FCC Appendix RF Test Data

FCC ID	**:**	**2BQOX-K02**
Company	**:**	**Shenzhen dabai zhilian technology Co.,Ltd.**
EUT	**:**	**K02 Transparent Speaker**
Model Number	**:**	**K02**
Report No.	**:**	**CTA25062500201**
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	0.957	2440.547	2441.504	---	---
		2480	0.951	2479.547	2480.498	---	---
2DH5	Ant1	2402	1.281	2401.379	2402.660	---	---
		2441	1.275	2440.382	2441.657	---	---
		2480	1.275	2479.382	2480.657	---	---
3DH5	Ant1	2402	1.308	2401.358	2402.666	---	---
		2441	1.317	2440.355	2441.672	---	---
		2480	1.287	2479.373	2480.660	---	---

Test Graphs

DH5_Ant1_2402

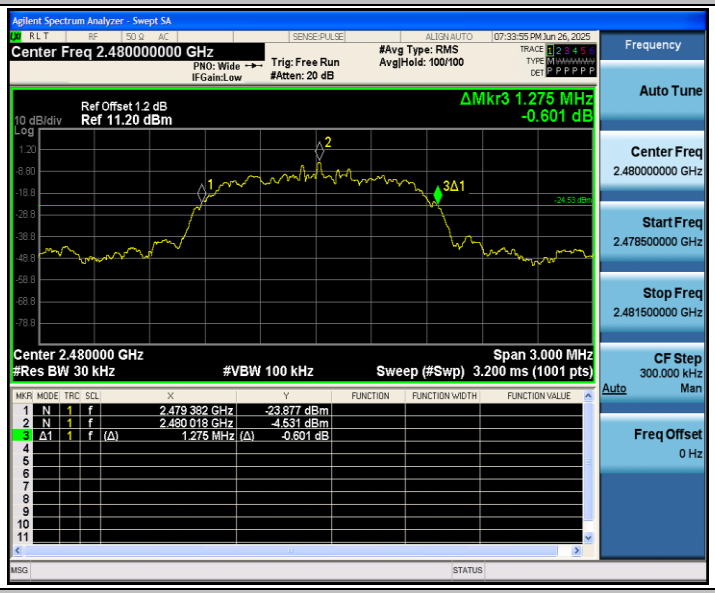
DH5_Ant1_2441

DH5_Ant1_2480

2DH5_Ant1_2402

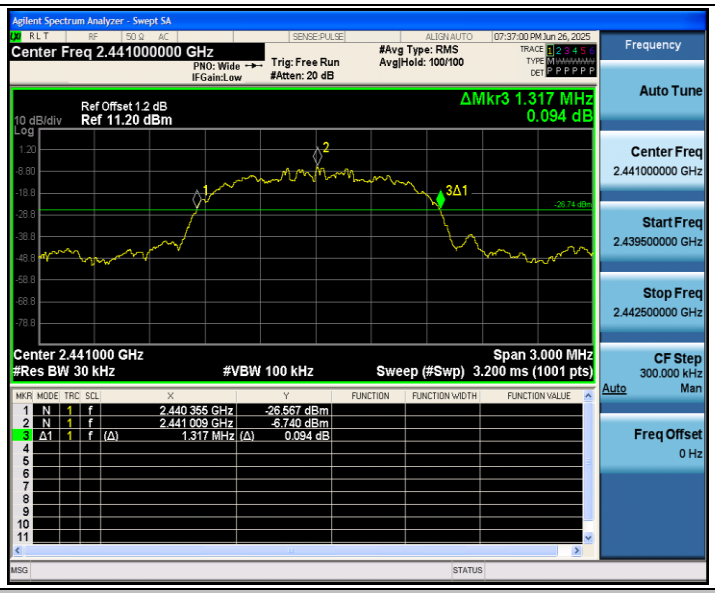
2DH5_Ant1_2441

2DH5_Ant1_2480



3DH5_Ant1_2402

3DH5_Ant1_2441



3DH5_Ant1_2480

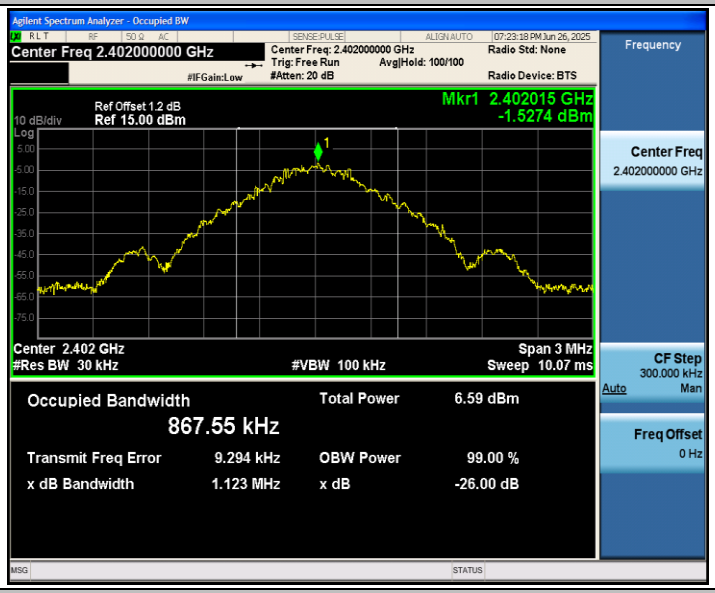
Appendix B: Occupied Channel Bandwidth

Test Result

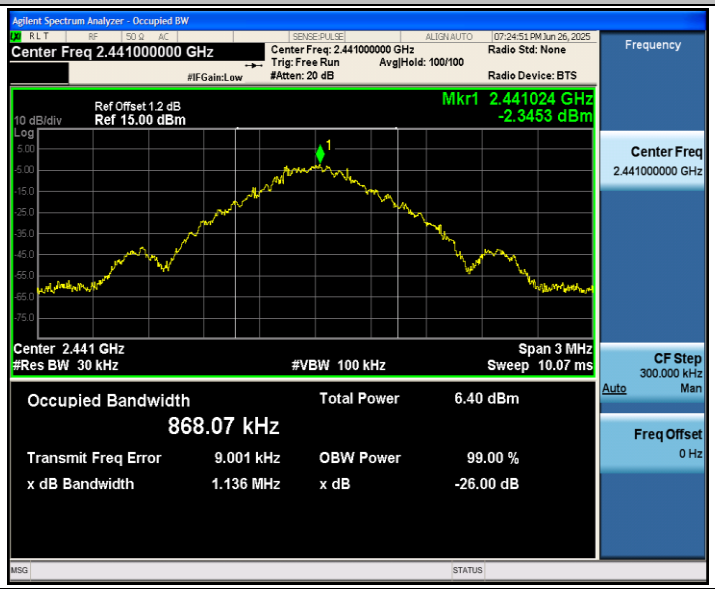
TestMode	Antenna	Freq(MHz)	OCB [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
DH5	Ant1	2402	0.86755	2401.5755	2402.4431	---	---
		2441	0.86807	2440.5750	2441.4430	---	---
		2480	0.87527	2479.5715	2480.4467	---	---
2DH5	Ant1	2402	1.1915	2401.4146	2402.6061	---	---
		2441	1.1876	2440.4161	2441.6037	---	---
		2480	1.1903	2479.4150	2480.6053	---	---
3DH5	Ant1	2402	1.1854	2401.4177	2402.6031	---	---
		2441	1.1865	2440.4165	2441.6030	---	---
		2480	1.1836	2479.4208	2480.6044	---	---

