

FCC Appendix RF Test Data of Module 1

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	0.960	2401.544	2402.504	---	---
		2441	0.945	2440.544	2441.489	---	---
		2480	0.960	2479.544	2480.504	---	---
2DH5	Ant1	2402	1.329	2401.343	2402.672	---	---
		2441	1.281	2440.379	2441.660	---	---
		2480	1.338	2479.343	2480.681	---	---
3DH5	Ant1	2402	1.305	2401.361	2402.666	---	---
		2441	1.293	2440.358	2441.651	---	---
		2480	1.314	2479.358	2480.672	---	---

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	0.87302	2401.5717	2402.4448	---	---
		2441	0.87309	2440.5727	2441.4458	---	---
		2480	0.87561	2479.5719	2480.4475	---	---
2DH5	Ant1	2402	1.1957	2401.4127	2402.6084	---	---
		2441	1.1959	2440.4131	2441.6090	---	---
		2480	1.1907	2479.4157	2480.6064	---	---
3DH5	Ant1	2402	1.1889	2401.4144	2402.6033	---	---
		2441	1.1813	2440.4205	2441.6018	---	---
		2480	1.1852	2479.4195	2480.6047	---	---

Test Graphs

DH5_Ant1_2402



DH5_Ant1_2441



DH5_Ant1_2480



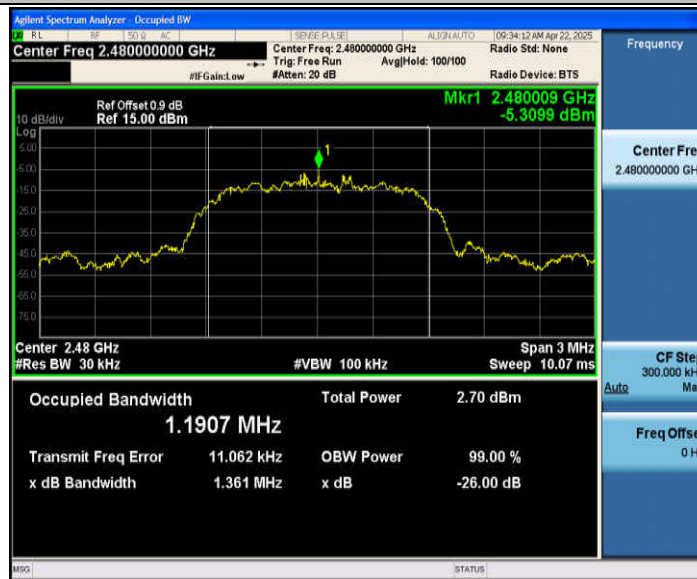
2DH5_Ant1_2402



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	0.43	≤20.97	PASS
		2441	0.24	≤20.97	PASS
		2480	0.18	≤20.97	PASS
2DH5	Ant1	2402	-0.40	≤20.97	PASS
		2441	-0.54	≤20.97	PASS
		2480	-0.67	≤20.97	PASS
3DH5	Ant1	2402	0.03	≤20.97	PASS
		2441	-0.20	≤20.97	PASS
		2480	-0.26	≤20.97	PASS

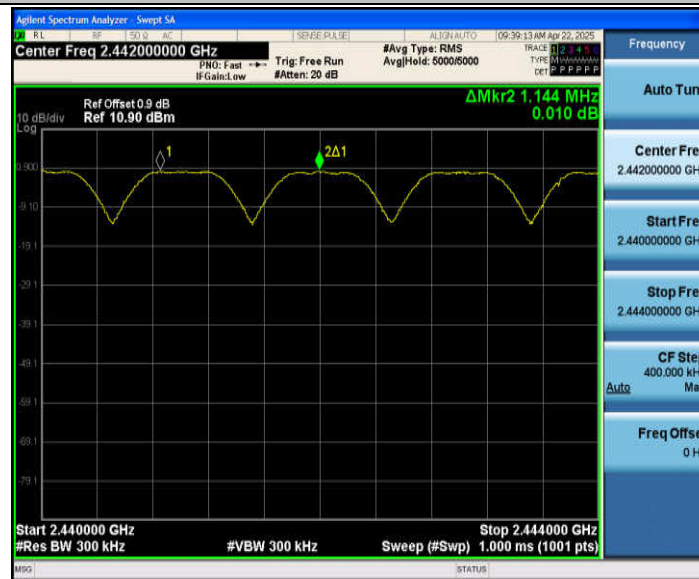
Appendix D: Carrier frequency separation

Test Result

TestMode	Antenna	Freq(MHz)	Result[MHz]	Limit[MHz]	Verdict
DH5	Ant1	Hop	1.144	≥ 0.960	PASS
2DH5	Ant1	Hop	0.956	≥ 0.892	PASS
3DH5	Ant1	Hop	1.148	≥ 0.876	PASS

