

FCC Appendix RF Test Data for BT

FCC ID : 2BUMN-DY177

Company : DAZONE LLC

EUT : SPEAKER

Model Number : DY177

Report No. : CTA26091501901

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	0.954	2401.544	2402.498	---	---
		2441	0.942	2440.547	2441.489	---	---
		2480	0.963	2479.541	2480.504	---	---
2DH5	Ant1	2402	1.326	2401.343	2402.669	---	---
		2441	1.326	2440.343	2441.669	---	---
		2480	1.338	2479.340	2480.678	---	---
3DH5	Ant1	2402	1.296	2401.364	2402.660	---	---
		2441	1.290	2440.367	2441.657	---	---
		2480	1.287	2479.367	2480.654	---	---

Agilent Spectrum Analyzer - Sweep SA

Center Freq 2.40200000 GHz

Ref Offset 0.6 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

Log

10 dB/div

20.0

10.0

0.00

-10.0

-20.0

-30.0

-40.0

-50.0

-60.0

ΔMkr3 954 kHz
0.611 dB

Center 2.402000 GHz

#Res BW 30 kHz

#VBW 100 kHz

Span 3.000 MHz

Sweep 3.200 ms (1001 pts)

MKR	MODE	TRC	SOL	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE
1	N	1	f	2.401544 GHz	-22.961 dBm			
2	N	1	f	2.402024 GHz	-2.109 dBm			
3	Δ1	1	f (Δ)	954 kHz (Δ)	0.611 dB			

MSG

STATUS

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

Agilent Spectrum Analyzer - Sweep SA

Center Freq 2.441000000 GHz

Ref Offset 0.6 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

Log

10 dB/div

20.0

10.0

0.00

-10.0

-20.0

-30.0

-40.0

-50.0

-60.0

ΔMkr3 942 kHz
-0.019 dB

Center 2.441000 GHz

#Res BW 30 kHz

#VBW 100 kHz

Span 3.000 MHz

Sweep 3.200 ms (1001 pts)

MKR	MODE	TRC	SOL	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE
1	N	1	f	2.440547 GHz	-22.248 dBm			
2	N	1	f	2.441024 GHz	-2.170 dBm			
3	Δ1	1	f (Δ)	942 kHz (Δ)	-0.019 dB			

MSG

STATUS

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



2DH5_Ant1_2402



2DH5_Ant1_2441



2DH5_Ant1_2480



3DH5_Ant1_2402



3DH5_Ant1_2441



3DH5_Ant1_2480

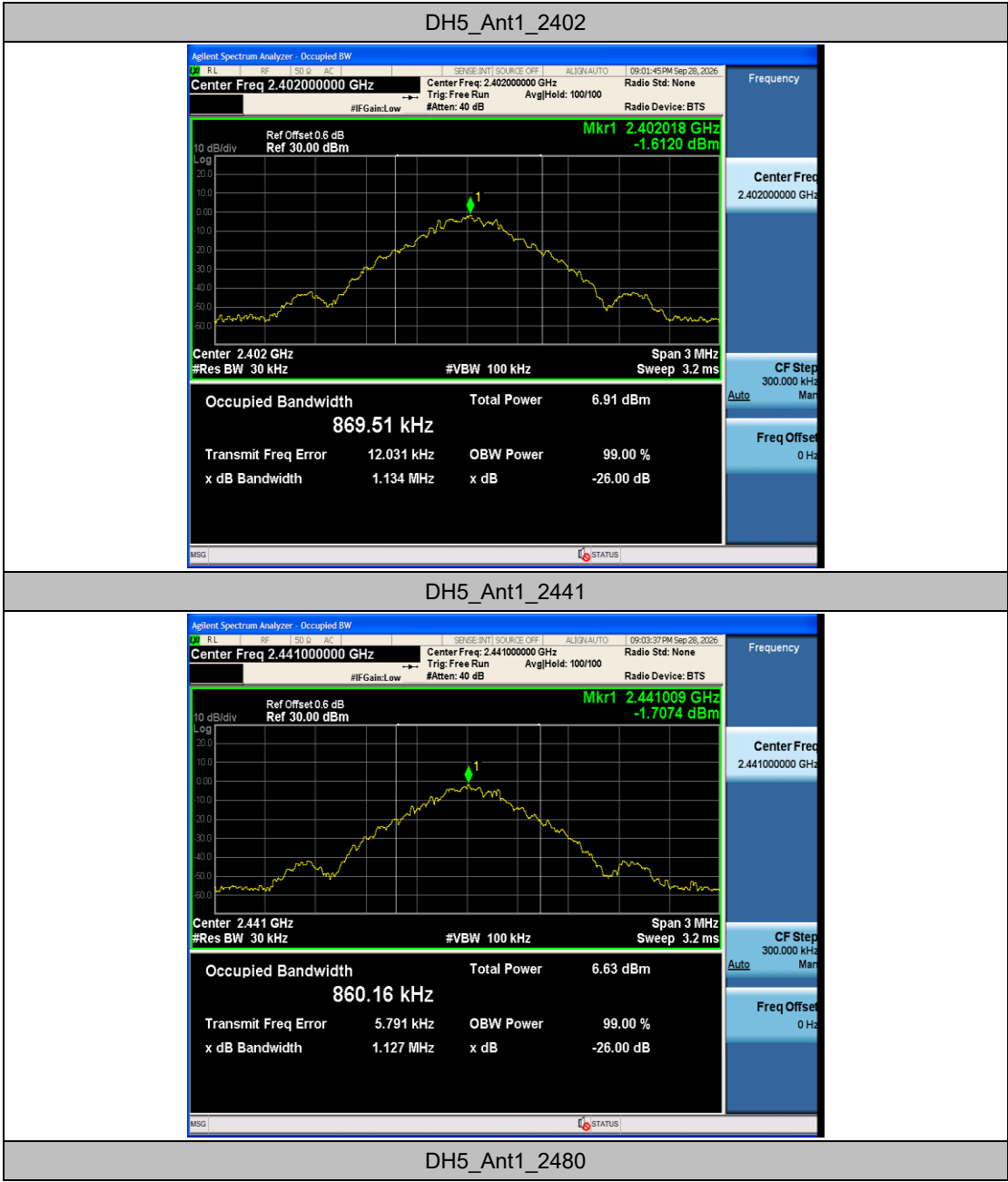


Appendix B: Occupied Channel Bandwidth

Test Result

TestMode	Antenna	Freq(MHz)	OCB [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
DH5	Ant1	2402	0.86951	2401.5773	2402.4468	---	---
		2441	0.86016	2440.5757	2441.4359	---	---
		2480	0.86725	2479.5797	2480.4469	---	---
2DH5	Ant1	2402	1.1940	2401.4117	2402.6057	---	---
		2441	1.1791	2440.4189	2441.5980	---	---
		2480	1.1895	2479.4149	2480.6044	---	---
3DH5	Ant1	2402	1.1849	2401.4193	2402.6042	---	---
		2441	1.1960	2440.4106	2441.6066	---	---
		2480	1.1870	2479.4156	2480.6026	---	---

Test Graphs





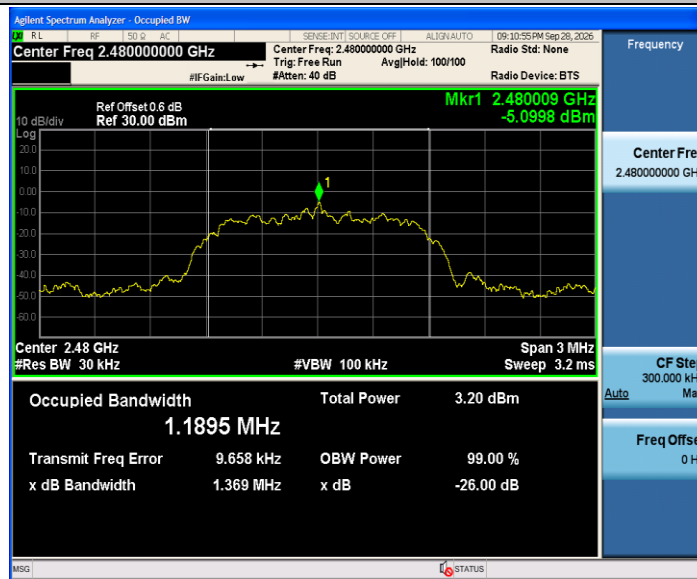
2DH5_Ant1_2402



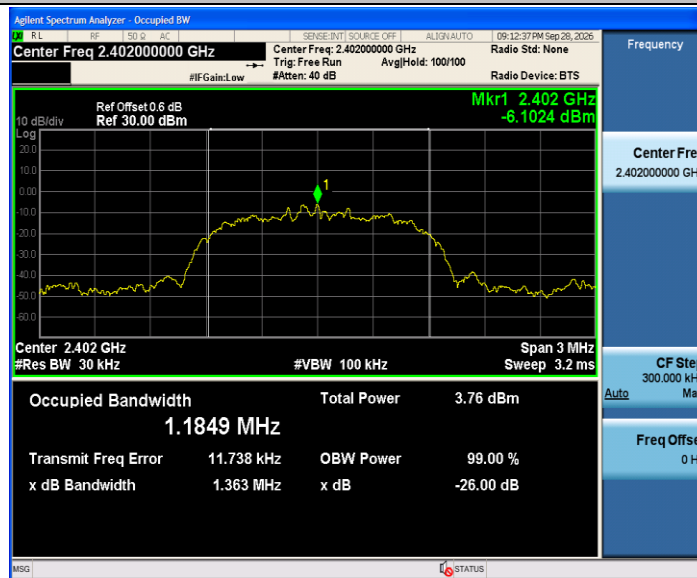
2DH5_Ant1_2441



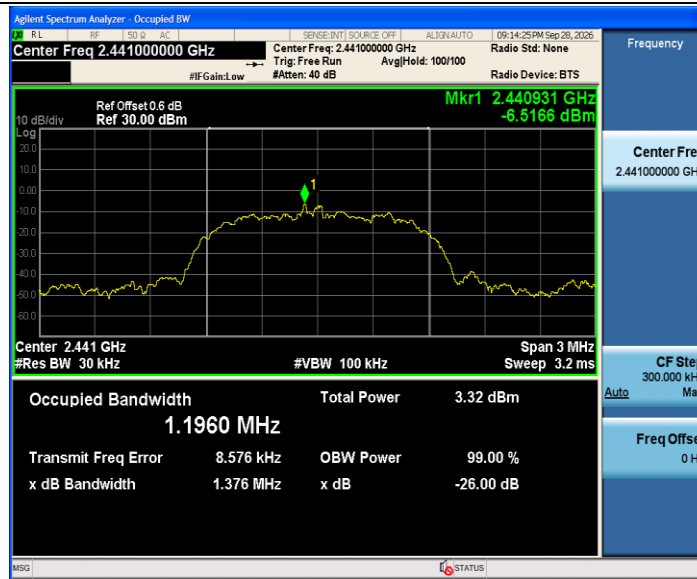
2DH5_Ant1_2480



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	0.27	≤20.97	PASS
		2441	0.18	≤20.97	PASS
		2480	-0.02	≤20.97	PASS
2DH5	Ant1	2402	-0.61	≤20.97	PASS
		2441	-0.67	≤20.97	PASS
		2480	-0.89	≤20.97	PASS
3DH5	Ant1	2402	-0.22	≤20.97	PASS
		2441	-0.27	≤20.97	PASS
		2480	-0.51	≤20.97	PASS

