

FCC Appendix RF Test Data of Module 2

FCC ID : 2BHX3-TAA07

Company: : Shenzhen Trolink Technology Co., Ltd

EUT : Car AI Box

Model Number : TAA07

Report No. : CTA25031800802

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	20.960	5168.640	5189.600	---	---
		5220	21.960	5210.160	5232.120	---	---
		5240	21.640	5229.560	5251.200	---	---
		5745	26.680	5733.480	5760.160	---	---
		5785	22.960	5774.120	5797.080	---	---
		5825	22.800	5813.520	5836.320	---	---
11N20SISO	Ant1	5180	24.680	5168.200	5192.880	---	---
		5220	25.040	5207.800	5232.840	---	---
		5240	24.920	5227.800	5252.720	---	---
		5745	27.360	5731.120	5758.480	---	---
		5785	24.600	5773.000	5797.600	---	---
		5825	24.840	5812.760	5837.600	---	---
11N40SISO	Ant1	5190	49.840	5168.640	5218.480	---	---
		5230	43.680	5208.880	5252.560	---	---
		5755	51.360	5725.800	5777.160	---	---
		5795	48.000	5768.840	5816.840	---	---

11A_Ant1_5180

Agilent Spectrum Analyzer - Sweep SA

Center Freq 5.180000000 GHz

Ref Offset 4.3 dB
Ref 20.00 dBm

Trig: Free Run
#Atten: 30 dB

#Avg Type: RMS
Avg/Hold: 100/100

Span 40.00 MHz
Sweep 1.000 ms (1001 pts)

Ref Offset 4.3 dB
Ref 20.00 dBm

ΔMkr3 20.96 MHz
4.118 dB

3Δ1

MKR	MODE	TRIG	SCL	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE
1	N	1	f	5.1800 GHz	-28.546 dBm			
2	N	1	f	5.17504 GHz	1.716 dBm			
3	Δ1	1	f (Δ)	20.96 MHz (Δ)	4.118 dB			

11A_Ant1_5220

Agilent Spectrum Analyzer - Sweep SA

Center Freq 5.220000000 GHz

Ref Offset 4.3 dB
Ref 20.00 dBm

Trig: Free Run
#Atten: 30 dB

#Avg Type: RMS
Avg/Hold: 100/100

Span 40.00 MHz
Sweep 1.000 ms (1001 pts)

Ref Offset 4.3 dB
Ref 20.00 dBm

ΔMkr3 21.96 MHz
-0.417 dB

3Δ1

MKR	MODE	TRIG	SCL	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE
1	N	1	f	5.21016 GHz	-26.762 dBm			
2	N	1	f	5.21252 GHz	1.753 dBm			
3	Δ1	1	f (Δ)	21.96 MHz (Δ)	-0.417 dB			



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



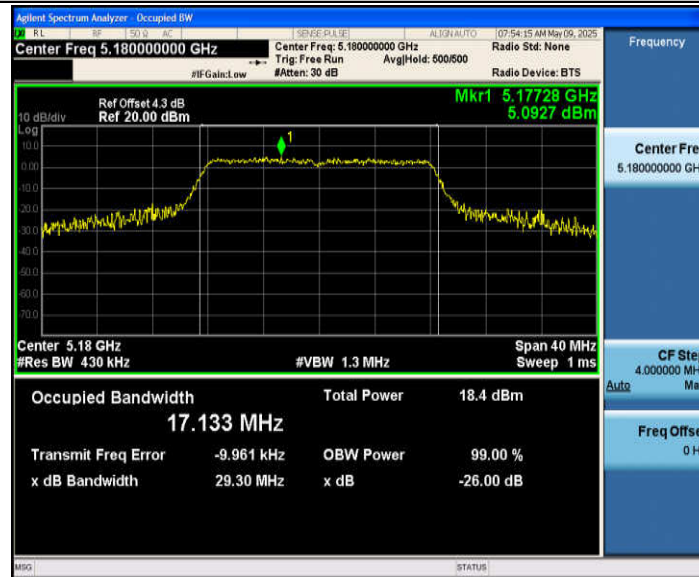
Appendix A2: Occupied channel bandwidth

Test Result

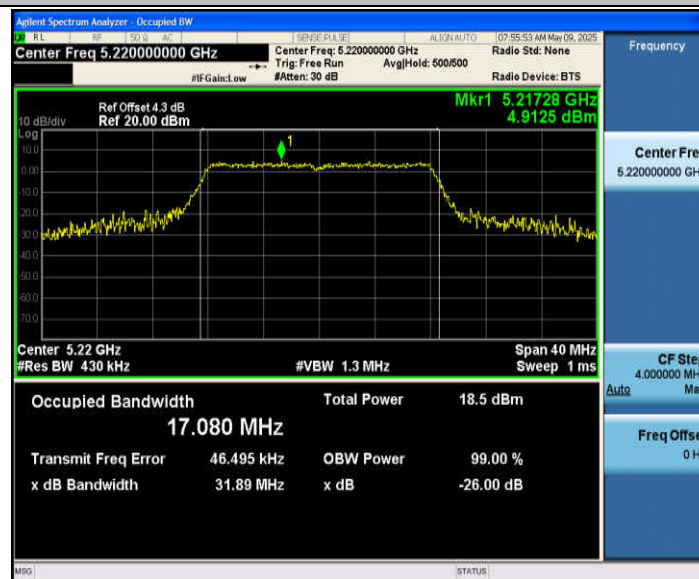
TestMode	Antenna	Freq(MHz)	OCB [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
11A	Ant1	5180	17.133	5171.4235	5188.5565	---	---
		5220	17.080	5211.5065	5228.5865	---	---
		5240	17.146	5231.4361	5248.5821	---	---
		5745	17.213	5736.3825	5753.5955	---	---
		5785	17.147	5776.4385	5793.5855	---	---
		5825	17.130	5816.4272	5833.5572	---	---
11N20SISO	Ant1	5180	18.218	5171.0144	5189.2324	---	---
		5220	18.188	5210.9633	5229.1513	---	---
		5240	18.216	5230.9421	5249.1581	---	---
		5745	18.211	5735.9054	5754.1164	---	---
		5785	18.132	5775.9585	5794.0905	---	---
		5825	18.090	5816.0081	5834.0981	---	---
11N40SISO	Ant1	5190	36.819	5171.7499	5208.5689	---	---
		5230	36.710	5211.7734	5248.4834	---	---
		5755	36.528	5736.7379	5773.2659	---	---
		5795	36.516	5776.8115	5813.3275	---	---

