

Appendix RF Test Data for 5GWIFI

FCC ID : 2BPAY-EX004

Company : Shenzhen Lianying Zhida Technology Co., Ltd.

EUT : WIFI 11ac 1200M Type C Extender

Model Number : EX004

Report No. : CTA25070500102

Reviewed By : Eric Wang

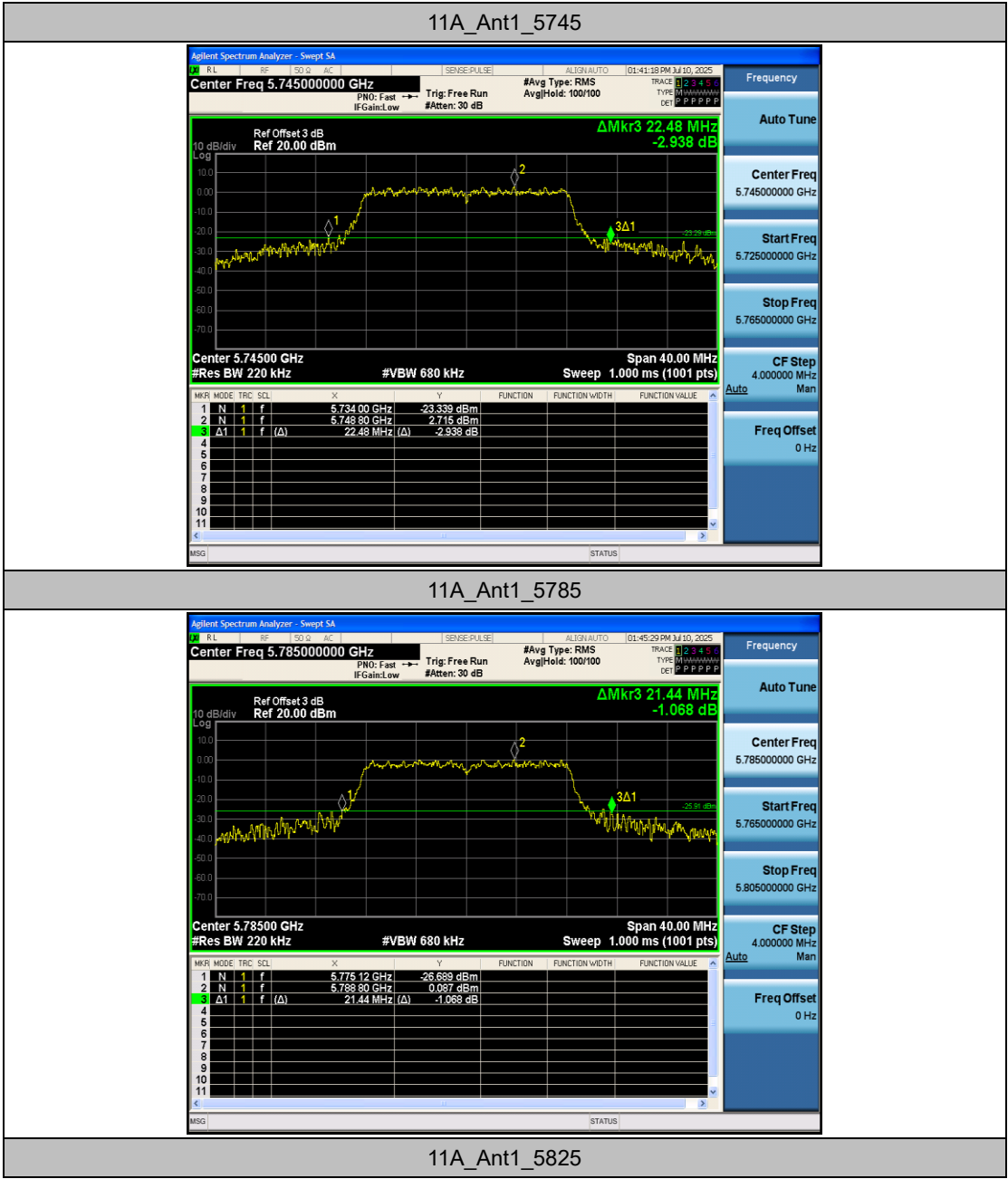
Appendix RF Test Data for 5GWIFI ANT1

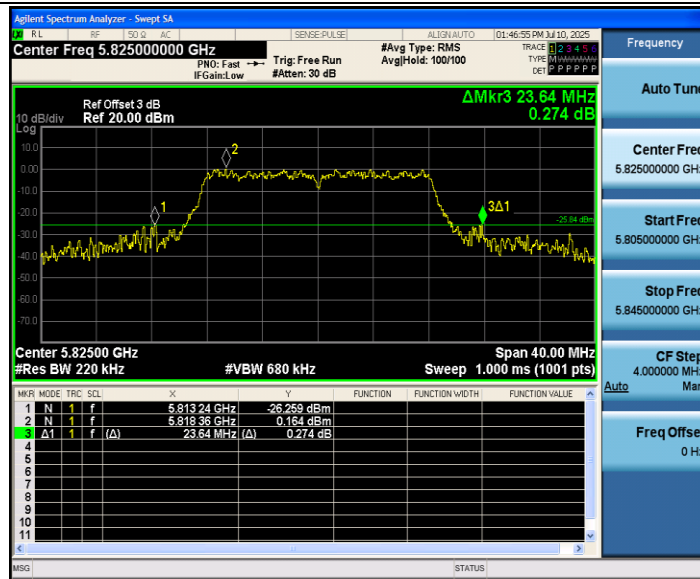
Appendix A1: Emission Bandwidth

Test Result

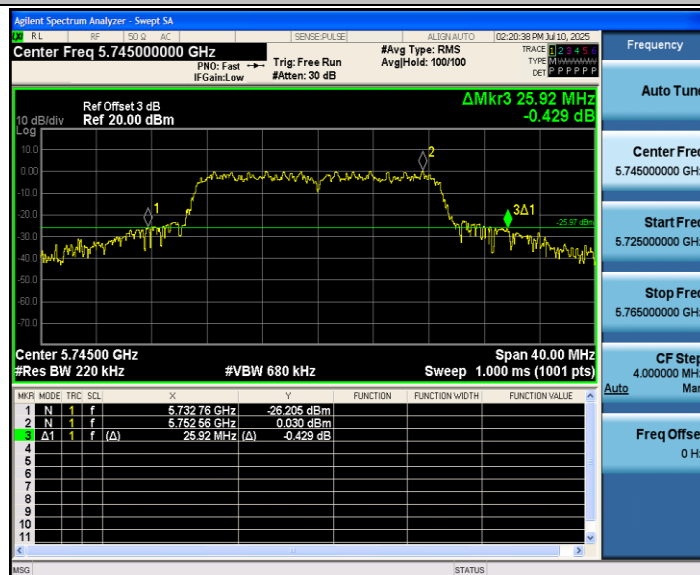
TestMode	Antenna	Freq(MHz)	26db EBW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
11A	Ant1	5745	22.480	5734.000	5756.480	---	---
		5785	21.440	5775.120	5796.560	---	---
		5825	23.640	5813.240	5836.880	---	---
11N20SISO	Ant1	5745	25.920	5732.760	5758.680	---	---
		5785	25.560	5772.960	5798.520	---	---
		5825	24.840	5812.800	5837.640	---	---
11N40SISO	Ant1	5755	43.680	5733.960	5777.640	---	---
		5795	44.720	5773.080	5817.800	---	---
11AC20SISO	Ant1	5745	22.120	5733.680	5755.800	---	---
		5785	21.800	5775.200	5797.000	---	---
		5825	23.840	5812.480	5836.320	---	---
11AC40SISO	Ant1	5755	50.240	5733.720	5783.960	---	---
		5795	52.160	5771.720	5823.880	---	---
11AC80SISO	Ant1	5775	84.160	5734.680	5818.840	---	---

