FCC Appendix RF Test Data for BT

FCC ID	**:**	**2BTSW-DHP-52**
Company	**:**	**Shenzhen Monokaro Technology Co., Ltd.**
EUT	**:**	**Electronic Perler Bead Board**
Model Number	**:**	**DHP-52**
Report No.	**:**	**CTA26092101301**
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	0.963	2401.544	2402.507	---	---
		2441	0.945	2440.550	2441.495	---	---
		2480	0.885	2479.550	2480.435	---	---
2DH5	Ant1	2402	1.287	2401.376	2402.663	---	---
		2441	1.290	2440.376	2441.666	---	---
		2480	1.338	2479.337	2480.675	---	---

Test Graphs

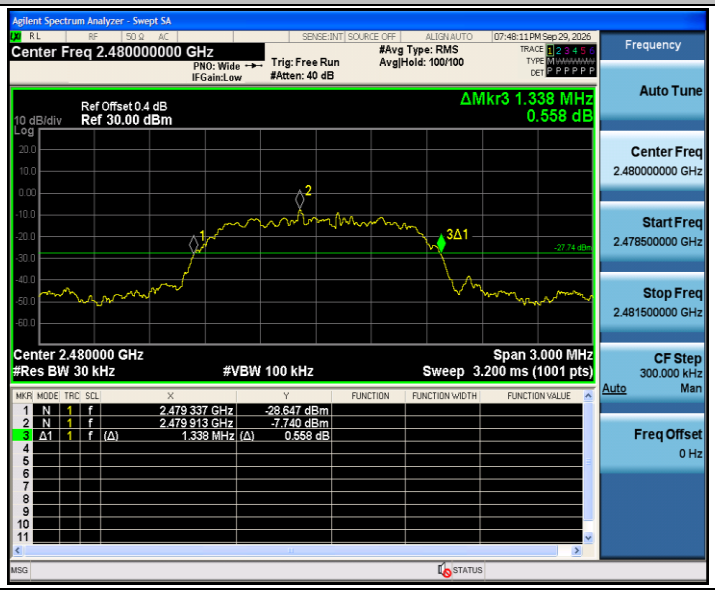
DH5_Ant1_2402

DH5_Ant1_2441

DH5_Ant1_2480

2DH5_Ant1_2402

2DH5_Ant1_2441

2DH5_Ant1_2480


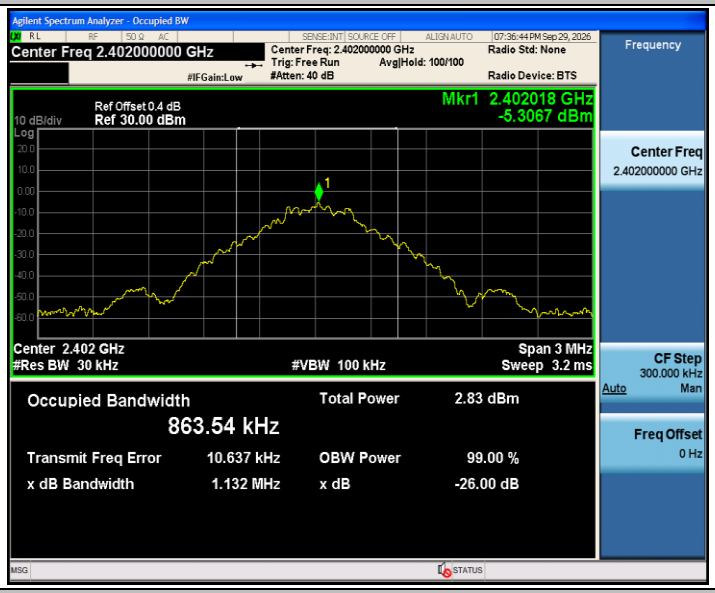
Appendix B: Occupied Channel Bandwidth

Test Result

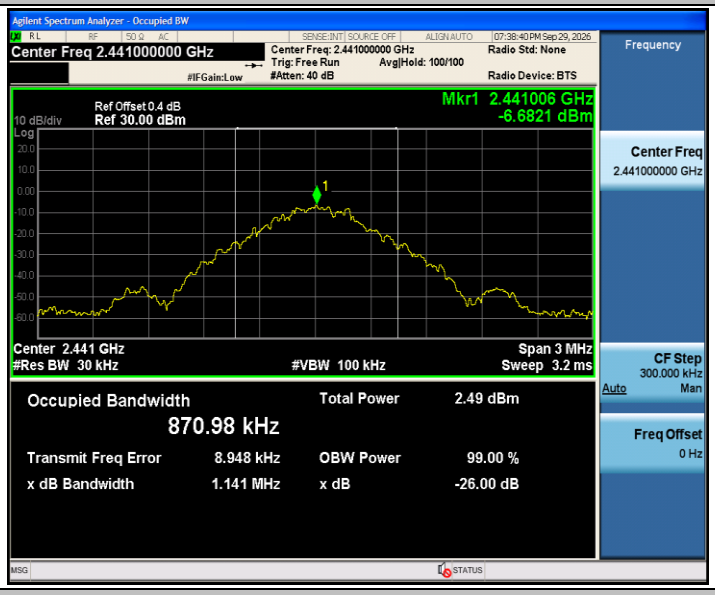
TestMode	Antenna	Freq(MHz)	OCB [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
DH5	Ant1	2402	0.86354	2401.5789	2402.4424	---	---
		2441	0.87098	2440.5735	2441.4444	---	---
		2480	0.87009	2479.5746	2480.4447	---	---
2DH5	Ant1	2402	1.1873	2401.4163	2402.6036	---	---
		2441	1.1867	2440.4141	2441.6008	---	---
		2480	1.1852	2479.4169	2480.6021	---	---

