

FCC Appendix RF Test Data for BT

FCC ID : 2AQ5R-HM-5C

Company : Shenzhen KTC Commercial Display Technology CO.,LTD.

EUT : Conference speaker

Model Number : HM-5C

Report No. : CTA26082700401

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	2401.550	2402.498	---	---
		2441	0.954	2440.547	2441.501	---	---
		2480	0.942	2479.553	2480.495	---	---
2DH5	Ant1	2402	1.284	2401.379	2402.663	---	---
		2441	1.287	2440.382	2441.669	---	---
		2480	1.344	2479.337	2480.681	---	---
3DH5	Ant1	2402	1.308	2401.361	2402.669	---	---
		2441	1.281	2440.370	2441.651	---	---
		2480	1.278	2479.367	2480.645	---	---

Agilent Spectrum Analyzer - Swept SA

Center Freq 2.40200000 GHz

Ref Offset 0.3 dB
Ref 30.00 dBm

Trig: Free Run
#Atten: 40 dB

#Avg Type: RMS
AvgHold: 100/100

Span 3.000 MHz
Sweep 3.200 ms (1001 pts)

#Res BW 30 kHz
#VBW 100 kHz

ΔMkr3 948 kHz
0.360 dB

Log

10 dB/div

20.0

10.0

0.00

-10.0

-20.0

-30.0

-40.0

-50.0

-60.0

1

2

3Δ1

Center 2.402000 GHz

#Res BW 30 kHz

#VBW 100 kHz

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	2.401550 GHz	-25.745 dBm			
2	N	1	f	2.402012 GHz	-5.115 dBm			
3	Δ1	1	f (Δ)	948 kHz (Δ)	0.360 dB			

Frequency

Auto Tune

Center Freq
2.402000000 GHz

Start Freq
2.400500000 GHz

Stop Freq
2.403500000 GHz

CF Step
300.000 kHz
Man

Freq Offset
0 Hz

MSO

STATUS

Agilent Spectrum Analyzer - Swept SA

Center Freq 2.441000000 GHz

Ref Offset 0.3 dB
Ref 30.00 dBm

Trig: Free Run
#Atten: 40 dB

#Avg Type: RMS
AvgHold: 100/100

Span 3.000 MHz
Sweep 3.200 ms (1001 pts)

#Res BW 30 kHz
#VBW 100 kHz

ΔMkr3 954 kHz
0.045 dB

Log

10 dB/div

20.0

10.0

0.00

-10.0

-20.0

-30.0

-40.0

-50.0

-60.0

1

2

3Δ1

Center 2.441000 GHz

#Res BW 30 kHz

#VBW 100 kHz

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	2.440547 GHz	-26.206 dBm			
2	N	1	f	2.441003 GHz	-5.930 dBm			
3	Δ1	1	f (Δ)	954 kHz (Δ)	0.045 dB			

Frequency

Auto Tune

Center Freq
2.441000000 GHz

Start Freq
2.439500000 GHz

Stop Freq
2.442500000 GHz

CF Step
300.000 kHz
Man

Freq Offset
0 Hz

MSO

STATUS



2DH5_Ant1_2402



2DH5_Ant1_2441



2DH5_Ant1_2480



3DH5_Ant1_2402



3DH5_Ant1_2441



3DH5_Ant1_2480

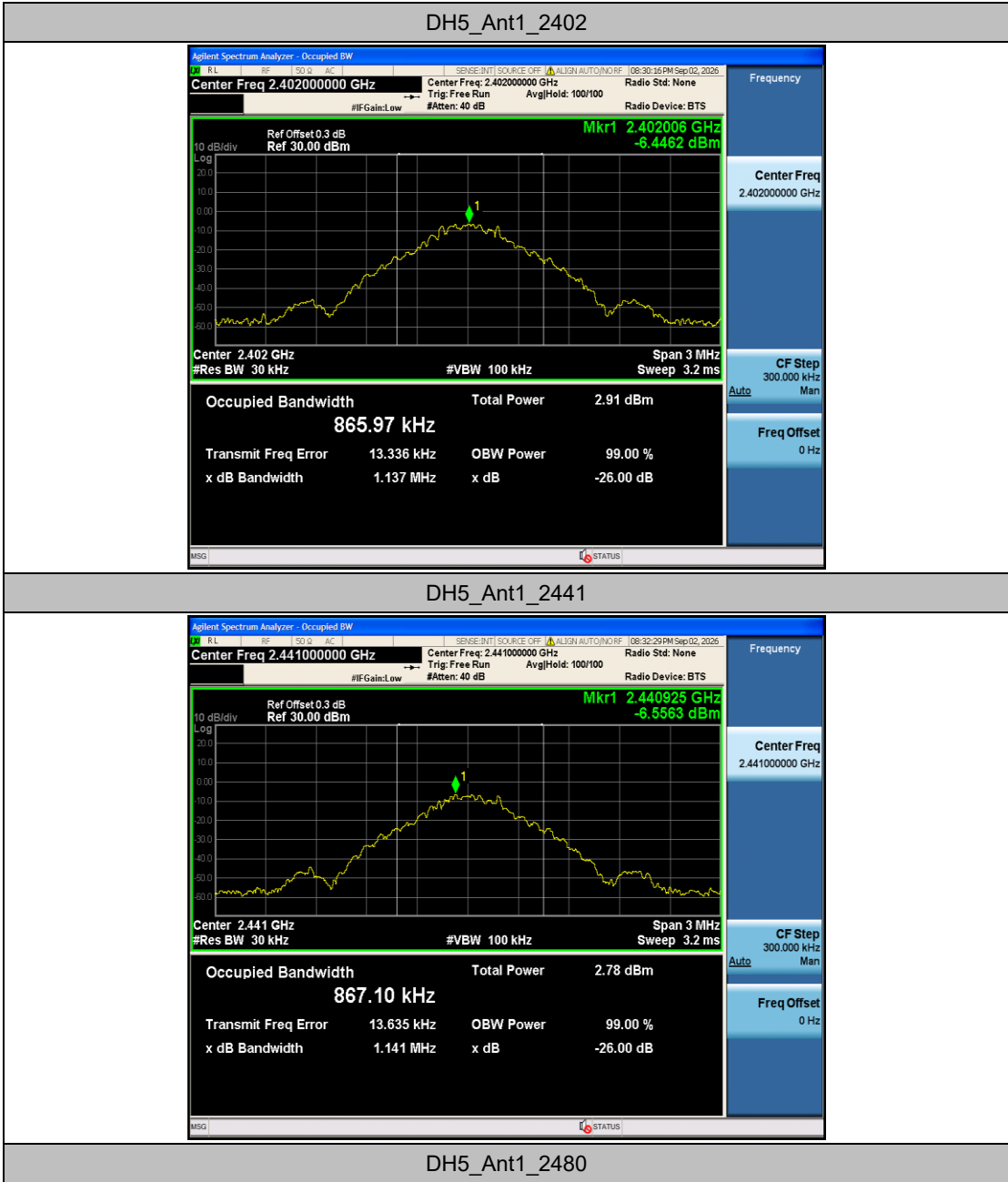


Appendix B: Occupied Channel Bandwidth

Test Result

TestMode	Antenna	Freq(MHz)	OCB [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
DH5	Ant1	2402	0.86597	2401.5804	2402.4463	---	---
		2441	0.86710	2440.5801	2441.4472	---	---
		2480	0.85164	2479.5833	2480.4350	---	---
2DH5	Ant1	2402	1.1843	2401.4183	2402.6026	---	---
		2441	1.1843	2440.4186	2441.6029	---	---
		2480	1.1899	2479.4171	2480.6070	---	---
3DH5	Ant1	2402	1.1917	2401.4174	2402.6091	---	---
		2441	1.1922	2440.4157	2441.6079	---	---
		2480	1.1788	2479.4228	2480.6016	---	---

Test Graphs





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

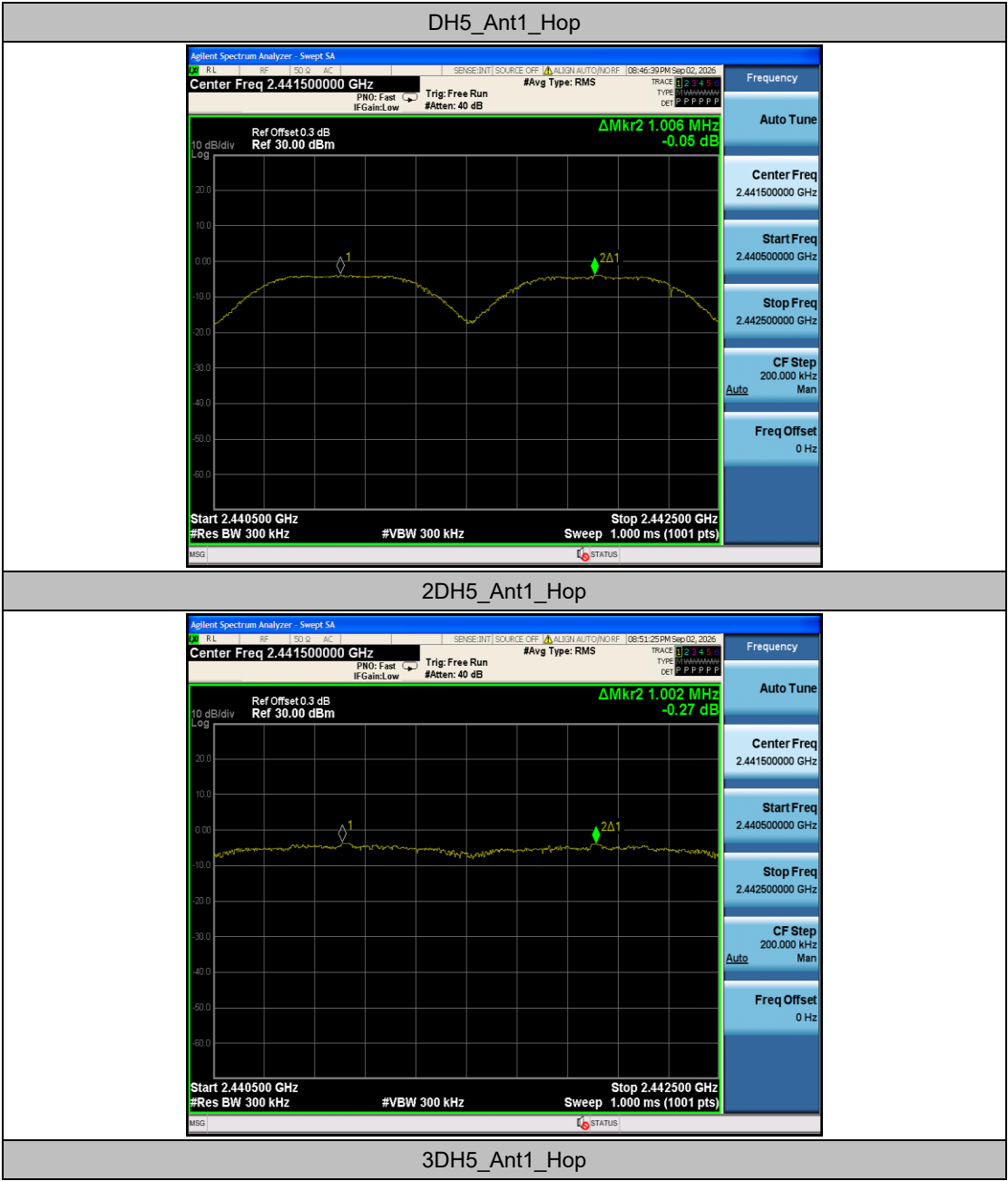
Test Mode	Antenna	Freq(MHz)	Conducted Peak Power[dBm]	Conducted Limit[dBm]	Verdict
DH5	Ant1	2402	-3.52	≤20.97	PASS
		2441	-3.58	≤20.97	PASS
		2480	-3.91	≤20.97	PASS
2DH5	Ant1	2402	-0.97	≤20.97	PASS
		2441	-1.00	≤20.97	PASS
		2480	-1.33	≤20.97	PASS
3DH5	Ant1	2402	-0.47	≤20.97	PASS
		2441	-0.58	≤20.97	PASS
		2480	-0.93	≤20.97	PASS

