

FCC Appendix RF Test Data for BT

FCC ID : 2BMBM-VV23

Company : Shenzhen Lanxiaoer Technology Co., Ltd

EUT : Bluetooth headphones

Model Number : VV23

Report No. : CTA26071402401

Reviewed By : Eric Wang

Appendix A: 20dB Emission Bandwidth

Test Result

TestMode	Antenna	Freq(MHz)	20dB EBW[MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
DH5	Ant1	2402	0.960	2401.544	2402.504	---	---
		2441	1.029	2440.475	2441.504	---	---
		2480	0.951	2479.550	2480.501	---	---
2DH5	Ant1	2402	1.329	2401.343	2402.672	---	---
		2441	1.323	2440.343	2441.666	---	---
		2480	1.317	2479.349	2480.666	---	---
3DH5	Ant1	2402	1.299	2401.361	2402.660	---	---
		2441	1.314	2440.355	2441.669	---	---
		2480	1.293	2479.358	2480.651	---	---

DH5_Ant1_2402

Agilent Spectrum Analyzer - Swept SA

Center Freq 2.402000000 GHz

Ref Offset 0.9 dB
Ref 30.00 dBm

Trig: Free Run
#Atten: 40 dB

Avg Type: RMS
AveHold: 100/100

Span 3.000 MHz
Sweep 3.200 ms (1001 pts)

#Res BW 30 kHz
#VBW 100 kHz

ΔMkr3 960 kHz
-0.204 dB

MKR	MODE	TRIG	SCL	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE
1	N	1	f	2.401544 GHz	-22.426 dBm			
2	N	1	f	2.401568 GHz	-2.397 dBm			
3	Δ	1	f (Δ)	960 kHz (Δ)	-0.204 dB			

DH5_Ant1_2441

Agilent Spectrum Analyzer - Swept SA

Center Freq 2.441000000 GHz

Ref Offset 0.9 dB
Ref 30.00 dBm

Trig: Free Run
#Atten: 40 dB

Avg Type: RMS
AveHold: 100/100

Span 3.000 MHz
Sweep 3.200 ms (1001 pts)

#Res BW 30 kHz
#VBW 100 kHz

ΔMkr3 1.029 MHz
-1.309 dB

MKR	MODE	TRIG	SCL	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE
1	N	1	f	2.440475 GHz	-23.435 dBm			
2	N	1	f	2.440997 GHz	-3.271 dBm			
3	Δ	1	f (Δ)	1.029 MHz (Δ)	-1.309 dB			



2DH5_Ant1_2402



2DH5_Ant1_2441



2DH5_Ant1_2480



3DH5_Ant1_2402



3DH5_Ant1_2441



3DH5_Ant1_2480



Appendix B: Occupied Channel Bandwidth

Test Result

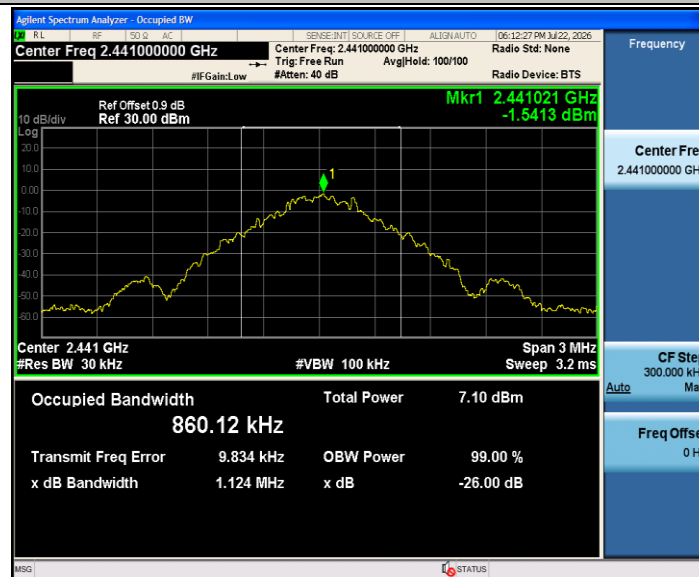
TestMode	Antenna	Freq(MHz)	OCB [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
DH5	Ant1	2402	0.85747	2401.5807	2402.4381	---	---
		2441	0.86012	2440.5798	2441.4399	---	---
		2480	0.86592	2479.5798	2480.4457	---	---
2DH5	Ant1	2402	1.1993	2401.4113	2402.6106	---	---
		2441	1.1911	2440.4144	2441.6055	---	---
		2480	1.1951	2479.4127	2480.6078	---	---
3DH5	Ant1	2402	1.1973	2401.4110	2402.6083	---	---
		2441	1.1870	2440.4157	2441.6027	---	---
		2480	1.2037	2479.4058	2480.6095	---	---

Test Graphs

DH5_Ant1_2402



DH5_Ant1_2441



DH5_Ant1_2480



2DH5_Ant1_2402



2DH5_Ant1_2441



2DH5_Ant1_2480



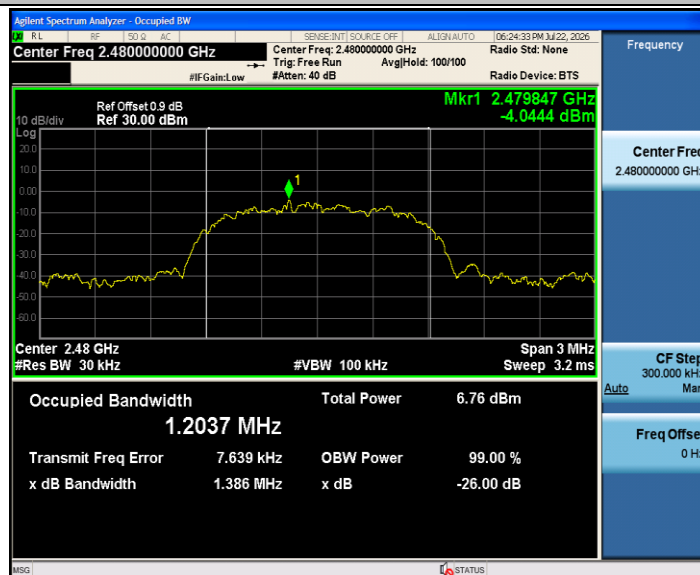
3DH5_Ant1_2402



3DH5_Ant1_2441



3DH5_Ant1_2480



Appendix C: Maximum conducted output power

Test Result Peak

Left:

Test Mode	Antenna	Freq(MHz)	Conducted Peak Power[dBm]	Conducted Limit[dBm]	Verdict
DH5	Ant1	2402	0.56	≤20.97	PASS
		2441	0.45	≤20.97	PASS
		2480	0.15	≤20.97	PASS
2DH5	Ant1	2402	3.25	≤20.97	PASS
		2441	3.07	≤20.97	PASS
		2480	2.80	≤20.97	PASS
3DH5	Ant1	2402	3.73	≤20.97	PASS
		2441	3.48	≤20.97	PASS
		2480	3.29	≤20.97	PASS

Right:

Test Mode	Antenna	Freq(MHz)	Conducted Peak Power[dBm]	Conducted Limit[dBm]	Verdict
DH5	Ant1	2402	0.42	≤20.97	PASS
		2441	0.36	≤20.97	PASS
		2480	0.28	≤20.97	PASS
2DH5	Ant1	2402	3.04	≤20.97	PASS
		2441	3.26	≤20.97	PASS
		2480	2.46	≤20.97	PASS
3DH5	Ant1	2402	3.49	≤20.97	PASS
		2441	3.12	≤20.97	PASS
		2480	3.09	≤20.97	PASS

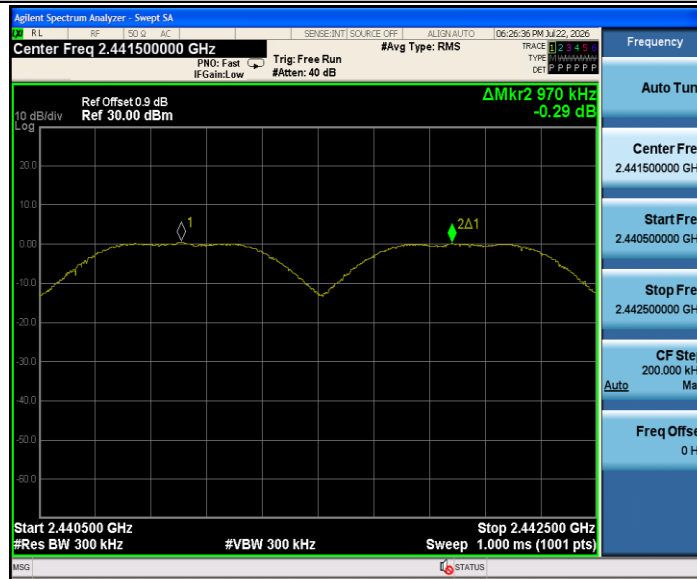
Appendix D: Carrier frequency separation

Test Result

TestMode	Antenna	Freq(MHz)	Result[MHz]	Limit[MHz]	Verdict
DH5	Ant1	Hop	0.97	≥ 0.686	PASS
2DH5	Ant1	Hop	1.008	≥ 0.886	PASS
3DH5	Ant1	Hop	1.018	≥ 0.876	PASS