Test Graphs

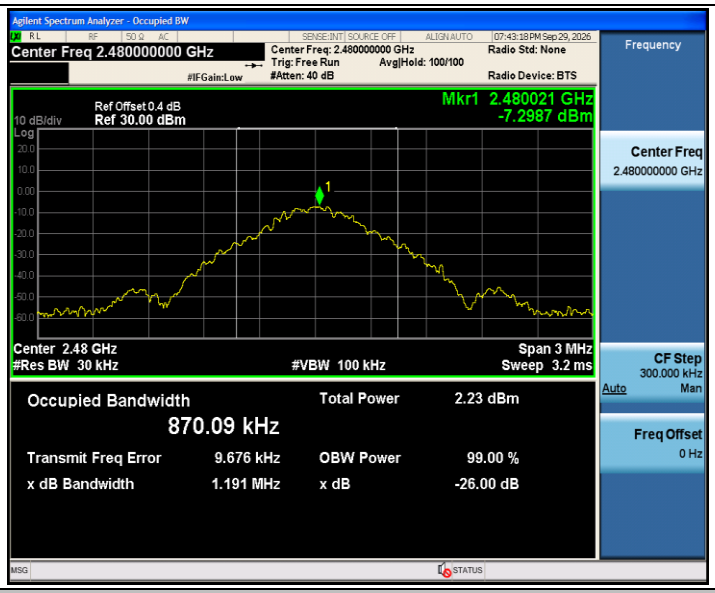
DH5_Ant1_2402



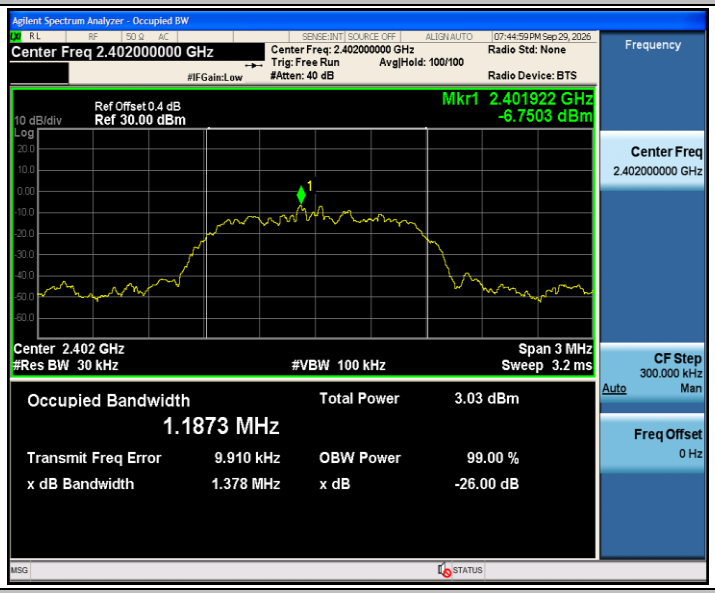
DH5_Ant1_2441



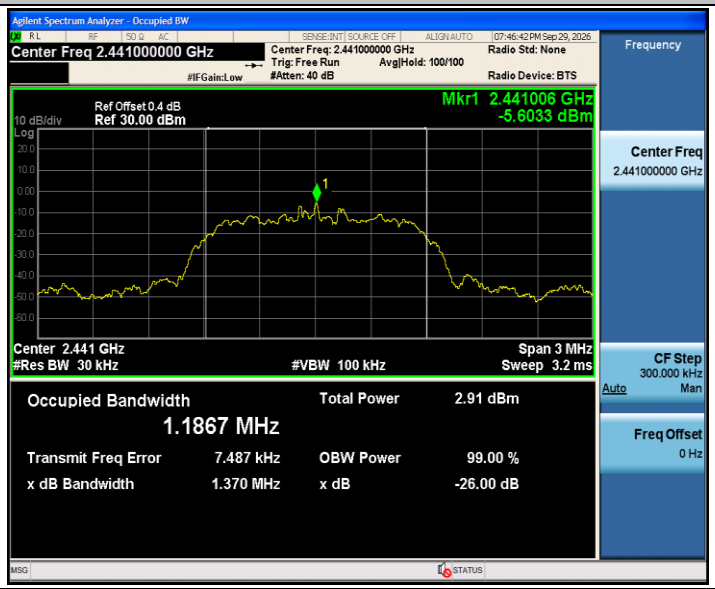
DH5_Ant1_2480

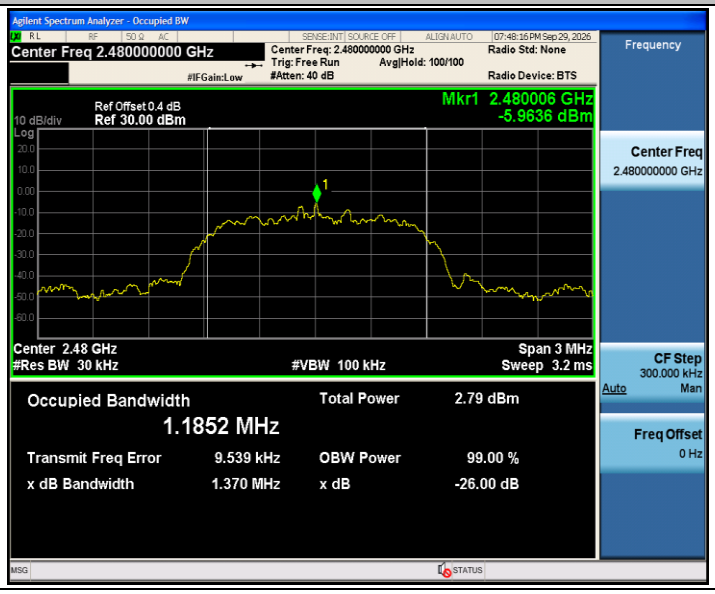


2DH5_Ant1_2402



2DH5_Ant1_2441



2DH5_Ant1_2480


Appendix C: Maximum conducted output power

Test Result Peak

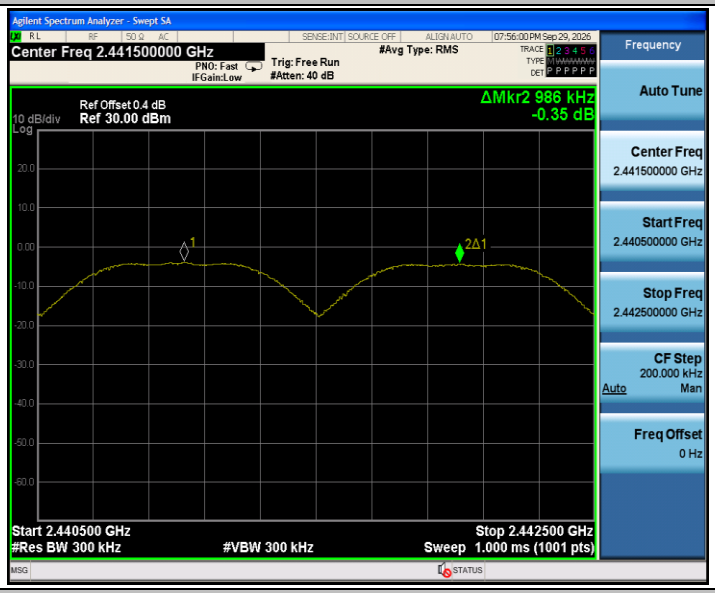
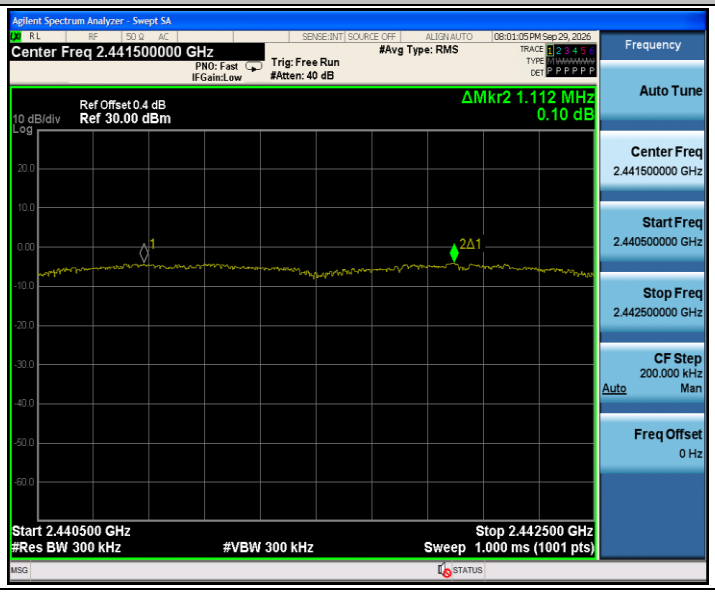
Test Mode	Antenna	Freq(MHz)	Conducted Peak Powert[dBm]	Conducted Limit[dBm]	Verdict
DH5	Ant1	2402	-3.69	≤20.97	PASS
		2441	-3.76	≤20.97	PASS
		2480	-4.03	≤20.97	PASS
2DH5	Ant1	2402	-1.08	≤20.97	PASS
		2441	-1.16	≤20.97	PASS
		2480	-1.42	≤20.97	PASS

Appendix D: Carrier frequency separation

Test Result

TestMode	Antenna	Freq(MHz)	Result[MHz]	Limit[MHz]	Verdict
DH5	Ant1	Hop	0.986	≥0.963	PASS
2DH5	Ant1	Hop	1.112	≥0.892	PASS

Test Graphs

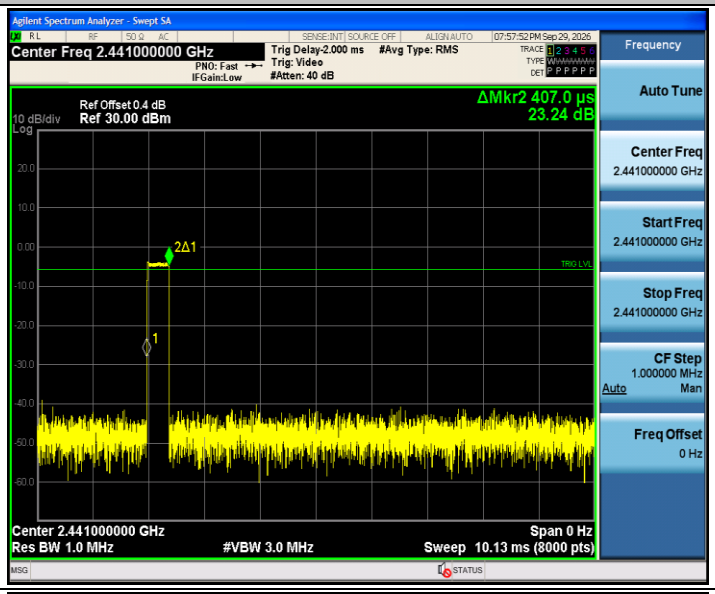
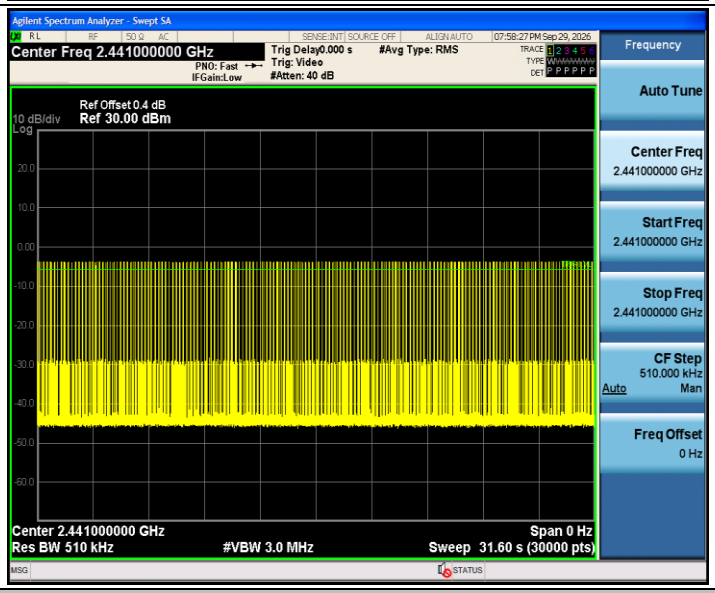
DH5_Ant1_Hop

