

Appendix B: Test Results of Wi-Fi 802.11 b/g/n/ax

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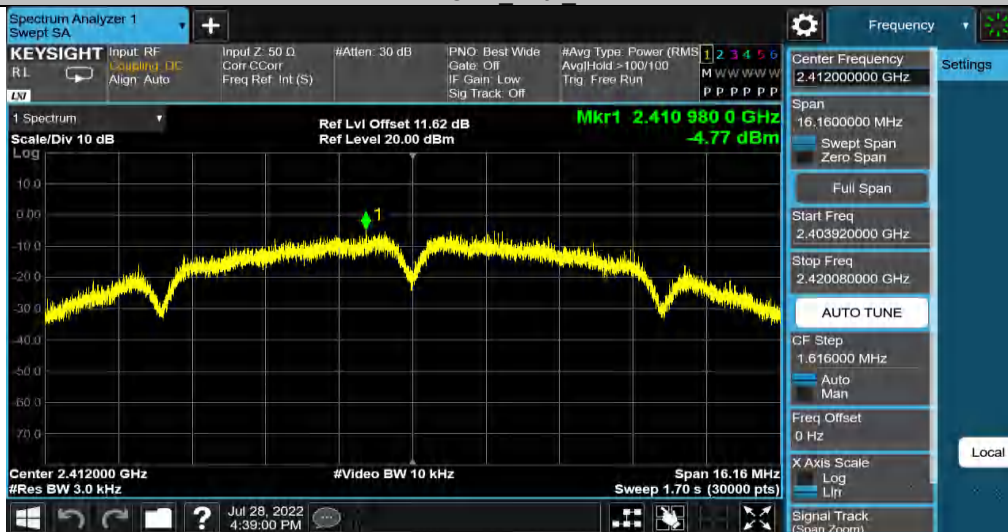
Appendix B.1: Test Results of Conducted Power Spectral Density

TestMode	Antenna	Channel	Result[dBm/3-100kHz]	Limit[dBm/3kHz]	Verdict
11B-CDD	Ant1	2412	-4.78	≤8.00	PASS
		2437	-5.60	≤8.00	PASS
		2462	-4.25	≤8.00	PASS
11G-CDD	Ant1	2412	-13.72	≤8.00	PASS
		2437	-14.32	≤8.00	PASS
		2462	-13.64	≤8.00	PASS
11B-CDD	Ant2	2412	-6.15	≤8.00	PASS
		2437	-6.69	≤8.00	PASS
		2462	-6.55	≤8.00	PASS
11G-CDD	Ant2	2412	-15.00	≤8.00	PASS
		2437	-15.84	≤8.00	PASS
		2462	-16.27	≤8.00	PASS
11N20MIMO	Ant1	2412	-13.73	≤8.00	PASS
	Ant2	2412	-14.64	≤8.00	PASS
	total	2412	-11.15	≤6.00*	PASS
	Ant1	2437	-12.95	≤8.00	PASS
	Ant2	2437	-14.62	≤8.00	PASS
	total	2437	-10.69	≤6.00*	PASS
	Ant1	2462	-13.55	≤8.00	PASS
	Ant2	2462	-14.67	≤8.00	PASS
	total	2462	-11.06	≤6.00*	PASS
11N40MIMO	Ant1	2422	-15.27	≤8.00	PASS
	Ant2	2422	-16.83	≤8.00	PASS
	total	2422	-12.97	≤6.00*	PASS
	Ant1	2437	-16.36	≤8.00	PASS
	Ant2	2437	-17.03	≤8.00	PASS
	total	2437	-13.67	≤6.00*	PASS
	Ant1	2452	-15.92	≤8.00	PASS
	Ant2	2452	-16.82	≤8.00	PASS
	total	2452	-13.34	≤6.00*	PASS
11AX20MIMO	Ant1	2412	-14.50	≤8.00	PASS
	Ant2	2412	-16.14	≤8.00	PASS
	total	2412	-12.23	≤6.00*	PASS
	Ant1	2437	-14.93	≤8.00	PASS
	Ant2	2437	-16.20	≤8.00	PASS
	total	2437	-12.51	≤6.00*	PASS
	Ant1	2462	-14.83	≤8.00	PASS
	Ant2	2462	-16.52	≤8.00	PASS
	total	2462	-12.58	≤6.00*	PASS
11AX40MIMO	Ant1	2422	-16.60	≤8.00	PASS
	Ant2	2422	-18.18	≤8.00	PASS
	total	2422	-14.31	≤6.00*	PASS
	Ant1	2437	-12.76	≤8.00	PASS
	Ant2	2437	-14.90	≤8.00	PASS
	total	2437	-10.69	≤6.00*	PASS
	Ant1	2452	-17.47	≤8.00	PASS
	Ant2	2452	-18.10	≤8.00	PASS
	total	2452	-14.76	≤6.00*	PASS

*: The directional gain for MIMO mode is 8dBi, which is 2dB higher than 6dBi, thus power density limit should be reduced to 6dBm.

The cable loss is taken into account in results.

11B-CDD Ant1 2412



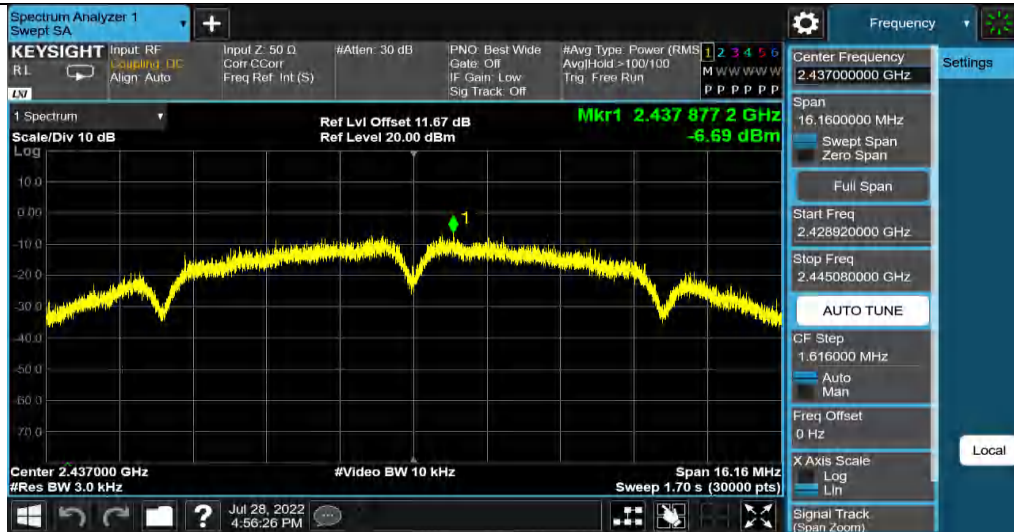
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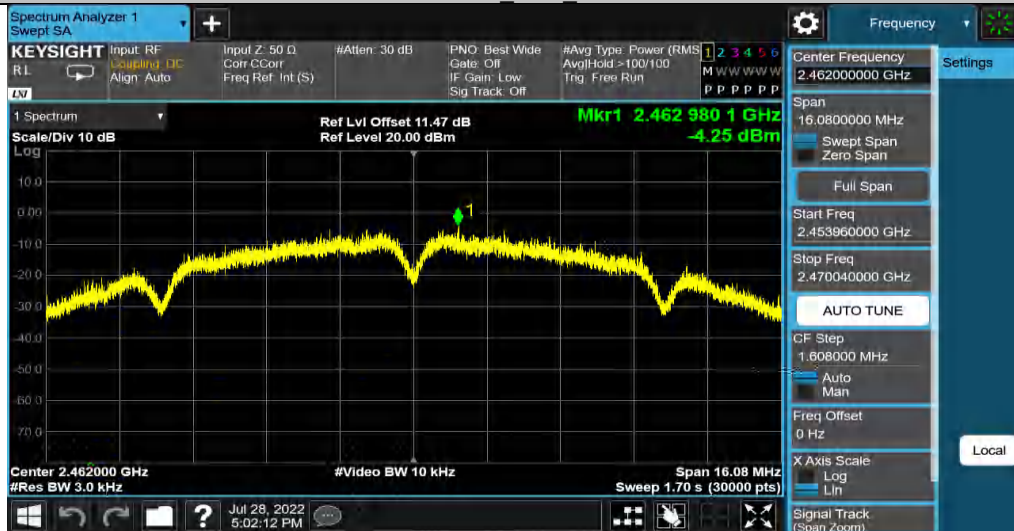
11B-CDD Ant1 2437



