



Appendix C

RF Test Data for 5.2G WIFI (Conducted Measurement)

Product Name: Key cutting machine

Trade Mark: XTOOL

Test Model: KNC81

Environmental Conditions

Temperature:	21.1° C
Relative Humidity:	52.1%
ATM Pressure:	100.0 kPa
Test Engineer:	Monkey Li
Supervised by:	Li Huan

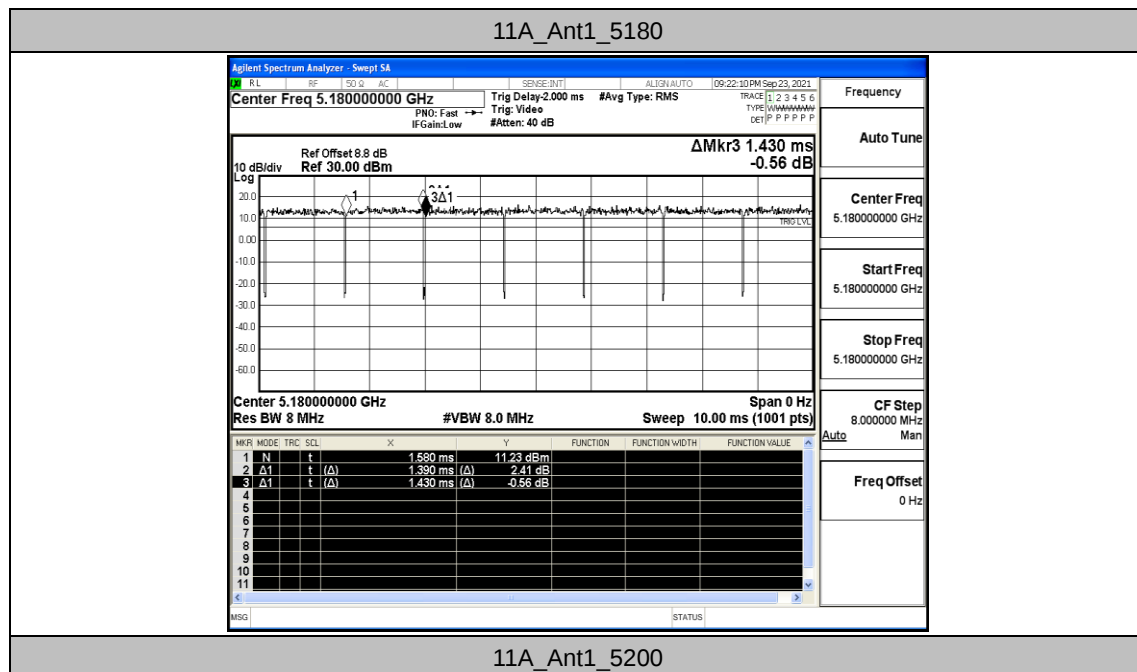


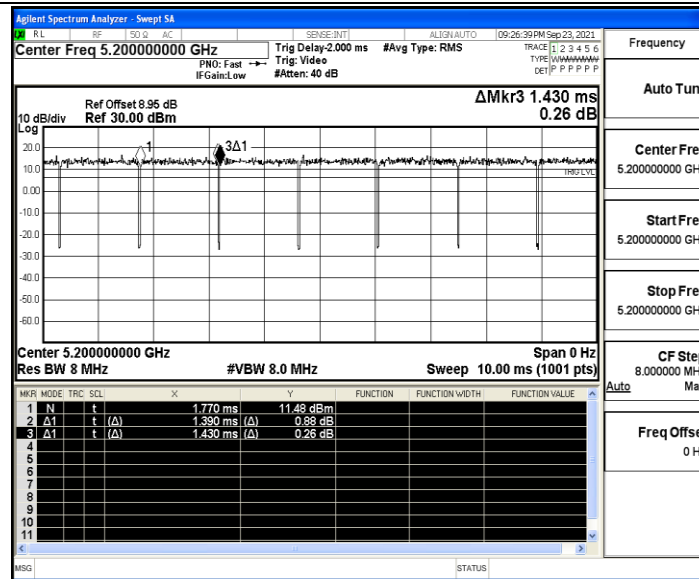
C.1 Duty Cycle

Test Result

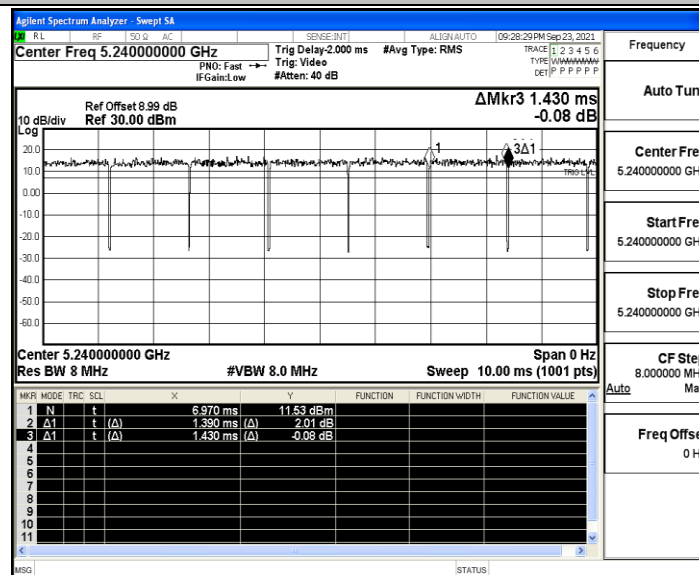
TestMode	Antenna	Channel	Transmission Duration [ms]	Transmission Period [ms]	Duty Cycle [%]	Limit	Verdict
11A	Ant1	5180	1.39	1.43	97.20	---	PASS
		5200	1.39	1.43	97.20	---	PASS
		5240	1.39	1.43	97.20	---	PASS
11N20SISO	Ant1	5180	1.30	2.63	49.43	---	PASS
		5200	1.31	2.64	49.62	---	PASS
		5240	1.30	1.34	97.01	---	PASS
11N40SISO	Ant1	5190	0.65	1.32	49.24	---	PASS
		5230	0.64	0.68	94.12	---	PASS
11AC20SISO	Ant1	5180	1.31	2.64	49.62	---	PASS
		5200	1.32	1.36	97.06	---	PASS
		5240	1.31	1.35	97.04	---	PASS
11AC40SISO	Ant1	5190	0.65	0.69	94.20	---	PASS
		5230	0.65	1.33	48.87	---	PASS
11AC80SISO	Ant1	5210	0.32	0.44	72.73	---	PASS

