

Case No. : <u>CTA24052000904</u>	
Ambient Condition: <u>23</u> °C, <u>49</u> %RH	
According Standard: ■Part15E	
Test Date: <u>2024.6.24</u>	Test Engineer: <u>Lushan Kong</u>

Appendix D.1: Emission Bandwidth

Test Result

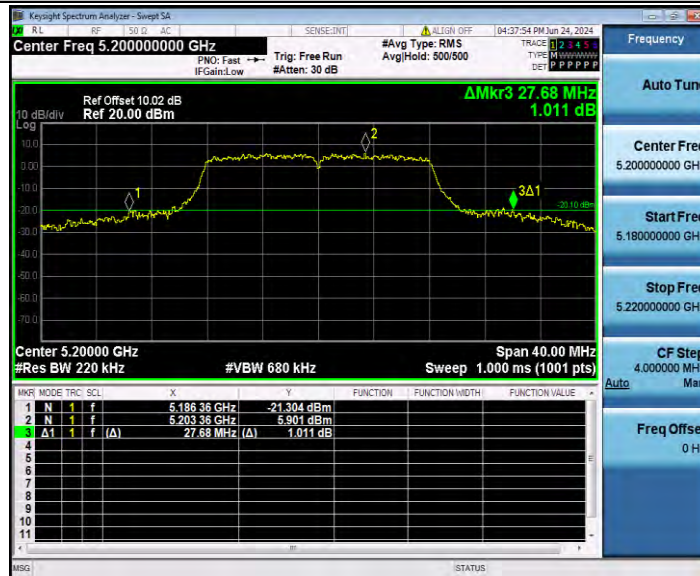
TestMode	Antenna	Freq(MHz)	26db EBW [MHz]	FL[MHz]	FH[MHz]
11A	Ant1	5180	27.840	5166.840	5194.680
		5200	27.680	5186.360	5214.040
		5240	29.160	5227.760	5256.920
11N20SISO	Ant1	5180	24.400	5166.360	5190.760
		5200	21.880	5189.280	5211.160
		5240	22.160	5229.320	5251.480
11N40SISO	Ant1	5190	58.480	5160.480	5218.960
		5230	55.520	5200.000	5255.520
11AC20SISO	Ant1	5180	23.640	5168.400	5192.040
		5200	25.280	5188.040	5213.320
		5240	30.680	5226.360	5257.040
11AC40SISO	Ant1	5190	75.520	5152.640	5228.160
		5230	76.080	5192.000	5268.080

