Case No. : GTS20240115006-1-6	
Ambient Condition: 22 ℃, 50 %RH	
According Standard: ■Part15C	
Test Date: 2024.1.31	**Test Engineer:** Evan ouyang

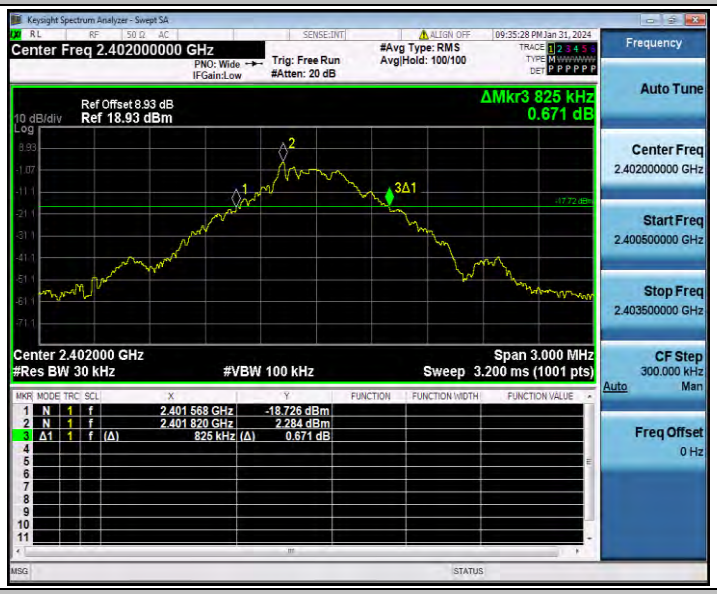
Appendix A.1: 20dB Emission Bandwidth

Test Result

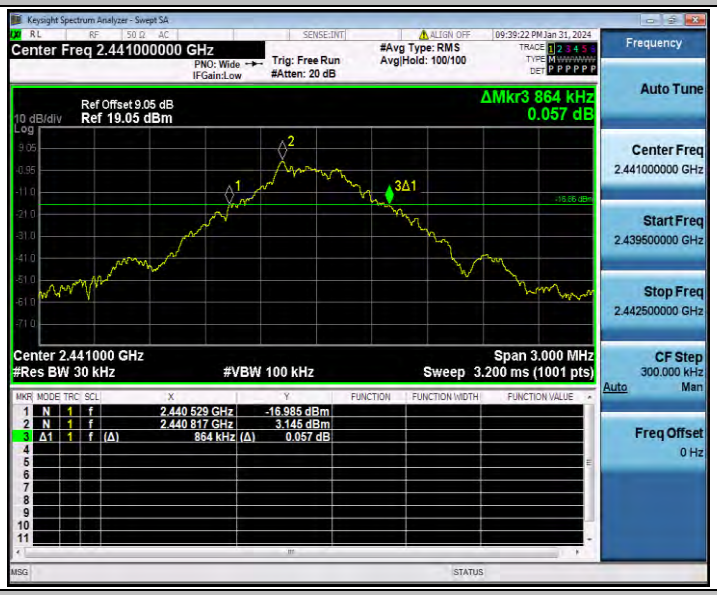
TestMode	Antenna	Freq(MHz)	20dB EBW[MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
DH1	Ant1	2402	0.825	2401.568	2402.393	---	---
		2441	0.864	2440.529	2441.393	---	---
		2480	0.849	2479.544	2480.393	---	---
2DH1	Ant1	2402	1.263	2401.346	2402.609	---	---
		2441	1.275	2440.346	2441.621	---	---
		2480	1.293	2479.337	2480.630	---	---
3DH1	Ant1	2402	1.230	2401.376	2402.606	---	---
		2441	1.257	2440.349	2441.606	---	---
		2480	1.251	2479.349	2480.600	---	---

Test Graphs

DH1_Ant1_2402

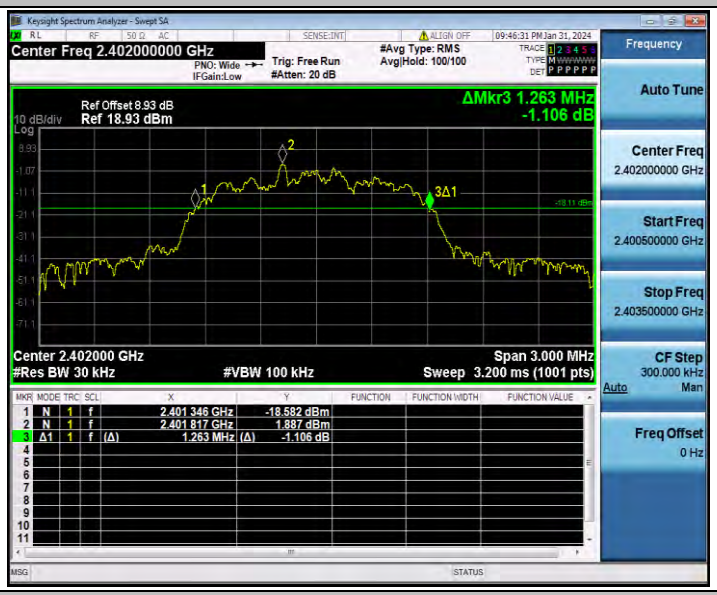


DH1_Ant1_2441

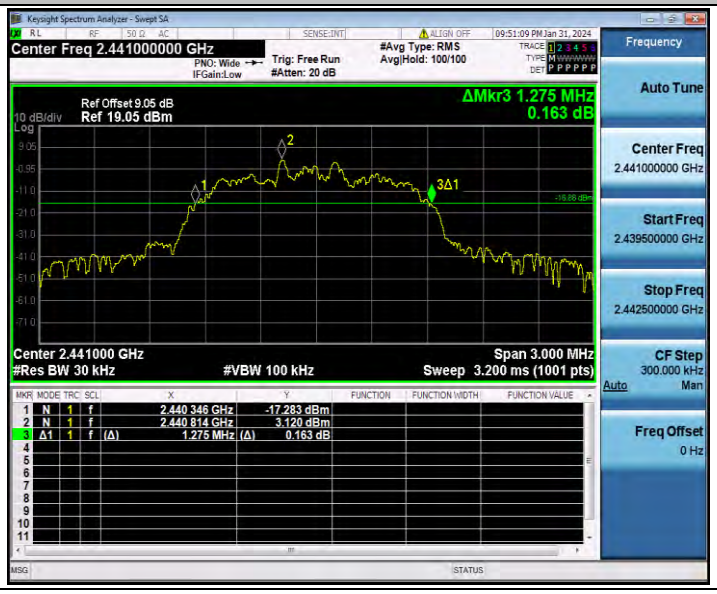


DH1_Ant1_2480

2DH1_Ant1_2402



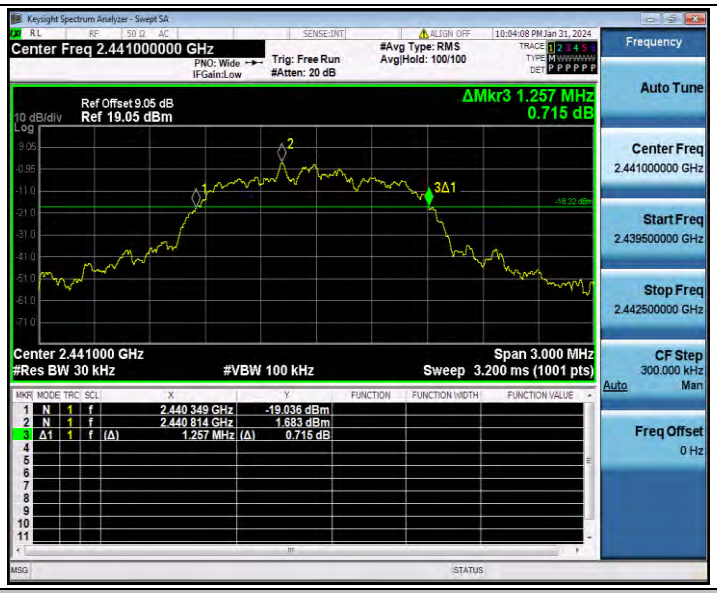
2DH1_Ant1_2441



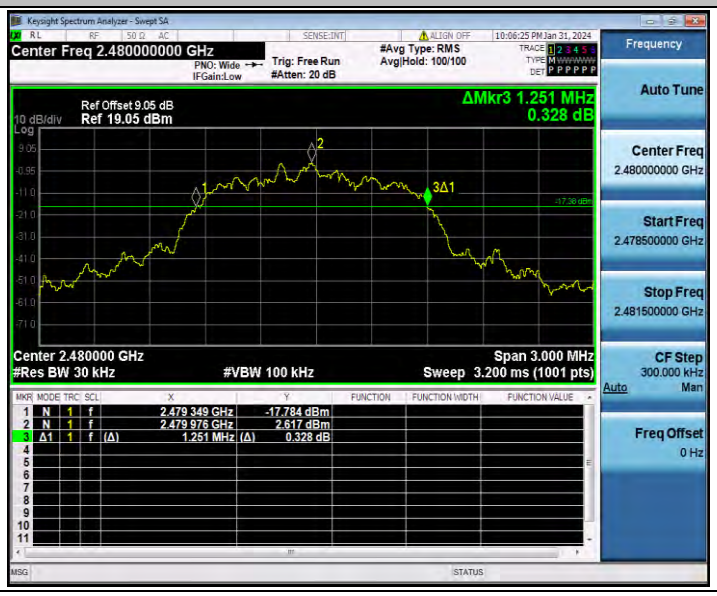
2DH1_Ant1_2480

3DH1_Ant1_2402

3DH1_Ant1_2441



3DH1_Ant1_2480



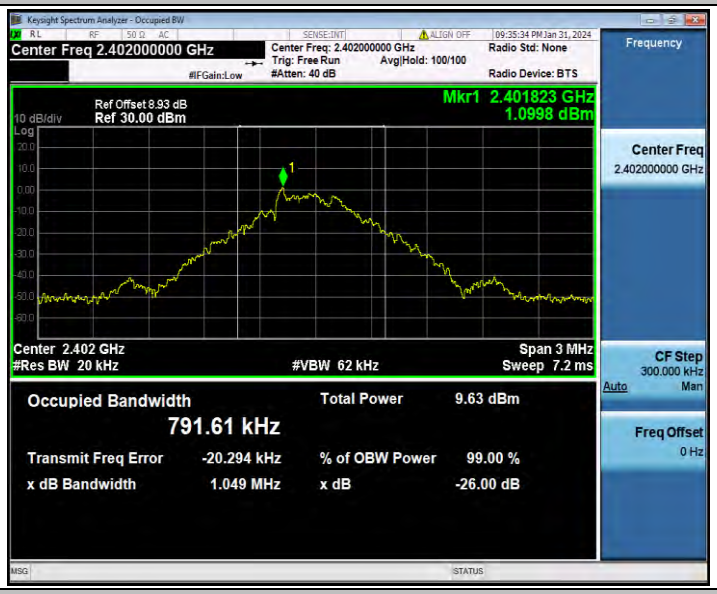
Appendix A.2: Occupied Channel Bandwidth

Test Result

TestMode	Antenna	Freq(MHz)	OCB [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
DH1	Ant1	2402	0.79161	2401.5839	2402.3755	---	---
		2441	0.79452	2440.5806	2441.3751	---	---
		2480	0.79676	2479.5748	2480.3716	---	---
2DH1	Ant1	2402	1.1645	2401.3945	2402.5590	---	---
		2441	1.1660	2440.3925	2441.5585	---	---
		2480	1.1572	2479.3881	2480.5453	---	---
3DH1	Ant1	2402	1.1597	2401.4115	2402.5712	---	---
		2441	1.1580	2440.4110	2441.5690	---	---
		2480	1.1572	2479.4059	2480.5631	---	---

Test Graphs

DH1_Ant1_2402



DH1_Ant1_2441

DH1_Ant1_2480

2DH1_Ant1_2402

2DH1_Ant1_2441

2DH1_Ant1_2480

3DH1_Ant1_2402

3DH1_Ant1_2441

3DH1_Ant1_2480

Appendix A.3: Maximum conducted output power

Test Result

Test Mode	Antenna	Freq(MHz)	Conducted Peak Powert[dBm]	Conducted Limit[dBm]	Verdict
DH1	Ant1	2402	3.67	≤30.00	PASS
		2441	4.56	≤30.00	PASS
		2480	5.21	≤30.00	PASS
2DH1	Ant1	2402	5.77	≤20.97	PASS
		2441	6.70	≤20.97	PASS
		2480	7.44	≤20.97	PASS
3DH1	Ant1	2402	6.47	≤20.97	PASS
		2441	7.12	≤20.97	PASS
		2480	7.83	≤20.97	PASS

Note：

1.The Duty Cycle Factor and RBW Factor is compensated in the data.

