

FCC Appendix RF Test Data of Module 2

FCC ID : 2BO56-ZA001

Company: : Shenzhen Xingbiao Hang Technology Co., Ltd.

EUT : Dual WiFi three-in-one closed small system

Model Number : ZA001

Report No. : CTA25041800502

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	0.957	2401.547	2402.504	---	---
		2441	0.948	2440.550	2441.498	---	---
		2480	0.951	2479.547	2480.498	---	---
2DH5	Ant1	2402	1.278	2401.382	2402.660	---	---
		2441	1.323	2440.349	2441.672	---	---
		2480	1.323	2479.352	2480.675	---	---
3DH5	Ant1	2402	1.296	2401.367	2402.663	---	---
		2441	1.305	2440.361	2441.666	---	---
		2480	1.287	2479.367	2480.654	---	---

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	0.86970	2401.5709	2402.4406	---	---
		2441	0.86205	2440.5771	2441.4392	---	---
		2480	0.86057	2479.5773	2480.4378	---	---
2DH5	Ant1	2402	1.1848	2401.4171	2402.6019	---	---
		2441	1.1853	2440.4174	2441.6027	---	---
		2480	1.1830	2479.4203	2480.6033	---	---
3DH5	Ant1	2402	1.1898	2401.4159	2402.6057	---	---
		2441	1.1851	2440.4190	2441.6041	---	---
		2480	1.1842	2479.4199	2480.6041	---	---

Test Graphs

DH5_Ant1_2402



DH5_Ant1_2441



DH5_Ant1_2480



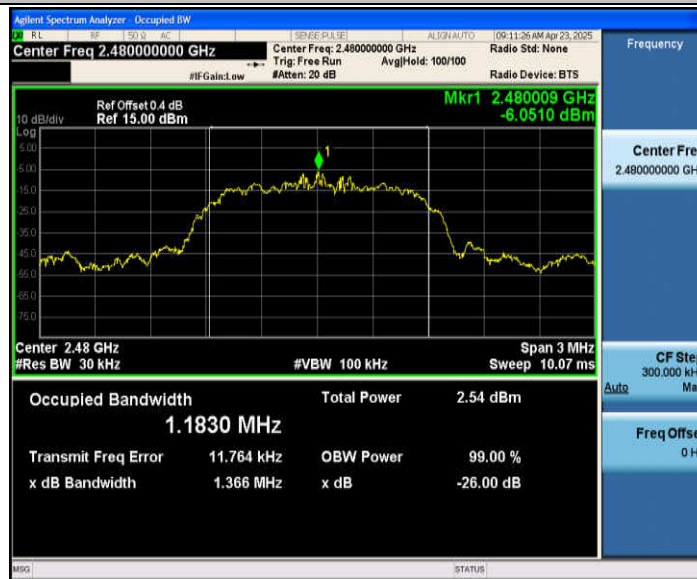
2DH5_Ant1_2402



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 Power[dBm]	Conducted Limit[dBm]	Verdict
DH5	Ant1	2402	-0.05	≤20.97	PASS
		2441	-0.31	≤20.97	PASS
		2480	-0.38	≤20.97	PASS
2DH5	Ant1	2402	-0.89	≤20.97	PASS
		2441	-1.11	≤20.97	PASS
		2480	-1.16	≤20.97	PASS
3DH5	Ant1	2402	-0.44	≤20.97	PASS
		2441	-0.74	≤20.97	PASS
		2480	-0.77	≤20.97	PASS

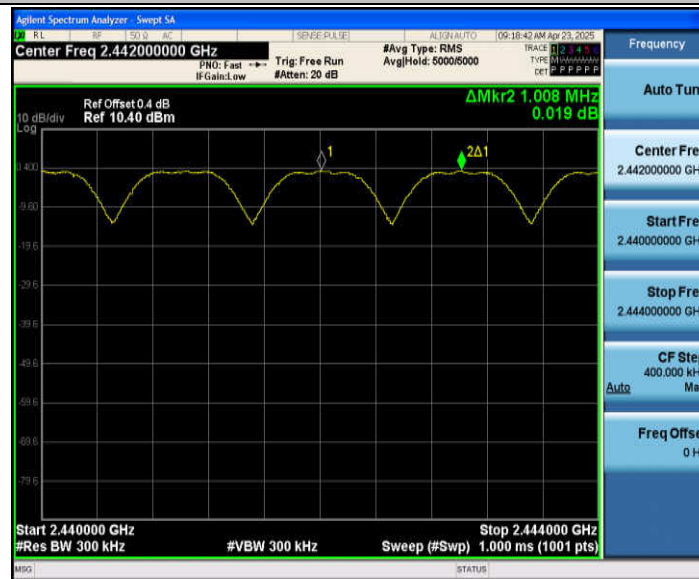
Appendix D: Carrier frequency separation

Test Result

TestMode	Antenna	Freq(MHz)	Result[MHz]	Limit[MHz]	Verdict
DH5	Ant1	Hop	1.008	≥ 0.957	PASS
2DH5	Ant1	Hop	1.228	≥ 0.882	PASS
3DH5	Ant1	Hop	1.156	≥ 0.870	PASS

