

FCC Appendix RF Test Data for BT

FCC ID : 2AOMX-BT-1952

Company : QFX Inc.

EUT : Bluetooth speaker

Model Number : BT-1952

Report No. : CTA26052200701

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	0.948	2401.535	2402.483	---	---
		2441	0.951	2440.532	2441.483	---	---
		2480	0.939	2479.535	2480.474	---	---
2DH5	Ant1	2402	1.326	2401.328	2402.654	---	---
		2441	1.335	2440.325	2441.660	---	---
		2480	1.347	2479.319	2480.666	---	---
3DH5	Ant1	2402	1.341	2401.322	2402.663	---	---
		2441	1.308	2440.343	2441.651	---	---
		2480	1.299	2479.346	2480.645	---	---

Agilent Spectrum Analyzer - Sweep SA

Center Freq 2.402000000 GHz
#Res BW 30 kHz
Ref Offset 0.3 dB
Ref 30.00 dBm

Trig: Free Run
#Atten: 40 dB

#Avg Type: RMS
Avg/Hold: 100/100

Frequency

Auto Tune

Center Freq 2.402000000 GHz

Start Freq 2.400500000 GHz

Stop Freq 2.403500000 GHz

CF Step 300.000 kHz

Freq Offset 0 Hz

Span 3.000 MHz
Sweep 3.200 ms (1001 pts)

MNR	MODE	TRIG	SCL	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE
1	N	1	f	2.401535 GHz	-26.096 dBm			
2	N	1	f	2.401967 GHz	-5.754 dBm			
3	A1	1	f (Δ)	948 kHz (Δ)	-0.688 dB			

Agilent Spectrum Analyzer - Sweep SA

Center Freq 2.441000000 GHz
#Res BW 30 kHz
Ref Offset 0.3 dB
Ref 30.00 dBm

Trig: Free Run
#Atten: 40 dB

#Avg Type: RMS
Avg/Hold: 100/100

Frequency

Auto Tune

Center Freq 2.441000000 GHz

Start Freq 2.439500000 GHz

Stop Freq 2.442500000 GHz

CF Step 300.000 kHz

Freq Offset 0 Hz

Span 3.000 MHz
Sweep 3.200 ms (1001 pts)

MNR	MODE	TRIG	SCL	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE
1	N	1	f	2.440532 GHz	-26.631 dBm			
2	N	1	f	2.441006 GHz	-5.820 dBm			
3	A1	1	f (Δ)	951 kHz (Δ)	-0.051 dB			

DH5_Ant1_2480



2DH5_Ant1_2402



2DH5_Ant1_2441



2DH5_Ant1_2480



3DH5_Ant1_2402



3DH5_Ant1_2441



3DH5_Ant1_2480

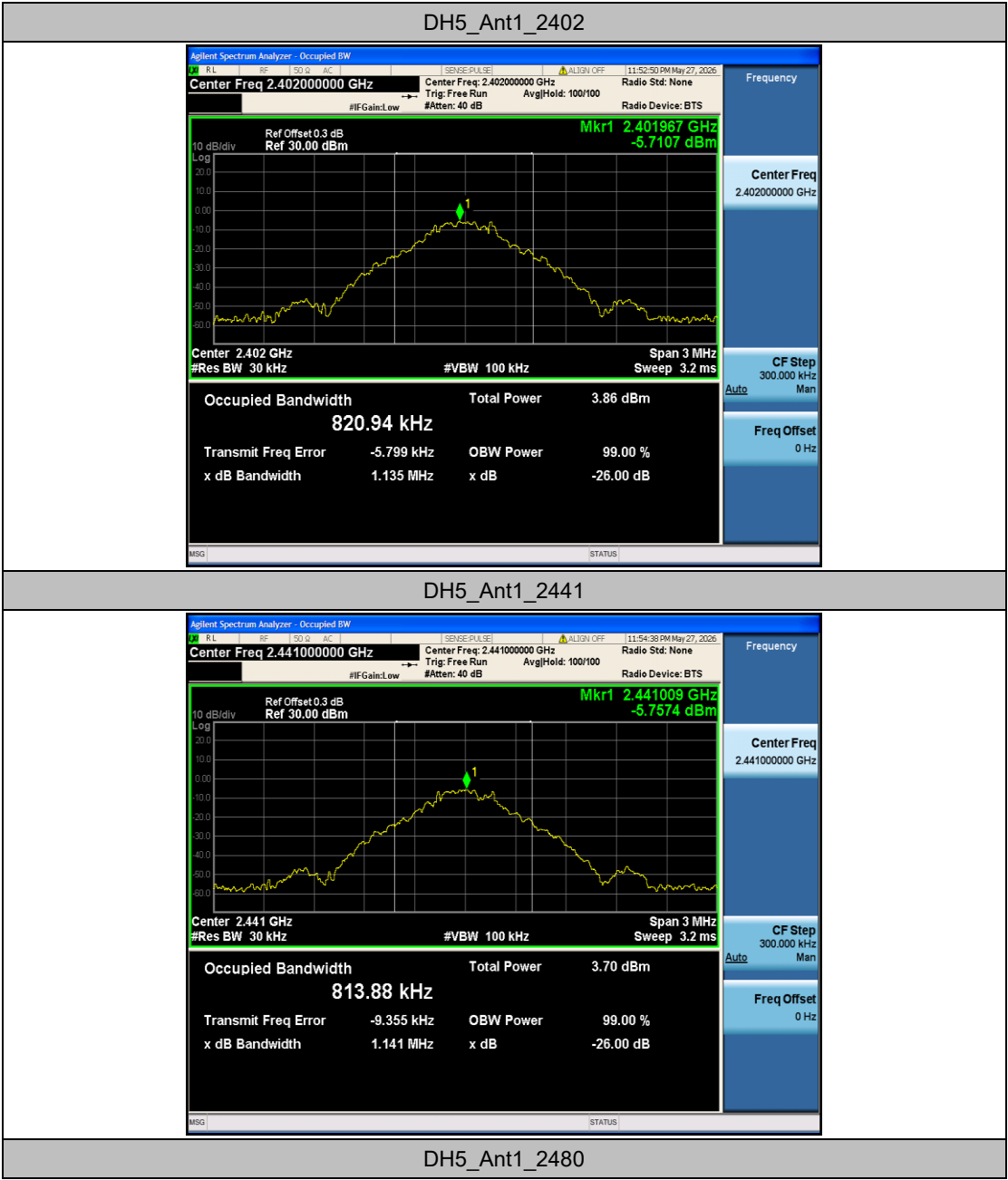


Appendix B: Occupied Channel Bandwidth

Test Result

TestMode	Antenna	Freq(MHz)	OCB [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
DH5	Ant1	2402	0.82094	2401.5837	2402.4047	---	---
		2441	0.81388	2440.5837	2441.3976	---	---
		2480	0.82041	2479.5791	2480.3995	---	---
2DH5	Ant1	2402	1.1866	2401.4016	2402.5882	---	---
		2441	1.1777	2440.4050	2441.5827	---	---
		2480	1.1813	2479.4029	2480.5842	---	---
3DH5	Ant1	2402	1.1865	2401.4024	2402.5889	---	---
		2441	1.1731	2440.4119	2441.5850	---	---
		2480	1.1792	2479.4041	2480.5833	---	---

Test Graphs



DH5_Ant1_2480



2DH5_Ant1_2402



2DH5_Ant1_2441



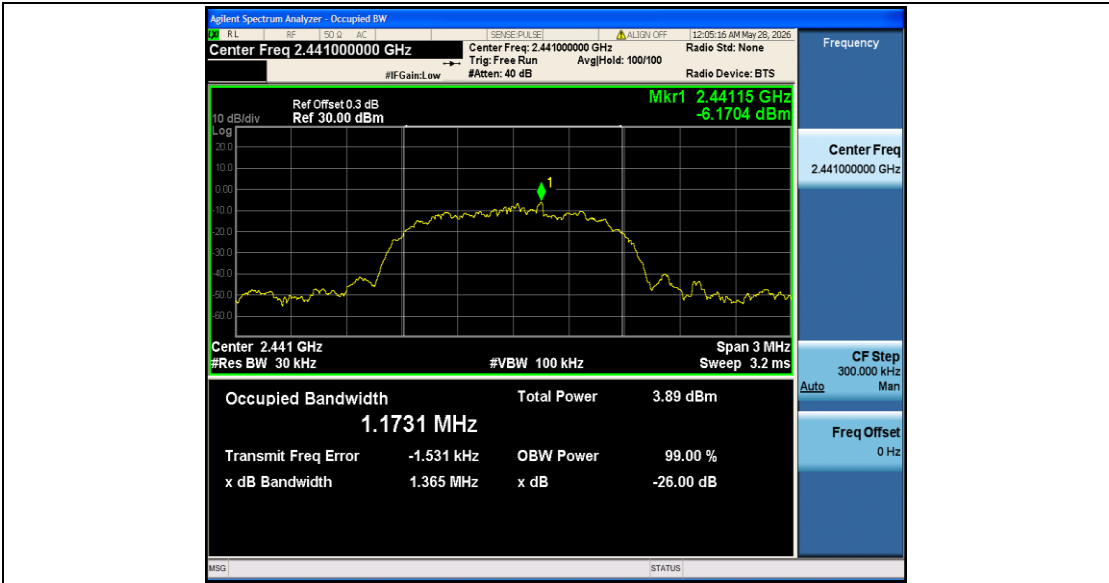
2DH5_Ant1_2480



3DH5_Ant1_2402



3DH5_Ant1_2441



3DH5_Ant1_2480



Appendix C: Maximum conducted output power

Test Result

Test Mode	Antenna	Freq(MHz)	Conducted Peak Power[dBm]	Conducted Limit[dBm]	Verdict
DH5	Ant1	2402	-3.09	≤20.97	PASS
		2441	-3.19	≤20.97	PASS
		2480	-3.80	≤20.97	PASS
2DH5	Ant1	2402	-0.44	≤20.97	PASS
		2441	-0.62	≤20.97	PASS
		2480	-1.31	≤20.97	PASS
3DH5	Ant1	2402	0.12	≤20.97	PASS
		2441	-0.08	≤20.97	PASS
		2480	-0.83	≤20.97	PASS

