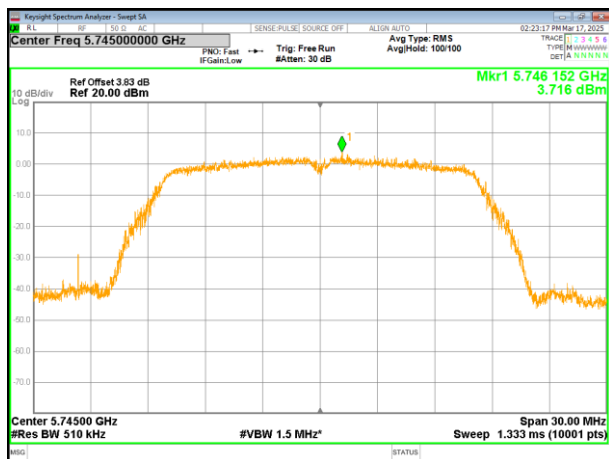
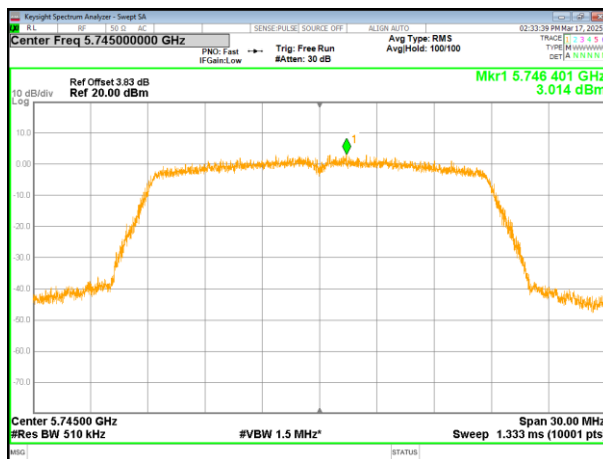


