

FCC Appendix RF Test Data for 5GWIFI

FCC ID : 2BVSK-KWCP1

Company : Shenzhen Kaiwei Electronics Co., Ltd

EUT : CarPlay

Model Number : KWCP1

Report No. : CTA26032600703

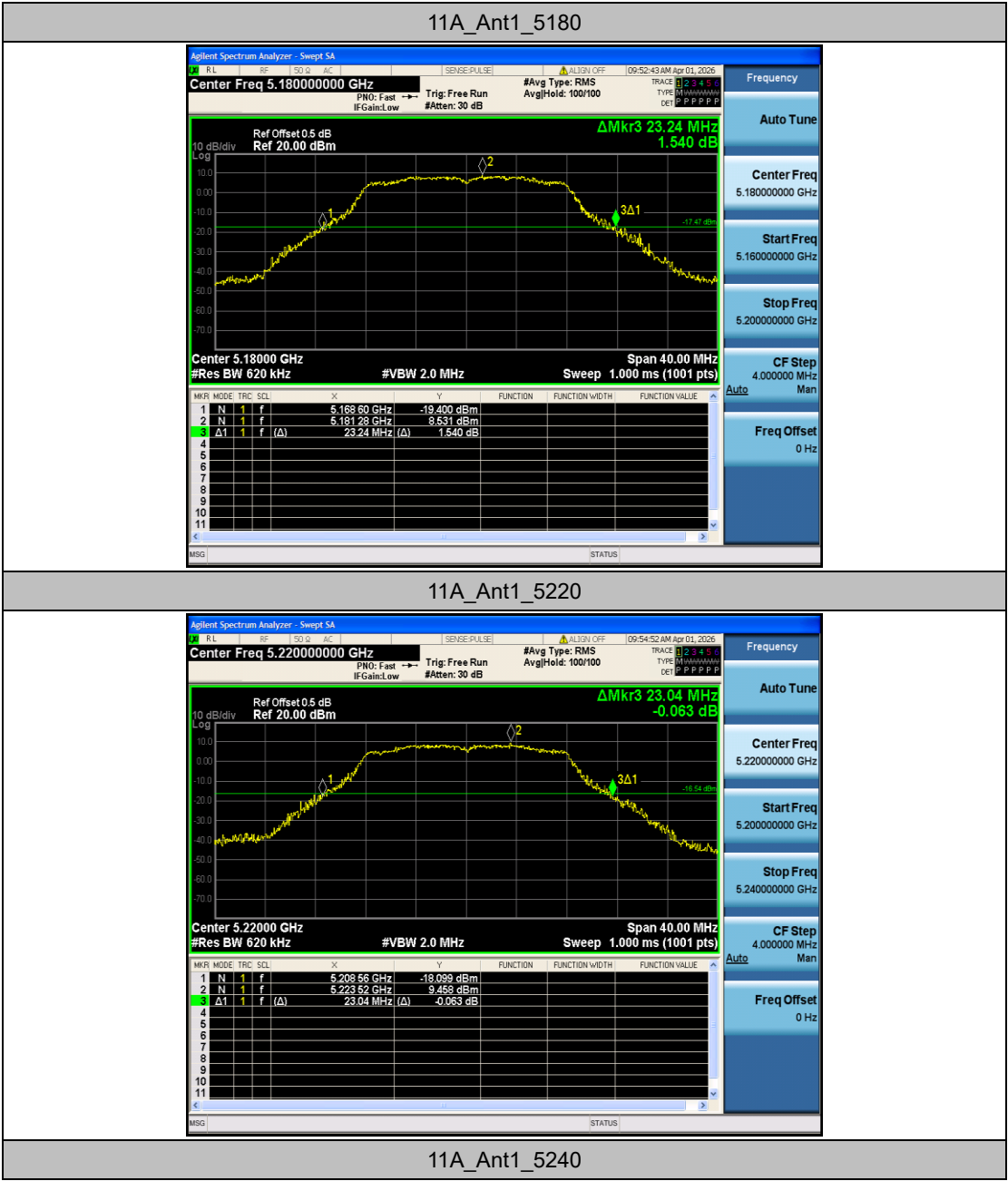
Reviewed By : Eric Wang

Appendix A1: Emission Bandwidth

Test Result

TestMode	Antenna	Freq(MHz)	26db EBW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
11A	Ant1	5180	23.240	5168.600	5191.840	---	---
		5220	23.040	5208.560	5231.600	---	---
		5240	23.000	5228.720	5251.720	---	---
		5745	24.320	5732.800	5757.120	---	---
		5785	23.800	5773.240	5797.040	---	---
		5825	23.960	5813.000	5836.960	---	---
11N20SISO	Ant1	5180	23.640	5168.280	5191.920	---	---
		5220	24.360	5207.720	5232.080	---	---
		5240	24.040	5228.040	5252.080	---	---
		5745	24.400	5732.520	5756.920	---	---
		5785	24.280	5773.120	5797.400	---	---
		5825	24.760	5812.480	5837.240	---	---
11N40SISO	Ant1	5190	44.000	5167.840	5211.840	---	---
		5230	42.640	5208.800	5251.440	---	---
		5755	44.080	5733.320	5777.400	---	---
		5795	44.960	5773.160	5818.120	---	---

