

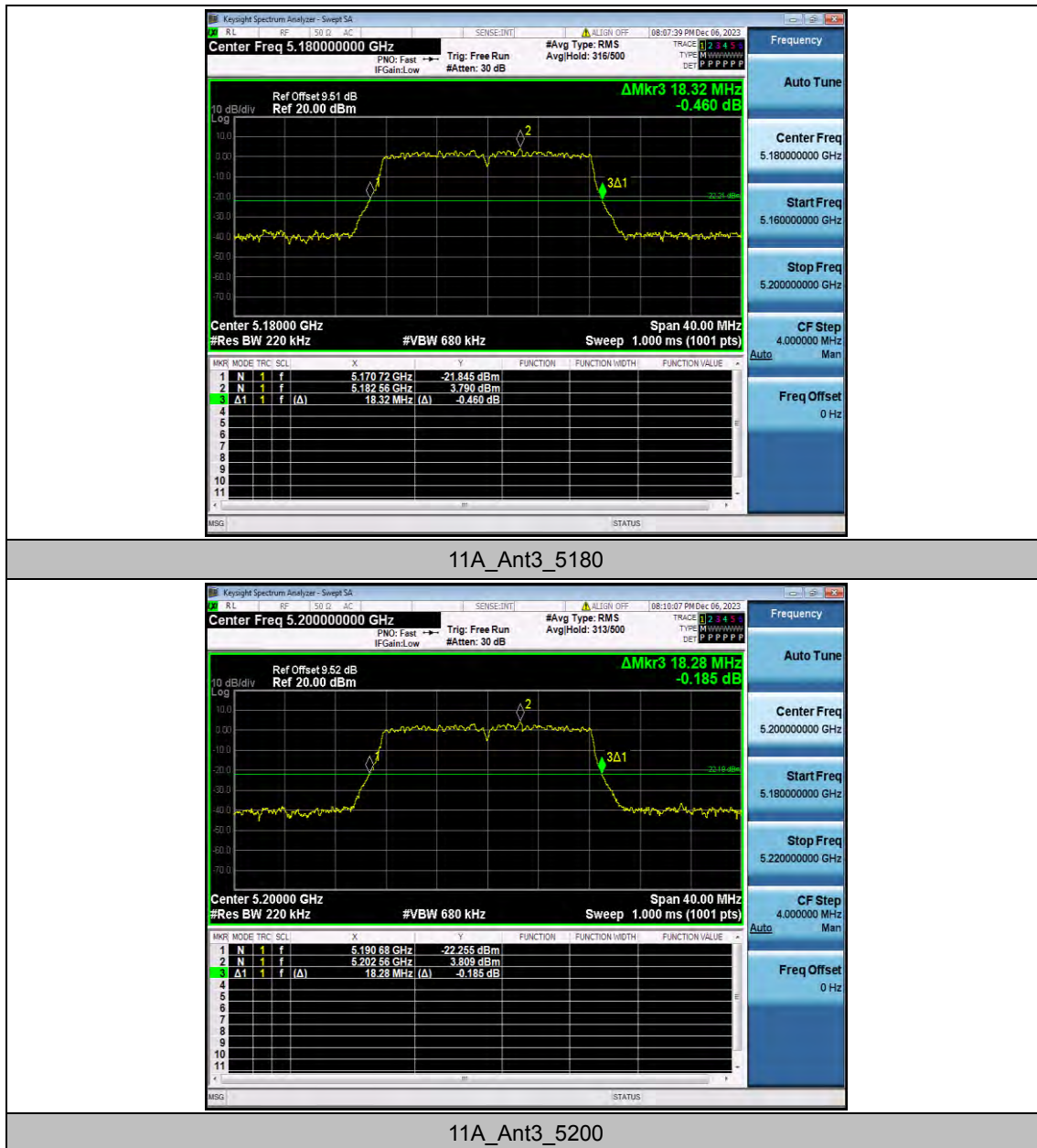
Case No. : <u>GTS20231012003-1-5</u>	
Ambient Condition: <u>23</u> °C, <u>49</u> %RH, Atmos100.1Kpa,	
Test Date: <u>2023.12.6</u>	Test Engineer: <u>Evan ouyang</u>

Appendix D.1: Emission Bandwidth

Test Result

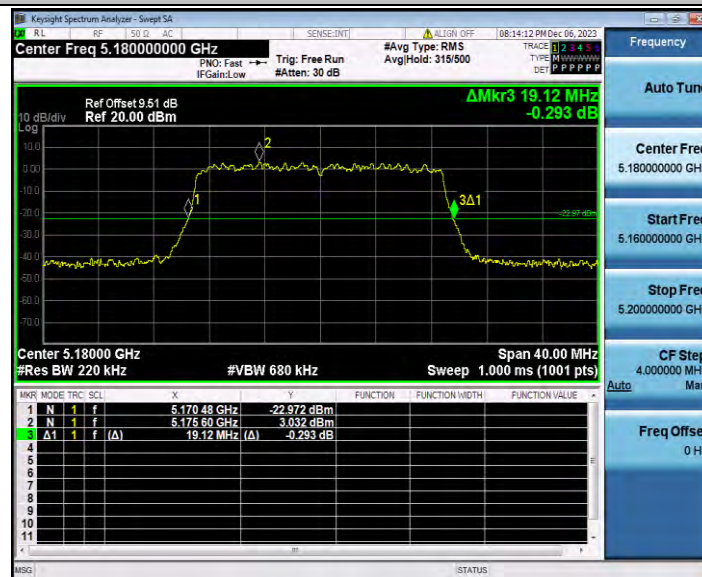
Test Mode	Antenna	Frequency[MHz]	26db EBW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
11A	Ant3	5180	18.320	5170.720	5189.040	---	---
		5200	18.280	5190.680	5208.960	---	---
		5240	18.400	5230.640	5249.040	---	---
11N20SISO	Ant3	5180	19.120	5170.480	5189.600	---	---
		5200	19.160	5190.440	5209.600	---	---
		5240	19.160	5230.440	5249.600	---	---
11N40SISO	Ant3	5190	38.800	5170.560	5209.360	---	---
		5230	38.720	5210.560	5249.280	---	---
11AC20SISO	Ant3	5180	19.240	5170.280	5189.520	---	---
		5200	19.240	5190.280	5209.520	---	---
		5240	19.320	5230.240	5249.560	---	---
11AC40SISO	Ant3	5190	39.040	5170.400	5209.440	---	---
		5230	38.960	5210.480	5249.440	---	---
11AC80SISO	Ant3	5210	86.080	5167.280	5253.360	---	---

