

FCC Appendix RF Test Data

FCC ID : 2BO47-FW920

Company: : Shenzhen Fuallwin Technology Company Ltd

EUT : AI VOICE RECORDER

Model Number : FW920

Report No. : CTA25042300502

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	0.942	2401.553	2402.495	---	---
		2441	0.948	2440.550	2441.498	---	---
		2480	0.951	2479.544	2480.495	---	---
2DH5	Ant1	2402	1.284	2401.379	2402.663	---	---
		2441	1.281	2440.379	2441.660	---	---
		2480	1.278	2479.382	2480.660	---	---
3DH5	Ant1	2402	1.302	2401.361	2402.663	---	---
		2441	1.302	2440.364	2441.666	---	---
		2480	1.299	2479.361	2480.660	---	---

Agilent Spectrum Analyzer - Swept SA

Center Freq 2.40200000 GHz

Ref Offset 0.6 dB
Ref 10.60 dBm

Trig: Free Run
#Atten: 20 dB

#Avg Type: RMS
Avg/Hold: 100/100

Span 3.000 MHz
#Res BW 30 kHz
#VBW 100 kHz
Sweep (#Swp) 3.200 ms (1001 pts)

ΔMkr3 942 kHz
0.352 dB

MNR	MODE	TRC	SCL	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE
1	N	1	f	2.401553 GHz	-21.319 dBm			
2	N	1	f	2.402009 GHz	-1.645 dBm			
3	Δ	1	f (Δ)	942 kHz (Δ)	0.352 dB			

Frequency

Auto Tune

Center Freq
2.402000000 GHz

Start Freq
2.400500000 GHz

Stop Freq
2.403500000 GHz

CF Step
300.000 kHz
Man

Freq Offset
0 Hz

DH5_Ant1_2402

Agilent Spectrum Analyzer - Swept SA

Center Freq 2.441000000 GHz

Ref Offset 0.6 dB
Ref 10.60 dBm

Trig: Free Run
#Atten: 20 dB

#Avg Type: RMS
Avg/Hold: 100/100

Span 3.000 MHz
#Res BW 30 kHz
#VBW 100 kHz
Sweep (#Swp) 3.200 ms (1001 pts)

ΔMkr3 948 kHz
-0.184 dB

MNR	MODE	TRC	SCL	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE
1	N	1	f	2.440550 GHz	-21.863 dBm			
2	N	1	f	2.441006 GHz	-2.169 dBm			
3	Δ	1	f (Δ)	948 kHz (Δ)	-0.184 dB			

Frequency

Auto Tune

Center Freq
2.441000000 GHz

Start Freq
2.439500000 GHz

Stop Freq
2.442500000 GHz

CF Step
300.000 kHz
Man

Freq Offset
0 Hz

DH5_Ant1_2441



2DH5_Ant1_2402



2DH5_Ant1_2441



2DH5_Ant1_2480



3DH5_Ant1_2402



3DH5_Ant1_2441

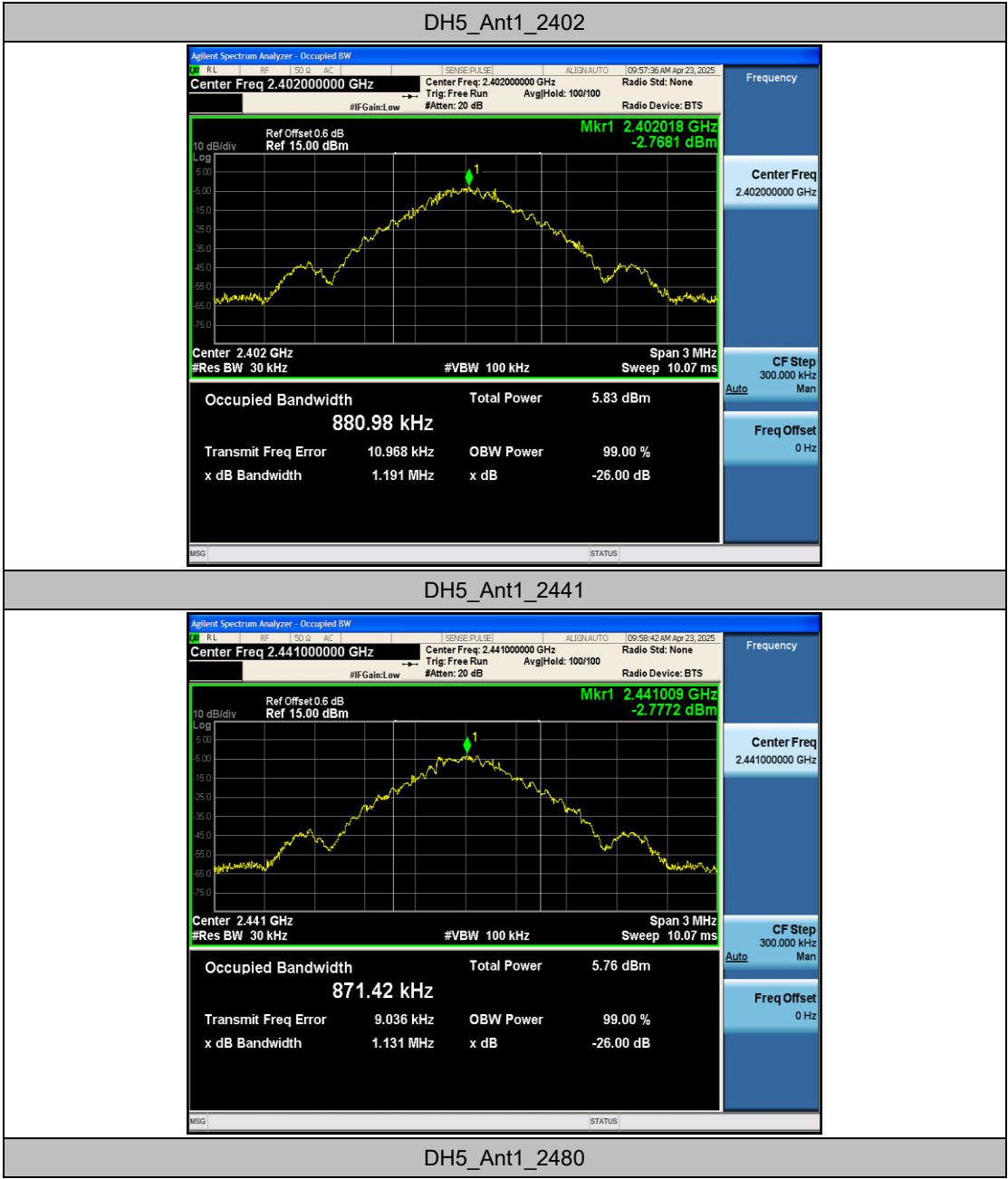


Appendix B: Occupied Channel Bandwidth

Test Result

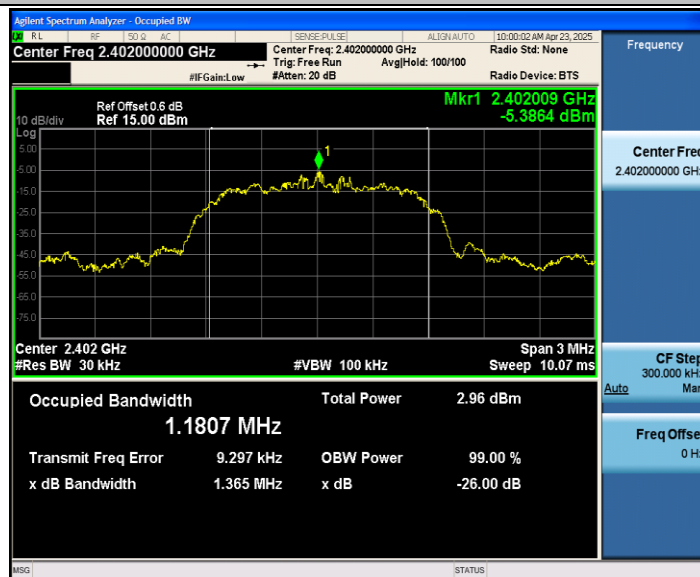
TestMode	Antenna	Freq(MHz)	OCB [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
DH5	Ant1	2402	0.88098	2401.5705	2402.4515	---	---
		2441	0.87142	2440.5733	2441.4448	---	---
		2480	0.86564	2479.5750	2480.4406	---	---
2DH5	Ant1	2402	1.1807	2401.4190	2402.5997	---	---
		2441	1.1880	2440.4167	2441.6047	---	---
		2480	1.1872	2479.4171	2480.6043	---	---
3DH5	Ant1	2402	1.1880	2401.4170	2402.6050	---	---
		2441	1.1895	2440.4148	2441.6043	---	---
		2480	1.1884	2479.4160	2480.6044	---	---