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



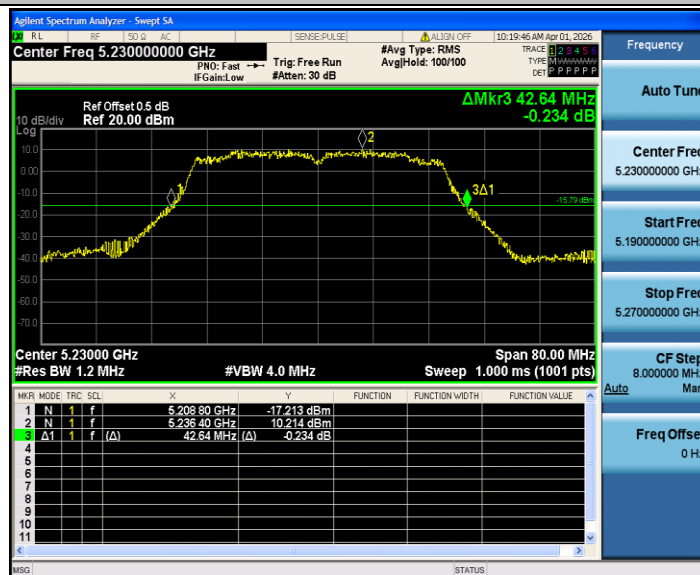
11N20SISO_Ant1_5825



11N40SISO_Ant1_5190



11N40SISO_Ant1_5230



11N40SISO_Ant1_5755



11N40SISO_Ant1_5795

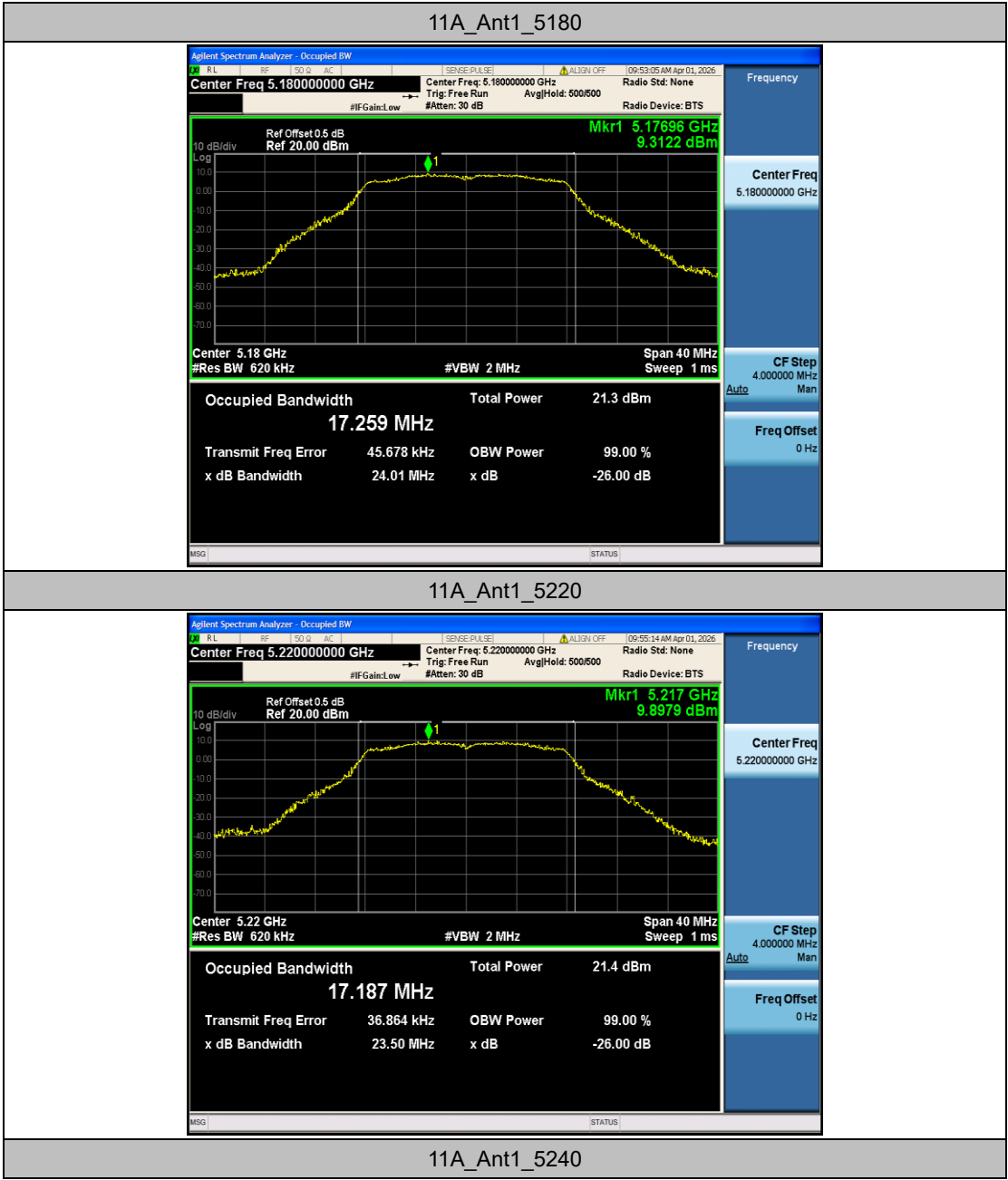


Appendix A2: Occupied channel bandwidth

Test Result

TestMode	Antenna	Freq(MHz)	OCB [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
11A	Ant1	5180	17.259	5171.4162	5188.6752	---	---
		5220	17.187	5211.4434	5228.6304	---	---
		5240	17.226	5231.4247	5248.6507	---	---
		5745	17.591	5736.2494	5753.8404	---	---
		5785	17.664	5776.2049	5793.8689	---	---
		5825	17.624	5816.2080	5833.8320	---	---
11N20SISO	Ant1	5180	18.305	5170.8732	5189.1782	---	---
		5220	18.232	5210.9103	5229.1423	---	---
		5240	18.272	5230.8815	5249.1535	---	---
		5745	18.626	5735.6929	5754.3189	---	---
		5785	18.640	5775.6966	5794.3366	---	---
		5825	18.614	5815.6911	5834.3051	---	---
11N40SISO	Ant1	5190	36.285	5171.9280	5208.2130	---	---
		5230	36.309	5211.8789	5248.1879	---	---
		5755	36.986	5736.6298	5773.6158	---	---
		5795	36.935	5776.6481	5813.5831	---	---