Test Graphs





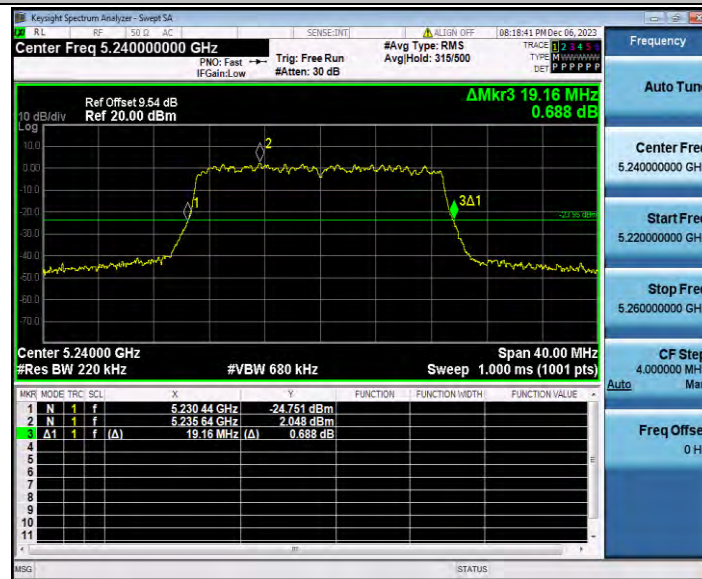
11A_Ant3_5240



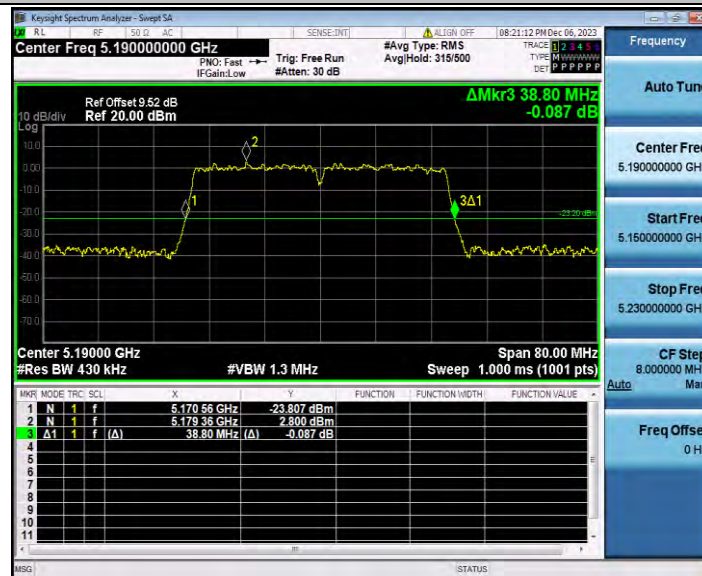
11N20SISO_Ant3_5180



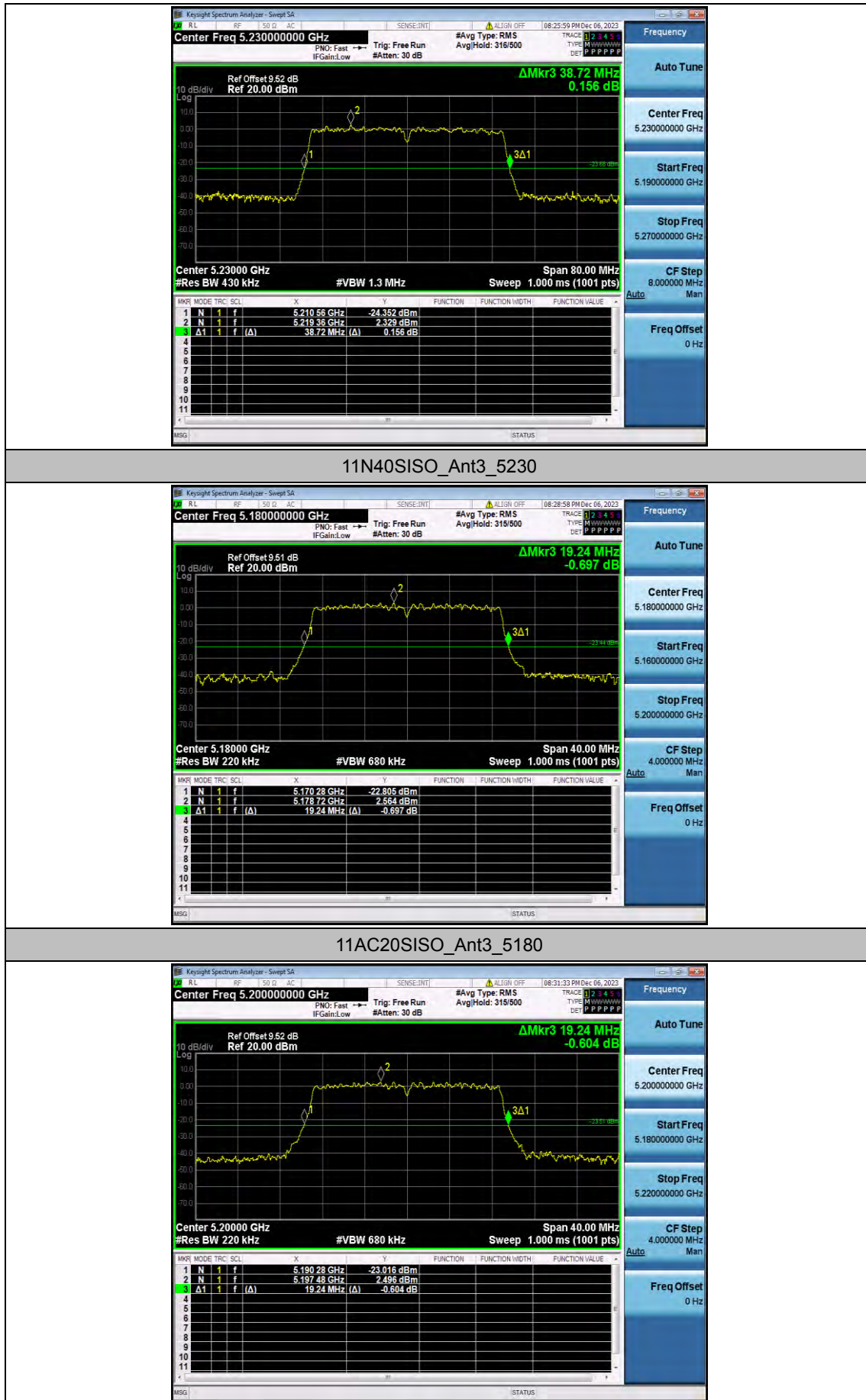
11N20SISO_Ant3_5200



11N20SISO_Ant3_5240



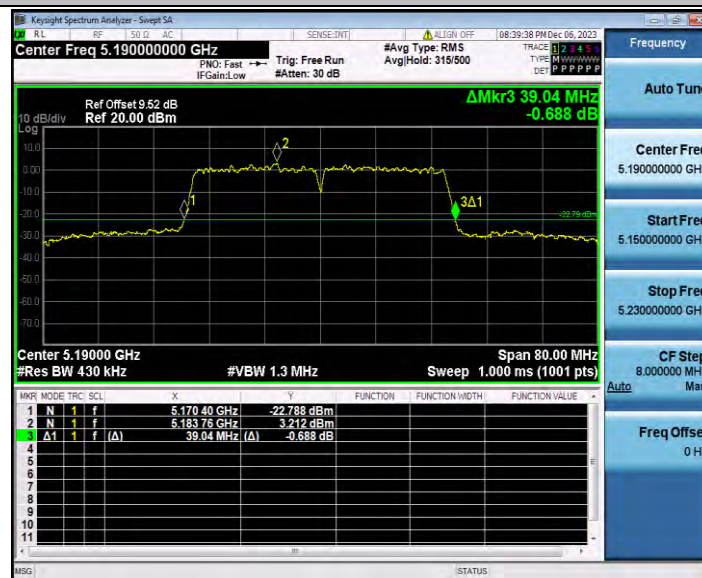
11N40SISO_Ant3_5190



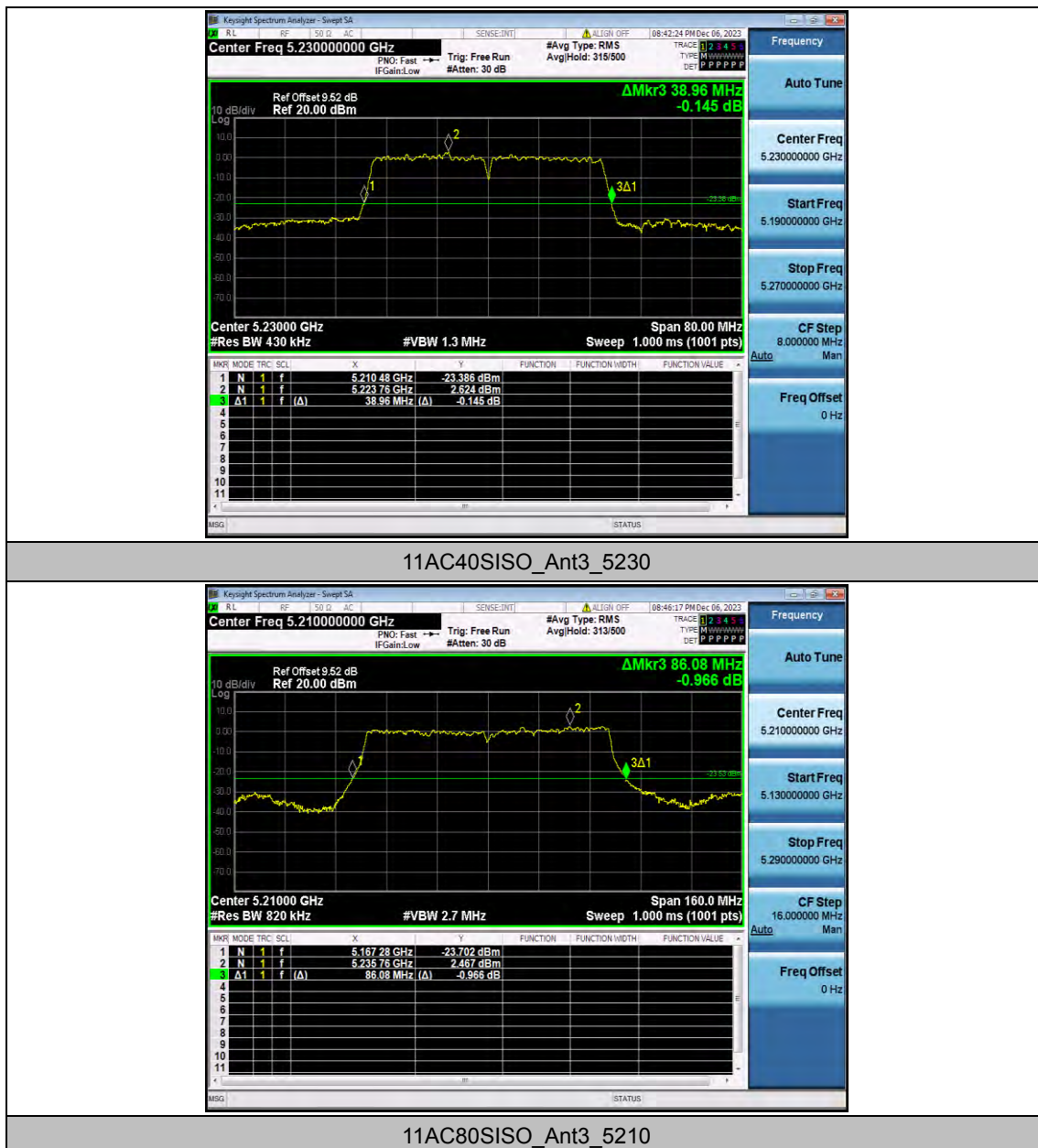
11AC20SISO_Ant3_5200



11AC20SISO_Ant3_5240



11AC40SISO_Ant3_5190

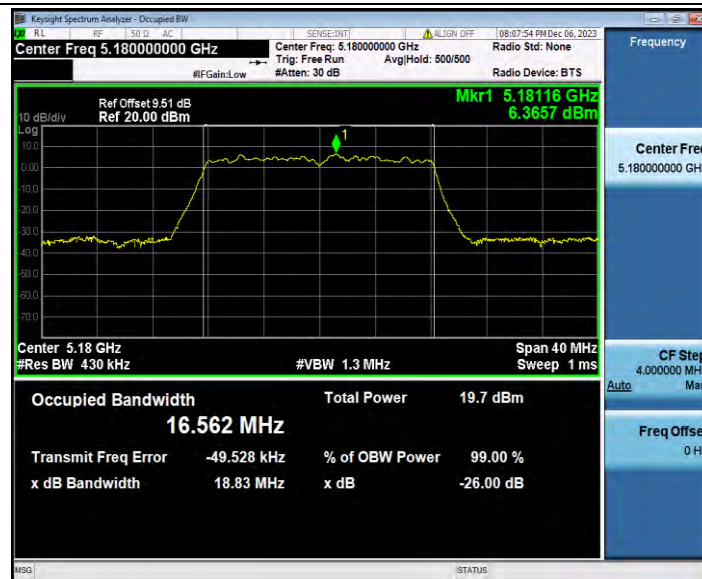


Appendix D.2: Occupied channel bandwidth

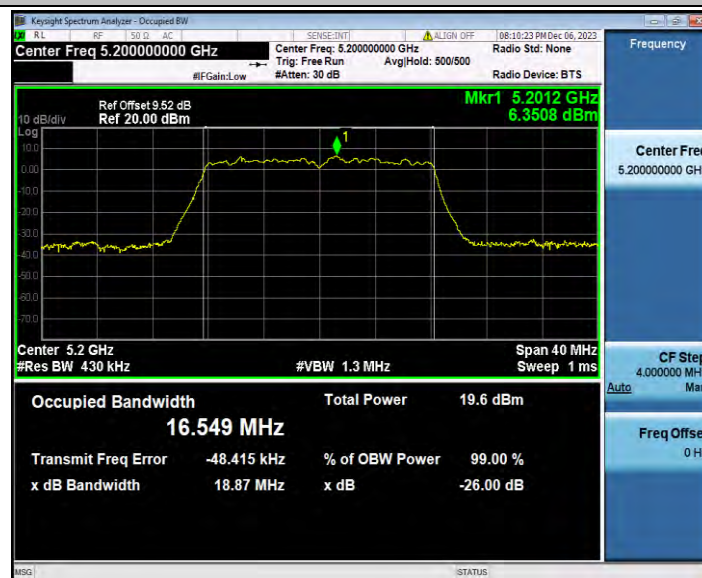
Test Result

Test Mode	Antenna	Frequency[MHz]	OCB [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
11A	Ant3	5180	16.562	5171.669	5188.231	---	---
		5200	16.549	5191.677	5208.226	---	---
		5240	16.555	5231.666	5248.221	---	---
11N20SISO	Ant3	5180	17.645	5171.134	5188.779	---	---
		5200	17.642	5191.137	5208.779	---	---
		5240	17.647	5231.128	5248.775	---	---
11N40SISO	Ant3	5190	36.266	5171.797	5208.063	---	---
		5230	36.252	5211.783	5248.035	---	---
11AC20SISO	Ant3	5180	17.712	5171.100	5188.812	---	---
		5200	17.707	5191.100	5208.807	---	---
		5240	17.713	5231.093	5248.806	---	---
11AC40SISO	Ant3	5190	36.378	5171.743	5208.121	---	---
		5230	36.326	5211.745	5248.071	---	---
11AC80SISO	Ant3	5210	77.147	5171.468	5248.615	---	---

