FCC Appendix RF Test Data

FCC ID	**:**	**2BQNB-T77**
Company	**:**	**shenzhenshiyunxinchuangkejiyouxiangongsi**
EUT	**:**	**Wireless speaker**
Model Number	**:**	**T77**
Report No.	**:**	**CTA25062701901**
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	2401.547	2402.501	---	---
		2441	0.954	2440.544	2441.498	---	---
		2480	0.948	2479.550	2480.498	---	---
2DH5	Ant1	2402	1.314	2401.352	2402.666	---	---
		2441	1.284	2440.379	2441.663	---	---
		2480	1.269	2479.388	2480.657	---	---
3DH5	Ant1	2402	1.305	2401.361	2402.666	---	---
		2441	1.302	2440.361	2441.663	---	---
		2480	1.293	2479.364	2480.657	---	---

Test Graphs

DH5_Ant1_2402

DH5_Ant1_2441

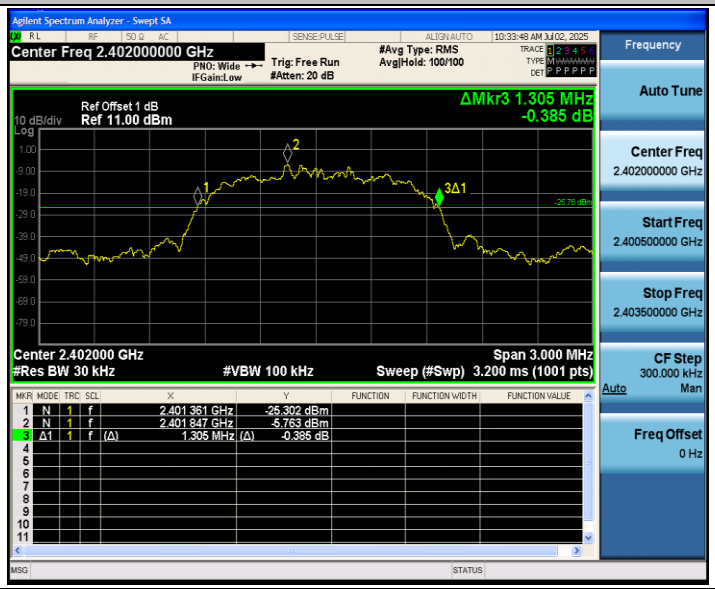
DH5_Ant1_2480

2DH5_Ant1_2402

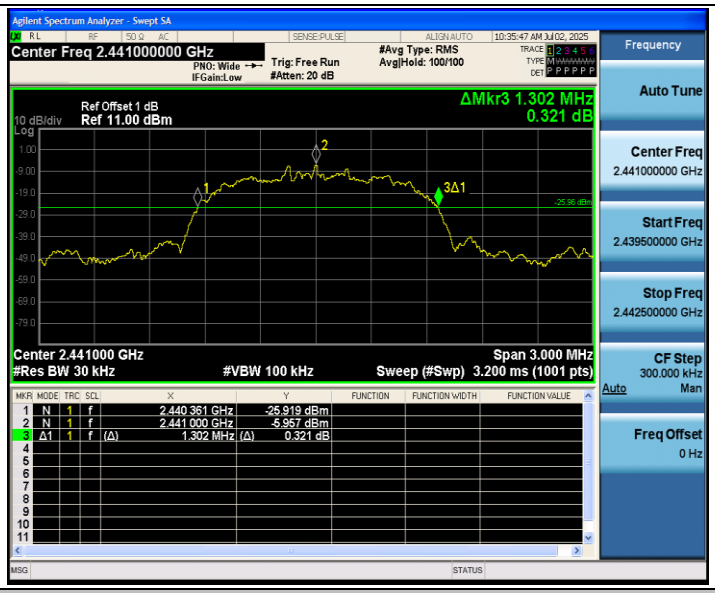
2DH5_Ant1_2441

2DH5_Ant1_2480

3DH5_Ant1_2402



3DH5_Ant1_2441



3DH5_Ant1_2480

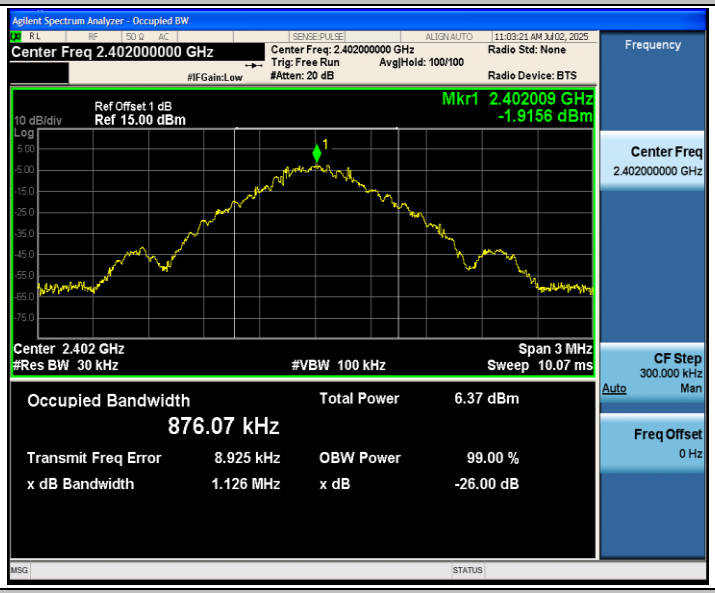
Appendix B: Occupied Channel Bandwidth

Test Result

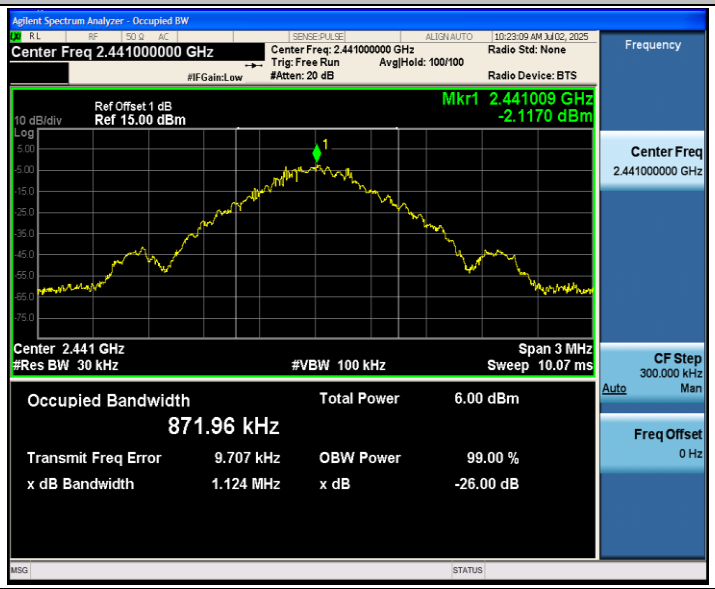
TestMode	Antenna	Freq(MHz)	OCB [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
DH5	Ant1	2402	0.87607	2401.5709	2402.4470	---	---
		2441	0.87196	2440.5737	2441.4457	---	---
		2480	0.87154	2479.5722	2480.4438	---	---
2DH5	Ant1	2402	1.1907	2401.4131	2402.6038	---	---
		2441	1.1882	2440.4163	2441.6045	---	---
		2480	1.1886	2479.4153	2480.6039	---	---
3DH5	Ant1	2402	1.1883	2401.4149	2402.6032	---	---
		2441	1.1850	2440.4187	2441.6037	---	---
		2480	1.1875	2479.4157	2480.6032	---	---

