

## RF Test Data for RLAN(5.2G) (Conducted Measurement)

Product Name: Smart Gateway

Trade Mark: Dusun

Test Model: DSGW-093

FCC ID: 2AUXBD SGW-093

### Environmental Conditions

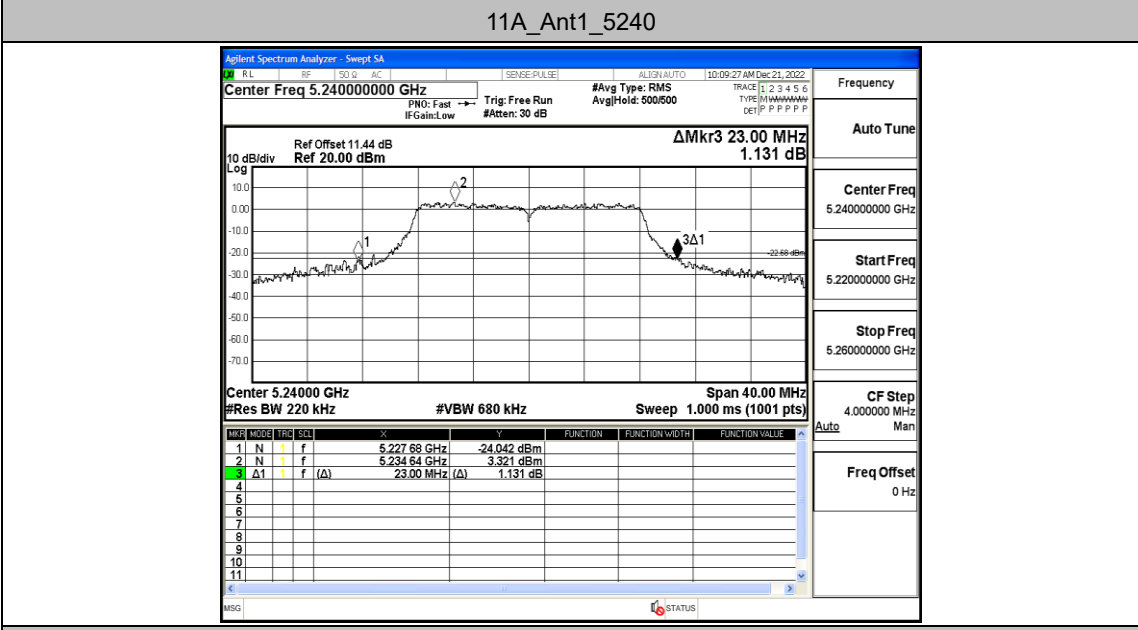
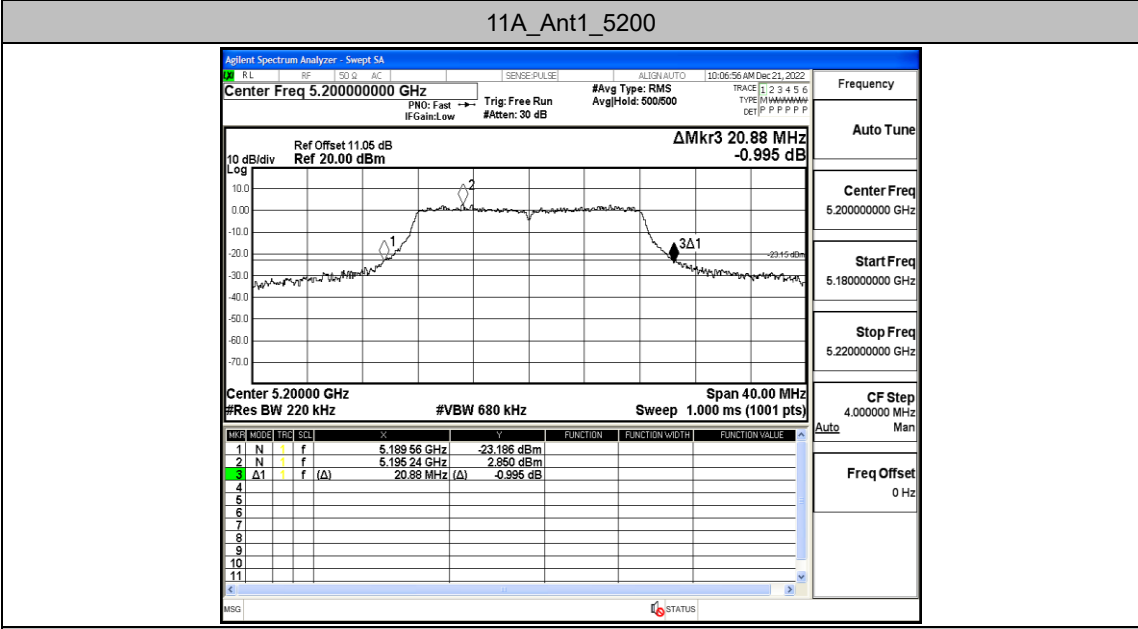
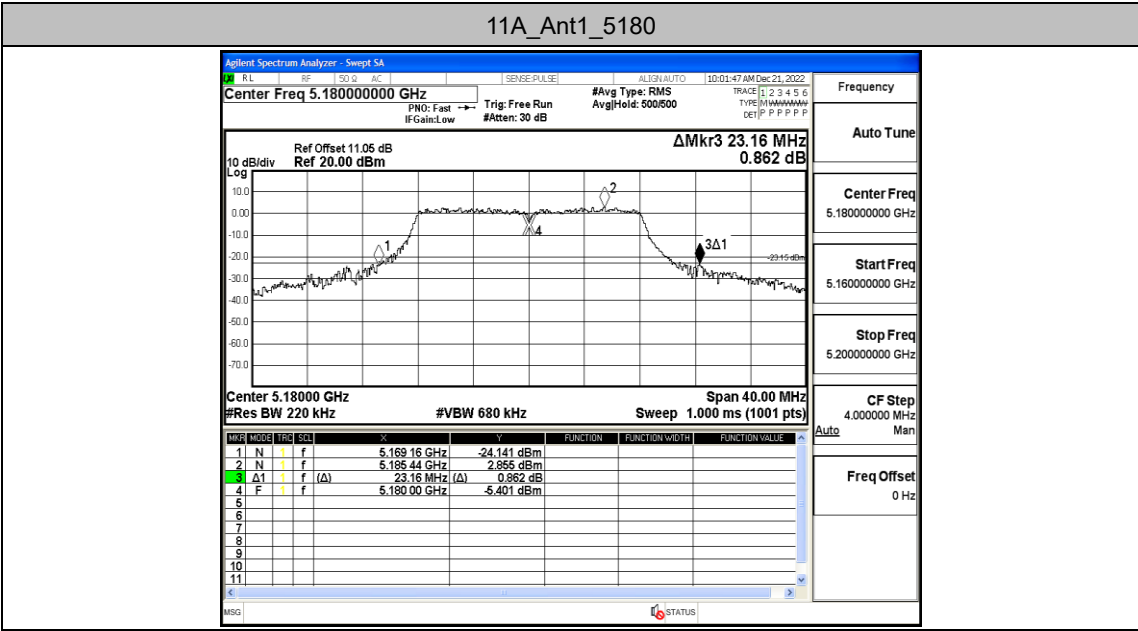
Temperature:	22.7℃
Relative Humidity:	56%
ATM Pressure:	100.0 kPa
Test Engineer:	Anna Hu
Supervised by:	Hugo Chen
NOTE	N/A

## Appendix A1: Emission Bandwidth

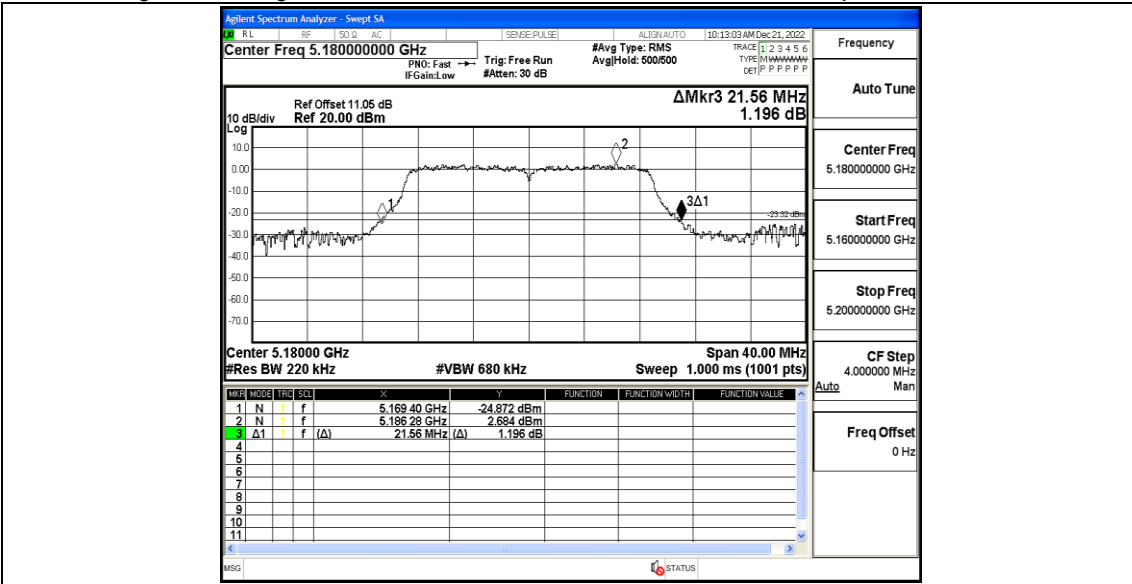
### Test Result

TestMode	Antenna	Channel	26db EBW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
11A	Ant1	5180	23.160	5169.160	5192.320	---	---
		5200	20.880	5189.560	5210.440	---	---
		5240	23.000	5227.680	5250.680	---	---
11N20SISO	Ant1	5180	21.560	5169.400	5190.960	---	---
		5200	21.800	5189.240	5211.040	---	---
		5240	22.040	5228.840	5250.880	---	---
11N40SISO	Ant1	5190	42.400	5169.120	5211.520	---	---
		5230	42.720	5208.640	5251.360	---	---
11AC20SISO	Ant1	5180	21.160	5169.440	5190.600	---	---
		5200	21.520	5189.320	5210.840	---	---
		5240	21.680	5229.120	5250.800	---	---
11AC40SISO	Ant1	5190	41.760	5169.280	5211.040	---	---
		5230	42.000	5209.040	5251.040	---	---
11AC80SISO	Ant1	5210	82.080	5169.360	5251.440	---	---