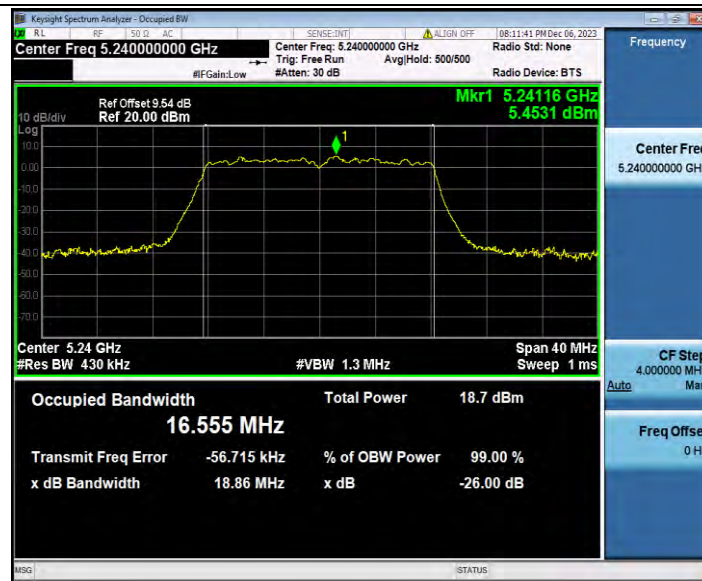
Test Graphs



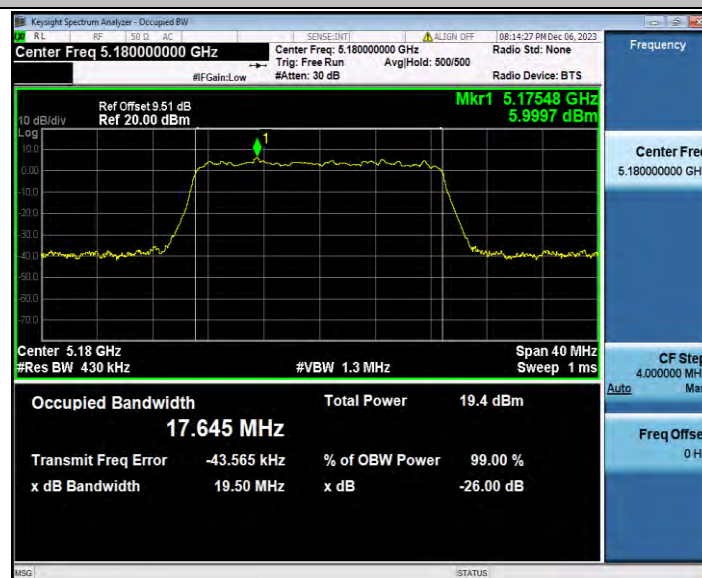
11A_Ant3_5180



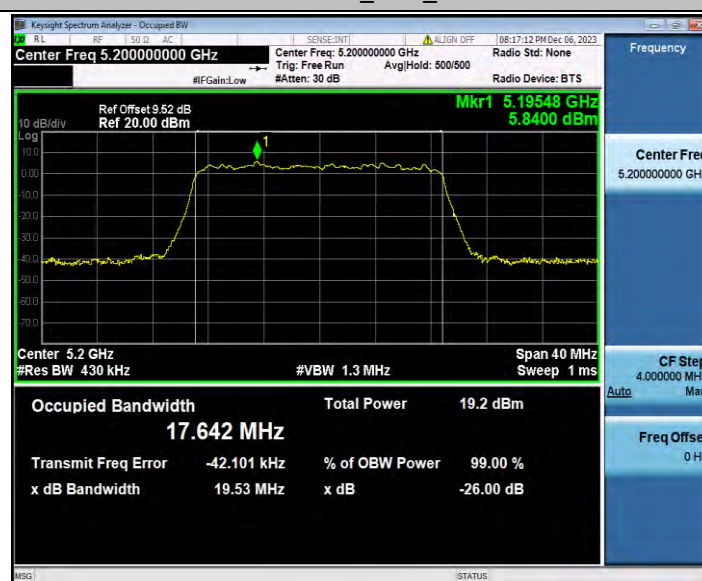
11A_Ant3_5200



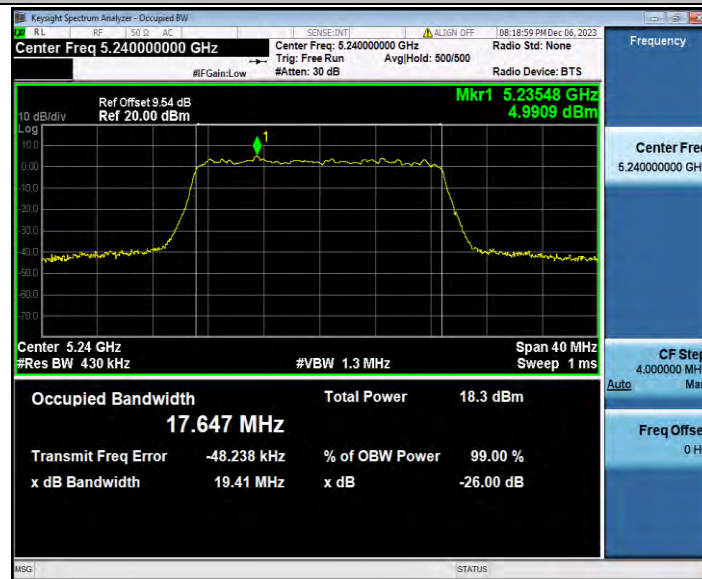
11A_Ant3_5240



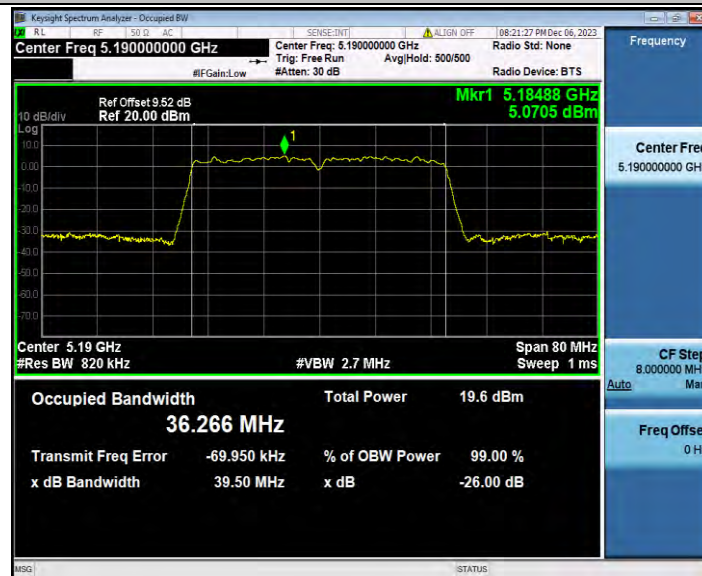
11N20SISO_Ant3_5180



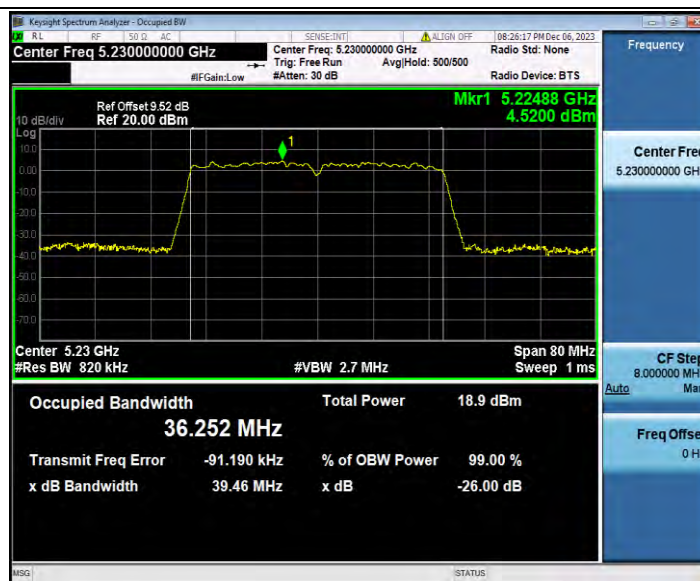
11N20SISO_Ant3_5200



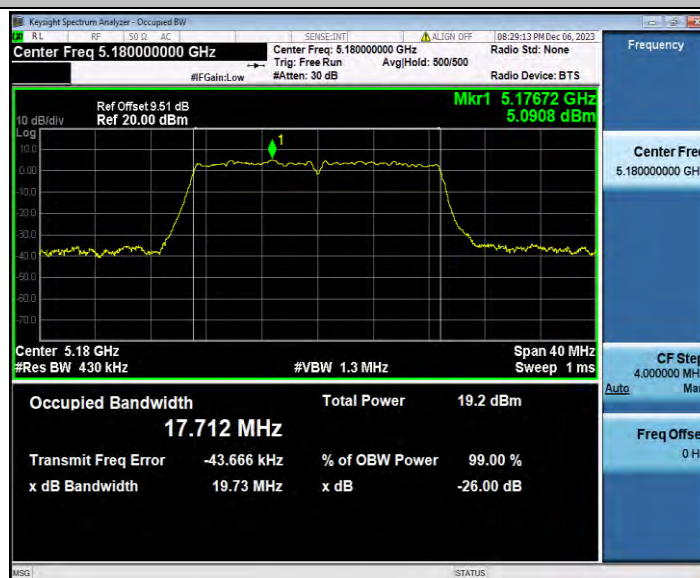
11N20SISO_Ant3_5240



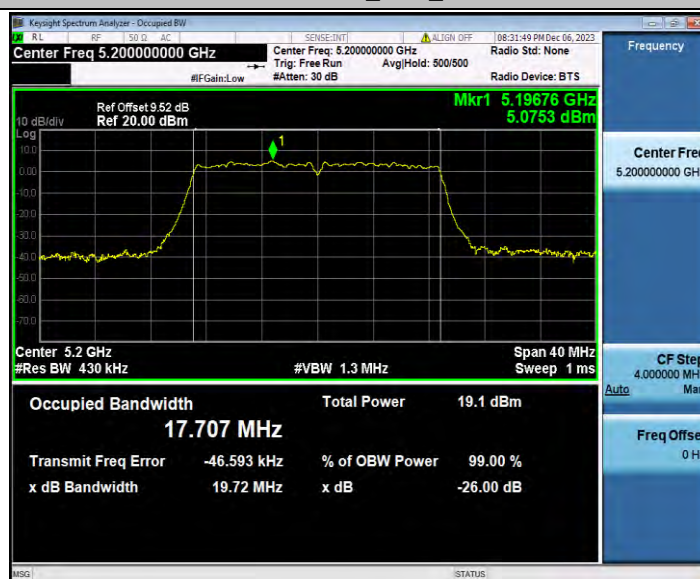
11N40SISO_Ant3_5190



11N40SISO_Ant3_5230



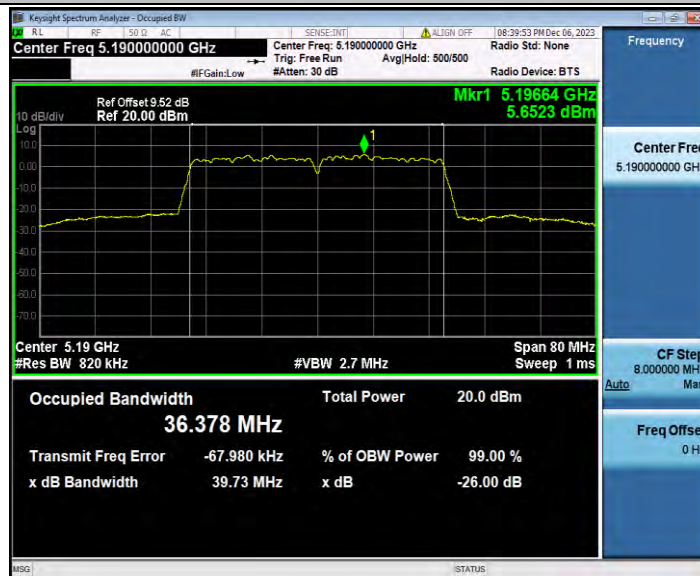
11AC20SISO_Ant3_5180



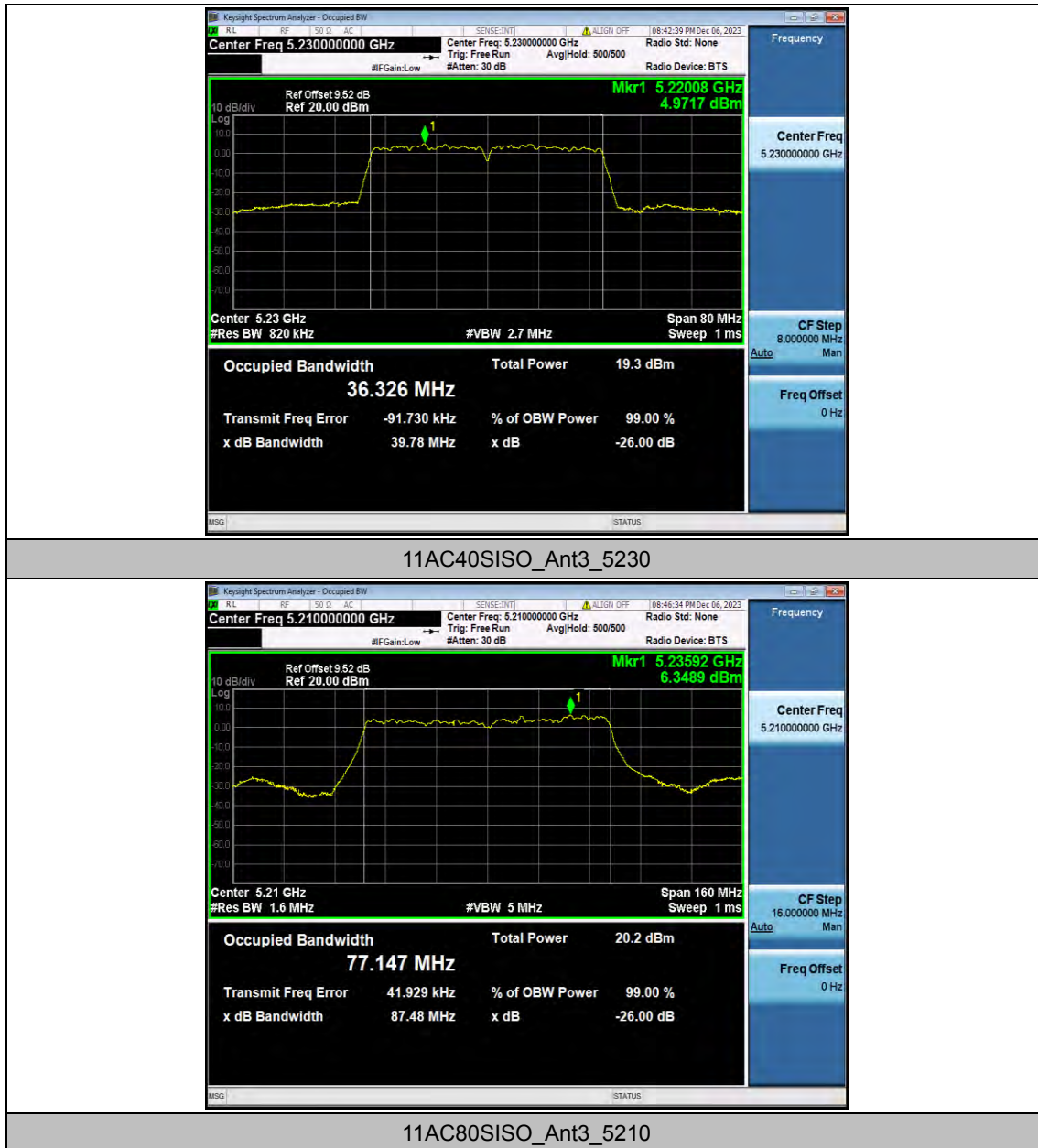
11AC20SISO_Ant3_5200



11AC20SISO_Ant3_5240



11AC40SISO_Ant3_5190



Appendix D.3: Duty Cycle

Test Result

Test Mode	Antenna	Frequency[MHz]	Transmission Duration [ms]	Transmission Period [ms]	Duty Cycle [%]
11A	Ant3	5180	0.17	0.18	94.44
		5200	0.17	0.18	94.44
		5240	0.17	0.18	94.44
11N20SISO	Ant3	5180	0.16	0.17	94.12
		5200	0.15	0.16	93.75
		5240	0.16	0.17	94.12
11N40SISO	Ant3	5190	0.10	0.10	100.00
		5230	0.10	0.11	90.91
11AC20SISO	Ant3	5180	0.14	0.15	93.33
		5200	0.14	0.15	93.33
		5240	0.14	0.15	93.33
11AC40SISO	Ant3	5190	0.09	0.10	90.00
		5230	0.10	0.10	100.00
11AC80SISO	Ant3	5210	0.07	0.08	87.50

Keysight Spectrum Analyzer - Swept SA

Center Freq 5.180000000 GHz

Trig Delay: 200.0 μ s

#Avg Type: RMS

08:14:37 PM Dec 06, 2023

Ref Offset 9.51 dB

Ref 30.00 dBm

Δ Mkr3 170.0 μ s

2.06 dB

10 dB/div

20.0

10.0

0.0

-10.0

-20.0

-30.0

-40.0

-50.0

-60.0

Center 5.180000000 GHz

Res BW 8 MHz

#VBW 8.0 MHz*

Span 0 Hz

Sweep 10.13 ms (8000 pts)

NR	MODE	TRC	SCL	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE
1	N	1	t		9.160 ms	7.30 dBm		
2	Δ 1	1	t (A)		160.0 μ s (A)	0.40 dB		
3	Δ 1	1	t (A)		170.0 μ s (A)	2.06 dB		
4								
5								
6								
7								
8								
9								
10								
11								

Frequency

Auto Tune

Center Freq
5.180000000 GHz

Start Freq
5.180000000 GHz

Stop Freq
5.180000000 GHz

CF Step
8.000000 MHz

Man

Freq Offset
0 Hz

MSG

STATUS

Keysight Spectrum Analyzer - Swept SA

ALL F0.000000000 Hz SENSE:INT1 ALIGN:OFF 08:17:22 PM Dec 06, 2023

Center Freq 5.200000000 GHz Trg Delay: 200.0 μ s #Avg Type: RMS TRACE 1 2 3 4 5

PNO: Fast Trg: Video TYPE W W W W W W W W

IFGain: Low #Atten: 40 dB DET A A A A A A A

Ref Offset 9.52 dB Δ Mkr3 160.0 μ s

Ref 30.00 dBm -43.91 dB

10 dB/div Log

20.0

10.0

0.0

-10.0

-20.0

-30.0

-40.0

-50.0

-60.0

Center 5.200000000 GHz Span 0 Hz

Res BW 8 MHz #VBW 8.0 MHz* Sweep 10.13 ms (8000 pts)

MNR	MODE	TRC	SCL	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE
1	N	1	t	9.340 ms	9.79 dBm			
2	Δ 1	1	t	160.0 μ s	-2.18 dB			
3	Δ 1	1	t	160.0 μ s	-43.91 dB			
4								
5								
6								
7								
8								
9								
10								
11								