Appendix A.4: Carrier frequency separation

Test Result

TestMode	Antenna	Freq(MHz)	Result[MHz]	Limit[MHz]	Verdict
DH1	Ant1	Hop_2402	0.998	≥0.864	PASS
		Hop_2441	1.016	≥0.864	PASS
		Hop_2480	1.002	≥0.864	PASS
2DH1	Ant1	Hop_2402	0.986	≥0.862	PASS
		Hop_2441	0.988	≥0.862	PASS
		Hop_2480	1.306	≥0.862	PASS
3DH1	Ant1	Hop_2402	0.988	≥0.838	PASS
		Hop_2441	0.996	≥0.838	PASS
		Hop_2480	0.848	≥0.838	PASS

Test Graphs

DH1_Ant1_Hop_2402

DH1_Ant1_Hop_2441

DH1_Ant1_Hop_2480

2DH1_Ant1_Hop_2402

2DH1_Ant1_Hop_2441

2DH1_Ant1_Hop_2480

3DH1_Ant1_Hop_2402

3DH1_Ant1_Hop_2441

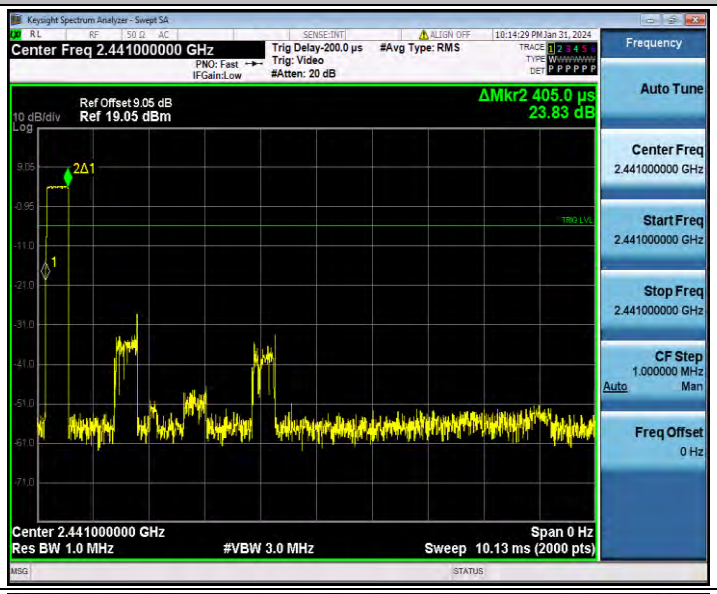
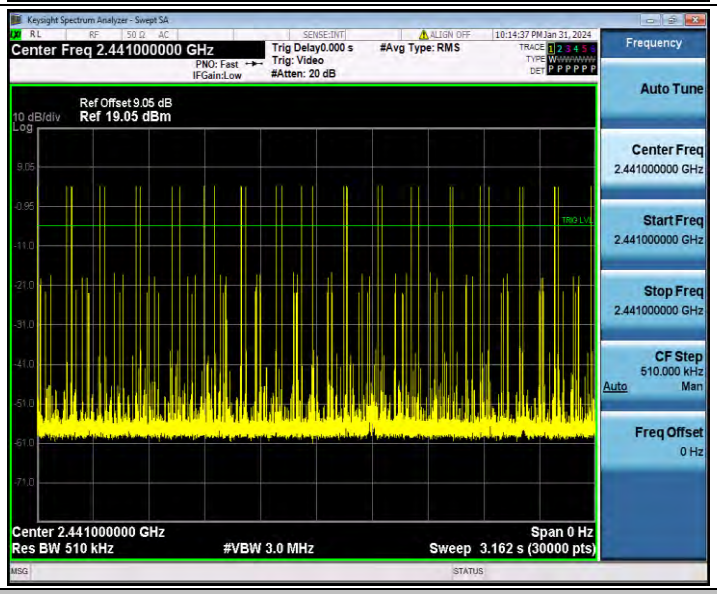
3DH1_Ant1_Hop_2480

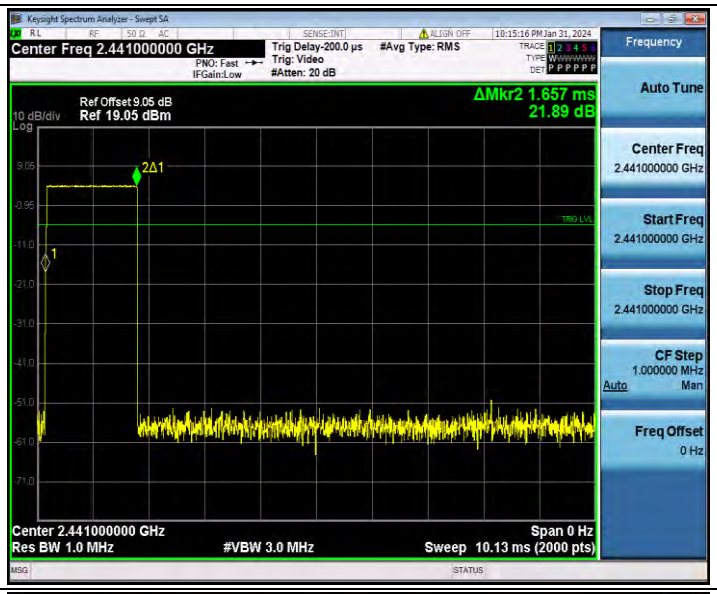
Appendix A.5: Time of occupancy

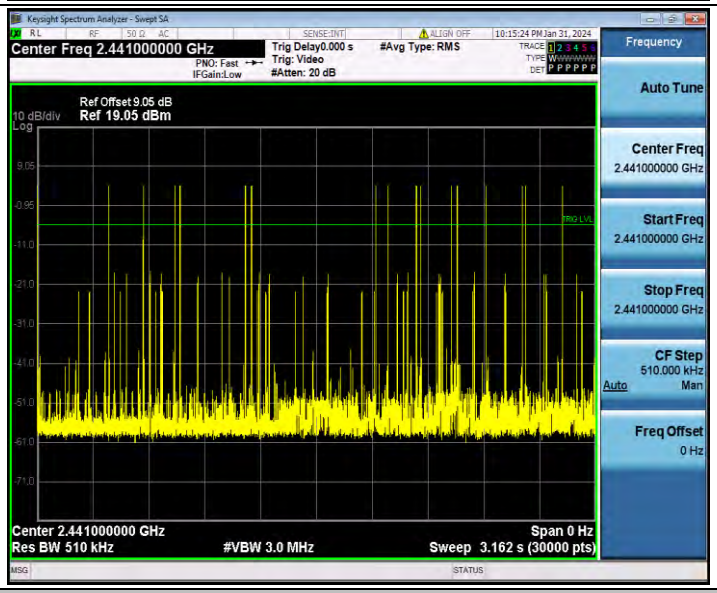
Test Result

TestMode	Antenna	Freq(MHz)	BurstWidth [ms]	TotalHops [Num]	Result[s]	Limit[s]	Verdict
DH1	Ant1	Hop	0.405	320	0.13	≤0.4	PASS
DH3	Ant1	Hop	1.657	170	0.282	≤0.4	PASS
DH5	Ant1	Hop	2.908	90	0.262	≤0.4	PASS
2DH1	Ant1	Hop	0.405	320	0.13	≤0.4	PASS
2DH3	Ant1	Hop	1.662	170	0.283	≤0.4	PASS
2DH5	Ant1	Hop	2.908	110	0.32	≤0.4	PASS
3DH1	Ant1	Hop	0.403	320	0.129	≤0.4	PASS
3DH3	Ant1	Hop	1.662	170	0.283	≤0.4	PASS
3DH5	Ant1	Hop	2.913	100	0.291	≤0.4	PASS

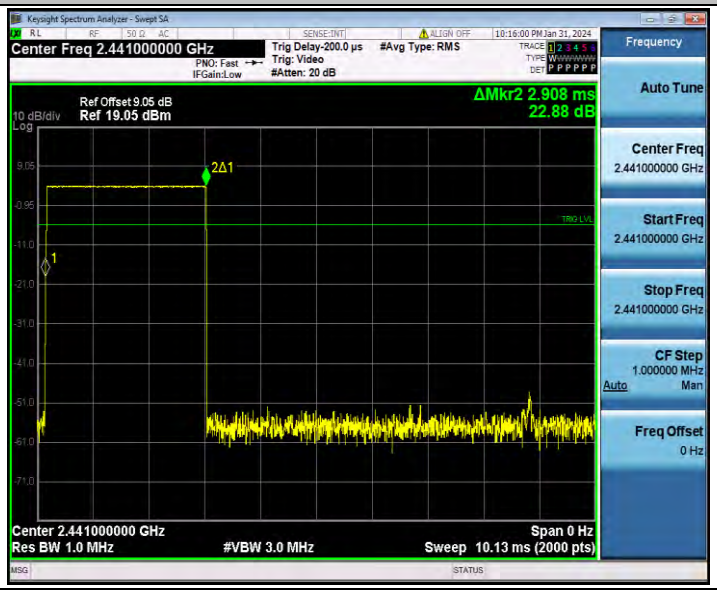
Test Graphs

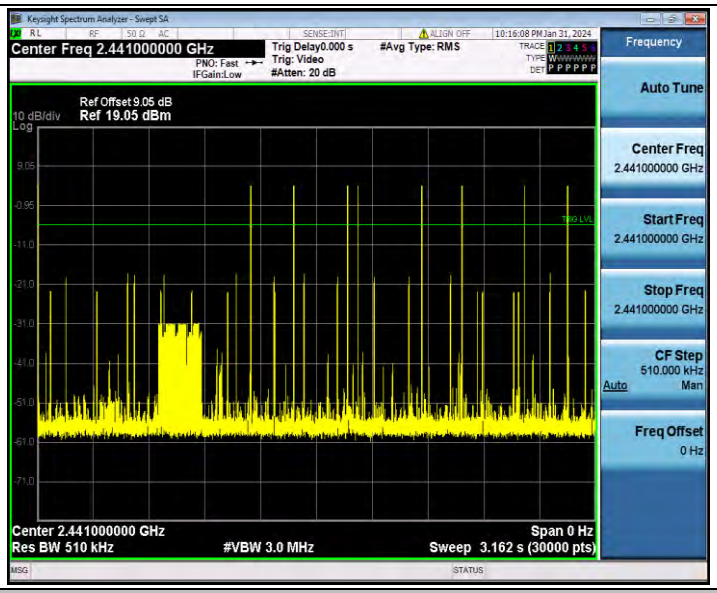
DH1_Ant1_Hop


DH3_Ant1_Hop


Keysight Spectrum Analyzer - Swept SA
Center Freq 2.441000000 GHz
Trig Delay-200.0 µs
#Avg Type: RMS
Trig: Video
#Atten: 20 dB
PNO: Fast
IFGain:Low
10:15:16 PM Jan 31, 2024
Ref Offset 9.05 dB
10 dB/div
Ref 19.05 dBm
ΔMkr2 1.657 ms
21.89 dB
Center 2.441000000 GHz
Res BW 1.0 MHz
#VBW 3.0 MHz
Span 0 Hz
Sweep 10.13 ms (2000 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

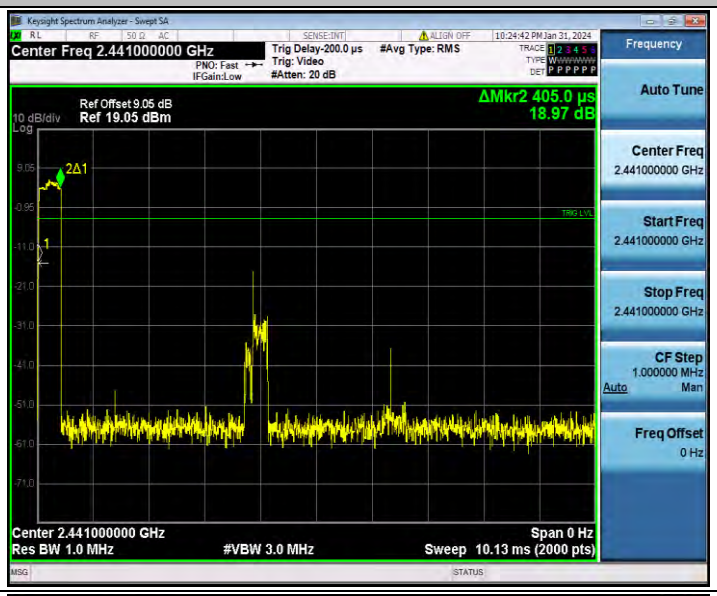

Keysight Spectrum Analyzer - Swept SA
Center Freq 2.441000000 GHz
Trig Delay0.000 s
#Avg Type: RMS
Trig: Video
#Atten: 20 dB
PNO: Fast
IFGain:Low
10:15:24 PM Jan 31, 2024
Ref Offset 9.05 dB
10 dB/div
Ref 19.05 dBm
Center 2.441000000 GHz
Res BW 510 kHz
#VBW 3.0 MHz
Span 0 Hz
Sweep 3.162 s (30000 pts)
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

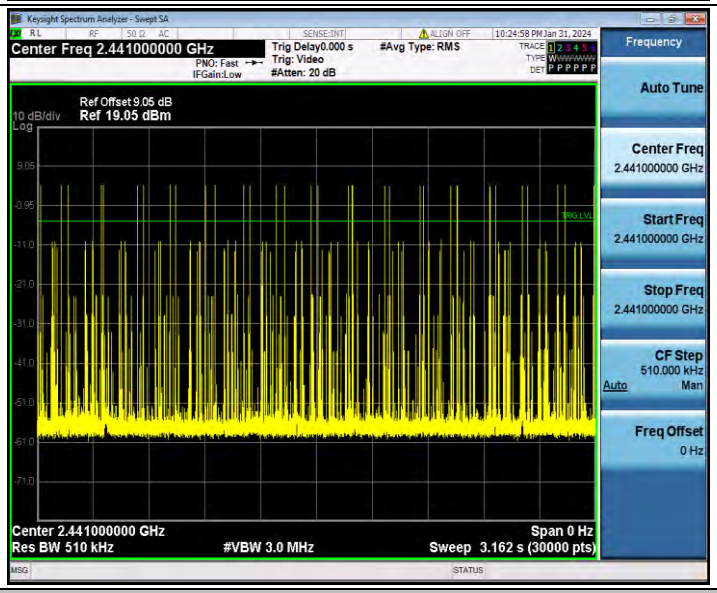
DH5_Ant1_Hop


Keysight Spectrum Analyzer - Swept SA
Center Freq 2.441000000 GHz
Trig Delay-200.0 µs
#Avg Type: RMS
Trig: Video
#Atten: 20 dB
PNO: Fast
IFGain:Low
10:16:00 PM Jan 31, 2024
Ref Offset 9.05 dB
10 dB/div
Ref 19.05 dBm
ΔMkr2 2.908 ms
22.88 dB
Center 2.441000000 GHz
Res BW 1.0 MHz
#VBW 3.0 MHz
Span 0 Hz
Sweep 10.13 ms (2000 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