Appendix D: Carrier frequency separation

Test Result

TestMode	Antenna	Freq(MHz)	Result[MHz]	Limit[MHz]	Verdict
DH5	Ant1	Hop	0.996	≥ 0.963	PASS
2DH5	Ant1	Hop	1.096	≥ 0.892	PASS
3DH5	Ant1	Hop	1.014	≥ 0.864	PASS

Test Graphs



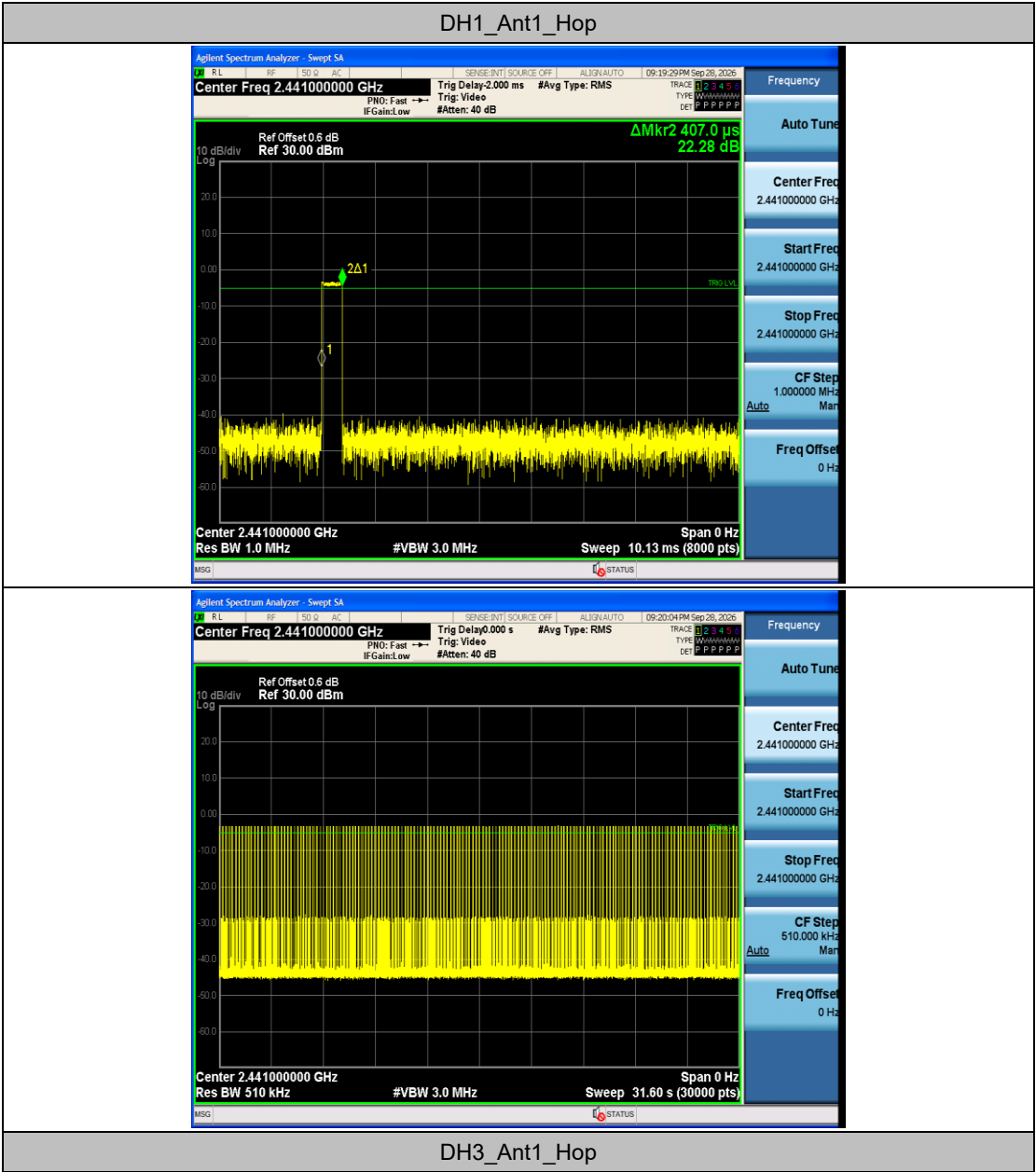


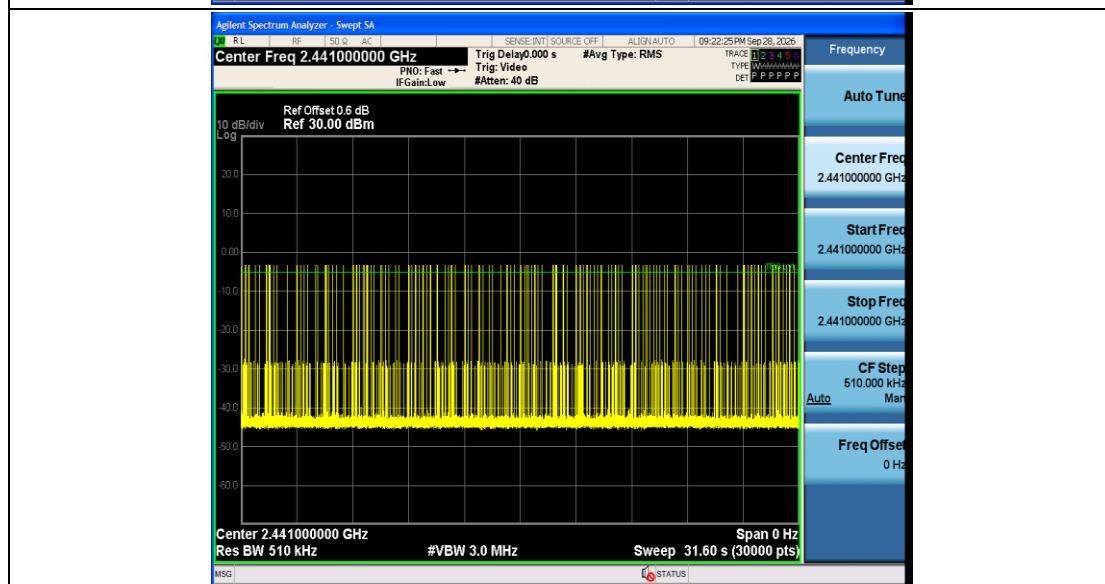
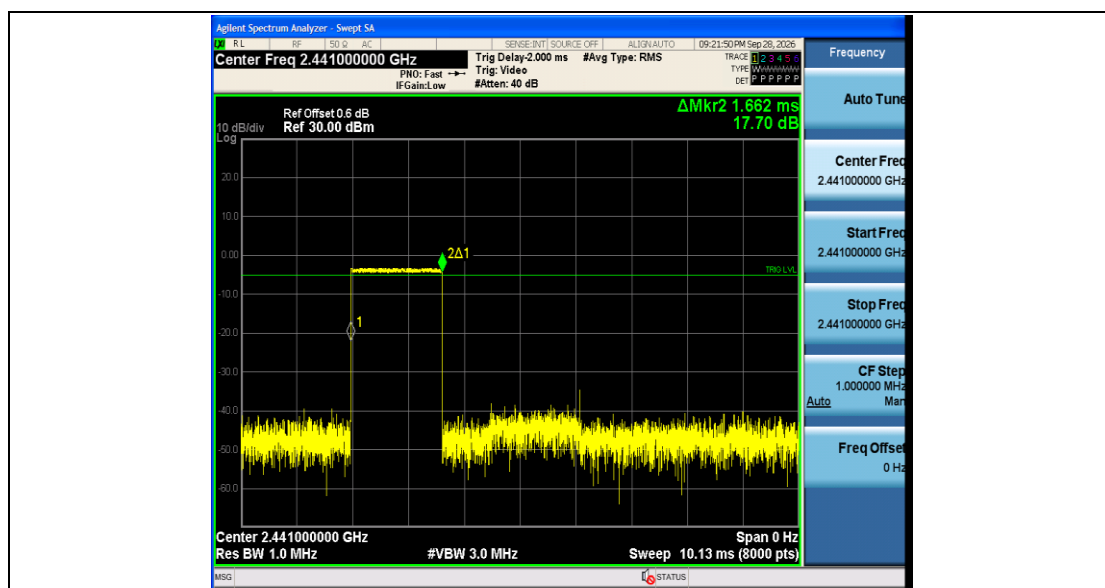
Appendix E: Time of occupancy