Test Graphs





11N20SISO_Ant1_5745



11N20SISO_Ant1_5785



11N20SISO_Ant1_5825



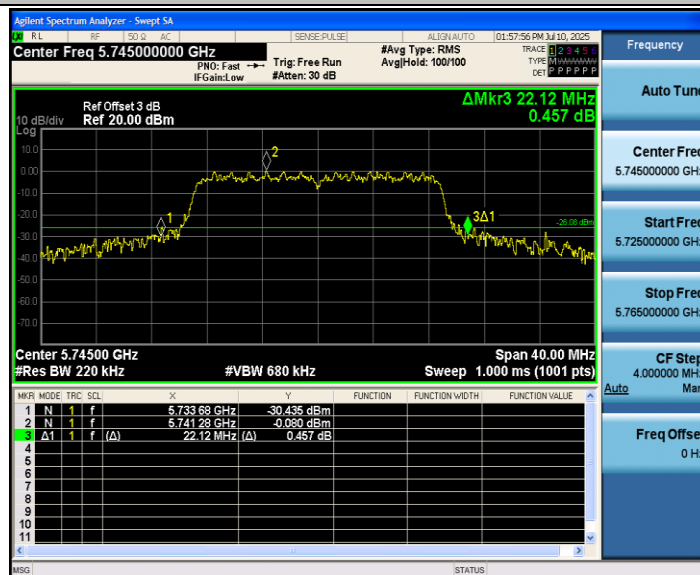
11N40SISO_Ant1_5755



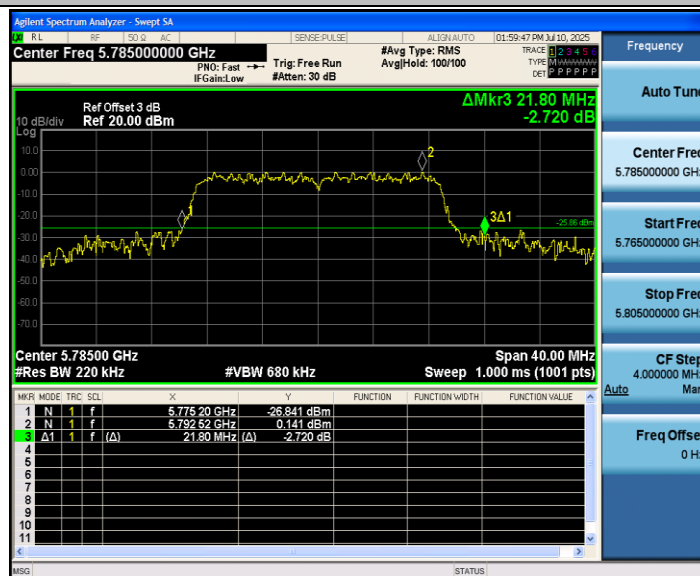
11N40SISO_Ant1_5795



11AC20SISO_Ant1_5745



11AC20SISO_Ant1_5785



11AC20SISO_Ant1_5825



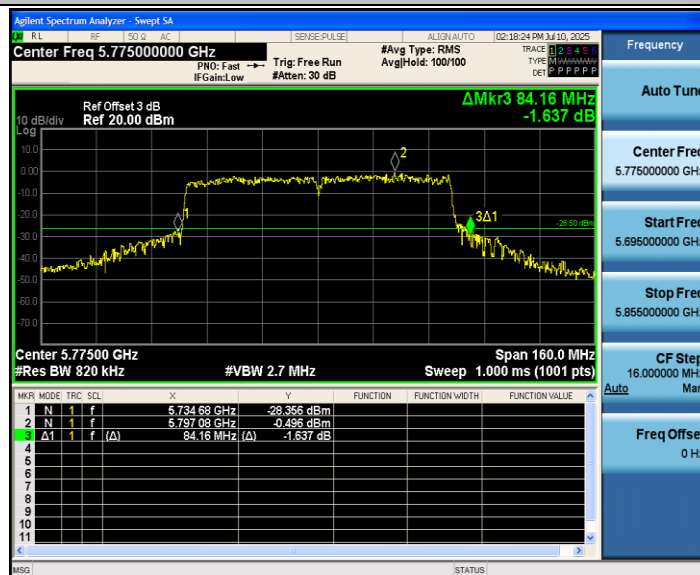
11AC40SISO_Ant1_5755



11AC40SISO_Ant1_5795



11AC80ISO_Ant1_5775



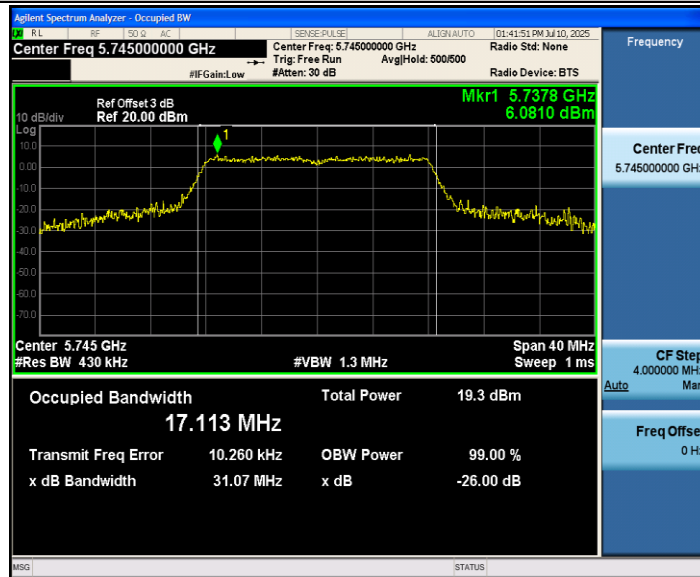
Appendix A2: Occupied channel bandwidth

Test Result

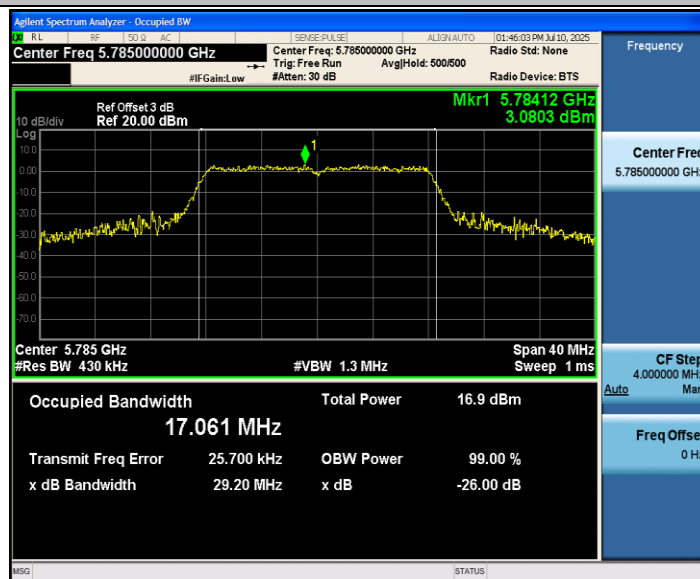
TestMode	Antenna	Freq(MHz)	OCB [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
11A	Ant1	5745	17.113	5736.4538	5753.5668	---	---
		5785	17.061	5776.4952	5793.5562	---	---
		5825	17.039	5816.4852	5833.5242	---	---
11N20SISO	Ant1	5745	18.086	5736.0384	5754.1244	---	---
		5785	18.053	5776.0055	5794.0585	---	---
		5825	18.061	5815.9772	5834.0382	---	---
11N40SISO	Ant1	5755	36.905	5736.7327	5773.6377	---	---
		5795	36.803	5776.7396	5813.5426	---	---
11AC20SISO	Ant1	5745	17.863	5736.1085	5753.9715	---	---
		5785	17.848	5776.1092	5793.9572	---	---
		5825	17.832	5816.0928	5833.9248	---	---
11AC40SISO	Ant1	5755	36.698	5736.8292	5773.5272	---	---
		5795	36.773	5776.7242	5813.4972	---	---
11AC80SISO	Ant1	5775	75.711	5737.4492	5813.1602	---	---