Test Graphs

DH5_Ant1_Hop



2DH5_Ant1_Hop



3DH5_Ant1_Hop

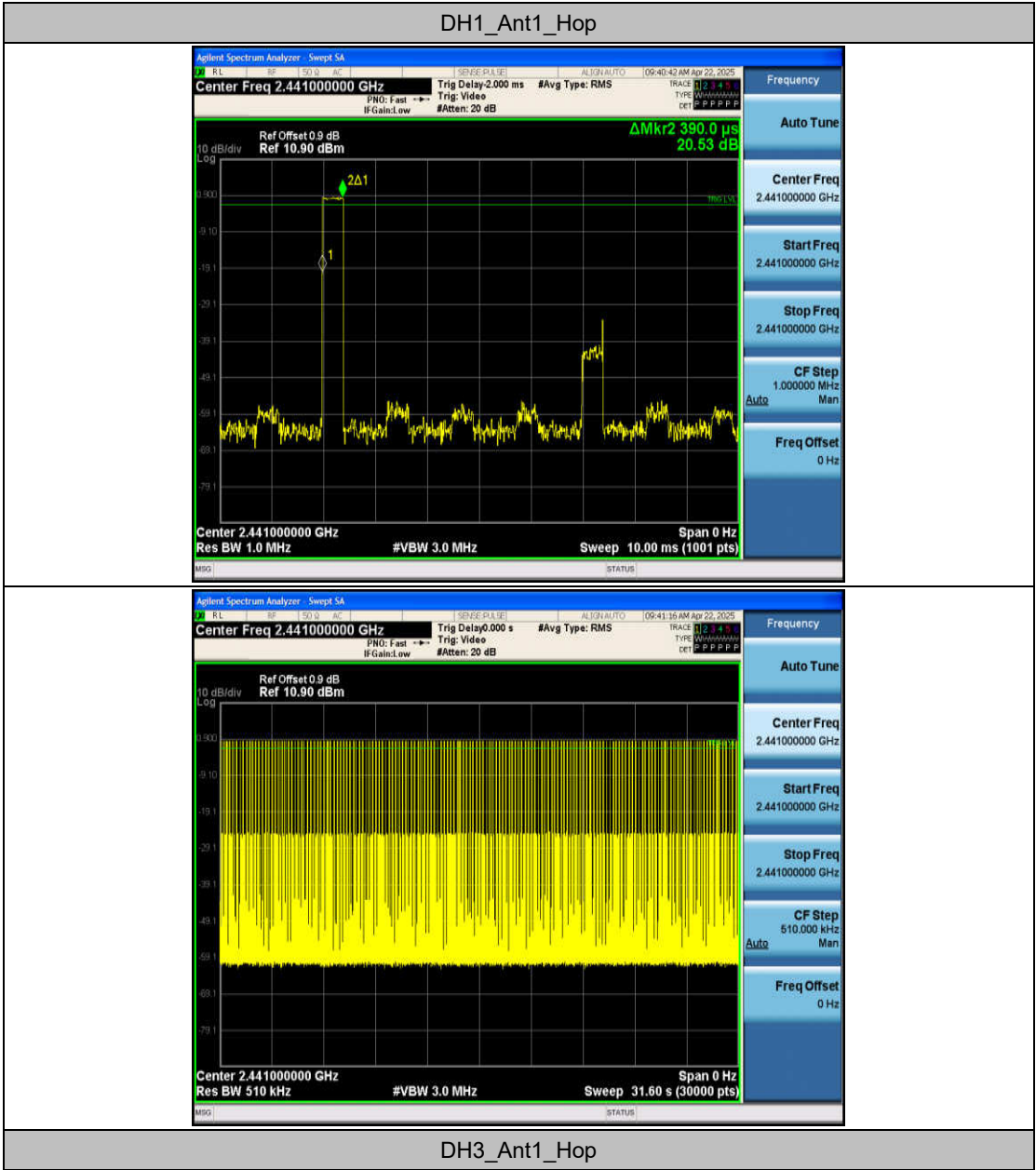


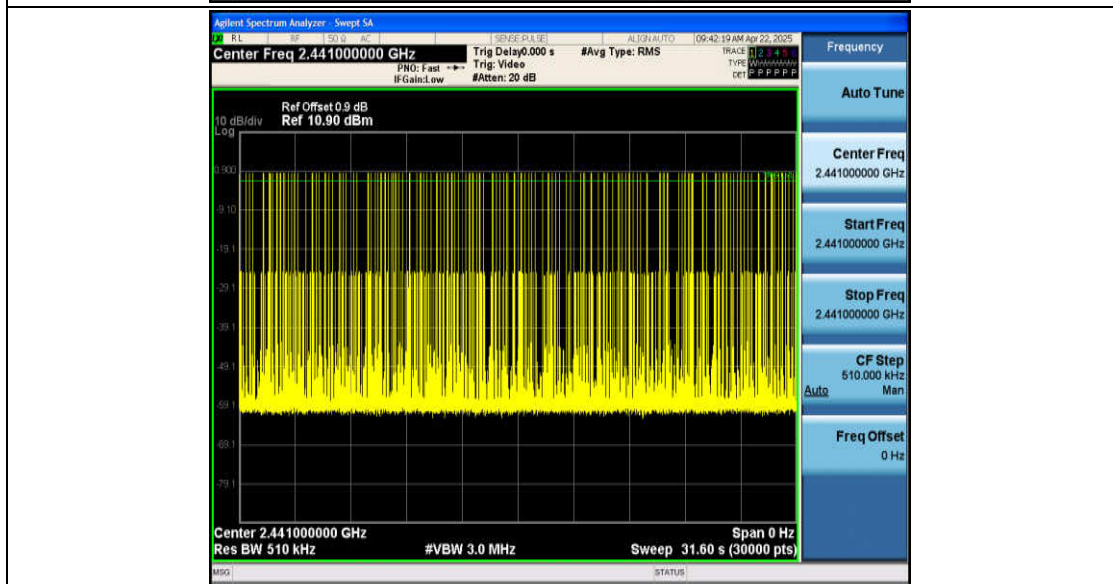
Appendix E: Time of occupancy

Test Result

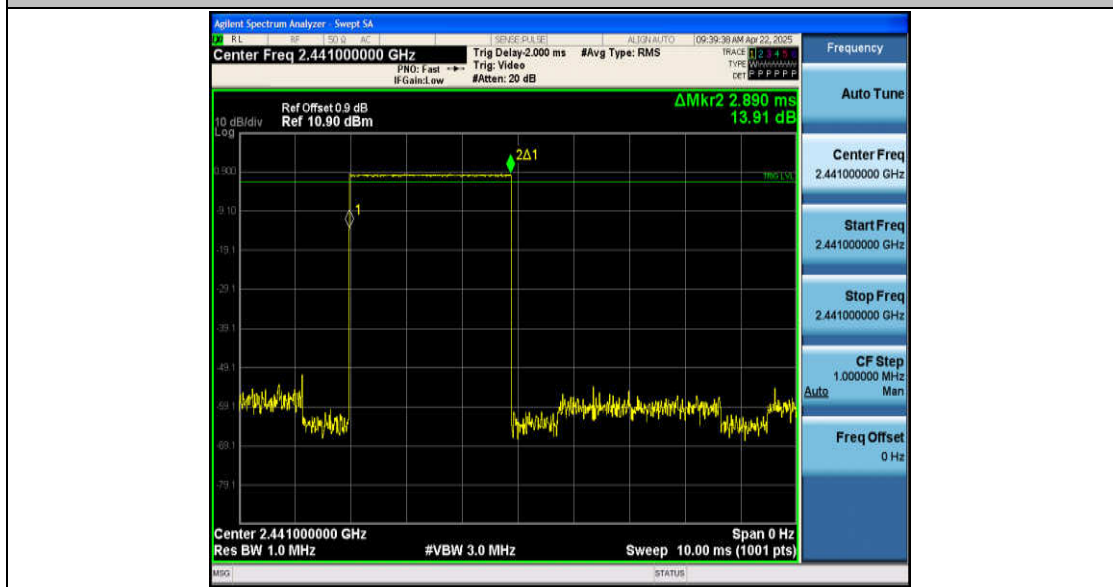
TestMode	Antenna	Freq(MHz)	BurstWidth [ms]	TotalHops [Num]	Result[s]	Limit[s]	Verdict
DH1	Ant1	Hop	0.390	320	0.125	≤0.4	PASS
DH3	Ant1	Hop	1.650	164	0.271	≤0.4	PASS
DH5	Ant1	Hop	2.890	110	0.318	≤0.4	PASS
2DH1	Ant1	Hop	0.400	316	0.126	≤0.4	PASS
2DH3	Ant1	Hop	1.650	160	0.264	≤0.4	PASS
2DH5	Ant1	Hop	2.900	111	0.322	≤0.4	PASS
3DH1	Ant1	Hop	0.400	319	0.128	≤0.4	PASS
3DH3	Ant1	Hop	1.640	169	0.277	≤0.4	PASS
3DH5	Ant1	Hop	2.900	107	0.31	≤0.4	PASS

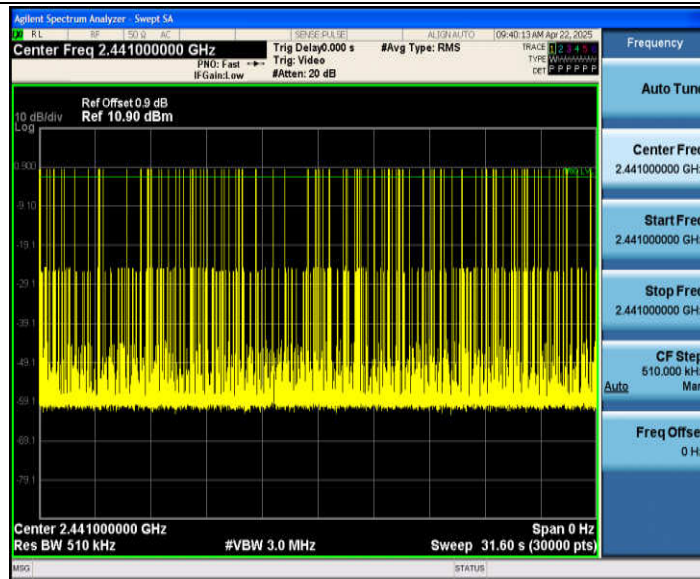
Test Graphs



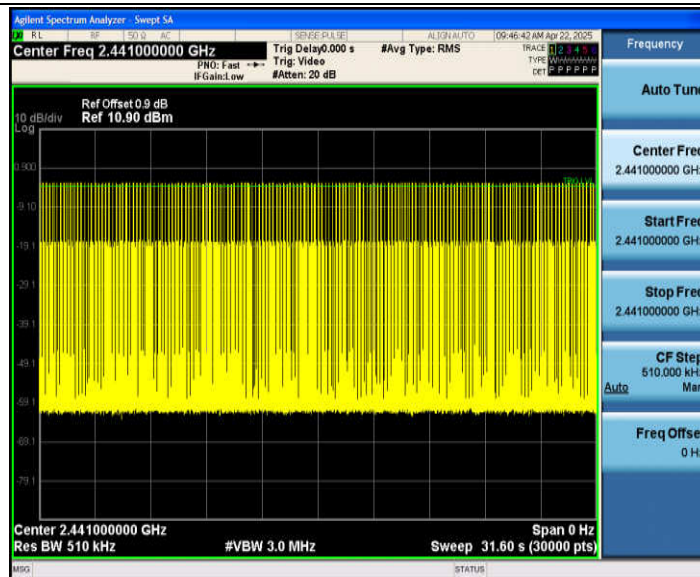
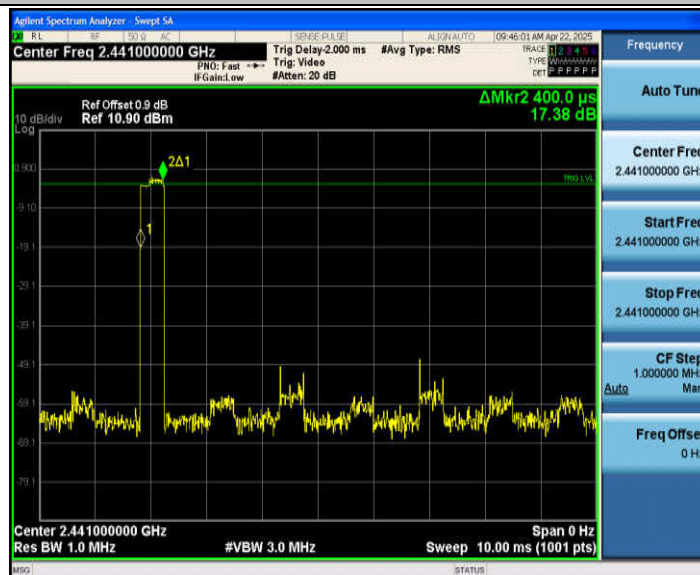


