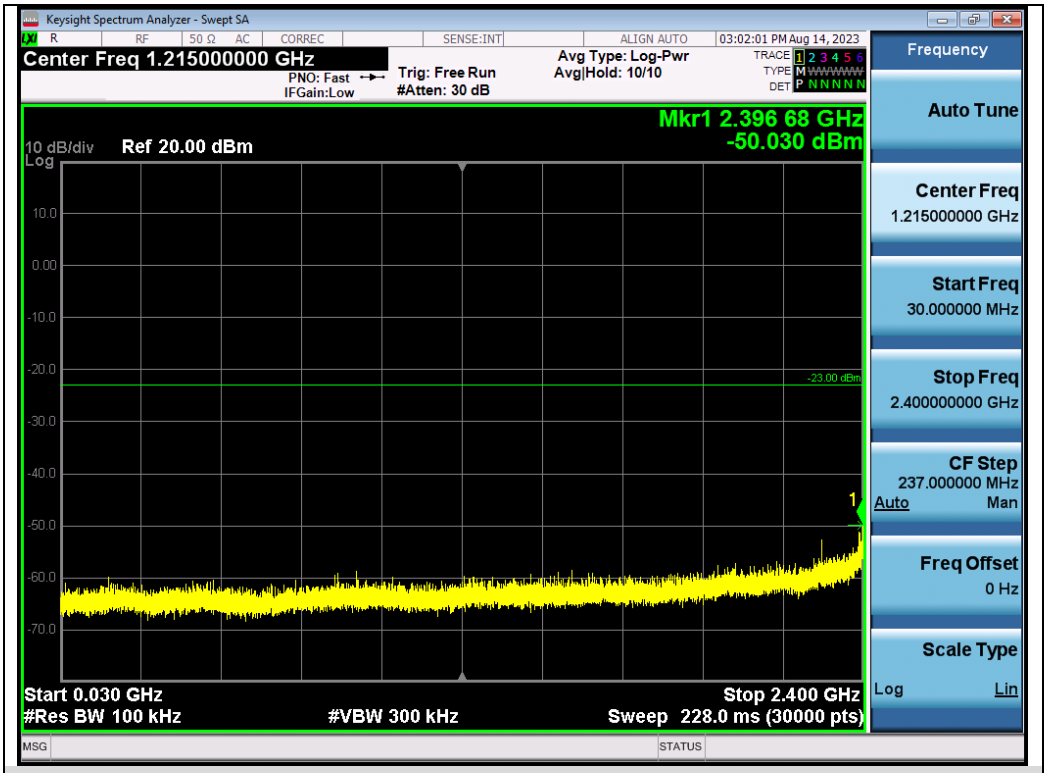
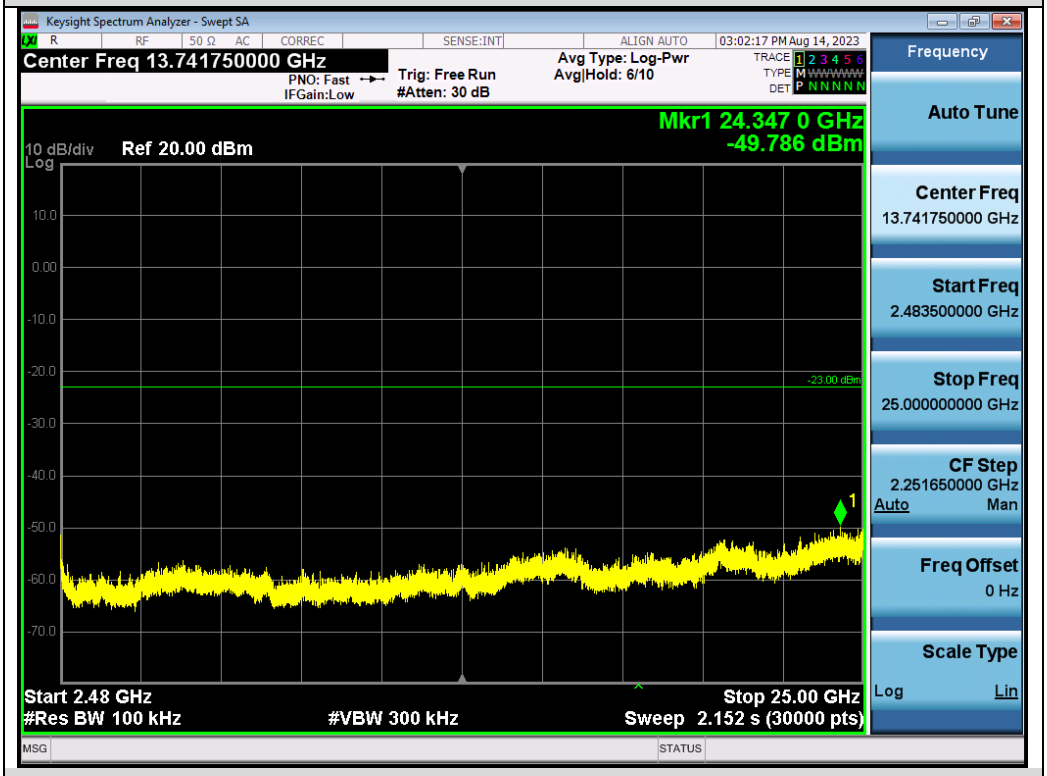
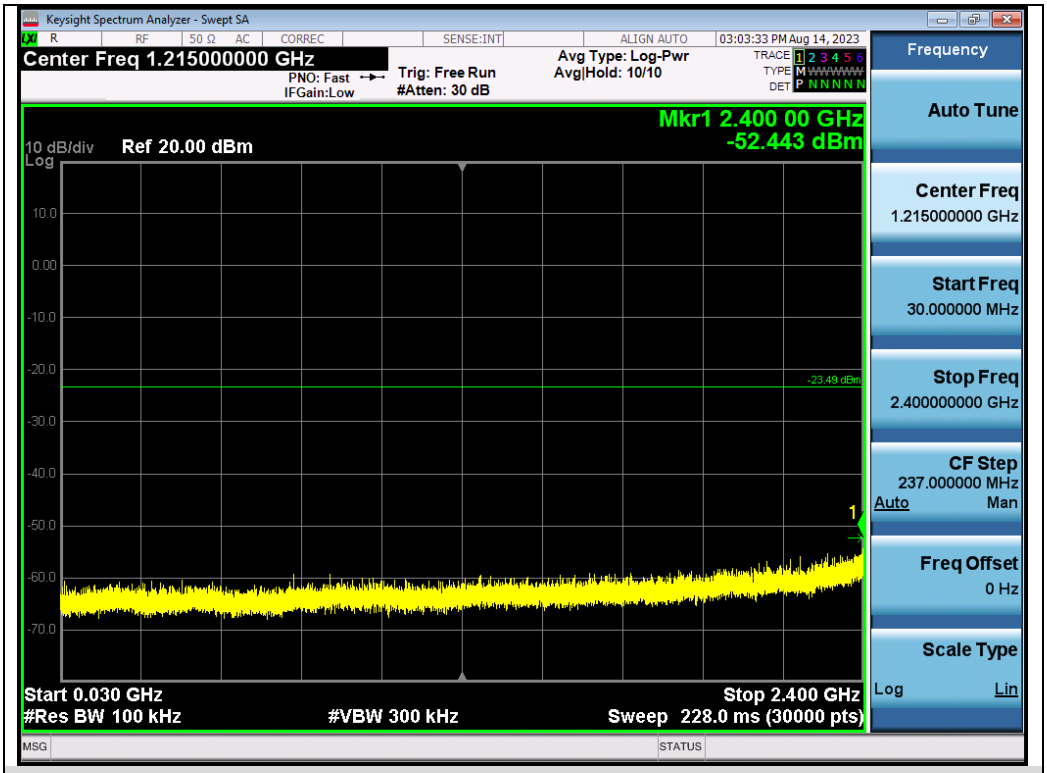


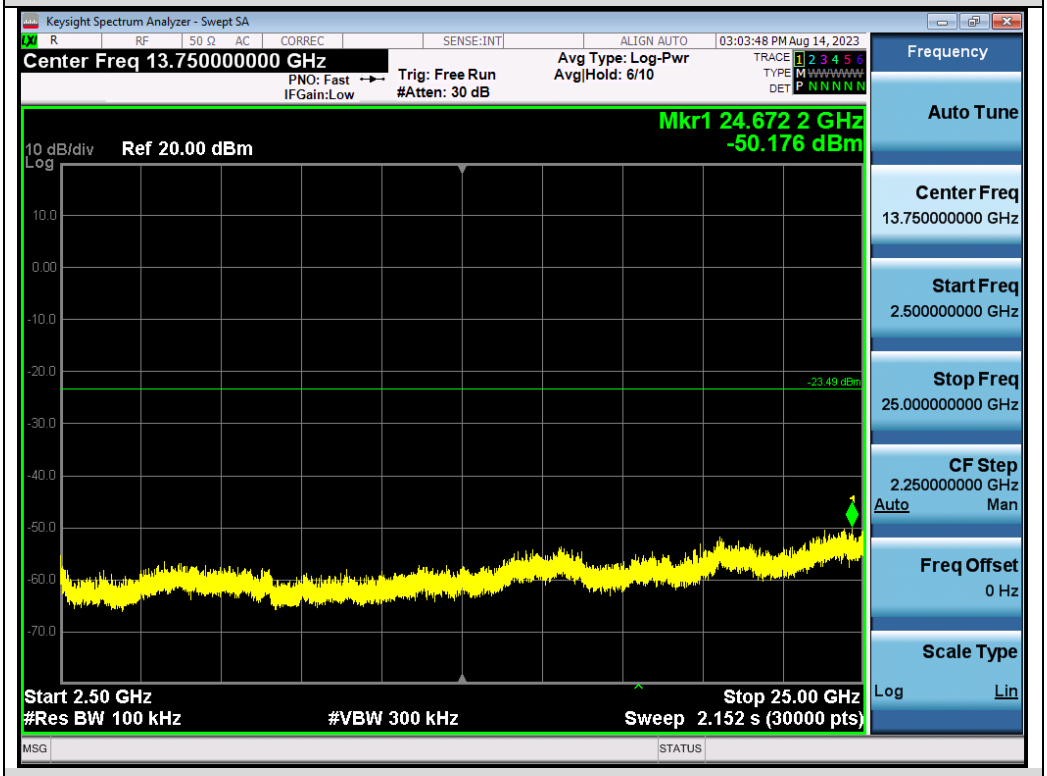
Test_Graph_802.11n40_ANT1_2437_MCS0_Lower Band Emissions



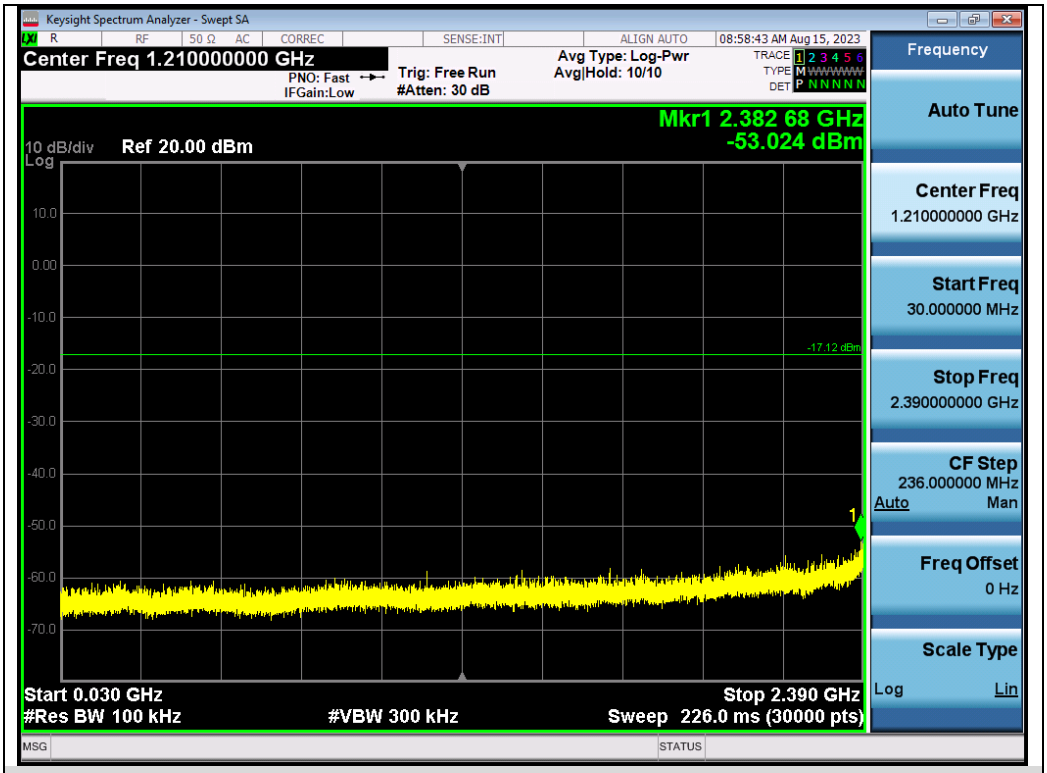
Test_Graph_802.11n40_ANT1_2437_MCS0_Higher Band Emissions



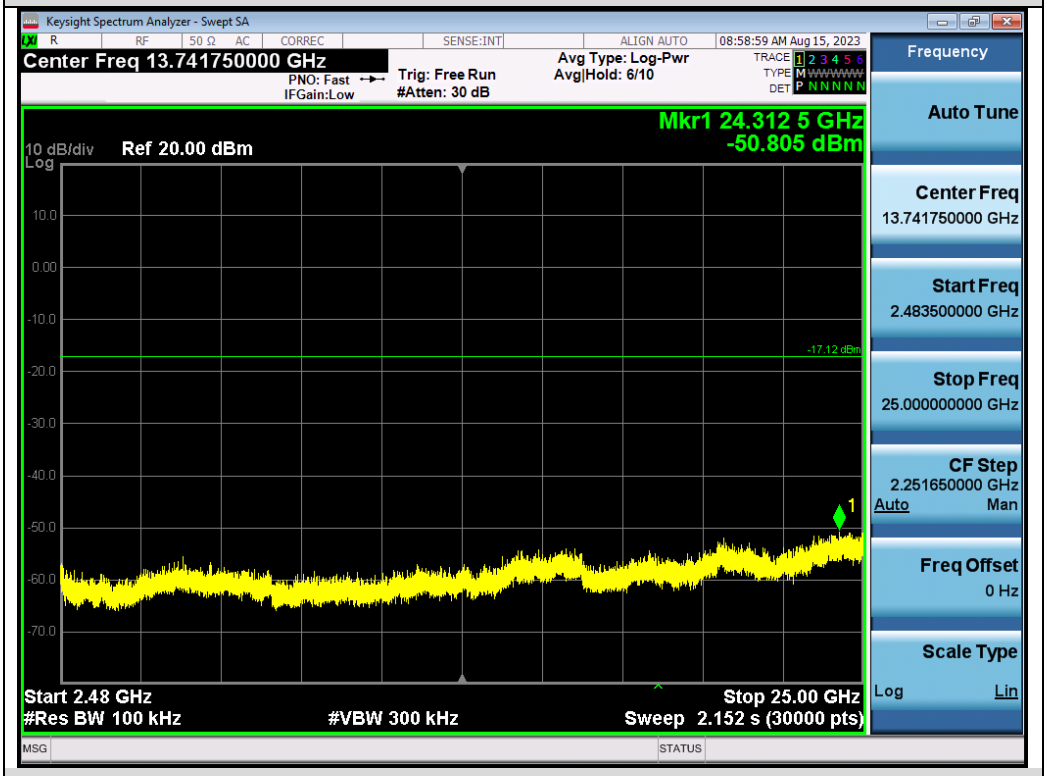
Test_Graph_802.11n40_ANT1_2452_MCS0_Lower Band Emissions



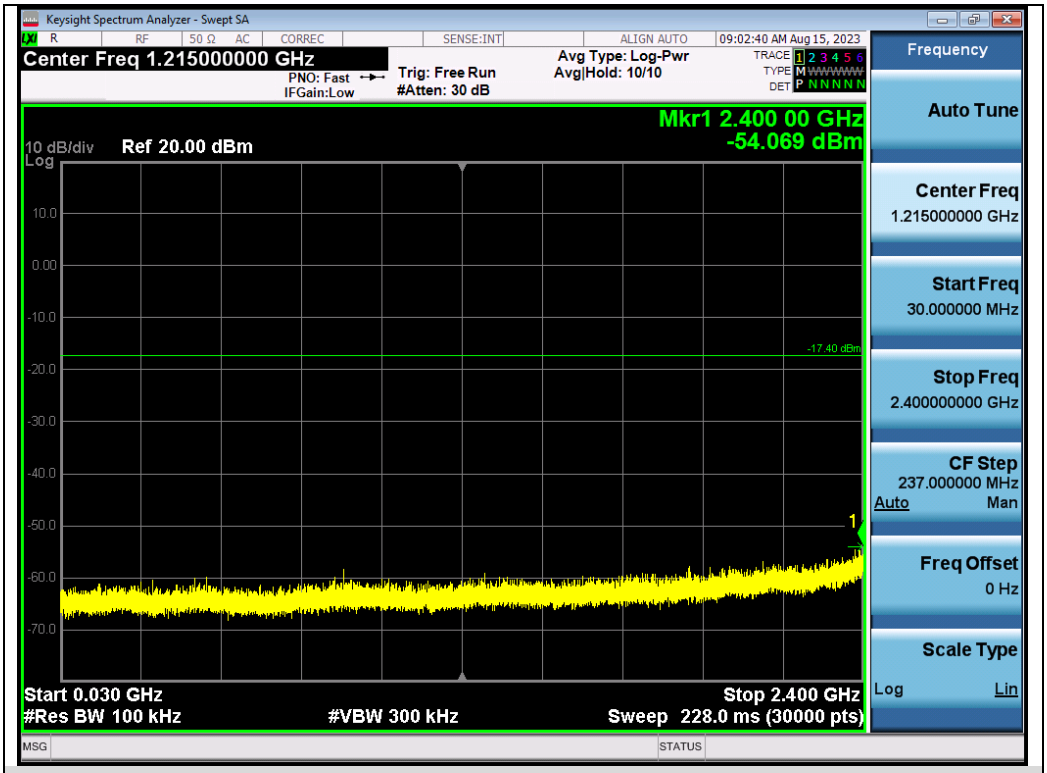
Test_Graph_802.11n40_ANT1_2452_MCS0_Higher Band Emissions



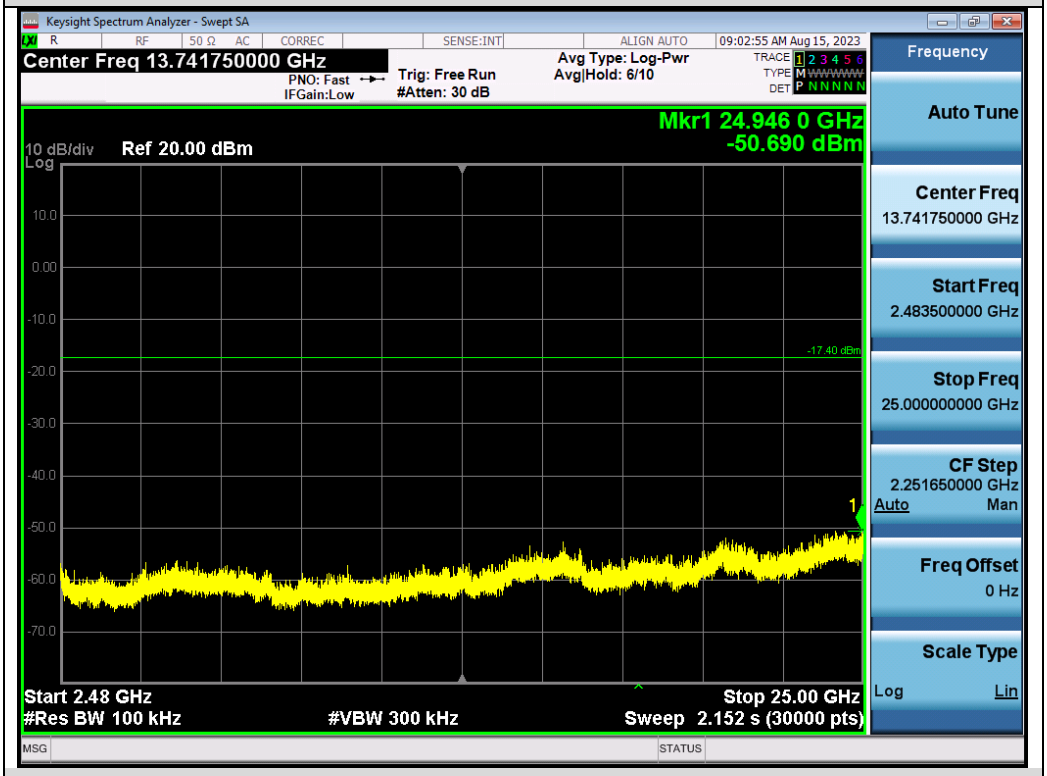
Test_Graph_802.11b_ANT2_2412_1Mbps_Lower Band Emissions



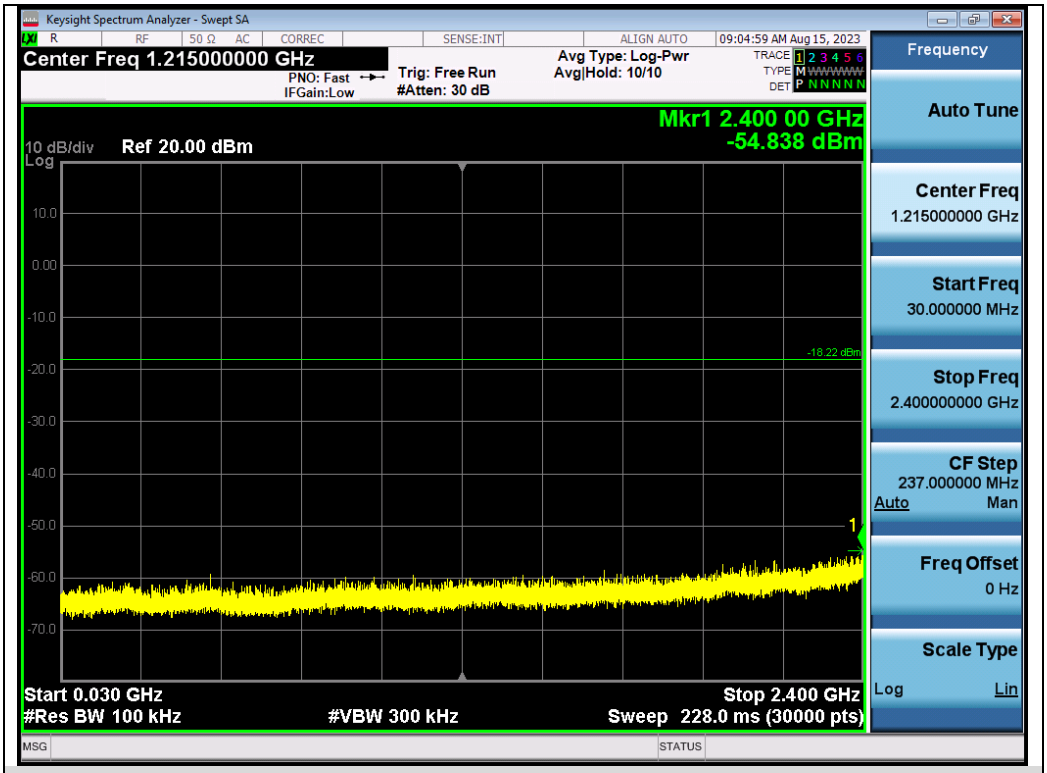
Test_Graph_802.11b_ANT2_2412_1Mbps_Higher Band Emissions



