



Appendix B

RF Test Data for 5.2G WIFI (Conducted Measurement)

Product Name: AOSU IndoorCam P1

Test Model: C2E2BH11

Environmental Conditions

Temperature:	24.1℃
Relative Humidity:	52.6%
ATM Pressure:	100.0 kPa
Test Engineer:	 Bill Zhu
Supervised by:	 Li Huan





B.1 Emission Bandwidth

Test Result

TestMode	Antenna	Channel	26db EBW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
11A	Ant	5180	20.000	5170.000	5190.000	---	---
		5220	20.080	5209.920	5230.000	---	---
		5240	20.120	5229.920	5250.040	---	---
11N20SISO	Ant	5180	20.320	5169.760	5190.080	---	---
		5220	20.320	5209.800	5230.120	---	---
		5240	20.440	5229.760	5250.200	---	---
11N40SISO	Ant	5190	40.880	5169.520	5210.400	---	---
		5230	40.480	5209.760	5250.240	---	---
11AC20SISO	Ant	5180	20.440	5169.800	5190.240	---	---
		5220	20.400	5209.760	5230.160	---	---
		5240	20.320	5229.760	5250.080	---	---
11AC40SISO	Ant	5190	40.640	5169.680	5210.320	---	---
		5230	41.040	5209.440	5250.480	---	---
11AC80SISO	Ant	5210	80.960	5169.520	5250.480	---	---

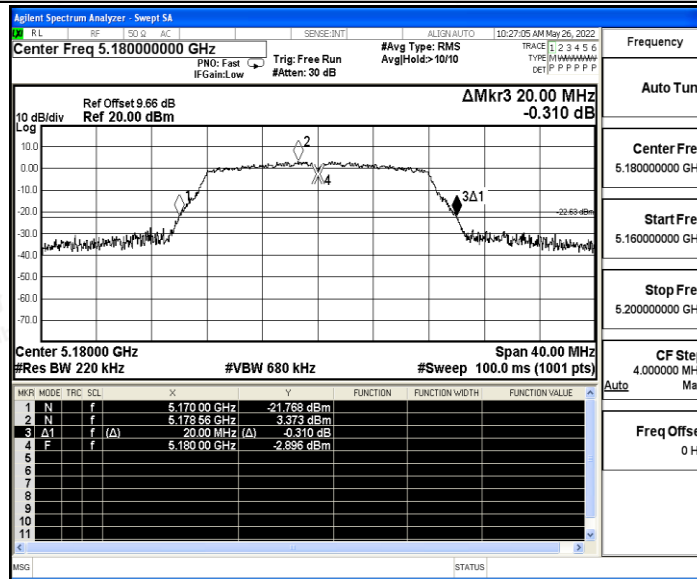


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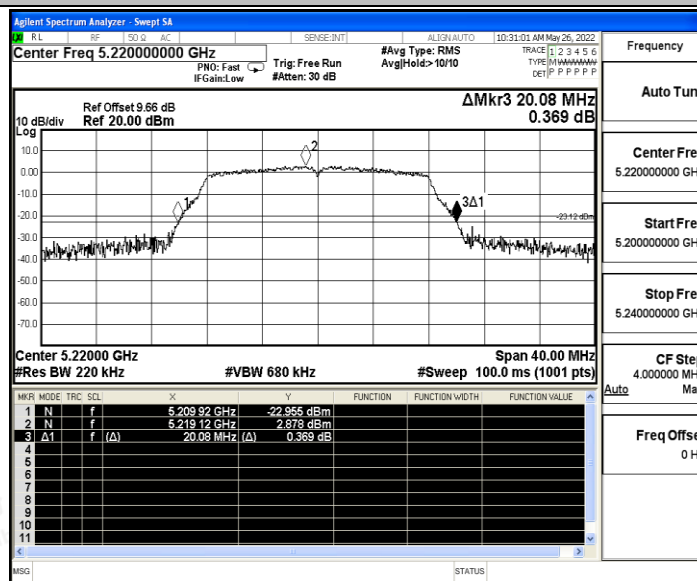


Test Graphs

11A_Ant_5180

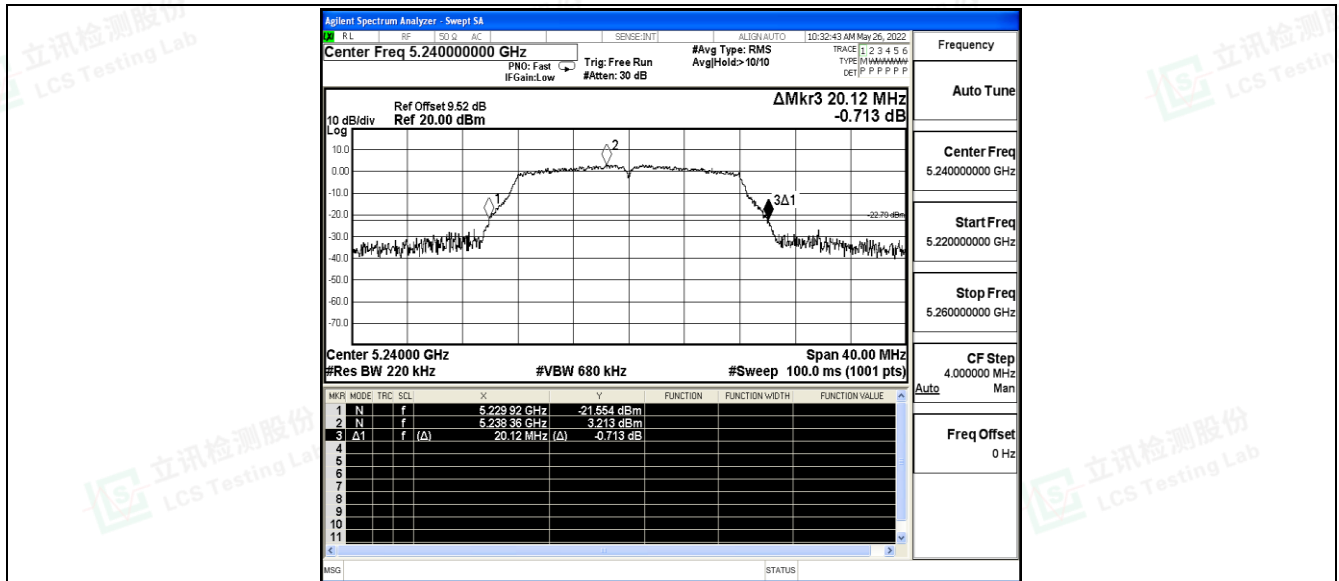


11A_Ant_5220

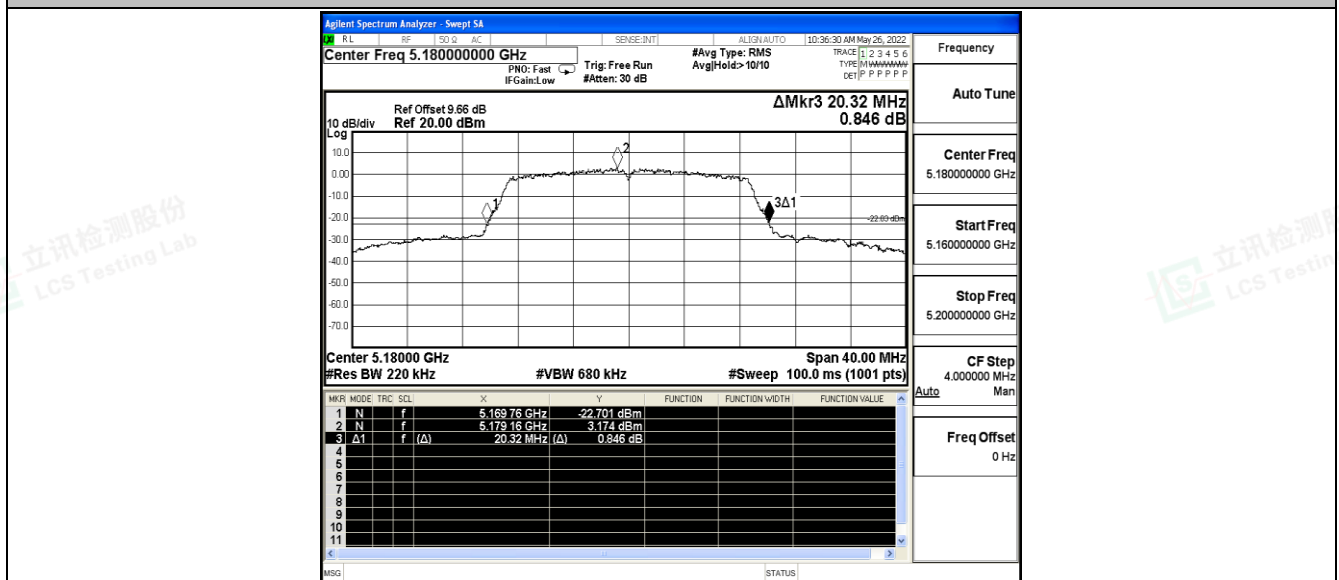


11A_Ant_5240



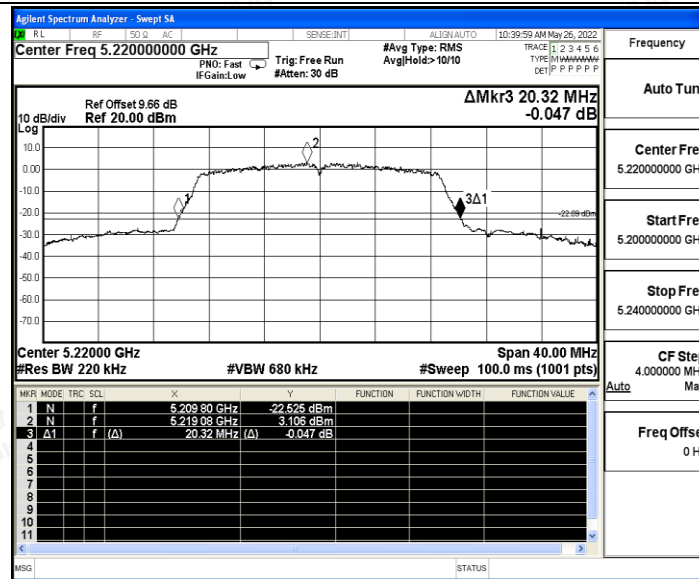


11N20SISO_Ant_5180

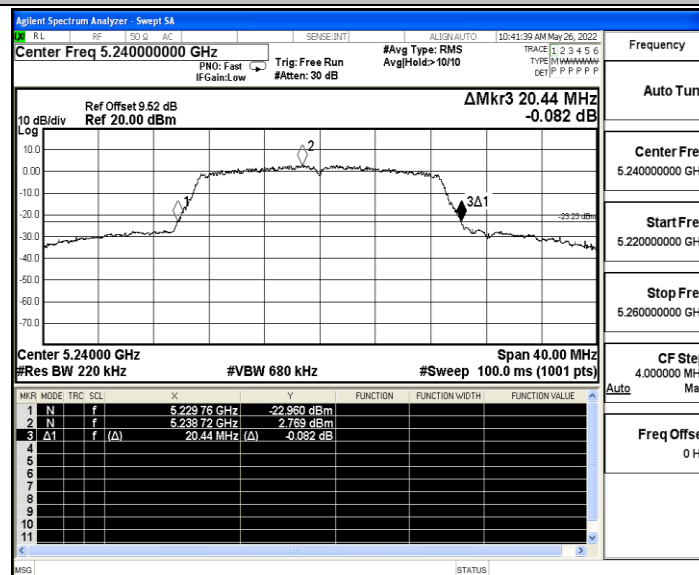


11N20SISO_Ant_5220



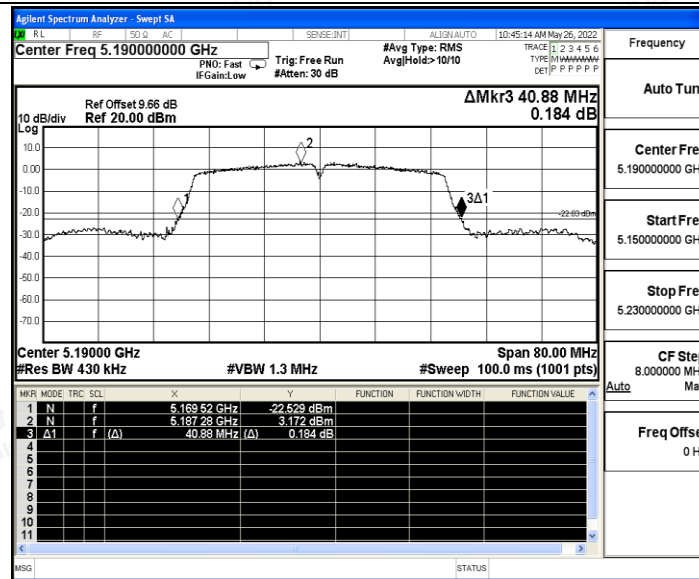


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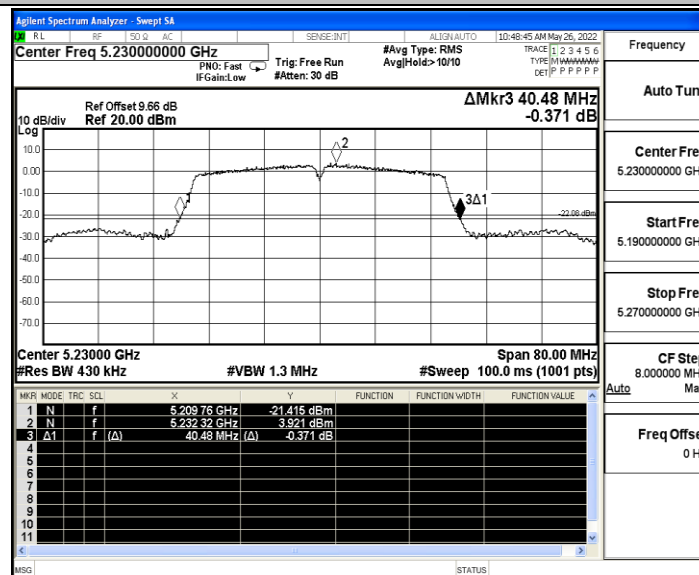