Test Graphs

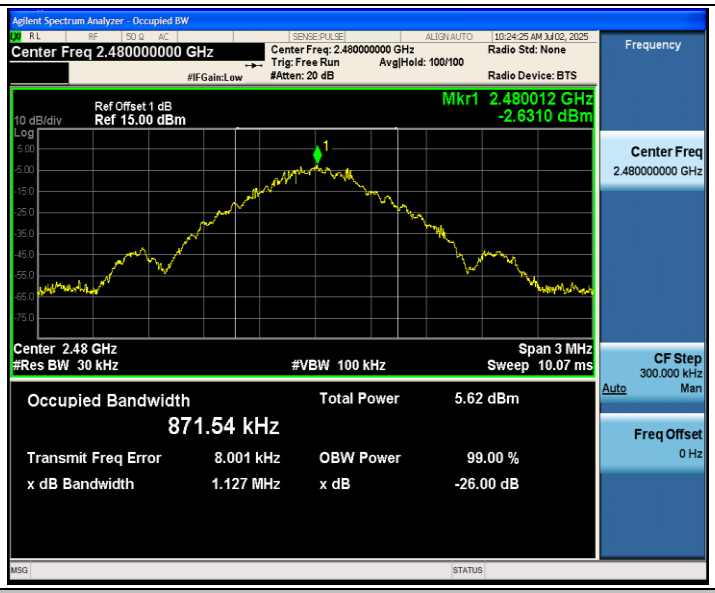
DH5_Ant1_2402



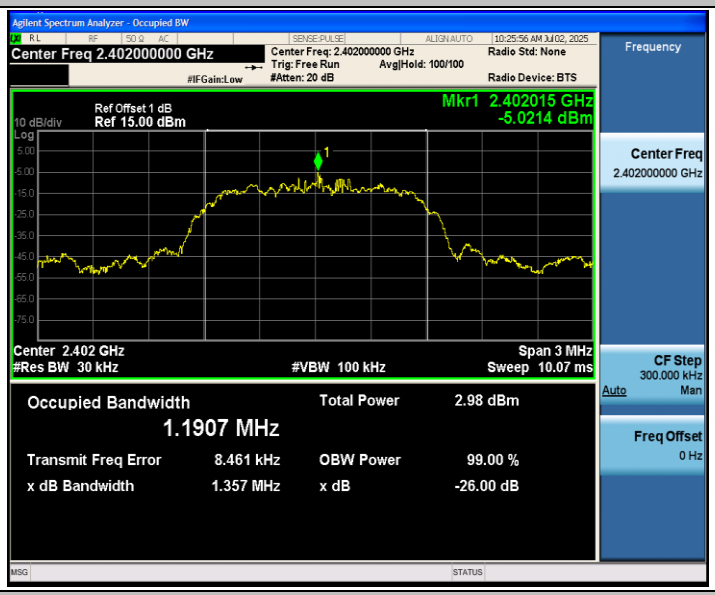
DH5_Ant1_2441



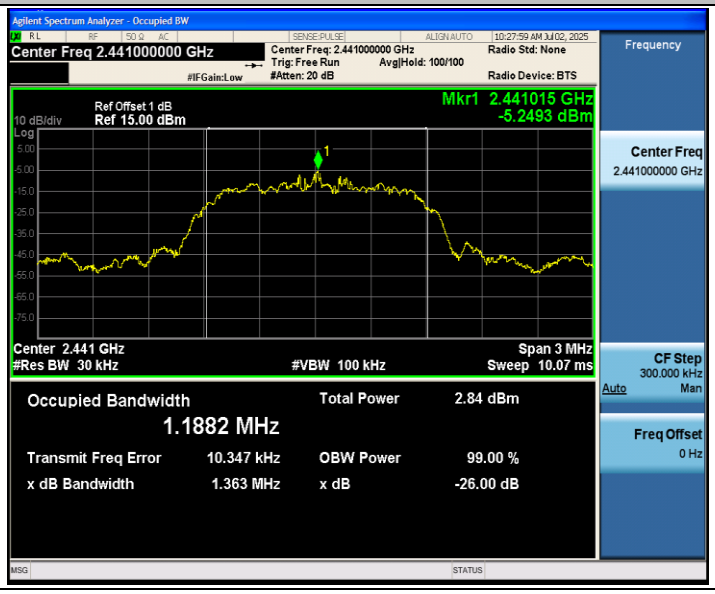
DH5_Ant1_2480



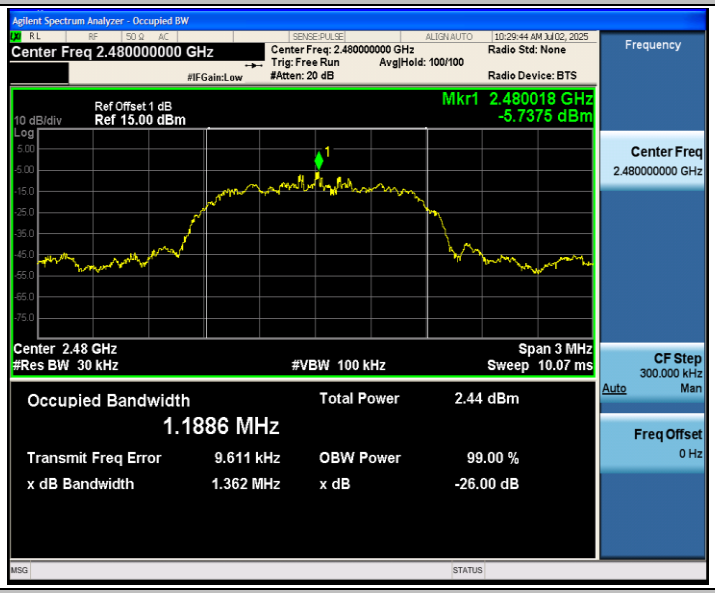
2DH5_Ant1_2402



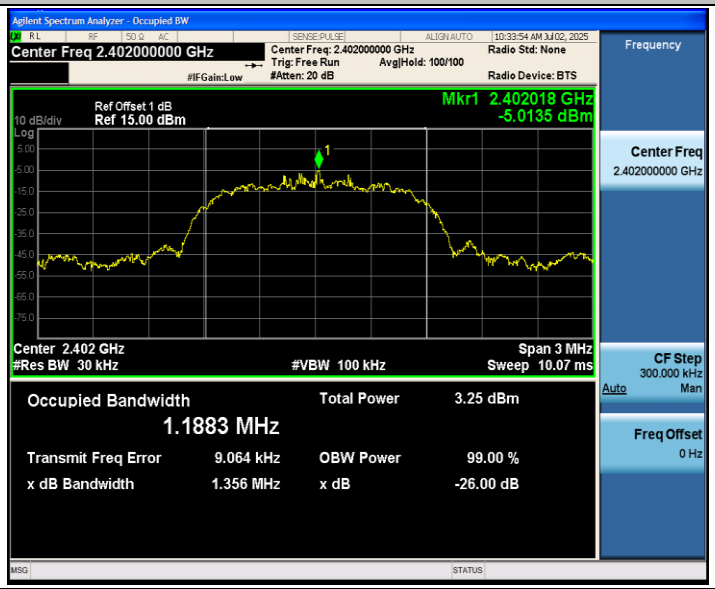
2DH5_Ant1_2441



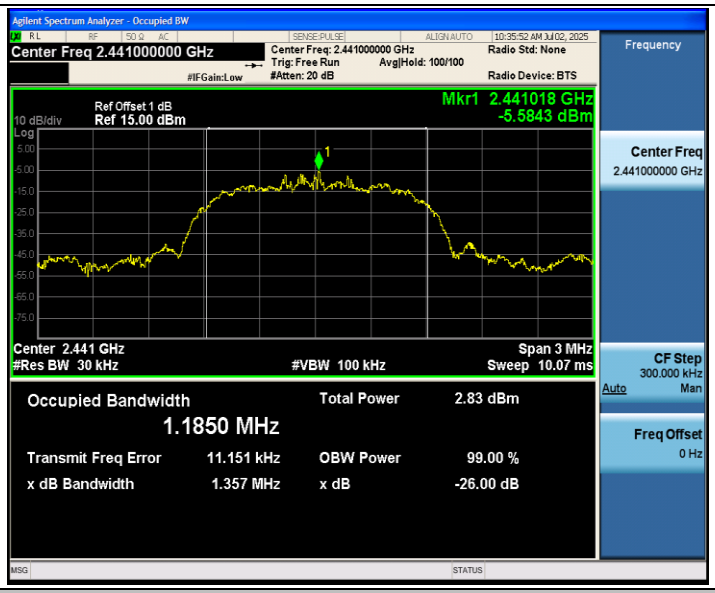
2DH5_Ant1_2480



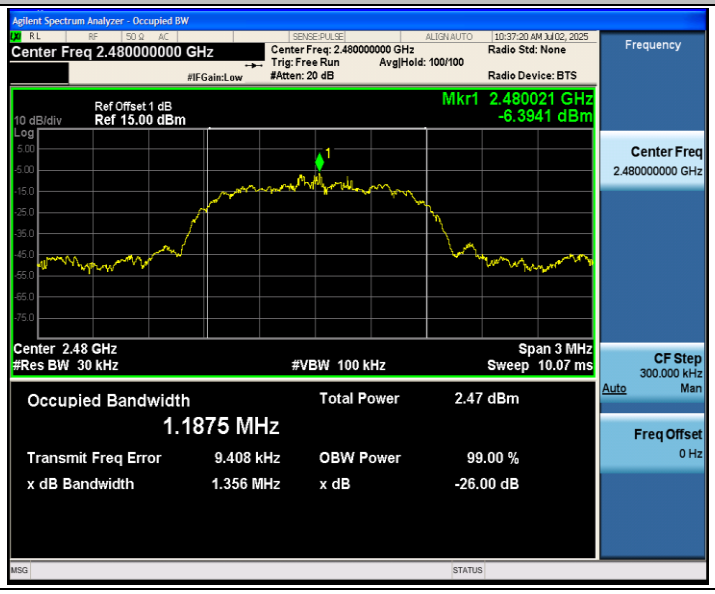
3DH5_Ant1_2402



3DH5_Ant1_2441



3DH5_Ant1_2480



Appendix C: Maximum conducted output power

Test Result Peak

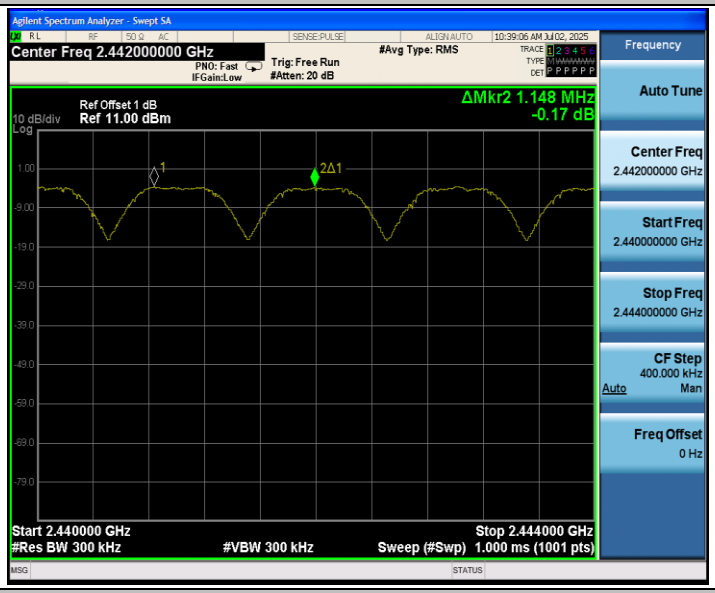
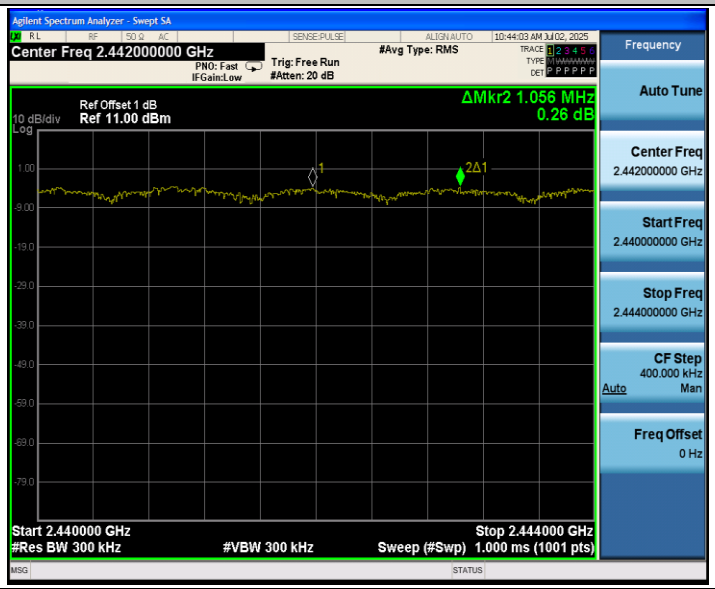
Test Mode	Antenna	Freq(MHz)	Conducted Peak Powert[dBm]	Conducted Limit[dBm]	Verdict
DH5	Ant1	2402	0.53	≤20.97	PASS
		2441	0.06	≤20.97	PASS
		2480	-0.22	≤20.97	PASS
2DH5	Ant1	2402	-0.29	≤20.97	PASS
		2441	-0.73	≤20.97	PASS
		2480	-1.01	≤20.97	PASS
3DH5	Ant1	2402	0.14	≤20.97	PASS
		2441	-0.33	≤20.97	PASS
		2480	-0.63	≤20.97	PASS