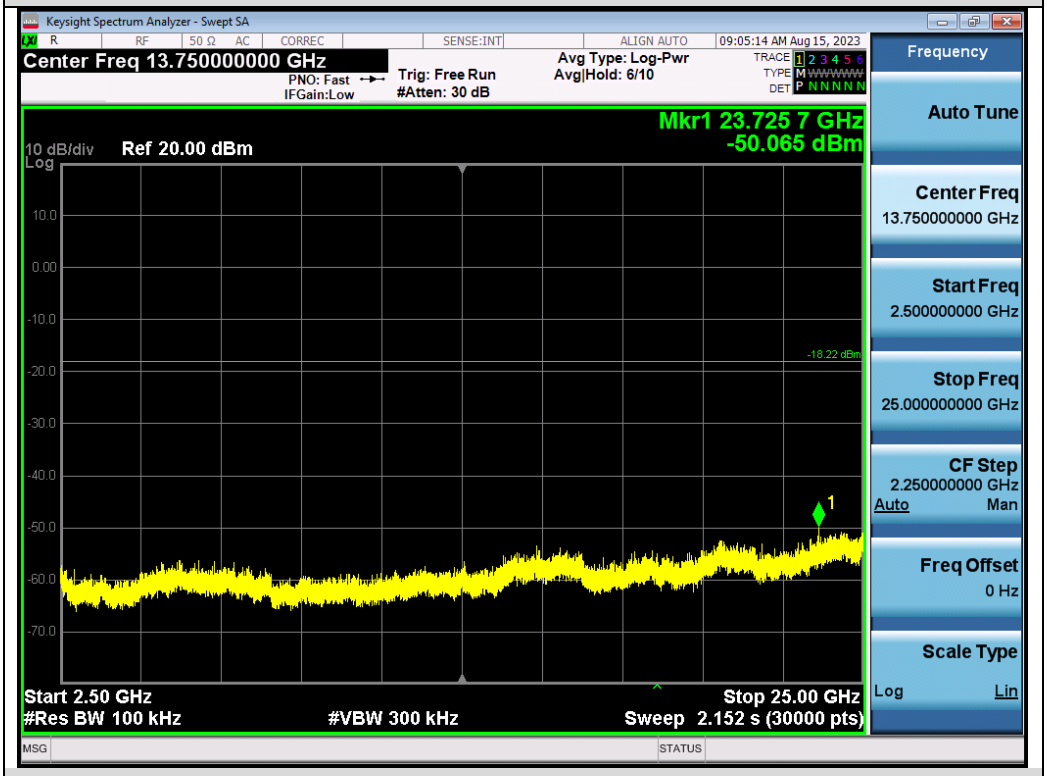
Test_Graph_802.11b_ANT2_2437_1Mbps_Lower Band Emissions



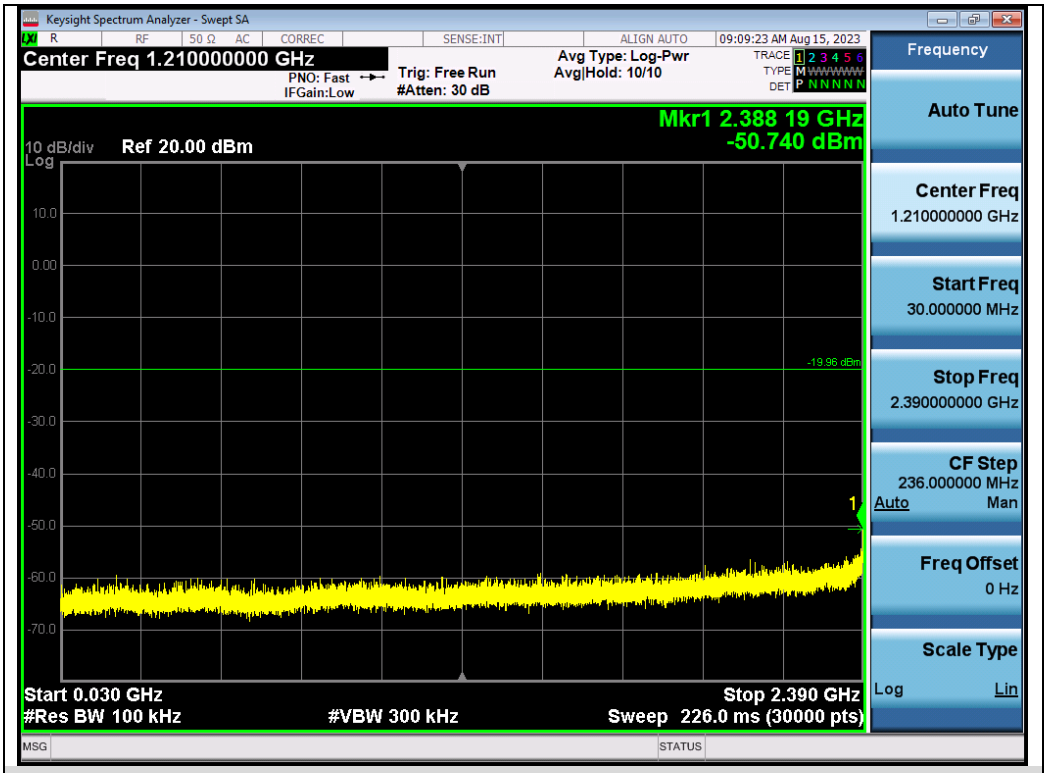
Test_Graph_802.11b_ANT2_2437_1Mbps_Higher Band Emissions



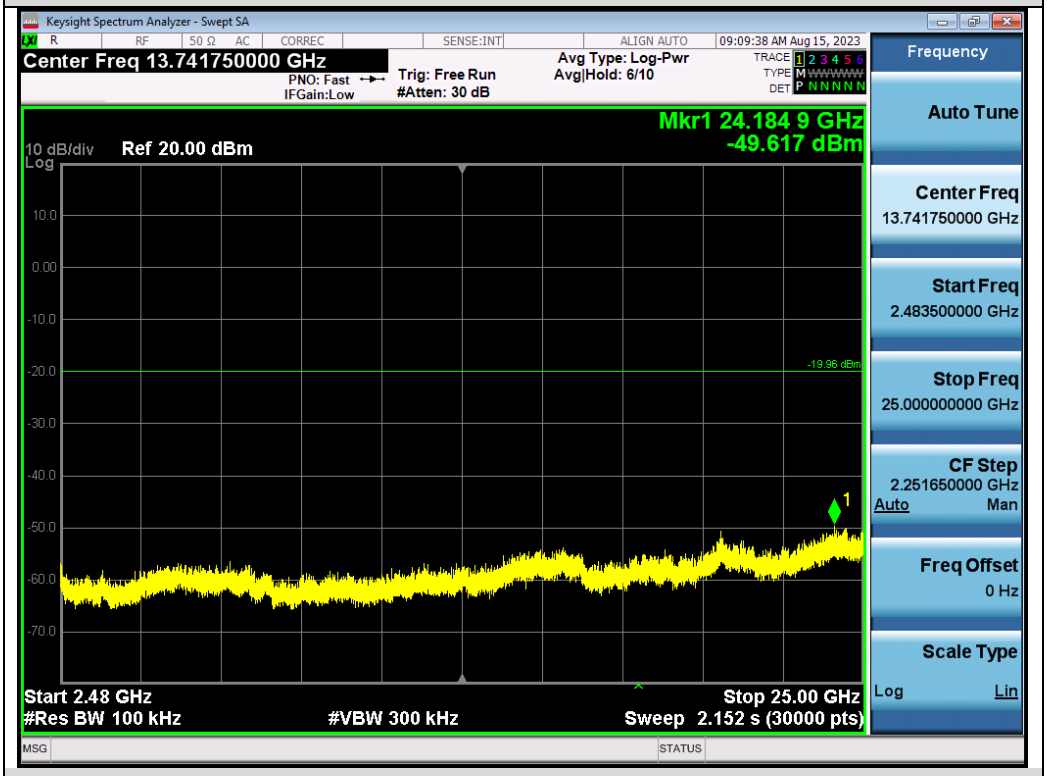
Test_Graph_802.11b_ANT2_2462_1Mbps_Lower Band Emissions



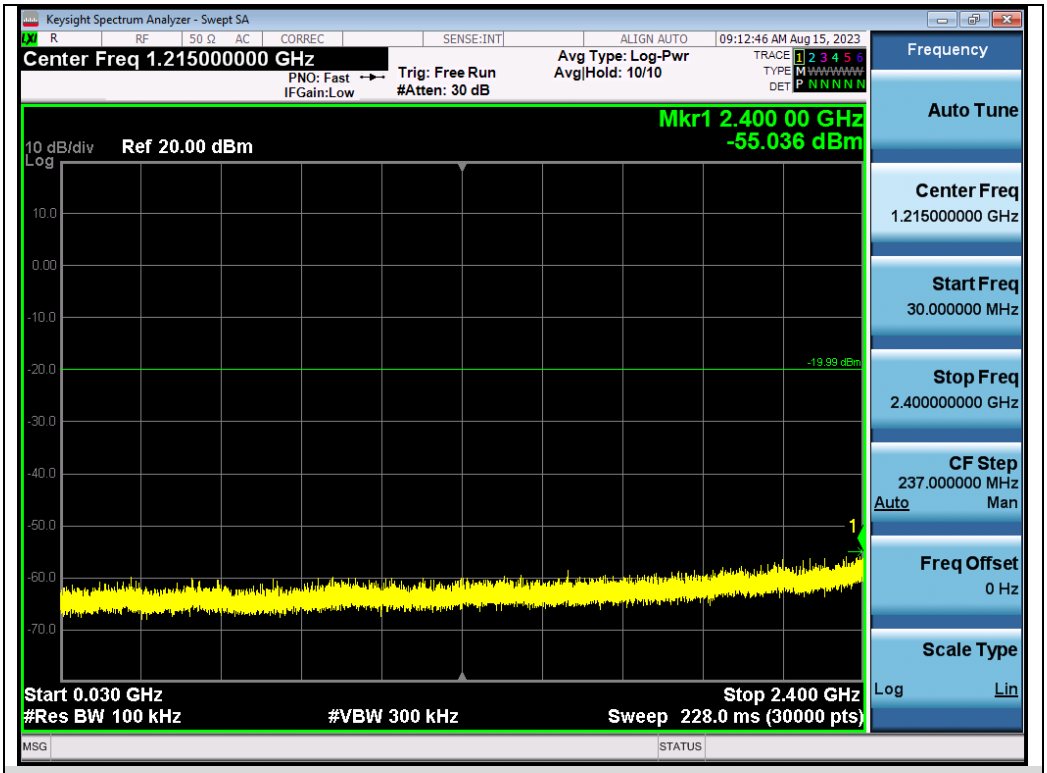
Test_Graph_802.11b_ANT2_2462_1Mbps_Higher Band Emissions



Test_Graph_802.11g_ANT2_2412_6Mbps_Lower Band Emissions

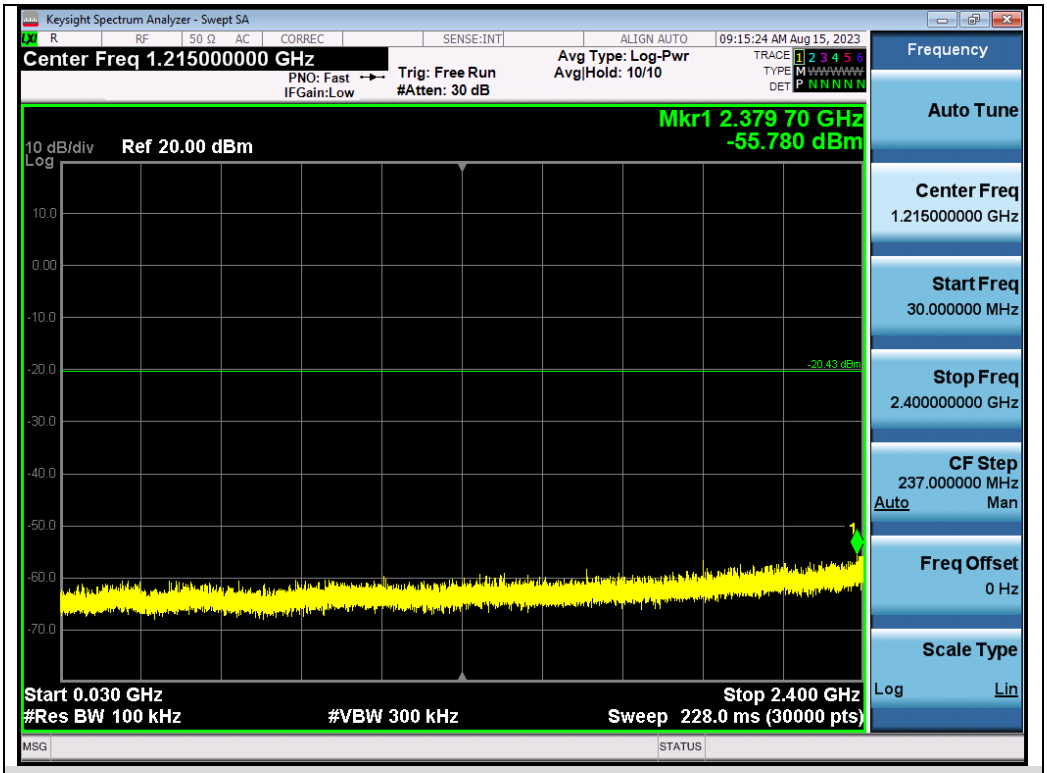


Test_Graph_802.11g_ANT2_2412_6Mbps_Higher Band Emissions

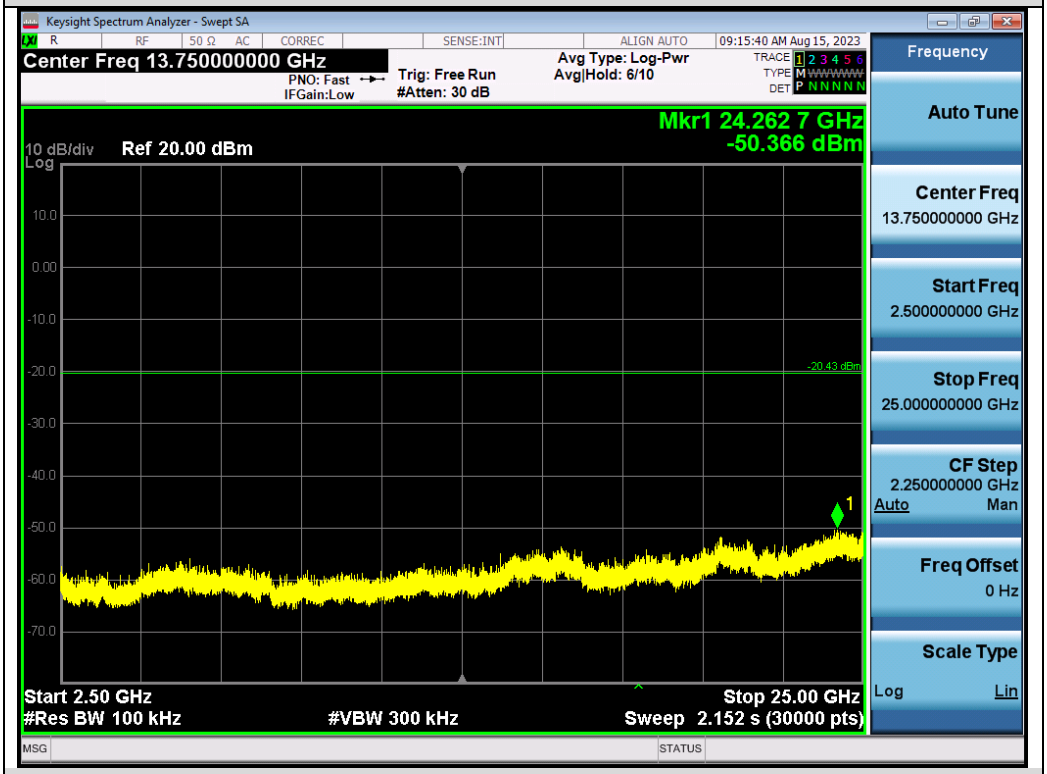


Test_Graph_802.11g_ANT2_2437_6Mbps_Lower Band Emissions

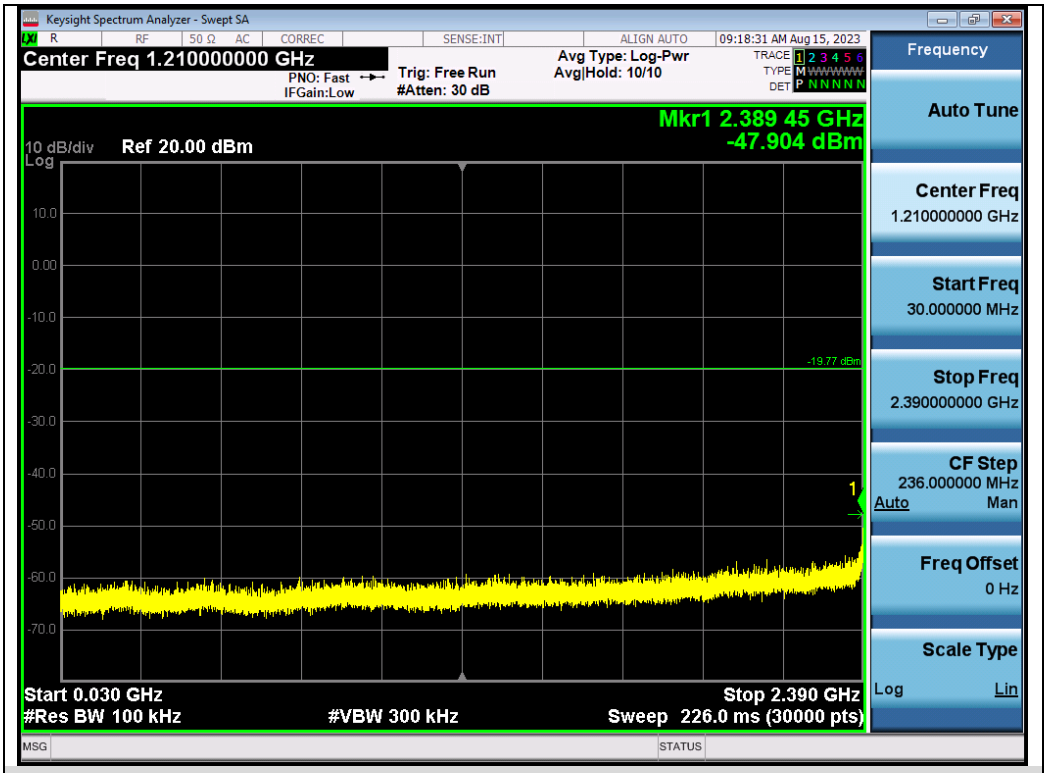
Test_Graph_802.11g_ANT2_2437_6Mbps_Higher Band Emissions



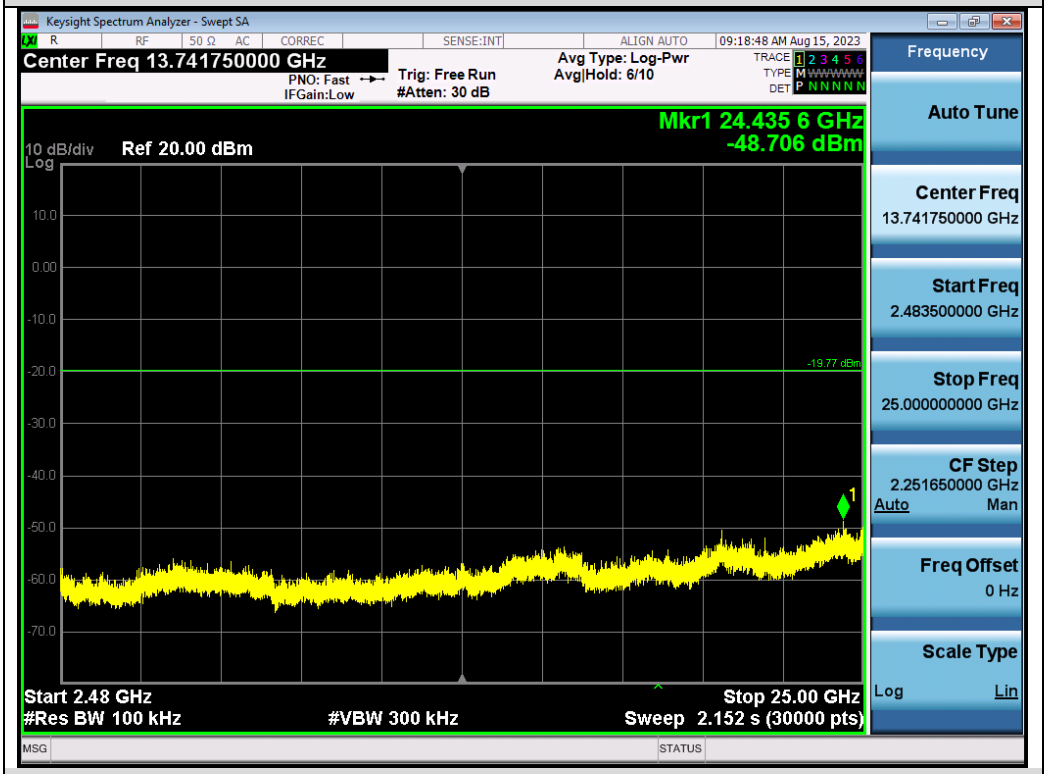
Test_Graph_802.11g_ANT2_2462_6Mbps_Lower Band Emissions



