

Appendix B

RF Test Data for 5.2GWIFI (Conducted Measurement)

Product Name: Wireless Adapter

Test Model: U152

Environmental Conditions

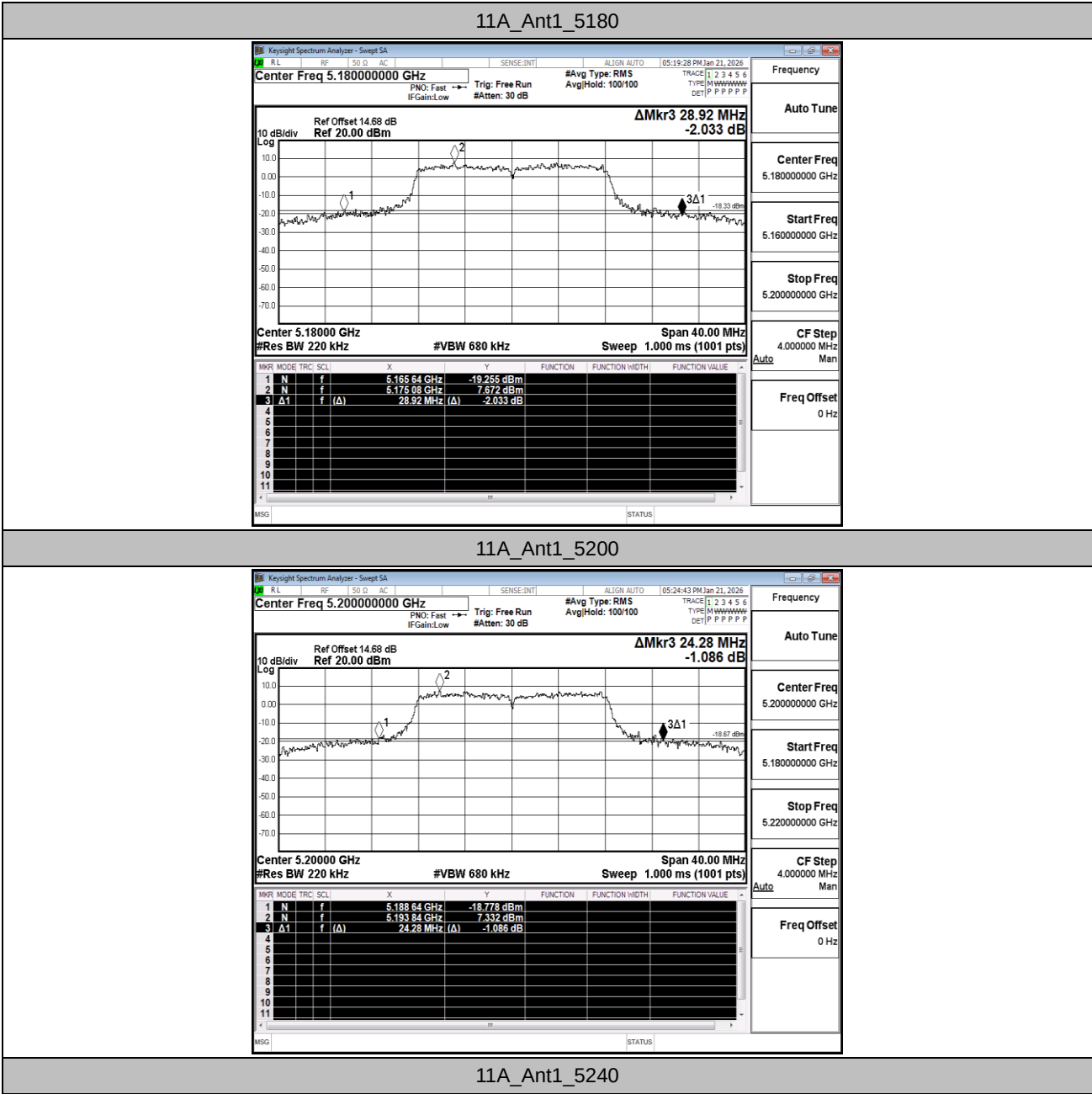
Temperature:	24.6° C
Relative Humidity:	53.8%
ATM Pressure:	100.0 kPa
Test Engineer:	Suichao Lai
Supervised by:	Yan Chen

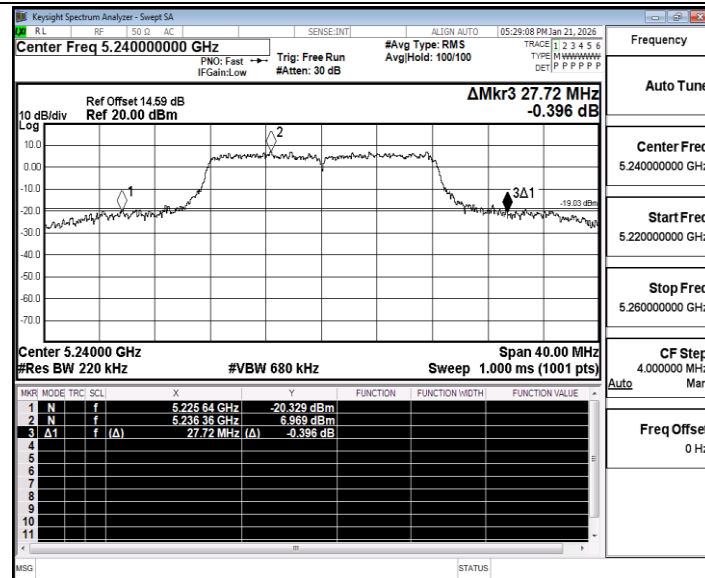
B.1 Emission Bandwidth

Test Result

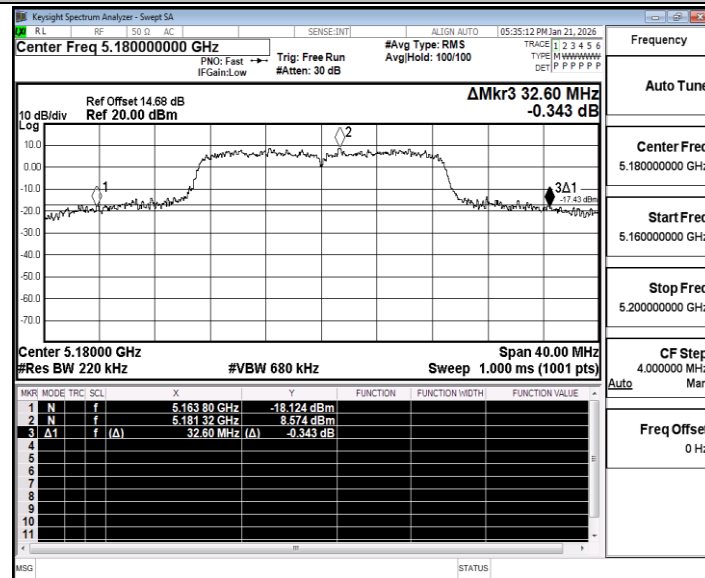
TestMode	Antenna	Freq(MHz)	26db EBW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
11A	Ant1	5180	28.920	5165.640	5194.560	---	---
		5200	24.280	5188.640	5212.920	---	---
		5240	27.720	5225.640	5253.360	---	---
11N20SISO	Ant1	5180	32.600	5163.800	5196.400	---	---
		5200	26.760	5187.480	5214.240	---	---
		5240	22.760	5229.480	5252.240	---	---
11N40SISO	Ant1	5190	72.000	5155.040	5227.040	---	---
		5230	66.000	5198.480	5264.480	---	---
11AC20SISO	Ant1	5180	24.640	5166.400	5191.040	---	---
		5200	27.080	5185.600	5212.680	---	---
		5240	26.640	5226.320	5252.960	---	---
11AC40SISO	Ant1	5190	73.360	5154.640	5228.000	---	---
		5230	69.440	5194.880	5264.320	---	---
11AC80SISO	Ant1	5210	137.440	5147.920	5285.360	---	---

