

Case No. : <u>CTA24081600301</u>	
Ambient Condition: <u>22</u> °C, <u>53</u> %RH	
According Standard: <u>■Part15C</u>	
Test Date: <u>2024.8.19</u>	Test Engineer: <u>Lushan Kong</u>

Appendix A.1: 20dB Emission Bandwidth

Test Result

TestMode	Antenna	Freq(MHz)	20dB EBW[MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
DH1	Ant1	2402	0.906	2401.547	2402.453	---	---
		2441	0.906	2440.538	2441.444	---	---
		2480	0.912	2479.565	2480.477	---	---
2DH1	Ant1	2402	1.419	2401.271	2402.690	---	---
		2441	1.437	2440.256	2441.693	---	---
		2480	1.446	2479.253	2480.699	---	---
3DH1	Ant1	2402	1.425	2401.271	2402.696	---	---
		2441	1.473	2440.259	2441.732	---	---
		2480	1.485	2479.253	2480.738	---	---

Test Graphs

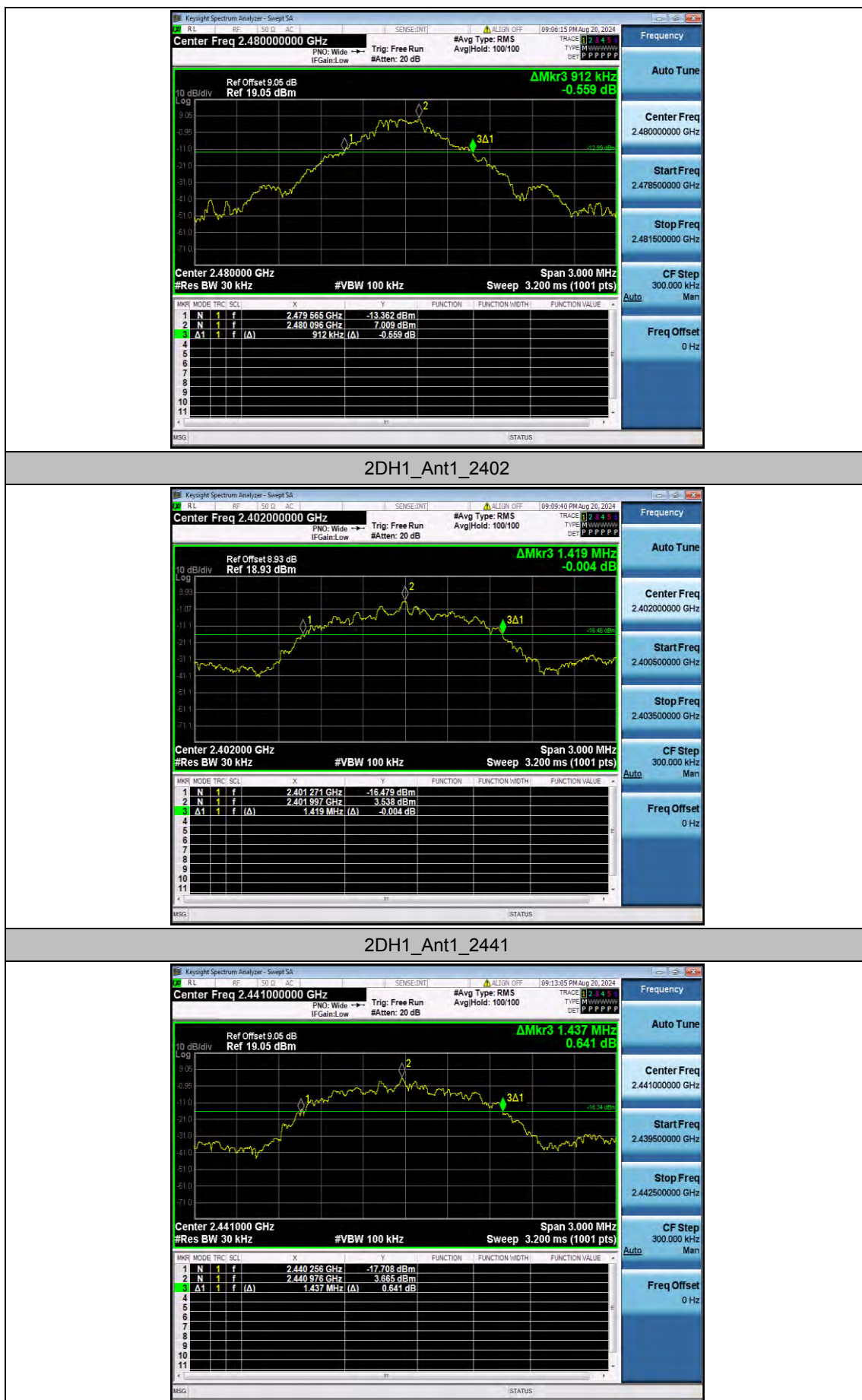
DH1_Ant1_2402



DH1_Ant1_2441



DH1_Ant1_2480



2DH1_Ant1_2480



3DH1_Ant1_2402



3DH1_Ant1_2441

Keysight Spectrum Analyzer - Sweep SA

Center Freq 2.480000000 GHz

Ref Offset 9.05 dB
Ref 19.05 dBm

ΔMkr3 1.485 MHz
0.287 dB

Center 2.480000 GHz
#Res BW 30 kHz
#BW 100 kHz
Span 3.000 MHz
Sweep 3.200 ms (1001 pts)

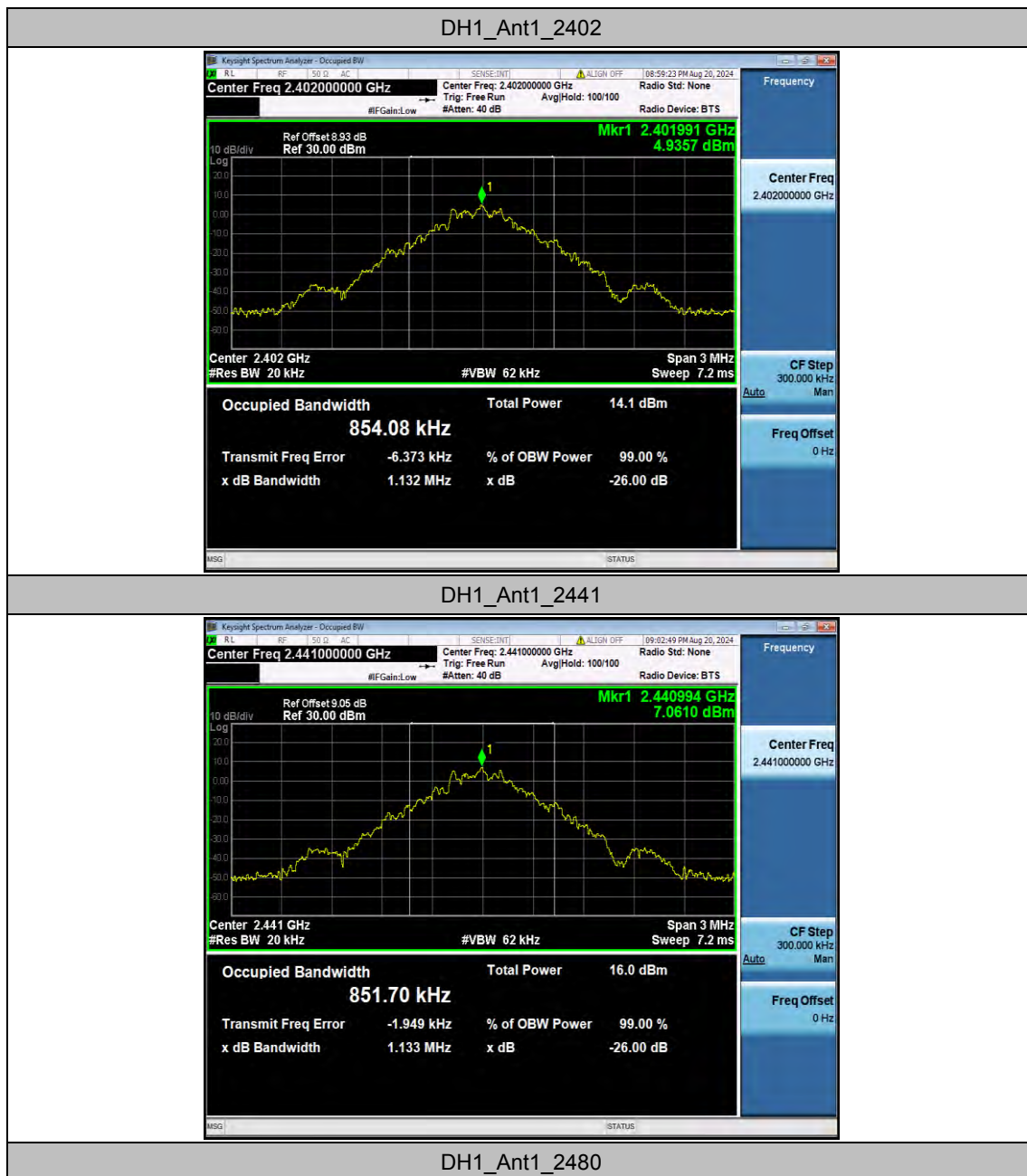
MNR	MODE	TRC	SCL	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE
1	N	1	f	2.479 253 GHz	-18.731 dBm			
2	N	1	f	2.480 012 GHz	1.925 dBm			
3	Δ	1	f (Δ)	1.485 MHz (Δ)	0.287 dB			

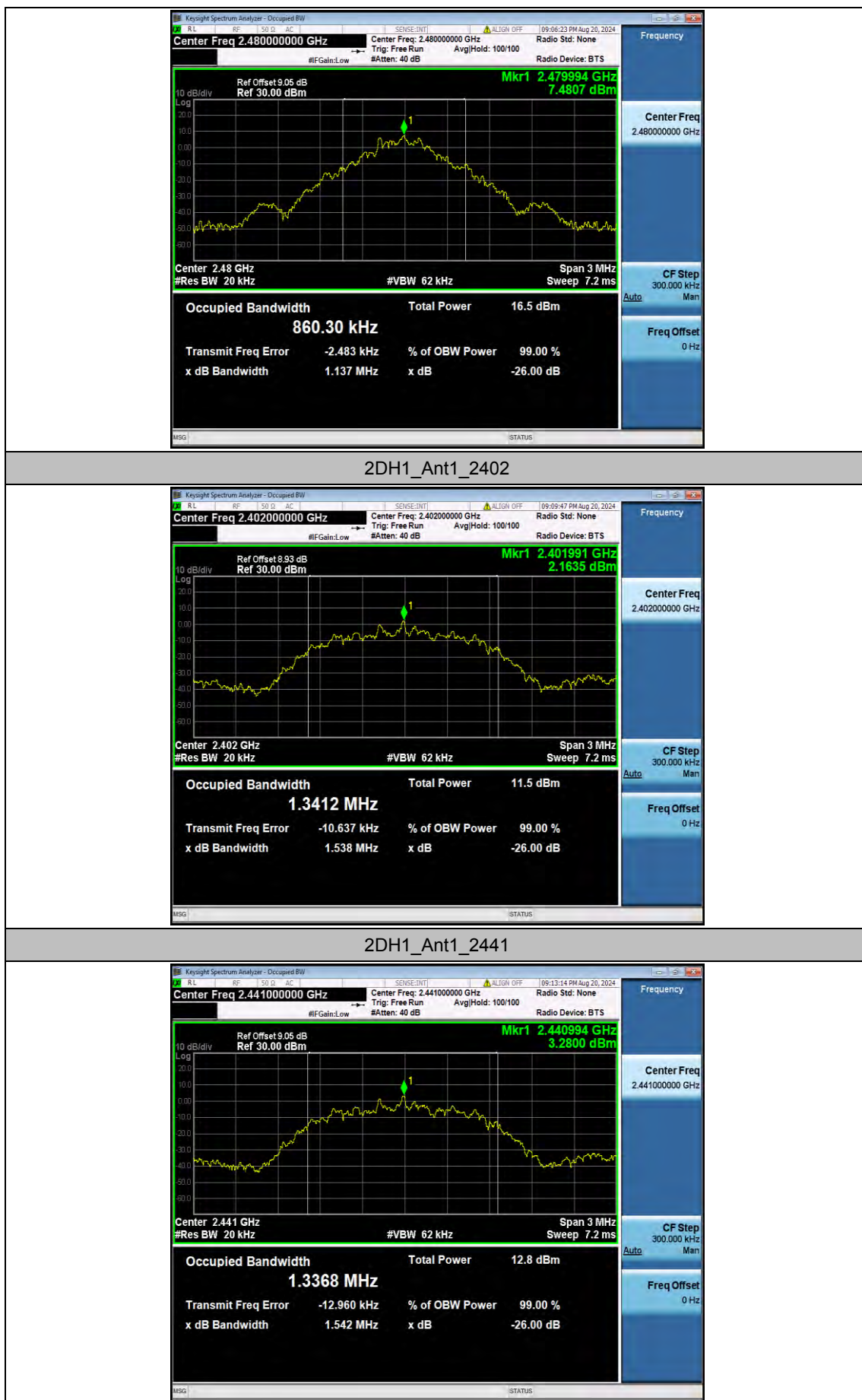
Appendix A.2: Occupied Channel Bandwidth