Test Graphs

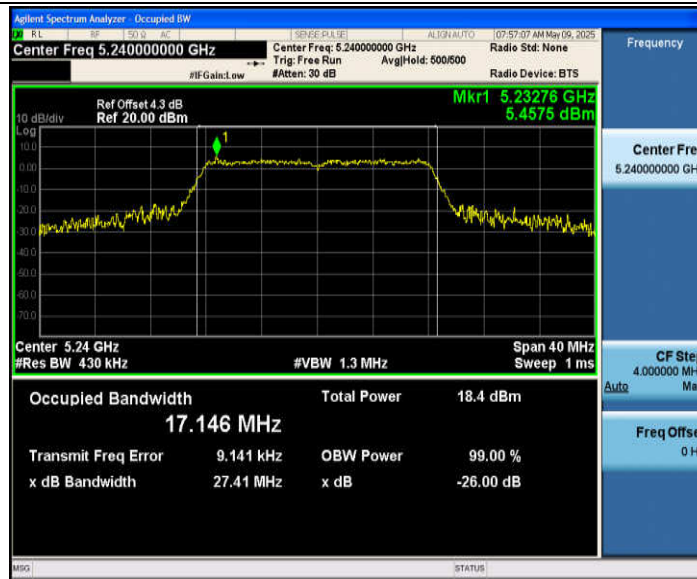
11A_Ant1_5180



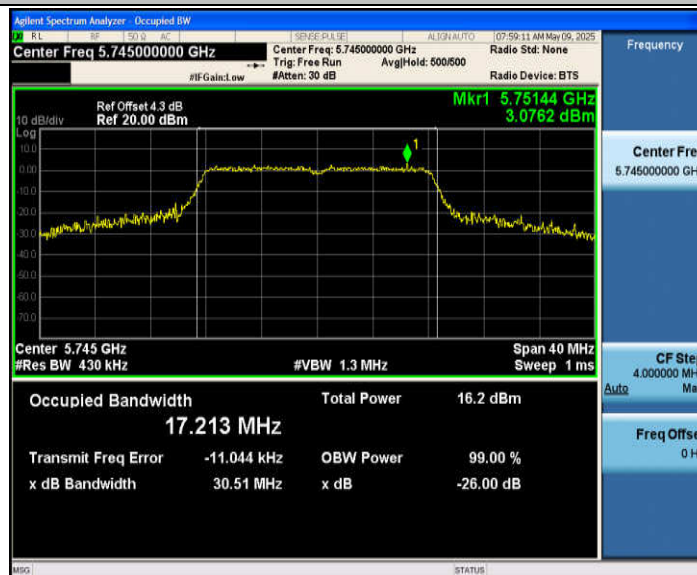
11A_Ant1_5220



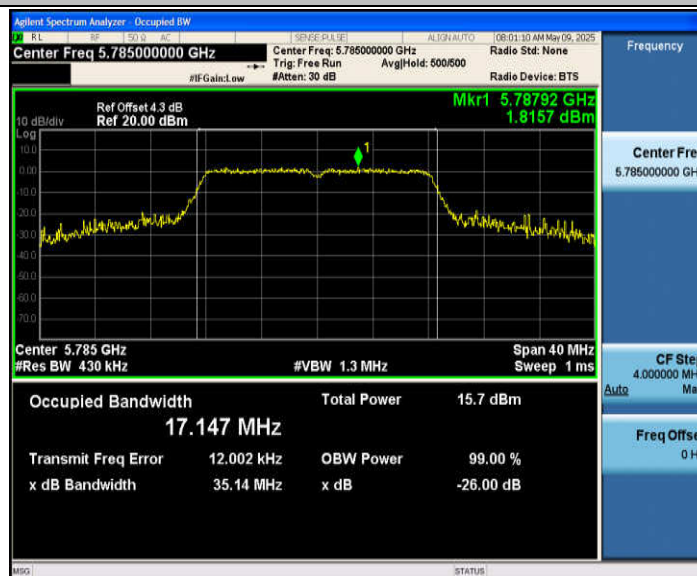
11A_Ant1_5240



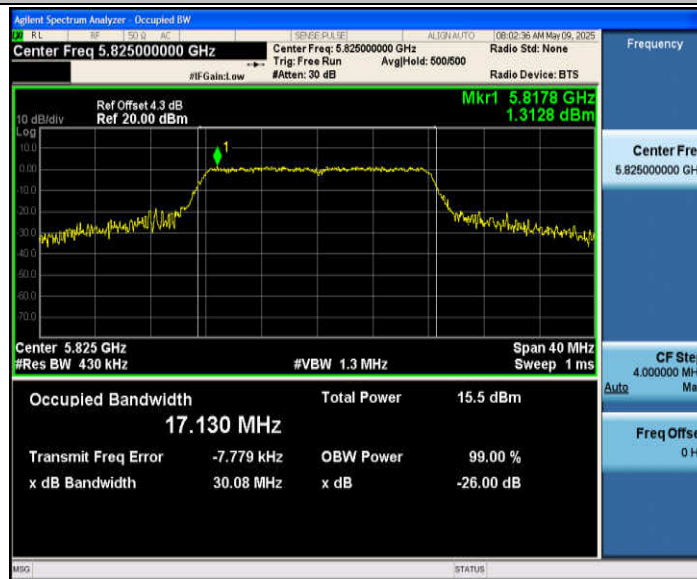
11A_Ant1_5745



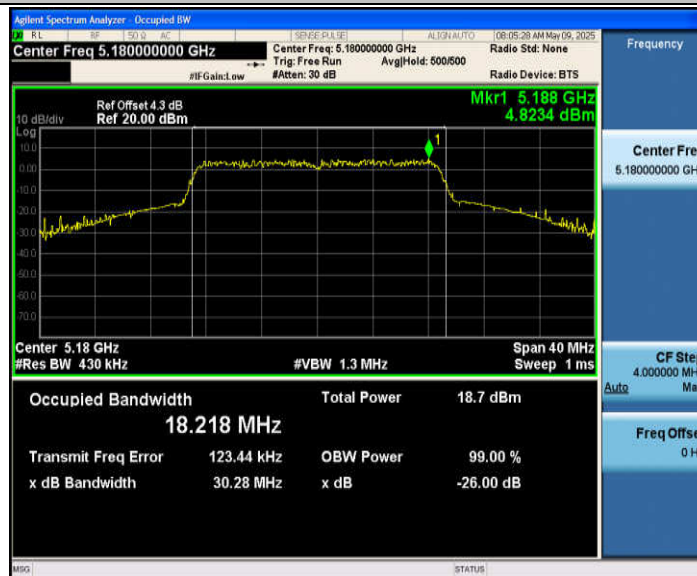
11A_Ant1_5785



11A_Ant1_5825



11N20SISO_Ant1_5180



11N20SISO_Ant1_5220



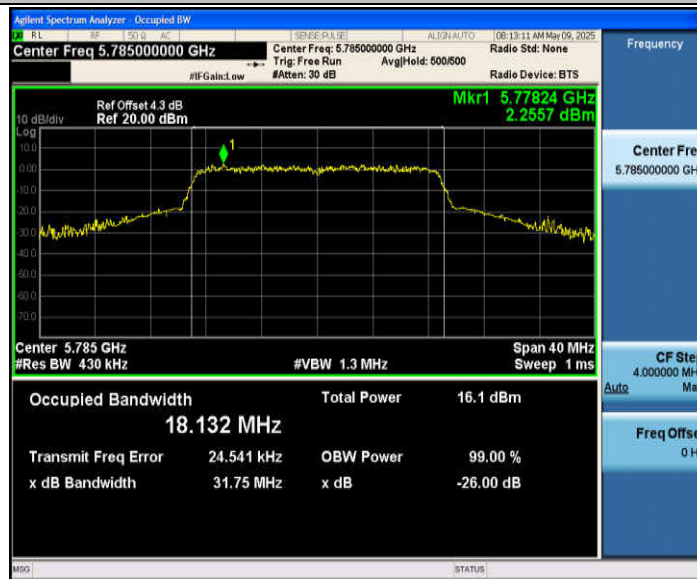
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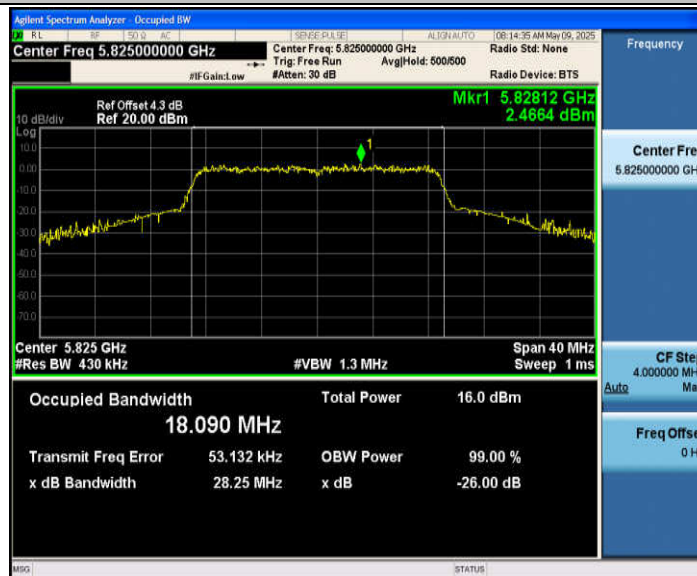
11N20SISO_Ant1_5745



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	16.280	5736.840	5753.120	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	16.880	5736.480	5753.360	0.5	PASS
		5785	16.520	5776.520	5793.040	0.5	PASS
		5825	16.920	5816.360	5833.280	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



