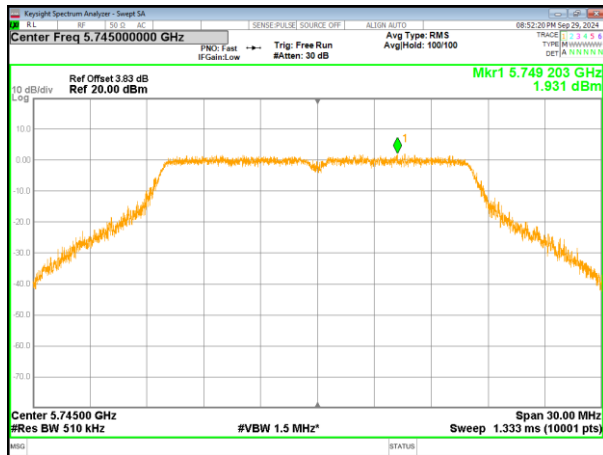
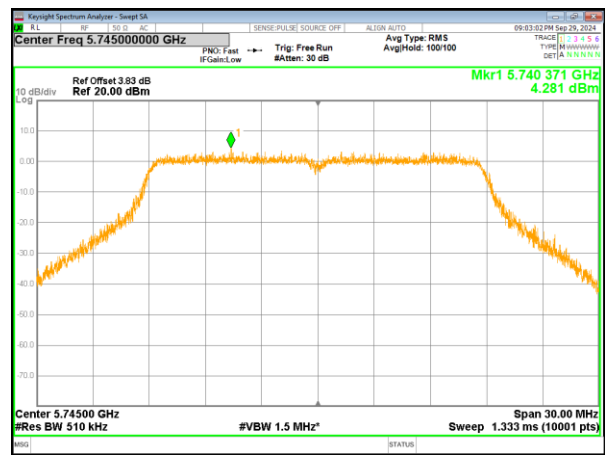


