

Applicant: CARPLAY TECHNOLOGY (CHINA) LIMITED

Case No. : TH2405493-C02

EUT: Wireless CarPlay / Android Auto Kits

M/N: Cp1

Test Power Supply: NA

Ambient Condition: 24.1 °C, 36 %RH, 101.325 kPa

According Standard: ; other:

Test Date: 2024.06.06

Test Engineer: Blue

Appendix A1: Emission Bandwidth

Test Result

TestMode	Antenna	Channel	26db EBW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
11A	Ant1	5180	18.800	5170.640	5189.440	---	---
		5200	18.800	5190.600	5209.400	---	---
		5240	18.560	5230.760	5249.320	---	---
		5745	18.760	5735.640	5754.400	---	---
		5785	18.560	5775.680	5794.240	---	---
		5825	18.880	5815.520	5834.400	---	---
11N20SISO	Ant1	5180	19.640	5170.200	5189.840	---	---
		5200	19.600	5190.200	5209.800	---	---
		5240	19.600	5230.200	5249.800	---	---
		5745	19.560	5735.200	5754.760	---	---
		5785	19.680	5775.080	5794.760	---	---
		5825	19.480	5815.200	5834.680	---	---
11N40SISO	Ant1	5190	42.800	5168.880	5211.680	---	---
		5230	41.760	5209.040	5250.800	---	---
		5755	42.640	5733.240	5775.880	---	---
		5795	42.640	5773.720	5816.360	---	---

Test Graphs

11A_Ant1_5180



11A_Ant1_5200



11A_Ant1_5240



11A_Ant1_5745



11A_Ant1_5785



11A_Ant1_5825



11N20SISO_Ant1_5180



11N20SISO_Ant1_5200



11N20SISO_Ant1_5240



11N20SISO_Ant1_5745



11N20SISO_Ant1_5785



11N20SISO_Ant1_5825



11N40SISO_Ant1_5190



11N40SISO_Ant1_5230



11N40SISO_Ant1_5755



11N40SISO_Ant1_5795



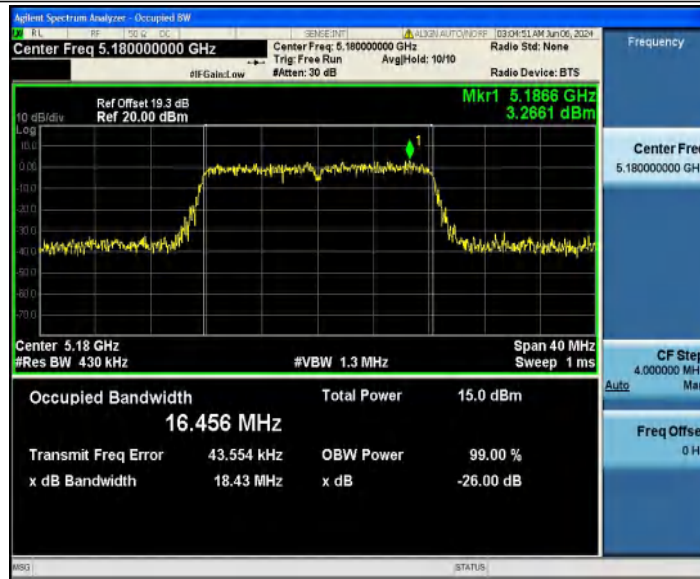
Appendix A2: Occupied channel bandwidth

Test Result

TestMode	Antenna	Channel	OCB [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
11A	Ant1	5180	16.456	5171.8156	5188.2716	---	---
		5200	16.469	5191.8211	5208.2901	---	---
		5240	16.475	5231.7936	5248.2686	---	---
		5745	16.416	5736.7968	5753.2128	---	---
		5785	16.445	5776.8010	5793.2460	---	---
		5825	16.450	5816.7983	5833.2483	---	---
11N20SISO	Ant1	5180	17.616	5171.2431	5188.8591	---	---
		5200	17.657	5191.2090	5208.8660	---	---
		5240	17.617	5231.2270	5248.8440	---	---
		5745	17.641	5736.2027	5753.8437	---	---
		5785	17.729	5776.1502	5793.8792	---	---
		5825	17.655	5816.1867	5833.8417	---	---
11N40SISO	Ant1	5190	36.145	5172.0438	5208.1888	---	---
		5230	36.163	5212.0240	5248.1870	---	---
		5755	36.191	5736.9516	5773.1426	---	---
		5795	36.161	5776.9707	5813.1317	---	---