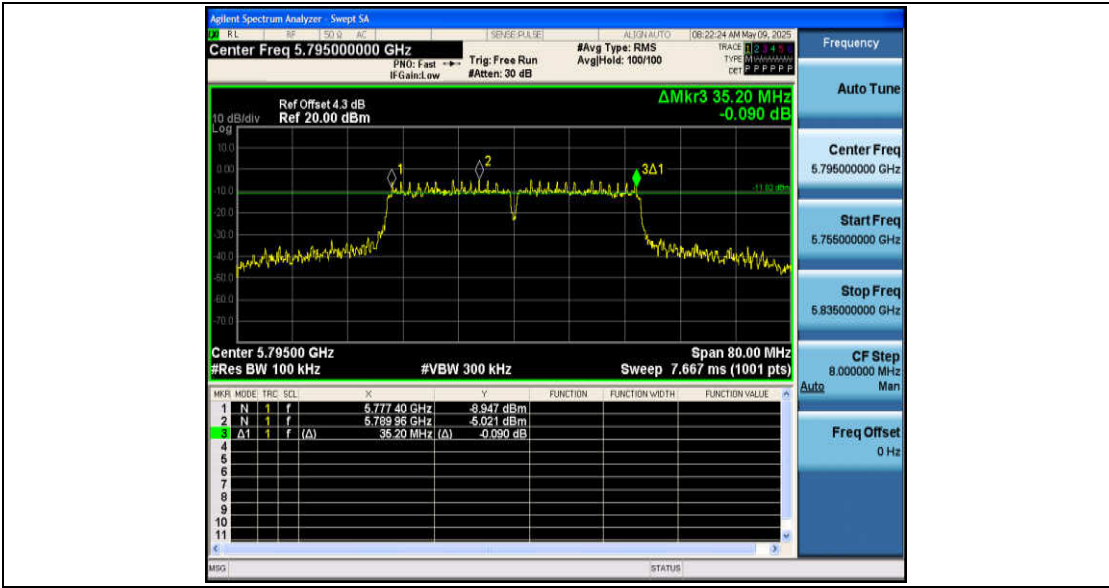
11N20SISO_Ant1_5825



11N40SISO_Ant1_5755



11N40SISO_Ant1_5795

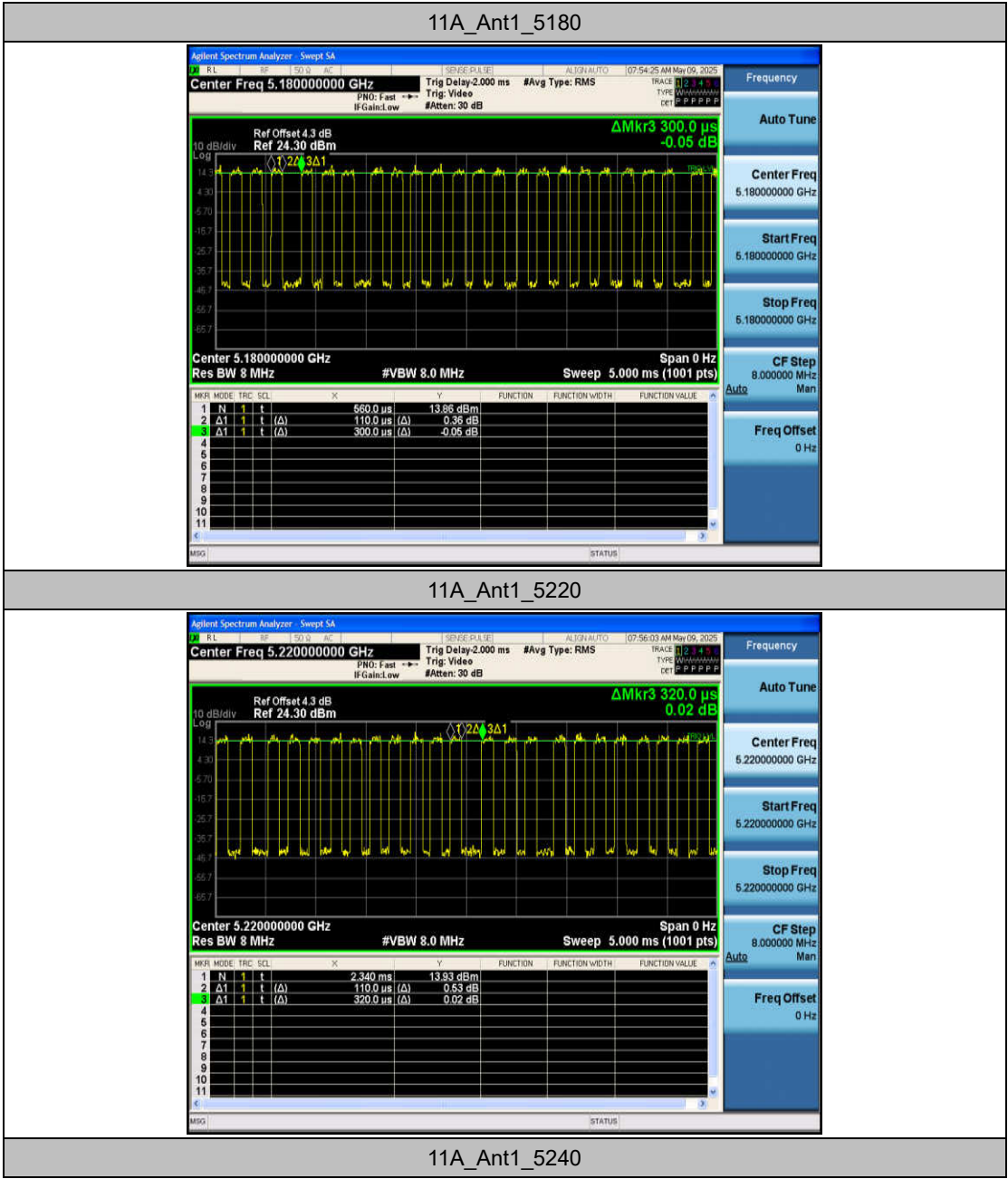


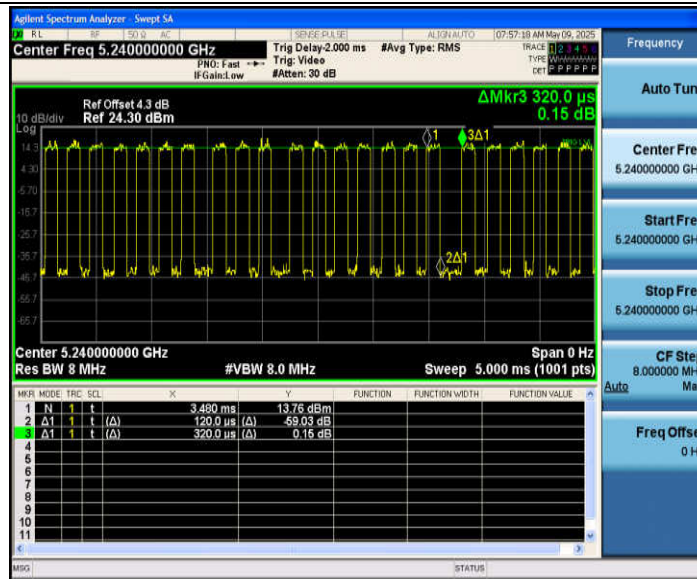
Appendix B: Duty Cycle

Test Result

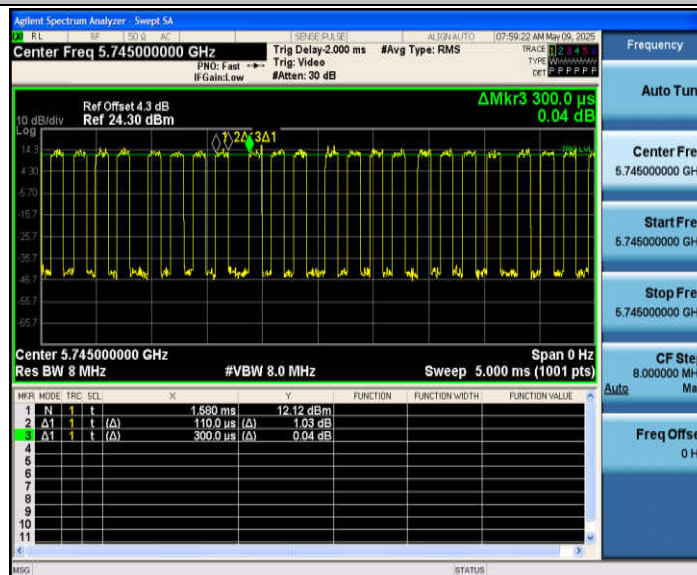
TestMode	Antenna	Freq(MHz)	Transmission Duration [ms]	Transmission Period [ms]	Duty Cycle [%]	Duty factor(dB)	Limit	Verdict
11A	Ant1	5180	0.11	0.30	36.67	4.36	---	---
		5220	0.11	0.32	34.38	4.64	---	---
		5240	0.12	0.32	37.50	4.26	---	---
		5745	0.11	0.30	36.67	4.36	---	---
		5785	0.12	0.31	38.71	4.12	---	---
		5825	0.11	0.31	35.48	4.50	---	---
11N20SISO	Ant1	5180	0.11	0.29	37.93	4.21	---	---
		5220	0.11	0.32	34.38	4.64	---	---
		5240	0.11	0.32	34.38	4.64	---	---
		5745	0.11	0.35	31.43	5.03	---	---
		5785	0.11	0.32	34.38	4.64	---	---
		5825	0.12	0.30	40.00	3.98	---	---
11N40SISO	Ant1	5190	0.07	0.24	29.17	5.35	---	---
		5230	0.07	0.27	25.93	5.86	---	---
		5755	0.07	0.26	26.92	5.70	---	---
		5795	0.07	0.27	25.93	5.86	---	---

