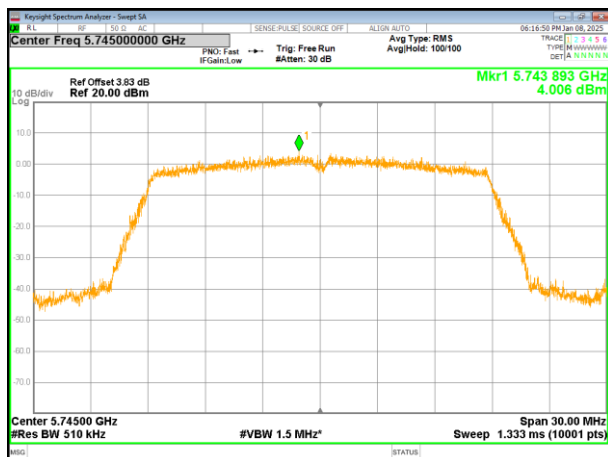
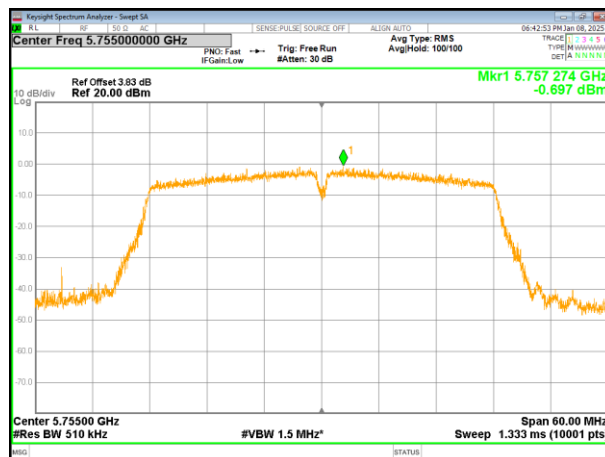


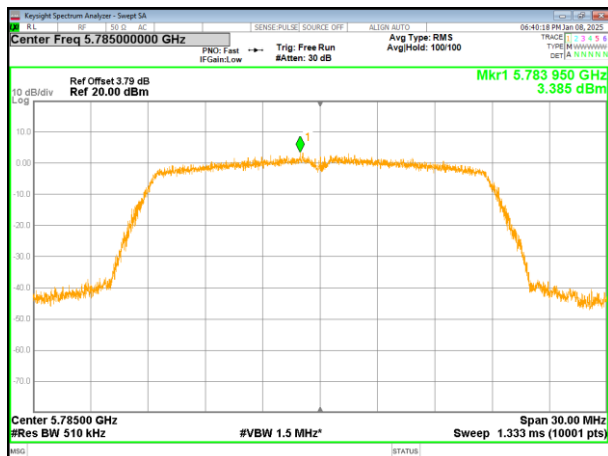
(802.11ac20) PSD plot on channel 149



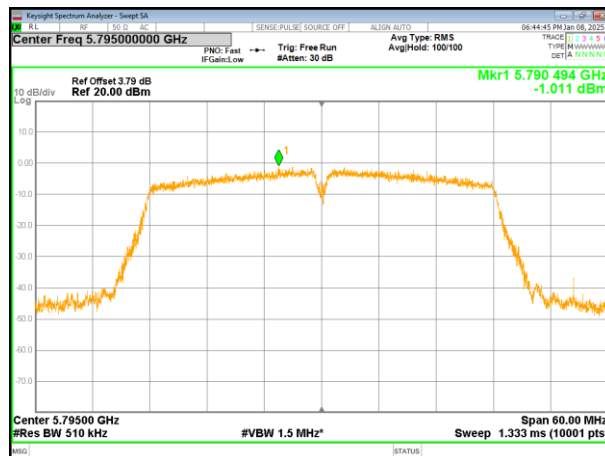
(802.11n40) PSD plot on channel 151



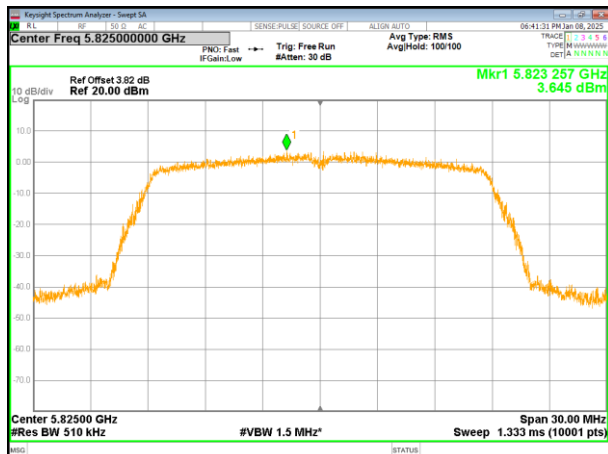
(802.11ac20) PSD plot on channel 157



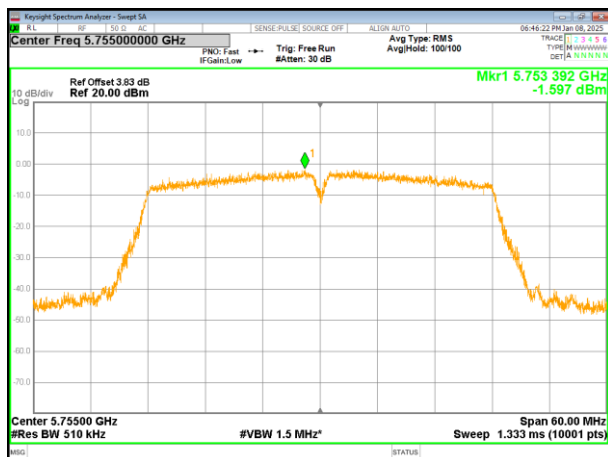
(802.11n40) PSD plot on channel 159



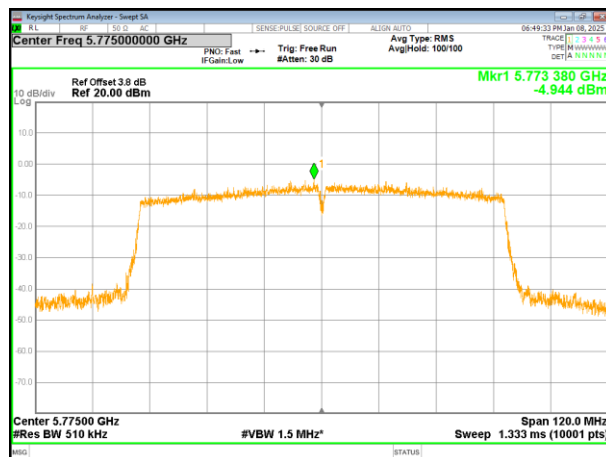
(802.11ac20) PSD plot on channel 165



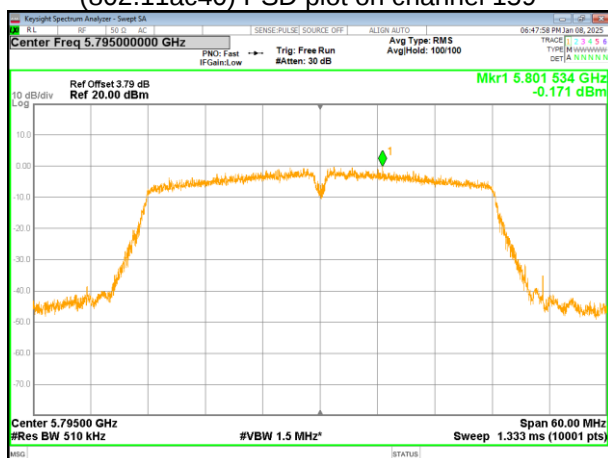
(802.11ac40) PSD plot on channel 151



(802.11ac80) PSD plot on channel 155

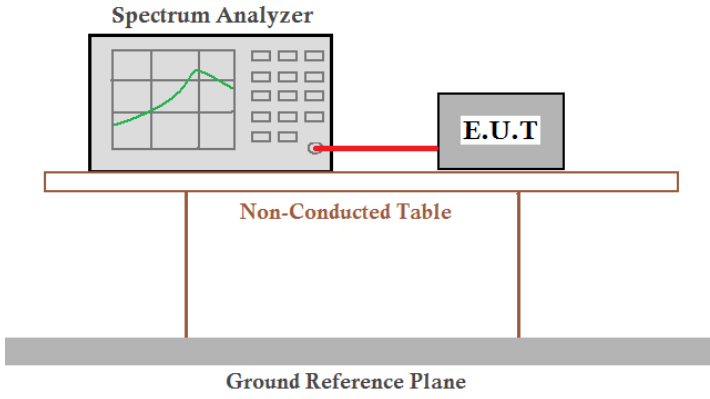


(802.11ac40) PSD plot on channel 159



4.7 Band edge

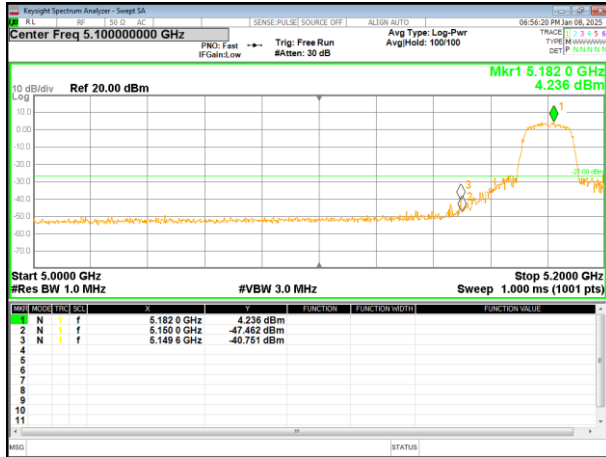
4.7.1 Conducted test Method

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 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.: 23.1°C	Humid.: 39%RH
Test voltage:	AC120/60Hz	
Test results:	Pass	

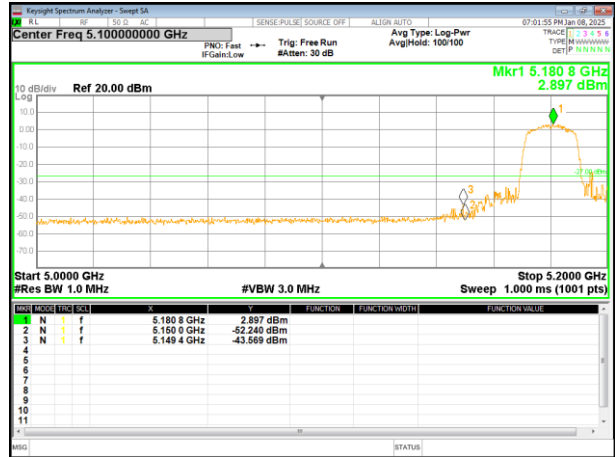
Remark: Due to the margin value of the sideband test being greater than the antenna gain value, the test meets the requirements