11B-CDD Ant2 2437



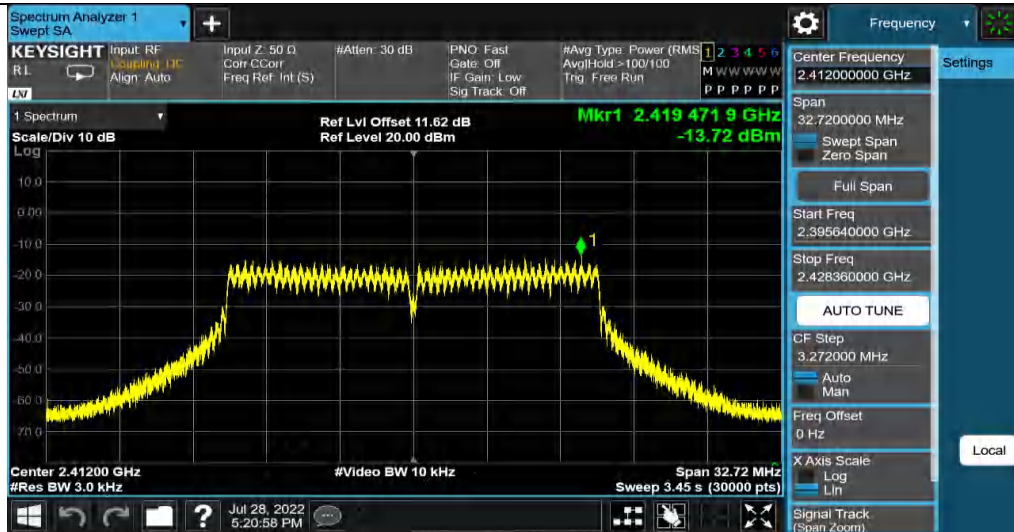
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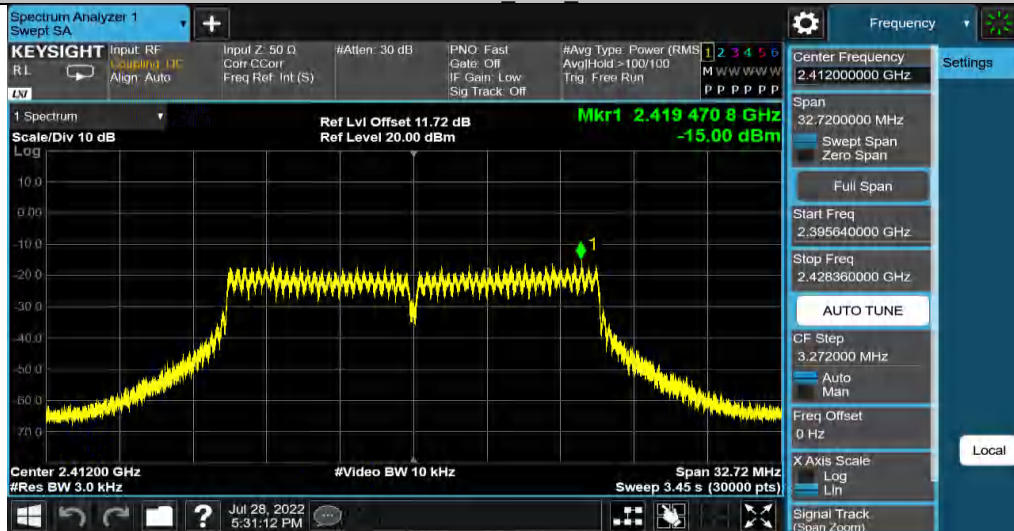
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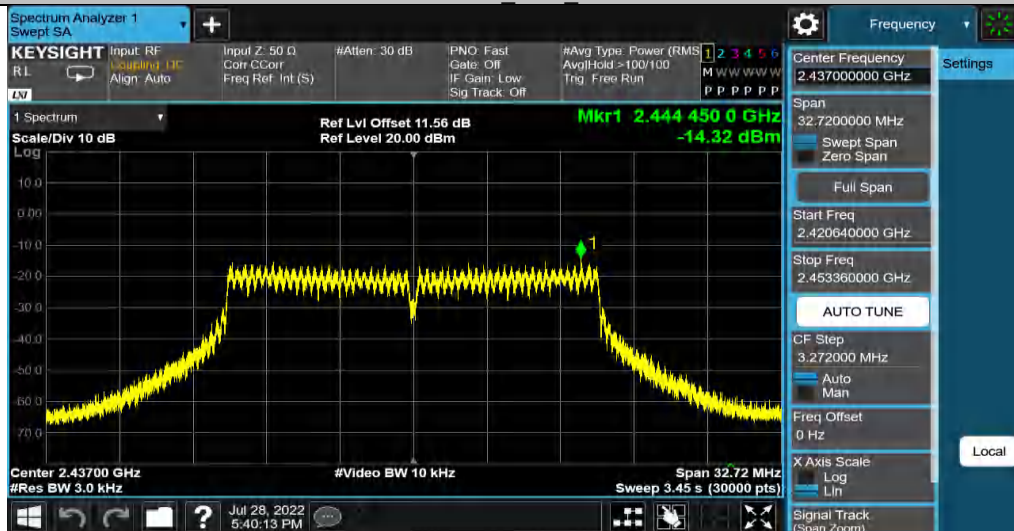
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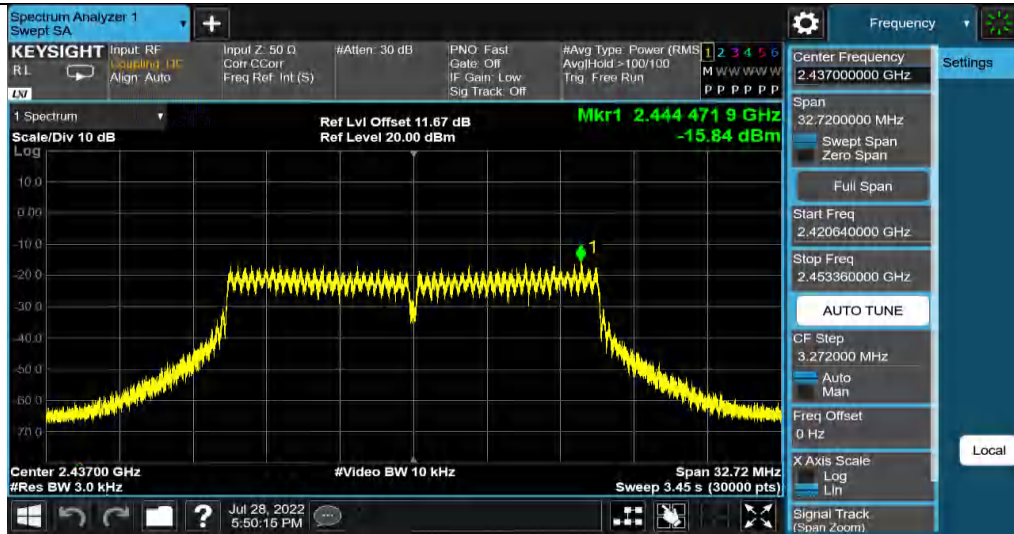
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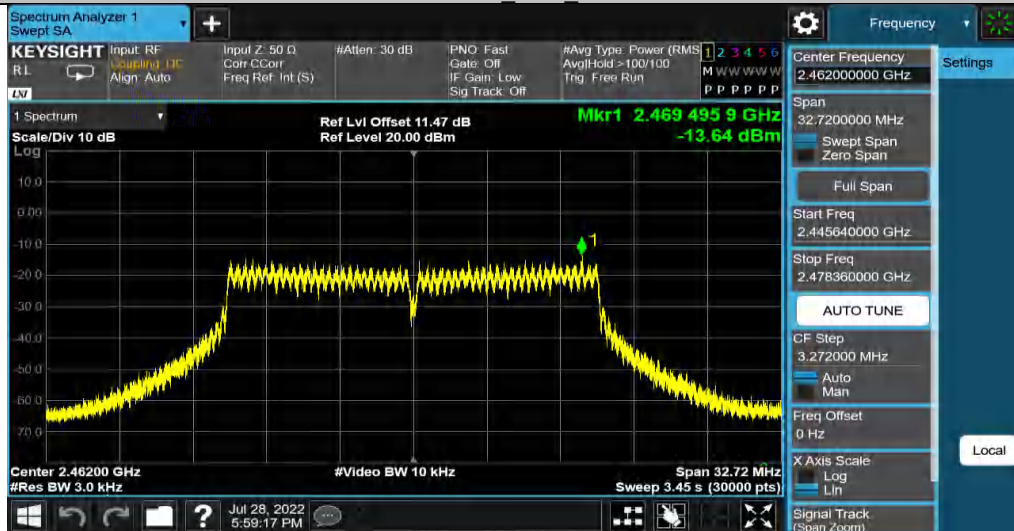
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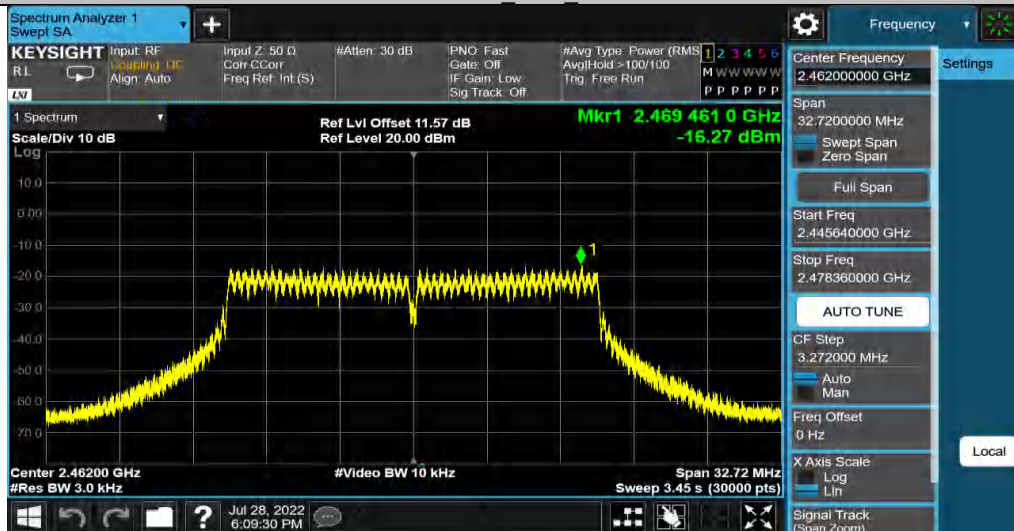
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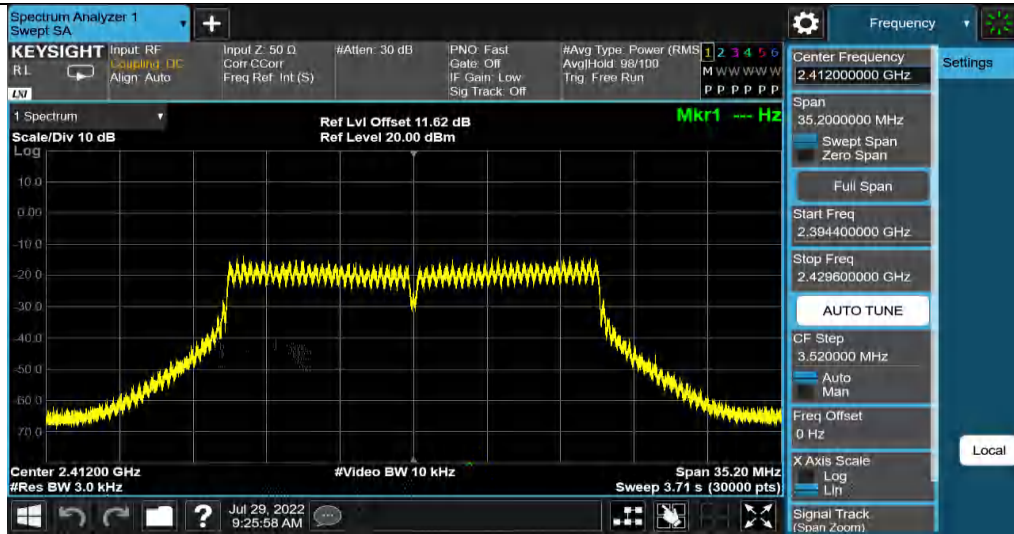
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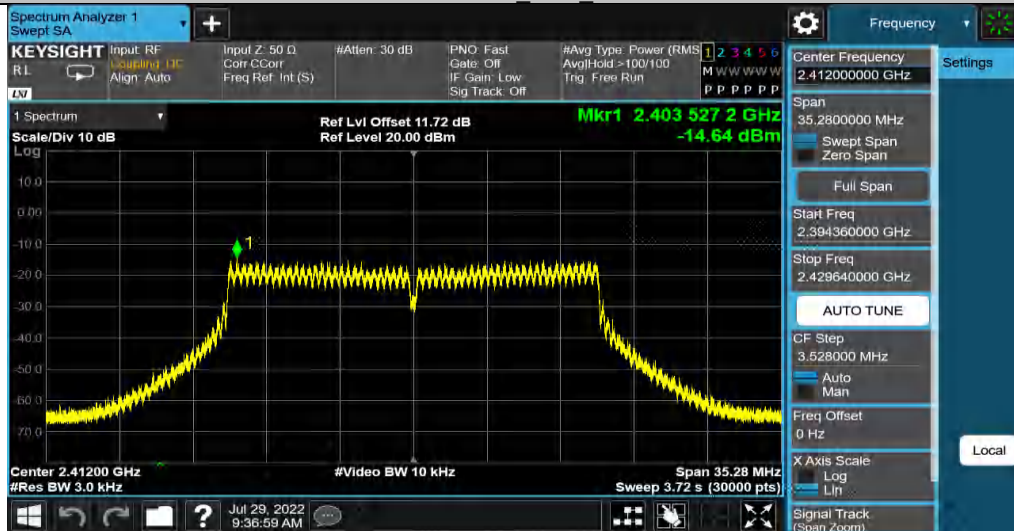
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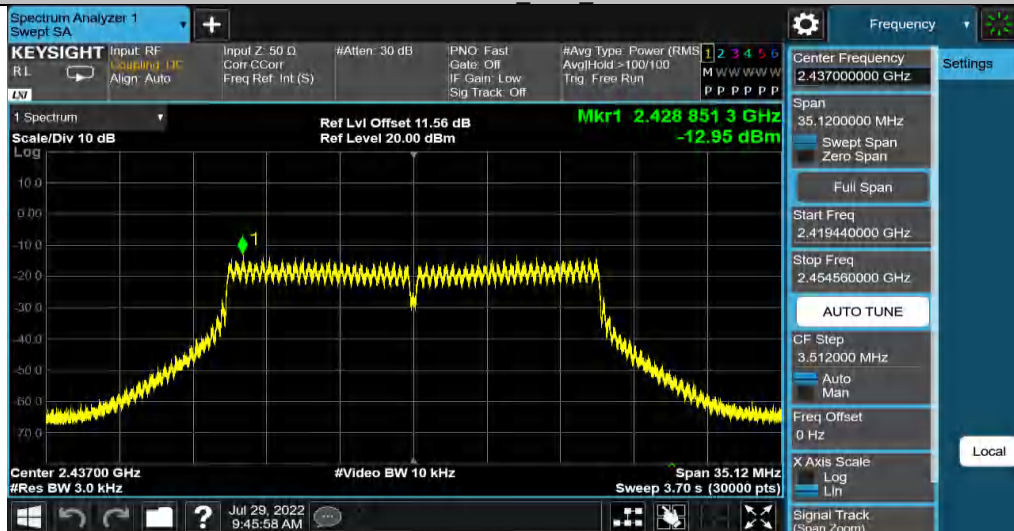
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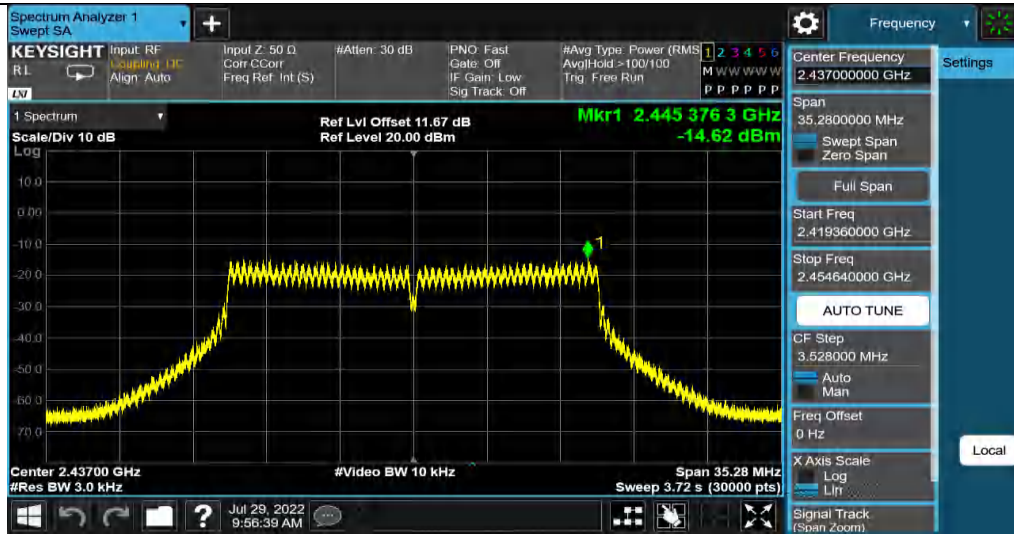
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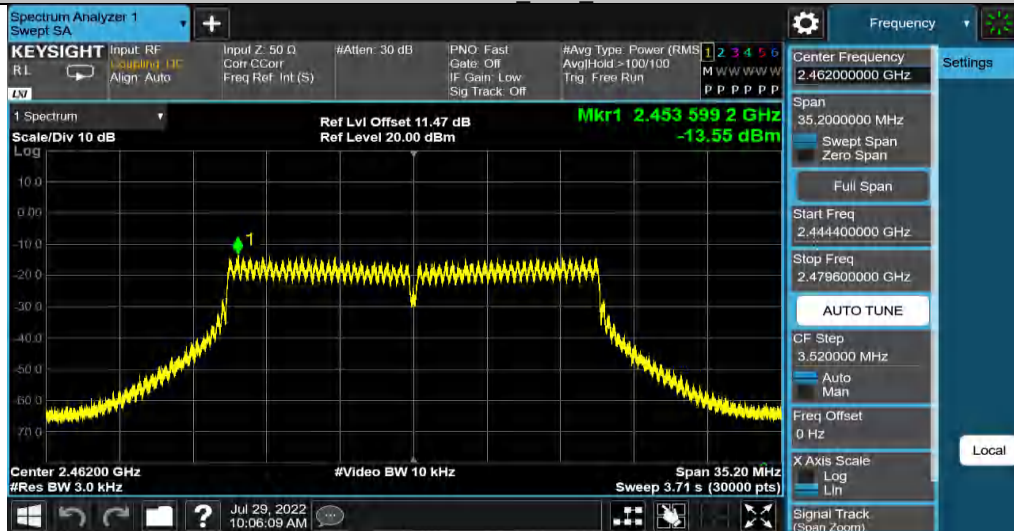
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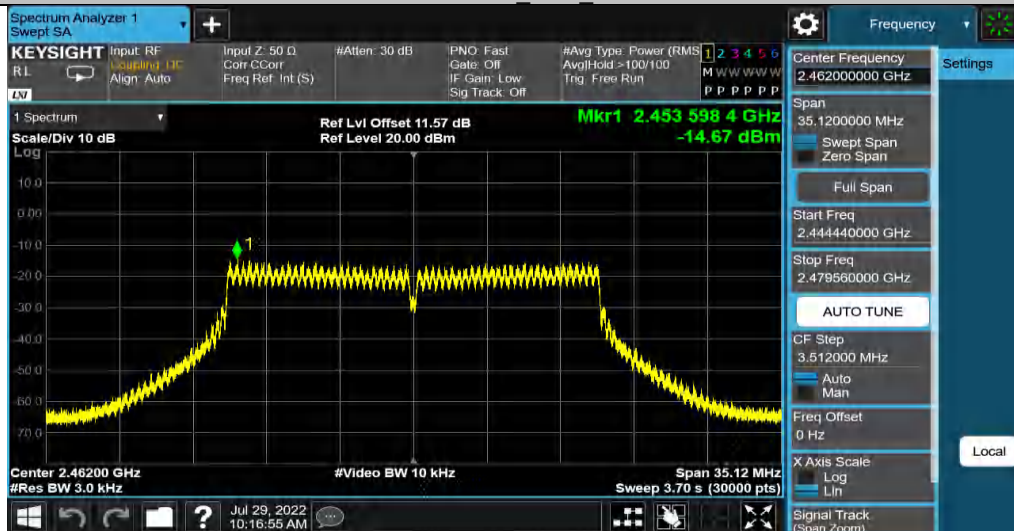
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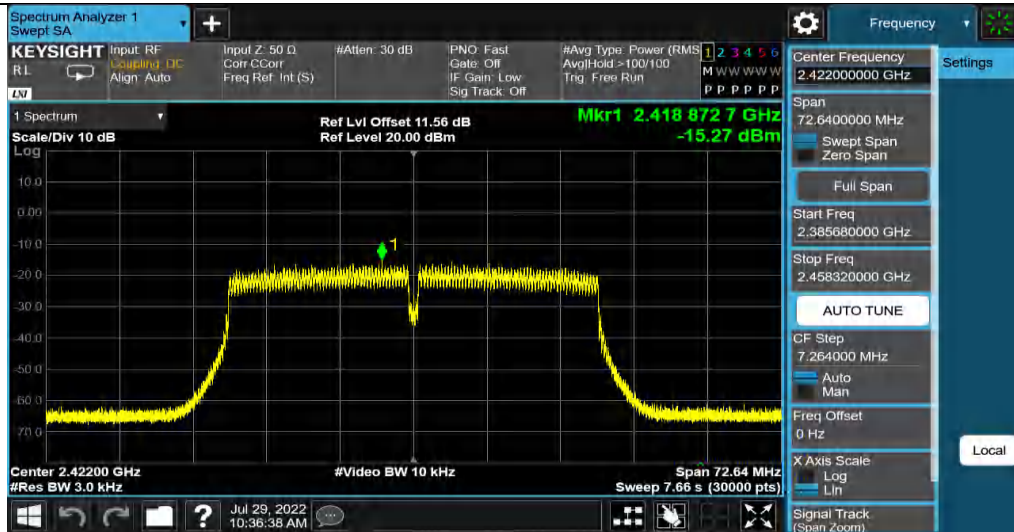
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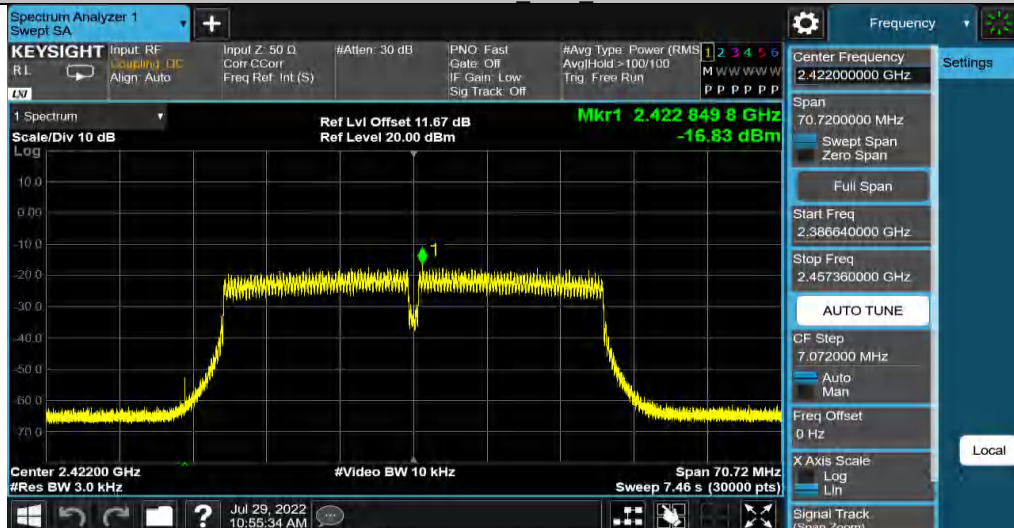
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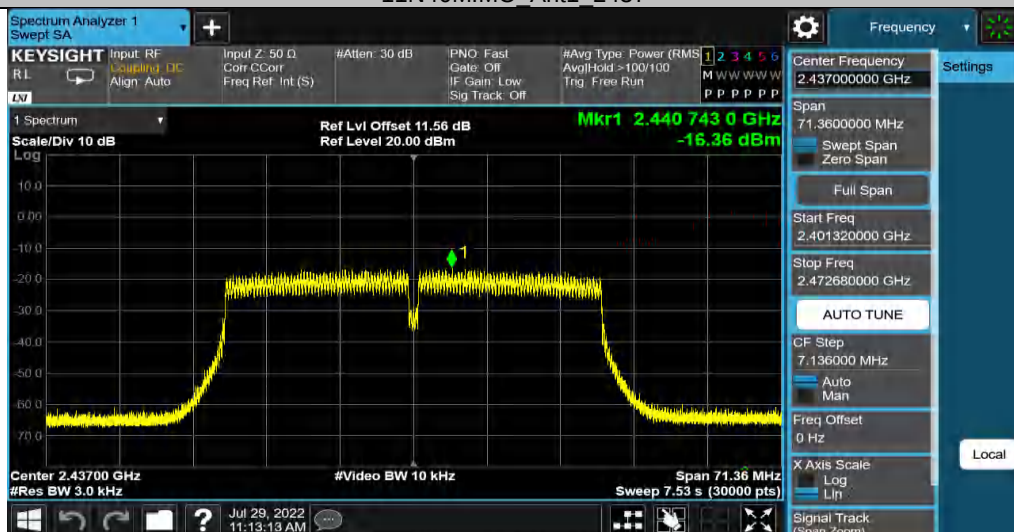
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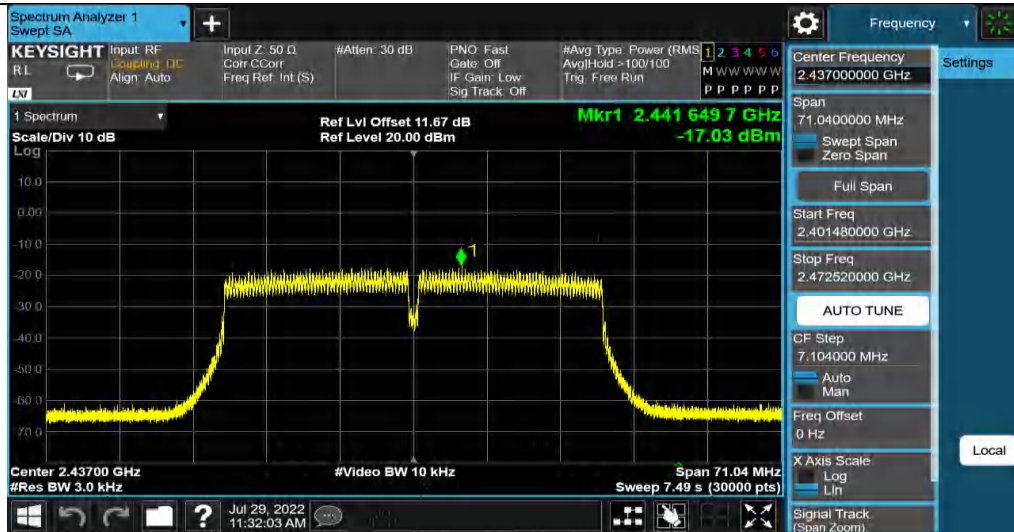
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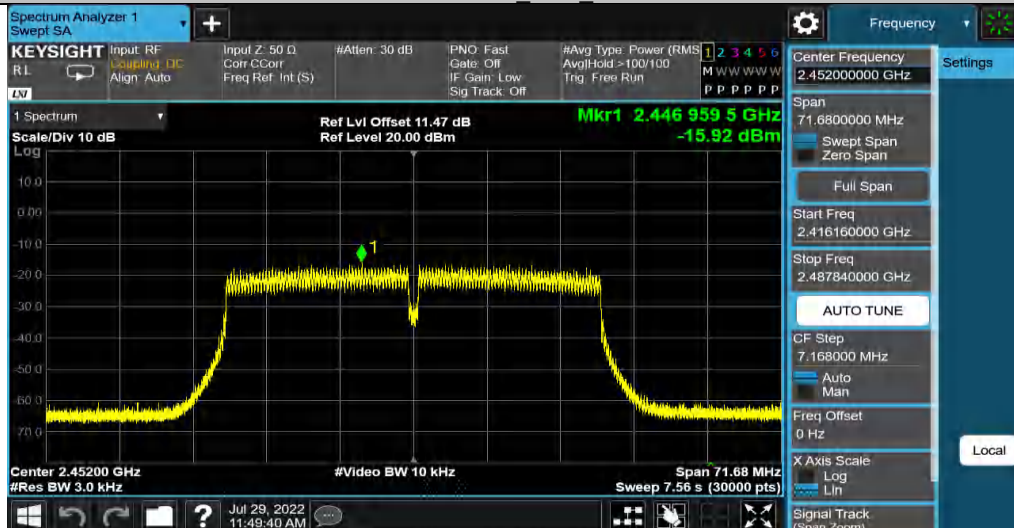
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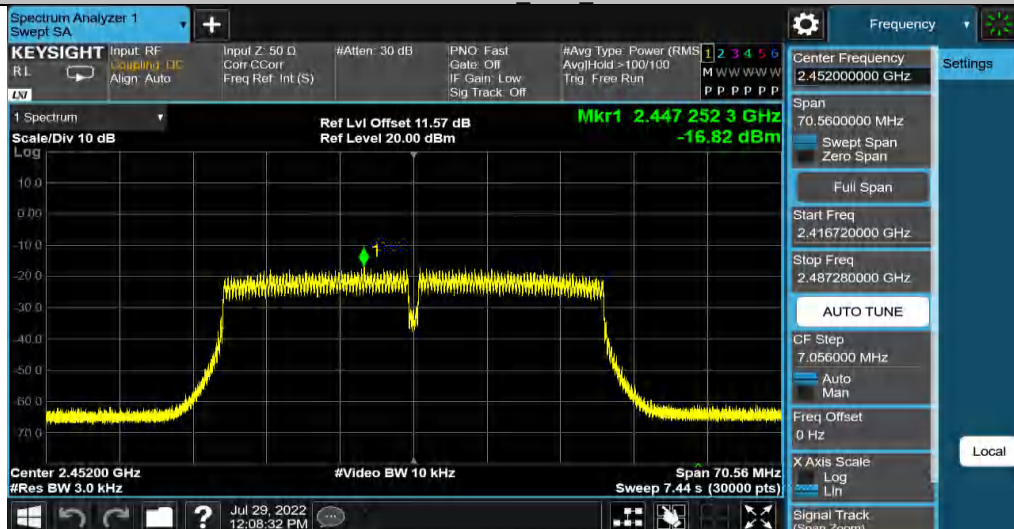
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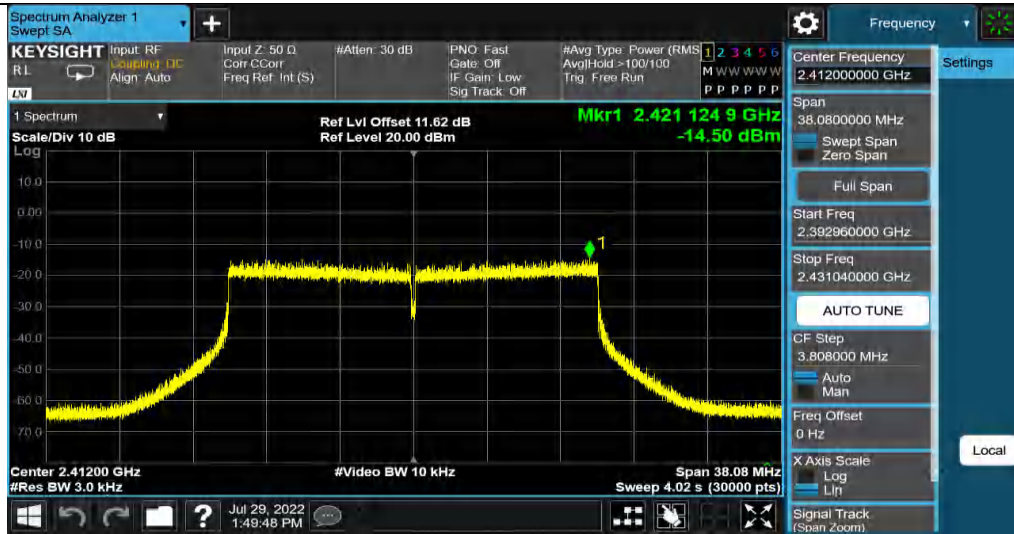
11N40MIMO Ant1 2452