Test Graphs

DH5_Ant1_Hop



2DH5_Ant1_Hop



3DH5_Ant1_Hop

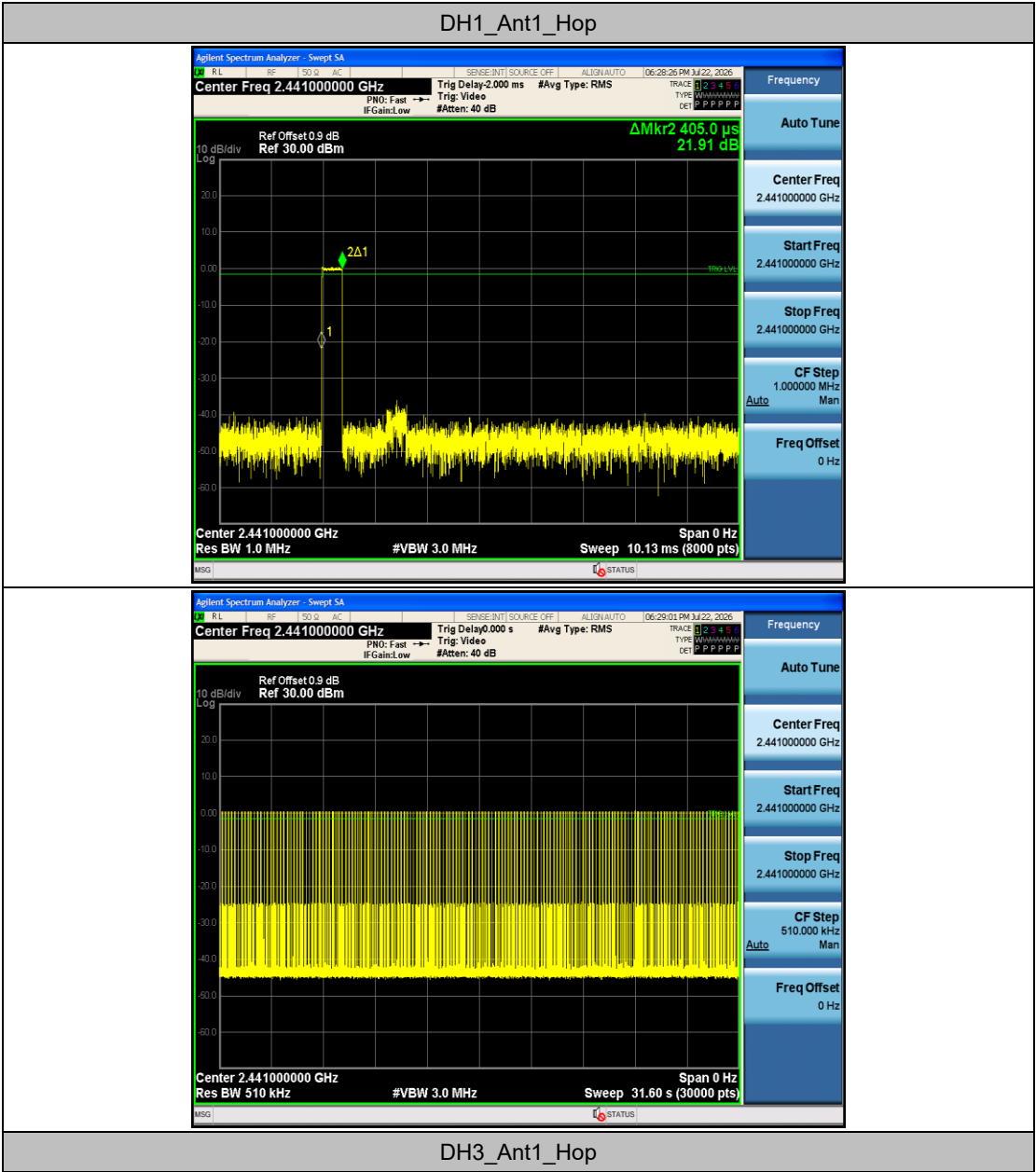


Appendix E: Time of occupancy

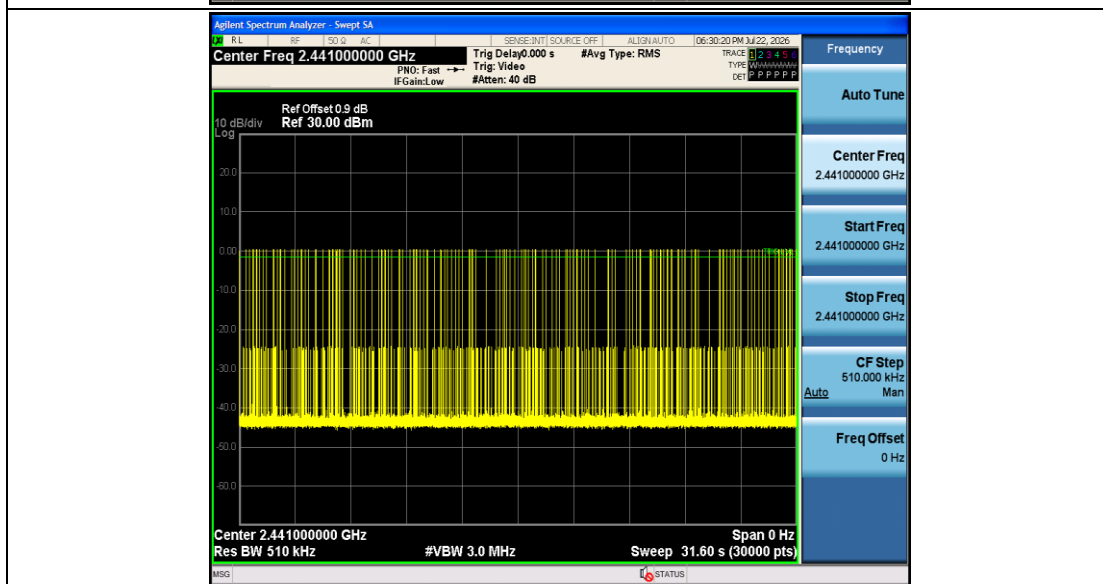
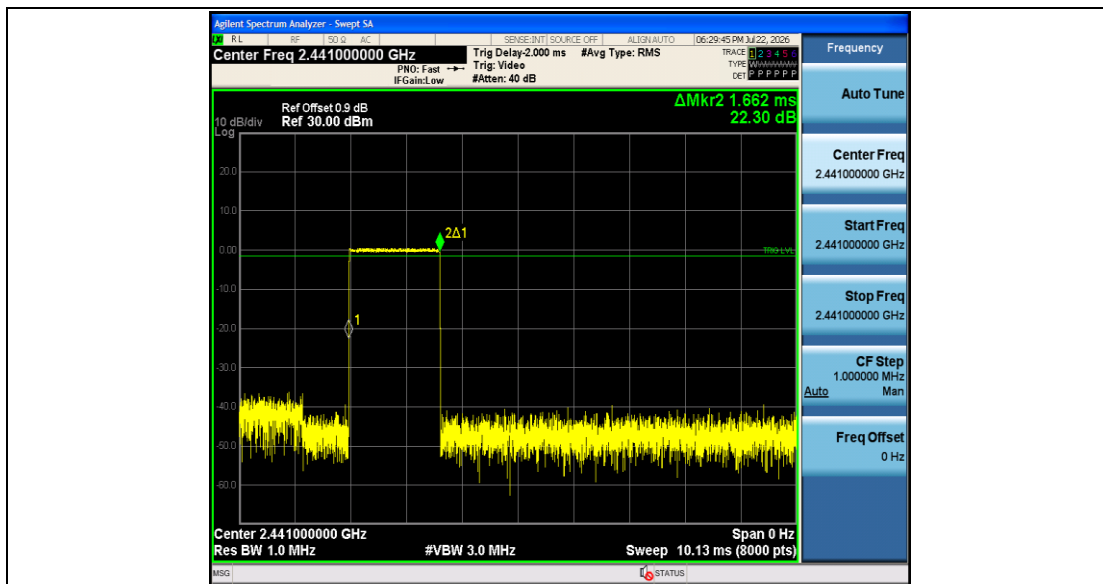
Test Result

TestMode	Antenna	Freq(MHz)	BurstWidth [ms]	TotalHops [Num]	Result[s]	Limit[s]	Verdict
DH1	Ant1	Hop	0.405	318	0.129	≤0.4	PASS
DH3	Ant1	Hop	1.662	162	0.269	≤0.4	PASS
DH5	Ant1	Hop	2.911	98	0.285	≤0.4	PASS
2DH1	Ant1	Hop	0.415	315	0.131	≤0.4	PASS
2DH3	Ant1	Hop	1.667	161	0.268	≤0.4	PASS
2DH5	Ant1	Hop	2.915	119	0.347	≤0.4	PASS
3DH1	Ant1	Hop	0.414	318	0.132	≤0.4	PASS
3DH3	Ant1	Hop	1.666	159	0.265	≤0.4	PASS
3DH5	Ant1	Hop	2.916	106	0.309	≤0.4	PASS

