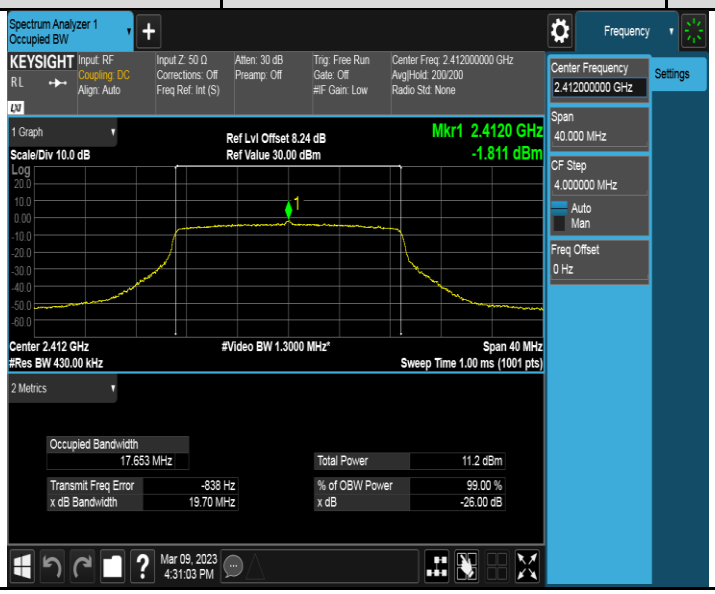
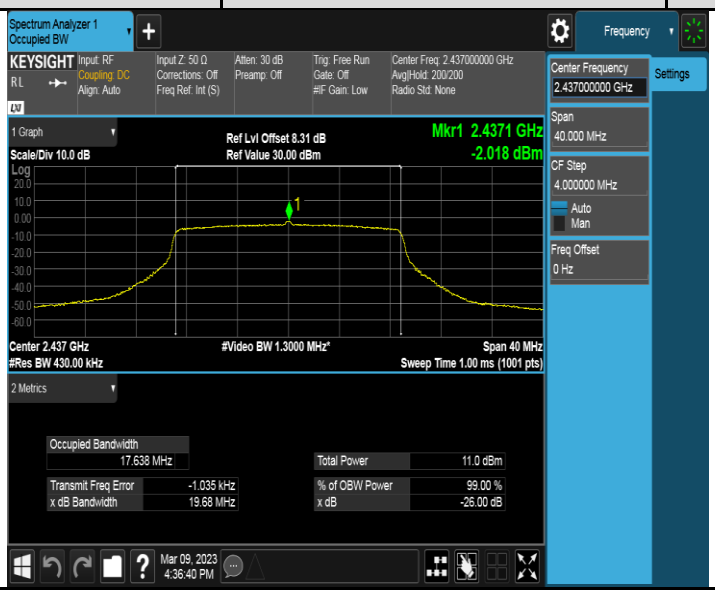
Test Mode	Test Channel	Verdict
11N HT20	LCH	PASS



Test Mode	Test Channel	Verdict
11N HT20	MCH	PASS



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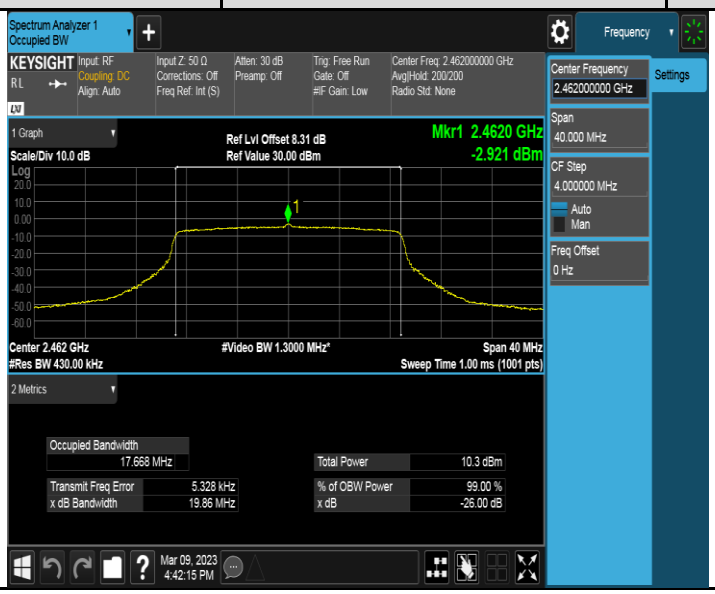
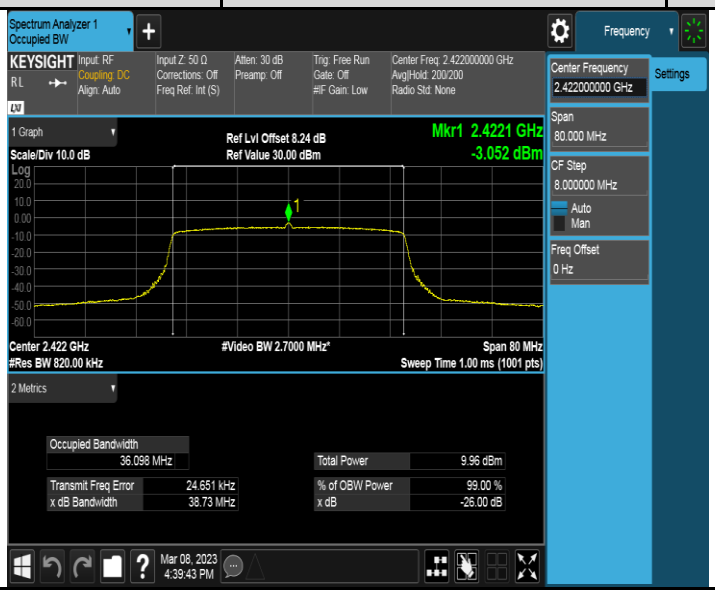
Test Mode	Test Channel	Verdict
11N HT20	HCH	PASS



Test Mode	Test Channel	Verdict
11N HT40	LCH	PASS



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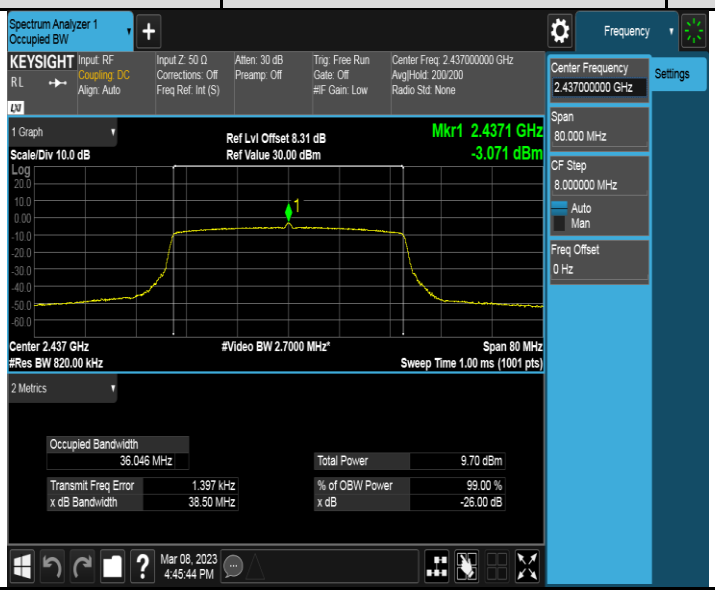
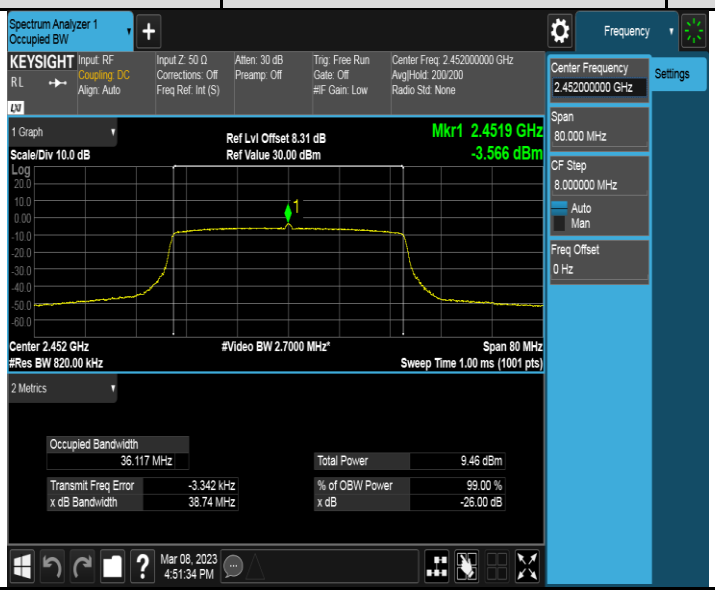
Test Mode	Test Channel	Verdict
11N HT40	MCH	PASS



Test Mode	Test Channel	Verdict
11N HT40	HCH	PASS



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7.3. CONDUCTED OUTPUT POWER

LIMITS

FCC Part15 (15.247) Subpart C			
Section	Test Item	Limit	Frequency Range (MHz)
FCC 15.247(b)(3)	Output Power	1 watt or 30dBm	2400-2483.5

TEST PROCEDURE

Place the EUT on the table and set it in the transmitting mode.
Remove the antenna from the EUT and then connect a low loss RF cable from the antenna port to the Power sensor.
Measure the power of each channel.
AVG Detector use for AVG result.