Test Graphs

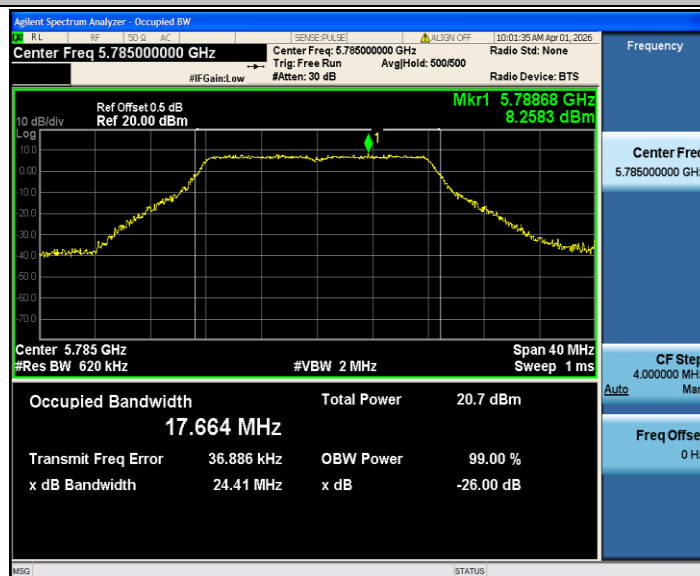




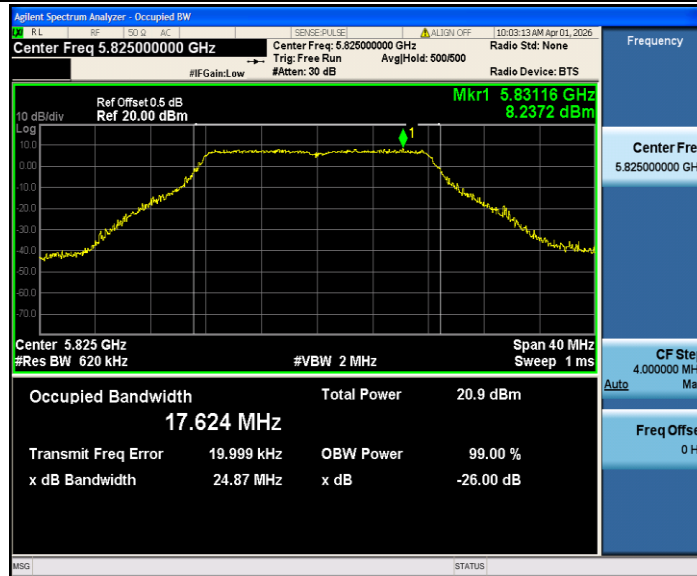
11A_Ant1_5745



11A_Ant1_5785



11A_Ant1_5825



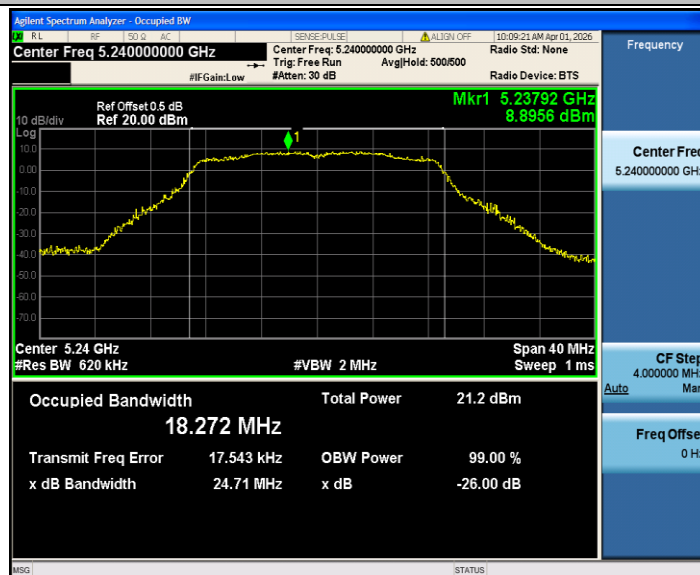
11N20SISO_Ant1_5180



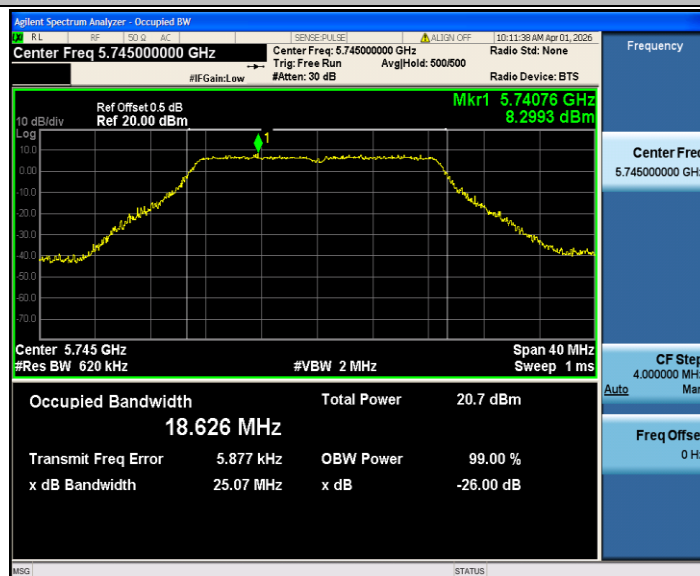
11N20SISO_Ant1_5220



11N20SISO_Ant1_5240



11N20SISO_Ant1_5745



11N20SISO_Ant1_5785



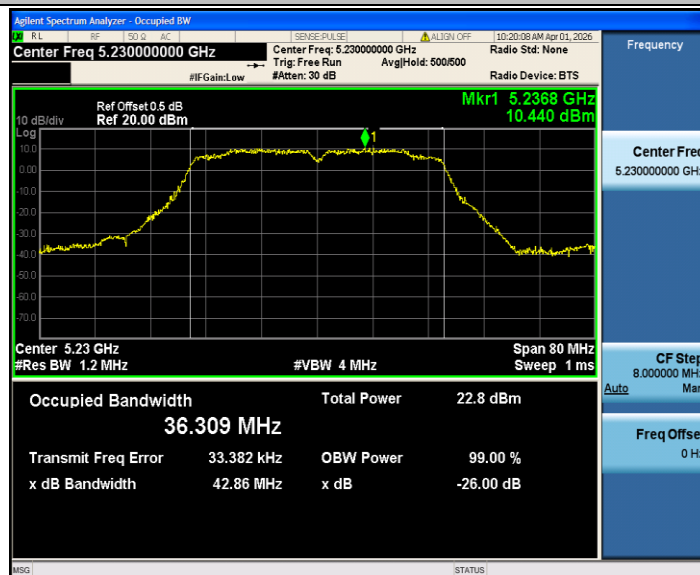
11N20SISO_Ant1_5825



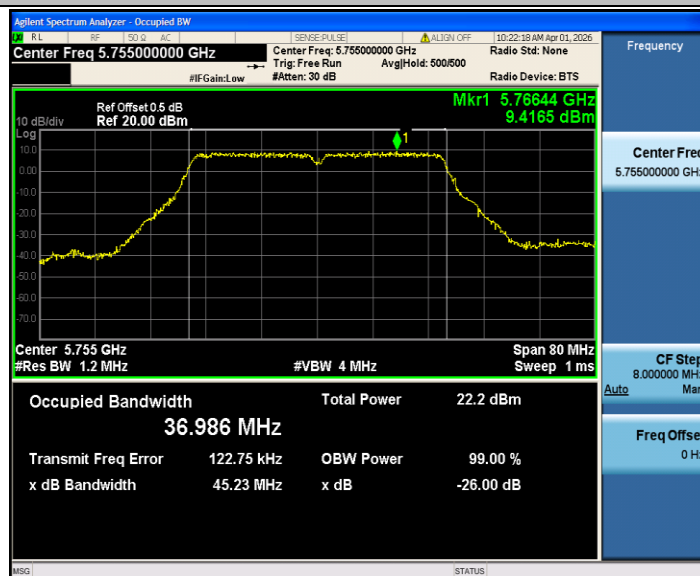
11N40SISO_Ant1_5190



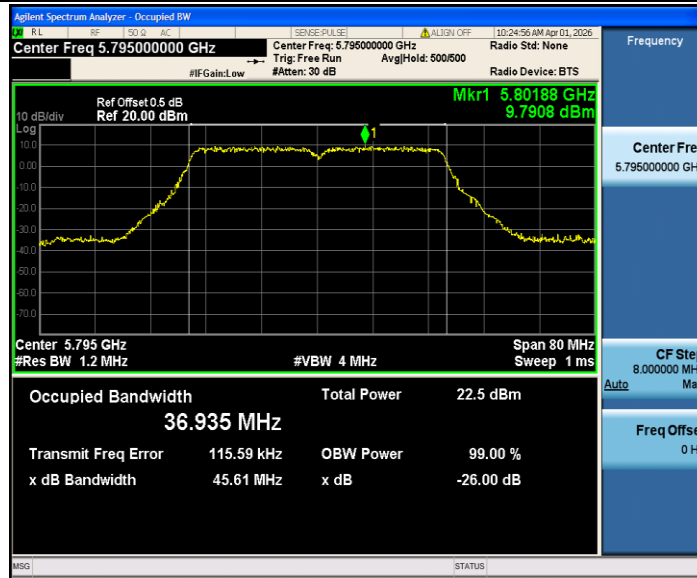
11N40SISO_Ant1_5230



11N40SISO_Ant1_5755



11N40SISO_Ant1_5795

