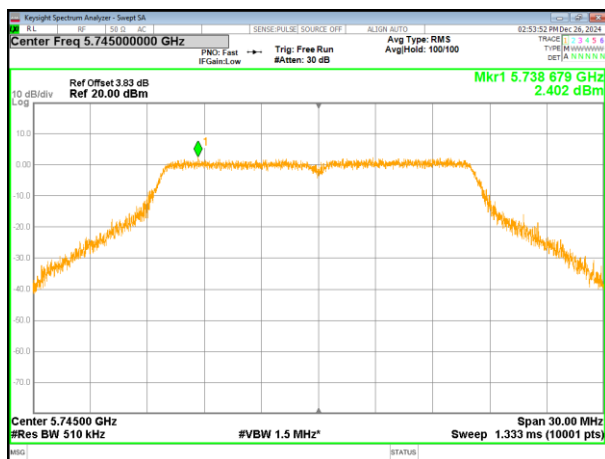
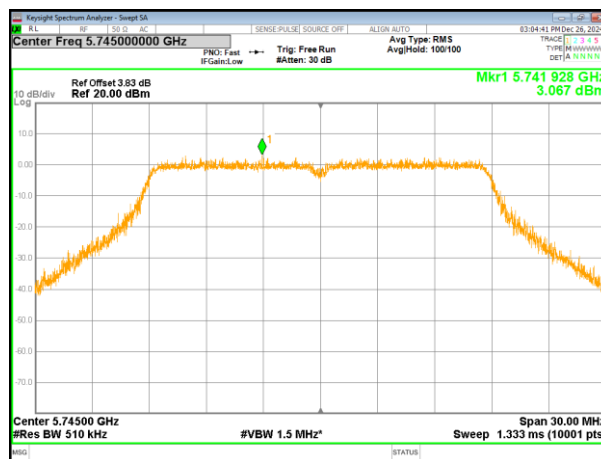