2DH5_Ant1_Hop


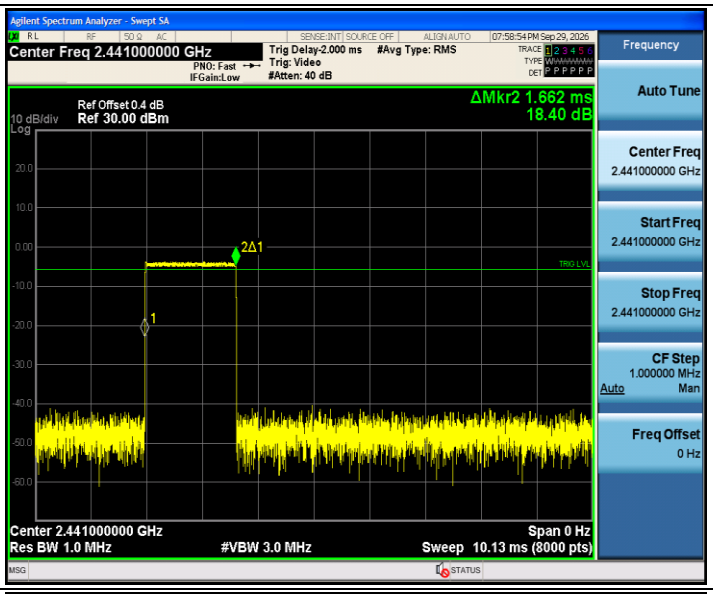
Appendix E: Time of occupancy

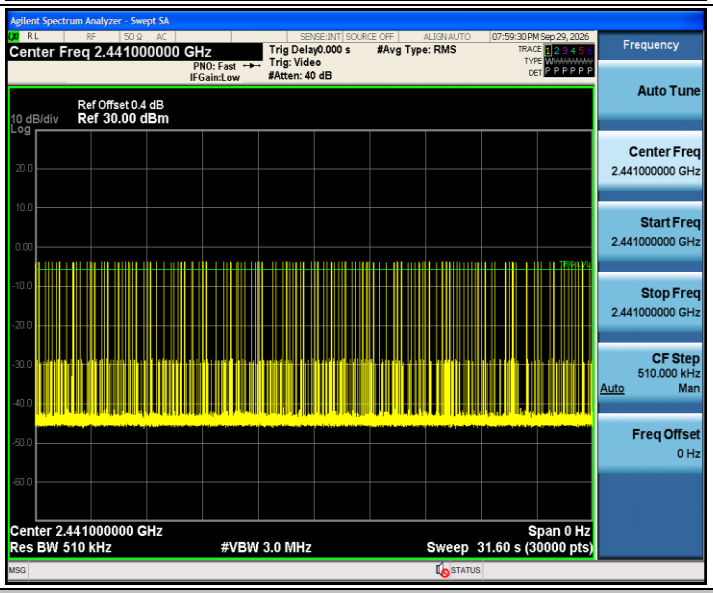
Test Result

TestMode	Antenna	Freq(MHz)	BurstWidth [ms]	TotalHops [Num]	Result[s]	Limit[s]	Verdict
DH1	Ant1	Hop	0.407	320	0.13	≤0.4	PASS
DH3	Ant1	Hop	1.662	159	0.264	≤0.4	PASS
DH5	Ant1	Hop	2.910	113	0.329	≤0.4	PASS
2DH1	Ant1	Hop	0.415	317	0.132	≤0.4	PASS
2DH3	Ant1	Hop	1.667	158	0.263	≤0.4	PASS
2DH5	Ant1	Hop	2.915	124	0.361	≤0.4	PASS

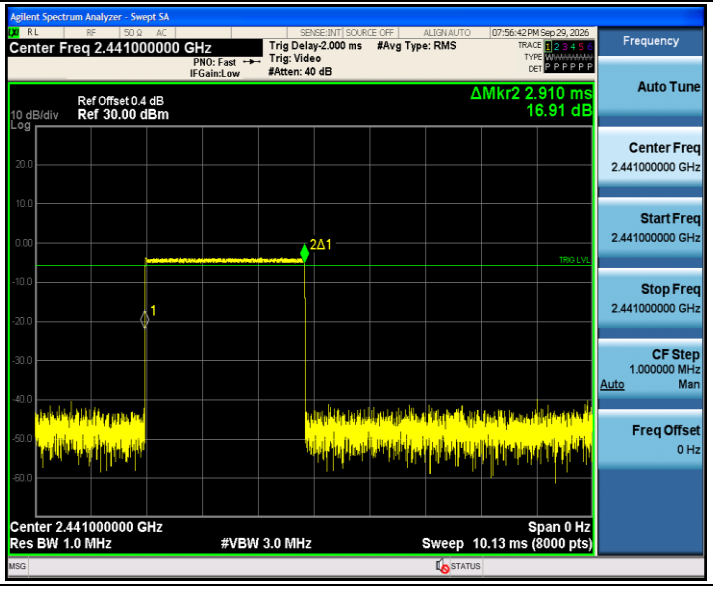
Test Graphs

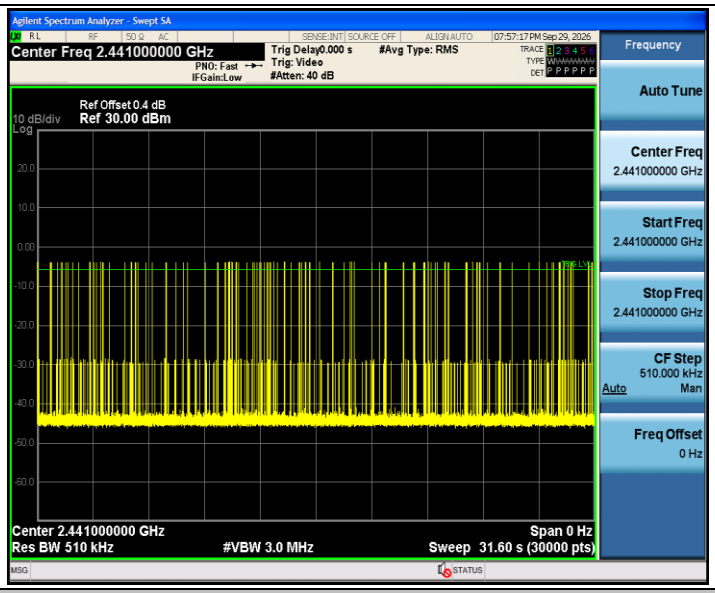
DH1_Ant1_Hop


DH3_Ant1_Hop


Agilent Spectrum Analyzer - Swept SA
Center Freq 2.441000000 GHz
PNO: Fast
IFGain:Low
Trig Delay-2.000 ms
Trig: Video
#Avg Type: RMS
#Atten: 40 dB
07:58:54 PM Sep 29, 2026
Ref Offset 0.4 dB
10 dB/div
Ref 30.00 dBm
ΔMkr2 1.662 ms
18.40 dB
2Δ1
1
Center 2.441000000 GHz
Res BW 1.0 MHz
#VBW 3.0 MHz
Span 0 Hz
Sweep 10.13 ms (8000 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

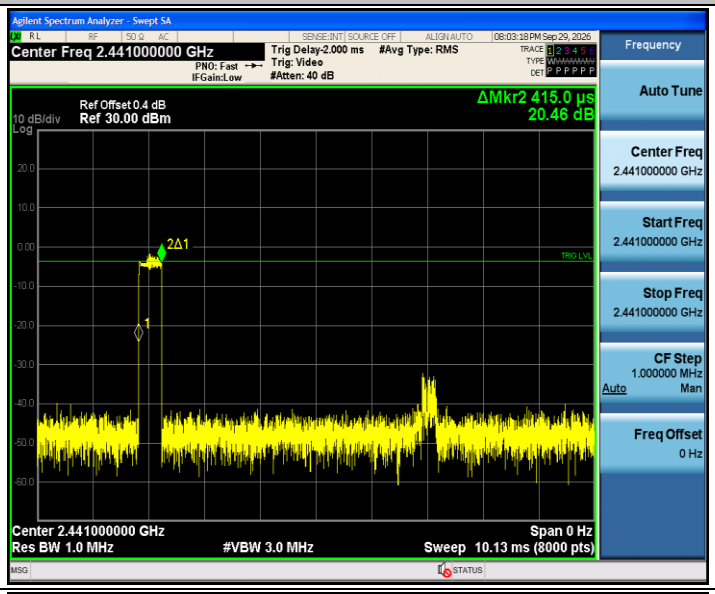

Agilent Spectrum Analyzer - Swept SA
Center Freq 2.441000000 GHz
PNO: Fast
IFGain:Low
Trig Delay0.000 s
Trig: Video
#Avg Type: RMS
#Atten: 40 dB
07:59:30 PM Sep 29, 2026
Ref Offset 0.4 dB
10 dB/div
Ref 30.00 dBm
Center 2.441000000 GHz
Res BW 510 kHz
#VBW 3.0 MHz
Span 0 Hz
Sweep 31.60 s (30000 pts)
Frequency
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