Test Graphs

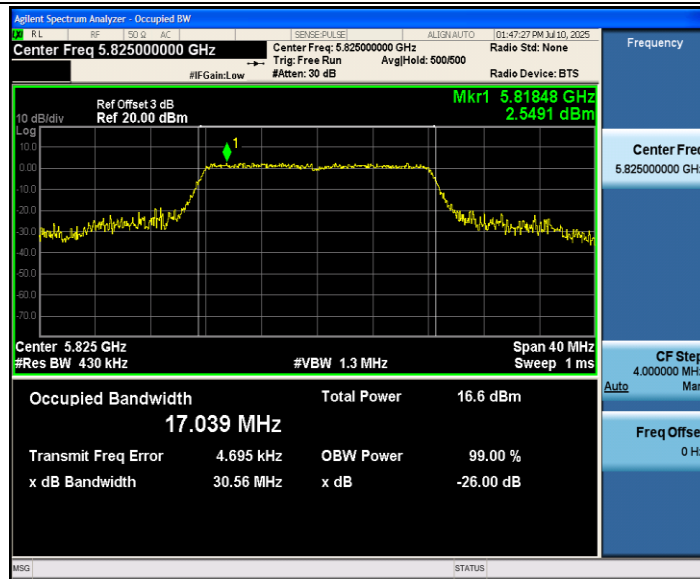
11A_Ant1_5745



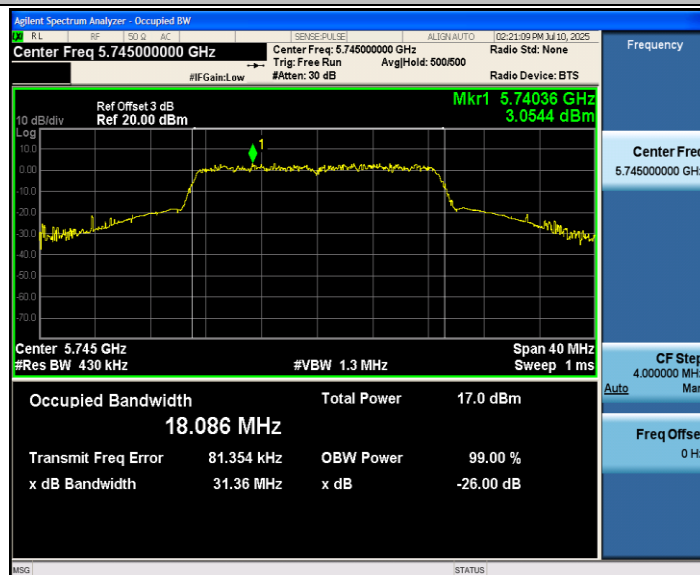
11A_Ant1_5785



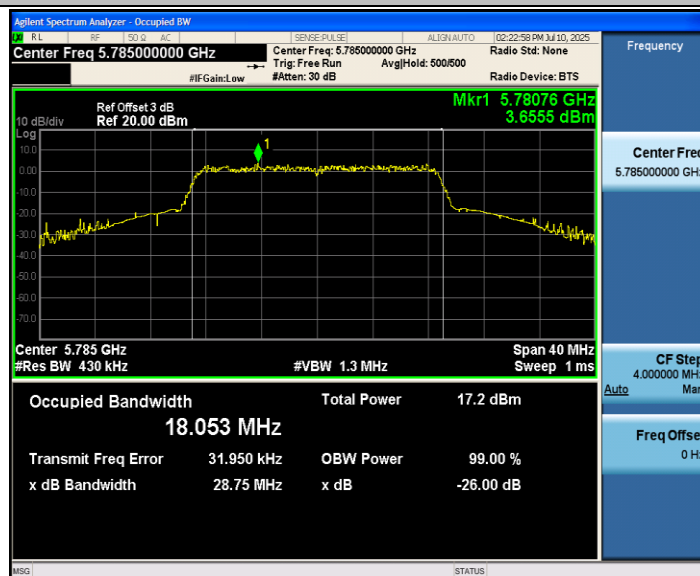
11A_Ant1_5825



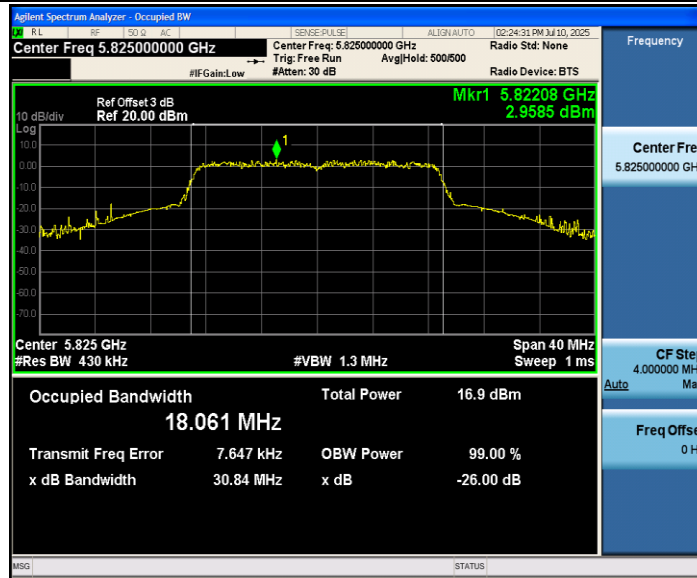
11N20SISO_Ant1_5745



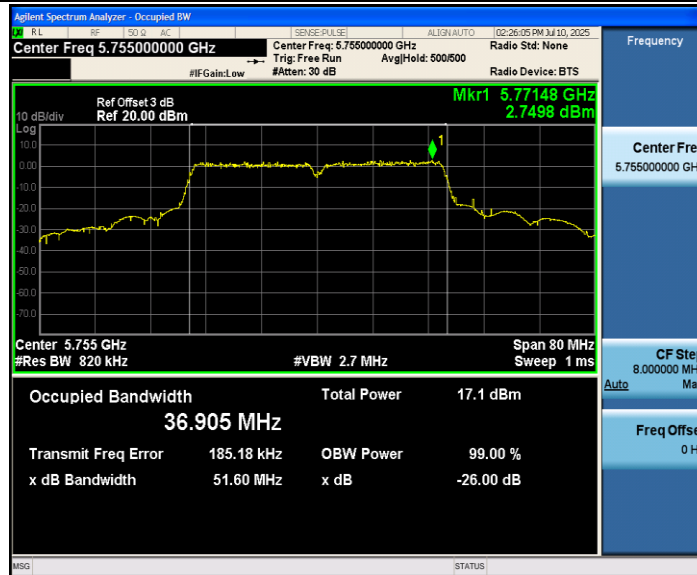
11N20SISO_Ant1_5785



11N20SISO_Ant1_5825



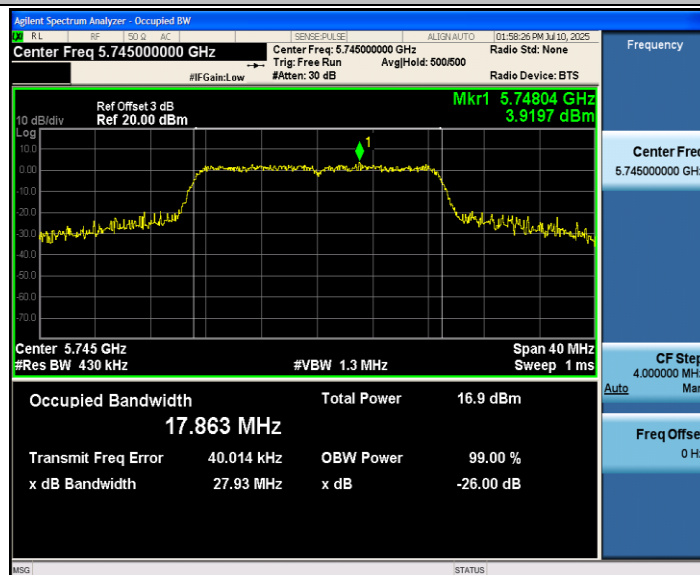
11N40SISO_Ant1_5755



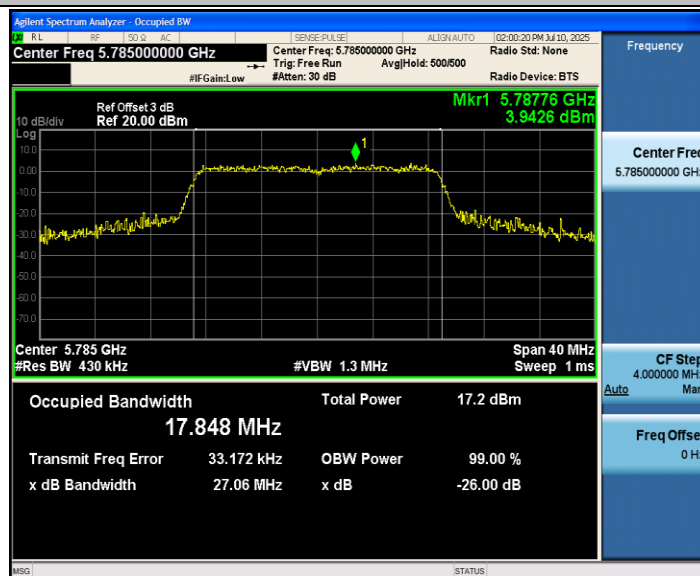
11N40SISO_Ant1_5795



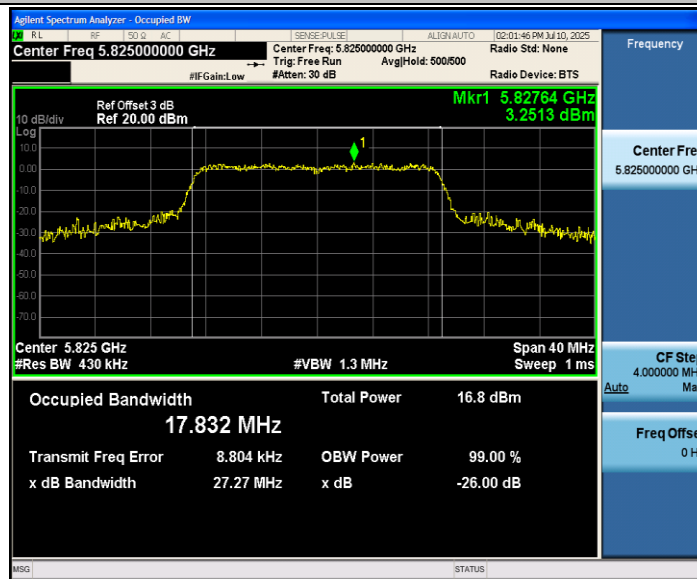
11AC20SISO_Ant1_5745



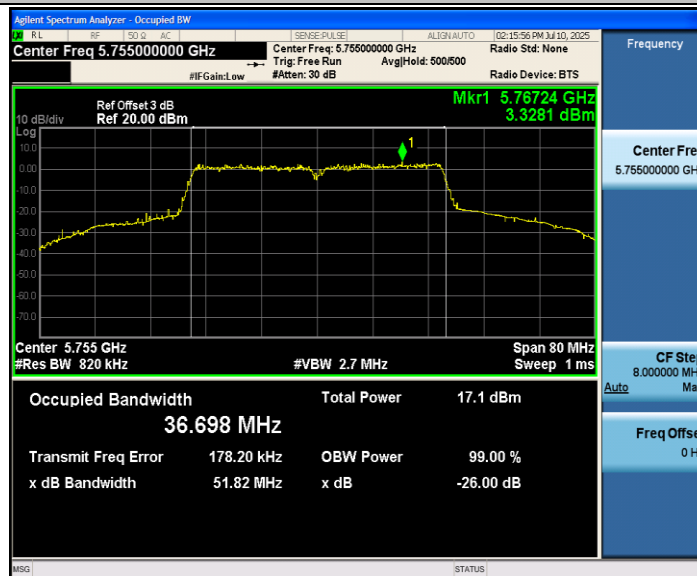
11AC20SISO_Ant1_5785



11AC20SISO_Ant1_5825



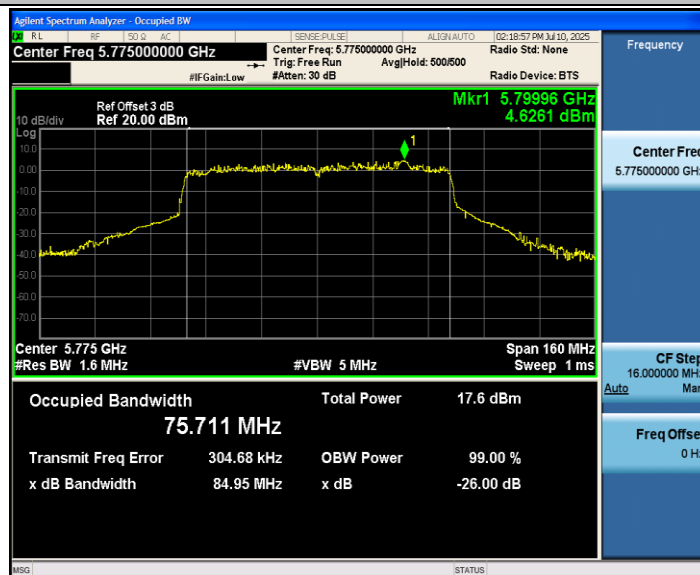
11AC40SISO_Ant1_5755



11AC40SISO_Ant1_5795



11AC80SISO_Ant1_5775

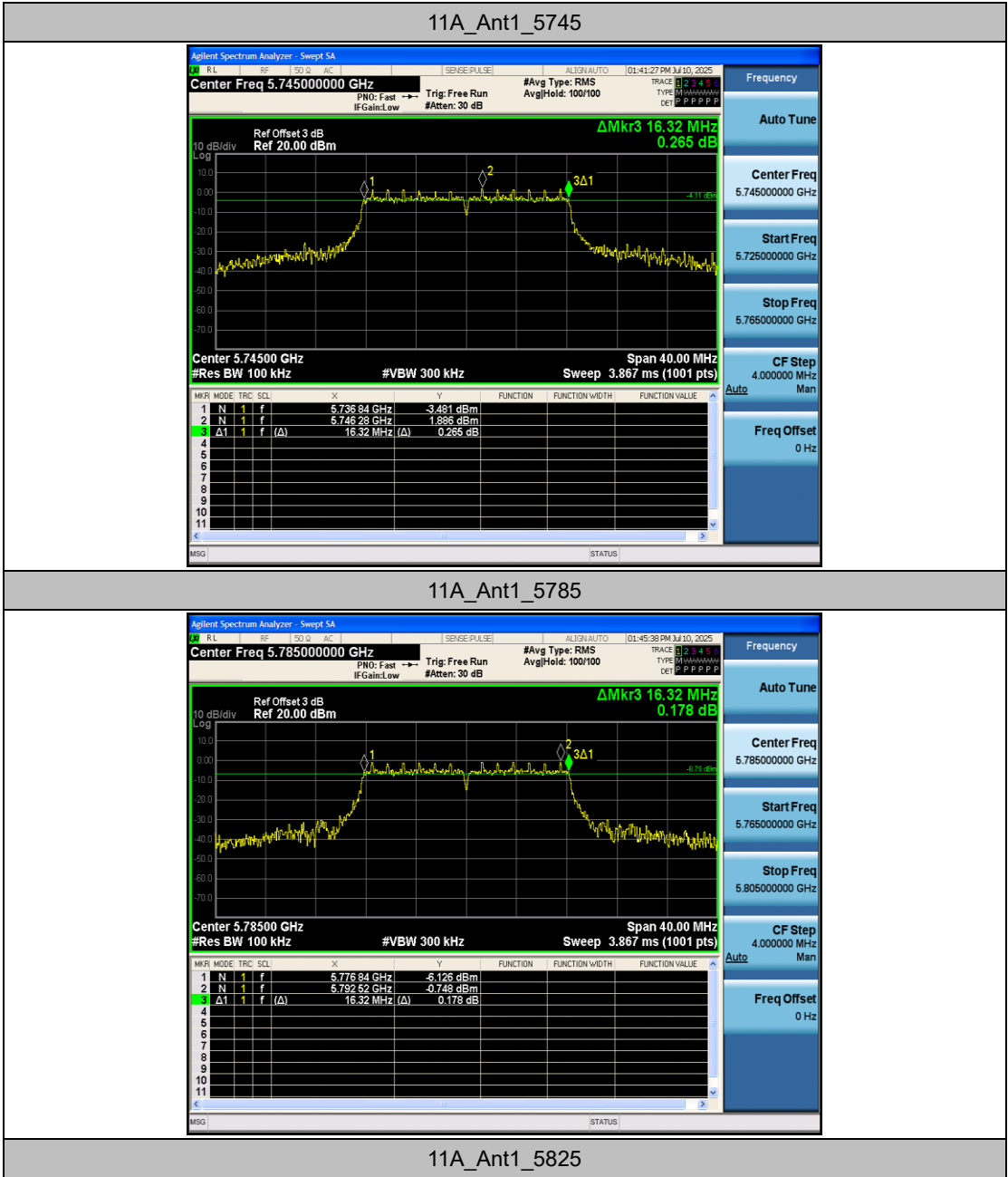


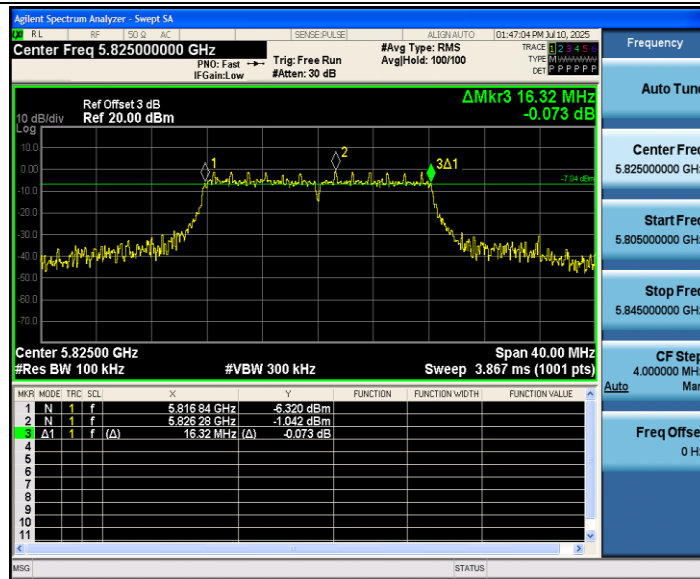