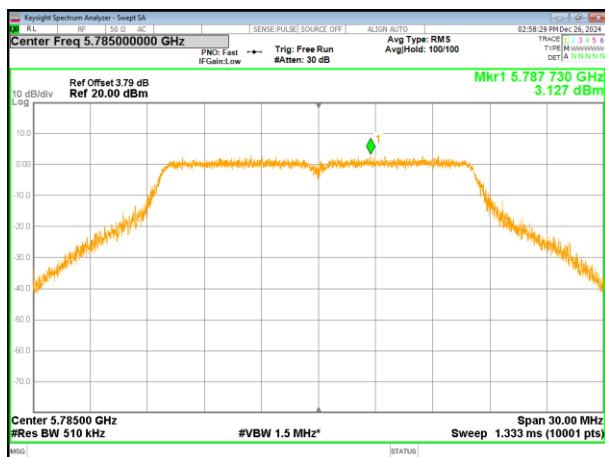
(802.11a) PSD plot on channel 149



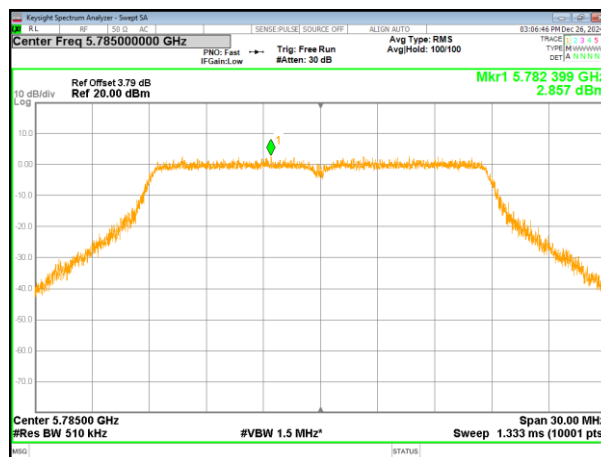
(802.11n20) PSD plot on channel 149



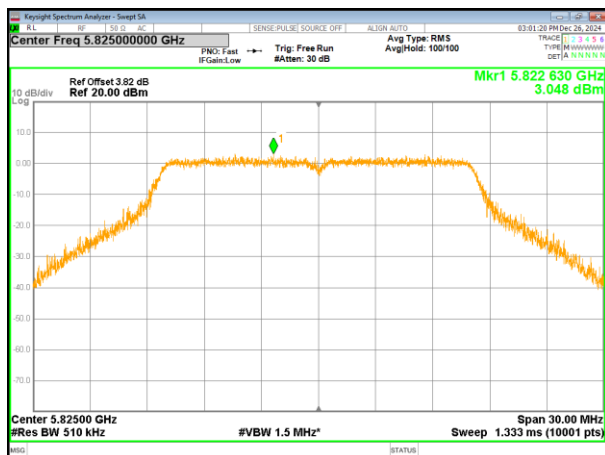
(802.11a) PSD plot on channel 157



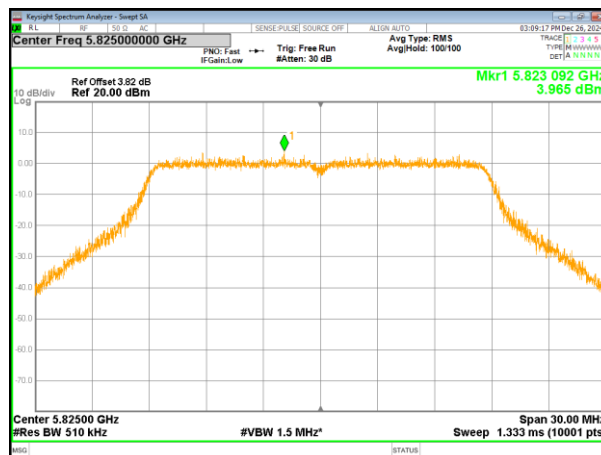
(802.11n20) PSD plot on channel 157



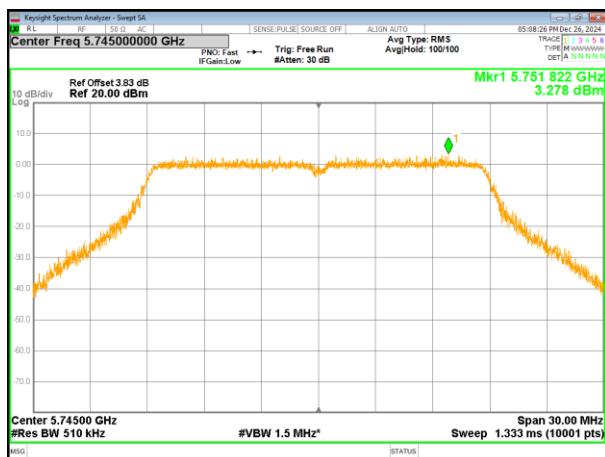
(802.11a) PSD plot on channel 165



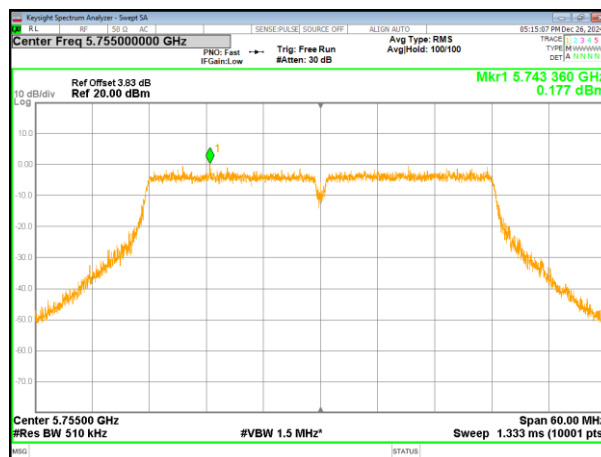
(802.11n20) PSD plot on channel 165



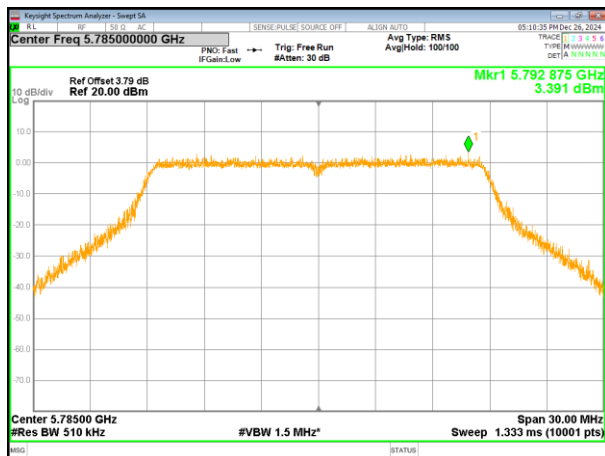
(802.11ac20) PSD plot on channel 149



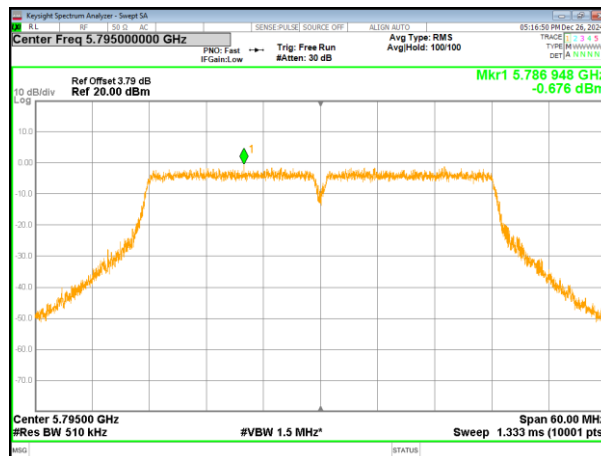
(802.11n40) PSD plot on channel 151



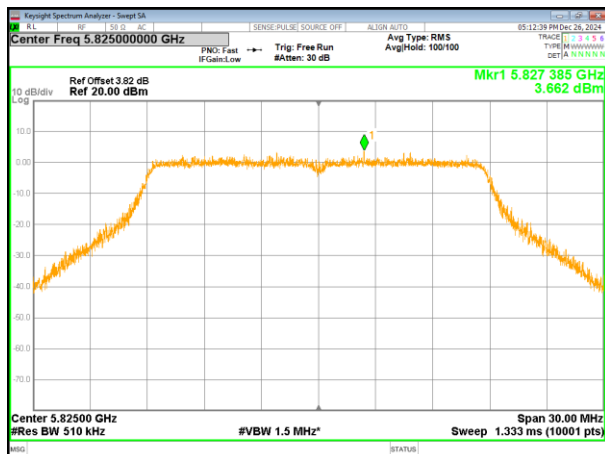
(802.11ac20) PSD plot on channel 157



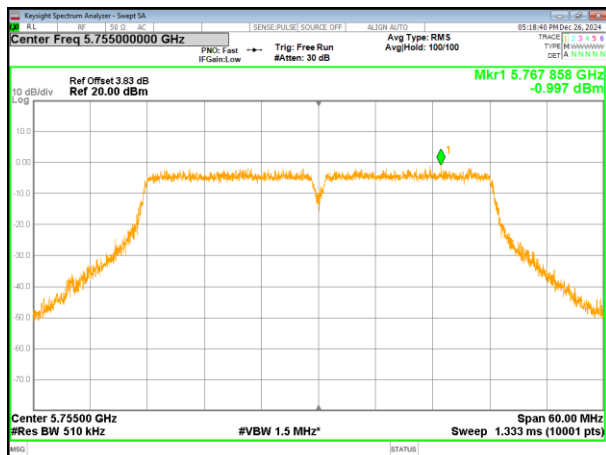
(802.11n40) PSD plot on channel 159



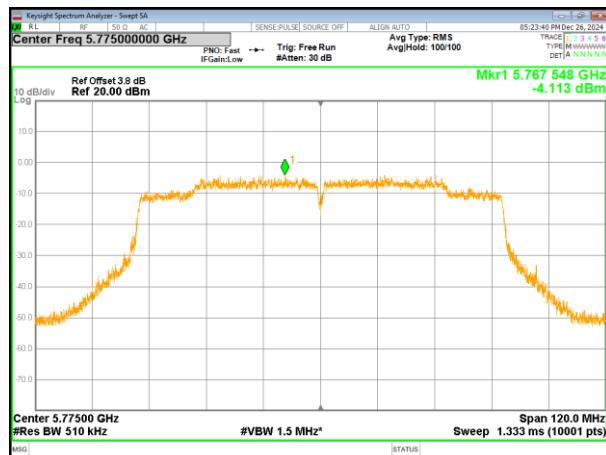
(802.11ac20) PSD plot on channel 165



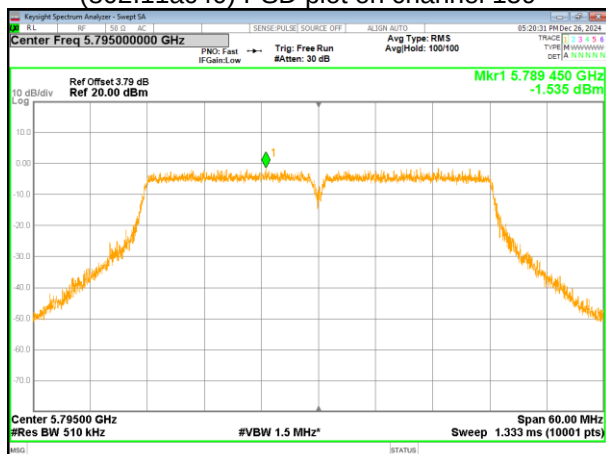
(802.11ac40) PSD plot on channel 151



(802.11ac80) PSD plot on channel 155

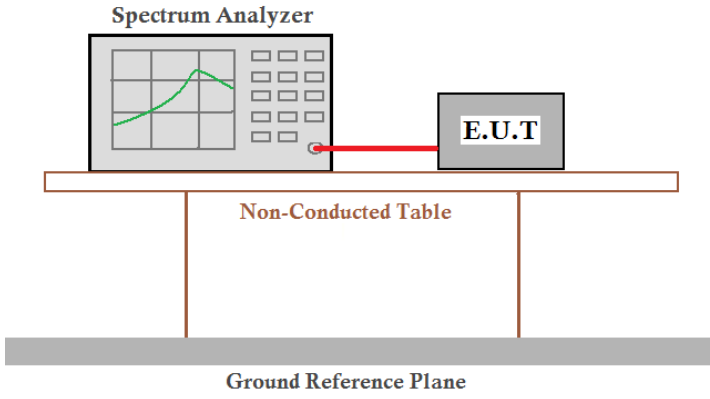


(802.11ac40) PSD plot on channel 159



4.7 Band edge

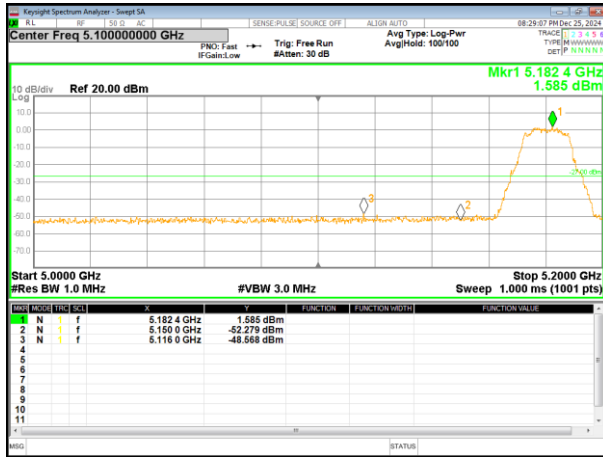
4.7.1 Conducted test Method

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.: 23.0°C	Humid.: 35%RH
Test voltage:	AC120/60Hz	
Test results:	Pass	

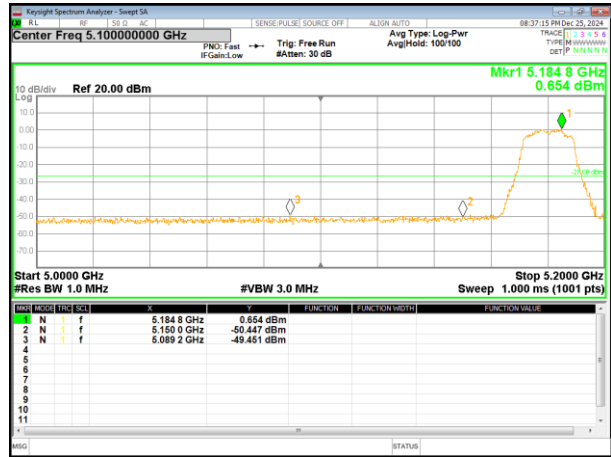
Remark: Due to the margin value of the sideband test being greater than the antenna gain value, the test meets the requirements

5.180~5.240 GHz

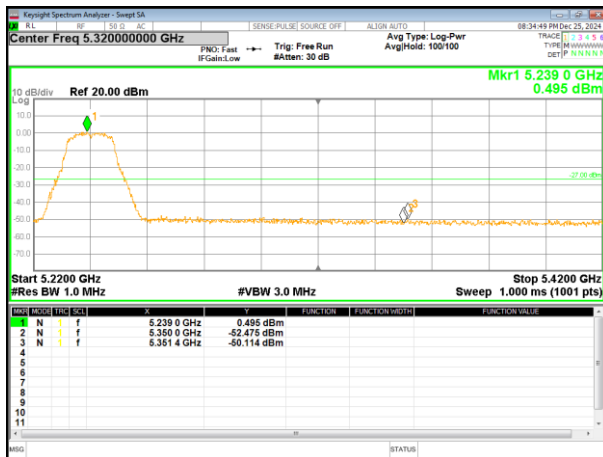
(802.11a) Band Edge, Left Side



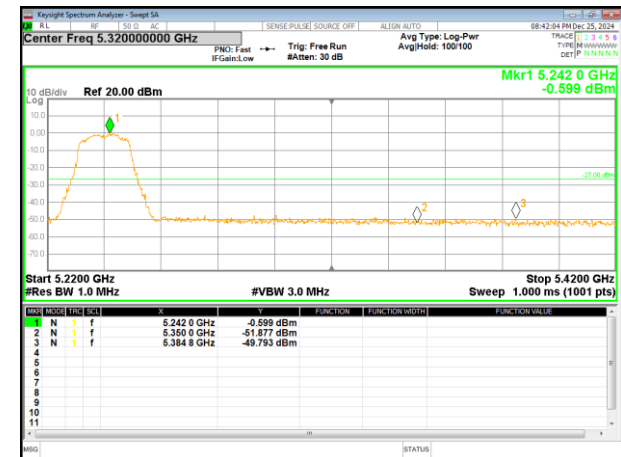
(802.11n20) Band Edge, Left Side



(802.11a) Band Edge, Right Side

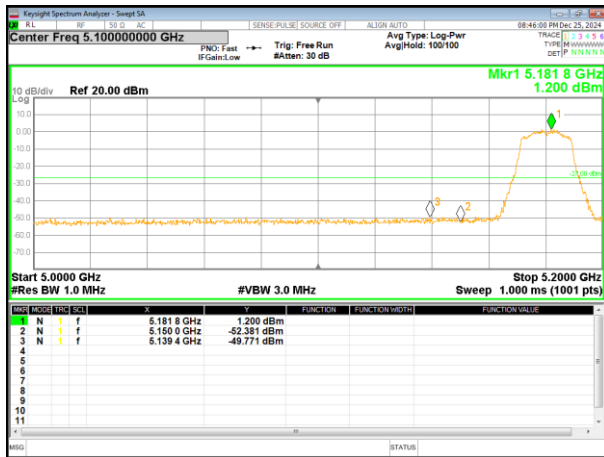


(802.11n20) Band Edge, Right Side

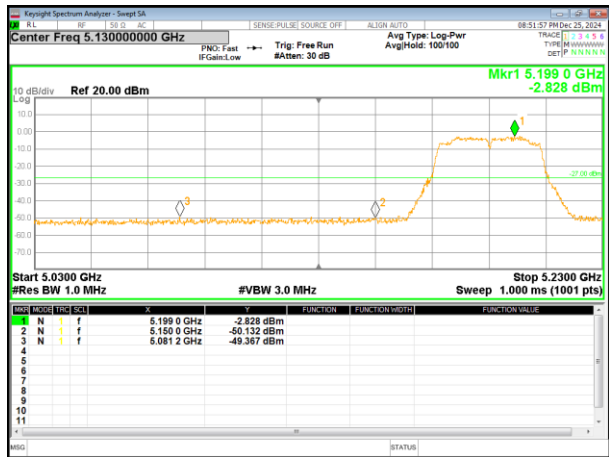


Remark: The antenna gain and cable loss were not compensated in the test data, and the margin value of the Band Edge test was greater than the sum of the antenna gain and cable loss, so the test met the requirements

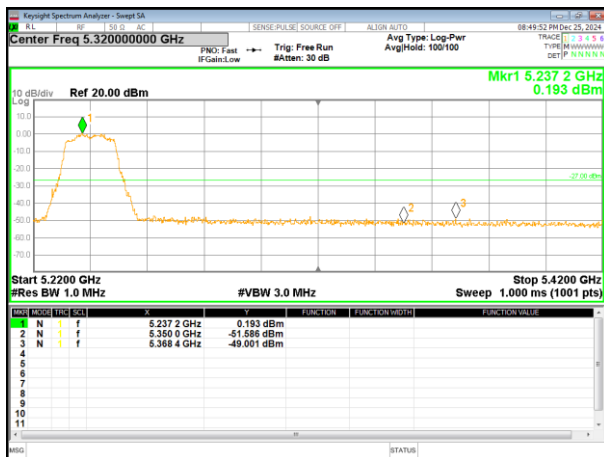
(802.11ac20) Band Edge, Left Side



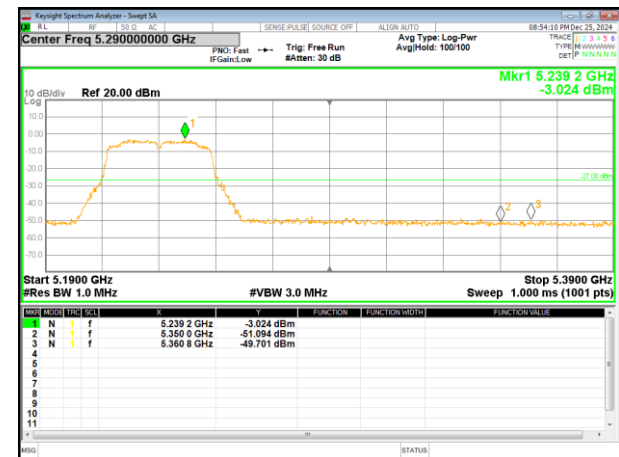
(802.11n40) Band Edge, Left Side



(802.11ac20) Band Edge, Right Side

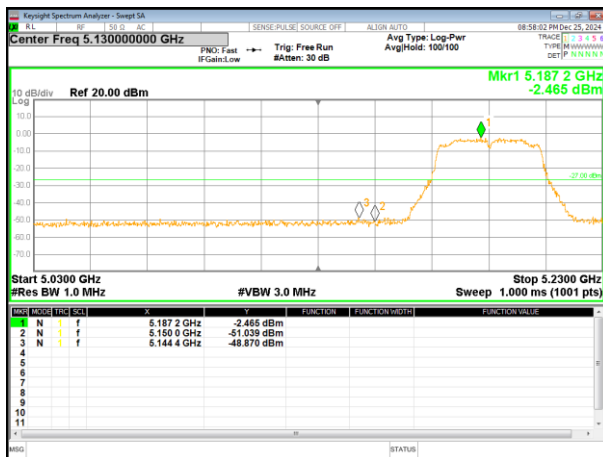


(802.11n40) Band Edge, Right Side

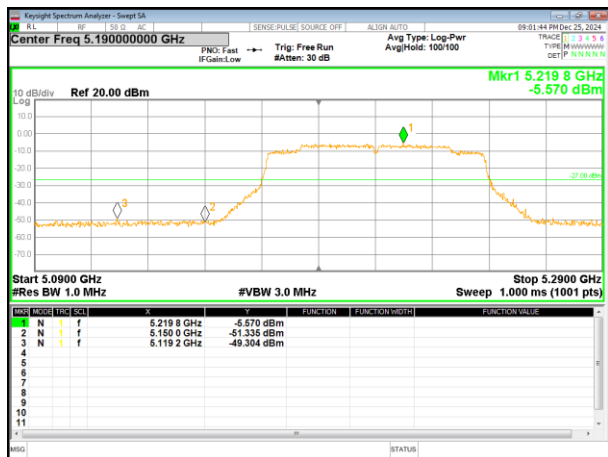


Remark: The antenna gain and cable loss were not compensated in the test data, and the margin value of the Band Edge test was greater than the sum of the antenna gain and cable loss, so the test met the requirements