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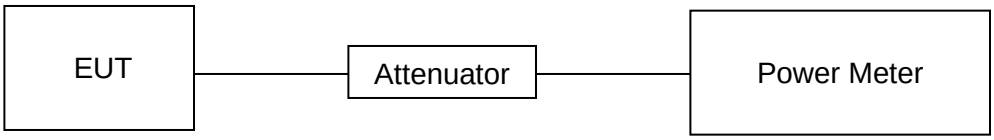
TEST SETUP



TEST ENVIRONMENT

Temperature	22℃	Relative Humidity	58.5%
Atmosphere Pressure	102kpa	Test Voltage	DC5V

TEST RESULTS TABLE

Test Mode	Antenna	Frequency [MHz]	Average Power[dBm]	Verdict
11B	Ant1	LCH	16.16	PASS
	Ant2	LCH	11.49	PASS
	Ant1	MCH	16.47	PASS
	Ant2	MCH	11.53	PASS
	Ant1	HCH	16.45	PASS
	Ant2	HCH	10.80	PASS
11G	Ant1	LCH	15.63	PASS
	Ant2	LCH	12.87	PASS
	Ant1	MCH	15.97	PASS
	Ant2	MCH	12.63	PASS
	Ant1	HCH	15.60	PASS
	Ant2	HCH	12.02	PASS
11N20MIMO	Ant1	LCH	13.93	PASS
	Ant2	LCH	11.19	PASS
	total	MCH	15.78	PASS
	Ant1	MCH	14.28	PASS
	Ant2	HCH	10.96	PASS
	total	HCH	15.94	PASS
	Ant1	LCH	13.92	PASS
	Ant2	LCH	10.30	PASS
	total	MCH	15.49	PASS
11N40MIMO	Ant1	MCH	13.25	PASS
	Ant2	HCH	9.94	PASS
	total	HCH	14.91	PASS
	Ant1	LCH	13.01	PASS
	Ant2	LCH	9.68	PASS
	total	MCH	14.67	PASS
	Ant1	MCH	12.95	PASS
	Ant2	HCH	9.43	PASS
	total	HCH	14.55	PASS

Remark:
1) For all the test results has been adjusted the duty cycle factor.
2) For Correction Factor is refer to the result in section 7.1

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7.4. POWER SPECTRAL DENSITY

LIMITS

FCC Part15 (15.247) Subpart C			
Section	Test Item	Limit	Frequency Range (MHz)
FCC §15.247 (e)	Power Spectral Density	8 dBm/3 kHz	2400-2483.5

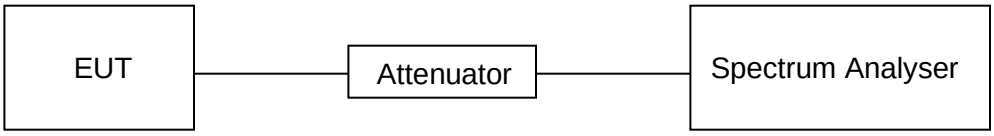
TEST PROCEDURE

Refer to FCC KDB 558074, connect the UUT to the spectrum analyser and use the following settings:

Center Frequency	The centre frequency of the channel under test
Detector	Peak
RBW	3 kHz ≤ RBW ≤100 kHz
VBW	≥3 × RBW
Span	1.5 x DTS bandwidth
Trace	Max hold
Sweep time	Auto couple.

Allow trace to fully stabilize and use the peak marker function to determine the maximum amplitude level within the RBW.
If measured value exceeds limit, reduce RBW (no less than 3 kHz) and repeat.

TEST SETUP



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TEST ENVIRONMENT

Temperature	22℃	Relative Humidity	58.5%
Atmosphere Pressure	102kpa	Test Voltage	DC5V

TEST RESULTS TABLE

TestMode	Antenna	Test Channel	Maximum Peak power spectral density (dBm/30kHz)	Verdict
11B	Ant1	LCH	0.54	PASS
	Ant2	LCH	-3.54	PASS
	Ant1	MCH	0.83	PASS
	Ant2	MCH	-3.45	PASS
	Ant1	HCH	0.84	PASS
	Ant2	HCH	-4.18	PASS
11G	Ant1	LCH	-0.88	PASS
	Ant2	LCH	0.46	PASS
	Ant1	MCH	-0.49	PASS
	Ant2	MCH	0.29	PASS
	Ant1	HCH	-0.86	PASS
	Ant2	HCH	-0.39	PASS
11N20MIMO	Ant1	LCH	-2.2	PASS
	Ant2	LCH	-2.18	PASS
	total	LCH	0.82	PASS
	Ant1	MCH	-1.68	PASS
	Ant2	MCH	-2.39	PASS
	total	MCH	0.99	PASS
	Ant1	HCH	-2.09	PASS
	Ant2	HCH	-3.08	PASS
	total	HCH	0.45	PASS
11N40MIMO	Ant1	LCH	-4.57	PASS
	Ant2	LCH	-3.08	PASS
	total	LCH	-0.75	PASS
	Ant1	MCH	-4.44	PASS
	Ant2	MCH	-3.18	PASS
	total	MCH	-0.75	PASS
	Ant1	HCH	-5.07	PASS
	Ant2	HCH	-3.76	PASS
	total	HCH	-1.36	PASS

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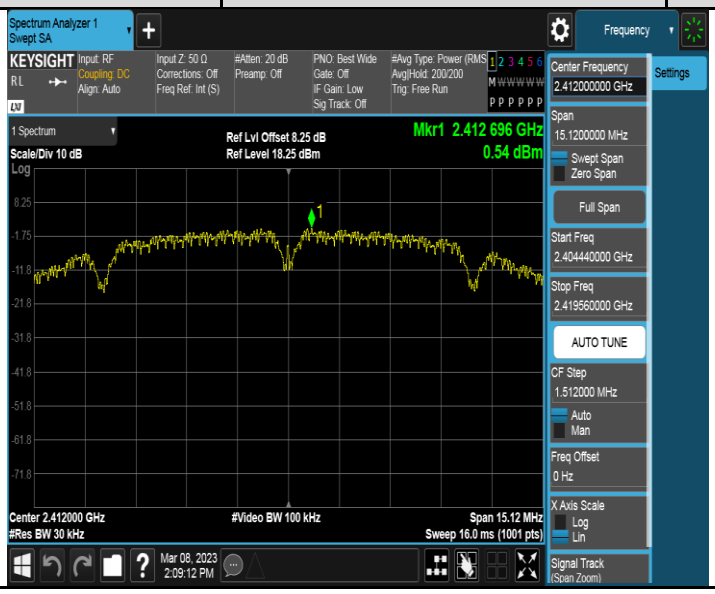
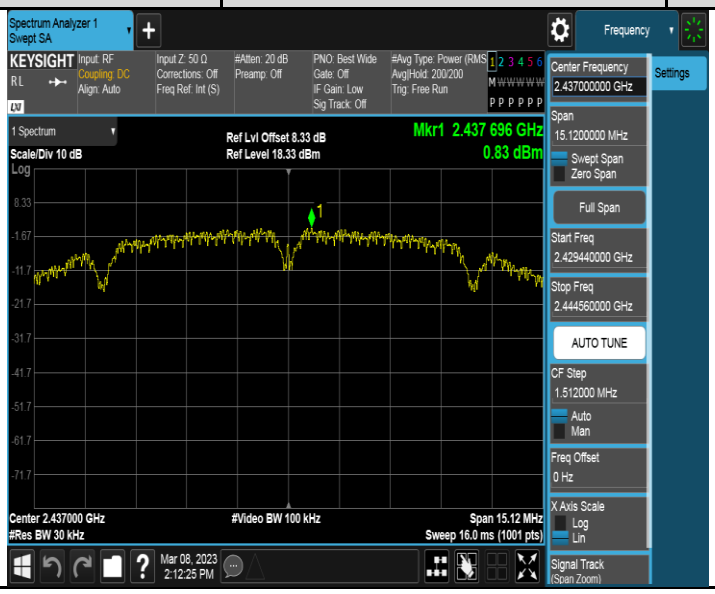
TEST GRAPHS

1) For Antenna 1 Part:

Test Mode	Test Channel	Verdict
11B	LCH	PASS



Test Mode	Test Channel	Verdict
11B	MCH	PASS



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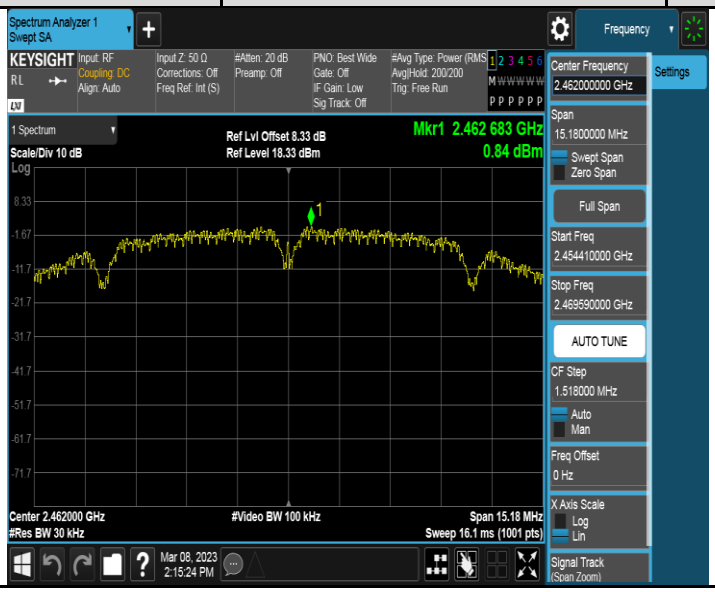
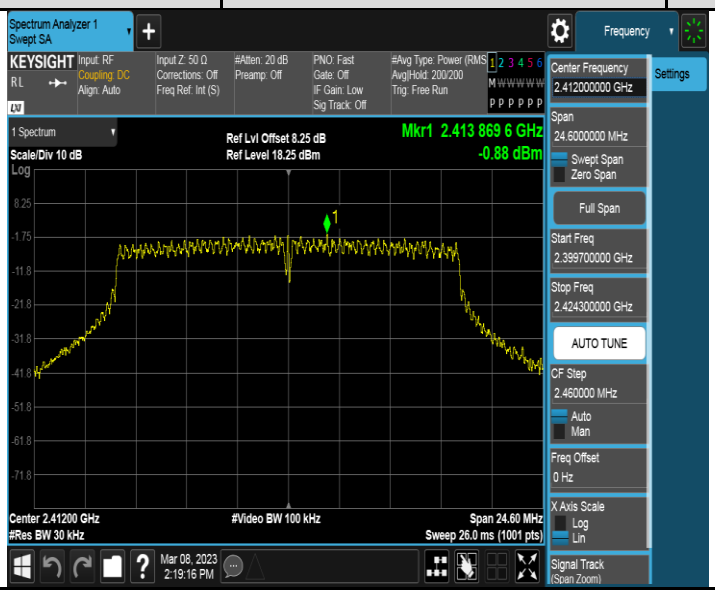
Test Mode	Test Channel	Verdict
11B	HCH	PASS



