Appendix A

RF Test Data for BT (Conducted Measurement)

Product Name: Single Hearing PSA

Test Model: PSA5033

Environmental Conditions

Temperature:	23.8° C
Relative Humidity:	52.1%
ATM Pressure:	100.0 kPa
Test Engineer:	Paddi Chen
Supervised by:	Nick Peng

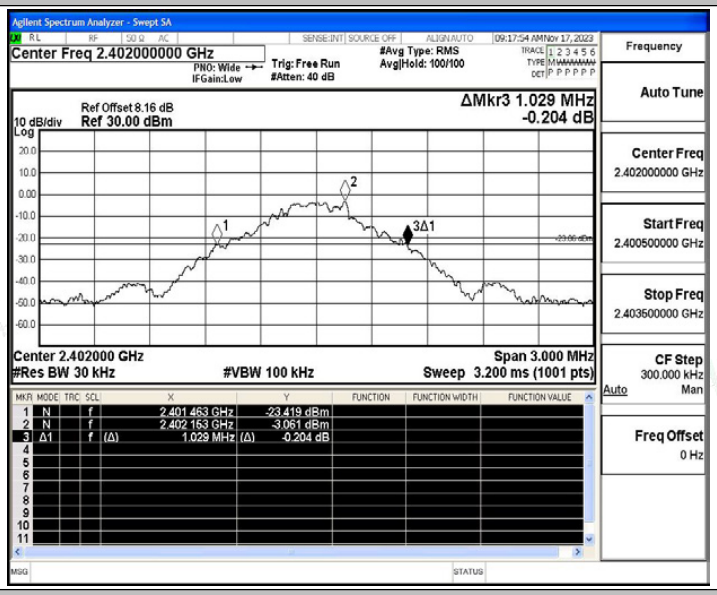
A.1 20dB Emission Bandwidth

Test Result

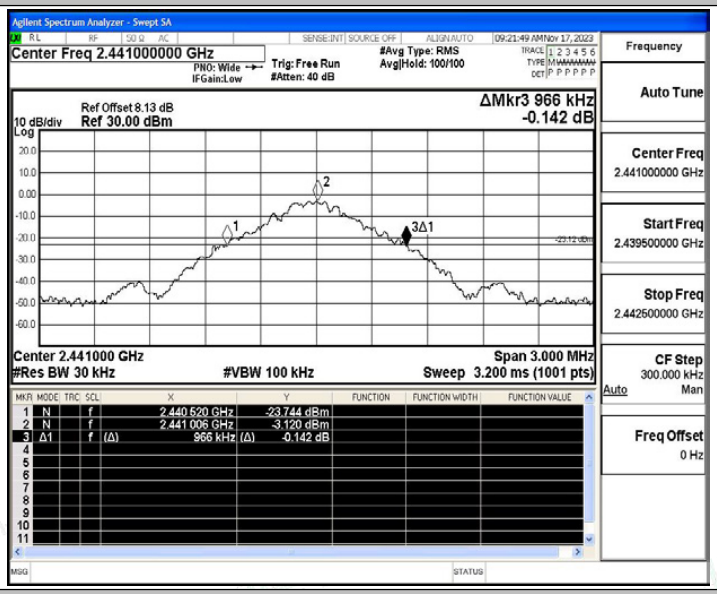
TestMode	Antenna	Channel	20db EBW[MHz]	FL[MHz]	FH[MHz]	Verdict
DH5	Ant1	2402	1.029	2401.463	2402.492	---
		2441	0.966	2440.520	2441.486	---
		2480	0.969	2479.514	2480.483	---
2DH5	Ant1	2402	1.287	2401.355	2402.642	---
		2441	1.293	2440.349	2441.642	---
		2480	1.287	2479.355	2480.642	---
3DH5	Ant1	2402	1.296	2401.343	2402.639	---
		2441	1.299	2440.337	2441.636	---
		2480	1.308	2479.337	2480.645	---