Test Graphs

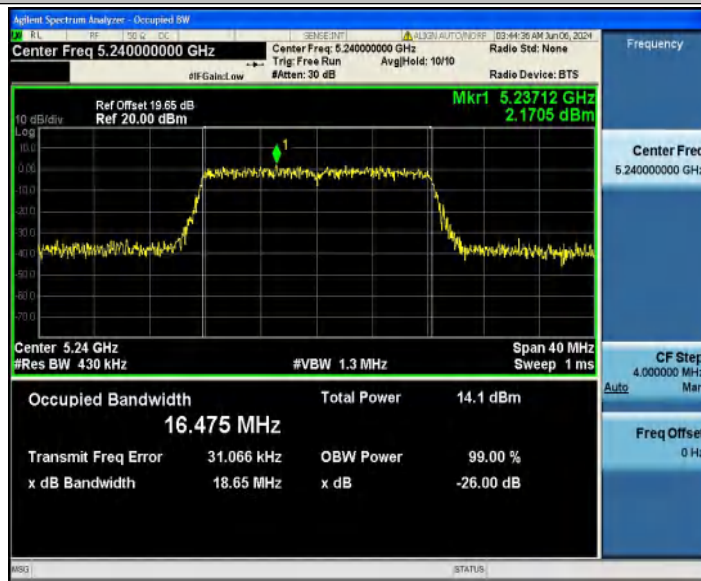
11A_Ant1_5180



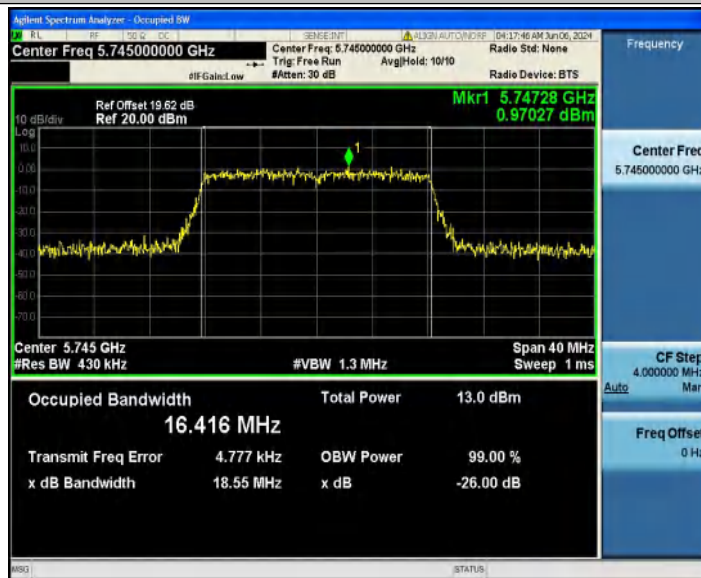
11A_Ant1_5200



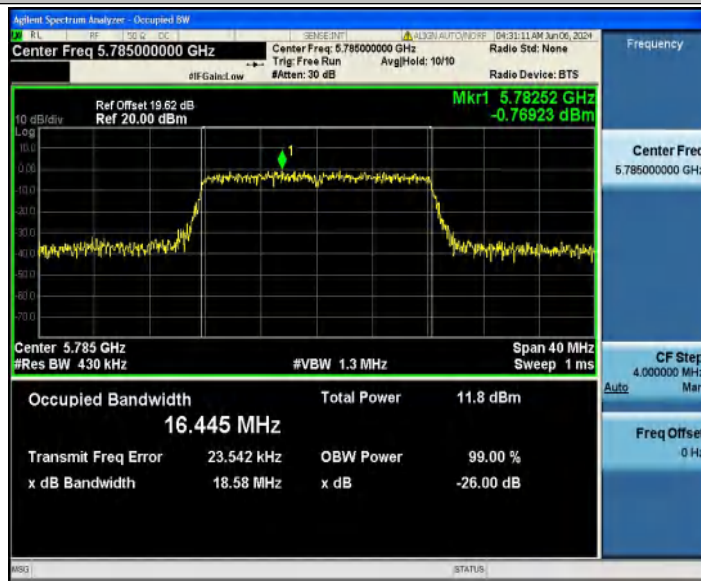
11A_Ant1_5240



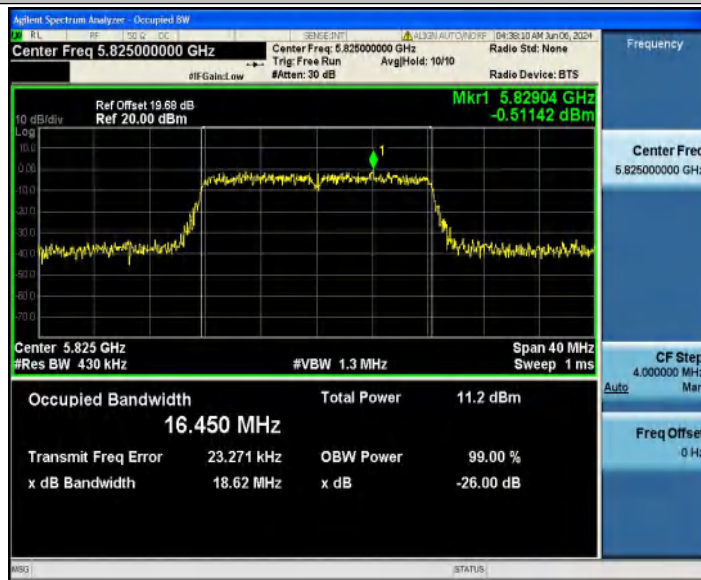
11A_Ant1_5745



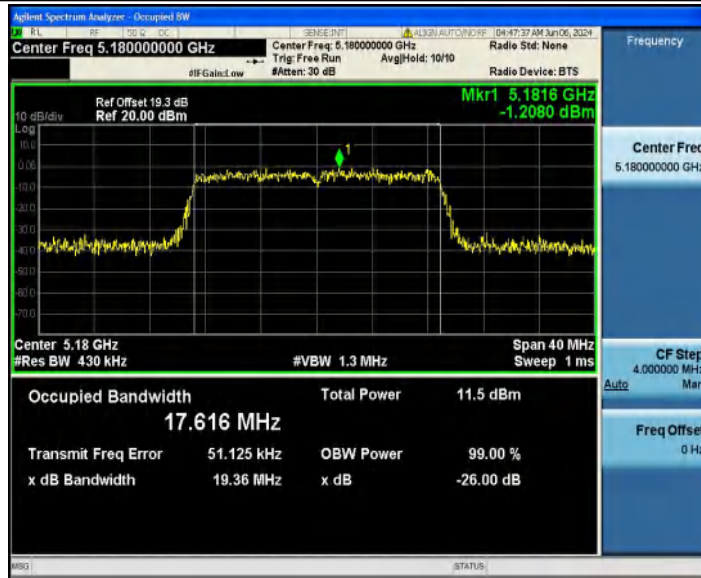
11A_Ant1_5785



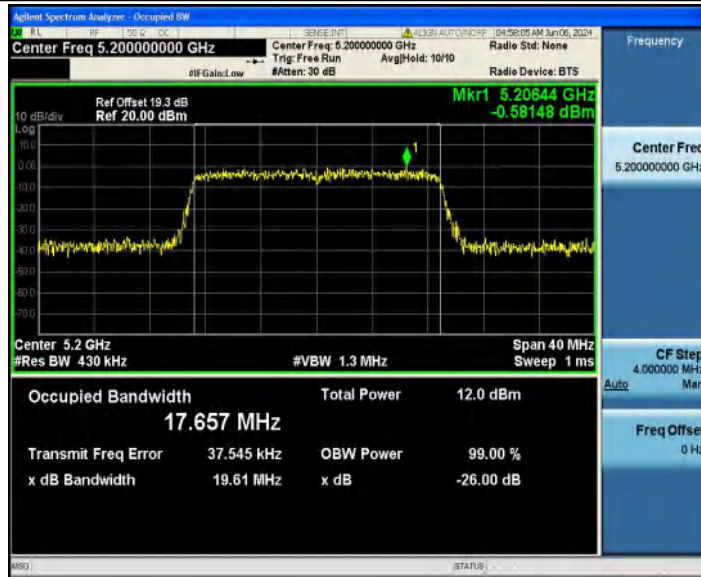
11A_Ant1_5825



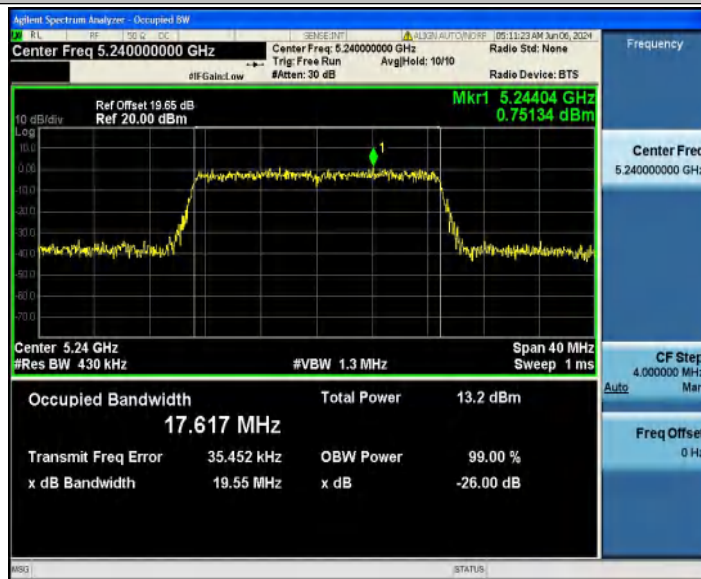
11N20SISO_Ant1_5180



11N20SISO_Ant1_5200



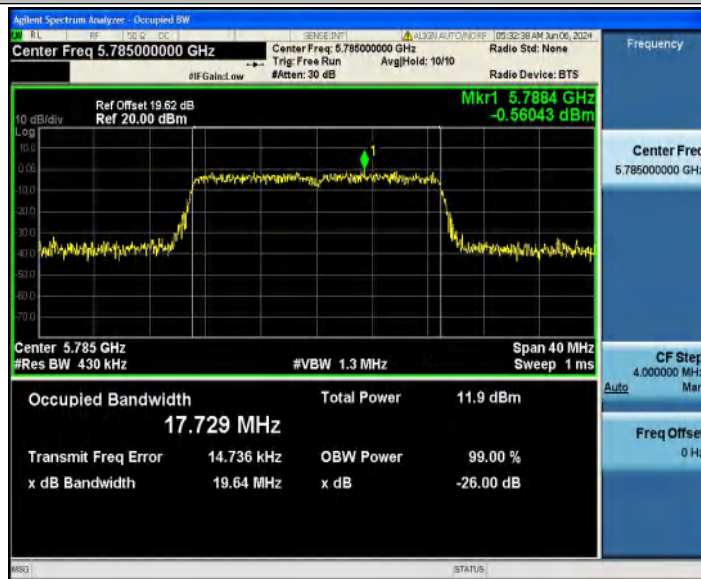
11N20SISO_Ant1_5240



11N20SISO_Ant1_5745