Test Graphs

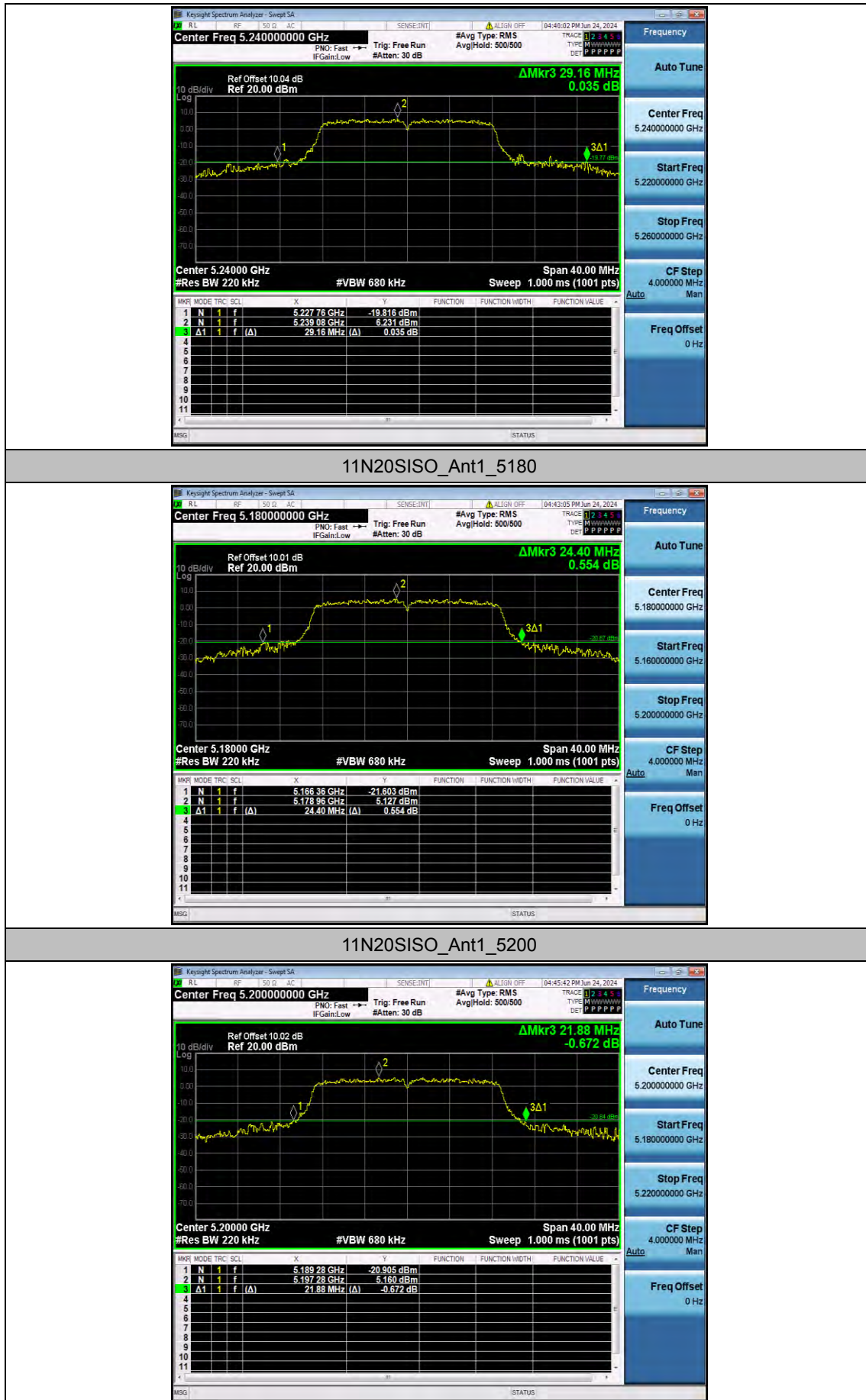
11A_Ant1_5180



11A_Ant1_5200



11A_Ant1_5240



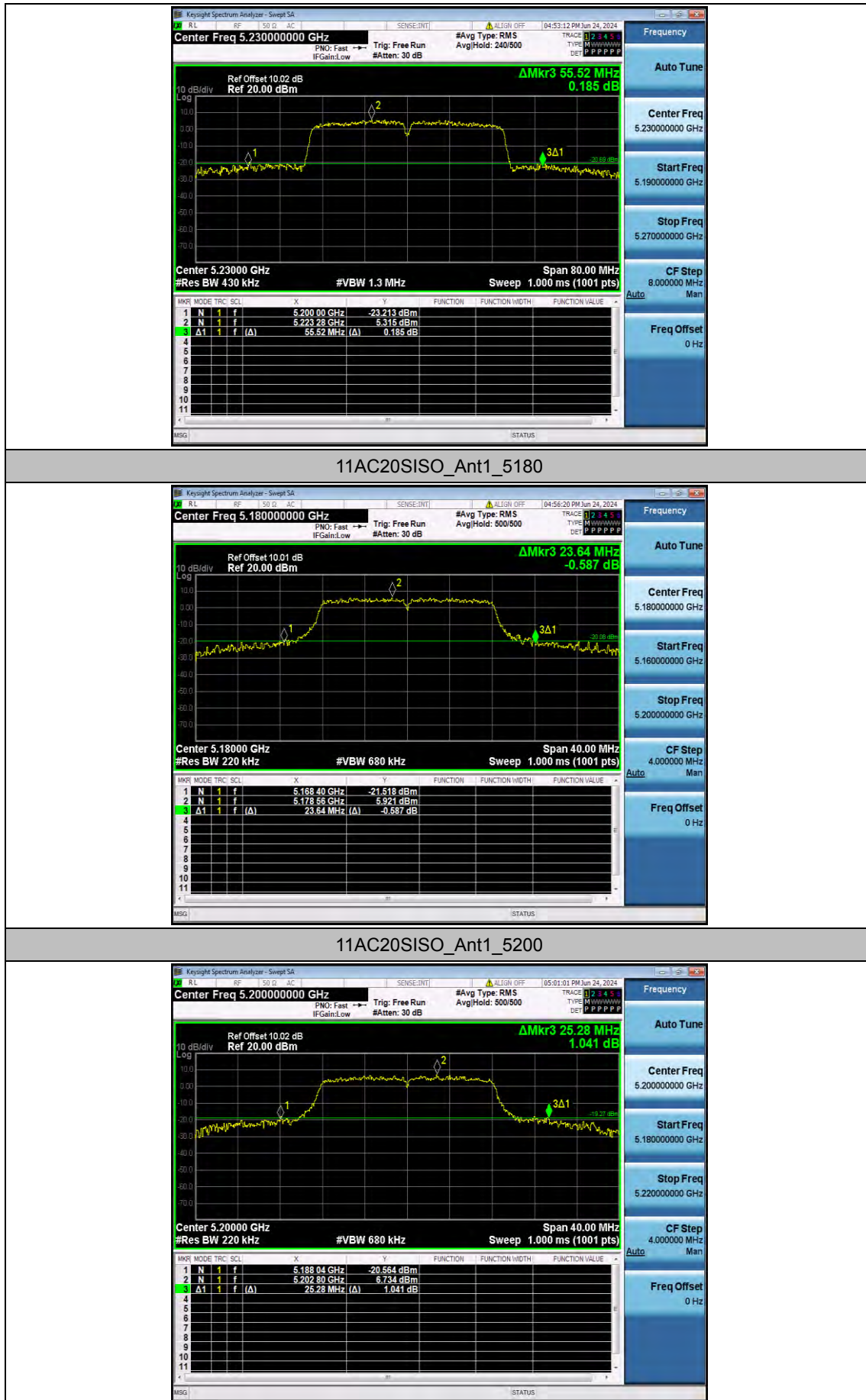
11N20SISO_Ant1_5240



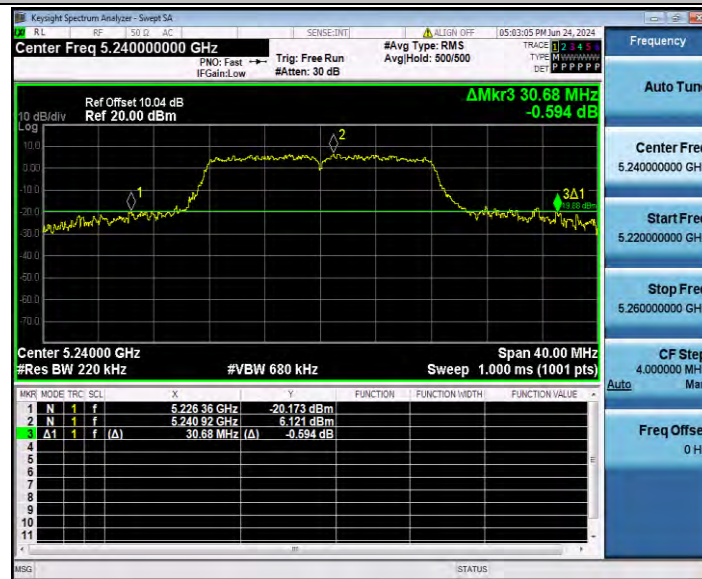
11N40SISO_Ant1_5190



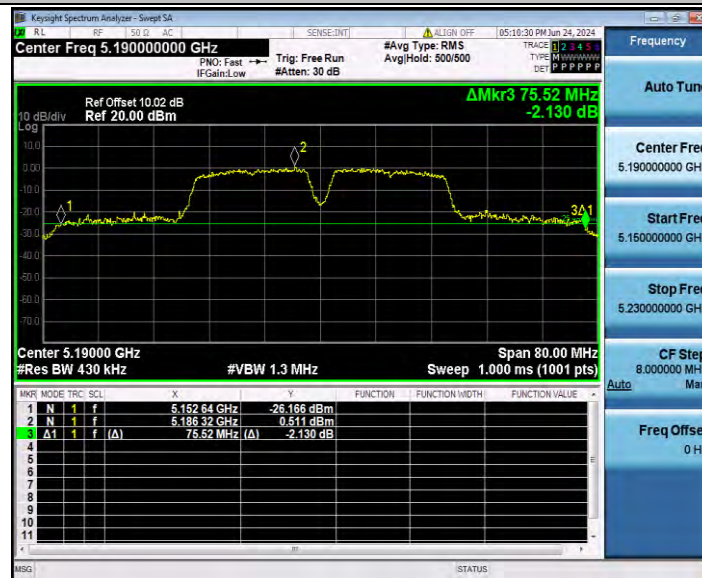
11N40SISO_Ant1_5230



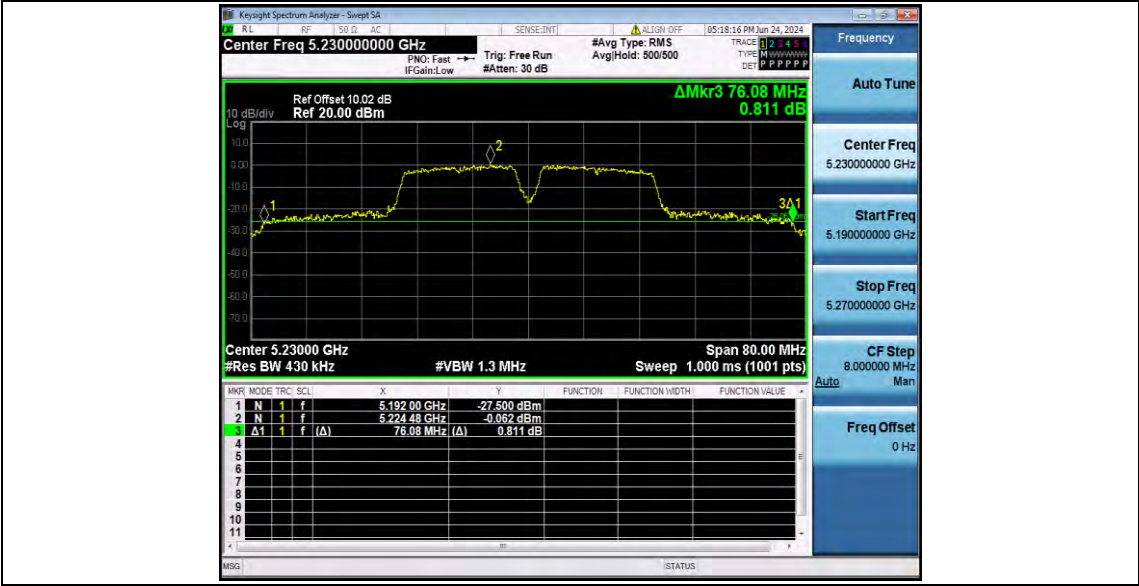
11AC20SISO_Ant1_5240



11AC40SISO_Ant1_5190



11AC40SISO_Ant1_5230

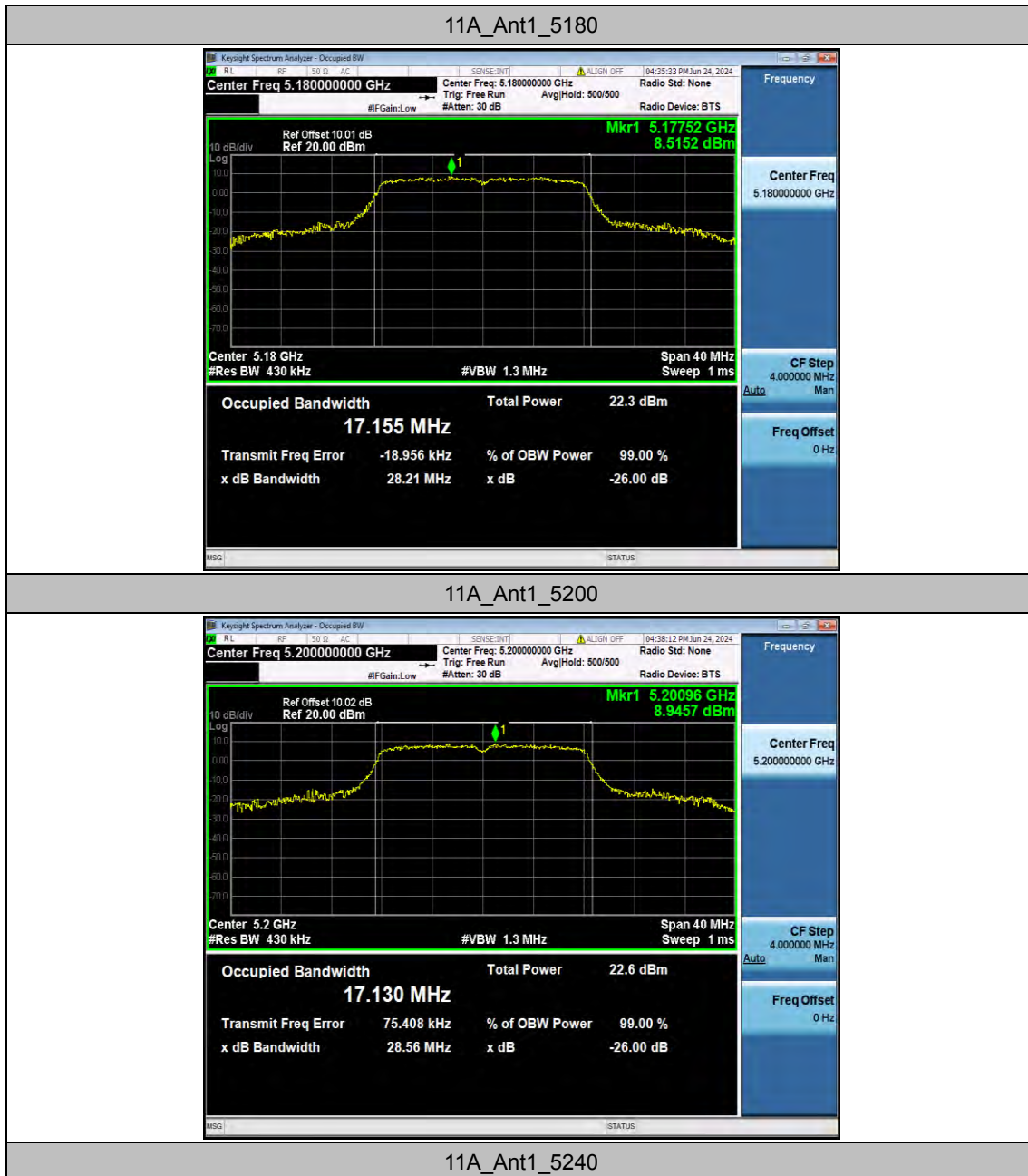


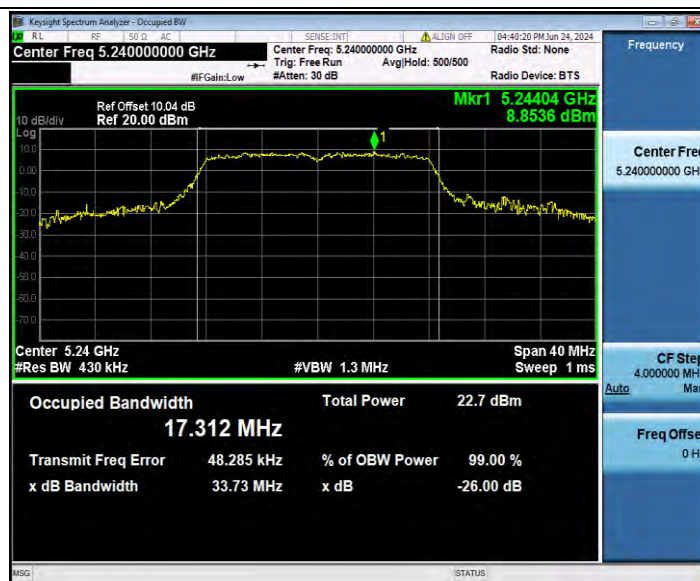
Appendix D.2: Occupied channel bandwidth

Test Result

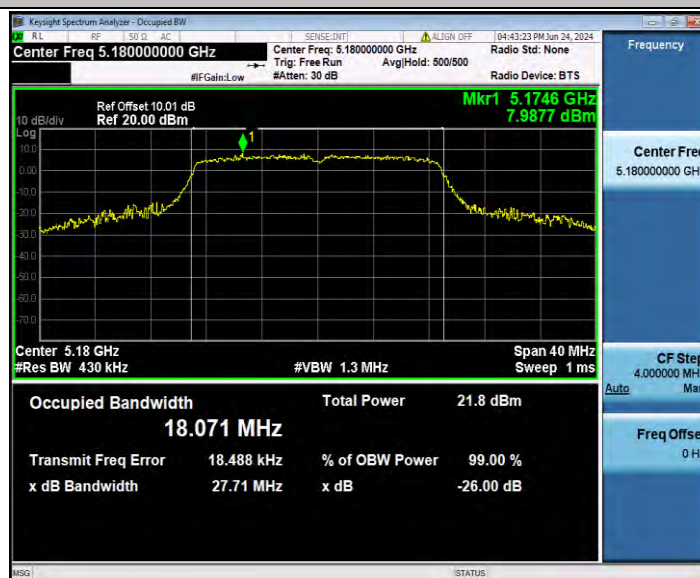
TestMode	Antenna	Freq(MHz)	OCB [MHz]	FL[MHz]	FH[MHz]
11A	Ant1	5180	17.155	5171.4035	5188.5585
		5200	17.130	5191.5104	5208.6404
		5240	17.312	5231.3923	5248.7043
11N20SISO	Ant1	5180	18.071	5170.9830	5189.0540
		5200	18.060	5190.9526	5209.0126
		5240	18.129	5230.9730	5249.1020
11N40SISO	Ant1	5190	36.078	5172.0000	5208.0780
		5230	36.147	5211.9278	5248.0748
11AC20SISO	Ant1	5180	17.204	5171.3895	5188.5935
		5200	17.280	5191.3942	5208.6742
		5240	17.296	5231.4276	5248.7236
11AC40SISO	Ant1	5190	40.237	5170.7937	5211.0307
		5230	39.163	5210.5930	5249.7560

