

Appendix A

RF Test Data for 5.2GWIFI (Conducted Measurement)

Product Name: SIMAGIC Air Link

Test Model: SIMAGIC Air Link

Environmental Conditions

Temperature:	24.6°C
Relative Humidity:	53.9%
ATM Pressure:	100.0 kPa
Test Engineer:	Zhang Hai
Supervised by:	Fengliu Tang

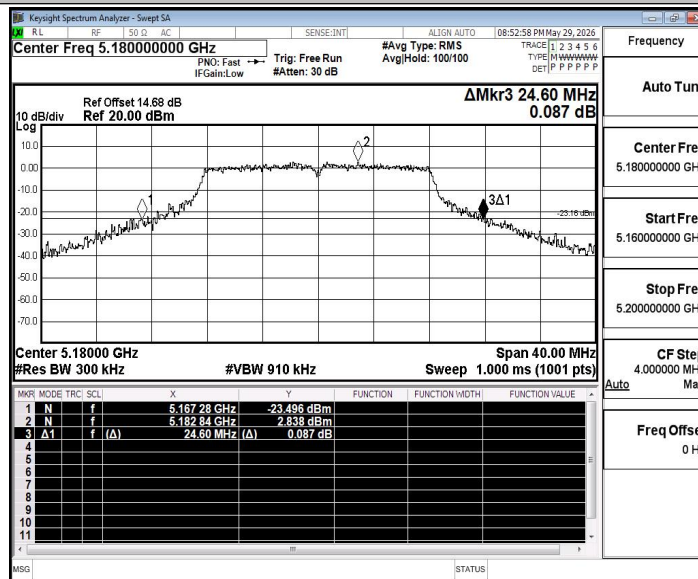
A.1 Emission Bandwidth

Test Result

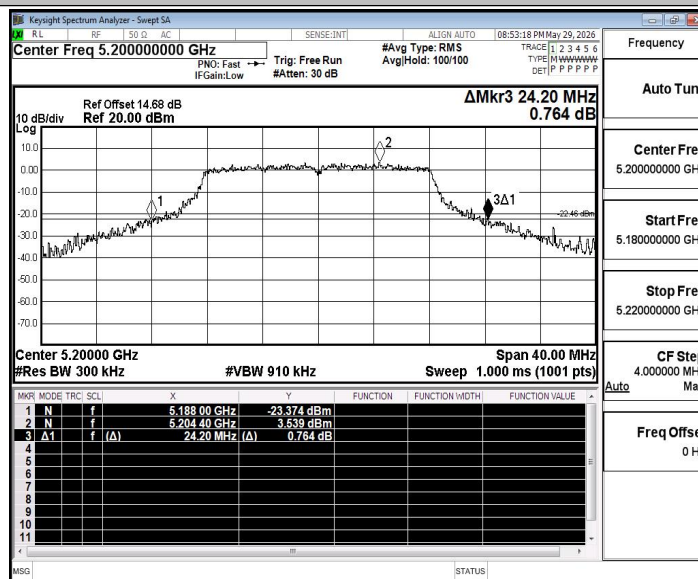
TestMode	Antenna	Freq(MHz)	26db EBW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
11A	Ant1	5180	24.600	5167.280	5191.880	---	---
		5200	24.200	5188.000	5212.200	---	---
		5240	25.240	5227.360	5252.600	---	---
11N20SISO	Ant1	5180	20.520	5170.000	5190.520	---	---
		5200	20.920	5189.840	5210.760	---	---
		5240	21.960	5229.360	5251.320	---	---
11N40SISO	Ant1	5190	41.920	5170.080	5212.000	---	---
		5230	42.800	5209.840	5252.640	---	---
11AC20SISO	Ant1	5180	24.400	5168.360	5192.760	---	---
		5200	24.560	5188.160	5212.720	---	---
		5240	25.320	5228.000	5253.320	---	---
11AC40SISO	Ant1	5190	42.160	5169.120	5211.280	---	---
		5230	42.880	5209.200	5252.080	---	---
11AX20SISO	Ant1	5180	26.840	5167.840	5194.680	---	---
		5200	26.760	5189.000	5215.760	---	---
		5240	27.440	5228.080	5255.520	---	---
11AX40SISO	Ant1	5190	56.560	5164.800	5221.360	---	---
		5230	56.640	5202.960	5259.600	---	---

Test Graphs

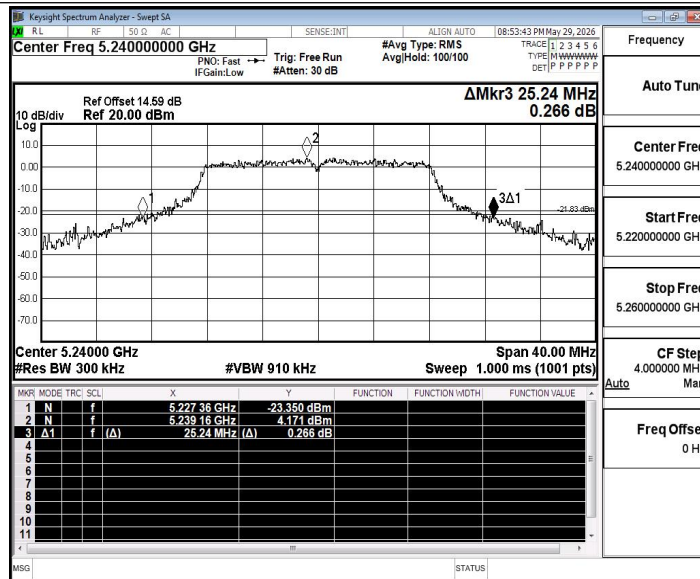
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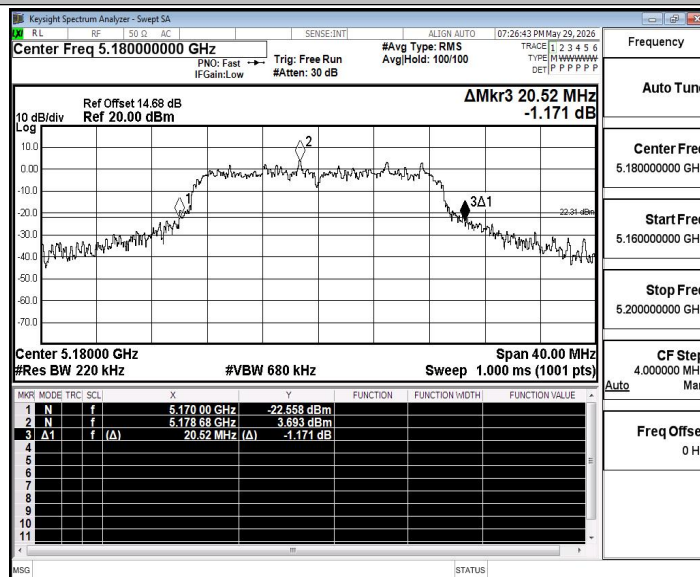
11A_Ant1_5200



