11N20MIMO_ANT1_2412

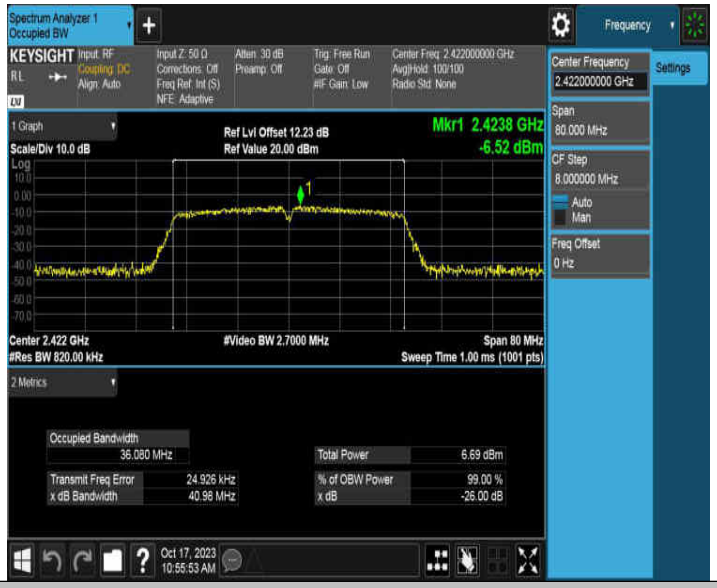
11N20MIMO_ANT0_2437

11N20MIMO_ANT1_2437

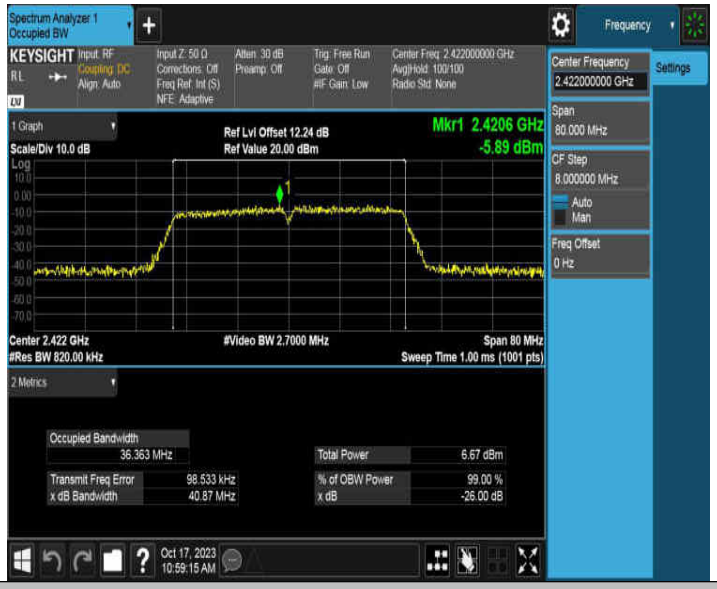
11N20MIMO_ANT0_2462

11N20MIMO_ANT1_2462

11N40MIMO_ANT0_2422



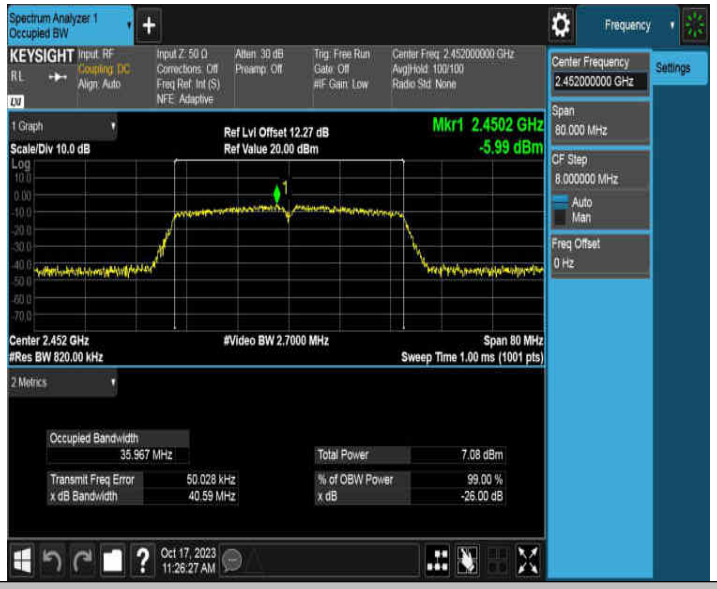
11N40MIMO_ANT1_2422



11N40MIMO_ANT0_2437

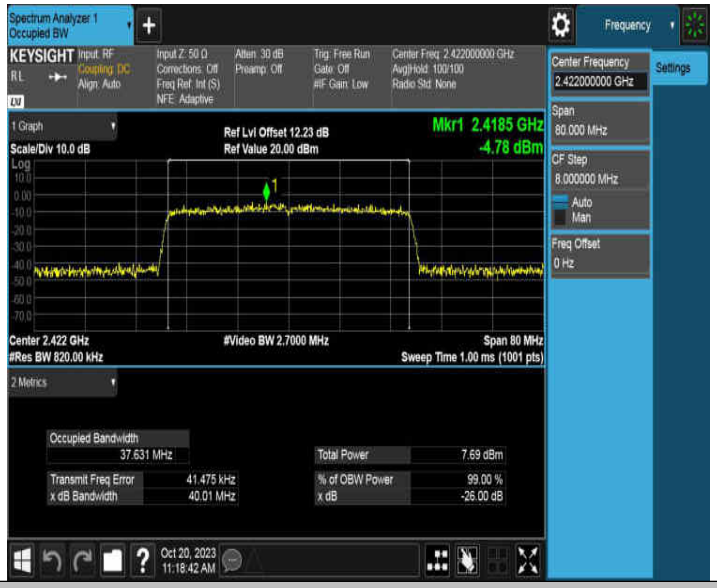
11N40MIMO_ANT1_2437

11N40MIMO_ANT0_2452

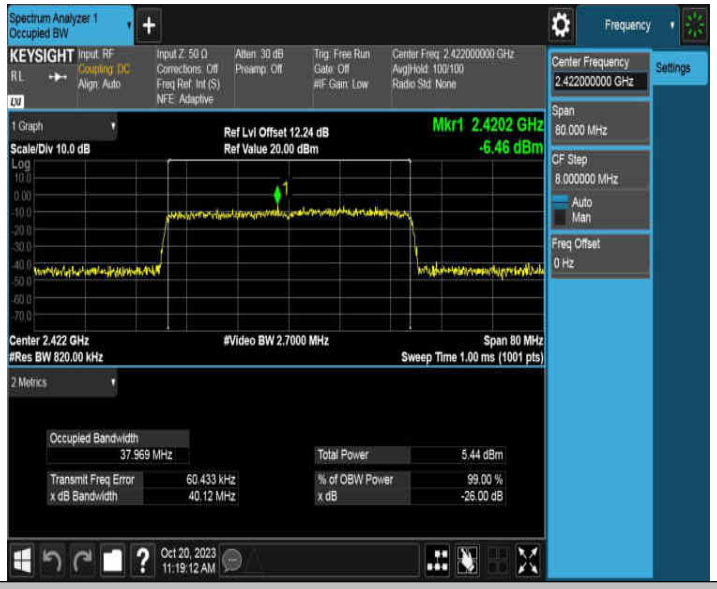


11N40MIMO_ANT1_2452

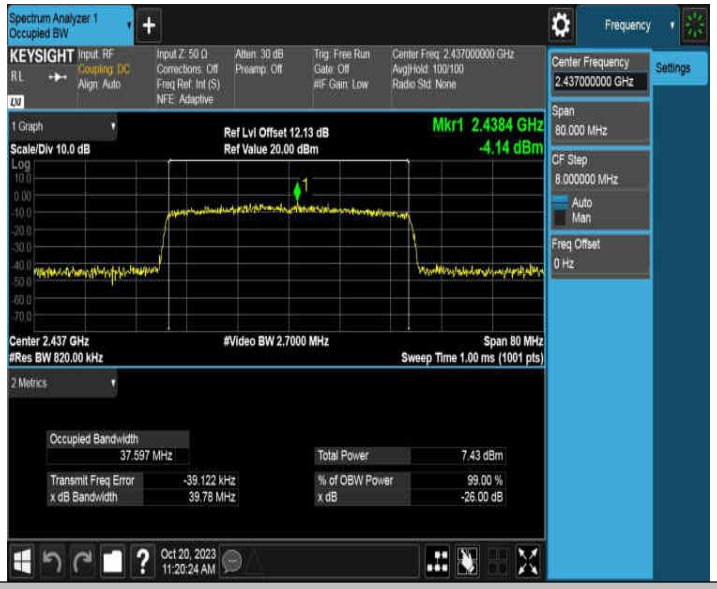
11AX40MIMO_ANT0_2422



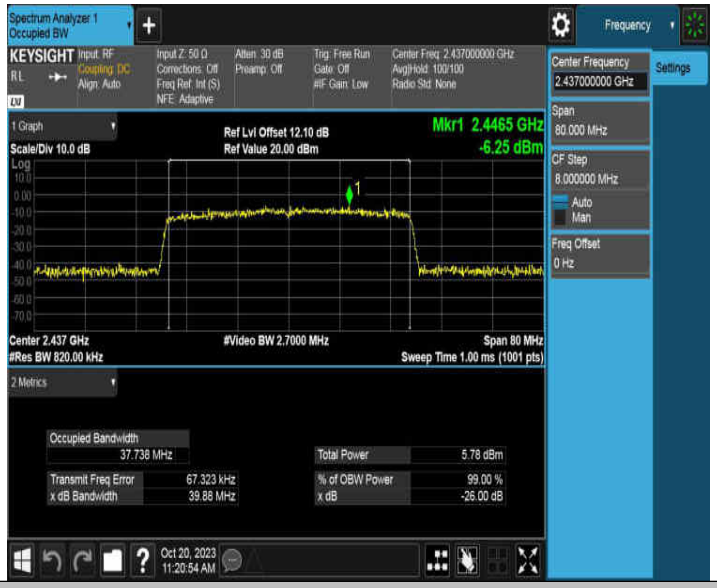
11AX40MIMO_ANT1_2422



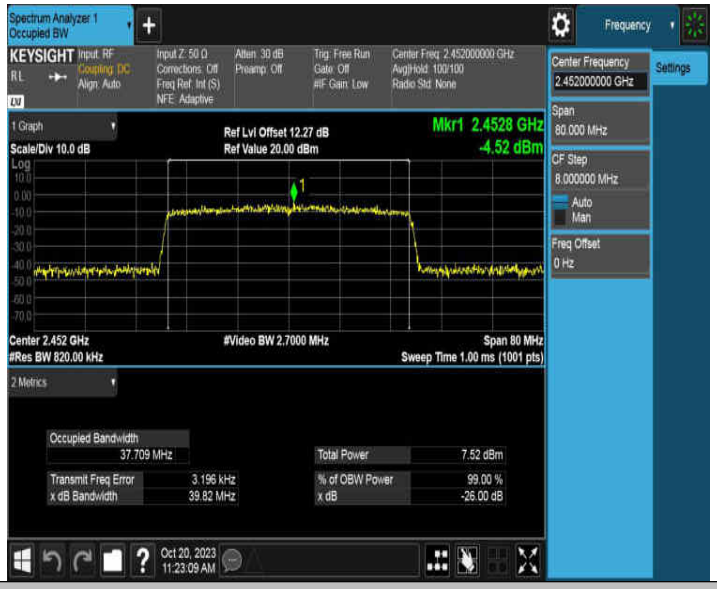
11AX40MIMO_ANT0_2437



11AX40MIMO_ANT1_2437



11AX40MIMO_ANT0_2452



11AX40MIMO_ANT1_2452

10. Conducted Output Power

10.1. Block diagram of test setup

Same as section 8.1

10.2. Limits

CFR 47 FCC Part15 (15.247) Subpart C ISED RSS-247 ISSUE 3			
Section	Test Item	Limit	Frequency Range (MHz)
CFR 47 FCC 15.247(b)(3) ISED RSS-247 5.4 (d)	Peak Output Power	1 watt or 30 dBm	2400-2483.5

10.3. 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 peak power each channel.