Appendix A3: Min emission bandwidth

Test Result B4

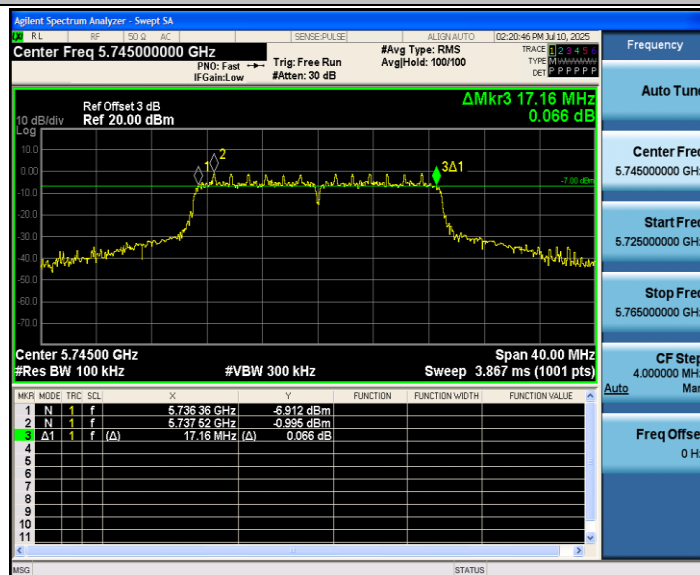
TestMode	Antenna	Freq(MHz)	6db EBW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
11A	Ant1	5745	16.320	5736.840	5753.160	0.5	PASS
		5785	16.320	5776.840	5793.160	0.5	PASS
		5825	16.320	5816.840	5833.160	0.5	PASS
11N20SISO	Ant1	5745	17.160	5736.360	5753.520	0.5	PASS
		5785	16.960	5776.680	5793.640	0.5	PASS
		5825	17.080	5816.400	5833.480	0.5	PASS
11N40SISO	Ant1	5755	35.680	5737.400	5773.080	0.5	PASS
		5795	36.160	5776.920	5813.080	0.5	PASS
11AC20SISO	Ant1	5745	16.880	5736.480	5753.360	0.5	PASS
		5785	16.960	5776.400	5793.360	0.5	PASS
		5825	17.160	5816.360	5833.520	0.5	PASS
11AC40SISO	Ant1	5755	35.840	5737.240	5773.080	0.5	PASS
		5795	36.080	5777.160	5813.240	0.5	PASS
11AC80SISO	Ant1	5775	75.200	5737.400	5812.600	0.5	PASS