11N40SISO_Ant_5190



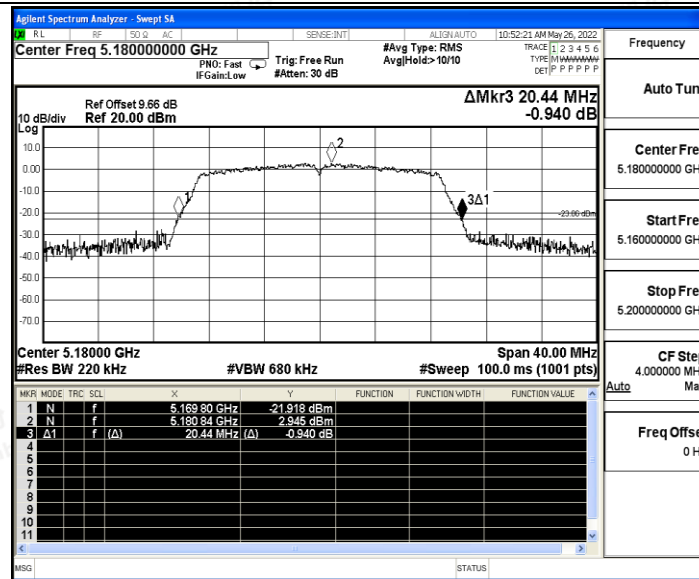


11N40SISO_Ant_5230

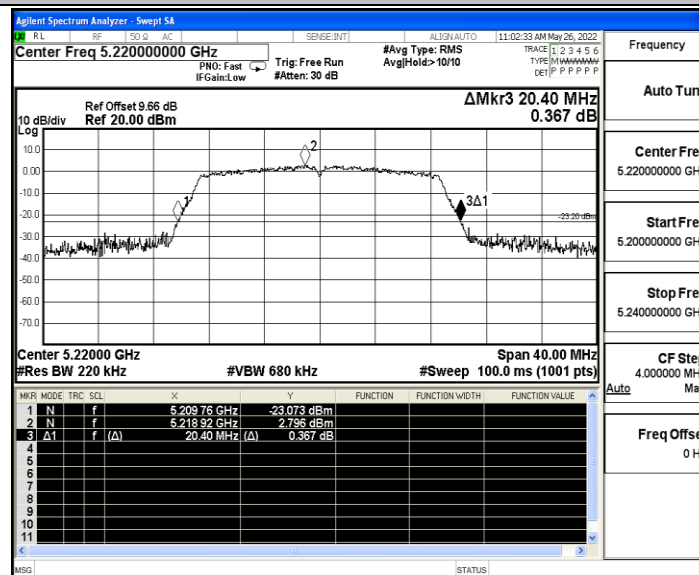


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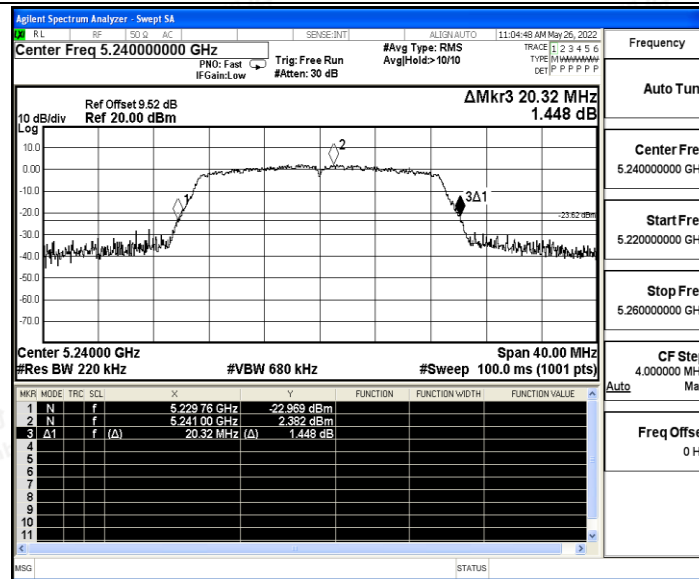


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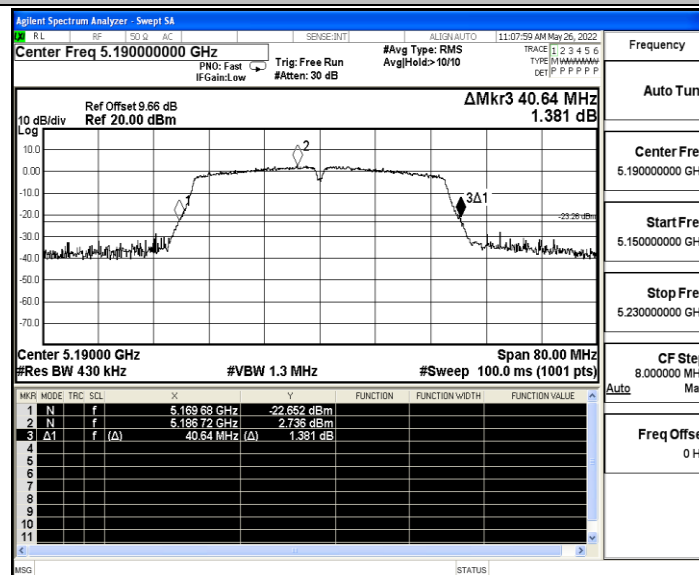


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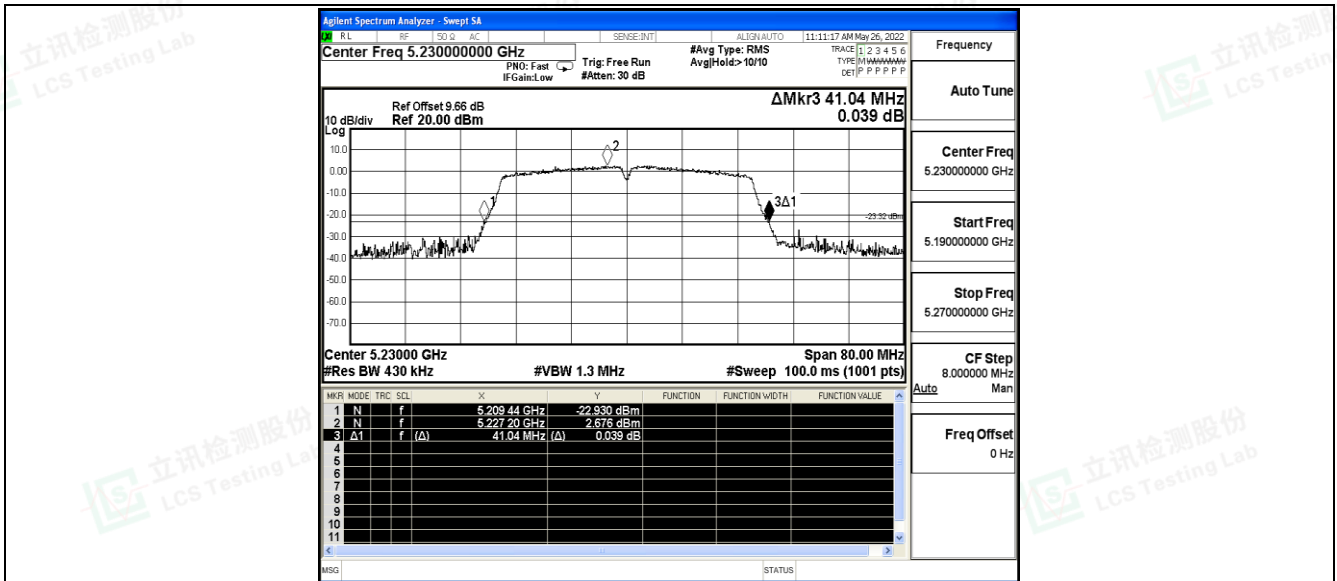


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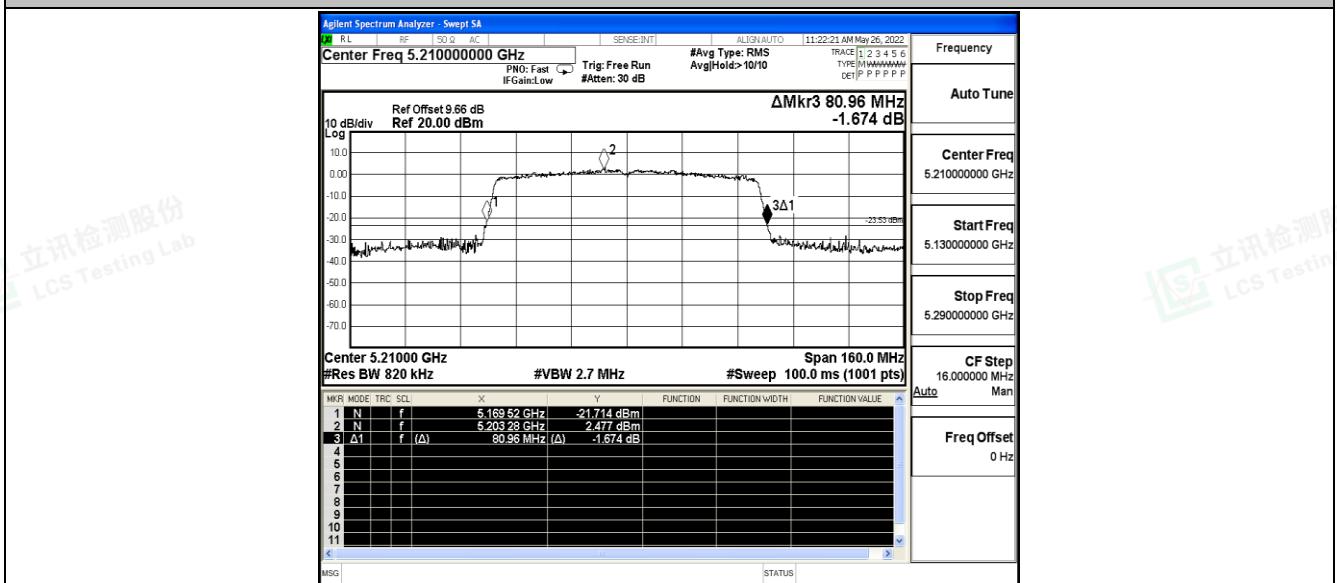


11AC40SISO_Ant_5230





11AC80SISO_Ant_5210





B.2 Maximum conducted output power

Test Result

TestMode	Antenna	Channel	Result[dBm]	Limit[dBm]	Verdict
11A	Ant	5180	12.10	≤23.98	PASS
		5220	12.10	≤23.98	PASS
		5240	12.22	≤23.98	PASS
11N20SISO	Ant	5180	11.95	≤23.98	PASS
		5220	12.05	≤23.98	PASS
		5240	12.01	≤23.98	PASS
11N40SISO	Ant	5190	11.90	≤23.98	PASS
		5230	12.17	≤23.98	PASS
11AC20SISO	Ant	5180	12.10	≤23.98	PASS
		5220	11.98	≤23.98	PASS
		5240	11.40	≤23.98	PASS
11AC40SISO	Ant	5190	11.45	≤23.98	PASS
		5230	11.61	≤23.98	PASS
11AC80SISO	Ant	5210	11.65	≤23.98	PASS

Note: The Duty Cycle Factor is compensated in the graph.



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B.3 Maximum power spectral density

Test Result

TestMode	Antenna	Channel	Result [dBm/MHz]	Limit[dBm/MHz]	Verdict
11A	Ant	5180	1.64	≤11.00	PASS
		5220	1.86	≤11.00	PASS
		5240	1.82	≤11.00	PASS
11N20SISO	Ant	5180	1.3	≤11.00	PASS
		5220	1.42	≤11.00	PASS
		5240	1.38	≤11.00	PASS
11N40SISO	Ant	5190	-1.6	≤11.00	PASS
		5230	-1.32	≤11.00	PASS
11AC20SISO	Ant	5180	1.49	≤11.00	PASS
		5220	1.32	≤11.00	PASS
		5240	0.75	≤11.00	PASS
11AC40SISO	Ant	5190	-2.07	≤11.00	PASS
		5230	-1.94	≤11.00	PASS
11AC80SISO	Ant	5210	-5.17	≤11.00	PASS

Note: The Duty Cycle Factor and RBW Factor is compensated in the graph.

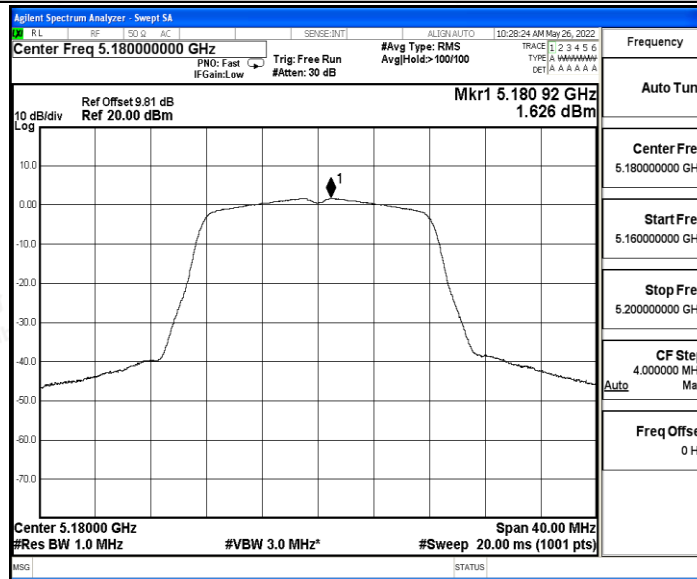


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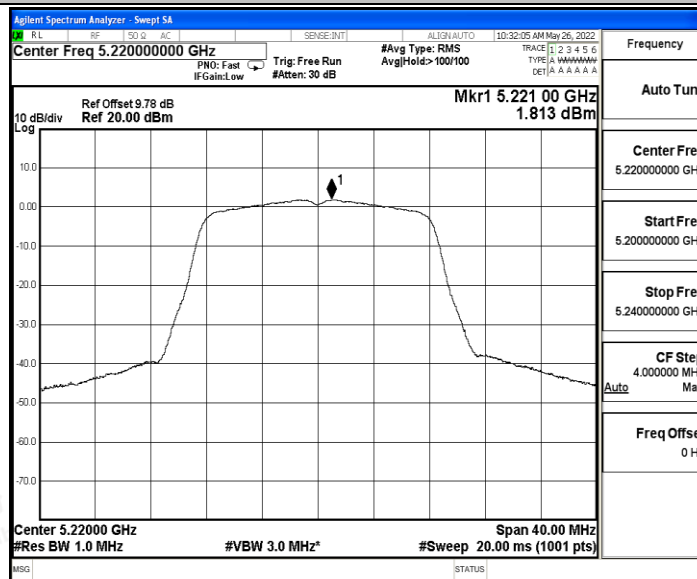