Test Graphs

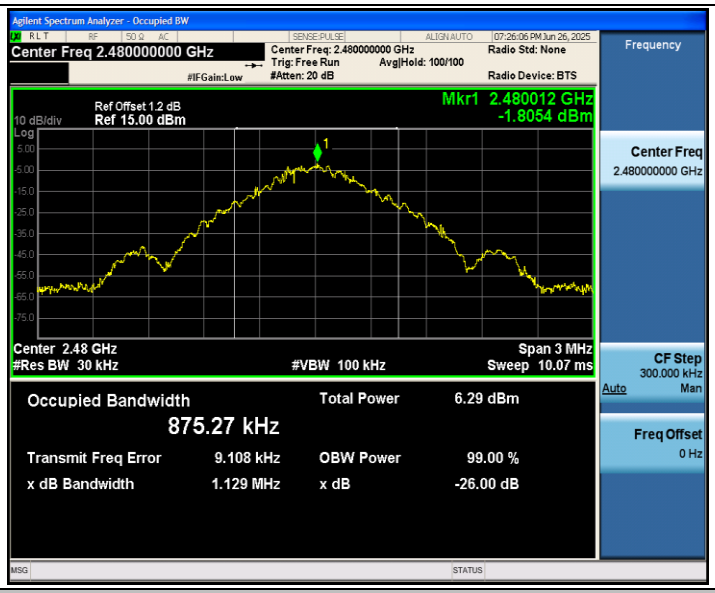
DH5_Ant1_2402



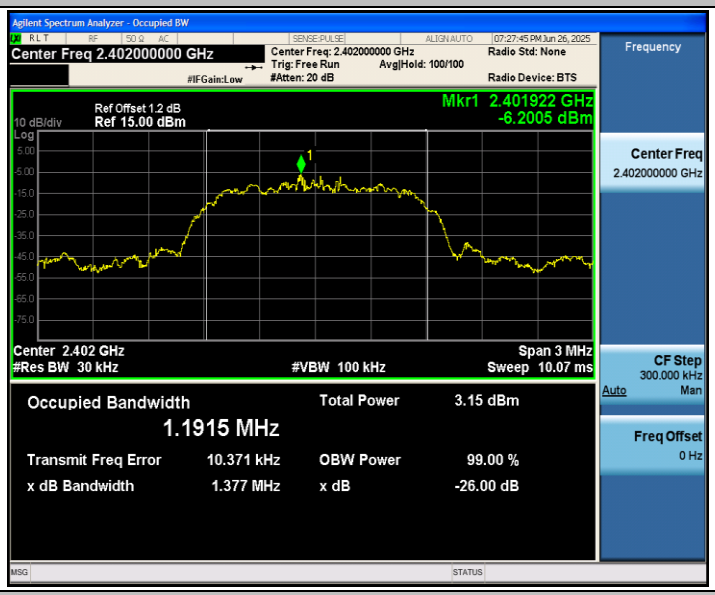
DH5_Ant1_2441



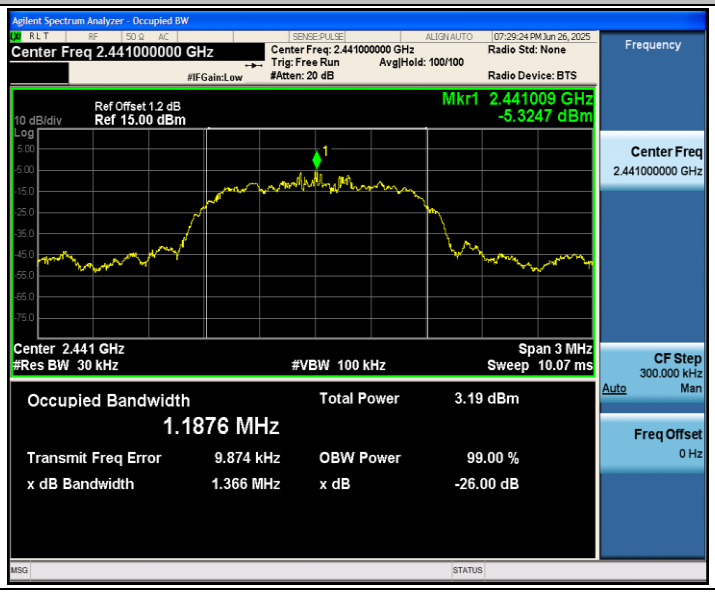
DH5_Ant1_2480



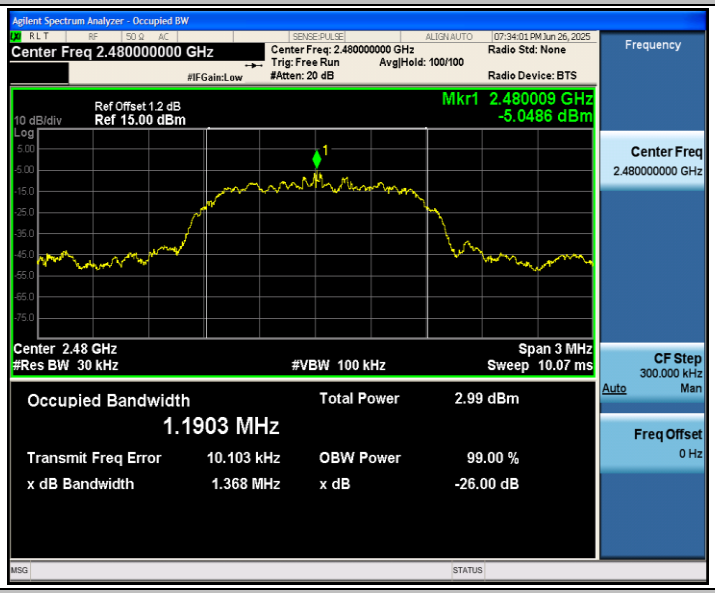
2DH5_Ant1_2402



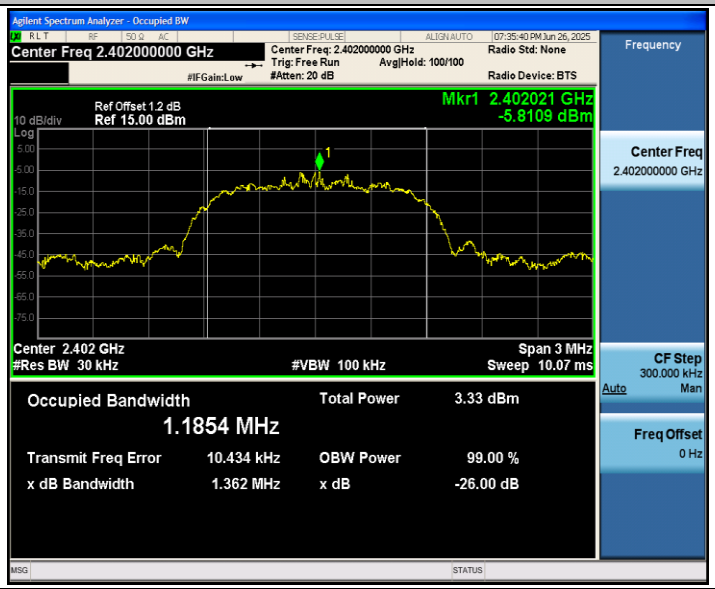
2DH5_Ant1_2441



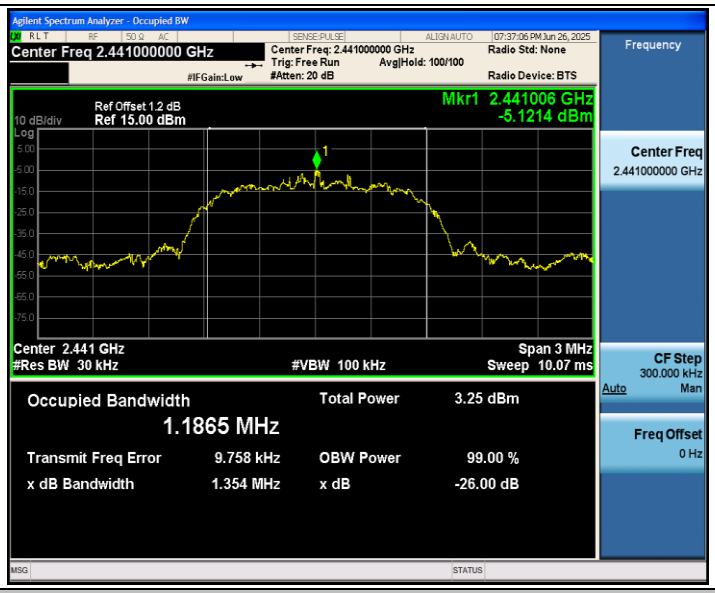
2DH5_Ant1_2480



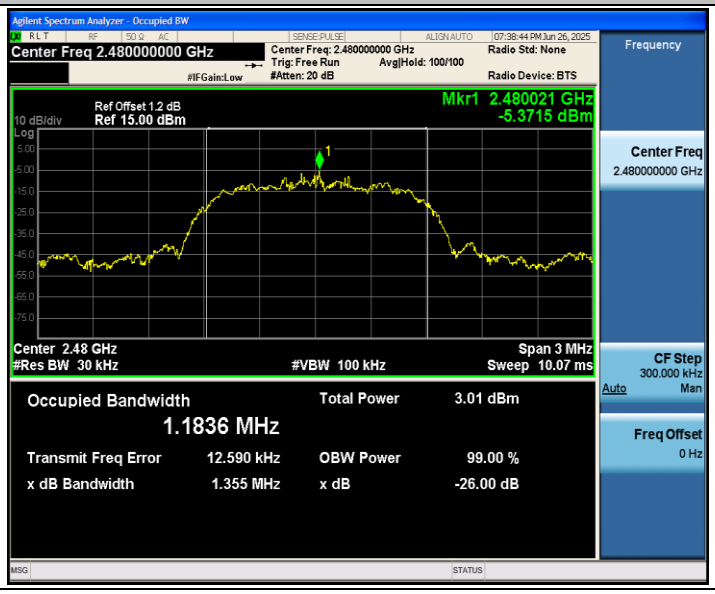
3DH5_Ant1_2402



3DH5_Ant1_2441



3DH5_Ant1_2480



Appendix C: Maximum conducted output power

Test Result Peak

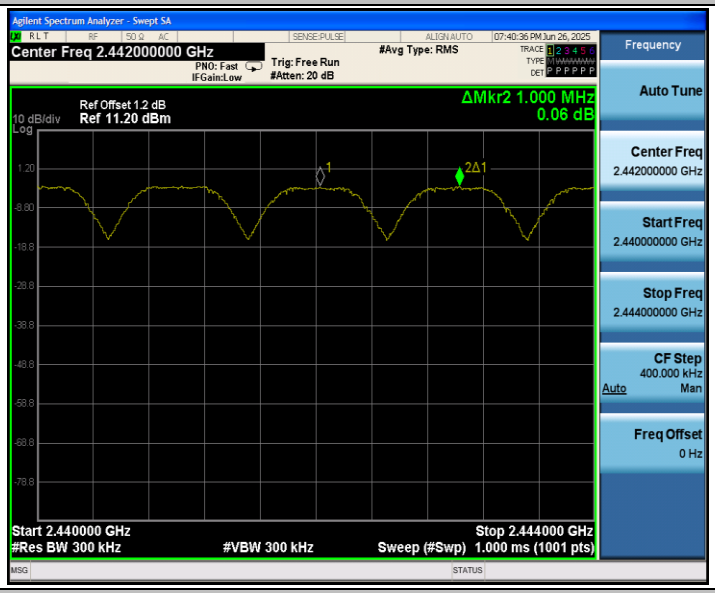
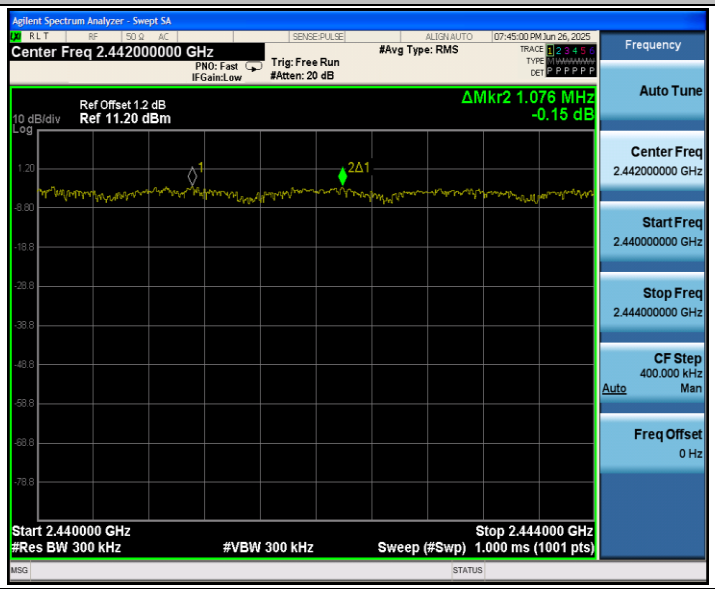
Test Mode	Antenna	Freq(MHz)	Conducted Peak Powert[dBm]	Conducted Limit[dBm]	Verdict
DH5	Ant1	2402	0.64	≤20.97	PASS
		2441	0.50	≤20.97	PASS
		2480	0.46	≤20.97	PASS
2DH5	Ant1	2402	-0.15	≤20.97	PASS
		2441	-0.38	≤20.97	PASS
		2480	-0.33	≤20.97	PASS
3DH5	Ant1	2402	0.23	≤20.97	PASS
		2441	0.05	≤20.97	PASS
		2480	0.04	≤20.97	PASS