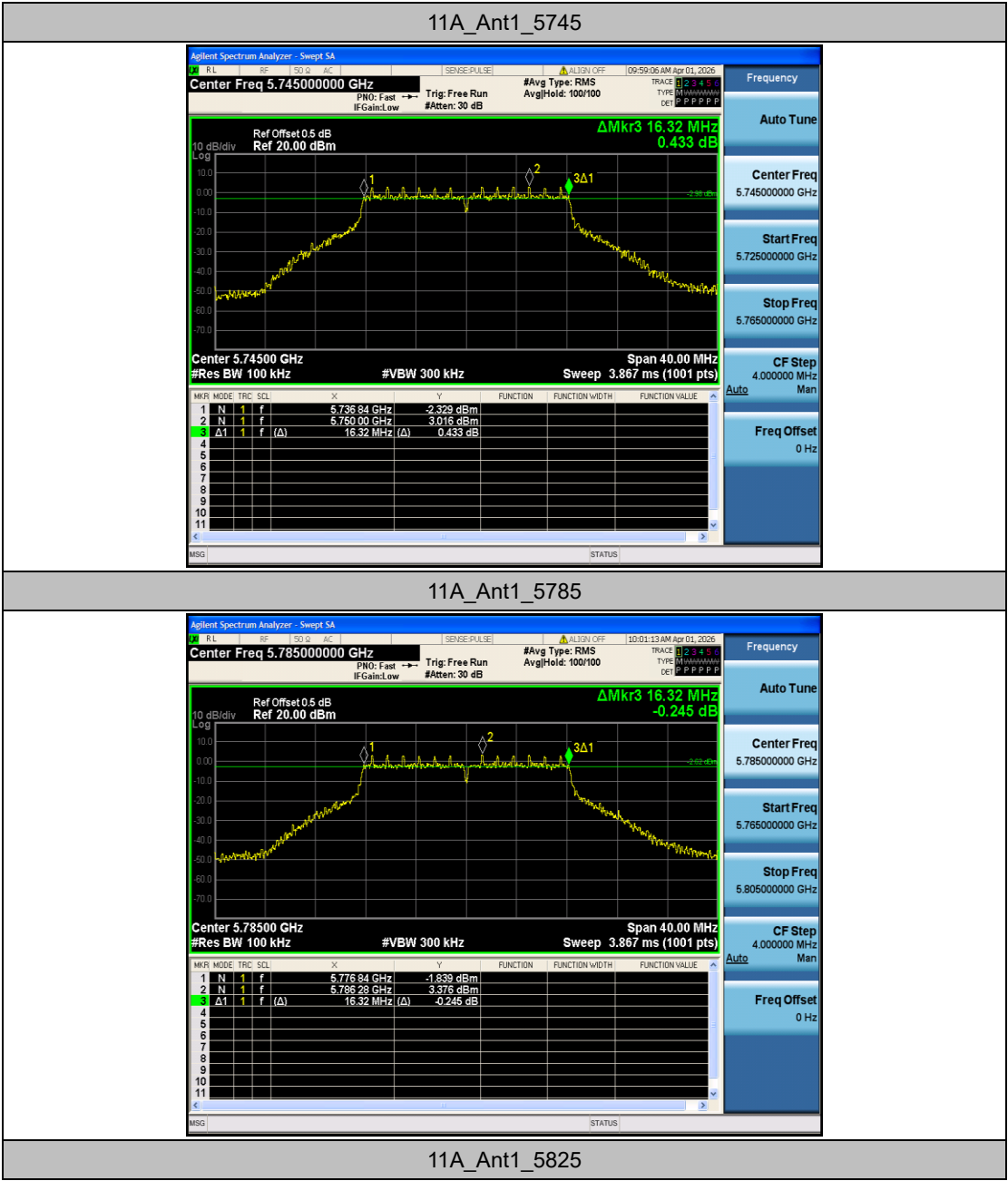


Appendix A3: Min emission bandwidth

Test Result B4

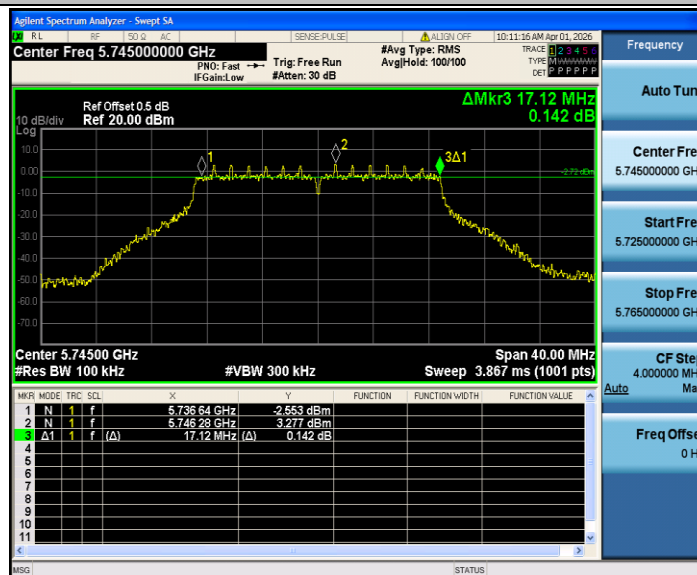
TestMode	Antenna	Freq(MHz)	6db EBW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
11A	Ant1	5745	16.320	5736.840	5753.160	0.5	PASS
		5785	16.320	5776.840	5793.160	0.5	PASS
		5825	16.320	5816.840	5833.160	0.5	PASS
11N20SISO	Ant1	5745	17.120	5736.640	5753.760	0.5	PASS
		5785	17.600	5776.200	5793.800	0.5	PASS
		5825	17.600	5816.200	5833.800	0.5	PASS
11N40SISO	Ant1	5755	36.320	5736.840	5773.160	0.5	PASS
		5795	36.320	5776.840	5813.160	0.5	PASS