Test Graphs

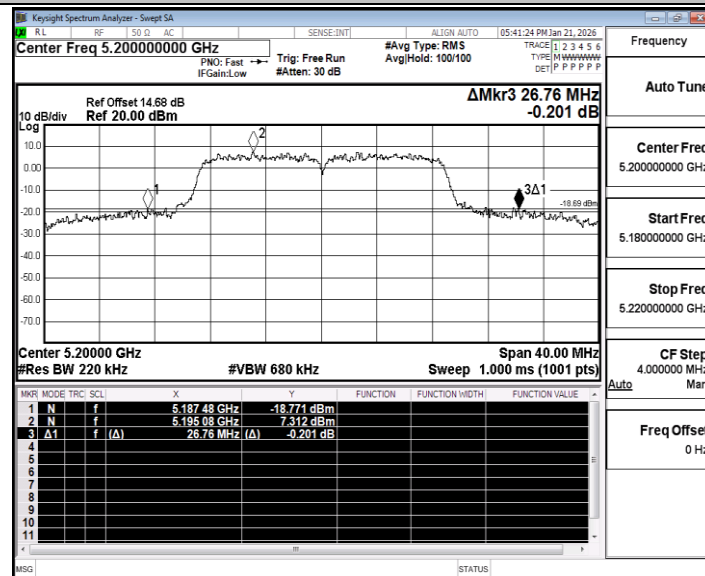




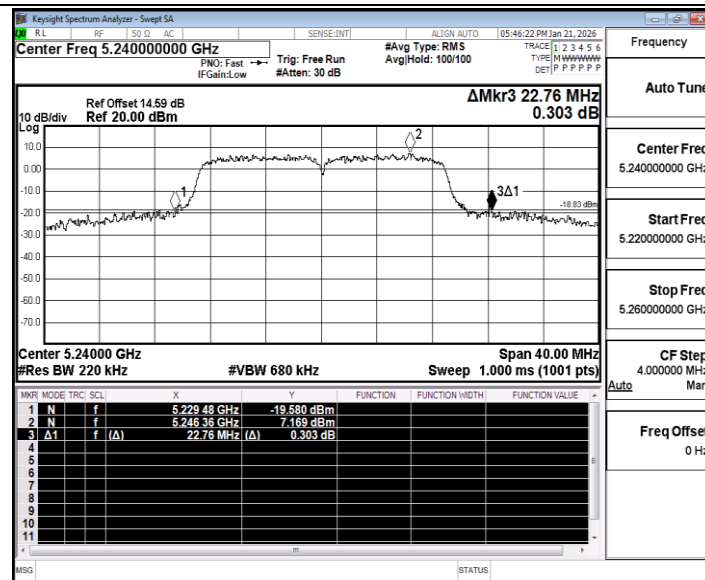
11N20SISO_Ant1_5180



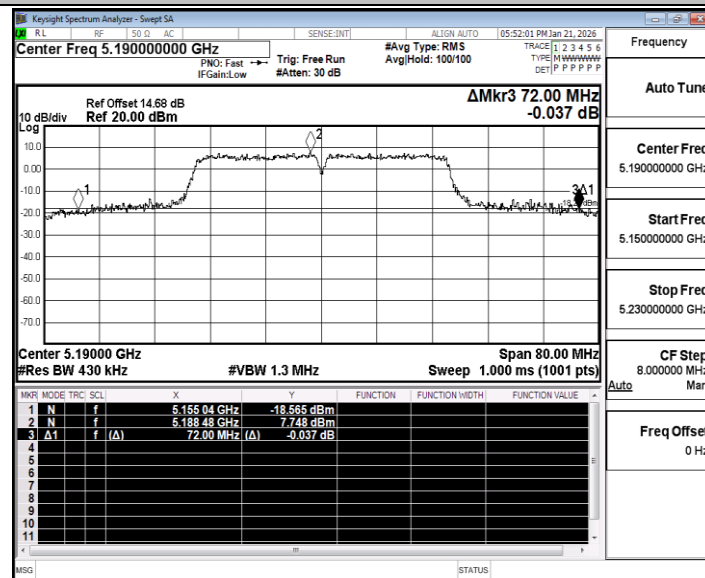
11N20SISO_Ant1_5200



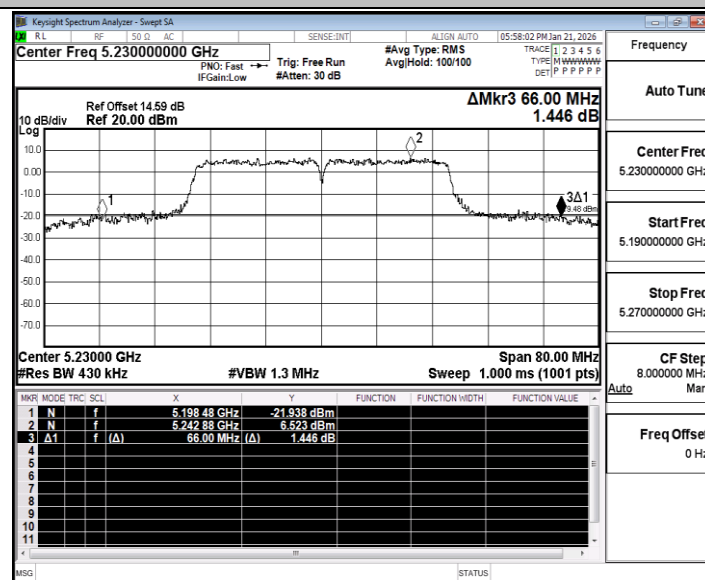
11N20SISO_Ant1_5240



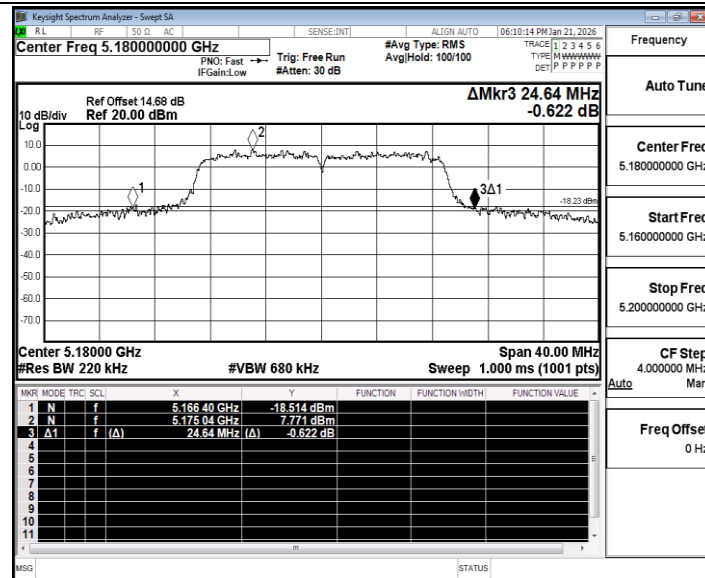
11N40SISO_Ant1_5190



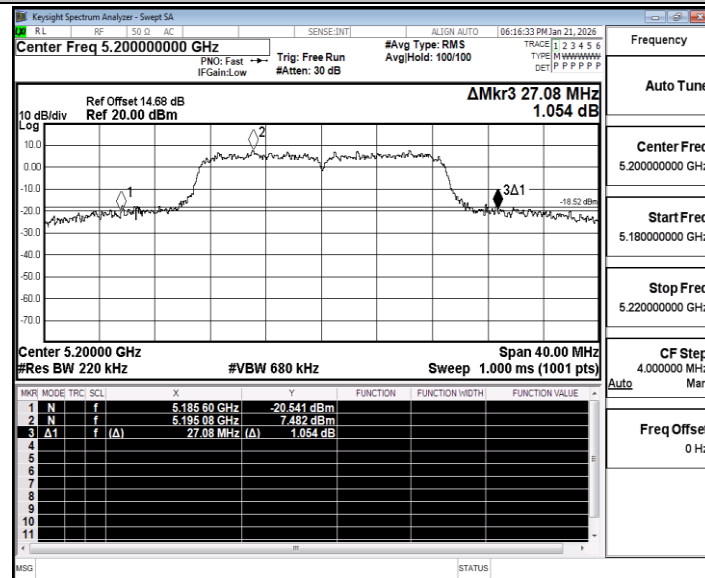
11N40SISO_Ant1_5230



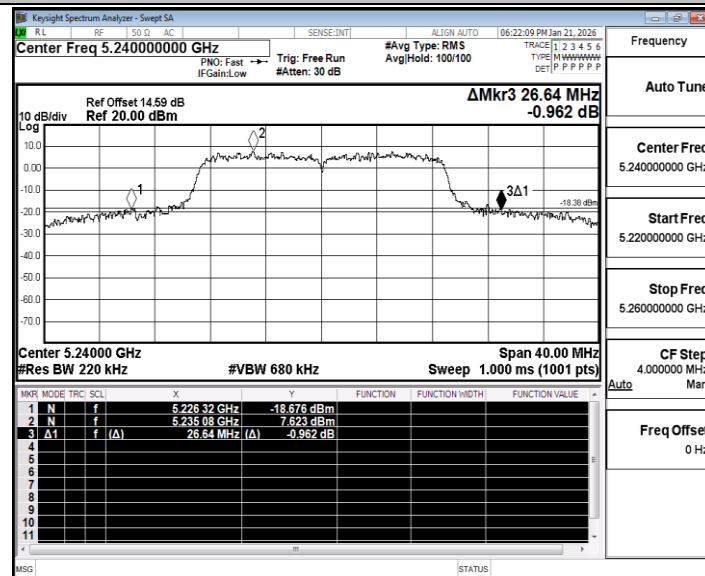
11AC20SISO_Ant1_5180



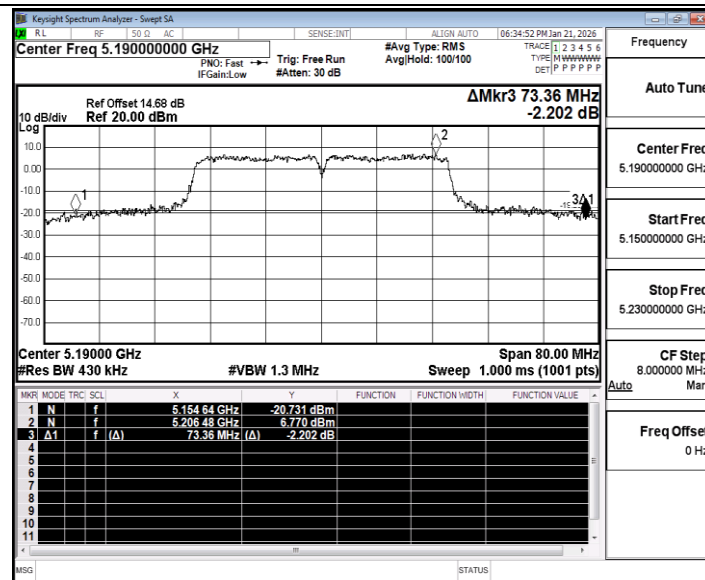
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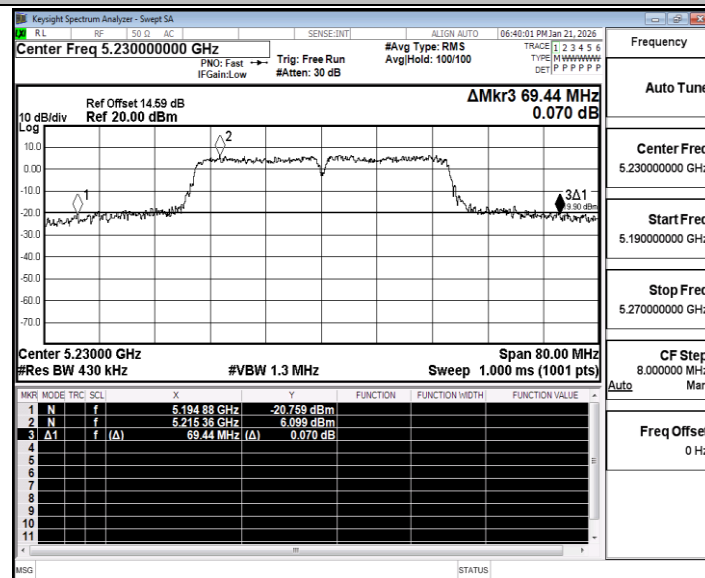
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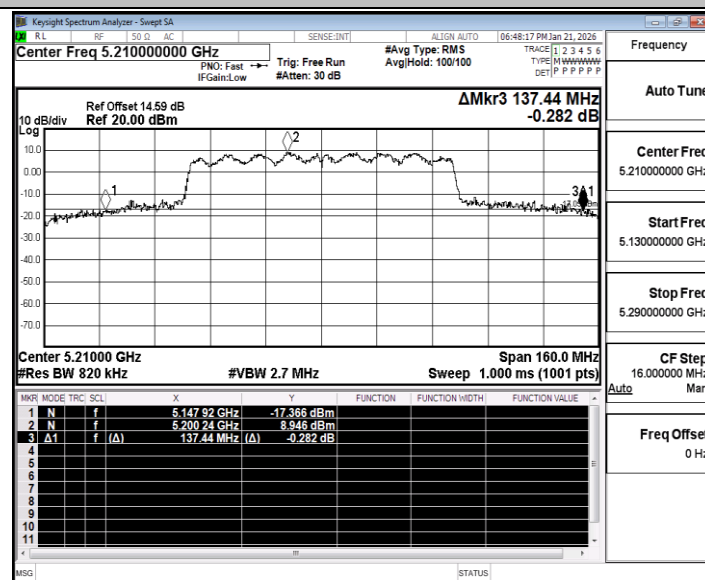
11AC40SISO_Ant1_5190



11AC40SISO_Ant1_5230



11AC80SISO_Ant1_5210

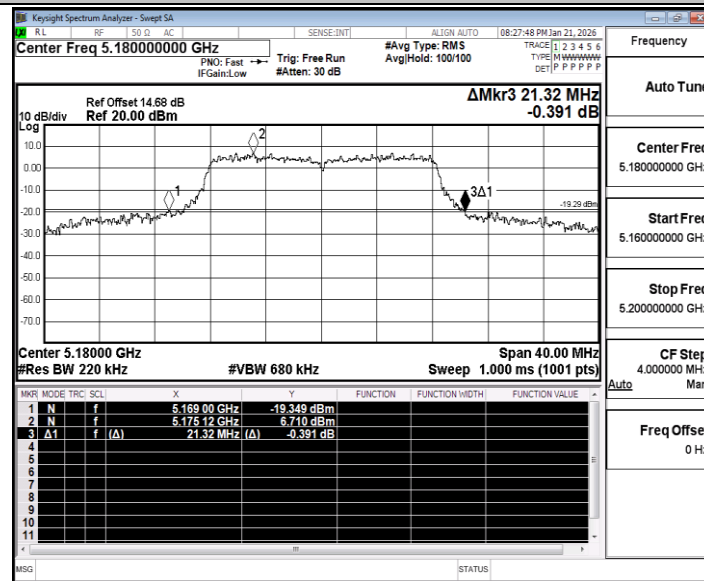


Test Result

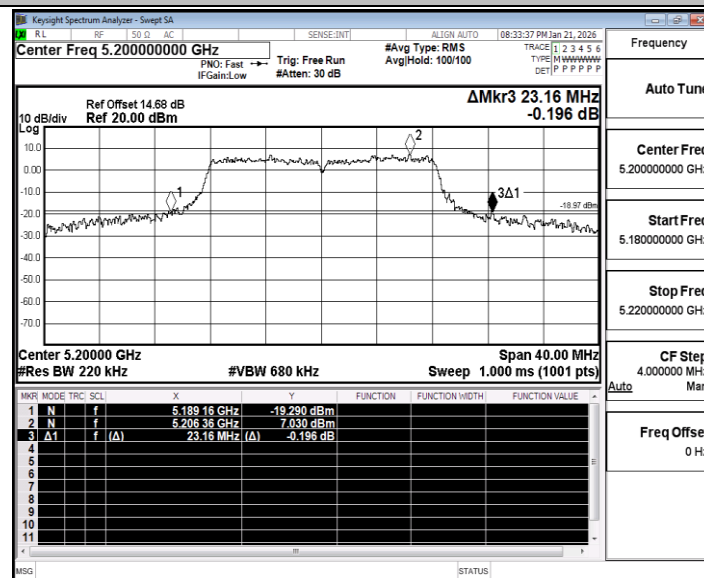
TestMode	Antenna	Freq(MHz)	26db EBW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
11A	Ant2	5180	21.320	5169.000	5190.320	---	---
		5200	23.160	5189.160	5212.320	---	---
		5240	21.880	5228.920	5250.800	---	---
11N20SISO	Ant2	5180	22.040	5168.680	5190.720	---	---
		5200	24.440	5187.600	5212.040	---	---
		5240	24.320	5228.160	5252.480	---	---
11N40SISO	Ant2	5190	65.520	5158.720	5224.240	---	---
		5230	64.560	5198.800	5263.360	---	---
11AC20SISO	Ant2	5180	30.880	5163.680	5194.560	---	---
		5200	25.600	5188.280	5213.880	---	---
		5240	26.120	5226.480	5252.600	---	---
11AC40SISO	Ant2	5190	74.960	5151.040	5226.000	---	---
		5230	65.360	5195.520	5260.880	---	---
11AC80SISO	Ant2	5210	116.640	5154.640	5271.280	---	---