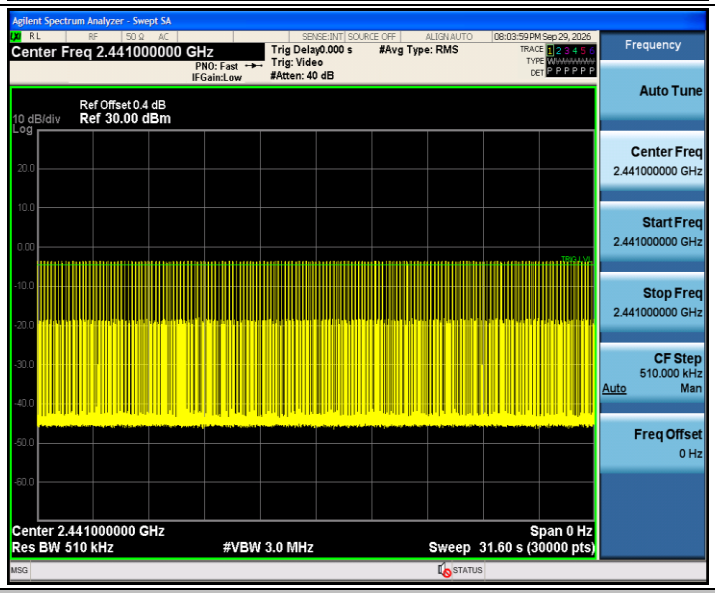
DH5_Ant1_Hop


Agilent Spectrum Analyzer - Swept SA
Center Freq 2.441000000 GHz
PNO: Fast
IFGain:Low
Trig Delay-2.000 ms
Trig: Video
#Avg Type: RMS
#Atten: 40 dB
07:56:42 PM Sep 29, 2026
Ref Offset 0.4 dB
10 dB/div
Ref 30.00 dBm
ΔMkr2 2.910 ms
16.91 dB
2Δ1
1
Center 2.441000000 GHz
Res BW 1.0 MHz
#VBW 3.0 MHz
Span 0 Hz
Sweep 10.13 ms (8000 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

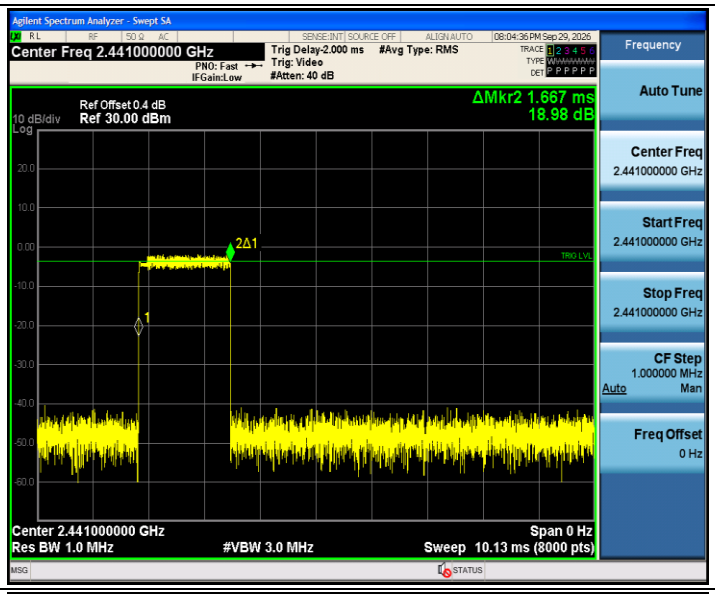


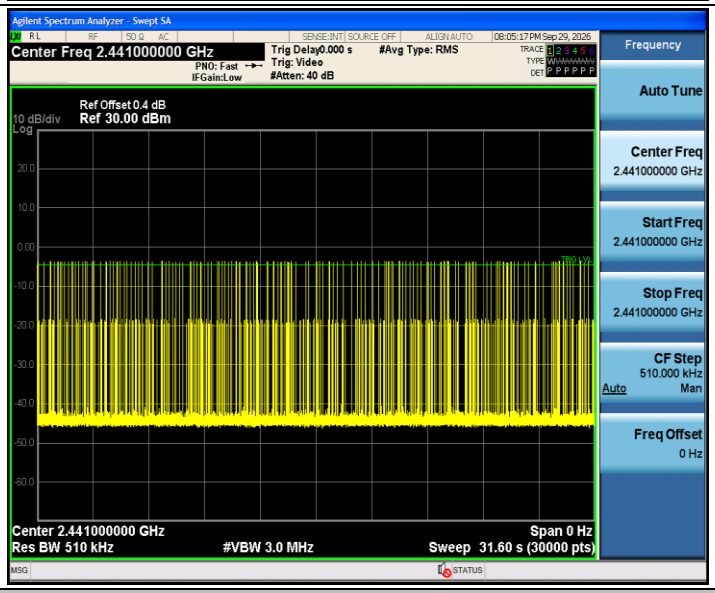
2DH1_Ant1_Hop



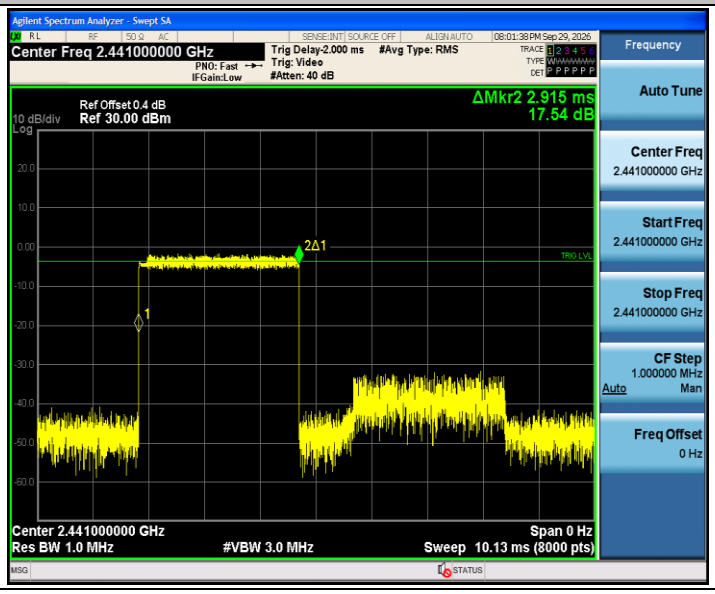


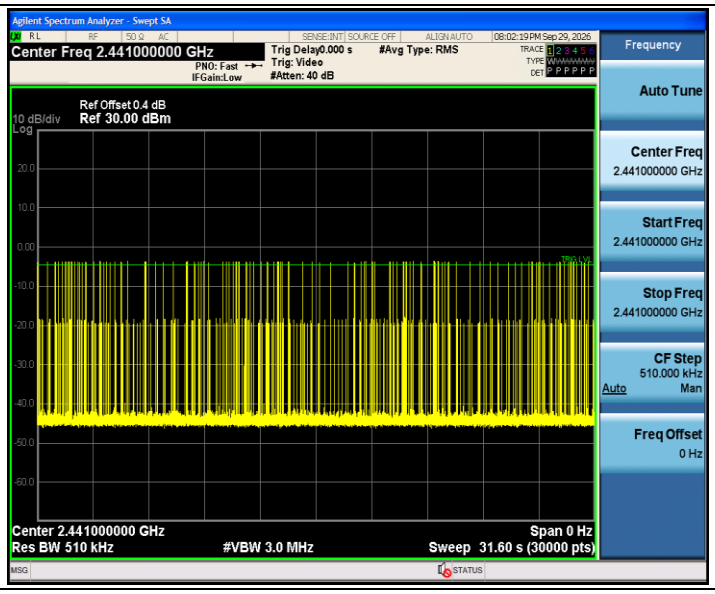
2DH3_Ant1_Hop





2DH5_Ant1_Hop



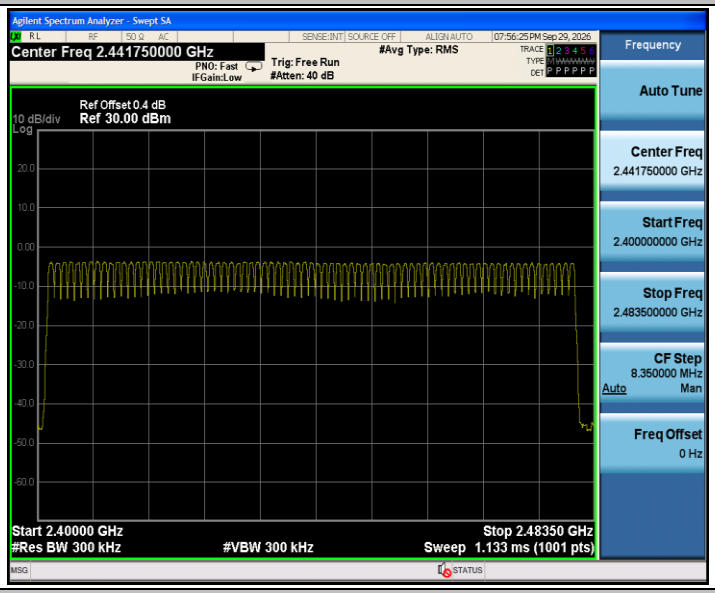
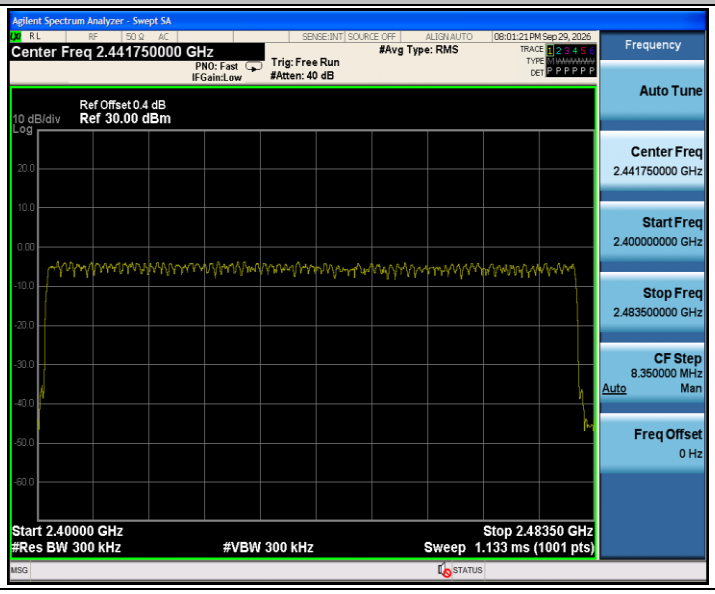