Test Graphs B4

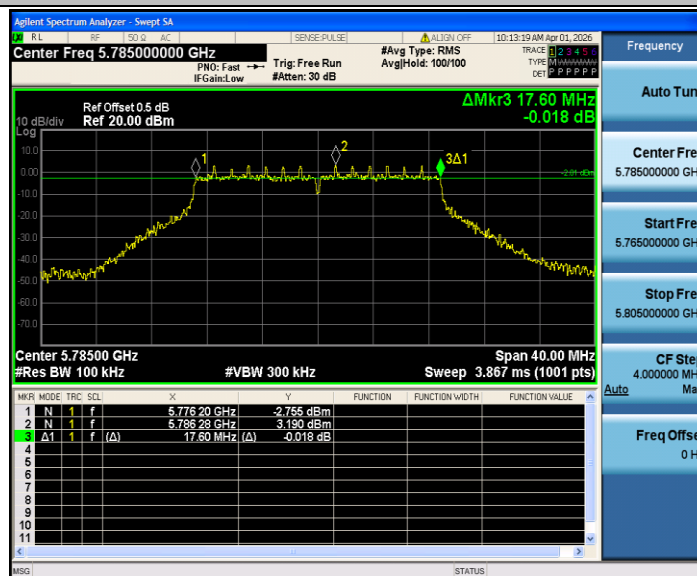




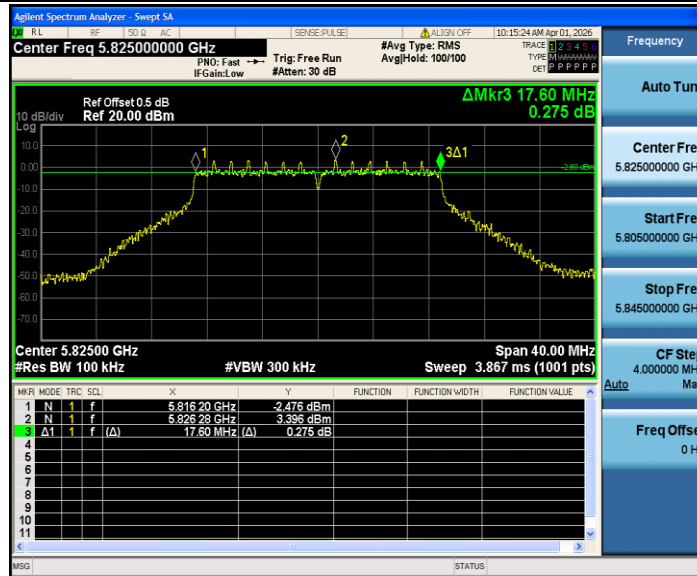
11N20SISO_Ant1_5745



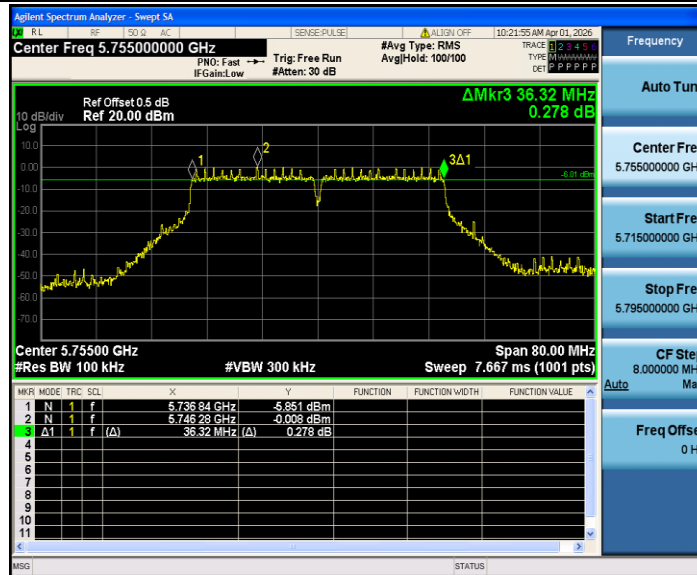
11N20SISO_Ant1_5785



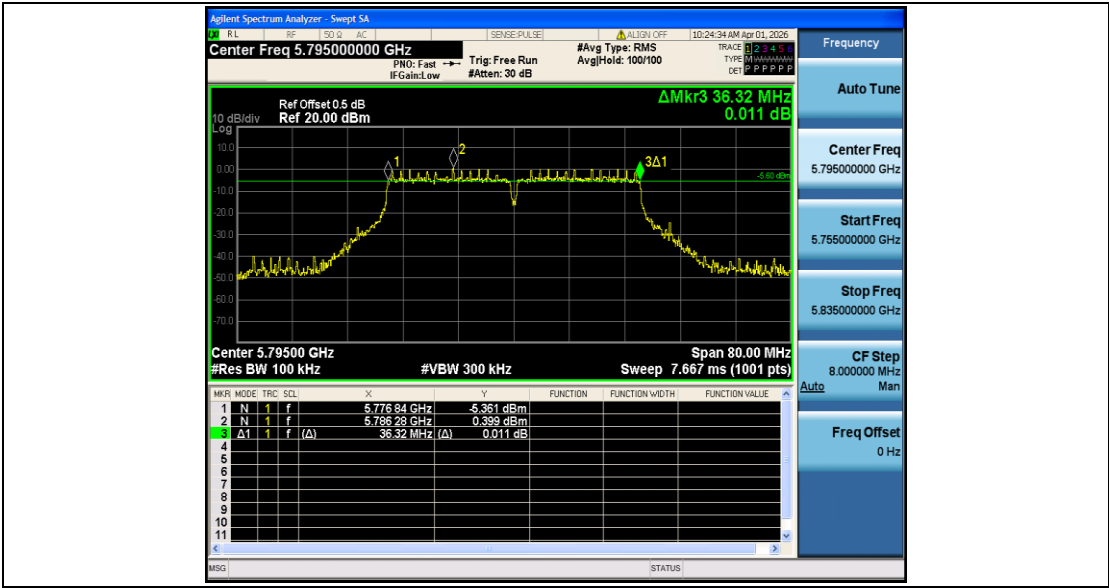
11N20SISO_Ant1_5825



11N40SISO_Ant1_5755



11N40SISO_Ant1_5795



Appendix B: Duty Cycle

Test Result

TestMode	Antenna	Freq(MHz)	Transmission Duration [ms]	Transmission Period [ms]	Duty Cycle [%]	DC Factor [dB]	Limit	Verdict
11A	Ant1	5180	0.15	0.20	75.00	1.25	---	---
		5220	0.15	0.20	75.00	1.25	---	---
		5240	0.15	0.20	75.00	1.25	---	---
		5745	0.15	0.20	75.00	1.25	---	---
		5785	0.15	0.19	78.95	1.03	---	---
		5825	0.15	0.20	75.00	1.25	---	---
11N20SISO	Ant1	5180	0.18	0.23	78.26	1.06	---	---
		5220	0.17	0.22	77.27	1.12	---	---
		5240	0.18	0.23	78.26	1.06	---	---
		5745	0.17	0.22	77.27	1.12	---	---
		5785	0.18	0.23	78.26	1.06	---	---
		5825	0.18	0.23	78.26	1.06	---	---
11N40SISO	Ant1	5190	0.18	0.22	81.82	0.87	---	---
		5230	0.18	0.23	78.26	1.06	---	---
		5755	0.18	0.22	81.82	0.87	---	---
		5795	0.18	0.23	78.26	1.06	---	---

11A_Ant1_5180

Agilent Spectrum Analyzer - Sweep SA

Center Freq 5.180000000 GHz

Trig Delay: 2.000 ms #Avg Type: RMS

Ref Offset 0.5 dB Ref 20.50 dBm

ΔMkr3 200.0 μs 62.19 dB

Center 5.180000000 GHz Res BW 8 MHz #VBW 8.0 MHz Sweep 2.000 ms (1001 pts) Span 0 Hz

MKR	MODE	TRIG	SCL	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE
1	N	1	t		400.0 μs	-44.4 dBm		
2	A1	1	t	(A)	150.0 μs (A)	60.46 dB		
3	A1	1	t	(A)	200.0 μs (A)	62.19 dB		

11A_Ant1_5220

Agilent Spectrum Analyzer - Sweep SA

Center Freq 5.220000000 GHz

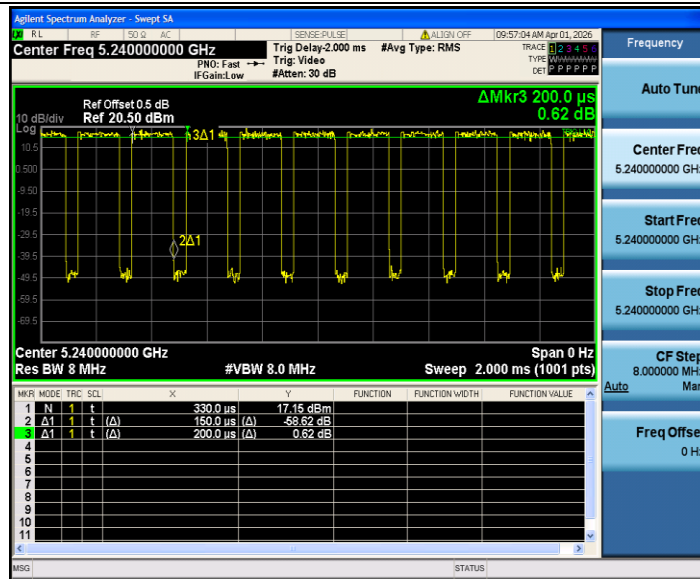
Trig Delay: 2.000 ms #Avg Type: RMS

Ref Offset 0.5 dB Ref 20.50 dBm

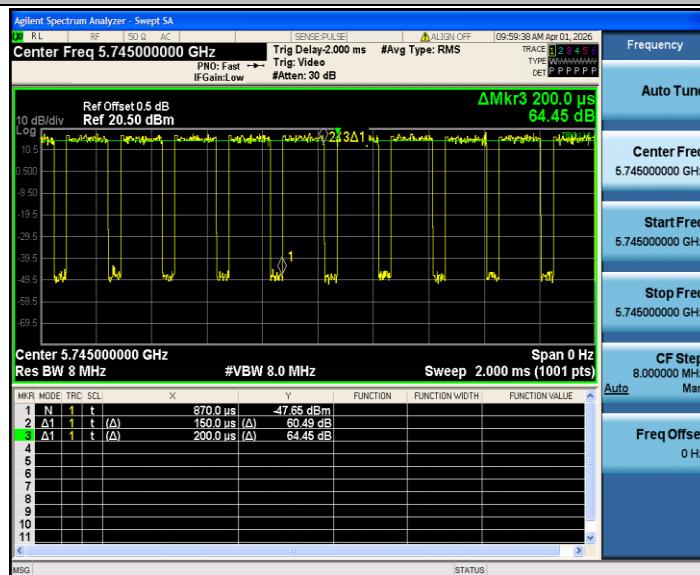
ΔMkr3 200.0 μs 65.11 dB

Center 5.220000000 GHz Res BW 8 MHz #VBW 8.0 MHz Sweep 2.000 ms (1001 pts) Span 0 Hz