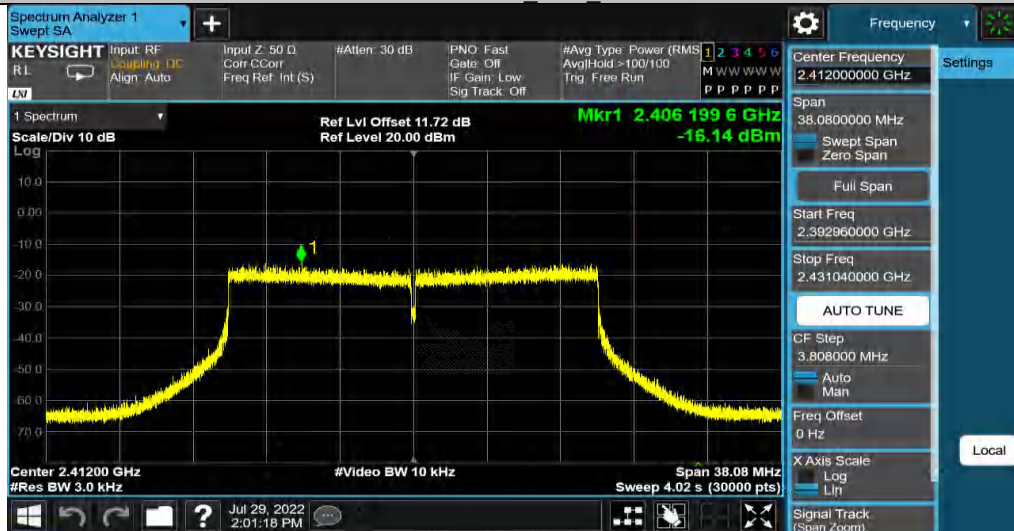
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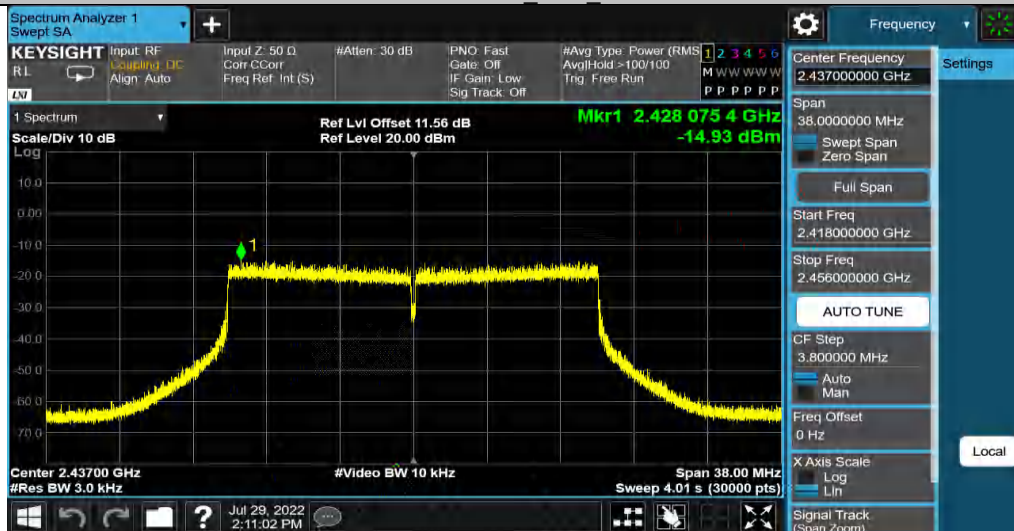
11AX20MIMO Ant1 2412



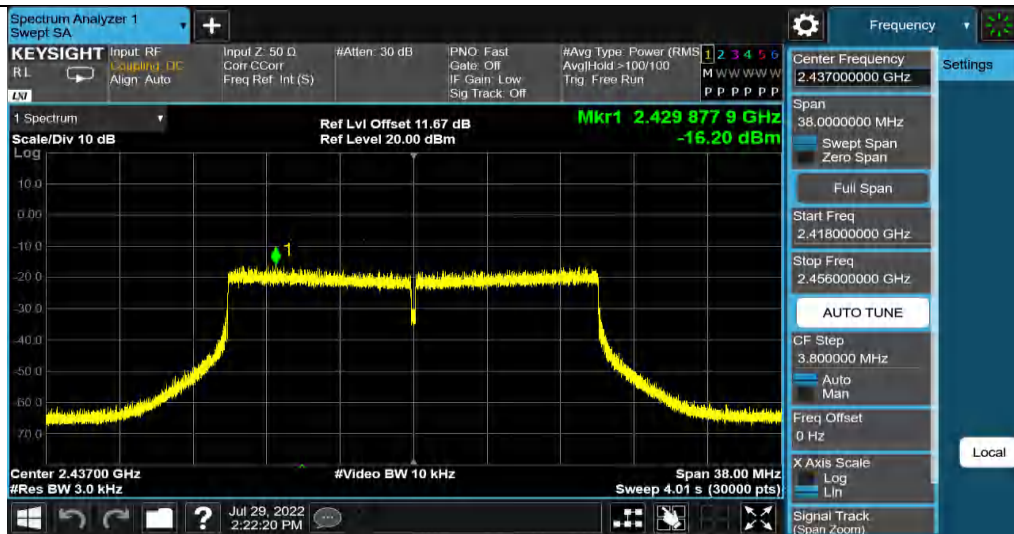
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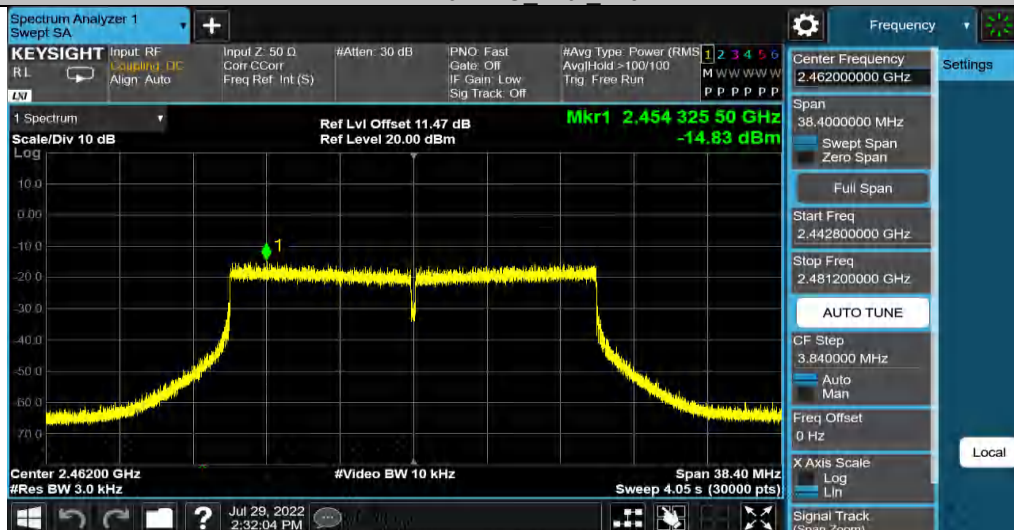
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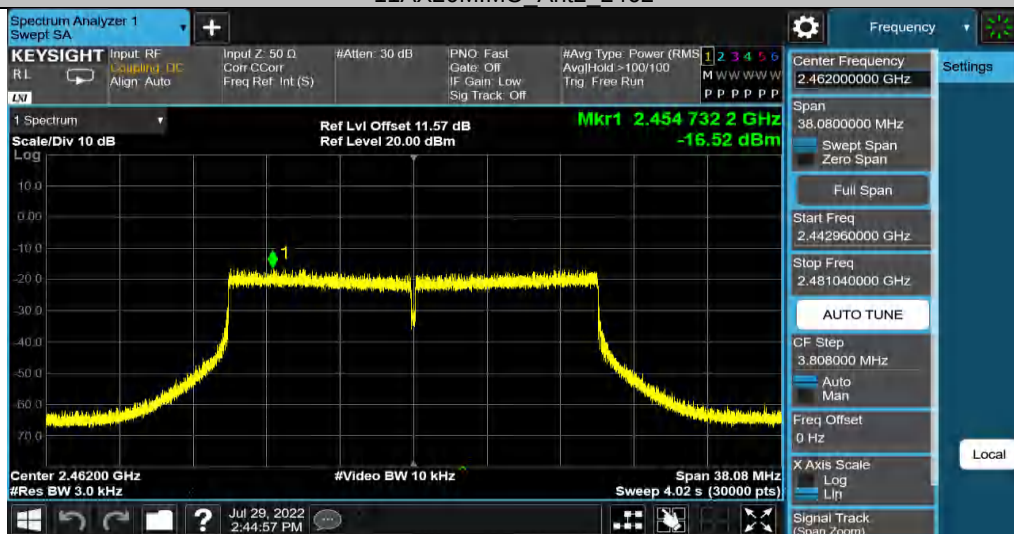
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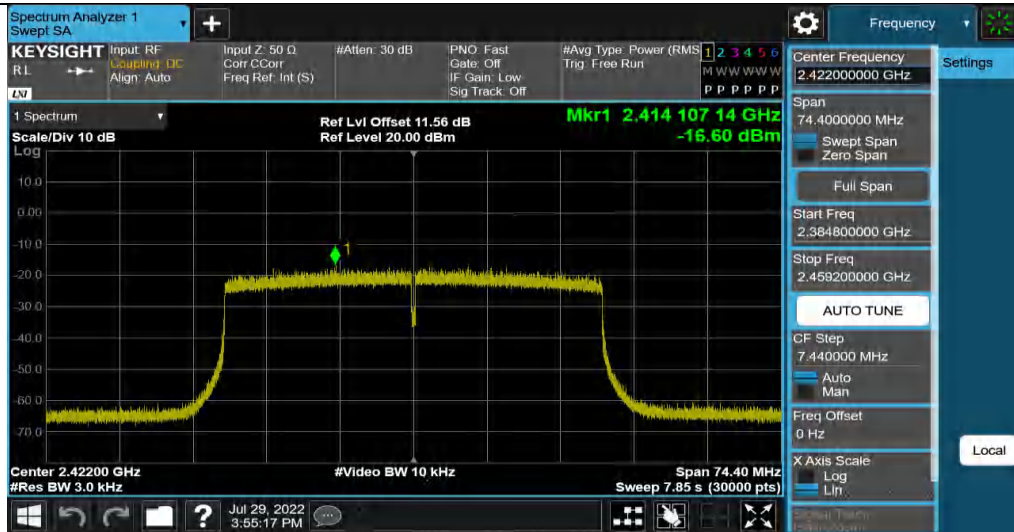
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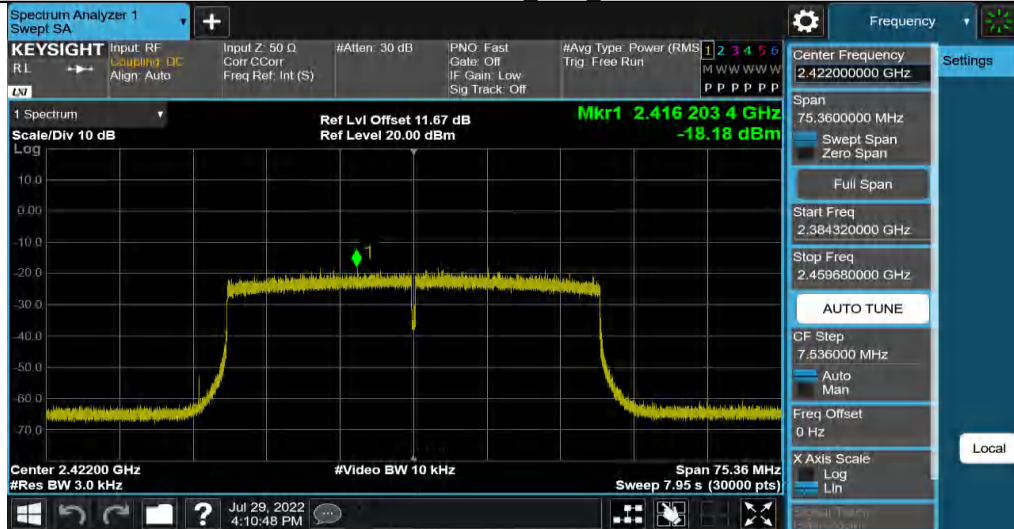
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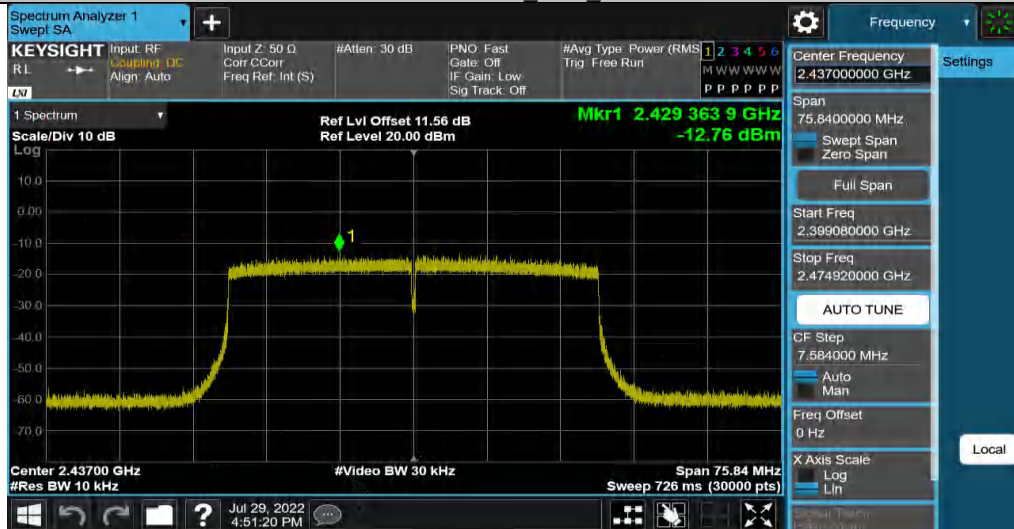
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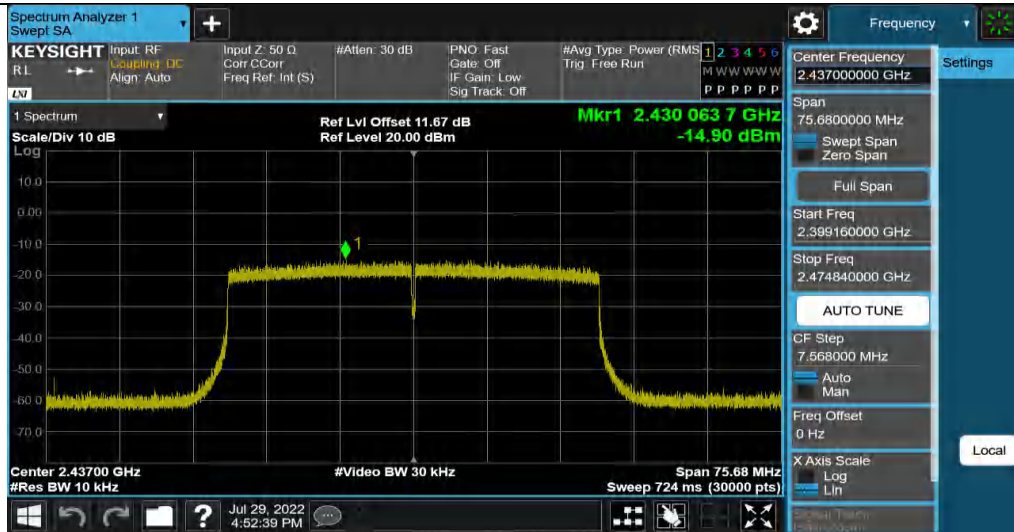
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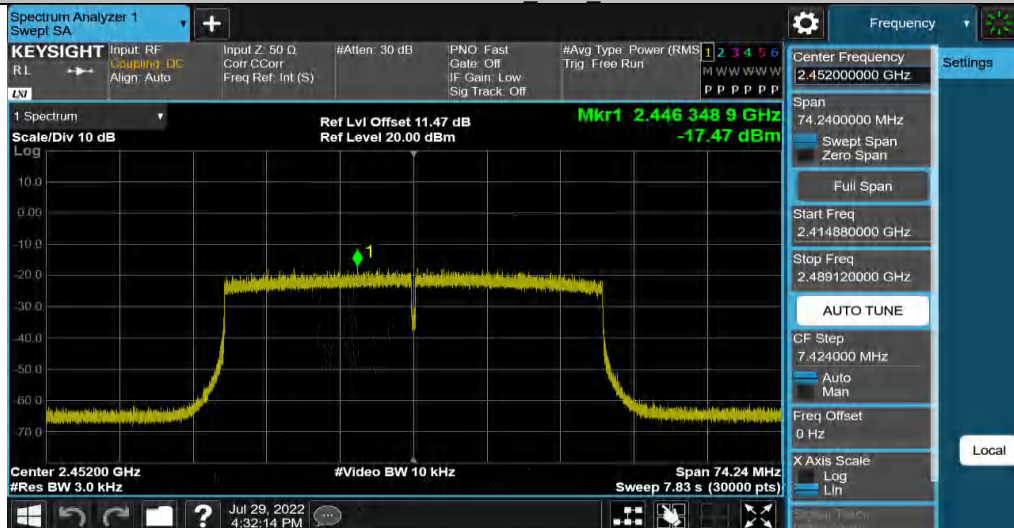
11AX40MIMO_Ant1_2437