11N20SISO_Ant1_5785



11N20SISO_Ant1_5825



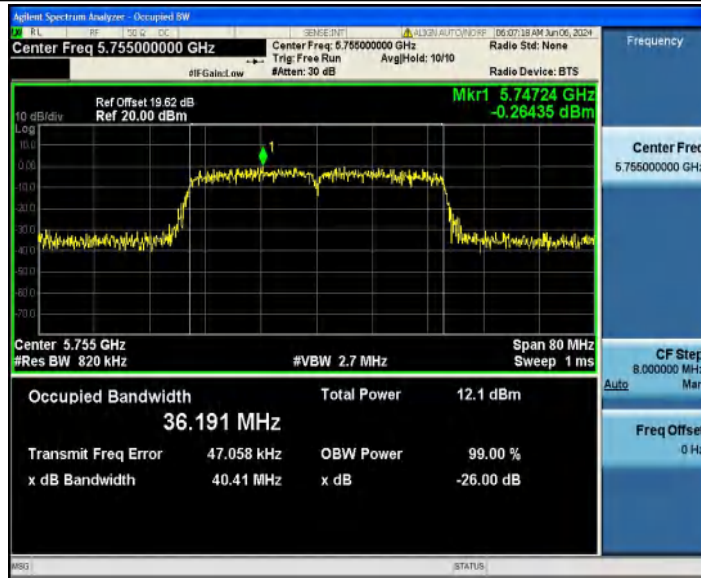
11N40SISO_Ant1_5190



11N40SISO_Ant1_5230



11N40SISO_Ant1_5755



11N40SISO_Ant1_5795



Appendix A3: Min emission bandwidth

Test Result B4

TestMode	Antenna	Channel	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	17.560	5736.200	5753.760	0.5	PASS
		5785	17.560	5776.200	5793.760	0.5	PASS
		5825	17.560	5816.200	5833.760	0.5	PASS
11N40SISO	Ant1	5755	35.120	5737.400	5772.520	0.5	PASS
		5795	35.120	5777.400	5812.520	0.5	PASS