Test Graphs

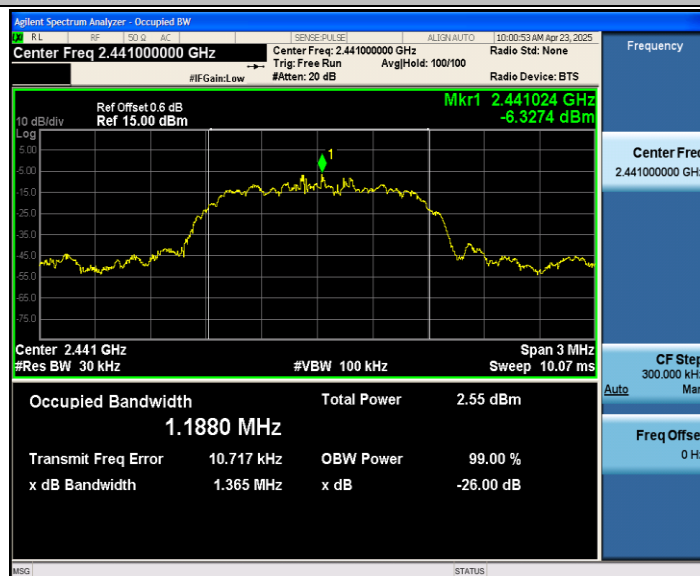




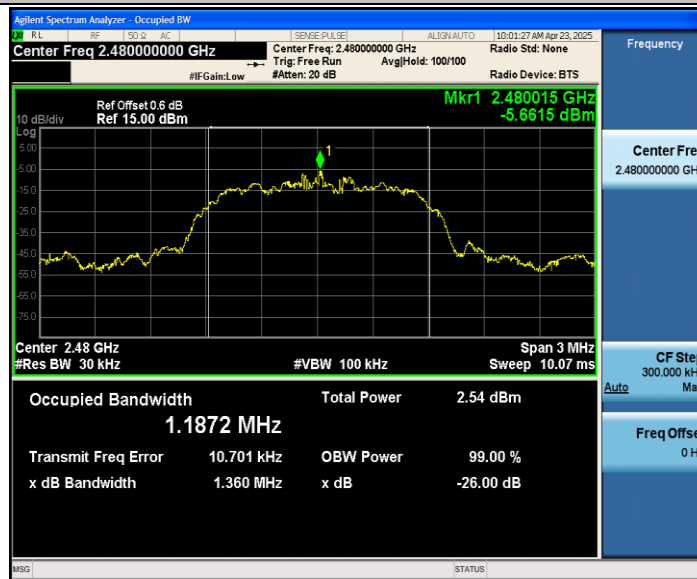
2DH5_Ant1_2402



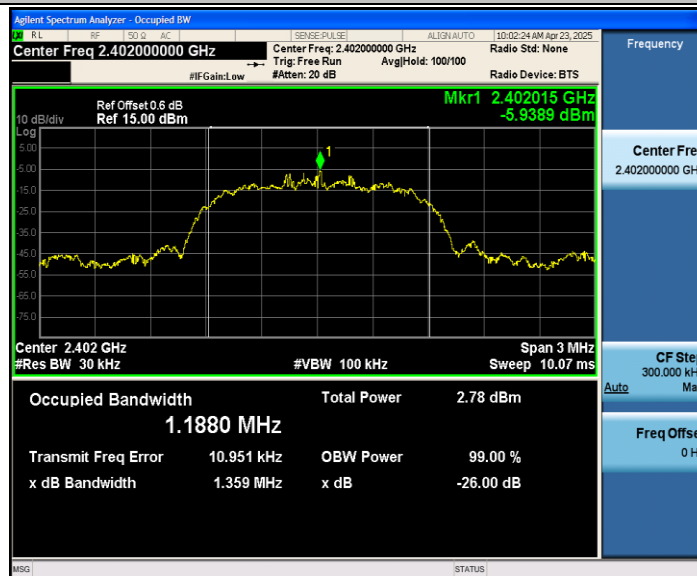
2DH5_Ant1_2441



2DH5_Ant1_2480



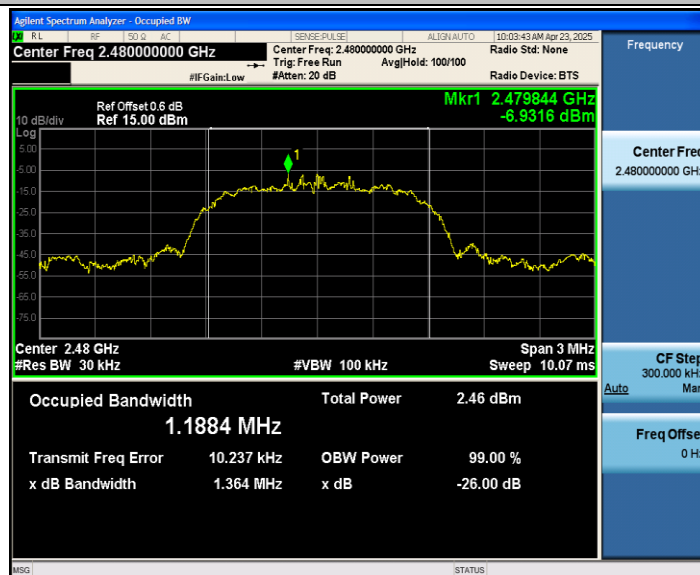
3DH5_Ant1_2402



3DH5_Ant1_2441



3DH5_Ant1_2480



Appendix C: Maximum conducted output power

Test Result Peak

Test Mode	Antenna	Freq(MHz)	Conducted Peak Power[dBm]	Conducted Limit[dBm]	Verdict
DH5	Ant1	2402	0.13	≤20.97	PASS
		2441	-0.11	≤20.97	PASS
		2480	-0.20	≤20.97	PASS
2DH5	Ant1	2402	-0.70	≤20.97	PASS
		2441	-0.94	≤20.97	PASS
		2480	-1.02	≤20.97	PASS
3DH5	Ant1	2402	-0.32	≤20.97	PASS
		2441	-0.54	≤20.97	PASS
		2480	-0.62	≤20.97	PASS

Appendix D: Carrier frequency separation

Test Result

TestMode	Antenna	Freq(MHz)	Result[MHz]	Limit[MHz]	Verdict
DH5	Ant1	Hop	0.992	≥ 0.951	PASS
2DH5	Ant1	Hop	0.964	≥ 0.856	PASS
3DH5	Ant1	Hop	1.004	≥ 0.868	PASS