Appendix D: Carrier frequency separation

Test Result

TestMode	Antenna	Freq(MHz)	Result[MHz]	Limit[MHz]	Verdict
DH5	Ant1	Hop	0.692	≥ 0.634	PASS
2DH5	Ant1	Hop	1.316	≥ 0.898	PASS
3DH5	Ant1	Hop	1.124	≥ 0.894	PASS

Test Graphs



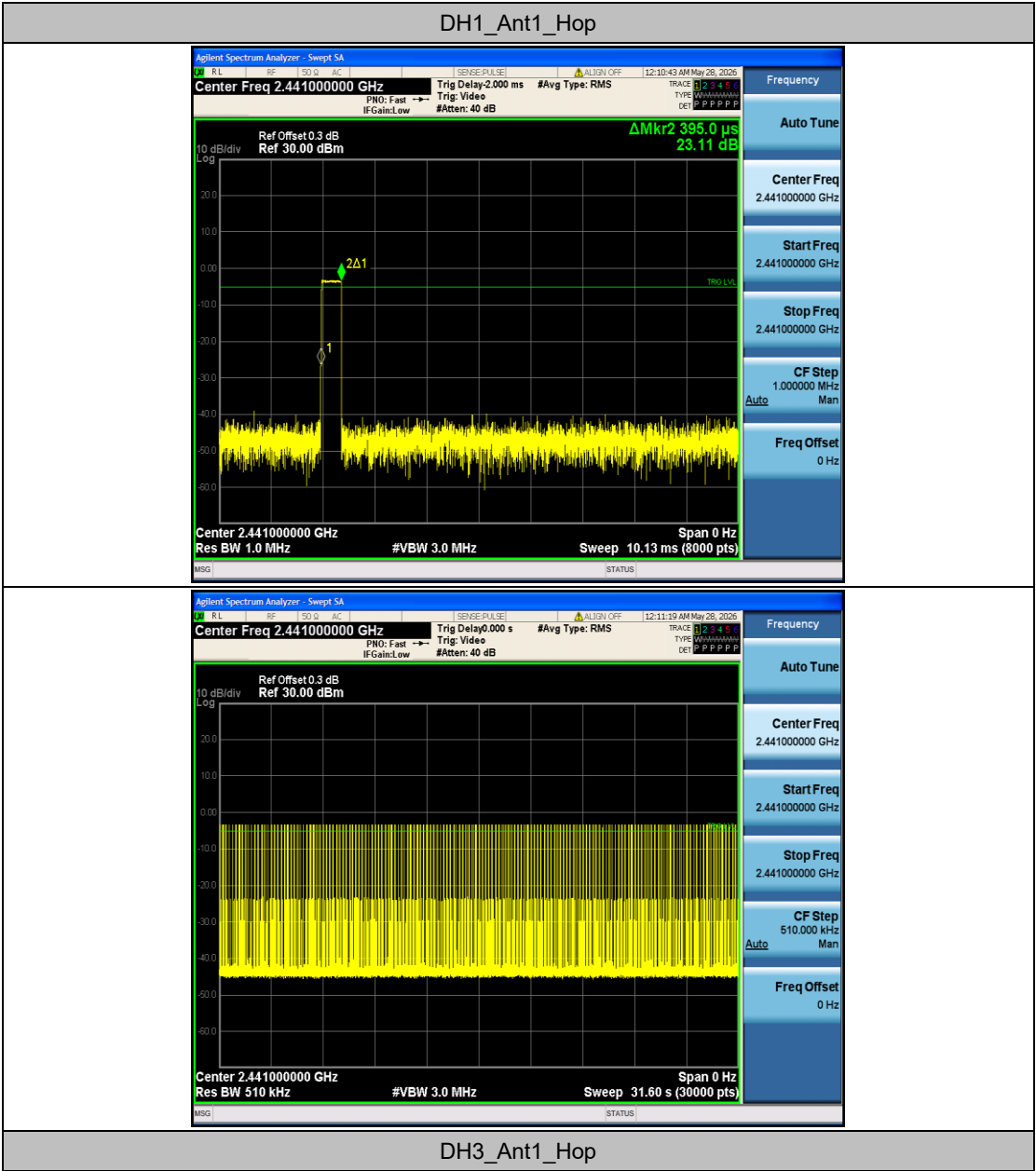


Appendix E: Time of occupancy

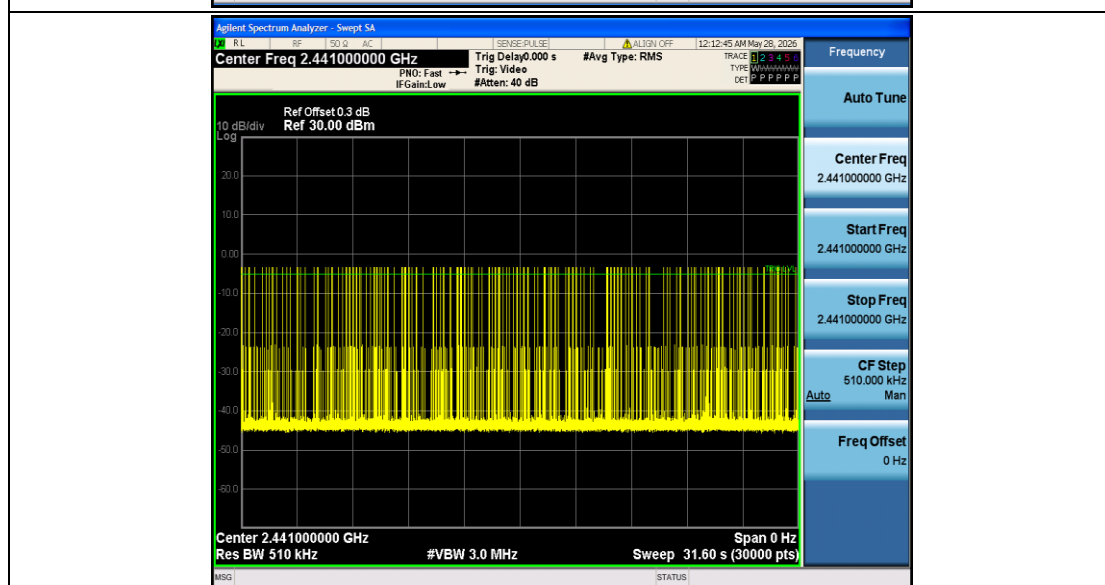
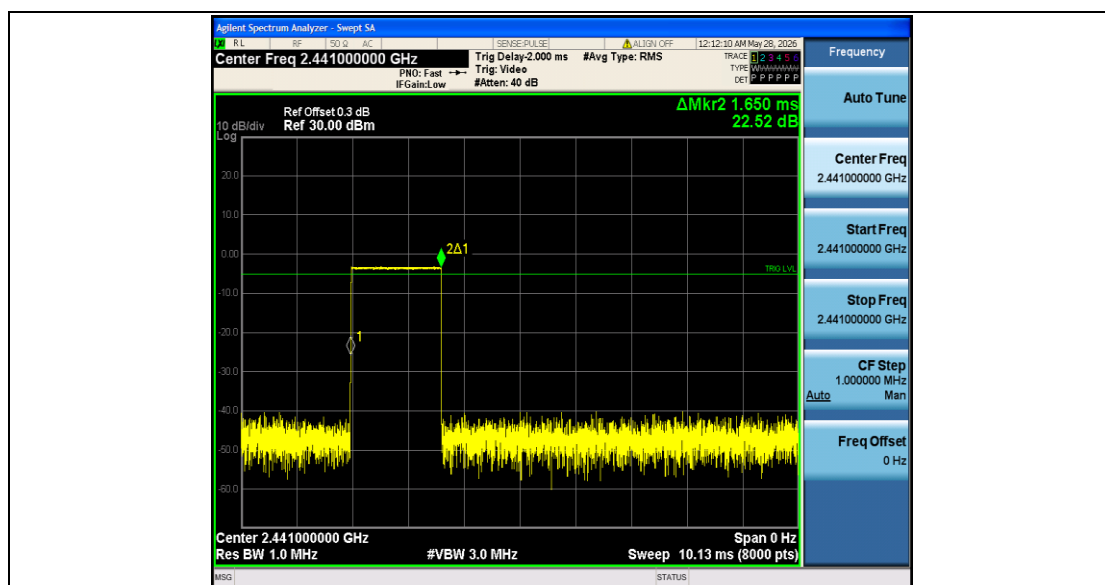
Test Result