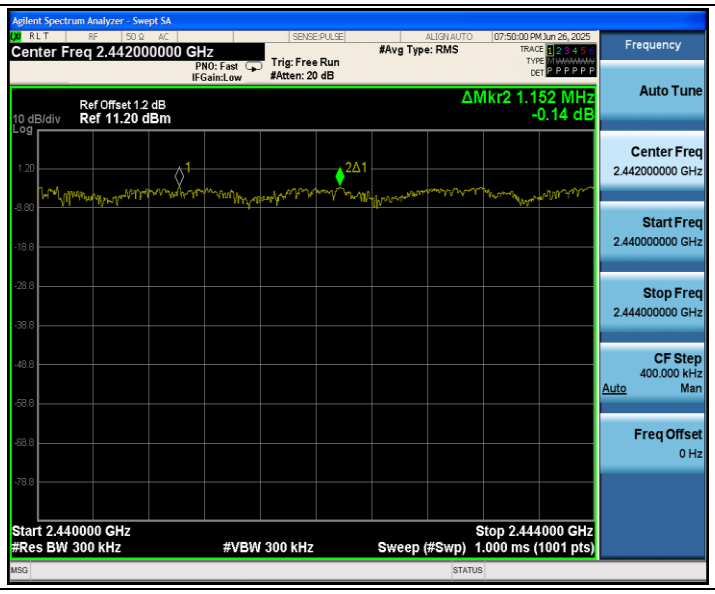
Appendix D: Carrier frequency separation

Test Result

TestMode	Antenna	Freq(MHz)	Result[MHz]	Limit[MHz]	Verdict
DH5	Ant1	Hop	1	≥0.957	PASS
2DH5	Ant1	Hop	1.076	≥0.854	PASS
3DH5	Ant1	Hop	1.152	≥0.878	PASS

Test Graphs

DH5_Ant1_Hop

2DH5_Ant1_Hop

3DH5_Ant1_Hop

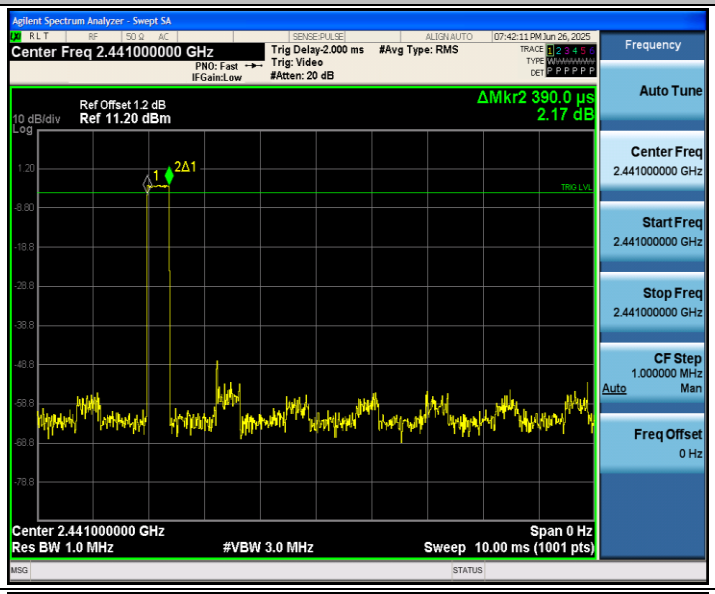
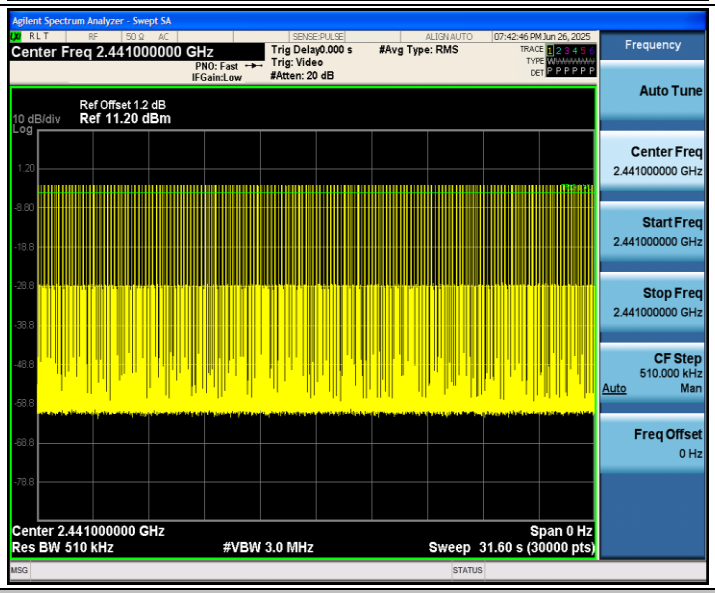

Agilent Spectrum Analyzer - Swept SA
Center Freq 2.442000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 20 dB
#Avg Type: RMS
07:50:00 PM Jun 26, 2025
Ref Offset 1.2 dB
10 dB/div
Ref 11.20 dBm
Log
ΔMkr2 1.152 MHz
-0.14 dB
1
2Δ1
Start 2.440000 GHz
#Res BW 300 kHz
#VBW 300 kHz
Stop 2.444000 GHz
Sweep (#Swp) 1.000 ms (1001 pts)
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

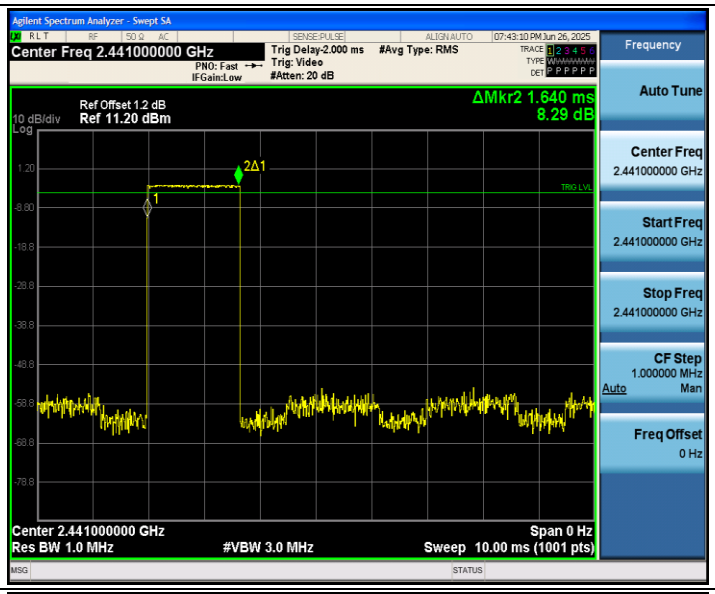
Appendix E: Time of occupancy

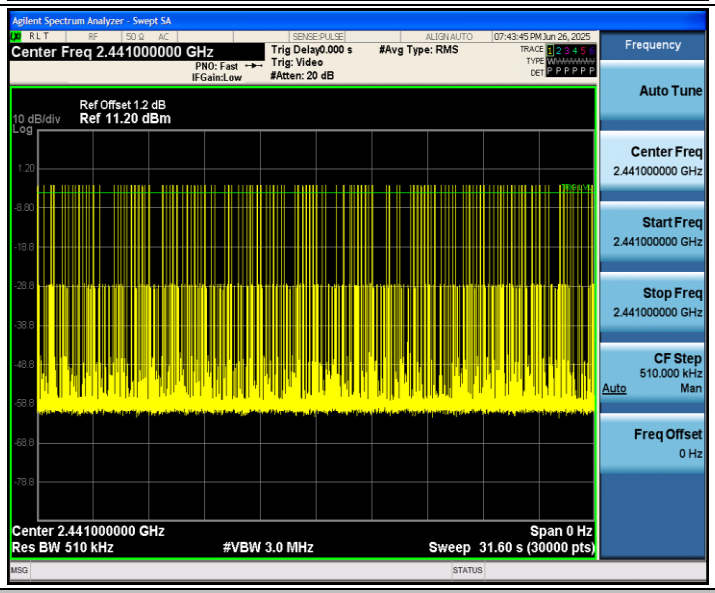
Test Result

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	168	0.276	≤0.4	PASS
DH5	Ant1	Hop	2.890	111	0.321	≤0.4	PASS
2DH1	Ant1	Hop	0.400	318	0.127	≤0.4	PASS
2DH3	Ant1	Hop	1.650	161	0.266	≤0.4	PASS
2DH5	Ant1	Hop	2.900	99	0.287	≤0.4	PASS
3DH1	Ant1	Hop	0.400	318	0.127	≤0.4	PASS
3DH3	Ant1	Hop	1.650	156	0.257	≤0.4	PASS
3DH5	Ant1	Hop	2.900	106	0.307	≤0.4	PASS

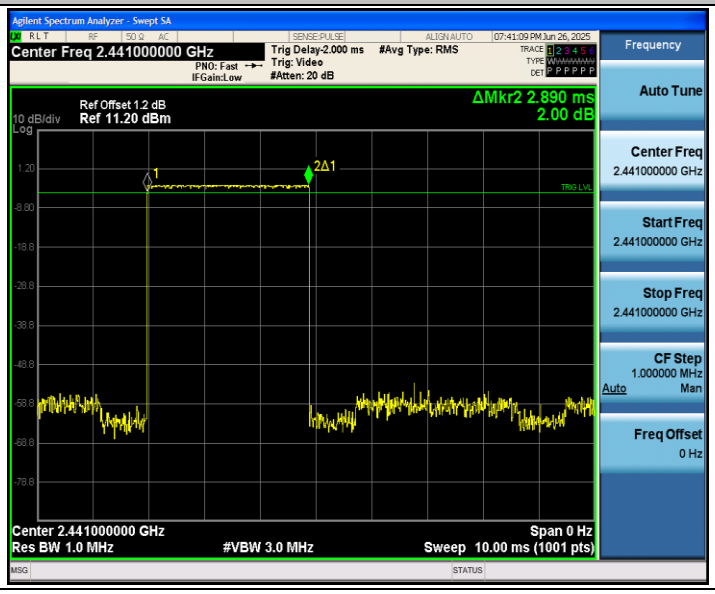
Test Graphs

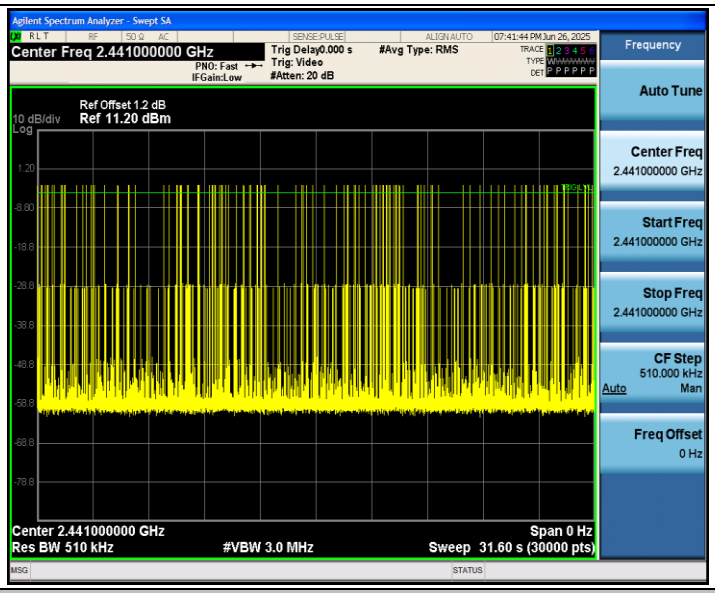
DH1_Ant1_Hop


DH3_Ant1_Hop


Agilent Spectrum Analyzer - Swept SA
Center Freq 2.441000000 GHz
Trig Delay-2.000 ms
#Avg Type: RMS
Trig: Video
#Atten: 20 dB
PNO: Fast
IFGain:Low
Ref Offset 1.2 dB
10 dB/div
Ref 11.20 dBm
ΔMkr2 1.640 ms
8.29 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