Test Mode	Test Channel	Verdict
11G	LCH	PASS



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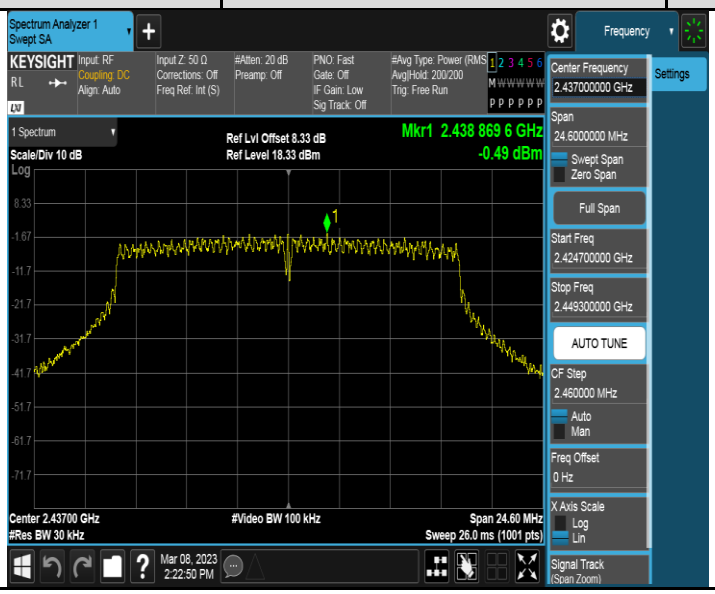
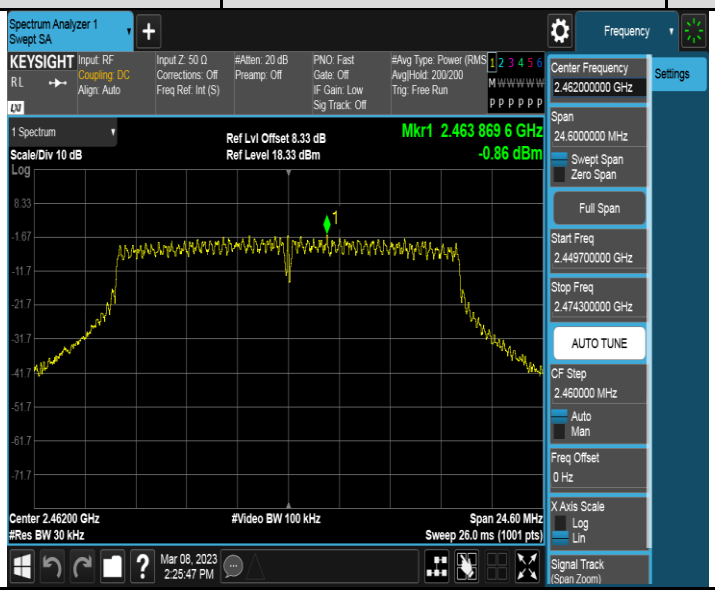
Test Mode	Test Channel	Verdict
11G	MCH	PASS



Test Mode	Test Channel	Verdict
11G	HCH	PASS



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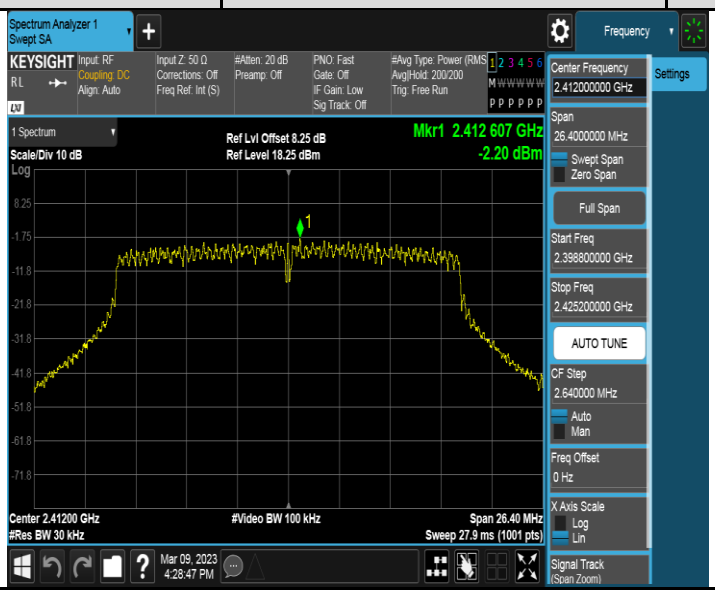
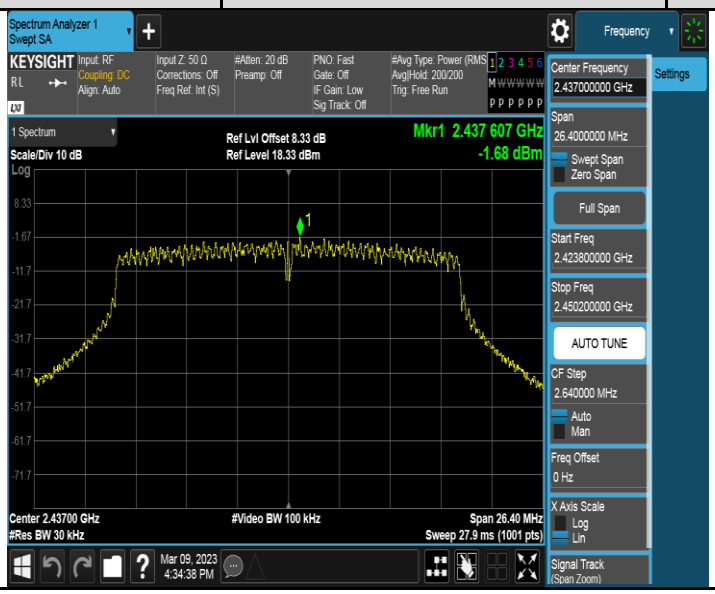
Test Mode	Test Channel	Verdict
11N HT20	LCH	PASS



Test Mode	Test Channel	Verdict
11N HT20	MCH	PASS



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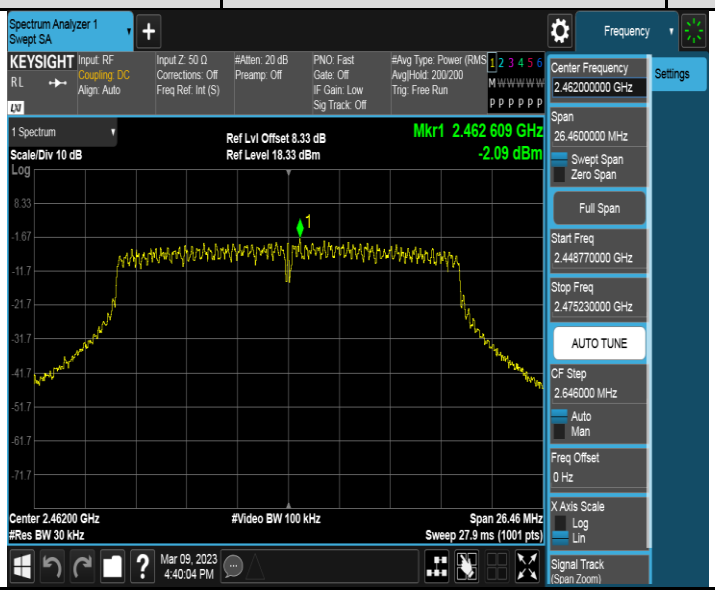
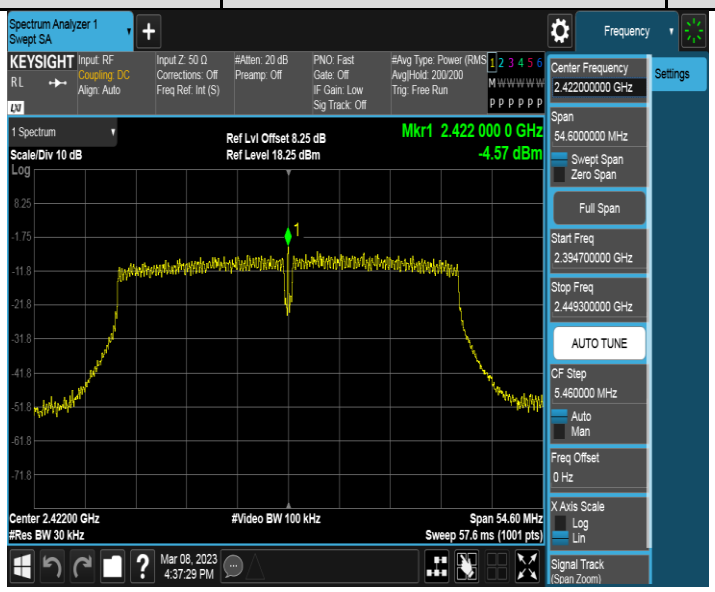
Test Mode	Test Channel	Verdict
11N HT20	HCH	PASS



Test Mode	Test Channel	Verdict
11N HT40	LCH	PASS



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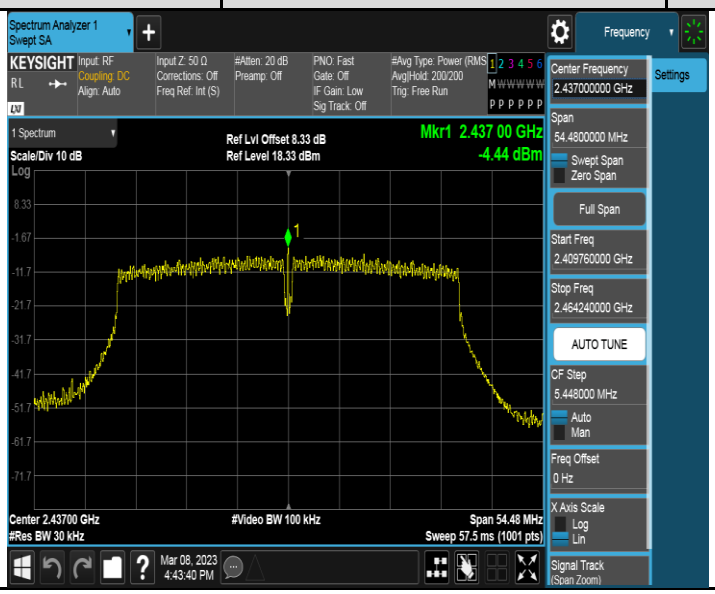
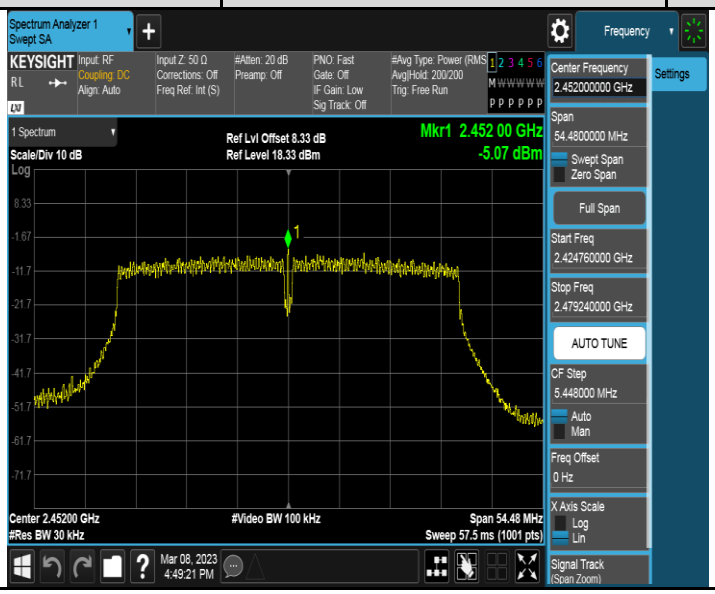
Test Mode	Test Channel	Verdict
11N HT40	MCH	PASS