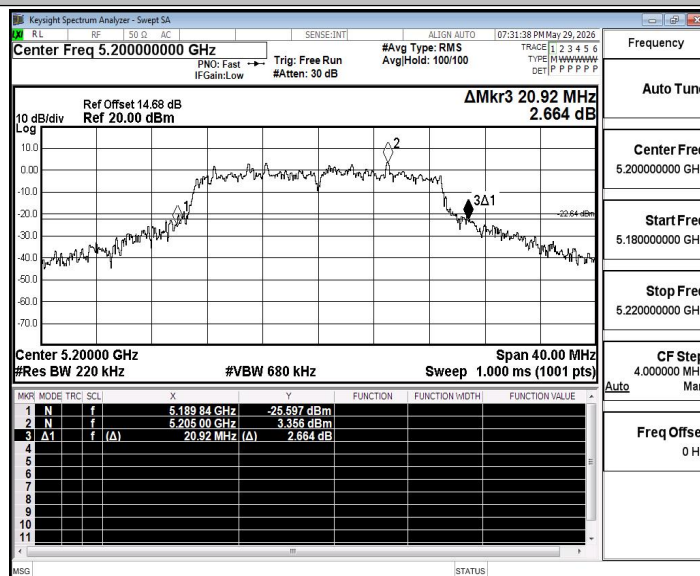
11A_Ant1_5240



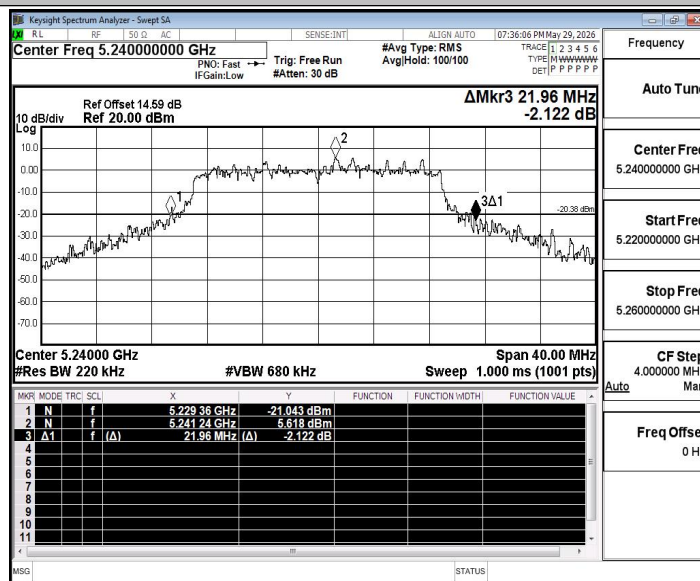
11N20SISO_Ant1_5180



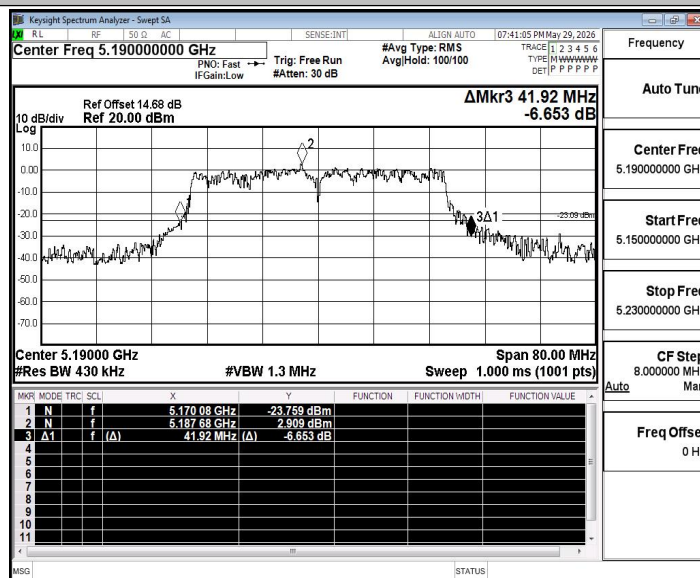
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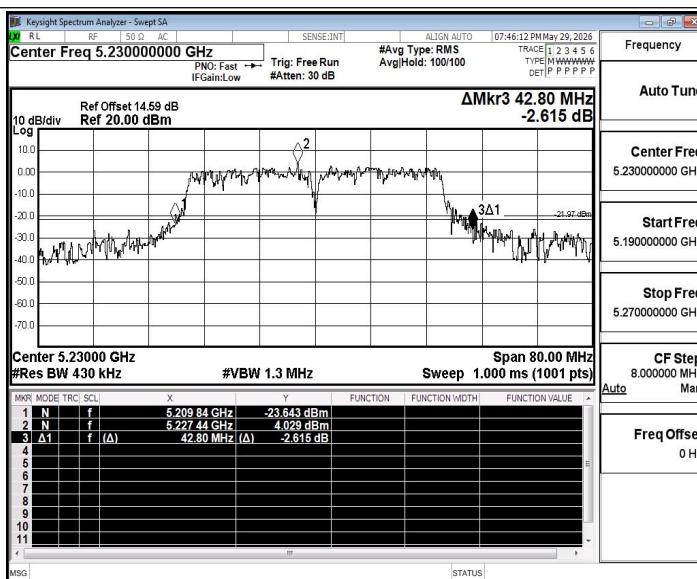
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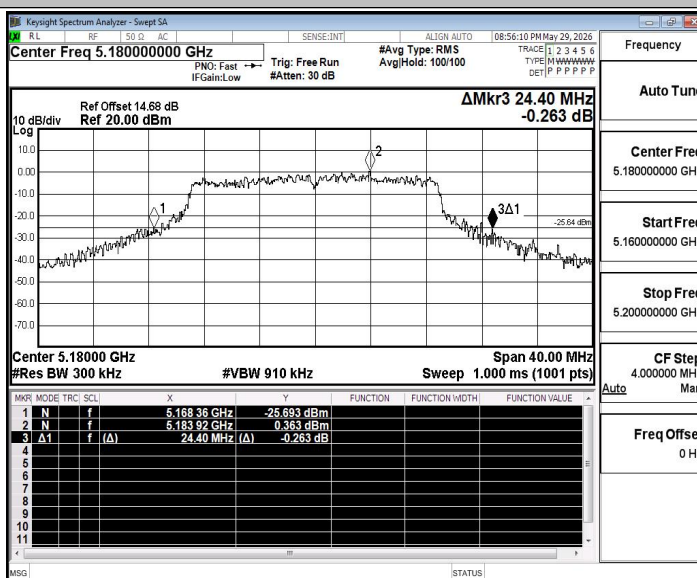
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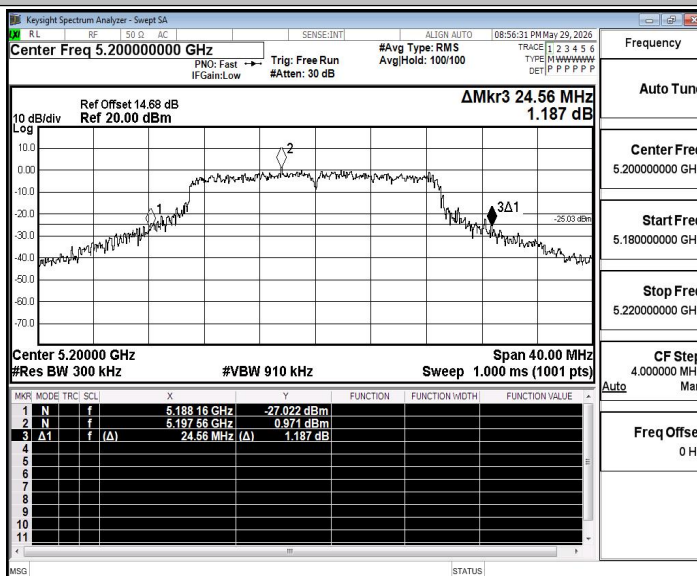
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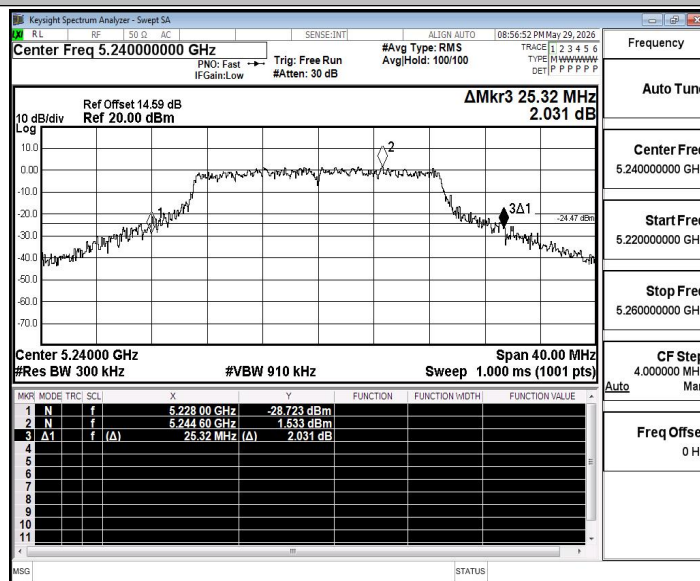
11AC20SISO_Ant1_5180