DH5_Ant1_Hop

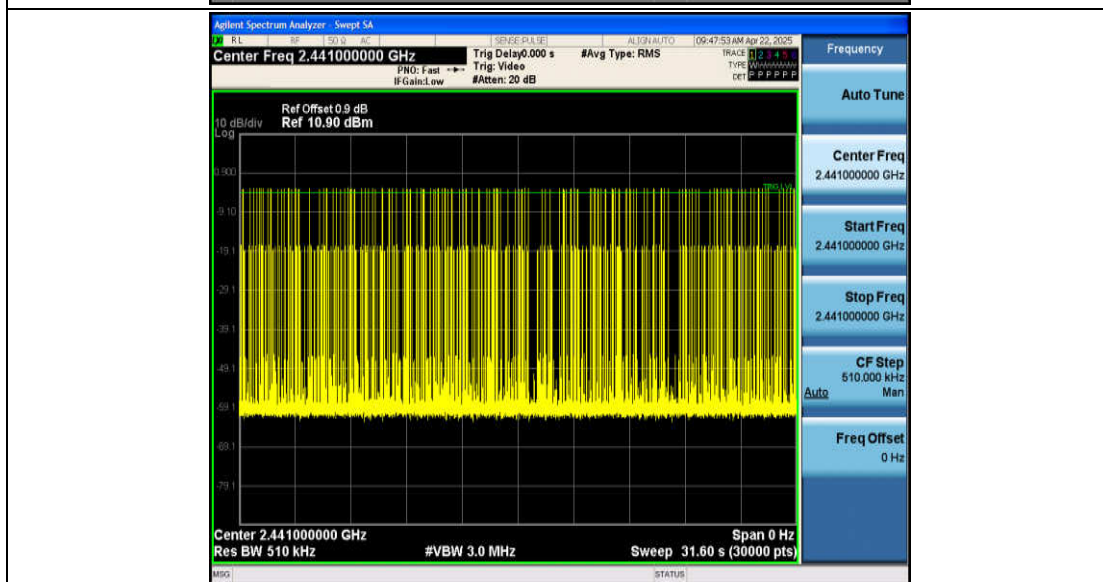




2DH1_Ant1_Hop

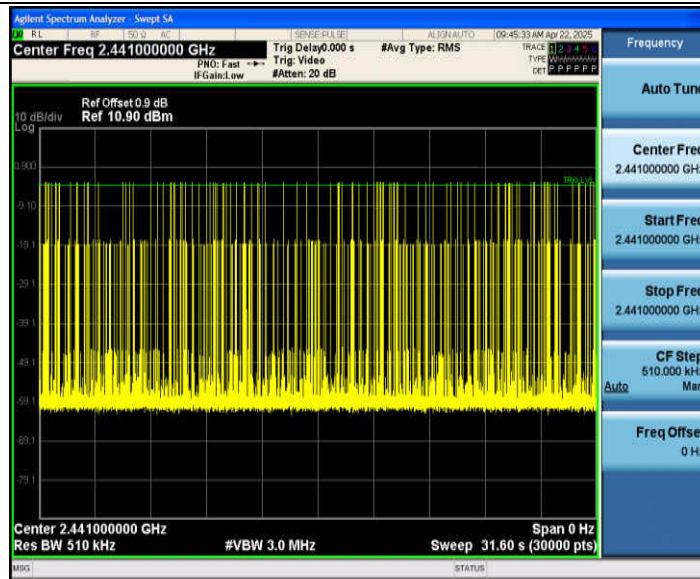


2DH3_Ant1_Hop

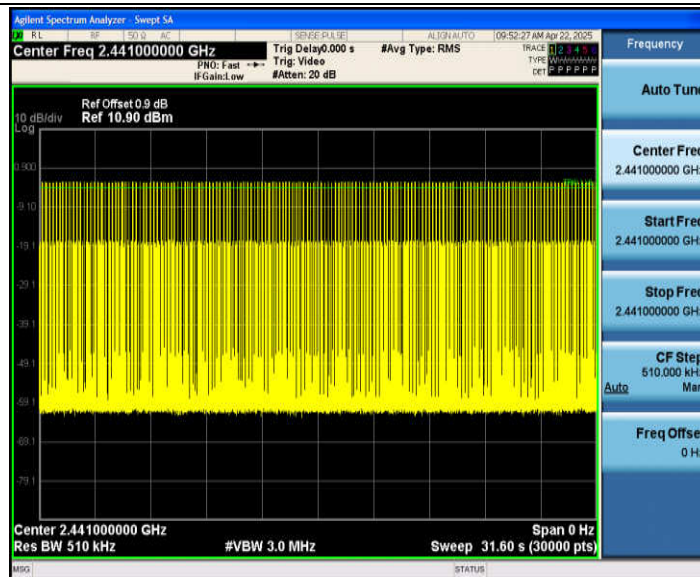


2DH5_Ant1_Hop

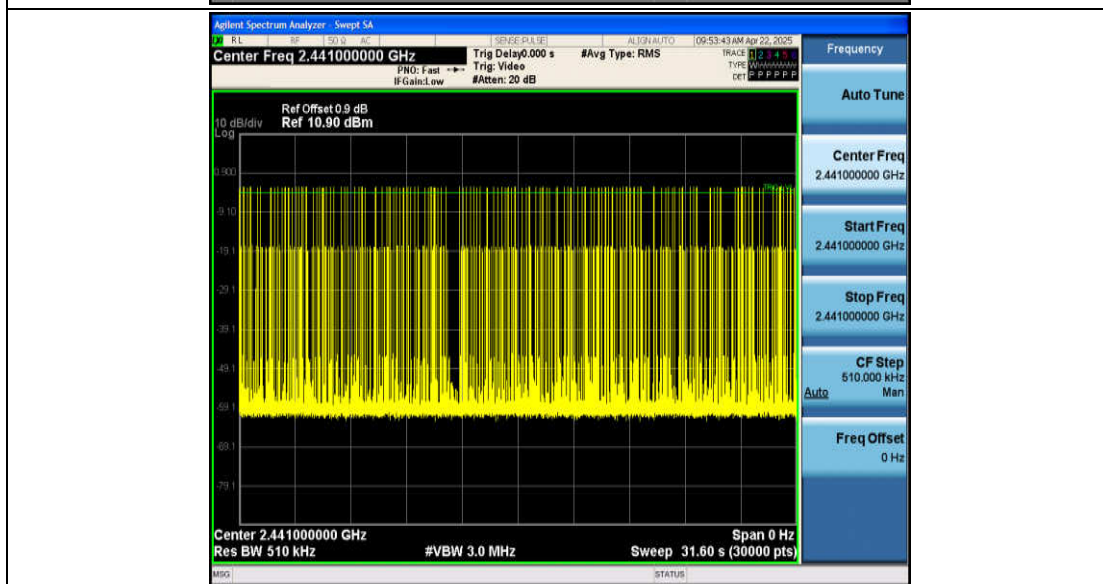




3DH1_Ant1_Hop

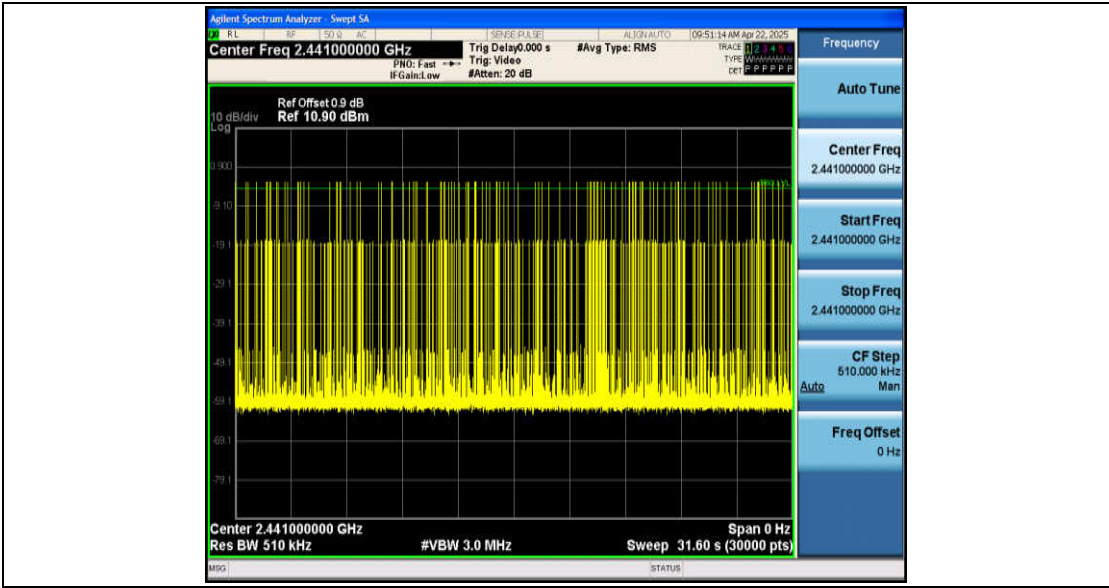


3DH3_Ant1_Hop



3DH5_Ant1_Hop





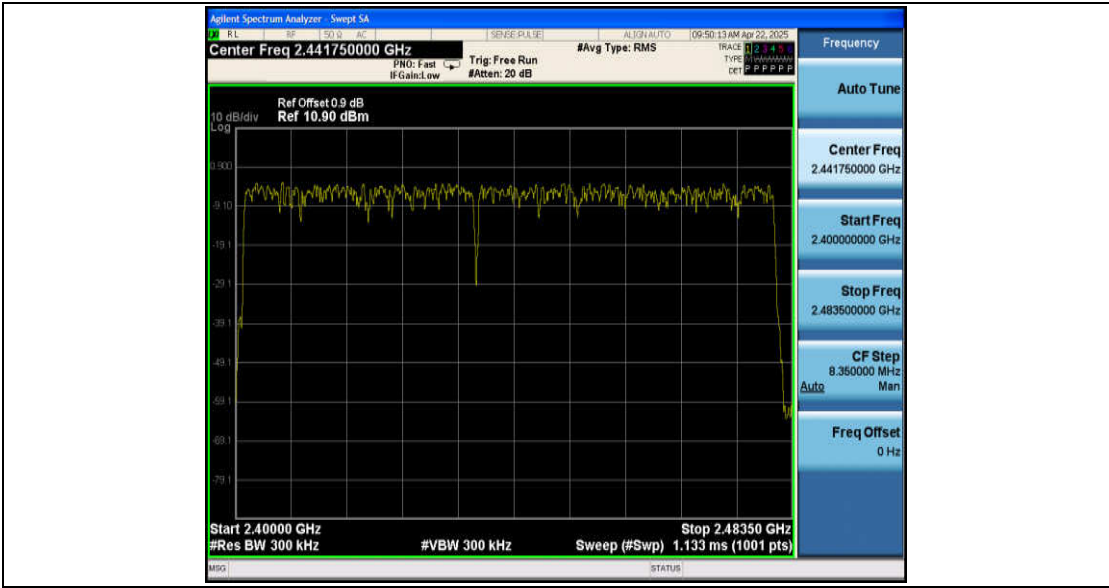
Appendix F: Number of hopping channels

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

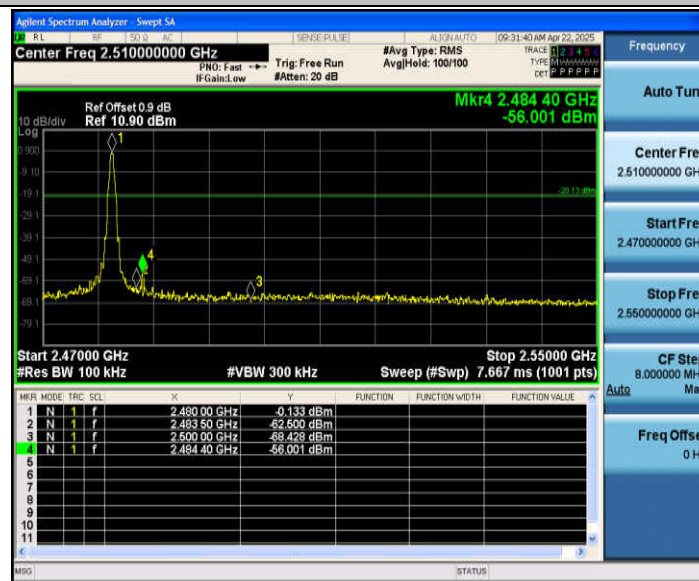
TestMode	Antenna	ChName	Freq(MHz)	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
DH5	Ant1	Low	2402	0.03	-57.25	≤ -19.98	PASS
		High	2480	-0.13	-56	≤ -20.13	PASS
		Low	Hop_2402	-0.02	-60.74	≤ -20.02	PASS
		High	Hop_2480	-0.10	-62.61	≤ -20.1	PASS
2DH5	Ant1	Low	2402	-3.21	-61.58	≤ -23.21	PASS
		High	2480	-4.50	-58.01	≤ -24.5	PASS
		Low	Hop_2402	-4.01	-58.96	≤ -24.01	PASS
		High	Hop_2480	-3.91	-63.74	≤ -23.91	PASS
3DH5	Ant1	Low	2402	-3.65	-60.64	≤ -23.65	PASS
		High	2480	-3.64	-60.7	≤ -23.64	PASS
		Low	Hop_2402	-3.88	-55.18	≤ -23.88	PASS
		High	Hop_2480	-4.32	-63.07	≤ -24.32	PASS