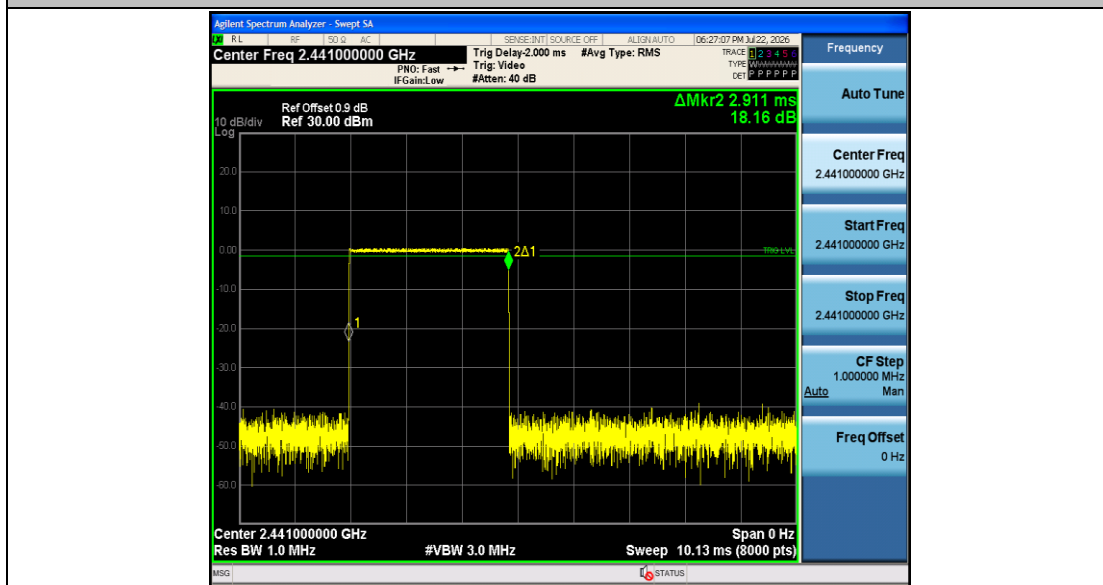
Test Graphs

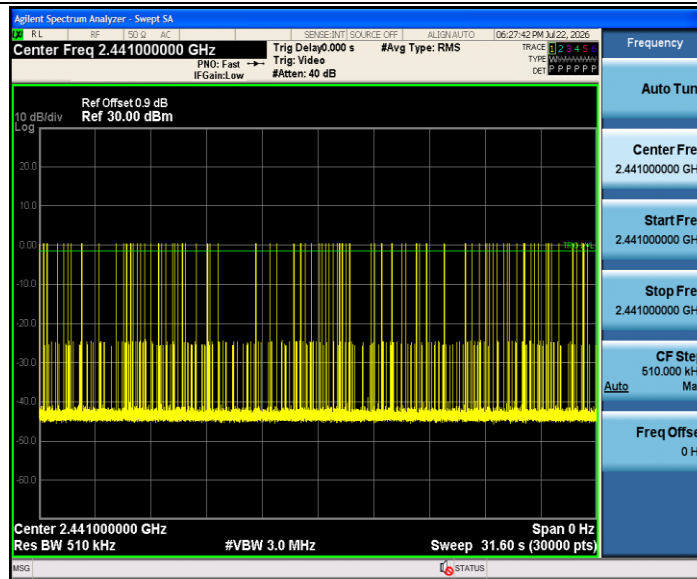


DH3_Ant1_Hop

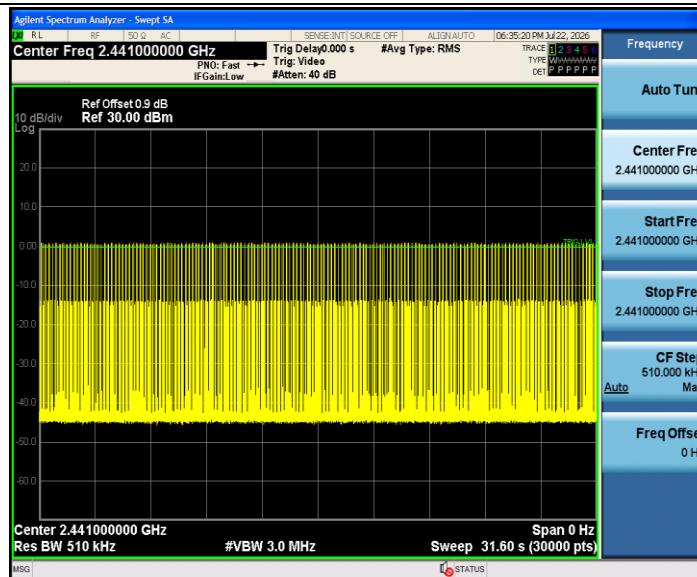
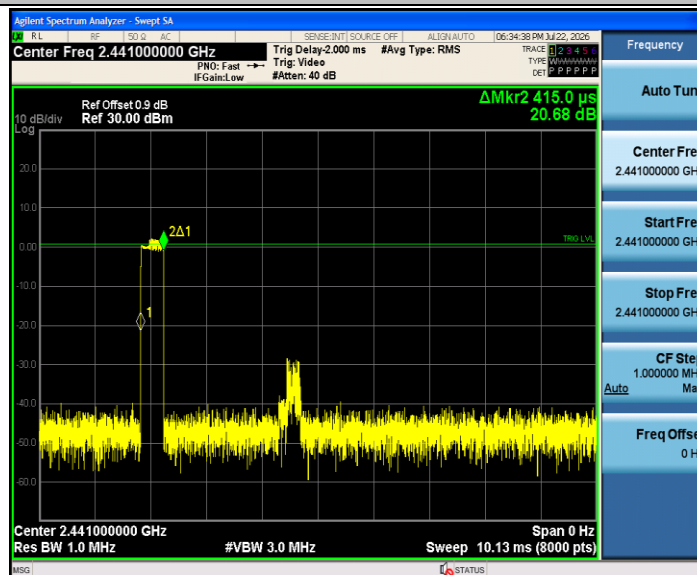


DH5_Ant1_Hop

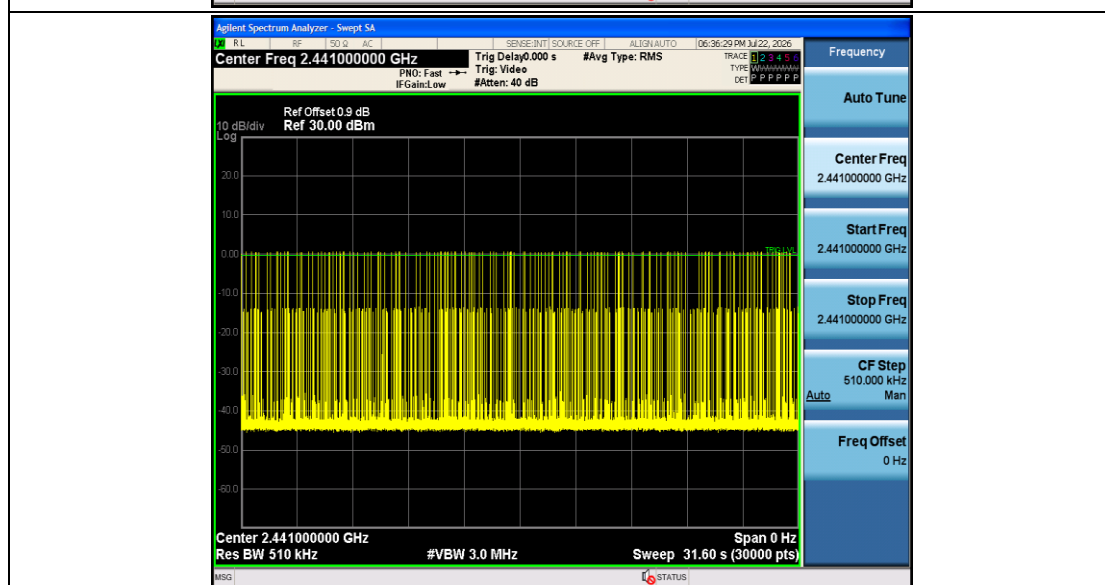
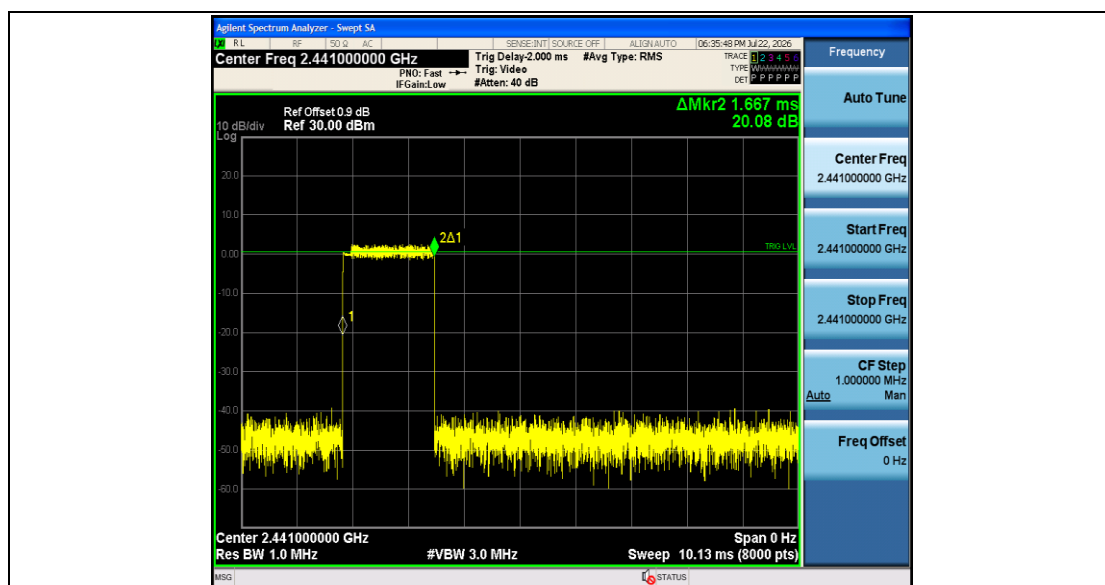