Appendix D: Carrier frequency separation

Test Result

TestMode	Antenna	Freq(MHz)	Result[MHz]	Limit[MHz]	Verdict
DH5	Ant1	Hop	1.006	≥ 0.954	PASS
2DH5	Ant1	Hop	1.002	≥ 0.896	PASS
3DH5	Ant1	Hop	1	≥ 0.872	PASS

Test Graphs



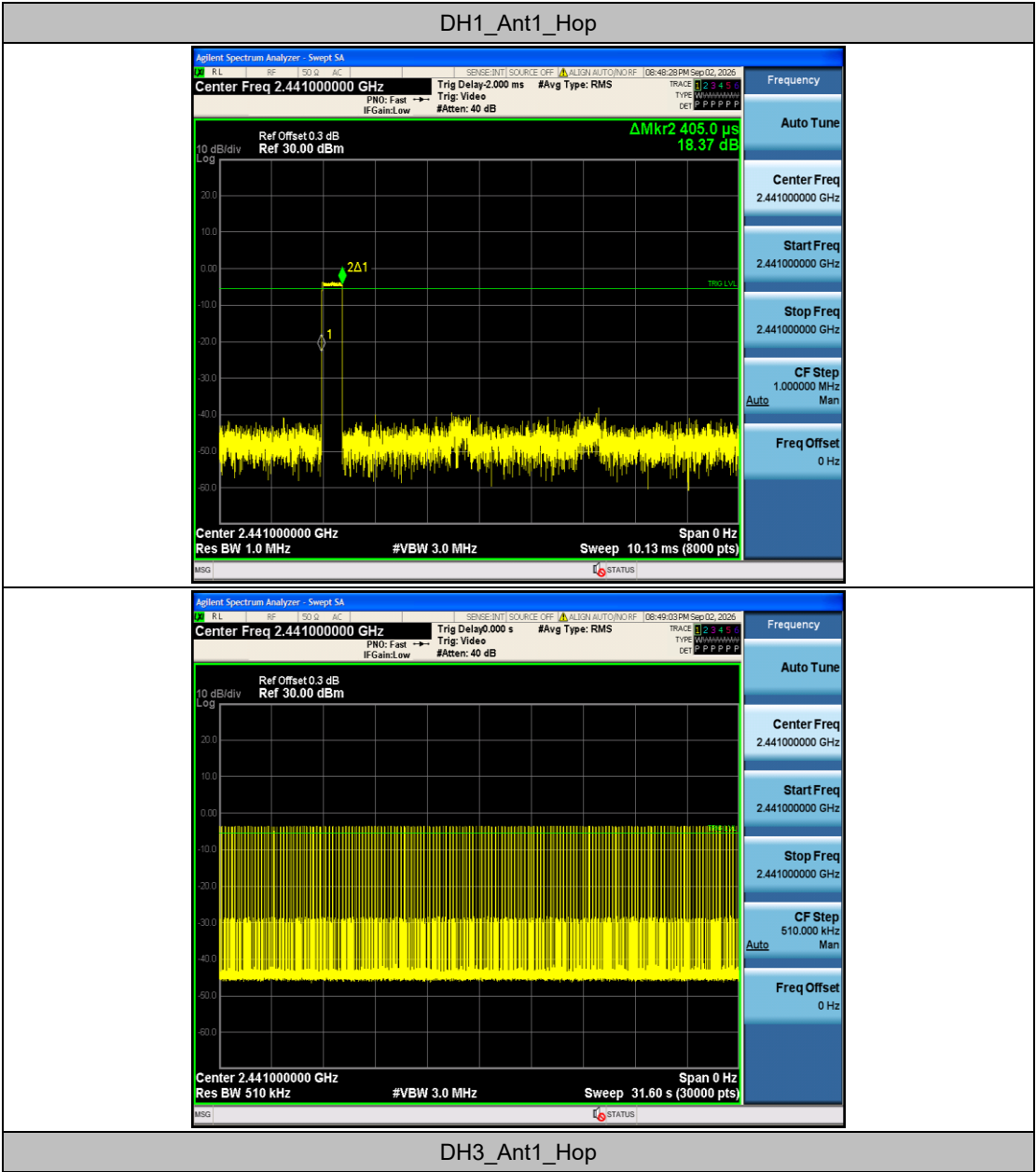


Appendix E: Time of occupancy

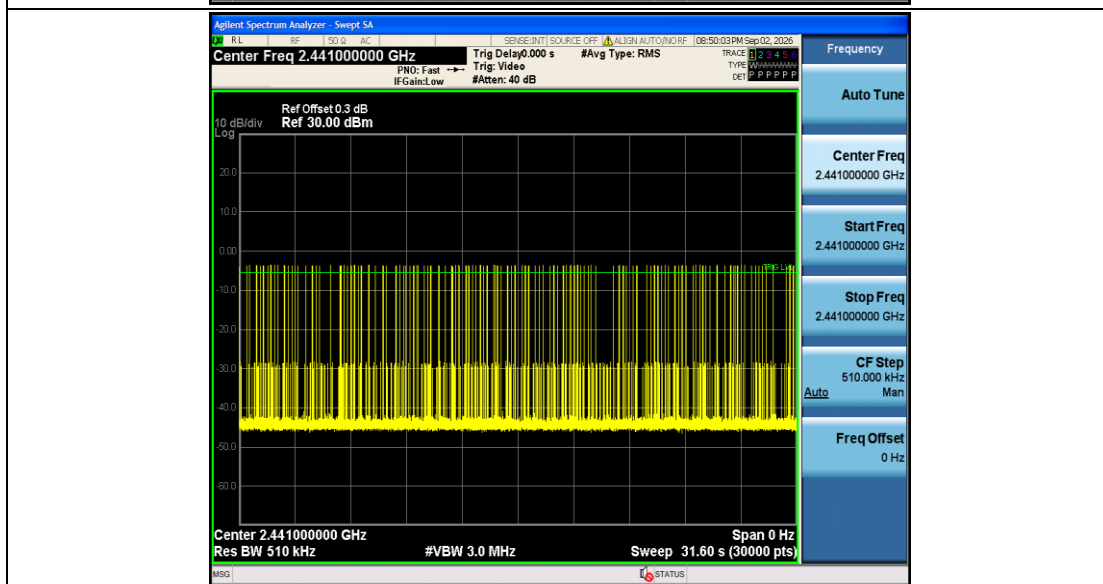
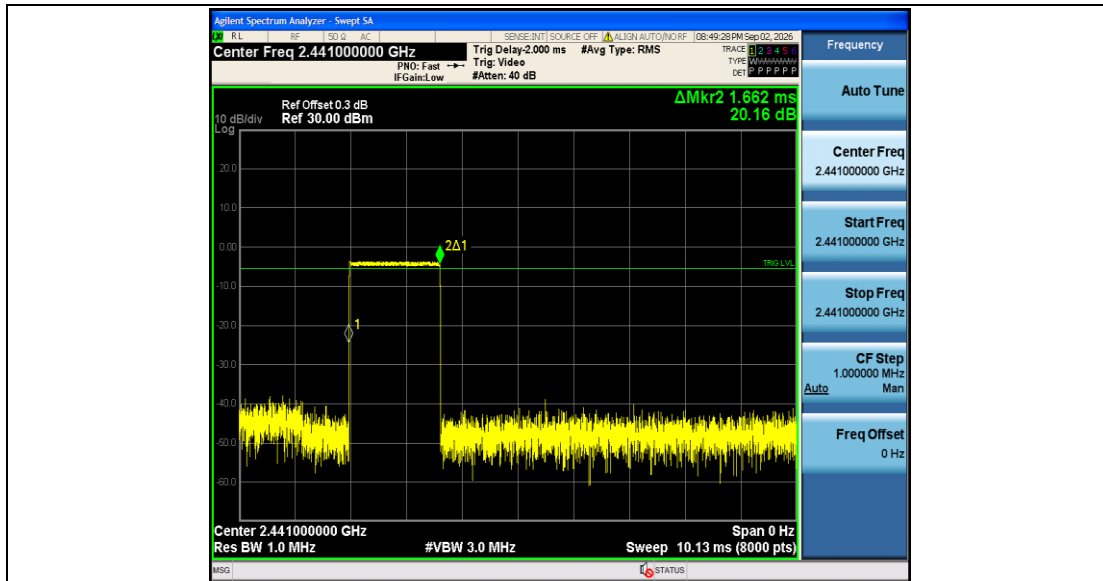
Test Result