Test Graphs

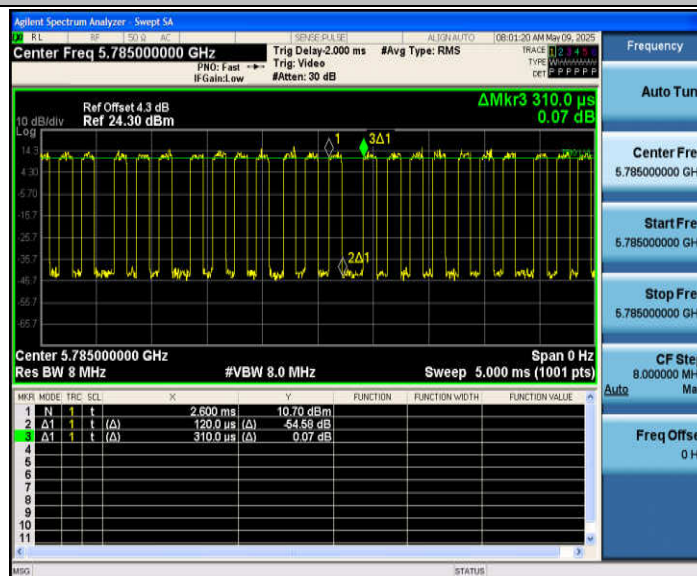




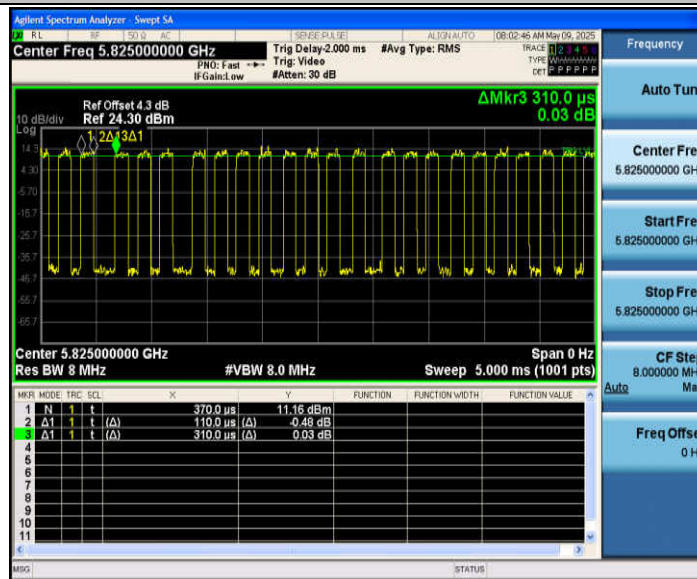
11A_Ant1_5745



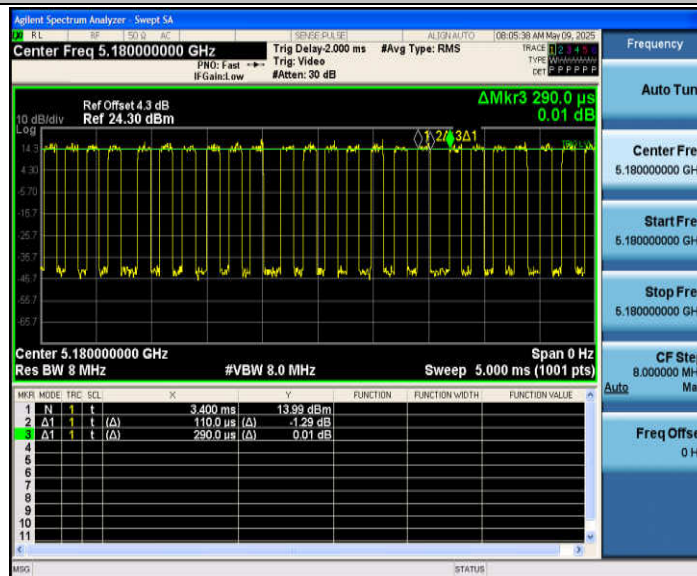
11A_Ant1_5785



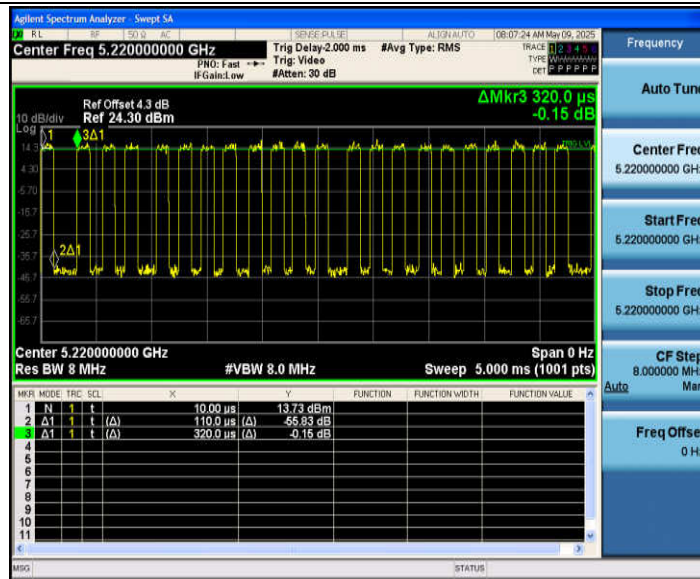
11A_Ant1_5825



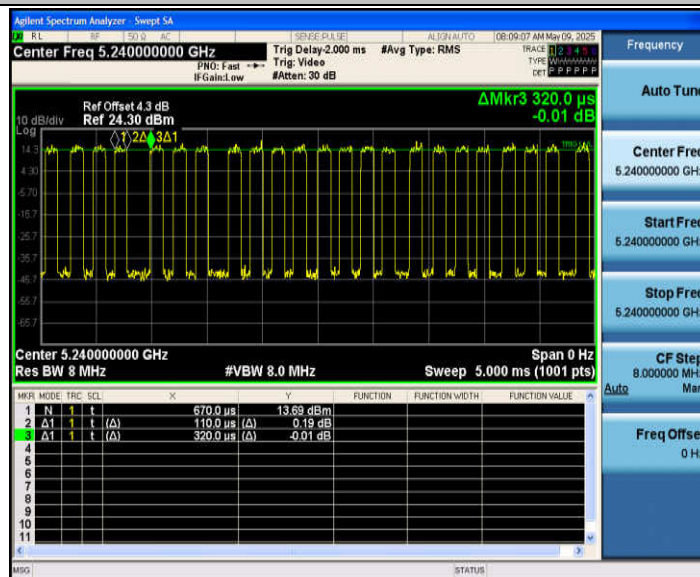
11N20SISO_Ant1_5180



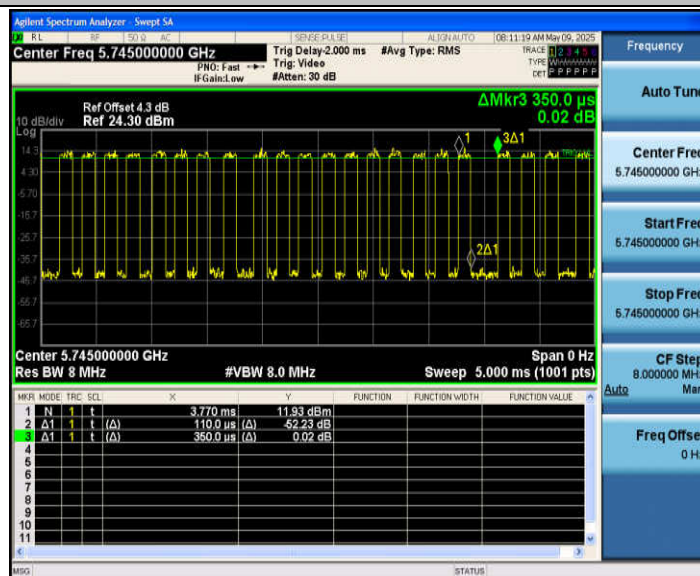
11N20SISO_Ant1_5220



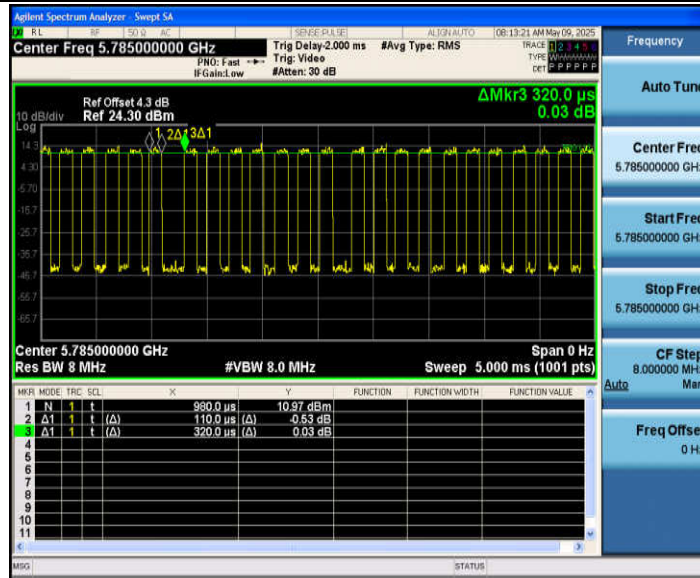
11N20SISO_Ant1_5240



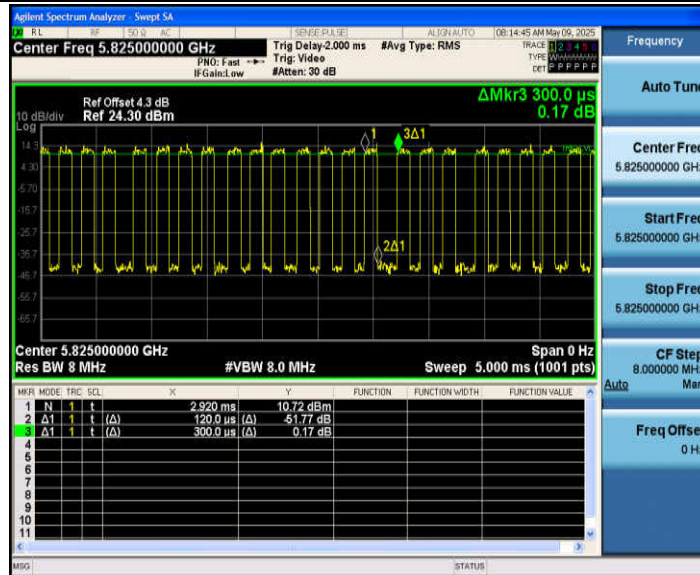
11N20SISO_Ant1_5745



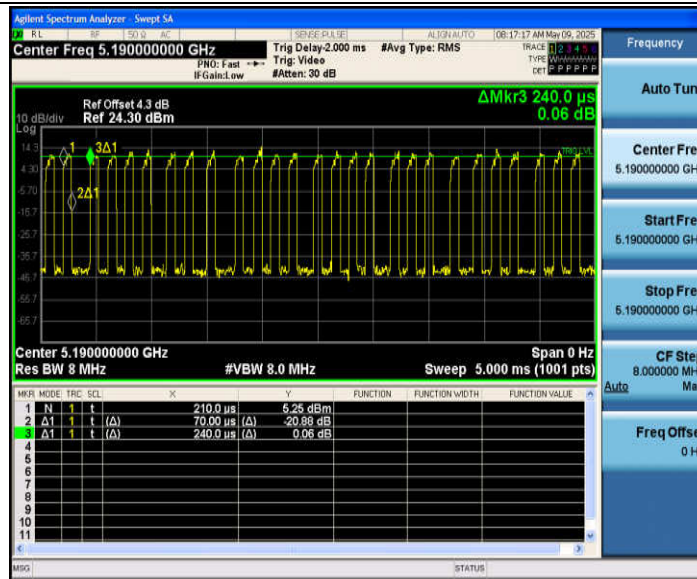
11N20SISO_Ant1_5785



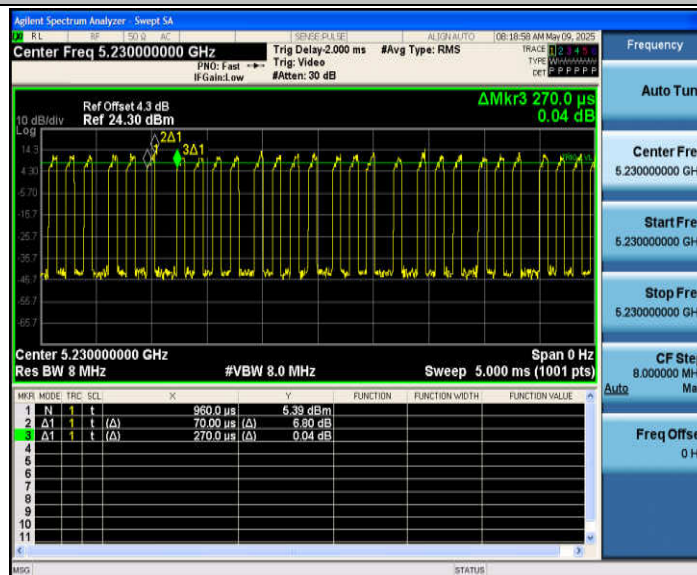
11N20SISO_Ant1_5825



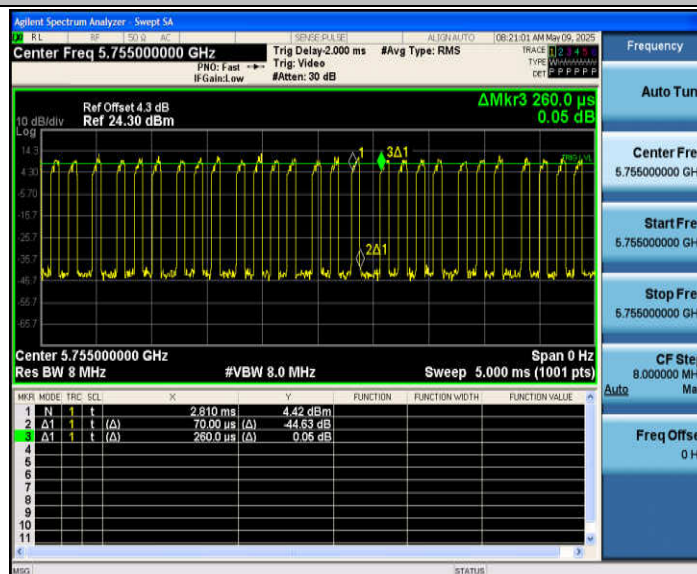
11N40SISO_Ant1_5190



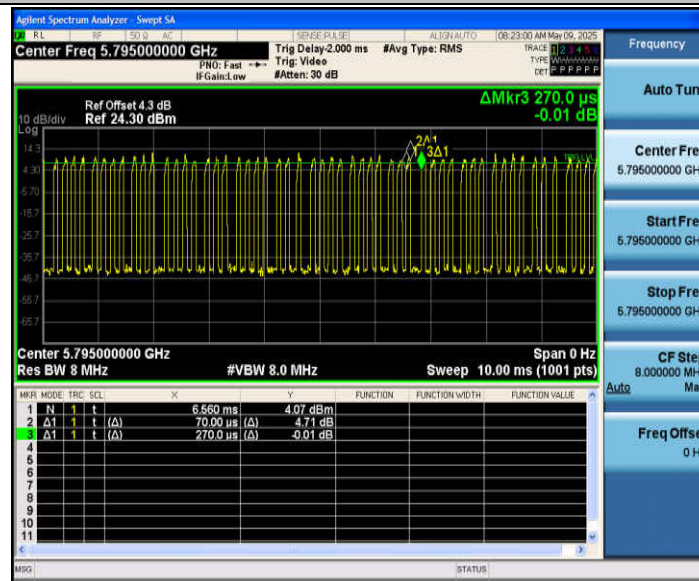
11N40SISO_Ant1_5230



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	9.26	36.67	4.36	13.62	≤23.98	PASS
		5220	9.13	34.38	4.64	13.77	≤23.98	PASS
		5240	9.18	37.50	4.26	13.44	≤23.98	PASS
		5745	7.03	36.67	4.36	11.39	≤30.00	PASS
