

Appendix A

RF Test Data for 2.4GWIFI (Conducted Measurement)

Product Name: Wireless Adapter

Test Model: U152

Environmental Conditions

Temperature:	24.6° C
Relative Humidity:	53.8%
ATM Pressure:	100.0 kPa
Test Engineer:	Suichao Lai
Supervised by:	Yan Chen

A.1 DTS Bandwidth

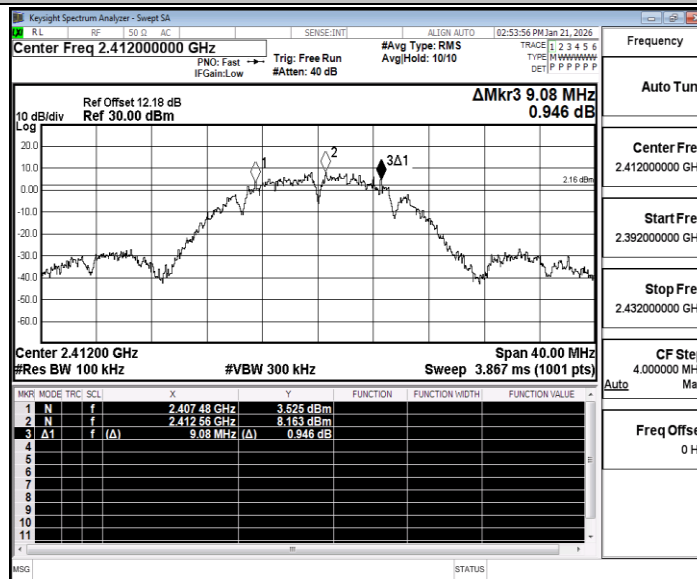
Test Result

TestMode	Antenna	Frequency[MHz]	DTS BW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
11B	Ant1	2412	9.080	2407.480	2416.560	0.5	PASS
		2437	9.560	2432.000	2441.560	0.5	PASS
		2462	8.560	2458.000	2466.560	0.5	PASS
11G	Ant1	2412	16.320	2403.840	2420.160	0.5	PASS
		2437	16.280	2428.880	2445.160	0.5	PASS
		2462	15.680	2454.120	2469.800	0.5	PASS
11N20SISO	Ant1	2412	17.640	2403.200	2420.840	0.5	PASS
		2437	16.720	2428.840	2445.560	0.5	PASS
		2462	17.480	2453.320	2470.800	0.5	PASS
11N40SISO	Ant1	2422	34.400	2404.480	2438.880	0.5	PASS
		2437	36.000	2418.920	2454.920	0.5	PASS
		2452	35.680	2433.920	2469.600	0.5	PASS

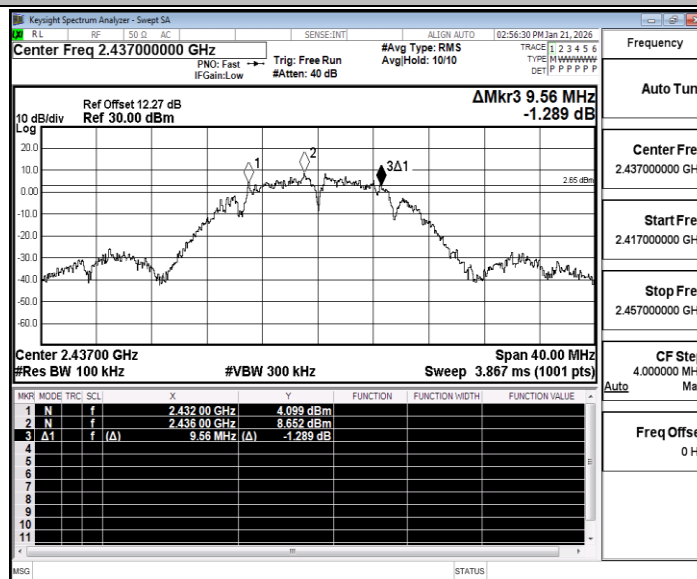
Note :offset=System attenuation +cabal loss