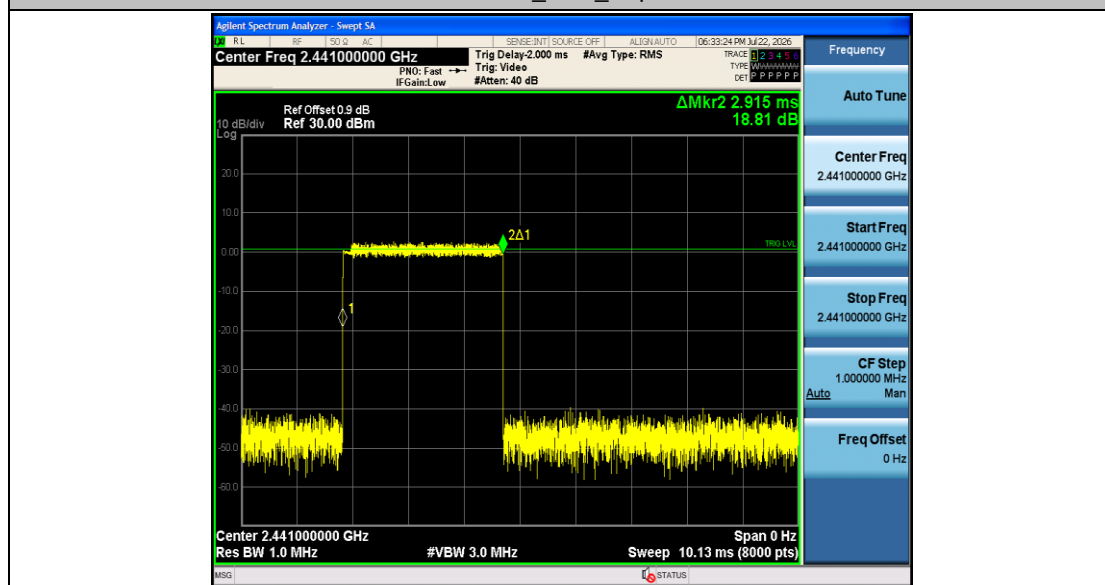
2DH1_Ant1_Hop

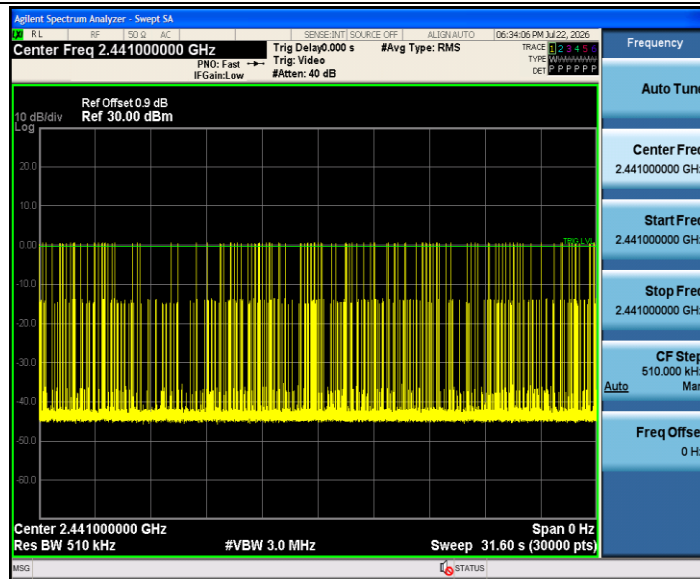


2DH3_Ant1_Hop

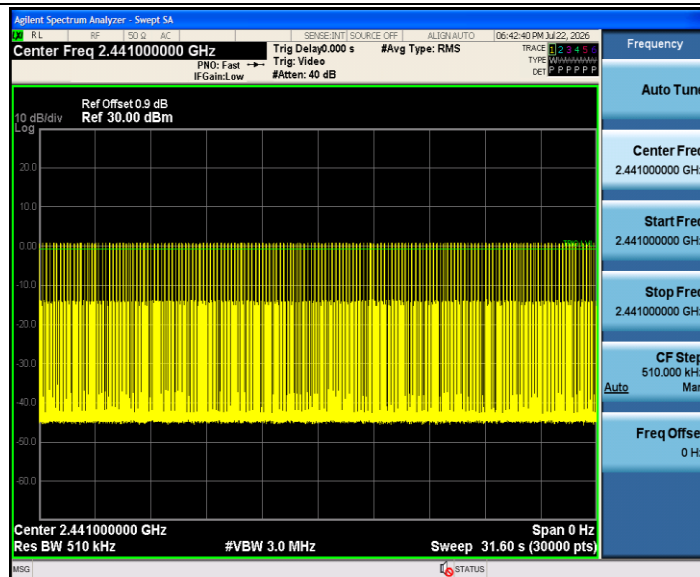
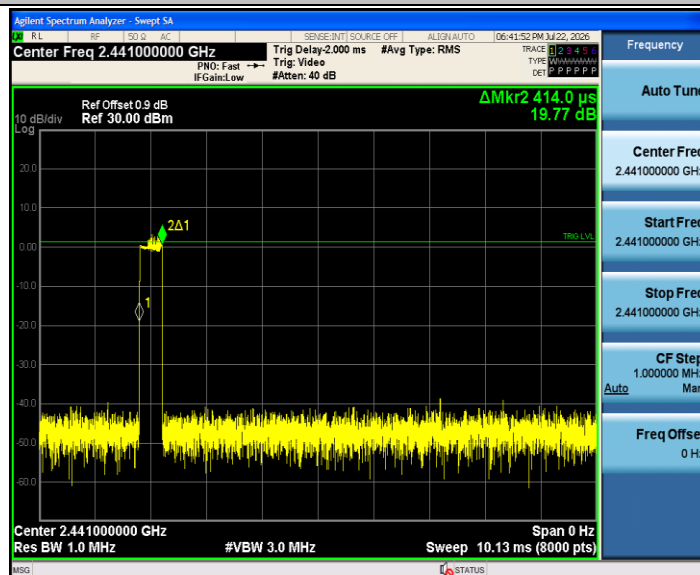


2DH5_Ant1_Hop

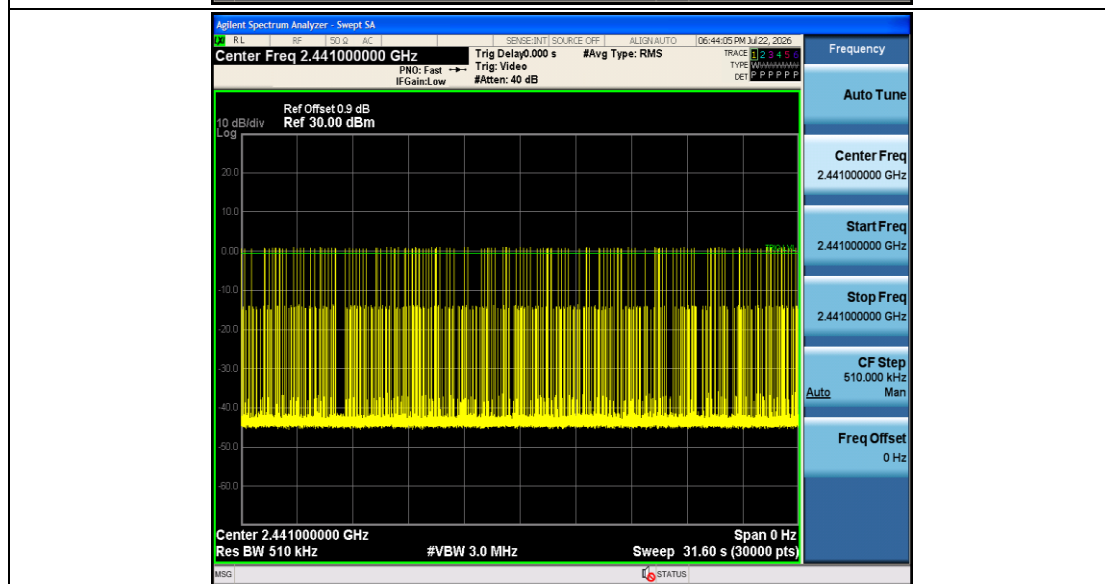
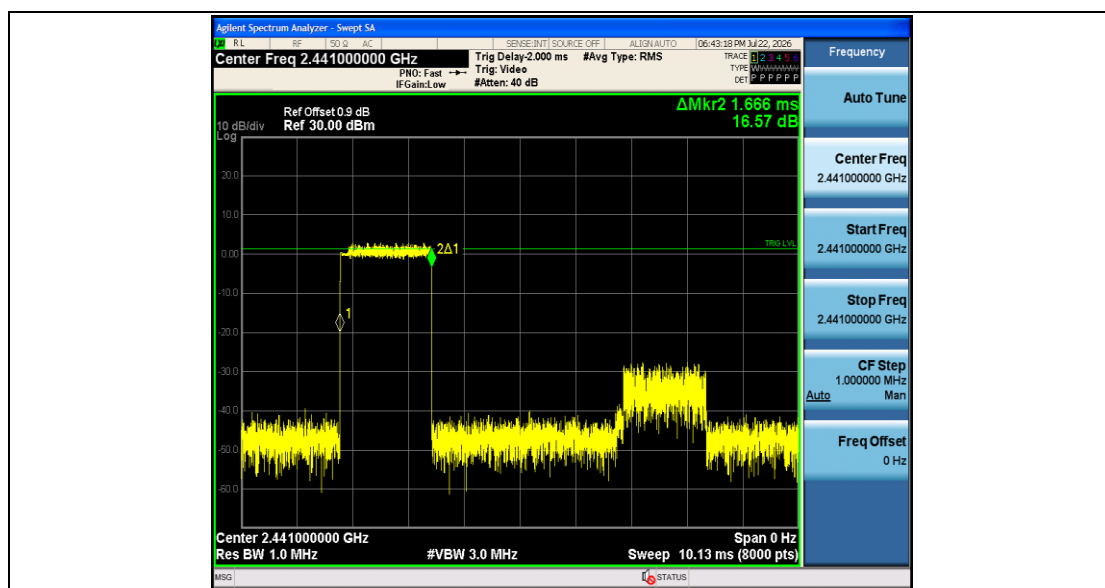