TestMode	Antenna	Freq(MHz)	BurstWidth [ms]	TotalHops [Num]	Result[s]	Limit[s]	Verdict
DH1	Ant1	Hop	0.395	319	0.126	≤0.4	PASS
DH3	Ant1	Hop	1.650	173	0.285	≤0.4	PASS
DH5	Ant1	Hop	2.899	97	0.281	≤0.4	PASS
2DH1	Ant1	Hop	0.404	318	0.128	≤0.4	PASS
2DH3	Ant1	Hop	1.656	175	0.29	≤0.4	PASS
2DH5	Ant1	Hop	2.904	113	0.328	≤0.4	PASS
3DH1	Ant1	Hop	0.405	319	0.129	≤0.4	PASS
3DH3	Ant1	Hop	1.656	175	0.29	≤0.4	PASS
3DH5	Ant1	Hop	2.907	104	0.302	≤0.4	PASS

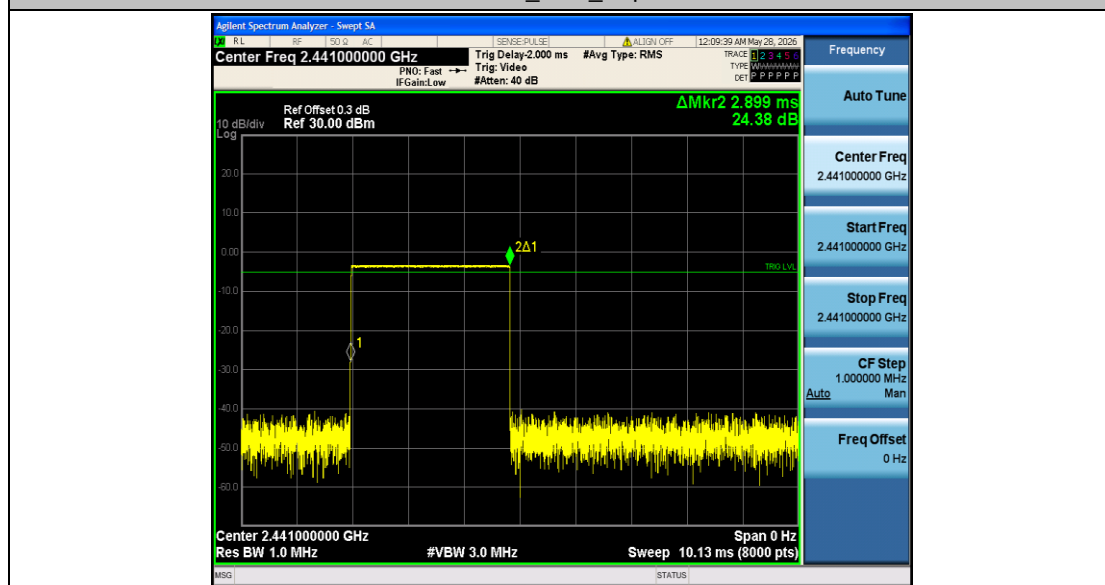
Test Graphs

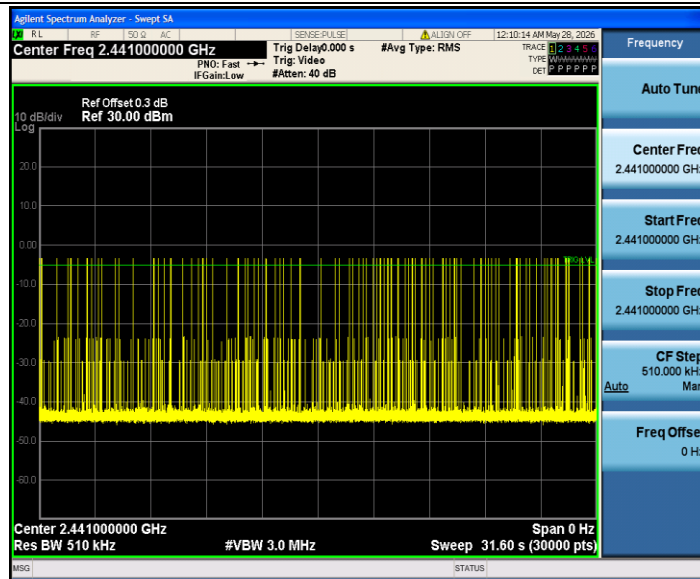


DH3_Ant1_Hop

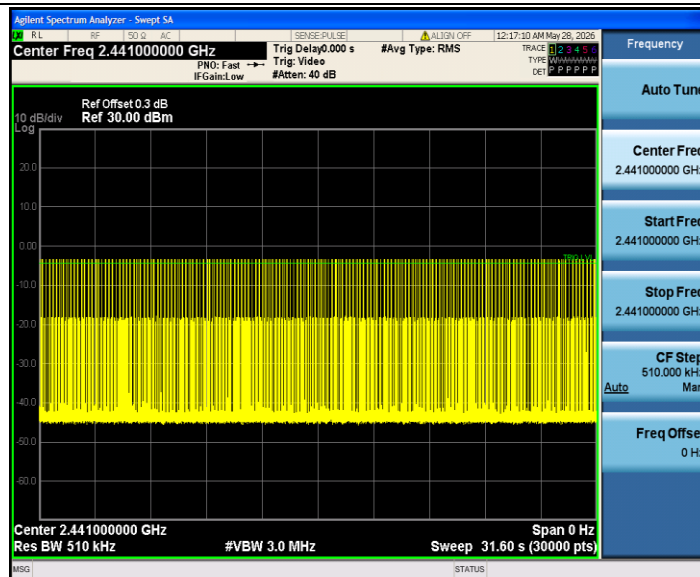
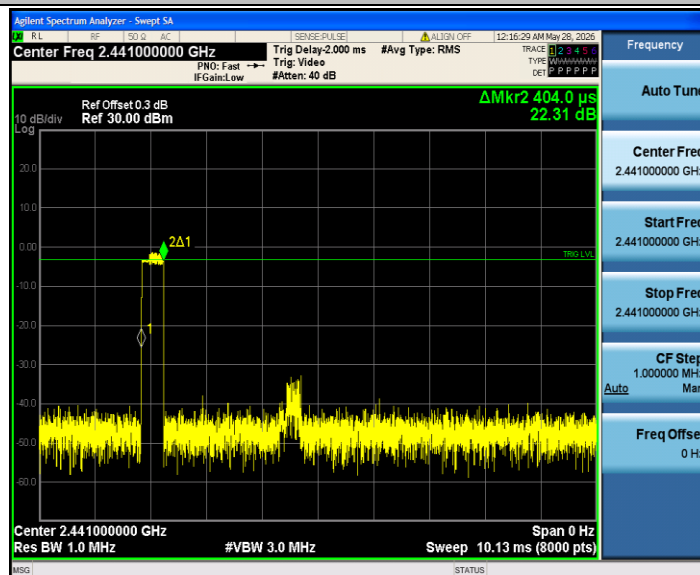


DH5_Ant1_Hop

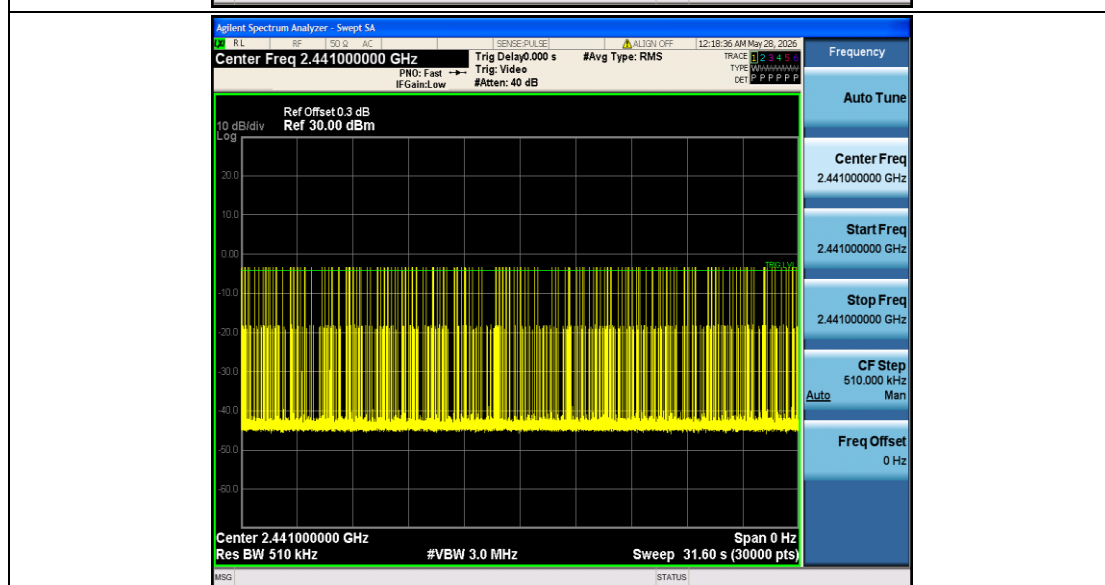
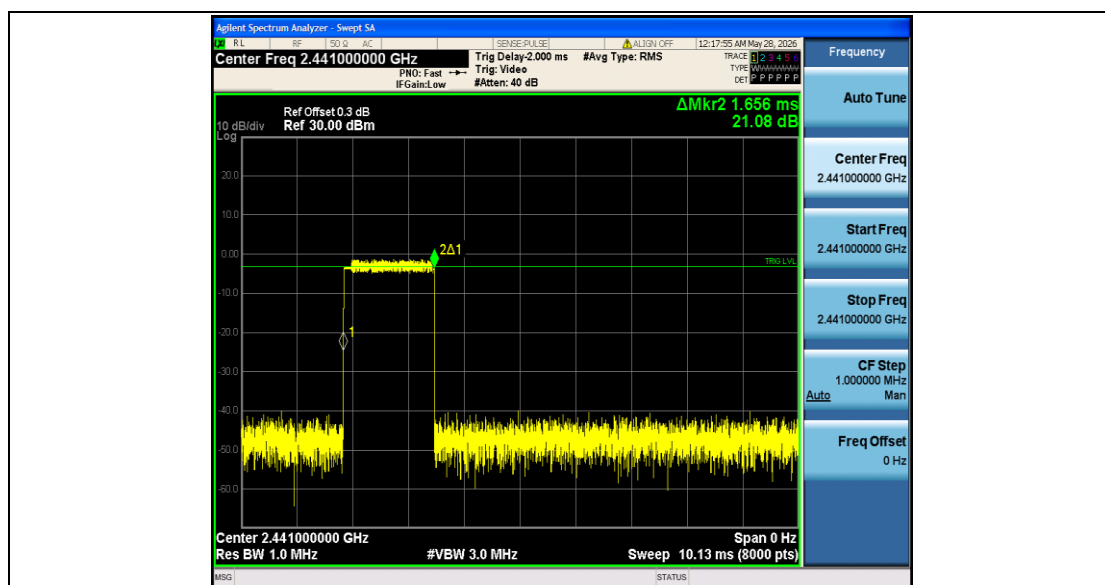




