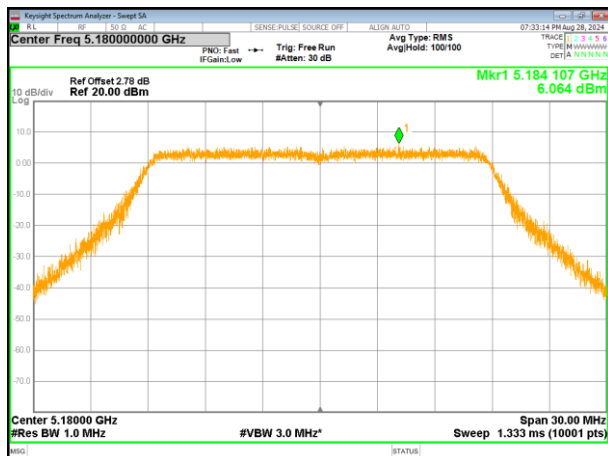
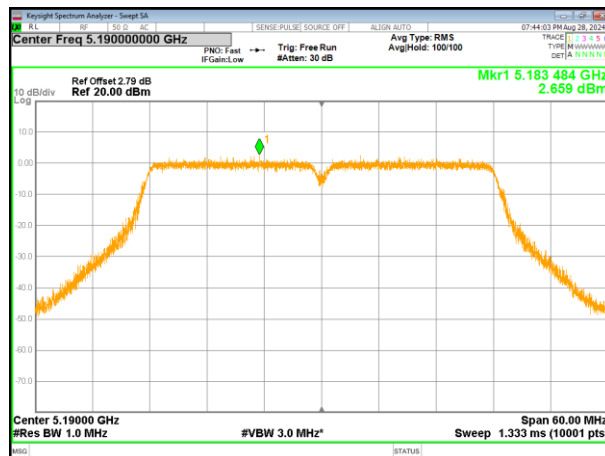


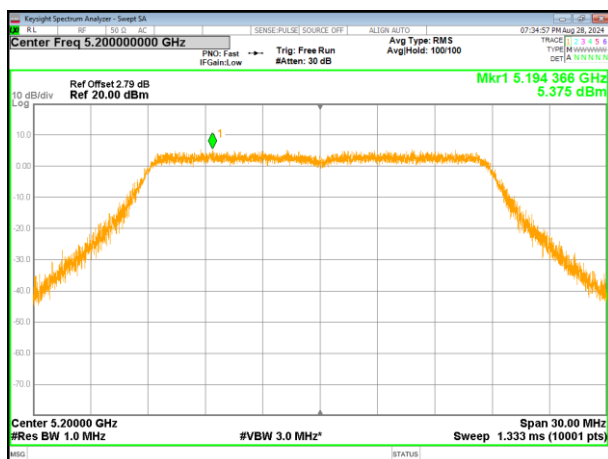
(802.11ac20) PSD plot on channel 36



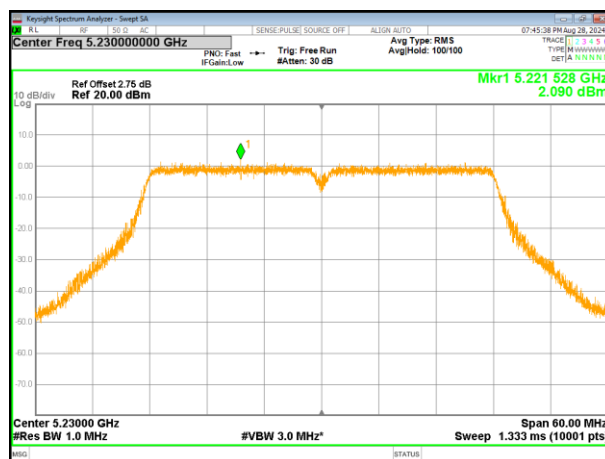
(802.11n40) PSD plot on channel 38



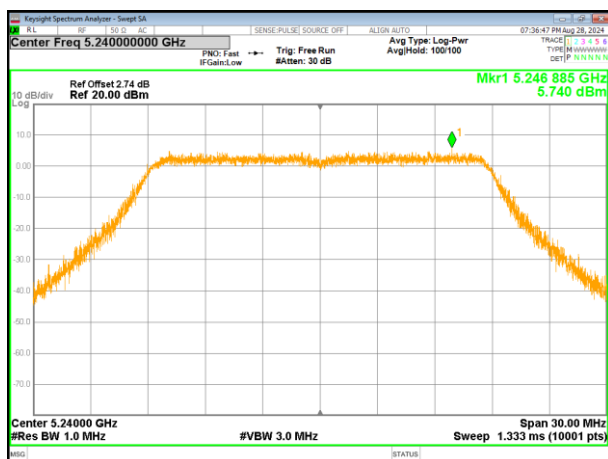
(802.11ac20) PSD plot on channel 40



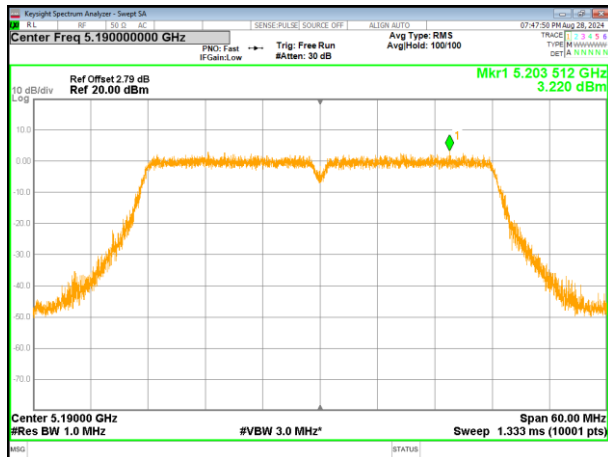
(802.11n40) PSD plot on channel 46



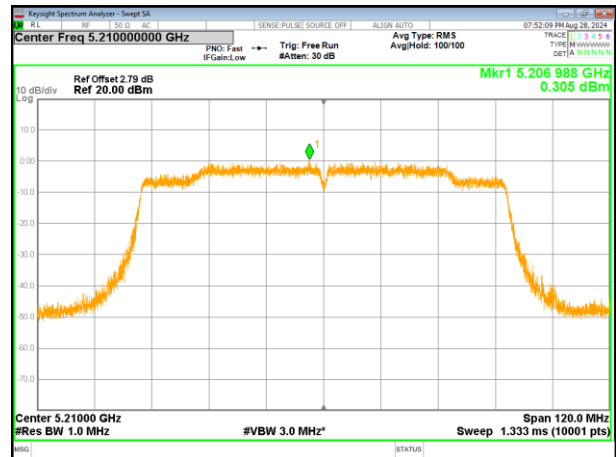
(802.11ac20) PSD plot on channel 48



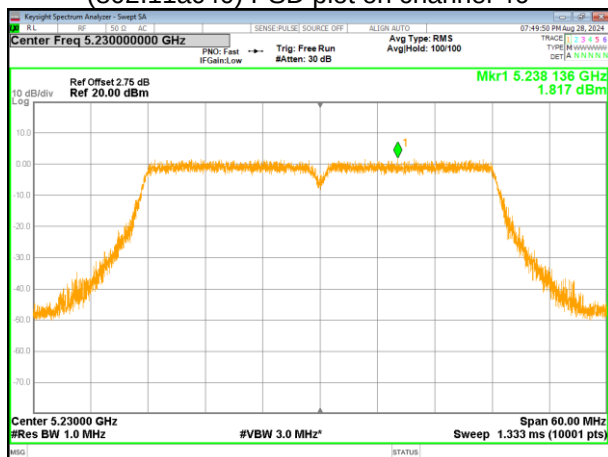
(802.11ac40) PSD plot on channel 38



(802.11ac80) PSD plot on channel 42



(802.11ac40) PSD plot on channel 46

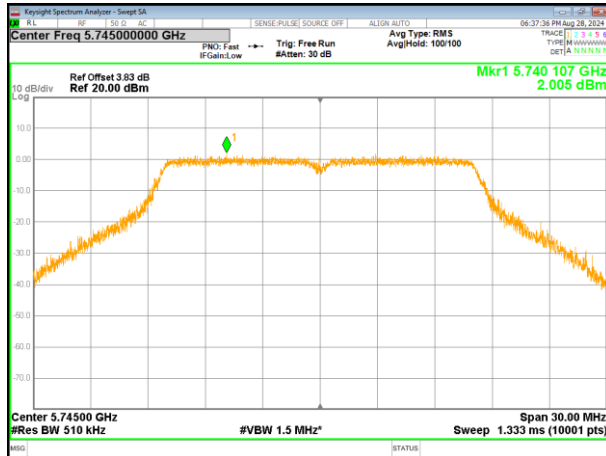


Mode	Frequency	Measured Power Density (dBm/510KHz)	Measured Power Density(dBm/500 KHz)	Correction Factor (dB)	Total Measured Power Density (dBm/500KHz)	Limit (dBm/MHz)
802.11 a	5745 MHz	2.005	1.919	0.090	2.009	30
	5785 MHz	2.831	2.745	0.090	2.835	30
	5825 MHz	2.278	2.192	0.090	2.282	30
802.11 n20	5745 MHz	0.603	0.517	0.360	0.877	30
	5785 MHz	1.717	1.631	0.360	1.991	30
	5825 MHz	2.534	2.448	0.360	2.808	30
802.11ac20	5745 MHz	1.791	1.705	0.320	2.025	30
	5785 MHz	2.488	2.402	0.320	2.722	30
	5825 MHz	2.462	2.376	0.320	2.696	30
802.11 n40	5755 MHz	-0.737	-0.823	0.080	-0.743	30
	5795 MHz	-0.101	-0.187	0.080	-0.107	30
802.11ac40	5755 MHz	-0.414	-0.500	0.080	-0.420	30
	5795 MHz	-0.147	-0.233	0.080	-0.153	30
802.11ac80	5775 MHz	-3.374	-3.460	0.280	-3.180	30

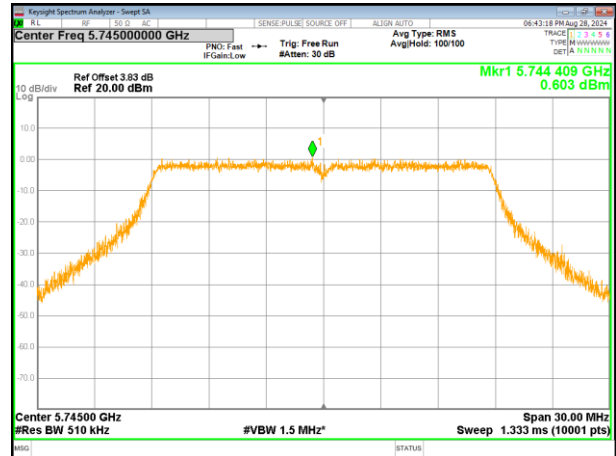
Note: 1. If the measurement is X dBm/510kHz, thus $X \text{ dBm/510kHz} = (10^{X/10}) * (500 / 510) \text{ dBm/500kHz}$