Test Graphs

11A_Ant_5180

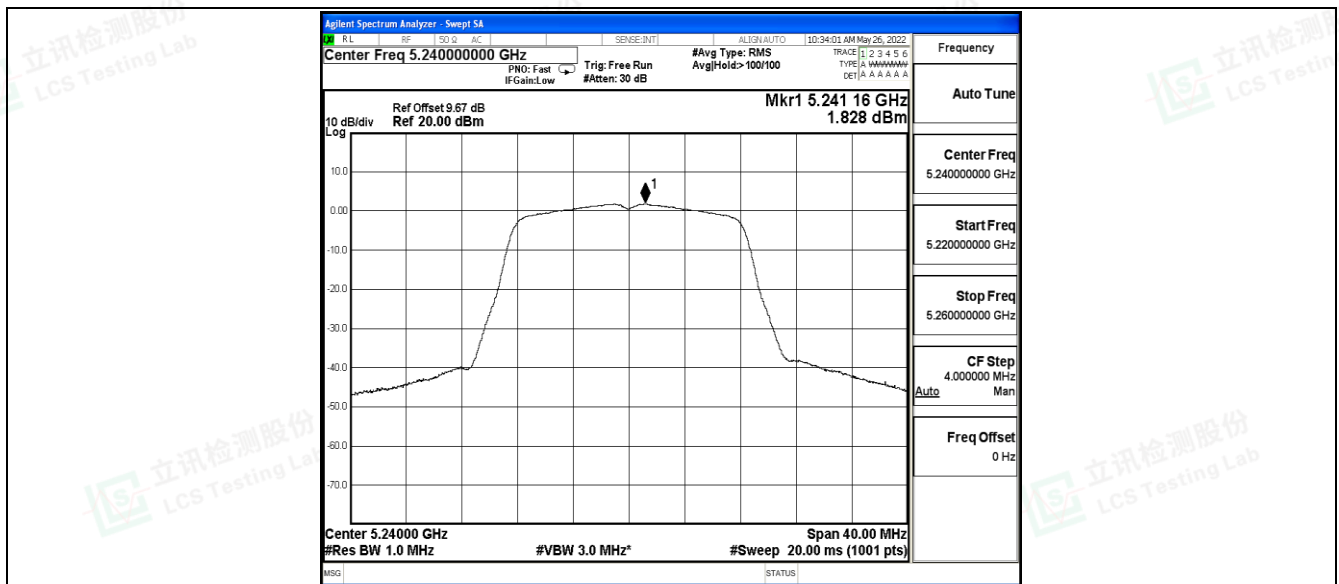


11A_Ant_5220

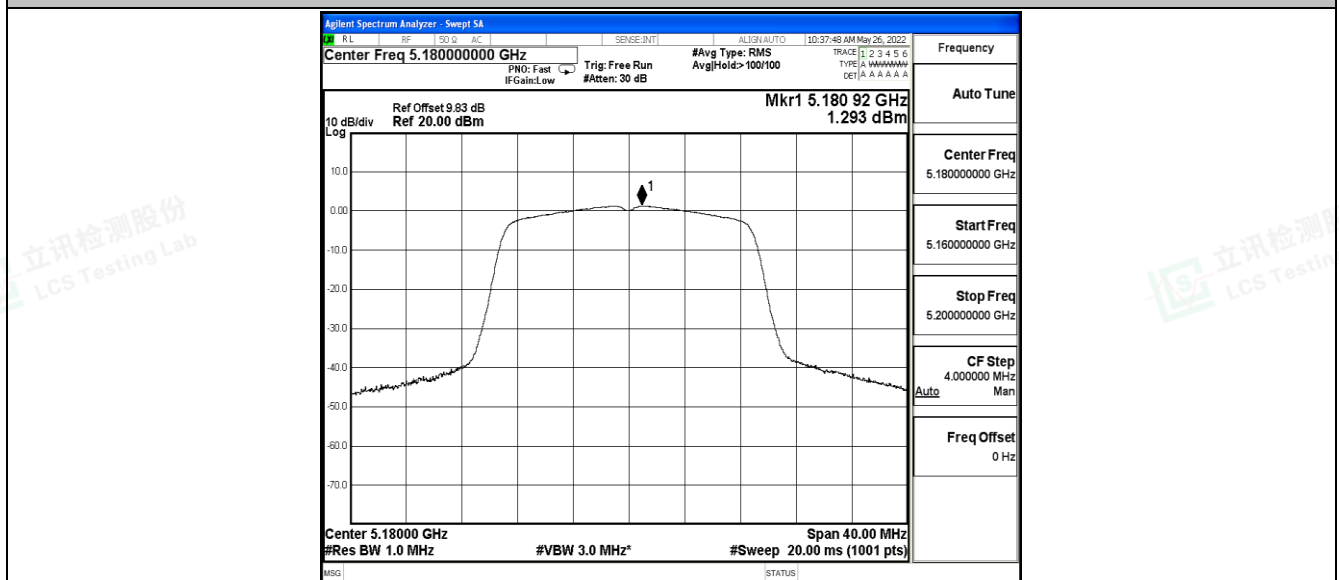


11A_Ant_5240



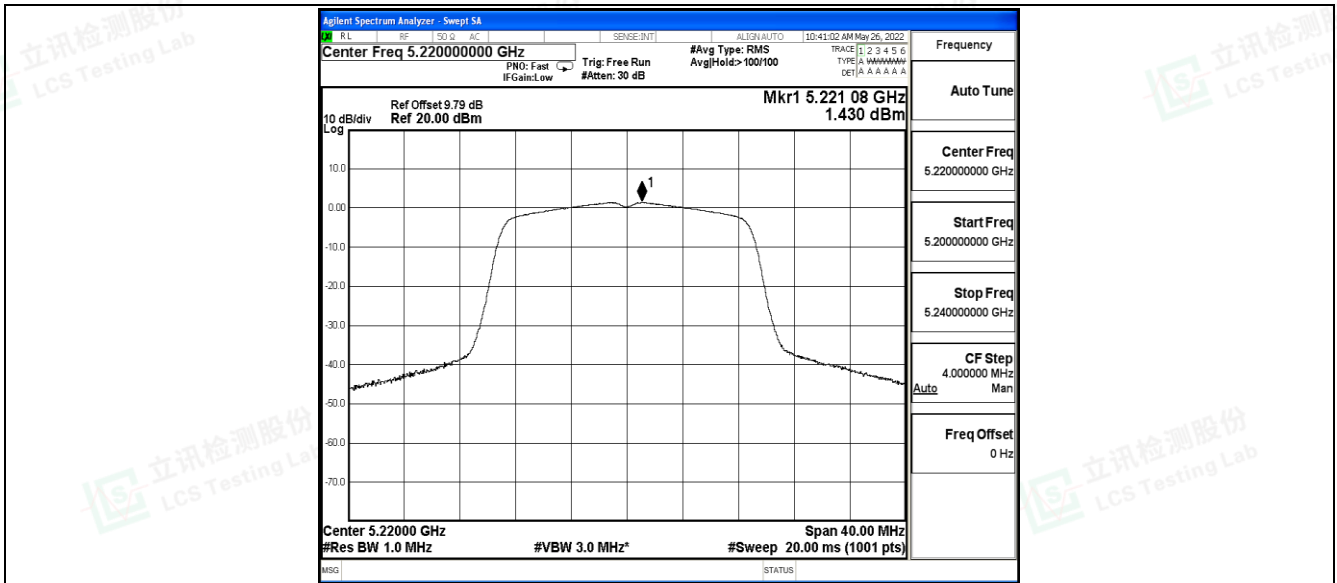


11N20SISO_Ant_5180

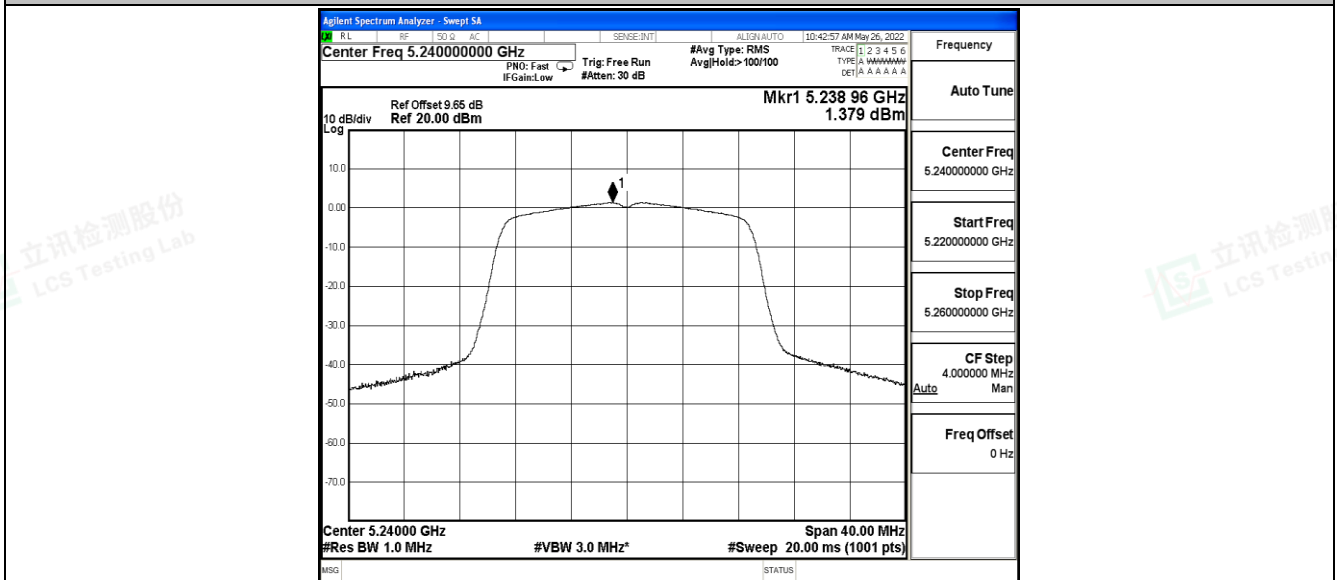


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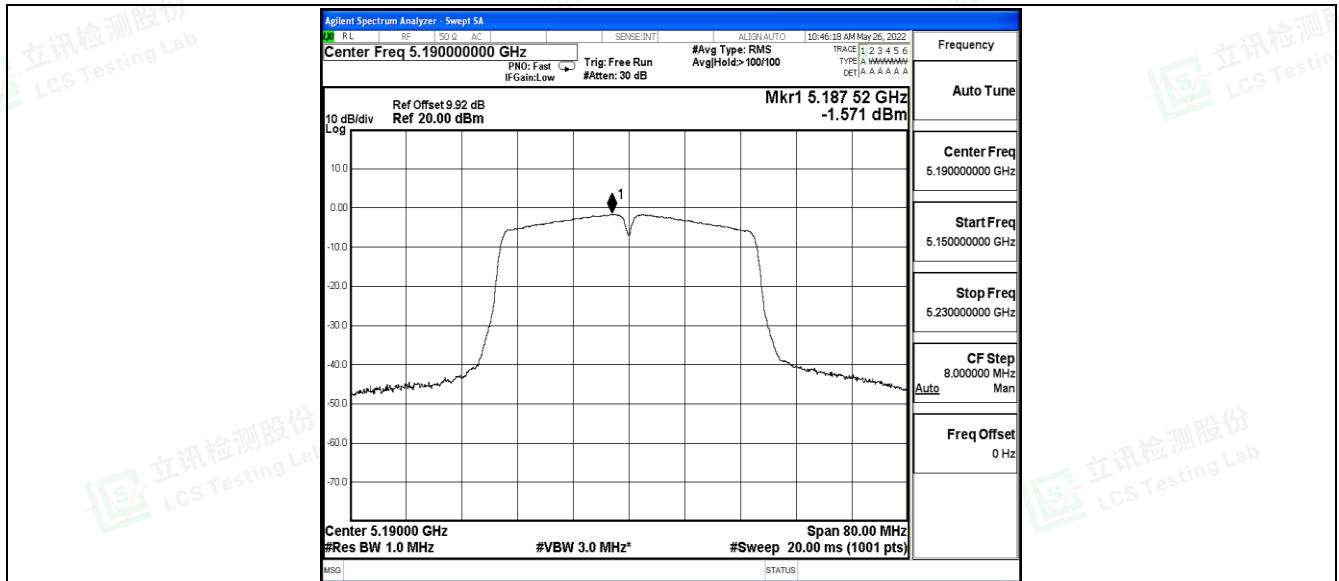


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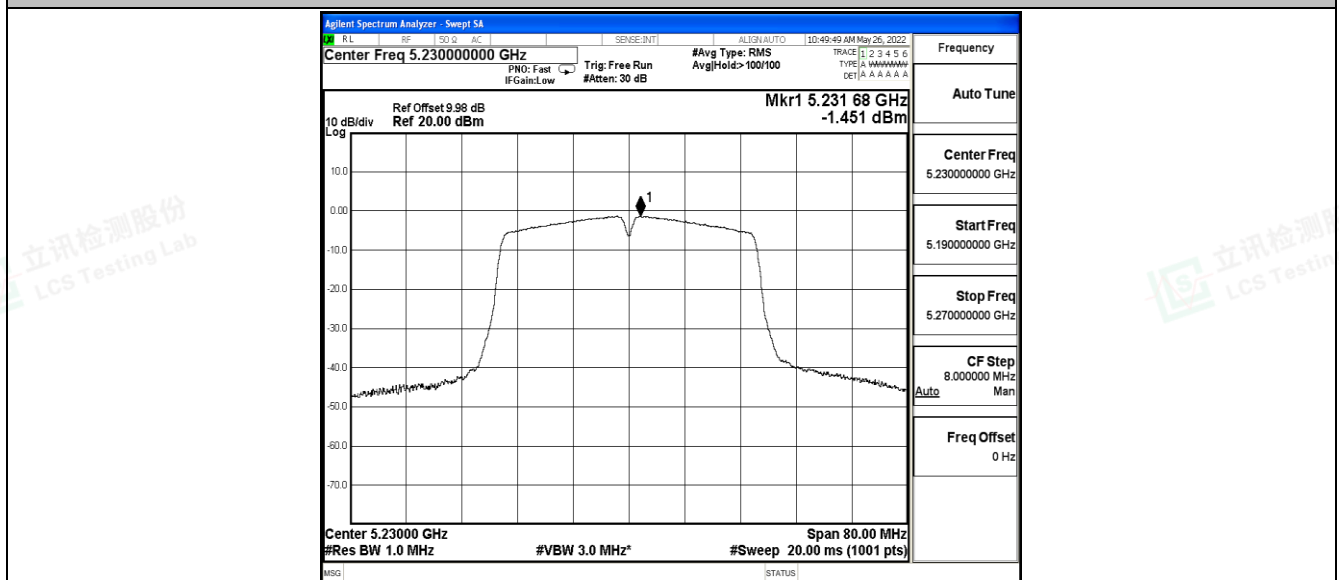


