

FCC Appendix RF Test Data for BT

FCC ID : 2AOMX-BT-17

Company : QFX Inc.

EUT : MUG BLUETOOTH SPEAKER WITH LIGHT

Model Number : BT-17

Report No. : CTA26052500601

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	0.945	2479.535	2480.480	---	---
2DH5	Ant1	2402	1.344	2401.319	2402.663	---	---
		2441	1.335	2440.325	2441.660	---	---
		2480	1.326	2479.331	2480.657	---	---

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

Frequency

Auto Tune

Center Freq
2.40200000 GHz

Start Freq
2.40050000 GHz

Stop Freq
2.40350000 GHz

CF Step
300.000 kHz
Man

Freq Offset
0 Hz

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

1

2

3Δ1

ΔMkr3 948 kHz
-0.386 dB

25.40 dBm

MNR	MODE	TRC	SCL	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE
1	N	1	f	2.401535 GHz	-25.461 dBm			
2	N	1	f	2.402000 GHz	-5.401 dBm			
3	Δ1	1	f (Δ)	948 kHz (Δ)	-0.386 dB			

MSO

STATUS

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

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

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

1

2

3Δ1

ΔMkr3 951 kHz
-0.161 dB

25.50 dBm

MNR	MODE	TRC	SCL	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE
1	N	1	f	2.440532 GHz	-25.796 dBm			
2	N	1	f	2.441006 GHz	-5.502 dBm			
3	Δ1	1	f (Δ)	951 kHz (Δ)	-0.161 dB			

MSO

STATUS



2DH5_Ant1_2402



2DH5_Ant1_2441



2DH5_Ant1_2480

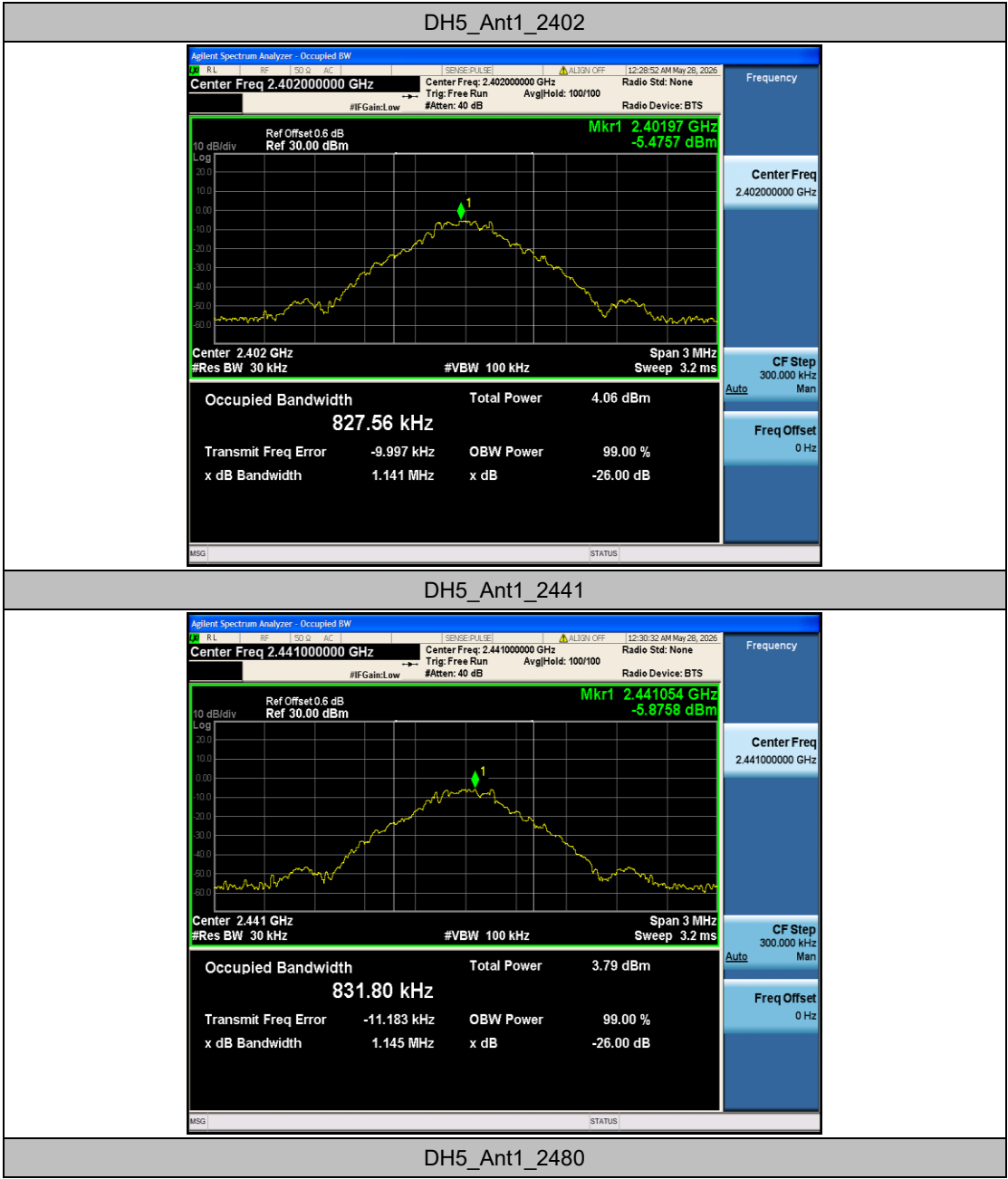


Appendix B: Occupied Channel Bandwidth

Test Result

TestMode	Antenna	Freq(MHz)	OCB [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
DH5	Ant1	2402	0.82756	2401.5762	2402.4038	---	---
		2441	0.83180	2440.5729	2441.4047	---	---
		2480	0.82413	2479.5783	2480.4024	---	---
2DH5	Ant1	2402	1.1808	2401.4035	2402.5843	---	---
		2441	1.1812	2440.4021	2441.5833	---	---
		2480	1.1732	2479.4097	2480.5829	---	---