2. Correction Factor (dB)= duty cycle factor+RBW factor

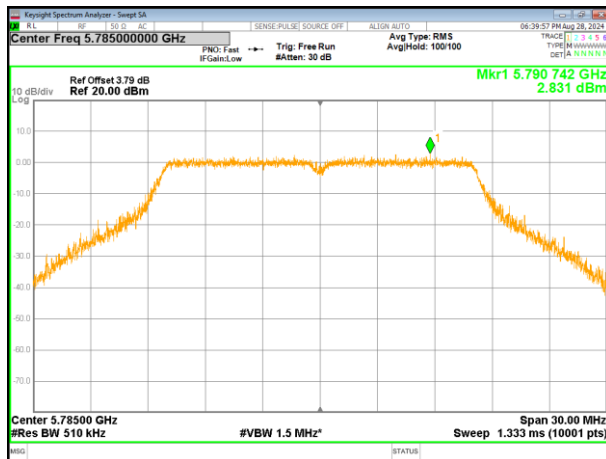
(802.11a) PSD plot on channel 149



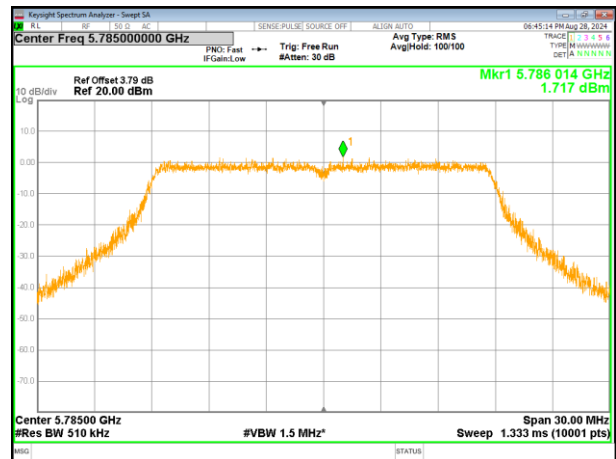
(802.11n20) PSD plot on channel 149



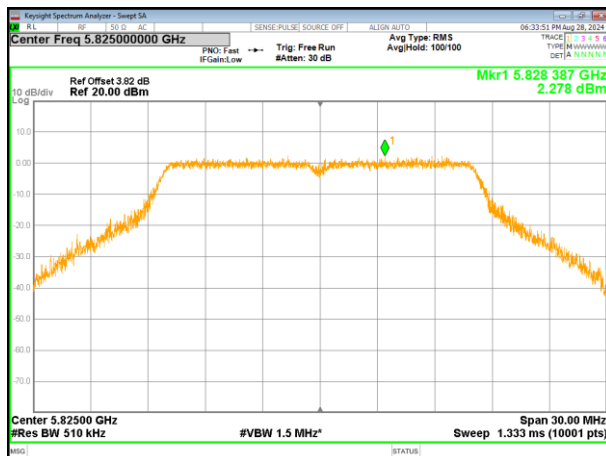
(802.11a) PSD plot on channel 157



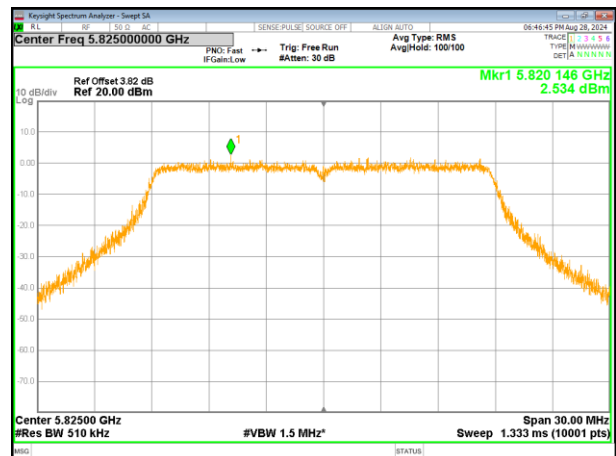
(802.11n20) PSD plot on channel 157



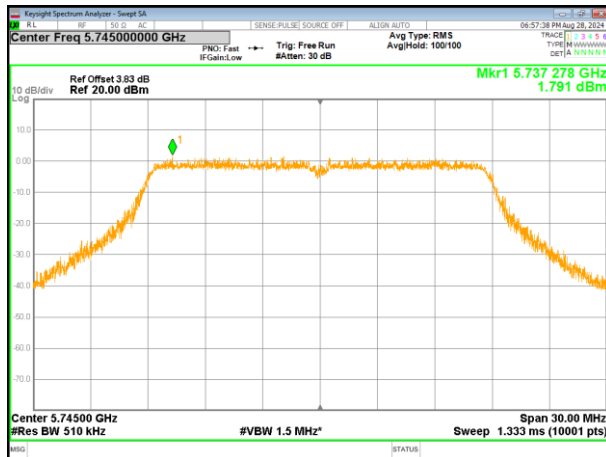
(802.11a) PSD plot on channel 165



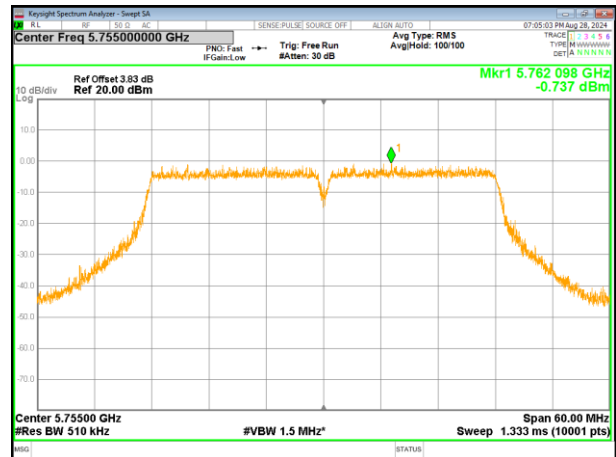
(802.11n20) PSD plot on channel 165



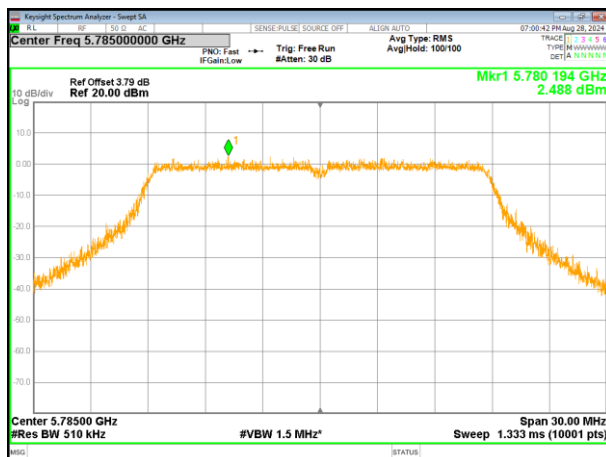
(802.11ac20) PSD plot on channel 149



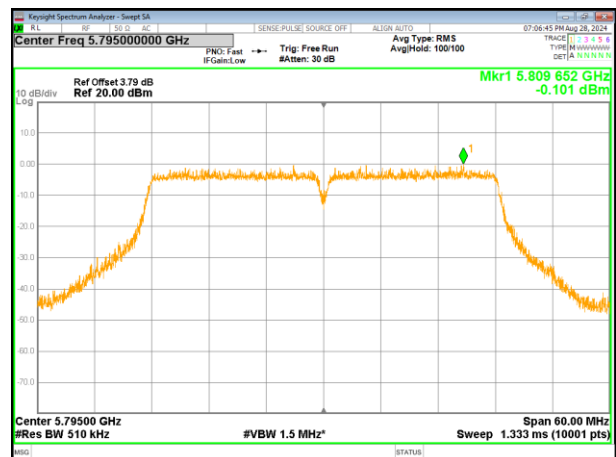
(802.11n40) PSD plot on channel 151



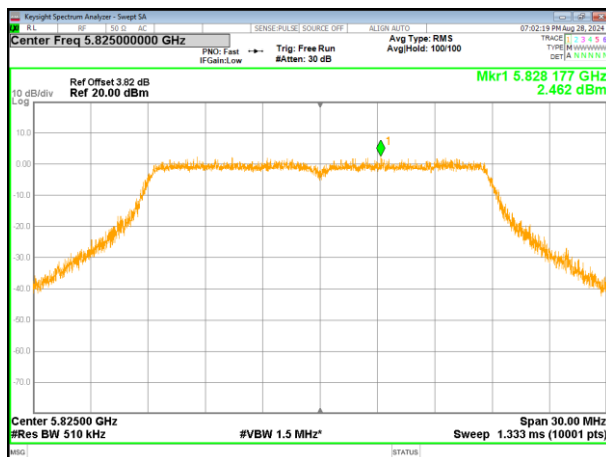
(802.11ac20) PSD plot on channel 157



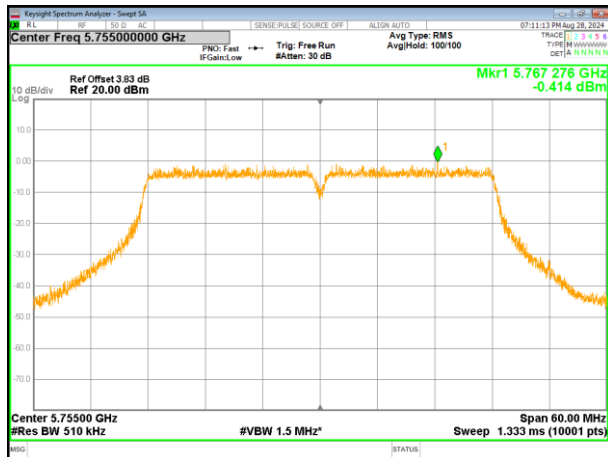
(802.11n40) PSD plot on channel 159



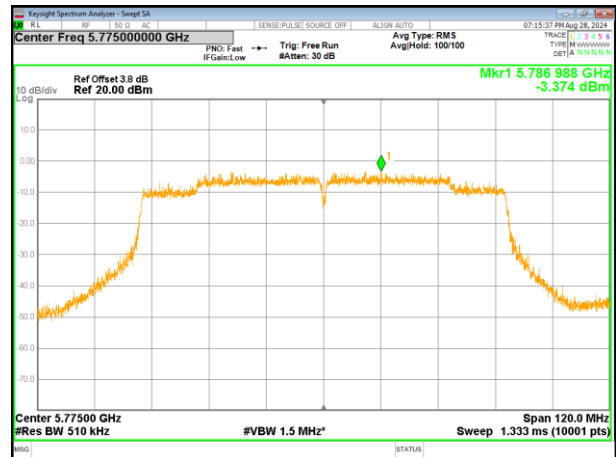
(802.11ac20) PSD plot on channel 165



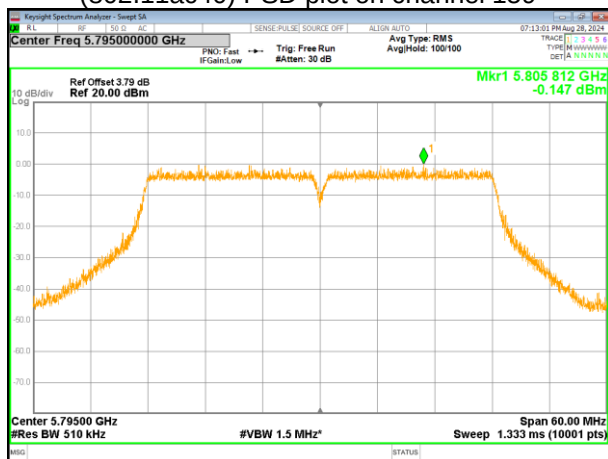
(802.11ac40) PSD plot on channel 151



(802.11ac80) PSD plot on channel 155

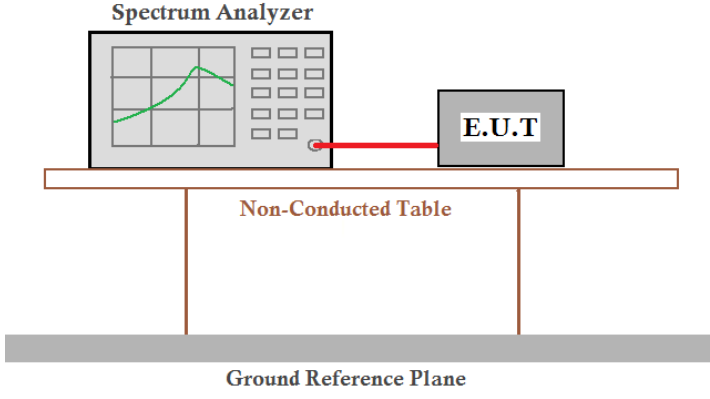


(802.11ac40) PSD plot on channel 159



4.7 Band edge

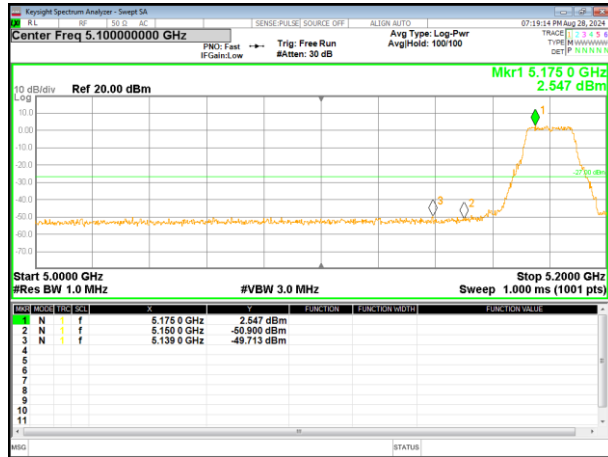
4.7.1 Conducted test Method

Test Requirement:	FCC Part15 C Section 15.209 and 15.205	
Test Method:	ANSI C63.10: 2013	
Limit:	All emissions shall be limited to a level of -27 dBm/MHz at 75 MHz or more above or below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above or below the band edge, and from 25 MHz above or below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above or below the band edge, and from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge.	
Test setup:	 The diagram illustrates the test setup. A Spectrum Analyzer is connected to an E.U.T. (Equipment Under Test) via a red cable. Both are placed on a Non-Conducted Table, which is supported by a Ground Reference Plane.	
Test Procedure:	1. Check the calibration of the measuring instrument using either an internal calibrator or a known signal from an external generator. 2. Position the EUT without connection to measurement instrument. Turn on the EUT and connect its antenna terminal to measurement instrument via a low loss cable. Then set it to any one measured frequency within its operating range, and make sure the instrument is operated in its linear range. 3. Set RBW of spectrum analyzer to 1 MHz with a convenient frequency span. 4. Measure the highest amplitude appearing on spectral display and set it as a reference level. Plot the graph with marking the highest point and edge frequency. 5. Repeat above procedures until all measured frequencies were complete..	
Test Instruments:	Refer to section 3.0 for details	
Test mode:	Refer to section 2.2 for details	
Test environment:	Temp.: 23.3°C	Humid.:56%RH
Test voltage:	DC 19V	
Test results:	Pass	

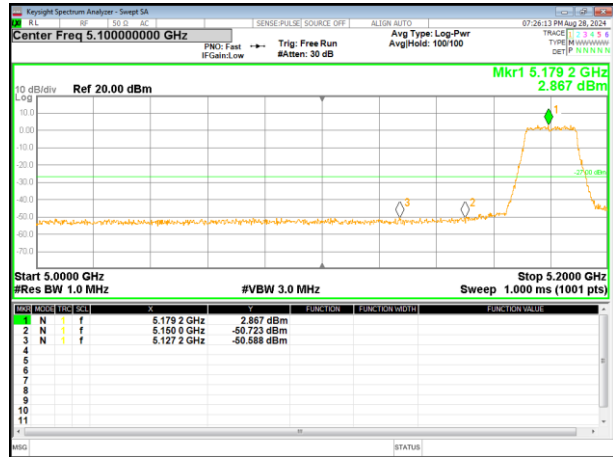
Remark: Due to the margin value of the sideband test being greater than the antenna gain value, the test meets the requirements