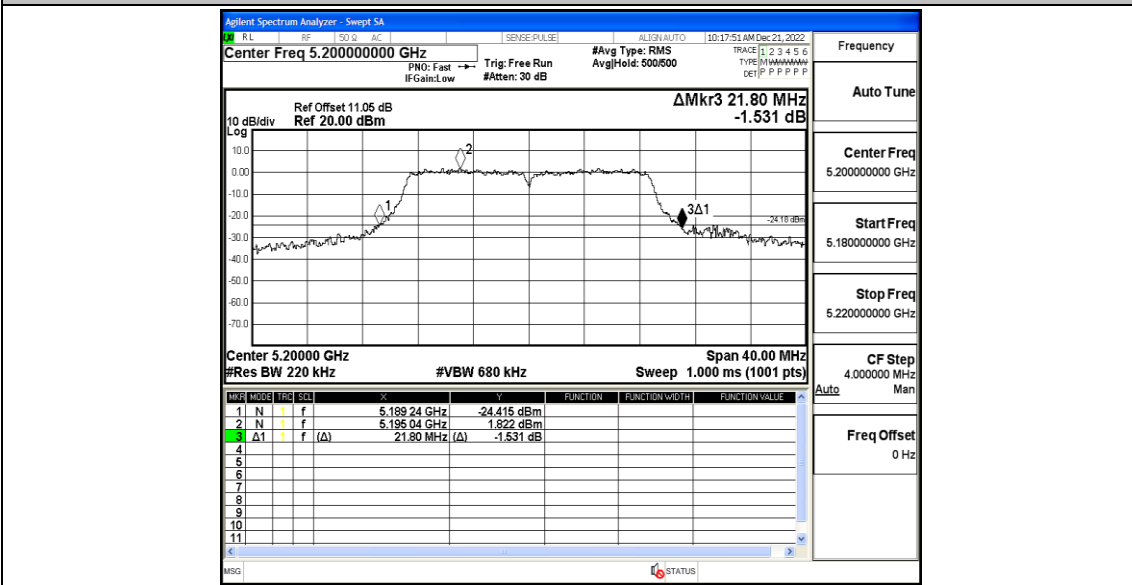
Test Graphs



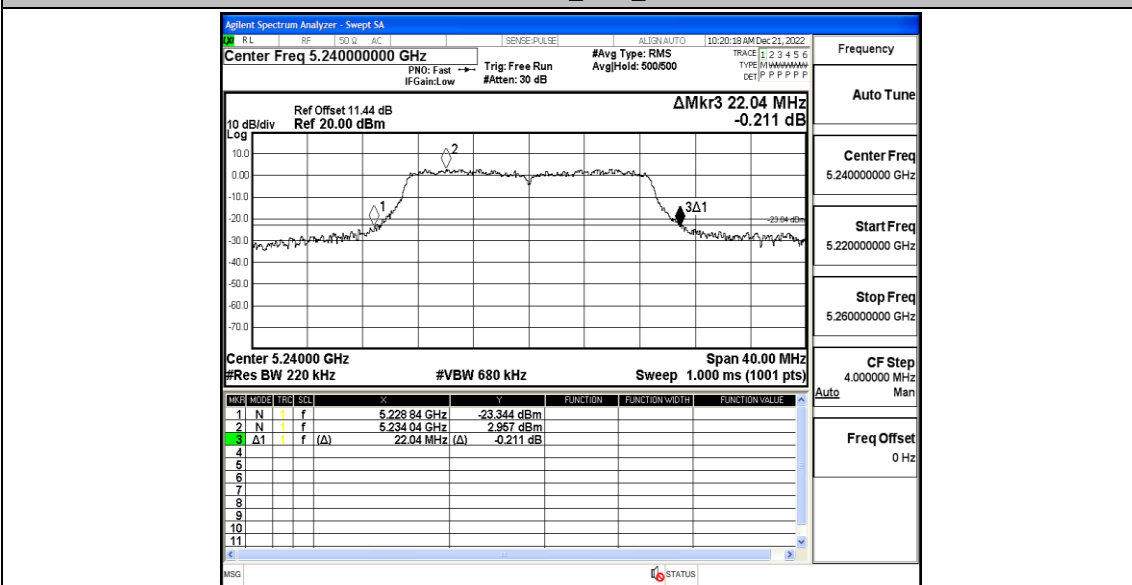
11N20SISO\_Ant1\_5180



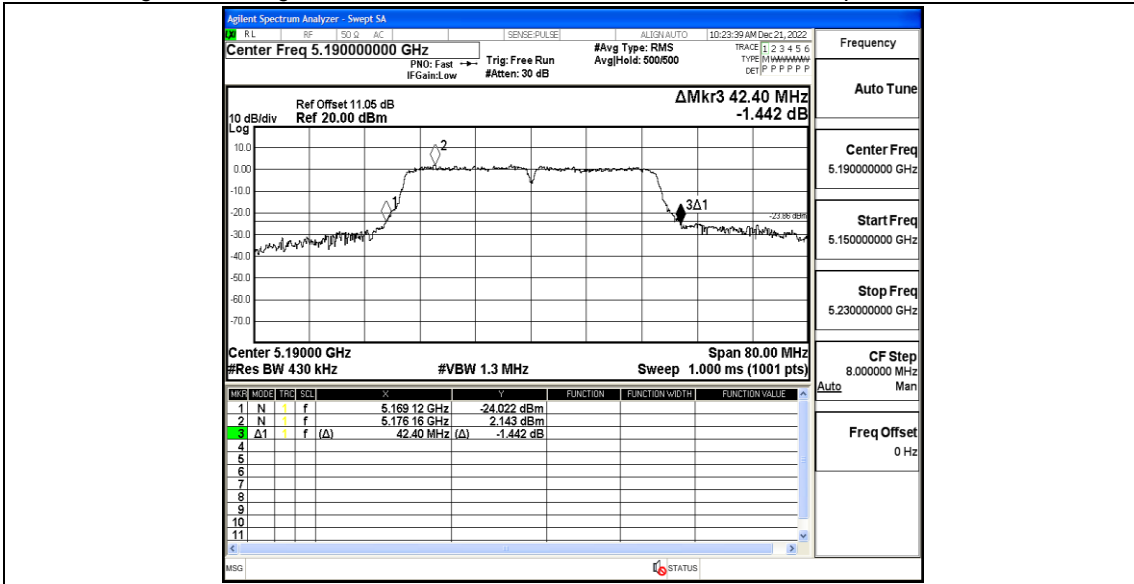
11N20SISO\_Ant1\_5200



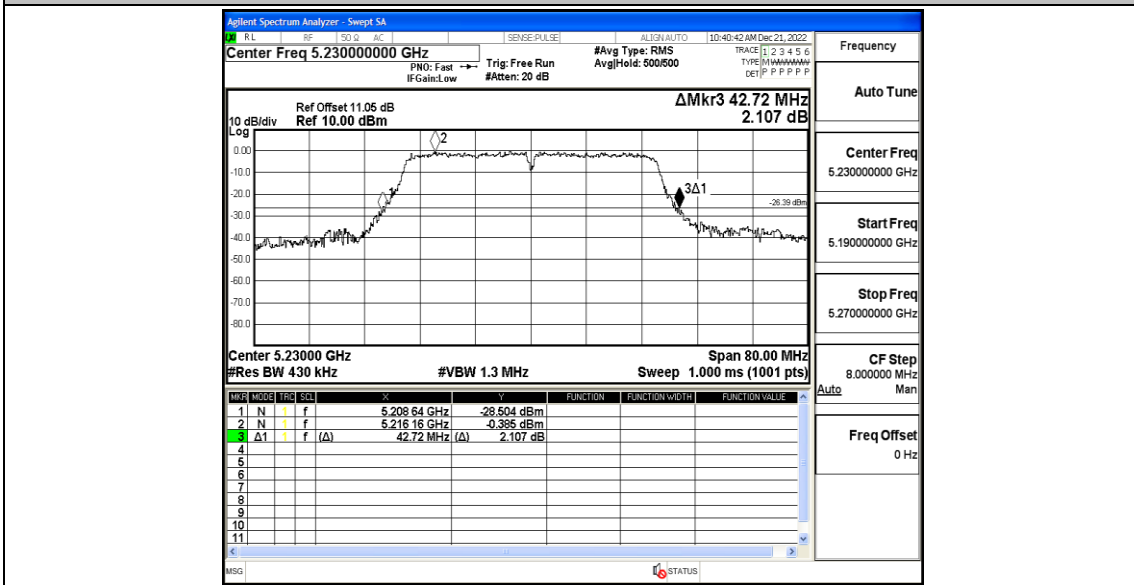
11N20SISO\_Ant1\_5240



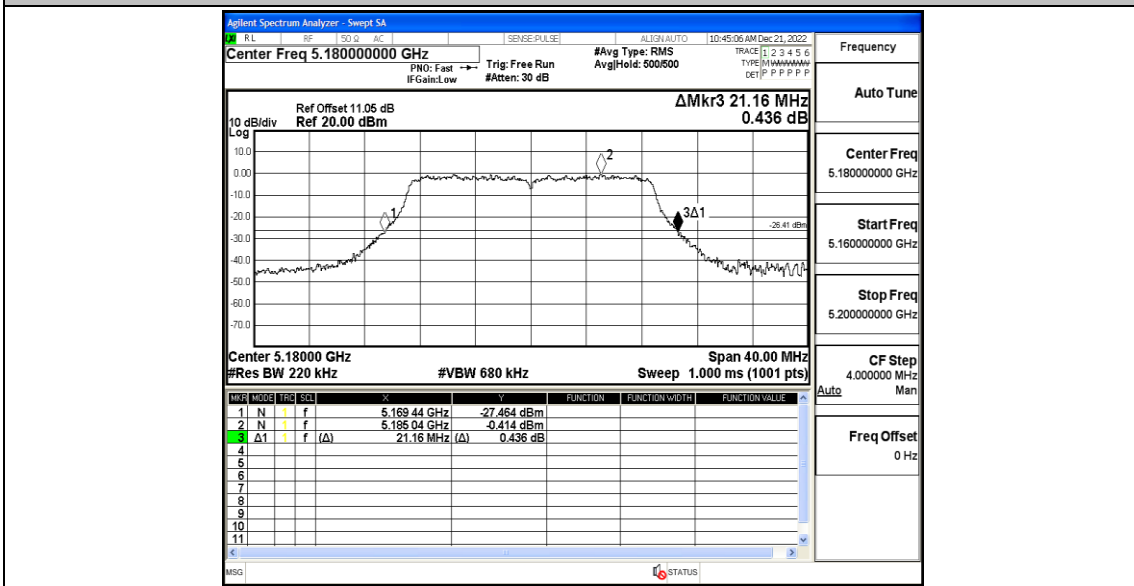
11N40SISO\_Ant1\_5190



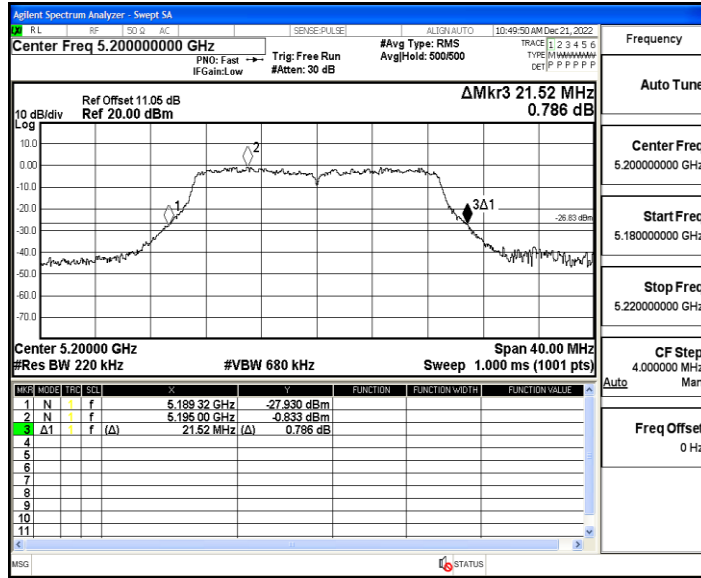
11N40SISO\_Ant1\_5230



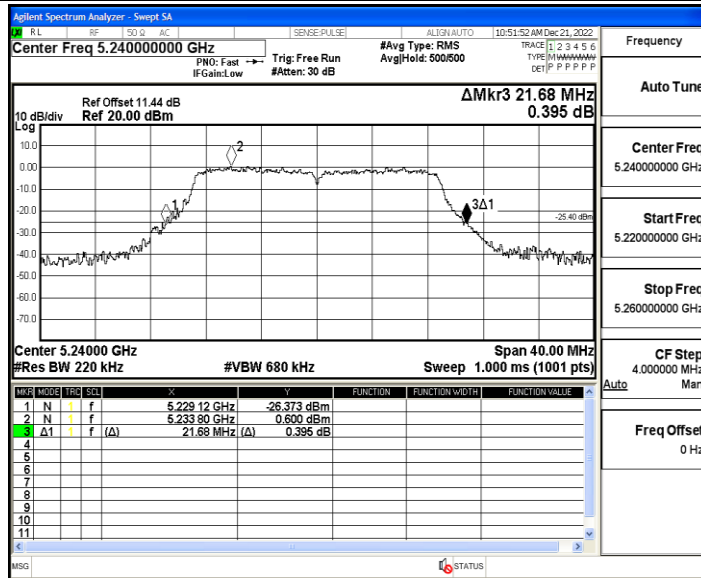
11AC20SISO\_Ant1\_5180



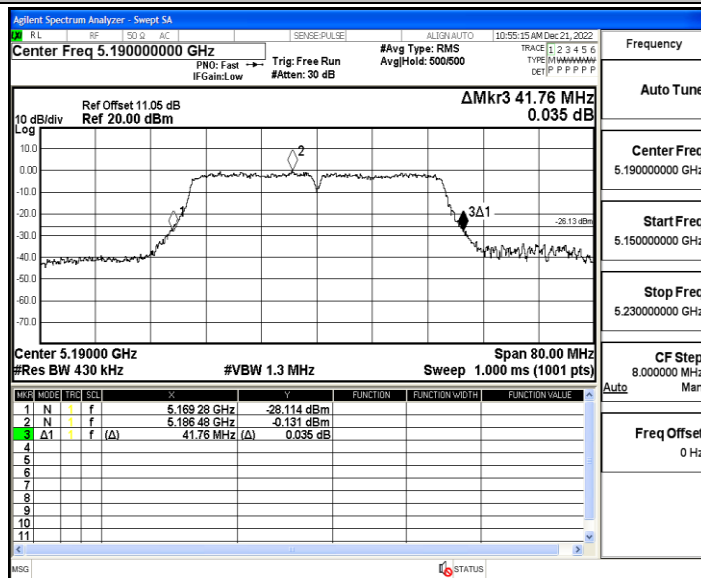
11AC20SISO\_Ant1\_5200



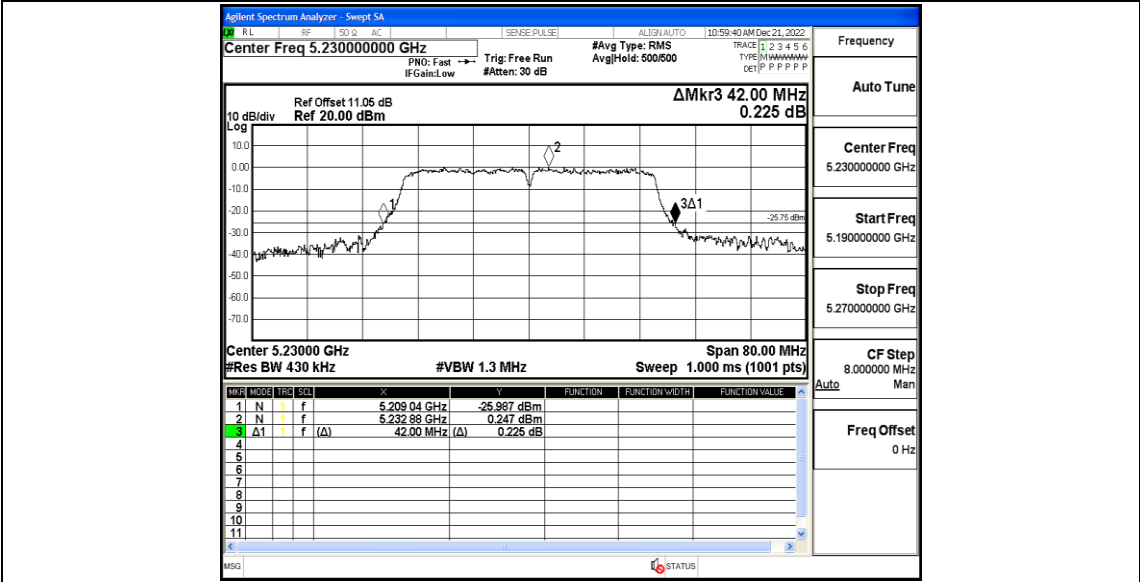
11AC20SISO\_Ant1\_5240



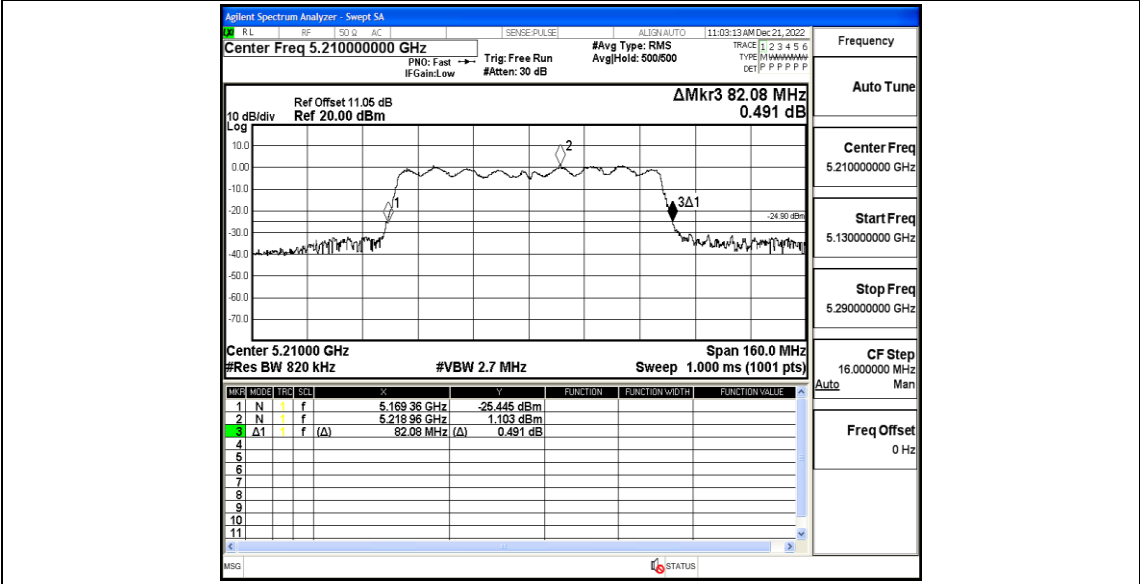
11AC40SISO\_Ant1\_5190



11AC40SISO\_Ant1\_5230



11AC80SISO\_Ant1\_5210

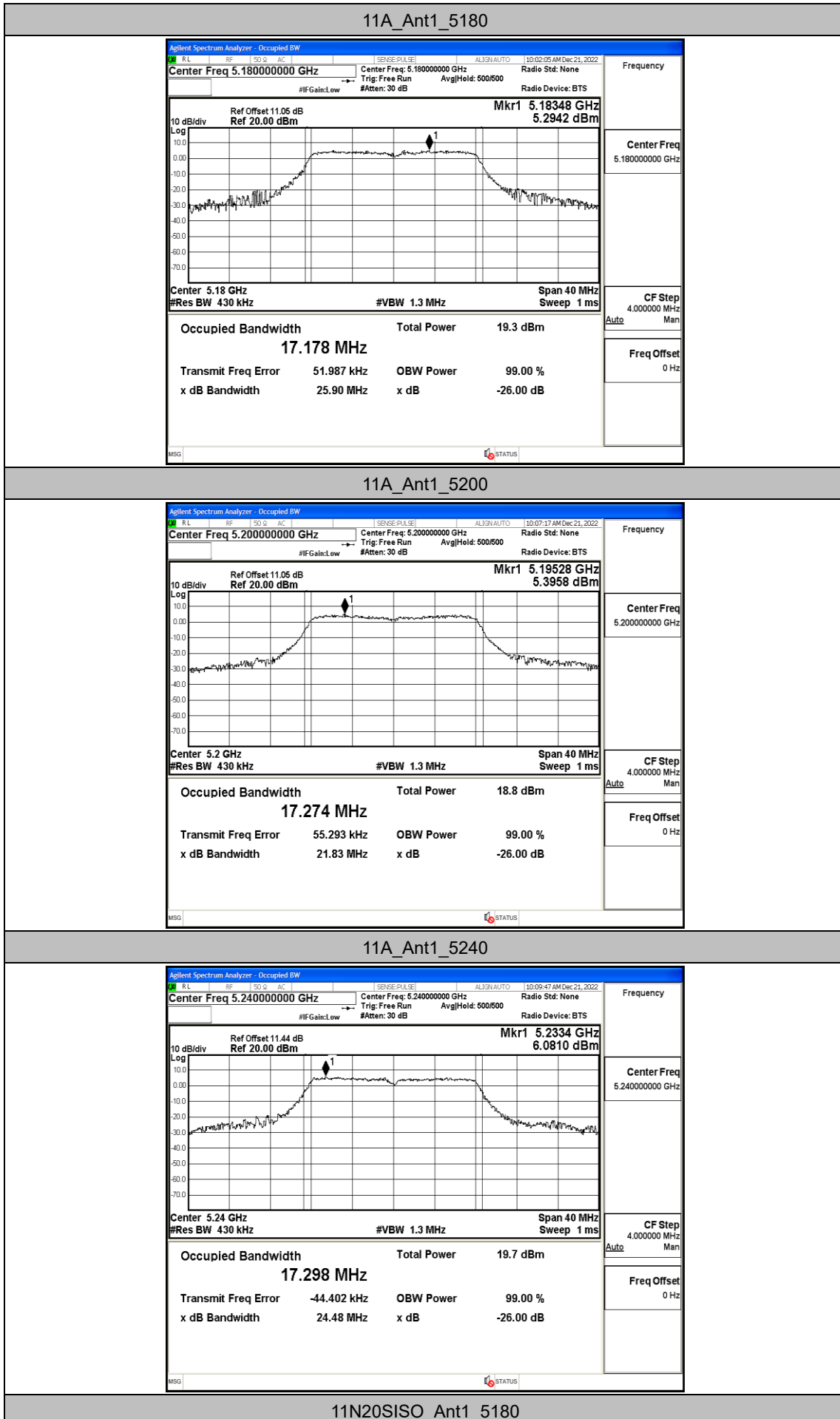


## Appendix A2: Occupied channel bandwidth

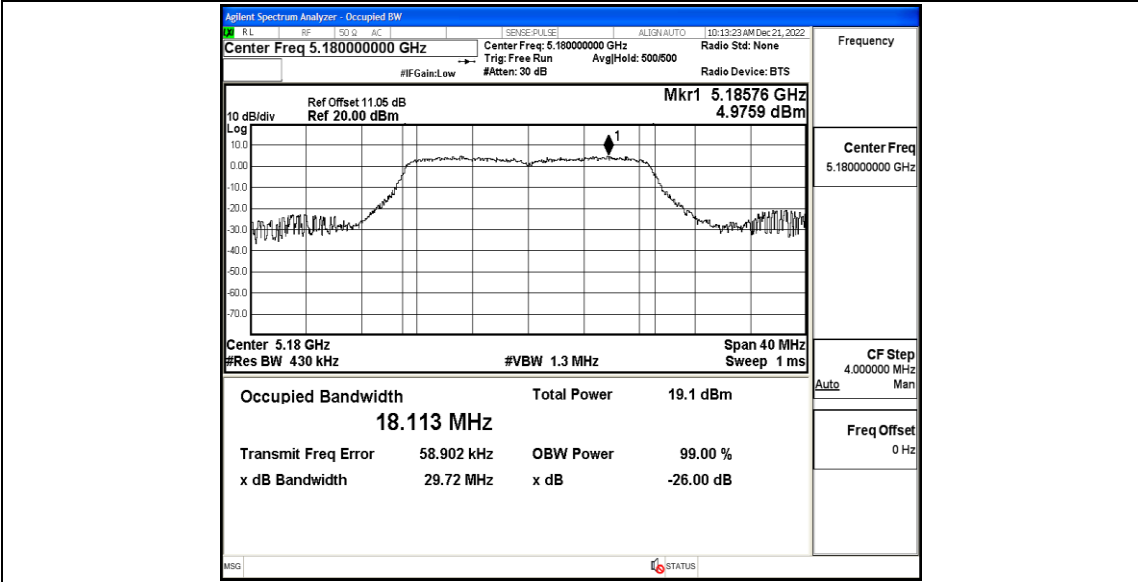
### Test Result

TestMode	Antenna	Channel	OCB [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
11A	Ant1	5180	17.178	5171.4630	5188.6410	---	---
		5200	17.274	5191.4183	5208.6923	---	---
		5240	17.298	5231.3066	5248.6046	---	---
11N20SISO	Ant1	5180	18.113	5171.0024	5189.1154	---	---
		5200	18.168	5190.9492	5209.1172	---	---
		5240	18.225	5230.9066	5249.1316	---	---
11N40SISO	Ant1	5190	36.860	5171.6609	5208.5209	---	---
		5230	36.759	5211.6458	5248.4048	---	---
11AC20SISO	Ant1	5180	17.947	5171.0465	5188.9935	---	---
		5200	18.049	5191.0063	5209.0553	---	---
		5240	18.163	5230.9376	5249.1006	---	---
11AC40SISO	Ant1	5190	36.642	5171.7945	5208.4365	---	---
		5230	36.524	5211.7767	5248.3007	---	---
11AC80SISO	Ant1	5210	75.816	5172.2284	5248.0444	---	---