Test Graphs





11N20SISO_Ant1_5180



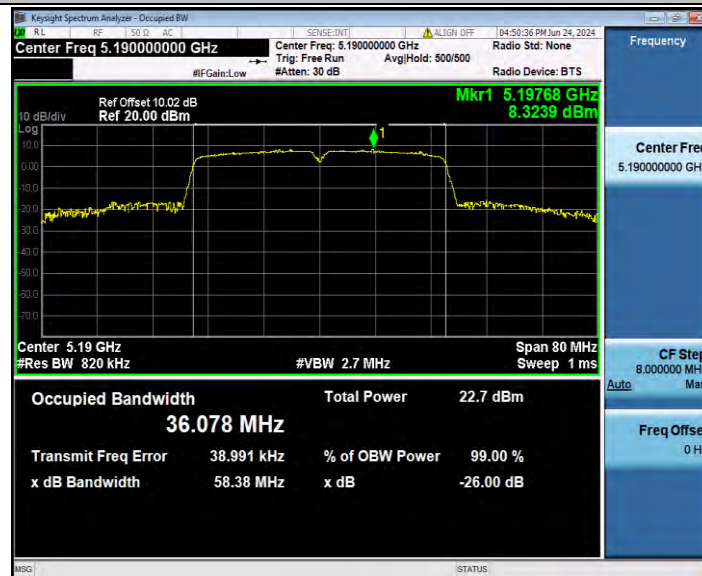
11N20SISO_Ant1_5200



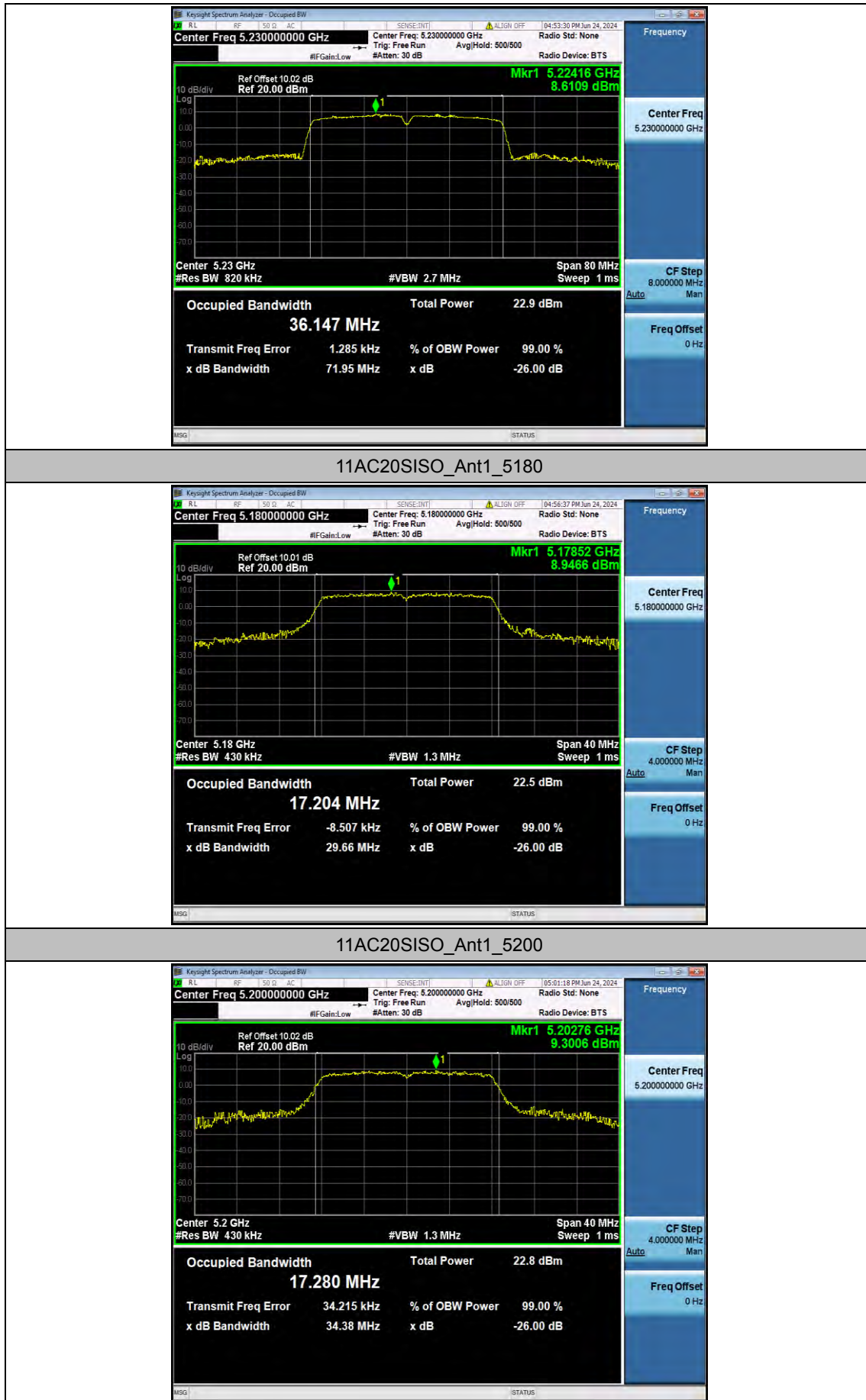
11N20SISO_Ant1_5240



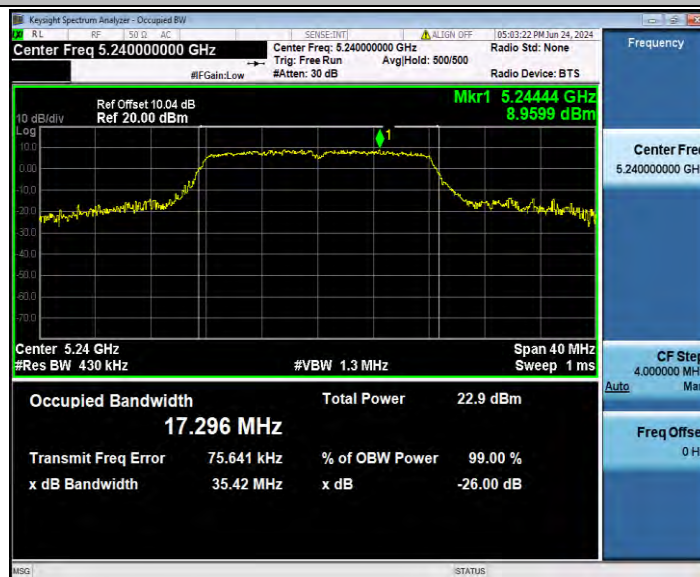
11N40SISO_Ant1_5190



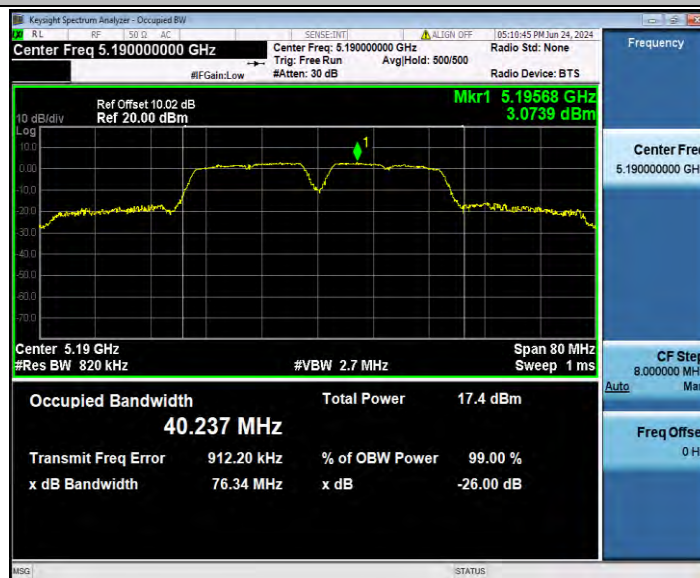
11N40SISO_Ant1_5230



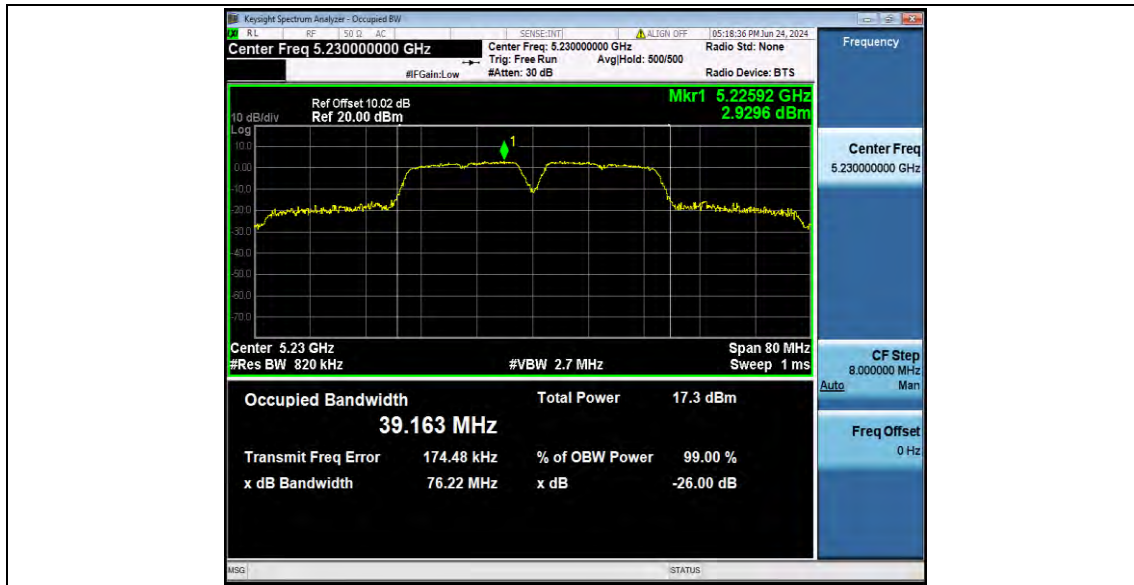
11AC20SISO_Ant1_5240



11AC40SISO_Ant1_5190



11AC40SISO_Ant1_5230



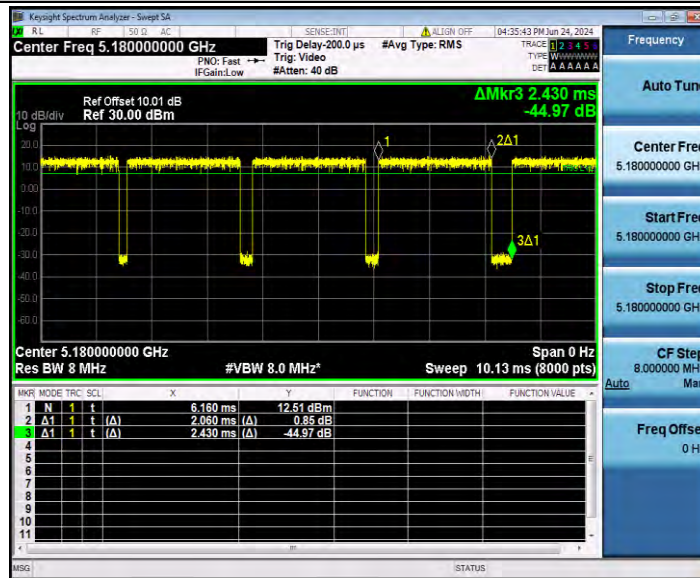
Appendix D.3: Duty Cycle

Test Result

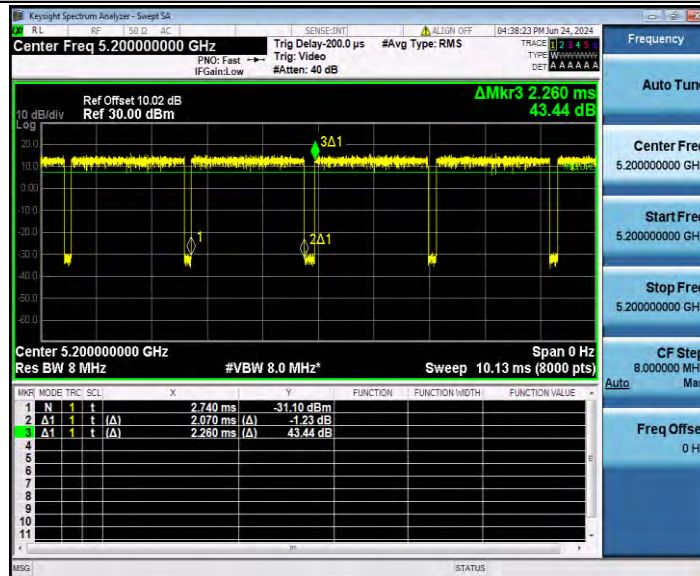
TestMode	Antenna	Freq(MHz)	Transmission Duration [ms]	Transmission Period [ms]	Duty Cycle [%]	Duty Cycle Factor[dB]	1/T Factor[KHz]
11A	Ant1	5180	2.06	2.43	84.77	0.72	0.49
		5200	2.07	2.26	91.59	0.38	0.48
		5240	2.06	2.25	91.56	0.38	0.49
11N20SISO	Ant1	5180	1.92	2.15	89.30	0.49	0.52
		5200	1.93	2.14	90.19	0.45	0.52
		5240	1.93	2.15	89.77	0.47	0.52
11N40SISO	Ant1	5190	0.94	1.64	57.32	2.42	1.06
		5230	0.94	1.18	79.66	0.99	1.06
11AC20SISO	Ant1	5180	2.07	2.53	81.82	0.87	0.48
		5200	2.07	2.74	75.55	1.22	0.48
		5240	2.06	2.49	82.73	0.82	0.49
11AC40SISO	Ant1	5190	2.06	2.54	81.10	0.91	0.49
		5230	2.07	2.56	80.86	0.92	0.48