Test Graphs

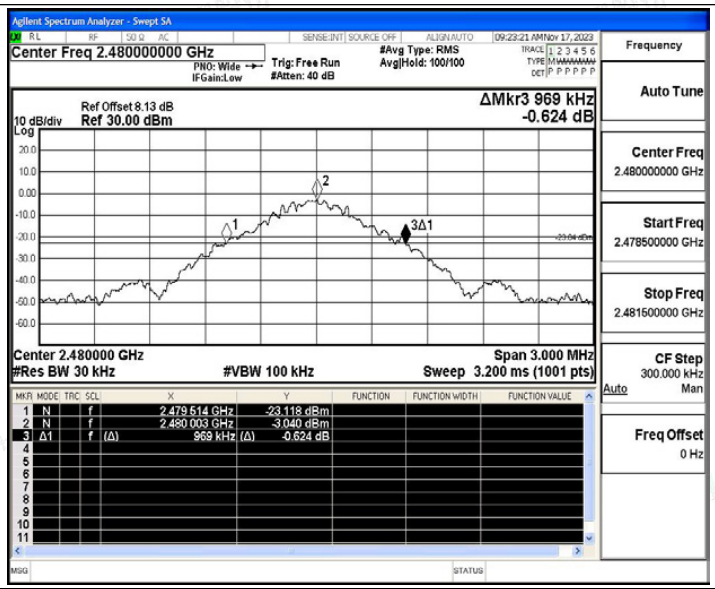
DH5_Ant1_2402



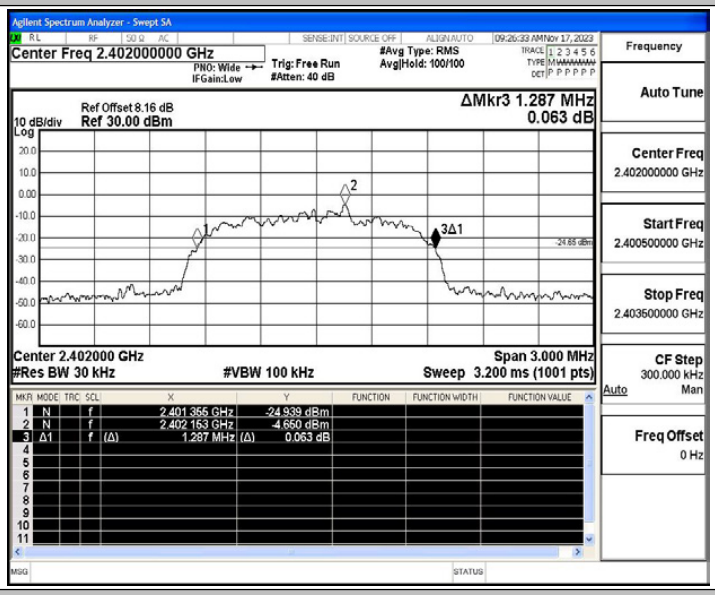
DH5_Ant1_2441



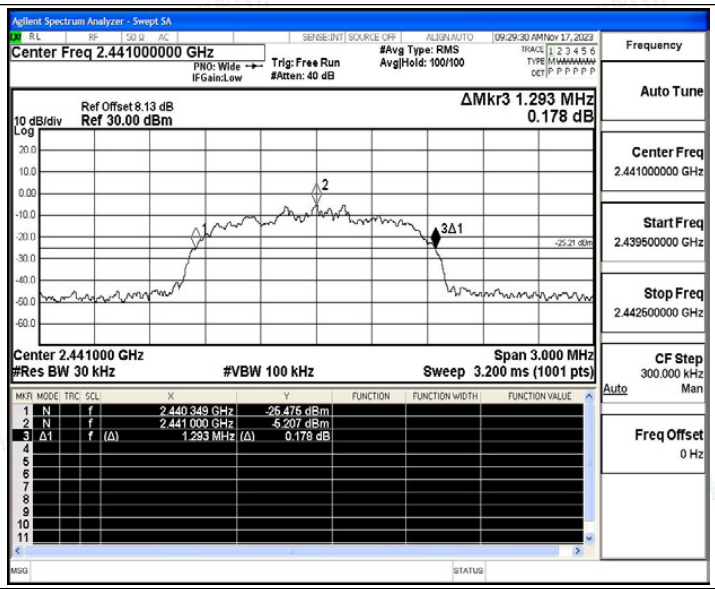
DH5_Ant1_2480



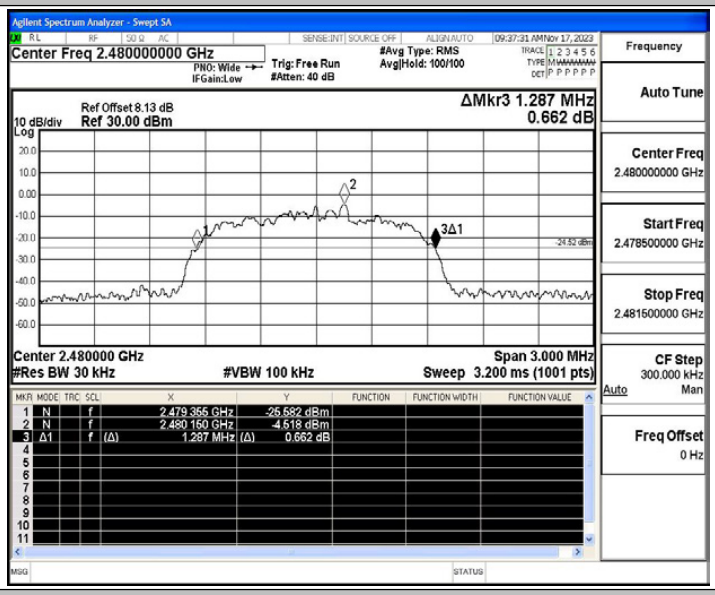
2DH5_Ant1_2402



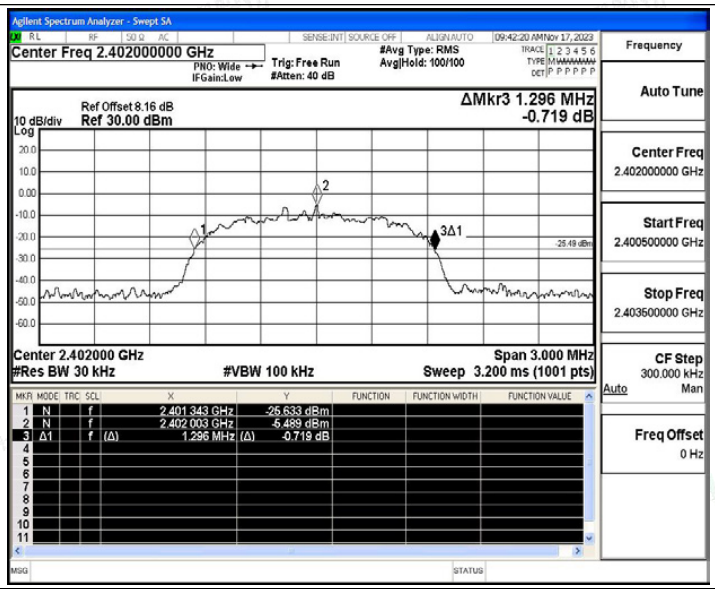
2DH5_Ant1_2441



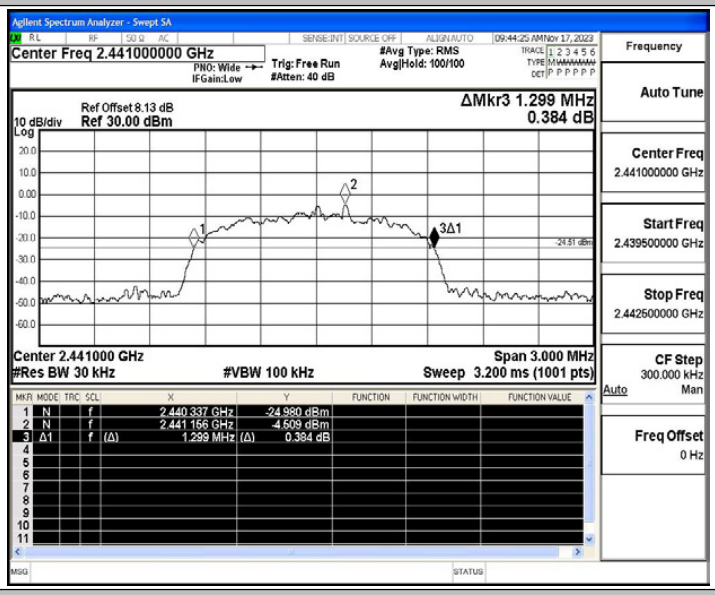
2DH5_Ant1_2480



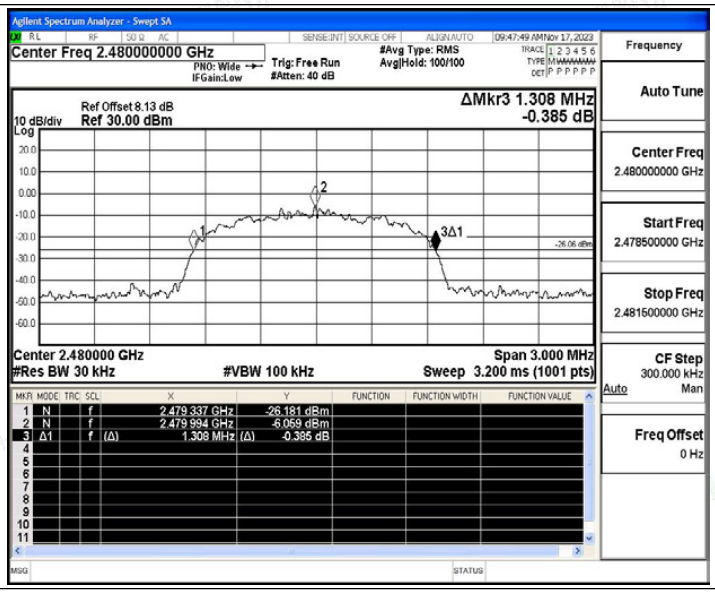
3DH5_Ant1_2402



3DH5_Ant1_2441



3DH5_Ant1_2480


Agilent Spectrum Analyzer - Swept SA
Center Freq 2.480000000 GHz
PNO: Wide
IFGain:Low
Trig: Free Run
#Atten: 40 dB
#Avg Type: RMS
Avg|Hold: 100/100
09:47:49 AM Nov 17, 2023
Frequency
Auto Tune
Ref Offset 8.13 dB
10 dB/div Ref 30.00 dBm
Log
ΔMkr3 1.308 MHz
-0.385 dB
Center Freq
2.480000000 GHz
Start Freq
2.478500000 GHz
Stop Freq
2.481500000 GHz
Center 2.480000 GHz
#Res BW 30 kHz
#VBW 100 kHz
Span 3.000 MHz
Sweep 3.200 ms (1001 pts)
CF Step
300.000 kHz
Auto Man
Freq Offset
0 Hz
1 N 1 f 2.479 337 GHz -26.181 dBm
2 N 1 f 2.479 994 GHz -6.059 dBm
3 Δ1 f (Δ) 1.308 MHz (Δ) -0.385 dB

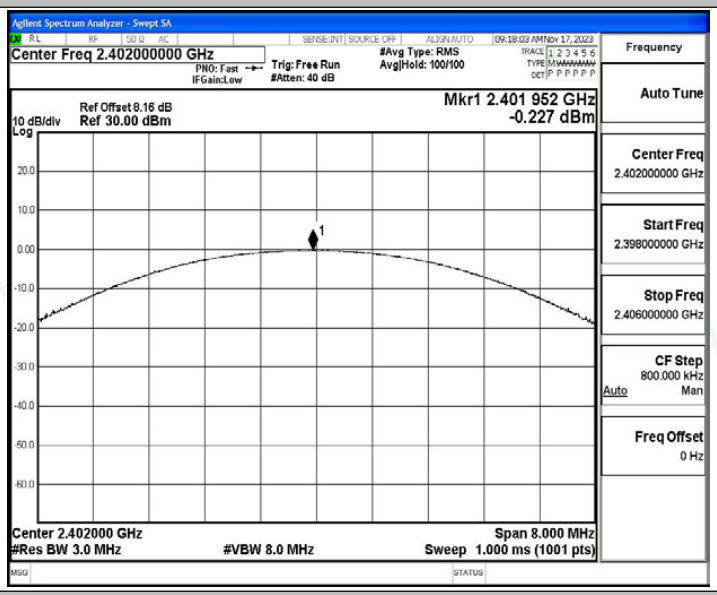
A.2 Maximum conducted output power

Test Result

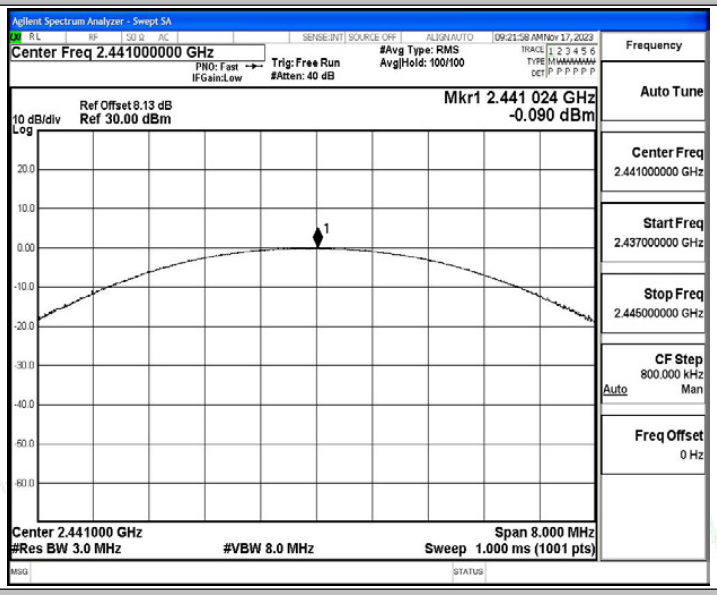
TestMode	Antenna	Channel	Result[dBm]	Limit[dBm]	Verdict
DH5	Ant1	2402	-0.23	≤21	PASS
		2441	-0.09	≤21	PASS
		2480	0.06	≤21	PASS
2DH5	Ant1	2402	-0.47	≤21	PASS
		2441	-0.37	≤21	PASS
		2480	-0.38	≤21	PASS
3DH5	Ant1	2402	-0.5	≤21	PASS
		2441	-0.28	≤21	PASS
		2480	-0.21	≤21	PASS

