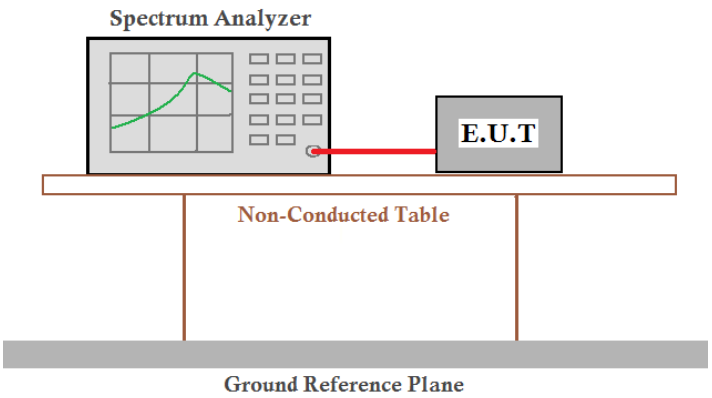
4.7 Band edge

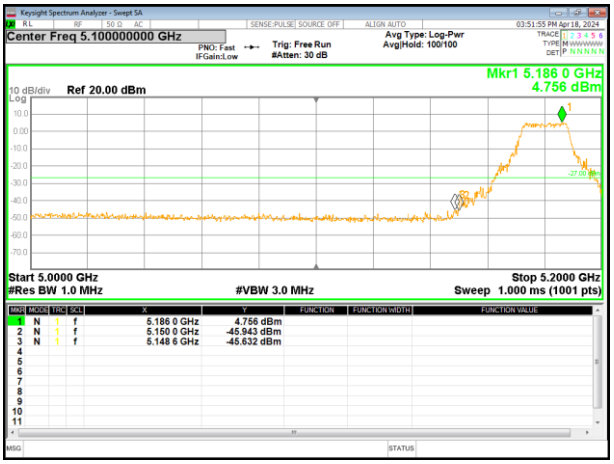
4.7.1 Conducted test Method

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.: 21.4°C	Humid.: 40%RH
Test voltage:	AC 120V	
Test results:	Pass	

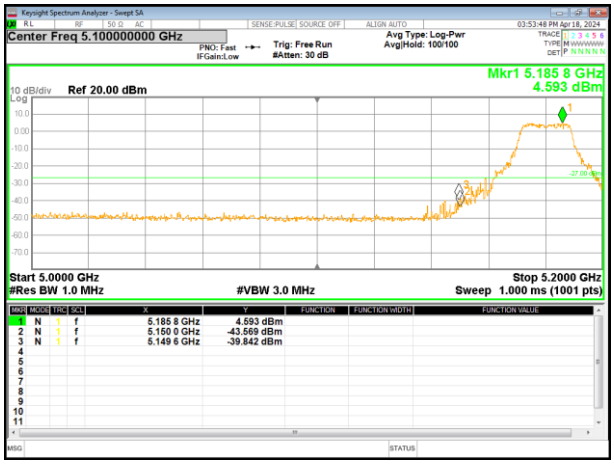
Remark: Antenna gain and cable loss data included in Offset.