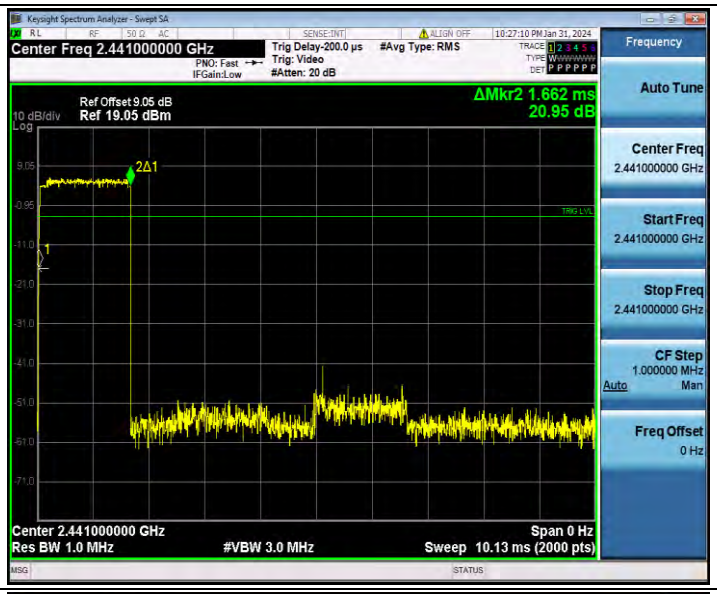


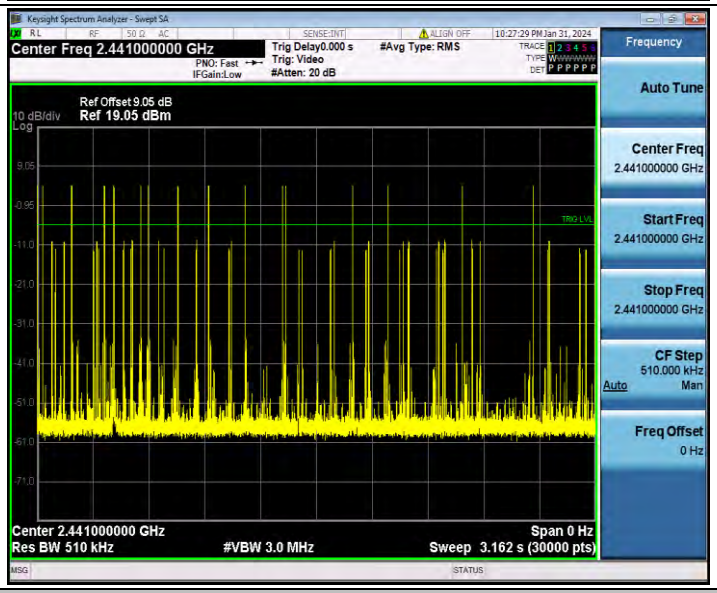
2DH1_Ant1_Hop



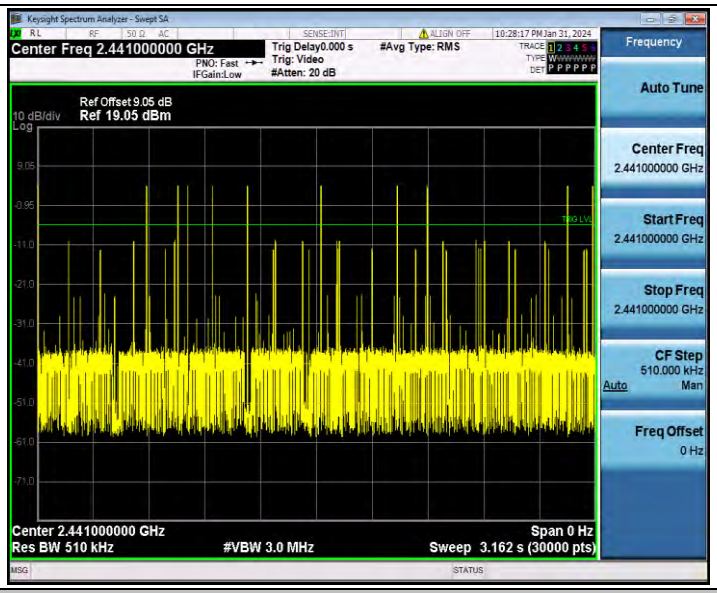


2DH3_Ant1_Hop

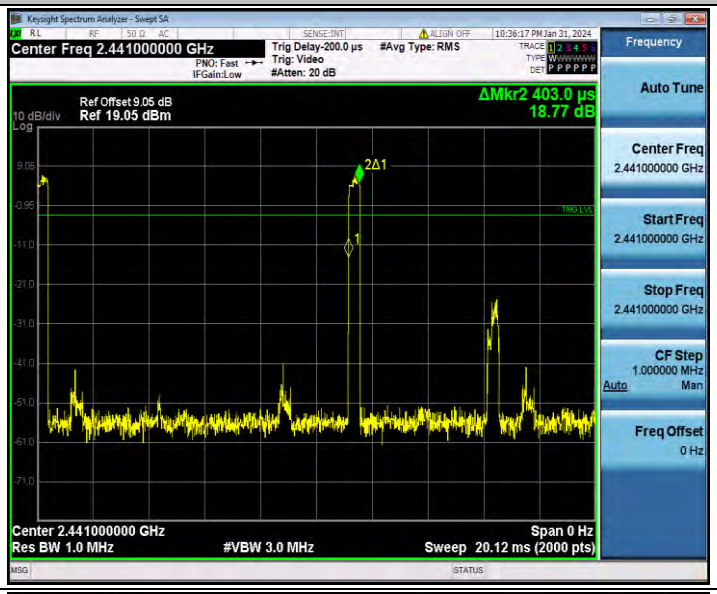


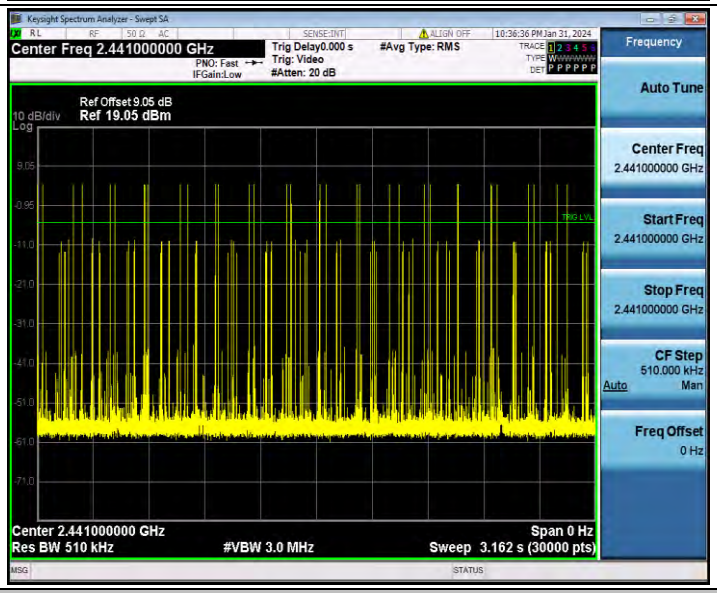


2DH5_Ant1_Hop

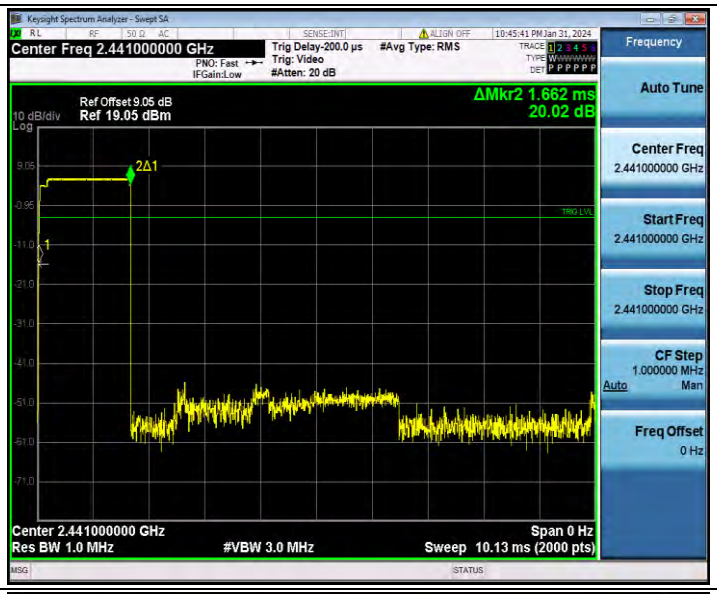


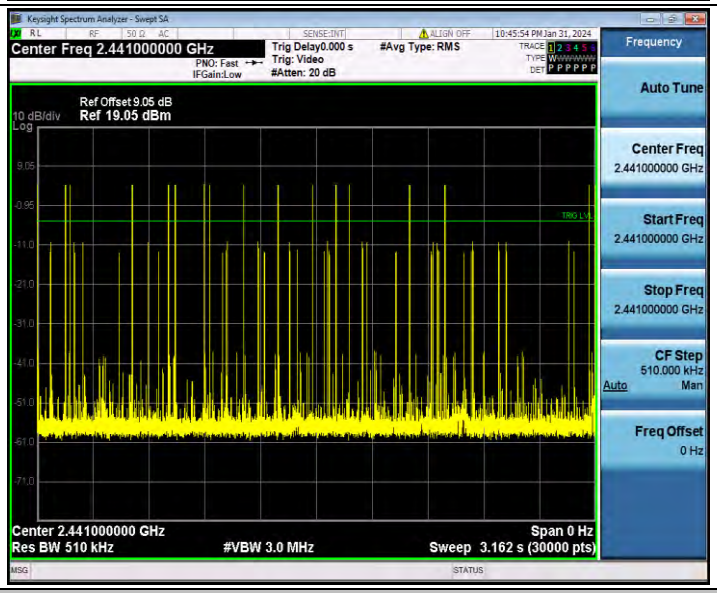
3DH1_Ant1_Hop



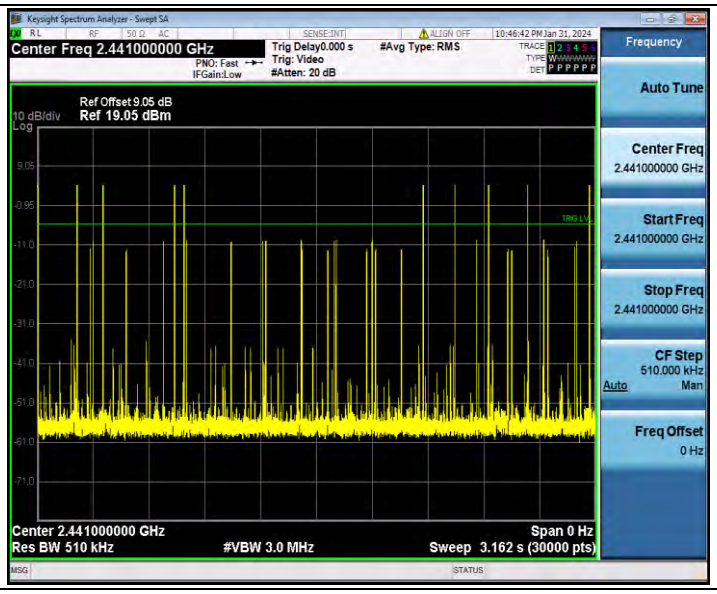


3DH3_Ant1_Hop





3DH5_Ant1_Hop

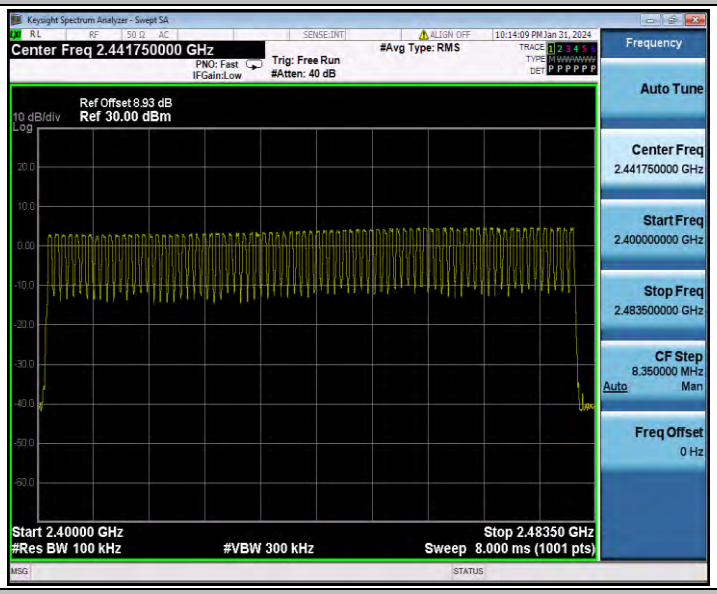

Keysight Spectrum Analyzer - Swept SA
Center Freq 2.441000000 GHz
Trig Delay0.000 s
#Avg Type: RMS
Trig: Video
#Atten: 20 dB
Ref Offset 9.05 dB
10 dB/div
Ref 19.05 dBm
Log
Center 2.441000000 GHz
Span 0 Hz
Res BW 510 kHz
#VBW 3.0 MHz
Sweep 3.162 s (30000 pts)
Frequency
Auto Tune
Center Freq
2.441000000 GHz
Start Freq
2.441000000 GHz
Stop Freq
2.441000000 GHz
CF Step
510.000 kHz
Auto
Man
Freq Offset
0 Hz

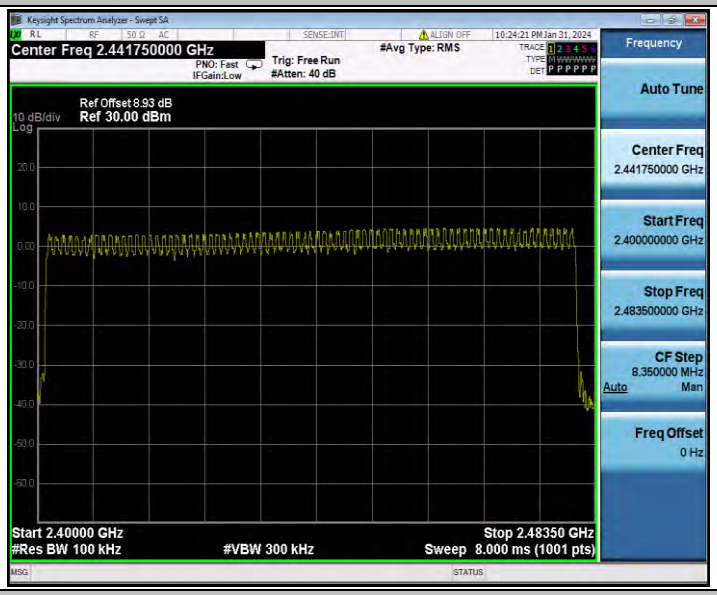
Appendix A.6: Number of hopping channels