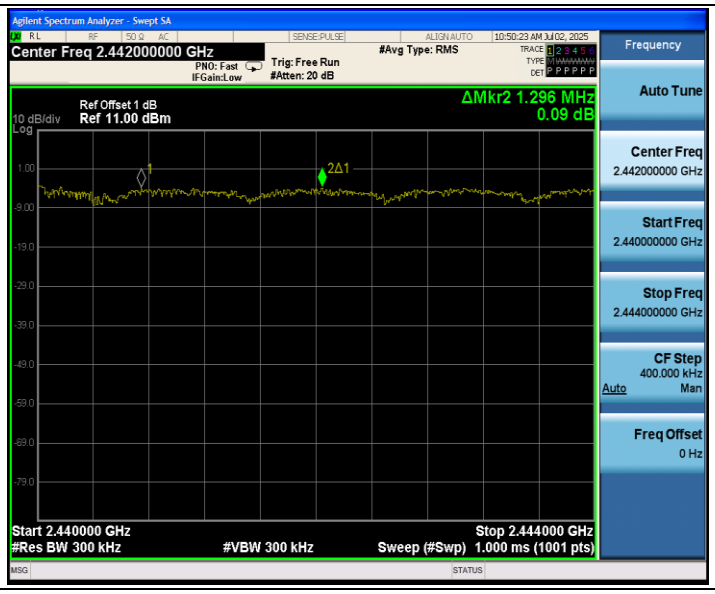
Appendix D: Carrier frequency separation

Test Result

TestMode	Antenna	Freq(MHz)	Result[MHz]	Limit[MHz]	Verdict
DH5	Ant1	Hop	1.148	≥0.954	PASS
2DH5	Ant1	Hop	1.056	≥0.876	PASS
3DH5	Ant1	Hop	1.296	≥0.870	PASS

Test Graphs

DH5_Ant1_Hop

2DH5_Ant1_Hop

3DH5_Ant1_Hop

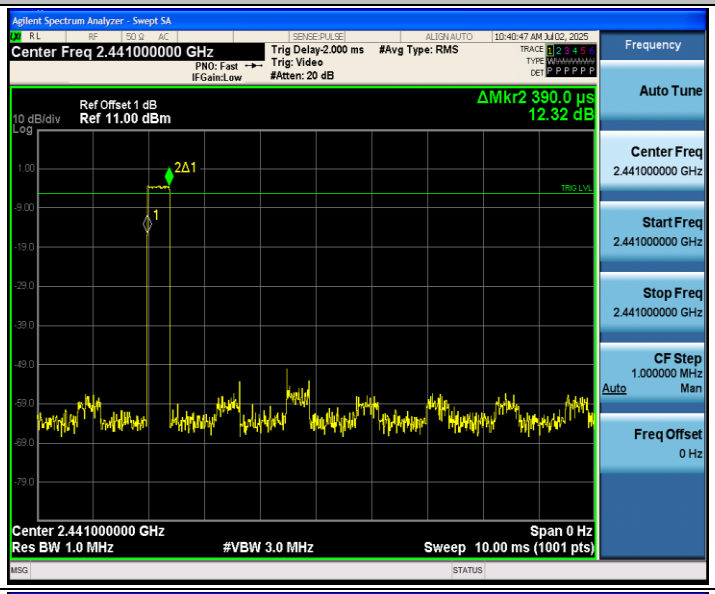
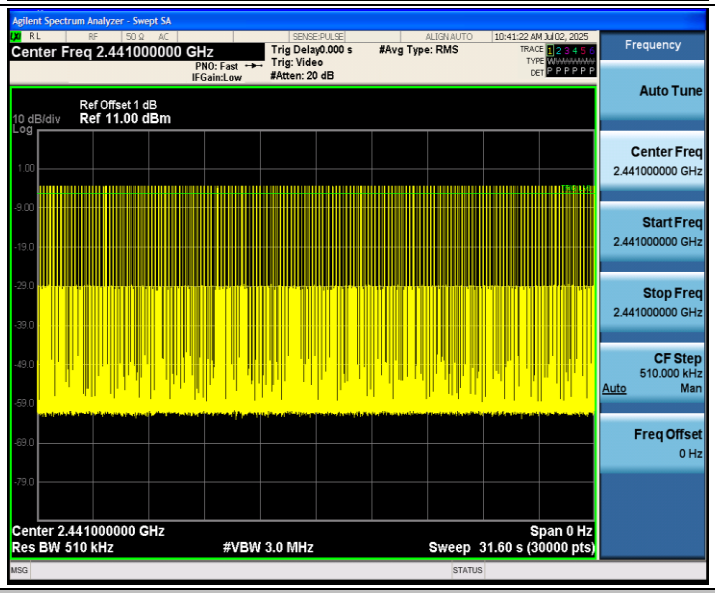

Agilent Spectrum Analyzer - Swept SA
Center Freq 2.442000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 20 dB
#Avg Type: RMS
10:50:23 AM Jul 02, 2025
Frequency
Auto Tune
Center Freq
2.442000000 GHz
Start Freq
2.440000000 GHz
Stop Freq
2.444000000 GHz
CF Step
400.000 kHz
Auto
Man
Freq Offset
0 Hz
Ref Offset 1 dB
10 dB/div
Ref 11.00 dBm
Log
ΔMkr2 1.296 MHz
0.09 dB
2Δ1
Start 2.440000 GHz
#Res BW 300 kHz
#VBW 300 kHz
Stop 2.444000 GHz
Sweep (#Swp) 1.000 ms (1001 pts)

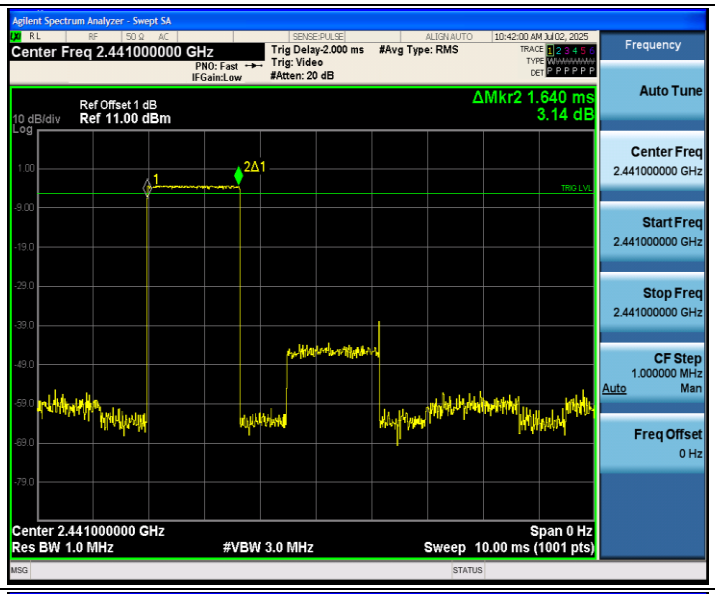
Appendix E: Time of occupancy

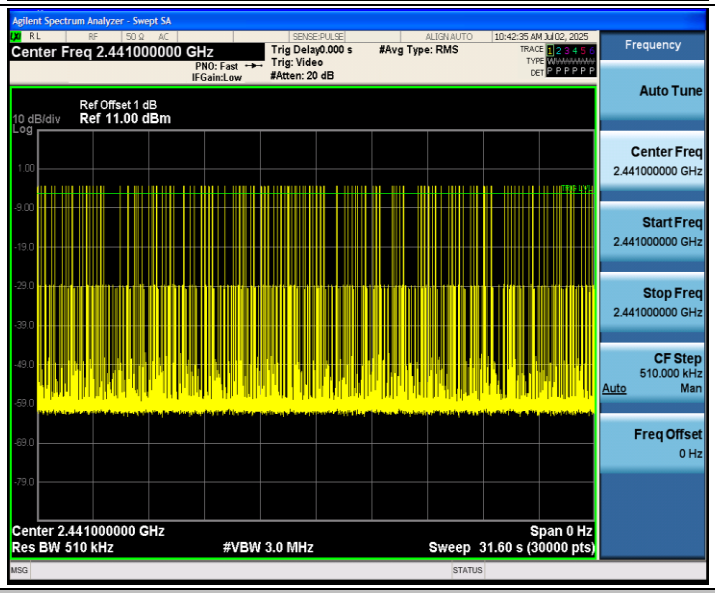
Test Result

TestMode	Antenna	Freq(MHz)	BurstWidth [ms]	TotalHops [Num]	Result[s]	Limit[s]	Verdict
DH1	Ant1	Hop	0.390	319	0.124	≤0.4	PASS
DH3	Ant1	Hop	1.640	157	0.257	≤0.4	PASS
DH5	Ant1	Hop	2.890	114	0.329	≤0.4	PASS
2DH1	Ant1	Hop	0.400	319	0.128	≤0.4	PASS
2DH3	Ant1	Hop	1.650	158	0.261	≤0.4	PASS
2DH5	Ant1	Hop	2.900	101	0.293	≤0.4	PASS
3DH1	Ant1	Hop	0.400	320	0.128	≤0.4	PASS
3DH3	Ant1	Hop	1.650	157	0.259	≤0.4	PASS
3DH5	Ant1	Hop	2.900	105	0.305	≤0.4	PASS