Test Result

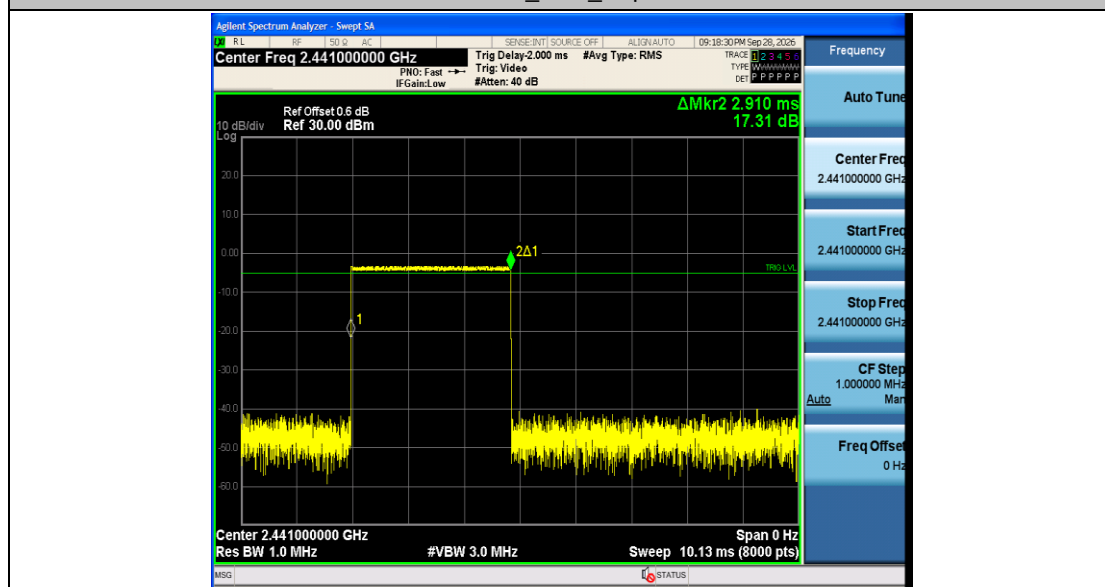
TestMode	Antenna	Freq(MHz)	BurstWidth [ms]	TotalHops [Num]	Result[s]	Limit[s]	Verdict
DH1	Ant1	Hop	0.407	319	0.13	≤0.4	PASS
DH3	Ant1	Hop	1.662	157	0.261	≤0.4	PASS
DH5	Ant1	Hop	2.910	102	0.297	≤0.4	PASS
2DH1	Ant1	Hop	0.417	320	0.133	≤0.4	PASS
2DH3	Ant1	Hop	1.667	161	0.268	≤0.4	PASS
2DH5	Ant1	Hop	2.916	104	0.303	≤0.4	PASS
3DH1	Ant1	Hop	0.415	319	0.132	≤0.4	PASS
3DH3	Ant1	Hop	1.666	165	0.275	≤0.4	PASS
3DH5	Ant1	Hop	2.917	99	0.289	≤0.4	PASS

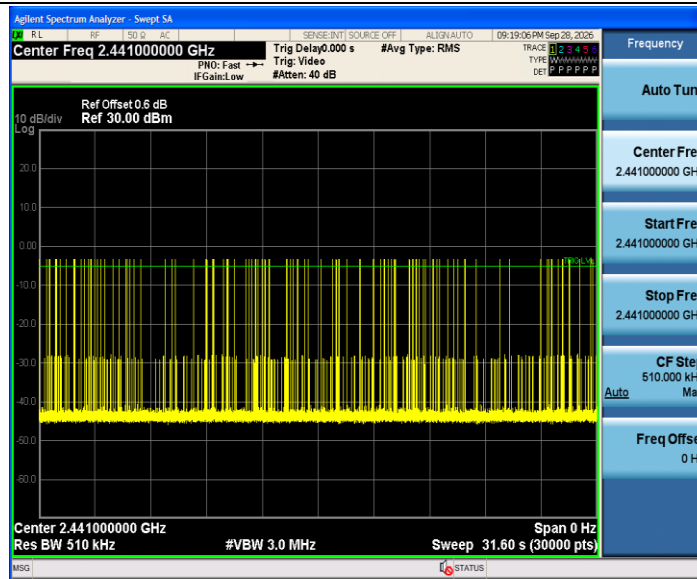
Test Graphs



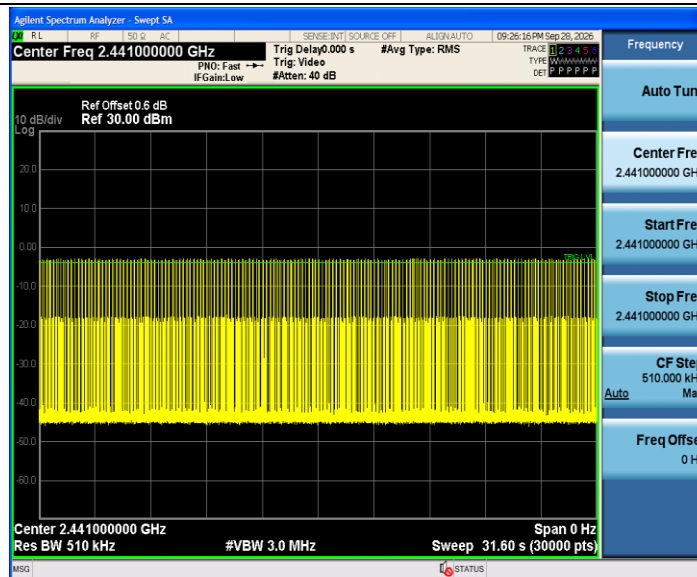
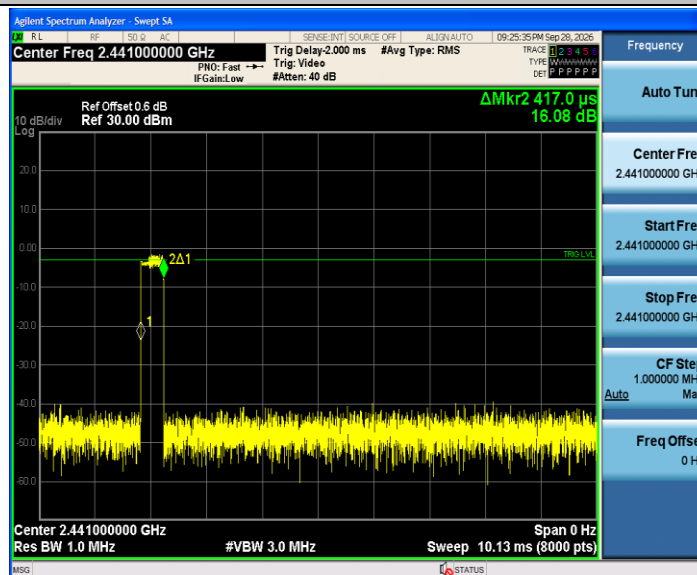


DH5_Ant1_Hop

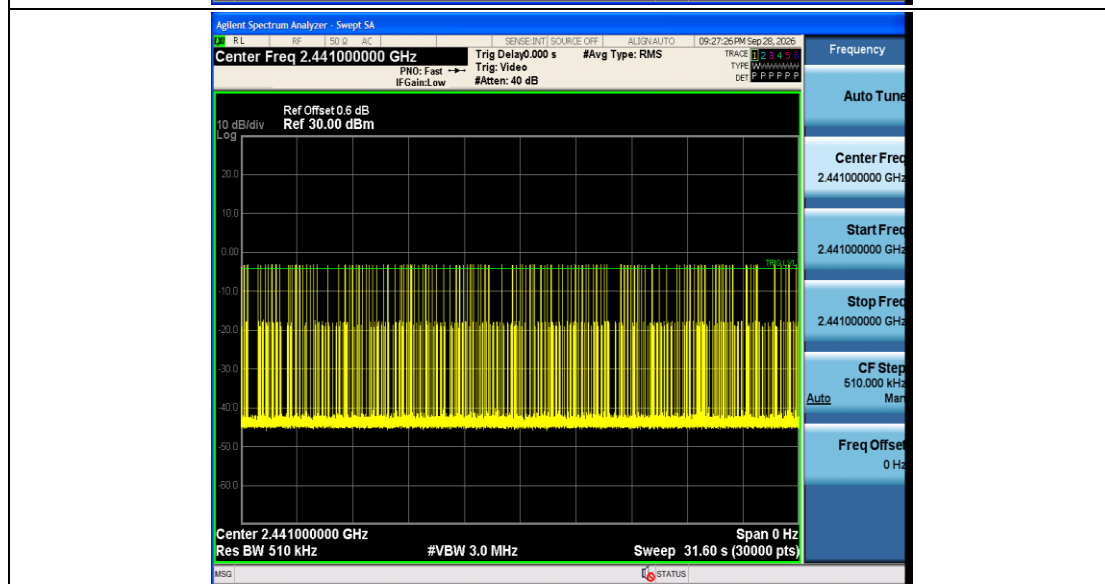
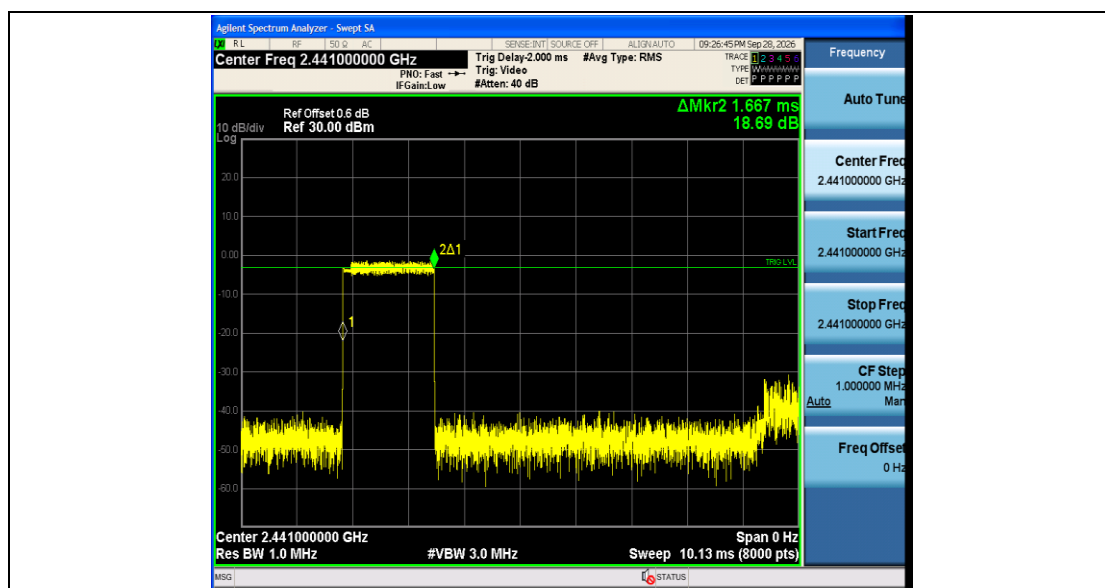