TestMode	Antenna	Freq(MHz)	BurstWidth [ms]	TotalHops [Num]	Result[s]	Limit[s]	Verdict
DH1	Ant1	Hop	0.405	315	0.128	≤0.4	PASS
DH3	Ant1	Hop	1.662	157	0.261	≤0.4	PASS
DH5	Ant1	Hop	2.910	108	0.314	≤0.4	PASS
2DH1	Ant1	Hop	0.415	317	0.132	≤0.4	PASS
2DH3	Ant1	Hop	1.668	159	0.265	≤0.4	PASS
2DH5	Ant1	Hop	2.916	96	0.28	≤0.4	PASS
3DH1	Ant1	Hop	0.415	318	0.132	≤0.4	PASS
3DH3	Ant1	Hop	1.664	156	0.26	≤0.4	PASS
3DH5	Ant1	Hop	2.916	109	0.318	≤0.4	PASS

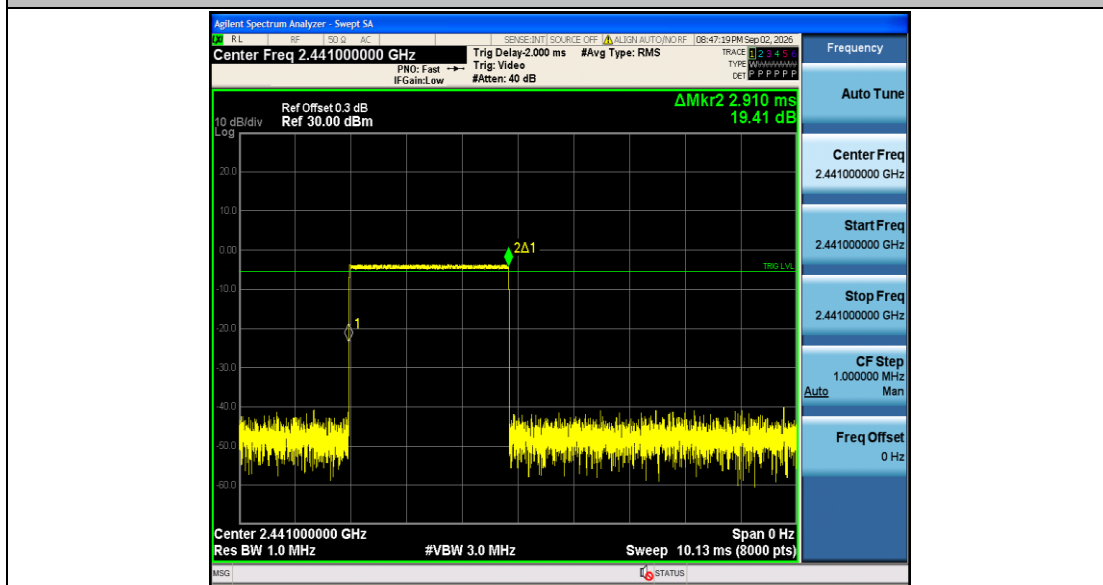
Test Graphs

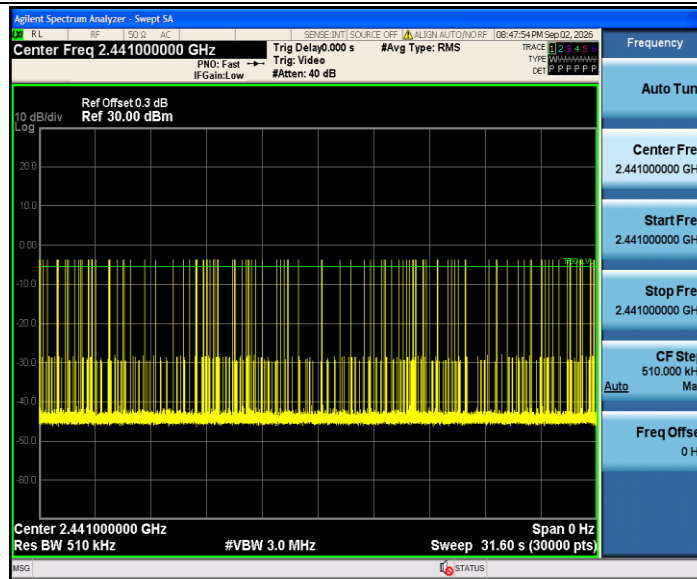


DH3_Ant1_Hop

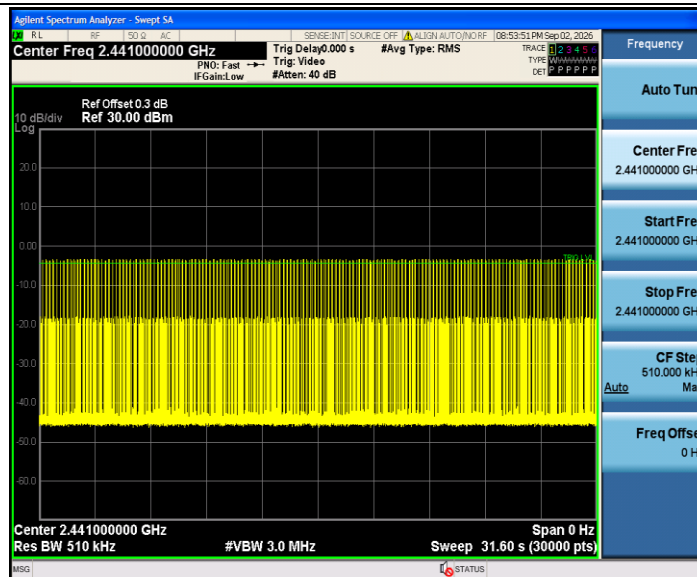
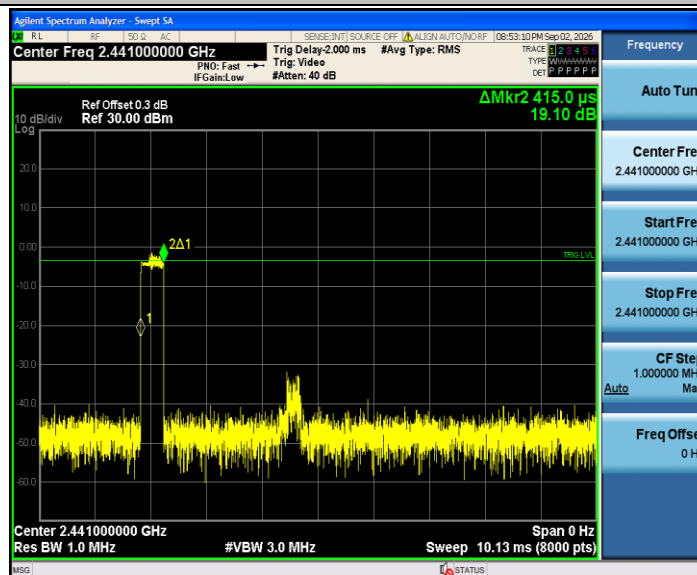


DH5_Ant1_Hop

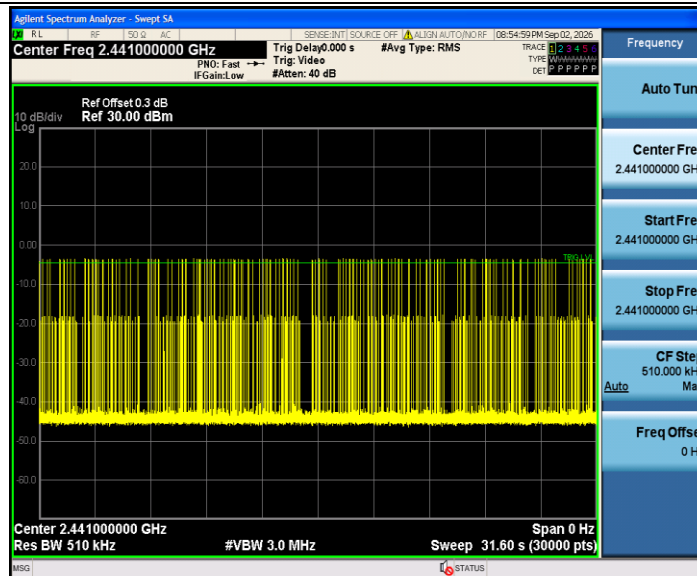
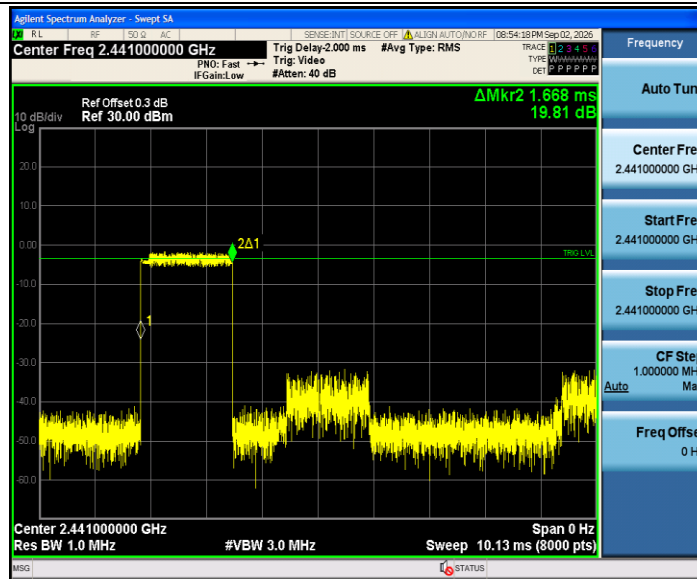