5.180~5.240 GHz

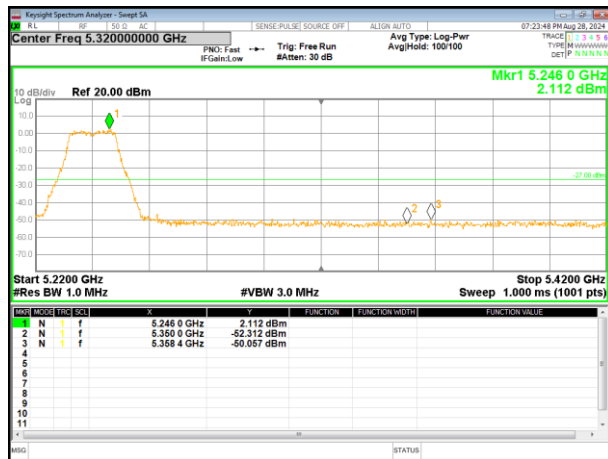
(802.11a) Band Edge, Left Side



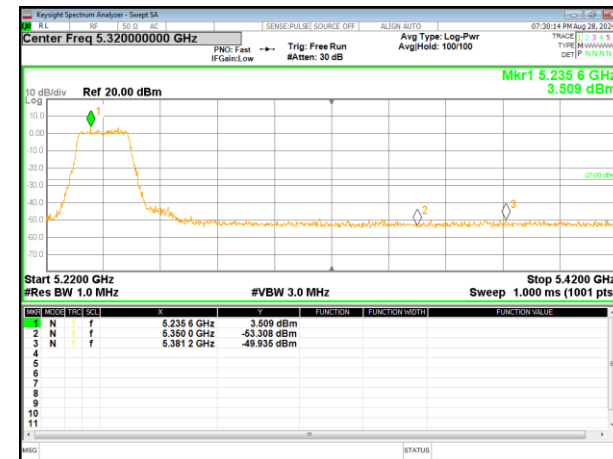
(802.11n20) Band Edge, Left Side



(802.11a) Band Edge, Right Side

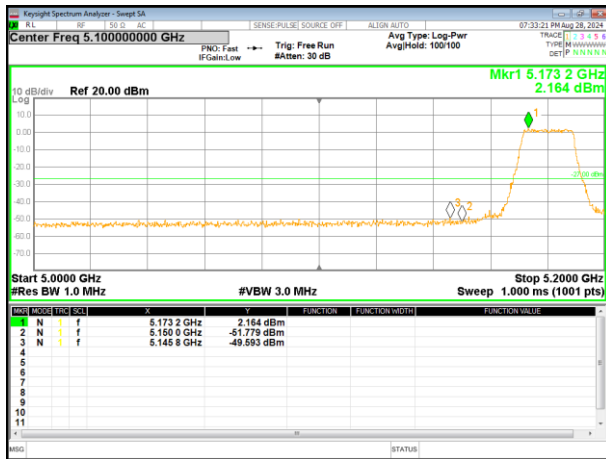


(802.11n20) Band Edge, Right Side

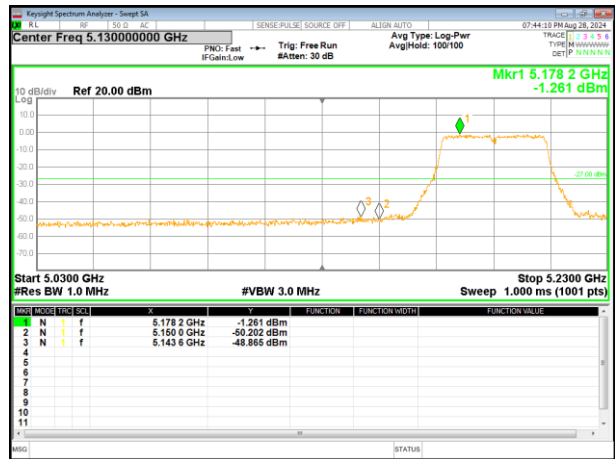


5.180~5.240 GHz

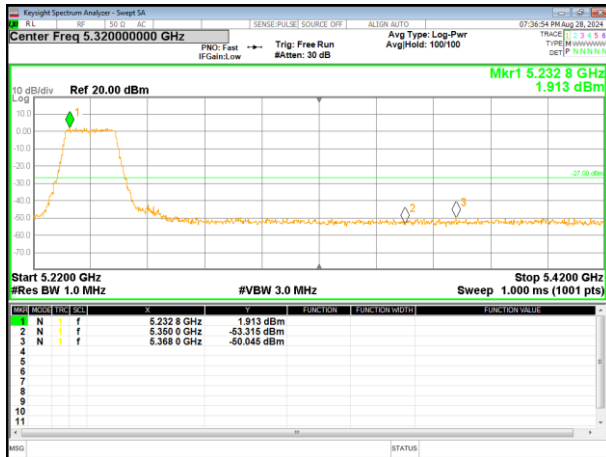
(802.11ac20) Band Edge, Left Side



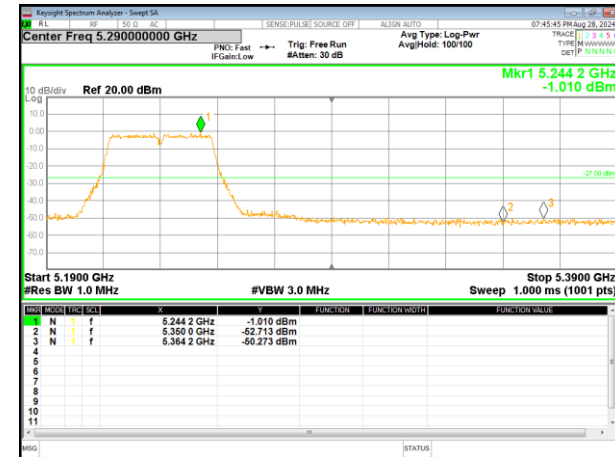
(802.11n40) Band Edge, Left Side



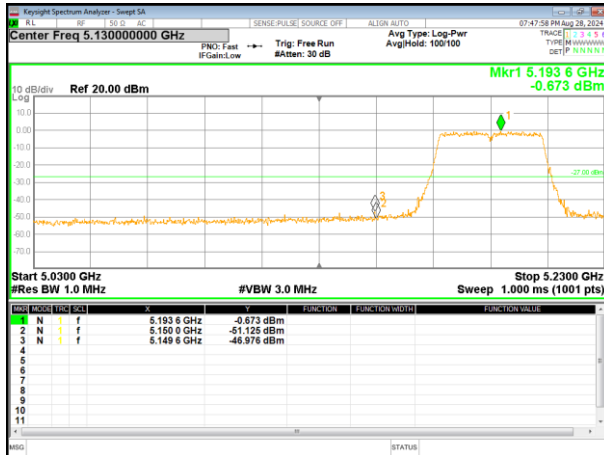
(802.11ac20) Band Edge, Right Side



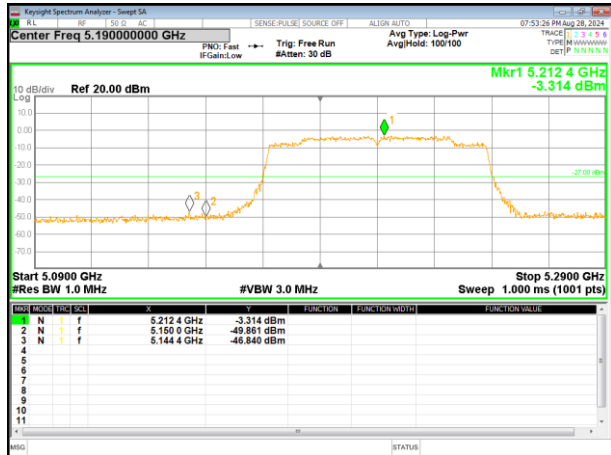
(802.11n40) Band Edge, Right Side



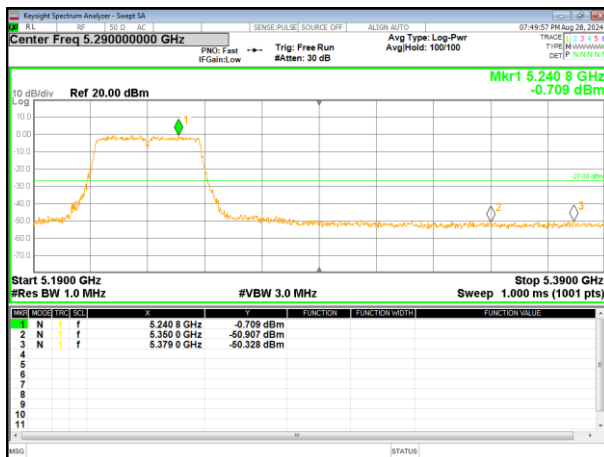
(802.11ac40) Band Edge, Left Side



(802.11ac80) Band Edge

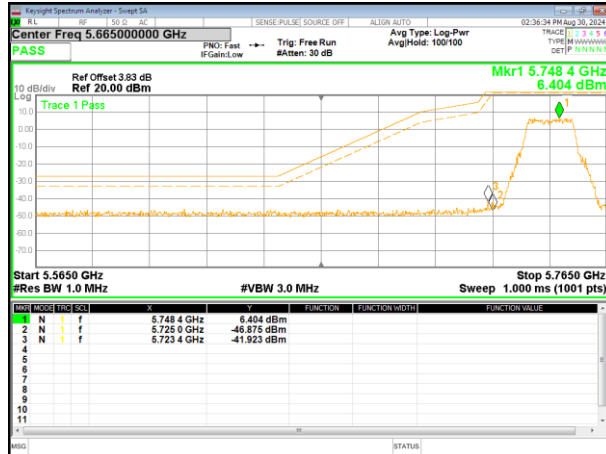


(802.11ac40) Band Edge, Right Side

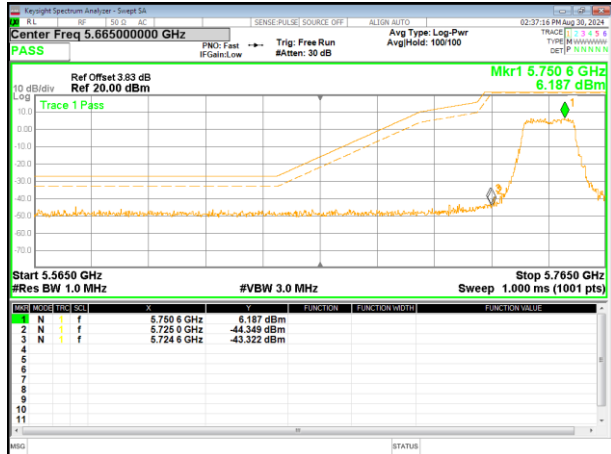


5.745~5.825 GHz

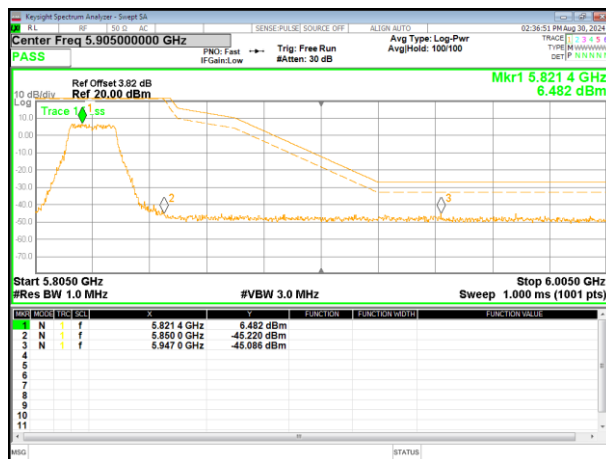
(802.11a) Band Edge, Left Side



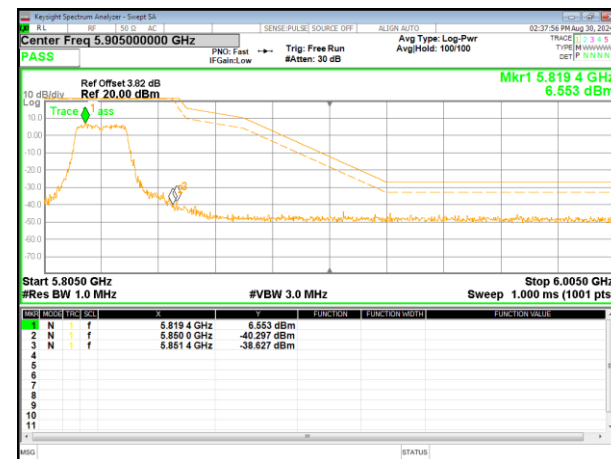
(802.11n20) Band Edge, Left Side



(802.11a) Band Edge, Right Side

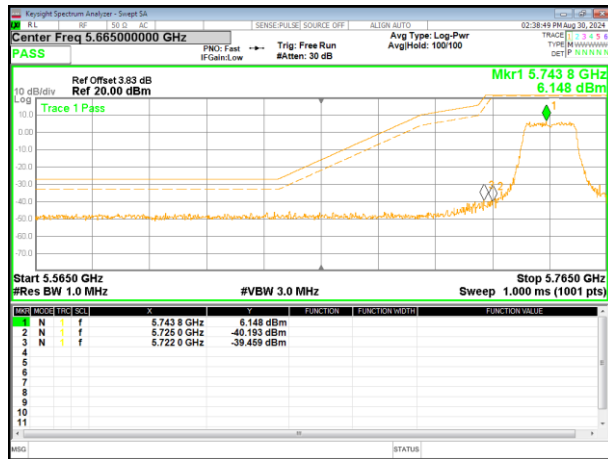


(802.11n20) Band Edge, Right Side

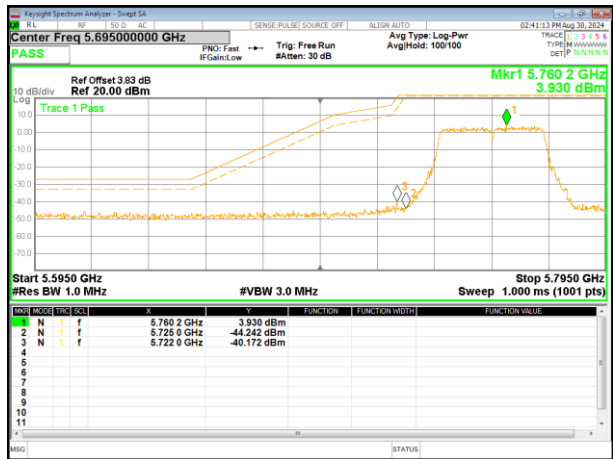


5.745~5.825 GHz

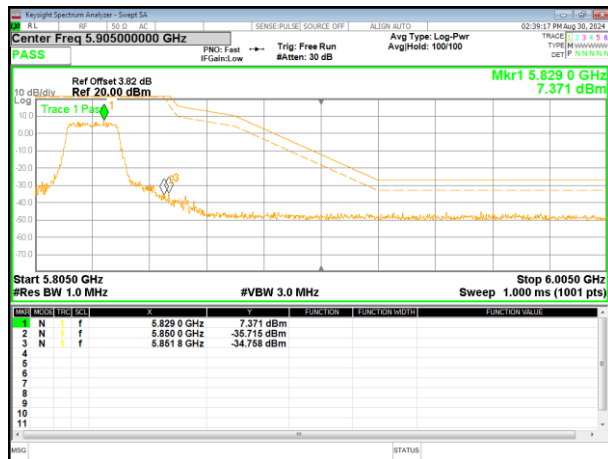
(802.11ac20) Band Edge, Left Side



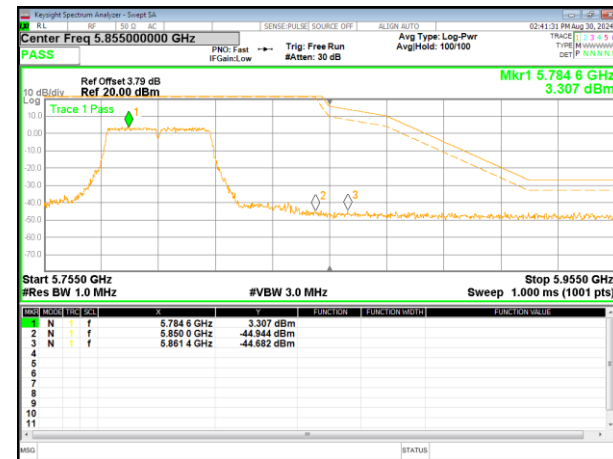
(802.11n40) Band Edge, Left Side



(802.11ac20) Band Edge, Right Side

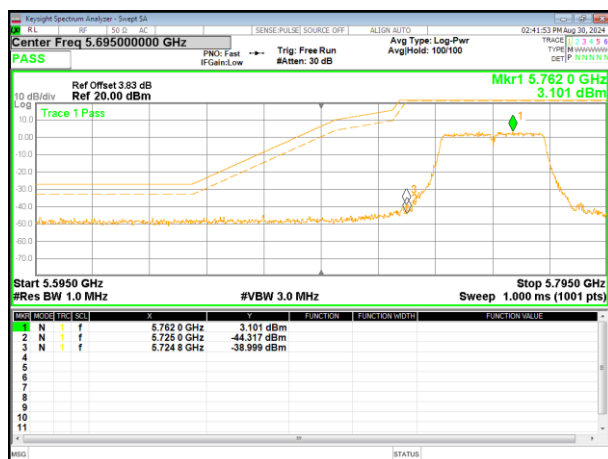


(802.11n40) Band Edge, Right Side

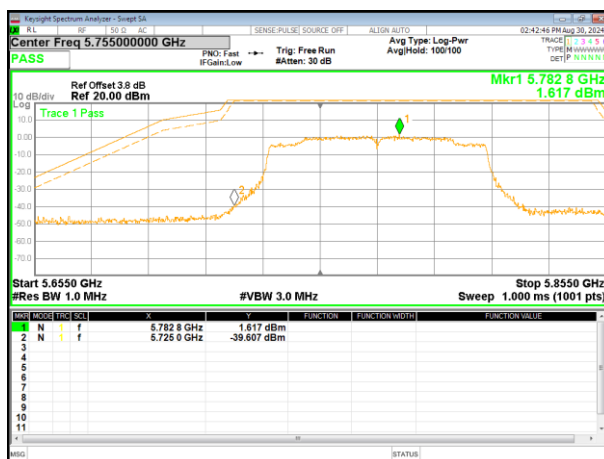


5.745~5.825 GHz

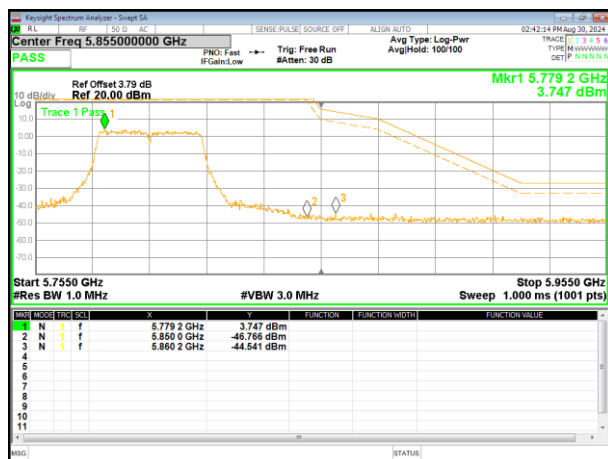
(802.11ac40) Band Edge, Left Side



(802.11ac80) Band Edge

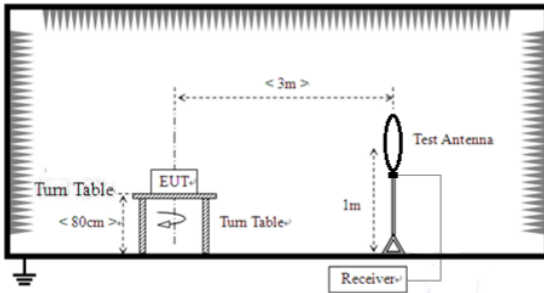
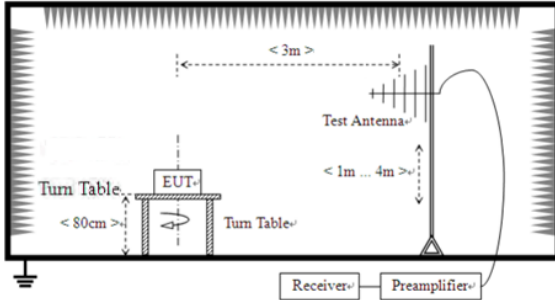


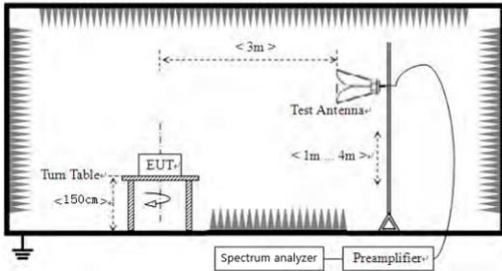
(802.11ac40) Band Edge, Right Side



4.8 Spurious Emission

4.8.1 Radiated Emission Method

Test Requirement:	FCC Part15 C Section 15.209, Part 15E Section 15.407(b)(4)				
Test Method:	ANSI C63.10:2013				
Test Frequency Range:	9kHz to 40GHz				
Test site:	Measurement Distance: 3m				
Receiver setup:	Frequency	Detector	RBW	VBW	Value