Test Graphs B4

11A_Ant1_5745



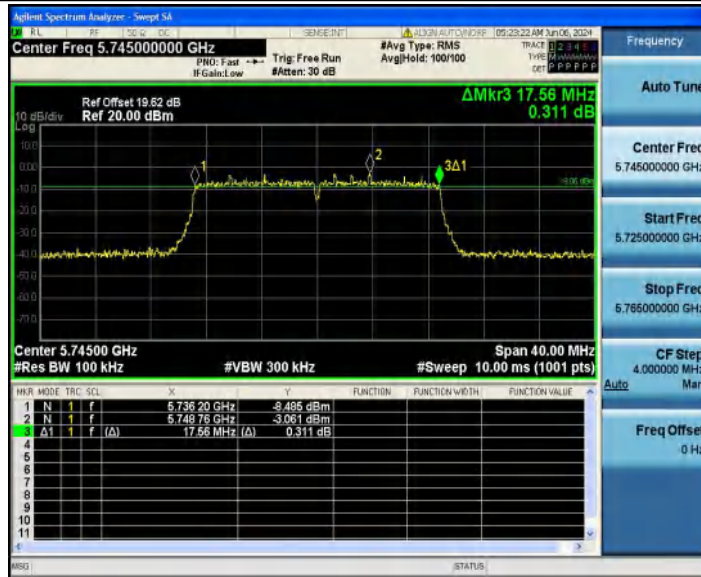
11A_Ant1_5785



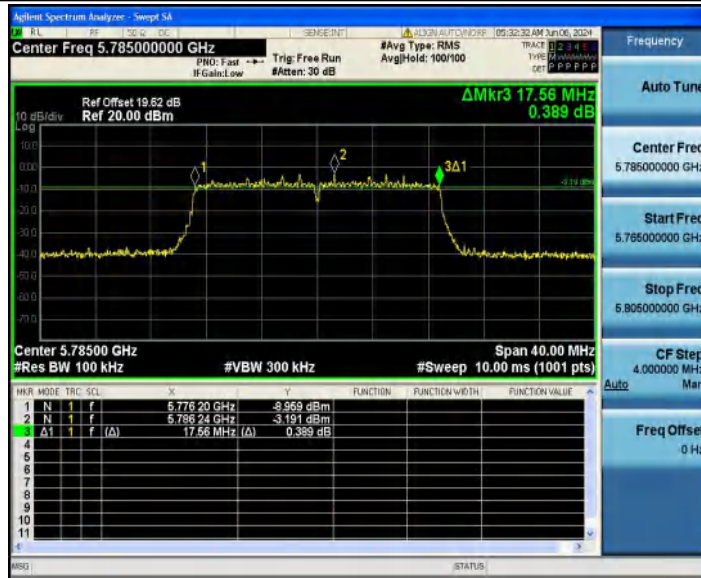
11A_Ant1_5825



11N20SISO_Ant1_5745



11N20SISO_Ant1_5785



11N20SISO_Ant1_5825



11N40SISO_Ant1_5755



11N40SISO_Ant1_5795



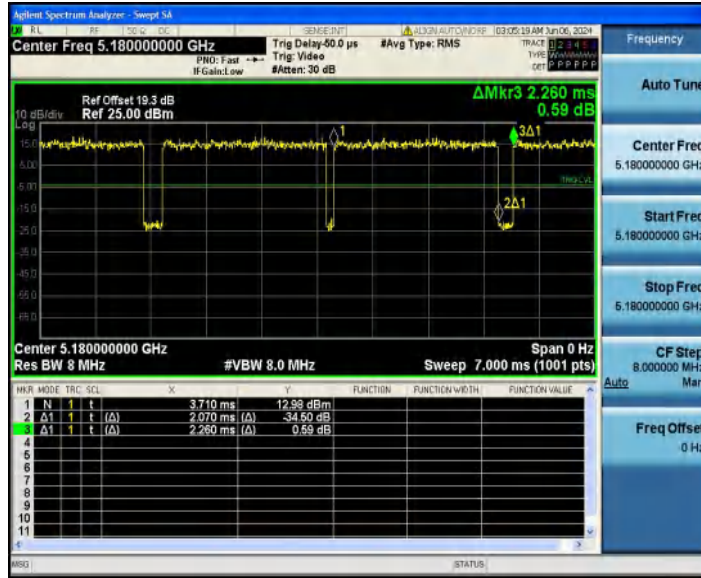
Appendix B: Duty Cycle

Test Result

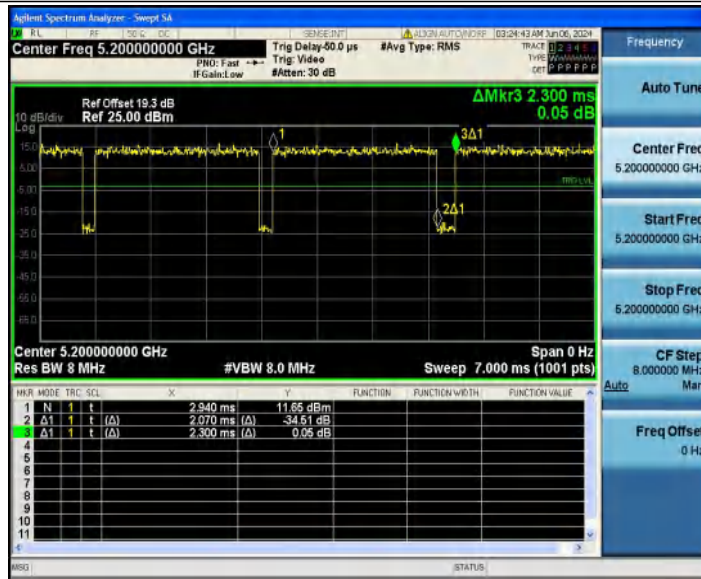
TestMode	Antenna	Channel	Transmission Duration [ms]	Transmission Period [ms]	Duty Cycle [%]	Limit	DC Factor [dBm]
11A	Ant1	5180	2.07	2.26	91.59	---	0.38
		5200	2.07	2.30	90.00	---	0.46
		5240	2.06	2.24	91.96	---	0.36
		5745	2.06	2.19	94.06	---	0.27
		5785	2.06	2.25	91.56	---	0.38
		5825	2.06	2.26	91.15	---	0.40
11N20SISO	Ant1	5180	1.92	2.15	89.30	---	0.49
		5200	1.92	2.09	91.87	---	0.37
		5240	1.91	2.10	90.95	---	0.41
		5745	1.92	2.08	92.31	---	0.35
		5785	1.93	2.14	90.19	---	0.45
		5825	1.93	2.13	90.61	---	0.43
11N40SISO	Ant1	5190	0.95	1.15	82.61	---	0.83
		5230	0.94	1.05	89.52	---	0.48
		5755	0.95	1.07	88.79	---	0.52
		5795	0.95	1.09	87.16	---	0.60