Agilent Spectrum Analyzer - Swept SA
Center Freq 2.441000000 GHz
PNO: Fast
IFGain:Low
Trig Delay 0.000 s
Trig: Video
#Avg Type: RMS
#Atten: 40 dB
08:02:19 PM Sep 29, 2026
Ref Offset 0.4 dB
10 dB/div
Log
Ref 30.00 dBm
20.0
10.0
0.00
-10.0
-20.0
-30.0
-40.0
-50.0
-60.0
Center 2.441000000 GHz
Res BW 510 kHz
#VBW 3.0 MHz
Span 0 Hz
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
MSG
STATUS

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

Test Graphs

DH5_Ant1_Hop

2DH5_Ant1_Hop


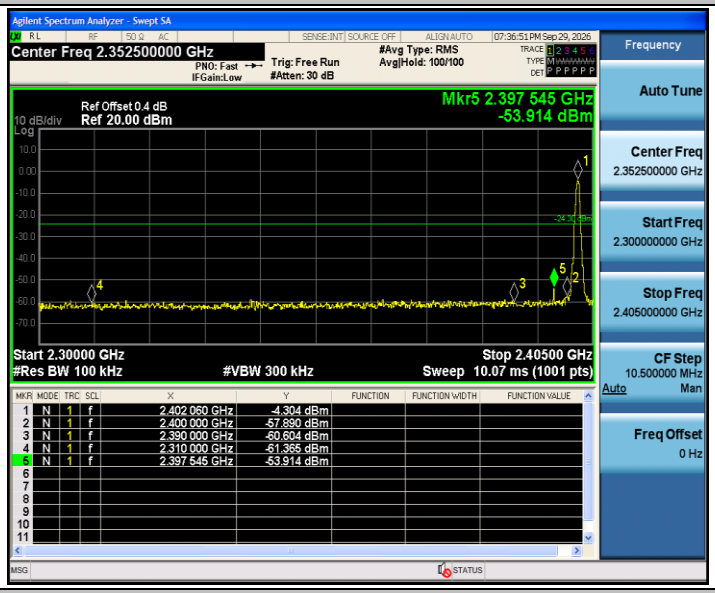
Appendix G: Band edge measurements

Test Result

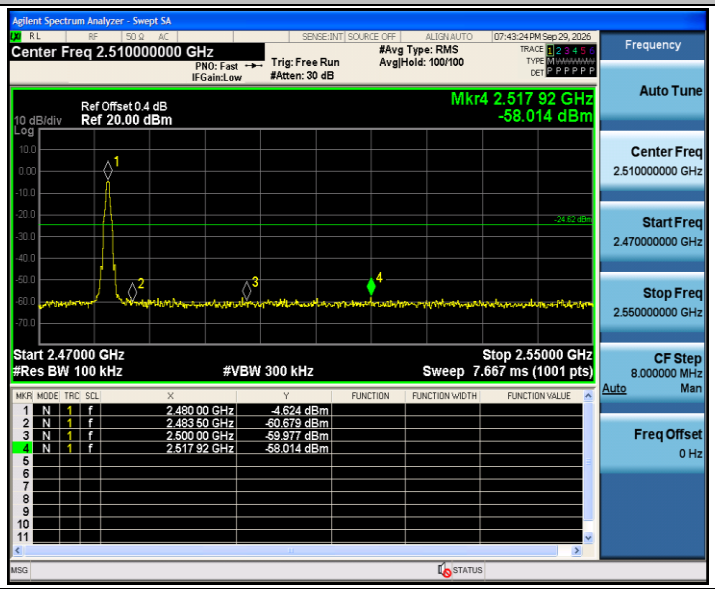
TestMode	Antenna	ChName	Freq(MHz)	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
DH5	Ant1	Low	2402	-4.30	-53.91	≤-24.3	PASS
		High	2480	-4.62	-58.01	≤-24.62	PASS
		Low	Hop_2402	-4.83	-58.54	≤-24.83	PASS
		High	Hop_2480	-4.67	-56.93	≤-24.67	PASS
2DH5	Ant1	Low	2402	-4.72	-58.12	≤-24.72	PASS
		High	2480	-5.06	-55.61	≤-25.06	PASS
		Low	Hop_2402	-4.53	-58.23	≤-24.53	PASS
		High	Hop_2480	-4.22	-58	≤-24.22	PASS