Test Graphs

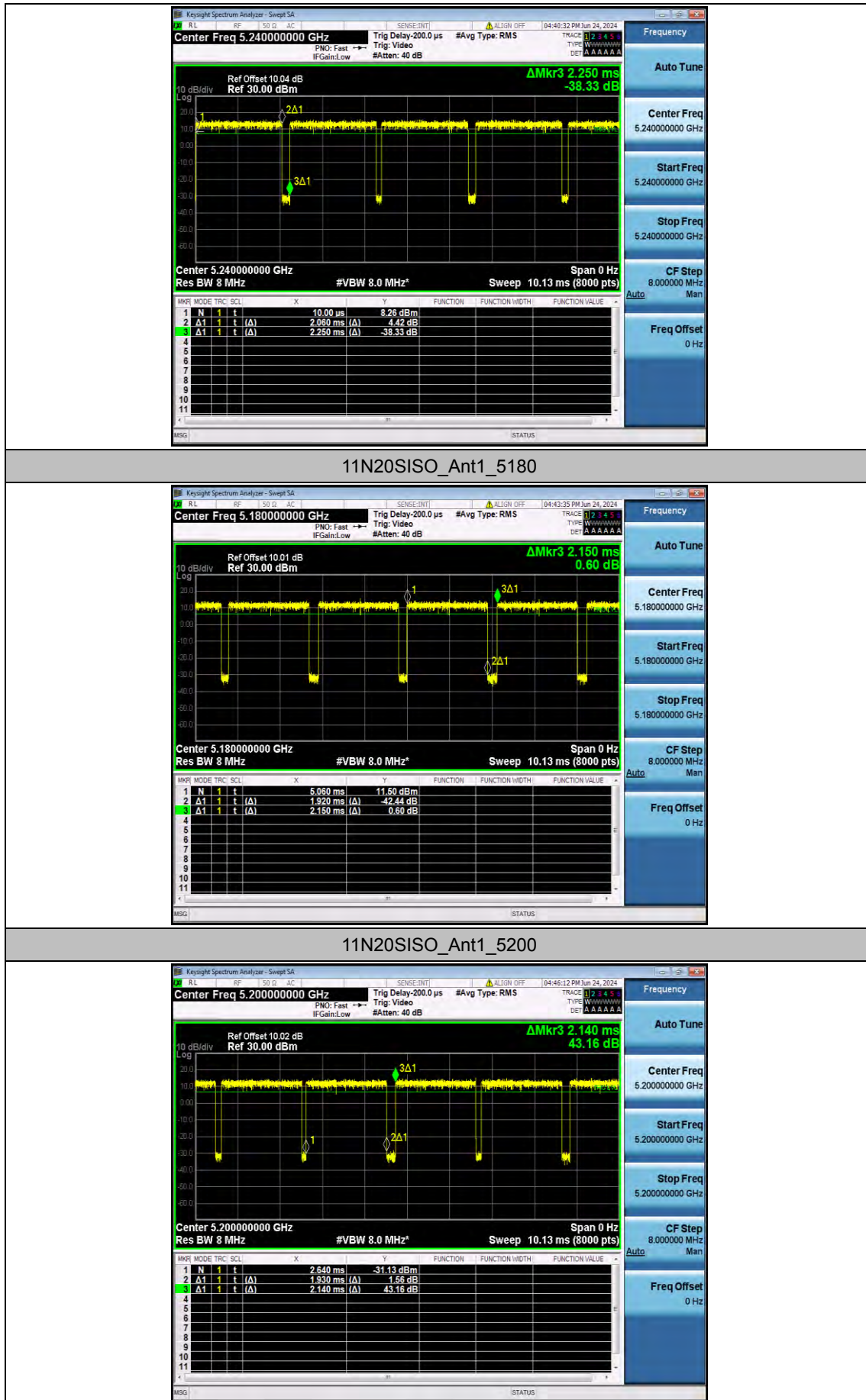
11A_Ant1_5180



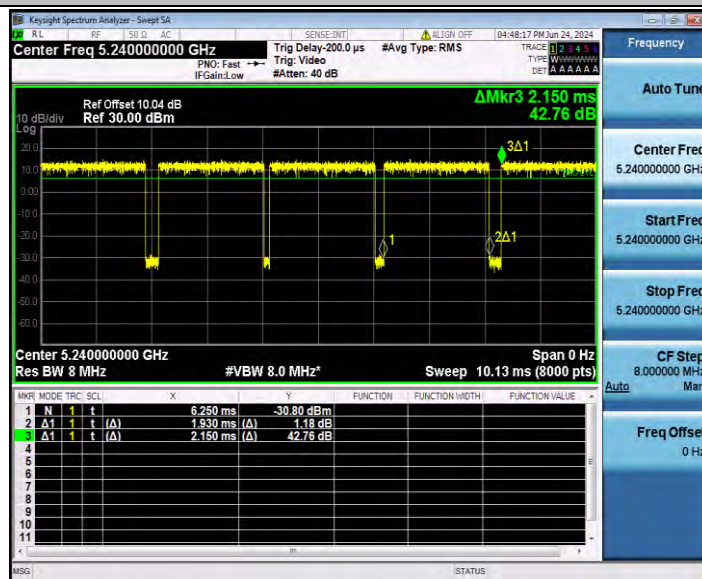
11A_Ant1_5200



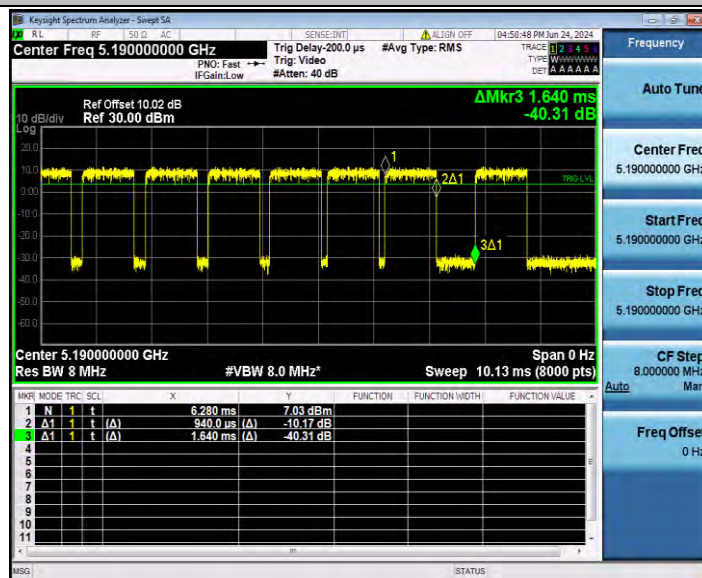
11A_Ant1_5240



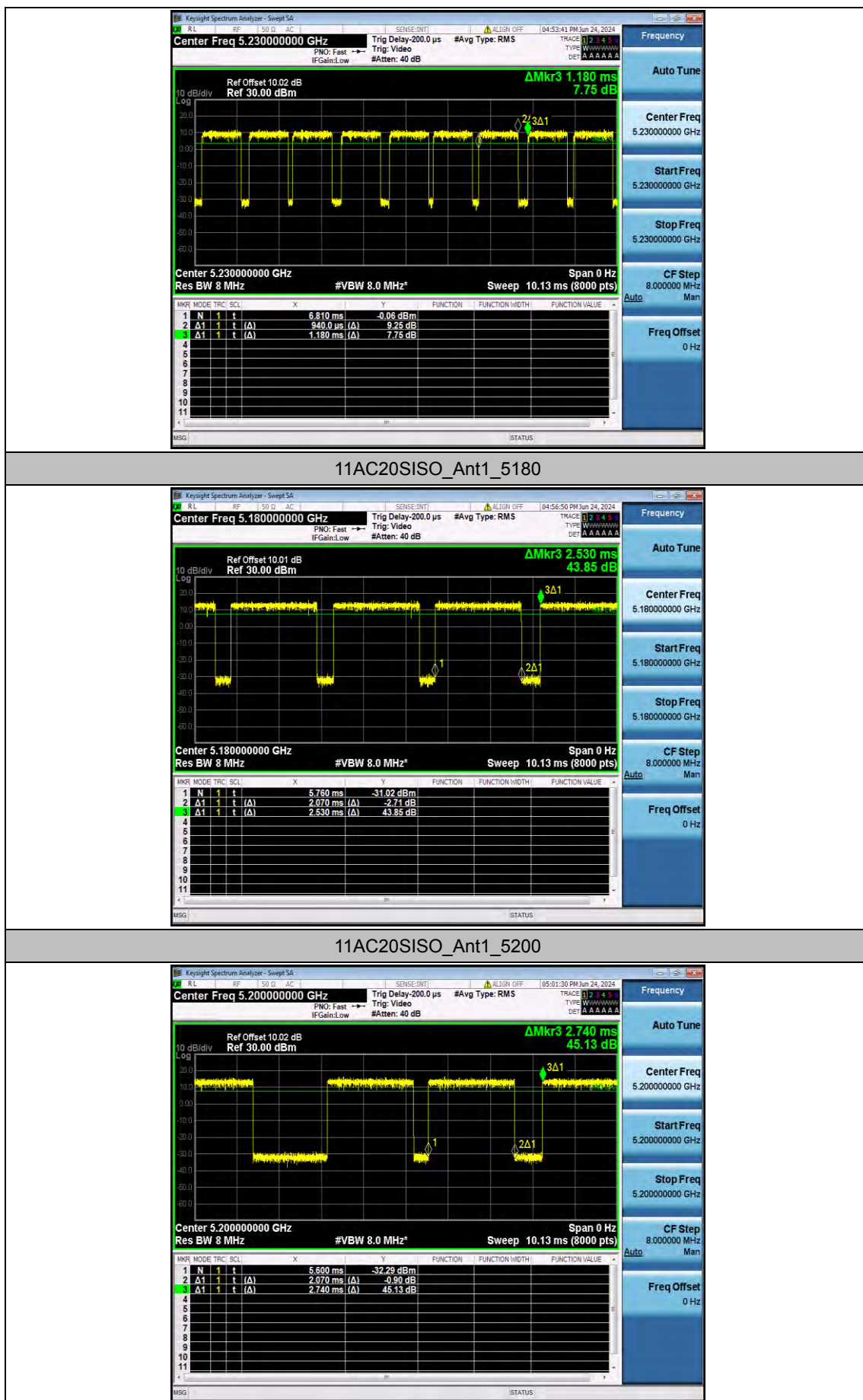
11N20SISO_Ant1_5240



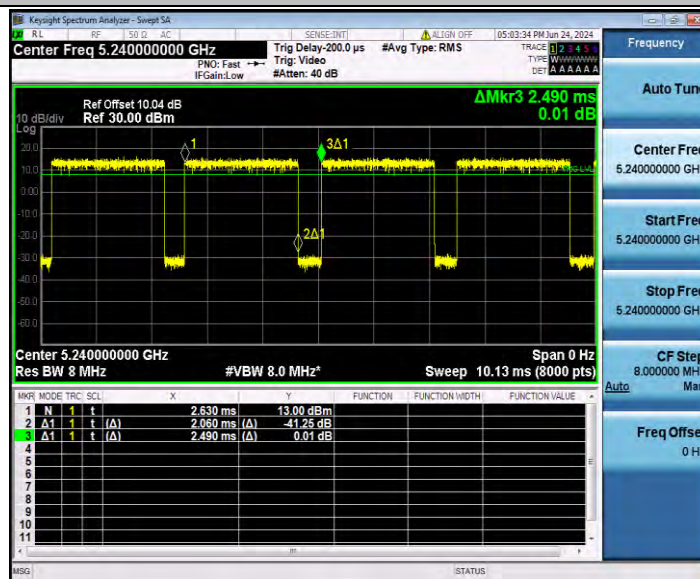
11N40SISO_Ant1_5190



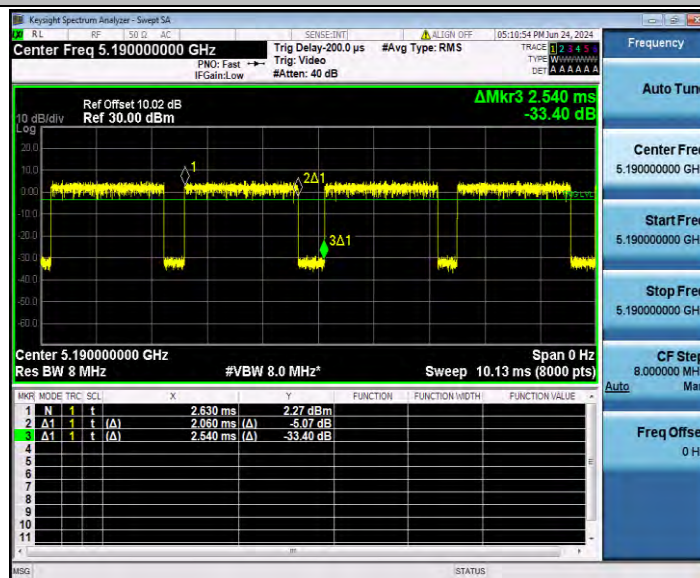
11N40SISO_Ant1_5230



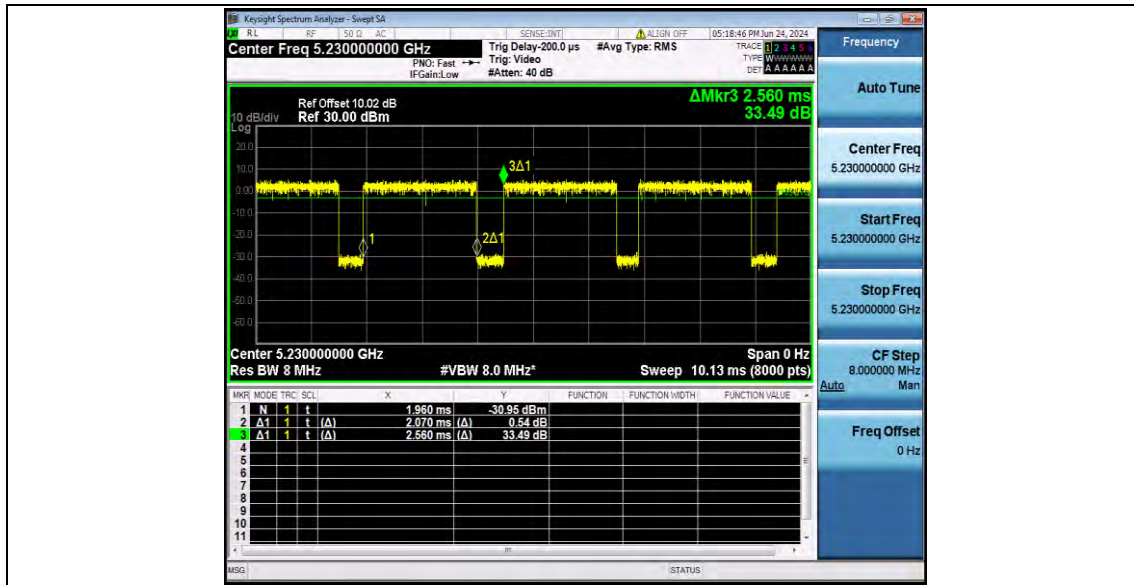
11AC20SISO_Ant1_5240



11AC40SISO_Ant1_5190



11AC40SISO_Ant1_5230



Appendix D.4: Maximum conducted output power

Test Result Channel Power

Test Mode	Antenna	Freq(MHz)	Channel Power [dBm]	Duty Cycle [%]	DC Factor [dBm]	Result [dBm]	Limit [dBm]	Verdict
11A	Ant1	5180	15.28	84.77	0.72	16.00	≤23.98	PASS
		5200	15.59	91.59	0.38	15.97	≤23.98	PASS
		5240	15.71	91.56	0.38	16.09	≤23.98	PASS
11N20SISO	Ant1	5180	14.62	89.30	0.49	15.11	≤23.98	PASS
		5200	14.84	90.19	0.45	15.29	≤23.98	PASS
		5240	14.88	89.77	0.47	15.35	≤23.98	PASS
11N40SISO	Ant1	5190	14.74	57.32	2.42	17.16	≤23.98	PASS
		5230	14.94	79.66	0.99	15.93	≤23.98	PASS
11AC20SISO	Ant1	5180	14.67	81.82	0.87	15.54	≤23.98	PASS
		5200	15.30	75.55	1.22	16.52	≤23.98	PASS
		5240	15.09	82.73	0.82	15.91	≤23.98	PASS
11AC40SISO	Ant1	5190	9.41	81.10	0.91	10.32	≤23.98	PASS
		5230	8.83	80.86	0.92	9.75	≤23.98	PASS

Note:

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

Appendix D.5: Maximum power spectral density

Test Result

TestMode	Antenna	Freq(MHz)	Result [dBm/MHz]	Limit[dBm/MHz]	Verdict
11A	Ant1	5180	5.11	≤11.00	PASS
		5200	4.61	≤11.00	PASS
		5240	4.89	≤11.00	PASS
11N20SISO	Ant1	5180	3.71	≤11.00	PASS
		5200	3.99	≤11.00	PASS
		5240	3.90	≤11.00	PASS
11N40SISO	Ant1	5190	3.14	≤11.00	PASS
		5230	1.85	≤11.00	PASS
11AC20SISO	Ant1	5180	5.28	≤11.00	PASS
		5200	5.91	≤11.00	PASS
		5240	5.53	≤11.00	PASS
11AC40SISO	Ant1	5190	-3.10	≤11.00	PASS
		5230	-2.79	≤11.00	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