Test Graphs





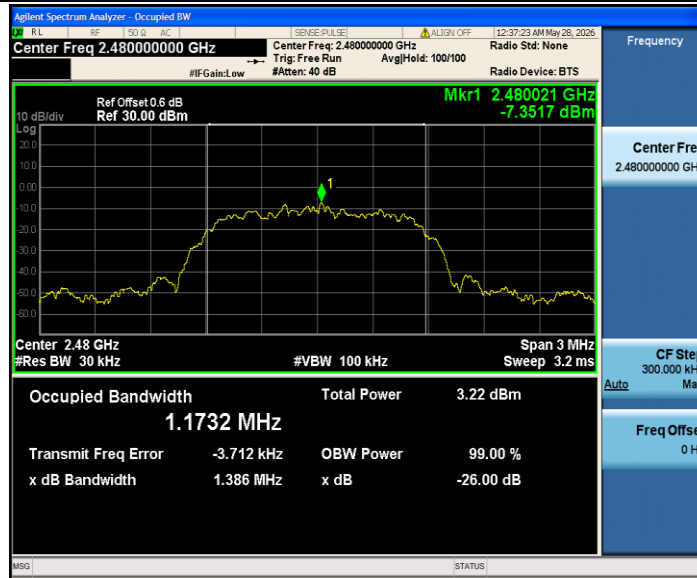
2DH5_Ant1_2402



2DH5_Ant1_2441



2DH5_Ant1_2480



Appendix C: Maximum conducted output power

Test Result Peak

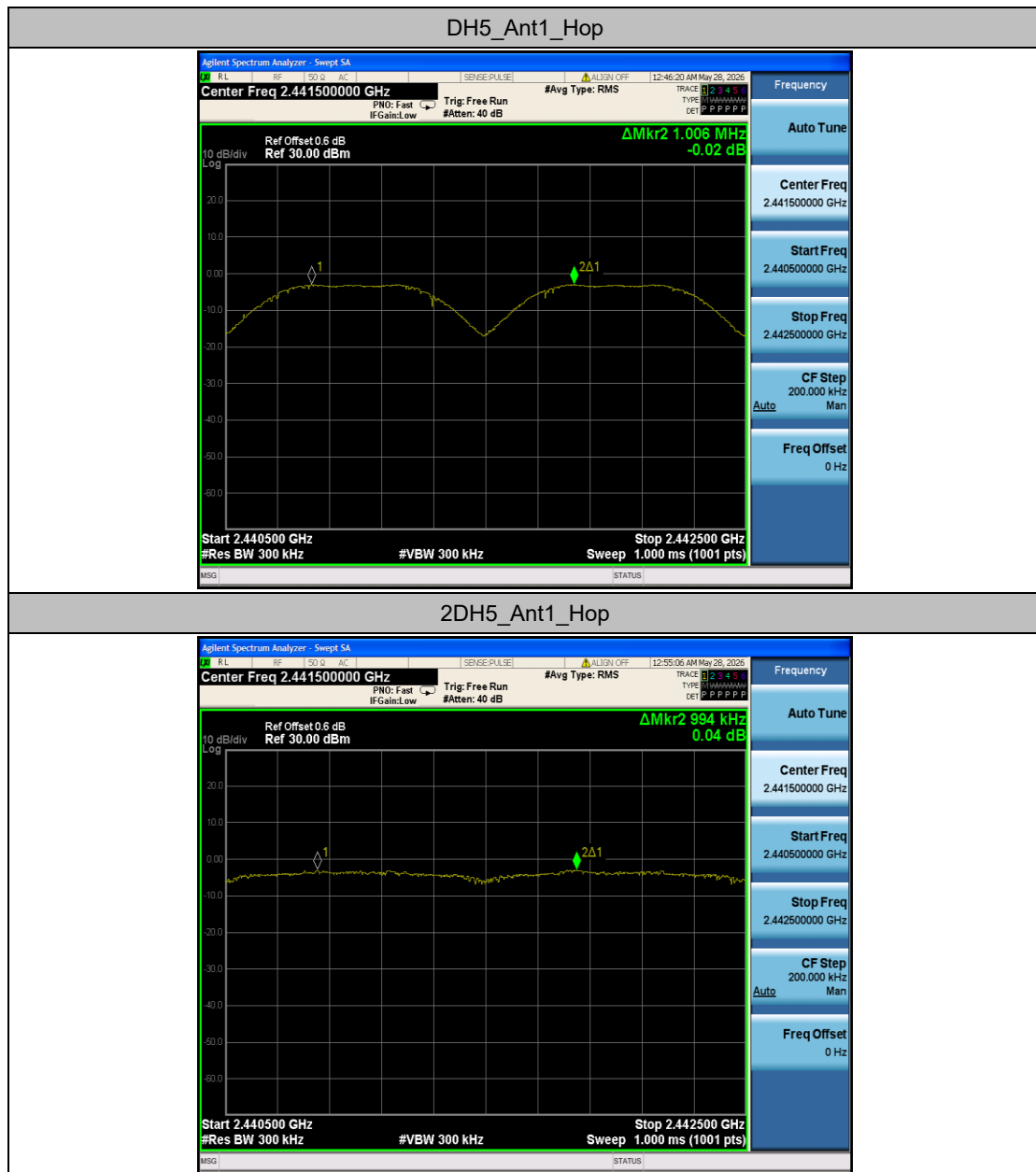
Test Mode	Antenna	Freq(MHz)	Conducted Peak Power[dBm]	Conducted Limit[dBm]	Verdict
DH5	Ant1	2402	-2.80	≤20.97	PASS
		2441	-2.90	≤20.97	PASS
		2480	-3.48	≤20.97	PASS
2DH5	Ant1	2402	-0.20	≤20.97	PASS
		2441	-0.30	≤20.97	PASS
		2480	-1.05	≤20.97	PASS

Appendix D: Carrier frequency separation

Test Result

TestMode	Antenna	Freq(MHz)	Result[MHz]	Limit[MHz]	Verdict
DH5	Ant1	Hop	1.006	≥ 0.951	PASS
2DH5	Ant1	Hop	0.994	≥ 0.896	PASS

