

FCC Appendix RF Test Data for BT

FCC ID : 2AU3A-GWP-DRQBT

Company : Good Sportsman Marketing, LLC

EUT : Razor Digital Low Profile Bluetooth Muff

Model Number : GWP-DRQ-BT

Report No. : CTA26041605502

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	0.948	2401.553	2402.501	---	---
		2441	0.939	2440.553	2441.492	---	---
		2480	0.960	2479.550	2480.510	---	---
2DH5	Ant1	2402	1.281	2401.382	2402.663	---	---
		2441	1.344	2440.340	2441.684	---	---
		2480	1.332	2479.346	2480.678	---	---

Test Graphs

DH5_Ant1_2402



DH5_Ant1_2441



DH5_Ant1_2480



2DH5_Ant1_2402



2DH5_Ant1_2441



2DH5_Ant1_2480

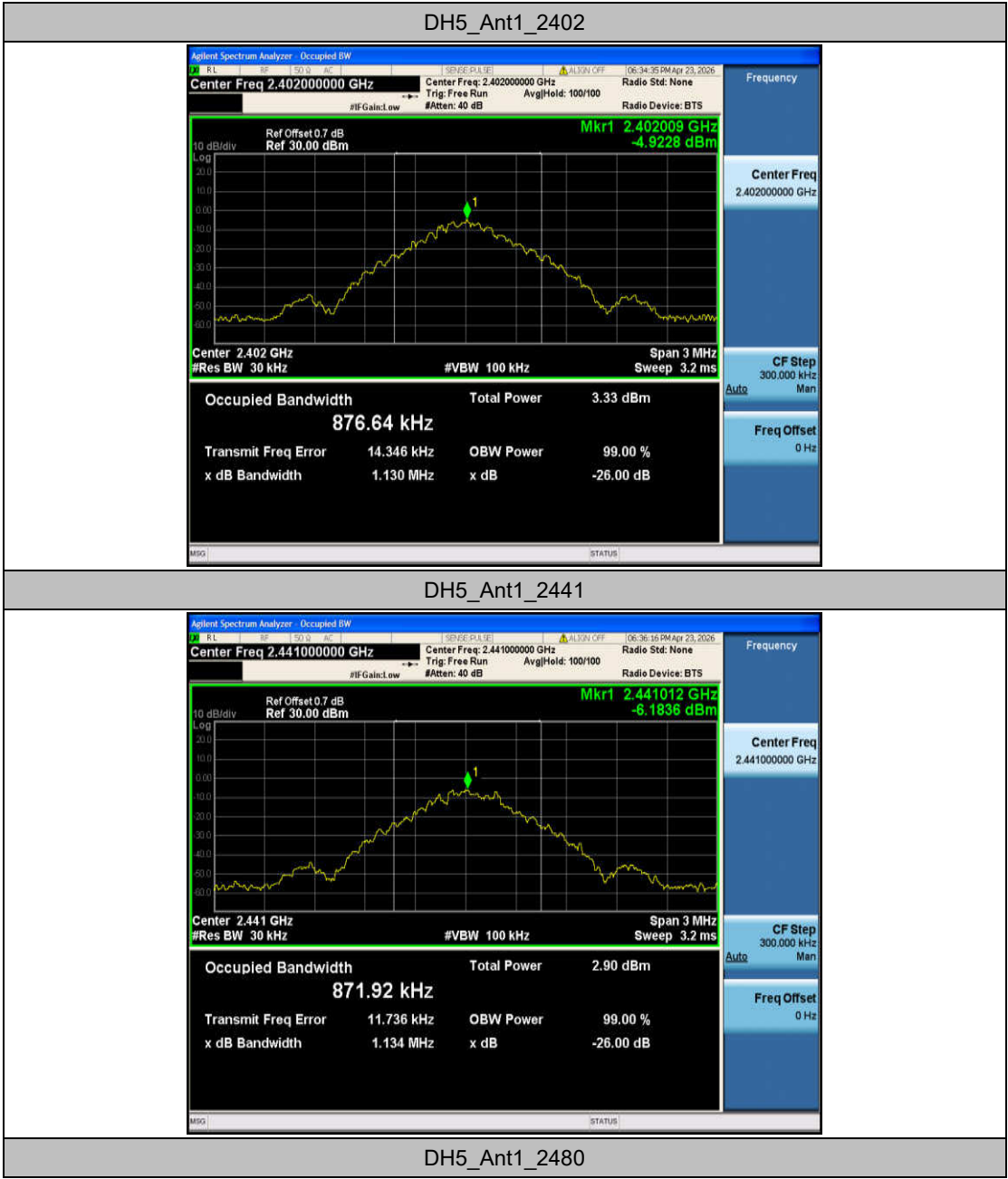


Appendix B: Occupied Channel Bandwidth

Test Result

TestMode	Antenna	Freq(MHz)	OCB [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
DH5	Ant1	2402	0.87664	2401.5760	2402.4527	---	---
		2441	0.87192	2440.5758	2441.4477	---	---
		2480	0.87306	2479.5785	2480.4516	---	---
2DH5	Ant1	2402	1.1847	2401.4206	2402.6053	---	---
		2441	1.1850	2440.4211	2441.6061	---	---
		2480	1.1869	2479.4184	2480.6053	---	---

Test Graphs





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 Power[dBm]	Conducted Limit[dBm]	Verdict
DH5	Ant1	2402	-2.86	≤20.97	PASS
		2441	-3.11	≤20.97	PASS
		2480	-3.20	≤20.97	PASS
2DH5	Ant1	2402	-3.61	≤20.97	PASS
		2441	-3.89	≤20.97	PASS
		2480	-3.95	≤20.97	PASS

Appendix D: Carrier frequency separation

Test Result

TestMode	Antenna	Freq(MHz)	Result[MHz]	Limit[MHz]	Verdict
DH5	Ant1	Hop	0.986	≥ 0.960	PASS
2DH5	Ant1	Hop	1.104	≥ 0.896	PASS