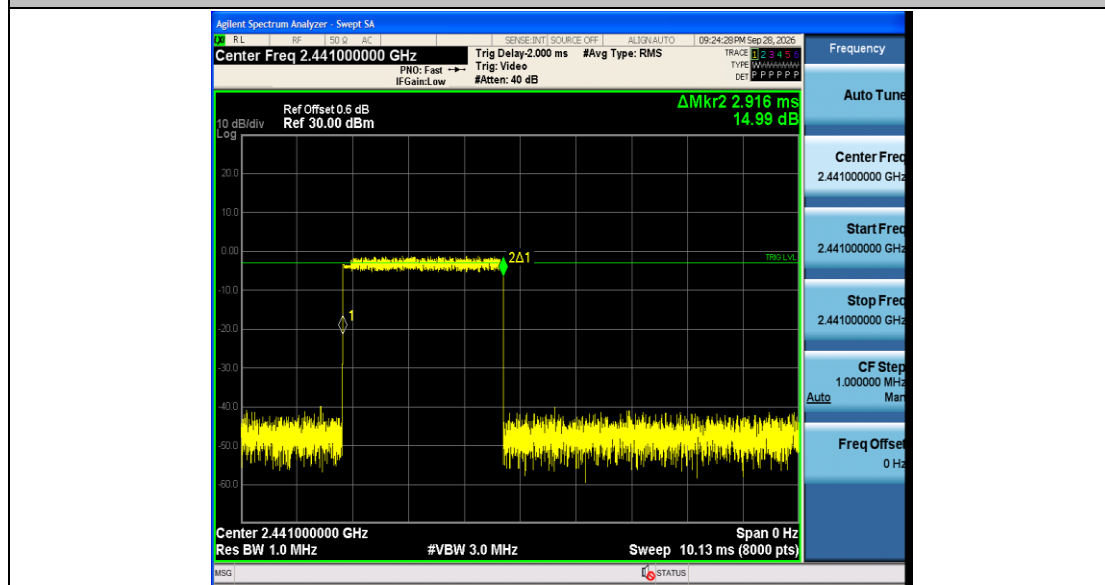
2DH1_Ant1_Hop

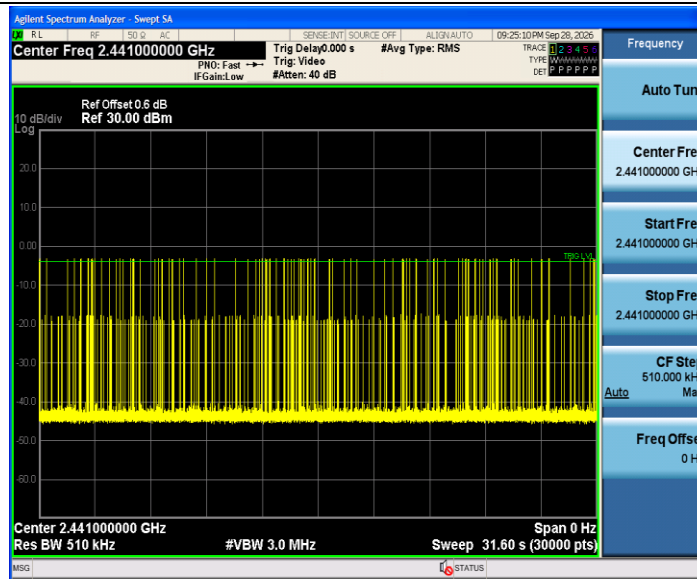


2DH3_Ant1_Hop

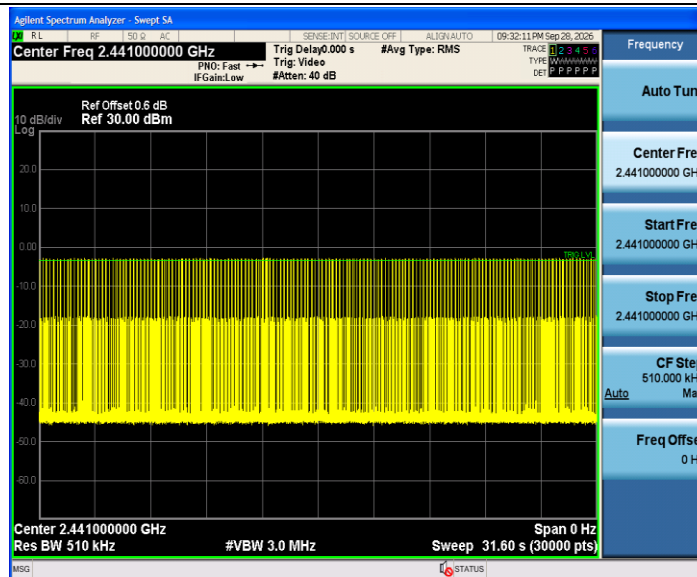
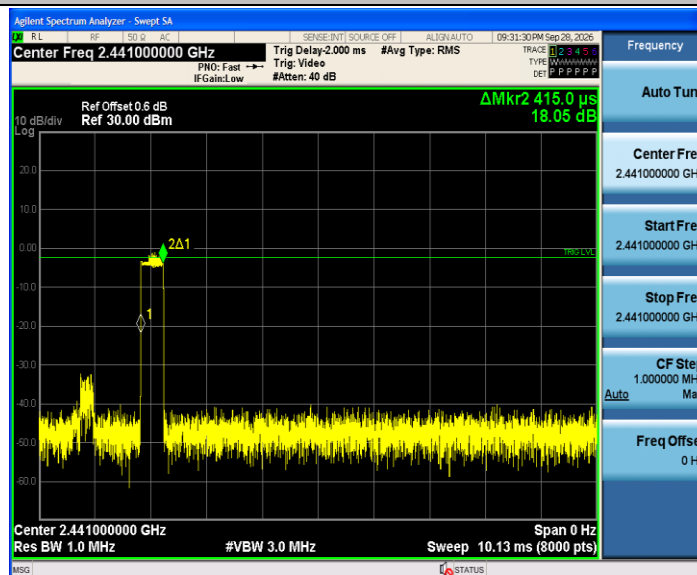


2DH5_Ant1_Hop

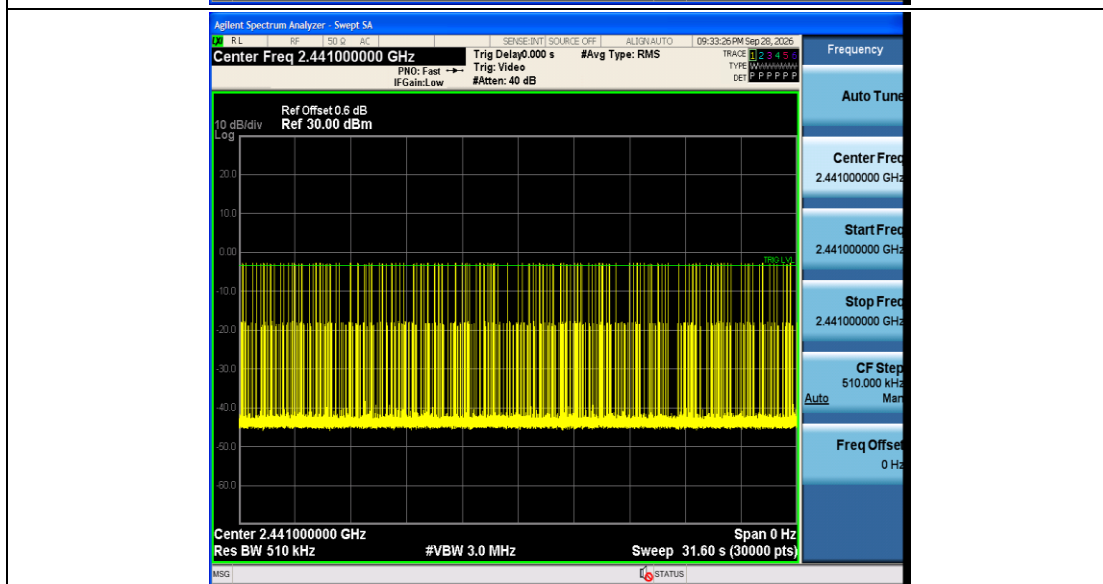
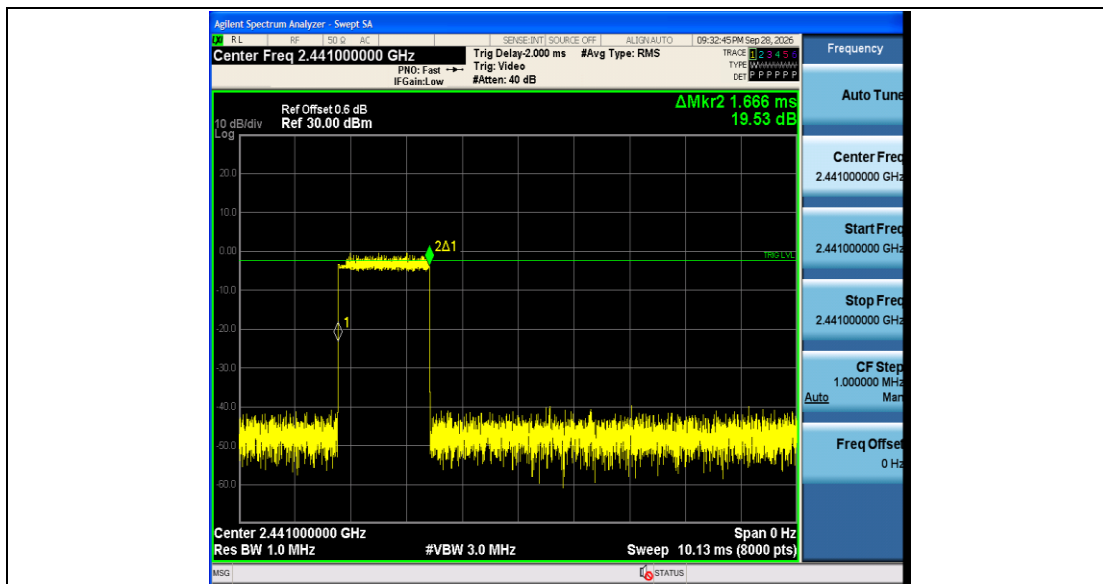