Test Graphs

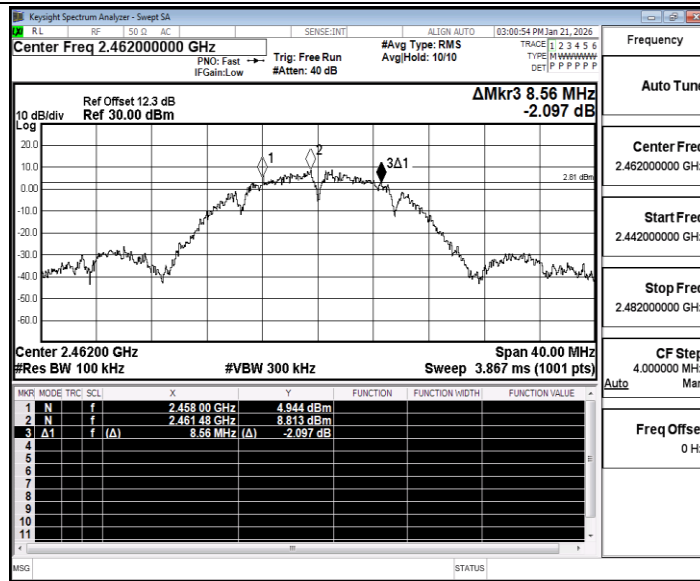
11B_Ant1_2412



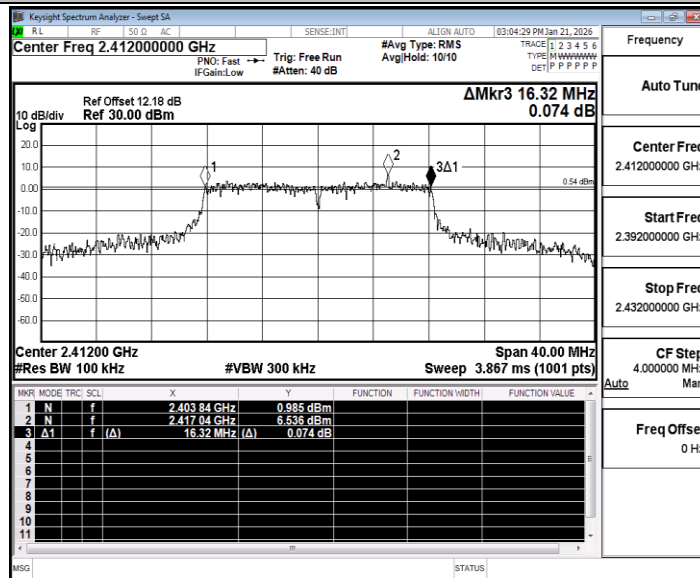
11B_Ant1_2437



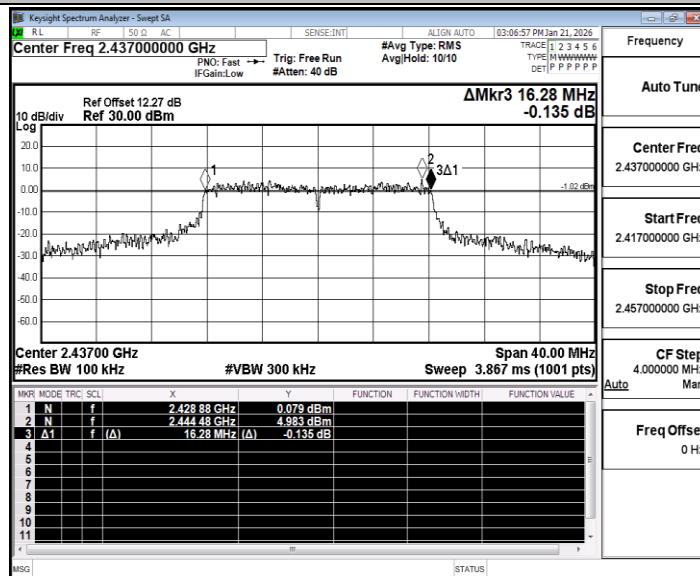
11B_Ant1_2462



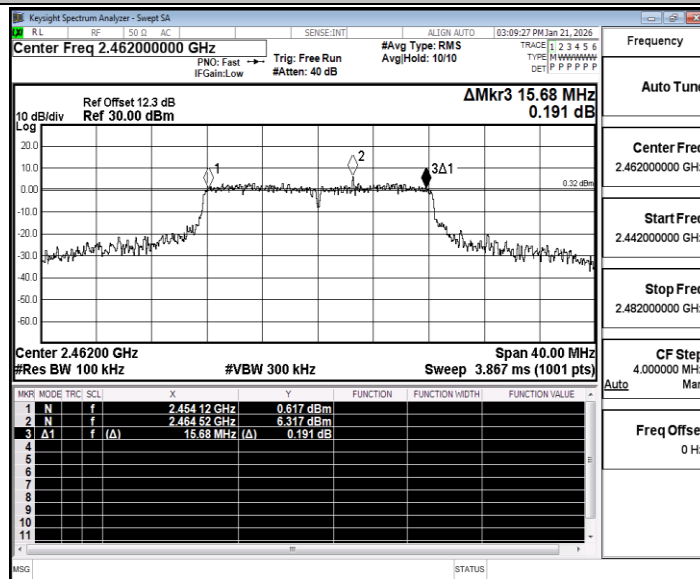
11G_Ant1_2412



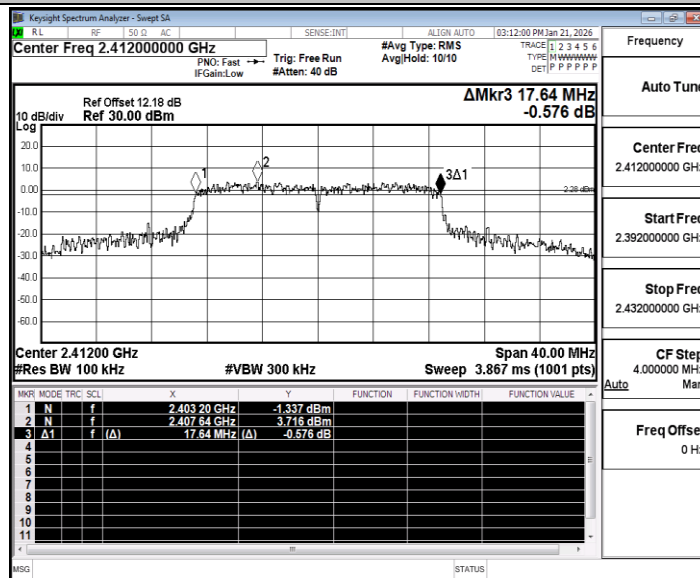
11G_Ant1_2437



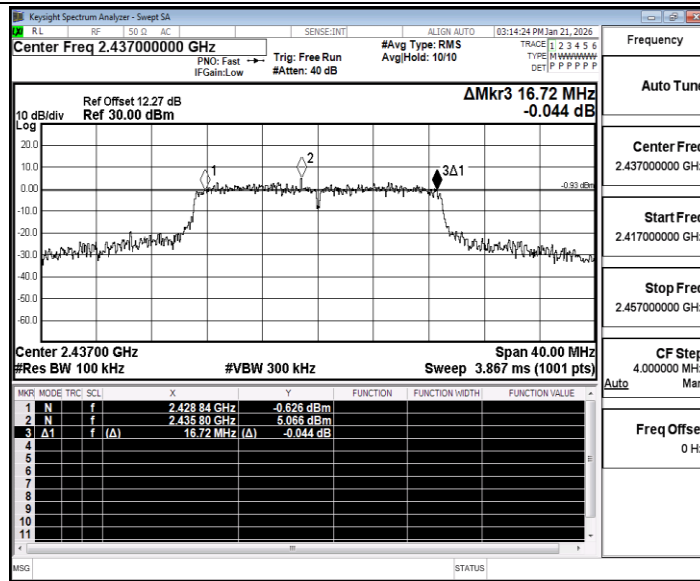
11G_Ant1_2462



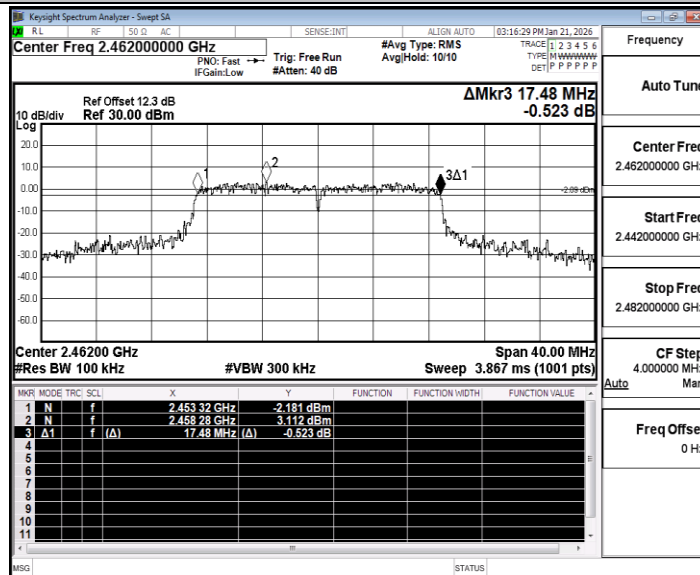
11N20SISO_Ant1_2412



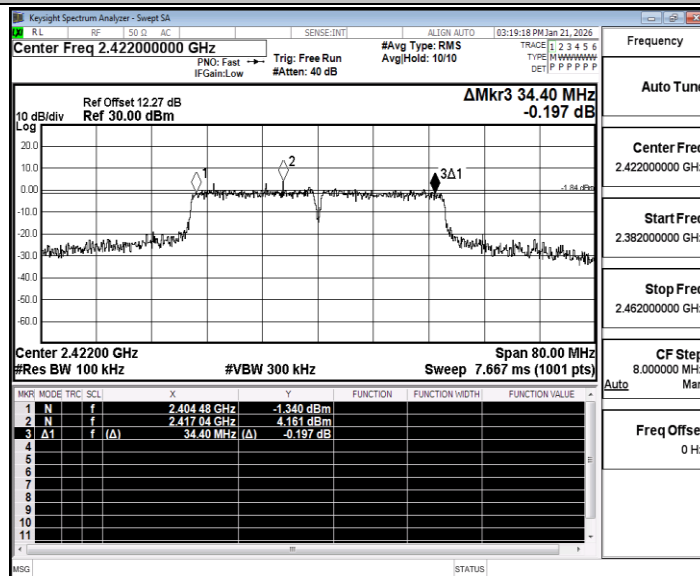
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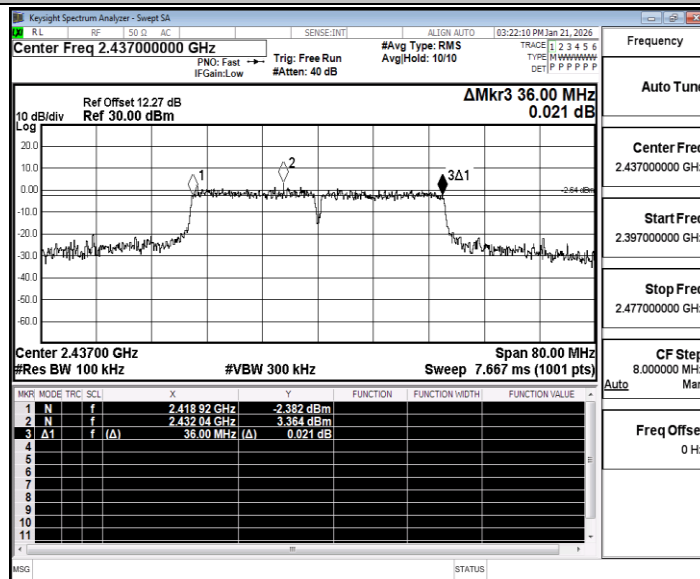
11N20SISO_Ant1_2462



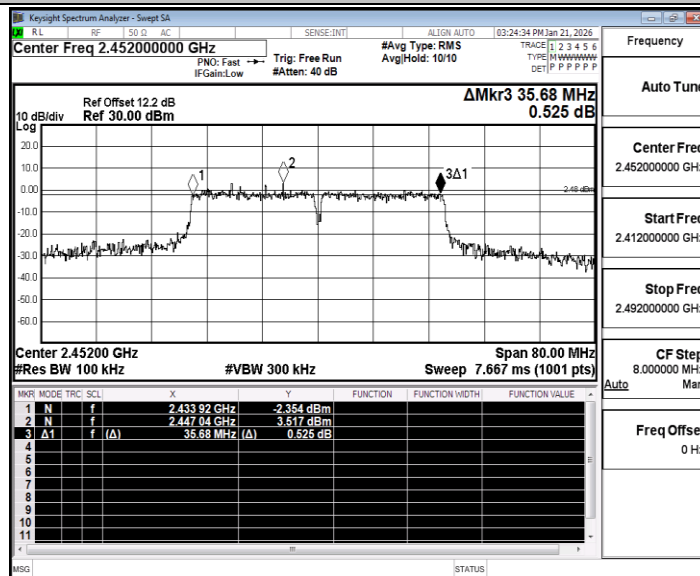
11N40SISO_Ant1_2422



11N40SISO_Ant1_2437



11N40SISO_Ant1_2452



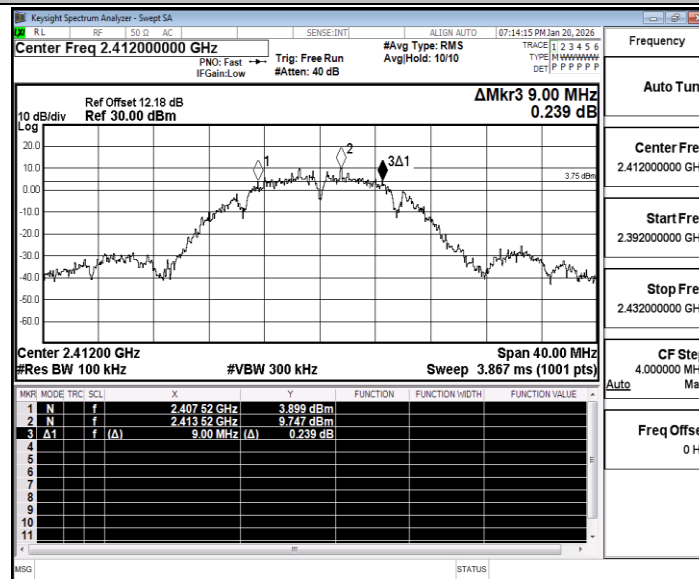
Test Result

TestMode	Antenna	Frequency[MHz]	DTS BW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
11B	Ant2	2412	9.000	2407.520	2416.520	0.5	PASS
		2437	9.280	2432.480	2441.760	0.5	PASS
		2462	8.520	2458.040	2466.560	0.5	PASS
11G	Ant2	2412	16.360	2403.840	2420.200	0.5	PASS
		2437	16.440	2428.840	2445.280	0.5	PASS
		2462	15.080	2454.720	2469.800	0.5	PASS
11N20SISO	Ant2	2412	17.600	2403.200	2420.800	0.5	PASS
		2437	15.760	2429.400	2445.160	0.5	PASS
		2462	17.640	2453.240	2470.880	0.5	PASS
11N40SISO	Ant2	2422	36.240	2403.920	2440.160	0.5	PASS
		2437	35.680	2419.160	2454.840	0.5	PASS
		2452	35.760	2434.160	2469.920	0.5	PASS

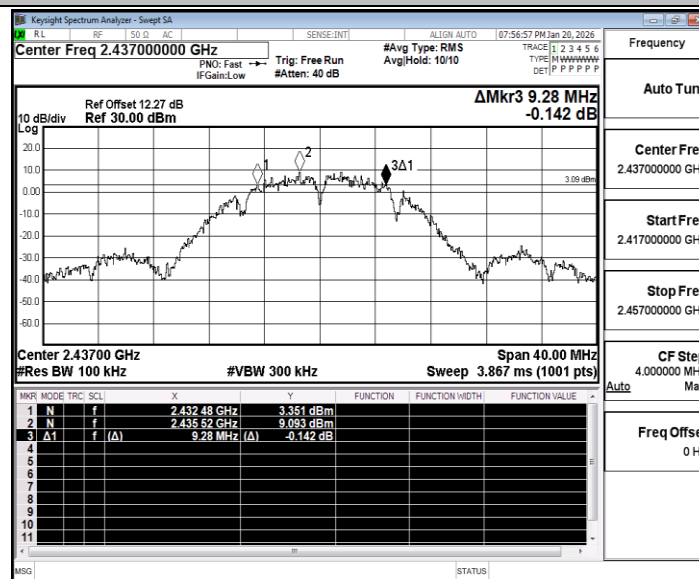
Note :offset=System attenuation +cabal loss

Test Graphs

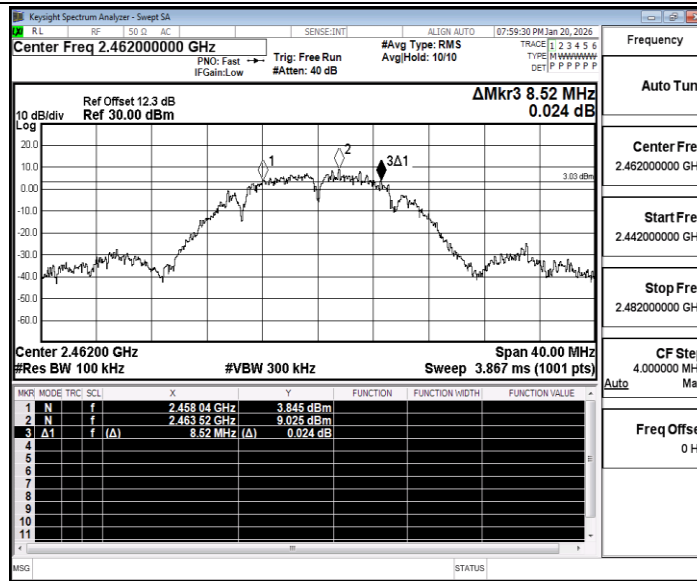
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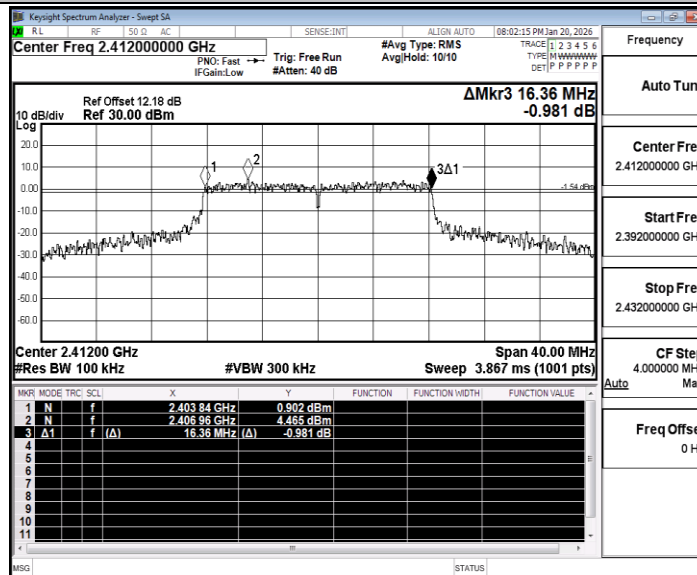
11B_Ant2_2437



