

FCC Appendix RF Test Data for 5GWIFI

FCC ID : 2BSUL-HN8145X6

Company : Shenzhen HUANET Technology CO., Ltd

EUT : Optical Network Terminal

Model Number : HN8145X6

Report No. : CTA25100900402

Reviewed By : Eric Wang

Appendix RF Test Data for 5GWIFI ANT1

Appendix A1: Emission Bandwidth

Test Result

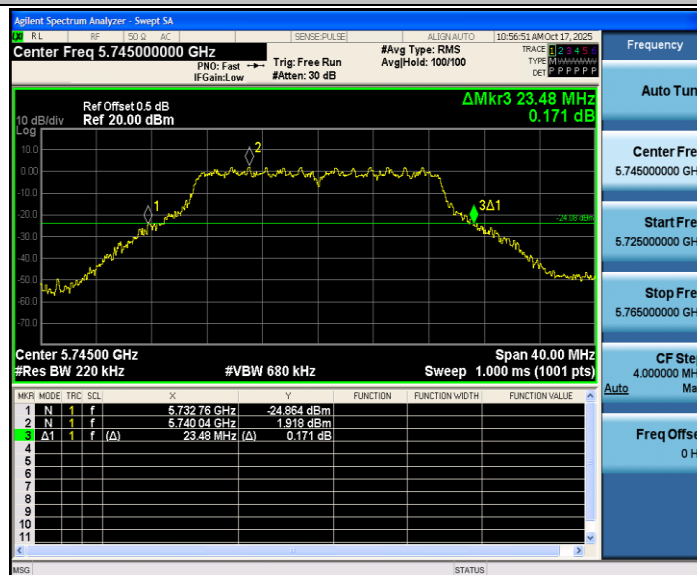
TestMode	Antenna	Freq(MHz)	26db EBW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
11A	Ant1	5745	23.080	5733.520	5756.600	---	---
		5785	23.320	5773.360	5796.680	---	---
		5825	23.000	5813.480	5836.480	---	---
11N20SISO	Ant1	5745	23.480	5732.760	5756.240	---	---
		5785	23.440	5773.000	5796.440	---	---
		5825	23.600	5813.440	5837.040	---	---
11N40SISO	Ant1	5755	43.600	5734.120	5777.720	---	---
		5795	44.960	5772.920	5817.880	---	---
11AC20SISO	Ant1	5745	23.240	5733.320	5756.560	---	---
		5785	23.640	5773.480	5797.120	---	---
		5825	23.640	5813.040	5836.680	---	---
11AC40SISO	Ant1	5755	44.080	5733.640	5777.720	---	---
		5795	44.160	5773.560	5817.720	---	---
11AC80SISO	Ant1	5775	83.040	5733.720	5816.760	---	---