Test Graphs

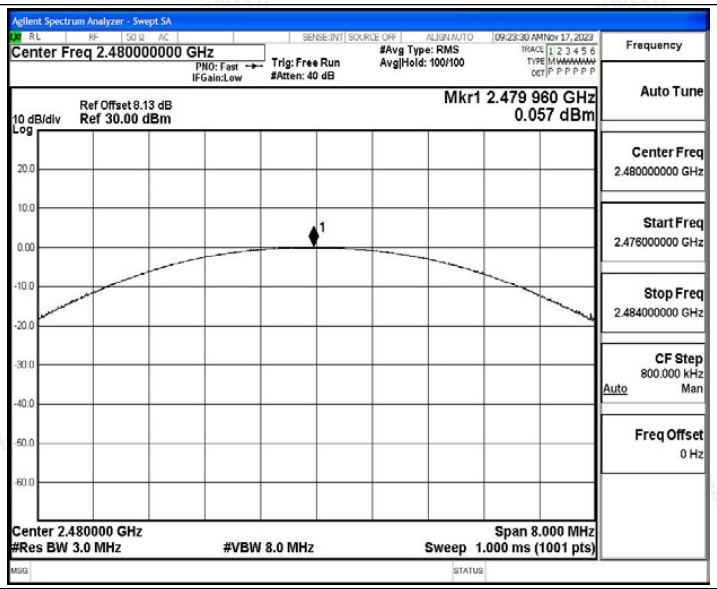
DH5_Ant1_2402



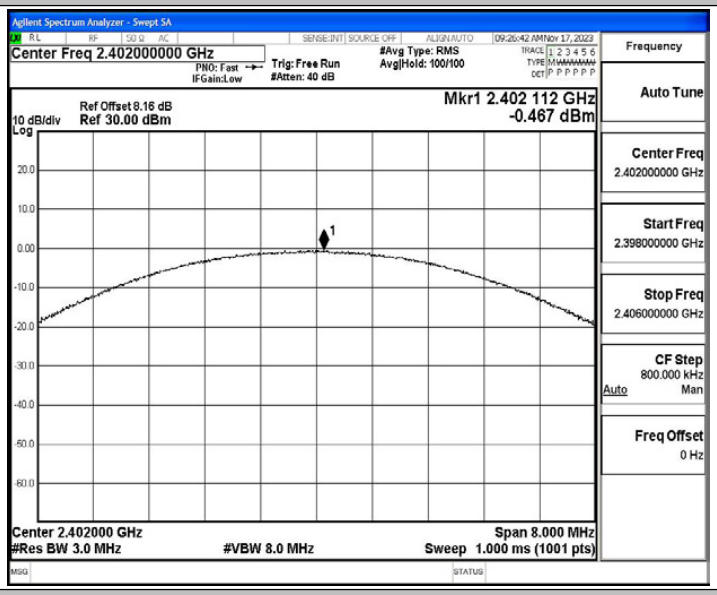
DH5_Ant1_2441



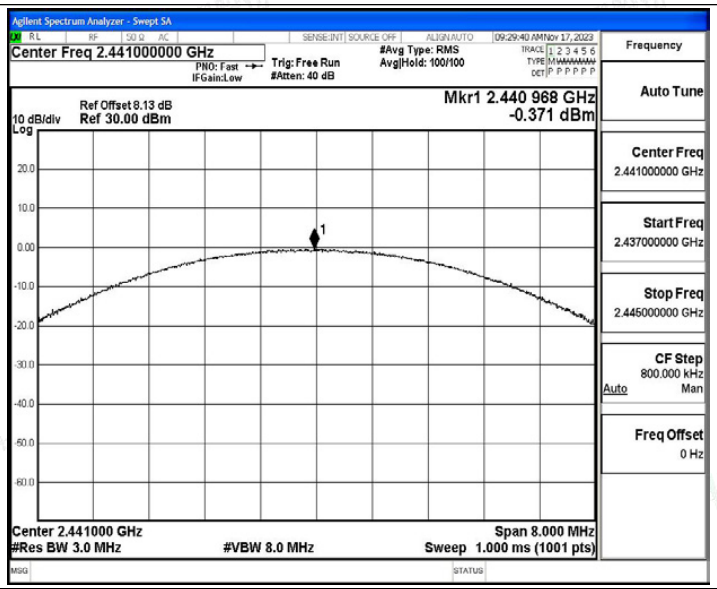
DH5_Ant1_2480



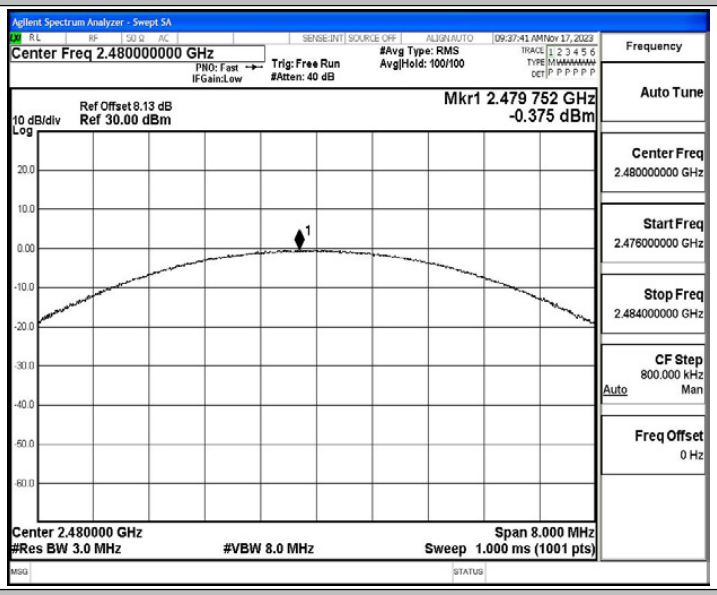
2DH5_Ant1_2402



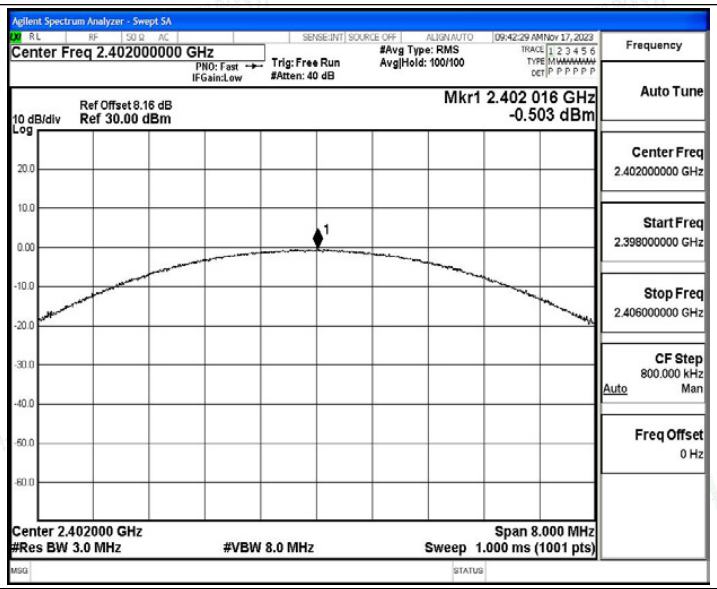
2DH5_Ant1_2441



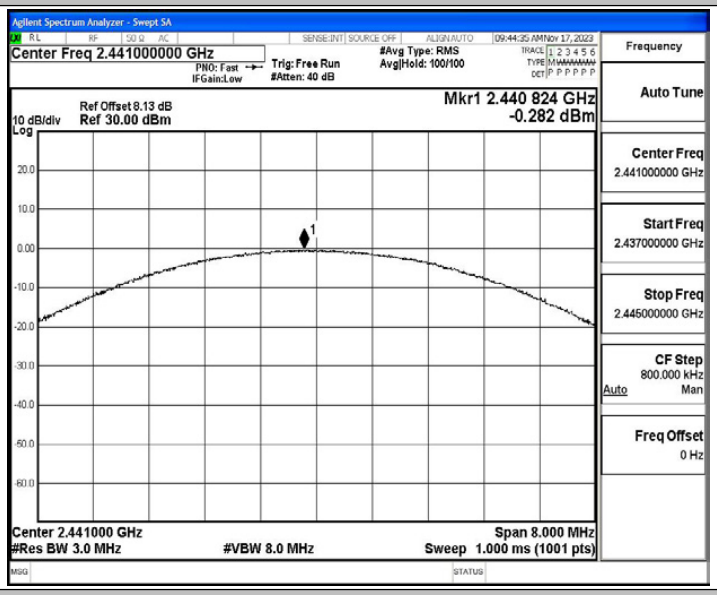
2DH5_Ant1_2480



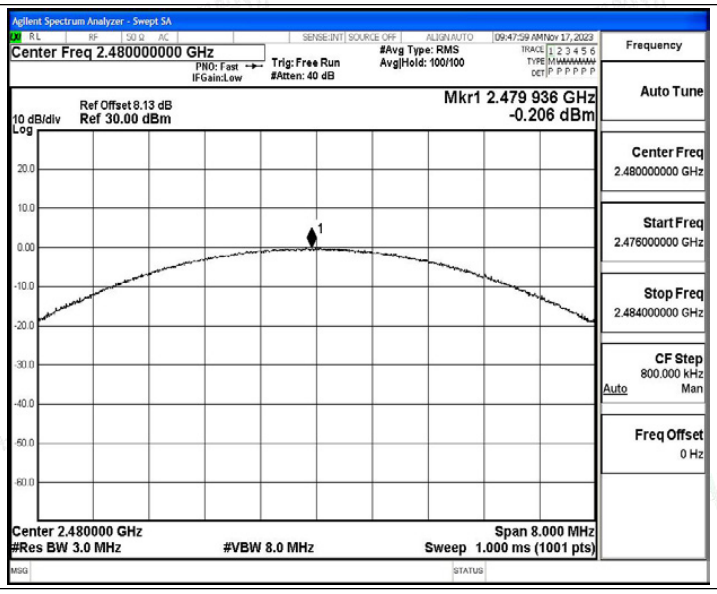
3DH5_Ant1_2402



3DH5_Ant1_2441



3DH5_Ant1_2480


Agilent Spectrum Analyzer - Swept SA
Center Freq 2.480000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 40 dB
#Avg Type: RMS
Avg|Hold: 100/100
09:47:59 AM Nov 17, 2023
Frequency
Auto Tune
Ref Offset 8.13 dB
10 dB/div Ref 30.00 dBm
Log
Mkr1 2.479 936 GHz
-0.206 dBm
Center Freq
2.480000000 GHz
Start Freq
2.476000000 GHz
Stop Freq
2.484000000 GHz
CF Step
800.000 kHz
Auto Man
Freq Offset
0 Hz
Center 2.480000 GHz
#Res BW 3.0 MHz
#VBW 8.0 MHz
Span 8.000 MHz
Sweep 1.000 ms (1001 pts)

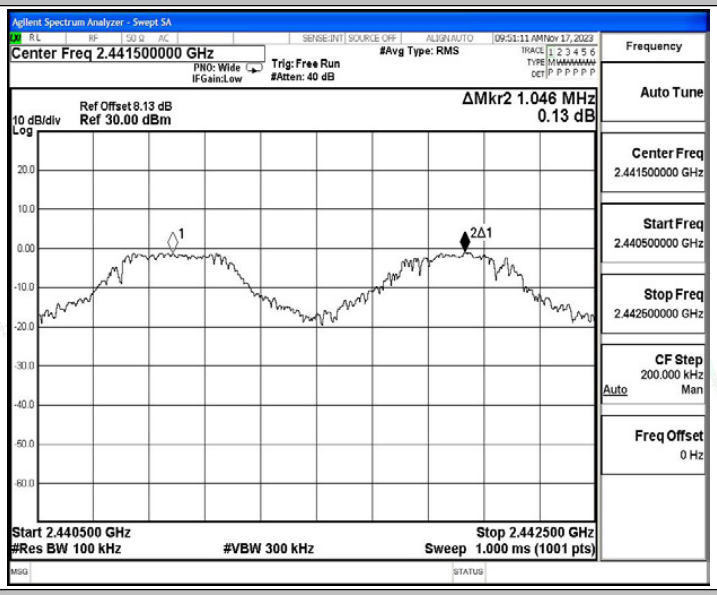
A.3 Carrier frequency separation

Test Result

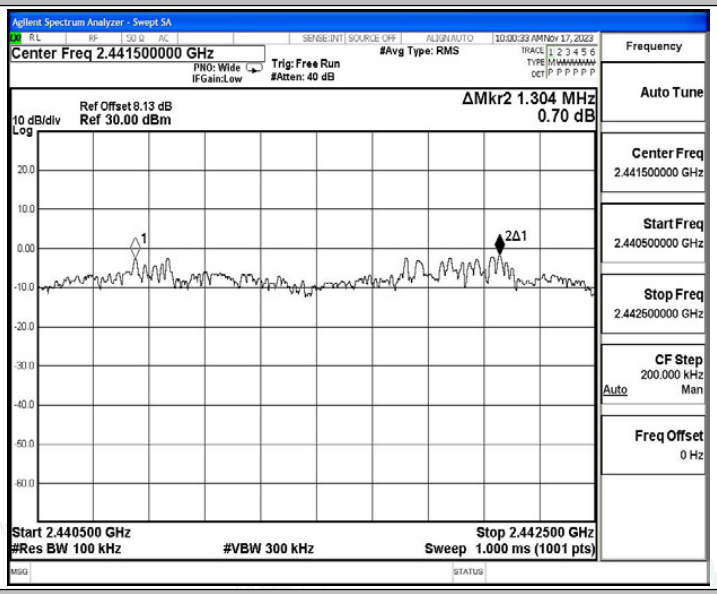
TestMode	Antenna	Channel	Result[MHz]	Limit[MHz]	Verdict
DH5	Ant1	Hop	1.046	≥1.029	PASS
2DH5	Ant1	Hop	1.304	≥1.293	PASS
3DH5	Ant1	Hop	1.132	≥0.872	PASS

