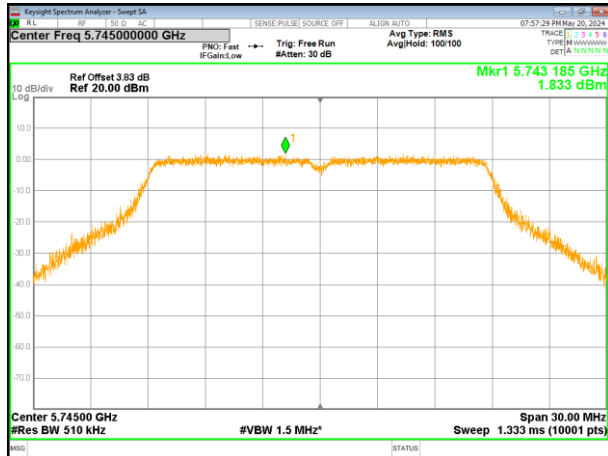
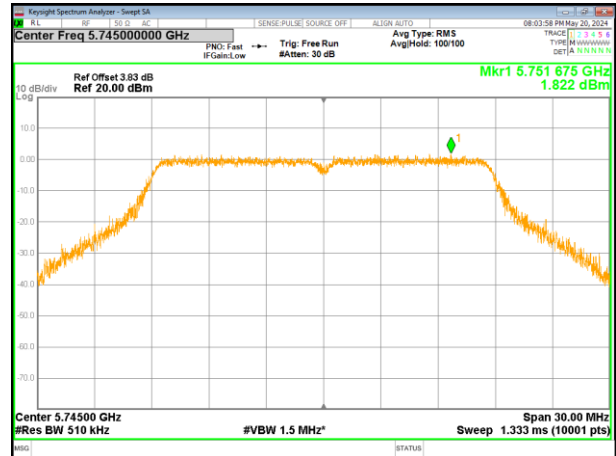