Test Graphs





11N20SISO_Ant1_5745



11N20SISO_Ant1_5785



11N20SISO_Ant1_5825



11N40SISO_Ant1_5755



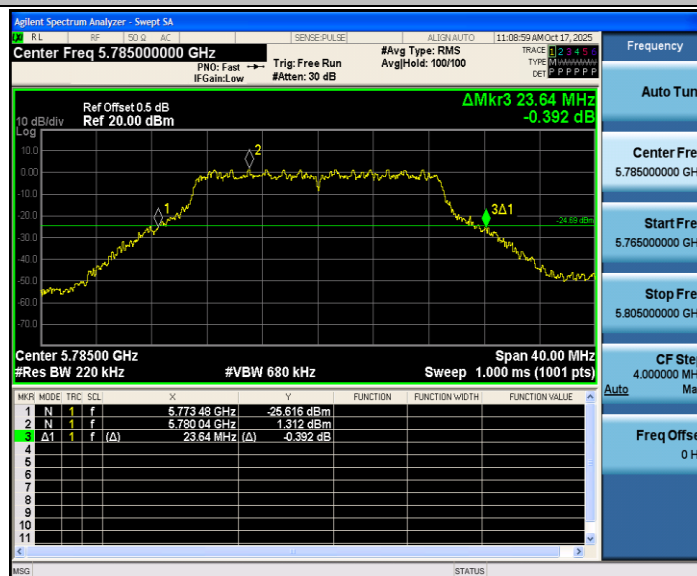
11N40SISO_Ant1_5795



11AC20SISO_Ant1_5745



11AC20SISO_Ant1_5785



11AC20SISO_Ant1_5825



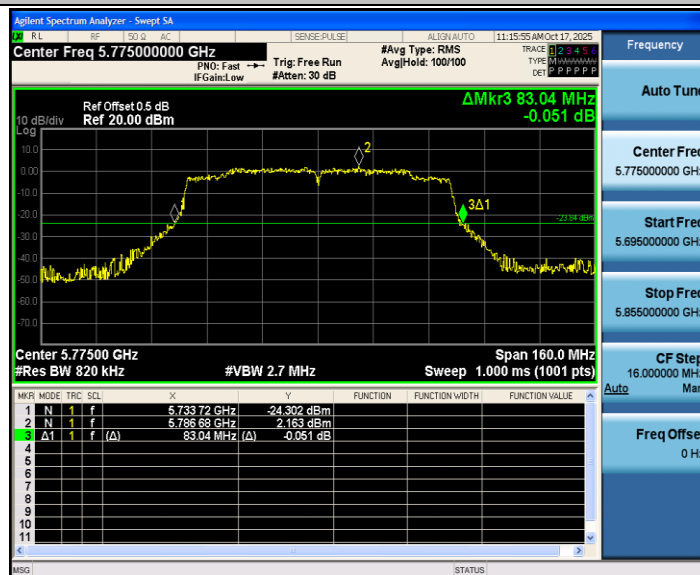
11AC40SISO_Ant1_5755



11AC40SISO_Ant1_5795



11AC80SISO_Ant1_5775



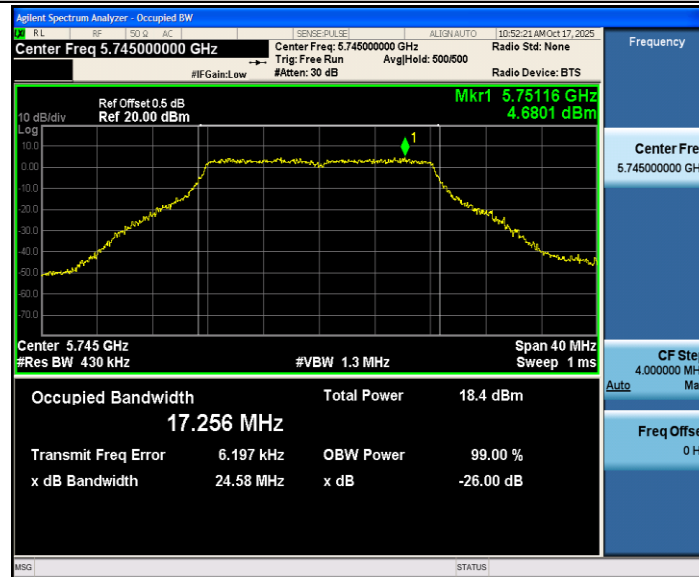
Appendix A2: Occupied channel bandwidth

Test Result

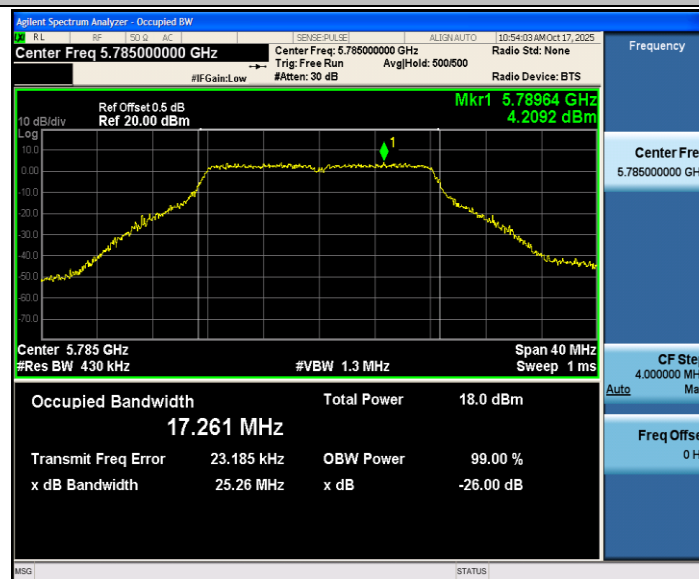
TestMode	Antenna	Freq(MHz)	OCB [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
11A	Ant1	5745	17.256	5736.3782	5753.6342	---	---
		5785	17.261	5776.3927	5793.6537	---	---
		5825	17.361	5816.3616	5833.7226	---	---
11N20SISO	Ant1	5745	18.381	5735.7998	5754.1808	---	---
		5785	18.395	5775.7970	5794.1920	---	---
		5825	18.353	5815.8778	5834.2308	---	---
11N40SISO	Ant1	5755	36.726	5736.6851	5773.4111	---	---
		5795	36.707	5776.7431	5813.4501	---	---
11AC20SISO	Ant1	5745	18.367	5735.8227	5754.1897	---	---
		5785	18.297	5775.8694	5794.1664	---	---
		5825	18.321	5815.9065	5834.2275	---	---
11AC40SISO	Ant1	5755	36.763	5736.6937	5773.4567	---	---
		5795	36.767	5776.6577	5813.4247	---	---
11AC80SISO	Ant1	5775	75.152	5737.5542	5812.7062	---	---

