FCC Appendix RF Test Data of Module 2

FCC ID	**:**	**2BO56-ZA001**
Company:	**:**	**Shenzhen Xingbiao Hang Technology Co., Ltd.**
EUT	**:**	**Dual WiFi three-in-one closed small system**
Model Number	**:**	**ZA001**
Report No.	**:**	**CTA25041800504**
Reviewed By	**:**	**Eric Wang**

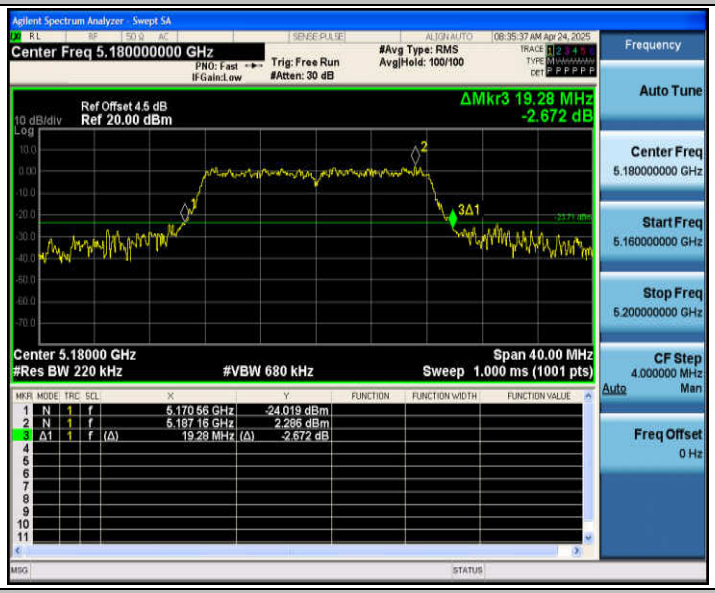
Appendix A1: Emission Bandwidth

Test Result

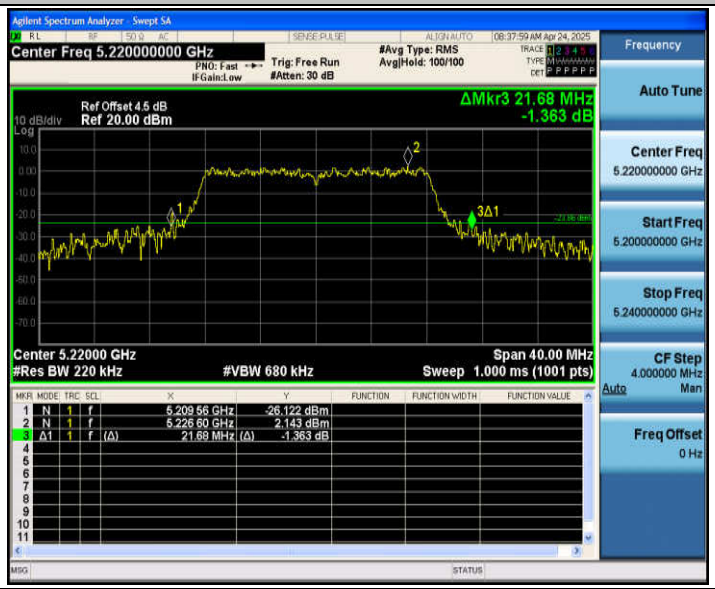
TestMode	Antenna	Freq(MHz)	26db EBW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
11A	Ant1	5180	19.280	5170.560	5189.840	---	---
		5220	21.680	5209.560	5231.240	---	---
		5240	23.800	5229.280	5253.080	---	---
		5745	23.360	5733.480	5756.840	---	---
		5785	22.800	5772.840	5795.640	---	---
		5825	24.560	5813.080	5837.640	---	---
11N20SISO	Ant1	5180	26.920	5168.240	5195.160	---	---
		5220	24.840	5207.880	5232.720	---	---
		5240	24.440	5228.160	5252.600	---	---
		5745	24.560	5733.040	5757.600	---	---
		5785	24.600	5772.880	5797.480	---	---
		5825	25.440	5812.280	5837.720	---	---
11N40SISO	Ant1	5190	43.760	5168.960	5212.720	---	---
		5230	43.520	5208.960	5252.480	---	---
		5755	53.760	5725.640	5779.400	---	---
		5795	43.600	5773.320	5816.920	---	---