Test Graphs

DH5_Ant1_Hop



2DH5_Ant1_Hop



3DH5_Ant1_Hop

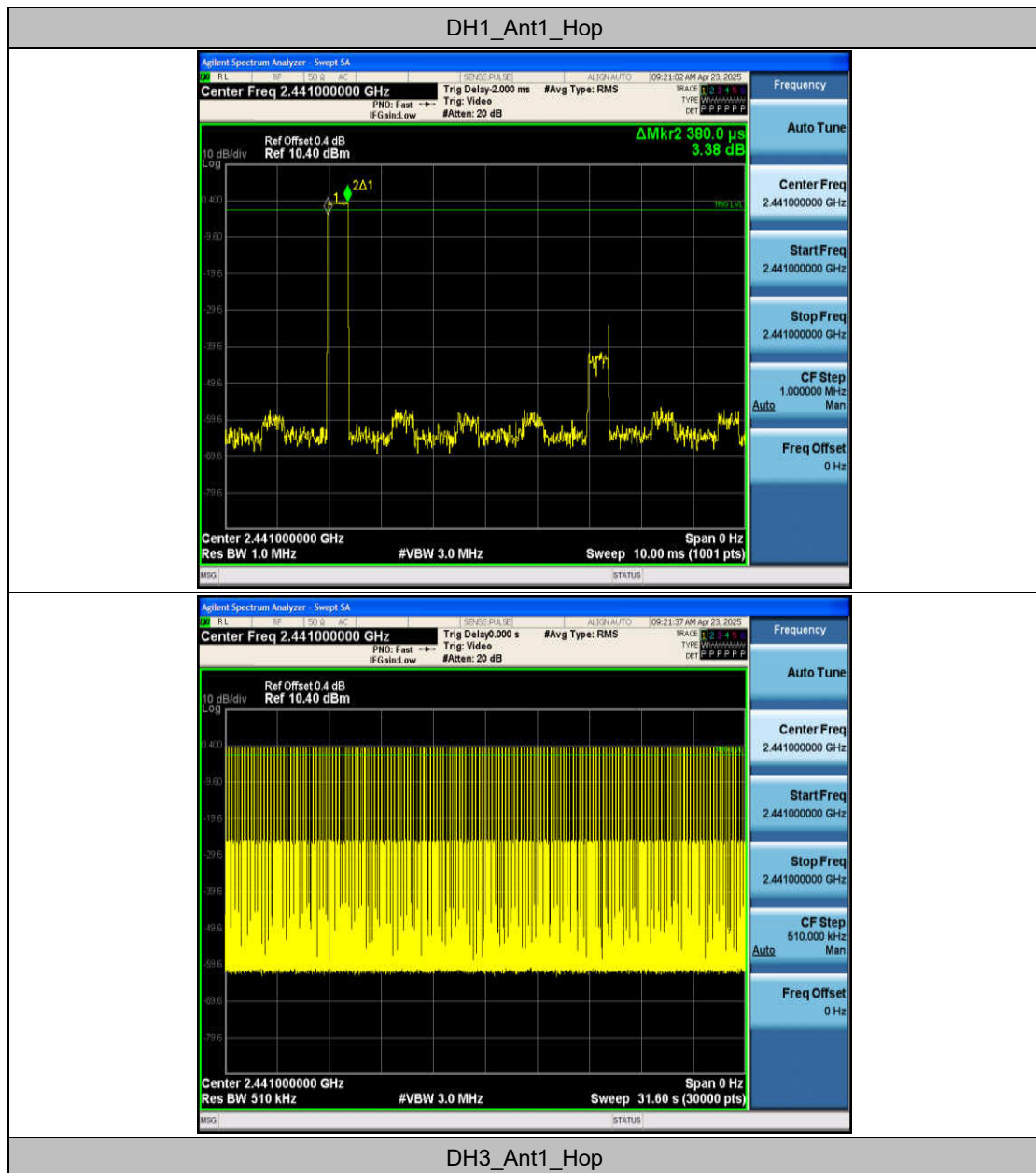


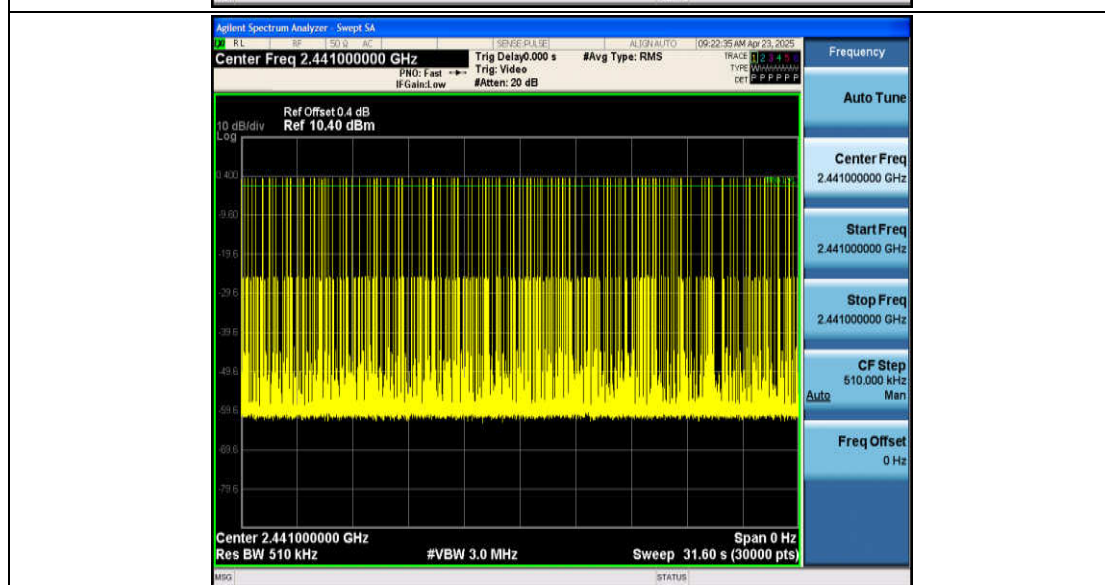
Appendix E: Time of occupancy

Test Result

TestMode	Antenna	Freq(MHz)	BurstWidth [ms]	TotalHops [Num]	Result[s]	Limit[s]	Verdict
DH1	Ant1	Hop	0.380	320	0.122	≤0.4	PASS
DH3	Ant1	Hop	1.640	157	0.257	≤0.4	PASS
DH5	Ant1	Hop	2.890	115	0.332	≤0.4	PASS
2DH1	Ant1	Hop	0.400	319	0.128	≤0.4	PASS
2DH3	Ant1	Hop	1.650	159	0.262	≤0.4	PASS
2DH5	Ant1	Hop	2.900	107	0.31	≤0.4	PASS
3DH1	Ant1	Hop	0.400	317	0.127	≤0.4	PASS
3DH3	Ant1	Hop	1.650	157	0.259	≤0.4	PASS
3DH5	Ant1	Hop	2.900	109	0.316	≤0.4	PASS

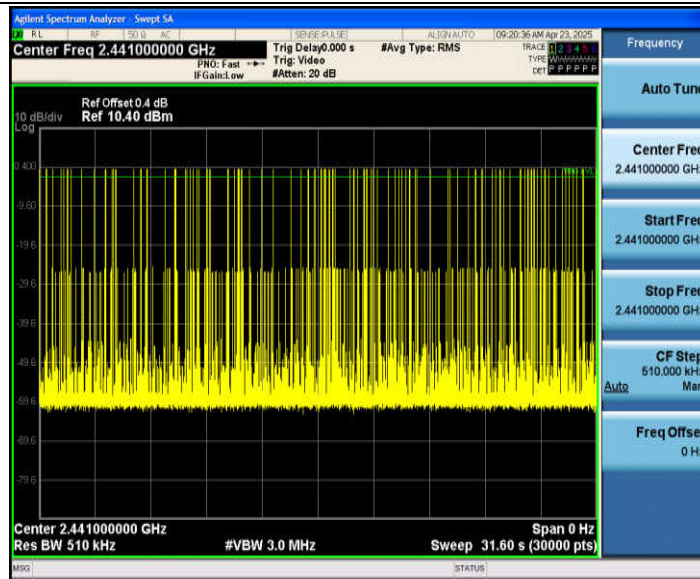
Test Graphs



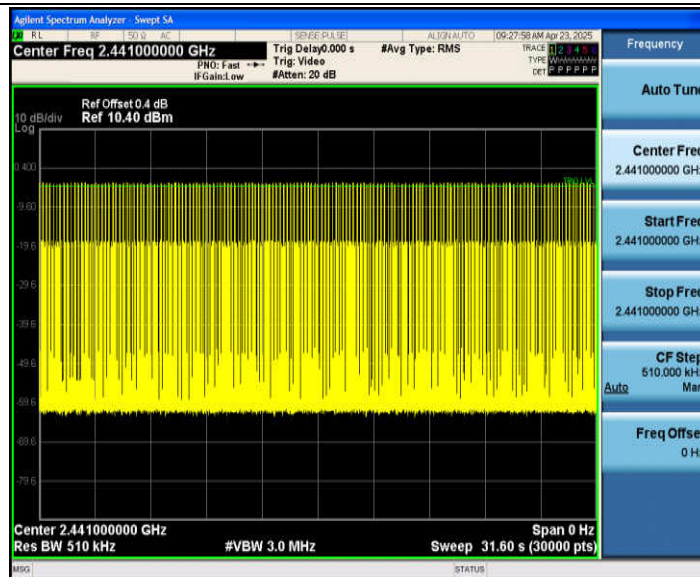
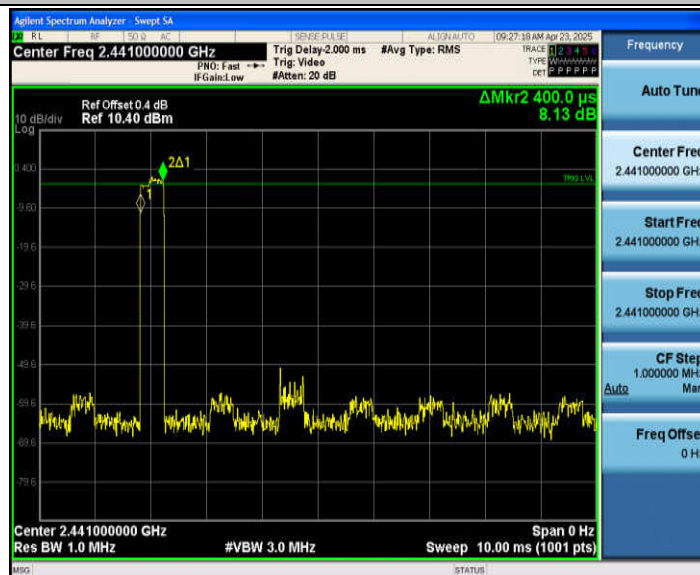


DH5_Ant1_Hop

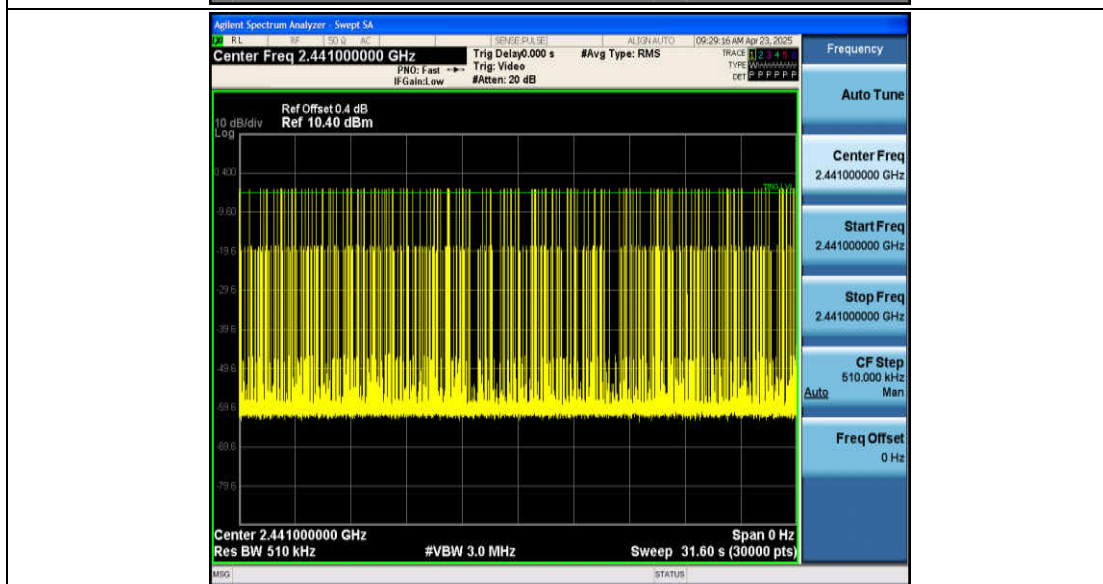
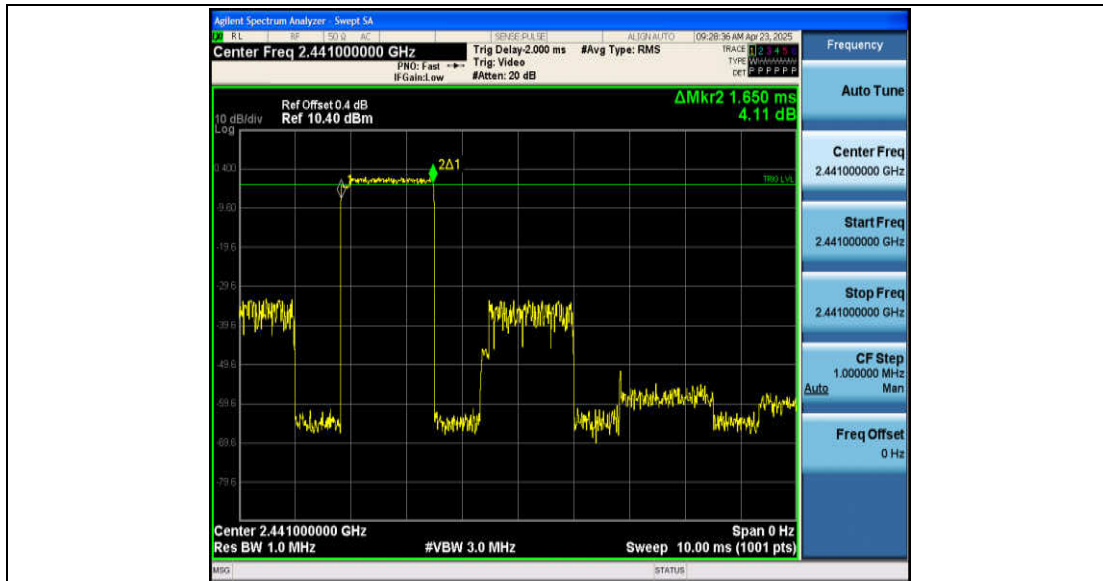