Test Graphs

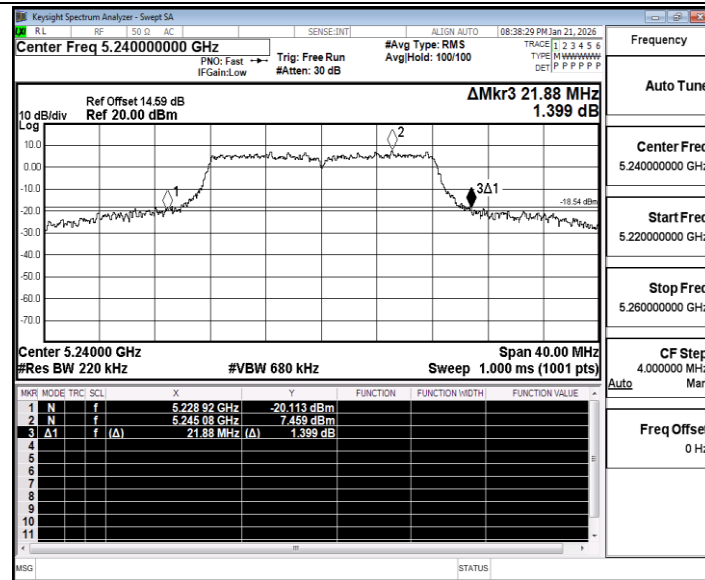
11A_Ant2_5180



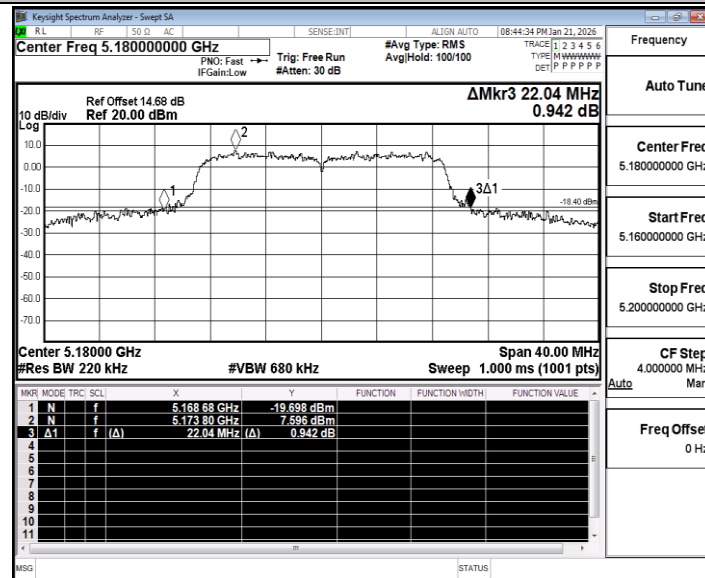
11A_Ant2_5200



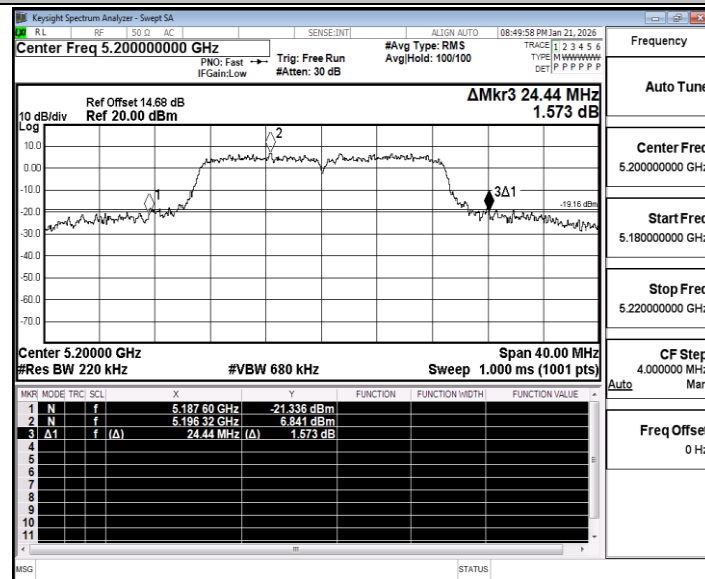
11A_Ant2_5240



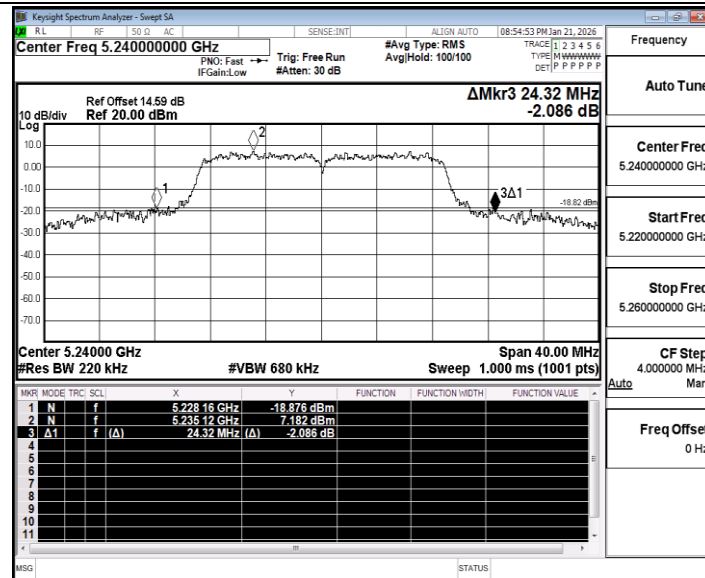
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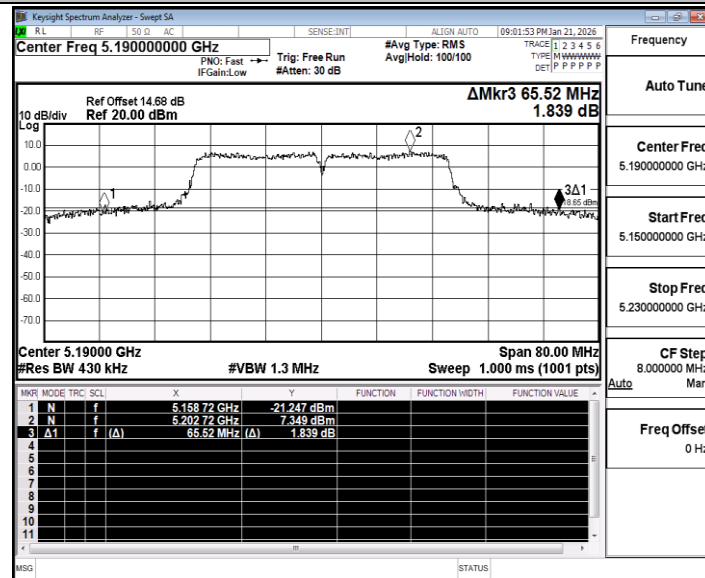
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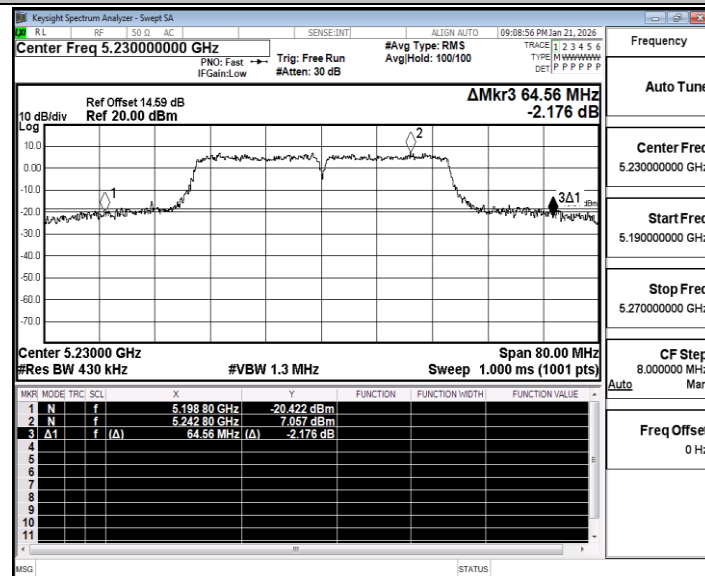
11N20SISO_Ant2_5240