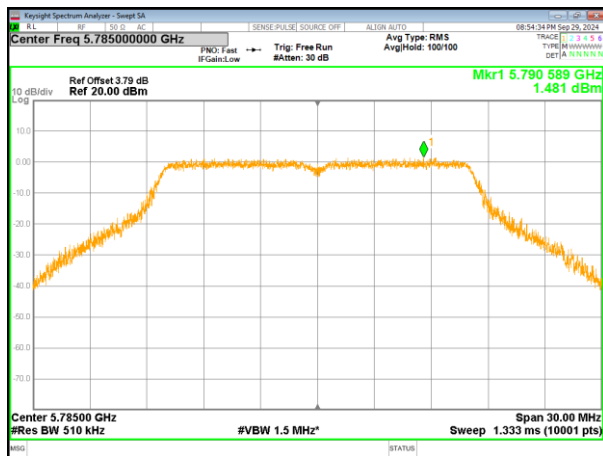
(802.11a) PSD plot on channel 149



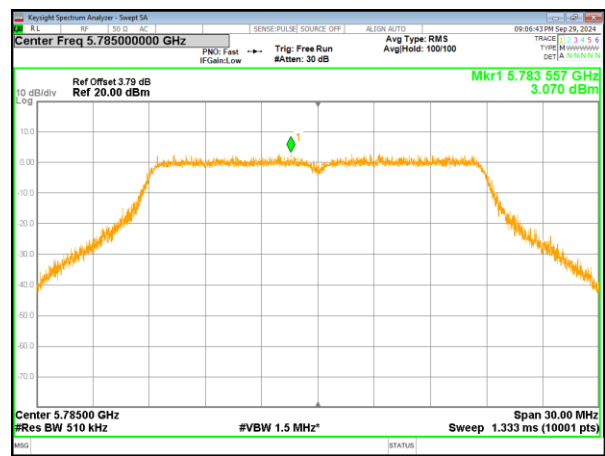
(802.11n20) PSD plot on channel 149



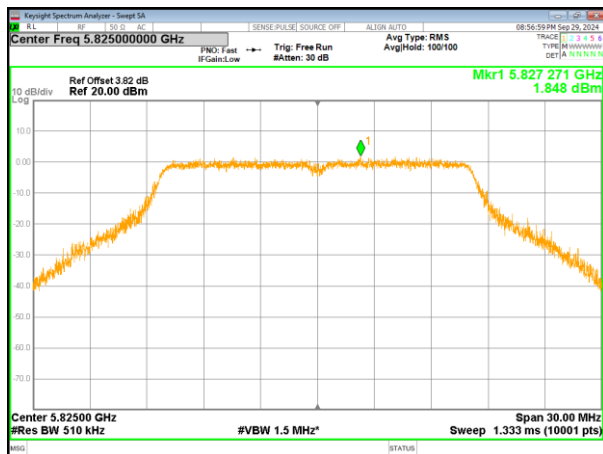
(802.11a) PSD plot on channel 157



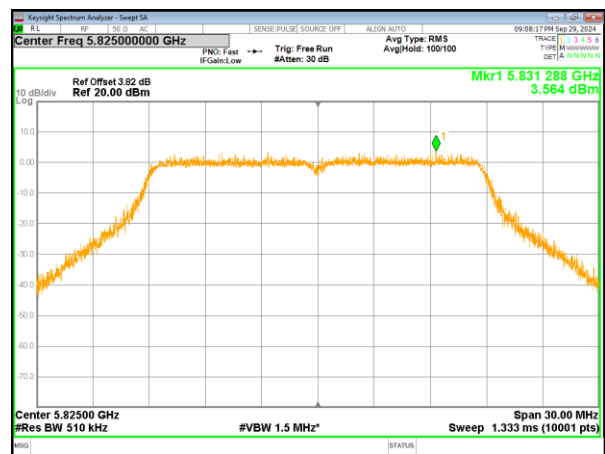
(802.11n20) PSD plot on channel 157



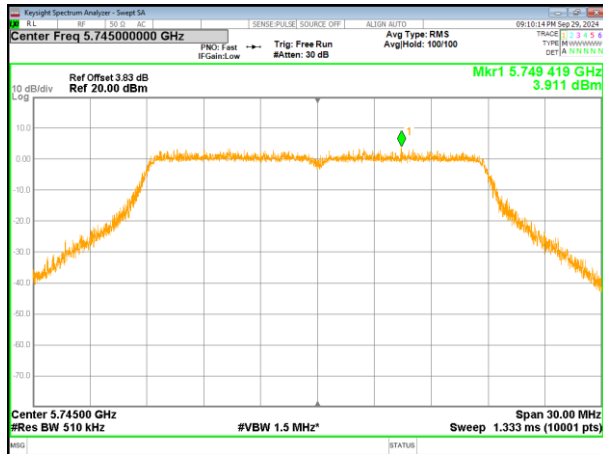
(802.11a) PSD plot on channel 165



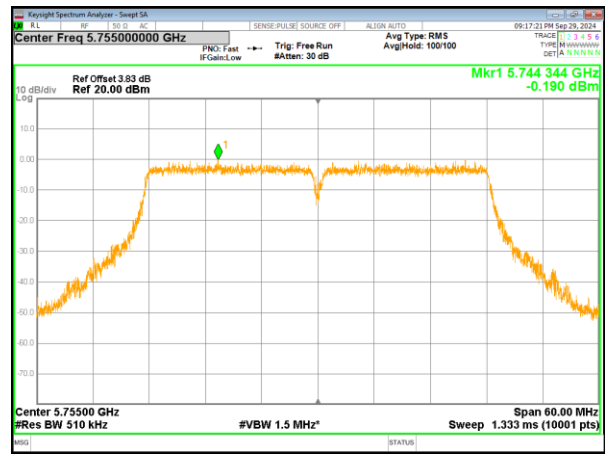
(802.11n20) PSD plot on channel 165



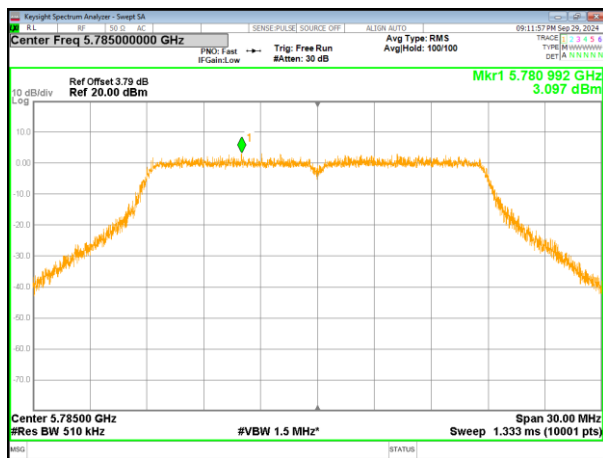
(802.11ac20) PSD plot on channel 149



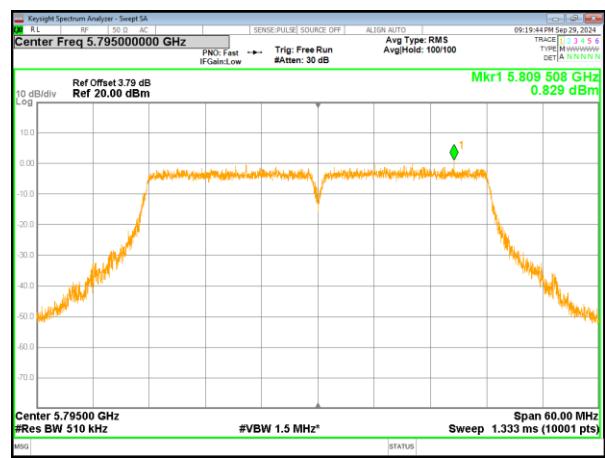
(802.11n40) PSD plot on channel 151



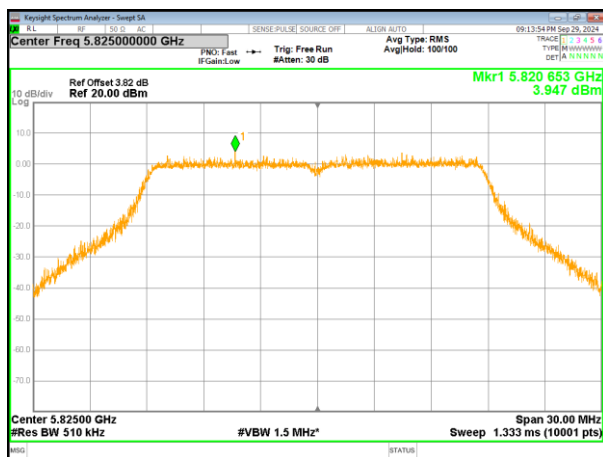
(802.11ac20) PSD plot on channel 157



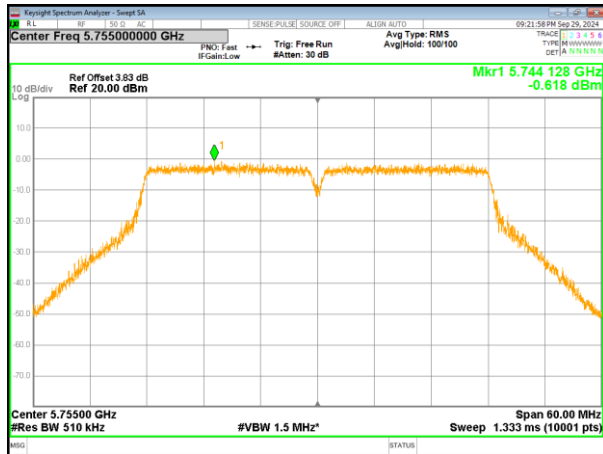
(802.11n40) PSD plot on channel 159



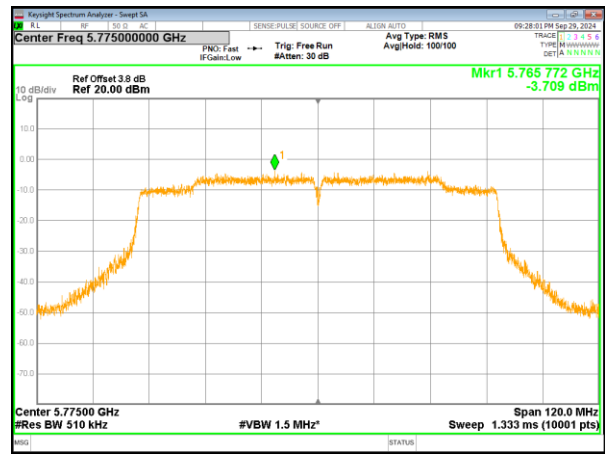
(802.11ac20) PSD plot on channel 165



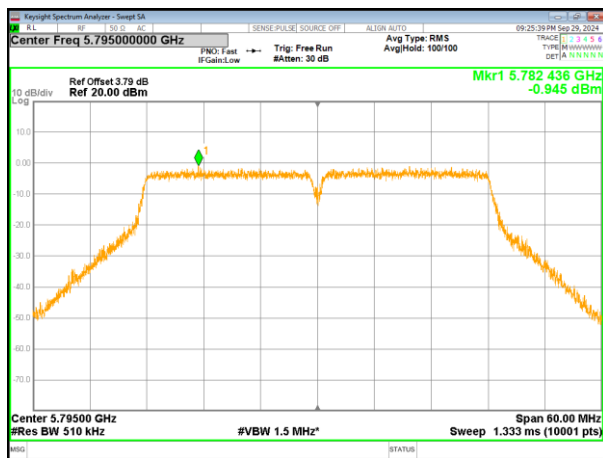
(802.11ac40) PSD plot on channel 151



(802.11ac80) PSD plot on channel 155

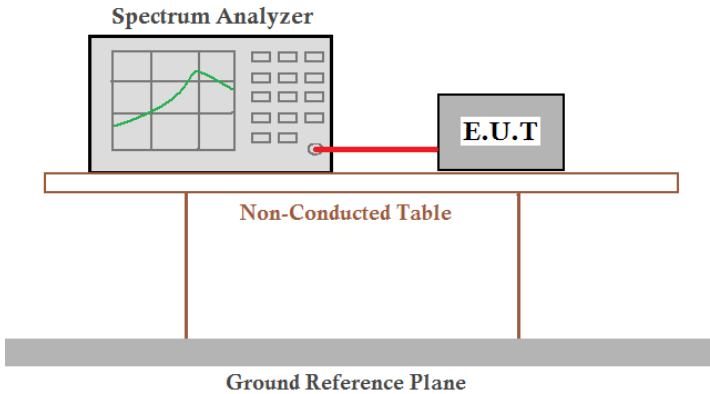


(802.11ac40) PSD plot on channel 159



4.7 Band edge

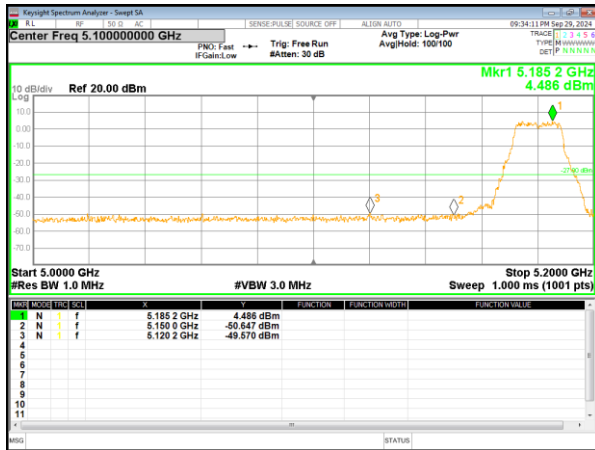
4.7.1 Conducted test Method

Test Requirement:	FCC Part15 C Section 15.209 and 15.205	
Test Method:	ANSI C63.10: 2013	
Limit:	All emissions shall be limited to a level of -27 dBm/MHz at 75 MHz or more above or below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above or below the band edge, and from 25 MHz above or below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above or below the band edge, and from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge.	
Test setup:	 The diagram illustrates the test setup. A Spectrum Analyzer is connected to an E.U.T. (Equipment Under Test) via a red cable. Both are placed on a Non-Conducted Table, which is supported by a Ground Reference Plane.	
Test Procedure:	1. Check the calibration of the measuring instrument using either an internal calibrator or a known signal from an external generator. 2. Position the EUT without connection to measurement instrument. Turn on the EUT and connect its antenna terminal to measurement instrument via a low loss cable. Then set it to any one measured frequency within its operating range, and make sure the instrument is operated in its linear range. 3. Set RBW of spectrum analyzer to 1 MHz with a convenient frequency span. 4. Measure the highest amplitude appearing on spectral display and set it as a reference level. Plot the graph with marking the highest point and edge frequency. 5. Repeat above procedures until all measured frequencies were complete..	
Test Instruments:	Refer to section 3.0 for details	
Test mode:	Refer to section 2.2 for details	
Test environment:	Temp.: 22.9°C	Humid.: 49%RH
Test voltage:	DC 19V from adapter	
Test results:	Pass	

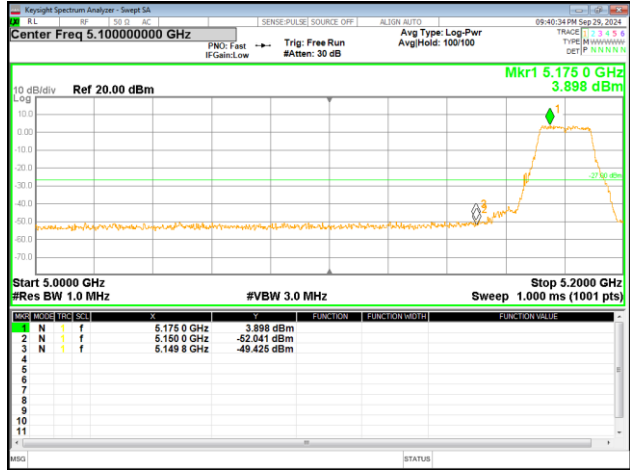
Remark: Due to the margin value of the sideband test being greater than the antenna gain value, the test meets the requirements