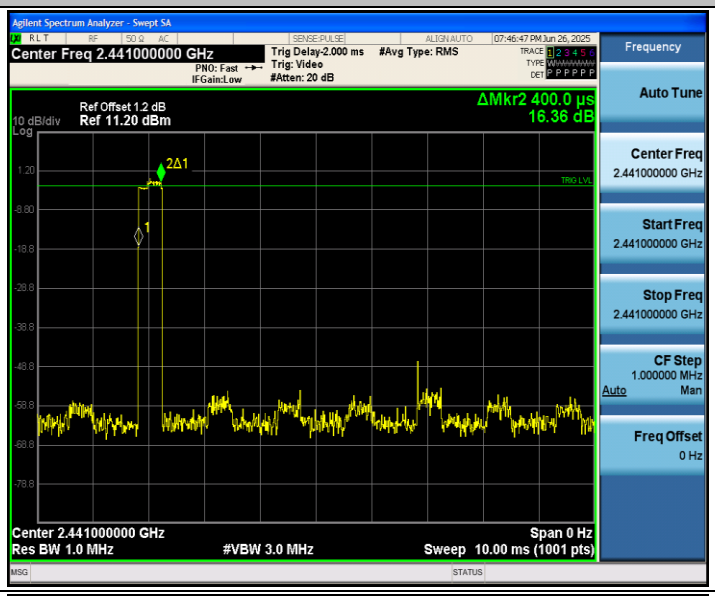

Agilent Spectrum Analyzer - Swept SA
Center Freq 2.441000000 GHz
Trig Delay0.000 s
#Avg Type: RMS
Trig: Video
#Atten: 20 dB
PNO: Fast
IFGain:Low
Ref Offset 1.2 dB
10 dB/div
Ref 11.20 dBm
Center 2.441000000 GHz
Span 0 Hz
Res BW 510 kHz
#VBW 3.0 MHz
Sweep 31.60 s (30000 pts)
Frequency
Auto Tune
Center 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

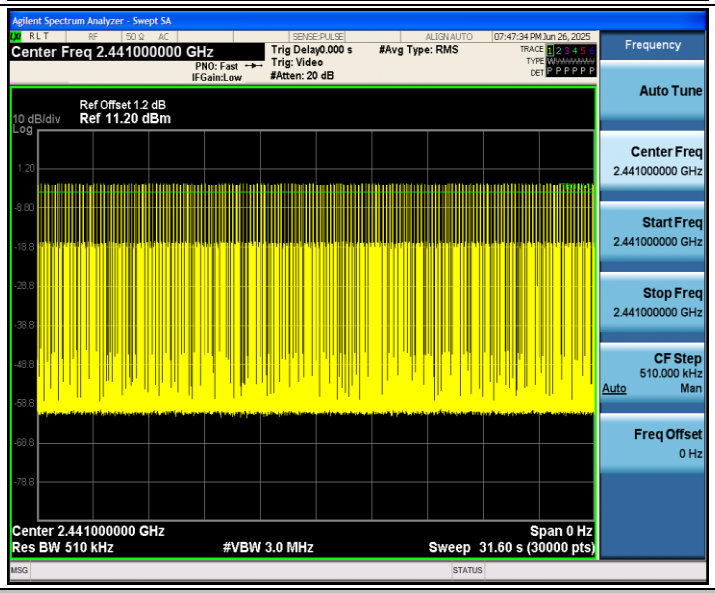
DH5_Ant1_Hop


Agilent Spectrum Analyzer - Swept SA
Center Freq 2.441000000 GHz
Trig Delay-2.000 ms
#Avg Type: RMS
Trig: Video
#Atten: 20 dB
PNO: Fast
IFGain:Low
Ref Offset 1.2 dB
10 dB/div
Ref 11.20 dBm
ΔMkr2 2.890 ms
2.00 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