Test Mode	Test Channel	Verdict
11N HT40	HCH	PASS



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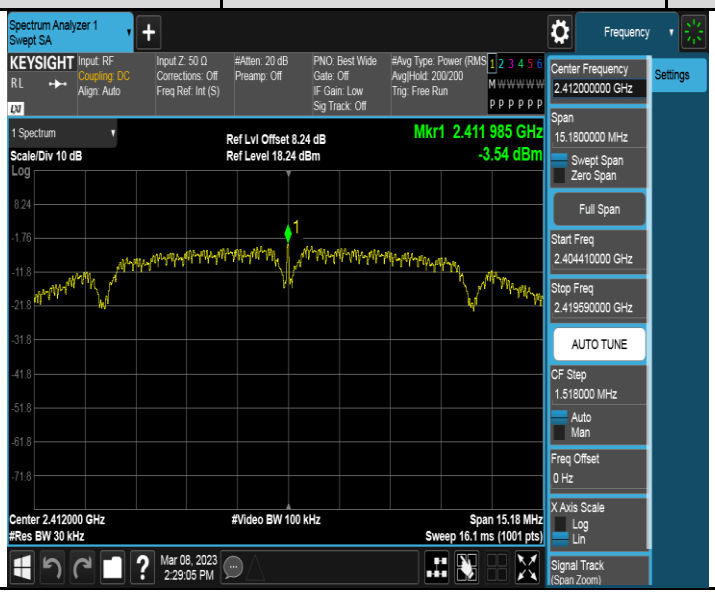
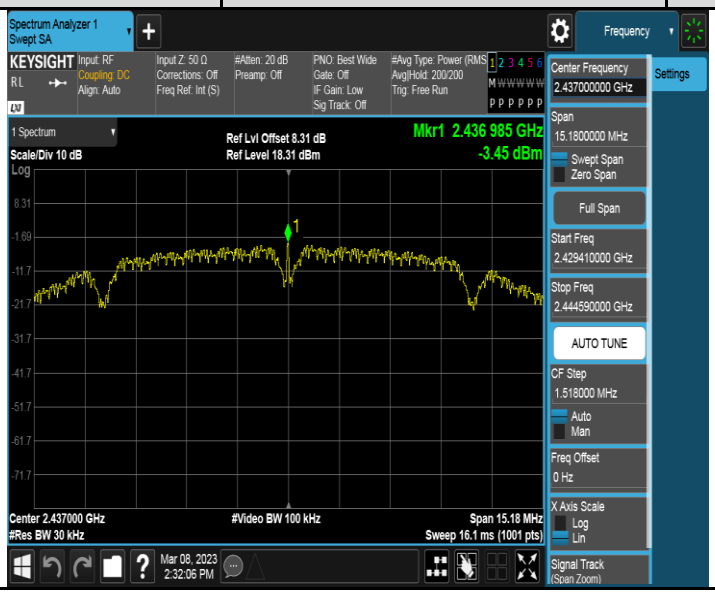
2)_For Antenna 2 Part:

Test Mode	Test Channel	Verdict
11B	LCH	PASS



Test Mode	Test Channel	Verdict
11B	MCH	PASS



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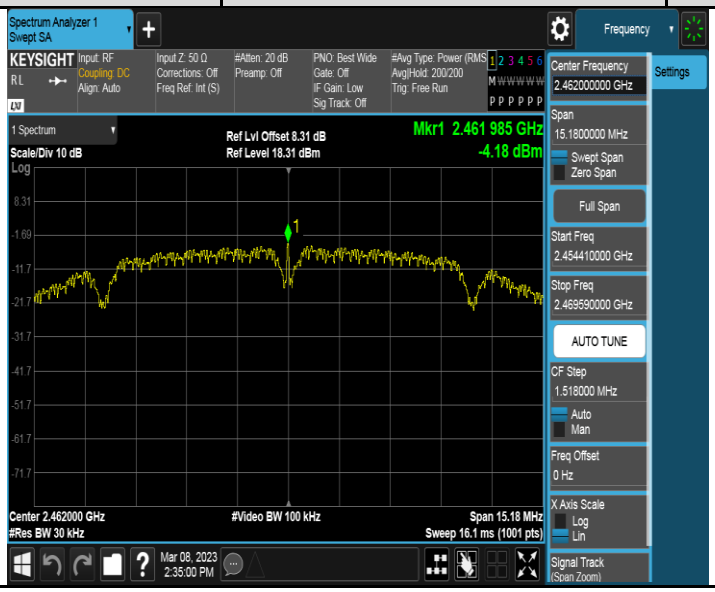
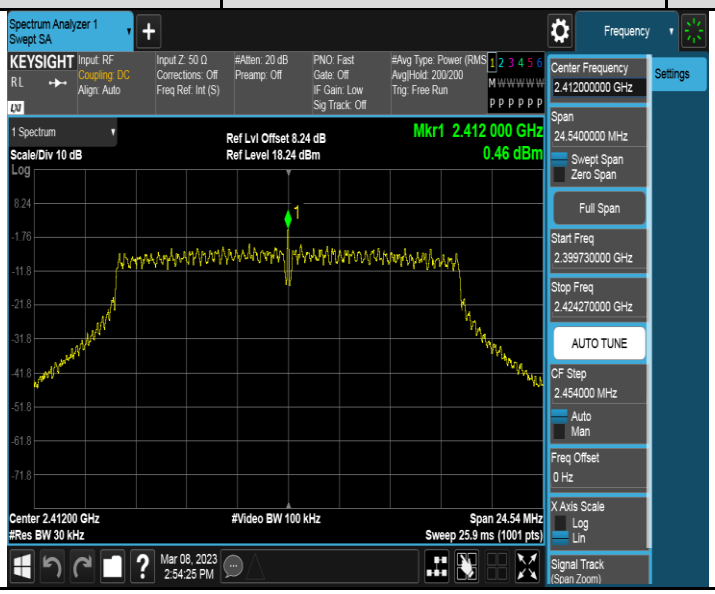
Test Mode	Test Channel	Verdict
11B	HCH	PASS



Test Mode	Test Channel	Verdict
11G	LCH	PASS



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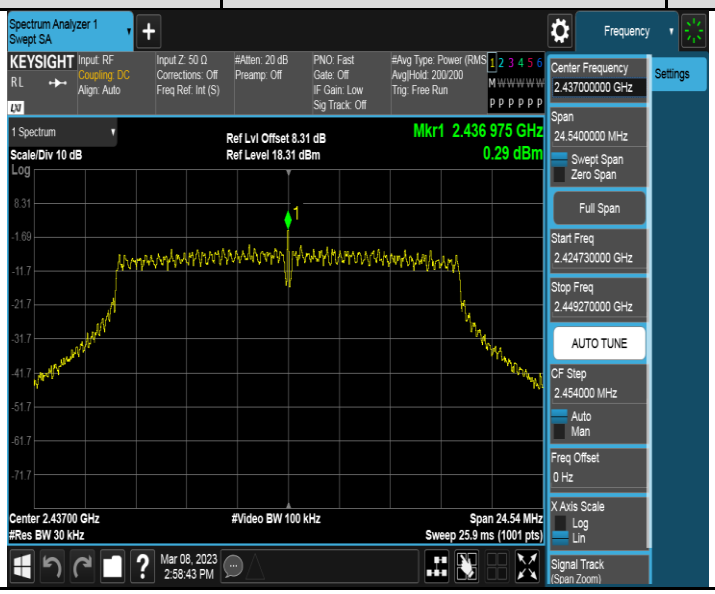
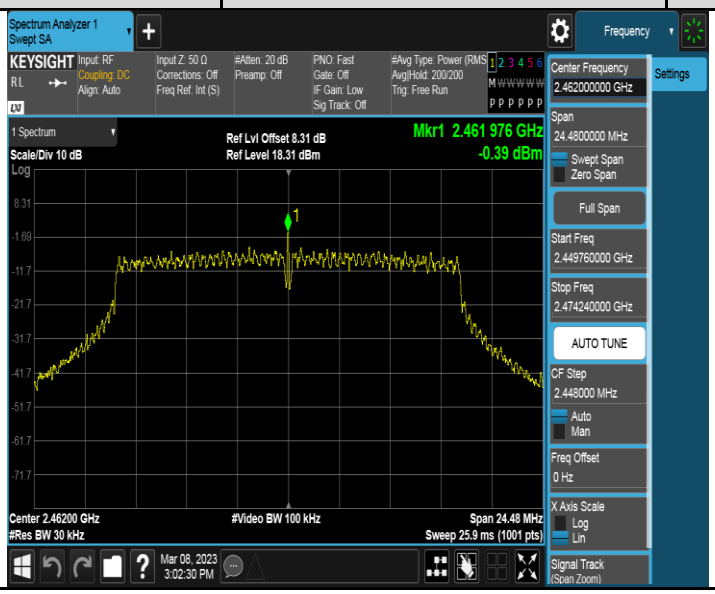
Test Mode	Test Channel	Verdict
11G	MCH	PASS