5.180~5.240 GHz

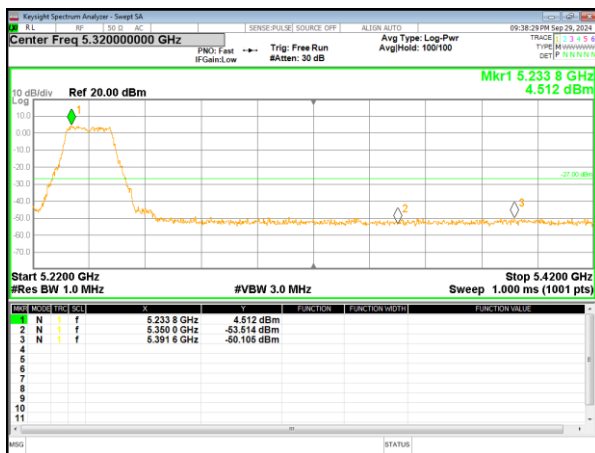
(802.11a) Band Edge, Left Side



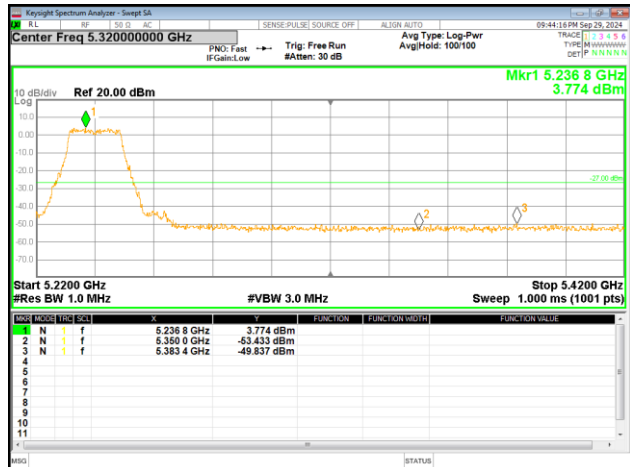
(802.11n20) Band Edge, Left Side



(802.11a) Band Edge, Right Side

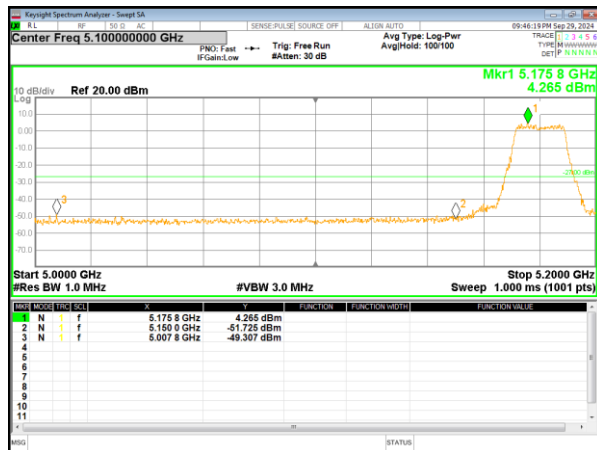


(802.11n20) Band Edge, Right Side

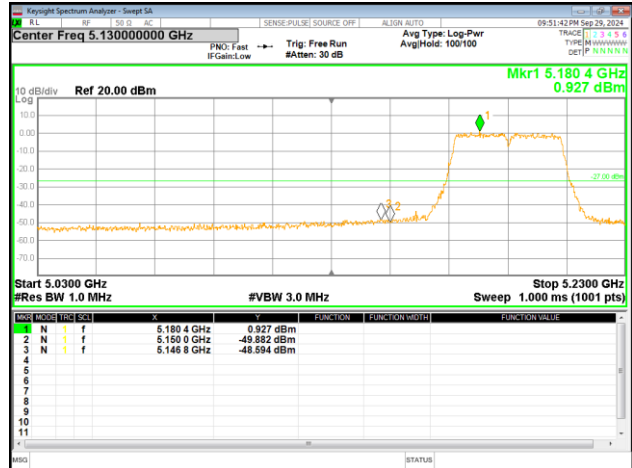


5.180~5.240 GHz

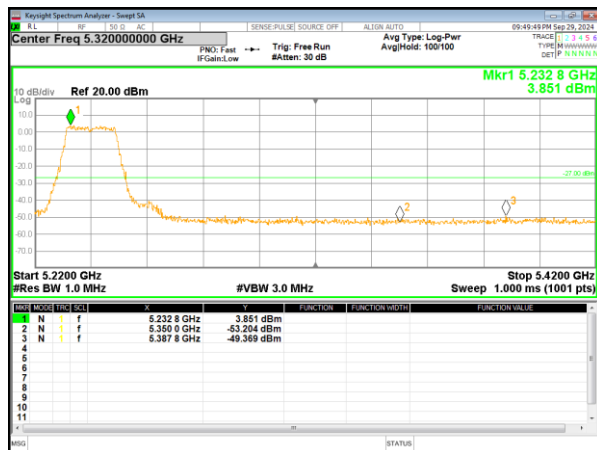
(802.11ac20) Band Edge, Left Side



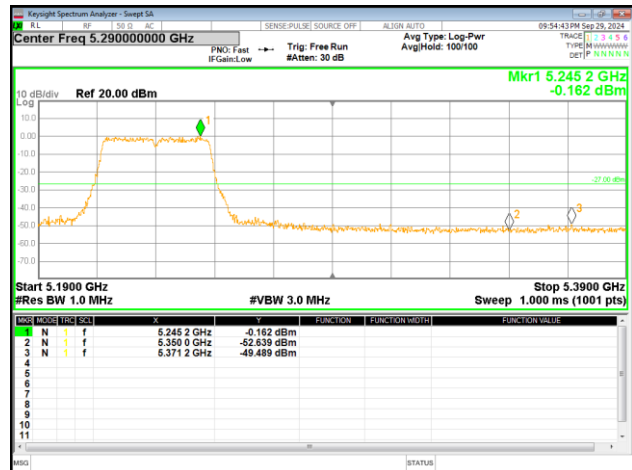
(802.11n40) Band Edge, Left Side



(802.11ac20) Band Edge, Right Side

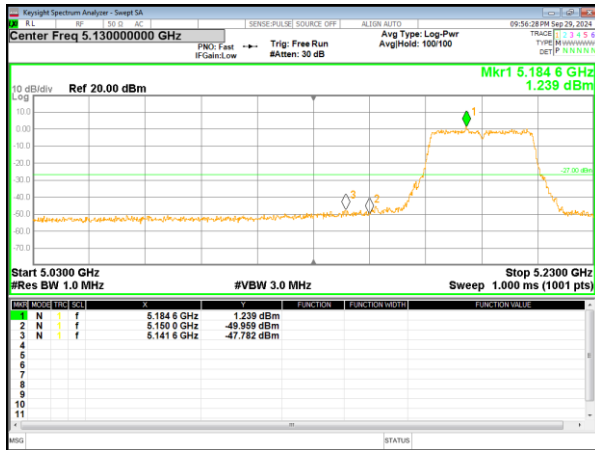


(802.11n40) Band Edge, Right Side

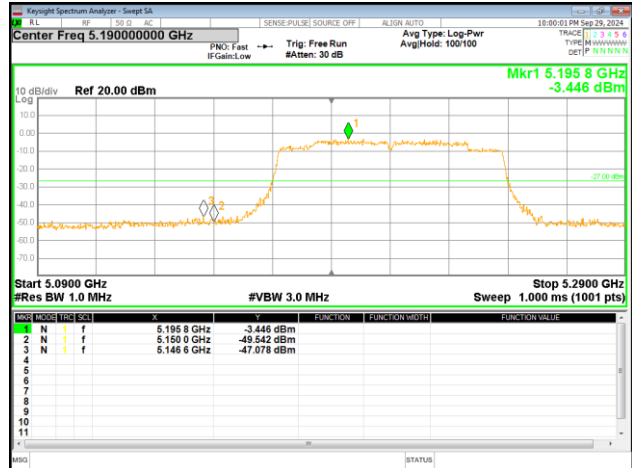


5.180~5.240 GHz

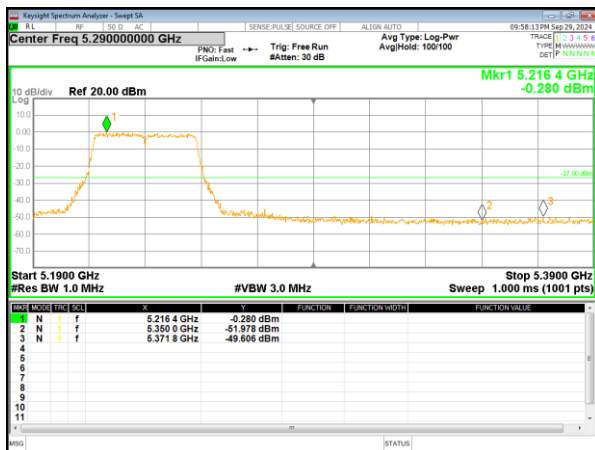
(802.11ac40) Band Edge, Left Side



(802.11ac80) Band Edge

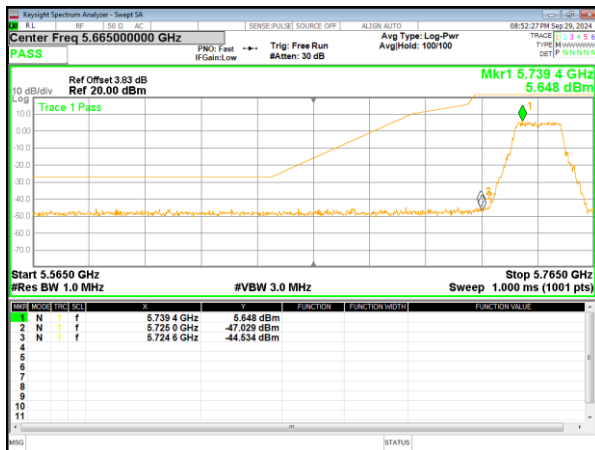


(802.11ac40) Band Edge, Right Side

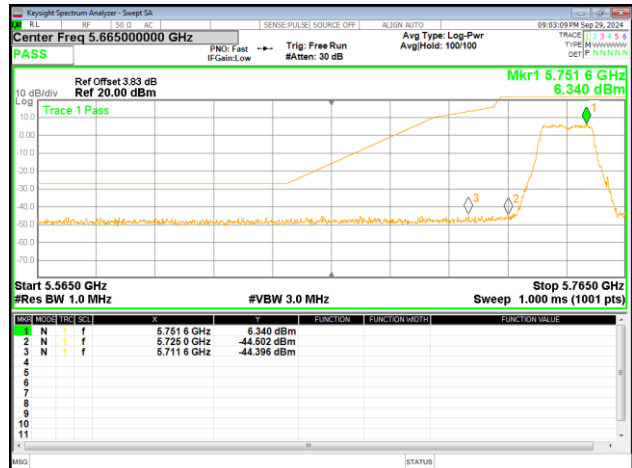


5.745~5.825 GHz

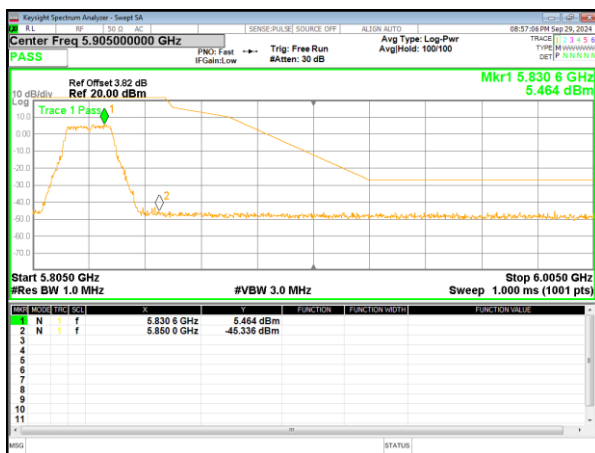
(802.11a) Band Edge, Left Side



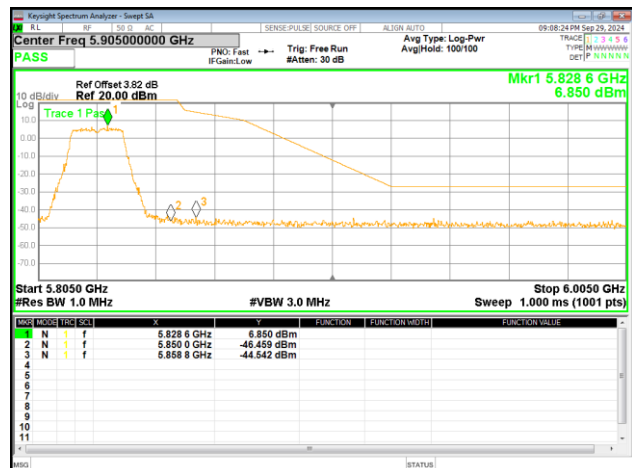
(802.11n20) Band Edge, Left Side



(802.11a) Band Edge, Right Side

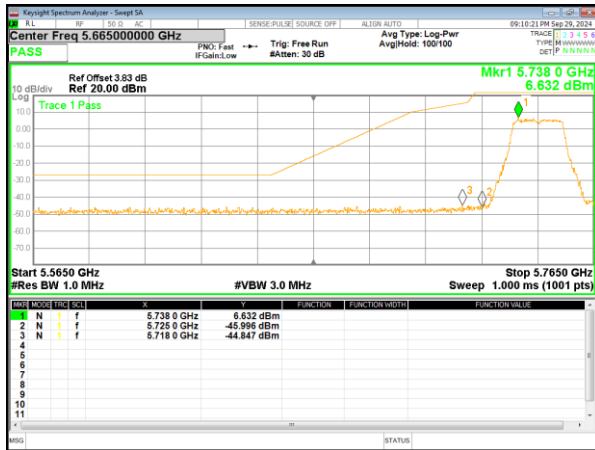


(802.11n20) Band Edge, Right Side

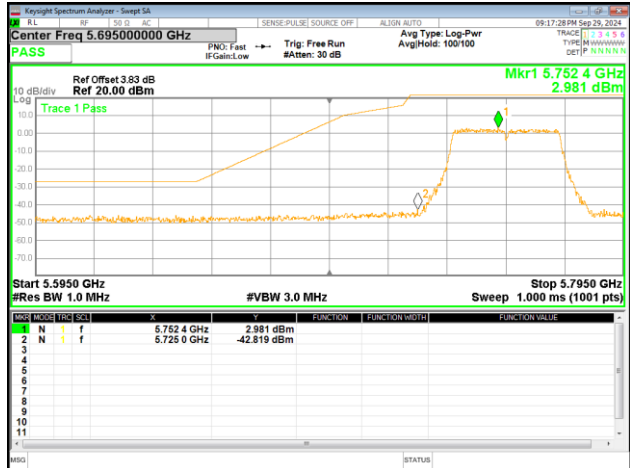


5.745~5.825 GHz

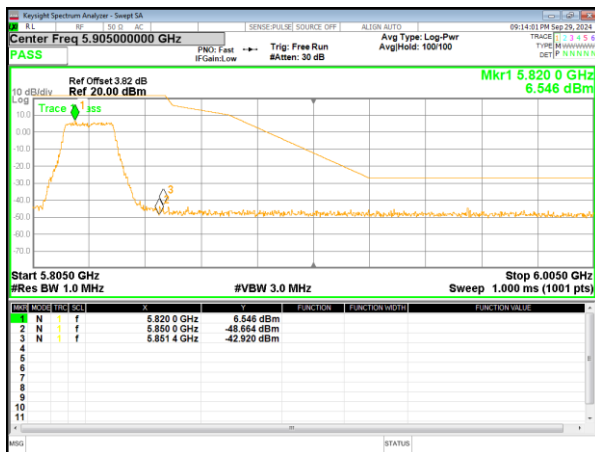
(802.11ac20) Band Edge, Left Side



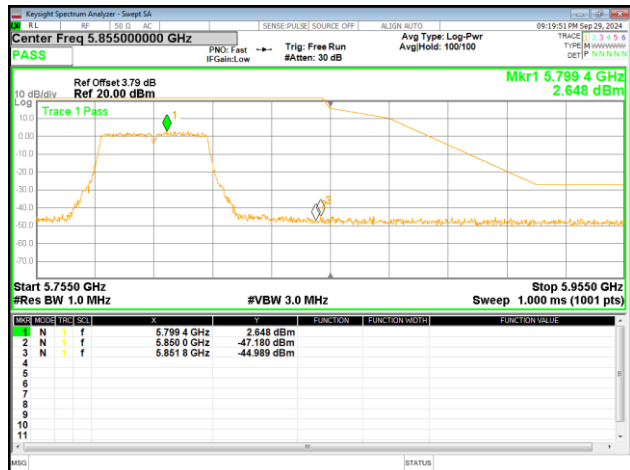
(802.11n40) Band Edge, Left Side



(802.11ac20) Band Edge, Right Side

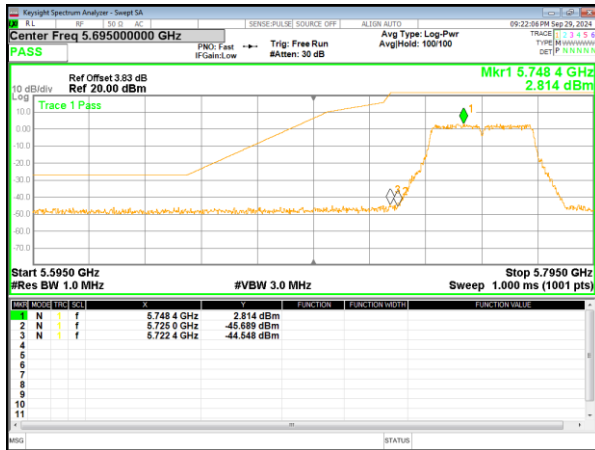


(802.11n40) Band Edge, Right Side

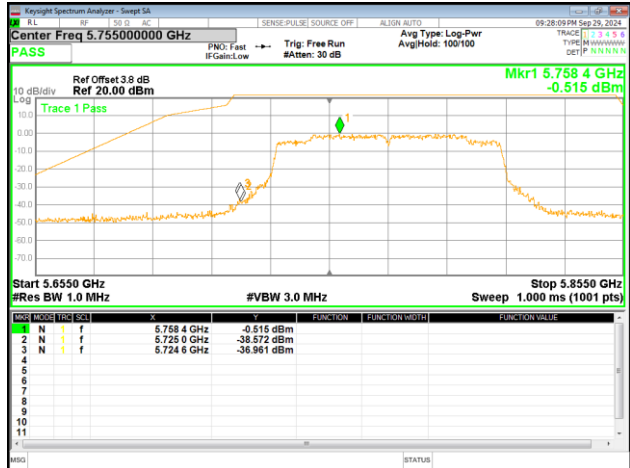


5.745~5.825 GHz

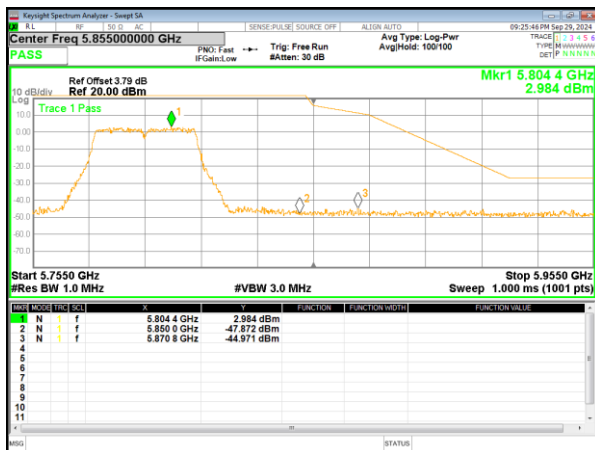
(802.11ac40) Band Edge, Left Side



(802.11ac80) Band Edge

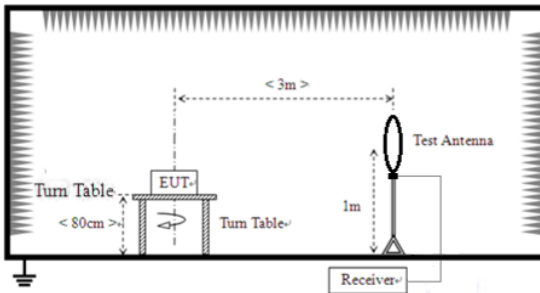
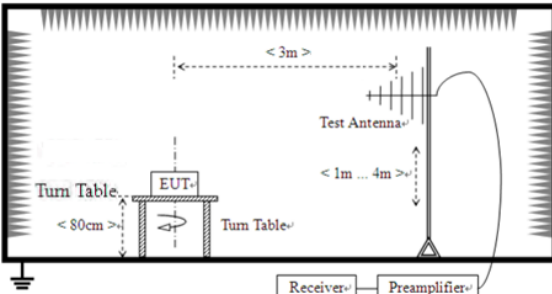