Test Graphs

11A_Ant1_5745



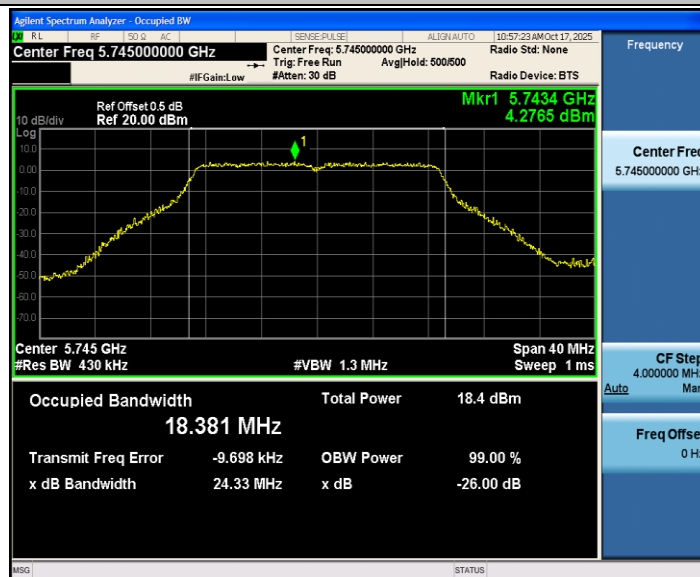
11A_Ant1_5785



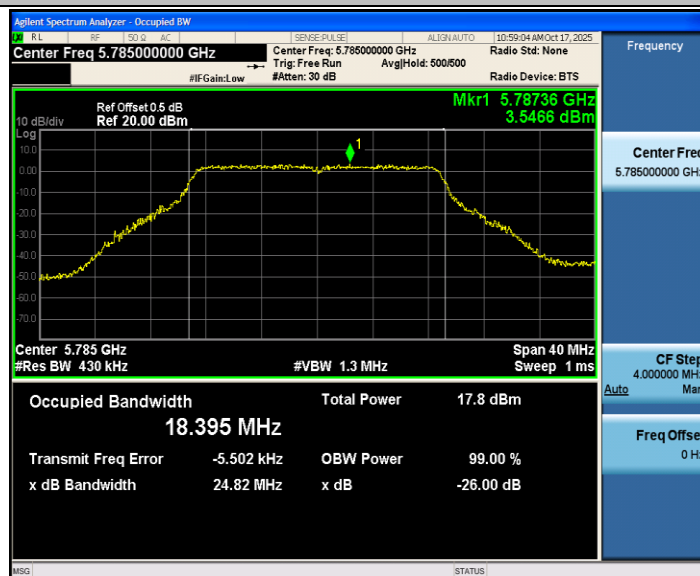
11A_Ant1_5825

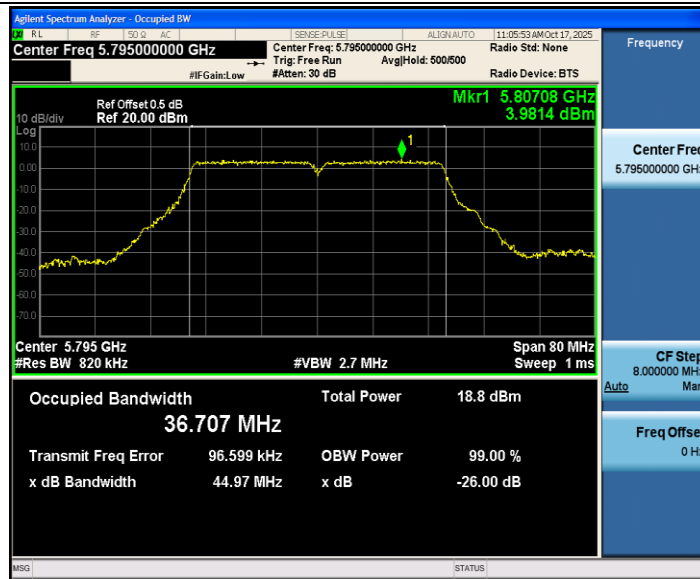


11N20SISO_Ant1_5745

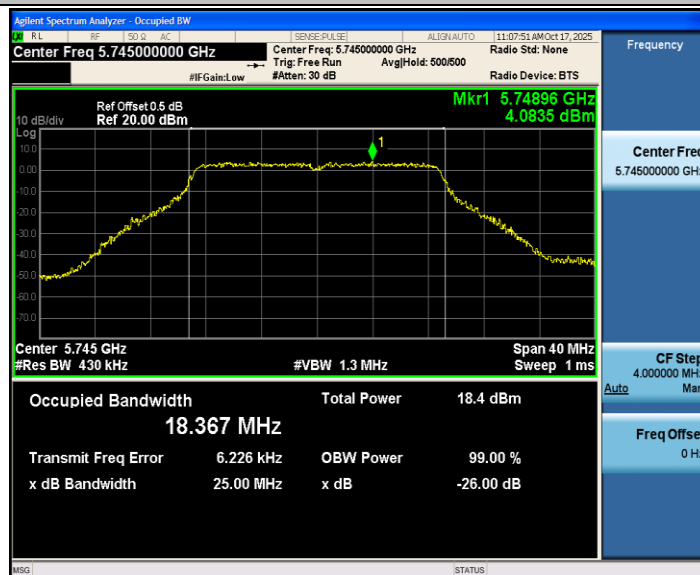


11N20SISO_Ant1_5785

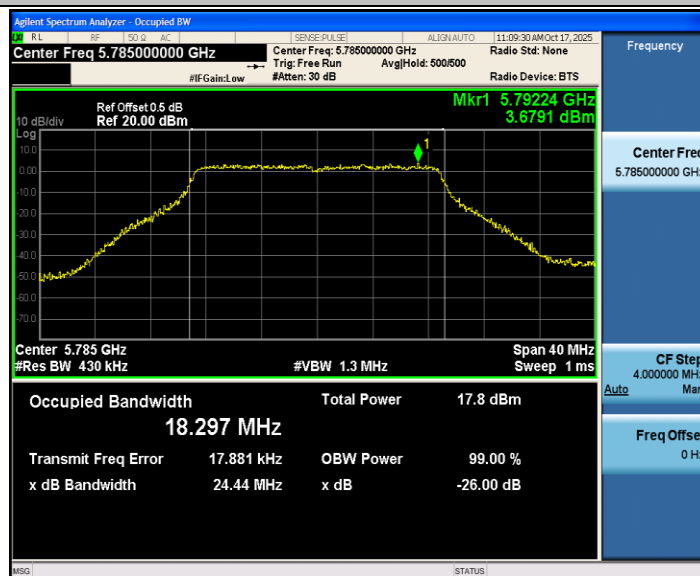




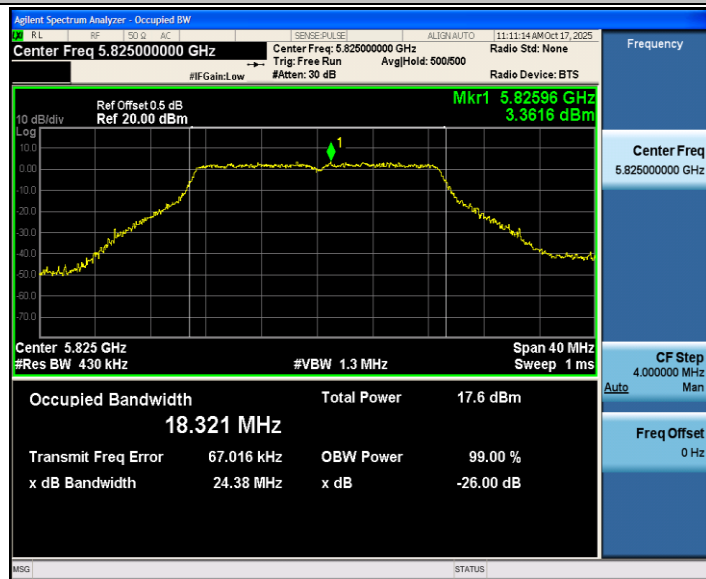
11AC20SISO_Ant1_5745



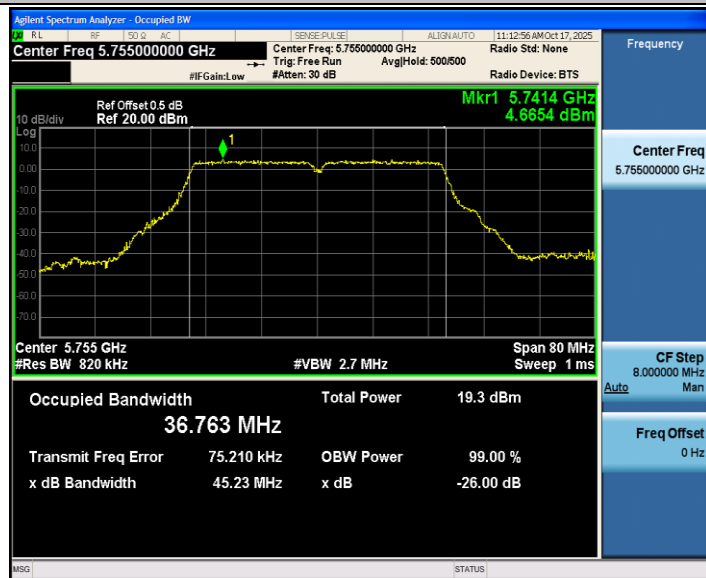
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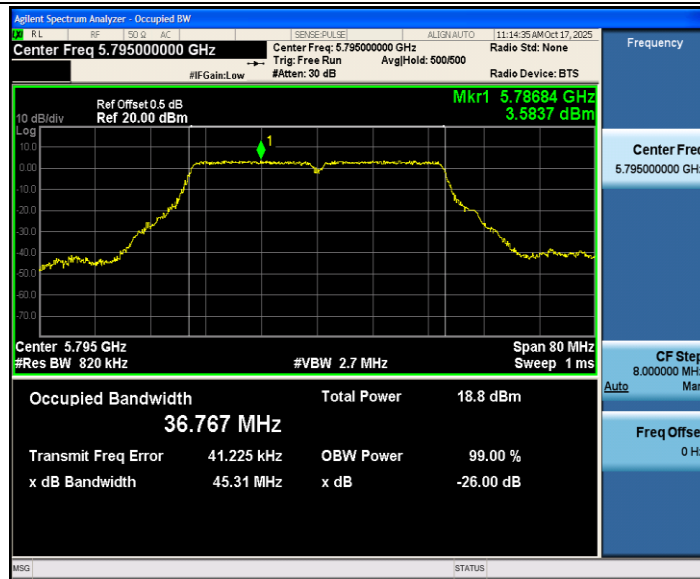
11AC20SISO_Ant1_5825



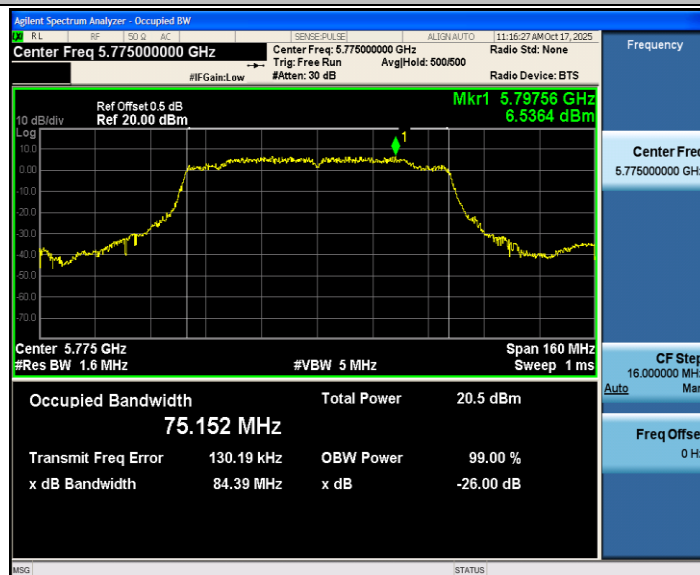
11AC40SISO_Ant1_5755



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	17.520	5736.240	5753.760	0.5	PASS
		5785	17.560	5776.200	5793.760	0.5	PASS
		5825	17.560	5816.240	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
11AC20SISO	Ant1	5745	17.560	5736.240	5753.800	0.5	PASS
		5785	17.520	5776.240	5793.760	0.5	PASS
		5825	17.520	5816.240	5833.760	0.5	PASS
11AC40SISO	Ant1	5755	35.920	5737.240	5773.160	0.5	PASS
		5795	36.160	5776.840	5813.000	0.5	PASS
11AC80SISO	Ant1	5775	75.040	5737.400	5812.440	0.5	PASS

11A_Ant1_5745

Agilent Spectrum Analyzer - Swept SA

Center Freq 5.74500000 GHz

Ref Offset 0.5 dB
Ref 20.00 dBm

Span 40.00 MHz
#Res BW 100 kHz
#VBW 300 kHz
Sweep 3.867 ms (1001 pts)

ΔMkr3 16.32 MHz
0.355 dB

Frequency

Auto Tune

Center Freq
5.745000000 GHz

Start Freq
5.725000000 GHz

Stop Freq
5.765000000 GHz

CF Step
4.000000 MHz
Auto Man

Freq Offset
0 Hz

MFR	MODE	TRIG	SCL	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE
1	N	1	f	5.738 84 GHz	-4.747 dBm			
2	N	1	f	5.748 28 GHz	1.492 dBm			
3	Δ1	1	f (Δ)	16.32 MHz (Δ)	0.355 dB			

11A_Ant1_5785

Agilent Spectrum Analyzer - Swept SA

Center Freq 5.785000000 GHz

Ref Offset 0.5 dB
Ref 20.00 dBm

Span 40.00 MHz
#Res BW 100 kHz
#VBW 300 kHz
Sweep 3.867 ms (1001 pts)