Test Graphs



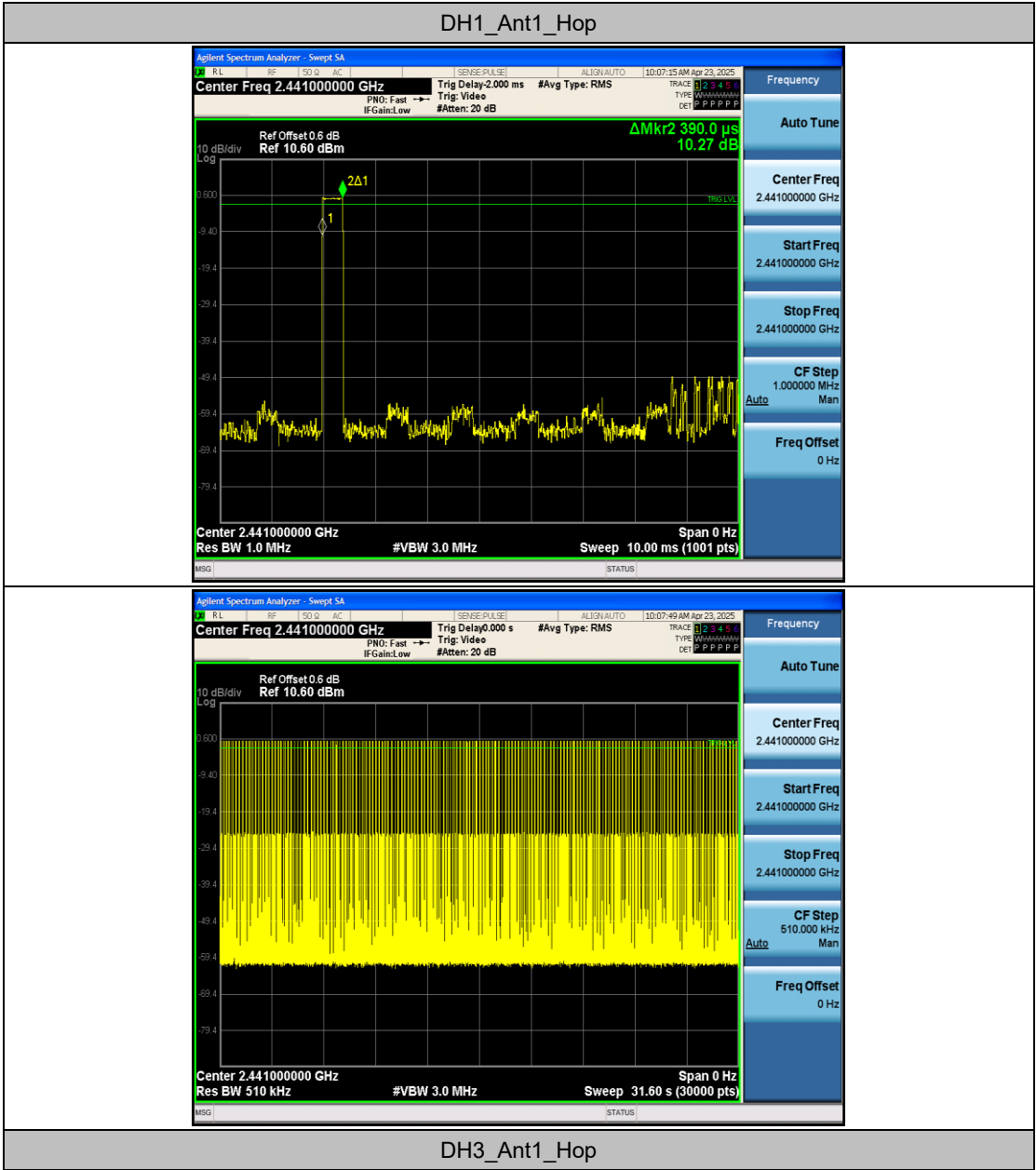


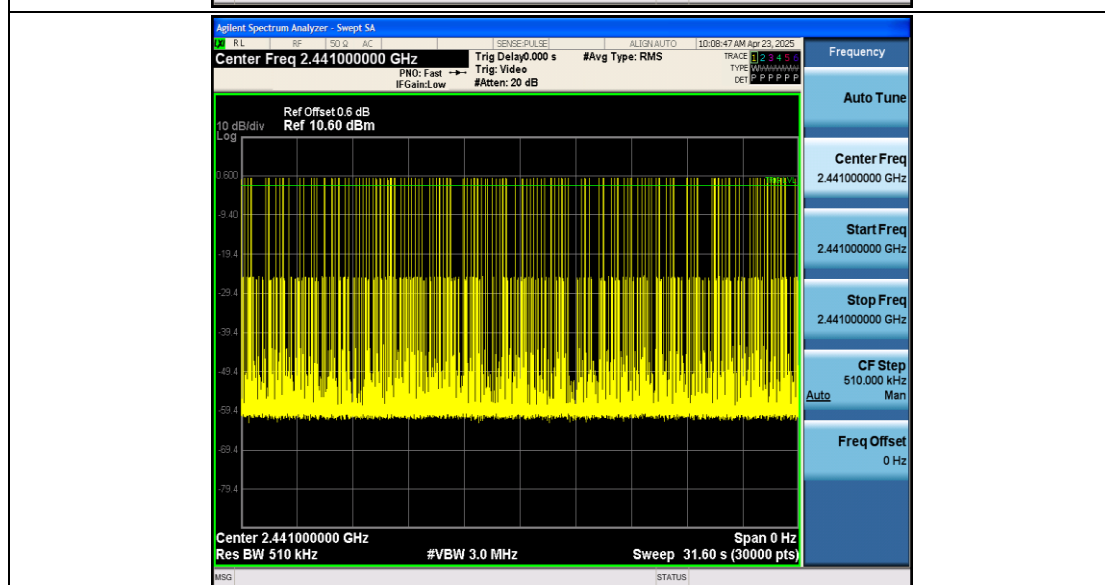
Appendix E: Time of occupancy

Test Result

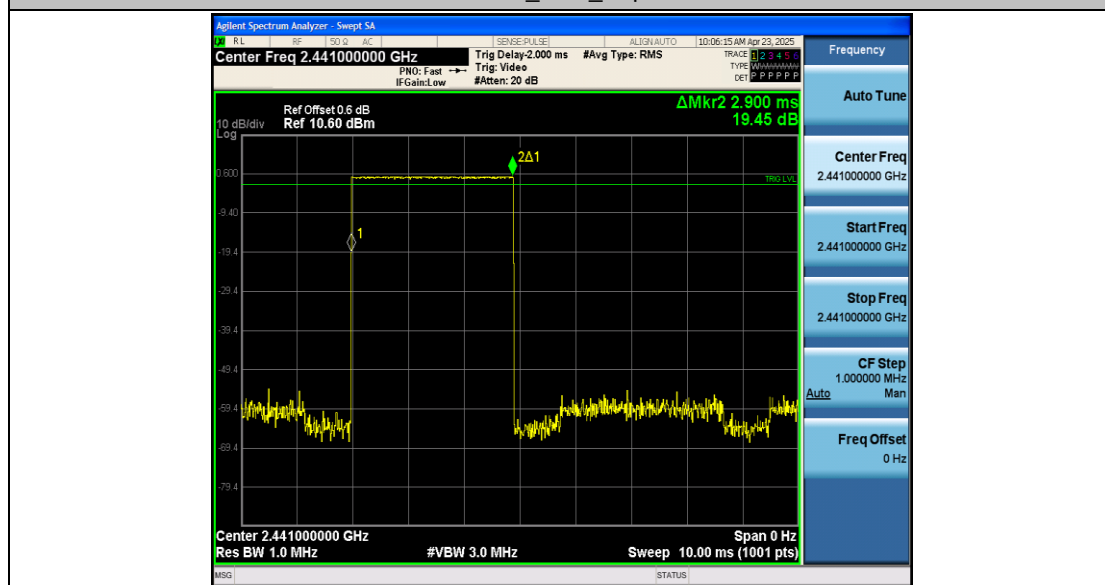
TestMode	Antenna	Freq(MHz)	BurstWidth [ms]	TotalHops [Num]	Result[s]	Limit[s]	Verdict
DH1	Ant1	Hop	0.390	319	0.124	≤0.4	PASS
DH3	Ant1	Hop	1.650	155	0.256	≤0.4	PASS
DH5	Ant1	Hop	2.900	105	0.305	≤0.4	PASS
2DH1	Ant1	Hop	0.400	320	0.128	≤0.4	PASS
2DH3	Ant1	Hop	1.650	153	0.252	≤0.4	PASS
2DH5	Ant1	Hop	2.890	98	0.283	≤0.4	PASS
3DH1	Ant1	Hop	0.400	320	0.128	≤0.4	PASS
3DH3	Ant1	Hop	1.650	166	0.274	≤0.4	PASS
3DH5	Ant1	Hop	2.900	107	0.31	≤0.4	PASS