Test Graphs

DH5_Ant1_Hop



2DH5_Ant1_Hop

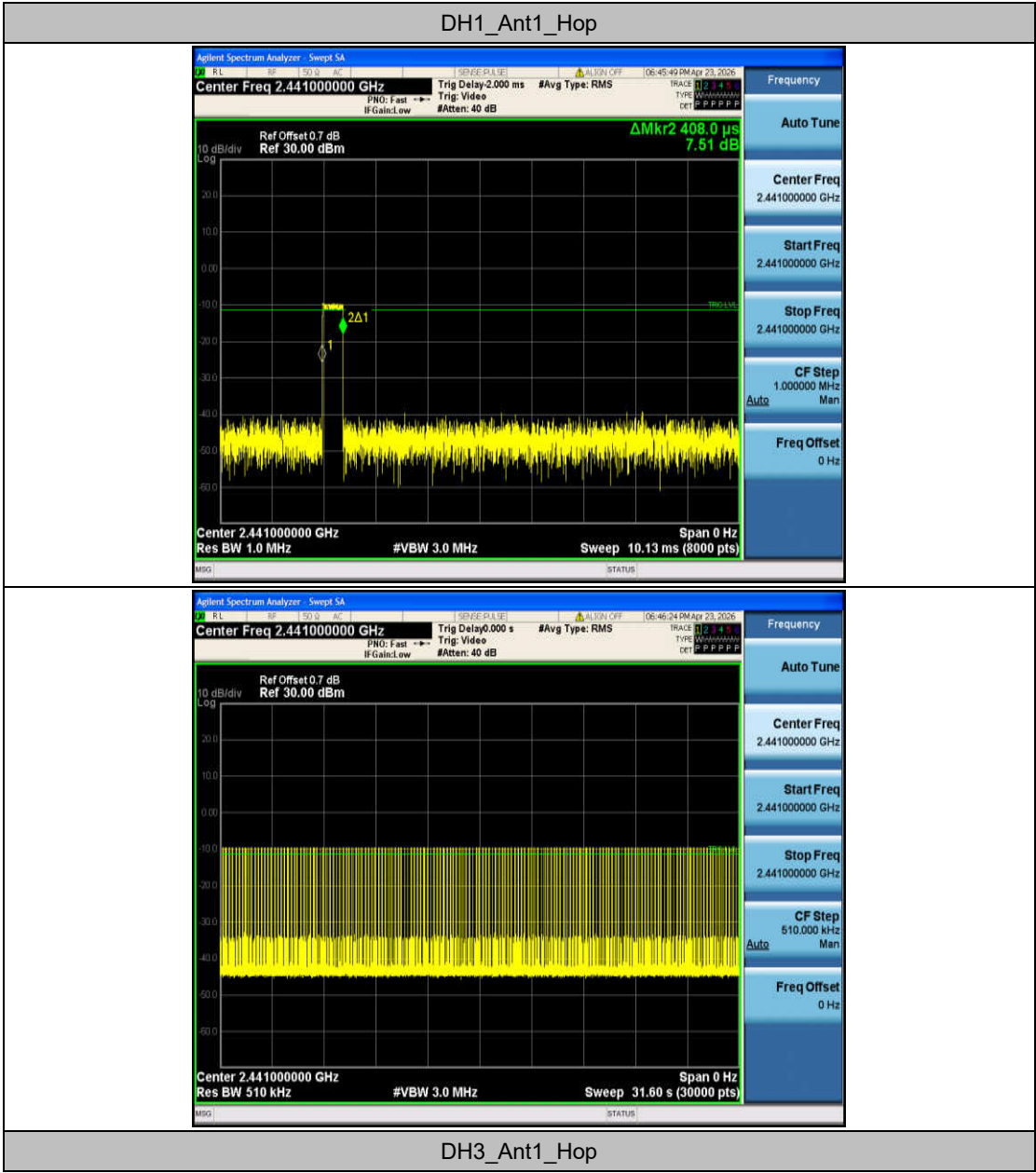


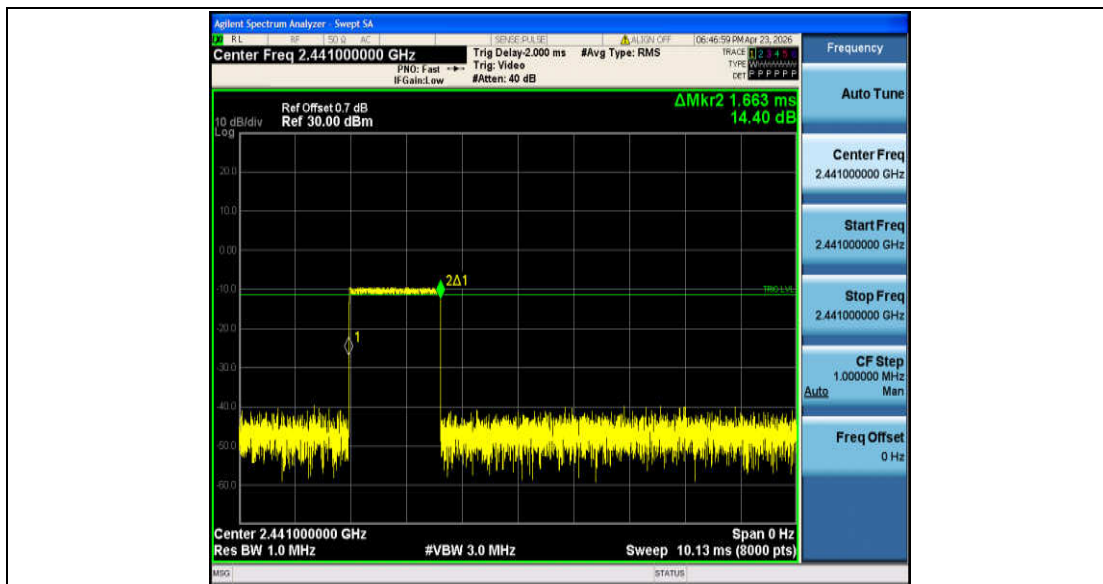
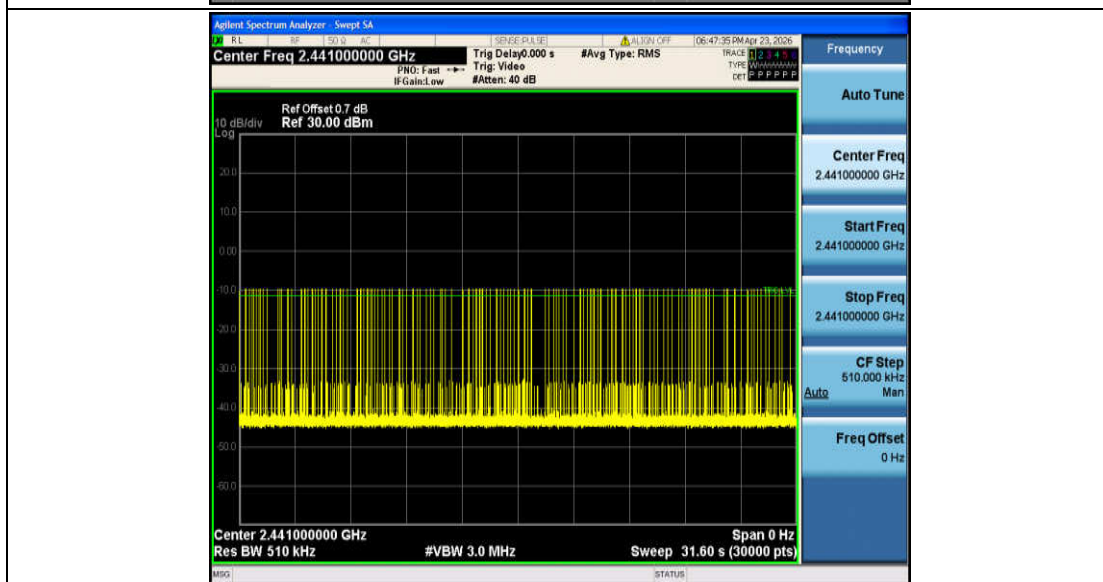
Appendix E: Time of occupancy