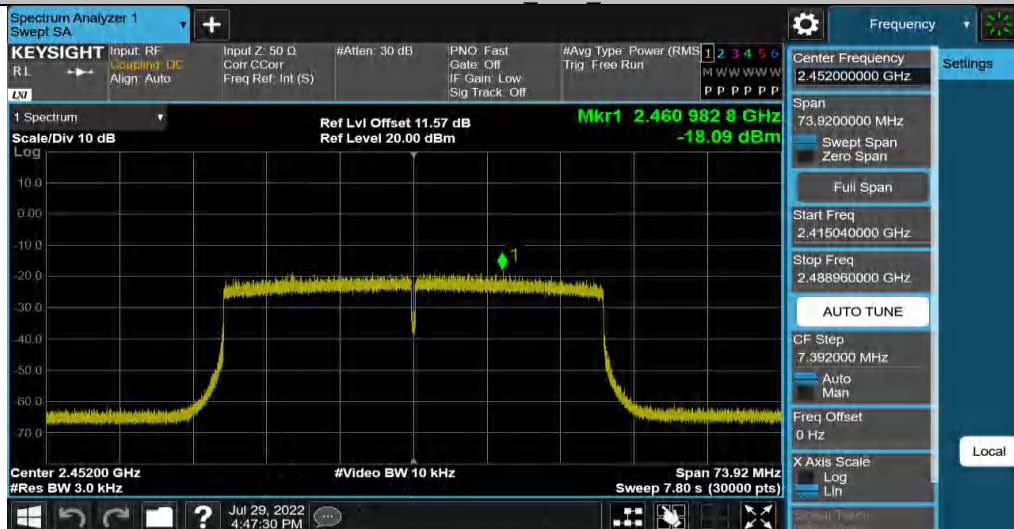
11AX40MIMO_Ant2_2437



11AX40MIMO_Ant1_2452



11AX40MIMO_Ant2_2452



Appendix B.2: Test Results of 6dB Bandwidth

TestMode	Antenna	Frequency[MHz]	DTS BW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
11B-CDD	Ant1	2412	8.080	2407.960	2416.040	0.5	PASS
	Ant2	2412	8.040	2407.960	2416.000	0.5	PASS
	Ant1	2437	8.040	2432.960	2441.000	0.5	PASS
	Ant2	2437	8.080	2432.920	2441.000	0.5	PASS
	Ant1	2462	8.040	2457.960	2466.000	0.5	PASS
	Ant2	2462	8.040	2457.960	2466.000	0.5	PASS
11G-CDD	Ant1	2412	16.360	2403.800	2420.160	0.5	PASS
	Ant2	2412	16.360	2403.800	2420.160	0.5	PASS
	Ant1	2437	16.360	2428.800	2445.160	0.5	PASS
	Ant2	2437	16.360	2428.800	2445.160	0.5	PASS
	Ant1	2462	16.360	2453.800	2470.160	0.5	PASS
	Ant2	2462	16.360	2453.800	2470.160	0.5	PASS
11N20MIMO	Ant1	2412	17.600	2403.200	2420.800	0.5	PASS
	Ant2	2412	17.640	2403.160	2420.800	0.5	PASS
	Ant1	2437	17.560	2428.200	2445.760	0.5	PASS
	Ant2	2437	17.640	2428.160	2445.800	0.5	PASS
	Ant1	2462	17.600	2453.160	2470.760	0.5	PASS
	Ant2	2462	17.560	2453.200	2470.760	0.5	PASS
11N40MIMO	Ant1	2422	36.320	2403.840	2440.160	0.5	PASS
	Ant2	2422	35.360	2404.400	2439.760	0.5	PASS
	Ant1	2437	35.680	2419.080	2454.760	0.5	PASS
	Ant2	2437	35.520	2419.240	2454.760	0.5	PASS
	Ant1	2452	35.840	2434.080	2469.920	0.5	PASS
	Ant2	2452	35.280	2434.240	2469.520	0.5	PASS
11AX20MIMO	Ant1	2412	19.040	2402.480	2421.520	0.5	PASS
	Ant2	2412	19.040	2402.480	2421.520	0.5	PASS
	Ant1	2437	19.000	2427.480	2446.480	0.5	PASS
	Ant2	2437	19.000	2427.480	2446.480	0.5	PASS
	Ant1	2462	19.200	2452.360	2471.560	0.5	PASS
	Ant2	2462	19.040	2452.480	2471.520	0.5	PASS
11AX40MIMO	Ant1	2422	37.200	2403.600	2440.800	0.5	PASS
	Ant2	2422	37.680	2403.120	2440.800	0.5	PASS
	Ant1	2437	37.920	2418.040	2455.960	0.5	PASS
	Ant2	2437	37.840	2418.120	2455.960	0.5	PASS
	Ant1	2452	37.120	2433.680	2470.800	0.5	PASS
	Ant2	2452	36.960	2433.280	2470.240	0.5	PASS

11B-CDD Ant1 2412



11B-CDD Ant2 2412



11B-CDD Ant1 2437



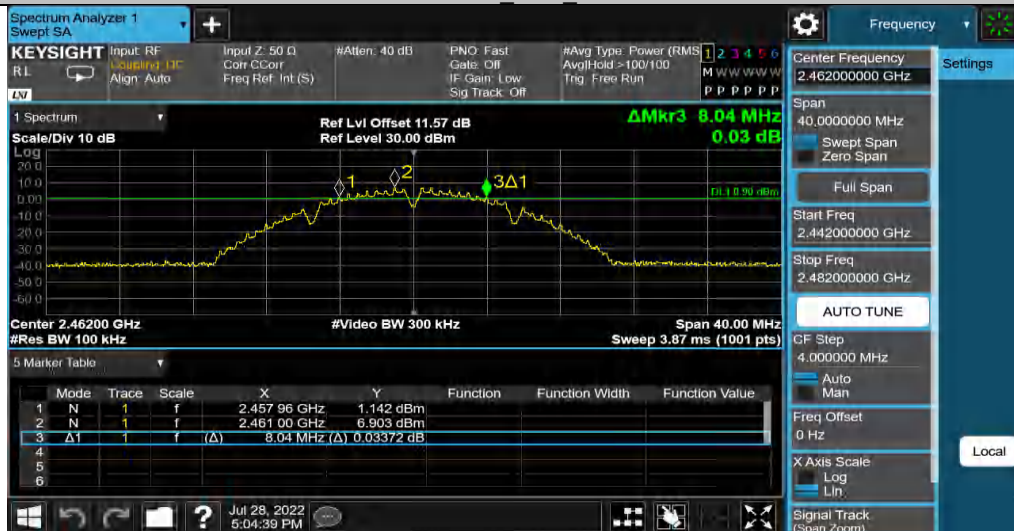
11B-CDD Ant2 2437



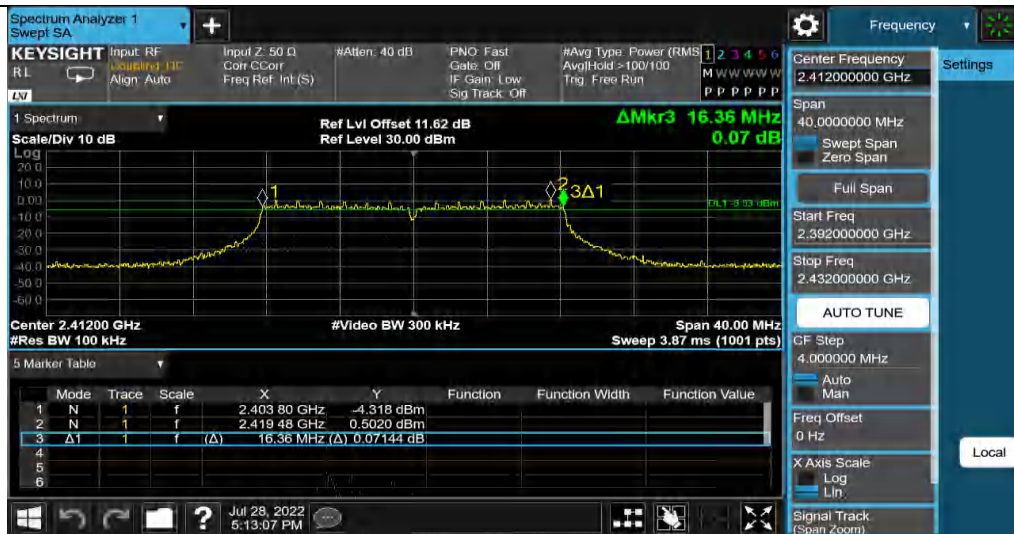
11B-CDD Ant1 2462



11B-CDD Ant2 2462



11G-CDD Ant1 2412



11G-CDD Ant2 2412



11G-CDD Ant1 2437



11G-CDD Ant2 2437



11G-CDD Ant1 2462



11G-CDD Ant2 2462



11N20MIMO Ant1 2412



11N20MIMO Ant2 2412



11N20MIMO Ant1 2437



11N20MIMO Ant2 2437



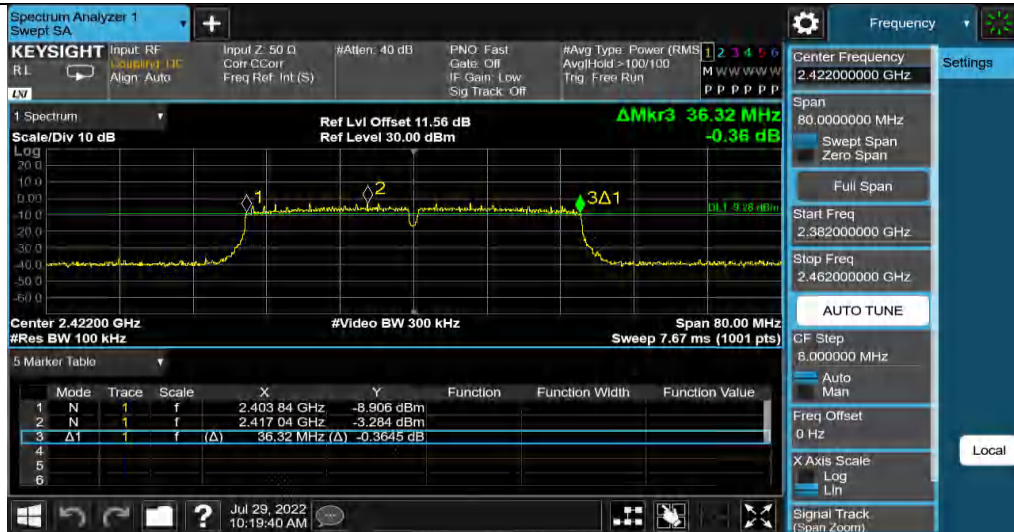
11N20MIMO Ant1 2462



11N20MIMO Ant2 2462



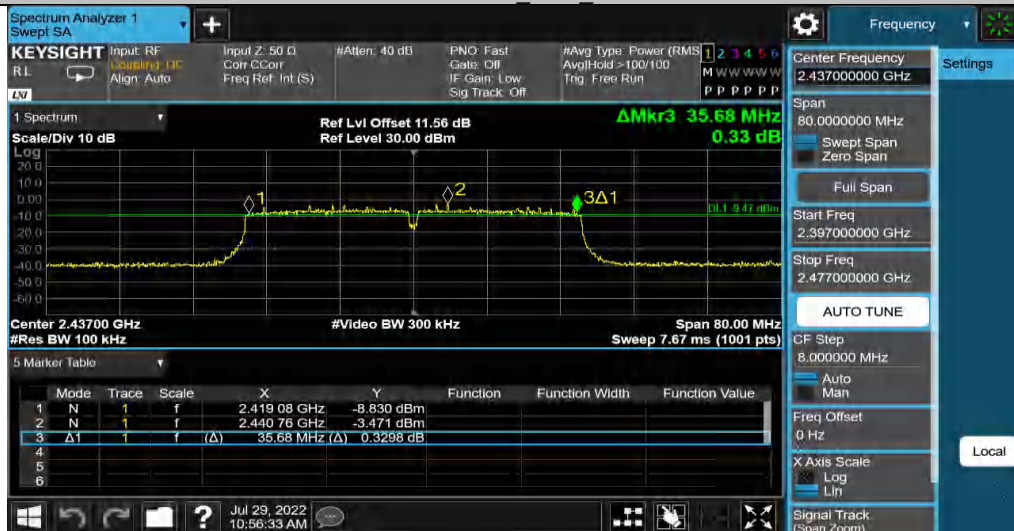
11N40MIMO Ant1 2422



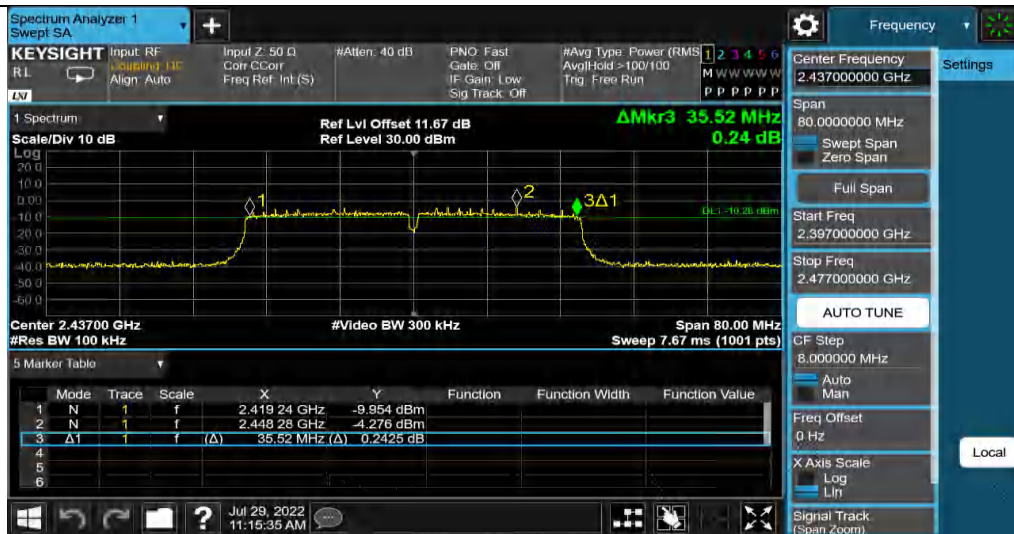
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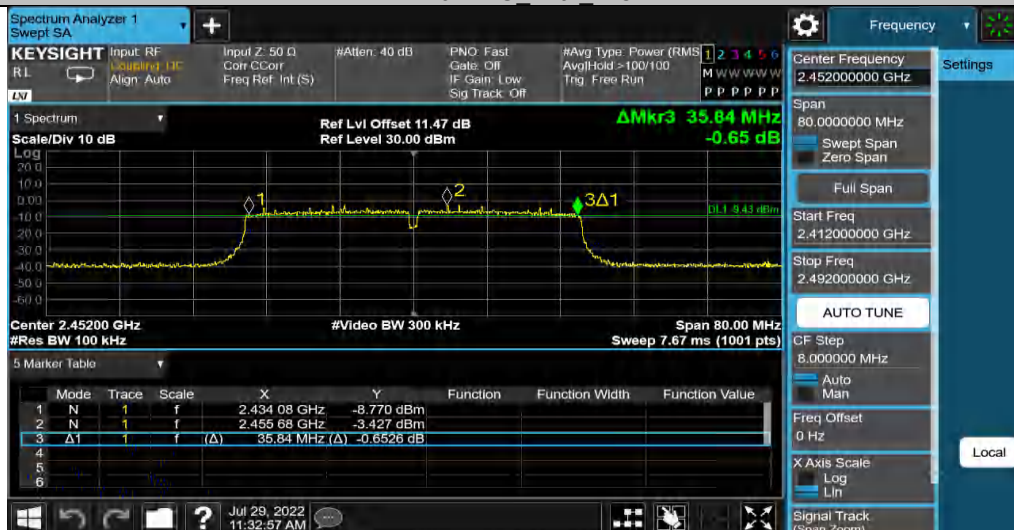
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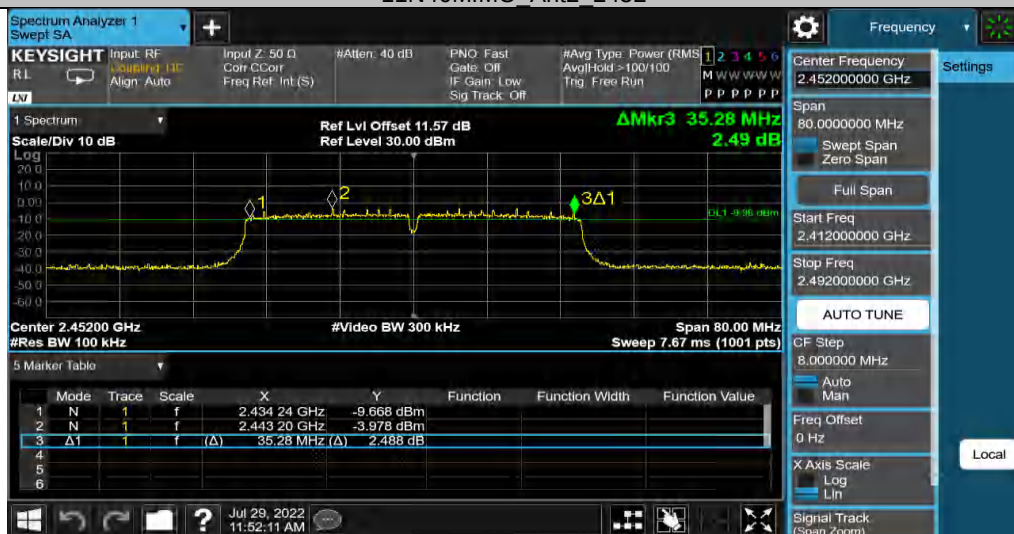
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11N40MIMO Ant1 2452



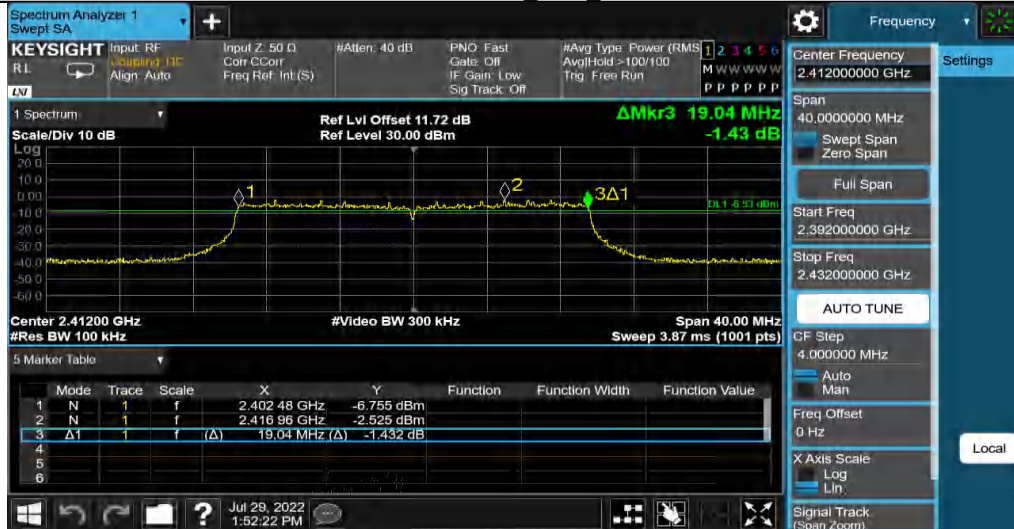
11N40MIMO Ant2 2452



11AX20MIMO_Ant1 2412



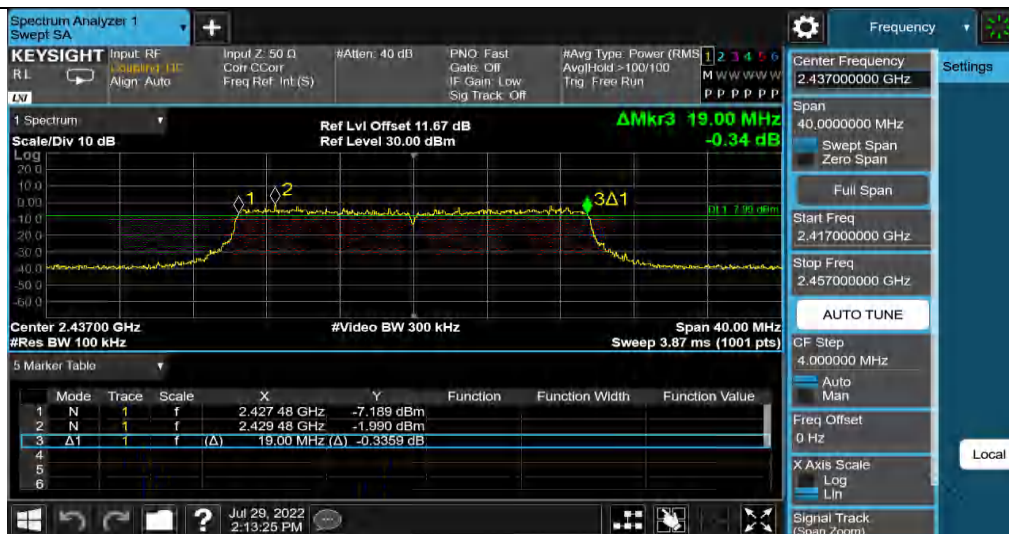
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11AX20MIMO_Ant1_2437