Test Graphs

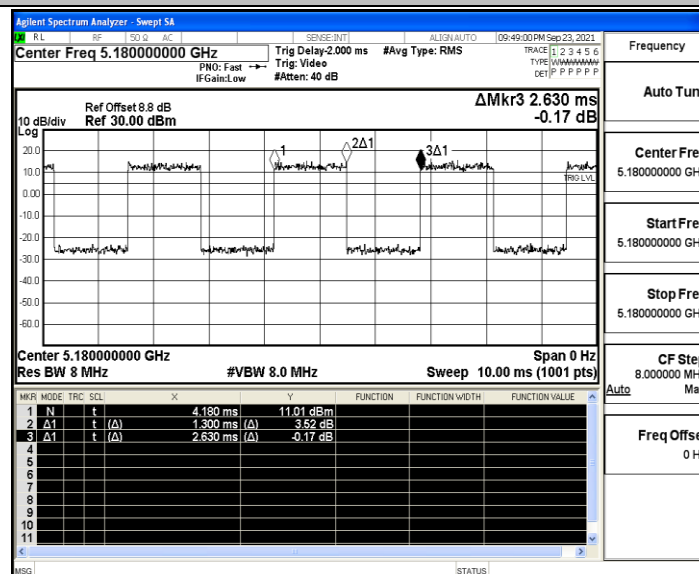




11A_Ant1_5240

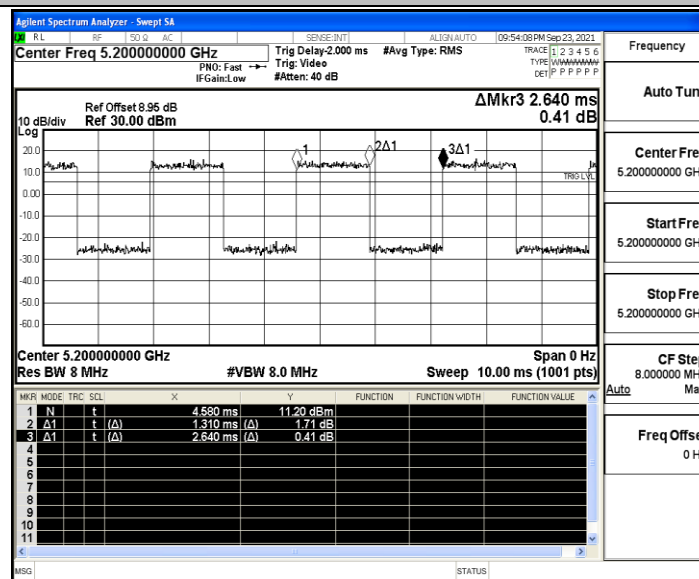


11N20SISO_Ant1_5180

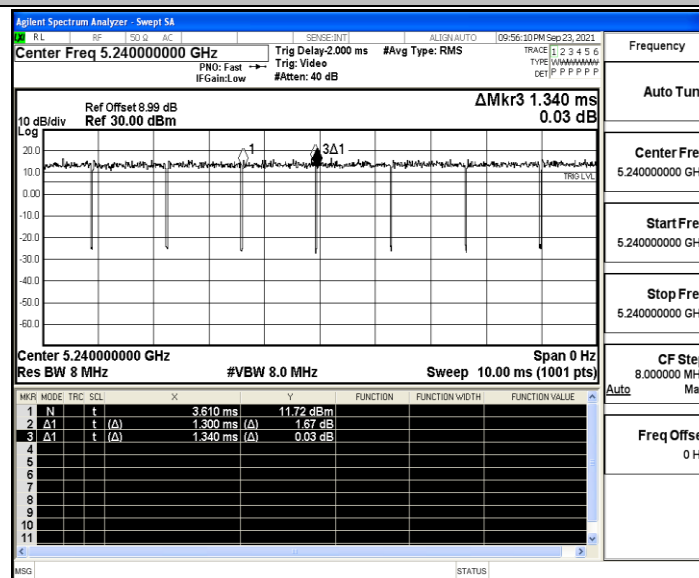




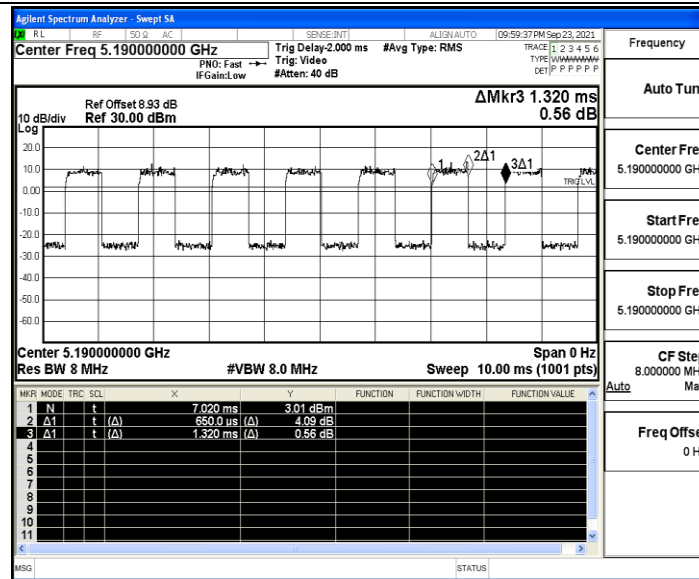
11N20SISO_Ant1_5200



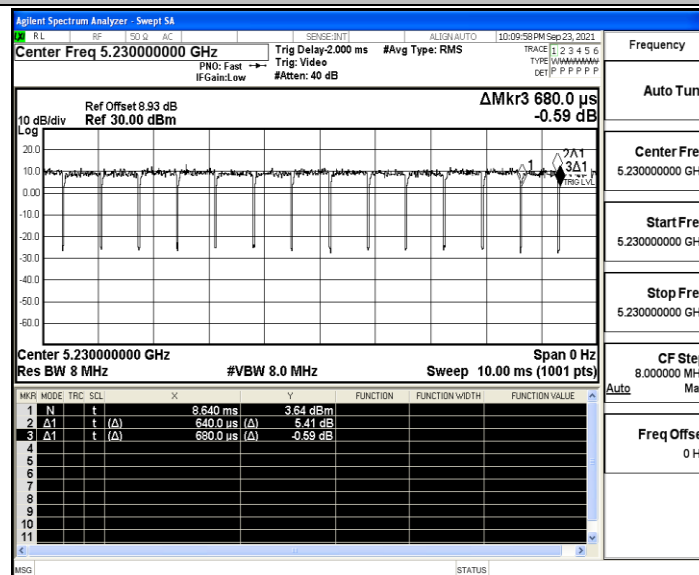
11N20SISO_Ant1_5240



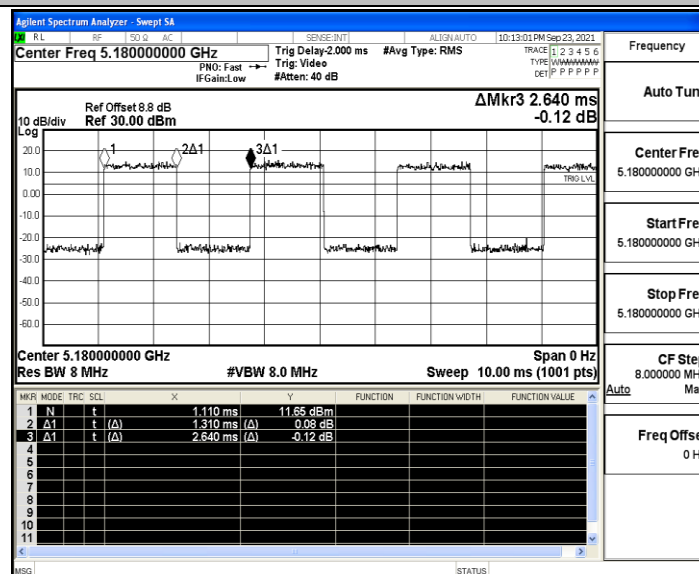
11N40SISO_Ant1_5190



11N40SISO_Ant1_5230

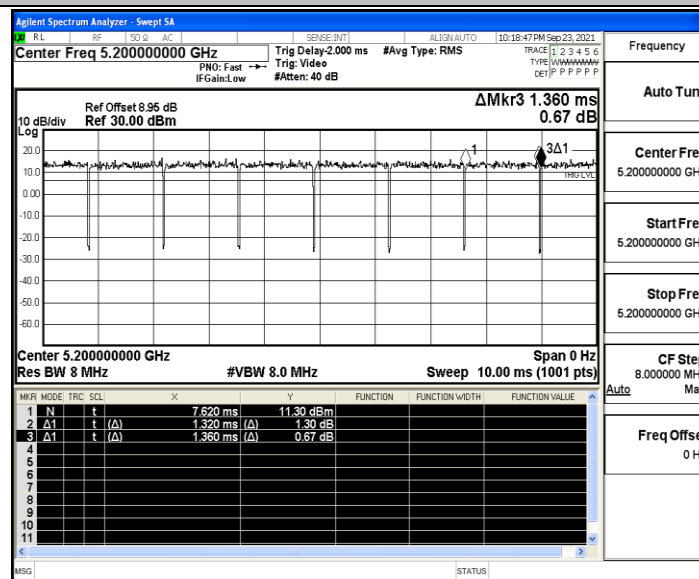


11AC20SISO_Ant1_5180

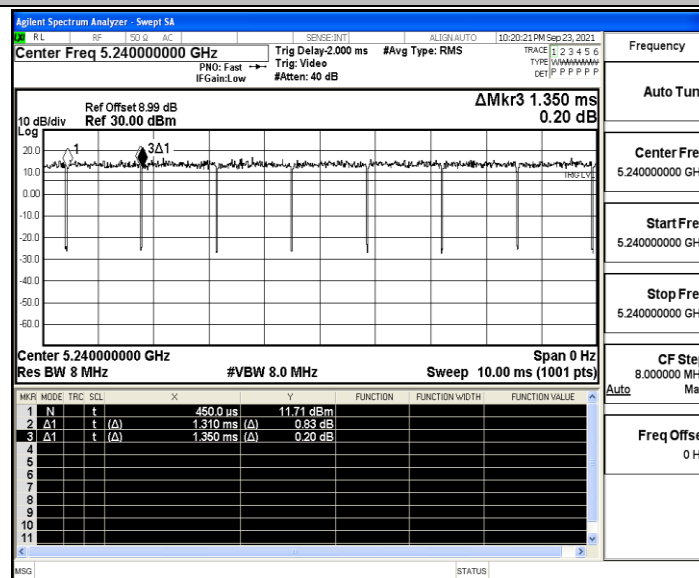




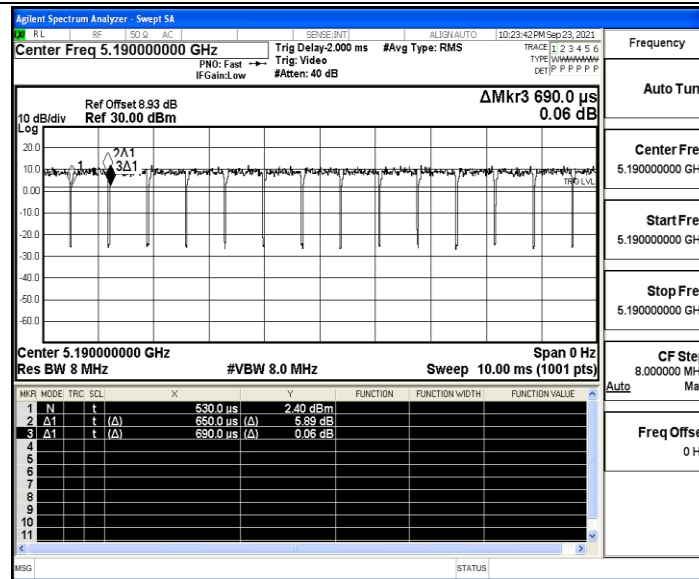
11AC20SISO_Ant1_5200



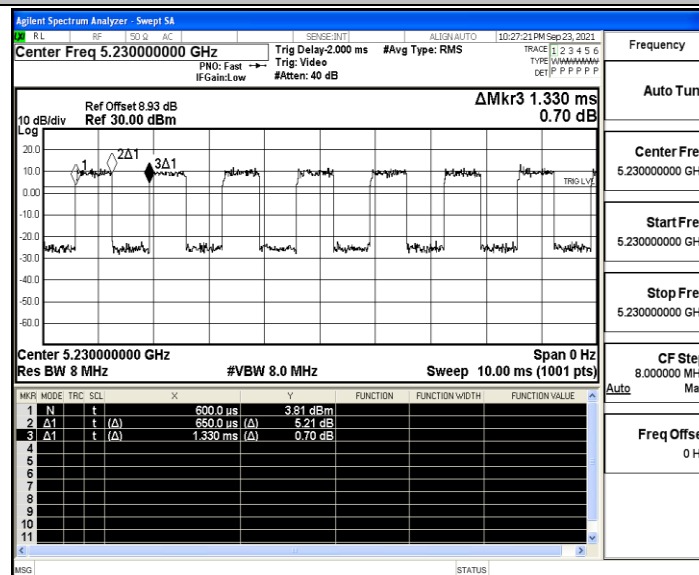
11AC20SISO_Ant1_5240



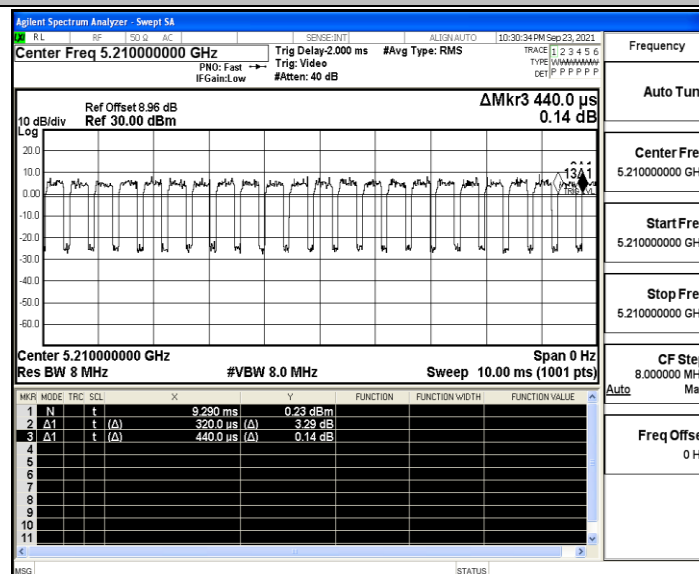
11AC40SISO_Ant1_5190



11AC40SISO_Ant1_5230



11AC80SISO_Ant1_5210





C.2 Maximum conducted output power

Test Result

TestMode	Antenna	Channel	Result[dBm]	Limit[dBm]	Verdict
11A	Ant1	5180	9.19	≤23.98	PASS
		5200	9.64	≤23.98	PASS
		5240	9.94	≤23.98	PASS
11N20SISO	Ant1	5180	10.69	≤23.98	PASS
		5200	10.83	≤23.98	PASS
		5240	8.69	≤23.98	PASS
11N40SISO	Ant1	5190	10.70	≤23.98	PASS
		5230	8.16	≤23.98	PASS
11AC20SISO	Ant1	5180	10.64	≤23.98	PASS
		5200	8.45	≤23.98	PASS
		5240	8.68	≤23.98	PASS
11AC40SISO	Ant1	5190	7.76	≤23.98	PASS
		5230	10.87	≤23.98	PASS
11AC80SISO	Ant1	5210	8.08	≤23.98	PASS

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



C.3 Maximum power spectral density

Test Result

TestMode	Antenna	Channel	Result [dBm/MHz]	Limit[dBm/MHz]	Verdict
11A	Ant1	5180	-0.97	≤11	PASS
		5200	-0.3	≤11	PASS
		5240	-0.28	≤11	PASS
11N20SISO	Ant1	5180	0.84	≤11	PASS
		5200	0.7	≤11	PASS
		5240	-1.05	≤11	PASS
11N40SISO	Ant1	5190	-3.12	≤11	PASS
		5230	-6.06	≤11	PASS
11AC20SISO	Ant1	5180	-0.02	≤11	PASS
		5200	-1.31	≤11	PASS
		5240	-1.68	≤11	PASS
11AC40SISO	Ant1	5190	-6.09	≤11	PASS
		5230	-3.85	≤11	PASS
11AC80SISO	Ant1	5210	-8.97	≤11	PASS

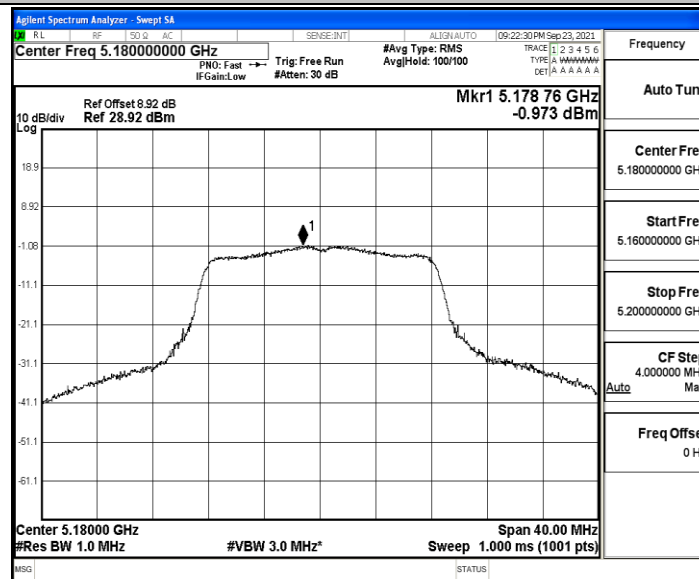
Note: 1.The Result and Limit Unit is dBm/500 kHz in the band 5.725–5.85 GHz.