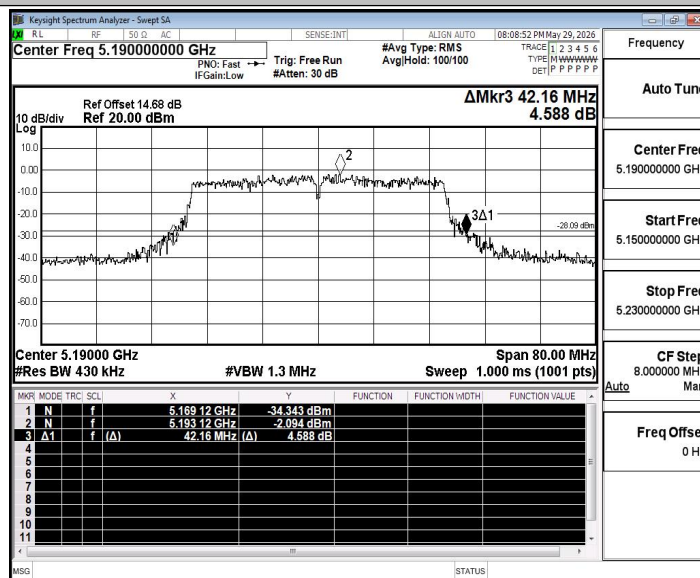
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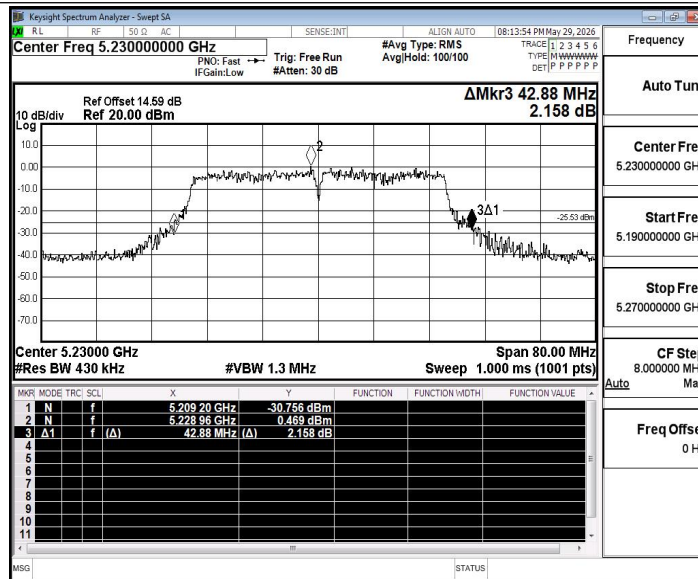
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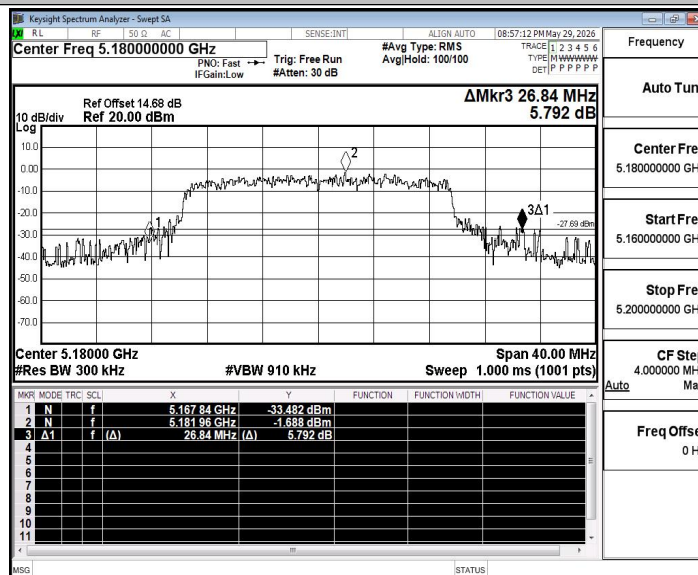
11AC40SISO_Ant1_5190



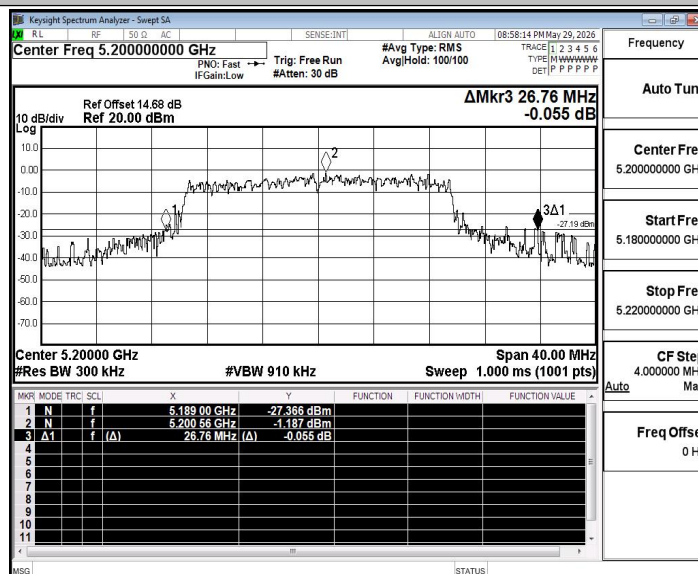
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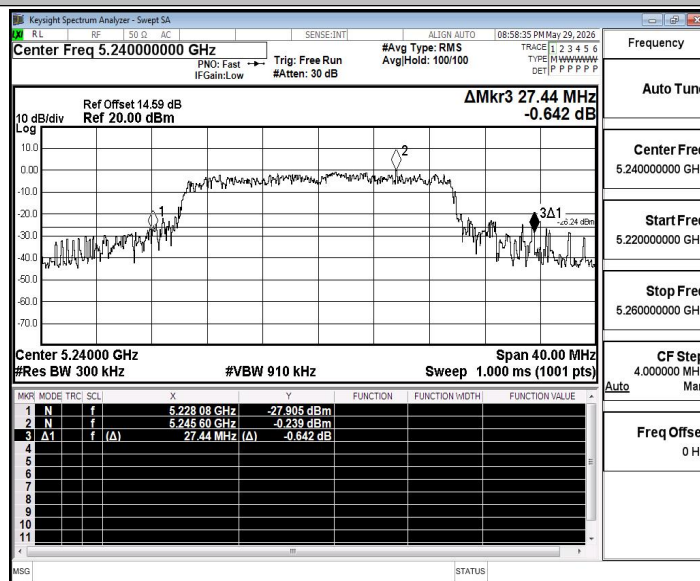
11AX20SISO_Ant1_5180



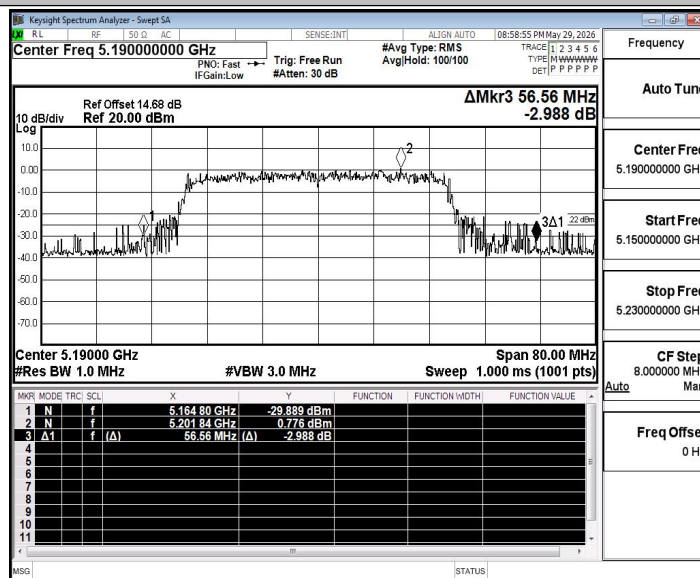
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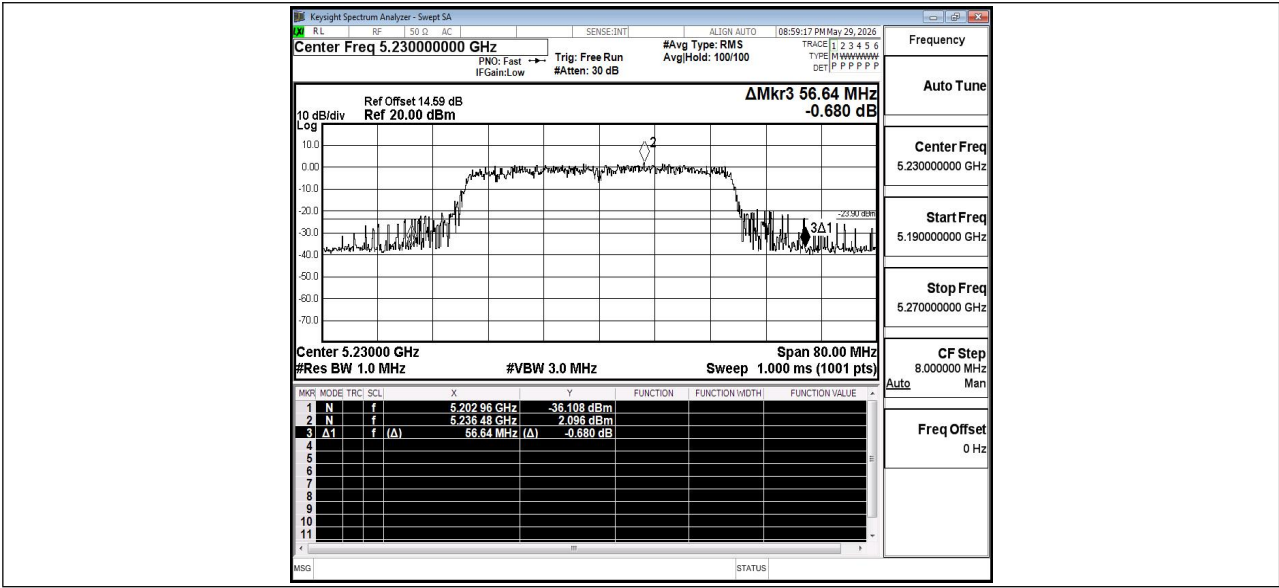
11AX20SISO_Ant1_5240