5.180~5.240 GHz

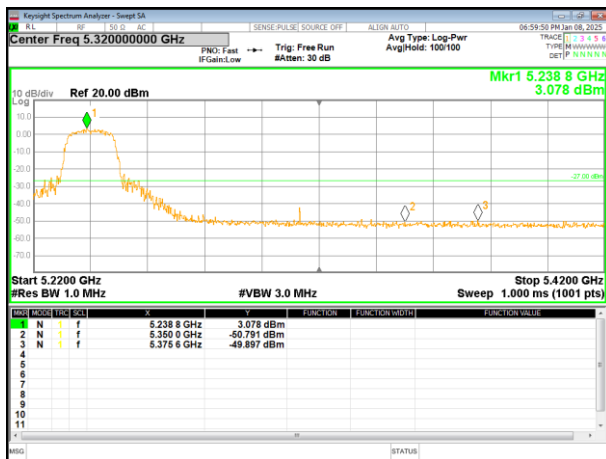
(802.11a) Band Edge, Left Side



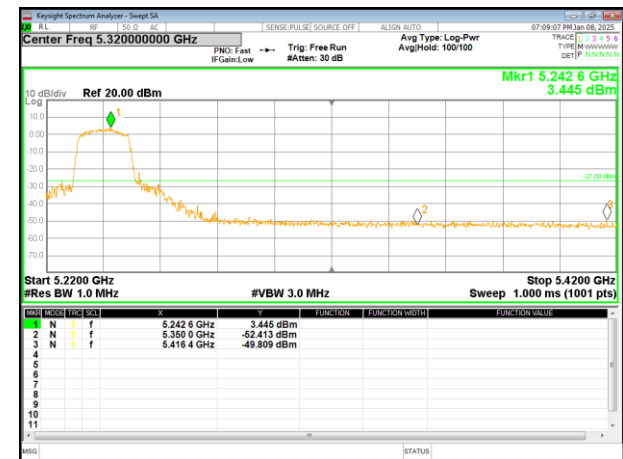
(802.11n20) Band Edge, Left Side



(802.11a) Band Edge, Right Side

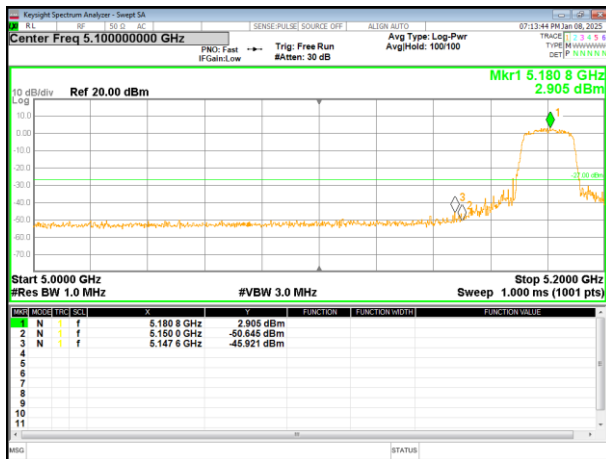


(802.11n20) Band Edge, Right Side

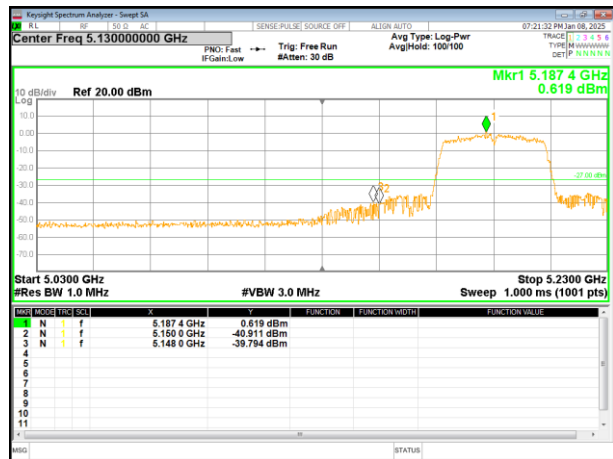


Remark: The antenna gain and cable loss were not compensated in the test data, and the margin value of the Band Edge test was greater than the sum of the antenna gain and cable loss, so the test met the requirements

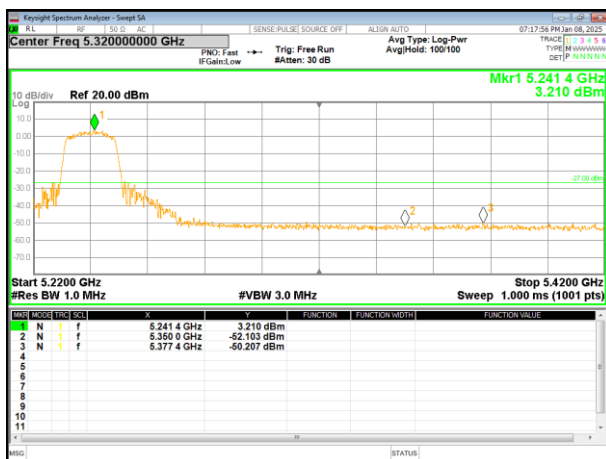
(802.11ac20) Band Edge, Left Side



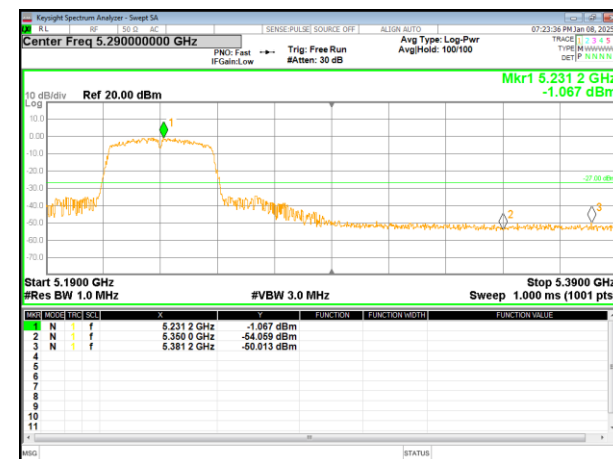
(802.11n40) Band Edge, Left Side



(802.11ac20) Band Edge, Right Side

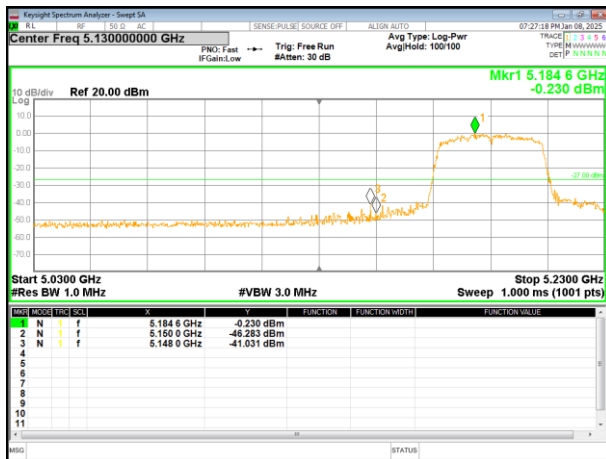


(802.11n40) Band Edge, Right Side

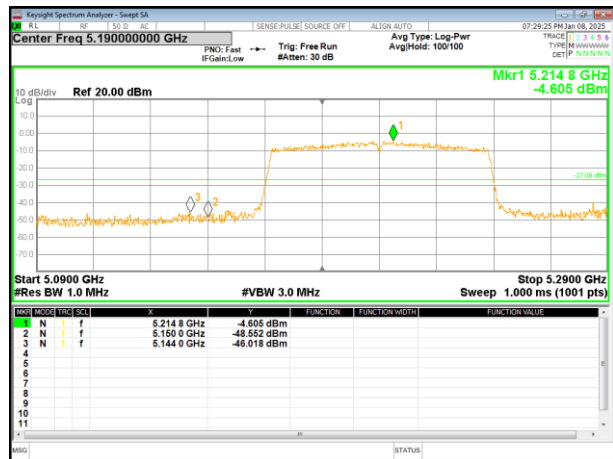


Remark: The antenna gain and cable loss were not compensated in the test data, and the margin value of the Band Edge test was greater than the sum of the antenna gain and cable loss, so the test met the requirements

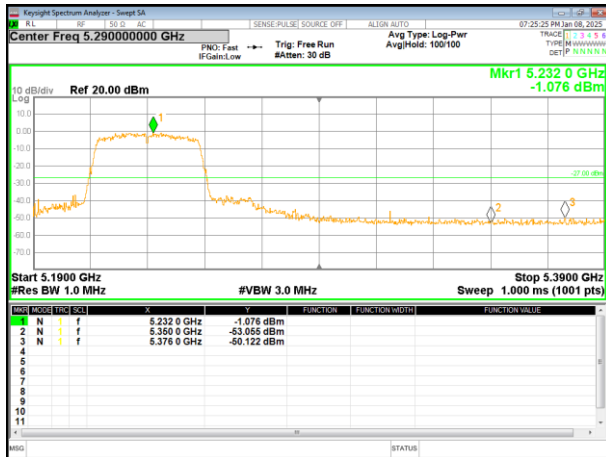
(802.11ac40) Band Edge, Left Side



(802.11ac80) Band Edge



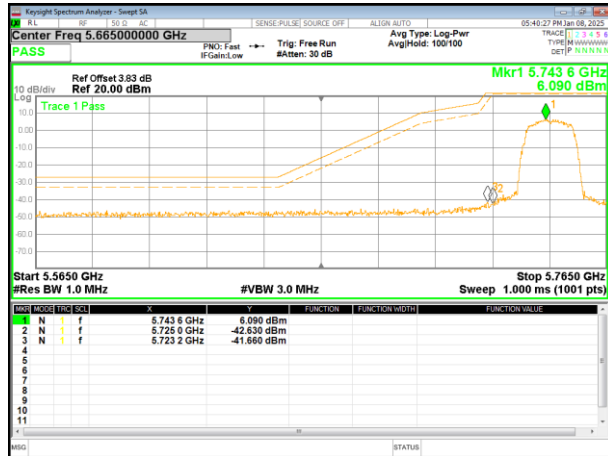
(802.11ac40) Band Edge, Right Side



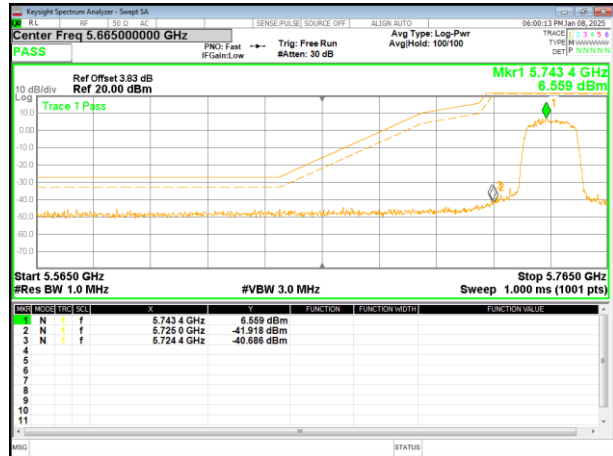
Remark: The antenna gain and cable loss were not compensated in the test data, and the margin value of the Band Edge test was greater than the sum of the antenna gain and cable loss, so the test met the requirements