ΔMkr3 16.32 MHz
1.079 dB

Frequency

Auto Tune

Center Freq
5.785000000 GHz

Start Freq
5.765000000 GHz

Stop Freq
5.805000000 GHz

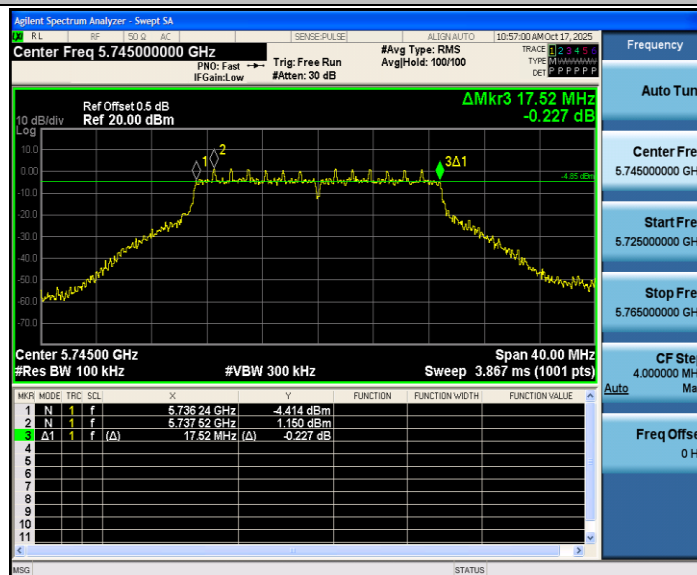
CF Step
4.000000 MHz
Auto Man

Freq Offset
0 Hz

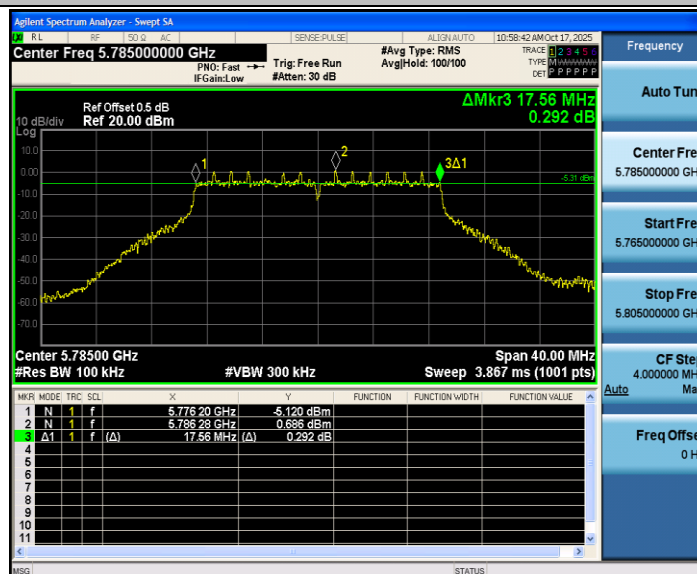
MFR	MODE	TRIG	SCL	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE
1	N	1	f	5.776 84 GHz	-5.106 dBm			
2	N	1	f	5.786 24 GHz	0.696 dBm			
3	Δ1	1	f (Δ)	16.32 MHz (Δ)	1.079 dB			