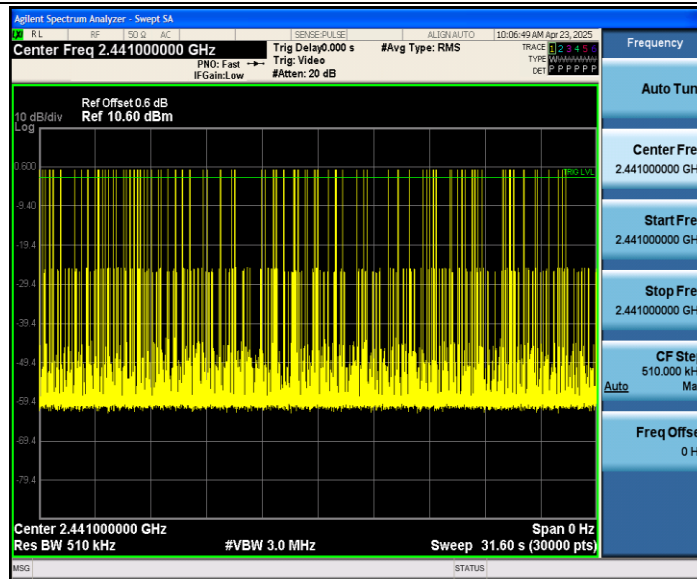
Test Graphs



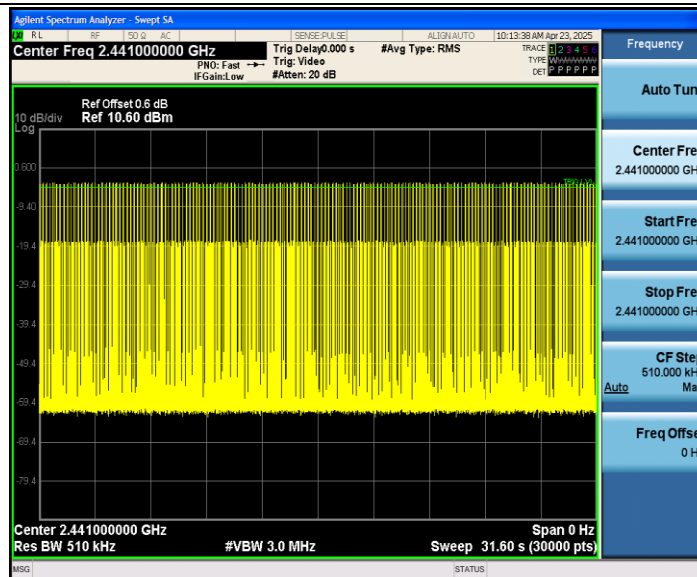
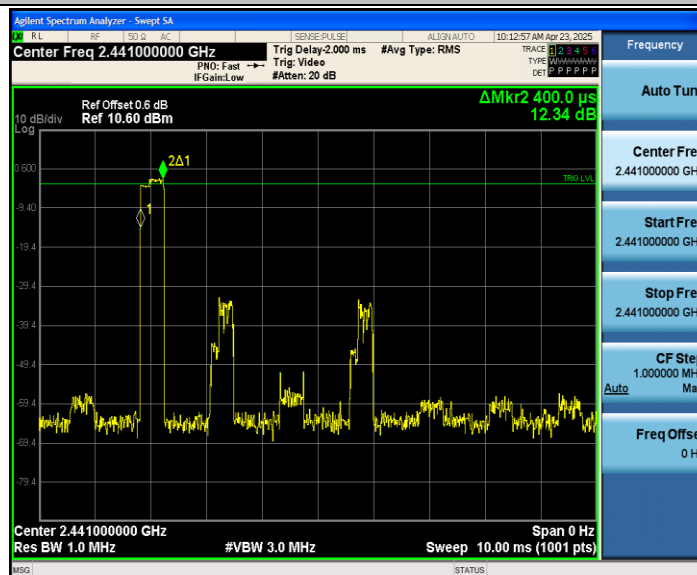


DH5_Ant1_Hop

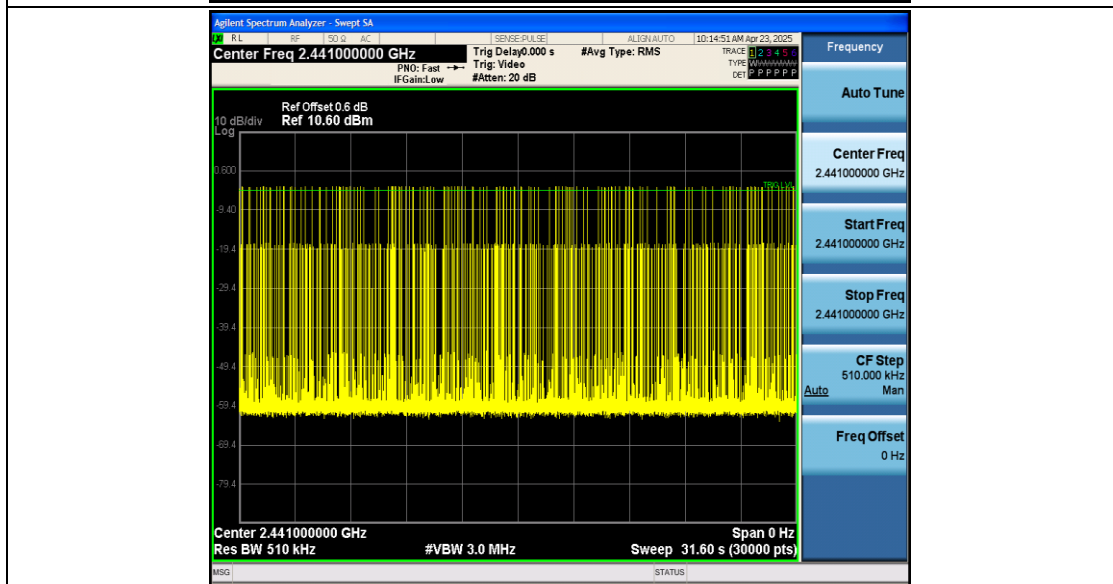
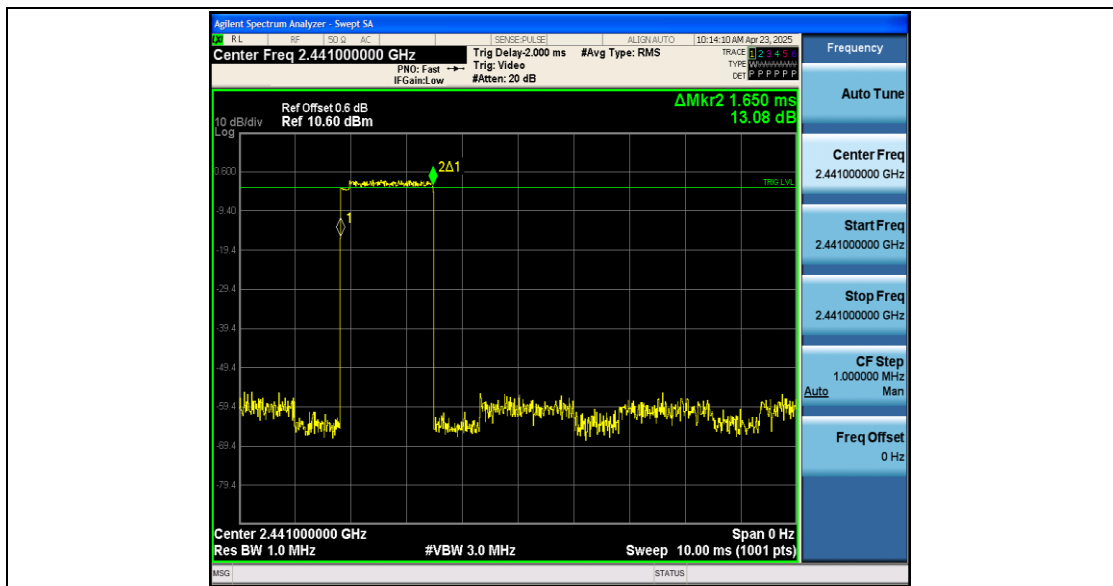