11AX20MIMO_Ant2_2437



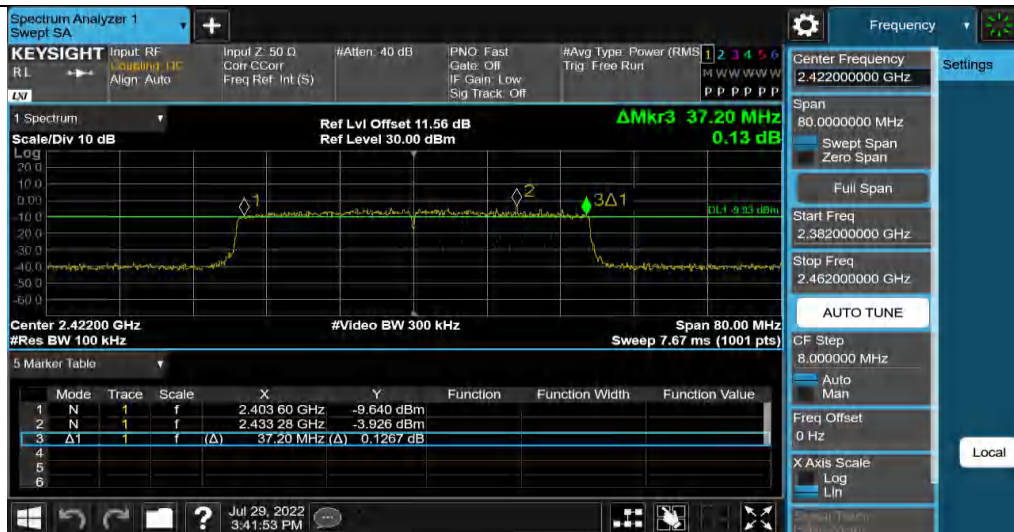
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11AX20MIMO_Ant2_2462



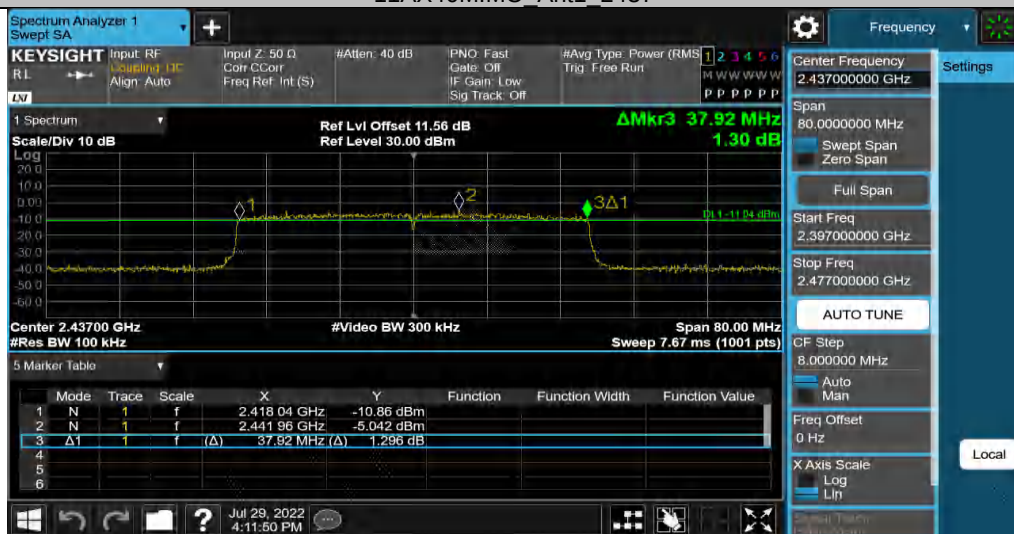
11AX40MIMO_Ant1_2422



11AX40MIMO_Ant2_2422



11AX40MIMO_Ant1_2437



11AX40MIMO_Ant2_2437



11AX40MIMO_Ant1_2452



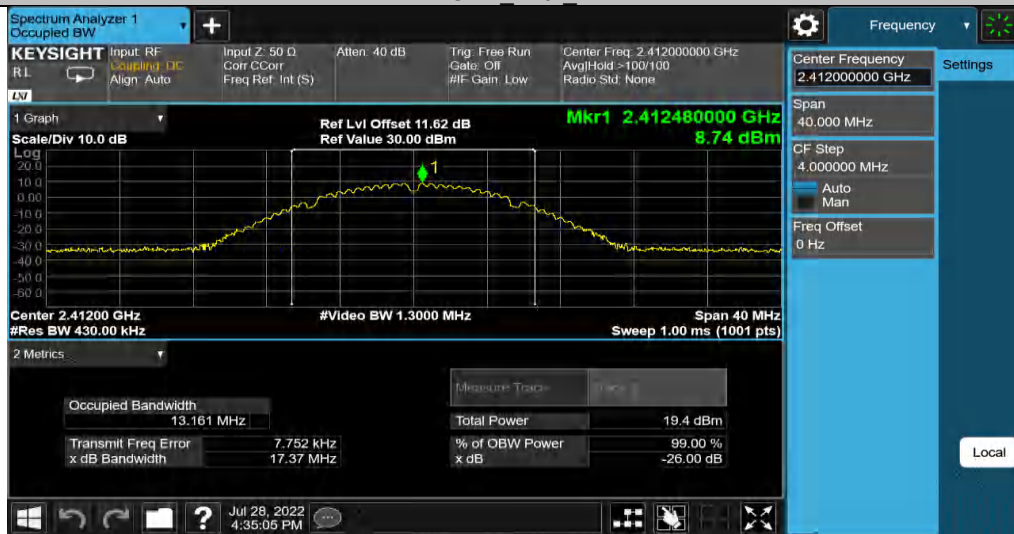
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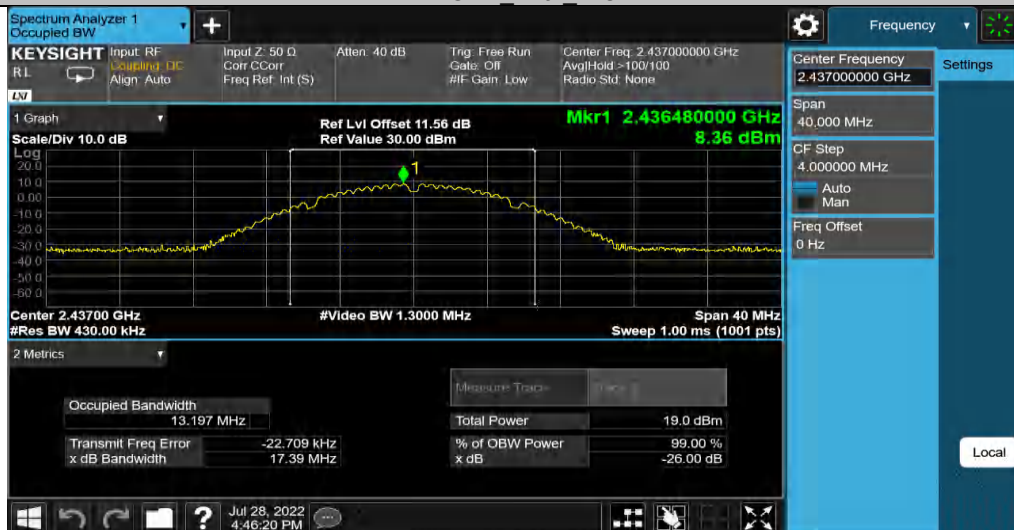
Appendix B.3: Test Results of 99% Bandwidth

TestMode	Antenna	Channel Frequency[MHz]	OCB [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
11B-CDD	Ant1	2412	13.150	2405.433	2418.583	---	---
		2437	13.189	2430.381	2443.570	---	---
		2462	13.173	2455.396	2468.569	---	---
11G-CDD	Ant1	2412	16.717	2403.626	2420.343	---	---
		2437	16.747	2428.602	2445.349	---	---
		2462	16.725	2453.607	2470.332	---	---
11N20MIMO	Ant1	2412	17.975	2403.017	2420.992	---	---
		2437	18.000	2427.991	2445.991	---	---
		2462	17.927	2453.021	2470.948	---	---
11N40MIMO	Ant1	2422	36.140	2403.927	2440.067	---	---
		2437	36.174	2418.914	2455.088	---	---
		2452	36.151	2433.933	2470.084	---	---
11AX20MIMO	Ant1	2412	19.187	2402.389	2421.576	---	---
		2437	19.226	2427.370	2446.596	---	---
		2462	19.206	2452.374	2471.580	---	---
11AX40MIMO	Ant1	2422	37.710	2403.1186	2440.8286	---	---
		2437	37.748	2418.1438	2455.8918	---	---
		2452	37.803	2433.0804	2470.8834	---	---

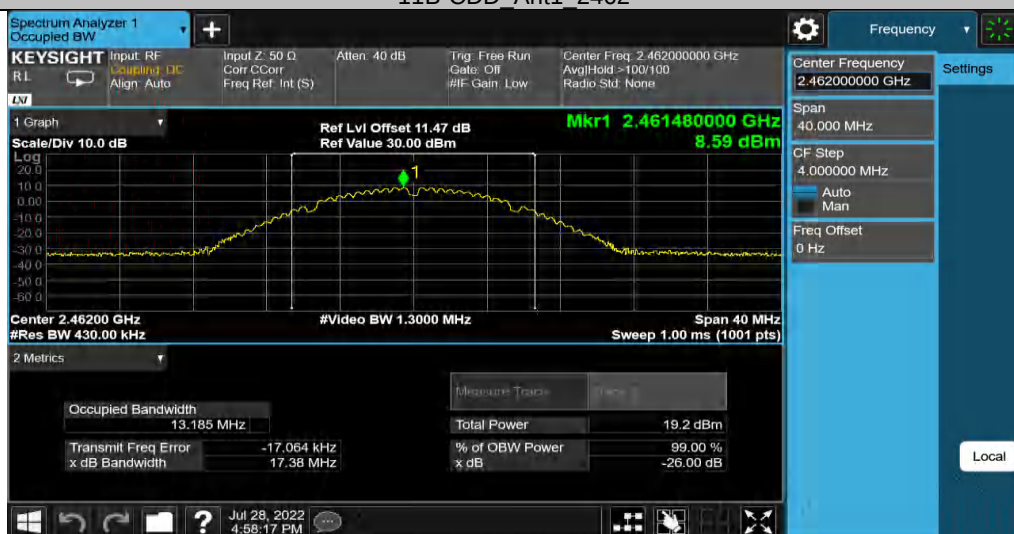
11B-CDD Ant1 2412



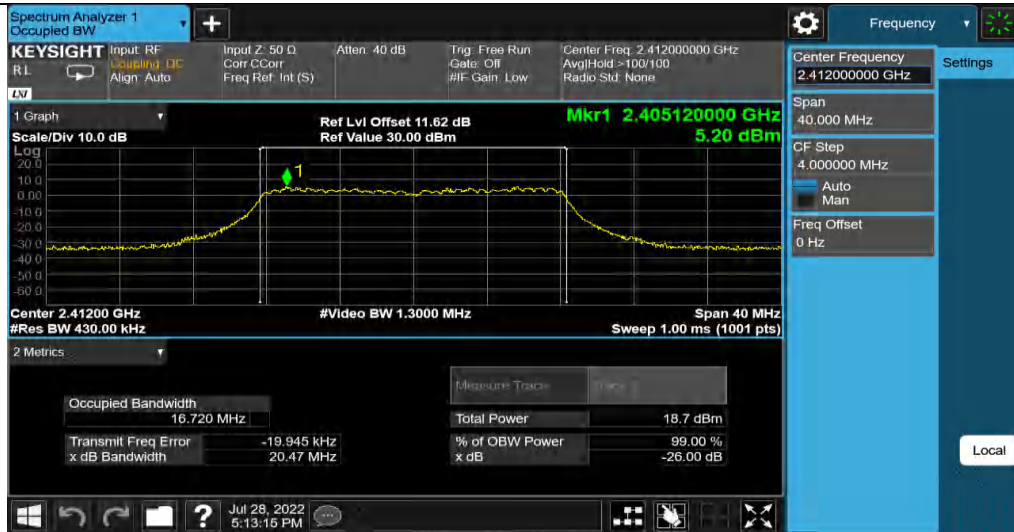
11B-CDD Ant1 2437



11B-CDD Ant1 2462



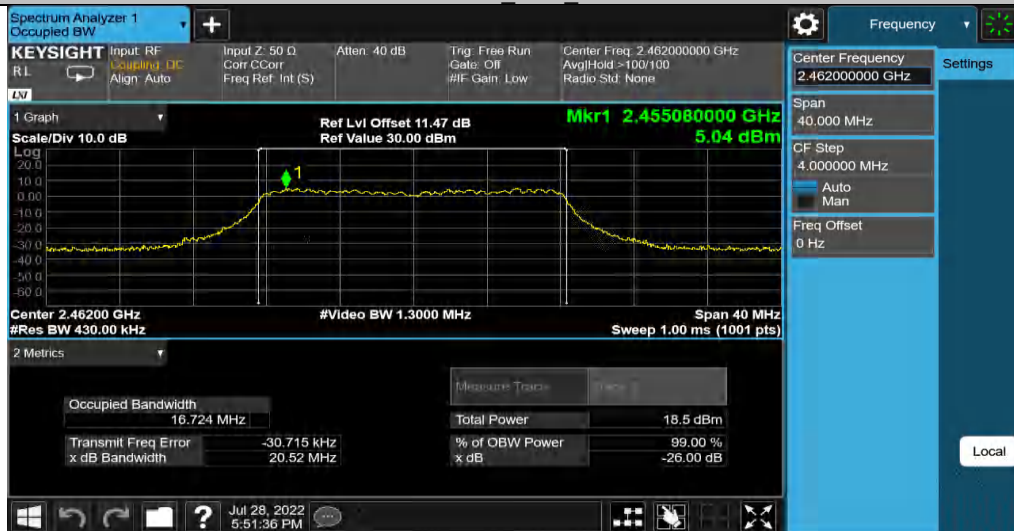
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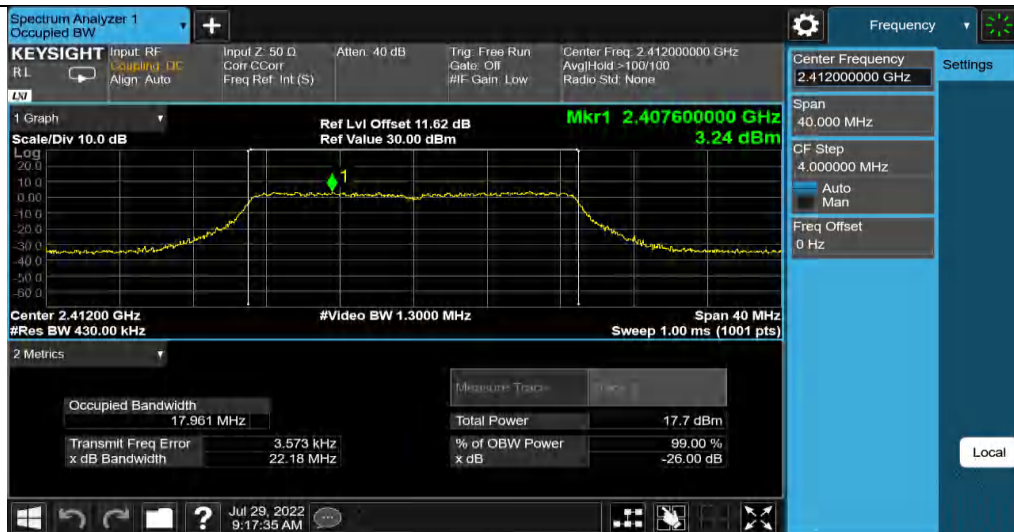
11G-CDD Ant1 2437