Test Graphs

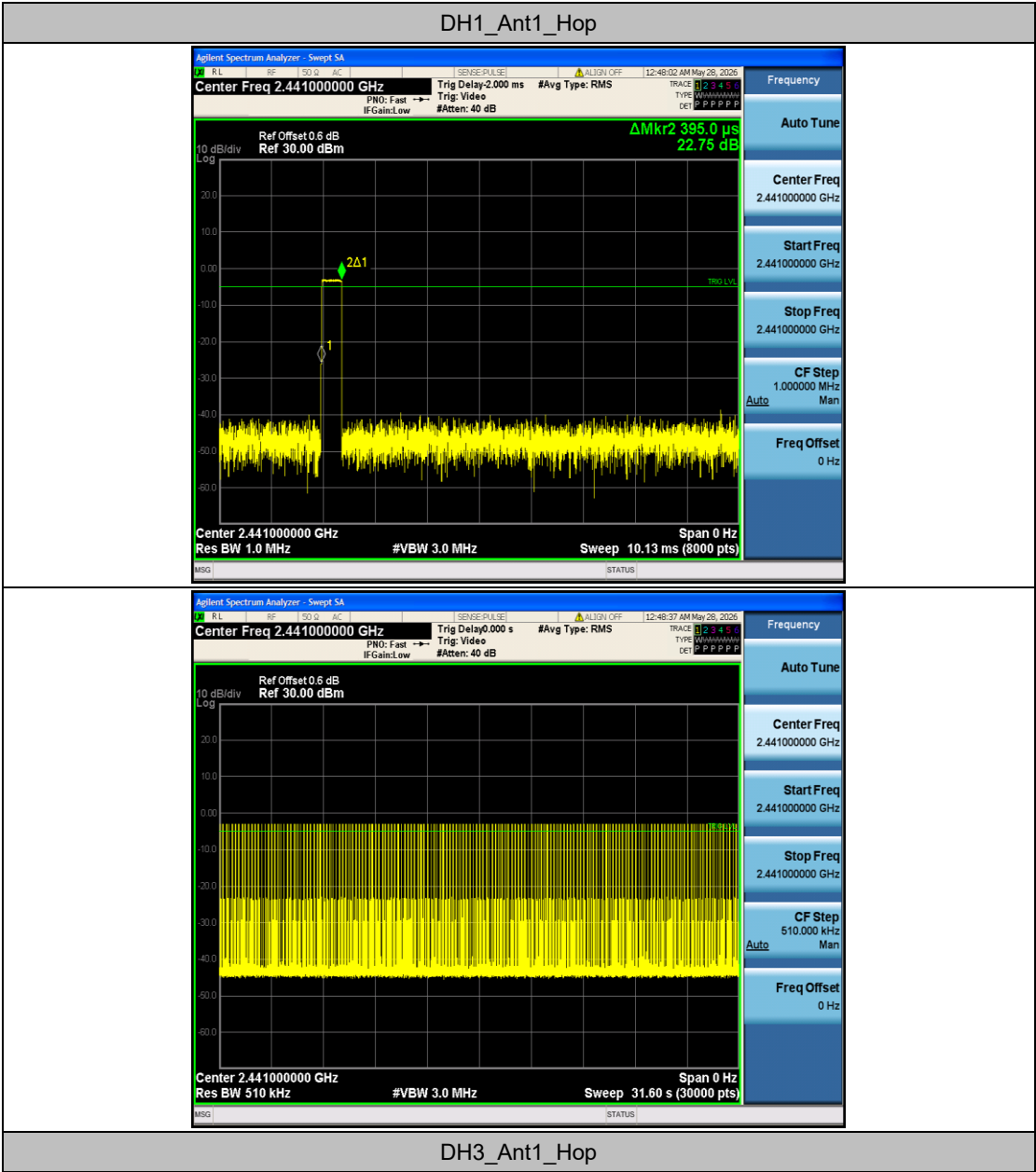


Appendix E: Time of occupancy

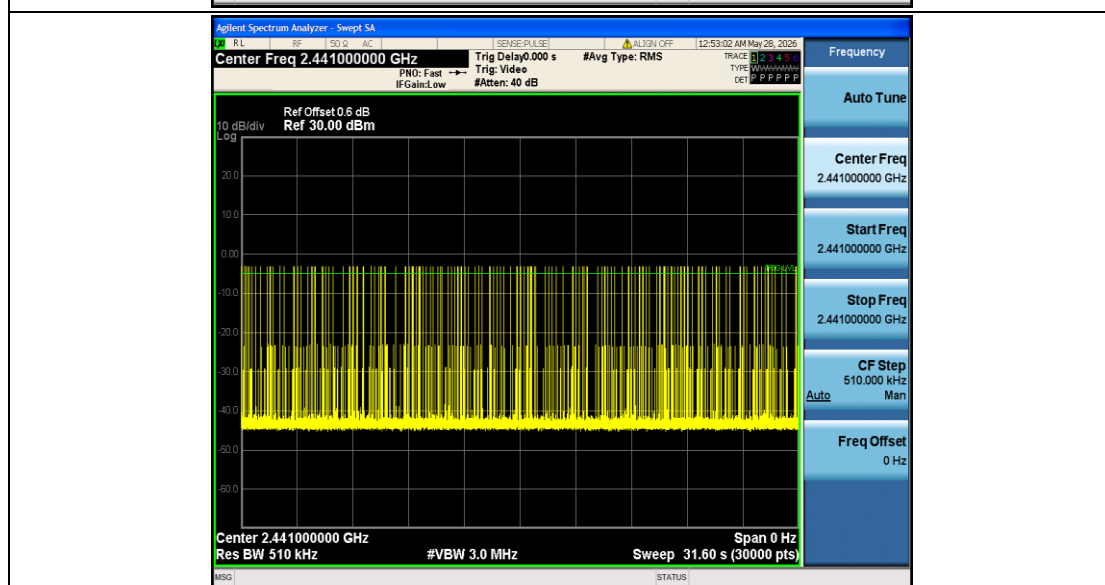
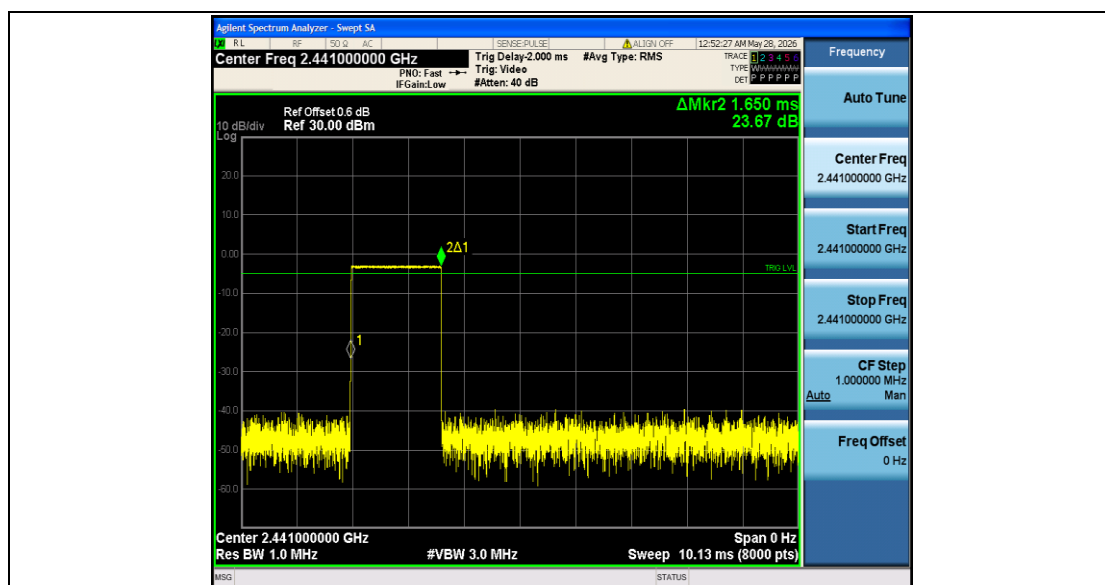
Test Result

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	163	0.269	≤0.4	PASS
DH5	Ant1	Hop	2.899	116	0.336	≤0.4	PASS
2DH1	Ant1	Hop	0.404	319	0.129	≤0.4	PASS
2DH3	Ant1	Hop	1.657	176	0.292	≤0.4	PASS
2DH5	Ant1	Hop	2.903	114	0.331	≤0.4	PASS