5.745~5.825 GHz

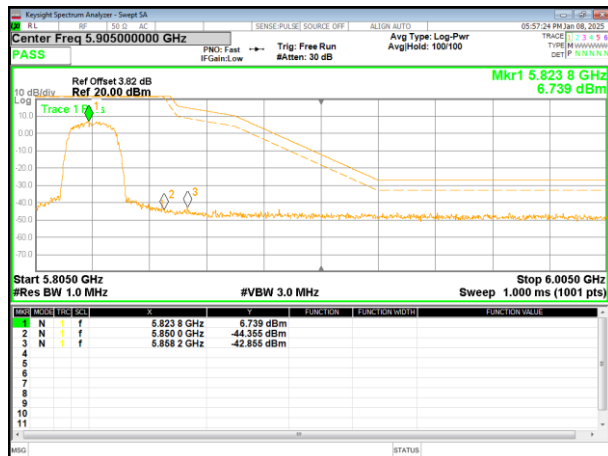
(802.11a) Band Edge, Left Side



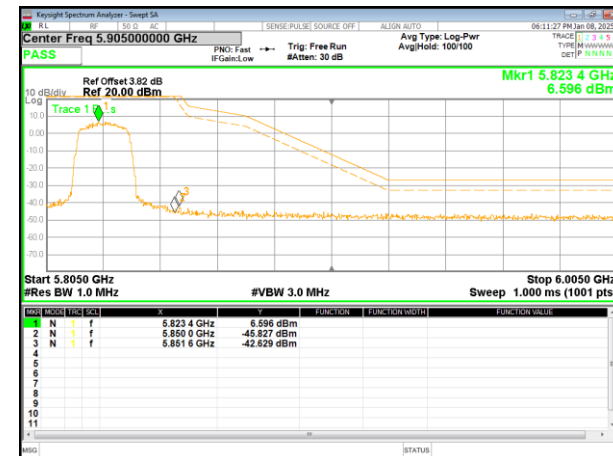
(802.11n20) Band Edge, Left Side



(802.11a) Band Edge, Right Side

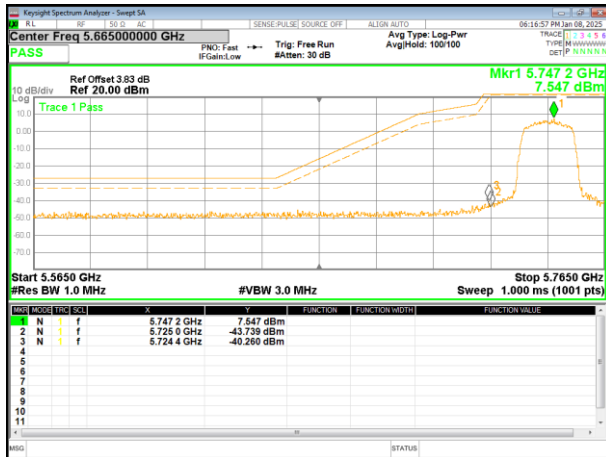


(802.11n20) Band Edge, Right Side

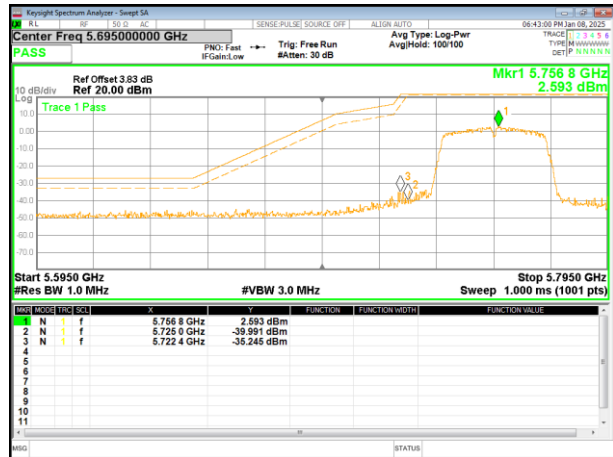


Remark: Antenna gain and cable loss data included in Offset.

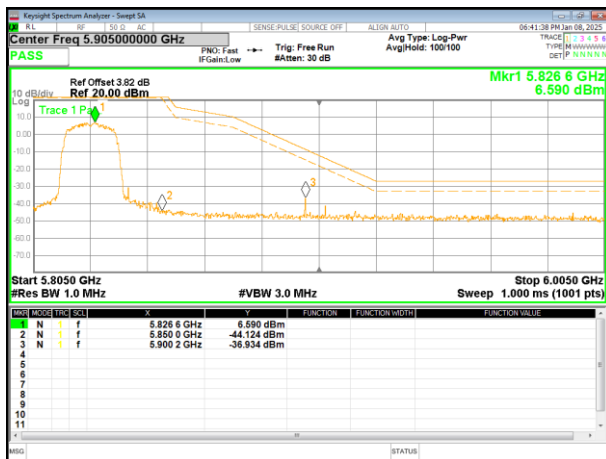
(802.11ac20) Band Edge, Left Side



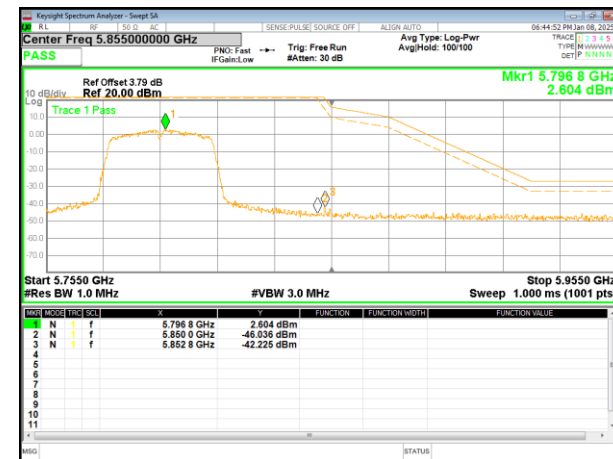
(802.11n40) Band Edge, Left Side



(802.11ac20) Band Edge, Right Side

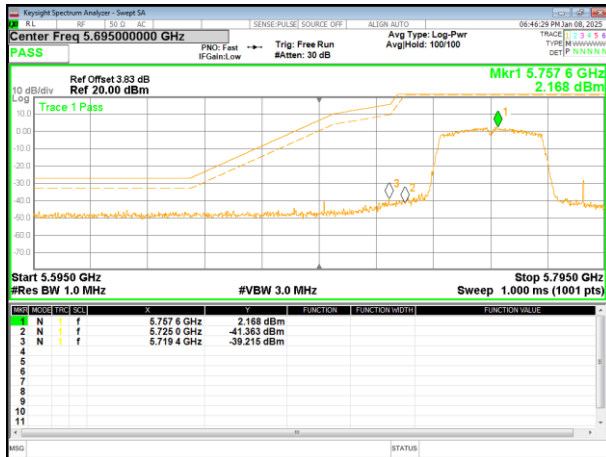


(802.11n40) Band Edge, Right Side

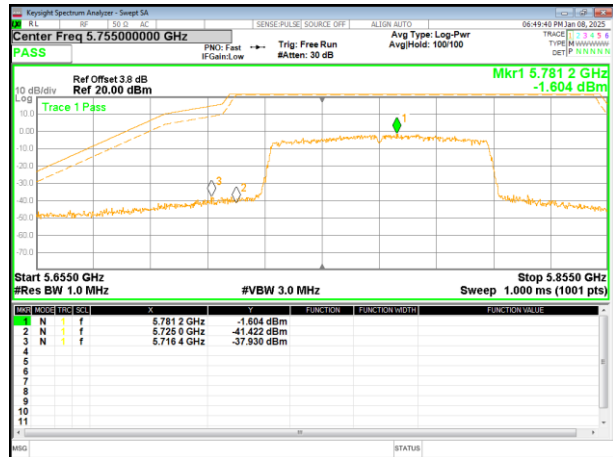


Remark: Antenna gain and cable loss data included in Offset.

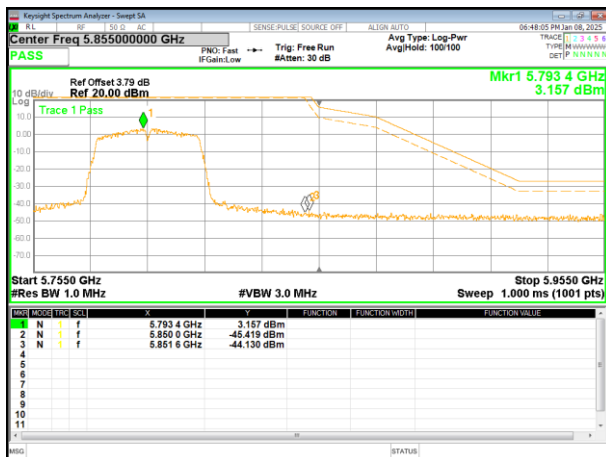
(802.11ac40) Band Edge, Left Side



(802.11ac80) Band Edge



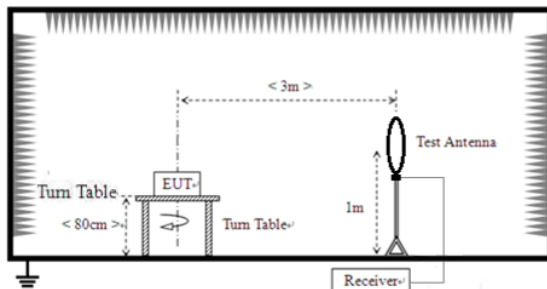
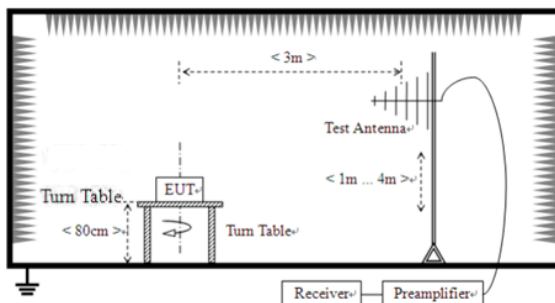
(802.11ac40) Band Edge, Right Side

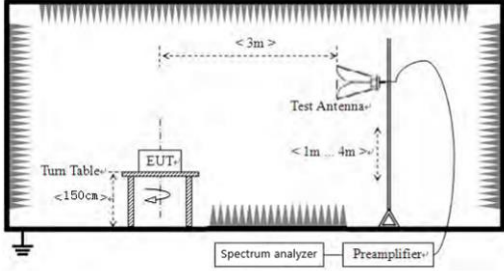


Remark: Antenna gain and cable loss data included in Offset.

4.8 Spurious Emission

4.8.1 Radiated Emission Method

Test Requirement:	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 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

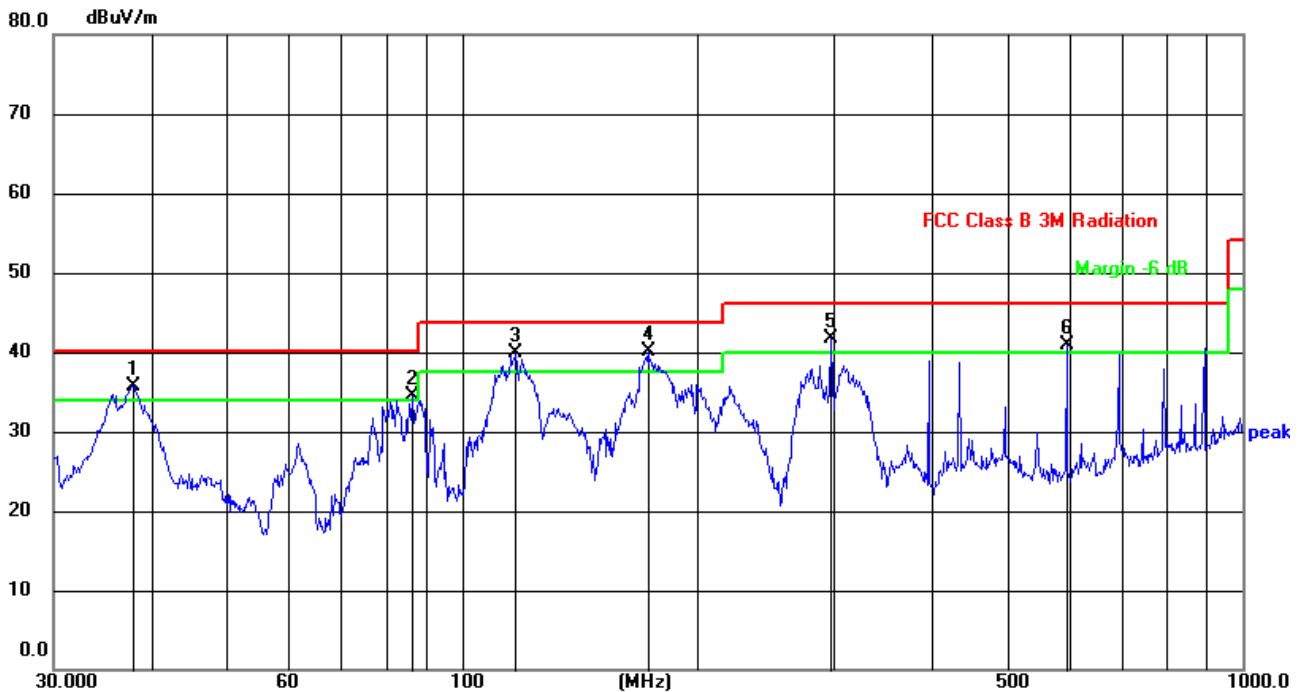
The emission from 9 kHz to 30MHz was pre-tested and found the result was 20dB lower than the limit, and according to 15.31(o) & RSS-Gen 6.13, the test result no need to reported.