11N20SISO_Ant1_5745



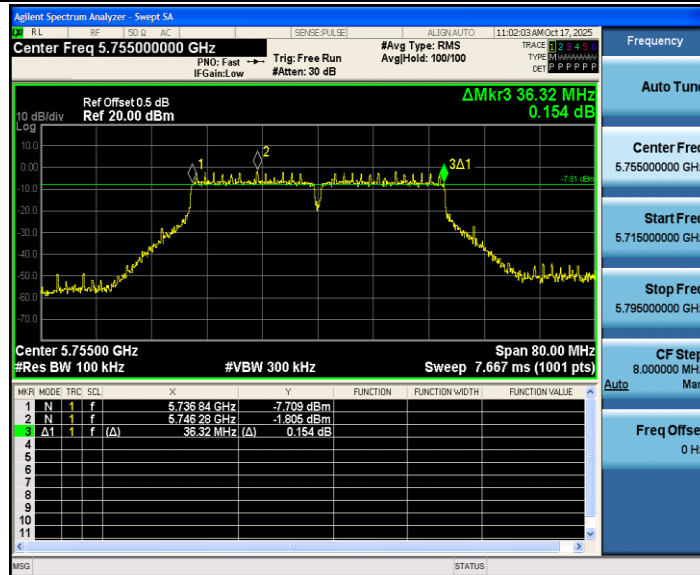
11N20SISO_Ant1_5785



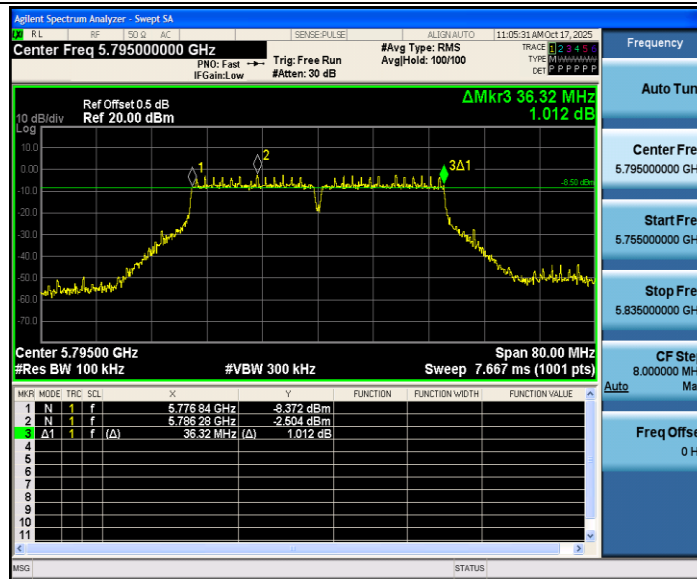
11N20SISO_Ant1_5825



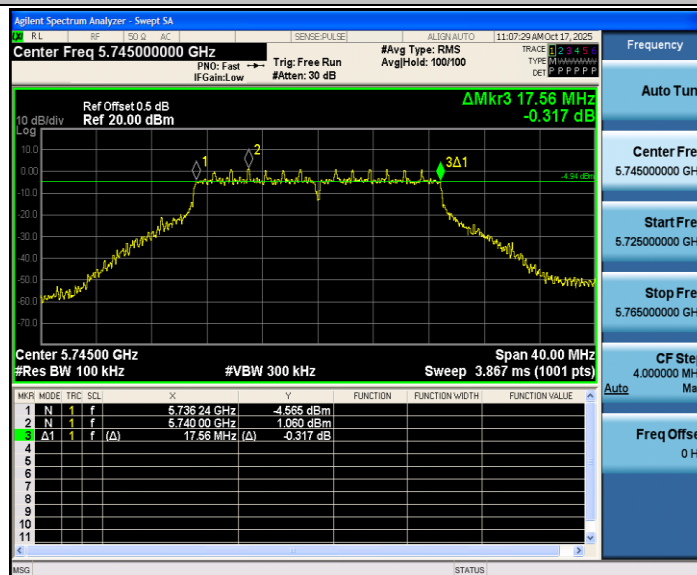
11N40SISO_Ant1_5755



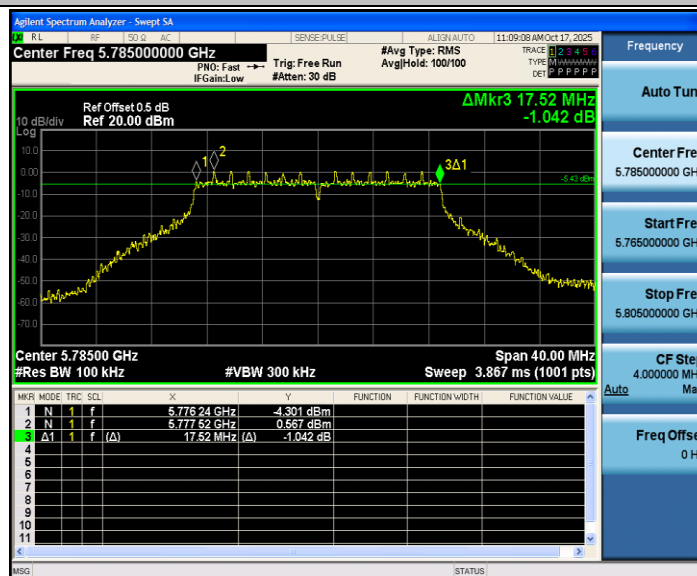
11N40SISO_Ant1_5795



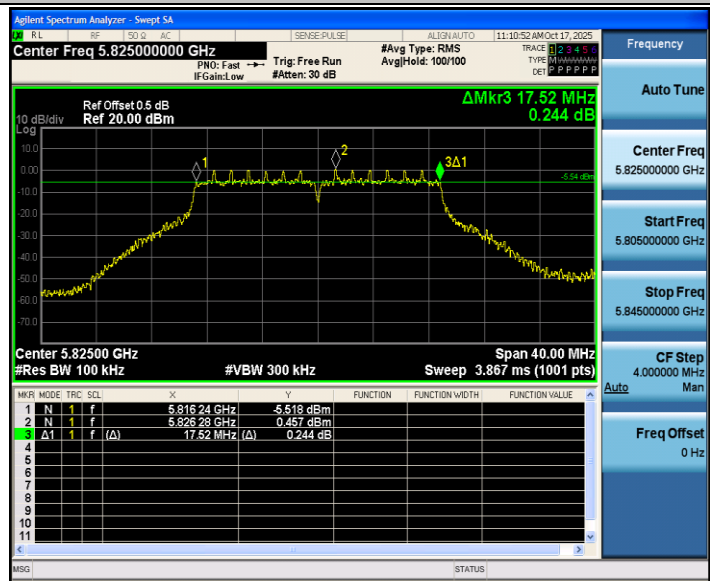
11AC20SISO_Ant1_5745



11AC20SISO_Ant1_5785



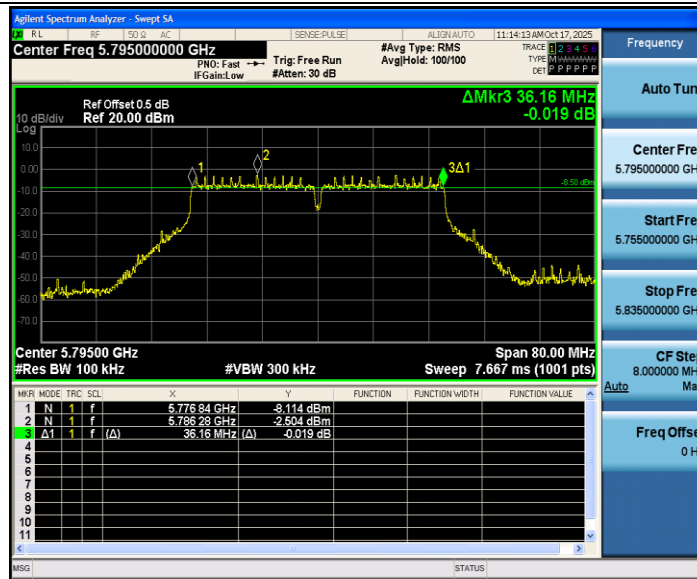
11AC20SISO_Ant1_5825



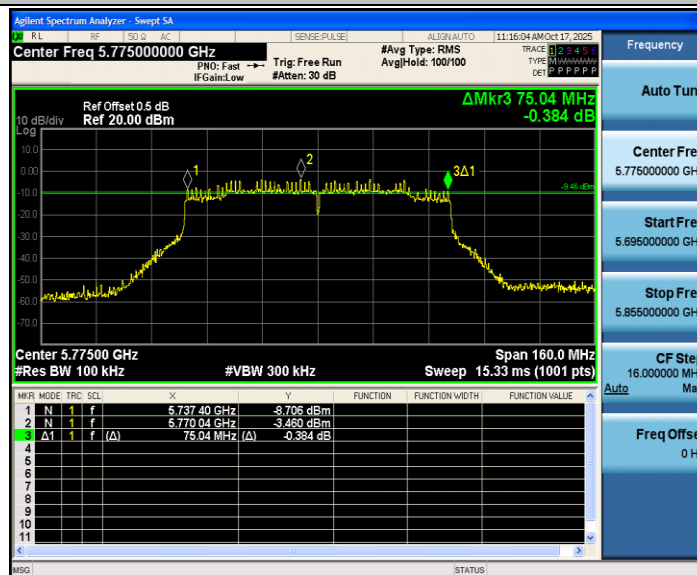
11AC40SISO_Ant1_5755



11AC40SISO_Ant1_5795



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	0.14	0.19	73.68	1.33	---	---
		5785	0.15	0.20	75.00	1.25	---	---
		5825	0.15	0.20	75.00	1.25	---	---
11N20SISO	Ant1	5745	0.17	0.22	77.27	1.12	---	---
		5785	0.18	0.23	78.26	1.06	---	---
		5825	0.17	0.22	77.27	1.12	---	---
11N40SISO	Ant1	5755	0.18	0.23	78.26	1.06	---	---
		5795	0.18	0.23	78.26	1.06	---	---
11AC20SISO	Ant1	5745	0.16	0.21	76.19	1.18	---	---
		5785	0.16	0.21	76.19	1.18	---	---
		5825	0.16	0.21	76.19	1.18	---	---
11AC40SISO	Ant1	5755	0.15	0.20	75.00	1.25	---	---
		5795	0.15	0.20	75.00	1.25	---	---
11AC80SISO	Ant1	5775	0.16	0.21	76.19	1.18	---	---

11A_Ant1_5745

Agilent Spectrum Analyzer - Swept SA

Center Freq 5.745000000 GHz

Trig Delay: 2.000 ms #Avg Type: RMS

Ref Offset 0.5 dB Ref 20.50 dBm

ΔMkr3 190.0 μs -0.01 dB

Center 5.745000000 GHz Span 0 Hz

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

MNR	MODE	TRIG	SCL	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE
1	N	1	t	4.760 ms	14.04 dBm			
2	Δ1	1	t (Δ)	140.0 μs (Δ)	0.51 dB			
3	Δ1	1	t (Δ)	190.0 μs (Δ)	-0.01 dB			