11N40SISO_Ant_5190



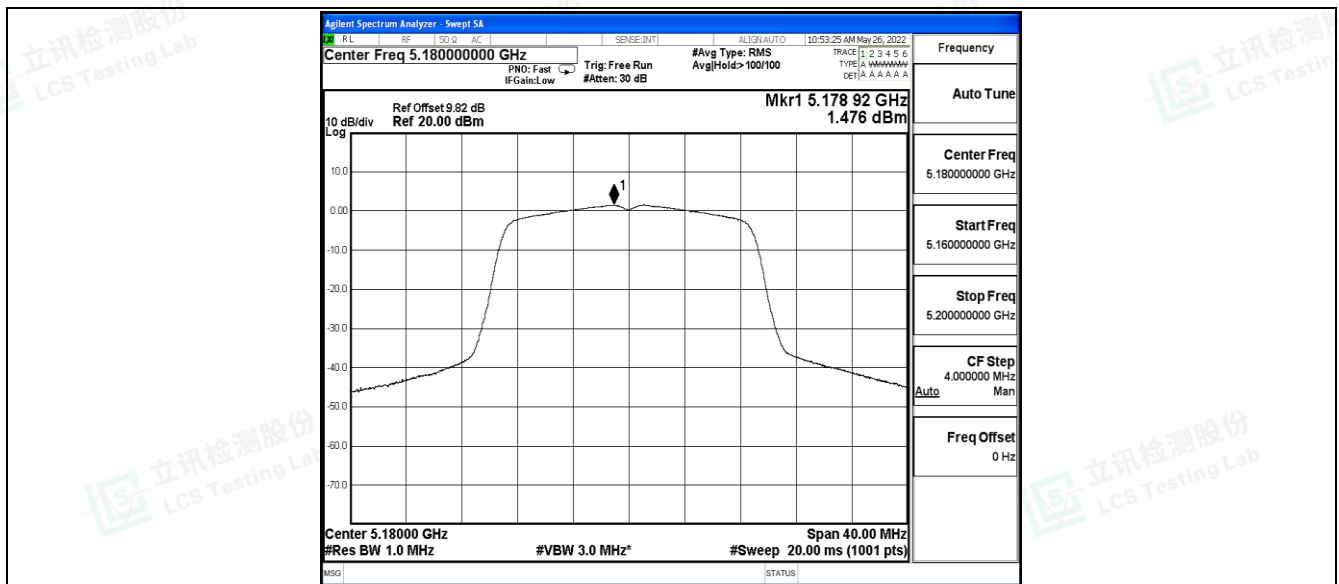


11N40SISO_Ant_5230

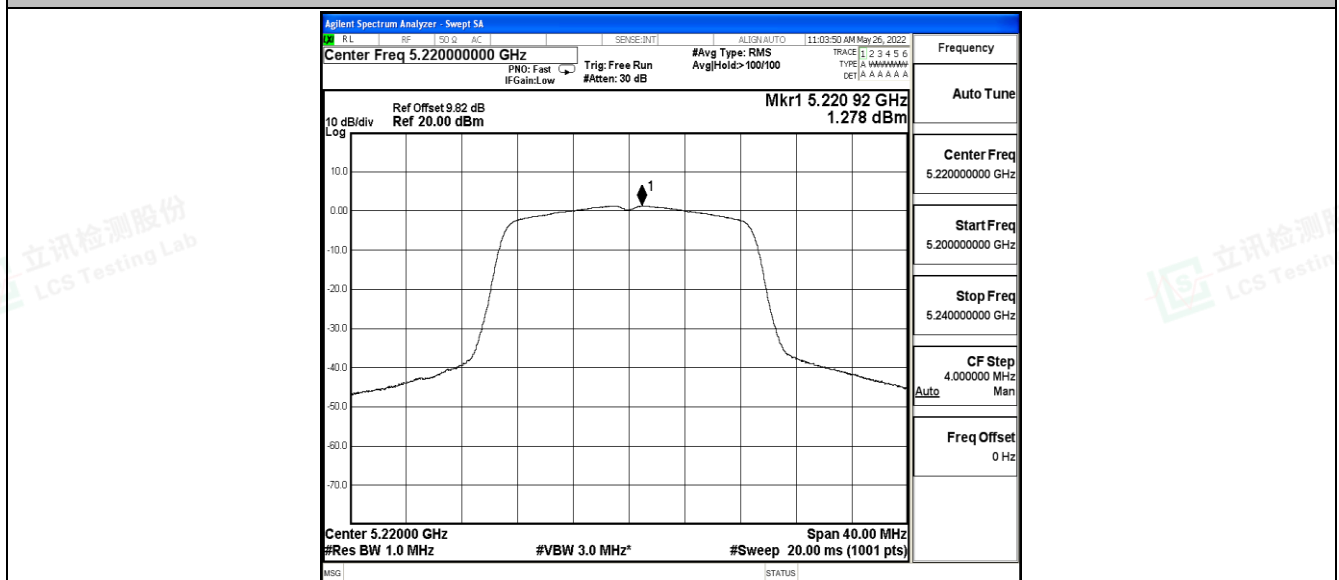


11AC20SISO_Ant_5180



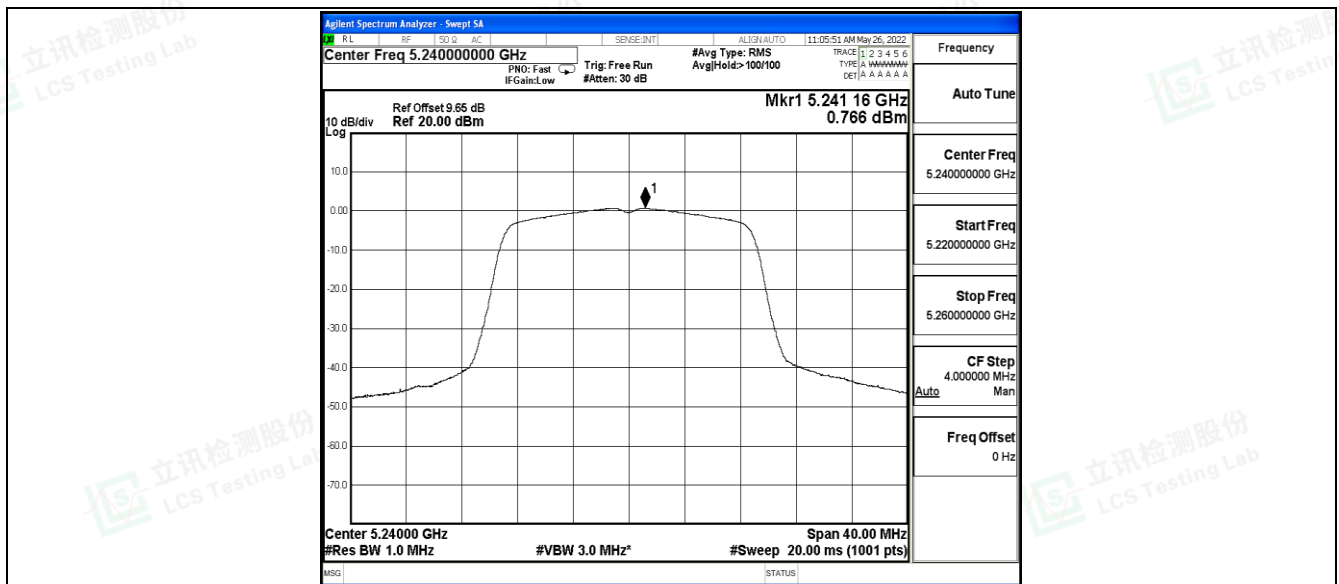


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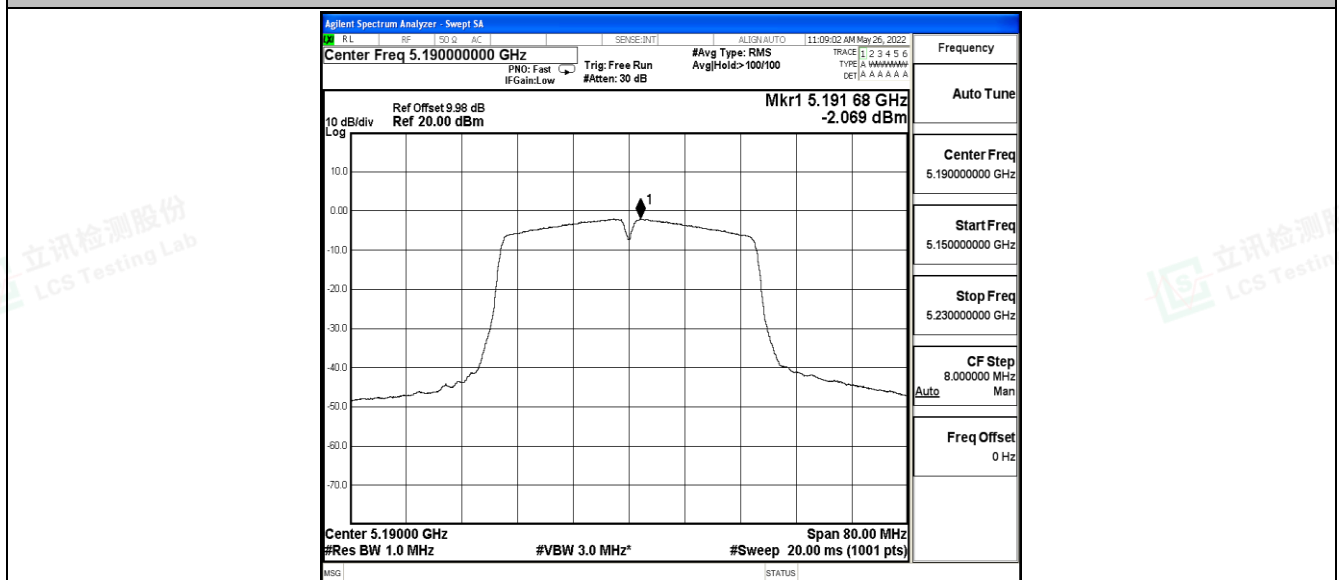


11AC20SISO_Ant_5240



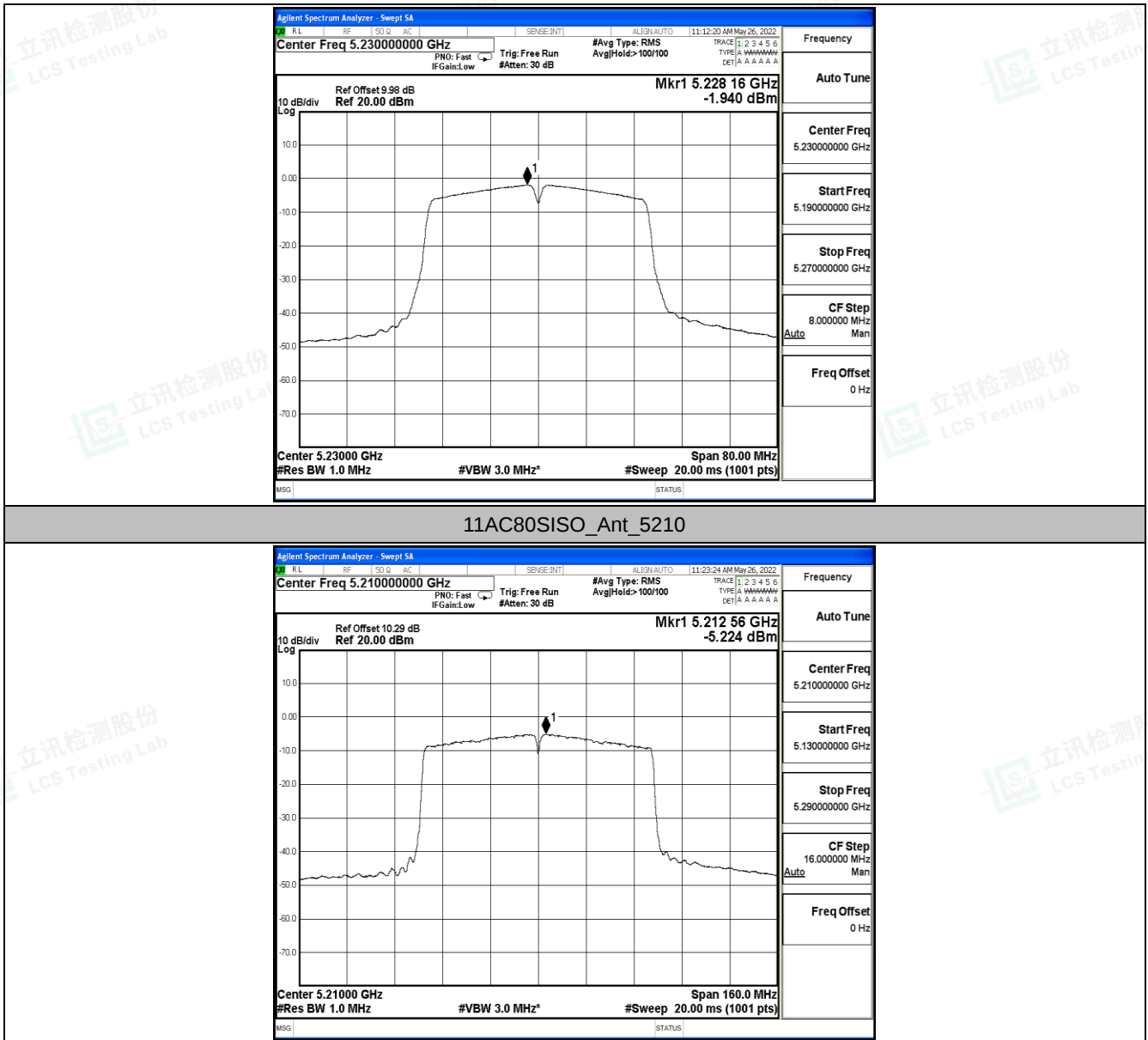


11AC40SISO_Ant_5190



11AC40SISO_Ant_5230







B.4 Emissions in Restricted Bands

Test Result

TestMode	Antenna	ChName	Channel	Detector	Freq. [MHz]	Result [dBm]	Limit [dBm]	Result [dBuV/m]	Limit [dBuV/m]	Verdict
11A	Ant	Low	5180	AV	4500.000	-48.64	≤-41.20	46.56	≤54	PASS
				AV	5149.600	-45.18	≤-41.20	50.02	≤54	PASS
				AV	5150.000	-45.3	≤-41.20	49.90	≤54	PASS
				Peak	4500.000	-39.98	≤-21.20	55.22	≤68.2	PASS
				Peak	5146.800	-31.58	≤-21.20	63.62	≤68.2	PASS
				Peak	5150.000	-32.96	≤-21.20	62.24	≤68.2	PASS
		High	5240	AV	5350.000	-46.78	≤-41.20	48.42	≤54	PASS
				AV	5353.440	-46.63	≤-41.20	48.57	≤54	PASS
				AV	5460.000	-47.12	≤-41.20	48.08	≤54	PASS
				Peak	5350.000	-37.88	≤-21.20	57.32	≤68.2	PASS
				Peak	5400.960	-36.5	≤-21.20	58.70	≤68.2	PASS
				Peak	5460.000	-38.42	≤-21.20	56.78	≤68.2	PASS
11N20SI SO	Ant	Low	5180	AV	4500.000	-48.81	≤-41.20	46.39	≤54	PASS
				AV	5148.900	-45.06	≤-41.20	50.14	≤54	PASS
				AV	5150.000	-45.28	≤-41.20	49.92	≤54	PASS
				Peak	4500.000	-40.33	≤-21.20	54.87	≤68.2	PASS
				Peak	5148.200	-30.52	≤-21.20	64.68	≤68.2	PASS
				Peak	5150.000	-34.75	≤-21.20	60.45	≤68.2	PASS
		High	5240	AV	5350.000	-46.58	≤-41.20	48.62	≤54	PASS
				AV	5350.320	-46.52	≤-41.20	48.68	≤54	PASS
				AV	5460.000	-47.24	≤-41.20	47.96	≤54	PASS
				Peak	5350.000	-38.91	≤-21.20	56.29	≤68.2	PASS
				Peak	5388.720	-35.82	≤-21.20	59.38	≤68.2	PASS
				Peak	5460.000	-37.96	≤-21.20	57.24	≤68.2	PASS
11N40SI SO	Ant	Low	5190	AV	4500.000	-48.27	≤-41.20	46.93	≤54	PASS
				AV	5149.600	-46.02	≤-41.20	49.18	≤54	PASS
				AV	5150.000	-46.1	≤-41.20	49.10	≤54	PASS
				Peak	4500.000	-40.42	≤-21.20	54.78	≤68.2	PASS
				Peak	5149.600	-36.18	≤-21.20	59.02	≤68.2	PASS
				Peak	5150.000	-37.86	≤-21.20	57.34	≤68.2	PASS
		High	5230	AV	5350.000	-46.41	≤-41.20	48.79	≤54	PASS
				AV	5372.640	-46.23	≤-41.20	48.97	≤54	PASS
				AV	5460.000	-46.62	≤-41.20	48.58	≤54	PASS
				Peak	5350.000	-37.58	≤-21.20	57.62	≤68.2	PASS
				Peak	5385.120	-36.54	≤-21.20	58.66	≤68.2	PASS
				Peak	5385.120	-36.54	≤-21.20	58.66	≤68.2	PASS