Below 1GHz

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

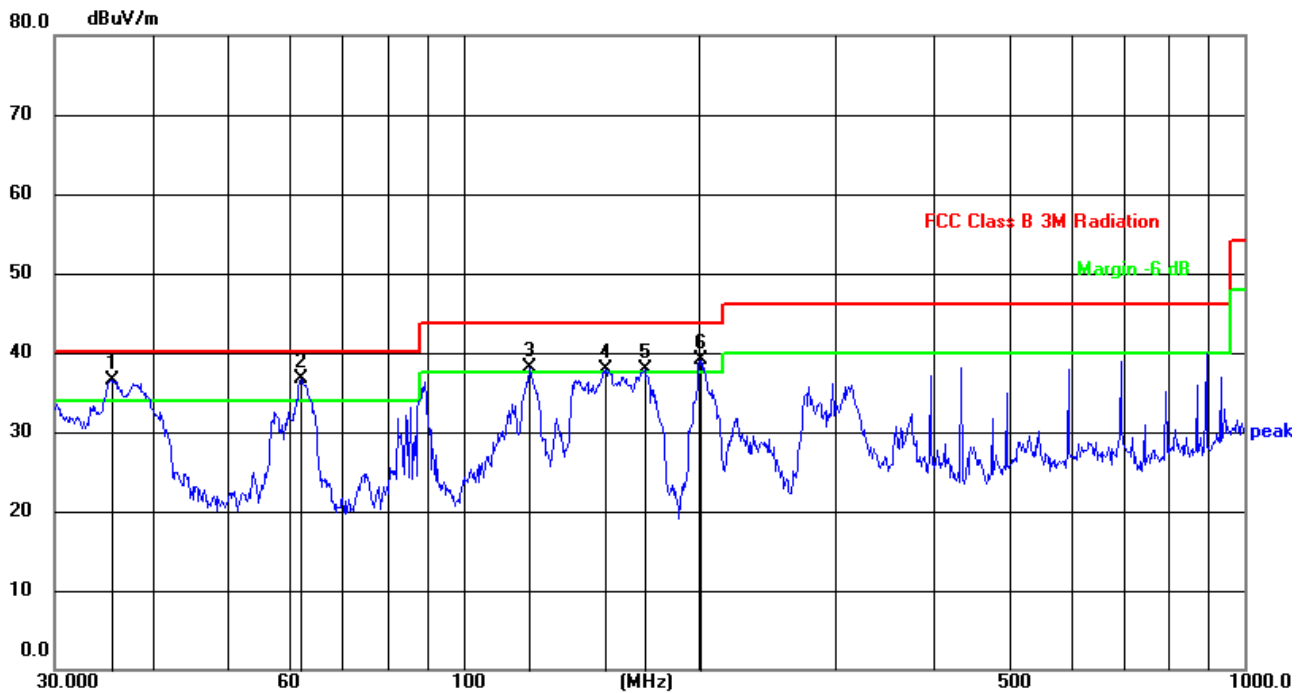
Temperature:	23.1°C	Relative Humidity:	39%
Pressure:	101.2kPa	Test Voltage :	AC120V/60Hz
Test Mode :	5.2G TX- 802.11ac20 (5200MHz)		

Horizontal:



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	37.9448	57.01	-21.26	35.75	40.00	-4.25	QP
2	86.5027	60.08	-25.64	34.44	40.00	-5.56	QP
3	117.3602	63.38	-23.41	39.97	43.50	-3.53	QP
4	173.2050	61.55	-21.45	40.10	43.50	-3.40	QP
5	297.2238	62.20	-20.40	41.80	46.00	-4.20	QP
6	595.1327	52.76	-11.86	40.90	46.00	-5.10	QP

Vertical:



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	35.4992	58.18	-21.63	36.55	40.00	-3.45	QP
2	61.9949	59.61	-22.86	36.75	40.00	-3.25	QP
3	121.5485	61.24	-23.08	38.16	43.50	-5.34	QP
4	152.1297	58.34	-20.51	37.83	43.50	-5.67	QP
5	170.7925	59.06	-21.07	37.99	43.50	-5.51	QP
6	201.3930	62.41	-23.39	39.02	43.50	-4.48	QP

Remarks:

1. Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor
2. The emission levels of other frequencies are very lower than the limit and not show in test report.
3. The test data shows only the worst case 802.11a mode

Above 1GHz:

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

Temperature:	23.1°C	Relative Humidity:	39%
Pressure:	101.2kPa	Test Voltage :	AC120V/60Hz
Test Mode :	5.2G TX- 802.11ac20		

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	49.71	46.20	8.27	38.50	50.28	68.20	-17.92	PK
V	10360.00	39.44	46.20	8.27	38.50	40.01	54.00	-13.99	AV
V	15540.00	45.36	46.30	10.35	38.70	48.11	74.00	-25.89	PK
V	15540.00	35.32	46.30	10.35	38.70	38.07	54.00	-15.93	AV
V	20720.00	53.87	57.40	11.93	37.80	46.20	68.20	-22.00	PK
V	20720.00	44.36	57.40	11.93	37.80	36.69	54.00	-17.31	AV
V	25900.00	51.32	56.50	13.45	39.70	47.97	68.20	-20.23	PK
V	25900.00	42.39	56.50	13.45	39.70	39.04	54.00	-14.96	AV
V	31080.00	49.89	56.10	16.12	41.60	51.51	68.20	-16.69	PK
V	31080.00	42.30	56.10	16.12	41.60	43.92	54.00	-10.08	AV
V	36260.00	47.02	56.80	18.29	42.80	51.31	68.20	-16.89	PK
V	36260.00	39.96	56.80	18.29	42.80	44.25	54.00	-9.75	AV
H	10360.00	48.57	46.20	8.27	38.50	49.14	68.20	-19.06	PK
H	10360.00	37.23	46.20	8.27	38.50	37.80	54.00	-16.20	AV
H	15540.00	44.39	46.30	10.35	38.70	47.14	74.00	-26.86	PK
H	15540.00	33.49	46.30	10.35	38.70	36.24	54.00	-17.76	AV
H	20720.00	56.25	57.40	11.93	37.80	48.58	68.20	-19.62	PK
H	20720.00	45.37	57.40	11.93	37.80	37.70	54.00	-16.30	AV
H	25900.00	52.81	56.50	13.45	39.70	49.46	68.20	-18.74	PK
H	25900.00	42.42	56.50	13.45	39.70	39.07	54.00	-14.93	AV
H	31080.00	49.99	56.10	16.12	41.60	51.61	68.20	-16.59	PK
H	31080.00	42.24	56.10	16.12	41.60	43.86	54.00	-10.14	AV
H	36260.00	45.99	56.80	18.29	42.80	50.28	68.20	-17.92	PK
H	36260.00	40.82	56.80	18.29	42.80	45.11	54.00	-8.89	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	47.17	46.20	8.27	38.50	47.74	68.20	-20.46	PK
V	10400.00	38.13	46.20	8.27	38.50	38.70	54.00	-15.30	AV
V	15600.00	45.25	46.30	10.35	38.40	47.70	74.00	-26.30	PK
V	15600.00	37.13	46.30	10.35	38.40	39.58	54.00	-14.42	AV
V	20800.00	55.16	57.40	11.93	37.80	47.49	68.20	-20.71	PK
V	20800.00	45.72	57.40	11.93	37.80	38.05	54.00	-15.95	AV
V	26000.00	50.89	56.50	13.45	39.80	47.64	68.20	-20.56	PK
V	26000.00	42.81	56.50	13.45	39.80	39.56	54.00	-14.44	AV
V	31200.00	49.97	56.10	16.12	41.60	51.59	68.20	-16.61	PK
V	31200.00	43.27	56.10	16.12	41.60	44.89	54.00	-9.11	AV
V	36400.00	46.32	56.80	18.29	42.80	50.61	68.20	-17.59	PK
V	36400.00	39.78	56.80	18.29	42.80	44.07	54.00	-9.93	AV
H	10400.00	47.77	46.20	8.27	38.50	48.34	68.20	-19.86	PK
H	10400.00	38.70	46.20	8.27	38.50	39.27	54.00	-14.73	AV
H	15600.00	45.63	46.30	10.35	38.40	48.08	74.00	-25.92	PK
H	15600.00	37.21	46.30	10.35	38.40	39.66	54.00	-14.34	AV
H	20800.00	53.81	57.40	11.93	37.80	46.14	68.20	-22.06	PK
H	20800.00	43.45	57.40	11.93	37.80	35.78	54.00	-18.22	AV
H	26000.00	50.28	56.50	13.45	39.80	47.03	68.20	-21.17	PK
H	26000.00	41.90	56.50	13.45	39.80	38.65	54.00	-15.35	AV
H	31200.00	49.19	56.10	16.12	41.60	50.81	68.20	-17.39	PK
H	31200.00	42.09	56.10	16.12	41.60	43.71	54.00	-10.29	AV
H	36400.00	46.45	56.80	18.29	42.80	50.74	68.20	-17.46	PK
H	36400.00	40.61	56.80	18.29	42.80	44.90	54.00	-9.10	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	44.26	46.20	8.27	38.60	44.93	68.20	-23.27	PK
V	10480.00	34.45	46.20	8.27	38.60	35.12	54.00	-18.88	AV
V	15720.00	42.66	46.30	10.35	38.40	45.11	74.00	-28.89	PK
V	15720.00	32.18	46.30	10.35	38.40	34.63	54.00	-19.37	AV
V	20960.00	51.52	57.40	11.93	37.50	43.55	68.20	-24.65	PK
V	20960.00	43.29	57.40	11.93	37.50	35.32	54.00	-18.68	AV
V	26200.00	47.70	56.50	13.45	40.10	44.75	68.20	-23.45	PK
V	26200.00	38.35	56.50	13.45	40.10	35.40	54.00	-18.60	AV
V	31440.00	49.92	56.10	16.12	41.30	51.24	68.20	-16.96	PK
V	31440.00	42.97	56.10	16.12	41.30	44.29	54.00	-9.71	AV
V	36680.00	45.20	56.80	18.29	43.10	49.79	68.20	-18.41	PK
V	36680.00	39.76	56.80	18.29	43.10	44.35	54.00	-9.65	AV
H	10480.00	44.09	46.20	8.27	38.60	44.76	68.20	-23.44	PK
H	10480.00	34.52	46.20	8.27	38.60	35.19	54.00	-18.81	AV
H	15720.00	42.30	46.30	10.35	38.40	44.75	74.00	-29.25	PK
H	15720.00	32.24	46.30	10.35	38.40	34.69	54.00	-19.31	AV
H	20960.00	51.96	57.40	11.93	37.50	43.99	68.20	-24.21	PK
H	20960.00	42.86	57.40	11.93	37.50	34.89	54.00	-19.11	AV
H	26200.00	46.91	56.50	13.45	40.10	43.96	68.20	-24.24	PK
H	26200.00	37.40	56.50	13.45	40.10	34.45	54.00	-19.55	AV
H	31440.00	49.16	56.10	16.12	41.30	50.48	68.20	-17.72	PK
H	31440.00	43.23	56.10	16.12	41.30	44.55	54.00	-9.45	AV
H	36680.00	46.28	56.80	18.29	43.10	50.87	68.20	-17.33	PK
H	36680.00	40.52	56.80	18.29	43.10	45.11	54.00	-8.89	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:	23.1°C	Relative Humidity:	39%
Pressure:	101.2kPa	Test Voltage :	AC120V/60Hz
Test Mode :	5.8G TX- 802.11ac20		