Peak Detector use for Peak result.

AVG Detector use for AVG result.

10.4. Results

Test Mode	Ant.	Freq. (MHz)	Peak Power (dBm)	Conducted Limit (dBm)	EIRP (dBm)	EIRP Limit (dBm)	Verdict
11B	ANT0	2412	13.82	≤30.00	16.12	≤36.00	PASS
	ANT1	2412	10.27	≤30.00	15.20	≤36.00	PASS
	ANT0	2437	13.73	≤30.00	16.03	≤36.00	PASS
	ANT1	2437	9.83	≤30.00	14.76	≤36.00	PASS
	ANT0	2462	13.84	≤30.00	16.14	≤36.00	PASS
	ANT1	2462	9.76	≤30.00	14.69	≤36.00	PASS
11G	ANT0	2412	13.31	≤30.00	15.61	≤36.00	PASS
	ANT1	2412	10.51	≤30.00	15.44	≤36.00	PASS
	ANT0	2437	13.32	≤30.00	15.62	≤36.00	PASS
	ANT1	2437	10.28	≤30.00	15.21	≤36.00	PASS
	ANT0	2462	13.52	≤30.00	15.82	≤36.00	PASS
	ANT1	2462	10.31	≤30.00	15.24	≤36.00	PASS
11N20MIMO	ANT0	2412	8.45	≤30.00	10.75	≤36.00	PASS
	ANT1	2412	8.61	≤30.00	13.54	≤36.00	PASS
	total	2412	11.54	≤30.00	15.38	≤36.00	PASS
	ANT0	2437	8.60	≤30.00	10.90	≤36.00	PASS
	ANT1	2437	8.26	≤30.00	13.19	≤36.00	PASS
	total	2437	11.44	≤30.00	15.20	≤36.00	PASS
	ANT0	2462	9.51	≤30.00	11.81	≤36.00	PASS
	ANT1	2462	9.50	≤30.00	14.43	≤36.00	PASS
	total	2462	12.52	≤30.00	16.32	≤36.00	PASS
11N40MIMO	ANT0	2422	6.98	≤30.00	9.28	≤36.00	PASS
	ANT1	2422	6.84	≤30.00	11.77	≤36.00	PASS
	total	2422	9.92	≤30.00	13.71	≤36.00	PASS
	ANT0	2437	6.80	≤30.00	9.10	≤36.00	PASS
	ANT1	2437	6.47	≤30.00	11.40	≤36.00	PASS
	total	2437	9.65	≤30.00	13.71	≤36.00	PASS
	ANT0	2452	7.11	≤30.00	9.41	≤36.00	PASS

	ANT1	2452	6.65	≤30.00	11.58	≤36.00	PASS
	total	2452	9.90	≤30.00	13.64	≤36.00	PASS
11AX40MIMO	ANT0	2422	7.69	≤30.00	9.99	≤36.00	PASS
	ANT1	2422	5.61	≤30.00	10.54	≤36.00	PASS
	total	2422	9.78	≤30.00	13.28	≤36.00	PASS
	ANT0	2437	7.49	≤30.00	9.79	≤36.00	PASS
	ANT1	2437	5.98	≤30.00	10.91	≤36.00	PASS
	total	2437	9.81	≤30.00	13.40	≤36.00	PASS
	ANT0	2452	7.72	≤30.00	10.02	≤36.00	PASS
	ANT1	2452	6.82	≤30.00	11.75	≤36.00	PASS
	total	2452	10.30	≤30.00	13.98	≤36.00	PASS

11. Power Spectral Density

11.1. Block diagram of test setup

Same as section 8.1

11.2. Limits

CFR 47 FCC Part15 (15.247) Subpart C ISED RSS-247 ISSUE 3			
Section	Test Item	Limit	Frequency Range (MHz)
CFR 47 FCC §15.247 (e) ISED RSS-247 5.2 (b)	Power Spectral Density	8 dBm/3 kHz	2400-2483.5

11.3. Test Procedure

Connect the UUT to the spectrum analyzer 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.

11.4. Results

Test Mode	Ant.	Freq. (MHz)	Result (dBm/3-100kHz)	Limit (dBm/3kHz)	Verdict
11B	ANT0	2412	-9.60	≤8.00	PASS
	ANT1	2412	-13.89	≤8.00	PASS
	ANT0	2437	-9.13	≤8.00	PASS
	ANT1	2437	-13.91	≤8.00	PASS
	ANT0	2462	-10.29	≤8.00	PASS
	ANT1	2462	-14.12	≤8.00	PASS
11G	ANT0	2412	-15.93	≤8.00	PASS
	ANT1	2412	-17.76	≤8.00	PASS
	ANT0	2437	-16.56	≤8.00	PASS
	ANT1	2437	-20.16	≤8.00	PASS
	ANT0	2462	-17.07	≤8.00	PASS
	ANT1	2462	-18.90	≤8.00	PASS
11N20MIMO	ANT0	2412	-21.62	≤8.00	PASS
	ANT1	2412	-21.32	≤8.00	PASS
	total	2412	-18.46	≤8.00	PASS
	ANT0	2437	-22.52	≤8.00	PASS
	ANT1	2437	-22.16	≤8.00	PASS
	total	2437	-19.33	≤8.00	PASS
	ANT0	2462	-20.35	≤8.00	PASS
	ANT1	2462	-20.24	≤8.00	PASS
	total	2462	-17.28	≤8.00	PASS
11N40MIMO	ANT0	2422	-26.36	≤8.00	PASS

	ANT1	2422	-26.00	≤8.00	PASS
	total	2422	-23.17	≤8.00	PASS
	ANT0	2437	-25.51	≤8.00	PASS
	ANT1	2437	-27.14	≤8.00	PASS
	total	2437	-23.24	≤8.00	PASS
	ANT0	2452	-30.16	≤8.00	PASS
	ANT1	2452	-26.07	≤8.00	PASS
	total	2452	-24.64	≤8.00	PASS
11AX40MIMO	ANT0	2422	-31.85	≤8.00	PASS
	ANT1	2422	-27.67	≤8.00	PASS
	total	2422	-26.27	≤8.00	PASS
	ANT0	2437	-31.94	≤8.00	PASS
	ANT1	2437	-27.93	≤8.00	PASS
	total	2437	-26.48	≤8.00	PASS
	ANT0	2452	-31.61	≤8.00	PASS
	ANT1	2452	-28.37	≤8.00	PASS
	total	2452	-26.68	≤8.00	PASS