Test Result

TestMode	Antenna	Freq(MHz)	OCB [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
DH1	Ant1	2402	0.85408	2401.5666	2402.4207	---	---
		2441	0.85170	2440.5722	2441.4239	---	---
		2480	0.86030	2479.5674	2480.4277	---	---
2DH1	Ant1	2402	1.3412	2401.3188	2402.6600	---	---
		2441	1.3368	2440.3186	2441.6554	---	---
		2480	1.3402	2479.3150	2480.6552	---	---
3DH1	Ant1	2402	1.3320	2401.3268	2402.6588	---	---
		2441	1.3355	2440.3240	2441.6595	---	---
		2480	1.3382	2479.3186	2480.6568	---	---

Test Graphs





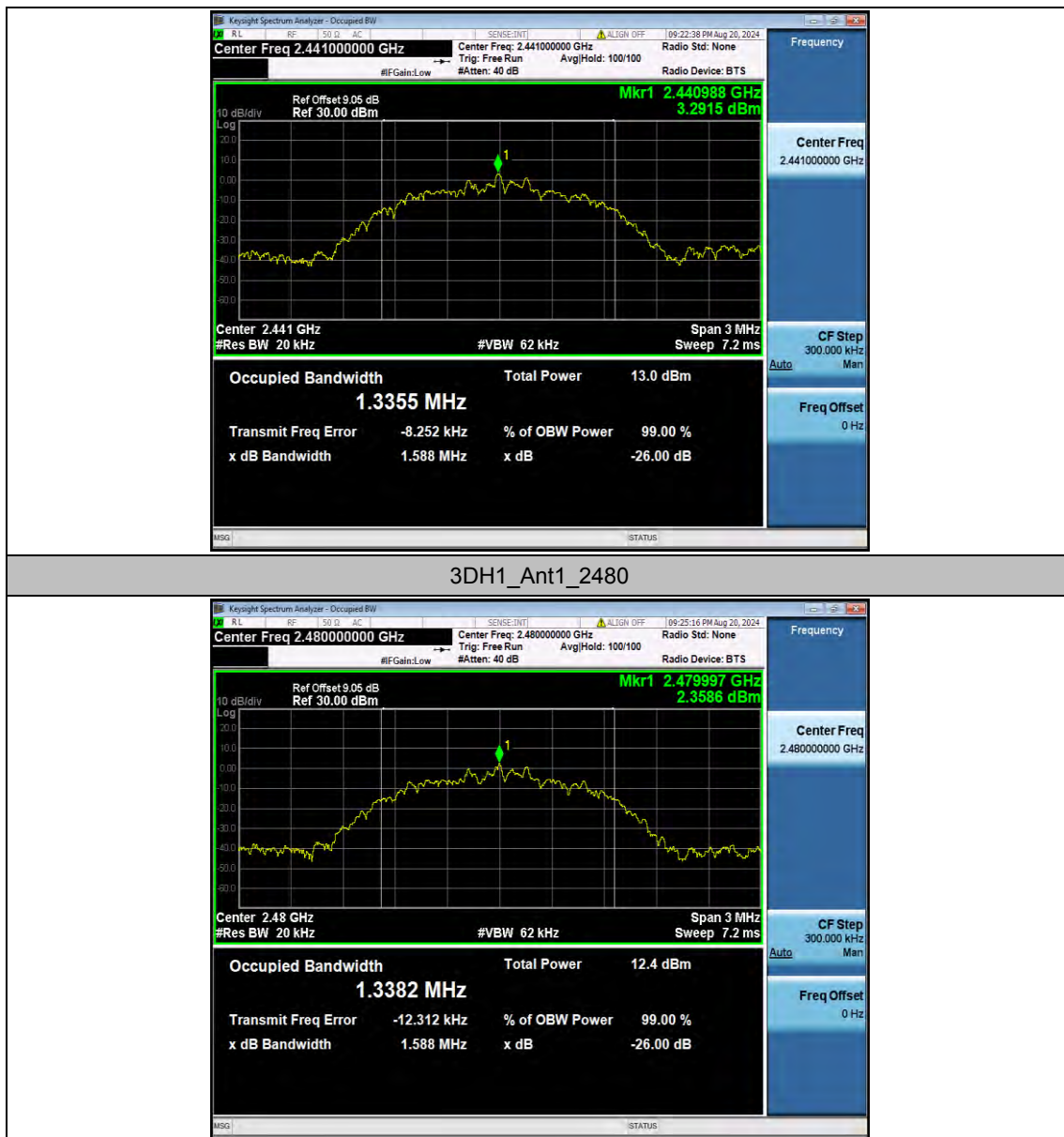
2DH1_Ant1_2480



3DH1_Ant1_2402



3DH1_Ant1_2441



Appendix A.3: Maximum conducted output power

Test Result Peak

Test Mode	Antenna	Freq(MHz)	Conducted Peak Power[dBm]	Conducted Limit[dBm]	Verdict
DH1	Ant1	2402	7.81	≤20.97	PASS
		2441	9.85	≤20.97	PASS
		2480	10.92	≤20.97	PASS
2DH1	Ant1	2402	6.60	≤20.97	PASS
		2441	8.00	≤20.97	PASS
		2480	7.75	≤20.97	PASS
3DH1	Ant1	2402	6.69	≤20.97	PASS
		2441	8.14	≤20.97	PASS
		2480	7.91	≤20.97	PASS

Appendix A.4: Carrier frequency separation

Test Result

TestMode	Antenna	Freq(MHz)	Result[MHz]	Limit[MHz]	Verdict
DH1	Ant1	Hop_2402	1.008	≥ 0.608	PASS
		Hop_2441	0.828	≥ 0.608	PASS
		Hop_2480	0.858	≥ 0.608	PASS
2DH1	Ant1	Hop_2402	1.016	≥ 0.964	PASS
		Hop_2441	1.03	≥ 0.964	PASS
		Hop_2480	1.156	≥ 0.964	PASS
3DH1	Ant1	Hop_2402	1.022	≥ 0.990	PASS
		Hop_2441	1.146	≥ 0.990	PASS
		Hop_2480	1.022	≥ 0.990	PASS