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

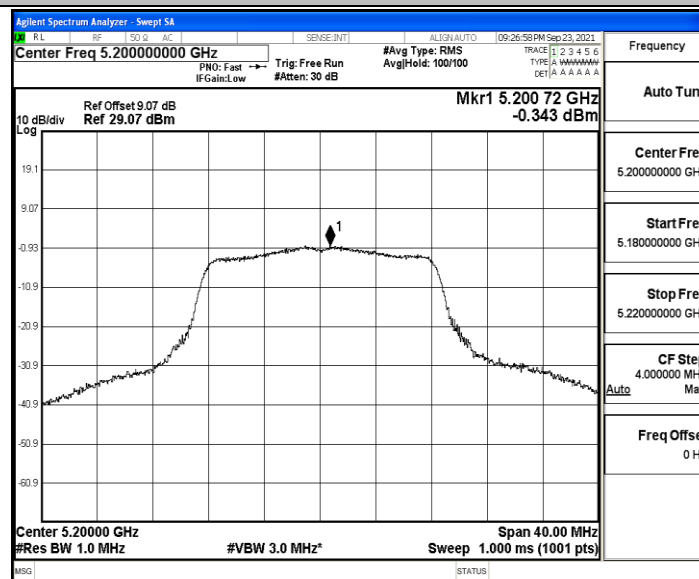


Test Graphs

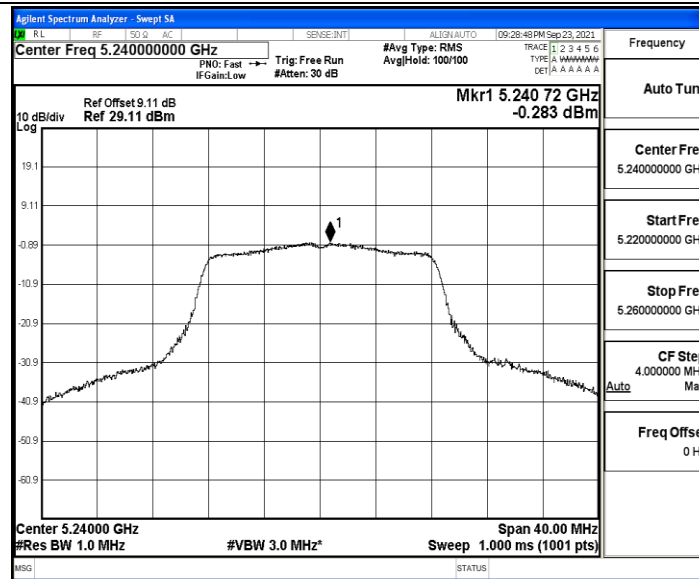
11A_Ant1_5180



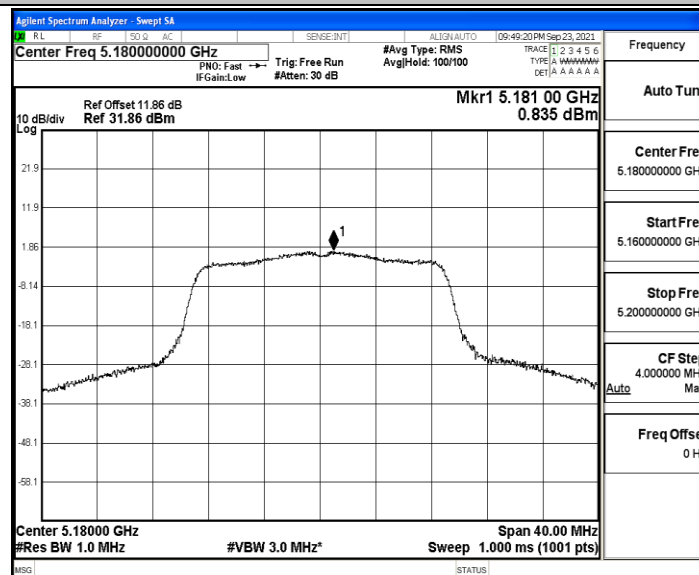
11A_Ant1_5200



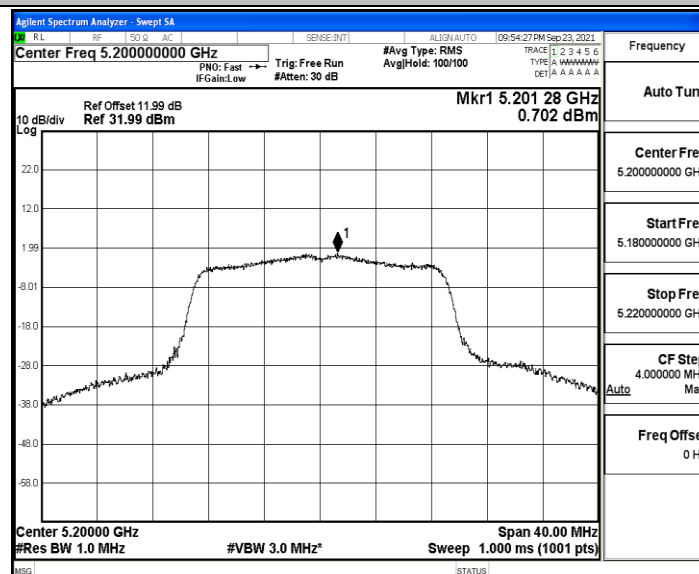
11A_Ant1_5240



11N20SISO_Ant1_5180

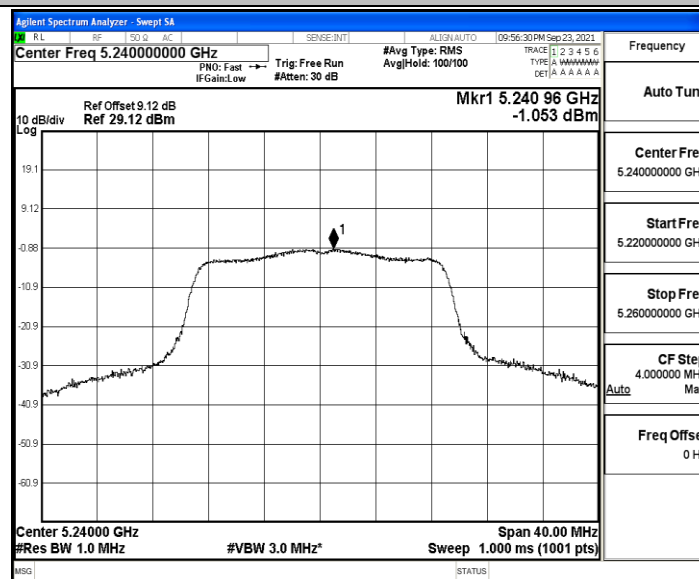


11N20SISO_Ant1_5200

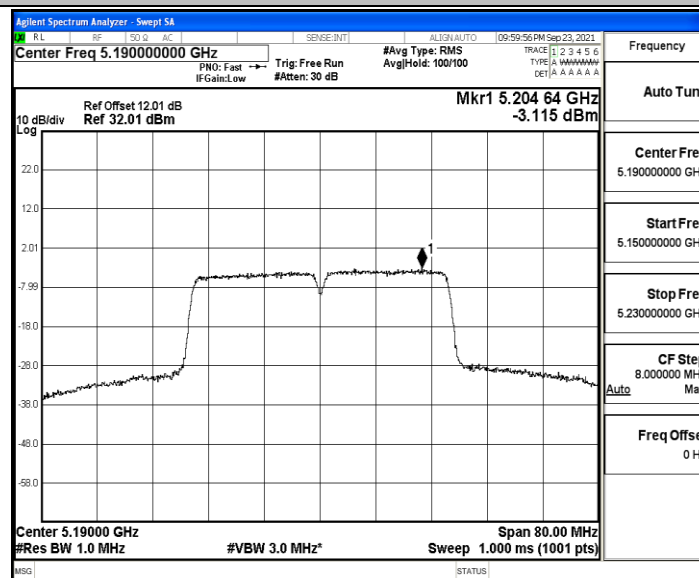




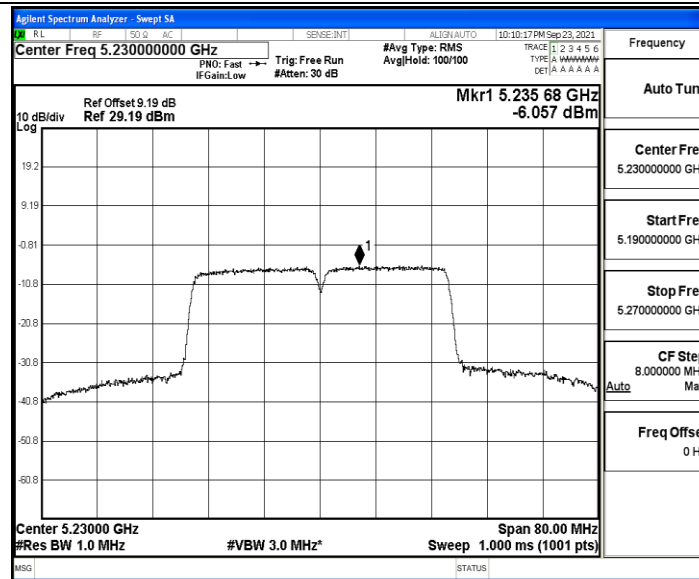
11N20SISO_Ant1_5240



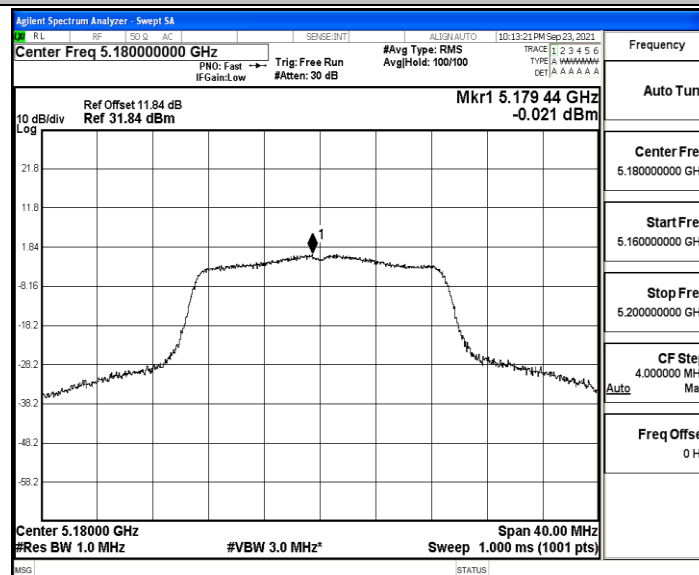
11N40SISO_Ant1_5190



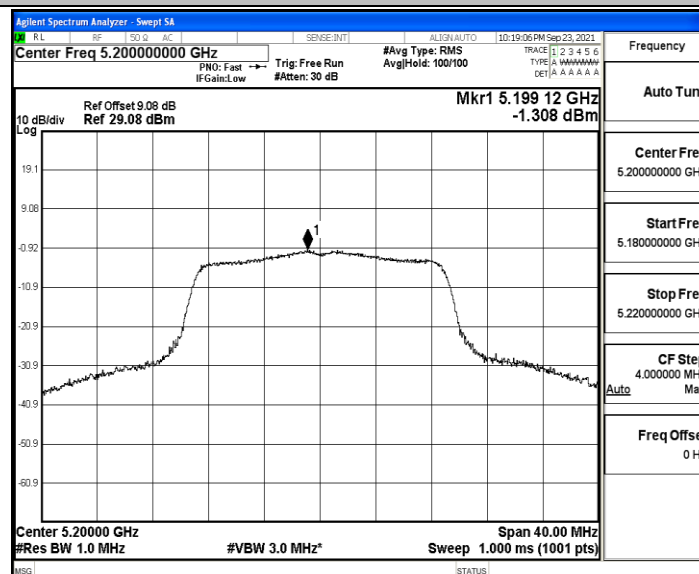
11N40SISO_Ant1_5230



11AC20SISO_Ant1_5180

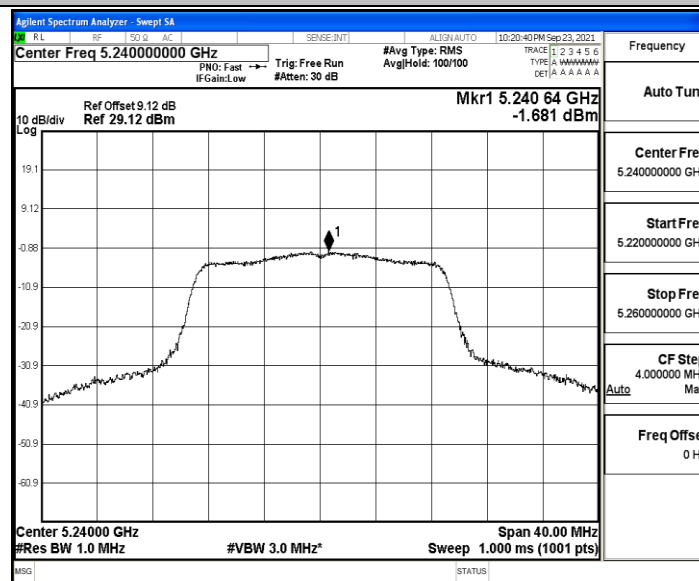


11AC20SISO_Ant1_5200

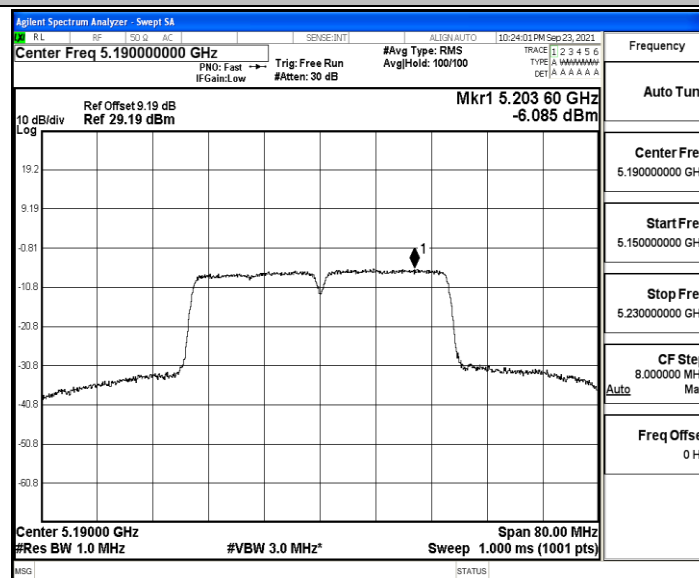




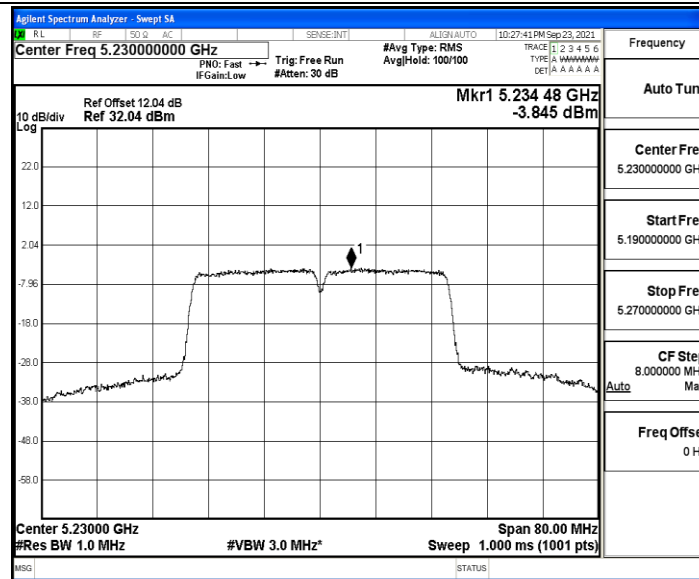
11AC20SISO_Ant1_5240



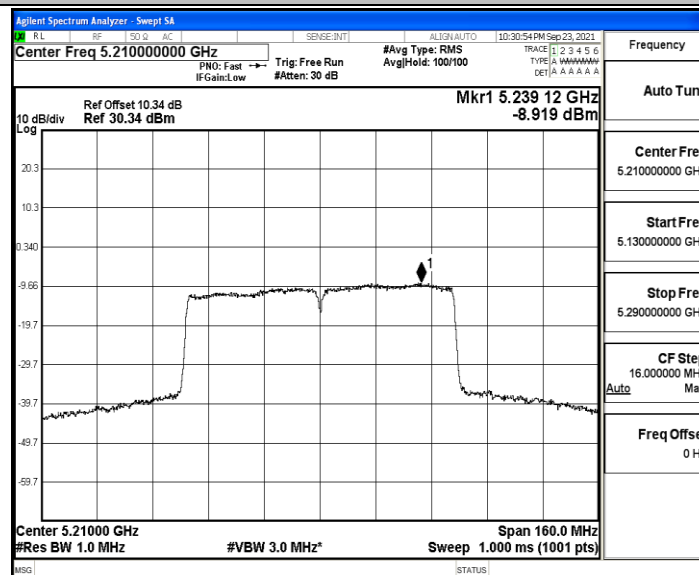
11AC40SISO_Ant1_5190