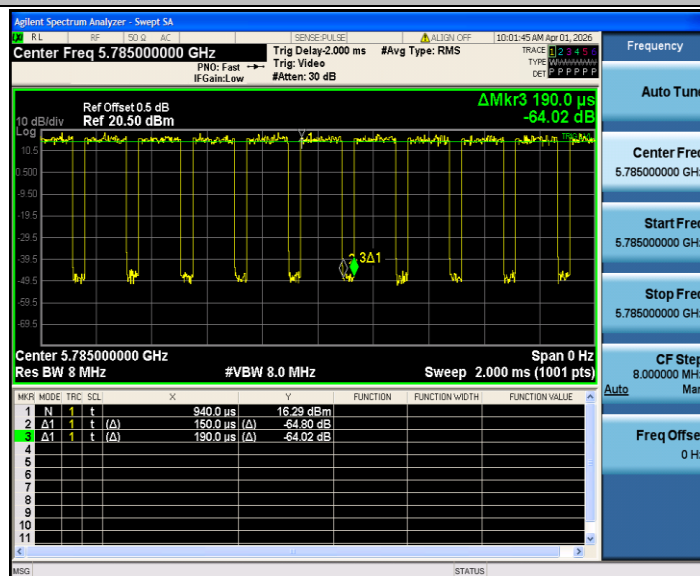
MKR	MODE	TRIG	SCL	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE
1	N	1	t		1.530 ms	-47.50 dBm		
2	A1	1	t	(A)	150.0 μs (A)	63.45 dB		
3	A1	1	t	(A)	200.0 μs (A)	65.11 dB		