Test Graphs B4

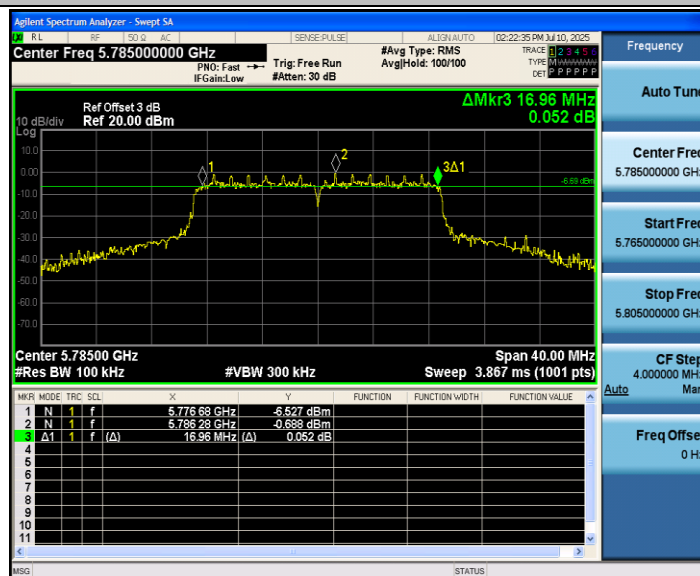




11N20SISO_Ant1_5745



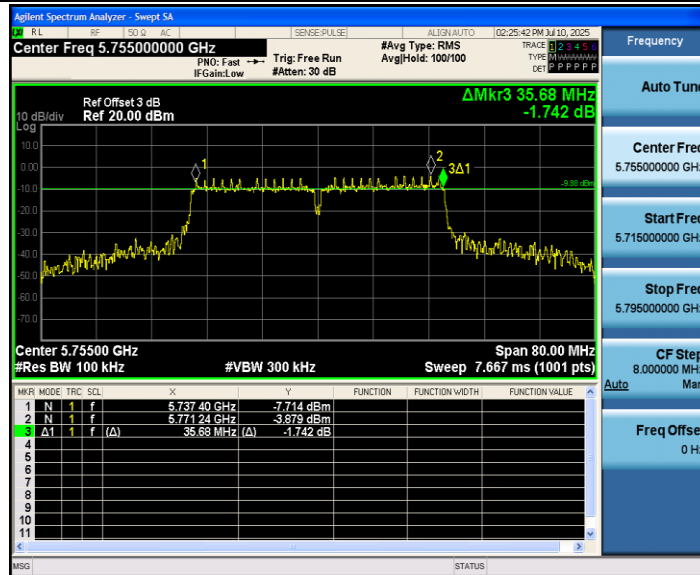
11N20SISO_Ant1_5785



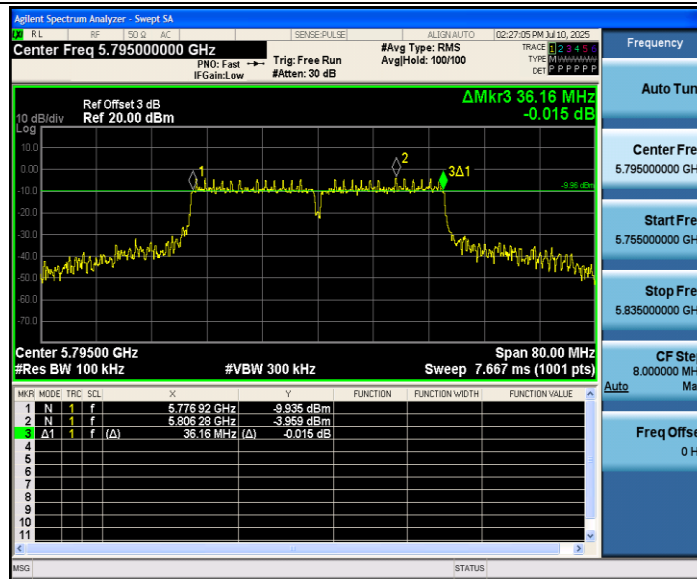
11N20SISO_Ant1_5825



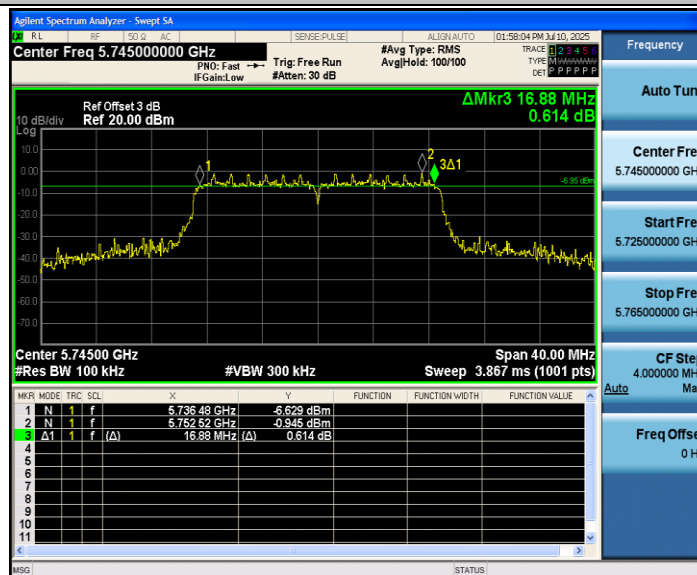
11N40SISO_Ant1_5755



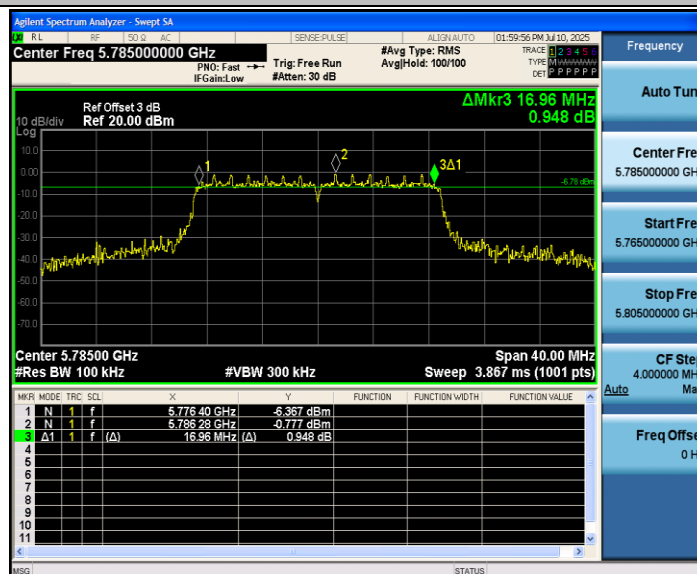
11N40SISO_Ant1_5795



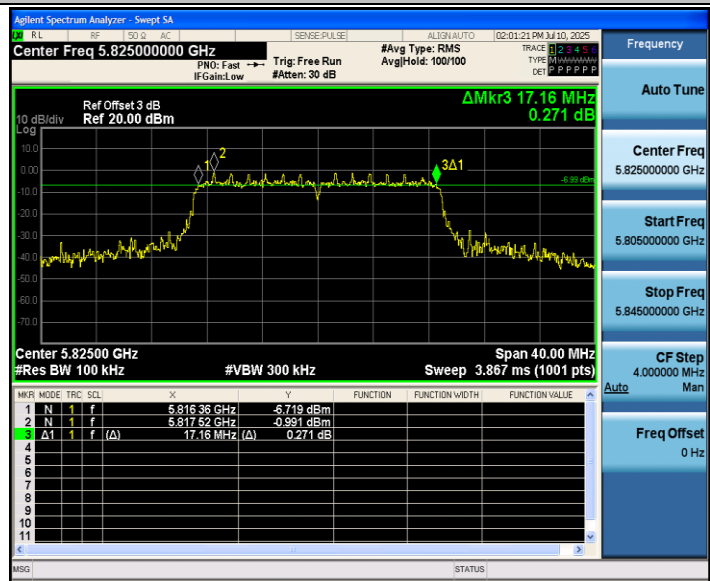
11AC20SISO_Ant1_5745



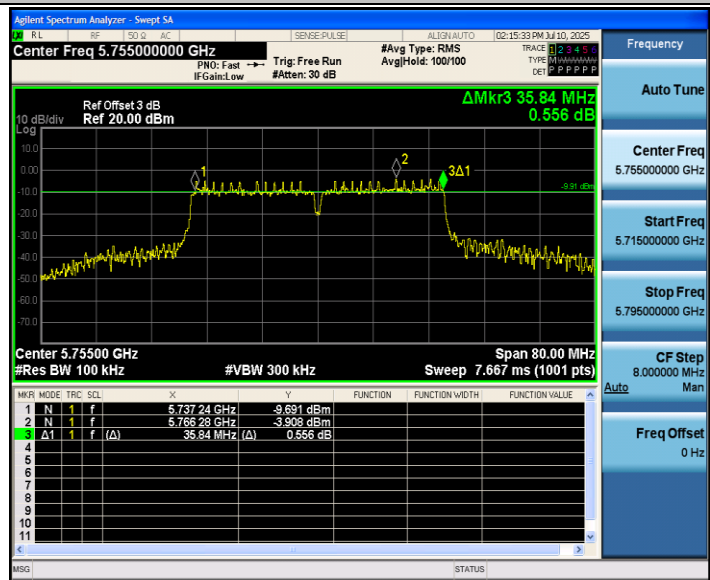
11AC20SISO_Ant1_5785



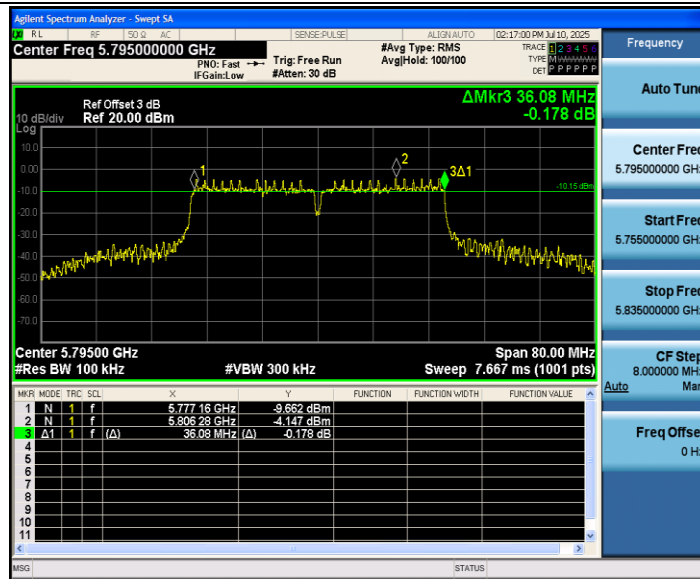
11AC20SISO_Ant1_5825



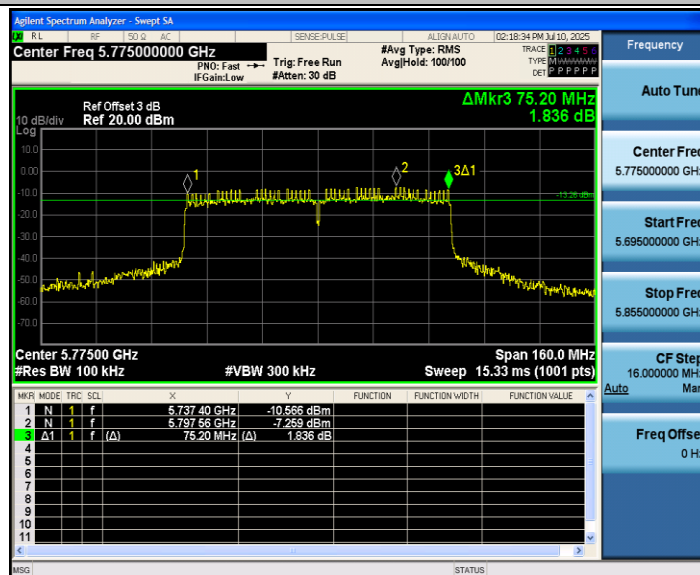
11AC40SISO_Ant1_5755



11AC40SISO_Ant1_5795



11AC80SISO_Ant1_5775



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	5745	0.11	0.32	34.38	4.64	---	---
		5785	0.11	0.28	39.29	4.06	---	---
		5825	0.11	0.27	40.74	3.90	---	---
11N20SISO	Ant1	5745	0.11	0.30	36.67	4.36	---	---
		5785	0.11	0.30	36.67	4.36	---	---
		5825	0.11	0.30	36.67	4.36	---	---
11N40SISO	Ant1	5755	0.07	0.25	28.00	5.53	---	---
		5795	0.07	0.25	28.00	5.53	---	---