Test Graphs

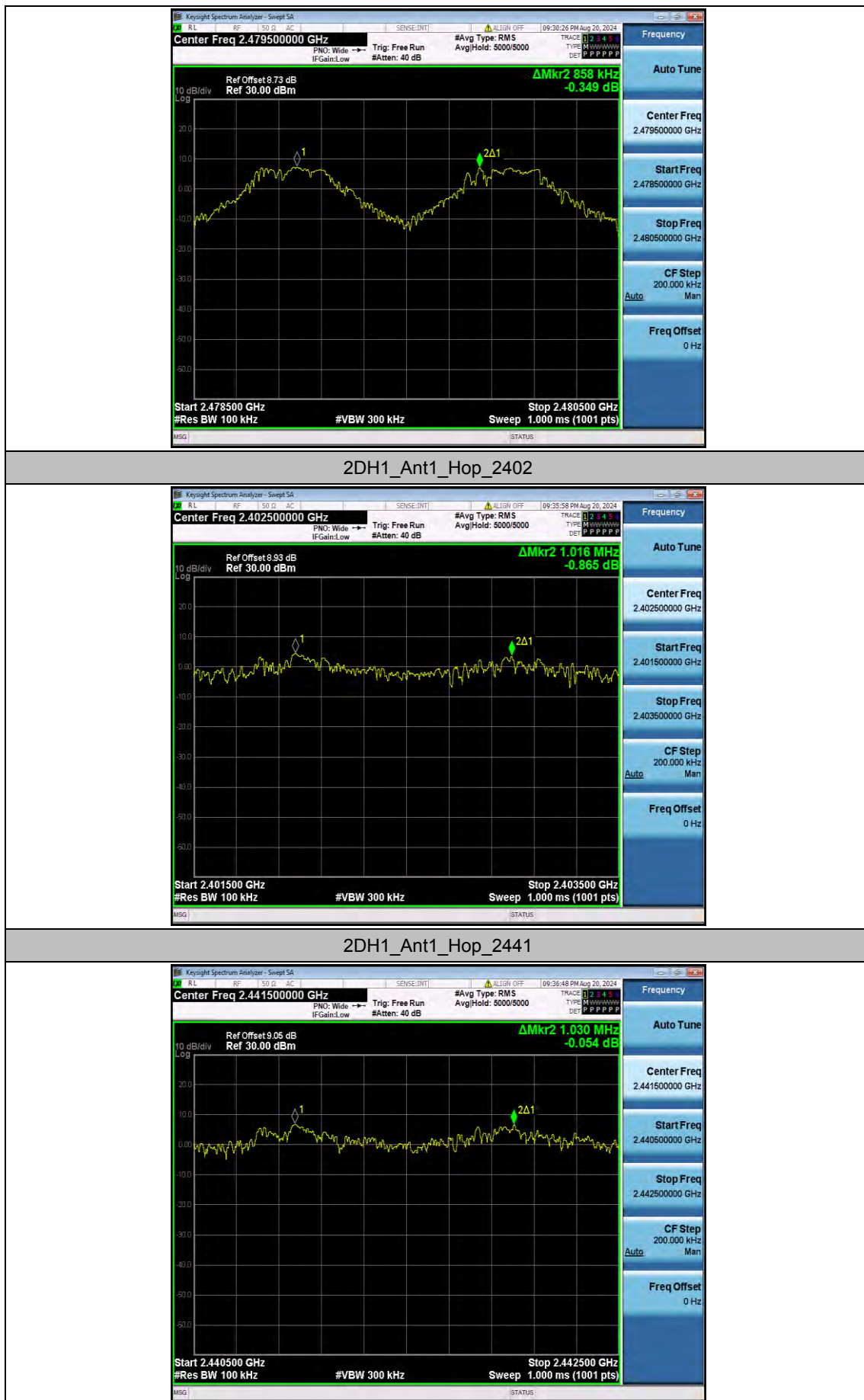
DH1_Ant1_Hop_2402



DH1_Ant1_Hop_2441



DH1_Ant1_Hop_2480



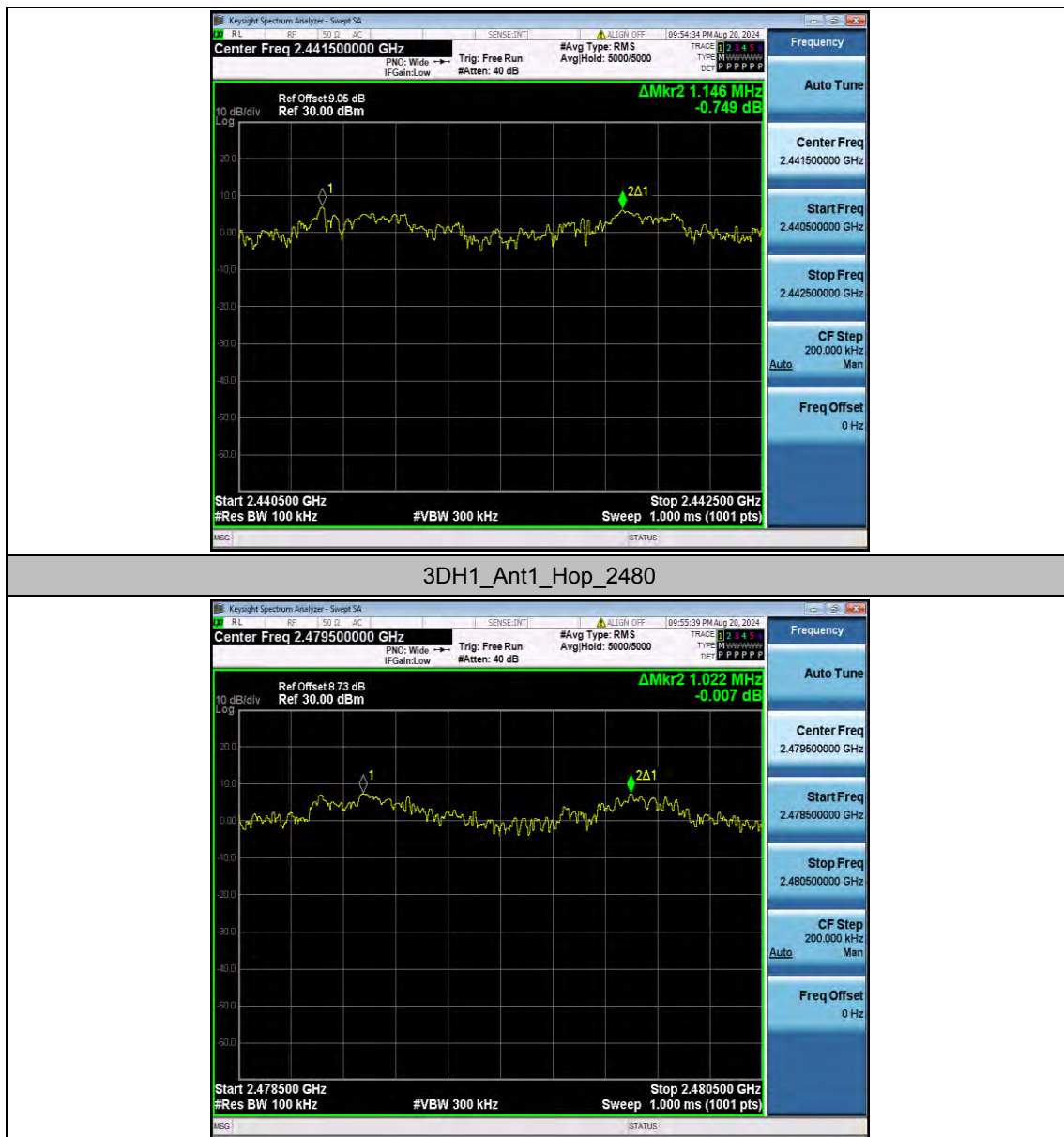
2DH1_Ant1_Hop_2480



3DH1_Ant1_Hop_2402



3DH1_Ant1_Hop_2441

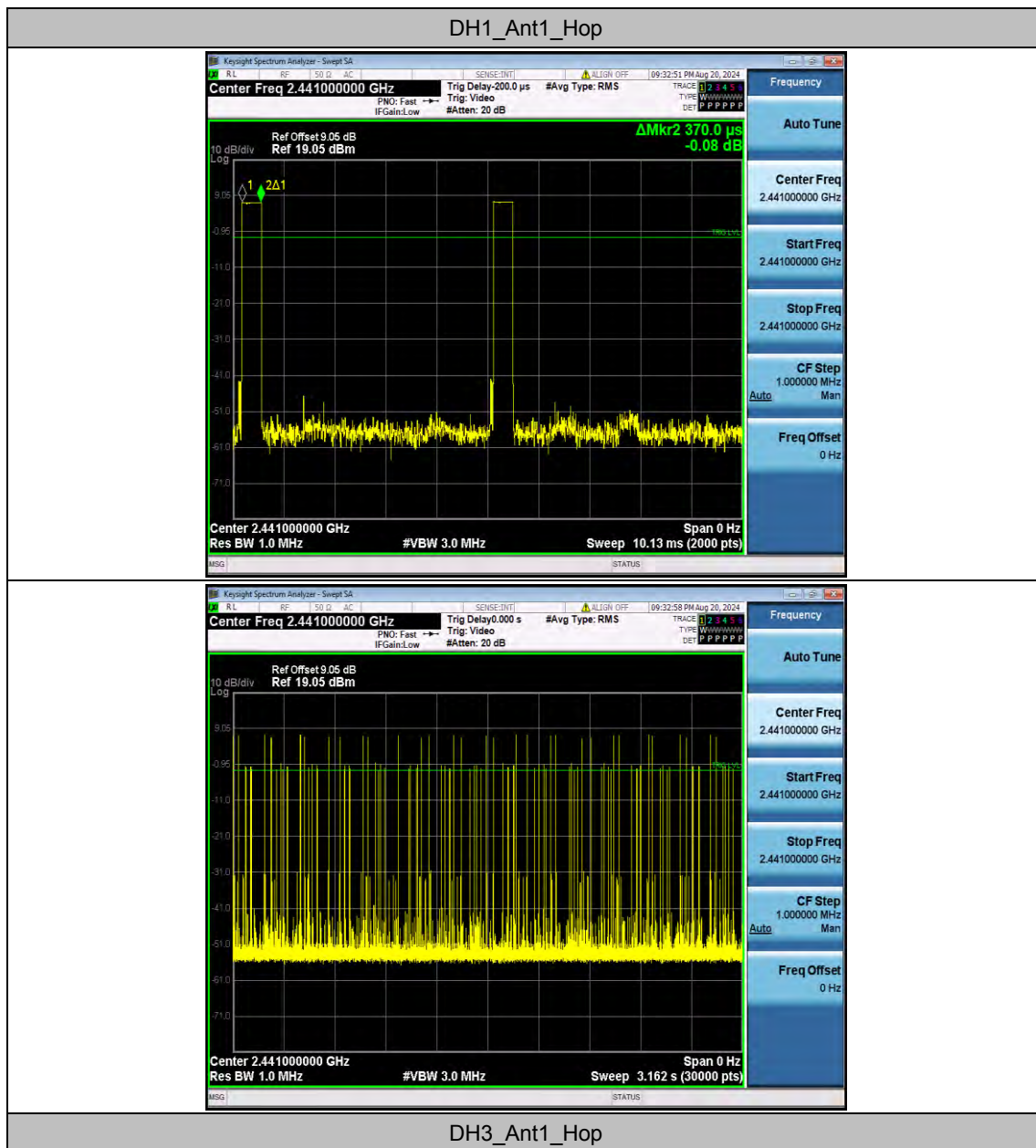


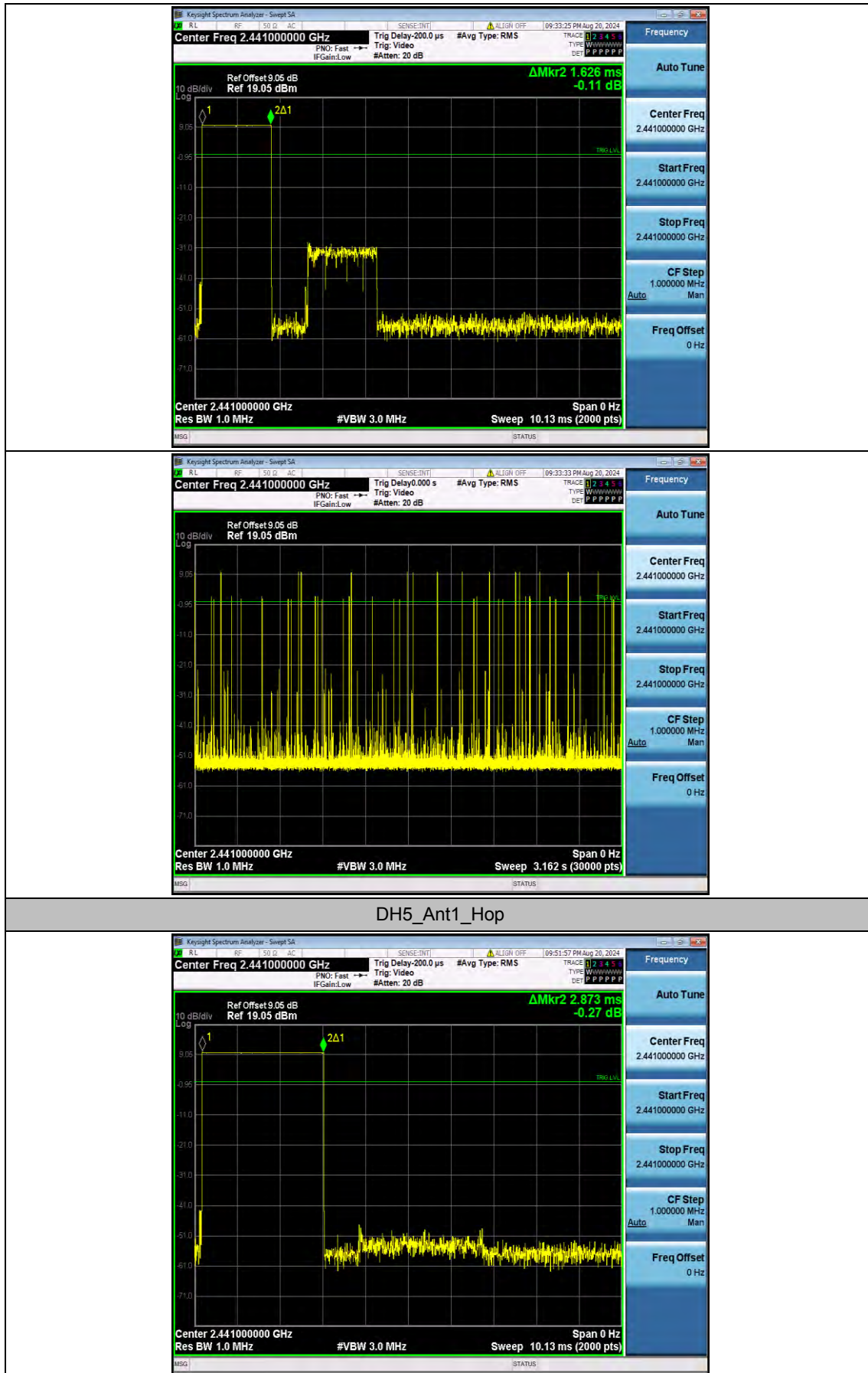
Appendix A.5: Time of occupancy

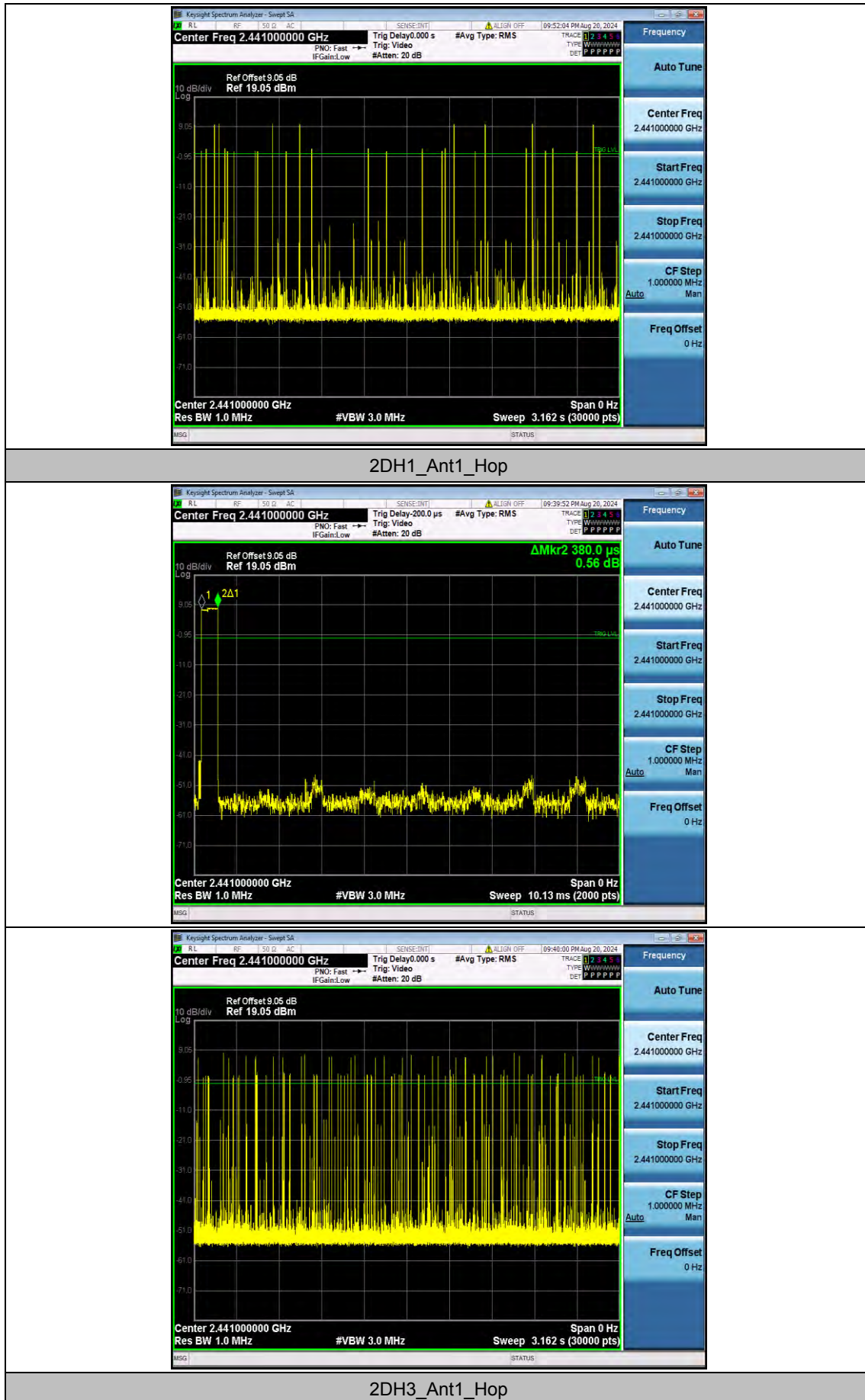
Test Result

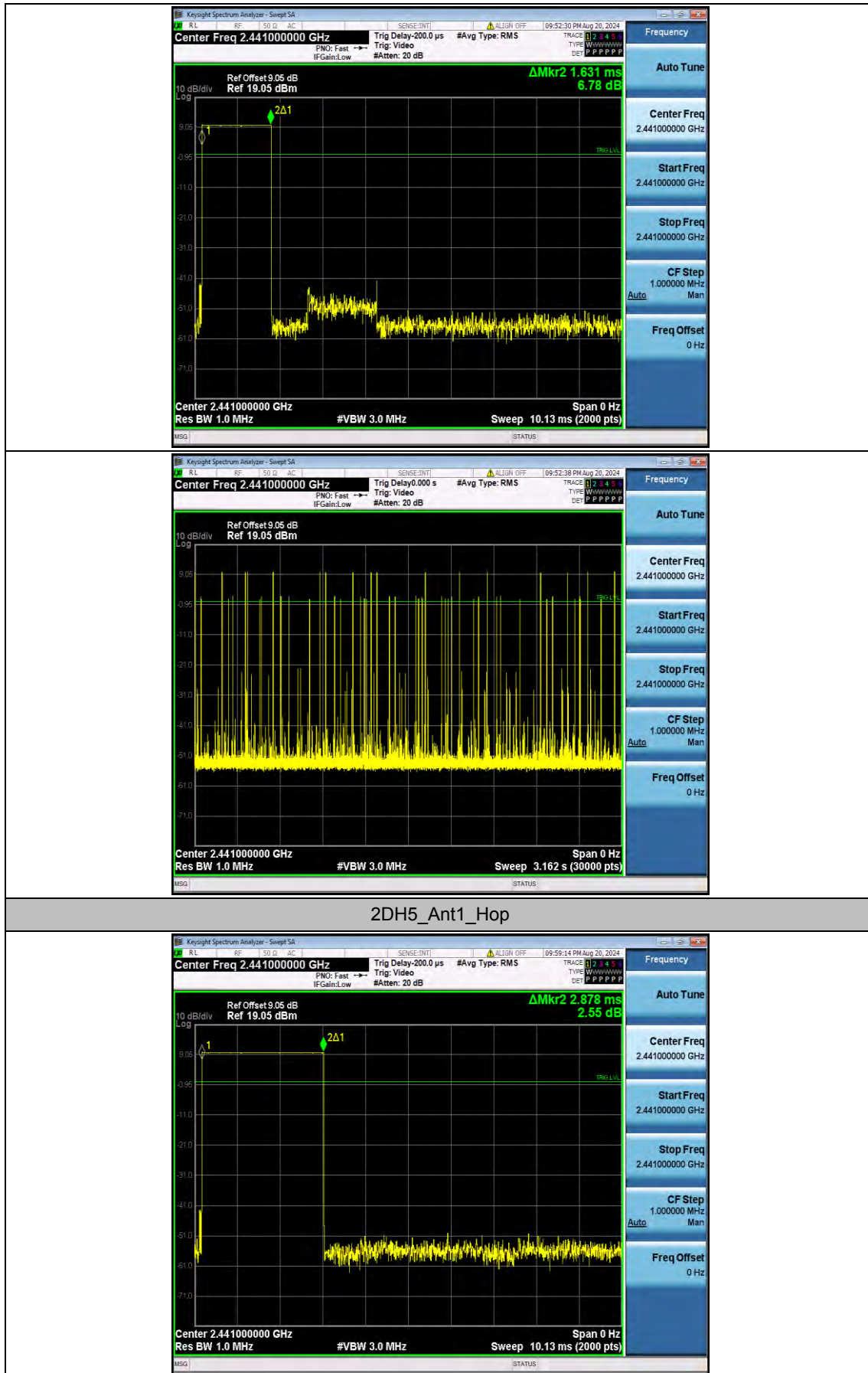
TestMode	Antenna	Freq(MHz)	BurstWidth [ms]	TotalHops [Num]	Result[s]	Limit[s]	Verdict
DH1	Ant1	Hop	0.370	320	0.118	≤0.4	PASS
DH3	Ant1	Hop	1.626	150	0.244	≤0.4	PASS
DH5	Ant1	Hop	2.873	90	0.259	≤0.4	PASS
2DH1	Ant1	Hop	0.380	340	0.129	≤0.4	PASS
2DH3	Ant1	Hop	1.631	180	0.294	≤0.4	PASS
2DH5	Ant1	Hop	2.878	80	0.23	≤0.4	PASS
3DH1	Ant1	Hop	0.380	320	0.122	≤0.4	PASS
3DH3	Ant1	Hop	1.631	180	0.294	≤0.4	PASS
3DH5	Ant1	Hop	2.878	120	0.345	≤0.4	PASS