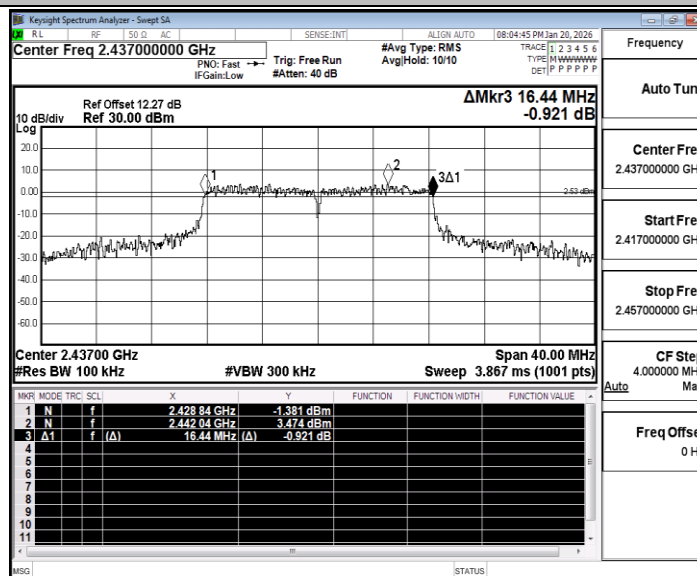
11B_Ant2_2462



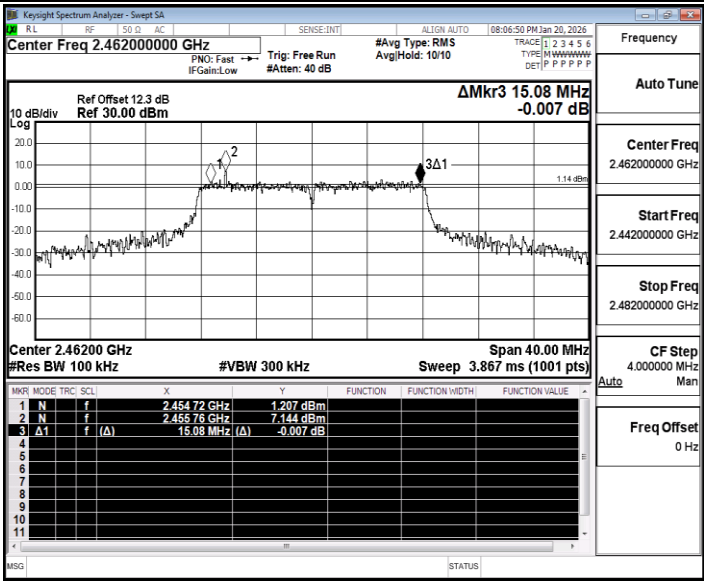
11G_Ant2_2412



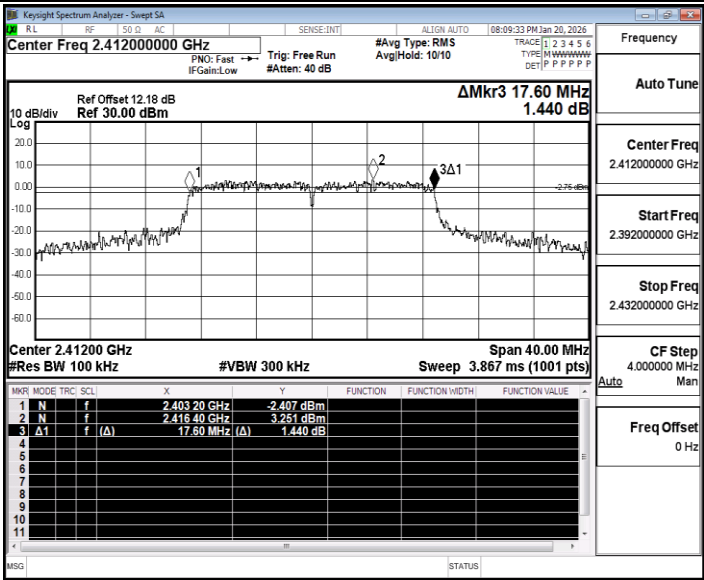
11G_Ant2_2437



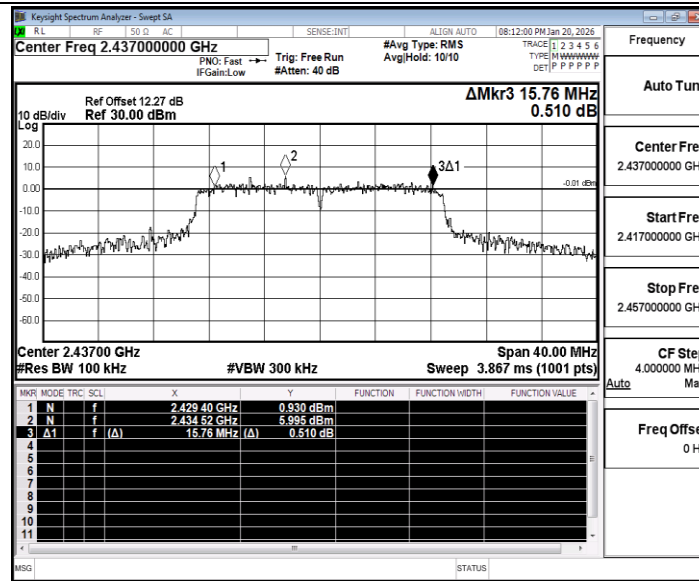
11G_Ant2_2462



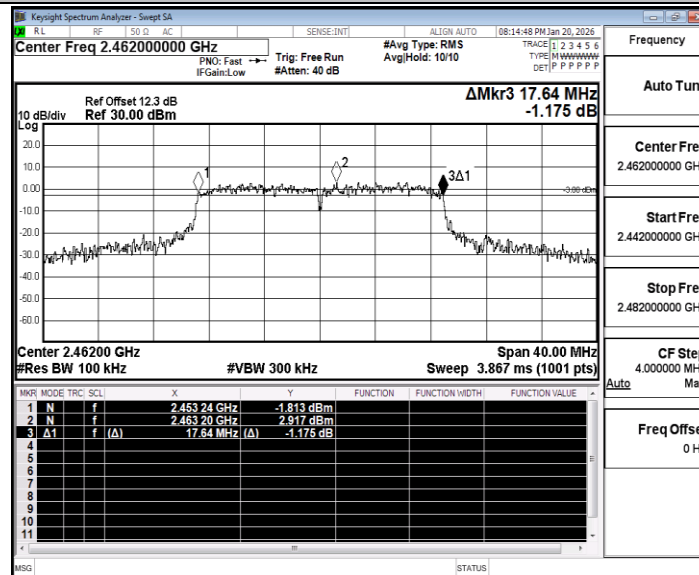
11N20SISO_Ant2_2412



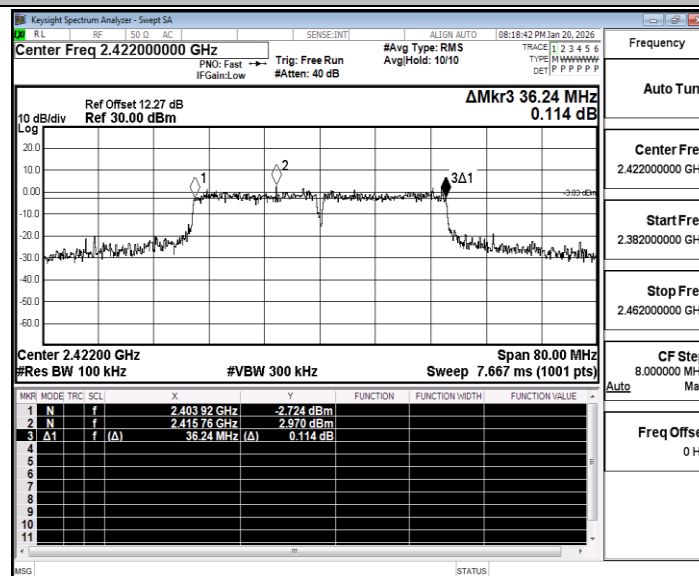
11N20SISO_Ant2_2437



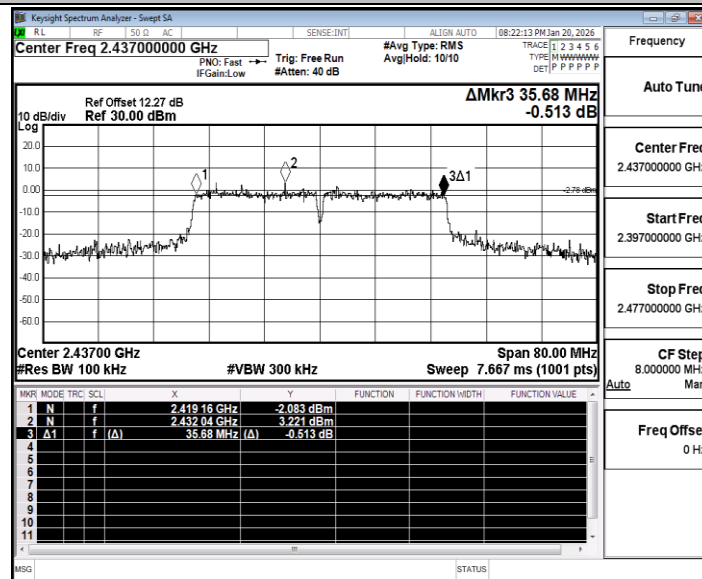
11N20SISO_Ant2_2462



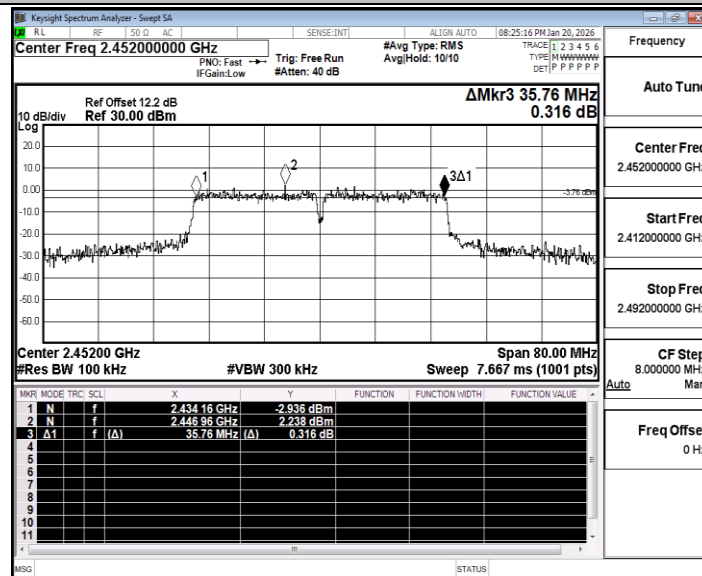
11N40SISO_Ant2_2422



11N40SISO_Ant2_2437



11N40SISO_Ant2_2452



A.2 Maximum Average conducted output power

TestMode	Antenna	Frequency [MHz]	Conducted Power (dBm)	Duty Factor (dB)	Total Maximum Average	Limit (dBm)	Verdict
11B	Ant1	2412	17.38	0.03	17.41	30	PASS
		2437	17.42	0.03	17.45	30	PASS
		2462	17.72	0.03	17.75	30	PASS
11G	Ant1	2412	17.39	0.16	17.55	30	PASS
		2437	17.68	0.16	17.84	30	PASS
		2462	17.10	0.16	17.26	30	PASS
11N20SISO	Ant1	2412	17.93	0.17	18.1	30	PASS
		2437	17.10	0.20	17.3	30	PASS
		2462	17.04	0.17	17.21	30	PASS
11N40SISO	Ant1	2422	17.60	0.33	17.93	30	PASS
		2437	17.50	0.40	17.9	30	PASS
		2452	17.06	0.33	17.39	30	PASS