11A_Ant1_5785

Agilent Spectrum Analyzer - Swept SA

Center Freq 5.785000000 GHz

Trig Delay: 2.000 ms #Avg Type: RMS

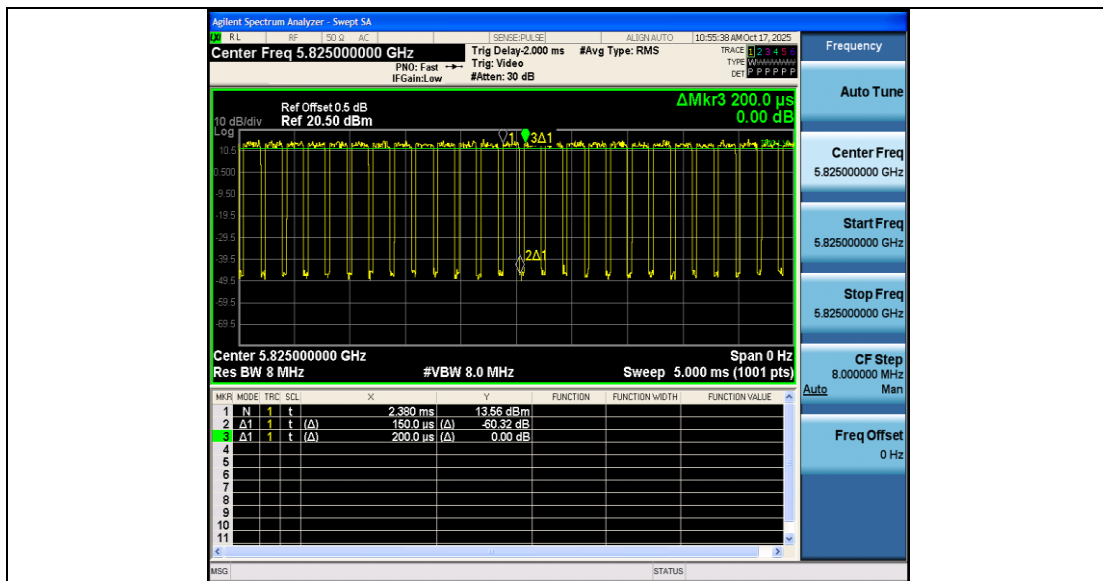
Ref Offset 0.5 dB Ref 20.50 dBm

ΔMkr3 200.0 μs -0.01 dB

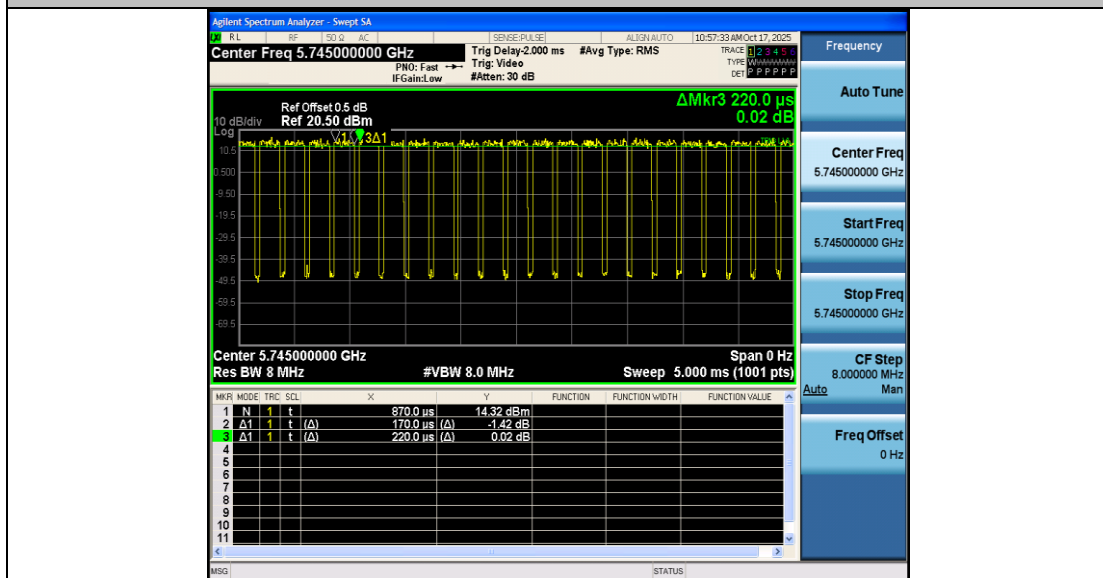
Center 5.785000000 GHz Span 0 Hz

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

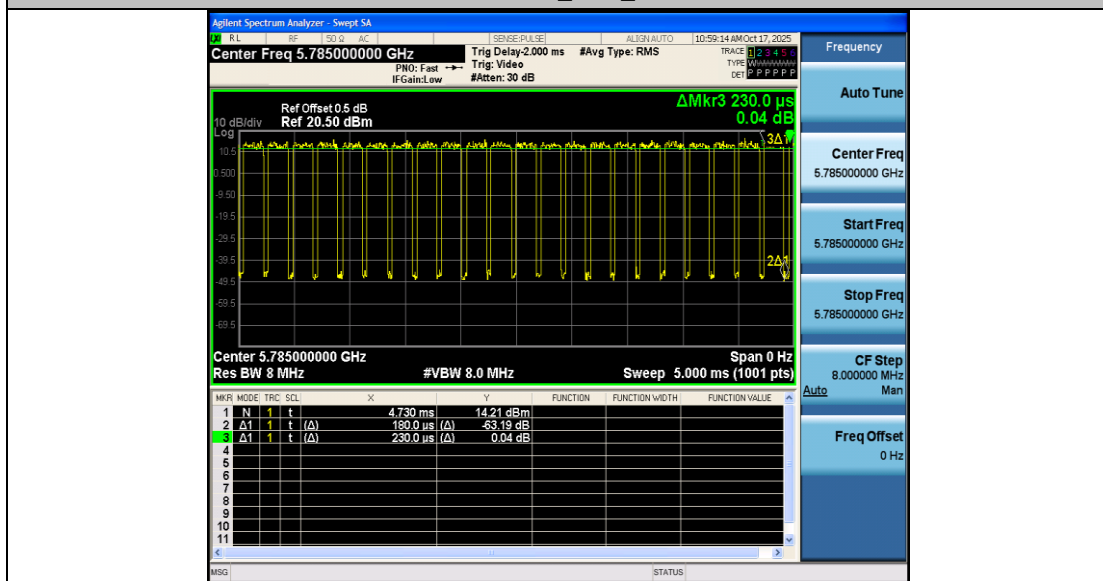
MNR	MODE	TRIG	SCL	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE
1	N	1	t	4.330 ms	14.43 dBm			
2	Δ1	1	t (Δ)	150.0 μs (Δ)	-64.01 dB			
3	Δ1	1	t (Δ)	200.0 μs (Δ)	-0.01 dB			