Test Graphs

11A_Ant1_5180

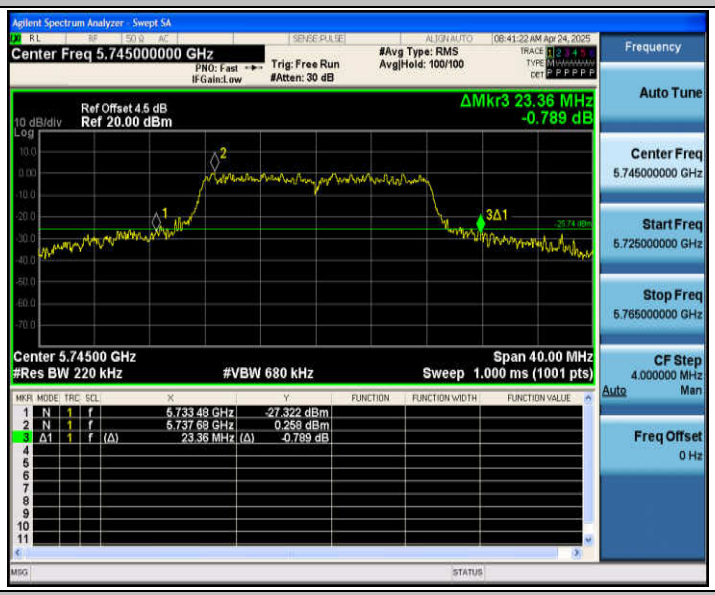


11A_Ant1_5220

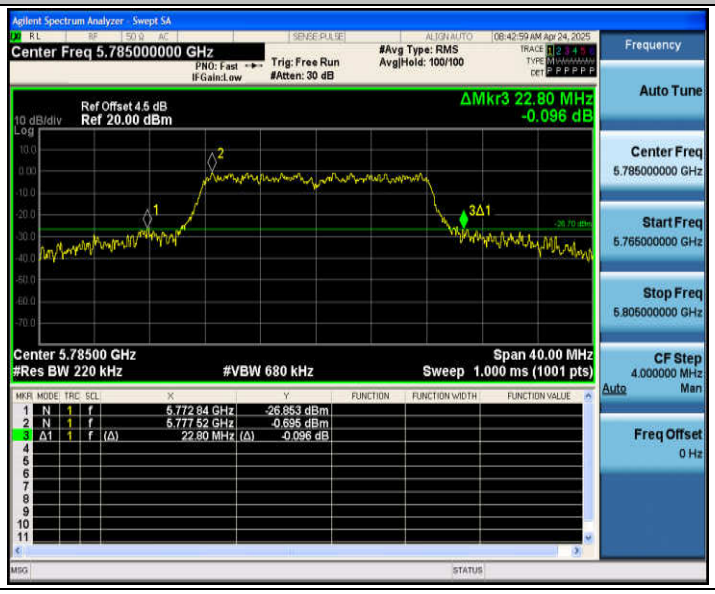


11A_Ant1_5240

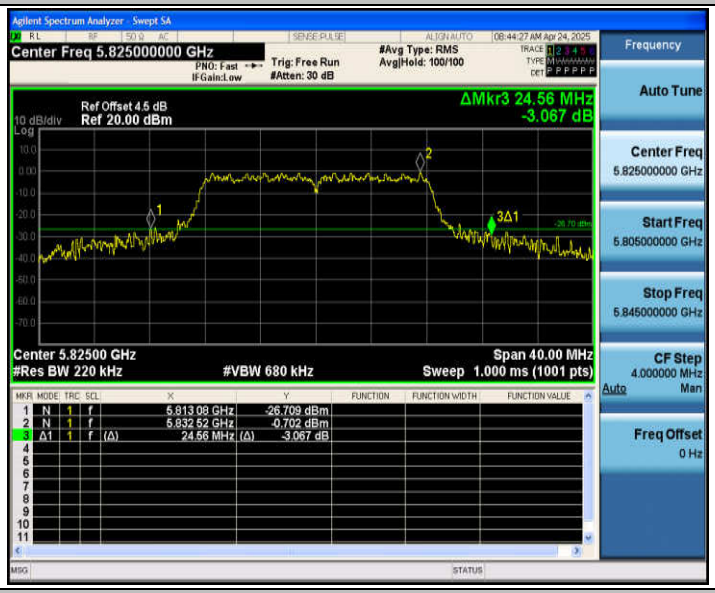
11A_Ant1_5745



11A_Ant1_5785



11A_Ant1_5825

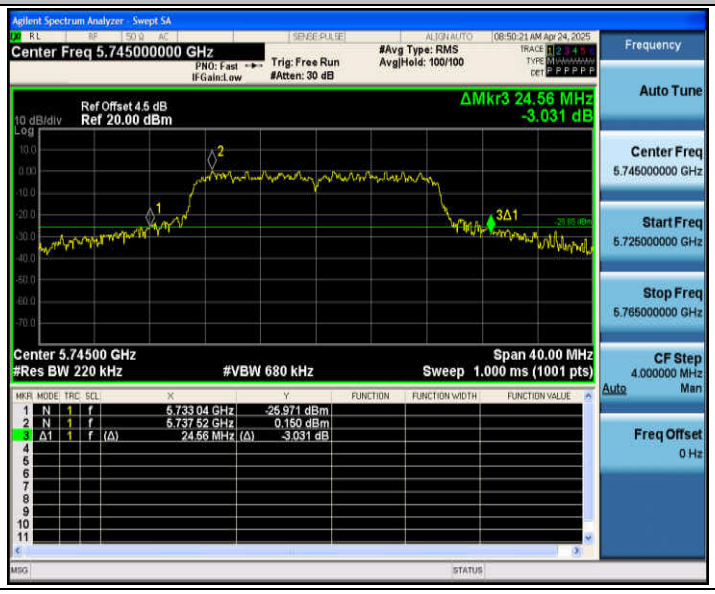


11N20SISO_Ant1_5180

11N20SISO_Ant1_5220

11N20SISO_Ant1_5240

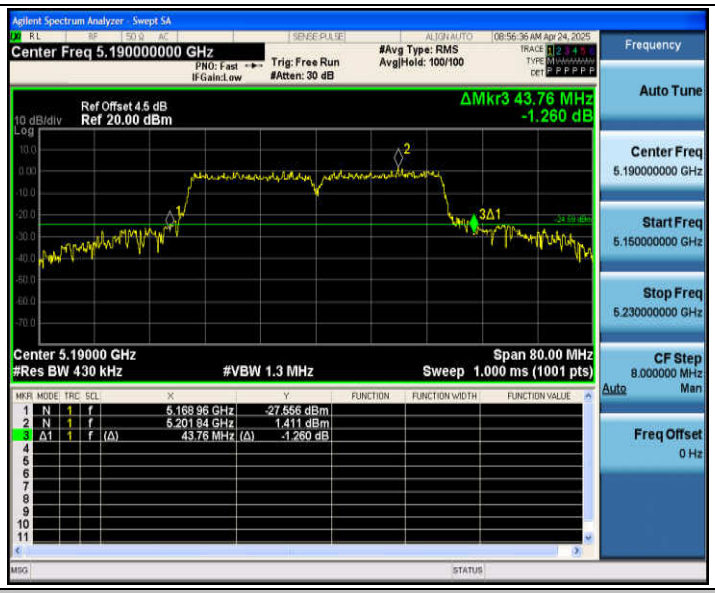
11N20SISO_Ant1_5745



11N20SISO_Ant1_5785

11N20SISO_Ant1_5825

11N40SISO_Ant1_5190



11N40SISO_Ant1_5230

11N40SISO_Ant1_5755

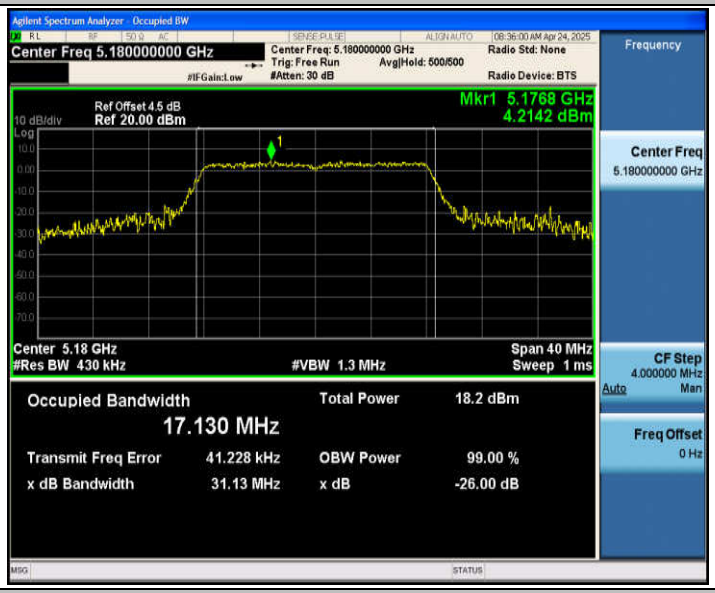
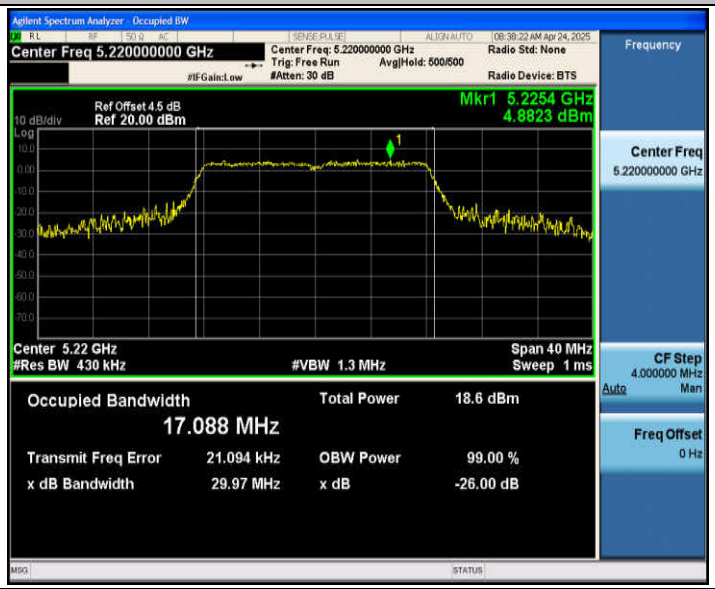
11N40SISO_Ant1_5795

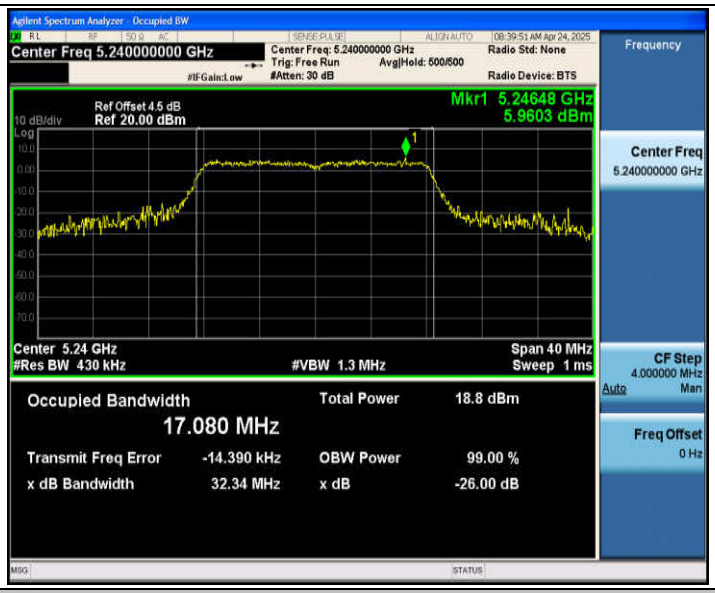
Appendix A2: Occupied channel bandwidth

Test Result

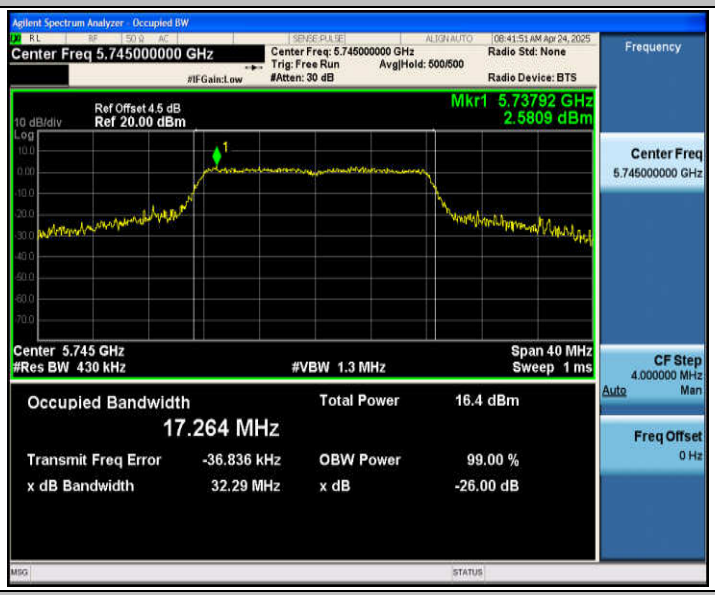
TestMode	Antenna	Freq(MHz)	OCB [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
11A	Ant1	5180	17.130	5171.4762	5188.6062	---	---
		5220	17.088	5211.4771	5228.5651	---	---
		5240	17.080	5231.4456	5248.5256	---	---
		5745	17.264	5736.3312	5753.5952	---	---
		5785	17.177	5776.4120	5793.5890	---	---
		5825	17.137	5816.4710	5833.6080	---	---
11N20SISO	Ant1	5180	18.190	5170.9942	5189.1842	---	---
		5220	18.168	5210.9749	5229.1429	---	---
		5240	18.179	5230.9916	5249.1706	---	---
		5745	18.168	5735.9320	5754.1000	---	---
		5785	18.115	5776.0013	5794.1163	---	---
		5825	18.169	5815.9599	5834.1289	---	---
11N40SISO	Ant1	5190	36.914	5171.8118	5208.7258	---	---
		5230	36.869	5211.6477	5248.5167	---	---
		5755	36.628	5736.6541	5773.2821	---	---
		5795	36.420	5776.8559	5813.2759	---	---