	9kHz-150KHz	Quasi-peak	200Hz	1kHz	Quasi-peak Value
	150kHz-30MHz	Quasi-peak	9kHz	30kHz	Quasi-peak Value
	30MHz-1GHz	Quasi-peak	120KHz	300KHz	Quasi-peak Value
	Above 1GHz	Peak	1MHz	3MHz	Peak Value
		AV	1MHz	3MHz	Average Value
Limit:	Frequency		Limit (uV/m)	Value	Measurement Distance
	0.009MHz-0.490MHz		2400/F(KHz)	QP	300m
	0.490MHz-1.705MHz		24000/F(KHz)	QP	300m
	1.705MHz-30MHz		30	QP	30m
	30MHz-88MHz		100	QP	3m
	88MHz-216MHz		150	QP	
	216MHz-960MHz		200	QP	
	960MHz-1GHz		500	QP	
	Frequency		Limit (dBm/MHz)	Remark	
	Above 1GHz		-27.0	Peak Value	
Test setup:	For radiated emissions from 9kHz to 30MHz				
					
Test setup:	For radiated emissions from 30MHz to1GHz				
					

	For radiated emissions above 1GHz 
Test Procedure:	1. The EUT was placed on the top of a rotating table (0.8m for below 1GHz and 1.5 meters for above 1GHz) above the ground at a 3 meter camber. The table was rotated 360 degrees to determine the position of the highest radiation. 2. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower. 3. The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement. 4. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rota table was turned from 0 degrees to 360 degrees to find the maximum reading. 5. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode. 6. If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet. The radiation measurements are performed in X, Y, Z axis positioning. And found the X axis positioning which it is worse case, only the test worst case mode is recorded in the report.
Test Instruments:	Refer to section 3.0 for details
Test mode:	Refer to section 2.2 for details
Test results:	Pass

Remarks:

1. The report only shows the worst mode.
2. Pre-scan all kind of the place mode (X-axis, Y-axis, Z-axis), and found the Y-axis which it is worse case.

Measurement Data:

9 kHz ~ 30 MHz

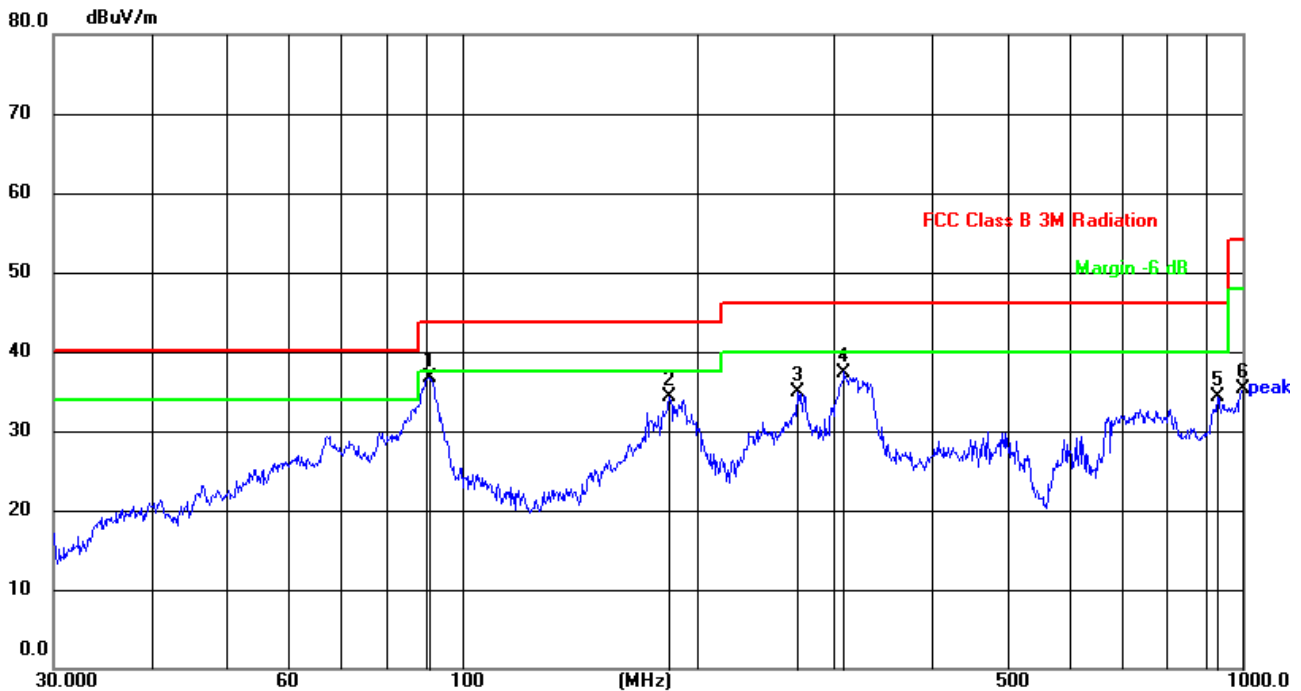
The emission from 9 kHz to 30MHz was pre-tested and found the result was 20dB lower than the limit, and according to 15.31(o) & RSS-Gen 6.13, the test result no need to reported.