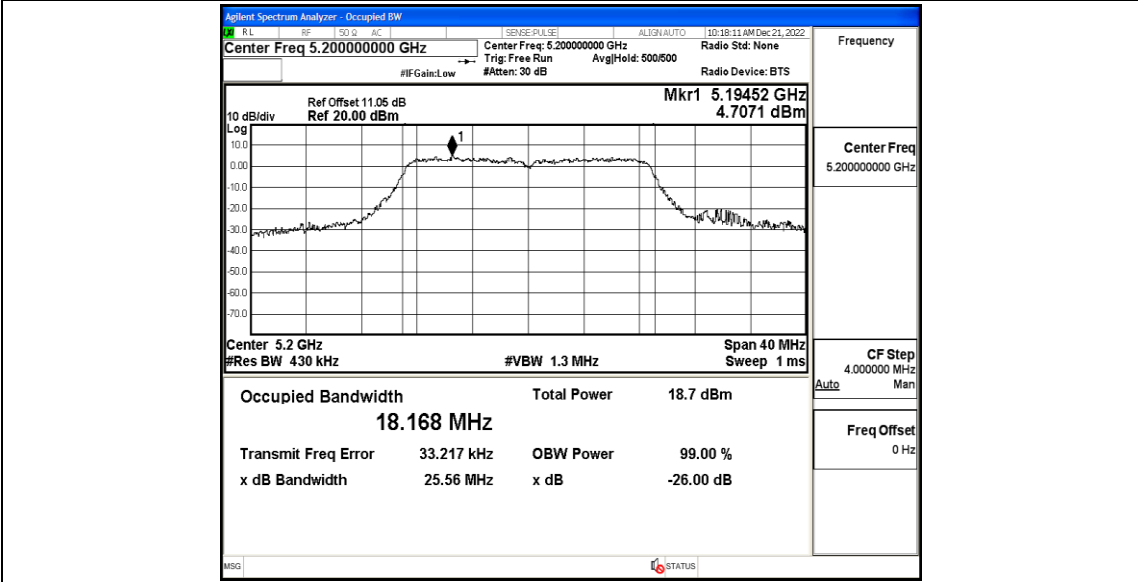
Test Graphs



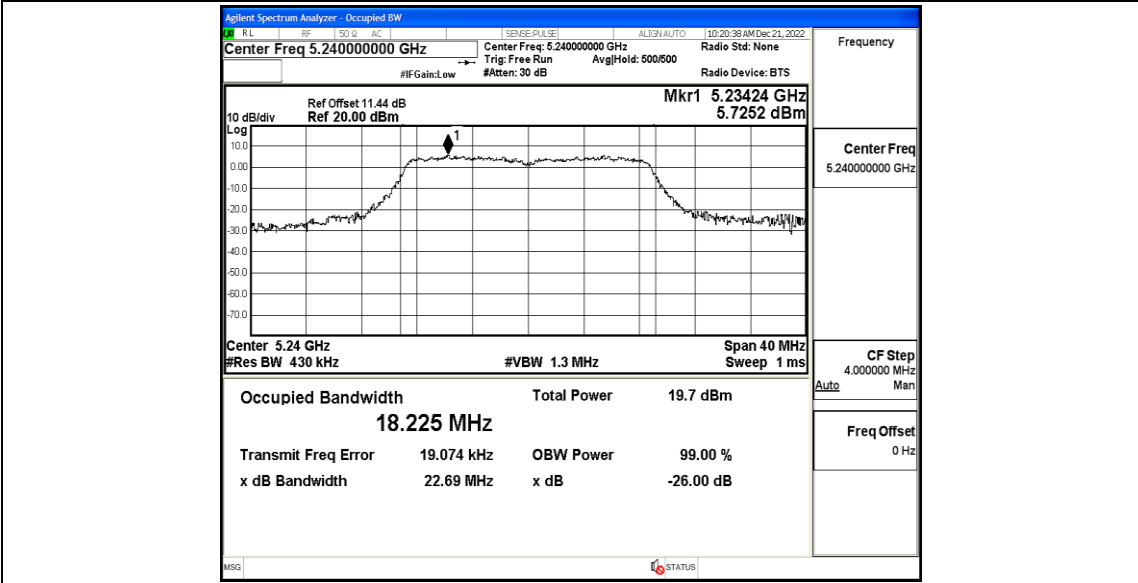




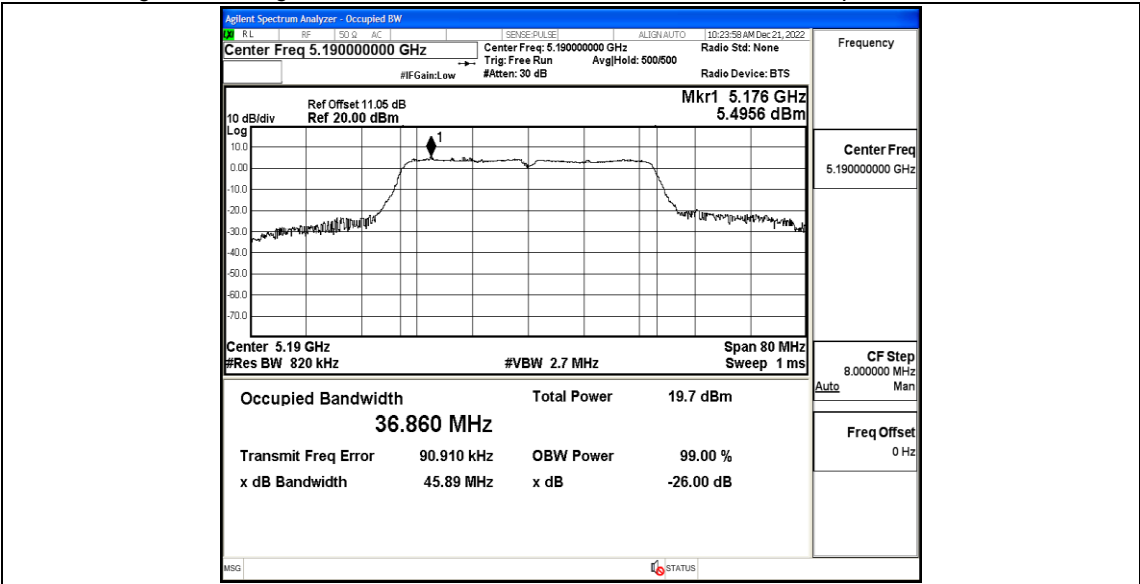
11N20SISO\_Ant1\_5200



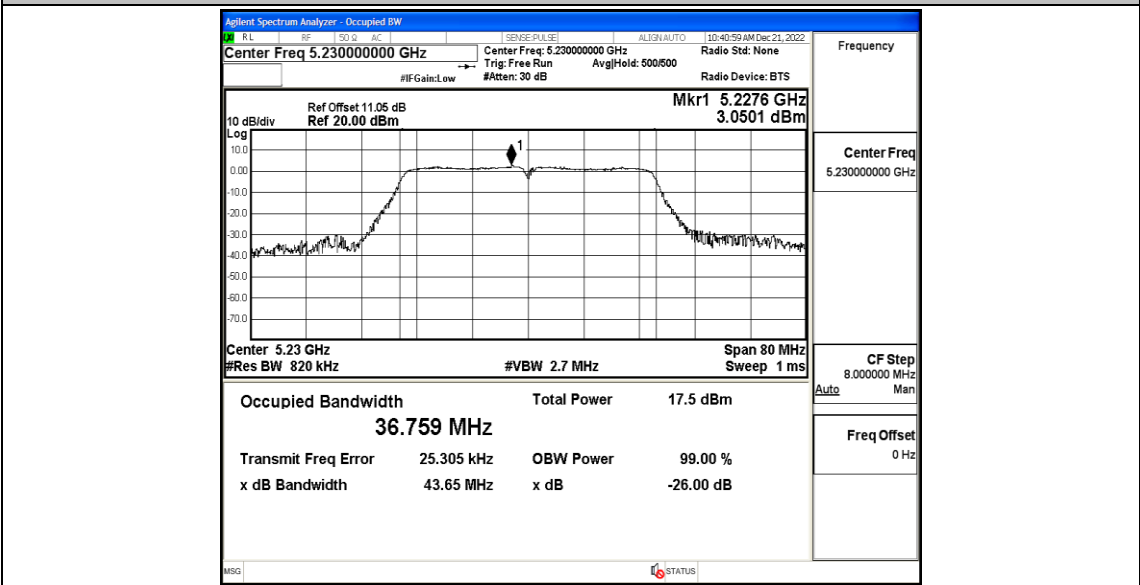
11N20SISO\_Ant1\_5240



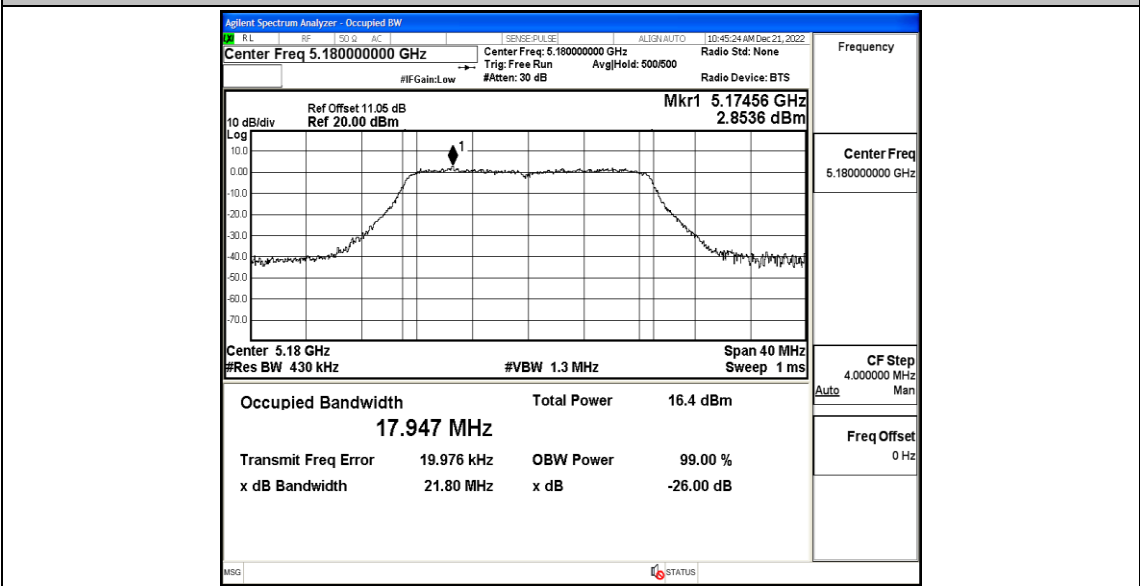
11N40SISO\_Ant1\_5190



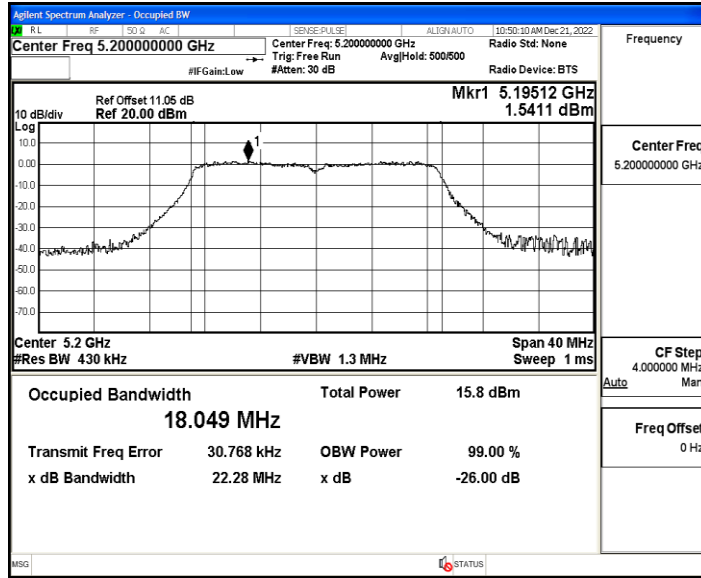
11N40SISO\_Ant1\_5230



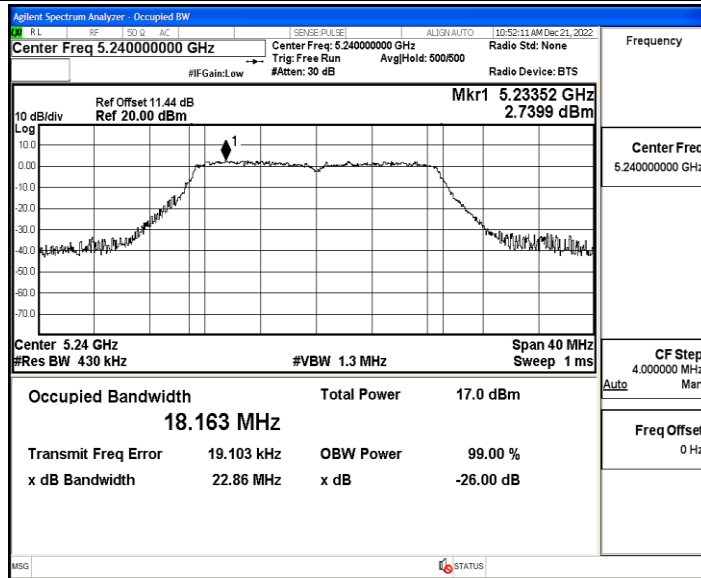
11A20SISO\_Ant1\_5180



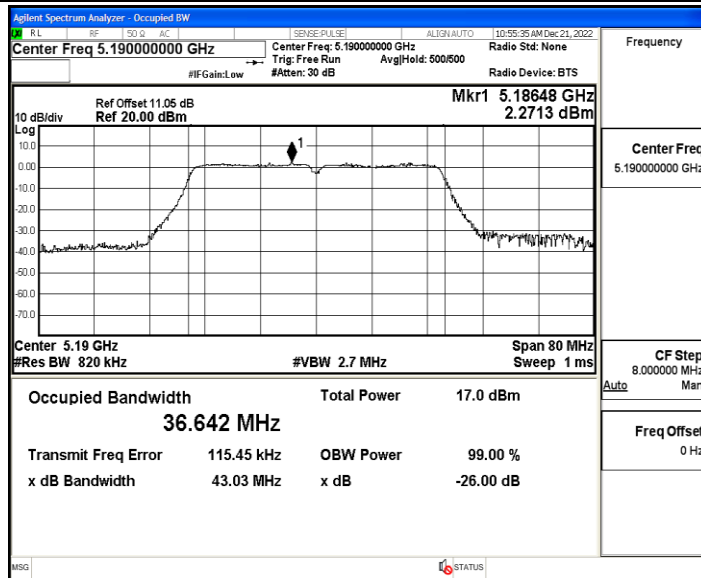
11A20SISO\_Ant1\_5200



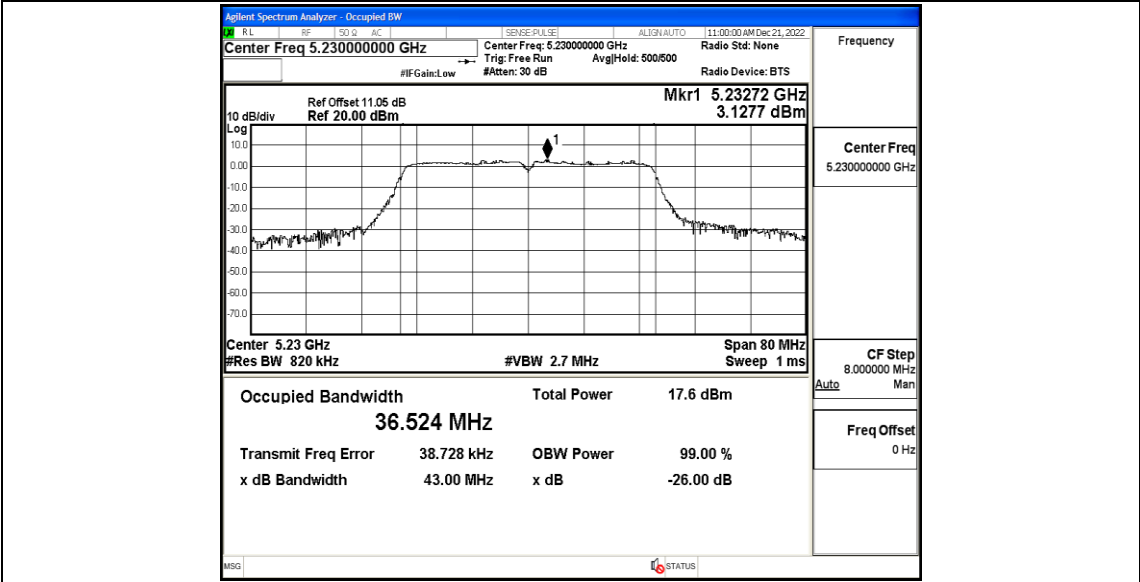
11AC20SISO\_Ant1\_5240



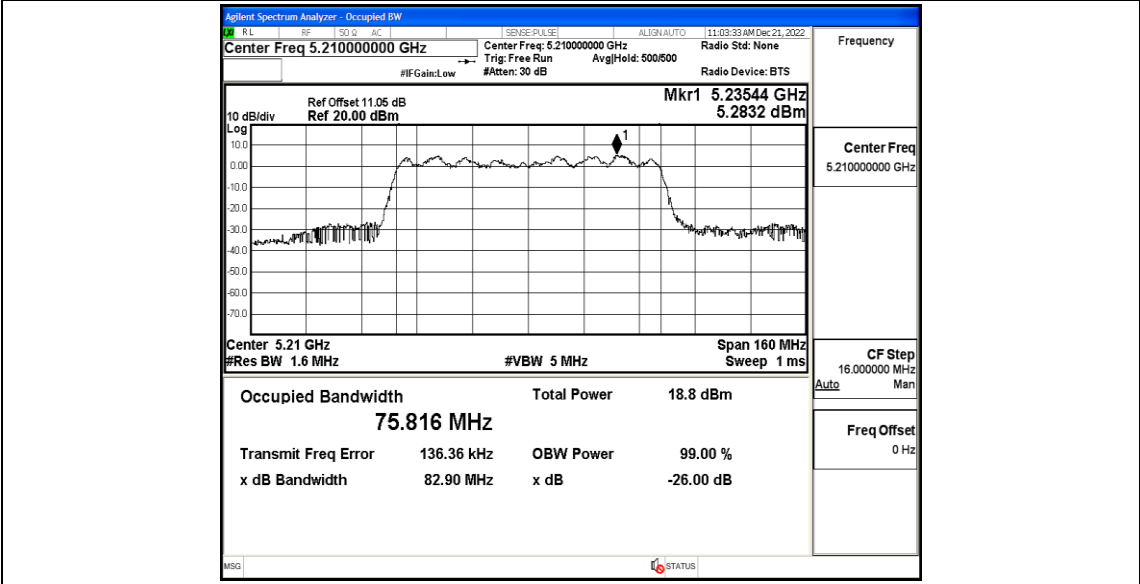
11AC40SISO\_Ant1\_5190



11AC40SISO\_Ant1\_5230



11AC80SISO\_Ant1\_5210



## Appendix B: Maximum conducted output power

### Test Result

TestMode	Antenna	Channel	Result[dBm]	Limit[dBm]	Verdict
11A	Ant1	5180	12.56	≤23.98	PASS
		5200	12.03	≤23.98	PASS
		5240	13.08	≤23.98	PASS
11N20SISO	Ant1	5180	12.44	≤23.98	PASS
		5200	12.03	≤23.98	PASS
		5240	12.96	≤23.98	PASS
11N40SISO	Ant1	5190	11.66	≤23.98	PASS
		5230	10.48	≤23.98	PASS