MSG STATUS

Frequency

Auto Tune

Center Freq 5.200000000 GHz

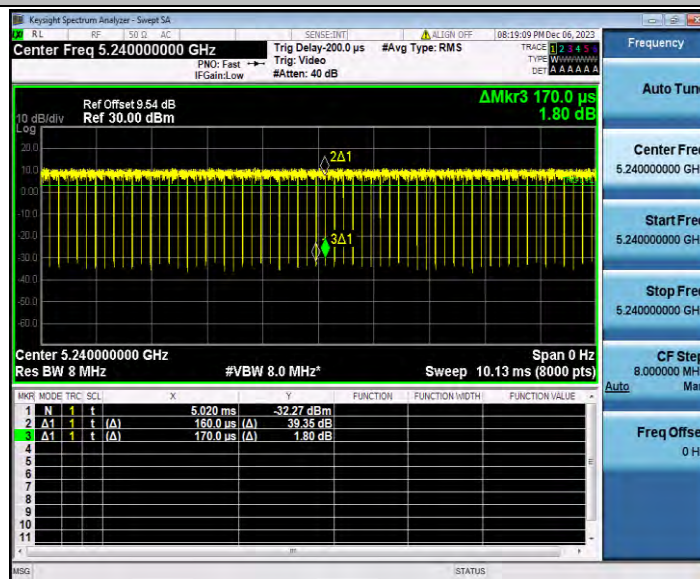
Start Freq 5.200000000 GHz

Stop Freq 5.200000000 GHz

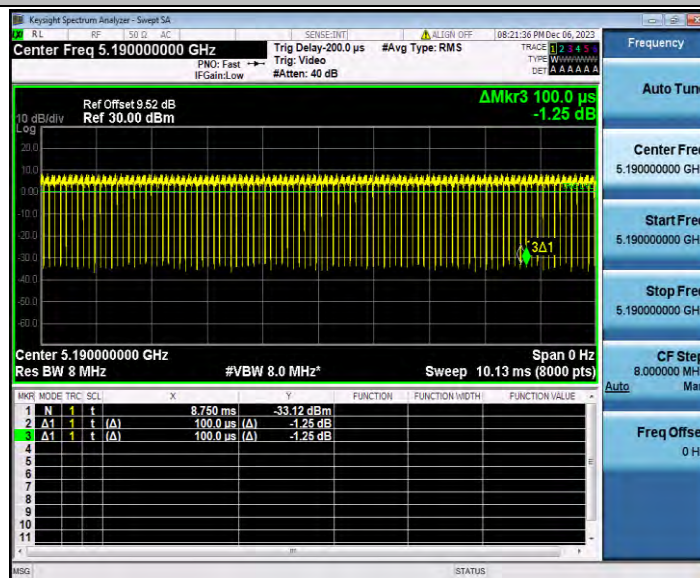
CF Step 8.000000 MHz Man

Freq Offset 0 Hz

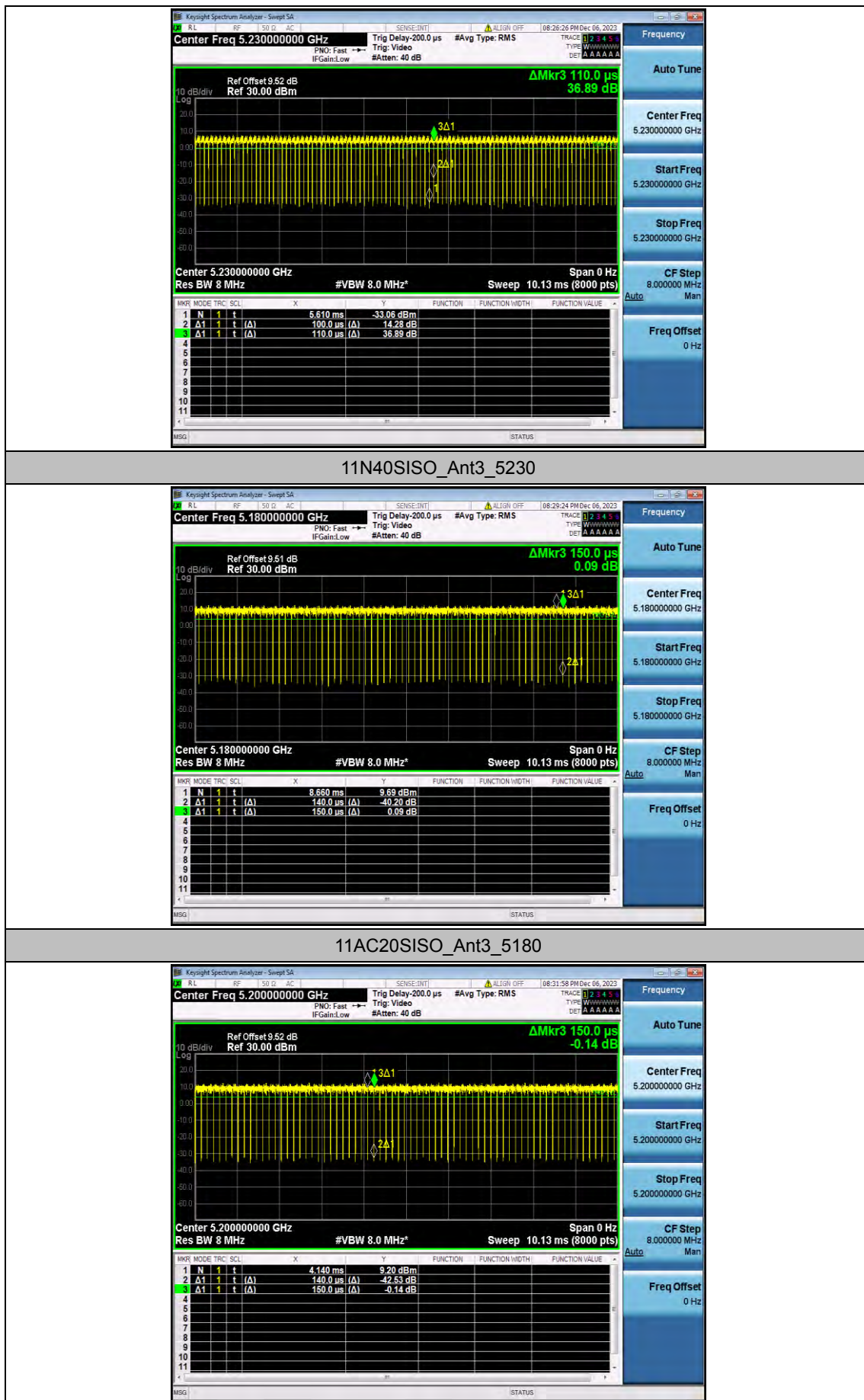
11N20SISO_Ant3_5200



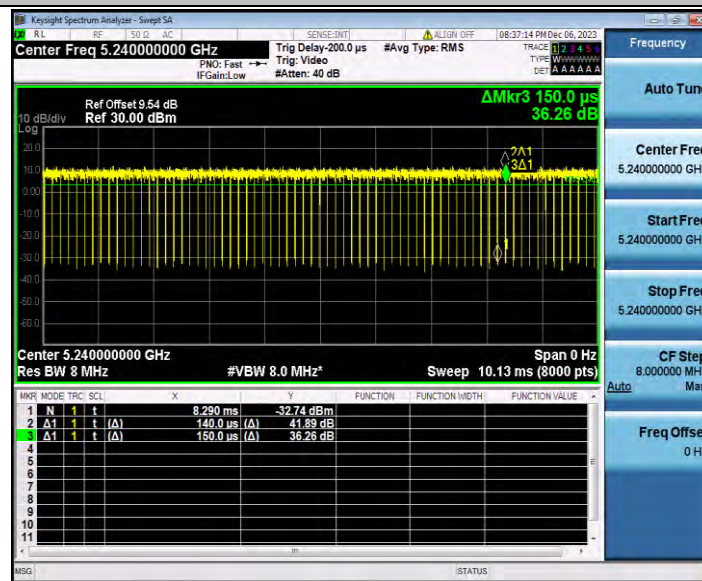
11N20SISO_Ant3_5240



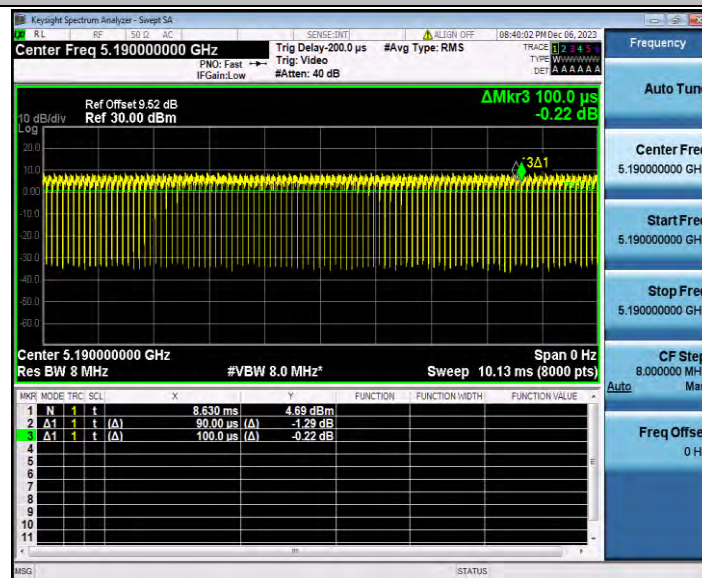
11N40SISO_Ant3_5190



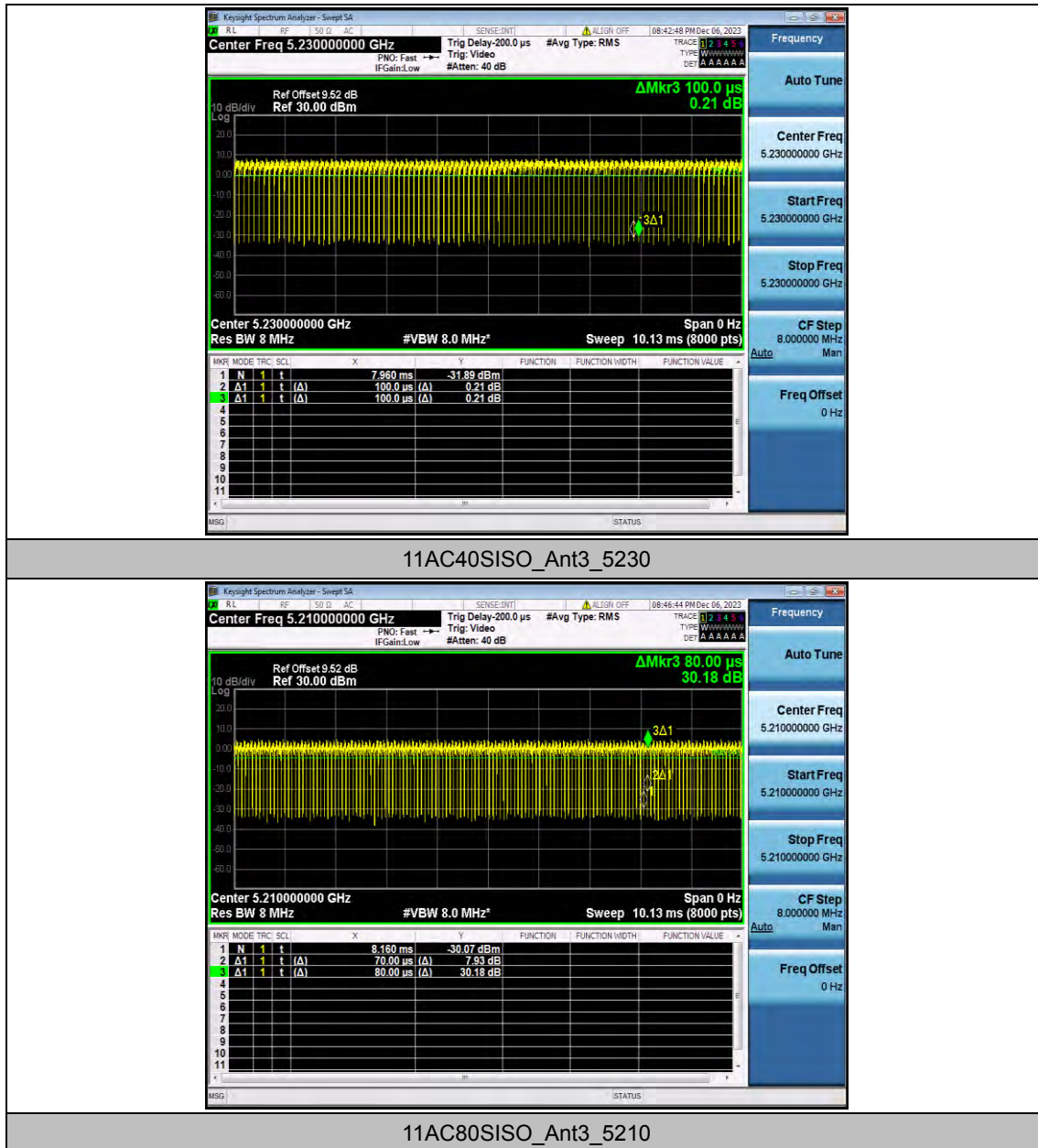
11AC20SISO_Ant3_5200



11AC20SISO_Ant3_5240



11AC40SISO_Ant3_5190



Appendix D.4: Maximum conducted output power

Test Result Channel Power

Test Mode	Antenna	Frequency[MHz]	Channel Power [dBm]	Duty Cycle [%]	DC Factor [dBm]	Result [dBm]	Limit [dBm]	Verdict
11A	Ant3	5180	12.63	94.44	0.25	12.88	≤23.98	PASS
		5200	12.60	94.44	0.25	12.85	≤23.98	PASS
		5240	11.71	94.44	0.25	11.96	≤23.98	PASS
11N20SISO	Ant3	5180	12.64	94.12	0.26	12.90	≤23.98	PASS
		5200	12.54	93.75	0.28	12.82	≤23.98	PASS
		5240	11.61	94.12	0.26	11.87	≤23.98	PASS
11N40SISO	Ant3	5190	12.30	100.00	0.00	12.30	≤23.98	PASS
		5230	11.63	90.91	0.41	12.04	≤23.98	PASS
11AC20SISO	Ant3	5180	12.60	93.33	0.30	12.90	≤23.98	PASS
		5200	12.52	93.33	0.30	12.82	≤23.98	PASS
		5240	11.75	93.33	0.30	12.05	≤23.98	PASS
11AC40SISO	Ant3	5190	12.44	90.00	0.46	12.90	≤23.98	PASS
		5230	11.74	100.00	0.00	11.74	≤23.98	PASS
11AC80SISO	Ant3	5210	12.11	87.50	0.58	12.69	≤23.98	PASS