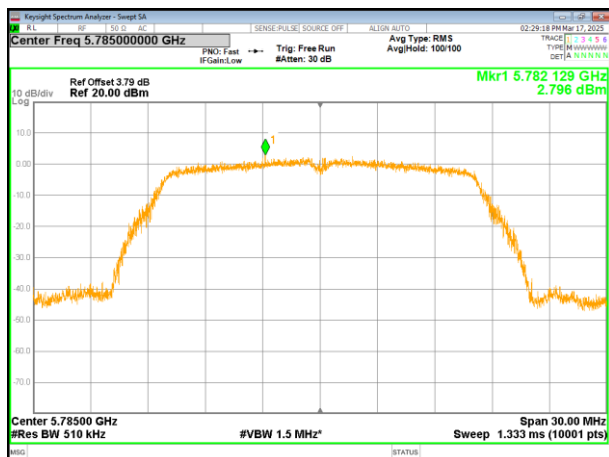
(802.11a) PSD plot on channel 149



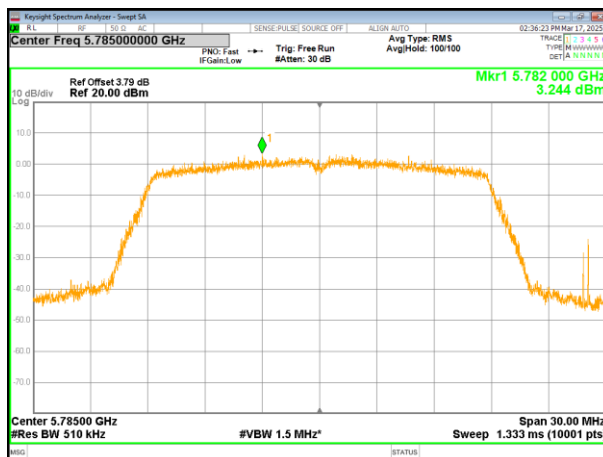
(802.11n20) PSD plot on channel 149



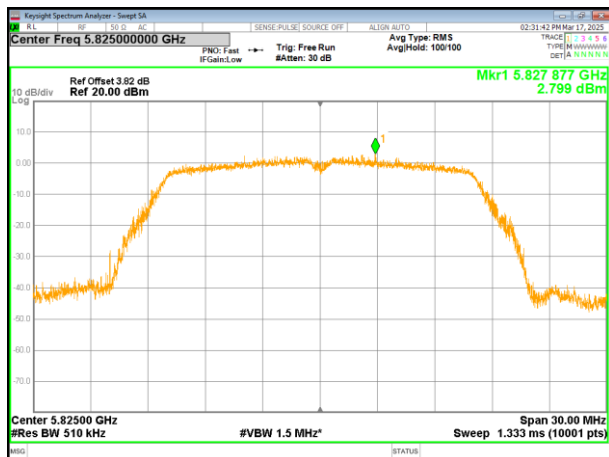
(802.11a) PSD plot on channel 157



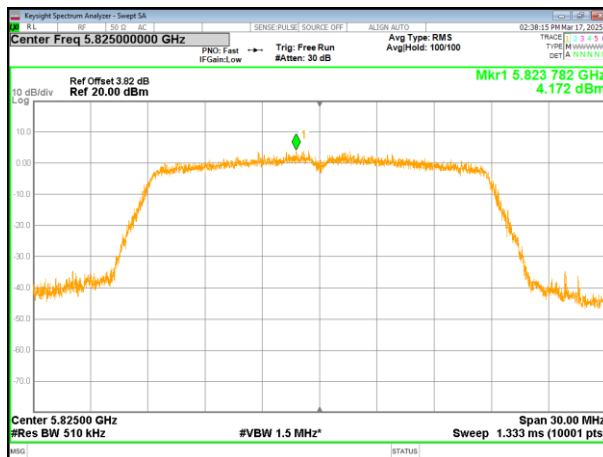
(802.11n20) PSD plot on channel 157



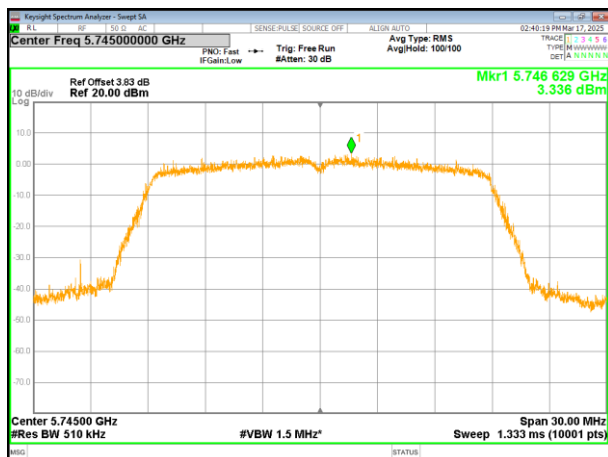
(802.11a) PSD plot on channel 165



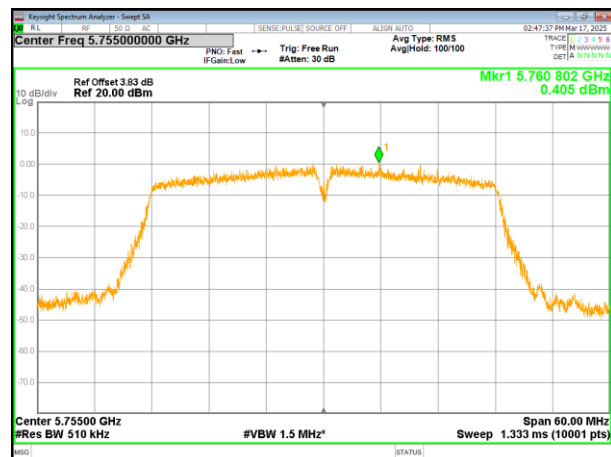
(802.11n20) PSD plot on channel 165



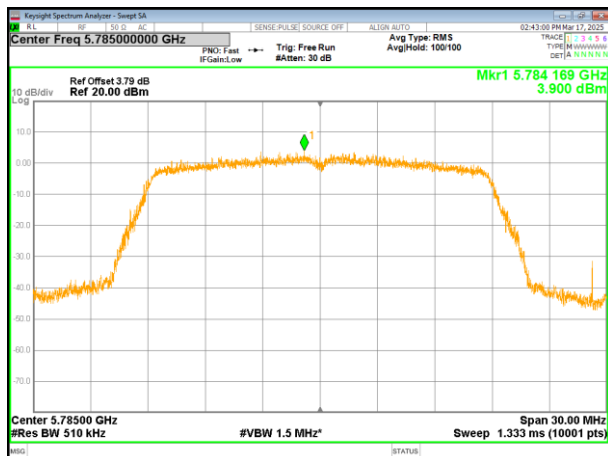
(802.11ac20) PSD plot on channel 149



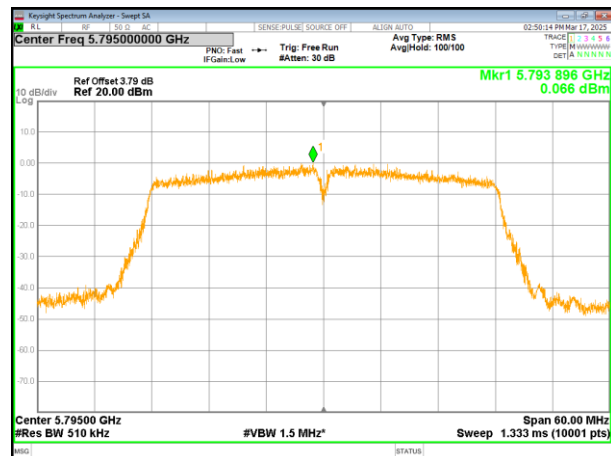
(802.11n40) PSD plot on channel 151



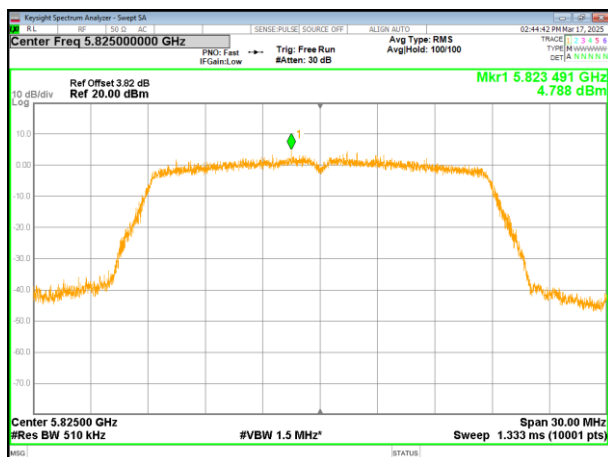
(802.11ac20) PSD plot on channel 157



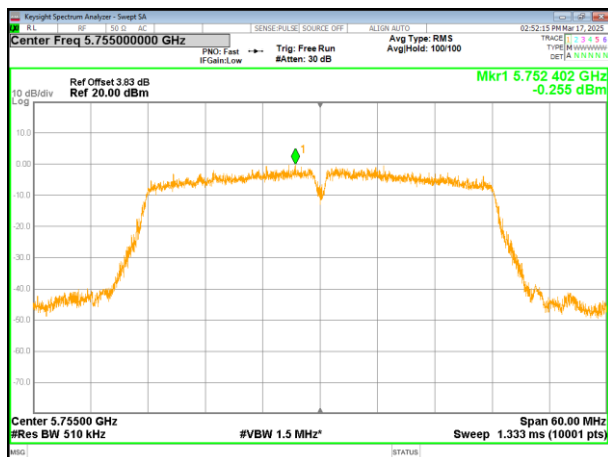
(802.11n40) PSD plot on channel 159



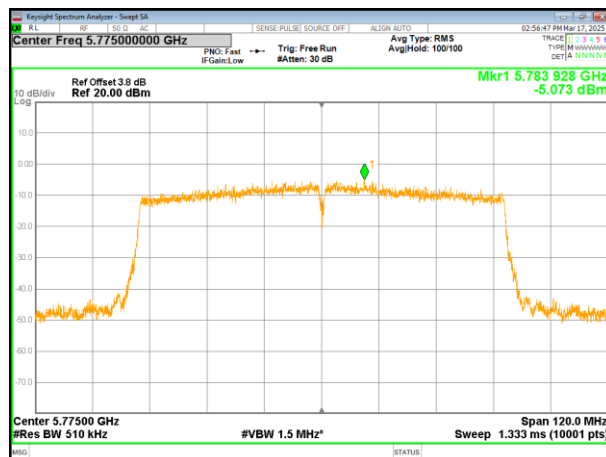
(802.11ac20) PSD plot on channel 165



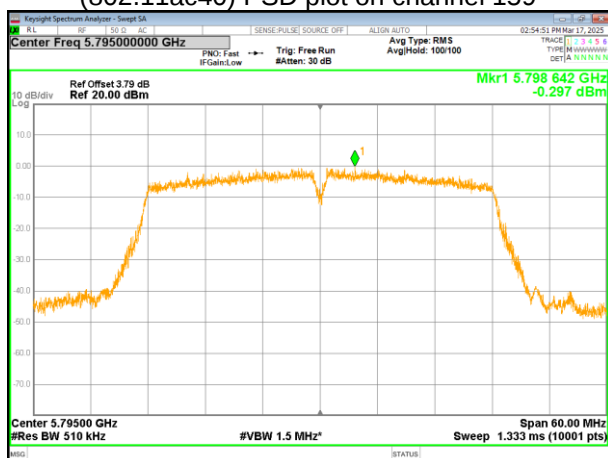
(802.11ac40) PSD plot on channel 151



(802.11ac80) PSD plot on channel 155

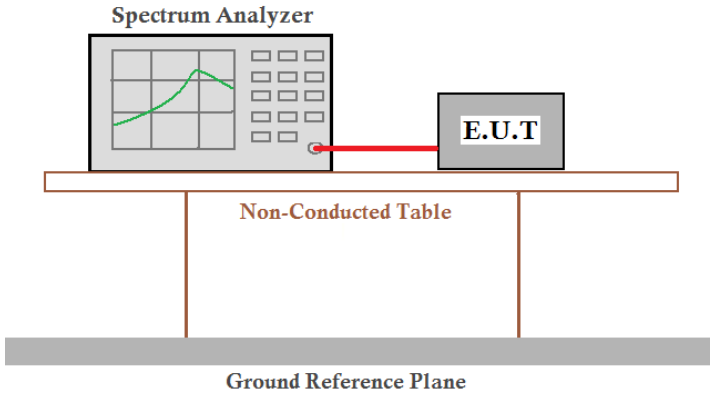


(802.11ac40) PSD plot on channel 159



4.7 Band edge

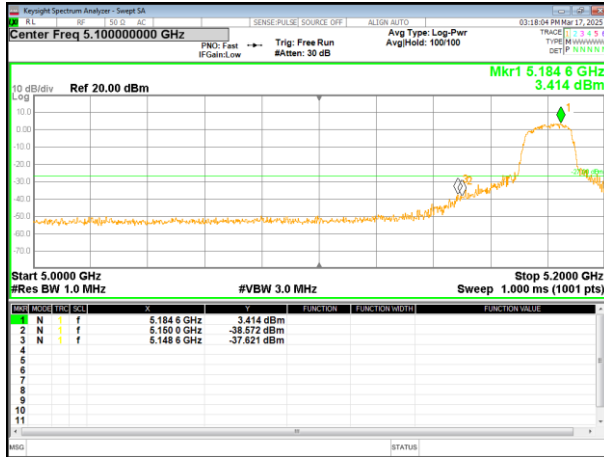
4.7.1 Conducted test Method

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.: 22.1°C	Humid.: 47%RH
Test voltage:	DC 19V	
Test results:	Pass	

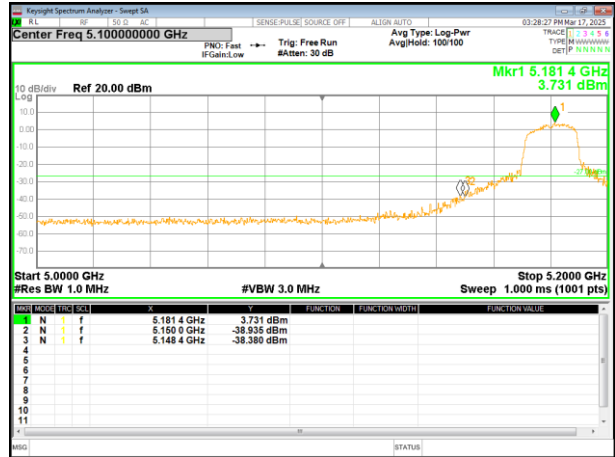
Remark: Due to the margin value of the sideband test being greater than the antenna gain value, the test meets the requirements

5.180~5.240 GHz

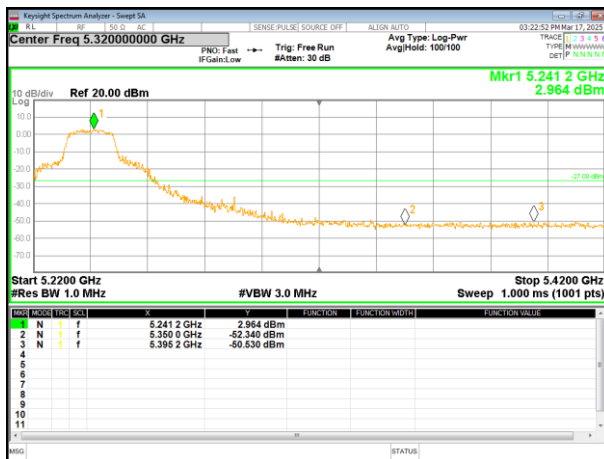
(802.11a) Band Edge, Left Side



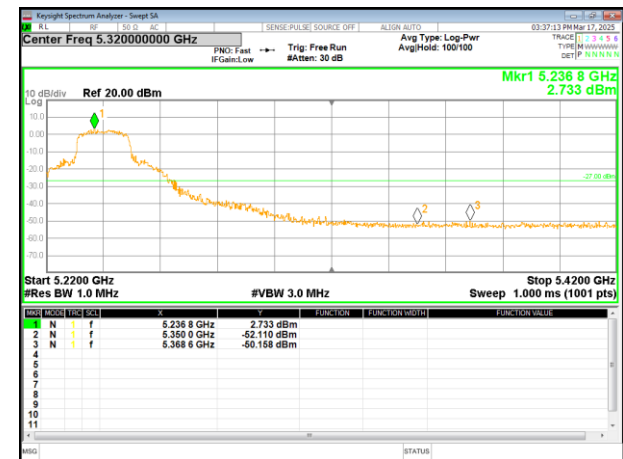
(802.11n20) Band Edge, Left Side



(802.11a) Band Edge, Right Side

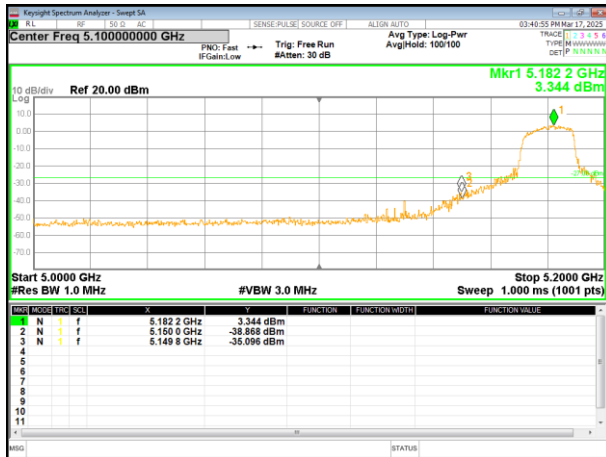


(802.11n20) Band Edge, Right Side

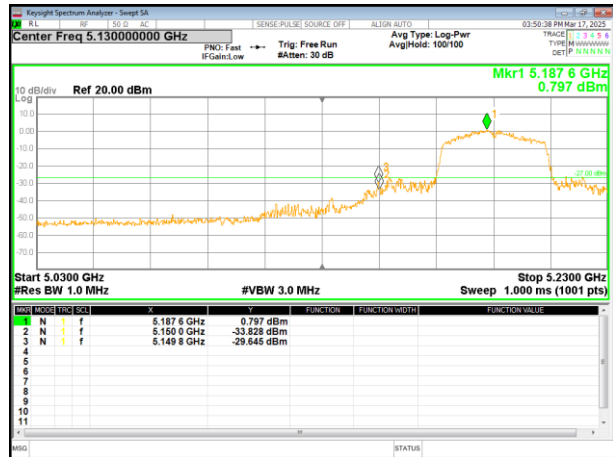


Remark: The antenna gain and cable loss were not compensated in the test data, and the margin value of the Band Edge test was greater than the sum of the antenna gain and cable loss, so the test met the requirements

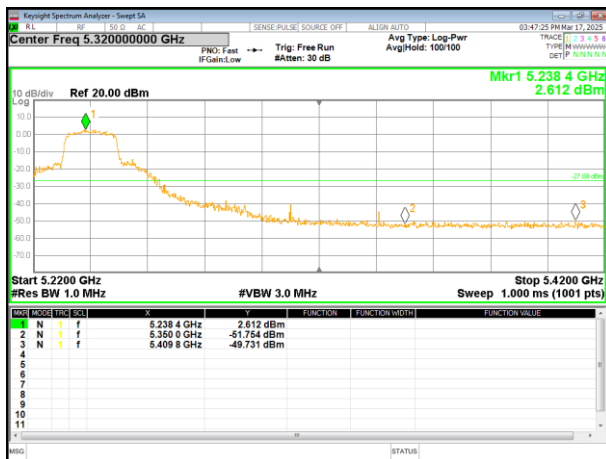
(802.11ac20) Band Edge, Left Side



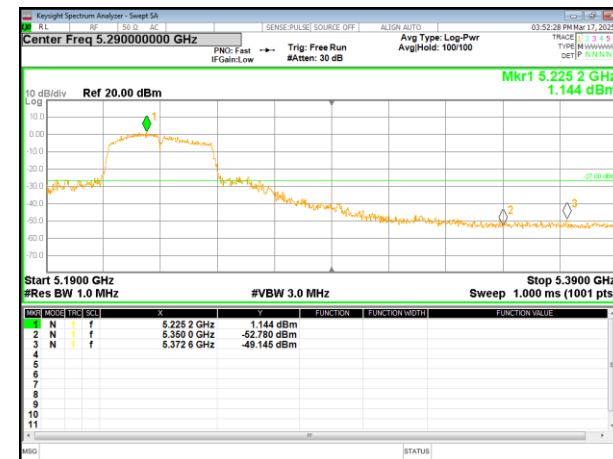
(802.11n40) Band Edge, Left Side



(802.11ac20) Band Edge, Right Side

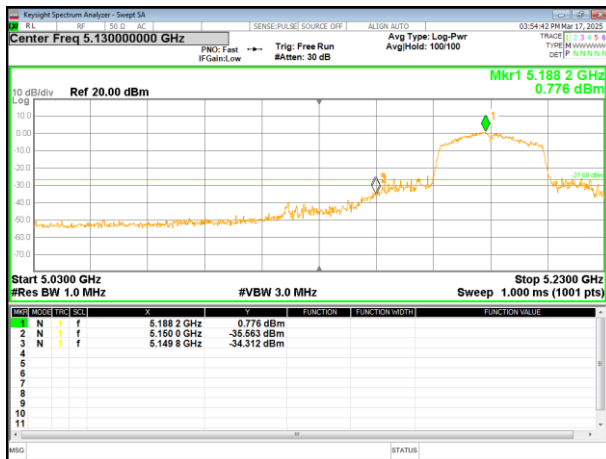


(802.11n40) Band Edge, Right Side

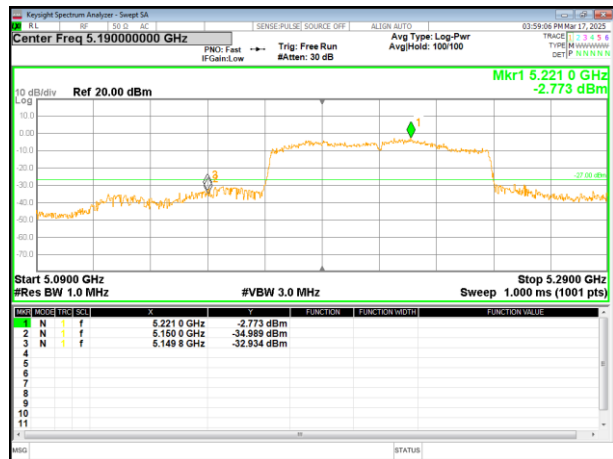


Remark: The antenna gain and cable loss were not compensated in the test data, and the margin value of the Band Edge test was greater than the sum of the antenna gain and cable loss, so the test met the requirements