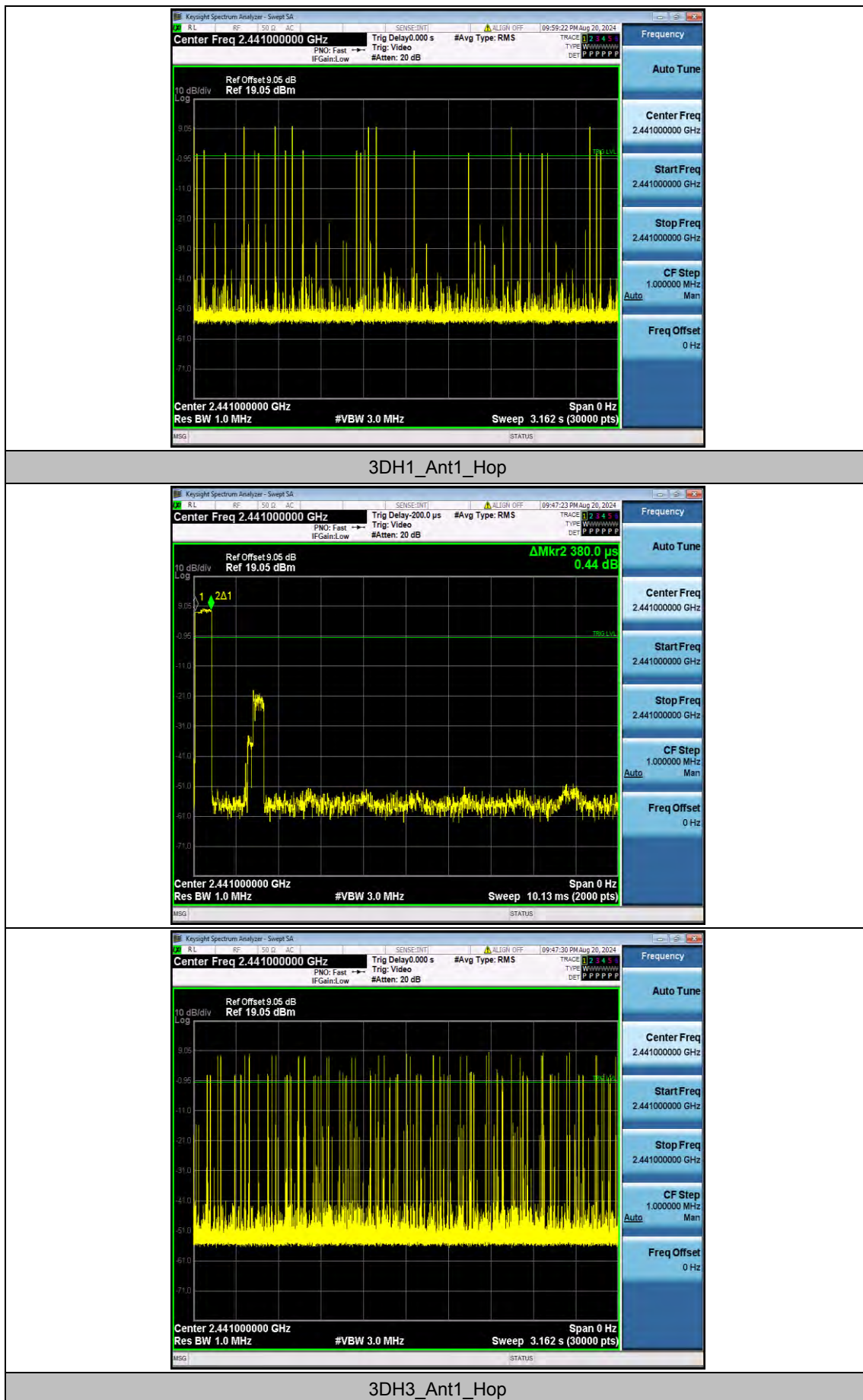
Test Graphs

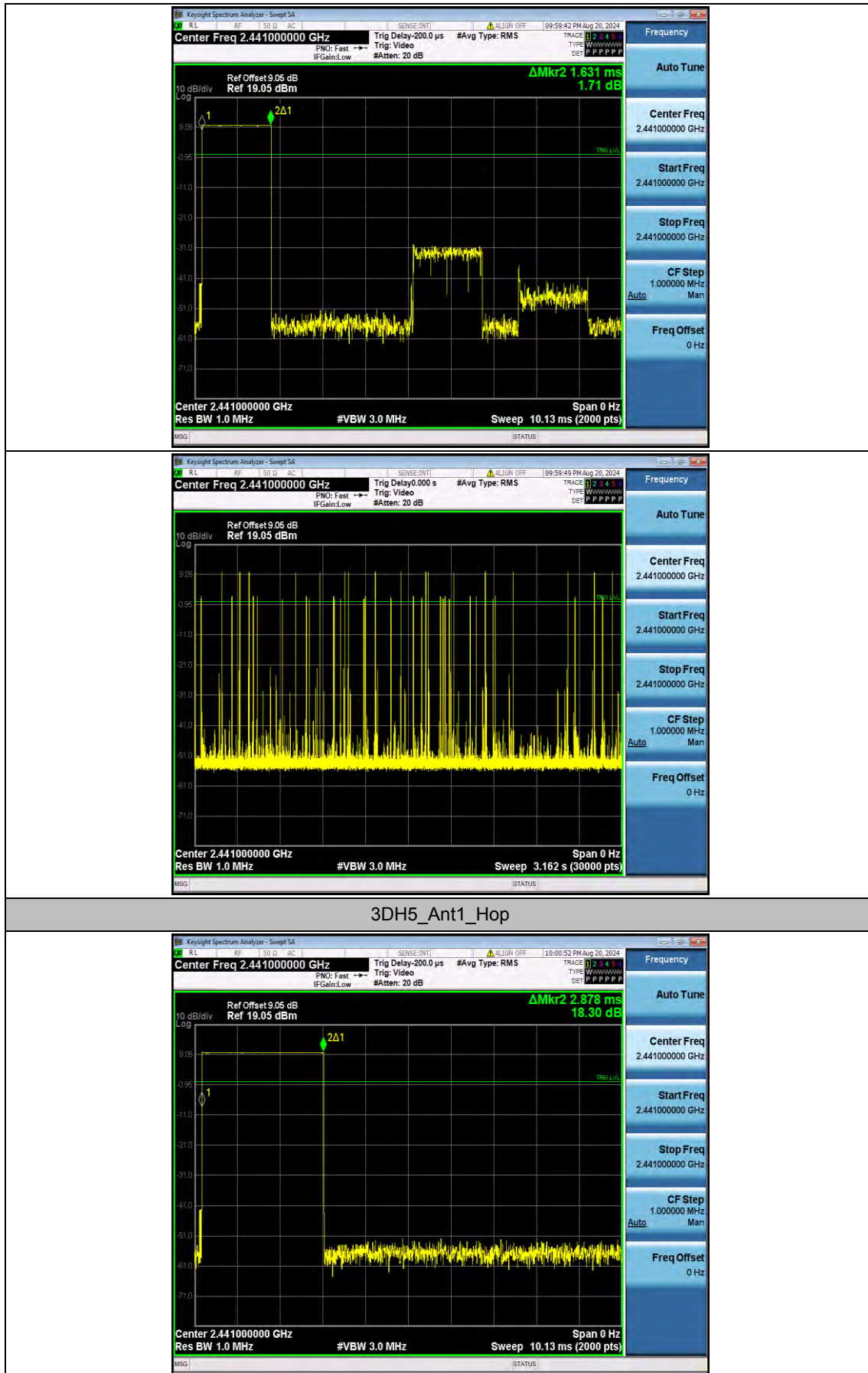


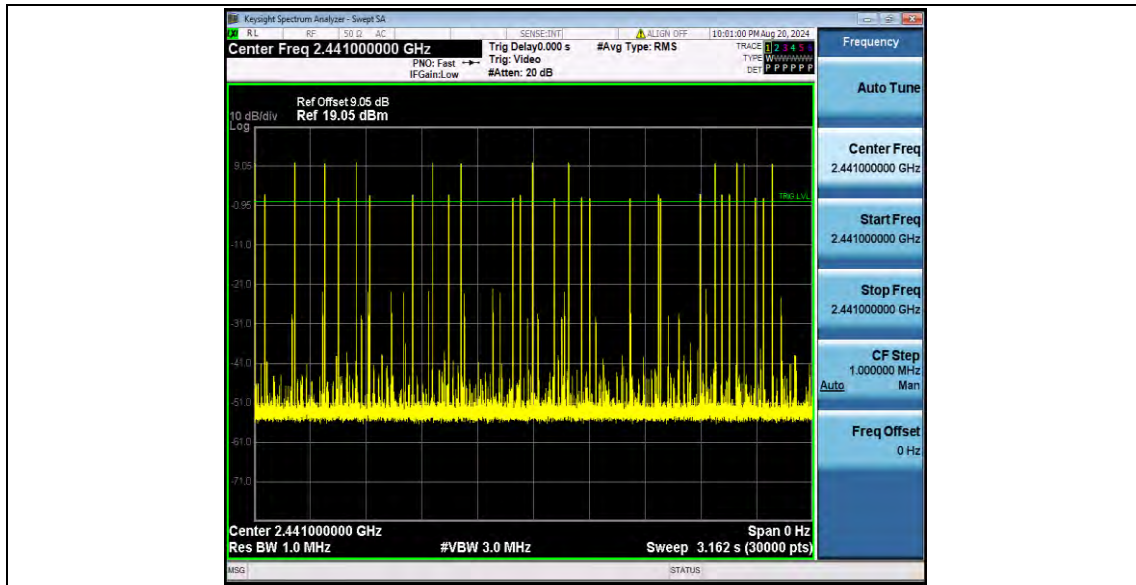










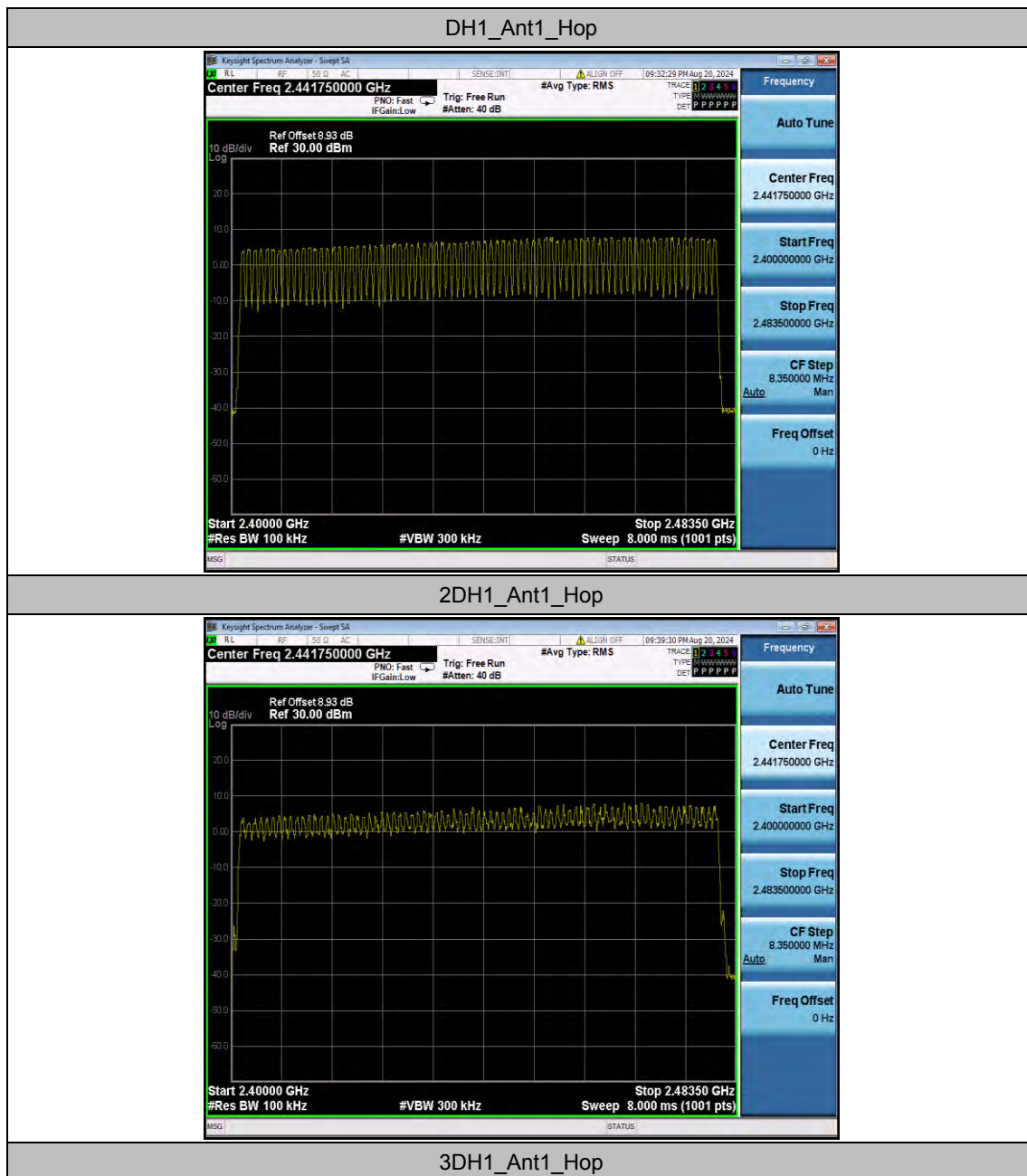


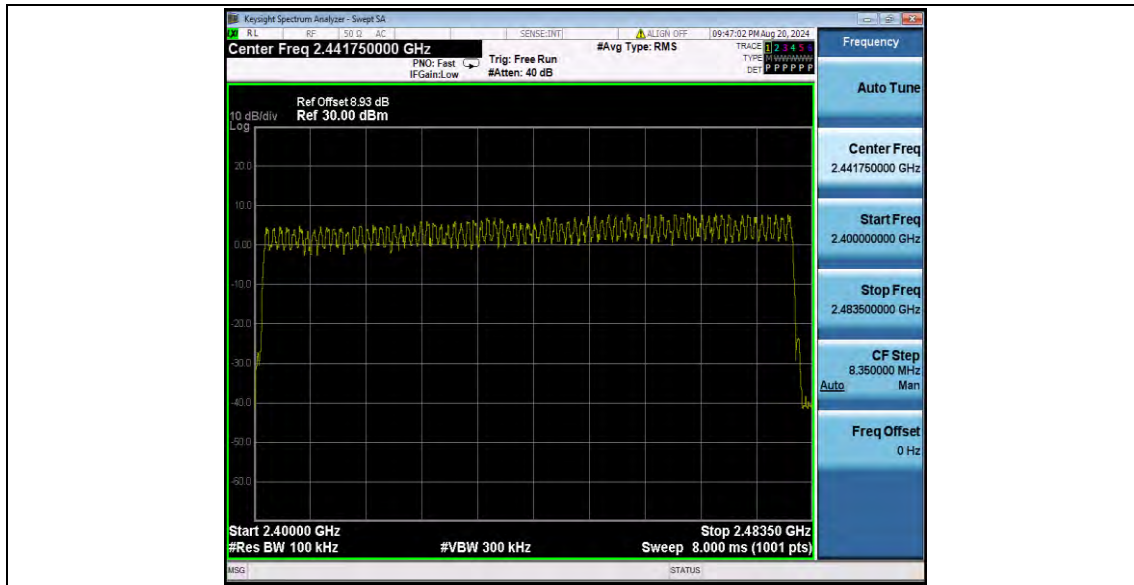
Appendix A.6: Number of hopping channels

Test Result

TestMode	Antenna	Freq(MHz)	Result[Num]	Limit[Num]	Verdict
DH1	Ant1	Hop	79	≥15	PASS
2DH1	Ant1	Hop	79	≥15	PASS
3DH1	Ant1	Hop	79	≥15	PASS

Test Graphs





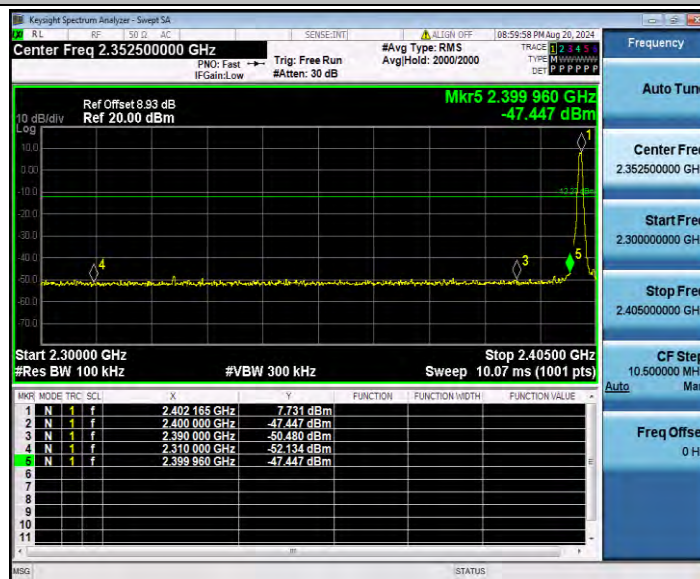
Appendix A.7: Band edge measurements

Test Result

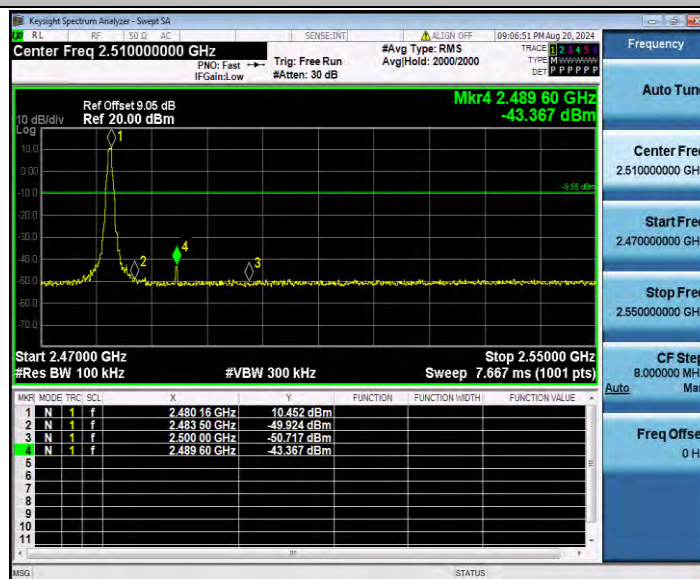
TestMode	Antenna	ChName	Freq(MHz)	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
DH1	Ant1	Low	2402	7.73	-47.45	≤ -12.27	PASS
		High	2480	10.45	-43.37	≤ -9.55	PASS
		Low	Hop_2402	7.40	-47.59	≤ -12.6	PASS
		High	Hop_2480	7.53	-44.32	≤ -12.47	PASS
2DH1	Ant1	Low	2402	4.79	-40.75	≤ -15.21	PASS
		High	2480	5.55	-42.59	≤ -14.45	PASS
		Low	Hop_2402	4.09	-44.71	≤ -15.91	PASS
		High	Hop_2480	7.57	-47.82	≤ -12.43	PASS
3DH1	Ant1	Low	2402	4.74	-39.9	≤ -15.26	PASS
		High	2480	5.61	-43.03	≤ -14.39	PASS
		Low	Hop_2402	3.26	-43.56	≤ -16.74	PASS
		High	Hop_2480	6.36	-48.68	≤ -13.64	PASS