Test Graphs

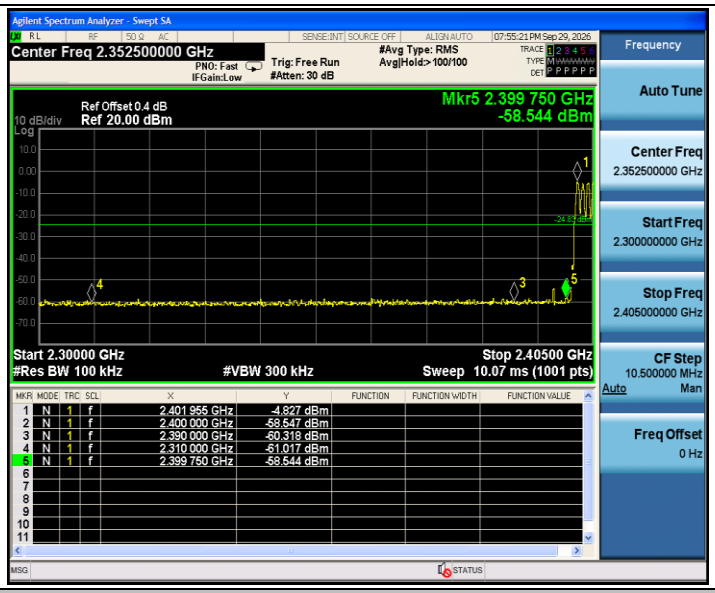
DH5_Ant1_Low_2402



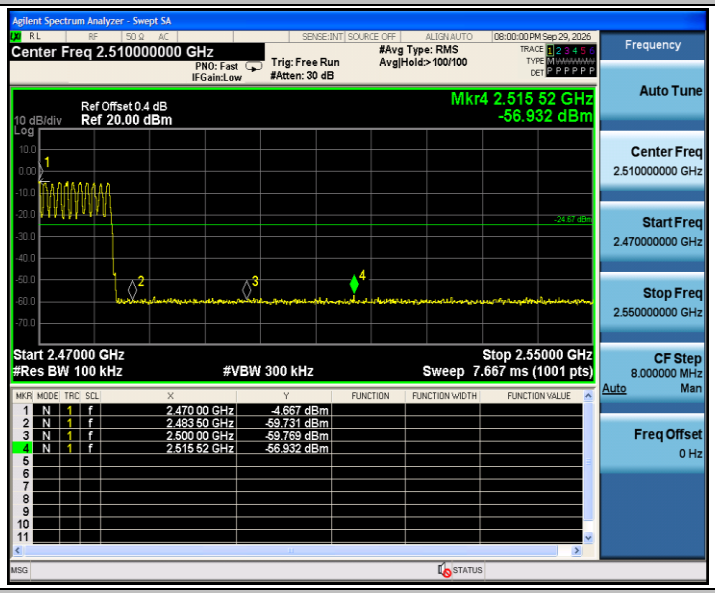
DH5_Ant1_High_2480



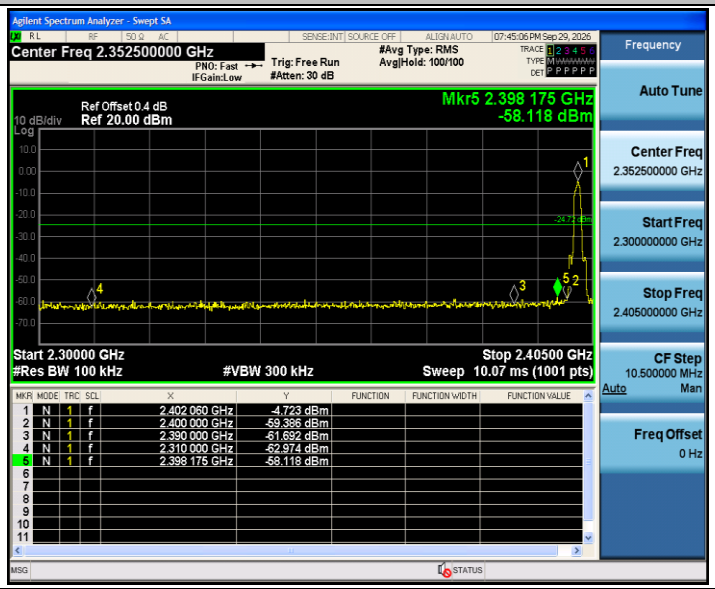
DH5_Ant1_Low_Hop_2402



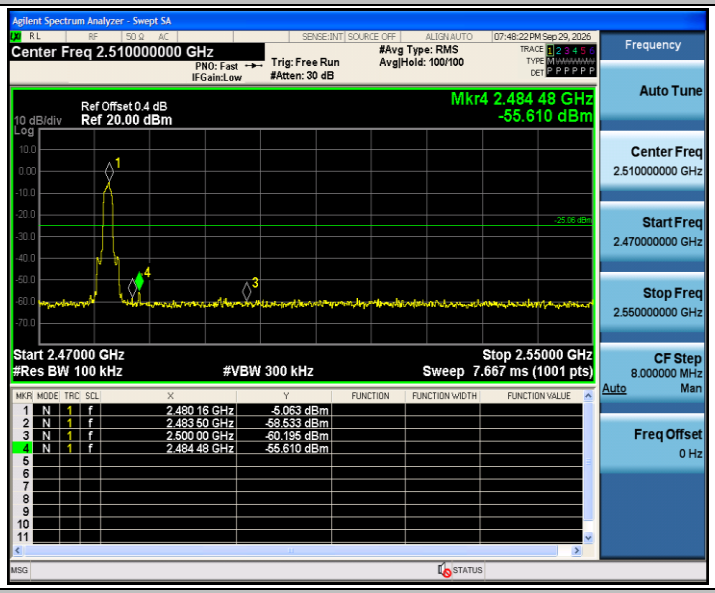
DH5_Ant1_High_Hop_2480



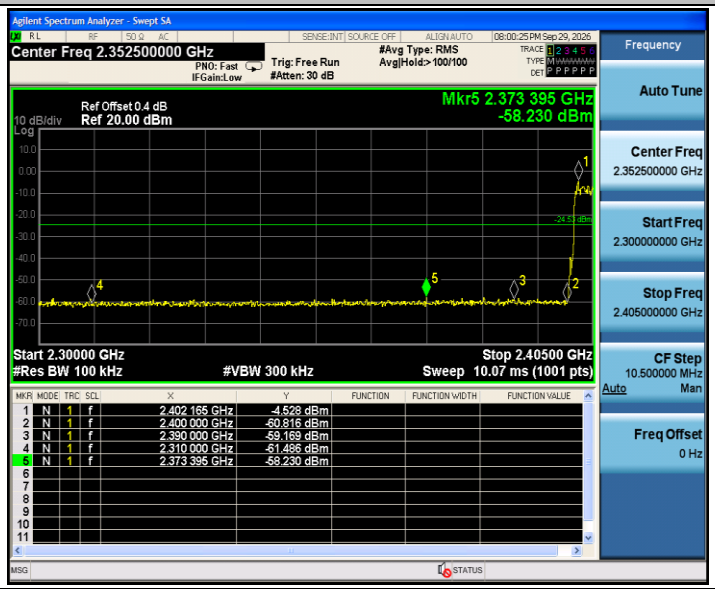
2DH5_Ant1_Low_2402



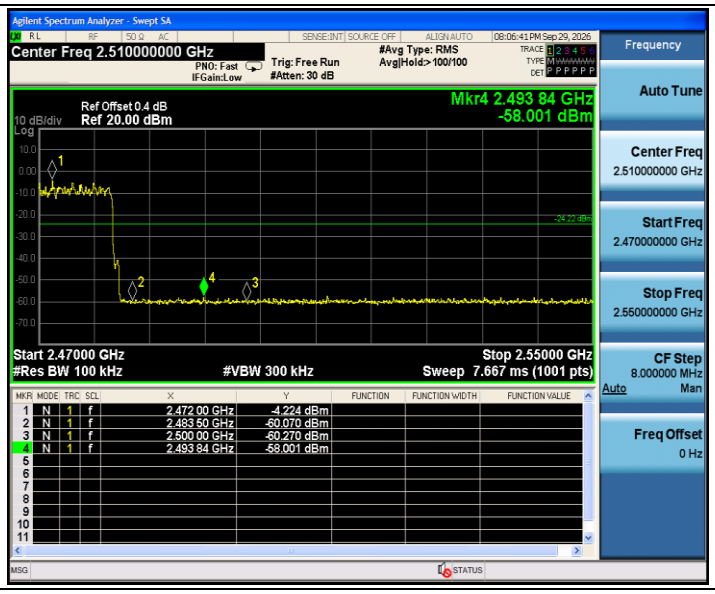
2DH5_Ant1_High_2480



2DH5_Ant1_Low_Hop_2402



2DH5_Ant1_High_Hop_2480

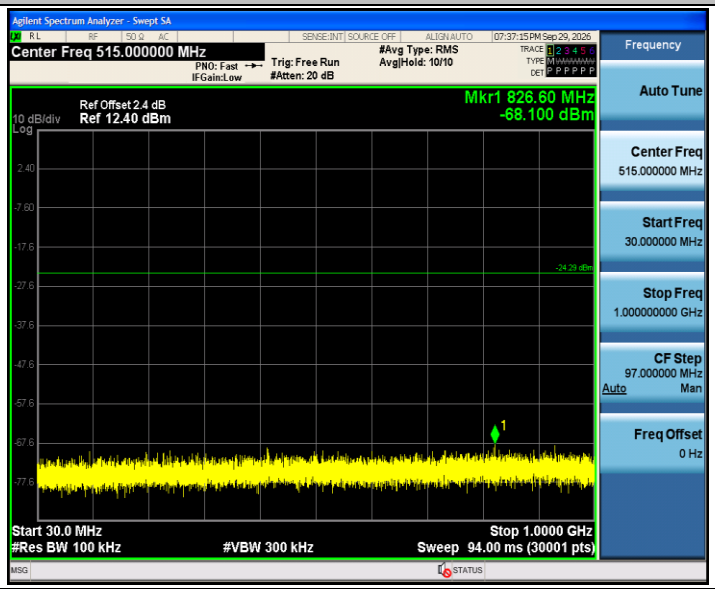

Agilent Spectrum Analyzer - Swept SA
Center Freq 2.510000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 30 dB
#Avg Type: RMS
Avg|Hold:>100/100
08:06:41 PM Sep 29, 2026
Frequency
Ref Offset 0.4 dB
10 dB/div
Ref 20.00 dBm
Log
Mkr4 2.493 84 GHz
-58.001 dBm
-24.22 dBm
Start 2.47000 GHz
#Res BW 100 kHz
#VBW 300 kHz
Stop 2.55000 GHz
Sweep 7.667 ms (1001 pts)
MKR MODE TRC SCL X Y FUNCTION FUNCTION WIDTH FUNCTION VALUE
1 N 1 f 2.472 00 GHz -4.224 dBm
2 N 1 f 2.483 50 GHz -60.070 dBm
3 N 1 f 2.500 00 GHz -60.270 dBm
4 N 1 f 2.493 84 GHz -58.001 dBm
Auto Tune
Center Freq
2.510000000 GHz
Start Freq
2.470000000 GHz
Stop Freq
2.550000000 GHz
CF Step
8.000000 MHz
Auto
Man
Freq Offset
0 Hz
MSG
STATUS

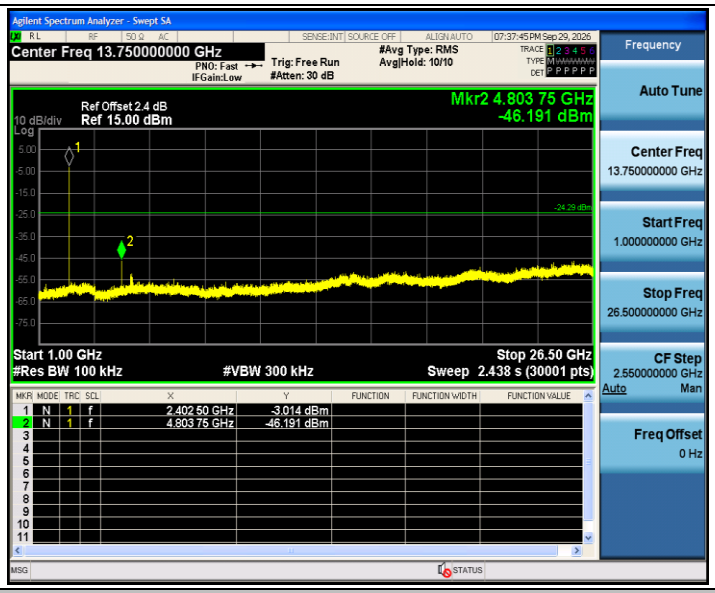
Appendix H: Conducted Spurious Emission

Test Result

TestMode	Antenna	Freq(MHz)	FreqRange [MHz]	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
DH5	Ant1	2402	Reference	-4.29	-4.29	---	PASS
			30~1000	-4.29	-68.1	≤-24.29	PASS
			1000~26500	-4.29	-46.19	≤-24.29	PASS
		2441	Reference	-4.82	-4.82	---	PASS
			30~1000	-4.82	-68.47	≤-24.82	PASS
			1000~26500	-4.82	-41.77	≤-24.82	PASS
		2480	Reference	-5.28	-5.28	---	PASS
			30~1000	-5.28	-69.07	≤-25.28	PASS
			1000~26500	-5.28	-46.57	≤-25.28	PASS
2DH5	Ant1	2402	Reference	-6.03	-6.03	---	PASS
			30~1000	-6.03	-68.57	≤-26.03	PASS
			1000~26500	-6.03	-44.31	≤-26.03	PASS
		2441	Reference	-5.32	-5.32	---	PASS
			30~1000	-5.32	-67.27	≤-25.32	PASS
			1000~26500	-5.32	-46.4	≤-25.32	PASS
		2480	Reference	-5.51	-5.51	---	PASS
			30~1000	-5.51	-68.38	≤-25.51	PASS
			1000~26500	-5.51	-46.61	≤-25.51	PASS