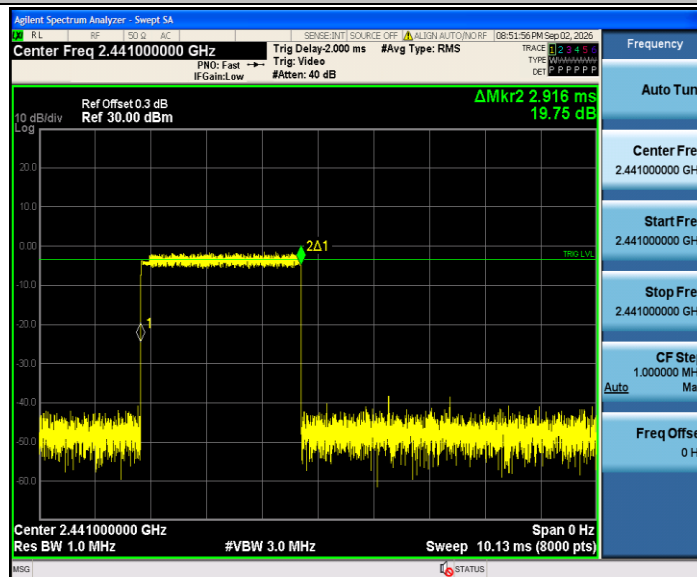
2DH1_Ant1_Hop

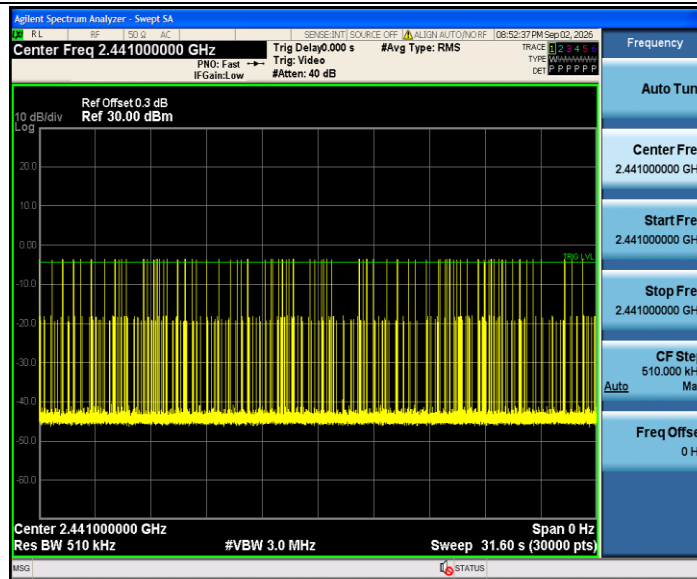


2DH3_Ant1_Hop

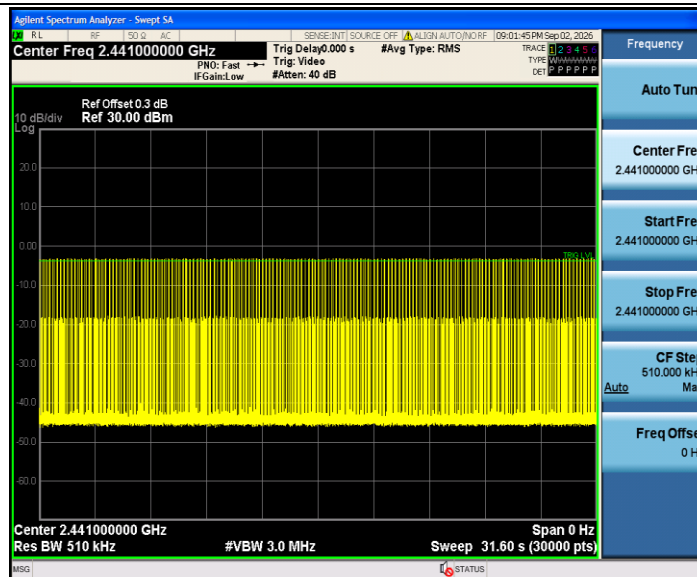
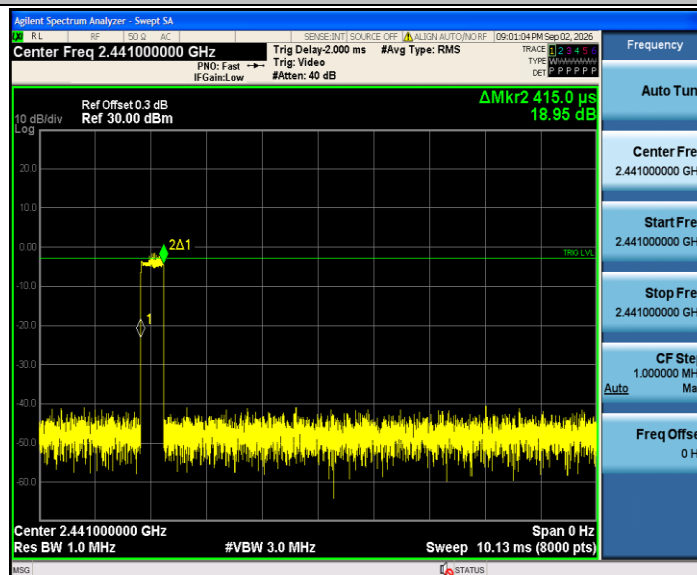


2DH5_Ant1_Hop

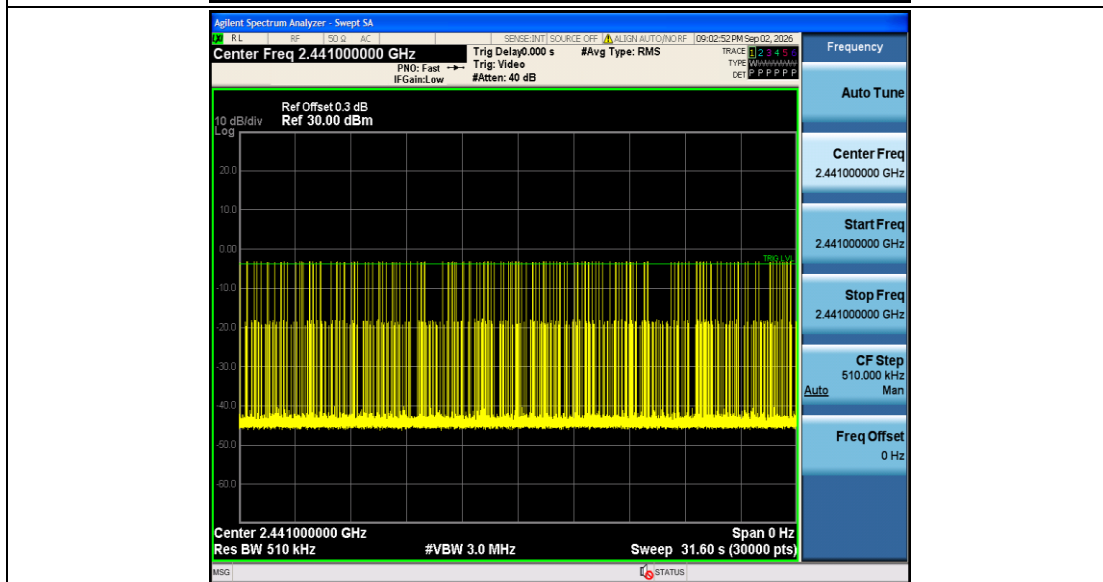
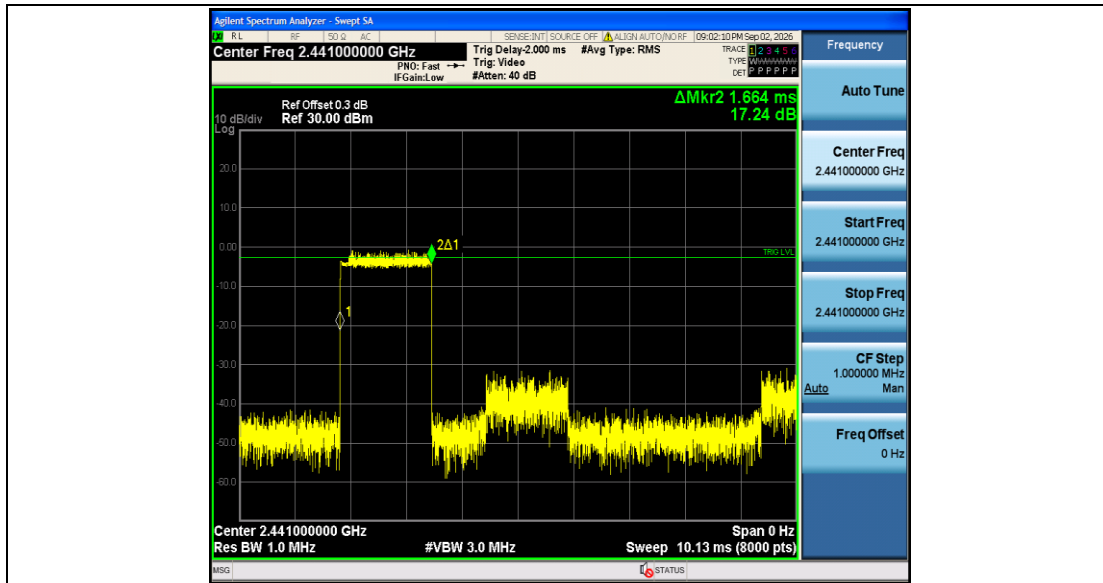