TestMode	Antenna	Frequency [MHz]	Conducted Power (dBm)	Duty Factor (dB)	Total Maximum Average	Limit (dBm)	Verdict
11B	Ant2	2412	17.80	0.03	17.83	30	PASS
		2437	17.99	0.03	18.02	30	PASS
		2462	17.37	0.03	17.4	30	PASS
11G	Ant2	2412	17.58	0.16	17.74	30	PASS
		2437	17.26	0.16	17.42	30	PASS
		2462	16.80	0.16	16.96	30	PASS
11N20SISO	Ant2	2412	17.46	0.17	17.63	30	PASS
		2437	17.09	0.17	17.26	30	PASS
		2462	16.67	0.20	16.87	30	PASS
11N40SISO	Ant2	2422	17.59	0.40	17.99	30	PASS
		2437	17.22	0.33	17.55	30	PASS
		2452	16.91	0.40	17.31	30	PASS

MIMO

Condition	Mode	Frequency (MHz)	Antenna		Total Maximum Average (dBm)	Limit (dBm)	Verdict
			Ant1	Ant2			
NVNT	n20	2412	18.1	17.63	20.88	30	Pass
NVNT	n20	2437	17.3	17.26	20.29	30	Pass
NVNT	n20	2462	17.21	16.87	20.05	30	Pass
NVNT	n40	2422	17.93	17.99	20.97	30	Pass
NVNT	n40	2437	17.9	17.55	20.74	30	Pass
NVNT	n40	2452	17.39	17.31	20.36	30	Pass

Note :offset=System attenuation +cabal loss

A.3 Maximum power spectral density

TestMode	Antenna	Frequency[MHz]	Measured PSD [dBm/3kHz]	DC Factor [dB]	Result[dBm/3kHz]	Limit[dBm/3kHz]	Verdict
11B	Ant1	2412	-5.26	0.03	-5.23	≤8.00	PASS
		2437	-6.06	0.03	-6.03	≤8.00	PASS
		2462	-3.79	0.03	-3.76	≤8.00	PASS
11G	Ant1	2412	-7.24	0.16	-7.08	≤8.00	PASS
		2437	-7.83	0.16	-7.67	≤8.00	PASS
		2462	-8.5	0.16	-8.34	≤8.00	PASS
11N20SISO	Ant1	2412	-6.4	0.17	-6.23	≤8.00	PASS
		2437	-7.67	0.20	-7.47	≤8.00	PASS
		2462	-7.17	0.17	-7	≤8.00	PASS
11N40SISO	Ant1	2422	-10.9	0.33	-10.57	≤8.00	PASS
		2437	-10.97	0.40	-10.57	≤8.00	PASS
		2452	-11.02	0.33	-10.69	≤8.00	PASS

Note :offset=System attenuation +cabel loss

TestMode	Antenna	Frequency[MHz]	Measured PSD [dBm/3kHz]	DC Factor [dB]	Result[dBm/3kHz]	Limit[dBm/3kHz]	Verdict
11B	Ant2	2412	-4.72	0.03	-4.69	≤8.00	PASS
		2437	-5.1	0.03	-5.07	≤8.00	PASS
		2462	-4.72	0.03	-4.69	≤8.00	PASS
11G	Ant2	2412	-7.58	0.16	-7.42	≤8.00	PASS
		2437	-8.01	0.16	-7.85	≤8.00	PASS
		2462	-7.75	0.16	-7.59	≤8.00	PASS
11N20SISO	Ant2	2412	-8.05	0.17	-7.88	≤8.00	PASS
		2437	-8.14	0.17	-7.97	≤8.00	PASS
		2462	-8.3	0.20	-8.1	≤8.00	PASS
11N40SISO	Ant2	2422	-10.49	0.40	-10.09	≤8.00	PASS
		2437	-10.55	0.33	-10.22	≤8.00	PASS
		2452	-10.7	0.40	-10.3	≤8.00	PASS

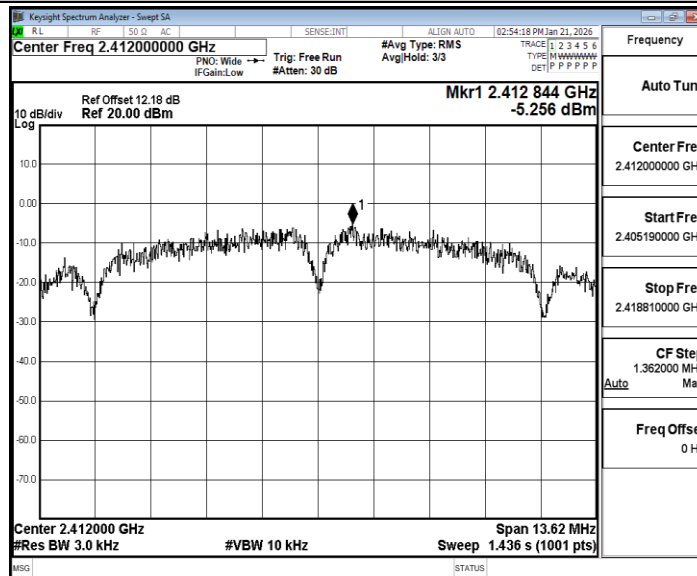
Note :offset=System attenuation +cabel loss

MIMO

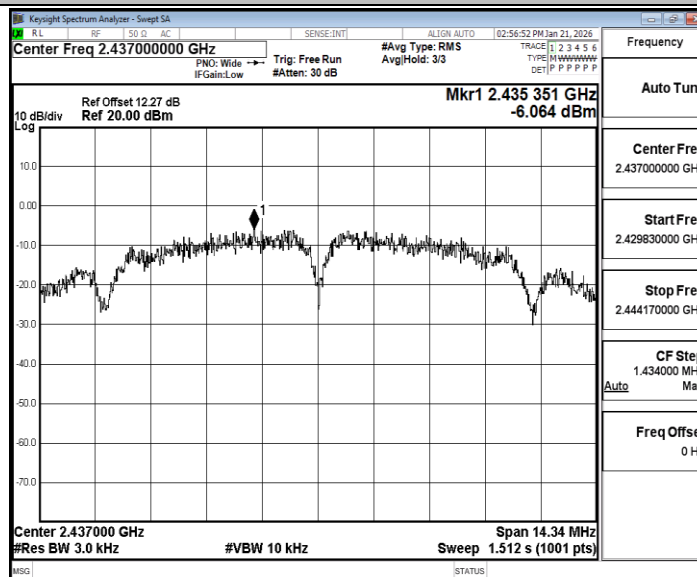
Condition	Mode	Frequency (MHz)	Total PSD (dBm/3kHz)			Limit (dBm)	Verdict
			Ant1	Ant2	Ant1+Ant2		
NVNT	n20	2412	-6.23	-7.88	-3.97	8	Pass
NVNT	n20	2437	-7.47	-7.97	-4.70	8	Pass
NVNT	n20	2462	-7	-8.1	-4.50	8	Pass
NVNT	n40	2422	-10.57	-10.09	-7.31	8	Pass
NVNT	n40	2437	-10.57	-10.22	-7.38	8	Pass
NVNT	n40	2452	-10.69	-10.3	-7.48	8	Pass