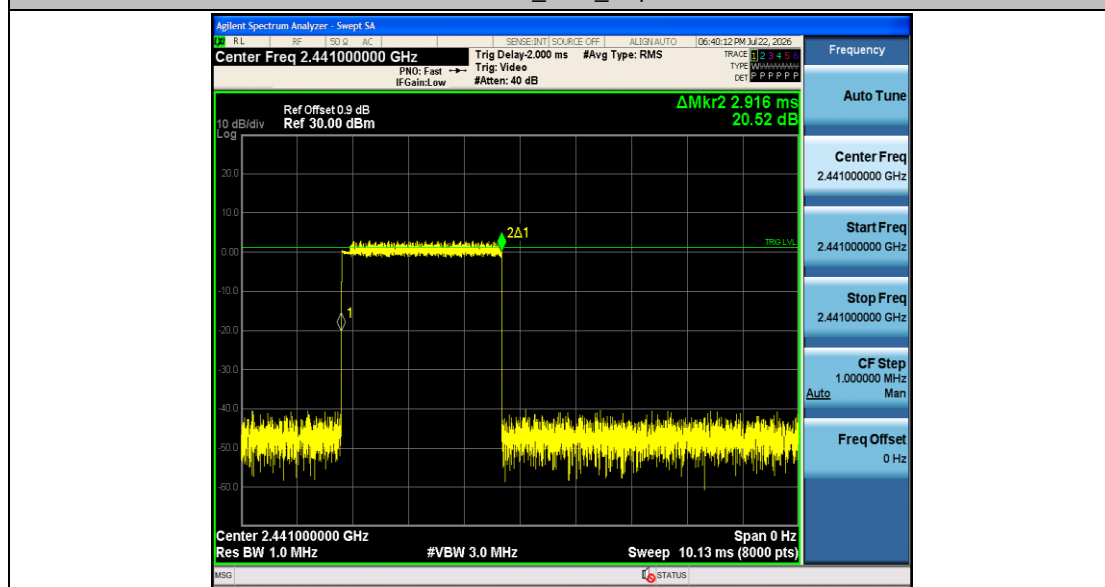
3DH1_Ant1_Hop

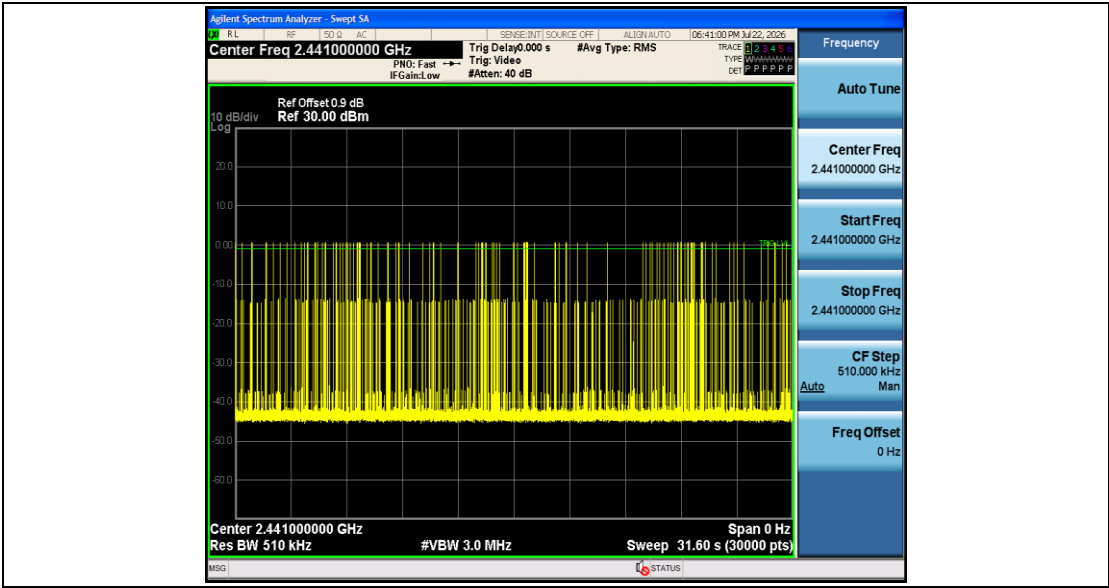


3DH3_Ant1_Hop



3DH5_Ant1_Hop



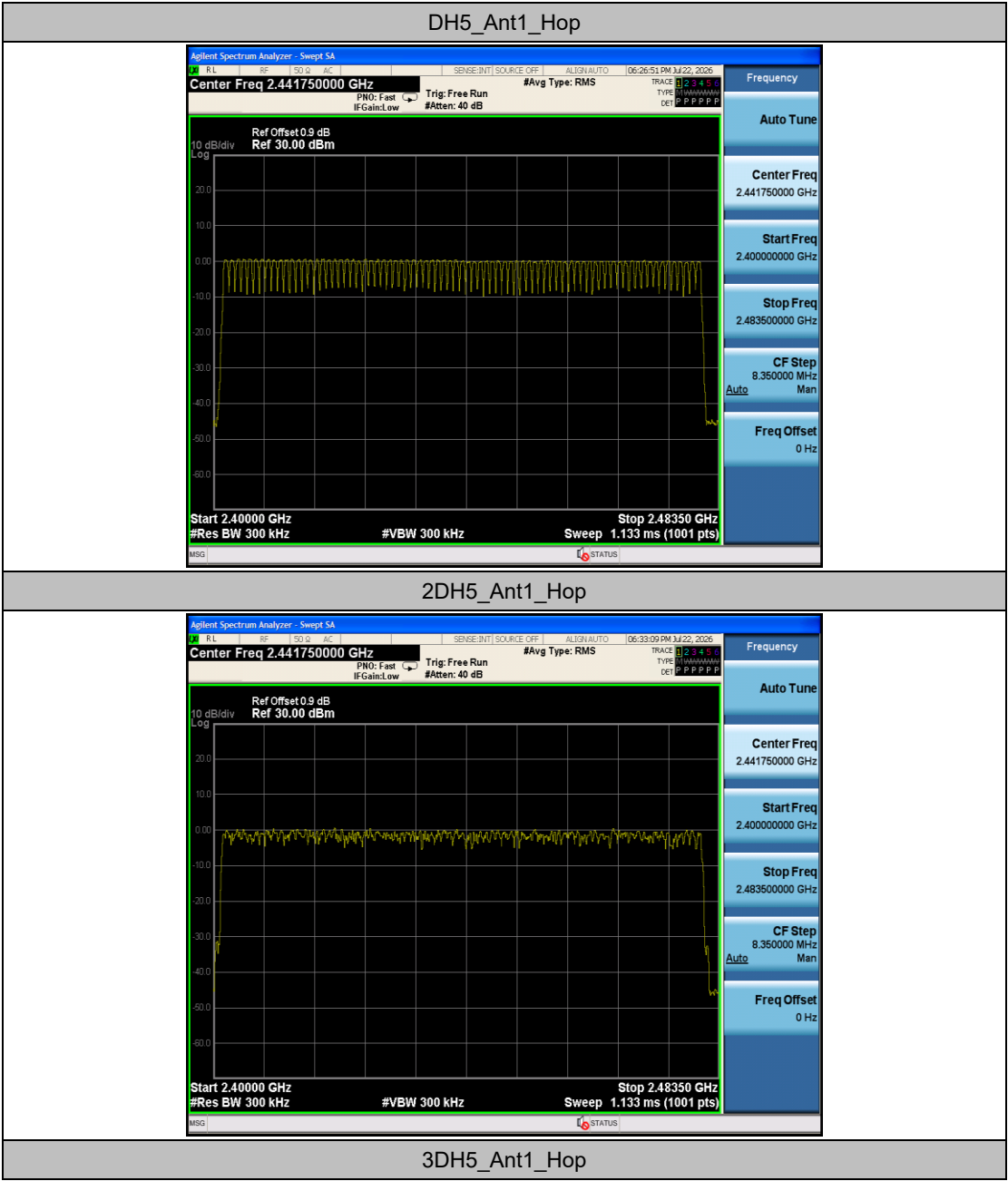


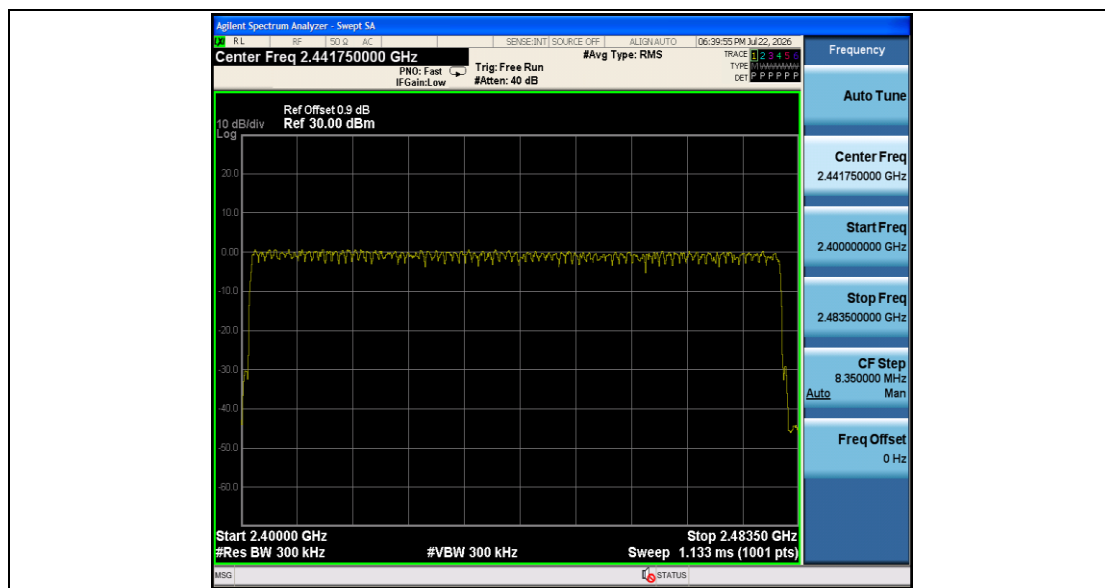
Appendix F: Number of hopping channels

Test Result

TestMode	Antenna	Freq(MHz)	Result[Num]	Limit[Num]	Verdict
DH5	Ant1	Hop	79	≥15	PASS
2DH5	Ant1	Hop	79	≥15	PASS
3DH5	Ant1	Hop	79	≥15	PASS