11AC20SISO	Ant1	5745	0.12	0.30	40.00	3.98	---	---
		5785	0.12	0.32	37.50	4.26	---	---
		5825	0.11	0.29	37.93	4.21	---	---
11AC40SISO	Ant1	5755	0.08	0.29	27.59	5.59	---	---
		5795	0.08	0.29	27.59	5.59	---	---
11AC80SISO	Ant1	5775	0.05	0.23	21.74	6.63		

11A_Ant1_5745

Agilent Spectrum Analyzer - Swept SA

Center Freq 5.745000000 GHz

Trig Delay: 2.000 ms #Avg Type: RMS

Ref Offset 3 dB Ref 23.00 dBm

ΔMkr3 320.0 μs 0.10 dB

Center 5.745000000 GHz Res BW 8 MHz #VBW 8.0 MHz Sweep 5.000 ms (1001 pts)

MFR	MODE	TRIG	SCL	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE
1	N	1	t	1.610 ms	12.67 dBm			
2	Δ1	1	t	110.0 μs (Δ)	-0.99 dB			
3	Δ1	1	t	320.0 μs (Δ)	0.10 dB			

11A_Ant1_5785

Agilent Spectrum Analyzer - Swept SA

Center Freq 5.785000000 GHz

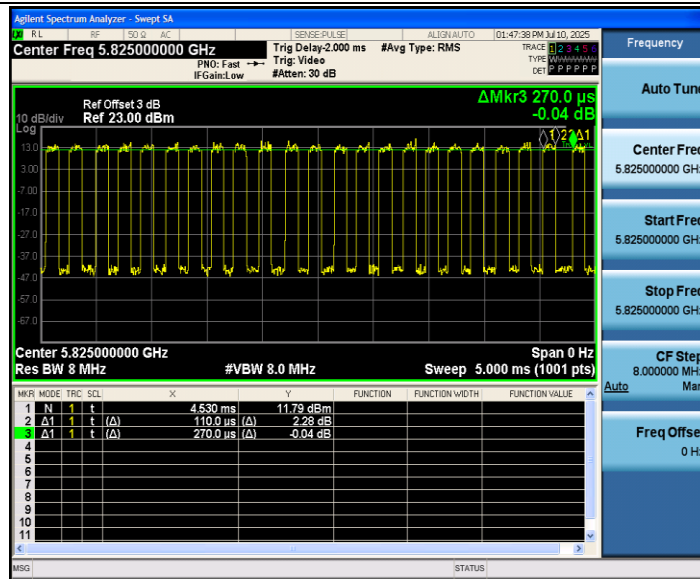
Trig Delay: 2.000 ms #Avg Type: RMS

Ref Offset 3 dB Ref 23.00 dBm

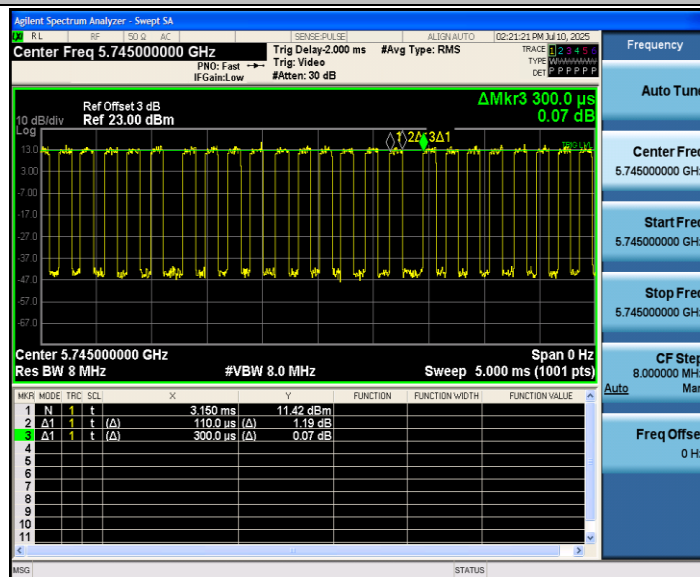
ΔMkr3 280.0 μs -0.13 dB

Center 5.785000000 GHz Res BW 8 MHz #VBW 8.0 MHz Sweep 5.000 ms (1001 pts)