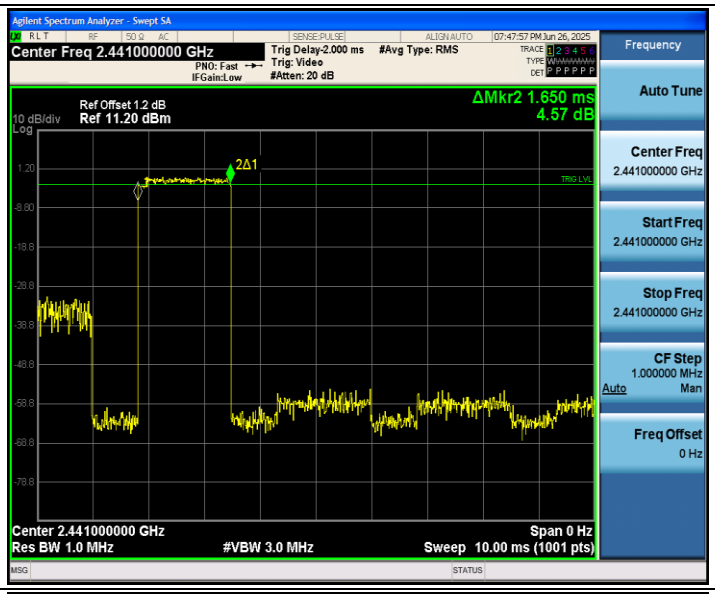


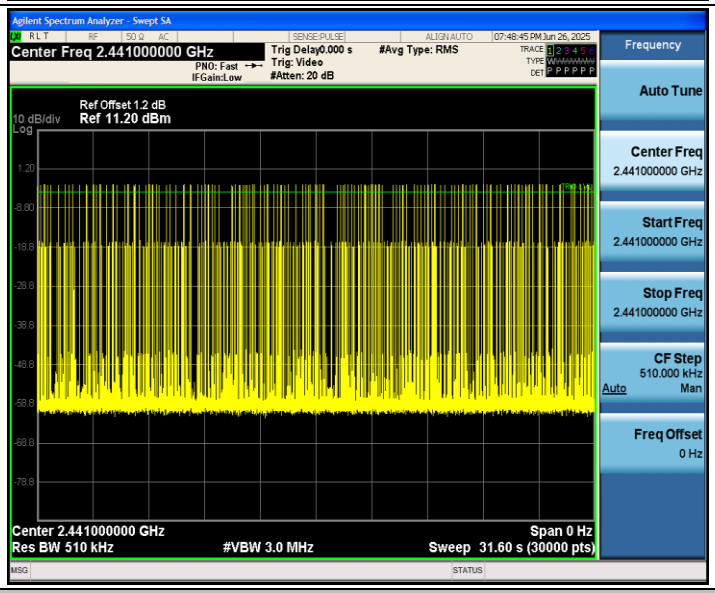
2DH1_Ant1_Hop



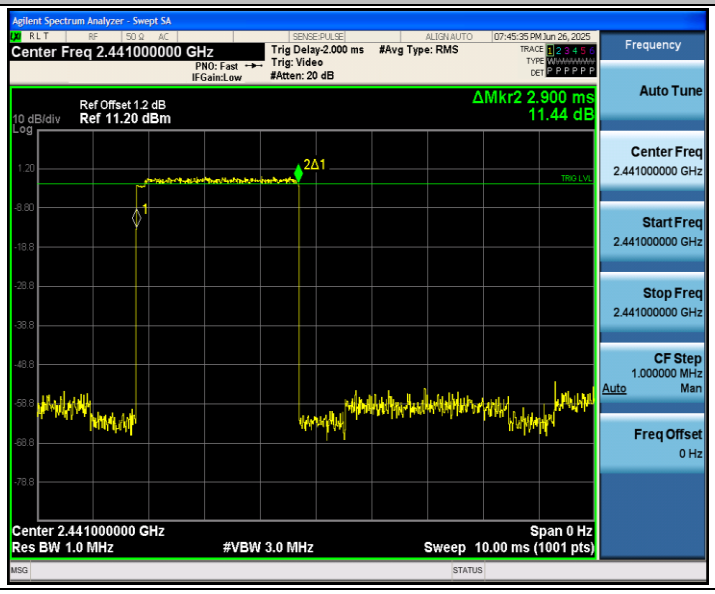


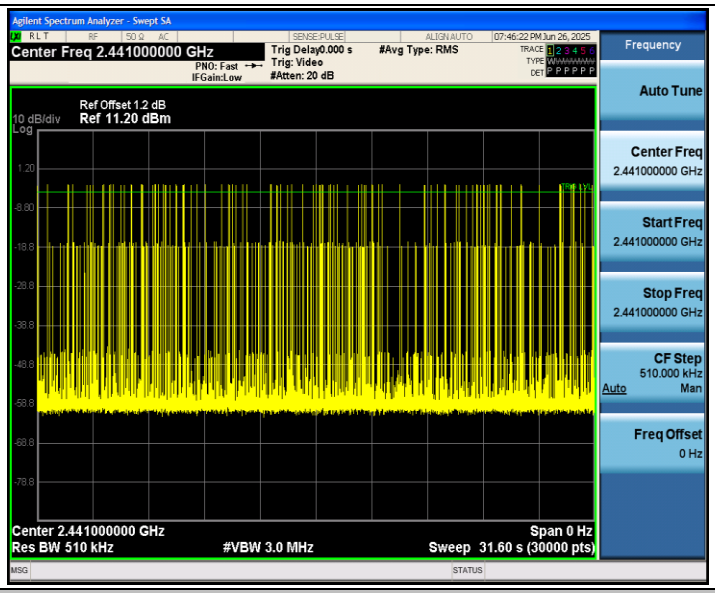
2DH3_Ant1_Hop



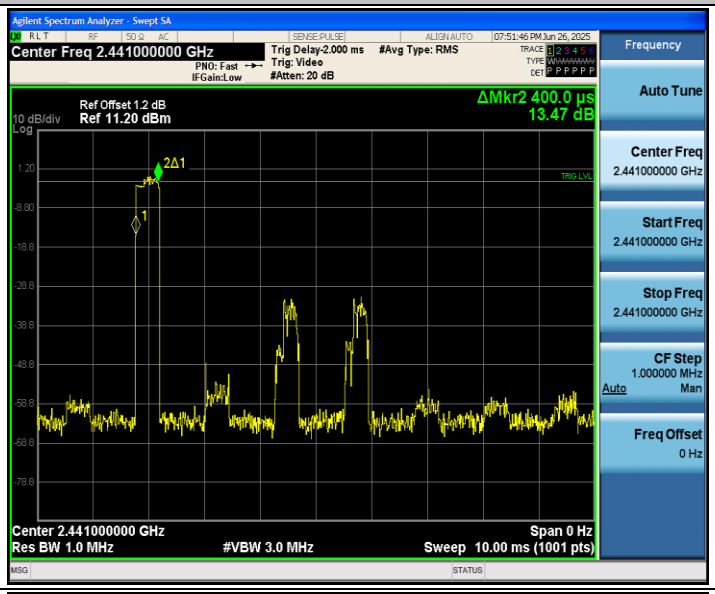


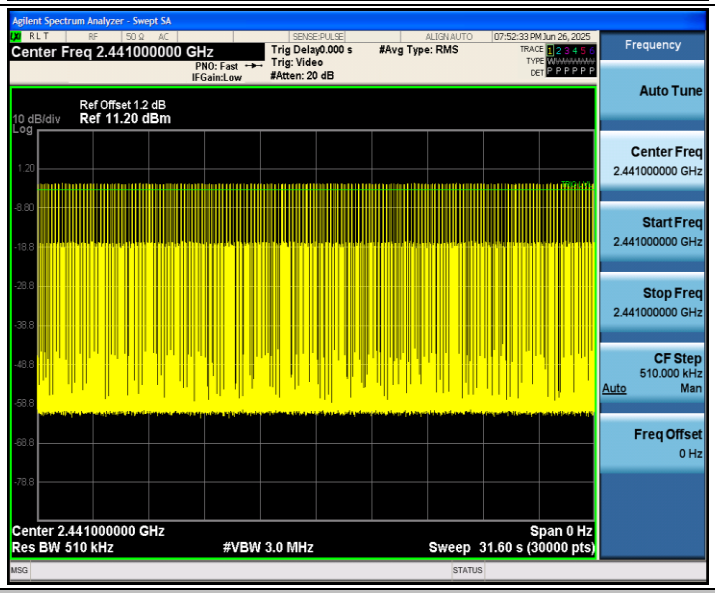
2DH5_Ant1_Hop



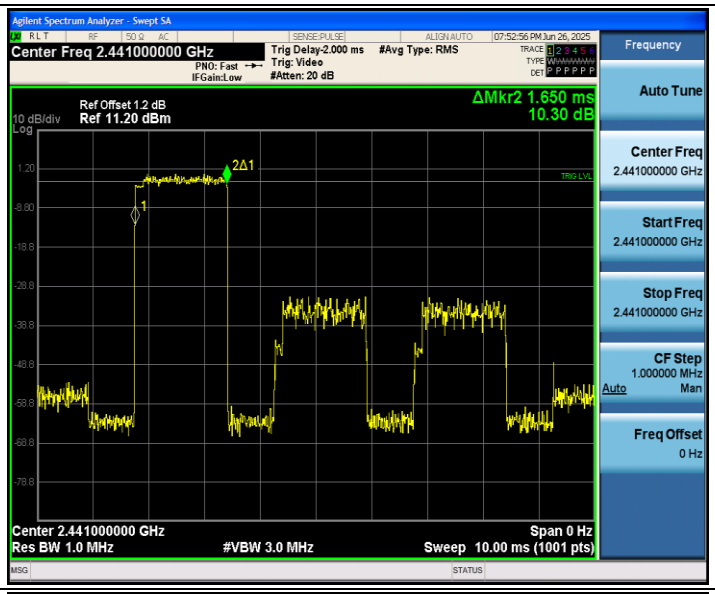


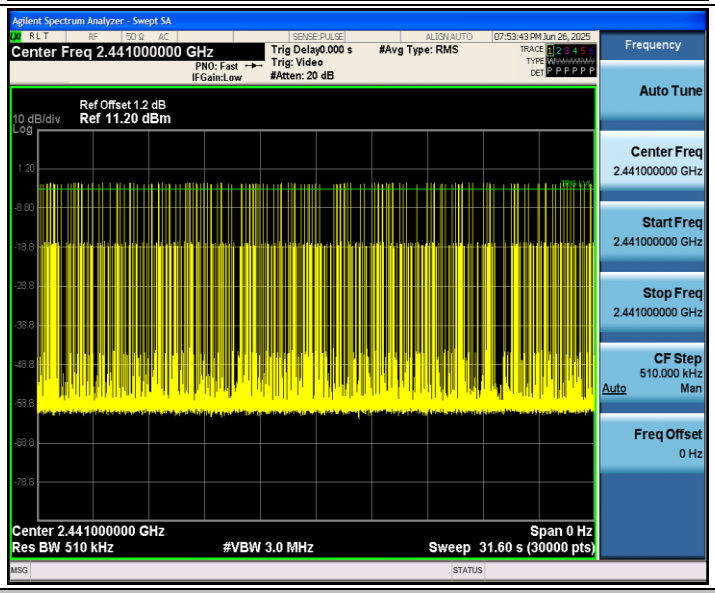
3DH1_Ant1_Hop



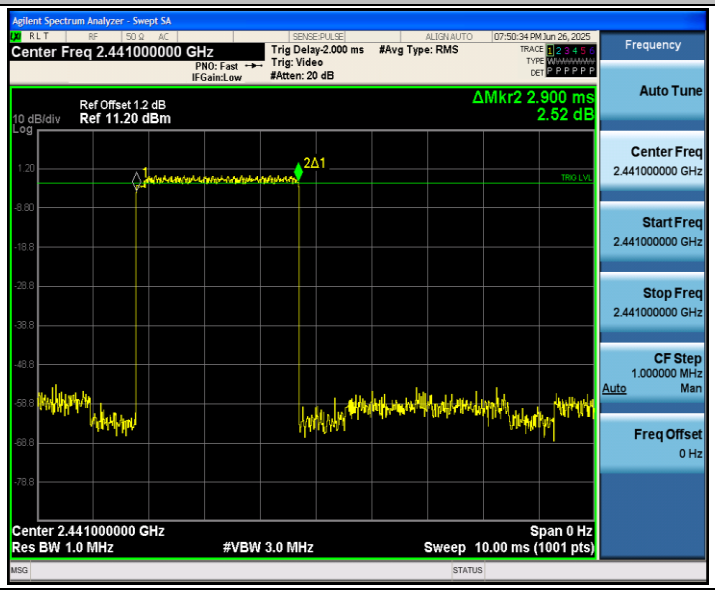


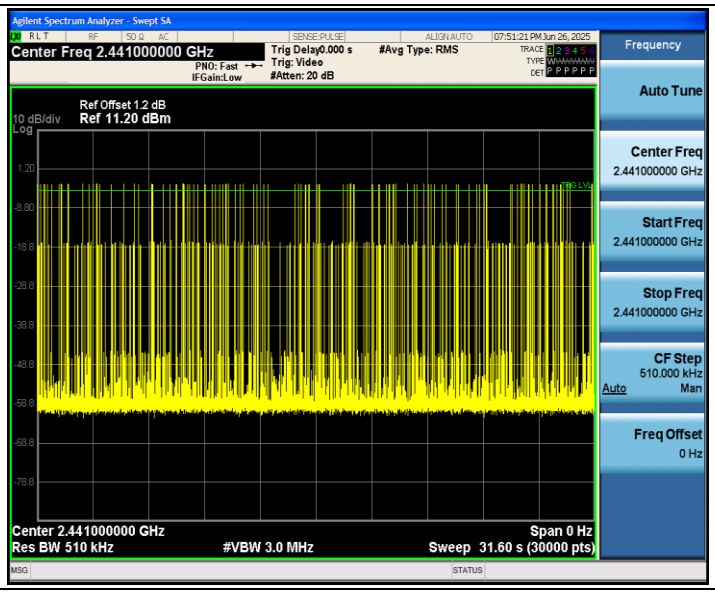
3DH3_Ant1_Hop





3DH5_Ant1_Hop



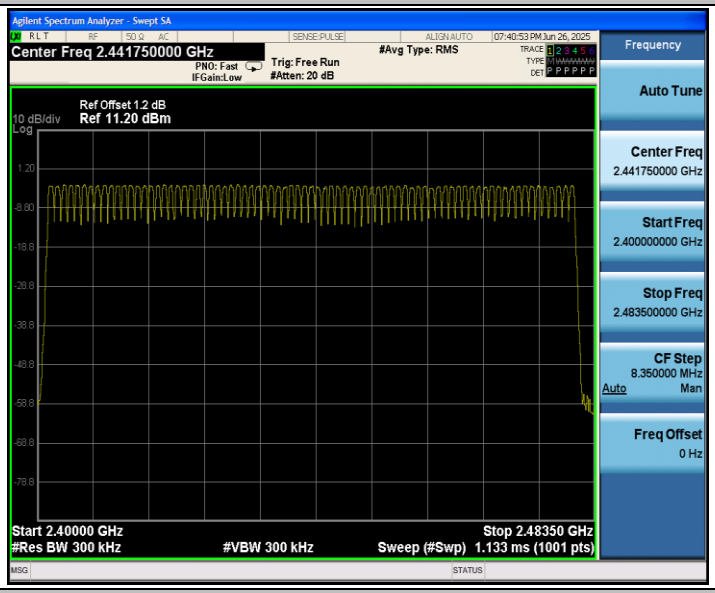
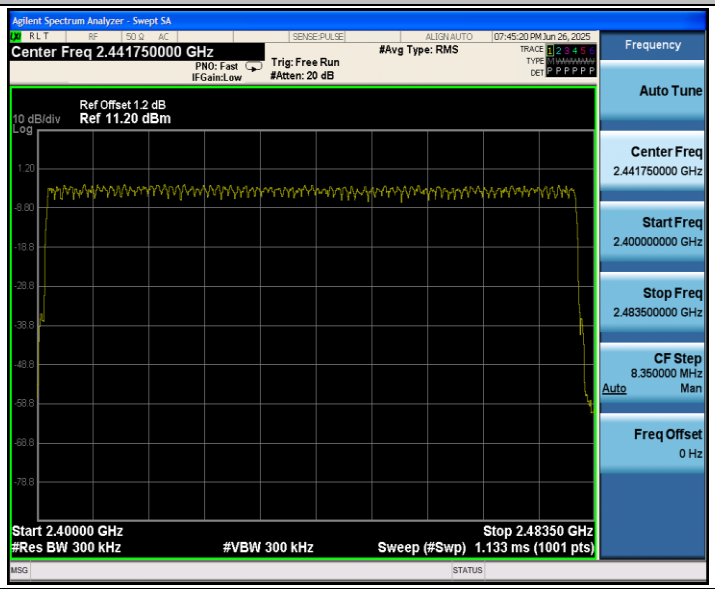

Agilent Spectrum Analyzer - Swept SA
Center Freq 2.441000000 GHz
Trig Delay0.000 s
#Avg Type: RMS
PNO: Fast
Trig: Video
IFGain:Low
#Atten: 20 dB
07:51:21 PM Jun 26, 2025
Ref Offset 1.2 dB
10 dB/div
Ref 11.20 dBm
Log
1.20
-8.80
-18.8
-28.8
-38.8
-48.8
-58.8
-68.8
-78.8
Center 2.441000000 GHz
Span 0 Hz
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