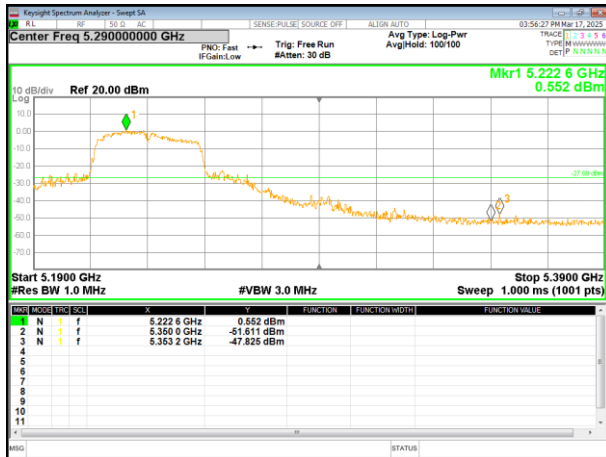
(802.11ac40) Band Edge, Left Side



(802.11ac80) Band Edge



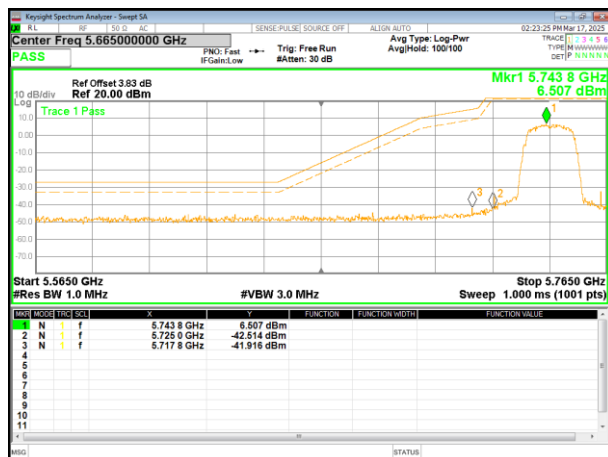
(802.11ac40) Band Edge, Right Side



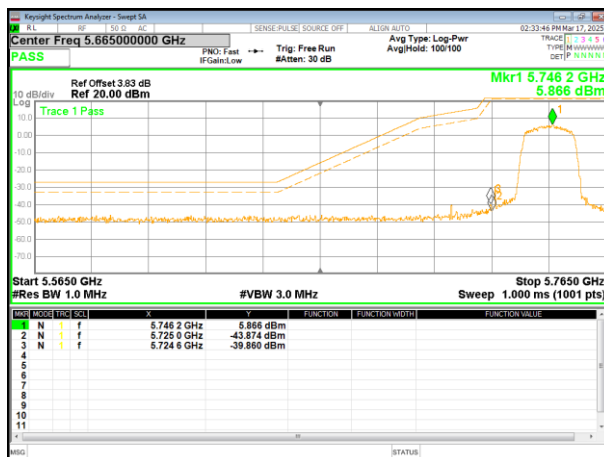
Remark: The antenna gain and cable loss were not compensated in the test data, and the margin value of the Band Edge test was greater than the sum of the antenna gain and cable loss, so the test met the requirements

5.745~5.825 GHz

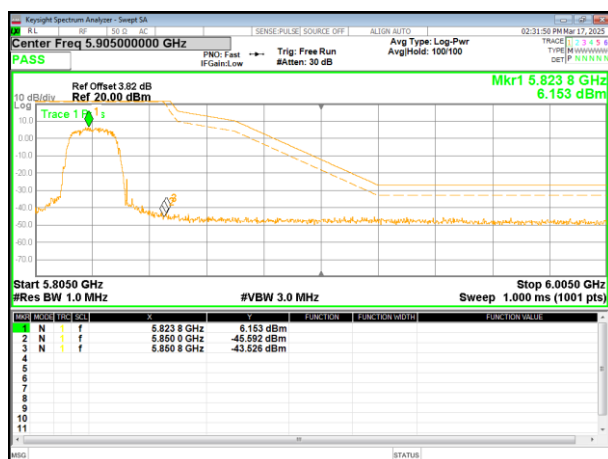
(802.11a) Band Edge, Left Side



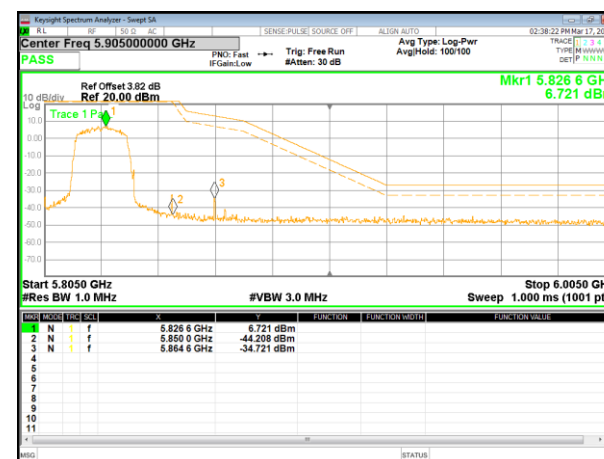
(802.11n20) Band Edge, Left Side



(802.11a) Band Edge, Right Side

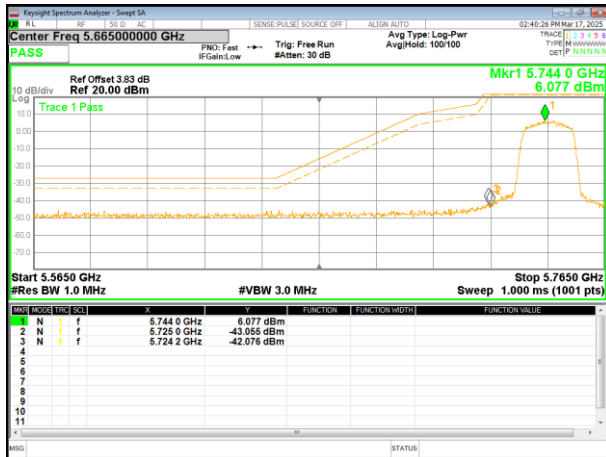


(802.11n20) Band Edge, Right Side

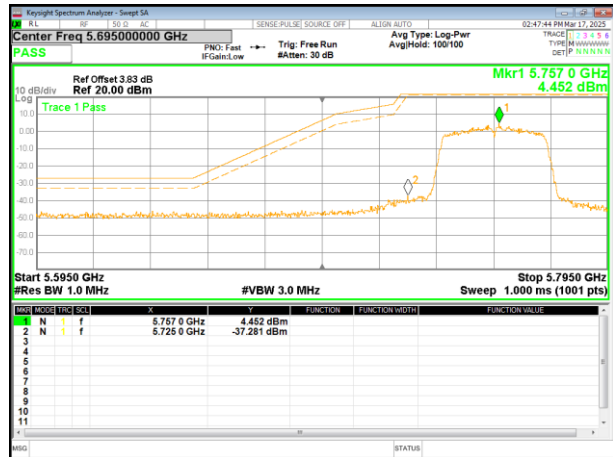


Remark: Antenna gain and cable loss data included in Offset.

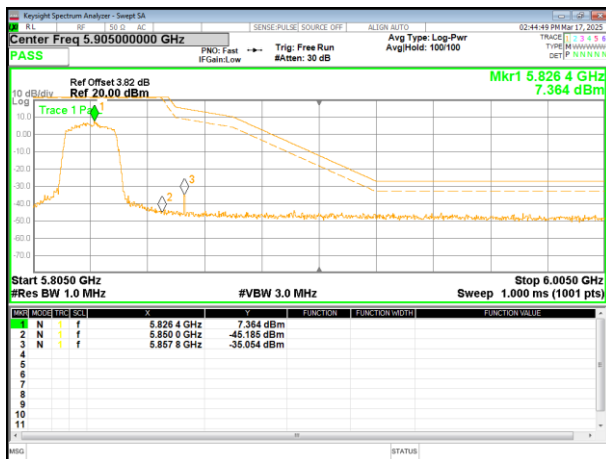
(802.11ac20) Band Edge, Left Side



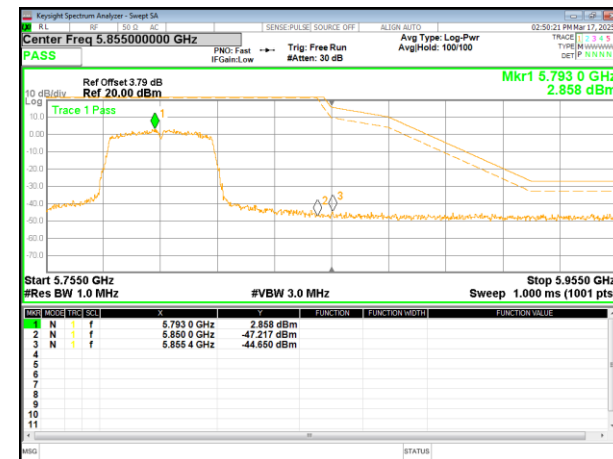
(802.11n40) Band Edge, Left Side



(802.11ac20) Band Edge, Right Side

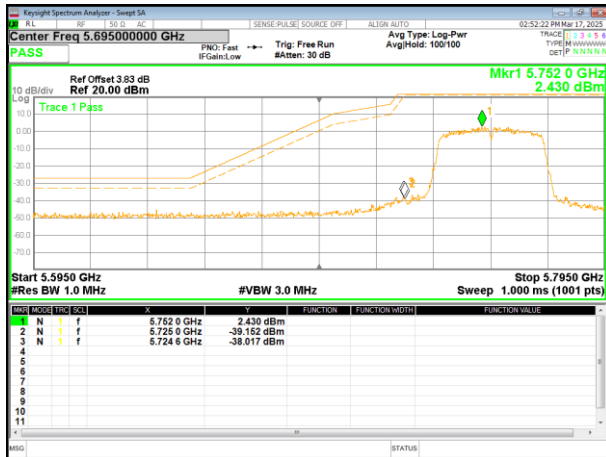


(802.11n40) Band Edge, Right Side

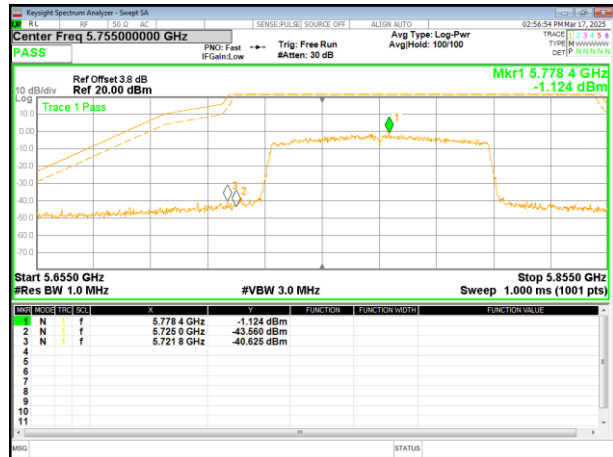


Remark: Antenna gain and cable loss data included in Offset.