11.5. Original test data

11B_ANT0_2412

11B_ANT1_2412

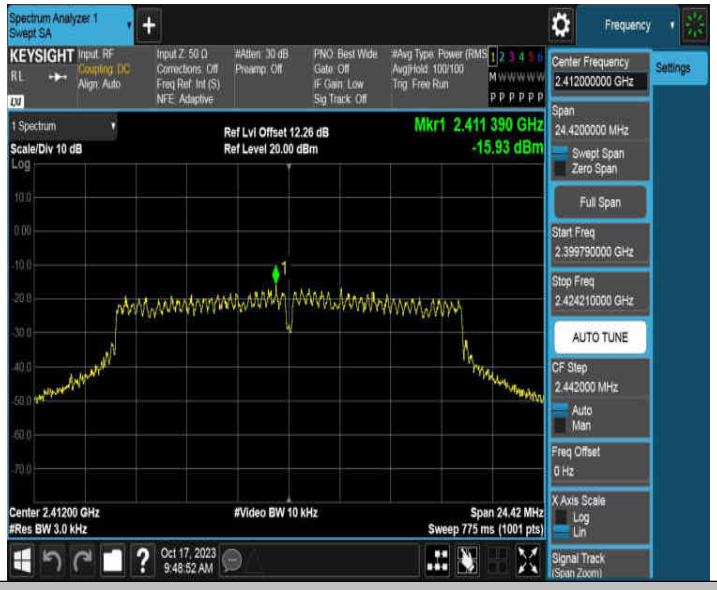
11B_ANT0_2437

11B_ANT1_2437

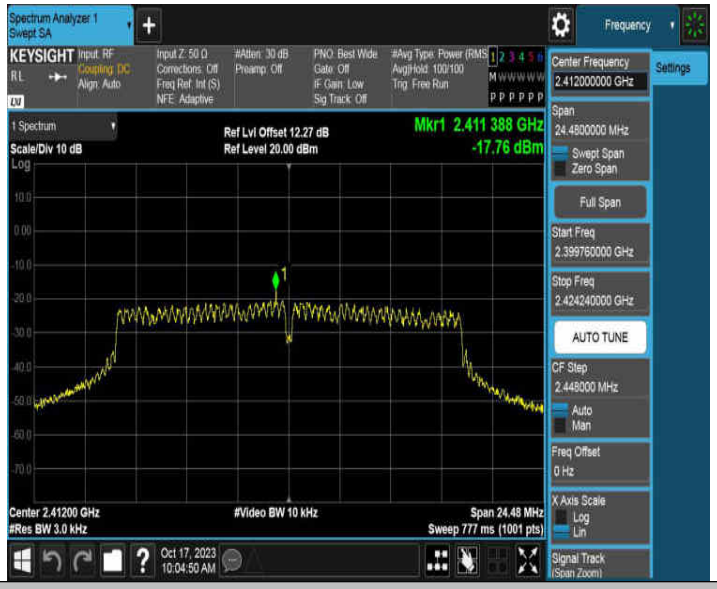
11B_ANT0_2462

11B_ANT1_2462

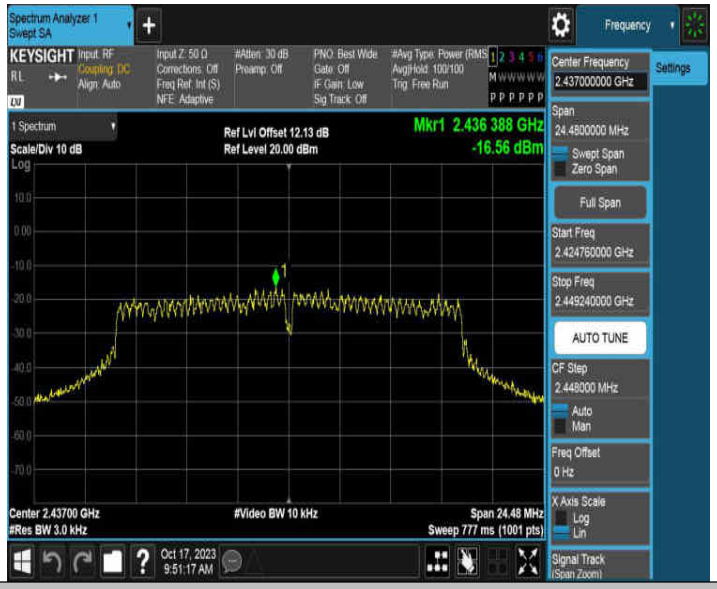
11G_ANT0_2412



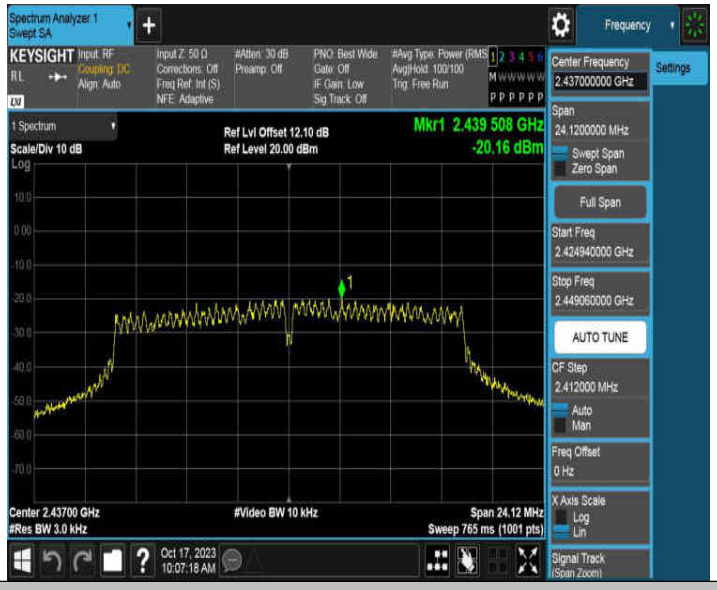
11G_ANT1_2412



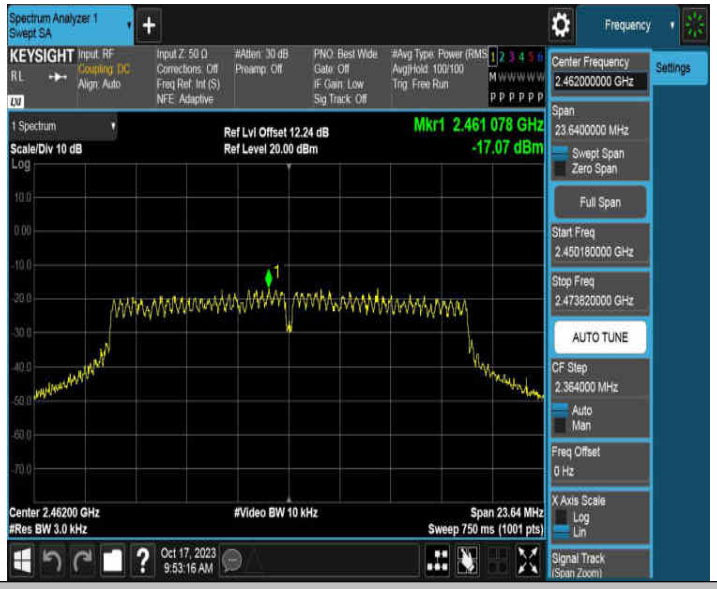
11G_ANT0_2437



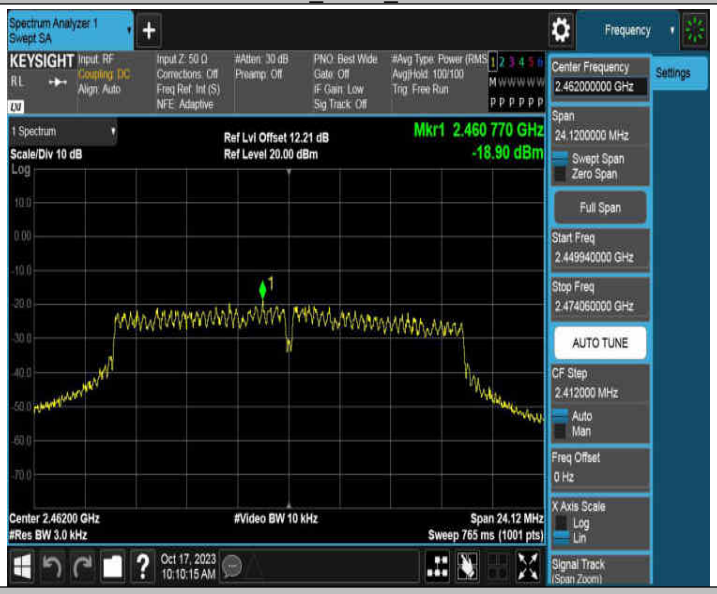
11G_ANT1_2437



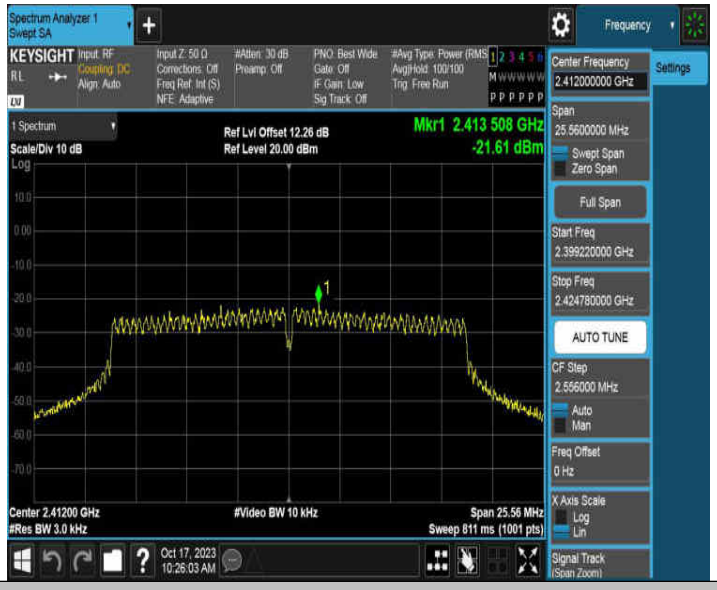
11G_ANT0_2462



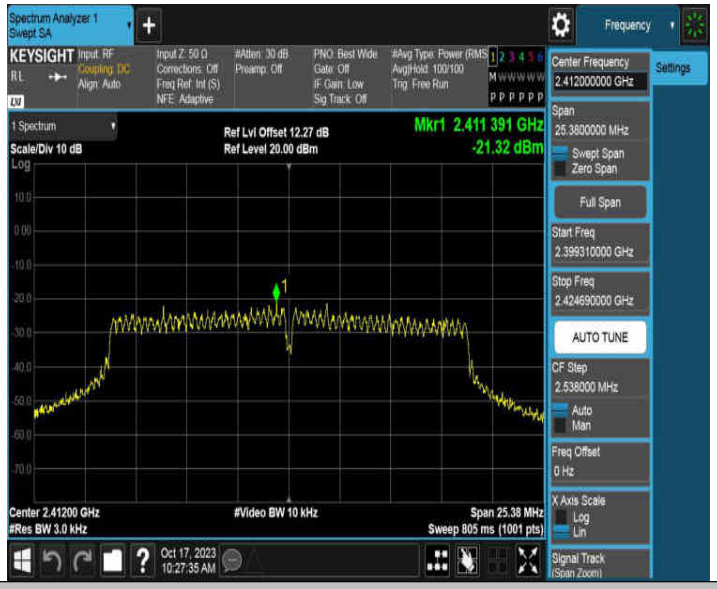
11G_ANT1_2462



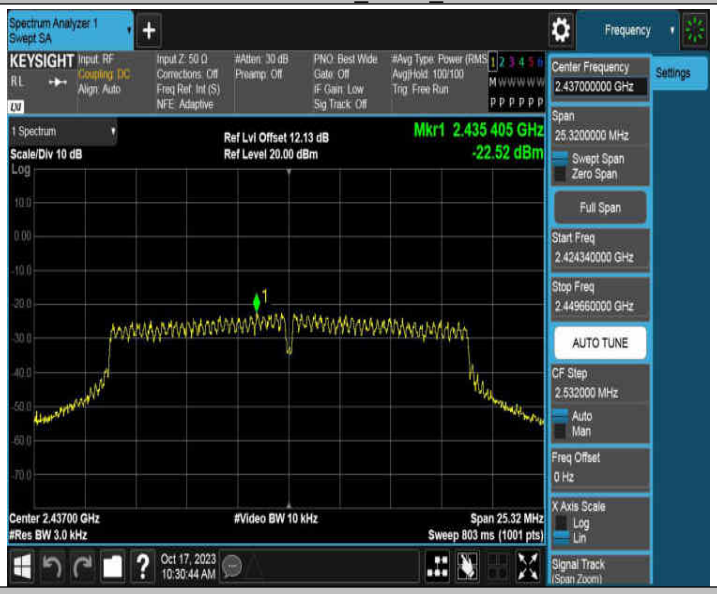
11N20MIMO_ANT0_2412



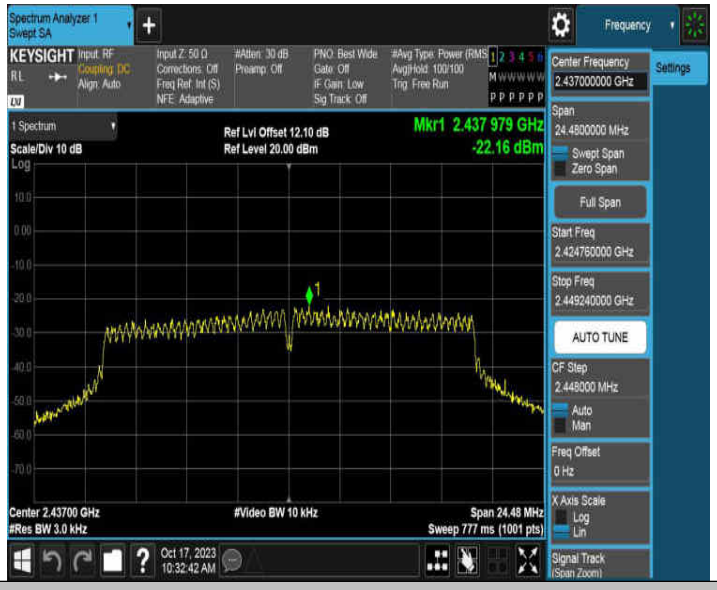
11N20MIMO_ANT1_2412



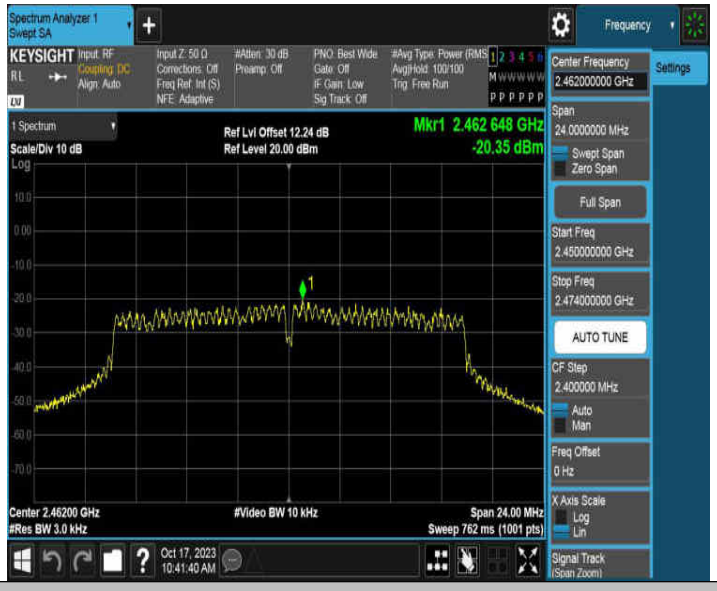
11N20MIMO_ANT0_2437



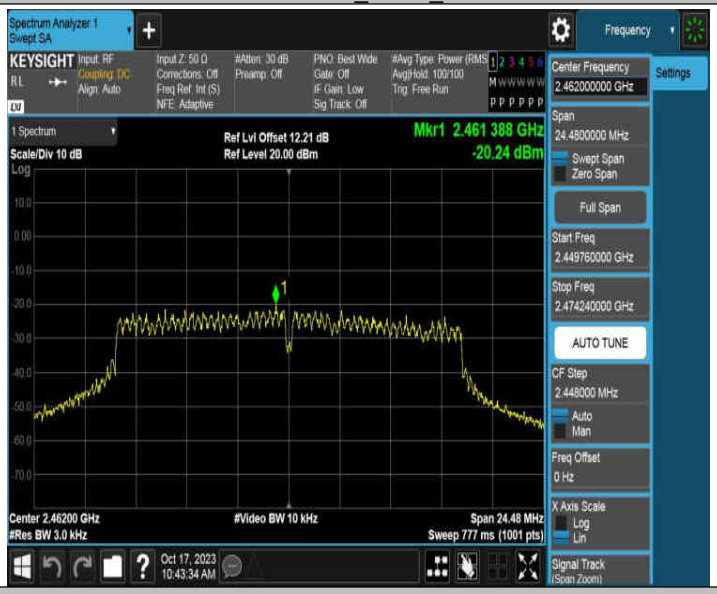
11N20MIMO_ANT1_2437



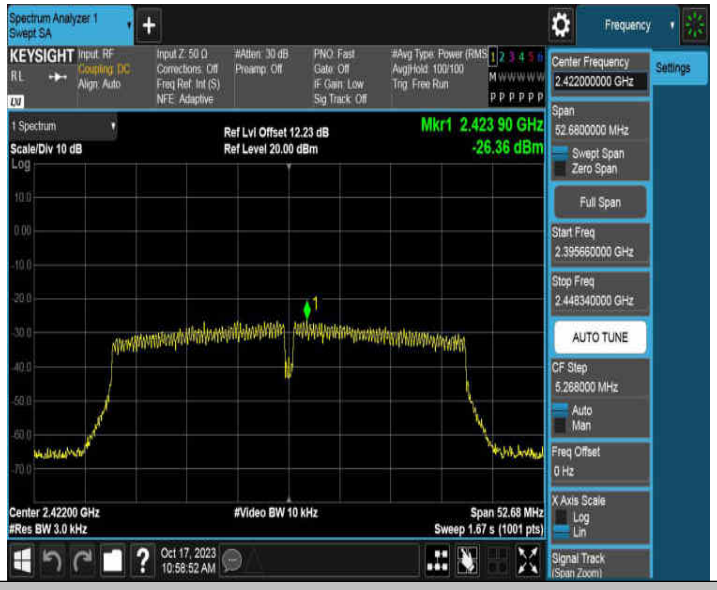
11N20MIMO_ANT0_2462



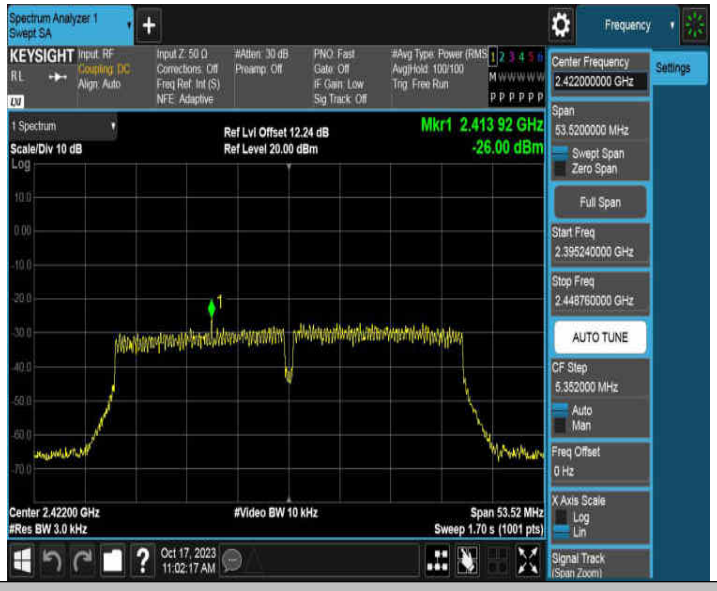
11N20MIMO_ANT1_2462



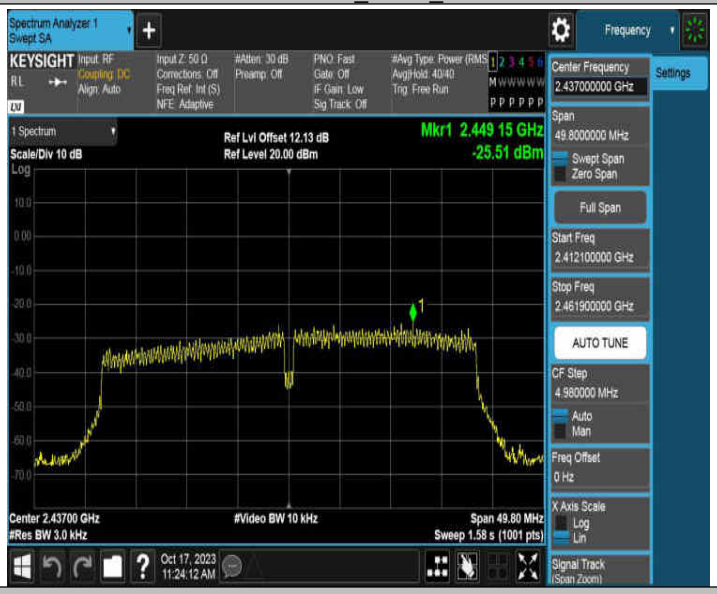
11N40MIMO_ANT0_2422



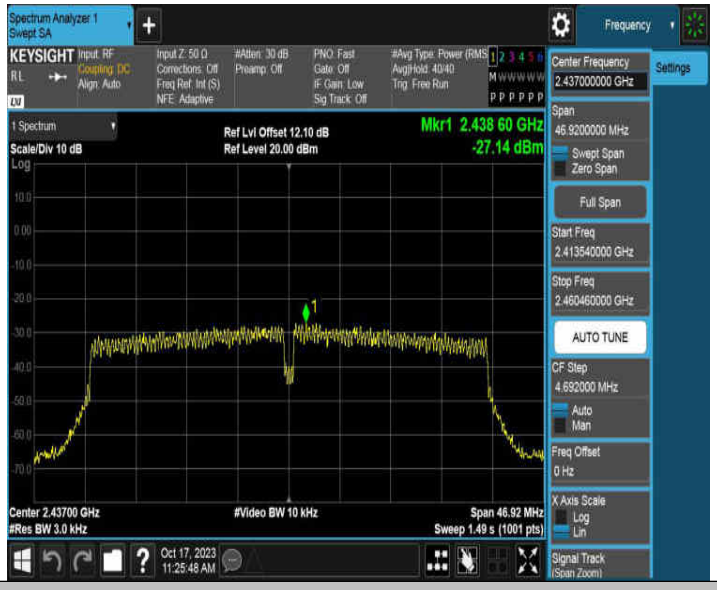
11N40MIMO_ANT1_2422