Test Result

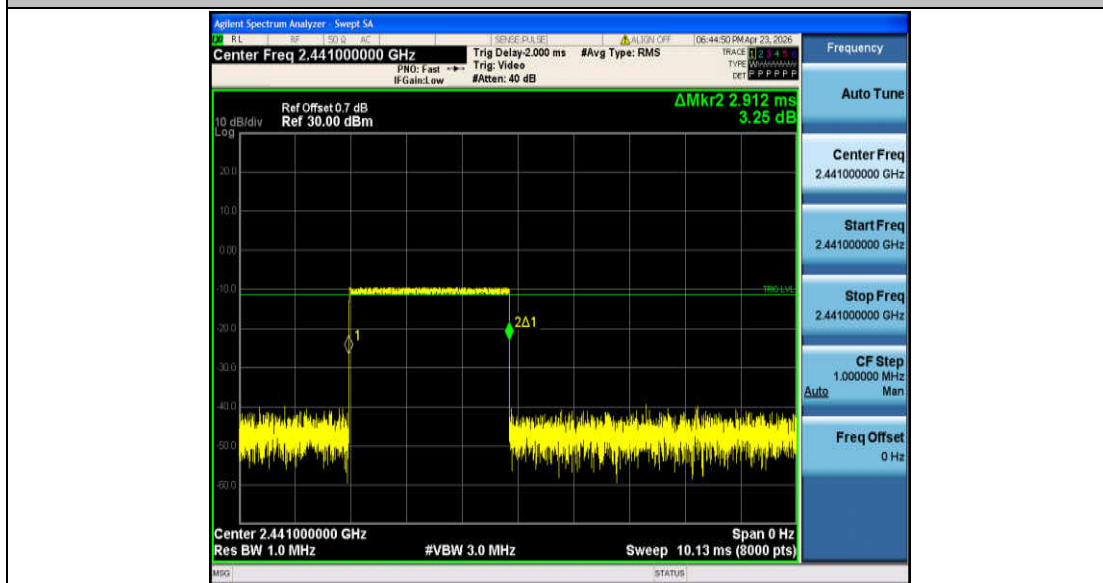
TestMode	Antenna	Freq(MHz)	BurstWidth [ms]	TotalHops [Num]	Result[s]	Limit[s]	Verdict
DH1	Ant1	Hop	0.408	319	0.13	≤0.4	PASS
DH3	Ant1	Hop	1.663	162	0.269	≤0.4	PASS
DH5	Ant1	Hop	2.912	93	0.271	≤0.4	PASS
2DH1	Ant1	Hop	0.418	318	0.133	≤0.4	PASS
2DH3	Ant1	Hop	1.668	151	0.252	≤0.4	PASS
2DH5	Ant1	Hop	2.916	99	0.289	≤0.4	PASS

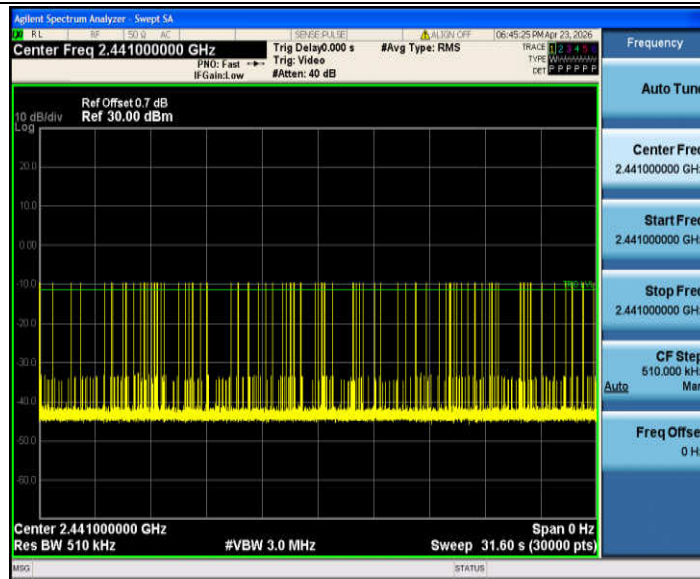
Test Graphs



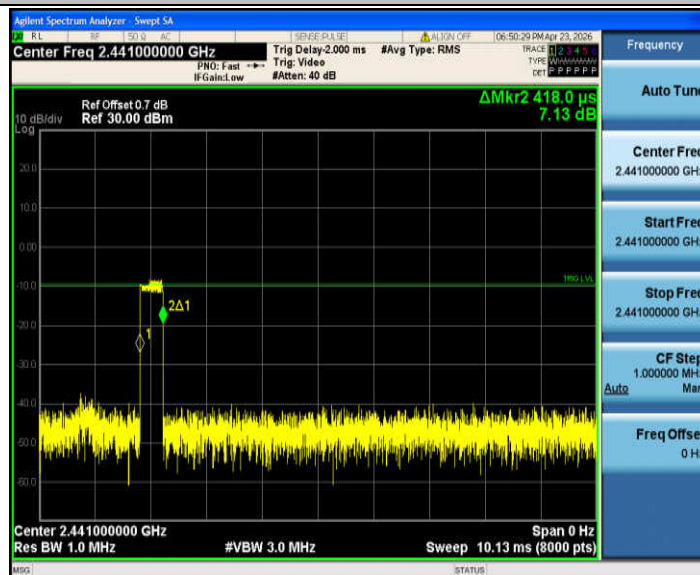
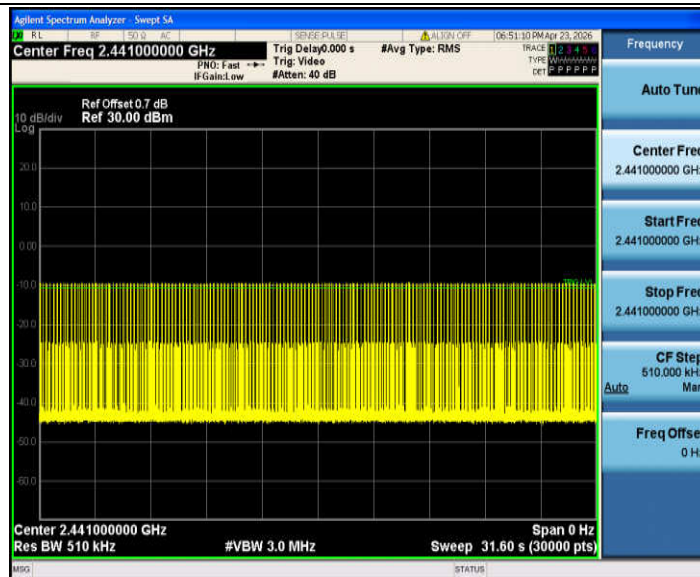


