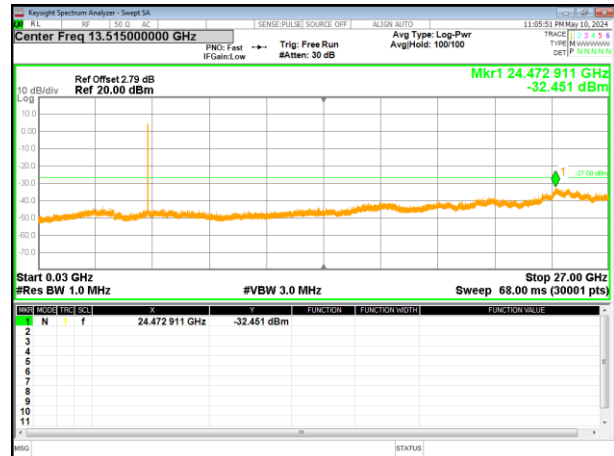


Test Plot

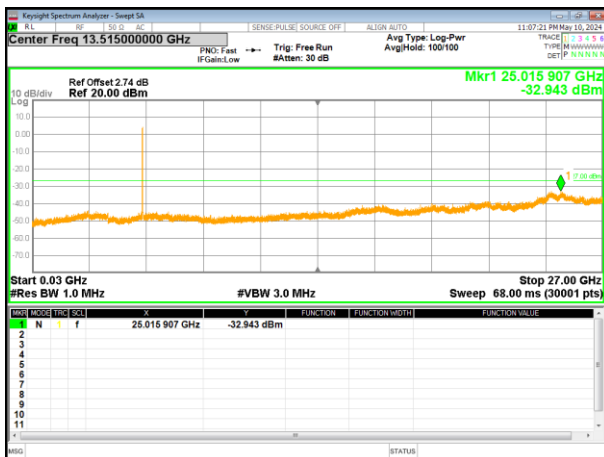
802.11ac20 on channel 36



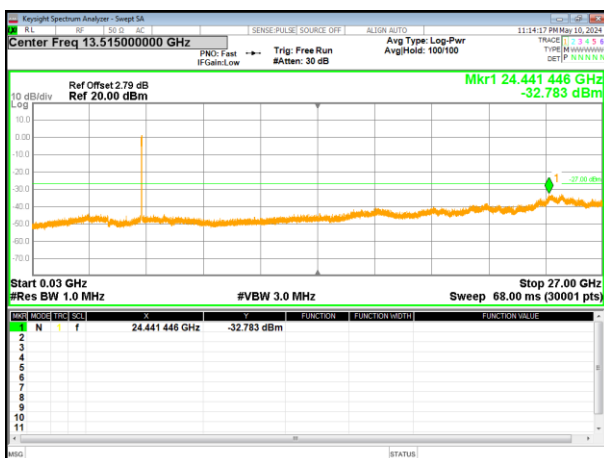
802.11ac20 on channel 40



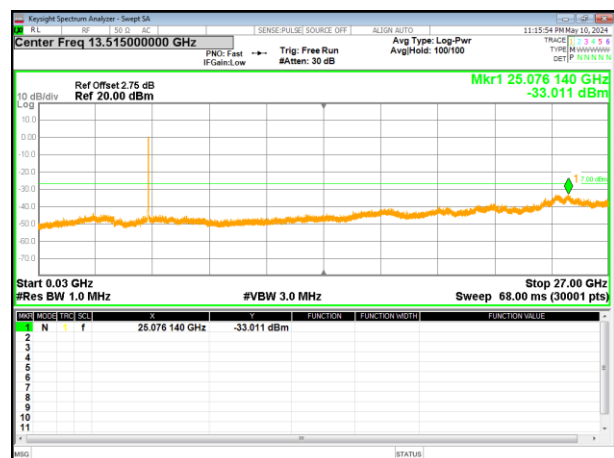
802.11ac20 on channel 48



802.11n40 on channel 38

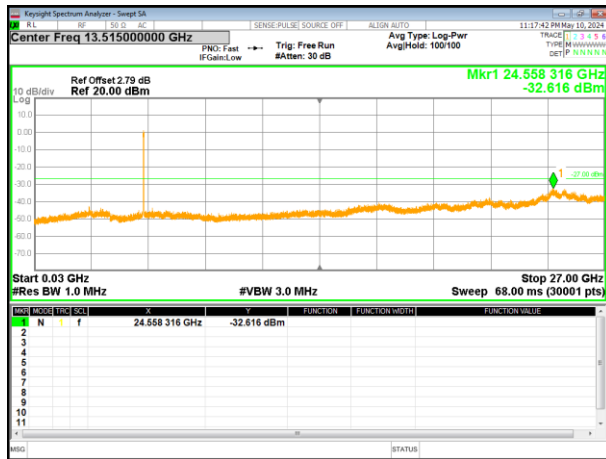


802.11n40 on channel 46

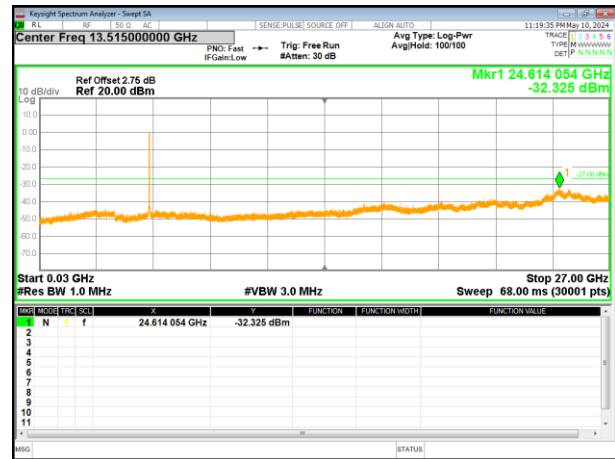


Test Plot

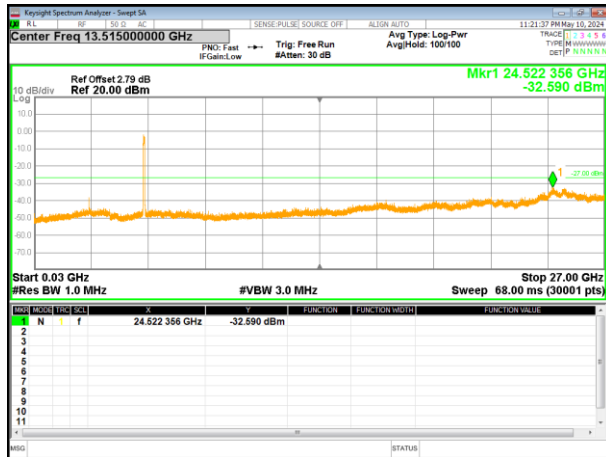
802.11ac40 on channel 38



802.11ac40 on channel 46

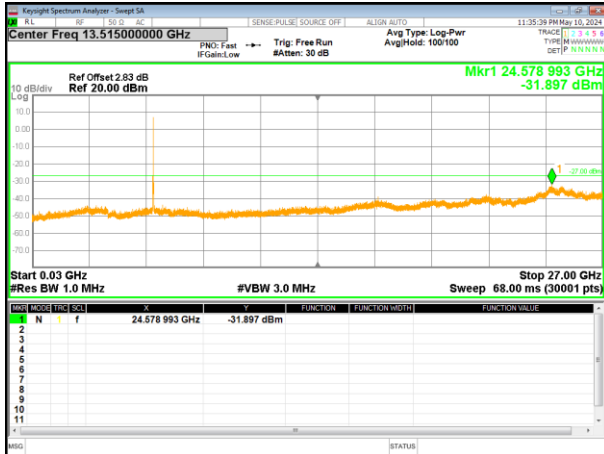


802.11ac80 on channel 42

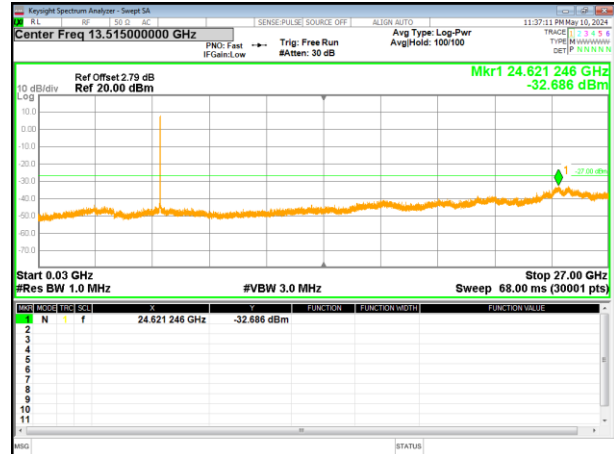


Test Plot

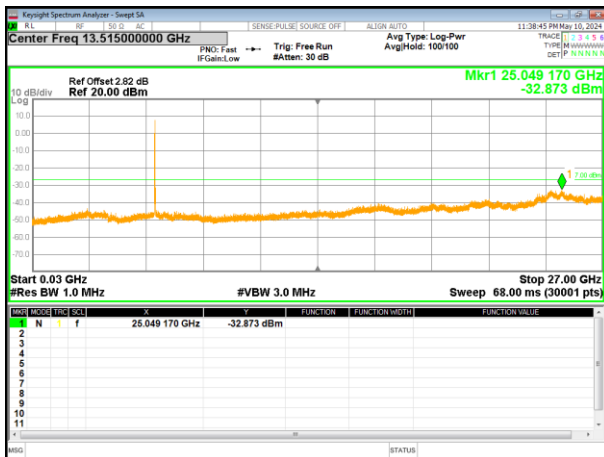
802.11ac20 on channel 149



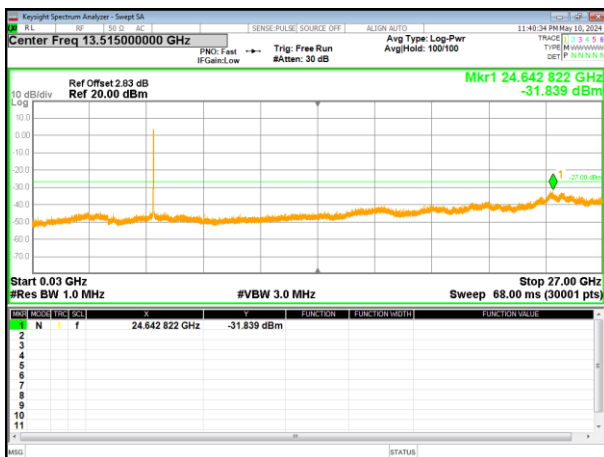