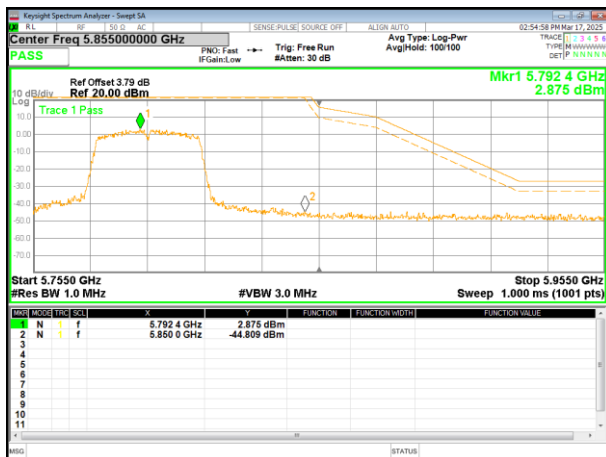
(802.11ac40) Band Edge, Left Side



(802.11ac80) Band Edge



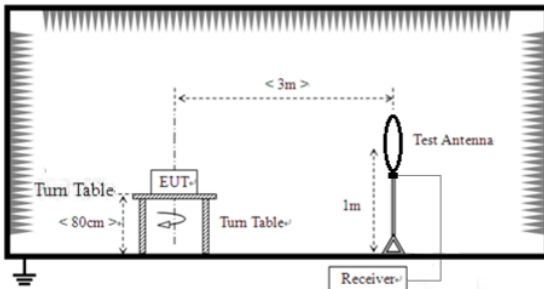
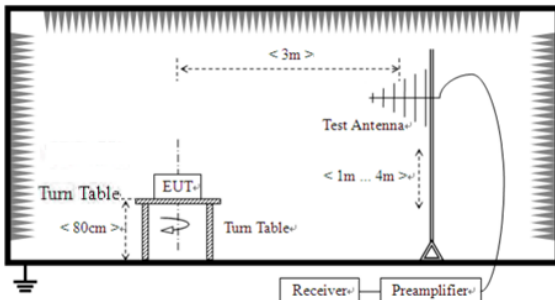
(802.11ac40) Band Edge, Right Side

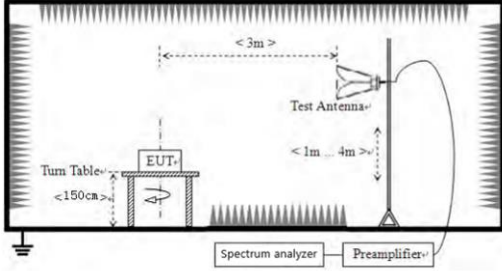


Remark: Antenna gain and cable loss data included in Offset.

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

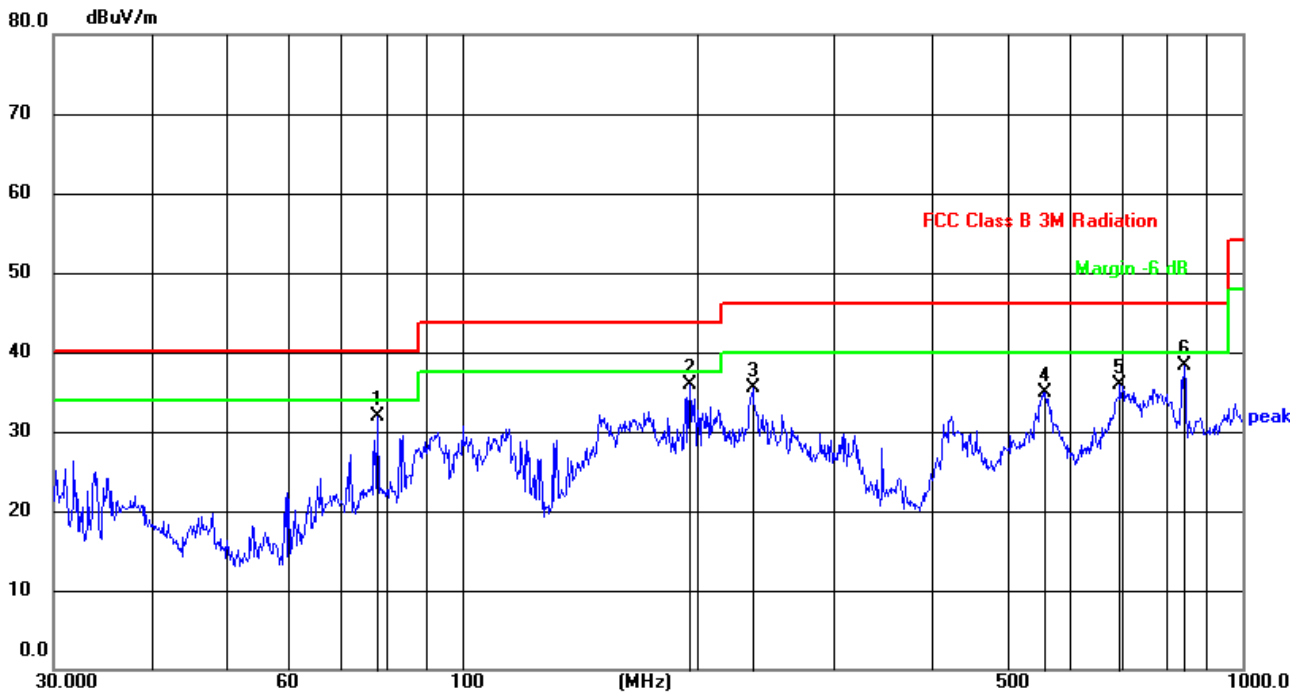
The emission from 9 kHz to 30MHz was pre-tested and found the result was 20dB lower than the limit, and according to 15.31(o) & RSS-Gen 6.13, the test result no need to reported.

Below 1GHz

Remark: The test data shows only the worst case 802.11n20 mode.

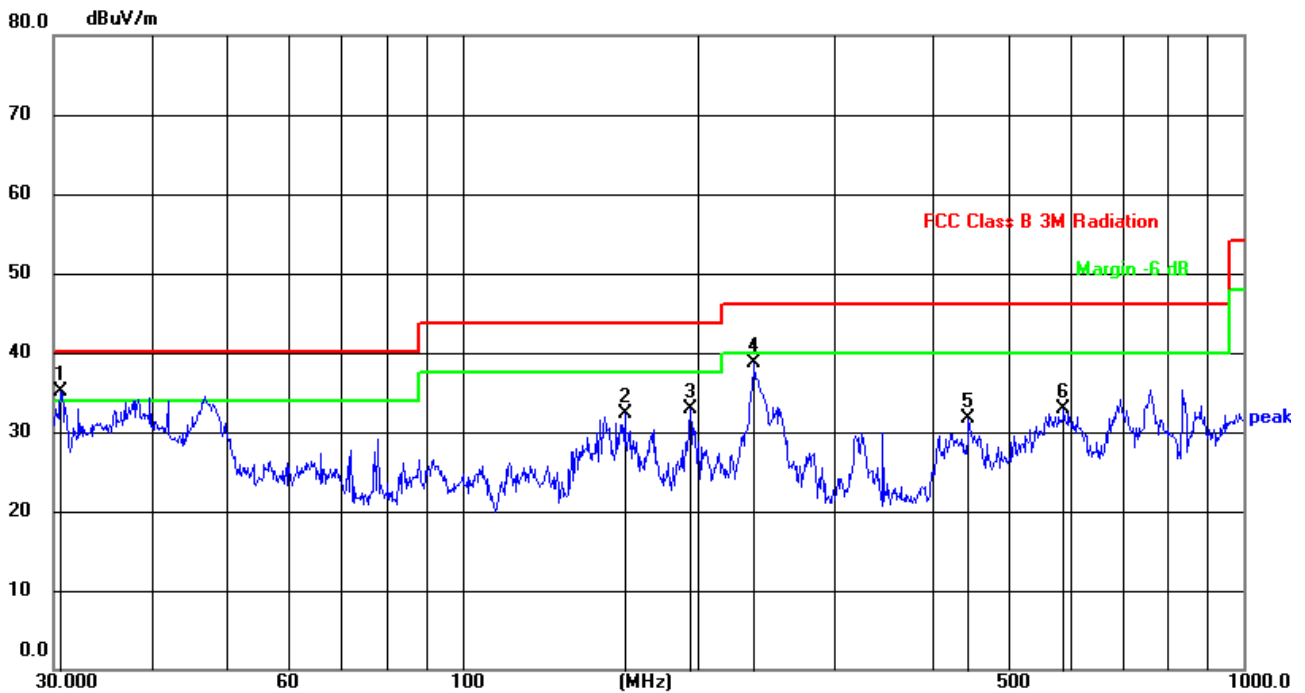
Temperature:	22.1°C	Relative Humidity:	47%
Pressure:	101.2kPa	Test Voltage :	DC 19V
Test Mode :	5.2G TX- 802.11n20 (5180MHz)		

Horizontal:



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	78.1388	57.54	-25.72	31.82	40.00	-8.18	QP
2	195.8216	59.12	-23.26	35.86	43.50	-7.64	QP
3	235.8163	58.24	-22.70	35.54	46.00	-10.46	QP
4	558.7300	47.60	-12.65	34.95	46.00	-11.05	QP
5	696.8567	45.12	-9.24	35.88	46.00	-10.12	QP
6	842.1295	44.51	-6.30	38.21	46.00	-7.79	QP

Vertical:



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	30.6374	57.67	-22.63	35.04	40.00	-4.96	QP
2	161.4738	53.00	-20.63	32.37	43.50	-11.13	QP
3	195.8214	56.15	-23.26	32.89	43.50	-10.61	QP
4	236.6447	61.35	-22.65	38.70	46.00	-7.30	QP
5	444.8514	47.38	-15.69	31.69	46.00	-14.31	QP
6	588.9048	44.96	-12.01	32.95	46.00	-13.05	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 802.11n20 mode.

Temperature:	22.1°C	Relative Humidity:	47%
Pressure:	101.2kPa	Test Voltage :	DC 19V
Test Mode :	5.2G TX- 802.11n20		