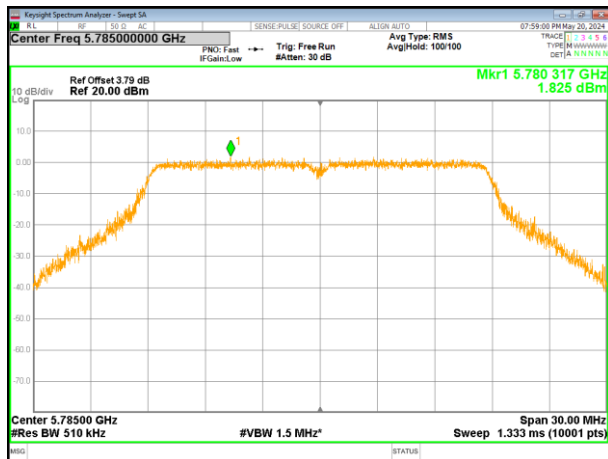
(802.11a) PSD plot on channel 149



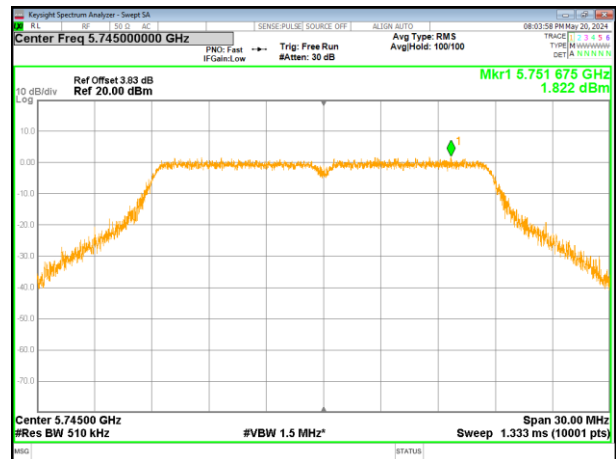
(802.11n20) PSD plot on channel 149



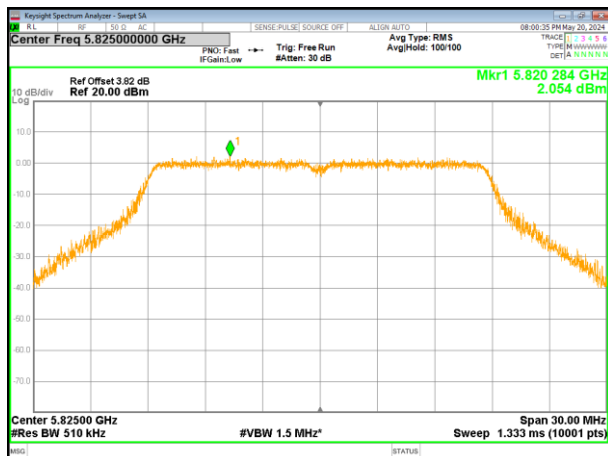
(802.11a) PSD plot on channel 157



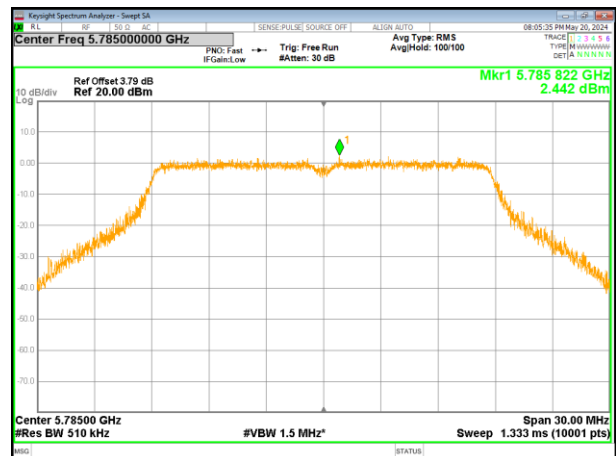
(802.11n20) PSD plot on channel 157



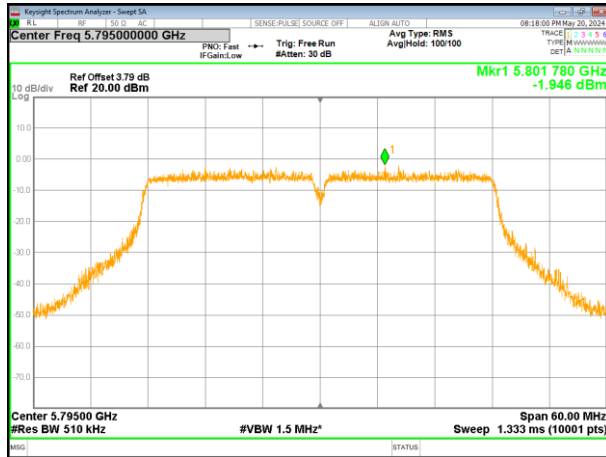
(802.11a) PSD plot on channel 165



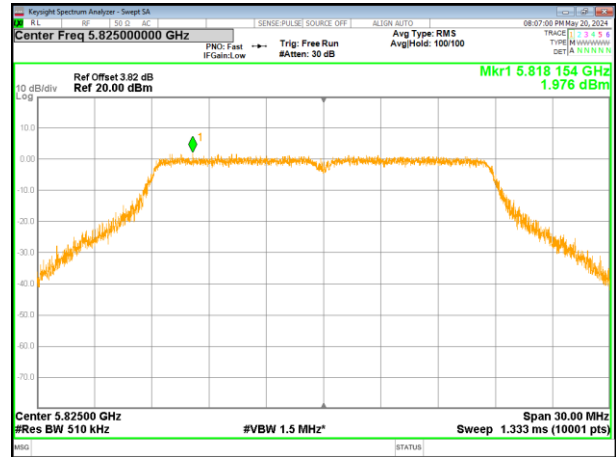
(802.11n20) PSD plot on channel 165



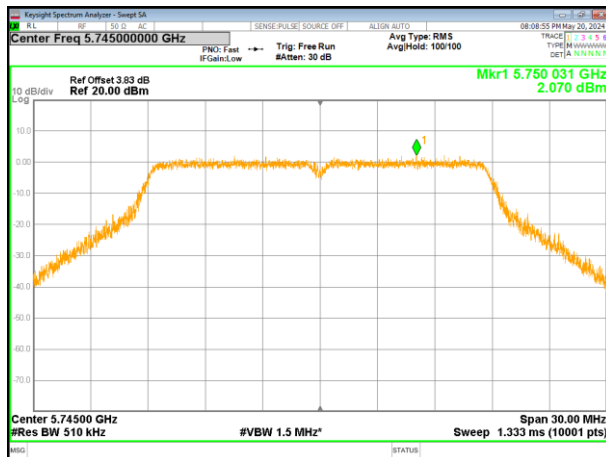
(802.11ac20) PSD plot on channel 149



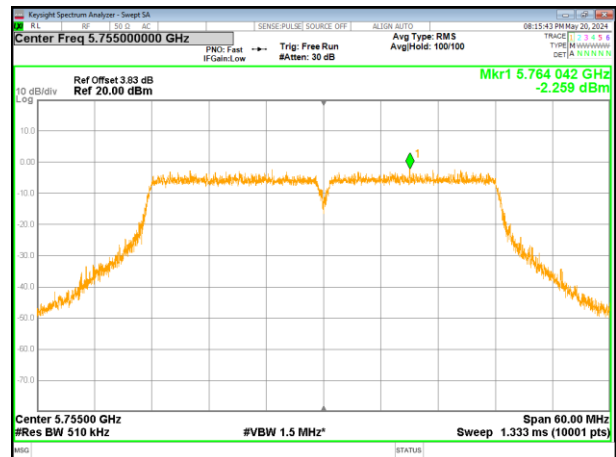
(802.11n40) PSD plot on channel 151



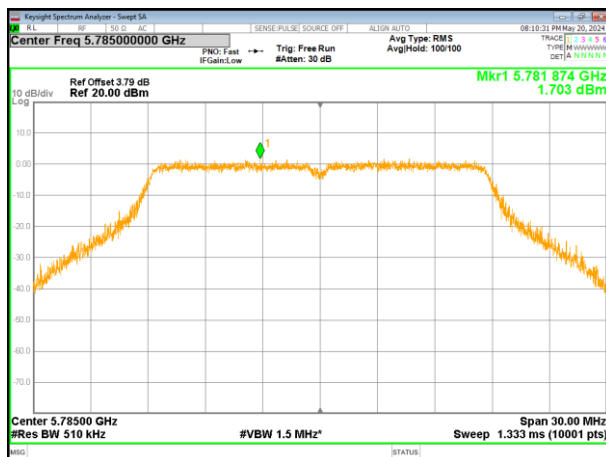
(802.11ac20) PSD plot on channel 157



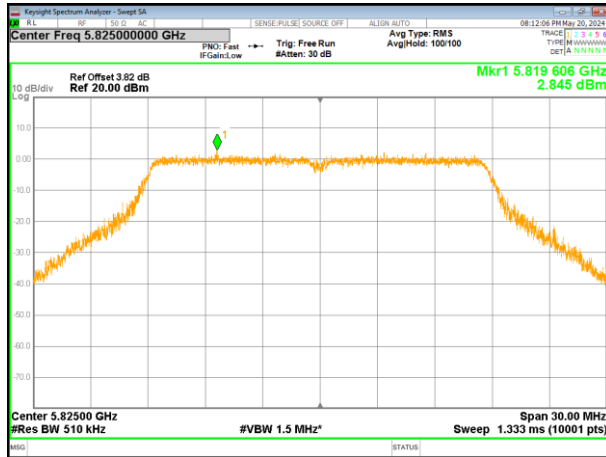
(802.11n40) PSD plot on channel 159



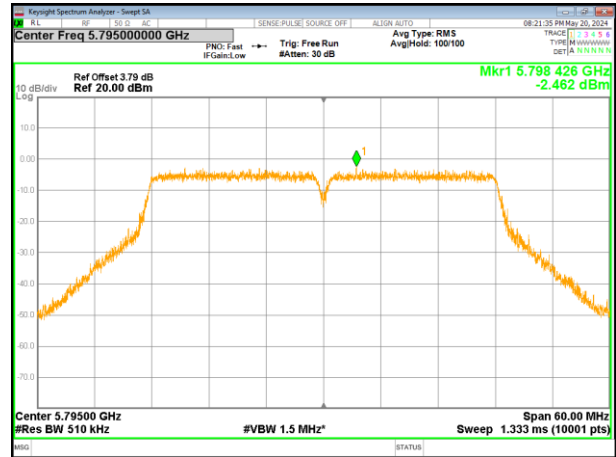
(802.11ac20) PSD plot on channel 165



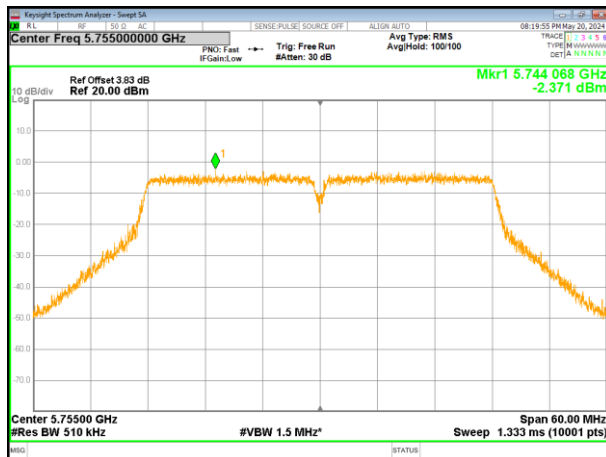
(802.11ac40) PSD plot on channel 151



(802.11ac80) PSD plot on channel 155

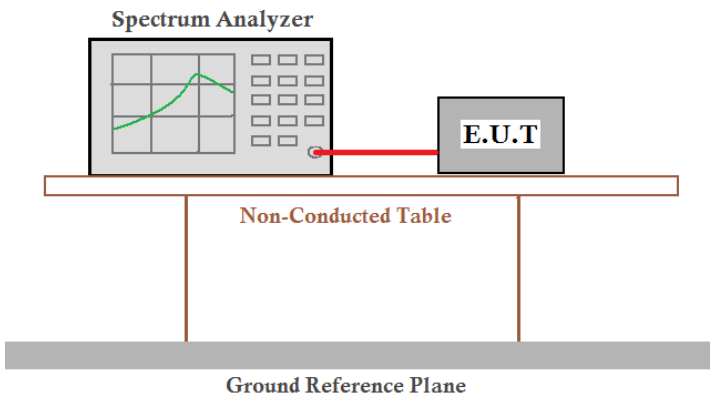


(802.11ac40) PSD plot on channel 159



4.7 Band edge

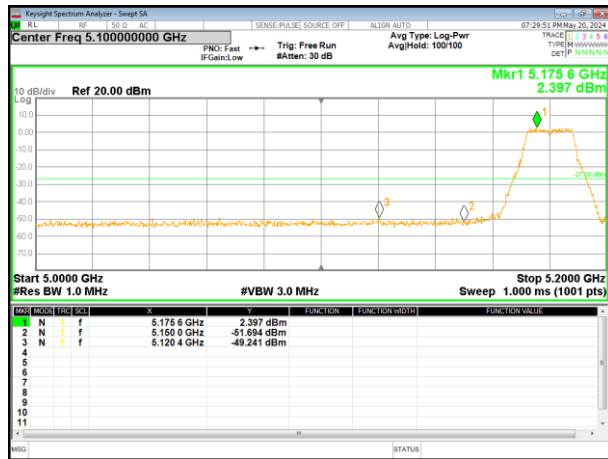
4.7.1 Conducted test Method

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. The table is supported by two vertical legs and sits on a Ground Reference Plane, which is represented by a thick grey bar at the bottom.	
Test Procedure:	1. Check the calibration of the measuring instrument using either an internal calibrator or a known signal from an external generator. 2. Position the EUT without connection to measurement instrument. Turn on the EUT and connect its antenna terminal to measurement instrument via a low loss cable. Then set it to any one measured frequency within its operating range, and make sure the instrument is operated in its linear range. 3. Set RBW of spectrum analyzer to 1 MHz with a convenient frequency span. 4. Measure the highest amplitude appearing on spectral display and set it as a reference level. Plot the graph with marking the highest point and edge frequency. 5. Repeat above procedures until all measured frequencies were complete..	
Test Instruments:	Refer to section 3.0 for details	
Test mode:	Refer to section 2.2 for details	
Test environment:	Temp.: 24.7°C	Humid.: 53%RH
Test voltage:	AC 120V	
Test results:	Pass	

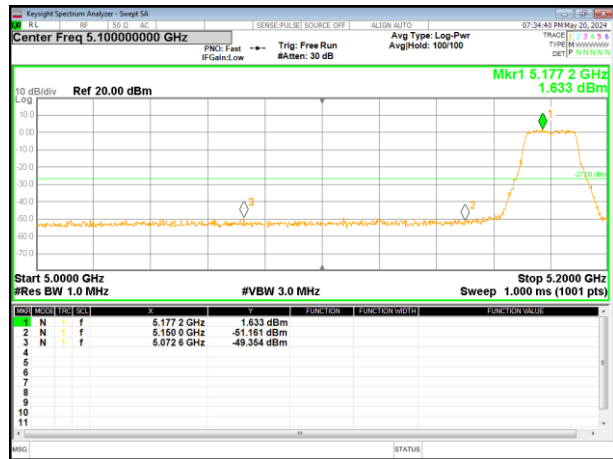
Remark: Antenna gain and cable loss data included in Offset.