11AC20SISO	Ant1	5180	9.68	≤23.98	PASS
		5200	9.23	≤23.98	PASS
		5240	10.07	≤23.98	PASS
11AC40SISO	Ant1	5190	9.86	≤23.98	PASS
		5230	10.53	≤23.98	PASS
11AC80SISO	Ant1	5210	10.67	≤23.98	PASS

Note: The Duty Cycle Factor is compensated in the test result.

## Appendix C: Maximum power spectral density

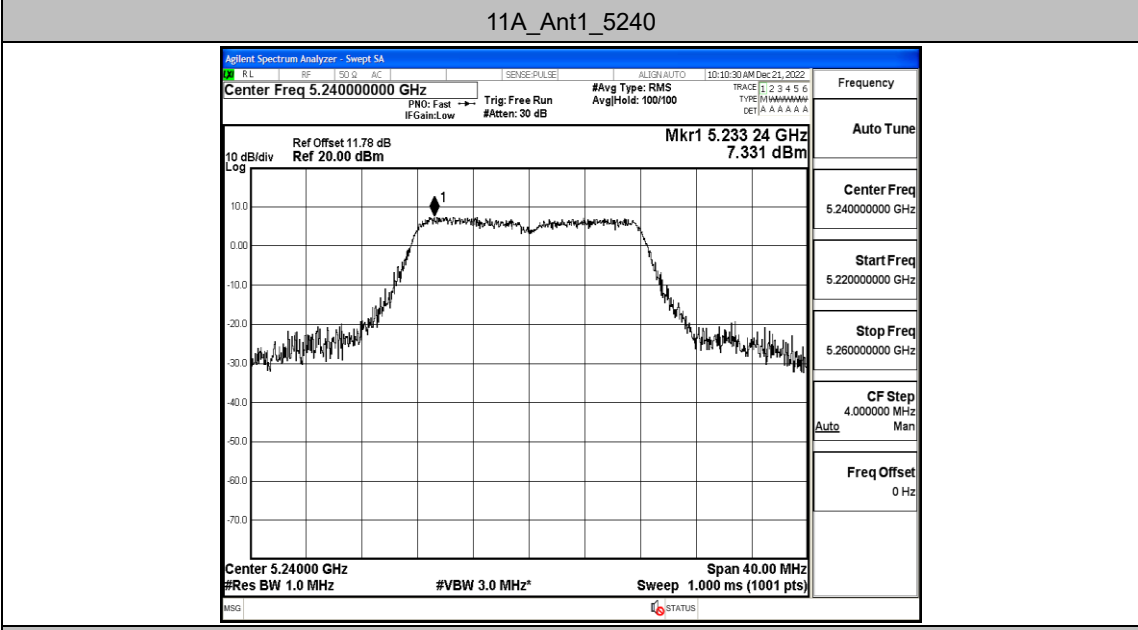
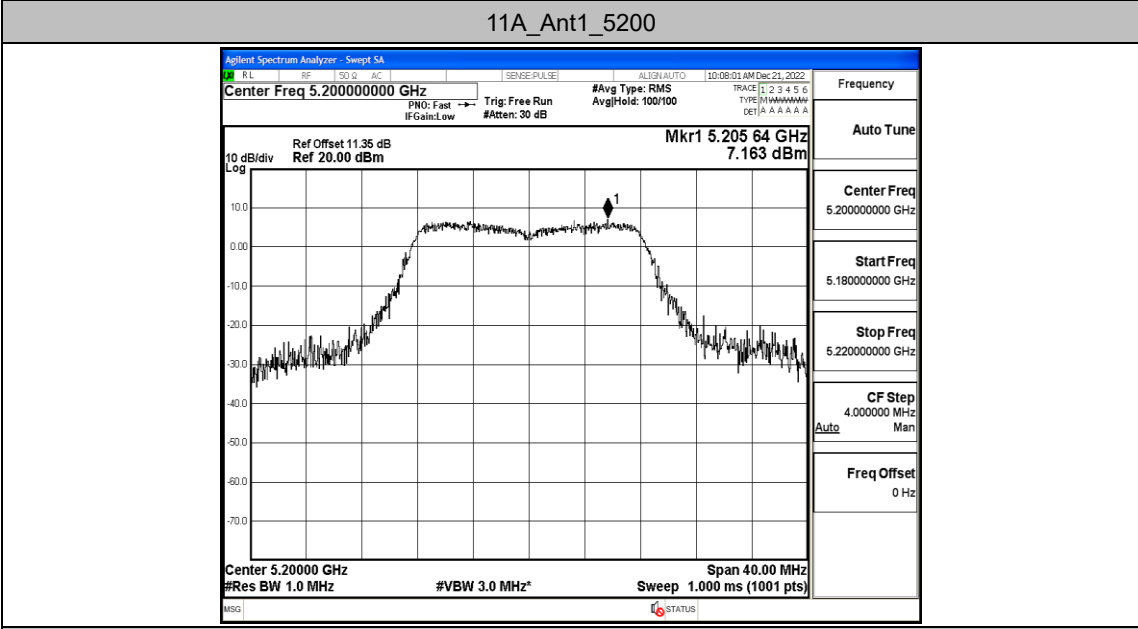
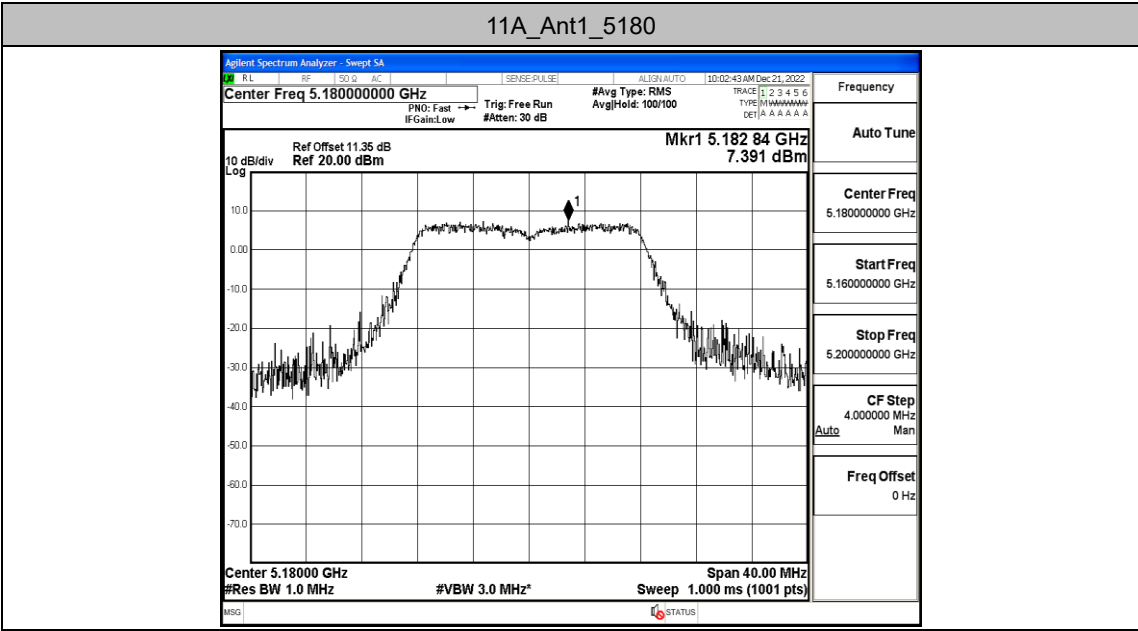
### Test Result

TestMode	Antenna	Channel	Result [dBm/MHz]	Limit[dBm/MHz]	Verdict
11A	Ant1	5180	7.39	≤11.00	PASS
		5200	7.16	≤11.00	PASS
		5240	7.33	≤11.00	PASS
11N20SISO	Ant1	5180	6.41	≤11.00	PASS
		5200	6.37	≤11.00	PASS
		5240	7.2	≤11.00	PASS
11N40SISO	Ant1	5190	3.36	≤11.00	PASS
		5230	2.1	≤11.00	PASS
11AC20SISO	Ant1	5180	3.84	≤11.00	PASS
		5200	3.88	≤11.00	PASS
		5240	4.41	≤11.00	PASS
11AC40SISO	Ant1	5190	1.76	≤11.00	PASS
		5230	2.5	≤11.00	PASS
11AC80SISO	Ant1	5210	0.56	≤11.00	PASS

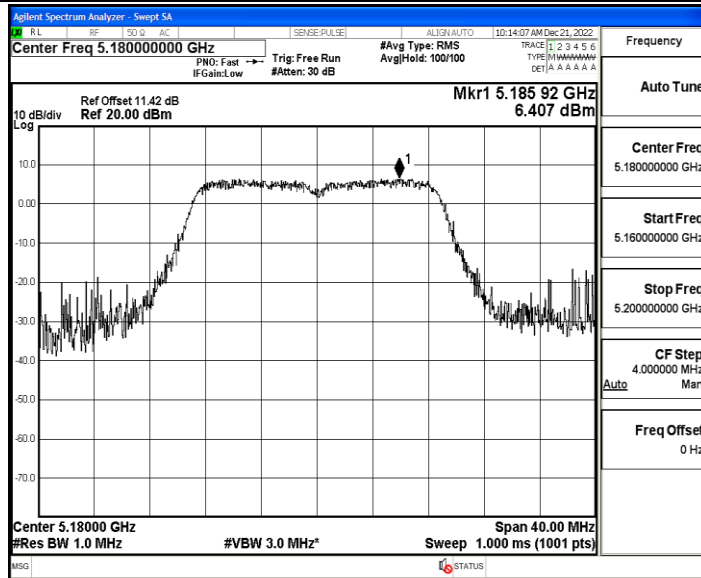
Note: 1.The Result and Limit Unit is dBm/500 kHz in the band 5.725–5.85 GHz.