802.11ac20 on channel 157



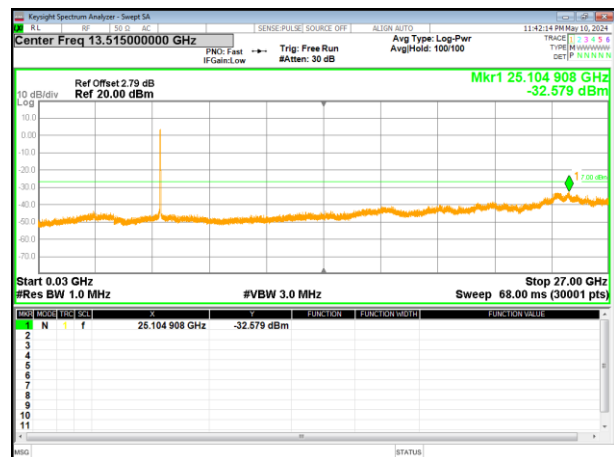
802.11ac20 on channel 165



802.11n40 on channel 151

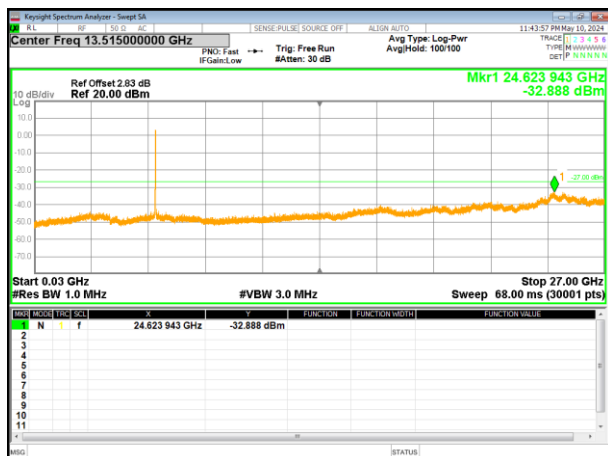


802.11n40 on channel 159

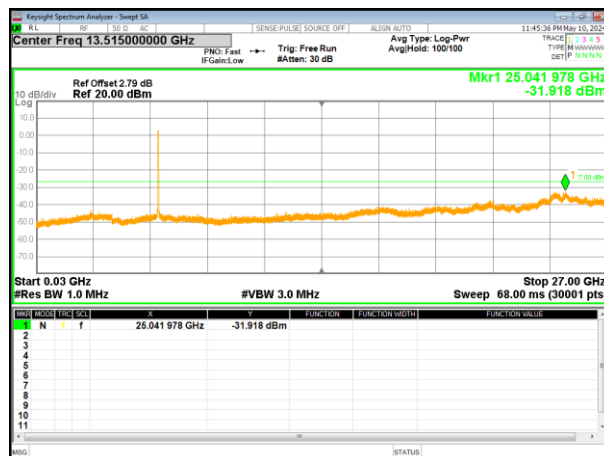


Test Plot

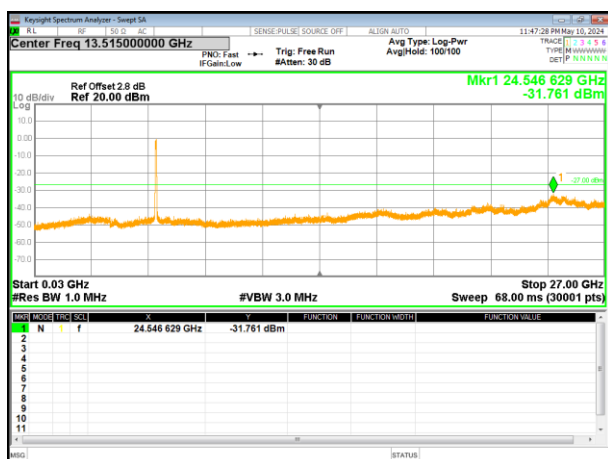
802.11ac40 on channel 151



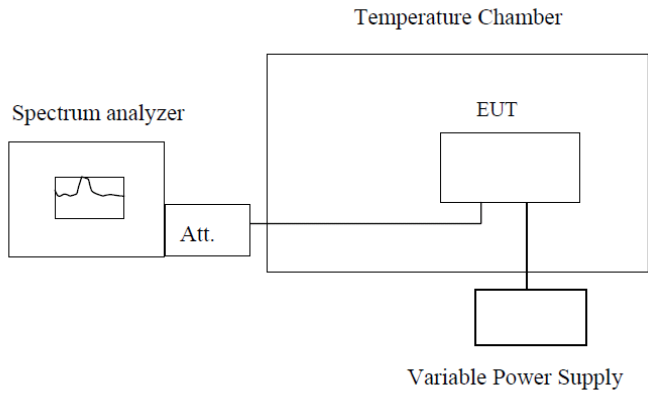
802.11ac40 on channel 159



802.11ac80 on channel 155



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: DC 19V					
Temp. (°C)	Operating Frequency (MHz)	0 minute Measured Frequency (MHz)	2 minute Measured Frequency (MHz)	5 minute Measured Frequency (MHz)	10 minute Measured Frequency (MHz)
-30	5180	5180.319	5179.780	5180.431	5180.529
	5190	5190.309	5199.795	5200.307	5190.540