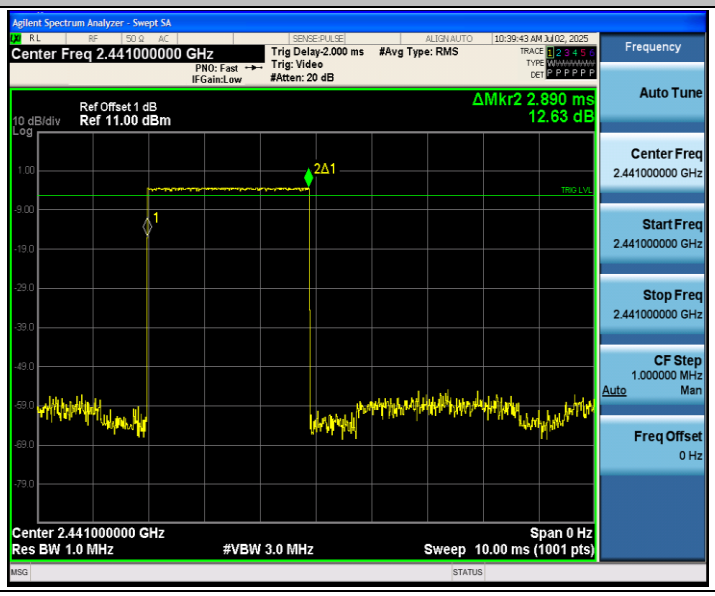
Test Graphs

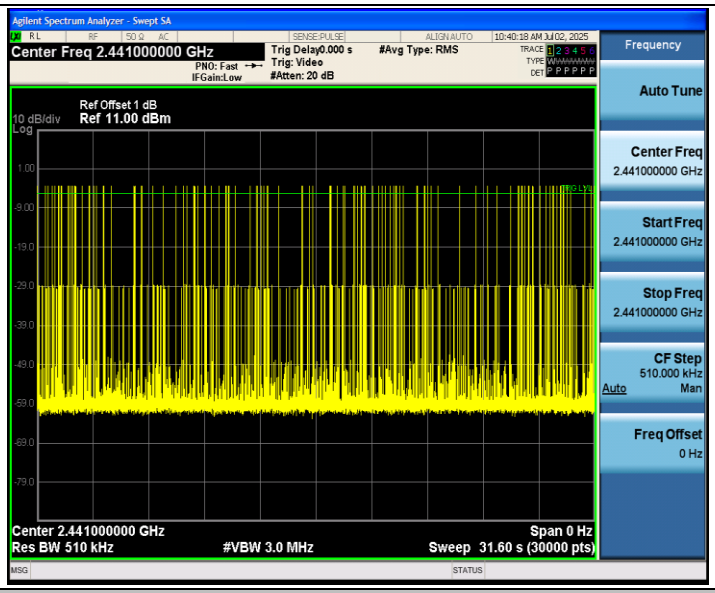
DH1_Ant1_Hop


DH3_Ant1_Hop


Agilent Spectrum Analyzer - Swept SA
Center Freq 2.441000000 GHz
Trig Delay-2.000 ms
#Avg Type: RMS
Trig: Video
PNO: Fast
IFGain:Low
#Atten: 20 dB
10:42:00 AM Jul 02, 2025
Ref Offset 1 dB
10 dB/div
Ref 11.00 dBm
ΔMkr2 1.640 ms
3.14 dB
Center 2.441000000 GHz
Span 0 Hz
Res BW 1.0 MHz
#VBW 3.0 MHz
Sweep 10.00 ms (1001 pts)
Frequency
Auto Tune
Center Freq
2.441000000 GHz
Start Freq
2.441000000 GHz
Stop Freq
2.441000000 GHz
CF Step
1.000000 MHz
Auto
Man
Freq Offset
0 Hz

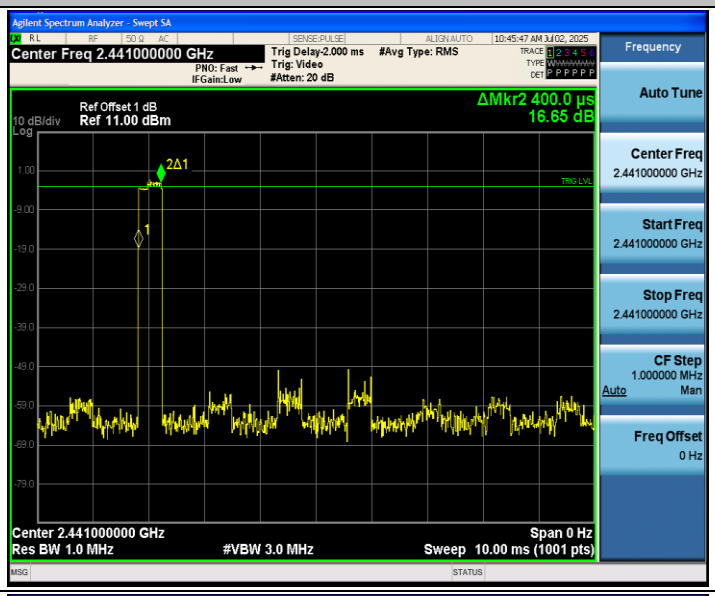

Agilent Spectrum Analyzer - Swept SA
Center Freq 2.441000000 GHz
Trig Delay0.000 s
#Avg Type: RMS
Trig: Video
PNO: Fast
IFGain:Low
#Atten: 20 dB
10:42:35 AM Jul 02, 2025
Ref Offset 1 dB
10 dB/div
Ref 11.00 dBm
Center 2.441000000 GHz
Span 0 Hz
Res BW 510 kHz
#VBW 3.0 MHz
Sweep 31.60 s (30000 pts)
Frequency
Auto Tune
Center Freq
2.441000000 GHz
Start Freq
2.441000000 GHz
Stop Freq
2.441000000 GHz
CF Step
510.000 kHz
Auto
Man
Freq Offset
0 Hz

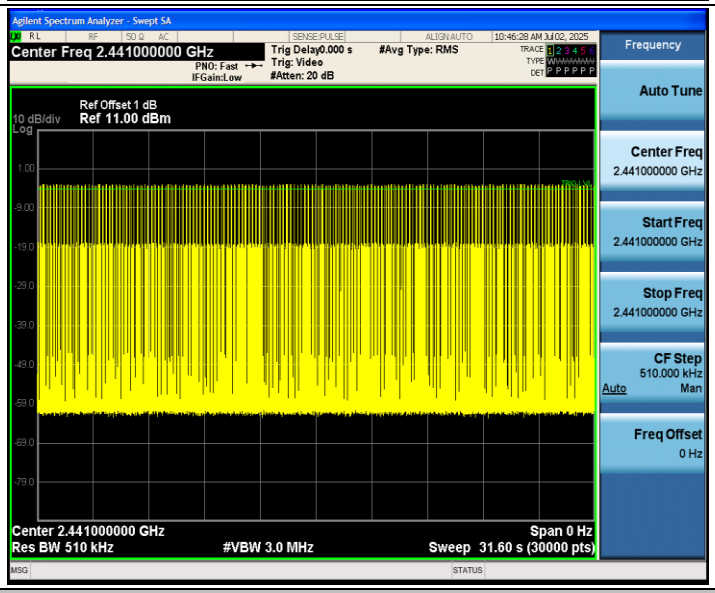
DH5_Ant1_Hop


Agilent Spectrum Analyzer - Swept SA
Center Freq 2.441000000 GHz
Trig Delay-2.000 ms
#Avg Type: RMS
Trig: Video
PNO: Fast
IFGain:Low
#Atten: 20 dB
10:39:43 AM Jul 02, 2025
Ref Offset 1 dB
10 dB/div
Ref 11.00 dBm
ΔMkr2 2.890 ms
12.63 dB
Center 2.441000000 GHz
Span 0 Hz
Res BW 1.0 MHz
#VBW 3.0 MHz
Sweep 10.00 ms (1001 pts)
Frequency
Auto Tune
Center Freq
2.441000000 GHz
Start Freq
2.441000000 GHz
Stop Freq
2.441000000 GHz
CF Step
1.000000 MHz
Auto
Man
Freq Offset
0 Hz

