IC:SKI.WB663U.1 ANT4

Mode	Frequency	Measured Power Density (dBm/510KHz)	Measured Power Density (dBm/500KHz)	Correction Factor (dB)	Total Measured Power Density (dBm/500KHz)	Limit (dBm/MHz)
802.11 a	5745 MHz	2.551	2.465	0.110	2.575	30
	5785 MHz	2.063	1.977	0.110	2.087	30
	5825 MHz	2.557	2.471	0.110	2.581	30
802.11 n20	5745 MHz	2.866	2.780	0.130	2.910	30
	5785 MHz	2.148	2.062	0.130	2.192	30
	5825 MHz	2.243	2.157	0.130	2.287	30
802.11ac20	5745 MHz	2.516	2.430	0.510	2.940	30
	5785 MHz	2.847	2.761	0.510	3.271	30
	5825 MHz	2.805	2.719	0.510	3.229	30
802.11 n40	5755 MHz	-0.850	-0.936	0.210	-0.726	30
	5795 MHz	-0.072	-0.158	0.210	0.052	30
802.11ac40	5755 MHz	-0.355	-0.441	0.360	-0.081	30
	5795 MHz	-0.563	-0.649	0.360	-0.289	30
802.11ac80	5775 MHz	-2.881	-2.967	0.390	-2.577	30

Note: 1. If the measurement is X dBm/510kHz, thus X dBm/510kHz = $(10^{X/10})$*(500 / 510) dBm/500kHz

2. Correction Factor (dB)= duty cycle factor

IC:SKI.WB800D.3 ANT2

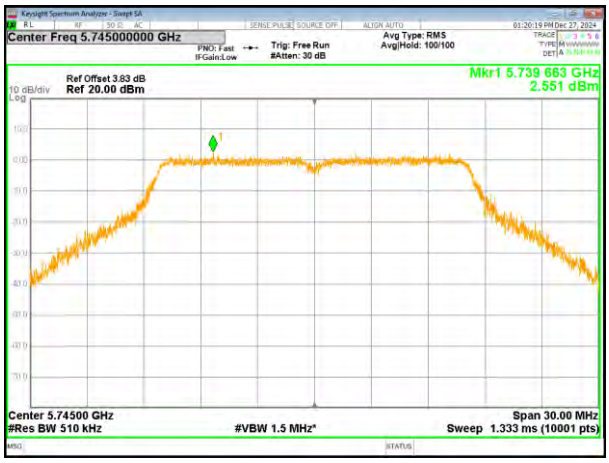
Mode	Frequency	Measured Power Density (dBm/510KHz)	Measured Power Density (dBm/500KHz)	Correction Factor (dB)	Total Measured Power Density (dBm/500KHz)	Limit (dBm/MHz)
802.11 a	5745 MHz	3.420	3.334	1.550	4.884	30
	5785 MHz	3.085	2.999	1.550	4.549	30
	5825 MHz	2.880	2.794	1.550	4.344	30
802.11 n20	5745 MHz	2.971	2.885	0.600	3.485	30
	5785 MHz	3.000	2.914	0.600	3.514	30
	5825 MHz	3.390	3.304	0.600	3.904	30
802.11ac20	5745 MHz	-0.053	-0.139	0.420	0.281	30
	5785 MHz	-0.650	-0.736	0.420	-0.316	30
	5825 MHz	3.478	3.392	0.420	3.812	30
802.11 n40	5755 MHz	2.768	2.682	0.220	2.902	30
	5795 MHz	2.815	2.729	0.220	2.949	30
802.11ac40	5755 MHz	-0.301	-0.387	0.340	-0.047	30
	5795 MHz	-0.697	-0.783	0.340	-0.443	30
802.11ac80	5775 MHz	-3.535	-3.621	0.330	-3.291	30

Note: 1. If the measurement is X dBm/510kHz, thus X dBm/510kHz = $(10^{X/10})$*(500 / 510) dBm/500kHz