Test Graphs



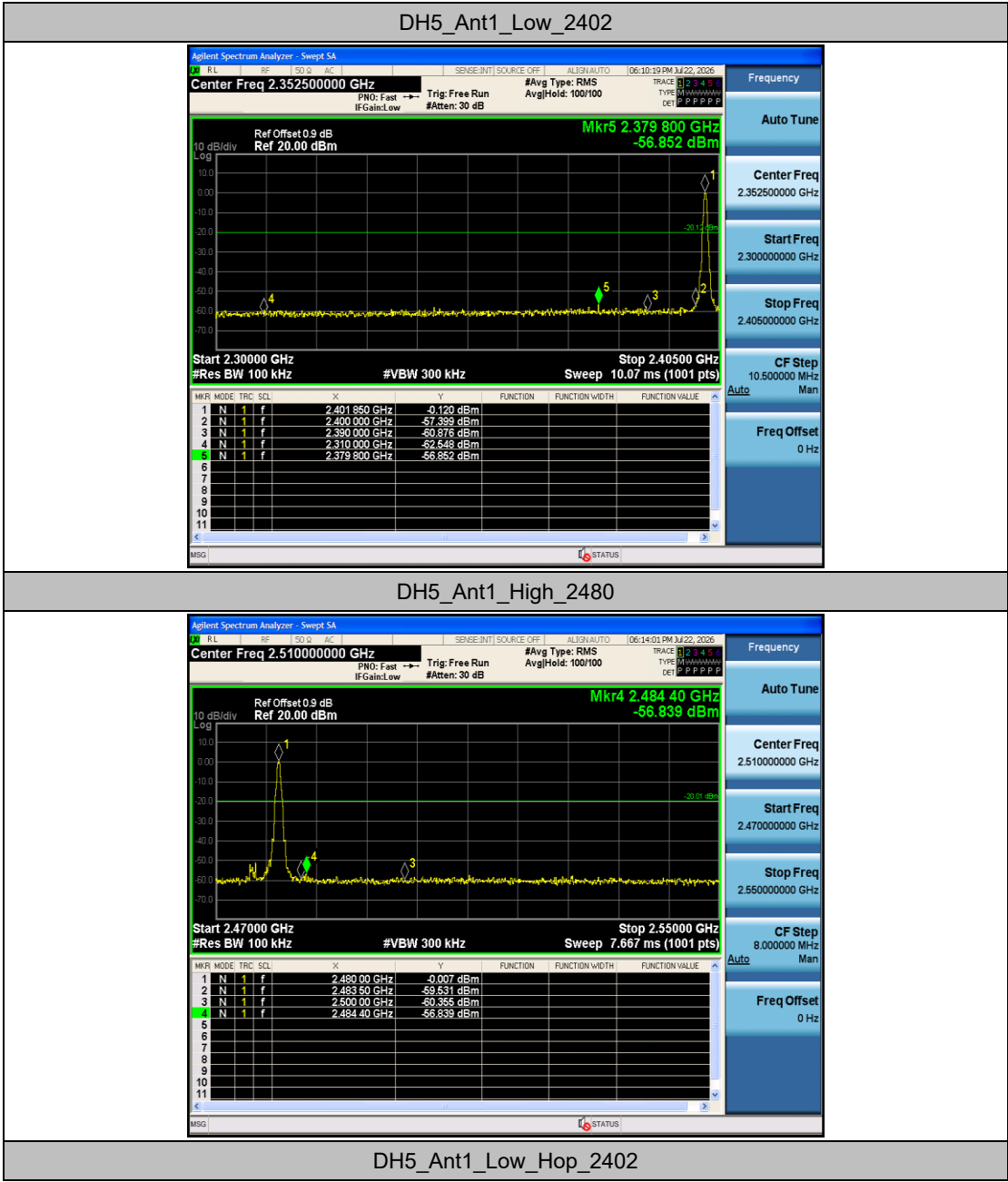


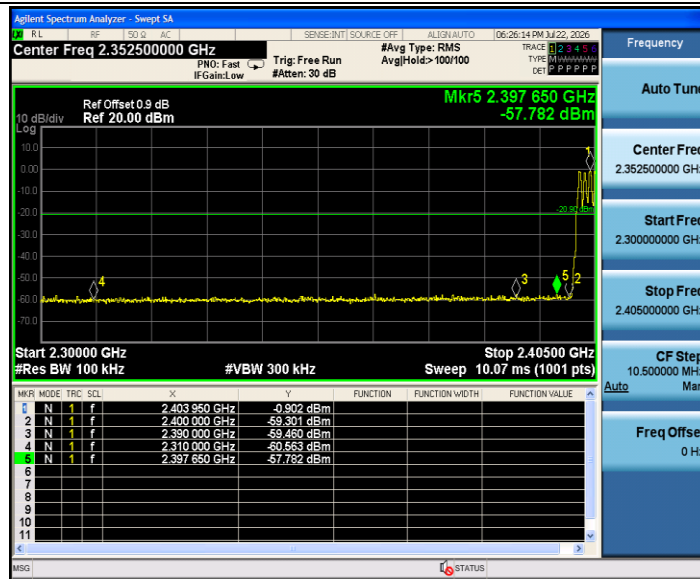
Appendix G: Band edge measurements

Test Result

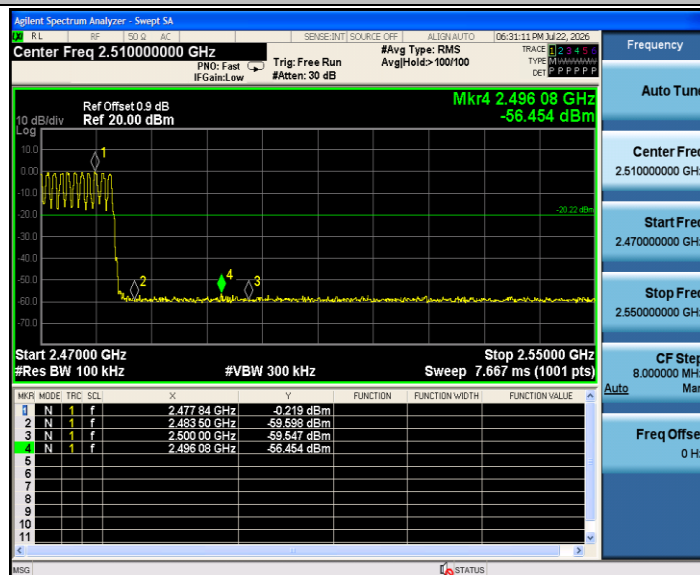
TestMode	Antenna	ChName	Freq(MHz)	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
DH5	Ant1	Low	2402	-0.12	-56.85	≤ -20.12	PASS
		High	2480	-0.01	-56.84	≤ -20.01	PASS
		Low	Hop_2402	-0.90	-57.78	≤ -20.9	PASS
		High	Hop_2480	-0.22	-56.45	≤ -20.22	PASS
2DH5	Ant1	Low	2402	-0.56	-50.28	≤ -20.56	PASS
		High	2480	-0.40	-53.12	≤ -20.4	PASS
		Low	Hop_2402	-2.70	-51.04	≤ -22.7	PASS
		High	Hop_2480	-2.41	-57.38	≤ -22.41	PASS
3DH5	Ant1	Low	2402	0.10	-49.85	≤ -19.91	PASS
		High	2480	0.26	-55.51	≤ -19.74	PASS
		Low	Hop_2402	-0.47	-50.04	≤ -20.47	PASS
		High	Hop_2480	-2.38	-58.19	≤ -22.38	PASS