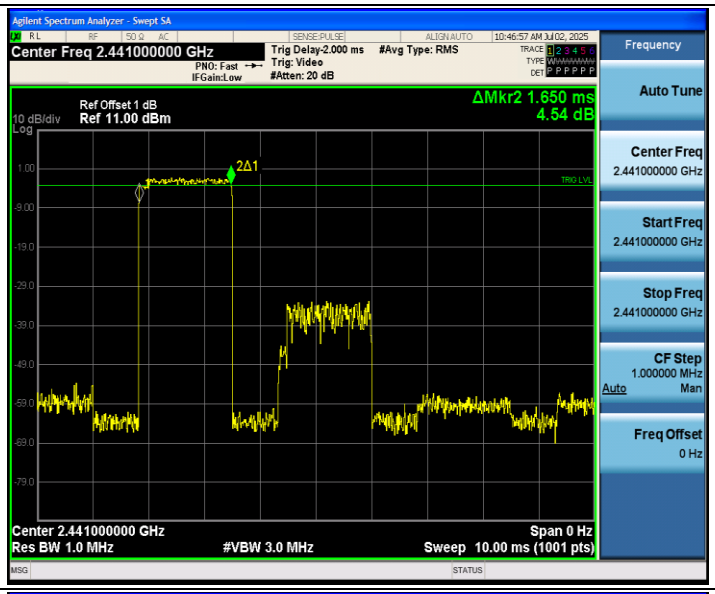


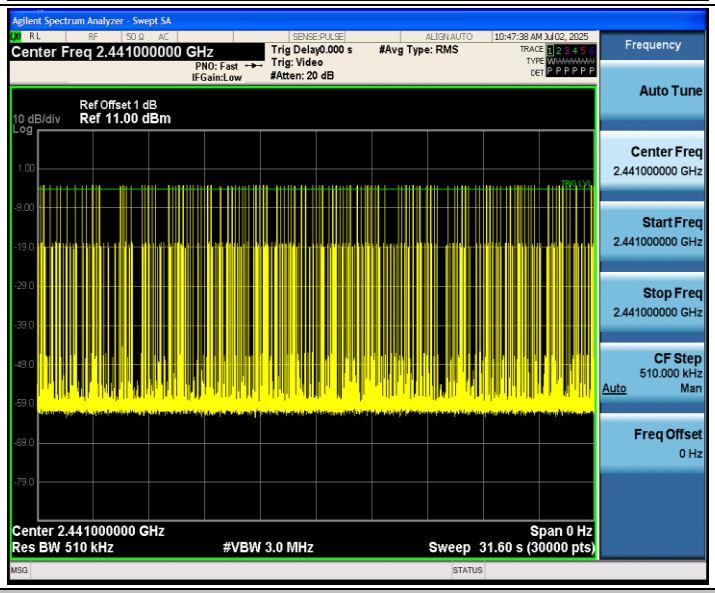
2DH1_Ant1_Hop



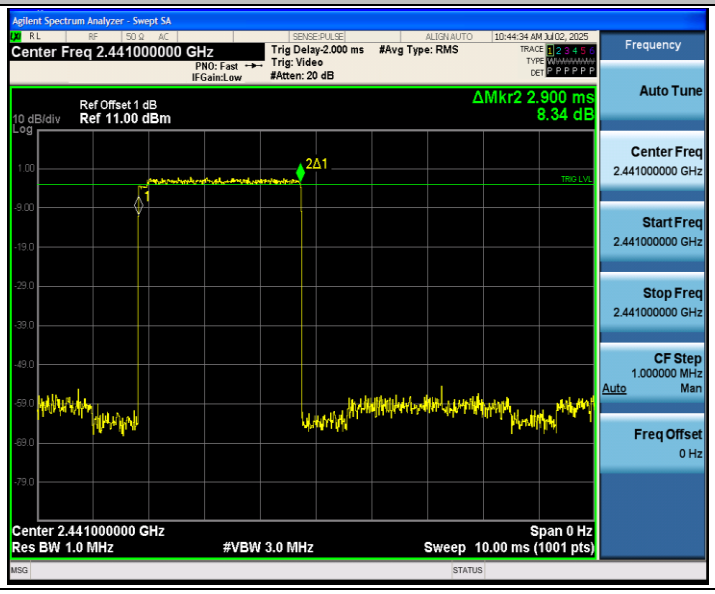


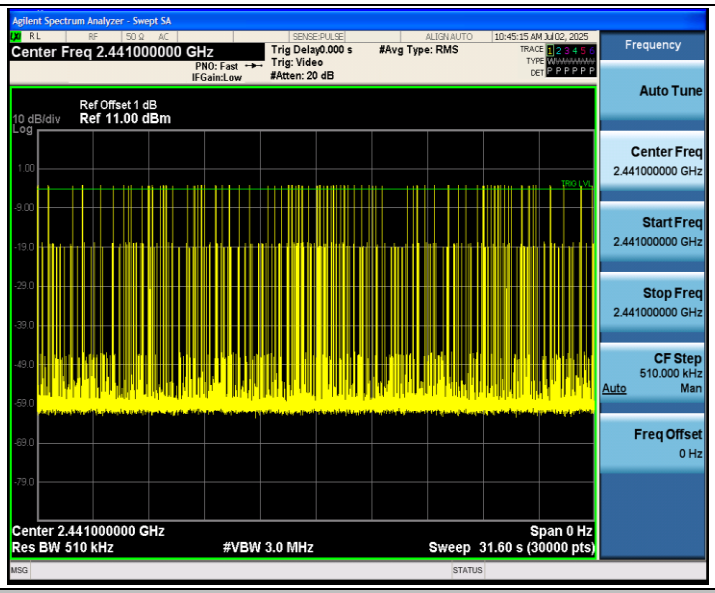
2DH3_Ant1_Hop



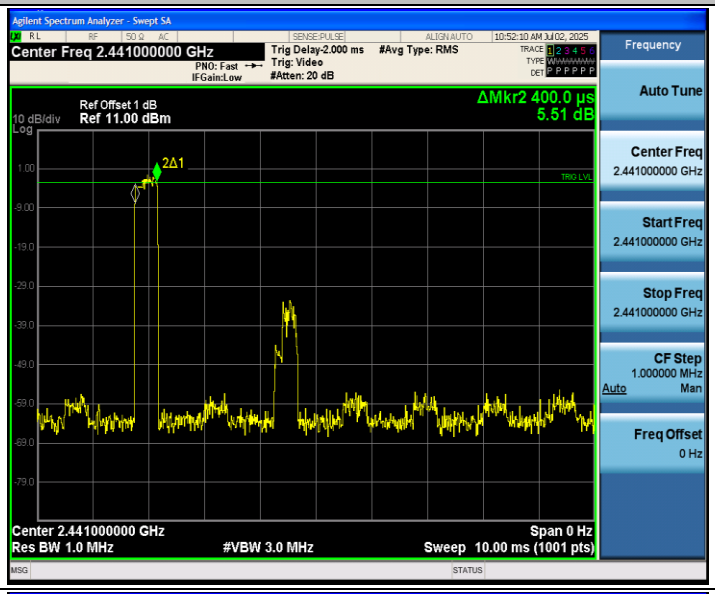


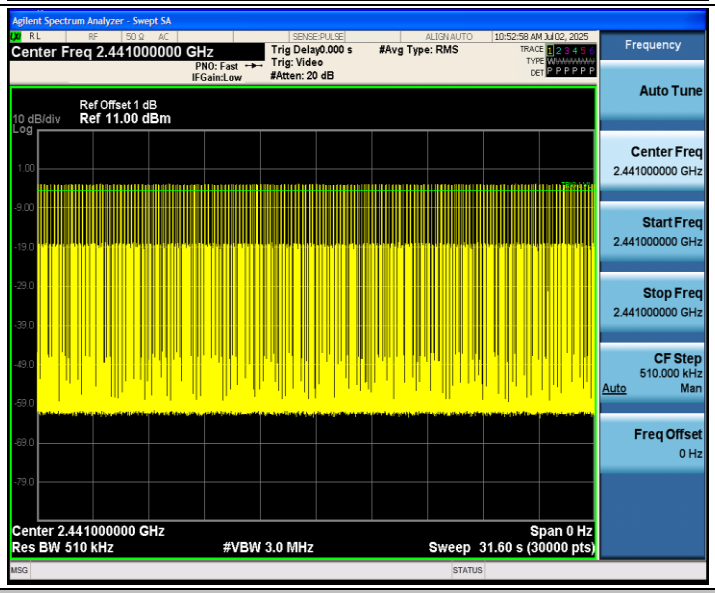
2DH5_Ant1_Hop



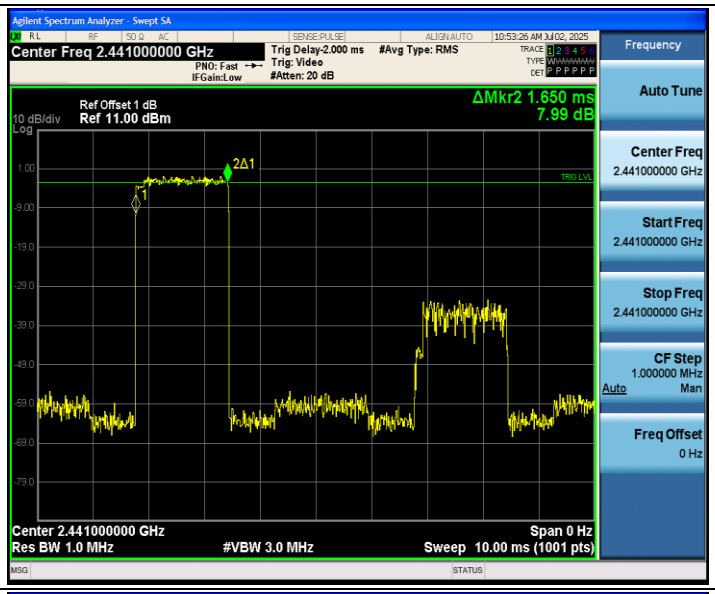


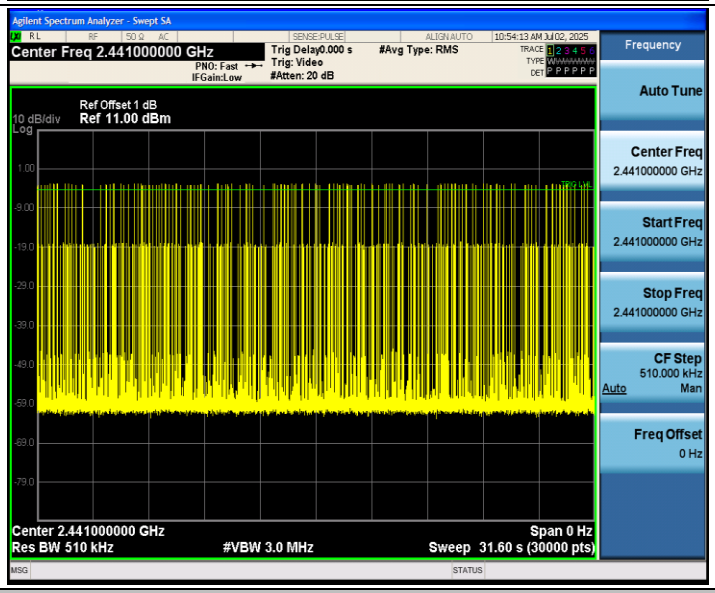
3DH1_Ant1_Hop



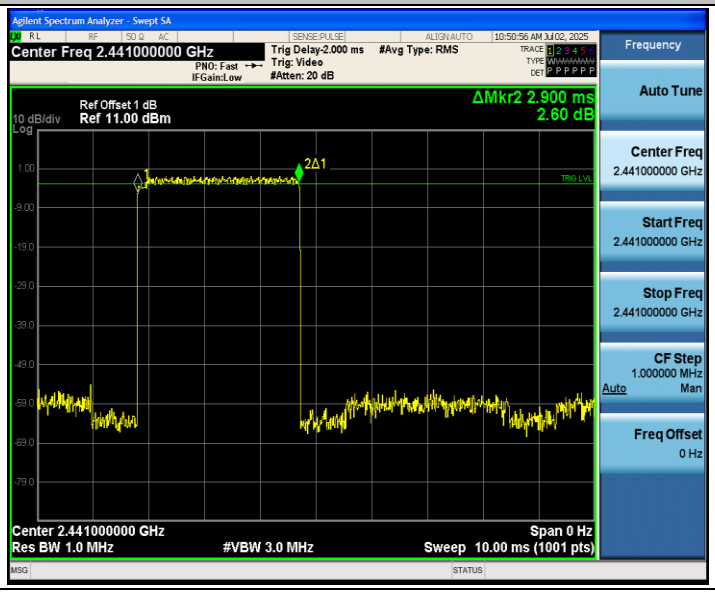


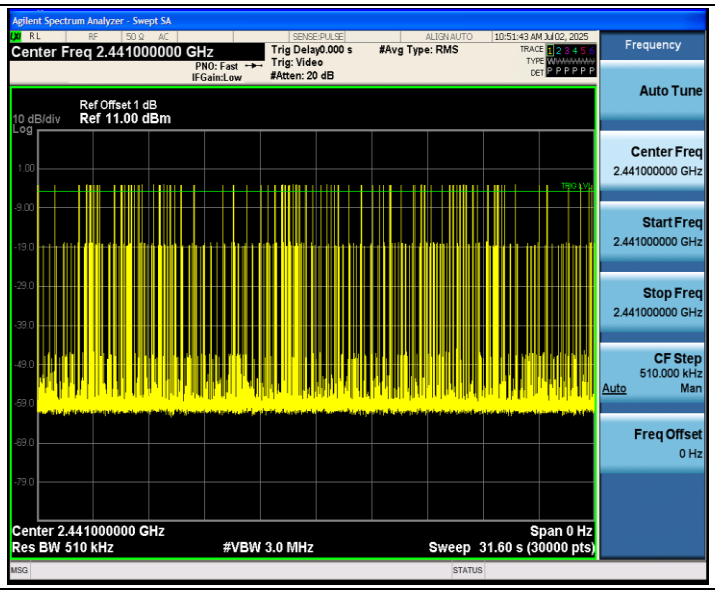
3DH3_Ant1_Hop





3DH5_Ant1_Hop



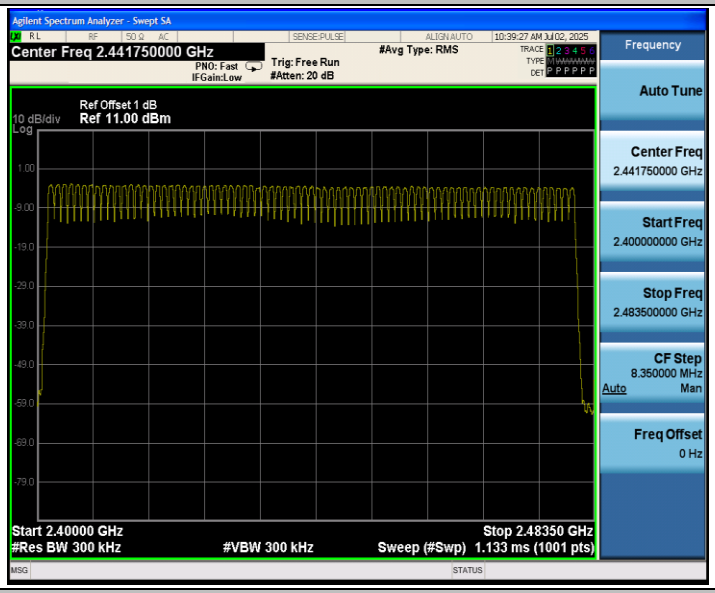
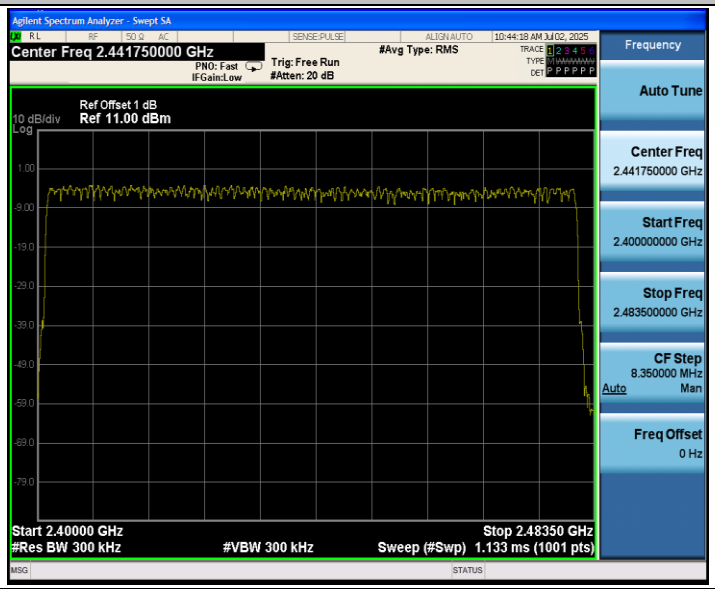