11AX40SISO_Ant1_5190



11AX40SISO_Ant1_5230



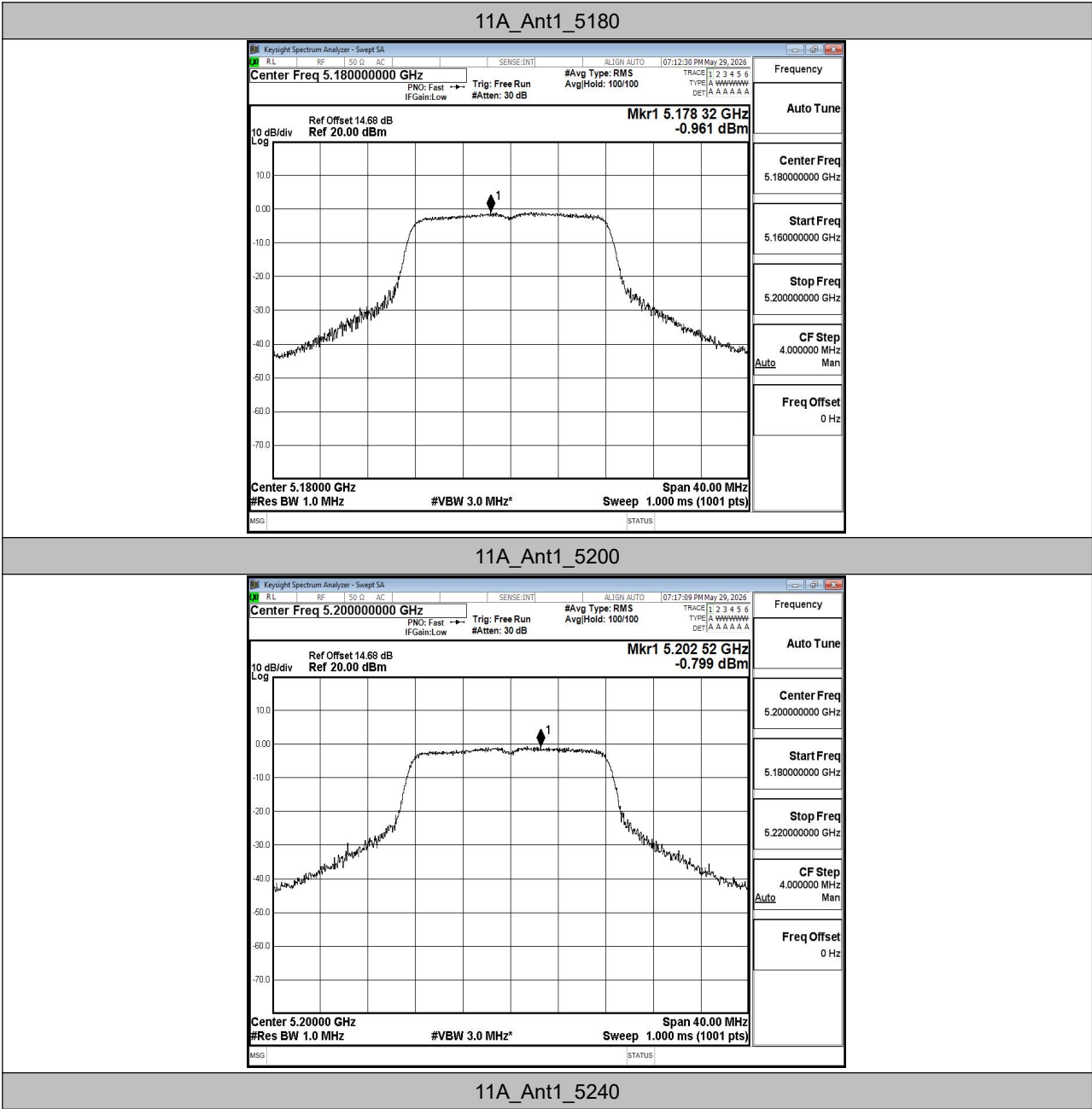
A.2 Maximum Conducted Output Power

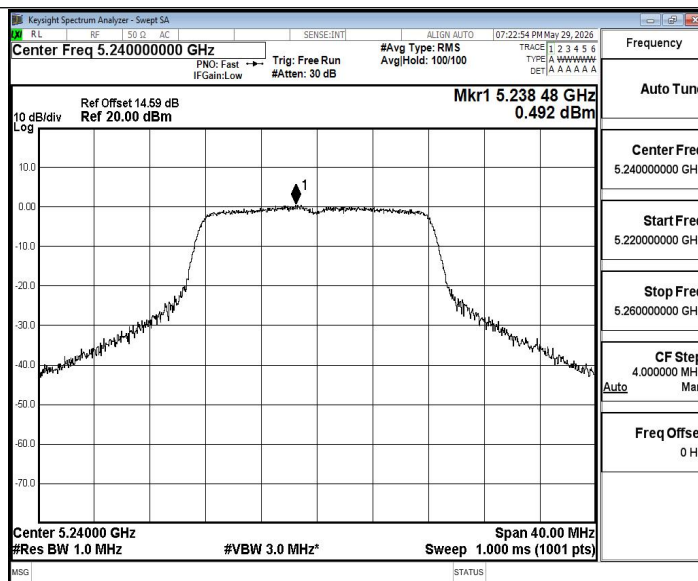
Condition	Mode	Frequency (MHz)	Antenna	Conducted Power (dBm)	Duty Factor (dB)	Total Conducted Power (dBm)	Limit Conducted (dBm)	Verdict
NVNT	a	5180	Ant1	9.95	1.77	11.72	24	Pass
NVNT	a	5200	Ant1	10.3	1.77	12.07	24	Pass
NVNT	a	5240	Ant1	11.55	1.77	13.32	24	Pass
NVNT	n20	5180	Ant1	2.49	9.18	11.67	24	Pass
NVNT	n20	5200	Ant1	2.99	9.18	12.17	24	Pass
NVNT	n20	5240	Ant1	4.69	9.18	13.87	24	Pass
NVNT	n40	5190	Ant1	1.2	10.91	12.11	24	Pass
NVNT	n40	5230	Ant1	2.82	10.91	13.73	24	Pass
NVNT	ac20	5180	Ant1	1.11	7.85	8.96	24	Pass
NVNT	ac20	5200	Ant1	1.84	8.08	9.92	24	Pass
NVNT	ac20	5240	Ant1	3.62	7.85	11.47	24	Pass
NVNT	ac40	5190	Ant1	-0.79	10.12	9.33	24	Pass
NVNT	ac40	5230	Ant1	0.91	10.08	10.99	24	Pass
NVNT	ax20	5180	Ant1	-2.1	9.18	7.08	24	Pass
NVNT	ax20	5200	Ant1	-1.31	9.18	7.87	24	Pass
NVNT	ax20	5240	Ant1	0.43	9.18	9.61	24	Pass
NVNT	ax40	5190	Ant1	-3.1	10.49	7.39	24	Pass
NVNT	ax40	5230	Ant1	-1.42	10.49	9.07	24	Pass