Below 1GHz

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

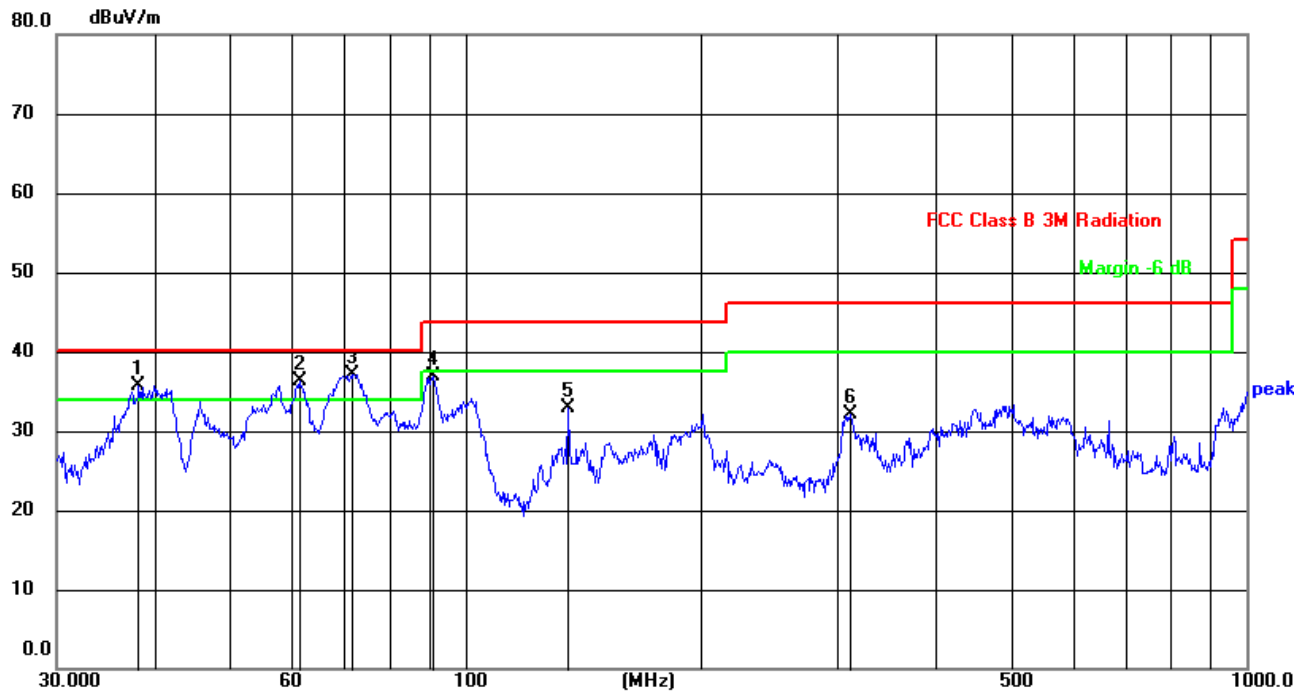
Temperature:	23.3°C	Relative Humidity:	56%
Pressure:	101.2kPa	Test Voltage :	DC 19V
Test Mode :	5.8G TX- 802.11a (5785MHz)		

Horizontal:



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	91.1744	62.05	-25.38	36.67	43.50	-6.83	QP
2	184.4898	57.05	-22.78	34.27	43.50	-9.23	QP
3	269.4282	56.55	-21.73	34.82	46.00	-11.18	QP
4	308.9125	57.30	-19.90	37.40	46.00	-8.60	QP
5	929.0081	38.76	-4.50	34.26	46.00	-11.74	QP
6	1000.0000	38.69	-3.36	35.33	54.00	-18.67	QP

Vertical:



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	38.2120	56.90	-21.22	35.68	40.00	-4.32	QP
2	61.3462	59.06	-22.77	36.29	40.00	-3.71	QP
3	71.5805	61.61	-24.47	37.14	40.00	-2.86	QP
4	90.8554	62.26	-25.38	36.88	43.50	-6.62	QP
5	135.5061	54.91	-22.04	32.87	43.50	-10.63	QP
6	311.0865	51.91	-19.83	32.08	46.00	-13.92	QP

Remarks:

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



Above 1GHz:

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

Temperature:	23.3°C	Relative Humidity:	56%
Pressure:	101.2kPa	Test Voltage :	DC 19V
Test Mode :	5.2G TX- 802.11a		

Polar (H/V)	Frequency	Meter Reading	Pre- amplifier	Cable Loss	Antenna Factor	Emission Level	Limits	Margin	Detect or Type
	MHz	dBuV	dB	dB	dB	dBuV/m	dBuV/m	dB	
Low Channel:5180MHz									
V	10360.00	48.13	46.20	8.27	38.50	48.70	68.20	-19.50	PK
V	10360.00	38.56	46.20	8.27	38.50	39.13	54.00	-14.87	AV
V	15540.00	45.35	46.30	10.35	38.70	48.10	74.00	-25.90	PK
V	15540.00	35.74	46.30	10.35	38.70	38.49	54.00	-15.51	AV
V	20720.00	54.08	57.40	11.93	37.80	46.41	68.20	-21.80	PK
V	20720.00	44.48	57.40	11.93	37.80	36.81	54.00	-17.19	AV
V	25900.00	51.82	56.50	13.45	39.70	48.47	68.20	-19.73	PK
V	25900.00	41.84	56.50	13.45	39.70	38.49	54.00	-15.51	AV
V	31080.00	48.04	56.10	16.12	41.60	49.66	68.20	-18.54	PK
V	31080.00	41.15	56.10	16.12	41.60	42.77	54.00	-11.23	AV
V	36260.00	44.85	56.80	18.29	42.80	49.84	68.20	-18.36	PK
V	36260.00	39.14	56.80	18.29	42.80	44.13	54.00	-9.87	AV
H	10360.00	48.06	46.20	8.27	38.50	48.63	68.20	-19.57	PK
H	10360.00	37.26	46.20	8.27	38.50	37.83	54.00	-16.17	AV
H	15540.00	44.42	46.30	10.35	38.70	47.17	74.00	-26.83	PK
H	15540.00	33.43	46.30	10.35	38.70	36.18	54.00	-17.82	AV
H	20720.00	56.20	57.40	11.93	37.80	48.53	68.20	-19.67	PK
H	20720.00	45.32	57.40	11.93	37.80	37.65	54.00	-16.35	AV
H	25900.00	52.79	56.50	13.45	39.70	49.44	68.20	-18.76	PK
H	25900.00	41.87	56.50	13.45	39.70	38.52	54.00	-15.48	AV
H	31080.00	48.34	56.10	16.12	41.60	49.96	68.20	-18.24	PK
H	31080.00	42.80	56.10	16.12	41.60	44.42	54.00	-9.58	AV
H	36260.00	43.80	56.80	18.29	42.80	48.79	68.20	-19.41	PK
H	36260.00	39.12	56.80	18.29	42.80	44.11	54.00	-9.89	AV



Polar (H/V)	Frequency	Meter Reading	Pre- amplifier	Cable Loss	Antenna Factor	Emission Level	Limits	Margin	Detect or Type
	(MHz)	(dBuV)	(dB)	(dB)	(dB)	(dBuV/m)	(dBuV/m)	(dB)	
Middle Channel:5200MHz									
V	10400.00	47.23	46.20	8.27	38.50	47.80	68.20	-20.40	PK
V	10400.00	38.34	46.20	8.27	38.50	38.91	54.00	-15.09	AV
V	15600.00	45.66	46.30	10.35	38.40	48.11	74.00	-25.89	PK
V	15600.00	37.21	46.30	10.35	38.40	39.66	54.00	-14.34	AV
V	20800.00	55.23	57.40	11.93	37.80	47.56	68.20	-20.64	PK
V	20800.00	45.93	57.40	11.93	37.80	38.26	54.00	-15.74	AV
V	26000.00	50.54	56.50	13.45	39.80	47.29	68.20	-20.91	PK
V	26000.00	43.03	56.50	13.45	39.80	39.78	54.00	-14.22	AV
V	31200.00	48.02	56.10	16.12	41.60	49.64	68.20	-18.56	PK
V	31200.00	43.00	56.10	16.12	41.60	44.62	54.00	-9.38	AV
V	36400.00	44.28	56.80	18.29	42.80	49.27	68.20	-18.93	PK
V	36400.00	39.65	56.80	18.29	42.80	44.64	54.00	-9.36	AV
H	10400.00	47.79	46.20	8.27	38.50	48.36	68.20	-19.84	PK
H	10400.00	38.58	46.20	8.27	38.50	39.15	54.00	-14.85	AV
H	15600.00	45.65	46.30	10.35	38.40	48.10	74.00	-25.90	PK
H	15600.00	37.21	46.30	10.35	38.40	39.66	54.00	-14.34	AV
H	20800.00	54.22	57.40	11.93	37.80	46.55	68.20	-21.65	PK
H	20800.00	43.91	57.40	11.93	37.80	36.24	54.00	-17.76	AV
H	26000.00	50.29	56.50	13.45	39.80	47.04	68.20	-21.16	PK
H	26000.00	42.27	56.50	13.45	39.80	39.02	54.00	-14.98	AV
H	31200.00	48.36	56.10	16.12	41.60	49.98	68.20	-18.22	PK
H	31200.00	42.92	56.10	16.12	41.60	44.54	54.00	-9.46	AV
H	36400.00	44.28	56.80	18.29	42.80	49.27	68.20	-18.93	PK
H	36400.00	39.73	56.80	18.29	42.80	44.72	54.00	-9.28	AV

Polar (H/V)	Frequency	Meter Reading	Pre- amplifier	Cable Loss	Antenna Factor	Emission Level	Limits	Margin	Detect or Type
	(MHz)	(dBuV)	(dB)	(dB)	(dB)	(dBuV/m)	(dBuV/m)	(dB)	
High Channel:5240MHz									
V	10480.00	44.17	46.20	8.27	38.60	44.84	68.20	-23.36	PK
V	10480.00	34.57	46.20	8.27	38.60	35.24	54.00	-18.76	AV
V	15720.00	41.84	46.30	10.35	38.40	44.29	74.00	-29.71	PK
V	15720.00	32.40	46.30	10.35	38.40	34.85	54.00	-19.15	AV
V	20960.00	51.52	57.40	11.93	37.50	43.55	68.20	-24.65	PK
V	20960.00	43.31	57.40	11.93	37.50	35.34	54.00	-18.66	AV
V	26200.00	47.67	56.50	13.45	40.10	44.72	68.20	-23.48	PK
V	26200.00	38.64	56.50	13.45	40.10	35.69	54.00	-18.31	AV
V	31440.00	48.27	56.10	16.12	41.30	49.59	68.20	-18.61	PK
V	31440.00	42.86	56.10	16.12	41.30	44.18	54.00	-9.82	AV
V	36680.00	43.38	56.80	18.29	43.10	48.67	68.20	-19.53	PK
V	36680.00	38.53	56.80	18.29	43.10	43.82	54.00	-10.18	AV
H	10480.00	44.39	46.20	8.27	38.60	45.06	68.20	-23.14	PK
H	10480.00	34.57	46.20	8.27	38.60	35.24	54.00	-18.76	AV
H	15720.00	42.14	46.30	10.35	38.40	44.59	74.00	-29.41	PK
H	15720.00	32.49	46.30	10.35	38.40	34.94	54.00	-19.06	AV
H	20960.00	51.71	57.40	11.93	37.50	43.74	68.20	-24.46	PK
H	20960.00	43.20	57.40	11.93	37.50	35.23	54.00	-18.77	AV
H	26200.00	47.39	56.50	13.45	40.10	44.44	68.20	-23.76	PK
H	26200.00	38.04	56.50	13.45	40.10	35.09	54.00	-18.91	AV
H	31440.00	47.73	56.10	16.12	41.30	49.05	68.20	-19.15	PK
H	31440.00	42.56	56.10	16.12	41.30	43.88	54.00	-10.12	AV
H	36680.00	44.22	56.80	18.29	43.10	49.51	68.20	-18.69	PK
H	36680.00	39.54	56.80	18.29	43.10	44.83	54.00	-9.17	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:	23.3°C	Relative Humidity:	56%
Pressure:	101.2kPa	Test Voltage :	DC 19V
Test Mode :	5.8G TX- 802.11a		

Polar (H/V)	Frequency	Meter Reading	Pre- amplifier	Cable Loss	Antenn Factor	Emission Level	Limits	Margin	Detect or Typ
	(MHz)	(dBuV)	(dB)	(dB)	(dB)	(dBuV/m)	(dBuV/m)	(dB)	
Low Channel:5745MHz									
V	11490.00	43.52	46.10	8.77	39.10	45.29	74.00	-28.71	PK
V	11490.00	35.97	46.10	8.77	39.10	37.74	54.00	-16.26	AV
V	17235.00	41.29	47.60	11.10	38.70	43.49	68.20	-24.71	PK
V	17235.00	34.53	47.60	11.10	38.70	36.73	54.00	-17.27	AV
V	22980.00	49.39	56.90	12.73	37.70	42.92	74.00	-31.08	PK
V	22980.00	41.94	56.90	12.73	37.70	35.47	54.00	-18.53	AV
V	28725.00	46.42	55.60	14.25	40.30	45.37	68.20	-22.83	PK
V	28725.00	38.53	55.60	14.25	40.30	37.48	54.00	-16.52	AV
V	34470.00	46.29	55.90	17.26	42.10	49.75	68.20	-18.45	PK
V	34470.00	41.27	55.90	17.26	42.10	44.73	54.00	-9.27	AV
H	11490.00	43.97	46.10	8.77	39.10	45.74	74.00	-28.26	PK
H	11490.00	35.79	46.10	8.77	39.10	37.56	54.00	-16.44	AV
H	17235.00	42.23	47.60	11.10	38.70	44.43	68.20	-23.77	PK
H	17235.00	34.89	47.60	11.10	38.70	37.09	54.00	-16.91	AV
H	22980.00	51.44	56.90	12.73	37.70	44.97	74.00	-29.03	PK
H	22980.00	41.74	56.90	12.73	37.70	35.27	54.00	-18.73	AV
H	28725.00	48.25	55.60	14.25	40.30	47.20	68.20	-21.00	PK
H	28725.00	39.12	55.60	14.25	40.30	38.07	54.00	-15.93	AV
H	34470.00	46.35	55.90	17.26	42.10	49.81	68.20	-18.39	PK
H	34470.00	41.11	55.90	17.26	42.10	44.57	54.00	-9.43	AV



Polar (H/V)	Frequency	Meter Reading	Pre- amplifier	Cable Loss	Antenna Factor	Emission Level	Limits	Margin	Detect or Type
	(MHz)	(dBuV)	(dB)	(dB)	(dB)	(dBuV/m)	(dBuV/m)	(dB)	
Middle Channel:5785MHz									
V	11570.00	43.34	46.10	8.77	39.10	45.11	74.00	-28.89	PK
V	11570.00	35.78	46.10	8.77	39.10	37.55	54.00	-16.45	AV
V	17355.00	41.12	47.60	11.10	38.70	43.32	68.20	-24.88	PK
V	17355.00	34.32	47.60	11.10	38.70	36.52	54.00	-17.48	AV
V	23140.00	49.21	56.90	12.73	37.70	42.74	74.00	-31.26	PK
V	23140.00	41.78	56.90	12.73	37.70	35.31	54.00	-18.69	AV
V	28925.00	46.24	55.60	14.25	40.30	45.19	68.20	-23.01	PK
V	28925.00	38.34	55.60	14.25	40.30	37.29	54.00	-16.71	AV
V	34710.00	46.03	55.90	17.26	42.40	49.79	68.20	-18.41	PK
V	34710.00	40.45	55.90	17.26	42.40	44.21	54.00	-9.79	AV
H	11570.00	43.79	46.10	8.77	39.10	45.56	74.00	-28.44	PK
H	11570.00	35.61	46.10	8.77	39.10	37.38	54.00	-16.62	AV
H	17355.00	42.07	47.60	11.10	38.70	44.27	68.20	-23.93	PK
H	17355.00	34.72	47.60	11.10	38.70	36.92	54.00	-17.08	AV
H	23140.00	51.24	56.90	12.73	37.70	44.77	74.00	-29.23	PK
H	23140.00	41.58	56.90	12.73	37.70	35.11	54.00	-18.89	AV
H	28925.00	48.08	55.60	14.25	40.30	47.03	68.20	-21.17	PK
H	28925.00	38.93	55.60	14.25	40.30	37.88	54.00	-16.12	AV
H	34710.00	45.08	55.90	17.26	42.40	48.84	68.20	-19.36	PK
H	34710.00	40.56	55.90	17.26	42.40	44.32	54.00	-9.68	AV