	5200	5200.312	5199.780	5200.332	5200.531
	5210	5210.318	5209.758	5210.310	5210.533
	5220	5220.313	5219.773	5220.326	5220.538
	5230	5230.311	5229.766	5230.318	5230.556
	5240	5240.284	5239.775	5240.327	5240.542
-20	5180	5180.312	5179.756	5180.316	5180.550
	5190	5190.303	5189.747	5190.316	5190.546
	5200	5200.311	5199.755	5200.310	5200.541
	5210	5210.303	5209.747	5210.300	5210.548
	5220	5220.324	5219.768	5220.311	5220.541
	5230	5230.302	5229.746	5300.310	5230.539
	5240	5240.320	5239.765	5240.313	5240.513
-10	5180	5180.321	5179.765	5180.295	5180.529
	5190	5190.317	5189.761	5190.307	5190.540
	5200	5200.312	5199.756	5200.298	5200.531
	5210	5210.318	5209.762	5210.299	5210.533
	5220	5220.313	5219.757	5220.307	5220.538
	5230	5230.311	5229.755	5230.324	5230.556
	5240	5240.284	5239.729	5240.297	5240.529
0	5180	5180.098	5179.744	5180.307	5180.540
	5190	5200.270	5189.755	5190.299	5190.541
	5200	5200.268	5199.746	5200.307	5200.532
	5210	5210.323	5209.747	5210.299	5300.540
	5220	5220.312	5219.754	5220.321	5220.531
	5230	5230.299	5229.772	5230.298	5230.552
	5240	5240.316	5239.745	5240.317	5240.531
10	5180	5180.300	5179.756	5180.316	5180.541
	5190	5190.311	5189.747	5190.313	5190.532
	5200	5200.302	5199.755	5200.308	5200.540
	5210	5210.303	5209.747	5210.314	5210.533
	5220	5220.310	5219.768	5220.310	5220.552
	5230	5230.328	5229.746	5230.307	5230.530
	5240	5240.313	5239.765	5240.281	5240.549
20	5180	5180.378	5179.009	5180.565	5180.303