Test Result

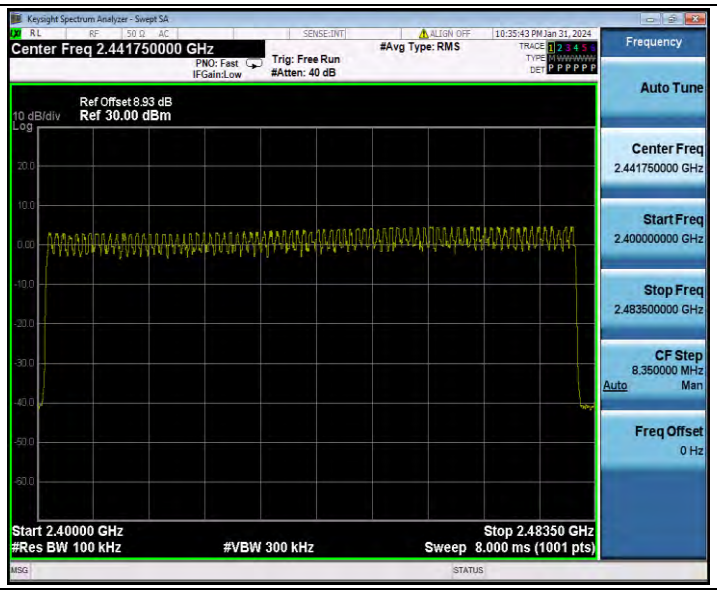
TestMode	Antenna	Freq(MHz)	Result[Num]	Limit[Num]	Verdict
DH1	Ant1	Hop	79	≥15	PASS
2DH1	Ant1	Hop	79	≥15	PASS
3DH1	Ant1	Hop	79	≥15	PASS

Test Graphs

DH1_Ant1_Hop


2DH1_Ant1_Hop


3DH1_Ant1_Hop


Keysight Spectrum Analyzer - Swept SA
Center Freq 2.441750000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 40 dB
#Avg Type: RMS
10:35:43 PM Jan 31, 2024
Ref Offset 8.93 dB
10 dB/div
Ref 30.00 dBm
Log
Start 2.40000 GHz
#Res BW 100 kHz
#VBW 300 kHz
Stop 2.48350 GHz
Sweep 8.000 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
Man
Freq Offset
0 Hz

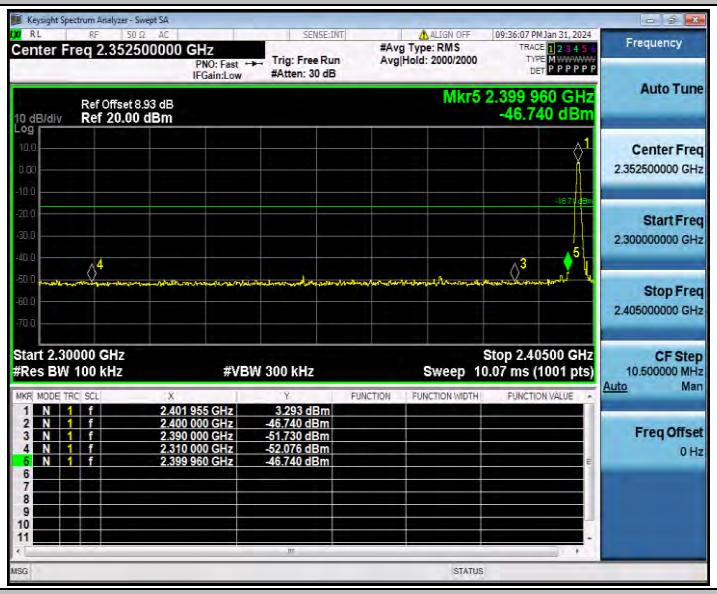
Appendix A.7: Band edge measurements

Test Result

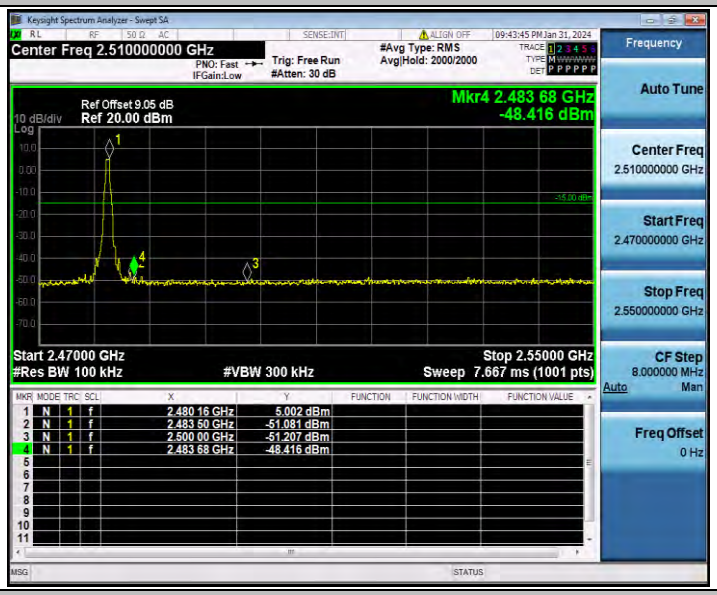
TestMode	Antenna	ChName	Freq(MHz)	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
DH1	Ant1	Low	2402	3.29	-46.74	≤-16.71	PASS
		High	2480	5.00	-48.42	≤-15	PASS
		Low	Hop_2402	2.90	-49.68	≤-17.1	PASS
		High	Hop_2480	4.56	-45.95	≤-15.44	PASS
2DH1	Ant1	Low	2402	3.16	-37.78	≤-16.84	PASS
		High	2480	4.96	-42.57	≤-15.04	PASS
		Low	Hop_2402	2.82	-42.86	≤-17.19	PASS
		High	Hop_2480	4.66	-48	≤-15.35	PASS
3DH1	Ant1	Low	2402	3.27	-46.29	≤-16.73	PASS
		High	2480	4.79	-48.77	≤-15.21	PASS
		Low	Hop_2402	1.89	-49.88	≤-18.11	PASS
		High	Hop_2480	4.61	-43.43	≤-15.39	PASS