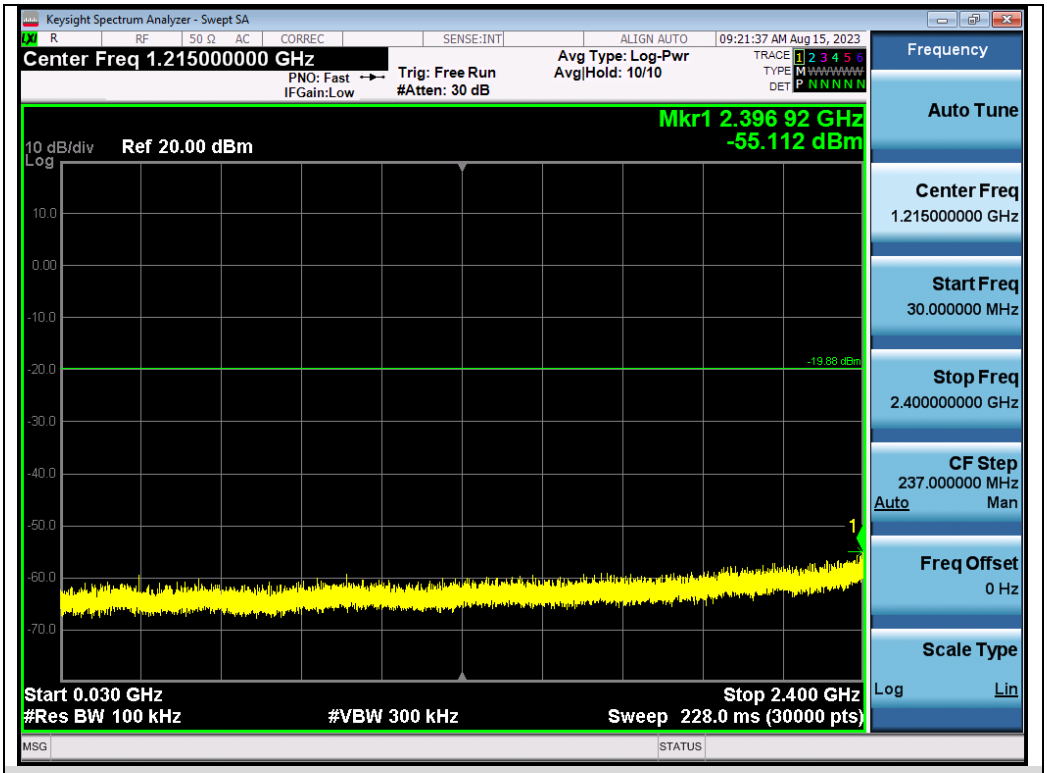
Test_Graph_802.11g_ANT2_2462_6Mbps_Higher Band Emissions



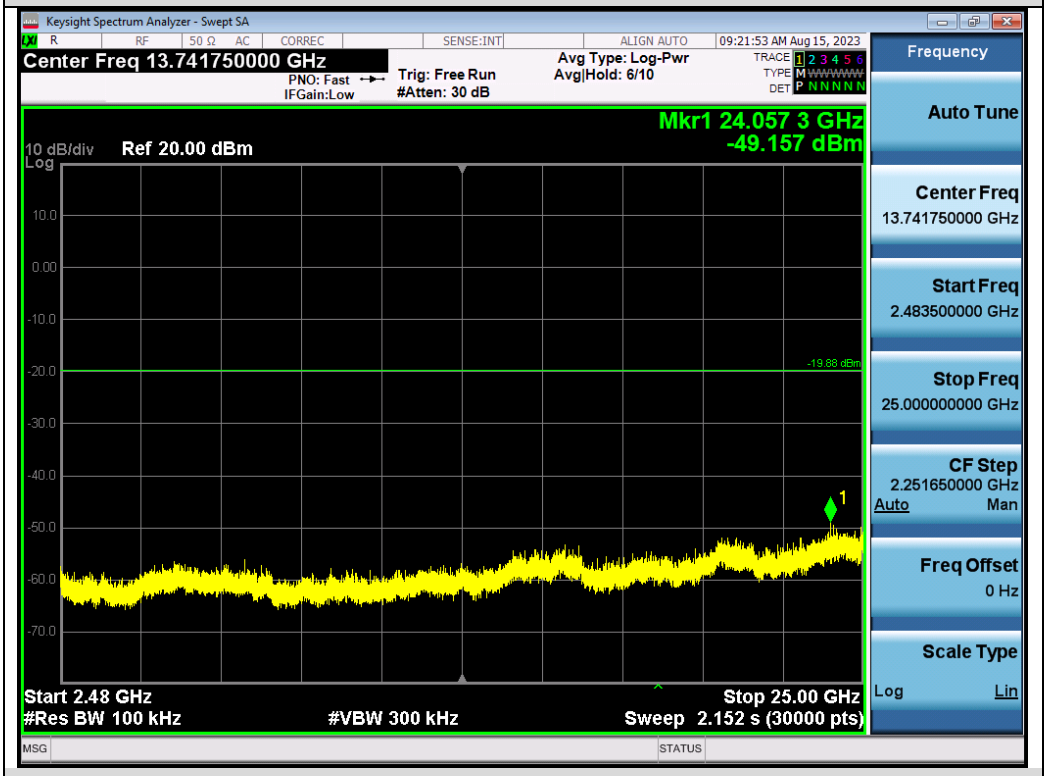
Test_Graph_802.11n20_ANT2_2412_MCS0_Lower Band Emissions



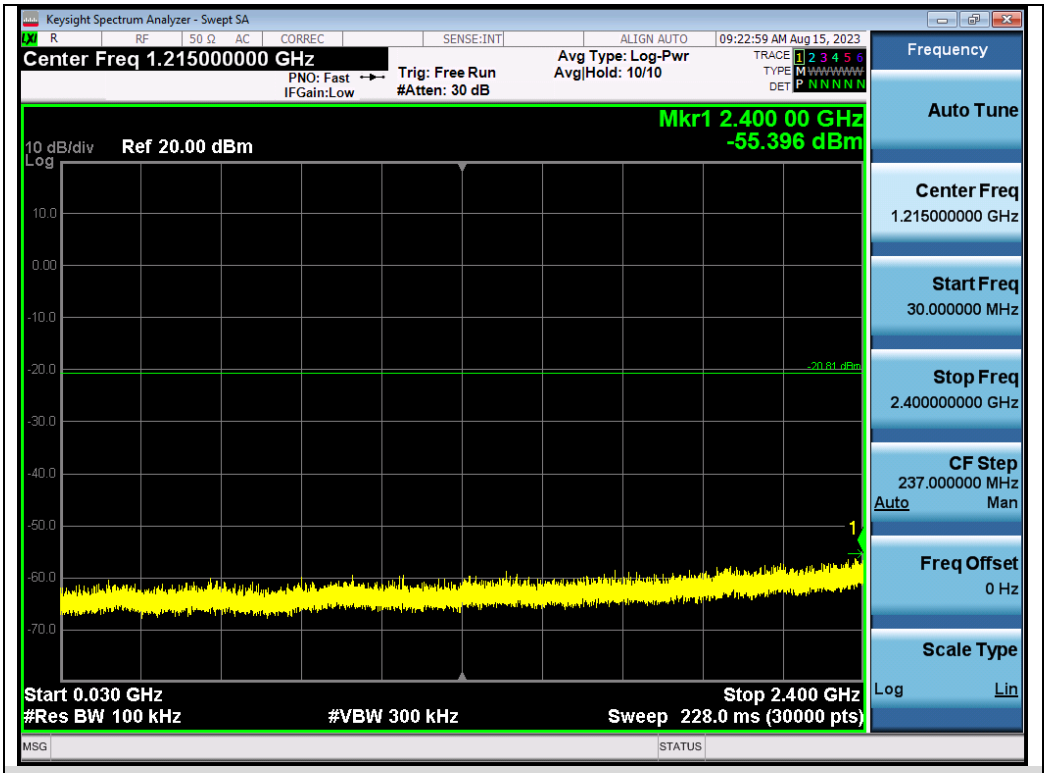
Test_Graph_802.11n20_ANT2_2412_MCS0_Higher Band Emissions



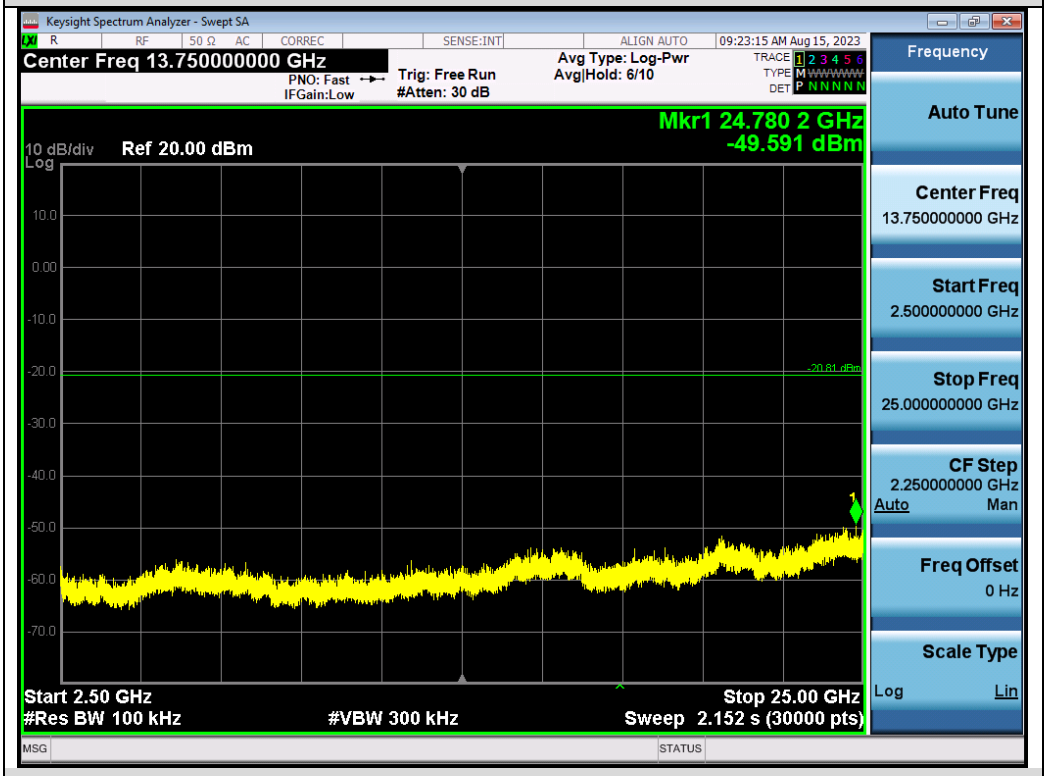
Test_Graph_802.11n20_ANT2_2437_MCS0_Lower Band Emissions



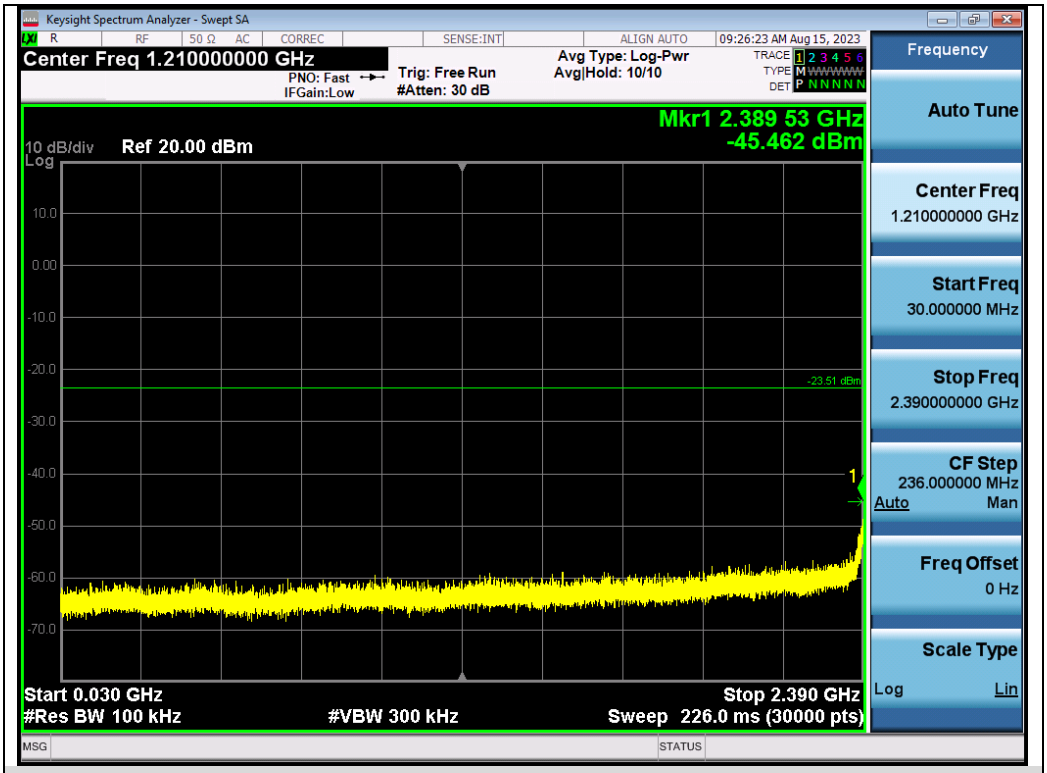
Test_Graph_802.11n20_ANT2_2437_MCS0_Higher Band Emissions



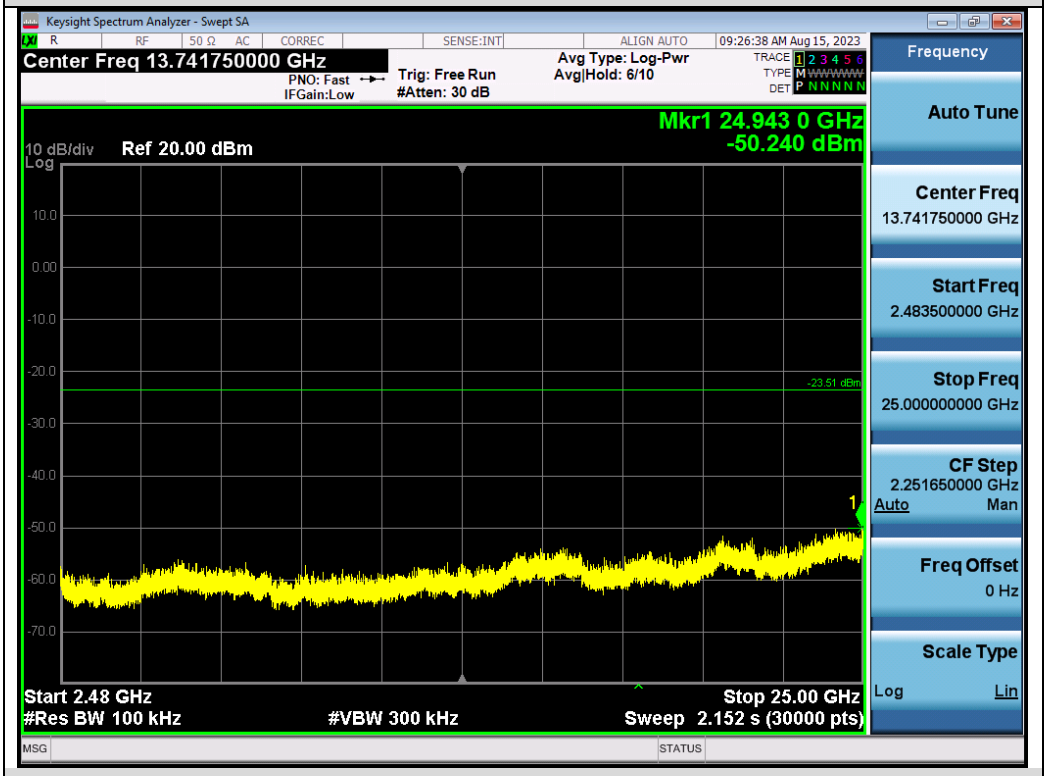
Test_Graph_802.11n20_ANT2_2462_MCS0_Lower Band Emissions



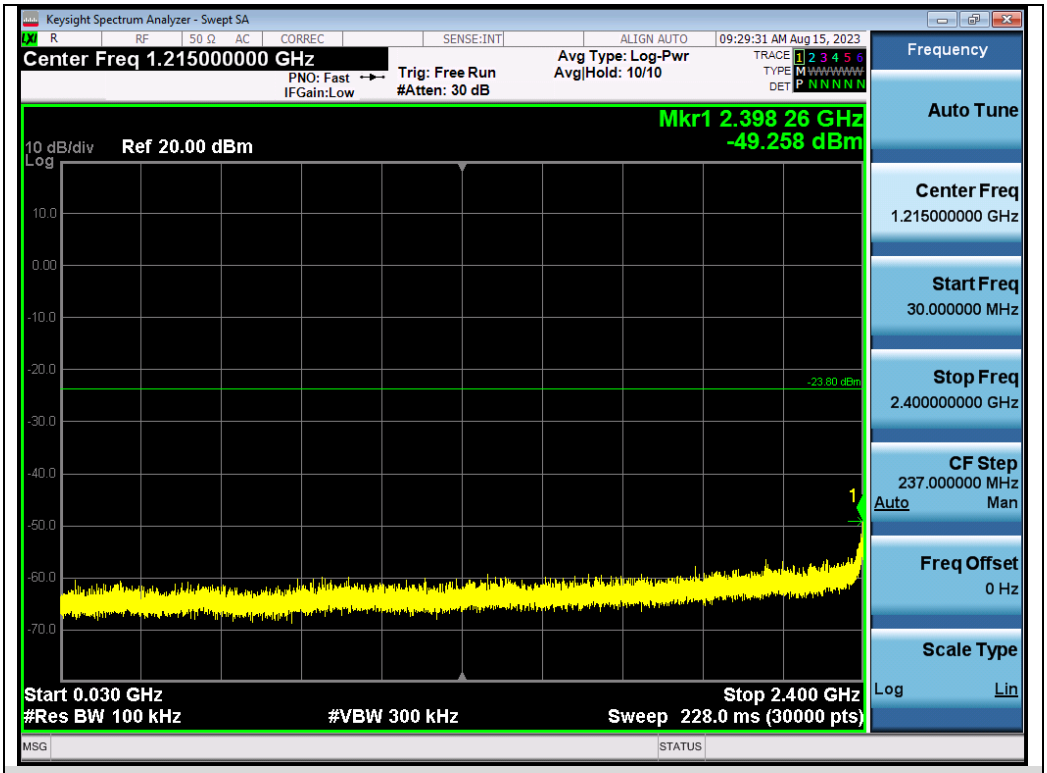
Test_Graph_802.11n20_ANT2_2462_MCS0_Higher Band Emissions



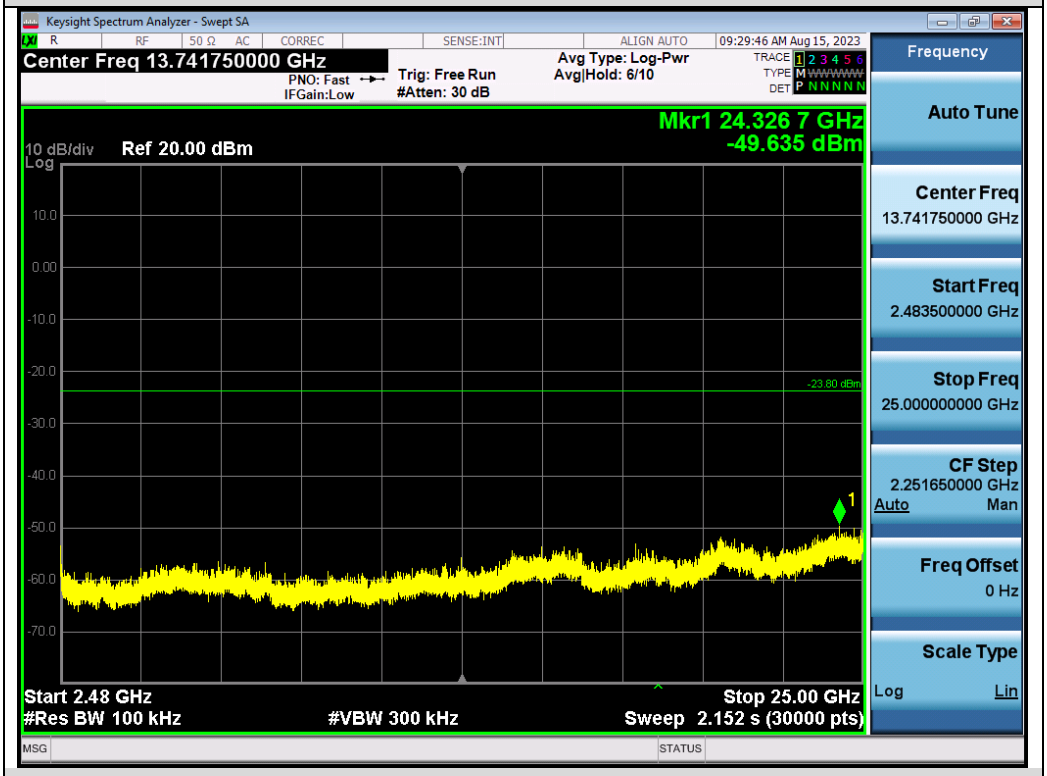
Test_Graph_802.11n40_ANT2_2422_MCS0_Lower Band Emissions



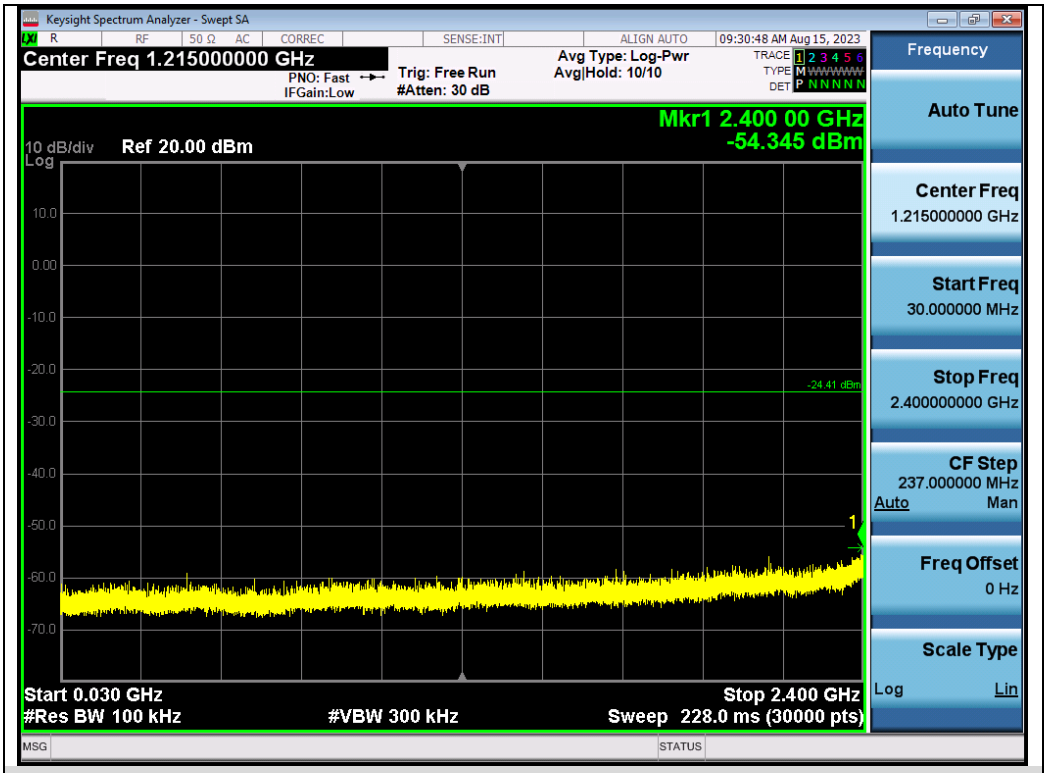
Test_Graph_802.11n40_ANT2_2422_MCS0_Higher Band Emissions