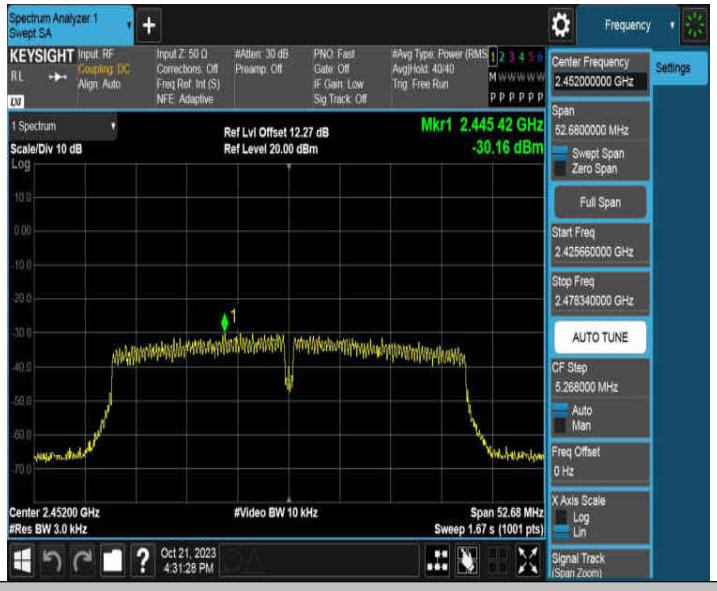
11N40MIMO_ANT0_2437



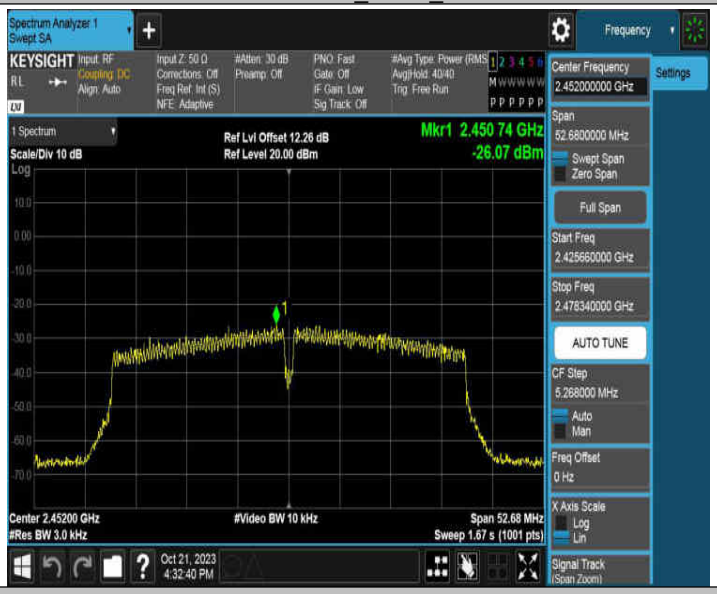
11N40MIMO_ANT1_2437



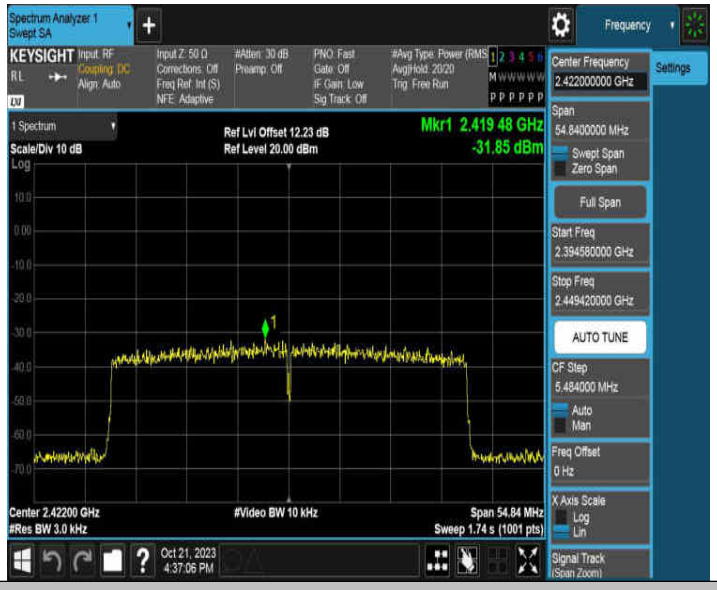
11N40MIMO_ANT0_2452



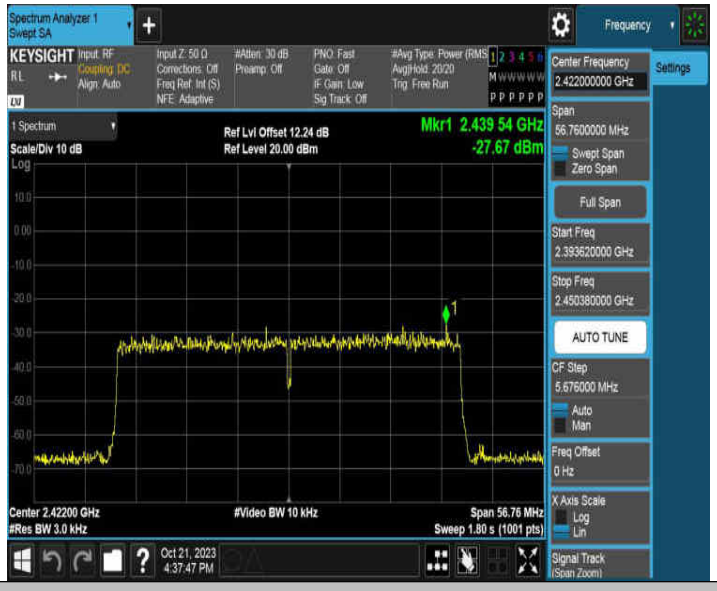
11N40MIMO_ANT1_2452



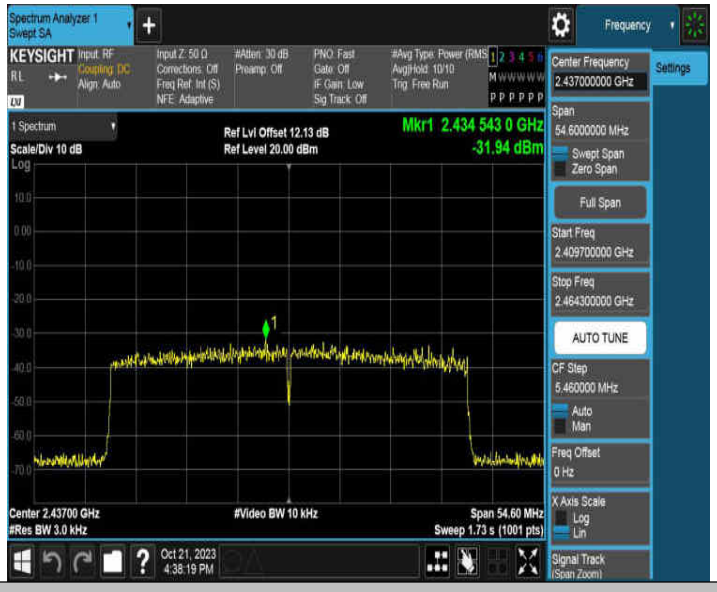
11AX40MIMO_ANT0_2422



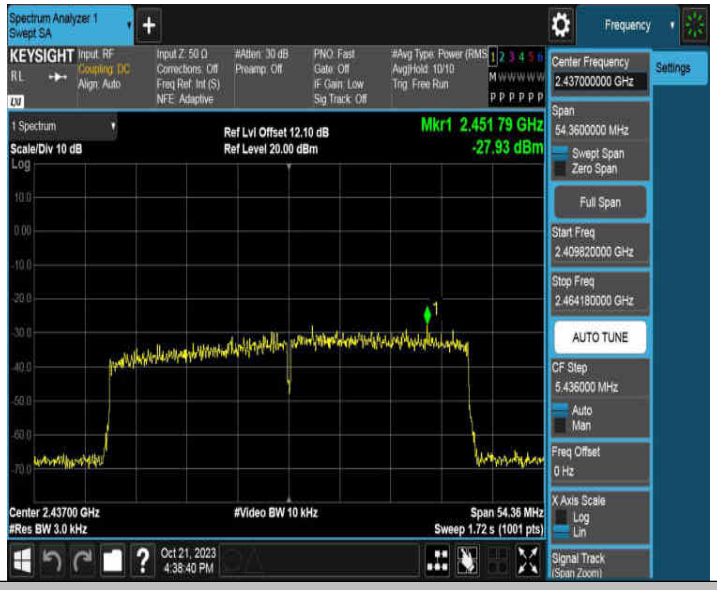
11AX40MIMO_ANT1_2422



11AX40MIMO_ANT0_2437

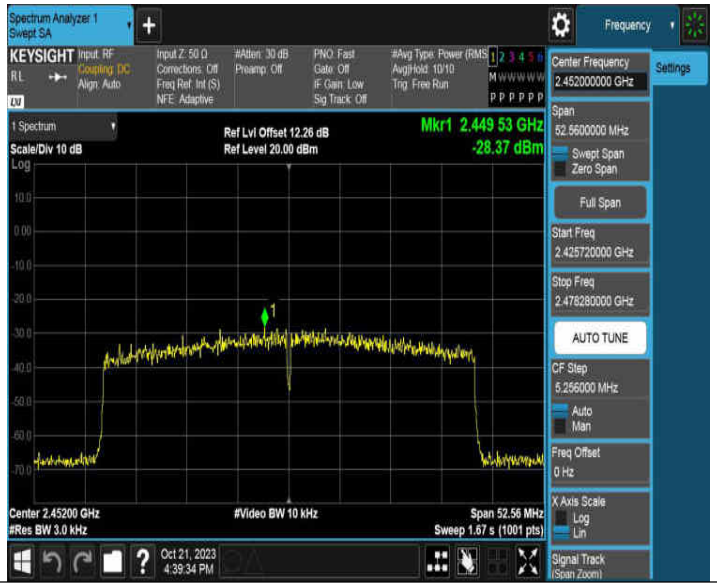


11AX40MIMO_ANT1_2437



11AX40MIMO_ANT0_2452

11AX40MIMO_ANT1_2452



12. Conducted Band edge and Spurious Emissions

12.1. Block diagram of test setup

Same as section 8.1

12.2. Limits

CFR 47 FCC Part15 (15.247) Subpart C ISED RSS-247 ISSUE 3		
Section	Test Item	Limit
CFR 47 FCC §15.247 (d) ISED RSS-247 5.5	Conducted Bandedge and Spurious Emissions	at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power

12.3. Test Procedure

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

Connect the UUT to the spectrum analyzer and use the following settings:
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	100 kHz