Test Graphs

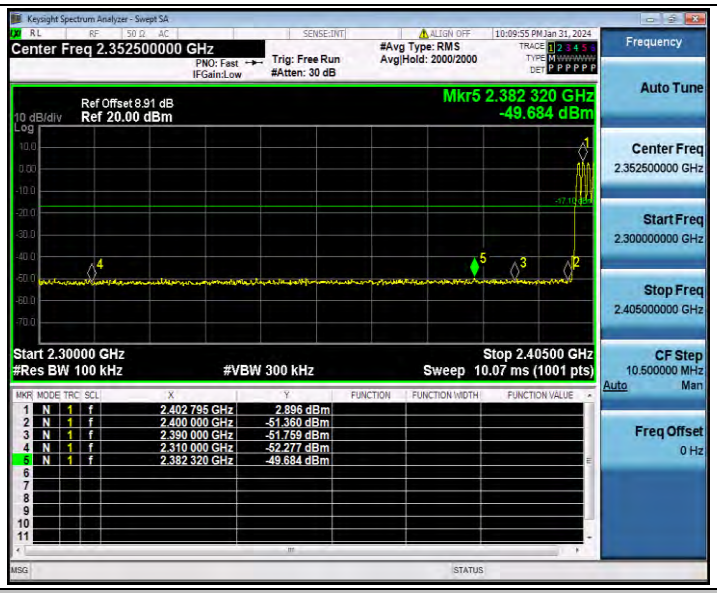
DH1_Ant1_Low_2402



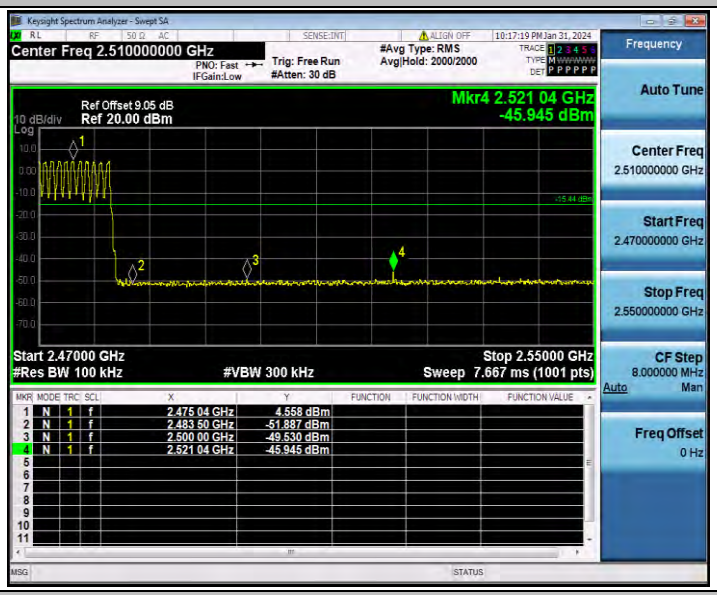
DH1_Ant1_High_2480



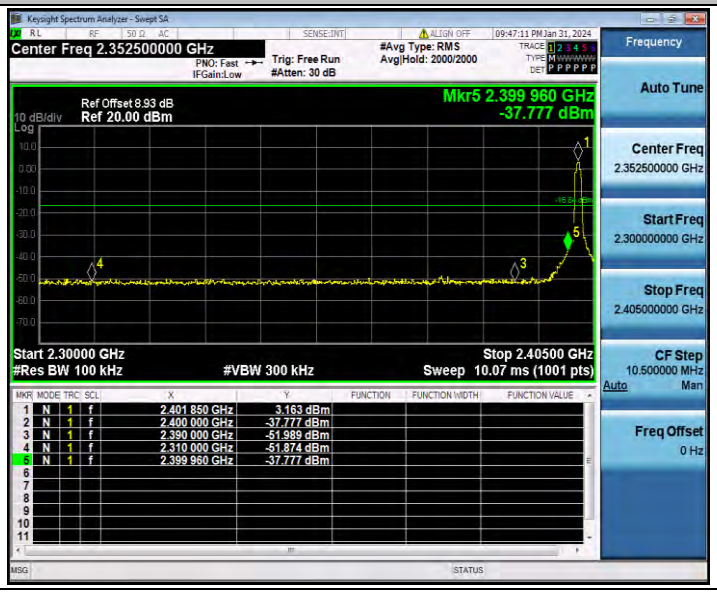
DH1_Ant1_Low_Hop_2402



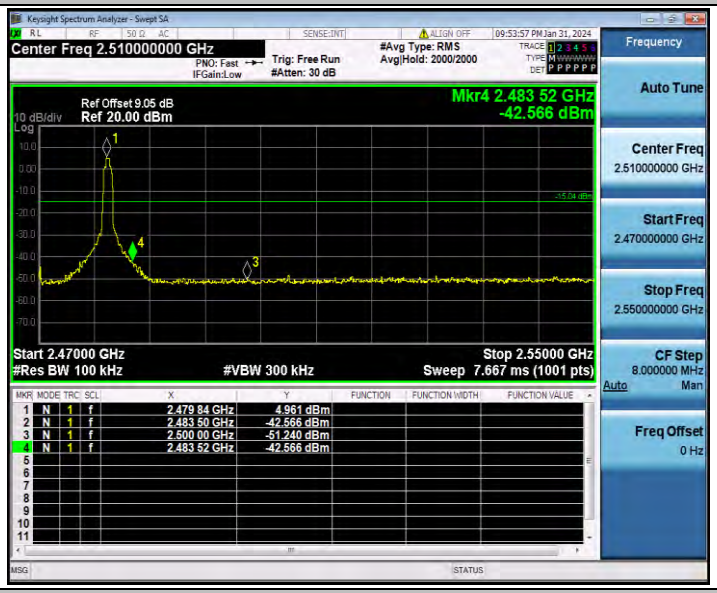
DH1_Ant1_High_Hop_2480



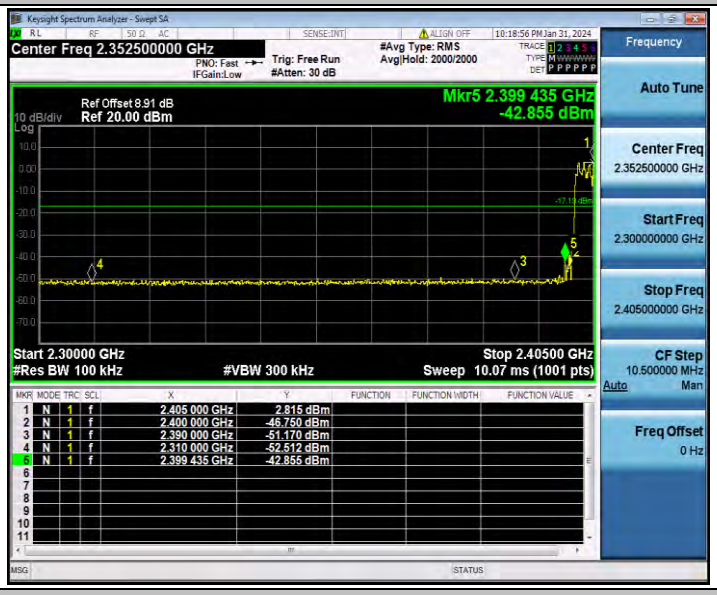
2DH1_Ant1_Low_2402



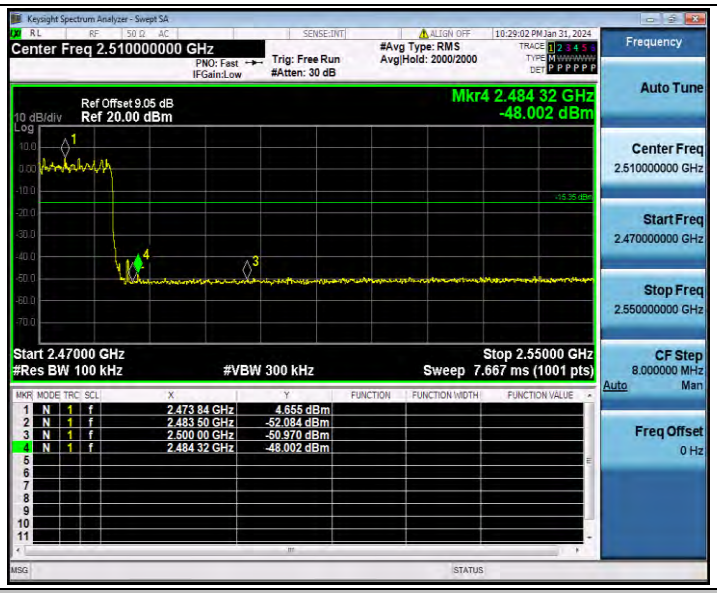
2DH1_Ant1_High_2480



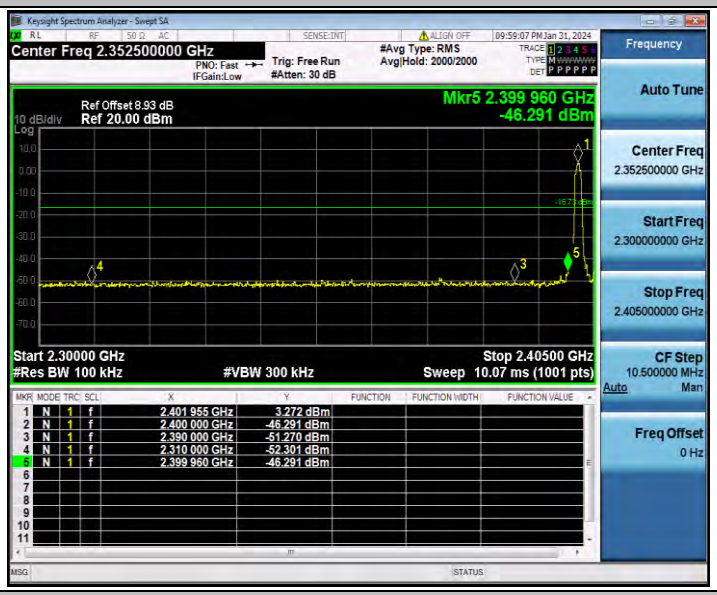
2DH1_Ant1_Low_Hop_2402



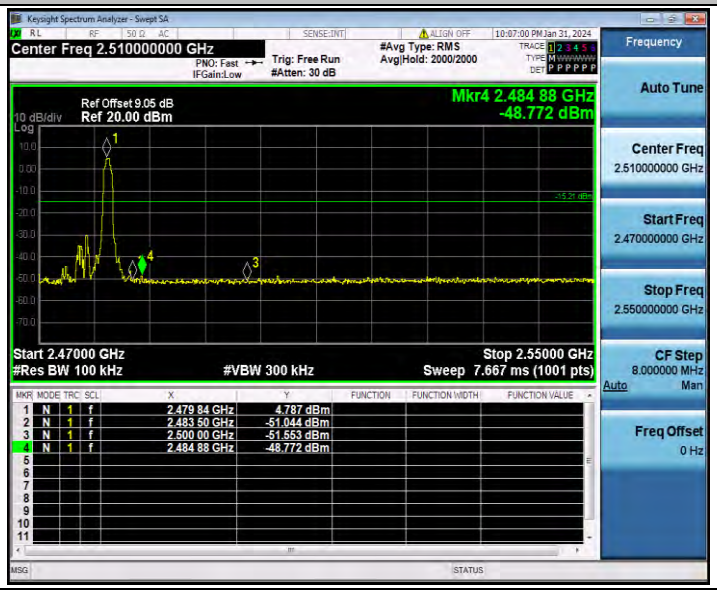
2DH1_Ant1_High_Hop_2480



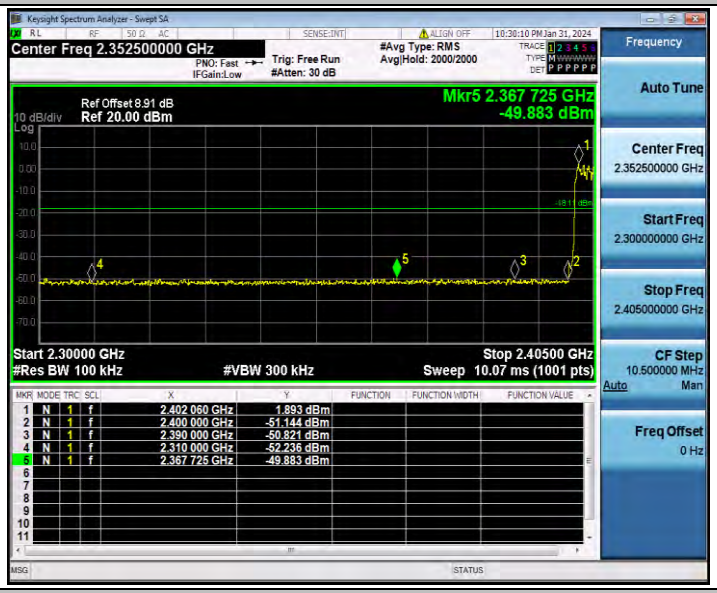
3DH1_Ant1_Low_2402



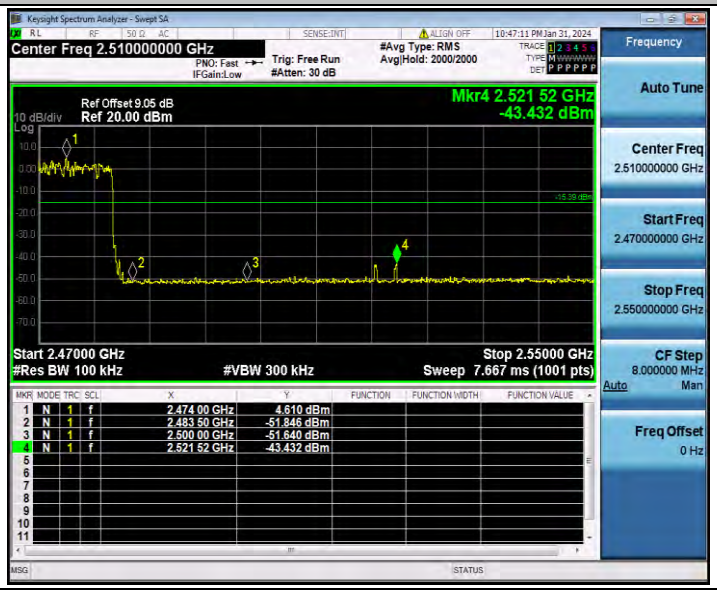
3DH1_Ant1_High_2480



3DH1_Ant1_Low_Hop_2402



3DH1_Ant1_High_Hop_2480



Appendix A.8: Conducted Spurious Emission

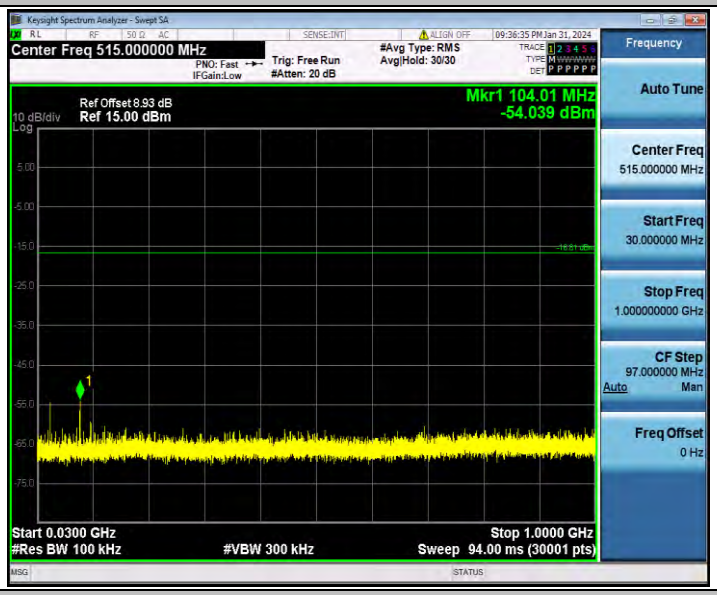
Test Result

TestMode	Antenna	Freq(MHz)	FreqRange [MHz]	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
DH1	Ant1	2402	Reference	3.19	3.19	---	PASS
			30~1000	3.19	-54.04	≤-16.81	PASS
			1000~26500	3.19	-32.95	≤-16.81	PASS
		2441	Reference	4.05	4.05	---	PASS
			30~1000	4.05	-55.14	≤-15.95	PASS
			1000~26500	4.05	-30.44	≤-15.95	PASS
		2480	Reference	4.84	4.84	---	PASS
			30~1000	4.84	-22.13	≤-15.16	PASS
			1000~26500	4.84	-28.95	≤-15.16	PASS
2DH1	Ant1	2402	Reference	2.92	2.92	---	PASS
			30~1000	2.92	-45.34	≤-17.08	PASS
			1000~26500	2.92	-35.61	≤-17.08	PASS
		2441	Reference	4.05	4.05	---	PASS
			30~1000	4.05	-53.85	≤-15.95	PASS
			1000~26500	4.05	-29.82	≤-15.95	PASS
		2480	Reference	4.75	4.75	---	PASS
			30~1000	4.75	-50.33	≤-15.25	PASS
			1000~26500	4.75	-29.41	≤-15.25	PASS
3DH1	Ant1	2402	Reference	2.26	2.26	---	PASS
			30~1000	2.26	-54.26	≤-17.74	PASS
			1000~26500	2.26	-32.31	≤-17.74	PASS
		2441	Reference	3.83	3.83	---	PASS
			30~1000	3.83	-50.9	≤-16.17	PASS
			1000~26500	3.83	-30.26	≤-16.17	PASS
		2480	Reference	4.51	4.51	---	PASS
			30~1000	4.51	-53.45	≤-15.49	PASS
			1000~26500	4.51	-29.68	≤-15.49	PASS