Test Graphs

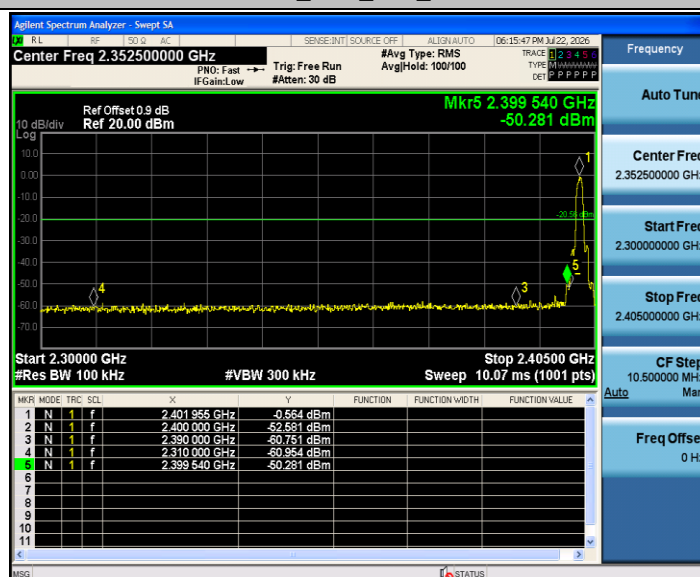




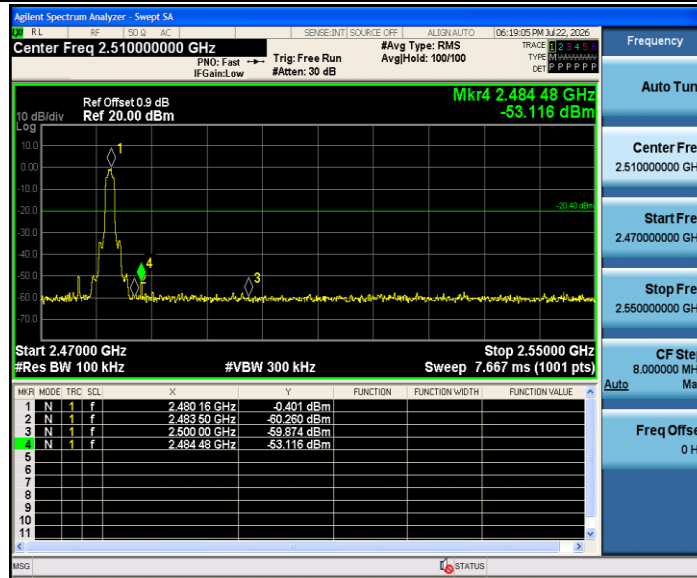
DH5_Ant1_High_Hop_2480



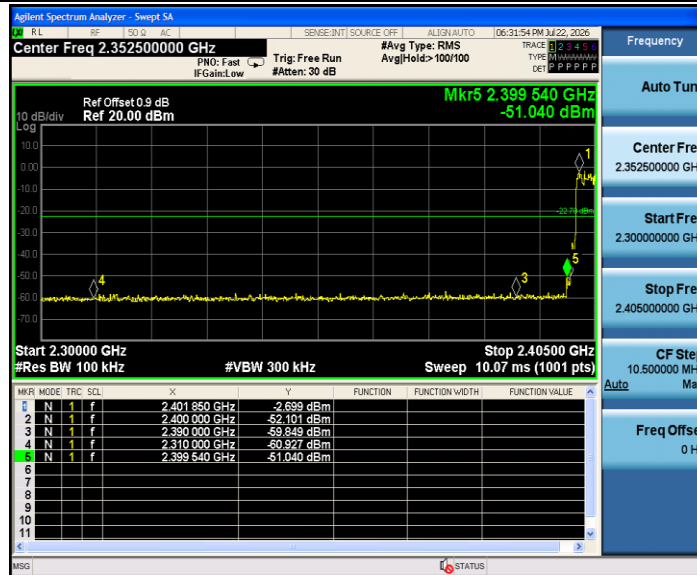
2DH5_Ant1_Low_2402



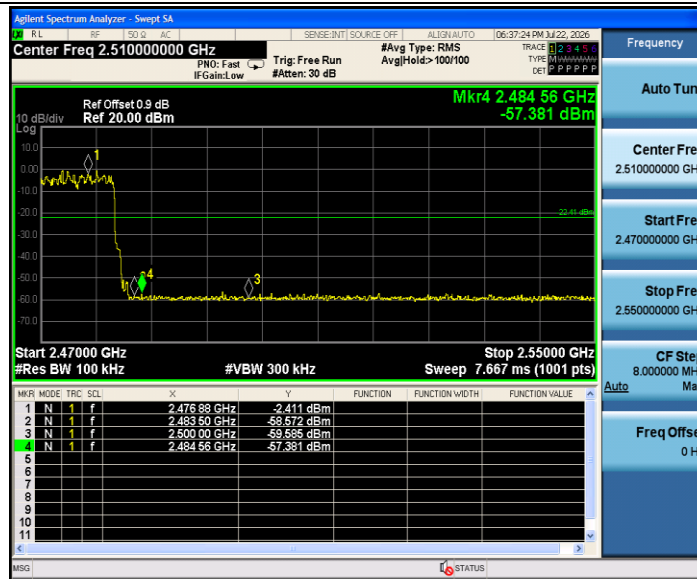
2DH5_Ant1_High_2480



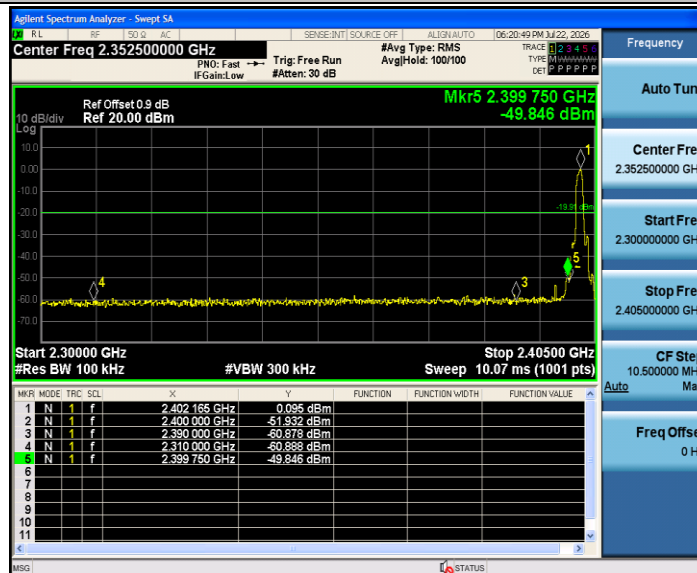
2DH5_Ant1_Low_Hop_2402



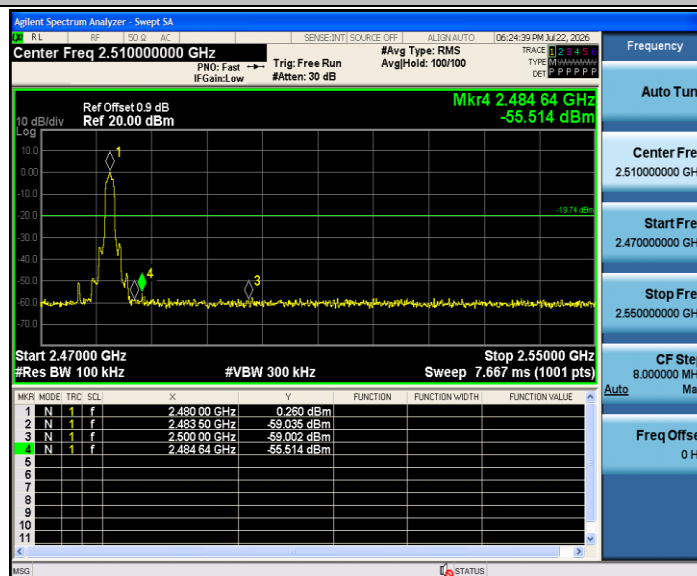
2DH5_Ant1_High_Hop_2480



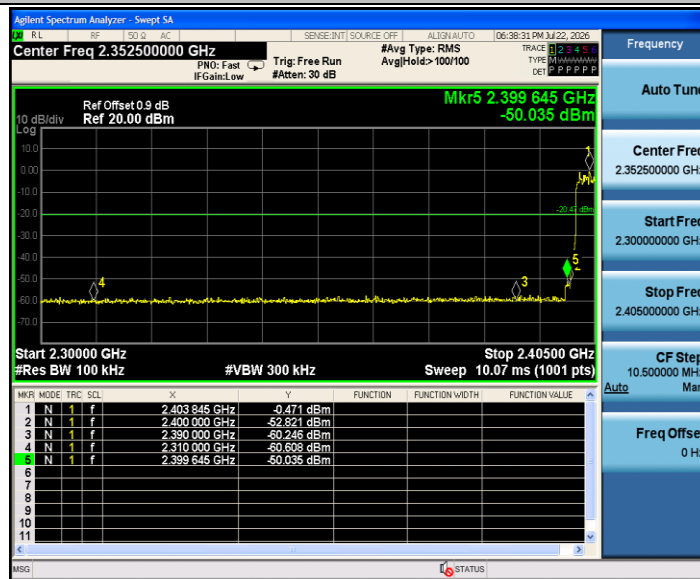
3DH5_Ant1_Low_2402



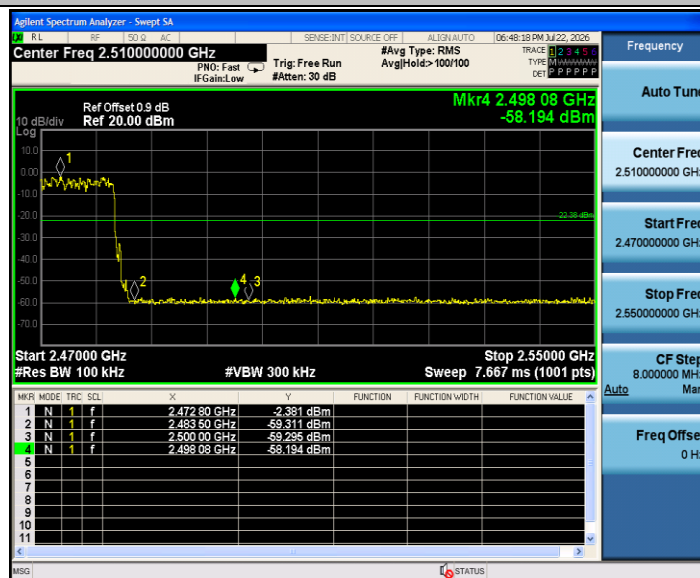
3DH5_Ant1_High_2480



3DH5_Ant1_Low_Hop_2402



3DH5_Ant1_High_Hop_2480

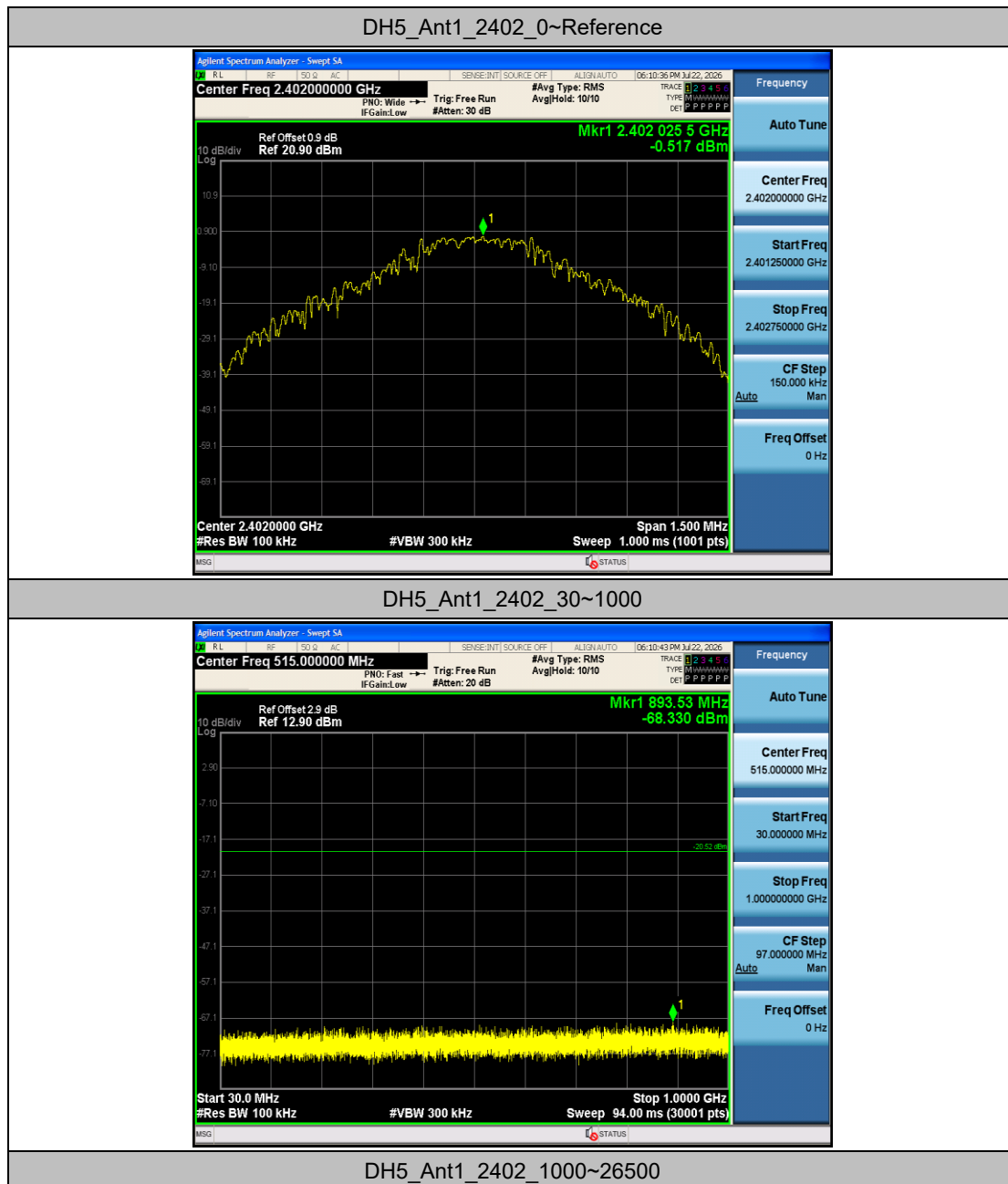


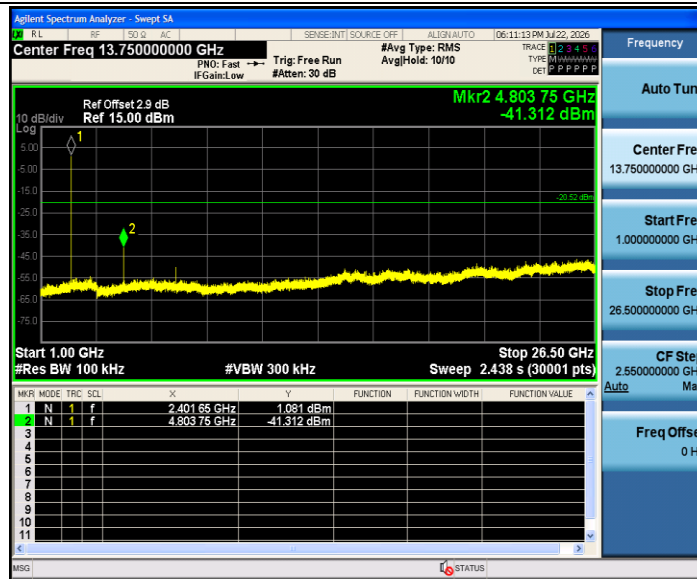
Appendix H: Conducted Spurious Emission

Test Result

TestMode	Antenna	Freq(MHz)	FreqRange [MHz]	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
DH5	Ant1	2402	Reference	-0.52	-0.52	---	PASS
			30~1000	-0.52	-68.33	≤-20.52	PASS
			1000~26500	-0.52	-41.31	≤-20.52	PASS
		2441	Reference	-0.52	-0.52	---	PASS
			30~1000	-0.52	-67.94	≤-20.52	PASS
			1000~26500	-0.52	-41.81	≤-20.52	PASS
		2480	Reference	-0.77	-0.77	---	PASS
			30~1000	-0.77	-68.21	≤-20.77	PASS