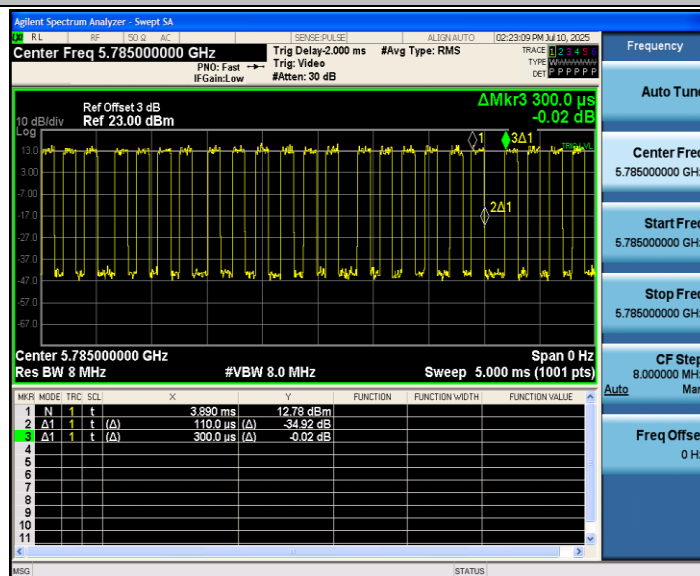
MFR	MODE	TRIG	SCL	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE
1	N	1	t	4.300 ms	12.27 dBm			
2	Δ1	1	t	110.0 μs (Δ)	1.60 dB			
3	Δ1	1	t	280.0 μs (Δ)	-0.13 dB			