5.180~5.240 GHz

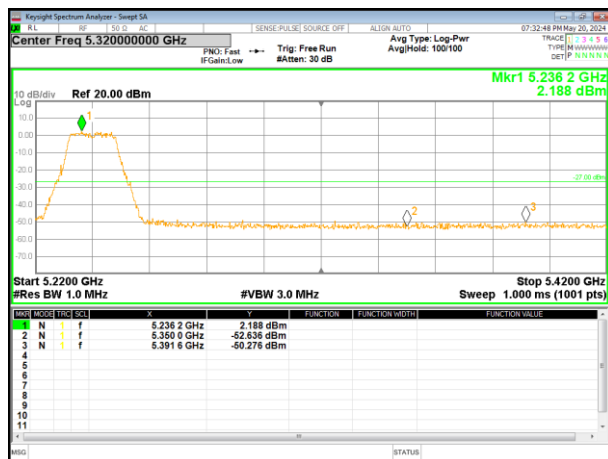
(802.11a) Band Edge, Left Side



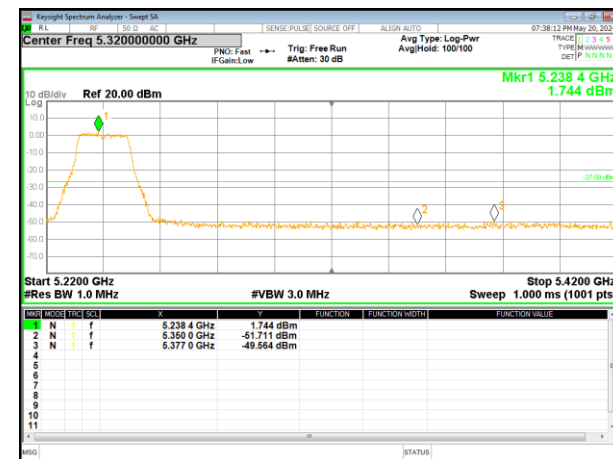
(802.11n20) Band Edge, Left Side



(802.11a) Band Edge, Right Side

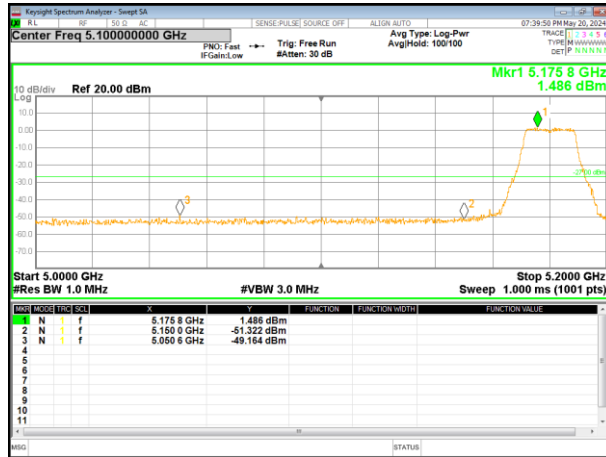


(802.11n20) Band Edge, Right Side

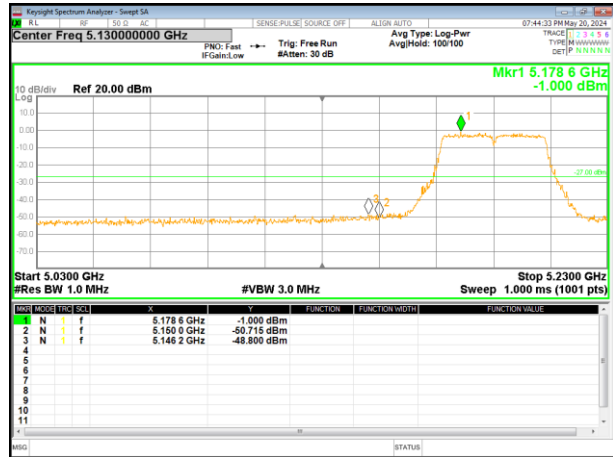


5.180~5.240 GHz

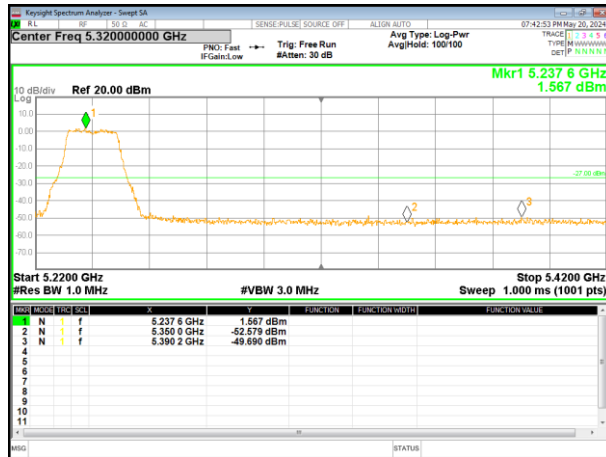
(802.11ac20) Band Edge, Left Side



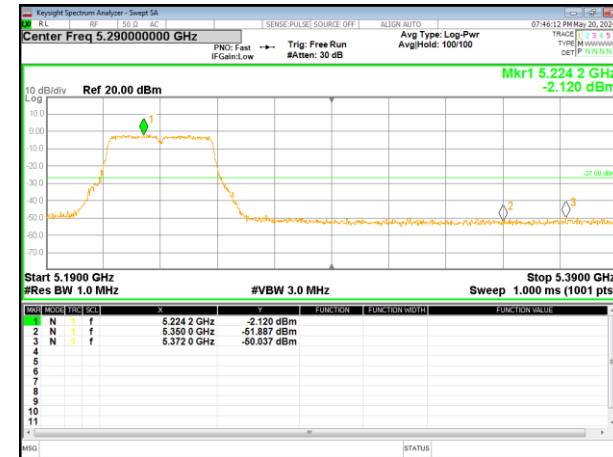
(802.11n40) Band Edge, Left Side



(802.11ac20) Band Edge, Right Side

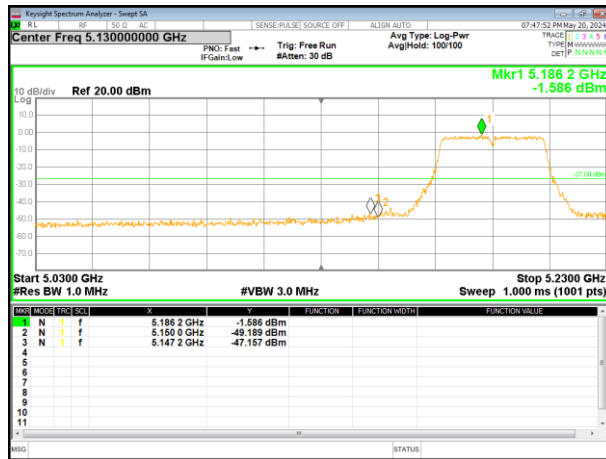


(802.11n40) Band Edge, Right Side

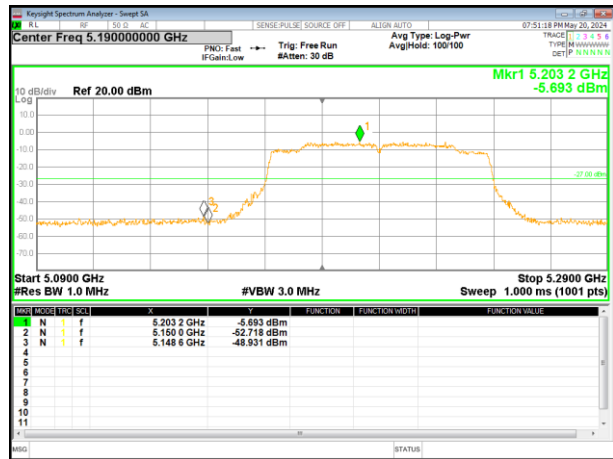


5.180~5.240 GHz

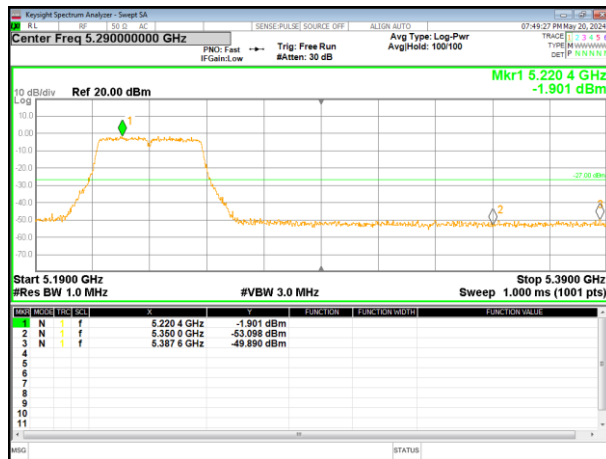
(802.11ac40) Band Edge, Left Side



(802.11ac80) Band Edge

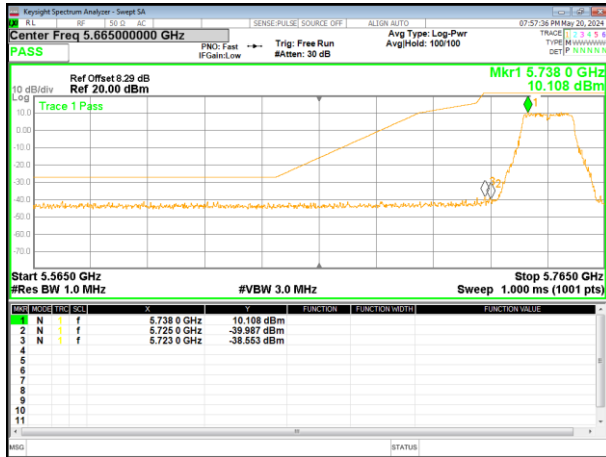


(802.11ac40) Band Edge, Right Side

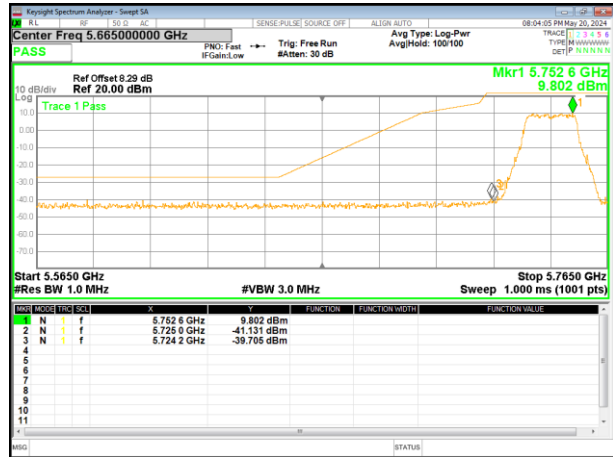


5.745~5.825 GHz

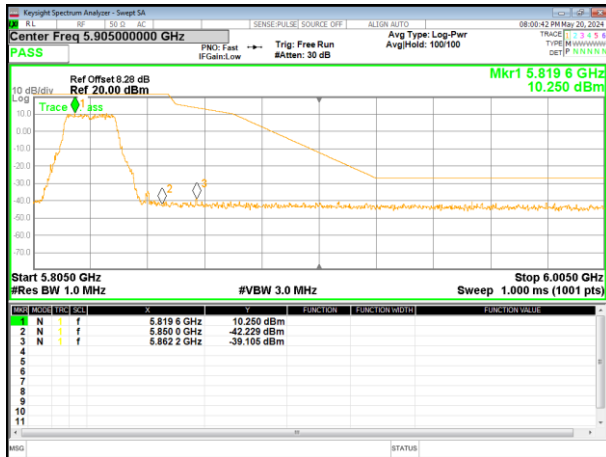
(802.11a) Band Edge, Left Side



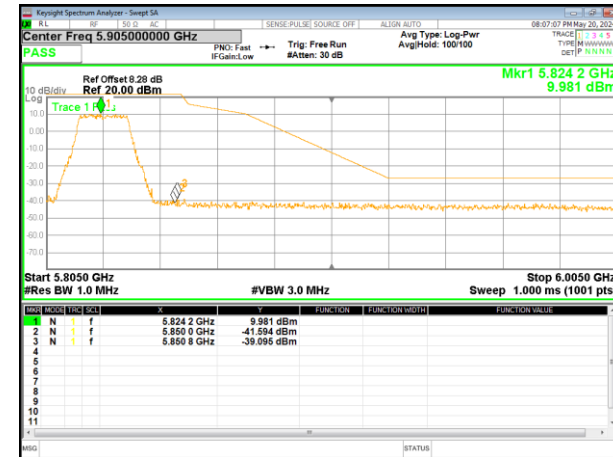
(802.11n20) Band Edge, Left Side



(802.11a) Band Edge, Right Side

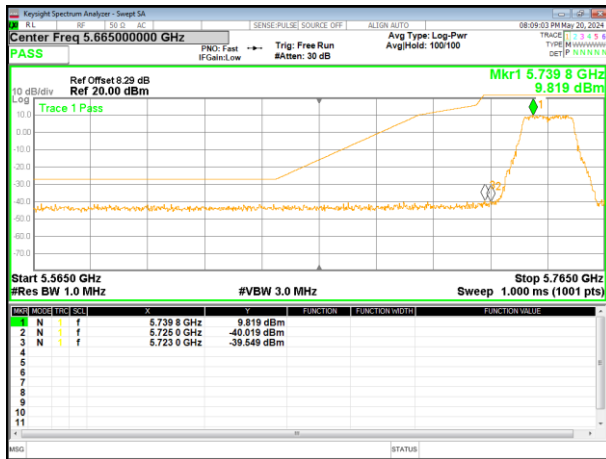


(802.11n20) Band Edge, Right Side

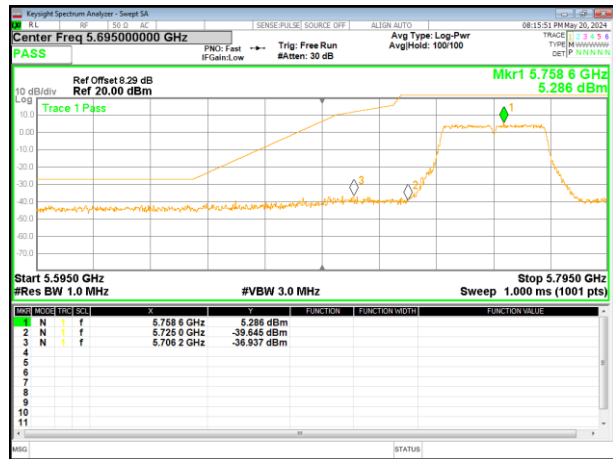


5.745~5.825 GHz

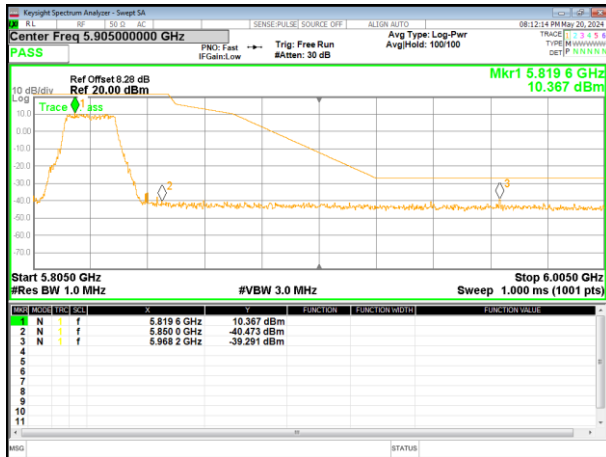
(802.11ac20) Band Edge, Left Side



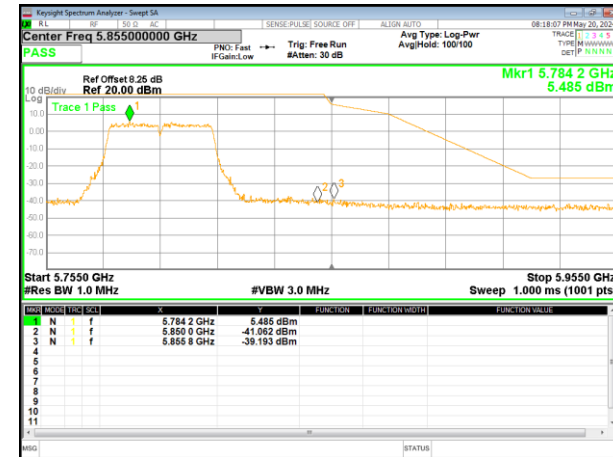
(802.11n40) Band Edge, Left Side



(802.11ac20) Band Edge, Right Side

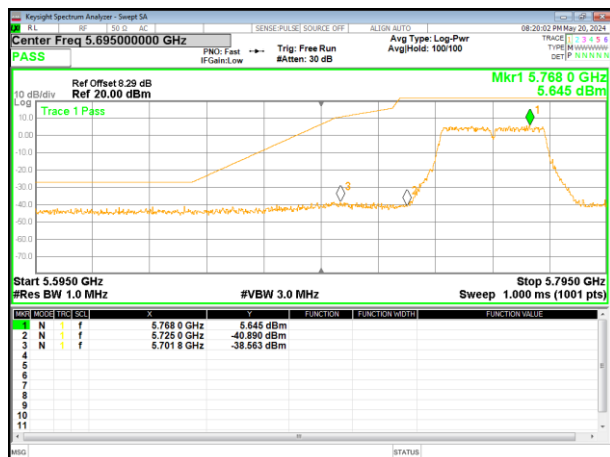


(802.11n40) Band Edge, Right Side

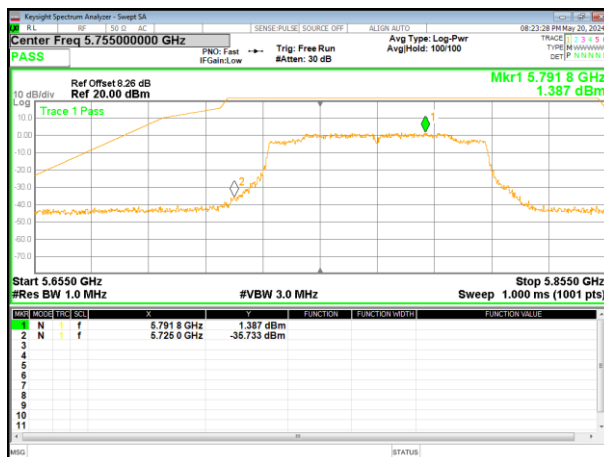


5.745~5.825 GHz

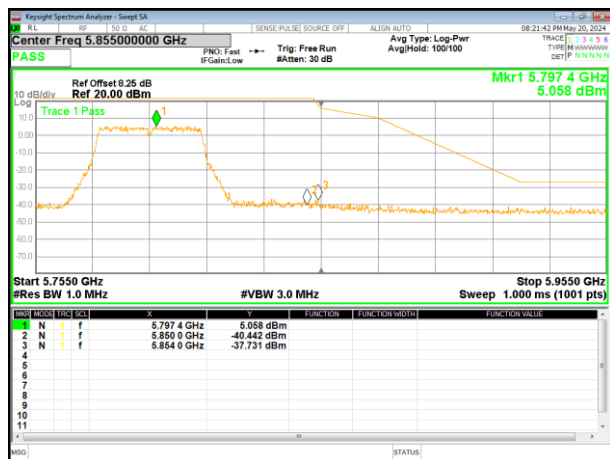