Test Graphs

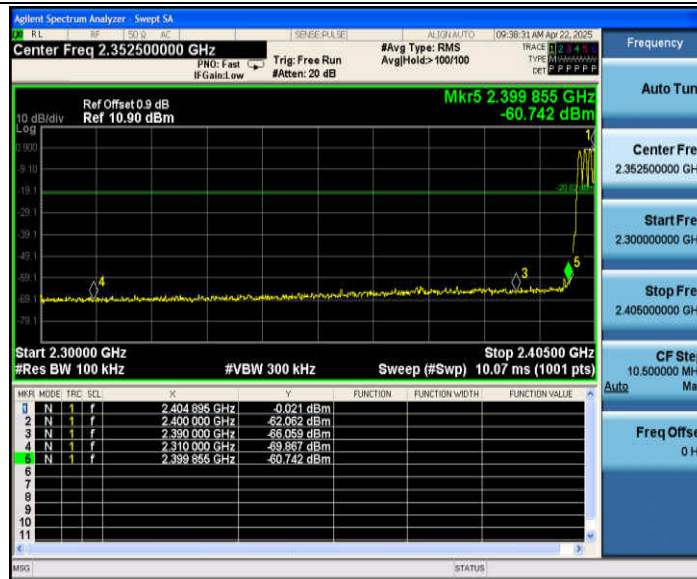
DH5_Ant1_Low_2402



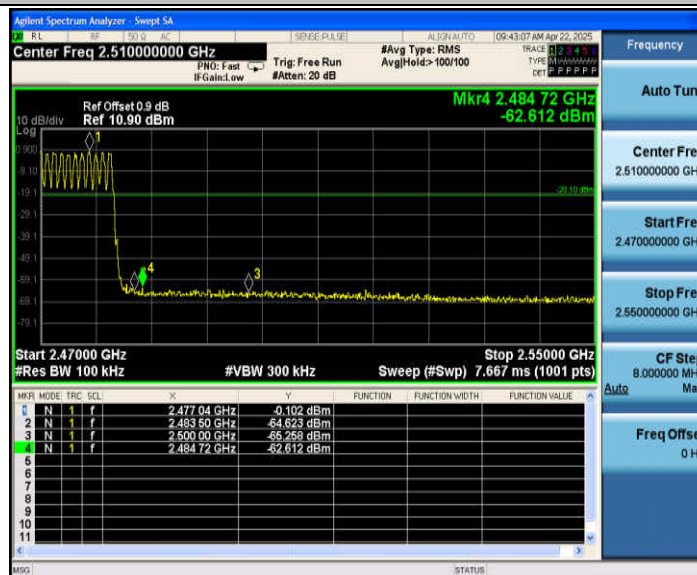
DH5_Ant1_High_2480



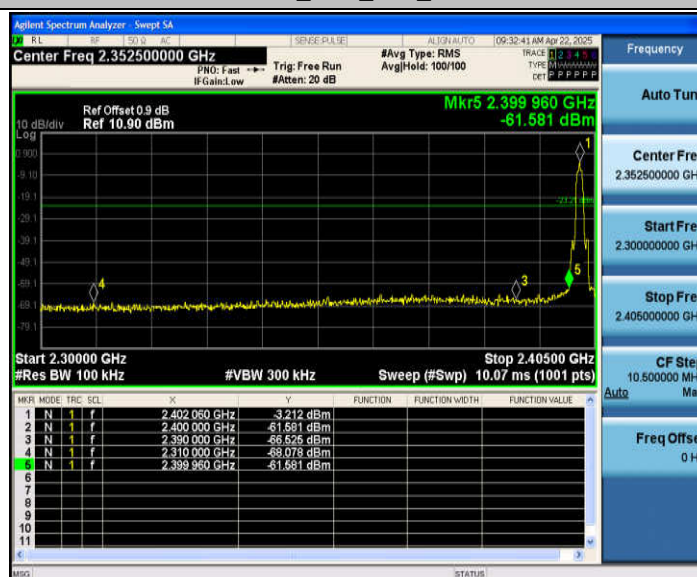
DH5_Ant1_Low_Hop_2402



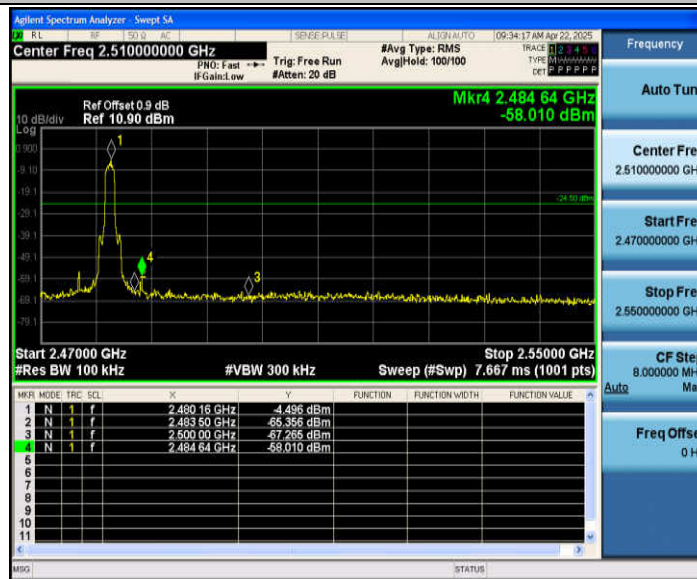
DH5_Ant1_High_Hop_2480



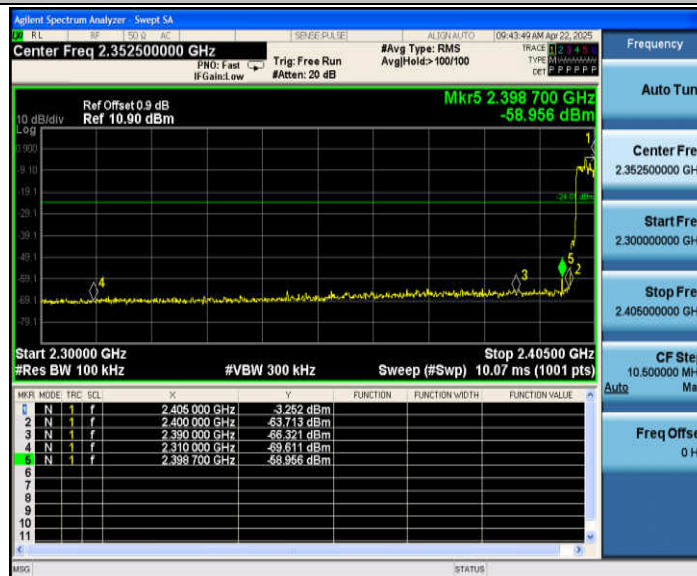
2DH5_Ant1_Low_2402



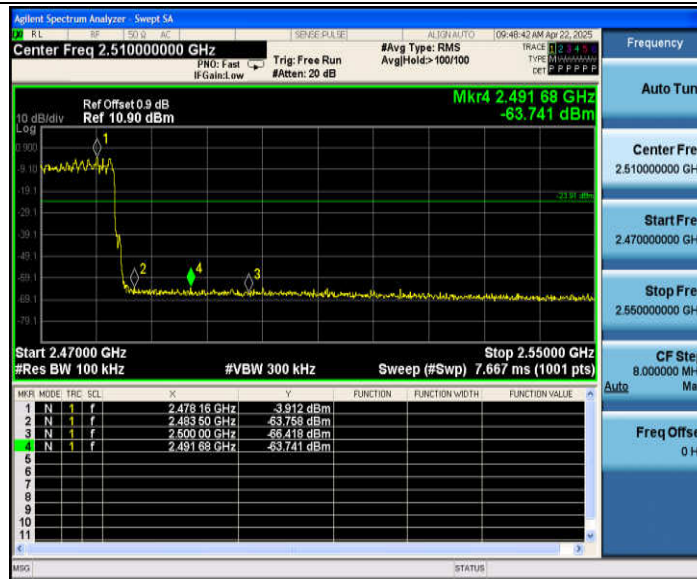
2DH5_Ant1_High_2480



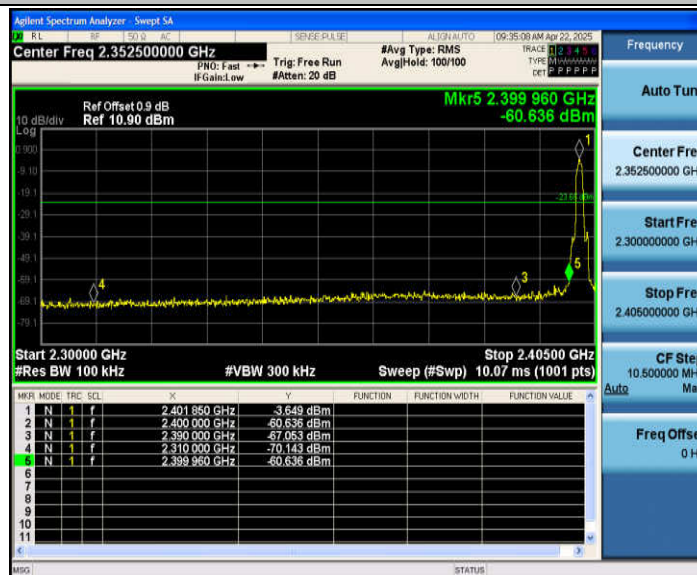
2DH5_Ant1_Low_Hop_2402



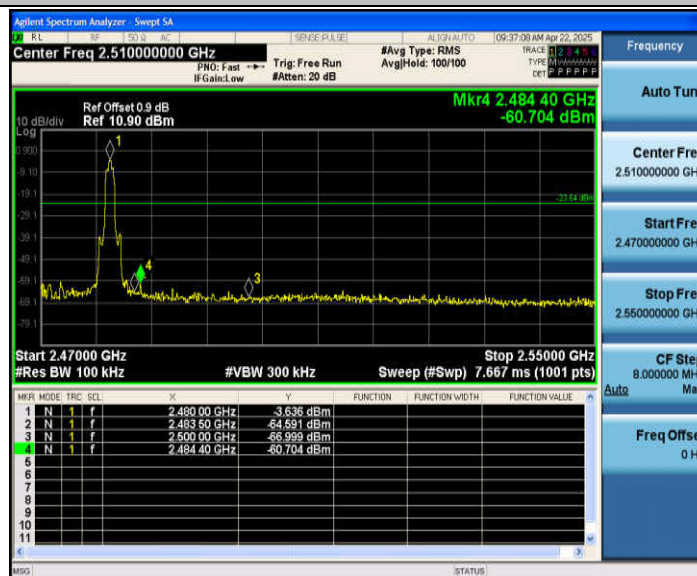
2DH5_Ant1_High_Hop_2480



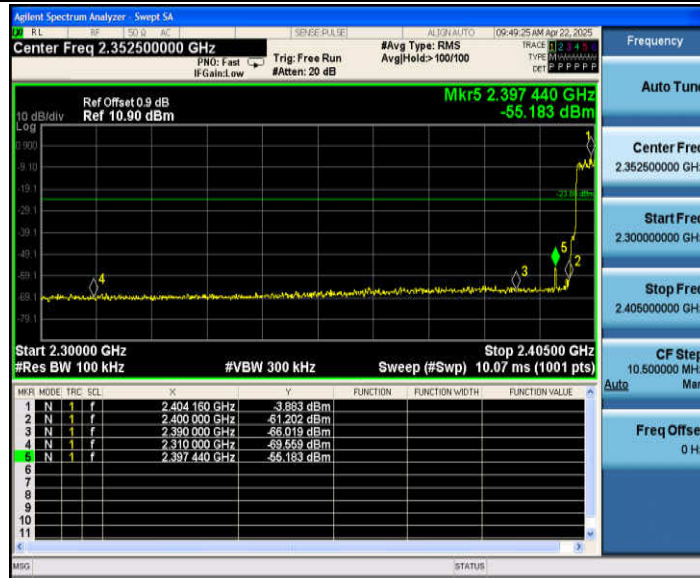
3DH5_Ant1_Low_2402



3DH5_Ant1_High_2480



3DH5_Ant1_Low_Hop_2402



3DH5_Ant1_High_Hop_2480



Appendix H: Conducted Spurious Emission

Test Result

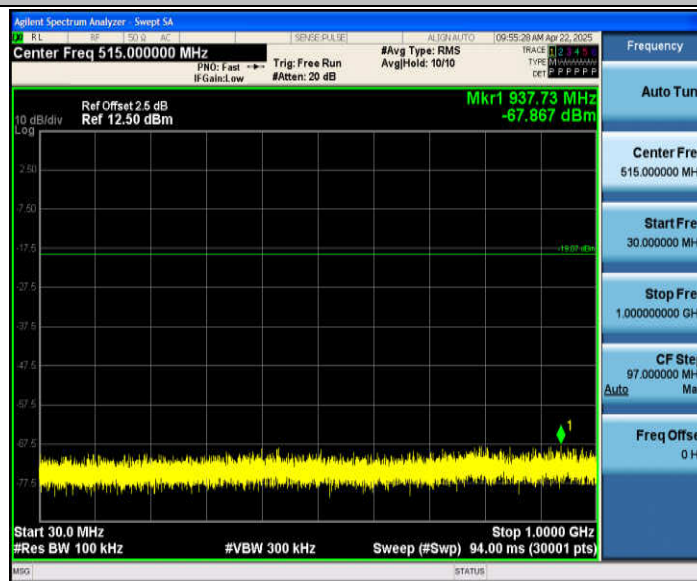
TestMode	Antenna	Freq(MHz)	FreqRange [MHz]	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
DH5	Ant1	2402	Reference	0.93	0.93	---	PASS
			30~1000	0.93	-67.87	≤-19.07	PASS