Test Graphs

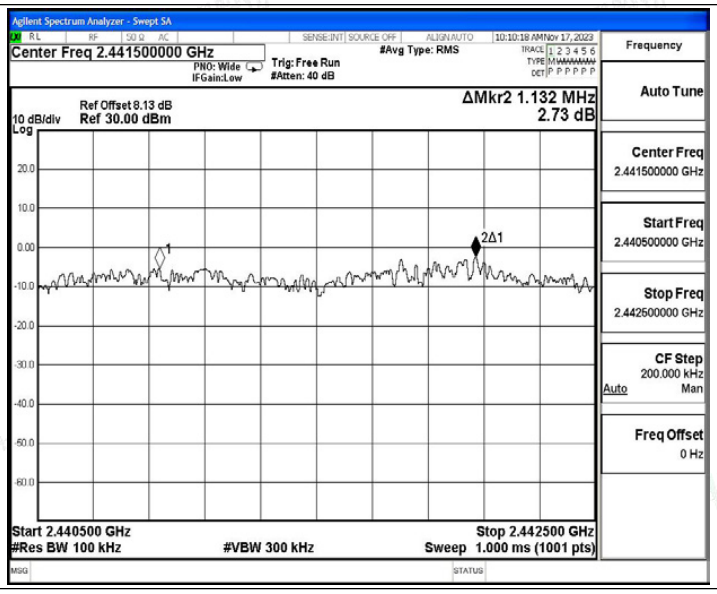
DH5_Ant1_Hop



2DH5_Ant1_Hop



3DH5_Ant1_Hop


Agilent Spectrum Analyzer - Swept SA
Center Freq 2.441500000 GHz
PNO: Wide
IFGain:Low
Trig: Free Run
#Atten: 40 dB
#Avg Type: RMS
10:10:18 AM Nov 17, 2023
Frequency
Auto Tune
Ref Offset 8.13 dB
10 dB/div Ref 30.00 dBm
Log
ΔMkr2 1.132 MHz
2.73 dB
Center Freq
2.441500000 GHz
Start Freq
2.440500000 GHz
Stop Freq
2.442500000 GHz
CF Step
200.000 kHz
Auto Man
Freq Offset
0 Hz
Start 2.440500 GHz
#Res BW 100 kHz
#VBW 300 kHz
Stop 2.442500 GHz
Sweep 1.000 ms (1001 pts)

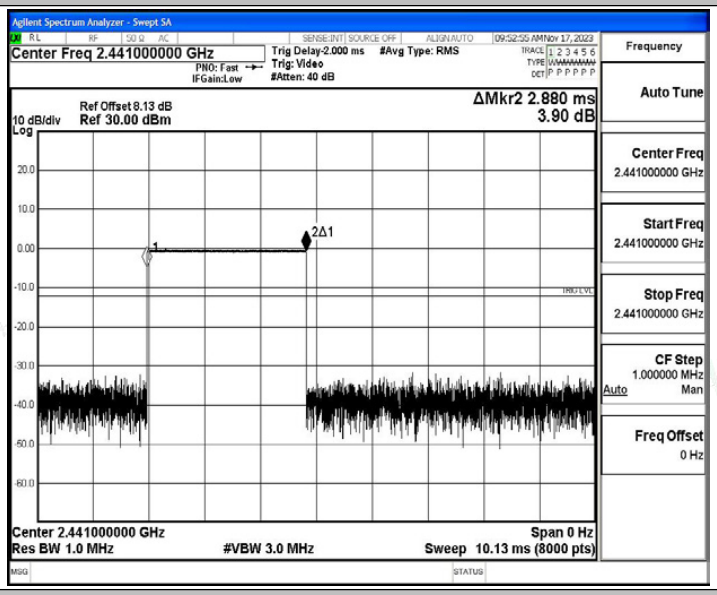
A.4 Time of occupancy

Test Result

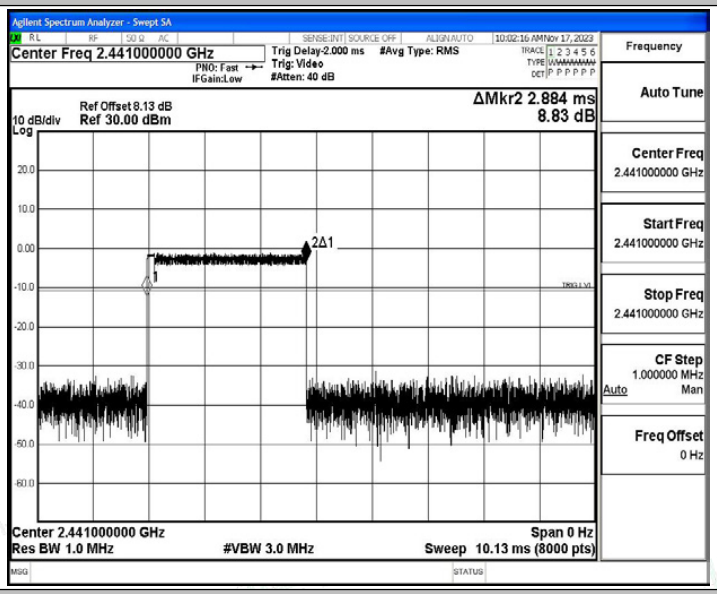
TestMode	Antenna	Channel	BurstWidth [ms]	TotalHops [Num]	Result[s]	Limit[s]	Verdict
DH5	Ant1	Hop	2.880	106.67	0.307	≤0.4	PASS
2DH5	Ant1	Hop	2.884	106.67	0.308	≤0.4	PASS
3DH5	Ant1	Hop	2.885	106.67	0.308	≤0.4	PASS

Test Graphs

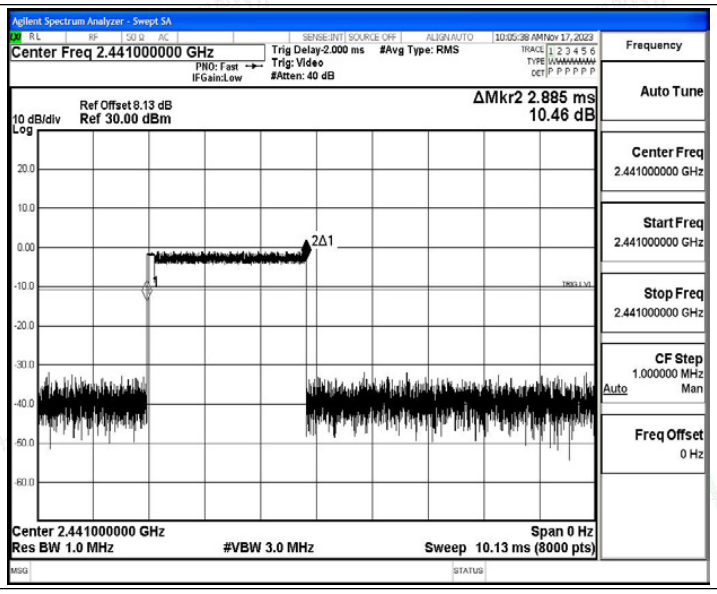
DH5_Ant1_Hop



2DH5_Ant1_Hop



3DH5_Ant1_Hop


Agilent Spectrum Analyzer - Swept SA
Center Freq 2.441000000 GHz
PNO: Fast
IFGain:Low
Trig Delay-2.000 ms
Trig: Video
#Atten: 40 dB
#Avg Type: RMS
Ref Offset 8.13 dB
10 dB/div Ref 30.00 dBm
Log
ΔMkr2 2.885 ms
10.46 dB
2Δ1
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