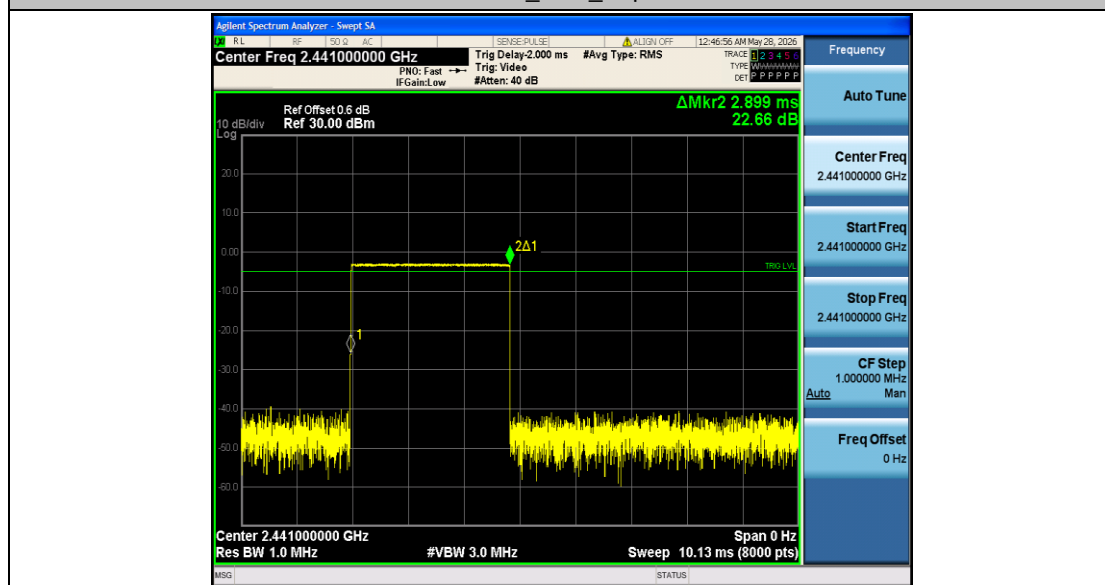
Test Graphs

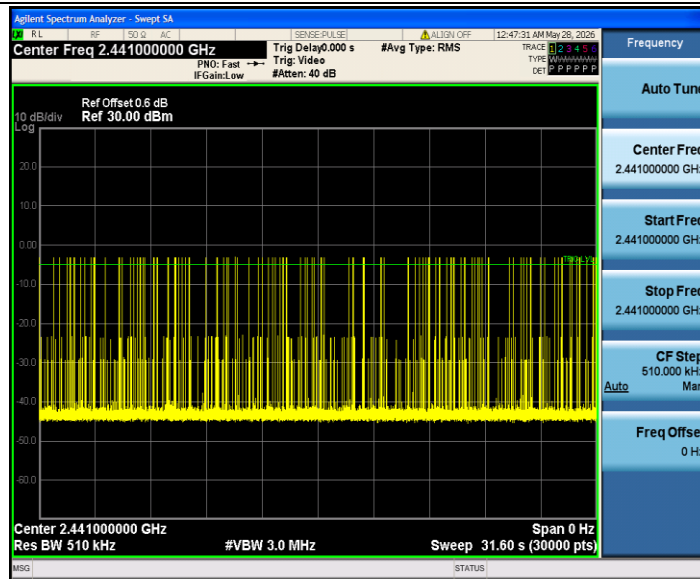


DH3_Ant1_Hop

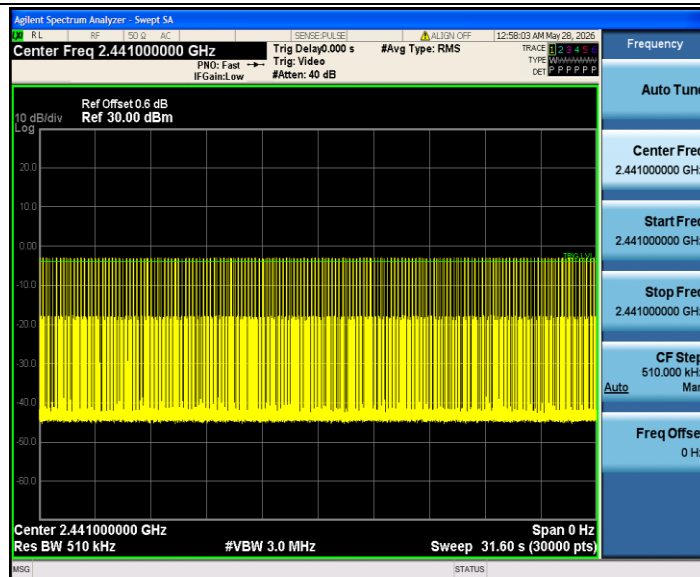
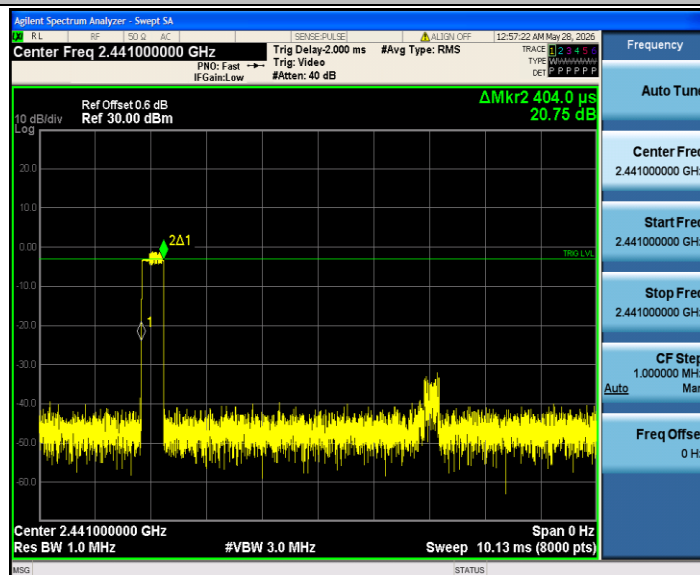


DH5_Ant1_Hop

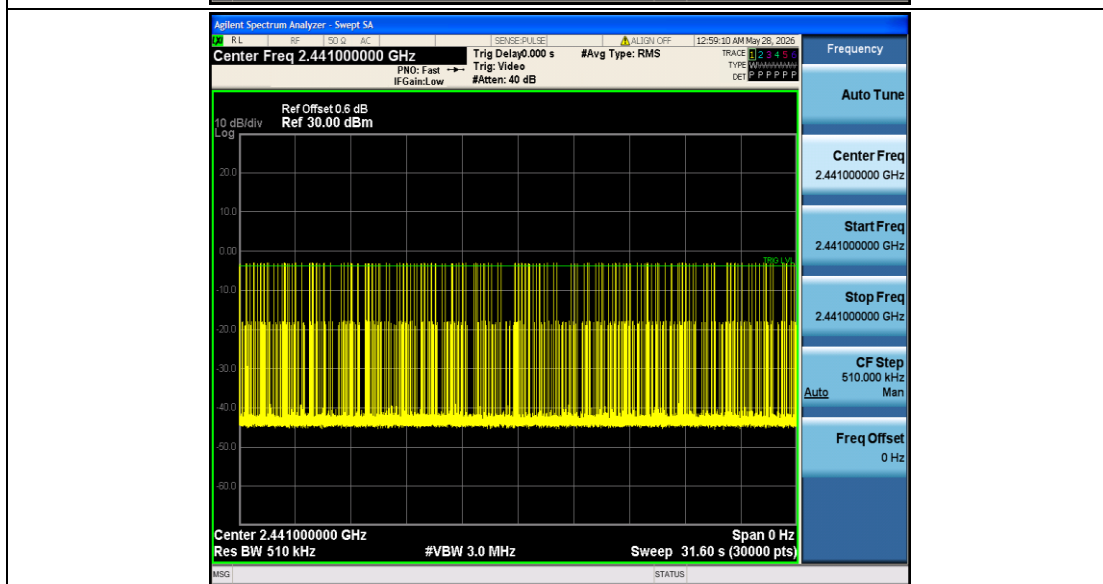
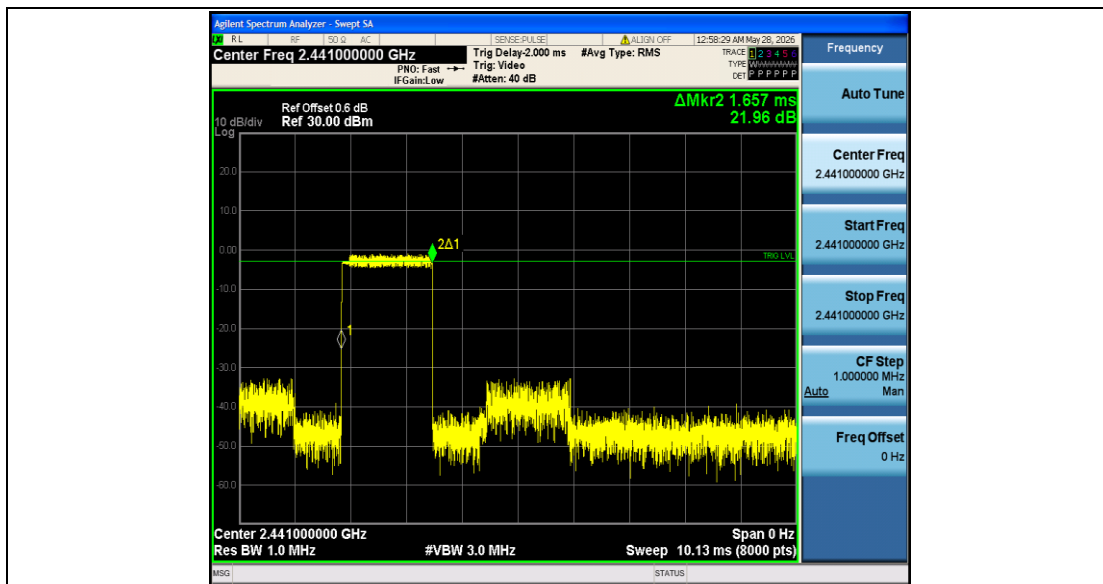