			1000~26500	0.93	-43.26	≤-19.07	PASS
		2441	Reference	1.03	1.03	---	PASS
			30~1000	1.03	-67.8	≤-18.97	PASS
			1000~26500	1.03	-43.16	≤-18.97	PASS
		2480	Reference	0.86	0.86	---	PASS
			30~1000	0.86	-67.64	≤-19.14	PASS
			1000~26500	0.86	-43.07	≤-19.14	PASS
2DH5	Ant1	2402	Reference	-2.60	-2.60	---	PASS
			30~1000	-2.60	-67.12	≤-22.6	PASS
			1000~26500	-2.60	-49.97	≤-22.6	PASS
		2441	Reference	-2.89	-2.89	---	PASS
			30~1000	-2.89	-67.74	≤-22.89	PASS
			1000~26500	-2.89	-48.98	≤-22.89	PASS
		2480	Reference	-3.82	-3.82	---	PASS
			30~1000	-3.82	-52.88	≤-23.82	PASS
			1000~26500	-3.82	-46.37	≤-23.82	PASS
3DH5	Ant1	2402	Reference	-2.27	-2.27	---	PASS
			30~1000	-2.27	-68.06	≤-22.27	PASS
			1000~26500	-2.27	-50.31	≤-22.27	PASS
		2441	Reference	-4.46	-4.46	---	PASS
			30~1000	-4.46	-67.37	≤-24.46	PASS
			1000~26500	-4.46	-48.84	≤-24.46	PASS
		2480	Reference	-4.33	-4.33	---	PASS
			30~1000	-4.33	-67.92	≤-24.33	PASS
			1000~26500	-4.33	-49.67	≤-24.33	PASS