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	47.29	46.20	8.27	38.50	47.86	68.20	-20.34	PK
V	10360.00	37.52	46.20	8.27	38.50	38.09	54.00	-15.91	AV
V	15540.00	43.16	46.30	10.35	38.70	45.91	74.00	-28.09	PK
V	15540.00	33.60	46.30	10.35	38.70	36.35	54.00	-17.65	AV
V	20720.00	51.25	57.40	11.93	37.80	43.58	68.20	-24.62	PK
V	20720.00	42.21	57.40	11.93	37.80	34.54	54.00	-19.46	AV
V	25900.00	48.83	56.50	13.45	39.70	45.48	68.20	-22.72	PK
V	25900.00	40.34	56.50	13.45	39.70	36.99	54.00	-17.01	AV
V	31080.00	47.47	56.10	16.12	41.60	49.09	68.20	-19.11	PK
V	31080.00	40.25	56.10	16.12	41.60	41.87	54.00	-12.13	AV
V	36260.00	44.74	56.80	18.29	42.80	49.03	68.20	-19.17	PK
V	36260.00	38.02	56.80	18.29	42.80	42.31	54.00	-11.69	AV
H	10360.00	46.22	46.20	8.27	38.50	46.79	68.20	-21.41	PK
H	10360.00	35.43	46.20	8.27	38.50	36.00	54.00	-18.00	AV
H	15540.00	42.24	46.30	10.35	38.70	44.99	74.00	-29.01	PK
H	15540.00	31.86	46.30	10.35	38.70	34.61	54.00	-19.39	AV
H	20720.00	53.52	57.40	11.93	37.80	45.85	68.20	-22.35	PK
H	20720.00	43.17	57.40	11.93	37.80	35.50	54.00	-18.50	AV
H	25900.00	50.24	56.50	13.45	39.70	46.89	68.20	-21.31	PK
H	25900.00	40.36	56.50	13.45	39.70	37.01	54.00	-16.99	AV
H	31080.00	47.56	56.10	16.12	41.60	49.18	68.20	-19.02	PK
H	31080.00	40.19	56.10	16.12	41.60	41.81	54.00	-12.19	AV
H	36260.00	43.76	56.80	18.29	42.80	48.05	68.20	-20.15	PK
H	36260.00	38.84	56.80	18.29	42.80	43.13	54.00	-10.87	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	44.88	46.20	8.27	38.50	45.45	68.20	-22.75	PK
V	10400.00	36.28	46.20	8.27	38.50	36.85	54.00	-17.15	AV
V	15600.00	43.05	46.30	10.35	38.40	45.50	74.00	-28.50	PK
V	15600.00	35.33	46.30	10.35	38.40	37.78	54.00	-16.22	AV
V	20800.00	52.48	57.40	11.93	37.80	44.81	68.20	-23.39	PK
V	20800.00	43.50	57.40	11.93	37.80	35.83	54.00	-18.17	AV
V	26000.00	48.42	56.50	13.45	39.80	45.17	68.20	-23.03	PK
V	26000.00	40.73	56.50	13.45	39.80	37.48	54.00	-16.52	AV
V	31200.00	47.54	56.10	16.12	41.60	49.16	68.20	-19.04	PK
V	31200.00	41.17	56.10	16.12	41.60	42.79	54.00	-11.21	AV
V	36400.00	44.07	56.80	18.29	42.80	48.36	68.20	-19.84	PK
V	36400.00	37.85	56.80	18.29	42.80	42.14	54.00	-11.86	AV
H	10400.00	45.45	46.20	8.27	38.50	46.02	68.20	-22.18	PK
H	10400.00	36.82	46.20	8.27	38.50	37.39	54.00	-16.61	AV
H	15600.00	43.41	46.30	10.35	38.40	45.86	74.00	-28.14	PK
H	15600.00	35.41	46.30	10.35	38.40	37.86	54.00	-16.14	AV
H	20800.00	51.20	57.40	11.93	37.80	43.53	68.20	-24.67	PK
H	20800.00	41.34	57.40	11.93	37.80	33.67	54.00	-20.33	AV
H	26000.00	47.84	56.50	13.45	39.80	44.59	68.20	-23.61	PK
H	26000.00	39.87	56.50	13.45	39.80	36.62	54.00	-17.38	AV
H	31200.00	46.80	56.10	16.12	41.60	48.42	68.20	-19.78	PK
H	31200.00	40.04	56.10	16.12	41.60	41.66	54.00	-12.34	AV
H	36400.00	44.20	56.80	18.29	42.80	48.49	68.20	-19.71	PK
H	36400.00	38.64	56.80	18.29	42.80	42.93	54.00	-11.07	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	42.11	46.20	8.27	38.60	42.78	68.20	-25.42	PK
V	10480.00	32.78	46.20	8.27	38.60	33.45	54.00	-20.55	AV
V	15720.00	40.59	46.30	10.35	38.40	43.04	74.00	-30.96	PK
V	15720.00	30.62	46.30	10.35	38.40	33.07	54.00	-20.93	AV
V	20960.00	49.02	57.40	11.93	37.50	41.05	68.20	-27.15	PK
V	20960.00	41.19	57.40	11.93	37.50	33.22	54.00	-20.78	AV
V	26200.00	45.38	56.50	13.45	40.10	42.43	68.20	-25.77	PK
V	26200.00	36.49	56.50	13.45	40.10	33.54	54.00	-20.46	AV
V	31440.00	47.50	56.10	16.12	41.30	48.82	68.20	-19.38	PK
V	31440.00	40.89	56.10	16.12	41.30	42.21	54.00	-11.79	AV
V	36680.00	43.00	56.80	18.29	43.10	47.59	68.20	-20.61	PK
V	36680.00	37.83	56.80	18.29	43.10	42.42	54.00	-11.58	AV
H	10480.00	41.95	46.20	8.27	38.60	42.62	68.20	-25.58	PK
H	10480.00	32.84	46.20	8.27	38.60	33.51	54.00	-20.49	AV
H	15720.00	40.25	46.30	10.35	38.40	42.70	74.00	-31.30	PK
H	15720.00	30.67	46.30	10.35	38.40	33.12	54.00	-20.88	AV
H	20960.00	49.44	57.40	11.93	37.50	41.47	68.20	-26.73	PK
H	20960.00	40.78	57.40	11.93	37.50	32.81	54.00	-21.19	AV
H	26200.00	44.63	56.50	13.45	40.10	41.68	68.20	-26.52	PK
H	26200.00	35.58	56.50	13.45	40.10	32.63	54.00	-21.37	AV
H	31440.00	46.78	56.10	16.12	41.30	48.10	68.20	-20.10	PK
H	31440.00	41.13	56.10	16.12	41.30	42.45	54.00	-11.55	AV
H	36680.00	44.03	56.80	18.29	43.10	48.62	68.20	-19.58	PK
H	36680.00	38.55	56.80	18.29	43.10	43.14	54.00	-10.86	AV

Remark:

1. Emission Level = Meter Reading + Antenna Factor + Cable Loss – Pre-amplifier,
Margin= Emission Level - Limit
2. If peak below the average limit, the average emission was no test.
3. The amplitude of spurious emissions which are attenuated by more than 20dB below the permissible value has no need to be reported.

Temperature:	22.1°C	Relative Humidity:	47%
Pressure:	101.2kPa	Test Voltage :	DC 19V
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	45.82	46.10	8.77	39.10	47.59	74.00	-26.41	PK
V	11490.00	34.21	46.10	8.77	39.10	35.98	54.00	-18.02	AV
V	17235.00	40.27	47.60	11.10	38.70	42.47	68.20	-25.73	PK
V	17235.00	32.95	47.60	11.10	38.70	35.15	54.00	-18.85	AV
V	22980.00	53.04	56.90	12.73	37.70	46.57	74.00	-27.43	PK
V	22980.00	40.51	56.90	12.73	37.70	34.04	54.00	-19.96	AV
V	28725.00	46.87	55.60	14.25	40.30	45.82	68.20	-22.38	PK
V	28725.00	40.49	55.60	14.25	40.30	39.44	54.00	-14.56	AV
V	34470.00	46.55	55.90	17.26	42.10	50.01	68.20	-18.19	PK
V	34470.00	39.00	55.90	17.26	42.10	42.46	54.00	-11.54	AV
H	11490.00	44.61	46.10	8.77	39.10	46.38	74.00	-27.62	PK
H	11490.00	33.92	46.10	8.77	39.10	35.69	54.00	-18.31	AV
H	17235.00	39.36	47.60	11.10	38.70	41.56	68.20	-26.64	PK
H	17235.00	33.21	47.60	11.10	38.70	35.41	54.00	-18.59	AV
H	22980.00	54.60	56.90	12.73	37.70	48.13	74.00	-25.87	PK
H	22980.00	45.33	56.90	12.73	37.70	38.86	54.00	-15.15	AV
H	28725.00	46.15	55.60	14.25	40.30	45.10	68.20	-23.10	PK
H	28725.00	40.85	55.60	14.25	40.30	39.80	54.00	-14.20	AV
H	34470.00	45.77	55.90	17.26	42.10	49.23	68.20	-18.97	PK
H	34470.00	39.23	55.90	17.26	42.10	42.69	54.00	-11.31	AV

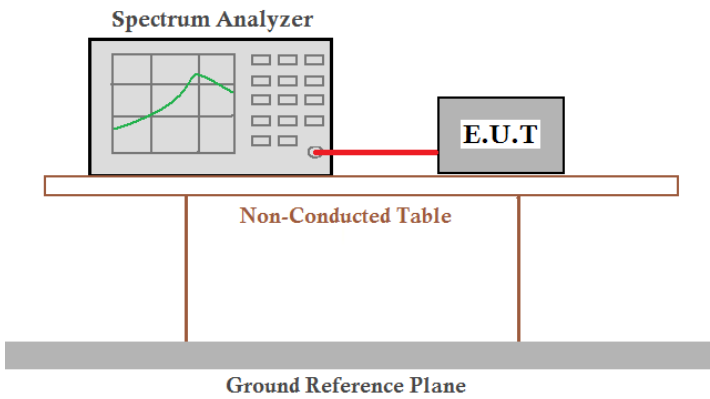
<i>Polar (H/V)</i>	<i>Frequency</i>	<i>Meter Reading</i>	<i>Pre- amplifier</i>	<i>Cable Loss</i>	<i>Antenna Factor</i>	<i>Emission Level</i>	<i>Limits</i>	<i>Margin</i>	<i>Detect or Type</i>
	(MHz)	(dBuV)	(dB)	(dB)	(dB)	(dBuV/m)	(dBuV/m)	(dB)	
Middle Channel:5785MHz									
V	11570.00	45.30	46.10	8.77	39.10	47.07	74.00	-26.93	PK
V	11570.00	34.41	46.10	8.77	39.10	36.18	54.00	-17.82	AV
V	17355.00	39.94	47.60	11.10	38.70	42.14	68.20	-26.07	PK
V	17355.00	34.56	47.60	11.10	38.70	36.76	54.00	-17.24	AV
V	23140.00	54.84	56.90	12.73	37.70	48.37	74.00	-25.63	PK
V	23140.00	44.33	56.90	12.73	37.70	37.86	54.00	-16.14	AV
V	28925.00	43.93	55.60	14.25	40.30	42.88	68.20	-25.32	PK
V	28925.00	40.16	55.60	14.25	40.30	39.11	54.00	-14.89	AV
V	34710.00	45.35	55.90	17.26	42.40	49.11	68.20	-19.09	PK
V	34710.00	39.54	55.90	17.26	42.40	43.30	54.00	-10.70	AV
H	11570.00	45.86	46.10	8.77	39.10	47.63	74.00	-26.37	PK
H	11570.00	35.25	46.10	8.77	39.10	37.02	54.00	-16.98	AV
H	17355.00	40.82	47.60	11.10	38.70	43.02	68.20	-25.18	PK
H	17355.00	34.33	47.60	11.10	38.70	36.53	54.00	-17.47	AV
H	23140.00	56.05	56.90	12.73	37.70	49.58	74.00	-24.42	PK
H	23140.00	45.13	56.90	12.73	37.70	38.66	54.00	-15.34	AV
H	28925.00	45.94	55.60	14.25	40.30	44.89	68.20	-23.31	PK
H	28925.00	39.83	55.60	14.25	40.30	38.78	54.00	-15.22	AV
H	34710.00	43.88	55.90	17.26	42.40	47.64	68.20	-20.56	PK
H	34710.00	39.45	55.90	17.26	42.40	43.21	54.00	-10.79	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	45.54	46.10	8.77	39.10	47.31	74.00	-26.69	PK
V	11650.00	34.21	46.10	8.77	39.10	35.98	54.00	-18.02	AV
V	17475.00	40.67	47.90	11.23	38.90	42.90	68.20	-25.30	PK
V	17475.00	35.90	47.90	11.23	38.90	38.13	54.00	-15.87	AV
V	23300.00	49.33	57.10	12.73	37.80	42.76	68.20	-25.44	PK
V	23300.00	44.40	57.10	12.73	37.80	37.83	54.00	-16.17	AV
V	29125.00	45.58	55.80	14.25	40.50	44.53	68.20	-23.67	PK
V	29125.00	40.99	55.80	14.25	40.50	39.94	54.00	-14.06	AV
V	34950.00	44.64	56.30	17.91	42.50	48.75	68.20	-19.45	PK
V	34950.00	39.20	56.30	17.91	42.50	43.31	54.00	-10.69	AV
H	11650.00	46.15	46.10	8.77	39.10	47.92	74.00	-26.08	PK
H	11650.00	32.90	46.10	8.77	39.10	34.67	54.00	-19.33	AV
H	17475.00	40.55	47.90	11.23	38.90	42.78	68.20	-25.42	PK
H	17475.00	35.67	47.90	11.23	38.90	37.90	54.00	-16.10	AV
H	23300.00	50.58	57.10	12.73	37.80	44.01	68.20	-24.19	PK
H	23300.00	45.13	57.10	12.73	37.80	38.56	54.00	-15.44	AV
H	29125.00	46.93	55.80	14.25	40.50	45.88	68.20	-22.32	PK
H	29125.00	41.04	55.80	14.25	40.50	39.99	54.00	-14.01	AV
H	34950.00	44.36	56.30	17.91	42.50	48.47	68.20	-19.73	PK
H	34950.00	39.04	56.30	17.91	42.50	43.15	54.00	-10.85	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.: 22.1°C	Humid.: 47%RH
Test voltage:	DC 19V	
Test results:	Pass	

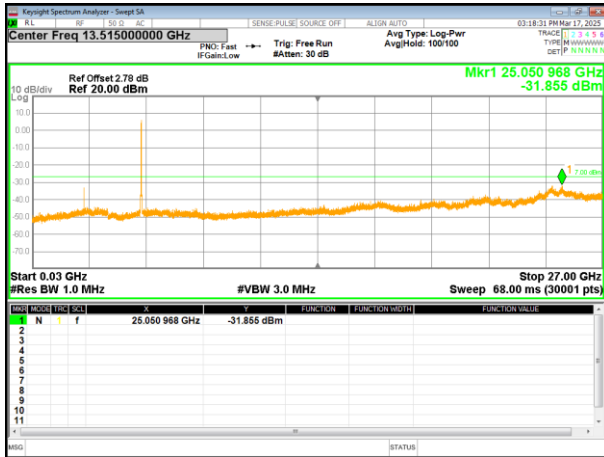
Remark:

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.