11AC20S ISO	Ant	Low	5180	Peak	5460.000	-38.65	≤-21.20	56.55	≤68.2	PASS
				AV	4500.000	-48.53	≤-41.20	46.67	≤54	PASS
				AV	5149.600	-45.36	≤-41.20	49.84	≤54	PASS
				AV	5150.000	-45.23	≤-41.20	49.97	≤54	PASS
				Peak	4500.000	-40.29	≤-21.20	54.91	≤68.2	PASS
				Peak	5148.200	-31.93	≤-21.20	63.27	≤68.2	PASS
				Peak	5150.000	-31.94	≤-21.20	63.26	≤68.2	PASS
		High	5240	AV	5350.000	-46.9	≤-41.20	48.30	≤54	PASS
				AV	5353.440	-46.7	≤-41.20	48.50	≤54	PASS
				AV	5460.000	-47.05	≤-41.20	48.15	≤54	PASS
				Peak	5350.000	-39.2	≤-21.20	56.00	≤68.2	PASS
				Peak	5368.080	-35.31	≤-21.20	59.89	≤68.2	PASS
				Peak	5460.000	-39.51	≤-21.20	55.69	≤68.2	PASS
11AC40S ISO	Ant	Low	5190	AV	4500.000	-48.46	≤-41.20	46.74	≤54	PASS
				AV	5147.500	-44.35	≤-41.20	50.85	≤54	PASS
				AV	5150.000	-44.96	≤-41.20	50.24	≤54	PASS
				Peak	4500.000	-39.75	≤-21.20	55.45	≤68.2	PASS
				Peak	5148.900	-30.29	≤-21.20	64.91	≤68.2	PASS
				Peak	5150.000	-30.83	≤-21.20	64.37	≤68.2	PASS
		High	5230	AV	5350.000	-46.72	≤-41.20	48.48	≤54	PASS
				AV	5356.260	-46.26	≤-41.20	48.94	≤54	PASS
				AV	5460.000	-46.73	≤-41.20	48.47	≤54	PASS
				Peak	5350.000	-38.64	≤-21.20	56.56	≤68.2	PASS
				Peak	5426.980	-36.16	≤-21.20	59.04	≤68.2	PASS
				Peak	5460.000	-38.08	≤-21.20	57.12	≤68.2	PASS
11AC80S ISO	Ant	Low	5210	AV	4500.000	-48.14	≤-41.20	47.06	≤54	PASS
				AV	5149.500	-42.04	≤-41.20	53.16	≤54	PASS
				AV	5150.000	-42.47	≤-41.20	52.73	≤54	PASS
				Peak	4500.000	-40.74	≤-21.20	54.46	≤68.2	PASS
				Peak	5133.000	-28.48	≤-21.20	66.72	≤68.2	PASS
				Peak	5150.000	-29.73	≤-21.20	65.47	≤68.2	PASS
		High	5210	AV	5350.000	-46.22	≤-41.20	48.98	≤54	PASS
				AV	5351.360	-45.61	≤-41.20	49.59	≤54	PASS
				AV	5460.000	-46.12	≤-41.20	49.08	≤54	PASS
				Peak	5350.000	-38.9	≤-21.20	56.30	≤68.2	PASS
				Peak	5370.120	-36.46	≤-21.20	58.74	≤68.2	PASS
				Peak	5460.000	-37.67	≤-21.20	57.53	≤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.

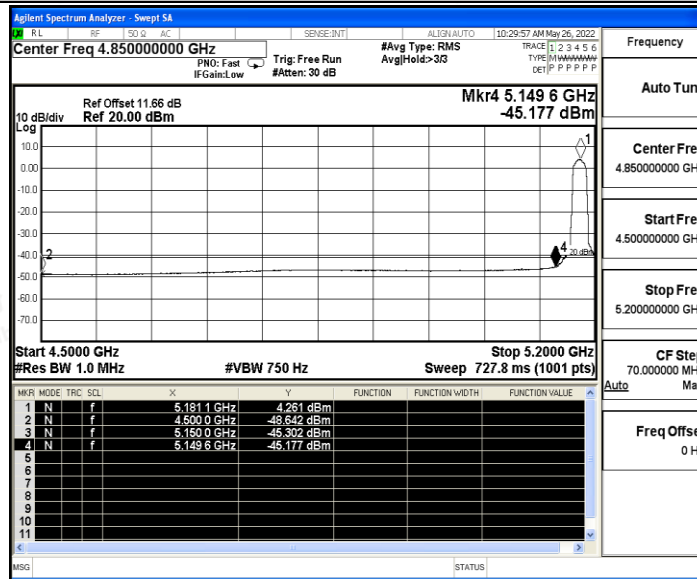


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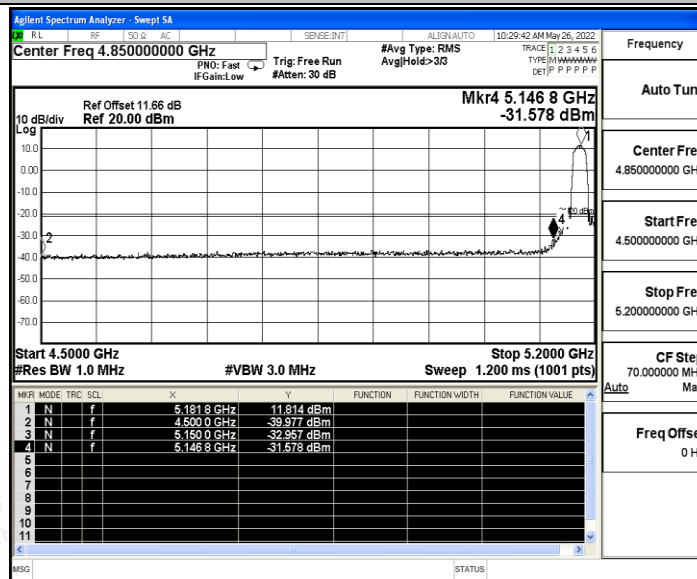