DH5_Ant1_Hop

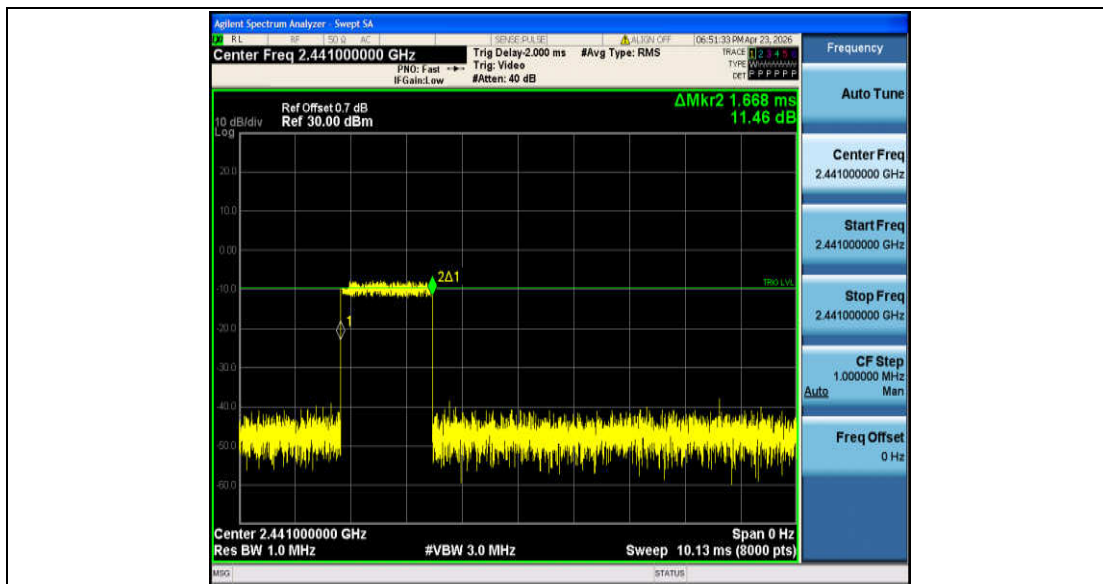
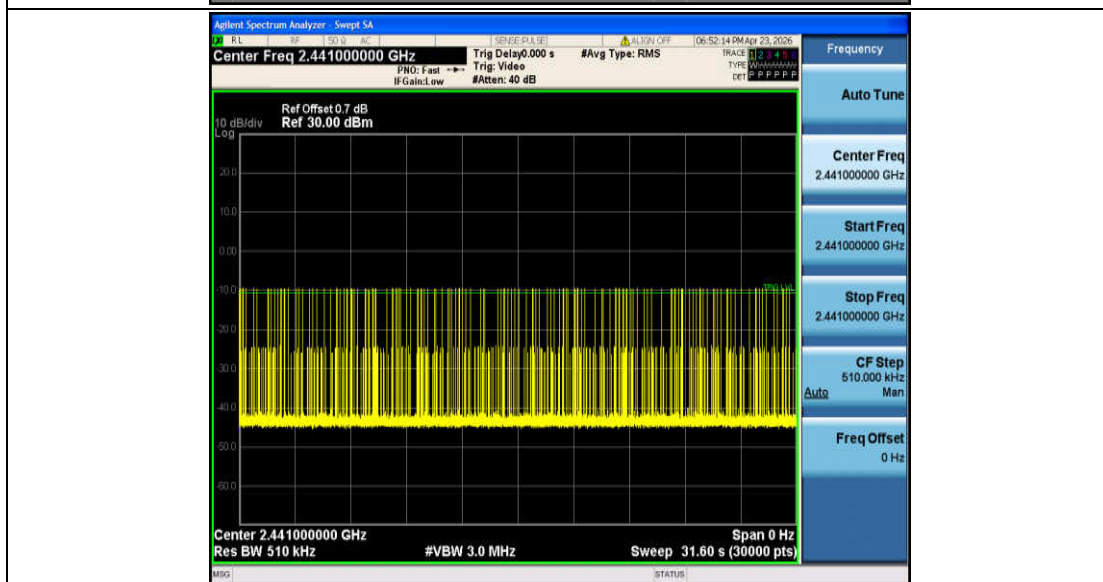