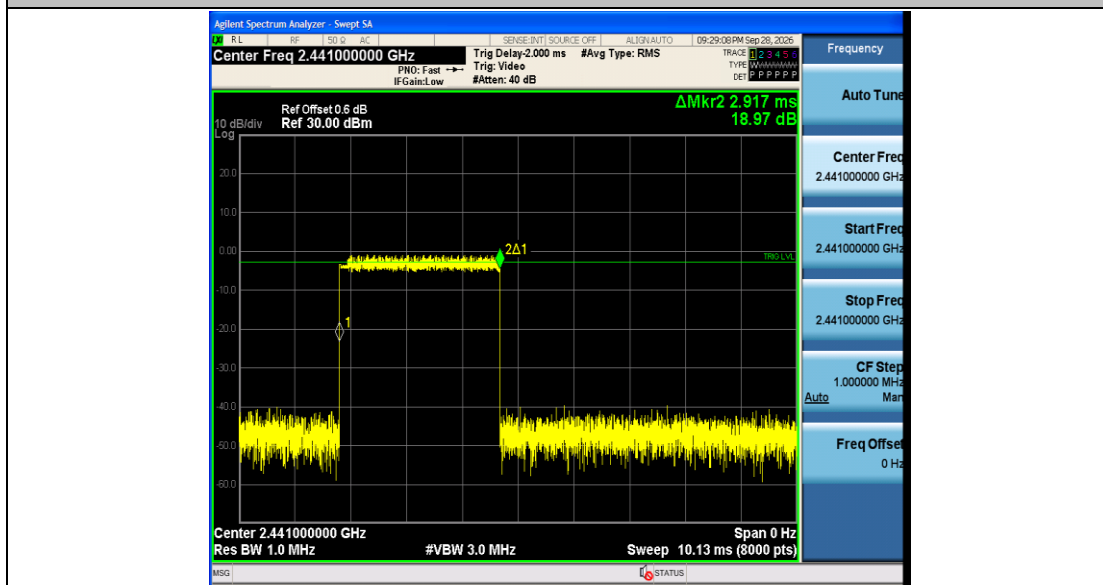
3DH1_Ant1_Hop

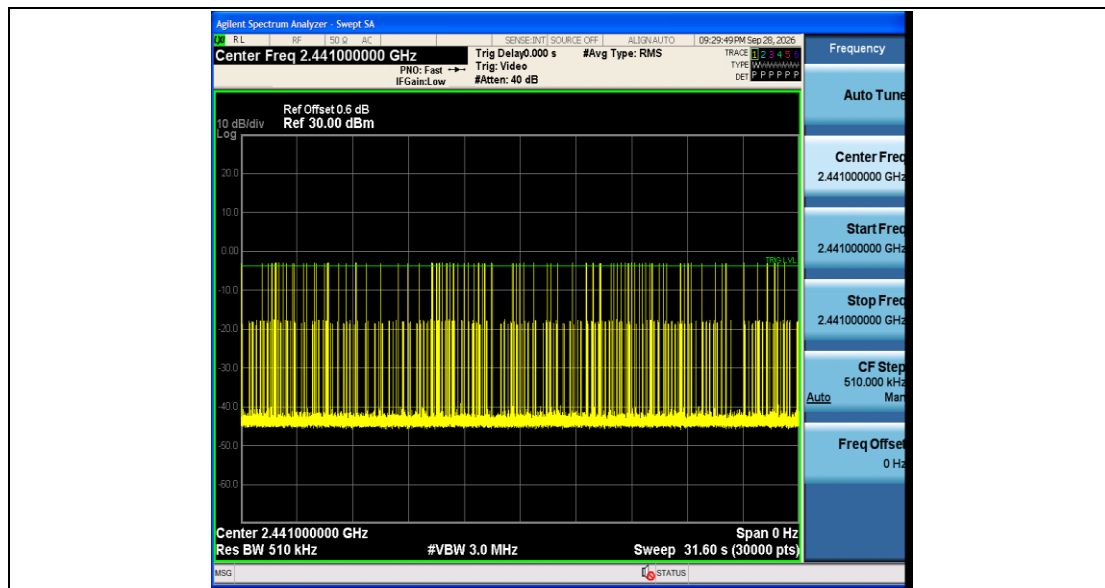


3DH3_Ant1_Hop



3DH5_Ant1_Hop



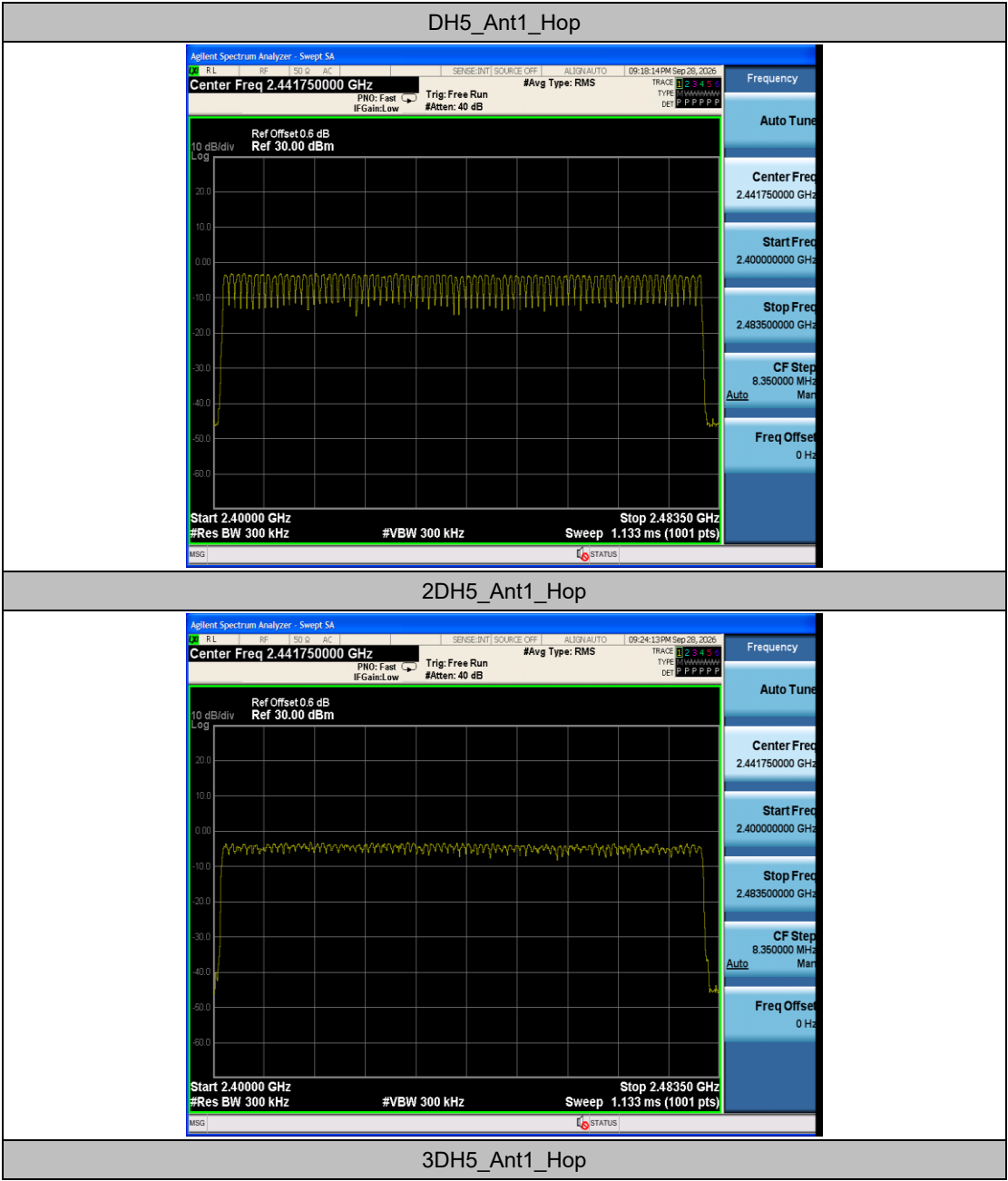


Appendix F: Number of hopping channels

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

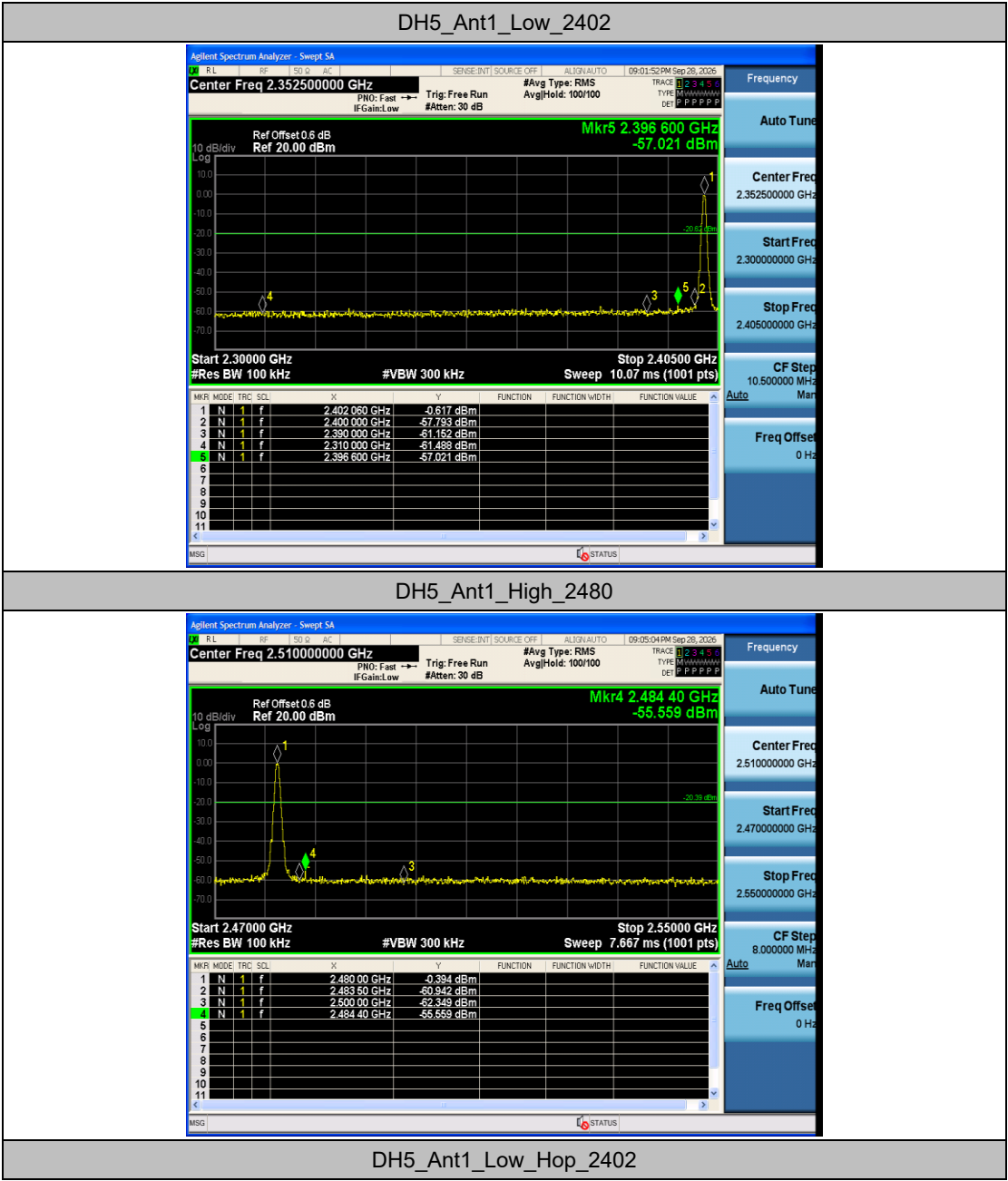


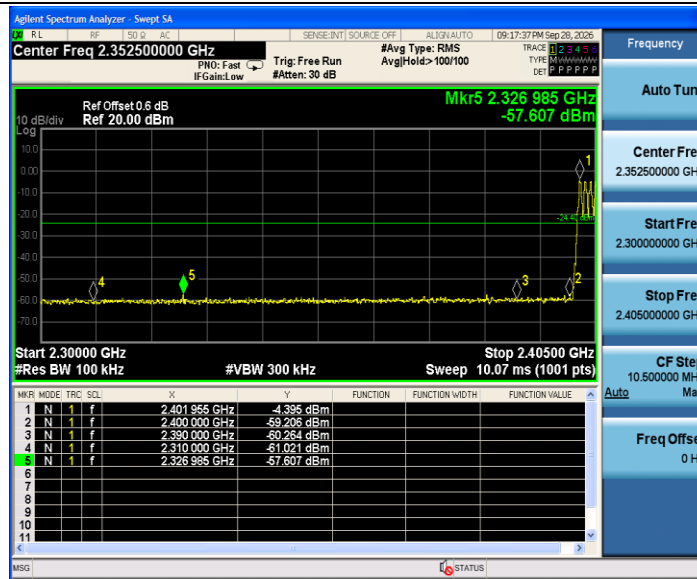
Appendix G: Band edge measurements

Test Result

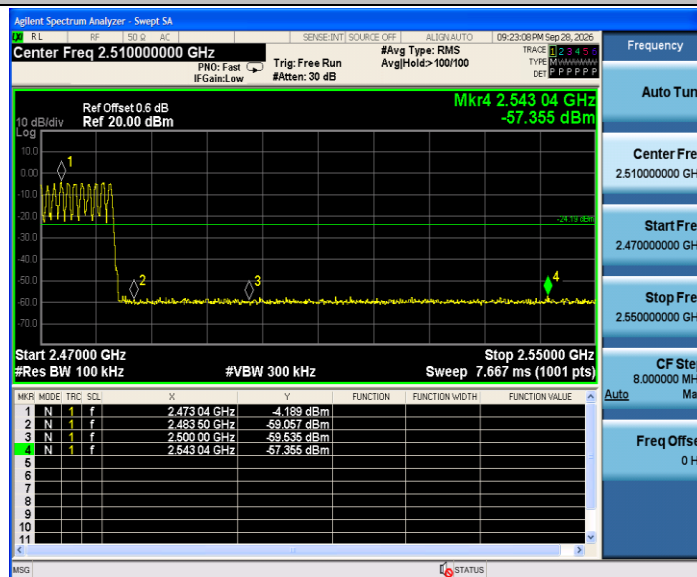
TestMode	Antenna	ChName	Freq(MHz)	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
DH5	Ant1	Low	2402	-0.62	-57.02	≤ -20.62	PASS
		High	2480	-0.39	-55.56	≤ -20.39	PASS
		Low	Hop_2402	-4.40	-57.61	≤ -24.4	PASS
		High	Hop_2480	-4.19	-57.36	≤ -24.19	PASS
2DH5	Ant1	Low	2402	-3.69	-55.49	≤ -23.69	PASS
		High	2480	-3.50	-57.47	≤ -23.5	PASS
		Low	Hop_2402	-3.93	-55.76	≤ -23.93	PASS
		High	Hop_2480	-4.31	-56.97	≤ -24.31	PASS
3DH5	Ant1	Low	2402	-5.00	-58.26	≤ -25	PASS
		High	2480	-5.28	-56.54	≤ -25.28	PASS
		Low	Hop_2402	-6.34	-57.81	≤ -26.34	PASS
		High	Hop_2480	-4.84	-57.05	≤ -24.84	PASS