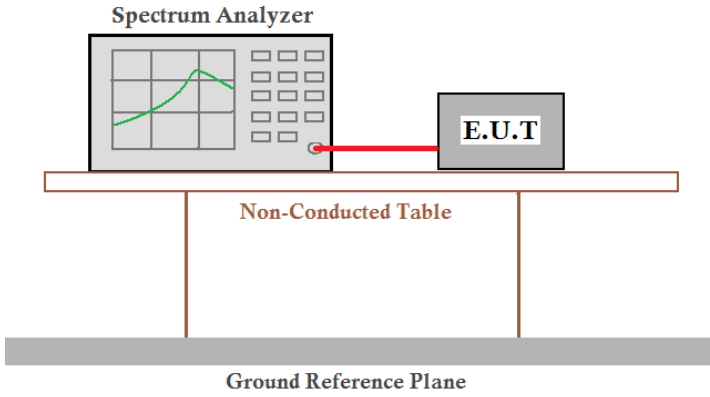


Polar (H/V)	Frequency	Meter Reading	Pre- amplifier	Cable Loss	Antenna Factor	Emission Level	Limits	Margin	Detect or Type
	(MHz)	(dBuV)	(dB)	(dB)	(dB)	(dBuV/m)	(dBuV/m)	(dB)	
High Channel:5825MHz									
V	11650.00	44.35	46.10	8.77	39.10	46.12	74.00	-27.88	PK
V	11650.00	35.97	46.10	8.77	39.10	37.74	54.00	-16.26	AV
V	17475.00	42.37	47.90	11.23	38.90	44.60	68.20	-23.60	PK
V	17475.00	35.29	47.90	11.23	38.90	37.52	54.00	-16.48	AV
V	23300.00	51.37	57.10	12.73	37.80	44.80	68.20	-23.40	PK
V	23300.00	42.64	57.10	12.73	37.80	36.07	54.00	-17.93	AV
V	29125.00	48.33	55.80	14.25	40.50	47.28	68.20	-20.92	PK
V	29125.00	40.10	55.80	14.25	40.50	39.05	54.00	-14.95	AV
V	34950.00	45.32	56.30	17.91	42.50	49.43	68.20	-18.77	PK
V	34950.00	40.50	56.30	17.91	42.50	44.61	54.00	-9.39	AV
H	11650.00	46.22	46.10	8.77	39.10	47.99	74.00	-26.01	PK
H	11650.00	38.17	46.10	8.77	39.10	39.94	54.00	-14.06	AV
H	17475.00	43.51	47.90	11.23	38.90	45.74	68.20	-22.46	PK
H	17475.00	36.46	47.90	11.23	38.90	38.69	54.00	-15.31	AV
H	23300.00	52.65	57.10	12.73	37.80	46.08	68.20	-22.12	PK
H	23300.00	43.99	57.10	12.73	37.80	37.42	54.00	-16.58	AV
H	29125.00	49.31	55.80	14.25	40.50	48.26	68.20	-19.94	PK
H	29125.00	40.78	55.80	14.25	40.50	39.73	54.00	-14.27	AV
H	34950.00	45.36	56.30	17.91	42.50	49.47	68.20	-18.73	PK
H	34950.00	40.38	56.30	17.91	42.50	44.49	54.00	-9.51	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.: 23.3°C	Humid.:56%RH
Test voltage:	DC 19V	
Test results:	Pass	

Remark:

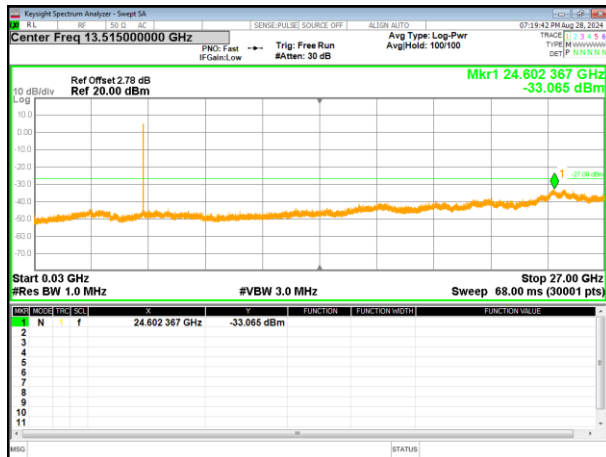
1. Antenna gain and cable loss data included in Offset.
2. We tested 30MHz-40GHz frequency and found 27GHz-40GHz test data was very lower (close to the noise of the spectrum analyzer). The test report only showed data for 30MHz-27GHz.