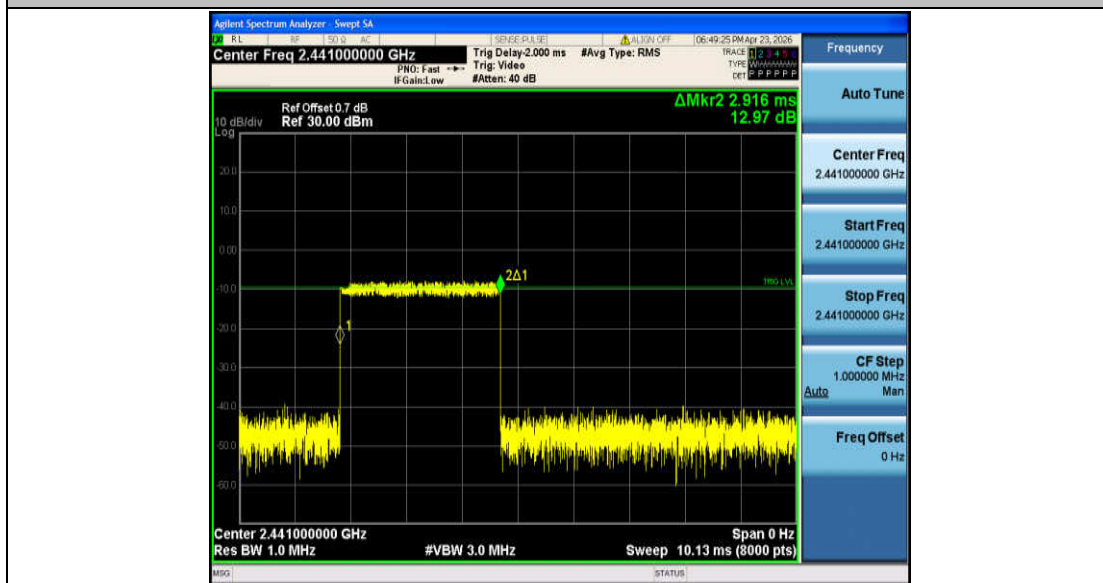
2DH1_Ant1_Hop

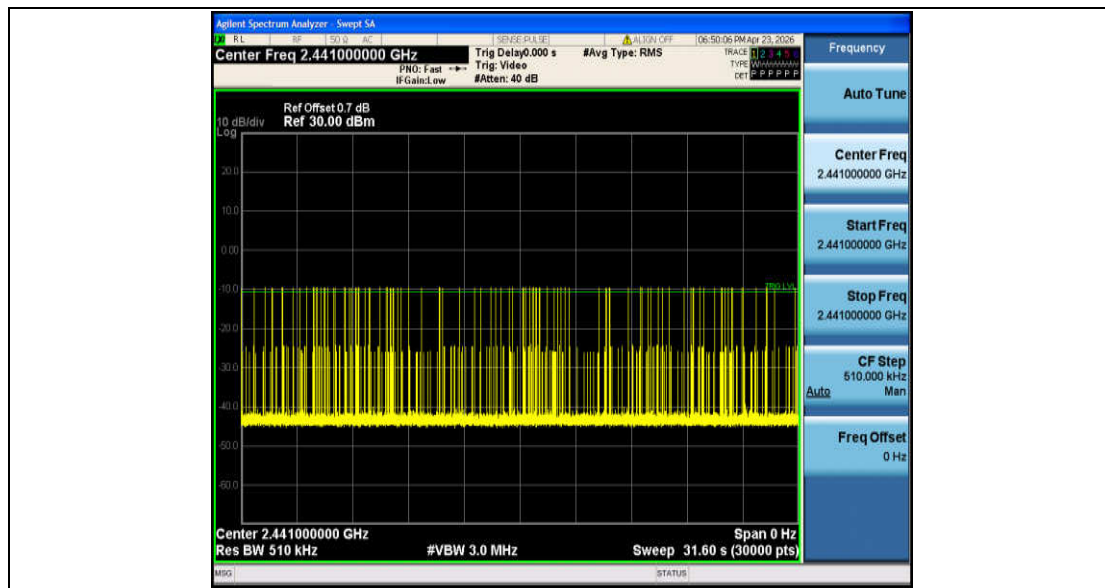


2DH3_Ant1_Hop



2DH5_Ant1_Hop



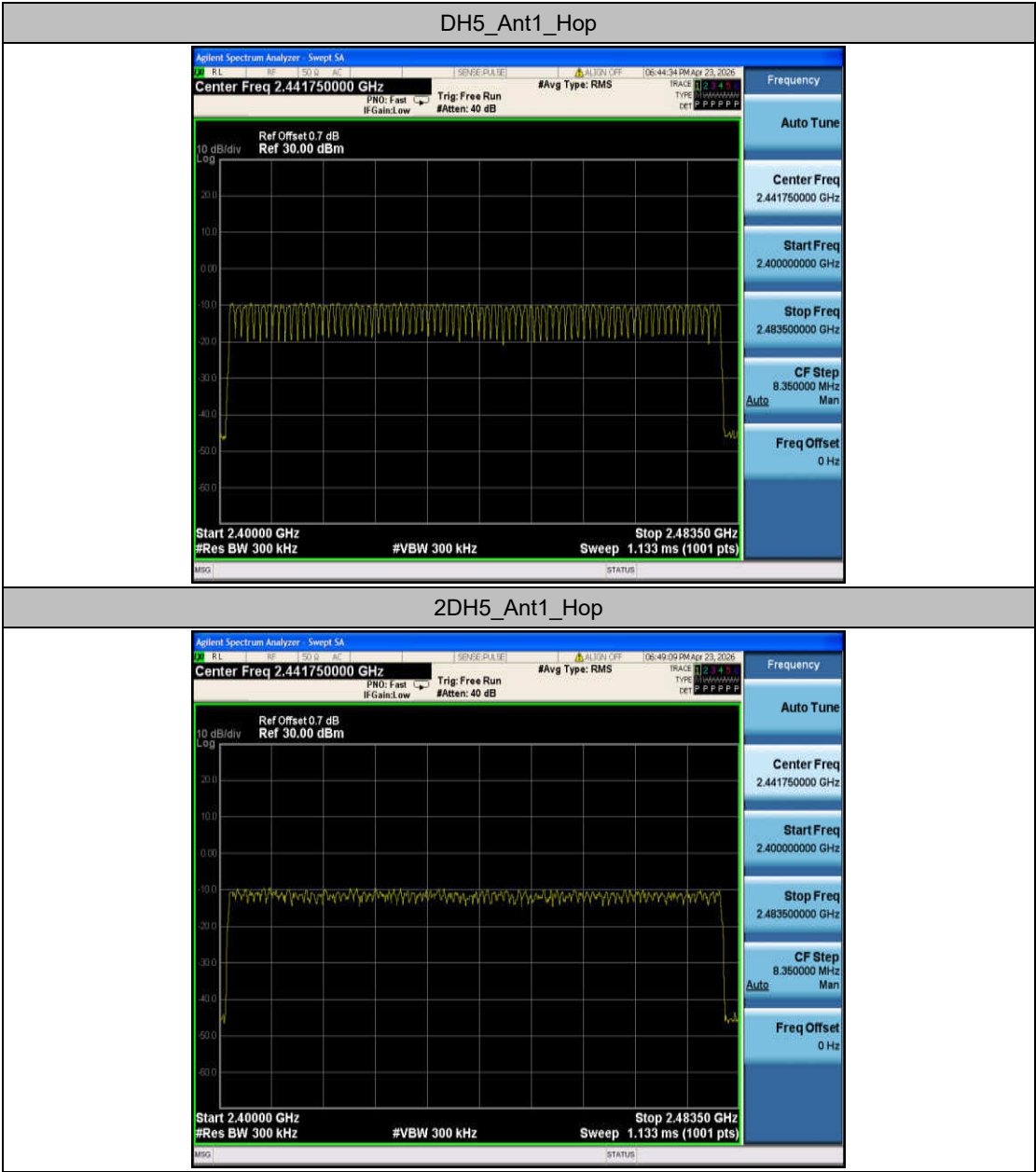


Appendix F: Number of hopping channels

Test Result

TestMode	Antenna	Freq(MHz)	Result[Num]	Limit[Num]	Verdict
DH5	Ant1	Hop	79	≥15	PASS
2DH5	Ant1	Hop	79	≥15	PASS

Test Graphs



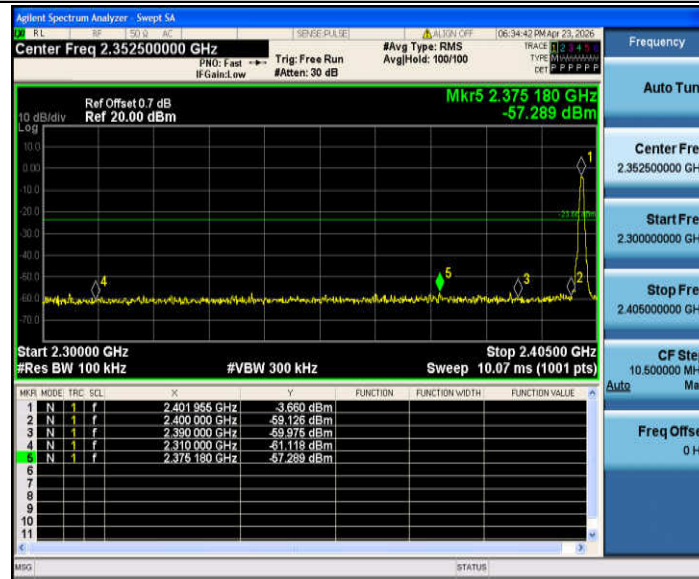
Appendix G: Band edge measurements

Test Result