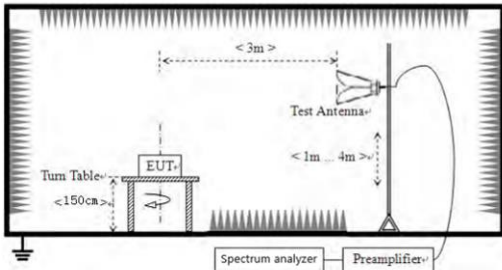
(802.11ac40) Band Edge, Right Side



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  For radiated emissions from 30MHz to 1GHz  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

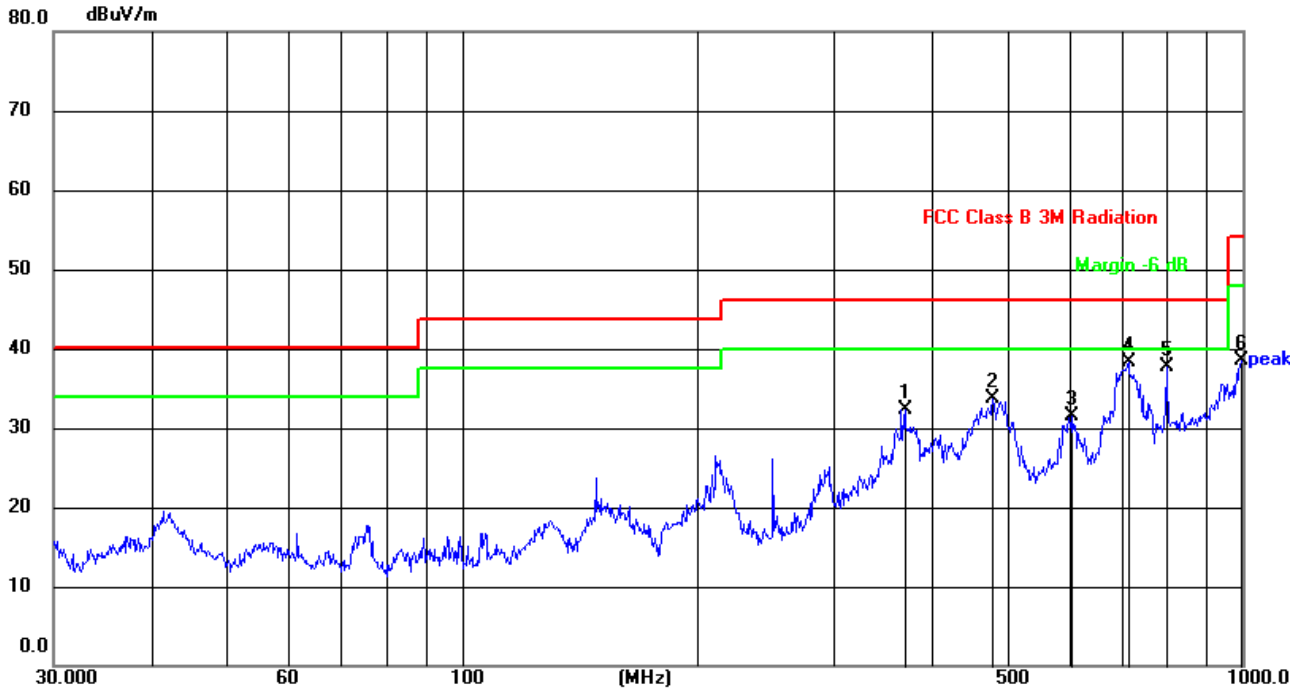
The emission from 9 kHz to 30MHz was pre-tested and found the result was 20dB lower than the limit, and according to 15.31(o) & RSS-Gen 6.13, the test result no need to reported.

Below 1GHz

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

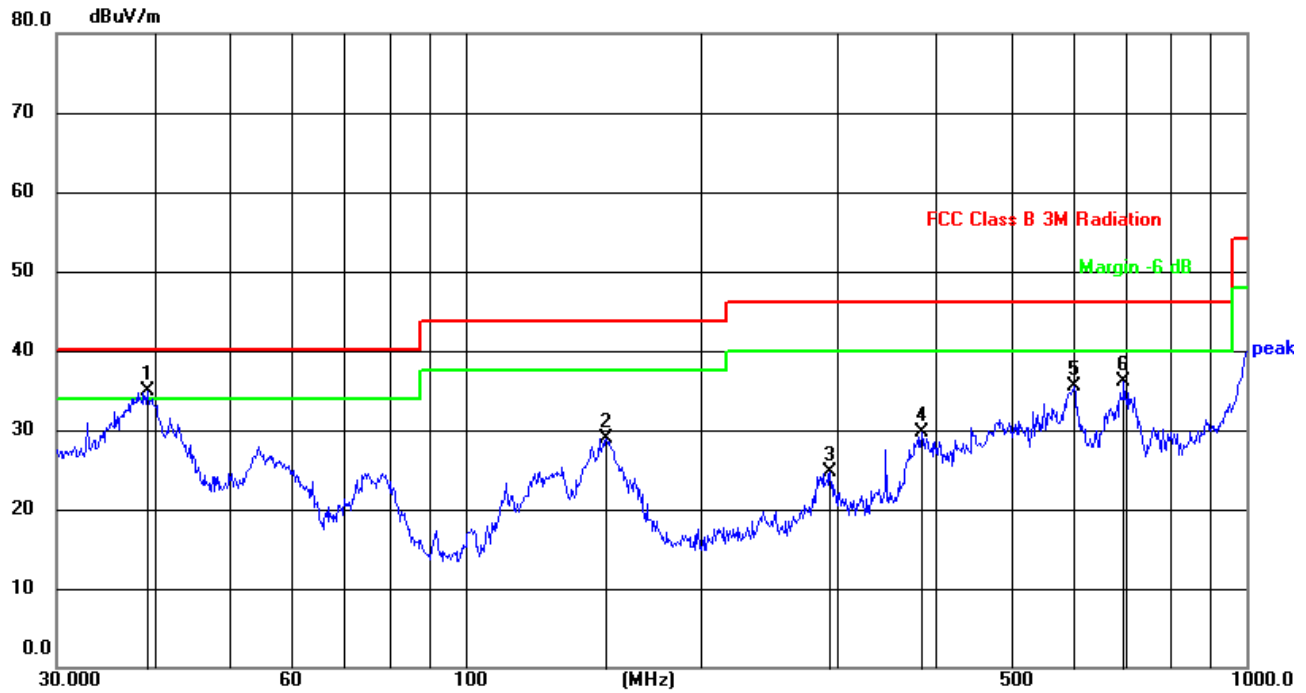
Temperature:	22.9°C	Relative Humidity:	49%
Pressure:	101.2kPa	Test Voltage :	AC 120V
Test Mode :	5.2G TX- 802.11a(5180MHz)		

Horizontal:



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	369.4045	50.79	-18.44	32.35	46.00	-13.65	QP
2	478.8455	49.02	-15.32	33.70	46.00	-12.30	QP
3	605.6592	42.95	-11.52	31.43	46.00	-14.57	QP
4	714.1733	47.05	-8.83	38.22	46.00	-7.78	QP
5	798.9796	44.17	-6.53	37.64	46.00	-8.36	QP
6	996.4995	41.88	-3.39	38.49	54.00	-15.51	QP

Vertical:



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	39.1613	56.02	-21.08	34.94	40.00	-5.06	QP
2	151.5971	49.39	-20.51	28.88	43.50	-14.62	QP
3	293.0842	45.43	-20.63	24.80	46.00	-21.20	QP
4	383.9318	47.51	-17.85	29.66	46.00	-16.34	QP
5	601.4265	47.19	-11.70	35.49	46.00	-10.51	QP
6	696.8567	45.25	-9.24	36.01	46.00	-9.99	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.

Above 1GHz:

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

Temperature:	22.9°C	Relative Humidity:	49%
Pressure:	101.2kPa	Test Voltage :	DC 19V from adapter
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	50.22	46.20	8.27	38.50	50.79	68.20	-17.41	PK
V	10360.00	40.22	46.20	8.27	38.50	40.79	54.00	-13.21	AV
V	15540.00	47.33	46.30	10.35	38.70	50.08	74.00	-23.92	PK
V	15540.00	37.30	46.30	10.35	38.70	40.05	54.00	-13.95	AV
V	20720.00	56.42	57.40	11.93	37.80	48.75	68.20	-19.45	PK
V	20720.00	46.40	57.40	11.93	37.80	38.73	54.00	-15.27	AV
V	25900.00	54.13	56.50	13.45	39.70	50.78	68.20	-17.42	PK
V	25900.00	43.71	56.50	13.45	39.70	40.36	54.00	-13.64	AV
V	31080.00	48.12	56.10	16.12	41.60	49.74	68.20	-18.46	PK
V	31080.00	41.58	56.10	16.12	41.60	43.20	54.00	-10.80	AV
V	36260.00	45.35	56.80	18.29	42.80	49.64	68.20	-18.56	PK
V	36260.00	38.23	56.80	18.29	42.80	42.52	54.00	-11.48	AV
H	10360.00	50.21	46.20	8.27	38.50	50.78	68.20	-17.42	PK
H	10360.00	38.84	46.20	8.27	38.50	39.41	54.00	-14.59	AV
H	15540.00	46.40	46.30	10.35	38.70	49.15	74.00	-24.85	PK
H	15540.00	34.86	46.30	10.35	38.70	37.61	54.00	-16.39	AV
H	20720.00	58.65	57.40	11.93	37.80	50.98	68.20	-17.22	PK
H	20720.00	47.34	57.40	11.93	37.80	39.67	54.00	-14.33	AV
H	25900.00	55.09	56.50	13.45	39.70	51.74	68.20	-16.46	PK
H	25900.00	43.73	56.50	13.45	39.70	40.38	54.00	-13.62	AV
H	31080.00	48.70	56.10	16.12	41.60	50.32	68.20	-17.88	PK
H	31080.00	41.54	56.10	16.12	41.60	43.16	54.00	-10.84	AV
H	36260.00	44.56	56.80	18.29	42.80	48.85	68.20	-19.35	PK
H	36260.00	38.34	56.80	18.29	42.80	42.63	54.00	-11.37	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	49.26	46.20	8.27	38.50	49.83	68.20	-18.37	PK
V	10400.00	39.98	46.20	8.27	38.50	40.55	54.00	-13.45	AV
V	15600.00	47.64	46.30	10.35	38.40	50.09	74.00	-23.91	PK
V	15600.00	38.89	46.30	10.35	38.40	41.34	54.00	-12.66	AV
V	20800.00	57.63	57.40	11.93	37.80	49.96	68.20	-18.24	PK
V	20800.00	47.92	57.40	11.93	37.80	40.25	54.00	-13.75	AV
V	26000.00	52.75	56.50	13.45	39.80	49.50	68.20	-18.70	PK
V	26000.00	44.96	56.50	13.45	39.80	41.71	54.00	-12.29	AV
V	31200.00	50.22	56.10	16.12	41.60	51.84	68.20	-16.36	PK
V	31200.00	43.59	56.10	16.12	41.60	45.21	54.00	-8.79	AV
V	36400.00	46.70	56.80	18.29	42.80	50.99	68.20	-17.21	PK
V	36400.00	39.63	56.80	18.29	42.80	43.92	54.00	-10.08	AV
H	10400.00	49.87	46.20	8.27	38.50	50.44	68.20	-17.76	PK
H	10400.00	40.31	46.20	8.27	38.50	40.88	54.00	-13.12	AV
H	15600.00	47.62	46.30	10.35	38.40	50.07	74.00	-23.93	PK
H	15600.00	38.88	46.30	10.35	38.40	41.33	54.00	-12.67	AV
H	20800.00	56.59	57.40	11.93	37.80	48.92	68.20	-19.28	PK
H	20800.00	45.81	57.40	11.93	37.80	38.14	54.00	-15.86	AV
H	26000.00	52.49	56.50	13.45	39.80	49.24	68.20	-18.96	PK
H	26000.00	44.10	56.50	13.45	39.80	40.85	54.00	-13.15	AV
H	31200.00	50.45	56.10	16.12	41.60	52.07	68.20	-16.13	PK
H	31200.00	43.35	56.10	16.12	41.60	44.97	54.00	-9.03	AV
H	36400.00	46.59	56.80	18.29	42.80	50.88	68.20	-17.32	PK
H	36400.00	40.12	56.80	18.29	42.80	44.41	54.00	-9.59	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	46.08	46.20	8.27	38.60	46.75	68.20	-21.45	PK
V	10480.00	36.06	46.20	8.27	38.60	36.73	54.00	-17.27	AV
V	15720.00	43.71	46.30	10.35	38.40	46.16	74.00	-27.84	PK
V	15720.00	33.80	46.30	10.35	38.40	36.25	54.00	-17.75	AV
V	20960.00	53.81	57.40	11.93	37.50	45.84	68.20	-22.36	PK
V	20960.00	45.25	57.40	11.93	37.50	37.28	54.00	-16.72	AV
V	26200.00	49.80	56.50	13.45	40.10	46.85	68.20	-21.35	PK
V	26200.00	40.31	56.50	13.45	40.10	37.36	54.00	-16.64	AV
V	31440.00	51.41	56.10	16.12	41.30	52.73	68.20	-15.47	PK
V	31440.00	44.40	56.10	16.12	41.30	45.72	54.00	-8.28	AV
V	36680.00	47.16	56.80	18.29	43.10	51.75	68.20	-16.45	PK
V	36680.00	40.26	56.80	18.29	43.10	44.85	54.00	-9.15	AV
H	10480.00	46.30	46.20	8.27	38.60	46.97	68.20	-21.23	PK
H	10480.00	36.11	46.20	8.27	38.60	36.78	54.00	-17.22	AV
H	15720.00	44.03	46.30	10.35	38.40	46.48	74.00	-27.52	PK
H	15720.00	33.94	46.30	10.35	38.40	36.39	54.00	-17.61	AV
H	20960.00	54.01	57.40	11.93	37.50	46.04	68.20	-22.16	PK
H	20960.00	45.07	57.40	11.93	37.50	37.10	54.00	-16.90	AV
H	26200.00	49.50	56.50	13.45	40.10	46.55	68.20	-21.65	PK
H	26200.00	39.69	56.50	13.45	40.10	36.74	54.00	-17.26	AV
H	31440.00	50.77	56.10	16.12	41.30	52.09	68.20	-16.11	PK
H	31440.00	44.81	56.10	16.12	41.30	46.13	54.00	-7.88	AV
H	36680.00	47.37	56.80	18.29	43.10	51.96	68.20	-16.24	PK
H	36680.00	40.48	56.80	18.29	43.10	45.07	54.00	-8.93	AV

Remark:

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

Temperature:	22.9°C	Relative Humidity:	49%
Pressure:	101.2kPa	Test Voltage :	DC 19V from adapter
Test Mode :	5.8G TX- 802.11a		

Polar (H/V)	Frequency (MHz)	Meter Reading (dBuV)	Pre- amplifier (dB)	Cable Loss (dB)	Antenn Factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Detect or Typ
Low Channel:5745MHz									
V	11490.00	47.18	46.10	8.77	39.10	48.95	74.00	-25.05	PK
V	11490.00	38.24	46.10	8.77	39.10	40.01	54.00	-13.99	AV
V	17235.00	45.07	47.90	11.23	38.90	47.30	68.20	-20.90	PK
V	17235.00	37.53	47.90	11.23	38.90	39.76	54.00	-14.24	AV
V	22980.00	54.62	57.10	12.73	37.80	48.05	68.20	-20.15	PK
V	22980.00	45.40	57.10	12.73	37.80	38.83	54.00	-15.17	AV
V	28725.00	51.41	55.80	14.25	40.50	50.36	68.20	-17.84	PK
V	28725.00	42.66	55.80	14.25	40.50	41.61	54.00	-12.39	AV
V	34470.00	46.85	56.30	17.91	42.50	50.96	68.20	-17.24	PK
V	34470.00	40.72	56.30	17.91	42.50	44.83	54.00	-9.17	AV
H	11490.00	49.16	46.10	8.77	39.10	50.93	74.00	-23.07	PK
H	11490.00	40.58	46.10	8.77	39.10	42.35	54.00	-11.65	AV
H	17235.00	46.34	47.90	11.23	38.90	48.57	68.20	-19.63	PK
H	17235.00	38.77	47.90	11.23	38.90	41.00	54.00	-13.00	AV
H	22980.00	56.02	57.10	12.73	37.80	49.45	68.20	-18.75	PK
H	22980.00	46.78	57.10	12.73	37.80	40.21	54.00	-13.79	AV
H	28725.00	52.46	55.80	14.25	40.50	51.41	68.20	-16.79	PK
H	28725.00	47.18	55.80	14.25	40.50	46.13	54.00	-7.87	AV
H	34470.00	46.76	56.30	17.91	42.50	50.87	68.20	-17.33	PK
H	34470.00	40.71	56.30	17.91	42.50	44.82	54.00	-9.18	AV

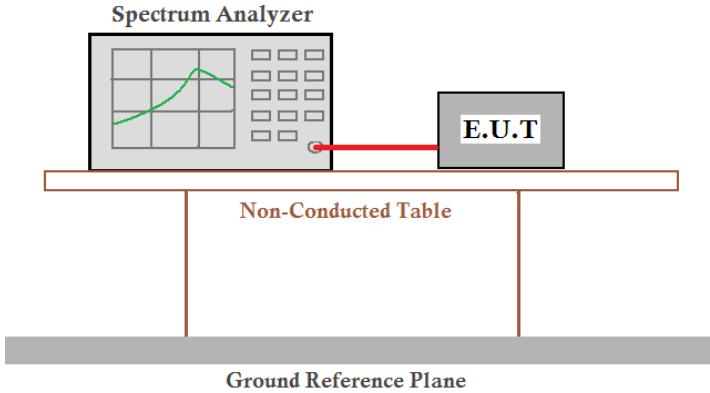
Polar (H/V)	Frequency	Meter Reading	Pre- amplifier	Cable Loss	Antenna Factor	Emission Level	Limits	Margin	Detect or Type
	(MHz)	(dBuV)	(dB)	(dB)	(dB)	(dBuV/m)	(dBuV/m)	(dB)	
Middle Channel:5785MHz									
V	11570.00	46.15	46.10	8.77	39.10	47.92	74.00	-26.08	PK
V	11570.00	38.06	46.10	8.77	39.10	39.83	54.00	-14.17	AV
V	17355.00	43.73	47.60	11.10	38.70	45.93	68.20	-22.27	PK
V	17355.00	36.49	47.60	11.10	38.70	38.69	54.00	-15.31	AV
V	23140.00	52.34	56.90	12.73	37.70	45.87	74.00	-28.13	PK
V	23140.00	44.44	56.90	12.73	37.70	37.97	54.00	-16.03	AV
V	28925.00	49.17	55.60	14.25	40.30	48.12	68.20	-20.08	PK
V	28925.00	40.76	55.60	14.25	40.30	39.71	54.00	-14.29	AV
V	34710.00	46.95	55.90	17.26	42.40	50.71	68.20	-17.49	PK
V	34710.00	41.42	55.90	17.26	42.40	45.18	54.00	-8.82	AV
H	11570.00	46.57	46.10	8.77	39.10	48.34	74.00	-25.66	PK
H	11570.00	37.86	46.10	8.77	39.10	39.63	54.00	-14.37	AV
H	17355.00	44.75	47.60	11.10	38.70	46.95	68.20	-21.25	PK
H	17355.00	36.91	47.60	11.10	38.70	39.11	54.00	-14.89	AV
H	23140.00	54.52	56.90	12.73	37.70	48.05	74.00	-25.95	PK
H	23140.00	44.23	56.90	12.73	37.70	37.76	54.00	-16.24	AV
H	28925.00	51.15	55.60	14.25	40.30	50.10	68.20	-18.10	PK
H	28925.00	41.41	55.60	14.25	40.30	40.36	54.00	-13.64	AV
H	34710.00	46.40	55.90	17.26	42.40	50.16	68.20	-18.04	PK
H	34710.00	40.76	55.90	17.26	42.40	44.52	54.00	-9.48	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	46.35	46.10	8.77	39.10	48.12	74.00	-25.88	PK
V	11650.00	38.24	46.10	8.77	39.10	40.01	54.00	-13.99	AV
V	17475.00	43.91	47.60	11.10	38.70	46.11	68.20	-22.09	PK
V	17475.00	36.70	47.60	11.10	38.70	38.90	54.00	-15.10	AV
V	23300.00	52.56	56.90	12.73	37.70	46.09	74.00	-27.91	PK
V	23300.00	44.67	56.90	12.73	37.70	38.20	54.00	-15.80	AV
V	29125.00	49.37	55.60	14.25	40.30	48.32	68.20	-19.88	PK
V	29125.00	41.02	55.60	14.25	40.30	39.97	54.00	-14.03	AV
V	34950.00	48.07	55.90	17.26	42.10	51.53	68.20	-16.67	PK
V	34950.00	41.85	55.90	17.26	42.10	45.31	54.00	-8.69	AV
H	11650.00	46.75	46.10	8.77	39.10	48.52	74.00	-25.48	PK
H	11650.00	38.07	46.10	8.77	39.10	39.84	54.00	-14.16	AV
H	17475.00	45.00	47.60	11.10	38.70	47.20	68.20	-21.00	PK
H	17475.00	37.11	47.60	11.10	38.70	39.31	54.00	-14.69	AV
H	23300.00	54.73	56.90	12.73	37.70	48.26	74.00	-25.74	PK
H	23300.00	44.47	56.90	12.73	37.70	38.00	54.00	-16.00	AV
H	29125.00	51.38	55.60	14.25	40.30	50.33	68.20	-17.87	PK
H	29125.00	41.60	55.60	14.25	40.30	40.55	54.00	-13.45	AV
H	34950.00	47.18	55.90	17.26	42.10	50.64	68.20	-17.56	PK
H	34950.00	41.02	55.90	17.26	42.10	44.48	54.00	-9.52	AV

Remark:

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

4.8.2 Conducted Emission Method

Test Requirement:	FCC Part15 C Section 15.209, Part 15E Section 15.407(b)(4)	
Test Method:	ANSI C63.10:2013	
Limit:	-27dBm/MHz	
Test setup:		
Test Instruments:	Refer to section 3.0 for details	
Test mode:	Refer to section 2.2 for details	
Test environment:	Temp.: 22.9°C	Humid.: 49%RH
Test voltage:	DC 19V from adapter	
Test results:	Pass	

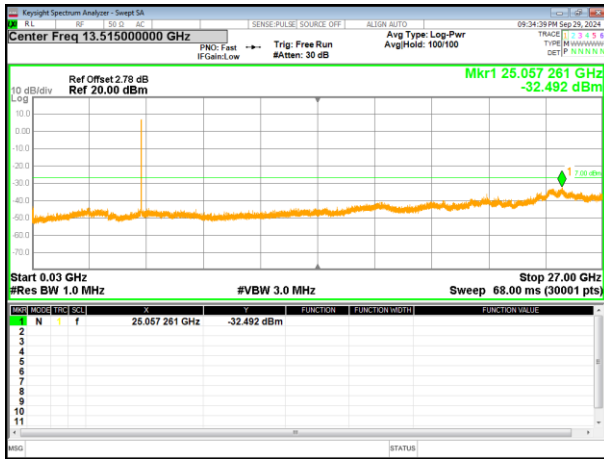
Remark:

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

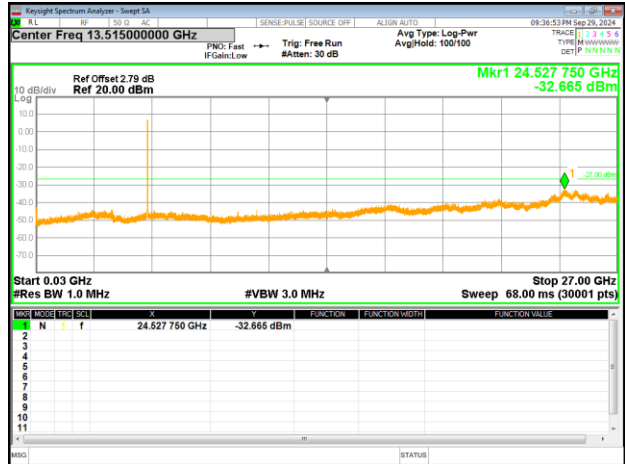
5180-5240MHz

Test Plot

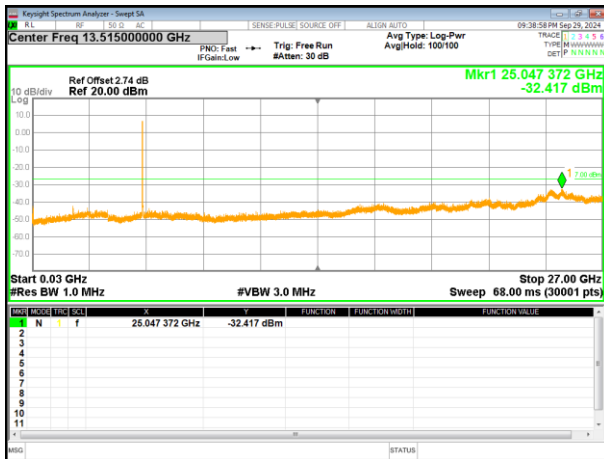
802.11a on channel 36



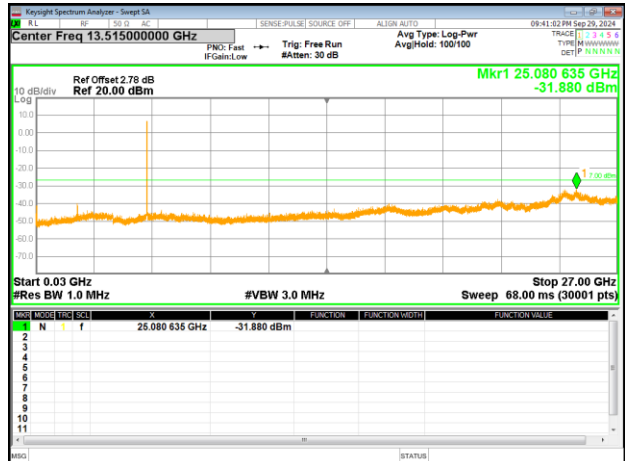
802.11a on channel 40



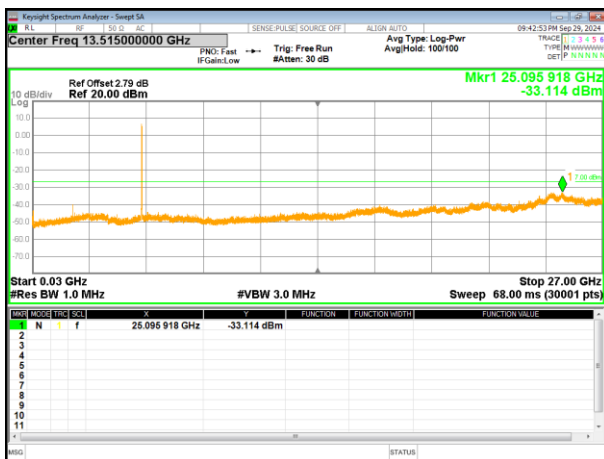
802.11a on channel 48



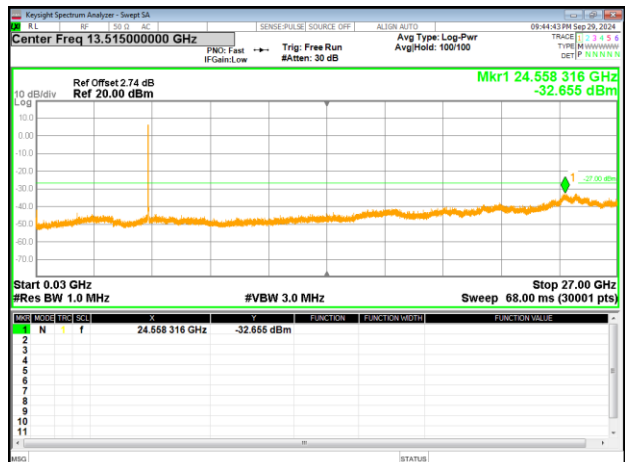
802.11n20 on channel 36



802.11n20 on channel 40

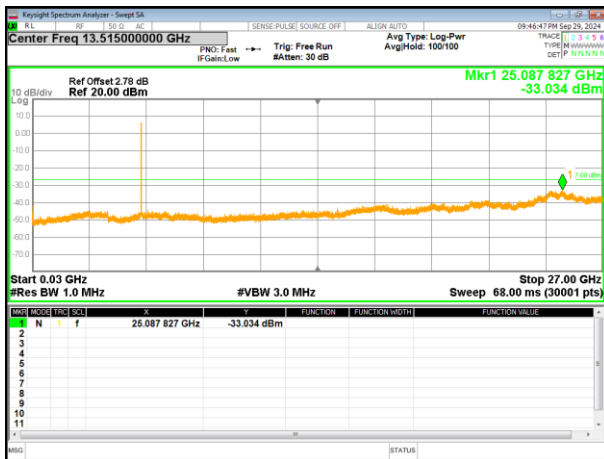


802.11n20 on channel 48

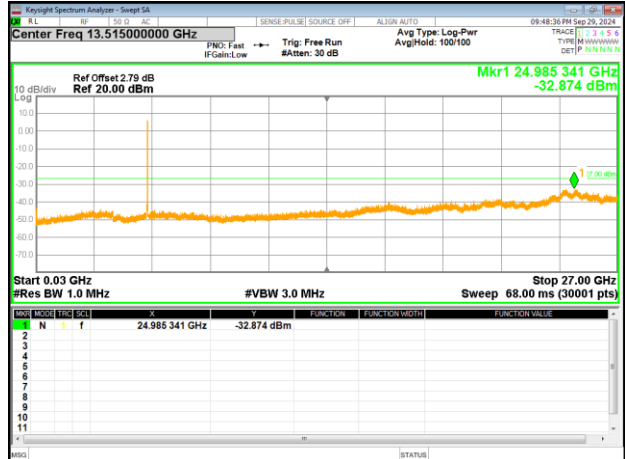


Test Plot

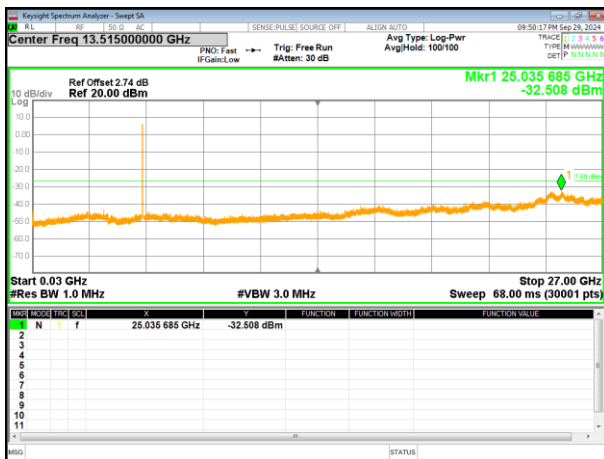
802.11ac20 on channel 36



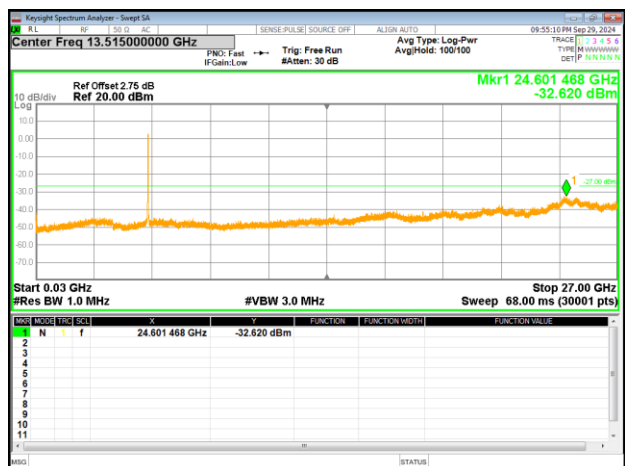
802.11ac20 on channel 40



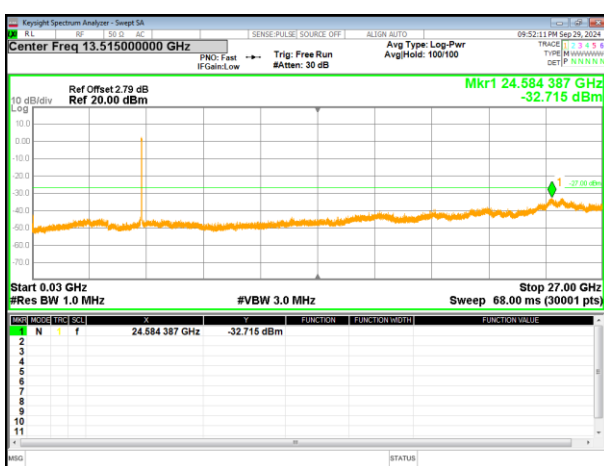
802.11ac20 on channel 48



802.11n40 on channel 46

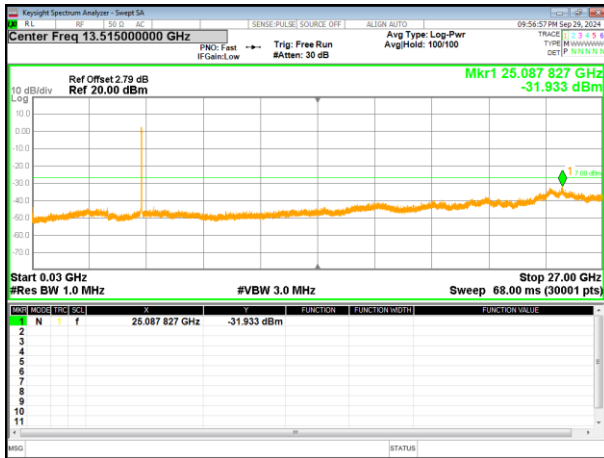


802.11n40 on channel 38

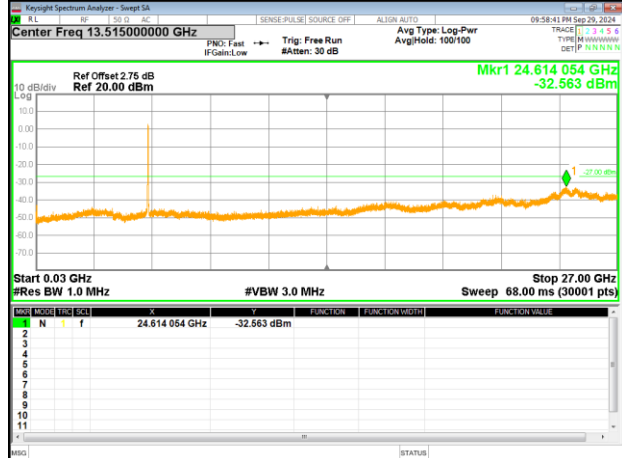


Test Plot

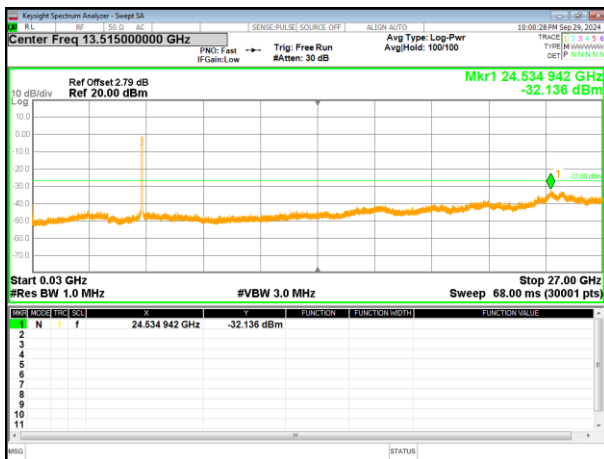
802.11ac40 on channel 38



802.11ac40 on channel 46



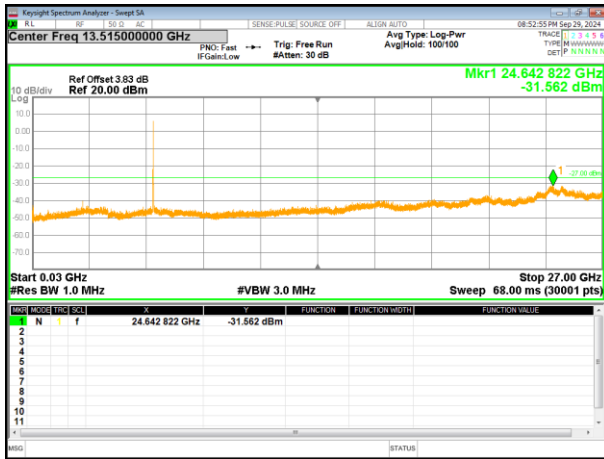
802.11ac80 on channel 42



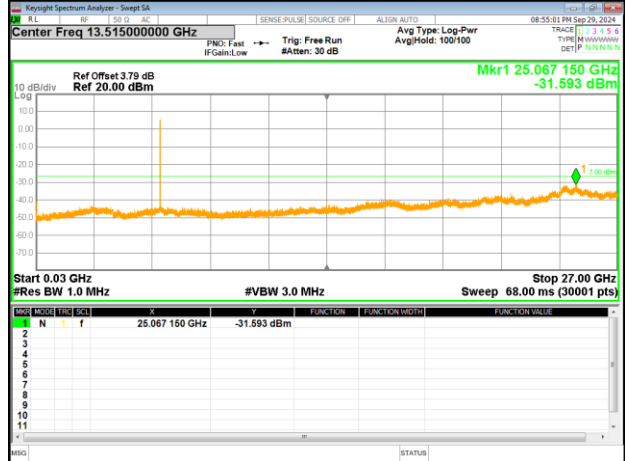
5745-5825MHz

Test Plot

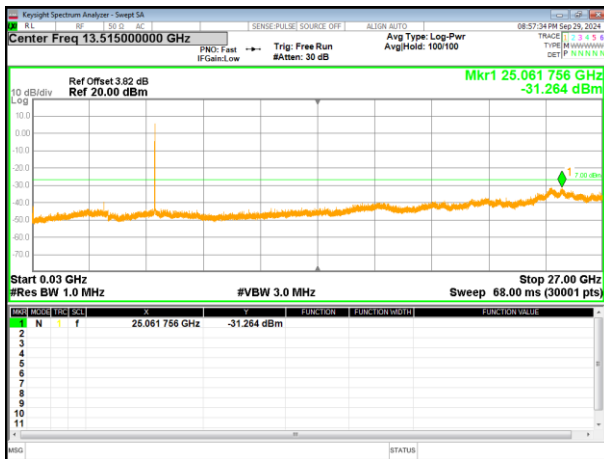
802.11a on channel 149



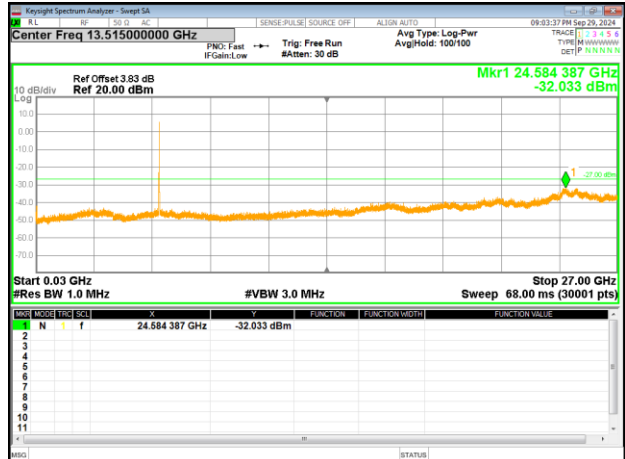
802.11a on channel 157



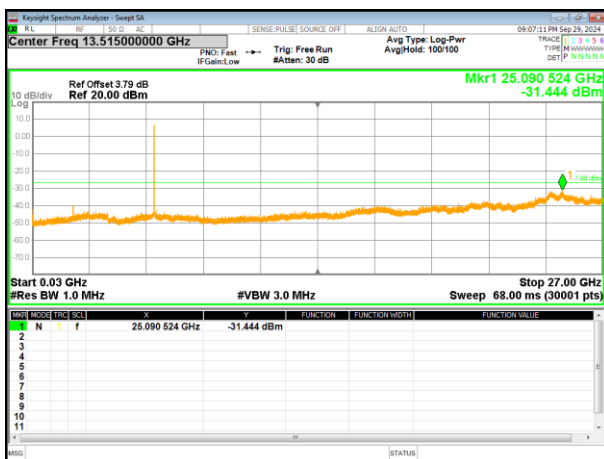
802.11a on channel 165



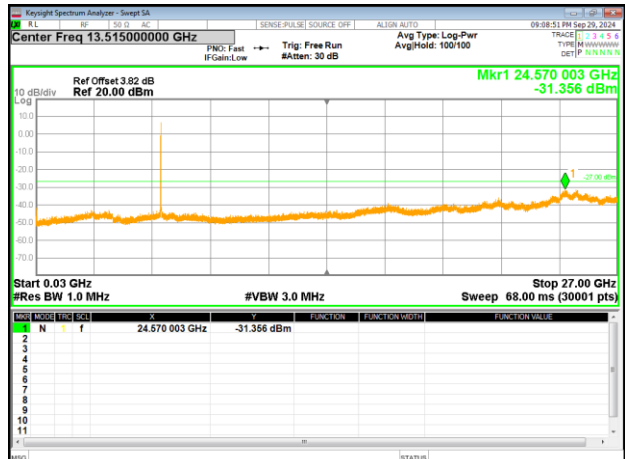
802.11n20 on channel 149



802.11n20 on channel 157

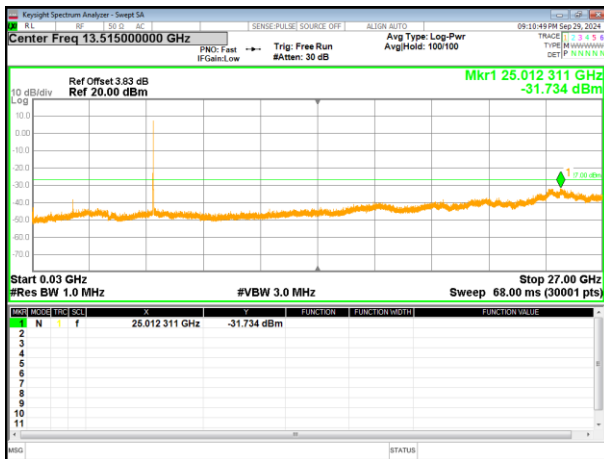


802.11n20 on channel 165

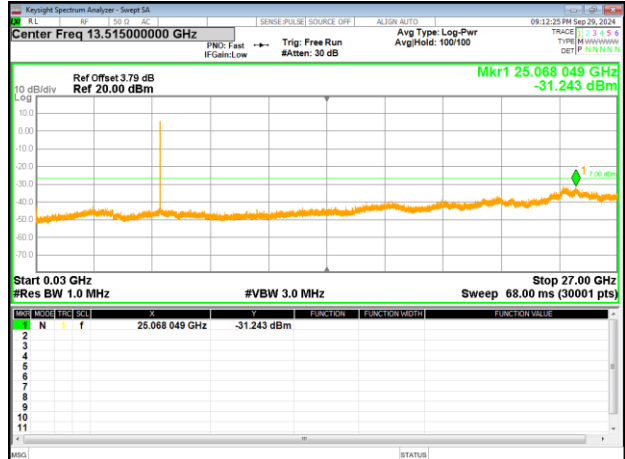


Test Plot

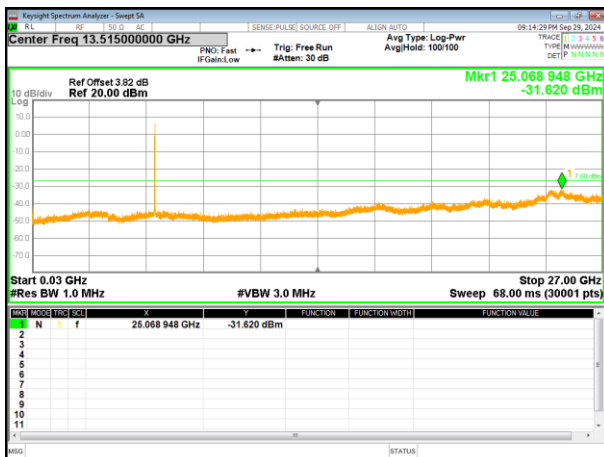
802.11ac20 on channel 149



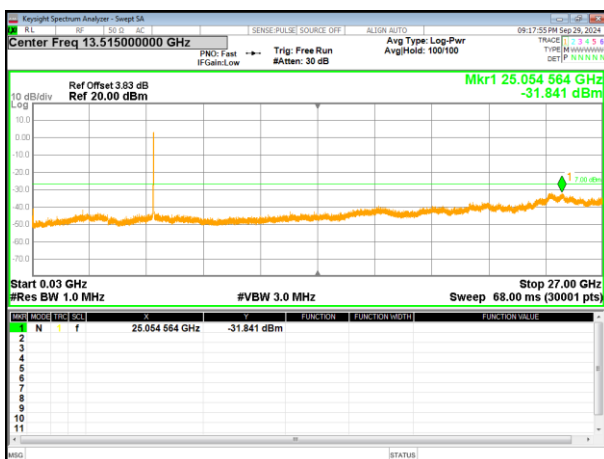
802.11ac20 on channel 157



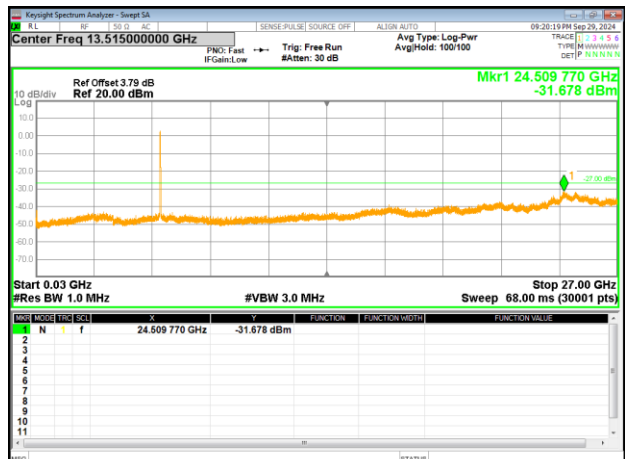
802.11ac20 on channel 165



802.11n40 on channel 151

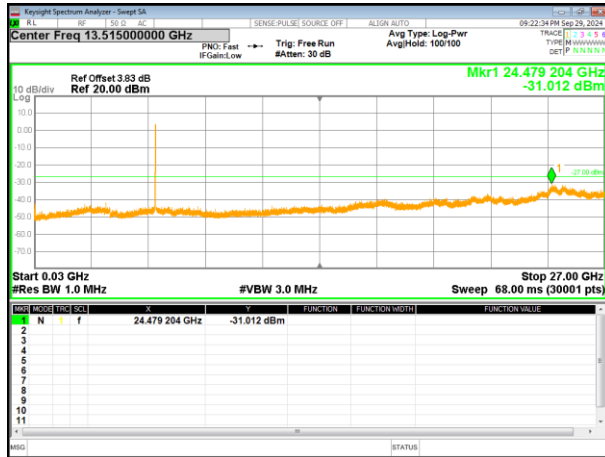


802.11n40 on channel 159

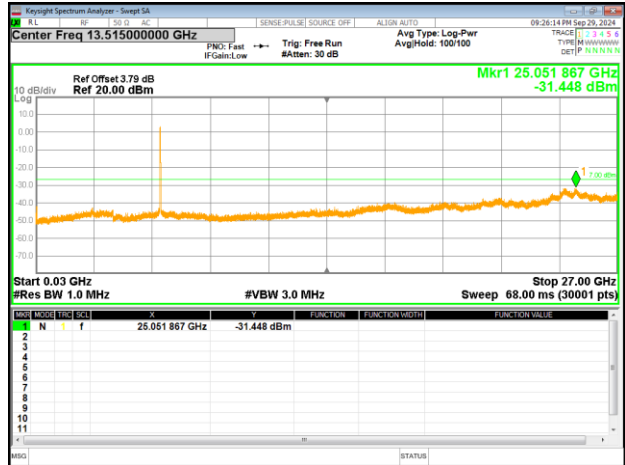


Test Plot

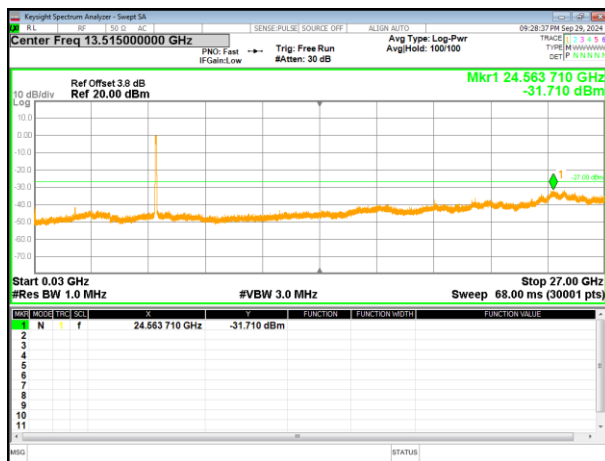
802.11ac40 on channel 151



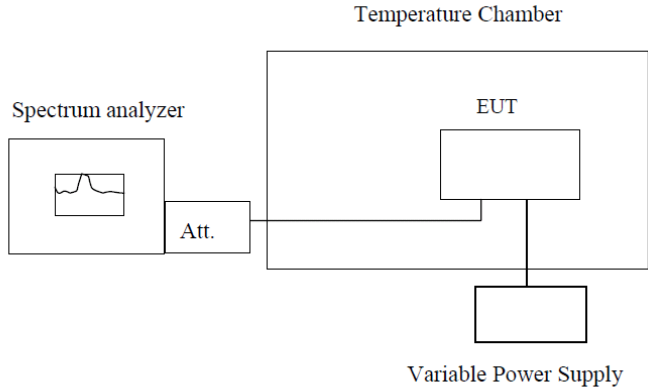
802.11ac40 on channel 159



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 from adapter					
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	5180.070	5179.989	5179.994	5180.022
	5190	5190.060	5190.005	5190.868	5190.033
	5200	5200.062	5199.990	5199.893	5200.024
	5210	5210.067	5209.968	5209.870	5210.026
	5220	5220.062	5219.984	5219.885	5220.031
	5230	5230.060	5229.977	5229.877	5230.049
	5240	5240.032	5239.987	5239.885	5240.035
-20	5180	5180.063	5179.965	5179.879	5180.043
	5190	5190.054	5189.957	5189.878	5190.039
	5200	5200.061	5199.965	5199.871	5200.034
	5210	5210.052	5209.957	5209.860	5210.041
	5220	5220.073	5219.979	5219.870	5220.034
	5230	5230.051	5229.957	5229.863	5230.032
	5240	5240.068	5239.977	5239.871	5240.006
-10	5180	5180.072	5179.974	5179.858	5180.022
	5190	5190.068	5189.971	5189.869	5190.033
	5200	5200.062	5199.966	5199.859	5200.024
	5210	5210.067	5209.972	5209.859	5210.026
	5220	5220.062	5219.968	5219.866	5220.031
	5230	5230.060	5229.966	5229.883	5230.049
	5240	5240.032	5239.941	5239.855	5240.022
0	5180	5179.849	5179.953	5179.870	5180.033