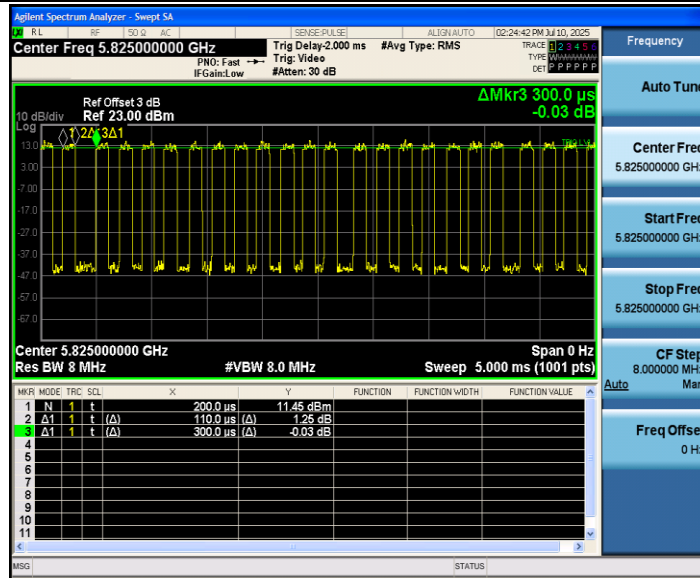
11N20SISO_Ant1_5745



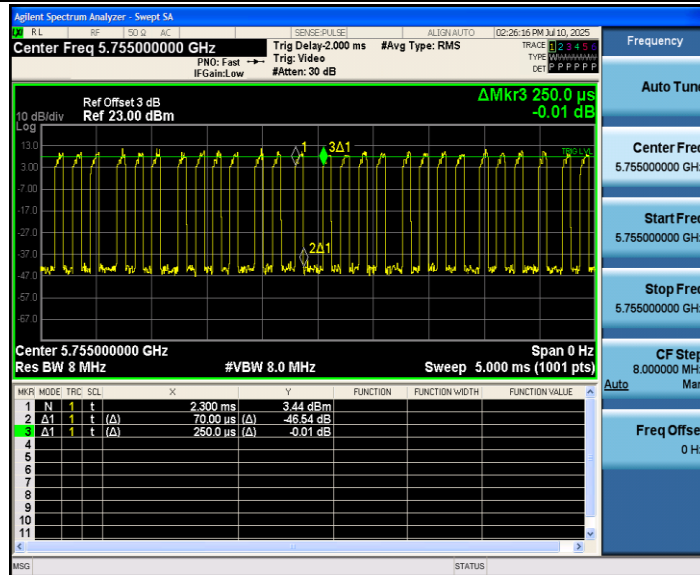
11N20SISO_Ant1_5785



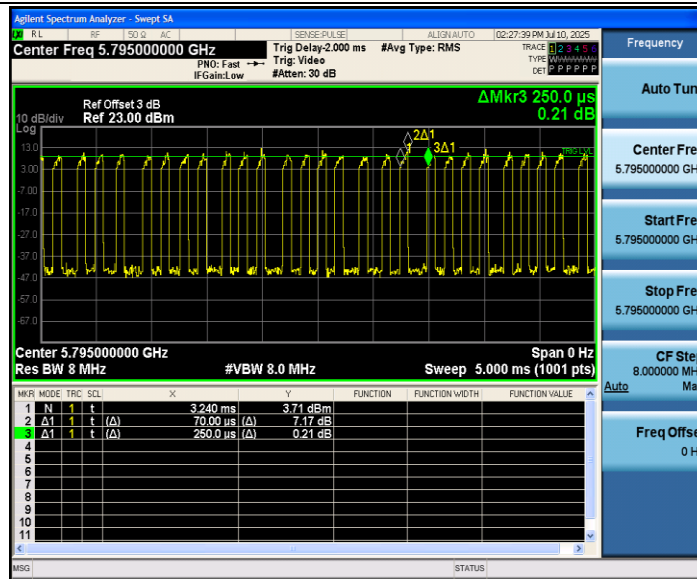
11N20SISO_Ant1_5825



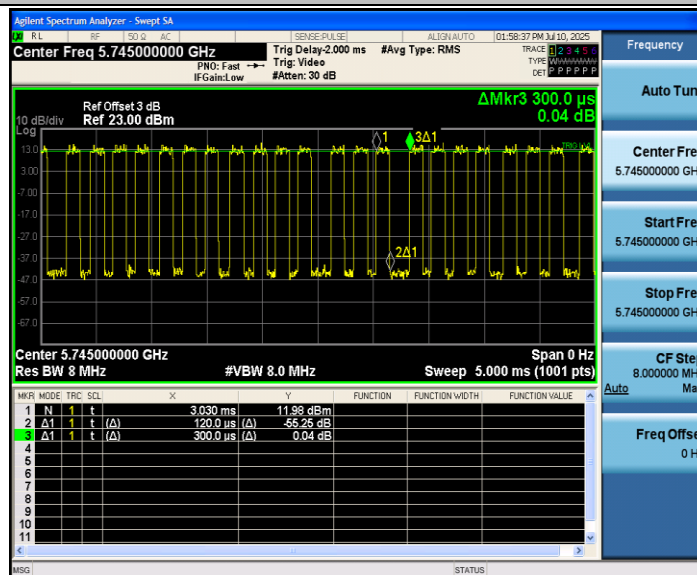
11N40SISO_Ant1_5755



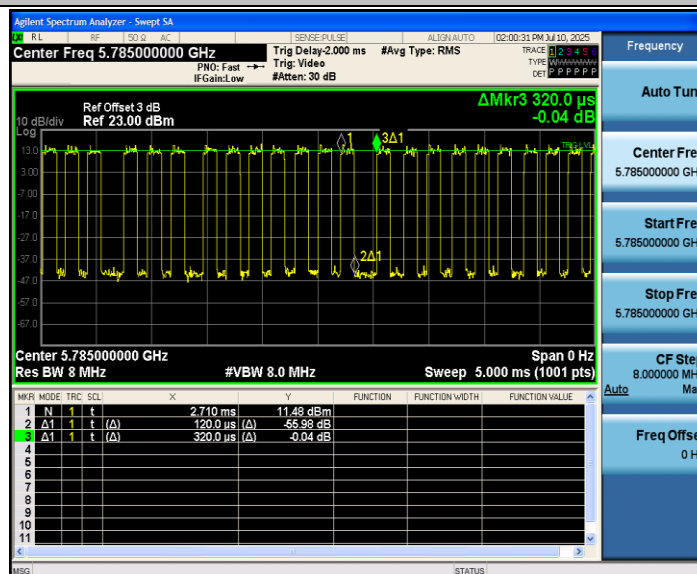
11N40SISO_Ant1_5795



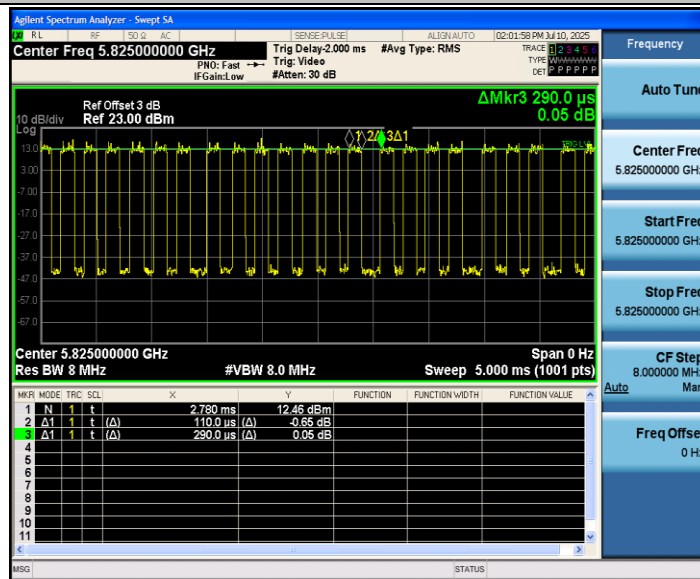
11AC20SISO_Ant1_5745



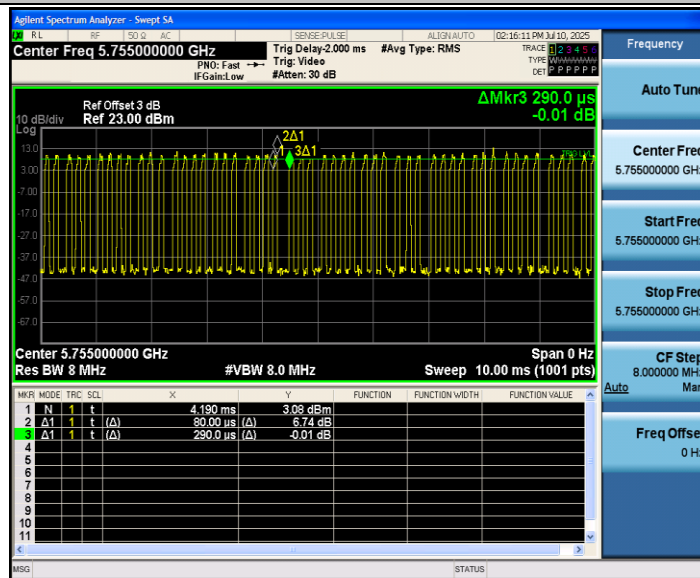
11AC20SISO_Ant1_5785



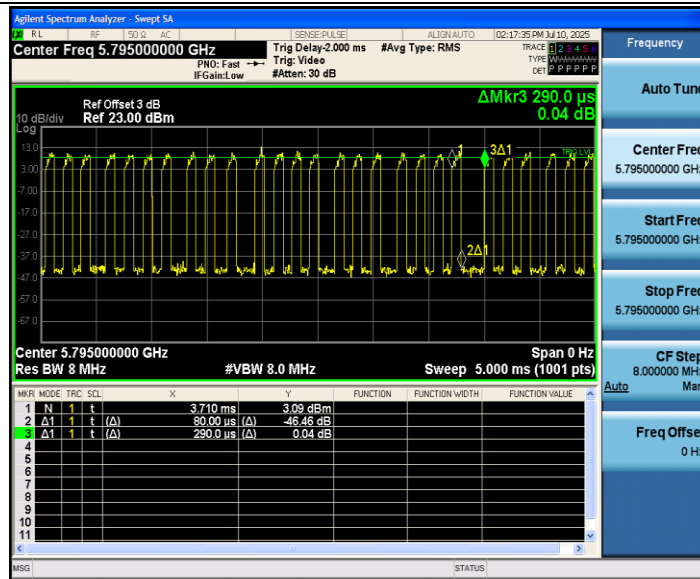
11AC20SISO_Ant1_5825



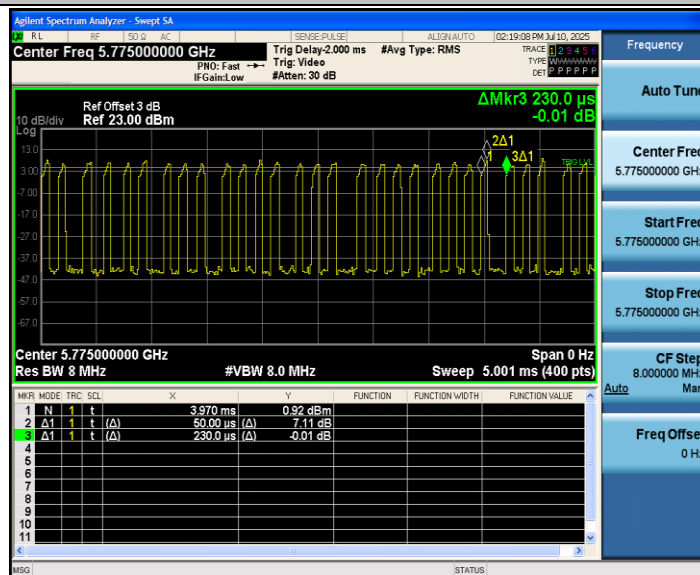
11AC40SISO_Ant1_5755



11AC40SISO_Ant1_5795



11AC80ISO_Ant1_5775



Appendix C: Maximum conducted output power

Test Result Channel Power

Test Mode	Antenna	Freq(MHz)	Channel Power [dBm]	Duty Cycle [%]	DC Factor [dBm]	Result [dBm]	Limit [dBm]	Verdict
11A	Ant1	5745	7.30	34.38	4.64	11.94	≤30.00	PASS
		5785	7.60	39.29	4.06	11.66	≤30.00	PASS
		5825	7.35	40.74	3.90	11.25	≤30.00	PASS
11N20SI SO	Ant1	5745	7.33	36.67	4.36	11.69	≤30.00	PASS
		5785	7.58	36.67	4.36	11.94	≤30.00	PASS
		5825	7.29	36.67	4.36	11.65	≤30.00	PASS
11N40SI SO	Ant1	5755	5.79	28.00	5.53	11.32	≤30.00	PASS
		5795	6.05	28.00	5.53	11.58	≤30.00	PASS
11AC20S ISO	Ant1	5745	7.50	40.00	3.98	11.48	≤30.00	PASS
		5785	7.74	37.50	4.26	12.00	≤30.00	PASS
		5825	7.44	37.93	4.21	11.65	≤30.00	PASS
11AC40S ISO	Ant1	5755	6.03	27.59	5.59	11.62	≤30.00	PASS
		5795	6.20	27.59	5.59	11.79	≤30.00	PASS
11AC80S ISO	Ant1	5775	5.01	21.74	6.63	11.64	≤30.00	PASS

Appendix D: Maximum power spectral density

Test Result

TestMode	Antenna	Freq(MHz)	Result [dBm/300KHz]	RBW Factor (dB)	Duty factor (dB)	Result [dBm/500KHz]	Limit [dBm/500KHz)	Verdict
11A	Ant1	5745	-7.984	2.22	4.64	-1.12	≤30.00	PASS
		5785	-7.341	2.22	4.06	-1.06	≤30.00	PASS
		5825	-7.603	2.22	3.90	-1.48	≤30.00	PASS
11N20SISO	Ant1	5745	-7.436	2.22	4.36	-0.86	≤30.00	PASS
		5785	-7.429	2.22	4.36	-0.85	≤30.00	PASS
		5825	-7.308	2.22	4.36	-0.73	≤30.00	PASS
11N40SISO	Ant1	5755	-11.494	2.22	5.53	-3.74	≤30.00	PASS
		5795	-10.954	2.22	5.53	-3.20	≤30.00	PASS
11AC20SIS O	Ant1	5745	-7.860	2.22	3.98	-1.66	≤30.00	PASS
		5785	-6.299	2.22	4.26	0.18	≤30.00	PASS
		5825	-7.821	2.22	4.21	-1.39	≤30.00	PASS
11AC40SIS O	Ant1	5755	-11.376	2.22	5.59	-3.57	≤30.00	PASS
		5795	-11.013	2.22	5.59	-3.20	≤30.00	PASS
11AC80SIS O	Ant1	5775	-15.446	2.22	6.63	-6.60	≤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