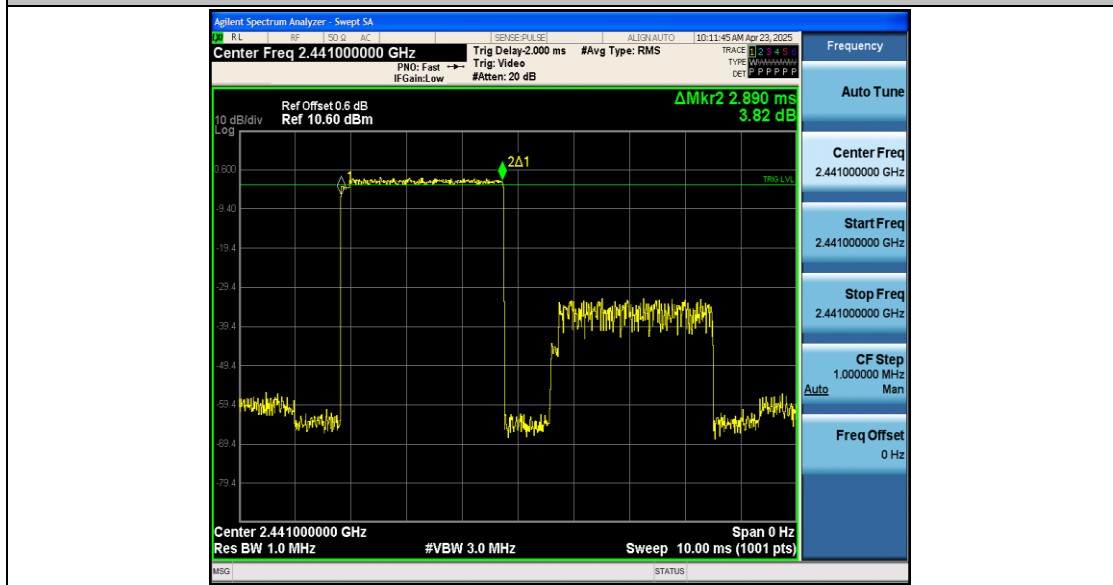
2DH1_Ant1_Hop

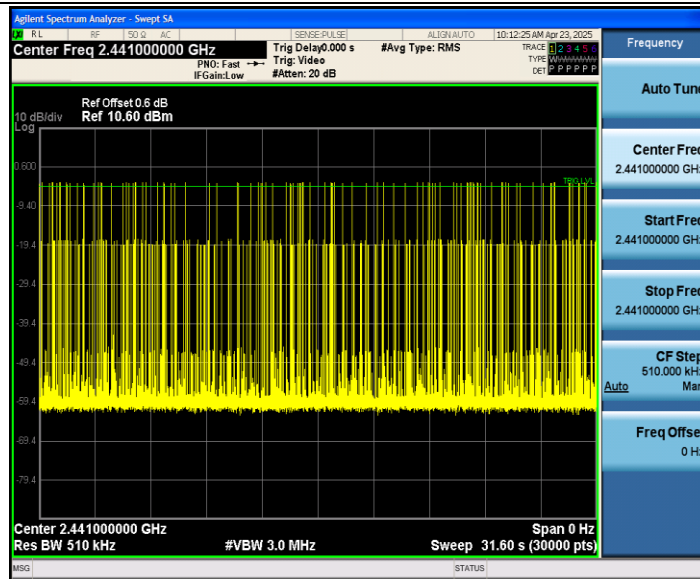


2DH3_Ant1_Hop

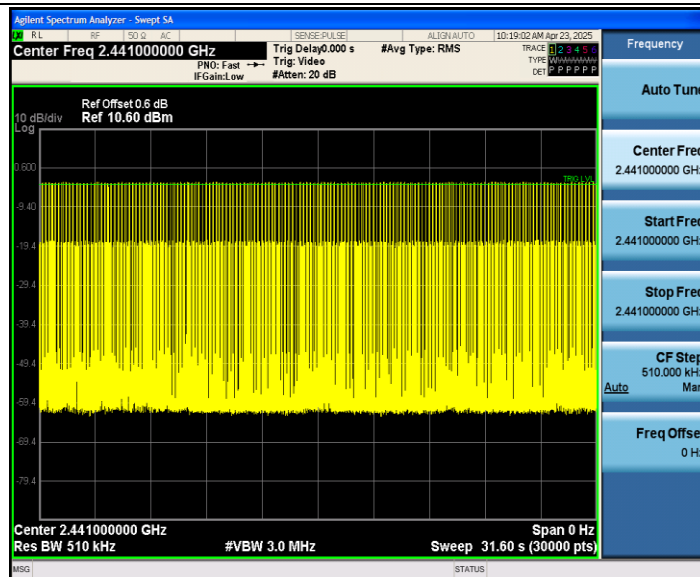
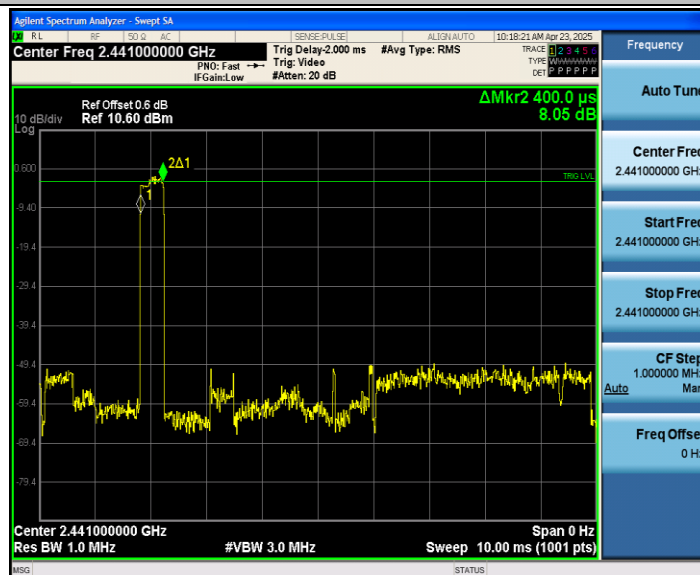