	5190	5200.020	5189.965	5189.861	5190.034
	5200	5200.018	5199.956	5199.868	5200.025
	5210	5210.072	5209.957	5209.859	5300.033
	5220	5220.061	5219.965	5219.880	5220.024
	5230	5230.048	5229.983	5229.857	5230.045
	5240	5240.064	5239.957	5239.875	5240.024
10	5180	5180.051	5179.965	5179.879	5180.034
	5190	5190.062	5189.957	5189.875	5190.025
	5200	5200.052	5199.965	5199.869	5200.033
	5210	5210.052	5209.957	5209.874	5210.026
	5220	5220.059	5219.979	5219.869	5220.045
	5230	5230.077	5229.957	5229.866	5230.023
	5240	5240.061	5239.977	5239.839	5240.042
20	5180	5180.129	5179.218	5180.128	5179.796

	5190	5190.072	5190.008	5190.172	5190.061
	5200	5200.066	5199.999	5200.180	5200.086
	5210	5210.071	5210.013	5210.172	5210.071
	5220	5220.066	5220.000	5220.193	5220.061
	5230	5230.064	5230.021	5230.171	5230.089
	5240	5240.036	5240.001	5240.189	5240.078
30	5180	5180.055	5180.006	5180.181	5180.079
	5190	5190.066	5189.999	5190.172	5190.079
	5200	5200.056	5200.007	5200.180	5200.075
	5210	5210.056	5209.999	5210.172	5200.070
	5220	5220.063	5220.021	5220.193	5220.077
	5230	5230.081	5229.999	5230.171	5230.071
40	5240	5240.052	5240.019	5240.189	5240.069
	5180	5180.067	5180.005	5179.967	5180.058
	5190	5190.058	5190.008	5190.139	5190.069
	5200	5200.065	5199.999	5200.137	5200.060
	5210	5210.056	5210.013	5210.192	5210.062
	5220	5220.077	5220.000	5220.181	5220.068
50	5230	5230.055	5230.021	5230.168	5230.086
	5240	5240.072	5240.001	5240.185	5240.059
	5180	5180.067	5180.006	5180.181	5180.031
	5190	5190.058	5189.999	5190.172	5190.061
	5200	5200.065	5200.007	5200.180	5200.086
	5210	5210.056	5209.999	5210.172	5210.071
	5220	5220.077	5220.021	5220.193	5220.061
	5230	5230.055	5229.999	5230.171	5230.089
	5240	5240.072	5240.019	5240.189	5240.078

Frequency stability versus Voltage					
Temperature: 25°C					
Power Supply (VDC)	Operating Frequency (MHz)	0 minute Measured Frequency (MHz)	2 minute Measured Frequency (MHz)	5 minute Measured Frequency (MHz)	10 minute Measured Frequency (MHz)
DC 16.15V	5180	5179.972	5180.009	5180.201	5180.199
	5190	5189.968	5200.004	5190.192	5200.074
	5200	5199.962	5200.032	5200.200	5200.099
	5210	5209.967	5210.010	5210.192	5210.078
	5220	5219.962	5220.026	5220.213	5220.092
	5230	5229.959	5230.019	5230.191	5230.085
	5240	5239.931	5240.029	5240.205	5240.094
DC 19V	5180	5179.958	5180.024	5180.200	5180.084
	5190	5189.954	5180.130	5190.201	5190.083
	5200	5199.961	5200.007	5200.192	5200.077
	5210	5209.953	5210.032	5210.200	5210.068
	5220	5219.973	5220.011	5220.192	5220.077
	5230	5229.950	5230.026	5230.212	5230.076
	5240	5239.967	5240.021	5240.191	5240.080
DC 21.85V	5180	5179.972	5180.015	5180.189	5180.063
	5190	5189.968	5190.013	5190.200	5190.074
	5200	5199.962	5200.008	5200.191	5200.064
	5210	5209.967	5210.014	5210.192	5210.067
	5220	5219.962	5220.010	5220.199	5220.073
	5230	5229.959	5230.008	5230.217	5230.096
	5240	5239.931	5239.983	5240.189	5240.064

Frequency stability versus Temp.					
Power Supply: DC 19V from adapter					
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	5744.910	5745.038	5745.192	5745.073
	5755	5754.920	5755.044	5755.200	5755.061
	5775	5774.940	5775.038	5775.217	5775.073