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.

12.4. Test result

Test Mode	Ant.	Ch Name	Freq. (MHz)	Ref Level (dBm)	Result (dBm)	Limit (dBm)	Verdict
11B	ANT0	Low	2412	2.73	-46.63	≤-17.27	PASS
	ANT1	Low	2412	-0.96	-47.67	≤-20.96	PASS
	ANT0	High	2462	3.03	-48.46	≤-16.97	PASS
	ANT1	High	2462	-0.28	-46.47	≤-20.28	PASS
11G	ANT0	Low	2412	-5.48	-33.91	≤-25.48	PASS
	ANT1	Low	2412	-7.29	-35.07	≤-27.29	PASS
	ANT0	High	2462	-3.74	-47.47	≤-23.74	PASS
	ANT1	High	2462	-7.20	-48.6	≤-27.2	PASS
11N20MIMO	ANT0	Low	2412	-8.43	-37.82	≤-28.43	PASS
	ANT1	Low	2412	-8.70	-36.45	≤-28.7	PASS
	ANT0	High	2462	-8.53	-49.02	≤-28.53	PASS
	ANT1	High	2462	-9.01	-47.92	≤-29.01	PASS
11N40MIMO	ANT0	Low	2422	-12.70	-48.2	≤-32.7	PASS
	ANT1	Low	2422	-13.58	-48.19	≤-33.58	PASS
	ANT0	High	2452	-13.14	-48.1	≤-33.14	PASS
	ANT1	High	2452	-11.51	-48.25	≤-31.51	PASS
11AX40MIMO	ANT0	Low	2422	-12.67	-48.78	≤-32.67	PASS
	ANT1	Low	2422	-13.12	-48.89	≤-33.12	PASS
	ANT0	High	2452	-12.43	-47.62	≤-32.43	PASS
	ANT1	High	2452	-11.95	-48.42	≤-31.95	PASS