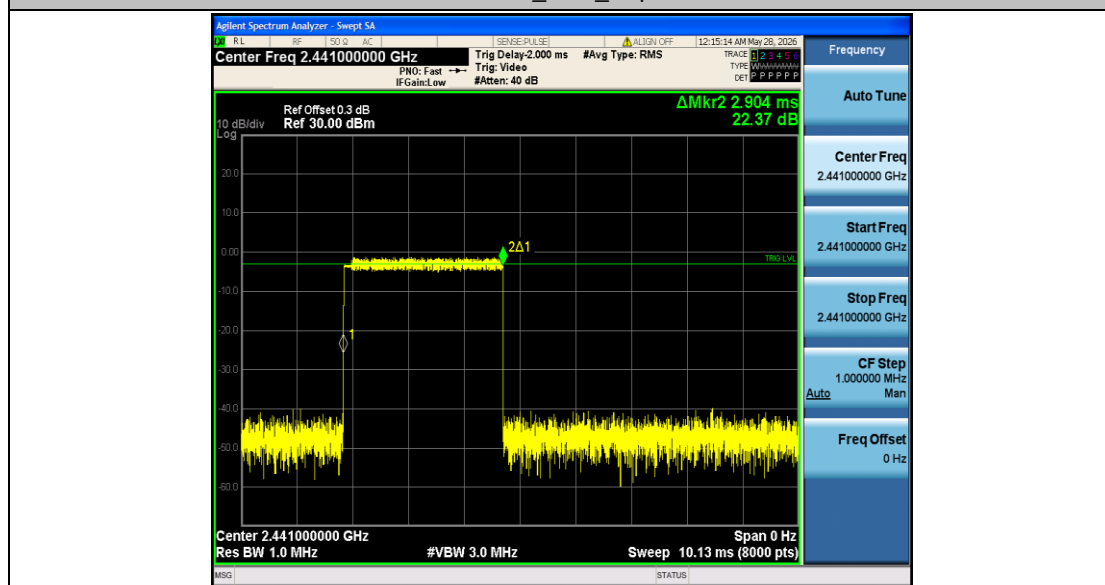
2DH1_Ant1_Hop

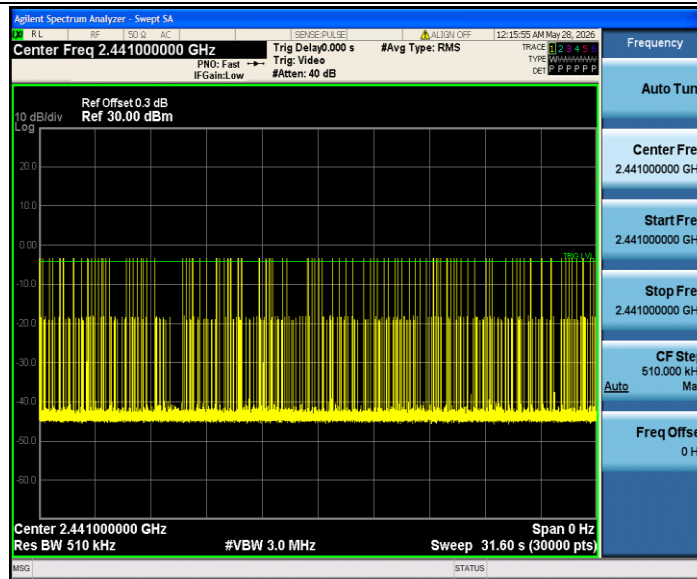


2DH3_Ant1_Hop

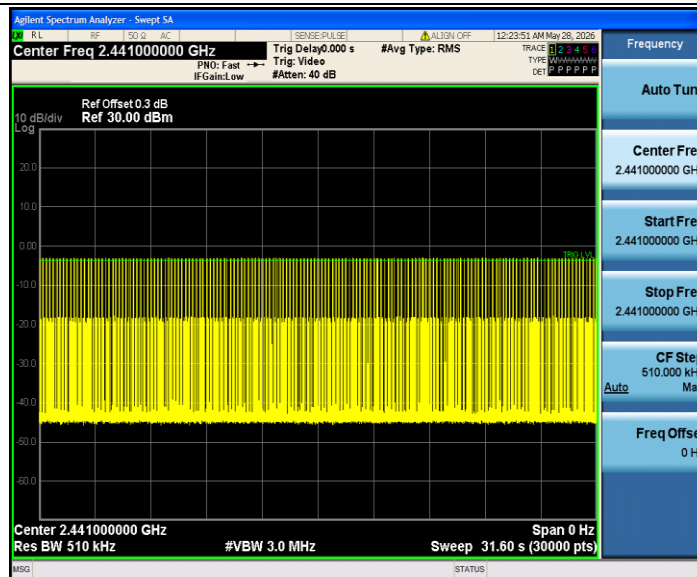
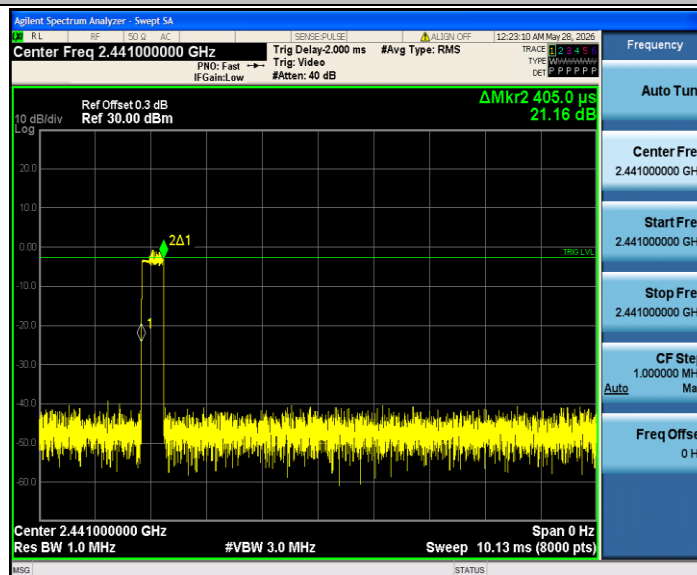


2DH5_Ant1_Hop

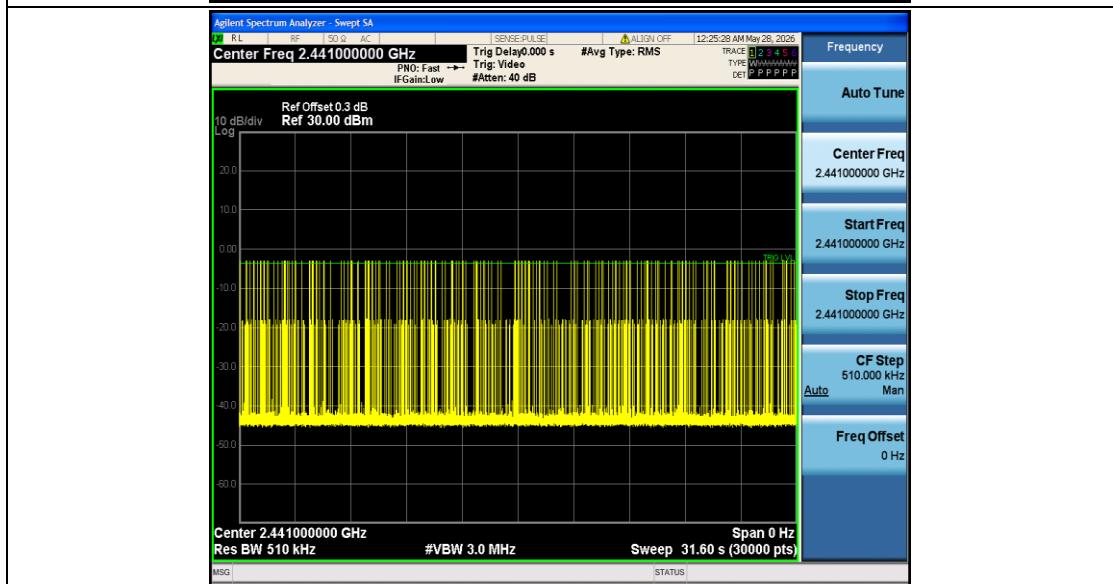
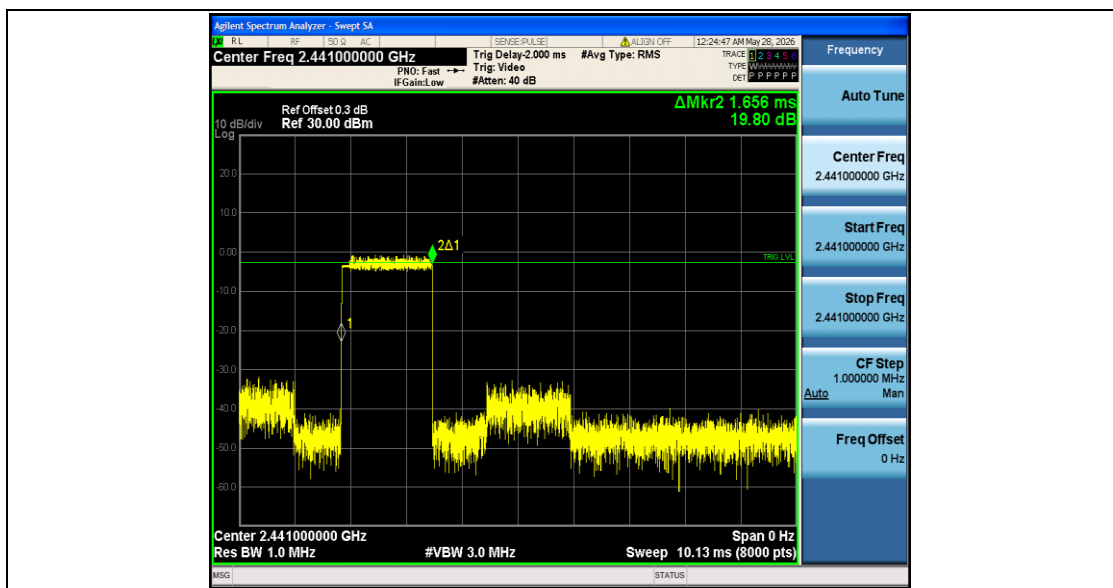