Agilent Spectrum Analyzer - Swept SA
Center Freq 2.441000000 GHz
Trig Delay0.000 s
#Avg Type: RMS
Trig: Video
#Atten: 20 dB
PNO: Fast
IFGain:Low
Ref Offset 1 dB
10 dB/div
Ref 11.00 dBm
Log
Center 2.441000000 GHz
Span 0 Hz
Res BW 510 kHz
#VBW 3.0 MHz
Sweep 31.60 s (30000 pts)
Frequency
Auto Tune
Center Freq
2.441000000 GHz
Start Freq
2.441000000 GHz
Stop Freq
2.441000000 GHz
CF Step
510.000 kHz
Auto
Man
Freq Offset
0 Hz

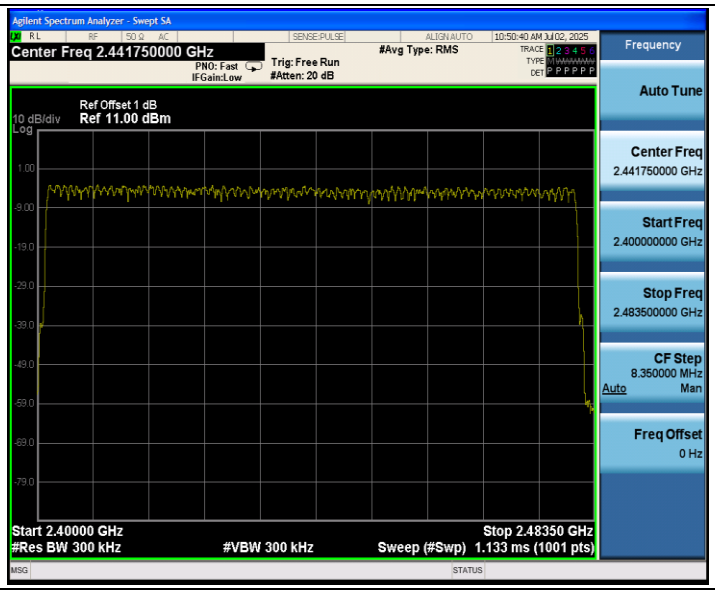
Appendix F: Number of hopping channels

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

DH5_Ant1_Hop

2DH5_Ant1_Hop

3DH5_Ant1_Hop


Agilent Spectrum Analyzer - Swept SA
Center Freq 2.441750000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 20 dB
#Avg Type: RMS
10:50:40 AM Jul 02, 2025
Frequency
Auto Tune
Center Freq
2.441750000 GHz
Start Freq
2.400000000 GHz
Stop Freq
2.483500000 GHz
CF Step
8.350000 MHz
Auto
Man
Freq Offset
0 Hz
Ref Offset 1 dB
10 dB/div
Ref 11.00 dBm
Log
Start 2.40000 GHz
Stop 2.48350 GHz
#Res BW 300 kHz
#VBW 300 kHz
Sweep (#Swp) 1.133 ms (1001 pts)

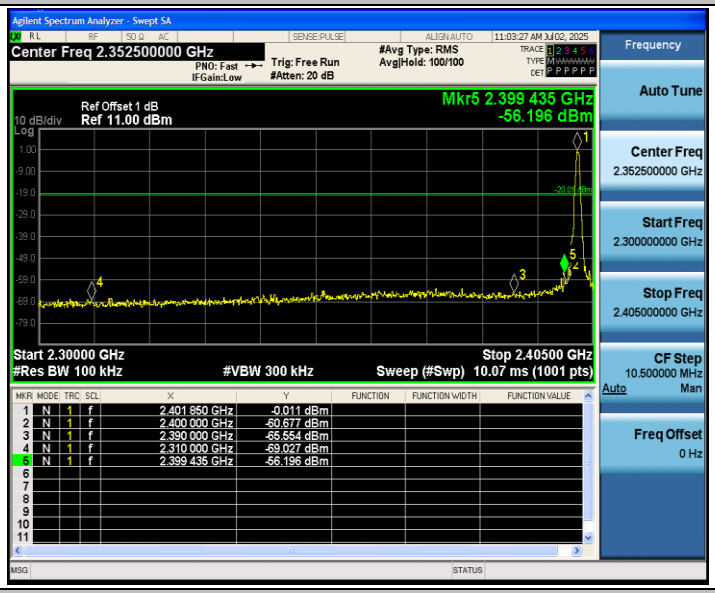
Appendix G: Band edge measurements

Test Result

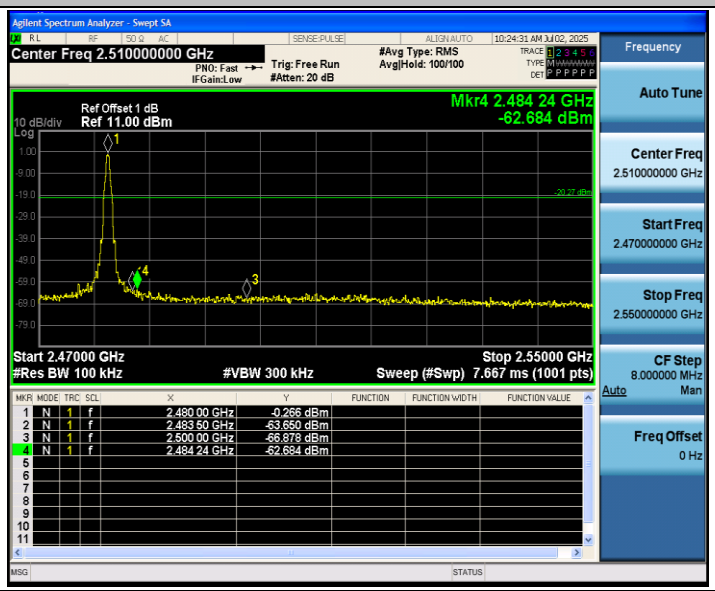
TestMode	Antenna	ChName	Freq(MHz)	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
DH5	Ant1	Low	2402	-0.01	-56.2	≤-20.01	PASS
		High	2480	-0.27	-62.68	≤-20.27	PASS
		Low	Hop_2402	-3.09	-56.57	≤-23.09	PASS
		High	Hop_2480	-3.70	-63.37	≤-23.7	PASS
2DH5	Ant1	Low	2402	-3.46	-59.38	≤-23.46	PASS
		High	2480	-4.28	-63.95	≤-24.28	PASS
		Low	Hop_2402	-4.44	-62.6	≤-24.44	PASS
		High	Hop_2480	-5.02	-63.96	≤-25.02	PASS
3DH5	Ant1	Low	2402	-3.57	-59.82	≤-23.57	PASS
		High	2480	-4.30	-63.49	≤-24.3	PASS
		Low	Hop_2402	-3.17	-60.58	≤-23.17	PASS
		High	Hop_2480	-4.14	-63.91	≤-24.14	PASS