2DH5_Ant1_Hop

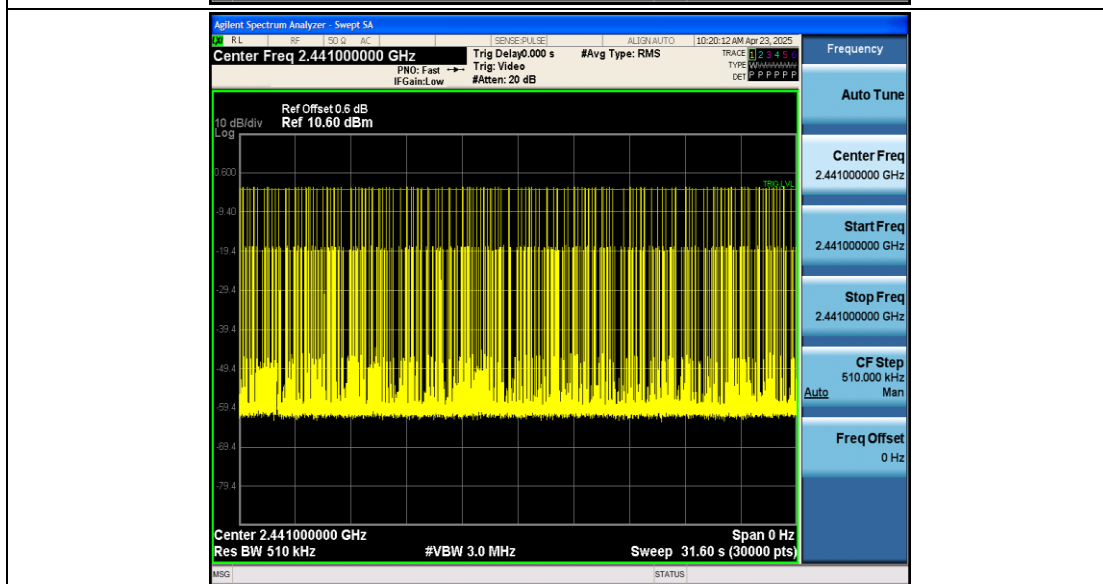




3DH1_Ant1_Hop

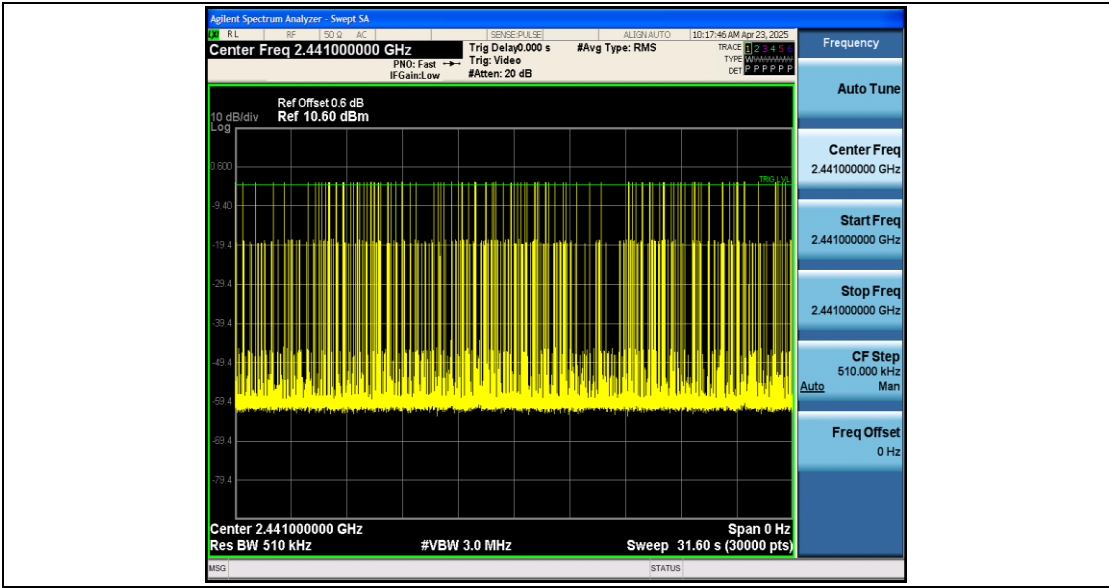


3DH3_Ant1_Hop



3DH5_Ant1_Hop





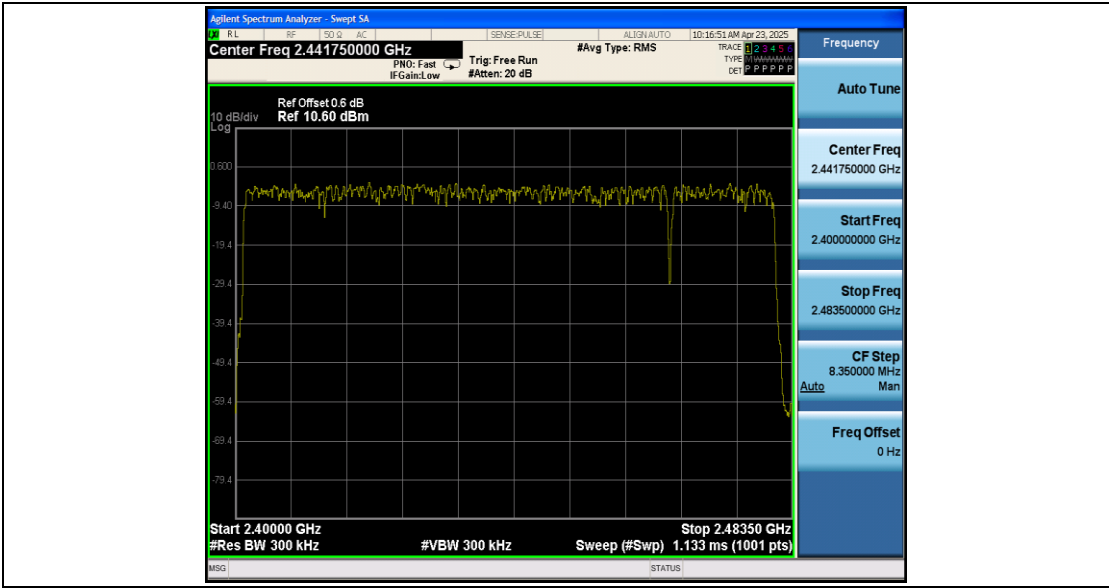
Appendix F: Number of hopping channels

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



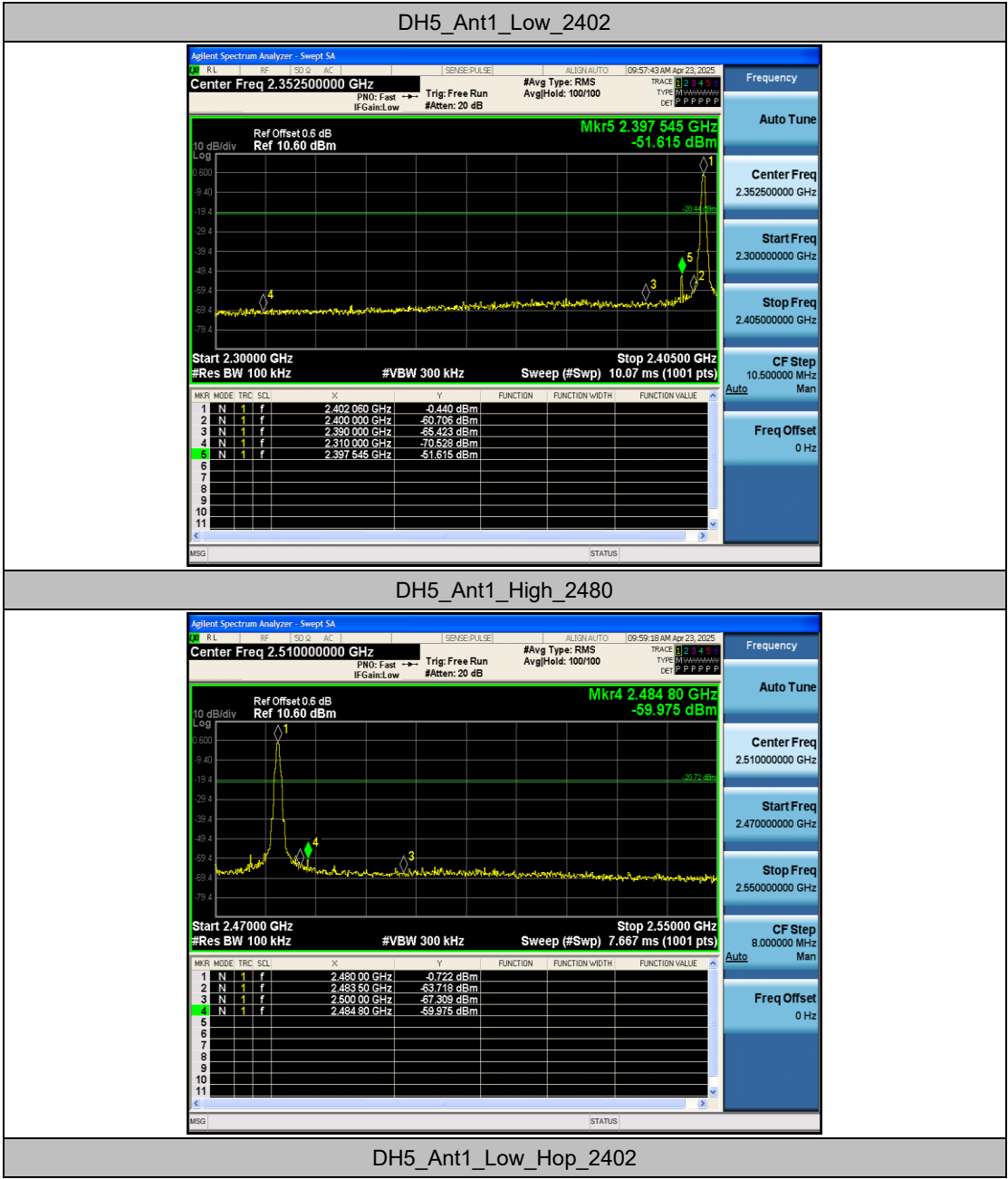


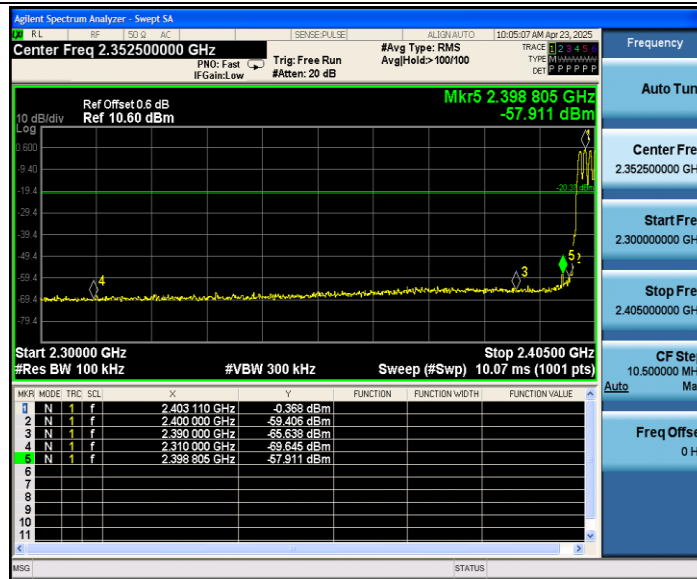
Appendix G: Band edge measurements

Test Result

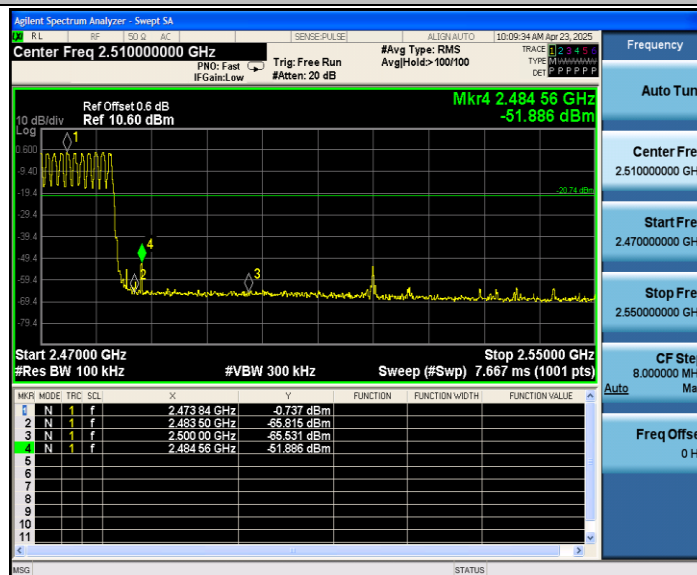
TestMode	Antenna	ChName	Freq(MHz)	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
DH5	Ant1	Low	2402	-0.44	-51.62	≤-20.44	PASS
		High	2480	-0.72	-59.98	≤-20.72	PASS
		Low	Hop_2402	-0.37	-57.91	≤-20.37	PASS
		High	Hop_2480	-0.74	-51.89	≤-20.74	PASS
2DH5	Ant1	Low	2402	-4.10	-57.24	≤-24.1	PASS
		High	2480	-3.75	-63.66	≤-23.75	PASS
		Low	Hop_2402	-5.37	-63.09	≤-25.37	PASS
		High	Hop_2480	-5.07	-63.69	≤-25.07	PASS
3DH5	Ant1	Low	2402	-3.94	-61.72	≤-23.94	PASS
		High	2480	-4.26	-57.15	≤-24.26	PASS
		Low	Hop_2402	-5.42	-61.84	≤-25.42	PASS
		High	Hop_2480	-4.76	-63.71	≤-24.76	PASS