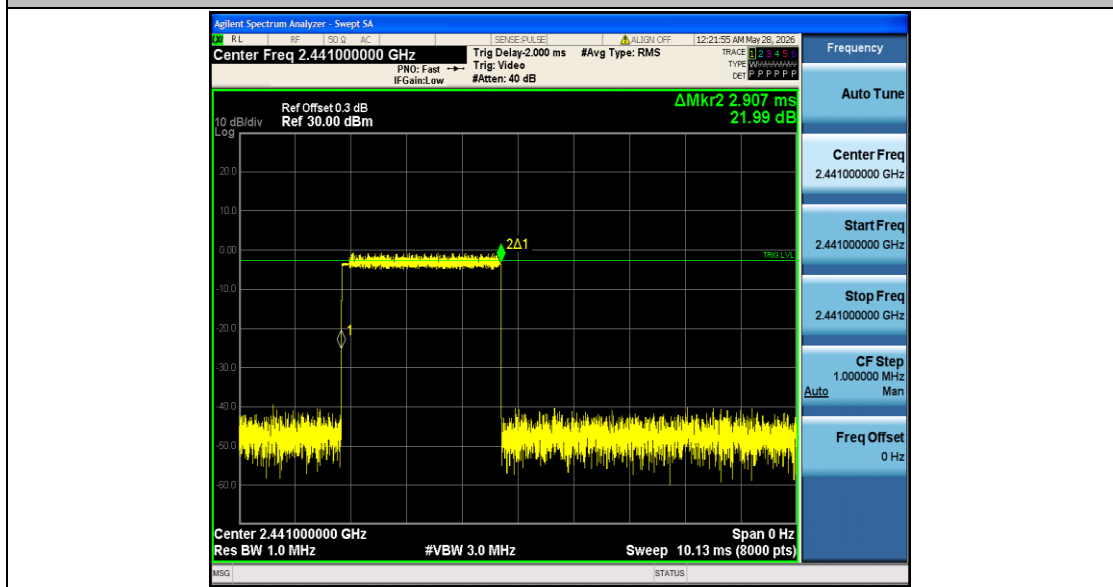
3DH1_Ant1_Hop

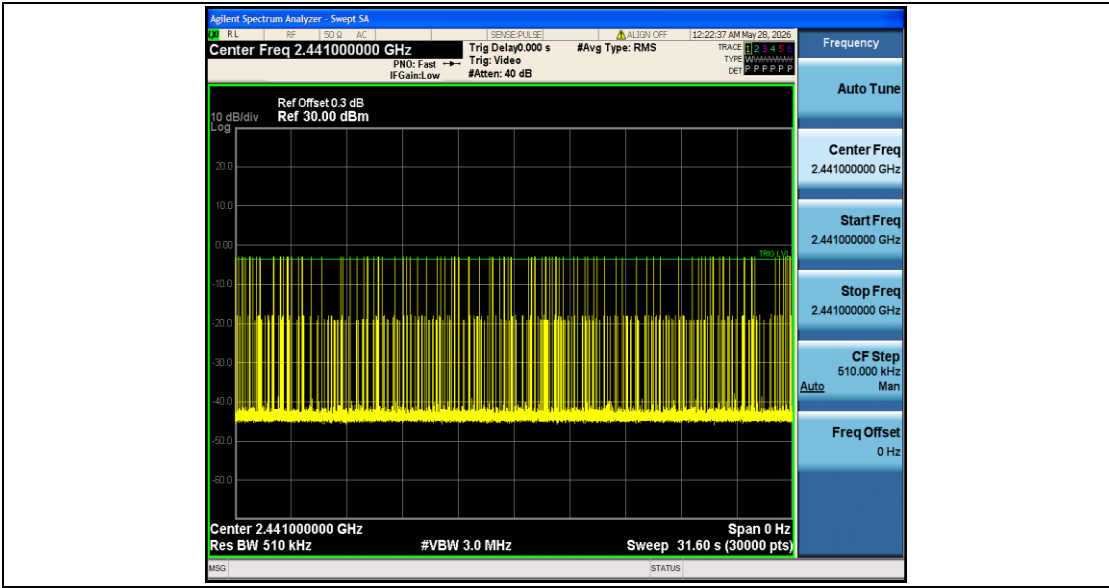


3DH3_Ant1_Hop



3DH5_Ant1_Hop



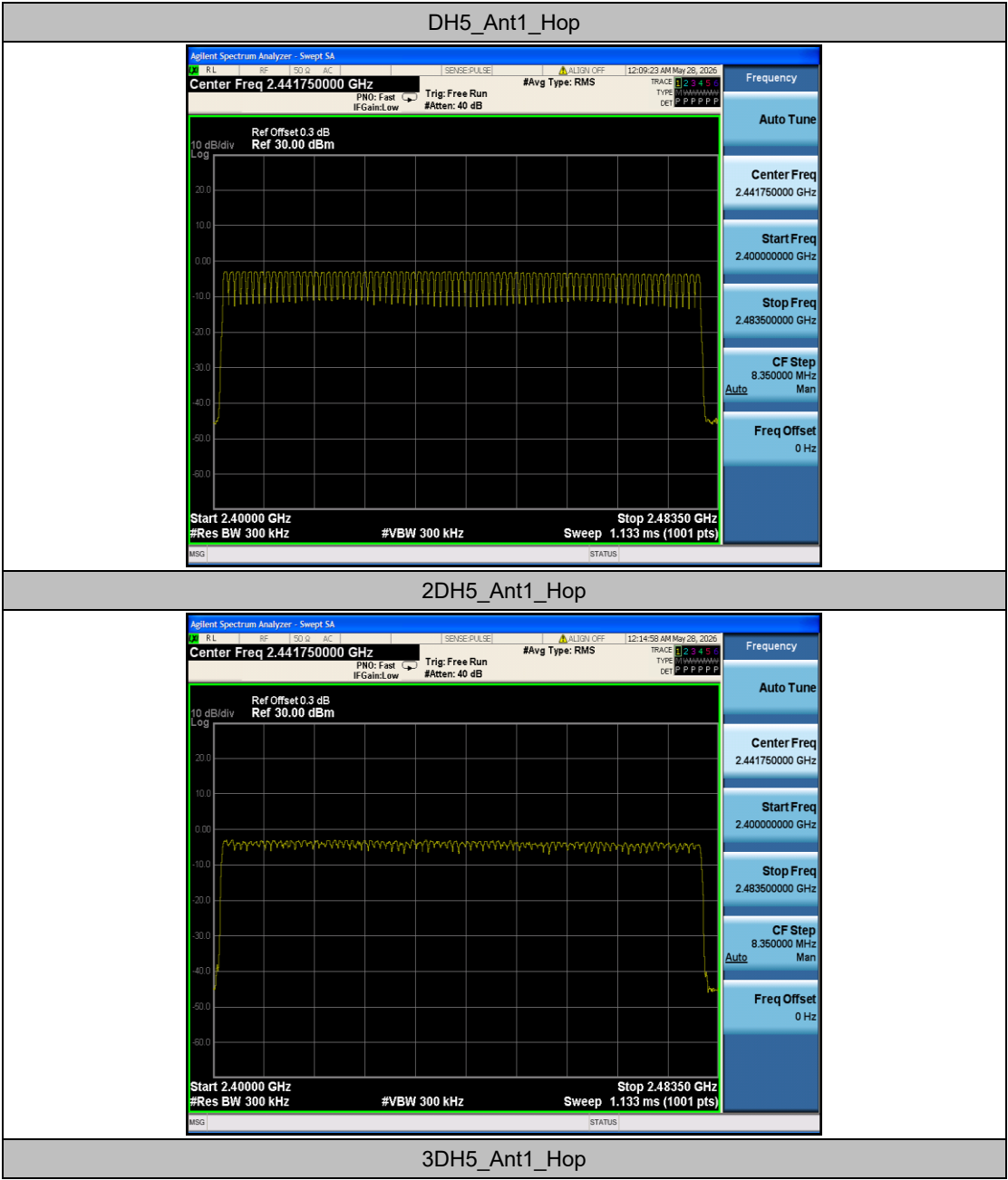


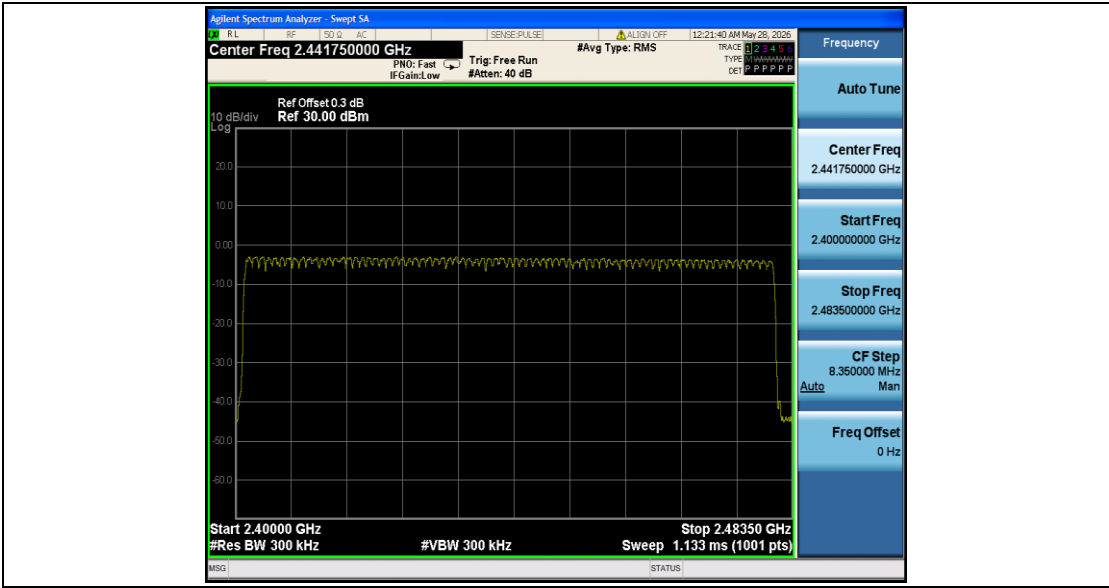
Appendix F: Number of hopping channels

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



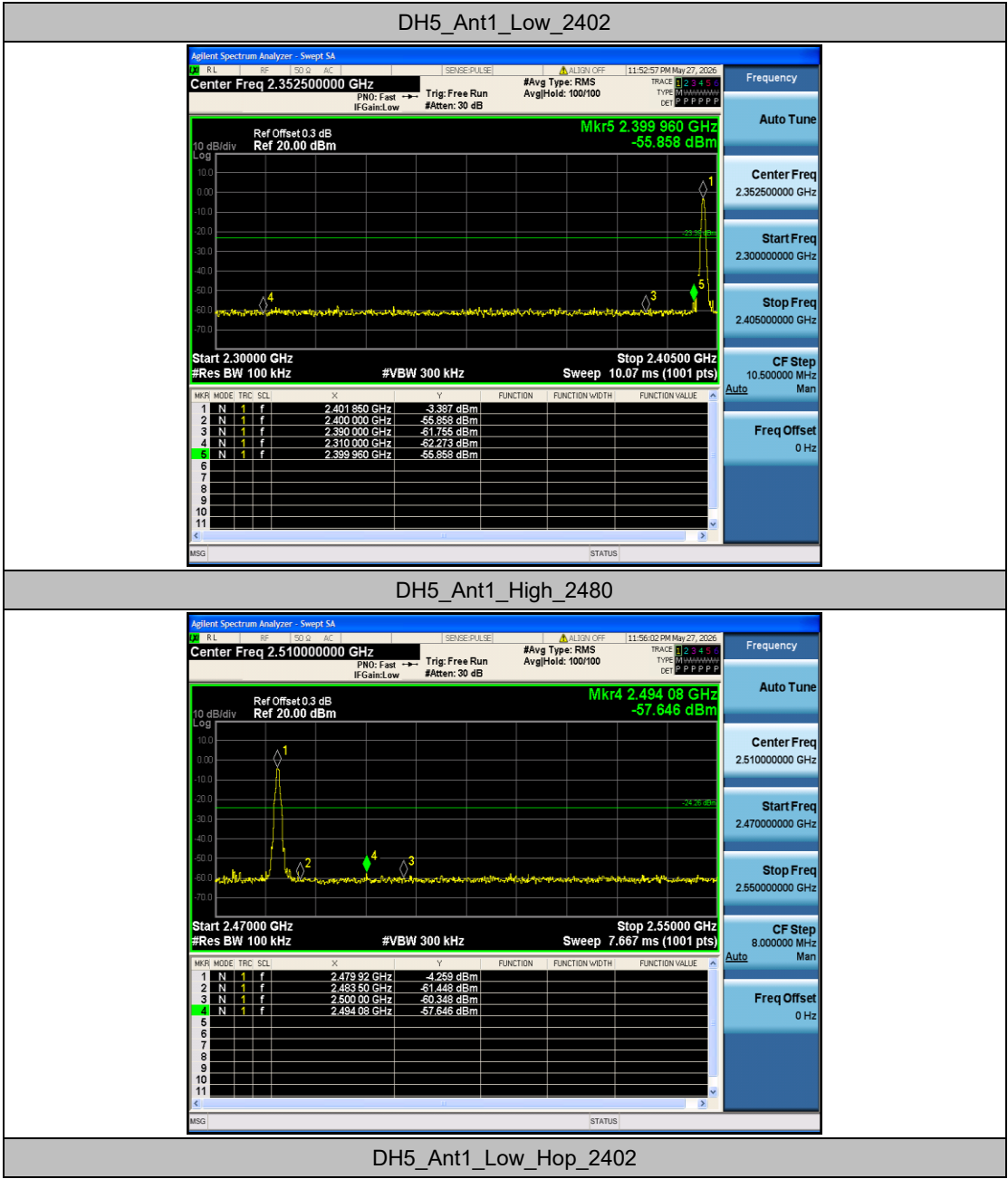


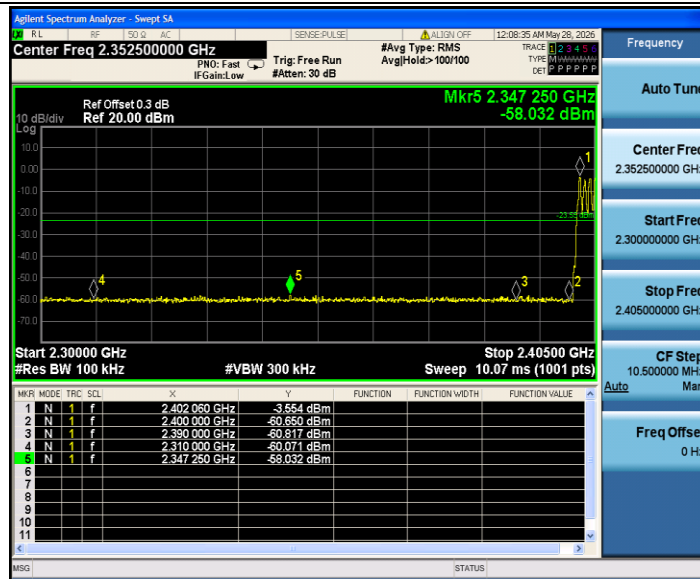
Appendix G: Band edge measurements

Test Result

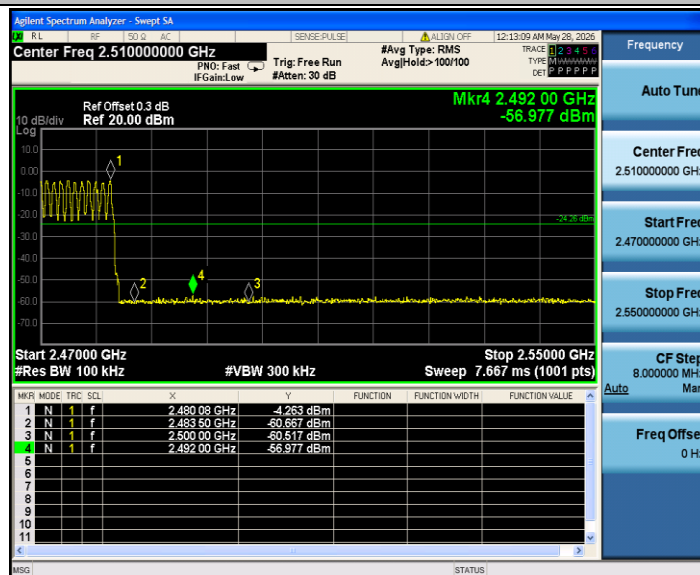
TestMode	Antenna	ChName	Freq(MHz)	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
DH5	Ant1	Low	2402	-3.39	-55.86	≤-23.39	PASS
		High	2480	-4.26	-57.65	≤-24.26	PASS
		Low	Hop_2402	-3.55	-58.03	≤-23.55	PASS
		High	Hop_2480	-4.26	-56.98	≤-24.26	PASS
2DH5	Ant1	Low	2402	-3.80	-58.25	≤-23.8	PASS
		High	2480	-5.22	-57.4	≤-25.22	PASS
		Low	Hop_2402	-3.58	-57.52	≤-23.58	PASS
		High	Hop_2480	-5.50	-57.51	≤-25.5	PASS
3DH5	Ant1	Low	2402	-5.13	-57.39	≤-25.13	PASS
		High	2480	-5.04	-58.31	≤-25.04	PASS
		Low	Hop_2402	-4.19	-57.8	≤-24.19	PASS
		High	Hop_2480	-6.02	-57.93	≤-26.02	PASS