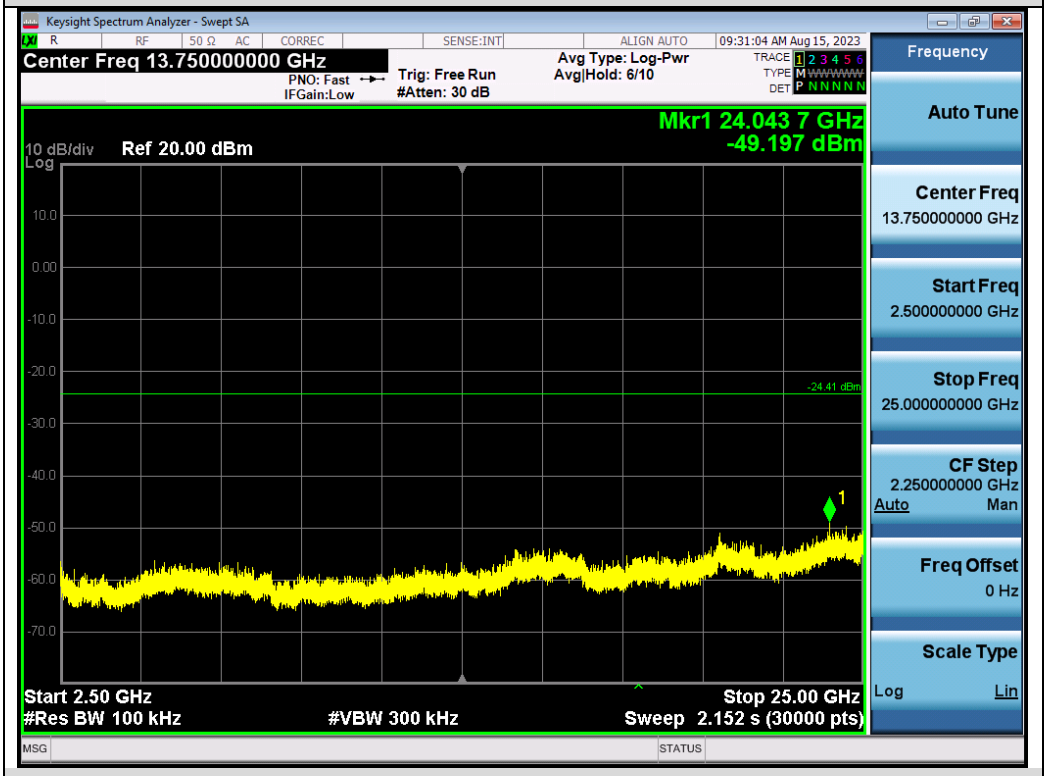
Test_Graph_802.11n40_ANT2_2437_MCS0_Lower Band Emissions



Test_Graph_802.11n40_ANT2_2437_MCS0_Higher Band Emissions



Test_Graph_802.11n40_ANT2_2452_MCS0_Lower Band Emissions

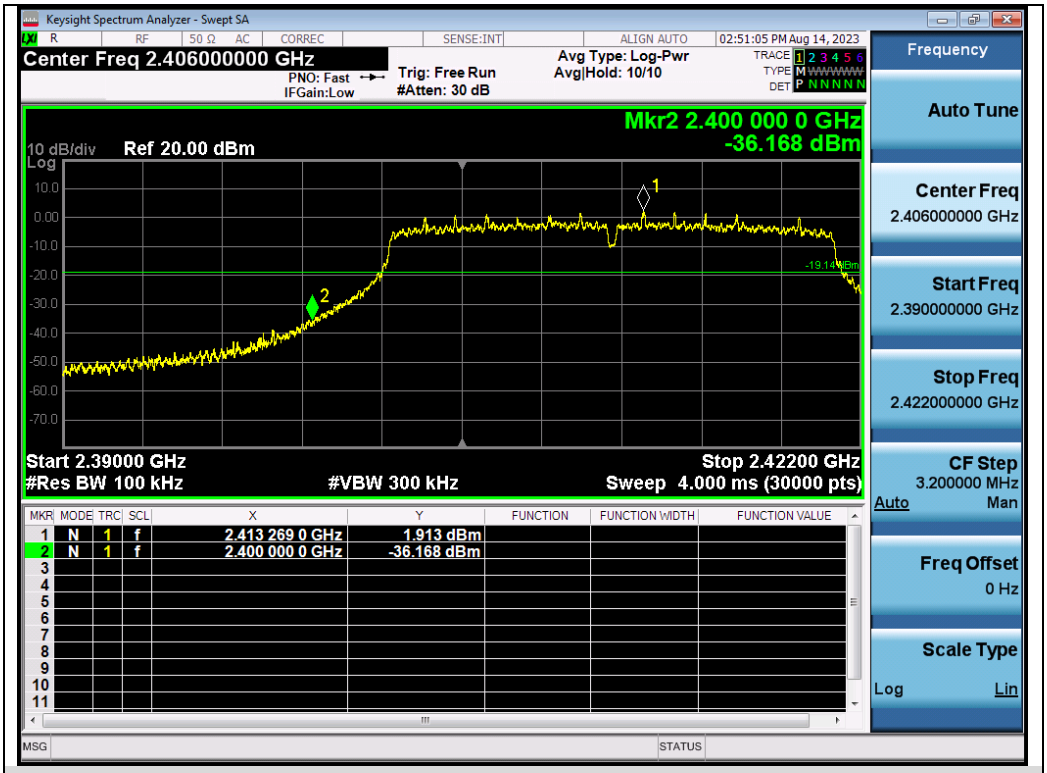


Test_Graph_802.11n40_ANT2_2452_MCS0_Higher Band Emissions

Test Graphs of Band Edge Emissions in Non-Restricted Frequency Bands

Test_Graph_802.11b_ANT1_2412_1Mbps_Lower Band Edge Emissions

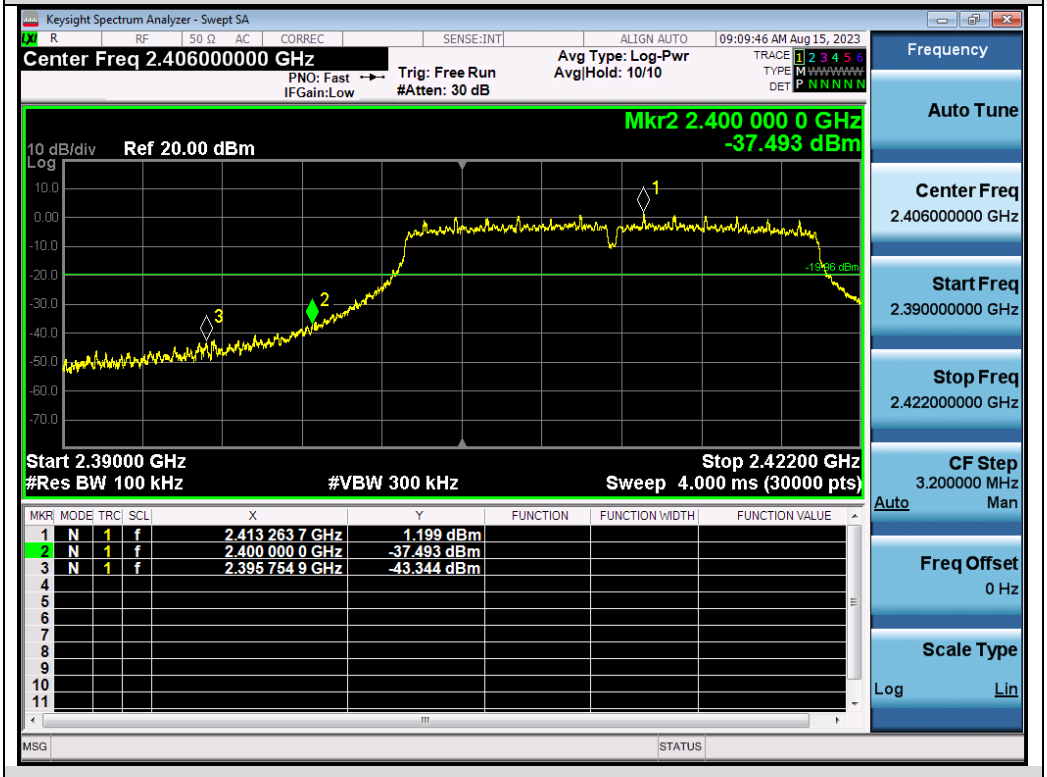
Test_Graph_802.11g_ANT1_2412_6Mbps_Lower Band Edge Emissions



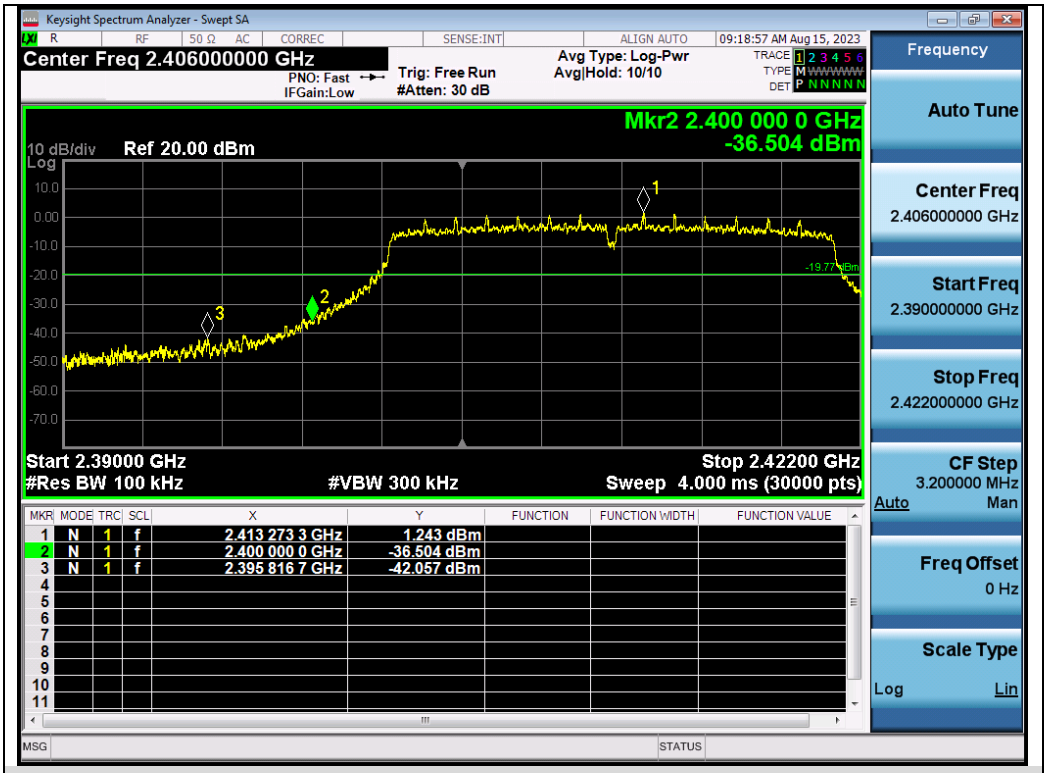
Test_Graph_802.11n20_ANT1_2412_MCS0_Lower Band Edge Emissions

Test_Graph_802.11n40_ANT1_2422_MCS0_Lower Band Edge Emissions

Test_Graph_802.11b_ANT2_2412_1Mbps_Lower Band Edge Emissions



Test_Graph_802.11g_ANT2_2412_6Mbps_Lower Band Edge Emissions



Test_Graph_802.11n20_ANT2_2412_MCS0_Lower Band Edge Emissions

Test_Graph_802.11n40_ANT2_2422_MCS0_Lower Band Edge Emissions

Note: Emissions from 2483.5-2500MHz which fall in the restricted bands had been considered with the radiated emission limits specified.

10. POWER SPECTRAL DENSITY

10.1 MEASUREMENT LIMITS

The transmitter power spectral density conducted from the transmitter to the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission.

10.2 MEASUREMENT PROCEDURE

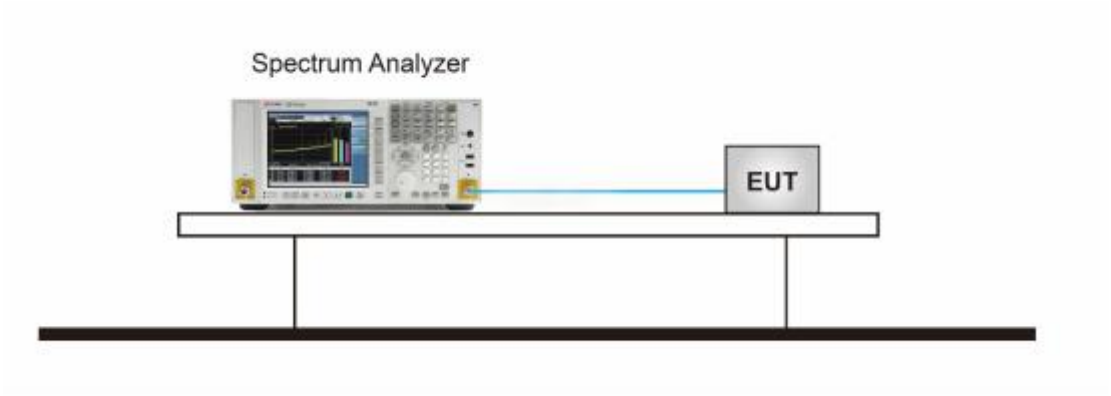
☒For Peak power spectral density test:

1. The testing follows the ANSI C63.10 Section 11.10.2 Method PKPSD.
2. Connect EUT RF output port to the Spectrum Analyzer
3. Set the RBW = 20 kHz.
4. Set the VBW ≥ [3 × RBW].
5. Set the Span ≥ [1.5 × DTS bandwidth].
6. Sweep time=Auto couple.
7. Detector function=Peak.
8. Trace Mode=Max hold.
9. When the measurement bandwidth of Maximum PSD is specified in 3 kHz, add a constant factor 10*log(3kHz/20kHz) = -8.23 dB to the measured result.
10. Allow trace to stabilize. Use the marker-to-peak function to set the marker to the peak of the emission.
11. The indicated level is the peak output power, after any corrections for external cables.

☐For Average power spectral density test:

1. The testing follows the ANSI C63.10 Section 11.10.5 Method AVPSD.
2. Connect EUT RF output port to the Spectrum Analyzer.
3. Set Span to at least 1.5 times the OBW.
4. Set RBW to:3 kHz ≤ RBW ≤ 100 kHz.
5. Set VBW≥[3×RBW].
6. Sweep Time=Auto couple.
7. Detector function=RMS (i.e., power averaging).
8. Trace average at least 100 traces in power averaging (rms) mode.
9. When the measurement bandwidth of Maximum PSD is specified in 3 kHz, add a constant factor 10*log(3kHz/20kHz) = -8.23 dB to the measured result.
10. Determine according to the duty cycle of the equipment: when it is less than 98%, follow the steps below.
11. Add [10 log (1 / D)], where D is the duty cycle, to the measured power to compute the average power during the actual transmission times (because the measurement represents an average over both the ON and OFF times of the transmission). For example, add [10 log (1/0.25)] = 6 dB if the duty cycle is 25%.
12. Record the test results in the report.

10.3 MEASUREMENT SETUP (BLOCK DIAGRAM OF CONFIGURATION)



10.4 MEASUREMENT RESULT

Test Data of Conducted Output Power Spectral Density_ ANT 1					
Test Mode	Test Channel (MHz)	Power density (dBm/20kHz)	Power density (dBm/3kHz)	Limit (dBm/3kHz)	Pass or Fail
802.11b	2412	-0.300	-8.539	≤8	Pass
	2437	-0.544	-8.783	≤8	Pass
	2462	-1.749	-9.988	≤8	Pass
802.11g	2412	-3.547	-11.786	≤8	Pass
	2437	-3.835	-12.074	≤8	Pass
	2462	-4.250	-12.489	≤8	Pass
802.11n20	2412	-4.313	-12.552	≤8	Pass
	2437	-4.929	-13.168	≤8	Pass
	2462	-5.348	-13.587	≤8	Pass
802.11n40	2422	-8.132	-16.371	≤8	Pass
	2437	-7.548	-15.787	≤8	Pass
	2452	-8.369	-16.608	≤8	Pass

Test Data of Conducted Output Power Spectral Density_ ANT 2					
Test Mode	Test Channel (MHz)	Power density (dBm/20kHz)	Power density (dBm/3kHz)	Limit (dBm/3kHz)	Pass or Fail
802.11b	2412	-2.316	-10.555	≤8	Pass
	2437	-2.374	-10.613	≤8	Pass
	2462	-2.589	-10.828	≤8	Pass
802.11g	2412	-4.513	-12.752	≤8	Pass
	2437	-4.582	-12.821	≤8	Pass
	2462	-4.937	-13.176	≤8	Pass
802.11n20	2412	-5.115	-13.354	≤8	Pass
	2437	-5.459	-13.698	≤8	Pass
	2462	-5.760	-13.999	≤8	Pass
802.11n40	2422	-8.399	-16.638	≤8	Pass
	2437	-8.578	-16.817	≤8	Pass
	2452	-8.942	-17.181	≤8	Pass

Test Data of Conducted Output Power Spectral Density-MIMO					
Test Mode	Test Channel (MHz)	Power density (dBm/20kHz)	Power density (dBm/3kHz)	Limit (dBm/3kHz)	Pass or Fail
802.11n20	2412	-1.69	-9.92	≤8	Pass
	2437	-2.18	-10.41	≤8	Pass
	2462	-2.54	-10.78	≤8	Pass
802.11n40	2422	-5.25	-13.49	≤8	Pass
	2437	-5.02	-13.26	≤8	Pass
	2452	-5.64	-13.87	≤8	Pass

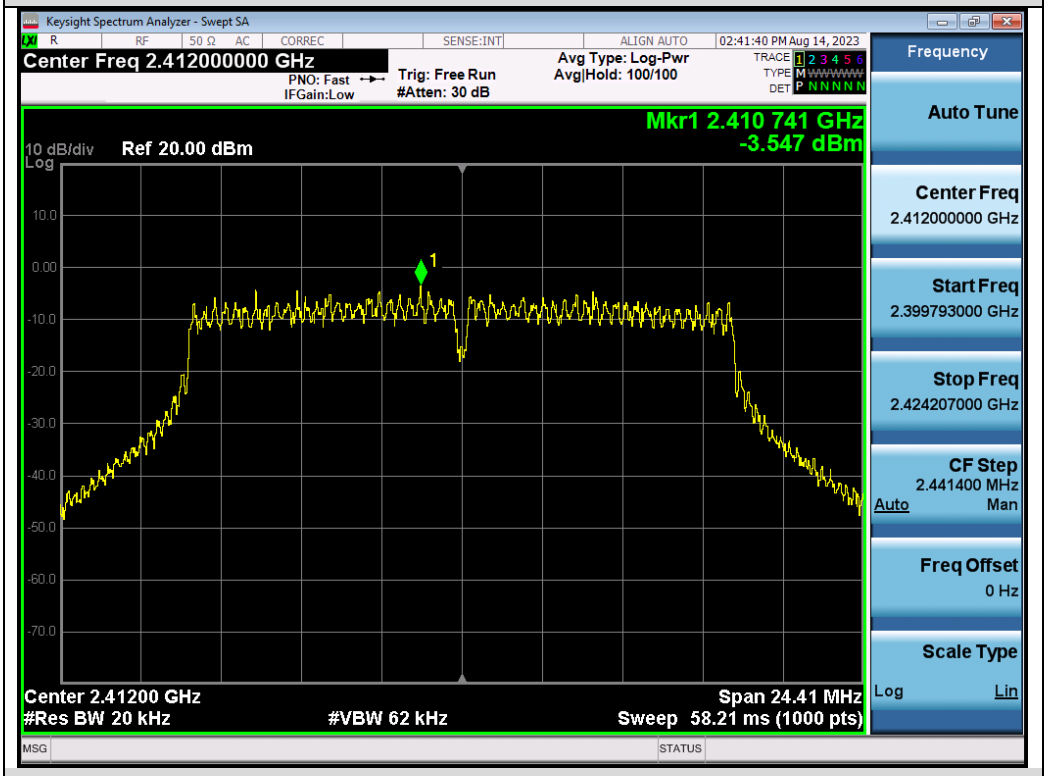
Note: Power density(dBm/3kHz) = Power density(dBm/20kHz) – 10*log(20/3).