(802.11ac40) Band Edge, Left Side



(802.11ac80) Band Edge

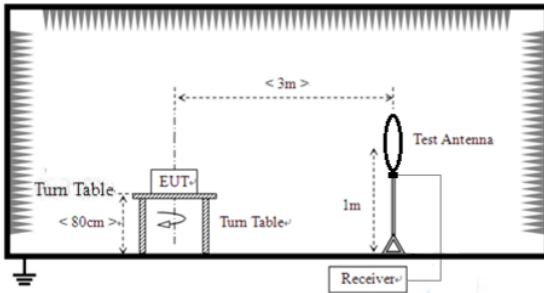
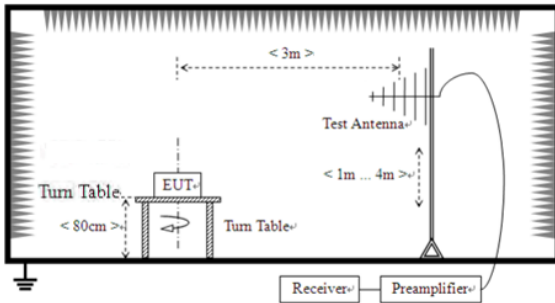


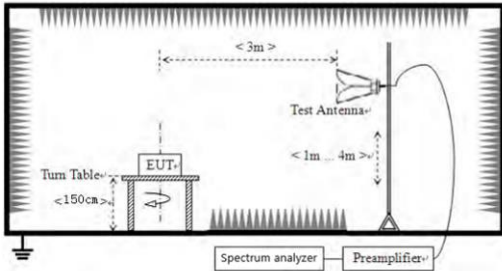
(802.11ac40) Band Edge, Right Side



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

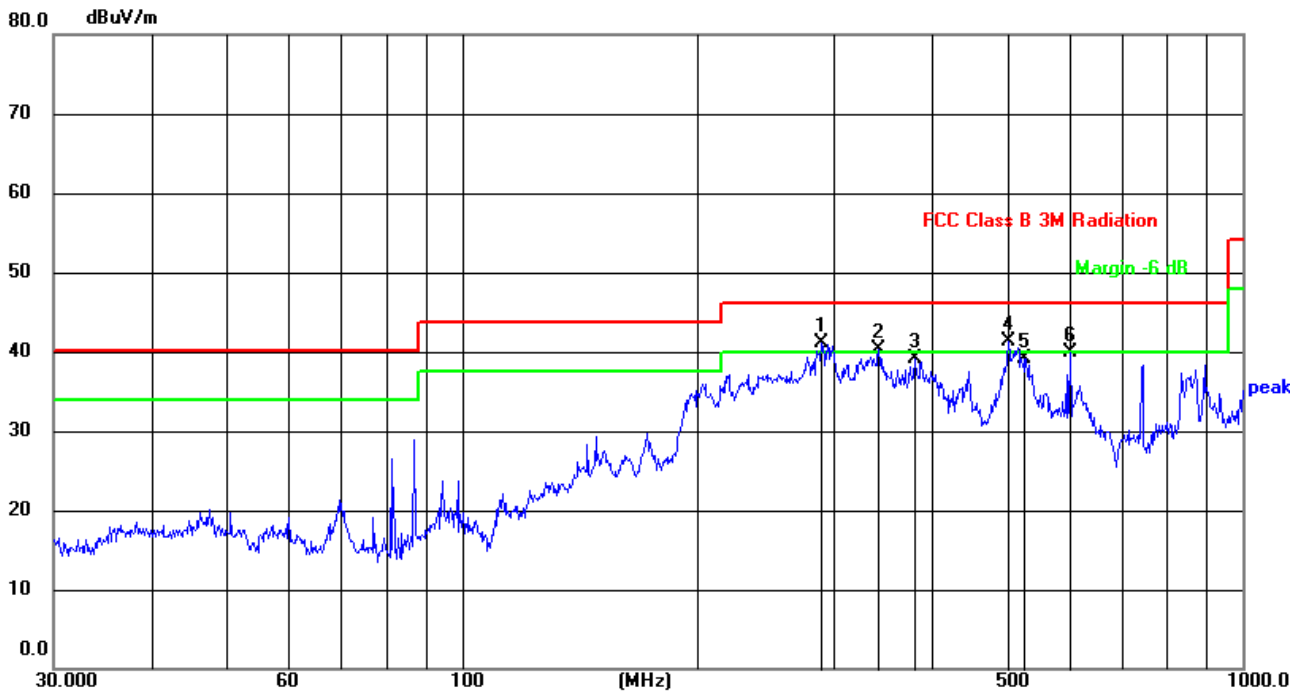
The emission from 9 kHz to 30MHz was pre-tested and found the result was 20dB lower than the limit, and according to 15.31(o) & RSS-Gen 6.13, the test result no need to reported.

Below 1GHz

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

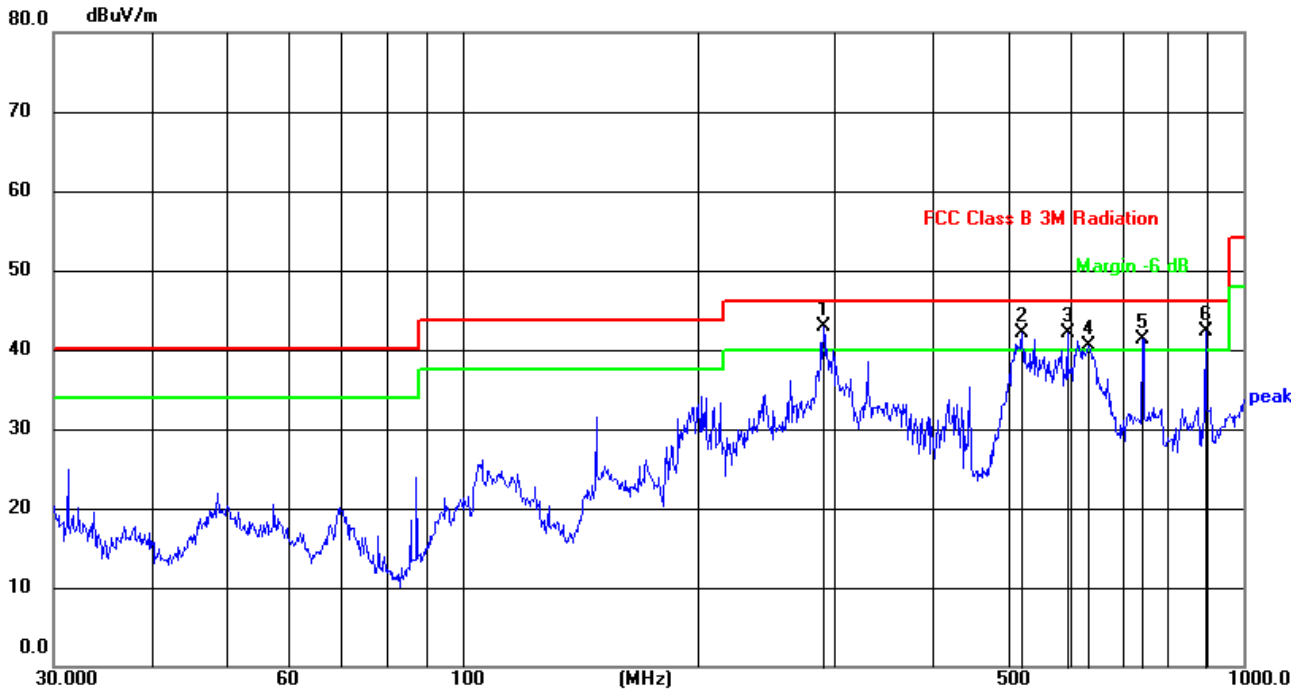
Temperature:	24.7°C	Relative Humidity:	53%
Pressure:	101.2kPa	Test Voltage :	AC 120V
Test Mode :	5.2G TX- 802.11n (5240MHz)		

Horizontal:



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	289.0020	61.91	-20.86	41.05	46.00	-4.95	QP
2	341.9786	59.59	-19.37	40.22	46.00	-5.78	QP
3	379.9141	57.16	-17.98	39.18	46.00	-6.82	QP
4	501.1788	55.46	-14.17	41.29	46.00	-4.71	QP
5	524.5538	52.57	-13.53	39.04	46.00	-6.96	QP
6	601.4265	51.64	-11.70	39.94	46.00	-6.06	QP

Vertical:



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	290.0172	63.61	-20.80	42.81	46.00	-3.19	QP
2	520.8881	55.75	-13.63	42.12	46.00	-3.88	QP
3	595.1326	53.94	-11.86	42.08	46.00	-3.92	QP
4	633.9071	51.14	-10.56	40.58	46.00	-5.42	QP
5	742.2586	49.57	-8.27	41.30	46.00	-4.70	QP
6	893.8564	47.81	-5.54	42.27	46.00	-3.73	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:

Temperature:	24.9°C	Relative Humidity:	53%
Pressure:	101.2kPa	Test Voltage :	AC 120V
Test Mode :	5.2G TX- 802.11n		