Test Graphs

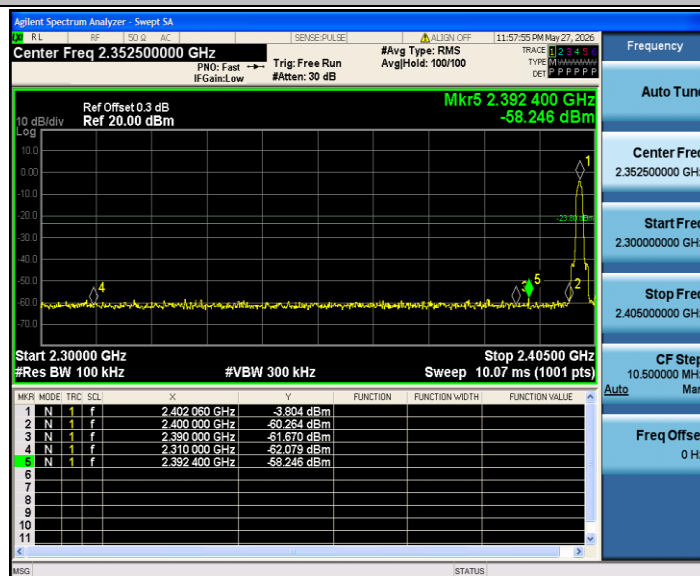




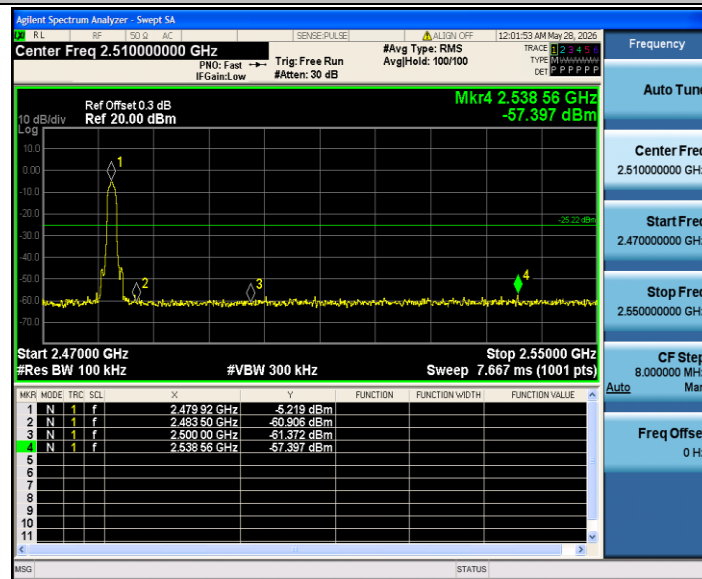
DH5_Ant1_High_Hop_2480



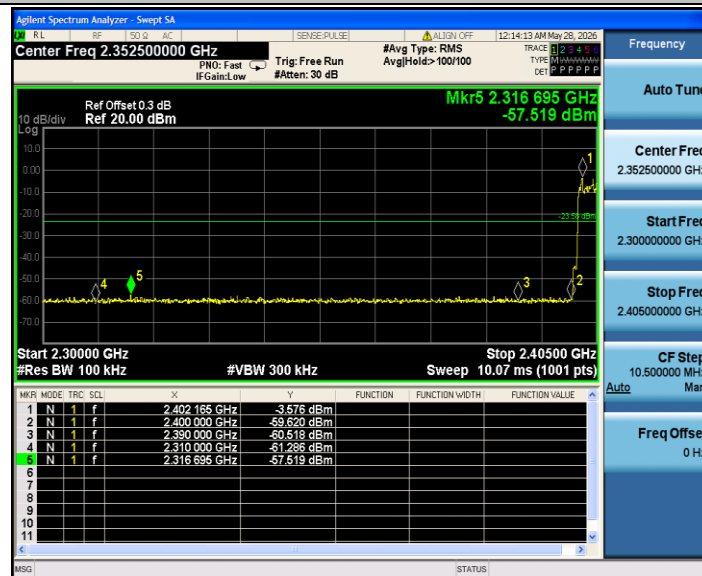
2DH5_Ant1_Low_2402



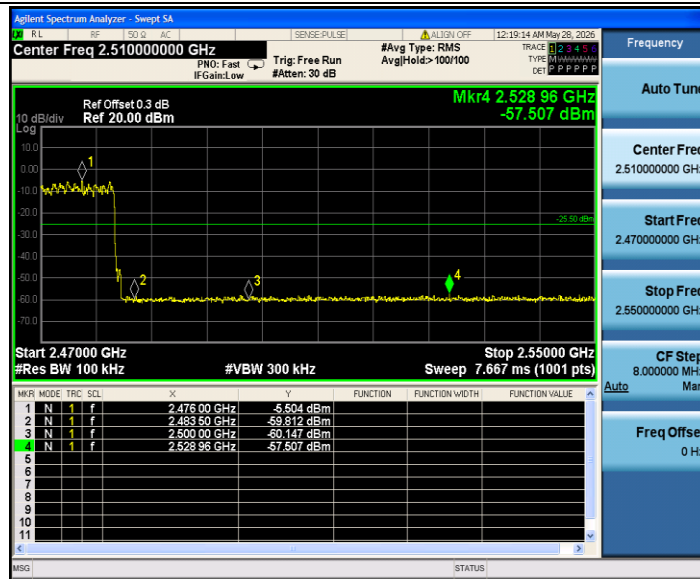
2DH5_Ant1_High_2480



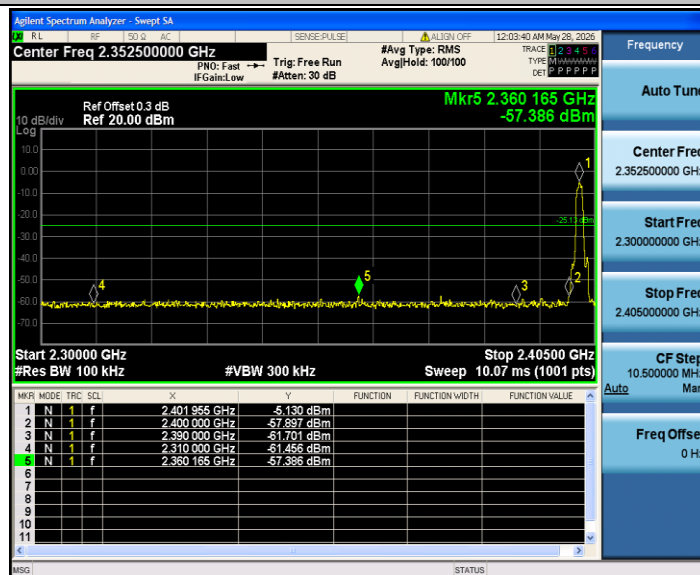
2DH5_Ant1_Low_Hop_2402



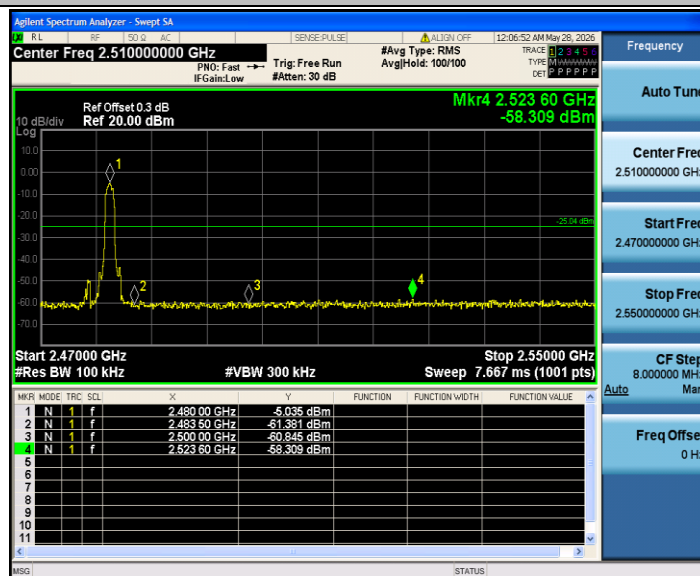
2DH5_Ant1_High_Hop_2480



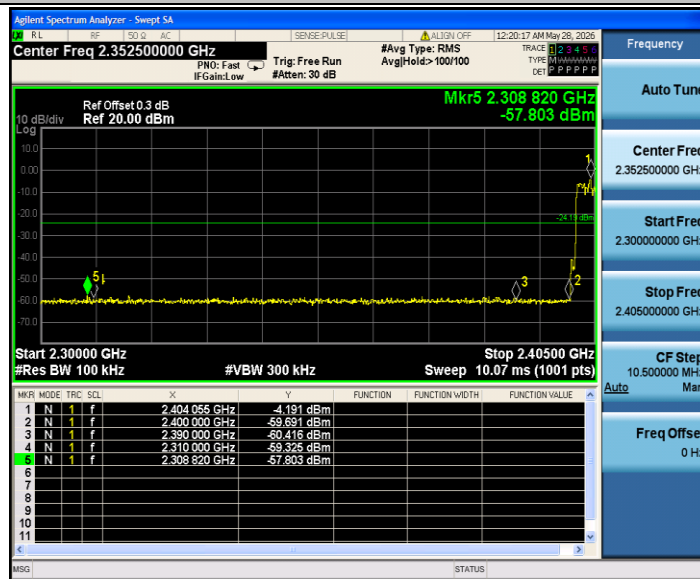
3DH5_Ant1_Low_2402



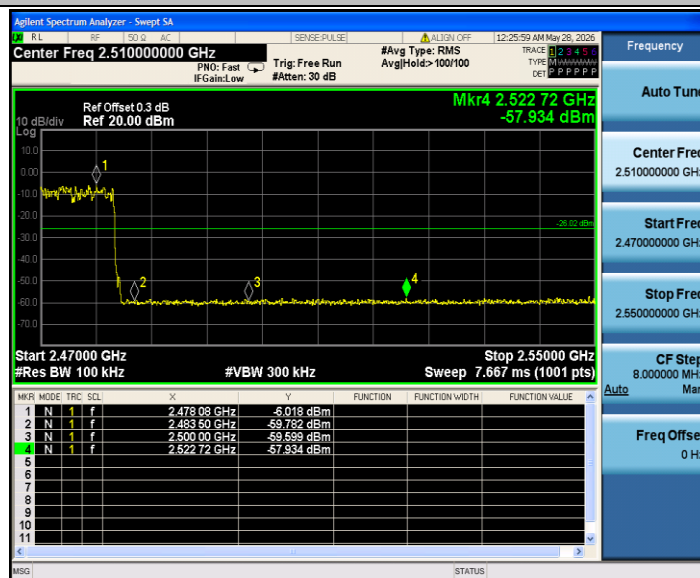
3DH5_Ant1_High_2480



3DH5_Ant1_Low_Hop_2402



3DH5_Ant1_High_Hop_2480



Appendix H: Conducted Spurious Emission

Test Result

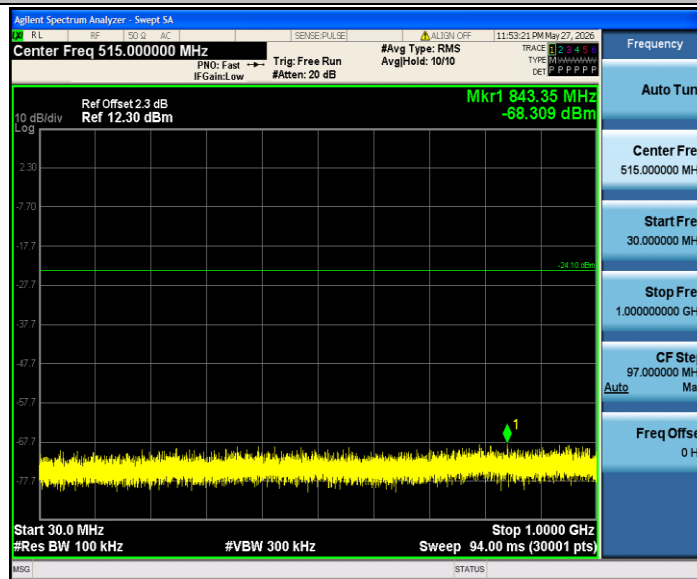
TestMode	Antenna	Freq(MHz)	FreqRange [MHz]	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
DH5	Ant1	2402	Reference	-4.10	-4.10	---	PASS
			30~1000	-4.10	-68.31	≤-24.1	PASS
			1000~26500	-4.10	-49.66	≤-24.1	PASS
		2441	Reference	-4.06	-4.06	---	PASS
			30~1000	-4.06	-67.46	≤-24.06	PASS
			1000~26500	-4.06	-50.9	≤-24.06	PASS
		2480	Reference	-4.79	-4.79	---	PASS
			30~1000	-4.79	-68.13	≤-24.79	PASS