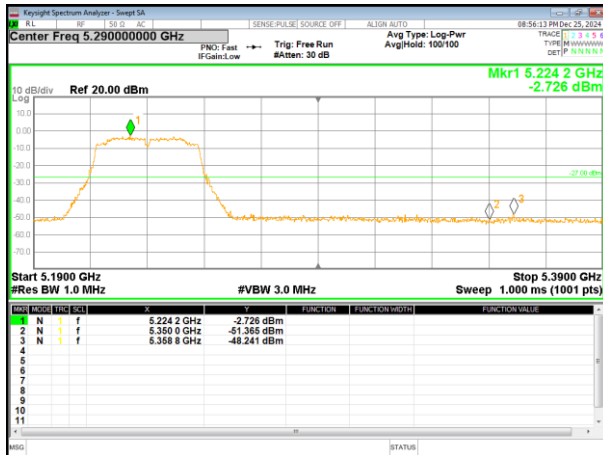
(802.11ac40) Band Edge, Left Side



(802.11ac80) Band Edge



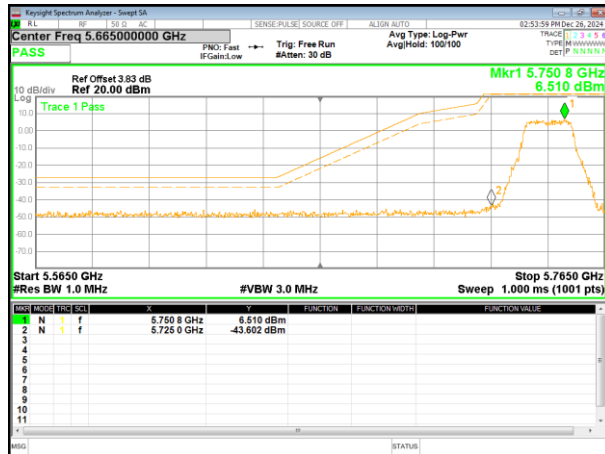
(802.11ac40) Band Edge, Right Side



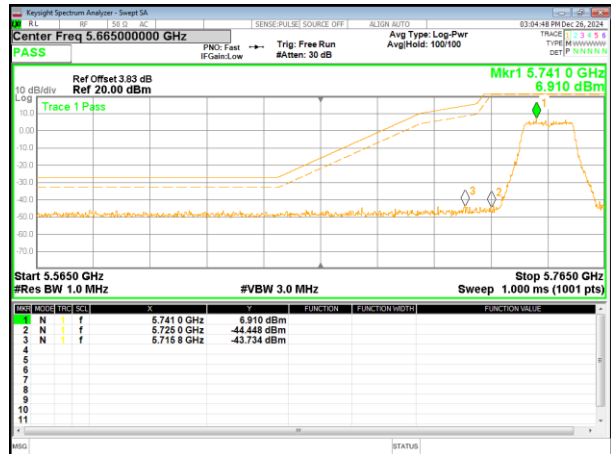
Remark: The antenna gain and cable loss were not compensated in the test data, and the margin value of the Band Edge test was greater than the sum of the antenna gain and cable loss, so the test met the requirements

5.745~5.825 GHz

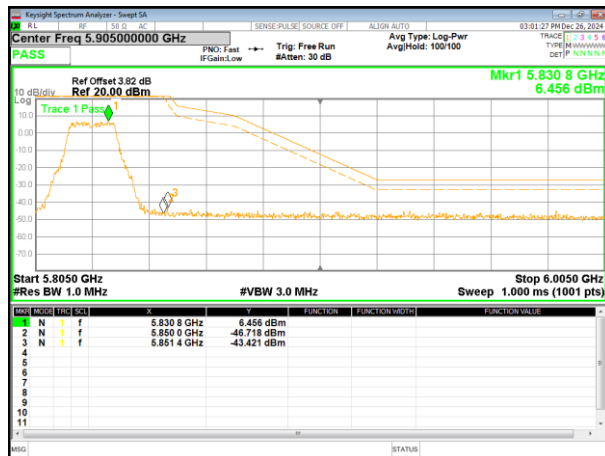
(802.11a) Band Edge, Left Side



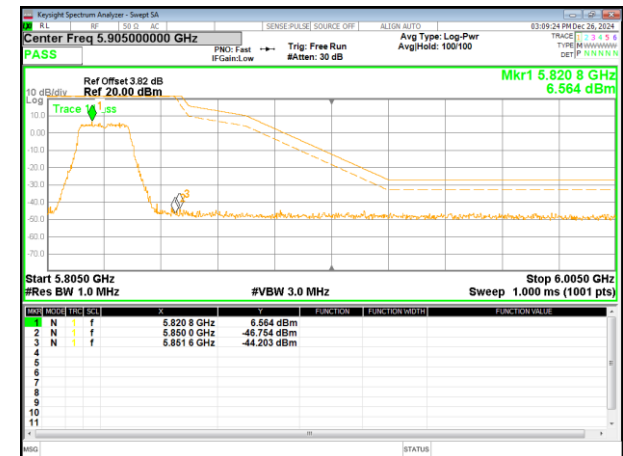
(802.11n20) Band Edge, Left Side



(802.11a) Band Edge, Right Side

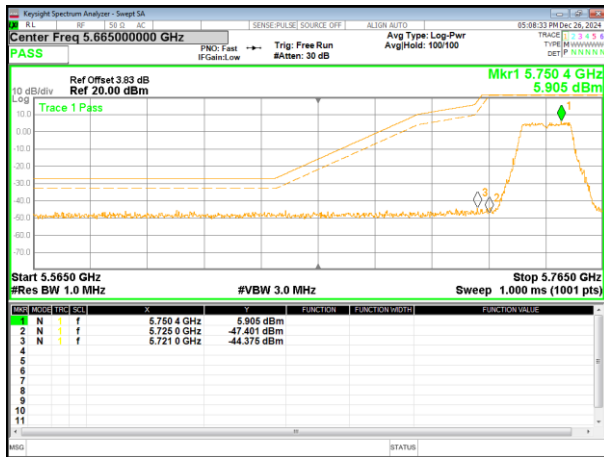


(802.11n20) Band Edge, Right Side

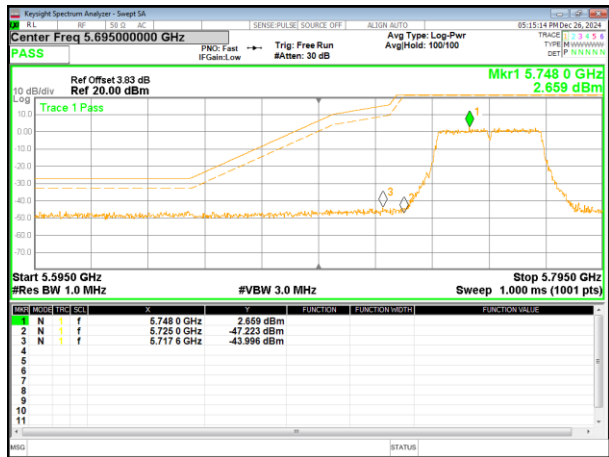


Remark: Antenna gain and cable loss data included in Offset.

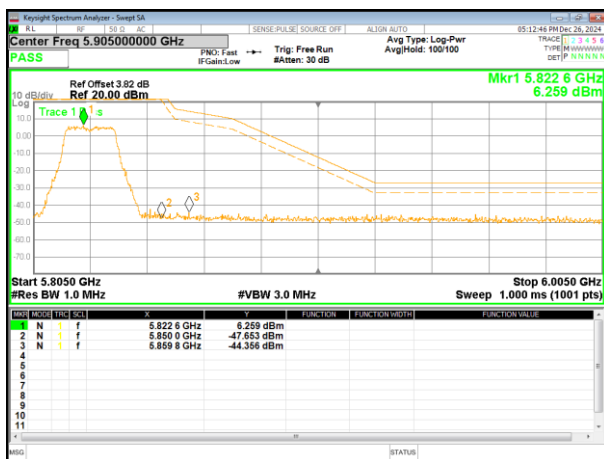
(802.11ac20) Band Edge, Left Side



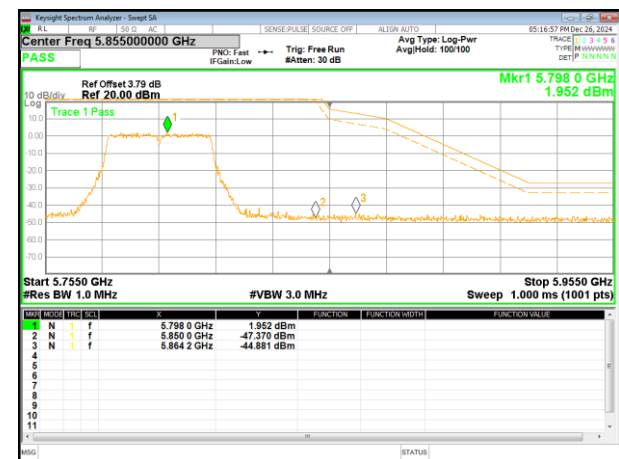
(802.11n40) Band Edge, Left Side



(802.11ac20) Band Edge, Right Side

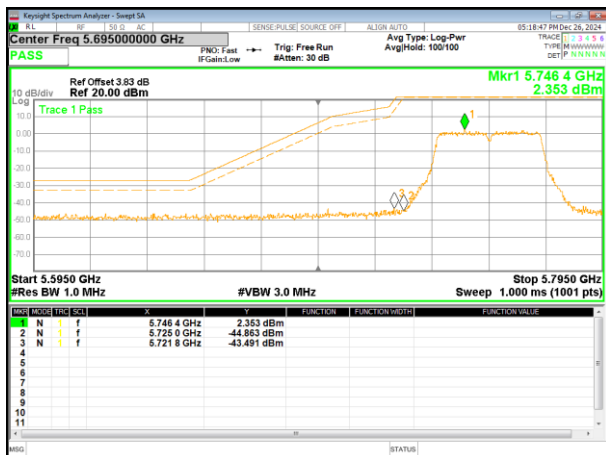


(802.11n40) Band Edge, Right Side

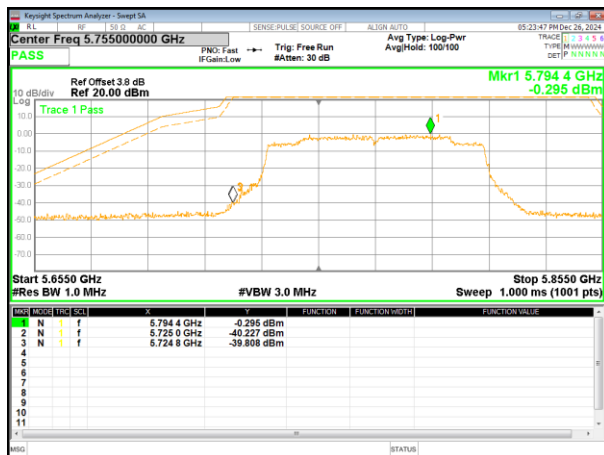


Remark: Antenna gain and cable loss data included in Offset.