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	48.16	46.10	8.77	39.10	49.93	74.00	-24.07	PK
V	11490.00	35.96	46.10	8.77	39.10	37.73	54.00	-16.27	AV
V	17235.00	42.32	47.60	11.10	38.70	44.52	68.20	-23.68	PK
V	17235.00	34.63	47.60	11.10	38.70	36.83	54.00	-17.17	AV
V	22980.00	55.74	56.90	12.73	37.70	49.27	74.00	-24.73	PK
V	22980.00	42.58	56.90	12.73	37.70	36.11	54.00	-17.89	AV
V	28725.00	49.26	55.60	14.25	40.30	48.21	68.20	-19.99	PK
V	28725.00	42.56	55.60	14.25	40.30	41.51	54.00	-12.49	AV
V	34470.00	48.93	55.90	17.26	42.10	52.39	68.20	-15.82	PK
V	34470.00	40.99	55.90	17.26	42.10	44.45	54.00	-9.55	AV
H	11490.00	46.89	46.10	8.77	39.10	48.66	74.00	-25.34	PK
H	11490.00	35.65	46.10	8.77	39.10	37.42	54.00	-16.58	AV
H	17235.00	41.36	47.60	11.10	38.70	43.56	68.20	-24.64	PK
H	17235.00	34.91	47.60	11.10	38.70	37.11	54.00	-16.89	AV
H	22980.00	57.38	56.90	12.73	37.70	50.91	74.00	-23.09	PK
H	22980.00	47.64	56.90	12.73	37.70	41.17	54.00	-12.83	AV
H	28725.00	48.50	55.60	14.25	40.30	47.45	68.20	-20.75	PK
H	28725.00	42.93	55.60	14.25	40.30	41.88	54.00	-12.12	AV
H	34470.00	48.10	55.90	17.26	42.10	51.56	68.20	-16.64	PK
H	34470.00	41.23	55.90	17.26	42.10	44.69	54.00	-9.31	AV

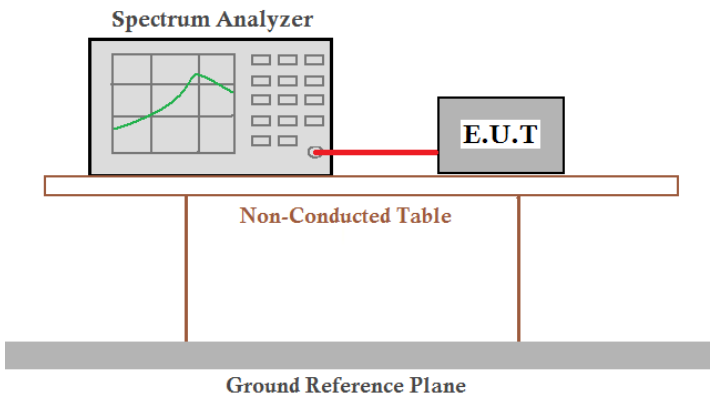
Polar (H/V)	Frequency (MHz)	Meter Reading (dBuV)	Pre- amplifier (dB)	Cable Loss (dB)	Antenna Factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Detect or Type
Middle Channel:5785MHz									
V	11570.00	47.61	46.10	8.77	39.10	49.38	74.00	-24.62	PK
V	11570.00	36.16	46.10	8.77	39.10	37.93	54.00	-16.07	AV
V	17355.00	41.97	47.60	11.10	38.70	44.17	68.20	-24.03	PK
V	17355.00	36.33	47.60	11.10	38.70	38.53	54.00	-15.47	AV
V	23140.00	57.64	56.90	12.73	37.70	51.17	74.00	-22.83	PK
V	23140.00	46.59	56.90	12.73	37.70	40.12	54.00	-13.88	AV
V	28925.00	46.17	55.60	14.25	40.30	45.12	68.20	-23.08	PK
V	28925.00	42.21	55.60	14.25	40.30	41.16	54.00	-12.84	AV
V	34710.00	47.67	55.90	17.26	42.40	51.43	68.20	-16.77	PK
V	34710.00	41.56	55.90	17.26	42.40	45.32	54.00	-8.68	AV
H	11570.00	48.20	46.10	8.77	39.10	49.97	74.00	-24.03	PK
H	11570.00	37.05	46.10	8.77	39.10	38.82	54.00	-15.18	AV
H	17355.00	42.90	47.60	11.10	38.70	45.10	68.20	-23.10	PK
H	17355.00	36.08	47.60	11.10	38.70	38.28	54.00	-15.72	AV
H	23140.00	58.91	56.90	12.73	37.70	52.44	74.00	-21.56	PK
H	23140.00	47.43	56.90	12.73	37.70	40.96	54.00	-13.04	AV
H	28925.00	48.29	55.60	14.25	40.30	47.24	68.20	-20.96	PK
H	28925.00	41.86	55.60	14.25	40.30	40.81	54.00	-13.19	AV
H	34710.00	46.12	55.90	17.26	42.40	49.88	68.20	-18.32	PK
H	34710.00	41.47	55.90	17.26	42.40	45.23	54.00	-8.77	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:5825MHz									
V	11650.00	47.86	46.10	8.77	39.10	49.63	74.00	-24.37	PK
V	11650.00	35.96	46.10	8.77	39.10	37.73	54.00	-16.27	AV
V	17475.00	42.75	47.90	11.23	38.90	44.98	68.20	-23.23	PK
V	17475.00	37.73	47.90	11.23	38.90	39.96	54.00	-14.04	AV
V	23300.00	51.85	57.10	12.73	37.80	45.28	68.20	-22.92	PK
V	23300.00	46.67	57.10	12.73	37.80	40.10	54.00	-13.90	AV
V	29125.00	47.91	55.80	14.25	40.50	46.86	68.20	-21.34	PK
V	29125.00	43.08	55.80	14.25	40.50	42.03	54.00	-11.97	AV
V	34950.00	46.92	56.30	17.91	42.50	51.03	68.20	-17.17	PK
V	34950.00	41.20	56.30	17.91	42.50	45.31	54.00	-8.69	AV
H	11650.00	48.50	46.10	8.77	39.10	50.27	74.00	-23.73	PK
H	11650.00	34.58	46.10	8.77	39.10	36.35	54.00	-17.65	AV
H	17475.00	42.62	47.90	11.23	38.90	44.85	68.20	-23.35	PK
H	17475.00	37.49	47.90	11.23	38.90	39.72	54.00	-14.28	AV
H	23300.00	53.16	57.10	12.73	37.80	46.59	68.20	-21.61	PK
H	23300.00	47.43	57.10	12.73	37.80	40.86	54.00	-13.14	AV
H	29125.00	49.33	55.80	14.25	40.50	48.28	68.20	-19.92	PK
H	29125.00	43.14	55.80	14.25	40.50	42.09	54.00	-11.91	AV
H	34950.00	46.63	56.30	17.91	42.50	50.74	68.20	-17.46	PK
H	34950.00	41.04	56.30	17.91	42.50	45.15	54.00	-8.85	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.: 23.1°C	Humid.: 39%RH
Test voltage:	AC120/60Hz	
Test results:	Pass	

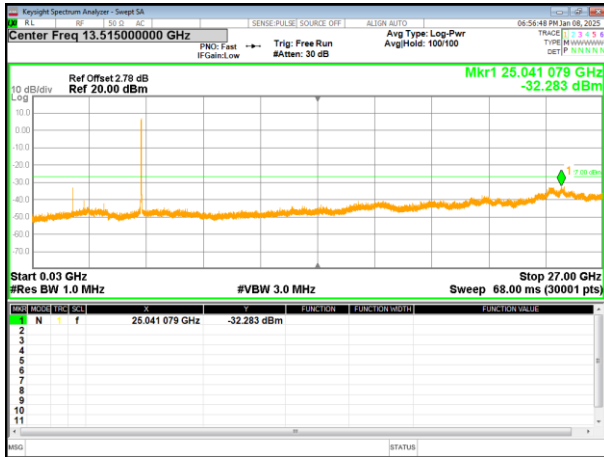
Remark:

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.