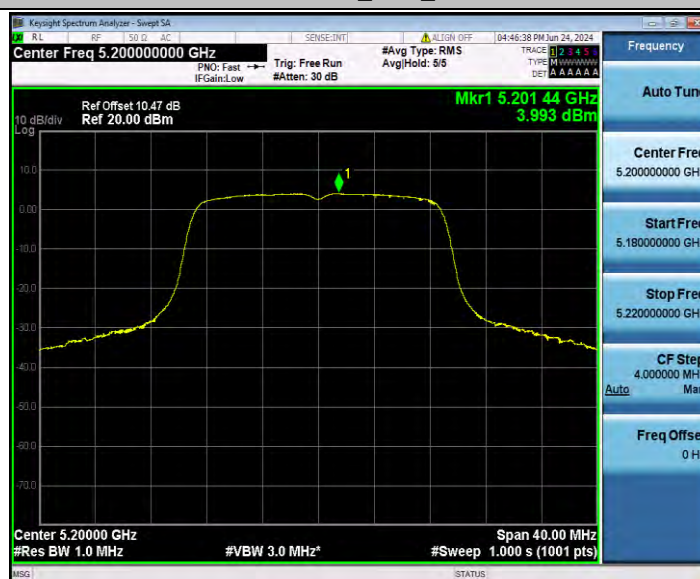
11A_Ant1_5240



11N20SISO_Ant1_5180



11N20SISO_Ant1_5200



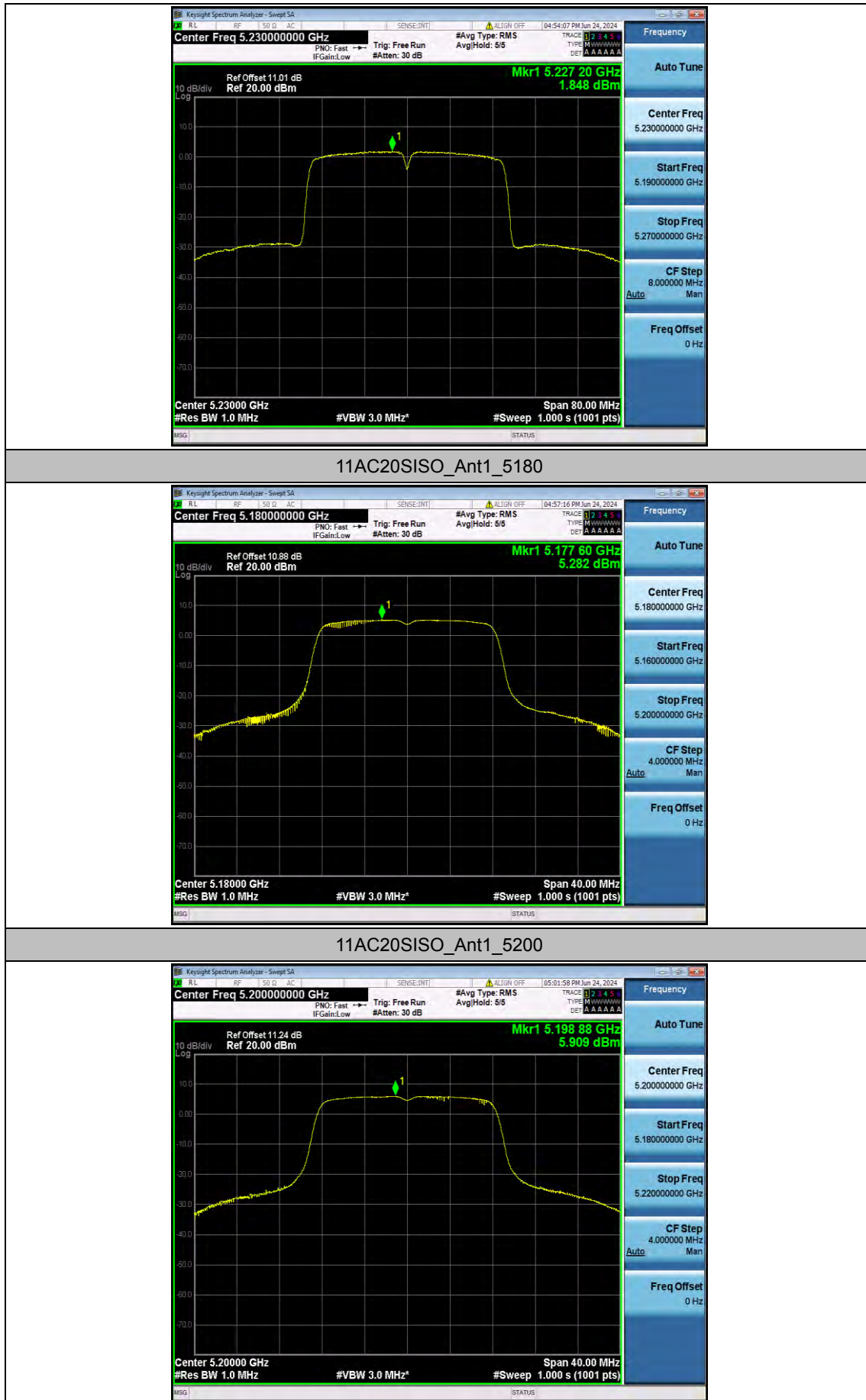
11N20SISO_Ant1_5240



11N40SISO_Ant1_5190



11N40SISO_Ant1_5230



11AC20SISO_Ant1_5240



11AC40SISO_Ant1_5190



11AC40SISO_Ant1_5230



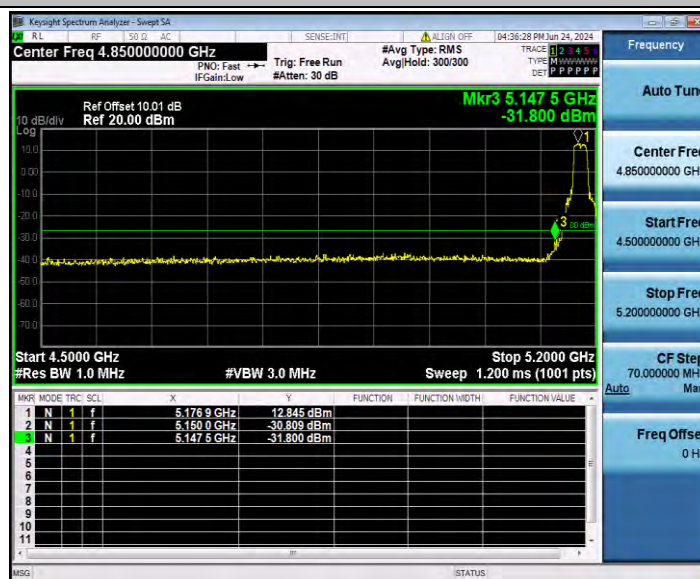
Appendix D.6: Band edge measurements

Test Result B1

TestMode	Antenna	ChName	Freq(MHz)	Result[dBm]	Limit[dBm]	Verdict
11A	Ant1	Low	5180	-31.8	≤ -27	PASS
		High	5240	-37.42	≤ -27	PASS
11N20SISO	Ant1	Low	5180	-33.72	≤ -27	PASS
		High	5240	-37.48	≤ -27	PASS
11N40SISO	Ant1	Low	5190	-23.46	≤ -27	FAIL
		High	5230	-37.4	≤ -27	PASS
11AC20SISO	Ant1	Low	5180	-31.85	≤ -27	PASS
		High	5240	-37.62	≤ -27	PASS
11AC40SISO	Ant1	Low	5190	-30	≤ -27	PASS
		High	5230	-36.65	≤ -27	PASS