Test Graphs

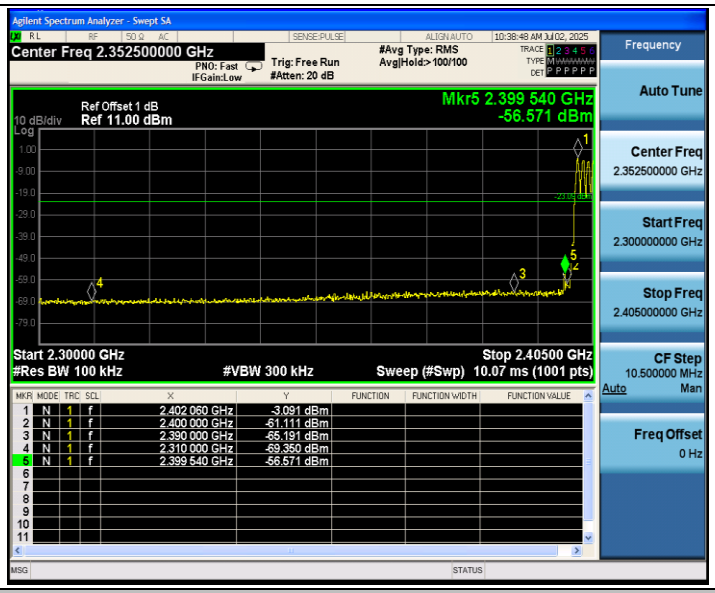
DH5_Ant1_Low_2402



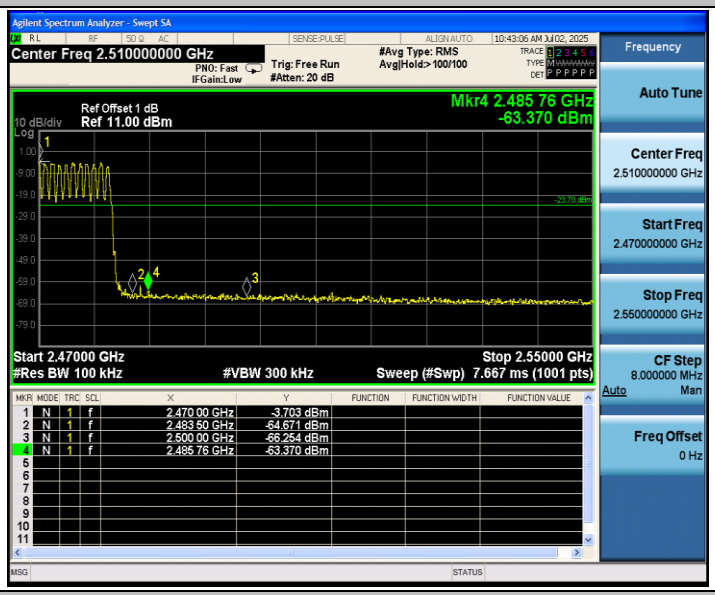
DH5_Ant1_High_2480



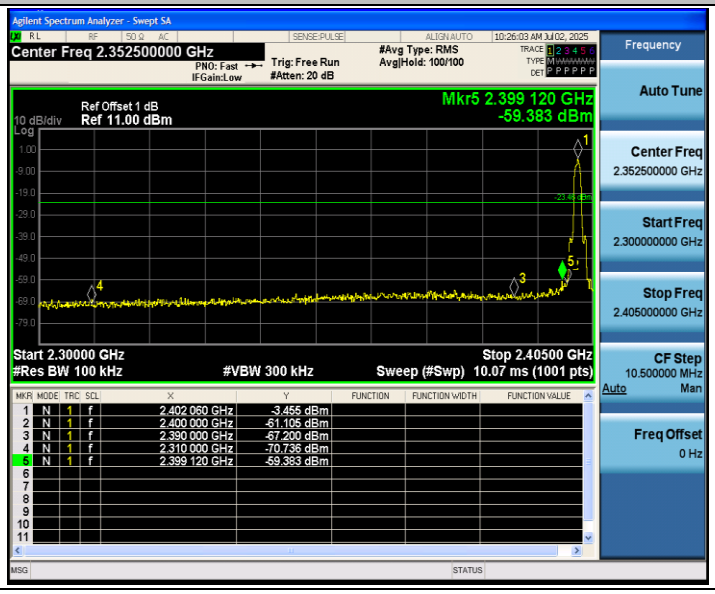
DH5_Ant1_Low_Hop_2402



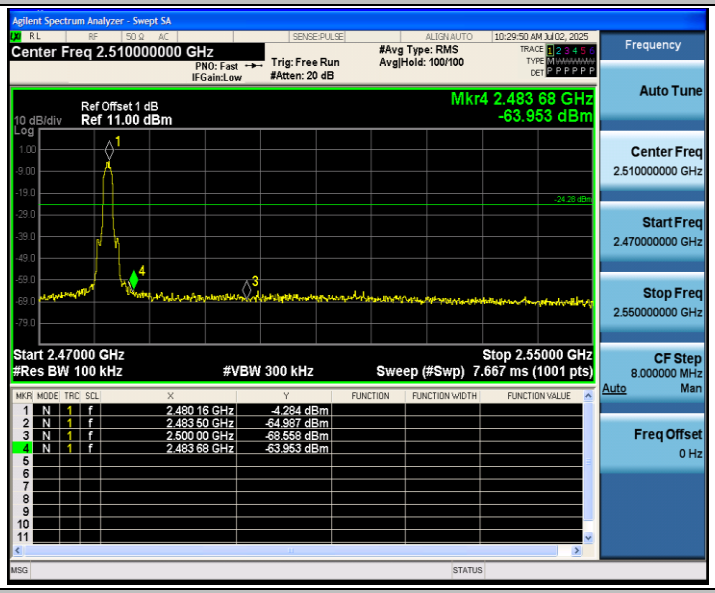
DH5_Ant1_High_Hop_2480



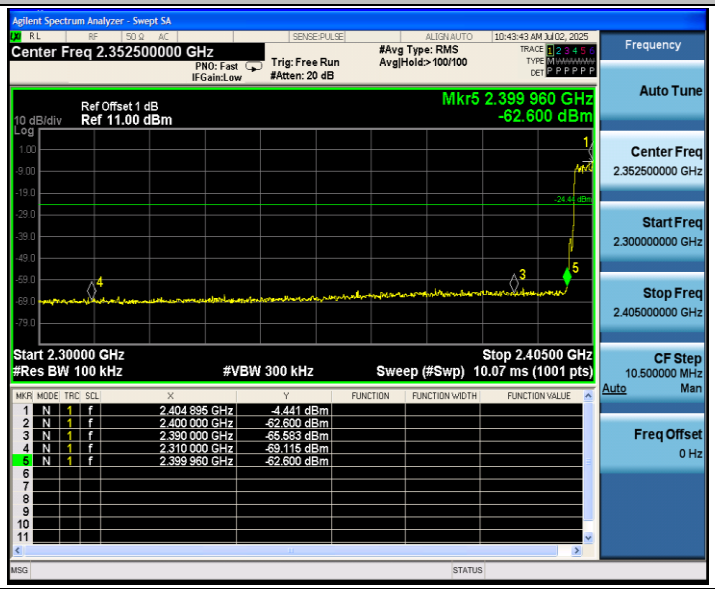
2DH5_Ant1_Low_2402



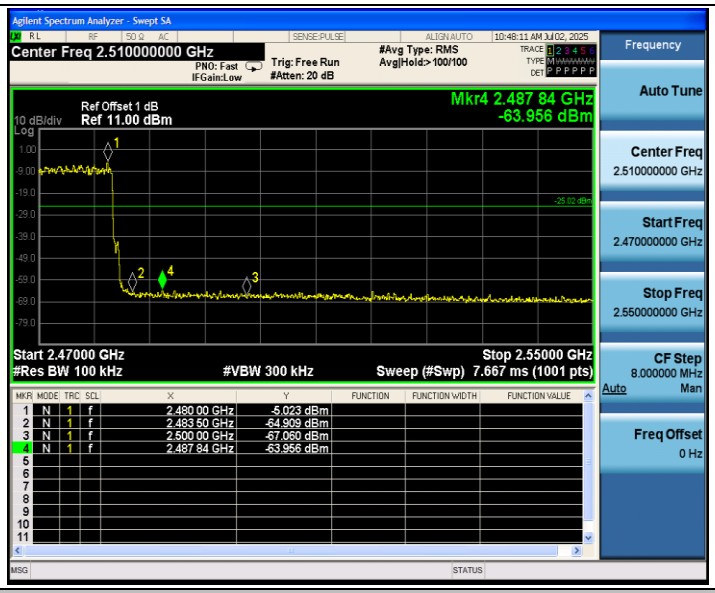
2DH5_Ant1_High_2480



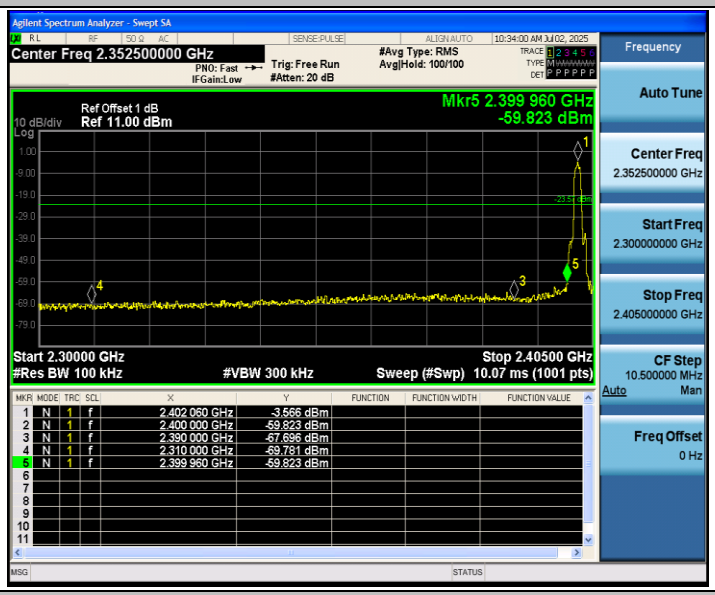
2DH5_Ant1_Low_Hop_2402



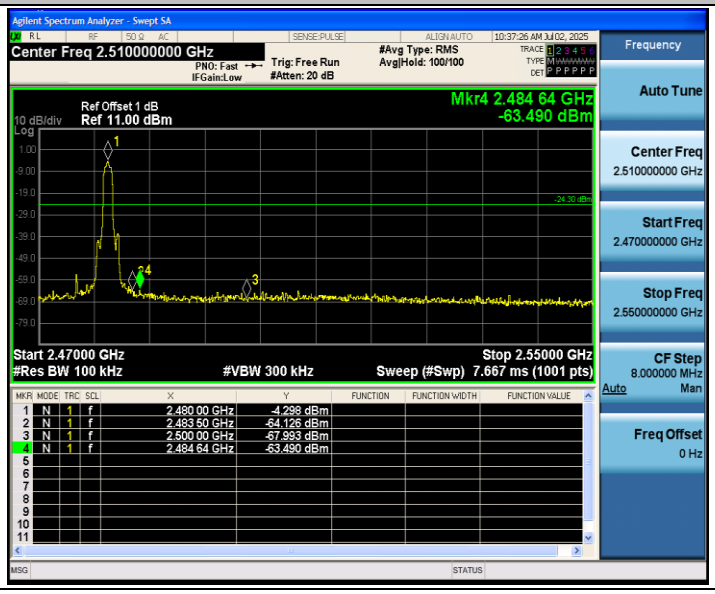
2DH5_Ant1_High_Hop_2480



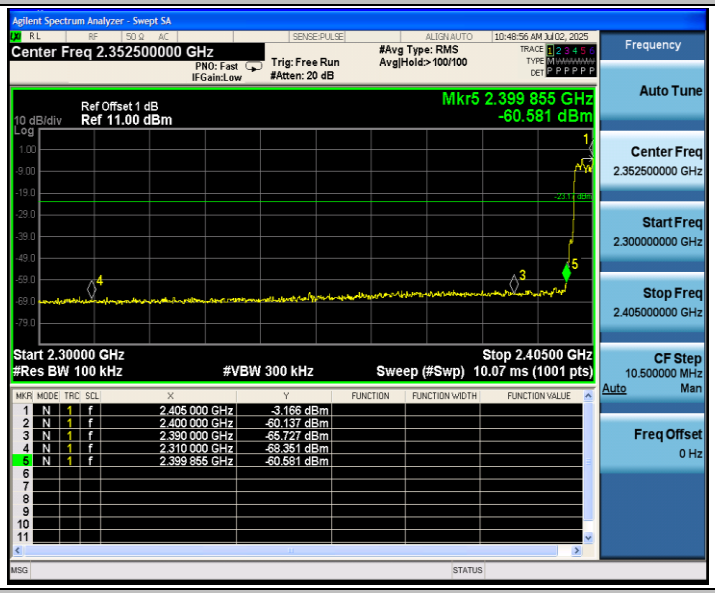
3DH5_Ant1_Low_2402



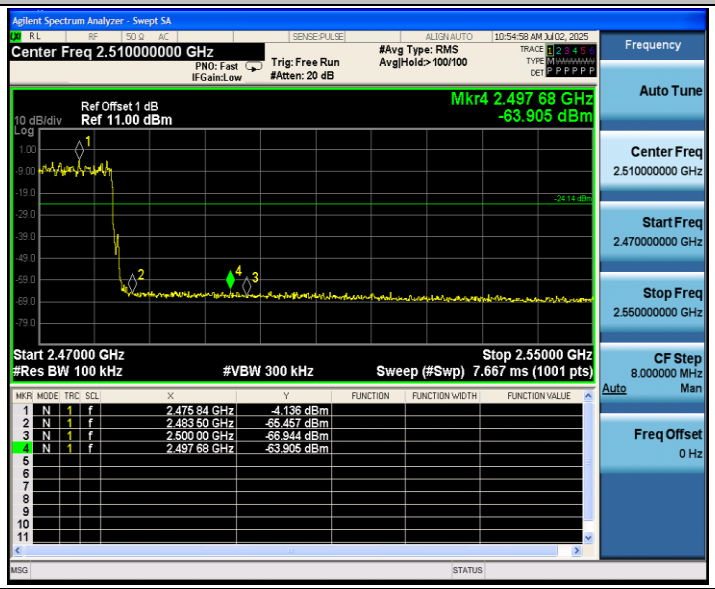
3DH5_Ant1_High_2480



3DH5_Ant1_Low_Hop_2402



3DH5_Ant1_High_Hop_2480



Appendix H: Conducted Spurious Emission

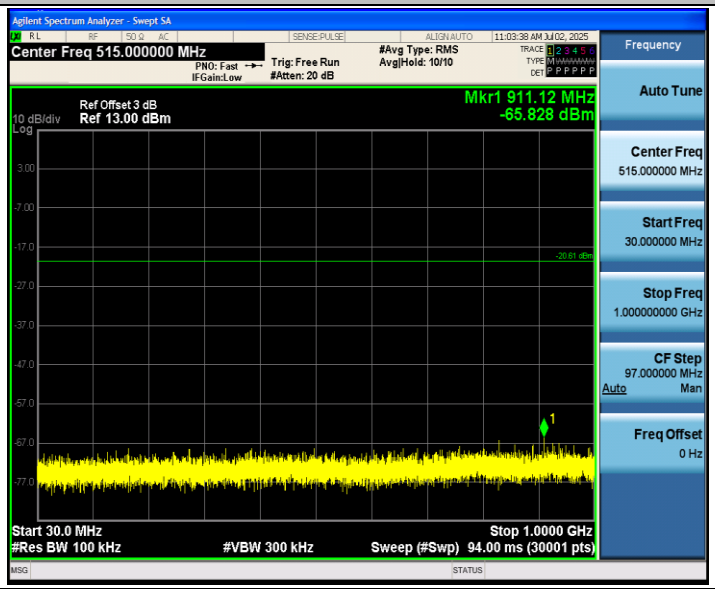
Test Result

TestMode	Antenna	Freq(MHz)	FreqRange [MHz]	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
DH5	Ant1	2402	Reference	-0.61	-0.61	---	PASS
			30~1000	-0.61	-65.83	≤-20.61	PASS
			1000~26500	-0.61	-43.45	≤-20.61	PASS
		2441	Reference	-1.11	-1.11	---	PASS
			30~1000	-1.11	-67.66	≤-21.11	PASS
			1000~26500	-1.11	-43.63	≤-21.11	PASS
		2480	Reference	-1.63	-1.63	---	PASS