Test Graphs

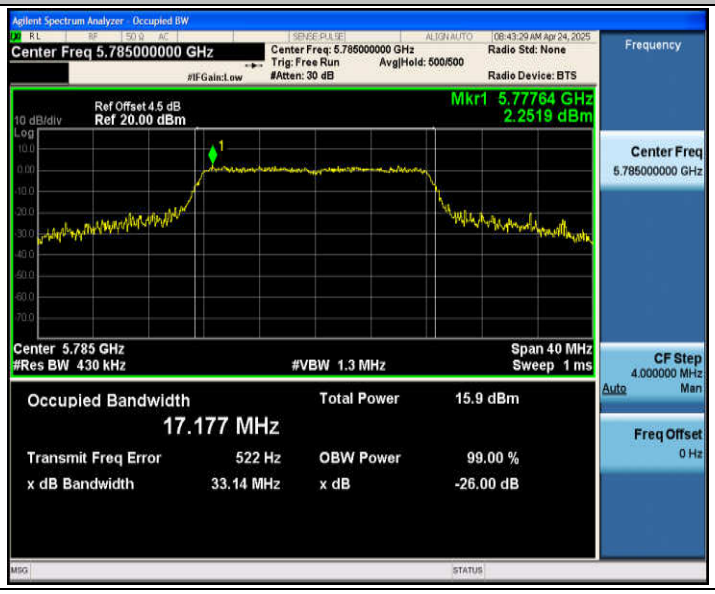
11A_Ant1_5180

11A_Ant1_5220

11A_Ant1_5240



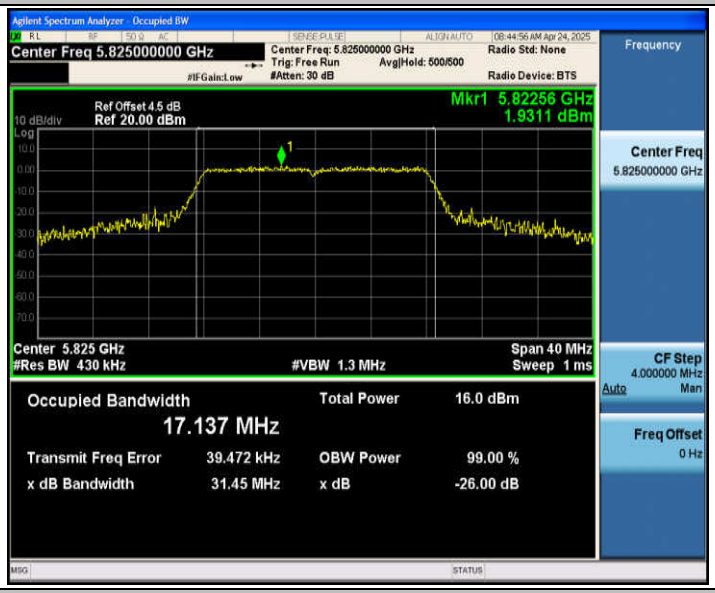
11A_Ant1_5745



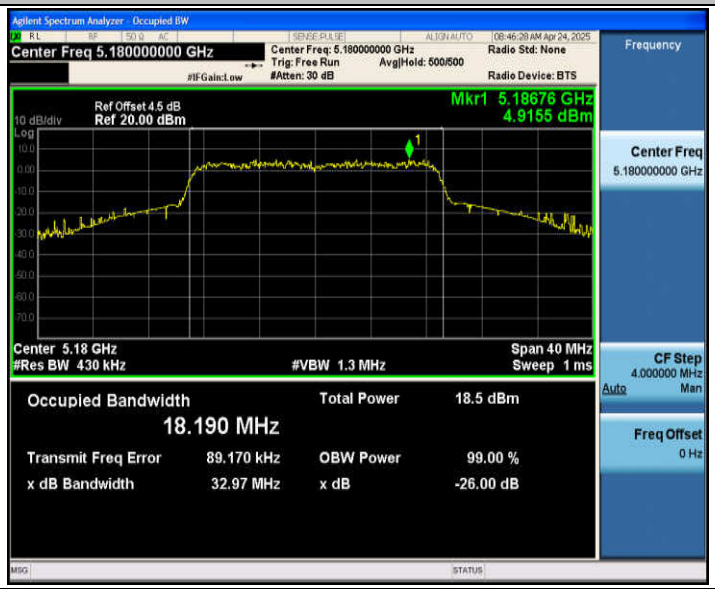
11A_Ant1_5785



11A_Ant1_5825

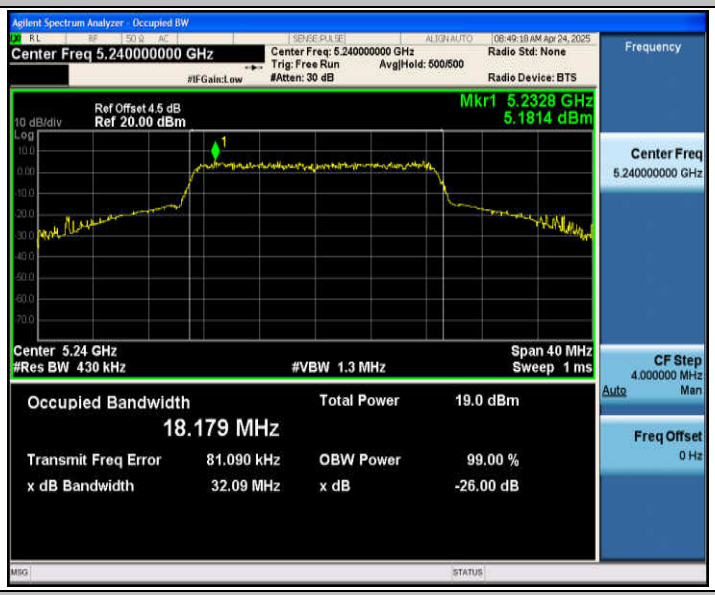


11N20SISO_Ant1_5180

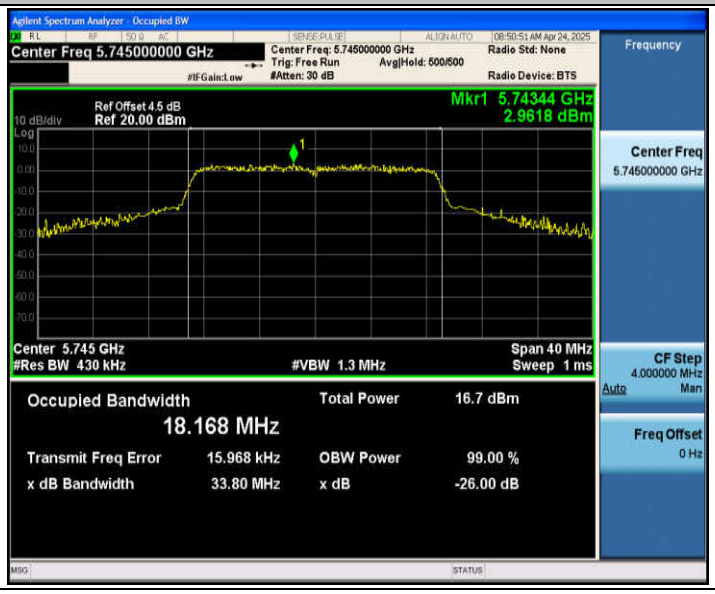


11N20SISO_Ant1_5220

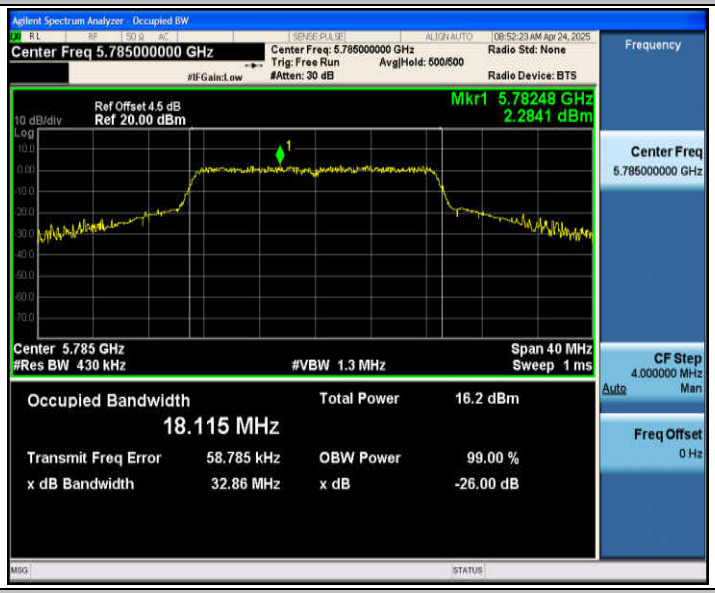
11N20SISO_Ant1_5240



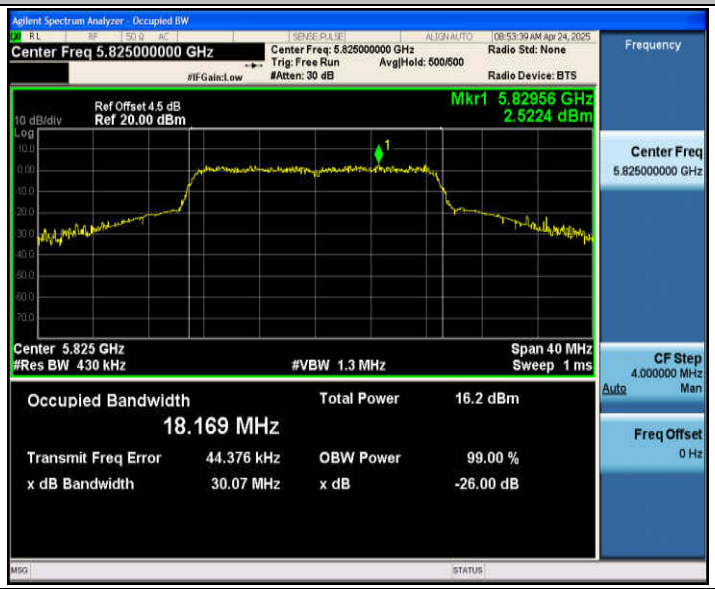
11N20SISO_Ant1_5745



11N20SISO_Ant1_5785



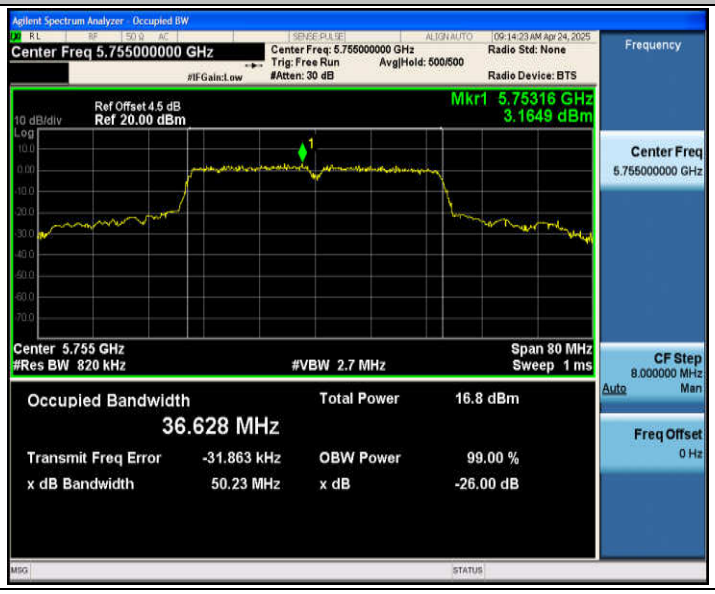
11N20SISO_Ant1_5825

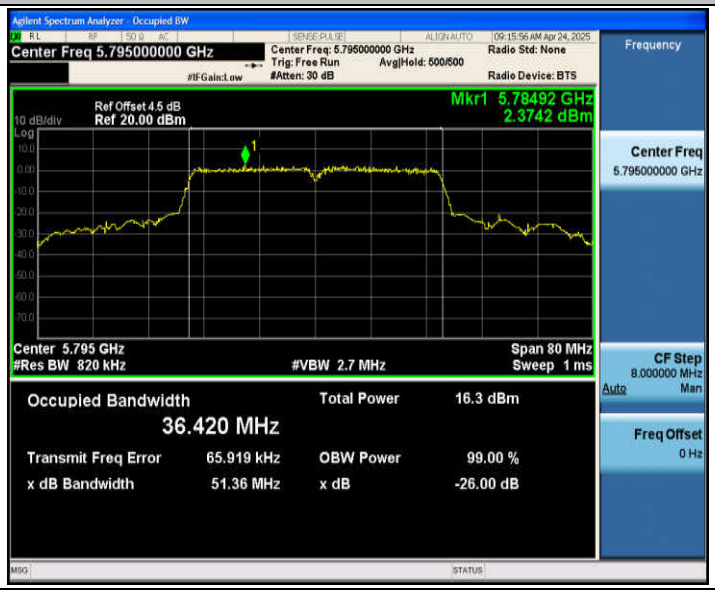


11N40SISO_Ant1_5190

11N40SISO_Ant1_5230

11N40SISO_Ant1_5755



11N40SISO_Ant1_5795


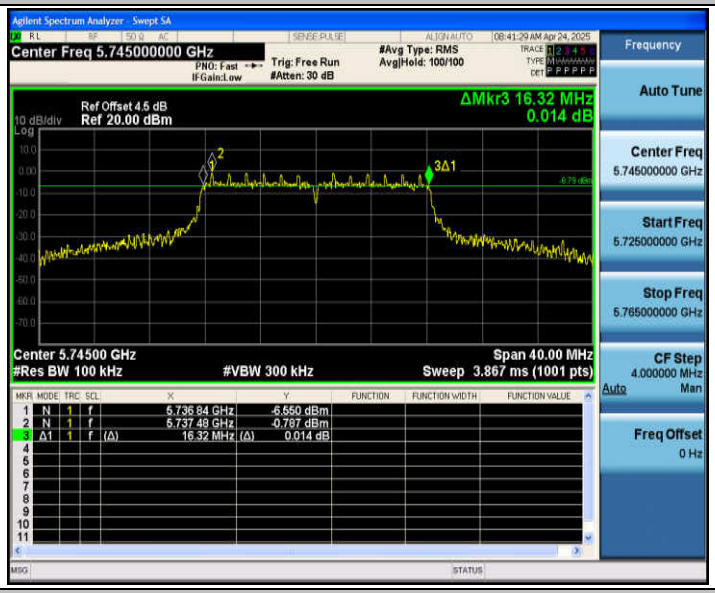
Appendix A3: Min emission bandwidth

Test Result B4

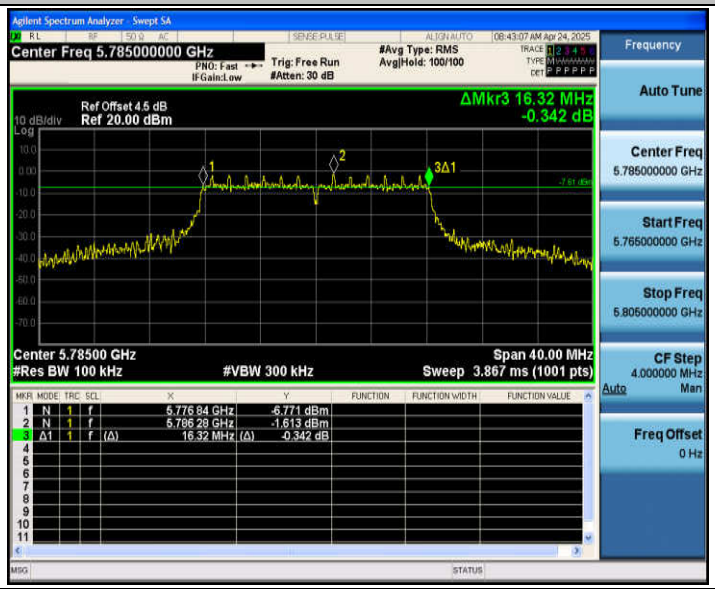
TestMode	Antenna	Freq(MHz)	6db EBW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
11A	Ant1	5745	16.320	5736.840	5753.160	0.5	PASS
		5785	16.320	5776.840	5793.160	0.5	PASS
		5825	16.320	5816.840	5833.160	0.5	PASS
11N20SISO	Ant1	5745	16.800	5736.640	5753.440	0.5	PASS
		5785	17.120	5776.400	5793.520	0.5	PASS
		5825	16.880	5816.640	5833.520	0.5	PASS
11N40SISO	Ant1	5755	35.200	5737.400	5772.600	0.5	PASS
		5795	35.200	5777.400	5812.600	0.5	PASS