Test Graphs of Conducted Output Power Spectral Density

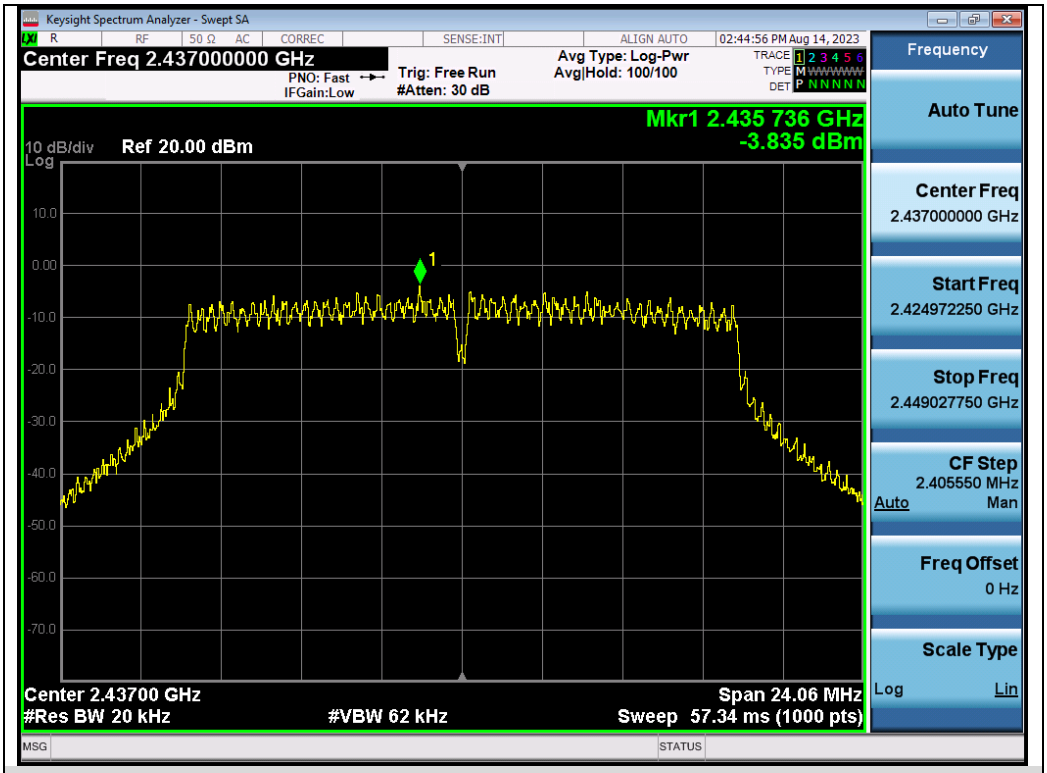
Test_Graph_802.11b_ANT1_2412_1Mbps_PSD

Test_Graph_802.11b_ANT1_2437_1Mbps_PSD

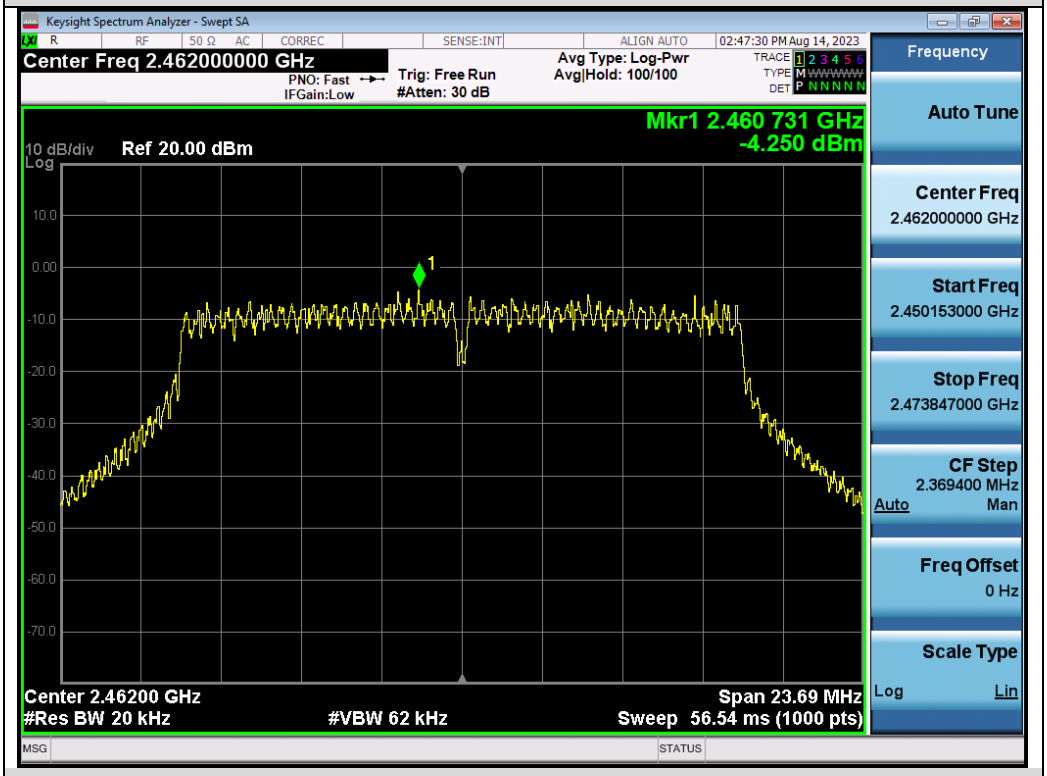
Test_Graph_802.11b_ANT1_2462_1Mbps_PSD



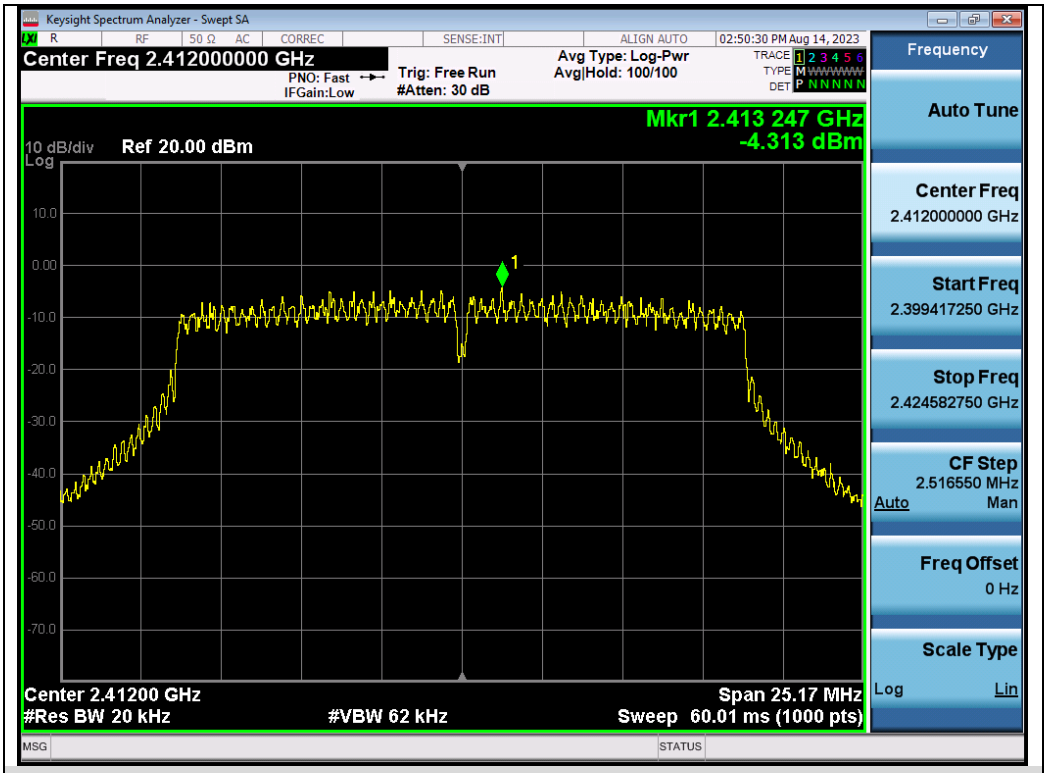
Test_Graph_802.11g_ANT1_2412_6Mbps_PSD



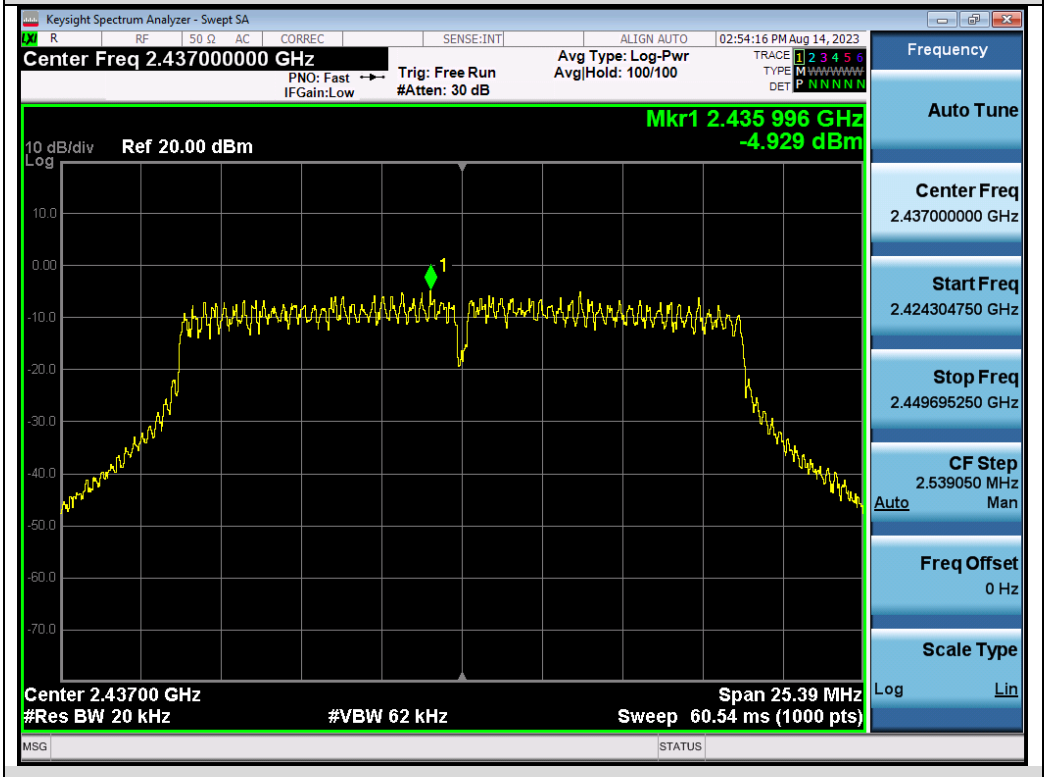
Test_Graph_802.11g_ANT1_2437_6Mbps_PSD



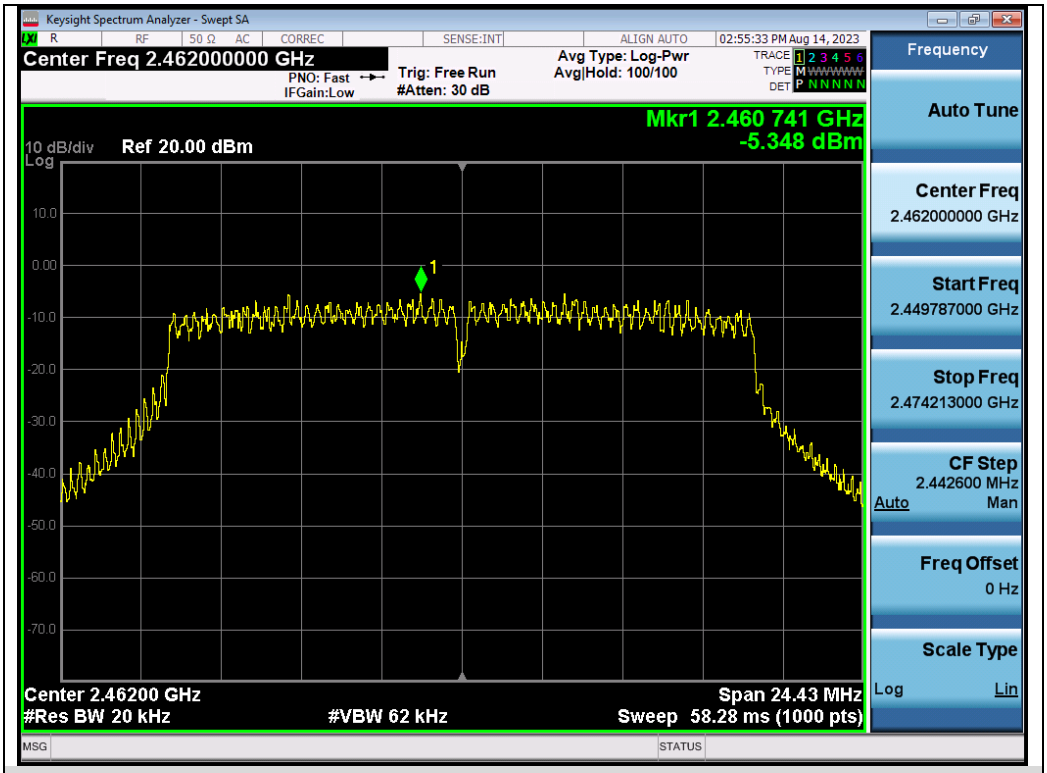
Test_Graph_802.11g_ANT1_2462_6Mbps_PSD



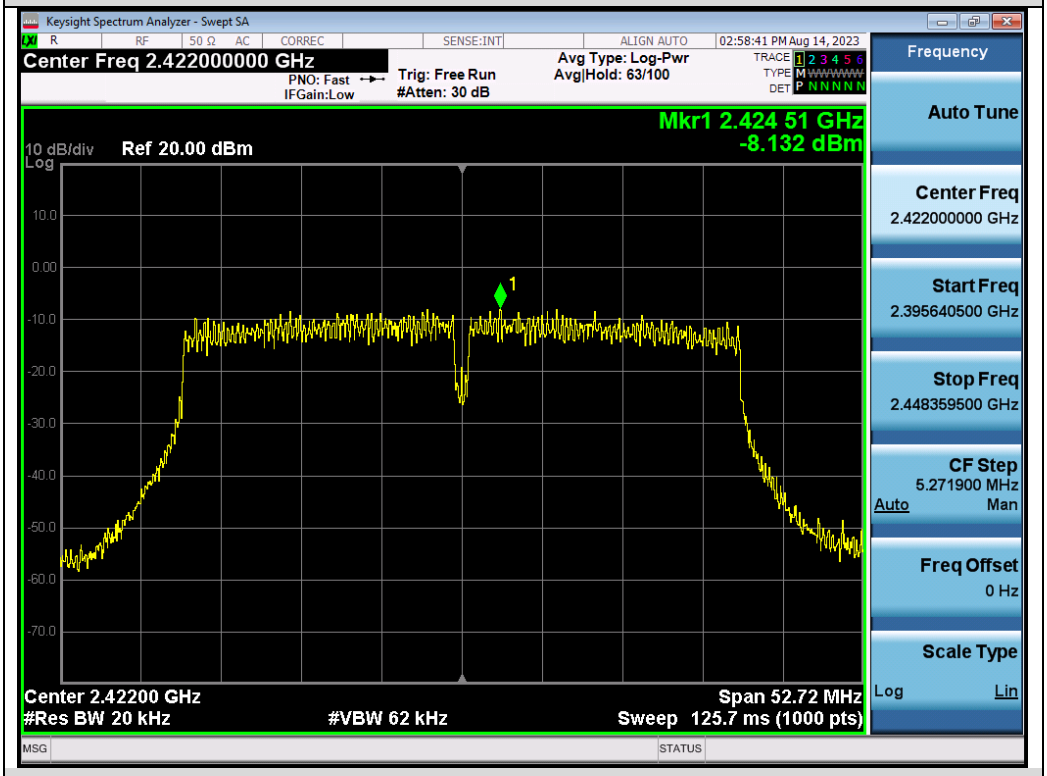
Test_Graph_802.11n20_ANT1_2412_MCS0_PSD



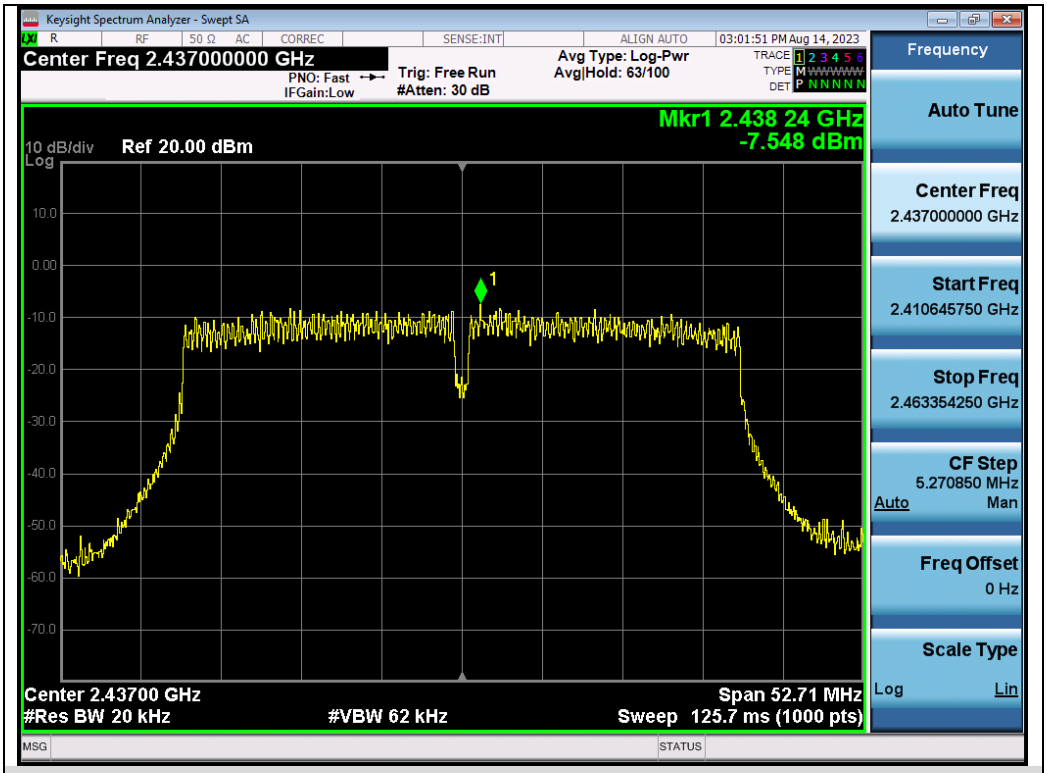
Test_Graph_802.11n20_ANT1_2437_MCS0_PSD



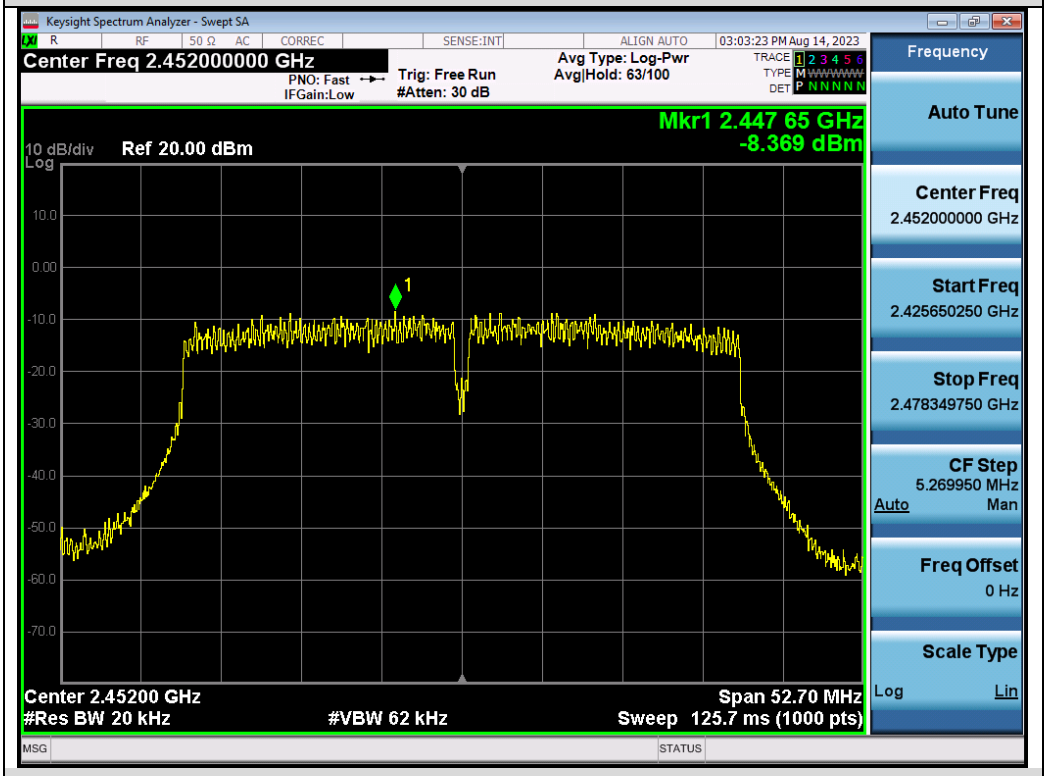
Test_Graph_802.11n20_ANT1_2462_MCS0_PSD



Test_Graph_802.11n40_ANT1_2422_MCS0_PSD



Test_Graph_802.11n40_ANT1_2437_MCS0_PSD

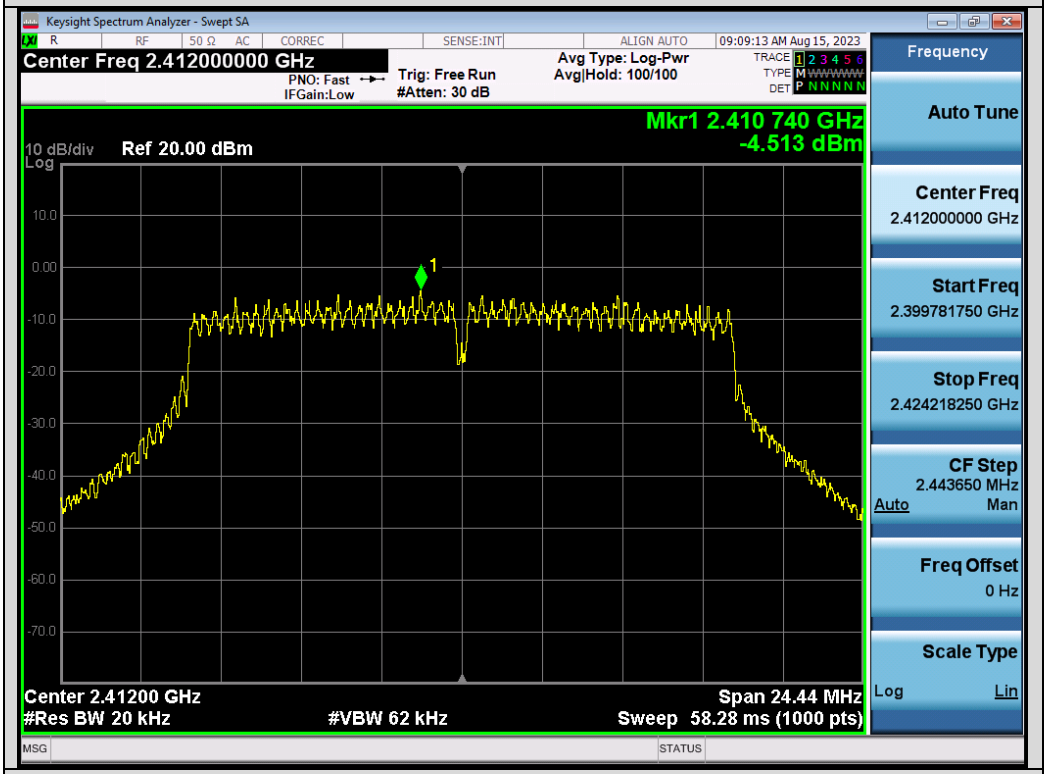


Test_Graph_802.11n40_ANT1_2452_MCS0_PSD

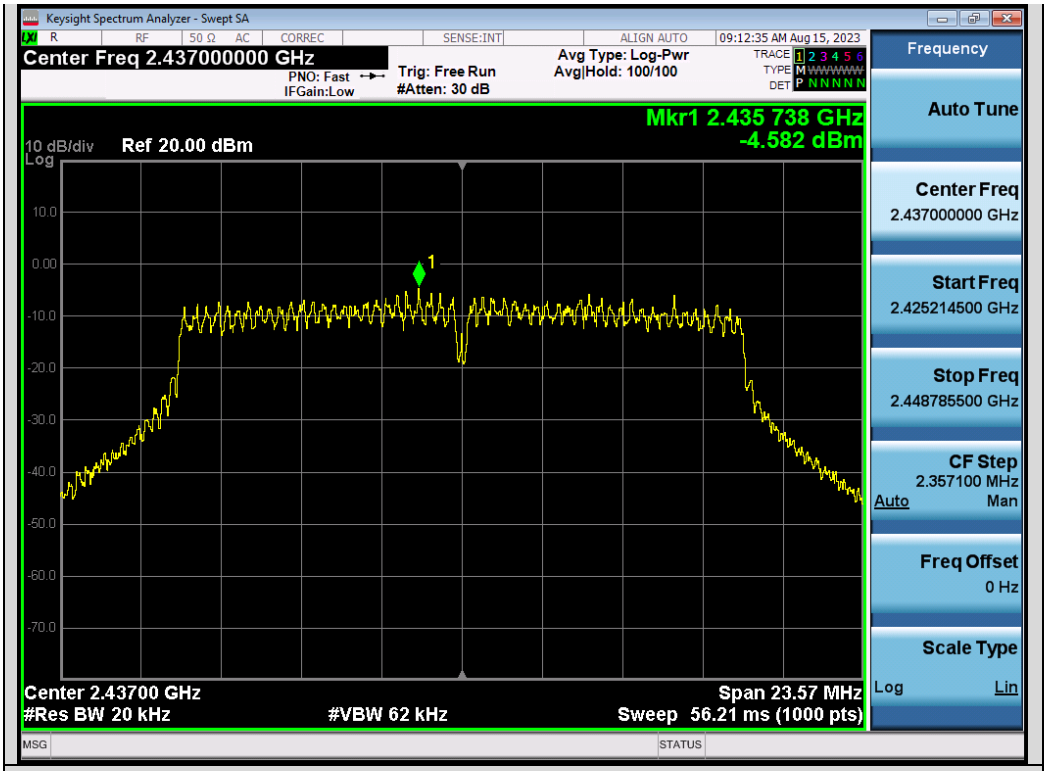
Test_Graph_802.11b_ANT2_2412_1Mbps_PSD

Test_Graph_802.11b_ANT2_2437_1Mbps_PSD

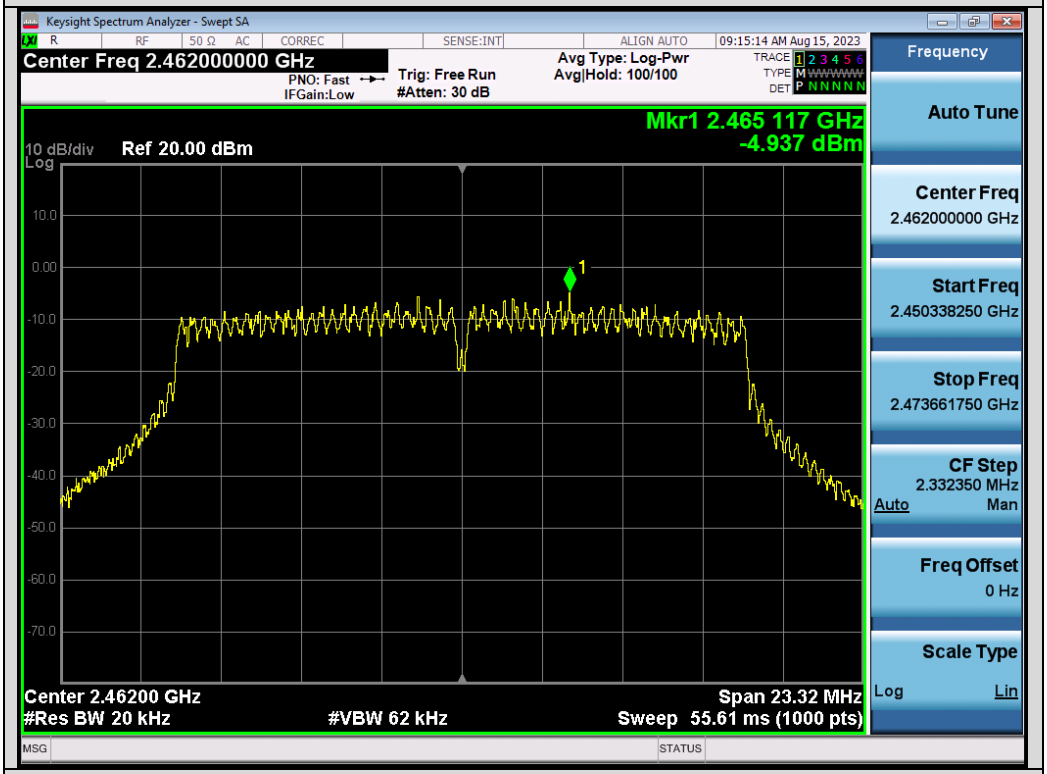
Test_Graph_802.11b_ANT2_2462_1Mbps_PSD



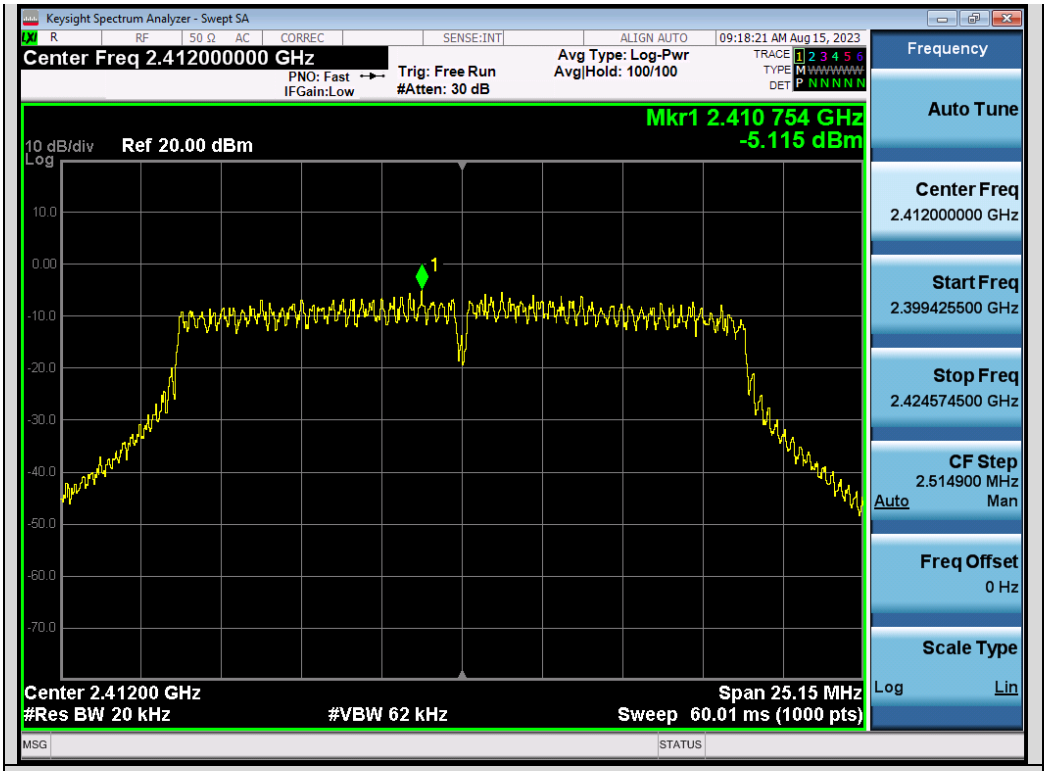
Test_Graph_802.11g_ANT2_2412_6Mbps_PSD



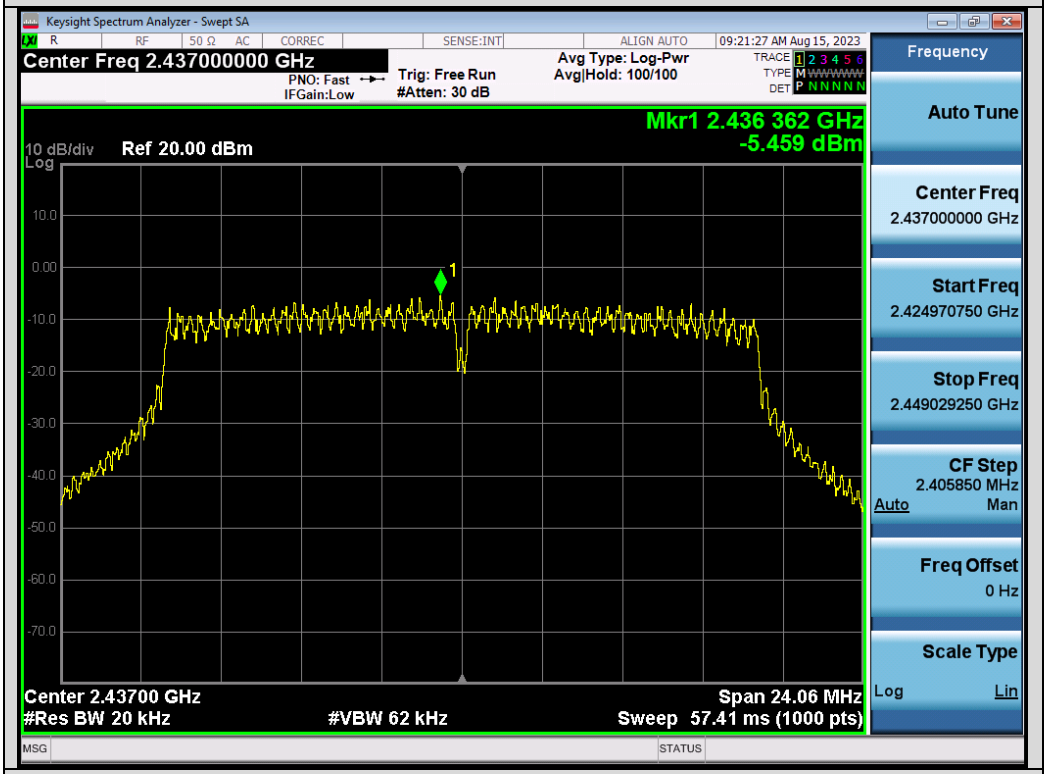
Test_Graph_802.11g_ANT2_2437_6Mbps_PSD



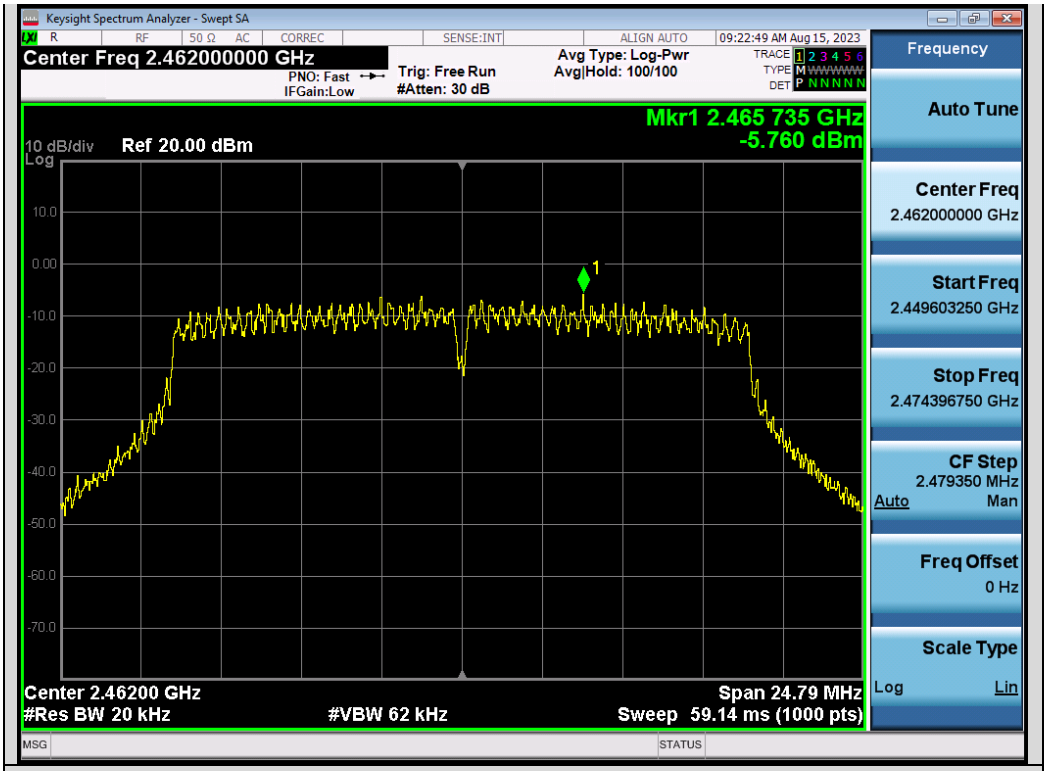
Test_Graph_802.11g_ANT2_2462_6Mbps_PSD



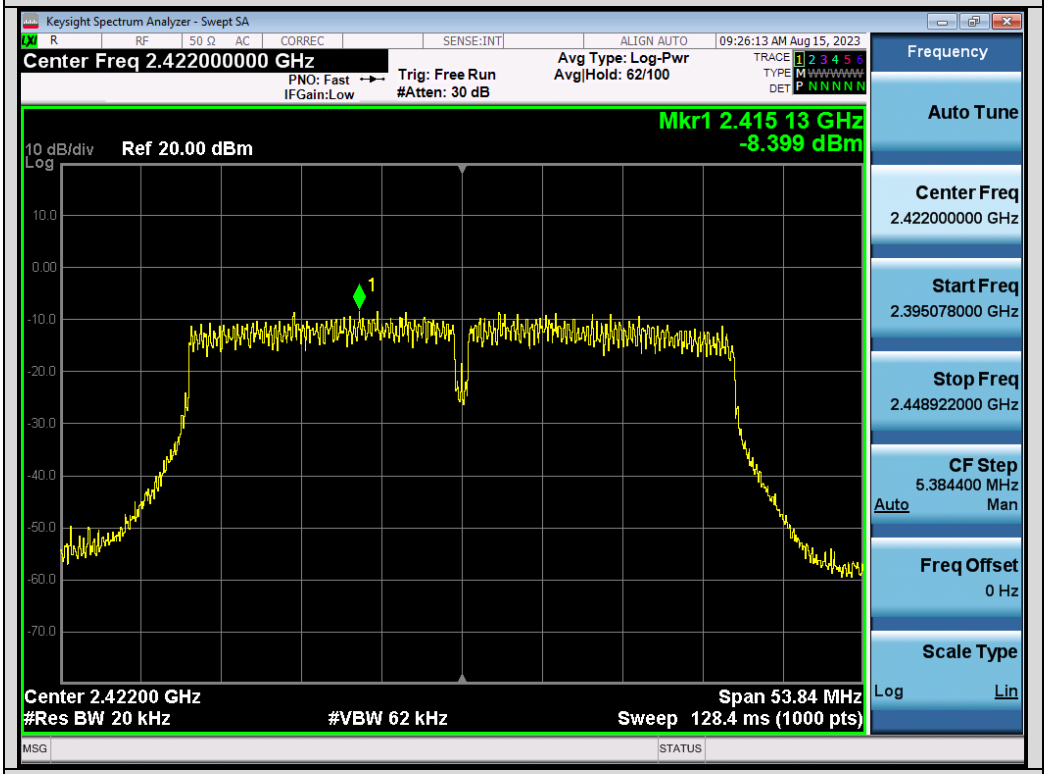
Test_Graph_802.11n20_ANT2_2412_MCS0_PSD



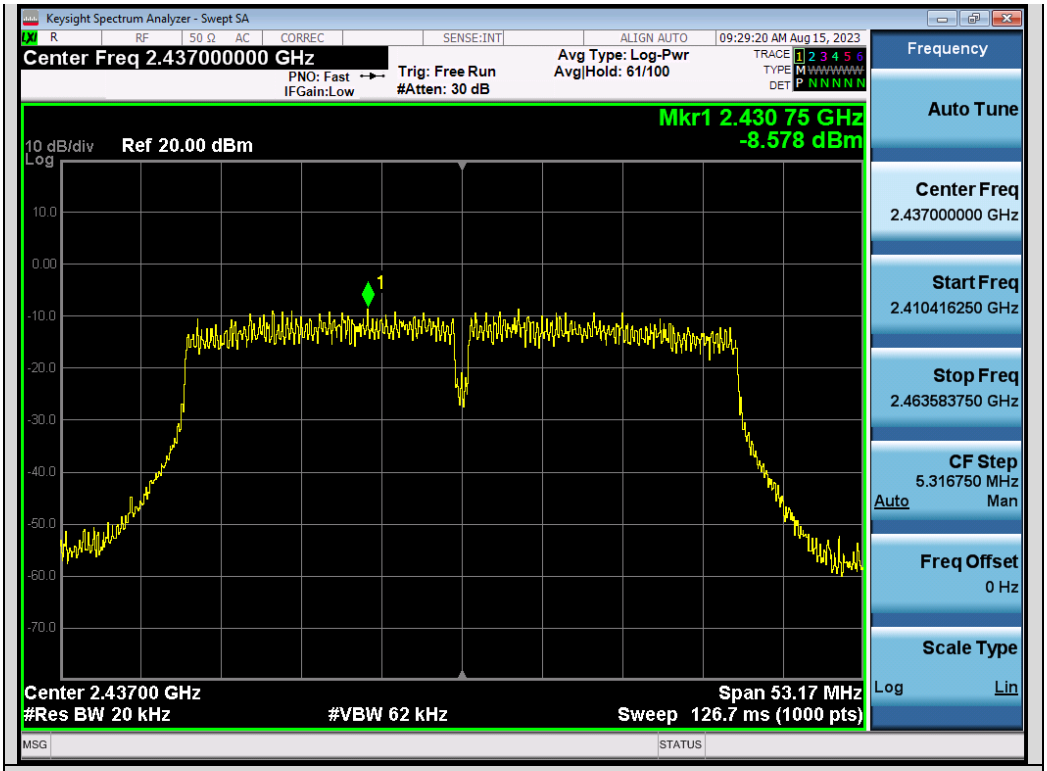
Test_Graph_802.11n20_ANT2_2437_MCS0_PSD



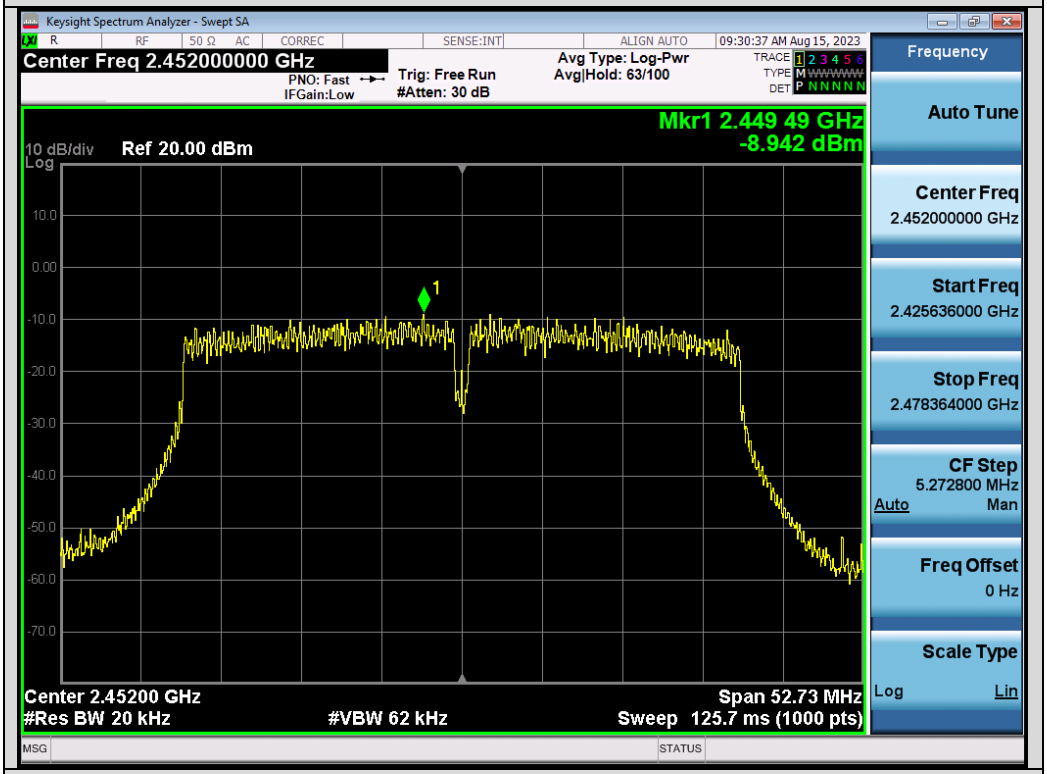
Test_Graph_802.11n20_ANT2_2462_MCS0_PSD



Test_Graph_802.11n40_ANT2_2422_MCS0_PSD



Test_Graph_802.11n40_ANT2_2437_MCS0_PSD



Test_Graph_802.11n40_ANT2_2452_MCS0_PSD

11. RADIATED EMISSION

11.1 MEASUREMENT LIMITS

15.209(a) Limit in the below table has to be followed

Frequencies (MHz)	Field Strength (microvolts/meter)	Measurement Distance (meters)
0.009~0.490	2400/F(kHz)	300
0.490~1.705	24000/F(kHz)	30
1.705~30.0	30	30
30~88	100	3
88~216	150	3
216~960	200	3
Above 960	500	3

Note: All modes were tested for restricted band radiated emission, the test records reported below are the worst result compared to other modes.

11.2 MEASUREMENT PROCEDURE

1. The EUT was placed on the top of the turntable 0.8 or 1.5 meter above ground. The phase center of the receiving antenna mounted on the top of a height-variable antenna tower was placed 3 meters far away from the turntable.
2. Power on the EUT and all the supporting units. The turntable was rotated by 360 degrees to determine the position of the highest radiation.
3. The height of the broadband receiving antenna was varied between one meter and four meters above ground to find the maximum emissions field strength of both horizontal and vertical polarization.