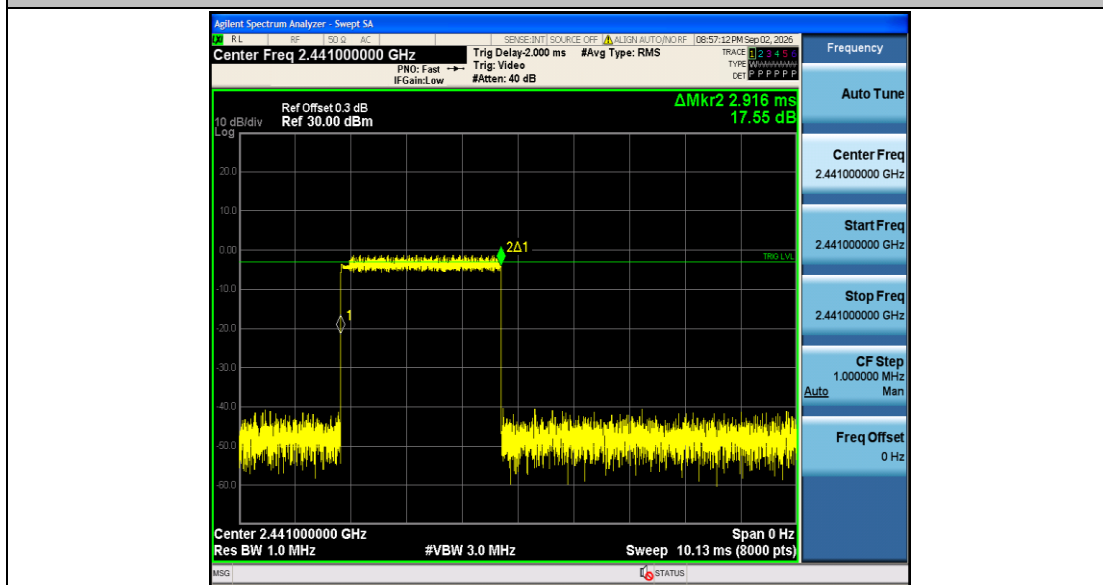
3DH1_Ant1_Hop

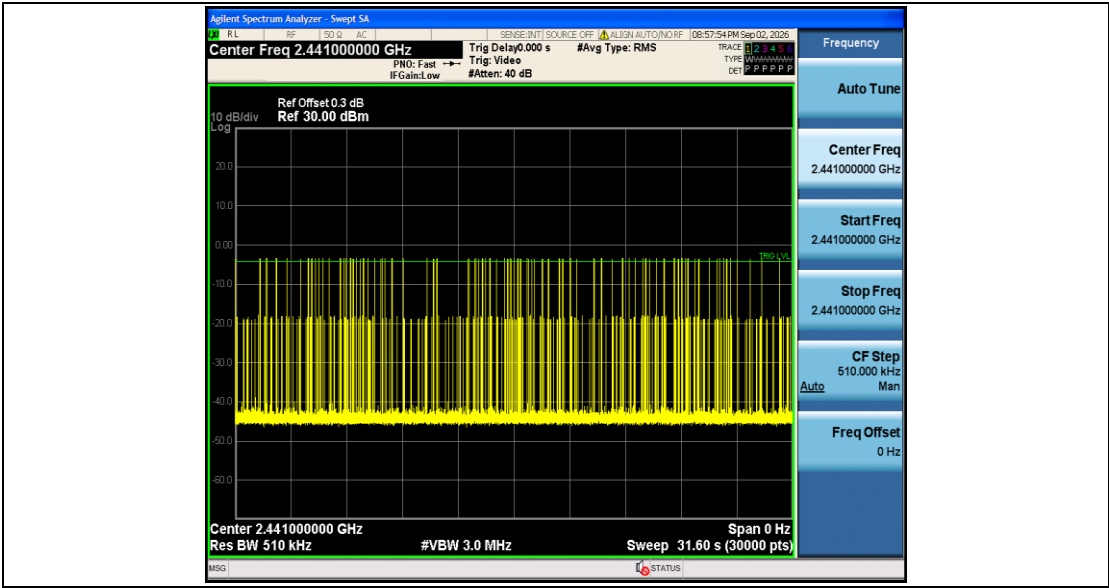


3DH3_Ant1_Hop



3DH5_Ant1_Hop



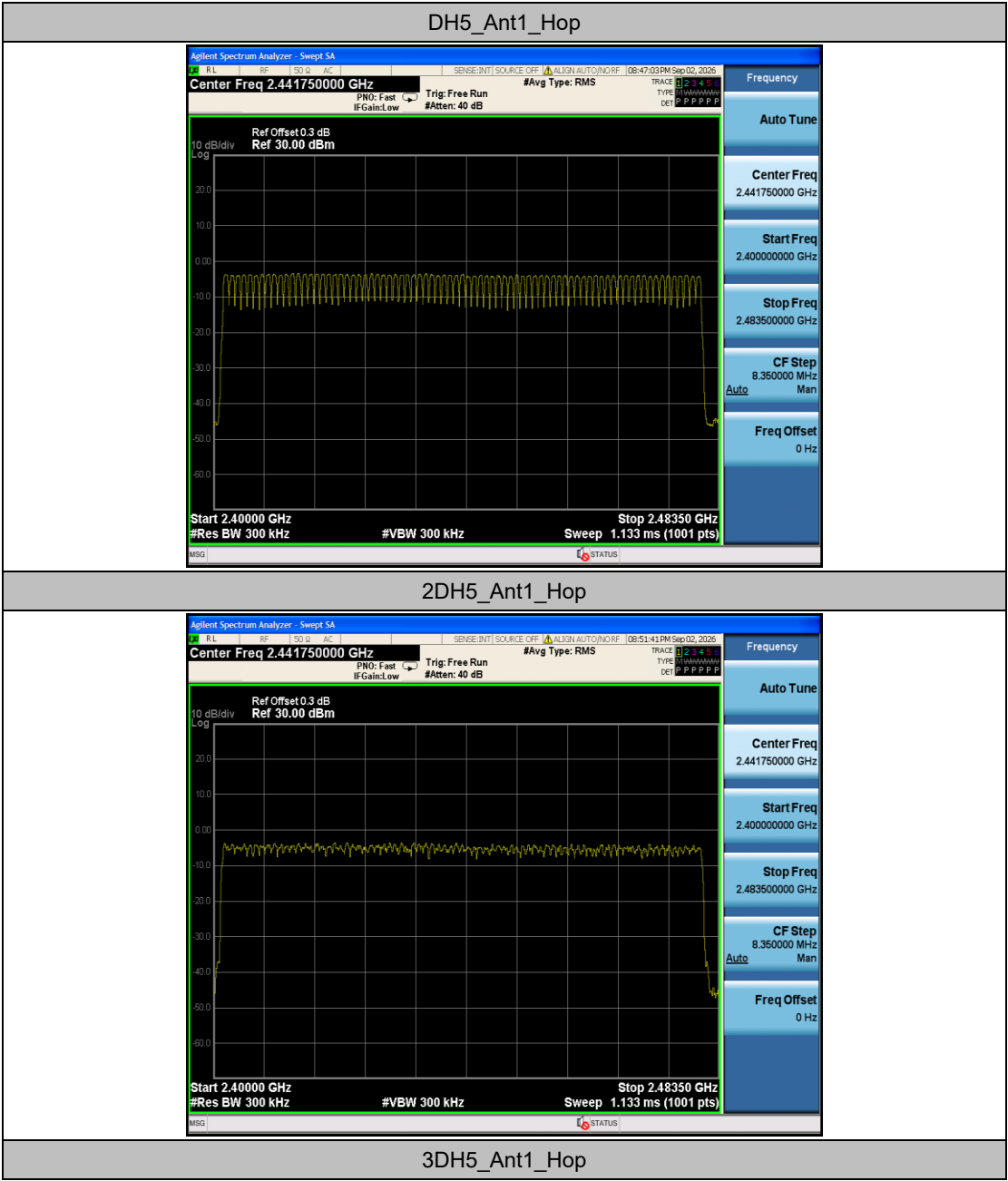


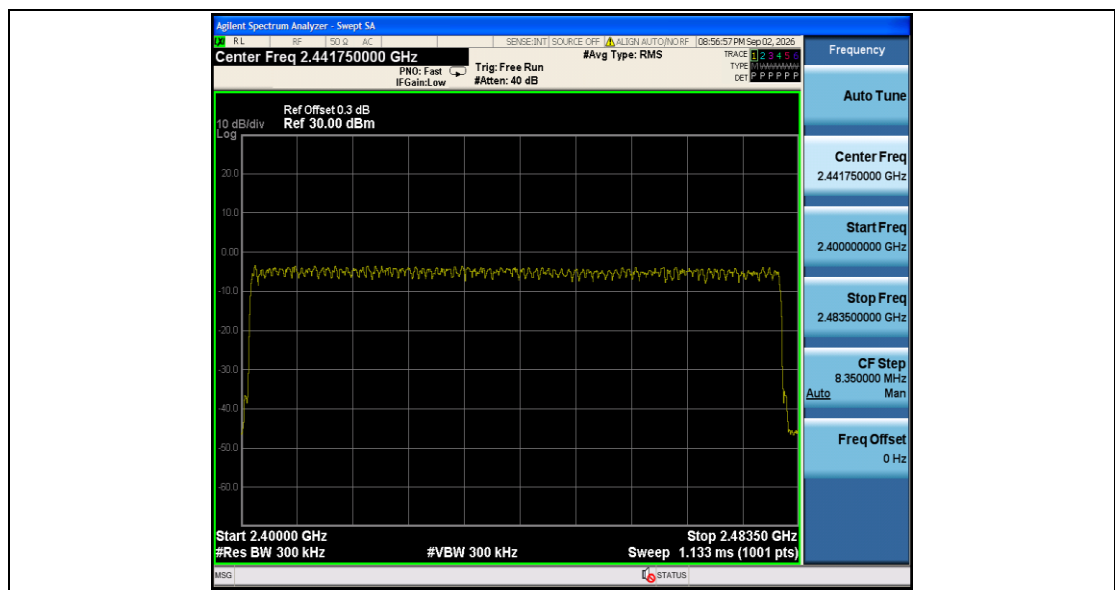
Appendix F: Number of hopping channels

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



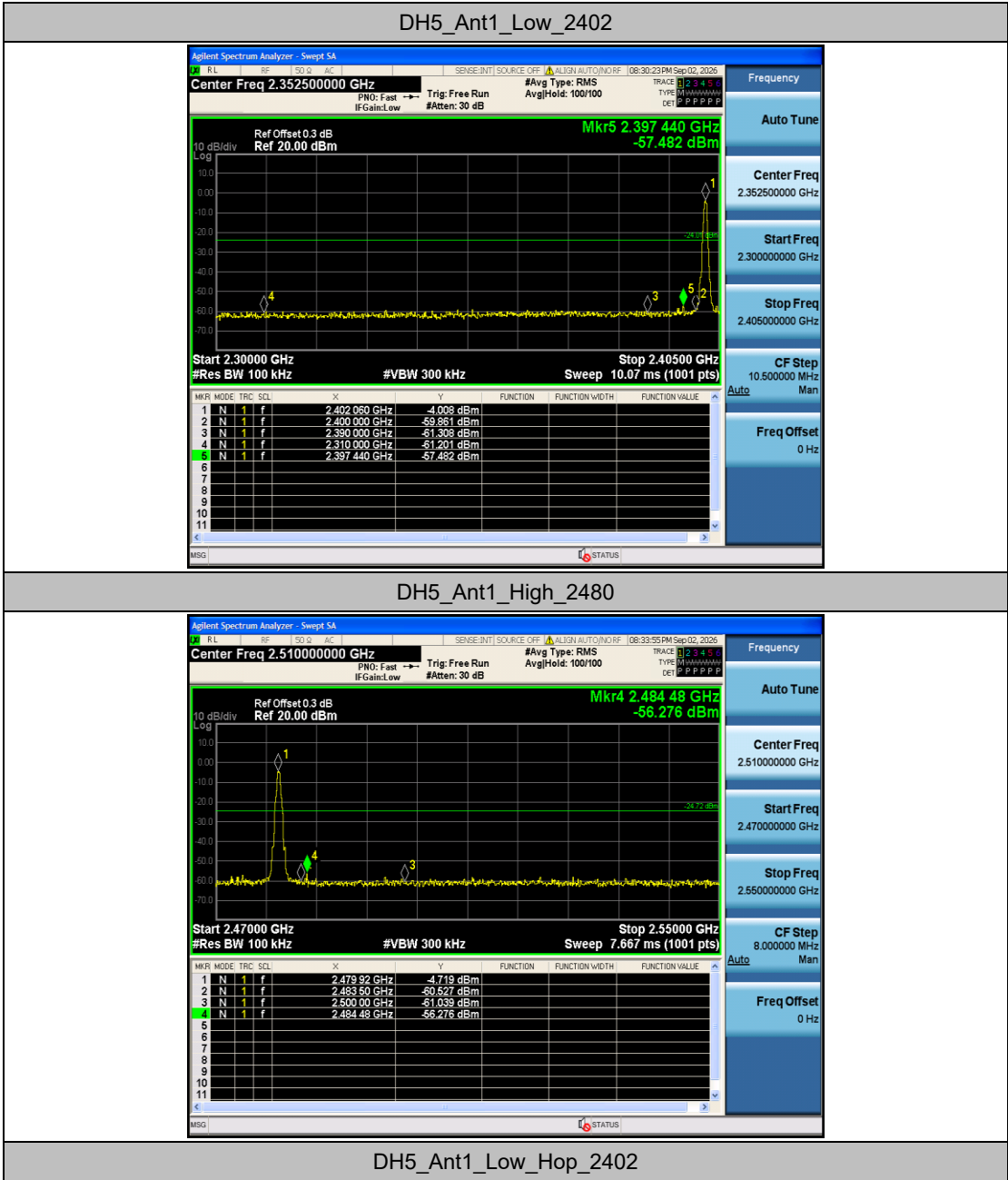


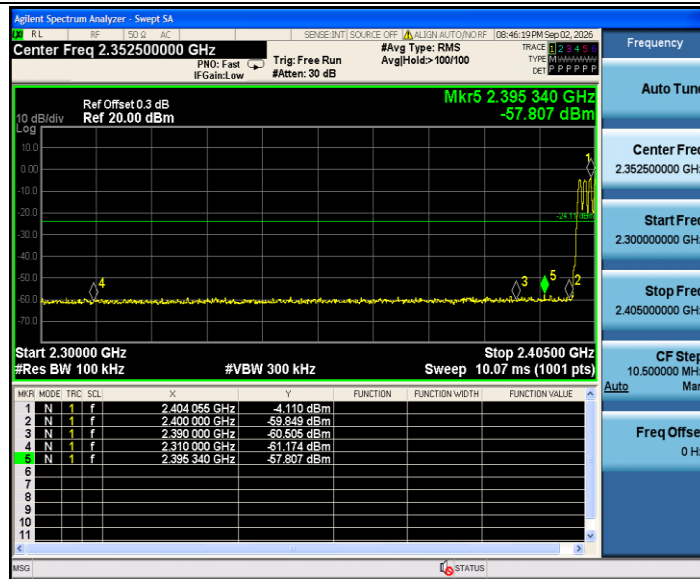
Appendix G: Band edge measurements

Test Result

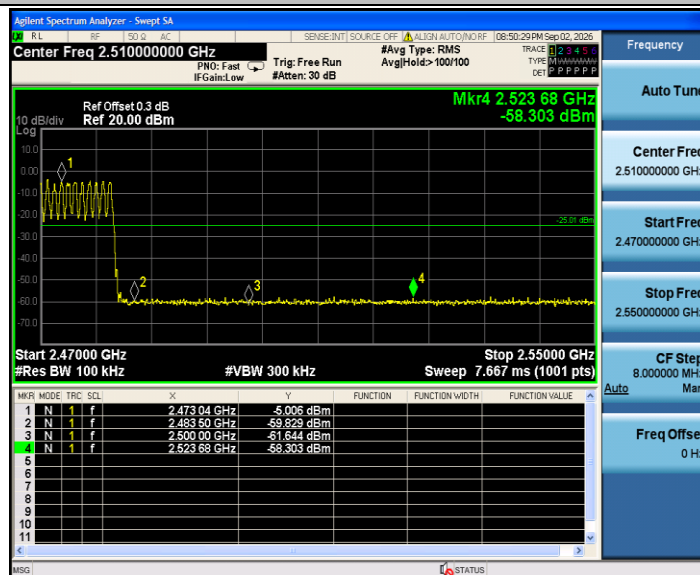
TestMode	Antenna	ChName	Freq(MHz)	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
DH5	Ant1	Low	2402	-4.01	-57.48	≤-24.01	PASS
		High	2480	-4.72	-56.28	≤-24.72	PASS
		Low	Hop_2402	-4.11	-57.81	≤-24.11	PASS
		High	Hop_2480	-5.01	-58.3	≤-25.01	PASS
2DH5	Ant1	Low	2402	-4.55	-58.08	≤-24.55	PASS
		High	2480	-5.89	-58.26	≤-25.89	PASS
		Low	Hop_2402	-4.92	-58.41	≤-24.92	PASS
		High	Hop_2480	-6.88	-58.37	≤-26.88	PASS
3DH5	Ant1	Low	2402	-5.06	-57.7	≤-25.06	PASS
		High	2480	-4.00	-52.06	≤-24	PASS
		Low	Hop_2402	-4.53	-58.76	≤-24.53	PASS
		High	Hop_2480	-4.69	-57.85	≤-24.69	PASS