Test Graphs

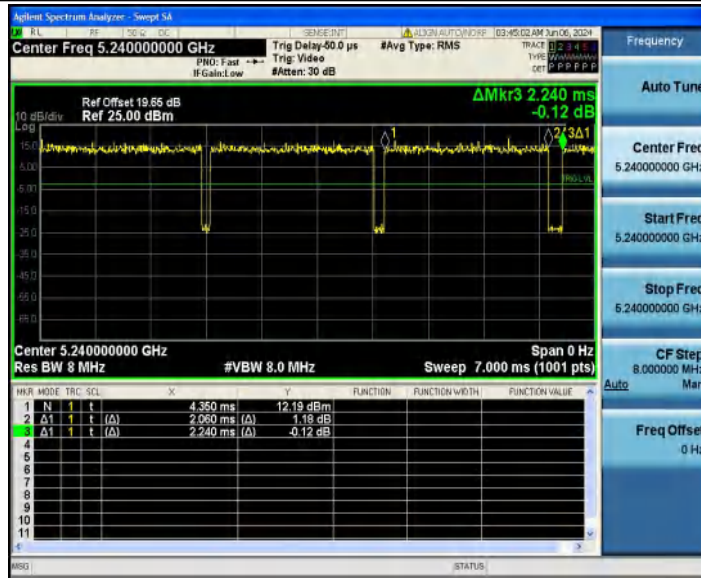
11A_Ant1_5180



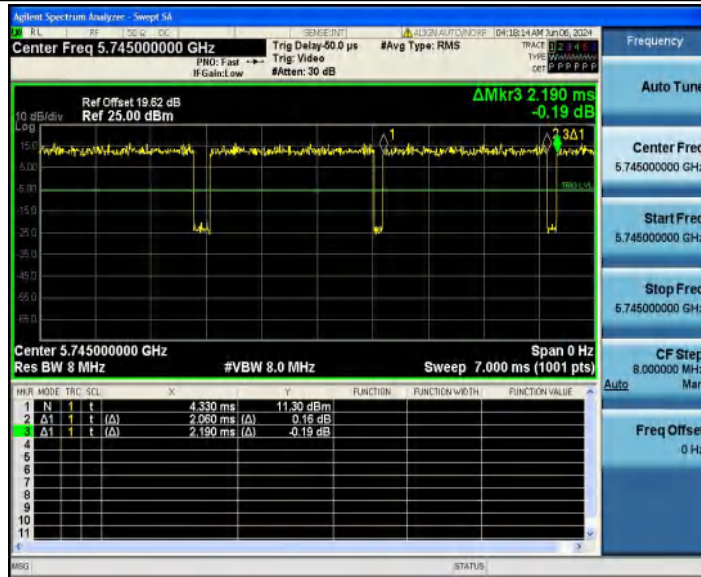
11A_Ant1_5200



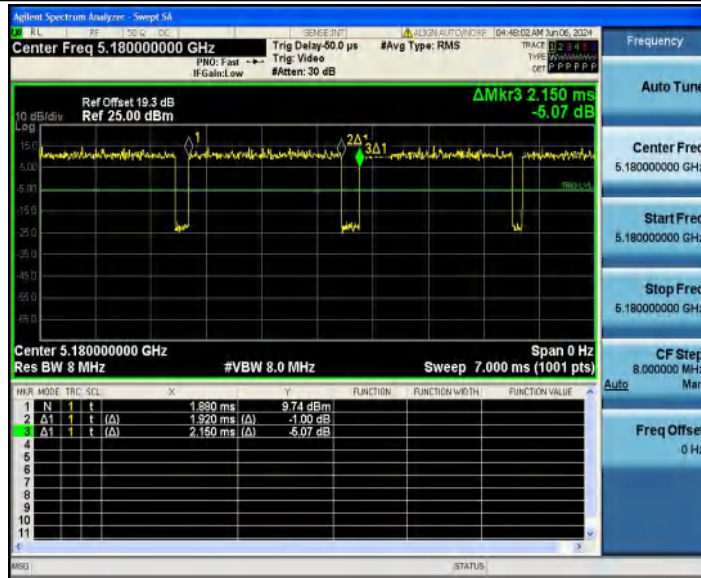
11A_Ant1_5240



11A_Ant1_5745



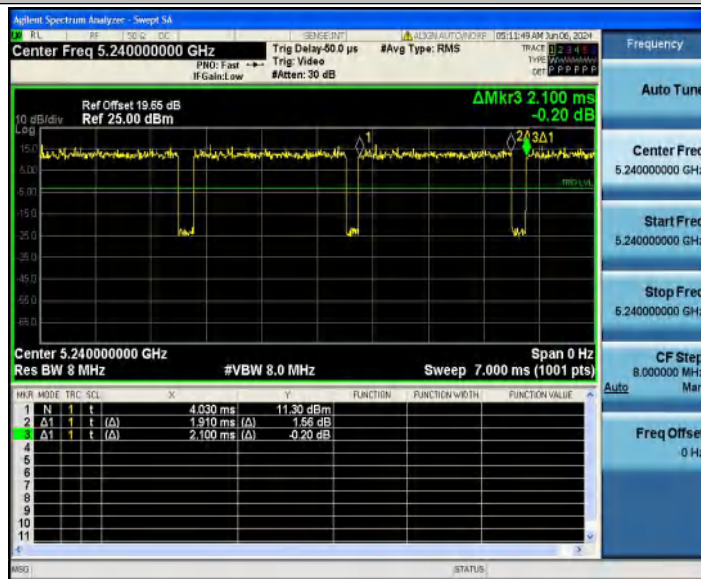
11N20SISO_Ant1_5180



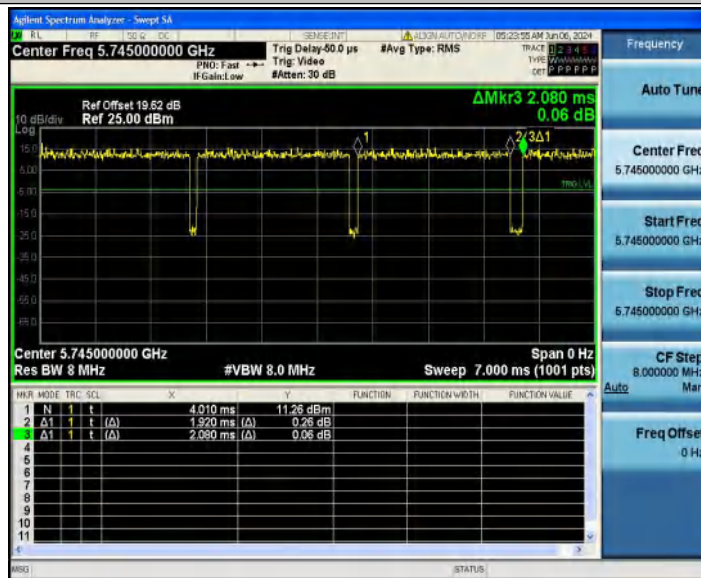
11N20SISO_Ant1_5200



11N20SISO_Ant1_5240



11N20SISO_Ant1_5745



11N40SISO_Ant1_5190



11N40SISO_Ant1_5230



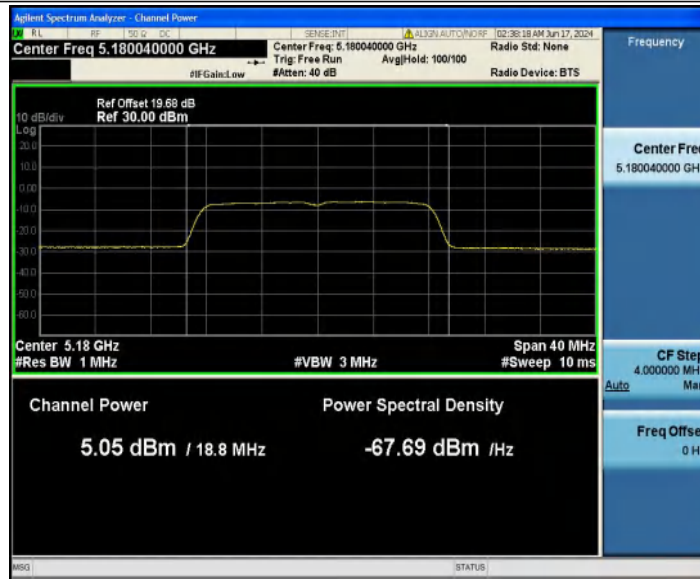
Appendix C: Maximum conducted output power

Test Result Channel Power

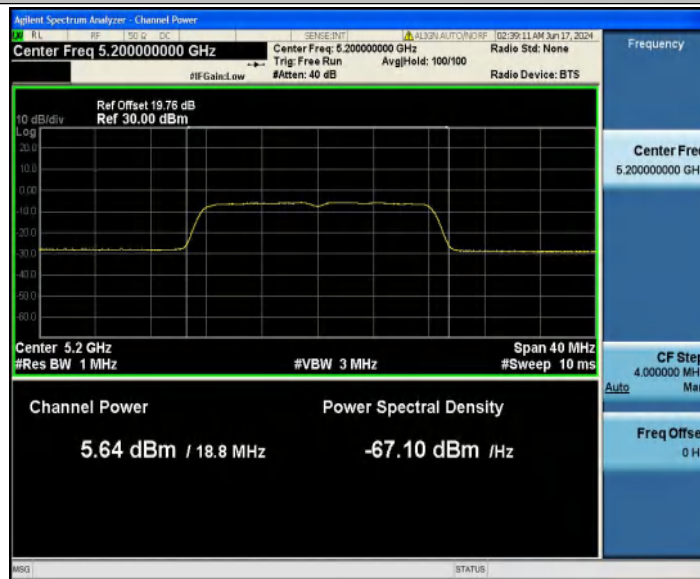
Test Mode	Antenna	Channel	Set Power	Channel Power [dBm]	Duty Cycle [%]	DC Factor [dBm]	Result [dBm]	Limit [dBm]	Verdict
11A	Ant1	5180	---	5.05	91.59	0.38	5.43	≤23.98	PASS
		5200	---	5.64	90.00	0.46	6.10	≤23.98	PASS
		5240	---	6.46	91.96	0.36	6.82	≤23.98	PASS
		5745	---	5.50	94.06	0.27	5.77	≤30.00	PASS
		5785	---	5.50	91.56	0.38	5.88	≤30.00	PASS
		5825	---	5.34	91.15	0.40	5.74	≤30.00	PASS
11N20SI SO	Ant1	5180	---	4.23	89.30	0.49	4.72	≤23.98	PASS
		5200	---	5.06	91.87	0.37	5.43	≤23.98	PASS
		5240	---	5.45	90.95	0.41	5.86	≤23.98	PASS
		5745	---	5.21	92.31	0.35	5.56	≤30.00	PASS
		5785	---	5.77	90.19	0.45	6.22	≤30.00	PASS
		5825	---	5.58	90.61	0.43	6.01	≤30.00	PASS
11N40SI SO	Ant1	5190	---	4.29	82.61	0.83	5.12	≤23.98	PASS
		5230	---	5.78	89.52	0.48	6.26	≤23.98	PASS
		5755	---	5.76	88.79	0.52	6.28	≤30.00	PASS
		5795	---	5.47	87.16	0.60	6.07	≤30.00	PASS