Test Graphs

11A_Ant_Low_5180_AV

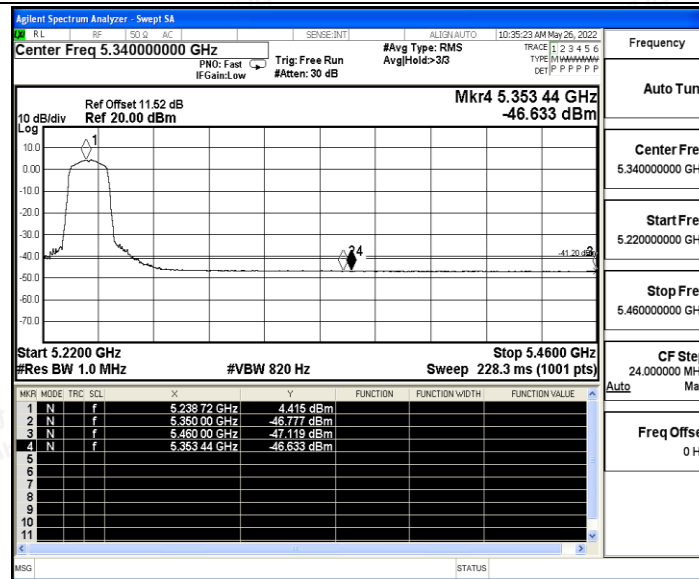


11A_Ant_Low_5180_Peak

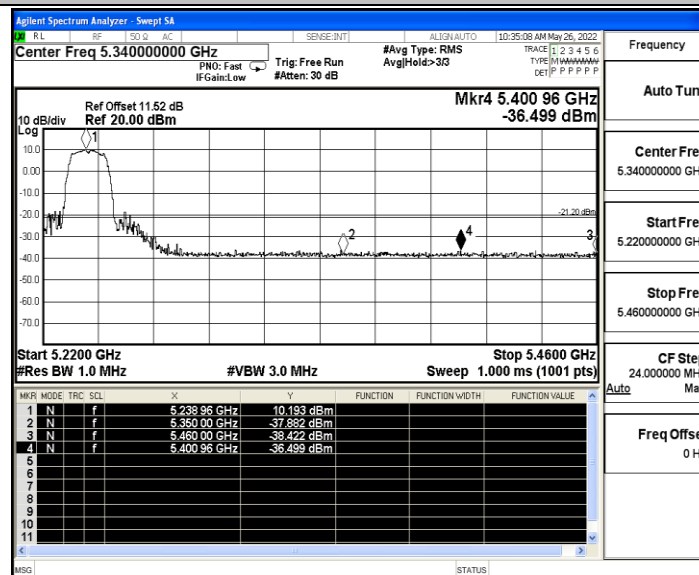


11A_Ant_High_5240_AV



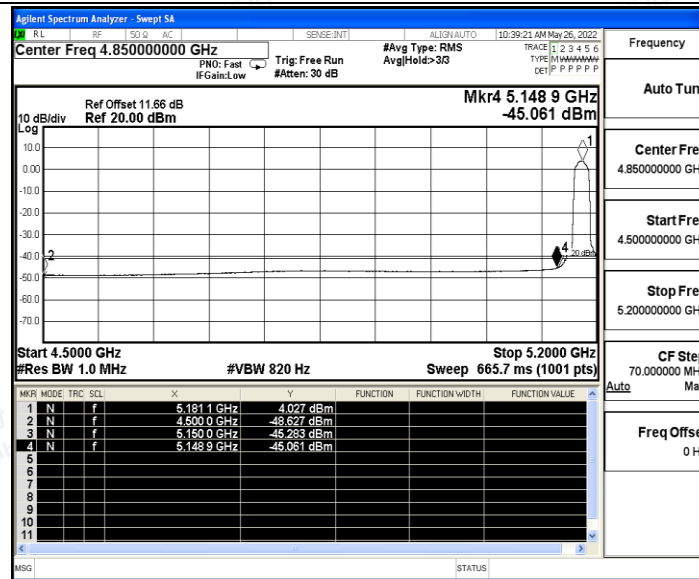


11A_Ant_High_5240_Peak

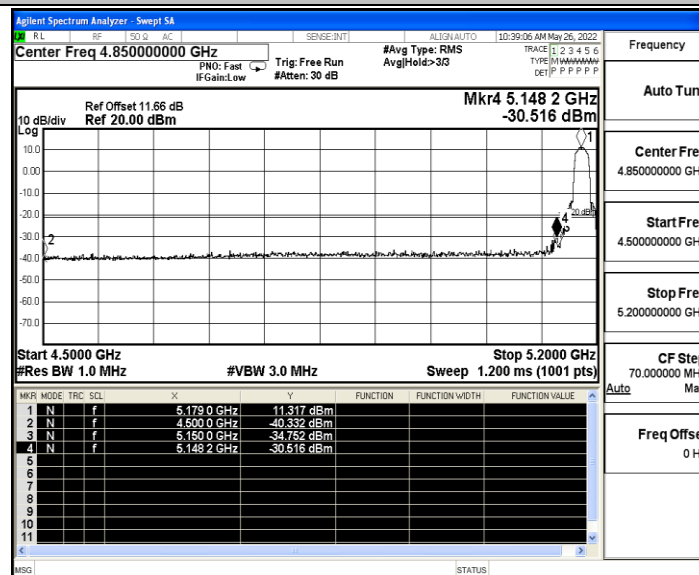


11N20SISO_Ant_Low_5180_AV



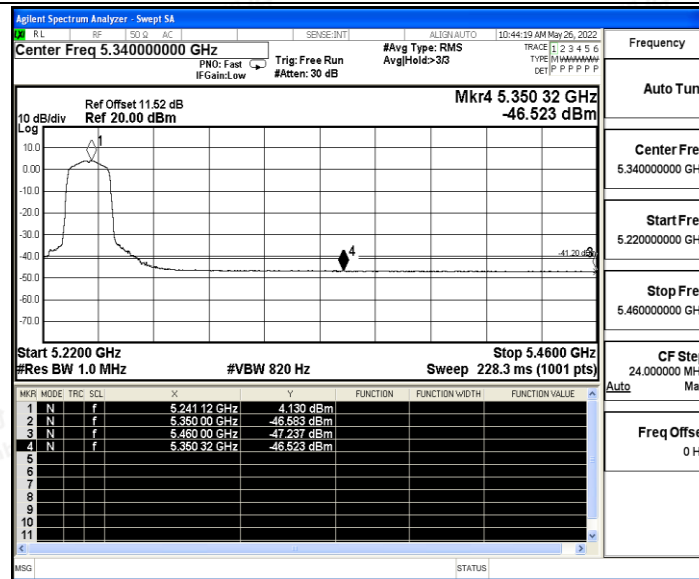


11N20SISO_Ant_Low_5180_Peak

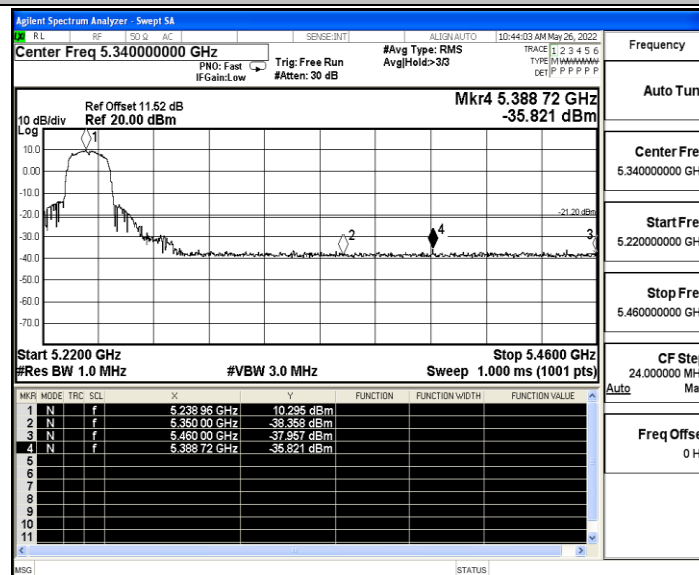


11N20SISO_Ant_High_5240_AV



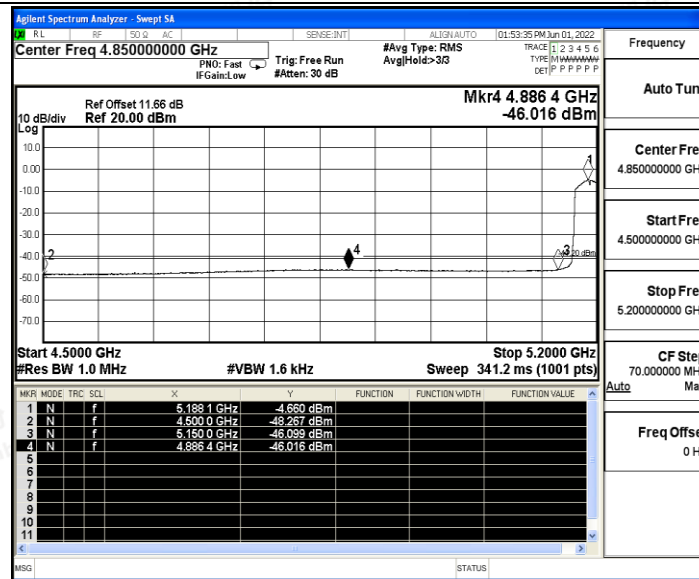


11N20SISO_Ant_High_5240_Peak

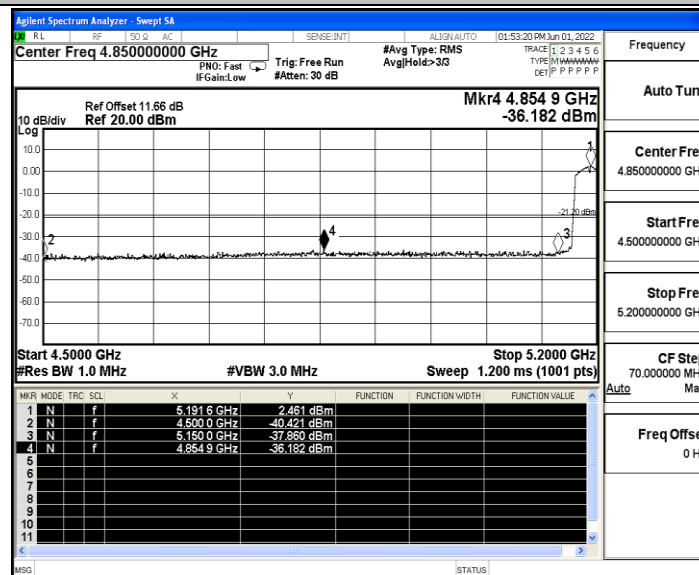


11N40SISO_Ant_Low_5190_AV



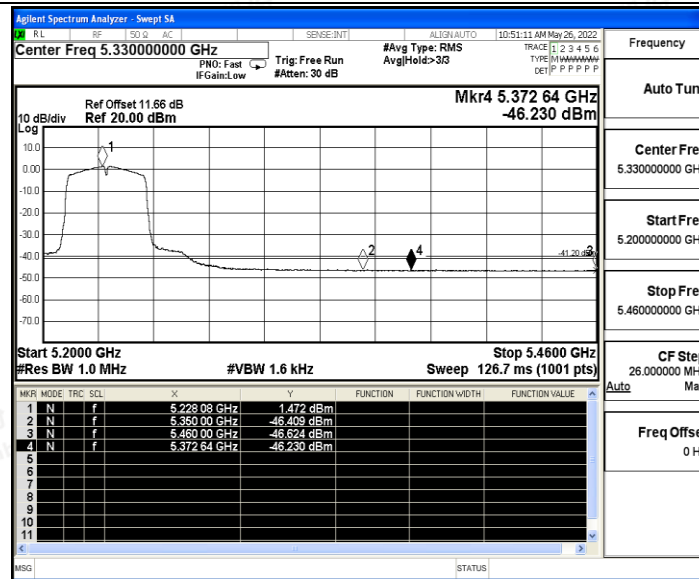


11N40SISO_Ant_Low_5190_Peak

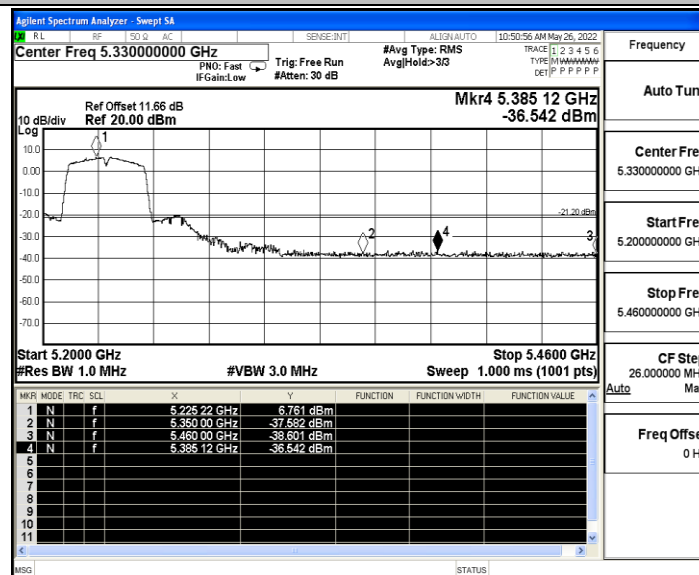


11N40SISO_Ant_High_5230_AV



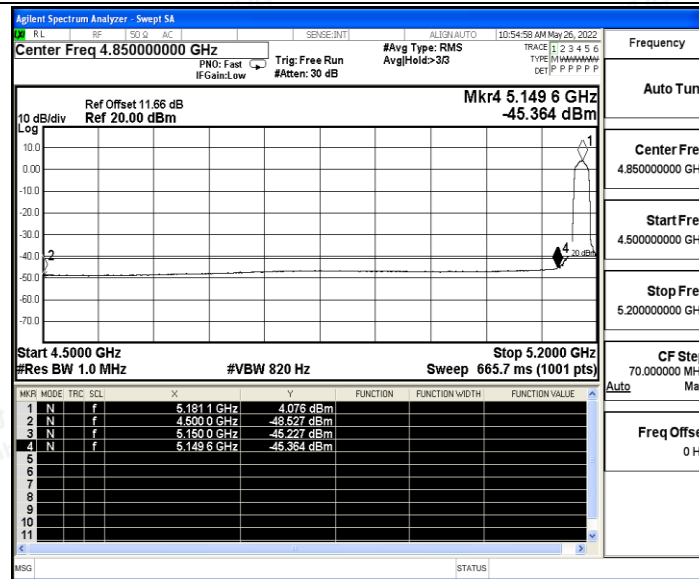


11N40SISO_Ant_High_5230_Peak

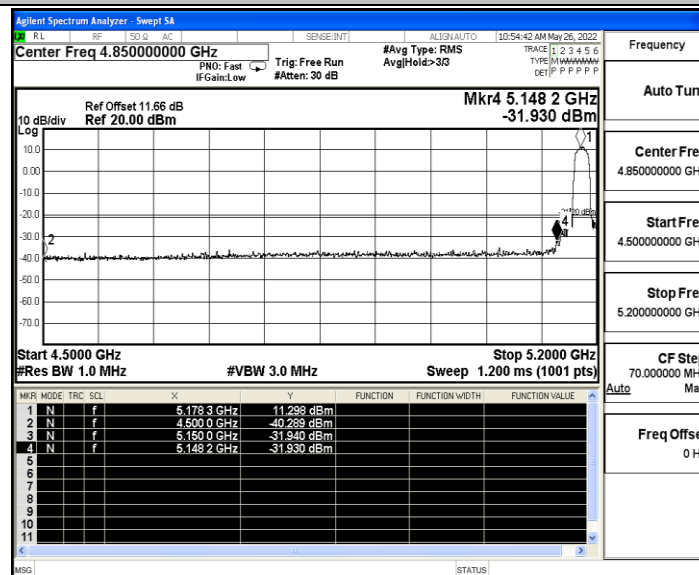


11AC20SISO_Ant_Low_5180_AV



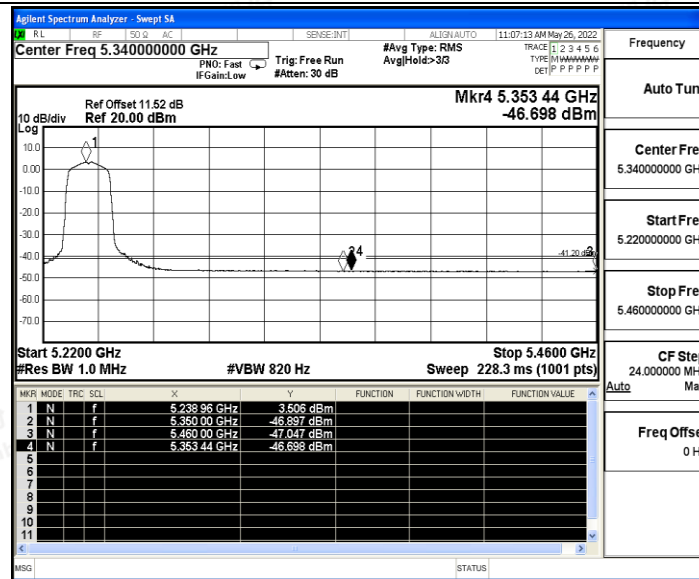


11AC20SISO_Ant_Low_5180_Peak

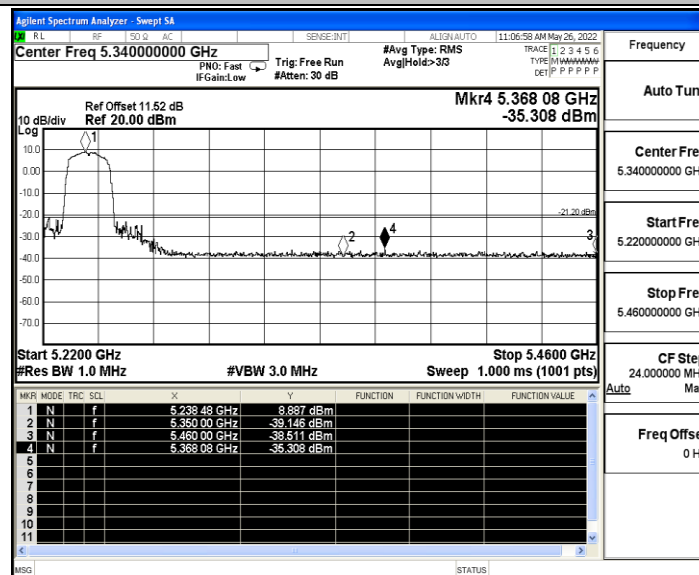


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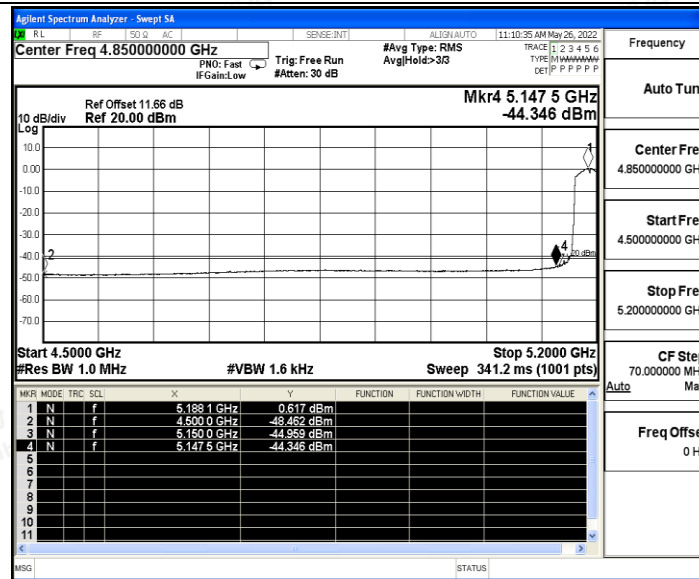


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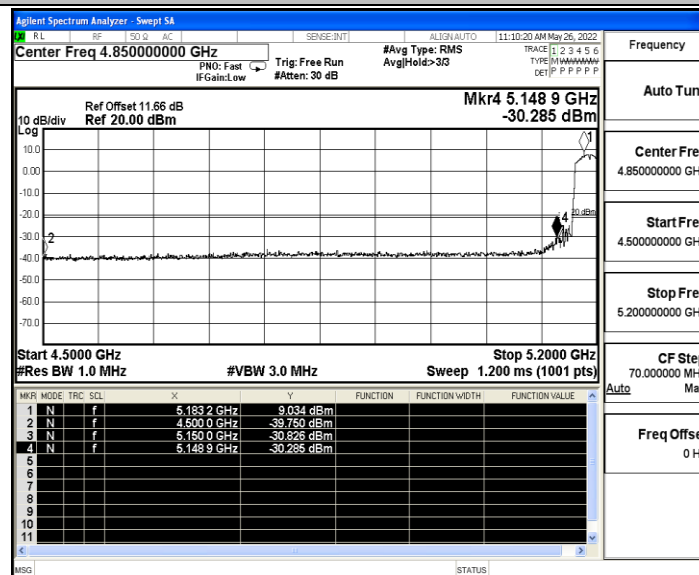