2DH1_Ant1_Hop

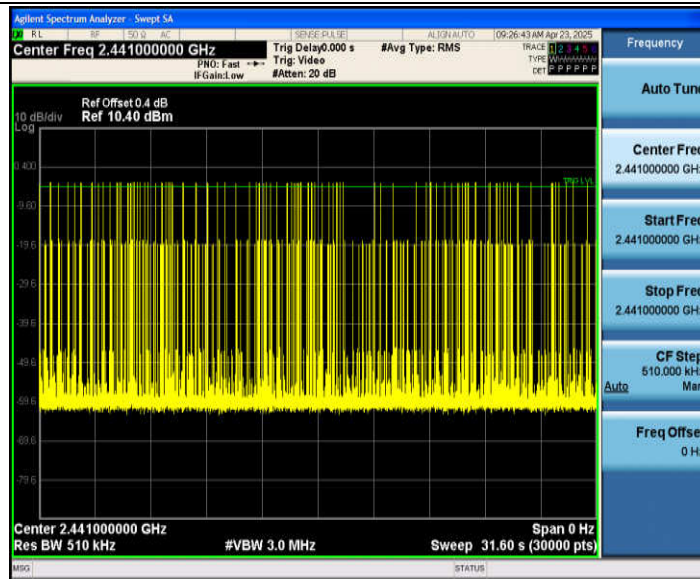


2DH3_Ant1_Hop

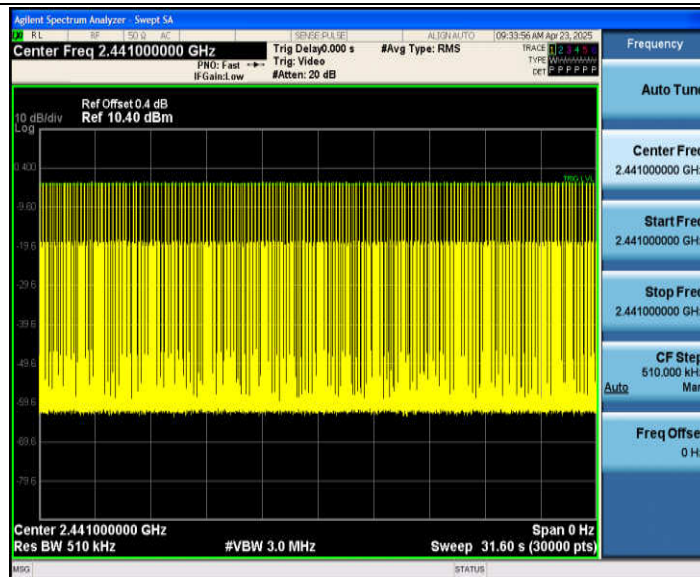


2DH5_Ant1_Hop

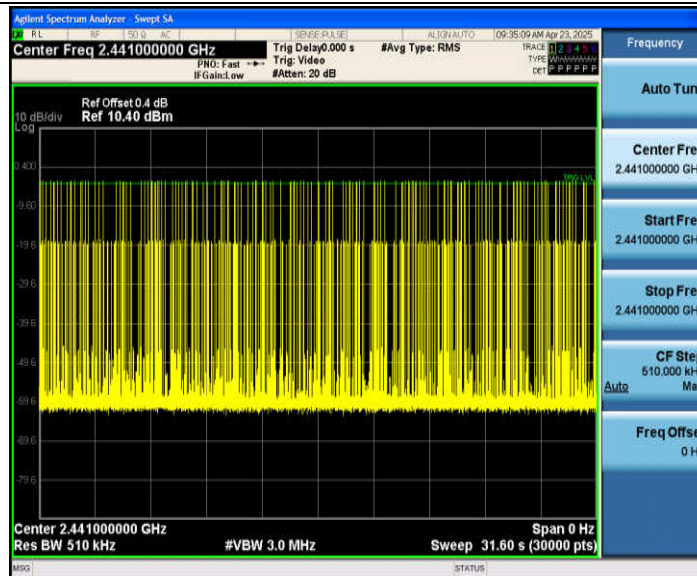




3DH1_Ant1_Hop

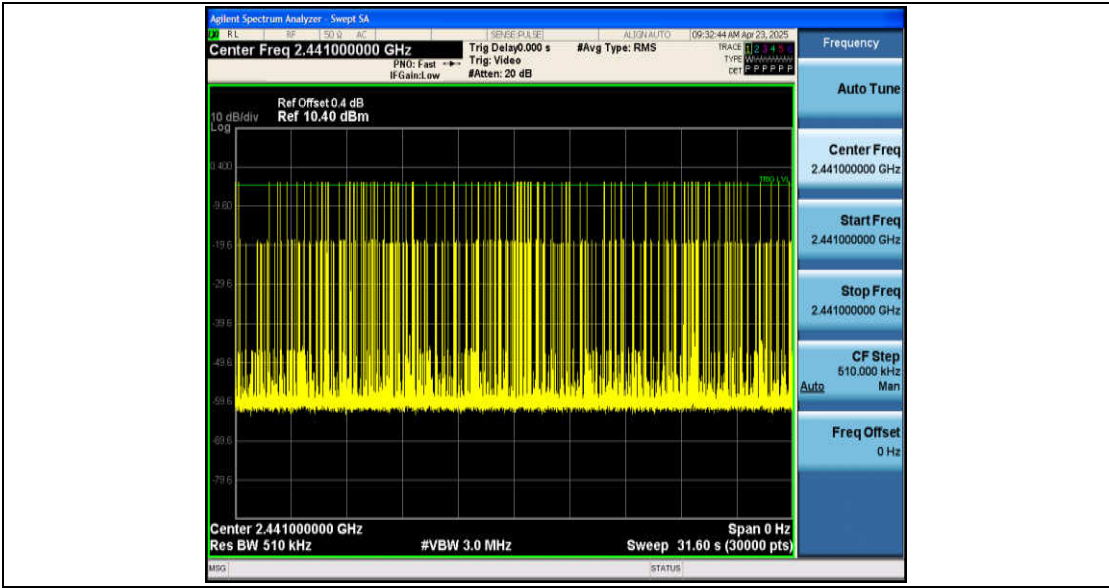


3DH3_Ant1_Hop



3DH5_Ant1_Hop



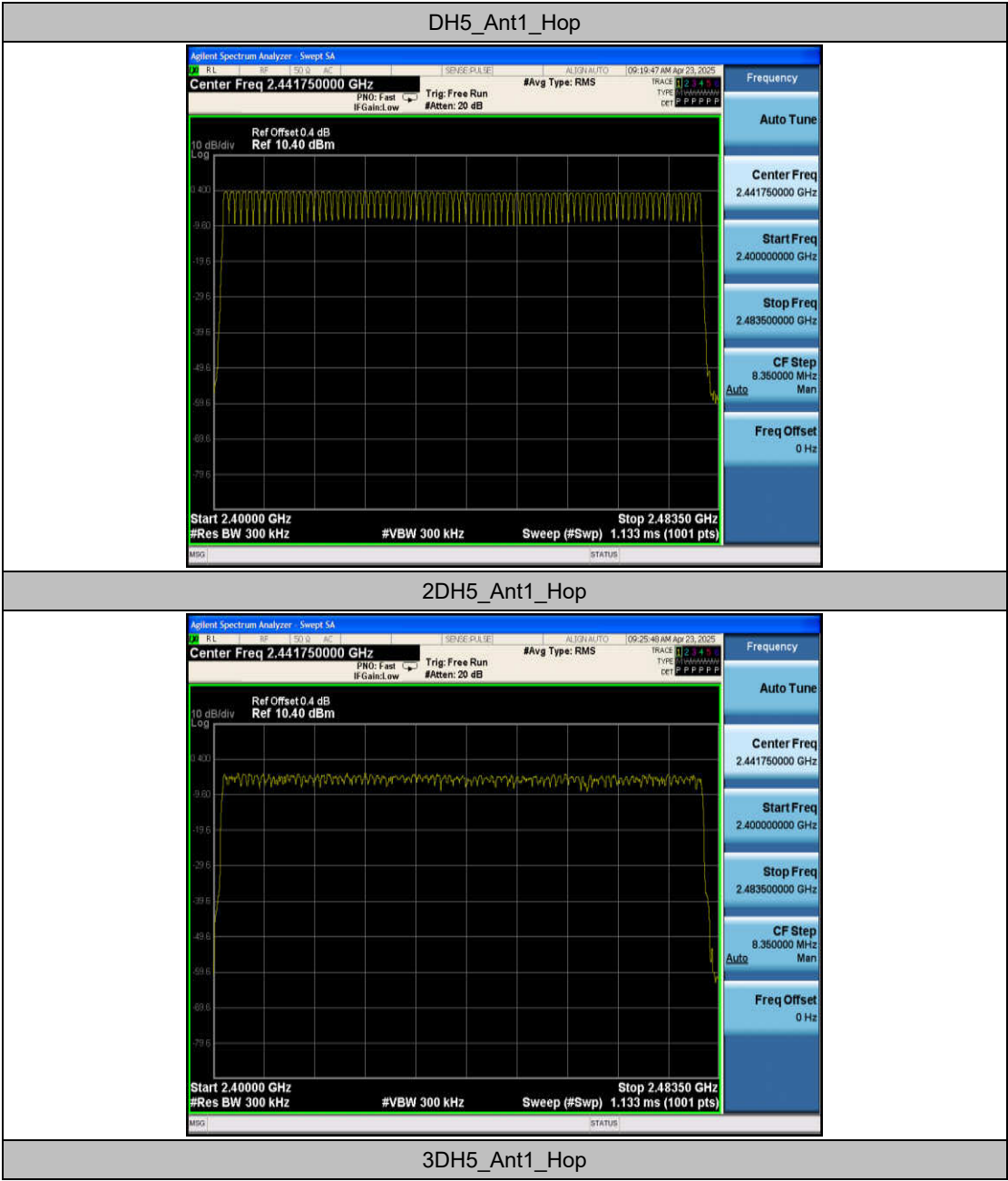


Appendix F: Number of hopping channels

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

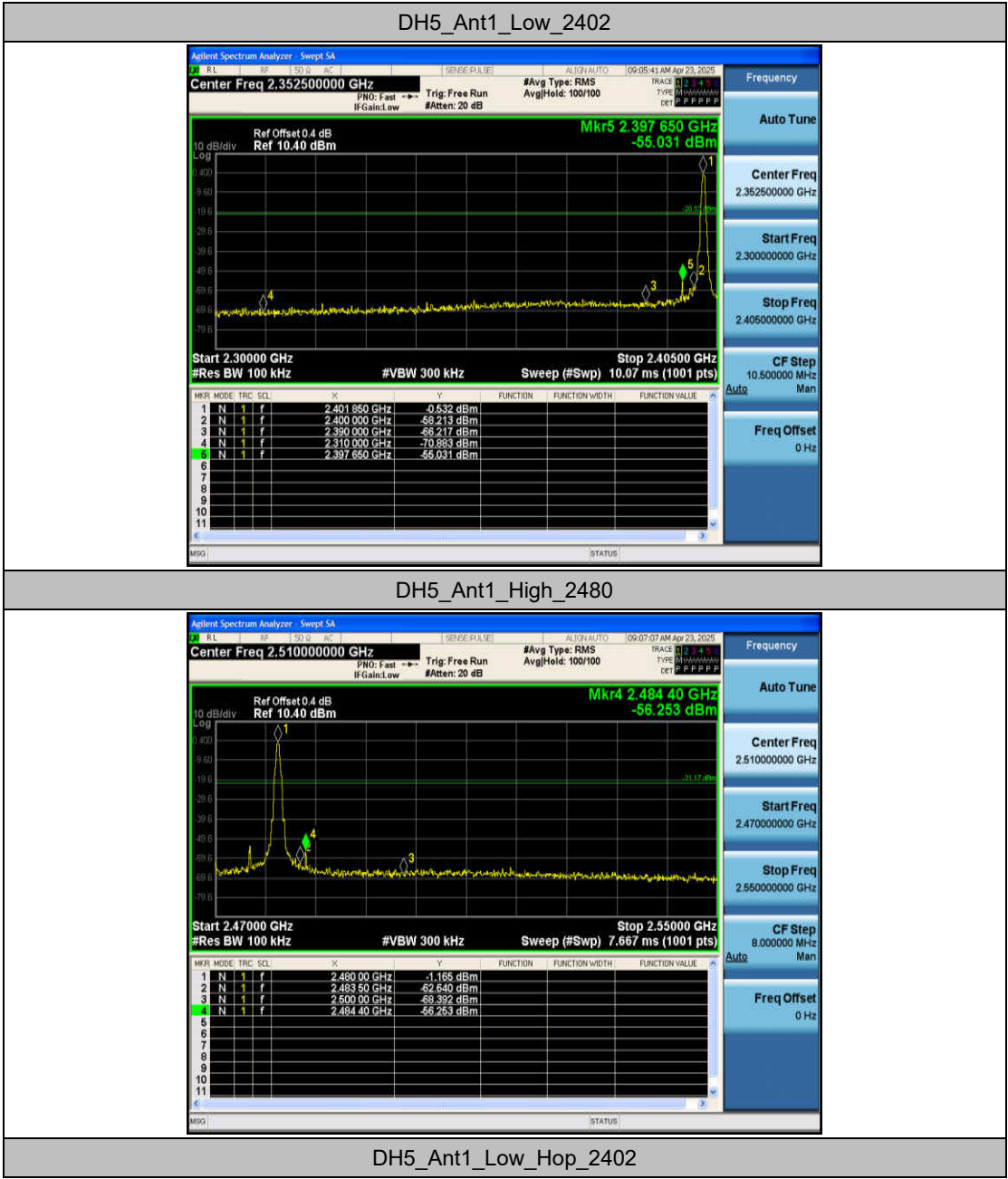


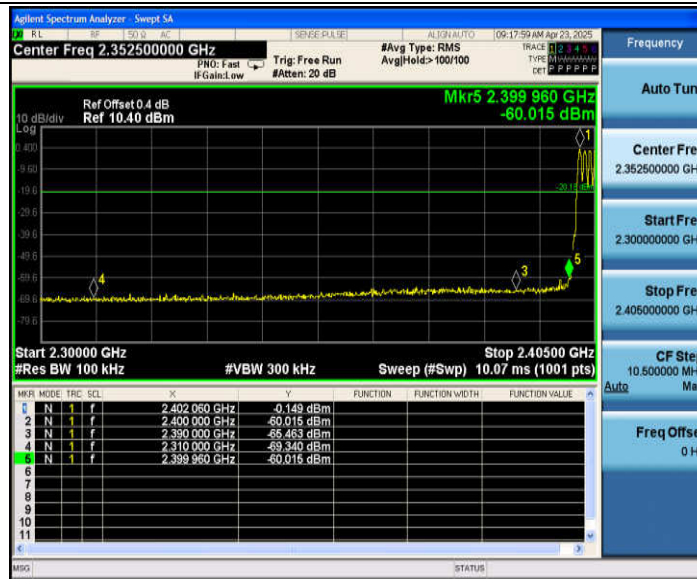
Appendix G: Band edge measurements

Test Result

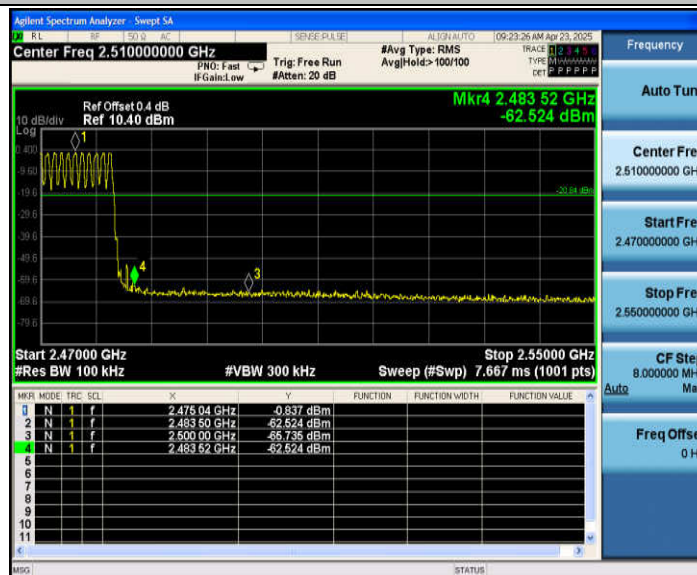
TestMode	Antenna	ChName	Freq(MHz)	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
DH5	Ant1	Low	2402	-0.53	-55.03	≤-20.53	PASS
		High	2480	-1.17	-56.25	≤-21.17	PASS
		Low	Hop_2402	-0.15	-60.02	≤-20.15	PASS
		High	Hop_2480	-0.84	-62.52	≤-20.84	PASS
2DH5	Ant1	Low	2402	-3.67	-59.68	≤-23.67	PASS
		High	2480	-3.92	-59.42	≤-23.92	PASS
		Low	Hop_2402	-4.02	-60.88	≤-24.02	PASS
		High	Hop_2480	-4.86	-63.92	≤-24.86	PASS
3DH5	Ant1	Low	2402	-5.48	-61.32	≤-25.48	PASS
		High	2480	-6.25	-64.53	≤-26.25	PASS
		Low	Hop_2402	-4.37	-63.23	≤-24.37	PASS
		High	Hop_2480	-4.05	-63.84	≤-24.05	PASS