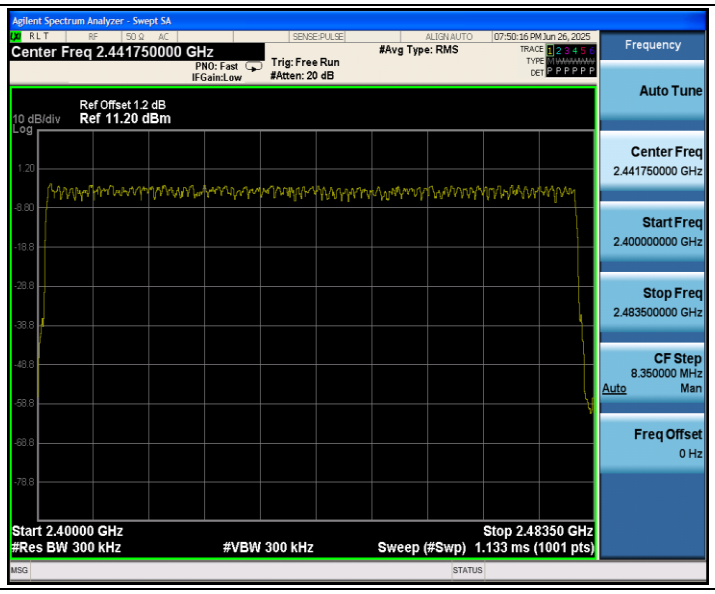
Appendix F: Number of hopping channels

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
07:50:16 PM Jun 26, 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 1.2 dB
10 dB/div
Ref 11.20 dBm
Log
1.20
-8.80
-18.8
-28.8
-38.8
-48.8
-58.8
-68.8
-78.8
Start 2.40000 GHz
Stop 2.48350 GHz
#Res BW 300 kHz
#VBW 300 kHz
Sweep (#Swp) 1.133 ms (1001 pts)

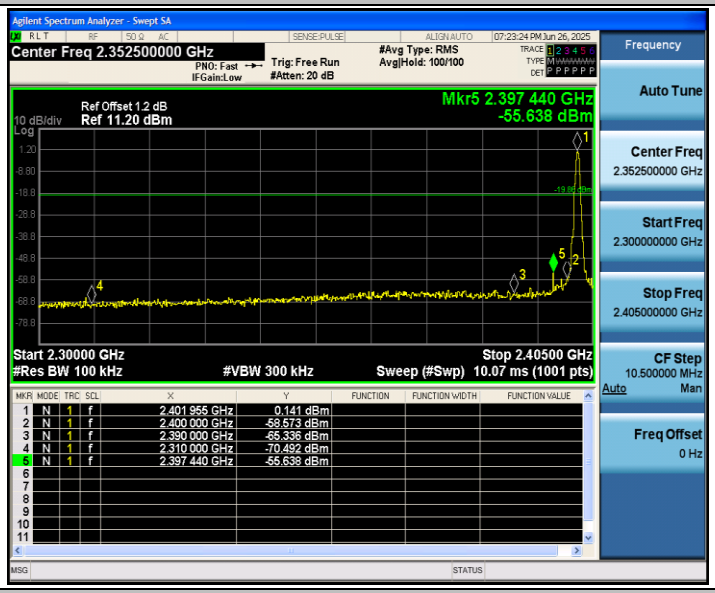
Appendix G: Band edge measurements

Test Result

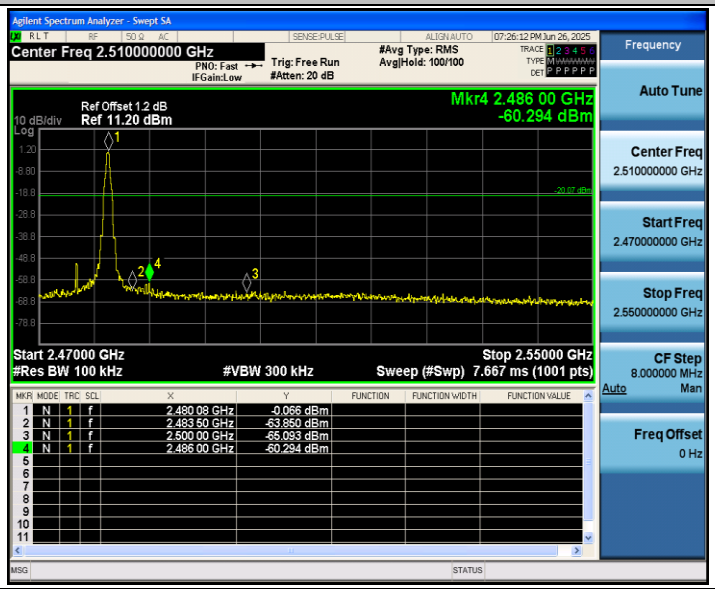
TestMode	Antenna	ChName	Freq(MHz)	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
DH5	Ant1	Low	2402	0.14	-55.64	≤-19.86	PASS
		High	2480	-0.07	-60.29	≤-20.07	PASS
		Low	Hop_2402	-3.65	-61.72	≤-23.65	PASS
		High	Hop_2480	-3.58	-63.1	≤-23.58	PASS
2DH5	Ant1	Low	2402	-5.49	-59.4	≤-25.49	PASS
		High	2480	-4.15	-58.76	≤-24.15	PASS
		Low	Hop_2402	-3.45	-56.29	≤-23.45	PASS
		High	Hop_2480	-3.64	-62.94	≤-23.64	PASS
3DH5	Ant1	Low	2402	-3.37	-59.15	≤-23.37	PASS
		High	2480	-3.24	-62.3	≤-23.24	PASS
		Low	Hop_2402	-3.11	-60.55	≤-23.11	PASS
		High	Hop_2480	-3.03	-63.32	≤-23.03	PASS