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	48.78	46.20	8.27	38.50	49.35	68.20	-18.85	PK
V	10360.00	39.09	46.20	8.27	38.50	39.66	54.00	-14.34	AV
V	15540.00	45.97	46.30	10.35	38.70	48.72	74.00	-25.28	PK
V	15540.00	36.23	46.30	10.35	38.70	38.98	54.00	-15.02	AV
V	20720.00	54.81	57.40	11.93	37.80	47.14	68.20	-21.06	PK
V	20720.00	45.08	57.40	11.93	37.80	37.41	54.00	-16.59	AV
V	25900.00	52.52	56.50	13.45	39.70	49.17	68.20	-19.03	PK
V	25900.00	42.41	56.50	13.45	39.70	39.06	54.00	-14.94	AV
H	10360.00	48.71	46.20	8.27	38.50	49.28	68.20	-18.92	PK
H	10360.00	37.76	46.20	8.27	38.50	38.33	54.00	-15.67	AV
H	15540.00	45.02	46.30	10.35	38.70	47.77	74.00	-26.23	PK
H	15540.00	33.88	46.30	10.35	38.70	36.63	54.00	-17.37	AV
H	20720.00	56.96	57.40	11.93	37.80	49.29	68.20	-18.91	PK
H	20720.00	45.94	57.40	11.93	37.80	38.27	54.00	-15.73	AV
H	25900.00	53.51	56.50	13.45	39.70	50.16	68.20	-18.04	PK
H	25900.00	42.44	56.50	13.45	39.70	39.09	54.00	-14.91	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	47.86	46.20	8.27	38.50	48.43	68.20	-19.77	PK
V	10400.00	38.86	46.20	8.27	38.50	39.43	54.00	-14.58	AV
V	15600.00	46.28	46.30	10.35	38.40	48.73	74.00	-25.27	PK
V	15600.00	37.72	46.30	10.35	38.40	40.17	54.00	-13.84	AV
V	20800.00	55.98	57.40	11.93	37.80	48.31	68.20	-19.89	PK
V	20800.00	46.55	57.40	11.93	37.80	38.88	54.00	-15.12	AV
V	26000.00	51.23	56.50	13.45	39.80	47.98	68.20	-20.22	PK
V	26000.00	43.61	56.50	13.45	39.80	40.36	54.00	-13.65	AV
H	10400.00	48.44	46.20	8.27	38.50	49.01	68.20	-19.19	PK
H	10400.00	39.11	46.20	8.27	38.50	39.68	54.00	-14.32	AV
H	15600.00	46.27	46.30	10.35	38.40	48.72	74.00	-25.29	PK
H	15600.00	37.72	46.30	10.35	38.40	40.17	54.00	-13.84	AV
H	20800.00	54.96	57.40	11.93	37.80	47.29	68.20	-20.91	PK
H	20800.00	44.51	57.40	11.93	37.80	36.84	54.00	-17.16	AV
H	26000.00	50.98	56.50	13.45	39.80	47.73	68.20	-20.47	PK
H	26000.00	42.84	56.50	13.45	39.80	39.59	54.00	-14.41	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	44.76	46.20	8.27	38.60	45.43	68.20	-22.77	PK
V	10480.00	35.03	46.20	8.27	38.60	35.70	54.00	-18.30	AV
V	15720.00	42.41	46.30	10.35	38.40	44.86	74.00	-29.14	PK
V	15720.00	32.84	46.30	10.35	38.40	35.29	54.00	-18.71	AV
V	20960.00	52.21	57.40	11.93	37.50	44.24	68.20	-23.96	PK
V	20960.00	43.90	57.40	11.93	37.50	35.93	54.00	-18.07	AV
V	26200.00	48.31	56.50	13.45	40.10	45.36	68.20	-22.84	PK
V	26200.00	39.16	56.50	13.45	40.10	36.21	54.00	-17.79	AV
H	10480.00	44.99	46.20	8.27	38.60	45.66	68.20	-22.54	PK
H	10480.00	35.03	46.20	8.27	38.60	35.70	54.00	-18.30	AV
H	15720.00	42.71	46.30	10.35	38.40	45.16	74.00	-28.84	PK
H	15720.00	32.92	46.30	10.35	38.40	35.37	54.00	-18.63	AV
H	20960.00	52.41	57.40	11.93	37.50	44.44	68.20	-23.76	PK
H	20960.00	43.79	57.40	11.93	37.50	35.82	54.00	-18.18	AV
H	26200.00	48.03	56.50	13.45	40.10	45.08	68.20	-23.12	PK
H	26200.00	38.55	56.50	13.45	40.10	35.60	54.00	-18.40	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:	24.9°C	Relative Humidity:	53%
Pressure:	101.2kPa	Test Voltage :	AC 120V
Test Mode :	5.8G TX- 802.11n		

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	44.11	46.10	8.77	39.10	45.88	74.00	-28.12	PK
V	11490.00	36.45	46.10	8.77	39.10	38.22	54.00	-15.78	AV
V	17235.00	41.85	47.60	11.10	38.70	44.05	68.20	-24.15	PK
V	17235.00	34.99	47.60	11.10	38.70	37.19	54.00	-16.81	AV
V	22980.00	50.05	56.90	12.73	37.70	43.58	74.00	-30.42	PK
V	22980.00	42.51	56.90	12.73	37.70	36.04	54.00	-17.96	AV
V	28725.00	47.05	55.60	14.25	40.30	46.00	68.20	-22.20	PK
V	28725.00	39.05	55.60	14.25	40.30	38.00	54.00	-16.00	AV
H	11490.00	44.57	46.10	8.77	39.10	46.34	74.00	-27.66	PK
H	11490.00	36.28	46.10	8.77	39.10	38.05	54.00	-15.95	AV
H	17235.00	42.81	47.60	11.10	38.70	45.01	68.20	-23.19	PK
H	17235.00	35.36	47.60	11.10	38.70	37.56	54.00	-16.44	AV
H	22980.00	52.14	56.90	12.73	37.70	45.67	74.00	-28.33	PK
H	22980.00	42.30	56.90	12.73	37.70	35.83	54.00	-18.17	AV
H	28725.00	48.90	55.60	14.25	40.30	47.85	68.20	-20.35	PK
H	28725.00	39.64	55.60	14.25	40.30	38.59	54.00	-15.41	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	43.93	46.10	8.77	39.10	45.70	74.00	-28.30	PK
V	11570.00	36.27	46.10	8.77	39.10	38.04	54.00	-15.96	AV
V	17355.00	41.68	47.60	11.10	38.70	43.88	68.20	-24.32	PK
V	17355.00	34.78	47.60	11.10	38.70	36.98	54.00	-17.02	AV
V	23140.00	49.88	56.90	12.73	37.70	43.41	74.00	-30.59	PK
V	23140.00	42.34	56.90	12.73	37.70	35.87	54.00	-18.13	AV
V	28925.00	46.86	55.60	14.25	40.30	45.81	68.20	-22.39	PK
V	28925.00	38.86	55.60	14.25	40.30	37.81	54.00	-16.19	AV
H	11570.00	44.38	46.10	8.77	39.10	46.15	74.00	-27.85	PK
H	11570.00	36.09	46.10	8.77	39.10	37.86	54.00	-16.14	AV
H	17355.00	42.63	47.60	11.10	38.70	44.83	68.20	-23.37	PK
H	17355.00	35.19	47.60	11.10	38.70	37.39	54.00	-16.61	AV
H	23140.00	51.94	56.90	12.73	37.70	45.47	74.00	-28.53	PK
H	23140.00	42.14	56.90	12.73	37.70	35.67	54.00	-18.33	AV
H	28925.00	48.73	55.60	14.25	40.30	47.68	68.20	-20.52	PK
H	28925.00	39.46	55.60	14.25	40.30	38.41	54.00	-15.59	AV

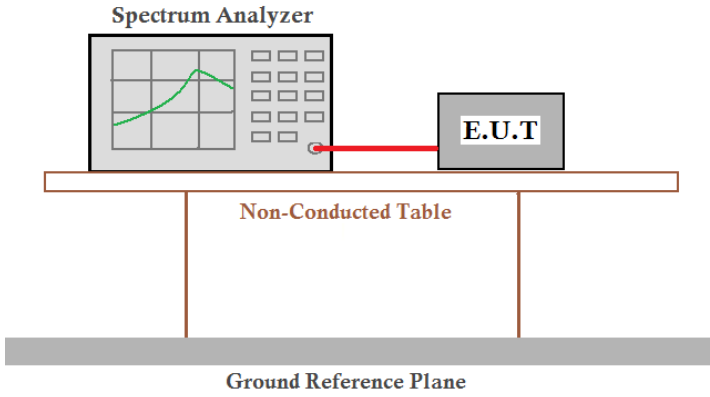


Polar (H/V)	Frequency	Meter Reading	Pre- amplifier	Cable Loss	Antenna Factor	Emission Level	Limits	Margin	Detect or Type
	(MHz)	(dBuV)	(dB)	(dB)	(dB)	(dBuV/m)	(dBuV/m)	(dB)	
High Channel:5825MHz									
V	11650.00	44.96	46.10	8.77	39.10	46.73	74.00	-27.27	PK
V	11650.00	36.45	46.10	8.77	39.10	38.22	54.00	-15.78	AV
V	17475.00	42.95	47.90	11.23	38.90	45.18	68.20	-23.02	PK
V	17475.00	35.76	47.90	11.23	38.90	37.99	54.00	-16.01	AV
V	23300.00	52.06	57.10	12.73	37.80	45.49	68.20	-22.71	PK
V	23300.00	43.21	57.10	12.73	37.80	36.64	54.00	-17.36	AV
V	29125.00	48.98	55.80	14.25	40.50	47.93	68.20	-20.27	PK
V	29125.00	40.65	55.80	14.25	40.50	39.60	54.00	-14.40	AV
H	11650.00	46.84	46.10	8.77	39.10	48.61	74.00	-25.39	PK
H	11650.00	38.69	46.10	8.77	39.10	40.46	54.00	-13.54	AV
H	17475.00	44.10	47.90	11.23	38.90	46.33	68.20	-21.87	PK
H	17475.00	36.96	47.90	11.23	38.90	39.19	54.00	-14.81	AV
H	23300.00	53.37	57.10	12.73	37.80	46.80	68.20	-21.40	PK
H	23300.00	44.59	57.10	12.73	37.80	38.02	54.00	-15.98	AV
H	29125.00	49.98	55.80	14.25	40.50	48.93	68.20	-19.27	PK
H	29125.00	41.33	55.80	14.25	40.50	40.28	54.00	-13.73	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 E.U.T. (Equipment Under Test) via a red cable. Both the Spectrum Analyzer and the E.U.T. are placed on a Non-Conducted Table. The table is supported by a Ground Reference Plane.	
Test Instruments:	Refer to section 3.0 for details	
Test mode:	Refer to section 2.2 for details	
Test environment:	Temp.: 24.7°C	Humid.:43%RH
Test voltage:	AC 120V	
Test results:	Pass	

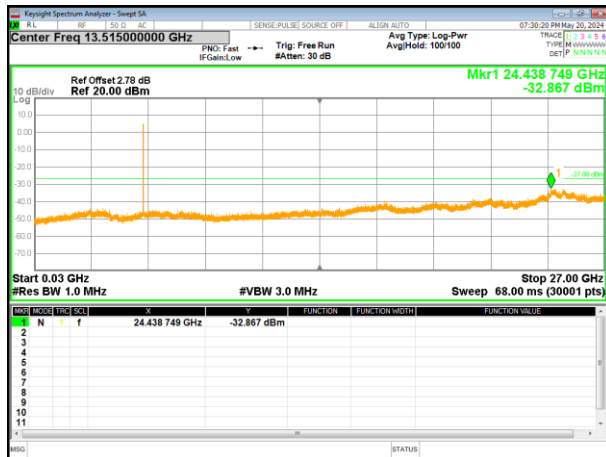
Remark: Antenna gain and cable loss data included in Offset.