2. Correction Factor (dB)= duty cycle factor

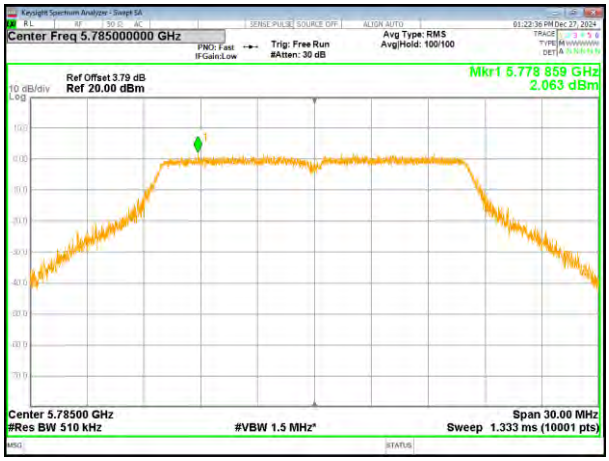
IC:SKI.WB663U.1 ANT4

(802.11a) PSD plot on channel 149

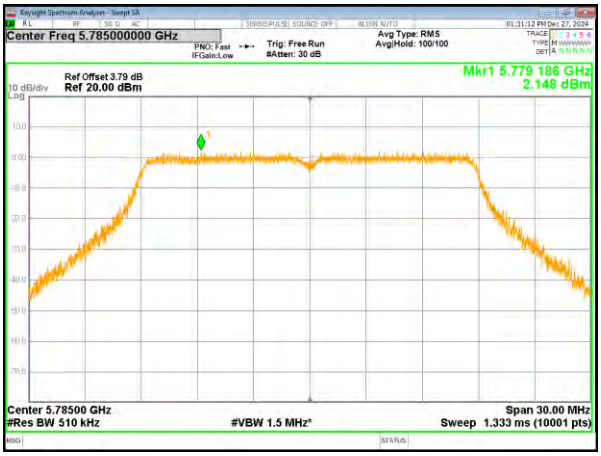


(802.11n20) PSD plot on channel 149

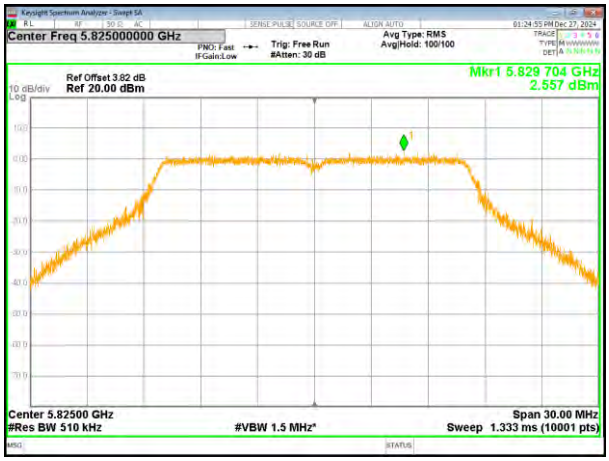
(802.11a) PSD plot on channel 157



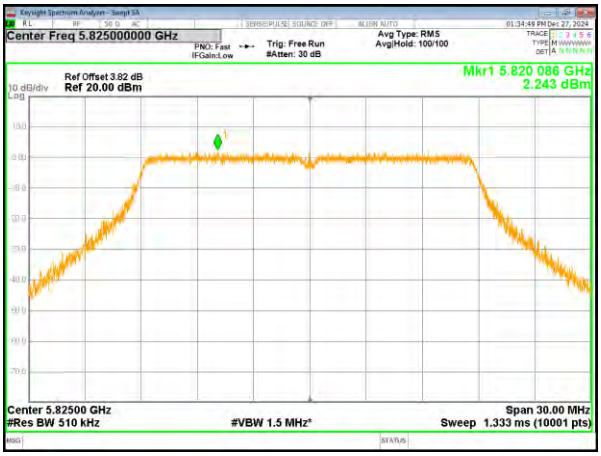
(802.11n20) PSD plot on channel 157



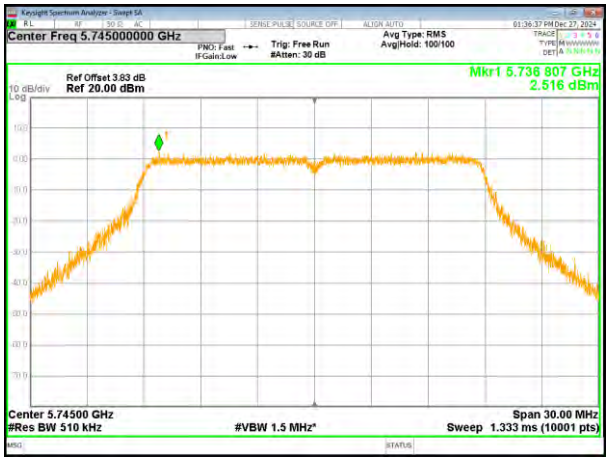
(802.11a) PSD plot on channel 165



(802.11n20) PSD plot on channel 165

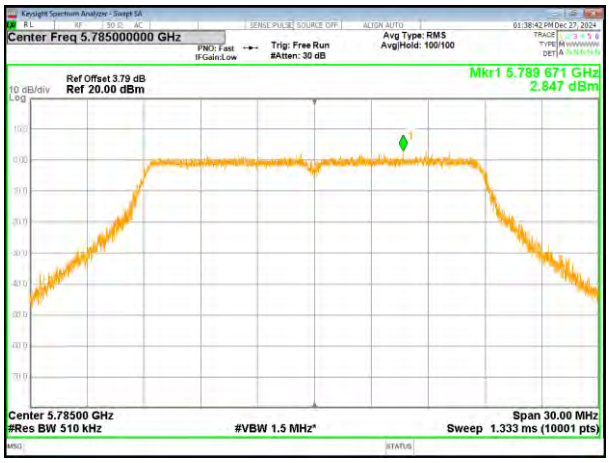


(802.11ac20) PSD plot on channel 149



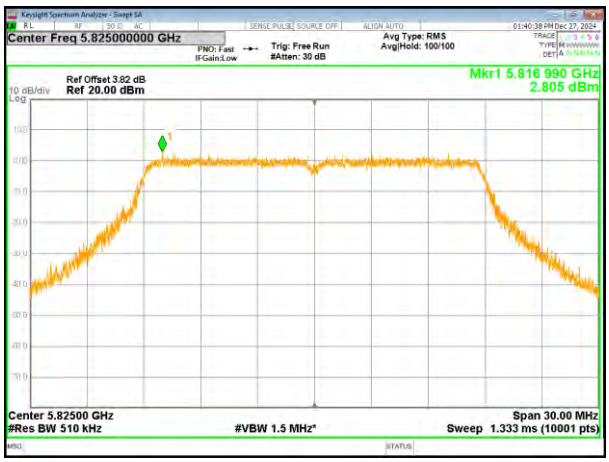
(802.11n40) PSD plot on channel 151

(802.11ac20) PSD plot on channel 157

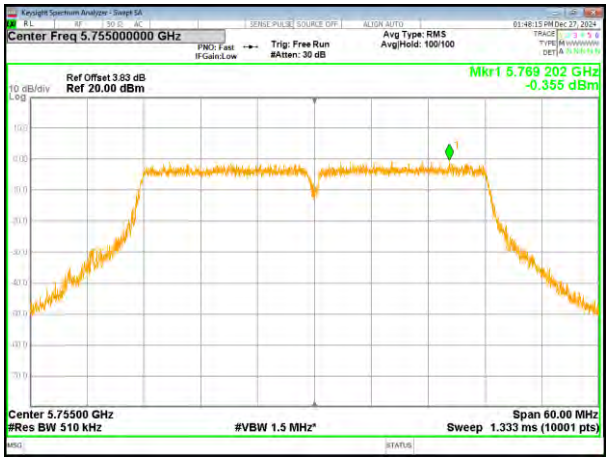


(802.11n40) PSD plot on channel 159

(802.11ac20) PSD plot on channel 165

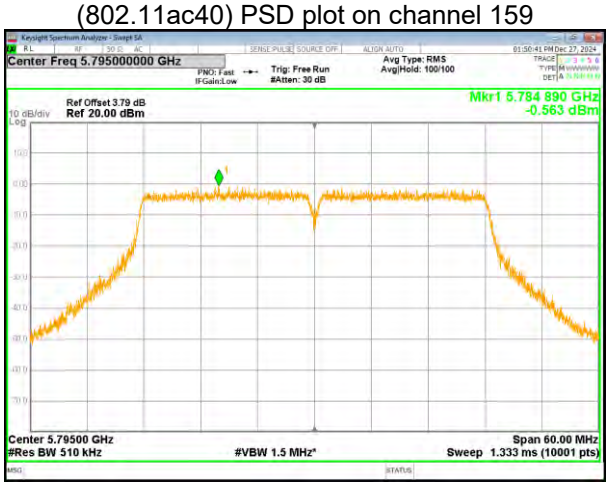


(802.11ac40) PSD plot on channel 151



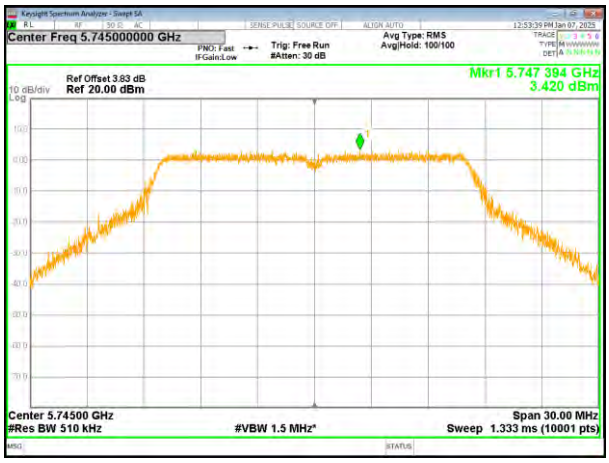
(802.11ac80) PSD plot on channel 155

(802.11ac40) PSD plot on channel 159



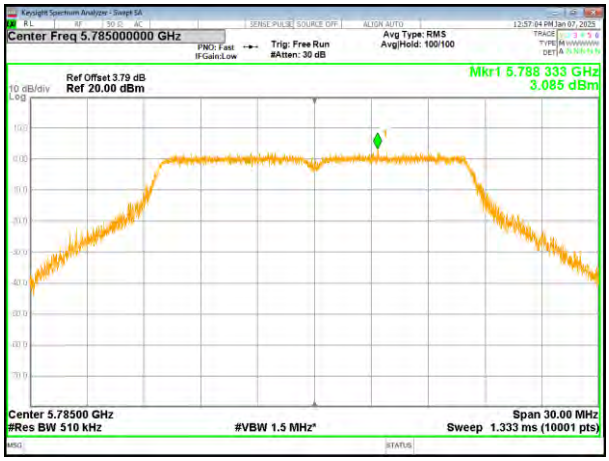
IC:SKI.WB800D.3 ANT2

(802.11a) PSD plot on channel 149

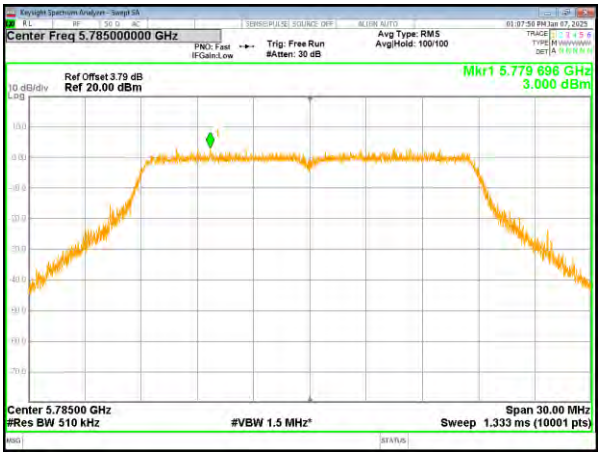


(802.11n20) PSD plot on channel 149

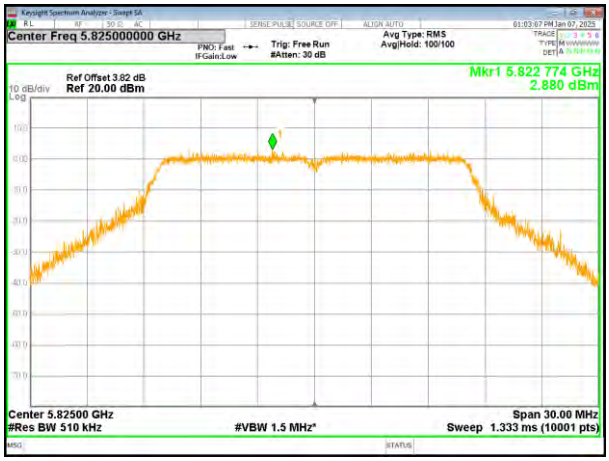
(802.11a) PSD plot on channel 157



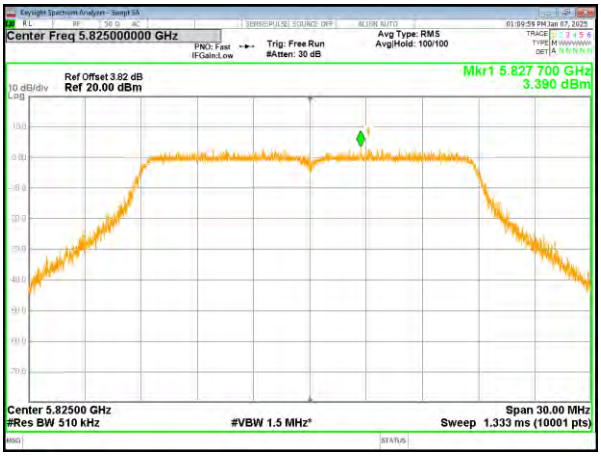
(802.11n20) PSD plot on channel 157



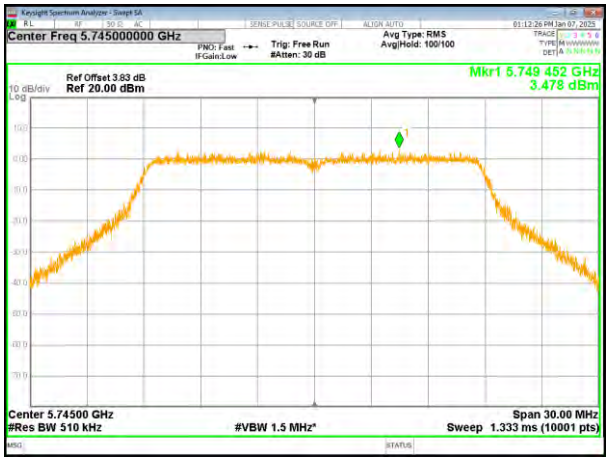
(802.11a) PSD plot on channel 165



(802.11n20) PSD plot on channel 165

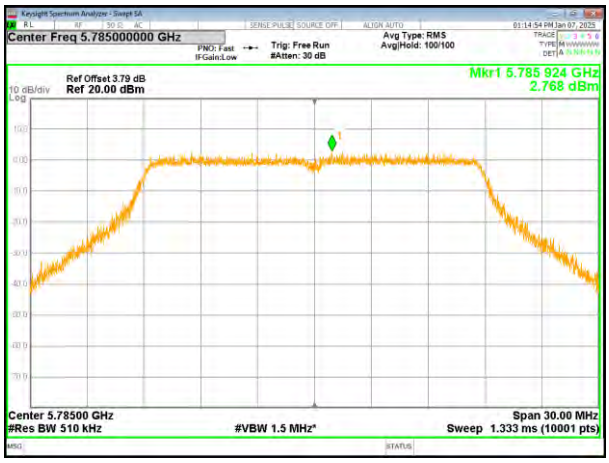


(802.11ac20) PSD plot on channel 149

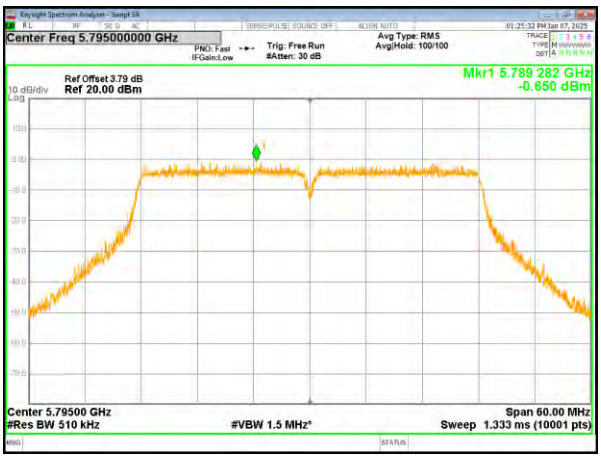


(802.11n40) PSD plot on channel 151

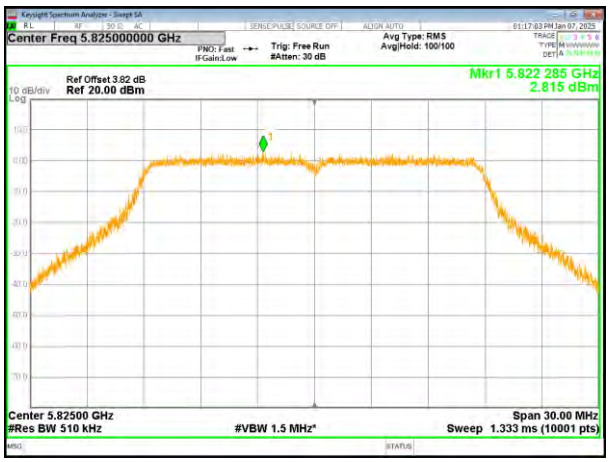
(802.11ac20) PSD plot on channel 157



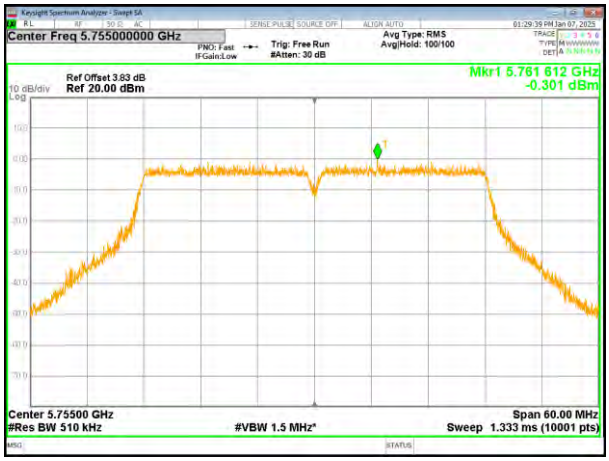
(802.11n40) PSD plot on channel 159



(802.11ac20) PSD plot on channel 165

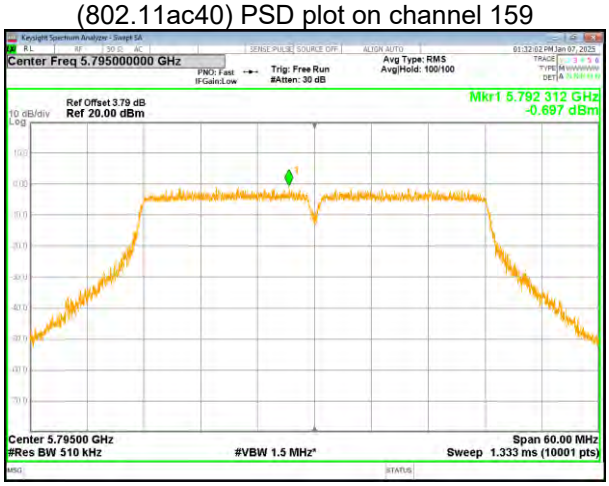


(802.11ac40) PSD plot on channel 151



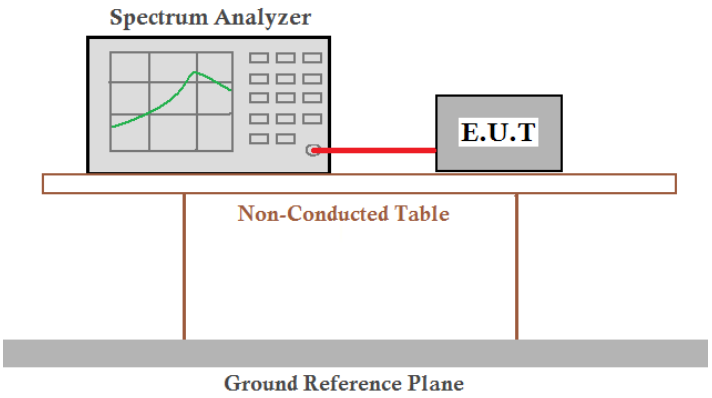
(802.11ac80) PSD plot on channel 155

(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:		
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.: 23.2°C	Humid.: 44%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