Test Mode	Ant.	Freq. (MHz)	Freq Range (Mhz)	Ref Level (dBm)	Result (dBm)	Limit (dBm)	Verdict
11B	ANT0	2412	30~1000	2.73	-59.85	≤-17.27	PASS
			1000~26500	2.73	-51.95	≤-17.27	PASS
	ANT1	2412	30~1000	-0.96	-60.04	≤-20.96	PASS
			1000~26500	-0.96	-51.7	≤-20.96	PASS
	ANT0	2437	30~1000	3.38	-60.25	≤-16.62	PASS
			1000~26500	3.38	-51.91	≤-16.62	PASS
	ANT1	2437	30~1000	-0.71	-60.74	≤-20.71	PASS
			1000~26500	-0.71	-52.03	≤-20.71	PASS
	ANT0	2462	30~1000	3.03	-60.44	≤-16.97	PASS
			1000~26500	3.03	-50.8	≤-16.97	PASS
	ANT1	2462	30~1000	-0.28	-59.93	≤-20.28	PASS
			1000~26500	-0.28	-51.47	≤-20.28	PASS
11G	ANT0	2412	30~1000	-5.48	-58.94	≤-25.48	PASS
			1000~26500	-5.48	-51.92	≤-25.48	PASS
	ANT1	2412	30~1000	-7.29	-59.77	≤-27.29	PASS
			1000~26500	-7.29	-51.75	≤-27.29	PASS
	ANT0	2437	30~1000	-3.84	-60.76	≤-23.84	PASS
			1000~26500	-3.84	-52.21	≤-23.84	PASS
	ANT1	2437	30~1000	-6.74	-61.06	≤-26.74	PASS
			1000~26500	-6.74	-50.97	≤-26.74	PASS
	ANT0	2462	30~1000	-3.74	-59.37	≤-23.74	PASS
			1000~26500	-3.74	-51.7	≤-23.74	PASS
	ANT1	2462	30~1000	-7.20	-60.13	≤-27.2	PASS
			1000~26500	-7.20	-51.61	≤-27.2	PASS

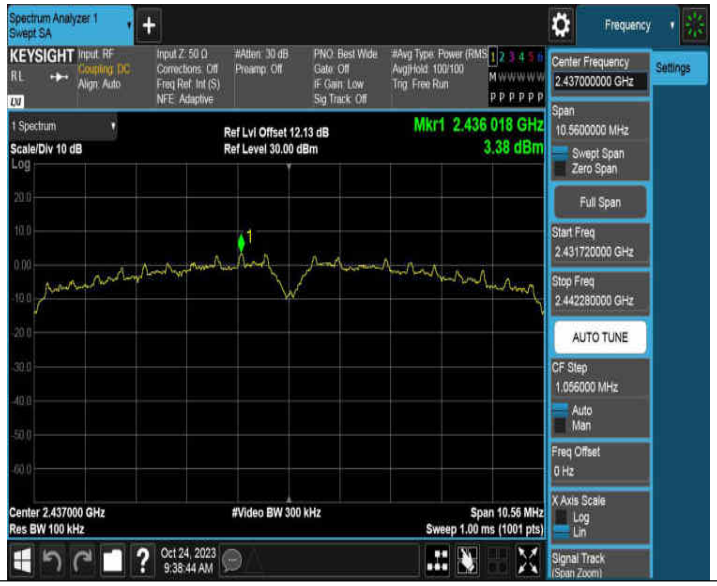
11N20MIMO	ANT0	2412	30~1000	-8.43	-59.84	≤-28.43	PASS
			1000~26500	-8.43	-50.91	≤-28.43	PASS
	ANT1	2412	30~1000	-8.70	-60.33	≤-28.7	PASS
			1000~26500	-8.70	-51.44	≤-28.7	PASS
	ANT0	2437	30~1000	-9.20	-60.72	≤-29.2	PASS
			1000~26500	-9.20	-52.03	≤-29.2	PASS
	ANT1	2437	30~1000	-9.17	-59.99	≤-29.17	PASS
			1000~26500	-9.17	-52.09	≤-29.17	PASS
	ANT0	2462	30~1000	-8.53	-59.4	≤-28.53	PASS
			1000~26500	-8.53	-50.68	≤-28.53	PASS
	ANT1	2462	30~1000	-9.01	-59.94	≤-29.01	PASS
			1000~26500	-9.01	-51.36	≤-29.01	PASS
11N40MIMO	ANT0	2422	30~1000	-12.70	-60.11	≤-32.7	PASS
			1000~26500	-12.70	-51.54	≤-32.7	PASS
	ANT1	2422	30~1000	-13.58	-60.85	≤-33.58	PASS
			1000~26500	-13.58	-50.46	≤-33.58	PASS
	ANT0	2437	30~1000	-13.15	-60.19	≤-33.15	PASS
			1000~26500	-13.15	-51.51	≤-33.15	PASS
	ANT1	2437	30~1000	-12.38	-60.4	≤-32.38	PASS
			1000~26500	-12.38	-52.14	≤-32.38	PASS
	ANT0	2452	30~1000	-13.14	-60.48	≤-33.14	PASS
			1000~26500	-13.14	-51.04	≤-33.14	PASS
	ANT1	2452	30~1000	-11.51	-60.21	≤-31.51	PASS
			1000~26500	-11.51	-51.09	≤-31.51	PASS
11AX40MIMO	ANT0	2422	30~1000	-12.67	-59.68	≤-32.67	PASS
			1000~26500	-12.67	-51.53	≤-32.67	PASS
	ANT1	2422	30~1000	-13.12	-59.61	≤-33.12	PASS
			1000~26500	-13.12	-51.69	≤-33.12	PASS
	ANT0	2437	30~1000	-12.82	-60.58	≤-32.82	PASS
			1000~26500	-12.82	-52.04	≤-32.82	PASS
	ANT1	2437	30~1000	-13.11	-59.08	≤-33.11	PASS
			1000~26500	-13.11	-52.01	≤-33.11	PASS
	ANT0	2452	30~1000	-12.43	-59.64	≤-32.43	PASS
			1000~26500	-12.43	-49.95	≤-32.43	PASS
	ANT1	2452	30~1000	-11.95	-59.25	≤-31.95	PASS
			1000~26500	-11.95	-50.8	≤-31.95	PASS