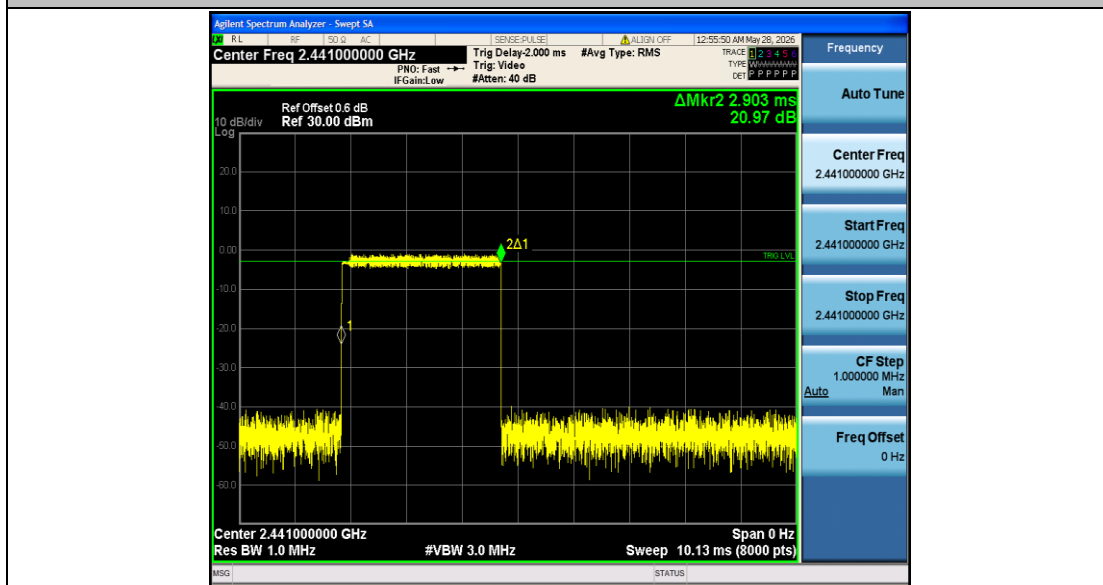
2DH1_Ant1_Hop

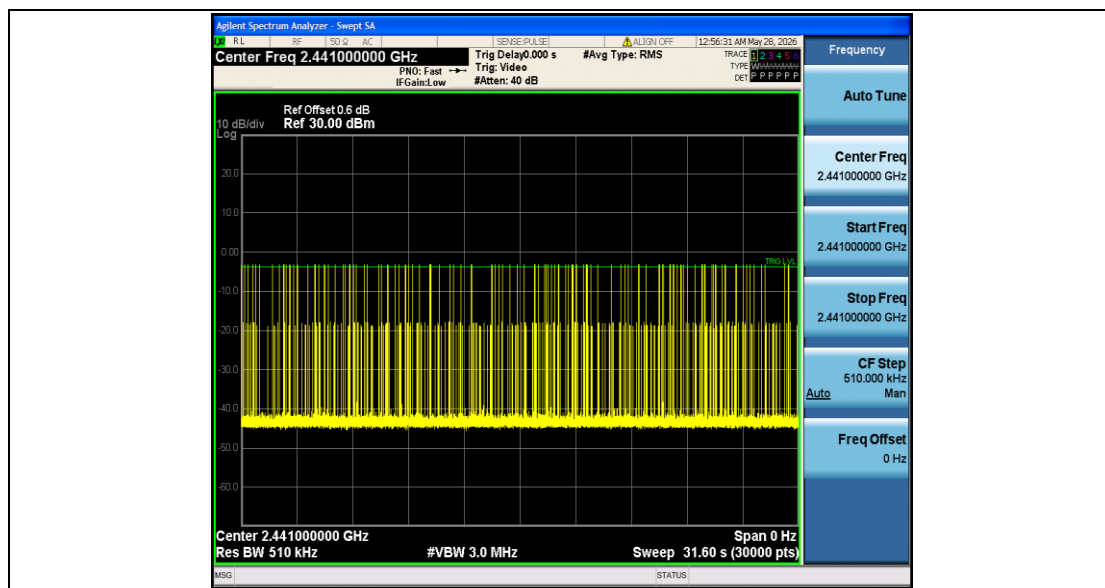


2DH3_Ant1_Hop



2DH5_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

DH5_Ant1_Hop

Agilent Spectrum Analyzer - Swept SA

Center Freq 2.441750000 GHz

Ref Offset 0.6 dB
Ref 30.00 dBm

Start 2.40000 GHz
#Res BW 300 kHz

Stop 2.48350 GHz
#VBW 300 kHz
Sweep 1.133 ms (1001 pts)

Frequency

Auto Tune

Center Freq
2.441750000 GHz

Start Freq
2.400000000 GHz

Stop Freq
2.483500000 GHz

CF Step
8.350000 MHz
Auto

Freq Offset
0 Hz

MSG (STATUS)

2DH5_Ant1_Hop

Agilent Spectrum Analyzer - Swept SA

Center Freq 2.441750000 GHz

Ref Offset 0.6 dB
Ref 30.00 dBm

Start 2.40000 GHz
#Res BW 300 kHz

Stop 2.48350 GHz
#VBW 300 kHz
Sweep 1.133 ms (1001 pts)

Frequency

Auto Tune

Center Freq
2.441750000 GHz

Start Freq
2.400000000 GHz

Stop Freq
2.483500000 GHz

CF Step
8.350000 MHz
Auto

Freq Offset
0 Hz

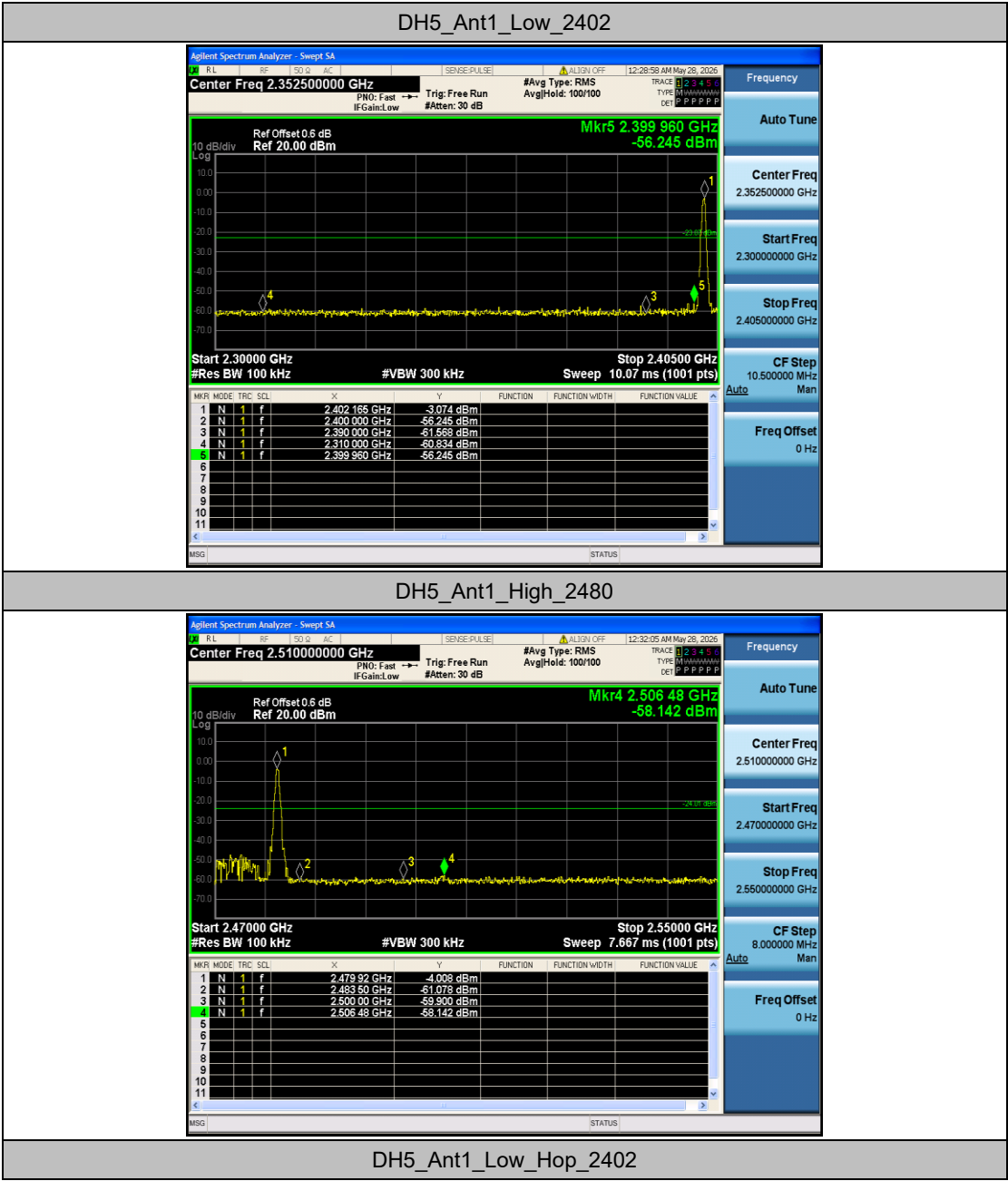
MSG (STATUS)