Test Mode	Test Channel	Verdict
11G	HCH	PASS



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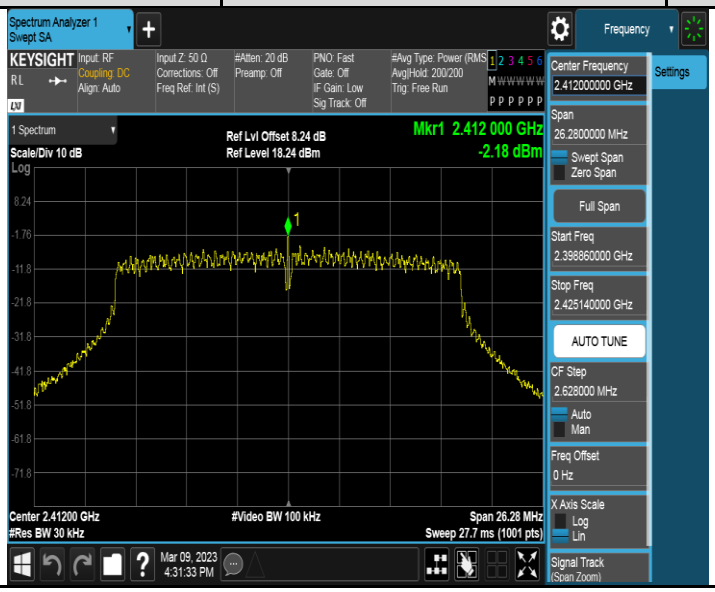
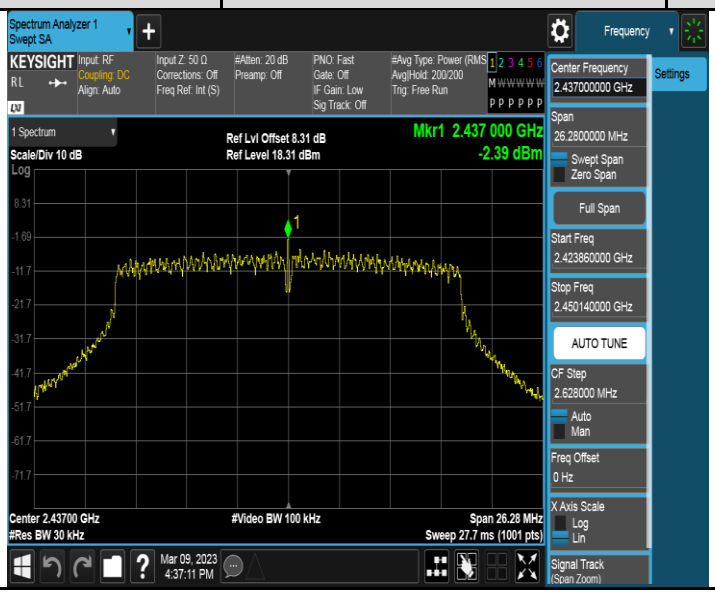
Test Mode	Test Channel	Verdict
11N HT20	LCH	PASS



Test Mode	Test Channel	Verdict
11N HT20	MCH	PASS



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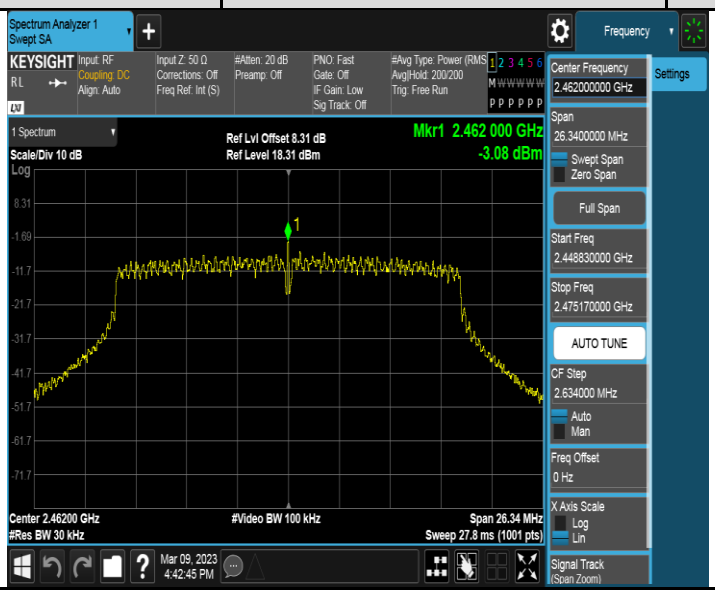
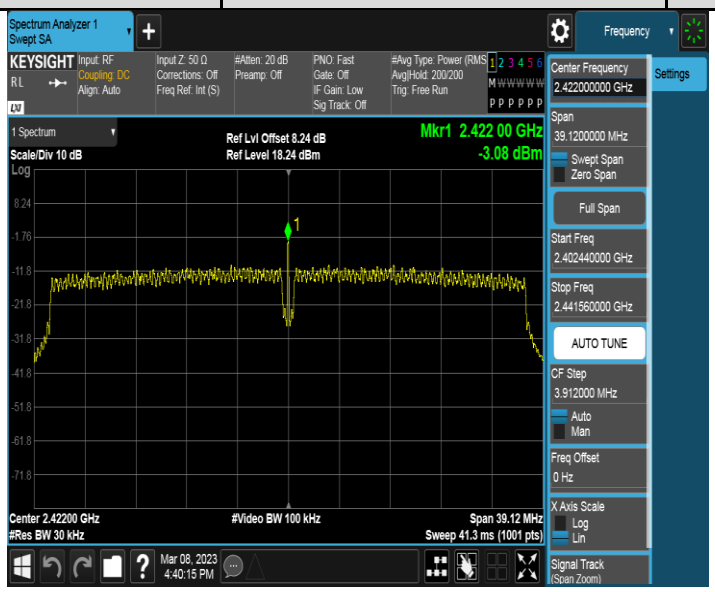
Test Mode	Test Channel	Verdict
11N HT20	HCH	PASS



Test Mode	Test Channel	Verdict
11N HT40	LCH	PASS



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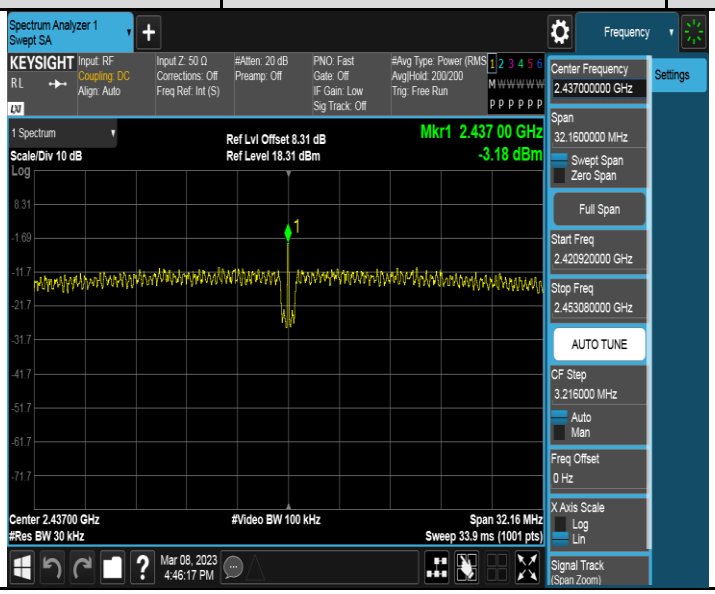
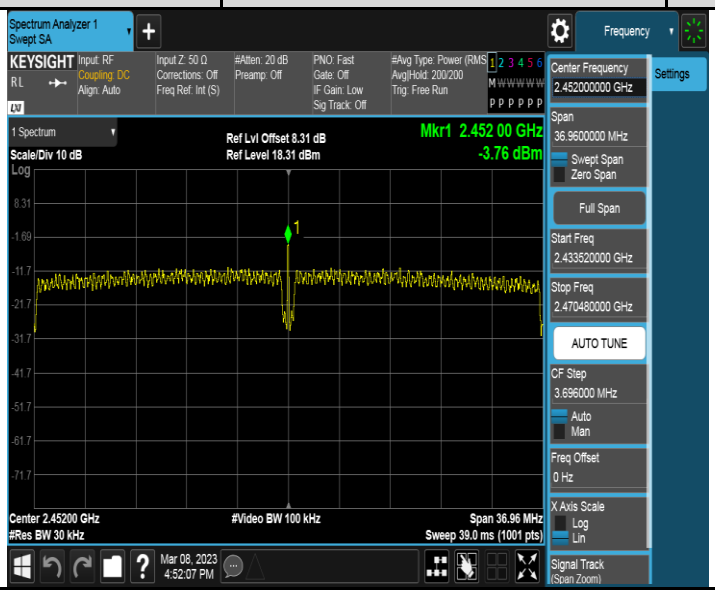
Test Mode	Test Channel	Verdict
11N HT40	MCH	PASS



Test Mode	Test Channel	Verdict
11N HT40	HCH	PASS



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7.5. CONDUCTED BANDEDGE AND SPURIOUS EMISSIONS

LIMITS

FCC Part15 (15.247) Subpart C, RSS-247		
Section	Test Item	Limit
FCC §15.247 (d) RSS-247 Clause 5.5 RSS-GEN Clause 6.13	Conducted Bandedge and Spurious Emissions	30 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power

TEST PROCEDURE

Refer to FCC KDB 558074, connect the UUT to the spectrum analyser and use the following settings:

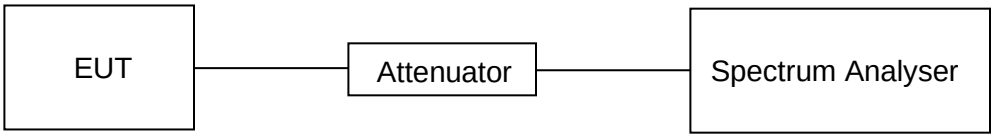
Center Frequency	The centre frequency of the channel under test
Detector	Peak
RBW	100K
VBW	≥3 × RBW
Span	1.5 x DTS bandwidth
Trace	Max hold
Sweep time	Auto couple.

Use the peak marker function to determine the maximum PSD level.

Span	Set the center frequency and span to encompass frequency range to be measured
Detector	Peak
RBW	100K
VBW	⩾3 × RBW
measurement points	⩾span/RBW
Trace	Max hold
Sweep time	Auto couple.