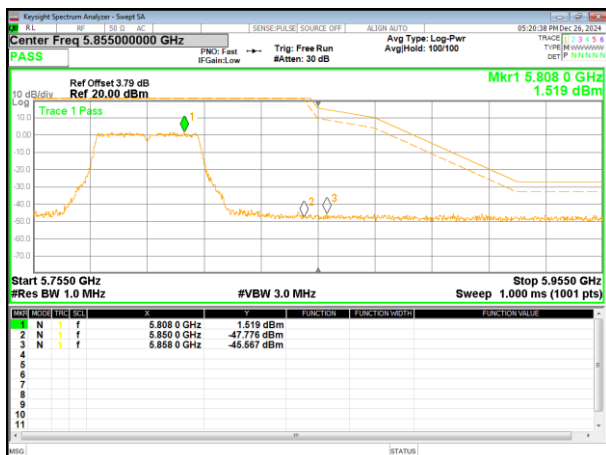
(802.11ac40) Band Edge, Left Side



(802.11ac80) Band Edge



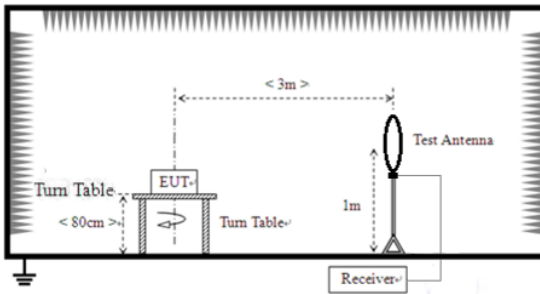
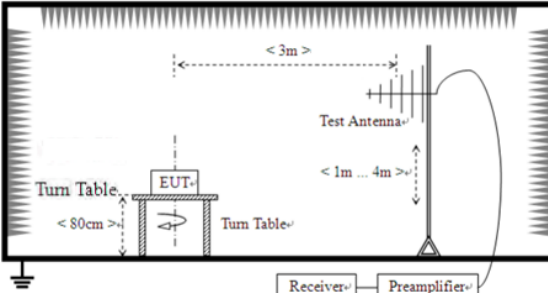
(802.11ac40) Band Edge, Right Side

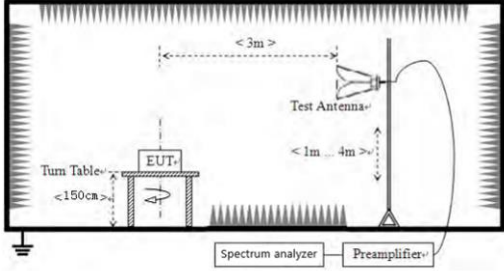


Remark: Antenna gain and cable loss data included in Offset.

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 to 1GHz				
Test setup:					
	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

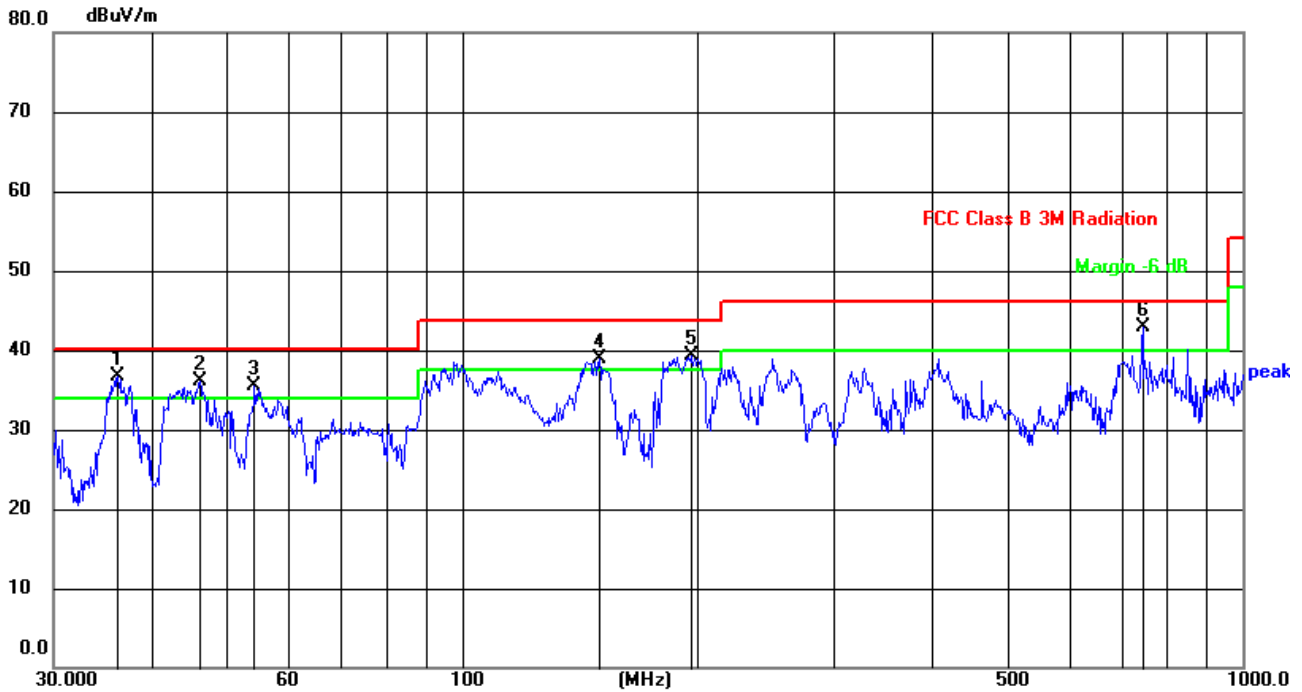
The emission from 9 kHz to 30MHz was pre-tested and found the result was 20dB lower than the limit, and according to 15.31(o) & RSS-Gen 6.13, the test result no need to reported.

Below 1GHz

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

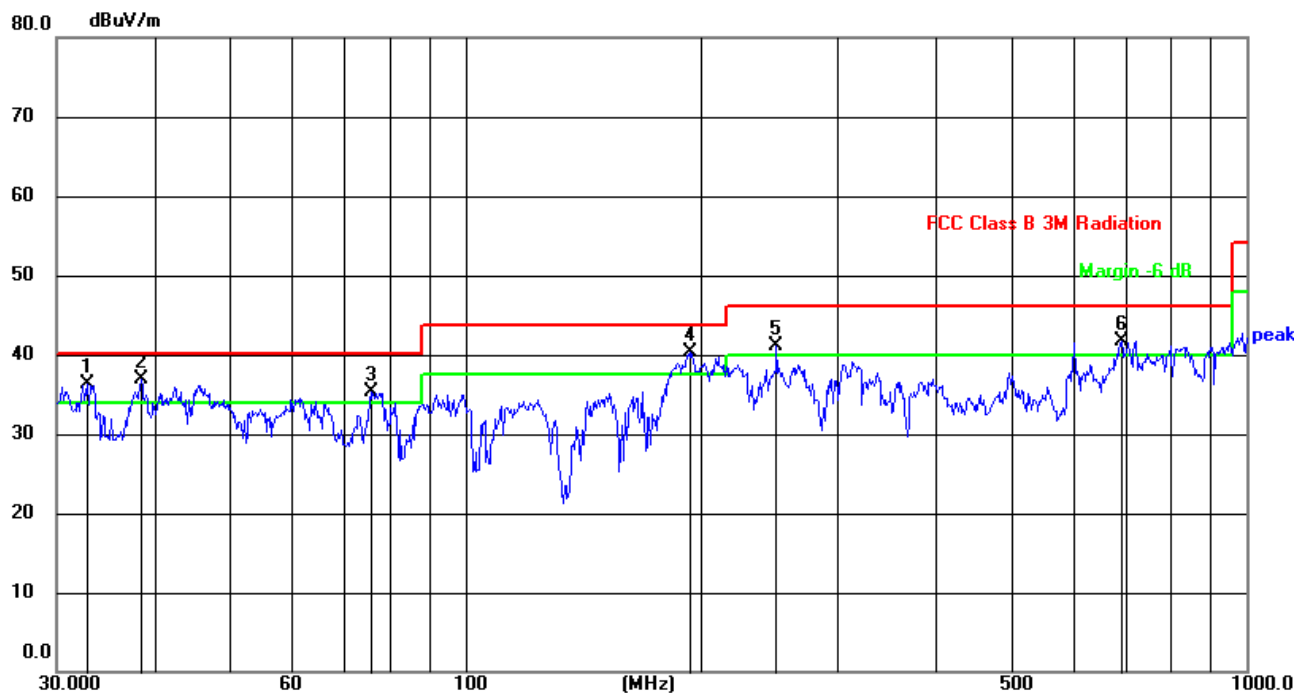
Temperature:	23.0°C	Relative Humidity:	35%
Pressure:	101.2kPa	Test Voltage :	AC120V/60Hz
Test Mode :	5.28G TX- 802.11a (52825MHz)		

Horizontal:



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	36.2539	58.28	-21.51	36.77	40.00	-3.23	QP
2	46.1779	57.36	-21.34	36.02	40.00	-3.98	QP
3	54.2608	57.56	-22.13	35.43	40.00	-4.57	QP
4	150.0107	59.40	-20.50	38.90	43.50	-4.60	QP
5	196.5098	62.67	-23.29	39.38	43.50	-4.12	QP
6	744.8659	51.08	-8.21	42.87	46.00	-3.13	QP

Vertical:



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	32.8635	58.42	-22.17	36.25	40.00	-3.75	QP
2	38.4808	57.99	-21.18	36.81	40.00	-3.19	QP
3	75.9770	60.69	-25.31	35.38	40.00	-4.62	QP
4	194.4533	63.56	-23.22	40.34	43.50	-3.16	QP
5	250.3009	63.27	-22.25	41.02	46.00	-4.98	QP
6	691.9864	51.05	-9.40	41.65	46.00	-4.35	QP

Remarks:

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

Above 1GHz:

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

Temperature:	23.0°C	Relative Humidity:	35%
Pressure:	101.2kPa	Test Voltage :	AC120V/60Hz
Test Mode :	5.2G TX- 802.11a		