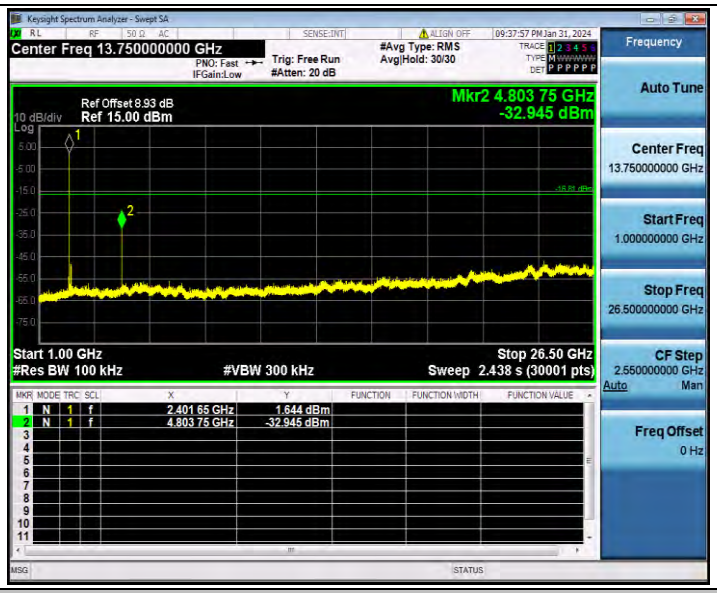
Test Graphs

DH1_Ant1_2402_0~Reference

DH1_Ant1_2402_30~1000

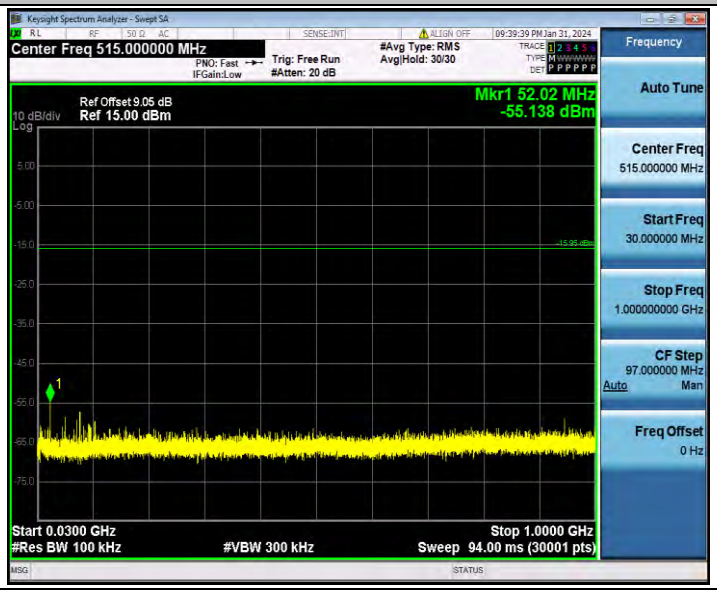


DH1_Ant1_2402_1000~26500

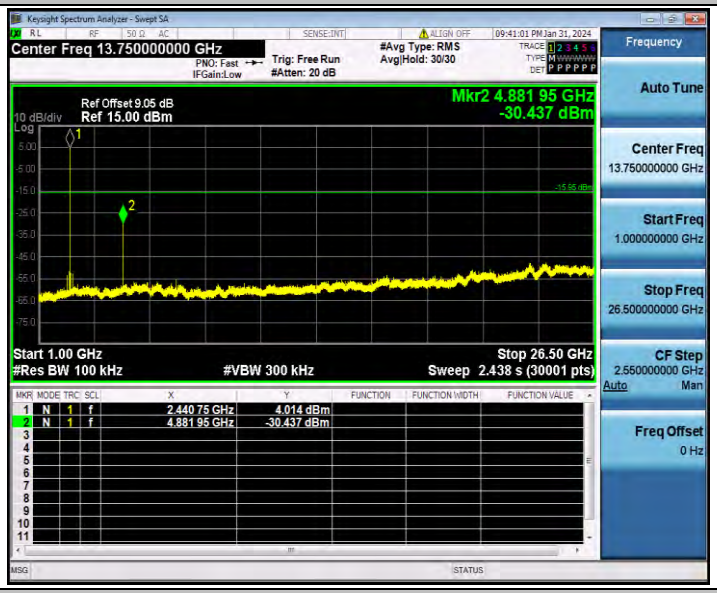


DH1_Ant1_2441_0~Reference

DH1_Ant1_2441_30~1000

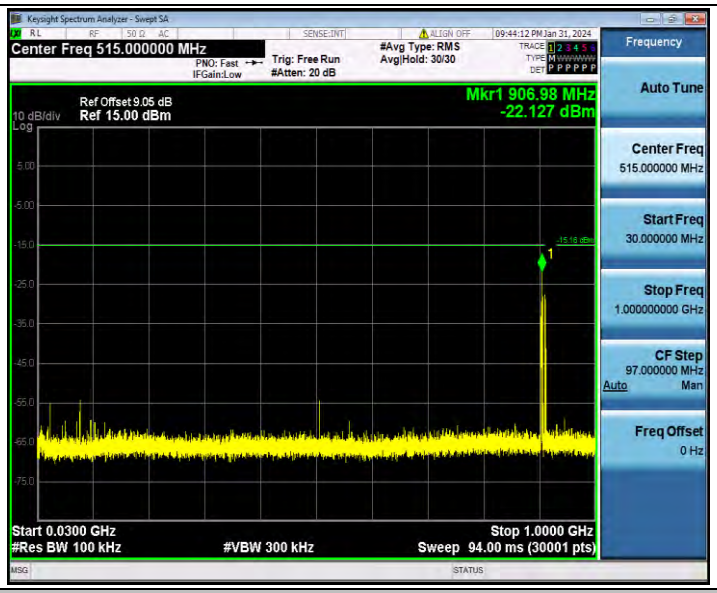


DH1_Ant1_2441_1000~26500

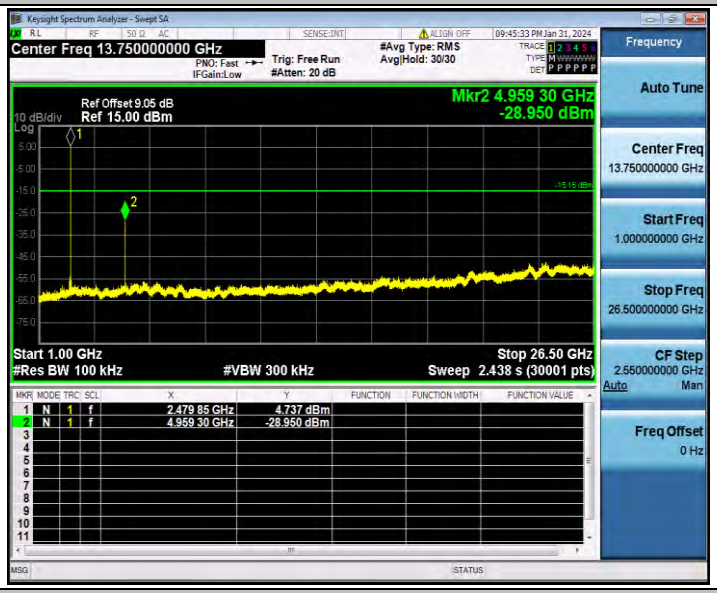


DH1_Ant1_2480_0~Reference

DH1_Ant1_2480_30~1000

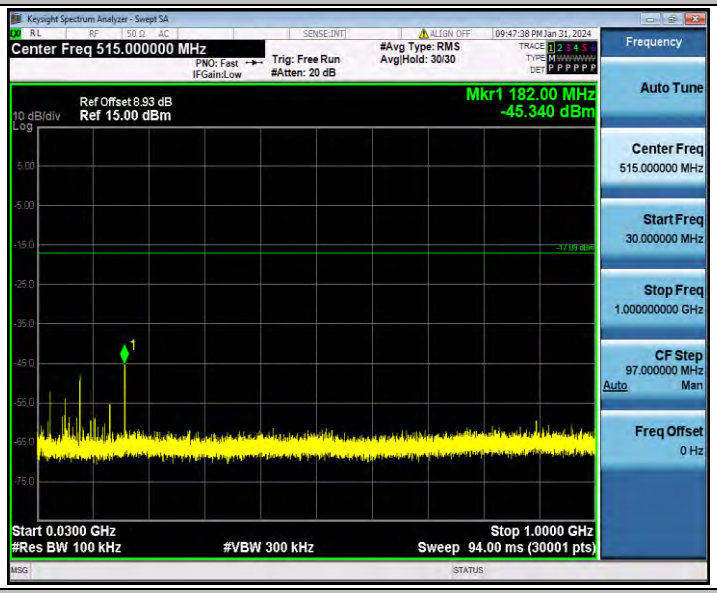


DH1_Ant1_2480_1000~26500

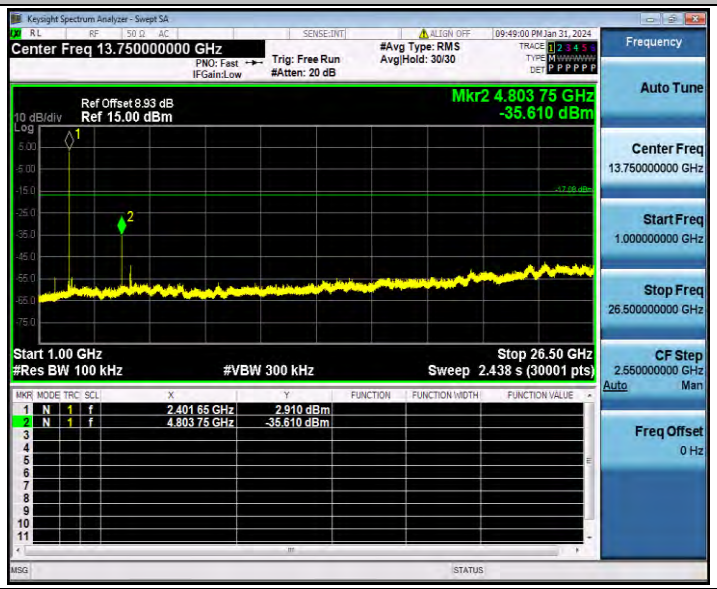


2DH1_Ant1_2402_0~Reference

2DH1_Ant1_2402_30~1000

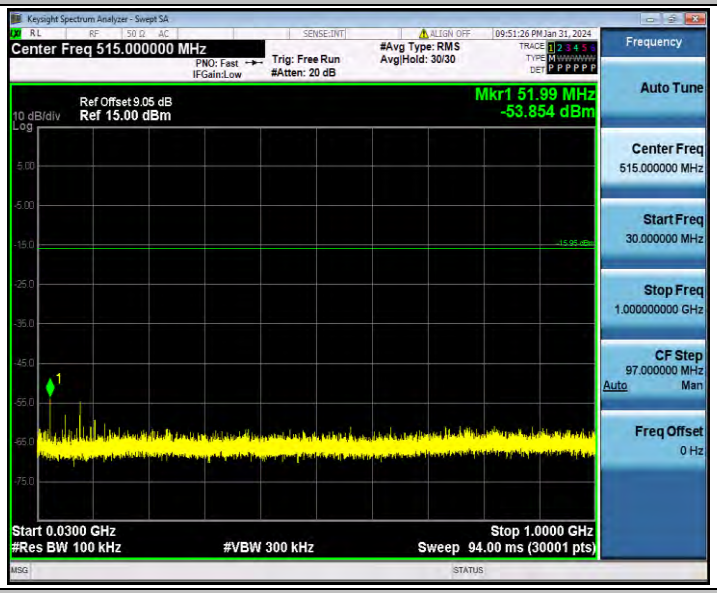


2DH1_Ant1_2402_1000~26500

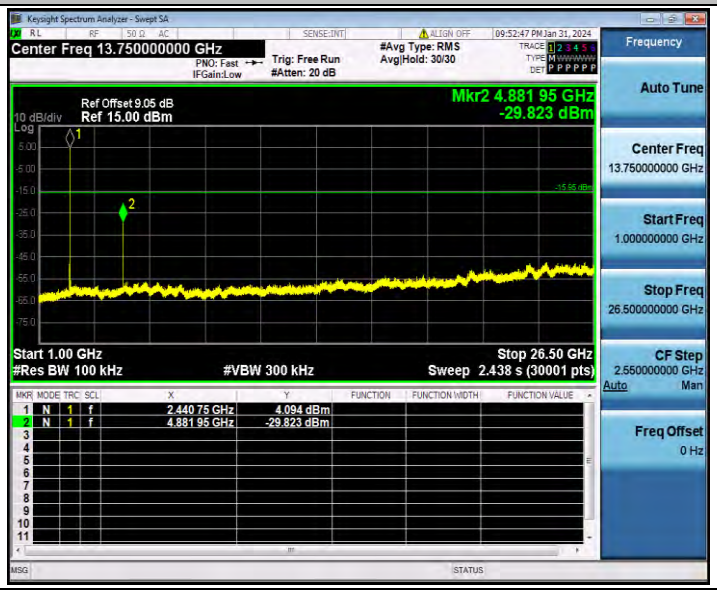


2DH1_Ant1_2441_0~Reference

2DH1_Ant1_2441_30~1000

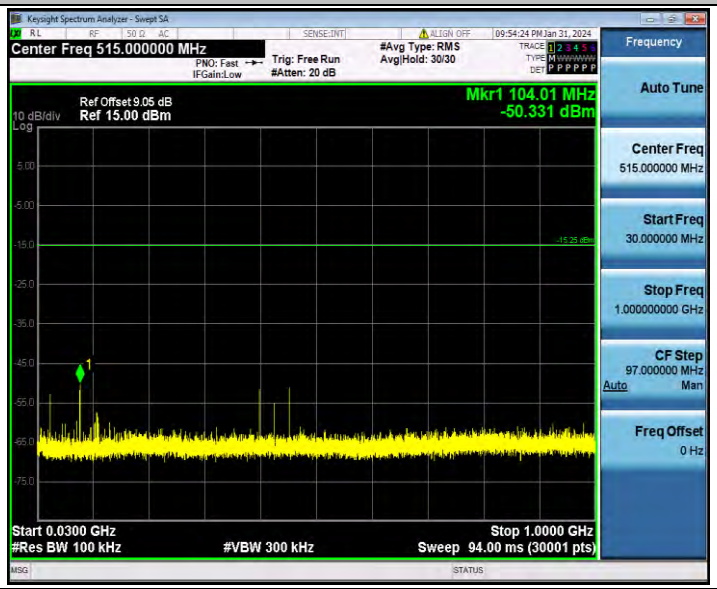


2DH1_Ant1_2441_1000~26500

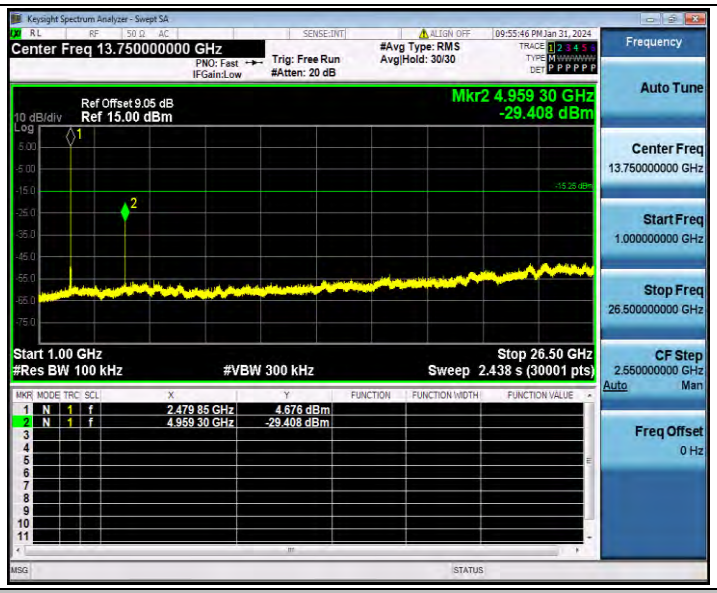


2DH1_Ant1_2480_0~Reference

2DH1_Ant1_2480_30~1000

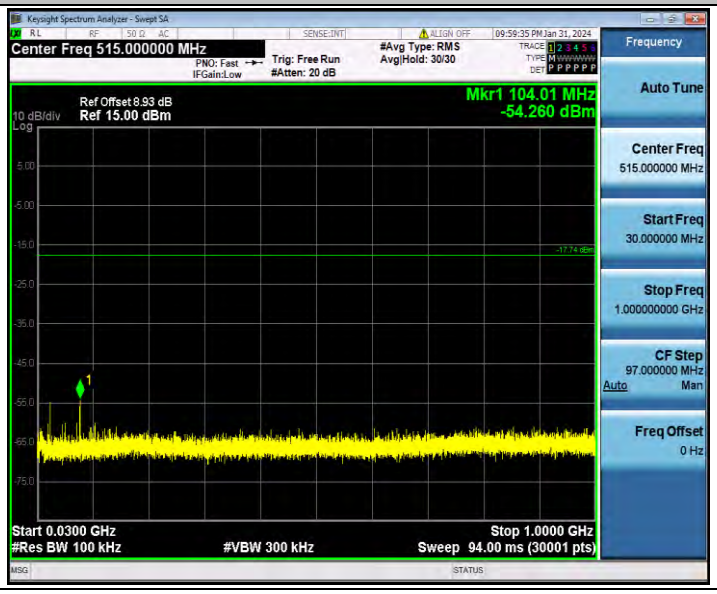


2DH1_Ant1_2480_1000~26500

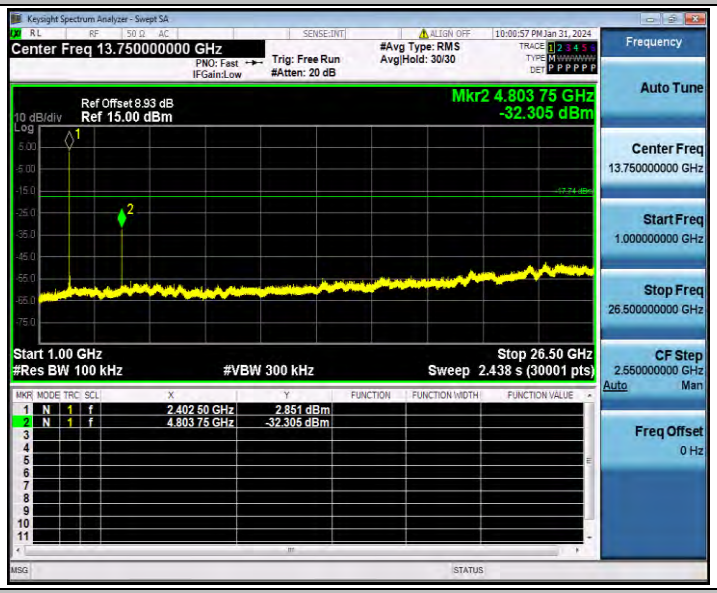


3DH1_Ant1_2402_0~Reference

3DH1_Ant1_2402_30~1000

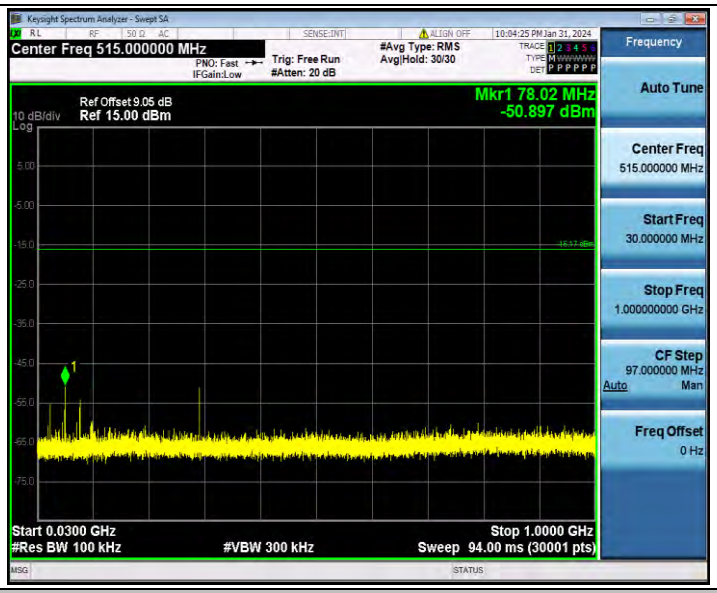


3DH1_Ant1_2402_1000~26500

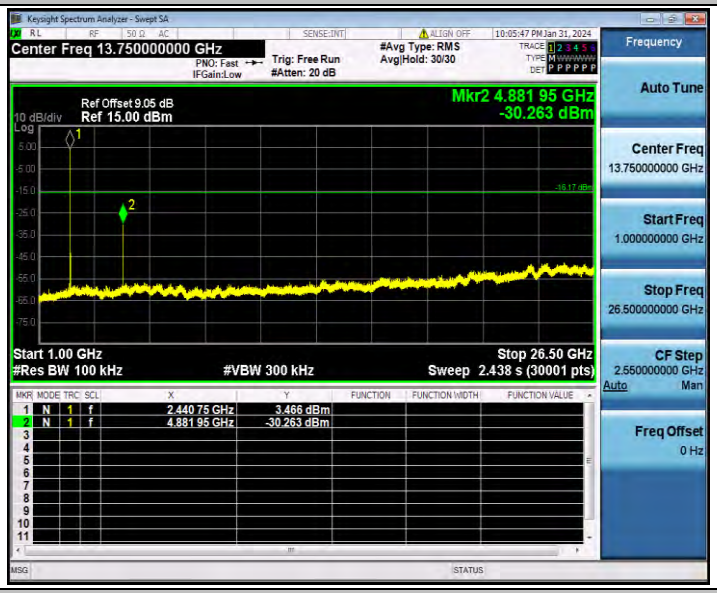


3DH1_Ant1_2441_0~Reference

3DH1_Ant1_2441_30~1000

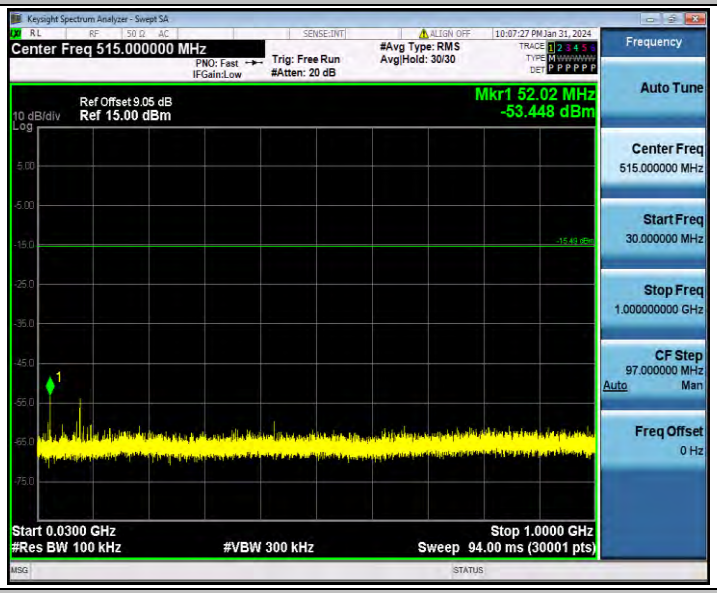


3DH1_Ant1_2441_1000~26500

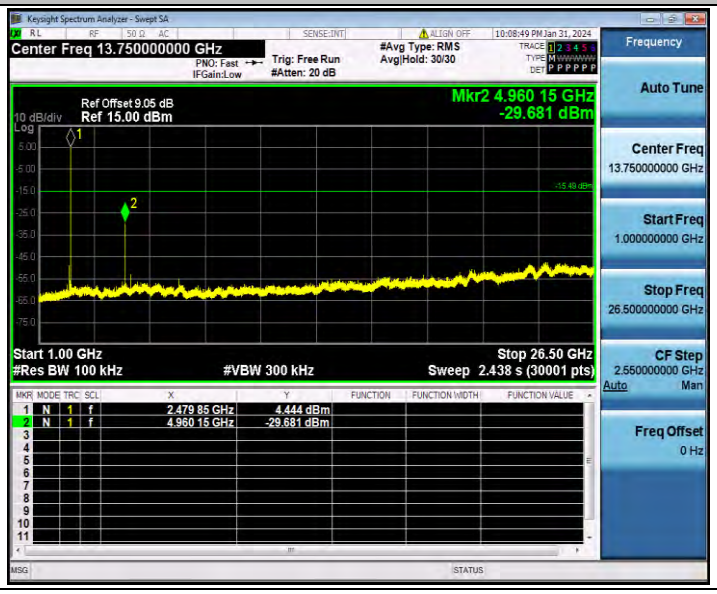


3DH1_Ant1_2480_0~Reference

3DH1_Ant1_2480_30~1000



3DH1_Ant1_2480_1000~26500



Appendix A.9: Emissions in Restricted Bands

Test Result

TestMode	Antenna	ChName	Freq (MHz)	Detector	Freq [MHz]	Result [dBm]	Limit [dBm]	Result [dBuV/m]	Limit [dBuV/m]	Verdict
DH1	Ant1	Low	2402	AV	2310.000	-49.24	≤-41.20	45.96	≤54	PASS
				AV	2375.810	-47.99	≤-41.20	47.21	≤54	PASS
				AV	2390.000	-48.92	≤-41.20	46.28	≤54	PASS
				Peak	2310.000	-41.69	≤-21.20	53.51	≤74	PASS
				Peak	2343.365	-38.78	≤-21.20	56.42	≤74	PASS