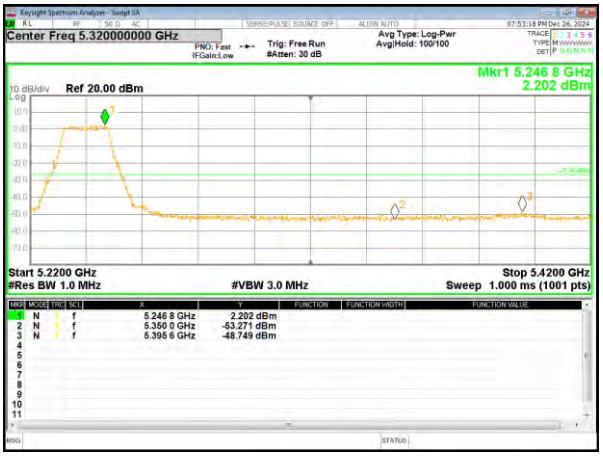
IC:SKI.WB663U.1 ANT4

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

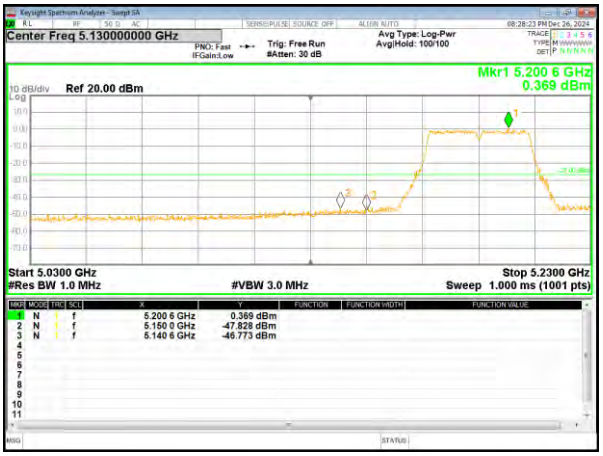
(802.11n40) Band Edge, Left Side

(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



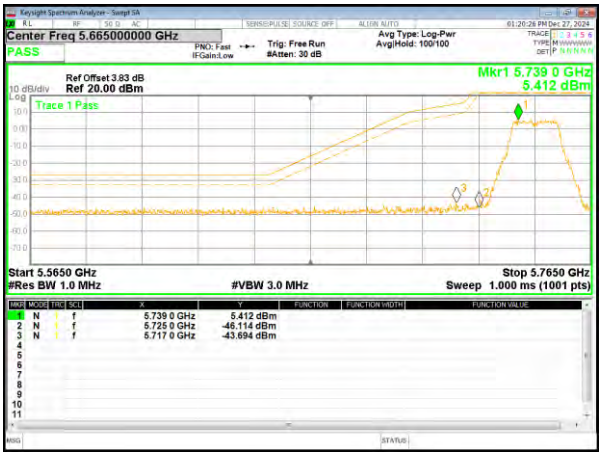
(802.11ac80) Band Edge

(802.11ac40) Band Edge, Right Side

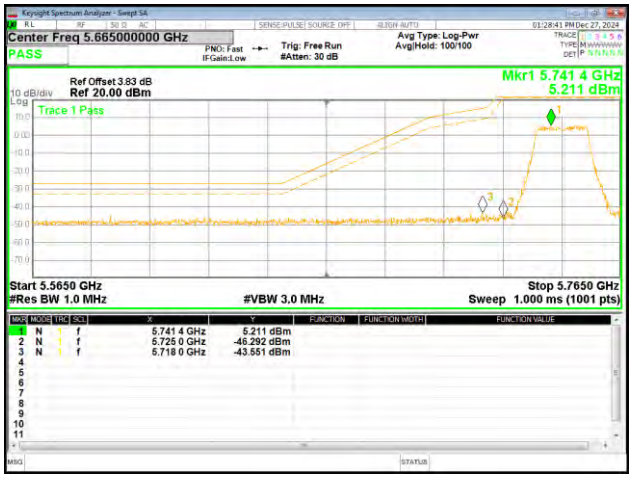
Remark: The antenna gain and cable loss were not compensated in the test data, and the margin value of the Band Edge test was greater than the sum of the antenna gain and cable loss, so the test met the requirements

5.745~5.825 GHz

(802.11a) Band Edge, Left Side



(802.11n20) Band Edge, Left Side

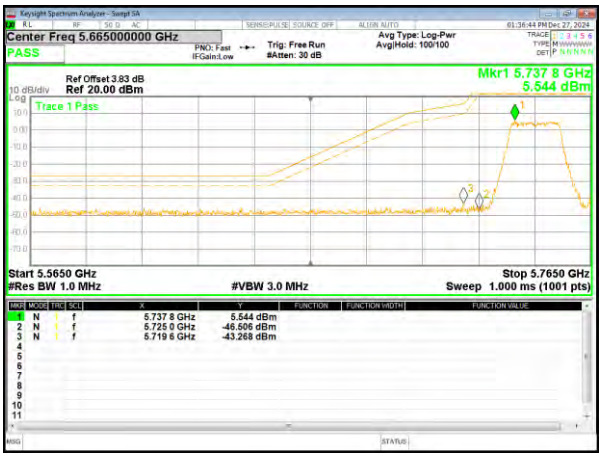


(802.11a) Band Edge, Right Side

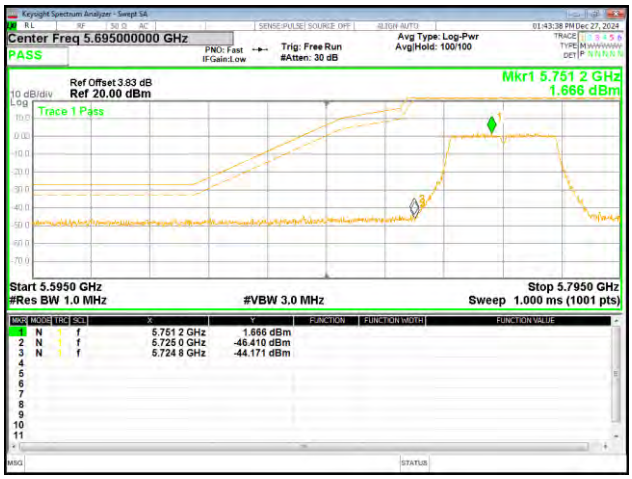
(802.11n20) Band Edge, Right Side

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

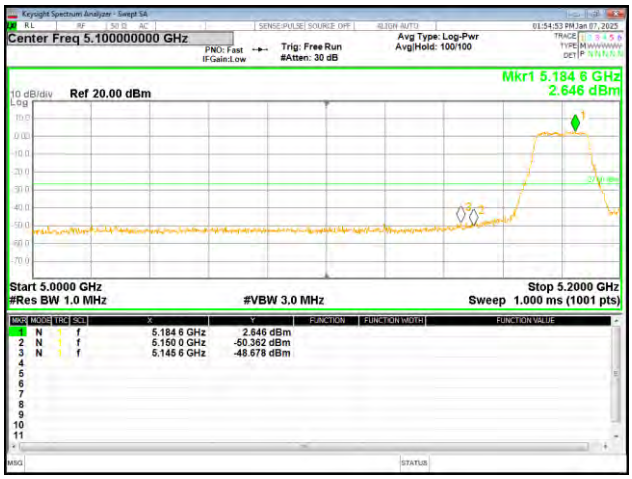
Remark: Antenna gain and cable loss data included in Offset.

IC:SKI.WB800D.3 ANT2

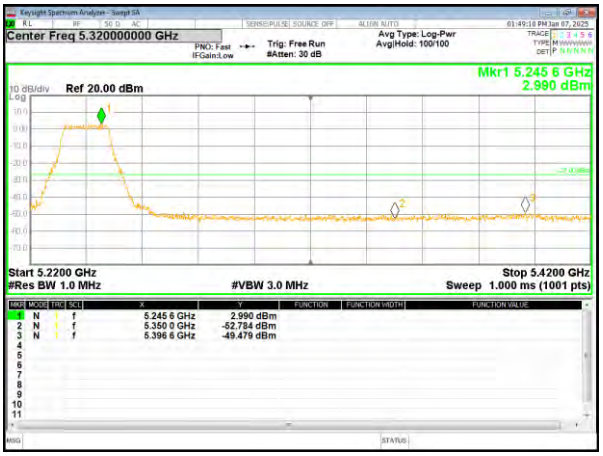
5.180~5.240 GHz

(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

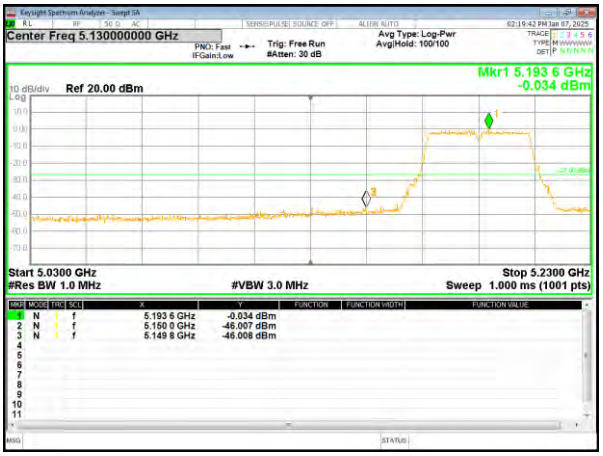
(802.11n40) Band Edge, Left Side

(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



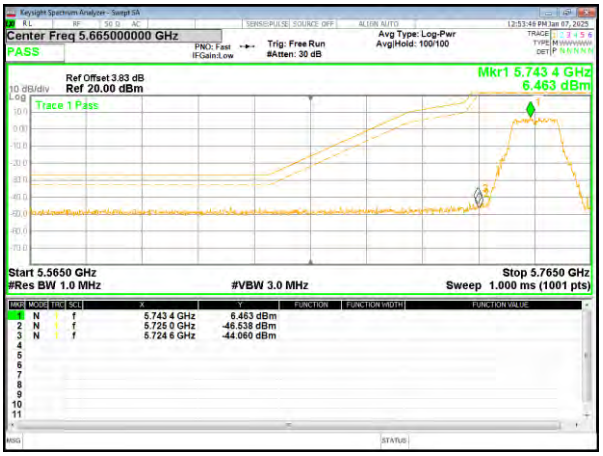
(802.11ac80) Band Edge

(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

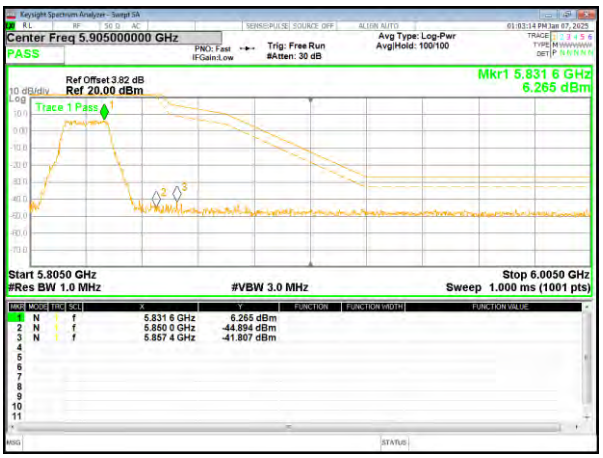
5.745~5.825 GHz

(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

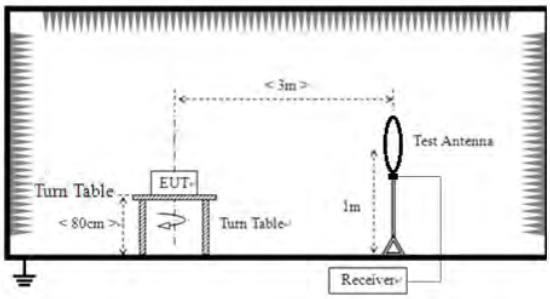
Limit:

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	

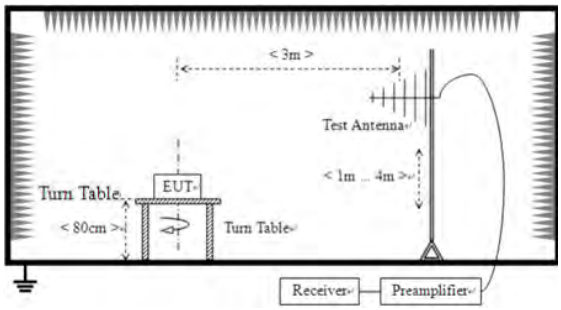
Frequency	Limit (dBm/MHz)	Remark
Above 1GHz	-27.0	Peak Value

Test setup:

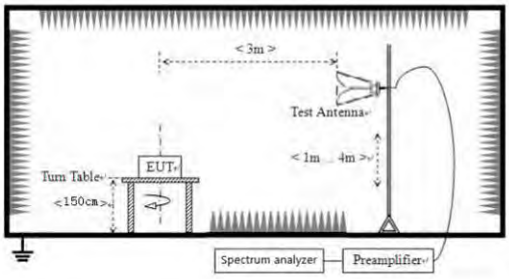
For radiated emissions from 9kHz to 30MHz