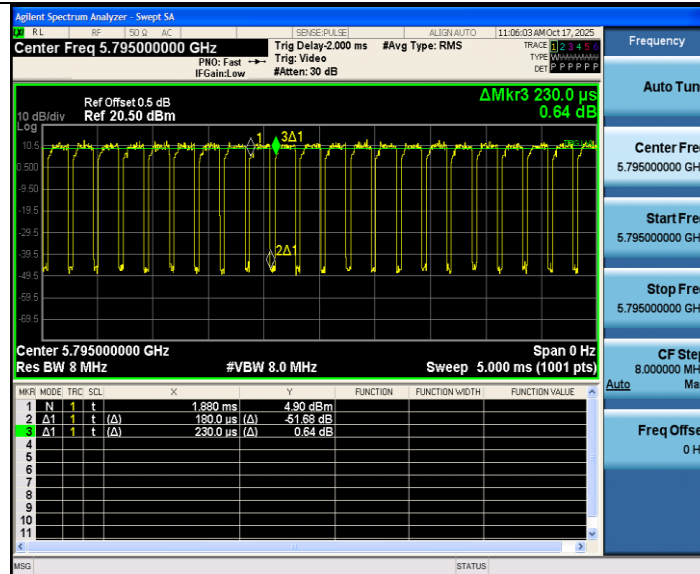


11N20SISO_Ant1_5745

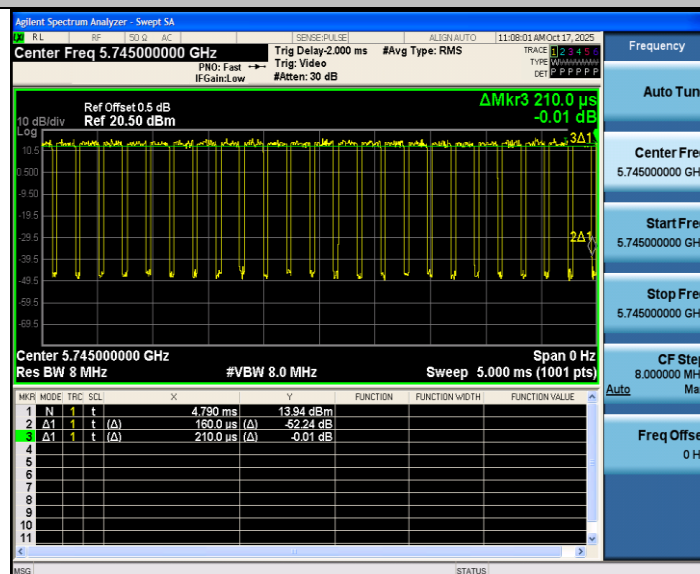


11N20SISO_Ant1_5785

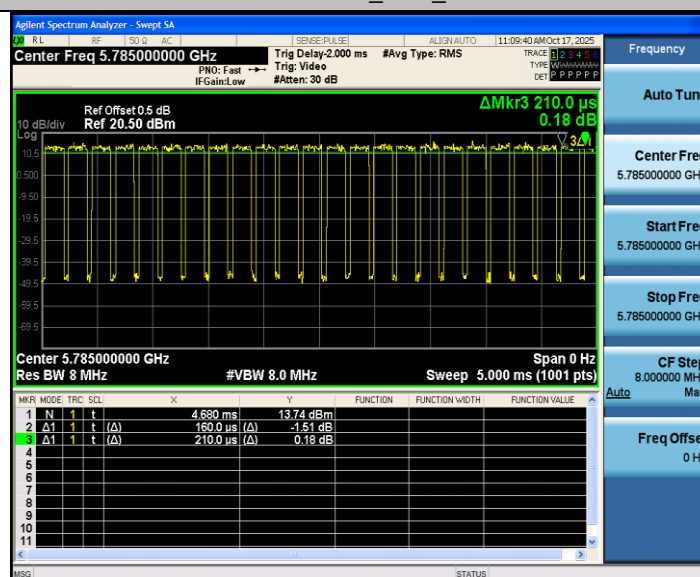




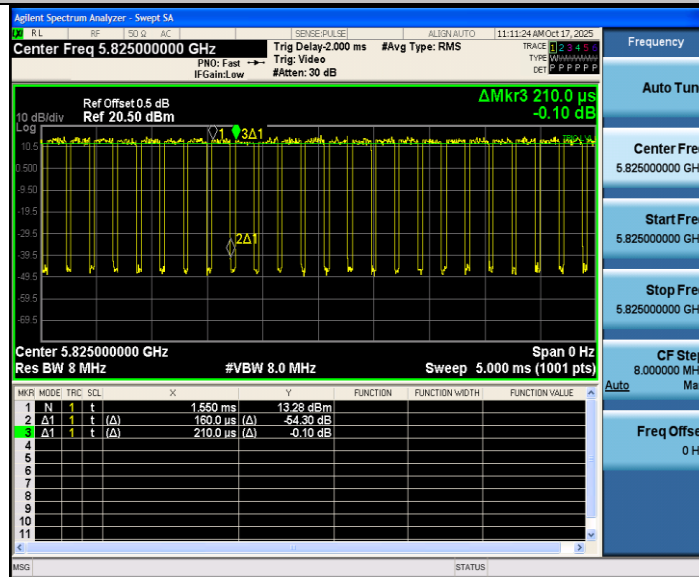
11AC20SISO_Ant1_5745



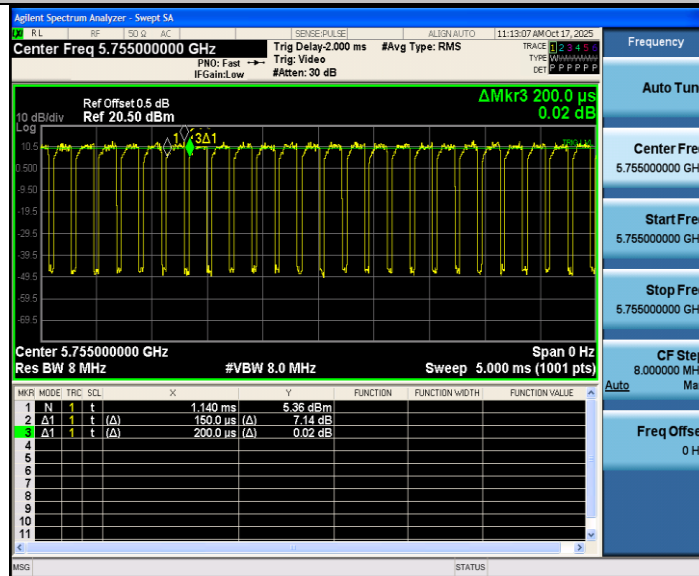
11AC20SISO_Ant1_5785



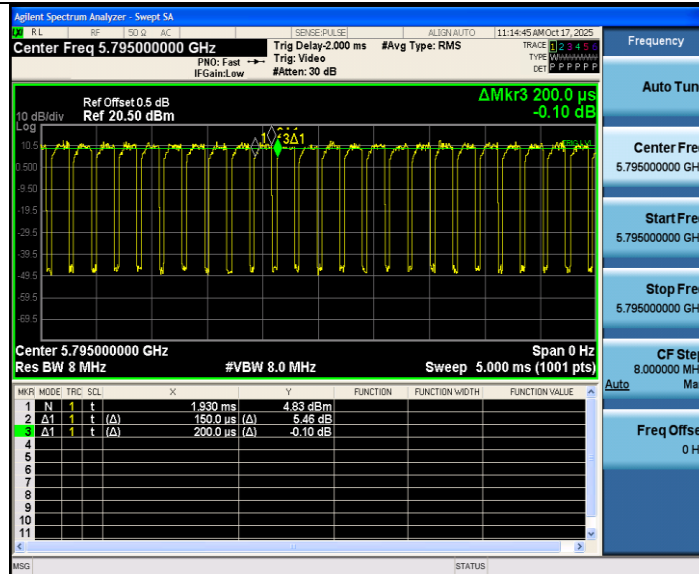
11AC20SISO_Ant1_5825



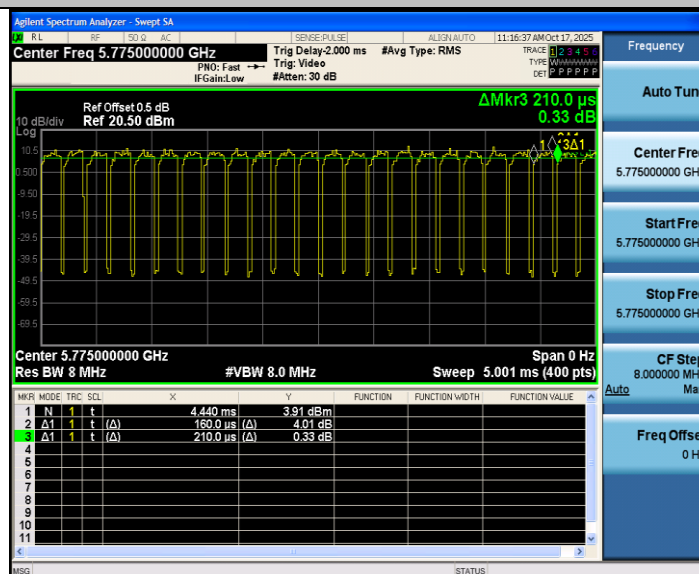
11AC40SISO_Ant1_5755



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	10.61	73.68	1.33	11.94	≤30.00	PASS
		5785	10.04	75.00	1.25	11.29	≤30.00	PASS
		5825	9.84	75.00	1.25	11.09	≤30.00	PASS
11N20SISO	Ant1	5745	10.78	77.27	1.12	11.90	≤30.00	PASS
		5785	10.19	78.26	1.06	11.25	≤30.00	PASS
		5825	9.99	77.27	1.12	11.11	≤30.00	PASS
11N40SISO	Ant1	5755	10.72	78.26	1.06	11.78	≤30.00	PASS
		5795	10.32	78.26	1.06	11.38	≤30.00	PASS
11AC20SISO	Ant1	5745	10.75	76.19	1.18	11.93	≤30.00	PASS
		5785	10.14	76.19	1.18	11.32	≤30.00	PASS
		5825	9.94	76.19	1.18	11.12	≤30.00	PASS
11AC40SISO	Ant1	5755	10.60	75.00	1.25	11.85	≤30.00	PASS
		5795	10.17	75.00	1.25	11.42	≤30.00	PASS
11AC80SISO	Ant1	5775	10.86	76.19	1.18	12.04	≤30.00	PASS