Test Graphs Channel Power

11A_Ant1_5180



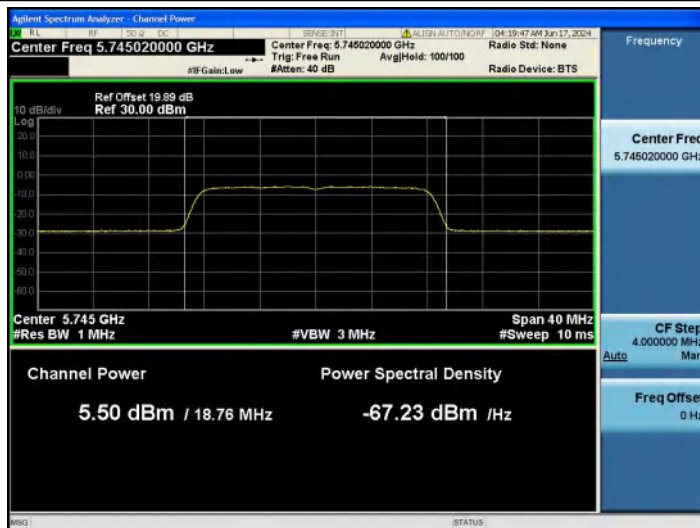
11A_Ant1_5200



11A_Ant1_5240



11A_Ant1_5745



11A_Ant1_5785



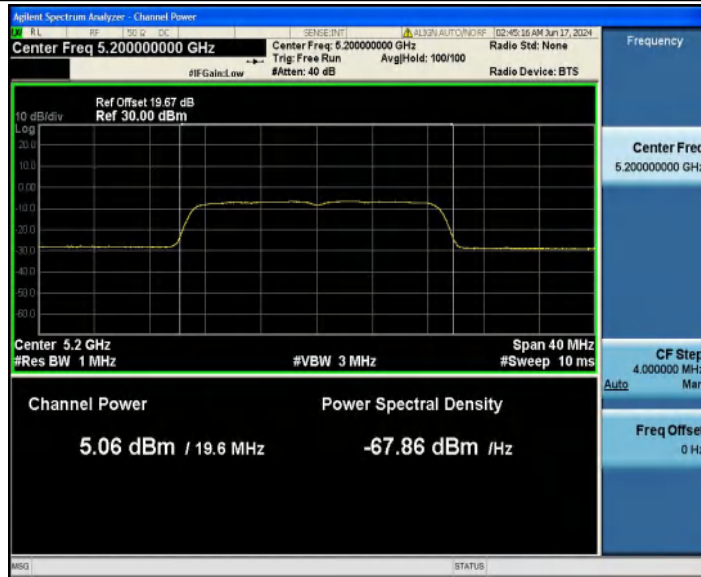
11A_Ant1_5825



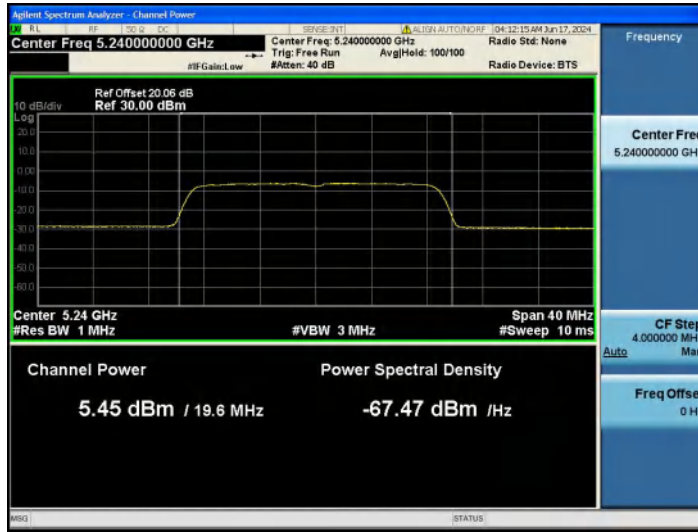
11N20SISO_Ant1_5180



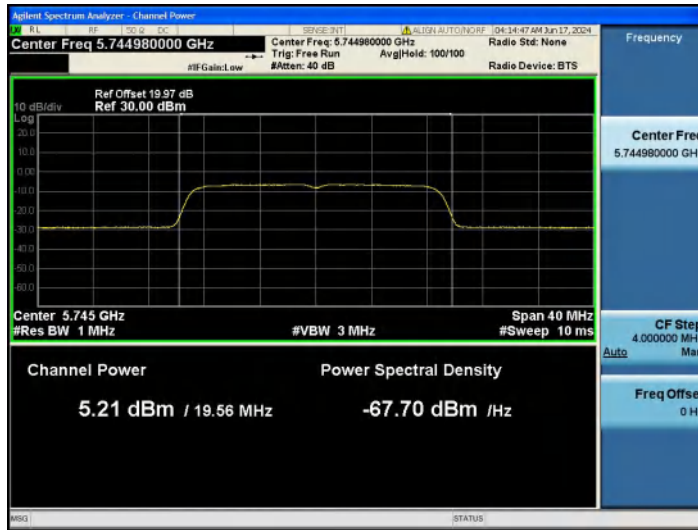
11N20SISO_Ant1_5200



11N20SISO_Ant1_5240



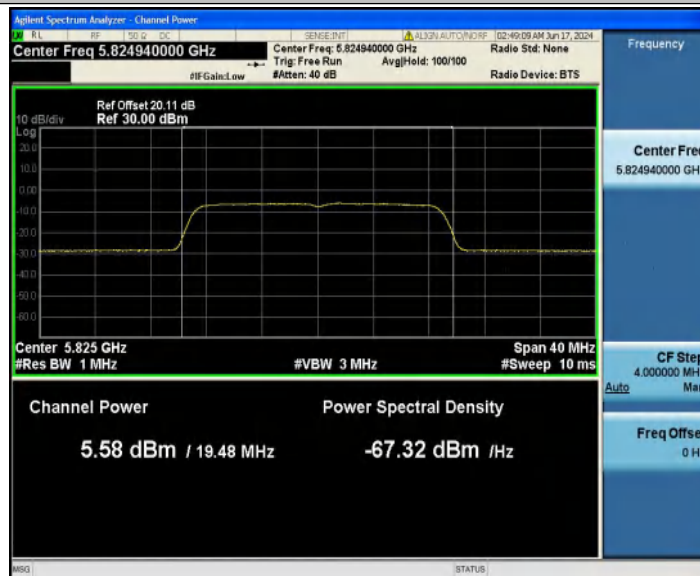
11N20SISO_Ant1_5745



11N20SISO_Ant1_5785



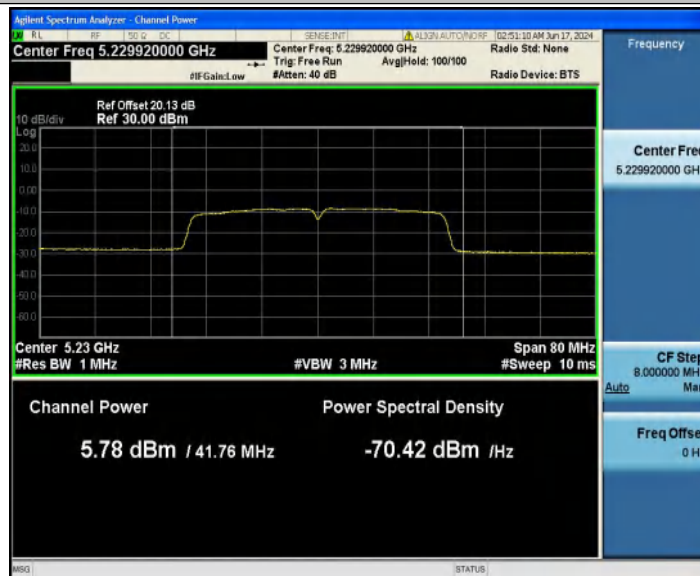
11N20SISO_Ant1_5825



11N40SISO_Ant1_5190



11N40SISO_Ant1_5230



11N40SISO_Ant1_5755



11N40SISO_Ant1_5795



Appendix D: Maximum power spectral density

Test Result

TestMode	Antenna	Channel	Result [dBm/MHz]	Limit[dBm/MHz]	Verdict
11A	Ant1	5180	-0.68	≤11.00	PASS
		5200	-2.16	≤11.00	PASS
		5240	-1.56	≤11.00	PASS
		5745	-5.51	≤30.00	PASS
		5785	-6.25	≤30.00	PASS
		5825	-6.68	≤30.00	PASS
11N20SISO	Ant1	5180	-4.24	≤11.00	PASS
		5200	-4.01	≤11.00	PASS
		5240	-2.78	≤11.00	PASS
		5745	-5.8	≤30.00	PASS
		5785	-5.97	≤30.00	PASS
		5825	-6.89	≤30.00	PASS
11N40SISO	Ant1	5190	-7.04	≤11.00	PASS
		5230	-6.22	≤11.00	PASS
		5755	-9.58	≤30.00	PASS
		5795	-9.9	≤30.00	PASS
		5775	-10.47	≤30.00	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