Polar (H/V)	Frequency	Meter Reading	Pre- amplifier	Cable Loss	Antenna Factor	Emission Level	Limits	Margin	Detect or Type
	MHz	dBuV	dB	dB	dB	dBuV/m	dBuV/m	dB	
Low Channel:5180MHz									
V	10360.00	48.26	46.20	8.27	38.50	48.83	68.20	-19.37	PK
V	10360.00	38.29	46.20	8.27	38.50	38.86	54.00	-15.14	AV
V	15540.00	44.04	46.30	10.35	38.70	46.79	74.00	-27.21	PK
V	15540.00	34.29	46.30	10.35	38.70	37.04	54.00	-16.96	AV
V	20720.00	52.30	57.40	11.93	37.80	44.63	68.20	-23.57	PK
V	20720.00	43.07	57.40	11.93	37.80	35.40	54.00	-18.60	AV
V	25900.00	49.83	56.50	13.45	39.70	46.48	68.20	-21.72	PK
V	25900.00	41.16	56.50	13.45	39.70	37.81	54.00	-16.19	AV
V	31080.00	48.44	56.10	16.12	41.60	50.06	68.20	-18.14	PK
V	31080.00	41.07	56.10	16.12	41.60	42.69	54.00	-11.31	AV
V	36260.00	45.65	56.80	18.29	42.80	49.94	68.20	-18.26	PK
V	36260.00	38.80	56.80	18.29	42.80	43.09	54.00	-10.91	AV
H	10360.00	47.16	46.20	8.27	38.50	47.73	68.20	-20.47	PK
H	10360.00	36.15	46.20	8.27	38.50	36.72	54.00	-17.28	AV
H	15540.00	43.10	46.30	10.35	38.70	45.85	74.00	-28.15	PK
H	15540.00	32.51	46.30	10.35	38.70	35.26	54.00	-18.74	AV
H	20720.00	54.61	57.40	11.93	37.80	46.94	68.20	-21.26	PK
H	20720.00	44.05	57.40	11.93	37.80	36.38	54.00	-17.62	AV
H	25900.00	51.27	56.50	13.45	39.70	47.92	68.20	-20.28	PK
H	25900.00	41.18	56.50	13.45	39.70	37.83	54.00	-16.17	AV
H	31080.00	48.53	56.10	16.12	41.60	50.15	68.20	-18.05	PK
H	31080.00	41.01	56.10	16.12	41.60	42.63	54.00	-11.37	AV
H	36260.00	44.65	56.80	18.29	42.80	48.94	68.20	-19.26	PK
H	36260.00	39.63	56.80	18.29	42.80	43.92	54.00	-10.08	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	45.80	46.20	8.27	38.50	46.37	68.20	-21.83	PK
V	10400.00	37.02	46.20	8.27	38.50	37.59	54.00	-16.41	AV
V	15600.00	43.93	46.30	10.35	38.40	46.38	74.00	-27.62	PK
V	15600.00	36.05	46.30	10.35	38.40	38.50	54.00	-15.50	AV
V	20800.00	53.55	57.40	11.93	37.80	45.88	68.20	-22.32	PK
V	20800.00	44.39	57.40	11.93	37.80	36.72	54.00	-17.28	AV
V	26000.00	49.41	56.50	13.45	39.80	46.16	68.20	-22.04	PK
V	26000.00	41.56	56.50	13.45	39.80	38.31	54.00	-15.69	AV
V	31200.00	48.51	56.10	16.12	41.60	50.13	68.20	-18.07	PK
V	31200.00	42.01	56.10	16.12	41.60	43.63	54.00	-10.37	AV
V	36400.00	44.97	56.80	18.29	42.80	49.26	68.20	-18.94	PK
V	36400.00	38.62	56.80	18.29	42.80	42.91	54.00	-11.09	AV
H	10400.00	46.38	46.20	8.27	38.50	46.95	68.20	-21.25	PK
H	10400.00	37.57	46.20	8.27	38.50	38.14	54.00	-15.86	AV
H	15600.00	44.30	46.30	10.35	38.40	46.75	74.00	-27.25	PK
H	15600.00	36.13	46.30	10.35	38.40	38.58	54.00	-15.42	AV
H	20800.00	52.24	57.40	11.93	37.80	44.57	68.20	-23.63	PK
H	20800.00	42.18	57.40	11.93	37.80	34.51	54.00	-19.49	AV
H	26000.00	48.82	56.50	13.45	39.80	45.57	68.20	-22.63	PK
H	26000.00	40.68	56.50	13.45	39.80	37.43	54.00	-16.57	AV
H	31200.00	47.76	56.10	16.12	41.60	49.38	68.20	-18.82	PK
H	31200.00	40.86	56.10	16.12	41.60	42.48	54.00	-11.52	AV
H	36400.00	45.10	56.80	18.29	42.80	49.39	68.20	-18.81	PK
H	36400.00	39.43	56.80	18.29	42.80	43.72	54.00	-10.28	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	42.97	46.20	8.27	38.60	43.64	68.20	-24.56	PK
V	10480.00	33.45	46.20	8.27	38.60	34.12	54.00	-19.88	AV
V	15720.00	41.42	46.30	10.35	38.40	43.87	74.00	-30.13	PK
V	15720.00	31.24	46.30	10.35	38.40	33.69	54.00	-20.31	AV
V	20960.00	50.02	57.40	11.93	37.50	42.05	68.20	-26.15	PK
V	20960.00	42.03	57.40	11.93	37.50	34.06	54.00	-19.94	AV
V	26200.00	46.31	56.50	13.45	40.10	43.36	68.20	-24.84	PK
V	26200.00	37.23	56.50	13.45	40.10	34.28	54.00	-19.72	AV
V	31440.00	48.47	56.10	16.12	41.30	49.79	68.20	-18.41	PK
V	31440.00	41.72	56.10	16.12	41.30	43.04	54.00	-10.96	AV
V	36680.00	43.88	56.80	18.29	43.10	48.47	68.20	-19.73	PK
V	36680.00	38.60	56.80	18.29	43.10	43.19	54.00	-10.81	AV
H	10480.00	42.81	46.20	8.27	38.60	43.48	68.20	-24.72	PK
H	10480.00	33.51	46.20	8.27	38.60	34.18	54.00	-19.82	AV
H	15720.00	41.07	46.30	10.35	38.40	43.52	74.00	-30.48	PK
H	15720.00	31.30	46.30	10.35	38.40	33.75	54.00	-20.25	AV
H	20960.00	50.45	57.40	11.93	37.50	42.48	68.20	-25.72	PK
H	20960.00	41.61	57.40	11.93	37.50	33.64	54.00	-20.36	AV
H	26200.00	45.54	56.50	13.45	40.10	42.59	68.20	-25.61	PK
H	26200.00	36.31	56.50	13.45	40.10	33.36	54.00	-20.64	AV
H	31440.00	47.73	56.10	16.12	41.30	49.05	68.20	-19.15	PK
H	31440.00	41.97	56.10	16.12	41.30	43.29	54.00	-10.71	AV
H	36680.00	44.93	56.80	18.29	43.10	49.52	68.20	-18.68	PK
H	36680.00	39.34	56.80	18.29	43.10	43.93	54.00	-10.07	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:	23.0°C	Relative Humidity:	35%
Pressure:	101.2kPa	Test Voltage :	AC120V/60Hz
Test Mode :	5.8G TX- 802.11a		

Polar (H/V)	Frequency (MHz)	Meter Reading (dBuV)	Pre- amplifier (dB)	Cable Loss (dB)	Antenn Factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Detect or Typ
Low Channel:5745MHz									
V	11490.00	46.76	46.10	8.77	39.10	48.53	74.00	-25.47	PK
V	11490.00	34.91	46.10	8.77	39.10	36.68	54.00	-17.32	AV
V	17235.00	41.09	47.60	11.10	38.70	43.29	68.20	-24.91	PK
V	17235.00	33.62	47.60	11.10	38.70	35.82	54.00	-18.18	AV
V	22980.00	54.12	56.90	12.73	37.70	47.65	74.00	-26.35	PK
V	22980.00	41.34	56.90	12.73	37.70	34.87	54.00	-19.13	AV
V	28725.00	47.83	55.60	14.25	40.30	46.78	68.20	-21.42	PK
V	28725.00	41.32	55.60	14.25	40.30	40.27	54.00	-13.73	AV
V	34470.00	47.50	55.90	17.26	42.10	50.96	68.20	-17.24	PK
V	34470.00	39.8	55.90	17.26	42.10	43.26	54.00	-10.74	AV
H	11490.00	45.52	46.10	8.77	39.10	47.29	74.00	-26.71	PK
H	11490.00	34.61	46.10	8.77	39.10	36.38	54.00	-17.62	AV
H	17235.00	40.16	47.60	11.10	38.70	42.36	68.20	-25.84	PK
H	17235.00	33.89	47.60	11.10	38.70	36.09	54.00	-17.91	AV
H	22980.00	55.71	56.90	12.73	37.70	49.24	74.00	-24.76	PK
H	22980.00	46.25	56.90	12.73	37.70	39.78	54.00	-14.22	AV
H	28725.00	47.09	55.60	14.25	40.30	46.04	68.20	-22.16	PK
H	28725.00	41.68	55.60	14.25	40.30	40.63	54.00	-13.37	AV
H	34470.00	46.70	55.90	17.26	42.10	50.16	68.20	-18.04	PK
H	34470.00	40.03	55.90	17.26	42.10	43.49	54.00	-10.51	AV

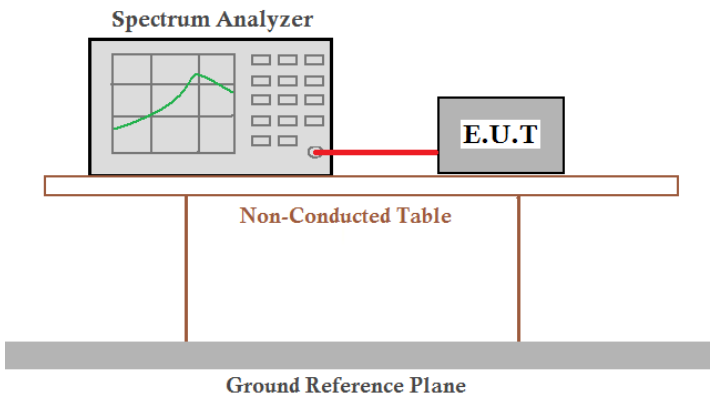
Polar (H/V)	Frequency (MHz)	Meter Reading (dBuV)	Pre- amplifier (dB)	Cable Loss (dB)	Antenna Factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Detect or Type
Middle Channel:5785MHz									
V	11570.00	46.22	46.10	8.77	39.10	47.99	74.00	-26.01	PK
V	11570.00	35.11	46.10	8.77	39.10	36.88	54.00	-17.12	AV
V	17355.00	40.75	47.60	11.10	38.70	42.95	68.20	-25.25	PK
V	17355.00	35.27	47.60	11.10	38.70	37.47	54.00	-16.53	AV
V	23140.00	55.96	56.90	12.73	37.70	49.49	74.00	-24.51	PK
V	23140.00	45.23	56.90	12.73	37.70	38.76	54.00	-15.24	AV
V	28925.00	44.83	55.60	14.25	40.30	43.78	68.20	-24.42	PK
V	28925.00	40.98	55.60	14.25	40.30	39.93	54.00	-14.07	AV
V	34710.00	46.28	55.90	17.26	42.40	50.04	68.20	-18.16	PK
V	34710.00	40.35	55.90	17.26	42.40	44.11	54.00	-9.89	AV
H	11570.00	46.80	46.10	8.77	39.10	48.57	74.00	-25.43	PK
H	11570.00	35.97	46.10	8.77	39.10	37.74	54.00	-16.26	AV
H	17355.00	41.65	47.60	11.10	38.70	43.85	68.20	-24.35	PK
H	17355.00	35.03	47.60	11.10	38.70	37.23	54.00	-16.77	AV
H	23140.00	57.19	56.90	12.73	37.70	50.72	74.00	-23.28	PK
H	23140.00	46.05	56.90	12.73	37.70	39.58	54.00	-14.42	AV
H	28925.00	46.88	55.60	14.25	40.30	45.83	68.20	-22.37	PK
H	28925.00	40.64	55.60	14.25	40.30	39.59	54.00	-14.41	AV
H	34710.00	44.78	55.90	17.26	42.40	48.54	68.20	-19.66	PK
H	34710.00	40.26	55.90	17.26	42.40	44.02	54.00	-9.98	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	46.47	46.10	8.77	39.10	48.24	74.00	-25.76	PK
V	11650.00	34.91	46.10	8.77	39.10	36.68	54.00	-17.32	AV
V	17475.00	41.5	47.90	11.23	38.90	43.73	68.20	-24.47	PK
V	17475.00	36.63	47.90	11.23	38.90	38.86	54.00	-15.14	AV
V	23300.00	50.34	57.10	12.73	37.80	43.77	68.20	-24.43	PK
V	23300.00	45.31	57.10	12.73	37.80	38.74	54.00	-15.26	AV
V	29125.00	46.51	55.80	14.25	40.50	45.46	68.20	-22.74	PK
V	29125.00	41.83	55.80	14.25	40.50	40.78	54.00	-13.22	AV
V	34950.00	45.55	56.30	17.91	42.50	49.66	68.20	-18.54	PK
V	34950.00	40.00	56.30	17.91	42.50	44.11	54.00	-9.89	AV
H	11650.00	47.09	46.10	8.77	39.10	48.86	74.00	-25.14	PK
H	11650.00	33.57	46.10	8.77	39.10	35.34	54.00	-18.66	AV
H	17475.00	41.38	47.90	11.23	38.90	43.61	68.20	-24.59	PK
H	17475.00	36.40	47.90	11.23	38.90	38.63	54.00	-15.37	AV
H	23300.00	51.61	57.10	12.73	37.80	45.04	68.20	-23.16	PK
H	23300.00	46.05	57.10	12.73	37.80	39.48	54.00	-14.52	AV
H	29125.00	47.89	55.80	14.25	40.50	46.84	68.20	-21.36	PK
H	29125.00	41.88	55.80	14.25	40.50	40.83	54.00	-13.17	AV
H	34950.00	45.27	56.30	17.91	42.50	49.38	68.20	-18.82	PK
H	34950.00	39.84	56.30	17.91	42.50	43.95	54.00	-10.05	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.: 23.0°C	Humid.: 35%RH
Test voltage:	AC120/60Hz	
Test results:	Pass	

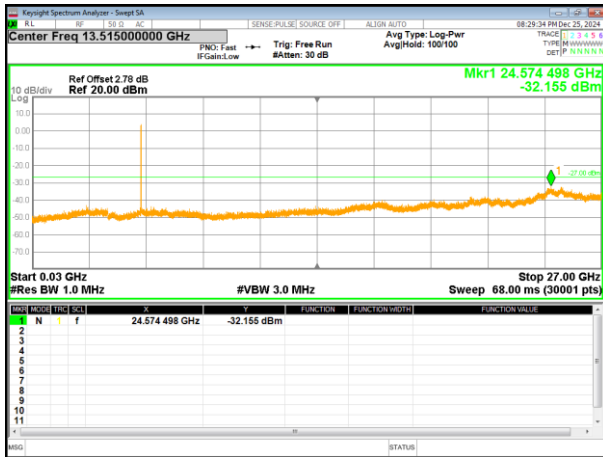
Remark:

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.