4. For each suspected emission, the antenna tower was scan (from 1 M to 4 M) and then the turntable was rotated (from 0 degree to 360 degrees) to find the maximum reading.
5. Set the test-receiver system to Peak or CISPR quasi-peak Detect Function with specified bandwidth under Maximum Hold Mode.
6. For emissions above 1GHz, use 1MHz RBW and 3MHz VBW for peak reading. Place the measurement antenna away from each area of the EUT determined to be a source of emissions at the specified measurement distance, while keeping the measurement antenna aimed at the source of emissions at each frequency of significant emissions, with polarization oriented for maximum response. The measurement antenna may have to be higher or lower than the EUT, depending on the radiation pattern of the emission and staying aimed at the emission source for receiving the maximum signal. The final measurement antenna elevation shall be that which maximizes the emissions. The measurement antenna elevation for maximum emissions shall be restricted to a range of heights of from 1 m to 4 m above the ground or reference ground plane.
7. When the radiated emissions limits are expressed in terms of the average value of the emissions, and pulsed operation is employed, the measurement field strength shall be determined by averaging over one complete pulse train, including blanking intervals, as long as the pulse train does not exceed 0.1 seconds.

As an alternative (provided the transmitter operates for longer than 0.1 seconds) or in cases where the pulse train exceeds 0.1 seconds, the measured field strength shall be determined from the average absolute voltage during a 0.1 second interval during which the field strength is at its maximum values.

8. If the emissions level of the EUT in peak mode was 3 dB lower than the average limit specified, then testing will be stopped and peak values of EUT will be reported, otherwise, the emissions which do not have 3 dB margin will be repeated one by one using the quasi-peak method for below 1GHz.
9. For testing above 1GHz, the emissions level of the EUT in peak mode was lower than average limit (that means the emissions level in peak mode also complies with the limit in average mode), then testing will be stopped and peak values of EUT will be reported, otherwise, the emissions will be measured in average mode again and reported.
10. In case the emission is lower than 30MHz, loop antenna has to be used for measurement and the recorded data should be QP measured by receiver. High - Low scan is not required in this case.

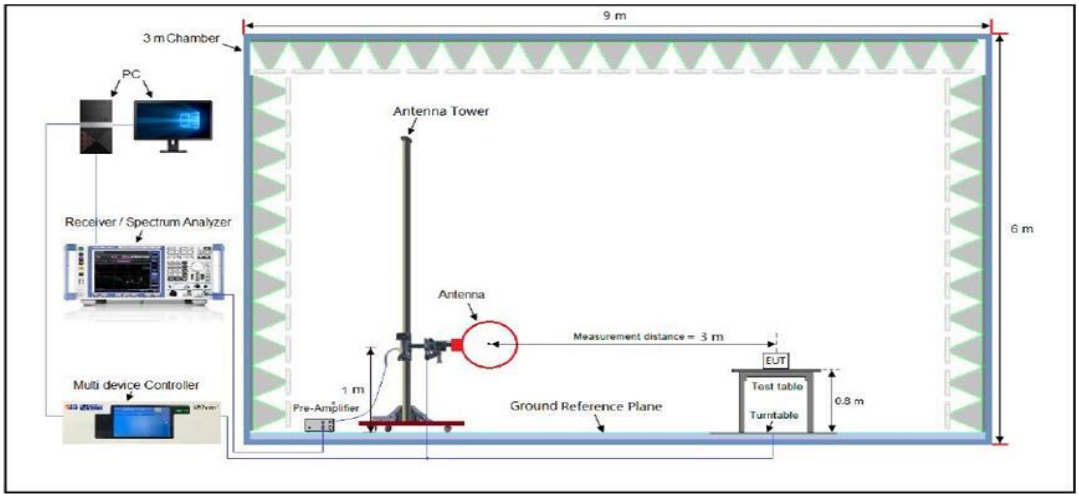
The following table is the setting of spectrum analyzer and receiver.