5.180~5.240 GHz

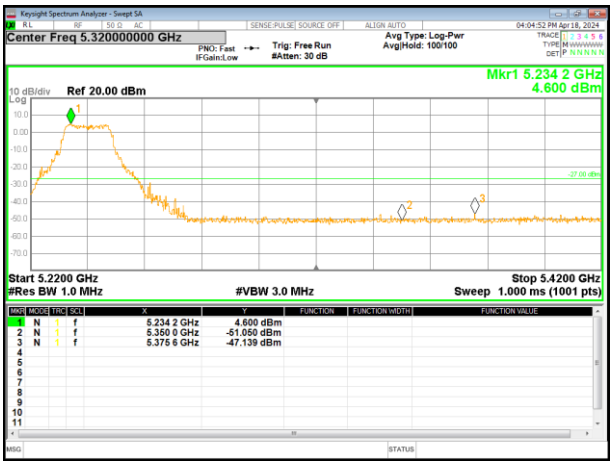
(802.11a) Band Edge, Left Side



(802.11n20) Band Edge, Left Side



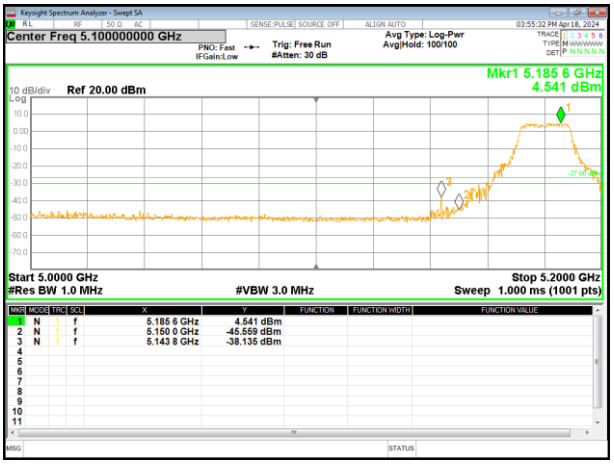
(802.11a) Band Edge, Right Side



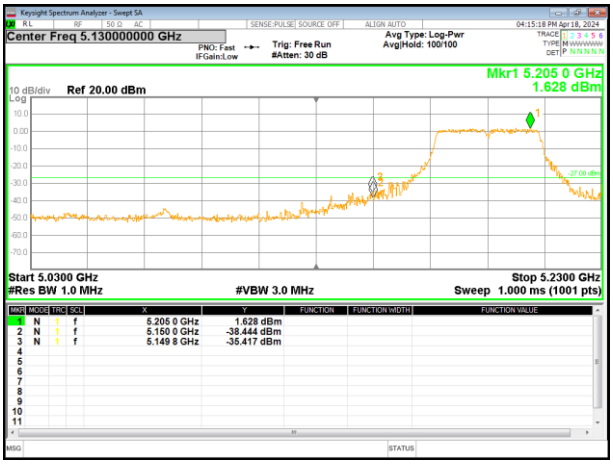
(802.11n20) Band Edge, Right Side

5.180~5.240 GHz

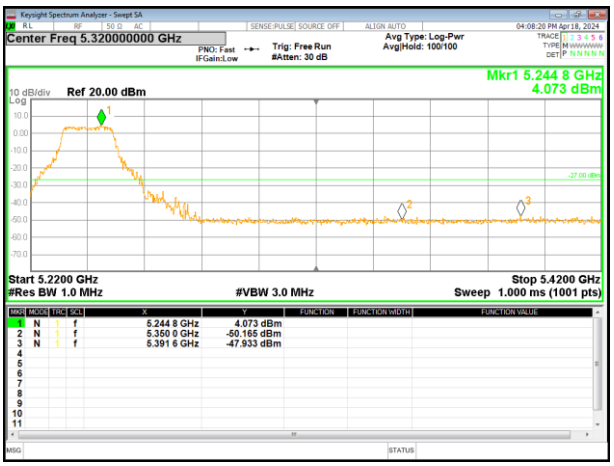
(802.11ac20) Band Edge, Left Side



(802.11n40) Band Edge, Left Side

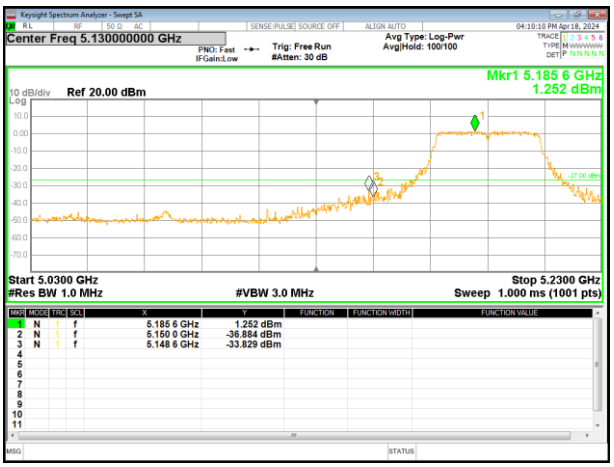


(802.11ac20) Band Edge, Right Side

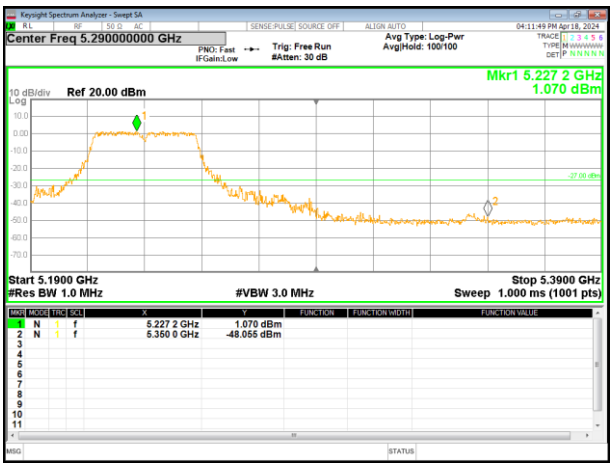


(802.11n40) Band Edge, Right Side

(802.11ac40) Band Edge, Left Side

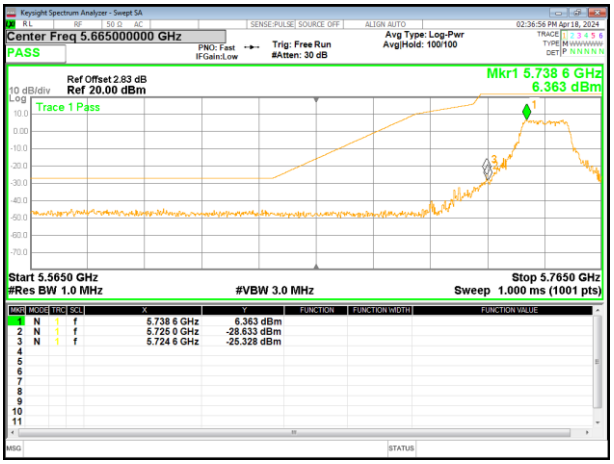


(802.11ac40) Band Edge, Right Side

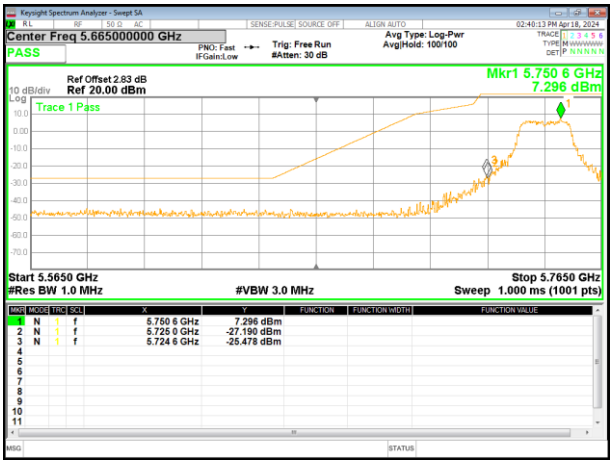


5.745~5.825 GHz

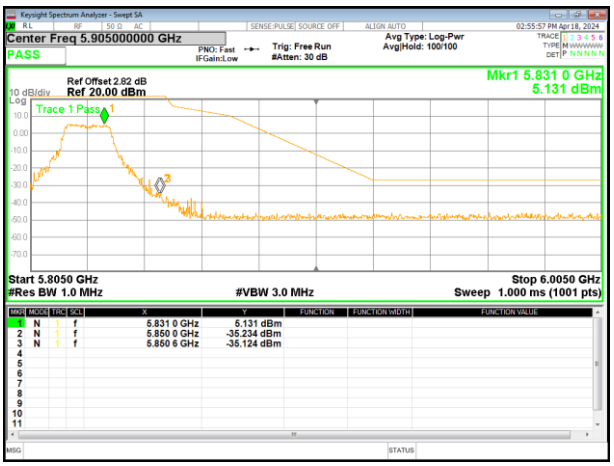
(802.11a) Band Edge, Left Side



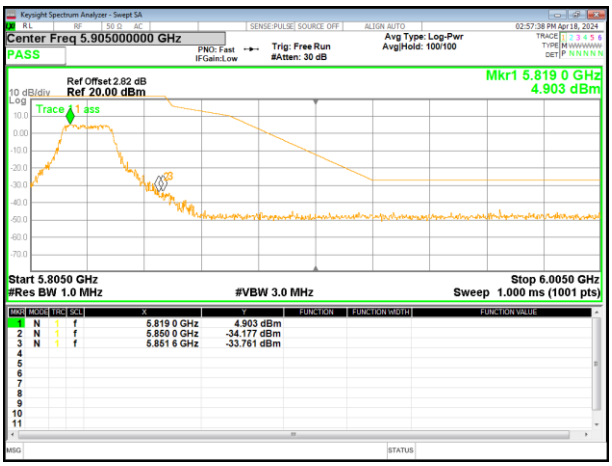
(802.11n20) Band Edge, Left Side



(802.11a) Band Edge, Right Side

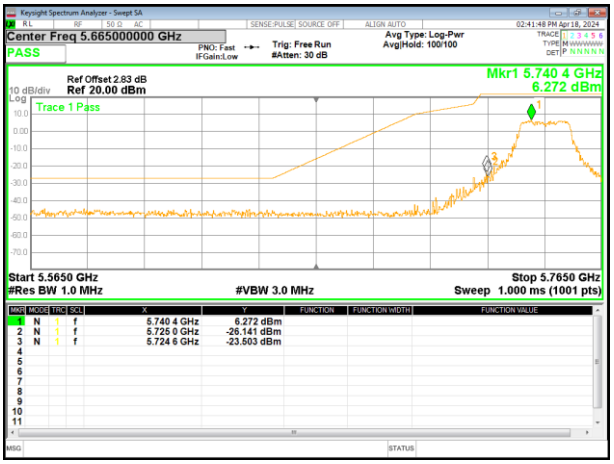


(802.11n20) Band Edge, Right Side

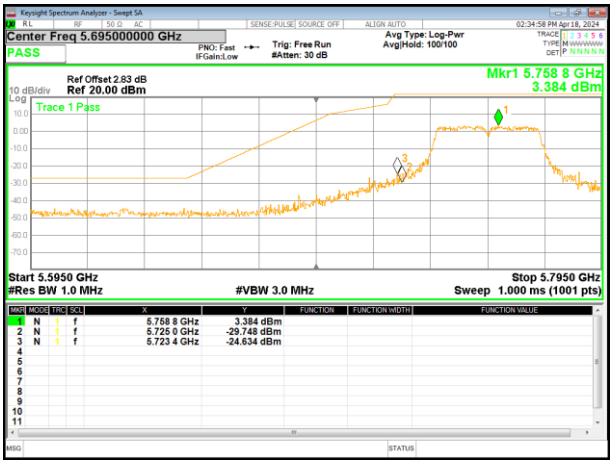


5.745~5.825 GHz

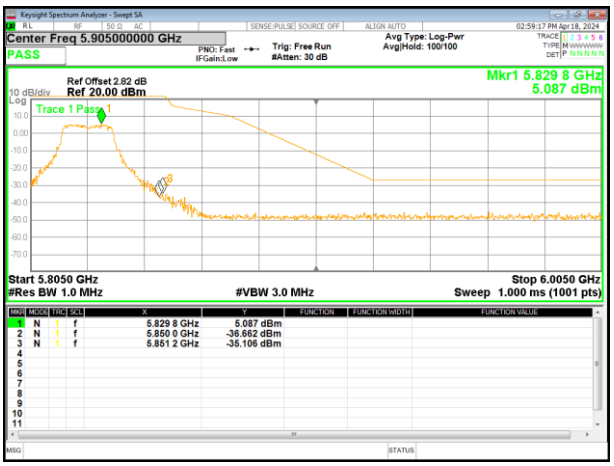
(802.11ac20) Band Edge, Left Side



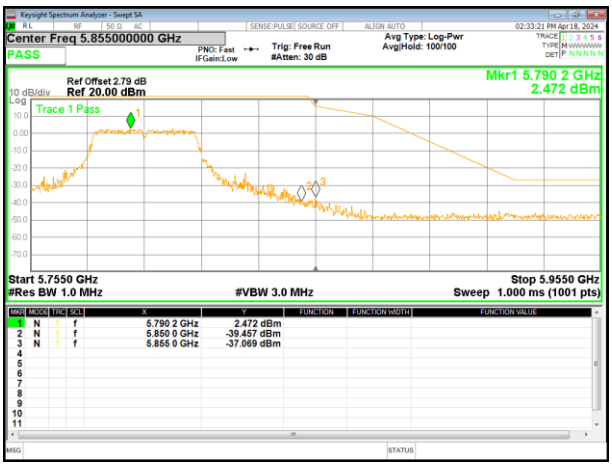
(802.11n40) Band Edge, Left Side



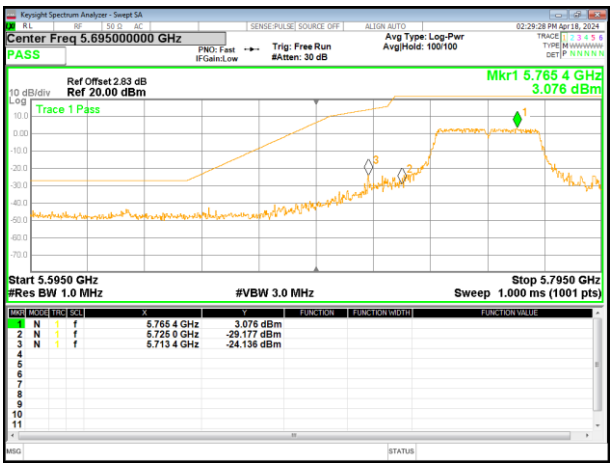
(802.11ac20) Band Edge, Right Side



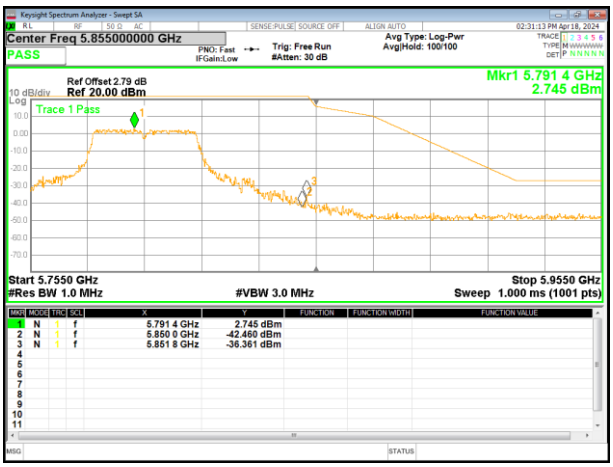
(802.11n40) Band Edge, Right Side



(802.11ac40) Band Edge, Left Side



(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

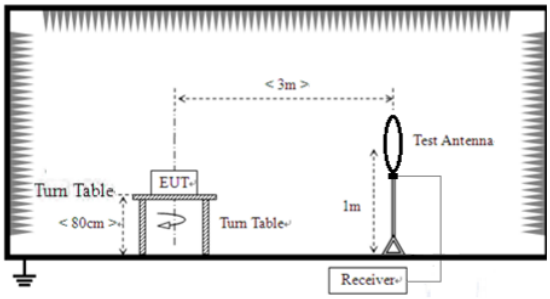
Limit:

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	

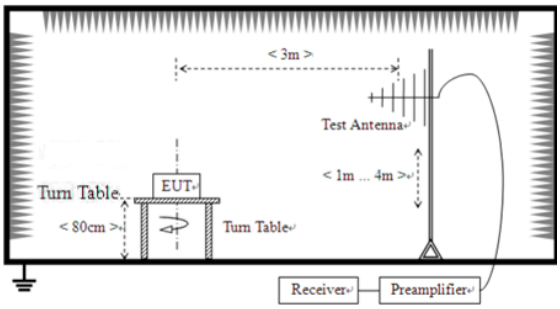
Frequency	Limit (dBm/MHz)	Remark
Above 1GHz	-27.0	Peak Value

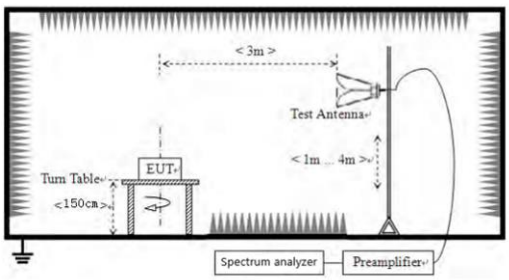
Test setup:

For radiated emissions from 9kHz to 30MHz



For radiated emissions from 30MHz 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

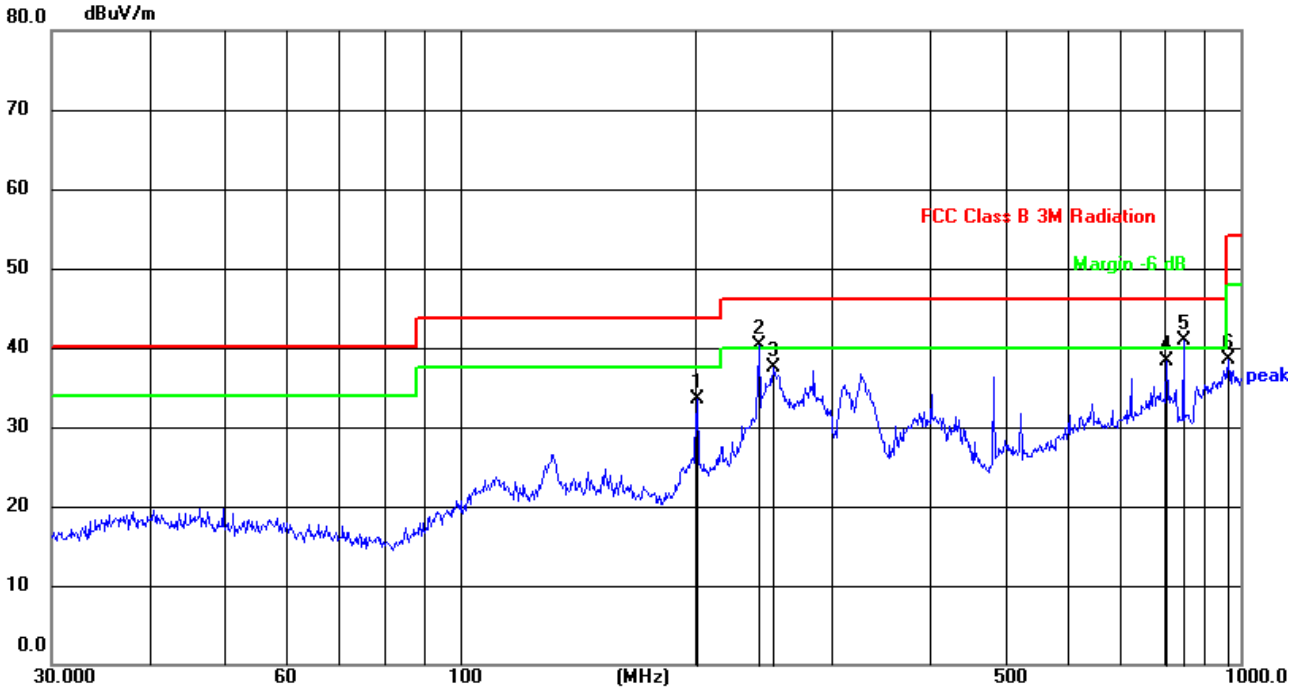
The emission from 9 kHz to 30MHz was pre-tested and found the result was 20dB lower than the limit, and according to 15.31(o) & RSS-Gen 6.13, the test result no need to reported.

Below 1GHz

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

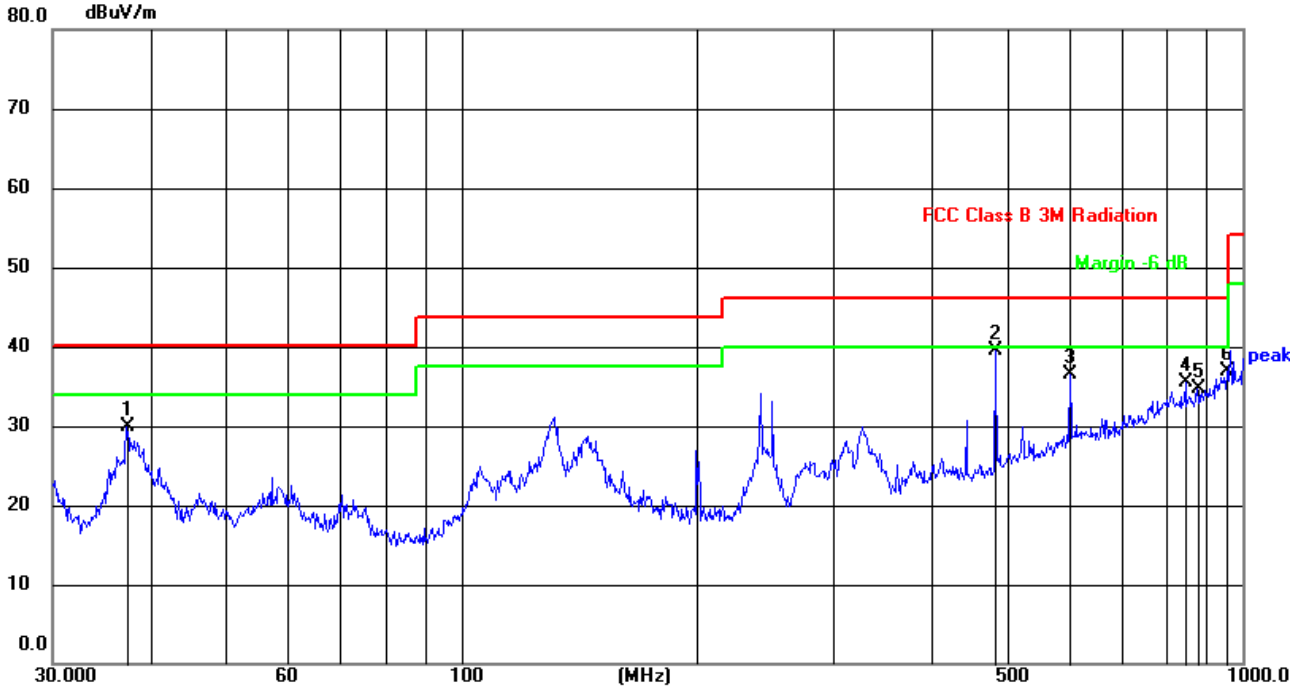
Temperature:	24.8℃	Relative Humidity:	56%
Pressure:	101.2kPar	Test Voltage :	AC 120V
Test Mode :	5.2G TX- 802.11a (5200MHz)		

Horizontal:



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	201.3930	56.86	-23.39	33.47	43.50	-10.03	QP
2	241.6763	62.78	-22.44	40.34	46.00	-5.66	QP
3	252.0627	59.80	-22.23	37.57	46.00	-8.43	QP
4	804.6027	44.87	-6.48	38.39	46.00	-7.61	QP
5	845.0877	47.26	-6.29	40.97	46.00	-5.03	QP
6	965.5420	42.17	-3.67	38.50	54.00	-15.50	QP

Vertical:



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	37.2855	51.18	-21.36	29.82	40.00	-10.18	QP
2	482.2156	54.60	-15.14	39.46	46.00	-6.54	QP
3	601.4265	48.26	-11.70	36.56	46.00	-9.44	QP
4	845.0878	41.70	-6.29	35.41	46.00	-10.59	QP
5	875.2470	40.60	-5.86	34.74	46.00	-11.26	QP
6	955.4381	40.74	-3.76	36.98	46.00	-9.02	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:

Temperature:	24.8℃	Relative Humidity:	56%
Pressure:	101.2kPar	Test Voltage :	AC 120V
Test Mode :	5.2G TX- 802.11a		

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	50.21	46.20	8.27	38.50	50.78	68.20	-17.42	PK
V	10360.00	40.21	46.20	8.27	38.50	40.78	54.00	-13.22	AV
V	15540.00	47.30	46.30	10.35	38.70	50.05	74.00	-23.95	PK
V	15540.00	37.26	46.30	10.35	38.70	40.01	54.00	-13.99	AV
V	20720.00	56.42	57.40	11.93	37.80	48.75	68.20	-19.45	PK
V	20720.00	46.38	57.40	11.93	37.80	38.71	54.00	-15.29	AV
V	25900.00	54.06	56.50	13.45	39.70	50.71	68.20	-17.49	PK
V	25900.00	43.63	56.50	13.45	39.70	40.28	54.00	-13.72	AV
H	10360.00	50.13	46.20	8.27	38.50	50.70	68.20	-17.50	PK
H	10360.00	38.84	46.20	8.27	38.50	39.41	54.00	-14.59	AV
H	15540.00	46.32	46.30	10.35	38.70	49.07	74.00	-24.93	PK
H	15540.00	34.83	46.30	10.35	38.70	37.58	54.00	-16.42	AV
H	20720.00	58.64	57.40	11.93	37.80	50.97	68.20	-17.23	PK
H	20720.00	47.28	57.40	11.93	37.80	39.61	54.00	-14.39	AV
H	25900.00	55.09	56.50	13.45	39.70	51.74	68.20	-16.46	PK
H	25900.00	43.66	56.50	13.45	39.70	40.31	54.00	-13.69	AV

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)	
Middle Channel:5200MHz									
V	10400.00	49.25	46.20	8.27	38.50	49.82	68.20	-18.38	PK
V	10400.00	39.96	46.20	8.27	38.50	40.53	54.00	-13.47	AV
V	15600.00	47.63	46.30	10.35	38.40	50.08	74.00	-23.92	PK
V	15600.00	38.79	46.30	10.35	38.40	41.24	54.00	-12.76	AV
V	20800.00	57.63	57.40	11.93	37.80	49.96	68.20	-18.24	PK
V	20800.00	47.90	57.40	11.93	37.80	40.23	54.00	-13.77	AV
V	26000.00	52.73	56.50	13.45	39.80	49.48	68.20	-18.72	PK
V	26000.00	44.86	56.50	13.45	39.80	41.61	54.00	-12.39	AV
H	10400.00	49.85	46.20	8.27	38.50	50.42	68.20	-17.78	PK
H	10400.00	40.23	46.20	8.27	38.50	40.80	54.00	-13.20	AV
H	15600.00	47.61	46.30	10.35	38.40	50.06	74.00	-23.94	PK
H	15600.00	38.79	46.30	10.35	38.40	41.24	54.00	-12.76	AV
H	20800.00	56.58	57.40	11.93	37.80	48.91	68.20	-19.29	PK
H	20800.00	45.80	57.40	11.93	37.80	38.13	54.00	-15.87	AV
H	26000.00	52.47	56.50	13.45	39.80	49.22	68.20	-18.98	PK
H	26000.00	44.07	56.50	13.45	39.80	40.82	54.00	-13.18	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	49.25	46.20	8.27	38.50	49.82	68.20	-18.38	PK
V	10480.00	39.96	46.20	8.27	38.50	40.53	54.00	-13.47	AV
V	15720.00	47.63	46.30	10.35	38.40	50.08	74.00	-23.92	PK
V	15720.00	38.79	46.30	10.35	38.40	41.24	54.00	-12.76	AV
V	20960.00	57.63	57.40	11.93	37.80	49.96	68.20	-18.24	PK
V	20960.00	47.90	57.40	11.93	37.80	40.23	54.00	-13.77	AV
V	26200.00	52.73	56.50	13.45	39.80	49.48	68.20	-18.72	PK
V	26200.00	44.86	56.50	13.45	39.80	41.61	54.00	-12.39	AV
H	10480.00	49.85	46.20	8.27	38.50	50.42	68.20	-17.78	PK
H	10480.00	40.23	46.20	8.27	38.50	40.80	54.00	-13.20	AV
H	15720.00	47.61	46.30	10.35	38.40	50.06	74.00	-23.94	PK
H	15720.00	38.79	46.30	10.35	38.40	41.24	54.00	-12.76	AV
H	20960.00	56.58	57.40	11.93	37.80	48.91	68.20	-19.29	PK
H	20960.00	45.80	57.40	11.93	37.80	38.13	54.00	-15.87	AV
H	26200.00	52.47	56.50	13.45	39.80	49.22	68.20	-18.98	PK
H	26200.00	44.07	56.50	13.45	39.80	40.82	54.00	-13.18	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:	24.8℃	Relative Humidity:	56%
Pressure:	101.2kPar	Test Voltage :	AC 120V
Test Mode :	5.8G TX- 802.11a		

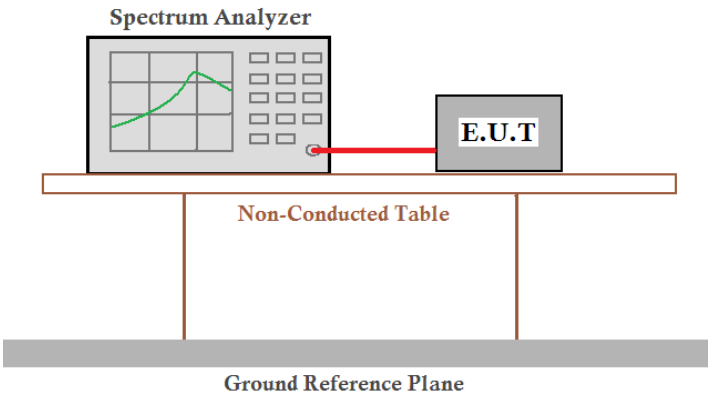
Polar (H/V)	Frequency (MHz)	Meter Reading (dBuV)	Pre-amplifier (dB)	Cable Loss (dB)	Antenn Factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Detector Typ
Low Channel:5745MHz									
V	11490.00	45.38	46.10	8.77	39.10	47.15	74.00	-26.85	PK
V	11490.00	37.49	46.10	8.77	39.10	39.26	54.00	-14.75	AV
V	17235.00	43.05	47.60	11.10	38.70	45.25	68.20	-22.95	PK
V	17235.00	35.98	47.60	11.10	38.70	38.18	54.00	-15.82	AV
V	22980.00	51.51	56.90	12.73	37.70	45.04	74.00	-28.96	PK
V	22980.00	43.74	56.90	12.73	37.70	37.27	54.00	-16.73	AV
V	28725.00	48.42	55.60	14.25	40.30	47.37	68.20	-20.83	PK
V	28725.00	40.17	55.60	14.25	40.30	39.12	54.00	-14.88	AV
H	11490.00	45.86	46.10	8.77	39.10	47.63	74.00	-26.37	PK
H	11490.00	37.31	46.10	8.77	39.10	39.08	54.00	-14.92	AV
H	17235.00	44.04	47.60	11.10	38.70	46.24	68.20	-21.96	PK
H	17235.00	36.36	47.60	11.10	38.70	38.56	54.00	-15.44	AV
H	22980.00	53.66	56.90	12.73	37.70	47.19	74.00	-26.81	PK
H	22980.00	43.52	56.90	12.73	37.70	37.05	54.00	-16.95	AV
H	28725.00	50.32	55.60	14.25	40.30	49.27	68.20	-18.93	PK
H	28725.00	40.78	55.60	14.25	40.30	39.73	54.00	-14.27	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	45.20	46.10	8.77	39.10	46.97	74.00	-27.03	PK
V	11570.00	37.30	46.10	8.77	39.10	39.07	54.00	-14.93	AV
V	17355.00	42.88	47.60	11.10	38.70	45.08	68.20	-23.13	PK
V	17355.00	35.76	47.60	11.10	38.70	37.96	54.00	-16.04	AV
V	23140.00	51.34	56.90	12.73	37.70	44.87	74.00	-29.13	PK
V	23140.00	43.56	56.90	12.73	37.70	37.09	54.00	-16.91	AV
V	28925.00	48.23	55.60	14.25	40.30	47.18	68.20	-21.02	PK
V	28925.00	39.97	55.60	14.25	40.30	38.92	54.00	-15.08	AV
H	11570.00	45.67	46.10	8.77	39.10	47.44	74.00	-26.56	PK
H	11570.00	37.11	46.10	8.77	39.10	38.88	54.00	-15.12	AV
H	17355.00	43.86	47.60	11.10	38.70	46.06	68.20	-22.15	PK
H	17355.00	36.18	47.60	11.10	38.70	38.38	54.00	-15.62	AV
H	23140.00	53.46	56.90	12.73	37.70	46.99	74.00	-27.01	PK
H	23140.00	43.36	56.90	12.73	37.70	36.89	54.00	-17.11	AV
H	28925.00	50.15	55.60	14.25	40.30	49.10	68.20	-19.10	PK
H	28925.00	40.59	55.60	14.25	40.30	39.54	54.00	-14.46	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	46.27	46.10	8.77	39.10	48.04	74.00	-25.96	PK
V	11650.00	37.49	46.10	8.77	39.10	39.26	54.00	-14.75	AV
V	17475.00	44.19	47.90	11.23	38.90	46.42	68.20	-21.78	PK
V	17475.00	36.77	47.90	11.23	38.90	39.00	54.00	-15.00	AV
V	23300.00	53.59	57.10	12.73	37.80	47.02	68.20	-21.18	PK
V	23300.00	44.45	57.10	12.73	37.80	37.88	54.00	-16.12	AV
V	29125.00	50.41	55.80	14.25	40.50	49.36	68.20	-18.84	PK
V	29125.00	41.82	55.80	14.25	40.50	40.77	54.00	-13.23	AV
H	11650.00	48.21	46.10	8.77	39.10	49.98	74.00	-24.02	PK
H	11650.00	39.80	46.10	8.77	39.10	41.57	54.00	-12.43	AV
H	17475.00	45.37	47.90	11.23	38.90	47.60	68.20	-20.60	PK
H	17475.00	38.01	47.90	11.23	38.90	40.24	54.00	-13.76	AV
H	23300.00	54.94	57.10	12.73	37.80	48.37	68.20	-19.83	PK
H	23300.00	45.88	57.10	12.73	37.80	39.31	54.00	-14.69	AV
H	29125.00	51.44	55.80	14.25	40.50	50.39	68.20	-17.81	PK
H	29125.00	42.51	55.80	14.25	40.50	41.46	54.00	-12.54	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