			1000~26500	-4.79	-51.34	≤-24.79	PASS
2DH5	Ant1	2402	Reference	-6.93	-6.93	---	PASS
			30~1000	-6.93	-67.73	≤-26.93	PASS
			1000~26500	-6.93	-50.56	≤-26.93	PASS
		2441	Reference	-5.20	-5.20	---	PASS
			30~1000	-5.20	-68.38	≤-25.2	PASS
			1000~26500	-5.20	-51.43	≤-25.2	PASS
		2480	Reference	-5.03	-5.03	---	PASS
			30~1000	-5.03	-68.11	≤-25.03	PASS
			1000~26500	-5.03	-52.04	≤-25.03	PASS
3DH5	Ant1	2402	Reference	-4.69	-4.69	---	PASS
			30~1000	-4.69	-68.13	≤-24.69	PASS
			1000~26500	-4.69	-49.87	≤-24.69	PASS
		2441	Reference	-5.64	-5.64	---	PASS
			30~1000	-5.64	-59.1	≤-25.64	PASS
			1000~26500	-5.64	-51.07	≤-25.64	PASS
		2480	Reference	-4.94	-4.94	---	PASS
			30~1000	-4.94	-66.91	≤-24.94	PASS
			1000~26500	-4.94	-52.19	≤-24.94	PASS

Test Graphs

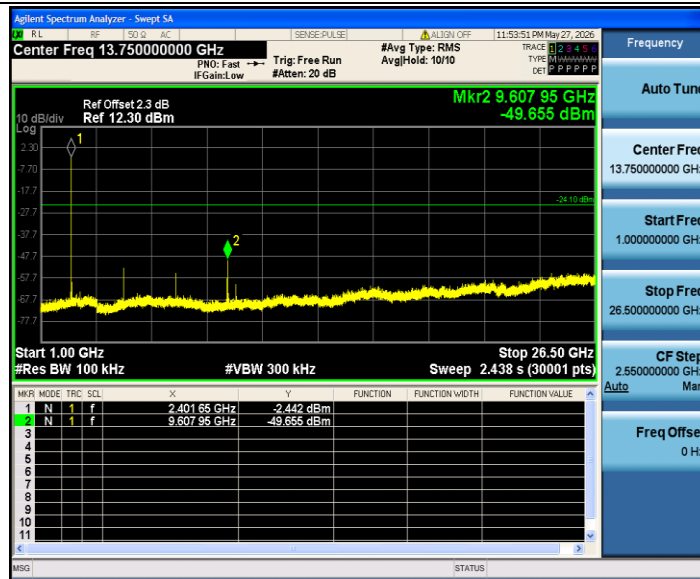
DH5_Ant1_2402_0~Reference



DH5_Ant1_2402_30~1000



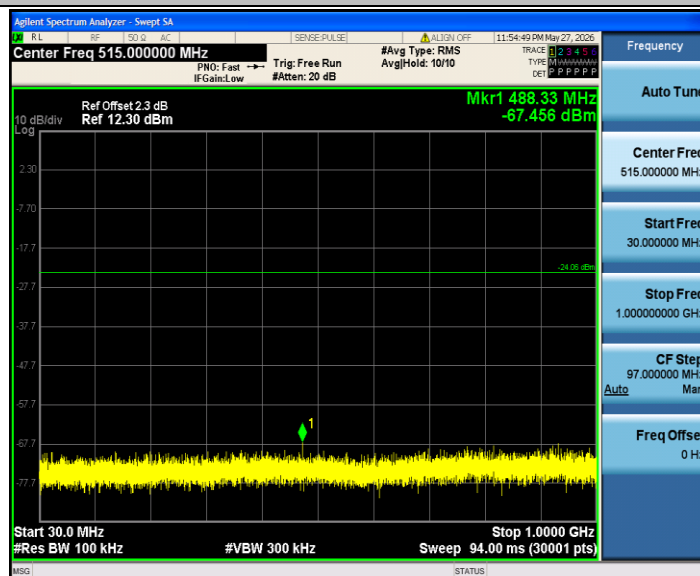
DH5_Ant1_2402_1000~26500



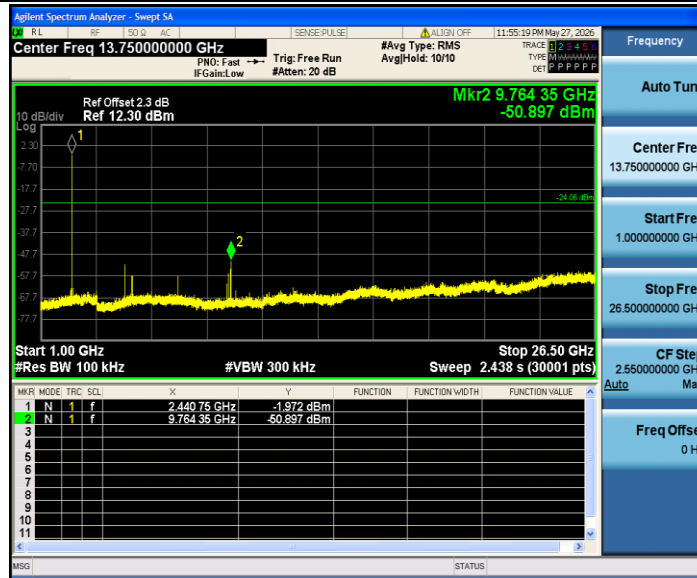
DH5_Ant1_2441_0~Reference



DH5_Ant1_2441_30~1000



DH5_Ant1_2441_1000~26500



DH5_Ant1_2480_0~Reference



DH5_Ant1_2480_30~1000