			1000~26500	-0.77	-39.29	≤-20.77	PASS
2DH5	Ant1	2402	Reference	-2.82	-2.82	---	PASS
			30~1000	-2.82	-67.63	≤-22.82	PASS
			1000~26500	-2.82	-39.94	≤-22.82	PASS
		2441	Reference	-0.77	-0.77	---	PASS
			30~1000	-0.77	-68.39	≤-20.77	PASS
			1000~26500	-0.77	-43.04	≤-20.77	PASS
		2480	Reference	-3.08	-3.08	---	PASS
			30~1000	-3.08	-67.96	≤-23.08	PASS
			1000~26500	-3.08	-43.18	≤-23.08	PASS
3DH5	Ant1	2402	Reference	0.31	0.31	---	PASS
			30~1000	0.31	-67.67	≤-19.69	PASS
			1000~26500	0.31	-41.77	≤-19.69	PASS
		2441	Reference	-1.39	-1.39	---	PASS
			30~1000	-1.39	-68.39	≤-21.39	PASS
			1000~26500	-1.39	-39.04	≤-21.39	PASS
		2480	Reference	-2.00	-2.00	---	PASS
			30~1000	-2.00	-68.07	≤-22	PASS
			1000~26500	-2.00	-42.51	≤-22	PASS

Test Graphs

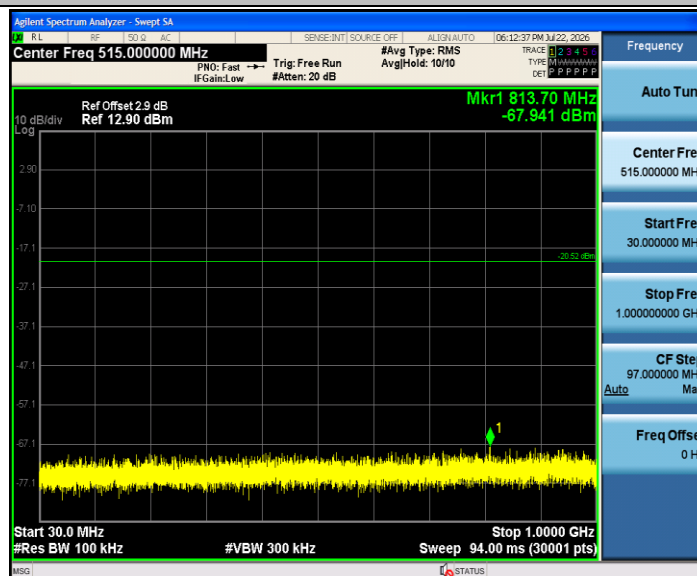




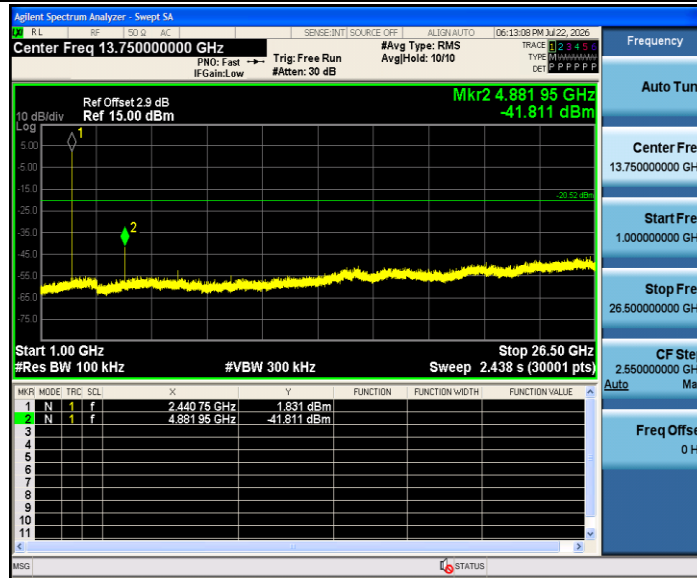
DH5_Ant1_2441_0~Reference



DH5_Ant1_2441_30~1000



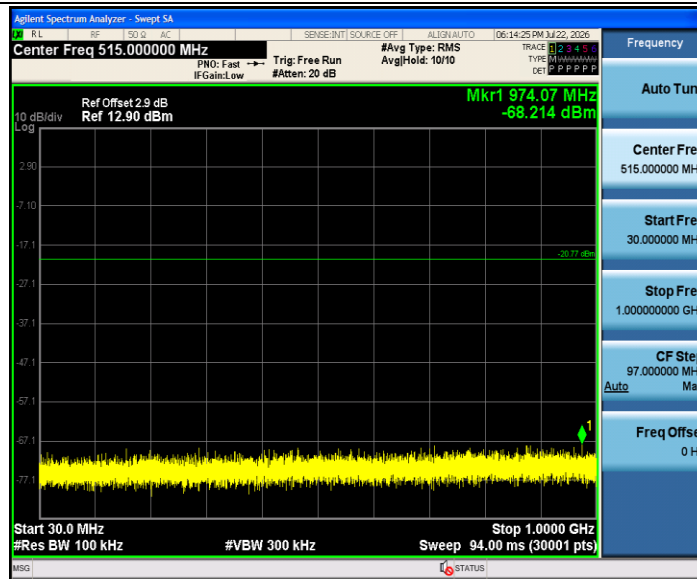
DH5_Ant1_2441_1000~26500



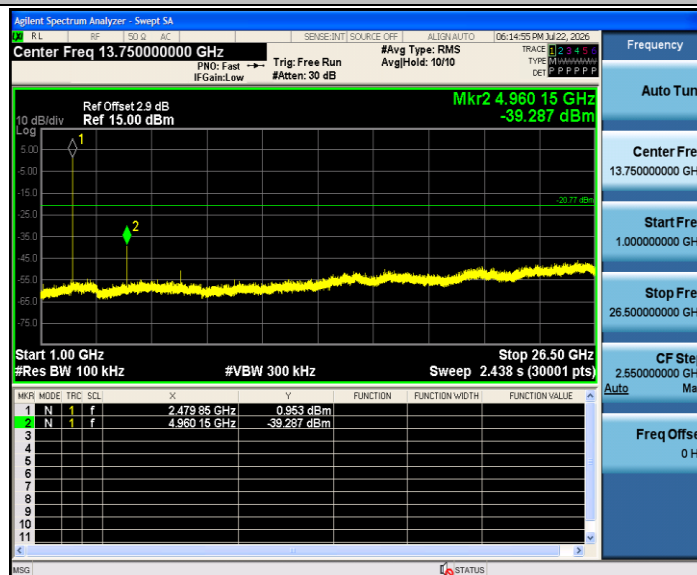
DH5_Ant1_2480_0~Reference



DH5_Ant1_2480_30~1000



DH5_Ant1_2480_1000~26500



2DH5_Ant1_2402_0~Reference