Test Graphs

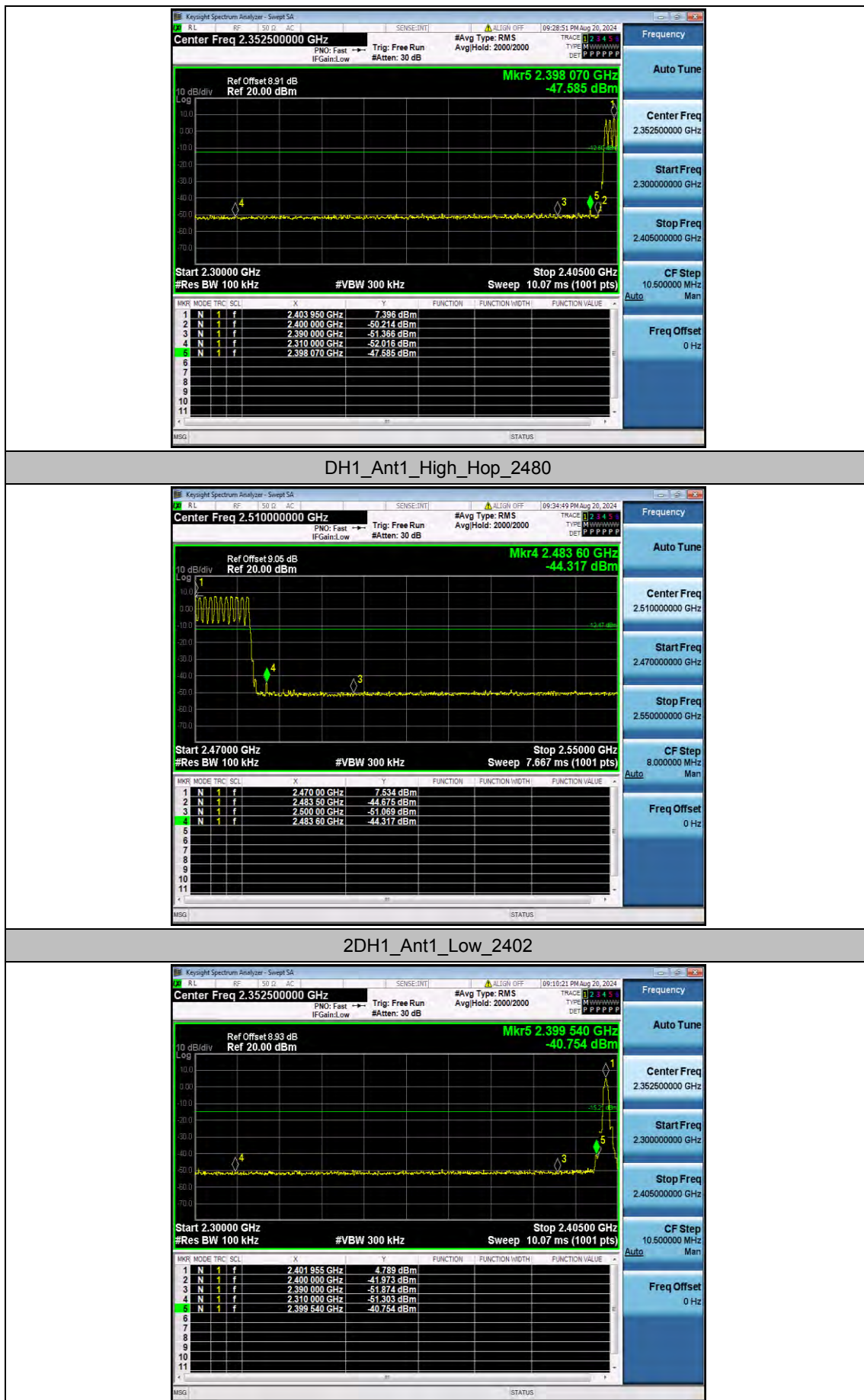
DH1_Ant1_Low_2402



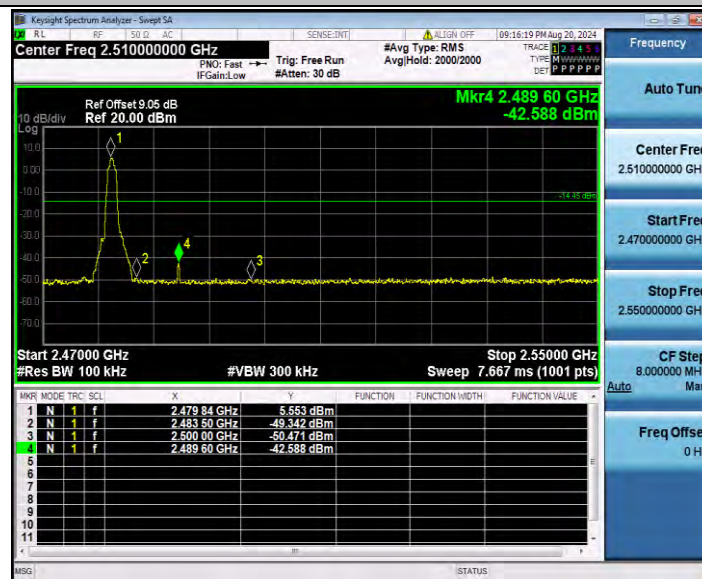
DH1_Ant1_High_2480



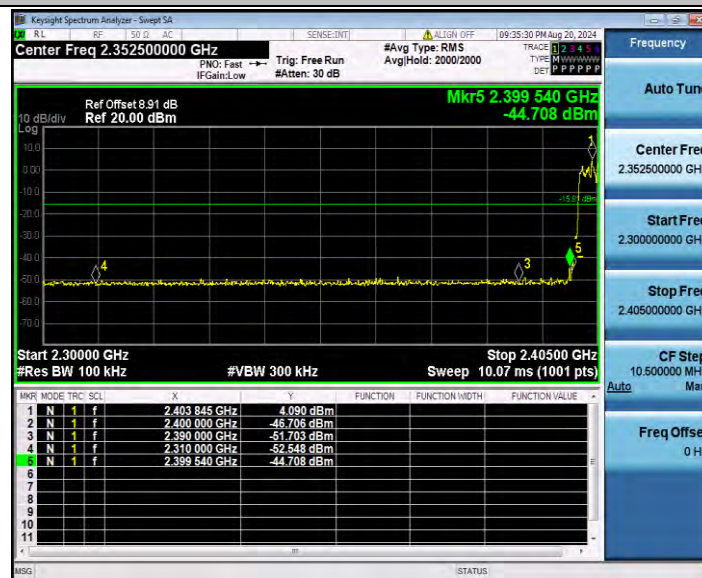
DH1_Ant1_Low_Hop_2402



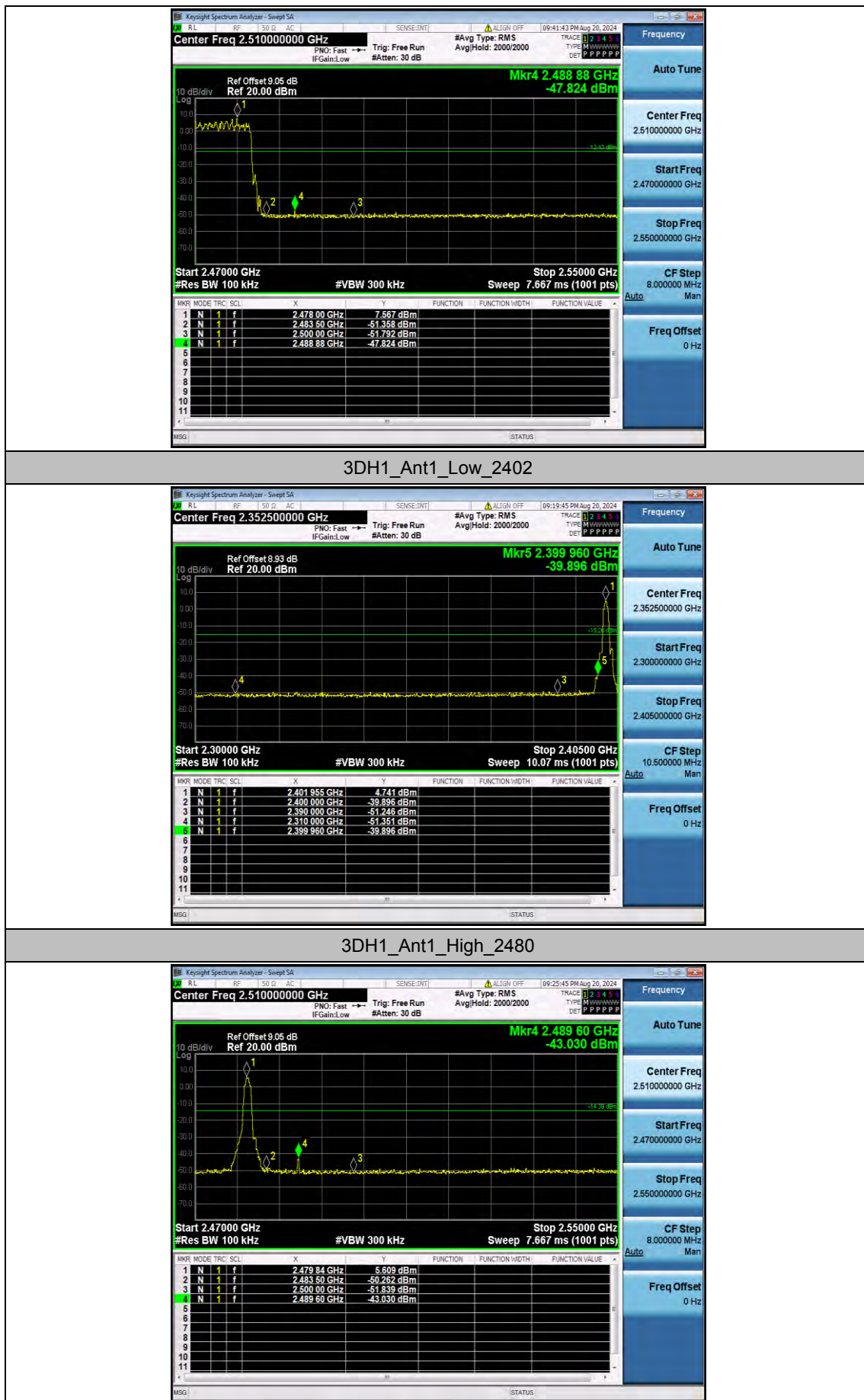
2DH1_Ant1_High_2480



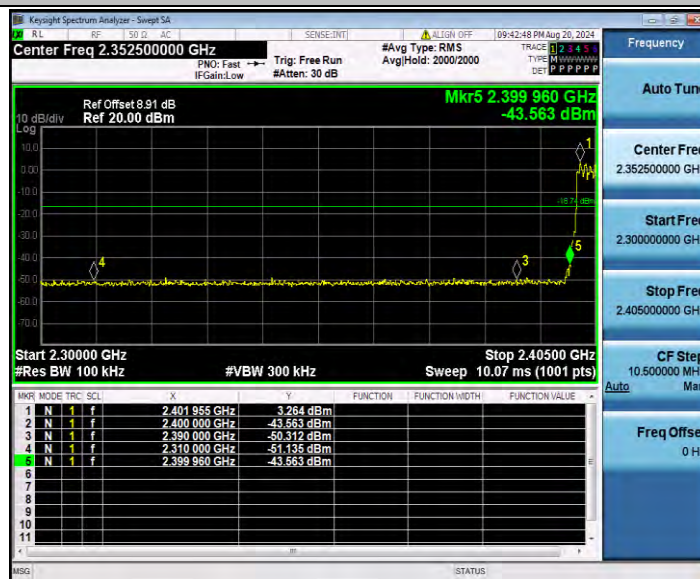
2DH1_Ant1_Low_Hop_2402



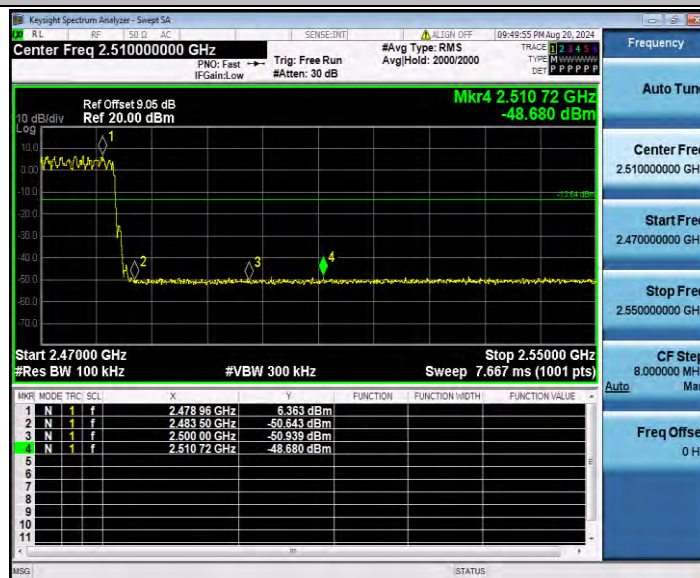
2DH1_Ant1_High_Hop_2480



3DH1_Ant1_Low_Hop_2402



3DH1_Ant1_High_Hop_2480

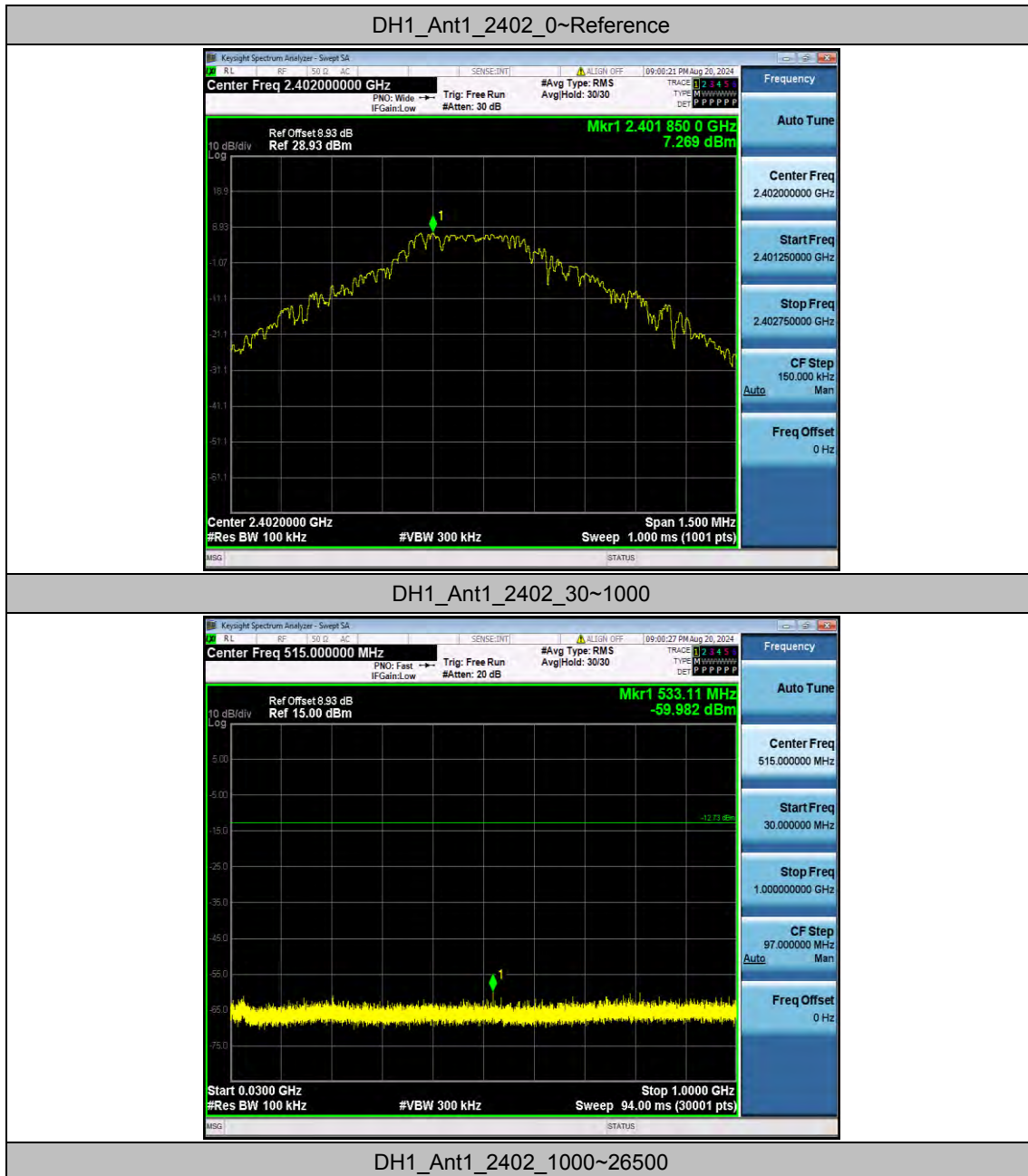


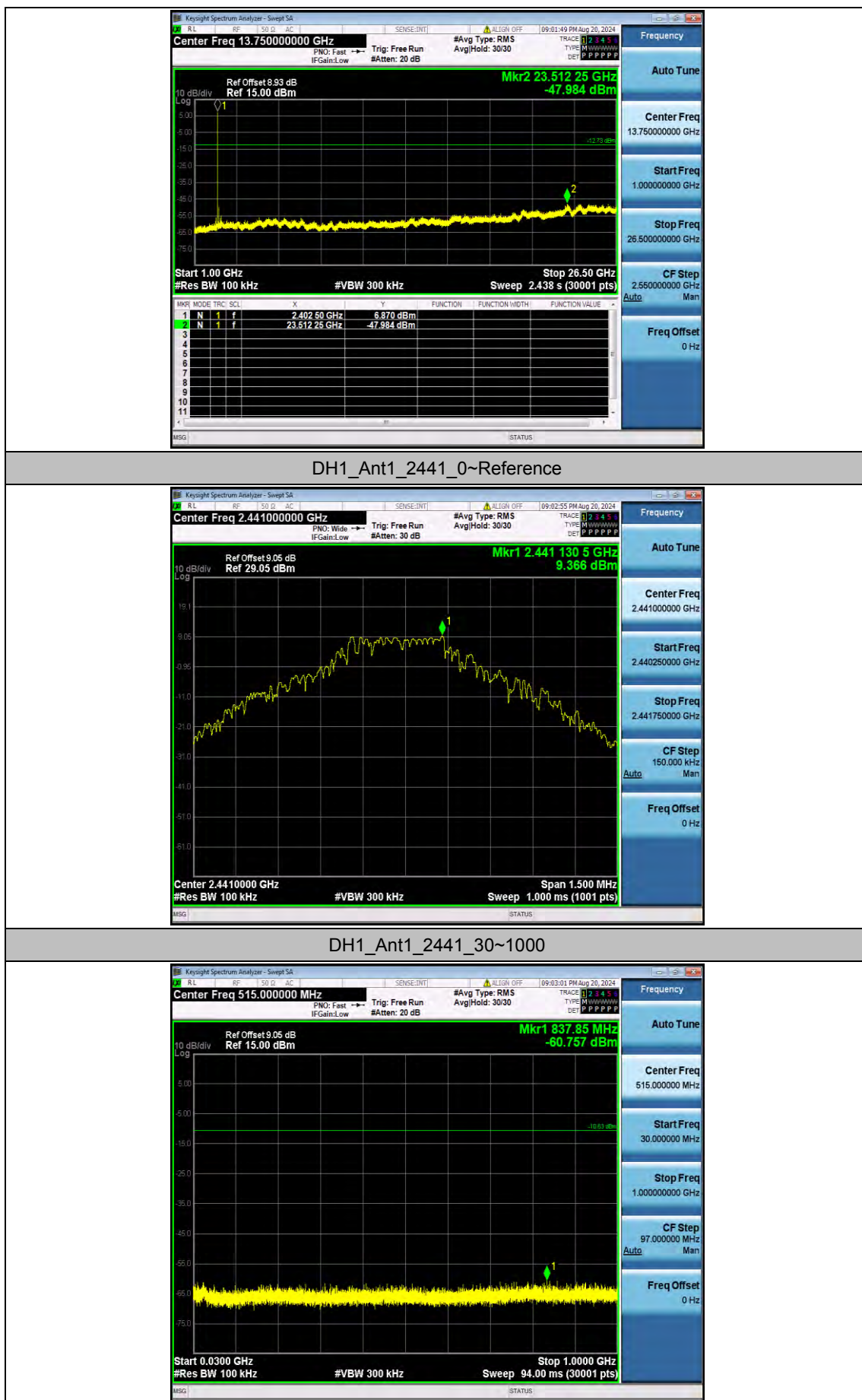
Appendix A.8: Conducted Spurious Emission

Test Result

TestMode	Antenna	Freq(MHz)	FreqRange [MHz]	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
DH1	Ant1	2402	Reference	7.27	7.27	---	PASS
			30~1000	7.27	-59.98	≤-12.73	PASS
			1000~26500	7.27	-47.98	≤-12.73	PASS
		2441	Reference	9.37	9.37	---	PASS