Test Graphs B1

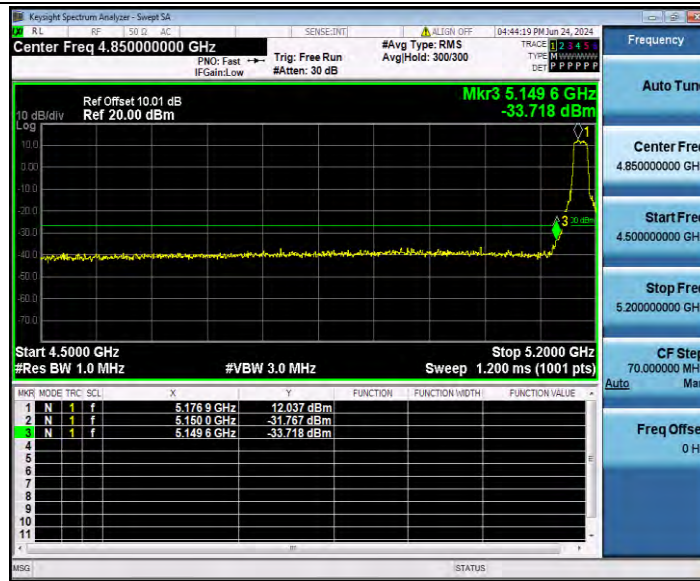
11A_Ant1_Low_5180



11A_Ant1_High_5240



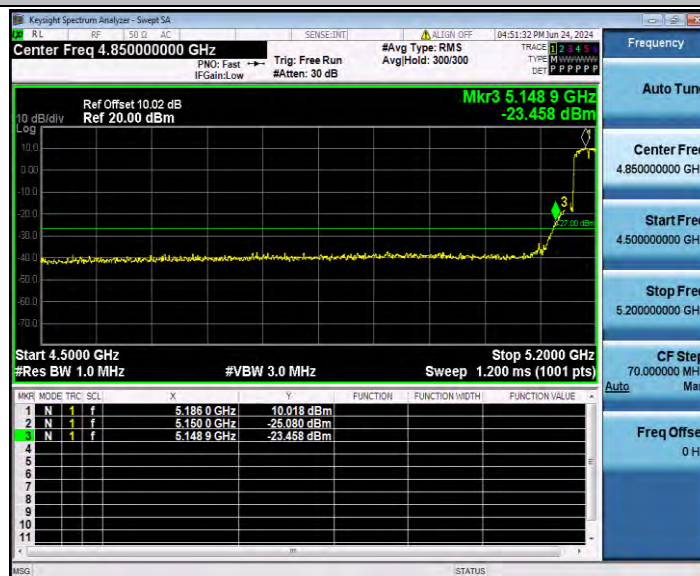
11N20SISO_Ant1_Low_5180



11N20SISO_Ant1_High_5240



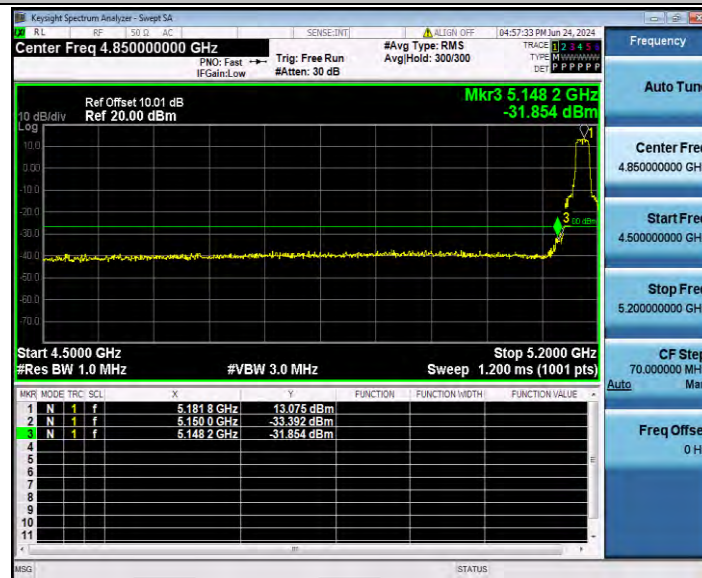
11N40SISO_Ant1_Low_5190



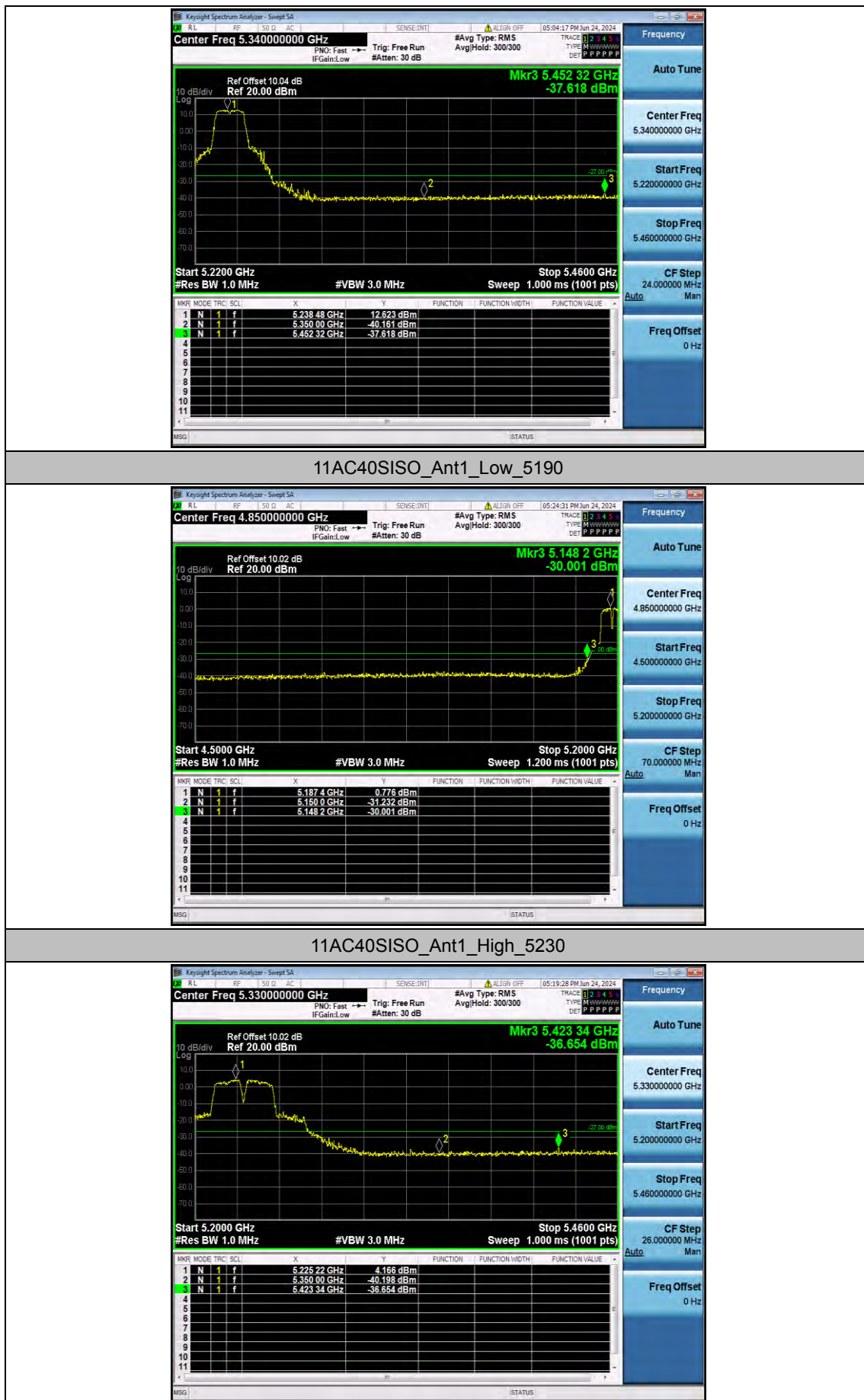
11N40SISO_Ant1_High_5230



11AC20SISO_Ant1_Low_5180



11AC20SISO_Ant1_High_5240

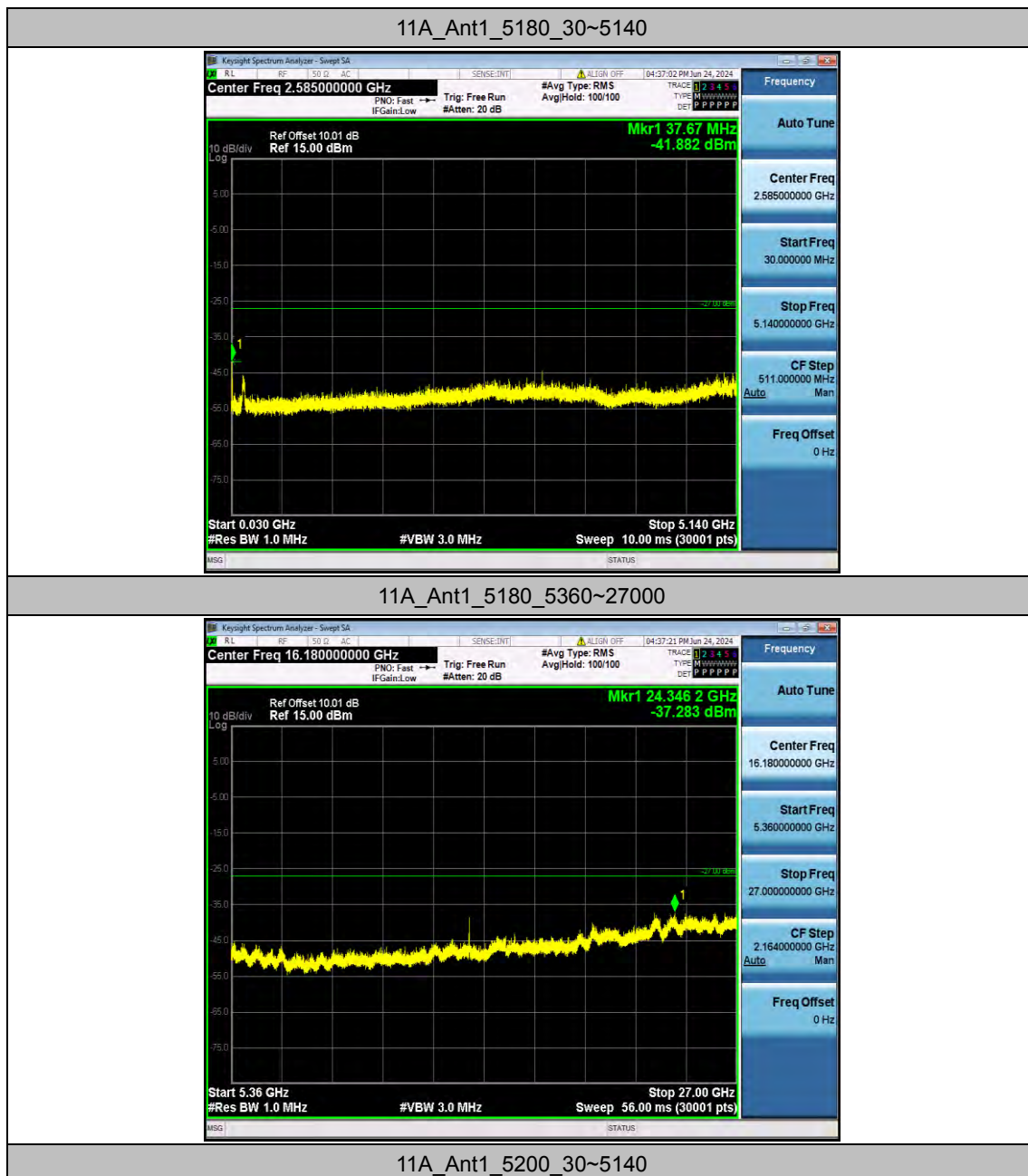


Appendix D.7: Conducted Spurious Emission

Test Result

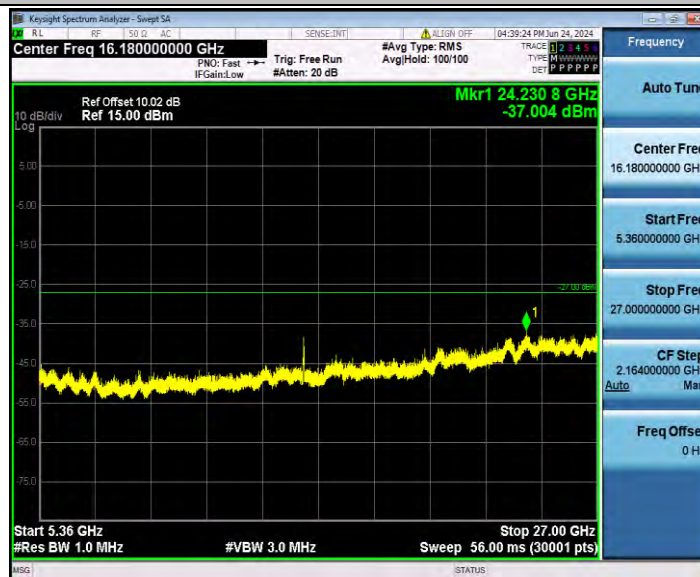
TestMode	Antenna	Freq(MHz)	FreqRange [MHz]	Max. Fre [MHz]	Max. Level [dBm]	Limit [dBm]	Verdict
11A	Ant1	5180	30~5140	37.67	-41.88	≤-27	PASS
			5360~27000	24346.21	-37.28	≤-27	PASS
		5200	30~5140	40.22	-44.04	≤-27	PASS
			5360~27000	24230.8	-37	≤-27	PASS
		5240	30~5140	4995.22	-44.18	≤-27	PASS
			5360~27000	15723.4	-35.13	≤-27	PASS
11N20SISO	Ant1	5180	30~5140	5137.79	-44.86	≤-27	PASS
			5360~27000	25087.75	-36.4	≤-27	PASS
		5200	30~5140	4928.62	-45.77	≤-27	PASS
			5360~27000	24201.95	-37.1	≤-27	PASS
		5240	30~5140	1746.79	-44.77	≤-27	PASS
			5360~27000	24310.87	-37.51	≤-27	PASS
11N40SISO	Ant1	5190	30~5140	5140	-32.74	≤-27	PASS
			5360~27000	26780.71	-37.2	≤-27	PASS
		5230	30~5140	5138.64	-44.66	≤-27	PASS
			5360~27000	24157.95	-37.34	≤-27	PASS
11AC20SISO	Ant1	5180	30~5140	5137.1	-41.48	≤-27	PASS
			5360~27000	24232.97	-36.96	≤-27	PASS
		5200	30~5140	5115.13	-45.21	≤-27	PASS
			5360~27000	24897.31	-36.31	≤-27	PASS
		5240	30~5140	5003.73	-44.4	≤-27	PASS
			5360~27000	15719.79	-36.14	≤-27	PASS
11AC40SISO	Ant1	5190	30~5140	5139.49	-33.46	≤-27	PASS
			5360~27000	23576.55	-37.38	≤-27	PASS
		5230	30~5140	3274.51	-46.41	≤-27	PASS
			5360~27000	24176.7	-36.86	≤-27	PASS