Test Graphs B4

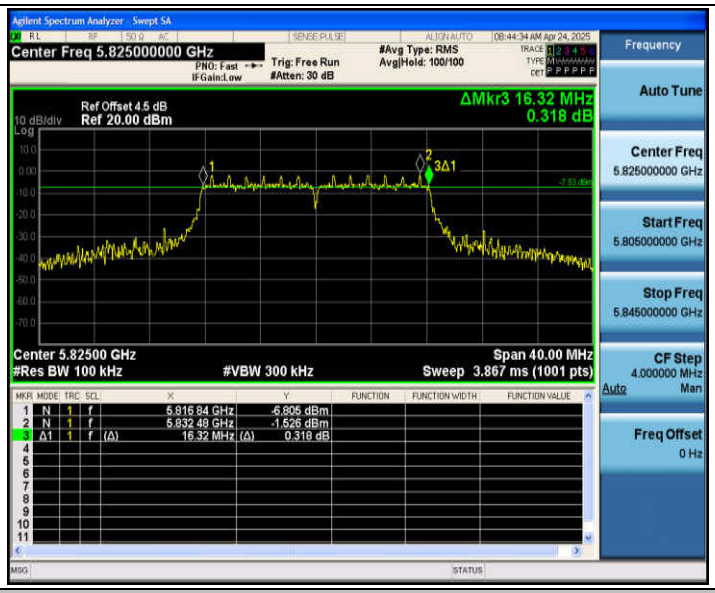
11A_Ant1_5745



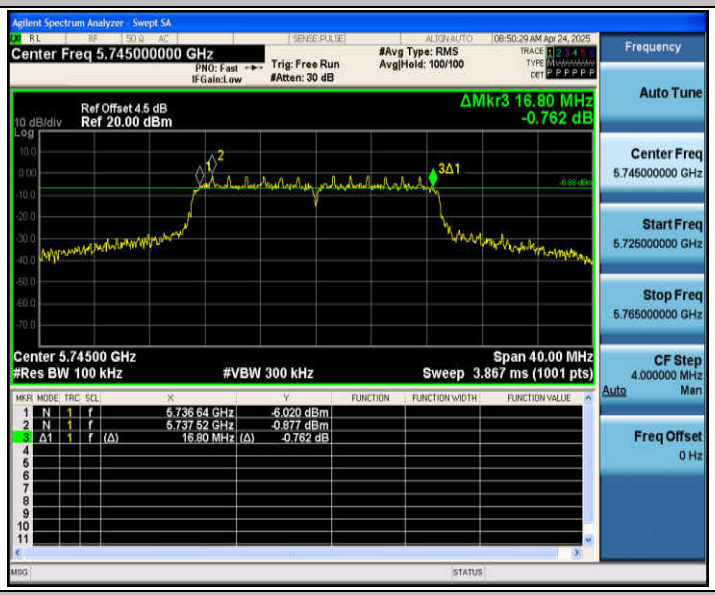
11A_Ant1_5785



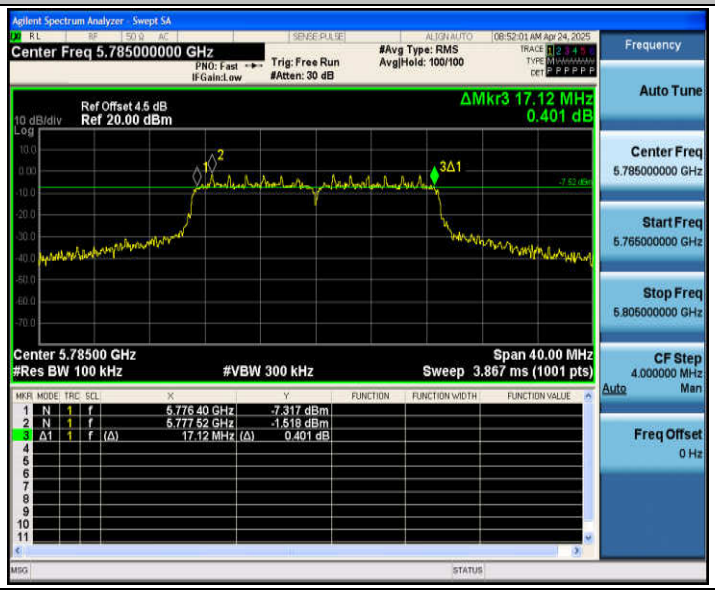
11A_Ant1_5825



11N20SISO_Ant1_5745

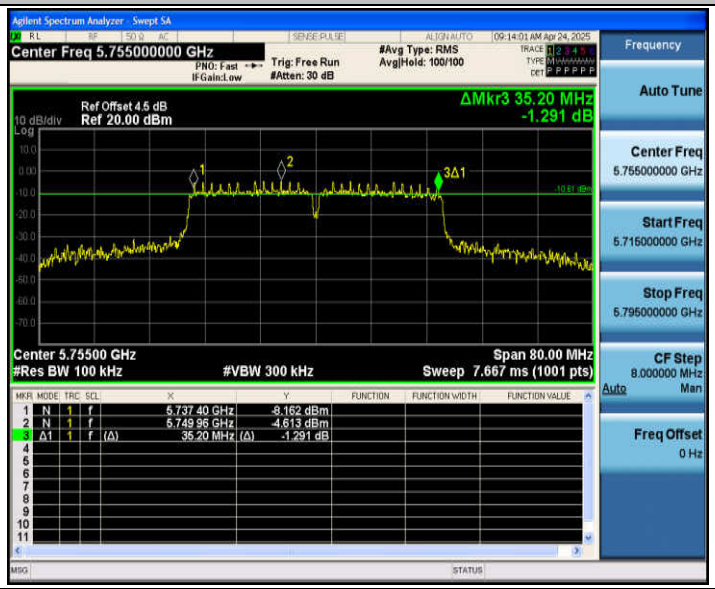


11N20SISO_Ant1_5785

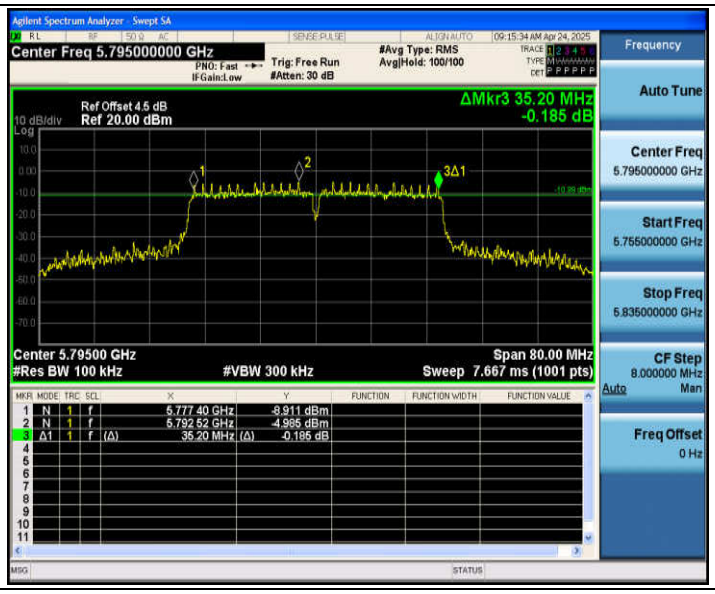


11N20SISO_Ant1_5825

11N40SISO_Ant1_5755



11N40SISO_Ant1_5795

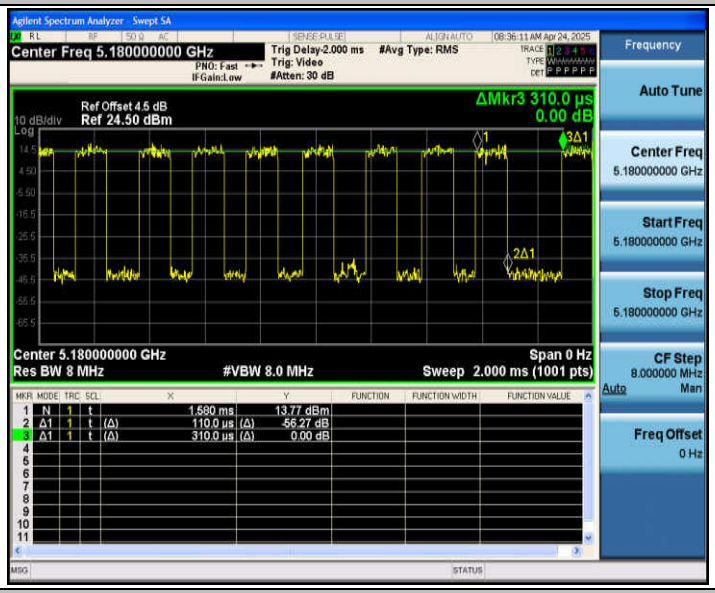
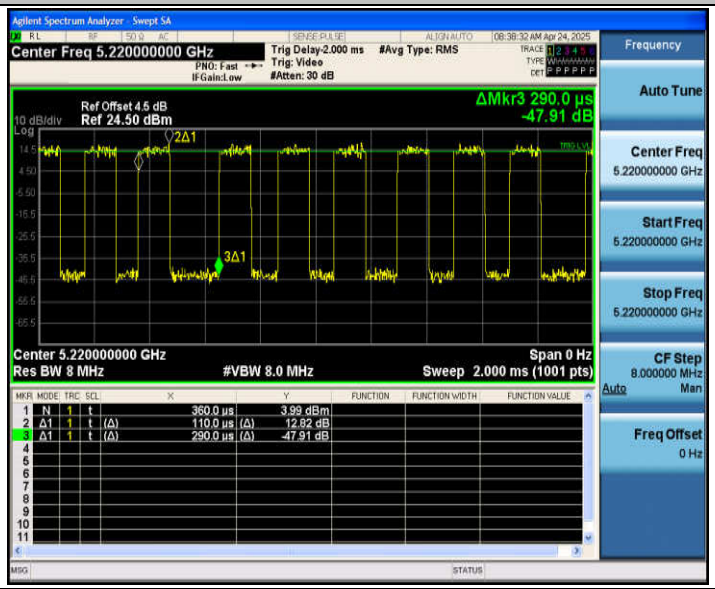