			30~1000	9.37	-60.76	≤-10.63	PASS
			1000~26500	9.37	-48.03	≤-10.63	PASS
		2480	Reference	10.30	10.30	---	PASS
			30~1000	10.30	-60.2	≤-9.7	PASS
			1000~26500	10.30	-47.81	≤-9.7	PASS
2DH1	Ant1	2402	Reference	4.59	4.59	---	PASS
			30~1000	4.59	-60.71	≤-15.41	PASS
			1000~26500	4.59	-48.19	≤-15.41	PASS
		2441	Reference	5.81	5.81	---	PASS
			30~1000	5.81	-59.68	≤-14.19	PASS
			1000~26500	5.81	-47.95	≤-14.19	PASS
		2480	Reference	5.29	5.29	---	PASS
			30~1000	5.29	-60.42	≤-14.71	PASS
			1000~26500	5.29	-48	≤-14.71	PASS
3DH1	Ant1	2402	Reference	4.63	4.63	---	PASS
			30~1000	4.63	-60.83	≤-15.37	PASS
			1000~26500	4.63	-47.57	≤-15.37	PASS
		2441	Reference	5.74	5.74	---	PASS
			30~1000	5.74	-59.99	≤-14.26	PASS
			1000~26500	5.74	-47.33	≤-14.26	PASS
		2480	Reference	5.52	5.52	---	PASS
			30~1000	5.52	-60.68	≤-14.48	PASS
			1000~26500	5.52	-47.89	≤-14.48	PASS