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

Appendix D.5: Maximum power spectral density

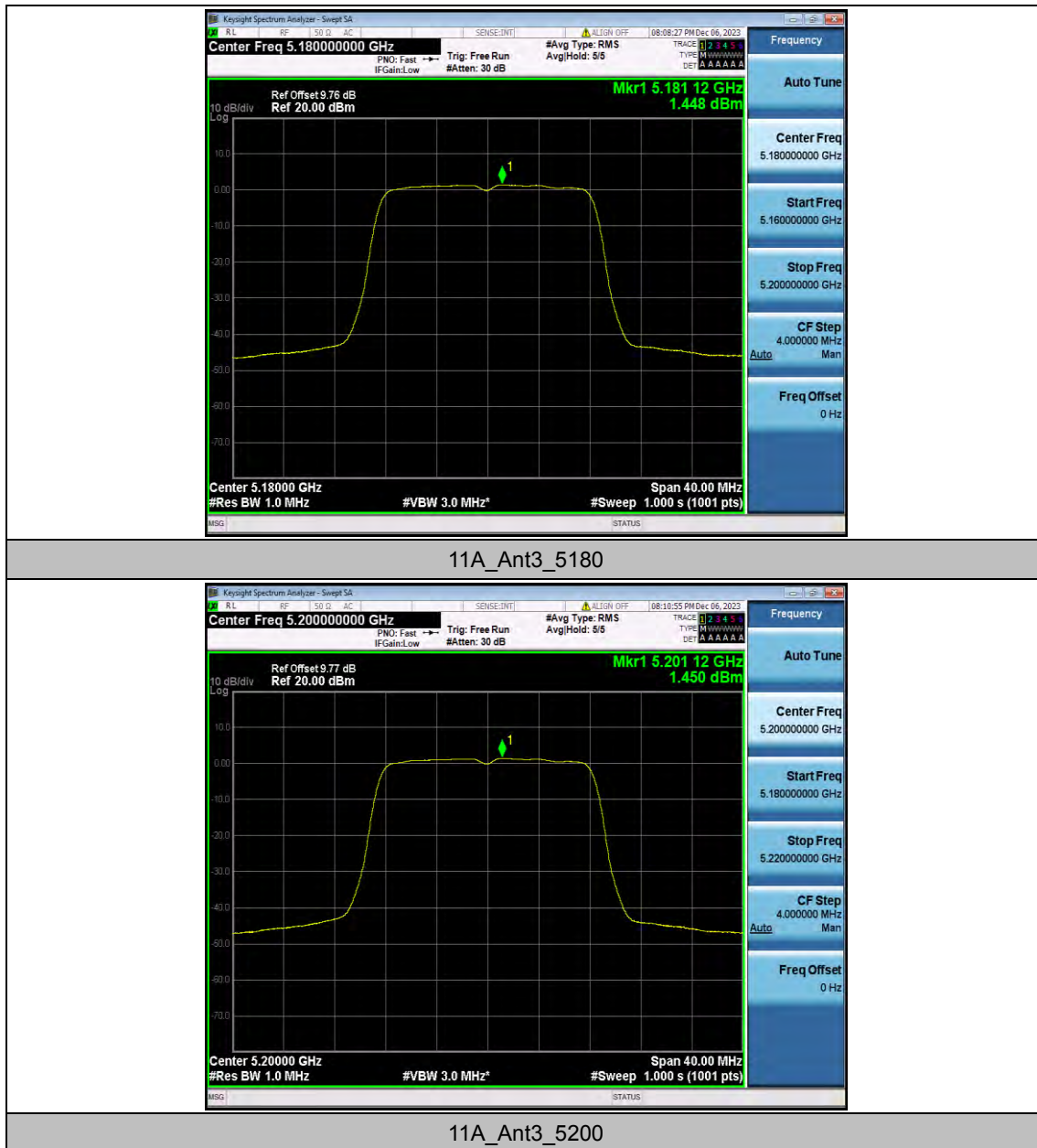
Test Result

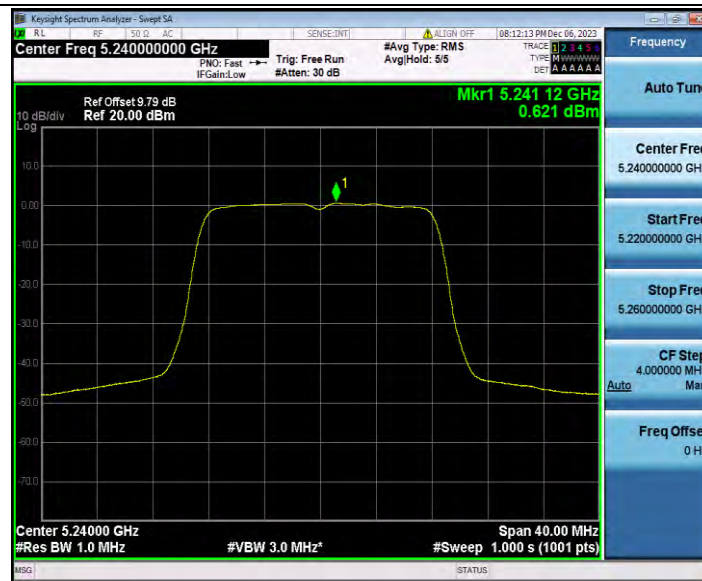
Test Mode	Antenna	Frequency[MHz]	Result [dBm/MHz]	Limit[dBm/MHz]	Verdict
11A	Ant3	5180	1.45	≤11.00	PASS
		5200	1.45	≤11.00	PASS
		5240	0.62	≤11.00	PASS
11N20SISO	Ant3	5180	1.32	≤11.00	PASS
		5200	1.32	≤11.00	PASS
		5240	0.43	≤11.00	PASS
11N40SISO	Ant3	5190	-2.08	≤11.00	PASS
		5230	-2.34	≤11.00	PASS
11AC20SISO	Ant3	5180	1.42	≤11.00	PASS
		5200	1.39	≤11.00	PASS
		5240	0.69	≤11.00	PASS
11AC40SISO	Ant3	5190	-1.19	≤11.00	PASS
		5230	-2.18	≤11.00	PASS
11AC80SISO	Ant3	5210	-3.7	≤11.00	PASS

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

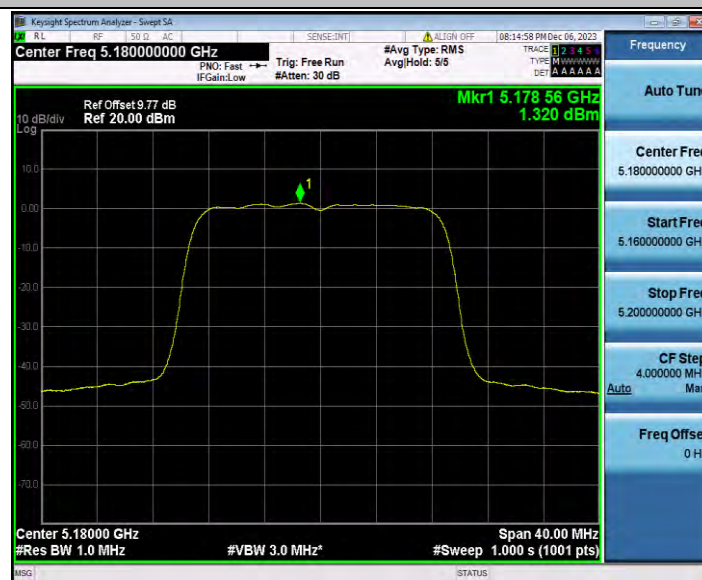
2.The Duty Cycle Factor and RBW Factor is compensated in the graph.