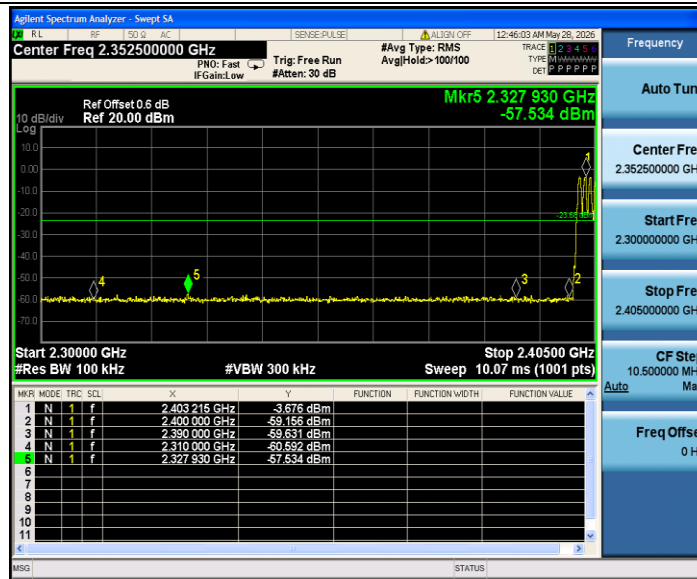
Appendix G: Band edge measurements

Test Result

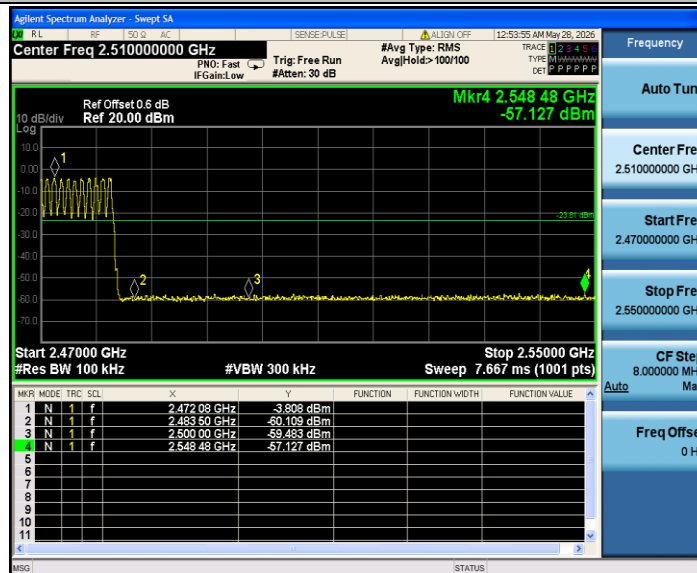
TestMode	Antenna	ChName	Freq(MHz)	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
DH5	Ant1	Low	2402	-3.07	-56.25	≤-23.07	PASS
		High	2480	-4.01	-58.14	≤-24.01	PASS
		Low	Hop_2402	-3.68	-57.53	≤-23.68	PASS
		High	Hop_2480	-3.81	-57.13	≤-23.81	PASS
2DH5	Ant1	Low	2402	-4.40	-58.33	≤-24.4	PASS
		High	2480	-4.09	-57.04	≤-24.09	PASS
		Low	Hop_2402	-5.16	-54.62	≤-25.16	PASS
		High	Hop_2480	-5.37	-56.31	≤-25.37	PASS