		5785	6.40	38.71	4.12	10.52	≤30.00	PASS
		5825	6.31	35.48	4.50	10.81	≤30.00	PASS
11N20SI SO	Ant1	5180	9.15	37.93	4.21	13.36	≤23.98	PASS
		5220	9.08	34.38	4.64	13.72	≤23.98	PASS
		5240	9.08	34.38	4.64	13.72	≤23.98	PASS
		5745	7.06	31.43	5.03	12.09	≤30.00	PASS
		5785	6.52	34.38	4.64	11.16	≤30.00	PASS
		5825	6.39	40.00	3.98	10.37	≤30.00	PASS
11N40SI SO	Ant1	5190	7.49	29.17	5.35	12.84	≤23.98	PASS
		5230	7.53	25.93	5.86	13.39	≤23.98	PASS
		5755	5.53	26.92	5.70	11.23	≤30.00	PASS
		5795	4.86	25.93	5.86	10.72	≤30.00	PASS

Appendix D: Maximum power spectral density

Test Result

TestMode	Antenna	Freq(MHz)	Result [dBm/1MHz] For 5.2G	RBW Factor (dB)	Duty factor (dB)	Result [dBm/MHz] For 5.2G	Limit[dBm/MHz] For 5.2G	Verdict
			Result [dBm/300KHz] For 5.8G			Result [dBm/500kHz] For 5.8G	Limit[dBm/500kHz] For 5.8G	
11A	Ant1	5180	-1.326	/	4.36	3.03	≤11.00	PASS
		5220	-1.415	/	4.64	3.22	≤11.00	PASS
		5240	-1.294	/	4.26	2.97	≤11.00	PASS