11AC40SISO_Ant1_5230



11AC80SISO_Ant1_5210





C.4 26dB Bandwidth

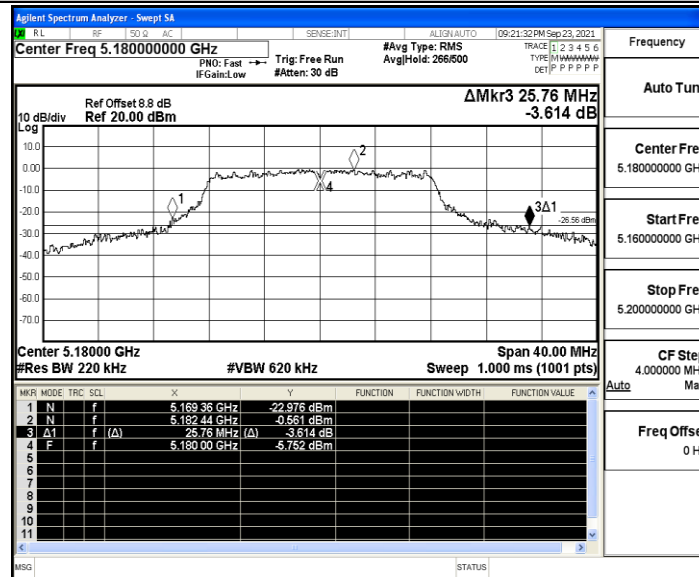
Test Result

TestMode	Antenna	Channel	26db EBW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
11A	Ant1	5180	25.760	5169.360	5195.120	---	PASS
		5200	24.280	5189.080	5213.360	---	PASS
		5240	24.680	5229.080	5253.760	---	PASS
11N20SISO	Ant1	5180	25.680	5168.400	5194.080	---	PASS
		5200	24.920	5189.320	5214.240	---	PASS
		5240	26.520	5226.880	5253.400	---	PASS
11N40SISO	Ant1	5190	70.560	5157.360	5227.920	---	PASS
		5230	67.840	5199.520	5267.360	---	PASS
11AC20SISO	Ant1	5180	28.000	5168.160	5196.160	---	PASS
		5200	25.520	5189.000	5214.520	---	PASS
		5240	24.960	5228.920	5253.880	---	PASS
11AC40SISO	Ant1	5190	69.600	5158.480	5228.080	---	PASS
		5230	65.040	5202.160	5267.200	---	PASS
11AC80SISO	Ant1	5210	99.200	5166.320	5265.520	---	PASS