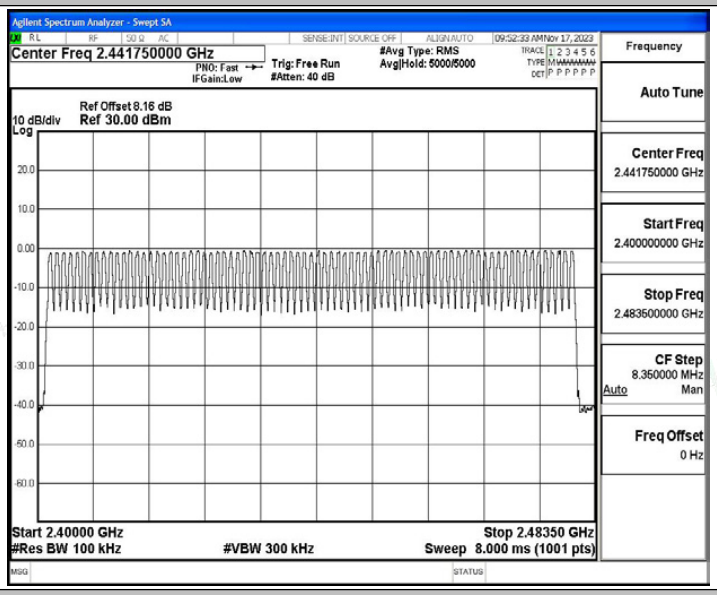
A.5 Number of hopping channels

Test Result

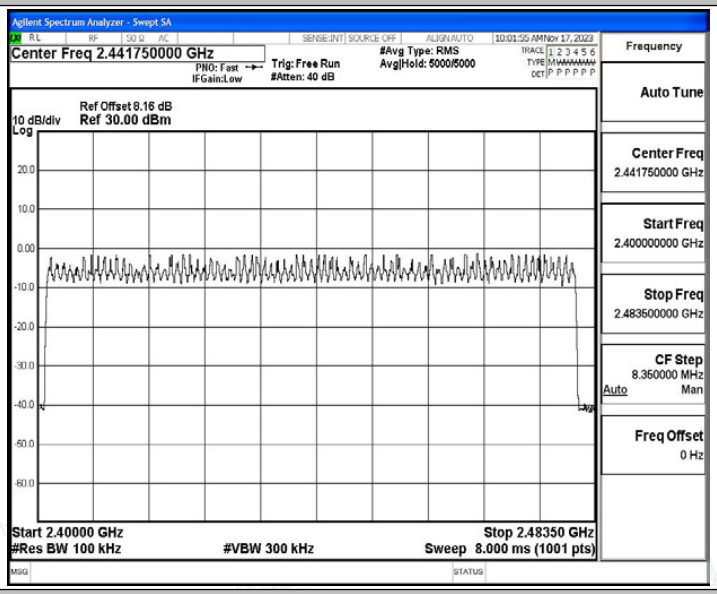
TestMode	Antenna	Channel	Result[Num]	Limit[Num]	Verdict
DH5	Ant1	Hop	79	≥15	PASS
2DH5	Ant1	Hop	79	≥15	PASS
3DH5	Ant1	Hop	79	≥15	PASS

Test Graphs

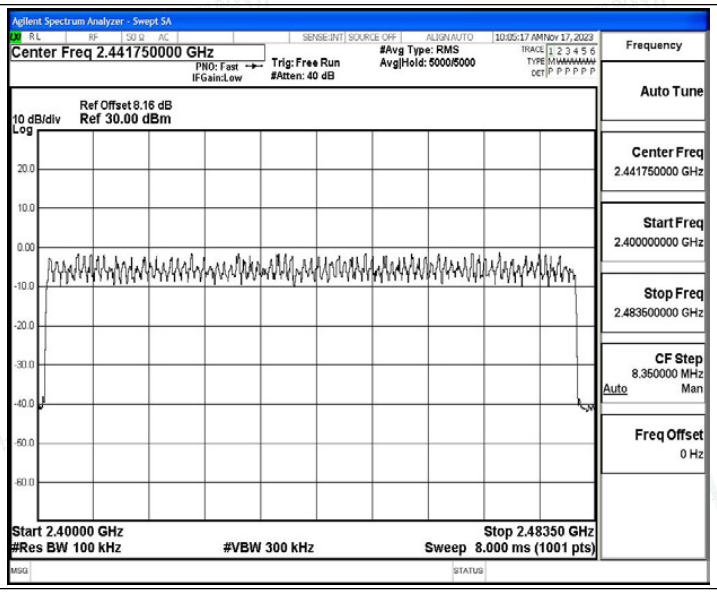
DH5_Ant1_Hop



2DH5_Ant1_Hop



3DH5_Ant1_Hop


Agilent Spectrum Analyzer - Swept SA
Center Freq 2.441750000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 40 dB
#Avg Type: RMS
Avg|Hold: 5000/5000
10:05:17 AM Nov 17, 2023
Ref Offset 8.16 dB
10 dB/div Ref 30.00 dBm
Log
20.0
10.0
0.00
-10.0
-20.0
-30.0
-40.0
-50.0
-60.0
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

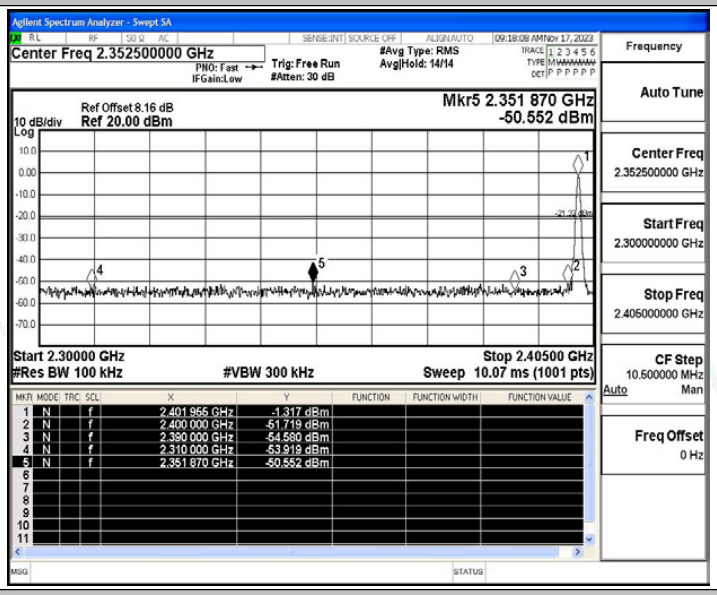
A.6 Band edge measurements

Test Result

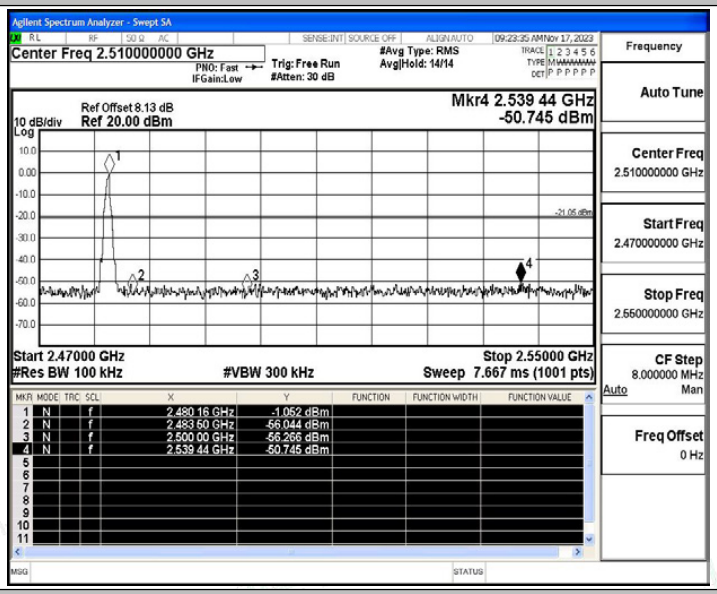
TestMode	Antenna	ChName	Channel	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
DH5	Ant1	Low	2402	-1.32	-50.55	≤-21.32	PASS
		High	2480	-1.05	-50.75	≤-21.05	PASS
		Low	Hop_2402	-1.41	-49.88	≤-21.41	PASS
		High	Hop_2480	-0.67	-49.36	≤-20.67	PASS
2DH5	Ant1	Low	2402	-6.40	-50.44	≤-26.4	PASS
		High	2480	-5.28	-51	≤-25.28	PASS
		Low	Hop_2402	-3.17	-49.51	≤-23.17	PASS
		High	Hop_2480	-1.69	-48.97	≤-21.69	PASS
3DH5	Ant1	Low	2402	-2.98	-51.13	≤-22.98	PASS
		High	2480	-1.52	-51.06	≤-21.52	PASS
		Low	Hop_2402	-2.39	-49.73	≤-22.39	PASS
		High	Hop_2480	-2.01	-48.99	≤-22.01	PASS