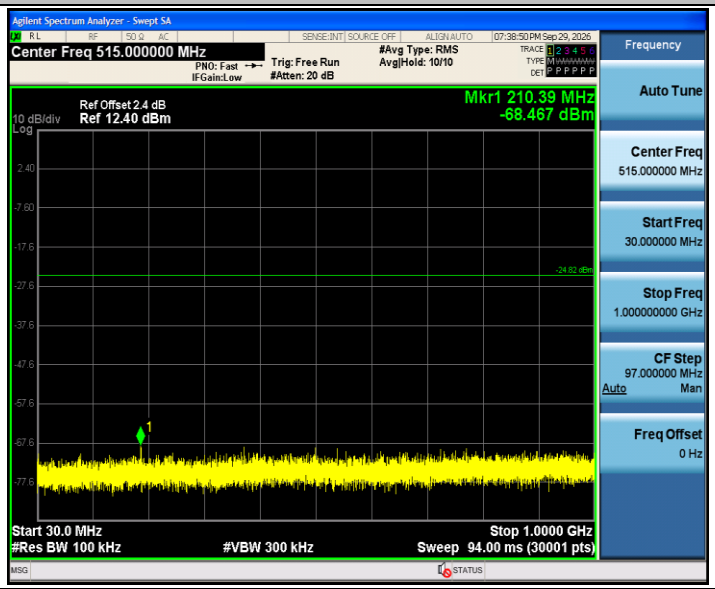
Test Graphs

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



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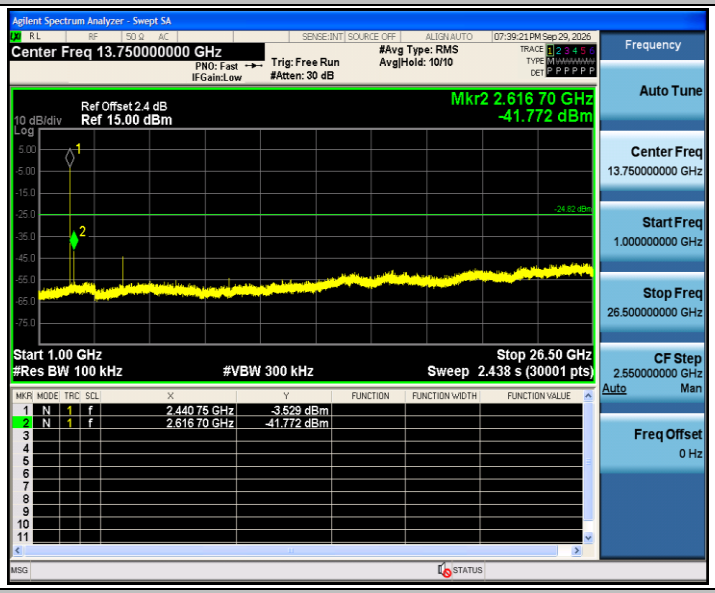
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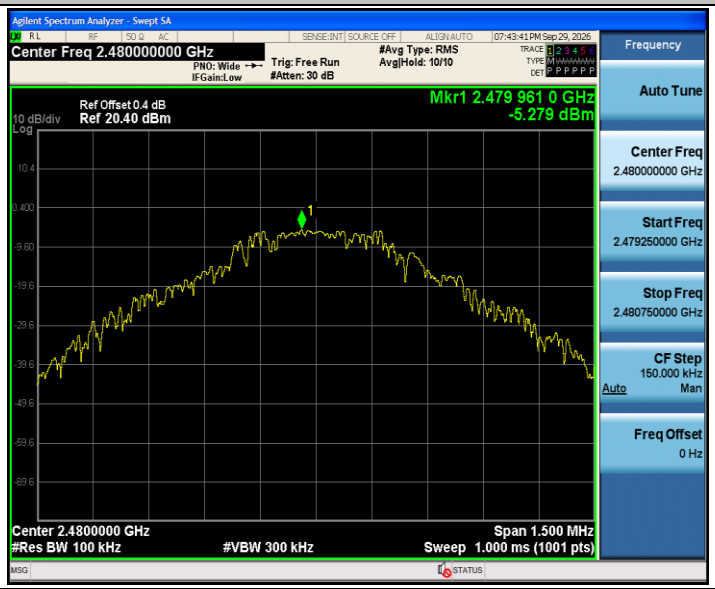
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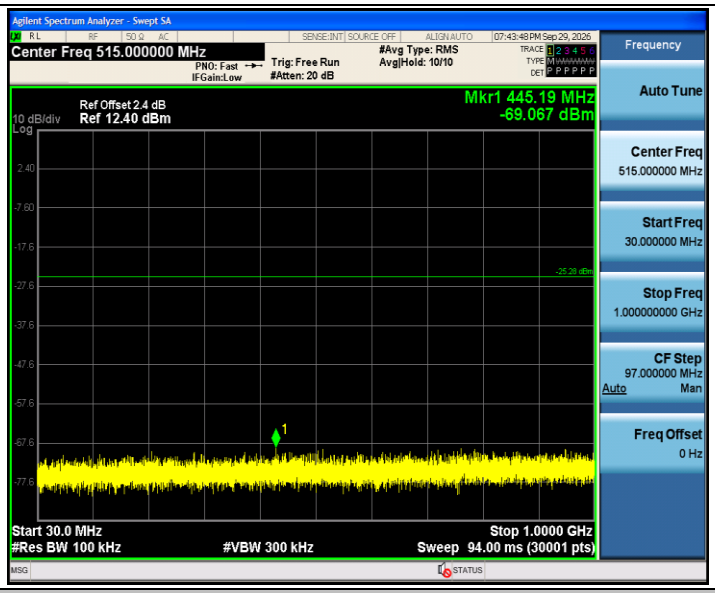
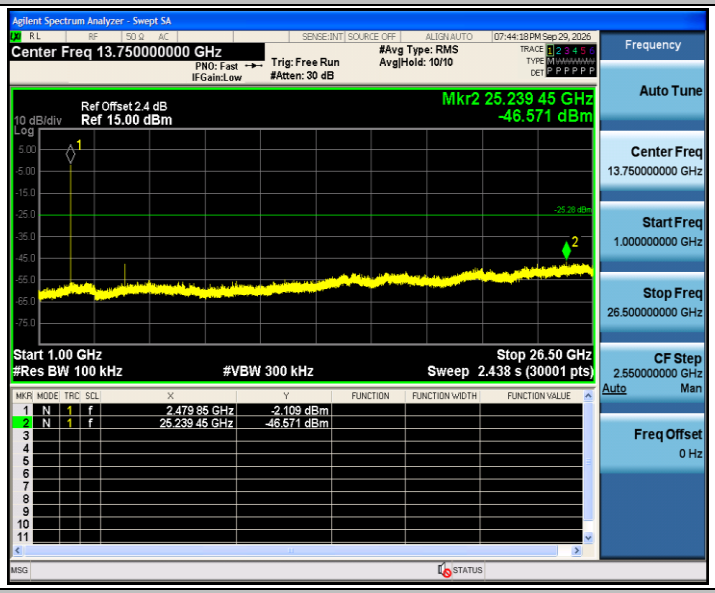


DH5_Ant1_2480_1000~26500



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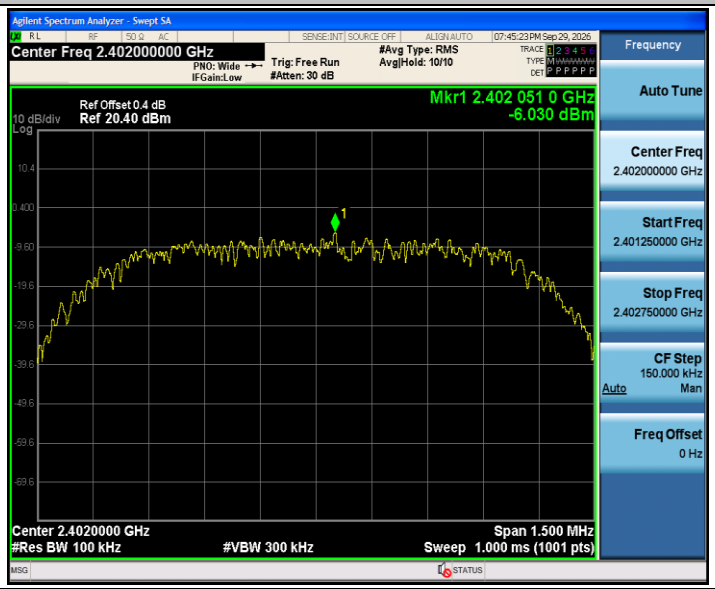