Agilent Spectrum Analyzer - Swept SA
Center Freq 5.795000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 30 dB
#Avg Type: RMS
Avg|Hold: 100/100
09:15:34 AM Apr 24, 2025
Frequency
Auto Tune
Center Freq
5.795000000 GHz
Start Freq
5.755000000 GHz
Stop Freq
5.835000000 GHz
CF Step
8.000000 MHz
Auto
Man
Freq Offset
0 Hz
Ref Offset 4.5 dB
10 dB/div
Ref 20.00 dBm
Log
ΔMkr3 35.20 MHz
-0.185 dB
Center 5.79500 GHz
#Res BW 100 kHz
#VBW 300 kHz
Span 80.00 MHz
Sweep 7.667 ms (1001 pts)
1 N 1 f 5.777 40 GHz -8.911 dBm
2 N 1 f 5.792 52 GHz -4.985 dBm
3 Δ1 1 f (Δ) 35.20 MHz (Δ) -0.185 dB

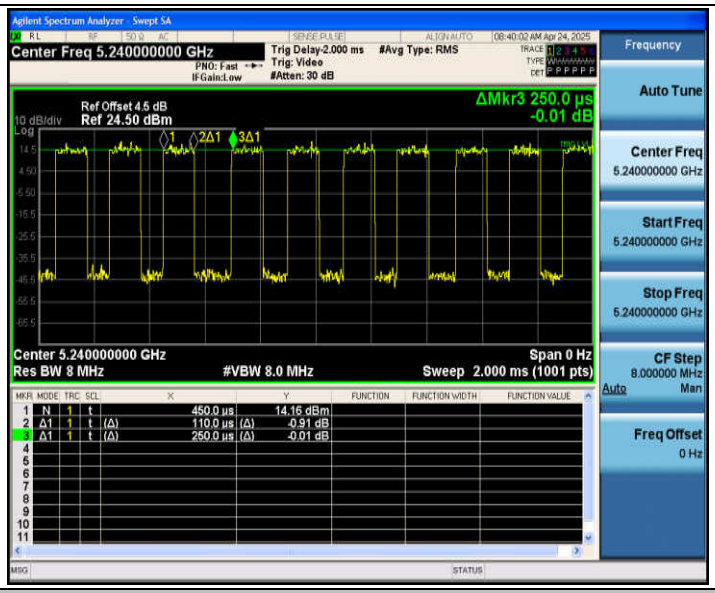
Appendix B: Duty Cycle

Test Result

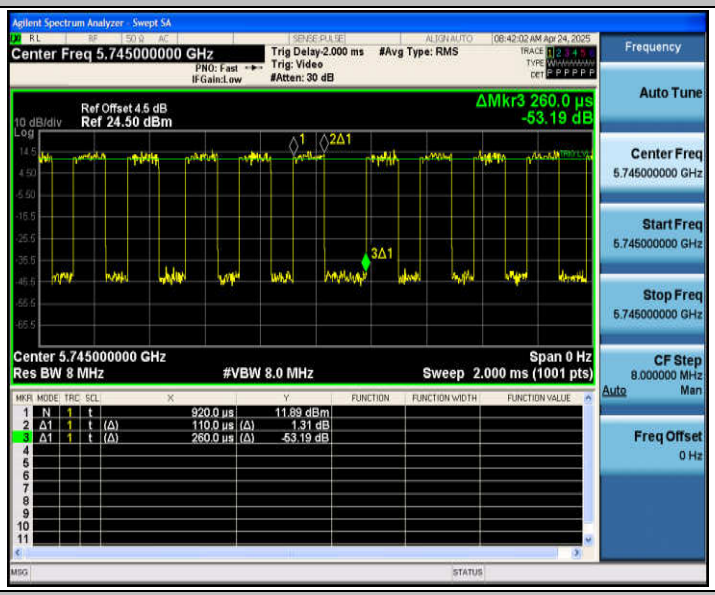
TestMode	Antenna	Freq(MHz)	Transmission Duration [ms]	Transmission Period [ms]	Duty Cycle [%]	Duty factor(dB)	Limit	Verdict
11A	Ant1	5180	0.11	0.31	35.48	4.50	---	---
		5220	0.11	0.29	37.93	4.21	---	---
		5240	0.11	0.25	44.00	3.57	---	---
		5745	0.11	0.26	42.31	3.74	---	---
		5785	0.11	0.24	45.83	3.39	---	---
		5825	0.11	0.27	40.74	3.90	---	---
11N20SISO	Ant1	5180	0.11	0.26	42.31	3.74	---	---
		5220	0.11	0.27	40.74	3.90	---	---
		5240	0.11	0.29	37.93	4.21	---	---
		5745	0.11	0.27	40.74	3.90	---	---
		5785	0.12	0.24	50.00	3.01	---	---
		5825	0.11	0.30	36.67	4.36	---	---
11N40SISO	Ant1	5190	0.07	0.26	26.92	5.70	---	---
		5230	0.07	0.23	30.43	5.17	---	---
		5755	0.07	0.24	29.17	5.35	---	---
		5795	0.08	0.22	36.36	4.39	---	---