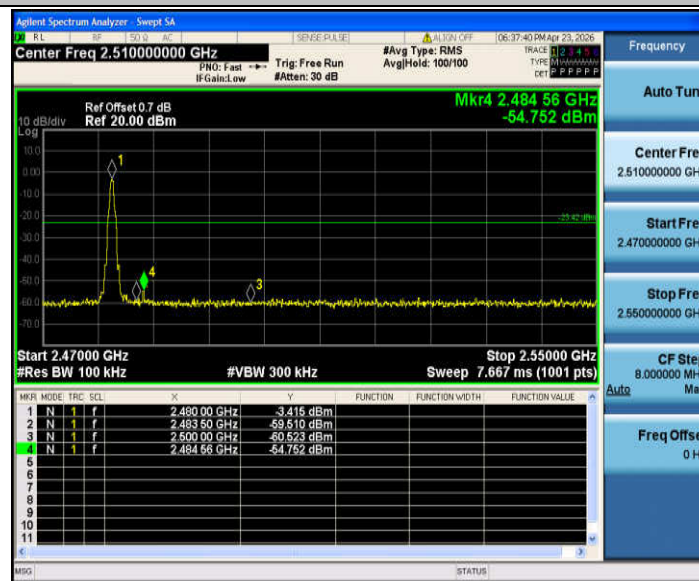
TestMode	Antenna	ChName	Freq(MHz)	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
DH5	Ant1	Low	2402	-3.66	-57.29	≤-23.66	PASS
		High	2480	-3.42	-54.75	≤-23.42	PASS
		Low	Hop_2402	-10.05	-56.81	≤-30.05	PASS
		High	Hop_2480	-9.91	-56.17	≤-29.91	PASS
2DH5	Ant1	Low	2402	-7.59	-57.14	≤-27.59	PASS
		High	2480	-6.62	-57.21	≤-26.62	PASS
		Low	Hop_2402	-12.21	-56.72	≤-32.21	PASS
		High	Hop_2480	-9.92	-56.74	≤-29.92	PASS