Test Graphs

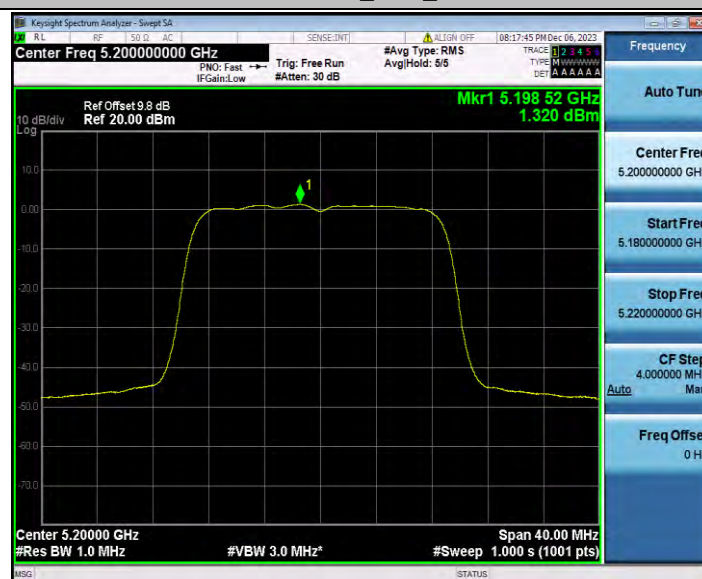




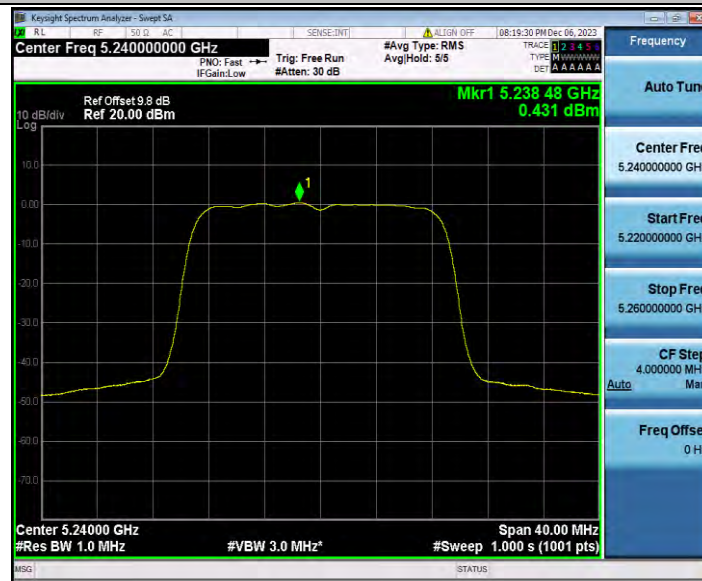
11A_Ant3_5240



11N20SISO_Ant3_5180



11N20SISO_Ant3_5200



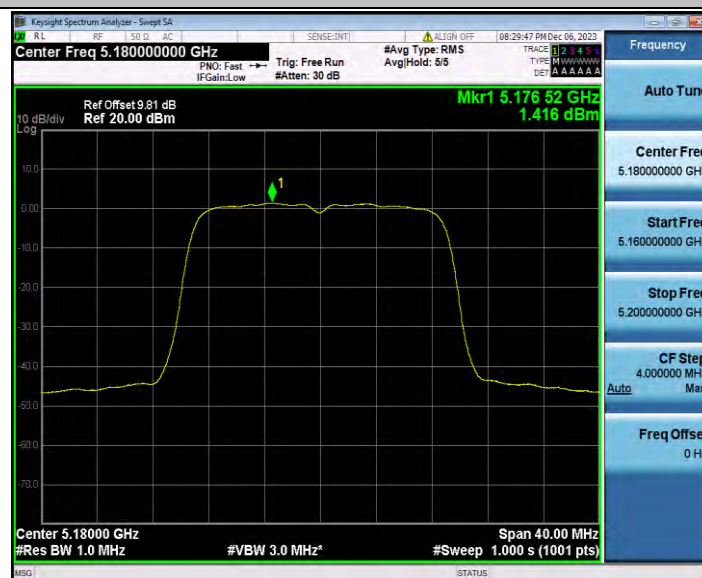
11N20SISO_Ant3_5240



11N40SISO_Ant3_5190



11N40SISO_Ant3_5230



11AC20SISO_Ant3_5180



11AC20SISO_Ant3_5200



11AC20SISO_Ant3_5240



11AC40SISO_Ant3_5190



11AC40SISO_Ant3_5230



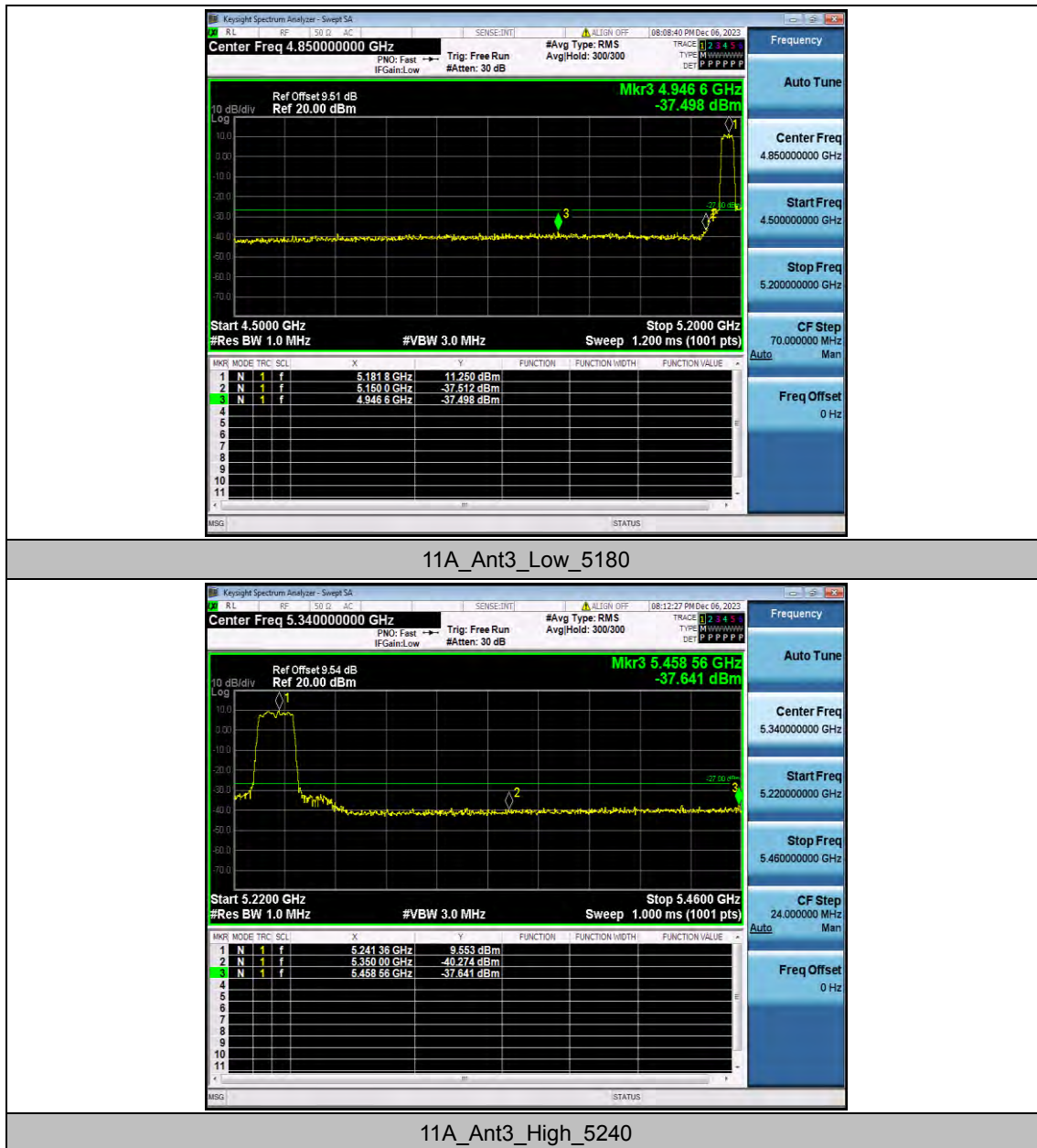
11AC80SISO_Ant3_5210

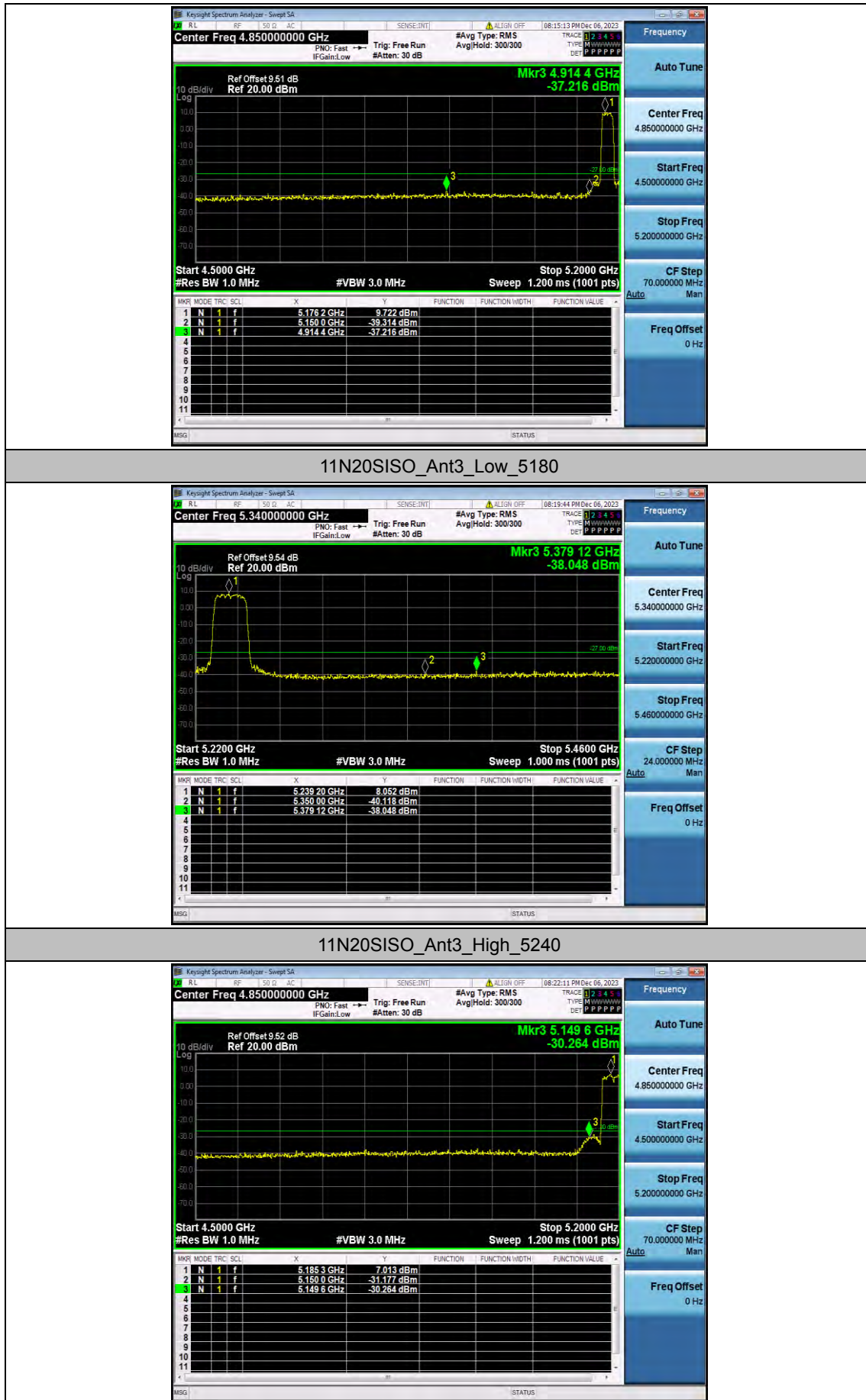
Appendix D.6: Band edge measurements

Test Result B1

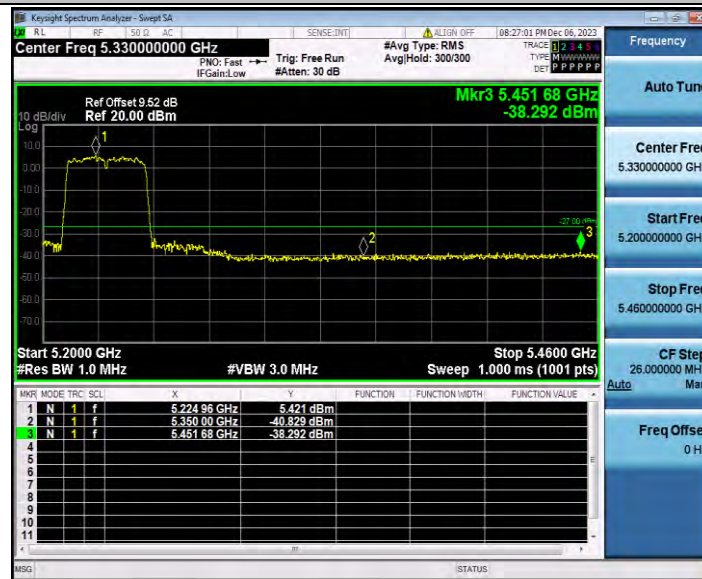
Test Mode	Antenna	ChName	Frequency[MHz]	Result[dBm]	Limit[dBm]	Verdict
11A	Ant3	Low	5180	-37.5	≤ -27	PASS
		High	5240	-37.64	≤ -27	PASS
11N20SISO	Ant3	Low	5180	-37.22	≤ -27	PASS
		High	5240	-38.05	≤ -27	PASS
11N40SISO	Ant3	Low	5190	-30.26	≤ -27	PASS
		High	5230	-38.29	≤ -27	PASS
11AC20SISO	Ant3	Low	5180	-36.54	≤ -27	PASS
		High	5240	-37.52	≤ -27	PASS
11AC40SISO	Ant3	Low	5190	-36.89	≤ -27	PASS
		High	5230	-37.51	≤ -27	PASS
11AC80SISO	Ant3	Low	5210	-28.43	≤ -27	PASS
		High	5210	-35.93	≤ -27	PASS