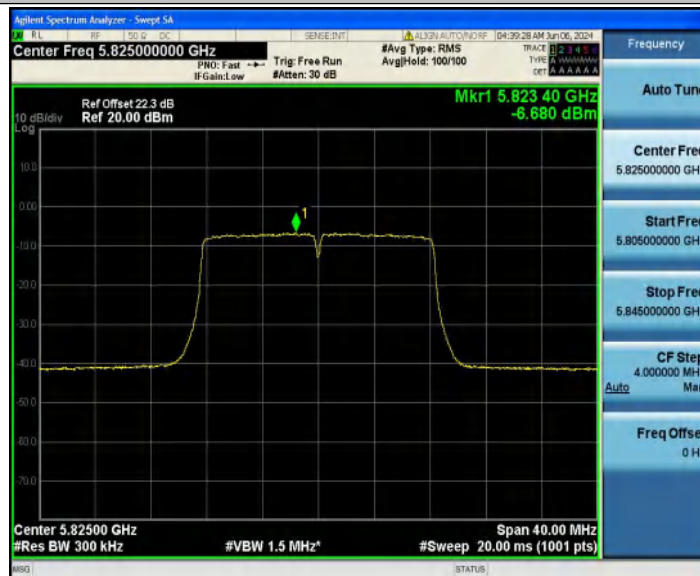
11A_Ant1_5745



11A_Ant1_5785



11A_Ant1_5825



11N20SISO_Ant1_5180



11N20SISO_Ant1_5200



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 B1/2/3

TestMode	Antenna	ChName	Channel	Result[dBm]	Limit[dBm]	Verdict
11A	Ant1	Low	5180	-34.17	≤-27	PASS
		High	5240	-35.53	≤-27	PASS
11N20SISO	Ant1	Low	5180	-33.86	≤-27	PASS
		High	5240	-35.05	≤-27	PASS
11N40SISO	Ant1	Low	5190	-33.45	≤-27	PASS
		High	5230	-34.79	≤-27	PASS

Test Result B4

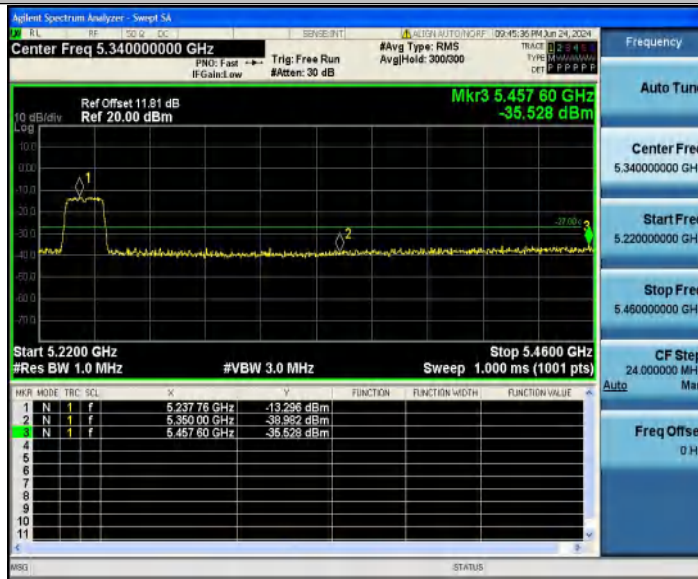
TestMode	Antenna	ChName	Channel	FreqRange [MHz]	Result [dBm]	Limit [dBm]	Verdict
11A	Ant1	Low	5745	5650~5700	-35.36	≤-11.81	PASS
				5700~5720	-36.36	≤15.56	PASS
				5720~5725	-36.71	≤23.42	PASS
				5760~5650	-35.91	≤-27	PASS
		High	5825	5850~5855	-36.86	≤24.41	PASS
				5855~5875	-36.02	≤15.16	PASS
				5875~5925	-36.11	≤-23.96	PASS
				5925~5935	-34.95	≤-27	PASS
11N20SISO	Ant1	Low	5745	5650~5700	-34.95	≤-25.68	PASS
				5700~5720	-36.24	≤14.89	PASS
				5720~5725	-36.77	≤26.83	PASS
				5760~5650	-35.81	≤-27	PASS
		High	5825	5850~5855	-36.22	≤19.80	PASS
				5855~5875	-35.5	≤10.17	PASS
				5875~5925	-35.44	≤-9.27	PASS
				5925~5935	-36.06	≤-27	PASS
11N40SISO	Ant1	Low	5755	5650~5700	-34.98	≤-14.62	PASS
				5700~5720	-35.46	≤12.40	PASS
				5720~5725	-35.9	≤17.89	PASS
				5780~5650	-35.78	≤-27	PASS
		High	5795	5850~5855	-36.21	≤19.42	PASS
				5855~5875	-36.34	≤12.72	PASS
				5875~5925	-36.12	≤-26.80	PASS
				5925~5935	-36.53	≤-27	PASS