Use the peak marker function to determine the maximum amplitude level**.**

TEST SETUP



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TEST ENVIRONMENT

Temperature	22℃	Relative Humidity	58.5%
Atmosphere Pressure	102kpa	Test Voltage	DC5V

PART 1: REFERENCE LEVEL MEASUREMENT

TEST RESULTS TABLE

Test Mode	Test Antenna	Channel	Pref(dBm)	Puw(dBm)	Verdict
11B	Antenna 1	LCH	See the test graphs	<Limit	PASS
		MCH	See the test graphs	<Limit	PASS
		HCH	See the test graphs	<Limit	PASS
	Antenna 2	LCH	See the test graphs	<Limit	PASS
		MCH	See the test graphs	<Limit	PASS
		HCH	See the test graphs	<Limit	PASS
11G	Antenna 1	LCH	See the test graphs	<Limit	PASS
		MCH	See the test graphs	<Limit	PASS
		HCH	See the test graphs	<Limit	PASS
	Antenna 2	LCH	See the test graphs	<Limit	PASS
		MCH	See the test graphs	<Limit	PASS
		HCH	See the test graphs	<Limit	PASS
11N20 MIMO	Antenna 1	LCH	See the test graphs	<Limit	PASS
		MCH	See the test graphs	<Limit	PASS
		HCH	See the test graphs	<Limit	PASS
	Antenna 2	LCH	See the test graphs	<Limit	PASS
		MCH	See the test graphs	<Limit	PASS
		HCH	See the test graphs	<Limit	PASS
11N40 MIMO	Antenna 1	LCH	See the test graphs	<Limit	PASS
		MCH	See the test graphs	<Limit	PASS
		HCH	See the test graphs	<Limit	PASS
	Antenna 2	LCH	See the test graphs	<Limit	PASS
		MCH	See the test graphs	<Limit	PASS
		HCH	See the test graphs	<Limit	PASS

Remark:
1) For this product, it has five antennas, but only two antennas for M8822CU3 RF module. For this M8822CU3 RF module, only the 802.11N HT20 and 802.11N HT40 modes can support both the SISO and MIMO technical. For the modes of 11B&11G only support SISO mode..
2) Through pre-testing all the test modes of 11N 20 and 11N40, including SISO and MIMO, but only the data if worse case is included in this test report.

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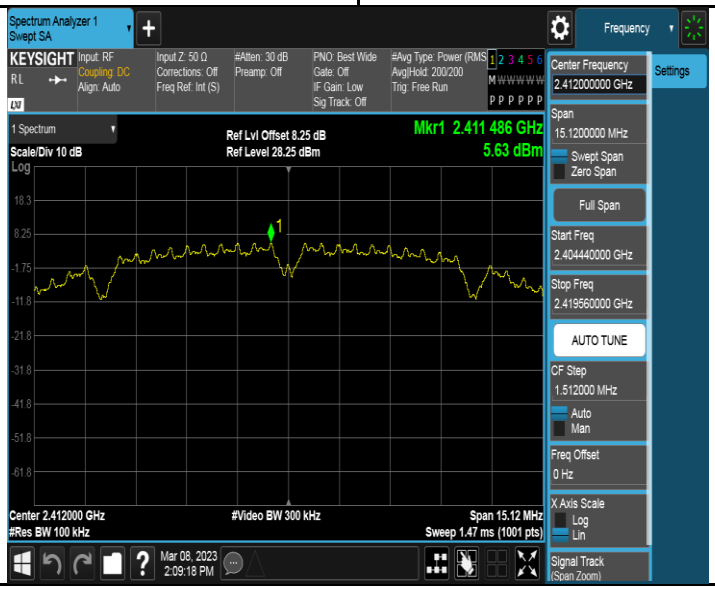
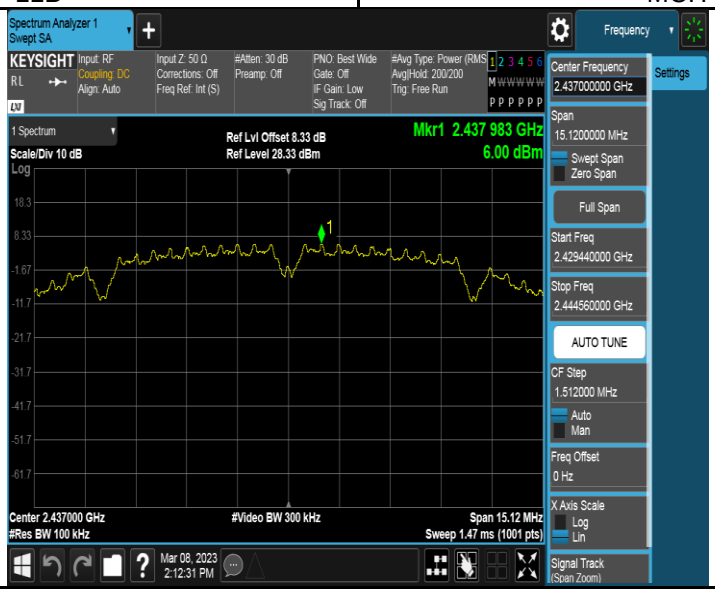
TEST GRAPHS

1) For Antenna 1 Part:

Test Mode	Channel
11B	LCH



Test Mode	Channel
11B	MCH



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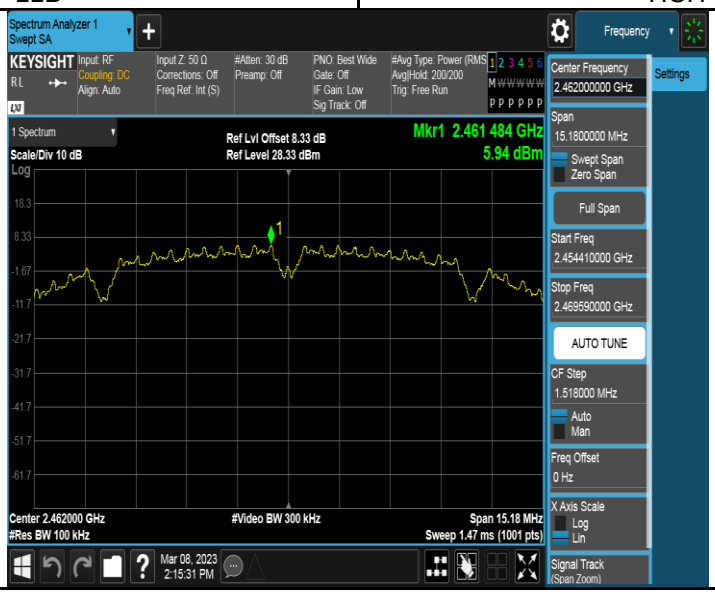
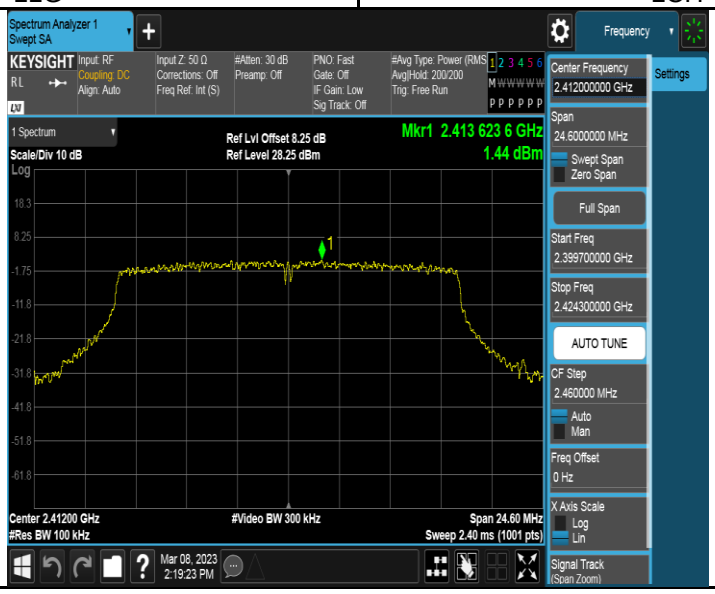
Test Mode	Channel
11B	HCH



Test Mode	Channel
11G	LCH



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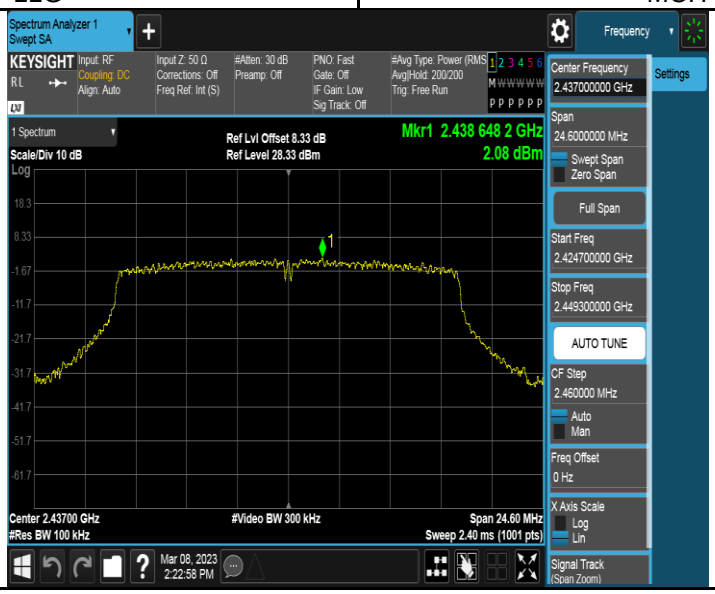
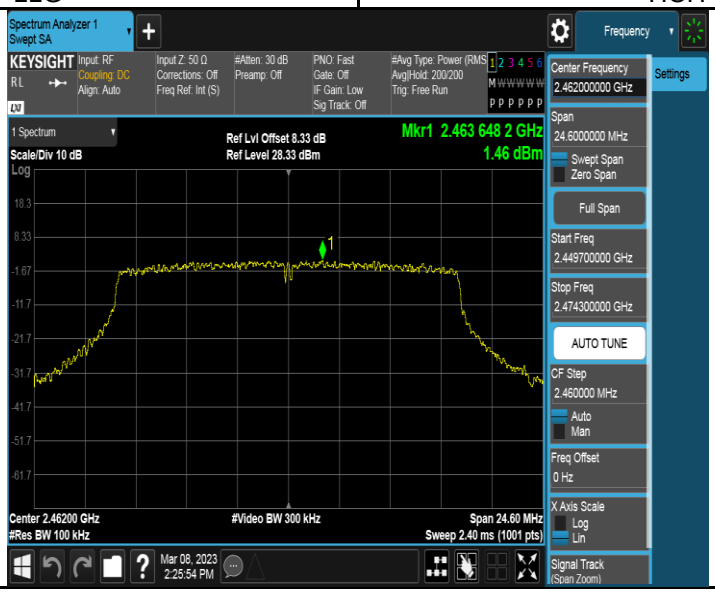
Test Mode	Channel
11G	MCH