Test Graphs

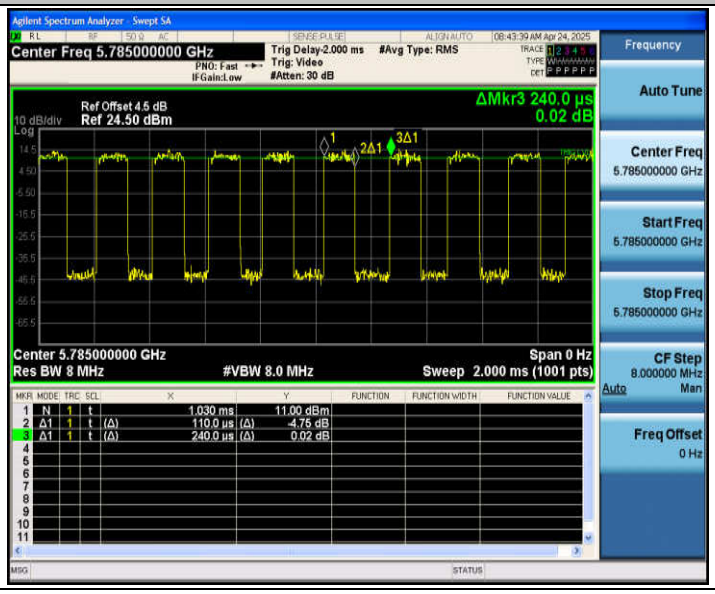
11A_Ant1_5180

11A_Ant1_5220

11A_Ant1_5240



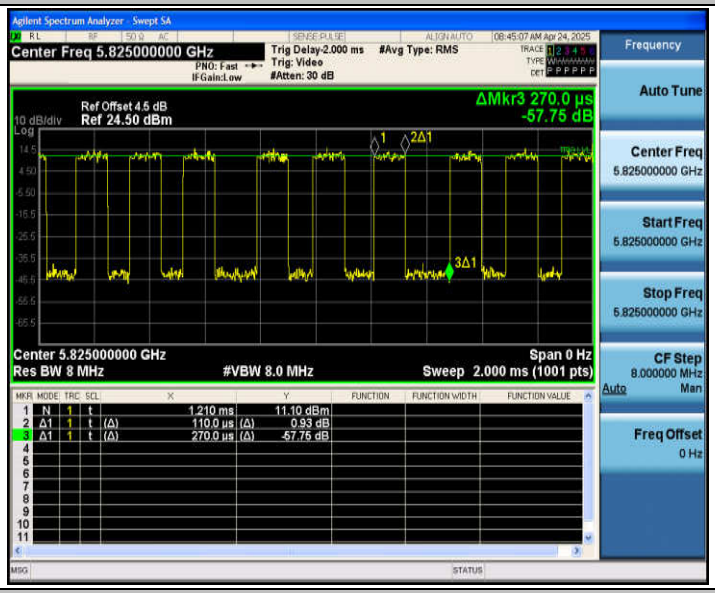
11A_Ant1_5745



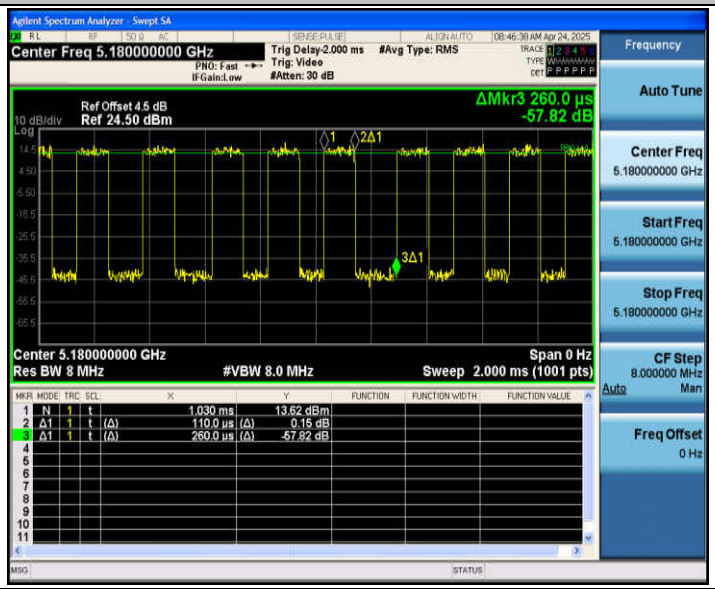
11A_Ant1_5785



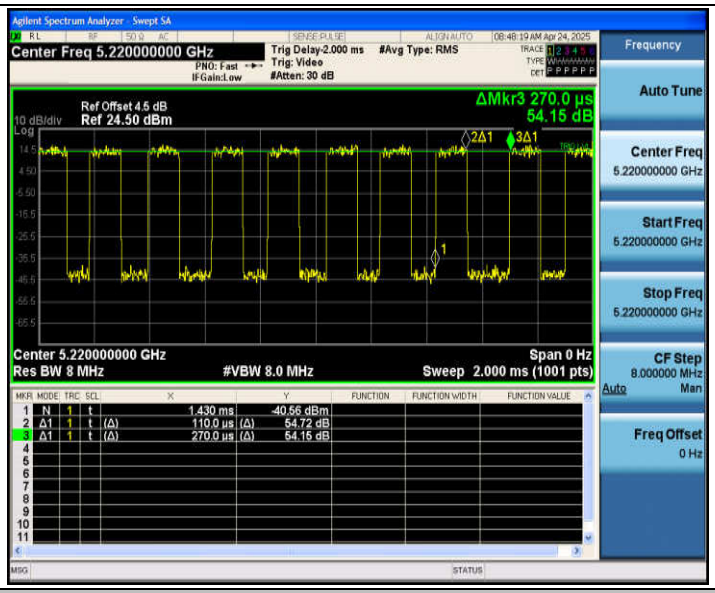
11A_Ant1_5825



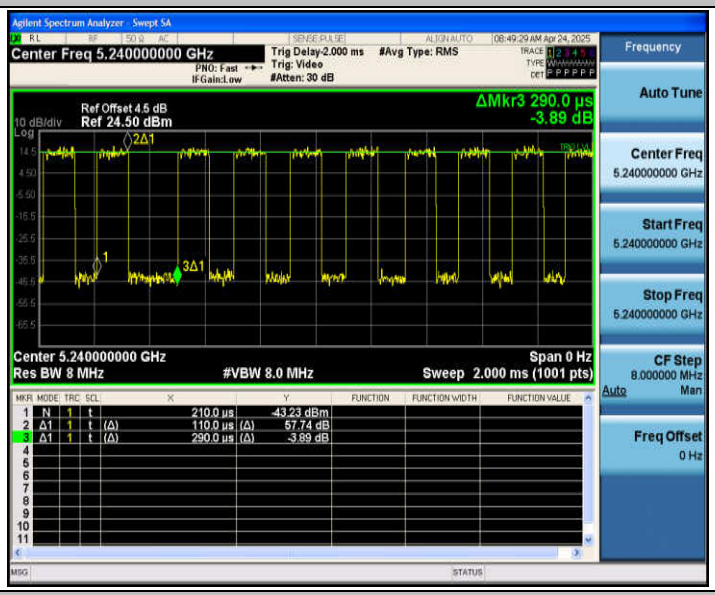
11N20SISO_Ant1_5180



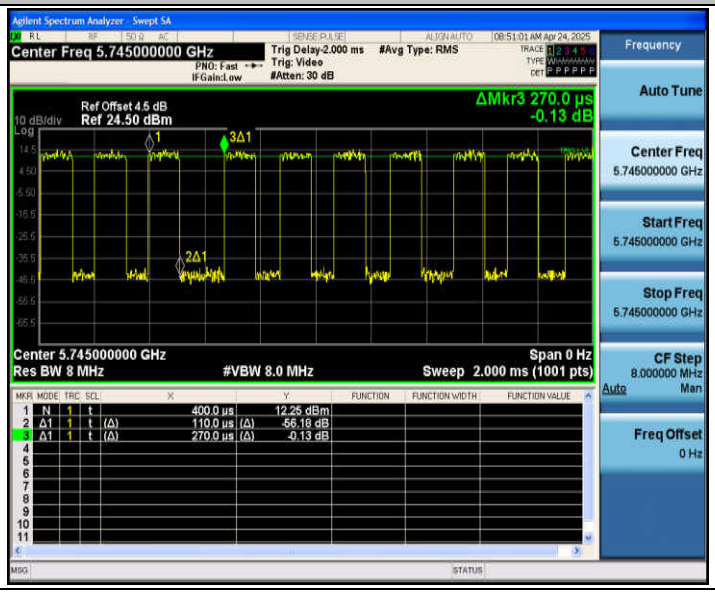
11N20SISO_Ant1_5220



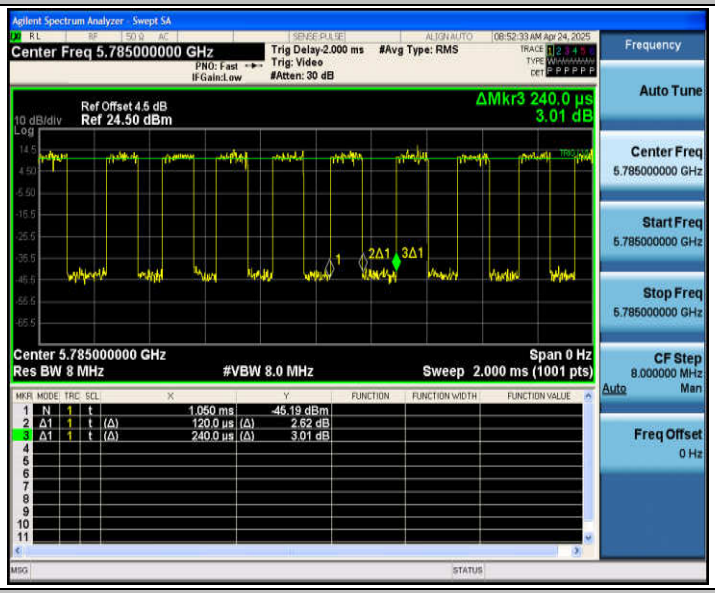
11N20SISO_Ant1_5240



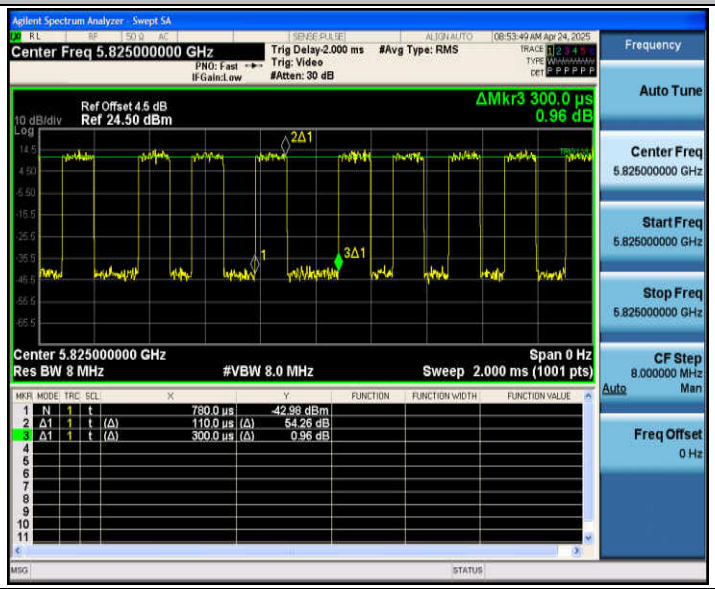
11N20SISO_Ant1_5745



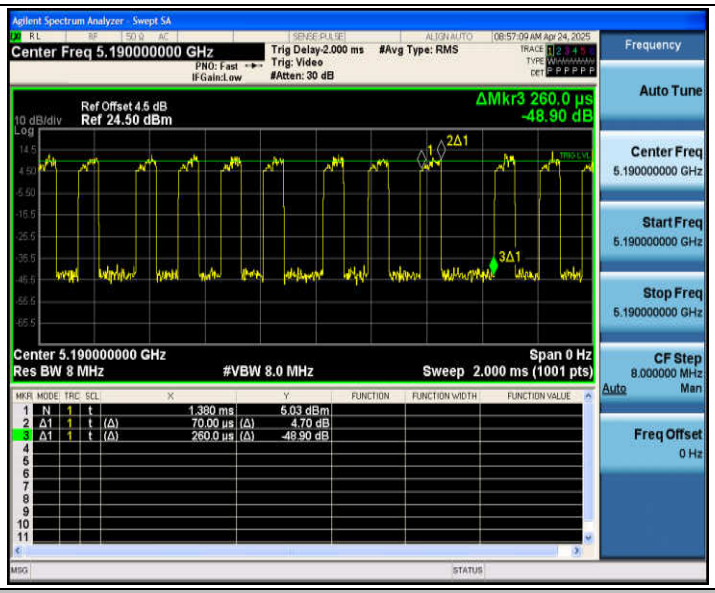
11N20SISO_Ant1_5785



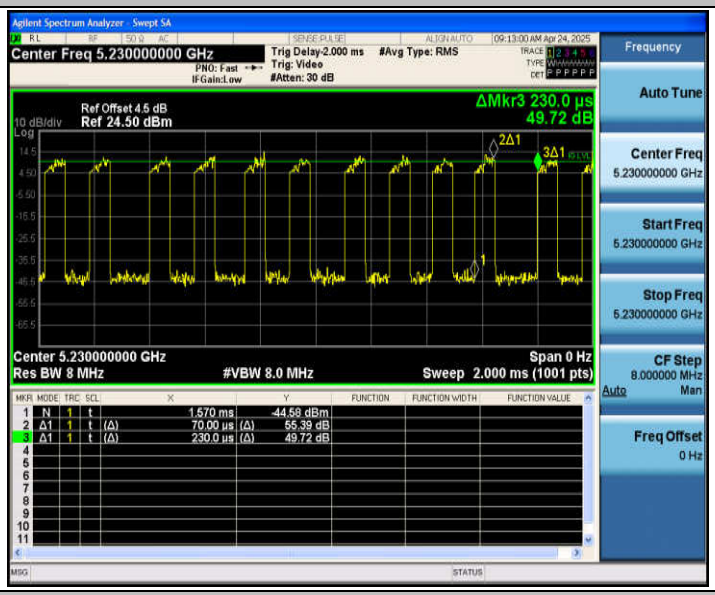
11N20SISO_Ant1_5825



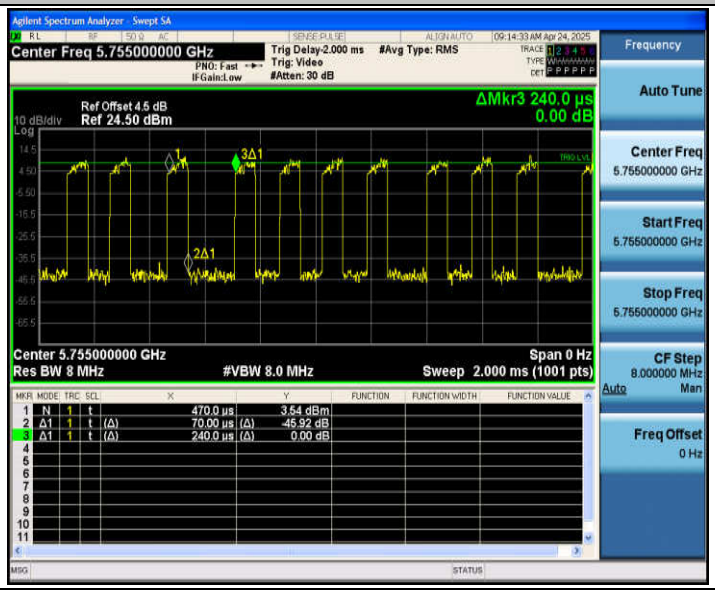
11N40SISO_Ant1_5190

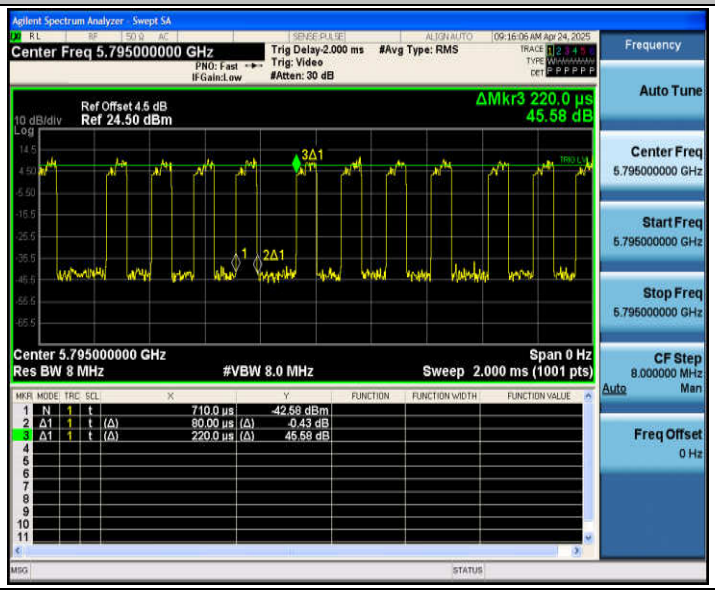


11N40SISO_Ant1_5230



11N40SISO_Ant1_5755



11N40SISO_Ant1_5795


Appendix C: Maximum conducted output power

Test Mode	Antenna	Freq(MHz)	Channel Power [dBm]	Duty Cycle [%]	DC Factor [dBm]	Result [dBm]	Limit [dBm]	Verdict
11A	Ant1	5180	8.95	35.48	4.50	13.45	≤23.98	PASS
		5220	9.43	37.93	4.21	13.64	≤23.98	PASS
		5240	9.63	44.00	3.57	13.20	≤23.98	PASS
		5745	7.24	42.31	3.74	10.98	≤30.00	PASS
		5785	6.66	45.83	3.39	10.05	≤30.00	PASS
		5825	6.76	40.74	3.90	10.66	≤30.00	PASS
11N20SISO	Ant1	5180	8.97	42.31	3.74	12.71	≤23.98	PASS
		5220	9.38	40.74	3.90	13.28	≤23.98	PASS
		5240	9.57	37.93	4.21	13.78	≤23.98	PASS
		5745	7.29	40.74	3.90	11.19	≤30.00	PASS
		5785	6.74	50.00	3.01	9.75	≤30.00	PASS
		5825	6.74	36.67	4.36	11.10	≤30.00	PASS
11N40SISO	Ant1	5190	7.36	26.92	5.70	13.06	≤23.98	PASS
		5230	7.69	30.43	5.17	12.86	≤23.98	PASS
		5755	5.51	29.17	5.35	10.86	≤30.00	PASS
		5795	5.07	36.36	4.39	9.46	≤30.00	PASS