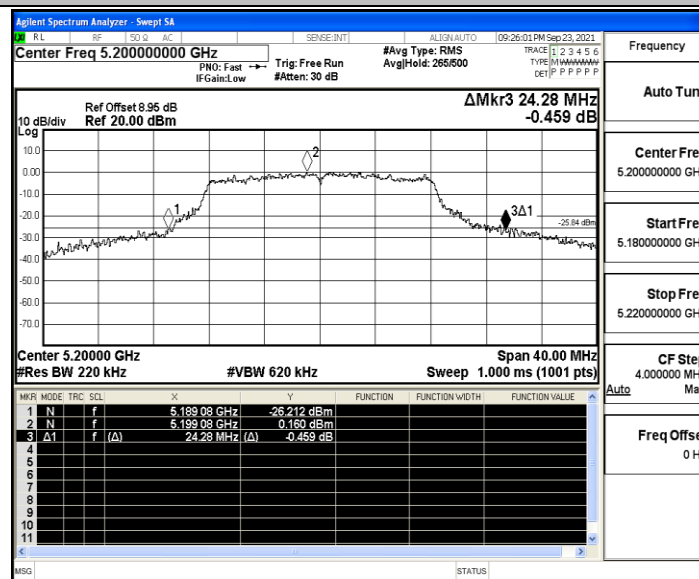


Test Graphs

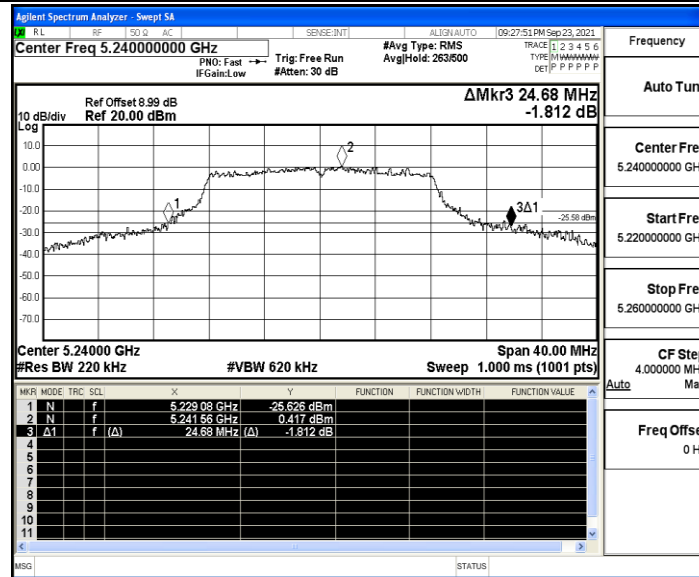
11A_Ant1_5180



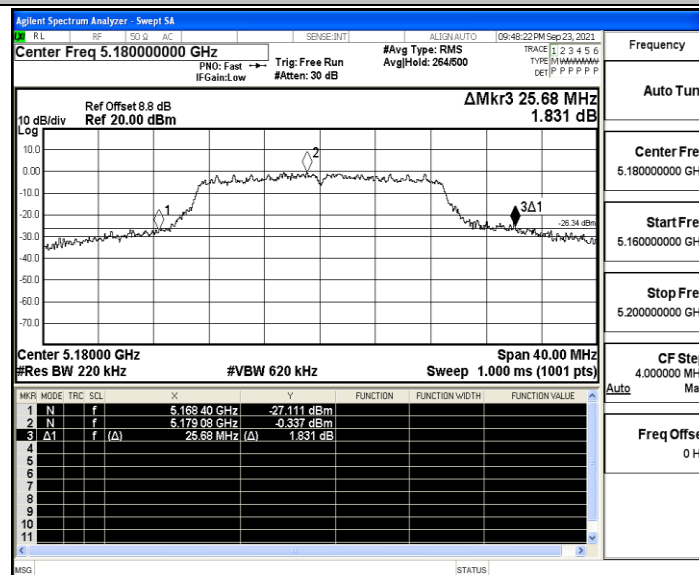
11A_Ant1_5200



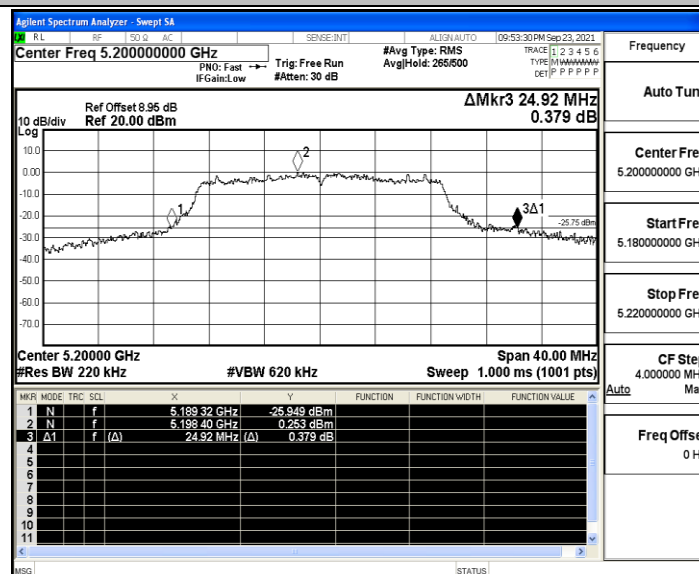
11A_Ant1_5240



11N20SISO_Ant1_5180

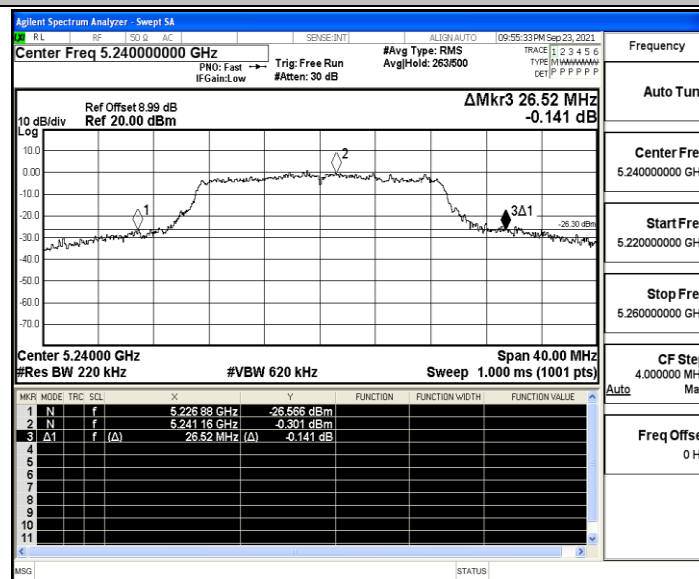


11N20SISO_Ant1_5200

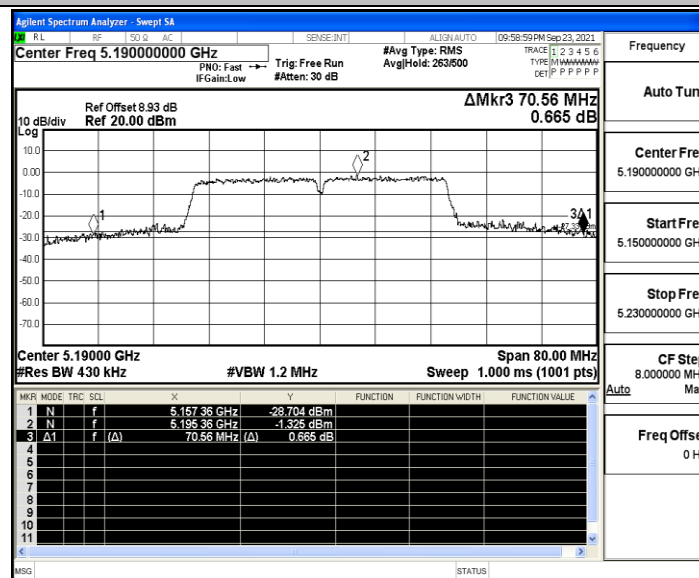




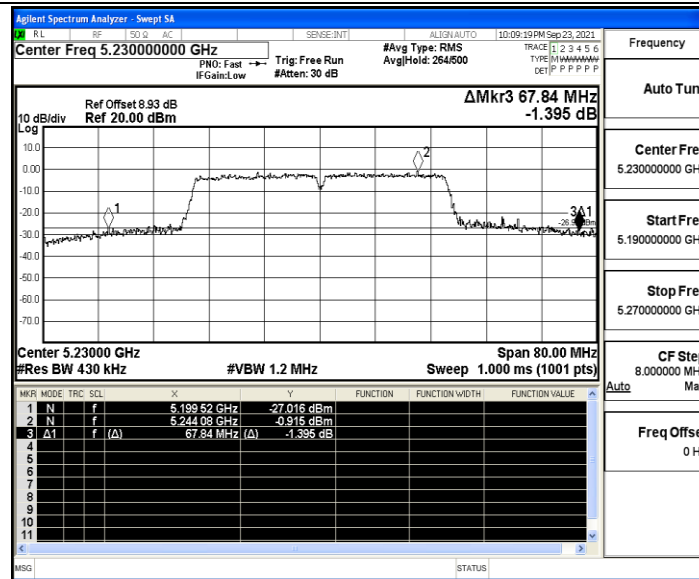
11N20SISO_Ant1_5240



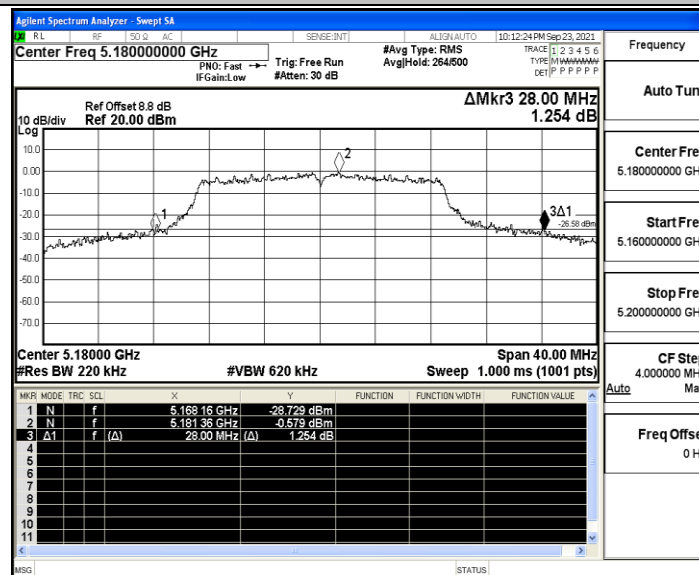
11N40SISO_Ant1_5190



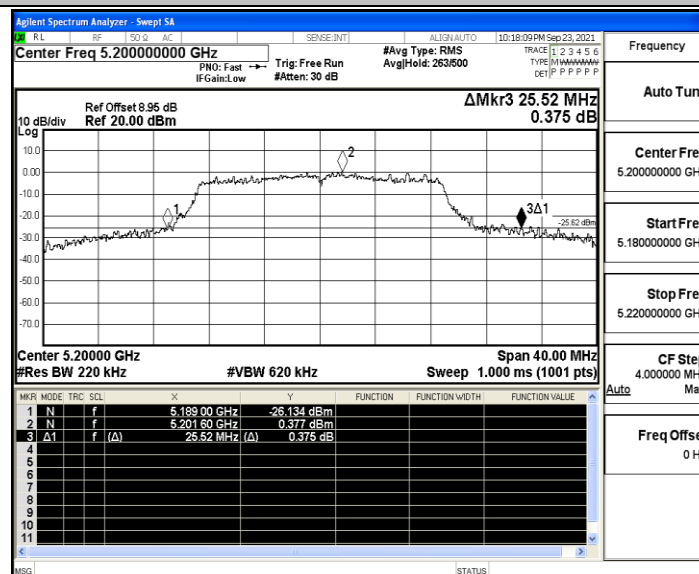
11N40SISO_Ant1_5230



11AC20SISO_Ant1_5180

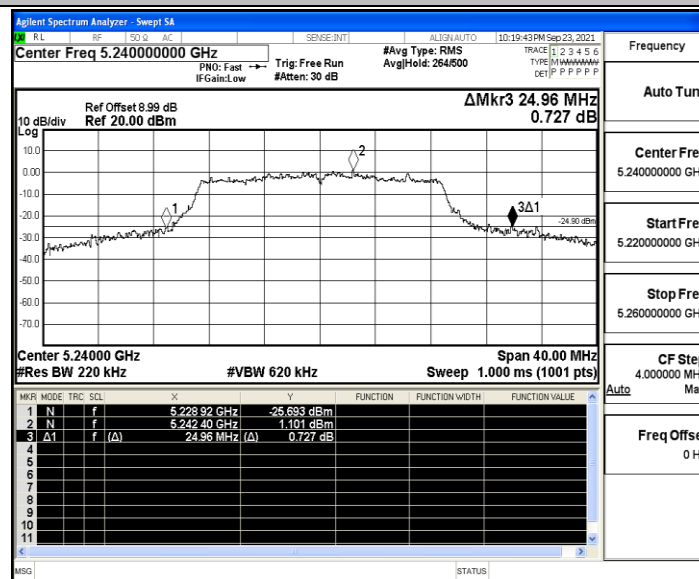


11AC20SISO_Ant1_5200

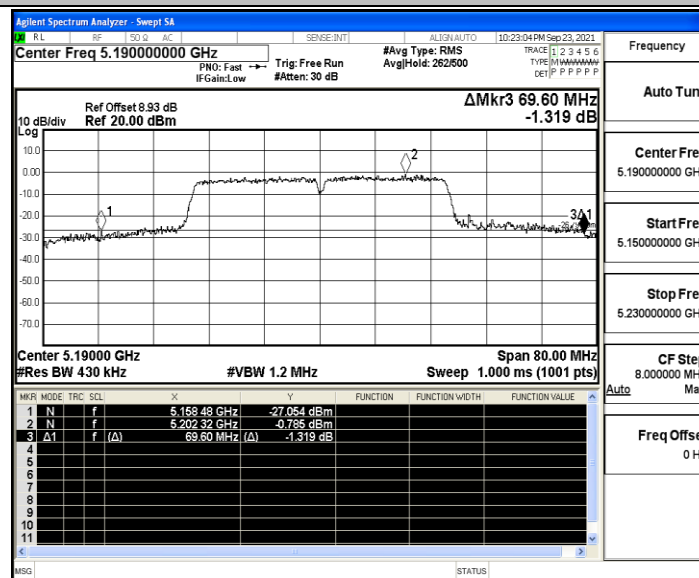




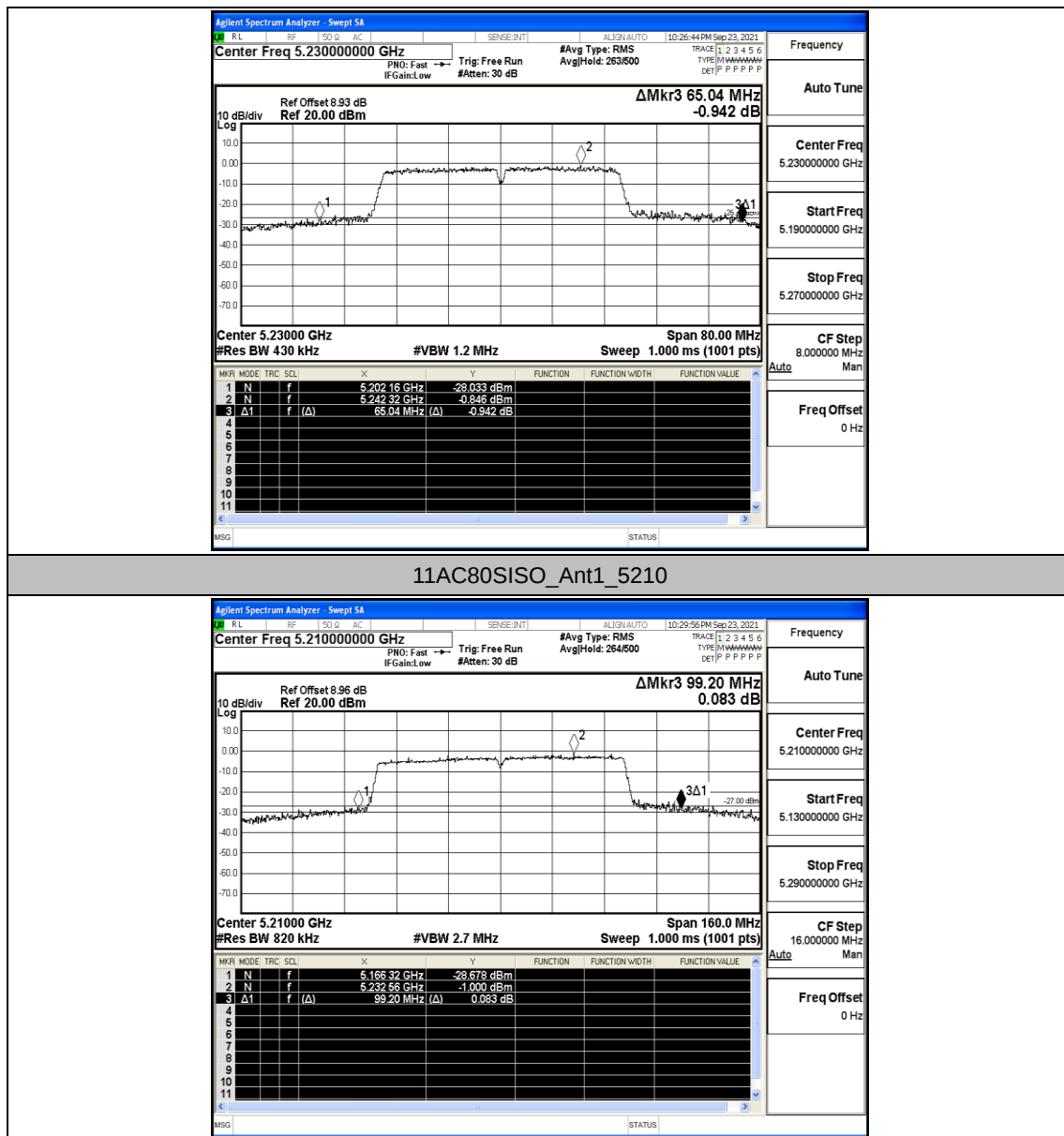
11AC20SISO_Ant1_5240



11AC40SISO_Ant1_5190



11AC40SISO_Ant1_5230



C.5 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	Ant1	Low	5180	AV	4500.000	-49.41	≤-41.20	45.79	≤54	PASS
				AV	5149.600	-45.78	≤-41.20	49.42	≤54	PASS
				AV	5150.000	-45.35	≤-41.20	49.85	≤54	PASS
				Peak	4500.000	-41.74	≤-21.20	53.46	≤74	PASS
				Peak	5144.000	-35.84	≤-21.20	59.36	≤74	PASS
				Peak	5150.000	-40.28	≤-21.20	54.92	≤74	PASS