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

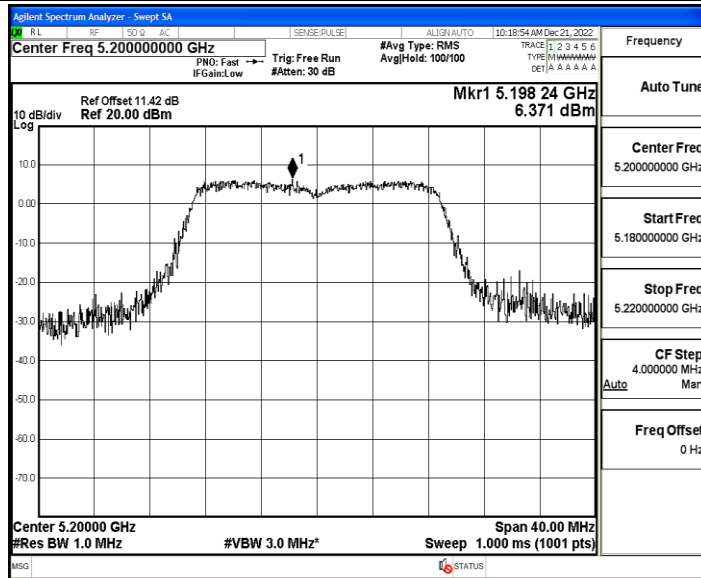
### Test Graphs



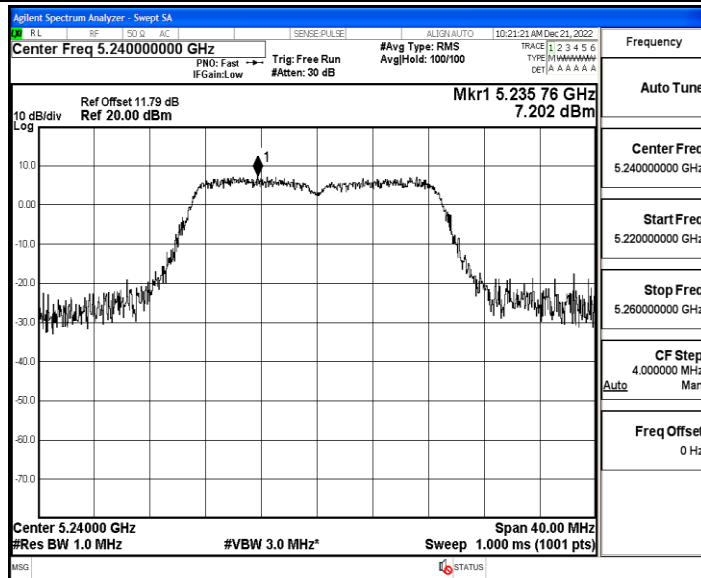
**11N20SISO\_Ant1\_5180**



11N20SISO\_Ant1\_5200

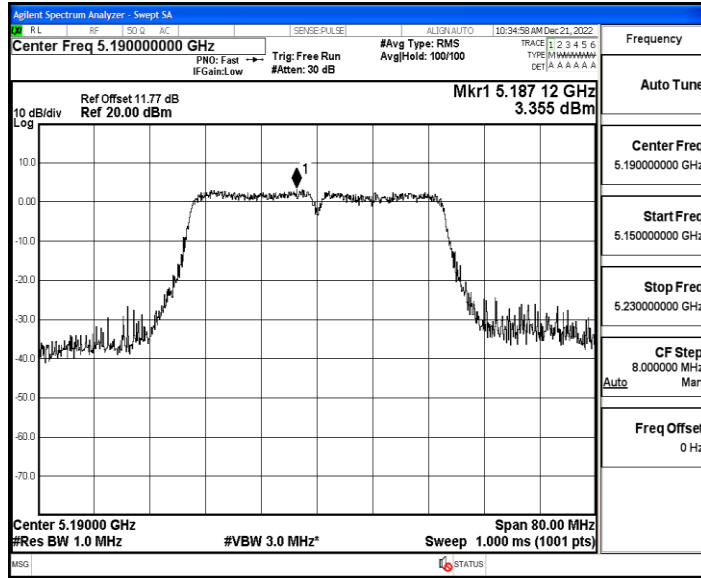


11N20SISO\_Ant1\_5240

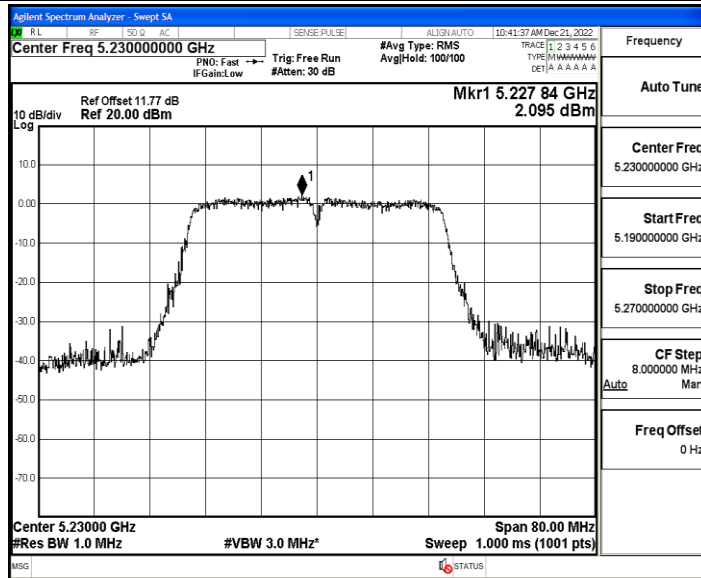


11N40SISO\_Ant1\_5190

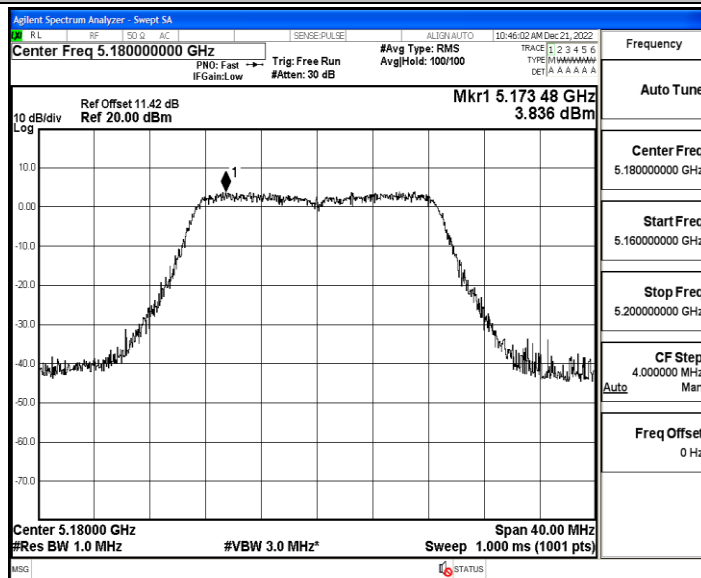




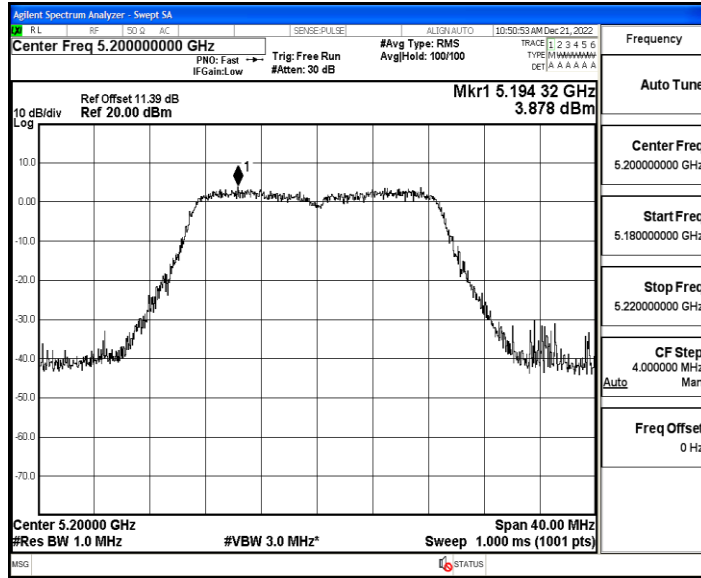
11N40SISO\_Ant1\_5230



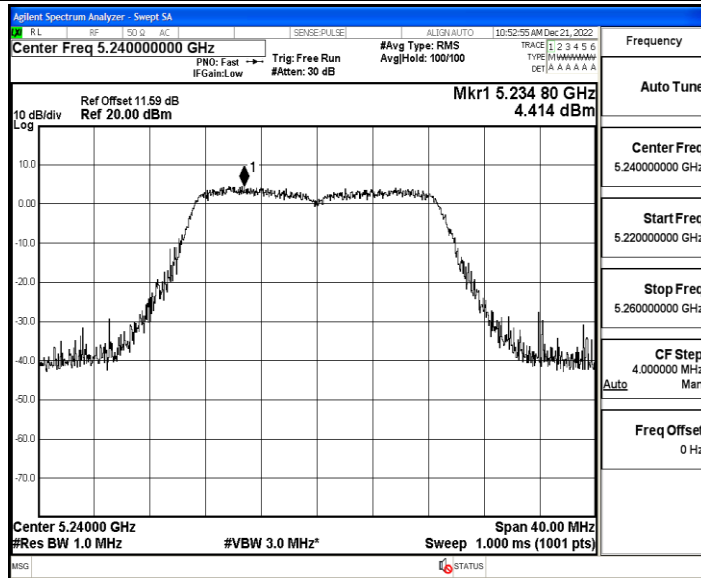
11AC20SISO\_Ant1\_5180



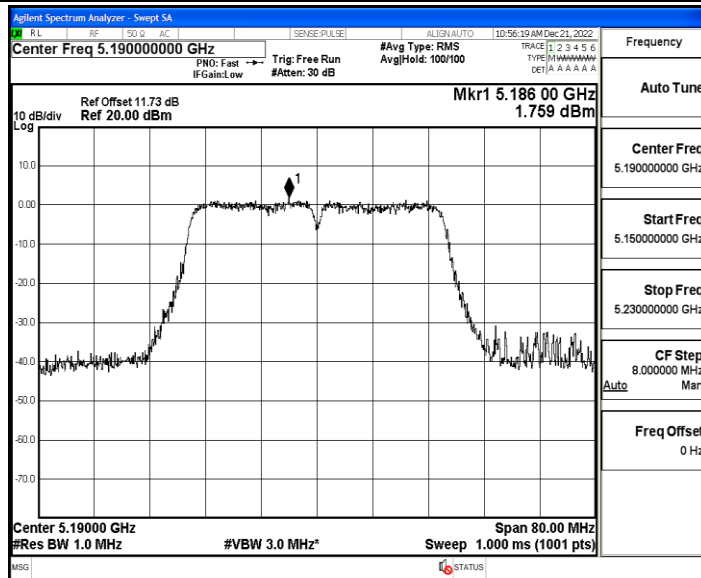
11AC20SISO\_Ant1\_5200



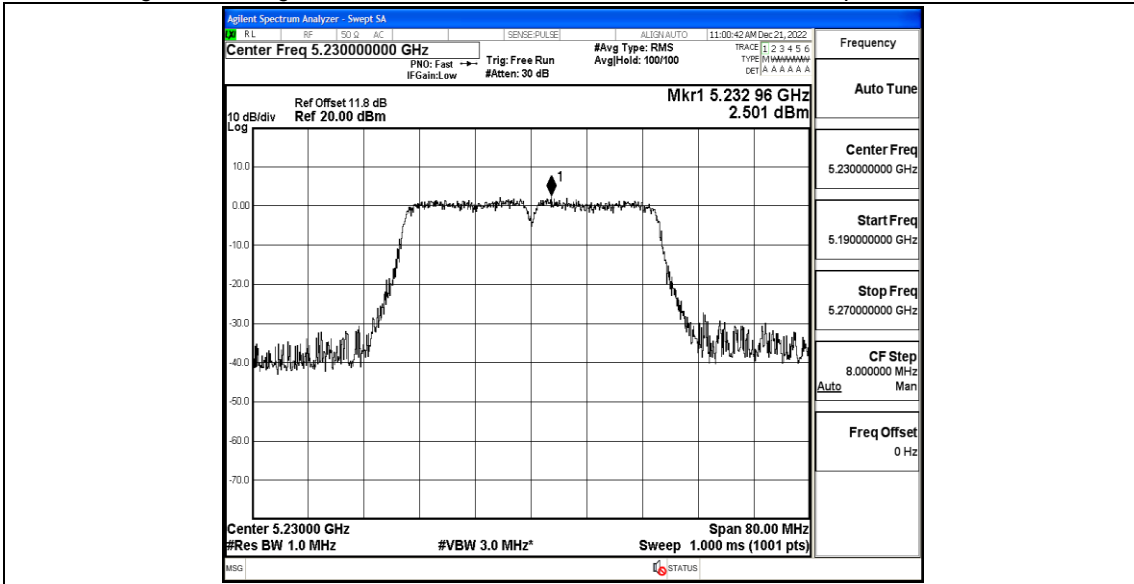
11AC20SISO\_Ant1\_5240



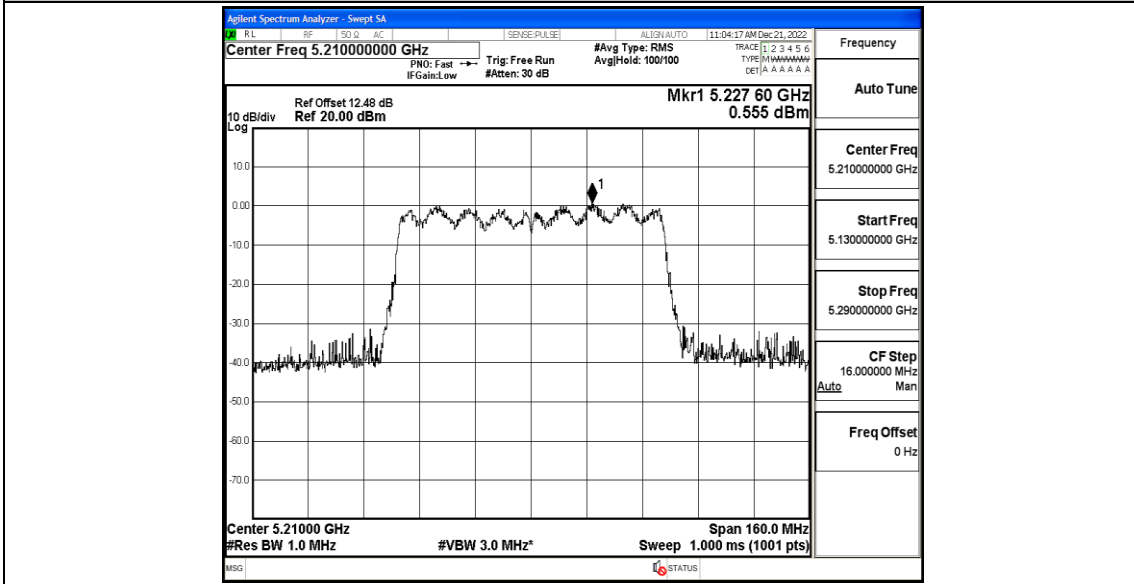
11AC40SISO\_Ant1\_5190



11AC40SISO\_Ant1\_5230



11AC80SISO\_Ant1\_5210

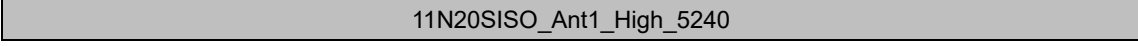
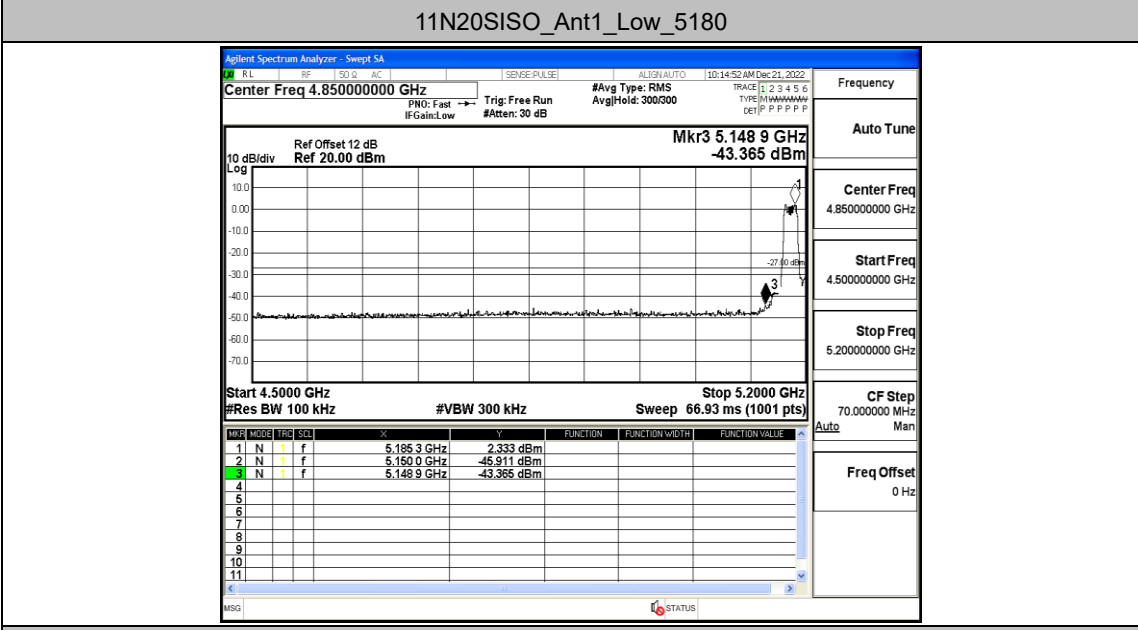
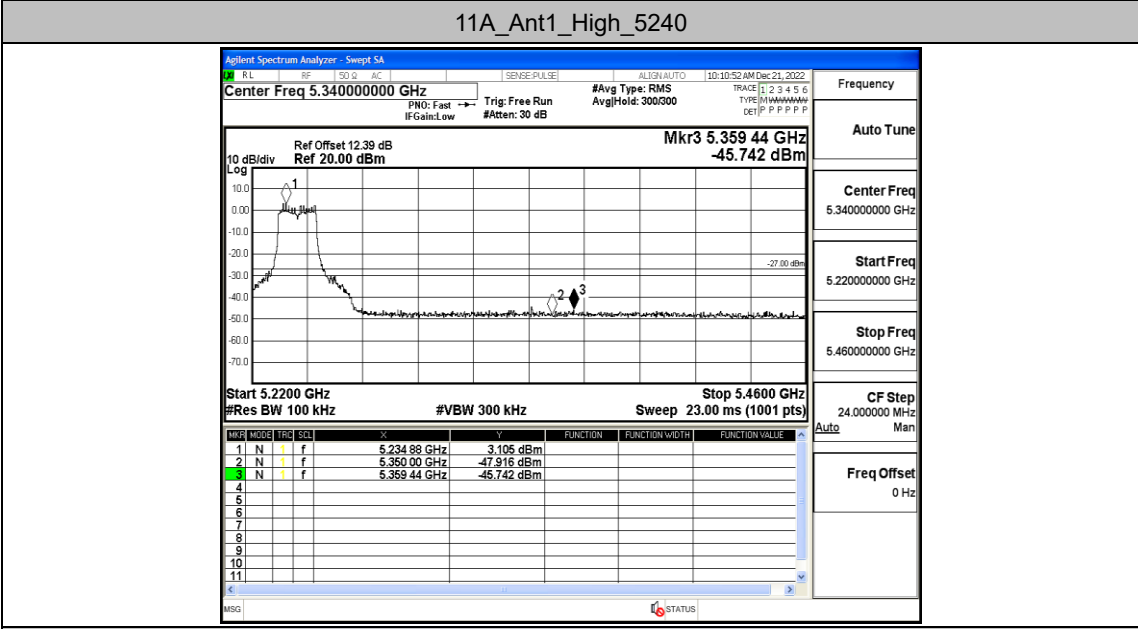
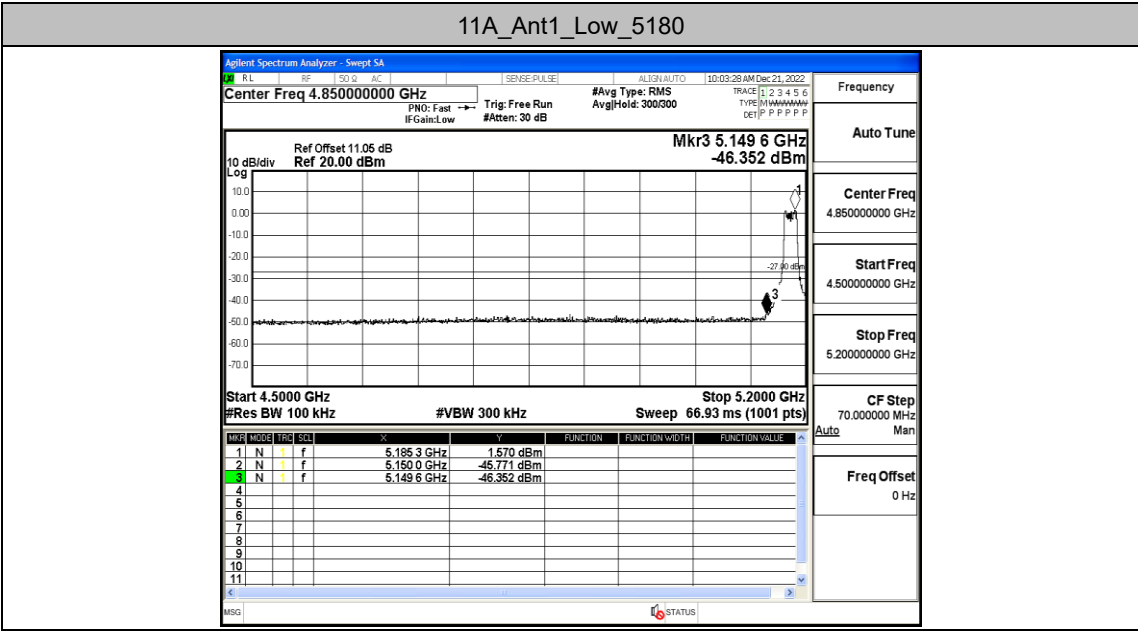


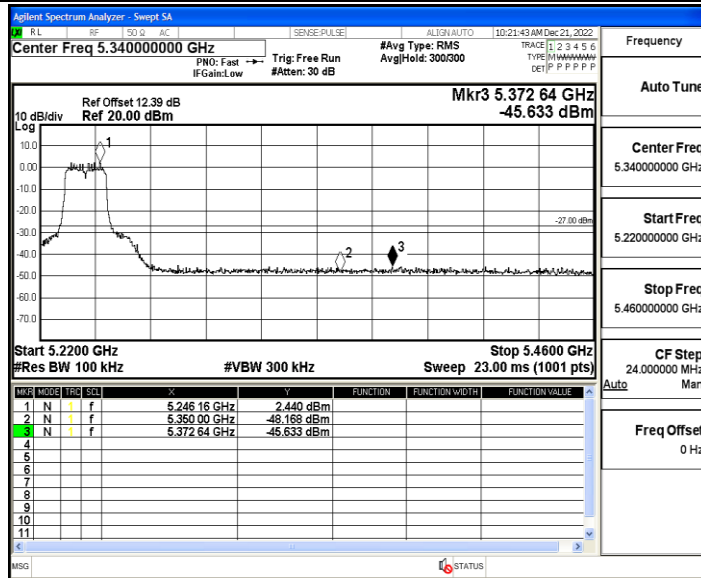
## Appendix D: Band edge measurements

### Test Result

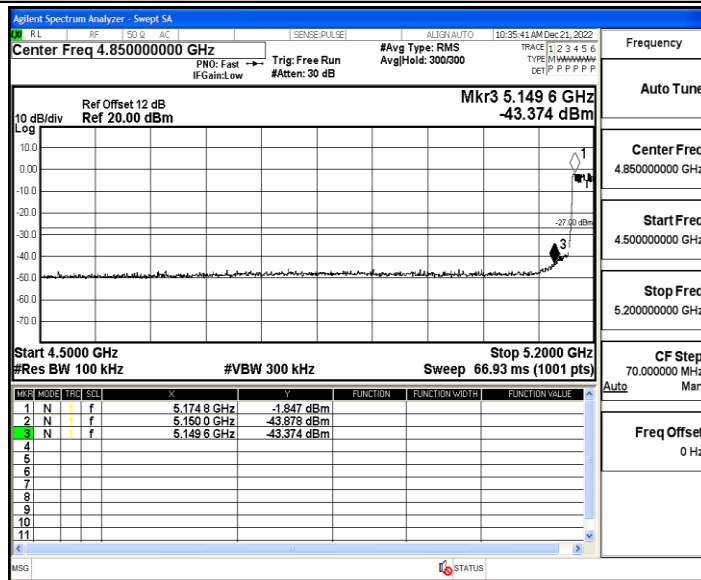
TestMode	Antenna	ChName	Channel	Result[dBm]	Limit[dBm]	Verdict
11A	Ant1	Low	5180	-46.35	≤-27	PASS
		High	5240	-45.74	≤-27	PASS
11N20SISO	Ant1	Low	5180	-43.37	≤-27	PASS
		High	5240	-45.63	≤-27	PASS
11N40SISO	Ant1	Low	5190	-43.37	≤-27	PASS
		High	5230	-45.77	≤-27	PASS
11AC20SISO	Ant1	Low	5180	-45.54	≤-27	PASS
		High	5240	-45.8	≤-27	PASS
11AC40SISO	Ant1	Low	5190	-45.47	≤-27	PASS
		High	5230	-46.24	≤-27	PASS
11AC80SISO	Ant1	Low	5210	-44.21	≤-27	PASS
		High	5210	-45.25	≤-27	PASS