Test Graphs

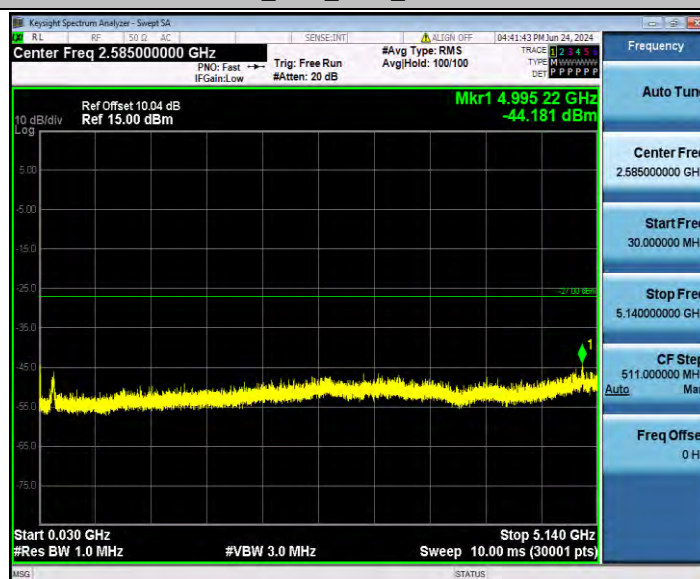




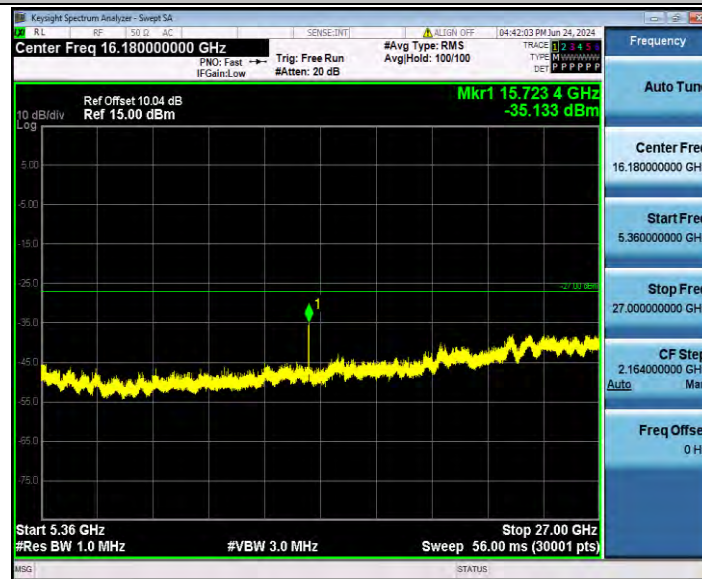
11A_Ant1_5200_5360~27000



11A_Ant1_5240_30~5140



11A_Ant1_5240_5360~27000



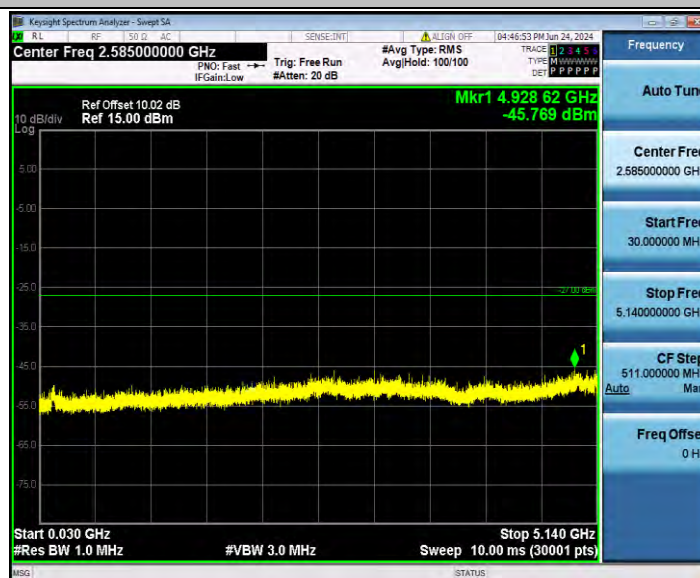
11N20SISO_Ant1_5180_30~5140



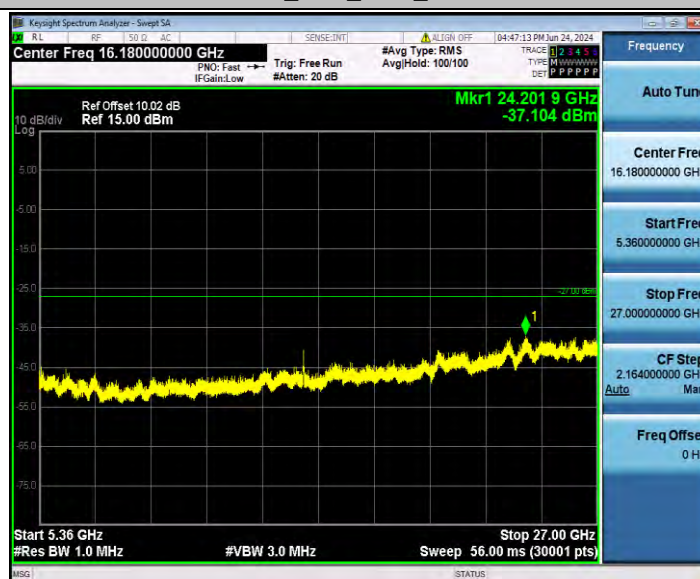
11N20SISO_Ant1_5180_5360~27000



11N20SISO_Ant1_5200_30~5140



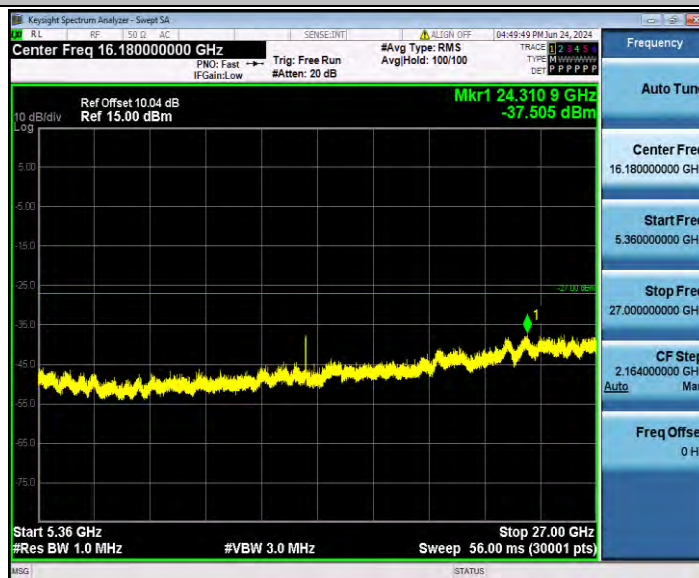
11N20SISO_Ant1_5200_5360~27000



11N20SISO_Ant1_5240_30~5140



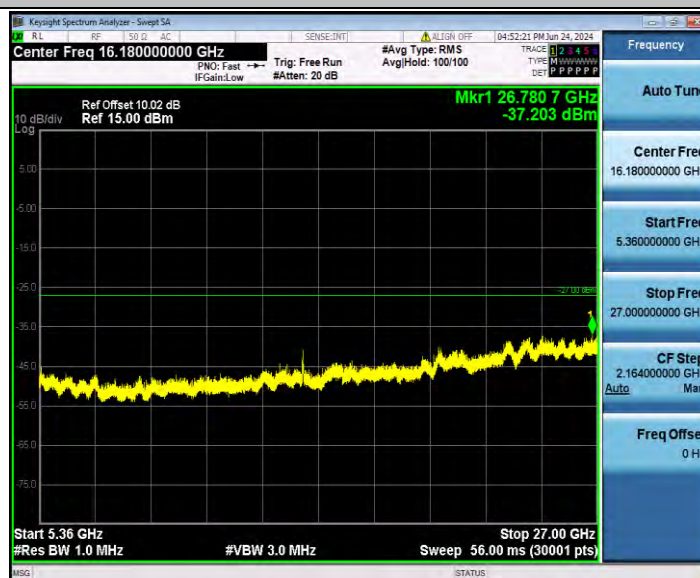
11N20SISO_Ant1_5240_5360~27000



11N40SISO_Ant1_5190_30~5140



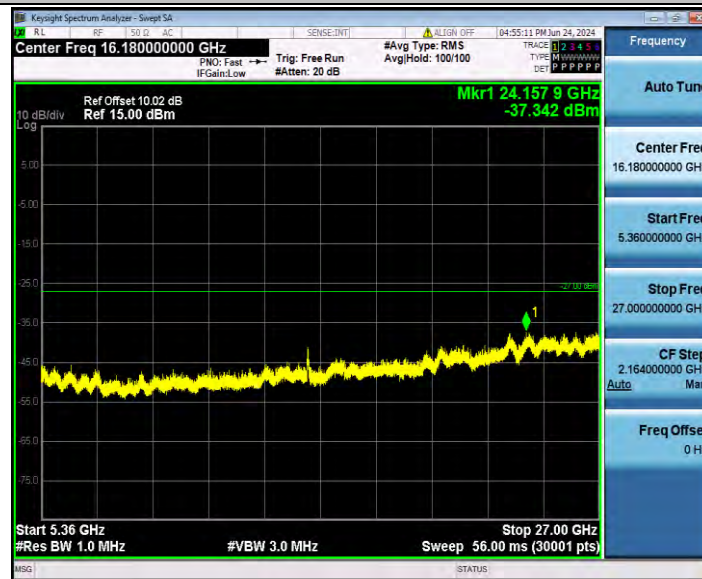
11N40SISO_Ant1_5190_5360~27000



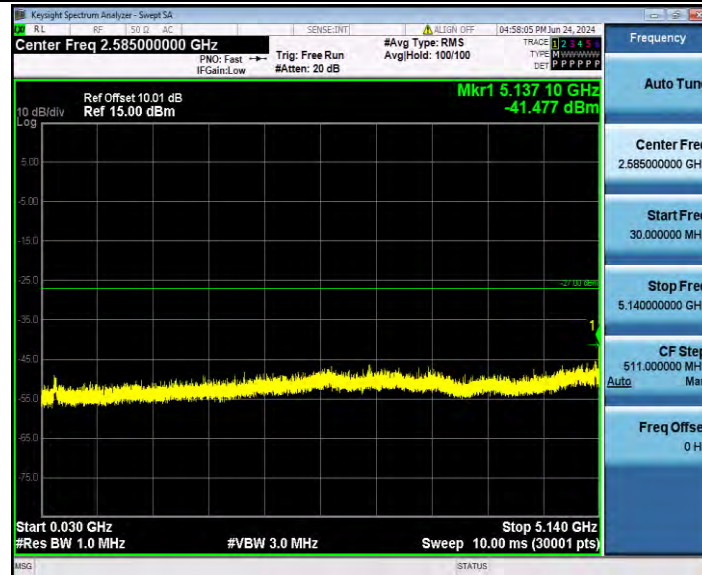
11N40SISO_Ant1_5230_30~5140



11N40SISO_Ant1_5230_5360~27000



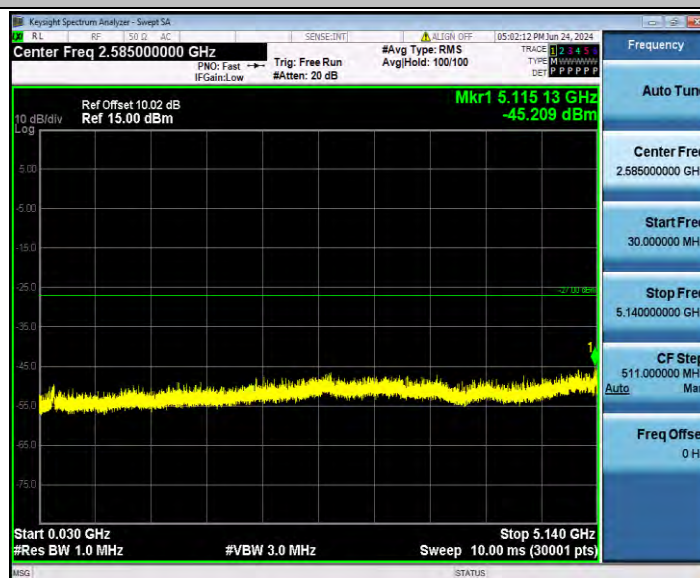
11AC20SISO_Ant1_5180_30~5140



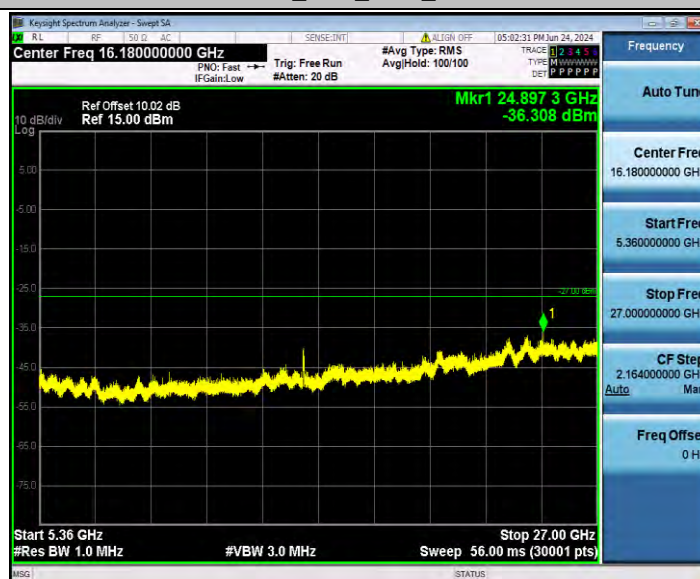
11AC20SISO_Ant1_5180_5360~27000



11AC20SISO_Ant1_5200_30~5140



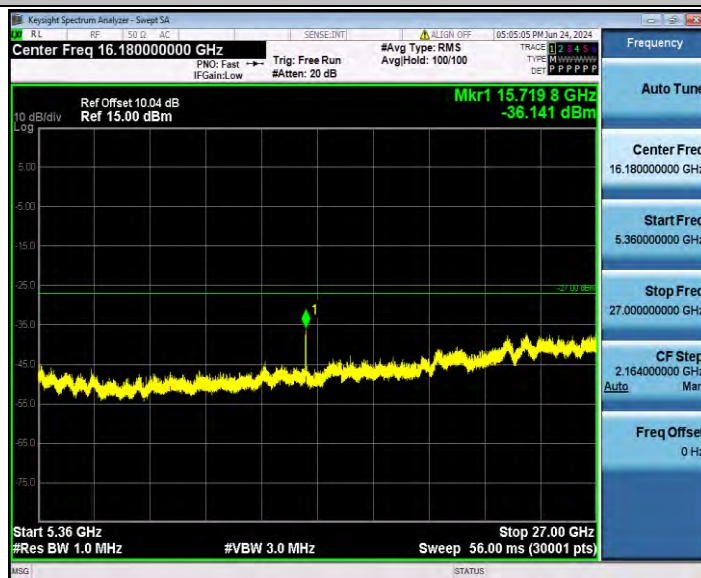
11AC20SISO_Ant1_5200_5360~27000



11AC20SISO_Ant1_5240_30~5140



11AC20SISO_Ant1_5240_5360~27000



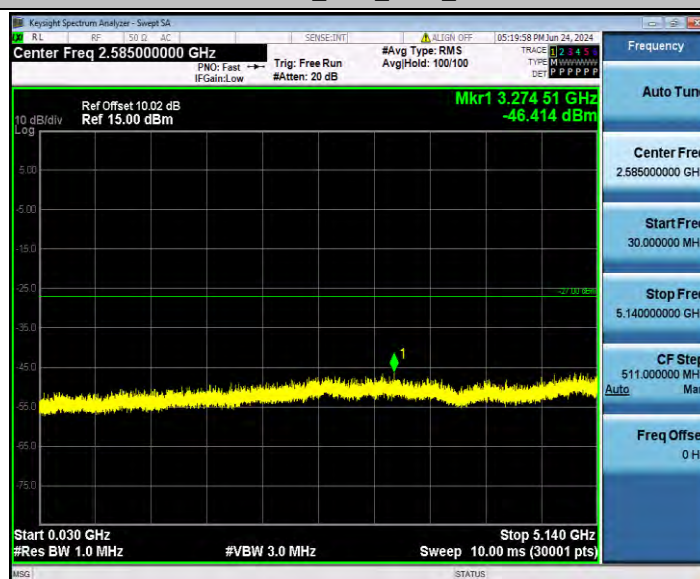
11AC40SISO_Ant1_5190_30~5140

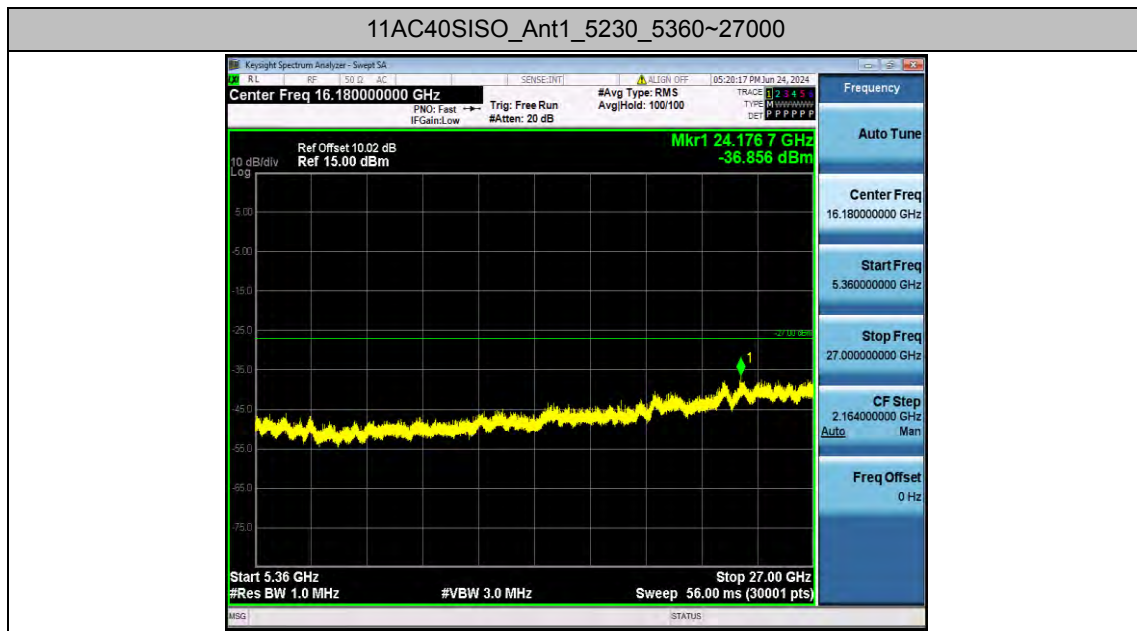


11AC40SISO_Ant1_5190_5360~27000



11AC40SISO_Ant1_5230_30~5140





Appendix D.8: Emissions in Restricted Bands

Test Result

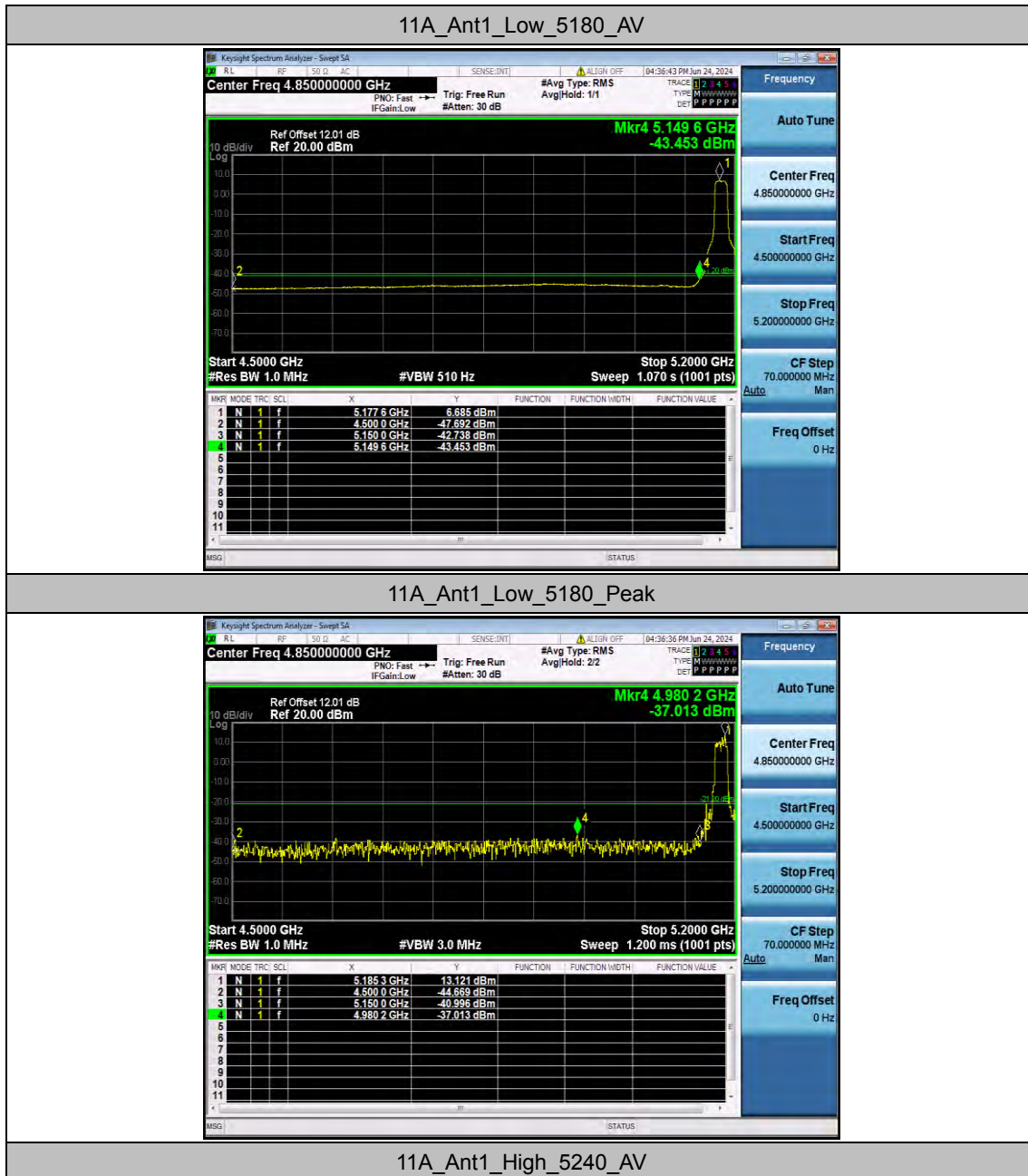
TestMode	Antenna	ChName	Freq(MHz)	Detector	Freq [MHz]	Result [dBm]	Limit [dBm]	Result [dBuV/m]	Limit [dBuV/m]	Verdict
11A	Ant1	Low	5180	AV	4500.000	-47.69	≤-41.20	47.51	≤54	PASS
				AV	5149.600	-43.45	≤-41.20	51.75	≤54	PASS
				AV	5150.000	-42.74	≤-41.20	52.46	≤54	PASS
				Peak	4500.000	-44.67	≤-21.20	50.53	≤74	PASS
				Peak	4980.200	-37.01	≤-21.20	58.19	≤74	PASS
				Peak	5150.000	-41	≤-21.20	54.20	≤74	PASS
		High	5240	AV	5350.000	-46.43	≤-41.20	48.77	≤54	PASS
				AV	5439.840	-45.39	≤-41.20	49.81	≤54	PASS
				AV	5460.000	-45.88	≤-41.20	49.32	≤54	PASS
				Peak	5350.000	-44.37	≤-21.20	50.83	≤74	PASS
				Peak	5371.200	-36.19	≤-21.20	59.01	≤74	PASS
				Peak	5460.000	-43.68	≤-21.20	51.52	≤74	PASS
11N20SISO	Ant1	Low	5180	AV	4500.000	-47.6	≤-41.20	47.60	≤54	PASS
				AV	5149.600	-44.56	≤-41.20	50.64	≤54	PASS
				AV	5150.000	-43.98	≤-41.20	51.22	≤54	PASS
				Peak	4500.000	-43.96	≤-21.20	51.24	≤74	PASS
				Peak	5146.800	-35.18	≤-21.20	60.02	≤74	PASS
				Peak	5150.000	-41.96	≤-21.20	53.24	≤74	PASS
		High	5240	AV	5350.000	-46.67	≤-41.20	48.53	≤54	PASS
				AV	5457.600	-45.43	≤-41.20	49.77	≤54	PASS
				AV	5460.000	-45.97	≤-41.20	49.23	≤54	PASS
				Peak	5350.000	-43.03	≤-21.20	52.17	≤74	PASS
				Peak	5393.040	-37.94	≤-21.20	57.26	≤74	PASS
				Peak	5460.000	-42.96	≤-21.20	52.24	≤74	PASS
11N40SISO	Ant1	Low	5190	AV	4500.000	-47.76	≤-41.20	47.44	≤54	PASS
				AV	5148.900	-43.27	≤-41.20	51.93	≤54	PASS
				AV	5150.000	-42.43	≤-41.20	52.77	≤54	PASS
				Peak	4500.000	-44.91	≤-21.20	50.29	≤74	PASS
				Peak	5149.600	-23.44	≤-21.20	71.76	≤74	PASS
				Peak	5150.000	-25.41	≤-21.20	69.79	≤74	PASS
		High	5230	AV	5350.000	-46.18	≤-41.20	49.02	≤54	PASS
				AV	5416.840	-45.35	≤-41.20	49.85	≤54	PASS
				AV	5460.000	-45.44	≤-41.20	49.76	≤54	PASS
				Peak	5350.000	-46.32	≤-21.20	48.88	≤74	PASS
				Peak	5446.740	-37.66	≤-21.20	57.54	≤74	PASS
				Peak	5460.000	-42.55	≤-21.20	52.65	≤74	PASS