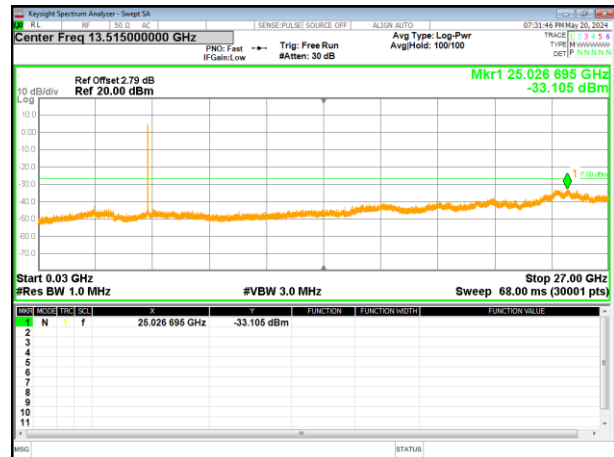
5180-5240MHz

Test Plot

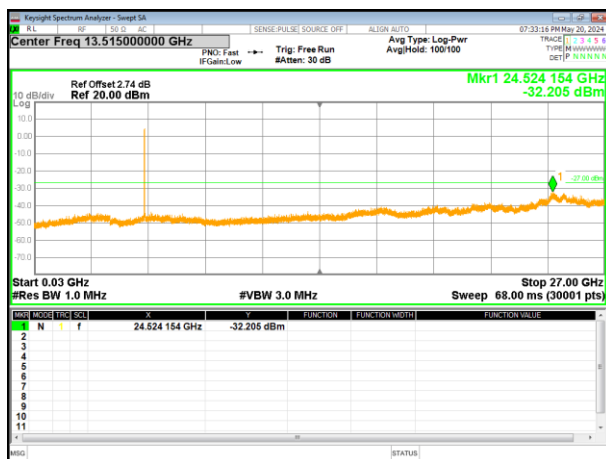
802.11a on channel 36



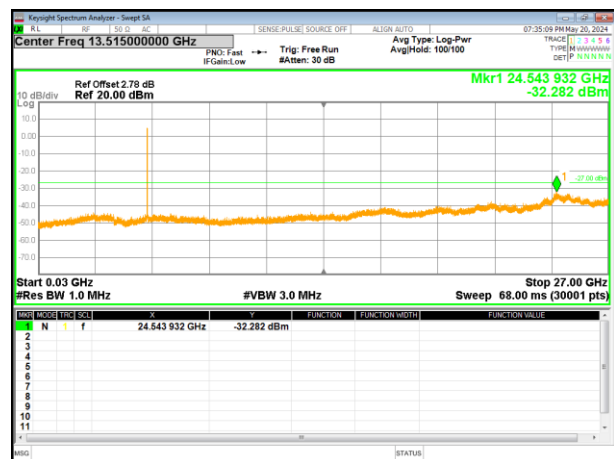
802.11a on channel 40



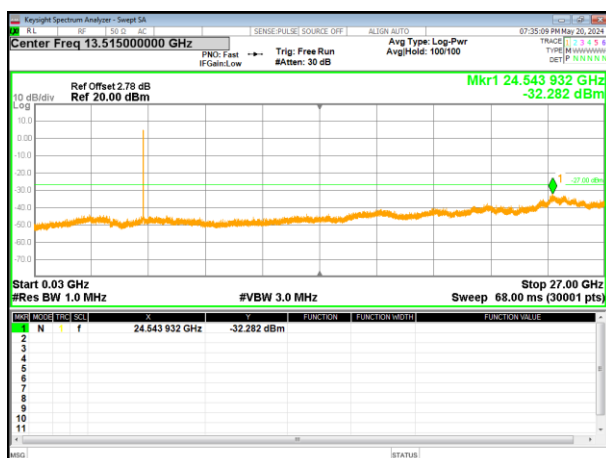
802.11a on channel 48



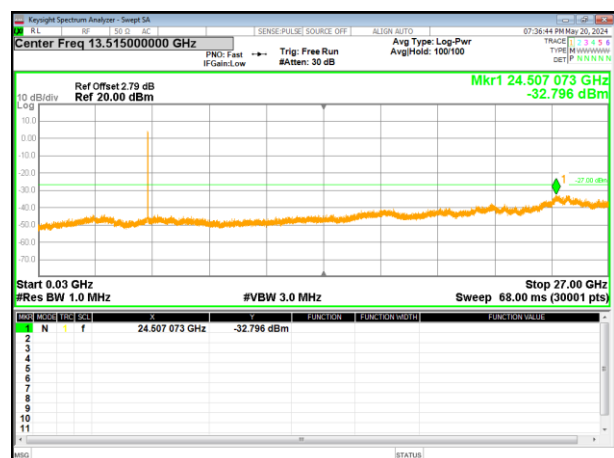
802.11n20 on channel 36



802.11n20 on channel 40

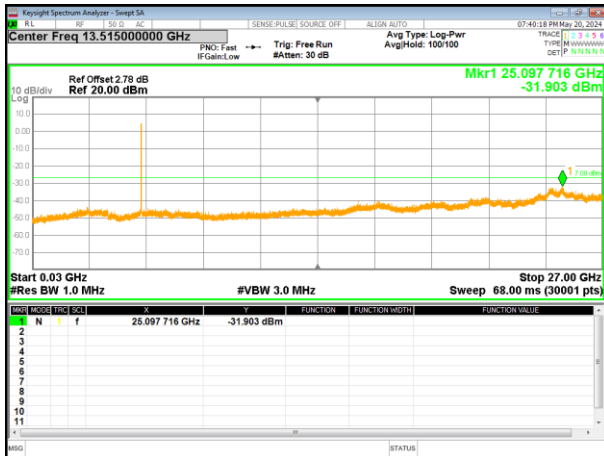


802.11n20 on channel 48

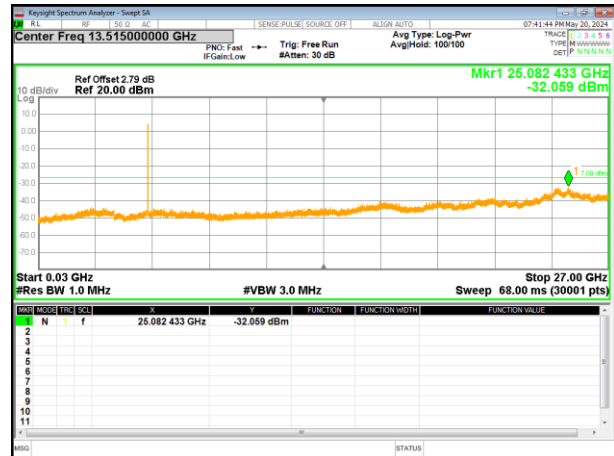


Test Plot

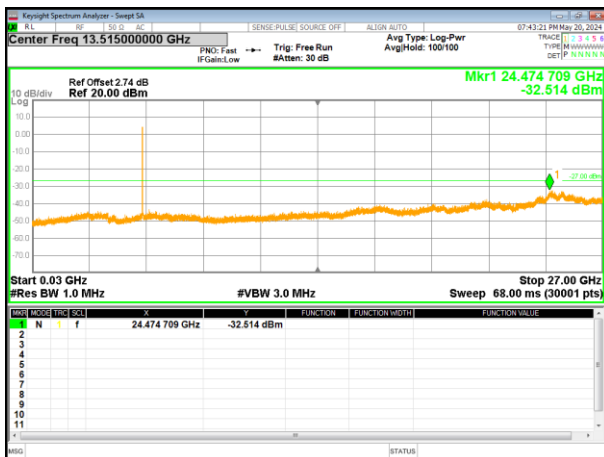
802.11ac20 on channel 36



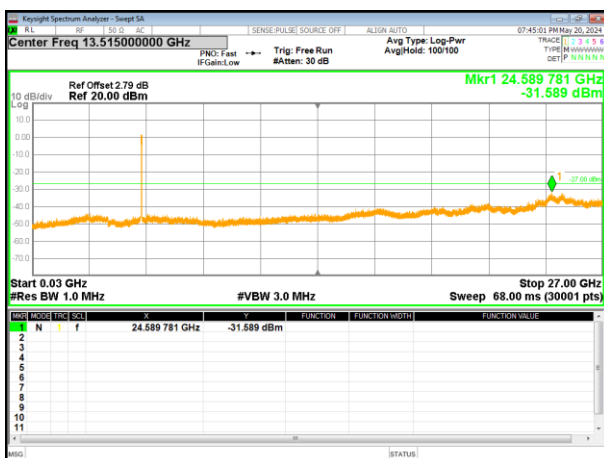
802.11ac20 on channel 40



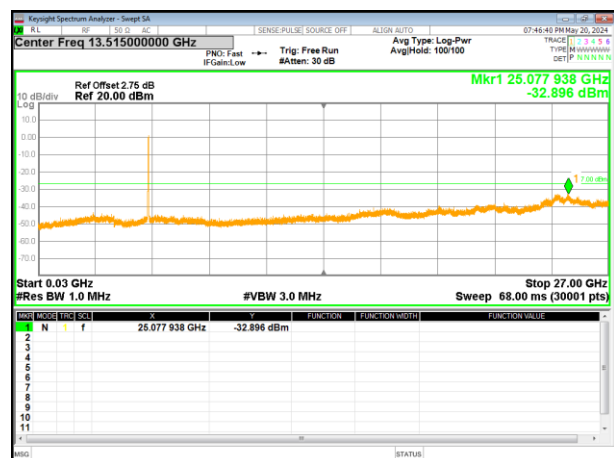
802.11ac20 on channel 48



802.11n40 on channel 38

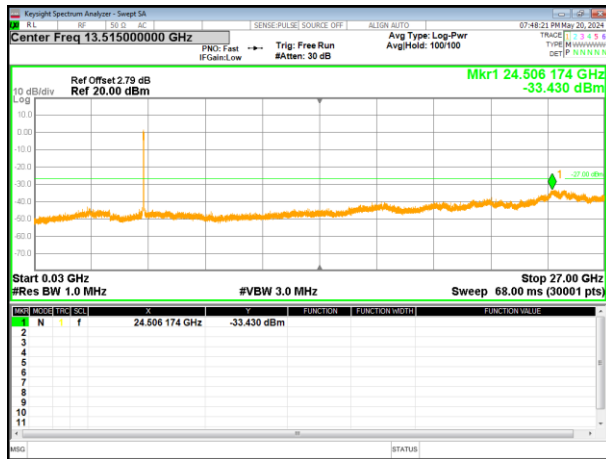


802.11n40 on channel 46

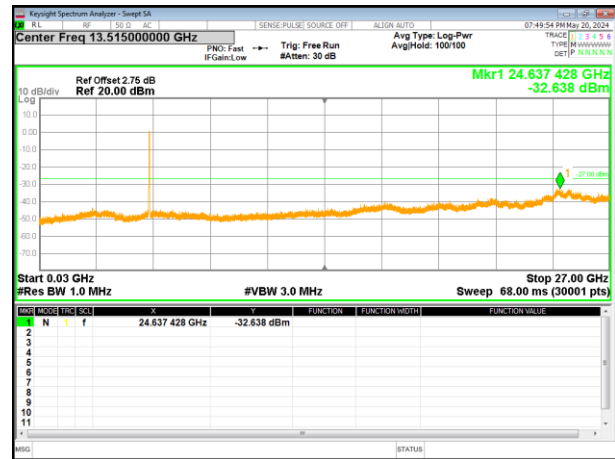


Test Plot

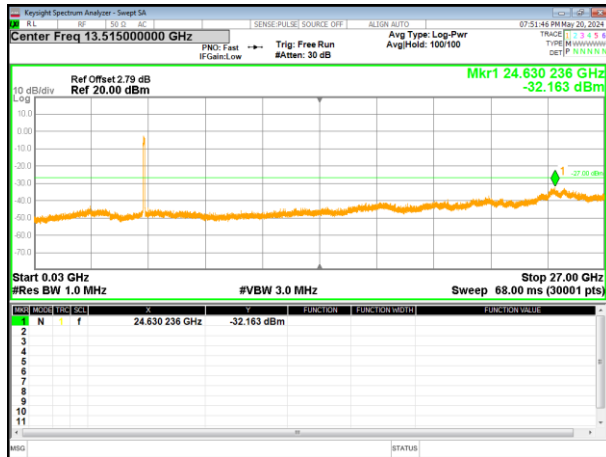
802.11ac40 on channel 38



802.11ac40 on channel 46



802.11ac80 on channel 42

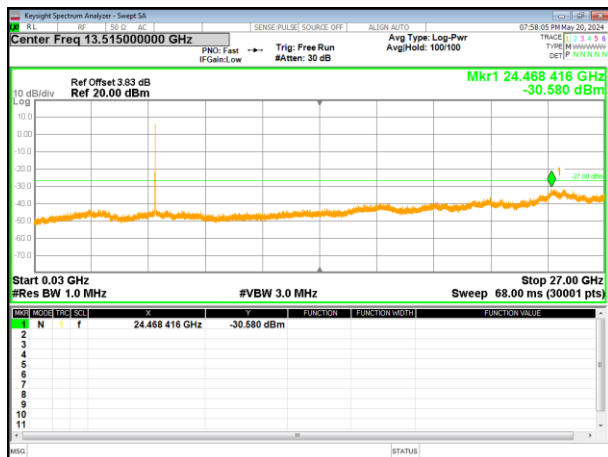




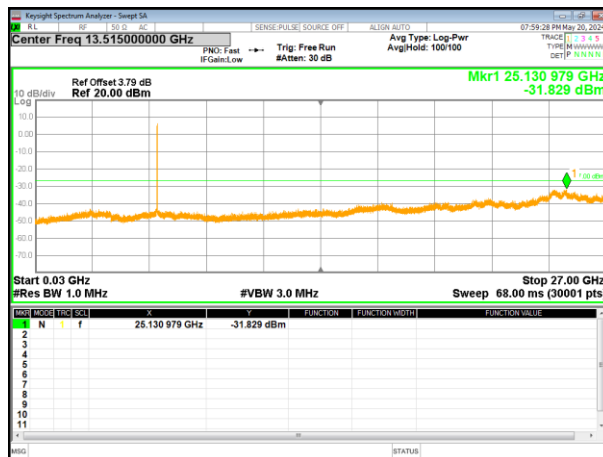
5745-5825MHz

Test Plot

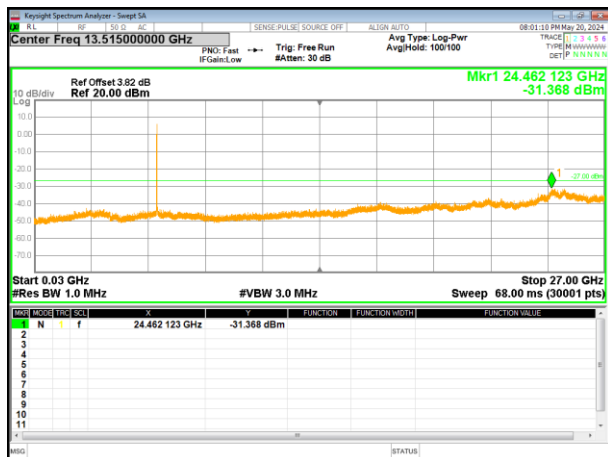
802.11a on channel 149



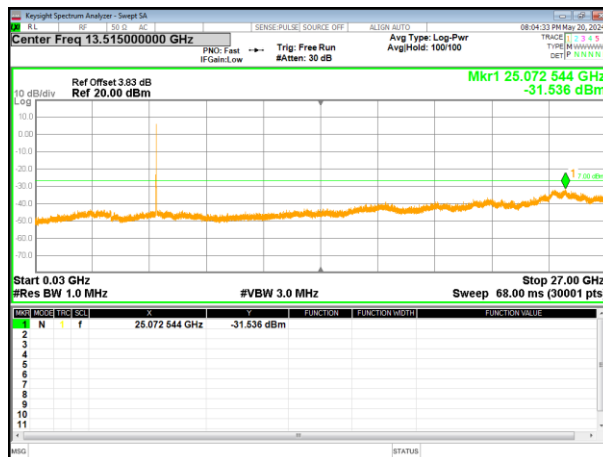
802.11a on channel 157



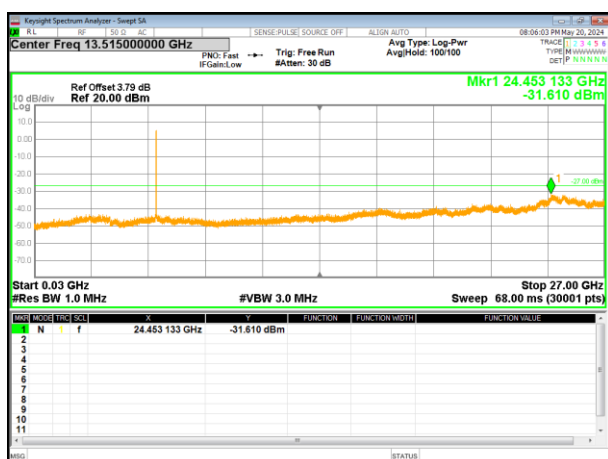
802.11a on channel 165



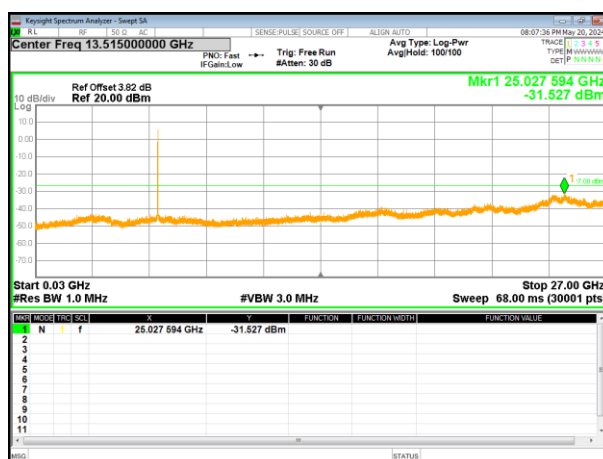
802.11n20 on channel 149



802.11n20 on channel 157

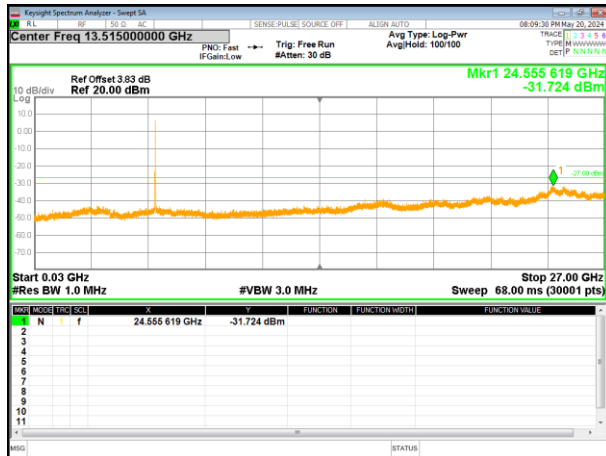


802.11n20 on channel 165

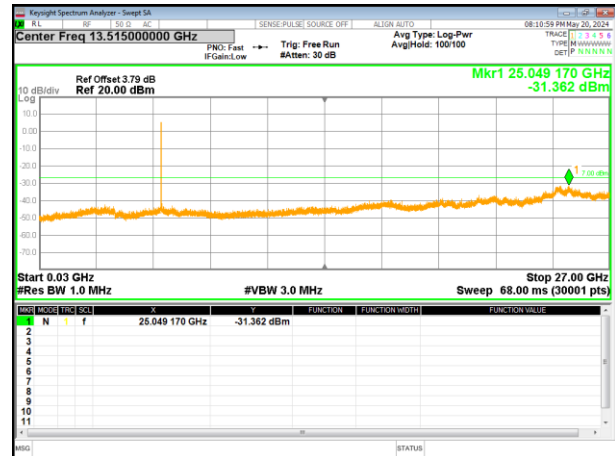


Test Plot

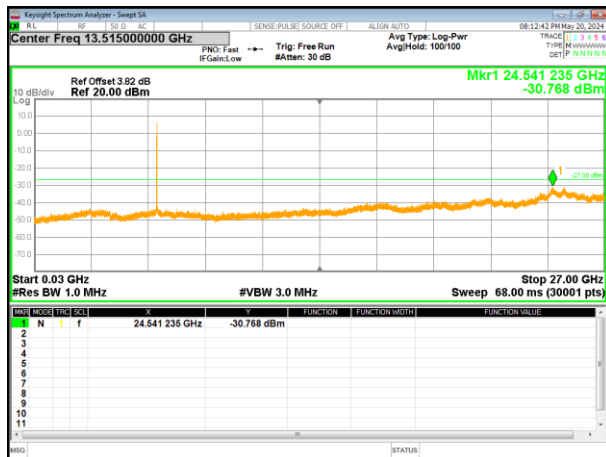
802.11ac20 on channel 149



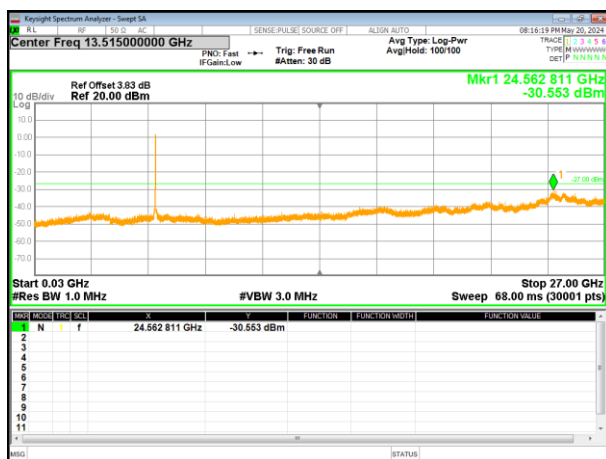
802.11ac20 on channel 157



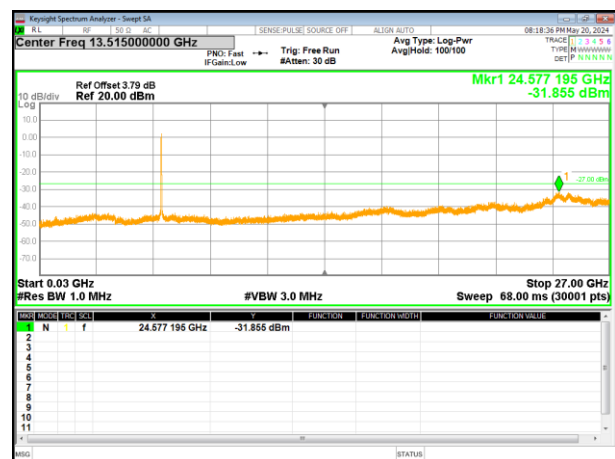
802.11ac20 on channel 165



802.11n40 on channel 151



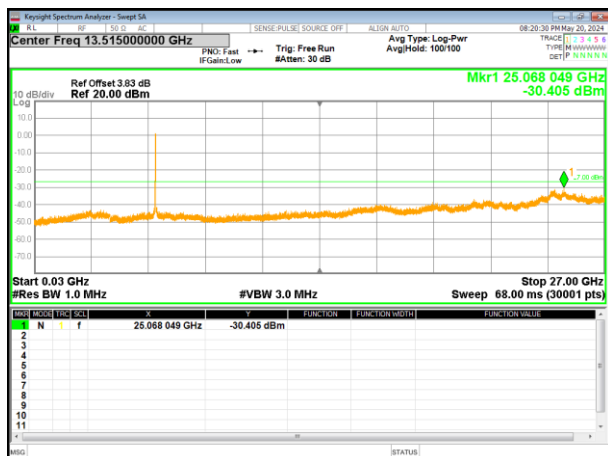
802.11n40 on channel 159



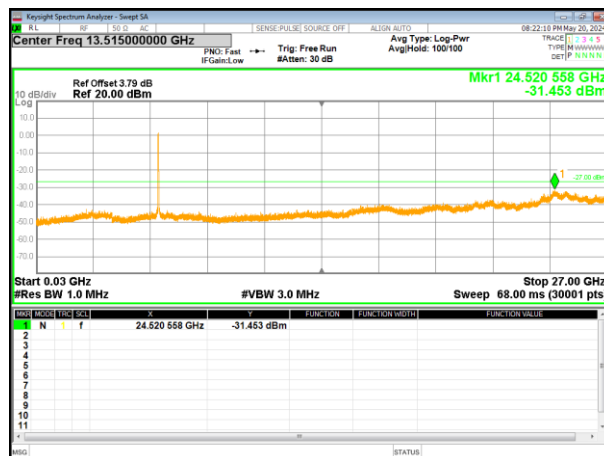


Test Plot

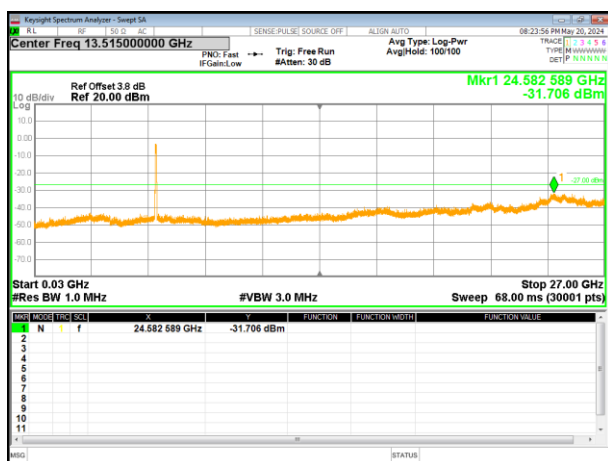
802.11ac40 on channel 151



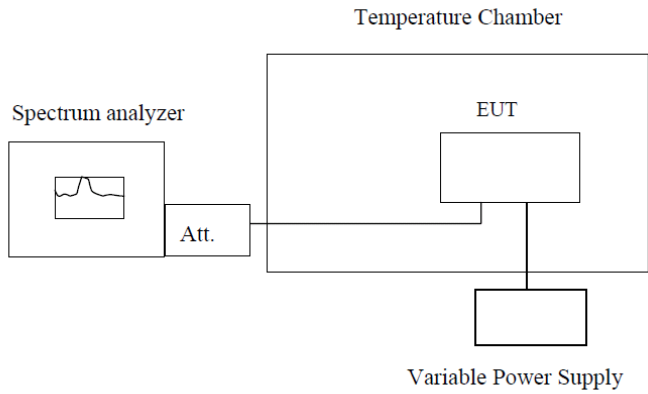
802.11ac40 on channel 159



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: AC 120V					
Temp. (°C)	Operating Frequency (MHz)	0 minute Measured Frequency (MHz)	2 minute Measured Frequency (MHz)	5 minute Measured Frequency (MHz)	10 minute Measured Frequency (MHz)
-30	5180	5180.309	5179.768	5180.437	5180.289
	5190	5190.299	5199.783	5200.313	5190.300
	5200	5200.302	5199.768	5200.338	5200.291
	5210	5210.308	5209.746	5210.316	5210.293
	5220	5220.303	5219.761	5220.332	5220.298
	5230	5230.301	5229.754	5230.324	5230.316
	5240	5240.274	5239.763	5240.333	5240.302
-20	5180	5180.302	5179.744	5180.322	5180.310
	5190	5190.293	5189.735	5190.322	5190.306
	5200	5200.301	5199.743	5200.316	5200.301
	5210	5210.293	5209.735	5210.306	5210.308
	5220	5220.314	5219.756	5220.317	5220.301
	5230	5230.292	5229.734	5300.316	5230.299
	5240	5240.310	5239.753	5240.319	5240.273
-10	5180	5180.311	5179.753	5180.301	5180.289
	5190	5190.307	5189.749	5190.313	5190.300
	5200	5200.302	5199.744	5200.304	5200.291
	5210	5210.308	5209.750	5210.305	5210.293
	5220	5220.303	5219.745	5220.313	5220.298
	5230	5230.301	5229.743	5230.330	5230.316
	5240	5240.274	5239.717	5240.303	5240.289