Test Graphs

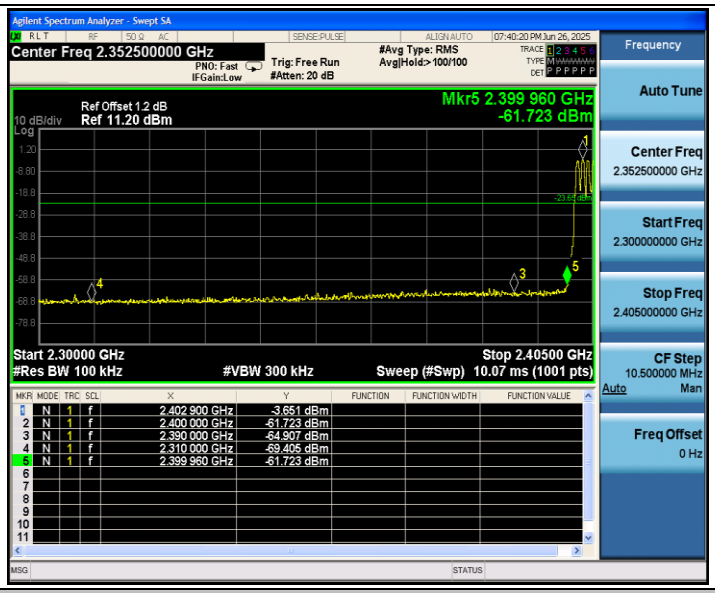
DH5_Ant1_Low_2402



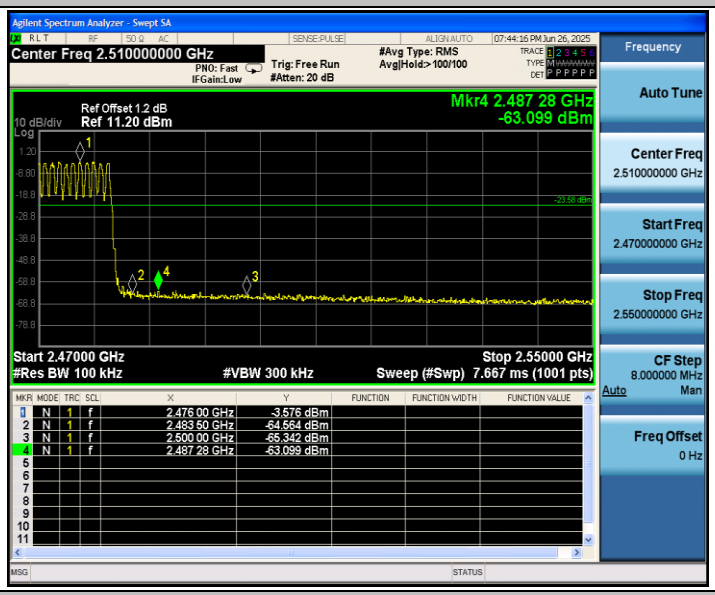
DH5_Ant1_High_2480



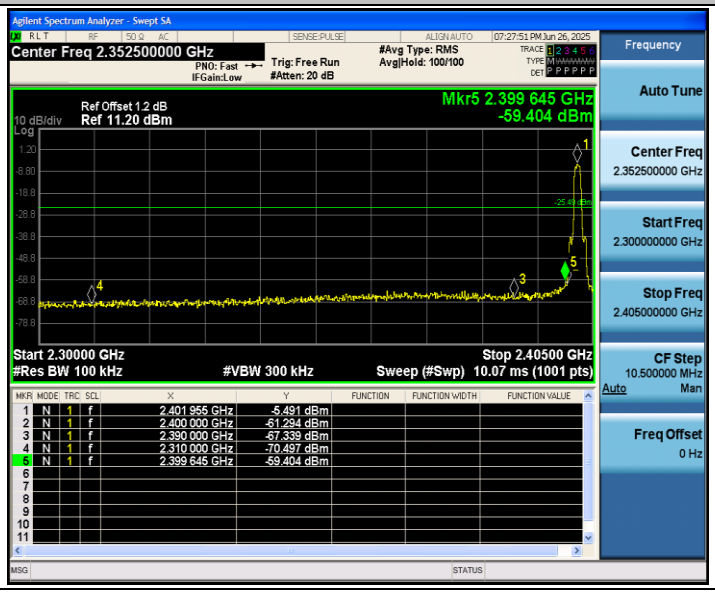
DH5_Ant1_Low_Hop_2402



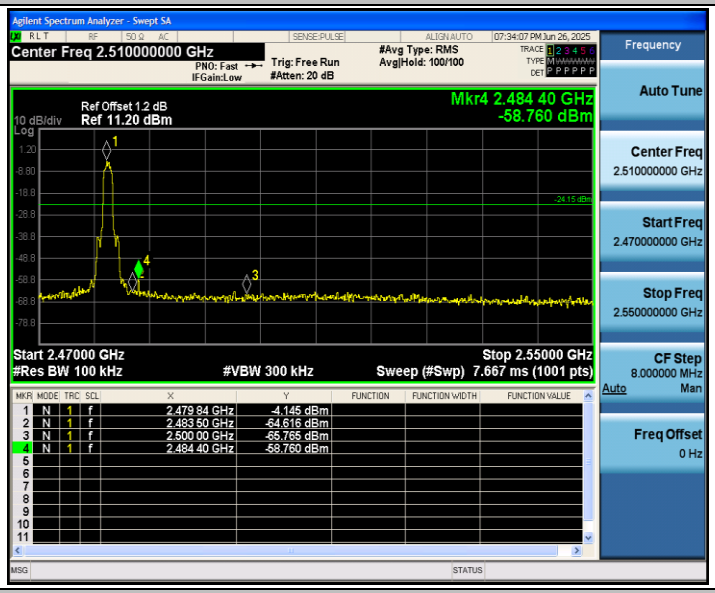
DH5_Ant1_High_Hop_2480



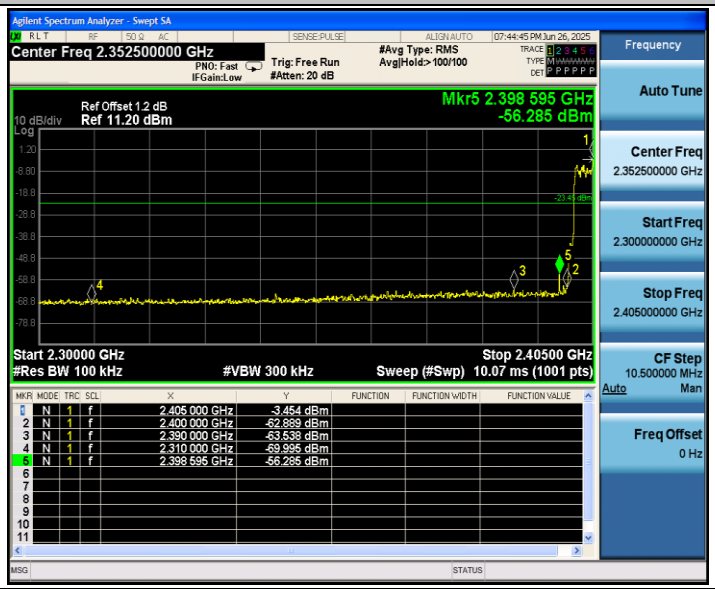
2DH5_Ant1_Low_2402



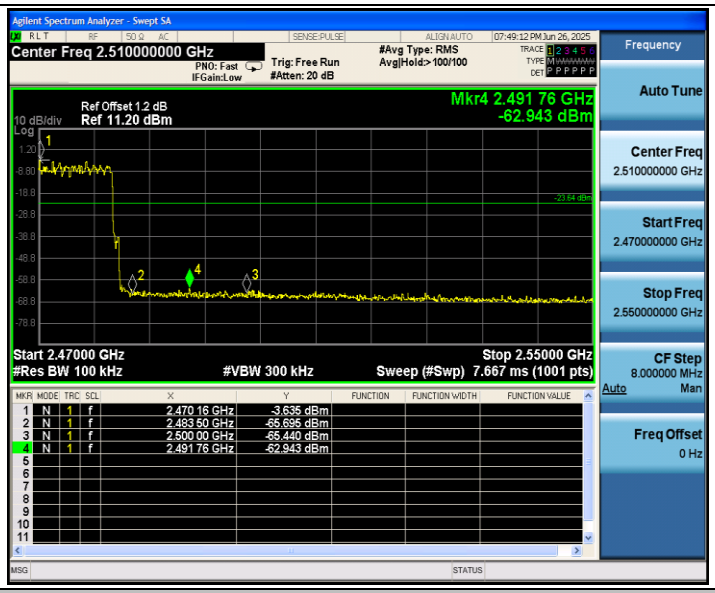
2DH5_Ant1_High_2480



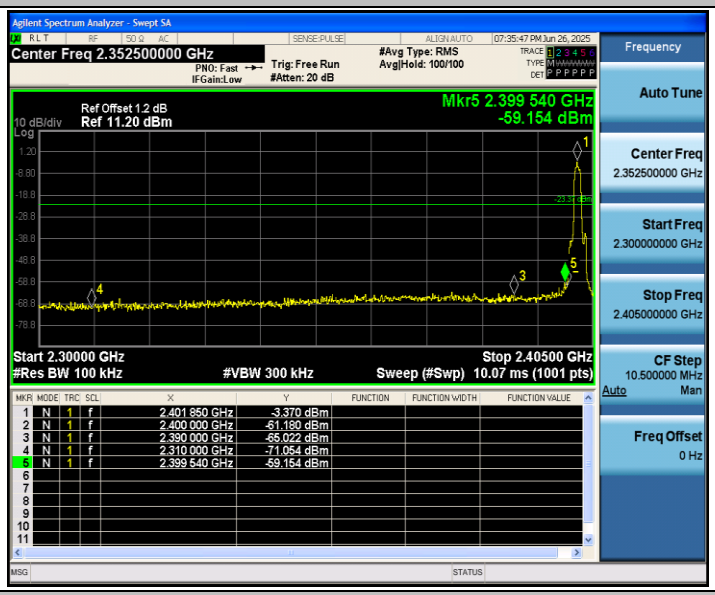
2DH5_Ant1_Low_Hop_2402



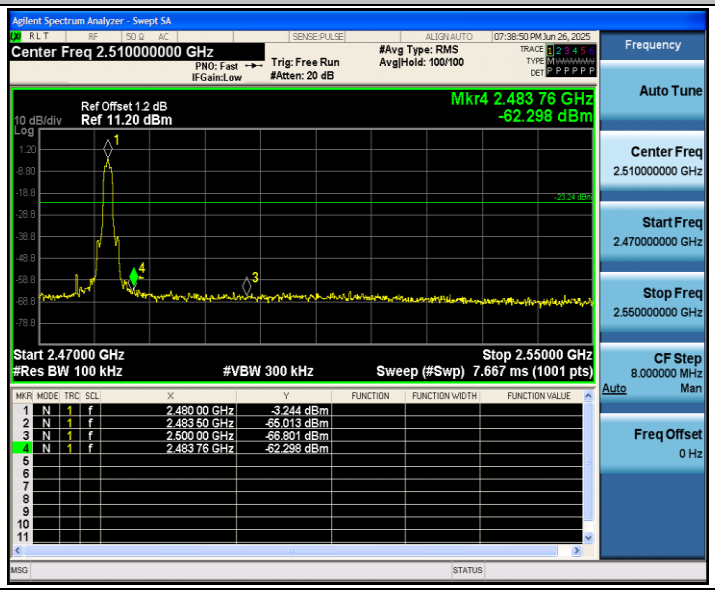
2DH5_Ant1_High_Hop_2480



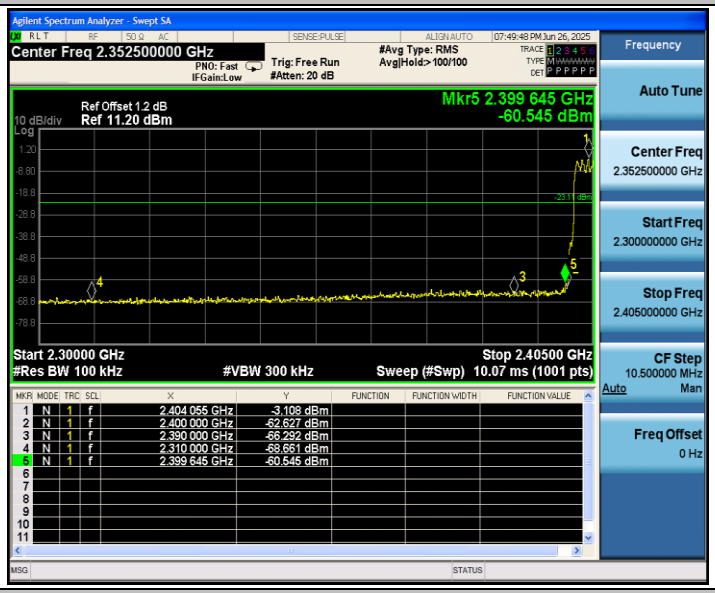
3DH5_Ant1_Low_2402



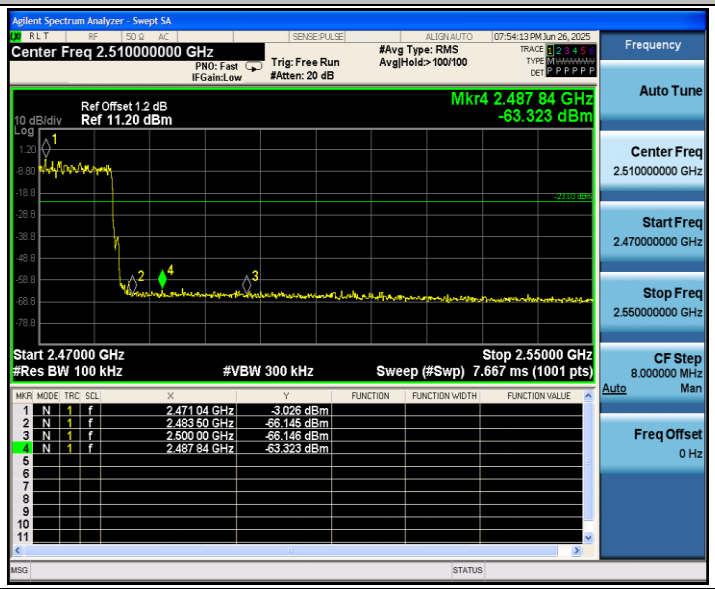
3DH5_Ant1_High_2480



3DH5_Ant1_Low_Hop_2402



3DH5_Ant1_High_Hop_2480



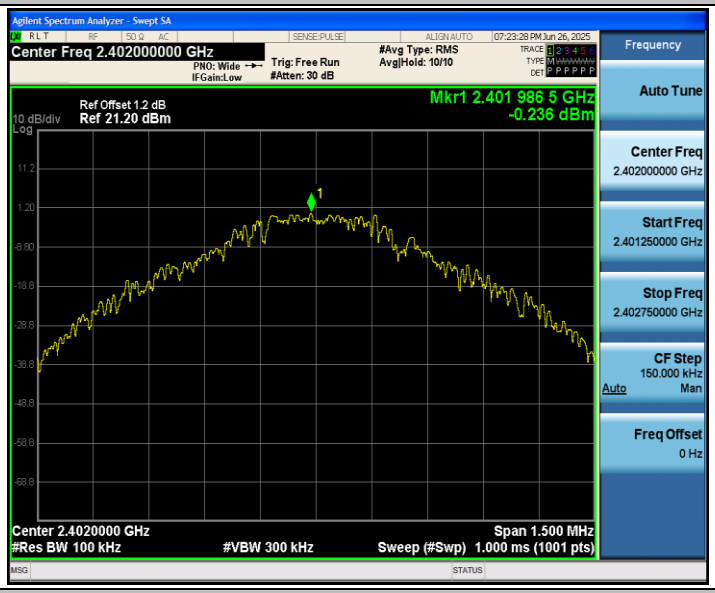
Appendix H: Conducted Spurious Emission

Test Result

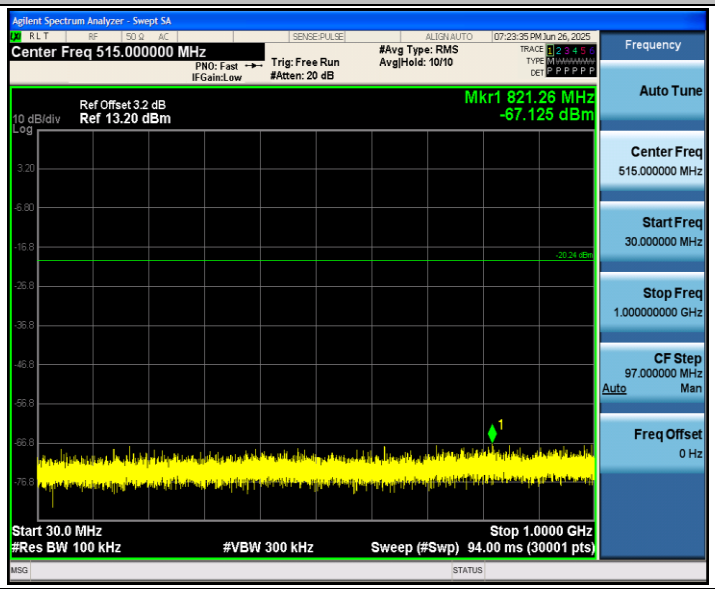
TestMode	Antenna	Freq(MHz)	FreqRange [MHz]	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
DH5	Ant1	2402	Reference	-0.24	-0.24	---	PASS
			30~1000	-0.24	-67.13	≤-20.24	PASS
			1000~26500	-0.24	-40.47	≤-20.24	PASS
		2441	Reference	-0.79	-0.79	---	PASS
			30~1000	-0.79	-66.65	≤-20.79	PASS
			1000~26500	-0.79	-42.11	≤-20.79	PASS
		2480	Reference	-0.69	-0.69	---	PASS