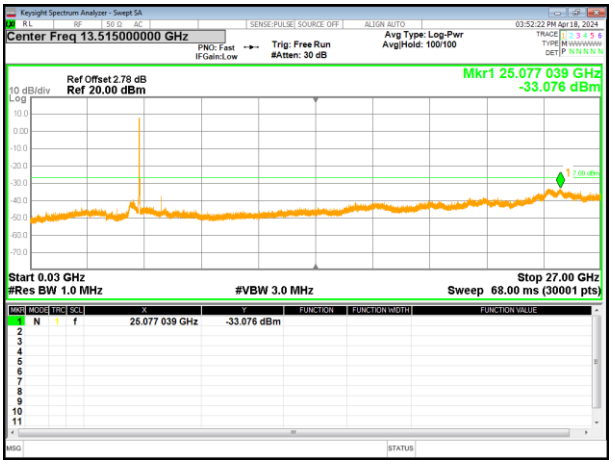
Test Requirement:	FCC Part15 C Section 15.209, Part 15E Section 15.407(b)(4)	
Test Method:	ANSI C63.10:2013	
Limit:	-27dBm/MHz	
Test setup:		
Test Instruments:	Refer to section 3.0 for details	
Test mode:	Refer to section 2.2 for details	
Test environment:	Temp.: 21.4°C	Humid.:40%RH
Test voltage:	AC 120V	
Test results:	Pass	