A.3 Maximum Power Spectral Density Level

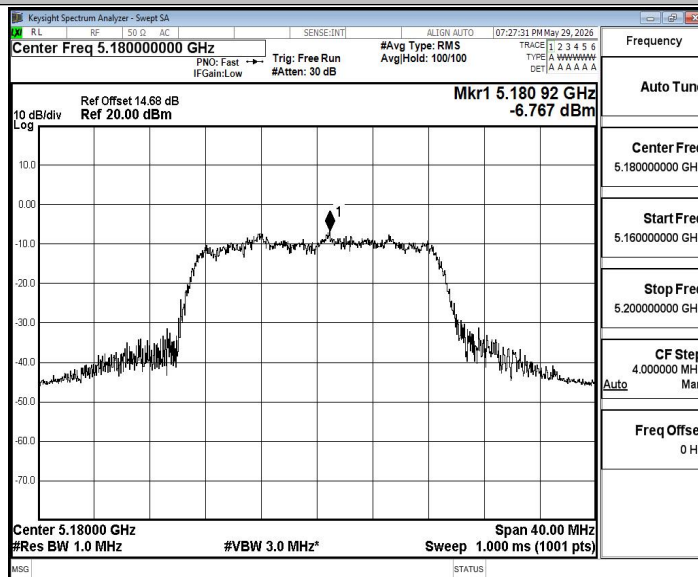
TestMode	Antenna	Freq (MHz)	Raw Data [dBm/MHz]	DC Factor	Result [dBm/MHz]	Limit [dBm/MHz]	Verdict
11A	Ant1	5180	-0.96	1.77	0.81	≤11.00	PASS
		5200	-0.8	1.77	0.97	≤11.00	PASS
		5240	0.49	1.77	2.26	≤11.00	PASS
11N20SISO	Ant1	5180	-6.77	9.18	2.41	≤11.00	PASS
		5200	-6.73	9.18	2.45	≤11.00	PASS
		5240	-3.75	9.18	5.43	≤11.00	PASS
11N40SISO	Ant1	5190	-10.05	10.91	0.86	≤11.00	PASS
		5230	-9.11	10.91	1.80	≤11.00	PASS
11AC20SISO	Ant1	5180	-9.16	7.85	-1.31	≤11.00	PASS
		5200	-8.25	8.08	-0.17	≤11.00	PASS
		5240	-7.25	7.85	0.60	≤11.00	PASS
11AC40SISO	Ant1	5190	-13.66	10.12	-3.54	≤11.00	PASS
		5230	-11.75	10.08	-1.67	≤11.00	PASS
11AX20SISO	Ant1	5180	-13.16	9.18	-3.98	≤11.00	PASS
		5200	-11.62	9.18	-2.44	≤11.00	PASS
		5240	-10.59	9.18	-1.41	≤11.00	PASS
11AX40SISO	Ant1	5190	-15.68	10.49	-5.19	≤11.00	PASS
		5230	-13.66	10.49	-3.17	≤11.00	PASS