0	5180	5180.088	5179.732	5180.313	5180.300
	5190	5200.260	5189.743	5190.305	5190.301
	5200	5200.258	5199.734	5200.313	5200.292
	5210	5210.313	5209.735	5210.305	5300.300
	5220	5220.302	5219.742	5220.327	5220.291
	5230	5230.289	5229.760	5230.304	5230.312
	5240	5240.306	5239.733	5240.323	5240.291
10	5180	5180.290	5179.744	5180.322	5180.301
	5190	5190.301	5189.735	5190.319	5190.292
	5200	5200.292	5199.743	5200.314	5200.300
	5210	5210.293	5209.735	5210.320	5210.293
	5220	5220.300	5219.756	5220.316	5220.312
	5230	5230.318	5229.734	5230.313	5230.290
	5240	5240.303	5239.753	5240.287	5240.309
20	5180	5180.368	5178.997	5180.571	5180.063



	5190	5190.311	5189.786	5190.616	5190.328
	5200	5200.306	5199.777	5200.625	5200.353
	5210	5210.312	5299.787	5210.618	5210.338
	5220	5220.307	5219.777	5220.640	5220.328
	5230	5230.305	5229.798	5230.618	5230.356
	5240	5240.278	5239.777	5240.637	5240.345
30	5180	5180.294	5179.785	5180.624	5180.346
	5190	5190.305	5189.777	5190.616	5180.346
	5200	5200.296	5199.785	5200.625	5190.342
	5210	5210.297	5209.777	5210.618	5200.337
	5220	5220.304	5219.798	5220.640	5210.344
	5230	5230.322	5229.776	5230.618	5220.338
	5240	5240.294	5239.795	5240.637	5230.336
40	5180	5180.306	5179.784	5180.410	5180.325
	5190	5190.297	5189.786	5200.584	5190.336
	5200	5200.305	5199.777	5200.582	5200.327
	5210	5210.297	5299.787	5210.638	5210.329
	5220	5220.318	5219.777	5220.628	5220.335
	5230	5230.296	5229.798	5230.615	5230.353
	5240	5240.314	5239.777	5240.633	5240.326
50	5180	5180.306	5179.785	5180.624	5180.298
	5190	5190.297	5189.777	5190.616	5190.328
	5200	5200.305	5199.785	5200.625	5200.353
	5210	5210.297	5209.777	5210.618	5210.338
	5220	5220.318	5219.798	5220.640	5220.328
	5230	5230.296	5229.776	5230.618	5230.356
	5240	5240.314	5239.795	5240.637	5240.345

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	5180.315	5179.788	5180.624	5180.461
	5190	5190.311	5199.782	5190.616	5200.336
	5200	5200.306	5199.810	5200.625	5200.361
	5210	5210.312	5209.788	5210.618	5210.340
	5220	5220.307	5219.803	5220.640	5220.354
	5230	5230.305	5229.796	5230.618	5230.347
	5240	5240.278	5239.805	5240.633	5240.356
19.00	5180	5180.301	5179.803	5180.623	5180.346
	5190	5190.297	5179.909	5190.625	5190.345
	5200	5200.305	5199.785	5200.617	5200.339
	5210	5210.298	5209.810	5300.633	5210.330
	5220	5220.318	5219.788	5220.619	5220.339
	5230	5230.296	5229.803	5230.639	5300.338
	5240	5240.314	5239.797	5240.619	5240.342
24.7	5180	5180.315	5179.794	5180.612	5180.325
	5190	5190.311	5189.791	5190.624	5190.336
	5200	5200.306	5199.786	5200.616	5200.326
	5210	5210.312	5209.792	5210.618	5210.329
	5220	5220.307	5219.787	5220.626	5220.335
	5230	5230.305	5229.785	5230.644	5230.358
	5240	5240.278	5239.759	5240.617	5240.326



Frequency stability versus Temp.					
Power Supply: AC 120V					
Temp. (°C)	Operating Frequency (MHz)	0 minute Measured Frequency (MHz)	2 minute Measured Frequency (MHz)	5 minute Measured Frequency (MHz)	10 minute Measured Frequency (MHz)
-30	5745	5745.290	5744.794	5745.661	5745.335
	5755	5755.299	5754.800	5755.669	5755.323
	5775	5775.320	5774.793	5775.688	5775.335
	5785	5785.296	5784.785	5785.664	5785.341