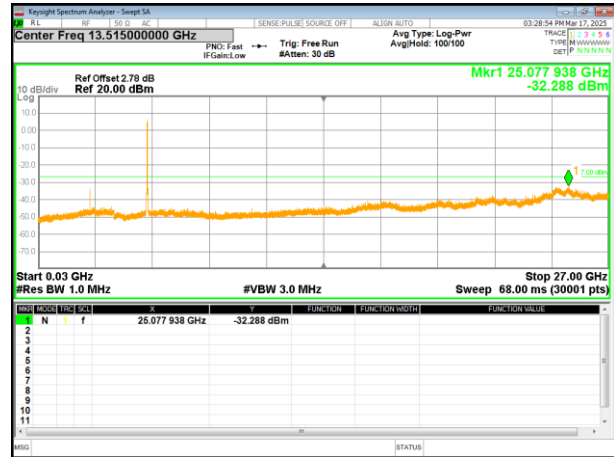
5180-5240MHz

Test Plot

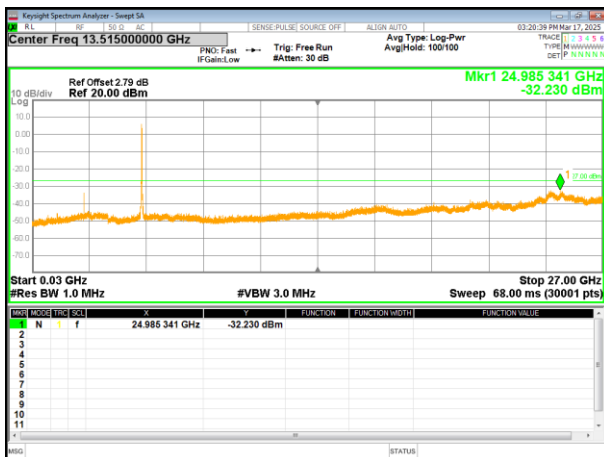
802.11a on channel 36



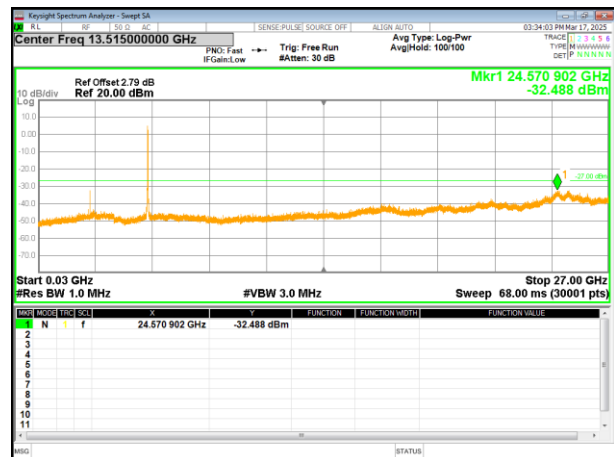
802.11a on channel 40



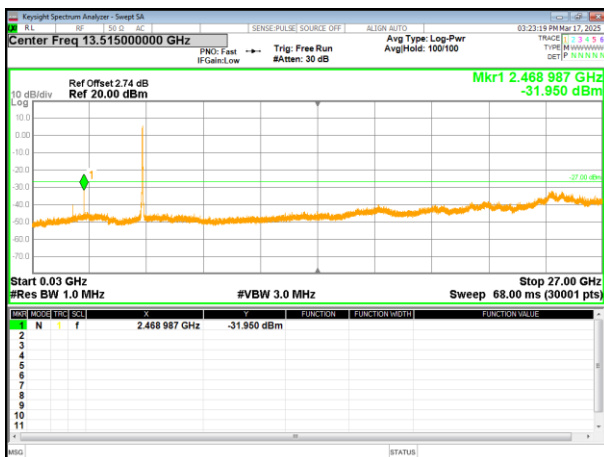
802.11a on channel 48



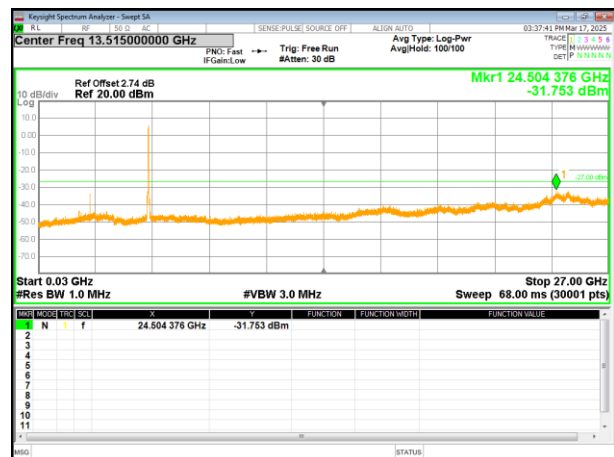
802.11n20 on channel 36



802.11n20 on channel 40

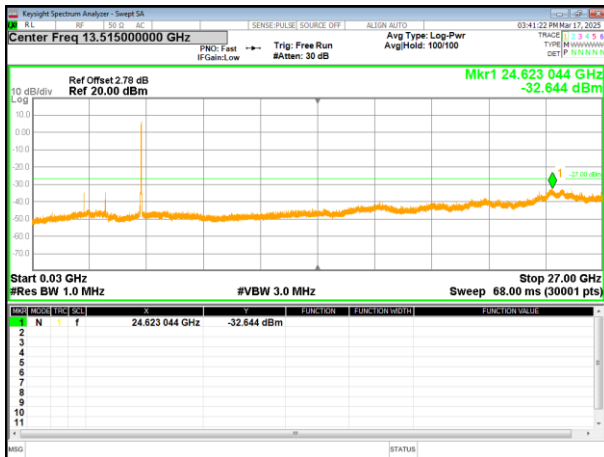


802.11n20 on channel 48

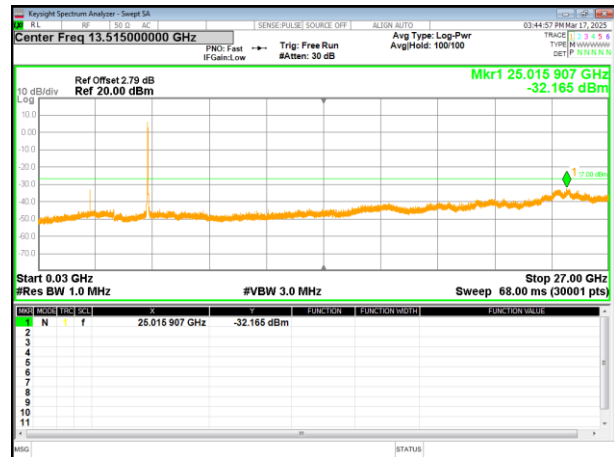


Test Plot

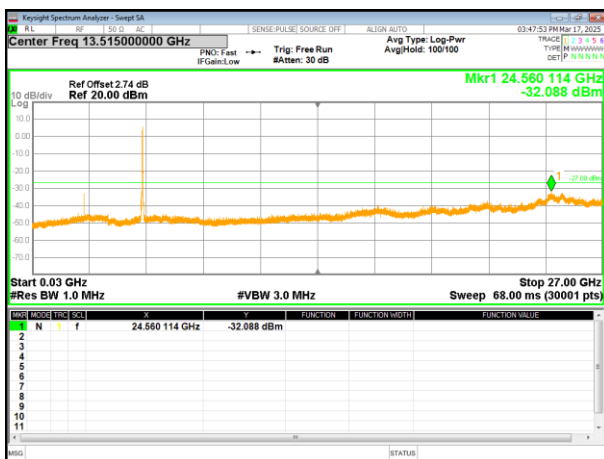
802.11ac20 on channel 36



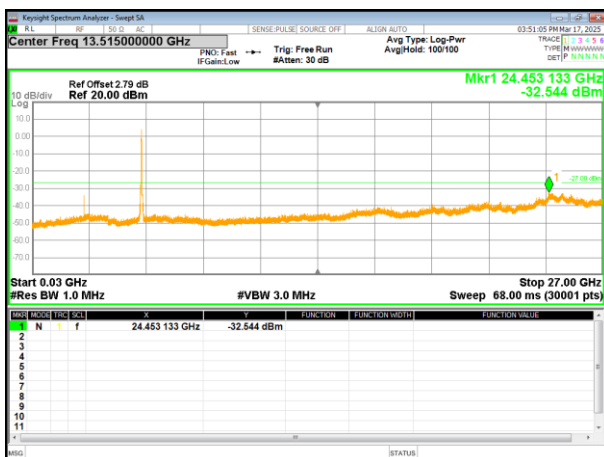
802.11ac20 on channel 40



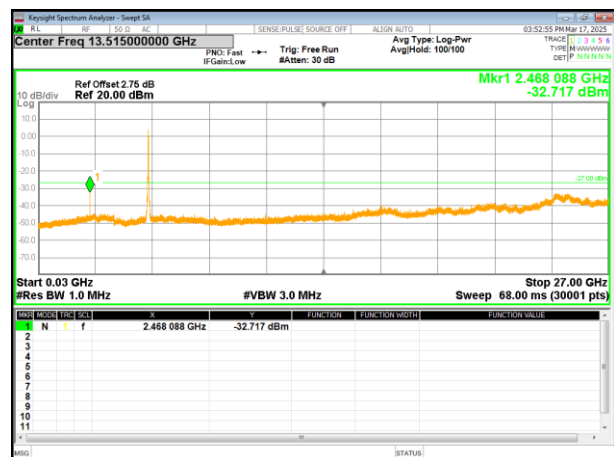
802.11ac20 on channel 48



802.11n40 on channel 38

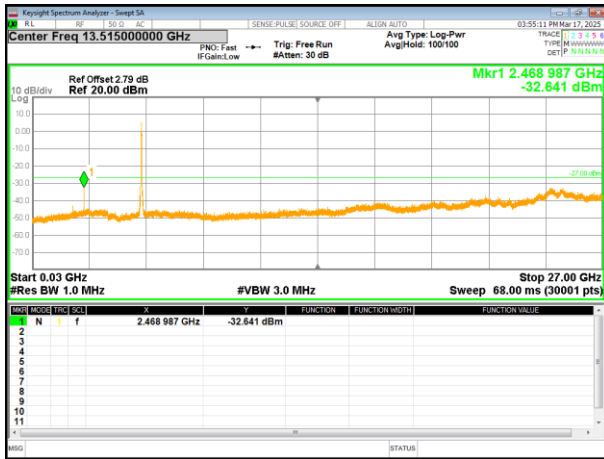


802.11n40 on channel 46

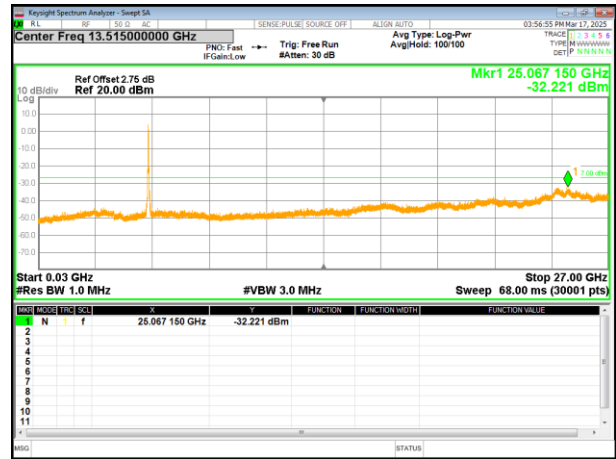


Test Plot

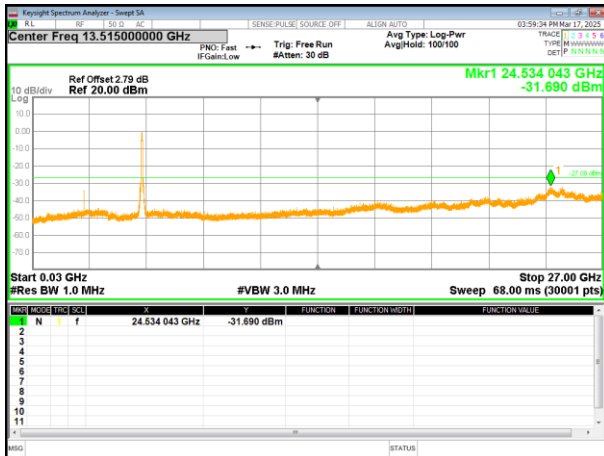
802.11ac40 on channel 38



802.11ac40 on channel 46



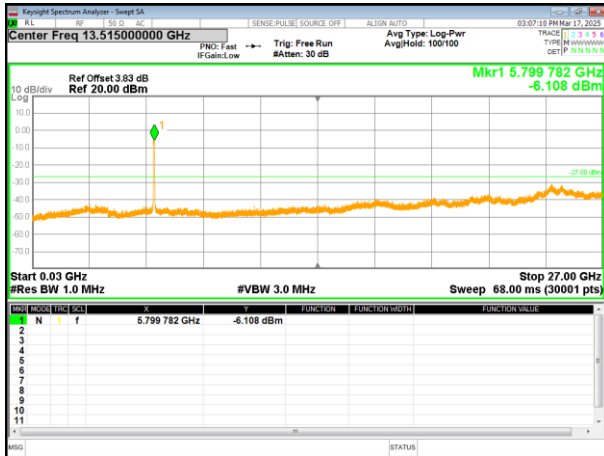
802.11ac80 on channel 42



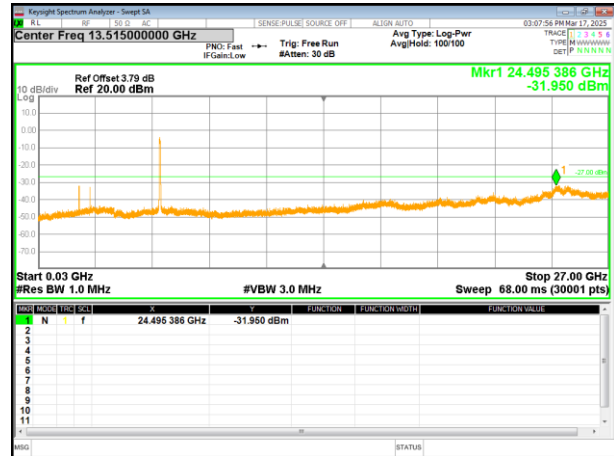
5745-5825MHz

Test Plot

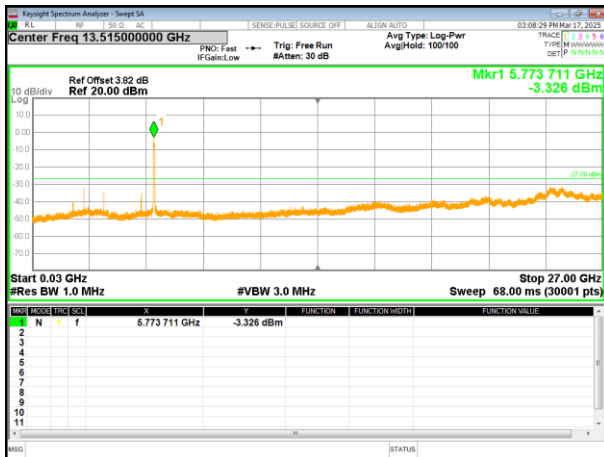
802.11a on channel 149



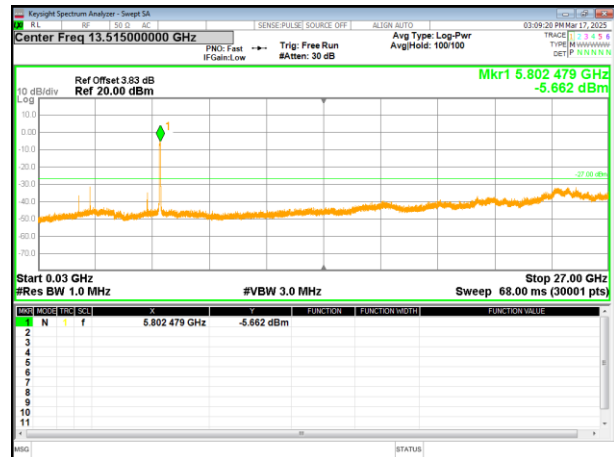
802.11a on channel 157



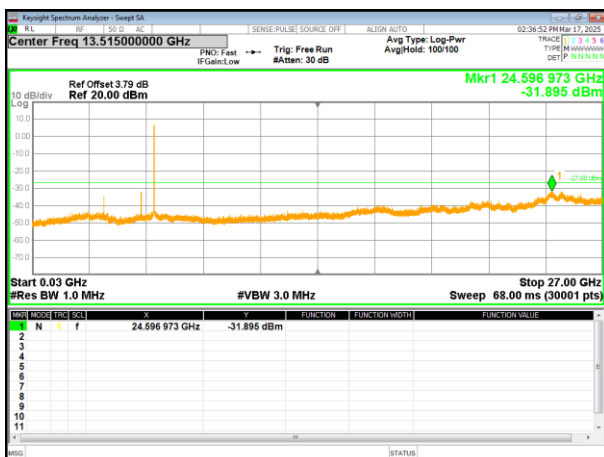
802.11a on channel 165



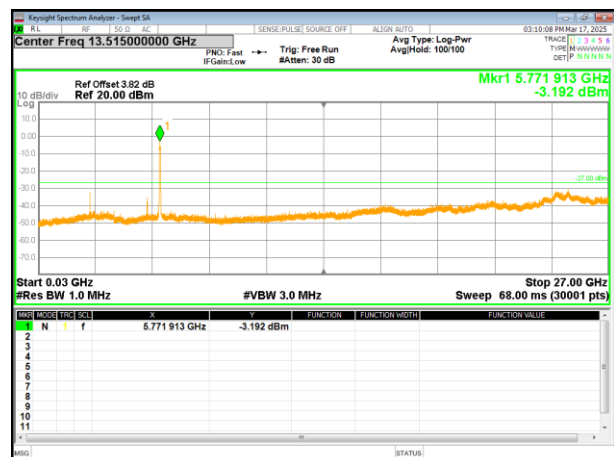
802.11n20 on channel 149



802.11n20 on channel 157

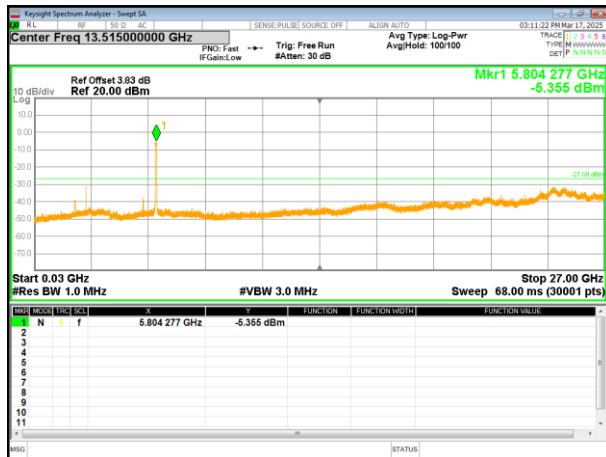


802.11n20 on channel 165

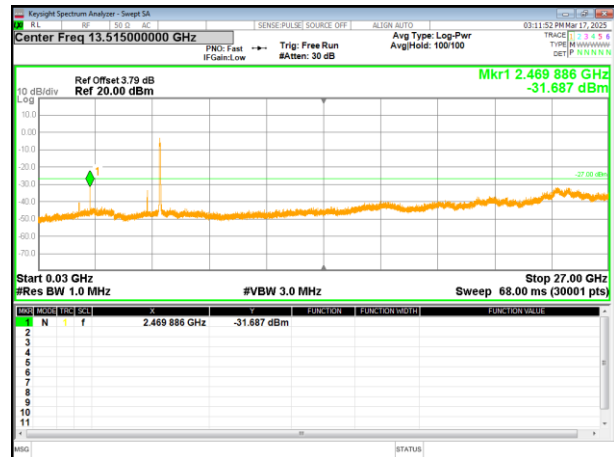


Test Plot

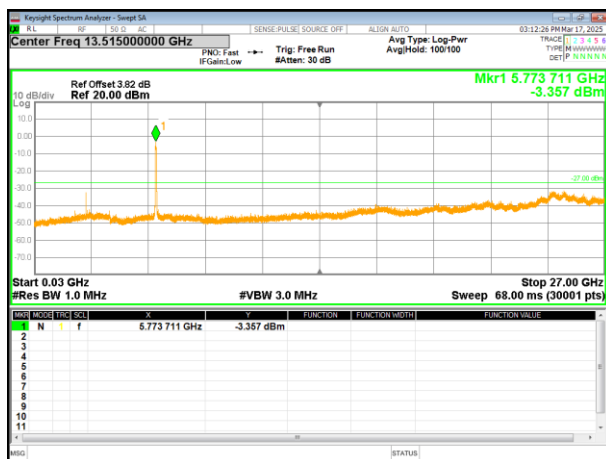
802.11ac20 on channel 149



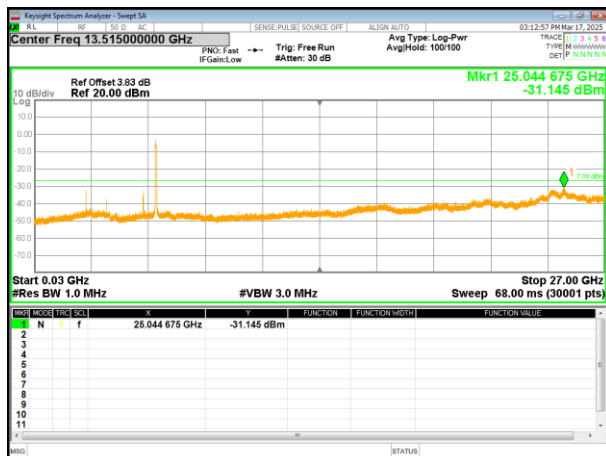
802.11ac20 on channel 157



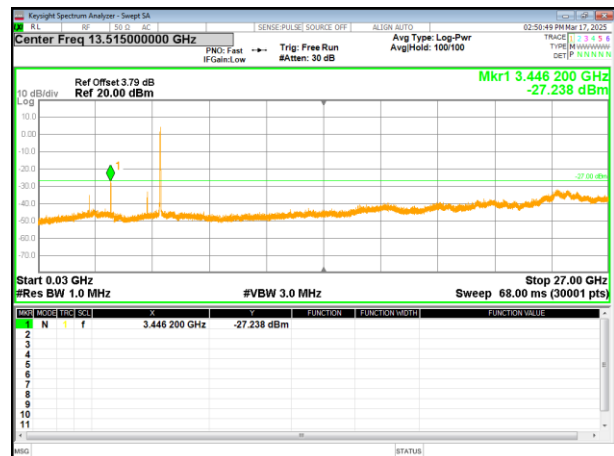
802.11ac20 on channel 165



802.11n40 on channel 151

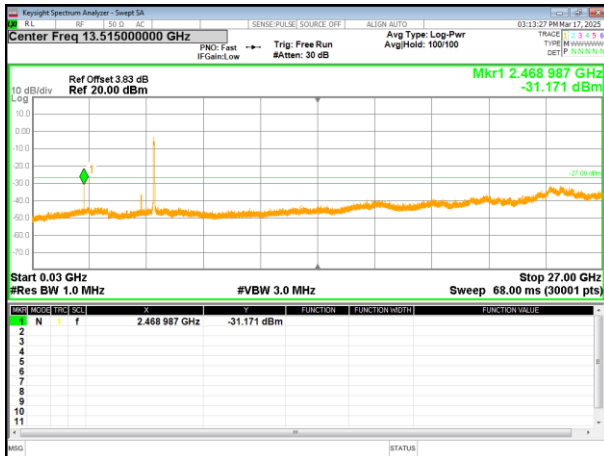


802.11n40 on channel 159

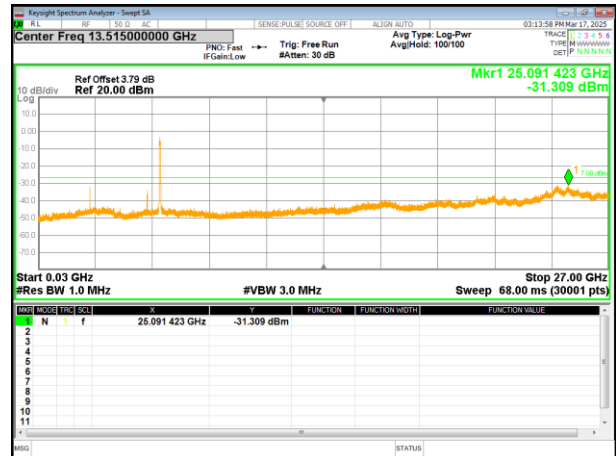


Test Plot

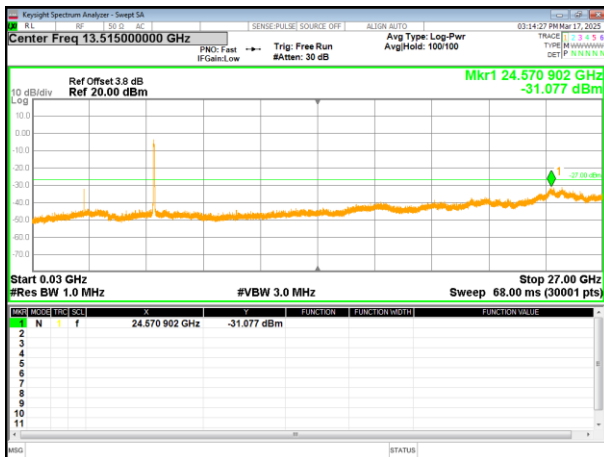
802.11ac40 on channel 151



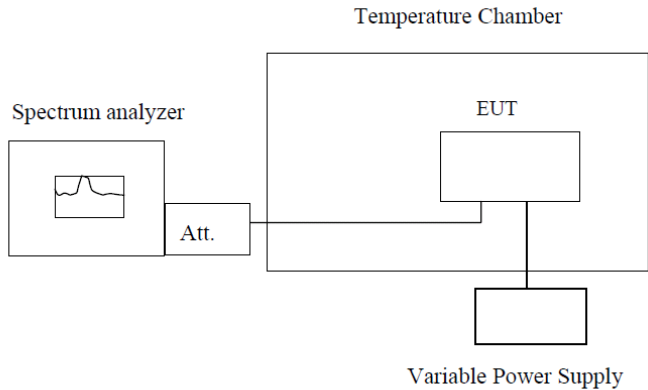
802.11ac40 on channel 159



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: DC 19V					
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	5179.984	5180.063	5179.830	5179.928
	5190	5189.980	5199.937	5199.704	5189.939
	5200	5199.975	5199.962	5199.729	5199.930
	5210	5209.981	5209.940	5209.706	5209.931
	5220	5219.976	5219.955	5219.721	5219.937
	5230	5229.974	5229.948	5229.713	5229.955
	5240	5239.947	5239.956	5239.721	5239.940
-20	5180	5179.979	5179.998	5180.016	5179.985
	5190	5189.970	5180.104	5190.017	5189.984
	5200	5199.978	5199.979	5200.008	5199.978
	5210	5209.970	5210.004	5300.016	5209.968
	5220	5219.991	5219.982	5220.008	5219.978
	5230	5229.969	5229.997	5230.029	5299.976
	5240	5239.987	5239.990	5240.007	5239.980
-10	5180	5179.984	5179.948	5179.694	5179.928
	5190	5189.980	5189.943	5189.705	5189.939
	5200	5199.975	5199.938	5199.695	5199.930
	5210	5209.981	5209.944	5209.695	5209.931
	5220	5219.976	5219.939	5219.702	5219.937
	5230	5229.974	5229.937	5229.719	5229.955
	5240	5239.947	5239.910	5239.691	5239.927
0	5180	5179.761	5179.927	5179.706	5179.939
	5190	5199.933	5189.937	5189.697	5189.940