Spectrum Parameter	Setting
Start ~Stop Frequency	9KHz~150KHz/RB 200Hz for QP
Start ~Stop Frequency	150KHz~30MHz/RB 9KHz for QP
Start ~Stop Frequency	30MHz~1000MHz/RB 120KHz for QP
Start ~Stop Frequency	1GHz~26.5GHz 1MHz/3MHz for Peak, 1MHz/3MHz for Average

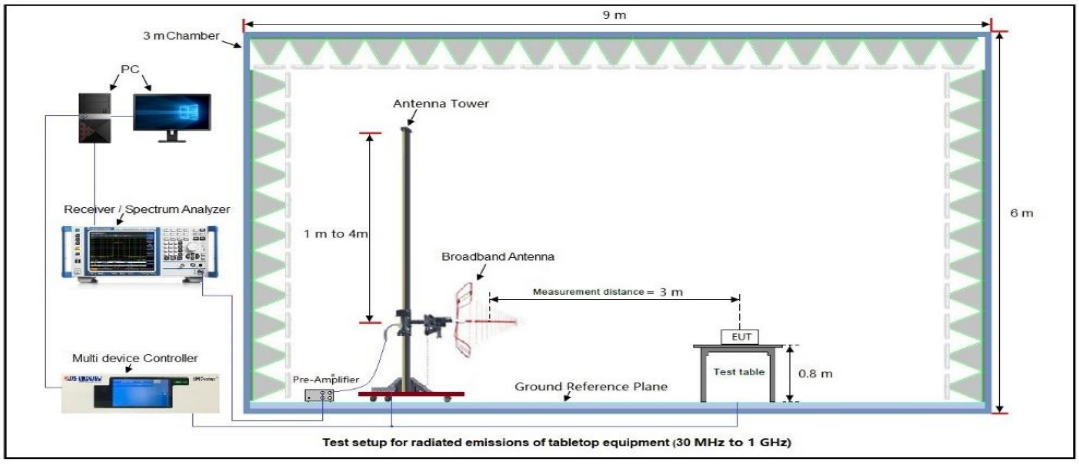
Receiver Parameter	Setting
Start ~Stop Frequency	9KHz~150KHz/RB 200Hz for QP
Start ~Stop Frequency	150KHz~30MHz/RB 9KHz for QP
Start ~Stop Frequency	30MHz~1000MHz/RB 120KHz for QP

11.3 MEASUREMENT SETUP (BLOCK DIAGRAM OF CONFIGURATION)

RADIATED EMISSION TEST SETUP 9KHz-30MHz

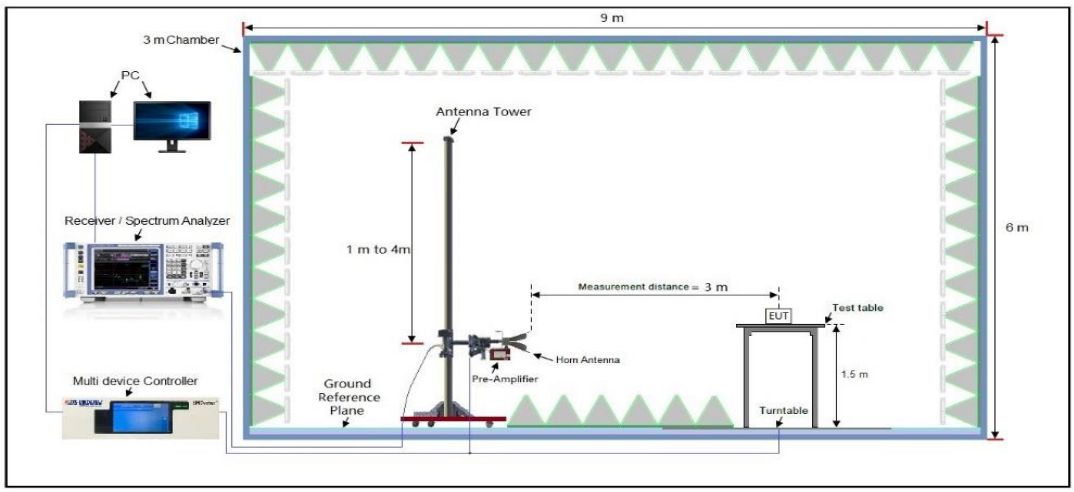


RADIATED EMISSION TEST SETUP 30MHz-1000MHz



Test setup for radiated emissions of tabletop equipment (30 MHz to 1 GHz)

RADIATED EMISSION TEST SETUP ABOVE 1000MHz



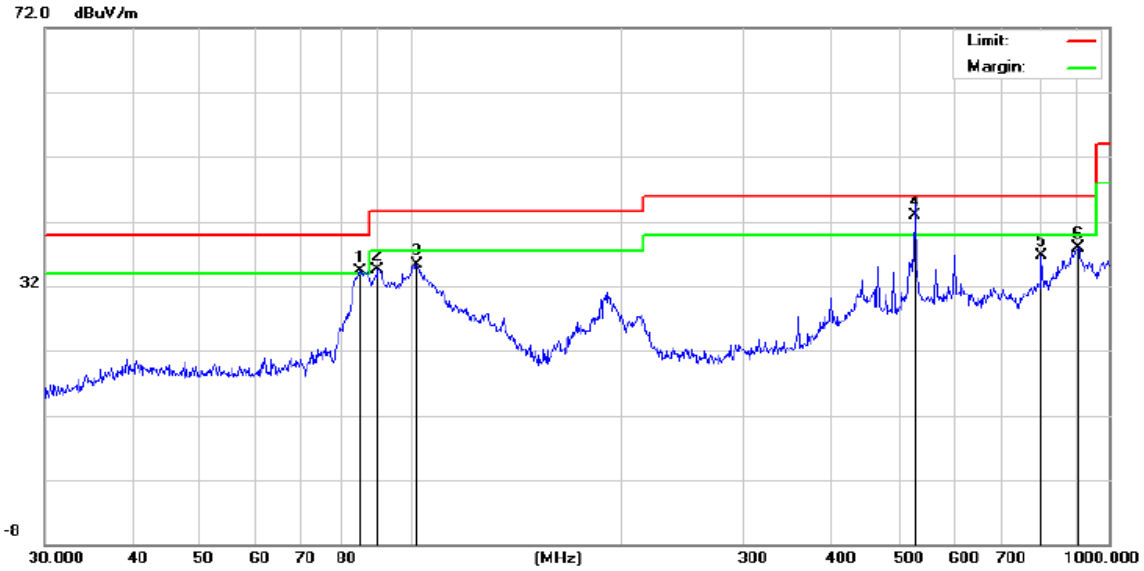
11.4 MEASUREMENT RESULT

Radiated emission below 30MHz

The amplitude of spurious emissions from 9kHz to 30MHz which are attenuated more than 20 dB below the permissible value need not be reported.

Radiated emission from 30MHz to 1000MHz

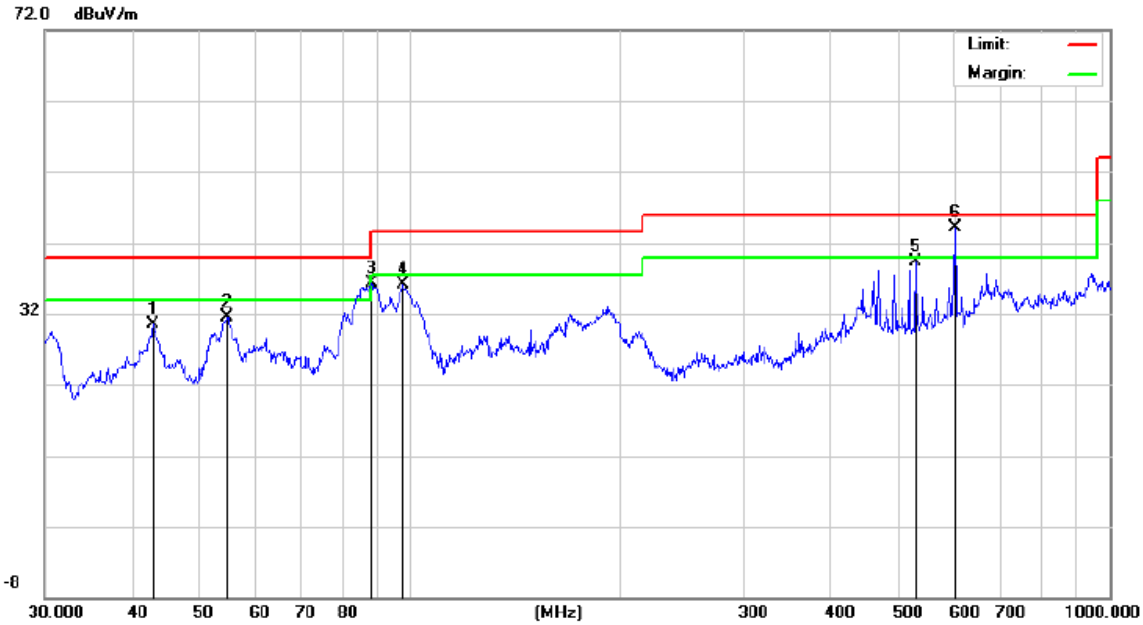
EUT	Portable Smart Projector 1080P	Model Name	VA-SP009
Temperature	25°C	Relative Humidity	58%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	802.11b with 2412MHz	Antenna	Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over	
		MHz	dBuV	dB	dBuV/m	dB/m	dB	Detector
1	!	84.7019	20.52	13.83	34.35	40.00	-5.65	peak
2		89.9047	19.94	14.63	34.57	43.50	-8.93	peak
3		102.3597	19.06	16.22	35.28	43.50	-8.22	peak
4	*	528.2458	18.32	24.66	42.98	46.00	-3.02	QP
5		801.7863	9.92	26.79	36.71	46.00	-9.29	peak
6		903.3094	6.63	31.34	37.97	46.00	-8.03	peak

RESULT: PASS

EUT	Portable Smart Projector 1080P	Model Name	VA-SP009
Temperature	25°C	Relative Humidity	58%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	802.11b with 2412MHz	Antenna	Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over	
		MHz	dBuV	dB	dBuV/m	dB/m	dB	Detector
1		42.8998	13.52	16.93	30.45	40.00	-9.55	peak
2		54.6429	14.50	17.05	31.55	40.00	-8.45	peak
3		88.0329	20.46	15.82	36.28	43.50	-7.22	peak
4		97.4560	21.51	14.54	36.05	43.50	-7.45	peak
5		528.2458	15.39	23.82	39.21	46.00	-6.79	peak
6	*	601.4265	18.09	25.96	44.05	46.00	-1.95	peak

RESULT: PASS

Note: 1. Factor=Antenna Factor + Cable loss, Over=Measure-Limit.

2. The “Factor” value can be calculated automatically by software of measurement system.

3. All test modes had been pre-tested. All the antennas have been tested. The 802.11b mode of antenna 1 is the worst case and recorded in the report.

Radiated emission above 1GHz

EUT	Portable Smart Projector 1080P	**Model Name**	VA-SP009
Temperature	25°C	**Relative Humidity**	58%
Pressure	960hPa	**Test Voltage**	Normal Voltage
Test Mode	802.11b with date rate 1_2412MHz	**Antenna**	Horizontal

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Value Type
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
4824.000	52.75	0.08	52.83	74.00	-21.17	peak
4824.000	43.30	0.08	43.38	54.00	-10.62	AVG
7236.000	50.17	2.21	52.38	74.00	-21.62	peak
7236.000	41.46	2.21	43.67	54.00	-10.33	AVG
Remark:						
Factor = Antenna Factor + Cable Loss – Pre-amplifier.						

EUT	Portable Smart Projector 1080P	**Model Name**	VA-SP009
Temperature	25°C	**Relative Humidity**	58%
Pressure	960hPa	**Test Voltage**	Normal Voltage
Test Mode	802.11b with date rate 1_2412MHz	**Antenna**	Vertical

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Value Type
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
4824.000	50.66	0.08	50.74	74.00	-23.26	peak
4824.000	42.12	0.08	42.20	54.00	-11.80	AVG
7236.000	49.64	2.21	51.85	74.00	-22.15	peak
7236.000	40.69	2.21	42.90	54.00	-11.10	AVG
Remark:						
Factor = Antenna Factor + Cable Loss – Pre-amplifier.						

RESULT: PASS

EUT	Portable Smart Projector 1080P	Model Name	VA-SP009
Temperature	25℃	Relative Humidity	58%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	802.11b with date rate 1_2437MHz	Antenna	Horizontal

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Value Type
4874.000	52.23	0.14	52.37	74.00	-21.63	peak
4874.000	37.32	0.14	37.46	54.00	-16.54	AVG
7311.000	51.25	2.36	53.61	74.00	-20.39	peak
7311.000	35.15	2.36	37.51	54.00	-16.49	AVG
Remark:						
Factor = Antenna Factor + Cable Loss – Pre-amplifier.						

EUT	Portable Smart Projector 1080P	Model Name	VA-SP009
Temperature	25℃	Relative Humidity	58%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	802.11b with date rate 1_2437MHz	Antenna	Vertical

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Value Type
4874.000	50.60	0.14	50.74	74.00	-23.26	peak
4874.000	38.11	0.14	38.25	54.00	-15.75	AVG
7311.000	50.21	2.36	52.57	74.00	-21.43	peak
7311.000	36.78	2.36	39.14	54.00	-14.86	AVG
Remark:						
Factor = Antenna Factor + Cable Loss – Pre-amplifier.						

RESULT: PASS

EUT	Portable Smart Projector 1080P	Model Name	VA-SP009
Temperature	25°C	Relative Humidity	58%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	802.11b with date rate 1_2462MHz	Antenna	Horizontal

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Value Type
4924.000	51.86	0.22	52.08	74.00	-21.92	peak
4924.000	42.33	0.22	42.55	54.00	-11.45	AVG
7386.000	49.84	2.64	52.48	74.00	-21.52	peak
7386.000	51.32	2.64	53.96	54.00	-0.04	AVG
Remark:						
Factor = Antenna Factor + Cable Loss – Pre-amplifier.						

EUT	Portable Smart Projector 1080P	Model Name	VA-SP009
Temperature	25°C	Relative Humidity	58%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	802.11b with date rate 1_2462MHz	Antenna	Vertical

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Value Type
4924.000	49.91	0.22	50.13	74.00	-23.87	peak
4924.000	41.35	0.22	41.57	54.00	-12.43	AVG
7386.000	47.06	2.64	49.70	74.00	-24.30	peak
7386.000	38.63	2.64	41.27	54.00	-12.73	AVG
Remark:						
Factor = Antenna Factor + Cable Loss – Pre-amplifier.						

RESULT: PASS

Note:

The amplitude of other spurious emissions from 1G to 25 GHz which are attenuated more than 20 dB below the permissible value need not be reported.

Factor = Antenna Factor + Cable loss - Amplifier gain, Over= Limit-Measure.

The “Factor” value can be calculated automatically by software of measurement system.

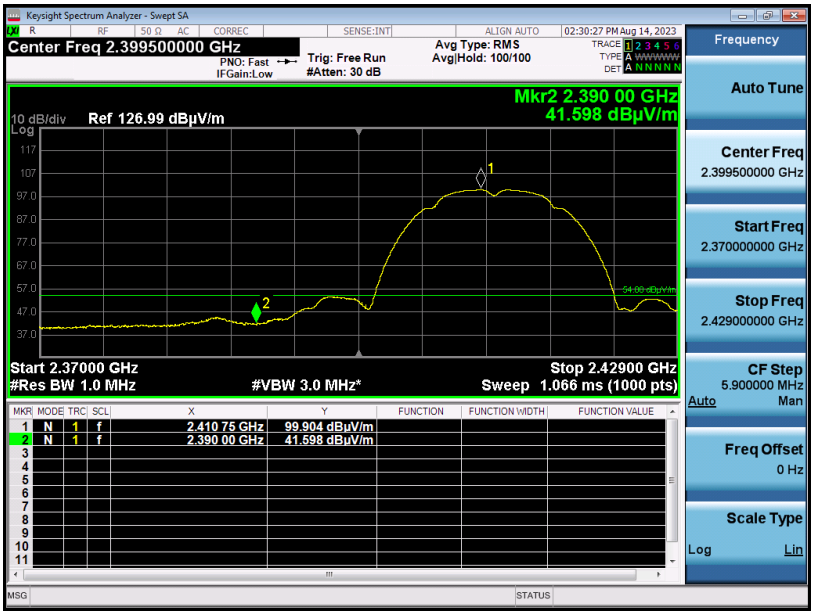
All test modes had been pre-tested. All the antennas have been tested. The 802.11b mode of antenna 1 is the worst case and recorded in the report.

Test result for band edge emission at restricted bands_ ATN 1

EUT	Portable Smart Projector 1080P	**Model Name**	VA-SP009
Temperature	25℃	**Relative Humidity**	60%
Pressure	960hPa	**Test Voltage**	Normal Voltage
Test Mode	802.11b with date rate 1_2412MHz	**Antenna**	Horizontal

Test Graph for Peak Measurement

Test Graph for Average Measurement

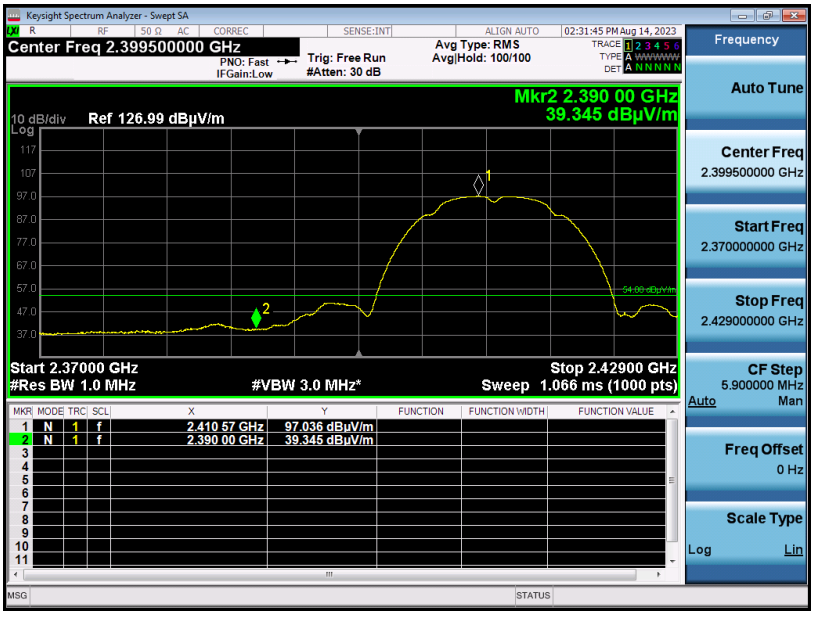


RESULT: PASS

EUT	Portable Smart Projector 1080P	Model Name	VA-SP009
Temperature	25°C	Relative Humidity	60%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	802.11b with date rate 1_2412MHz	Antenna	Vertical

Test Graph for Peak Measurement

Test Graph for Average Measurement

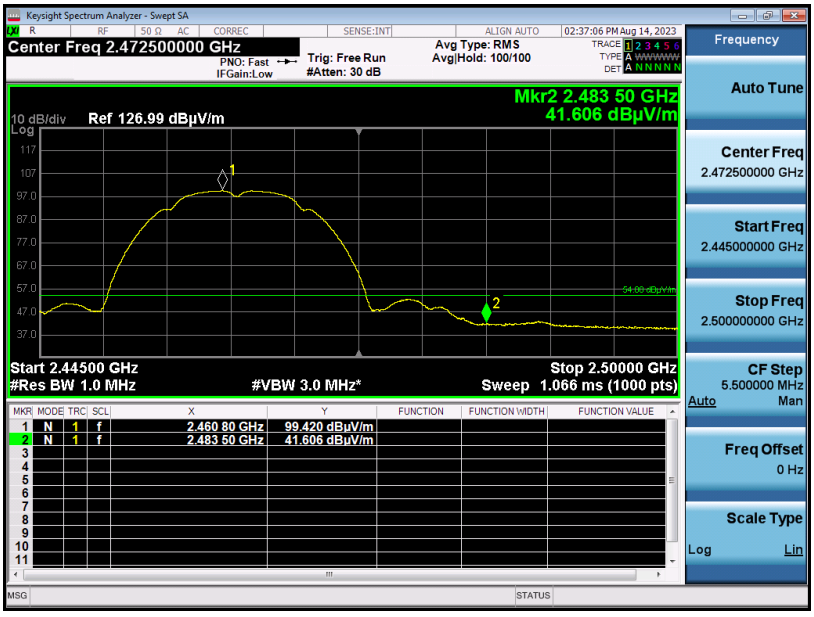


RESULT: PASS

EUT	Portable Smart Projector 1080P	Model Name	VA-SP009
Temperature	25°C	Relative Humidity	60%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	802.11b with data rate 1_2462MHz	Antenna	Horizontal

Test Graph for Peak Measurement

Test Graph for Average Measurement

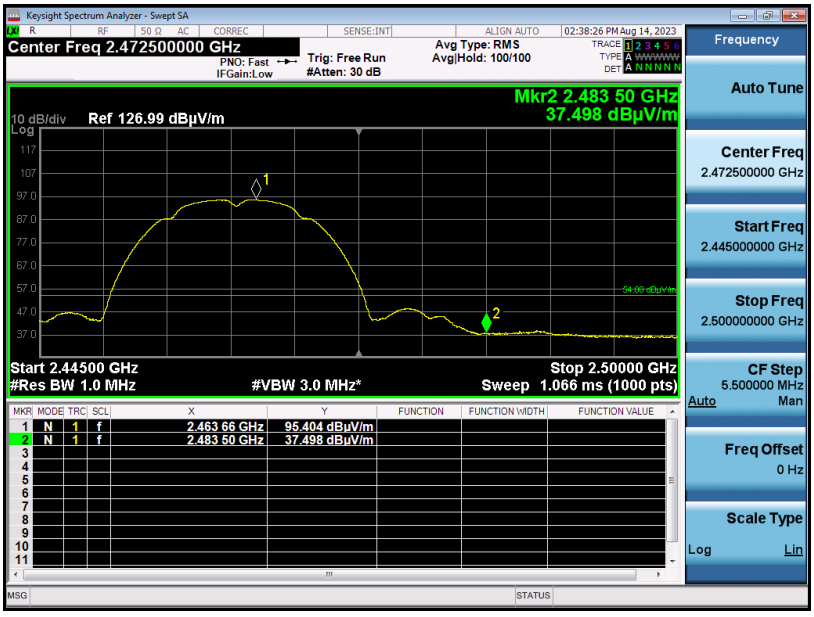


RESULT: PASS

EUT	Portable Smart Projector 1080P	Model Name	VA-SP009
Temperature	25℃	Relative Humidity	60%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	802.11b with data rate 1_2462MHz	Antenna	Vertical