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

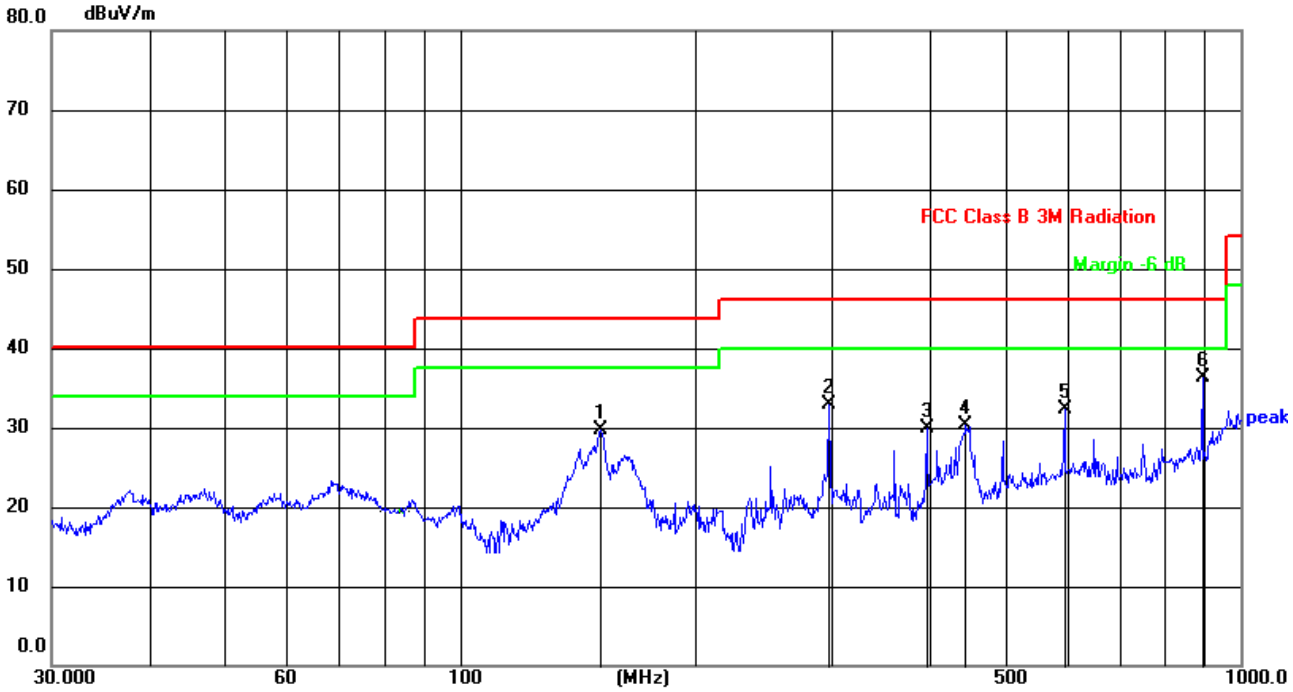
The emission from 9 kHz to 30MHz was pre-tested and found the result was 20dB lower than the limit, and according to 15.31(o) & RSS-Gen 6.13, the test result no need to reported.

Below 1GHz

Remark: All antenna and all mode had been tested, The test data shows only the worst case (ANT2+ANT4:802.11n20) mode.

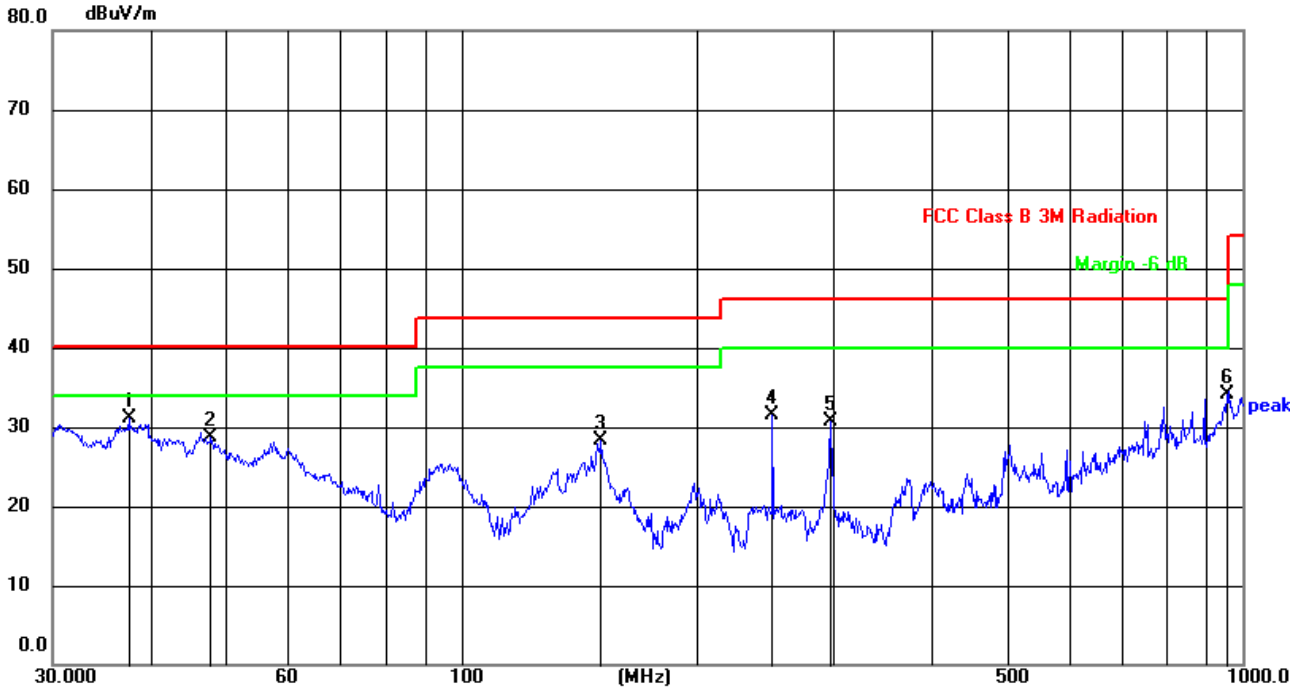
Temperature:	23.2℃	Relative Humidity:	44%
Pressure:	101.2kPar	Test Voltage :	AC120V/60Hz
Test Mode :	5.2G TX- 802.11n20		

Horizontal:



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	151.5971	50.16	-20.51	29.65	43.50	-13.85	QP
2	297.2238	53.32	-20.40	32.92	46.00	-13.08	QP
3	396.2412	47.27	-17.42	29.85	46.00	-16.15	QP
4	444.8514	46.01	-15.69	30.32	46.00	-15.68	QP
5	595.1326	44.07	-11.86	32.21	46.00	-13.79	QP
6	893.8564	41.78	-5.54	36.24	46.00	-9.76	QP

Vertical:



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	37.5478	52.42	-21.32	31.10	40.00	-8.90	QP
2	47.8260	50.17	-21.54	28.63	40.00	-11.37	QP
3	151.0663	48.76	-20.51	28.25	43.50	-15.25	QP
4	250.3009	53.81	-22.25	31.56	46.00	-14.44	QP
5	297.2238	51.19	-20.40	30.79	46.00	-15.21	QP
6	955.4379	37.86	-3.76	34.10	46.00	-11.90	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:All antenna and all mode had been tested, The test data shows only the worst case (ANT2+ANT4:802.11n20) mode

Temperature:	23.2℃	Relative Humidity:	44%
Pressure:	101.2kPar	Test Voltage :	AC120V/60Hz
Test Mode :	5.2G TX- 802.11n20		

Polar (H/V)	Frequency	Meter Reading	Pre-amplifier	Cable Loss	Antenna Factor	Emission Level	Limits	Margin	Detector Type
	MHz	dBuV	dB	dB	dB	dBuV/m	dBuV/m	dB	
Low Channel:5180MHz									
V	10360.00	51.20	46.20	8.27	38.50	51.77	68.20	-16.43	PK
V	10360.00	40.62	46.20	8.27	38.50	41.19	54.00	-12.81	AV
V	15540.00	46.72	46.30	10.35	38.70	49.47	74.00	-24.53	PK
V	15540.00	36.38	46.30	10.35	38.70	39.13	54.00	-14.87	AV
V	20720.00	55.49	57.40	11.93	37.80	47.82	68.20	-20.38	PK
V	20720.00	45.69	57.40	11.93	37.80	38.02	54.00	-15.98	AV
V	25900.00	52.86	56.50	13.45	39.70	49.51	68.20	-18.69	PK
V	25900.00	43.66	56.50	13.45	39.70	40.31	54.00	-13.69	AV
V	31080.00	51.39	56.10	16.12	41.60	53.01	68.20	-15.19	PK
V	31080.00	43.57	56.10	16.12	41.60	45.19	54.00	-8.81	AV
V	36260.00	48.43	56.80	18.29	42.80	52.72	68.20	-15.48	PK
V	36260.00	41.16	56.80	18.29	42.80	45.45	54.00	-8.55	AV
H	10360.00	50.03	46.20	8.27	38.50	50.60	68.20	-17.60	PK
H	10360.00	38.35	46.20	8.27	38.50	38.92	54.00	-15.08	AV
H	15540.00	45.72	46.30	10.35	38.70	48.47	74.00	-25.53	PK
H	15540.00	34.49	46.30	10.35	38.70	37.24	54.00	-16.76	AV
H	20720.00	57.94	57.40	11.93	37.80	50.27	68.20	-17.93	PK
H	20720.00	46.73	57.40	11.93	37.80	39.06	54.00	-14.94	AV
H	25900.00	54.39	56.50	13.45	39.70	51.04	68.20	-17.16	PK
H	25900.00	43.69	56.50	13.45	39.70	40.34	54.00	-13.66	AV
H	31080.00	51.49	56.10	16.12	41.60	53.11	68.20	-15.09	PK
H	31080.00	43.51	56.10	16.12	41.60	45.13	54.00	-8.87	AV
H	36260.00	47.37	56.80	18.29	42.80	51.66	68.20	-16.54	PK
H	36260.00	42.04	56.80	18.29	42.80	46.33	54.00	-7.67	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)	Detector Type
Middle Channel:5200MHz									
V	10400.00	48.59	46.20	8.27	38.50	49.16	68.20	-19.04	PK
V	10400.00	39.27	46.20	8.27	38.50	39.84	54.00	-14.16	AV
V	15600.00	46.61	46.30	10.35	38.40	49.06	74.00	-24.94	PK
V	15600.00	38.24	46.30	10.35	38.40	40.69	54.00	-13.31	AV
V	20800.00	56.81	57.40	11.93	37.80	49.14	68.20	-19.06	PK
V	20800.00	47.09	57.40	11.93	37.80	39.42	54.00	-14.58	AV
V	26000.00	52.42	56.50	13.45	39.80	49.17	68.20	-19.03	PK
V	26000.00	44.09	56.50	13.45	39.80	40.84	54.00	-13.16	AV
V	31200.00	51.47	56.10	16.12	41.60	53.09	68.20	-15.11	PK
V	31200.00	44.57	56.10	16.12	41.60	46.19	54.00	-7.81	AV
V	36400.00	47.71	56.80	18.29	42.80	52.00	68.20	-16.20	PK
V	36400.00	40.97	56.80	18.29	42.80	45.26	54.00	-8.74	AV
H	10400.00	49.20	46.20	8.27	38.50	49.77	68.20	-18.43	PK
H	10400.00	39.86	46.20	8.27	38.50	40.43	54.00	-13.57	AV
H	15600.00	47.00	46.30	10.35	38.40	49.45	74.00	-24.55	PK
H	15600.00	38.33	46.30	10.35	38.40	40.78	54.00	-13.22	AV
H	20800.00	55.42	57.40	11.93	37.80	47.75	68.20	-20.45	PK
H	20800.00	44.75	57.40	11.93	37.80	37.08	54.00	-16.92	AV
H	26000.00	51.79	56.50	13.45	39.80	48.54	68.20	-19.66	PK
H	26000.00	43.16	56.50	13.45	39.80	39.91	54.00	-14.09	AV
H	31200.00	50.67	56.10	16.12	41.60	52.29	68.20	-15.91	PK
H	31200.00	43.35	56.10	16.12	41.60	44.97	54.00	-9.03	AV
H	36400.00	47.84	56.80	18.29	42.80	52.13	68.20	-16.07	PK
H	36400.00	41.83	56.80	18.29	42.80	46.12	54.00	-7.88	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)	Detector Type
High Channel:5240MHz									
V	10480.00	45.59	46.20	8.27	38.60	46.26	68.20	-21.94	PK
V	10480.00	35.48	46.20	8.27	38.60	36.15	54.00	-17.85	AV
V	15720.00	43.94	46.30	10.35	38.40	46.39	74.00	-27.61	PK
V	15720.00	33.15	46.30	10.35	38.40	35.60	54.00	-18.40	AV
V	20960.00	53.07	57.40	11.93	37.50	45.10	68.20	-23.10	PK
V	20960.00	44.59	57.40	11.93	37.50	36.62	54.00	-17.38	AV
V	26200.00	49.13	56.50	13.45	40.10	46.18	68.20	-22.02	PK
V	26200.00	39.50	56.50	13.45	40.10	36.55	54.00	-17.45	AV
V	31440.00	51.42	56.10	16.12	41.30	52.74	68.20	-15.46	PK
V	31440.00	44.26	56.10	16.12	41.30	45.58	54.00	-8.42	AV
V	36680.00	46.56	56.80	18.29	43.10	51.15	68.20	-17.05	PK
V	36680.00	40.95	56.80	18.29	43.10	45.54	54.00	-8.46	AV
H	10480.00	45.41	46.20	8.27	38.60	46.08	68.20	-22.12	PK
H	10480.00	35.56	46.20	8.27	38.60	36.23	54.00	-17.77	AV
H	15720.00	43.57	46.30	10.35	38.40	46.02	74.00	-27.98	PK
H	15720.00	33.21	46.30	10.35	38.40	35.66	54.00	-18.34	AV
H	20960.00	53.52	57.40	11.93	37.50	45.55	68.20	-22.65	PK
H	20960.00	44.15	57.40	11.93	37.50	36.18	54.00	-17.82	AV
H	26200.00	48.32	56.50	13.45	40.10	45.37	68.20	-22.83	PK
H	26200.00	38.52	56.50	13.45	40.10	35.57	54.00	-18.43	AV
H	31440.00	50.63	56.10	16.12	41.30	51.95	68.20	-16.25	PK
H	31440.00	44.53	56.10	16.12	41.30	45.85	54.00	-8.15	AV
H	36680.00	47.67	56.80	18.29	43.10	52.26	68.20	-15.94	PK
H	36680.00	41.74	56.80	18.29	43.10	46.33	54.00	-7.67	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:	23.2℃	Relative Humidity:	44%
Pressure:	101.2kPar	Test Voltage :	AC120V/60Hz
Test Mode :	5.8G TX- 802.11a		