Test Graphs

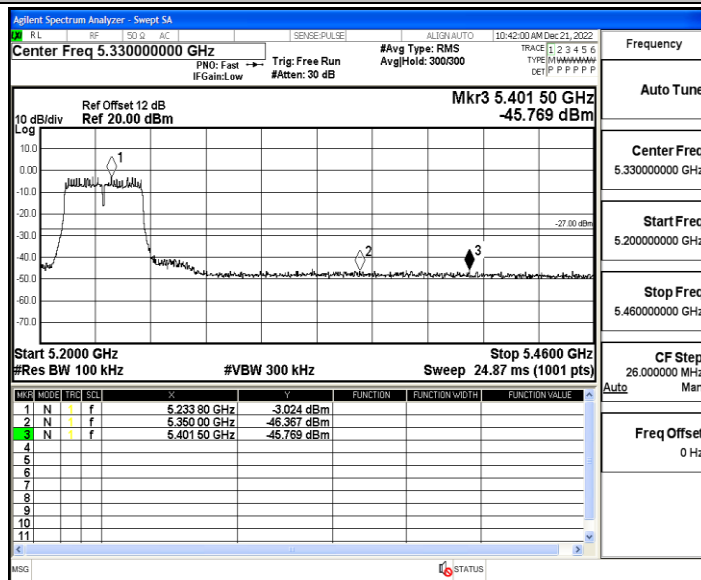




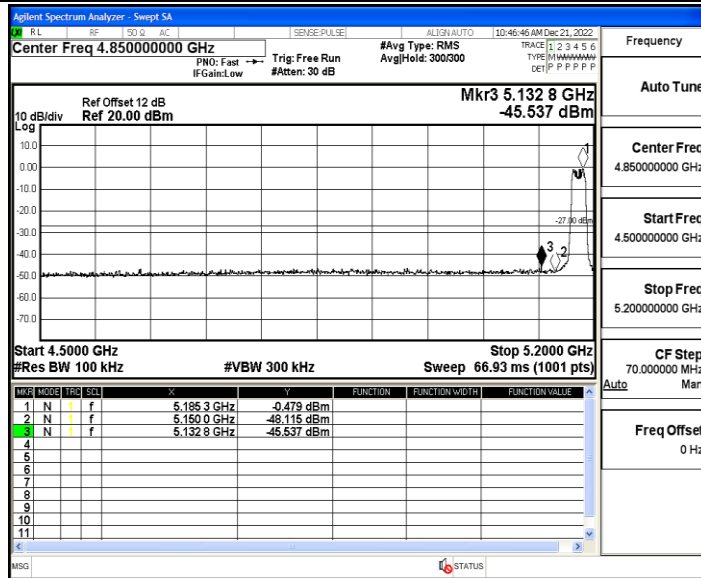
11N40SISO\_Ant1\_Low\_5190



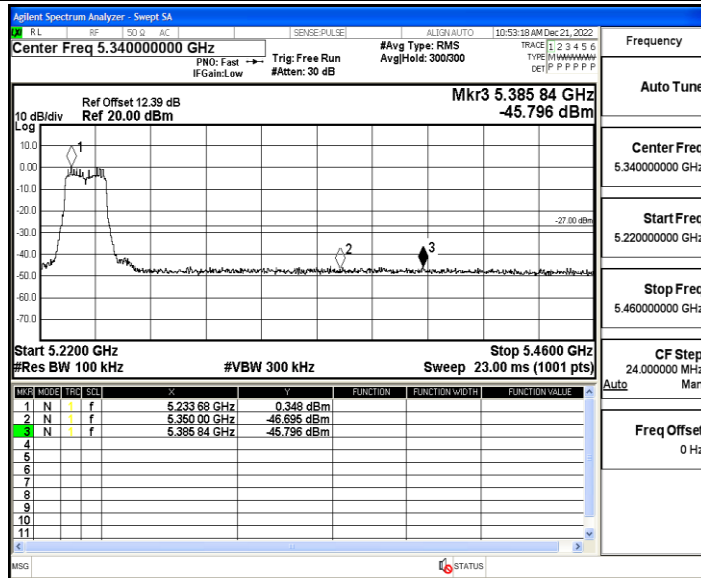
11N40SISO\_Ant1\_High\_5230



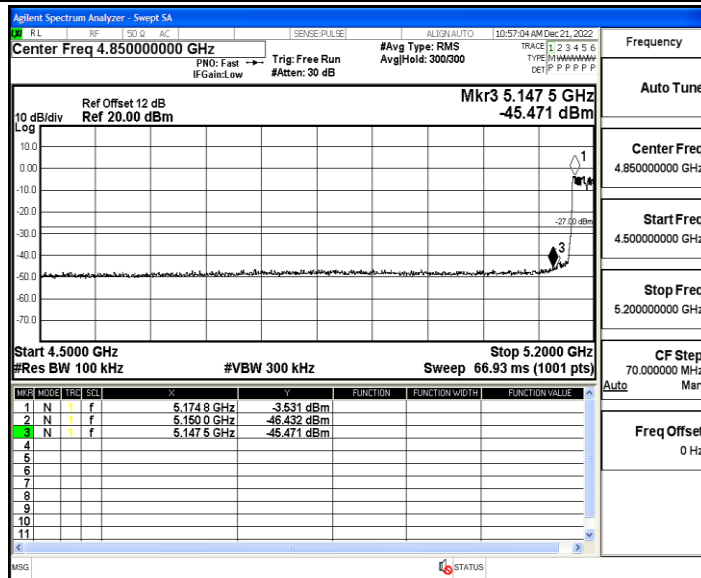
11A20SISO\_Ant1\_Low\_5180



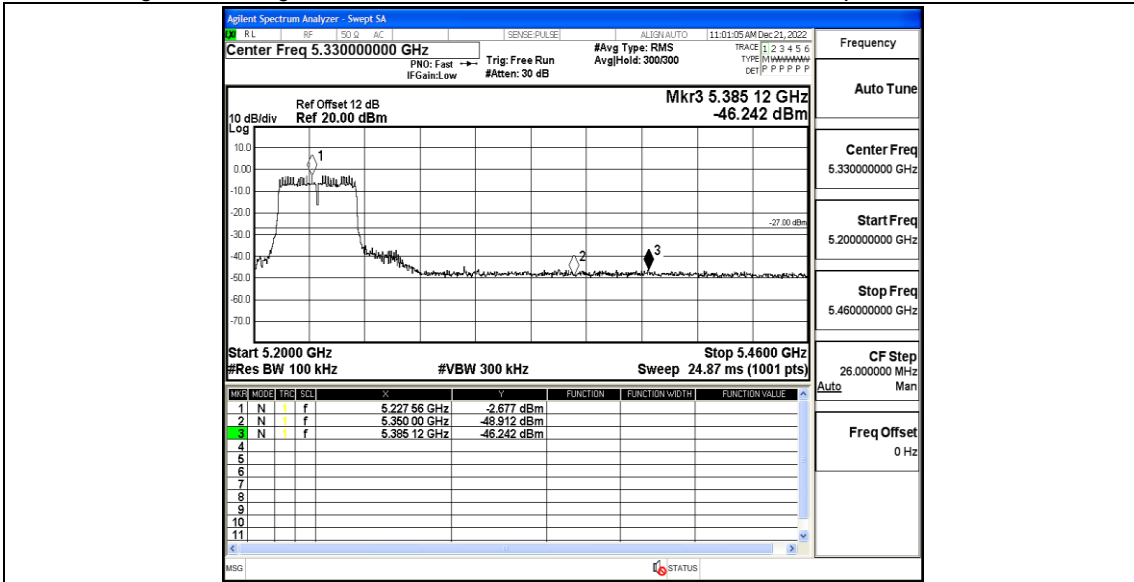
11AC20SISO\_Ant1\_High\_5240



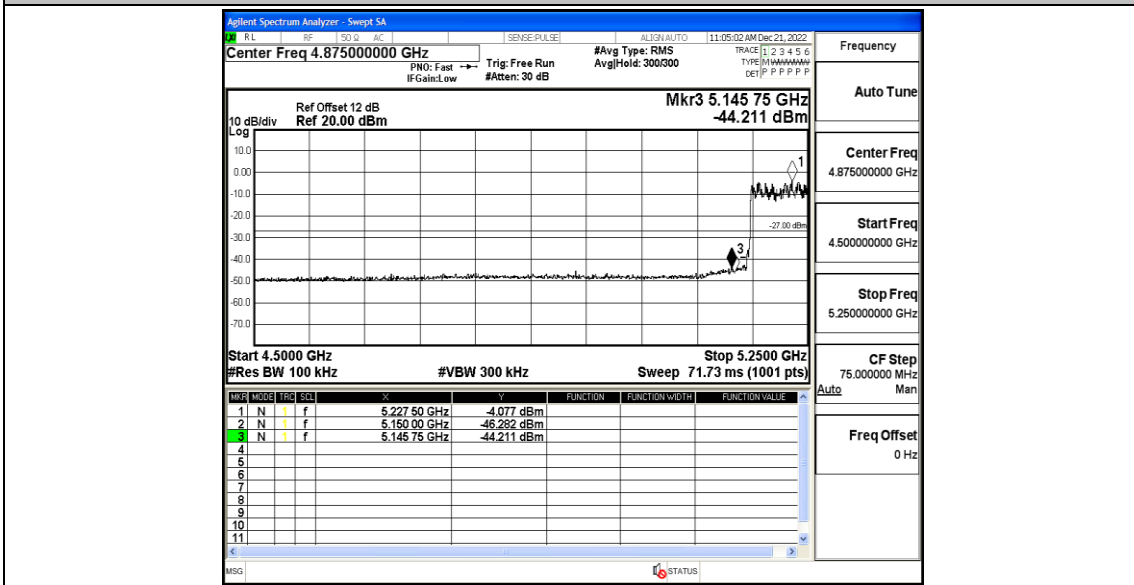
11AC40SISO\_Ant1\_Low\_5190



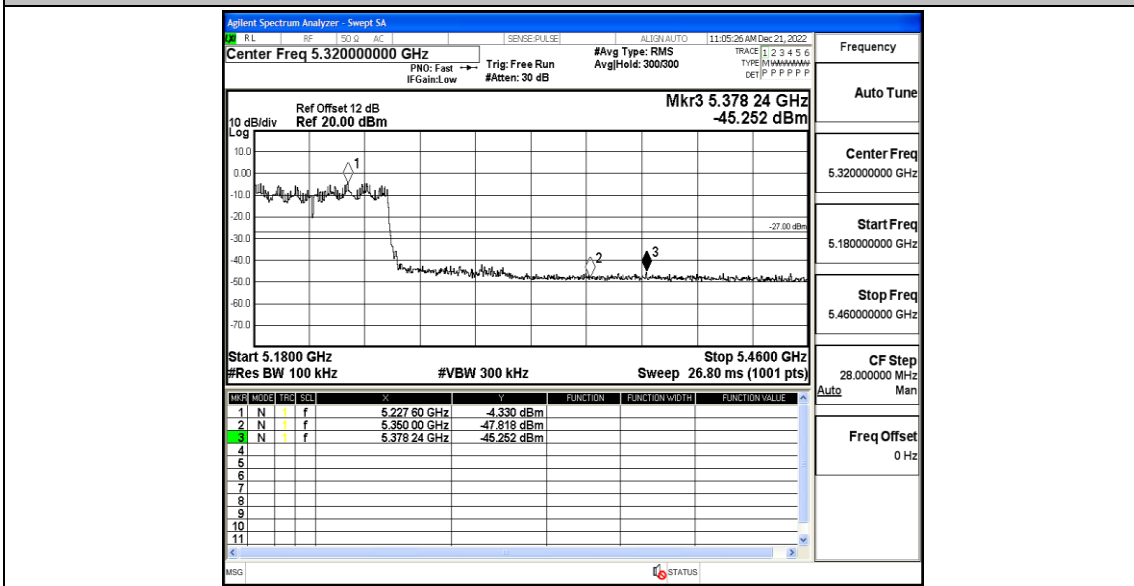
11AC40SISO\_Ant1\_High\_5230



11AC80SISO\_Ant1\_Low\_5210



11AC80SISO\_Ant1\_High\_5210





## Appendix E: Frequency Stability

### Test Result

Frequency (MHz)	Environment Temperature (Degree)	Voltage (VDC)	Measured Frequency (MHz)	Limit Range (MHz)	Test Results
5180	20	5.5	5179.996679	5150 – 5250	PASS
5180	20	4.5	5180.085377	5150 – 5250	PASS
5180	50	5.0	5180.015092	5150 – 5250	PASS
5180	40	5.0	5179.958969	5150 – 5250	PASS
5180	30	5.0	5179.963039	5150 – 5250	PASS
5180	20	5.0	5179.950218	5150 – 5250	PASS
5180	10	5.0	5180.050497	5150 – 5250	PASS
5180	0	5.0	5180.001017	5150 – 5250	PASS
5180	-10	5.0	5180.035846	5150 – 5250	PASS
5180	-20	5.0	5180.033099	5150 – 5250	PASS
5180	-30	5.0	5179.952415	5150 – 5250	PASS

Frequency (MHz)	Environment Temperature (Degree)	Voltage (VAC)	Measured Frequency (MHz)	Limit Range (MHz)	Test Results
5200	20	5.5	5199.982681	5150 – 5250	PASS
5200	20	4.5	5200.019044	5150 – 5250	PASS
5200	50	5	5200.068239	5150 – 5250	PASS
5200	40	5	5200.020525	5150 – 5250	PASS
5200	30	5	5200.013149	5150 – 5250	PASS
5200	20	5	5200.061505	5150 – 5250	PASS
5200	10	5	5200.025518	5150 – 5250	PASS
5200	0	5	5199.940010	5150 – 5250	PASS
5200	-10	5	5200.080020	5150 – 5250	PASS
5200	-20	5	5199.999383	5150 – 5250	PASS
5200	-30	5	5200.027129	5150 – 5250	PASS

Frequency (MHz)	Environment Temperature (Degree)	Voltage (VAC)	Measured Frequency (MHz)	Limit Range (MHz)	Test Results
5240	20	5.5	5239.952961	5150 – 5250	PASS
5240	20	4.5	5240.057871	5150 – 5250	PASS
5240	50	5	5239.901454	5150 – 5250	PASS
5240	40	5	5240.048524	5150 – 5250	PASS
5240	30	5	5240.070548	5150 – 5250	PASS
5240	20	5	5240.016574	5150 – 5250	PASS
5240	10	5	5240.056974	5150 – 5250	PASS
5240	0	5	5240.024279	5150 – 5250	PASS
5240	-10	5	5239.920799	5150 – 5250	PASS
5240	-20	5	5240.061947	5150 – 5250	PASS
5240	-30	5	5239.915961	5150 – 5250	PASS

Frequency (MHz)	Environment Temperature (Degree)	Voltage (VAC)	Measured Frequency (MHz)	Limit Range (MHz)	Test Results
5190	20	5.5	5190.065909	5150 – 5250	PASS
5190	20	4.5	5190.012702	5150 – 5250	PASS
5190	50	5	5190.032349	5150 – 5250	PASS
5190	40	5	5189.983060	5150 – 5250	PASS
5190	30	5	5190.056917	5150 – 5250	PASS
5190	20	5	5189.953352	5150 – 5250	PASS
5190	10	5	5189.960548	5150 – 5250	PASS
5190	0	5	5189.925348	5150 – 5250	PASS
5190	-10	5	5190.032834	5150 – 5250	PASS
5190	-20	5	5189.967802	5150 – 5250	PASS
5190	-30	5	5190.091081	5150 – 5250	PASS

Frequency (MHz)	Environment Temperature (Degree)	Voltage (VAC)	Measured Frequency (MHz)	Limit Range (MHz)	Test Results
5230	20	5.5	5229.977000	5150 – 5250	PASS
5230	20	4.5	5229.931060	5150 – 5250	PASS
5230	50	5	5229.950725	5150 – 5250	PASS
5230	40	5	5229.984335	5150 – 5250	PASS
5230	30	5	5230.073302	5150 – 5250	PASS
5230	20	5	5229.910434	5150 – 5250	PASS
5230	10	5	5229.933588	5150 – 5250	PASS
5230	0	5	5229.935296	5150 – 5250	PASS
5230	-10	5	5229.938392	5150 – 5250	PASS
5230	-20	5	5229.913601	5150 – 5250	PASS
5230	-30	5	5229.929189	5150 – 5250	PASS

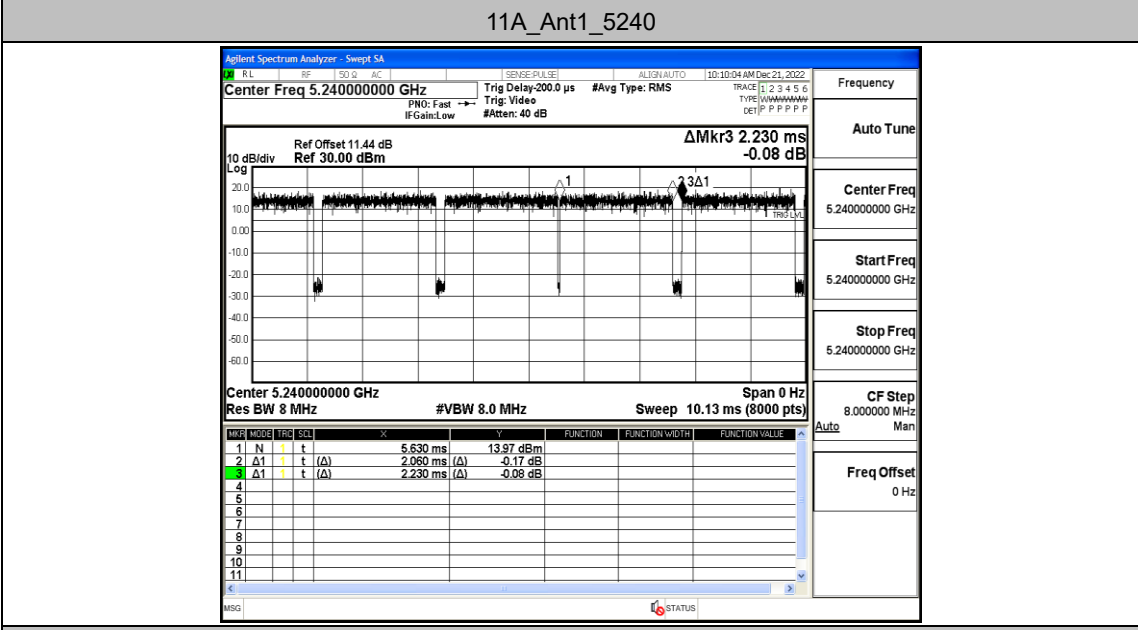
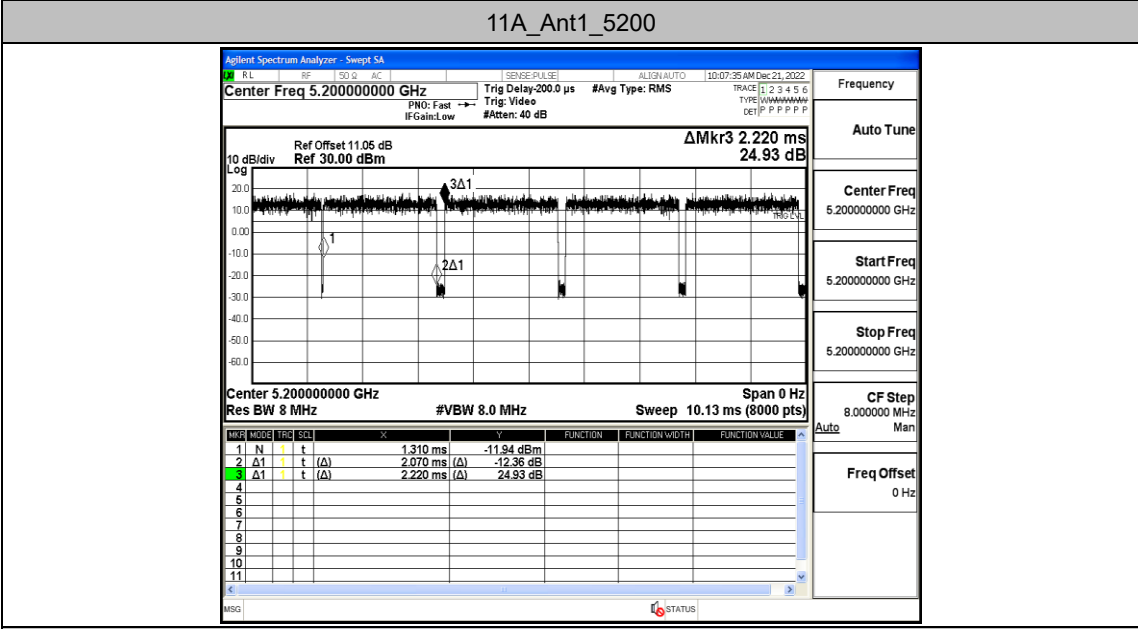
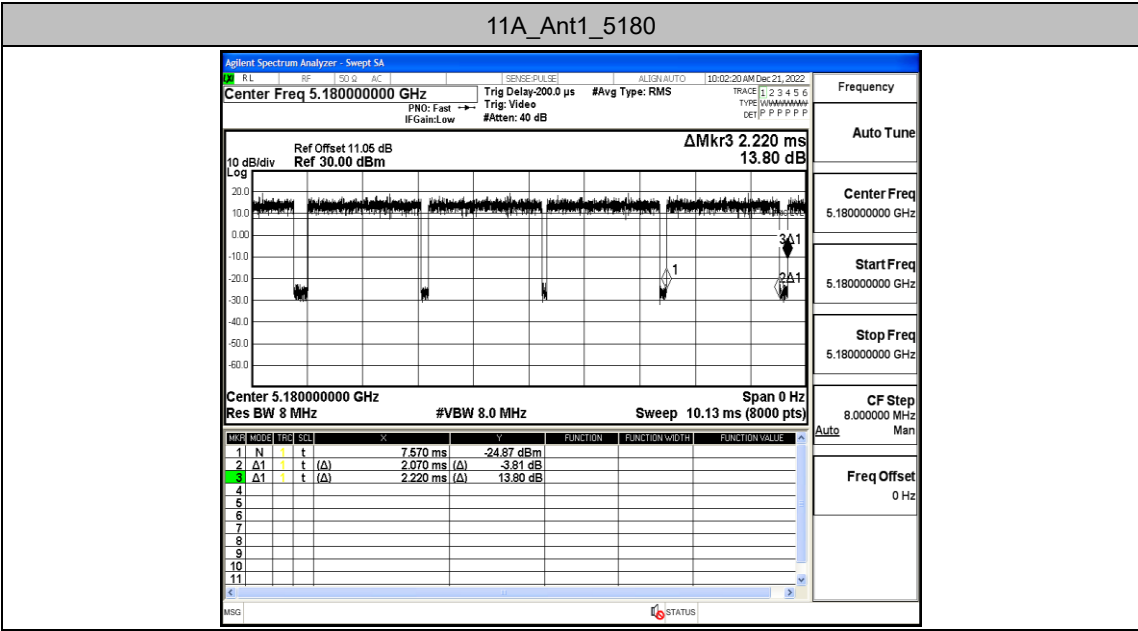
Frequency (MHz)	Environment Temperature (Degree)	Voltage (VAC)	Measured Frequency (MHz)	Limit Range (MHz)	Test Results
5210	20	5.5	5210.035790	5150 – 5250	PASS
5210	20	4.5	5209.950500	5150 – 5250	PASS
5210	50	5	5209.945306	5150 – 5250	PASS
5210	40	5	5209.940769	5150 – 5250	PASS
5210	30	5	5209.976856	5150 – 5250	PASS
5210	20	5	5209.932299	5150 – 5250	PASS
5210	10	5	5209.931714	5150 – 5250	PASS
5210	0	5	5210.047340	5150 – 5250	PASS
5210	-10	5	5209.911552	5150 – 5250	PASS
5210	-20	5	5209.928072	5150 – 5250	PASS
5210	-30	5	5210.088246	5150 – 5250	PASS