Test Graphs

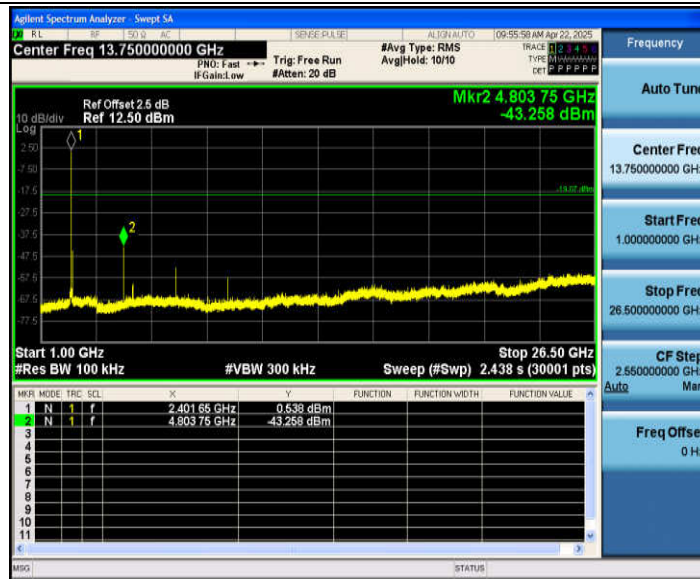
DH5_Ant1_2402_0~Reference



DH5_Ant1_2402_30~1000



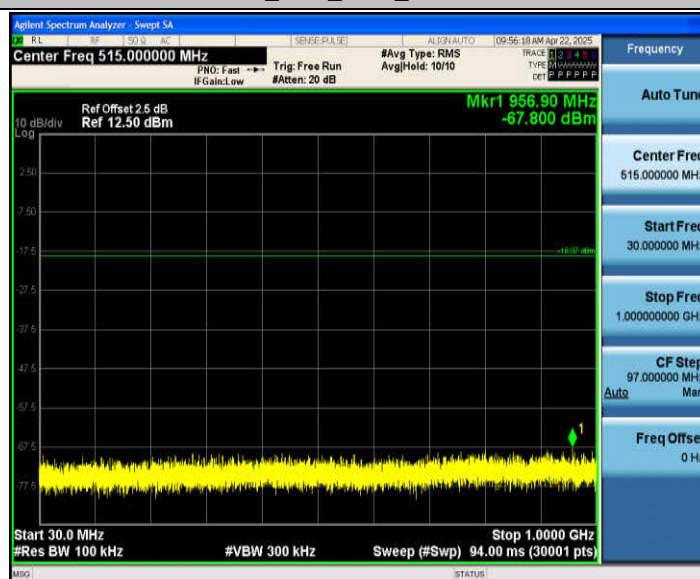
DH5_Ant1_2402_1000~26500



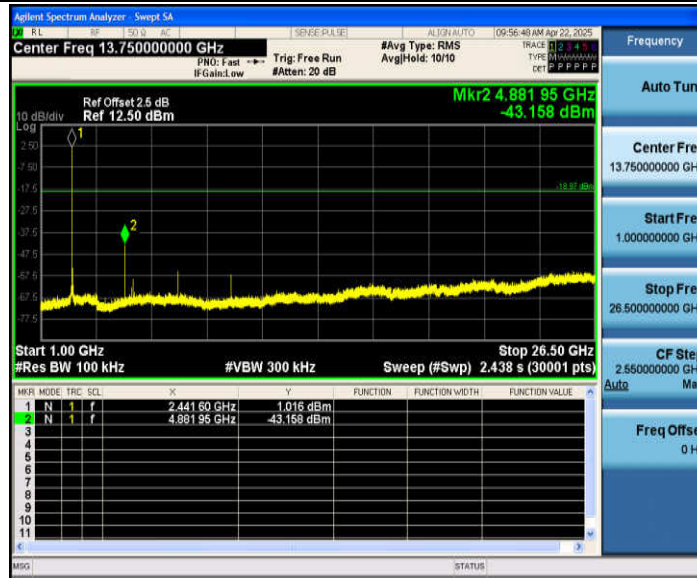
DH5_Ant1_2441_0~Reference



DH5_Ant1_2441_30~1000



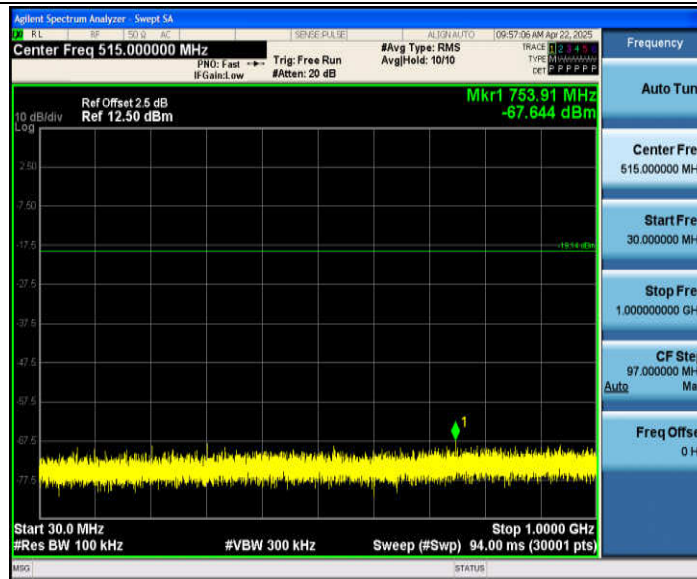
DH5_Ant1_2441_1000~26500



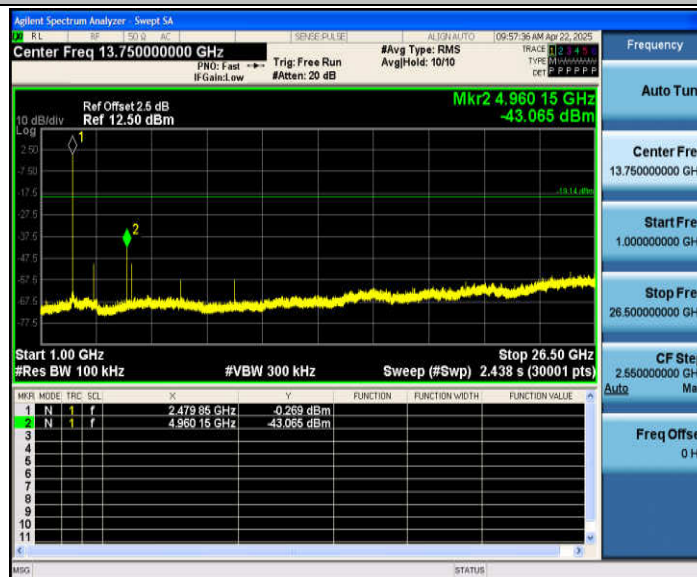
DH5_Ant1_2480_0~Reference



DH5_Ant1_2480_30~1000



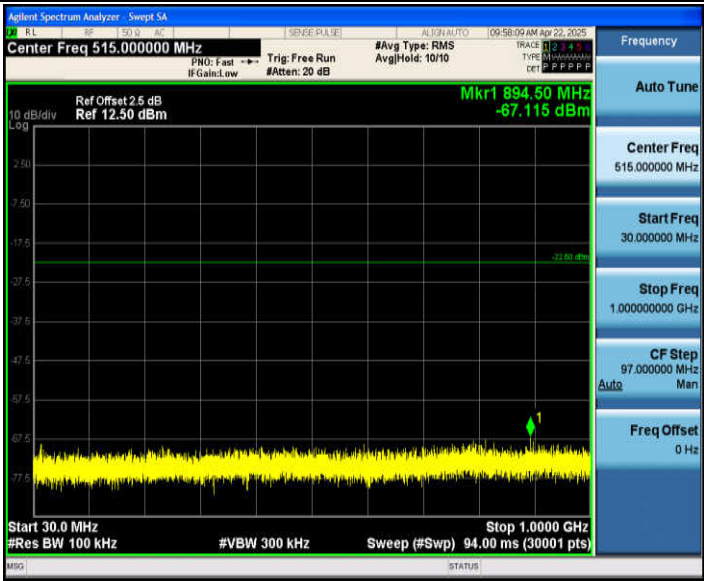
DH5_Ant1_2480_1000~26500



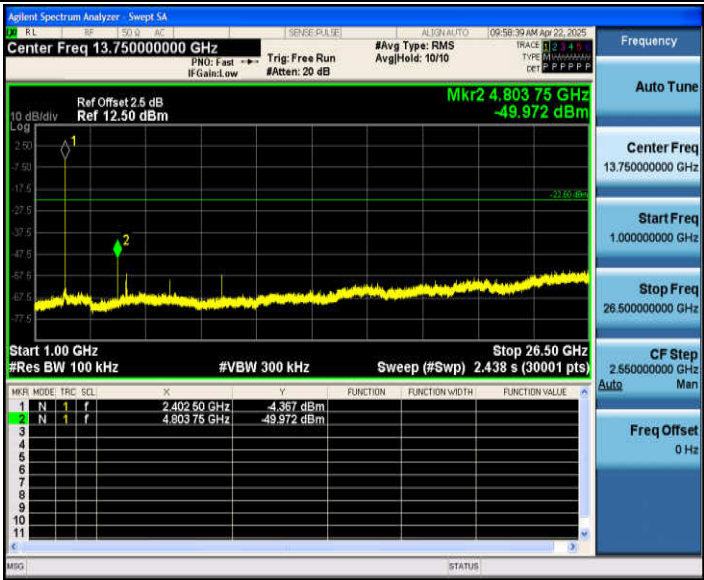
2DH5_Ant1_2402_0~Reference



2DH5_Ant1_2402_30~1000



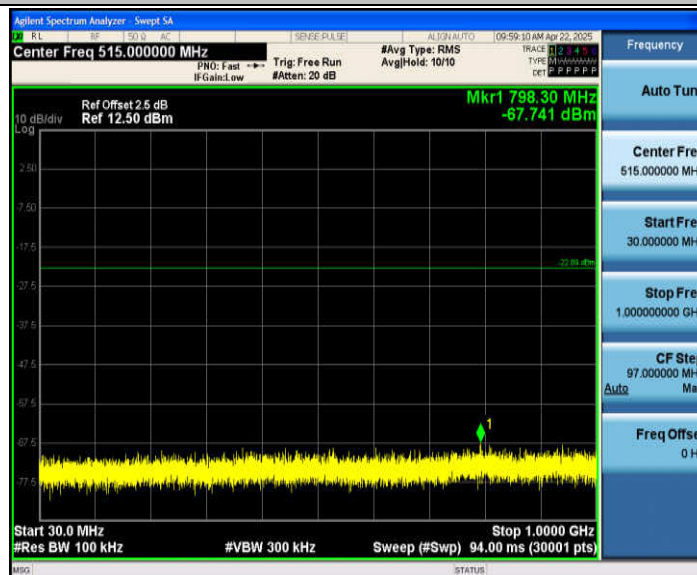
2DH5_Ant1_2402_1000~26500



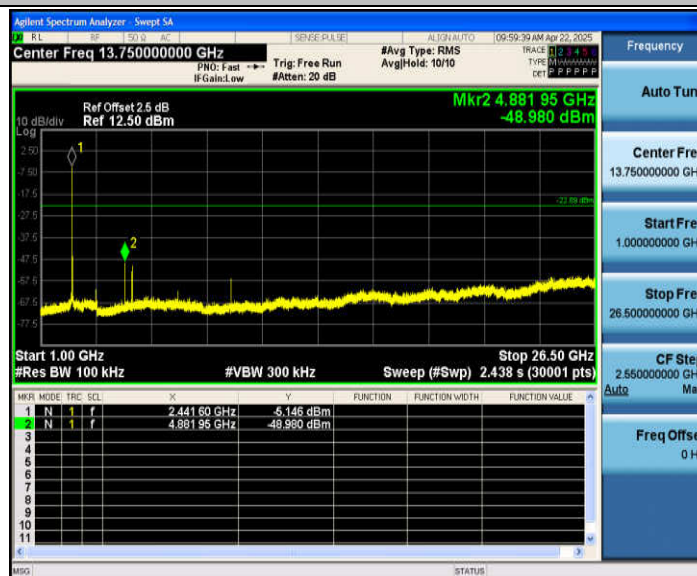