			30~1000	-1.63	-67.19	≤-21.63	PASS
			1000~26500	-1.63	-42.44	≤-21.63	PASS
2DH5	Ant1	2402	Reference	-4.84	-4.84	---	PASS
			30~1000	-4.84	-60.57	≤-24.84	PASS
			1000~26500	-4.84	-48.57	≤-24.84	PASS
		2441	Reference	-6.47	-6.47	---	PASS
			30~1000	-6.47	-67.07	≤-26.47	PASS
			1000~26500	-6.47	-49.95	≤-26.47	PASS
		2480	Reference	-4.84	-4.84	---	PASS
			30~1000	-4.84	-66.91	≤-24.84	PASS
			1000~26500	-4.84	-46.78	≤-24.84	PASS
3DH5	Ant1	2402	Reference	-4.47	-4.47	---	PASS
			30~1000	-4.47	-66.71	≤-24.47	PASS
			1000~26500	-4.47	-48.78	≤-24.47	PASS
		2441	Reference	-4.17	-4.17	---	PASS
			30~1000	-4.17	-67.26	≤-24.17	PASS
			1000~26500	-4.17	-48.02	≤-24.17	PASS
		2480	Reference	-7.01	-7.01	---	PASS
			30~1000	-7.01	-66.66	≤-27.01	PASS
			1000~26500	-7.01	-46.68	≤-27.01	PASS

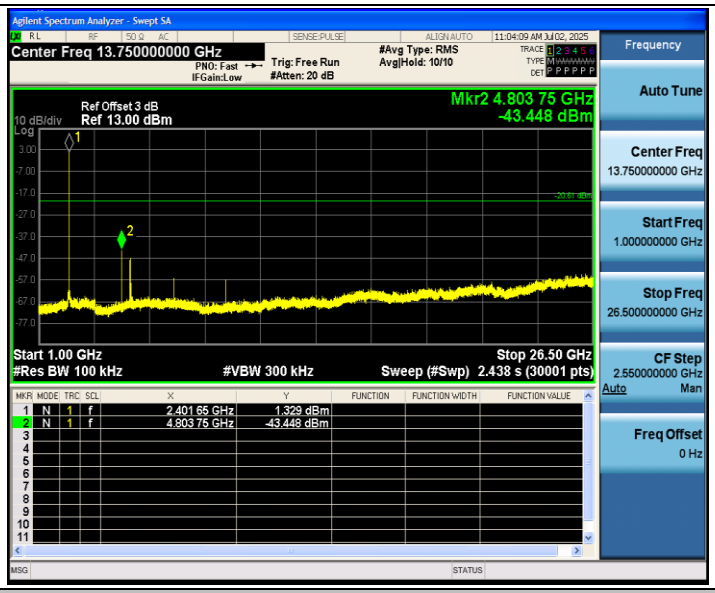
Test Graphs

DH5_Ant1_2402_0~Reference

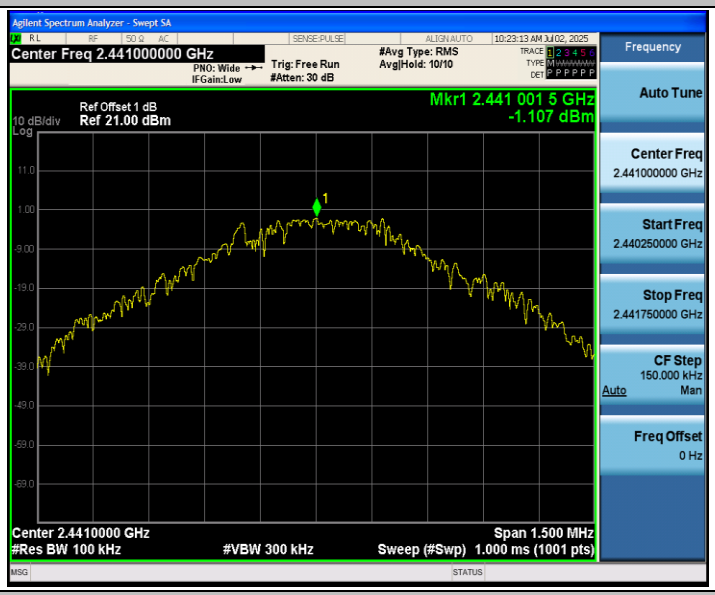
DH5_Ant1_2402_30~1000



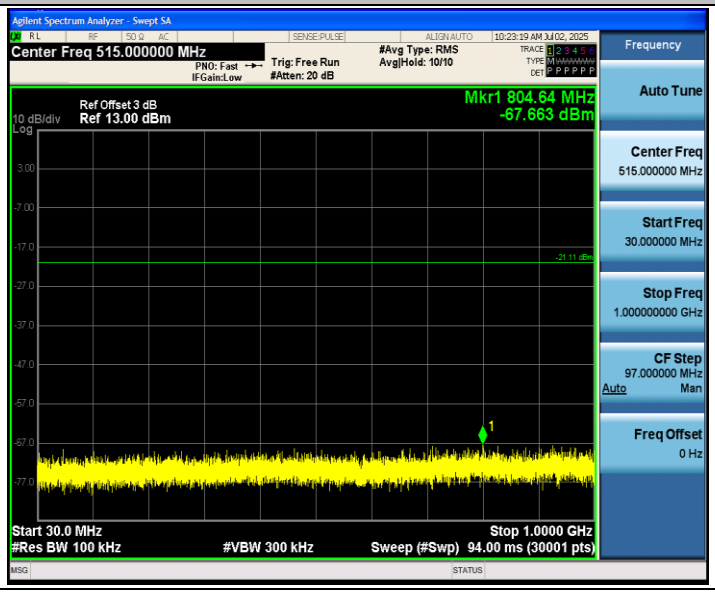
DH5_Ant1_2402_1000~26500



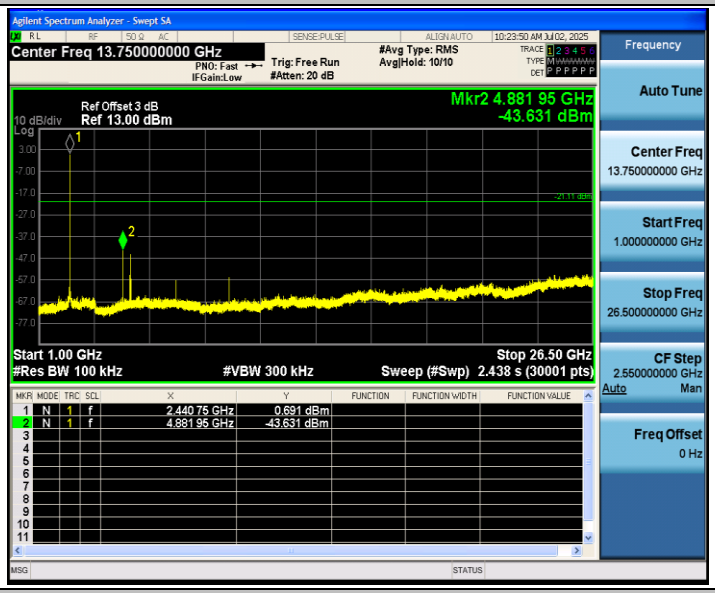
DH5_Ant1_2441_0~Reference



DH5_Ant1_2441_30~1000



DH5_Ant1_2441_1000~26500



DH5_Ant1_2480_0~Reference

DH5_Ant1_2480_30~1000