11AC20SISO	Ant1	Low	5180	AV	4500.000	-47.85	≤ -41.20	47.35	≤ 54	PASS
				AV	5148.900	-43.75	≤ -41.20	51.45	≤ 54	PASS
				AV	5150.000	-43.3	≤ -41.20	51.90	≤ 54	PASS
				Peak	4500.000	-44.17	≤ -21.20	51.03	≤ 74	PASS
				Peak	5148.200	-36.52	≤ -21.20	58.68	≤ 74	PASS
				Peak	5150.000	-36.26	≤ -21.20	58.94	≤ 74	PASS
		High	5240	AV	5350.000	-46.5	≤ -41.20	48.70	≤ 54	PASS
				AV	5457.120	-45.37	≤ -41.20	49.83	≤ 54	PASS
				AV	5460.000	-45.65	≤ -41.20	49.55	≤ 54	PASS
				Peak	5350.000	-43.26	≤ -21.20	51.94	≤ 74	PASS
				Peak	5400.240	-37.85	≤ -21.20	57.35	≤ 74	PASS
				Peak	5460.000	-39.35	≤ -21.20	55.85	≤ 74	PASS
11AC40SISO	Ant1	Low	5190	AV	4500.000	-47.75	≤ -41.20	47.45	≤ 54	PASS
				AV	5149.600	-42.25	≤ -41.20	52.95	≤ 54	PASS
				AV	5150.000	-41.53	≤ -41.20	53.67	≤ 54	PASS
				Peak	4500.000	-47.15	≤ -21.20	48.05	≤ 74	PASS
				Peak	5149.600	-36.05	≤ -21.20	59.15	≤ 74	PASS
				Peak	5150.000	-34.41	≤ -21.20	60.79	≤ 74	PASS
		High	5230	AV	5350.000	-46.98	≤ -41.20	48.22	≤ 54	PASS
				AV	5450.640	-45.45	≤ -41.20	49.75	≤ 54	PASS
				AV	5460.000	-45.71	≤ -41.20	49.49	≤ 54	PASS
				Peak	5350.000	-47.99	≤ -21.20	47.21	≤ 74	PASS
				Peak	5385.900	-38.22	≤ -21.20	56.98	≤ 74	PASS
				Peak	5460.000	-40.7	≤ -21.20	54.50	≤ 74	PASS

Note:

1. The Antenna Gain is compensated in the graph.
2. The Duty Cycle Factor and RBW Factor is compensated in the graph.
3. 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





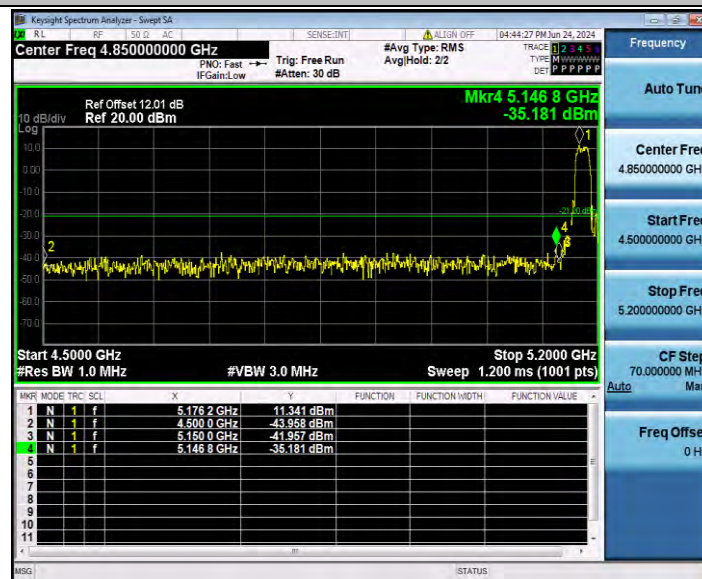
11A_Ant1_High_5240_Peak



11N20SISO_Ant1_Low_5180_AV



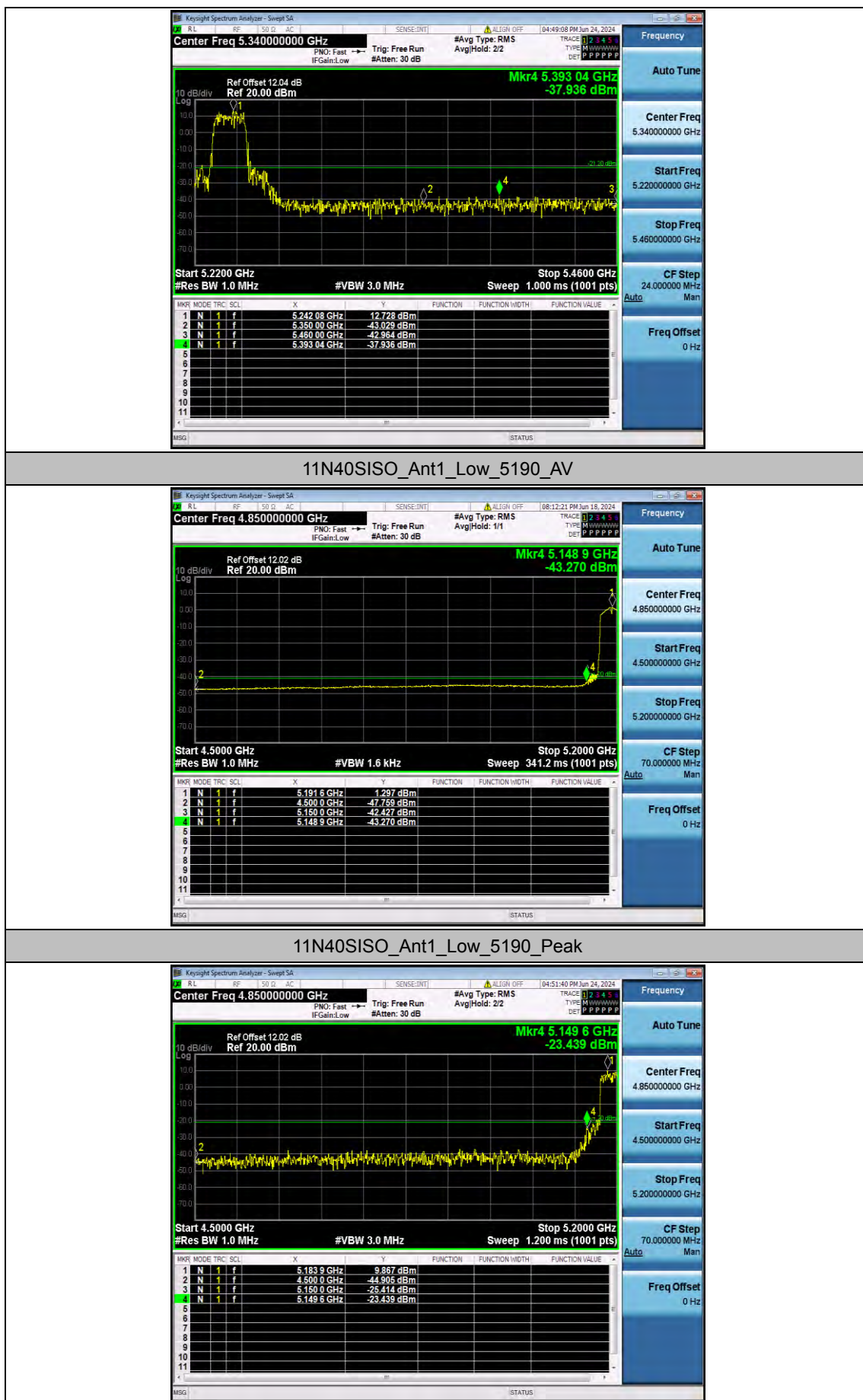
11N20SISO_Ant1_Low_5180_Peak



11N20SISO_Ant1_High_5240_AV



11N20SISO_Ant1_High_5240_Peak



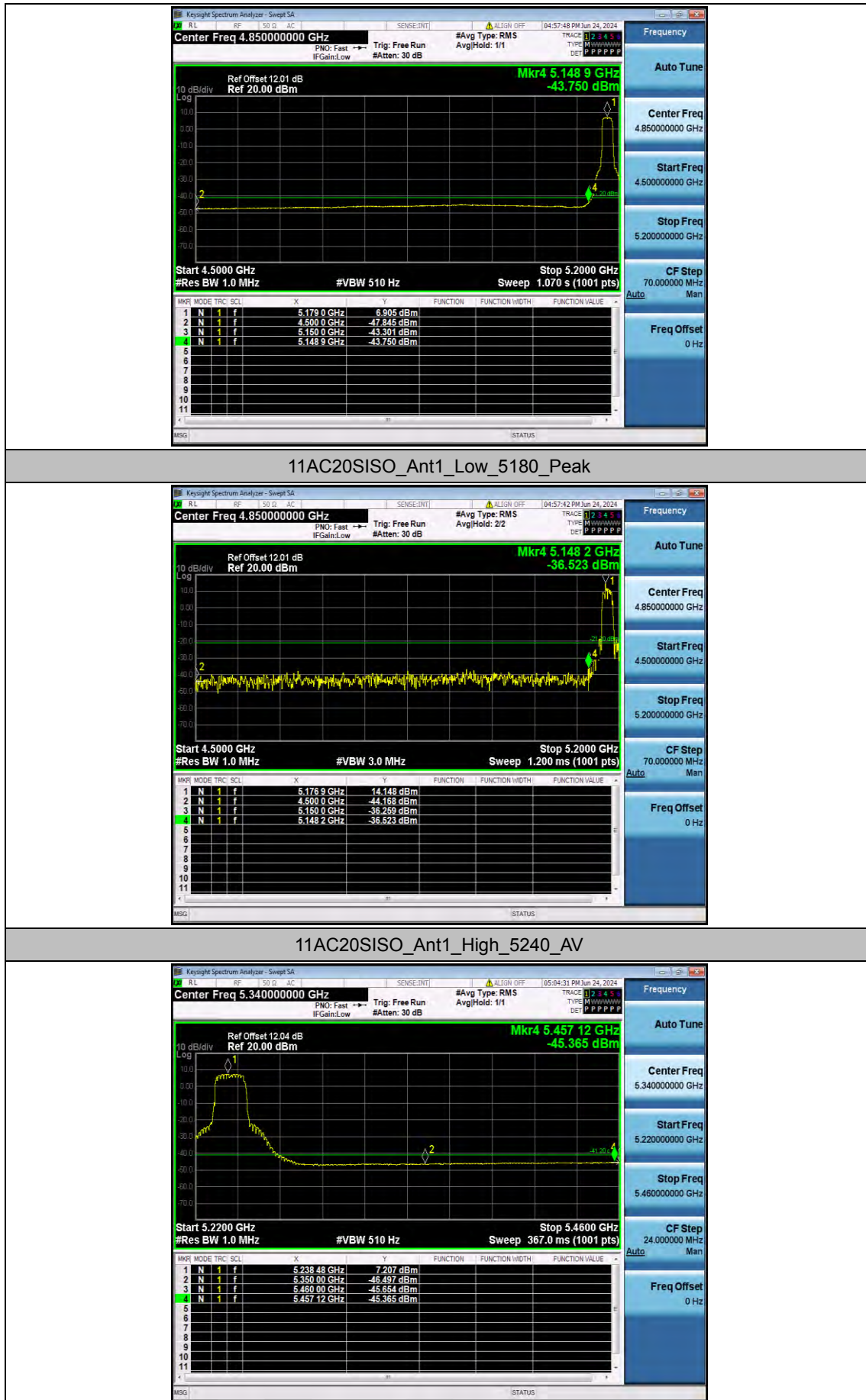
11N40SISO_Ant1_High_5230_AV



11N40SISO_Ant1_High_5230_Peak



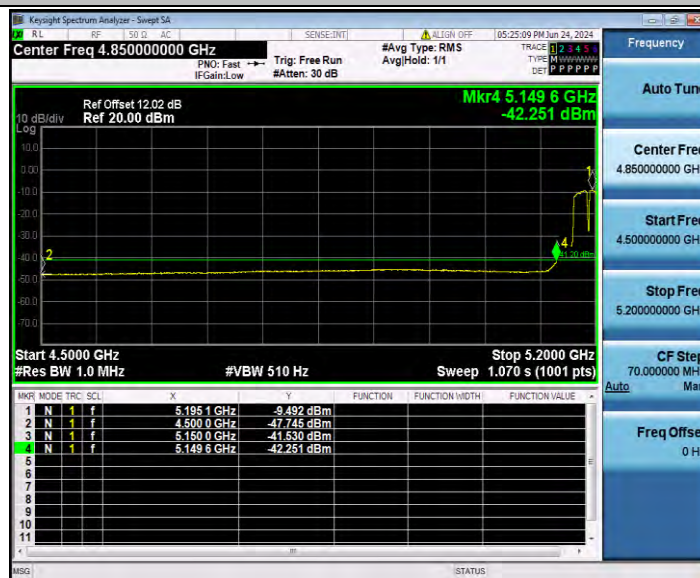
11AC20SISO_Ant1_Low_5180_AV



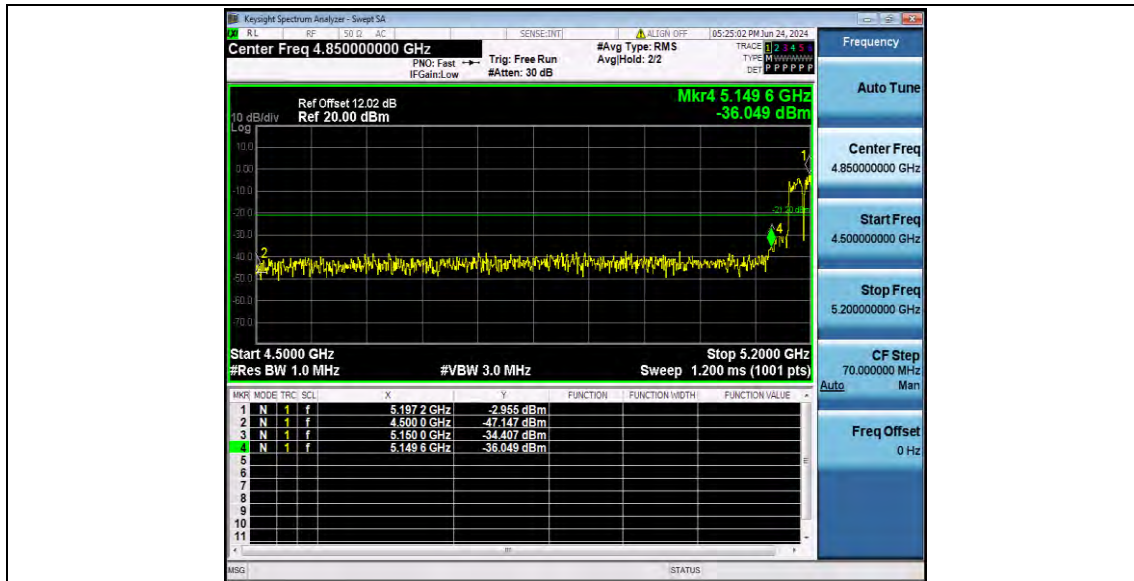
11AC20SISO_Ant1_High_5240_Peak



11AC40SISO_Ant1_Low_5190_AV



11AC40SISO_Ant1_Low_5190_Peak



11AC40SISO_Ant1_High_5230_AV



11AC40SISO_Ant1_High_5230_Peak