Test Graphs B1/2/3

11A_Ant1_Low_5180



11A_Ant1_High_5240



11N20SISO_Ant1_Low_5180



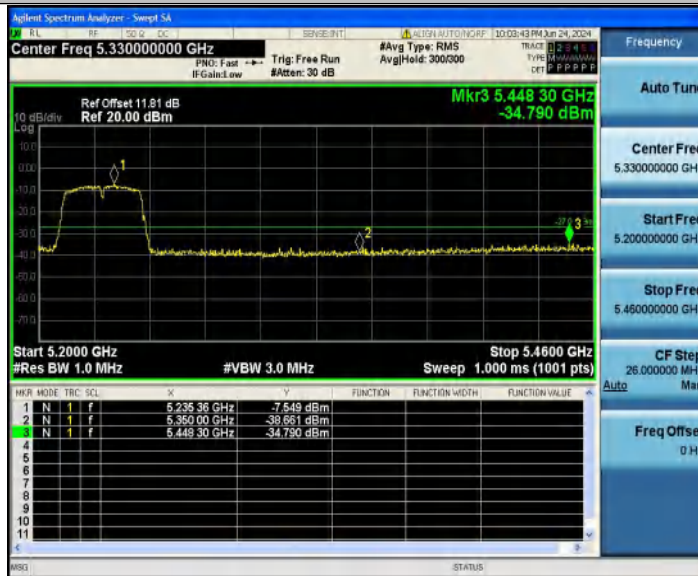
11N20SISO_Ant1_High_5240



11N40SISO_Ant1_Low_5190



11N40SISO_Ant1_High_5230



Test Graphs B4

11A_Ant1_Low_5745



11A_Ant1_High_5825



Appendix F: Conducted Spurious Emission

Test Result

TestMode	Antenna	Channel	FreqRange [MHz]	Max. Fre [MHz]	Max. Level [dBm]	Limit [dBm]	Verdict		
11A	Ant1	5180	30~5140	5138.64	-54.63	≤-27	PASS		
			5360~40000	39966.51	-50.08	≤-27	PASS		
		5200	30~5140	2452.14	-47.51	≤-27	PASS		
			5360~40000	36128.4	-49.3	≤-27	PASS		
		5240	30~5140	5129.1	-54.45	≤-27	PASS		
			5360~40000	36178.05	-49.35	≤-27	PASS		
		5745	30~5650	4692.73	-35.42	≤-27	PASS		
			5925~40000	36156.34	-28.98	≤-27	PASS		
		5785	30~5650	3660.52	-34.77	≤-27	PASS		
			5925~40000	36599.32	-29.63	≤-27	PASS		
		5825	30~5650	3681.88	-35.13	≤-27	PASS		
			5925~40000	36567.51	-29.17	≤-27	PASS		
		11N20SISO	Ant1	5180	30~5140	2452.48	-51.17	≤-27	PASS
					5360~40000	36657.24	-49.62	≤-27	PASS
5200	30~5140			2450.95	-52.05	≤-27	PASS		
	5360~40000			36590.27	-49.16	≤-27	PASS		
5240	30~5140			2453.33	-50.38	≤-27	PASS		
	5360~40000			37911.21	-49.18	≤-27	PASS		
5745	30~5650			3671.57	-34.87	≤-27	PASS		
	5925~40000			36620.9	-28.09	≤-27	PASS		
5785	30~5650			3641.04	-35.1	≤-27	PASS		
	5925~40000			36642.48	-29.21	≤-27	PASS		
5825	30~5650			3656.77	-35.14	≤-27	PASS		
	5925~40000			36587.96	-29.04	≤-27	PASS		
11N40SISO	Ant1			5190	30~5140	5119.9	-51.04	≤-27	PASS
					5360~40000	36941.29	-49.55	≤-27	PASS
		5230	30~5140	2453.67	-51.56	≤-27	PASS		
			5360~40000	5802.24	-45.62	≤-27	PASS		
		5755	30~5650	3707.35	-33.76	≤-27	PASS		
			5925~40000	37016.17	-29.13	≤-27	PASS		
		5795	30~5650	3624.55	-35.34	≤-27	PASS		
			5925~40000	36180.19	-29.63	≤-27	PASS		

Test Graphs

11A_Ant1_5180_30~5140



11A_Ant1_5180_5360~40000



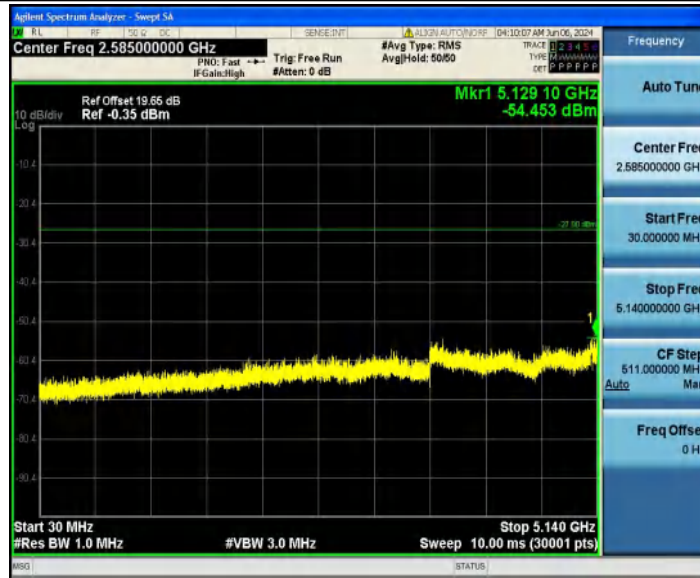
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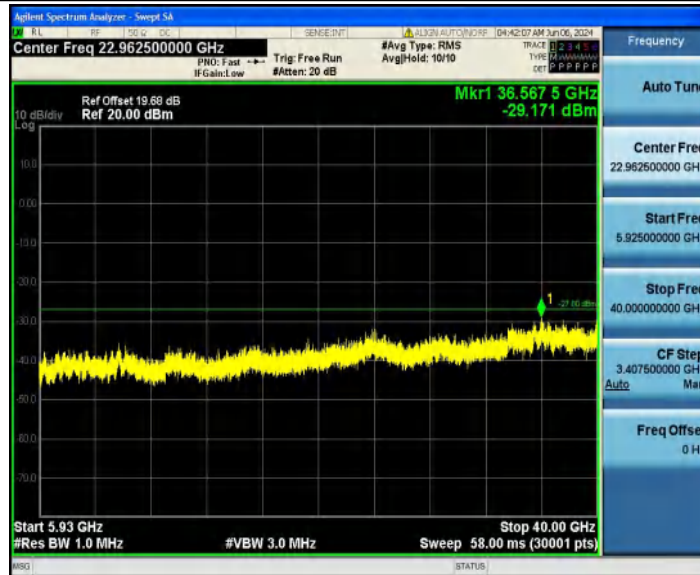
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11N20SISO_Ant1_5180_30~5140



11N20SISO_Ant1_5180_5360~40000



11N20SISO_Ant1_5200_30~5140



11N20SISO_Ant1_5200_5360~40000



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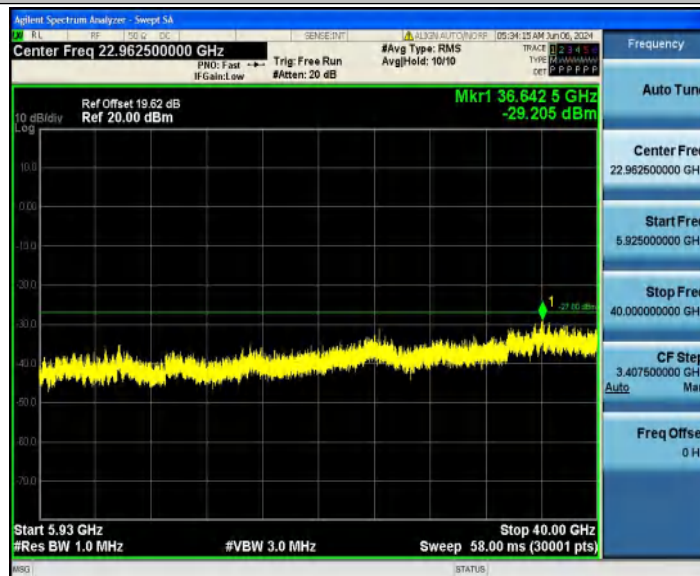
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11N20SISO_Ant1_5825_5925~40000



11N40SISO_Ant1_5190_30~5140



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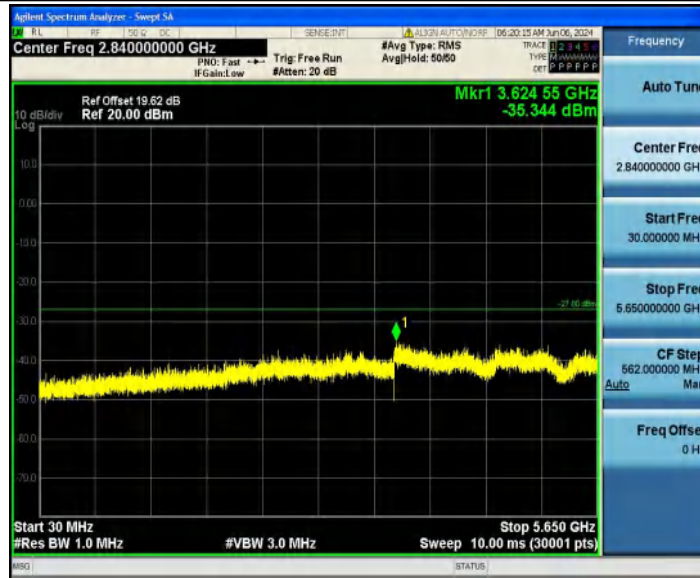
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11N40SISO_Ant1_5795_30~5650



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