Test Graphs

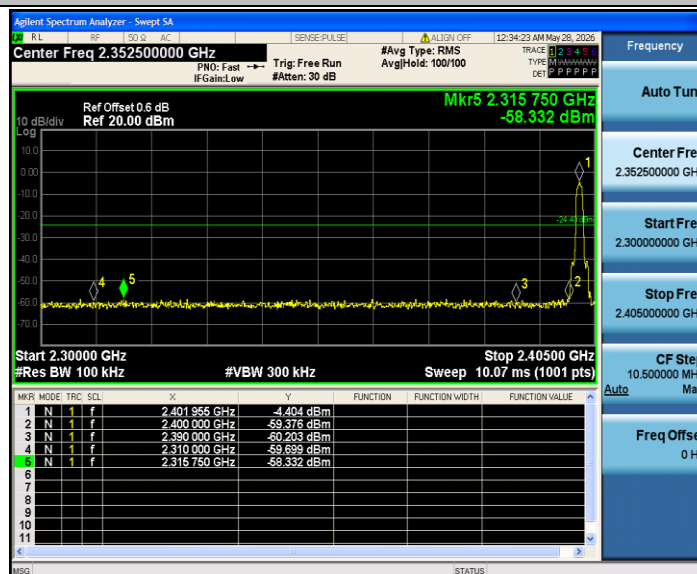




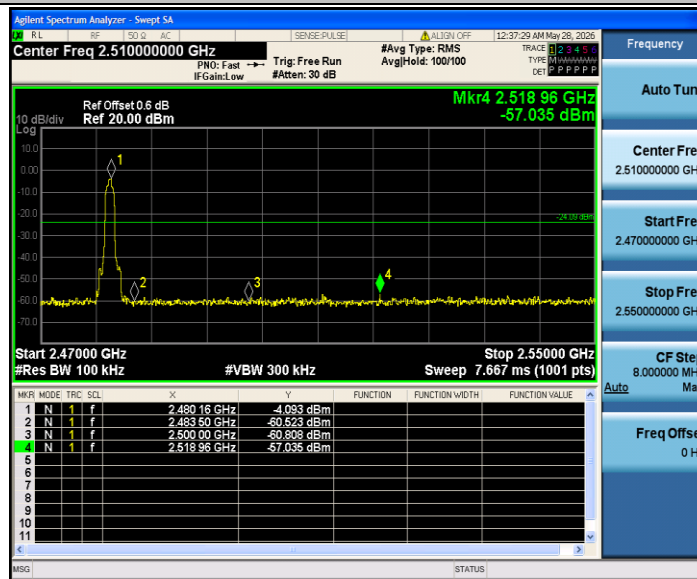
DH5_Ant1_High_Hop_2480



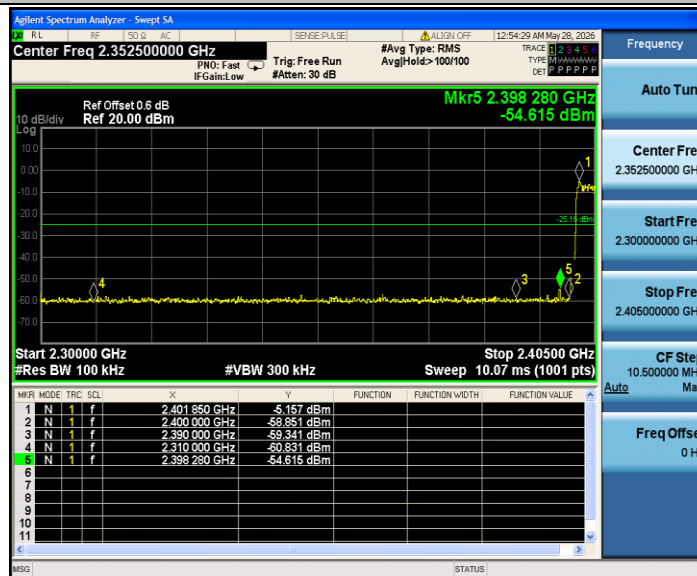
2DH5_Ant1_Low_2402



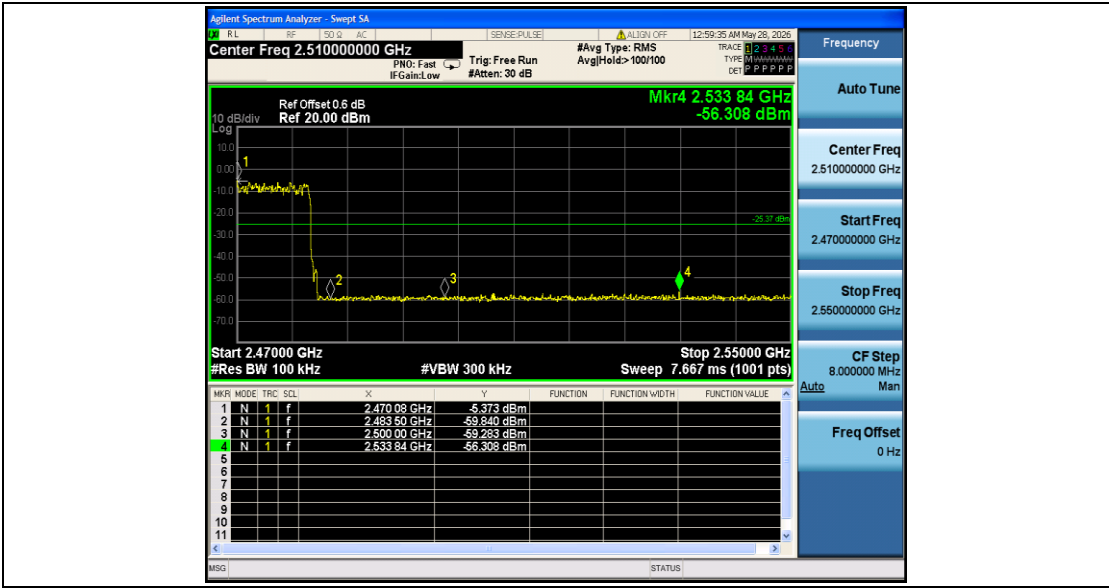
2DH5_Ant1_High_2480



2DH5_Ant1_Low_Hop_2402



2DH5_Ant1_High_Hop_2480



Appendix H: Conducted Spurious Emission

Test Result

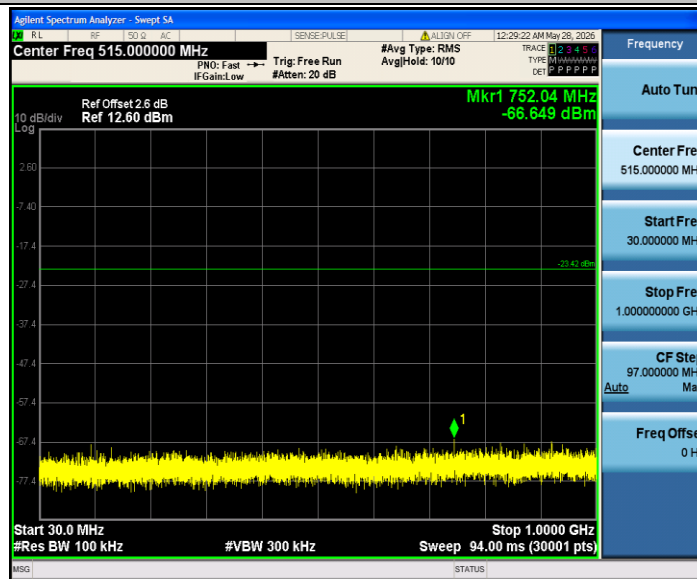
TestMode	Antenna	Freq(MHz)	FreqRange [MHz]	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
DH5	Ant1	2402	Reference	-3.42	-3.42	---	PASS
			30~1000	-3.42	-66.65	≤-23.42	PASS
			1000~26500	-3.42	-49.96	≤-23.42	PASS
		2441	Reference	-3.85	-3.85	---	PASS
			30~1000	-3.85	-67.39	≤-23.85	PASS
			1000~26500	-3.85	-50.96	≤-23.85	PASS
		2480	Reference	-4.43	-4.43	---	PASS
			30~1000	-4.43	-66.78	≤-24.43	PASS
			1000~26500	-4.43	-51.4	≤-24.43	PASS
2DH5	Ant1	2402	Reference	-5.05	-5.05	---	PASS
			30~1000	-5.05	-67.51	≤-25.05	PASS
			1000~26500	-5.05	-50.3	≤-25.05	PASS
		2441	Reference	-6.42	-6.42	---	PASS
			30~1000	-6.42	-67.46	≤-26.42	PASS
			1000~26500	-6.42	-51.31	≤-26.42	PASS
		2480	Reference	-5.68	-5.68	---	PASS
			30~1000	-5.68	-66.5	≤-25.68	PASS
			1000~26500	-5.68	-51.79	≤-25.68	PASS