Appendix D: Maximum power spectral density

Test Result

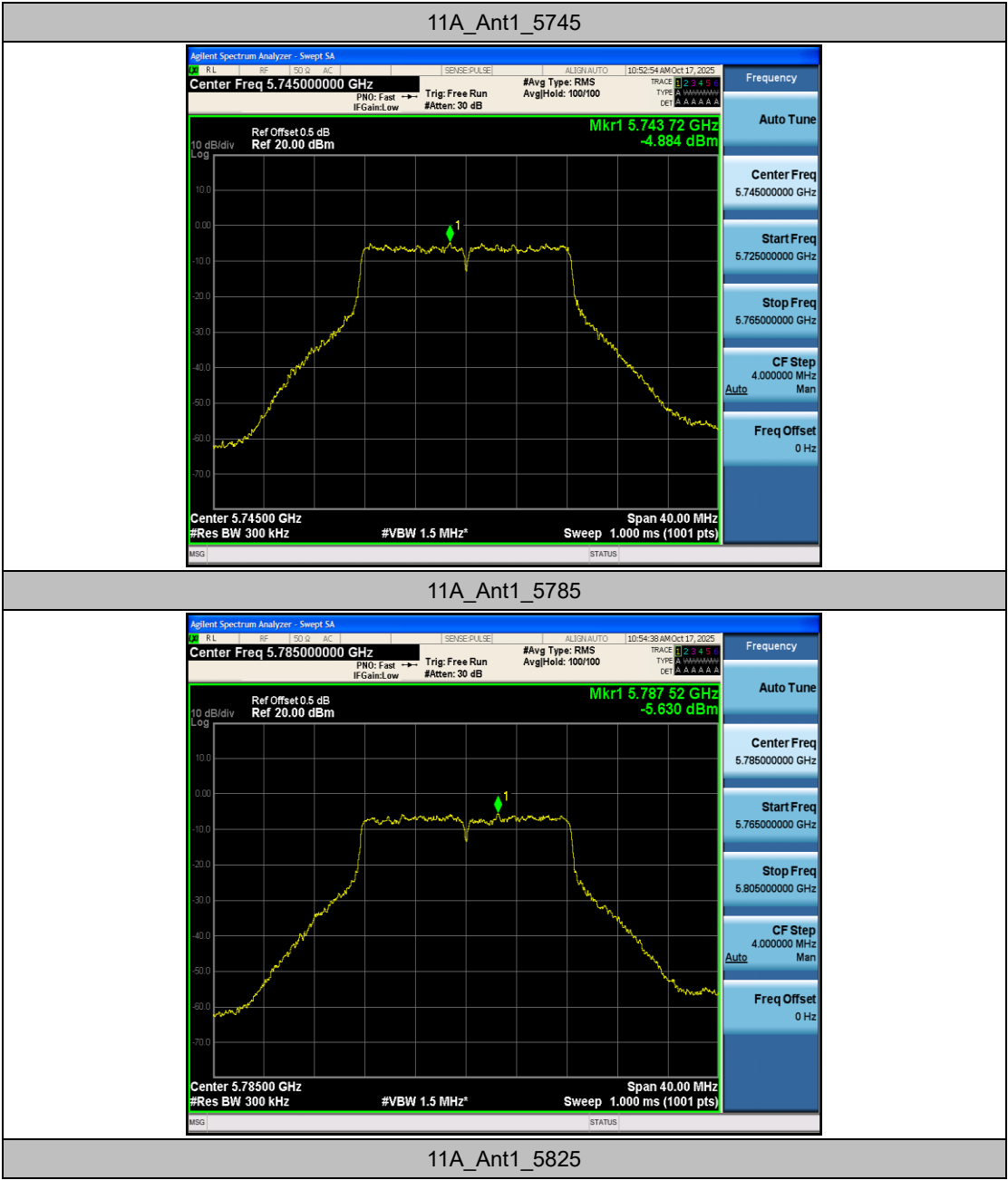
TestMode	Antenna	Freq(MHz)	Result [dBm/300KHz]	RBW Factor (dB)	Duty factor (dB)	Result [dBm/500KHz]	Limit [dBm/500KHz]	Verdict
11A	Ant1	5745	-4.884	2.22	1.33	-1.33	≤30.00	PASS
		5785	-5.630	2.22	1.25	-2.16	≤30.00	PASS
		5825	-5.641	2.22	1.25	-2.17	≤30.00	PASS
11N20SISO	Ant1	5745	-4.782	2.22	1.12	-1.44	≤30.00	PASS
		5785	-4.844	2.22	1.06	-1.56	≤30.00	PASS
		5825	-5.365	2.22	1.12	-2.03	≤30.00	PASS
11N40SISO	Ant1	5755	-8.063	2.22	1.06	-4.78	≤30.00	PASS
		5795	-8.618	2.22	1.06	-5.34	≤30.00	PASS
11AC20SISO	Ant1	5745	-4.778	2.22	1.18	-1.38	≤30.00	PASS
		5785	-5.496	2.22	1.18	-2.10	≤30.00	PASS
		5825	-5.471	2.22	1.18	-2.07	≤30.00	PASS
11AC40SISO	Ant1	5755	-8.170	2.22	1.25	-4.70	≤30.00	PASS
		5795	-8.599	2.22	1.25	-5.13	≤30.00	PASS
11AC80SISO	Ant1	5775	-10.515	2.22	1.18	-7.12	≤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)+duty factor.

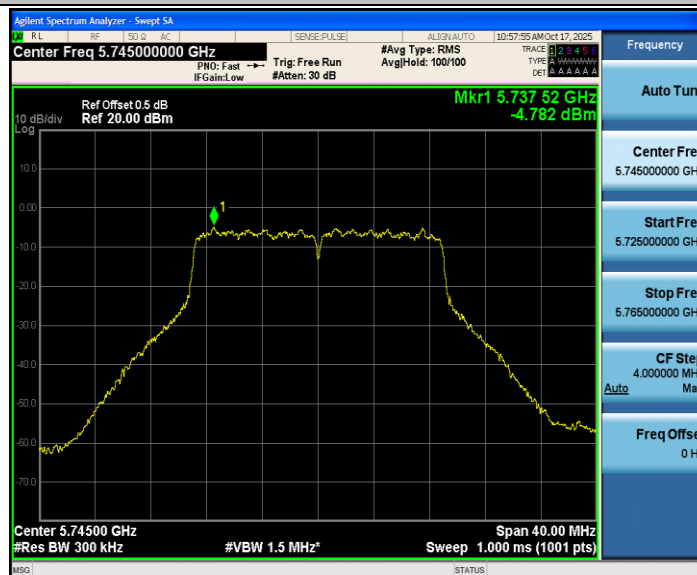
2. RBW factor= 10 log (500 KHz /300 KHz) = 2.22 dB

Test Graphs

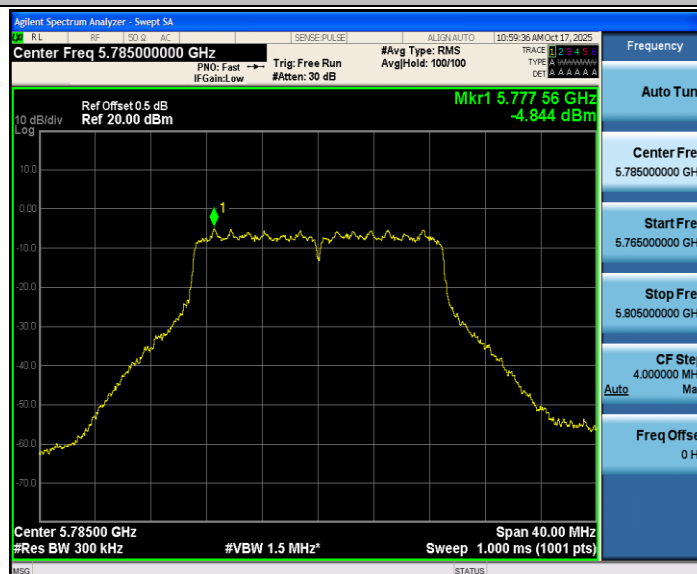




11N20SISO_Ant1_5745



11N20SISO_Ant1_5785



11N20SISO_Ant1_5825



11N40SISO_Ant1_5755



11N40SISO_Ant1_5795