	5785	5784.915	5785.030	5785.192	5785.079
	5795	5794.910	5795.038	5795.188	5795.098
	5825	5824.906	5824.969	5825.192	5825.090
-20	5745	5744.907	5745.049	5745.186	5745.084
	5755	5754.922	5755.050	5755.212	5755.097
	5775	5774.920	5775.055	5775.193	5775.083
	5785	5784.922	5785.047	5785.201	5785.069
	5795	5794.931	5795.039	5795.199	5795.064
	5825	5824.911	5825.050	5825.210	5825.098
-10	5745	5744.917	5745.039	5745.202	5744.703
	5755	5754.943	5755.045	5755.205	5755.086
	5775	5774.938	5775.064	5775.208	5775.088
	5785	5784.921	5785.040	5785.199	5785.090
	5795	5794.909	5795.037	5795.190	5795.074
	5825	5824.842	5825.041	5825.200	5825.070
0	5745	5744.911	5745.028	5745.202	5745.074
	5755	5754.936	5755.043	5755.205	5755.099
	5775	5774.916	5775.044	5775.208	5775.096
	5785	5784.924	5785.047	5785.199	5785.079
	5795	5794.921	5795.061	5795.190	5795.069
	5825	5824.929	5825.042	5825.200	5825.004
10	5745	5744.911	5745.038	5745.191	5745.069
	5755	5754.936	5755.054	5755.199	5755.080
	5775	5774.916	5775.057	5775.191	5775.098
	5785	5784.924	5785.039	5785.182	5785.073
	5795	5794.921	5795.057	5795.189	5795.070
	5825	5824.929	5825.057	5825.119	5825.073
20	5745	5744.927	5745.063	5745.200	5745.073
	5755	5754.941	5755.034	5755.217	5755.091
	5775	5774.925	5775.059	5775.202	5775.072
	5785	5784.911	5785.059	5785.188	5785.098
	5795	5794.904	5795.051	5795.182	5795.091
	5825	5824.936	5825.068	5825.217	5825.100
30	5745	5744.917	5745.049	5745.185	5745.098
	5755	5754.924	5755.050	5755.209	5755.069
	5775	5774.940	5775.055	5775.210	5775.093
	5785	5784.915	5785.047	5785.191	5785.092
	5795	5794.910	5795.039	5795.208	5795.084
	5825	5824.911	5825.050	5825.207	5825.099
40	5745	5744.927	5745.033	5745.202	5745.067
	5755	5754.941	5755.057	5755.205	5755.099
	5775	5774.925	5775.040	5775.208	5775.096
	5785	5784.911	5785.049	5785.199	5785.079



50	5795	5794.904	5795.048	5795.190	5795.069
	5825	5824.936	5825.060	5825.200	5825.004
	5745	5744.927	5745.063	5745.202	5745.073
	5755	5754.921	5755.034	5755.216	5755.091
	5775	5774.925	5775.059	5775.202	5775.072
	5785	5784.911	5785.059	5785.188	5785.099
	5795	5794.904	5795.050	5795.182	5795.091
	5825	5824.936	5825.072	5825.217	5825.100

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	5745.021	5745.038	5745.171	5745.062
	5755	5755.037	5755.044	5755.189	5755.086
	5775	5775.036	5775.038	5775.190	5775.068
	5785	5785.038	5785.030	5785.171	5785.076
	5795	5795.048	5795.038	5795.189	5795.075
	5825	5825.028	5824.969	5825.187	5825.085
DC 19V	5745	5745.021	5745.049	5745.166	5745.078
	5755	5755.037	5755.050	5755.192	5755.091
	5775	5775.036	5775.055	5775.173	5775.077
	5785	5785.038	5785.047	5785.181	5785.063
	5795	5795.044	5795.039	5795.179	5795.058
	5825	5825.028	5825.050	5825.190	5825.092
DC 21.85V	5745	5745.042	5745.062	5745.182	5745.067
	5755	5755.056	5755.034	5755.197	5755.085
	5775	5775.041	5775.059	5775.182	5775.066
	5785	5785.027	5785.059	5785.168	5785.092
	5795	5795.020	5795.051	5795.162	5795.085
	5825	5825.053	5825.068	5825.197	5825.094

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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