Test Graphs

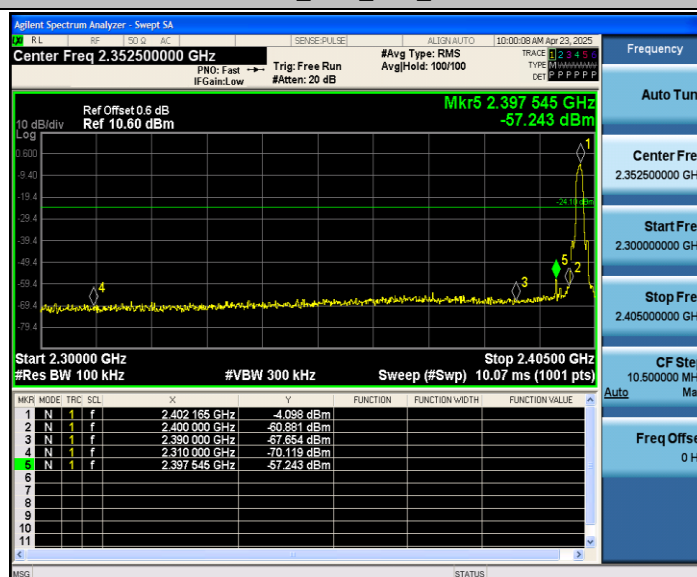




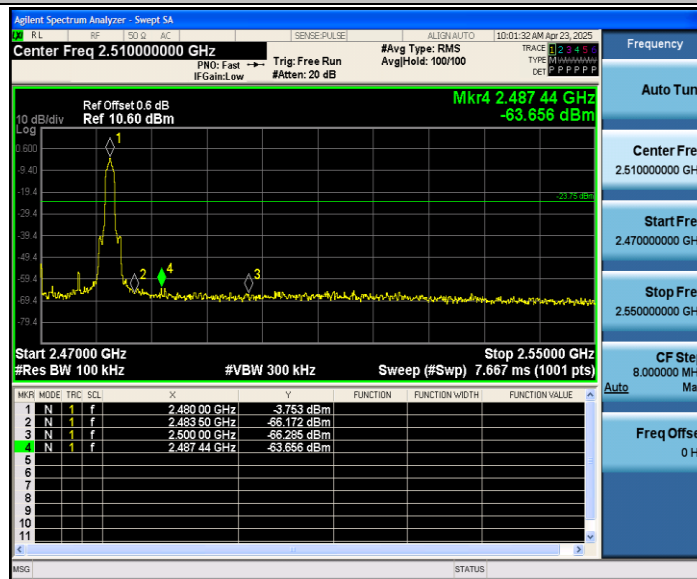
DH5_Ant1_High_Hop_2480



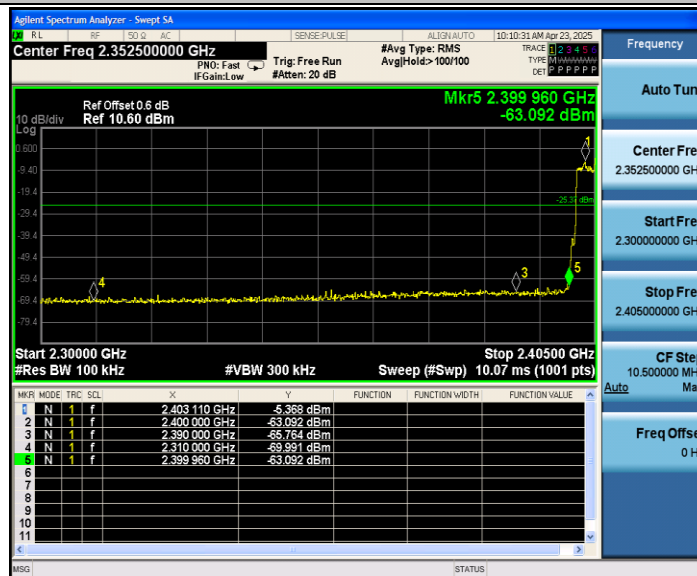
2DH5_Ant1_Low_2402



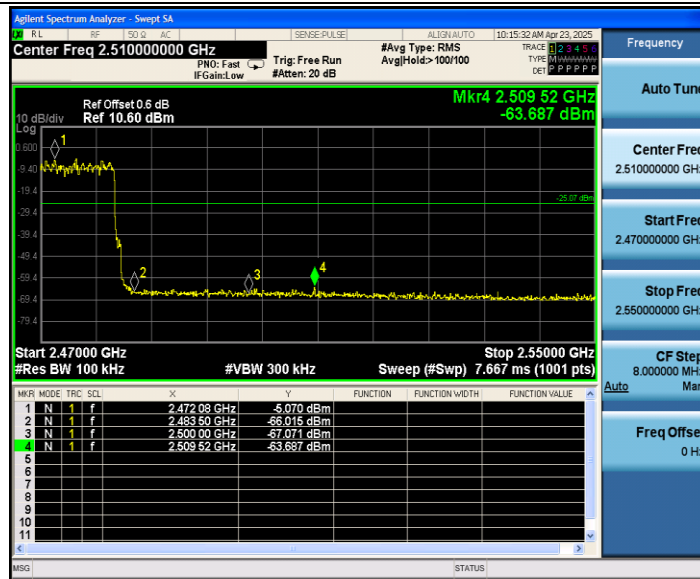
2DH5_Ant1_High_2480



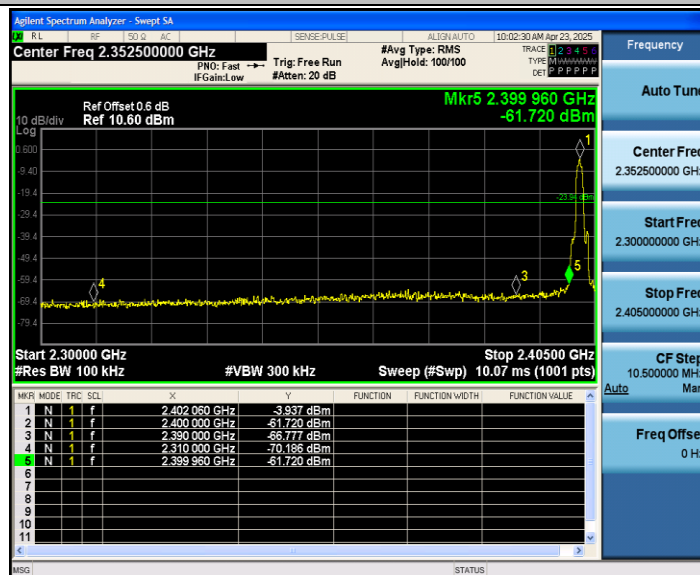
2DH5_Ant1_Low_Hop_2402



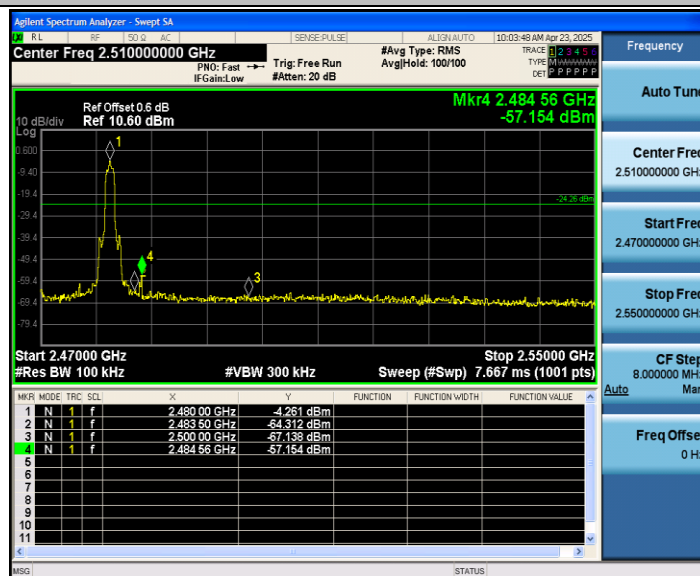
2DH5_Ant1_High_Hop_2480



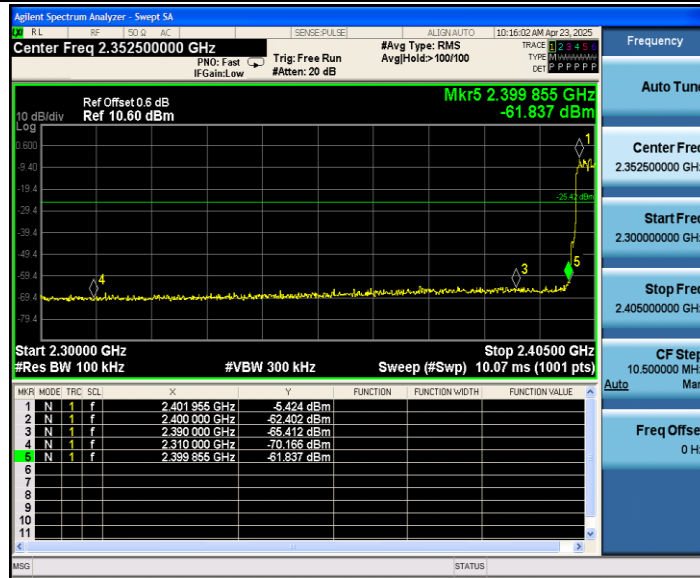
3DH5_Ant1_Low_2402



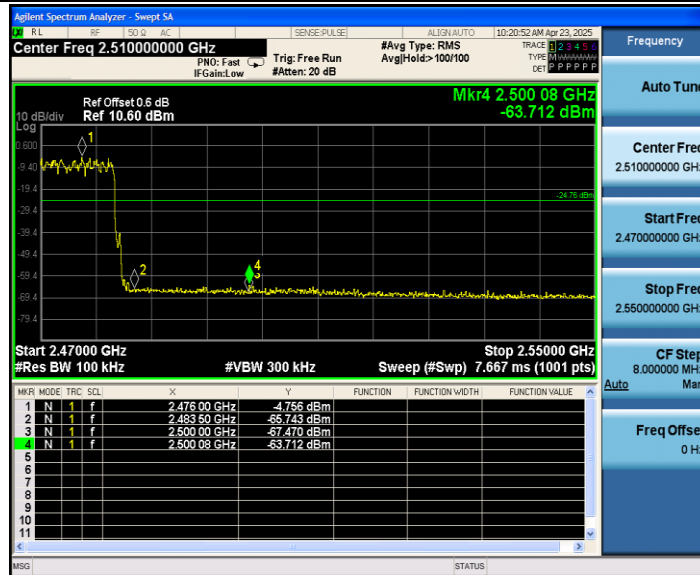
3DH5_Ant1_High_2480



3DH5_Ant1_Low_Hop_2402



3DH5_Ant1_High_Hop_2480

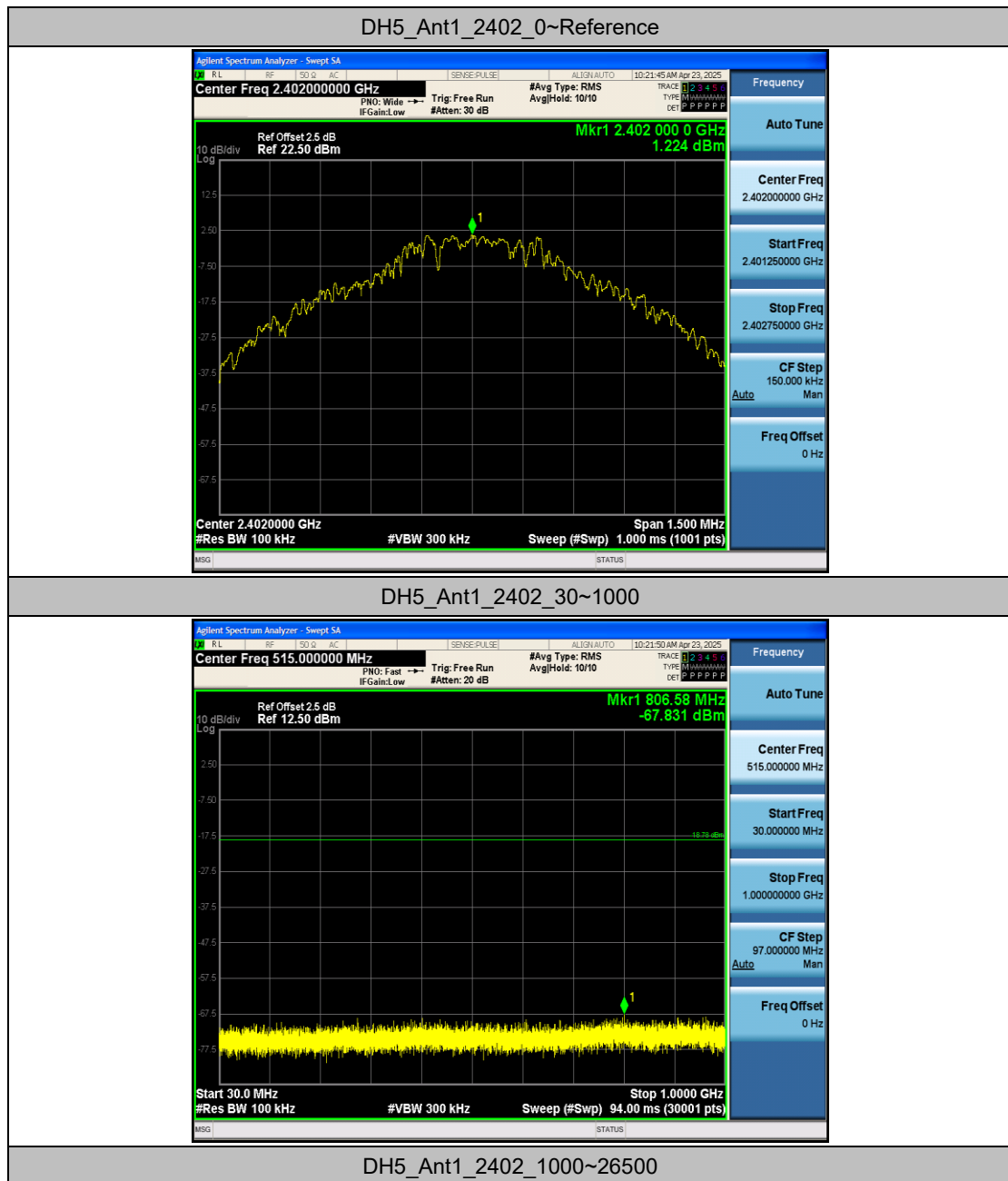


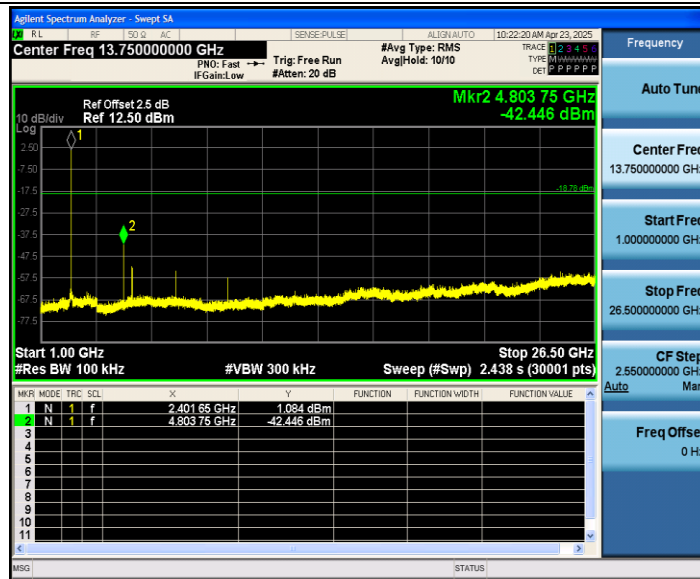
Appendix H: Conducted Spurious Emission

Test Result

TestMode	Antenna	Freq(MHz)	FreqRange [MHz]	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
DH5	Ant1	2402	Reference	1.22	1.22	---	PASS
			30~1000	1.22	-67.83	≤-18.78	PASS
			1000~26500	1.22	-42.45	≤-18.78	PASS
		2441	Reference	0.47	0.47	---	PASS