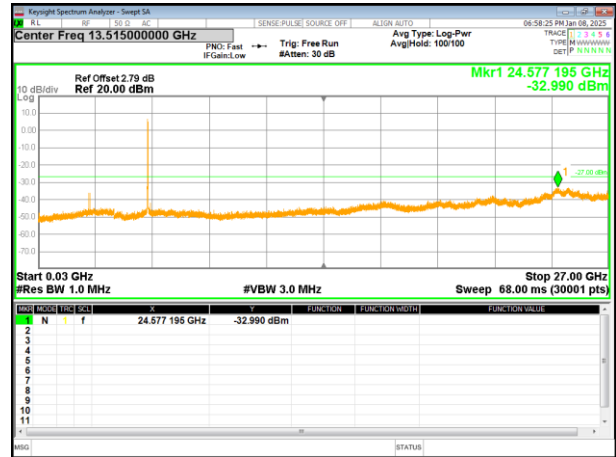
5180-5240MHz

Test Plot

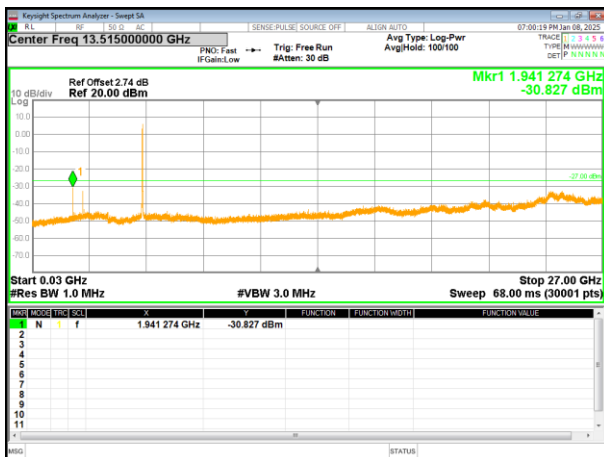
802.11a on channel 36



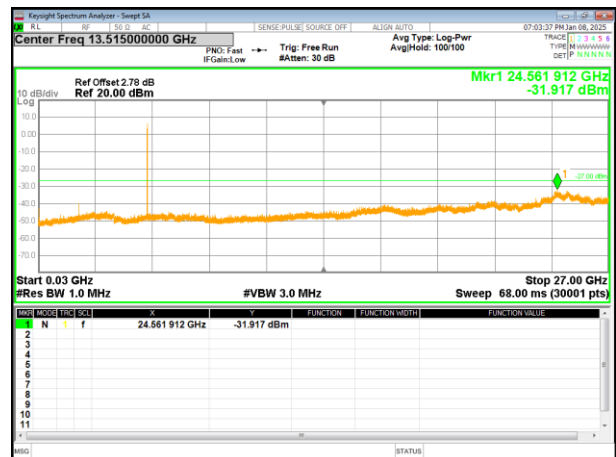
802.11a on channel 40



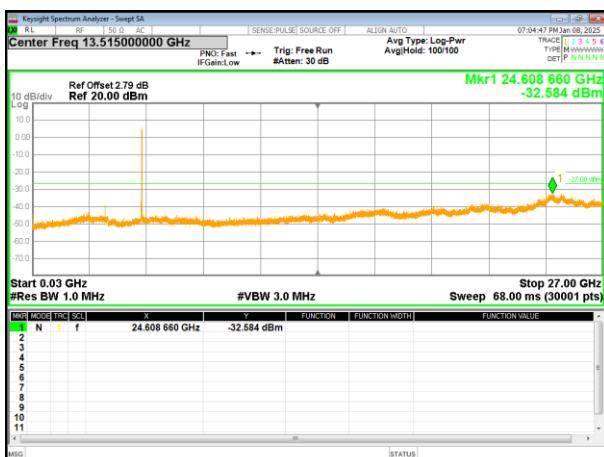
802.11a on channel 48



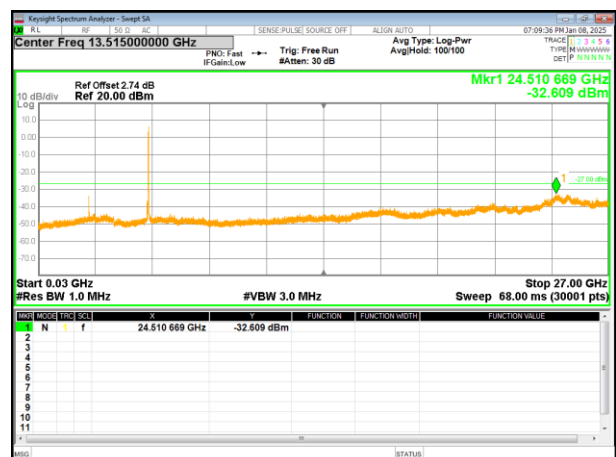
802.11n20 on channel 36



802.11n20 on channel 40

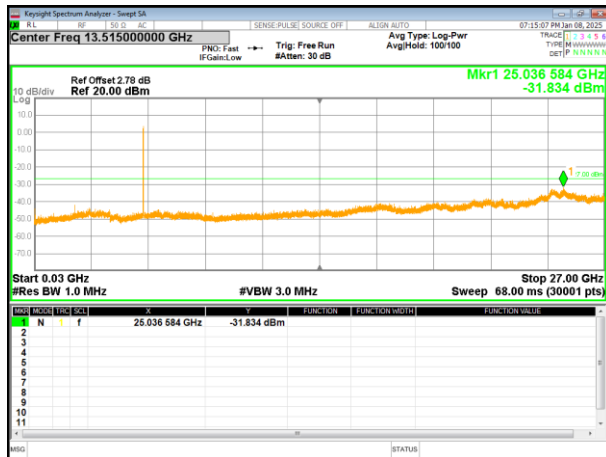


802.11n20 on channel 48

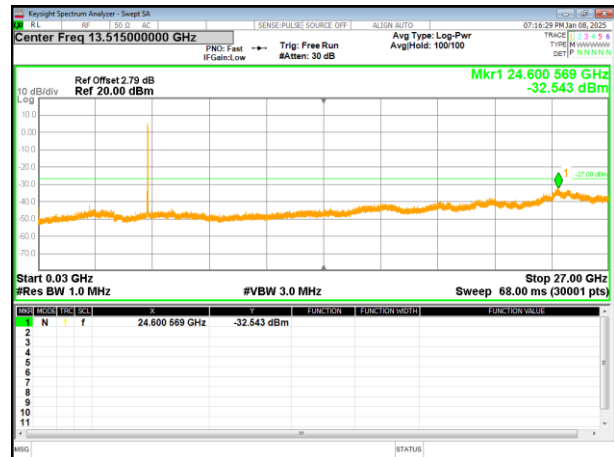


Test Plot

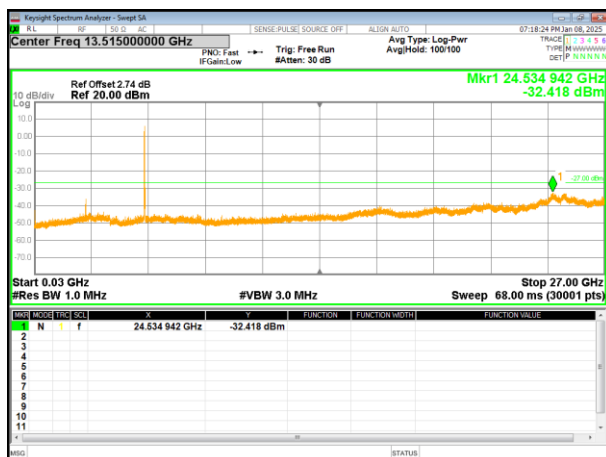
802.11ac20 on channel 36



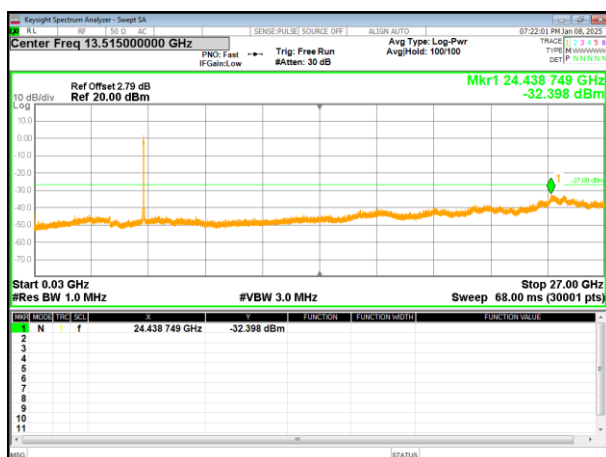
802.11ac20 on channel 40



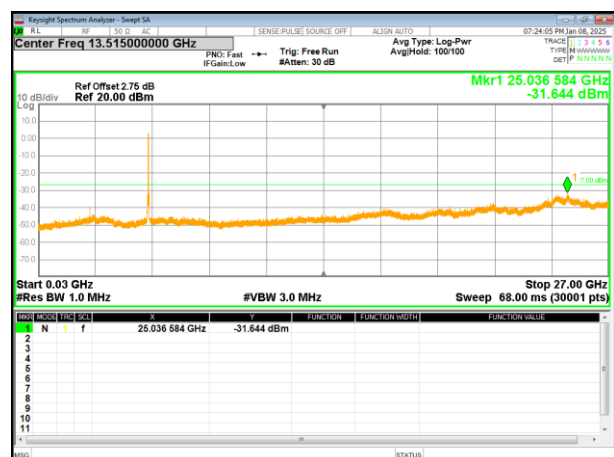
802.11ac20 on channel 48



802.11n40 on channel 38

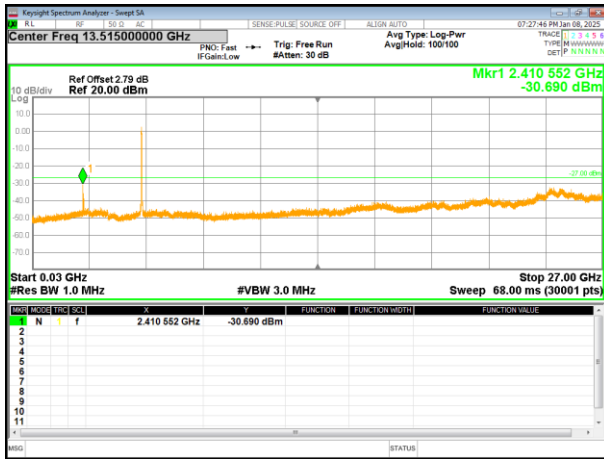


802.11n40 on channel 46

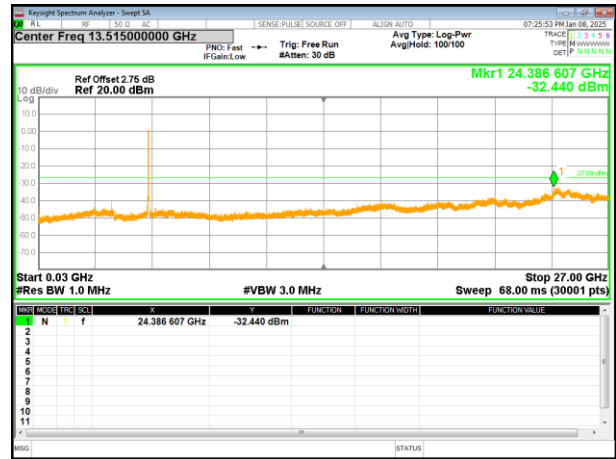


Test Plot

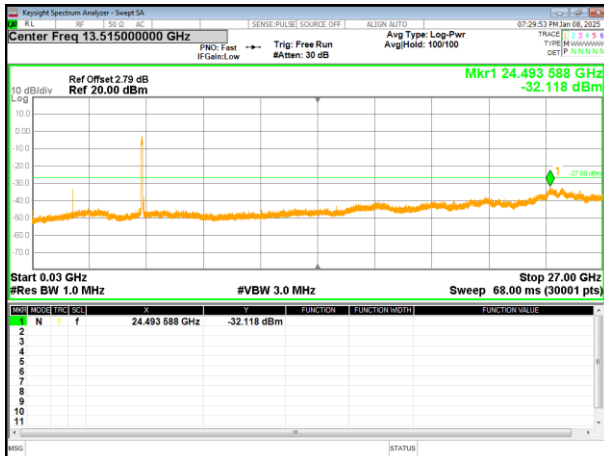
802.11ac40 on channel 38



802.11ac40 on channel 46



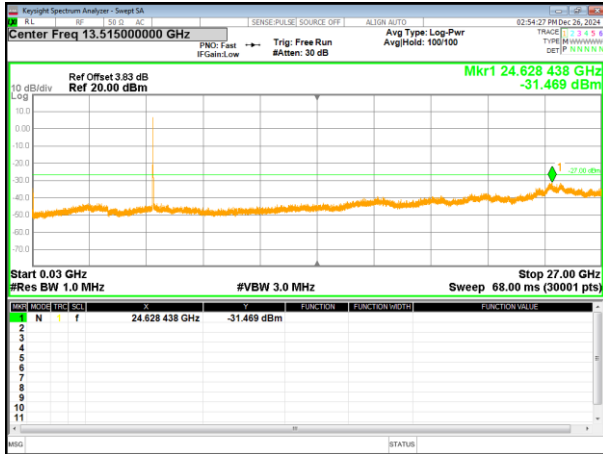
802.11ac80 on channel 42



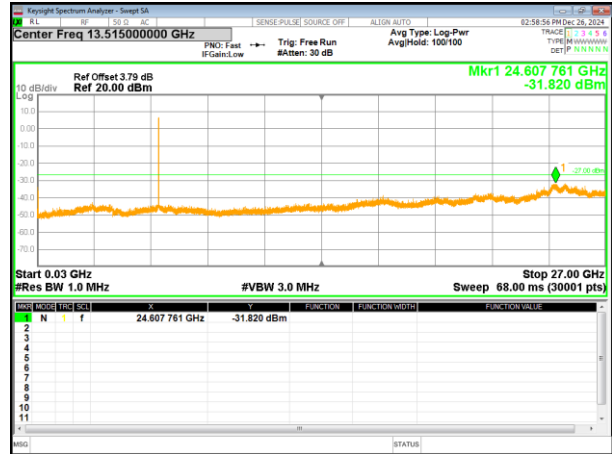
5745-5825MHz

Test Plot

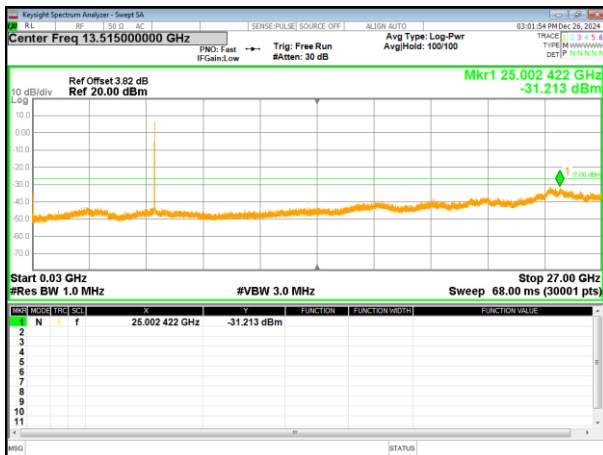
802.11a on channel 149



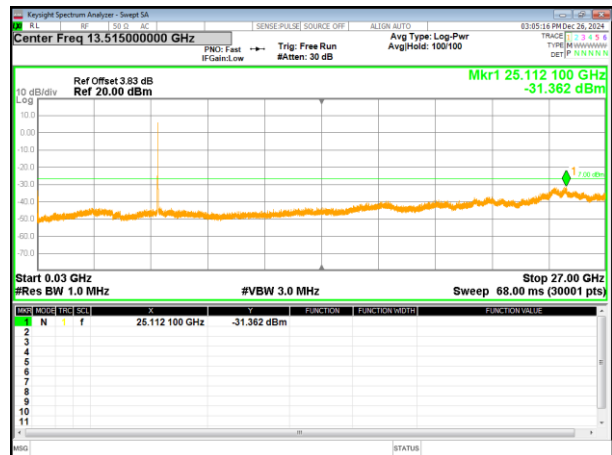
802.11a on channel 157



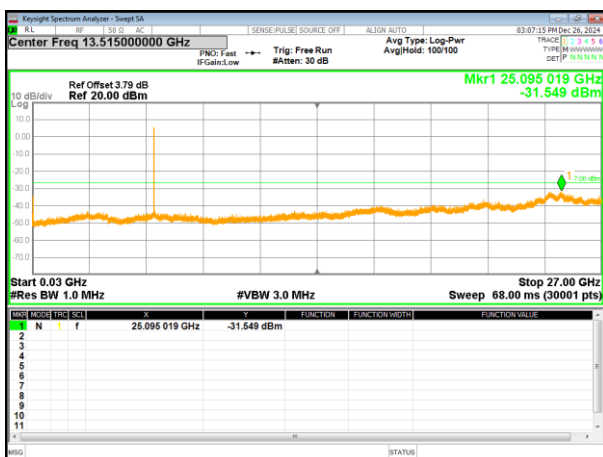
802.11a on channel 165



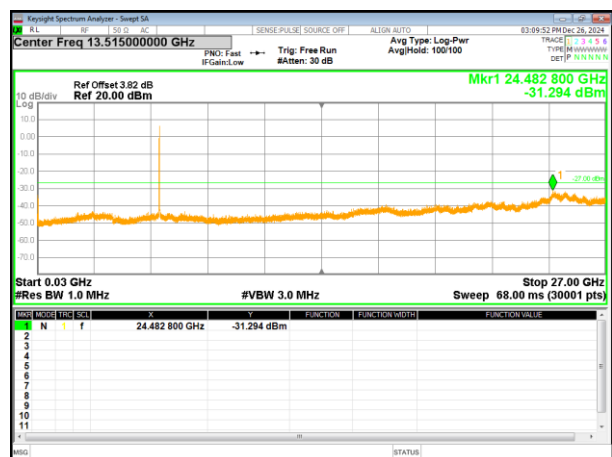
802.11n20 on channel 149



802.11n20 on channel 157

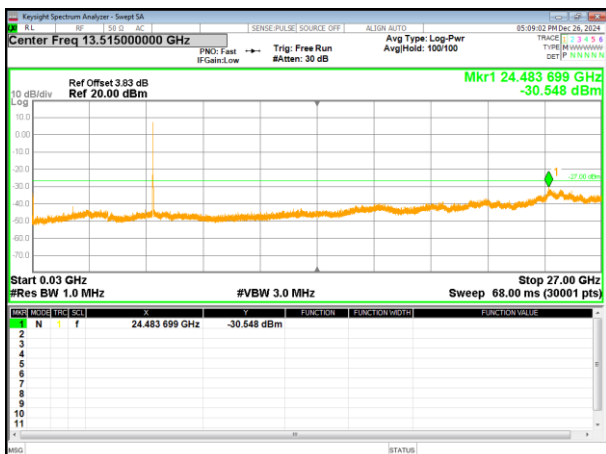


802.11n20 on channel 165

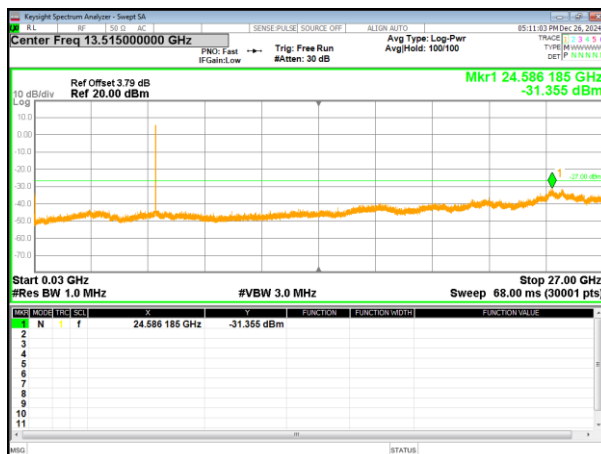


Test Plot

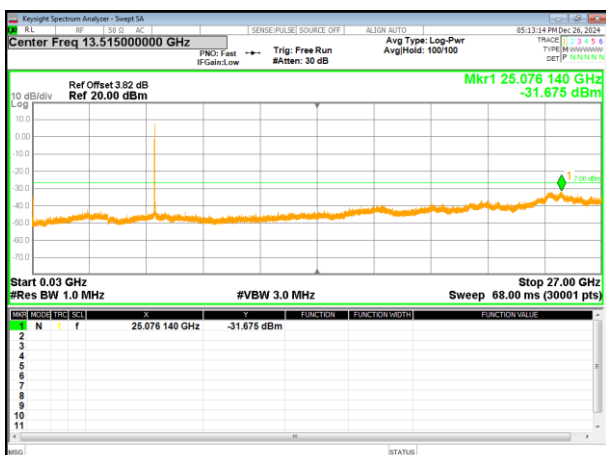
802.11ac20 on channel 149



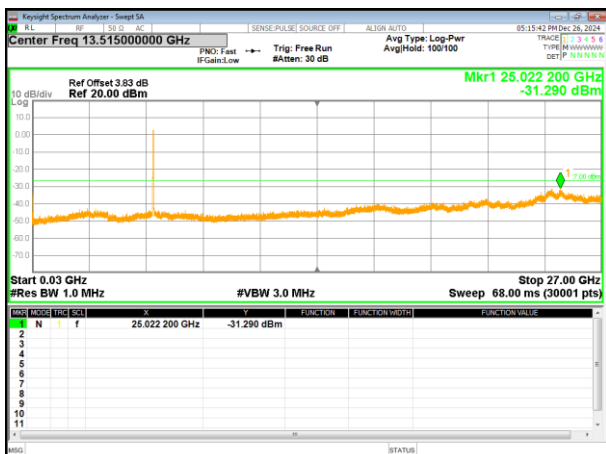
802.11ac20 on channel 157



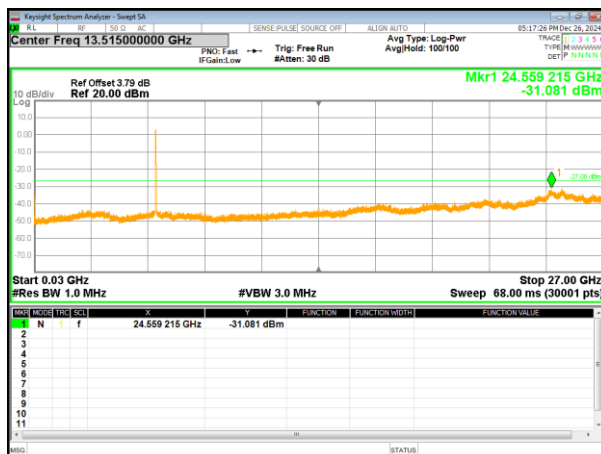
802.11ac20 on channel 165



802.11n40 on channel 151

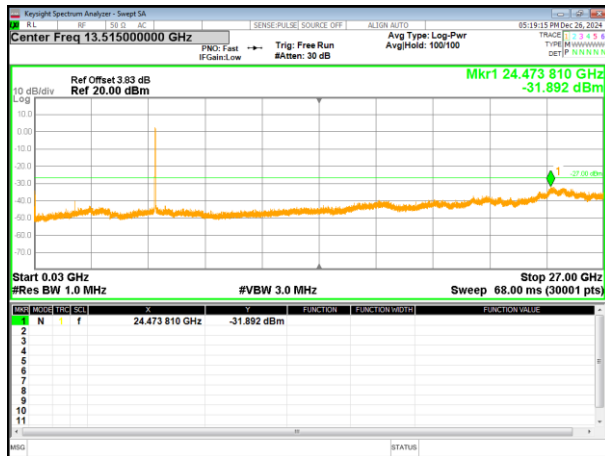


802.11n40 on channel 159

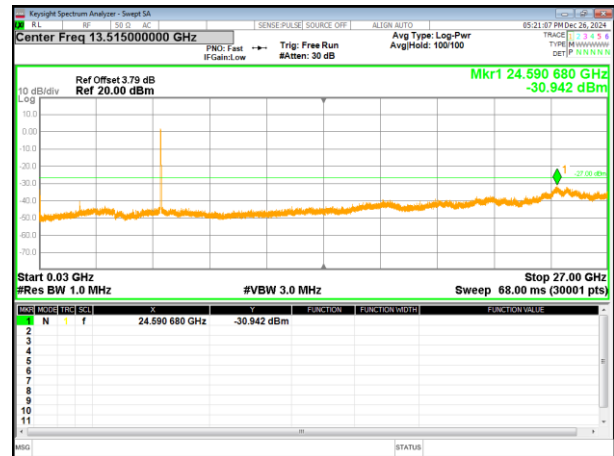


Test Plot

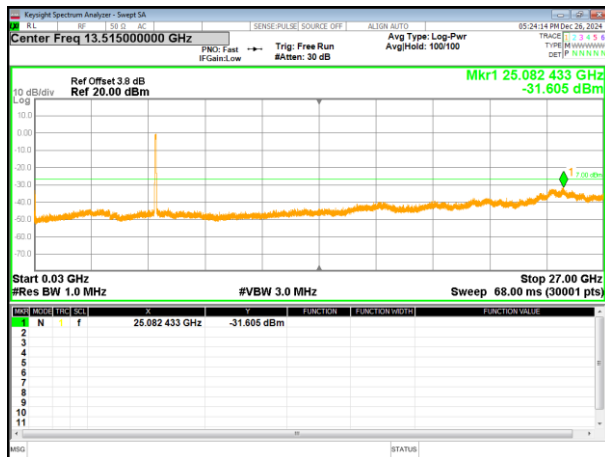
802.11ac40 on channel 151



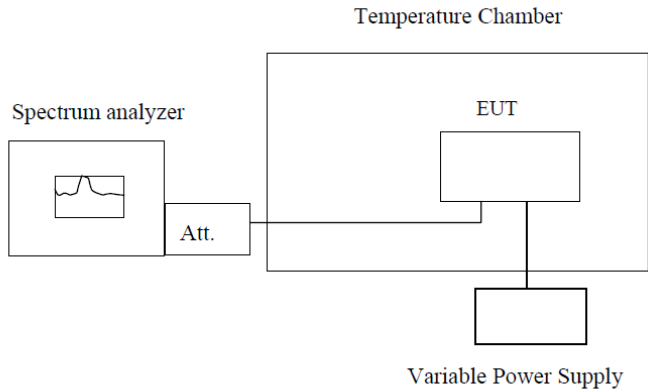
802.11ac40 on channel 159



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: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	5179.979	5180.061	5179.787	5179.909
	5190	5189.975	5199.935	5199.661	5189.92
	5200	5199.970	5199.96	5199.686	5199.911
	5210	5209.976	5209.938	5209.663	5209.912
	5220	5219.971	5219.953	5219.678	5219.918
	5230	5229.969	5229.946	5229.669	5229.936
	5240	5239.942	5239.954	5239.677	5239.921
-20	5180	5179.974	5179.996	5179.973	5179.966
	5190	5189.965	5180.102	5189.974	5189.965
	5200	5199.973	5199.977	5199.965	5199.959
	5210	5209.965	5210.002	5299.972	5209.949
	5220	5219.986	5219.98	5219.965	5219.959
	5230	5229.964	5229.995	5229.985	5299.957
	5240	5239.982	5239.988	5239.963	5239.961
-10	5180	5179.979	5179.946	5179.651	5179.909
	5190	5189.975	5189.941	5189.662	5189.92
	5200	5199.970	5199.936	5199.652	5199.911
	5210	5209.976	5209.942	5209.652	5209.912
	5220	5219.971	5219.937	5219.659	5219.918
	5230	5229.969	5229.935	5229.675	5229.936
	5240	5239.942	5239.908	5239.647	5239.908