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

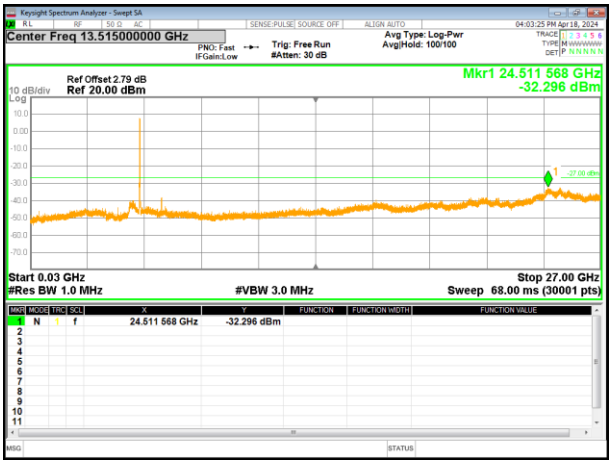
5180-5240MHz

Test Plot

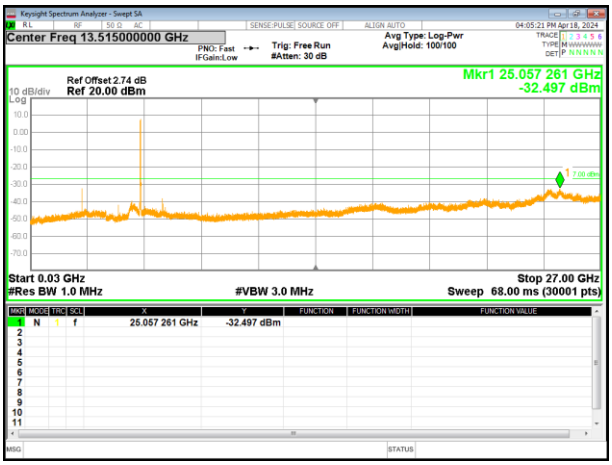
802.11a on channel 36



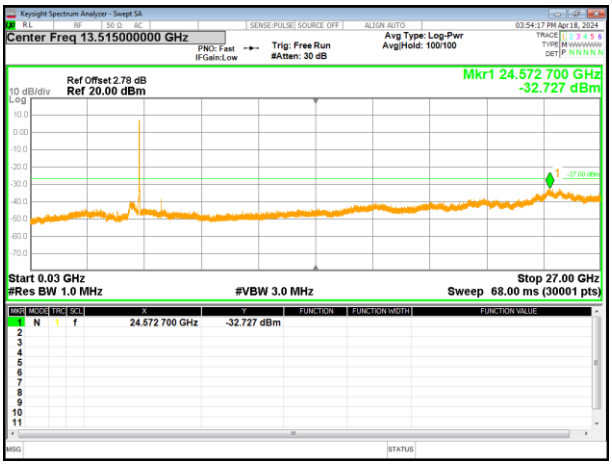
802.11a on channel 40



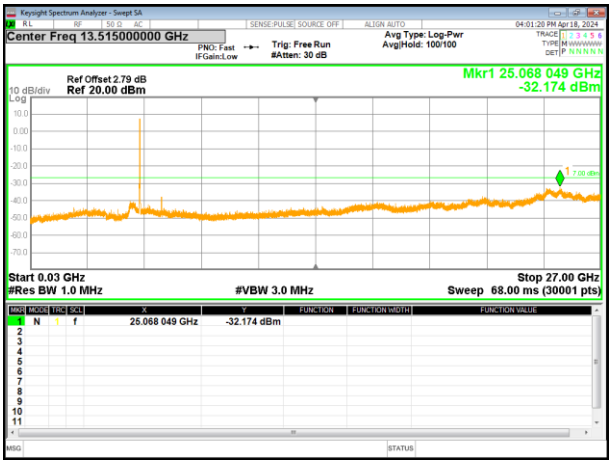
802.11a on channel 48



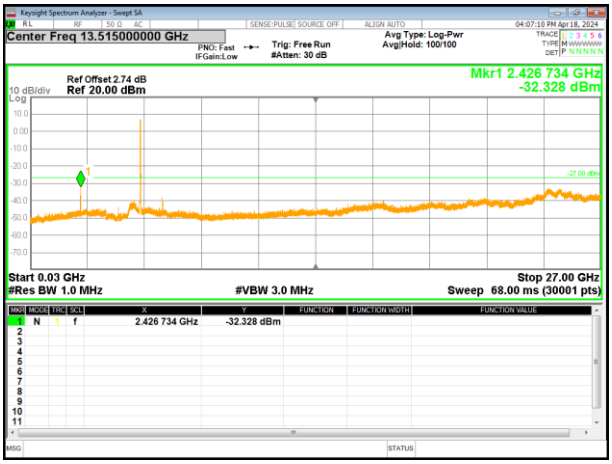
802.11n20 on channel 36



802.11n20 on channel 40

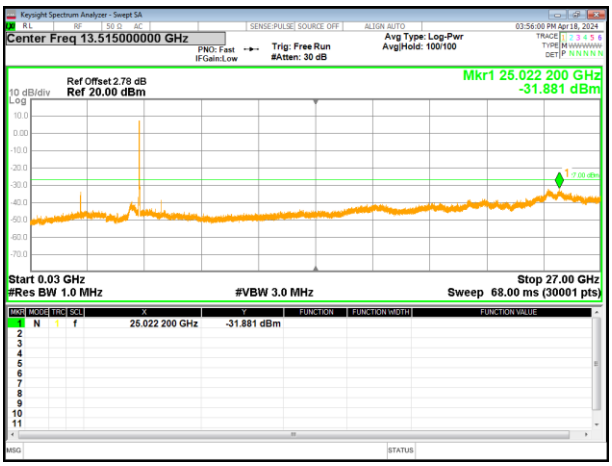


802.11n20 on channel 48

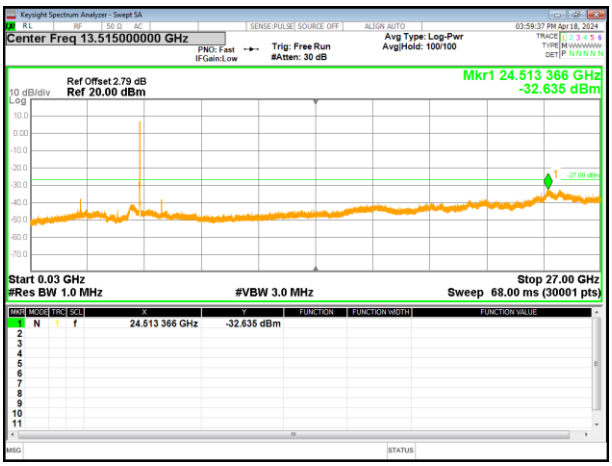


Test Plot

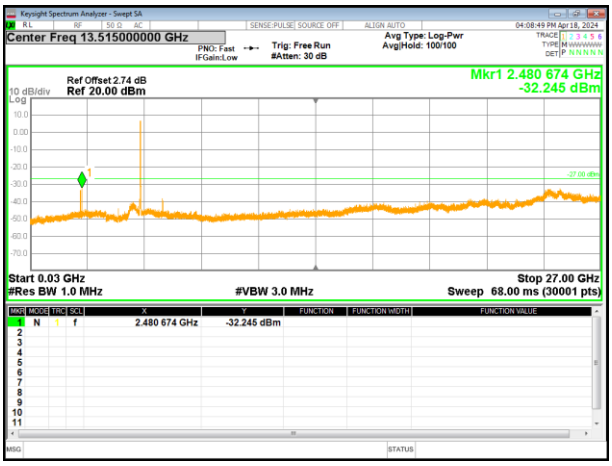
802.11ac20 on channel 36



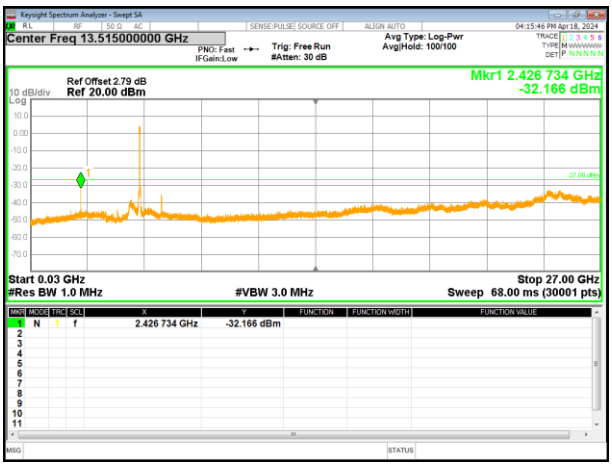
802.11ac20 on channel 40



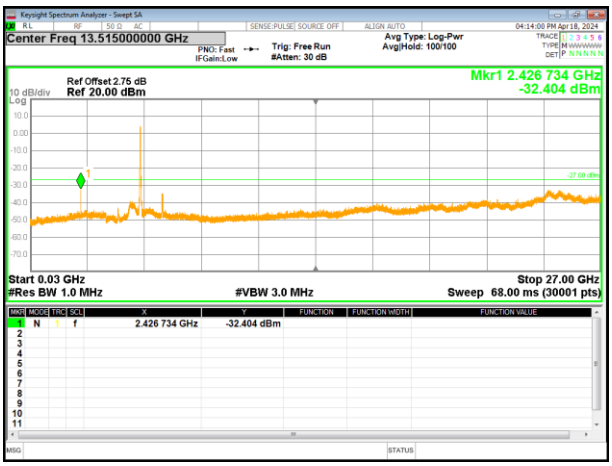
802.11ac20 on channel 48



802.11n40 on channel 38

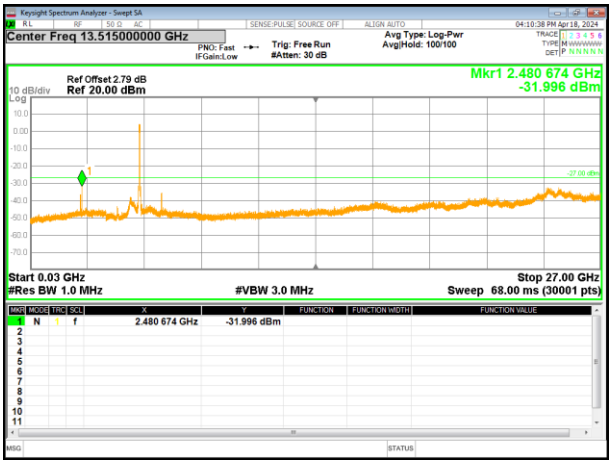


802.11n40 on channel 46

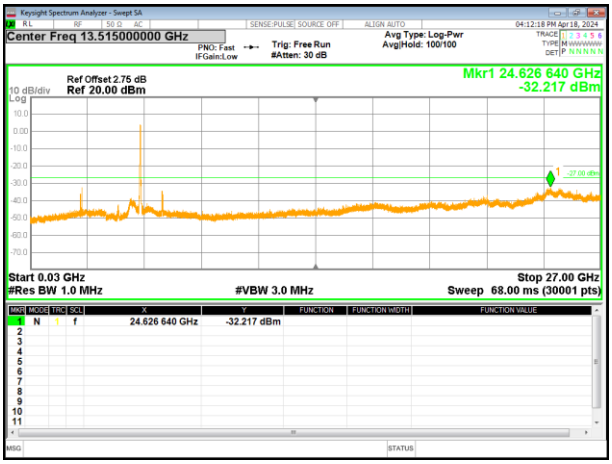


Test Plot

802.11ac40 on channel 38



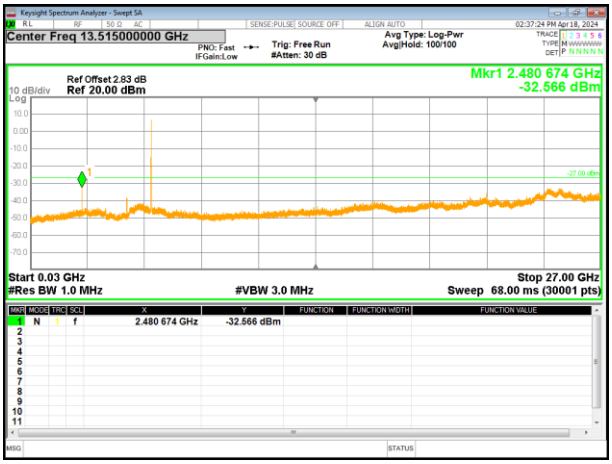
802.11ac40 on channel 46



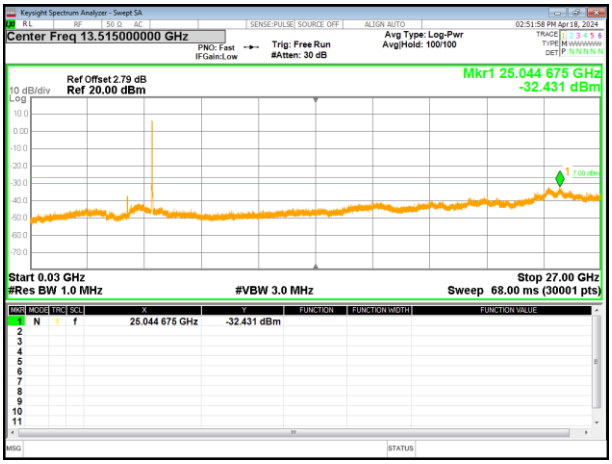
5745-5825MHz

Test Plot

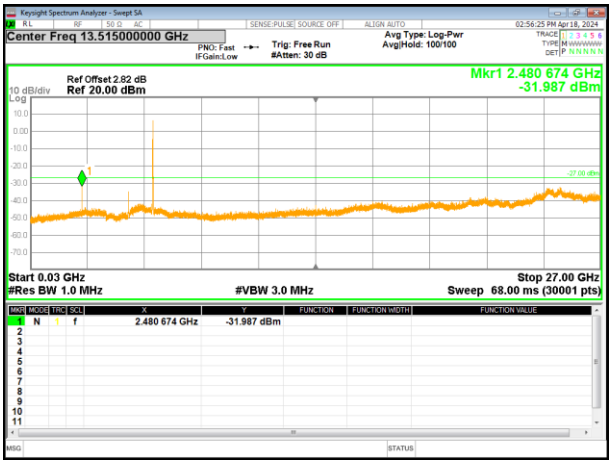
802.11a on channel 149



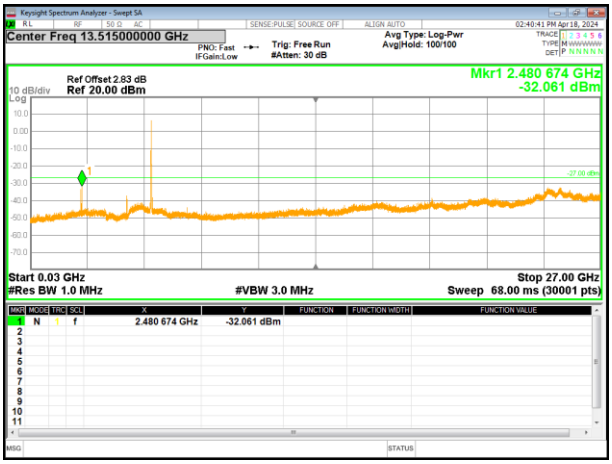
802.11a on channel 157



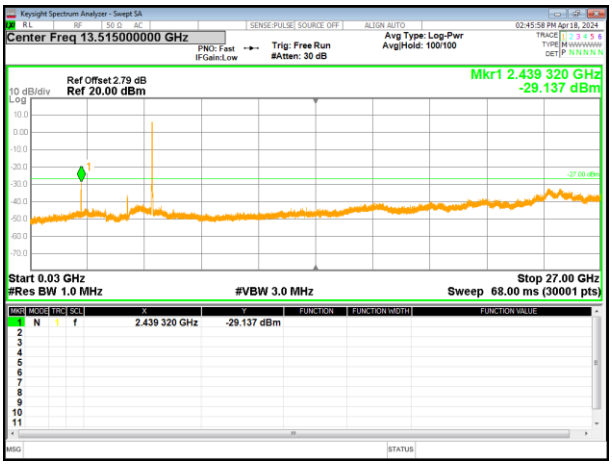
802.11a on channel 165



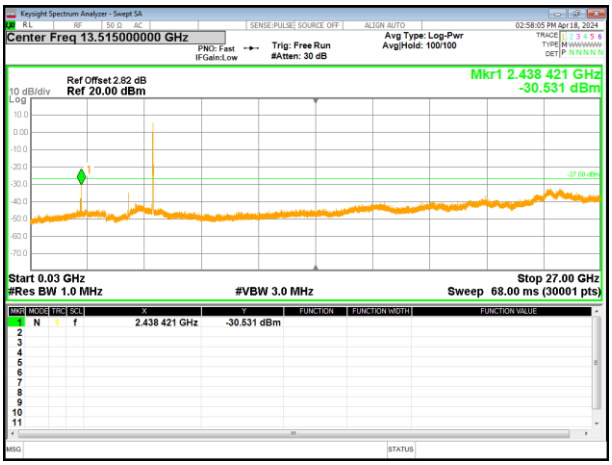
802.11n20 on channel 149



802.11n20 on channel 157

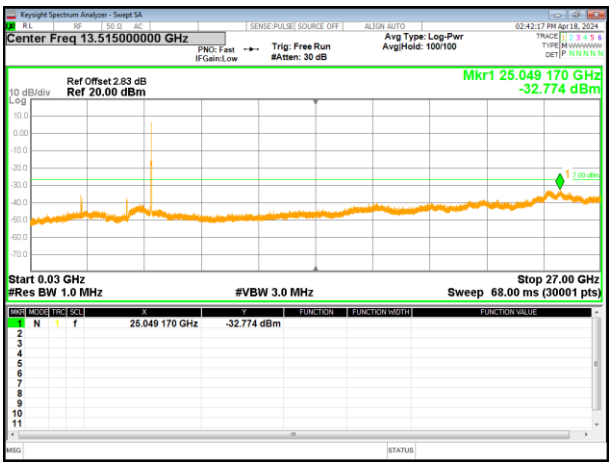


802.11n20 on channel 165

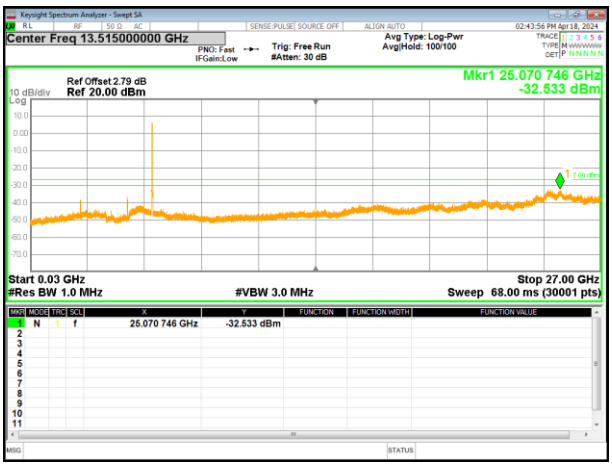


Test Plot

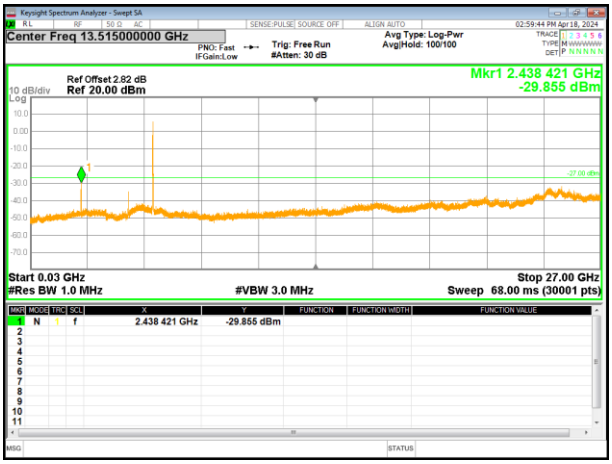
802.11ac20 on channel 149



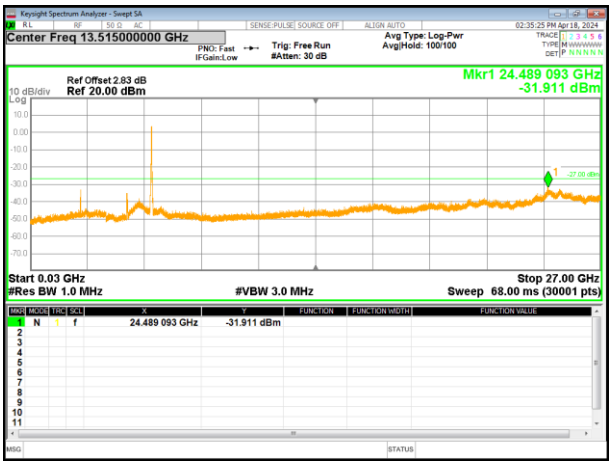
802.11ac20 on channel 157



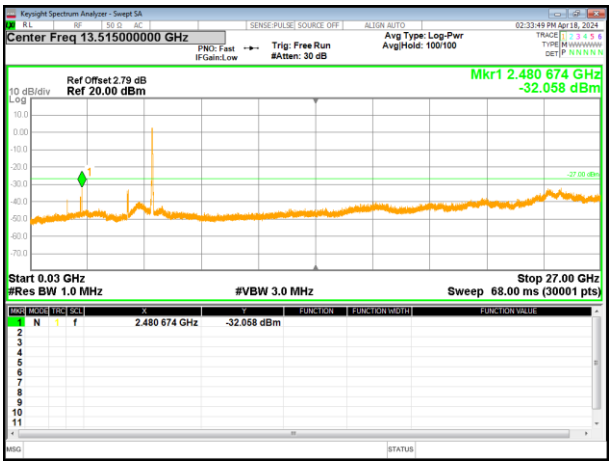
802.11ac20 on channel 165



802.11n40 on channel 151

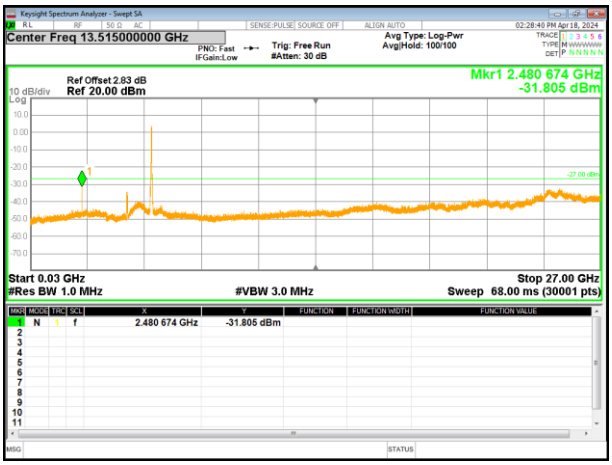


802.11n40 on channel 159

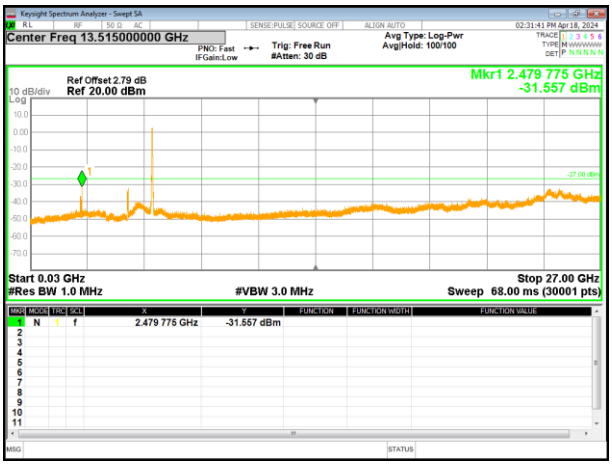


Test Plot

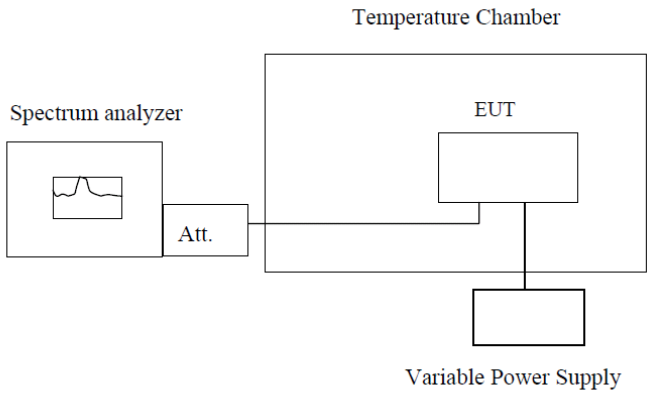
802.11ac40 on channel 151



802.11ac40 on channel 159



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: AC 120V					
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	5180.363	5180.351	5180.084	5180.320
	5190	5190.353	5200.369	5199.960	5190.330
	5200	5200.356	5200.354	5199.985	5200.320
	5210	5210.362	5210.333	5209.963	5210.321
	5220	5220.357	5220.349	5219.979	5220.326
	5230	5230.355	5230.343	5229.971	5230.344
	5240	5240.328	5240.353	5239.980	5240.329
-20	5180	5180.356	5180.327	5179.969	5180.341
	5190	5190.347	5190.320	5189.969	5190.336
	5200	5200.355	5200.329	5199.963	5200.330
	5210	5210.347	5210.322	5209.953	5210.336
	5220	5220.368	5220.344	5219.964	5220.329
	5230	5230.346	5230.323	5299.961	5230.327
	5240	5240.364	5240.343	5239.966	5240.300
-10	5180	5180.365	5180.336	5179.948	5180.320
	5190	5190.361	5190.334	5189.960	5190.330
	5200	5200.356	5200.330	5199.951	5200.320
	5210	5210.362	5210.337	5209.952	5210.321
	5220	5220.357	5220.333	5219.960	5220.326
	5230	5230.355	5230.332	5229.977	5230.344
	5240	5240.328	5240.307	5239.950	5240.316
0	5180	5180.142	5180.315	5179.960	5180.331
	5190	5200.314	5190.328	5189.952	5190.331