			30~1000	0.47	-67.25	≤-19.53	PASS
			1000~26500	0.47	-43.97	≤-19.53	PASS
		2480	Reference	0.84	0.84	---	PASS
			30~1000	0.84	-67.36	≤-19.16	PASS
			1000~26500	0.84	-42.7	≤-19.16	PASS
2DH5	Ant1	2402	Reference	-3.00	-3.00	---	PASS
			30~1000	-3.00	-68.03	≤-23	PASS
			1000~26500	-3.00	-47.23	≤-23	PASS
		2441	Reference	-4.91	-4.91	---	PASS
			30~1000	-4.91	-66.54	≤-24.91	PASS
			1000~26500	-4.91	-50.66	≤-24.91	PASS
		2480	Reference	-2.52	-2.52	---	PASS
			30~1000	-2.52	-68.1	≤-22.52	PASS
			1000~26500	-2.52	-50.73	≤-22.52	PASS
3DH5	Ant1	2402	Reference	-4.48	-4.48	---	PASS
			30~1000	-4.48	-68.09	≤-24.48	PASS
			1000~26500	-4.48	-50.28	≤-24.48	PASS
		2441	Reference	-4.71	-4.71	---	PASS
			30~1000	-4.71	-68.18	≤-24.71	PASS
			1000~26500	-4.71	-43.98	≤-24.71	PASS
		2480	Reference	-2.89	-2.89	---	PASS
			30~1000	-2.89	-67.25	≤-22.89	PASS
			1000~26500	-2.89	-48.57	≤-22.89	PASS

Test Graphs





DH5_Ant1_2441_0~Reference



DH5_Ant1_2441_30~1000