Test Graphs

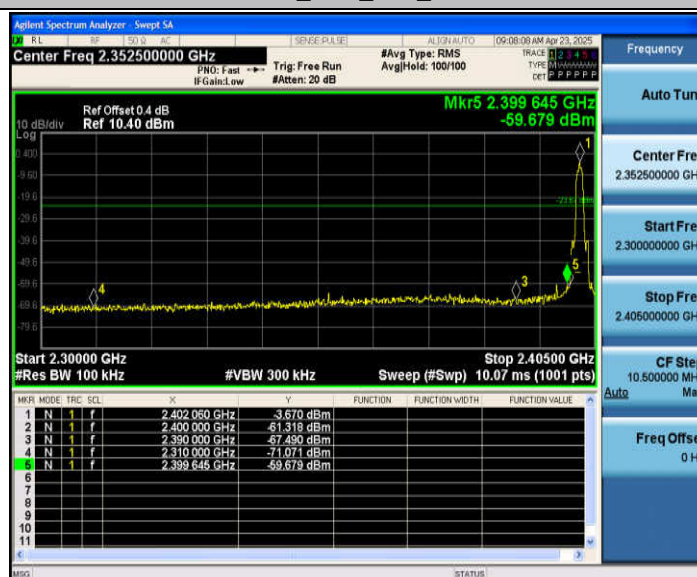




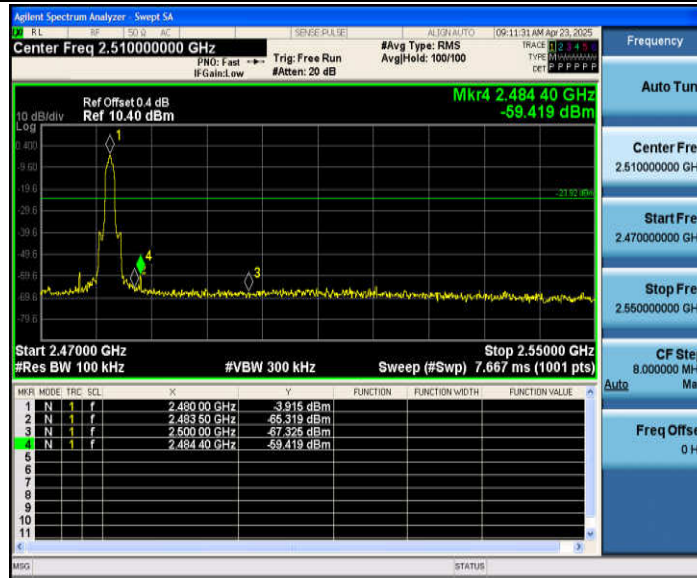
DH5_Ant1_High_Hop_2480



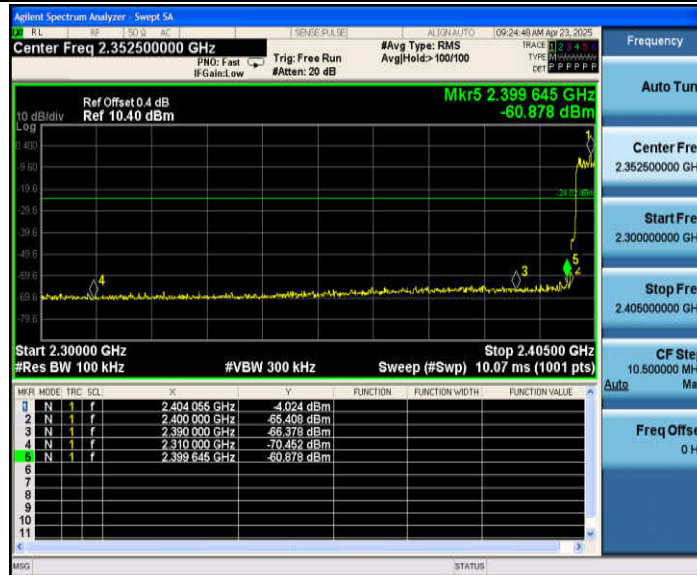
2DH5_Ant1_High_Hop_2480



2DH5_Ant1_High_2480



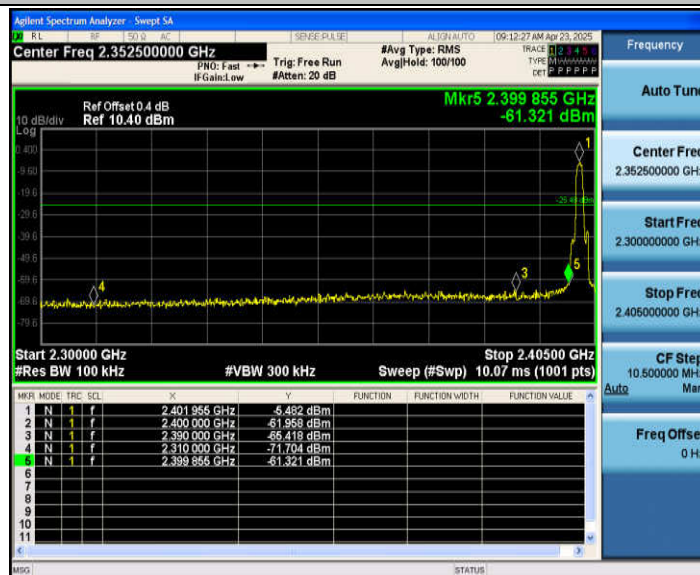
2DH5_Ant1_Low_Hop_2402



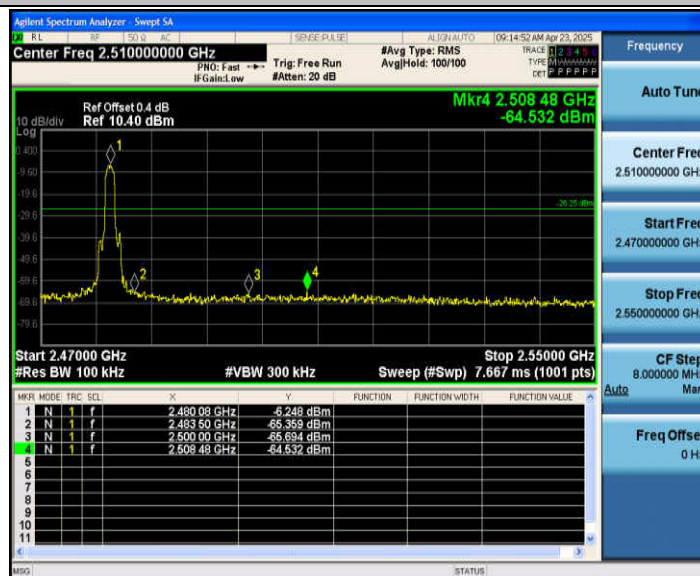
2DH5_Ant1_High_Hop_2480



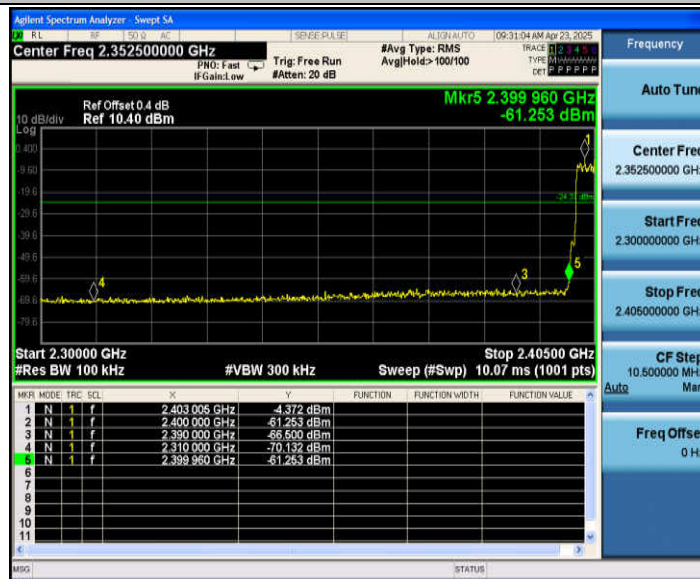
3DH5_Ant1_Low_2402



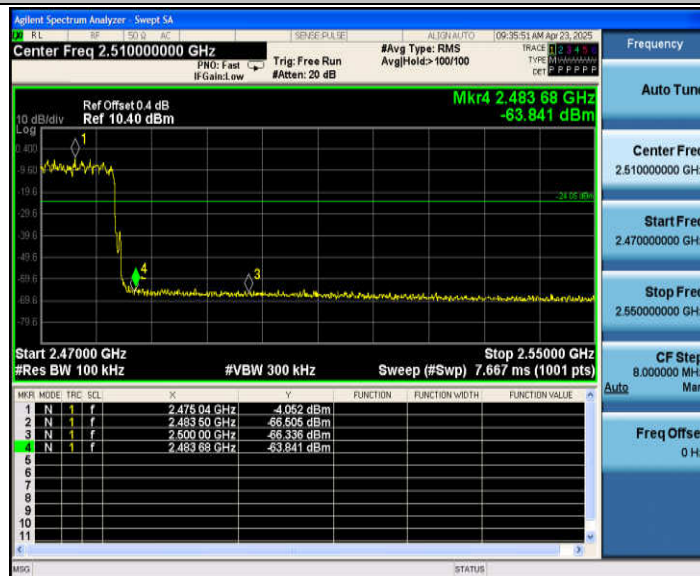
3DH5_Ant1_High_2480



3DH5_Ant1_Low_Hop_2402



3DH5_Ant1_High_Hop_2480



Appendix H: Conducted Spurious Emission

Test Result

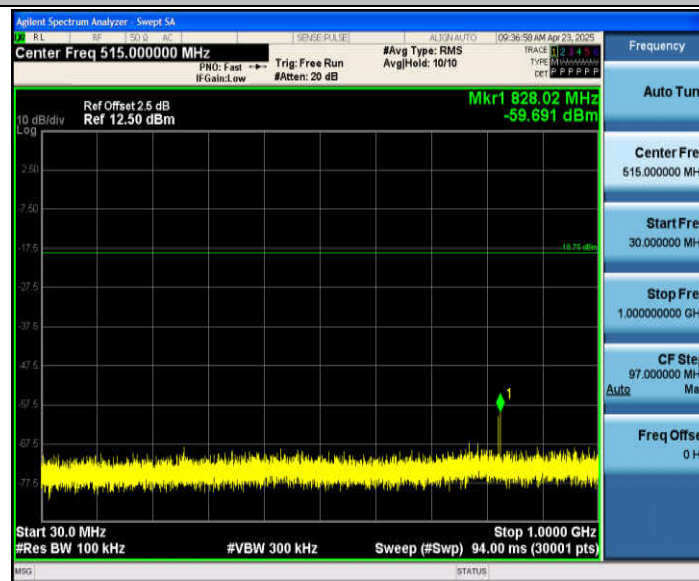
TestMode	Antenna	Freq(MHz)	FreqRange [MHz]	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
DH5	Ant1	2402	Reference	1.25	1.25	---	PASS
			30~1000	1.25	-59.69	≤-18.75	PASS
			1000~26500	1.25	-41.9	≤-18.75	PASS
		2441	Reference	0.85	0.85	---	PASS
			30~1000	0.85	-68.25	≤-19.15	PASS
			1000~26500	0.85	-44.53	≤-19.15	PASS
		2480	Reference	0.50	0.50	---	PASS
			30~1000	0.50	-67.88	≤-19.5	PASS
			1000~26500	0.50	-44.03	≤-19.5	PASS
2DH5	Ant1	2402	Reference	-3.07	-3.07	---	PASS
			30~1000	-3.07	-68.03	≤-23.07	PASS
			1000~26500	-3.07	-48.09	≤-23.07	PASS
		2441	Reference	-3.69	-3.69	---	PASS
			30~1000	-3.69	-67.67	≤-23.69	PASS
			1000~26500	-3.69	-49.43	≤-23.69	PASS
		2480	Reference	-4.68	-4.68	---	PASS
			30~1000	-4.68	-67.89	≤-24.68	PASS
			1000~26500	-4.68	-51.94	≤-24.68	PASS
3DH5	Ant1	2402	Reference	-2.75	-2.75	---	PASS
			30~1000	-2.75	-68.03	≤-22.75	PASS
			1000~26500	-2.75	-50.14	≤-22.75	PASS
		2441	Reference	-3.68	-3.68	---	PASS
			30~1000	-3.68	-67.88	≤-23.68	PASS
			1000~26500	-3.68	-48.7	≤-23.68	PASS
		2480	Reference	-4.62	-4.62	---	PASS
			30~1000	-4.62	-67.5	≤-24.62	PASS
			1000~26500	-4.62	-51.65	≤-24.62	PASS