Test Graphs

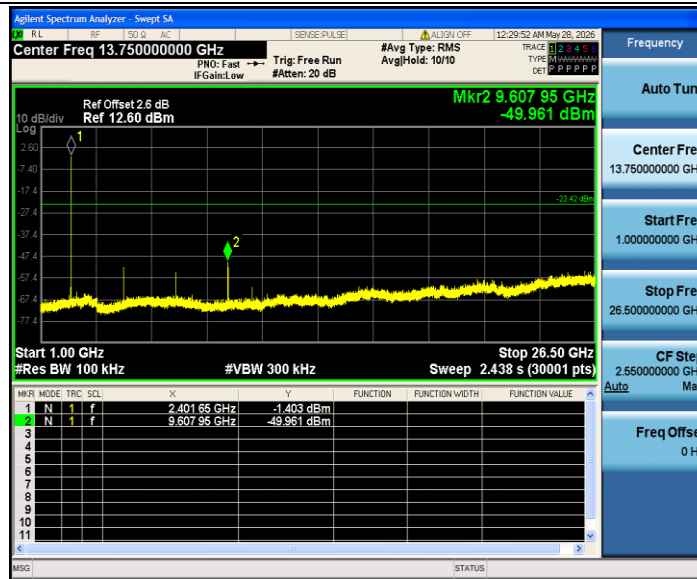
DH5_Ant1_2402_0~Reference



DH5_Ant1_2402_30~1000



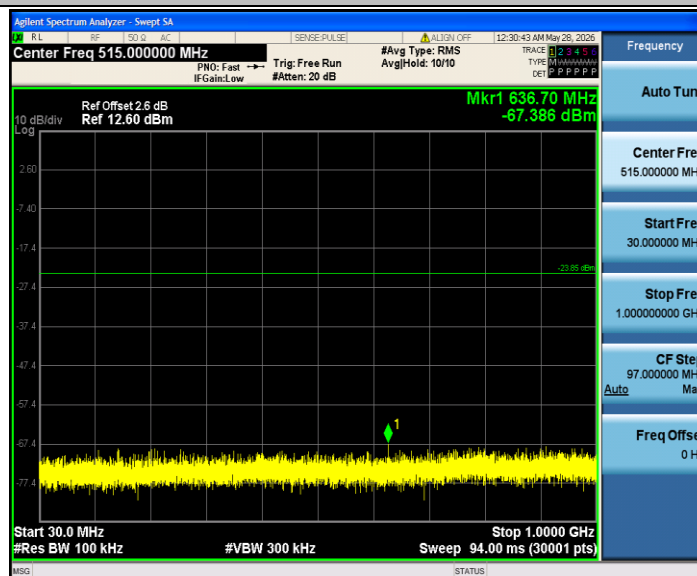
DH5_Ant1_2402_1000~26500



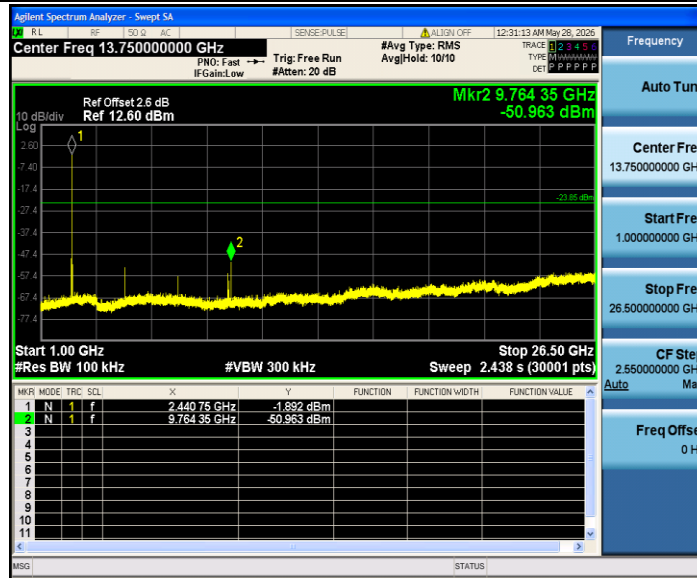
DH5_Ant1_2441_0~Reference



DH5_Ant1_2441_30~1000



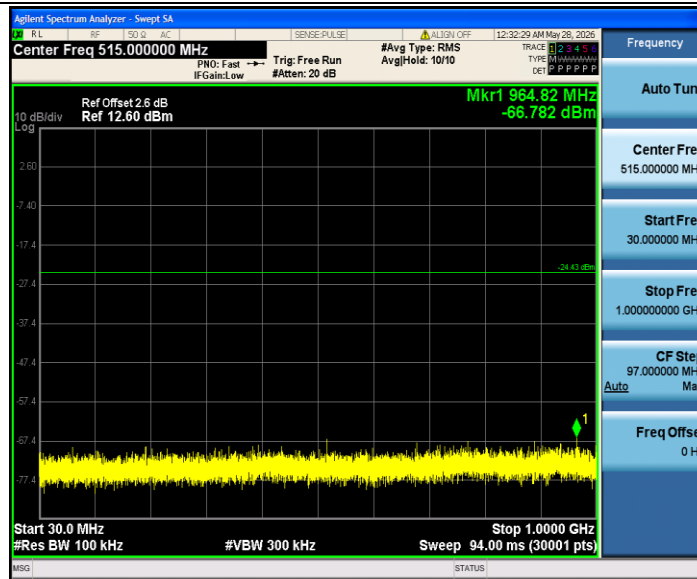
DH5_Ant1_2441_1000~26500



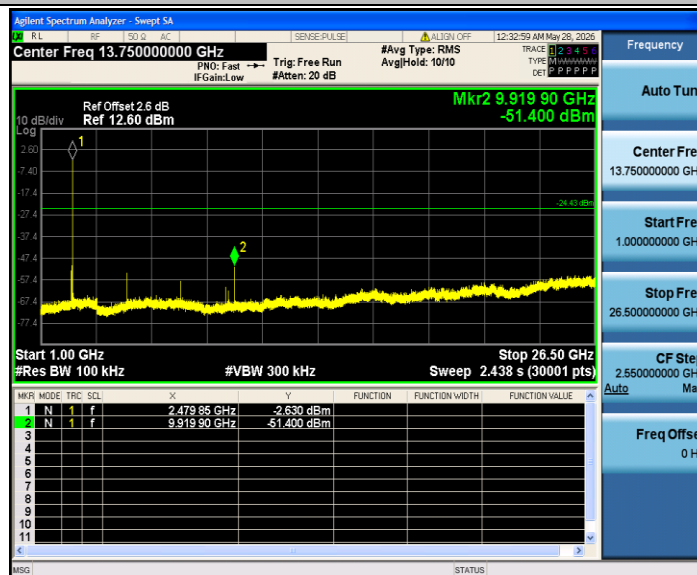
DH5_Ant1_2480_0~Reference



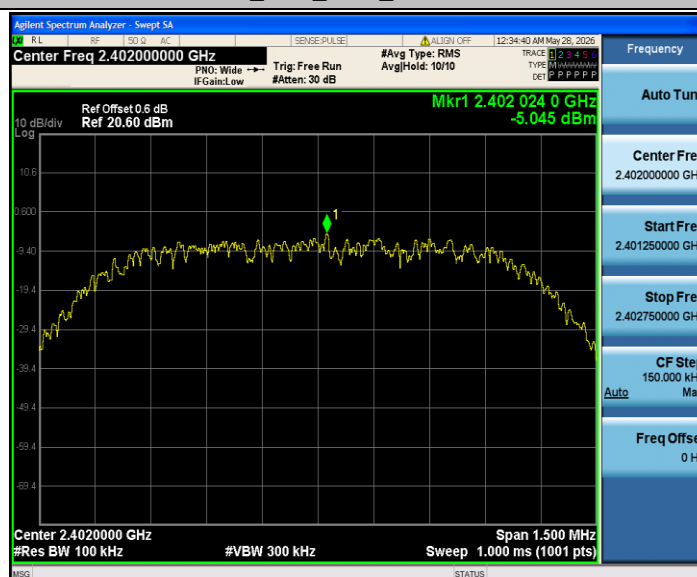
DH5_Ant1_2480_30~1000



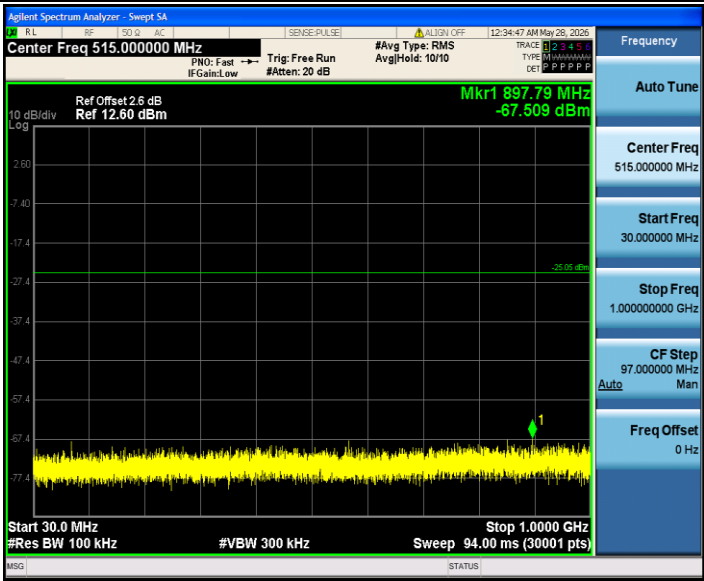
DH5_Ant1_2480_1000~26500



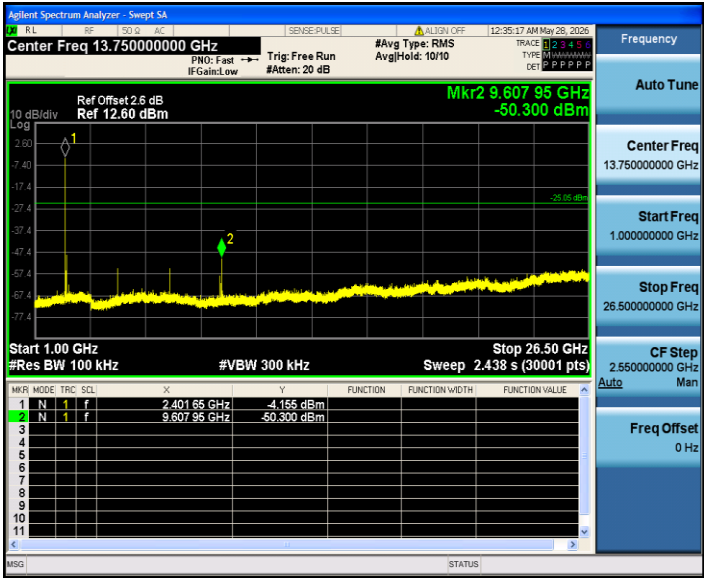
2DH5_Ant1_2402_0~Reference



2DH5_Ant1_2402_30~1000



2DH5_Ant1_2402_1000~26500



2DH5_Ant1_2441_0~Reference