Test Graphs

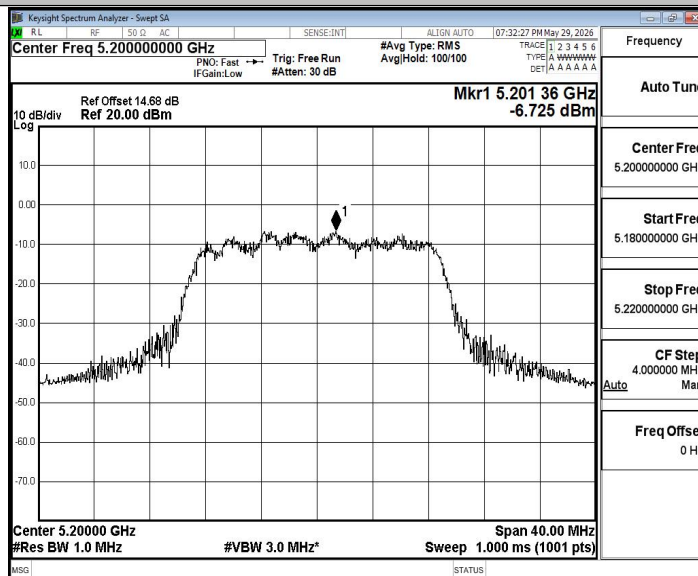


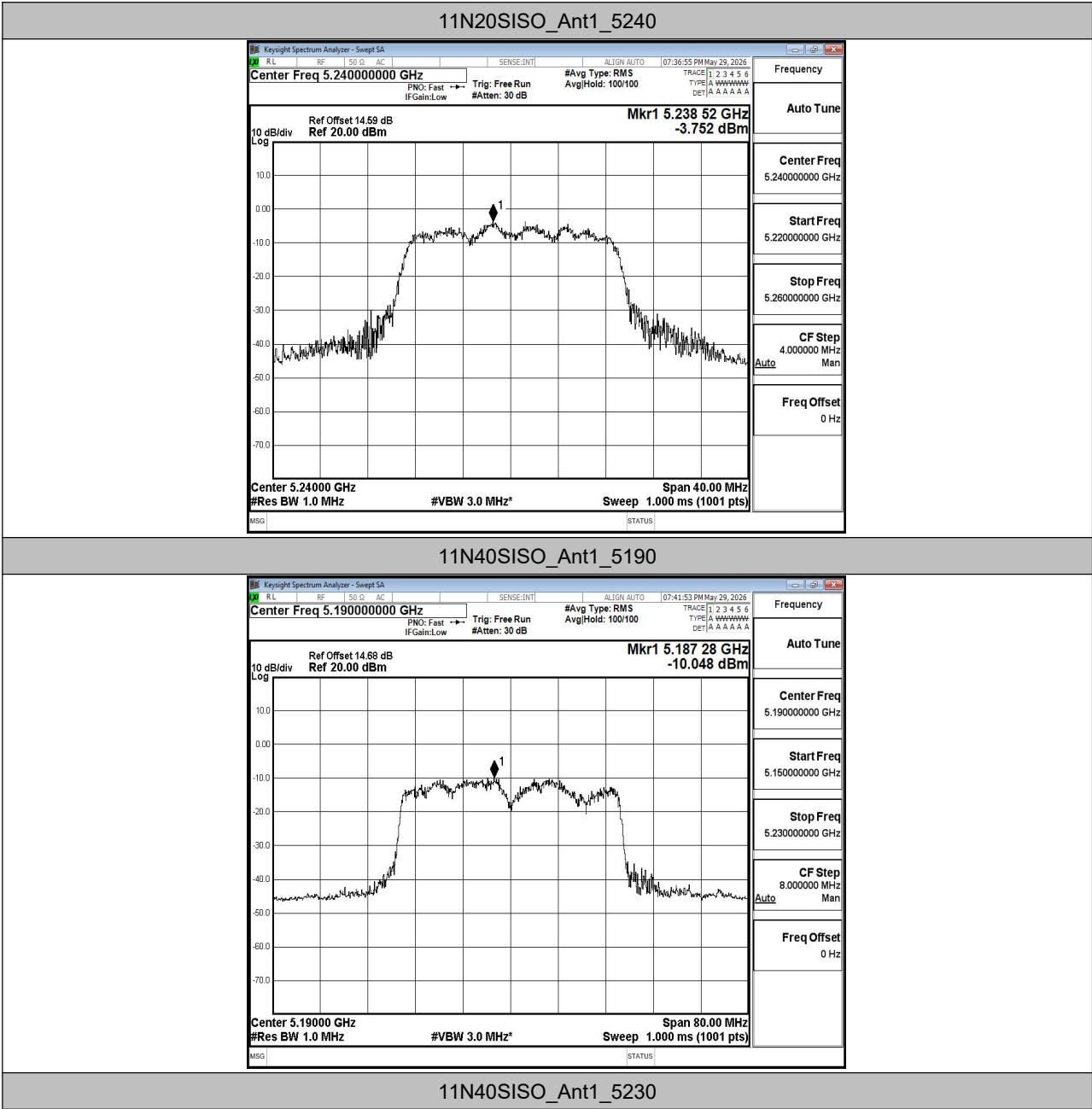


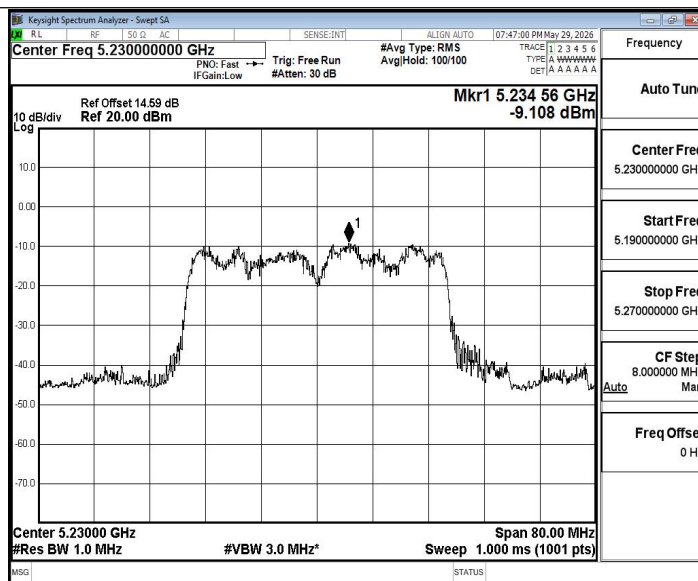
11N20SISO_Ant1_5180



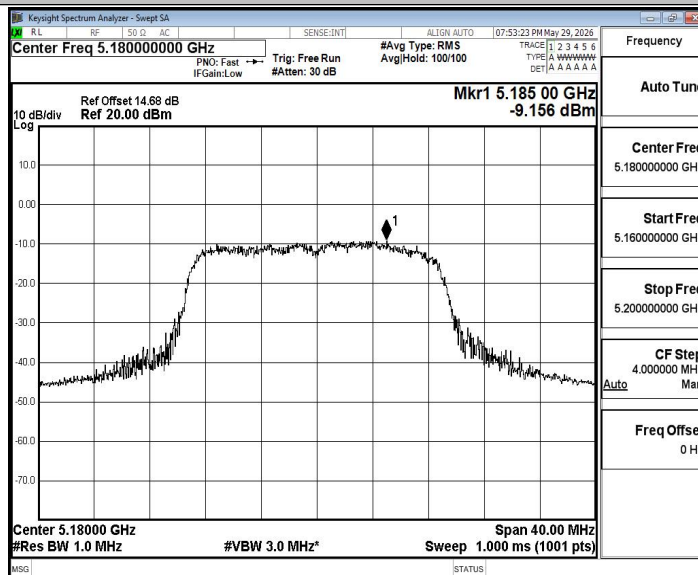
11N20SISO_Ant1_5200



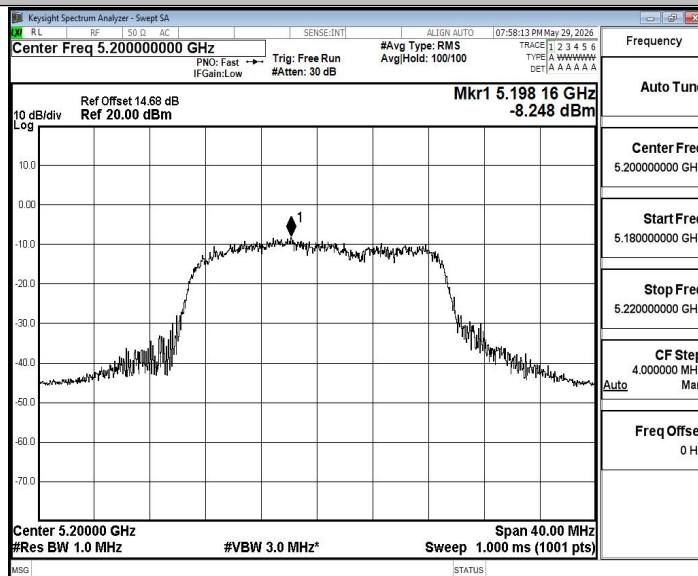


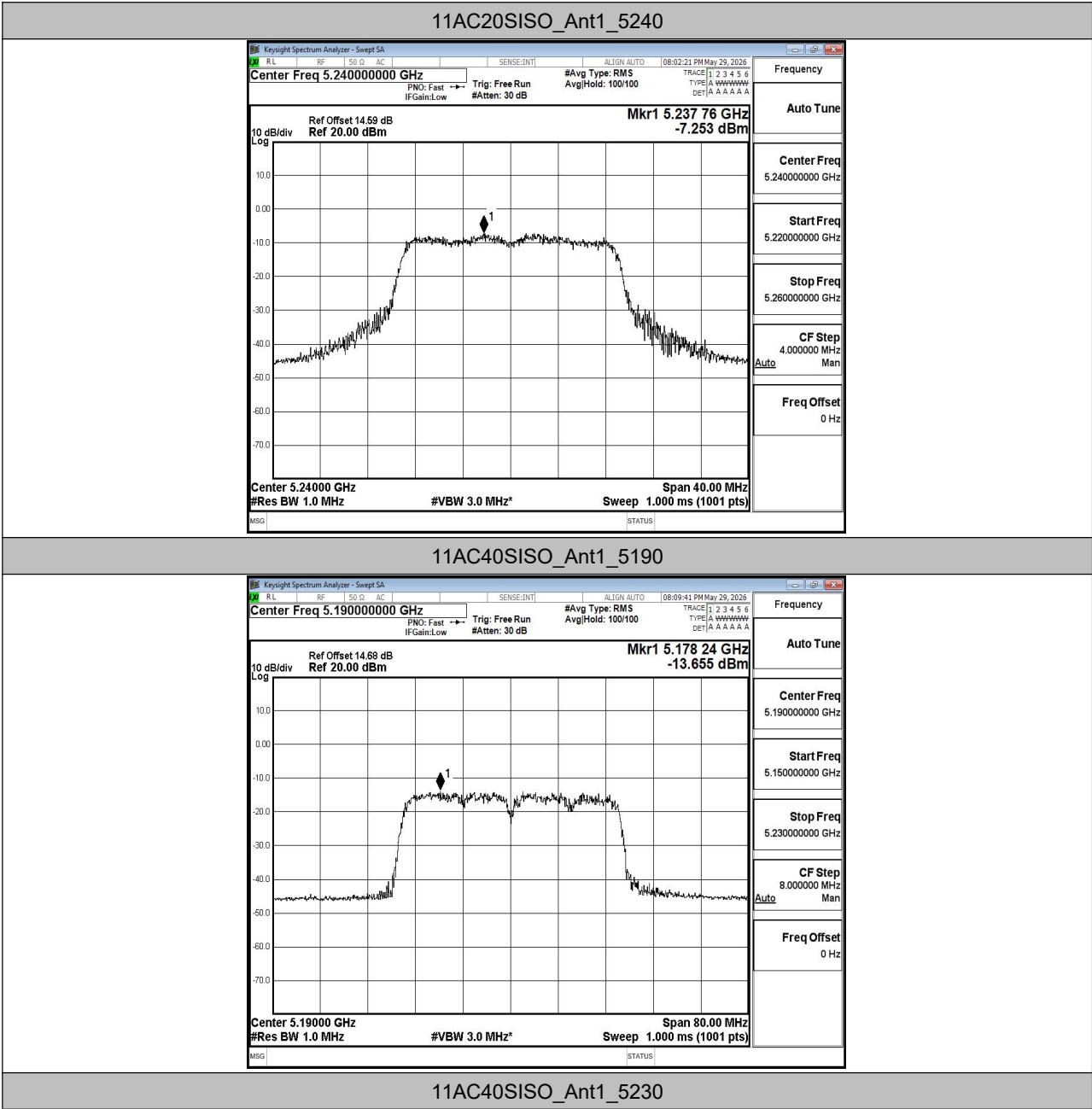


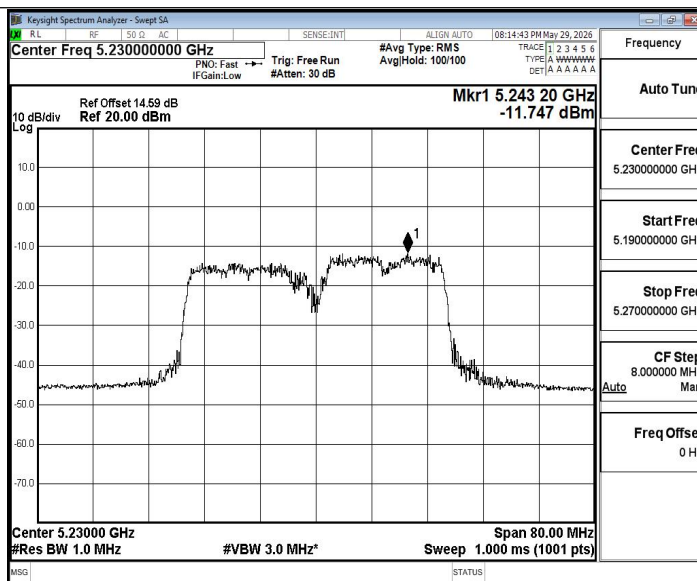
11AC20SISO_Ant1_5180



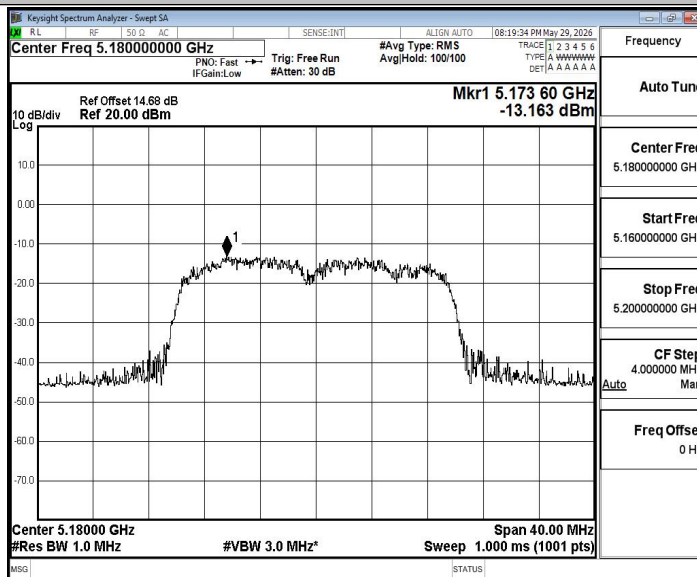
11AC20SISO_Ant1_5200



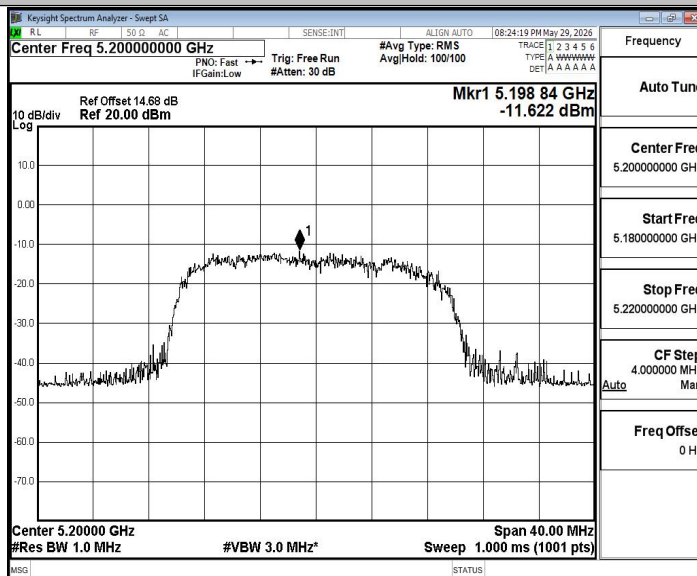


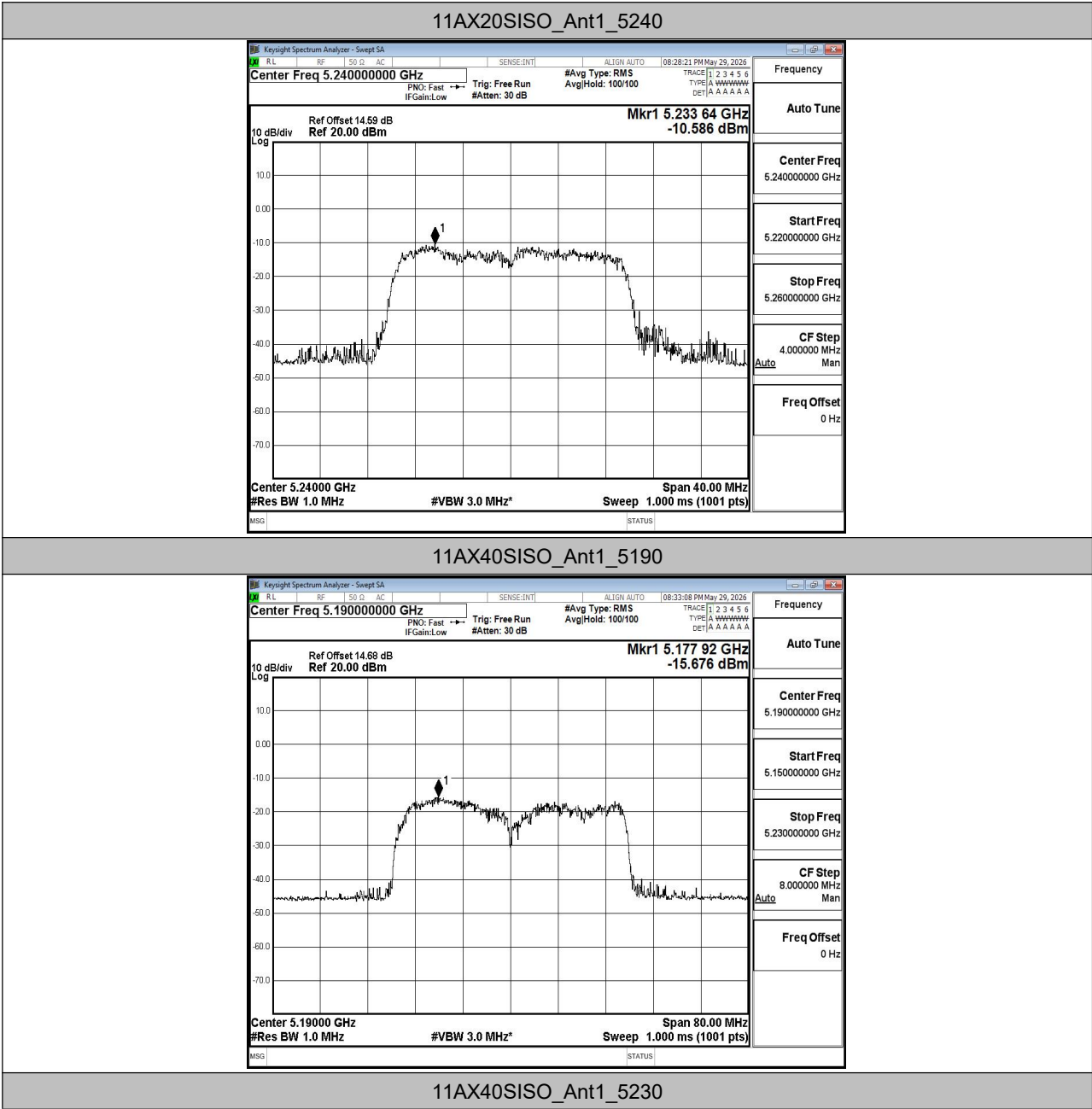


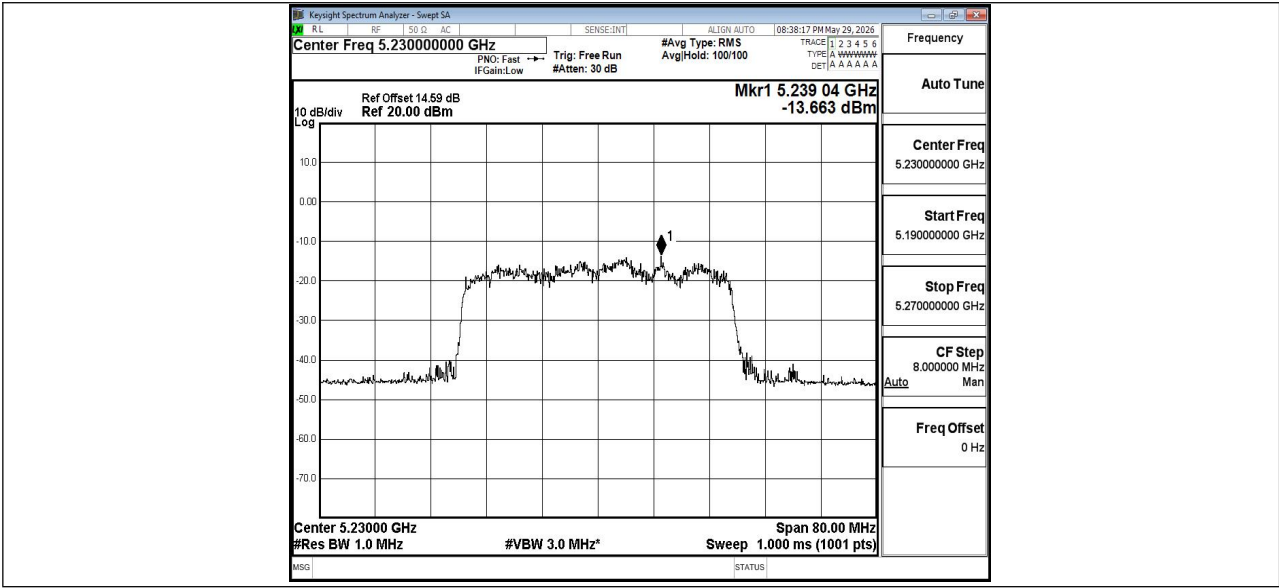
11AX20SISO_Ant1_5180



11AX20SISO_Ant1_5200







A.4 Emissions in Restricted Bands

Test Result

TestM ode	Antenn a	ChNa me	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	-60.84	≤-47.34	4.37	1.77	40.50	≤54	PASS
				AV	5148.900	-53.59	≤-47.34	4.37	1.77	47.75	≤54	PASS
				AV	5150.000	-54.03	≤-47.34	4.37	1.77	47.31	≤54	PASS
				Peak	4500.000	-53.23	≤-31.37	4.37	0.00	46.34	≤68.2	PASS
				Peak	5145.400	-41.59	≤-31.37	4.37	0.00	57.98	≤68.2	PASS
				Peak	5150.000	-43.91	≤-31.37	4.37	0.00	55.66	≤68.2	PASS
		High	5240	AV	5350.000	-58.44	≤-47.34	4.37	1.77	42.90	≤54	PASS
				AV	5357.520	-58	≤-47.34	4.37	1.77	43.34	≤54	PASS
				AV	5460.000	-59.18	≤-47.34	4.37	1.77	42.16	≤54	PASS
				Peak	5350.000	-50.91	≤-31.37	4.37	0.00	48.66	≤68.2	PASS
				Peak	5454.960	-46.93	≤-31.37	4.37	0.00	52.64	≤68.2	PASS
				Peak	5460.000	-50.99	≤-31.37	4.37	0.00	48.58	≤68.2	PASS
11N20 SISO	Ant1	Low	5180	AV	4500.000	-60.64	≤-54.75	4.37	9.18	48.11	≤54	PASS
				AV	5148.200	-57.01	≤-54.75	4.37	9.18	51.74	≤54	PASS
				AV	5150.000	-56.89	≤-54.75	4.37	9.18	51.86	≤54	PASS
				Peak	4500.000	-51.04	≤-31.37	4.37	0.00	48.53	≤68.2	PASS
				Peak	5146.100	-42.11	≤-31.37	4.37	0.00	57.46	≤68.2	PASS
				Peak	5150.000	-41.84	≤-31.37	4.37	0.00	57.73	≤68.2	PASS
		High	5240	AV	5350.000	-59.71	≤-54.75	4.37	9.18	49.04	≤54	PASS
				AV	5351.040	-59.35	≤-54.75	4.37	9.18	49.40	≤54	PASS
				AV	5460.000	-60.08	≤-54.75	4.37	9.18	48.67	≤54	PASS