Test Graphs

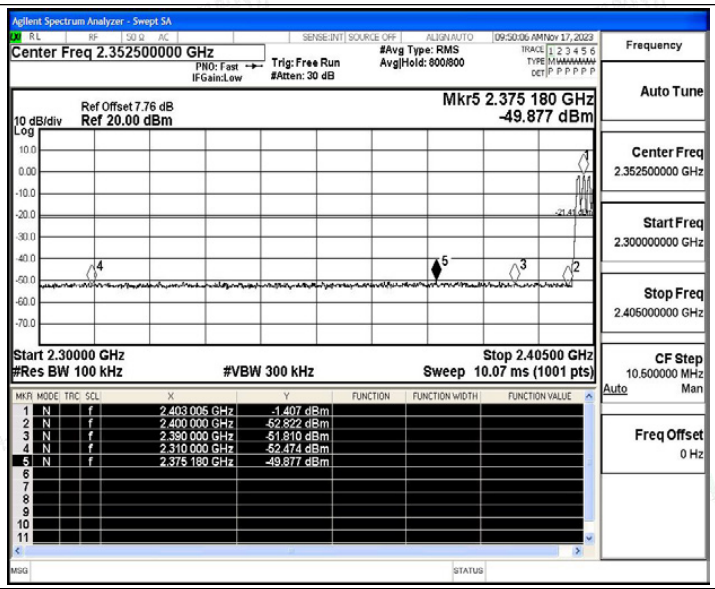
DH5_Ant1_Low_2402



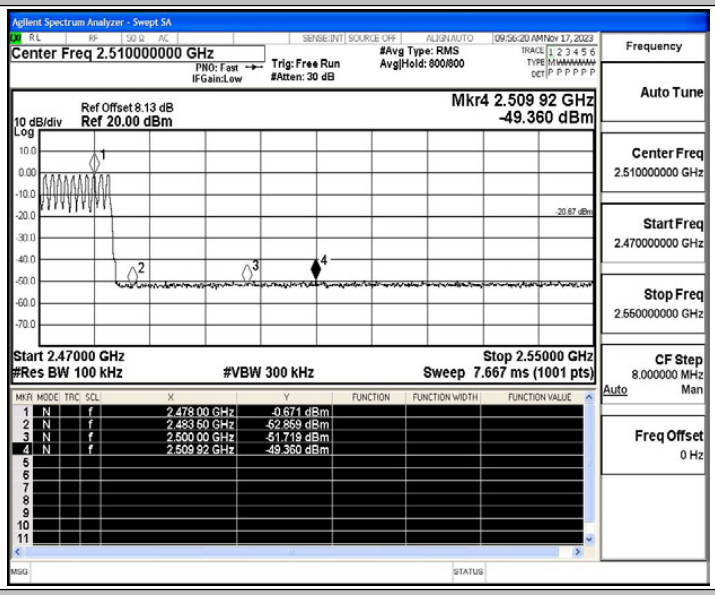
DH5_Ant1_High_2480



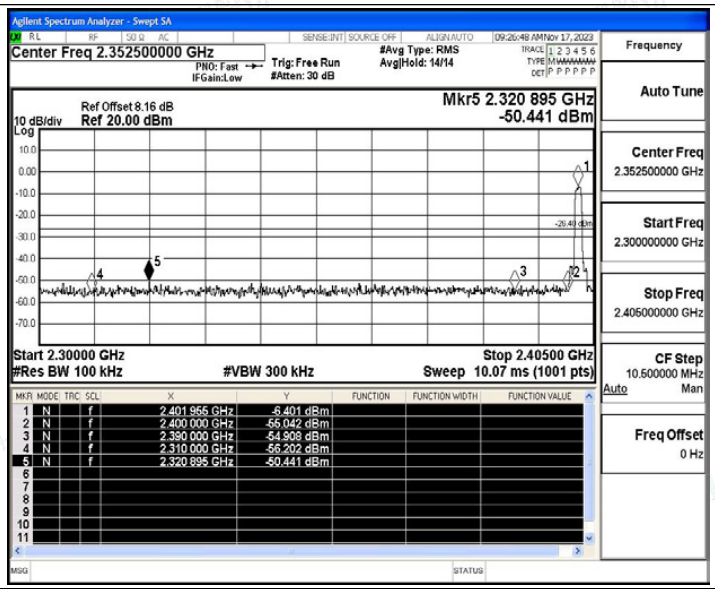
DH5_Ant1_Low_Hop_2402



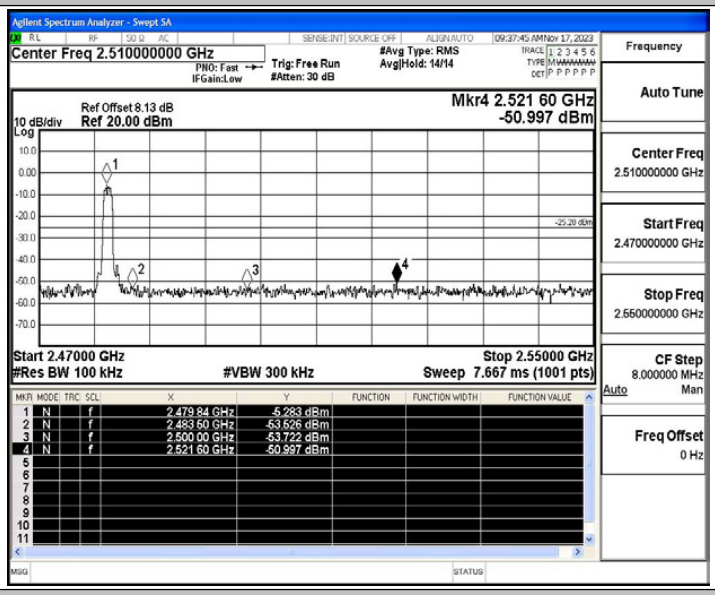
DH5_Ant1_High_Hop_2480



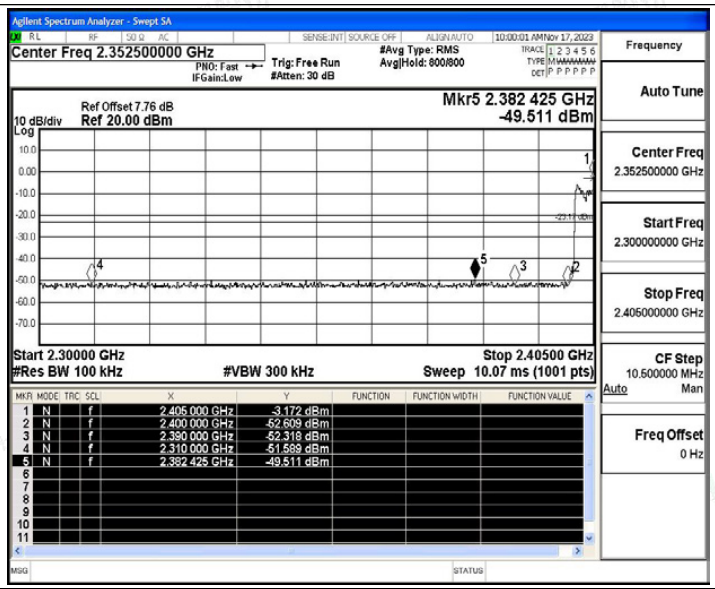
2DH5_Ant1_Low_2402



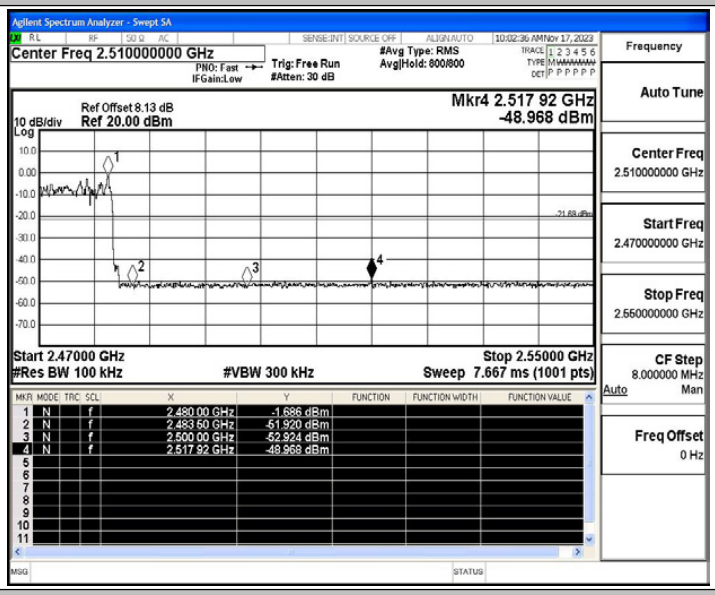
2DH5_Ant1_High_2480



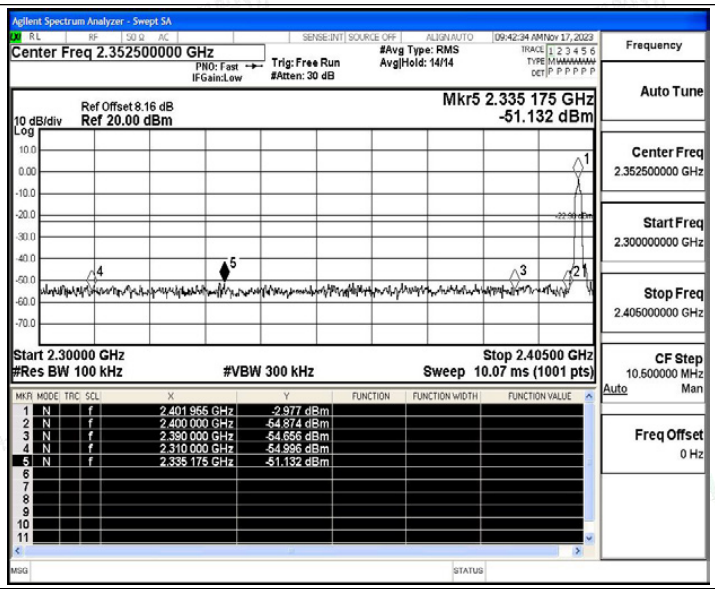
2DH5_Ant1_Low_Hop_2402



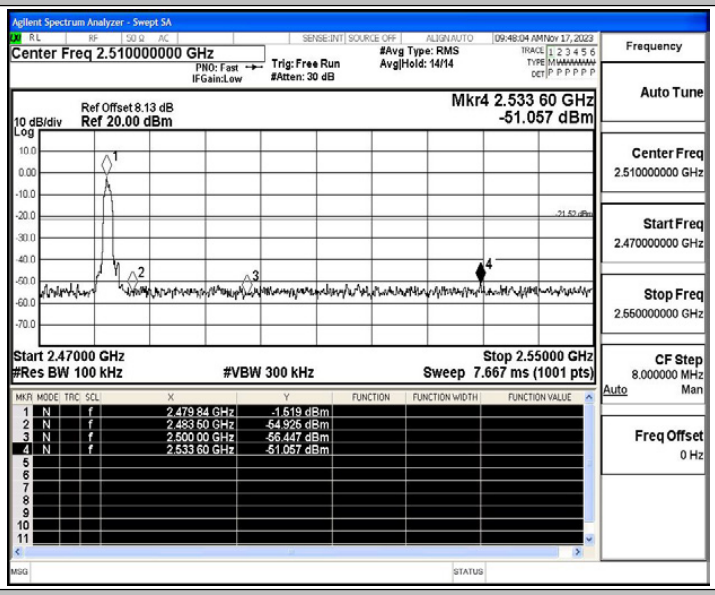
2DH5_Ant1_High_Hop_2480



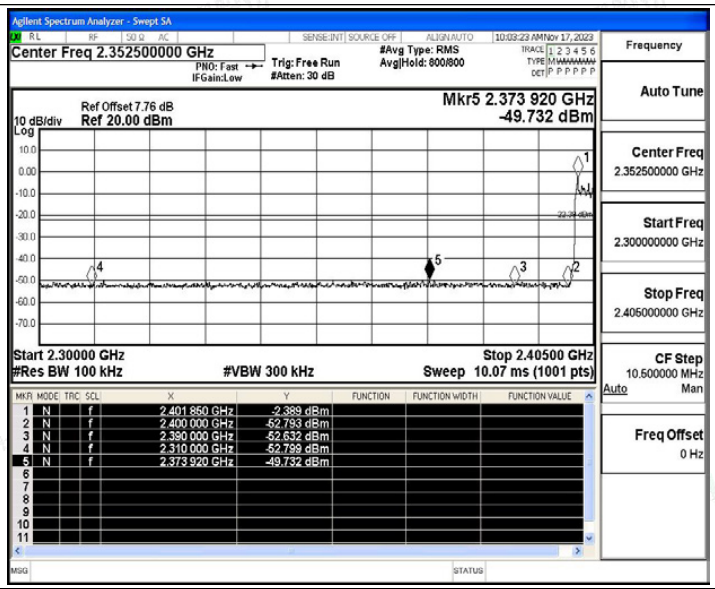
3DH5_Ant1_Low_2402



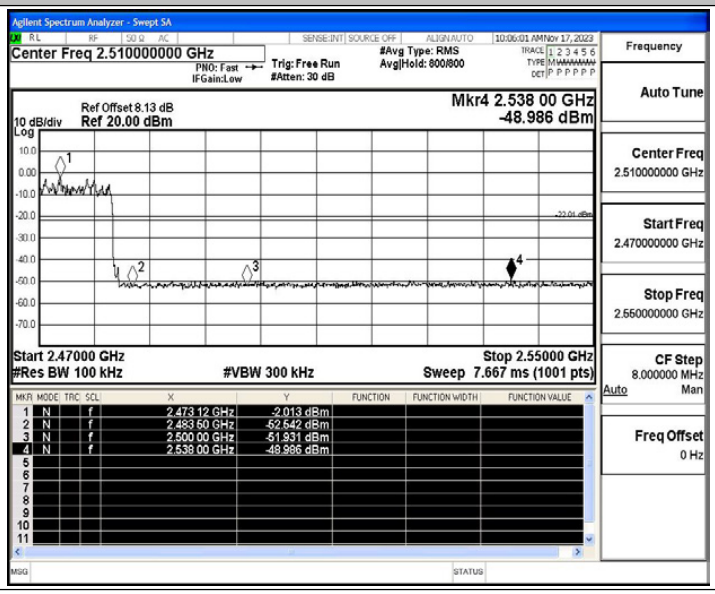
3DH5_Ant1_High_2480



3DH5_Ant1_Low_Hop_2402



3DH5_Ant1_High_Hop_2480



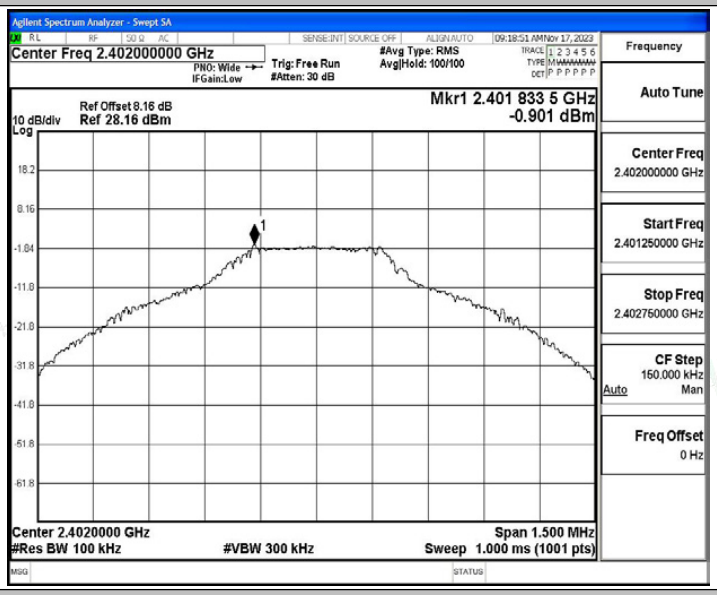
A.7 Conducted Spurious Emission

Test Result

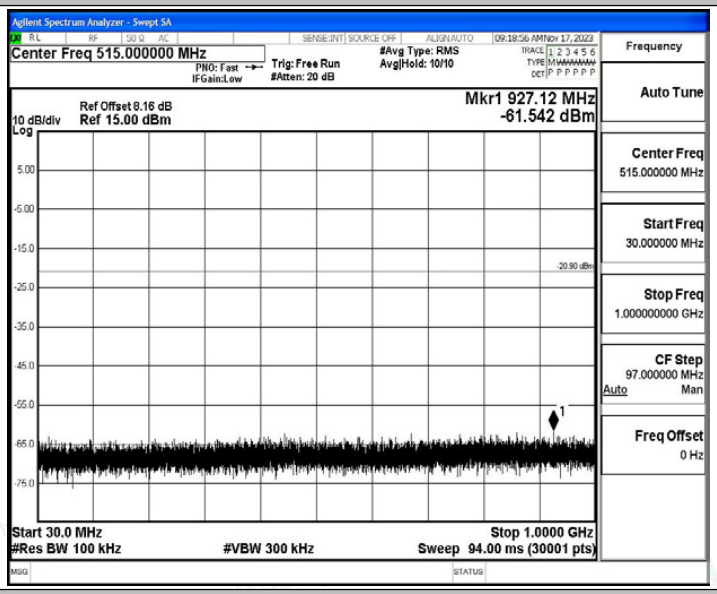
TestMode	Antenna	Channel	FreqRange [MHz]	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
DH5	Ant1	2402	Reference	-0.90	-0.90	---	PASS