	5200	5199.931	5199.928	5199.704	5199.931
	5210	5209.986	5209.929	5209.695	5299.938
	5220	5219.975	5219.936	5219.716	5219.930
	5230	5229.962	5229.954	5229.693	5229.951
	5240	5239.979	5239.926	5239.711	5239.929
10	5180	5179.963	5179.939	5179.715	5179.940
	5190	5189.974	5189.929	5189.711	5189.931
	5200	5199.965	5199.937	5199.705	5199.939
	5210	5209.966	5209.929	5209.710	5209.931
	5220	5219.973	5219.950	5219.705	5219.951
	5230	5229.991	5229.928	5229.702	5229.929
	5240	5239.976	5239.946	5239.675	5239.947
20	5180	5179.765	5179.968	5180.017	5179.975
	5190	5199.937	5189.979	5190.008	5189.976

	5200	5199.935	5199.970	5200.016	5199.967
	5210	5209.990	5209.971	5210.008	5299.975
	5220	5219.979	5219.978	5220.029	5219.967
	5230	5229.966	5229.996	5230.007	5229.988
	5240	5239.983	5239.968	5240.025	5239.966
30	5180	5179.940	5179.979	5180.005	5180.100
	5190	5189.970	5189.980	5190.016	5199.975
	5200	5199.995	5199.971	5200.007	5200.000
	5210	5209.979	5299.979	5210.008	5209.978
	5220	5219.970	5219.971	5220.015	5219.993
	5230	5229.998	5229.992	5230.033	5229.986
	5240	5239.986	5239.970	5240.005	5239.994
40	5180	5179.765	5179.968	5180.017	5179.975
	5190	5199.937	5189.979	5190.008	5189.976
	5200	5199.935	5199.970	5200.016	5199.967
	5210	5209.990	5209.971	5210.008	5299.975
	5220	5219.979	5219.978	5220.029	5219.967
	5230	5229.966	5229.996	5230.007	5229.988
	5240	5239.983	5239.968	5240.025	5239.966
50	5180	5179.967	5179.980	5180.017	5179.985
	5190	5189.978	5189.971	5190.008	5179.985
	5200	5199.969	5199.979	5200.016	5189.981
	5210	5209.970	5209.971	5210.008	5199.976
	5220	5219.977	5219.992	5220.029	5209.982
	5230	5229.995	5229.970	5230.007	5219.977
	5240	5239.967	5239.988	5240.025	5229.975

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)
DC 16.15V	5180	5179.973	5179.968	5180.026	5179.981
	5190	5189.967	5189.979	5190.022	5189.967
	5200	5199.980	5199.970	5200.017	5199.968
	5210	5209.984	5209.971	5210.023	5209.990
	5220	5219.970	5219.978	5220.018	5219.976
	5230	5229.963	5229.996	5230.016	5229.986
	5240	5180.103	5179.984	5180.017	5179.964
DC 19V	5180	5199.978	5189.978	5190.008	5189.975
	5190	5200.003	5199.978	5200.016	5199.966
	5200	5209.981	5209.990	5210.008	5209.967
	5210	5219.996	5219.981	5220.029	5219.974
	5220	5229.989	5299.984	5230.007	5229.992
	5230	5239.997	5239.981	5240.025	5239.977
	5240	5180.103	5179.984	5180.017	5179.964
DC 21.85V	5180	5179.978	5179.980	5180.016	5179.975
	5190	5189.979	5189.971	5190.017	5189.976
	5200	5199.970	5199.979	5200.008	5199.967
	5210	5299.978	5209.971	5300.016	5299.975
	5220	5219.970	5219.992	5220.008	5219.967
	5230	5229.991	5229.970	5230.029	5229.988
	5240	5239.969	5239.988	5240.007	5239.966

Frequency stability versus Temp.					
Power Supply: DC 19V					
Temp. (°C)	Operating Frequency (MHz)	0 minute Measured Frequency (MHz)	2 minute Measured Frequency (MHz)	5 minute Measured Frequency (MHz)	10 minute Measured Frequency (MHz)
-30	5745	5744.960	5744.971	5745.008	5744.962
	5755	5754.976	5754.978	5755.025	5754.987
	5775	5774.975	5774.970	5775.026	5774.968
	5785	5784.978	5784.962	5785.008	5784.977