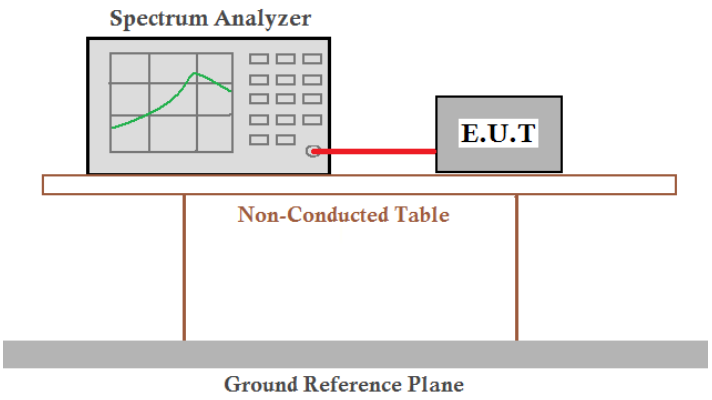
Polar (H/V)	Frequency (MHz)	Meter Reading (dBuV)	Pre-amplifier (dB)	Cable Loss (dB)	Antenn Factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Detector Typ
Low Channel:5745MHz									
V	11490.00	49.60	46.10	8.77	39.10	51.37	74.00	-22.63	PK
V	11490.00	37.04	46.10	8.77	39.10	38.81	54.00	-15.19	AV
V	17235.00	43.59	47.60	11.10	38.70	45.79	68.20	-22.41	PK
V	17235.00	35.67	47.60	11.10	38.70	37.87	54.00	-16.13	AV
V	22980.00	57.41	56.90	12.73	37.70	50.94	74.00	-23.06	PK
V	22980.00	43.86	56.90	12.73	37.70	37.39	54.00	-16.61	AV
V	28725.00	50.74	55.60	14.25	40.30	49.69	68.20	-18.51	PK
V	28725.00	43.84	55.60	14.25	40.30	42.79	54.00	-11.21	AV
V	34470.00	50.40	55.90	17.26	42.10	53.86	68.20	-14.34	PK
V	34470.00	42.22	55.90	17.26	42.10	45.68	54.00	-8.32	AV
H	11490.00	48.30	46.10	8.77	39.10	50.07	74.00	-23.93	PK
H	11490.00	36.72	46.10	8.77	39.10	38.49	54.00	-15.51	AV
H	17235.00	42.60	47.60	11.10	38.70	44.80	68.20	-23.40	PK
H	17235.00	35.96	47.60	11.10	38.70	38.16	54.00	-15.84	AV
H	22980.00	59.10	56.90	12.73	37.70	52.63	74.00	-21.37	PK
H	22980.00	49.07	56.90	12.73	37.70	42.60	54.00	-11.40	AV
H	28725.00	49.96	55.60	14.25	40.30	48.91	68.20	-19.30	PK
H	28725.00	44.22	55.60	14.25	40.30	43.17	54.00	-10.83	AV
H	34470.00	49.54	55.90	17.26	42.10	53.00	68.20	-15.20	PK
H	34470.00	42.47	55.90	17.26	42.10	45.93	54.00	-8.07	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)	Detector Type
Middle Channel:5785MHz									
V	11570.00	49.04	46.10	8.77	39.10	50.81	74.00	-23.19	PK
V	11570.00	37.24	46.10	8.77	39.10	39.01	54.00	-14.99	AV
V	17355.00	43.23	47.60	11.10	38.70	45.43	68.20	-22.77	PK
V	17355.00	37.42	47.60	11.10	38.70	39.62	54.00	-14.38	AV
V	23140.00	59.37	56.90	12.73	37.70	52.90	74.00	-21.10	PK
V	23140.00	47.99	56.90	12.73	37.70	41.52	54.00	-12.48	AV
V	28925.00	47.56	55.60	14.25	40.30	46.51	68.20	-21.69	PK
V	28925.00	43.48	55.60	14.25	40.30	42.43	54.00	-11.57	AV
V	34710.00	49.10	55.90	17.26	42.40	52.86	68.20	-15.34	PK
V	34710.00	42.81	55.90	17.26	42.40	46.57	54.00	-7.43	AV
H	11570.00	49.65	46.10	8.77	39.10	51.42	74.00	-22.58	PK
H	11570.00	38.16	46.10	8.77	39.10	39.93	54.00	-14.07	AV
H	17355.00	44.19	47.60	11.10	38.70	46.39	68.20	-21.81	PK
H	17355.00	37.16	47.60	11.10	38.70	39.36	54.00	-14.64	AV
H	23140.00	60.68	56.90	12.73	37.70	54.21	74.00	-19.79	PK
H	23140.00	48.85	56.90	12.73	37.70	42.38	54.00	-11.62	AV
H	28925.00	49.74	55.60	14.25	40.30	48.69	68.20	-19.51	PK
H	28925.00	43.12	55.60	14.25	40.30	42.07	54.00	-11.93	AV
H	34710.00	47.50	55.90	17.26	42.40	51.26	68.20	-16.94	PK
H	34710.00	42.71	55.90	17.26	42.40	46.47	54.00	-7.53	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)	Detector Type
High Channel:5825MHz									
V	11650.00	49.30	46.10	8.77	39.10	51.07	74.00	-22.93	PK
V	11650.00	37.04	46.10	8.77	39.10	38.81	54.00	-15.19	AV
V	17475.00	44.03	47.90	11.23	38.90	46.26	68.20	-21.94	PK
V	17475.00	38.86	47.90	11.23	38.90	41.09	54.00	-12.91	AV
V	23300.00	53.41	57.10	12.73	37.80	46.84	68.20	-21.36	PK
V	23300.00	48.07	57.10	12.73	37.80	41.50	54.00	-12.50	AV
V	29125.00	49.35	55.80	14.25	40.50	48.30	68.20	-19.90	PK
V	29125.00	44.37	55.80	14.25	40.50	43.32	54.00	-10.68	AV
V	34950.00	48.33	56.30	17.91	42.50	52.44	68.20	-15.76	PK
V	34950.00	42.44	56.30	17.91	42.50	46.55	54.00	-7.45	AV
H	11650.00	49.96	46.10	8.77	39.10	51.73	74.00	-22.28	PK
H	11650.00	35.62	46.10	8.77	39.10	37.39	54.00	-16.61	AV
H	17475.00	43.90	47.90	11.23	38.90	46.13	68.20	-22.07	PK
H	17475.00	38.61	47.90	11.23	38.90	40.84	54.00	-13.16	AV
H	23300.00	54.75	57.10	12.73	37.80	48.18	68.20	-20.02	PK
H	23300.00	48.85	57.10	12.73	37.80	42.28	54.00	-11.72	AV
H	29125.00	50.81	55.80	14.25	40.50	49.76	68.20	-18.44	PK
H	29125.00	44.43	55.80	14.25	40.50	43.38	54.00	-10.62	AV
H	34950.00	48.03	56.30	17.91	42.50	52.14	68.20	-16.06	PK
H	34950.00	42.27	56.30	17.91	42.50	46.38	54.00	-7.62	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.: 23.2°C	Humid.: 44%RH
Test voltage:	AC120/60Hz	
Test results:	Pass	

Remark:

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

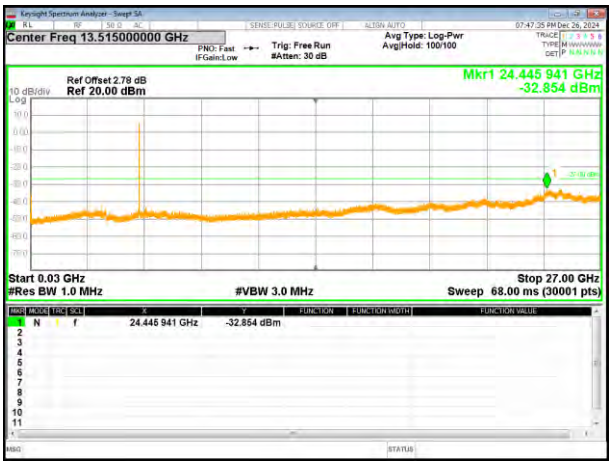
2. We tested 30MHz-40GHz frequency and found 27GHz-40GHz test data was very lower (close to the noise of the spectrum analyzer). The test report only showed data for 30MHz-27GHz.