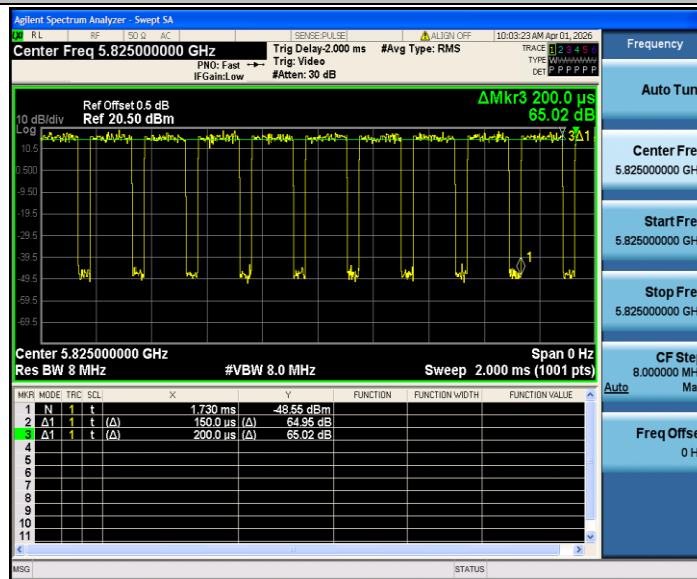
11A_Ant1_5745



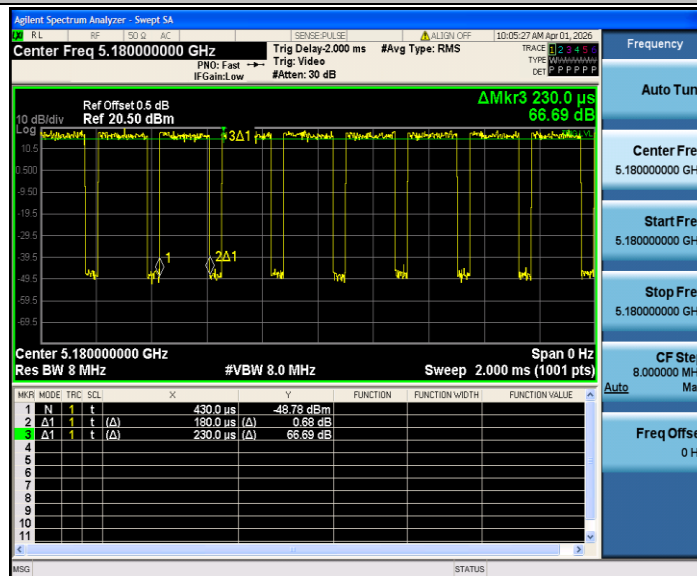
11A_Ant1_5785



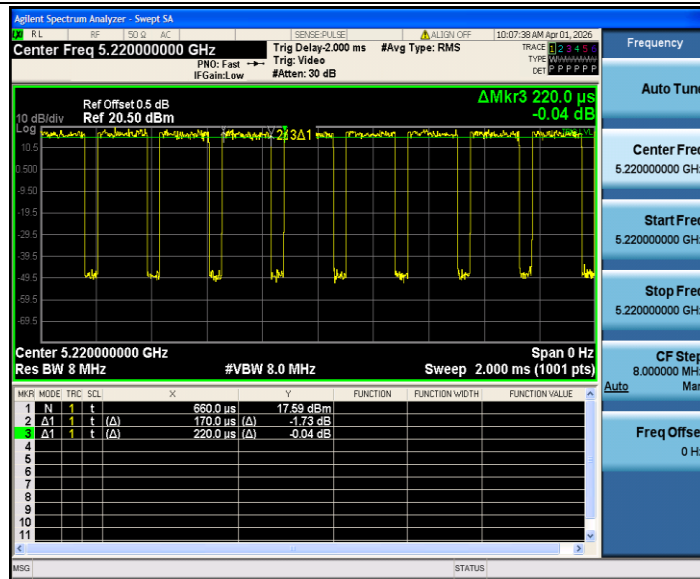
11A_Ant1_5825



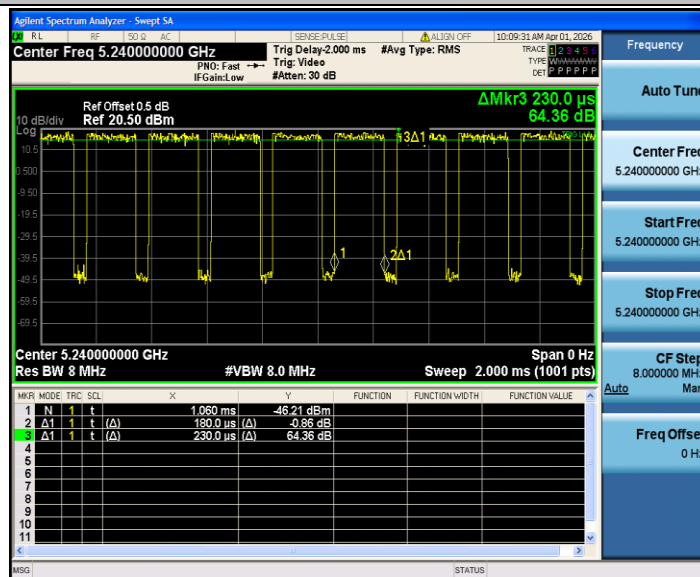
11N20SISO_Ant1_5180



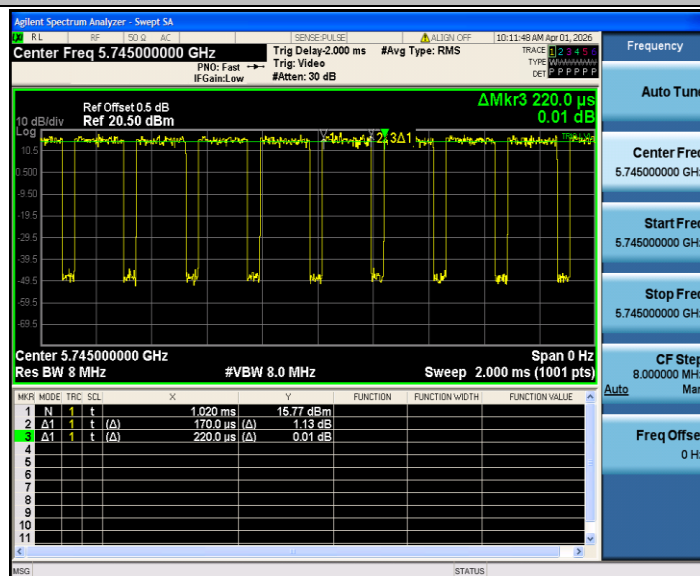
11N20SISO_Ant1_5220



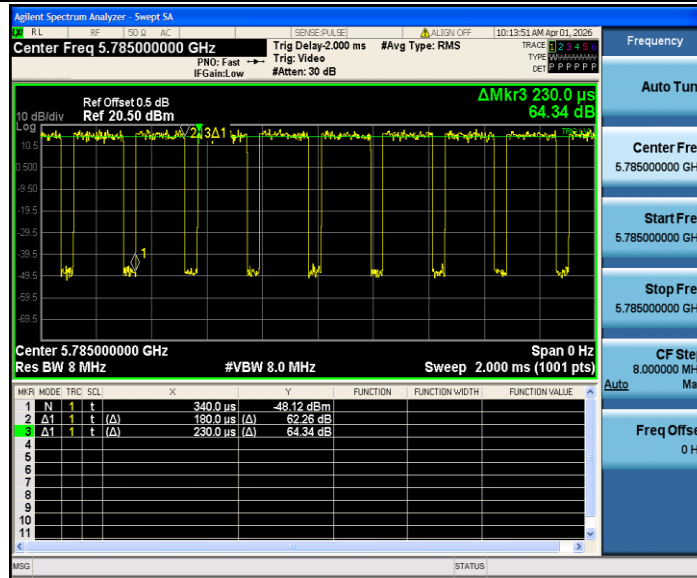
11N20SISO_Ant1_5240



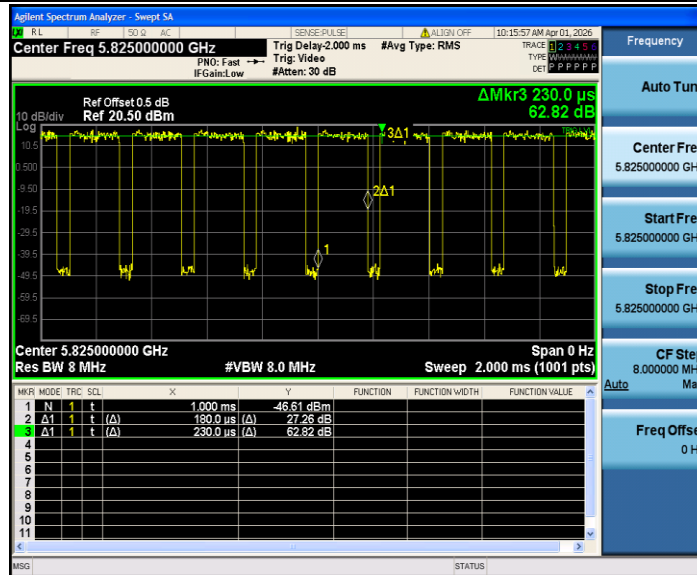
11N20SISO_Ant1_5745



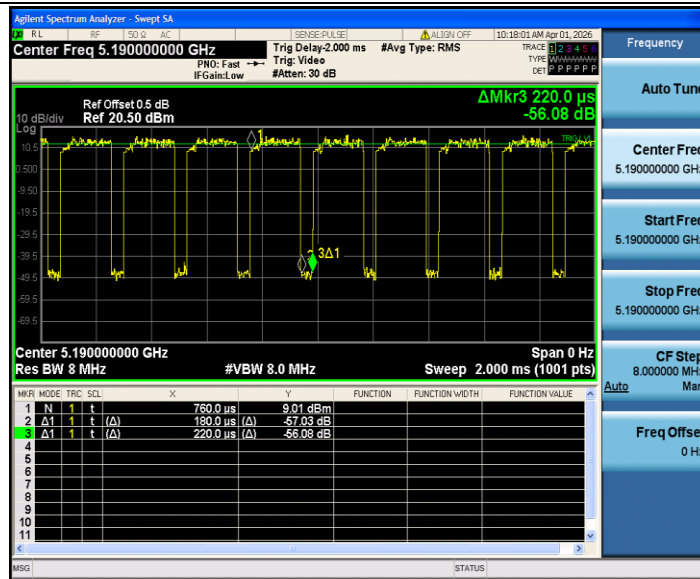
11N20SISO_Ant1_5785



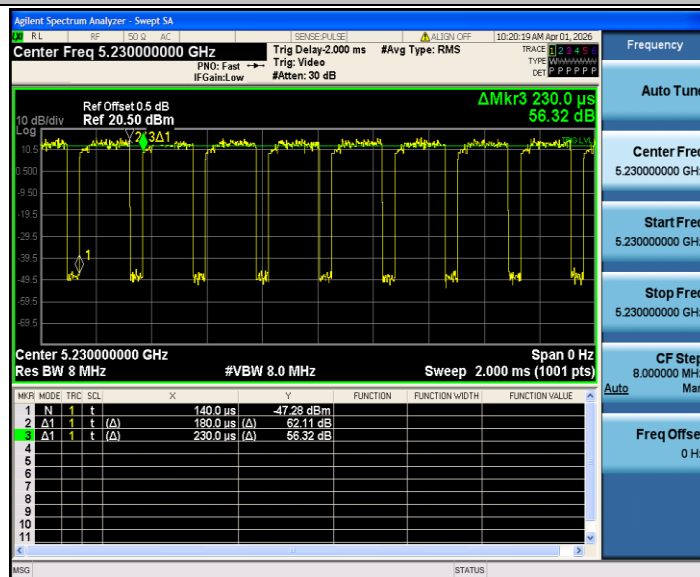
11N20SISO_Ant1_5825



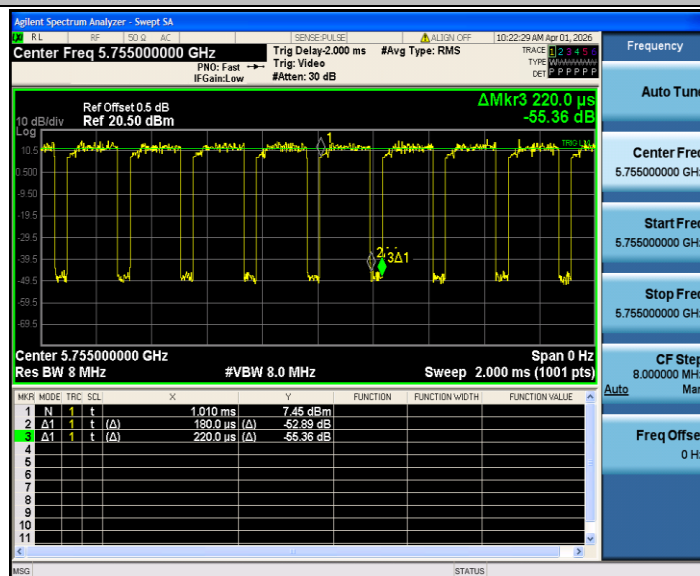
11N40SISO_Ant1_5190



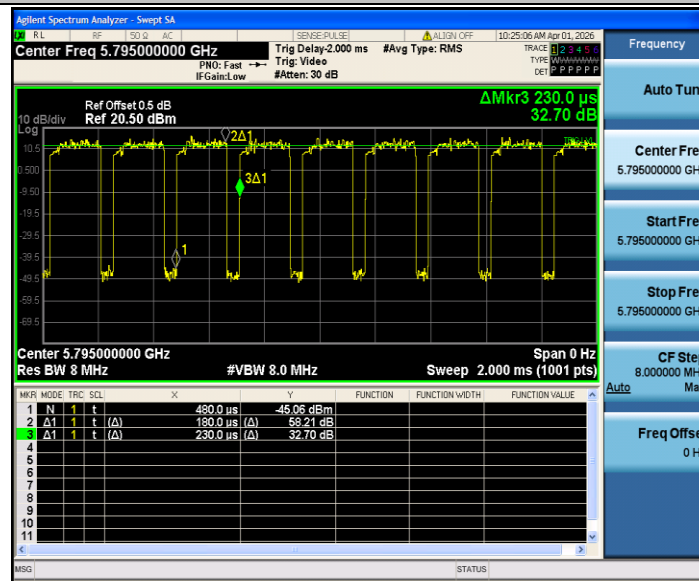
11N40SISO_Ant1_5230



11N40SISO_Ant1_5755



11N40SISO_Ant1_5795



Appendix 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	5180	13.36	75.00	1.25	14.61	≤23.98	PASS
		5220	13.50	75.00	1.25	14.75	≤23.98	PASS
		5240	13.23	75.00	1.25	14.48	≤23.98	PASS
		5745	12.64	75.00	1.25	13.89	≤30.00	PASS
		5785	12.76	78.95	1.03	13.79	≤30.00	PASS
		5825	12.88	75.00	1.25	14.13	≤30.00	PASS
11N20SISO	Ant1	5180	13.48	78.26	1.06	14.54	≤23.98	PASS
		5220	13.56	77.27	1.12	14.68	≤23.98	PASS
		5240	13.40	78.26	1.06	14.46	≤23.98	PASS
		5745	12.87	77.27	1.12	13.99	≤30.00	PASS
		5785	12.99	78.26	1.06	14.05	≤30.00	PASS
		5825	13.00	78.26	1.06	14.06	≤30.00	PASS
11N40SISO	Ant1	5190	13.47	81.82	0.87	14.34	≤23.98	PASS