Test Graphs

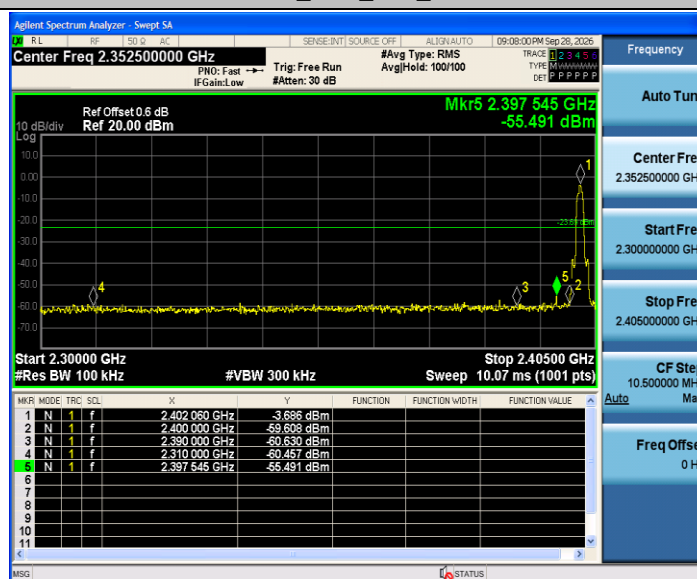




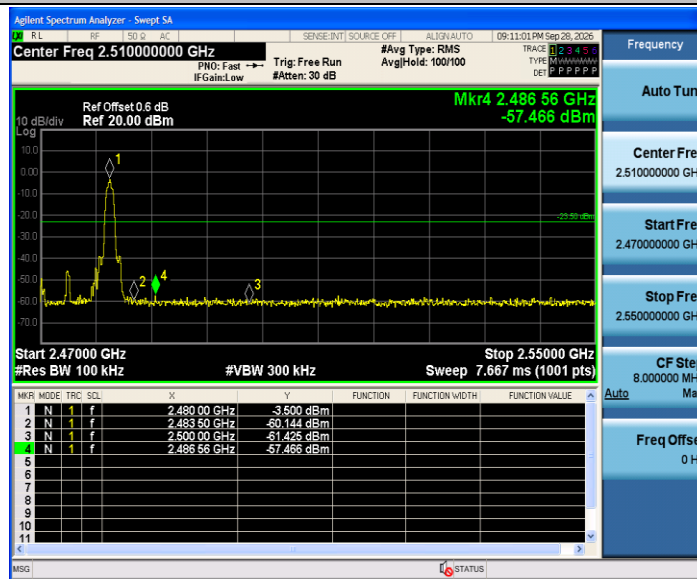
DH5_Ant1_High_Hop_2480



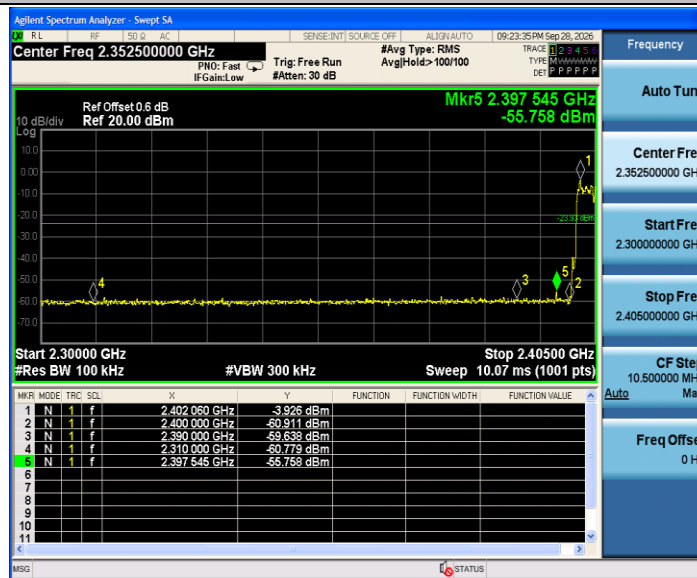
2DH5_Ant1_Low_2402



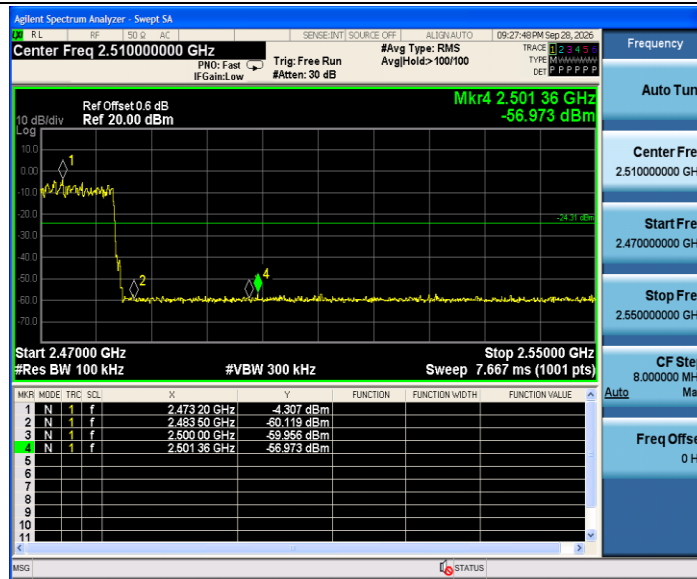
2DH5_Ant1_High_2480



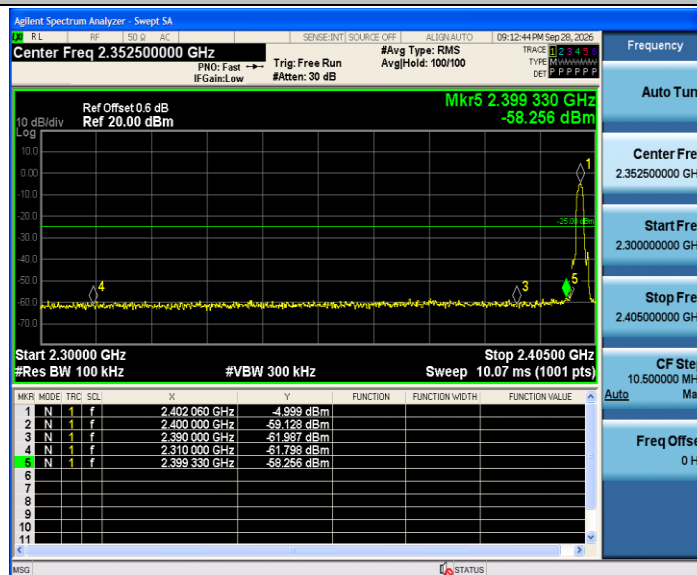
2DH5_Ant1_Low_Hop_2402



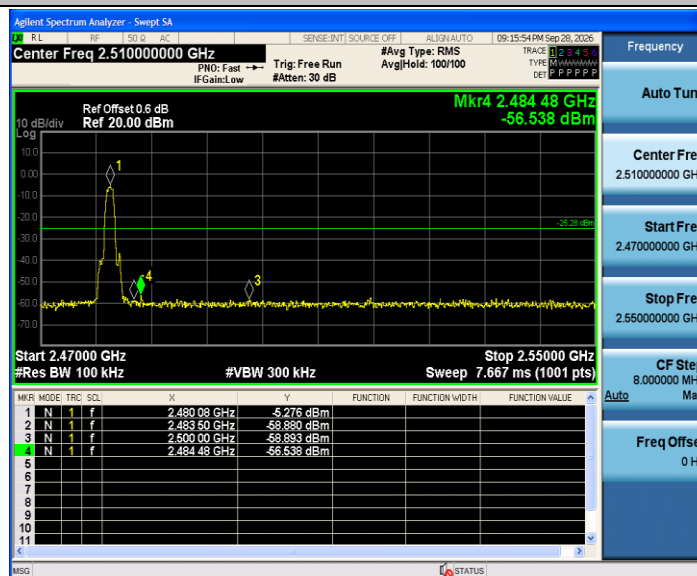
2DH5_Ant1_High_Hop_2480



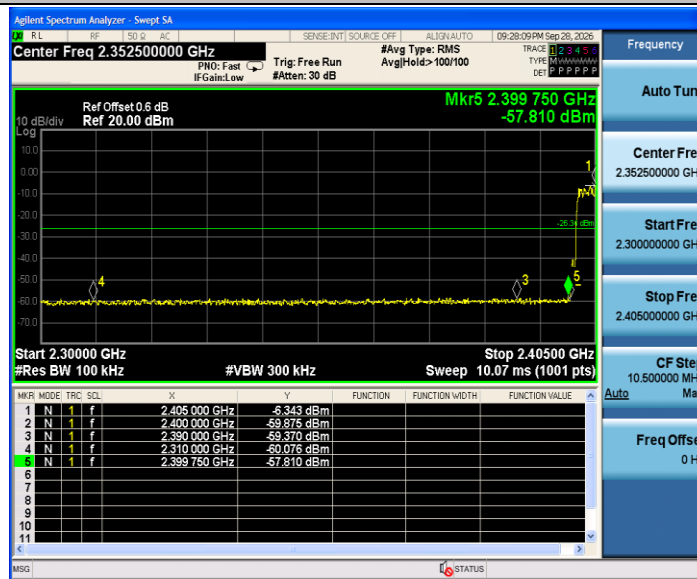
3DH5_Ant1_Low_2402



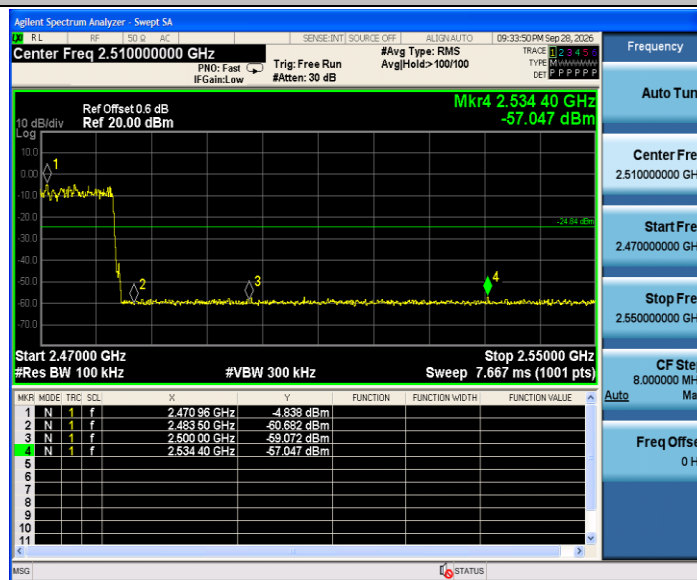
3DH5_Ant1_High_2480



3DH5_Ant1_Low_Hop_2402



3DH5_Ant1_High_Hop_2480

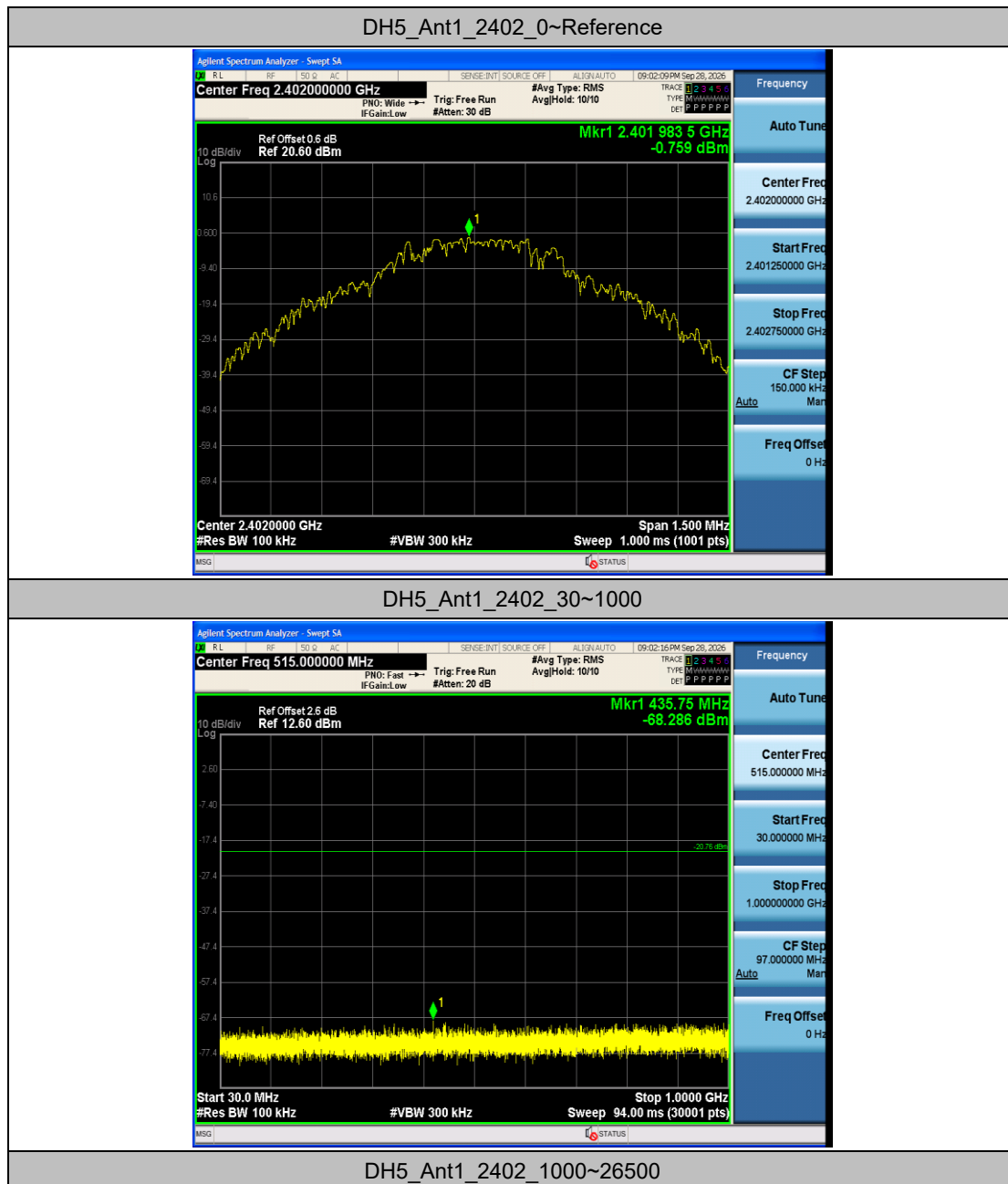


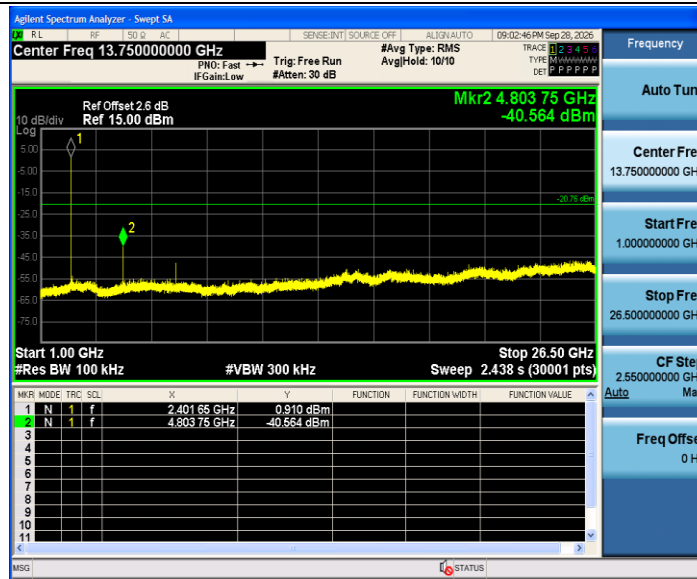
Appendix H: Conducted Spurious Emission

Test Result

TestMode	Antenna	Freq(MHz)	FreqRange [MHz]	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
DH5	Ant1	2402	Reference	-0.76	-0.76	---	PASS
			30~1000	-0.76	-68.29	≤-20.76	PASS
			1000~26500	-0.76	-40.56	≤-20.76	PASS