	5795	5795.292	5794.792	5795.661	5795.360
	5825	5825.290	5824.722	5825.667	5825.352
-20	5745	5745.287	5744.805	5745.655	5745.346
	5755	5755.301	5754.806	5755.681	5755.359
	5775	5775.300	5774.810	5775.664	5775.345
	5785	5785.303	5784.802	5785.673	5785.331
	5795	5795.313	5794.793	5795.672	5795.326
	5825	5825.295	5824.803	5825.685	5825.360
-10	5745	5745.297	5744.795	5745.671	5744.965
	5755	5755.322	5754.801	5755.674	5755.348
	5775	5775.318	5774.819	5775.679	5775.350
	5785	5785.302	5784.795	5785.671	5785.352
	5795	5795.291	5794.791	5795.663	5795.336
	5825	5825.226	5824.794	5825.675	5825.332
0	5745	5745.291	5744.784	5745.671	5745.336
	5755	5755.315	5754.799	5755.674	5755.361
	5775	5775.296	5774.799	5775.679	5775.358
	5785	5785.305	5784.802	5785.671	5785.341
	5795	5795.303	5794.815	5795.663	5795.331
	5825	5825.313	5824.795	5825.675	5825.266
10	5745	5745.291	5744.794	5745.660	5745.331
	5755	5755.315	5754.810	5755.668	5755.342
	5775	5775.296	5774.812	5775.662	5775.360
	5785	5785.305	5784.794	5785.654	5785.335
	5795	5795.303	5794.811	5795.662	5795.332
	5825	5825.313	5824.810	5825.594	5825.335
20	5745	5745.307	5744.819	5745.669	5745.335
	5755	5755.320	5754.790	5755.686	5755.353
	5775	5775.305	5774.814	5775.673	5775.334
	5785	5785.292	5784.814	5785.660	5785.360
	5795	5795.286	5794.805	5795.655	5795.353
	5825	5825.320	5824.821	5825.692	5825.362
30	5745	5745.297	5744.805	5745.654	5745.360
	5755	5755.303	5754.806	5755.678	5755.331
	5775	5775.320	5774.810	5775.681	5775.355
	5785	5785.296	5784.802	5785.663	5785.354
	5795	5795.292	5794.793	5795.681	5795.346
	5825	5825.295	5824.803	5825.682	5825.361
40	5745	5745.307	5744.789	5745.671	5745.329
	5755	5755.320	5754.813	5755.674	5755.361



	5775	5775.305	5774.795	5775.679	5775.358
	5785	5785.292	5784.804	5785.671	5785.341
	5795	5795.286	5794.802	5795.663	5795.331
	5825	5825.320	5824.813	5825.675	5825.266
50	5745	5745.307	5744.819	5745.671	5745.335
	5755	5755.300	5754.790	5755.685	5755.353
	5775	5775.305	5774.814	5775.673	5775.334
	5785	5785.292	5784.814	5785.660	5785.361
	5795	5795.286	5794.804	5795.655	5795.353
	5825	5825.320	5824.825	5825.692	5825.362

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	5745.286	5744.794	5745.660	5745.330
	5755	5755.301	5754.800	5755.678	5755.354
	5775	5775.300	5774.793	5775.681	5775.336
	5785	5785.303	5784.785	5785.663	5785.344
	5795	5795.314	5794.792	5795.682	5795.343
	5825	5825.295	5824.722	5825.682	5825.353
19.00	5745	5745.286	5744.805	5745.655	5745.346
	5755	5755.301	5754.806	5755.681	5755.359
	5775	5775.300	5774.810	5775.664	5775.345
	5785	5785.303	5784.802	5785.673	5785.331
	5795	5795.310	5794.793	5795.672	5795.326
	5825	5825.295	5824.803	5825.685	5825.360
24.7	5745	5745.307	5744.818	5745.671	5745.335
	5755	5755.320	5754.790	5755.686	5755.353
	5775	5775.305	5774.814	5775.673	5775.334
	5785	5785.292	5784.814	5785.660	5785.360
	5795	5795.286	5794.805	5795.655	5795.353
	5825	5825.320	5824.821	5825.692	5825.362



5 Test Setup Photo

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

6 EUT Constructional Details

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

-----END-----