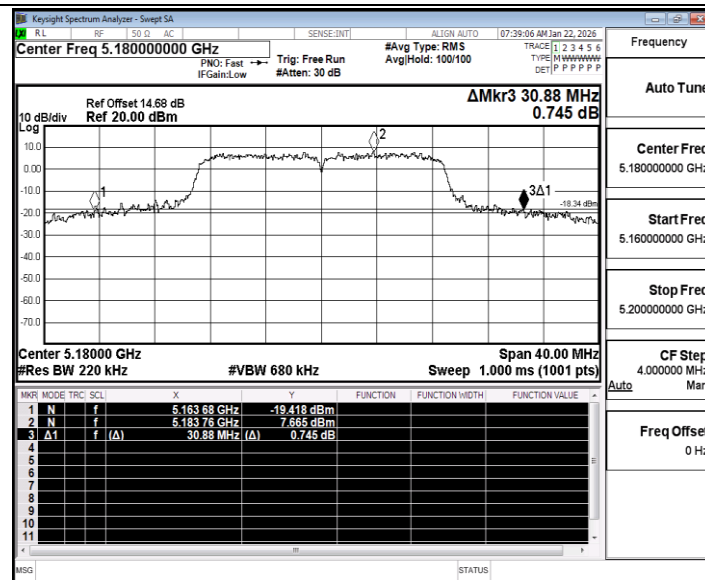
11N40SISO_Ant2_5190



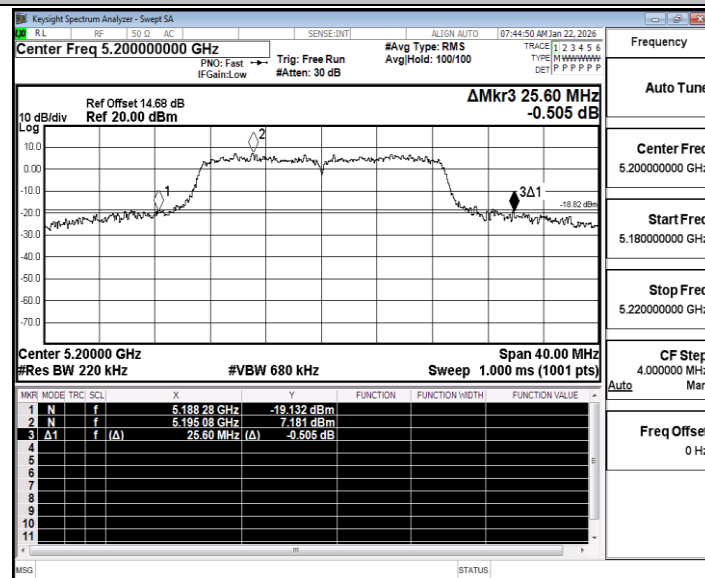
11N40SISO_Ant2_5230



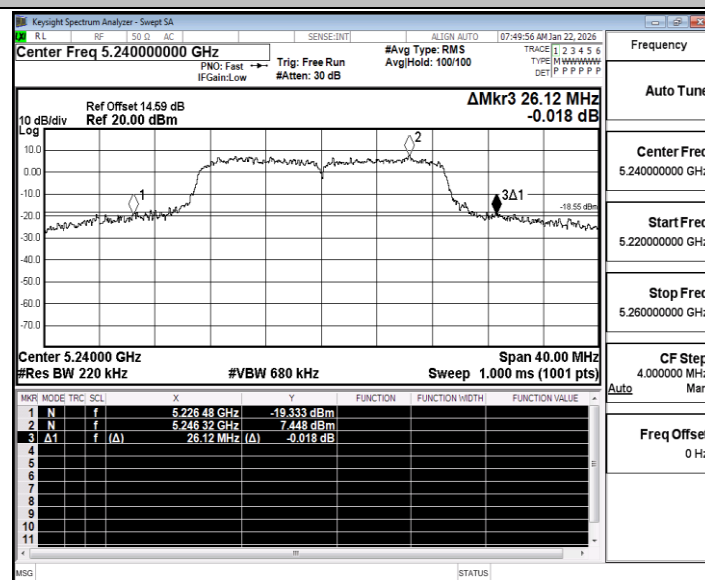
11AC20SISO_Ant2_5180



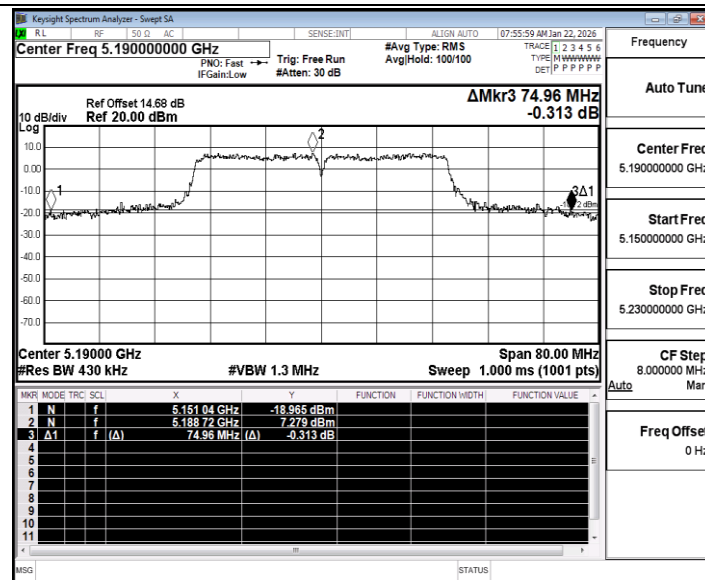
11AC20SISO_Ant2_5200



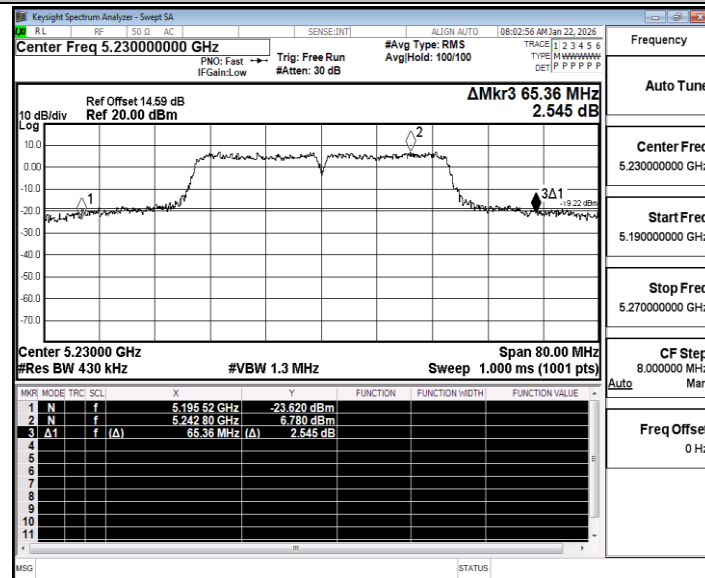
11AC20SISO_Ant2_5240



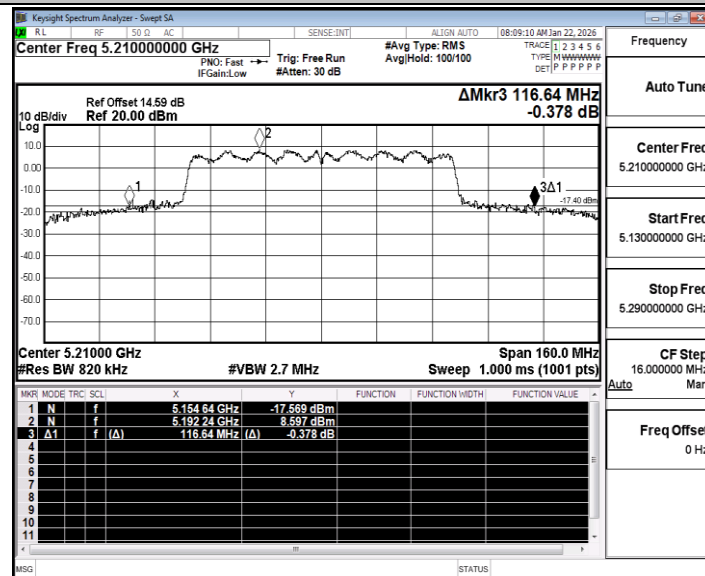
11AC40SISO_Ant2_5190



11AC40SISO_Ant2_5230



11AC80SISO_Ant2_5210



B.2 Maximum Conducted Output Power

Condition	Mode	Frequency (MHz)	Antenna	Conducted Power (dBm)	Duty Factor (dB)	Total Power (dBm)	Limit (dBm)	Verdict
NVNT	a	5180	Ant1	17.29	0.16	17.45	24	Pass
NVNT	a	5200	Ant1	17.48	0.16	17.64	24	Pass
NVNT	a	5240	Ant1	17.61	0.16	17.77	24	Pass
NVNT	n20	5180	Ant1	17.38	0.2	17.58	24	Pass
NVNT	n20	5200	Ant1	17.45	0.17	17.62	24	Pass
NVNT	n20	5240	Ant1	17.57	0.17	17.74	24	Pass
NVNT	n40	5190	Ant1	17.51	0.4	17.91	24	Pass
NVNT	n40	5230	Ant1	17.31	0.4	17.71	24	Pass
NVNT	ac20	5180	Ant1	16.88	0.2	17.08	24	Pass
NVNT	ac20	5200	Ant1	17.44	0.2	17.64	24	Pass
NVNT	ac20	5240	Ant1	17.79	0.17	17.96	24	Pass
NVNT	ac40	5190	Ant1	16.98	0.33	17.31	24	Pass
NVNT	ac40	5230	Ant1	17.33	0.4	17.73	24	Pass
NVNT	ac80	5210	Ant1	17.42	0.77	18.19	24	Pass

Condition	Mode	Frequency (MHz)	Antenna	Conducted Power (dBm)	Duty Factor (dB)	Total Power (dBm)	Limit (dBm)	Verdict
NVNT	a	5180	Ant2	17.02	0.16	17.18	24	Pass
NVNT	a	5200	Ant2	17.07	0.16	17.23	24	Pass
NVNT	a	5240	Ant2	17.5	0.16	17.66	24	Pass
NVNT	n20	5180	Ant2	17.04	0.17	17.21	24	Pass
NVNT	n20	5200	Ant2	17.15	0.17	17.32	24	Pass
NVNT	n20	5240	Ant2	17.51	0.17	17.68	24	Pass
NVNT	n40	5190	Ant2	17.33	0.4	17.73	24	Pass
NVNT	n40	5230	Ant2	17.75	0.33	18.08	24	Pass
NVNT	ac20	5180	Ant2	16.94	0.2	17.14	24	Pass
NVNT	ac20	5200	Ant2	17.09	0.2	17.29	24	Pass
NVNT	ac20	5240	Ant2	17.47	0.17	17.64	24	Pass
NVNT	ac40	5190	Ant2	17.62	0.33	17.95	24	Pass
NVNT	ac40	5230	Ant2	17.95	0.33	18.28	24	Pass
NVNT	ac80	5210	Ant2	17.23	0.63	17.86	24	Pass

MIMO

Condition	Mode	Frequency (MHz)	Antenna		Total Maximum Average (dBm)	Limit (dBm)	Verdict
			Ant1	Ant2			
NVNT	n20	5180	17.58	17.21	20.41	24	Pass
NVNT	n20	5200	17.62	17.32	20.48	24	Pass
NVNT	n20	5240	17.74	17.68	20.72	24	Pass
NVNT	n40	5190	17.91	17.73	20.83	24	Pass
NVNT	n40	5230	17.71	18.08	20.91	24	Pass
NVNT	ac20	5180	17.08	17.14	20.12	24	Pass
NVNT	ac20	5200	17.64	17.29	20.48	24	Pass
NVNT	ac20	5240	17.96	17.64	20.81	24	Pass
NVNT	ac40	5190	17.31	17.95	20.65	24	Pass
NVNT	ac40	5230	17.73	18.28	21.02	24	Pass
NVNT	ac80	5210	18.19	17.86	21.04	24	Pass

B.3 Maximum Power Spectral Density Level

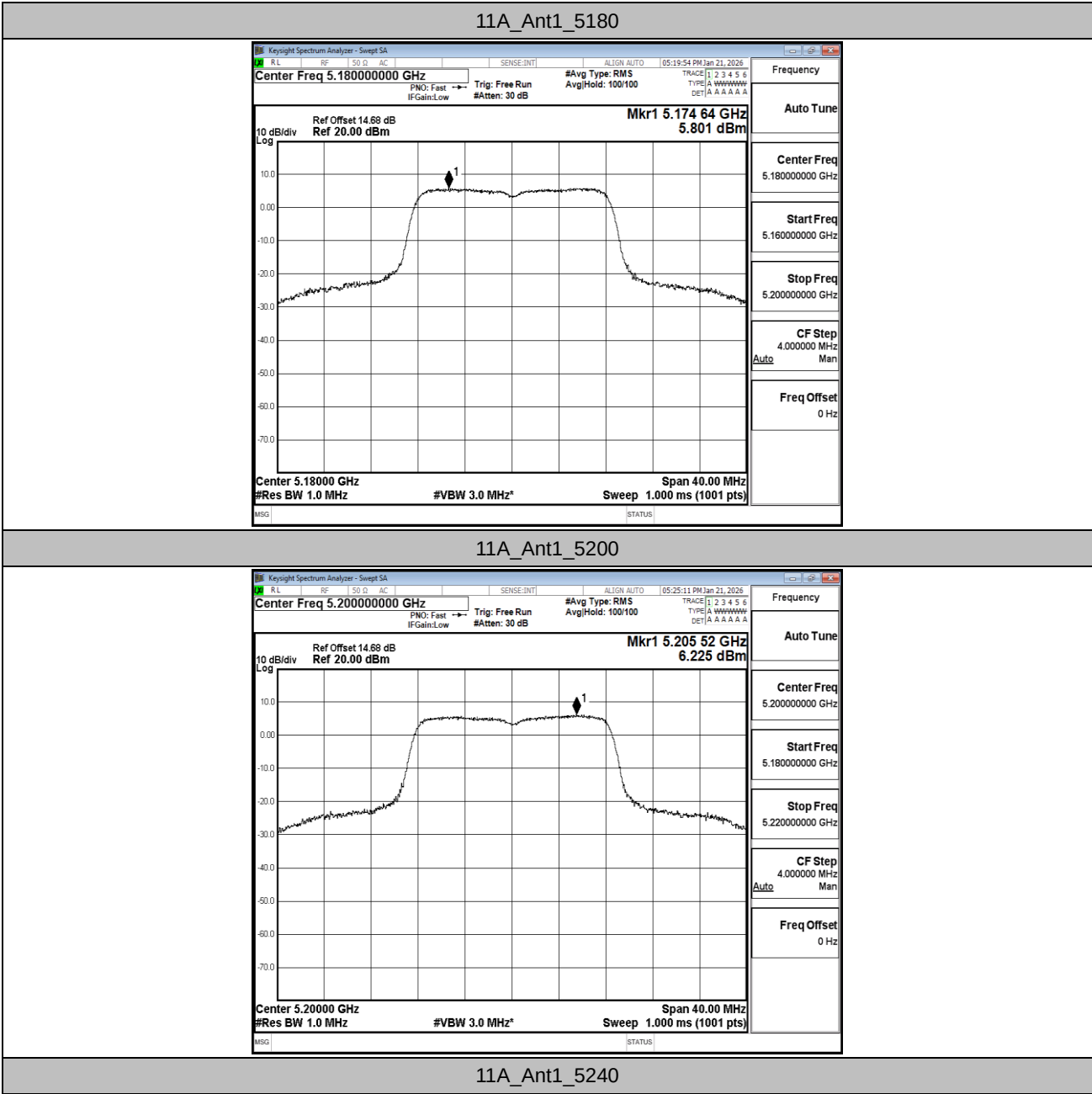
Condition	Mode	Frequency (MHz)	Antenna	Conducted PSD (dBm/MHz)	Duty Factor (dB)	Total PSD (dBm/MHz)	Limit (dBm/MHz)	Verdict
NVNT	a	5180	Ant1	5.8	0.16	5.96	11	Pass
NVNT	a	5200	Ant1	6.23	0.16	6.39	11	Pass
NVNT	a	5240	Ant1	6.14	0.16	6.3	11	Pass
NVNT	n20	5180	Ant1	5.9	0.2	6.1	11	Pass
NVNT	n20	5200	Ant1	6	0.17	6.17	11	Pass
NVNT	n20	5240	Ant1	5.93	0.17	6.1	11	Pass
NVNT	n40	5190	Ant1	2.89	0.4	3.29	11	Pass
NVNT	n40	5230	Ant1	2.67	0.4	3.07	11	Pass
NVNT	ac20	5180	Ant1	5.6	0.2	5.8	11	Pass
NVNT	ac20	5200	Ant1	6.11	0.2	6.31	11	Pass
NVNT	ac20	5240	Ant1	6.12	0.17	6.29	11	Pass
NVNT	ac40	5190	Ant1	2.52	0.33	2.85	11	Pass
NVNT	ac40	5230	Ant1	2.54	0.4	2.94	11	Pass
NVNT	ac80	5210	Ant1	1.74	0.77	2.51	11	Pass

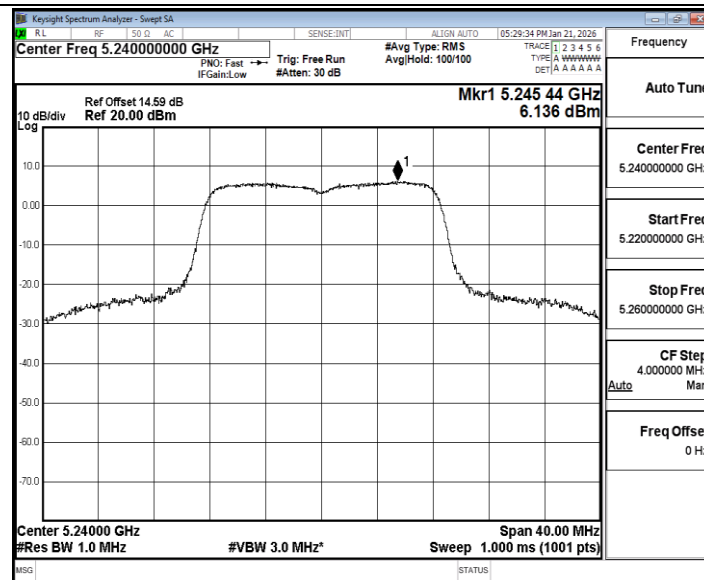
Condition	Mode	Frequency (MHz)	Antenna	Conducted PSD (dBm/MHz)	Duty Factor (dB)	Total PSD (dBm/MHz)	Limit (dBm/MHz)	Verdict
NVNT	a	5180	Ant2	5.48	0.16	5.64	11	Pass
NVNT	a	5200	Ant2	5.73	0.16	5.89	11	Pass
NVNT	a	5240	Ant2	5.93	0.16	6.09	11	Pass
NVNT	n20	5180	Ant2	5.41	0.17	5.58	11	Pass
NVNT	n20	5200	Ant2	5.62	0.17	5.79	11	Pass
NVNT	n20	5240	Ant2	5.83	0.17	6	11	Pass
NVNT	n40	5190	Ant2	2.63	0.4	3.03	11	Pass
NVNT	n40	5230	Ant2	3.15	0.33	3.48	11	Pass
NVNT	ac20	5180	Ant2	5.85	0.2	6.05	11	Pass
NVNT	ac20	5200	Ant2	5.76	0.2	5.96	11	Pass
NVNT	ac20	5240	Ant2	6.1	0.17	6.27	11	Pass
NVNT	ac40	5190	Ant2	2.97	0.33	3.3	11	Pass
NVNT	ac40	5230	Ant2	3.19	0.33	3.52	11	Pass
NVNT	ac80	5210	Ant2	0.8	0.63	1.43	11	Pass