IC:SKI.WB663U.1 ANT4

5180-5240MHz

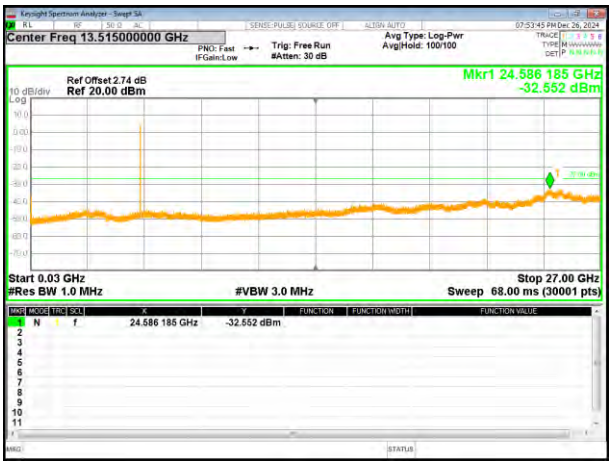
Test Plot

802.11a on channel 36



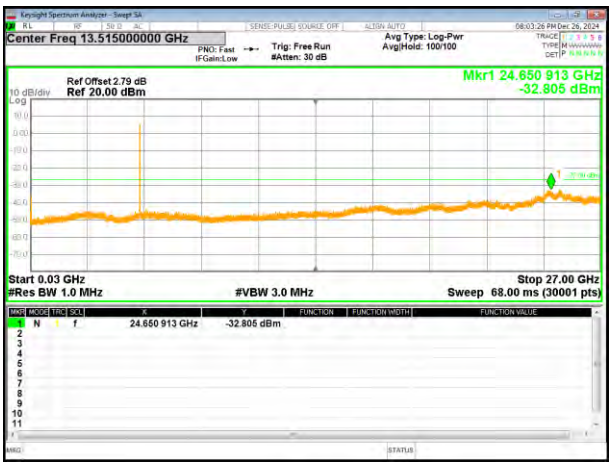
802.11a on channel 40

802.11a on channel 48



802.11n20 on channel 36

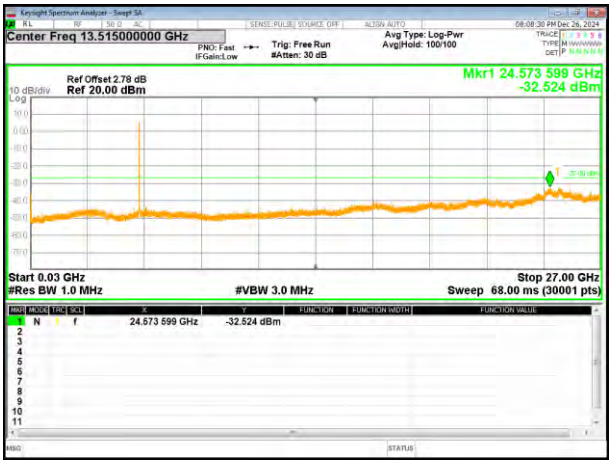
802.11n20 on channel 40



802.11n20 on channel 48

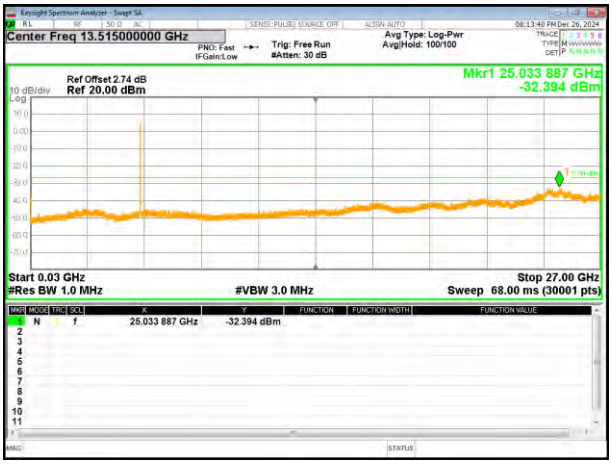
Test Plot

802.11ac20 on channel 36

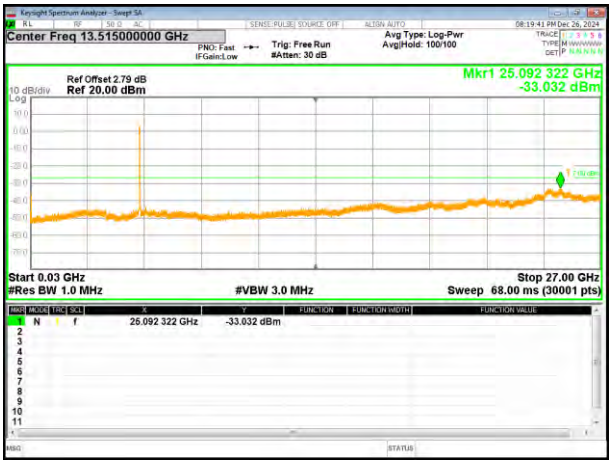


802.11ac20 on channel 40

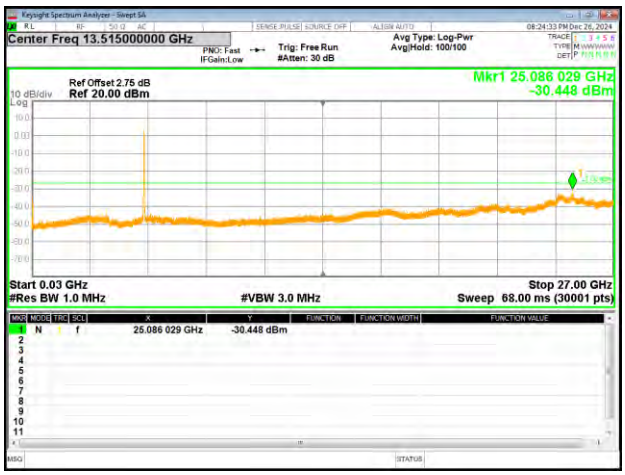
802.11ac20 on channel 48



802.11n40 on channel 38

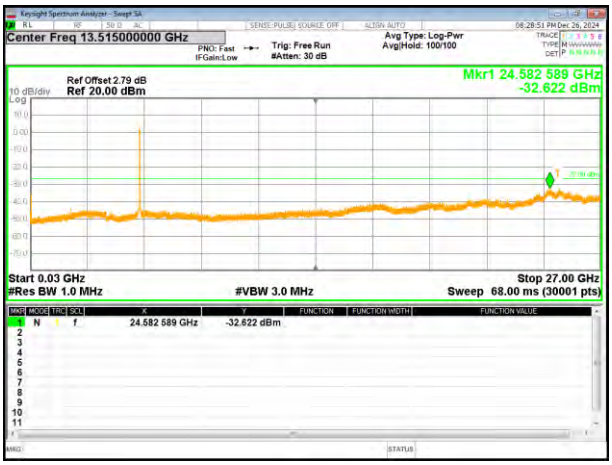


802.11n40 on channel 46



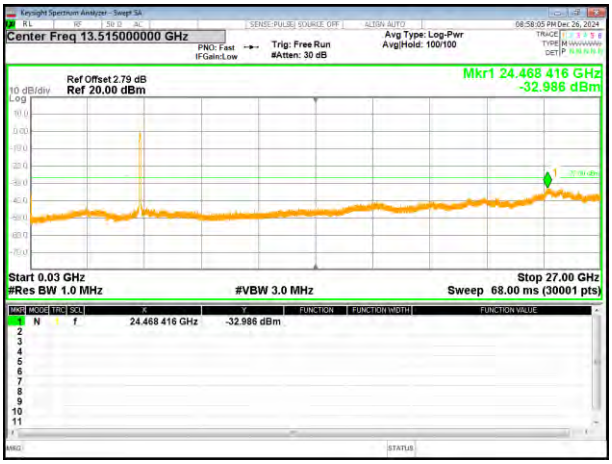
Test Plot

802.11ac40 on channel 38



802.11ac40 on channel 46

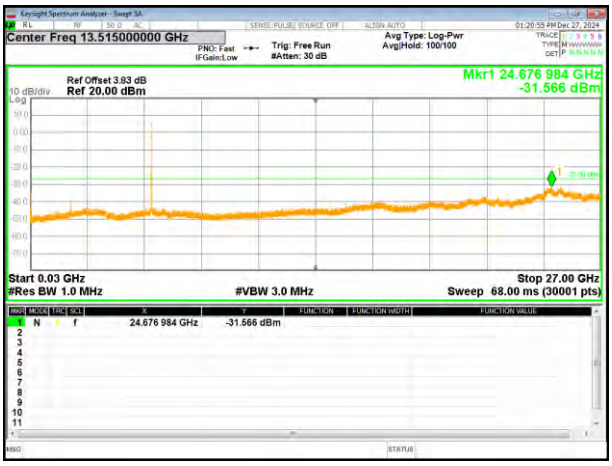
802.11ac80 on channel 42



5745-5825MHz

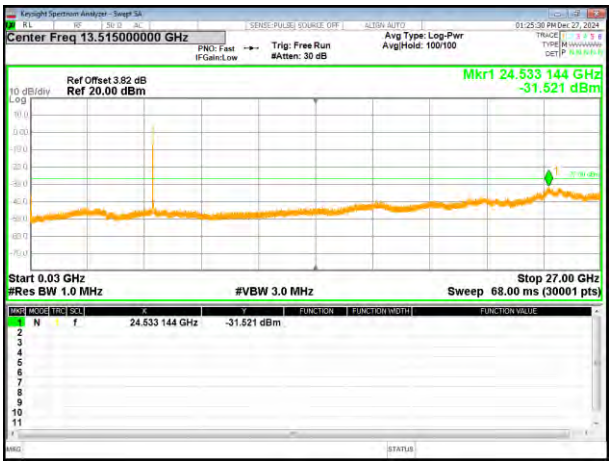
Test Plot

802.11a on channel 149



802.11a on channel 157

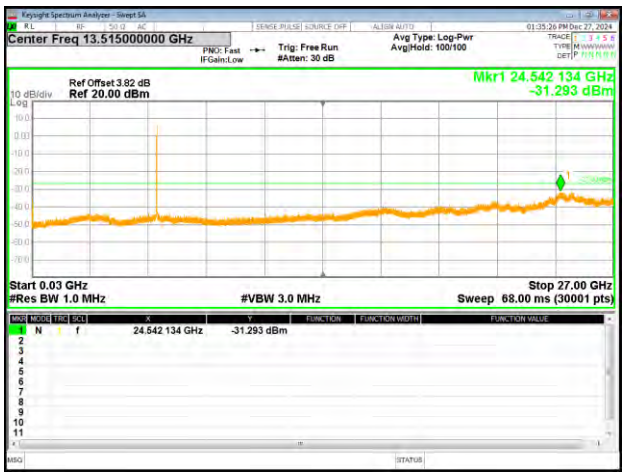
802.11a on channel 165



802.11n20 on channel 149

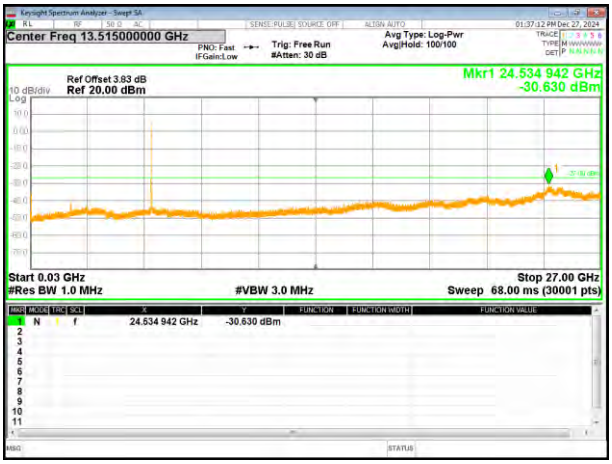
802.11n20 on channel 157

802.11n20 on channel 165



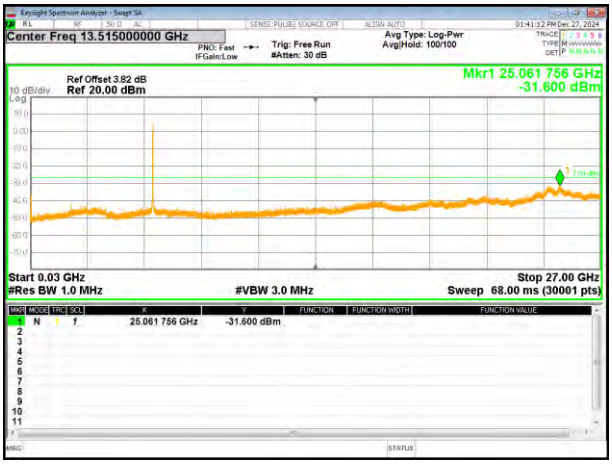
Test Plot

802.11ac20 on channel 149

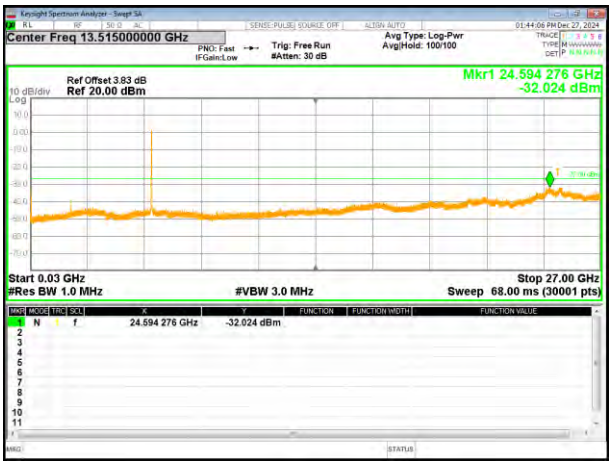


802.11ac20 on channel 157

802.11ac20 on channel 165



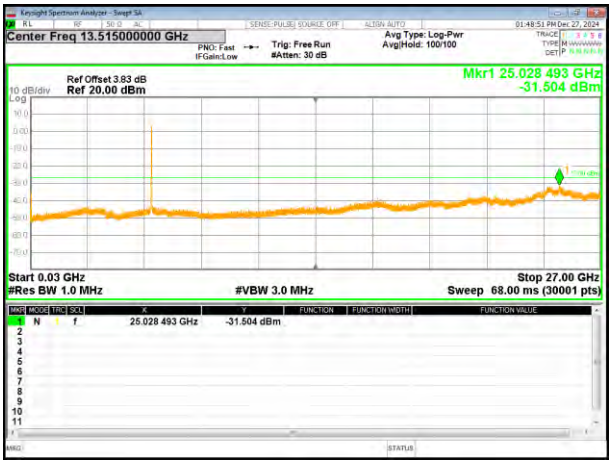
802.11n40 on channel 151



802.11n40 on channel 159

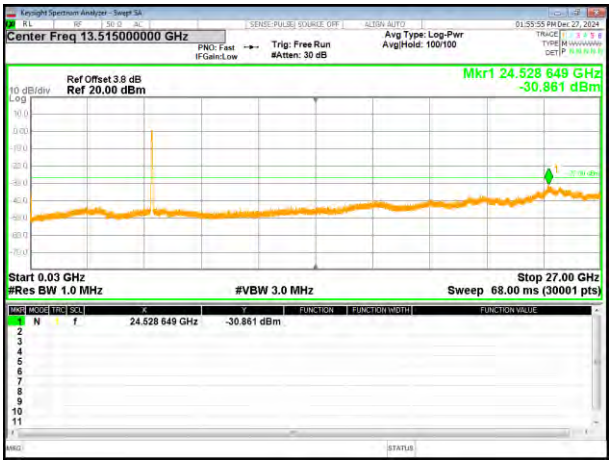
Test Plot

802.11ac40 on channel 151



802.11ac40 on channel 159

802.11ac80 on channel 155

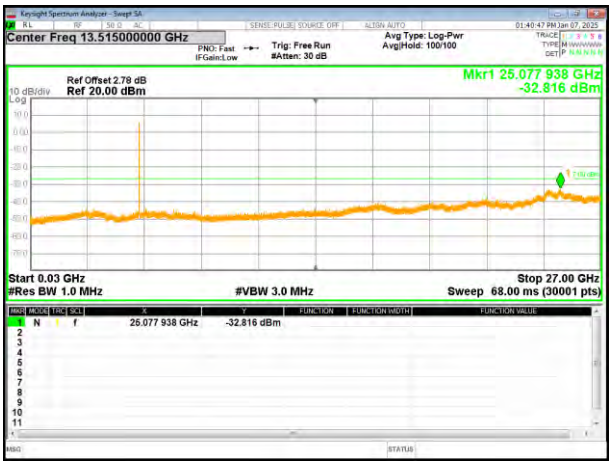


IC:SKI.WB800D.3 ANT2

5180-5240MHz

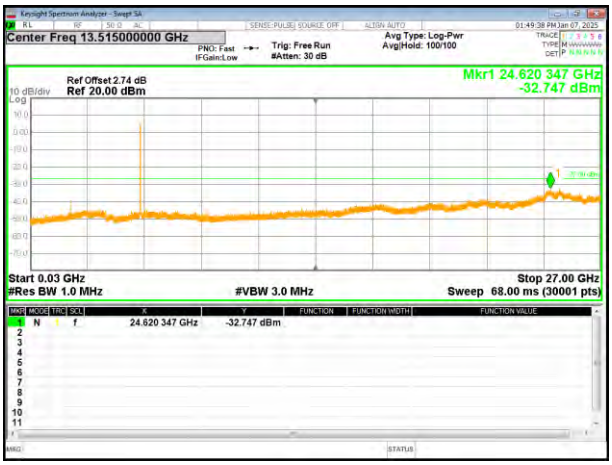
Test Plot

802.11a on channel 36



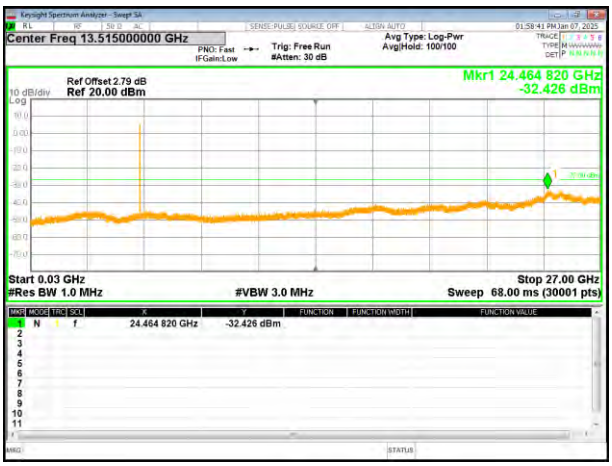
802.11a on channel 40

802.11a on channel 48



802.11n20 on channel 36

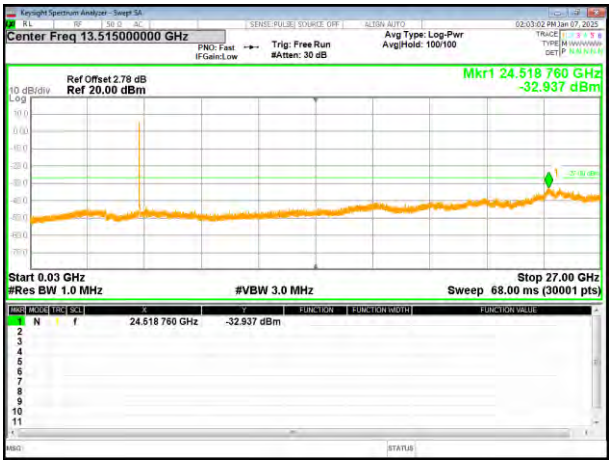
802.11n20 on channel 40



802.11n20 on channel 48

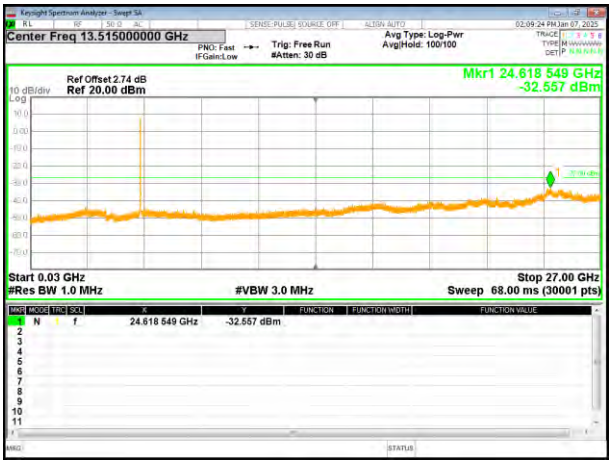
Test Plot

802.11ac20 on channel 36

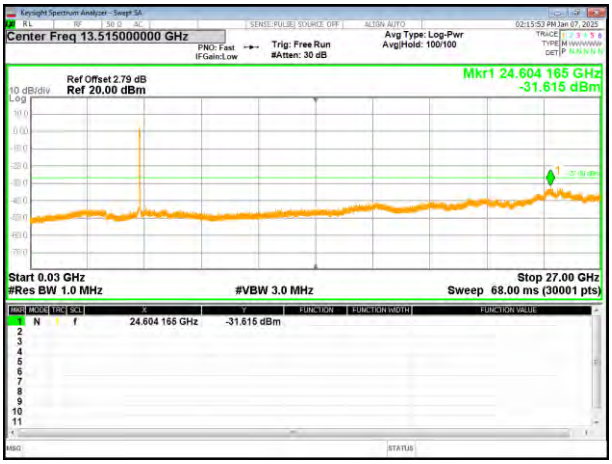


802.11ac20 on channel 40

802.11ac20 on channel 48



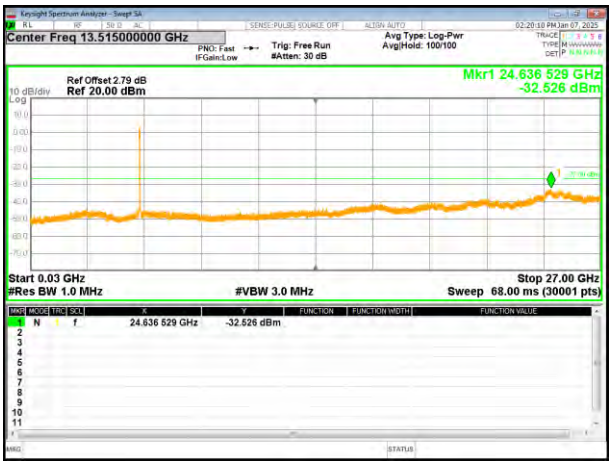
802.11n40 on channel 38



802.11n40 on channel 46

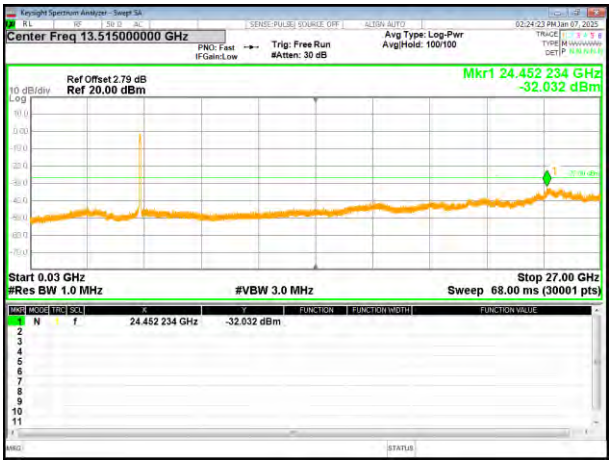
Test Plot

802.11ac40 on channel 38



802.11ac40 on channel 46

802.11ac80 on channel 42



5745-5825MHz

Test Plot

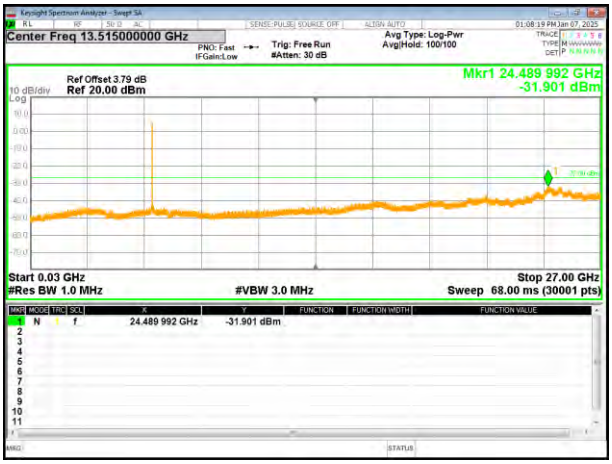
802.11a on channel 149

802.11a on channel 157

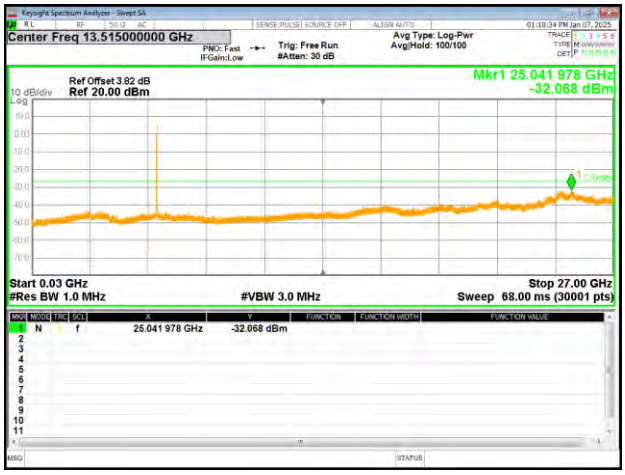
802.11a on channel 165

802.11n20 on channel 149

802.11n20 on channel 157

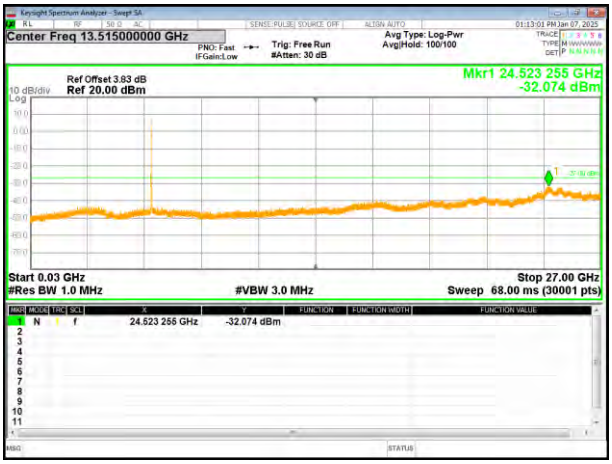


802.11n20 on channel 165



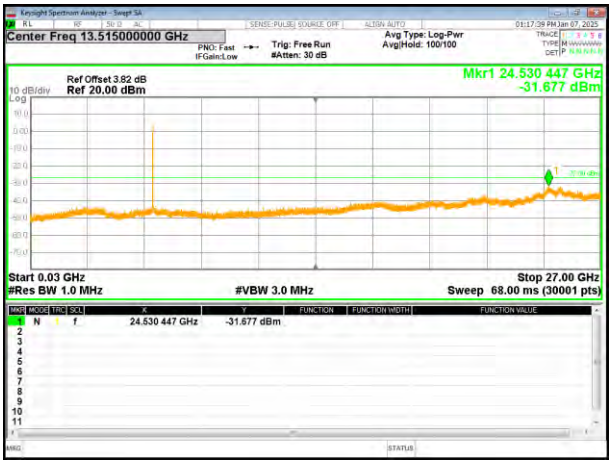
Test Plot

802.11ac20 on channel 149

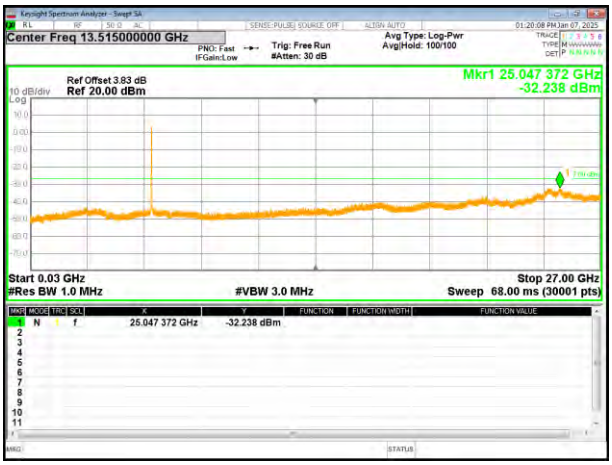


802.11ac20 on channel 157

802.11ac20 on channel 165



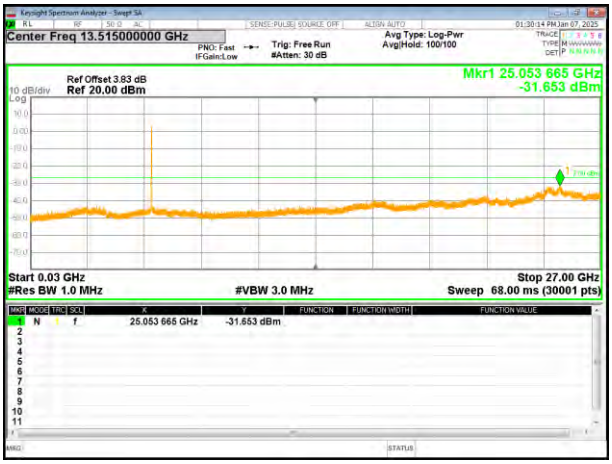
802.11n40 on channel 151



802.11n40 on channel 159

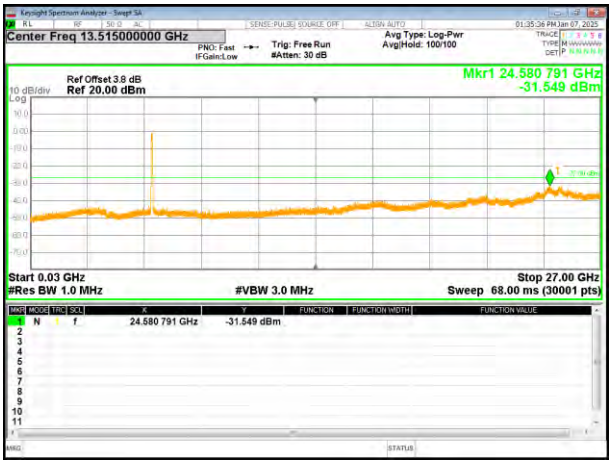
Test Plot

802.11ac40 on channel 151

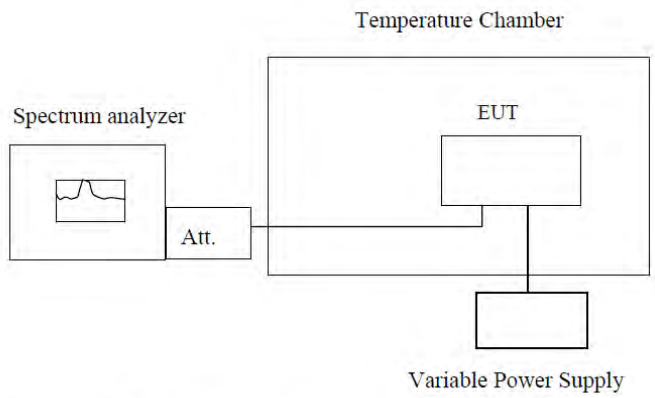


802.11ac40 on channel 159

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	5179.991	5180.010	5179.900	5179.926
	5190	5189.987	5199.884	5199.774	5189.937
	5200	5199.982	5199.909	5199.799	5199.928
	5210	5209.988	5209.887	5209.776	5209.929
	5220	5219.983	5219.902	5219.791	5219.935
	5230	5229.981	5229.895	5229.783	5229.953
	5240	5239.954	5239.903	5239.791	5239.938
-20	5180	5179.986	5179.945	5180.086	5179.983
	5190	5189.977	5180.051	5190.087	5189.982