Test Mode	Channel
11G	HCH



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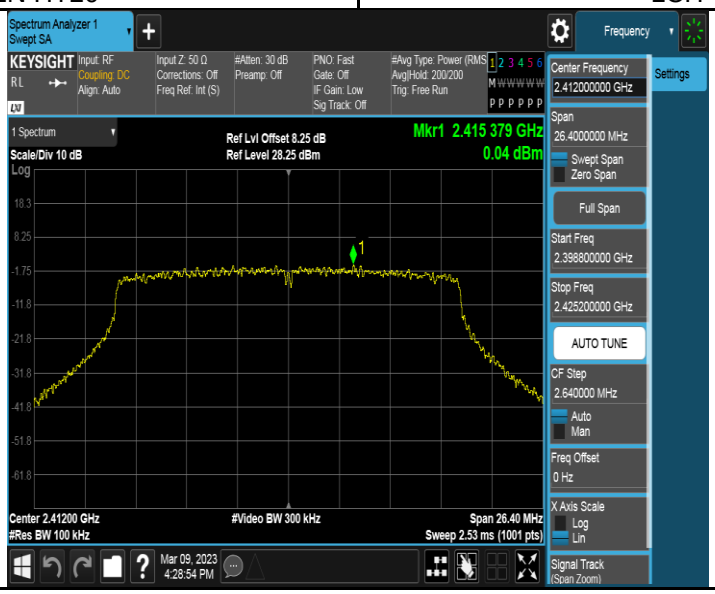
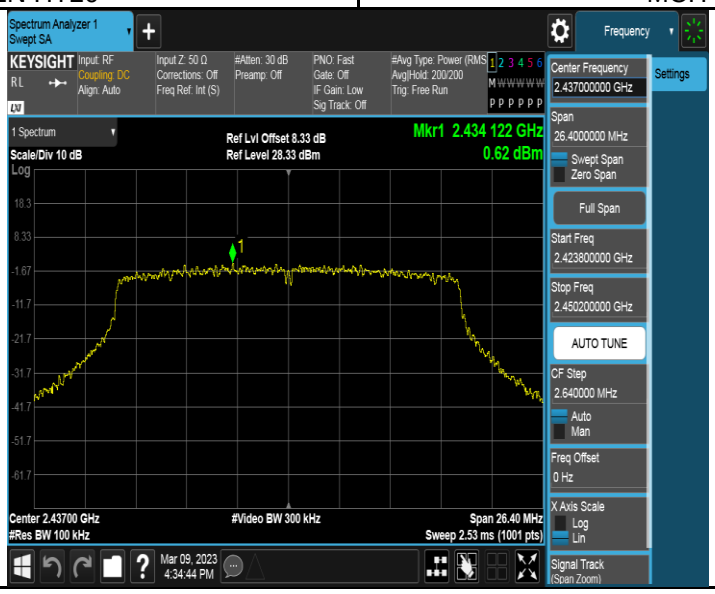
Test Mode	Channel
11N HT20	LCH



Test Mode	Channel
11N HT20	MCH



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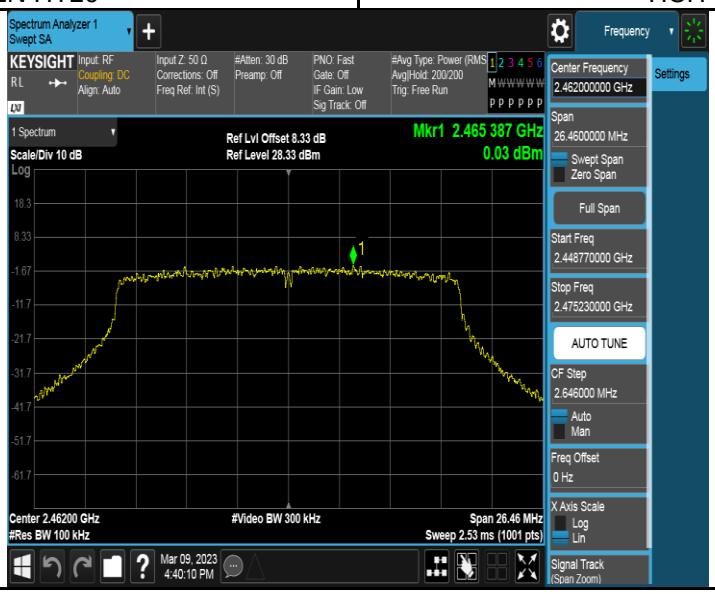
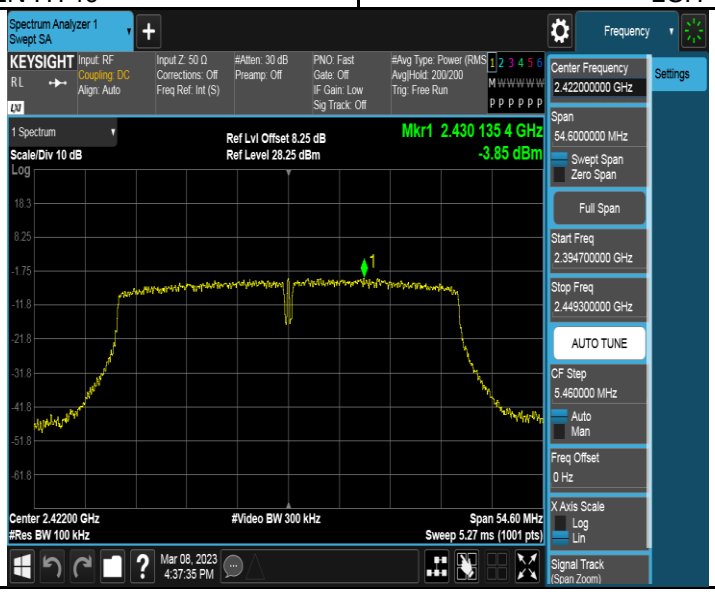
Test Mode	Channel
11N HT20	HCH



Test Mode	Channel
11N HT40	LCH



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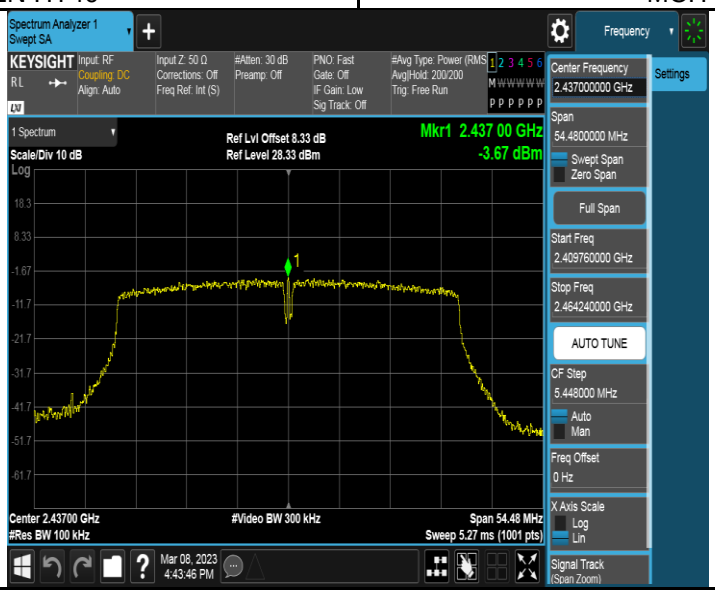
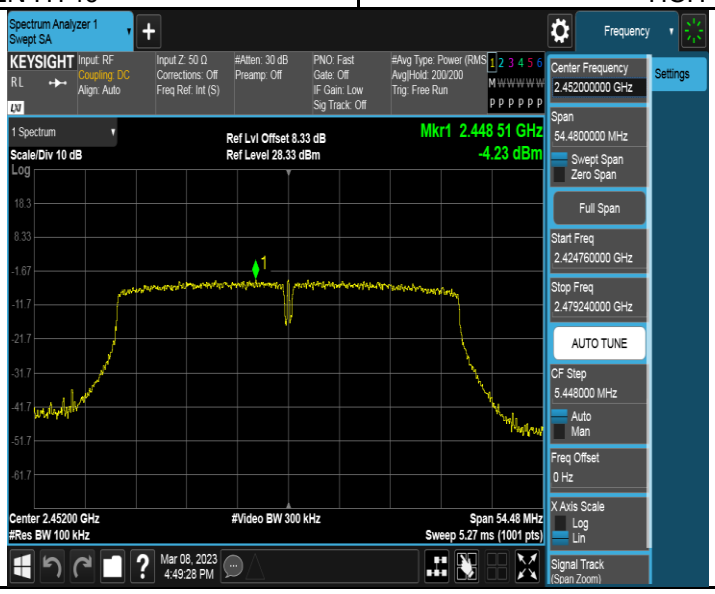
Test Mode	Channel
11N HT40	MCH