	5190	5190.321	5189.798	5190.610	5190.568
	5200	5200.316	5199.789	5200.619	5200.593
	5210	5210.322	5299.799	5210.612	5210.578
	5220	5220.317	5219.789	5220.634	5220.568
	5230	5230.315	5229.810	5230.612	5230.596
	5240	5240.288	5239.789	5240.631	5240.585
30	5180	5180.304	5179.797	5180.618	5180.586
	5190	5190.315	5189.789	5190.610	5180.586
	5200	5200.306	5199.797	5200.619	5190.582
	5210	5210.307	5209.789	5210.612	5200.577
	5220	5220.314	5219.810	5220.634	5210.584
	5230	5230.332	5229.788	5230.612	5220.578
	5240	5240.304	5239.807	5240.631	5230.576
40	5180	5180.316	5179.796	5180.404	5180.565
	5190	5190.307	5189.798	5200.578	5190.576
	5200	5200.315	5199.789	5200.576	5200.567
	5210	5210.307	5299.799	5210.632	5210.569
	5220	5220.328	5219.789	5220.622	5220.575
	5230	5230.306	5229.810	5230.609	5230.593
	5240	5240.324	5239.789	5240.627	5240.566
50	5180	5180.316	5179.797	5180.618	5180.538
	5190	5190.307	5189.789	5190.610	5190.568
	5200	5200.315	5199.797	5200.619	5200.593
	5210	5210.307	5209.789	5210.612	5210.578
	5220	5220.328	5219.810	5220.634	5220.568
	5230	5230.306	5229.788	5230.612	5230.596
	5240	5240.324	5239.807	5240.631	5240.585

Frequency stability versus Voltage					
Temperature: 25°C					
Power Supply (VDC)	Operating Frequency (MHz)	0 minute	2 minute	5 minute	10 minute
		Measured Frequency (MHz)	Measured Frequency (MHz)	Measured Frequency (MHz)	Measured Frequency (MHz)
16.18	5180	5180.325	5179.800	5180.618	5180.701
	5190	5190.321	5199.794	5190.610	5200.576
	5200	5200.316	5199.822	5200.619	5200.601
	5210	5210.322	5209.800	5210.612	5210.580
	5220	5220.317	5219.815	5220.634	5220.594
	5230	5230.315	5229.808	5230.612	5230.587
	5240	5240.288	5239.817	5240.627	5240.596
19.00	5180	5180.311	5179.815	5180.617	5180.586
	5190	5190.307	5179.921	5190.619	5190.585
	5200	5200.315	5199.797	5200.611	5200.579
	5210	5210.308	5209.822	5300.627	5210.570
	5220	5220.328	5219.800	5220.613	5220.579
	5230	5230.306	5229.815	5230.633	5300.578
	5240	5240.324	5239.809	5240.613	5240.582
24.7	5180	5180.325	5179.806	5180.606	5180.565
	5190	5190.321	5189.803	5190.618	5190.576
	5200	5200.316	5199.798	5200.610	5200.566
	5210	5210.322	5209.804	5210.612	5210.569
	5220	5220.317	5219.799	5220.620	5220.575
	5230	5230.315	5229.797	5230.638	5230.598
	5240	5240.288	5239.771	5240.611	5240.566