Test Graphs

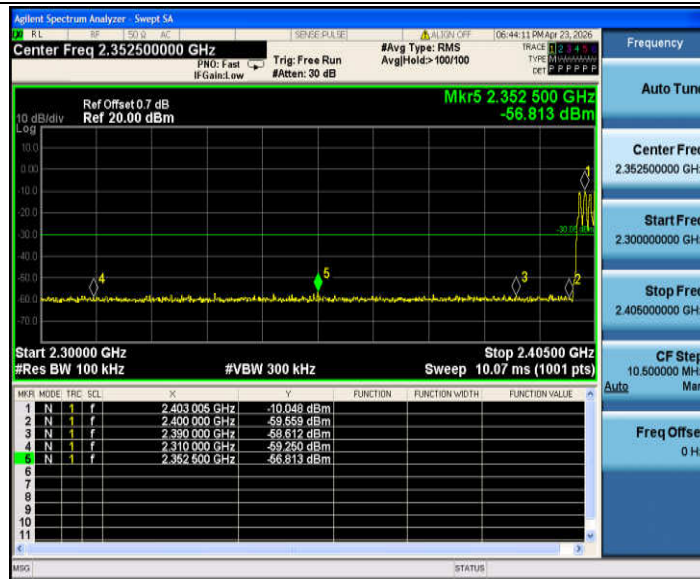
DH5_Ant1_Low_2402



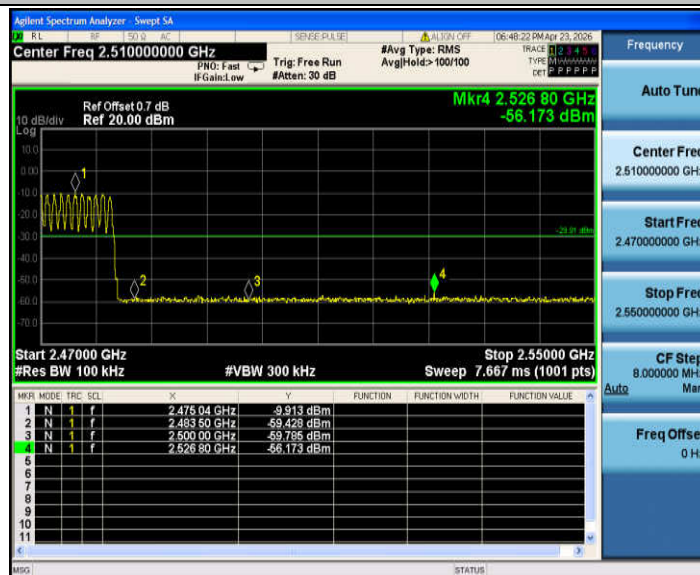
DH5_Ant1_High_2480



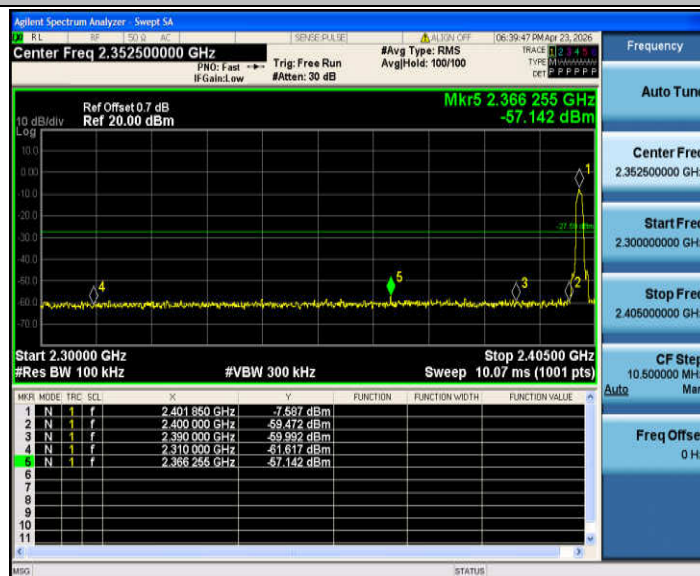
DH5_Ant1_Low_Hop_2402



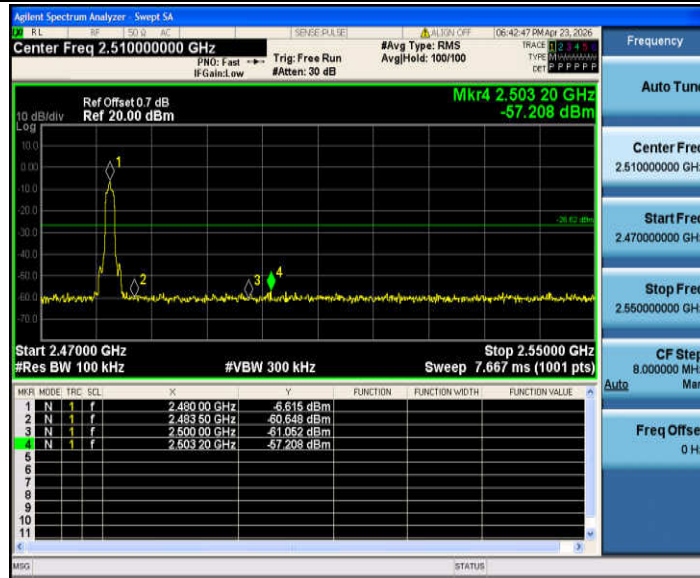
DH5_Ant1_High_Hop_2480



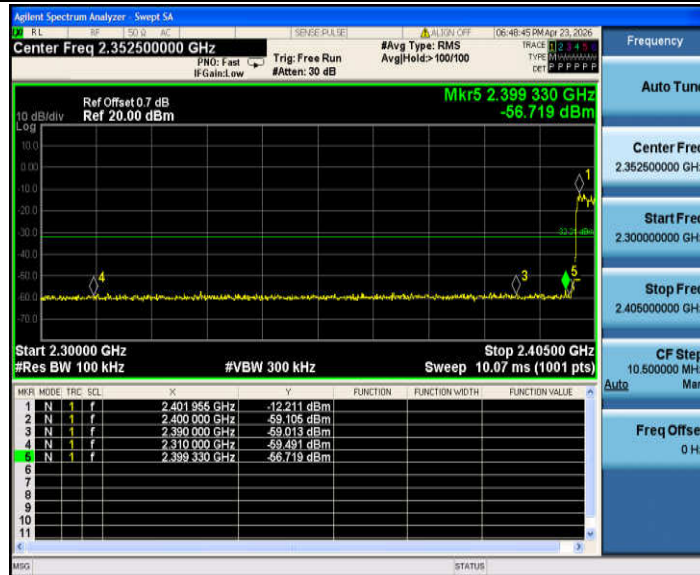
2DH5_Ant1_Low_2402



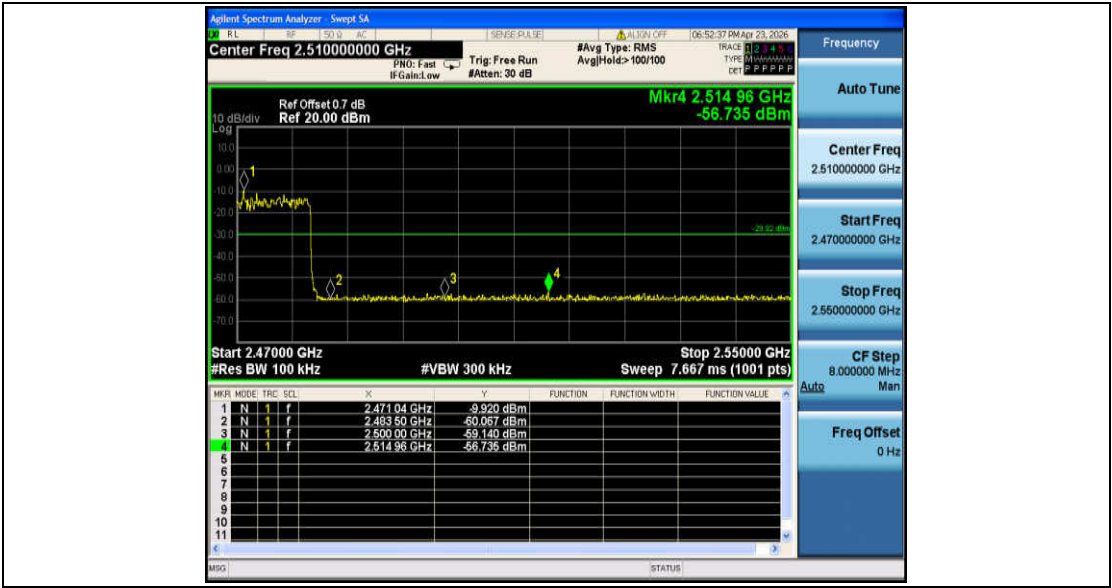
2DH5_Ant1_High_2480



2DH5_Ant1_Low_Hop_2402



2DH5_Ant1_High_Hop_2480



Appendix H: Conducted Spurious Emission

Test Result

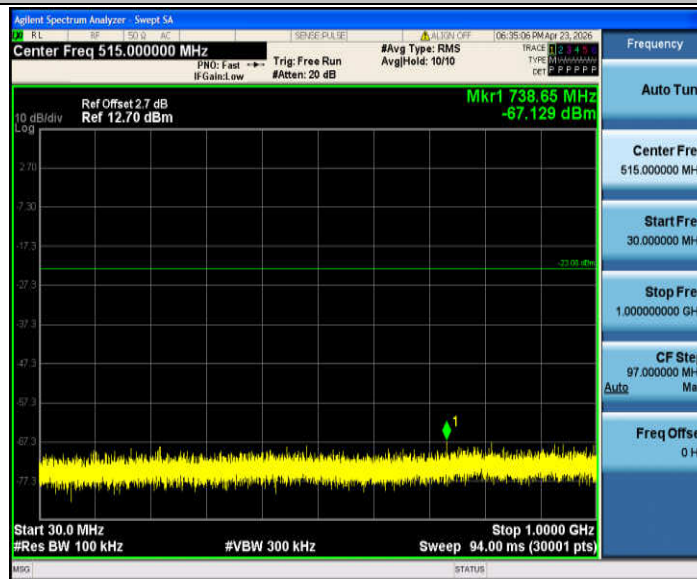
TestMode	Antenna	Freq(MHz)	FreqRange [MHz]	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
DH5	Ant1	2402	Reference	-3.08	-3.08	---	PASS
			30~1000	-3.08	-67.13	≤-23.08	PASS
			1000~26500	-3.08	-45.3	≤-23.08	PASS
		2441	Reference	-4.27	-4.27	---	PASS
			30~1000	-4.27	-67.61	≤-24.27	PASS
			1000~26500	-4.27	-48.9	≤-24.27	PASS
		2480	Reference	-4.42	-4.42	---	PASS
			30~1000	-4.42	-67.46	≤-24.42	PASS
			1000~26500	-4.42	-47.7	≤-24.42	PASS
2DH5	Ant1	2402	Reference	-8.05	-8.05	---	PASS
			30~1000	-8.05	-67.23	≤-28.05	PASS
			1000~26500	-8.05	-54.23	≤-28.05	PASS
		2441	Reference	-7.74	-7.74	---	PASS
			30~1000	-7.74	-68.34	≤-27.74	PASS
			1000~26500	-7.74	-54.09	≤-27.74	PASS
		2480	Reference	-7.57	-7.57	---	PASS
			30~1000	-7.57	-67.75	≤-27.57	PASS
			1000~26500	-7.57	-55.01	≤-27.57	PASS