2DH5_Ant1_2441_0~Reference



2DH5_Ant1_2441_30~1000



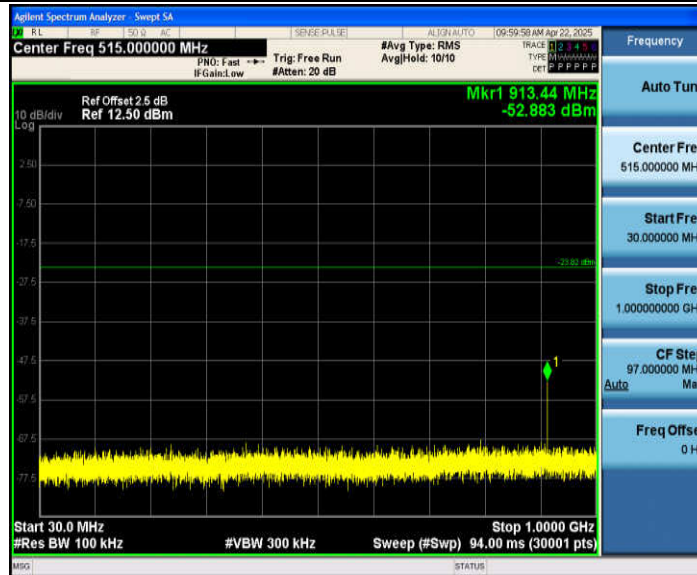
2DH5_Ant1_2441_1000~26500



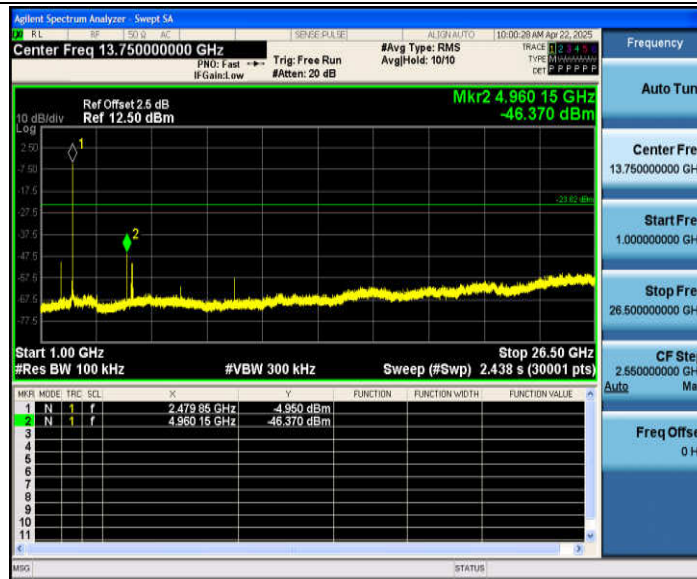
2DH5_Ant1_2480_0~Reference



2DH5_Ant1_2480_30~1000



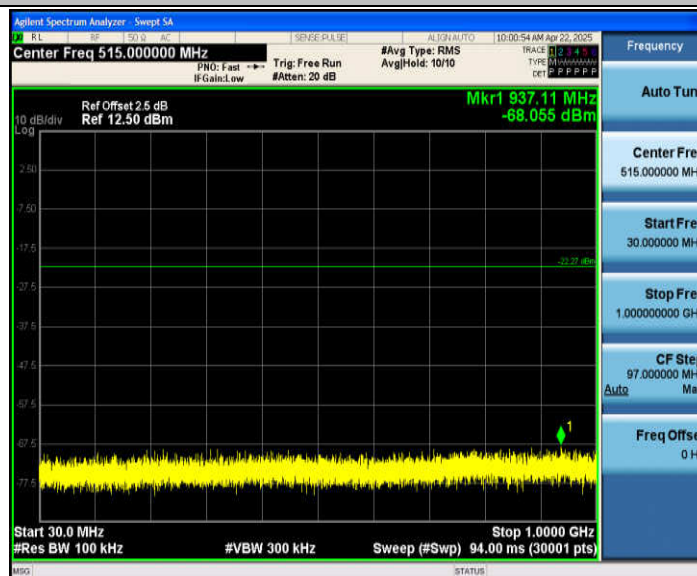
2DH5_Ant1_2480_1000~26500



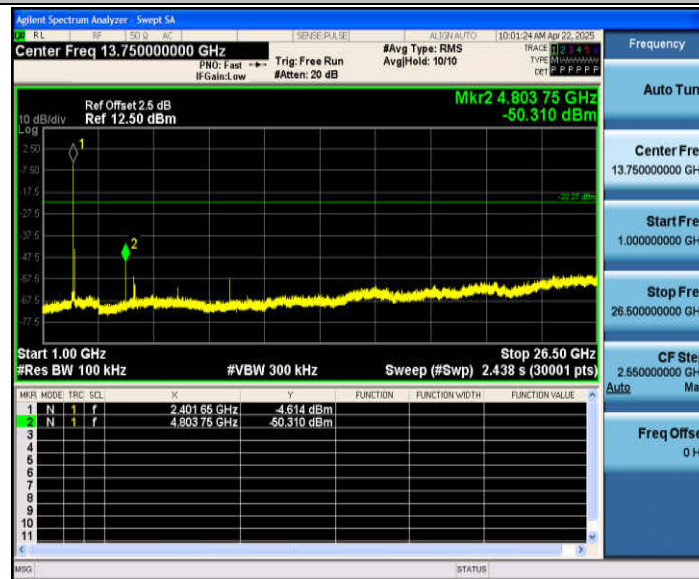
3DH5_Ant1_2402_0~Reference



3DH5_Ant1_2402_30~1000



3DH5_Ant1_2402_1000~26500



3DH5_Ant1_2441_0~Reference



3DH5_Ant1_2441_30~1000



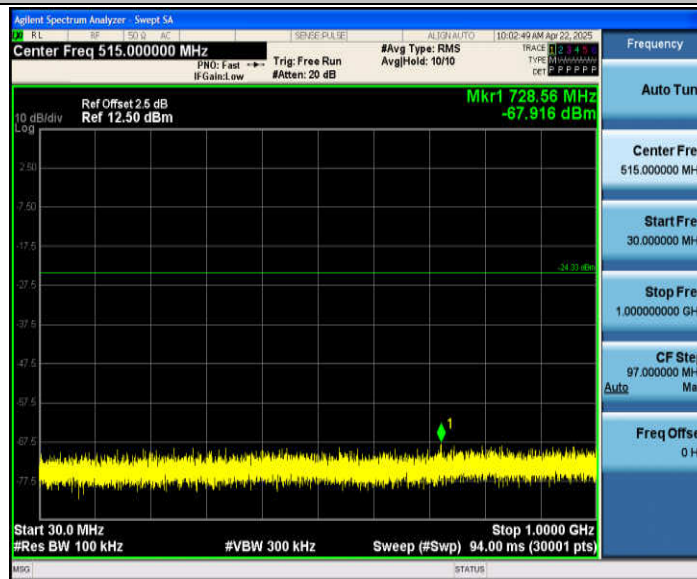
3DH5_Ant1_2441_1000~26500



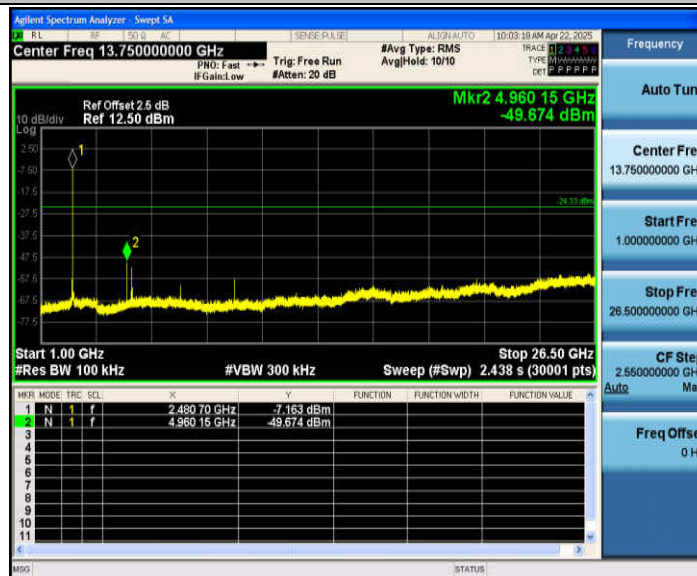
3DH5_Ant1_2480_0~Reference



3DH5_Ant1_2480_30~1000



3DH5_Ant1_2480_1000~26500

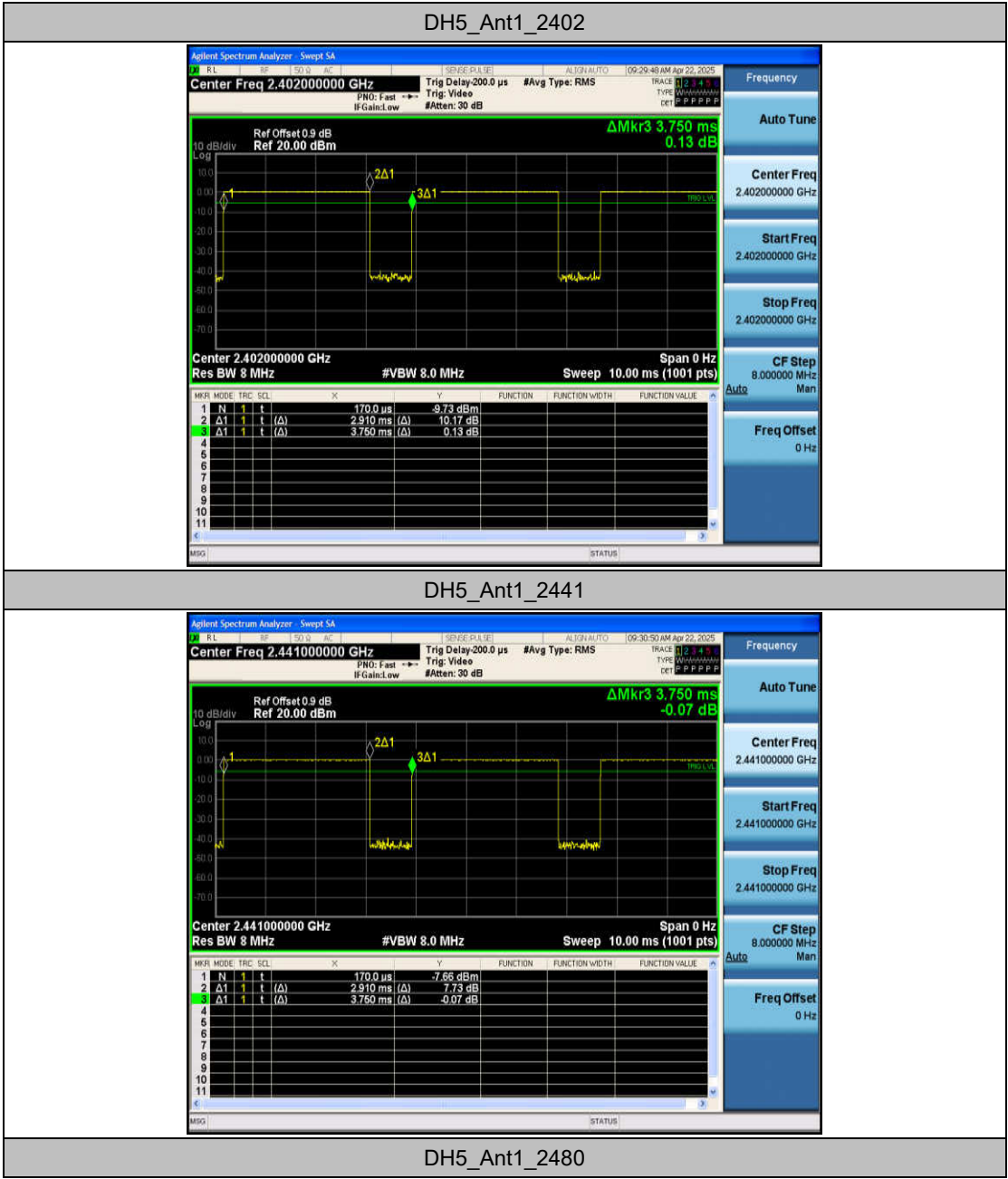