				Peak	5350.000	-50.88	≤-31.37	4.37	0.00	48.69	≤68.2	PASS
				Peak	5365.680	-45.29	≤-31.37	4.37	0.00	54.28	≤68.2	PASS
				Peak	5460.000	-50.28	≤-31.37	4.37	0.00	49.29	≤68.2	PASS
11N40 SISO	Ant1	Low	5190	AV	4500.000	-60.47	≤-56.48	4.37	10.91	50.01	≤54	PASS
				AV	5148.200	-57.32	≤-56.48	4.37	10.91	53.16	≤54	PASS
				AV	5150.000	-57.65	≤-56.48	4.37	10.91	52.83	≤54	PASS
				Peak	4500.000	-50.28	≤-31.37	4.37	0.00	49.29	≤68.2	PASS
				Peak	5149.600	-41.92	≤-31.37	4.37	0.00	57.65	≤68.2	PASS
				Peak	5150.000	-41.78	≤-31.37	4.37	0.00	57.79	≤68.2	PASS
		High	5230	AV	5350.000	-59.45	≤-56.48	4.37	10.91	51.03	≤54	PASS
				AV	5351.840	-59.35	≤-56.48	4.37	10.91	51.13	≤54	PASS
				AV	5460.000	-60.07	≤-56.48	4.37	10.91	50.41	≤54	PASS
				Peak	5350.000	-46.79	≤-31.37	4.37	0.00	52.78	≤68.2	PASS
				Peak	5387.980	-42.45	≤-31.37	4.37	0.00	57.12	≤68.2	PASS
				Peak	5460.000	-51.74	≤-31.37	4.37	0.00	47.83	≤68.2	PASS

11AC2 0SISO	Ant1	Low	5180	AV	4500.000	-60.52	≤-53.42	4.37	7.85	46.90	≤54	PASS
				AV	5141.900	-57.72	≤-53.42	4.37	7.85	49.70	≤54	PASS
				AV	5150.000	-57.65	≤-53.42	4.37	7.85	49.77	≤54	PASS
				Peak	4500.000	-52.08	≤-31.37	4.37	0.00	47.49	≤68.2	PASS
				Peak	5137.000	-46.41	≤-31.37	4.37	0.00	53.16	≤68.2	PASS
				Peak	5150.000	-47.35	≤-31.37	4.37	0.00	52.22	≤68.2	PASS
		High	5240	AV	5350.000	-59.43	≤-53.42	4.37	7.85	47.99	≤54	PASS
				AV	5350.560	-59.3	≤-53.42	4.37	7.85	48.12	≤54	PASS
				AV	5460.000	-59.69	≤-53.42	4.37	7.85	47.73	≤54	PASS
				Peak	5350.000	-50.36	≤-31.37	4.37	0.00	49.21	≤68.2	PASS
				Peak	5408.160	-47.54	≤-31.37	4.37	0.00	52.03	≤68.2	PASS
				Peak	5460.000	-49.66	≤-31.37	4.37	0.00	49.91	≤68.2	PASS
11AC4 0SISO	Ant1	Low	5190	AV	4500.000	-60.61	≤-55.69	4.37	10.12	49.08	≤54	PASS
				AV	5147.500	-57.45	≤-55.69	4.37	10.12	52.24	≤54	PASS
				AV	5150.000	-57.71	≤-55.69	4.37	10.12	51.98	≤54	PASS
				Peak	4500.000	-51.42	≤-31.37	4.37	0.00	48.15	≤68.2	PASS
				Peak	5148.200	-43.21	≤-31.37	4.37	0.00	56.36	≤68.2	PASS