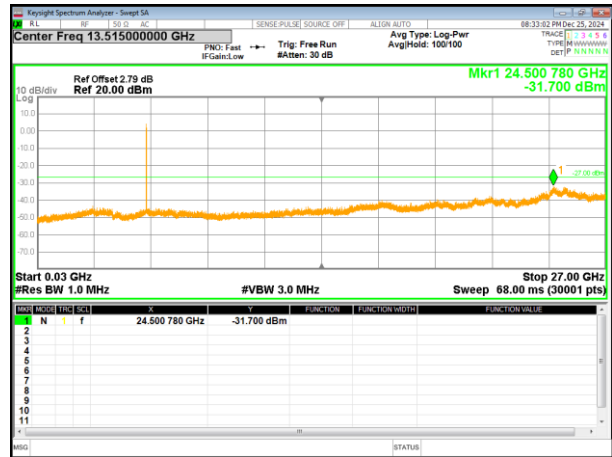
5180-5240MHz

Test Plot

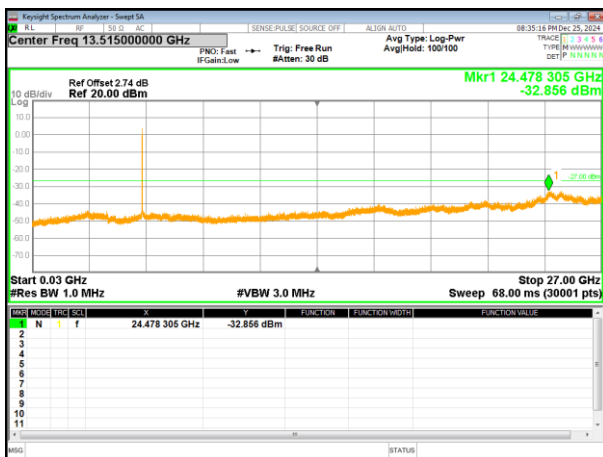
802.11a on channel 36



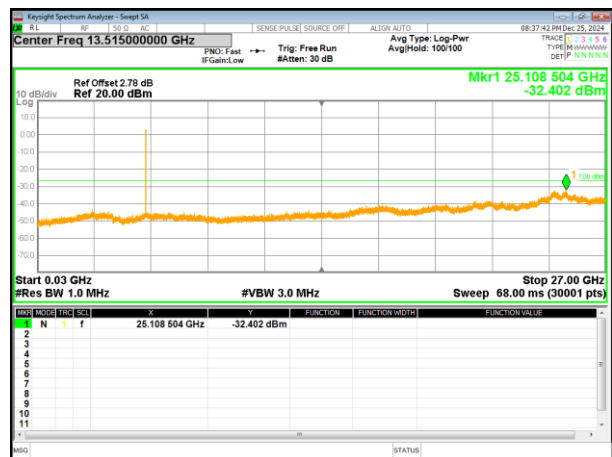
802.11a on channel 40



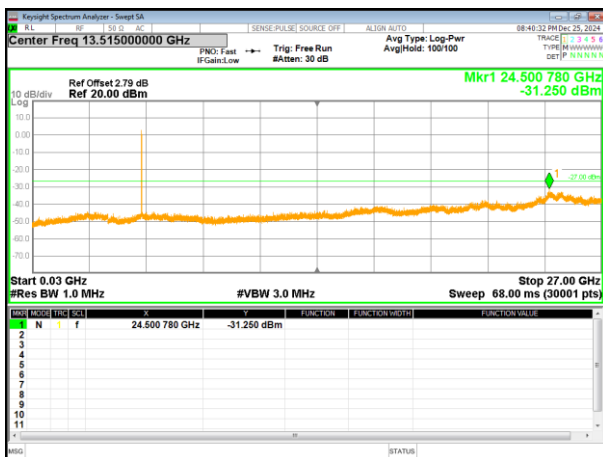
802.11a on channel 48



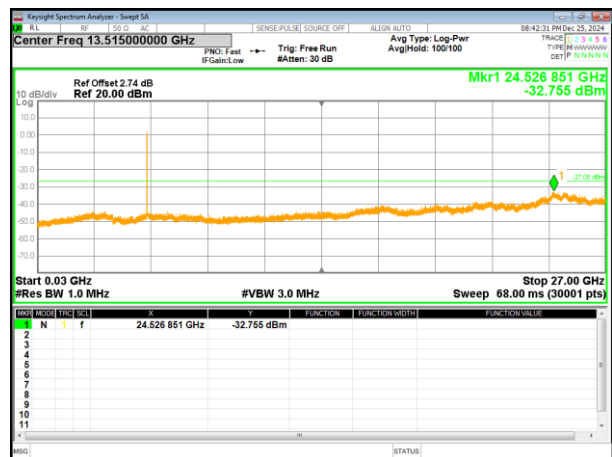
802.11n20 on channel 36



802.11n20 on channel 40

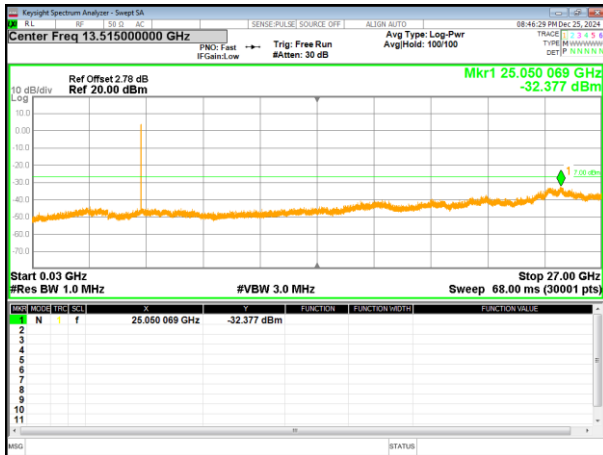


802.11n20 on channel 48

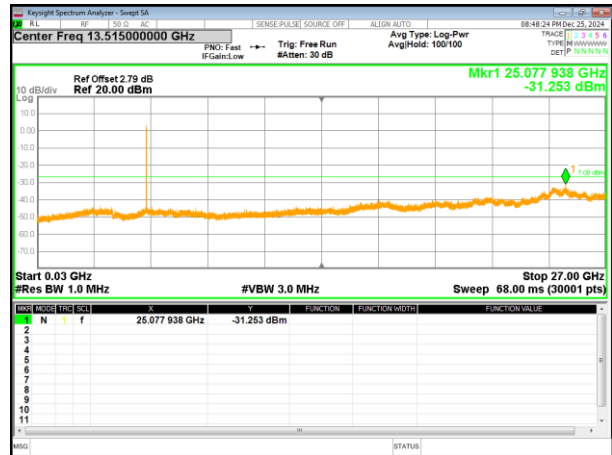


Test Plot

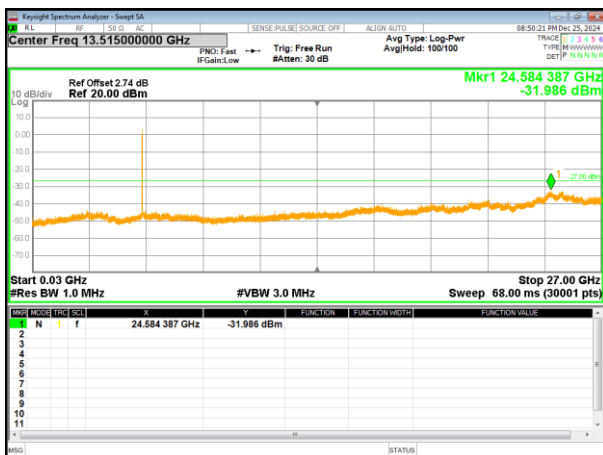
802.11ac20 on channel 36



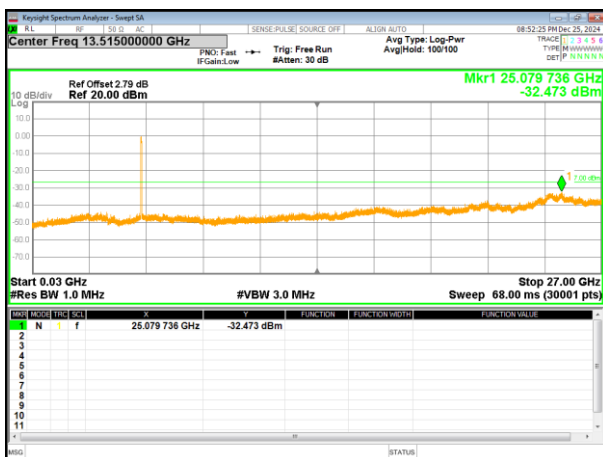
802.11ac20 on channel 40



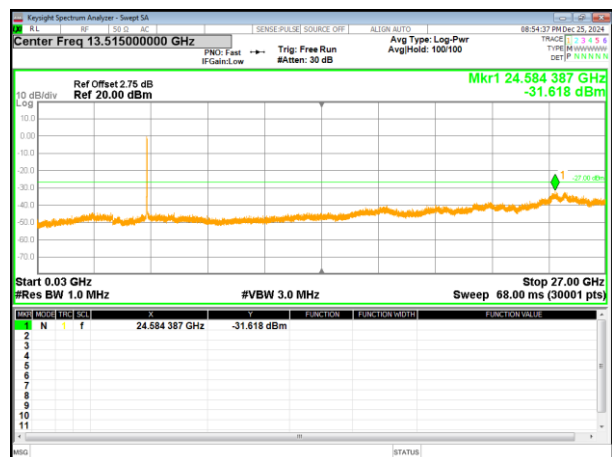
802.11ac20 on channel 48



802.11n40 on channel 38

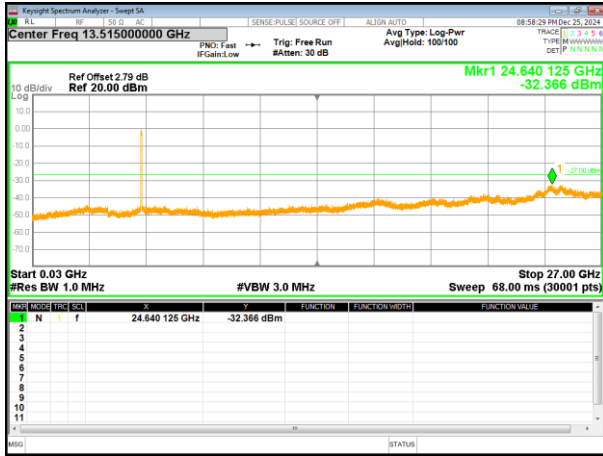


802.11n40 on channel 46

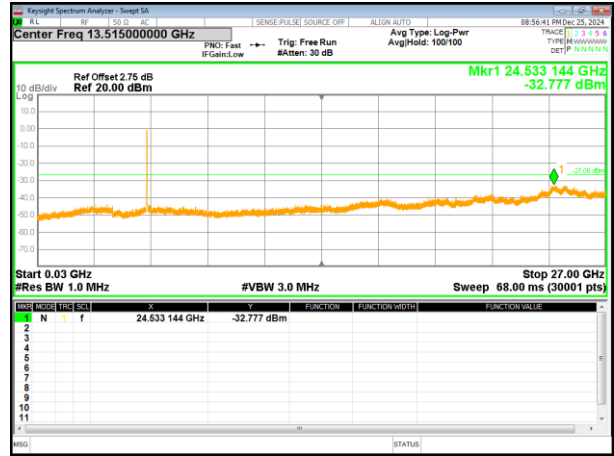


Test Plot

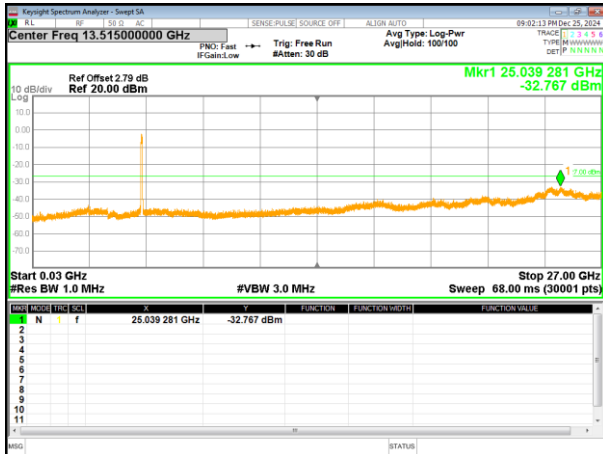
802.11ac40 on channel 38



802.11ac40 on channel 46



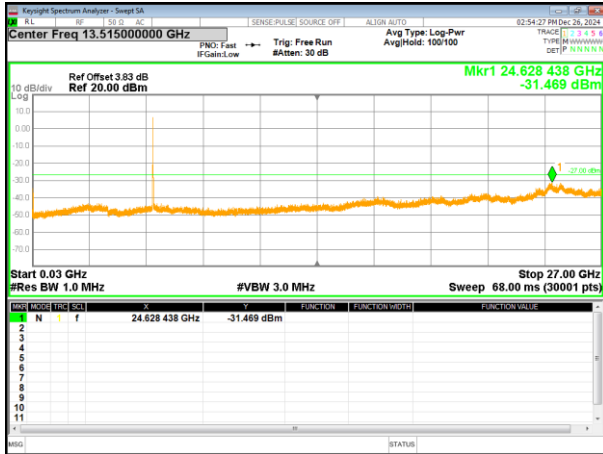
802.11ac80 on channel 42



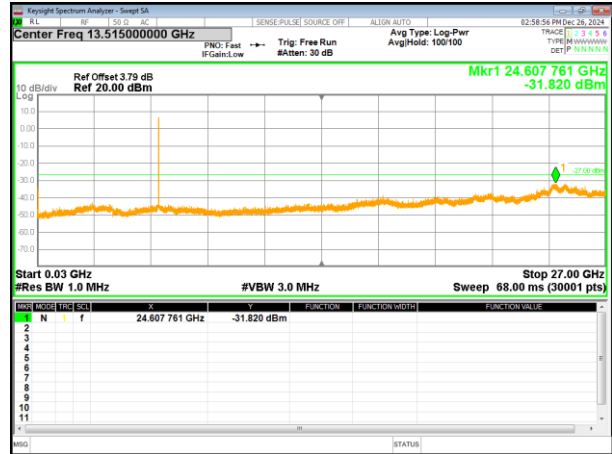
5745-5825MHz

Test Plot

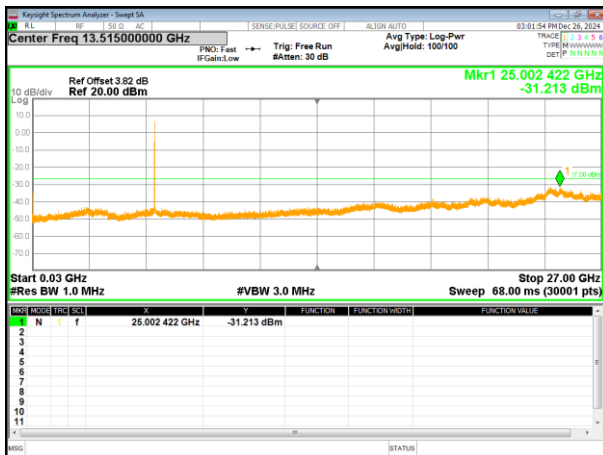
802.11a on channel 149



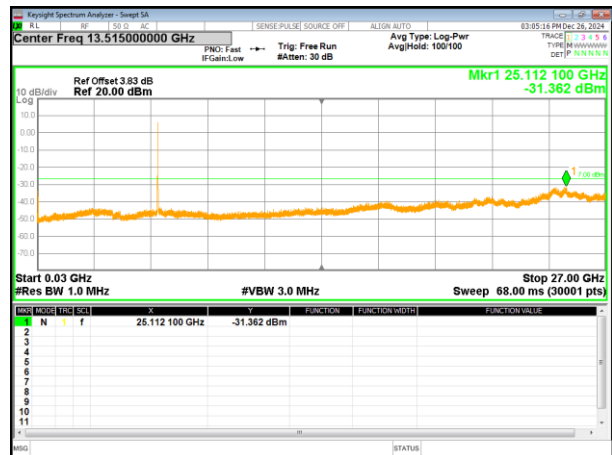
802.11a on channel 157



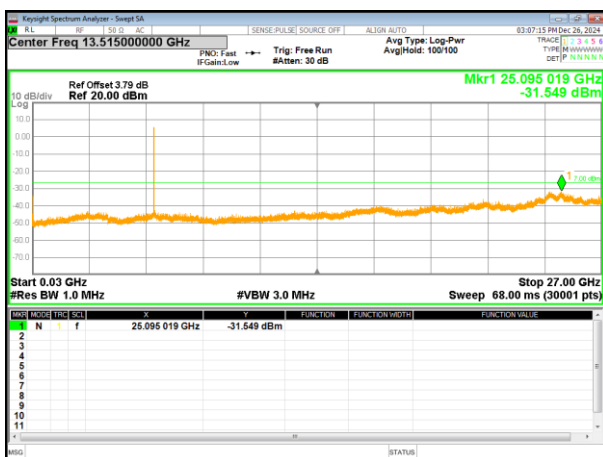
802.11a on channel 165



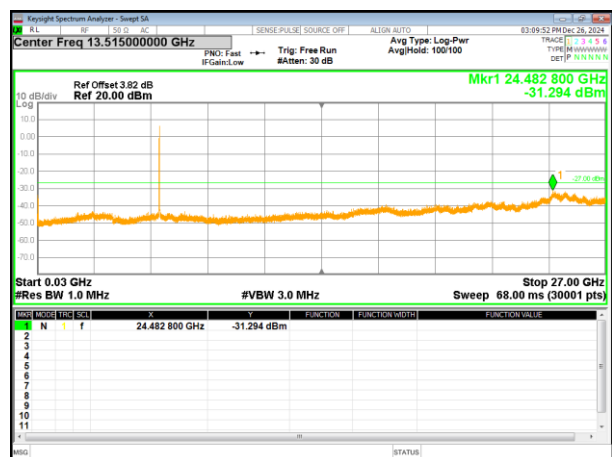
802.11n20 on channel 149



802.11n20 on channel 157

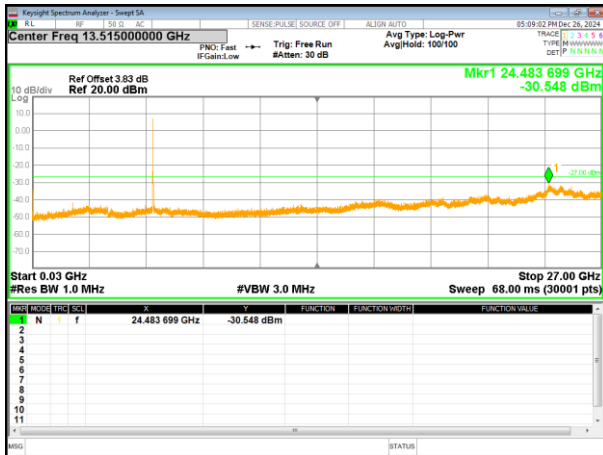


802.11n20 on channel 165

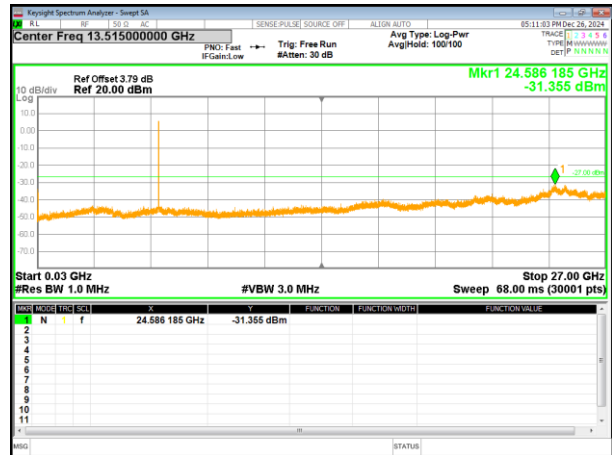


Test Plot

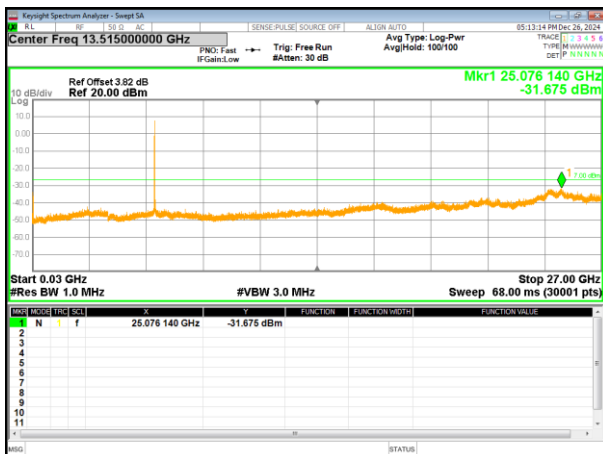
802.11ac20 on channel 149



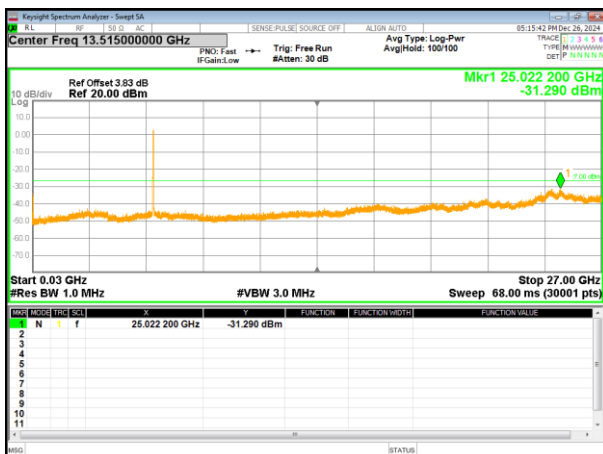
802.11ac20 on channel 157



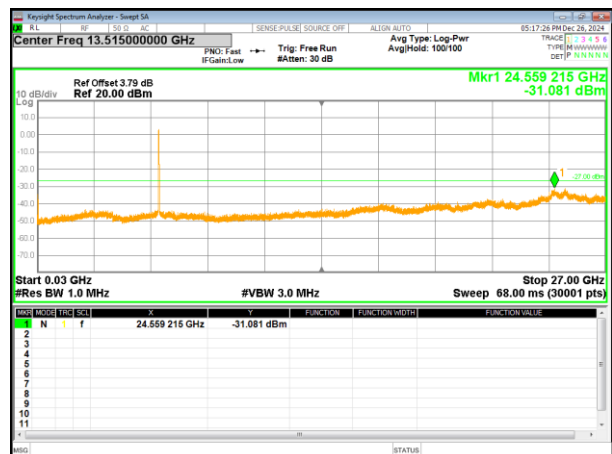
802.11ac20 on channel 165



802.11n40 on channel 151

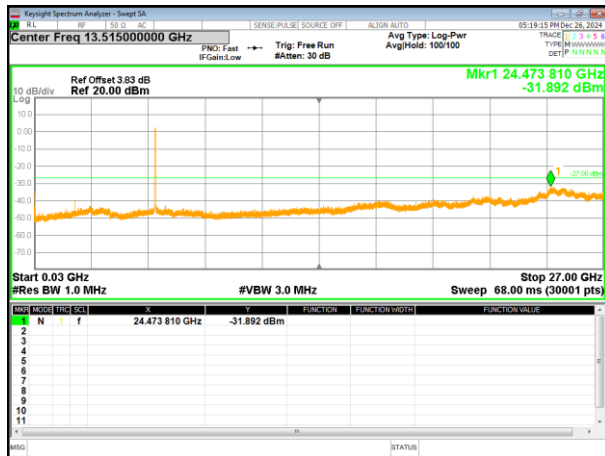


802.11n40 on channel 159

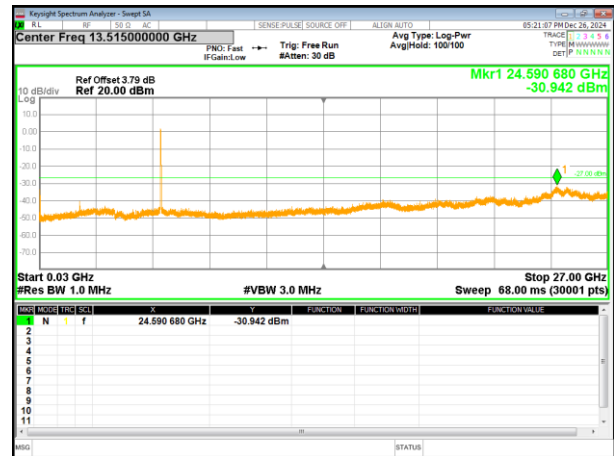


Test Plot

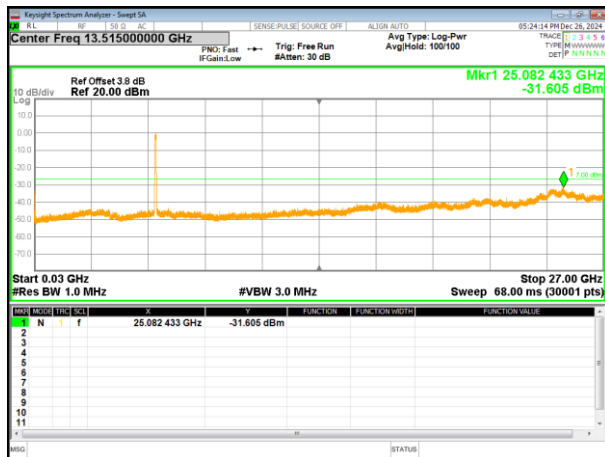
802.11ac40 on channel 151



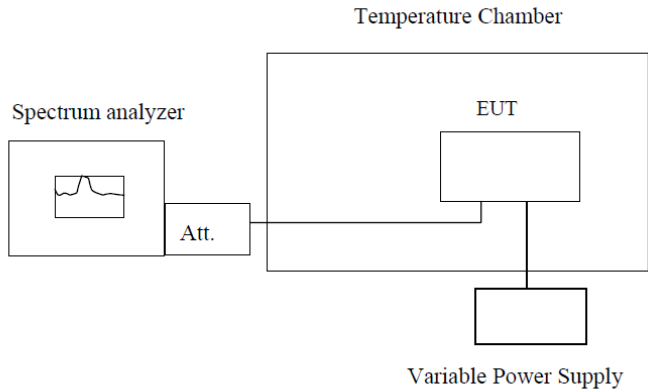
802.11ac40 on channel 159



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	5179.9820	5180.0600	5179.7900	5179.9290
	5190	5189.9780	5199.9340	5199.6640	5189.9400
	5200	5199.9730	5199.9590	5199.6890	5199.9310
	5210	5209.9790	5209.9370	5209.6660	5209.9320
	5220	5219.9740	5219.9520	5219.6810	5219.9380
	5230	5229.9720	5229.9450	5229.6730	5229.9560
	5240	5239.9450	5239.9530	5239.6810	5239.9410
-20	5180	5179.977	5179.995	5179.976	5179.986
	5190	5189.968	5180.101	5189.977	5189.985
	5200	5199.976	5199.976	5199.968	5199.979
	5210	5209.968	5210.001	5299.976	5209.969
	5220	5219.989	5219.979	5219.968	5219.979
	5230	5229.967	5229.994	5229.989	5299.977
	5240	5239.985	5239.987	5239.967	5239.981
-10	5180	5179.9820	5179.9450	5179.6540	5179.9290
	5190	5189.9780	5189.9400	5189.6650	5189.9400
	5200	5199.9730	5199.9350	5199.6550	5199.9310
	5210	5209.9790	5209.9410	5209.6550	5209.9320
	5220	5219.9740	5219.9360	5219.6620	5219.9380
	5230	5229.9720	5229.9340	5229.6790	5229.9560
	5240	5239.9450	5239.9070	5239.6510	5239.9280
0	5180	5179.7590	5179.9240	5179.6660	5179.9400
	5190	5199.9310	5189.9340	5189.6570	5189.9410
	5200	5199.9290	5199.9250	5199.6640	5199.9320