Test Graph for Peak Measurement

Test Graph for Average Measurement

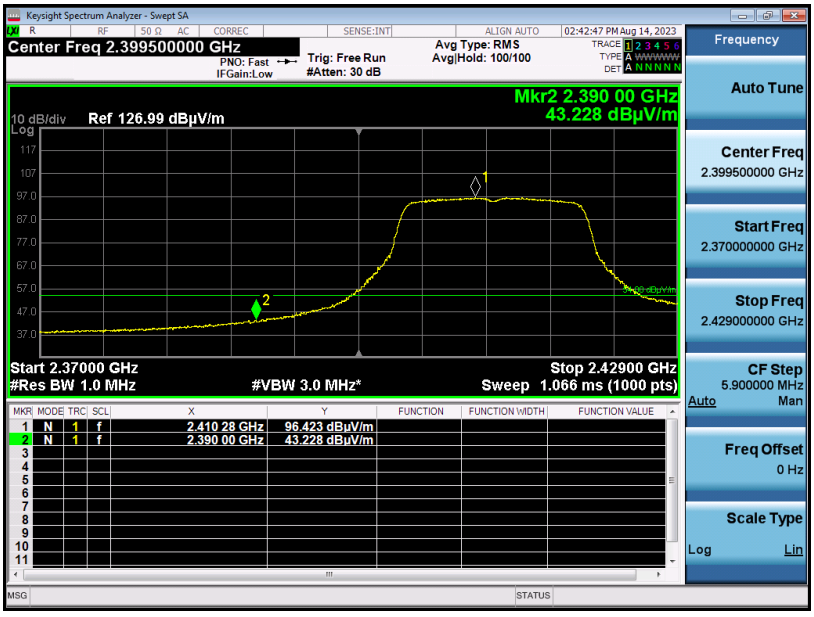


RESULT: PASS

EUT	Portable Smart Projector 1080P	Model Name	VA-SP009
Temperature	25°C	Relative Humidity	60%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	802.11g with data rate 6_2412MHz	Antenna	Horizontal

Test Graph for Peak Measurement

Test Graph for Average Measurement

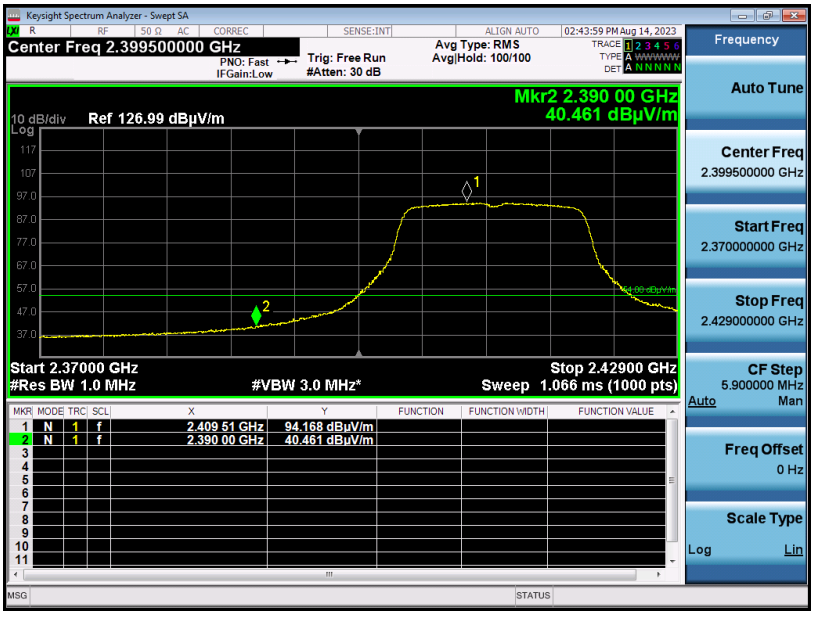


RESULT: PASS

EUT	Portable Smart Projector 1080P	Model Name	VA-SP009
Temperature	25°C	Relative Humidity	60%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	802.11g with data rate 6_2412MHz	Antenna	Vertical

Test Graph for Peak Measurement

Test Graph for Average Measurement

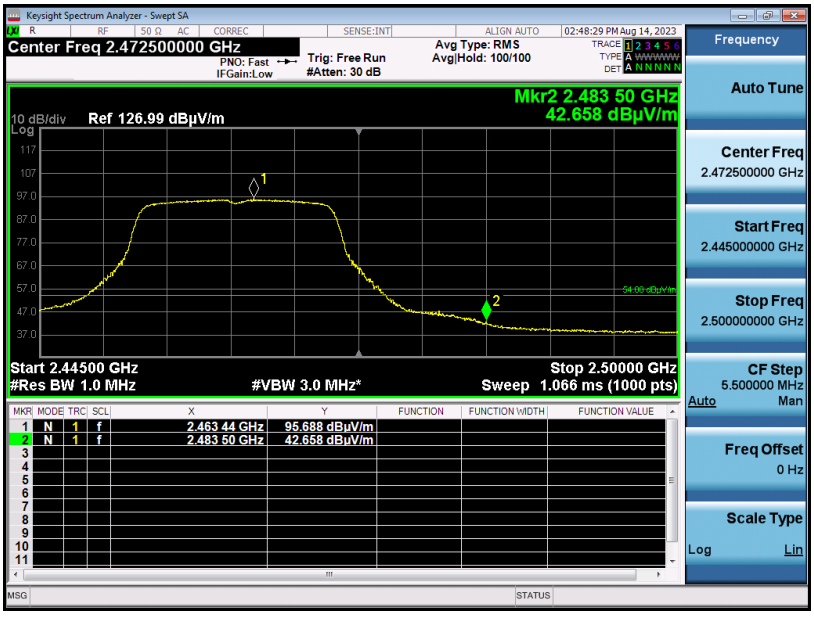


RESULT: PASS

EUT	Portable Smart Projector 1080P	Model Name	VA-SP009
Temperature	25°C	Relative Humidity	60%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	802.11g with data rate 6_2462MHz	Antenna	Horizontal

Test Graph for Peak Measurement

Test Graph for Average Measurement

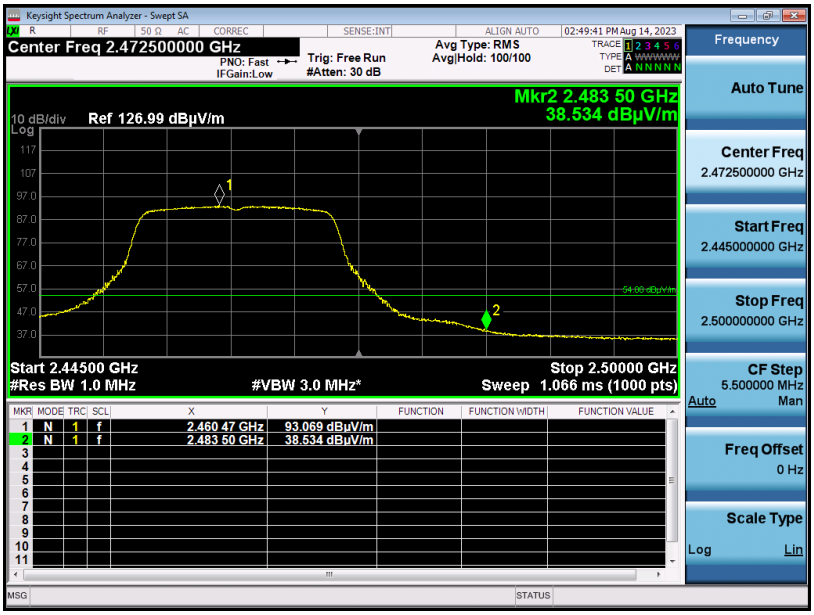


RESULT: PASS

EUT	Portable Smart Projector 1080P	Model Name	VA-SP009
Temperature	25℃	Relative Humidity	60%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	802.11g with data rate 6 2462MHz	Antenna	Vertical

Test Graph for Peak Measurement

Test Graph for Average Measurement

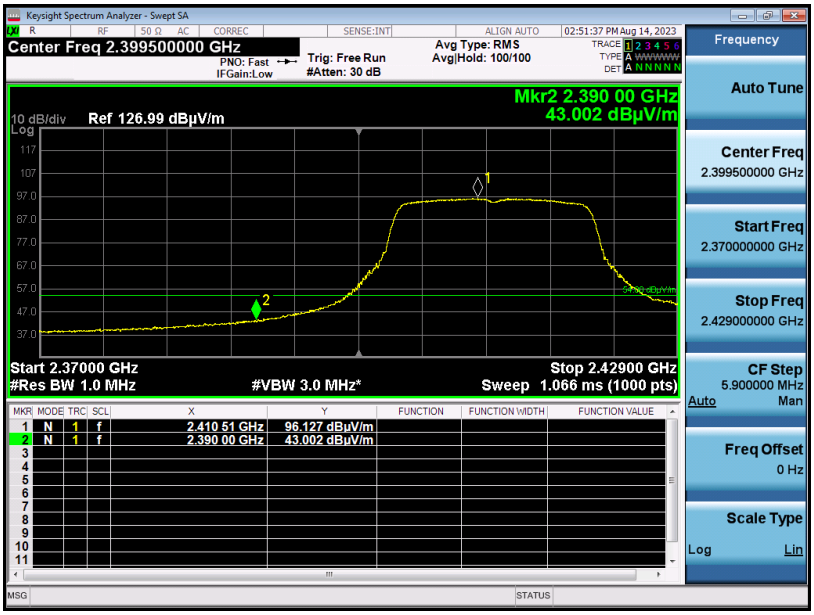


RESULT: PASS

EUT	Portable Smart Projector 1080P	Model Name	VA-SP009
Temperature	25℃	Relative Humidity	60%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	802.11n20 with data rate 6.5 2412MHz	Antenna	Horizontal

Test Graph for Peak Measurement

Test Graph for Average Measurement

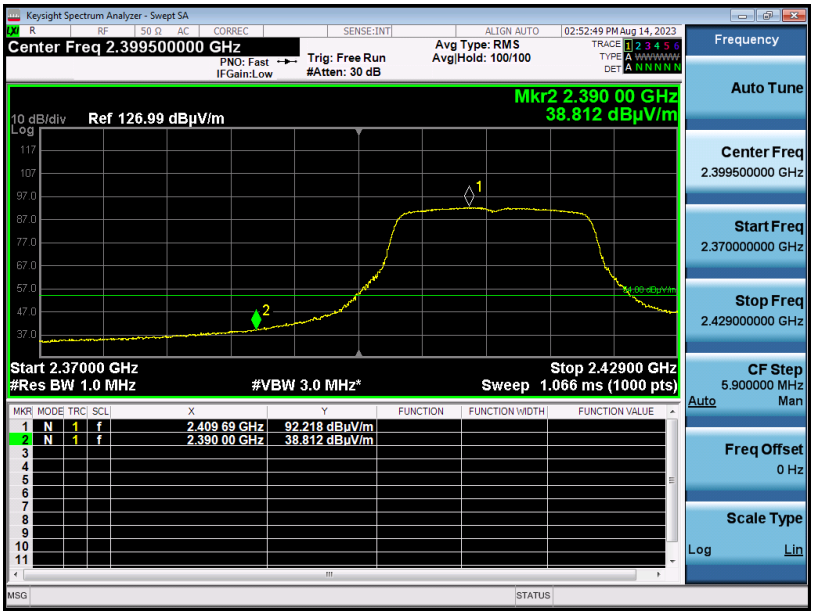


RESULT: PASS

EUT	Portable Smart Projector 1080P	Model Name	VA-SP009
Temperature	25℃	Relative Humidity	60%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	802.11n20 with data rate 6.5 2412MHz	Antenna	Vertical

Test Graph for Peak Measurement

Test Graph for Average Measurement

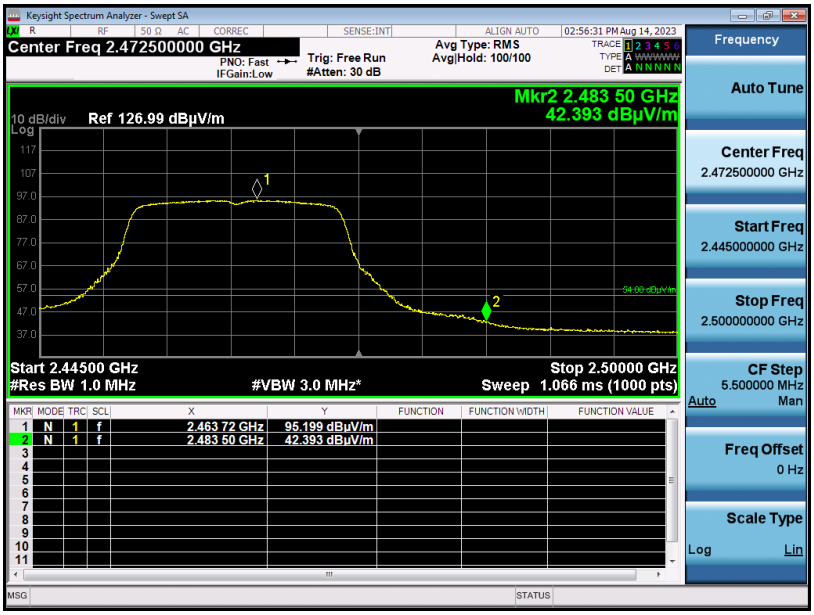


RESULT: PASS

EUT	Portable Smart Projector 1080P	Model Name	VA-SP009
Temperature	25℃	Relative Humidity	60%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	802.11n20 with data rate 6.5 2462MHz	Antenna	Horizontal

Test Graph for Peak Measurement

Test Graph for Average Measurement

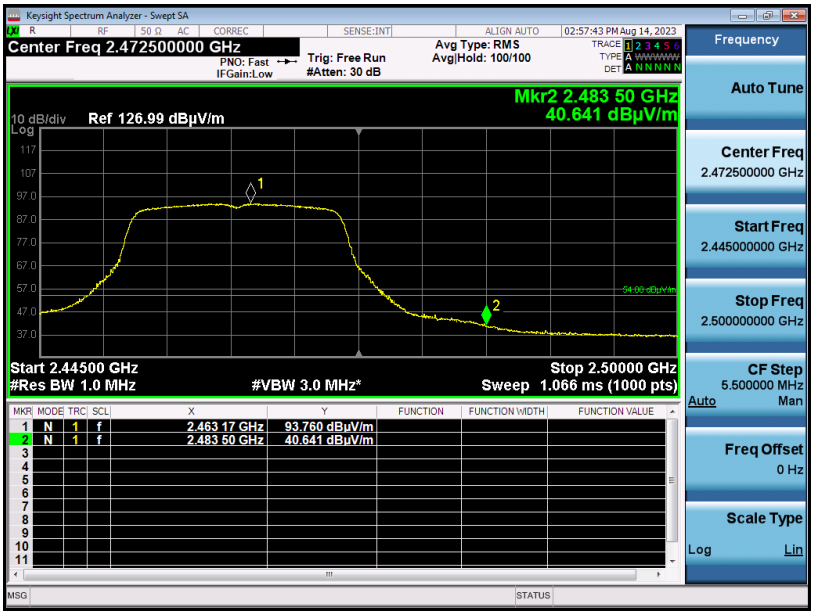


RESULT: PASS

EUT	Portable Smart Projector 1080P	Model Name	VA-SP009
Temperature	25℃	Relative Humidity	60%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	802.11n20 with data rate 6.5 2462MHz	Antenna	Vertical

Test Graph for Peak Measurement

Test Graph for Average Measurement

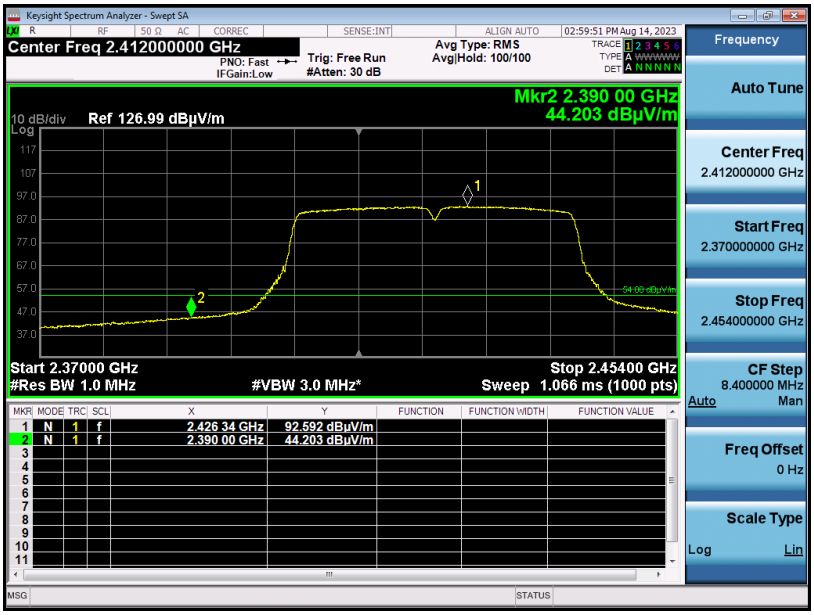


RESULT: PASS

EUT	Portable Smart Projector 1080P	Model Name	VA-SP009
Temperature	25℃	Relative Humidity	60%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	802.11n40 with data rate 13.5 2422MHz	Antenna	Horizontal

Test Graph for Peak Measurement

Test Graph for Average Measurement

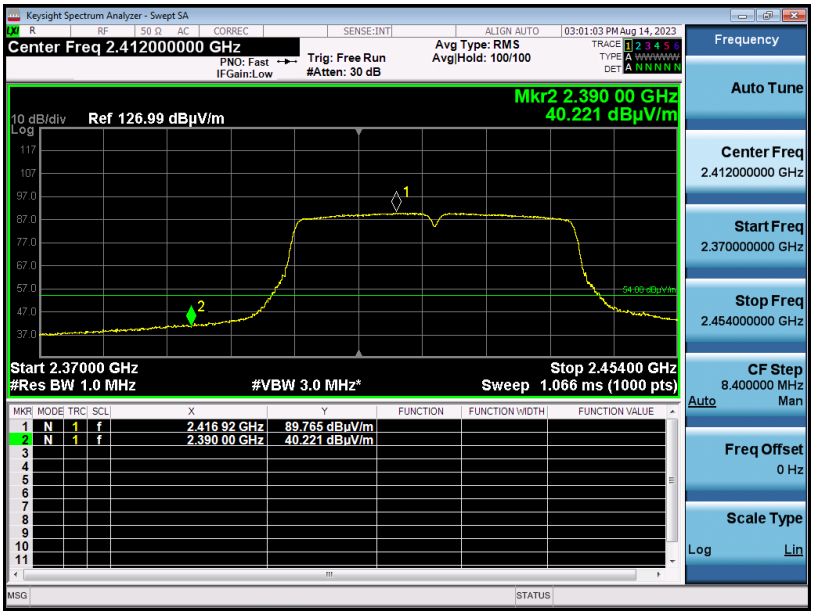


RESULT: PASS

EUT	Portable Smart Projector 1080P	Model Name	VA-SP009
Temperature	25℃	Relative Humidity	60%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	802.11n40 with data rate 13.5 2422MHz	Antenna	Vertical

Test Graph for Peak Measurement

Test Graph for Average Measurement

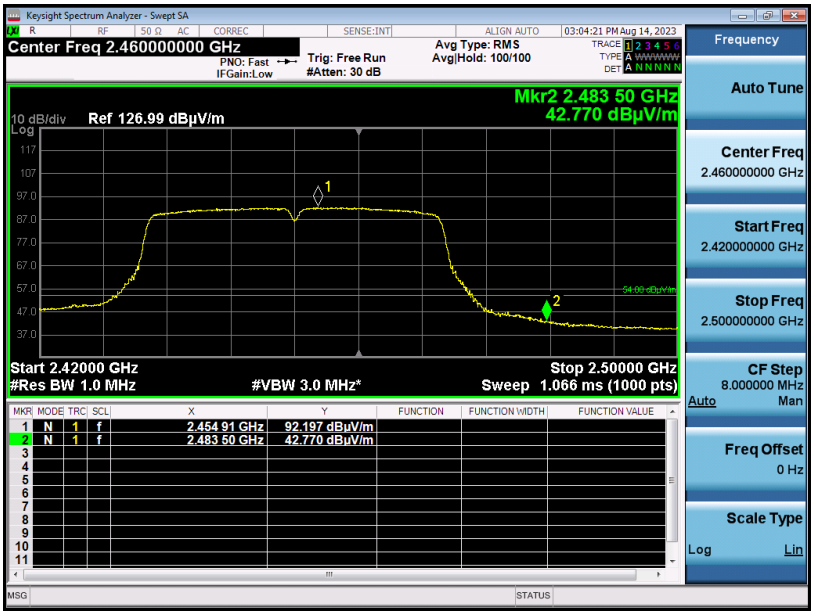


RESULT: PASS

EUT	Portable Smart Projector 1080P	Model Name	VA-SP009
Temperature	25℃	Relative Humidity	60%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	802.11n40 with data rate 13.5 2452MHz	Antenna	Horizontal

Test Graph for Peak Measurement

Test Graph for Average Measurement

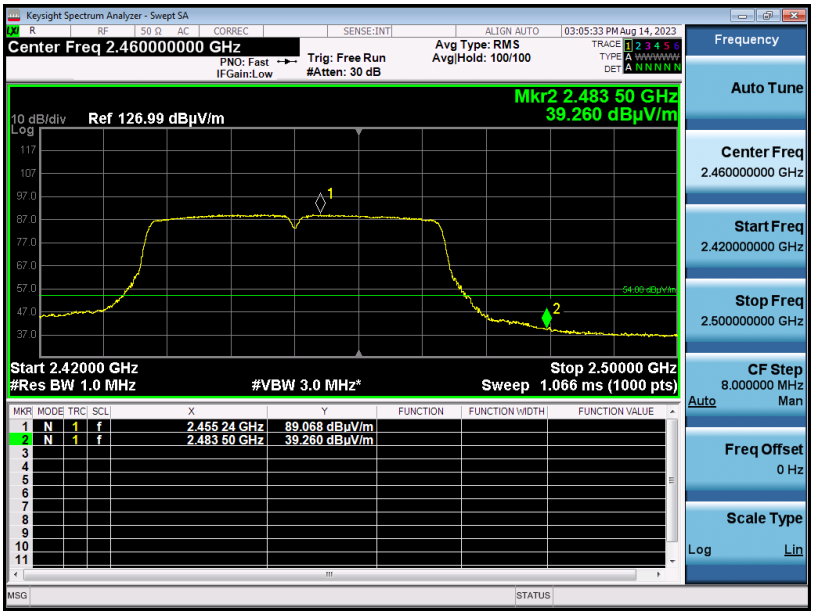


RESULT: PASS

EUT	Portable Smart Projector 1080P	Model Name	VA-SP009
Temperature	25℃	Relative Humidity	60%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	802.11n40 with data rate 13.5 2452MHz	Antenna	Vertical

Test Graph for Peak Measurement

Test Graph for Average Measurement



RESULT: PASS