Test Graphs

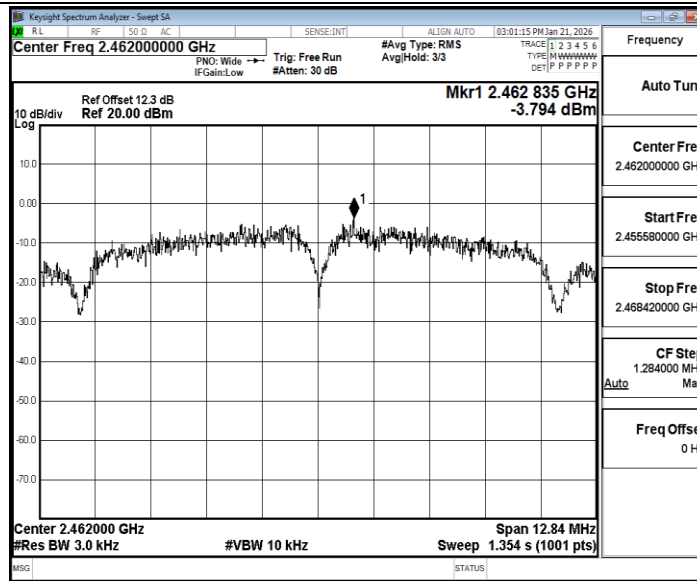
11B_Ant1_2412



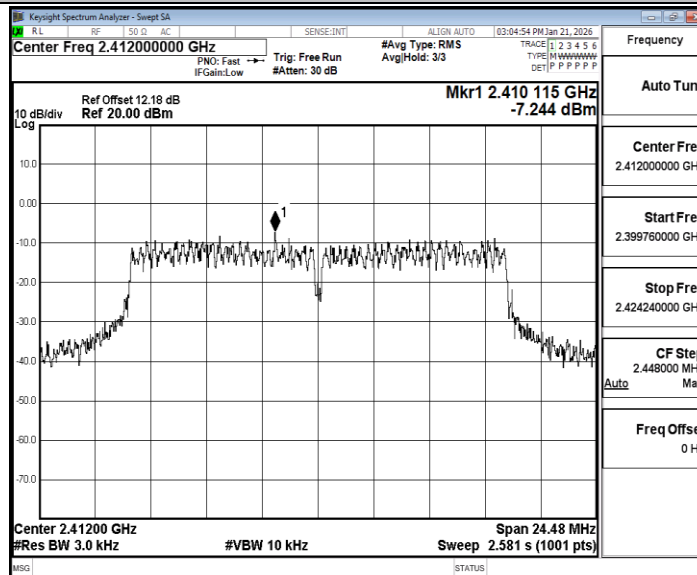
11B_Ant1_2437



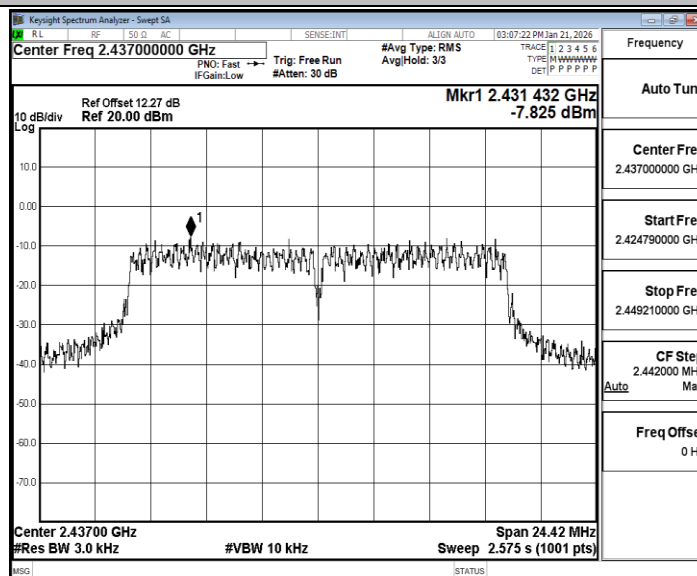
11B_Ant1_2462



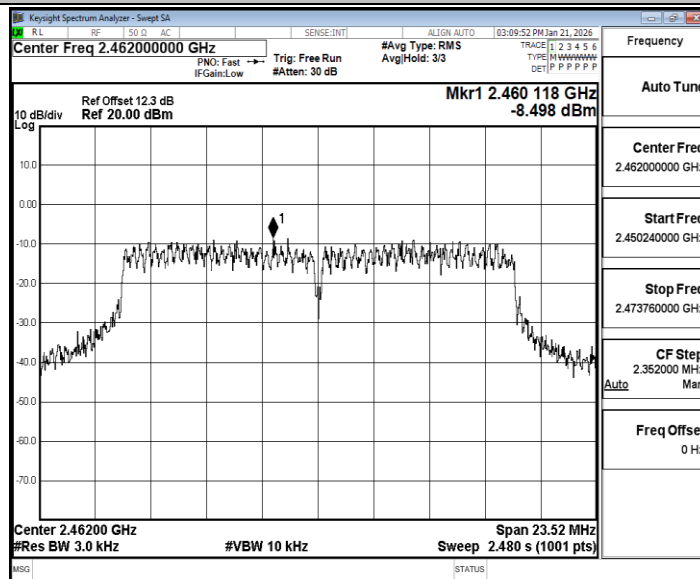
11G_Ant1_2412



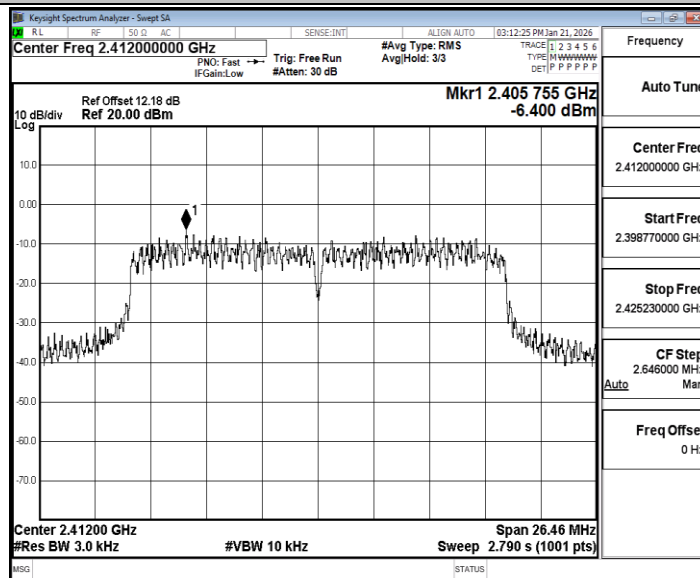
11G_Ant1_2437



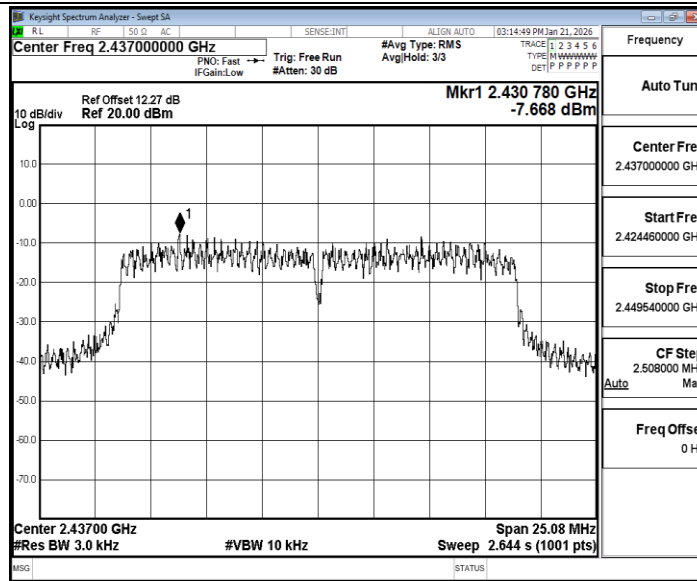
11G_Ant1_2462



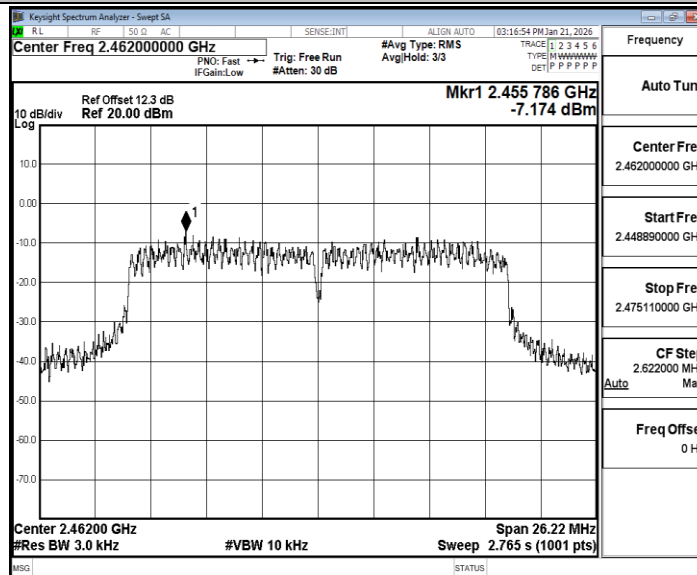
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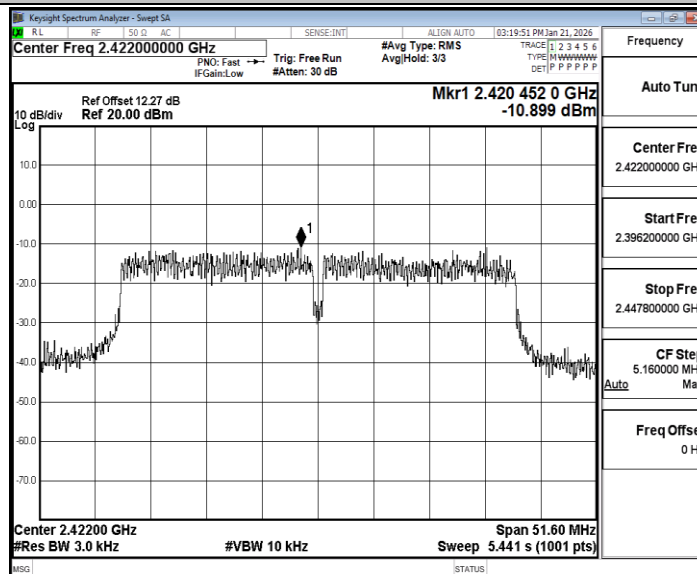
11N20SISO_Ant1_2437