				Peak	5150.000	-41.21	≤-31.37	4.37	0.00	58.36	≤68.2	PASS
		High	5230	AV	5350.000	-59.55	≤-55.65	4.37	10.08	50.10	≤54	PASS
				AV	5366.140	-59.42	≤-55.65	4.37	10.08	50.23	≤54	PASS
				AV	5460.000	-60.3	≤-55.65	4.37	10.08	49.35	≤54	PASS
				Peak	5350.000	-50.51	≤-31.37	4.37	0.00	49.06	≤68.2	PASS
				Peak	5441.540	-40.06	≤-31.37	4.37	0.00	59.51	≤68.2	PASS
				Peak	5460.000	-50.07	≤-31.37	4.37	0.00	49.50	≤68.2	PASS
11AX2 0SISO	Ant1	Low	5180	AV	4500.000	-60.63	≤-54.75	4.37	9.18	48.12	≤54	PASS
				AV	5146.100	-57.62	≤-54.75	4.37	9.18	51.13	≤54	PASS
				AV	5150.000	-58.06	≤-54.75	4.37	9.18	50.69	≤54	PASS
				Peak	4500.000	-51.71	≤-31.37	4.37	0.00	47.86	≤68.2	PASS
				Peak	5149.600	-46.47	≤-31.37	4.37	0.00	53.10	≤68.2	PASS
				Peak	5150.000	-47.4	≤-31.37	4.37	0.00	52.17	≤68.2	PASS
		High	5240	AV	5350.000	-59.57	≤-54.75	4.37	9.18	49.18	≤54	PASS
				AV	5353.200	-59.56	≤-54.75	4.37	9.18	49.19	≤54	PASS
				AV	5460.000	-60.03	≤-54.75	4.37	9.18	48.72	≤54	PASS
				Peak	5350.000	-50.01	≤-31.37	4.37	0.00	49.56	≤68.2	PASS
				Peak	5392.320	-40.87	≤-31.37	4.37	0.00	58.70	≤68.2	PASS
				Peak	5460.000	-50.58	≤-31.37	4.37	0.00	48.99	≤68.2	PASS
11AX4 0SISO	Ant1	Low	5190	AV	4500.000	-60.79	≤-56.06	4.37	10.49	49.27	≤54	PASS
				AV	5148.900	-57.36	≤-56.06	4.37	10.49	52.70	≤54	PASS
				AV	5150.000	-57.23	≤-56.06	4.37	10.49	52.83	≤54	PASS
				Peak	4500.000	-51.28	≤-31.37	4.37	0.00	48.29	≤68.2	PASS
				Peak	5148.900	-38.05	≤-31.37	4.37	0.00	61.52	≤68.2	PASS
				Peak	5150.000	-36.99	≤-31.37	4.37	0.00	62.58	≤68.2	PASS
		High	5230	AV	5350.000	-59.93	≤-56.06	4.37	10.49	50.13	≤54	PASS

				AV	5355.740	-59.36	≤-56.06	4.37	10.49	50.70	≤54	PASS
				AV	5460.000	-60.2	≤-56.06	4.37	10.49	49.86	≤54	PASS
				Peak	5350.000	-48.85	≤-31.37	4.37	0.00	50.72	≤68.2	PASS
				Peak	5358.080	-40.87	≤-31.37	4.37	0.00	58.70	≤68.2	PASS
				Peak	5460.000	-50.18	≤-31.37	4.37	0.00	49.39	≤68.2	PASS

Note:

1. The Antenna Gain is compensated in the graph.

Test Graphs