		5745	-8.264	2.22	4.36	-1.68	≤30.00	PASS
		5785	-8.873	2.22	4.12	-2.53	≤30.00	PASS
		5825	-8.894	2.22	4.50	-2.17	≤30.00	PASS
11N20SISO	Ant1	5180	-1.558	/	4.21	2.65	≤11.00	PASS
		5220	-1.799	/	4.64	2.84	≤11.00	PASS
		5240	-1.771	/	4.64	2.87	≤11.00	PASS
		5745	-8.263	2.22	5.03	-1.01	≤30.00	PASS
		5785	-8.999	2.22	4.64	-2.14	≤30.00	PASS
		5825	-8.751	2.22	3.98	-2.55	≤30.00	PASS
11N40SISO	Ant1	5190	-5.609	/	5.35	-0.26	≤11.00	PASS
		5230	-6.286	/	5.86	-0.43	≤11.00	PASS
		5755	-12.022	2.22	5.70	-4.10	≤30.00	PASS
		5795	-12.477	2.22	5.86	-4.40	≤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

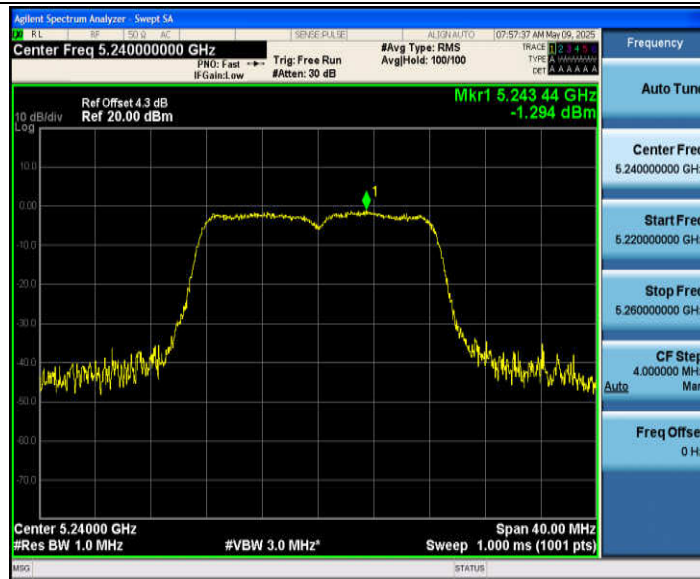
11A_Ant1_5180



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	-36.23	≤-27	PASS
		High	5240	-46.3	≤-27	PASS
11N20SISO	Ant1	Low	5180	-37.05	≤-27	PASS
		High	5240	-46.43	≤-27	PASS
11N40SISO	Ant1	Low	5190	-33.94	≤-27	PASS
		High	5230	-45.8	≤-27	PASS

Test Result B4