Test Graphs

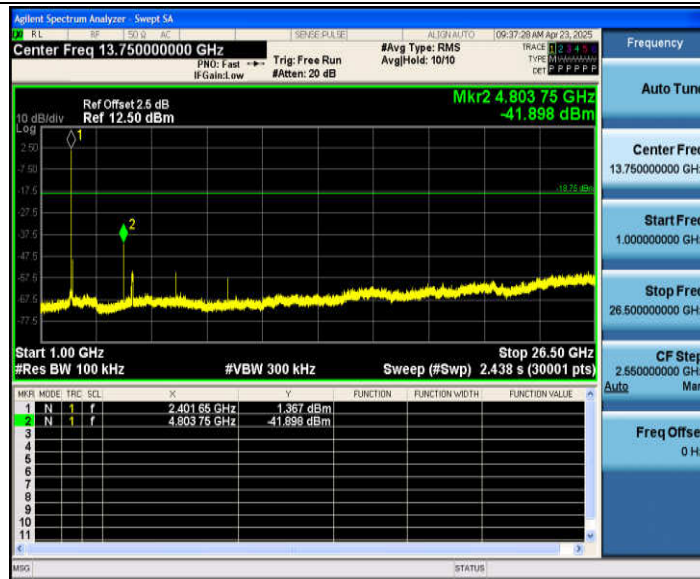
DH5_Ant1_2402_0~Reference



DH5_Ant1_2402_30~1000



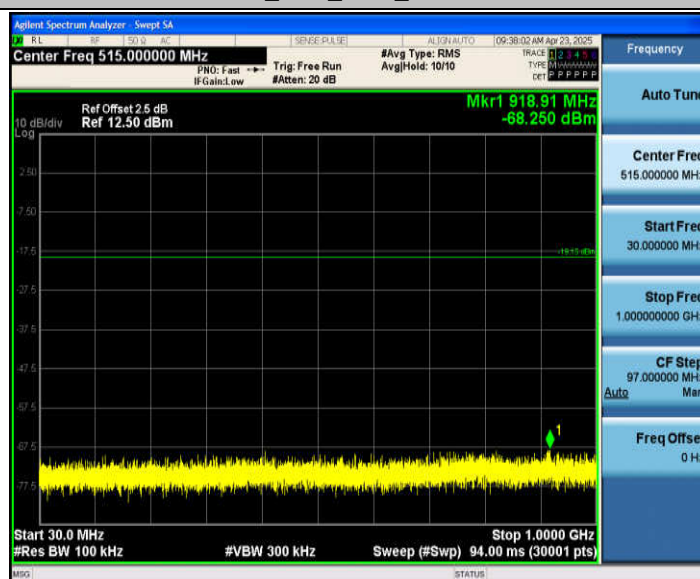
DH5_Ant1_2402_1000~26500



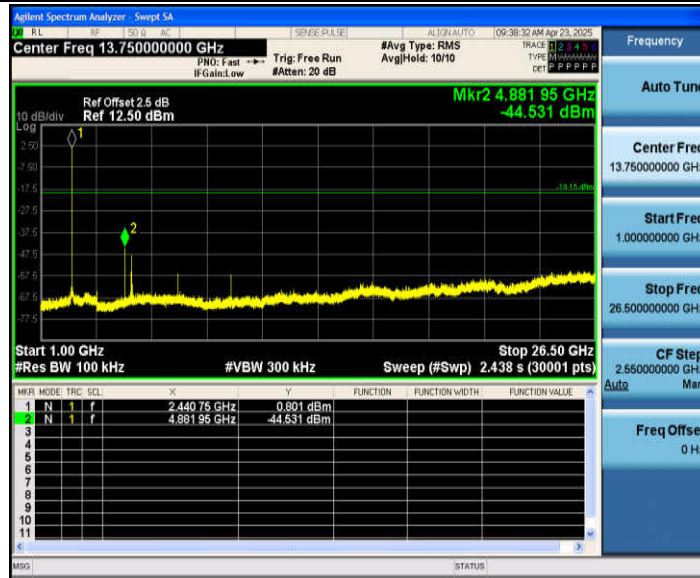
DH5_Ant1_2441_0~Reference



DH5_Ant1_2441_30~1000



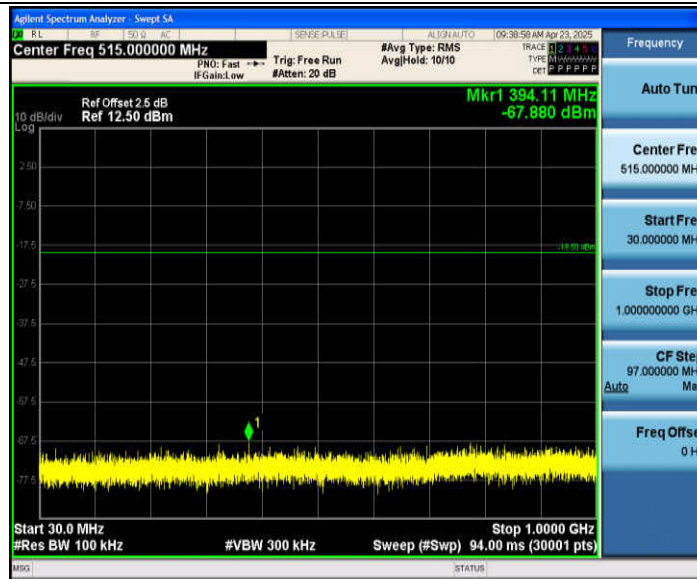
DH5_Ant1_2441_1000~26500



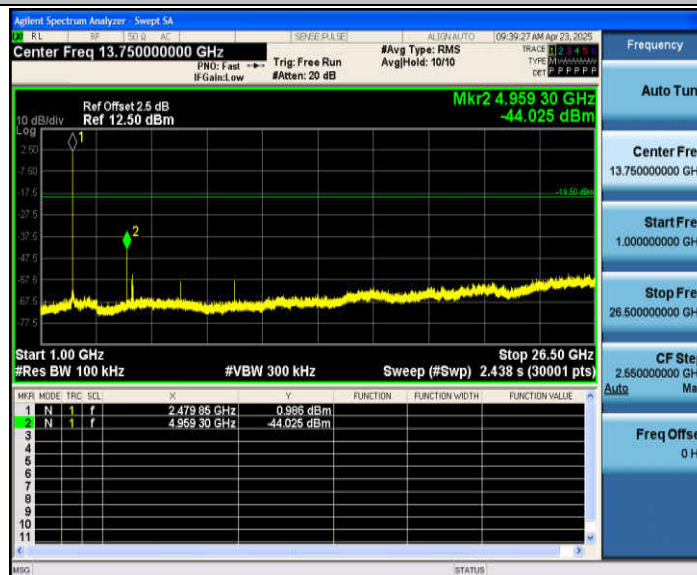
DH5_Ant1_2480_0~Reference



DH5_Ant1_2480_30~1000



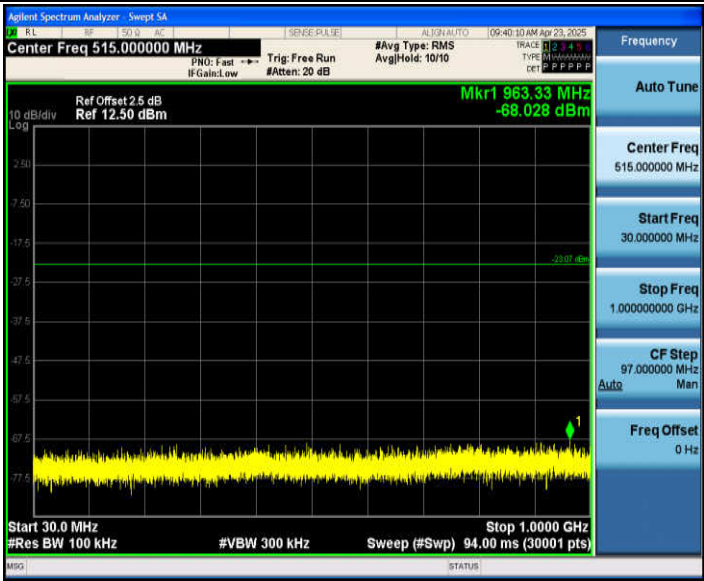
DH5_Ant1_2480_1000~26500



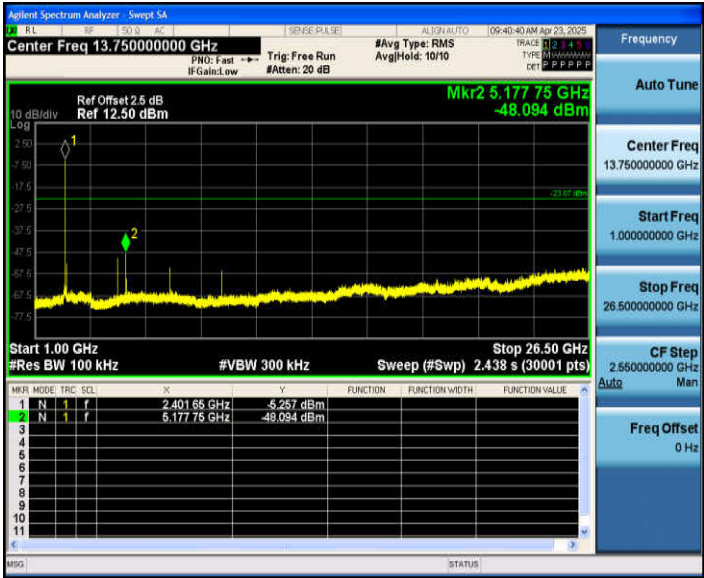
2DH5_Ant1_2402_0~Reference



2DH5_Ant1_2402_30~1000



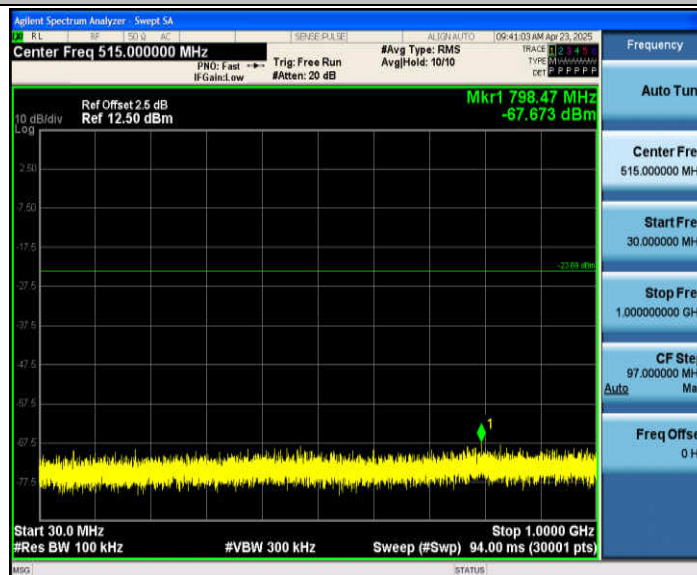
2DH5_Ant1_2402_1000~26500



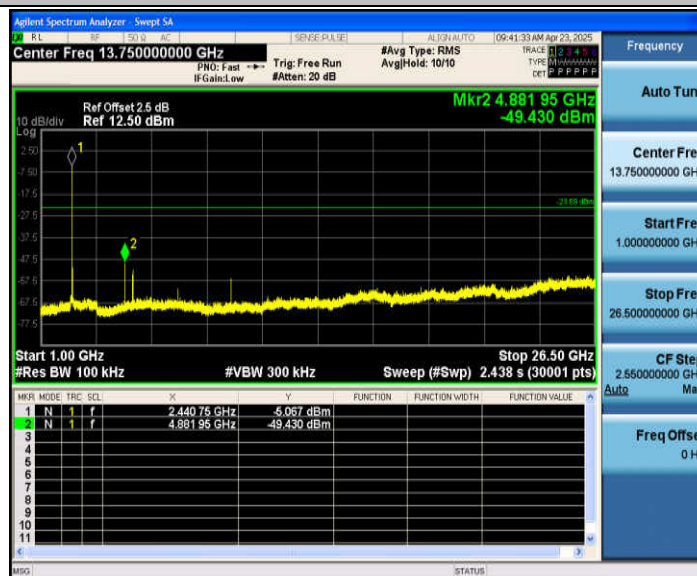
2DH5_Ant1_2441_0~Reference



2DH5_Ant1_2441_30~1000