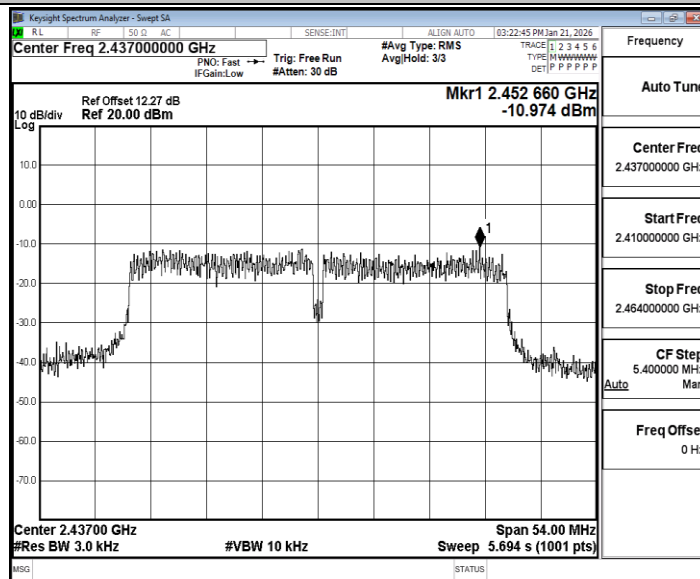
11N20SISO_Ant1_2462



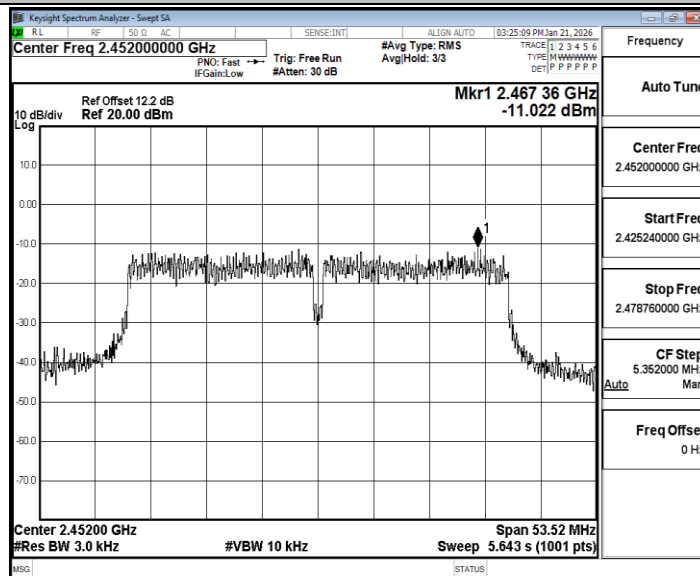
11N40SISO_Ant1_2422



11N40SISO_Ant1_2437

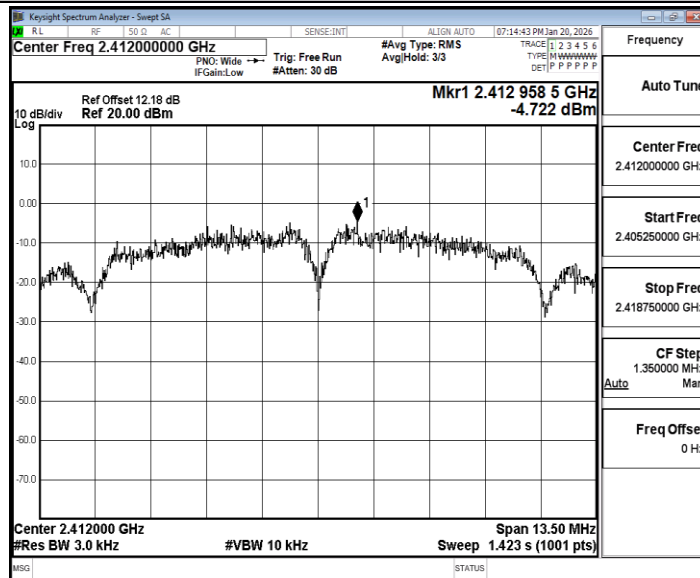


11N40SISO_Ant1_2452

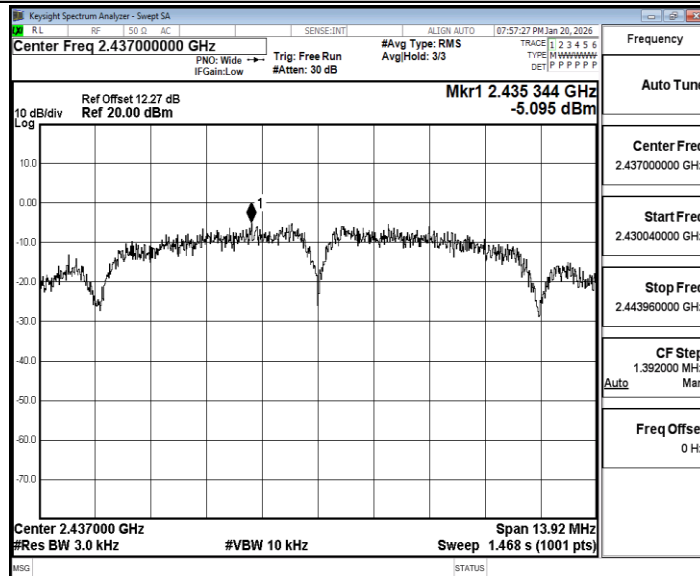


Test Graphs

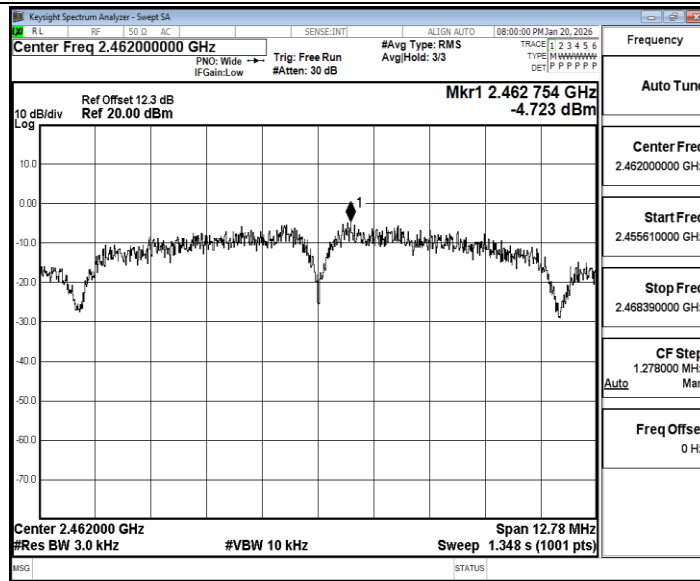
11B_Ant2_2412



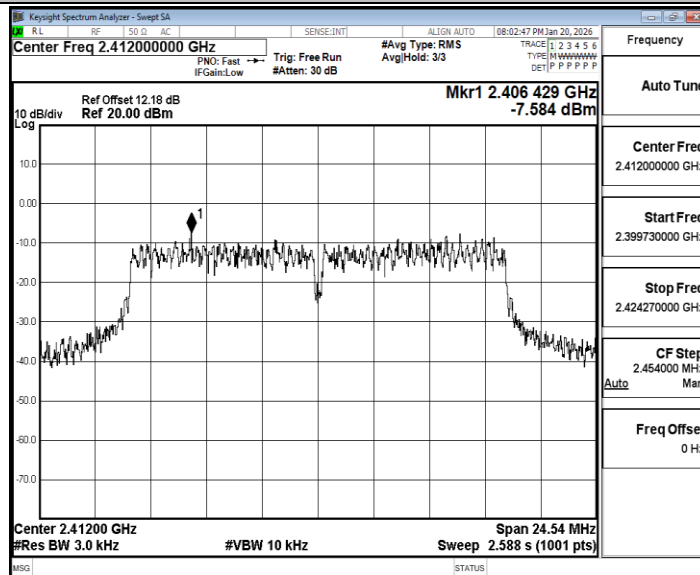
11B_Ant2_2437



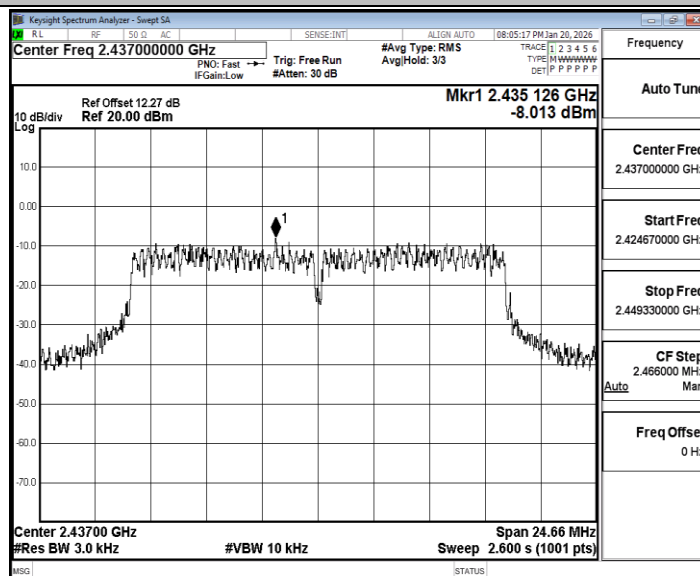
11B_Ant2_2462



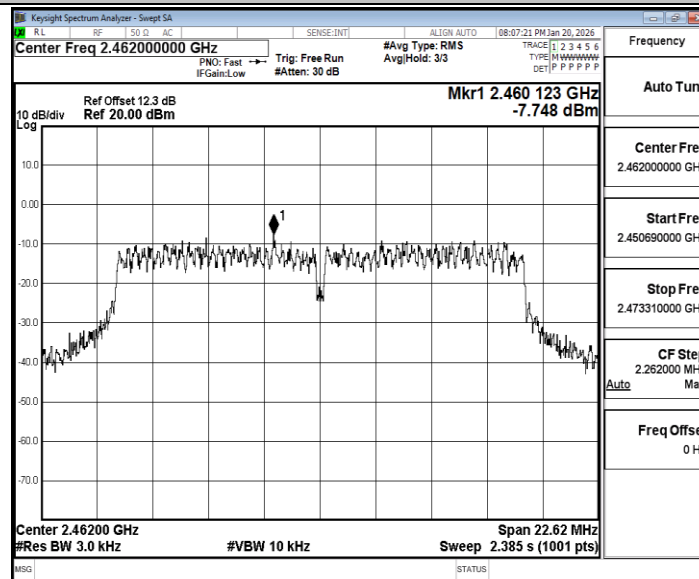
11G_Ant2_2412



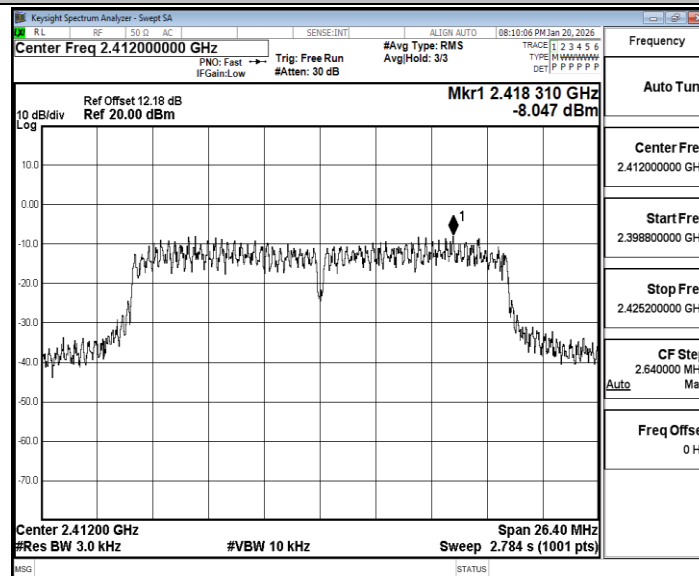
11G_Ant2_2437



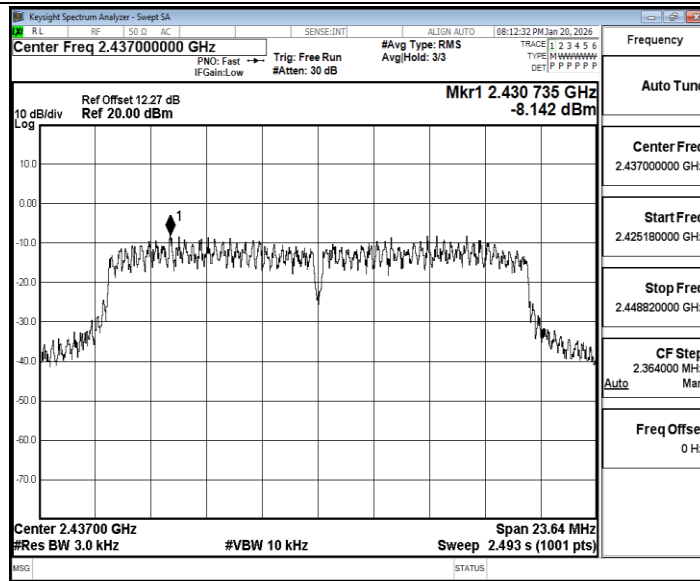
11G_Ant2_2462



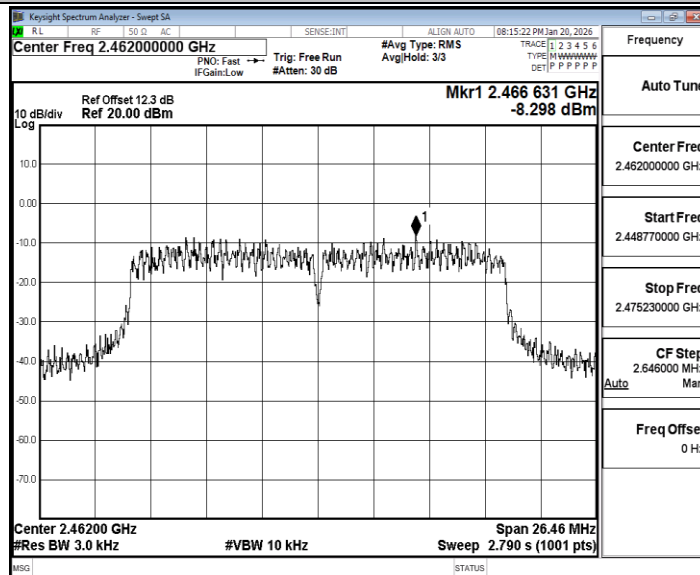
11N20SISO_Ant2_2412



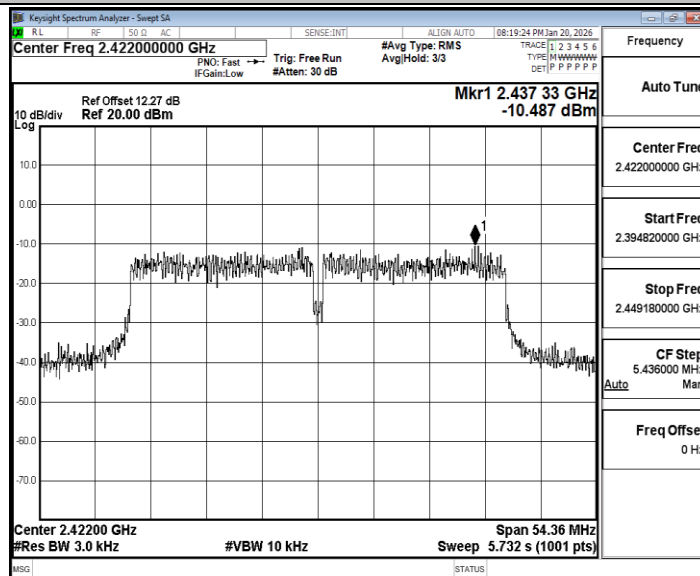
11N20SISO_Ant2_2437