TestMode	Antenna	ChName	Freq(MHz)	FreqRange [MHz]	Result [dBm]	Limit [dBm]	Verdict
11A	Ant1	Low	5745	5650~5700	-47.21	≤-26.19	PASS
				5700~5720	-36.05	≤15.27	PASS
				5720~5725	-24.43	≤23.16	PASS
				5760~5650	-46.68	≤-27	PASS
		High	5825	5850~5855	-36.05	≤17.57	PASS
				5855~5875	-37.88	≤15.31	PASS
				5875~5925	-47.01	≤-26.41	PASS
				5925~5935	-45.79	≤-27	PASS
11N20SISO	Ant1	Low	5745	5650~5700	-47.69	≤-26.87	PASS
				5700~5720	-35.92	≤15.56	PASS
				5720~5725	-26.9	≤20.01	PASS
				5760~5650	-47.18	≤-27	PASS
		High	5825	5850~5855	-37.12	≤17.26	PASS
				5855~5875	-42.68	≤10.93	PASS
				5875~5925	-45.34	≤-24.81	PASS
				5925~5935	-44.95	≤-27	PASS
11N40SISO	Ant1	Low	5755	5650~5700	-48.44	≤-26.90	PASS
				5700~5720	-23.56	≤15.54	PASS
				5720~5725	-23.95	≤15.74	PASS
				5780~5650	-46.72	≤-27	PASS
		High	5795	5850~5855	-43.83	≤17.91	PASS
				5855~5875	-45.28	≤10.71	PASS
				5875~5925	-47.71	≤-26.71	PASS
				5925~5935	-45.31	≤-27	PASS

Test Graphs B1