11AC40SISO_Ant_Low_5190_AV



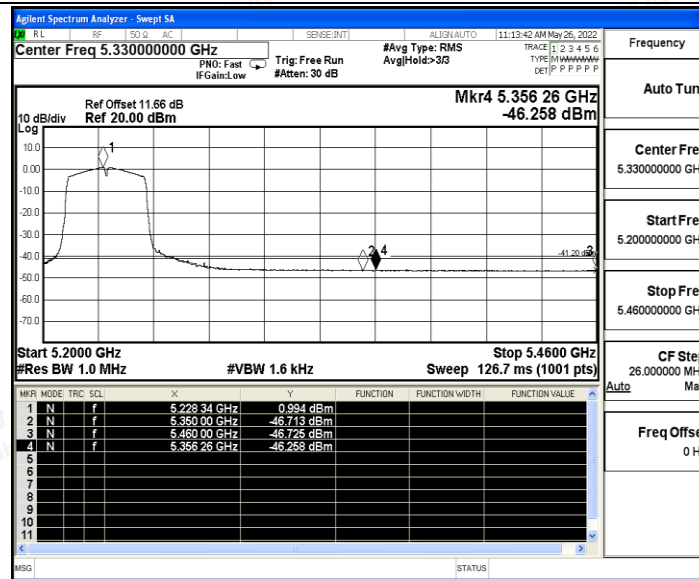


11AC40SISO_Ant_Low_5190_Peak

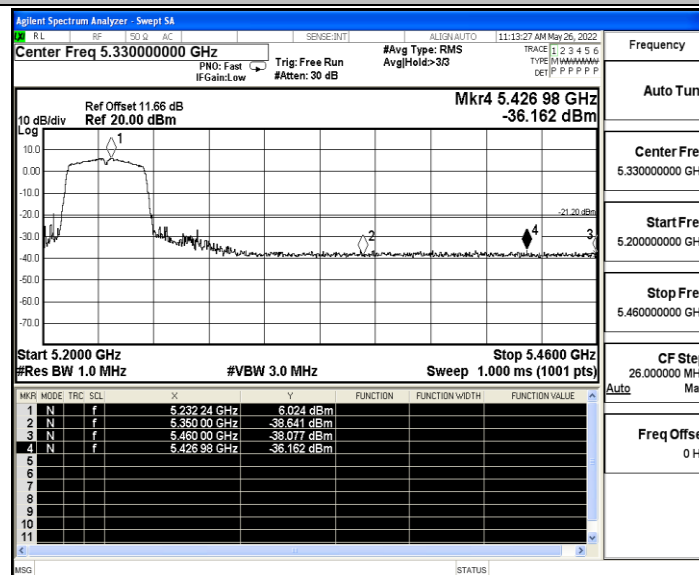


11AC40SISO_Ant_High_5230_AV



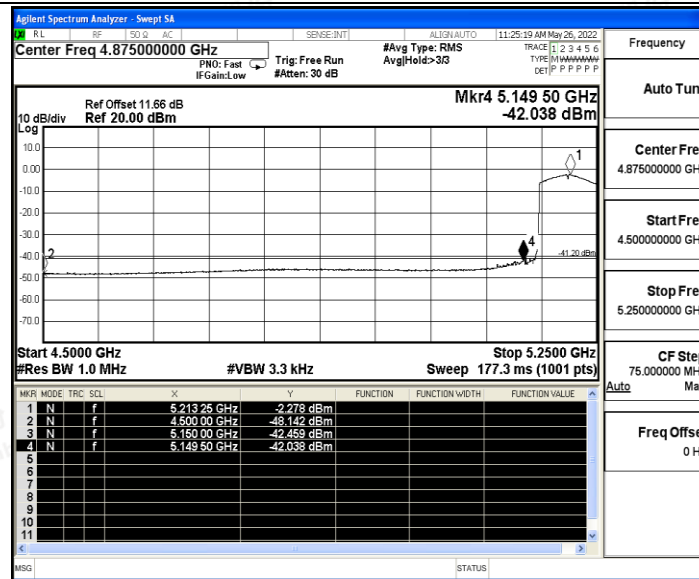


11AC40SISO_Ant_High_5230_Peak

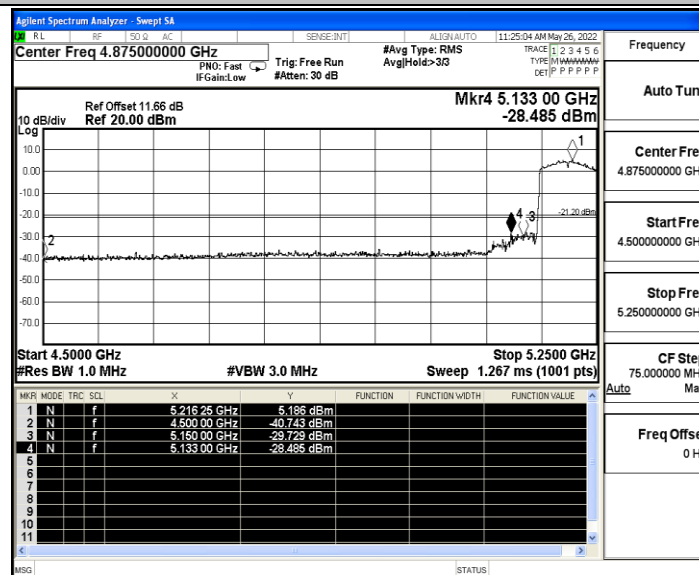


11AC80SISO_Ant_Low_5210_AV



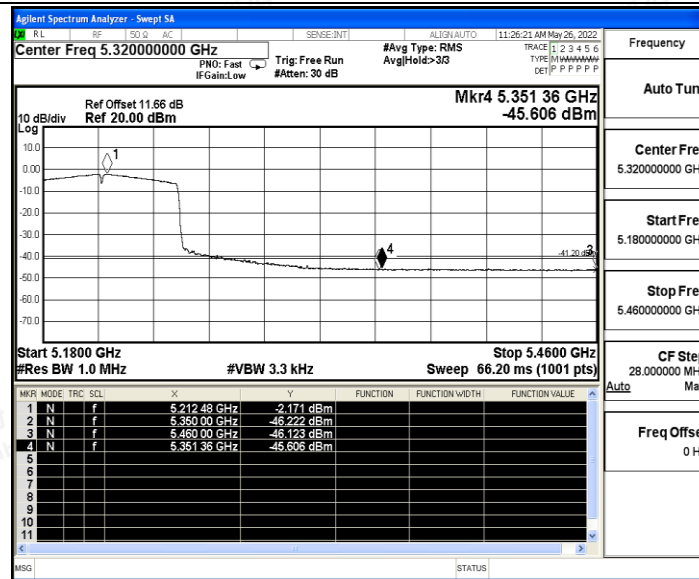


11AC80SISO_Ant_Low_5210_Peak

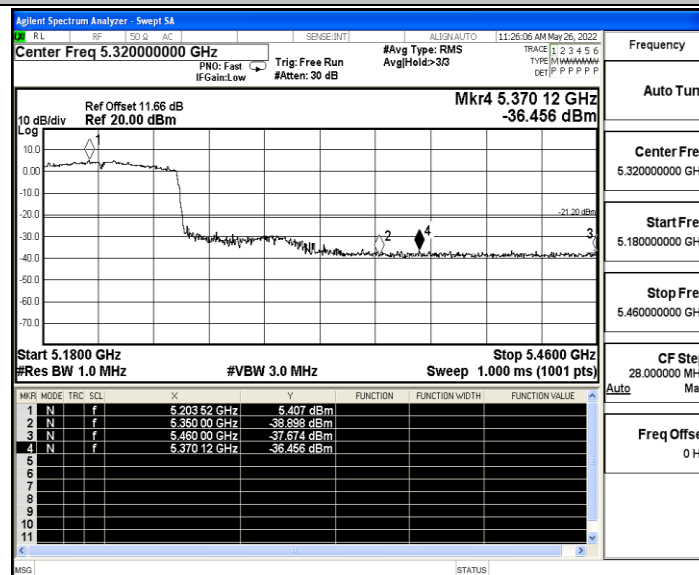


11AC80SISO_Ant_High_5210_AV





11AC80SISO_Ant_High_5210_Peak





B.5 Frequency Stability

Test Result

Voltage								
TestMode	Antenna	Channel	Voltage [Vdc]	Temperature (°C)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
11AC20SIS O	Ant	5180	NV	NT	-20000	-3.861004	20	PASS
			LV	NT	-20000	-3.861004	20	PASS
			HV	NT	-20000	-3.861004	20	PASS
		5220	NV	NT	-20000	-3.831418	20	PASS
			LV	NT	-20000	-3.831418	20	PASS
			HV	NT	-20000	-3.831418	20	PASS
		5240	NV	NT	-20000	-3.816794	20	PASS
			LV	NT	-20000	-3.816794	20	PASS
			HV	NT	-20000	-3.816794	20	PASS
11AC40SIS O	Ant	5190	NV	NT	0	0	20	PASS
			LV	NT	0	0	20	PASS
			HV	NT	0	0	20	PASS
		5230	NV	NT	0	0	20	PASS
			LV	NT	0	0	20	PASS
			HV	NT	0	0	20	PASS
11AC80SIS O	Ant	5210	NV	NT	0	0	20	PASS
			LV	NT	0	0	20	PASS
			HV	NT	0	0	20	PASS

Temperature								
TestMode	Antenna	Channel	Voltage [Vdc]	Temperature (°C)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
11AC20SIS O	Ant	5180	NV	-30	-20000	-3.861004	20	PASS
			NV	-20	-20000	-3.861004	20	PASS
			NV	-10	-20000	-3.861004	20	PASS
			NV	0	-20000	-3.861004	20	PASS
			NV	10	-20000	-3.861004	20	PASS
			NV	20	-20000	-3.861004	20	PASS
			NV	30	-20000	-3.861004	20	PASS
			NV	40	-20000	-3.861004	20	PASS
			NV	50	-20000	-3.861004	20	PASS
		5220	NV	-30	-20000	-3.831418	20	PASS
			NV	-20	-20000	-3.831418	20	PASS





			NV	-10	-20000	-3.831418	20	PASS
			NV	0	-20000	-3.831418	20	PASS
			NV	10	-20000	-3.831418	20	PASS
			NV	20	-20000	-3.831418	20	PASS
			NV	30	-20000	-3.831418	20	PASS
			NV	40	-20000	-3.831418	20	PASS
			NV	50	-20000	-3.831418	20	PASS
			NV	-30	-20000	-3.816794	20	PASS
		5240	NV	-20	-20000	-3.816794	20	PASS
			NV	-10	-20000	-3.816794	20	PASS
			NV	0	-20000	-3.816794	20	PASS
			NV	10	-20000	-3.816794	20	PASS
			NV	20	-20000	-3.816794	20	PASS
			NV	30	-20000	-3.816794	20	PASS
			NV	40	-20000	-3.816794	20	PASS
			NV	50	-20000	-3.816794	20	PASS
11AC40SIS O	Ant	5190	NV	-30	0	0	20	PASS
			NV	-20	0	0	20	PASS
			NV	-10	0	0	20	PASS
			NV	0	0	0	20	PASS
			NV	10	0	0	20	PASS
			NV	20	0	0	20	PASS
			NV	30	0	0	20	PASS
			NV	40	0	0	20	PASS
			NV	50	0	0	20	PASS
		5230	NV	-30	0	0	20	PASS
			NV	-20	0	0	20	PASS
			NV	-10	0	0	20	PASS
			NV	0	0	0	20	PASS
			NV	10	0	0	20	PASS
			NV	20	0	0	20	PASS
			NV	30	0	0	20	PASS
			NV	40	0	0	20	PASS
11AC80SIS O	Ant	5210	NV	-30	0	0	20	PASS
			NV	-20	0	0	20	PASS
			NV	-10	0	0	20	PASS
			NV	0	0	0	20	PASS
			NV	10	0	0	20	PASS
			NV	20	0	0	20	PASS





			NV	30	0	0	20	PASS
			NV	40	0	0	20	PASS
			NV	50	0	0	20	PASS



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Scan code to check authenticity



B.6 Duty Cycle

Test Result

TestMode	Antenna	Channel	Transmission Duration [ms]	Transmission Period [ms]	Duty Cycle [%]	Limit	Verdict
11A	Ant	5180	1.40	1.45	96.55	---	---
		5220	1.39	1.43	97.20	---	---
		5240	1.39	1.44	96.53	---	---
11N20SISO	Ant	5180	1.29	1.34	96.27	---	---
		5220	1.30	1.34	97.01	---	---
		5240	1.31	1.35	97.04	---	---
11N40SISO	Ant	5190	0.65	0.69	94.20	---	---
		5230	0.65	0.70	92.86	---	---
11AC20SISO	Ant	5180	1.31	1.36	96.32	---	---
		5220	1.31	1.36	96.32	---	---
		5240	1.31	1.35	97.04	---	---
11AC40SISO	Ant	5190	0.65	0.70	92.86	---	---
		5230	0.65	0.70	92.86	---	---
11AC80SISO	Ant	5210	0.32	0.37	86.49	---	---

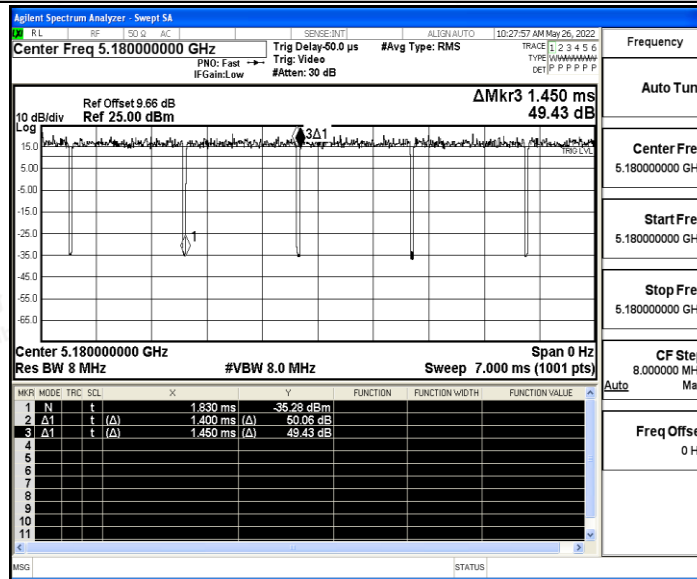


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Scan code to check authenticity