0	5180	5179.756	5179.925	5179.663	5179.92
	5190	5199.928	5189.935	5189.654	5189.921
	5200	5199.926	5199.926	5199.661	5199.912
	5210	5209.981	5209.927	5209.652	5299.919
	5220	5219.97	5219.934	5219.673	5219.911
	5230	5229.957	5229.952	5229.649	5229.932
	5240	5239.974	5239.924	5239.667	5239.91
10	5180	5179.958	5179.937	5179.672	5179.921
	5190	5189.969	5189.927	5189.668	5189.912
	5200	5199.96	5199.935	5199.662	5199.92
	5210	5209.961	5209.927	5209.667	5209.912
	5220	5219.968	5219.948	5219.662	5219.932
	5230	5229.986	5229.926	5229.658	5229.91
	5240	5239.971	5239.944	5239.631	5239.928
20	5180	5179.76	5179.966	5179.974	5179.956
	5190	5199.932	5189.977	5189.965	5189.957

	5200	5199.93	5199.968	5199.973	5199.948
	5210	5209.985	5209.969	5209.965	5299.956
	5220	5219.974	5219.976	5219.986	5219.948
	5230	5229.961	5229.994	5229.963	5229.969
	5240	5239.978	5239.966	5239.981	5239.947
30	5180	5179.935	5179.977	5179.962	5180.081
	5190	5189.965	5189.978	5189.973	5199.956
	5200	5199.99	5199.969	5199.964	5199.981
	5210	5209.974	5299.977	5209.965	5209.959
	5220	5219.965	5219.969	5219.972	5219.974
	5230	5229.993	5229.99	5229.989	5229.967
	5240	5239.981	5239.968	5239.961	5239.975
40	5180	5179.76	5179.966	5179.974	5179.956
	5190	5199.932	5189.977	5189.965	5189.957
	5200	5199.93	5199.968	5199.973	5199.948
	5210	5209.985	5209.969	5209.965	5299.956
	5220	5219.974	5219.976	5219.986	5219.948
	5230	5229.961	5229.994	5229.963	5229.969
	5240	5239.978	5239.966	5239.981	5239.947
50	5180	5179.962	5179.978	5179.974	5179.966
	5190	5189.973	5189.969	5189.965	5179.966
	5200	5199.964	5199.977	5199.973	5189.962
	5210	5209.965	5209.969	5209.965	5199.957
	5220	5219.972	5219.99	5219.986	5209.963
	5230	5229.99	5229.968	5229.963	5219.958
	5240	5239.962	5239.986	5239.981	5229.956

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	5179.968	5179.966	5179.983	5179.962
	5190	5189.962	5189.977	5189.979	5189.948
	5200	5199.975	5199.968	5199.974	5199.949
	5210	5209.979	5209.969	5209.98	5209.971
	5220	5219.965	5219.976	5219.975	5219.957
	5230	5229.958	5229.994	5229.972	5229.967
	5240	5180.098	5179.982	5179.974	5179.945
AC 120V	5180	5199.973	5189.976	5189.965	5189.956
	5190	5199.998	5199.976	5199.973	5199.947
	5200	5209.976	5209.988	5209.965	5209.948
	5210	5219.991	5219.979	5219.986	5219.955
	5220	5229.984	5299.982	5229.963	5229.973
	5230	5239.992	5239.979	5239.981	5239.958
	5240	5180.098	5179.982	5179.974	5179.945
AC 138V	5180	5179.973	5179.978	5179.973	5179.956
	5190	5189.974	5189.969	5189.974	5189.957
	5200	5199.965	5199.977	5199.965	5199.948
	5210	5299.973	5209.969	5299.972	5299.956
	5220	5219.965	5219.99	5219.965	5219.948
	5230	5229.986	5229.968	5229.985	5229.969
	5240	5239.964	5239.986	5239.963	5239.947

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	5744.954	5744.969	5744.964	5744.943
	5755	5754.970	5754.976	5754.981	5754.968
	5775	5774.969	5774.968	5774.982	5774.949
	5785	5784.972	5784.96	5784.964	5784.958
	5795	5794.983	5794.967	5794.982	5794.956