MIMO

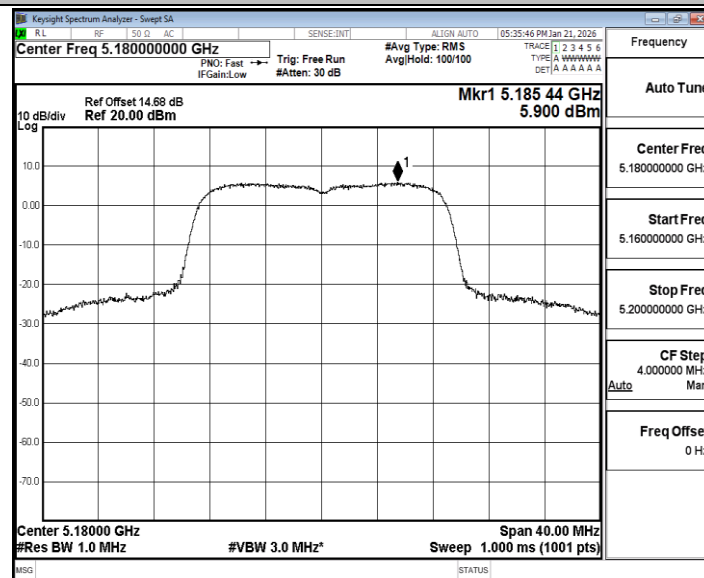
Condition	Mode	Frequency (MHz)	Conducted PSD (dBm/MHz) Duty Factor (dB)		Total PSD (dBm/MHz)	Limit (dBm/MHz)	Verdict
			Ant1	Ant2			
NVNT	n20	5180	6.1	5.58	8.86	11	Pass
NVNT	n20	5200	6.17	5.79	8.99	11	Pass
NVNT	n20	5240	6.1	6	9.06	11	Pass
NVNT	n40	5190	3.29	3.03	6.17	11	Pass
NVNT	n40	5230	3.07	3.48	6.29	11	Pass
NVNT	ac20	5180	5.8	6.05	8.94	11	Pass
NVNT	ac20	5200	6.31	5.96	9.15	11	Pass
NVNT	ac20	5240	6.29	6.27	9.29	11	Pass
NVNT	ac40	5190	2.85	3.3	6.09	11	Pass
NVNT	ac40	5230	2.94	3.52	6.25	11	Pass
NVNT	ac80	5210	2.51	1.43	5.01	11	Pass

Test Graphs

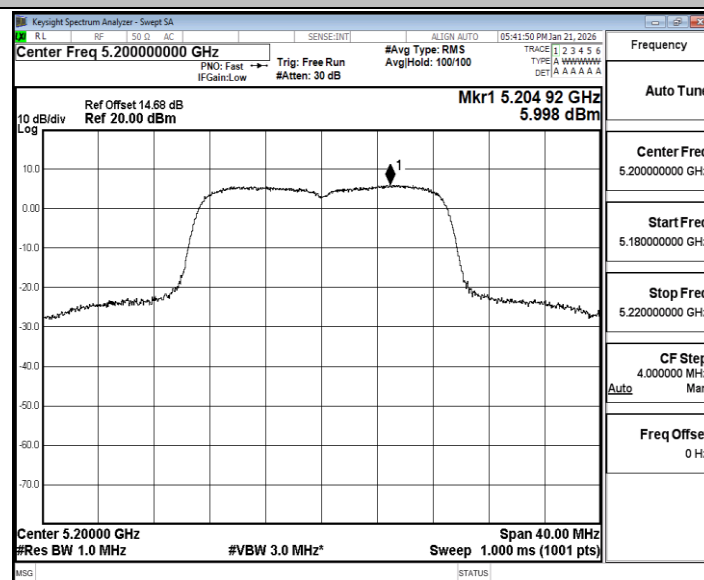




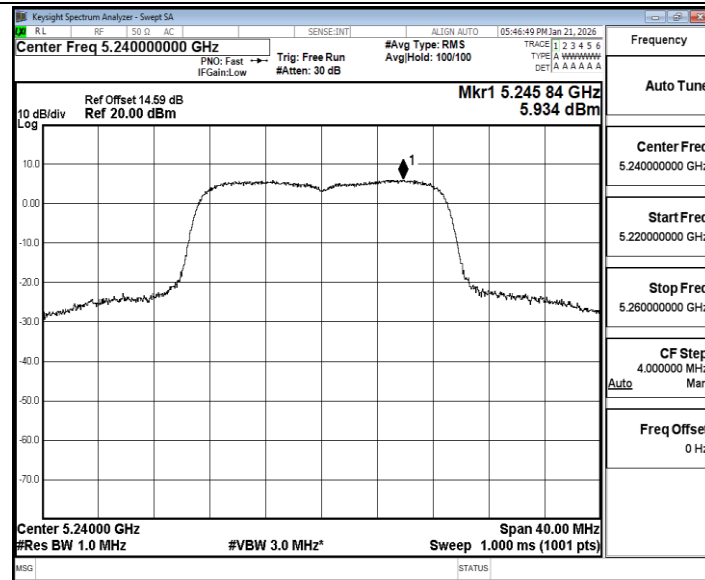
11N20SISO_Ant1_5180



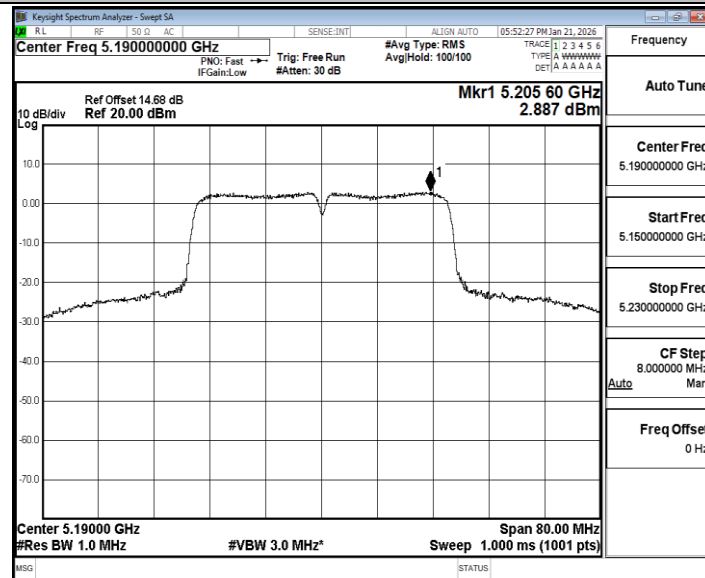
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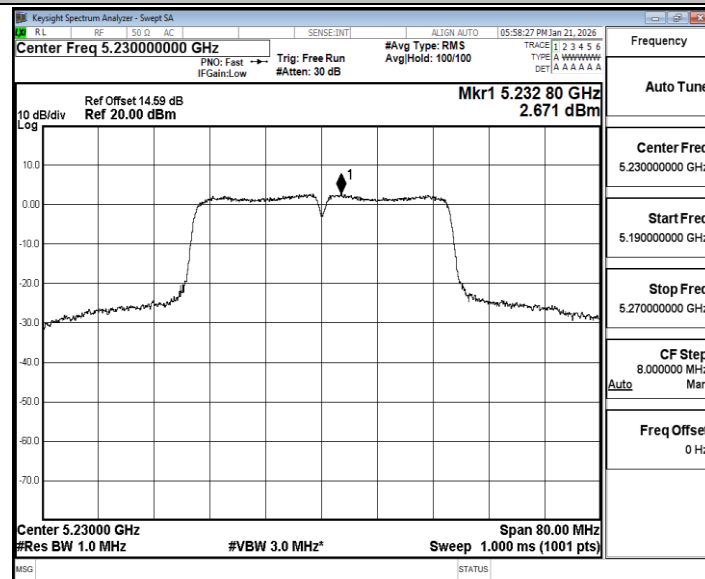
11N20SISO_Ant1_5240