		2441	Reference	-0.87	-0.87	---	PASS
			30~1000	-0.87	-67.52	≤-20.87	PASS
			1000~26500	-0.87	-41.29	≤-20.87	PASS
		2480	Reference	-0.76	-0.76	---	PASS
			30~1000	-0.76	-68.38	≤-20.76	PASS
			1000~26500	-0.76	-41.12	≤-20.76	PASS
2DH5	Ant1	2402	Reference	-4.97	-4.97	---	PASS
			30~1000	-4.97	-68.42	≤-24.97	PASS
			1000~26500	-4.97	-45.64	≤-24.97	PASS
		2441	Reference	-5.08	-5.08	---	PASS
			30~1000	-5.08	-68.06	≤-25.08	PASS
			1000~26500	-5.08	-46.2	≤-25.08	PASS
		2480	Reference	-5.60	-5.60	---	PASS
			30~1000	-5.60	-67.97	≤-25.6	PASS
			1000~26500	-5.60	-46.55	≤-25.6	PASS
3DH5	Ant1	2402	Reference	-6.70	-6.70	---	PASS
			30~1000	-6.70	-68.56	≤-26.7	PASS
			1000~26500	-6.70	-46.34	≤-26.7	PASS
		2441	Reference	-6.38	-6.38	---	PASS
			30~1000	-6.38	-68.15	≤-26.38	PASS
			1000~26500	-6.38	-46.28	≤-26.38	PASS
		2480	Reference	-6.25	-6.25	---	PASS
			30~1000	-6.25	-68.48	≤-26.25	PASS
			1000~26500	-6.25	-46.25	≤-26.25	PASS