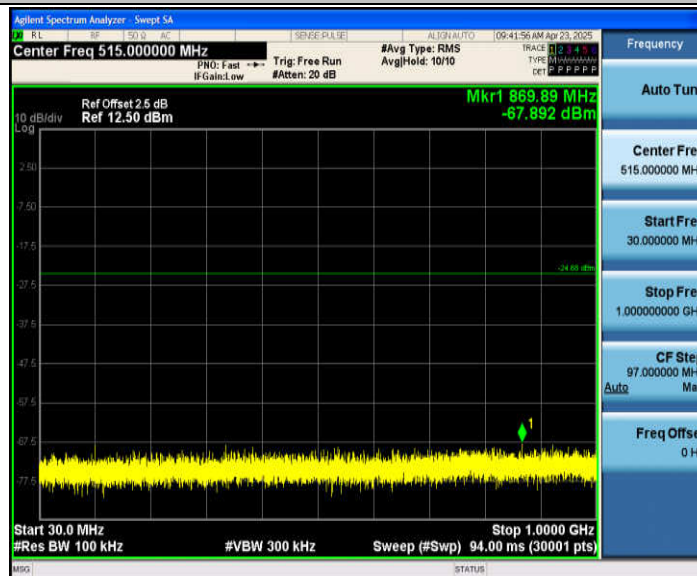
2DH5_Ant1_2441_1000~26500



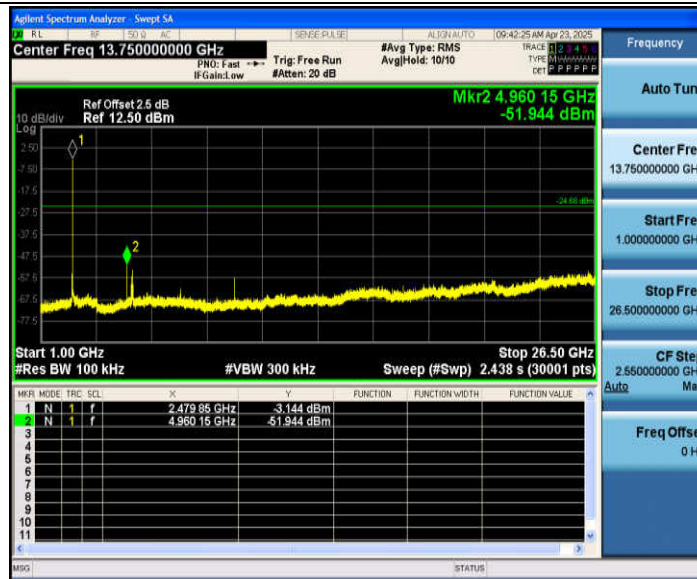
2DH5_Ant1_2480_0~Reference



2DH5_Ant1_2480_30~1000



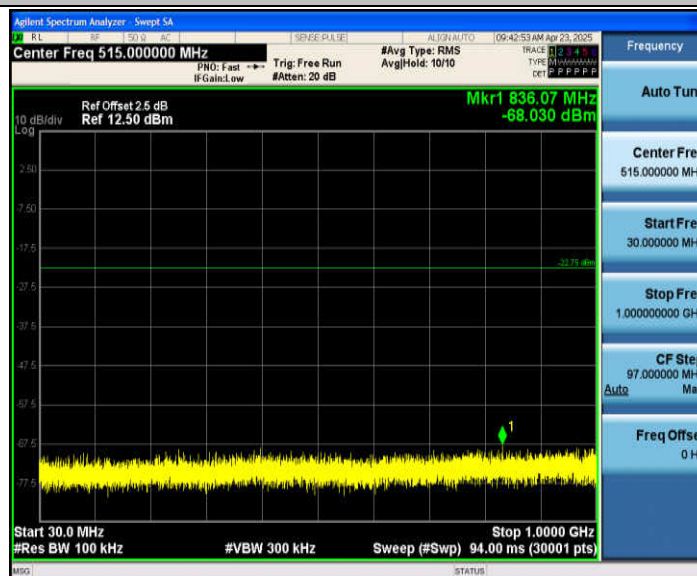
2DH5_Ant1_2480_1000~26500



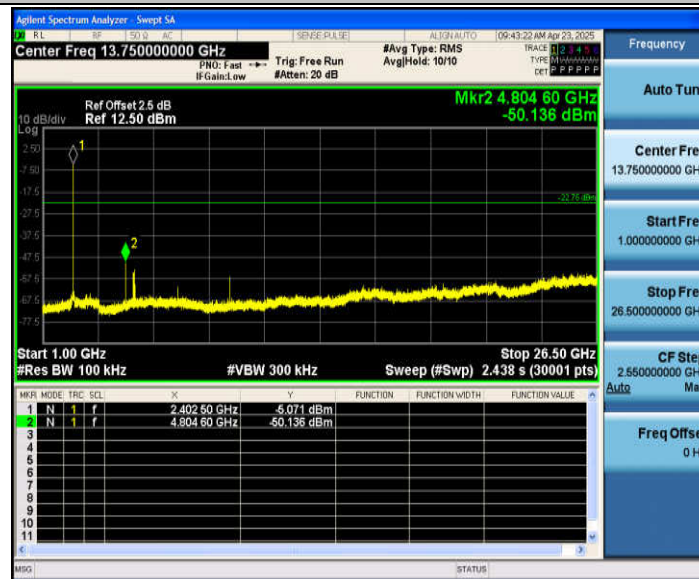
3DH5_Ant1_2402_0~Reference



3DH5_Ant1_2402_30~1000



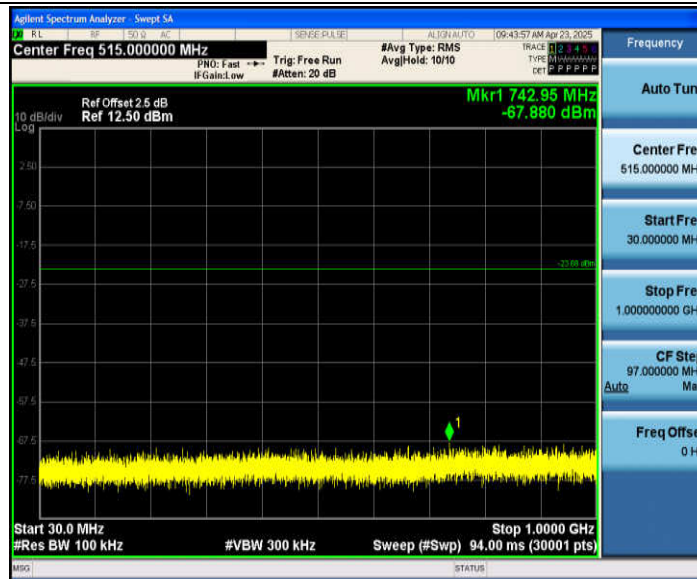
3DH5_Ant1_2402_1000~26500



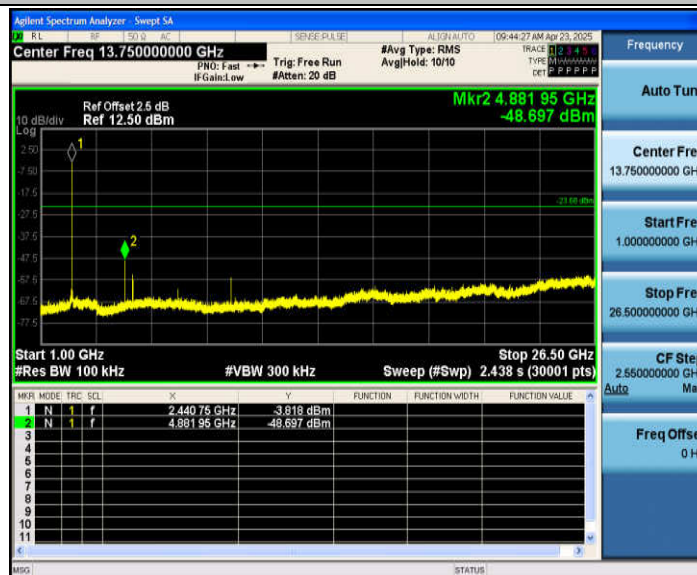
3DH5_Ant1_2441_0~Reference



3DH5_Ant1_2441_30~1000



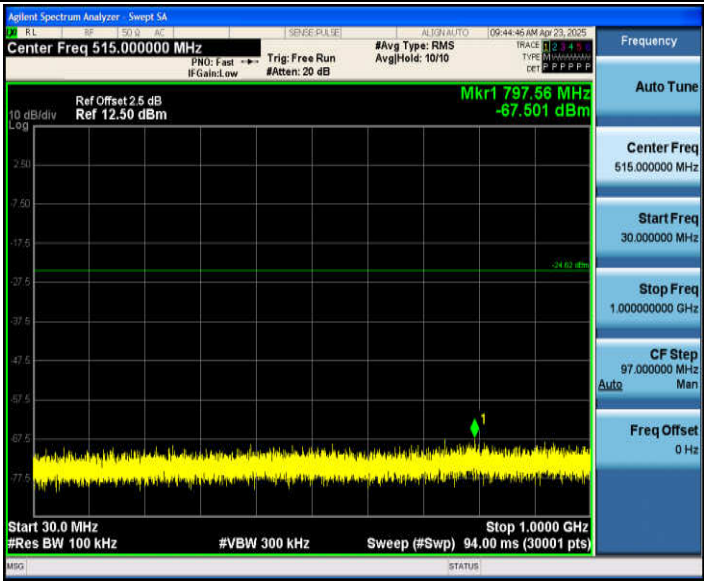
3DH5_Ant1_2441_1000~26500



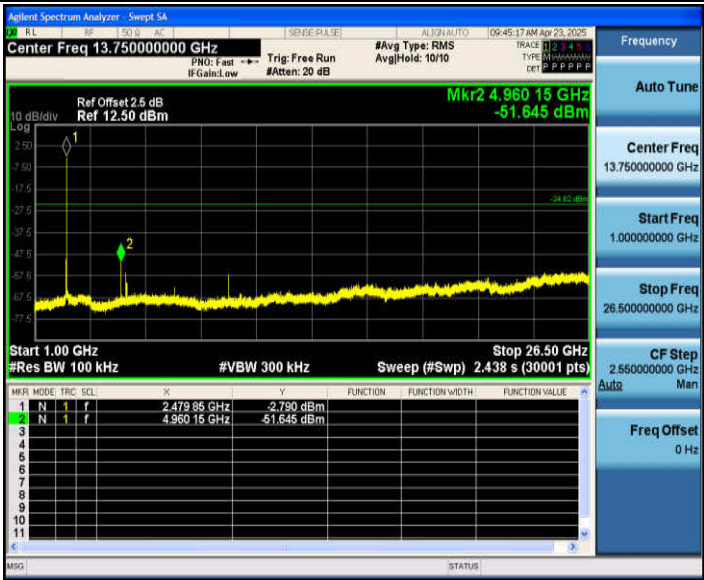
3DH5_Ant1_2480_0~Reference



3DH5_Ant1_2480_30~1000



3DH5_Ant1_2480_1000~26500



Appendix I: Duty Cycle

Test Result

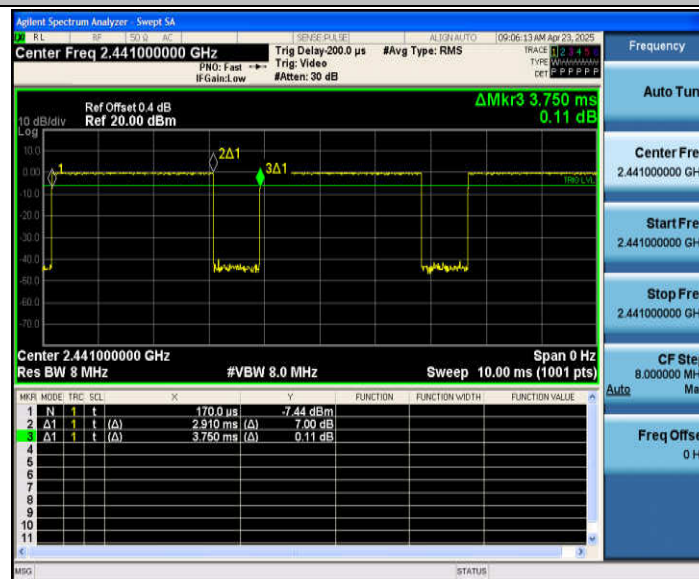