	5210	5209.9840	5209.9260	5209.6550	5299.9390
	5220	5219.9730	5219.9330	5219.6760	5219.9310
	5230	5229.9600	5229.9510	5229.6530	5229.9520
	5240	5239.9770	5239.9230	5239.6710	5239.9300
10	5180	5179.9610	5179.9360	5179.6750	5179.9410
	5190	5189.9720	5189.9260	5189.6710	5189.9320
	5200	5199.9630	5199.9340	5199.6650	5199.9400
	5210	5209.9640	5209.9260	5209.6700	5209.9320
	5220	5219.9710	5219.9470	5219.6650	5219.9520
	5230	5229.9890	5229.9250	5229.6620	5229.9300
	5240	5239.9740	5239.9430	5239.6350	5239.9480
20	5180	5179.763	5179.965	5179.977	5179.976
	5190	5199.935	5189.976	5189.968	5189.977

	5200	5199.933	5199.967	5199.976	5199.968
	5210	5209.988	5209.968	5209.968	5299.976
	5220	5219.977	5219.975	5219.989	5219.968
	5230	5229.964	5229.993	5229.967	5229.989
	5240	5239.981	5239.965	5239.985	5239.967
30	5180	5179.938	5179.976	5179.965	5180.101
	5190	5189.968	5189.977	5189.976	5199.976
	5200	5199.993	5199.968	5199.967	5200.001
	5210	5209.977	5299.976	5209.968	5209.979
	5220	5219.968	5219.968	5219.975	5219.994
	5230	5229.996	5229.989	5229.993	5229.987
	5240	5239.984	5239.967	5239.965	5239.995
40	5180	5179.763	5179.965	5179.977	5179.976
	5190	5199.935	5189.976	5189.968	5189.977
	5200	5199.933	5199.967	5199.976	5199.968
	5210	5209.988	5209.968	5209.968	5299.976
	5220	5219.977	5219.975	5219.989	5219.968
	5230	5229.964	5229.993	5229.967	5229.989
	5240	5239.981	5239.965	5239.985	5239.967
50	5180	5179.9650	5179.9770	5179.9770	5179.9860
	5190	5189.9760	5189.9680	5189.9680	5179.9860
	5200	5199.9670	5199.9760	5199.9760	5189.9820
	5210	5209.9680	5209.9680	5209.9680	5199.9770
	5220	5219.9750	5219.9890	5219.9890	5209.9830
	5230	5229.9930	5229.9670	5229.9670	5219.9780
	5240	5239.9650	5239.9850	5239.9850	5229.9760

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	5179.971	5179.965	5179.986	5179.982
	5190	5189.965	5189.976	5189.982	5189.968
	5200	5199.978	5199.967	5199.977	5199.969
	5210	5209.982	5209.968	5209.983	5209.991
	5220	5219.968	5219.975	5219.978	5219.977
	5230	5229.961	5229.993	5229.976	5229.987
	5240	5180.101	5179.981	5179.977	5179.965
AC 120V	5180	5199.976	5189.975	5189.968	5189.976
	5190	5200.001	5199.975	5199.976	5199.967
	5200	5209.979	5209.987	5209.968	5209.968
	5210	5219.994	5219.978	5219.989	5219.975
	5220	5229.987	5299.981	5229.967	5229.993
	5230	5239.995	5239.978	5239.985	5239.978
	5240	5180.101	5179.981	5179.977	5179.965
AC 138V	5180	5179.976	5179.977	5179.976	5179.976
	5190	5189.977	5189.968	5189.977	5189.977
	5200	5199.968	5199.976	5199.968	5199.968
	5210	5299.976	5209.968	5299.976	5299.976
	5220	5219.968	5219.989	5219.968	5219.968
	5230	5229.989	5229.967	5229.989	5229.989
	5240	5239.967	5239.985	5239.967	5239.967

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	5744.9580	5744.9680	5744.9680	5744.9630
	5755	5754.9740	5754.9750	5754.9850	5754.9880
	5775	5774.9730	5774.9670	5774.9860	5774.9690
	5785	5784.9760	5784.9590	5784.9680	5784.9780
	5795	5794.9870	5794.9660	5794.9860	5794.9760
	5825	5824.9680	5824.8950	5824.9830	5824.9860
-20	5745	5744.9580	5744.9790	5744.9630	5744.9790
	5755	5754.9740	5754.9810	5754.9880	5754.9930