Test Mode	Channel
11N HT40	HCH



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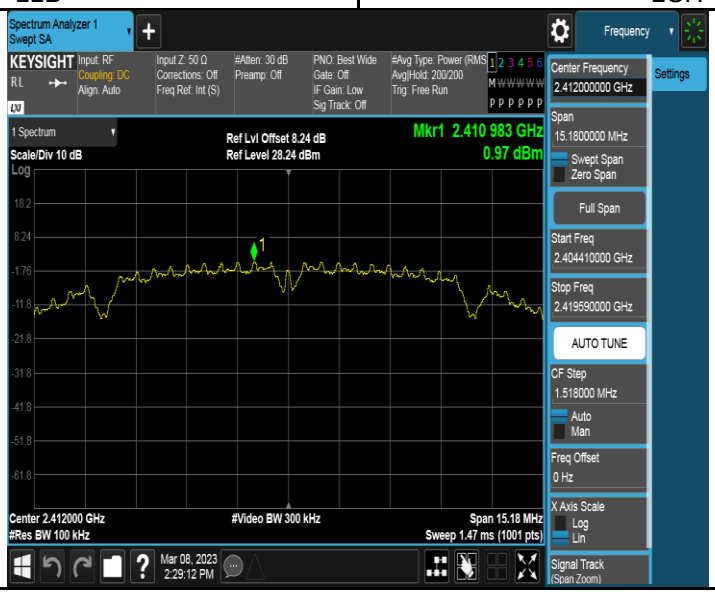
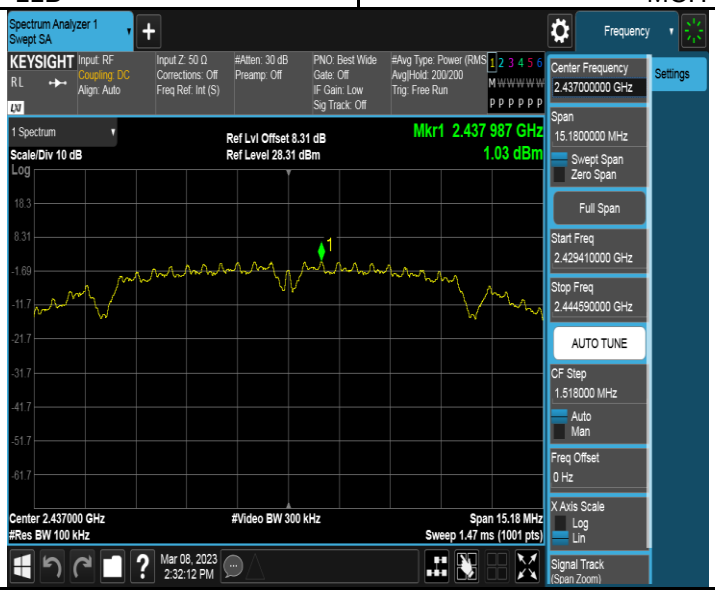
2) For Antenna 2 Part:

Test Mode	Channel
11B	LCH



Test Mode	Channel
11B	MCH



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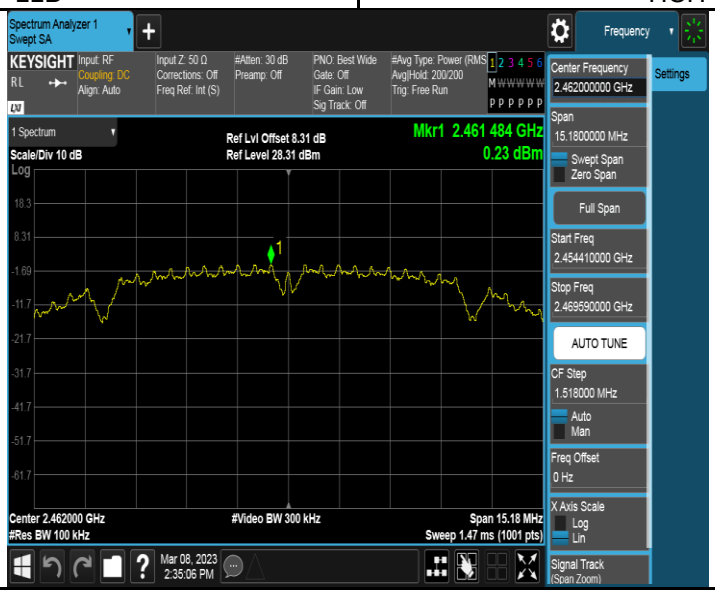
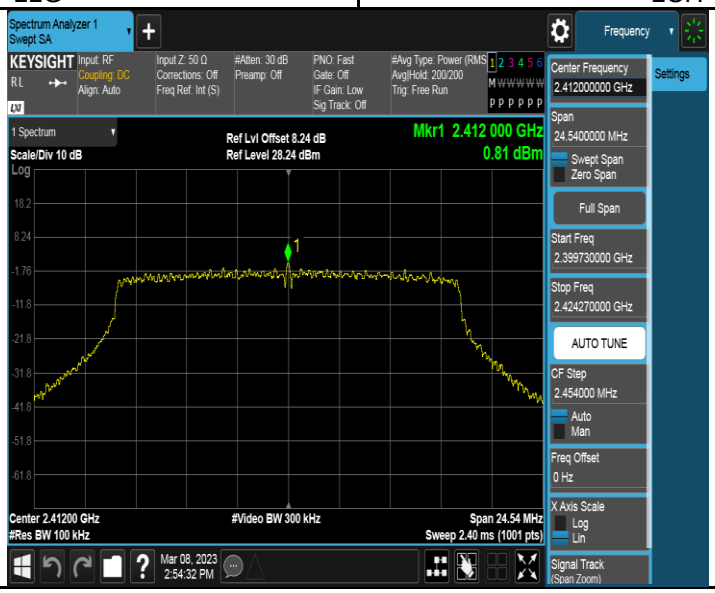
Test Mode	Channel
11B	HCH



Test Mode	Channel
11G	LCH



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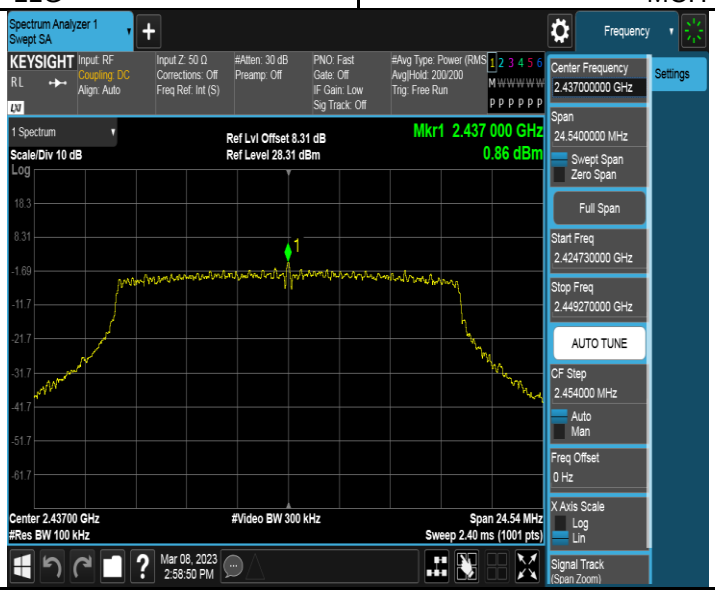
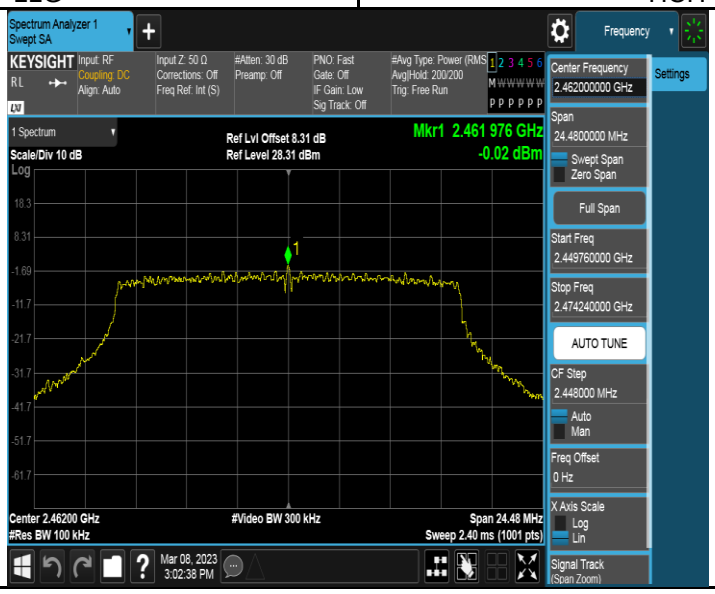
Test Mode	Channel
11G	MCH



Test Mode	Channel
11G	HCH



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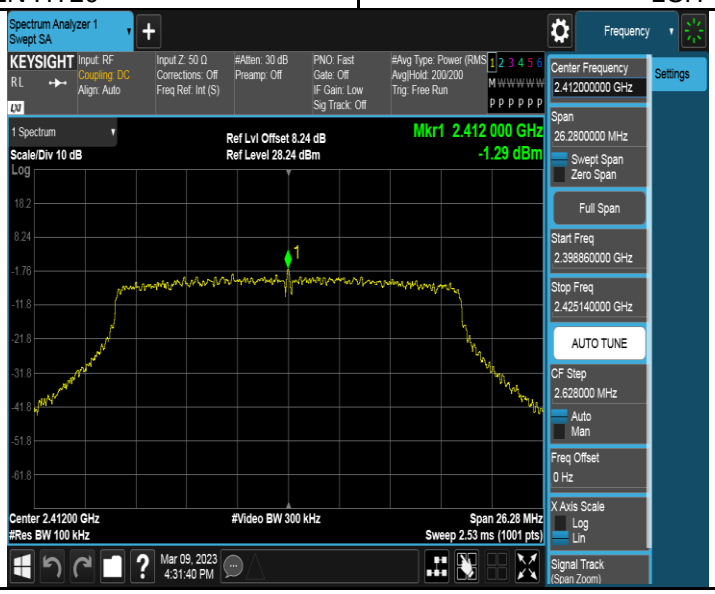
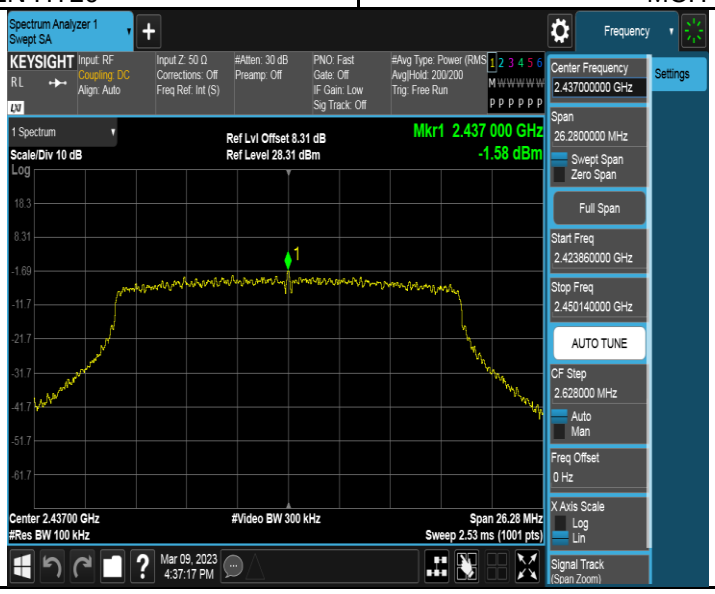
Test Mode	Channel
11N HT20	LCH



Test Mode	Channel
11N HT20	MCH



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