		5230	13.60	78.26	1.06	14.66	≤23.98	PASS
		5755	13.04	81.82	0.87	13.91	≤30.00	PASS
		5795	13.29	78.26	1.06	14.35	≤30.00	PASS

Appendix D: Maximum power spectral density

Test Result

TestMode	Antenna	Freq(MHz)	RawData [dBm/MHz]	DC Factor [dBm]	RBW Factor [dBm]	Result [dBm/MHz]	Limit [dBm/MHz]	Verdict
11A	Ant1	5180	3.24	1.25	0.00	4.49	≤11.00	PASS
		5220	3.33	1.25	0.00	4.58	≤11.00	PASS
		5240	3.21	1.25	0.00	4.46	≤11.00	PASS
		5745	-2.86	1.25	2.22	0.61	≤30.00	PASS
		5785	-2.46	1.03	2.22	0.79	≤30.00	PASS
		5825	-2.4	1.25	2.22	1.07	≤30.00	PASS
11N20SISO	Ant1	5180	3.18	1.06	0.00	4.24	≤11.00	PASS
		5220	3.19	1.12	0.00	4.31	≤11.00	PASS
		5240	3.15	1.06	0.00	4.21	≤11.00	PASS
		5745	-2.88	1.12	2.22	0.46	≤30.00	PASS
		5785	-2.85	1.06	2.22	0.43	≤30.00	PASS
		5825	-2.23	1.06	2.22	1.05	≤30.00	PASS
11N40SISO	Ant1	5190	-0.24	0.87	0.00	0.63	≤11.00	PASS
		5230	0.01	1.06	0.00	1.07	≤11.00	PASS
		5755	-5.69	0.87	2.22	-2.60	≤30.00	PASS
		5795	-5.27	1.06	2.22	-1.99	≤30.00	PASS

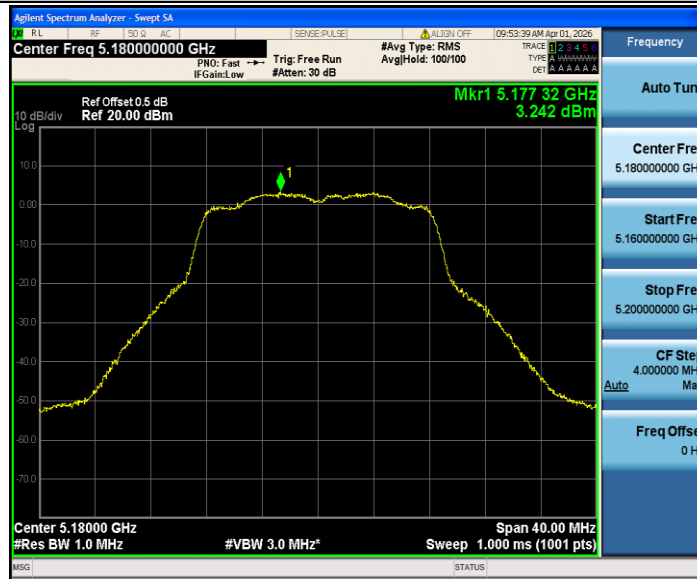
Note: 1.The Result and Limit Unit is dBm/500 kHz in the band 5.725–5.85 GHz.

$P.S.D(dBm/500KHz) = P.S.D(dBm/300KHz) + 10 \log (500 \text{ kHz}/300KHz)$.

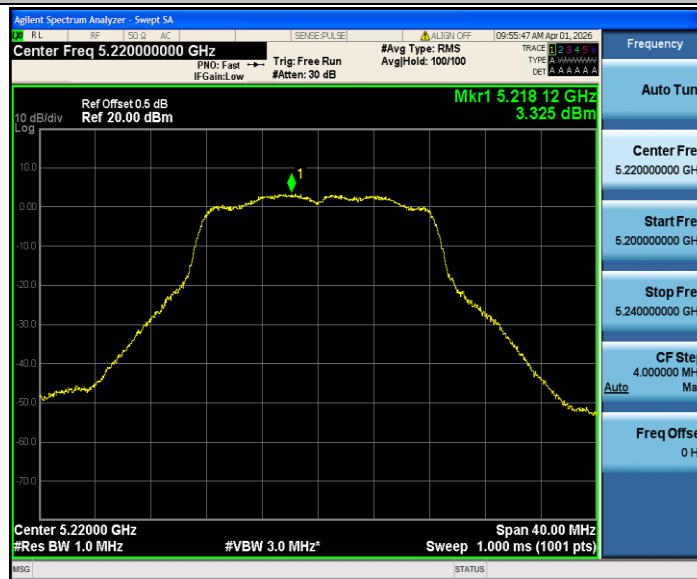
2. RBW factor= $10 \log (500 \text{ KHz} / 300 \text{ KHz}) = 2.22 \text{ dB}$ and The RBW Factor is compensated in the data graph.

Test Graphs

11A_Ant1_5180



11A_Ant1_5220



11A_Ant1_5240