	5200	5199.985	5199.926	5200.078	5199.976
	5210	5209.977	5209.951	5300.086	5209.966
	5220	5219.998	5219.929	5220.078	5219.976
	5230	5229.976	5229.944	5230.099	5299.974
	5240	5239.994	5239.937	5240.077	5239.978
-10	5180	5179.991	5179.895	5179.764	5179.926
	5190	5189.987	5189.890	5189.775	5189.937
	5200	5199.982	5199.885	5199.765	5199.928
	5210	5209.988	5209.891	5209.765	5209.929
	5220	5219.983	5219.886	5219.772	5219.935
	5230	5229.981	5229.884	5229.789	5229.953
	5240	5239.954	5239.857	5239.761	5239.925
0	5180	5179.768	5179.874	5179.776	5179.937
	5190	5199.940	5189.884	5189.767	5189.938
	5200	5199.938	5199.875	5199.774	5199.929
	5210	5209.993	5209.876	5209.765	5299.936
	5220	5219.982	5219.883	5219.786	5219.928
	5230	5229.969	5229.901	5229.763	5229.949
	5240	5239.986	5239.873	5239.781	5239.927
10	5180	5179.970	5179.886	5179.785	5179.938
	5190	5189.981	5189.876	5189.781	5189.929
	5200	5199.972	5199.884	5199.775	5199.937
	5210	5209.973	5209.876	5209.780	5209.929
	5220	5219.980	5219.897	5219.775	5219.949
	5230	5229.998	5229.875	5229.772	5229.927
	5240	5239.983	5239.893	5239.745	5239.945
20	5180	5179.772	5179.915	5180.087	5179.973
	5190	5199.944	5189.926	5190.078	5189.974

	5200	5199.942	5199.917	5200.086	5199.965
	5210	5209.997	5209.918	5210.078	5299.973
	5220	5219.986	5219.925	5220.099	5219.965
	5230	5229.973	5229.943	5230.077	5229.986
	5240	5239.990	5239.915	5240.095	5239.964
30	5180	5179.947	5179.926	5180.075	5180.098
	5190	5189.977	5189.927	5190.086	5199.973
	5200	5200.002	5199.918	5200.077	5199.998
	5210	5209.986	5299.926	5210.078	5209.976
	5220	5219.977	5219.918	5220.085	5219.991
	5230	5230.005	5229.939	5230.103	5229.984
	5240	5239.993	5239.917	5240.075	5239.992
40	5180	5179.772	5179.915	5180.087	5179.973
	5190	5199.944	5189.926	5190.078	5189.974
	5200	5199.942	5199.917	5200.086	5199.965
	5210	5209.997	5209.918	5210.078	5299.973
	5220	5219.986	5219.925	5220.099	5219.965
	5230	5229.973	5229.943	5230.077	5229.986
	5240	5239.990	5239.915	5240.095	5239.964
50	5180	5179.974	5179.927	5180.087	5179.983
	5190	5189.985	5189.918	5190.078	5179.983
	5200	5199.976	5199.926	5200.086	5189.979
	5210	5209.977	5209.918	5210.078	5199.974
	5220	5219.984	5219.939	5220.099	5209.980
	5230	5230.002	5229.917	5230.077	5219.975
	5240	5239.974	5239.935	5240.095	5229.973

Frequency stability versus Voltage					
Temperature: 25°C					
Power Supply (VAC)	Operating Frequency (MHz)	0 minute	2 minute	5 minute	10 minute
		Measured Frequency (MHz)	Measured Frequency (MHz)	Measured Frequency (MHz)	Measured Frequency (MHz)
AC 102V	5180	5179.980	5179.915	5180.096	5179.979
	5190	5189.974	5189.926	5190.092	5189.965
	5200	5199.987	5199.917	5200.087	5199.966
	5210	5209.991	5209.918	5210.093	5209.988
	5220	5219.977	5219.925	5220.088	5219.974
	5230	5229.970	5229.943	5230.086	5229.984
	5240	5180.110	5179.931	5180.087	5179.962
AC 120V	5180	5199.985	5189.925	5190.078	5189.973
	5190	5200.010	5199.925	5200.086	5199.964
	5200	5209.988	5209.937	5210.078	5209.965
	5210	5220.003	5219.928	5220.099	5219.972
	5220	5229.996	5299.931	5230.077	5229.990
	5230	5240.004	5239.928	5240.095	5239.975
	5240	5180.110	5179.931	5180.087	5179.962
AC 138V	5180	5179.985	5179.927	5180.086	5179.973
	5190	5189.986	5189.918	5190.087	5189.974
	5200	5199.977	5199.926	5200.078	5199.965
	5210	5299.985	5209.918	5300.086	5299.973
	5220	5219.977	5219.939	5220.078	5219.965
	5230	5229.998	5229.917	5230.099	5229.986
	5240	5239.976	5239.935	5240.077	5239.964