Frequency stability versus Temp.					
Power Supply: DC 19V					
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	5745.301	5744.806	5745.655	5745.575
	5755	5755.311	5754.812	5755.663	5755.563
	5775	5775.332	5774.805	5775.682	5775.575
	5785	5785.308	5784.797	5785.658	5785.581
	5795	5795.304	5794.804	5795.655	5795.600
	5825	5825.302	5824.734	5825.661	5825.592
-20	5745	5745.298	5744.817	5745.649	5745.586
	5755	5755.313	5754.818	5755.675	5755.599
	5775	5775.312	5774.822	5775.658	5775.585
	5785	5785.315	5784.814	5785.667	5785.571
	5795	5795.325	5794.805	5795.666	5795.566
	5825	5825.307	5824.815	5825.679	5825.600
-10	5745	5745.308	5744.807	5745.665	5745.205
	5755	5755.334	5754.813	5755.668	5755.588
	5775	5775.330	5774.831	5775.673	5775.590
	5785	5785.314	5784.807	5785.665	5785.592
	5795	5795.303	5794.803	5795.657	5795.576
	5825	5825.238	5824.806	5825.669	5825.572
0	5745	5745.302	5744.796	5745.665	5745.576
	5755	5755.327	5754.811	5755.668	5755.601
	5775	5775.308	5774.811	5775.673	5775.598
	5785	5785.317	5784.814	5785.665	5785.581
	5795	5795.315	5794.827	5795.657	5795.571
	5825	5825.325	5824.807	5825.669	5825.506
10	5745	5745.302	5744.806	5745.654	5745.571
	5755	5755.327	5754.822	5755.662	5755.582
	5775	5775.308	5774.824	5775.656	5775.600
	5785	5785.317	5784.806	5785.648	5785.575
	5795	5795.315	5794.823	5795.656	5795.572
	5825	5825.325	5824.822	5825.588	5825.575
20	5745	5745.318	5744.831	5745.663	5745.575
	5755	5755.332	5754.802	5755.680	5755.593
	5775	5775.317	5774.826	5775.667	5775.574
	5785	5785.304	5784.826	5785.654	5785.600
	5795	5795.298	5794.817	5795.649	5795.593
	5825	5825.332	5824.833	5825.686	5825.602
30	5745	5745.308	5744.817	5745.648	5745.600
	5755	5755.315	5754.818	5755.672	5755.571
	5775	5775.332	5774.822	5775.675	5775.595
	5785	5785.308	5784.814	5785.657	5785.594
	5795	5795.304	5794.805	5795.675	5795.586
	5825	5825.307	5824.815	5825.676	5825.601
40	5745	5745.318	5744.801	5745.665	5745.569
	5755	5755.332	5754.825	5755.668	5755.601



	5775	5775.317	5774.807	5775.673	5775.598
	5785	5785.304	5784.816	5785.665	5785.581
	5795	5795.298	5794.814	5795.657	5795.571
	5825	5825.332	5824.825	5825.669	5825.506
50	5745	5745.318	5744.831	5745.665	5745.575
	5755	5755.312	5754.802	5755.679	5755.593
	5775	5775.317	5774.826	5775.667	5775.574
	5785	5785.304	5784.826	5785.654	5785.601
	5795	5795.298	5794.816	5795.649	5795.593
	5825	5825.332	5824.837	5825.686	5825.602

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)
16.18	5745	5745.297	5744.806	5745.654	5745.570
	5755	5755.313	5754.812	5755.672	5755.594
	5775	5775.312	5774.805	5775.675	5775.576
	5785	5785.315	5784.797	5785.657	5785.584
	5795	5795.326	5794.804	5795.676	5795.583
	5825	5825.307	5824.734	5825.676	5825.593
19.00	5745	5745.297	5744.817	5745.649	5745.586
	5755	5755.313	5754.818	5755.675	5755.599
	5775	5775.312	5774.822	5775.658	5775.585
	5785	5785.315	5784.814	5785.667	5785.571
	5795	5795.322	5794.805	5795.666	5795.566
	5825	5825.307	5824.815	5825.679	5825.600
24.7	5745	5745.318	5744.830	5745.665	5745.575
	5755	5755.332	5754.802	5755.680	5755.593
	5775	5775.317	5774.826	5775.667	5775.574
	5785	5785.304	5784.826	5785.654	5785.600
	5795	5795.298	5794.817	5795.649	5795.593
	5825	5825.332	5824.833	5825.686	5825.602

5 Test Setup Photo

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

6 EUT Constructional Details

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

-----END-----