			30~1000	-0.69	-67.37	≤-20.69	PASS
			1000~26500	-0.69	-43.66	≤-20.69	PASS
2DH5	Ant1	2402	Reference	-5.17	-5.17	---	PASS
			30~1000	-5.17	-67.2	≤-25.17	PASS
			1000~26500	-5.17	-49.32	≤-25.17	PASS
		2441	Reference	-4.40	-4.40	---	PASS
			30~1000	-4.40	-66.55	≤-24.4	PASS
			1000~26500	-4.40	-45.99	≤-24.4	PASS
		2480	Reference	-6.75	-6.75	---	PASS
			30~1000	-6.75	-67.06	≤-26.75	PASS
			1000~26500	-6.75	-47.81	≤-26.75	PASS
3DH5	Ant1	2402	Reference	-5.11	-5.11	---	PASS
			30~1000	-5.11	-64.2	≤-25.11	PASS
			1000~26500	-5.11	-46.05	≤-25.11	PASS
		2441	Reference	-5.99	-5.99	---	PASS
			30~1000	-5.99	-65.97	≤-25.99	PASS
			1000~26500	-5.99	-48.77	≤-25.99	PASS
		2480	Reference	-4.16	-4.16	---	PASS
			30~1000	-4.16	-61.13	≤-24.16	PASS
			1000~26500	-4.16	-48.01	≤-24.16	PASS

Test Graphs

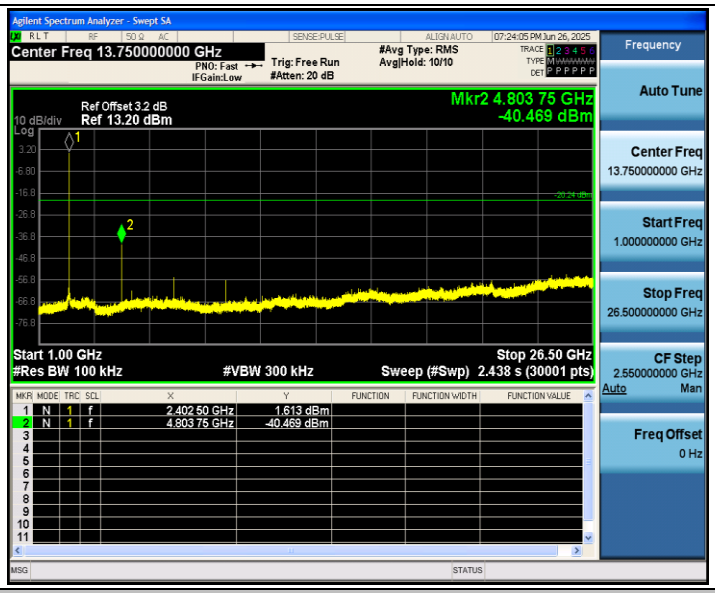
DH5_Ant1_2402_0~Reference



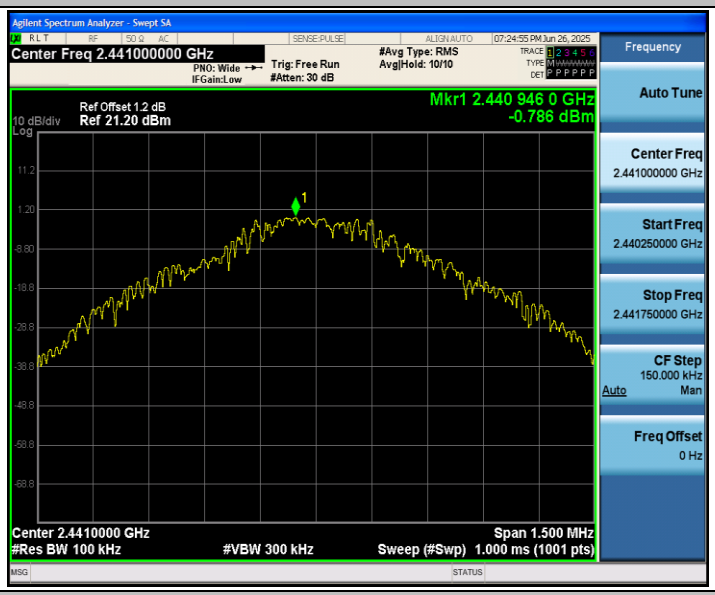
DH5_Ant1_2402_30~1000



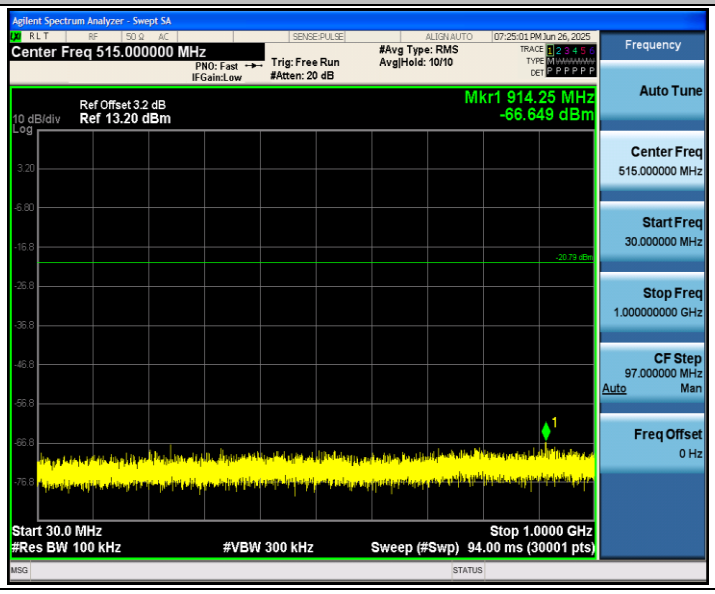
DH5_Ant1_2402_1000~26500



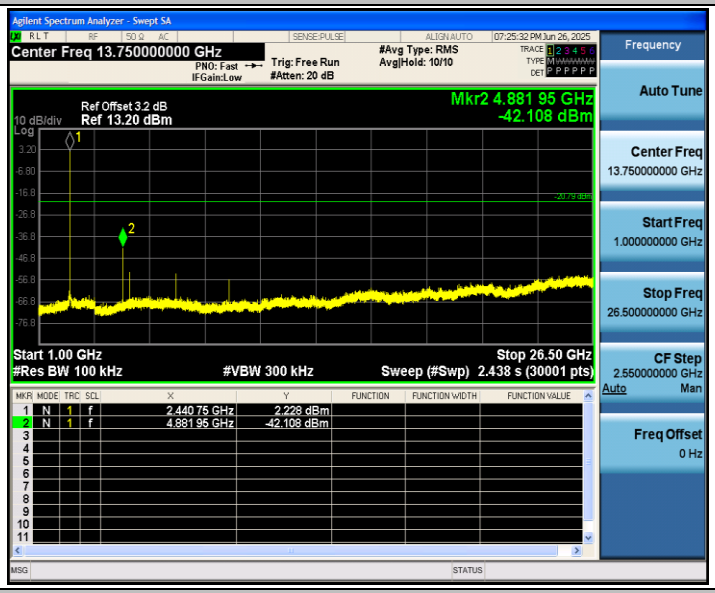
DH5_Ant1_2441_0~Reference



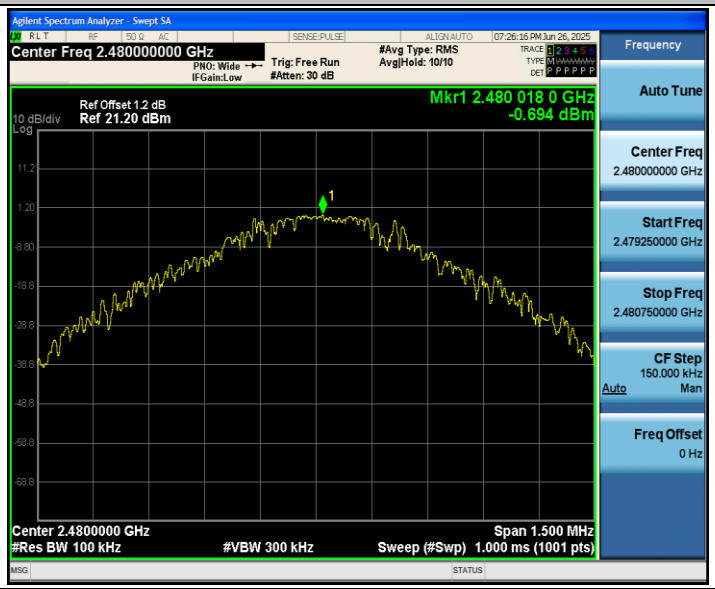
DH5_Ant1_2441_30~1000



DH5_Ant1_2441_1000~26500



DH5_Ant1_2480_0~Reference



DH5_Ant1_2480_30~1000