Test Graphs

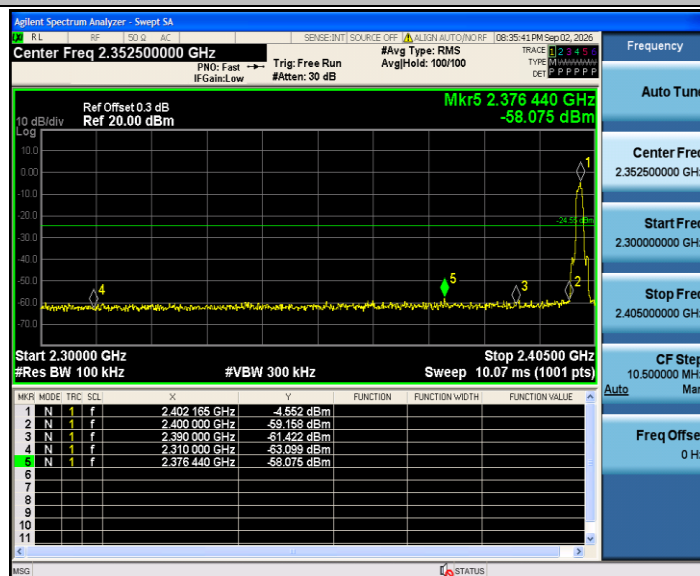




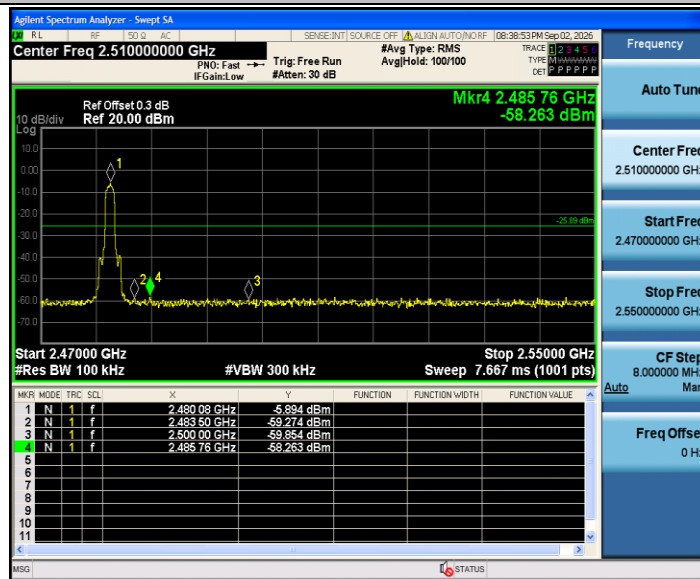
DH5_Ant1_High_Hop_2480



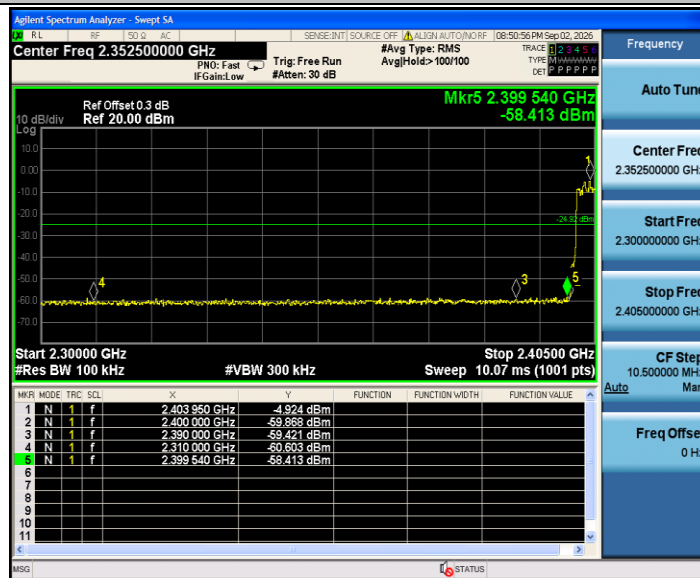
2DH5_Ant1_Low_2402



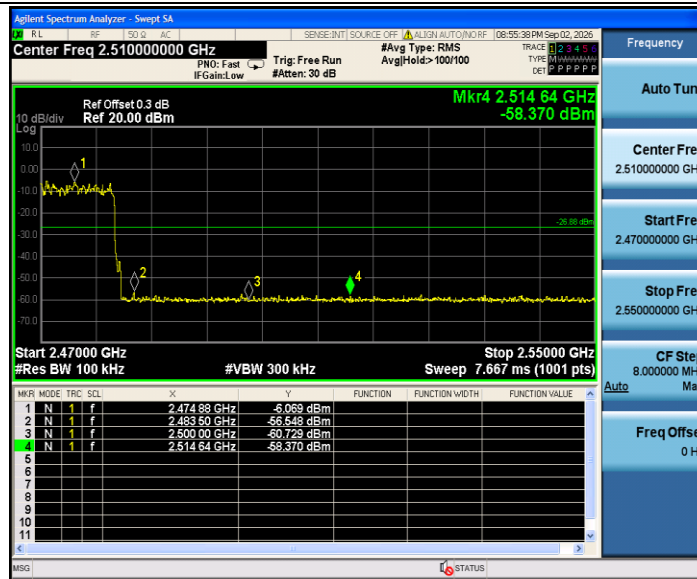
2DH5_Ant1_High_2480



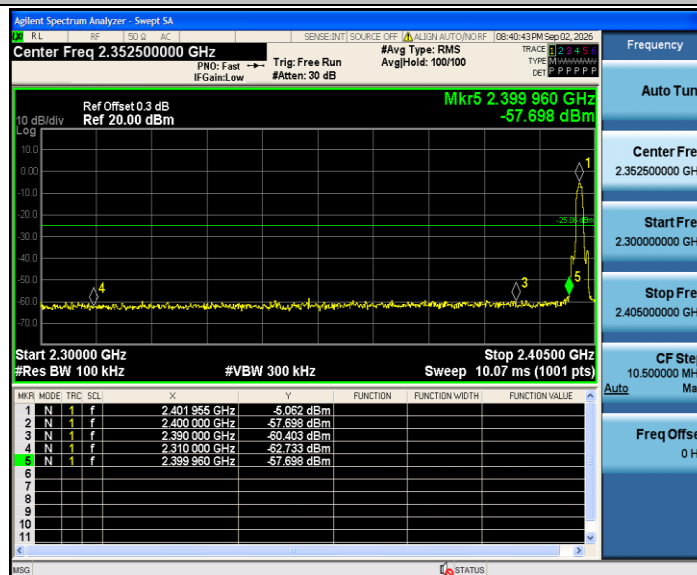
2DH5_Ant1_Low_Hop_2402



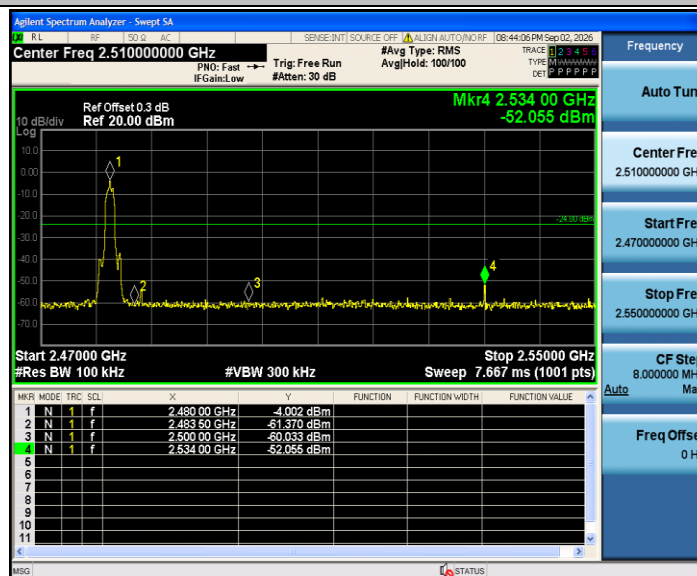
2DH5_Ant1_High_Hop_2480



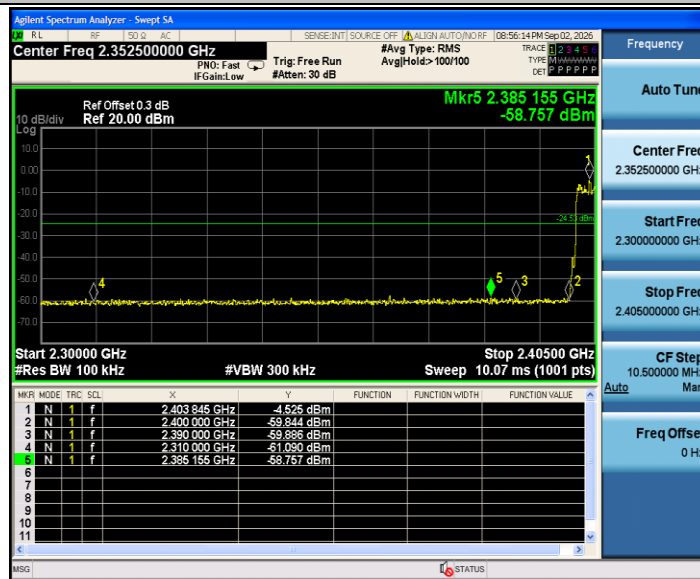
3DH5_Ant1_Low_2402



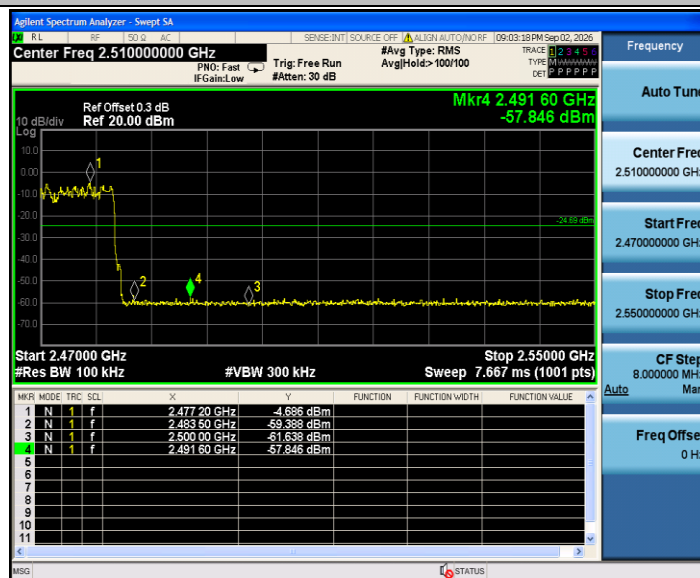
3DH5_Ant1_High_2480



3DH5_Ant1_Low_Hop_2402



3DH5_Ant1_High_Hop_2480

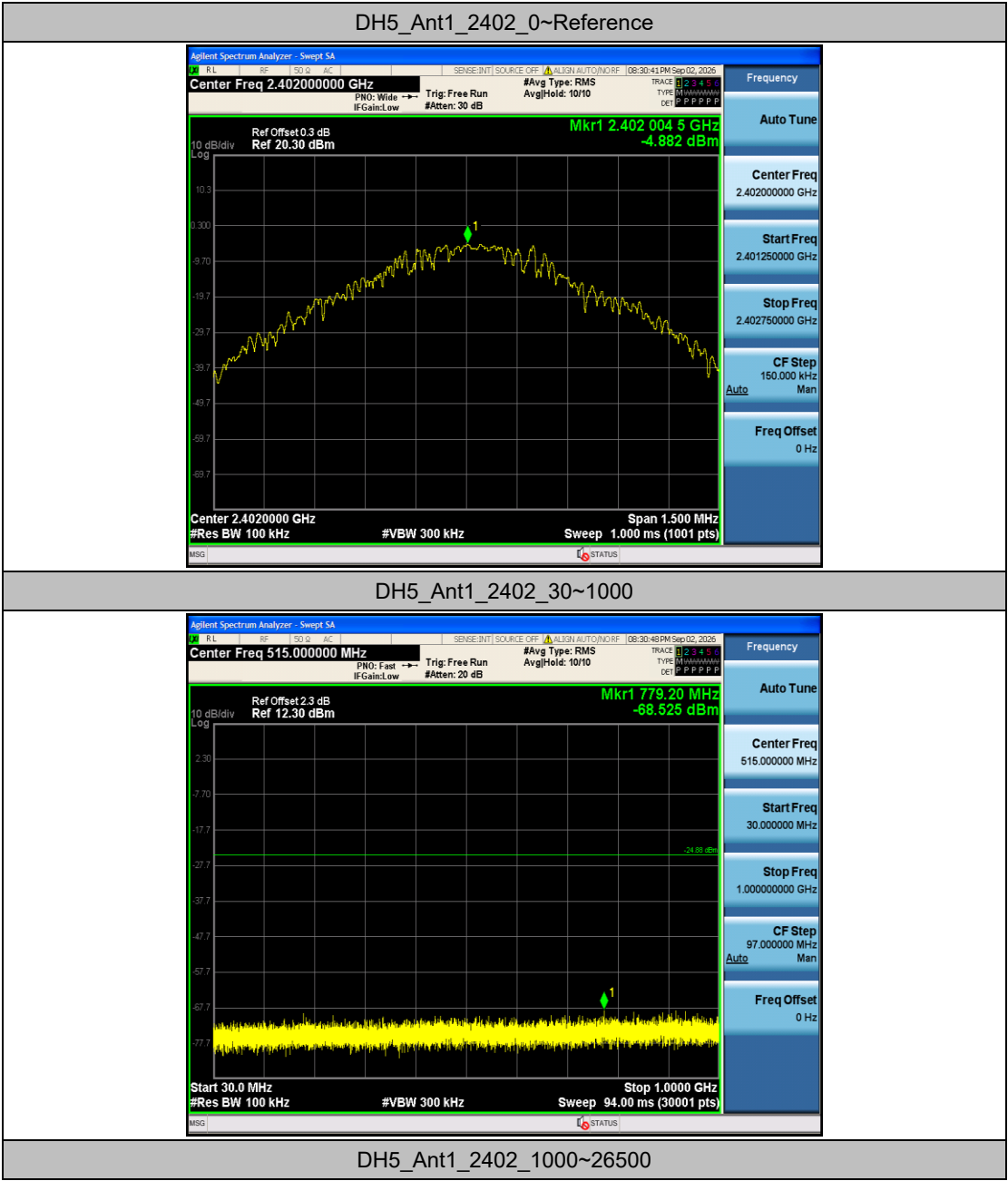


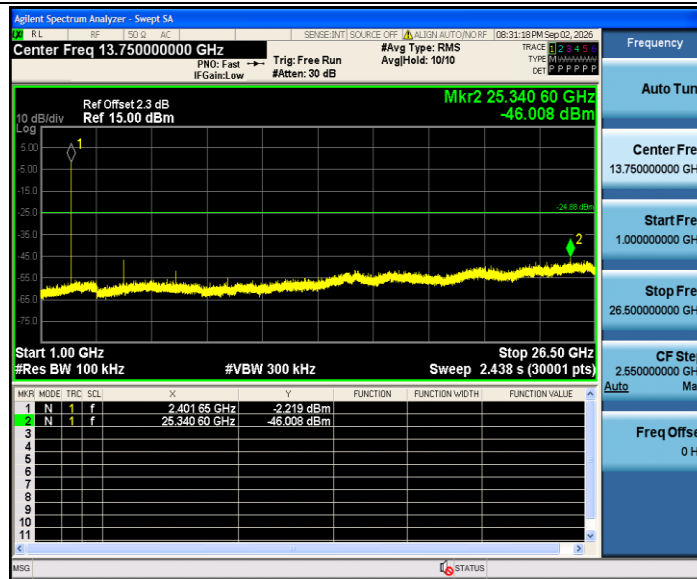
Appendix H: Conducted Spurious Emission

Test Result

TestMode	Antenna	Freq(MHz)	FreqRange [MHz]	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
DH5	Ant1	2402	Reference	-4.88	-4.88	---	PASS
			30~1000	-4.88	-68.53	≤-24.88	PASS
			1000~26500	-4.88	-46.01	≤-24.88	PASS
		2441	Reference	-5.11	-5.11	---	PASS
			30~1000	-5.11	-69.21	≤-25.11	PASS
			1000~26500	-5.11	-45.4	≤-25.11	PASS
		2480	Reference	-4.93	-4.93	---	PASS
			30~1000	-4.93	-68.76	≤-24.93	PASS
			1000~26500	-4.93	-34.64	≤-24.93	PASS
2DH5	Ant1	2402	Reference	-5.23	-5.23	---	PASS