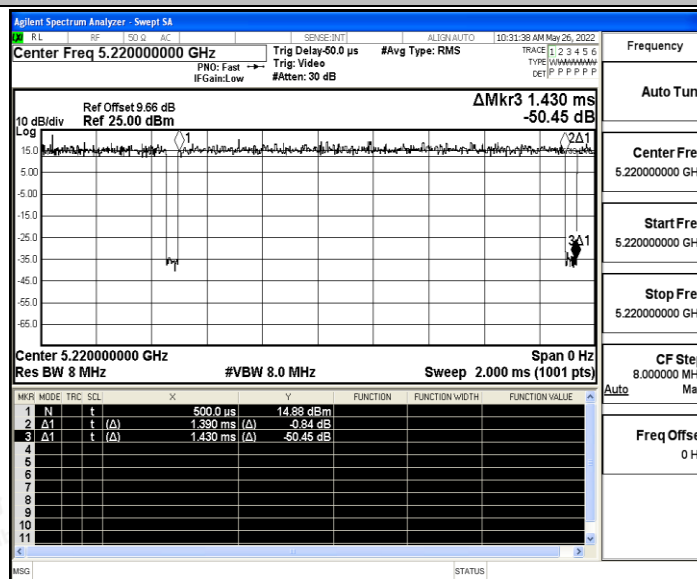


Test Graphs

11A_Ant_5180

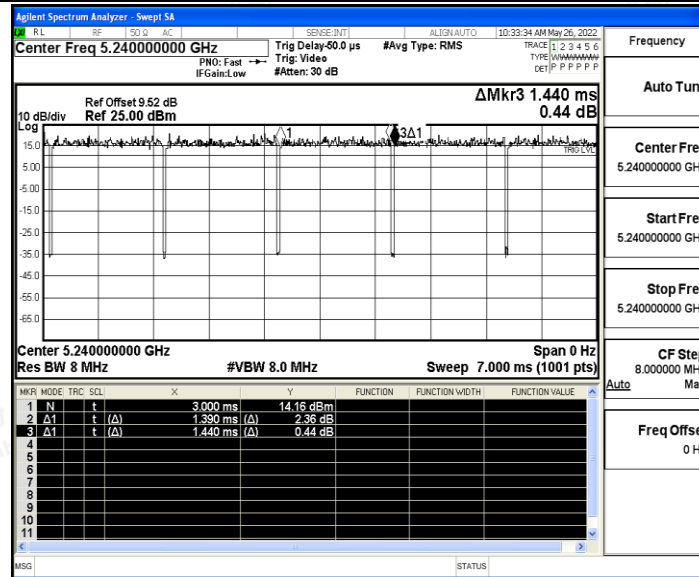


11A_Ant_5220

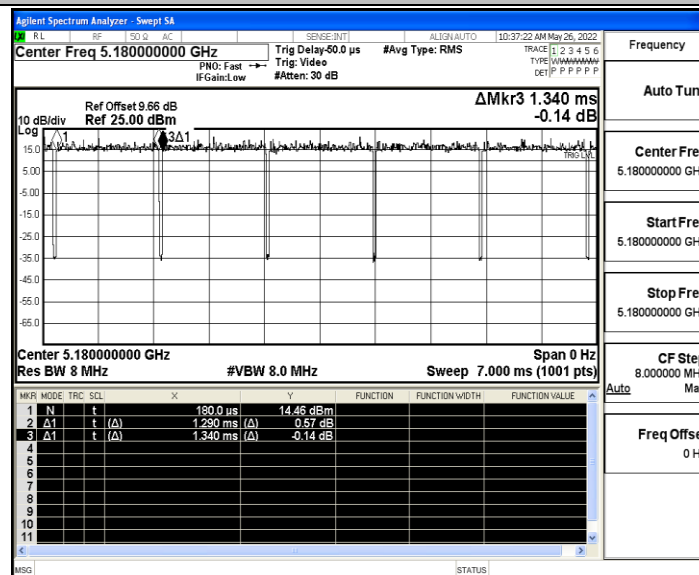


11A_Ant_5240



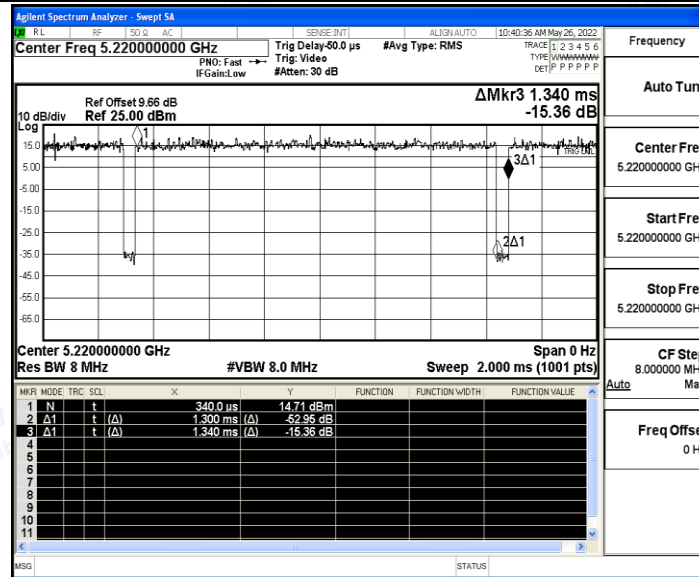


11N20SISO_Ant_5180

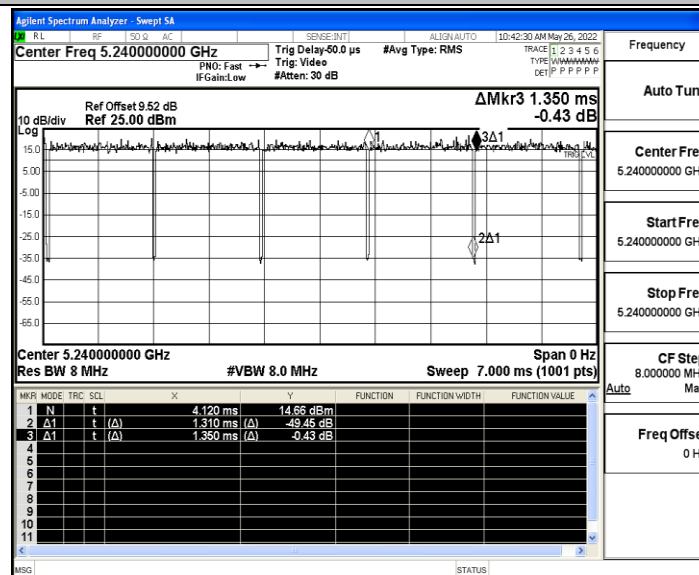


11N20SISO_Ant_5220



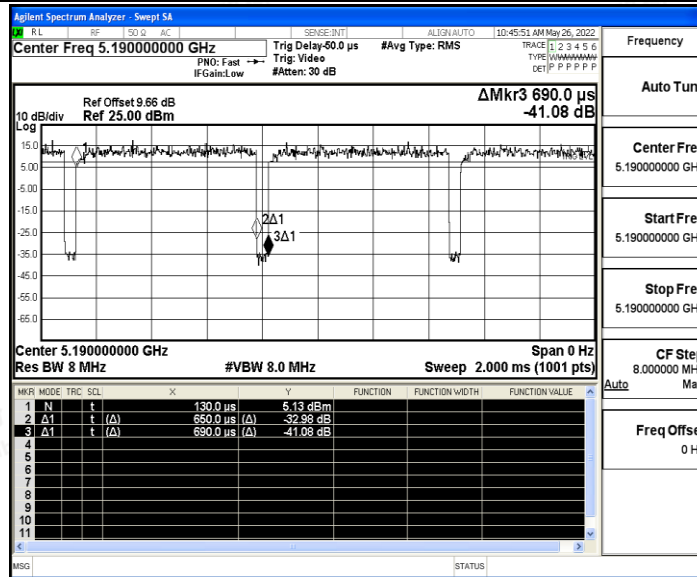


11N20SISO_Ant_5240

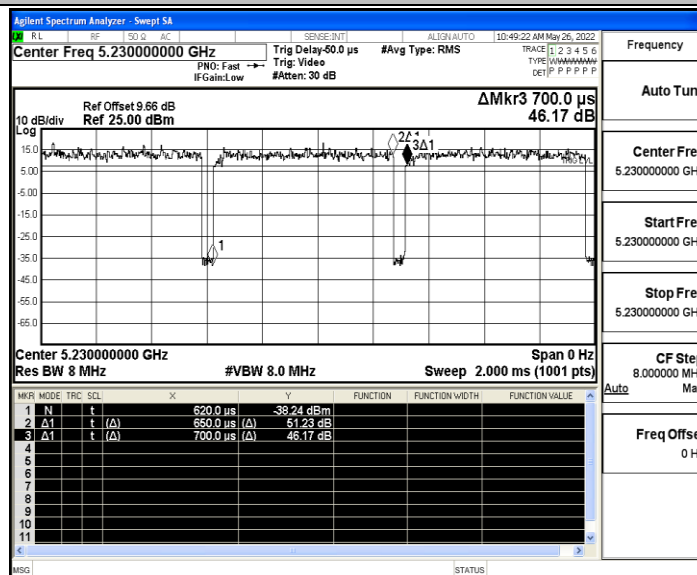


11N40SISO_Ant_5190



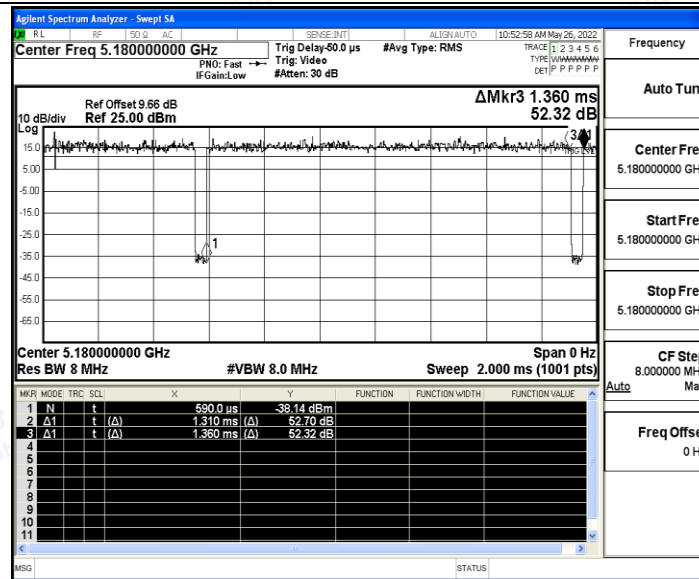


11N40SISO_Ant_5230

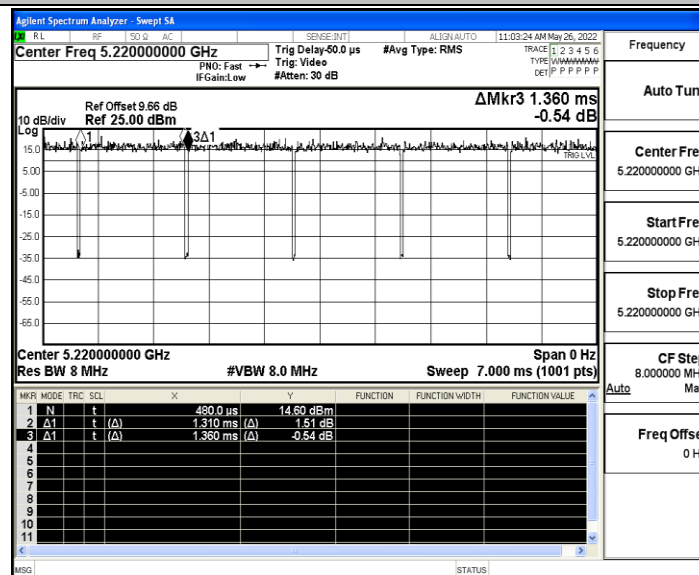


11AC20SISO_Ant_5180



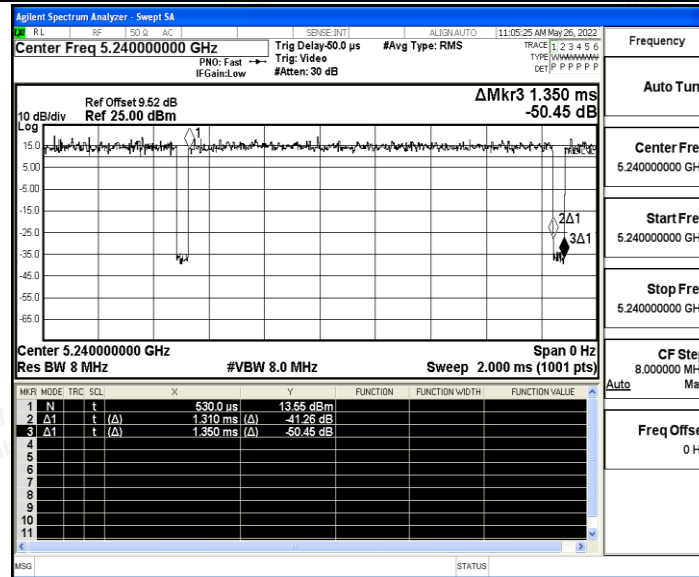


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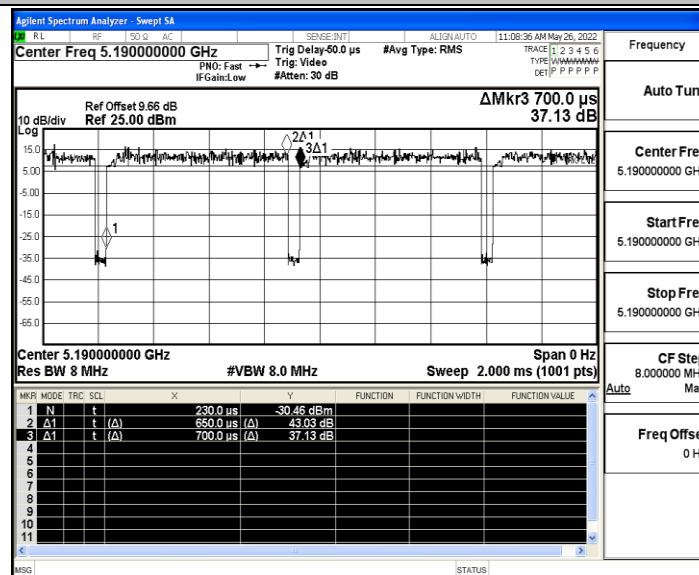


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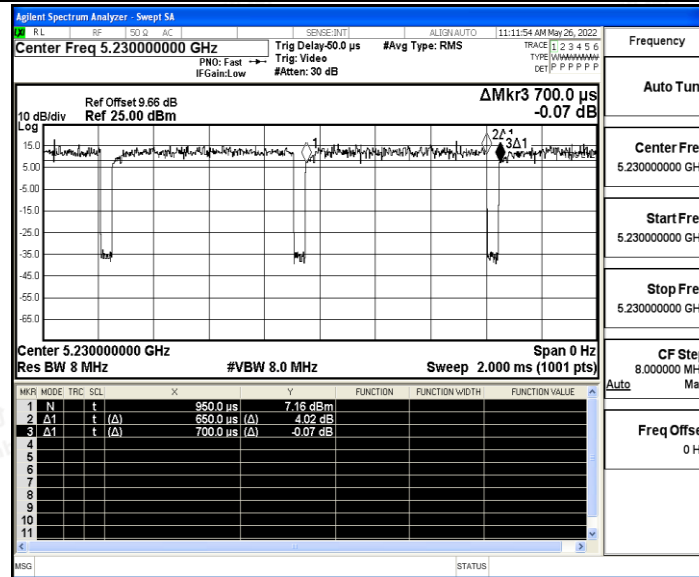


11AC40SISO_Ant_5190



11AC40SISO_Ant_5230





11AC80SISO_Ant_5210