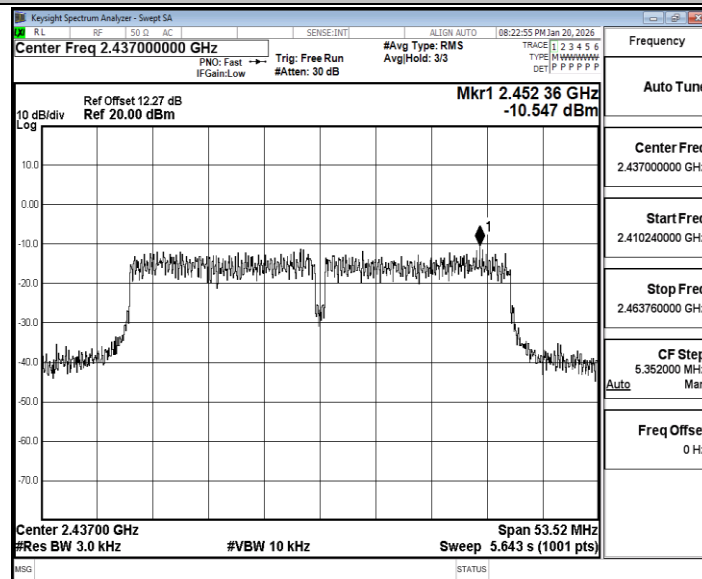
11N20SISO_Ant2_2462



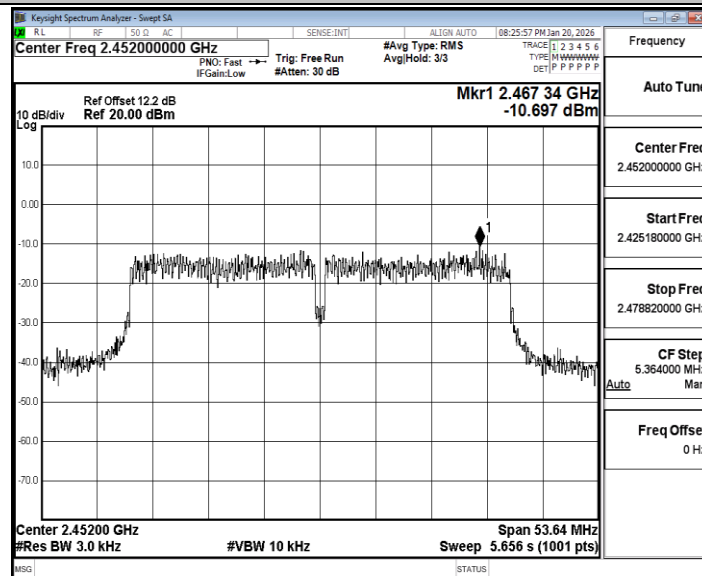
11N40SISO_Ant2_2422



11N40SISO_Ant2_2437



11N40SISO_Ant2_2452



A.4 Band edge measurements

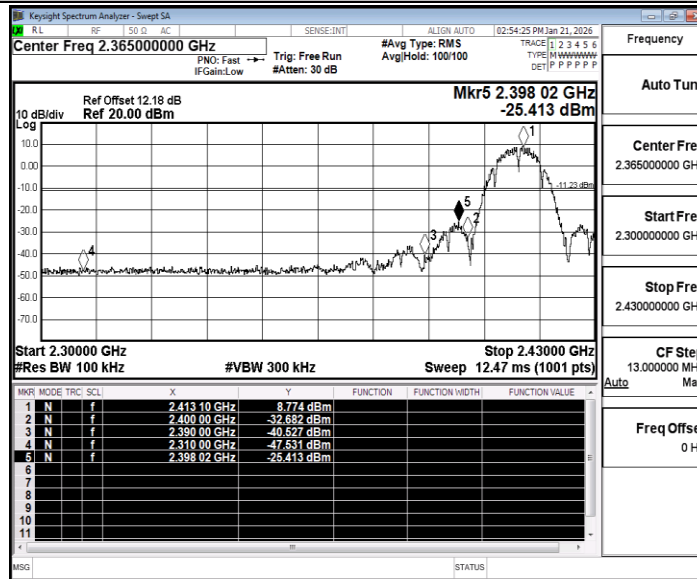
Test Result

TestMode	Antenna	ChName	Frequency[MHz]	RefLevel[dBm]	Result[dBm]	Limit[dBm]	Verdict
11B	Ant1	Low	2412	8.77	-25.41	≤-11.23	PASS
		High	2462	10.06	-41.95	≤-9.94	PASS
11G	Ant1	Low	2412	6.49	-19.07	≤-13.51	PASS
		High	2462	7.04	-34.05	≤-12.96	PASS
11N20SISO	Ant1	Low	2412	7.10	-15.88	≤-12.9	PASS
		High	2462	6.45	-31.54	≤-13.55	PASS
11N40SISO	Ant1	Low	2422	4.24	-19.85	≤-15.76	PASS
		High	2452	3.73	-24.34	≤-16.27	PASS

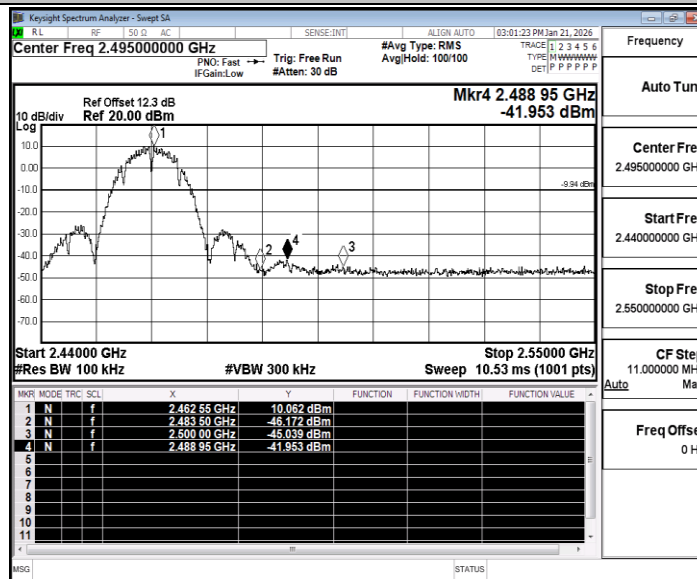
Note :offset=System attenuation +cabal loss