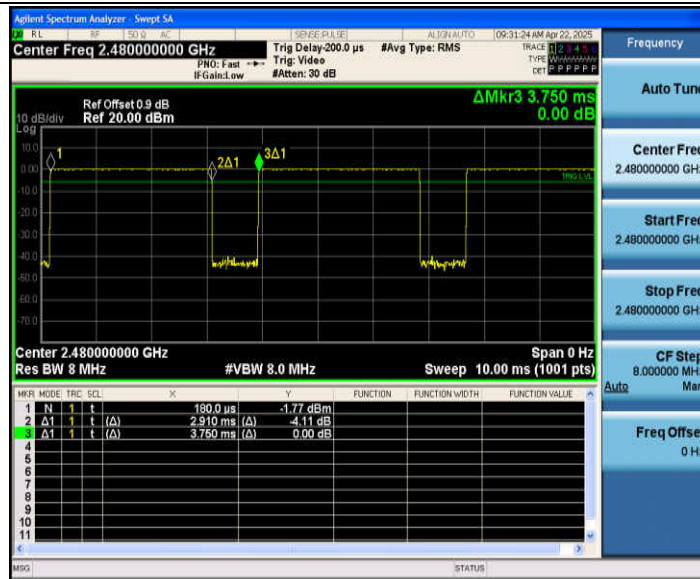
Appendix I: Duty Cycle

Test Result

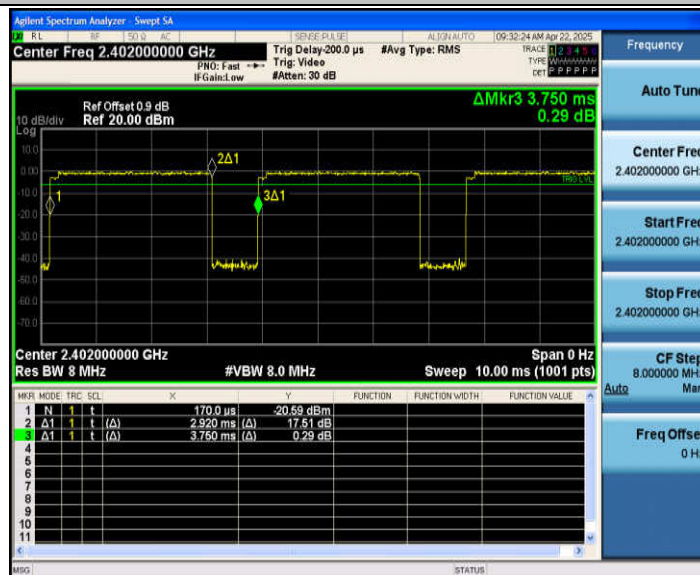
TestMode	Antenna	Freq(MHz)	ON Time [ms]	Period [ms]	DC [%]	xFactor	Limit	Verdict
DH5	Ant1	2402	2.91	3.75	77.60	1.10	---	---
		2441	2.91	3.75	77.60	1.10	---	---
		2480	2.91	3.75	77.60	1.10	---	---
2DH5	Ant1	2402	2.92	3.75	77.87	1.09	---	---
		2441	2.92	3.75	77.87	1.09	---	---
		2480	2.92	3.75	77.87	1.09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

Test Graphs

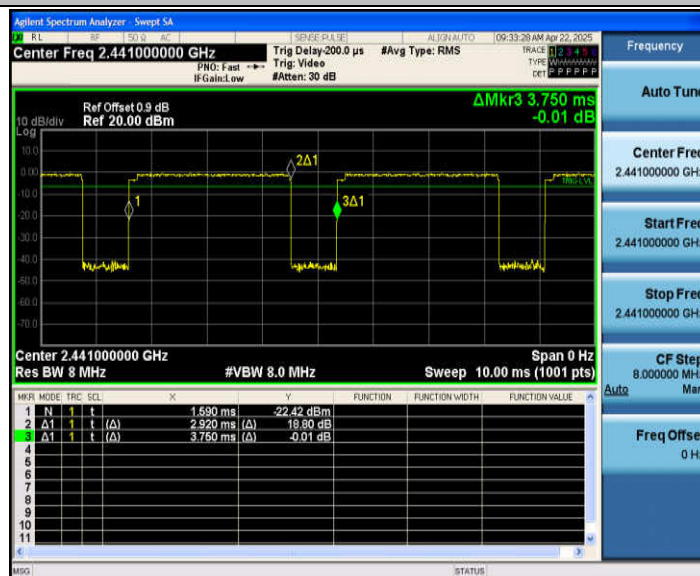




2DH5_Ant1_2402



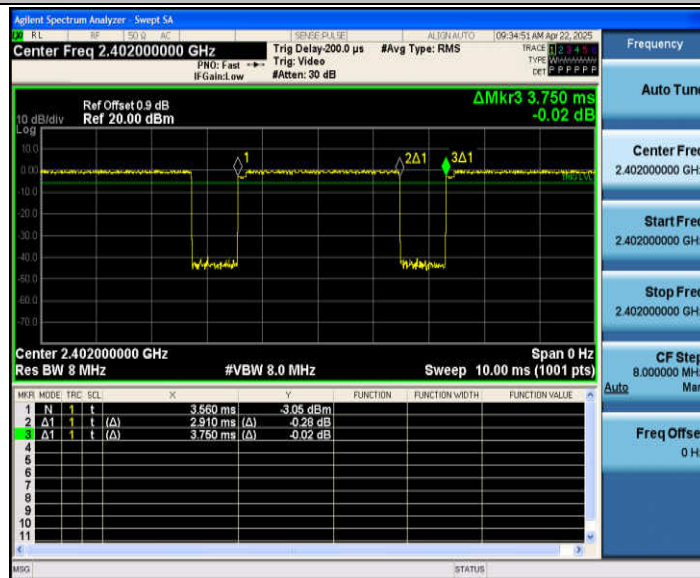
2DH5_Ant1_2441



2DH5_Ant1_2480



3DH5_Ant1_2402



3DH5_Ant1_2441



3DH5_Ant1_2480