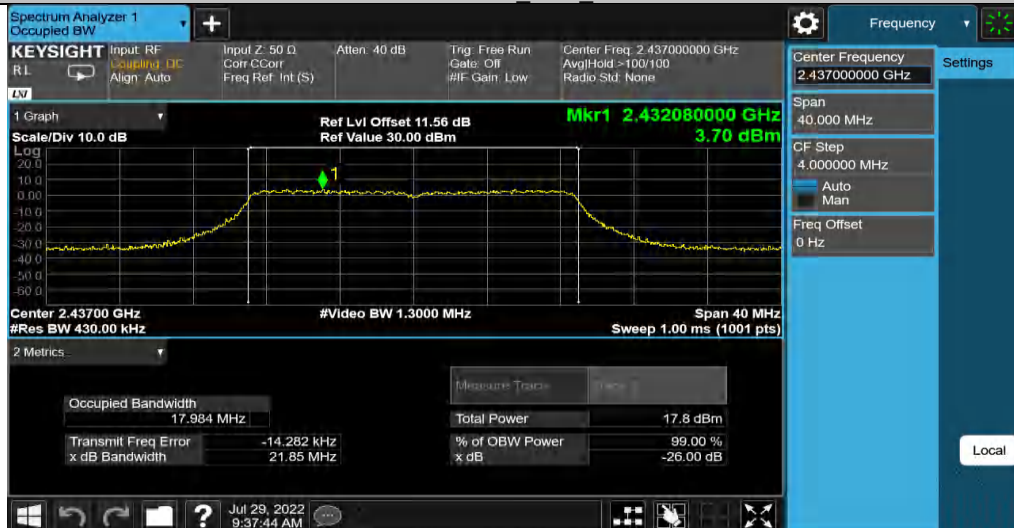
11G-CDD Ant1 2462



11N20MIMO Ant1 2412



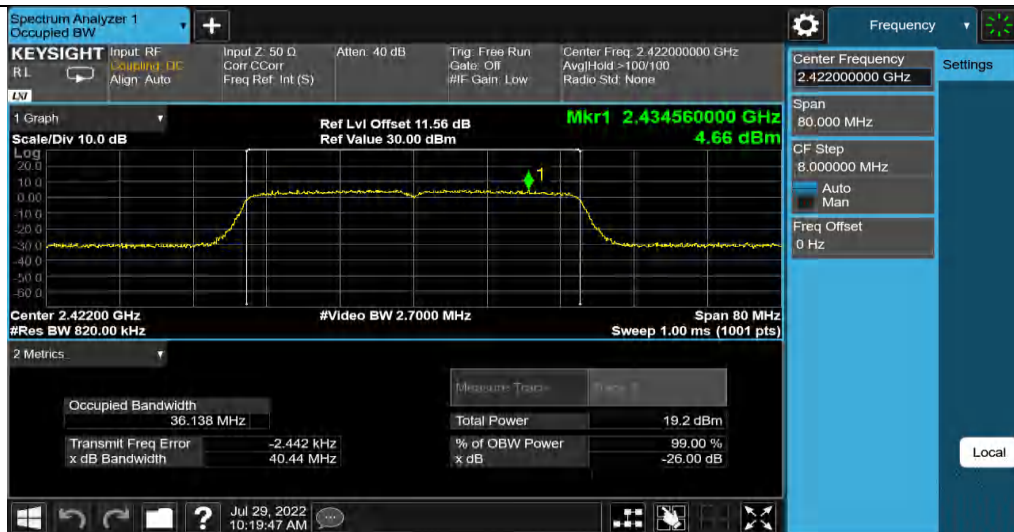
11N20MIMO Ant1 2437



11N20MIMO Ant1 2462



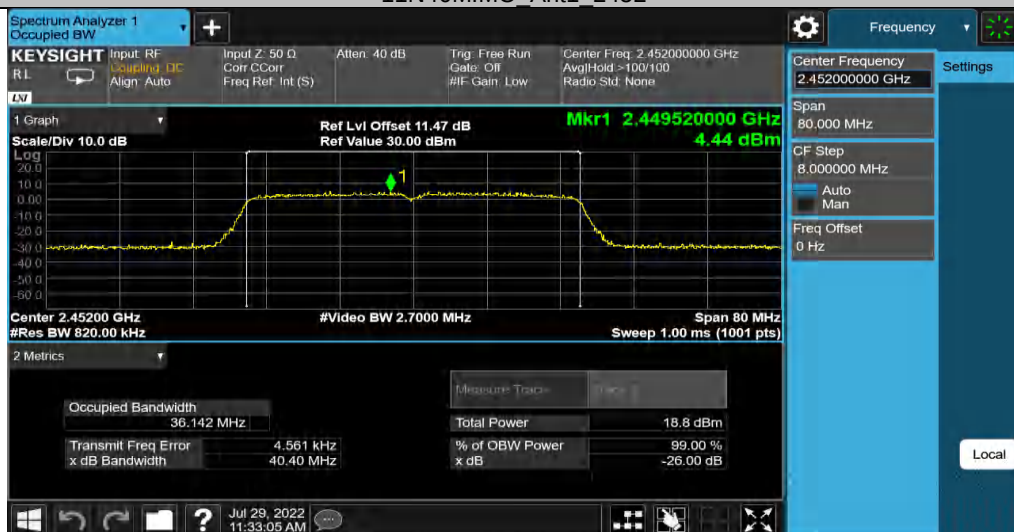
11N40MIMO Ant1 2422



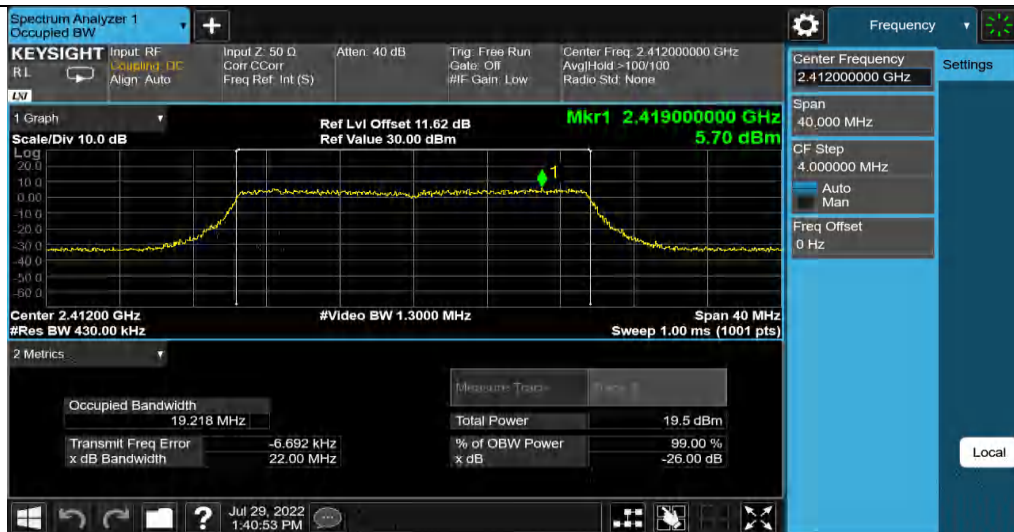
11N40MIMO Ant1 2437



11N40MIMO Ant1 2452



11AX20MIMO Ant1 2412



11AX20MIMO_Ant1_2437



11AX20MIMO_Ant1_2462



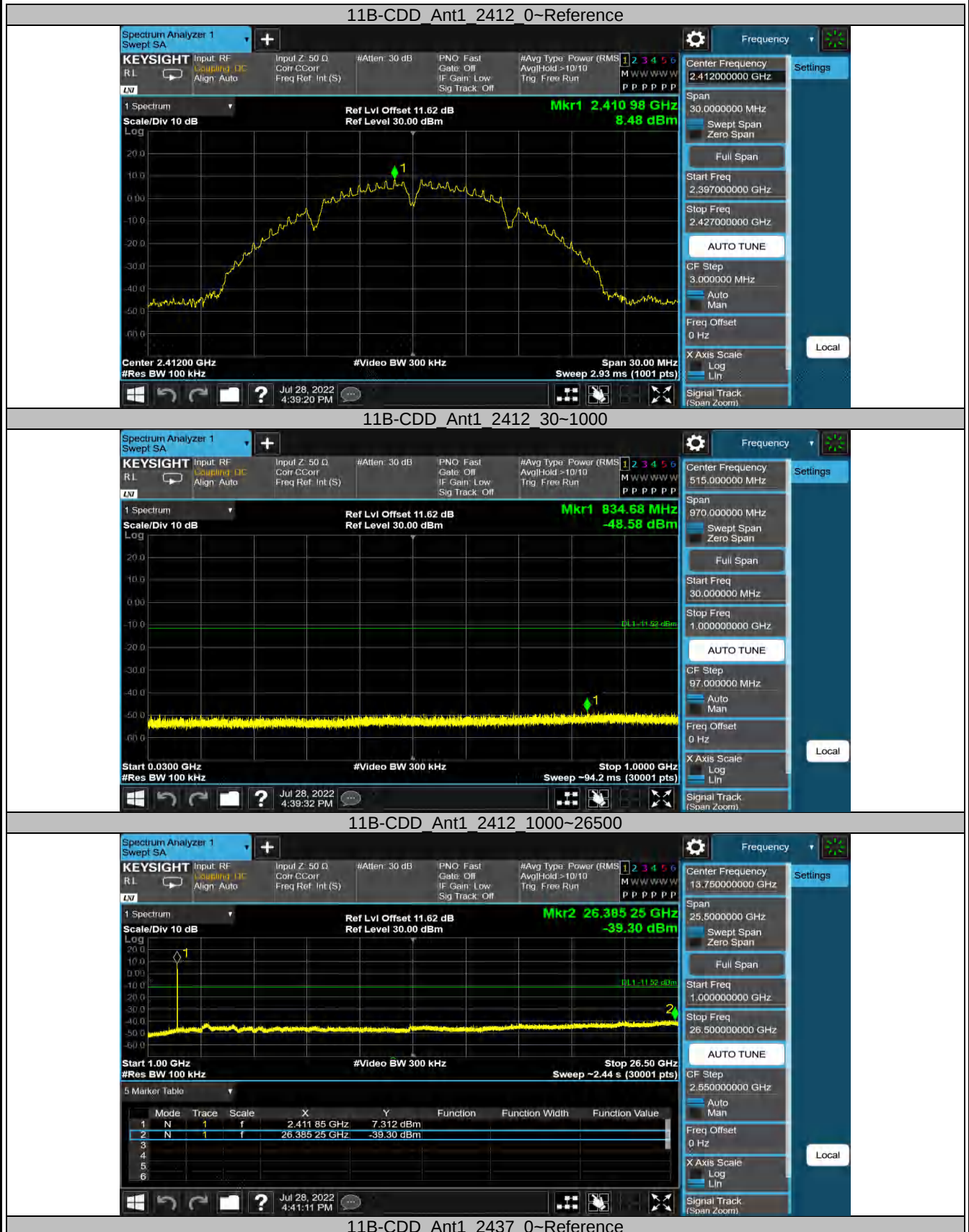
11AX40MIMO_Ant1_2422



Appendix B.4: Test Results of Conducted Spurious Emissions Measured in 100 kHz Bandwidth

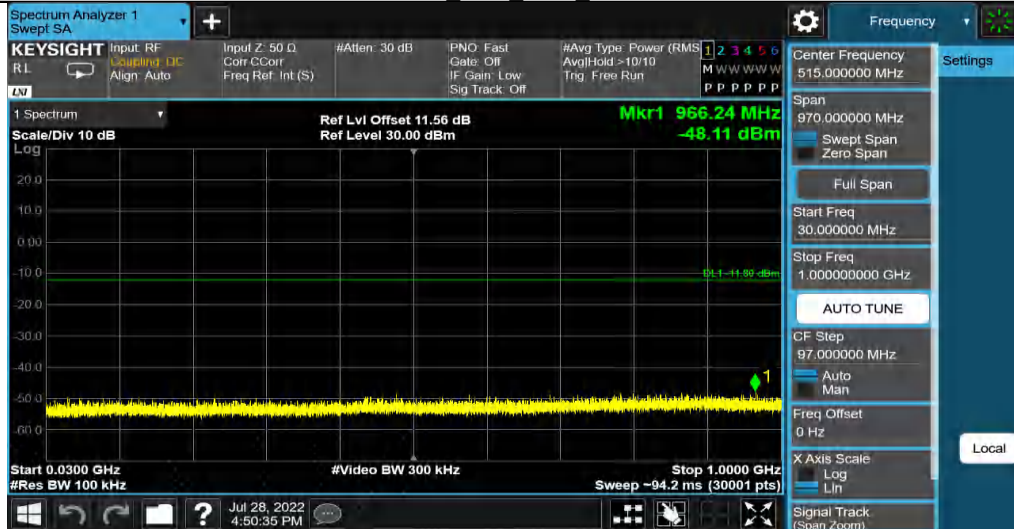
Conducted Spurious Emission

TestMode	Antenna	Frequency[MHz]	FreqRange [Mhz]	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
11B-CDD	Ant1	2412	Reference	8.48	8.48	---	PASS
			30~1000	8.48	-48.58	≤-11.52	PASS
			1000~26500	8.48	-39.3	≤-11.52	PASS
		2437	Reference	8.20	8.20	---	PASS
			30~1000	8.20	-48.11	≤-11.8	PASS
			1000~26500	8.20	-39.05	≤-11.8	PASS
		2462	Reference	8.31	8.31	---	PASS
			30~1000	8.31	-48.01	≤-11.69	PASS
			1000~26500	8.31	-38.73	≤-11.69	PASS
11G-CDD	Ant1	2412	Reference	0.48	0.48	---	PASS
			30~1000	0.48	-47.56	≤-19.52	PASS
			1000~26500	0.48	-39.1	≤-19.52	PASS
		2437	Reference	0.35	0.35	---	PASS
			30~1000	0.35	-47.35	≤-19.65	PASS
			1000~26500	0.35	-39.53	≤-19.65	PASS
		2462	Reference	0.23	0.23	---	PASS
			30~1000	0.23	-47.59	≤-19.77	PASS
			1000~26500	0.23	-38.99	≤-19.77	PASS
11N20MIMO	Ant1	2412	Reference	0.15	0.15	---	PASS
			30~1000	0.15	-48.42	≤-19.85	PASS
			1000~26500	0.15	-39.19	≤-19.85	PASS
		2437	Reference	0.31	0.31	---	PASS
			30~1000	0.31	-47.96	≤-19.69	PASS
			1000~26500	0.31	-38.7	≤-19.69	PASS
		2462	Reference	-0.07	-0.07	---	PASS
			30~1000	-0.07	-48.36	≤-20.07	PASS
			1000~26500	-0.07	-39.14	≤-20.07	PASS
11N40MIMO	Ant1	2422	Reference	-2.49	-2.49	---	PASS
			30~1000	-2.49	-47.61	≤-22.49	PASS
			1000~26500	-2.49	-39.74	≤-22.49	PASS
		2437	Reference	-3.12	-3.12	---	PASS
			30~1000	-3.12	-47.9	≤-23.12	PASS
			1000~26500	-3.12	-39.9	≤-23.12	PASS
		2452	Reference	-3.08	-3.08	---	PASS
			30~1000	-3.08	-48.03	≤-23.08	PASS
			1000~26500	-3.08	-39.84	≤-23.08	PASS
11AX20MIMO	Ant1	2412	Reference	-0.24	-0.24	---	PASS
			30~1000	-0.24	-47.8	≤-20.24	PASS
			1000~26500	-0.24	-39.27	≤-20.24	PASS
		2437	Reference	-0.44	-0.44	---	PASS
			30~1000	-0.44	-47.92	≤-20.44	PASS
			1000~26500	-0.44	-39.38	≤-20.44	PASS
		2462	Reference	-0.53	-0.53	---	PASS
			30~1000	-0.53	-47.66	≤-20.53	PASS
			1000~26500	-0.53	-39.07	≤-20.53	PASS
11AX40MIMO	Ant1	2422	Reference	-6.08	-6.08	---	PASS
			30~1000	-6.08	-48.5	≤-26.08	PASS
			1000~26500	-6.08	-39.41	≤-26.08	PASS
		2437	Reference	-4.42	-4.42	---	PASS
			30~1000	-4.42	-48.35	≤-24.42	PASS
			1000~26500	-4.42	-39.18	≤-24.42	PASS
		2452	Reference	-6.70	-6.70	---	PASS
			30~1000	-6.70	-47.84	≤-26.7	PASS
			1000~26500	-6.70	-39.13	≤-26.7	PASS