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

Appendix D: Maximum power spectral density

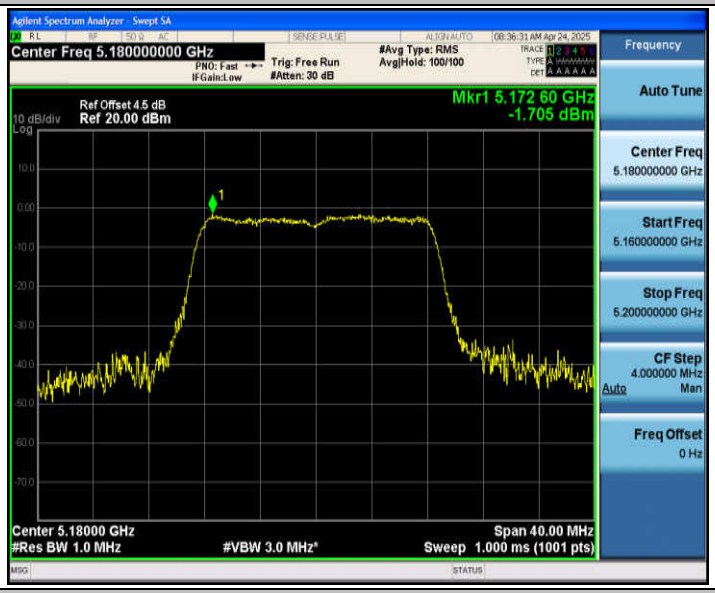
Test Result

TestMode	Antenna	Freq(MHz)	Result [dBm/1MHz] For 5.2G Result [dBm/300KHz] For 5.8G	RBW Factor (dB)	Duty factor (dB)	Result [dBm/MHz] For 5.2G Result [dBm/500kHz] For 5.8G	Limit[dBm/MHz] For 5.2G Limit[dBm/MHz] For 5.8G	Verdict
11A	Ant1	5180	-1.705	/	4.50	2.79	≤11.00	PASS
		5220	-1.277	/	4.21	2.93	≤11.00	PASS
		5240	-1.224	/	3.57	2.35	≤11.00	PASS
		5745	-8.006	2.22	3.74	-2.05	≤30.00	PASS
		5785	-8.917	2.22	3.39	-3.31	≤30.00	PASS
		5825	-8.012	2.22	3.90	-1.89	≤30.00	PASS
11N20SISO	Ant1	5180	-2.003	/	3.74	1.74	≤11.00	PASS
		5220	-0.933	/	3.90	2.97	≤11.00	PASS
		5240	-0.787	/	4.21	3.42	≤11.00	PASS
		5745	-7.834	2.22	3.90	-1.71	≤30.00	PASS
		5785	-8.653	2.22	3.01	-3.42	≤30.00	PASS
		5825	-8.796	2.22	4.36	-2.22	≤30.00	PASS
11N40SISO	Ant1	5190	-5.716	/	5.70	-0.02	≤11.00	PASS
		5230	-5.346	/	5.17	-0.18	≤11.00	PASS
		5755	-11.523	2.22	5.35	-3.95	≤30.00	PASS
		5795	-12.405	2.22	4.39	-5.80	≤30.00	PASS

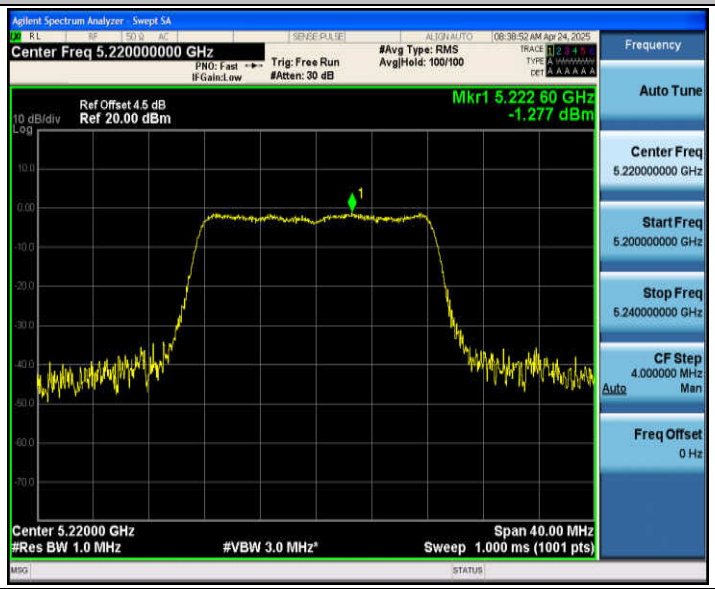
Note：1.The Result and Limit Unit is dBm/500 kHz in the band 5.725–5.85 GHz.
P.S.D(dBm/500KHz)= P.S.D(dBm/300KHz)+10 log (500 kHz/300KHz).
2. RBW factor= 10 log (500 KHz /300 KHz) = 2.22 dB