	5200	5200.312	5200.320	5199.960	5200.321
	5210	5210.367	5210.322	5209.952	5300.324
	5220	5220.356	5220.330	5219.974	5220.319
	5230	5230.343	5230.349	5229.951	5230.340
	5240	5240.360	5240.323	5239.970	5240.318
10	5180	5180.344	5180.327	5179.969	5180.332
	5190	5190.355	5190.320	5189.966	5190.322
	5200	5200.346	5200.329	5199.961	5200.329
	5210	5210.347	5210.322	5209.967	5210.321
	5220	5220.354	5220.344	5219.963	5220.340
	5230	5230.372	5230.323	5229.960	5230.318
	5240	5240.357	5240.343	5239.934	5240.336
20	5180	5180.422	5179.580	5180.218	5180.094

	5190	5190.365	5190.371	5190.263	5190.358
	5200	5200.360	5200.363	5200.272	5200.382
	5210	5210.366	5300.385	5210.265	5210.366
	5220	5220.361	5220.365	5220.287	5220.356
	5230	5230.359	5230.387	5230.265	5230.384
	5240	5240.332	5240.367	5240.284	5240.372
30	5180	5180.348	5180.368	5180.271	5180.377
	5190	5190.359	5190.362	5190.263	5180.377
	5200	5200.350	5200.371	5200.272	5190.372
	5210	5210.351	5210.364	5210.265	5200.366
	5220	5220.358	5220.386	5220.287	5210.372
	5230	5230.376	5230.365	5230.265	5220.366
	5240	5240.348	5240.385	5240.284	5230.364
40	5180	5180.360	5180.367	5180.057	5180.356
	5190	5190.351	5190.371	5200.231	5190.366
	5200	5200.359	5200.363	5200.229	5200.356
	5210	5210.351	5300.385	5210.285	5210.357
	5220	5220.372	5220.365	5220.275	5220.363
	5230	5230.350	5230.387	5230.262	5230.381
	5240	5240.368	5240.367	5240.280	5240.353
50	5180	5180.360	5180.368	5180.271	5180.329
	5190	5190.351	5190.362	5190.263	5190.358
	5200	5200.359	5200.371	5200.272	5200.382
	5210	5210.351	5210.364	5210.265	5210.366
	5220	5220.372	5220.386	5220.287	5220.356
	5230	5230.350	5230.365	5230.265	5230.384
	5240	5240.368	5240.385	5240.284	5240.372

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)
10.20	5180	5180.369	5180.371	5180.271	5180.492
	5190	5190.365	5200.368	5190.263	5200.365
	5200	5200.360	5200.396	5200.272	5200.390
	5210	5210.366	5210.375	5210.265	5210.368
	5220	5220.361	5220.391	5220.287	5220.382
	5230	5230.359	5230.385	5230.265	5230.375
	5240	5240.332	5240.395	5240.280	5240.383
12.00	5180	5180.355	5180.386	5180.270	5180.377
	5190	5190.351	5180.492	5190.272	5190.375
	5200	5200.359	5200.371	5200.264	5200.368
	5210	5210.352	5210.397	5300.278	5210.358
	5220	5220.372	5220.376	5220.266	5220.367
	5230	5230.350	5230.392	5230.286	5300.362
	5240	5240.368	5240.387	5240.266	5240.369
13.80	5180	5180.369	5180.377	5180.259	5180.356
	5190	5190.365	5190.376	5190.271	5190.366
	5200	5200.360	5200.372	5200.263	5200.355
	5210	5210.366	5210.379	5210.265	5210.357
	5220	5220.361	5220.375	5220.273	5220.363
	5230	5230.359	5230.374	5230.291	5230.386
	5240	5240.332	5240.349	5240.264	5240.353

Frequency stability versus Temp.					
Power Supply: AC 120V					
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	5745.344	5745.441	5745.299	5745.335
	5755	5755.354	5755.449	5755.306	5755.323
	5775	5775.375	5775.445	5775.325	5775.333
	5785	5785.351	5785.438	5785.301	5785.339
	5795	5795.347	5795.446	5795.298	5795.357