	5795	5794.989	5794.969	5795.026	5794.975
	5825	5824.970	5824.898	5825.023	5824.985
-20	5745	5744.960	5744.982	5745.003	5744.978
	5755	5754.976	5754.984	5755.028	5754.992
	5775	5774.975	5774.987	5775.009	5774.977
	5785	5784.978	5784.979	5785.018	5784.964
	5795	5794.985	5794.970	5795.016	5794.958
	5825	5824.970	5824.979	5825.026	5824.992
-10	5745	5744.981	5744.995	5745.019	5744.967
	5755	5754.995	5754.968	5755.033	5754.986
	5775	5774.980	5774.991	5775.018	5774.966
	5785	5784.967	5784.991	5785.005	5784.993
	5795	5794.961	5794.982	5794.999	5794.985
	5825	5824.995	5824.997	5825.033	5824.994
0	5745	5744.964	5744.971	5745.009	5744.967
	5755	5754.974	5754.978	5755.016	5754.956
	5775	5774.995	5774.970	5775.033	5774.967
	5785	5784.971	5784.962	5785.009	5784.974
	5795	5794.967	5794.969	5795.005	5794.992
	5825	5824.965	5824.898	5825.008	5824.984
10	5745	5744.961	5744.982	5745.003	5744.978
	5755	5754.976	5754.984	5755.028	5754.992
	5775	5774.975	5774.987	5775.009	5774.977
	5785	5784.978	5784.979	5785.018	5784.964
	5795	5794.988	5794.970	5795.016	5794.958
	5825	5824.970	5824.979	5825.026	5824.992
20	5745	5744.971	5744.972	5745.019	5744.598
	5755	5754.997	5754.979	5755.021	5754.981
	5775	5774.993	5774.996	5775.024	5774.982
	5785	5784.977	5784.972	5785.016	5784.985
	5795	5794.966	5794.968	5795.007	5794.968
	5825	5824.901	5824.970	5825.016	5824.964
30	5745	5744.961	5744.982	5745.003	5744.978
	5755	5754.976	5754.984	5755.028	5754.992
	5775	5774.975	5774.987	5775.009	5774.977
	5785	5784.978	5784.979	5785.018	5784.964
	5795	5794.988	5794.970	5795.016	5794.958
	5825	5824.970	5824.979	5825.026	5824.992
40	5745	5744.971	5744.972	5745.019	5744.598
	5755	5754.997	5754.979	5755.021	5754.981
	5775	5774.993	5774.996	5775.024	5774.982

	5785	5784.977	5784.972	5785.016	5784.985
	5795	5794.989	5794.969	5795.026	5794.975
	5825	5824.970	5824.898	5825.023	5824.985
50	5745	5744.964	5744.971	5745.009	5744.967
	5755	5754.974	5754.978	5755.016	5754.956
	5775	5774.995	5774.970	5775.033	5774.967
	5785	5784.971	5784.962	5785.009	5784.974
	5795	5794.967	5794.969	5795.005	5794.992
	5825	5824.965	5824.898	5825.008	5824.984

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)
DC 16.15V	5745	5744.965	5744.971	5745.008	5744.963
	5755	5754.990	5754.988	5755.015	5754.975
	5775	5774.971	5774.989	5775.007	5774.992
	5785	5784.980	5784.971	5784.999	5784.968
	5795	5794.978	5794.988	5795.006	5794.964
	5825	5824.988	5824.986	5824.935	5824.967
DC 19V	5745	5744.981	5744.996	5745.017	5744.967
	5755	5754.995	5754.968	5755.033	5754.986
	5775	5774.980	5774.991	5775.018	5774.966
	5785	5784.967	5784.991	5785.005	5784.993
	5795	5794.961	5794.982	5794.999	5794.985
	5825	5824.995	5824.997	5825.033	5824.994
DC 21.85V	5745	5744.971	5744.982	5745.002	5744.992
	5755	5754.978	5754.984	5755.025	5754.964
	5775	5774.995	5774.987	5775.026	5774.987
	5785	5784.971	5784.979	5785.008	5784.987
	5795	5794.967	5794.970	5795.025	5794.978
	5825	5824.970	5824.979	5825.023	5824.993

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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