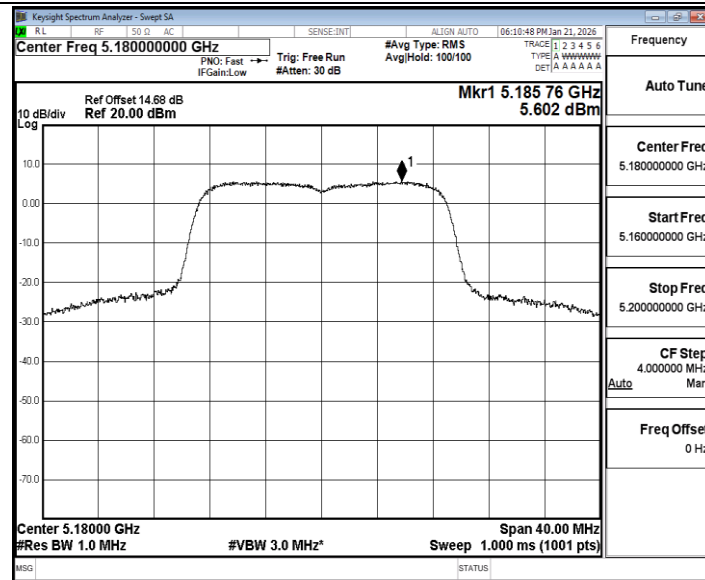
11N40SISO_Ant1_5190



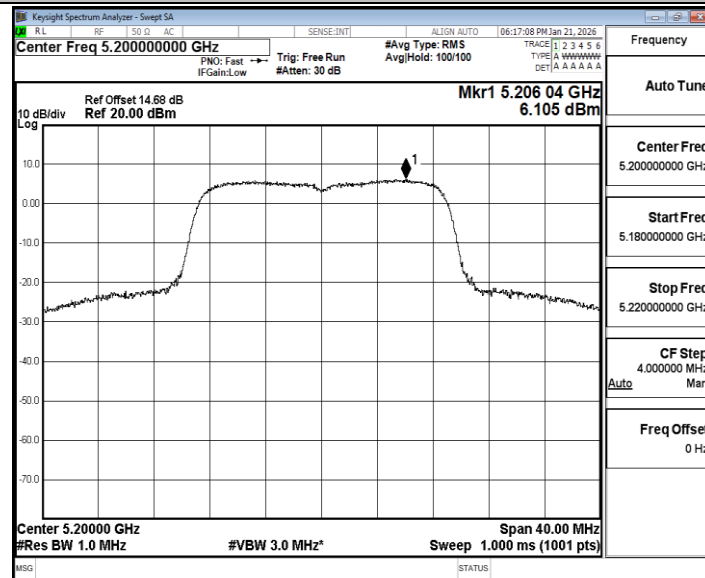
11N40SISO_Ant1_5230



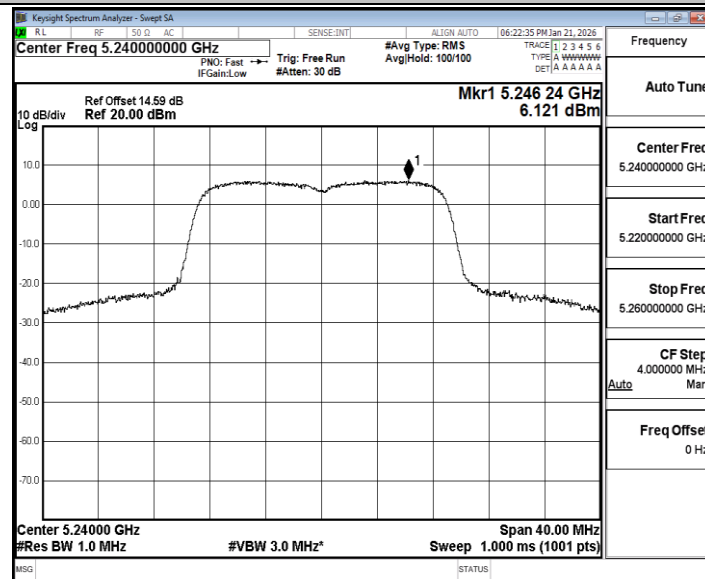
11AC20SISO_Ant1_5180



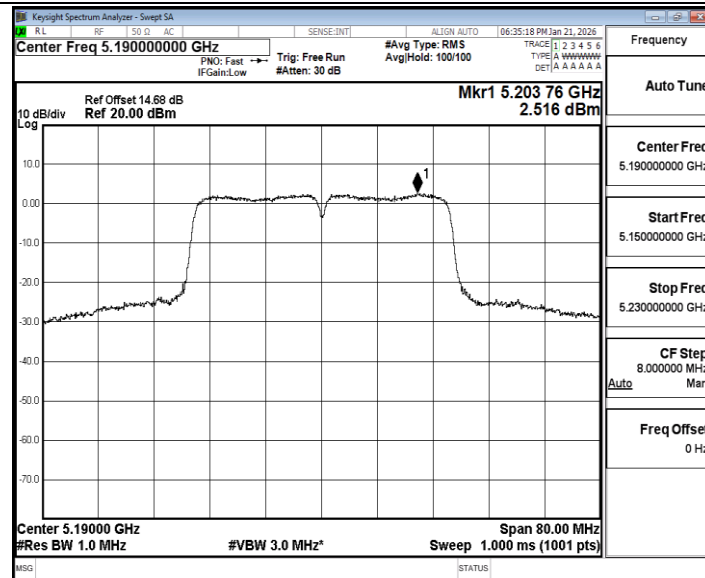
11AC20SISO_Ant1_5200



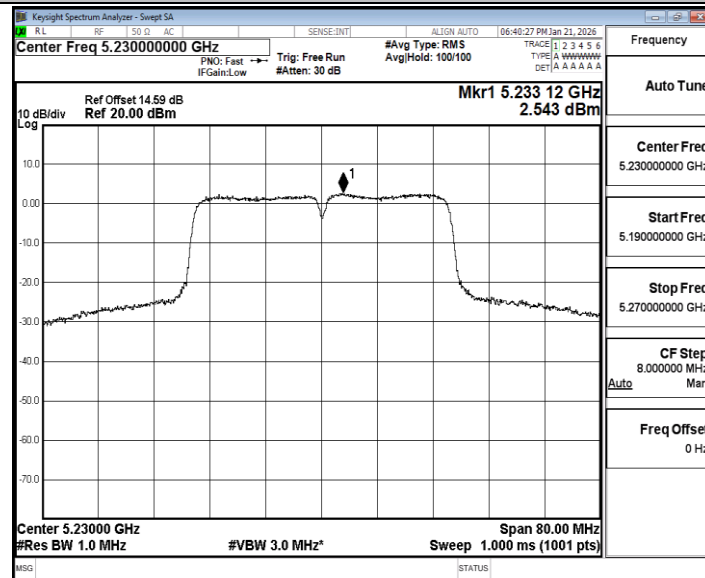
11AC20SISO_Ant1_5240



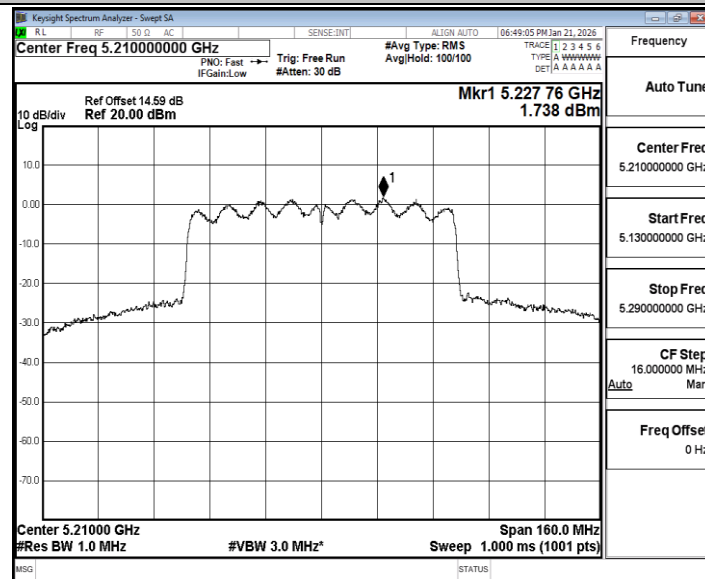
11AC40SISO_Ant1_5190



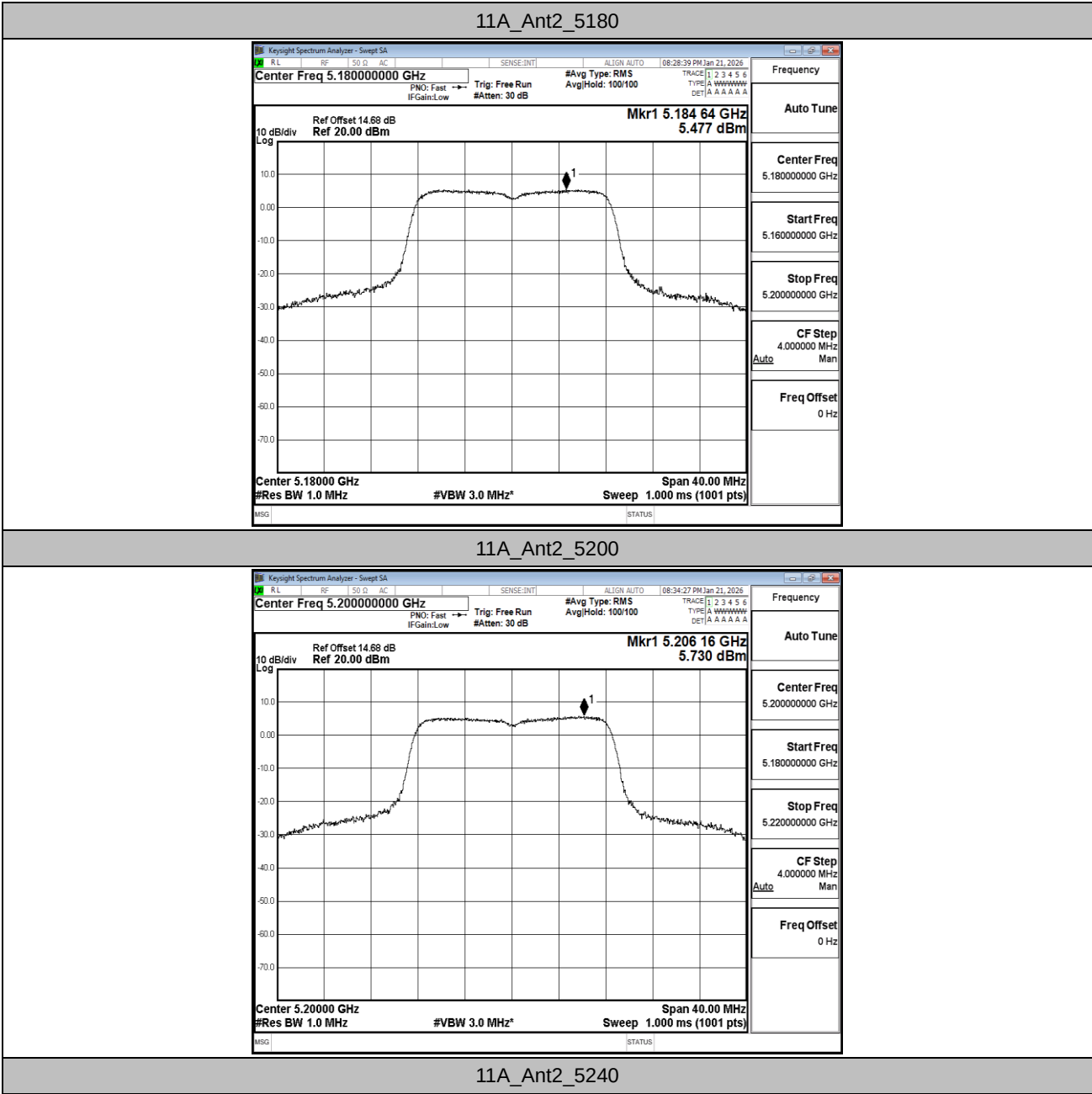
11AC40SISO_Ant1_5230

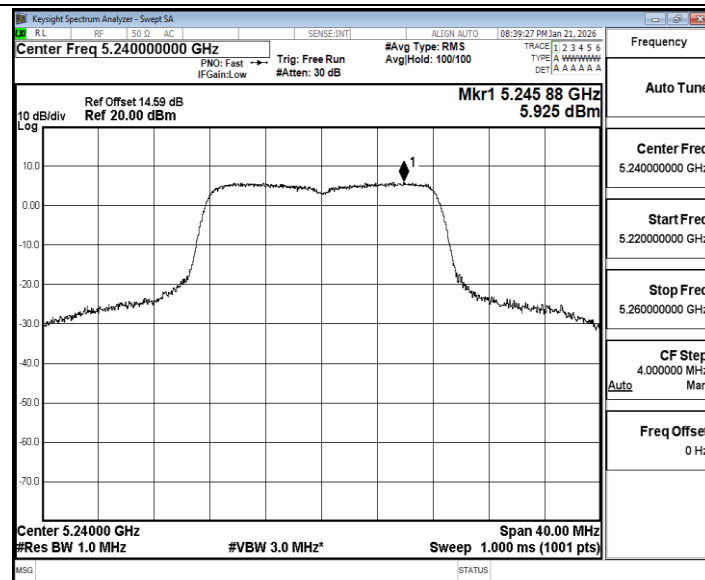


11AC80SISO_Ant1_5210

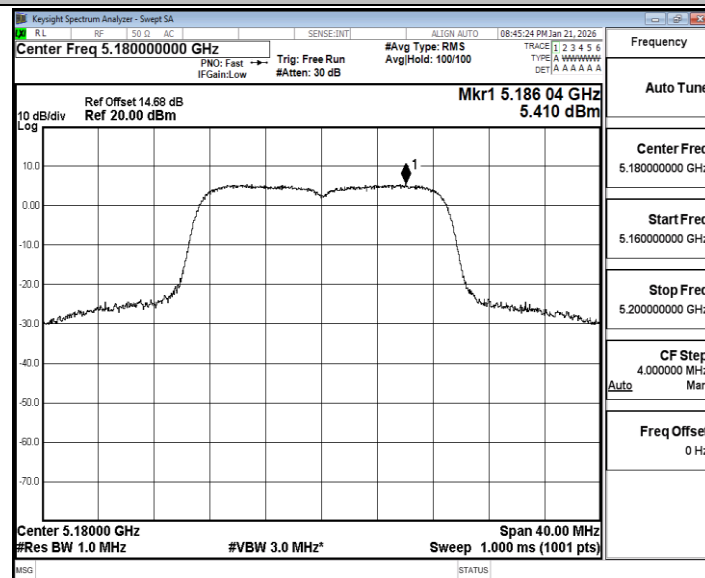


Test Graphs

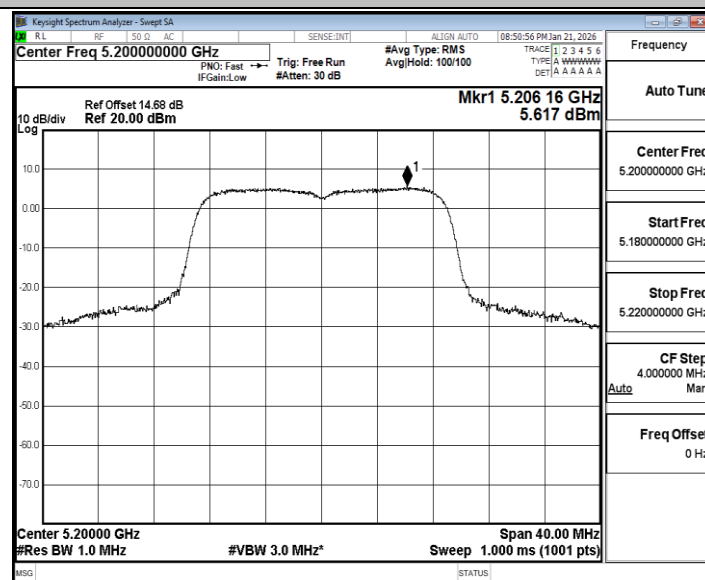




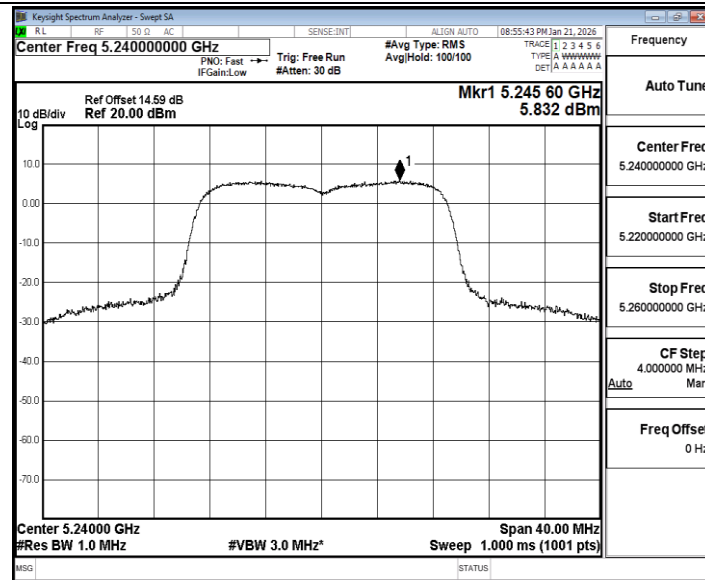
11N20SISO_Ant2_5180



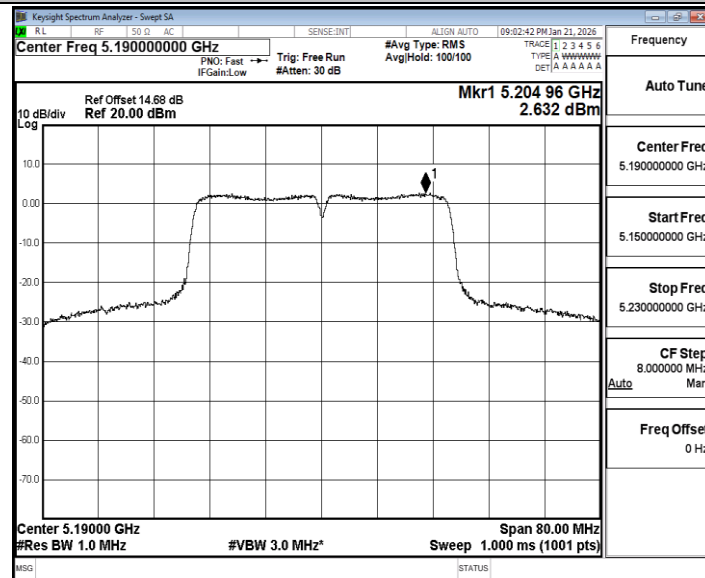
11N20SISO_Ant2_5200



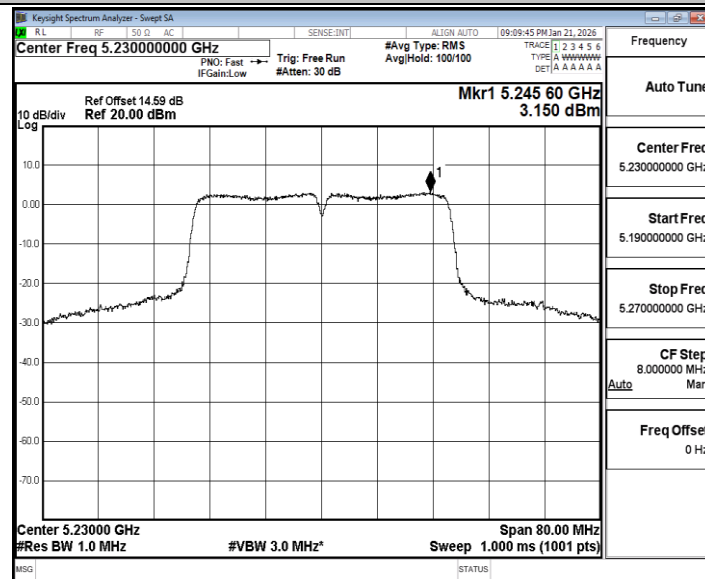
11N20SISO_Ant2_5240



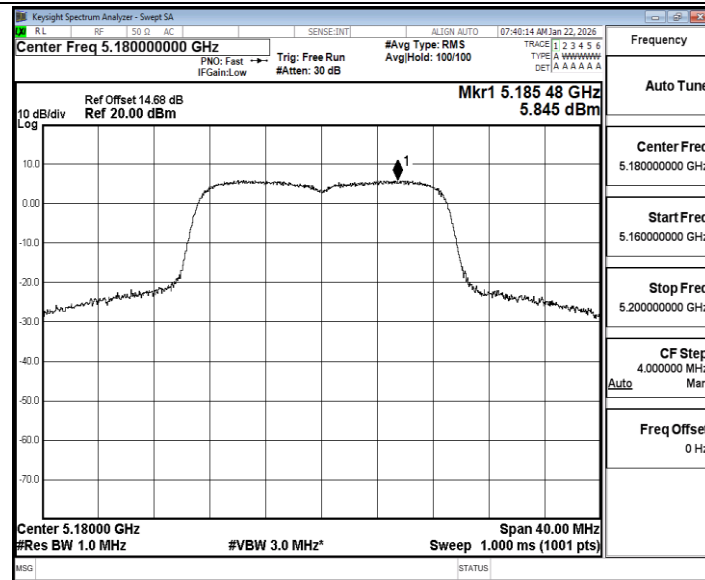
11N40SISO_Ant2_5190



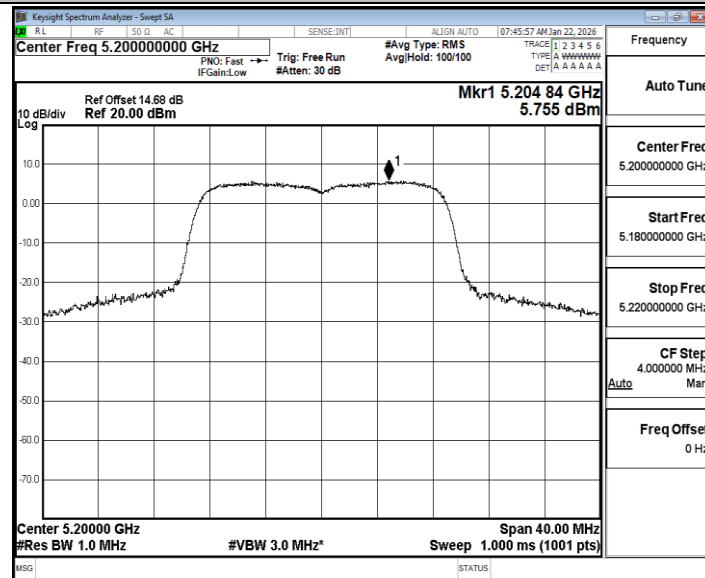
11N40SISO_Ant2_5230



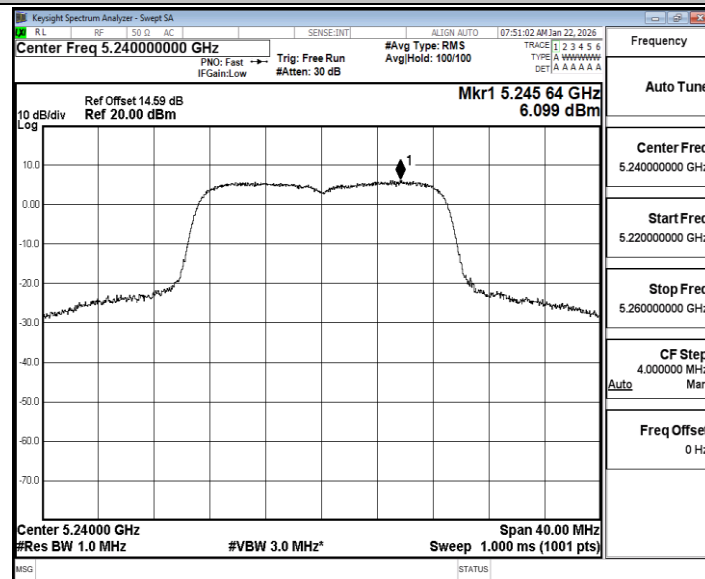
11AC20SISO_Ant2_5180



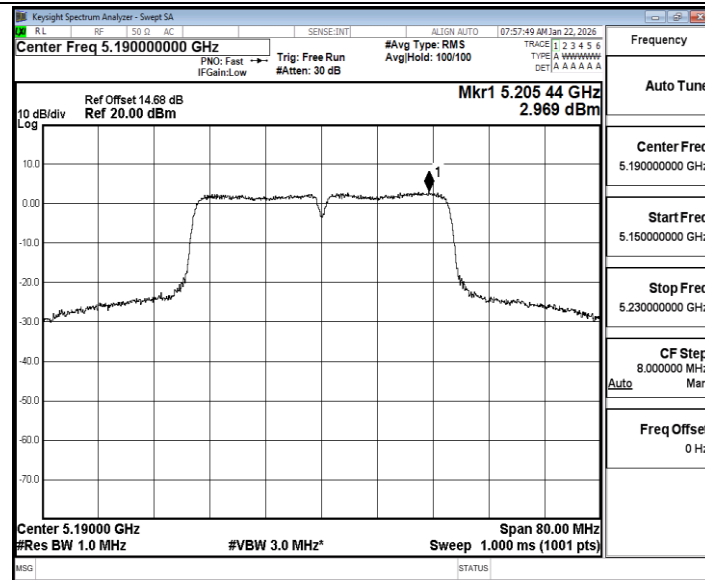
11AC20SISO_Ant2_5200



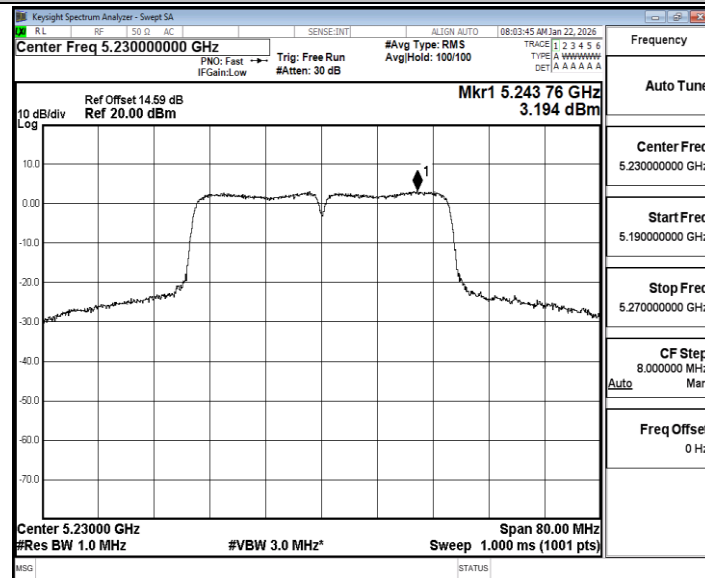
11AC20SISO_Ant2_5240



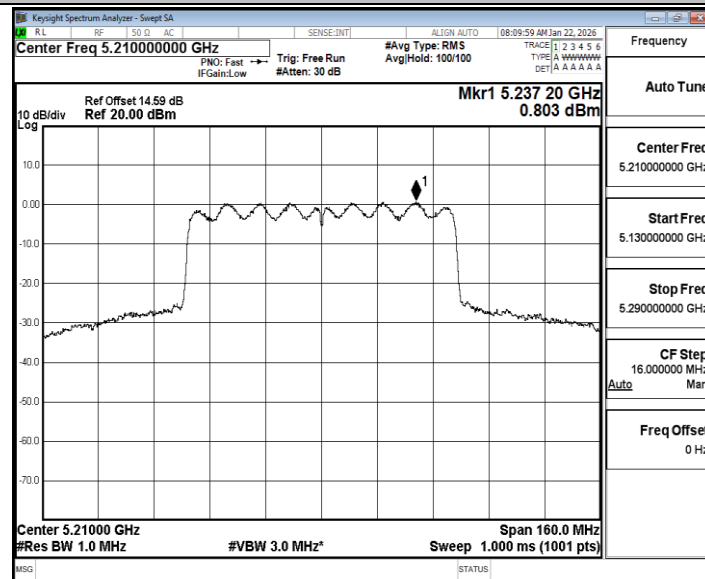
11AC40SISO_Ant2_5190



11AC40SISO_Ant2_5230



11AC80SISO_Ant2_5210



B.4 Emissions in Restricted Bands

Test Result

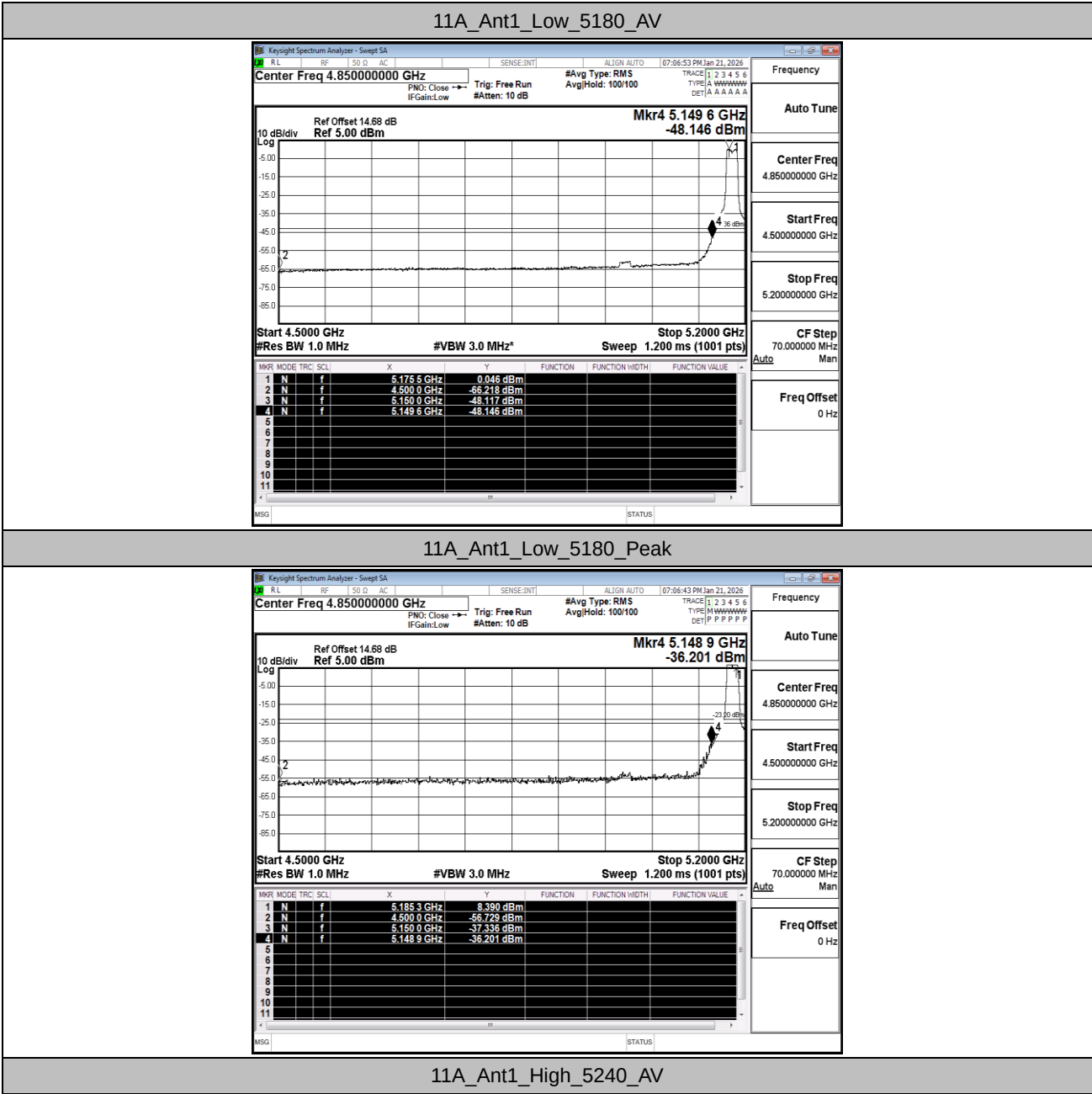
Test Mode	Antenna	Channel Name	Freq (MHz)	Detector	Freq [MHz]	Result [dBm]	Limit [dBm]	Gain [dBi]	DC Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Verdict
11A	Ant1	Low	5180	AV	4500.000	-66.22	≤-43.36	2.86	0.16	32.03	54	PASS
				AV	5149.600	-48.15	≤-43.36	2.86	0.16	50.10	54	PASS
				AV	5150.000	-48.12	≤-43.36	2.86	0.16	50.13	54	PASS
				Peak	4500.000	-56.73	≤-23.20	2.86	0	41.36	68.2	PASS
				Peak	5148.900	-36.2	≤-23.20	2.86	0	61.89	68.2	PASS
				Peak	5150.000	-37.34	≤-23.20	2.86	0	60.75	68.2	PASS
		High	5240	AV	5350.000	-60.5	≤-43.36	2.86	0.16	37.75	54	PASS
				AV	5356.080	-59.83	≤-43.36	2.86	0.16	38.42	54	PASS
				AV	5460.000	-63.81	≤-43.36	2.86	0.16	34.44	54	PASS
				Peak	5350.000	-53.83	≤-23.20	2.86	0	44.26	68.2	PASS