				Peak	2390.000	-41.97	≤-21.20	53.23	≤74	PASS
		High	2480	AV	2483.500	-47.86	≤-41.20	47.34	≤54	PASS
				AV	2483.680	-47.75	≤-41.20	47.45	≤54	PASS
				AV	2500.000	-48.77	≤-41.20	46.43	≤54	PASS
				Peak	2483.500	-37.67	≤-21.20	57.53	≤74	PASS
				Peak	2483.520	-37.67	≤-21.20	57.53	≤74	PASS
				Peak	2500.000	-40.95	≤-21.20	54.25	≤74	PASS
2DH1	Ant1	Low	2402	AV	2310.000	-49.38	≤-41.20	45.82	≤54	PASS
				AV	2375.915	-48.35	≤-41.20	46.85	≤54	PASS
				AV	2390.000	-49.01	≤-41.20	46.19	≤54	PASS
				Peak	2310.000	-42.28	≤-21.20	52.92	≤74	PASS
				Peak	2377.175	-39.04	≤-21.20	56.16	≤74	PASS
				Peak	2390.000	-41.29	≤-21.20	53.91	≤74	PASS
		High	2480	AV	2483.500	-46.45	≤-41.20	48.75	≤54	PASS
				AV	2483.680	-45.03	≤-41.20	50.17	≤54	PASS
				AV	2500.000	-48.66	≤-41.20	46.54	≤54	PASS
				Peak	2483.500	-40.62	≤-21.20	54.58	≤74	PASS
				Peak	2484.080	-25.08	≤-21.20	70.12	≤74	PASS
				Peak	2500.000	-42.08	≤-21.20	53.12	≤74	PASS
3DH1	Ant1	Low	2402	AV	2310.000	-49.41	≤-41.20	45.79	≤54	PASS
				AV	2375.915	-48.36	≤-41.20	46.84	≤54	PASS
				AV	2390.000	-49.09	≤-41.20	46.11	≤54	PASS
				Peak	2310.000	-42.73	≤-21.20	52.47	≤74	PASS
				Peak	2388.935	-38.37	≤-21.20	56.83	≤74	PASS
				Peak	2390.000	-40.33	≤-21.20	54.87	≤74	PASS
		High	2480	AV	2483.500	-47.79	≤-41.20	47.41	≤54	PASS
				AV	2483.520	-47.79	≤-41.20	47.41	≤54	PASS
				AV	2500.000	-48.63	≤-41.20	46.57	≤54	PASS
				Peak	2483.500	-38.24	≤-21.20	56.96	≤74	PASS
				Peak	2483.840	-38.06	≤-21.20	57.14	≤74	PASS

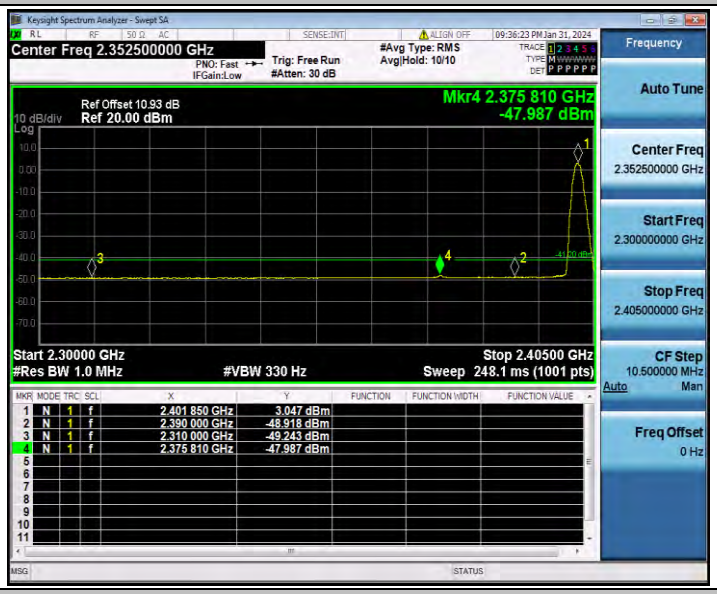
				Peak	2500.000	-40.54	≤-21.20	54.66	≤74	PASS

Note：

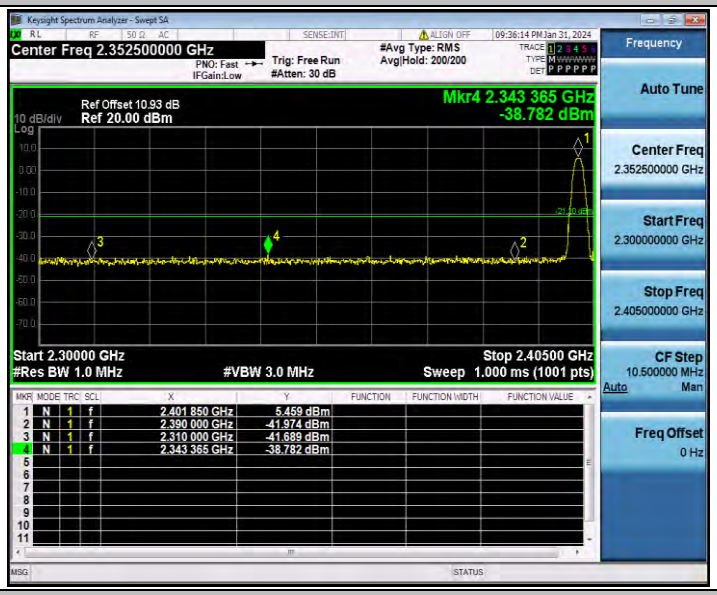
1. The Antenna Gain is compensated in the graph.
2. The Duty Cycle Factor and RBW Factor is compensated in the graph.
3. The limit in dBm for average detector is conversion from 54dBuV/m, according to 15.209(a). The limit in dBm for peak detector is 20dB above the limit of average detector in dBm.