Test Graphs





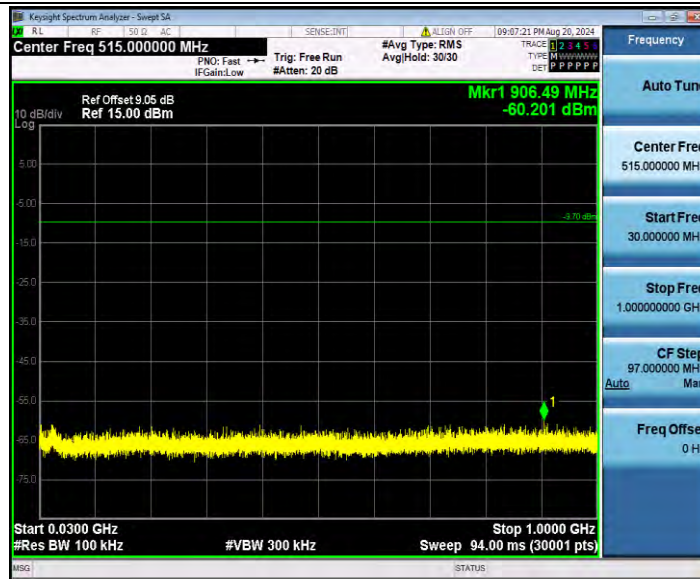
DH1_Ant1_2441_1000~26500



DH1_Ant1_2480_0~Reference



DH1_Ant1_2480_30~1000

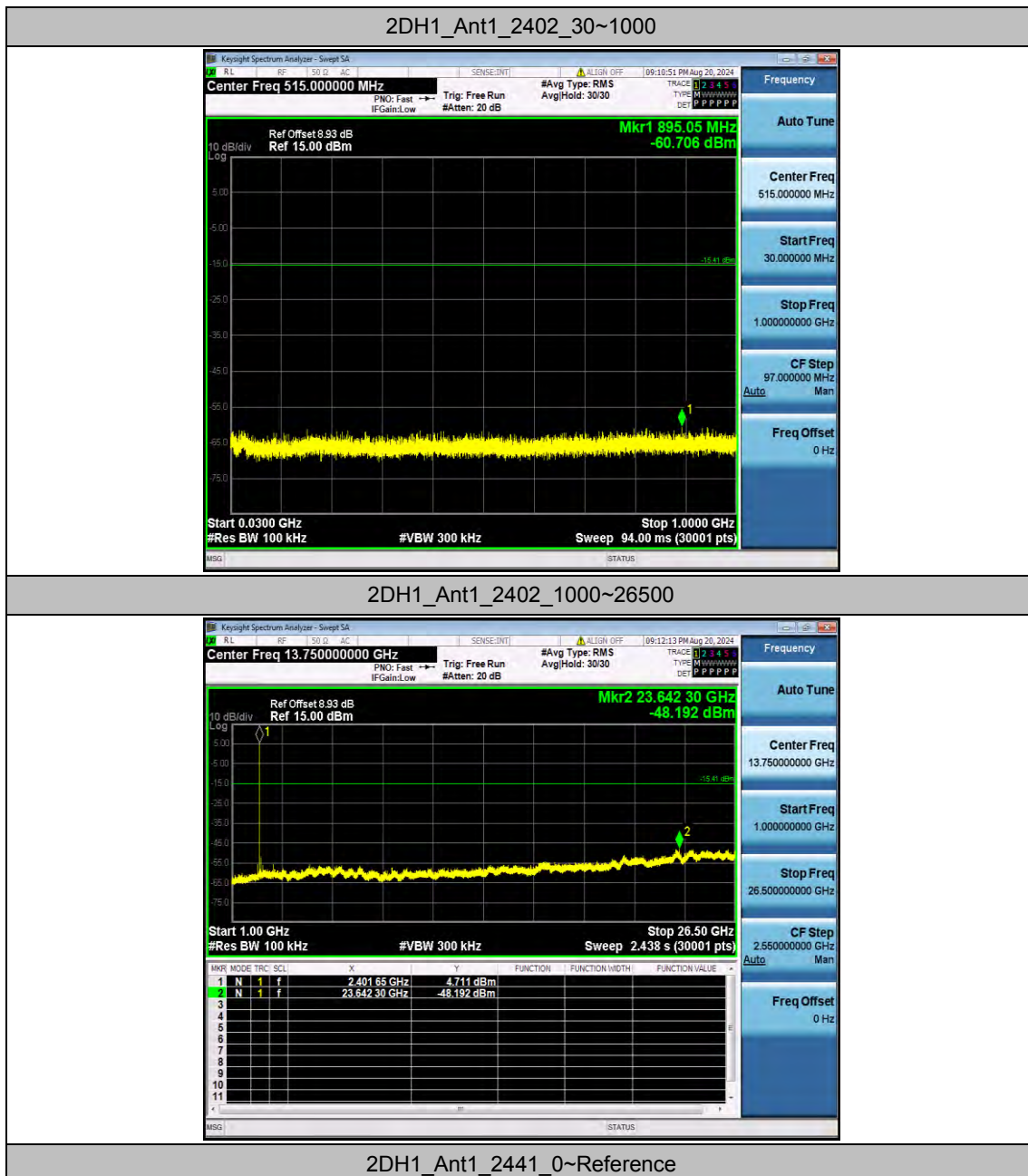


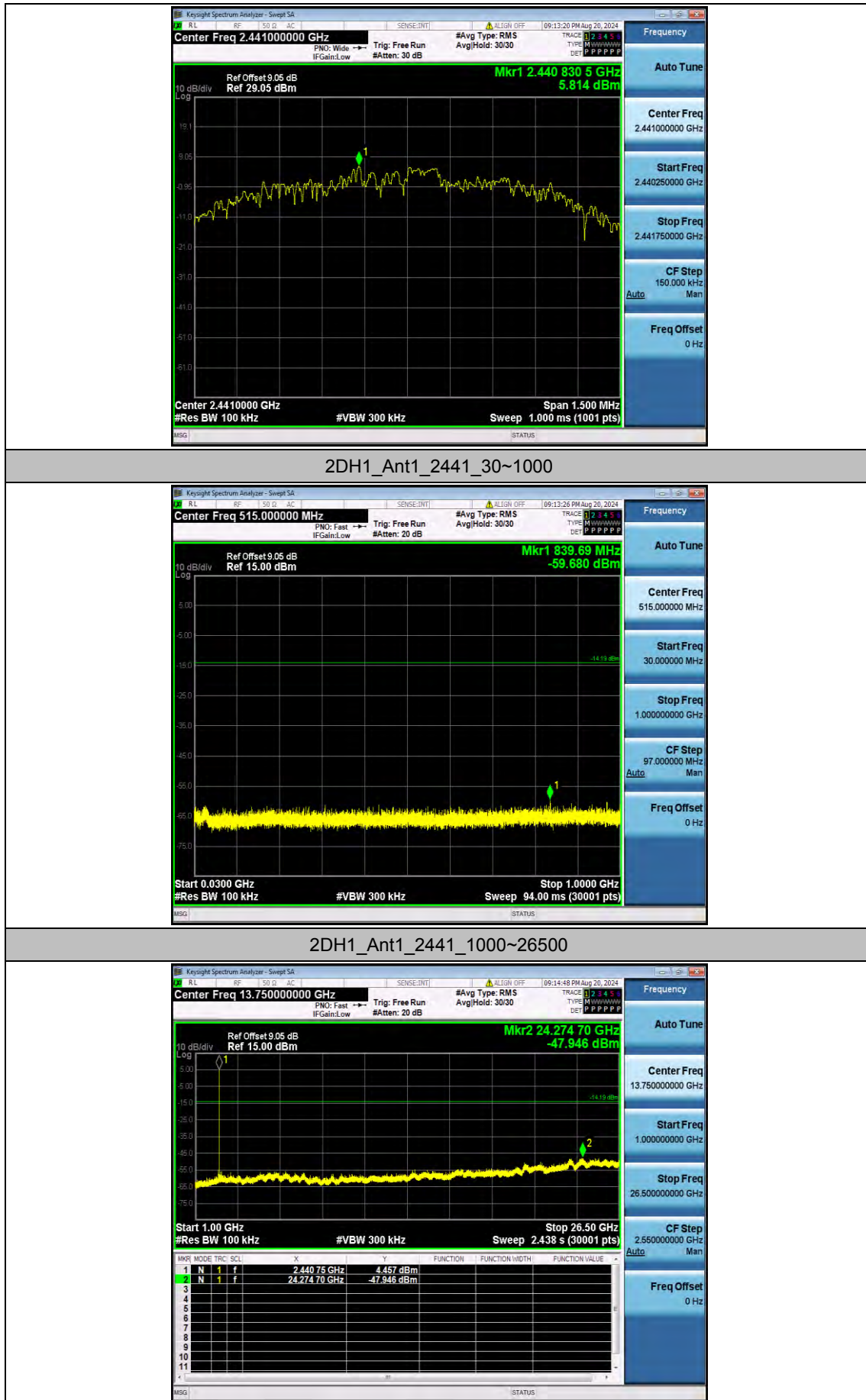
DH1_Ant1_2480_1000~26500



2DH1_Ant1_2402_0~Reference



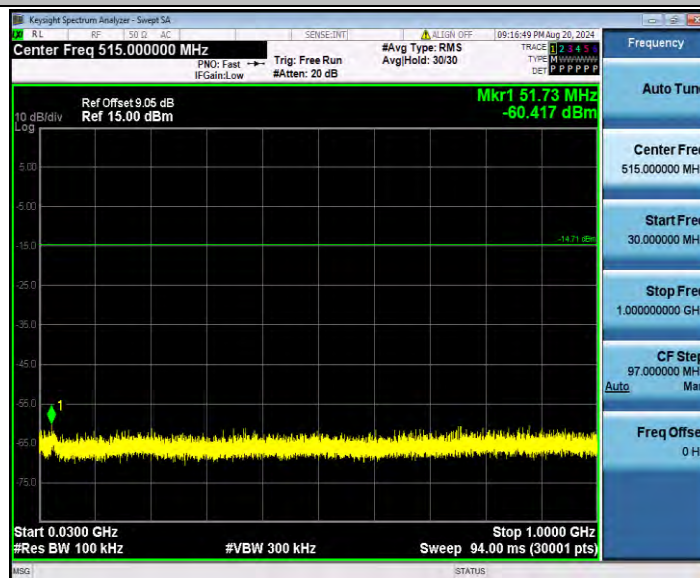




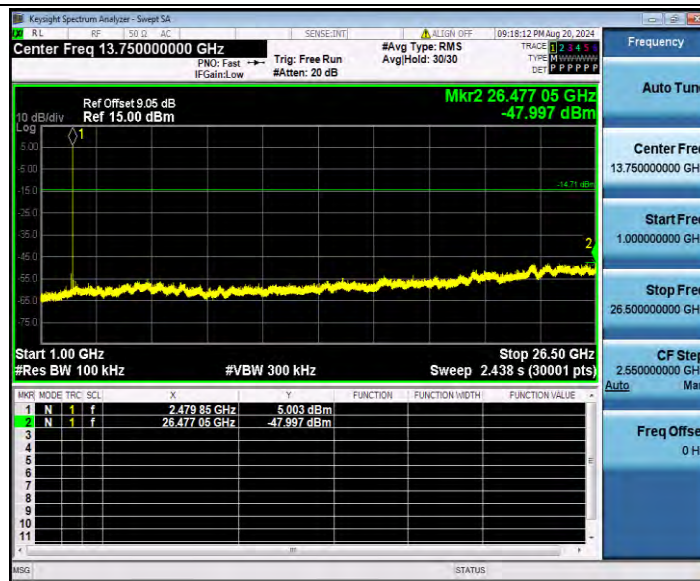
2DH1_Ant1_2480_0~Reference



2DH1_Ant1_2480_30~1000



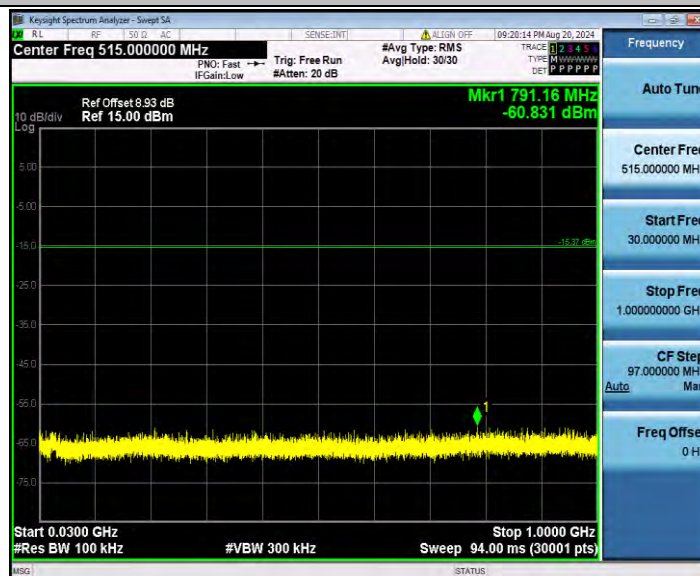
2DH1_Ant1_2480_1000~26500



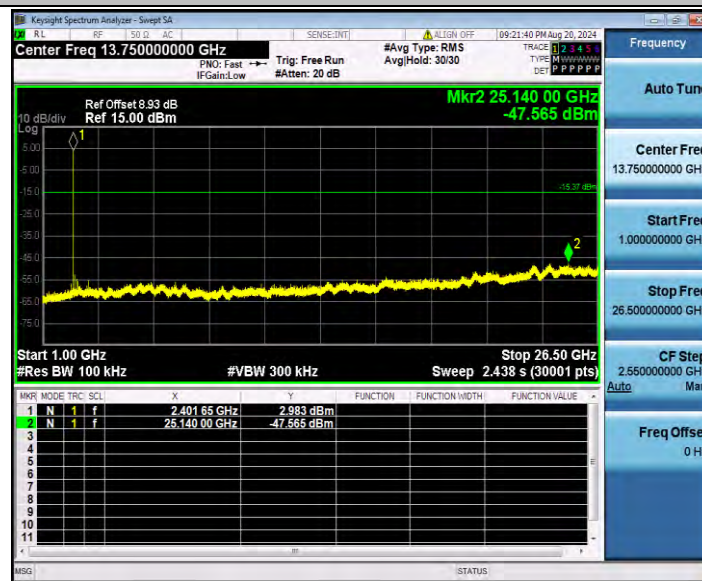
3DH1_Ant1_2402_0~Reference



3DH1_Ant1_2402_30~1000



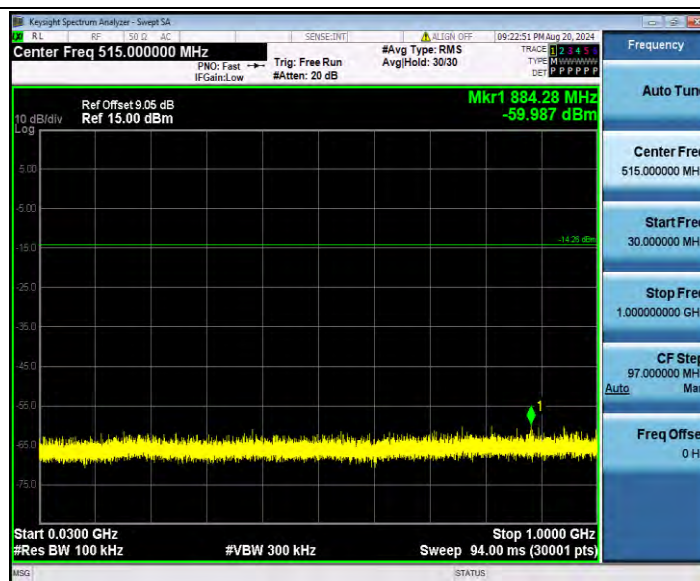
3DH1_Ant1_2402_1000~26500



3DH1_Ant1_2441_0~Reference



3DH1_Ant1_2441_30~1000



3DH1_Ant1_2441_1000~26500



3DH1_Ant1_2480_0~Reference