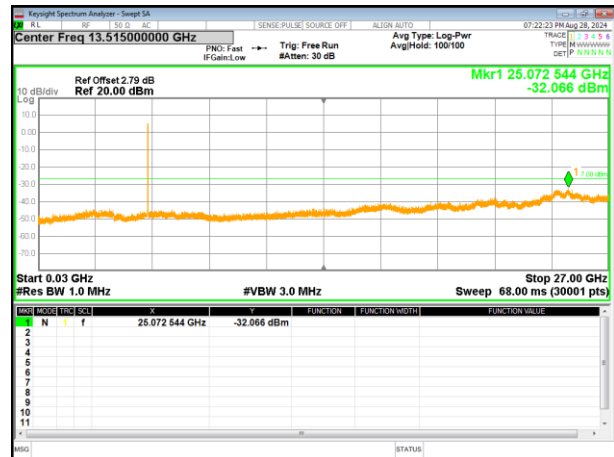
5180-5240MHz

Test Plot

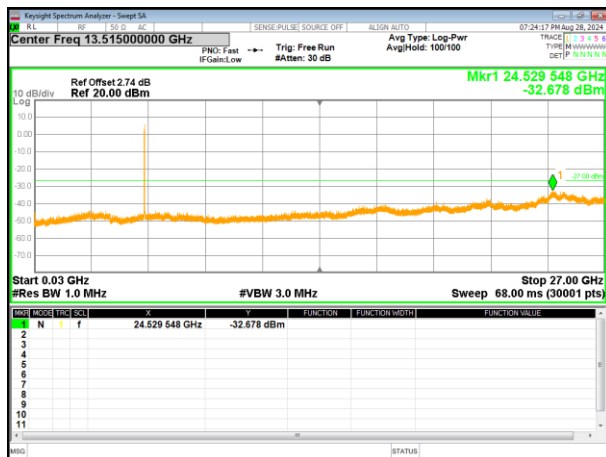
802.11a on channel 36



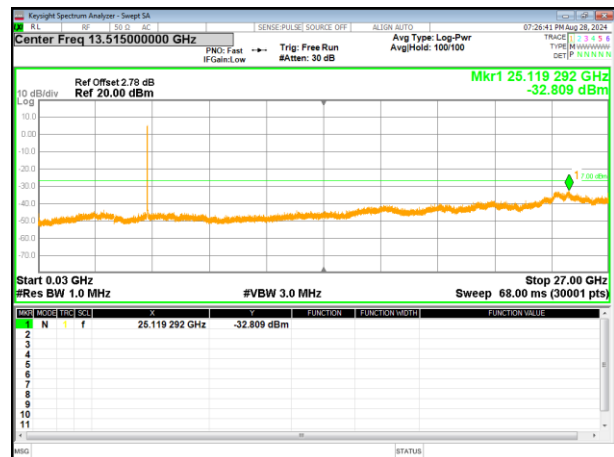
802.11a on channel 40



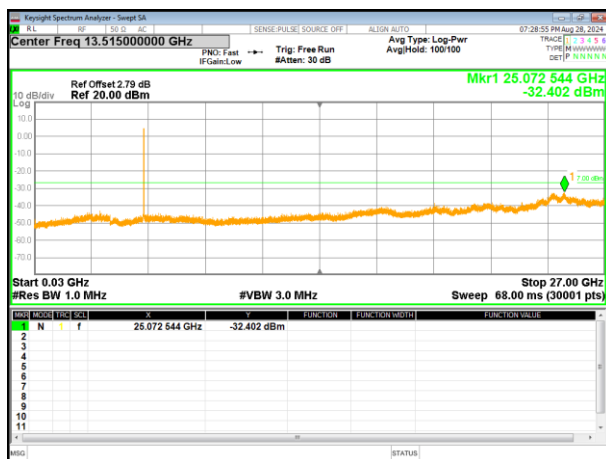
802.11a on channel 48



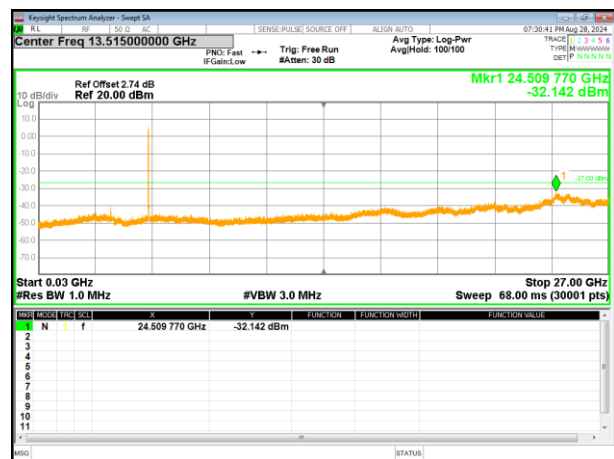
802.11n20 on channel 36



802.11n20 on channel 40

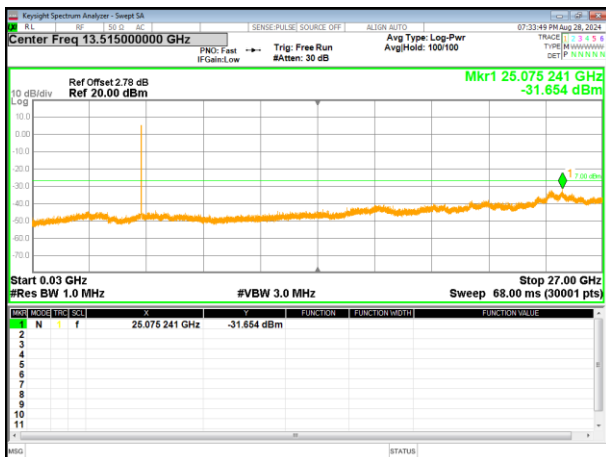


802.11n20 on channel 48

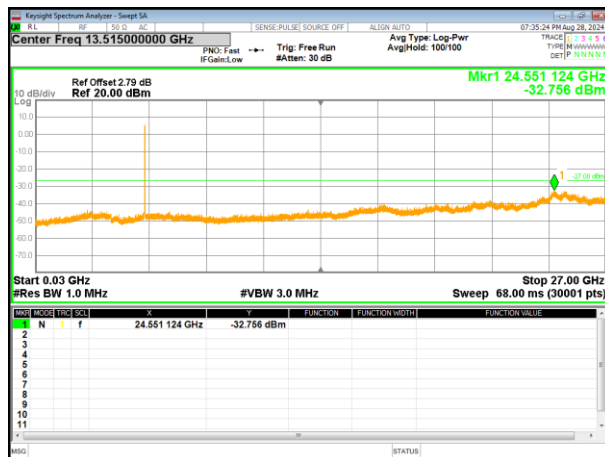


Test Plot

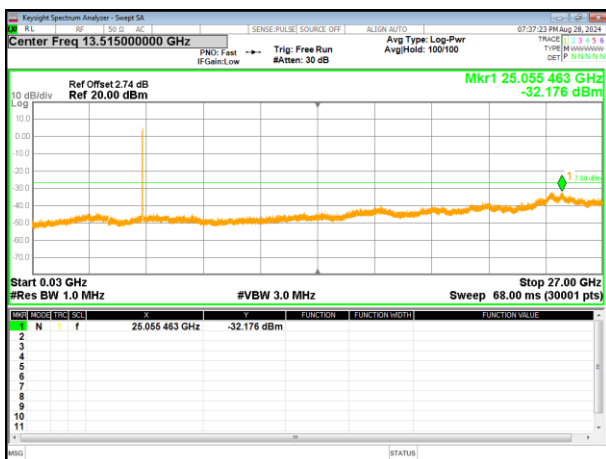
802.11ac20 on channel 36



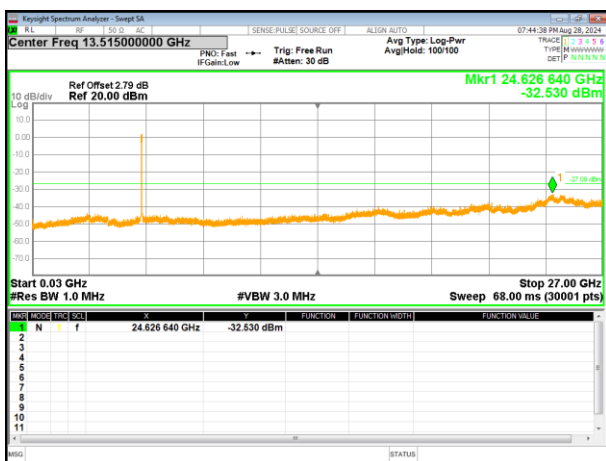
802.11ac20 on channel 40



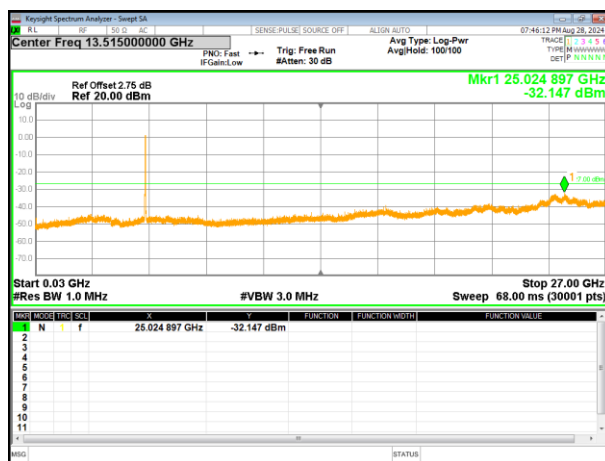
802.11ac20 on channel 48



802.11n40 on channel 38

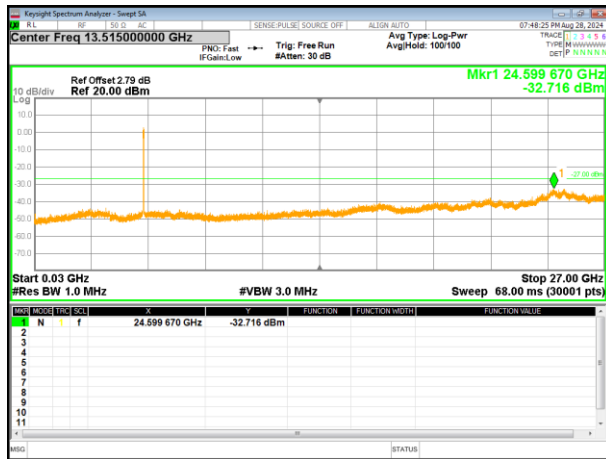


802.11n40 on channel 46

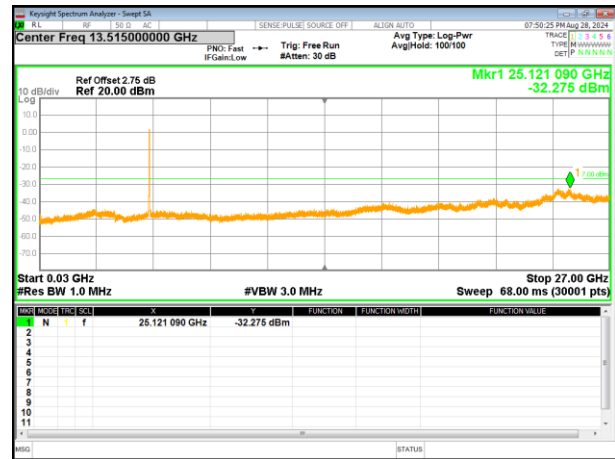


Test Plot

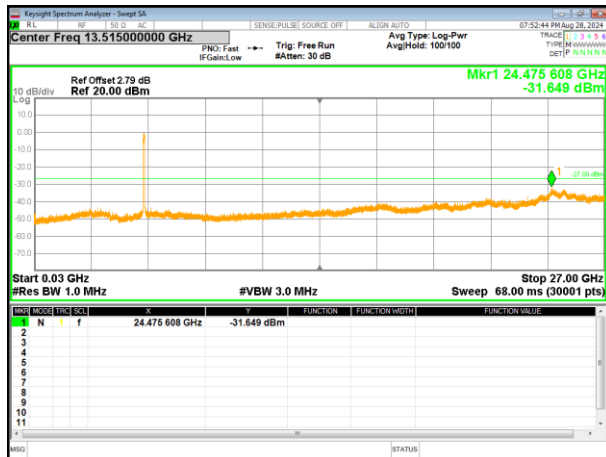
802.11ac40 on channel 38



802.11ac40 on channel 46



802.11ac80 on channel 42

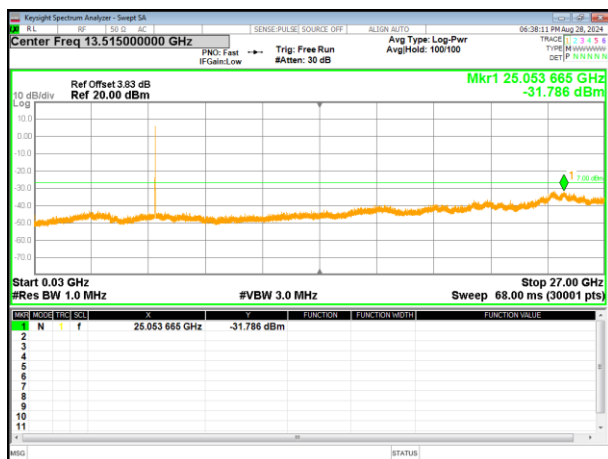




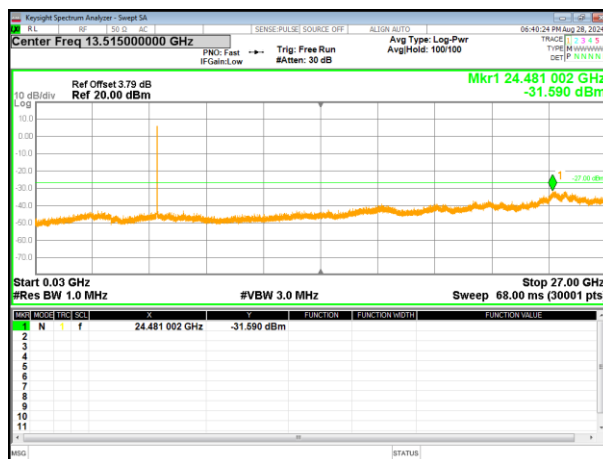
5745-5825MHz

Test Plot

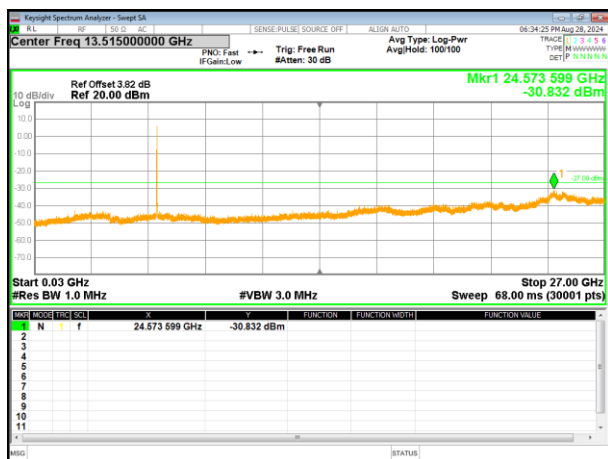
802.11a on channel 149



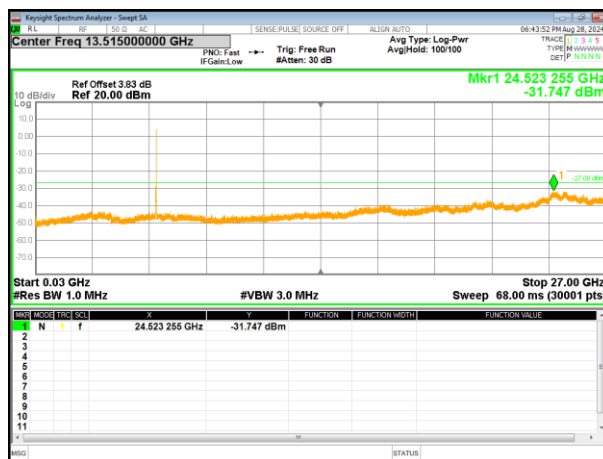
802.11a on channel 157



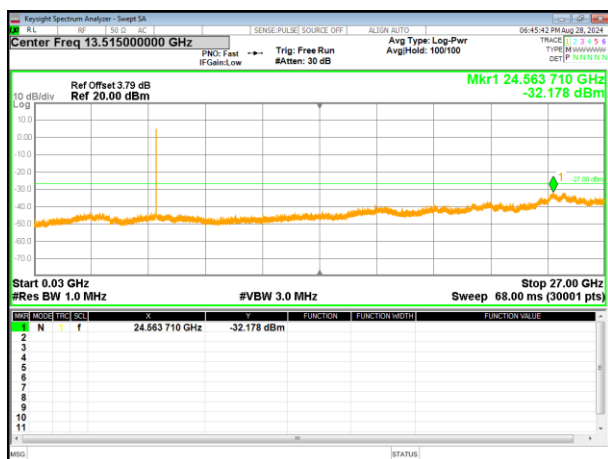
802.11a on channel 165



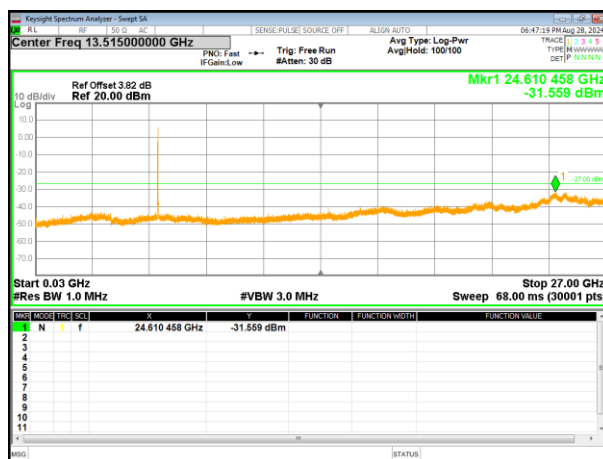
802.11n20 on channel 149



802.11n20 on channel 157

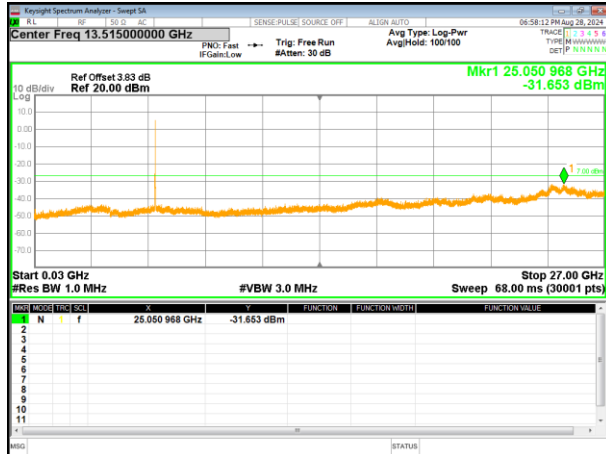


802.11n20 on channel 165

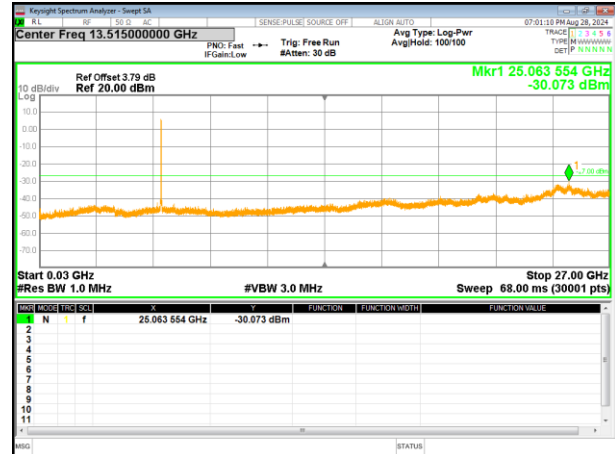


Test Plot

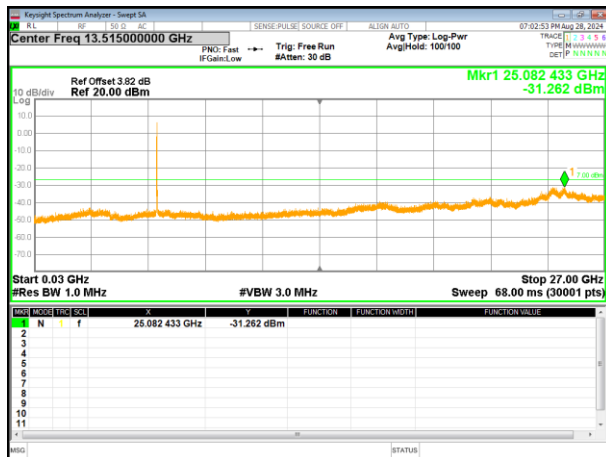
802.11ac20 on channel 149



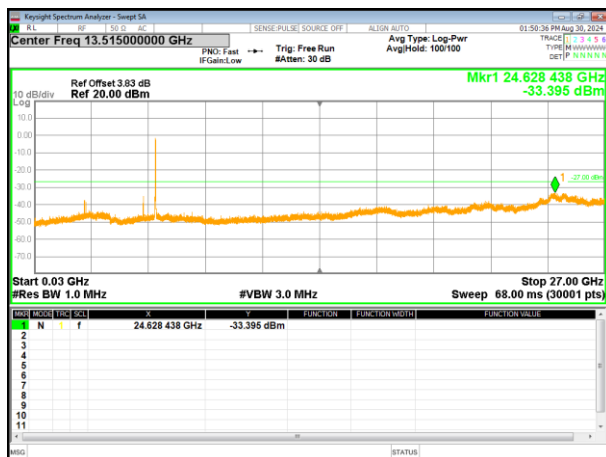
802.11ac20 on channel 157



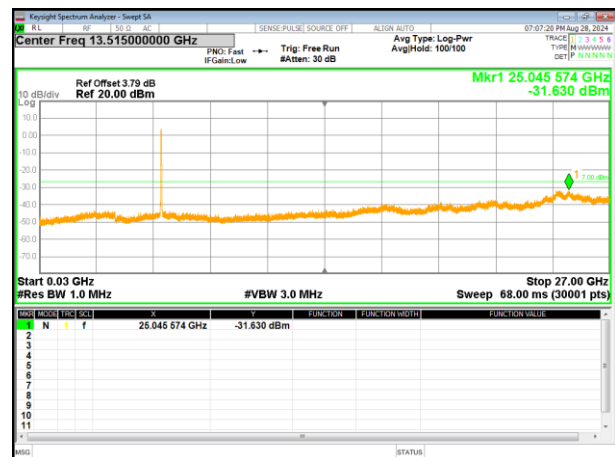
802.11ac20 on channel 165



802.11n40 on channel 151

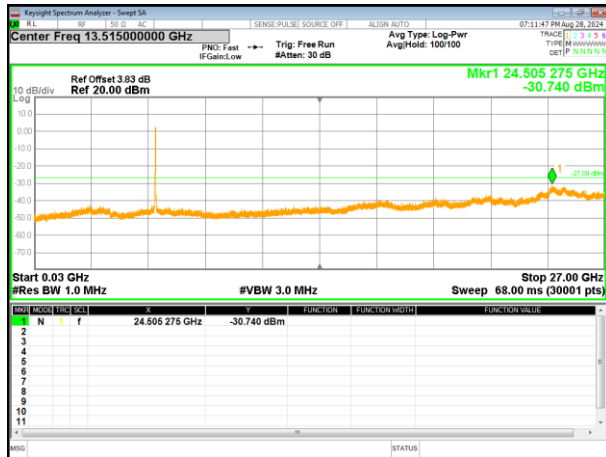


802.11n40 on channel 159

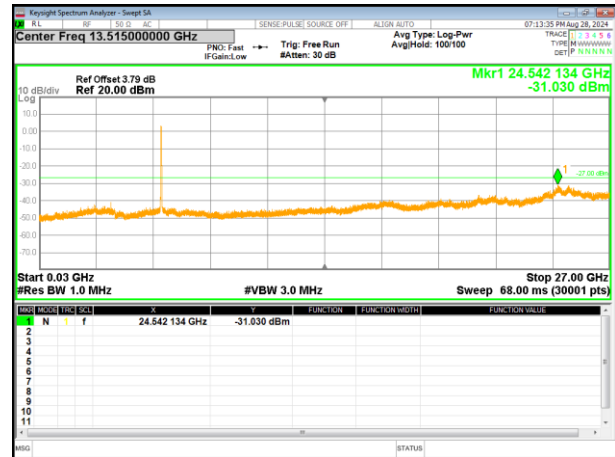


Test Plot

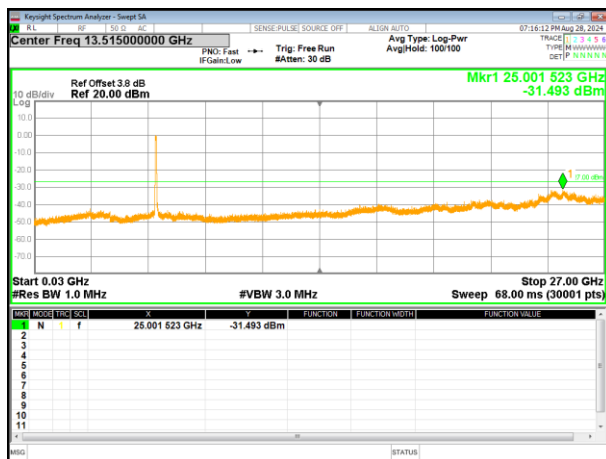
802.11ac40 on channel 151



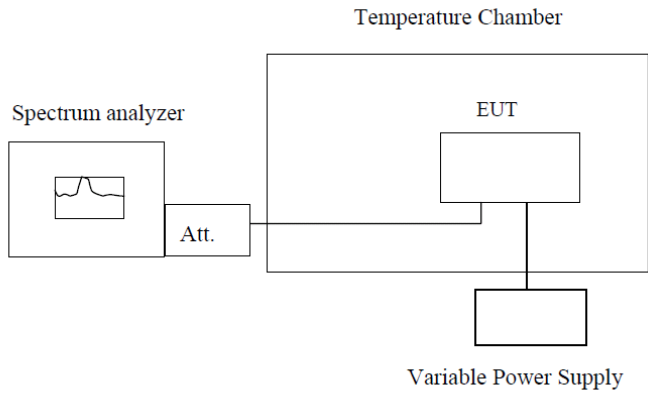
802.11ac40 on channel 159



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 Measured Frequency (MHz)	2 minute Measured Frequency (MHz)	5 minute Measured Frequency (MHz)	10 minute Measured Frequency (MHz)
-30	5180	5180.112	5179.825	5180.430	5180.213
	5190	5190.101	5199.840	5200.306	5190.224
	5200	5200.104	5199.825	5200.331	5200.215
	5210	5210.109	5209.803	5210.309	5210.217
	5220	5220.103	5219.818	5220.325	5220.222
	5230	5230.102	5229.811	5230.317	5230.240
	5240	5240.074	5239.820	5240.326	5240.226
-20	5180	5180.105	5179.801	5180.315	5180.234
	5190	5190.095	5189.792	5190.315	5190.230
	5200	5200.103	5199.800	5200.309	5200.225
	5210	5210.094	5209.792	5210.299	5210.232
	5220	5220.114	5219.813	5220.310	5220.225
	5230	5230.093	5229.791	5300.309	5230.223
	5240	5240.110	5239.810	5240.312	5240.197
-10	5180	5180.114	5179.810	5180.294	5180.213
	5190	5190.109	5189.806	5190.306	5190.224
	5200	5200.104	5199.801	5200.297	5200.215
	5210	5210.109	5209.807	5210.298	5210.217
	5220	5220.103	5219.802	5220.306	5220.222
	5230	5230.102	5229.800	5230.323	5230.240
	5240	5240.074	5239.774	5240.296	5240.213
0	5180	5179.891	5179.789	5180.306	5180.224
	5190	5200.062	5189.800	5190.298	5190.225
	5200	5200.060	5199.791	5200.306	5200.216
	5210	5210.114	5209.792	5210.298	5300.224
	5220	5220.102	5219.799	5220.320	5220.215
	5230	5230.090	5229.817	5230.297	5230.236
	5240	5240.106	5239.790	5240.316	5240.215
10	5180	5180.093	5179.801	5180.315	5180.225
	5190	5190.103	5189.792	5190.312	5190.216
	5200	5200.094	5199.800	5200.307	5200.224

	5210	5210.094	5209.792	5210.313	5210.217
	5220	5220.100	5219.813	5220.309	5220.236
	5230	5230.119	5229.791	5230.306	5230.214
	5240	5240.103	5239.810	5240.280	5240.233
20	5180	5180.171	5179.054	5180.564	5179.987
	5190	5190.113	5189.843	5190.609	5190.252
	5200	5200.108	5199.834	5200.618	5200.277
	5210	5210.113	5299.844	5210.611	5210.262
	5220	5220.107	5219.834	5220.633	5220.252
	5230	5230.106	5229.855	5230.611	5230.280
	5240	5240.078	5239.834	5240.630	5240.269
30	5180	5180.097	5179.842	5180.617	5180.270
	5190	5190.107	5189.834	5190.609	5180.270
	5200	5200.098	5199.842	5200.618	5190.266
	5210	5210.098	5209.834	5210.611	5200.261
	5220	5220.104	5219.855	5220.633	5210.268
	5230	5230.123	5229.833	5230.611	5220.262
	5240	5240.094	5239.852	5240.630	5230.260
40	5180	5180.109	5179.841	5180.403	5180.249
	5190	5190.099	5189.843	5200.577	5190.260
	5200	5200.107	5199.834	5200.575	5200.251
	5210	5210.098	5299.844	5210.631	5210.253
	5220	5220.118	5219.834	5220.621	5220.259
	5230	5230.097	5229.855	5230.608	5230.277
	5240	5240.114	5239.834	5240.626	5240.250
50	5180	5180.109	5179.842	5180.617	5180.222
	5190	5190.099	5189.834	5190.609	5190.252