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	5745	5744.968	5744.918	5745.078	5744.959
	5755	5754.984	5754.925	5755.095	5754.984
	5775	5774.983	5774.917	5775.096	5774.965
	5785	5784.986	5784.909	5785.078	5784.974
	5795	5794.997	5794.916	5795.096	5794.972
	5825	5824.978	5824.845	5825.093	5824.982
-20	5745	5744.968	5744.929	5745.073	5744.975
	5755	5754.984	5754.931	5755.098	5754.989
	5775	5774.983	5774.934	5775.079	5774.974
	5785	5784.986	5784.926	5785.088	5784.961
	5795	5794.993	5794.917	5795.086	5794.955
	5825	5824.978	5824.926	5825.096	5824.989
-10	5745	5744.989	5744.942	5745.089	5744.964
	5755	5755.003	5754.915	5755.103	5754.983
	5775	5774.988	5774.938	5775.088	5774.963
	5785	5784.975	5784.938	5785.075	5784.990
	5795	5794.969	5794.929	5795.069	5794.982
	5825	5825.003	5824.944	5825.103	5824.991
0	5745	5744.972	5744.918	5745.079	5744.964
	5755	5754.982	5754.925	5755.086	5754.953
	5775	5775.003	5774.917	5775.103	5774.964
	5785	5784.979	5784.909	5785.079	5784.971
	5795	5794.975	5794.916	5795.075	5794.989
	5825	5824.973	5824.845	5825.078	5824.981
10	5745	5744.969	5744.929	5745.073	5744.975
	5755	5754.984	5754.931	5755.098	5754.989
	5775	5774.983	5774.934	5775.079	5774.974
	5785	5784.986	5784.926	5785.088	5784.961
	5795	5794.996	5794.917	5795.086	5794.955
	5825	5824.978	5824.926	5825.096	5824.989
20	5745	5745.020	5744.919	5745.089	5744.595
	5755	5755.005	5754.926	5755.091	5754.978
	5775	5775.001	5774.943	5775.094	5774.979
	5785	5784.985	5784.919	5785.086	5784.982
	5795	5794.974	5794.915	5795.077	5794.965
	5825	5824.909	5824.917	5825.086	5824.961
30	5745	5744.969	5744.929	5745.073	5744.975
	5755	5754.984	5754.931	5755.098	5754.989
	5775	5774.983	5774.934	5775.079	5774.974
	5785	5784.986	5784.926	5785.088	5784.961
	5795	5794.996	5794.917	5795.086	5794.955
	5825	5824.978	5824.926	5825.096	5824.989
40	5745	5745.020	5744.919	5745.089	5744.595
	5755	5755.005	5754.926	5755.091	5754.978
	5775	5775.001	5774.943	5775.094	5774.979

	5785	5784.985	5784.919	5785.086	5784.982
	5795	5794.997	5794.916	5795.096	5794.972
	5825	5824.978	5824.845	5825.093	5824.982
50	5745	5744.972	5744.918	5745.079	5744.964
	5755	5754.982	5754.925	5755.086	5754.953
	5775	5775.003	5774.917	5775.103	5774.964
	5785	5784.979	5784.909	5785.079	5784.971
	5795	5794.975	5794.916	5795.075	5794.989
	5825	5824.973	5824.845	5825.078	5824.981

Frequency stability versus Voltage					
Temperature: 25°C					
Power Supply (VAC)	Operating Frequency (MHz)	0 minute	2 minute	5 minute	10 minute
		Measured Frequency (MHz)	Measured Frequency (MHz)	Measured Frequency (MHz)	Measured Frequency (MHz)
AC 108V	5745	5744.973	5744.918	5745.078	5744.960
	5755	5754.998	5754.935	5755.085	5754.972
	5775	5774.979	5774.936	5775.077	5774.989
	5785	5784.988	5784.918	5785.069	5784.965
	5795	5794.986	5794.935	5795.076	5794.961
	5825	5824.996	5824.933	5825.005	5824.964
AC 120V	5745	5744.989	5744.943	5745.087	5744.964
	5755	5755.003	5754.915	5755.103	5754.983
	5775	5774.988	5774.938	5775.088	5774.963
	5785	5784.975	5784.938	5785.075	5784.990
	5795	5794.969	5794.929	5795.069	5794.982
	5825	5825.003	5824.944	5825.103	5824.991
AC 132V	5745	5744.979	5744.929	5745.072	5744.989
	5755	5754.986	5754.931	5755.095	5754.961
	5775	5775.003	5774.934	5775.096	5774.984
	5785	5784.979	5784.926	5785.078	5784.984
	5795	5794.975	5794.917	5795.095	5794.975
	5825	5824.978	5824.926	5825.093	5824.990

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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