12.5. Original test data

Reference level

11B_ANT0_2412

11B_ANT1_2412

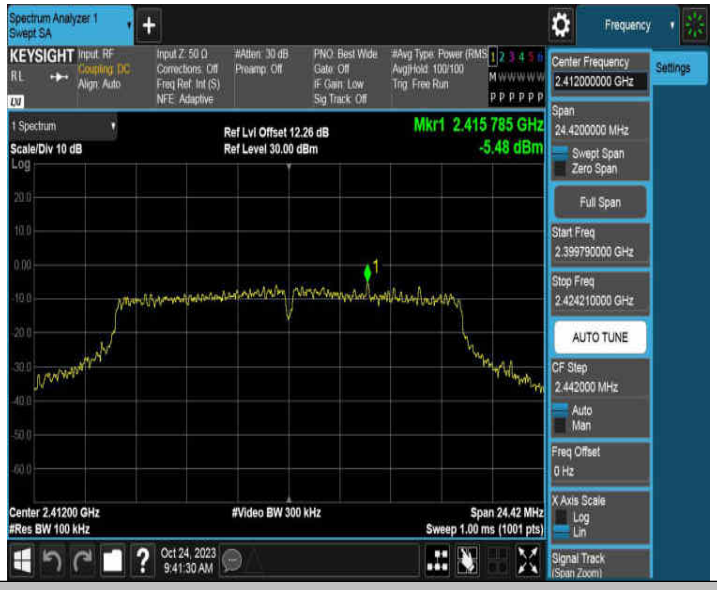
11B_ANT0_2437


11B_ANT1_2437

11B_ANT0_2462

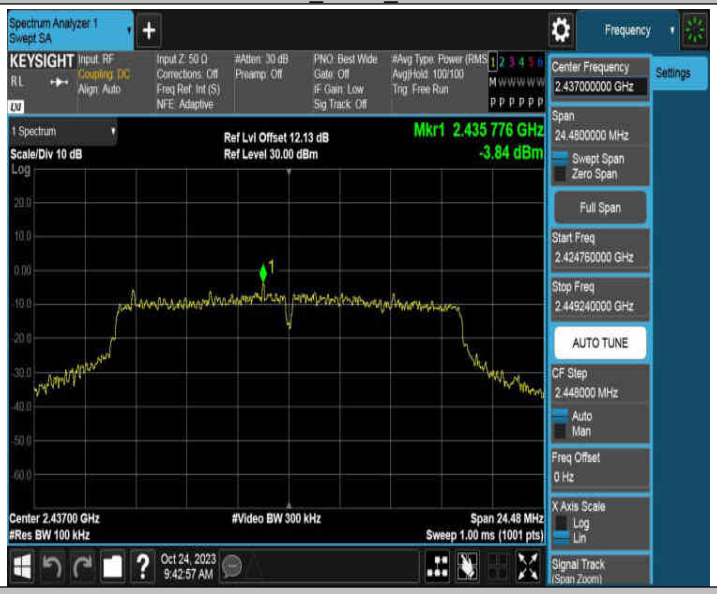
11B_ANT1_2462

11G_ANT0_2412

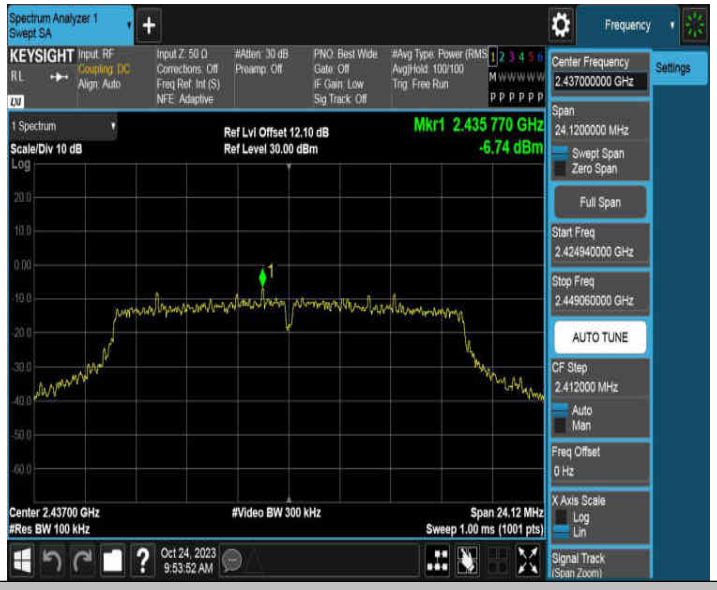


11G_ANT1_2412

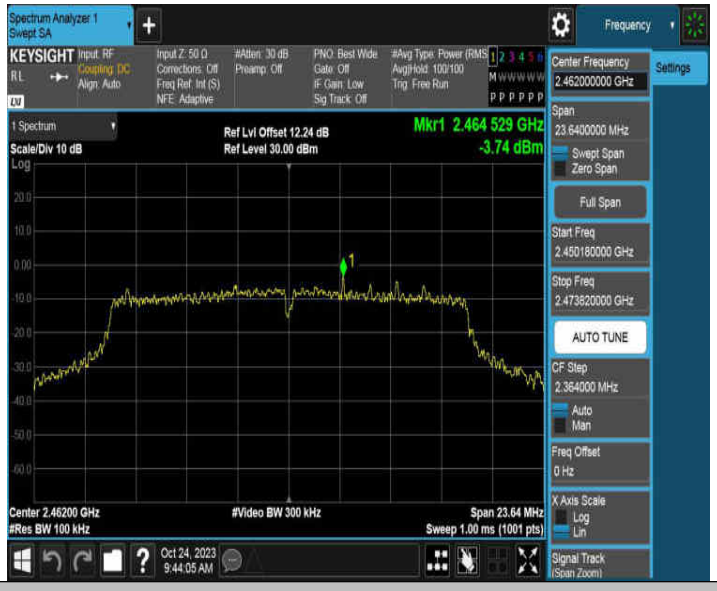
11G_ANT0_2437



11G_ANT1_2437

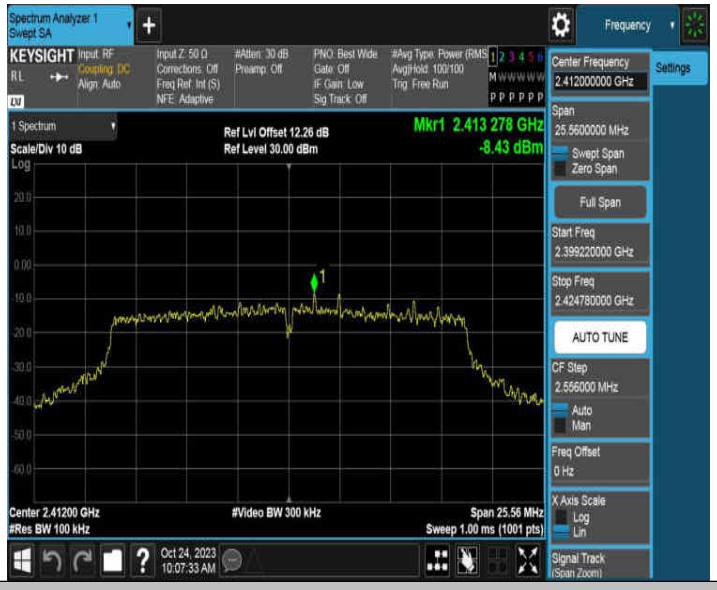


11G_ANT0_2462

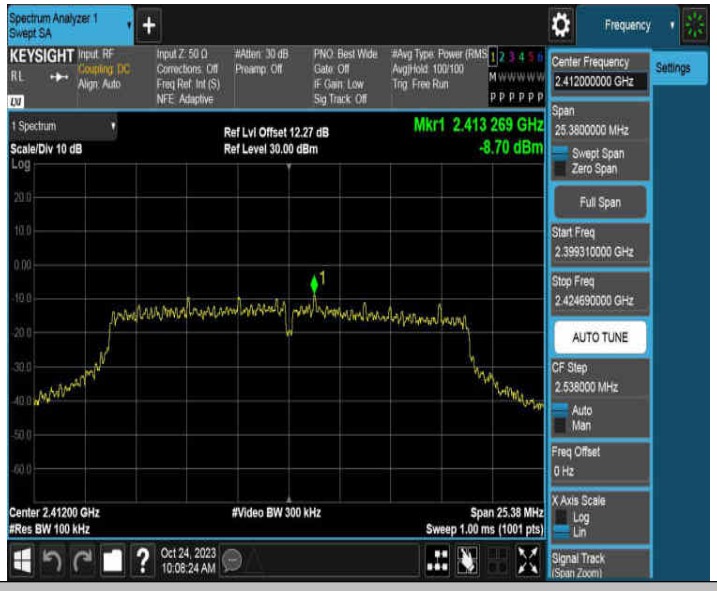


11G_ANT1_2462

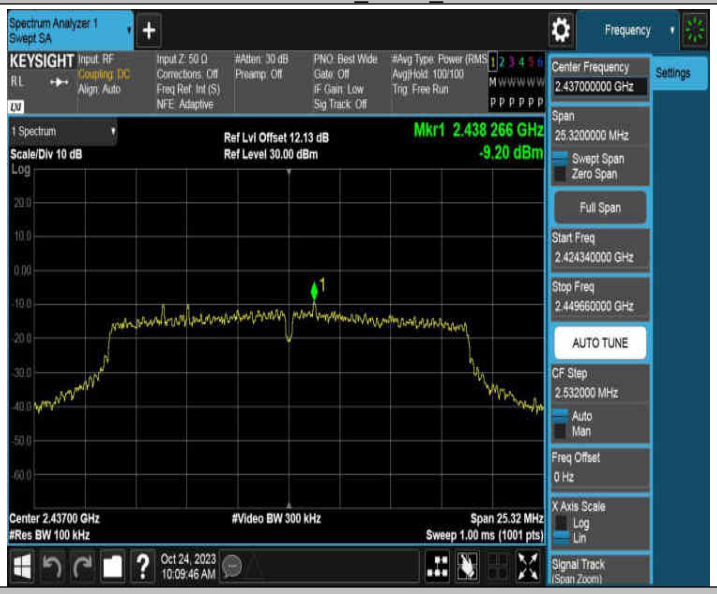
11N20MIMO_ANT0_2412



11N20MIMO_ANT1_2412

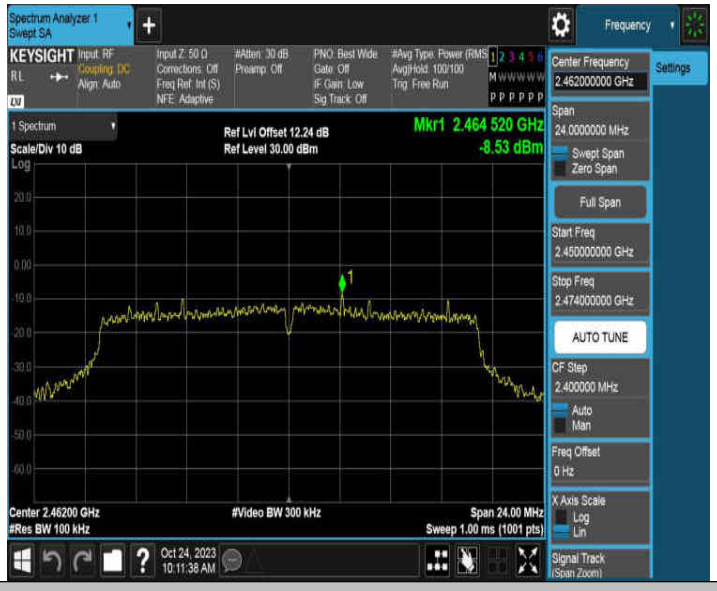


11N20MIMO_ANT0_2437

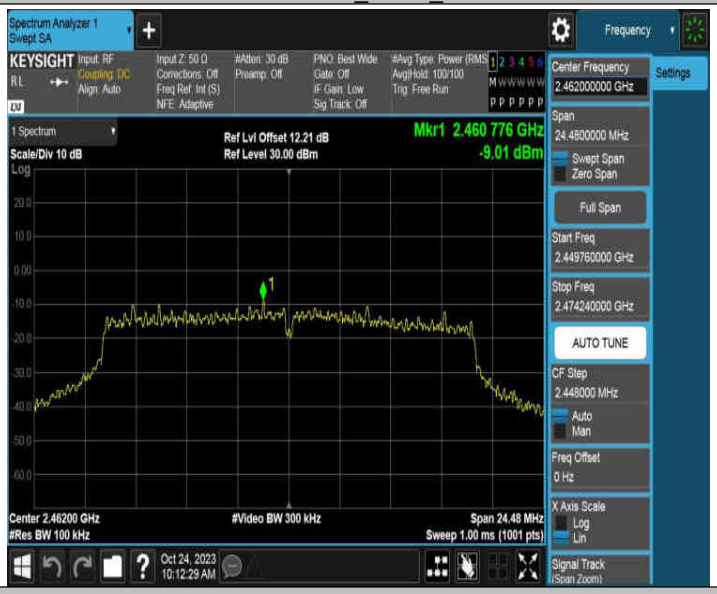


11N20MIMO_ANT1_2437

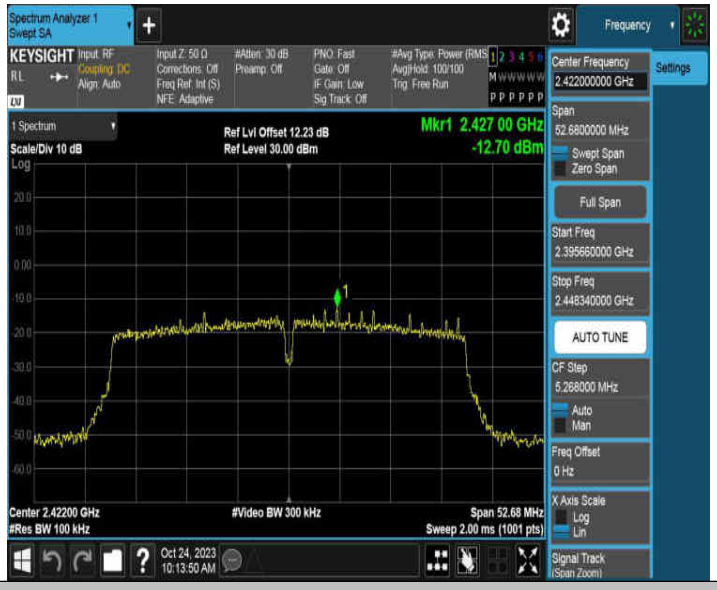
11N20MIMO_ANT0_2462



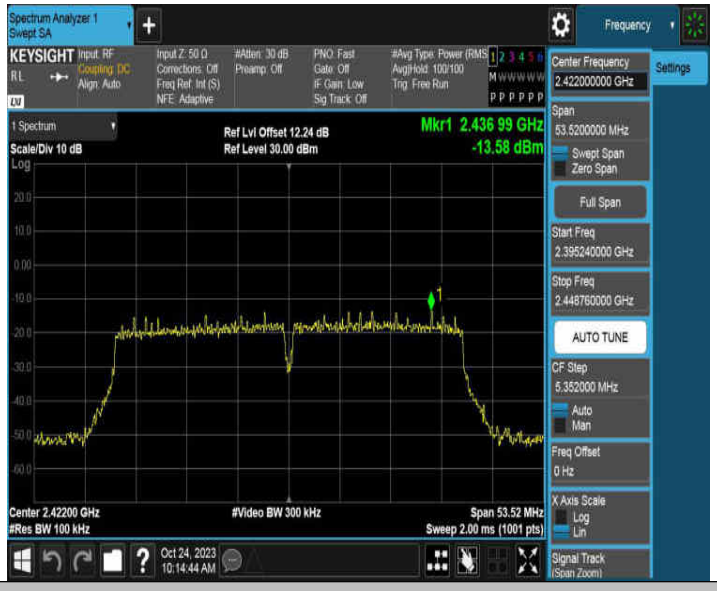
11N20MIMO_ANT1_2462



11N40MIMO_ANT0_2422

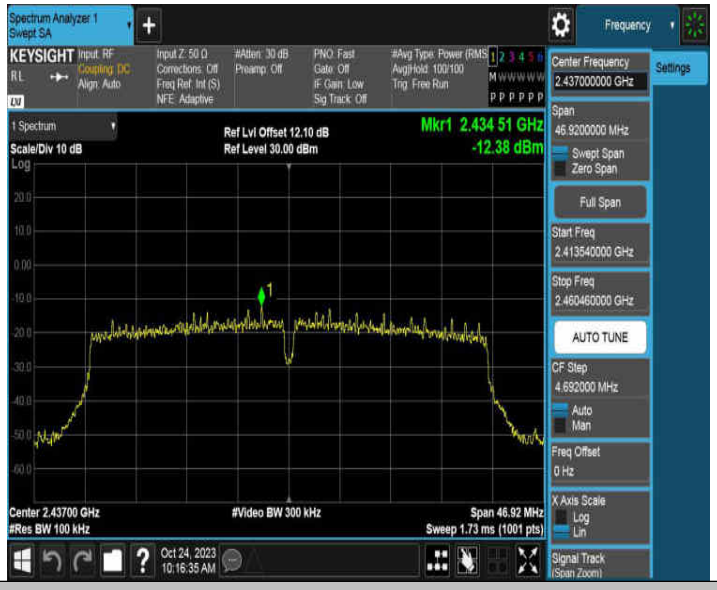


11N40MIMO_ANT1_2422



11N40MIMO_ANT0_2437

11N40MIMO_ANT1_2437