		High	5240	AV	5350.000	-48.16	≤-41.20	47.04	≤54	PASS
				AV	5459.520	-47.75	≤-41.20	47.45	≤54	PASS
				AV	5460.000	-48.04	≤-41.20	47.16	≤54	PASS
				Peak	5350.000	-41.34	≤-21.20	53.86	≤74	PASS
				Peak	5403.360	-38.34	≤-21.20	56.86	≤74	PASS
				Peak	5460.000	-40.51	≤-21.20	54.69	≤74	PASS
11N20SIS O	Ant1	Low	5180	AV	4500.000	-49.37	≤-41.20	45.83	≤54	PASS
				AV	5149.600	-43.54	≤-41.20	51.66	≤54	PASS
				AV	5150.000	-43.55	≤-41.20	51.65	≤54	PASS
				Peak	4500.000	-41.63	≤-21.20	53.57	≤74	PASS
				Peak	5146.800	-35.3	≤-21.20	59.90	≤74	PASS
				Peak	5150.000	-30.88	≤-21.20	64.32	≤74	PASS
		High	5240	AV	5350.000	-48.02	≤-41.20	47.18	≤54	PASS
				AV	5422.800	-47.8	≤-41.20	47.40	≤54	PASS
				AV	5460.000	-48.14	≤-41.20	47.06	≤54	PASS
				Peak	5350.000	-40.81	≤-21.20	54.39	≤74	PASS
				Peak	5378.640	-38.35	≤-21.20	56.85	≤74	PASS
				Peak	5460.000	-41.88	≤-21.20	53.32	≤74	PASS
11N40SIS O	Ant1	Low	5190	AV	4500.000	-49.08	≤-41.20	46.12	≤54	PASS
				AV	5149.600	-34.17	≤-41.20	61.03	≤54	FAIL
				AV	5150.000	-33.73	≤-41.20	61.47	≤54	FAIL
				Peak	4500.000	-42.84	≤-21.20	52.36	≤74	PASS
				Peak	5148.200	-27.28	≤-21.20	67.92	≤74	PASS
				Peak	5150.000	-26.47	≤-21.20	68.73	≤74	PASS
		High	5230	AV	5350.000	-47.15	≤-41.20	48.05	≤54	PASS
				AV	5352.880	-46.84	≤-41.20	48.36	≤54	PASS
				AV	5460.000	-47.44	≤-41.20	47.76	≤54	PASS
				Peak	5350.000	-40.27	≤-21.20	54.93	≤74	PASS
				Peak	5389.540	-37.5	≤-21.20	57.70	≤74	PASS
				Peak	5460.000	-40.14	≤-21.20	55.06	≤74	PASS
11AC20SI SO	Ant1	Low	5180	AV	4500.000	-49.37	≤-41.20	45.83	≤54	PASS
				AV	5149.600	-44.23	≤-41.20	50.97	≤54	PASS
				AV	5150.000	-43.7	≤-41.20	51.50	≤54	PASS
				Peak	4500.000	-41.61	≤-21.20	53.59	≤74	PASS
				Peak	5147.500	-35.14	≤-21.20	60.06	≤74	PASS
				Peak	5150.000	-33.2	≤-21.20	62.00	≤74	PASS
		High	5240	AV	5350.000	-47.61	≤-41.20	47.59	≤54	PASS
				AV	5459.760	-47.38	≤-41.20	47.82	≤54	PASS
				AV	5460.000	-47.58	≤-41.20	47.62	≤54	PASS
				Peak	5350.000	-40.92	≤-21.20	54.28	≤74	PASS
				Peak	5417.040	-38.18	≤-21.20	57.02	≤74	PASS
				Peak	5460.000	-41.06	≤-21.20	54.14	≤74	PASS
11AC40SI	Ant1	Low	5190	AV	4500.000	-49.06	≤-41.20	46.14	≤54	PASS



SO				AV	5149.600	-34.67	≤ -41.20	60.53	≤ 54	FAIL
				AV	5150.000	-34.36	≤ -41.20	60.84	≤ 54	FAIL
				Peak	4500.000	-42.64	≤ -21.20	52.56	≤ 74	PASS
				Peak	5148.200	-24.66	≤ -21.20	70.54	≤ 74	PASS
				Peak	5150.000	-27.25	≤ -21.20	67.95	≤ 74	PASS
		High	5230	AV	5350.000	-47.07	≤ -41.20	48.13	≤ 54	PASS
				AV	5380.960	-46.94	≤ -41.20	48.26	≤ 54	PASS
				AV	5460.000	-47.58	≤ -41.20	47.62	≤ 54	PASS
				Peak	5350.000	-40.06	≤ -21.20	55.14	≤ 74	PASS
				Peak	5444.920	-38.34	≤ -21.20	56.86	≤ 74	PASS
				Peak	5460.000	-41.01	≤ -21.20	54.19	≤ 74	PASS
11AC80SI SO	Ant1	Low	5210	AV	4500.000	-48.66	≤ -41.20	46.54	≤ 54	PASS
				AV	5149.500	-35.6	≤ -41.20	59.60	≤ 54	FAIL
				AV	5150.000	-35.26	≤ -41.20	59.94	≤ 54	FAIL
				Peak	4500.000	-42.6	≤ -21.20	52.60	≤ 74	PASS
				Peak	5144.250	-27.22	≤ -21.20	67.98	≤ 74	PASS
				Peak	5150.000	-30.61	≤ -21.20	64.59	≤ 74	PASS
		High	5210	AV	5350.000	-46.13	≤ -41.20	49.07	≤ 54	PASS
				AV	5352.480	-45.66	≤ -41.20	49.54	≤ 54	PASS
				AV	5460.000	-46.44	≤ -41.20	48.76	≤ 54	PASS
				Peak	5350.000	-39.29	≤ -21.20	55.91	≤ 74	PASS
				Peak	5373.480	-37.43	≤ -21.20	57.77	≤ 74	PASS
				Peak	5460.000	-41.21	≤ -21.20	53.99	≤ 74	PASS

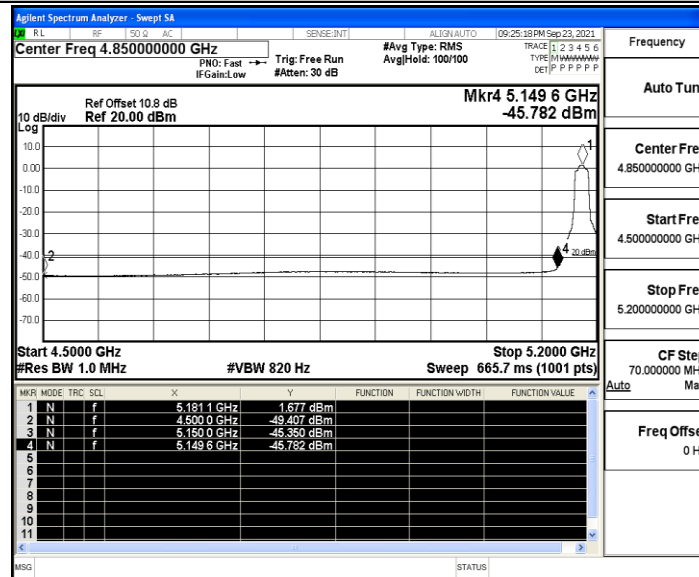
Note:

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.