	5775	5774.9730	5774.9840	5774.9690	5774.9780
	5785	5784.9760	5784.9760	5784.9780	5784.9650
	5795	5794.9830	5794.9670	5794.9760	5794.9590
	5825	5824.9680	5824.9760	5824.9860	5824.9930
-10	5745	5744.9790	5744.9920	5744.9790	5744.9680
	5755	5754.9930	5754.9650	5754.9930	5754.9870
	5775	5774.9780	5774.9880	5774.9780	5774.9670
	5785	5784.9650	5784.9880	5784.9650	5784.9940
	5795	5794.9590	5794.9790	5794.9590	5794.9860
	5825	5824.9930	5824.9940	5824.9930	5824.9950
0	5745	5744.9620	5744.9680	5744.9690	5744.9680
	5755	5754.9720	5754.9750	5754.9760	5754.9570
	5775	5774.9930	5774.9670	5774.9930	5774.9680
	5785	5784.9690	5784.9590	5784.9690	5784.9750
	5795	5794.9650	5794.9660	5794.9650	5794.9930
	5825	5824.9630	5824.8950	5824.9680	5824.9850
10	5745	5744.9590	5744.9790	5744.9630	5744.9790
	5755	5754.9740	5754.9810	5754.9880	5754.9930
	5775	5774.9730	5774.9840	5774.9690	5774.9780
	5785	5784.9760	5784.9760	5784.9780	5784.9650
	5795	5794.9860	5794.9670	5794.9760	5794.9590
	5825	5824.9680	5824.9760	5824.9860	5824.9930
20	5745	57444.9690	5744.9690	5744.9790	5744.59880
	5755	5754.9950	5754.9760	5754.9810	5754.9820
	5775	5774.9910	5774.9930	5774.9840	5774.9830
	5785	5784.9750	5784.9690	5784.9760	5784.9860
	5795	5794.9640	5794.9650	5794.9670	5794.9690
	5825	5824.8990	5824.9670	5824.9760	5824.9650
30	5745	5744.9590	5744.9790	5744.9630	5744.9790
	5755	5754.9740	5754.9810	5754.9880	5754.9930
	5775	5774.9730	5774.9840	5774.9690	5774.9780
	5785	5784.9760	5784.9760	5784.9780	5784.9650
	5795	5794.9860	5794.9670	5794.9760	5794.9590
	5825	5824.9680	5824.9760	5824.9860	5824.9930
40	5745	57444.9690	5744.9690	5744.9790	5744.59880
	5755	5754.9950	5754.9760	5754.9810	5754.9820
	5775	5774.9910	5774.9930	5774.9840	5774.9830
	5785	5784.9750	5784.9690	5784.9760	5784.9860

50	5795	5794.9870	5794.9660	5794.9860	5794.9760
	5825	5824.9680	5824.8950	5824.9830	5824.9860
	5745	5744.9620	5744.9680	5744.9690	5744.9680
	5755	5754.9720	5754.9750	5754.9760	5754.9570
	5775	5774.9930	5774.9670	5774.9930	5774.9680
	5785	5784.9690	5784.9590	5784.9690	5784.9750
	5795	5794.9650	5794.9660	5794.9650	5794.9930
	5825	5824.9630	5824.8950	5824.9680	5824.9850

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	5744.9630	5744.9680	5744.9680	5744.9640
	5755	5754.9880	5754.9850	5754.9750	5754.9760
	5775	5774.9690	5774.9860	5774.9670	5774.9930
	5785	5784.9780	5784.9680	5784.9590	5784.9690
	5795	5794.9760	5794.9850	5794.9660	5794.9650
	5825	5824.9860	5824.9830	5824.8950	5824.9680
AC 120V	5745	5744.9790	5744.9930	5744.9770	5744.9680
	5755	5754.9930	5754.9650	5754.9930	5754.9870
	5775	5774.9780	5774.9880	5774.9780	5774.9670
	5785	5784.9650	5784.9880	5784.9650	5784.9940
	5795	5794.9590	5794.9790	5794.9590	5794.9860
	5825	5824.9930	5824.9940	5824.9930	5824.9950
AC 132V	5745	5744.9690	5744.9790	5744.9620	5744.9930
	5755	5754.9760	5754.9810	5754.9850	5754.9650
	5775	5774.9930	5774.9840	5774.9860	5774.9880
	5785	5784.9690	5784.9760	5784.9680	5784.9880
	5795	5794.9650	5794.9670	5794.9850	5794.9790
	5825	5824.9680	5824.9760	5824.9830	5824.9940

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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