Test Graphs

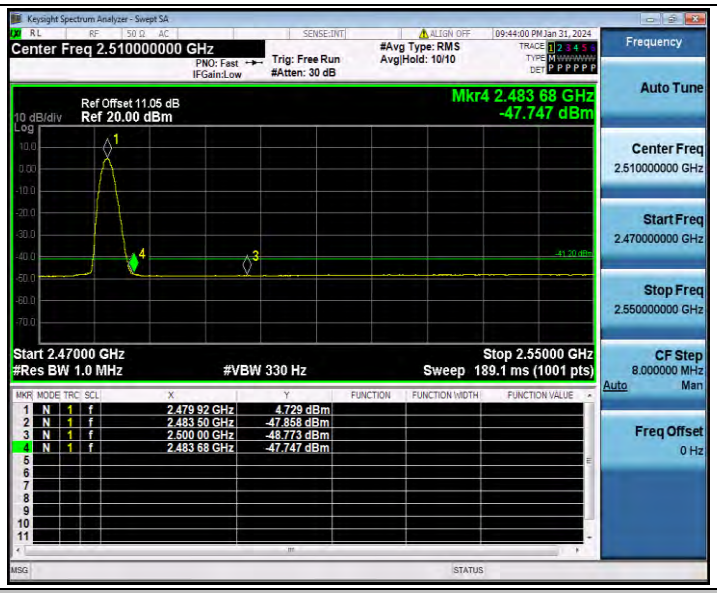
DH1_Ant1_Low_2402_AV



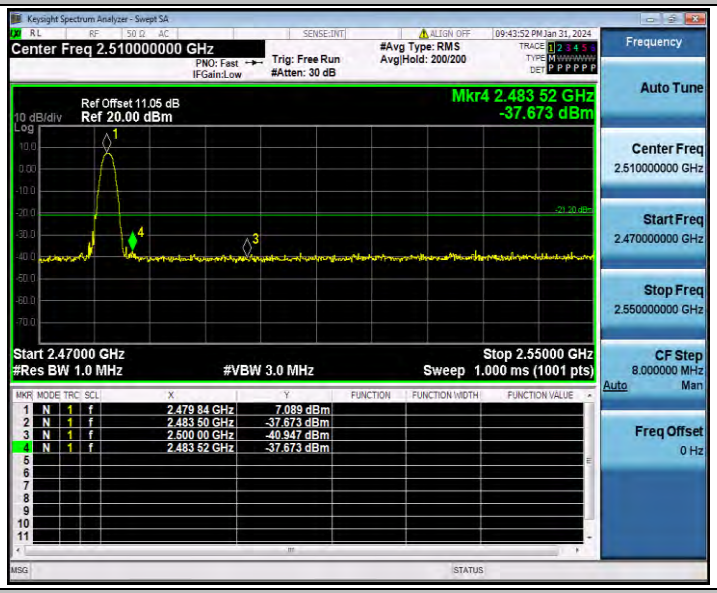
DH1_Ant1_Low_2402_Peak



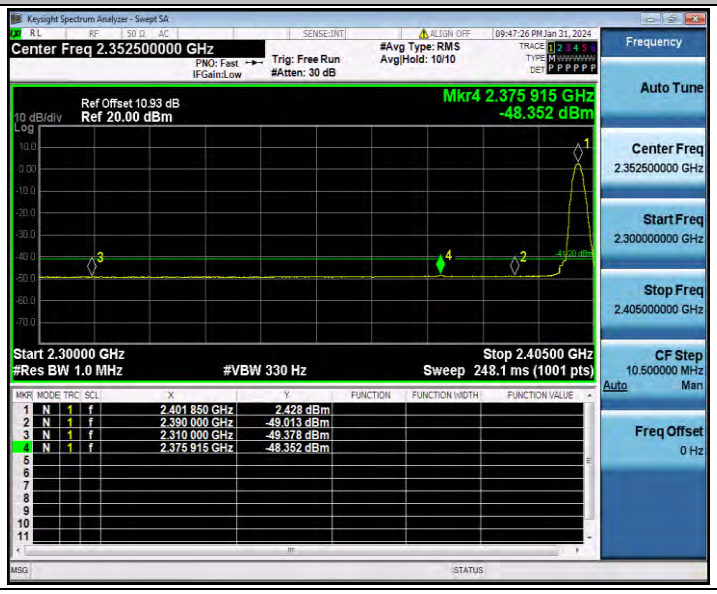
DH1_Ant1_High_2480_AV



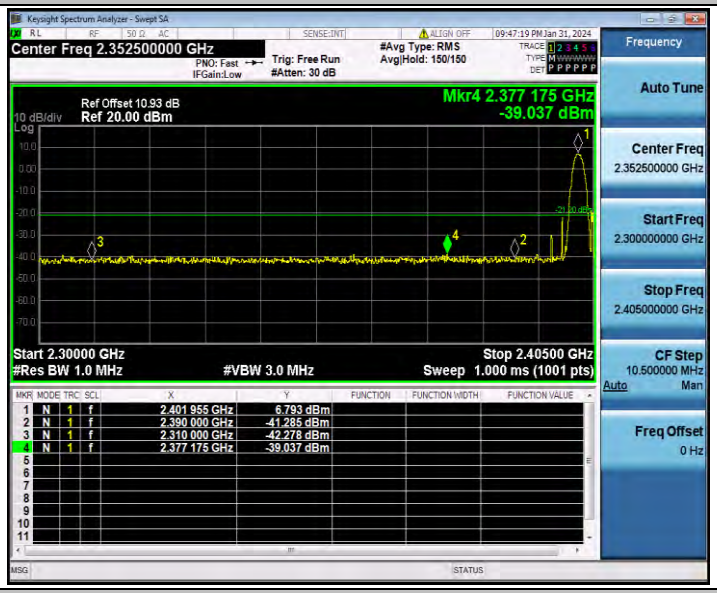
DH1_Ant1_High_2480_Peak



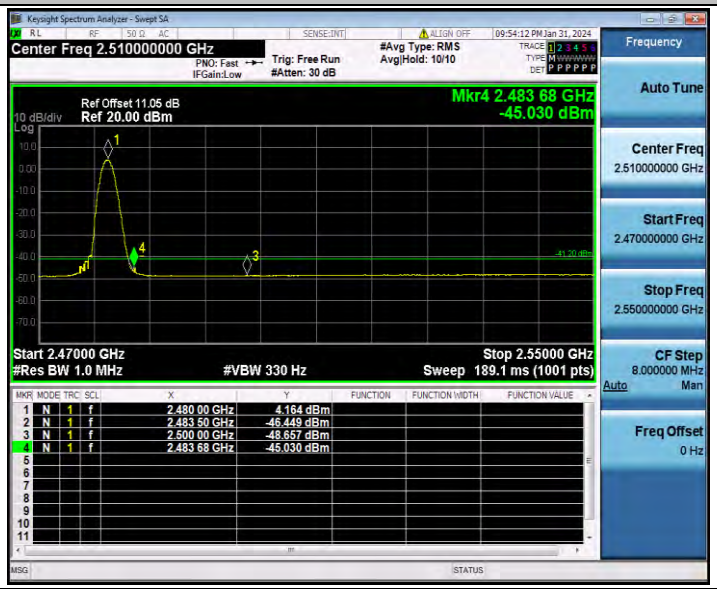
2DH1_Ant1_Low_2402_AV



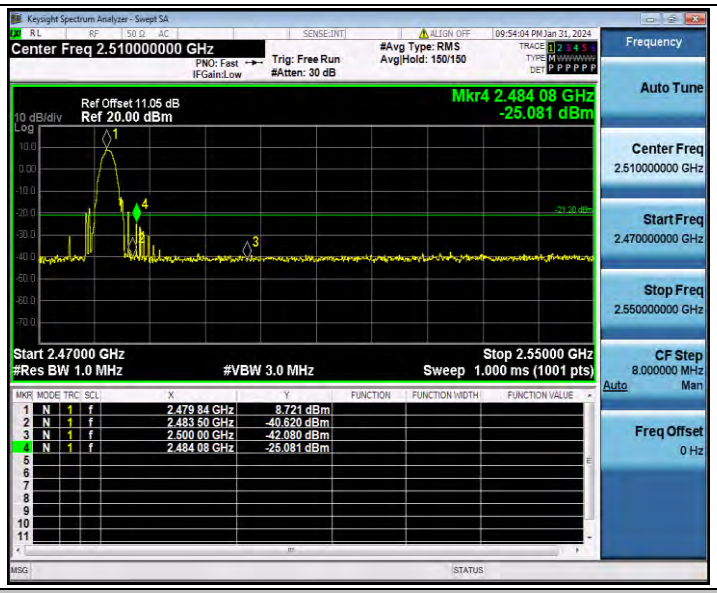
2DH1_Ant1_Low_2402_Peak



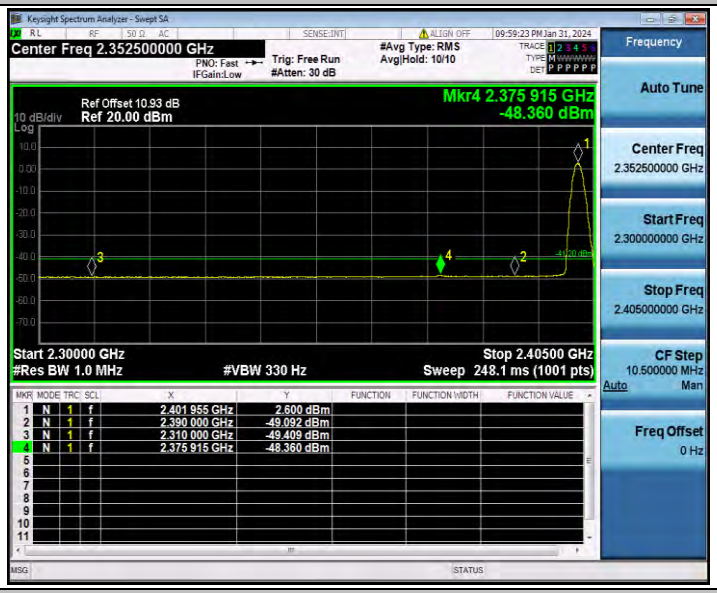
2DH1_Ant1_High_2480_AV



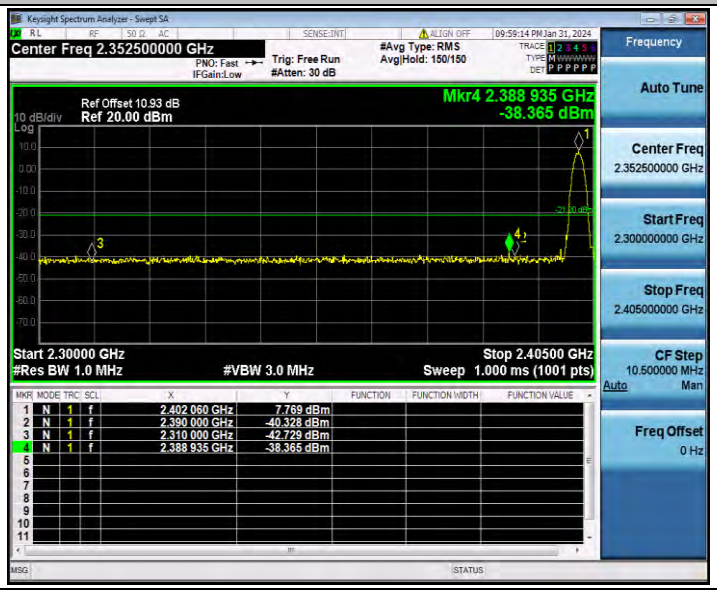
2DH1_Ant1_High_2480_Peak



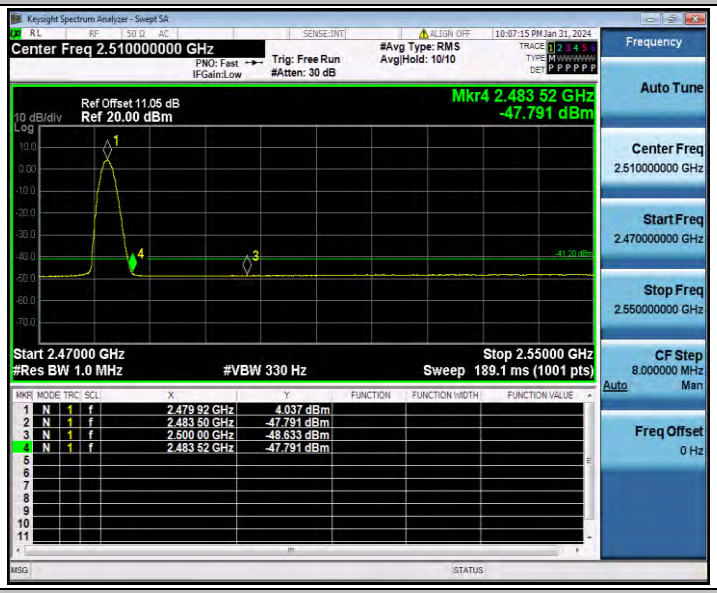
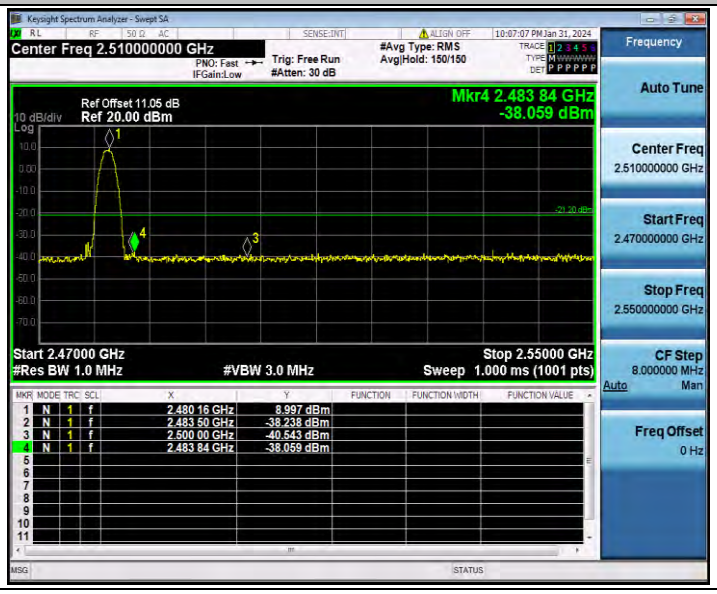
3DH1_Ant1_Low_2402_AV



3DH1_Ant1_Low_2402_Peak



3DH1_Ant1_High_2480_AV



3DH1_Ant1_High_2480_Peak