				Peak	5357.760	-50.38	≤-23.20	2.86	0	47.71	68.2	PASS
				Peak	5460.000	-54.42	≤-23.20	2.86	0	43.67	68.2	PASS
11N20 SISO	Ant1	Low	5180	AV	4500.000	-66.54	≤-43.40	2.86	0.2	31.75	54	PASS
				AV	5149.600	-49.18	≤-43.40	2.86	0.2	49.11	54	PASS
				AV	5150.000	-48.83	≤-43.40	2.86	0.2	49.46	54	PASS
				Peak	4500.000	-59.39	≤-23.20	2.86	0	38.70	68.2	PASS
				Peak	5148.900	-36.36	≤-23.20	2.86	0	61.73	68.2	PASS
				Peak	5150.000	-38.74	≤-23.20	2.86	0	59.35	68.2	PASS
		High	5240	AV	5350.000	-60.99	≤-43.37	2.86	0.17	37.27	54	PASS
				AV	5352.000	-60.29	≤-43.37	2.86	0.17	37.97	54	PASS
				AV	5460.000	-63.4	≤-43.37	2.86	0.17	34.86	54	PASS
				Peak	5350.000	-52.96	≤-23.20	2.86	0	45.13	68.2	PASS
				Peak	5365.680	-49.41	≤-23.20	2.86	0	48.68	68.2	PASS
				Peak	5460.000	-54.06	≤-23.20	2.86	0	44.03	68.2	PASS
11N40 SISO	Ant1	Low	5190	AV	4500.000	-66.16	≤-43.60	2.86	0.4	32.33	54	PASS
				AV	5149.600	-44.87	≤-43.60	2.86	0.4	53.62	54	PASS
				AV	5150.000	-43.94	≤-43.60	2.86	0.4	53.55	54	PASS
				Peak	4500.000	-59.4	≤-23.20	2.86	0	38.69	68.2	PASS
				Peak	5142.600	-34.94	≤-23.20	2.86	0	63.15	68.2	PASS
				Peak	5150.000	-33.5	≤-23.20	2.86	0	64.59	68.2	PASS
		High	5230	AV	5350.000	-58.96	≤-43.60	2.86	0.4	39.53	54	PASS
				AV	5351.840	-58	≤-43.60	2.86	0.4	40.49	54	PASS
				AV	5460.000	-63.43	≤-43.60	2.86	0.4	35.06	54	PASS
				Peak	5350.000	-50.27	≤-23.20	2.86	0	47.82	68.2	PASS
				Peak	5357.820	-44.23	≤-23.20	2.86	0	53.86	68.2	PASS
				Peak	5460.000	-55.66	≤-23.20	2.86	0	42.43	68.2	PASS
11AC	Ant1	Low	5180	AV	4500.000	-66.61	≤-43.40	2.86	0.2	31.68	54	PASS

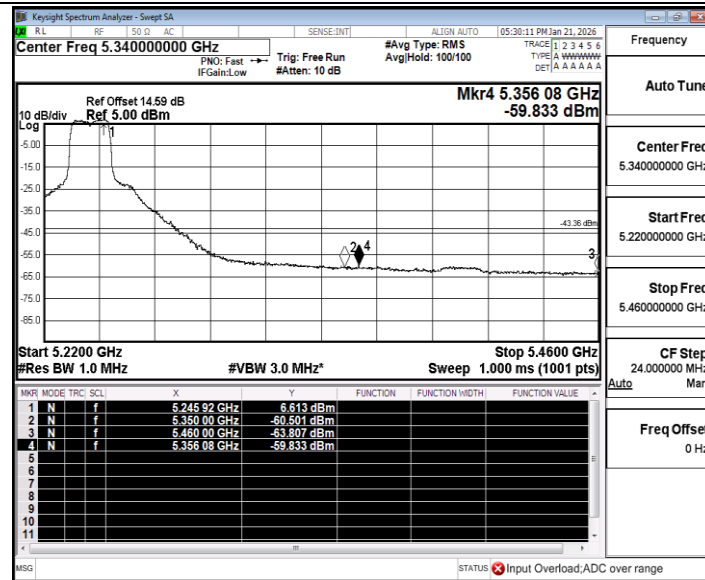
20SIS O				AV	5149.600	-49.22	≤-43.40	2.86	0.2	49.07	54	PASS
				AV	5150.000	-48.44	≤-43.40	2.86	0.2	49.85	54	PASS
				Peak	4500.000	-58.42	≤-23.20	2.86	0	39.67	68.2	PASS
				Peak	5147.500	-36.9	≤-23.20	2.86	0	61.19	68.2	PASS
				Peak	5150.000	-36.03	≤-23.20	2.86	0	62.06	68.2	PASS
		High	5240	AV	5350.000	-60.53	≤-43.37	2.86	0.17	37.73	54	PASS
				AV	5364.720	-60.27	≤-43.37	2.86	0.17	37.99	54	PASS
				AV	5460.000	-63.65	≤-43.37	2.86	0.17	34.61	54	PASS