Test Graphs B1

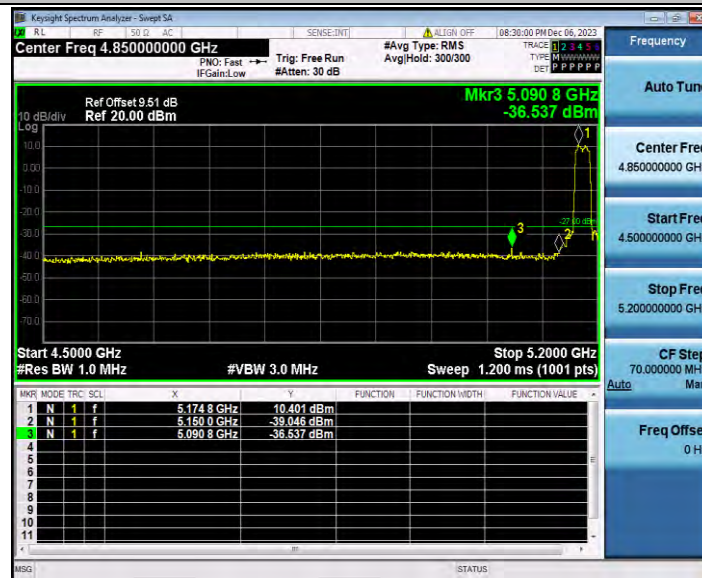




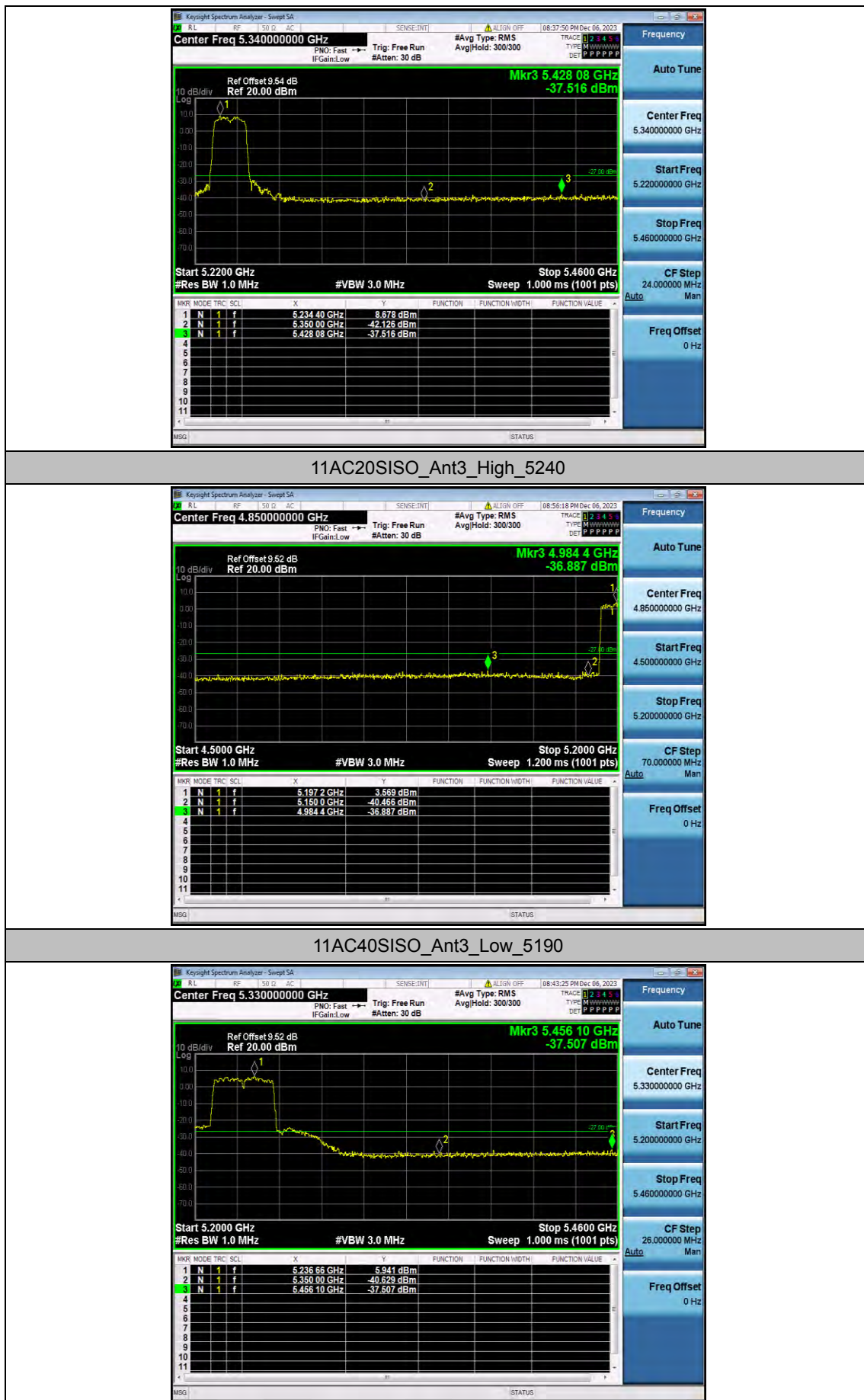
11N40SISO_Ant3_Low_5190



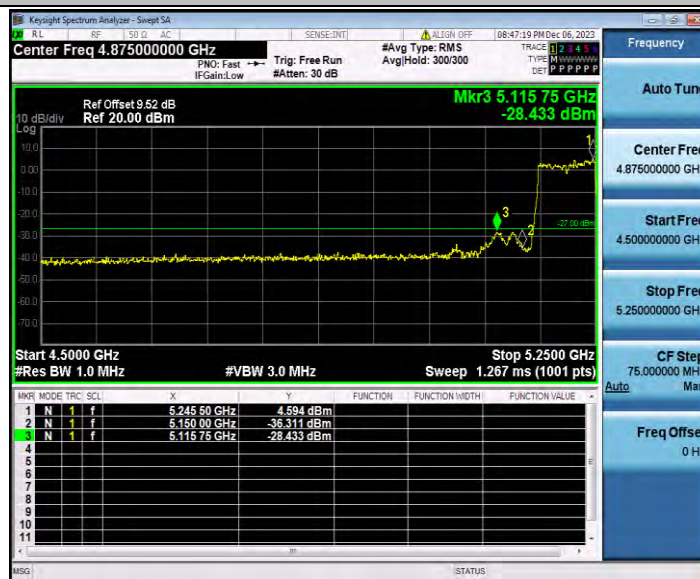
11N40SISO_Ant3_High_5230



11AC20SISO_Ant3_Low_5180



11AC40SISO_Ant3_High_5230



11AC80SISO_Ant3_Low_5210



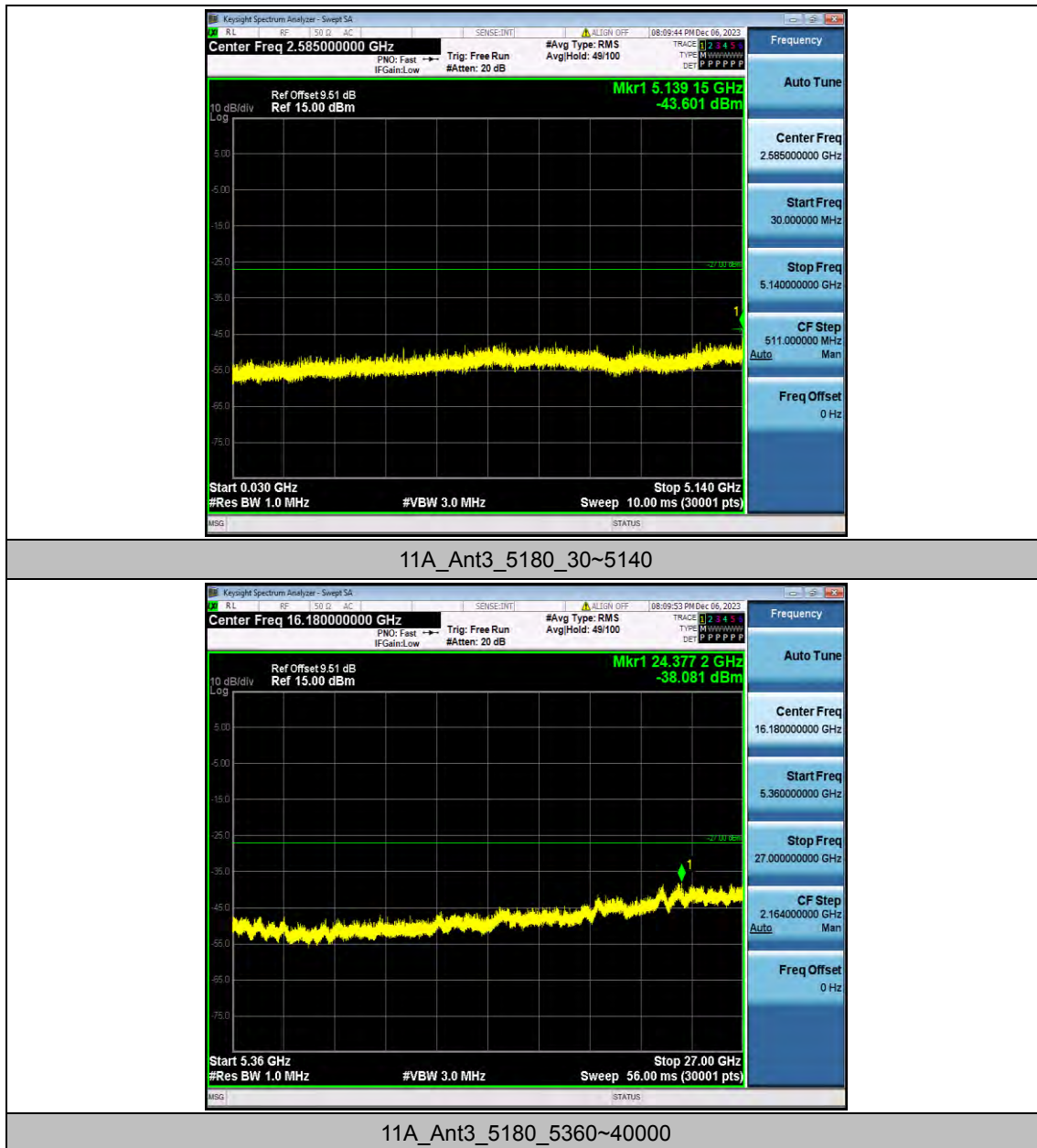
11AC80SISO_Ant3_High_5210

Appendix D.7: Conducted Spurious Emission

Test Result

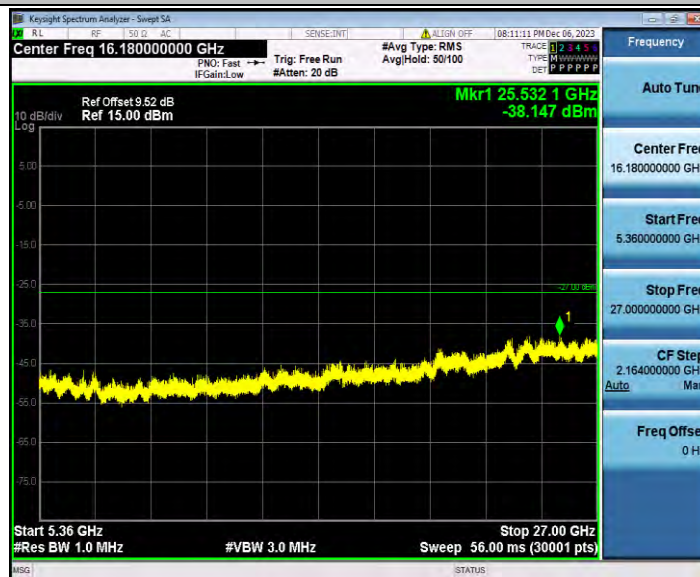
Test Mode	Antenna	Frequency[MHz]	FreqRange [MHz]	Max. Fre [MHz]	Max. Level [dBm]	Limit [dBm]	Verdict
11A	Ant3	5180	30~5140	5139.15	-43.6	≤-27	PASS
			5360~40000	24377.23	-38.08	≤-27	PASS
		5200	30~5140	2654.16	-45.94	≤-27	PASS
			5360~40000	25532.09	-38.15	≤-27	PASS
		5240	30~5140	910.62	-44.84	≤-27	PASS
			5360~40000	26472.71	-37.12	≤-27	PASS
11N20SISO	Ant3	5180	30~5140	5132.16	-46.09	≤-27	PASS
			5360~40000	24259.65	-38.17	≤-27	PASS
		5200	30~5140	4893.87	-46.27	≤-27	PASS
			5360~40000	25987.97	-37.56	≤-27	PASS
		5240	30~5140	910.79	-46.7	≤-27	PASS
			5360~40000	24286.34	-37.83	≤-27	PASS
11N40SISO	Ant3	5190	30~5140	5140	-36.87	≤-27	PASS
			5360~40000	26939.41	-37.89	≤-27	PASS
		5230	30~5140	911.99	-42.81	≤-27	PASS
			5360~40000	25283.23	-37.59	≤-27	PASS
11AC20SISO	Ant3	5180	30~5140	4936.96	-47.03	≤-27	PASS
			5360~40000	24235.85	-38.1	≤-27	PASS
		5200	30~5140	2661.99	-46.98	≤-27	PASS
			5360~40000	24368.58	-37.68	≤-27	PASS
		5240	30~5140	4900.68	-47.57	≤-27	PASS
			5360~40000	24269.03	-37.33	≤-27	PASS
11AC40SISO	Ant3	5190	30~5140	5140	-34.98	≤-27	PASS
			5360~40000	26578.74	-38.04	≤-27	PASS
		5230	30~5140	4935.6	-46.6	≤-27	PASS
			5360~40000	26086.07	-37.46	≤-27	PASS
11AC80SISO	Ant3	5210	30~5140	5136.59	-29.74	≤-27	PASS
			5360~40000	24271.2	-38.12	≤-27	PASS

Test Graphs

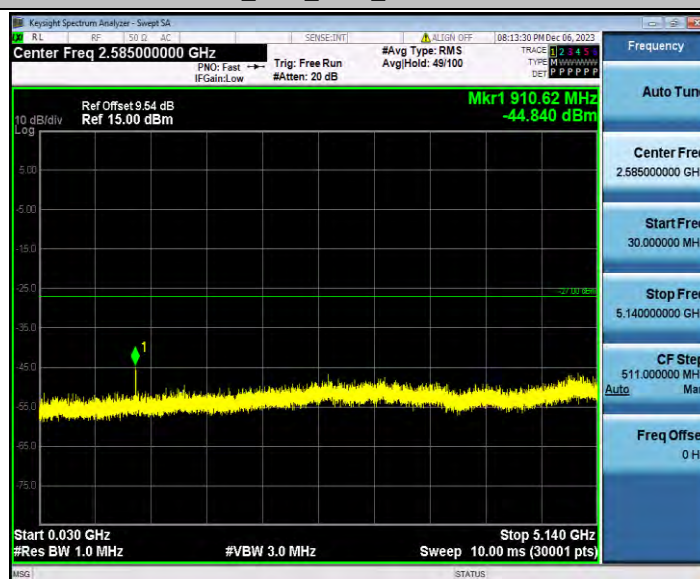




11A_Ant3_5200_30~5140



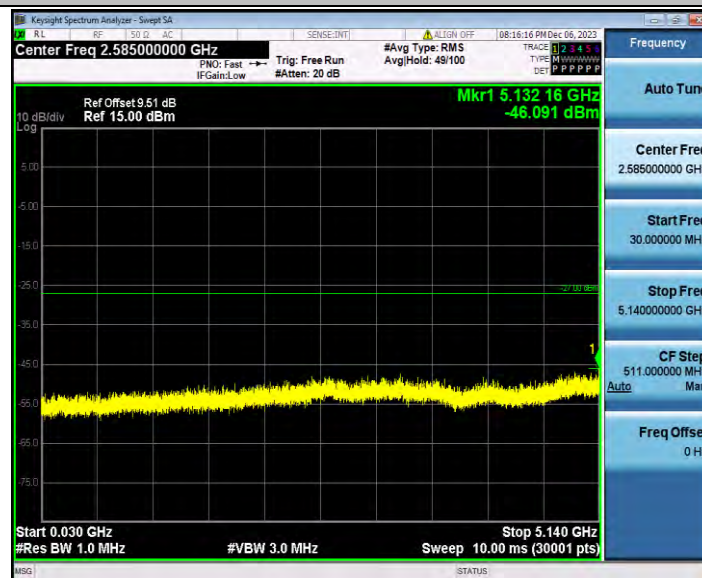
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11A_Ant3_5240_30~5140



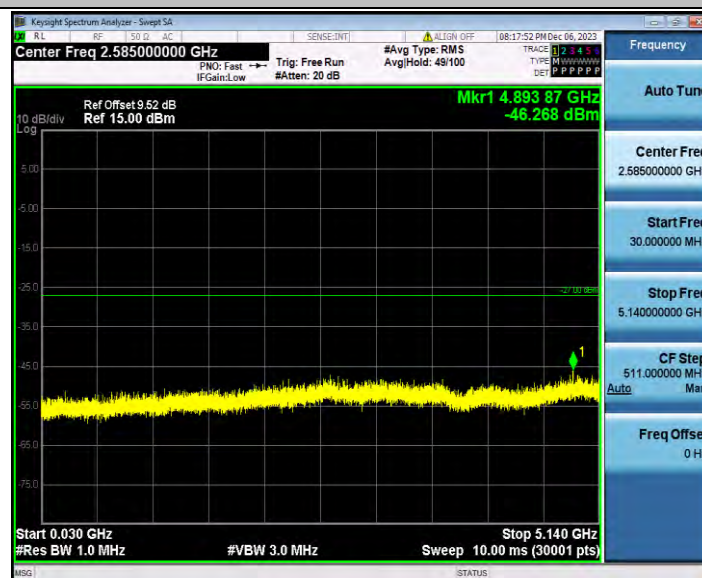
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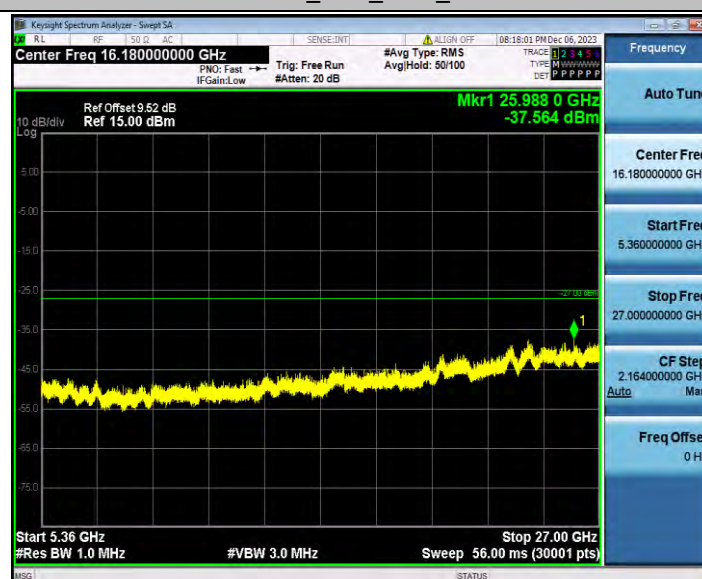
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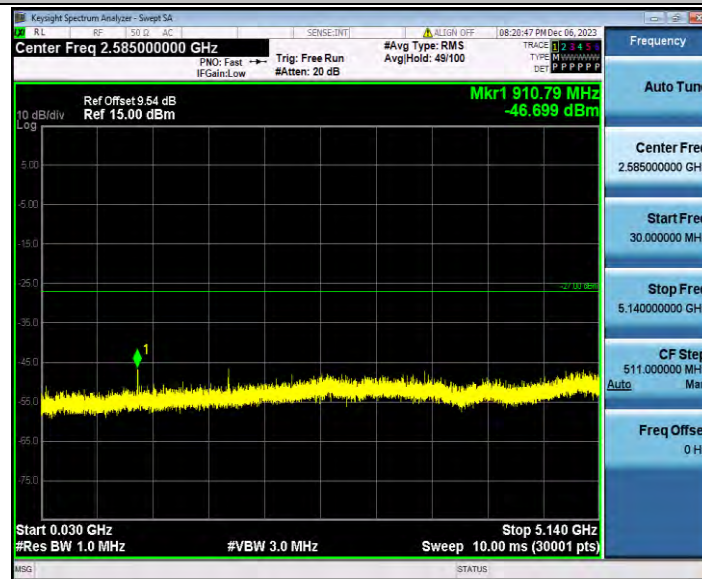
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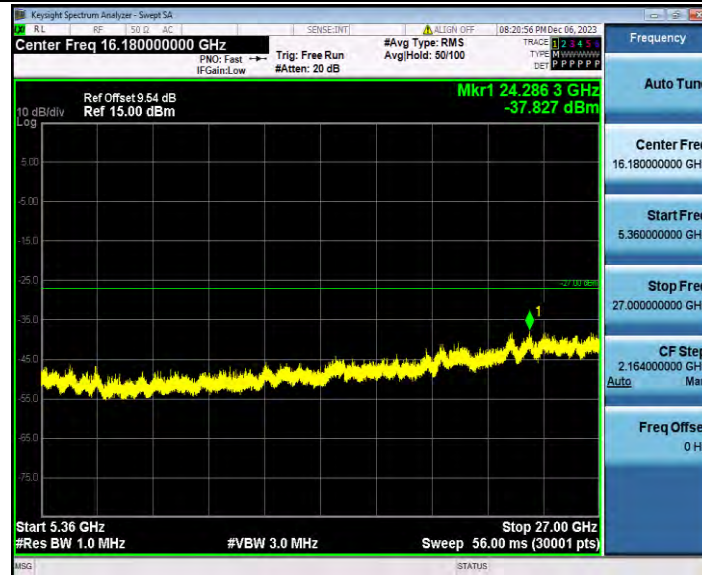
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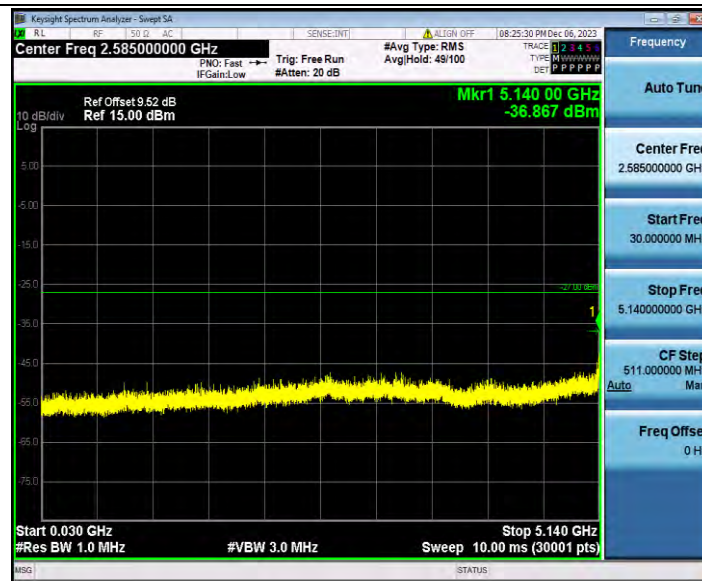
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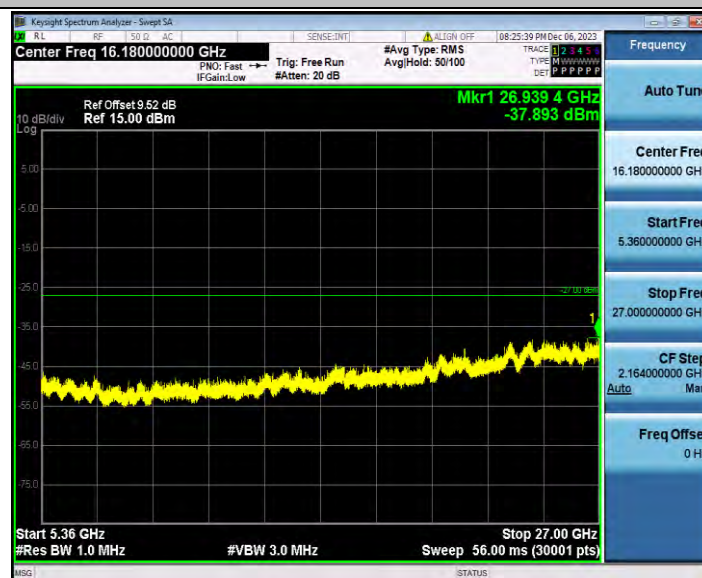
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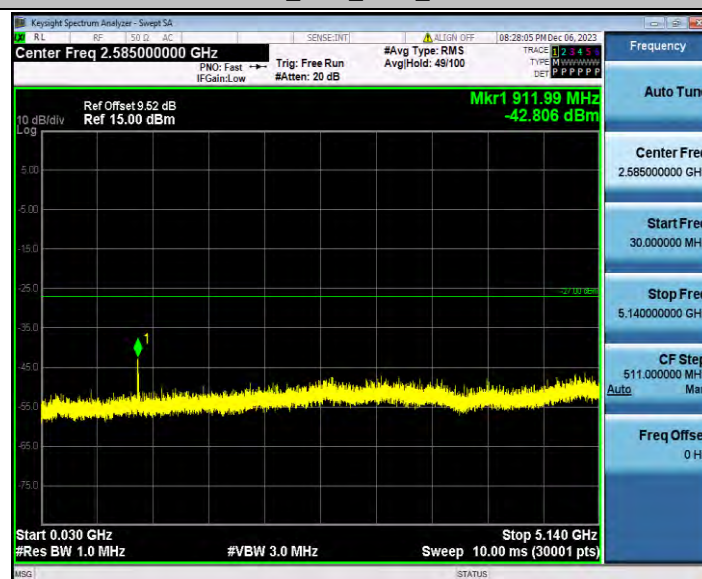
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11N40SISO_Ant3_5190_30~5140