11B-CDD Ant1 2437 30-1000



11B-CDD Ant1 2437 1000-26500



11B-CDD Ant1 2462 0-Reference



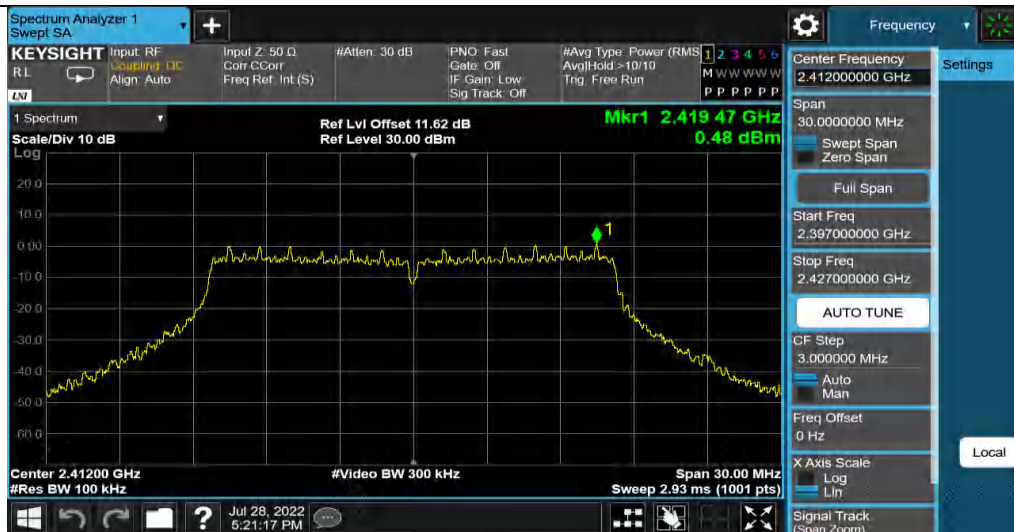
11B-CDD Ant1 2462 30-1000



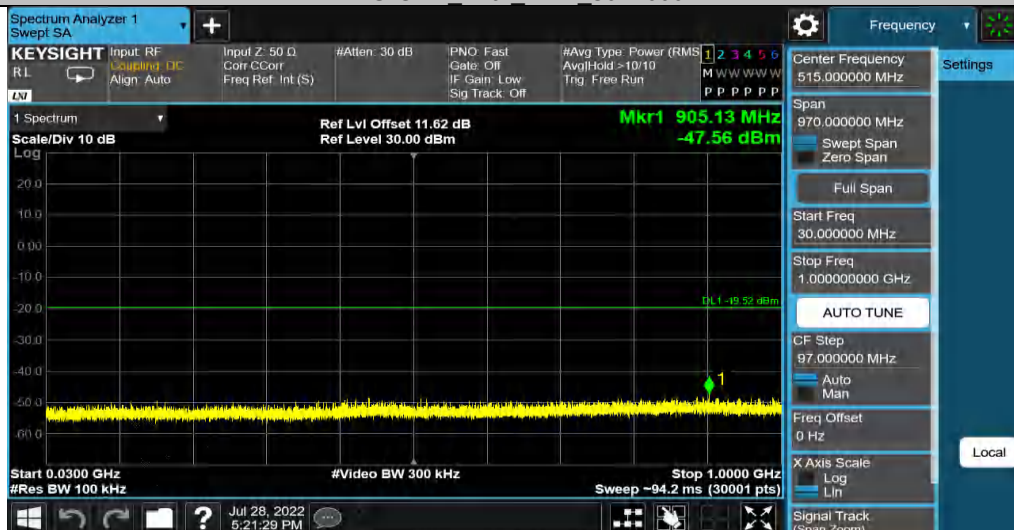
11B-CDD Ant1 2462 1000-26500



11G-CDD Ant1 2412 0-Reference



11G-CDD Ant1 2412 30-1000



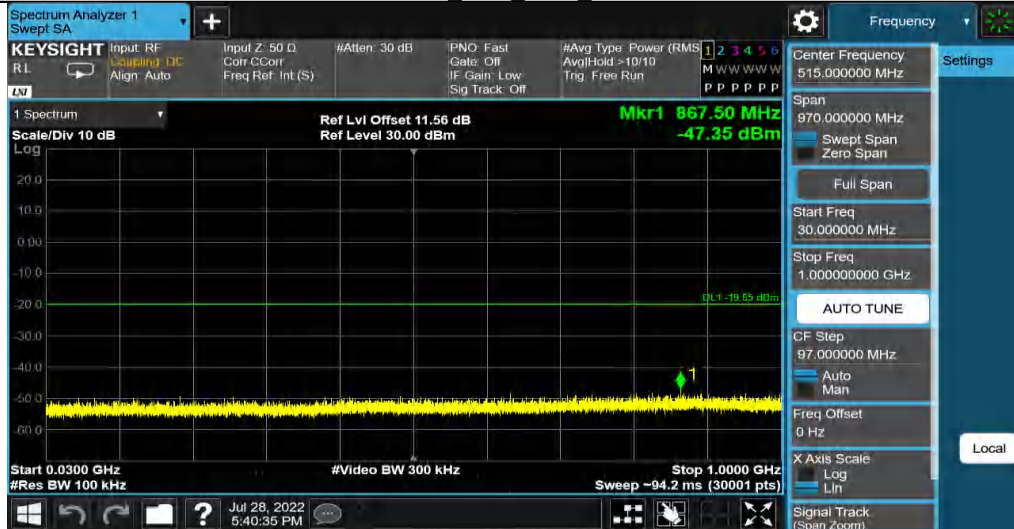
11G-CDD Ant1 2412 1000-26500



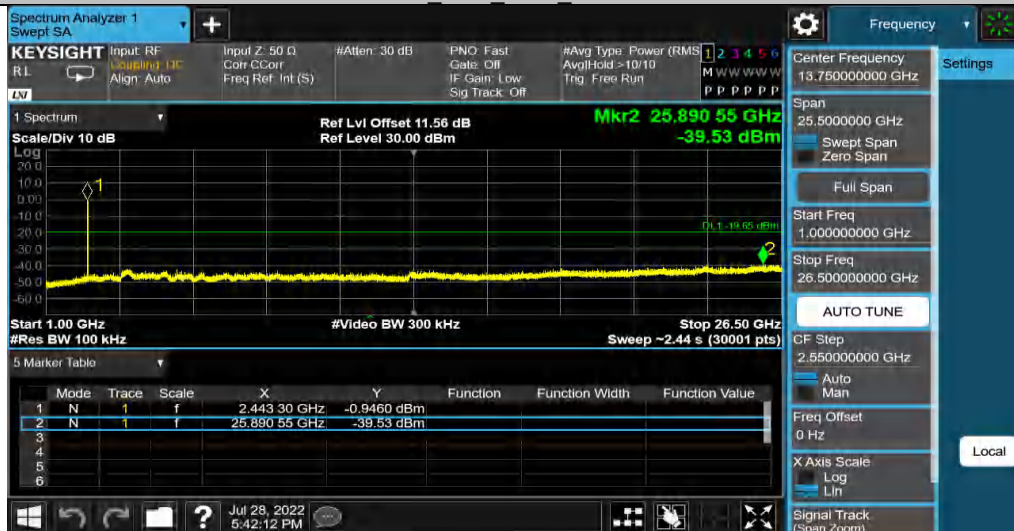
11G-CDD Ant1 2437 0-Reference



11G-CDD Ant1 2437 30-1000



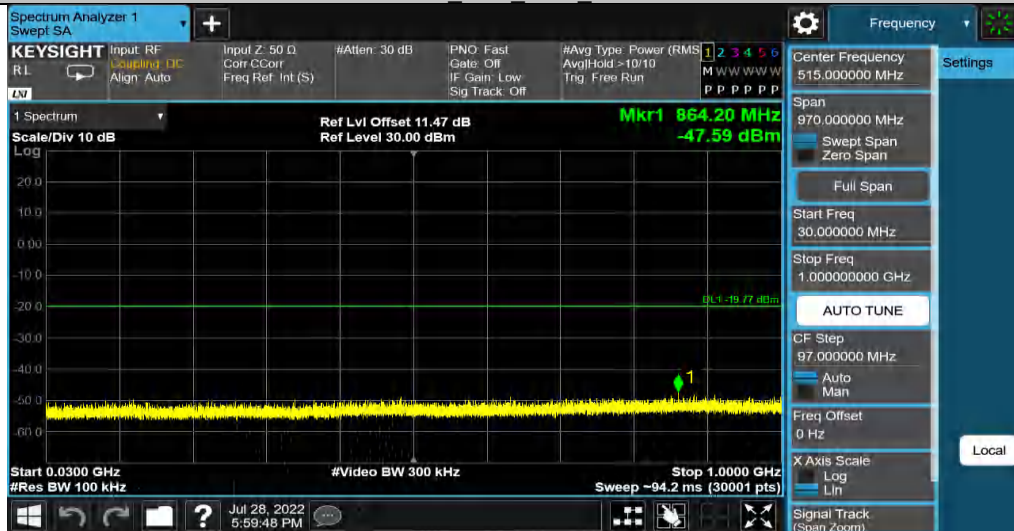
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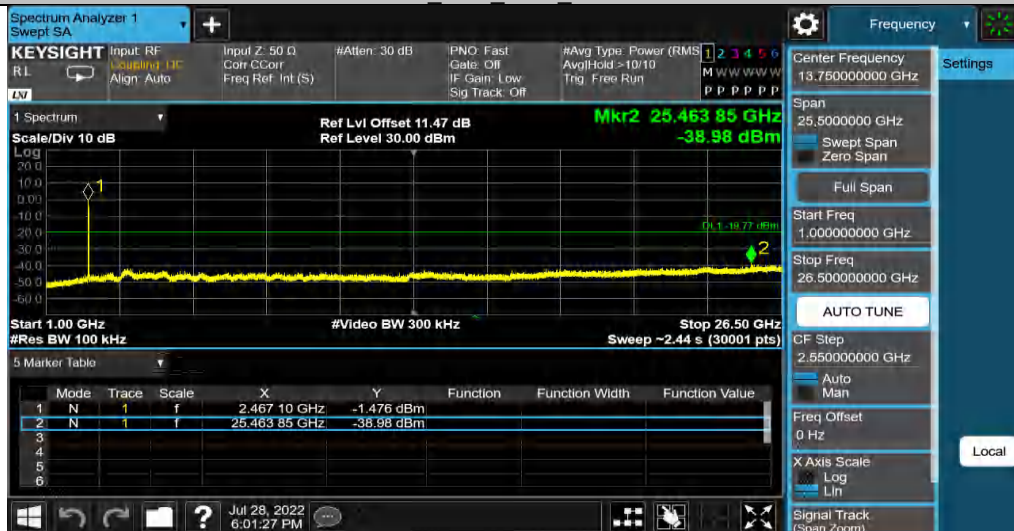
11G-CDD Ant1 2462 0-Reference



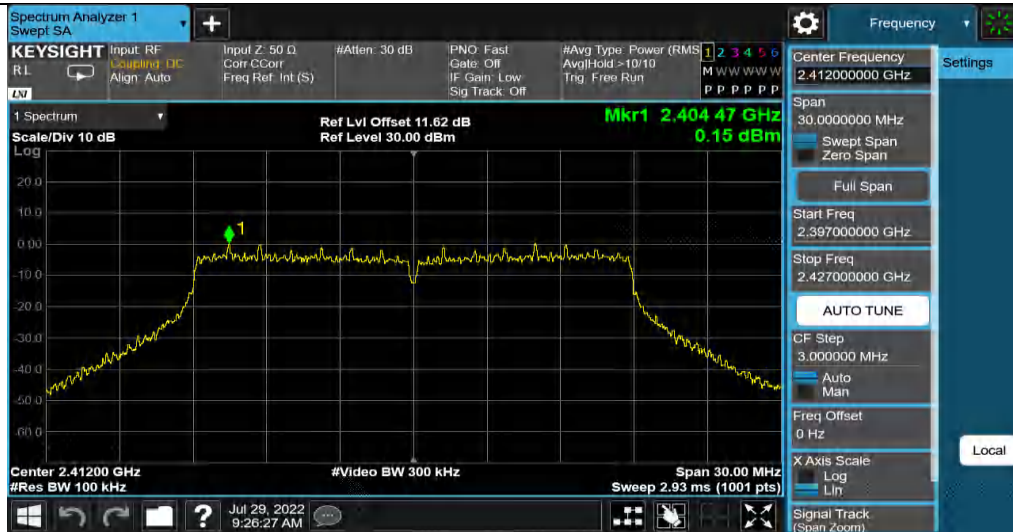
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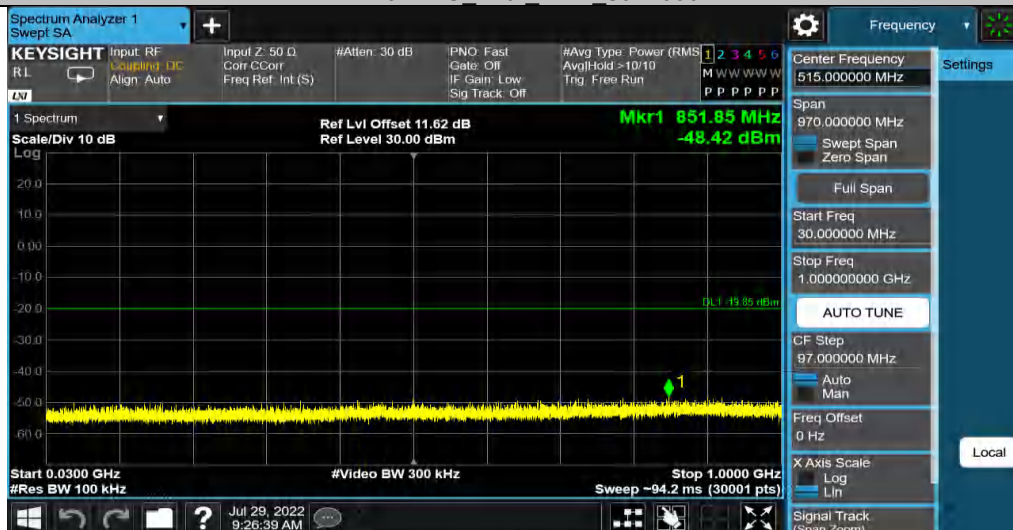
11G-CDD Ant1 2462 1000-26500



11N20MIMO_Ant1_2412_0-Reference



11N20MIMO_Ant1_2412_30~1000



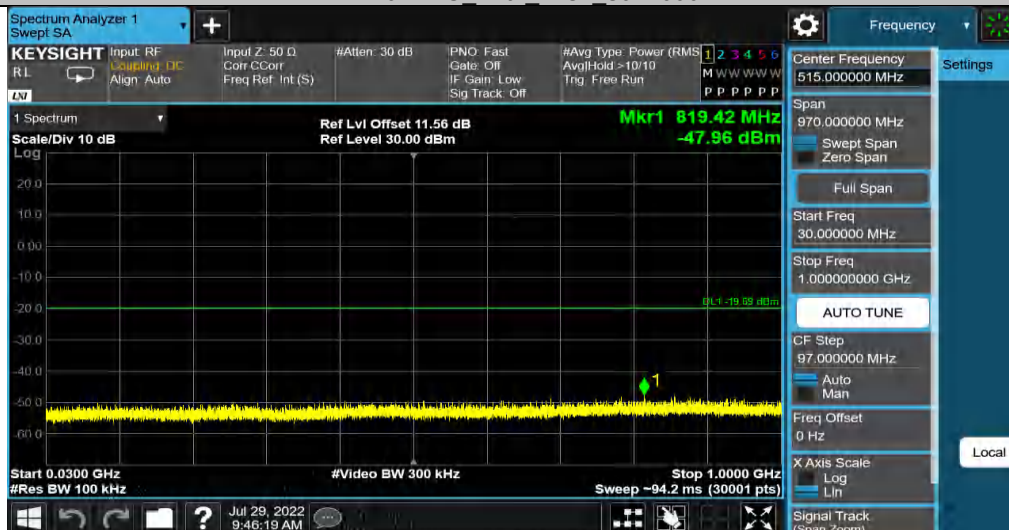
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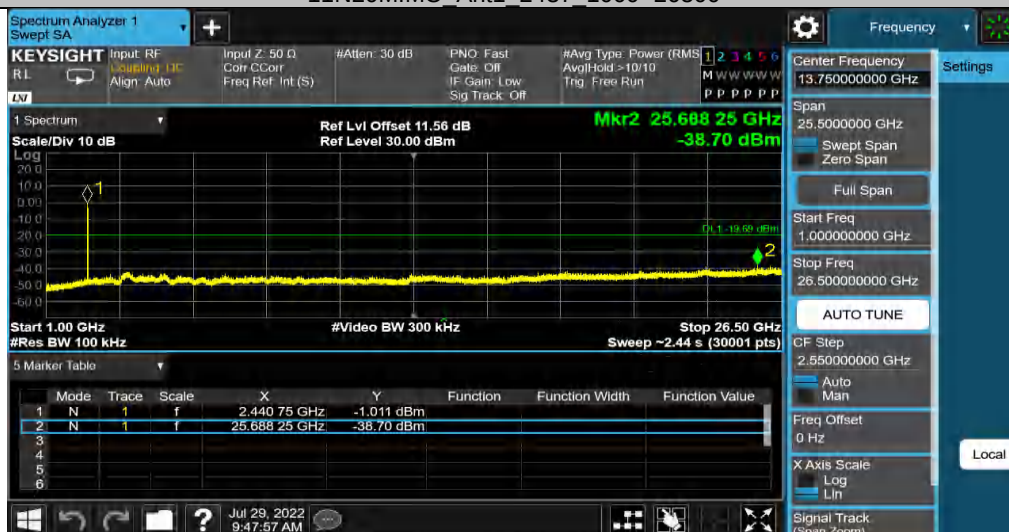
11N20MIMO_Ant1_2437_0~Reference



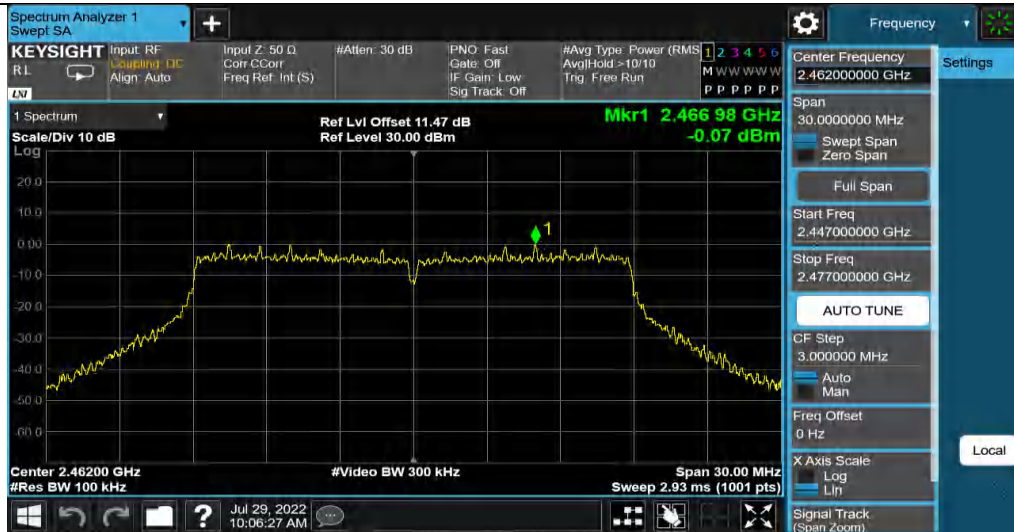
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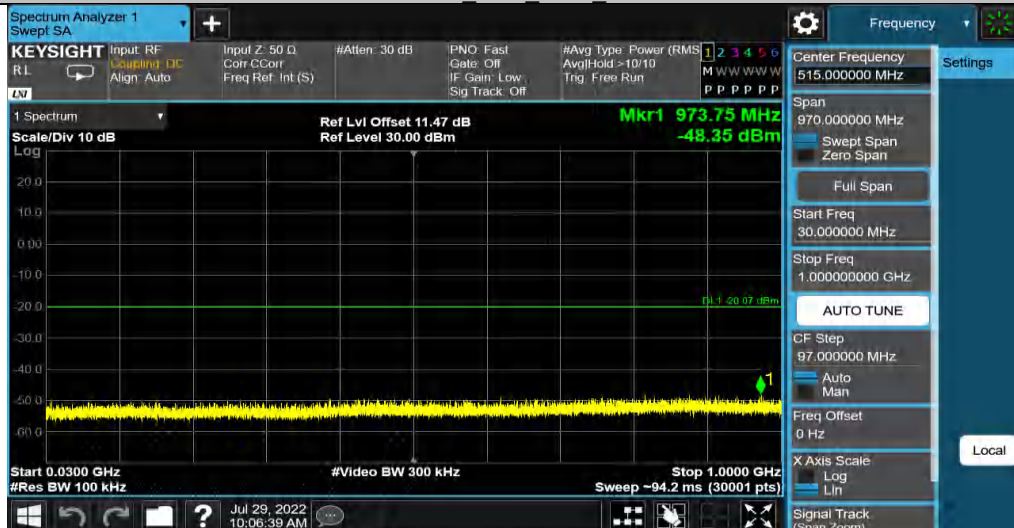
11N20MIMO Ant1 2437 1000-26500



11N20MIMO Ant1 2462 0-Reference



11N20MIMO Ant1 2462 30-1000



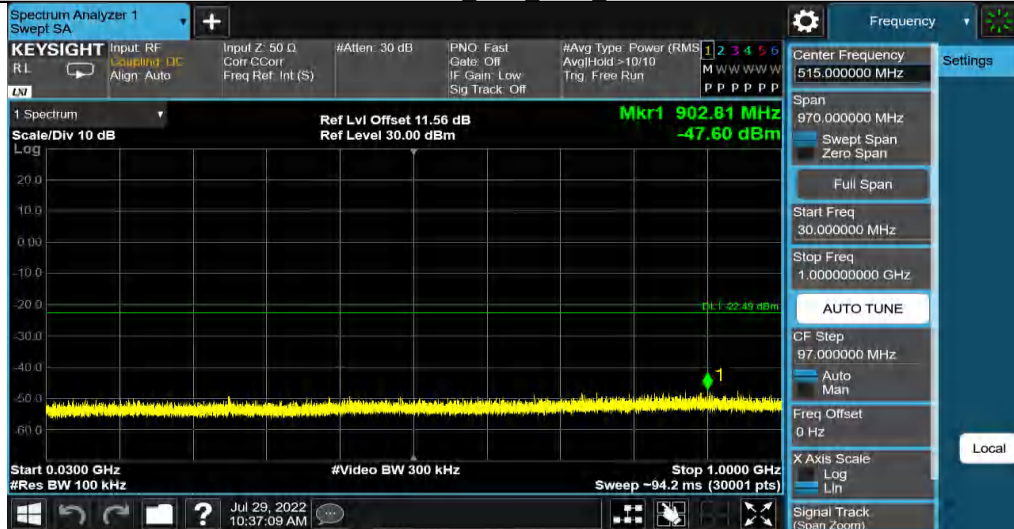
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11N40MIMO Ant1 2422 0-Reference