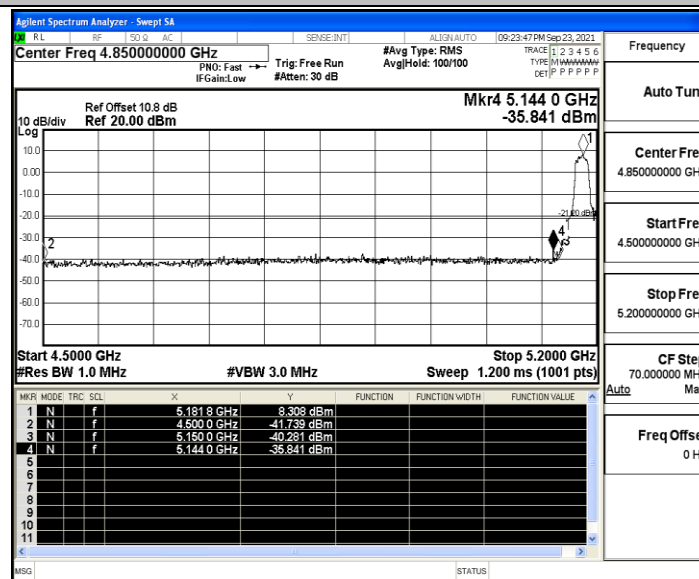


Test Graphs

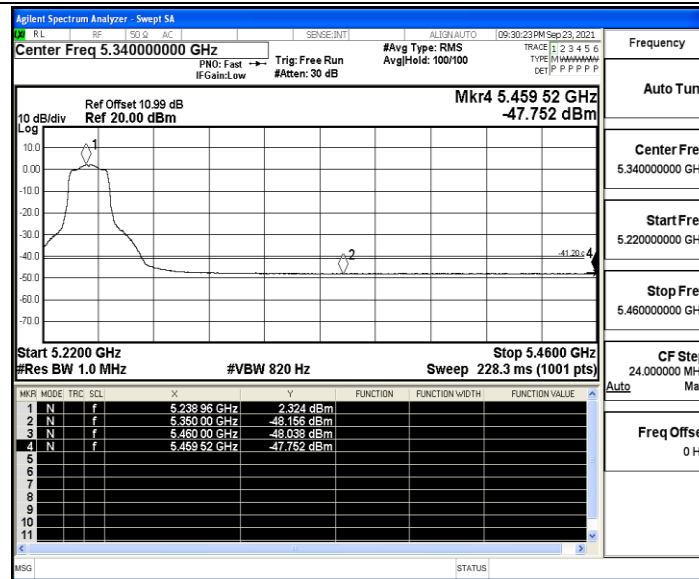
11A_Ant1_Low_5180_AV



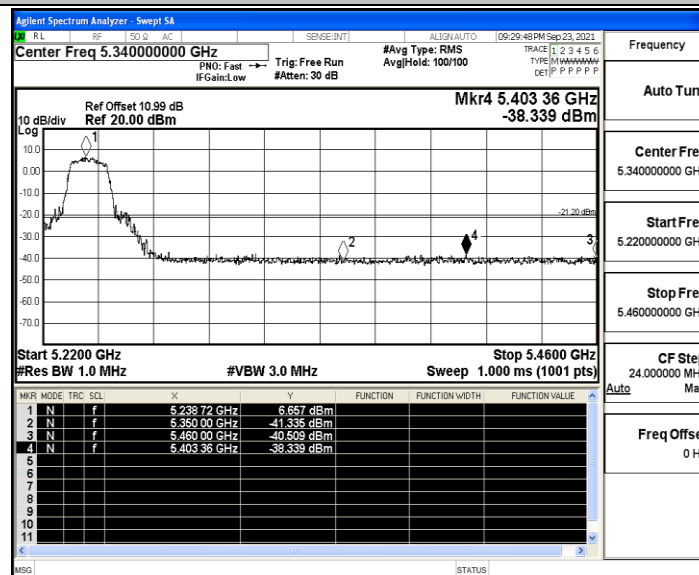
11A_Ant1_Low_5180_Peak



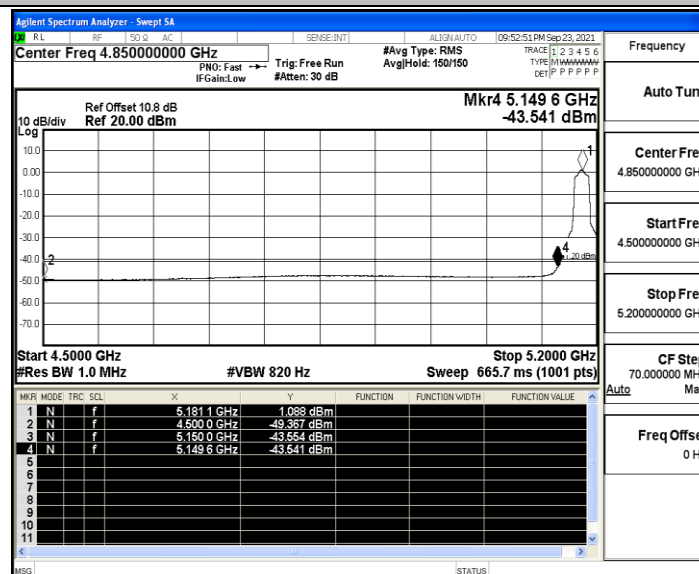
11A_Ant1_High_5240_AV



11A_Ant1_High_5240_Peak

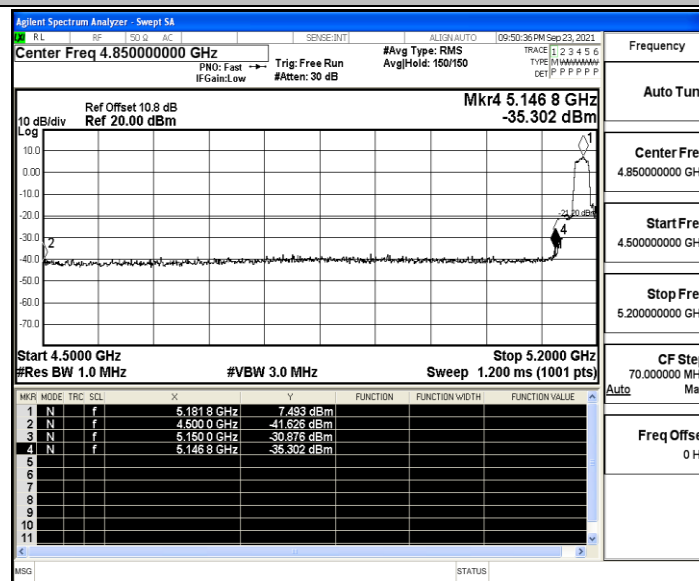


11N20SISO_Ant1_Low_5180_AV

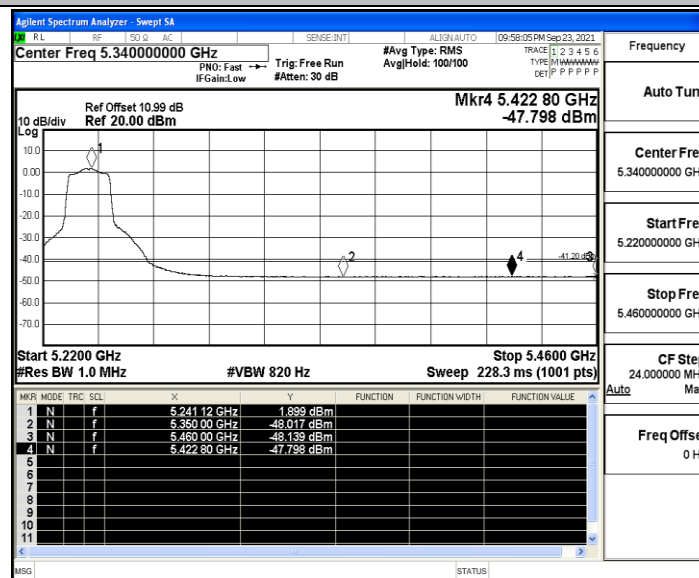




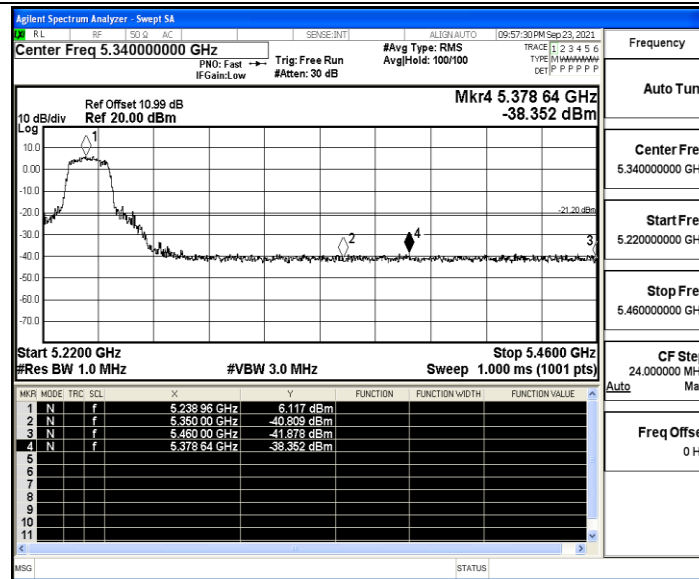
11N20SISO_Ant1_Low_5180_Peak



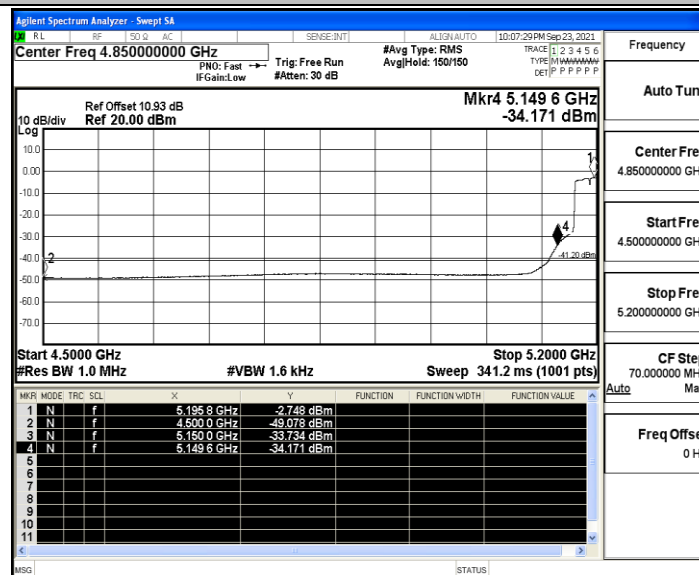
11N20SISO_Ant1_High_5240_AV



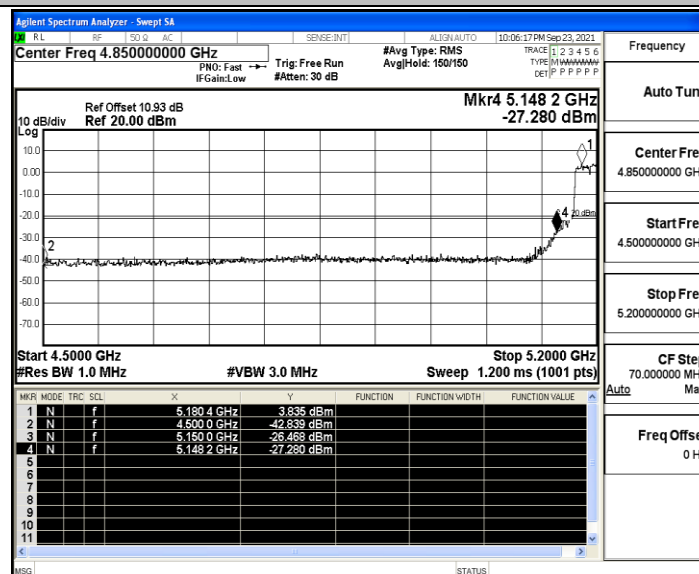
11N20SISO_Ant1_High_5240_Peak



11N40SISO_Ant1_Low_5190_AV

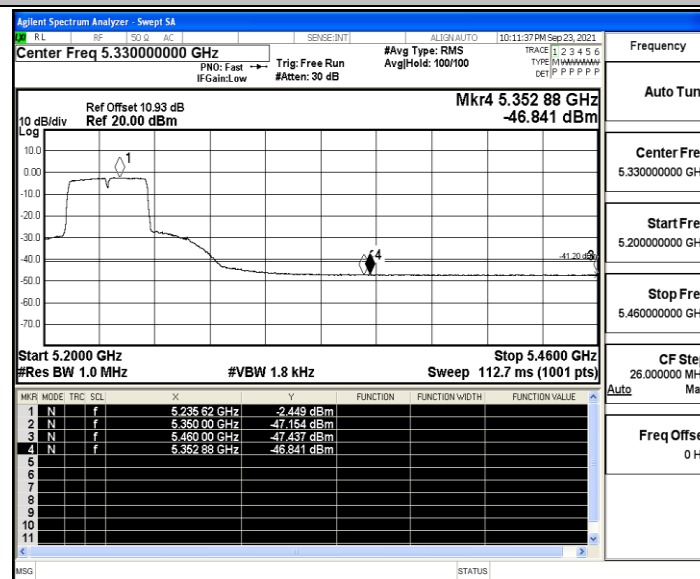


11N40SISO_Ant1_Low_5190_Peak

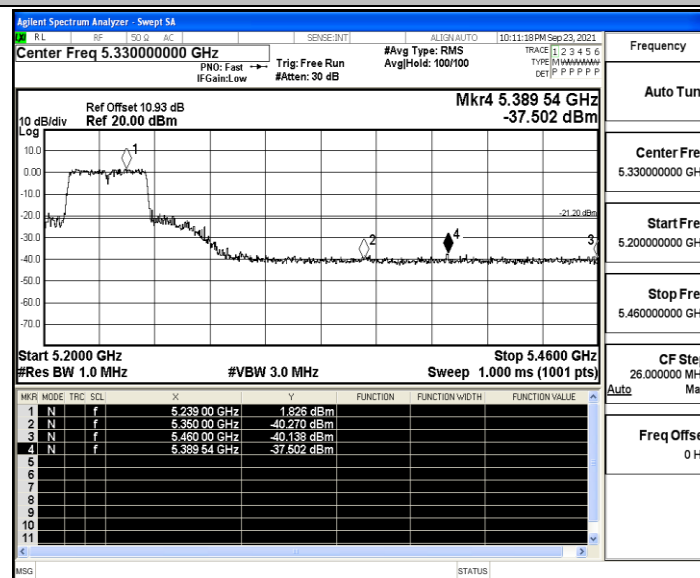




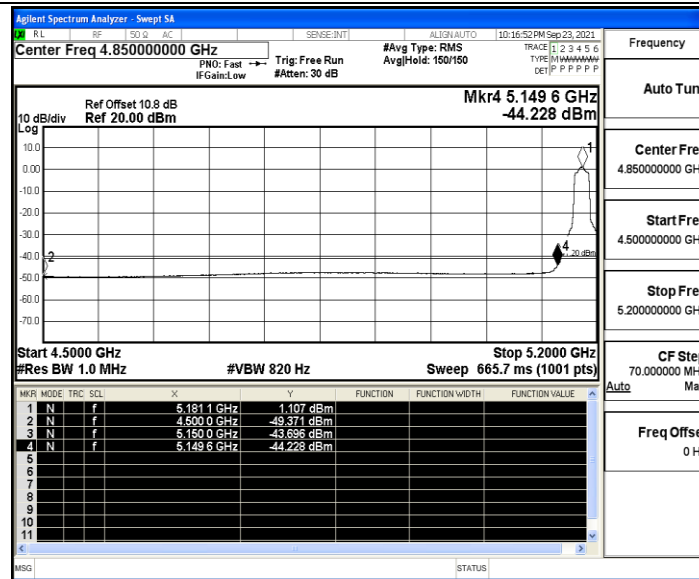
11N40SISO_Ant1_High_5230_AV