				Peak	5350.000	-52.32	≤-23.20	2.86	0	45.77	68.2	PASS
				Peak	5394.960	-50.87	≤-23.20	2.86	0	47.22	68.2	PASS
				Peak	5460.000	-56.02	≤-23.20	2.86	0	42.07	68.2	PASS
11AC 40SIS O	Ant1	Low	5190	AV	4500.000	-66.28	≤-43.53	2.86	0.33	32.14	54	PASS
				AV	5149.600	-44.39	≤-43.53	2.86	0.33	53.03	54	PASS
				AV	5150.000	-43.85	≤-43.53	2.86	0.33	53.57	54	PASS
				Peak	4500.000	-57.32	≤-23.20	2.86	0	40.77	68.2	PASS
				Peak	5149.600	-32.44	≤-23.20	2.86	0	65.65	68.2	PASS
				Peak	5150.000	-31.36	≤-23.20	2.86	0	66.73	68.2	PASS
		High	5230	AV	5350.000	-57.53	≤-43.60	2.86	0.4	40.96	54	PASS
				AV	5350.540	-57.35	≤-43.60	2.86	0.4	41.14	54	PASS
				AV	5460.000	-63.44	≤-43.60	2.86	0.4	35.05	54	PASS
				Peak	5350.000	-46.02	≤-23.20	2.86	0	52.07	68.2	PASS
				Peak	5350.280	-44.57	≤-23.20	2.86	0	53.52	68.2	PASS
				Peak	5460.000	-55.17	≤-23.20	2.86	0	42.92	68.2	PASS
11AC 80SIS O	Ant1	Low	5210	AV	4500.000	-66.28	≤-43.97	2.86	0.77	32.58	54	PASS
				AV	5149.500	-48.88	≤-43.97	2.86	0.77	49.98	54	PASS
				AV	5150.000	-49.83	≤-43.97	2.86	0.77	49.03	54	PASS
				Peak	4500.000	-60.19	≤-23.20	2.86	0	37.90	68.2	PASS
				Peak	5141.250	-39.54	≤-23.20	2.86	0	58.55	68.2	PASS
				Peak	5150.000	-40.21	≤-23.20	2.86	0	57.88	68.2	PASS
		High	5210	AV	5350.000	-63.95	≤-43.97	2.86	0.77	34.91	54	PASS
				AV	5369.840	-63.29	≤-43.97	2.86	0.77	35.57	54	PASS
				AV	5460.000	-65.28	≤-43.97	2.86	0.77	33.58	54	PASS
				Peak	5350.000	-55.14	≤-23.20	2.86	0	42.95	68.2	PASS
				Peak	5356.680	-53.87	≤-23.20	2.86	0	44.22	68.2	PASS
				Peak	5460.000	-57.63	≤-23.20	2.86	0	40.46	68.2	PASS

Note:

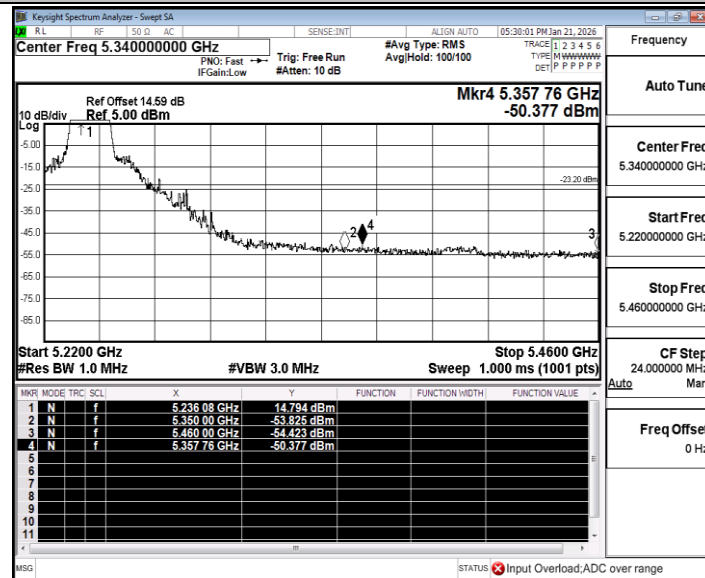
1. The Antenna Gain is compensated in the graph.
2. For transmitters operating in 5150-5350 GHz band and 5470-5725 GHz band: The limit in dBm for average detector is conversion from 54dBuV/m, according to 15.209(a). The limit in dBm for peak detector is 20dB above the limit of average detector in dBm.

Test Graphs

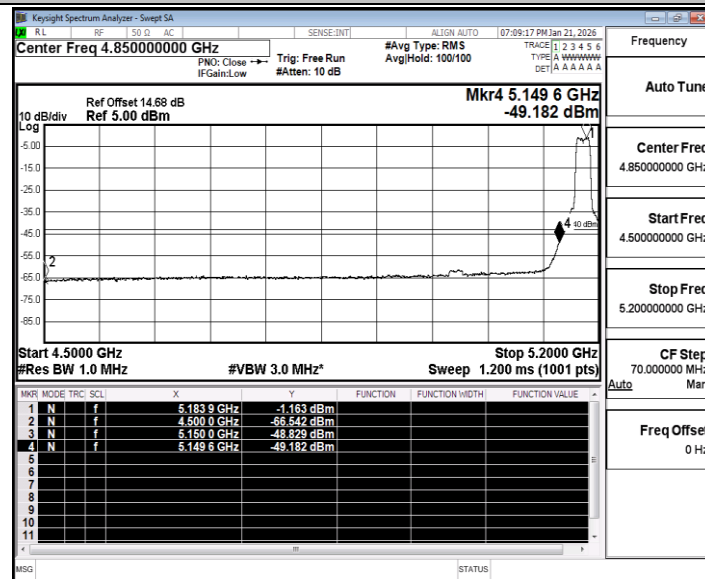




11A_Ant1_High_5240_Peak



11N20SISO_Ant1_Low_5180_AV



11N20SISO_Ant1_Low_5180_Peak