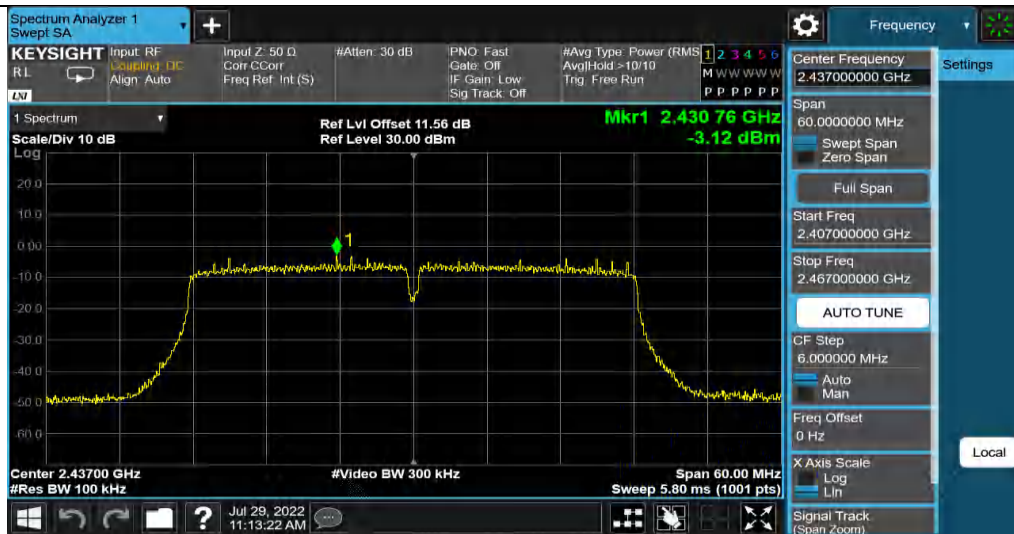
11N40MIMO Ant1 2422 30-1000



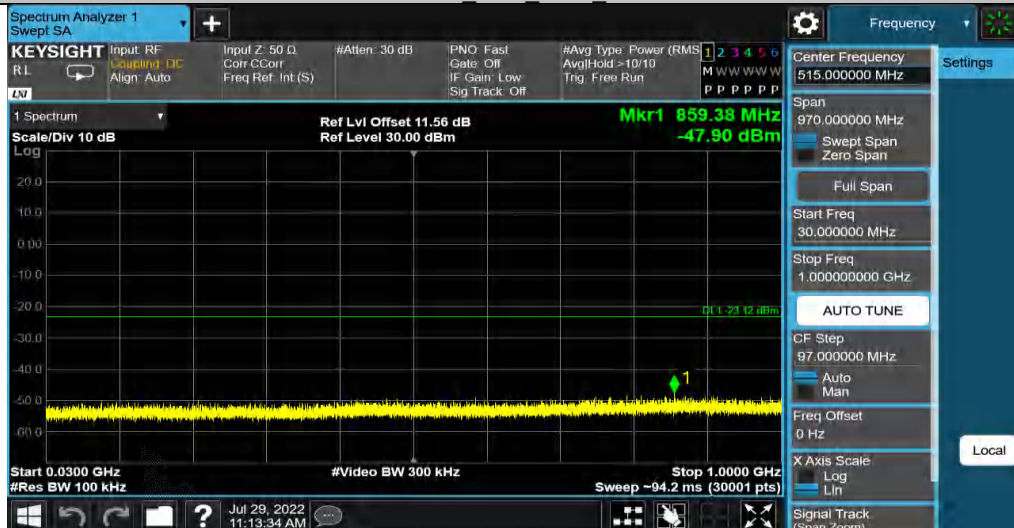
11N40MIMO Ant1 2422 1000-26500



11N40MIMO Ant1 2437 0-Reference



11N40MIMO Ant1 2437 30-1000



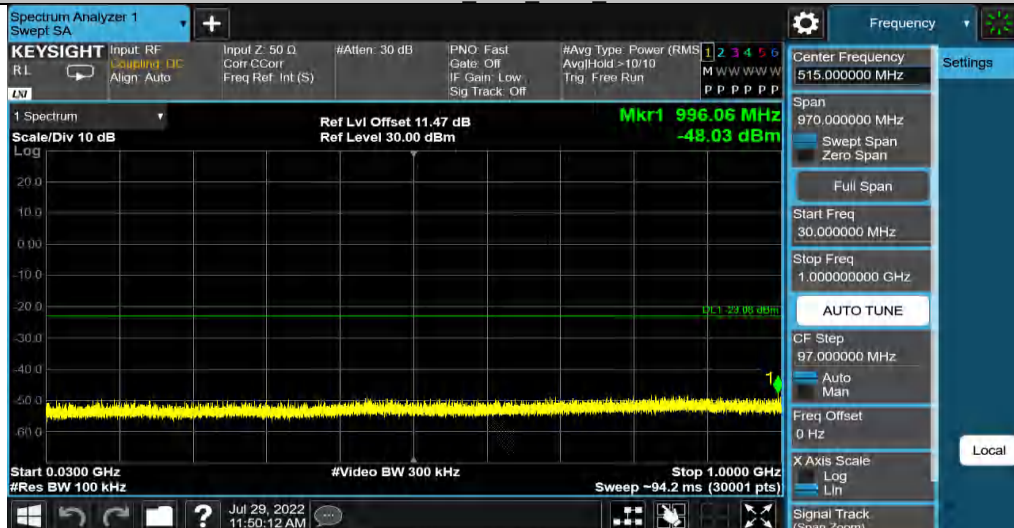
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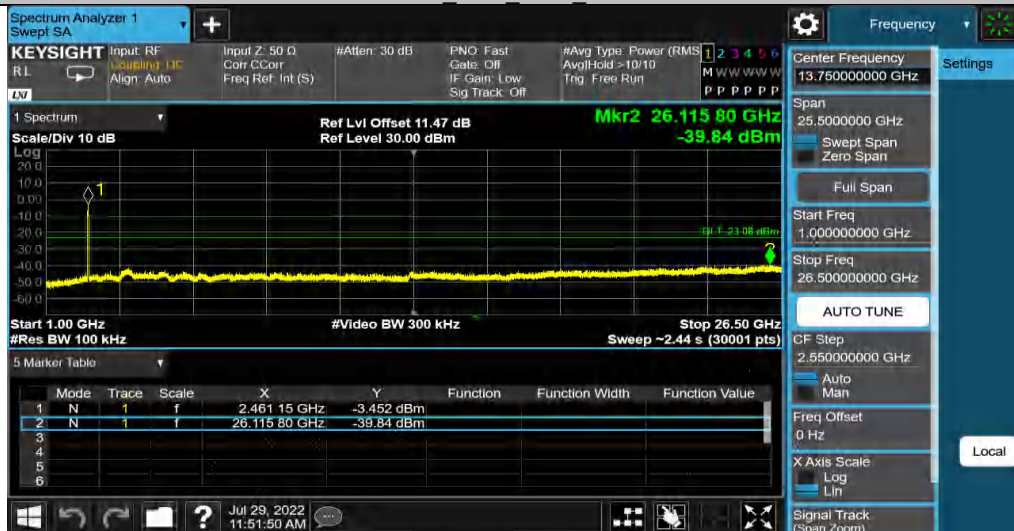
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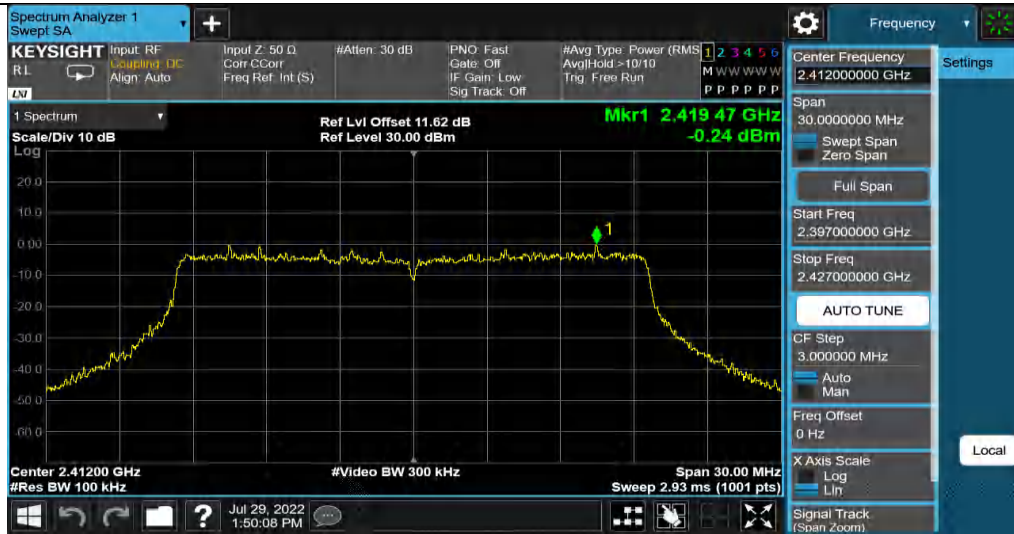
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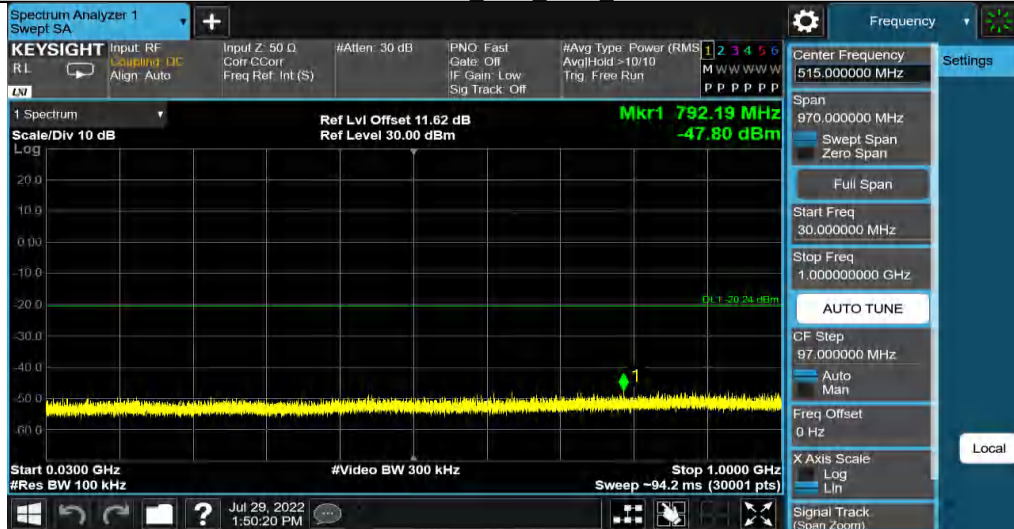
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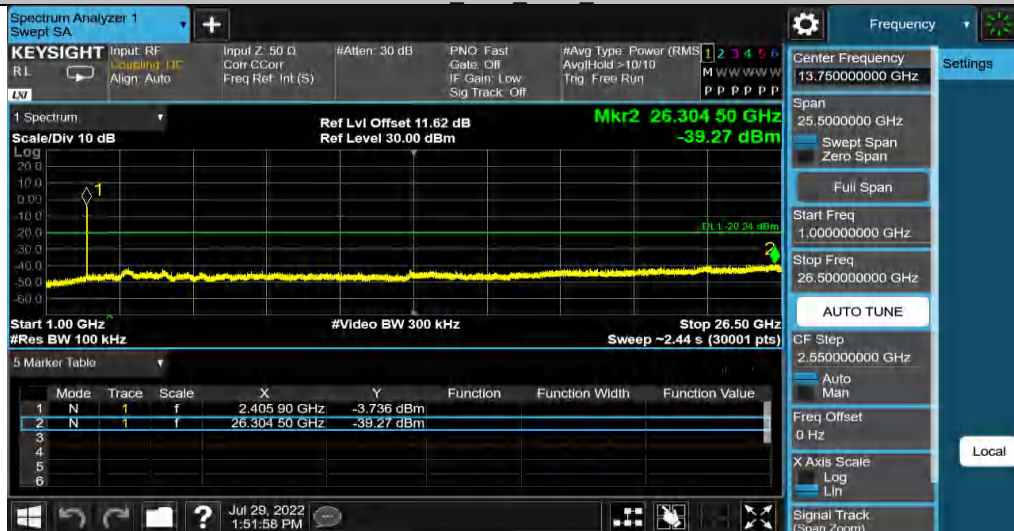
11AX20MIMO Ant1 2412 0-Reference



11AX20MIMO Ant1 2412 30-1000



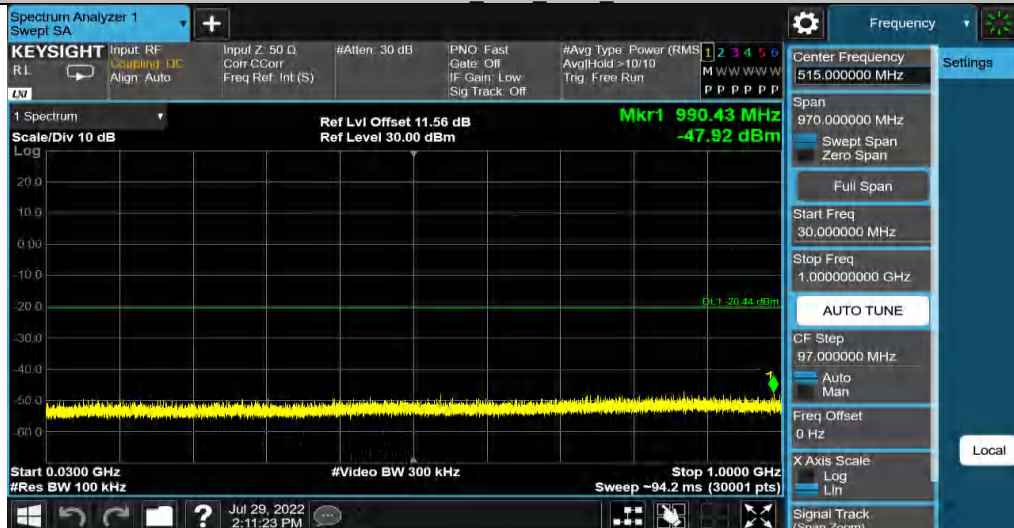
11AX20MIMO Ant1 2412 1000-26500



11AX20MIMO Ant1 2437 0-Reference



11AX20MIMO Ant1 2437 30-1000



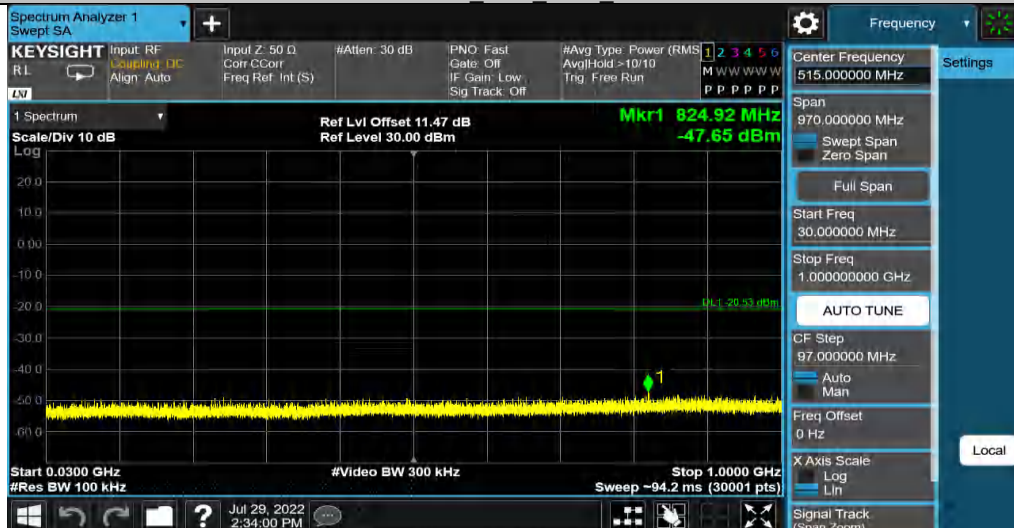
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11AX20MIMO Ant1 2462 0-Reference



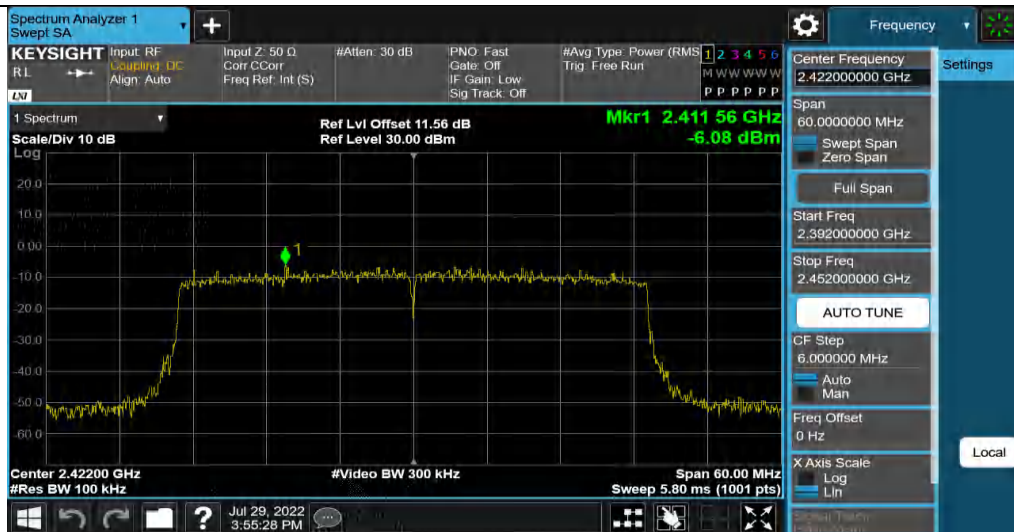
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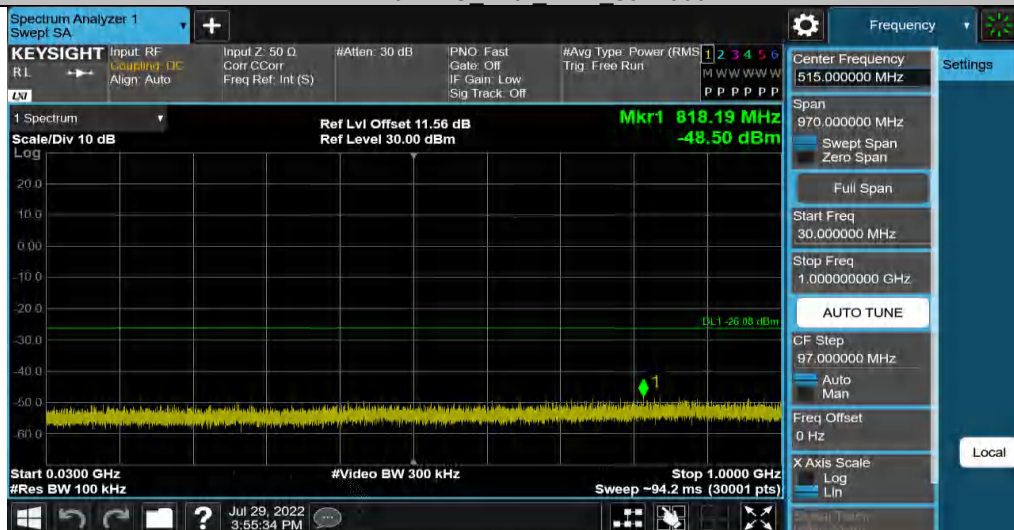
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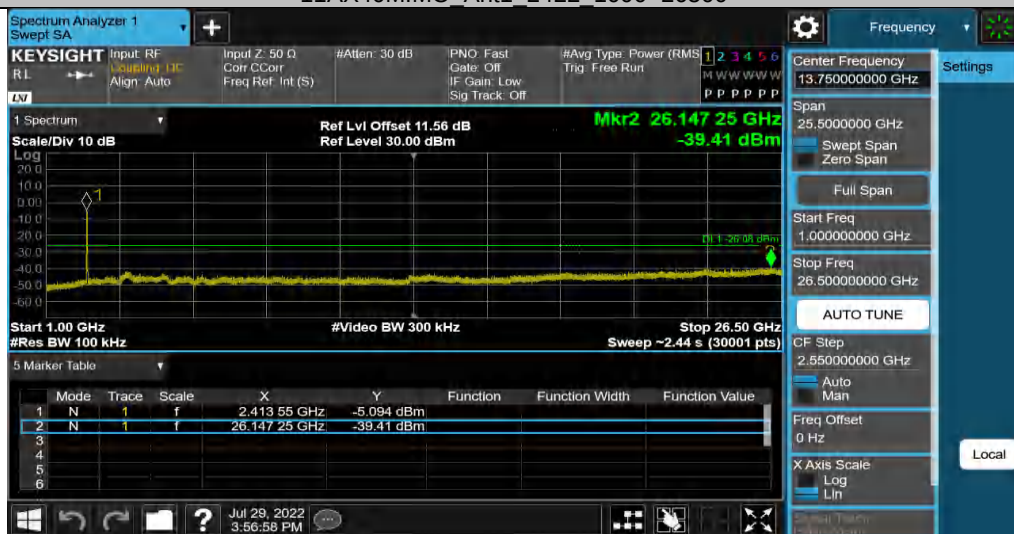
11AX40MIMO Ant1 2422 0-Reference



11AX40MIMO Ant1 2422 30-1000



11AX40MIMO Ant1 2422 1000-26500



11AX40MIMO Ant1 2437 0-Reference