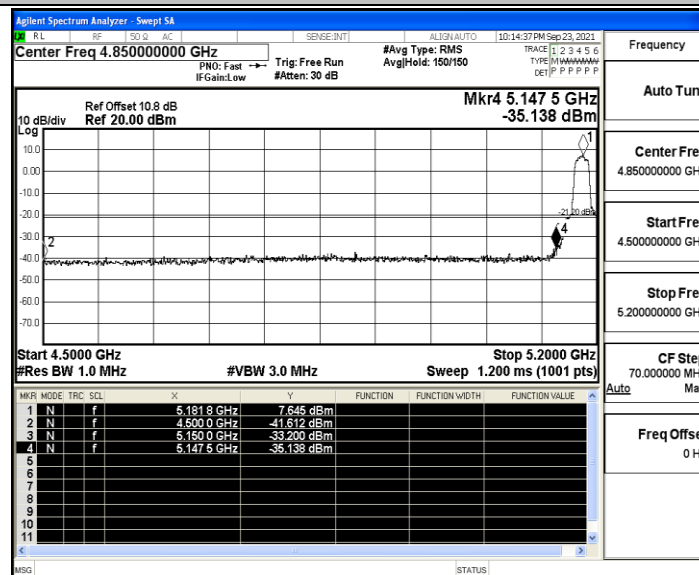
11N40SISO_Ant1_High_5230_Peak



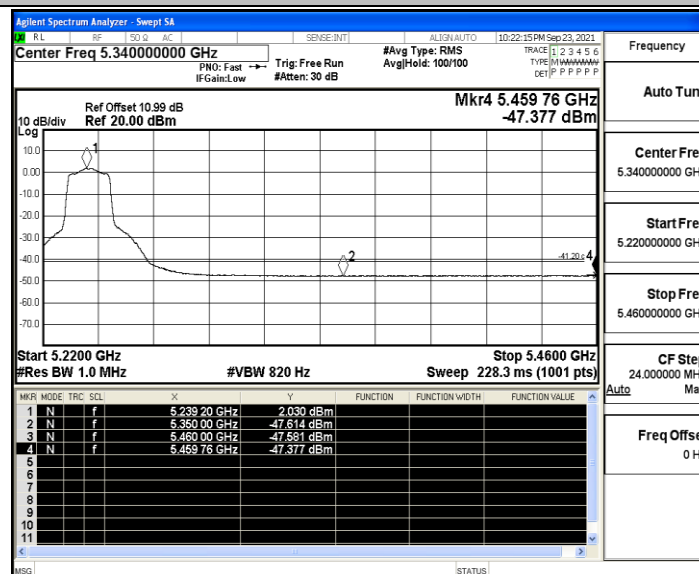
11AC20SISO_Ant1_Low_5180_AV



11AC20SISO_Ant1_Low_5180_Peak

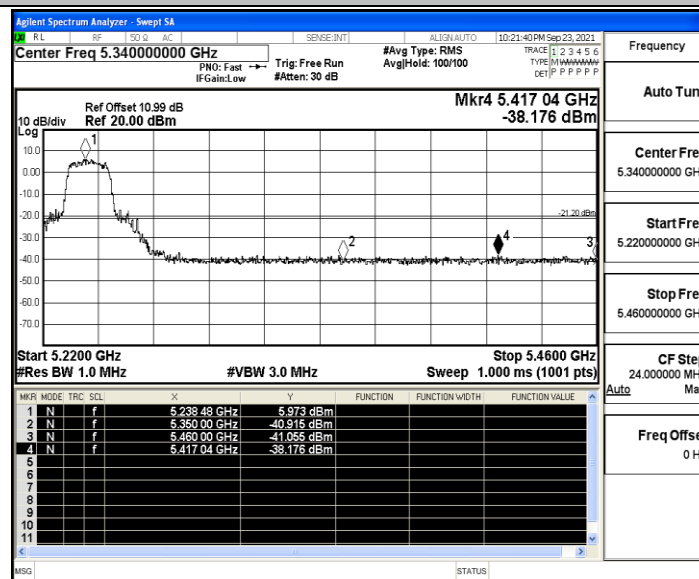


11AC20SISO_Ant1_High_5240_AV

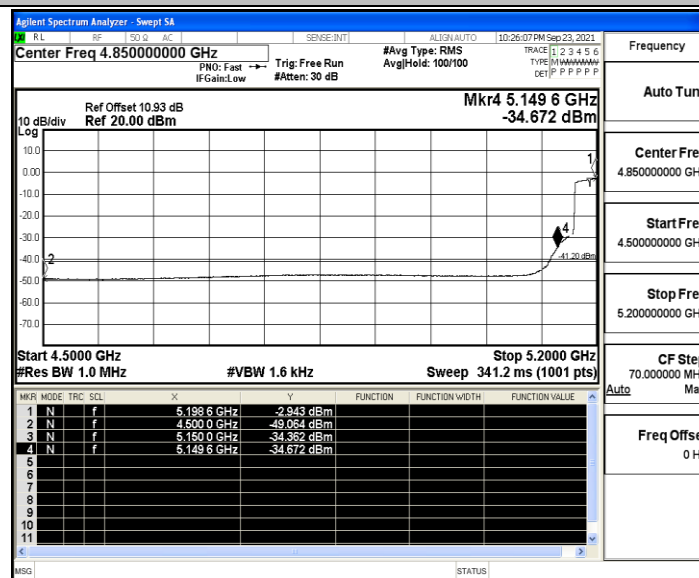




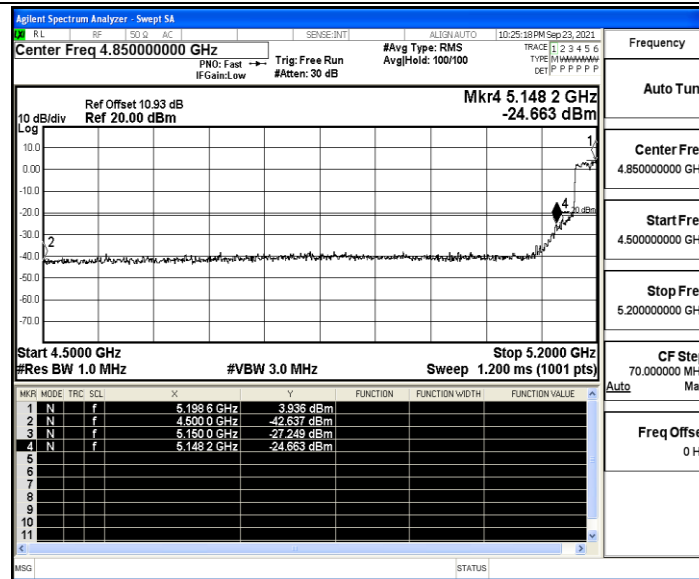
11AC20SISO_Ant1_High_5240_Peak



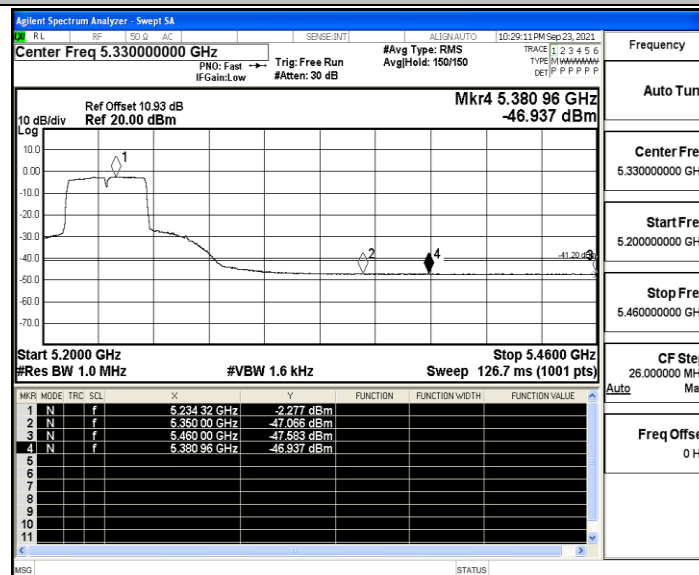
11AC40SISO_Ant1_Low_5190_AV



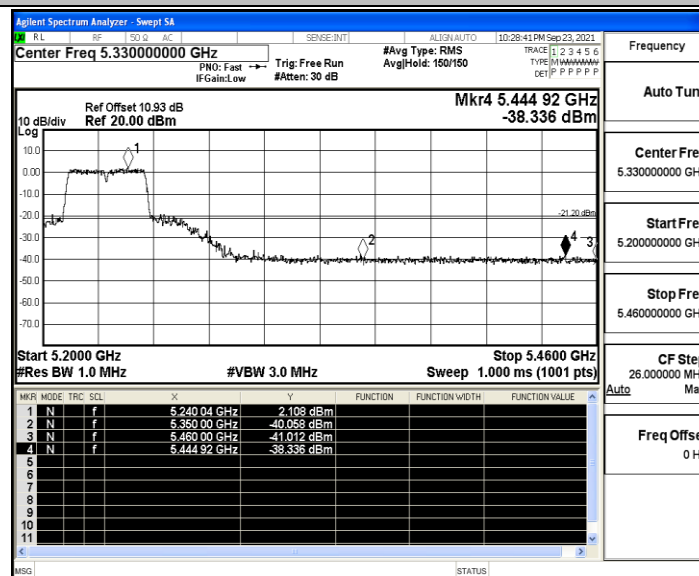
11AC40SISO_Ant1_Low_5190_Peak



11AC40SISO_Ant1_High_5230_AV

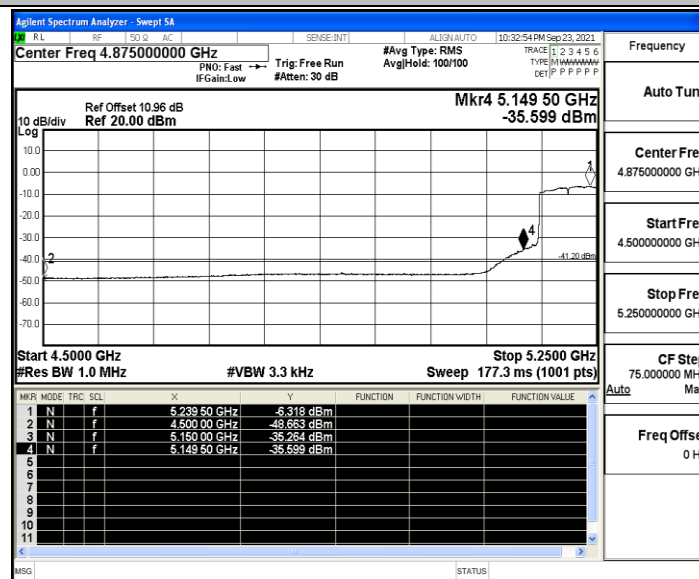


11AC40SISO_Ant1_High_5230_Peak

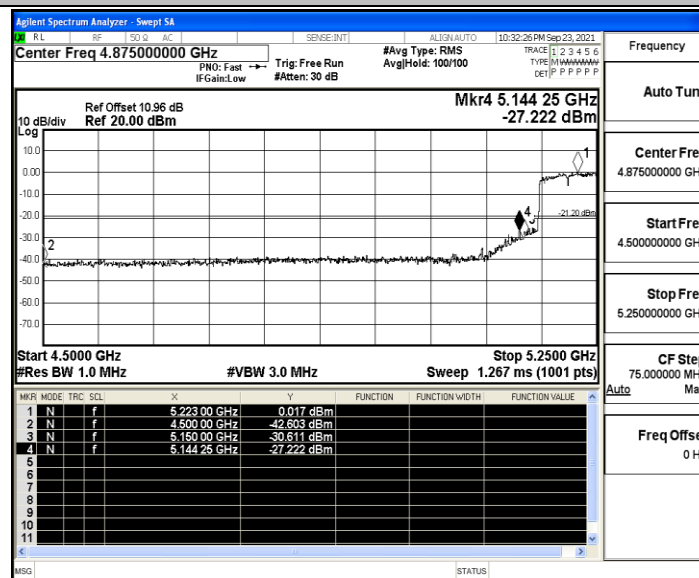




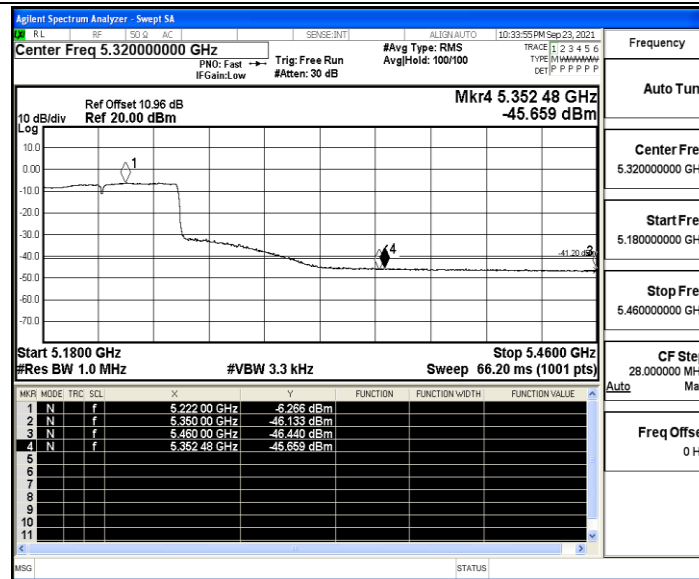
11AC80SISO_Ant1_Low_5210_AV



11AC80SISO_Ant1_Low_5210_Peak



11AC80SISO_Ant1_High_5210_AV



11AC80SISO_Ant1_High_5210_Peak