Test Graphs

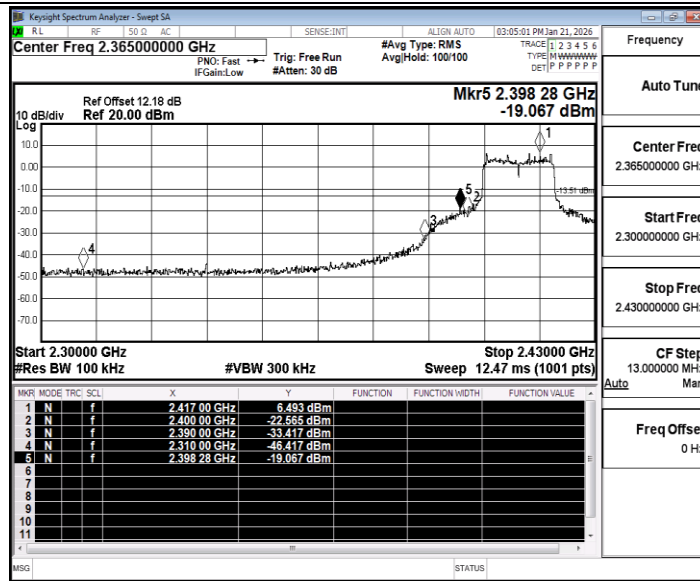
11B_Ant1_Low_2412



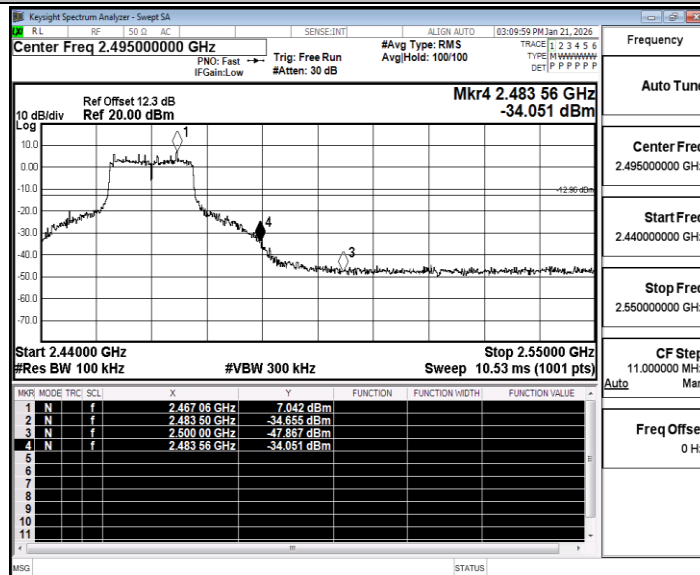
11B_Ant1_High_2462



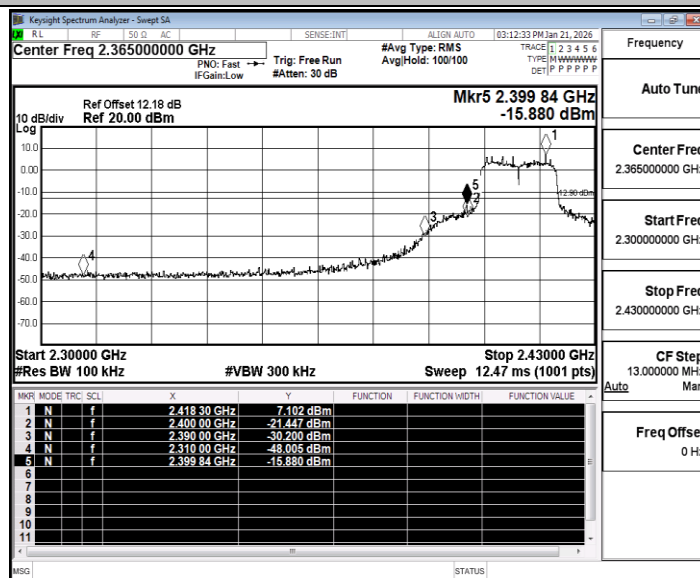
11G_Ant1_Low_2412



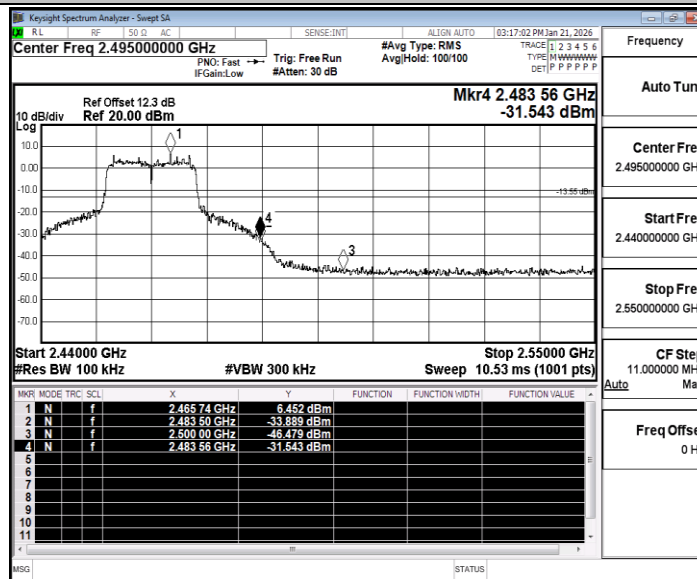
11G_Ant1_High_2462



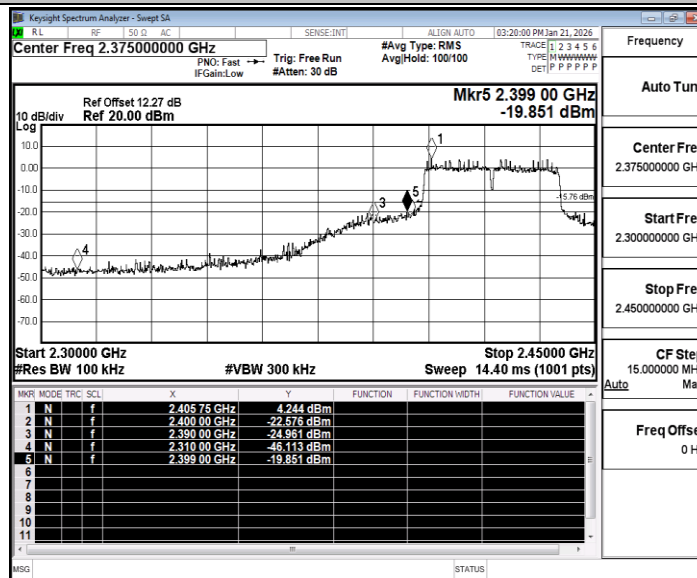
11N20SISO_Ant1_Low_2412



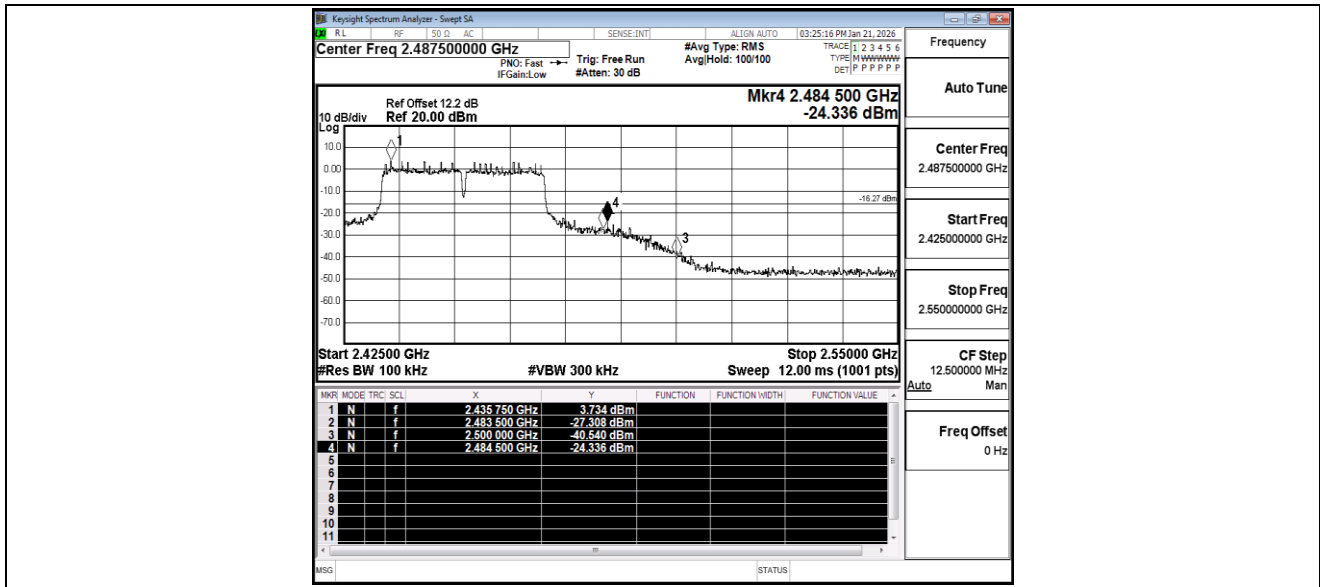
11N20SISO_Ant1_High_2462



11N40SISO_Ant1_Low_2422



11N40SISO_Ant1_High_2452



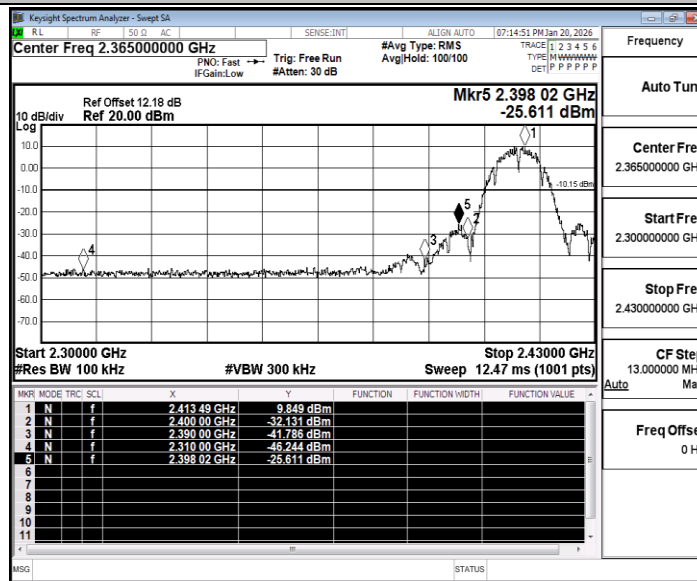
Test Result

TestMode	Antenna	ChName	Frequency[MHz]	RefLevel[dBm]	Result[dBm]	Limit[dBm]	Verdict
11B	Ant2	Low	2412	9.85	-25.61	≤-10.15	PASS
		High	2462	10.14	-41.49	≤-9.87	PASS
11G	Ant2	Low	2412	7.56	-19.14	≤-12.44	PASS
		High	2462	6.49	-33.73	≤-13.51	PASS
11N20SISO	Ant2	Low	2412	7.13	-18.03	≤-12.88	PASS
		High	2462	6.36	-31.03	≤-13.64	PASS
11N40SISO	Ant2	Low	2422	3.89	-20.48	≤-16.11	PASS
		High	2452	3.74	-21.24	≤-16.26	PASS

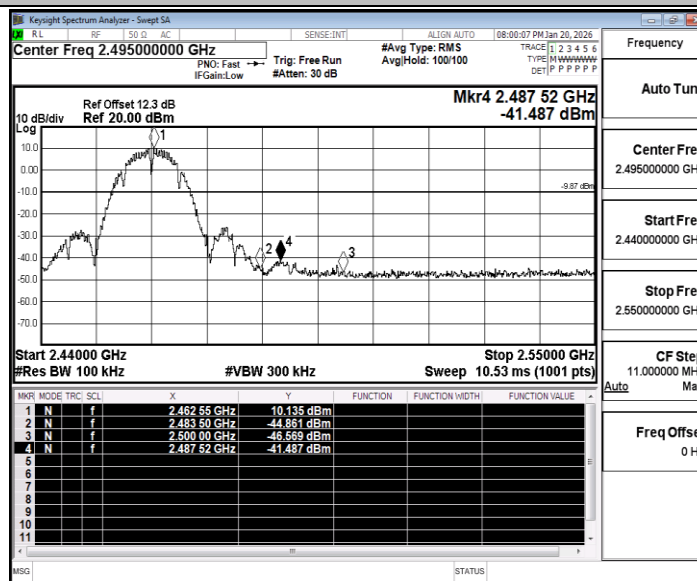
Note :offset=System attenuation +cabal loss

Test Graphs

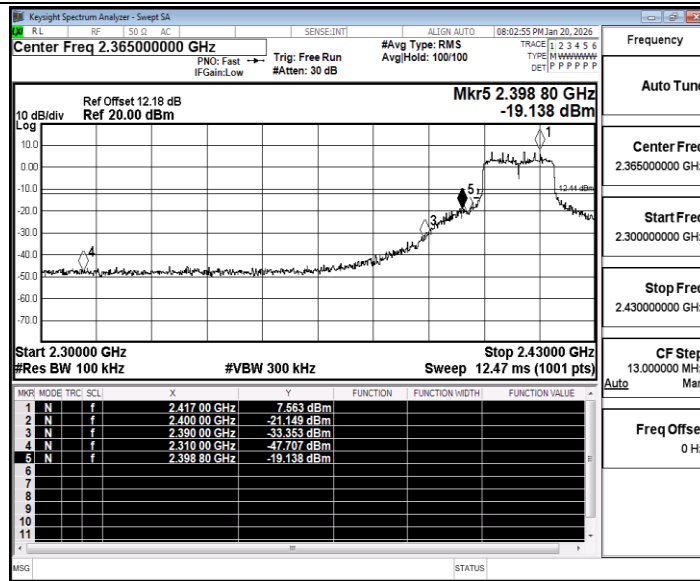
11B_Ant2_Low_2412



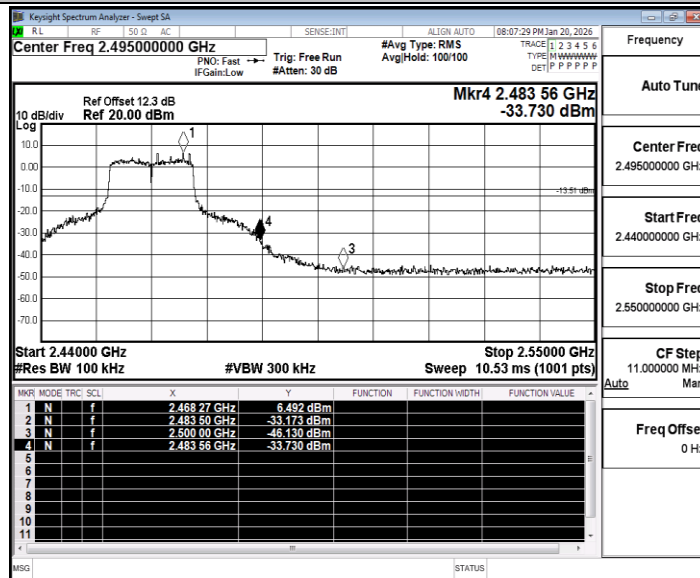
11B_Ant2_High_2462



11G_Ant2_Low_2412



11G_Ant2_High_2462



11N20SISO_Ant2_Low_2412