			30~1000	-0.90	-61.54	≤-20.9	PASS
			1000~26500	-0.90	-48.61	≤-20.9	PASS
		2441	Reference	-1.29	-1.29	---	PASS
			30~1000	-1.29	-62.31	≤-21.29	PASS
			1000~26500	-1.29	-49.33	≤-21.29	PASS
		2480	Reference	-0.56	-0.56	---	PASS
			30~1000	-0.56	-61.22	≤-20.56	PASS
			1000~26500	-0.56	-49.33	≤-20.56	PASS
2DH5	Ant1	2402	Reference	-1.91	-1.91	---	PASS
			30~1000	-1.91	-61.55	≤-21.91	PASS
			1000~26500	-1.91	-49.35	≤-21.91	PASS
		2441	Reference	-2.32	-2.32	---	PASS
			30~1000	-2.32	-61.78	≤-22.32	PASS
			1000~26500	-2.32	-49.32	≤-22.32	PASS
		2480	Reference	-1.56	-1.56	---	PASS
			30~1000	-1.56	-61.5	≤-21.56	PASS
			1000~26500	-1.56	-48.8	≤-21.56	PASS
3DH5	Ant1	2402	Reference	-2.91	-2.91	---	PASS
			30~1000	-2.91	-61.02	≤-22.91	PASS
			1000~26500	-2.91	-48.55	≤-22.91	PASS
		2441	Reference	-1.69	-1.69	---	PASS
			30~1000	-1.69	-61.31	≤-21.69	PASS
			1000~26500	-1.69	-49.32	≤-21.69	PASS
		2480	Reference	-1.67	-1.67	---	PASS
			30~1000	-1.67	-61.51	≤-21.67	PASS
			1000~26500	-1.67	-48.9	≤-21.67	PASS