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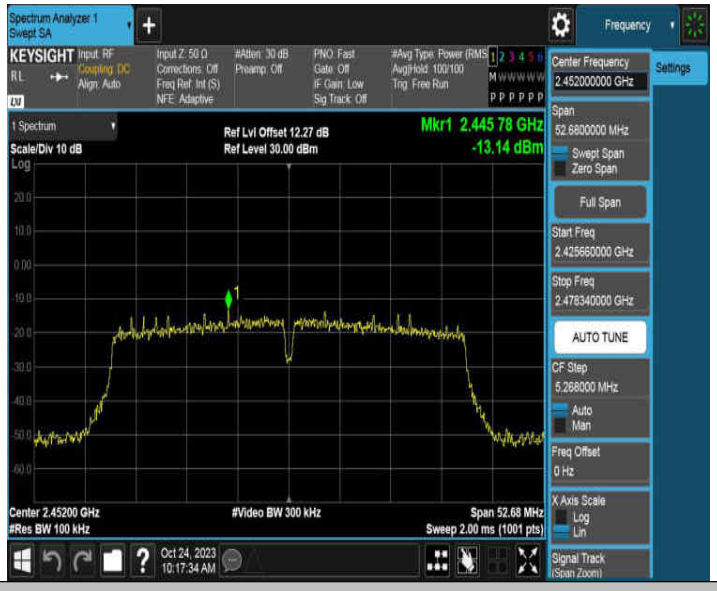
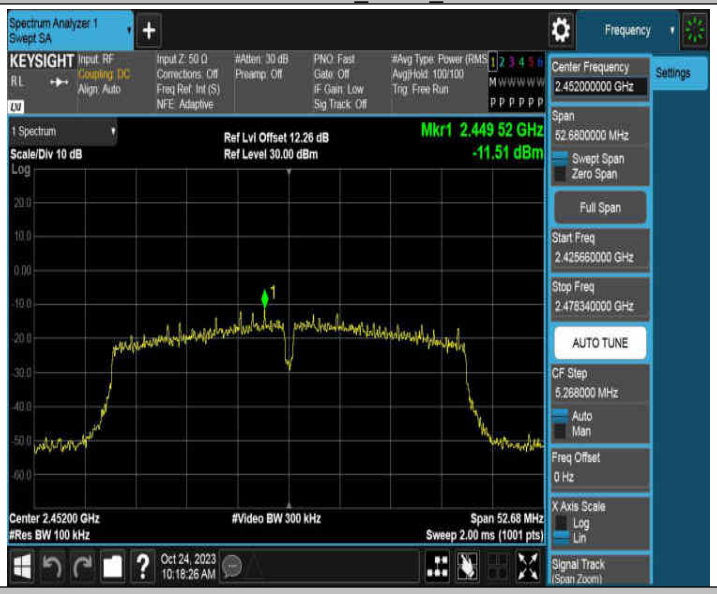


11N40MIMO_ANT1_2452

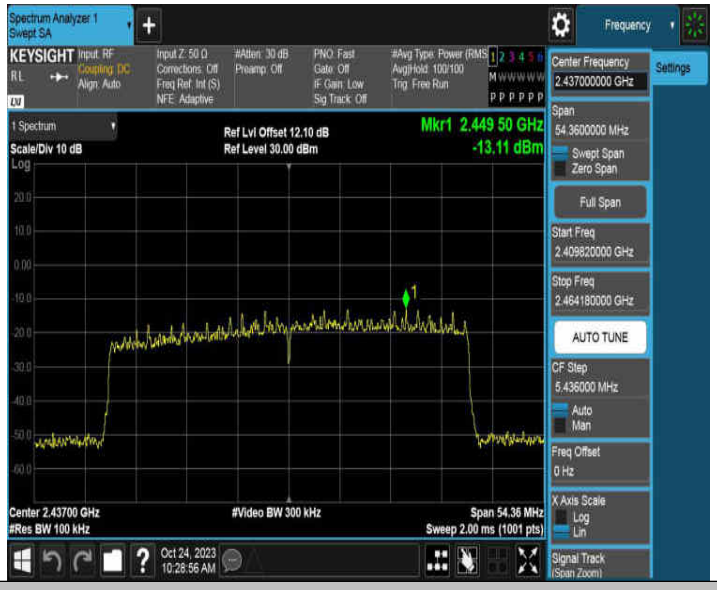


11AX40MIMO_ANT0_2422

11AX40MIMO_ANT1_2422

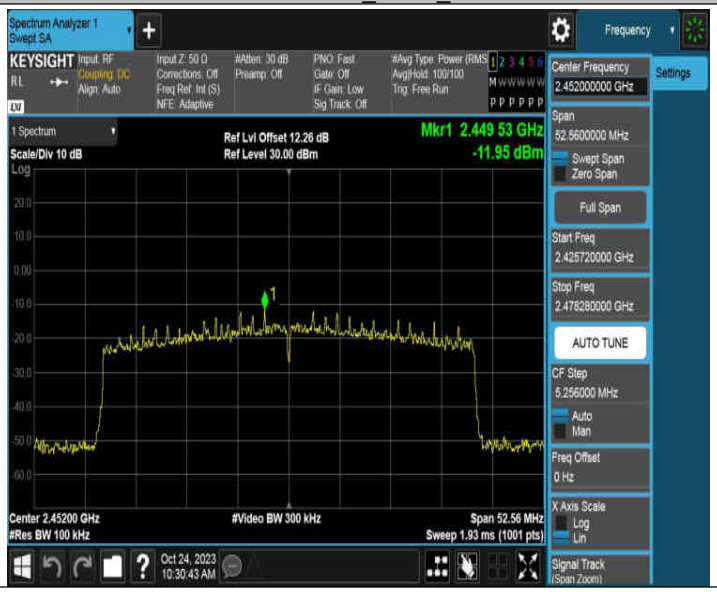
11AX40MIMO_ANT0_2437

11AX40MIMO_ANT1_2437



11AX40MIMO_ANT0_2452

11AX40MIMO_ANT1_2452



Band edge:

11B_ANT0_Low_2412

11B_ANT1_Low_2412

11B_ANT0_High_2462

11B_ANT1_High_2462

11G_ANT0_Low_2412

11G_ANT1_Low_2412

11G_ANT0_High_2462

11G_ANT1_High_2462

11N20MIMO_ANT0_Low_2412

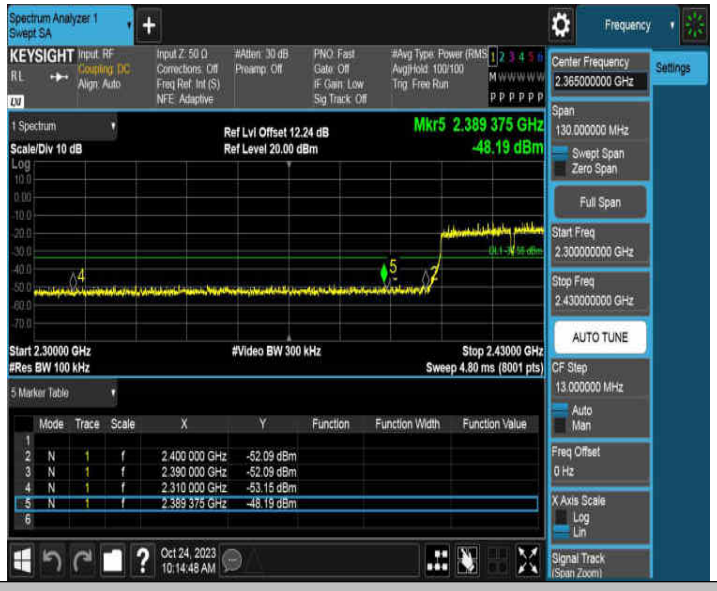
11N20MIMO_ANT1_Low_2412

11N20MIMO_ANT0_High_2462

11N20MIMO_ANT1_High_2462

11N40MIMO_ANT0_Low_2422

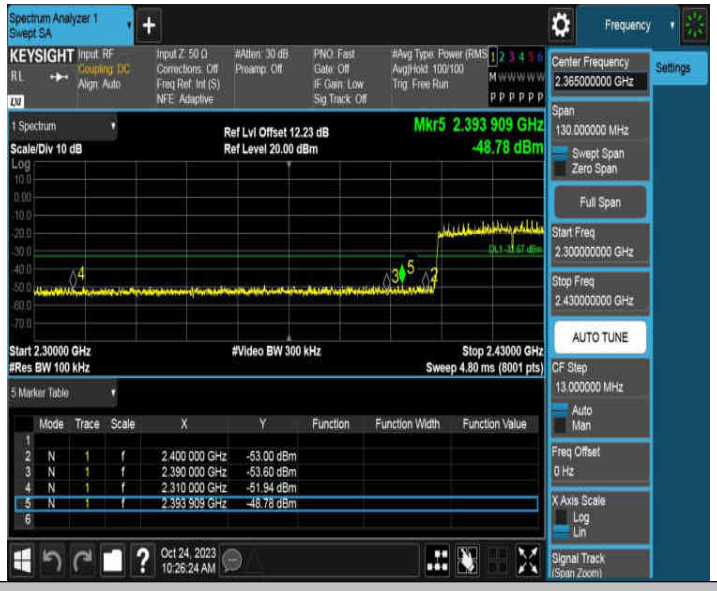
11N40MIMO_ANT1_Low_2422



11N40MIMO_ANT0_High_2452

11N40MIMO_ANT1_High_2452

11AX40MIMO_ANT0_Low_2422



11AX40MIMO_ANT1_Low_2422

11AX40MIMO_ANT0_High_2452

11AX40MIMO_ANT1_High_2452