	5200	5200.107	5199.842	5200.618	5200.277
	5210	5210.098	5209.834	5210.611	5210.262
	5220	5220.118	5219.855	5220.633	5220.252
	5230	5230.097	5229.833	5230.611	5230.280
	5240	5240.114	5239.852	5240.630	5240.269

Frequency stability versus Voltage					
Temperature: 25°C					
Power Supply (VDC)	Operating Frequency (MHz)	0 minute	2 minute	5 minute	10 minute
		Measured Frequency (MHz)	Measured Frequency (MHz)	Measured Frequency (MHz)	Measured Frequency (MHz)
DC 16.15V	5180	5180.014	5179.845	5180.637	5180.390
	5190	5190.009	5199.839	5190.629	5200.265
	5200	5200.004	5199.867	5200.638	5200.290
	5210	5210.009	5209.845	5210.631	5210.269
	5220	5220.003	5219.860	5220.653	5220.283
	5230	5230.001	5229.853	5230.631	5230.276
	5240	5239.973	5239.862	5240.646	5240.285
DC 19V	5180	5180.000	5179.860	5180.636	5180.275
	5190	5189.995	5179.966	5190.638	5190.274
	5200	5200.003	5199.842	5200.630	5200.268
	5210	5209.995	5209.867	5300.646	5210.259
	5220	5220.014	5219.845	5220.632	5220.268
	5230	5229.992	5229.860	5230.652	5300.267
	5240	5240.009	5239.854	5240.632	5240.271
DC 21.85V	5180	5180.014	5179.851	5180.625	5180.254
	5190	5190.009	5189.848	5190.637	5190.265
	5200	5200.004	5199.843	5200.629	5200.255
	5210	5210.009	5209.849	5210.631	5210.258
	5220	5220.003	5219.844	5220.639	5220.264
	5230	5230.001	5229.842	5230.657	5230.287
	5240	5239.973	5239.816	5240.630	5240.255

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	5744.956	5744.852	5745.674	5745.264
	5755	5754.965	5754.858	5755.682	5755.252
	5775	5774.985	5774.851	5775.701	5775.264
	5785	5784.960	5784.844	5785.677	5785.270
	5795	5794.956	5794.851	5795.674	5795.289
	5825	5824.952	5824.781	5825.680	5825.281
-20	5745	5744.953	5744.863	5745.668	5745.275
	5755	5754.967	5754.864	5755.694	5755.288
	5775	5774.965	5774.868	5775.677	5775.274
	5785	5784.967	5784.861	5785.686	5785.260
	5795	5794.977	5794.852	5795.685	5795.255
	5825	5824.957	5824.862	5825.698	5825.289
-10	5745	5744.963	5744.853	5745.684	5744.894
	5755	5754.988	5754.859	5755.687	5755.277
	5775	5774.983	5774.877	5775.692	5775.279
	5785	5784.966	5784.854	5785.684	5785.281
	5795	5794.955	5794.850	5795.676	5795.265
	5825	5824.888	5824.853	5825.688	5825.261
0	5745	5744.957	5744.842	5745.684	5745.265
	5755	5754.981	5754.857	5755.687	5755.290
	5775	5774.961	5774.857	5775.692	5775.287
	5785	5784.969	5784.861	5785.684	5785.270
	5795	5794.967	5794.874	5795.676	5795.260
	5825	5824.975	5824.854	5825.688	5825.195
10	5745	5744.957	5744.852	5745.673	5745.260
	5755	5754.981	5754.868	5755.681	5755.271
	5775	5774.961	5774.870	5775.675	5775.289
	5785	5784.969	5784.853	5785.667	5785.264
	5795	5794.967	5794.870	5795.675	5795.261
	5825	5824.975	5824.869	5825.607	5825.264
20	5745	5744.973	5744.877	5745.682	5745.264
	5755	5754.986	5754.848	5755.699	5755.282
	5775	5774.970	5774.872	5775.686	5775.263
	5785	5784.956	5784.873	5785.673	5785.289
	5795	5794.950	5794.864	5795.668	5795.282
	5825	5824.982	5824.880	5825.705	5825.291
30	5745	5744.963	5744.863	5745.667	5745.289
	5755	5754.969	5754.864	5755.691	5755.260
	5775	5774.985	5774.868	5775.694	5775.284
	5785	5784.960	5784.861	5785.676	5785.283
	5795	5794.956	5794.852	5795.694	5795.275
	5825	5824.957	5824.862	5825.695	5825.290
40	5745	5744.973	5744.847	5745.684	5745.258



	5755	5754.986	5754.871	5755.687	5755.290
	5775	5774.970	5774.853	5775.692	5775.287
	5785	5784.956	5784.863	5785.684	5785.270
	5795	5794.950	5794.861	5795.676	5795.260
	5825	5824.982	5824.872	5825.688	5825.195
50	5745	5744.973	5744.877	5745.684	5745.264
	5755	5754.966	5754.848	5755.698	5755.282
	5775	5774.970	5774.872	5775.686	5775.263
	5785	5784.956	5784.873	5785.673	5785.290
	5795	5794.950	5794.863	5795.668	5795.282
	5825	5824.982	5824.884	5825.705	5825.291

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	5745.067	5744.852	5745.653	5745.253
	5755	5755.082	5754.858	5755.671	5755.277
	5775	5775.081	5774.851	5775.674	5775.259
	5785	5785.083	5784.844	5785.656	5785.267
	5795	5795.094	5794.851	5795.675	5795.266
	5825	5825.074	5824.781	5825.675	5825.276
DC 19V	5745	5745.067	5744.863	5745.648	5745.269
	5755	5755.082	5754.864	5755.674	5755.282
	5775	5775.081	5774.868	5775.657	5775.268
	5785	5785.083	5784.861	5785.666	5785.254
	5795	5795.090	5794.852	5795.665	5795.249
	5825	5825.074	5824.862	5825.678	5825.283
DC 21.85V	5745	5745.088	5744.876	5745.664	5745.258
	5755	5755.101	5754.848	5755.679	5755.276
	5775	5775.086	5774.872	5775.666	5775.257
	5785	5785.072	5784.873	5785.653	5785.283
	5795	5795.066	5794.864	5795.648	5795.276
	5825	5825.099	5824.880	5825.685	5825.285



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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