Test Graphs

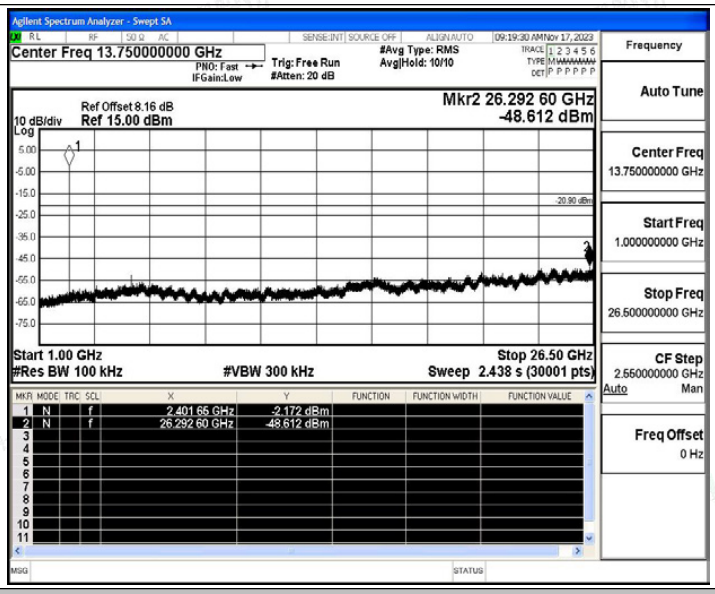
DH5_Ant1_2402_0~Reference



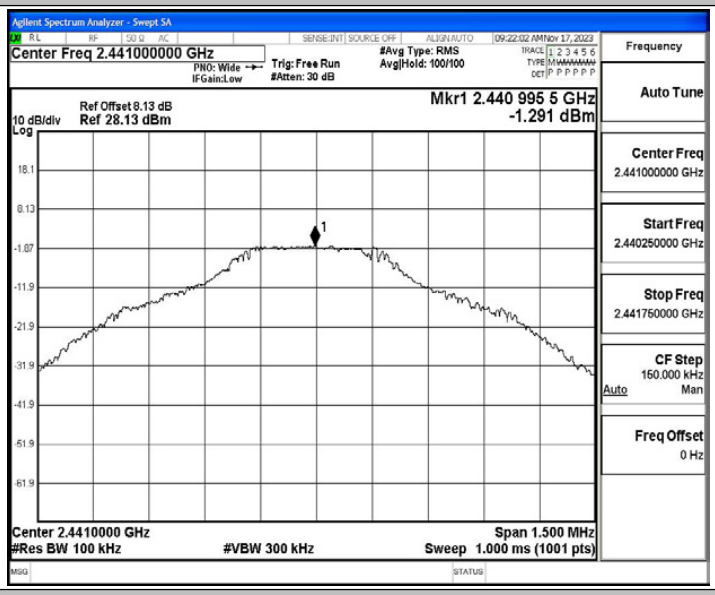
DH5_Ant1_2402_30~1000



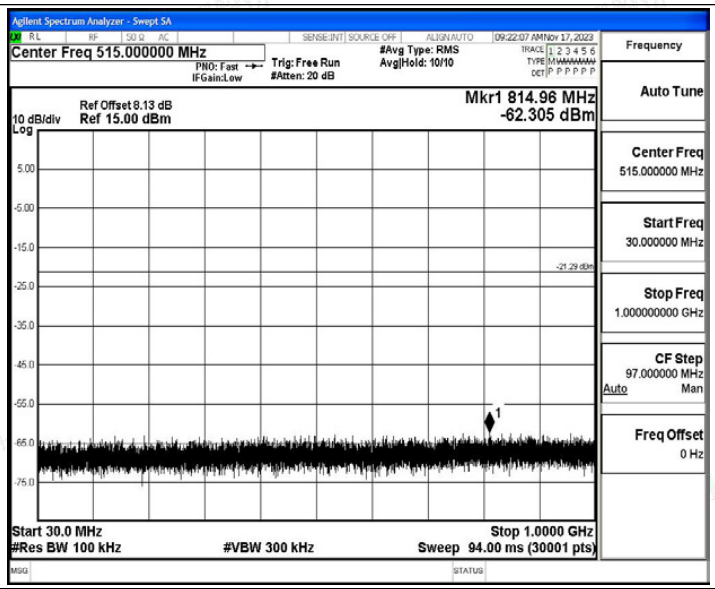
DH5_Ant1_2402_1000~26500



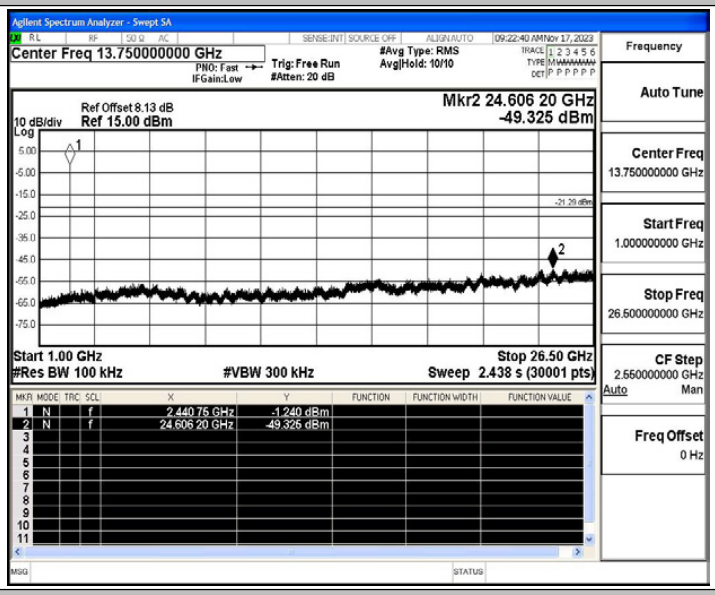
DH5_Ant1_2441_0~Reference



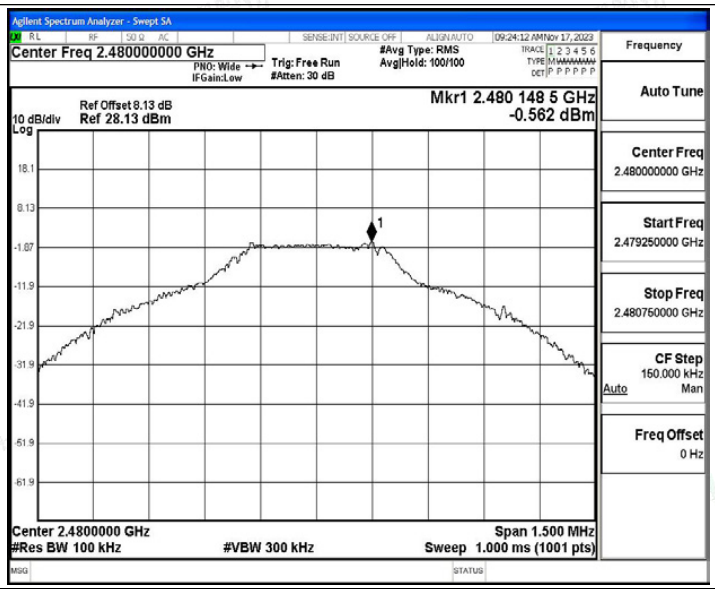
DH5_Ant1_2441_30~1000



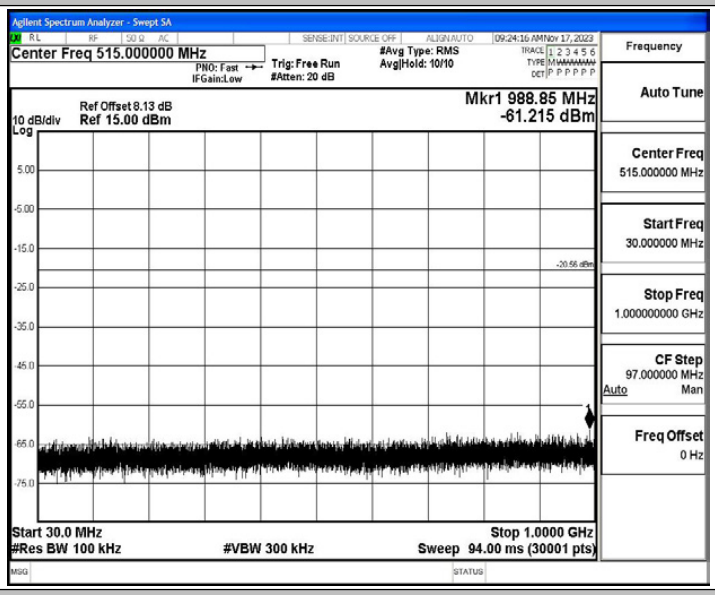
DH5_Ant1_2441_1000~26500



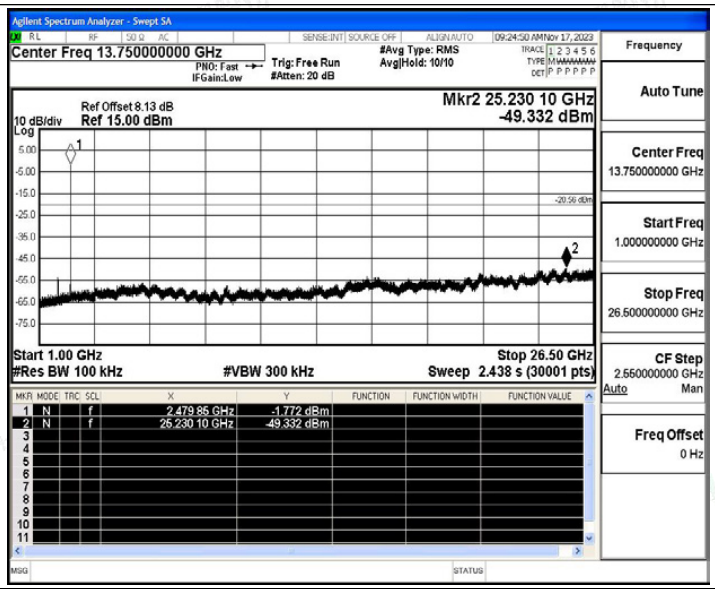
DH5_Ant1_2480_0~Reference



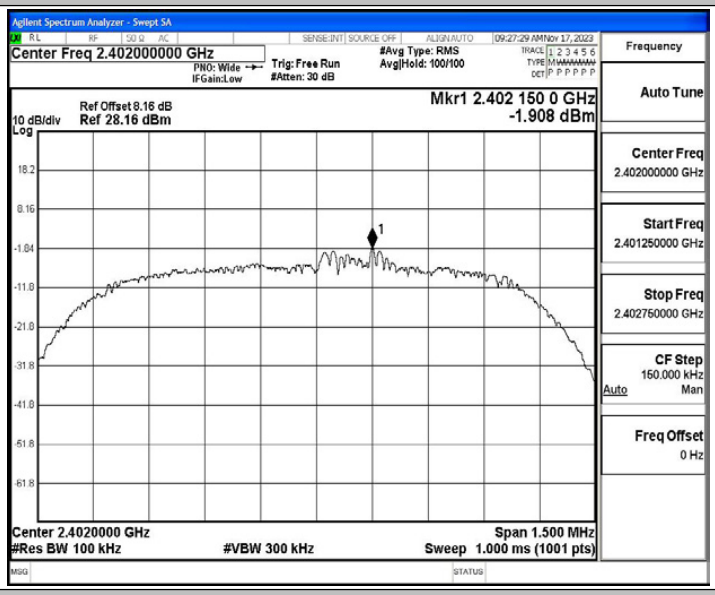
DH5_Ant1_2480_30~1000



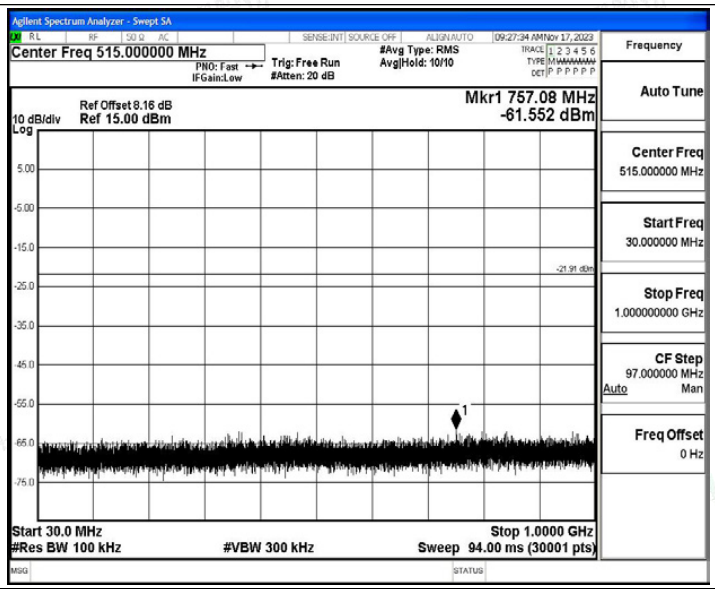
DH5_Ant1_2480_1000~26500



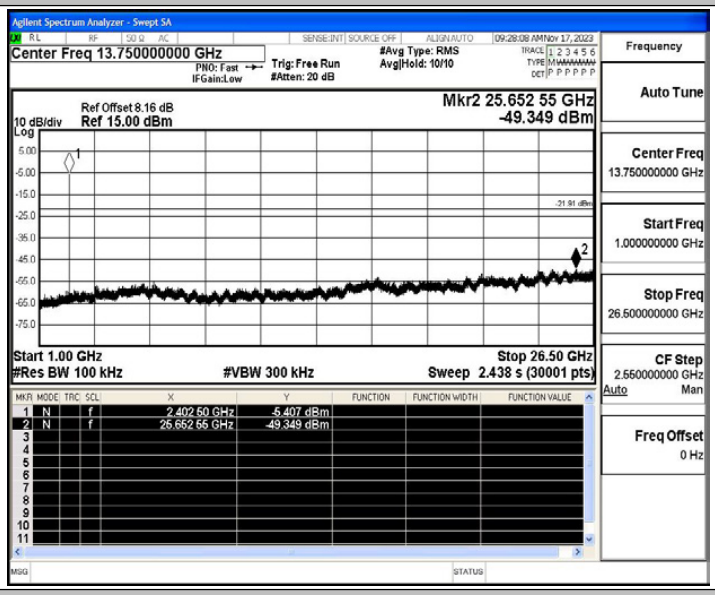
2DH5_Ant1_2402_0~Reference



2DH5_Ant1_2402_30~1000



2DH5_Ant1_2402_1000~26500



2DH5_Ant1_2441_0~Reference