Test Graphs

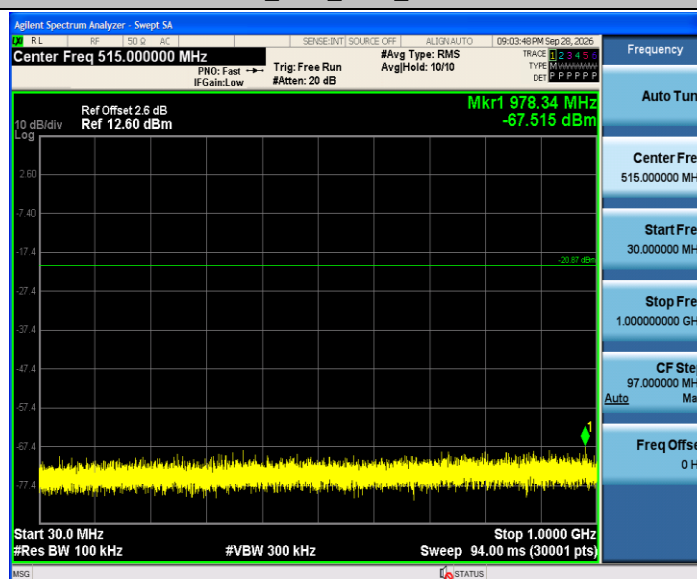




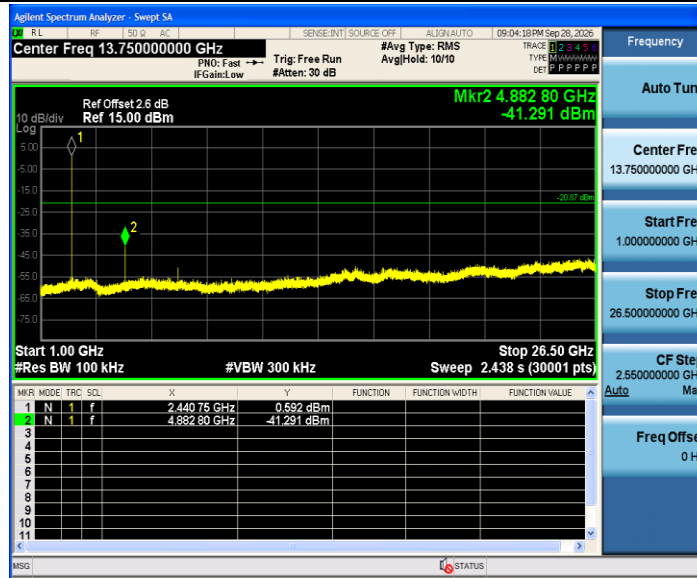
DH5_Ant1_2441_0~Reference



DH5_Ant1_2441_30~1000



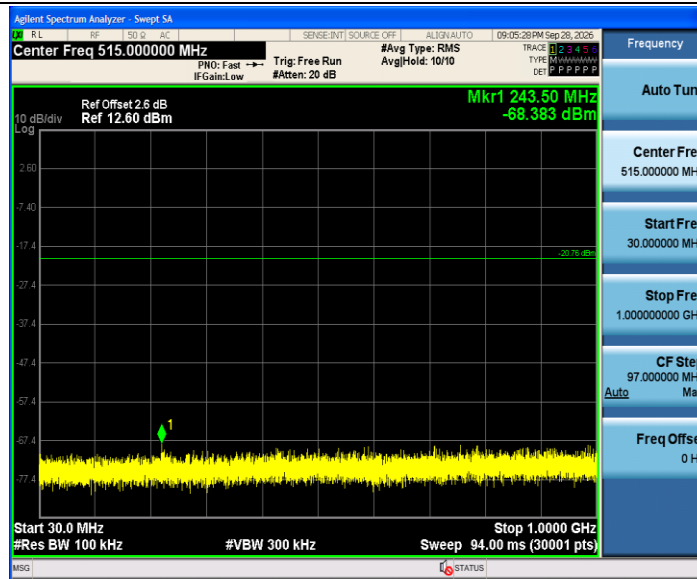
DH5_Ant1_2441_1000~26500



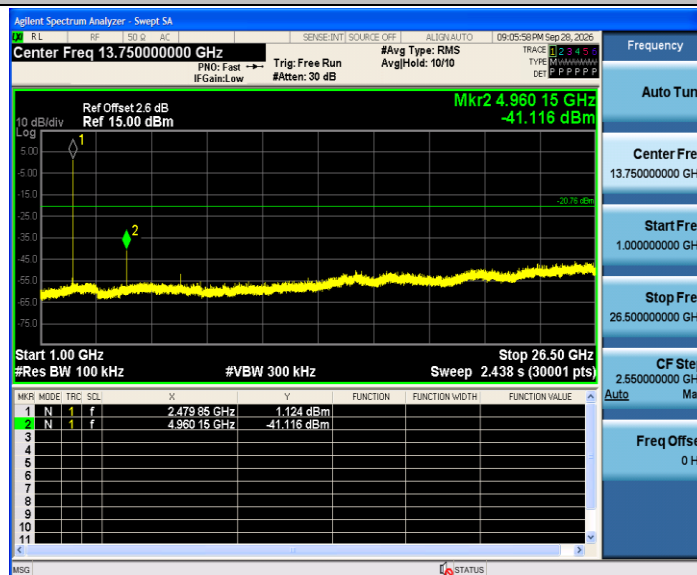
DH5_Ant1_2480_0~Reference



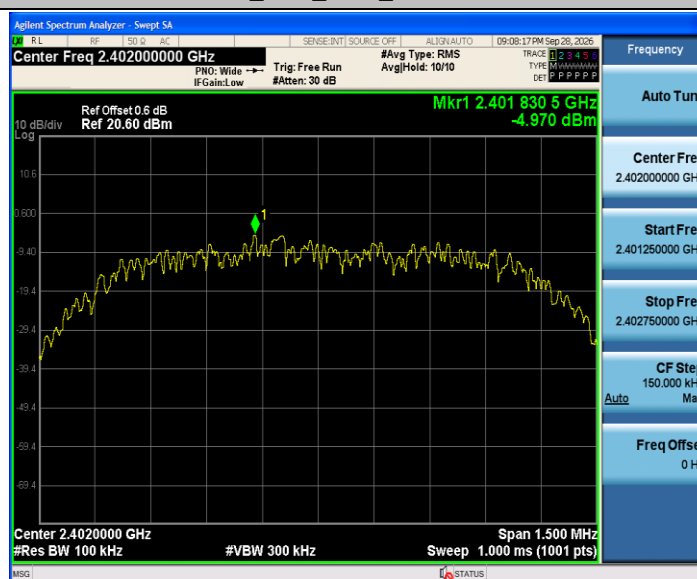
DH5_Ant1_2480_30~1000



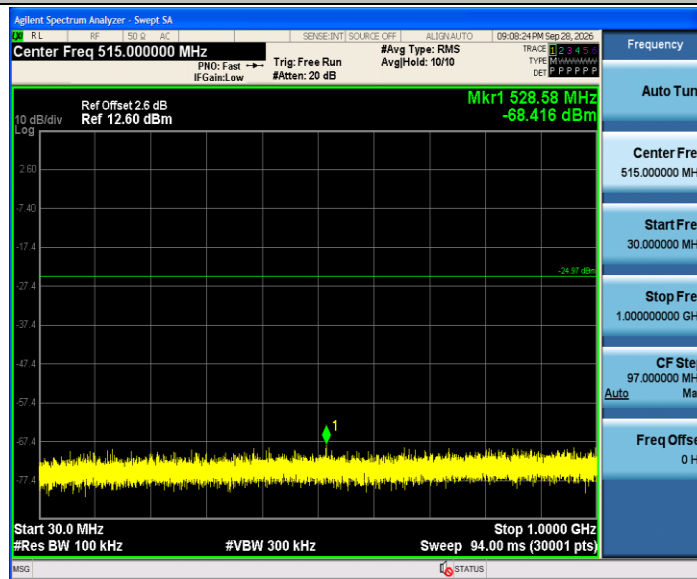
DH5_Ant1_2480_1000~26500



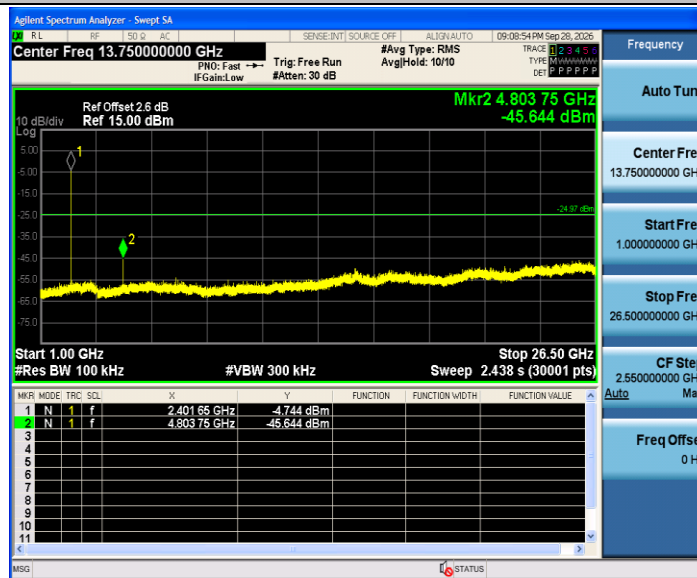
2DH5_Ant1_2402_0~Reference



2DH5_Ant1_2402_30~1000



2DH5_Ant1_2402_1000~26500



2DH5_Ant1_2441_0~Reference