	5825	5824.964	5824.896	5824.979	5824.966
-20	5745	5744.954	5744.98	5744.959	5744.959
	5755	5754.970	5754.982	5754.984	5754.973
	5775	5774.969	5774.985	5774.965	5774.958
	5785	5784.972	5784.977	5784.974	5784.945
	5795	5794.979	5794.968	5794.972	5794.939
	5825	5824.964	5824.977	5824.982	5824.973
-10	5745	5744.975	5744.993	5744.975	5744.948
	5755	5754.989	5754.966	5754.989	5754.967
	5775	5774.974	5774.989	5774.974	5774.947
	5785	5784.961	5784.989	5784.961	5784.974
	5795	5794.955	5794.98	5794.955	5794.966
	5825	5824.989	5824.995	5824.989	5824.975
0	5745	5744.958	5744.969	5744.965	5744.948
	5755	5754.968	5754.976	5754.972	5754.937
	5775	5774.989	5774.968	5774.989	5774.948
	5785	5784.965	5784.96	5784.965	5784.955
	5795	5794.961	5794.967	5794.961	5794.973
	5825	5824.959	5824.896	5824.964	5824.965
10	5745	5744.955	5744.98	5744.959	5744.959
	5755	5754.97	5754.982	5754.984	5754.973
	5775	5774.969	5774.985	5774.965	5774.958
	5785	5784.972	5784.977	5784.974	5784.945
	5795	5794.982	5794.968	5794.972	5794.939
	5825	5824.964	5824.977	5824.982	5824.973
20	5745	5744.930	5744.97	5744.975	5744.579
	5755	5754.991	5754.977	5754.977	5754.962
	5775	5774.987	5774.994	5774.98	5774.963
	5785	5784.971	5784.97	5784.972	5784.966
	5795	5794.960	5794.966	5794.963	5794.949
	5825	5824.895	5824.968	5824.972	5824.945
30	5745	5744.955	5744.98	5744.959	5744.959
	5755	5754.970	5754.982	5754.984	5754.973
	5775	5774.969	5774.985	5774.965	5774.958
	5785	5784.972	5784.977	5784.974	5784.945
	5795	5794.982	5794.968	5794.972	5794.939
	5825	5824.964	5824.977	5824.982	5824.973
40	5745	5744.930	5744.97	5744.975	5744.579
	5755	5754.991	5754.977	5754.977	5754.962
	5775	5774.987	5774.994	5774.98	5774.963
	5785	5784.971	5784.97	5784.972	5784.966

50	5795	5794.983	5794.967	5794.982	5794.956
	5825	5824.964	5824.896	5824.979	5824.966
	5745	5744.958	5744.969	5744.965	5744.948
	5755	5754.968	5754.976	5754.972	5754.937
	5775	5774.989	5774.968	5774.989	5774.948
	5785	5784.965	5784.96	5784.965	5784.955
	5795	5794.961	5794.967	5794.961	5794.973
	5825	5824.959	5824.896	5824.964	5824.965

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	5744.959	5744.969	5744.964	5744.944
	5755	5754.984	5754.986	5754.971	5754.956
	5775	5774.965	5774.987	5774.963	5774.973
	5785	5784.974	5784.969	5784.955	5784.949
	5795	5794.972	5794.986	5794.962	5794.945
	5825	5824.982	5824.984	5824.891	5824.948
AC 120V	5745	5744.975	5744.994	5744.973	5744.948
	5755	5754.989	5754.966	5754.989	5754.967
	5775	5774.974	5774.989	5774.974	5774.947
	5785	5784.961	5784.989	5784.961	5784.974
	5795	5794.955	5794.98	5794.955	5794.966
	5825	5824.989	5824.995	5824.989	5824.975
AC 132V	5745	5744.965	5744.98	5744.958	5744.973
	5755	5754.972	5754.982	5754.981	5754.945
	5775	5774.989	5774.985	5774.982	5774.968
	5785	5784.965	5784.977	5784.964	5784.968
	5795	5794.961	5794.968	5794.981	5794.959
	5825	5824.964	5824.977	5824.979	5824.974

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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