## Appendix F: Duty Cycle

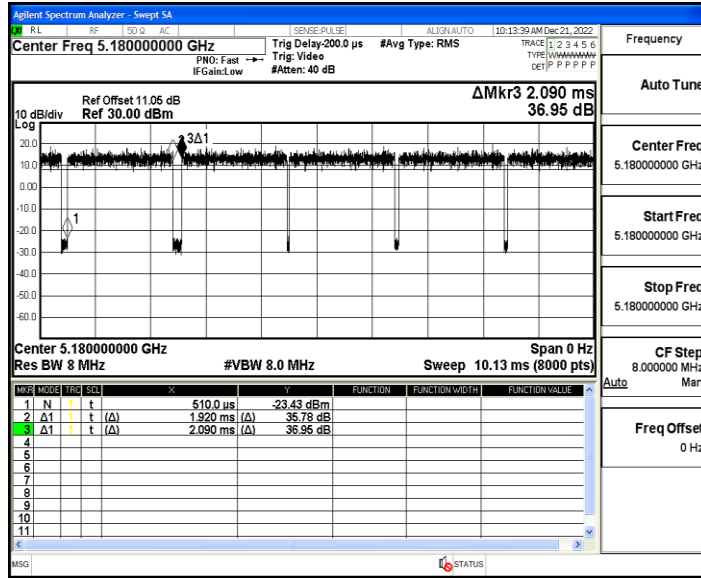
### Test Result

TestMode	Antenna	Channel	Transmission Duration [ms]	Transmission Period [ms]	Duty Cycle [%]	1/T [kHz]
11A	Ant1	5180	2.07	2.22	93.24	0.48
		5200	2.07	2.22	93.24	0.48
		5240	2.06	2.23	92.38	0.49
11N20SISO	Ant1	5180	1.92	2.09	91.87	0.52
		5200	1.92	2.09	91.87	0.52
		5240	1.92	2.08	92.31	0.52
11N40SISO	Ant1	5190	0.94	1.11	84.68	1.06
		5230	0.95	1.12	84.82	1.05
11AC20SISO	Ant1	5180	1.93	2.10	91.90	0.52
		5200	1.94	2.10	92.38	0.52
		5240	1.93	2.00	96.50	0.52
11AC40SISO	Ant1	5190	0.95	1.11	85.59	1.05
		5230	0.95	1.13	84.07	1.05
11AC80SISO	Ant1	5210	0.46	0.64	71.88	2.17

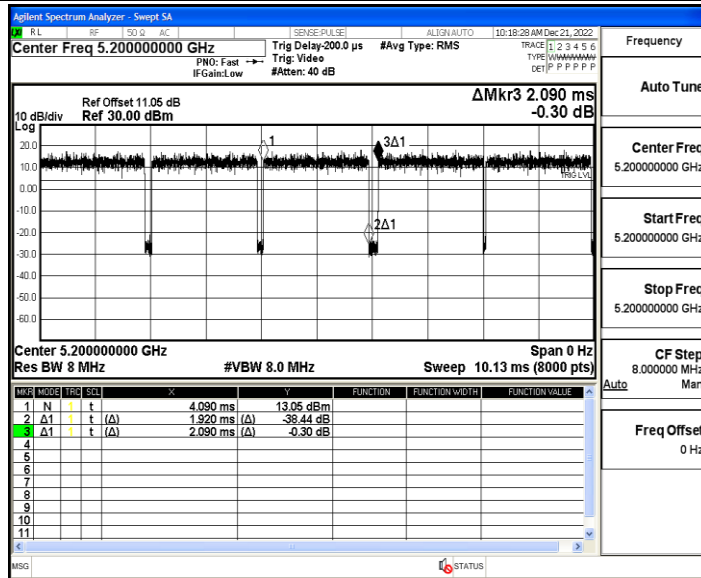
### Test Graphs



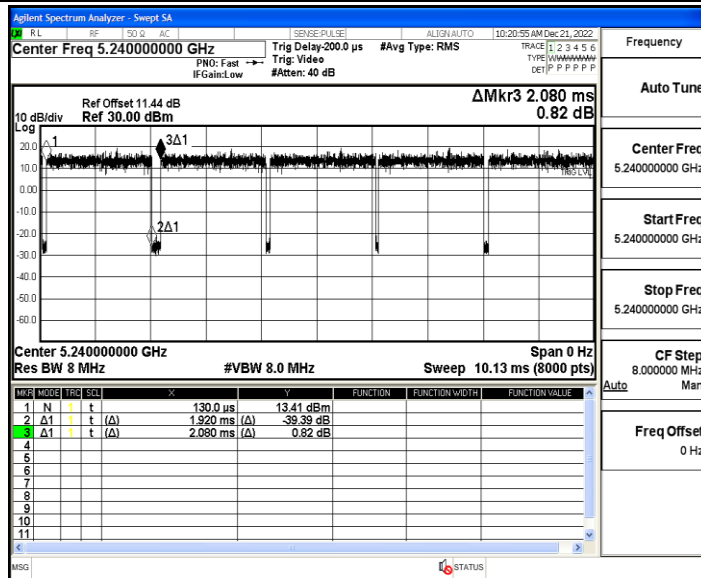
11N20SISO\_Ant1\_5180



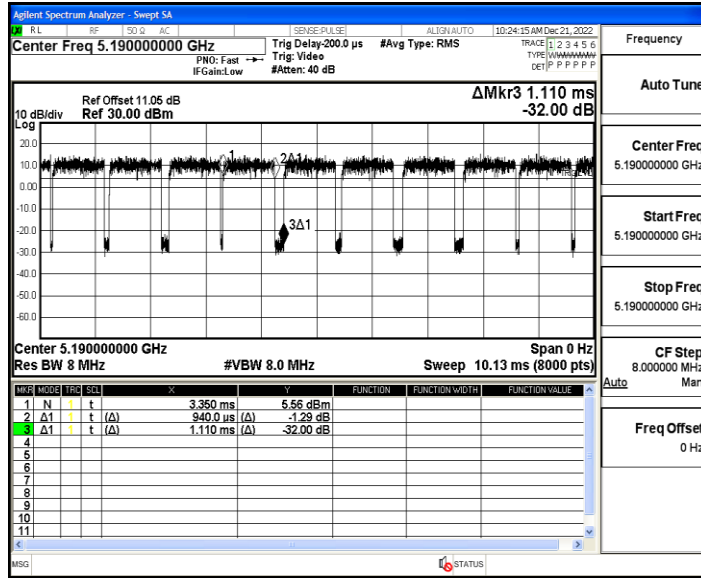
11N20SISO\_Ant1\_5200



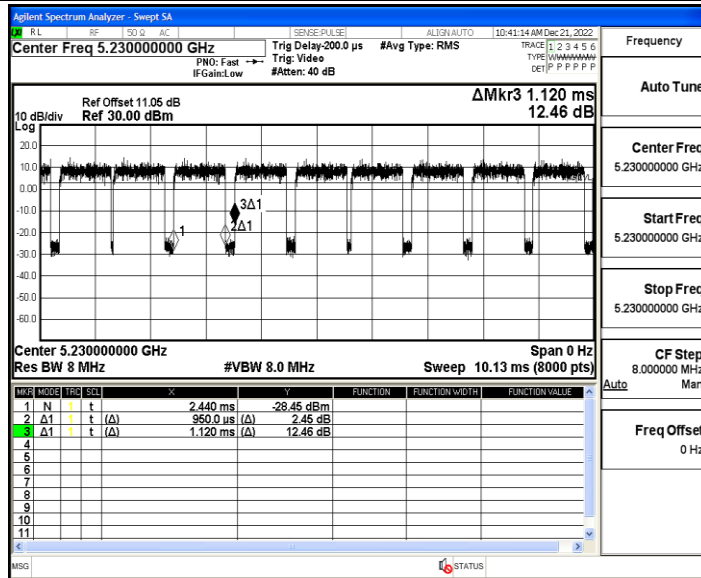
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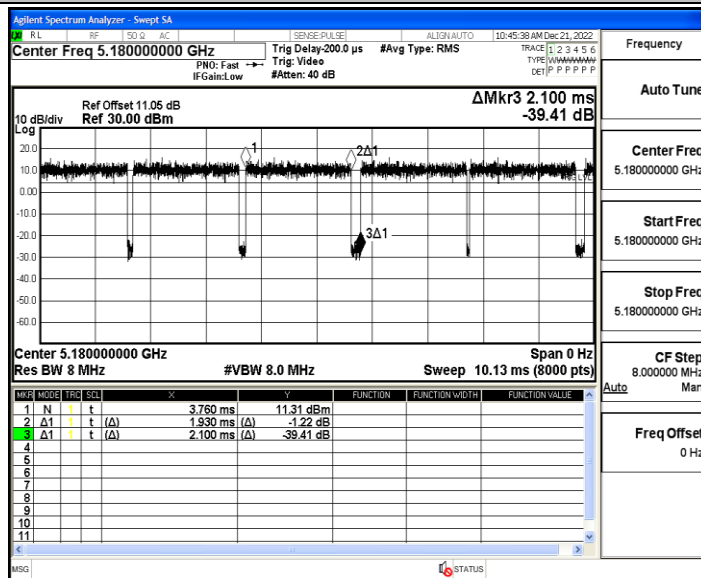
11N40SISO\_Ant1\_5190



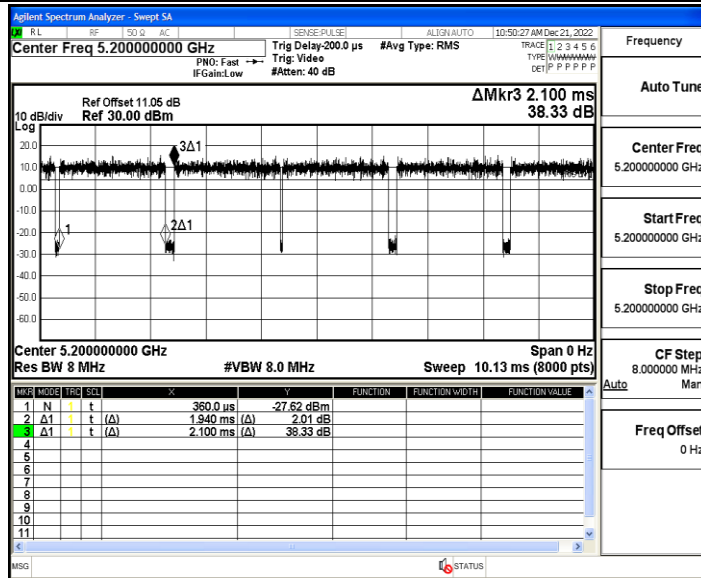
11N40SISO\_Ant1\_5230



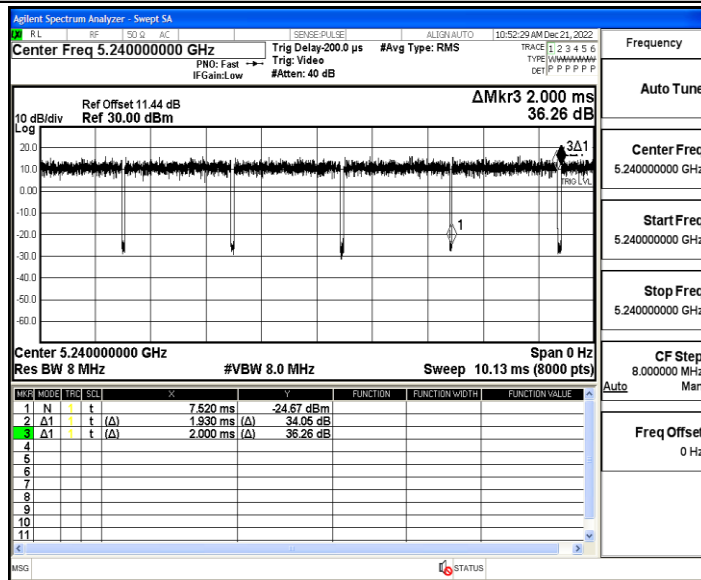
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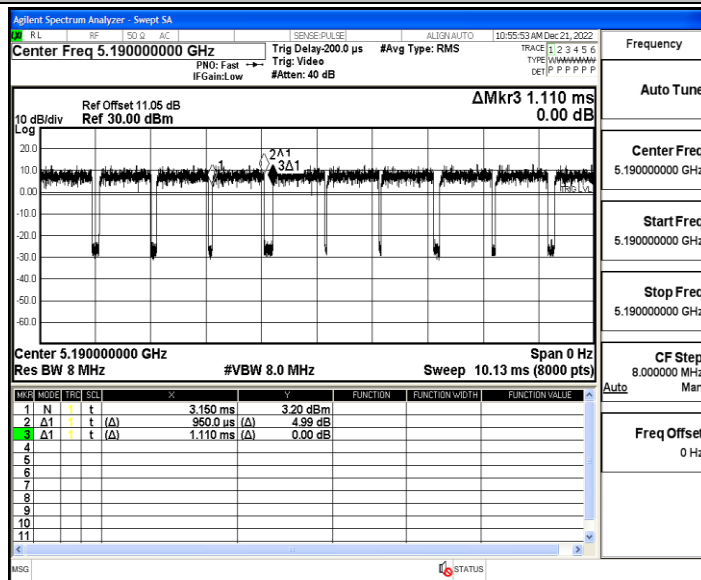
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11AC20SISO\_Ant1\_5240

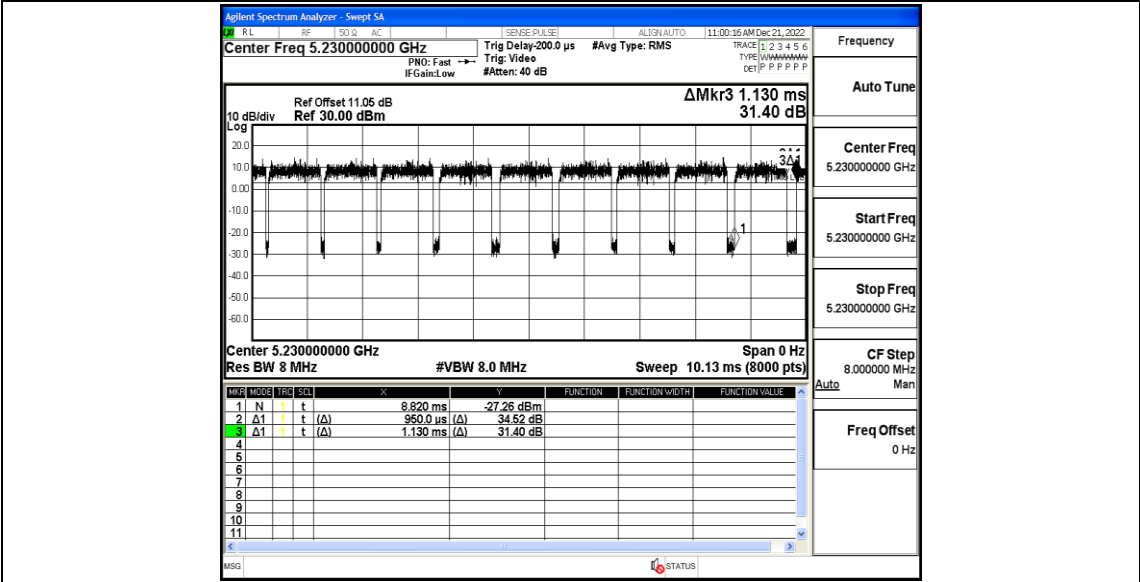


11AC40SISO\_Ant1\_5190



11AC40SISO\_Ant1\_5230





11AC80SISO\_Ant1\_5210