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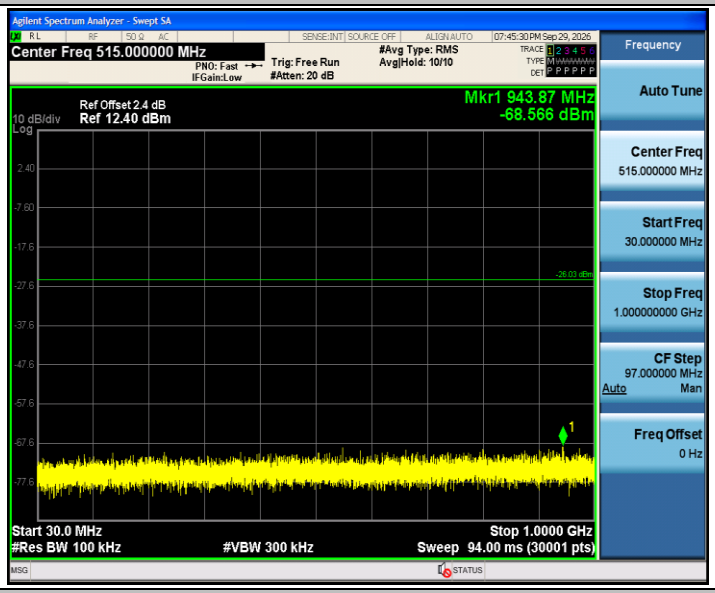
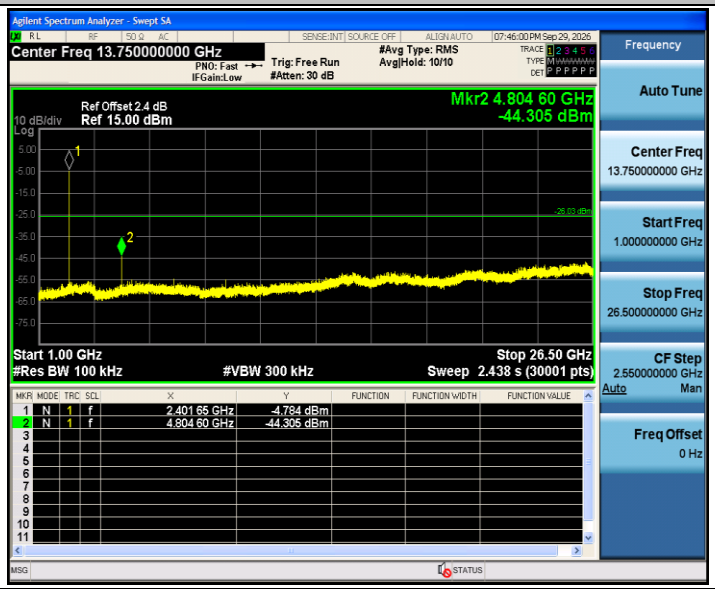

2DH5_Ant1_2402_1000~26500

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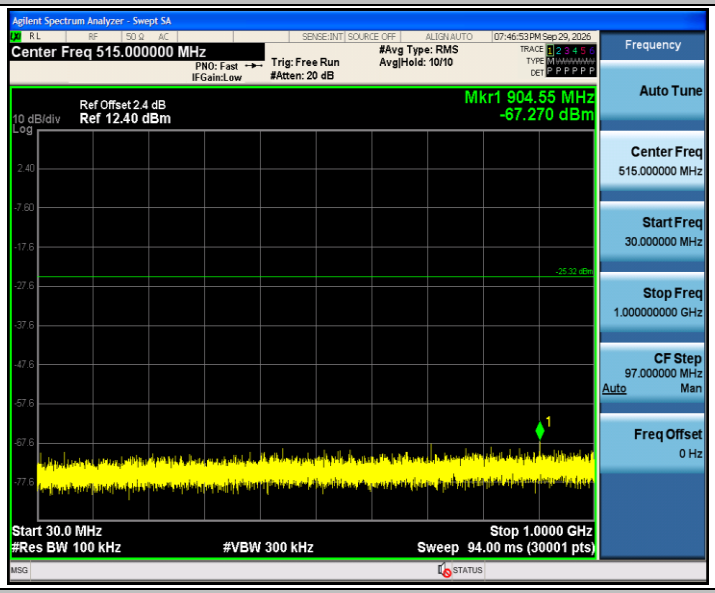
2DH5_Ant1_2441_30~1000



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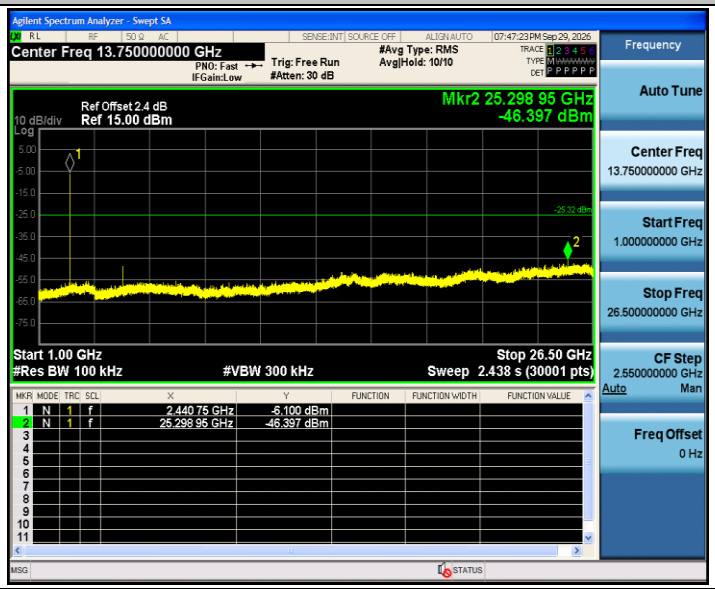

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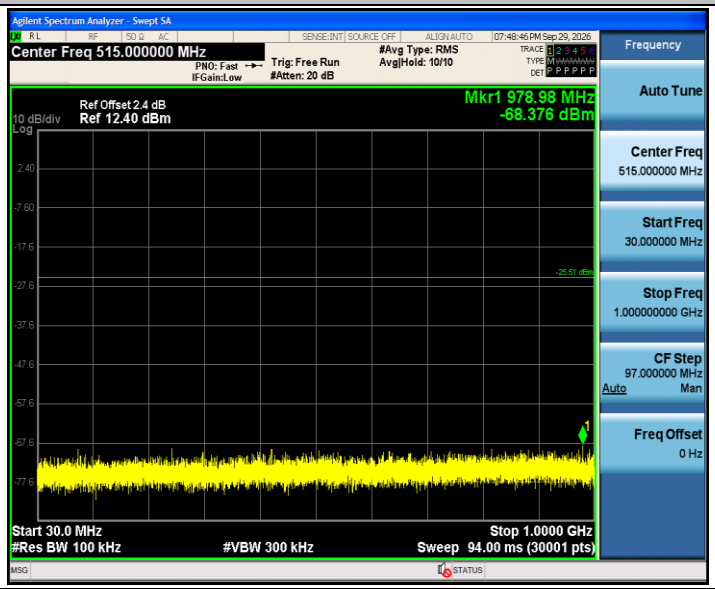
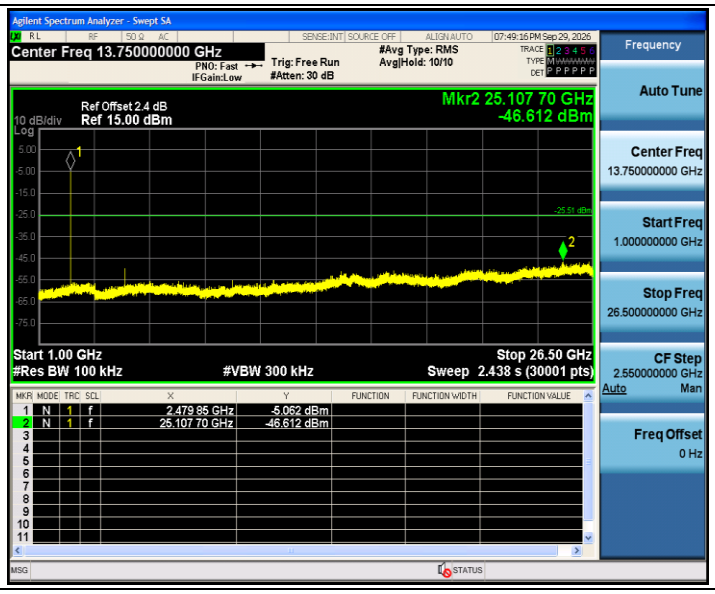

2DH5_Ant1_2480_1000~26500


Agilent Spectrum Analyzer - Swept SA
Center Freq 13.750000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 30 dB
#Avg Type: RMS
Avg|Hold: 10/10
07:49:16 PM Sep 29, 2026
Ref Offset 2.4 dB
10 dB/div
Ref 15.00 dBm
Log
Mkr2 25.107 70 GHz
-46.612 dBm
-25.51 dBm
Start 1.00 GHz
#Res BW 100 kHz
#VBW 300 kHz
Stop 26.50 GHz
Sweep 2.438 s (30001 pts)
1 N 1 f 2.479 85 GHz -5.062 dBm
2 N 1 f 25.107 70 GHz -46.612 dBm
Frequency
Auto Tune
Center Freq
13.750000000 GHz
Start Freq
1.000000000 GHz
Stop Freq
26.500000000 GHz
CF Step
2.550000000 GHz
Auto
Man
Freq Offset
0 Hz
MSG
STATUS

Appendix I: Duty Cycle

Test Result

TestMode	Antenna	Freq(MHz)	ON Time [ms]	Period [ms]	DC [%]	xFactor	Limit	Verdict
DH5	Ant1	2402	2.91	3.75	77.60	1.10	---	---
		2441	2.91	3.75	77.60	1.10	---	---
		2480	2.92	3.75	77.87	1.09	---	---
2DH5	Ant1	2402	2.92	3.76	77.66	1.10	---	---
		2441	2.92	3.76	77.66	1.10	---	---
		2480	2.92	3.75	77.87	1.09	---	---