Test Graphs

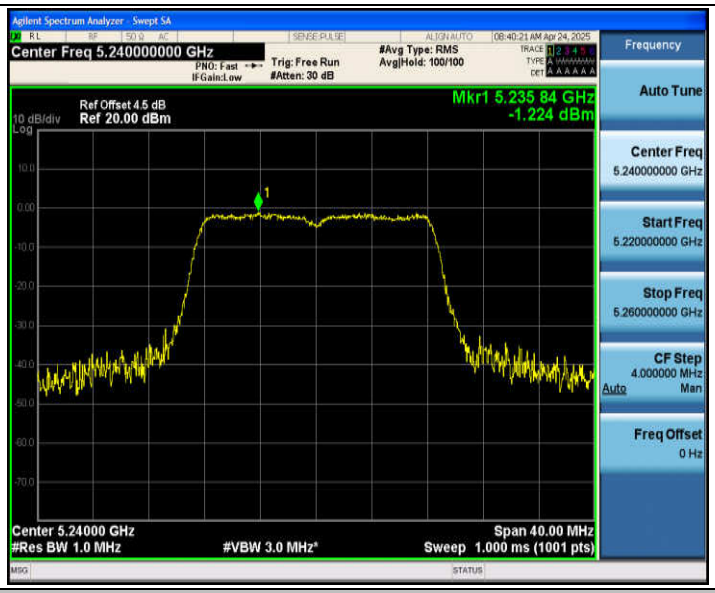
11A_Ant1_5180



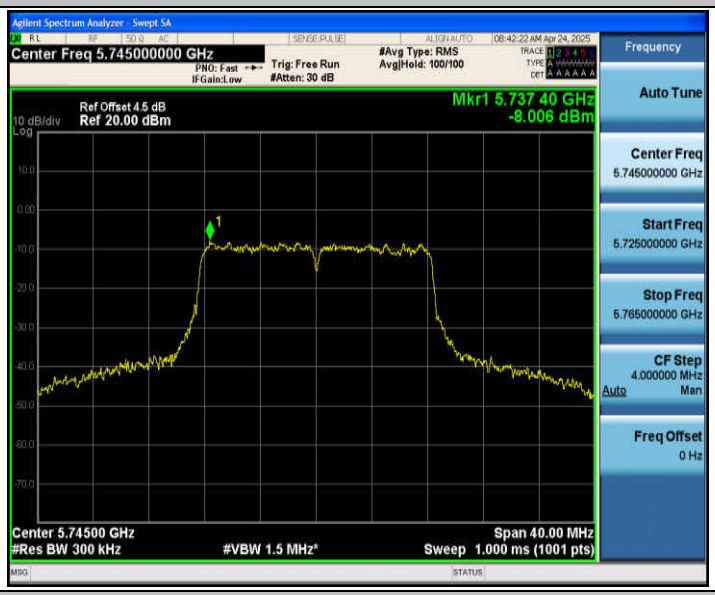
11A_Ant1_5220



11A_Ant1_5240

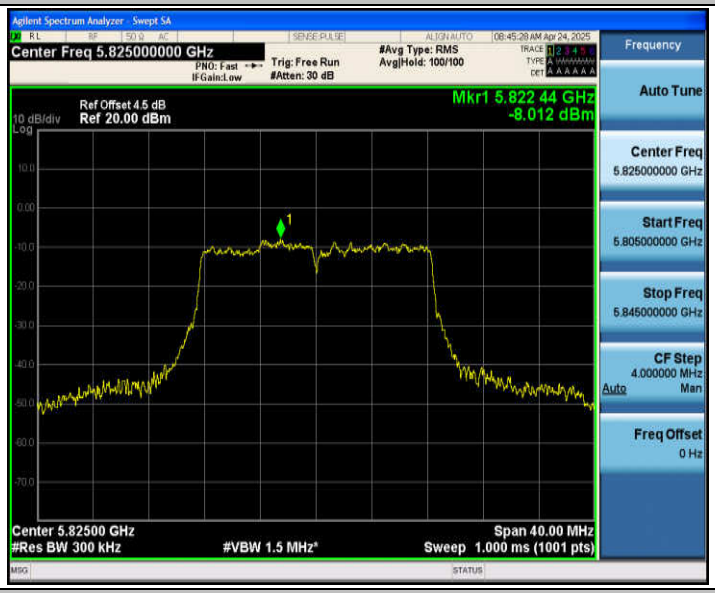


11A_Ant1_5745



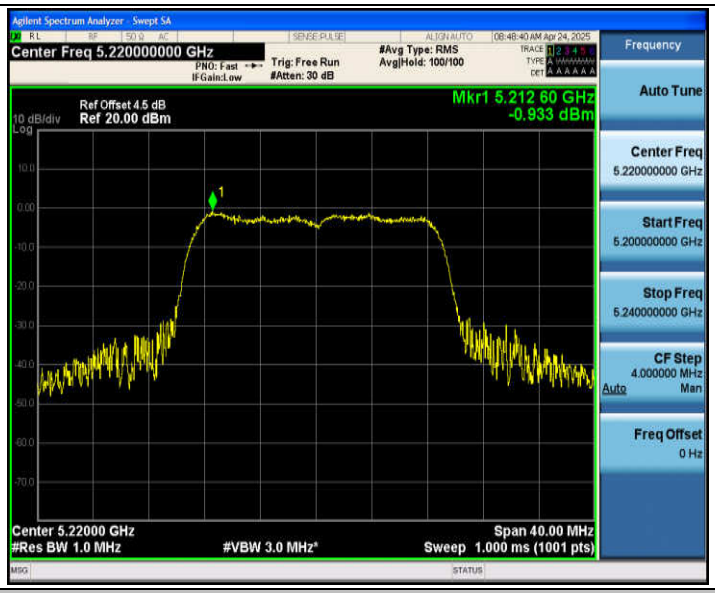
11A_Ant1_5785

11A_Ant1_5825

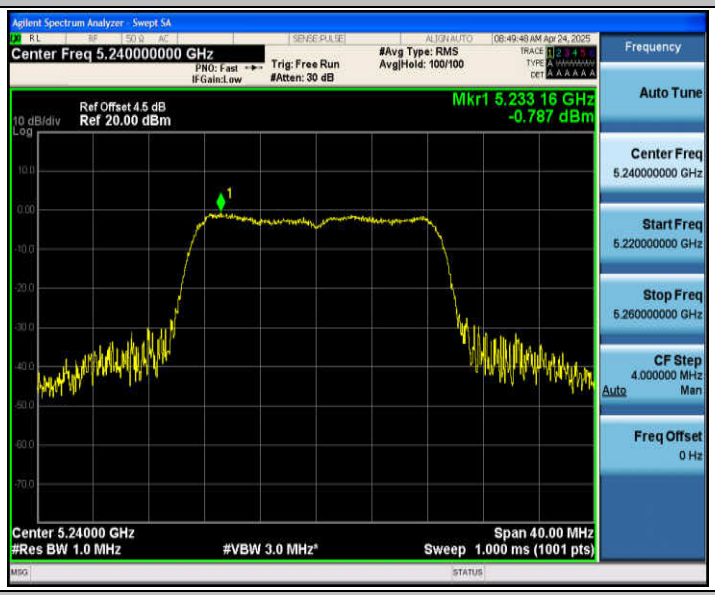


11N20SISO_Ant1_5180

11N20SISO_Ant1_5220



11N20SISO_Ant1_5240



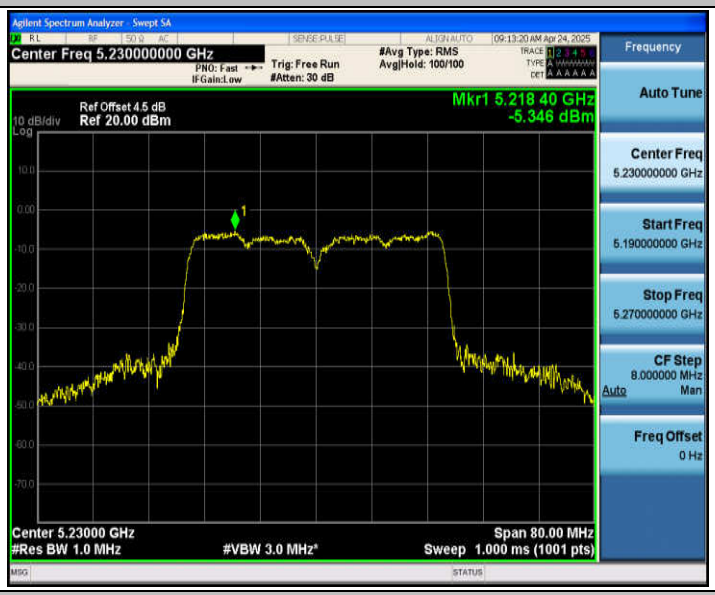
11N20SISO_Ant1_5745

11N20SISO_Ant1_5785

11N20SISO_Ant1_5825

11N40SISO_Ant1_5190

11N40SISO_Ant1_5230



11N40SISO_Ant1_5755

11N40SISO_Ant1_5795

Appendix E: Band edge measurements

Test Result B1

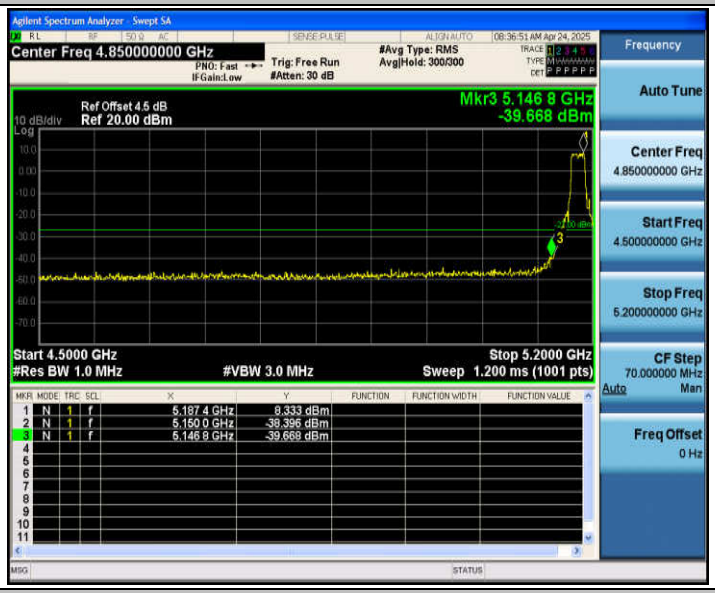
TestMode	Antenna	ChName	Freq(MHz)	Result[dBm]	Limit[dBm]	Verdict
11A	Ant1	Low	5180	-39.67	≤-27	PASS
		High	5240	-45.55	≤-27	PASS
11N20SISO	Ant1	Low	5180	-35.56	≤-27	PASS
		High	5240	-45.52	≤-27	PASS
11N40SISO	Ant1	Low	5190	-35.26	≤-27	PASS
		High	5230	-45.81	≤-27	PASS

Test Result B4

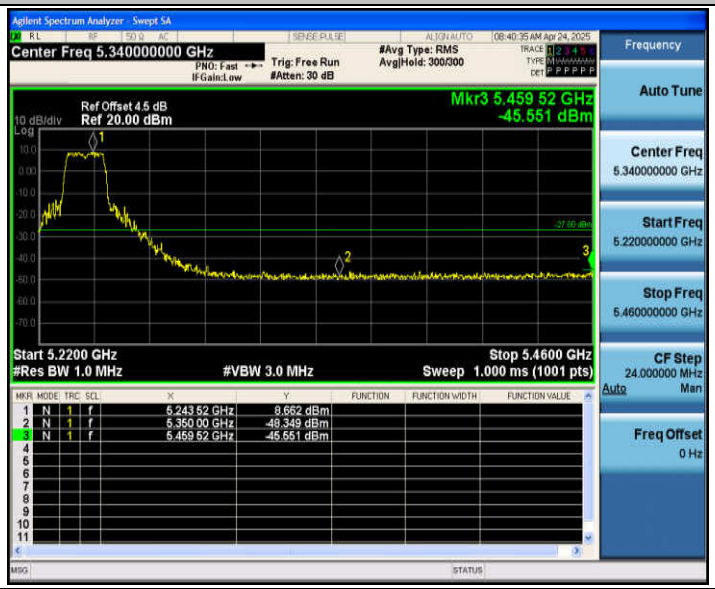
TestMode	Antenna	ChName	Freq(MHz)	FreqRange [MHz]	Result [dBm]	Limit [dBm]	Verdict
11A	Ant1	Low	5745	5650~5700	-47.23	≤-26.27	PASS
				5700~5720	-35	≤15.27	PASS
				5720~5725	-22.28	≤25.78	PASS
				5760~5650	-46.39	≤-27	PASS
		High	5825	5850~5855	-39.52	≤16.03	PASS
				5855~5875	-41.1	≤12.14	PASS
				5875~5925	-46.58	≤-26.81	PASS
				5925~5935	-45.93	≤-27	PASS
11N20SISO	Ant1	Low	5745	5650~5700	-46.49	≤-26.19	PASS
				5700~5720	-35	≤15.50	PASS
				5720~5725	-28.91	≤17.65	PASS
				5760~5650	-46.63	≤-27	PASS
		High	5825	5850~5855	-37.73	≤16.34	PASS
				5855~5875	-37.88	≤14.75	PASS
				5875~5925	-46.35	≤-26.31	PASS
				5925~5935	-46.06	≤-27	PASS
11N40SISO	Ant1	Low	5755	5650~5700	-46.59	≤-26.60	PASS
				5700~5720	-24.32	≤15.05	PASS
				5720~5725	-24.43	≤15.74	PASS
				5780~5650	-46.82	≤-27	PASS
		High	5795	5850~5855	-44.19	≤16.79	PASS
				5855~5875	-46.13	≤10.16	PASS
				5875~5925	-47	≤-26.83	PASS
				5925~5935	-45.91	≤-27	PASS

Test Graphs B1

11A_Ant1_Low_5180



11A_Ant1_High_5240



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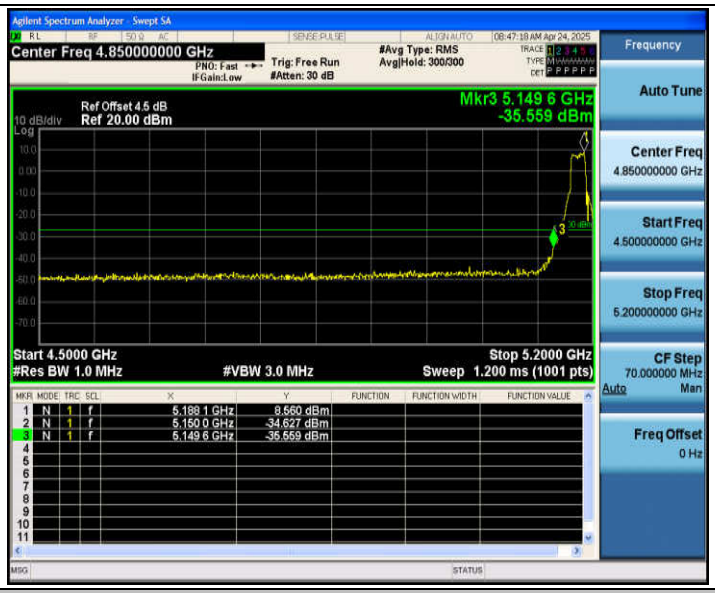

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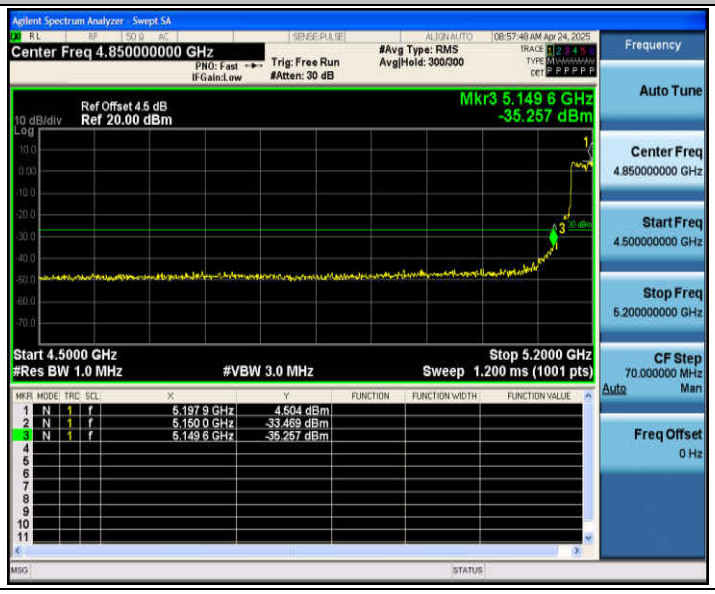
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