	5825	5825.345	5825.379	5825.303	5825.348
-20	5745	5745.341	5745.452	5745.293	5745.346
	5755	5755.356	5755.455	5755.318	5755.359
	5775	5775.355	5775.462	5775.301	5775.343
	5785	5785.358	5785.455	5785.310	5785.329
	5795	5795.368	5795.447	5795.309	5795.323
	5825	5825.350	5825.460	5825.321	5825.356
-10	5745	5745.351	5745.442	5745.309	5744.965
	5755	5755.377	5755.450	5755.311	5755.348
	5775	5775.373	5775.471	5775.316	5775.348
	5785	5785.357	5785.448	5785.308	5785.350
	5795	5795.346	5795.445	5795.300	5795.333
	5825	5825.281	5825.451	5825.311	5825.328
0	5745	5745.345	5745.431	5745.309	5745.336
	5755	5755.370	5755.448	5755.311	5755.361
	5775	5775.351	5775.451	5775.316	5775.356
	5785	5785.360	5785.455	5785.308	5785.339
	5795	5795.358	5795.469	5795.300	5795.328
	5825	5825.368	5825.452	5825.311	5825.262
10	5745	5745.345	5745.441	5745.298	5745.331
	5755	5755.370	5755.459	5755.305	5755.342
	5775	5775.351	5775.464	5775.299	5775.358
	5785	5785.360	5785.447	5785.291	5785.333
	5795	5795.358	5795.465	5795.299	5795.329
	5825	5825.368	5825.467	5825.230	5825.331
20	5745	5745.361	5745.466	5745.307	5745.335
	5755	5755.375	5755.439	5755.323	5755.353
	5775	5775.360	5775.466	5775.310	5775.332
	5785	5785.347	5785.467	5785.297	5785.358
	5795	5795.341	5795.459	5795.292	5795.350
	5825	5825.375	5825.478	5825.328	5825.358
30	5745	5745.351	5745.452	5745.292	5745.360
	5755	5755.358	5755.455	5755.315	5755.331
	5775	5775.375	5775.462	5775.318	5775.353
	5785	5785.351	5785.455	5785.300	5785.352
	5795	5795.347	5795.447	5795.318	5795.343
	5825	5825.350	5825.460	5825.318	5825.357
40	5745	5745.361	5745.436	5745.309	5745.329
	5755	5755.375	5755.462	5755.311	5755.361

	5775	5775.360	5775.447	5775.316	5775.356
	5785	5785.347	5785.457	5785.308	5785.339
	5795	5795.341	5795.456	5795.300	5795.328
	5825	5825.375	5825.470	5825.311	5825.262
50	5745	5745.361	5745.466	5745.309	5745.335
	5755	5755.355	5755.439	5755.322	5755.353
	5775	5775.360	5775.466	5775.310	5775.332
	5785	5785.347	5785.467	5785.297	5785.359
	5795	5795.341	5795.458	5795.292	5795.350
	5825	5825.375	5825.482	5825.328	5825.358

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)
108	5745	5745.340	5745.441	5745.298	5745.330
	5755	5755.356	5755.449	5755.315	5755.354
	5775	5775.355	5775.445	5775.318	5775.334
	5785	5785.358	5785.438	5785.300	5785.342
	5795	5795.369	5795.446	5795.319	5795.340
	5825	5825.350	5825.379	5825.318	5825.349
120	5745	5745.340	5745.452	5745.293	5745.346
	5755	5755.356	5755.455	5755.318	5755.359
	5775	5775.355	5775.462	5775.301	5775.343
	5785	5785.358	5785.455	5785.310	5785.329
	5795	5795.365	5795.447	5795.309	5795.323
	5825	5825.350	5825.460	5825.321	5825.356
132	5745	5745.361	5745.465	5745.309	5745.335
	5755	5755.375	5755.439	5755.323	5755.353
	5775	5775.360	5775.466	5775.310	5775.332
	5785	5785.347	5785.467	5785.297	5785.358
	5795	5795.341	5795.459	5795.292	5795.350
	5825	5825.375	5825.478	5825.328	5825.358

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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