			30~1000	-5.23	-68.77	≤-25.23	PASS
			1000~26500	-5.23	-46.81	≤-25.23	PASS
		2441	Reference	-7.01	-7.01	---	PASS
			30~1000	-7.01	-69.07	≤-27.01	PASS
			1000~26500	-7.01	-47.33	≤-27.01	PASS
		2480	Reference	-5.59	-5.59	---	PASS
			30~1000	-5.59	-68.78	≤-25.59	PASS
			1000~26500	-5.59	-47.29	≤-25.59	PASS
3DH5	Ant1	2402	Reference	-4.85	-4.85	---	PASS
			30~1000	-4.85	-68.44	≤-24.85	PASS
			1000~26500	-4.85	-46.42	≤-24.85	PASS
		2441	Reference	-4.39	-4.39	---	PASS
			30~1000	-4.39	-67.98	≤-24.39	PASS
			1000~26500	-4.39	-46.75	≤-24.39	PASS
		2480	Reference	-6.90	-6.90	---	PASS
			30~1000	-6.90	-69.41	≤-26.9	PASS
			1000~26500	-6.90	-47.06	≤-26.9	PASS

Test Graphs

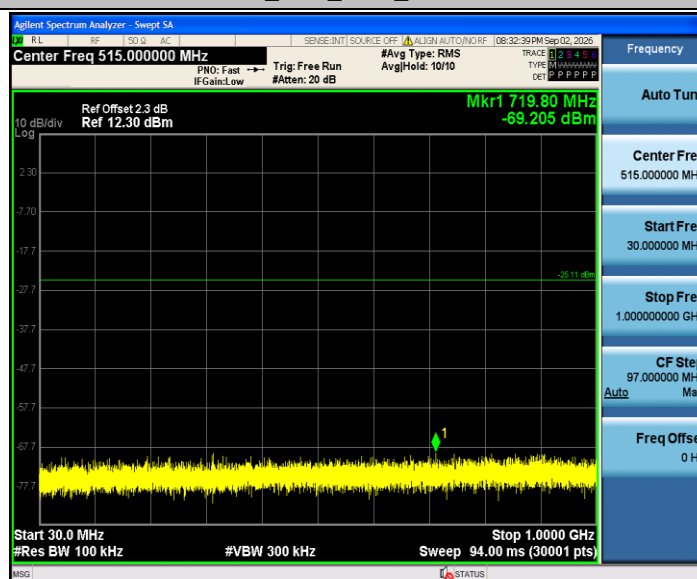




DH5_Ant1_2441_0~Reference



DH5_Ant1_2441_30~1000



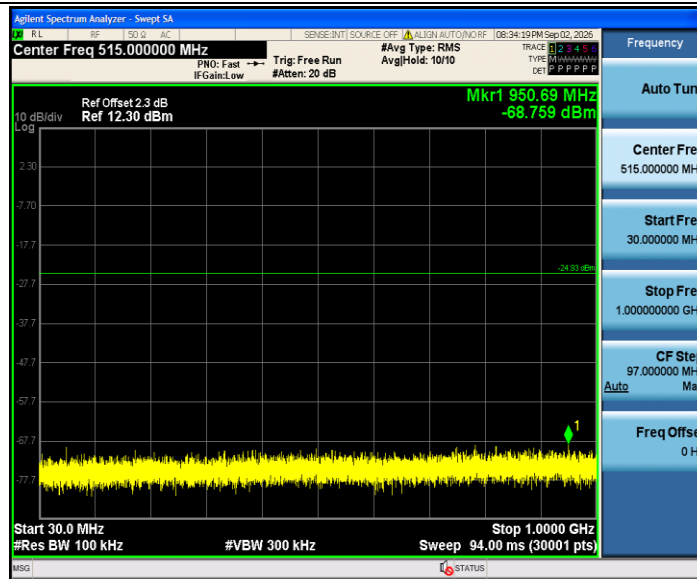
DH5_Ant1_2441_1000~26500



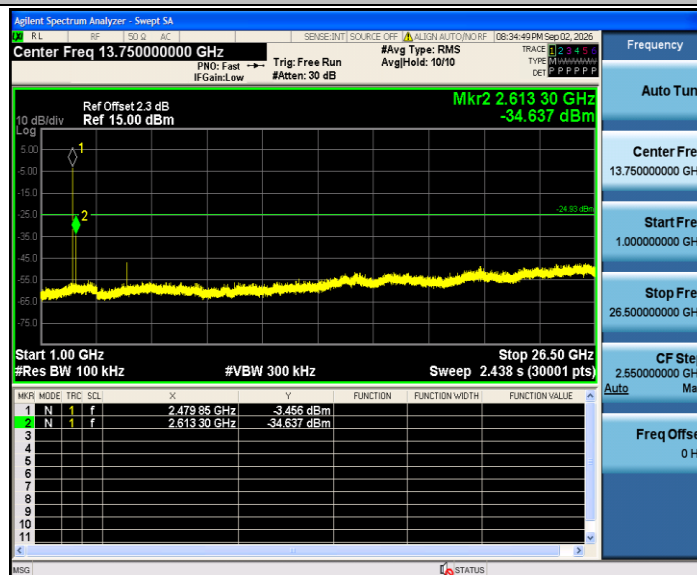
DH5_Ant1_2480_0~Reference



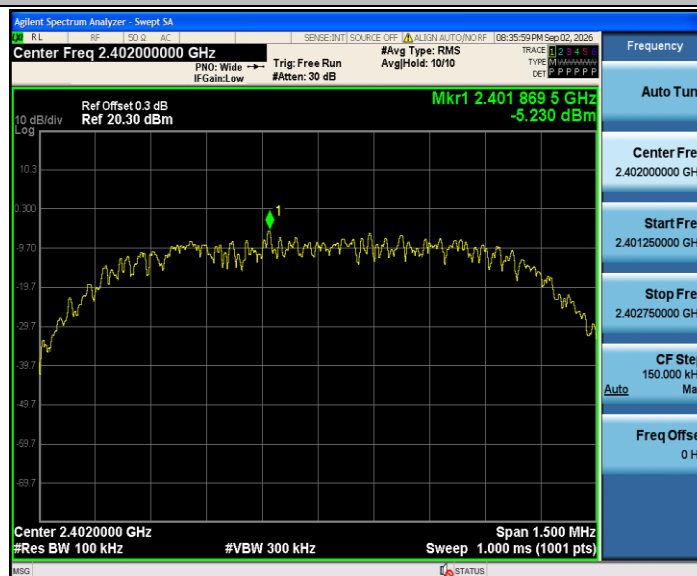
DH5_Ant1_2480_30~1000



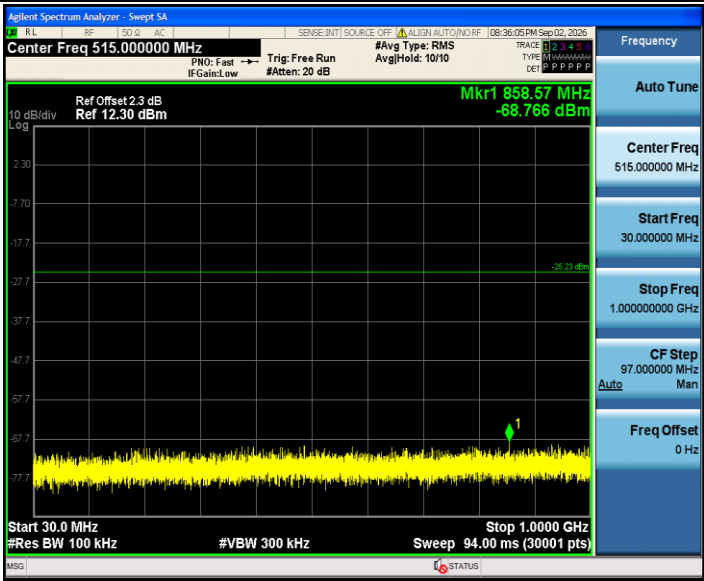
DH5_Ant1_2480_1000~26500



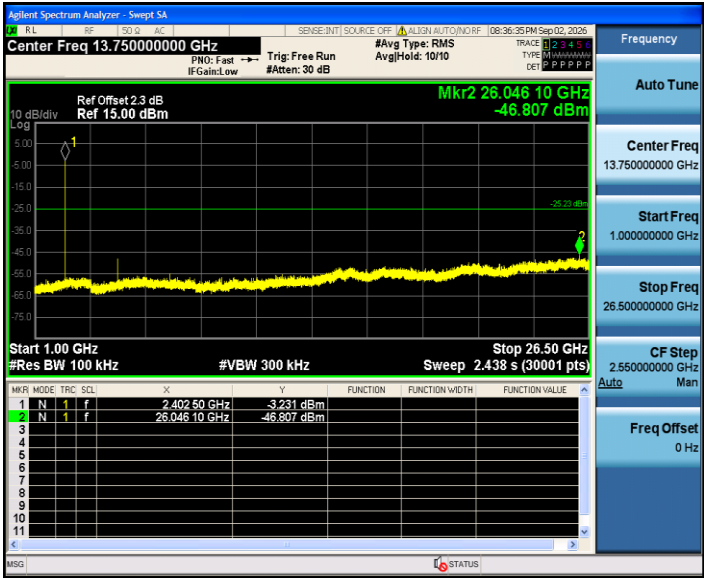
2DH5_Ant1_2402_0~Reference



2DH5_Ant1_2402_30~1000



2DH5_Ant1_2402_1000~26500



2DH5_Ant1_2441_0~Reference