TestMode	Antenna	Freq(MHz)	ON Time [ms]	Period [ms]	DC [%]	xFactor	Limit	Verdict
DH5	Ant1	2402	2.91	3.75	77.60	1.10	---	---
		2441	2.91	3.75	77.60	1.10	---	---
		2480	2.92	3.75	77.87	1.09	---	---
2DH5	Ant1	2402	2.92	3.75	77.87	1.09	---	---
		2441	2.91	3.75	77.60	1.10	---	---
		2480	2.91	3.75	77.60	1.10	---	---
3DH5	Ant1	2402	2.92	3.75	77.87	1.09	---	---
		2441	2.92	3.75	77.87	1.09	---	---
		2480	2.92	3.75	77.87	1.09	---	---

Test Graphs

DH5_Ant1_2402



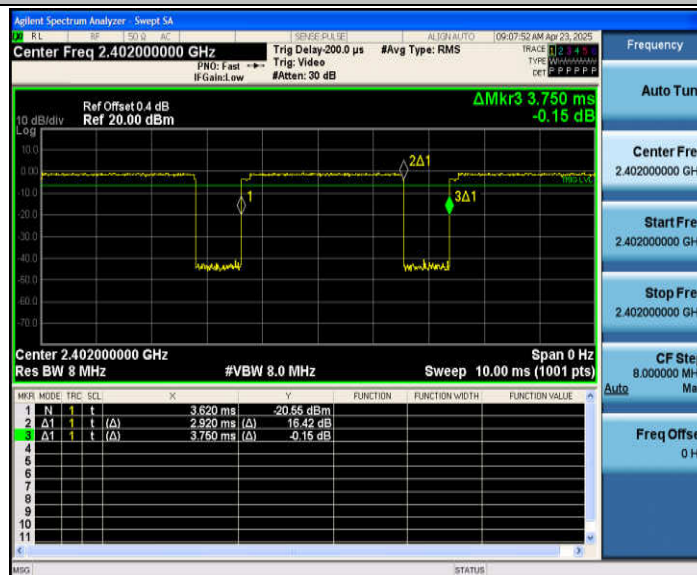
DH5_Ant1_2441



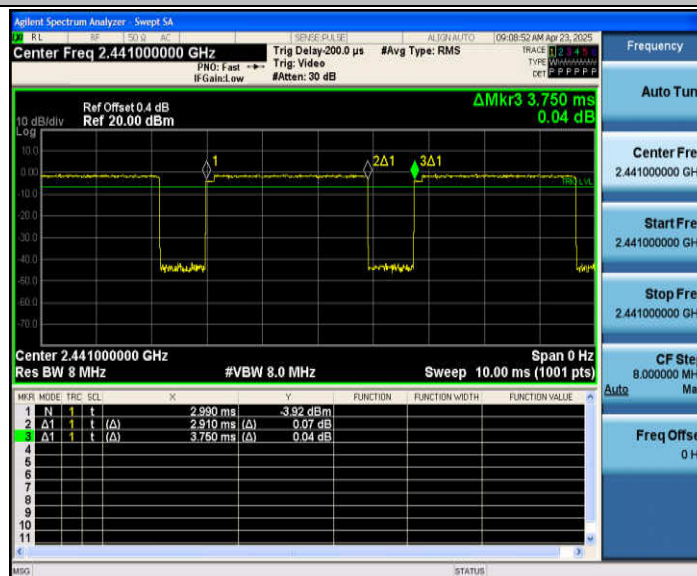
DH5_Ant1_2480



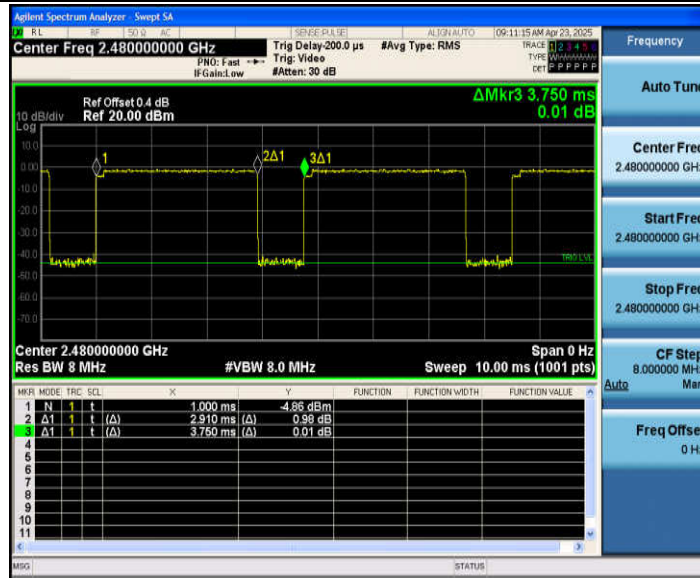
2DH5_Ant1_2402



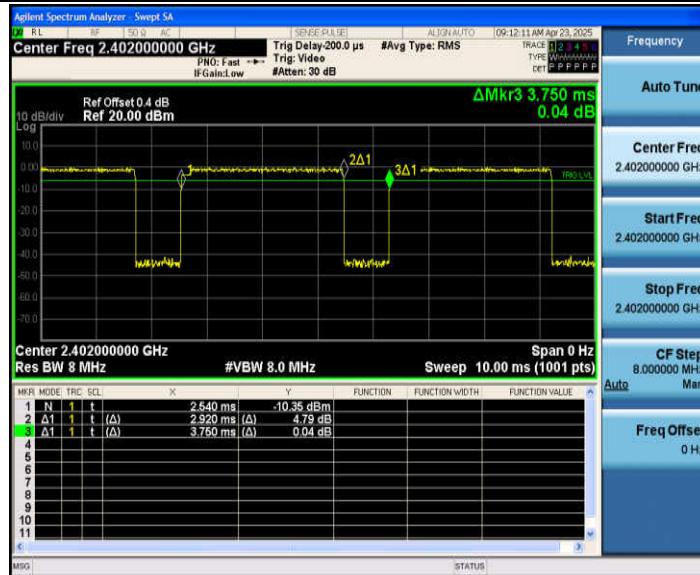
2DH5_Ant1_2441



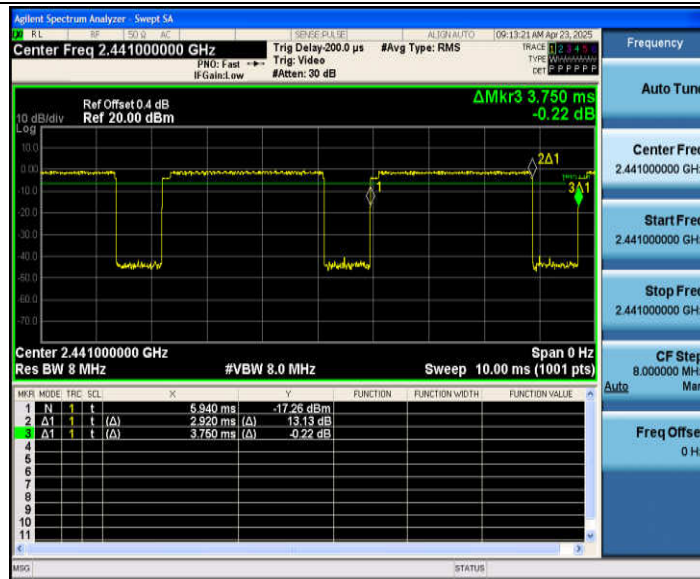
2DH5_Ant1_2480



3DH5_Ant1_2402



3DH5_Ant1_2441



3DH5_Ant1_2480