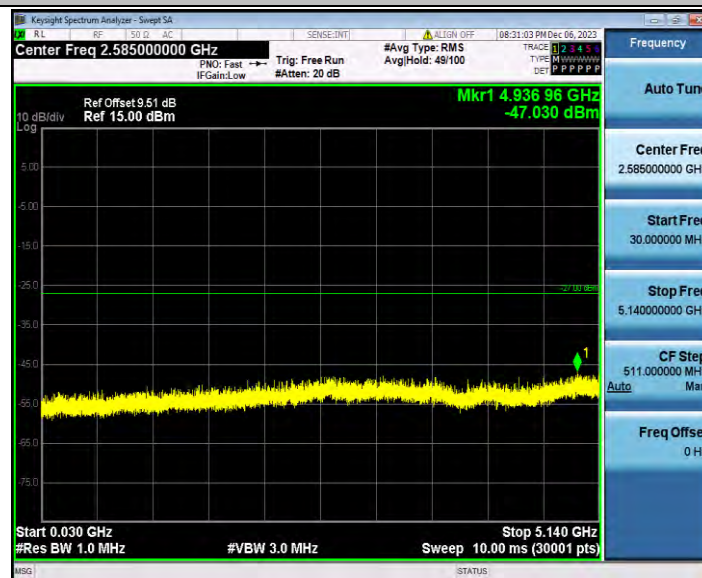
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11N40SISO_Ant3_5230_30~5140



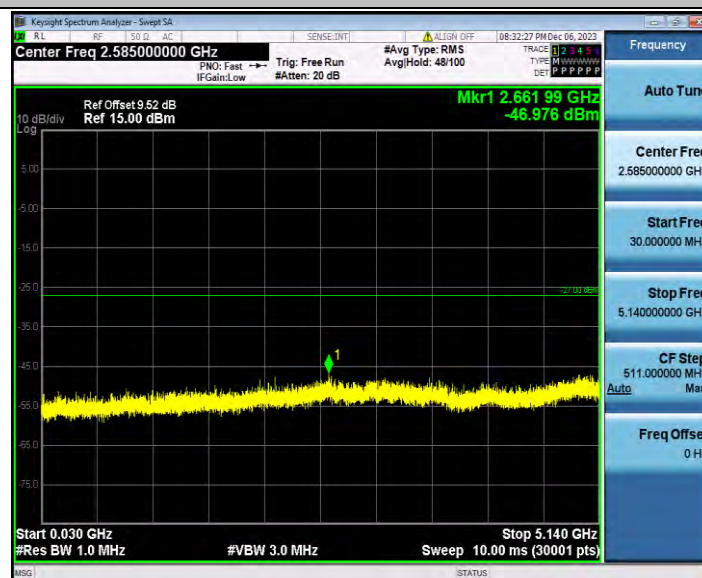
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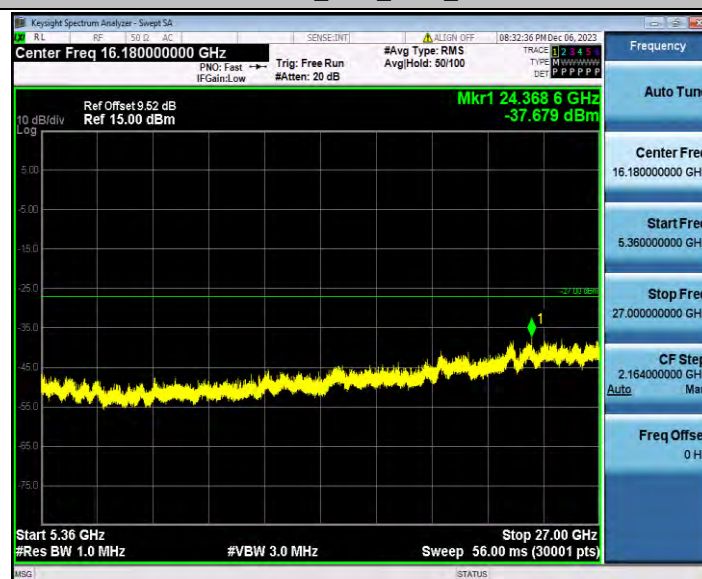
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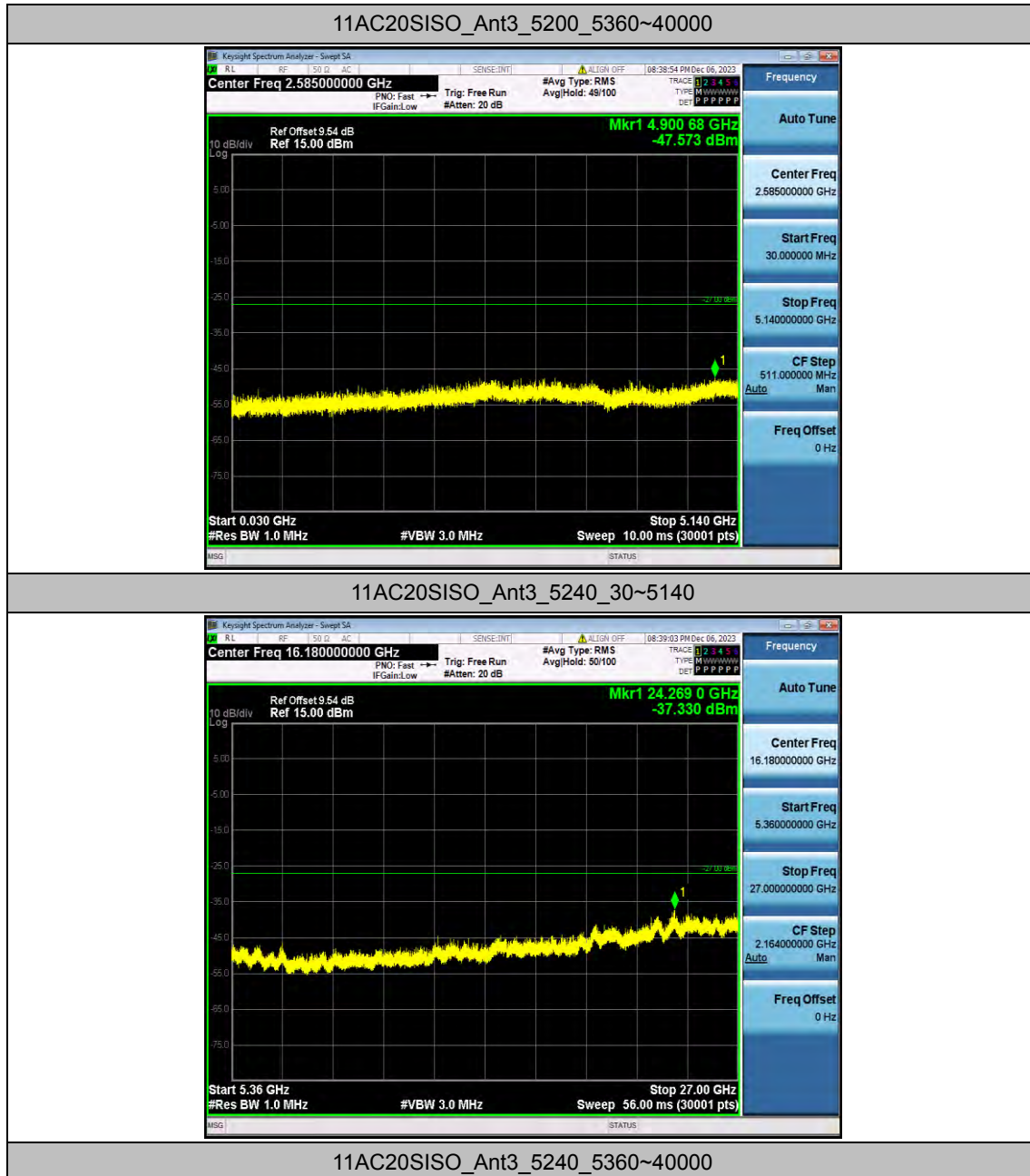


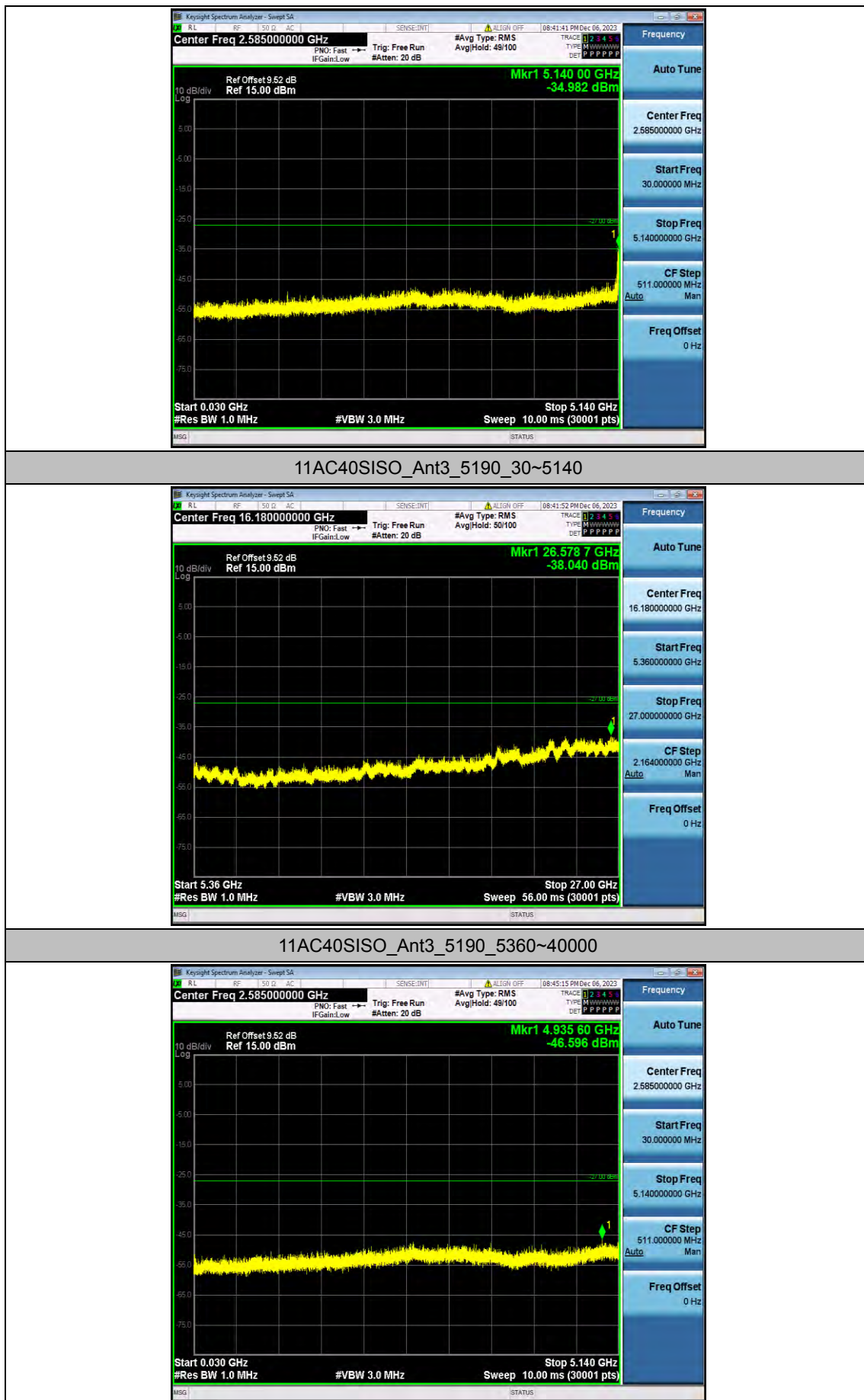
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11AC20SISO_Ant3_5200_30~5140



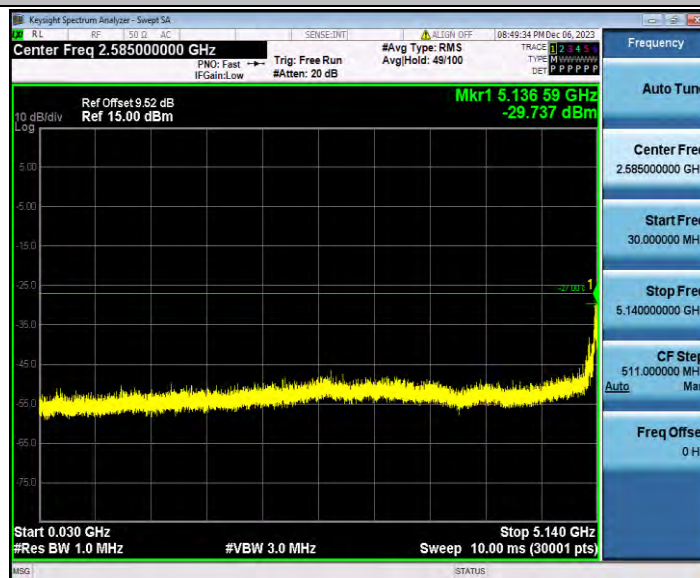




11AC40SISO_Ant3_5230_30~5140



11AC40SISO_Ant3_5230_5360~40000



11AC80SISO_Ant3_5210_30~5140