Test Graphs

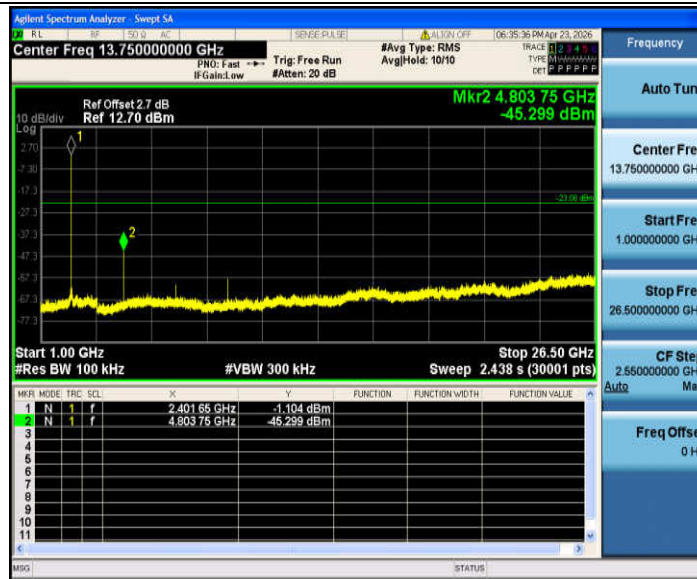
DH5_Ant1_2402_0~Reference



DH5_Ant1_2402_30~1000



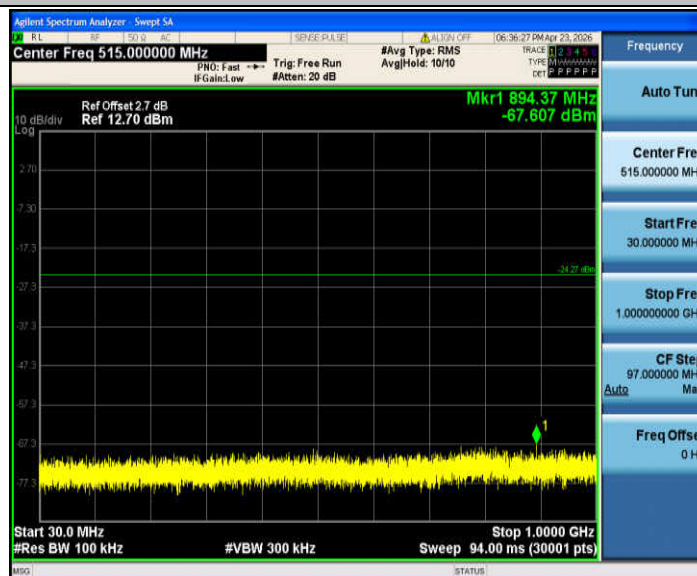
DH5_Ant1_2402_1000~26500



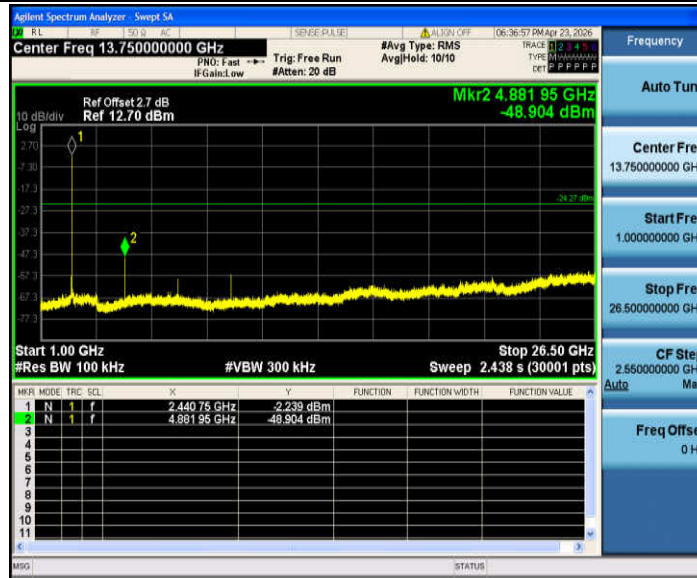
DH5_Ant1_2441_0~Reference



DH5_Ant1_2441_30~1000



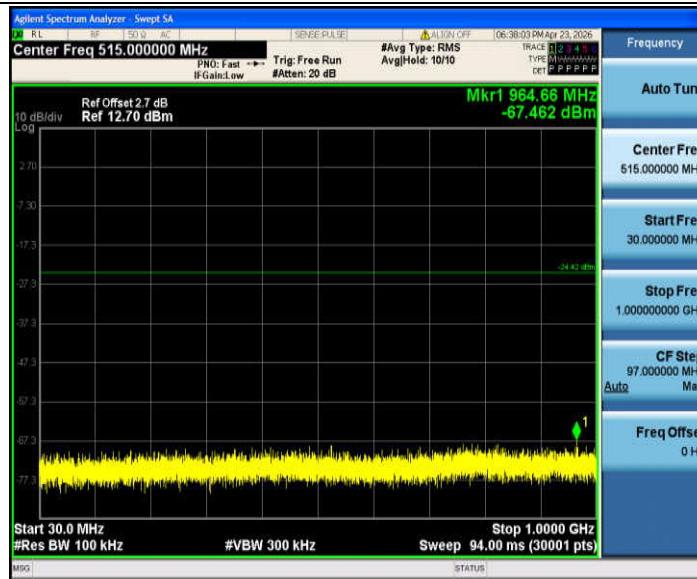
DH5_Ant1_2441_1000~26500



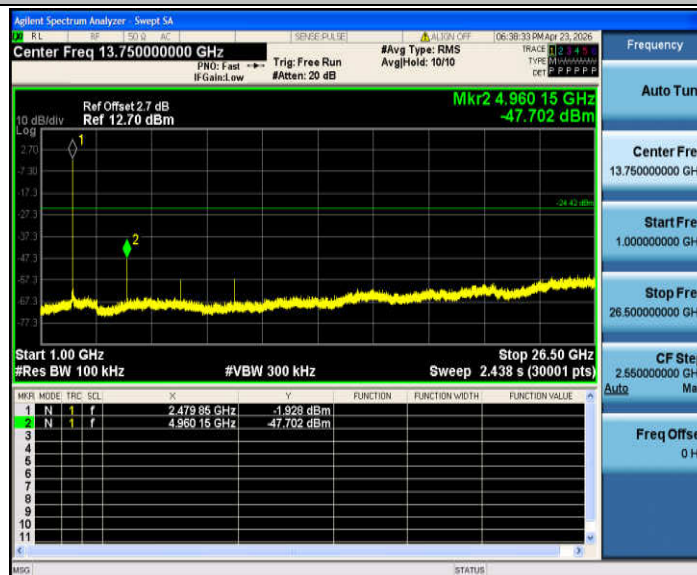
DH5_Ant1_2480_0~Reference



DH5_Ant1_2480_30~1000



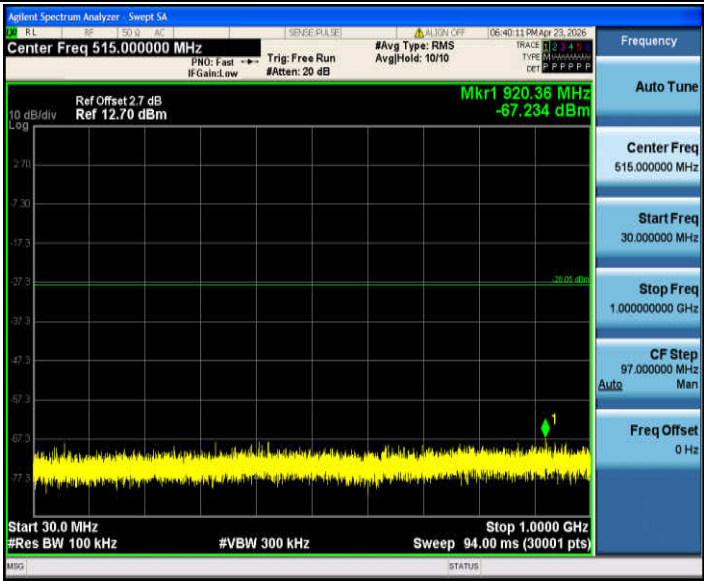
DH5_Ant1_2480_1000~26500



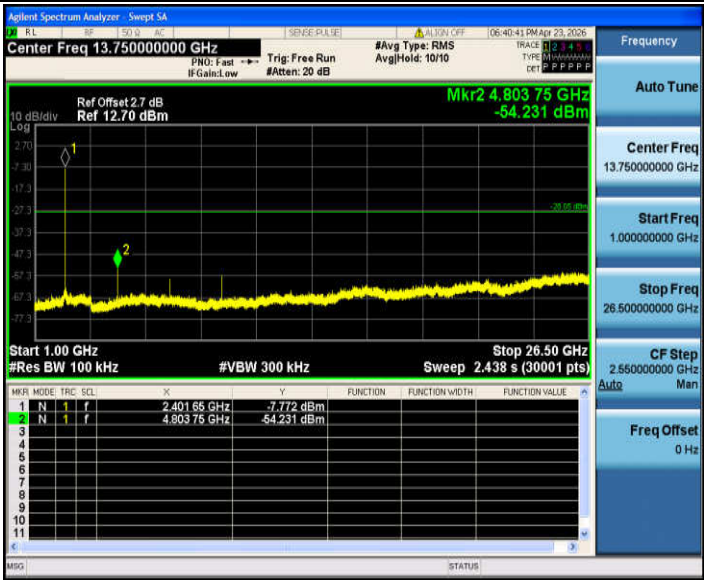
2DH5_Ant1_2402_0~Reference



2DH5_Ant1_2402_30~1000



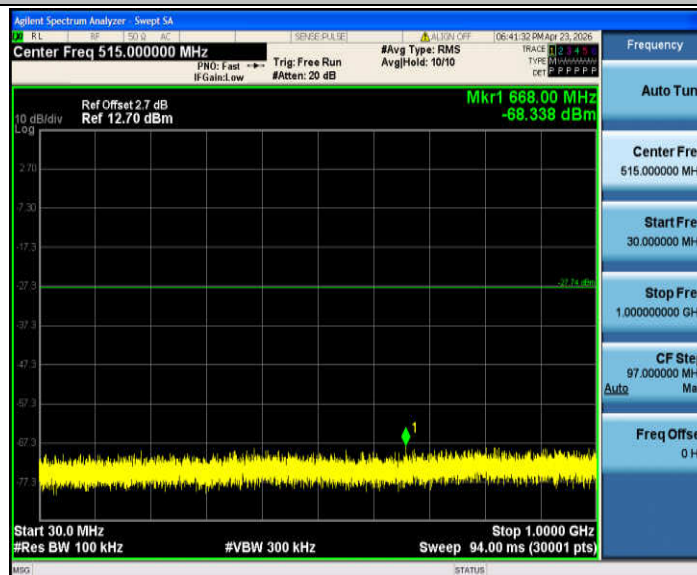
2DH5_Ant1_2402_1000~26500



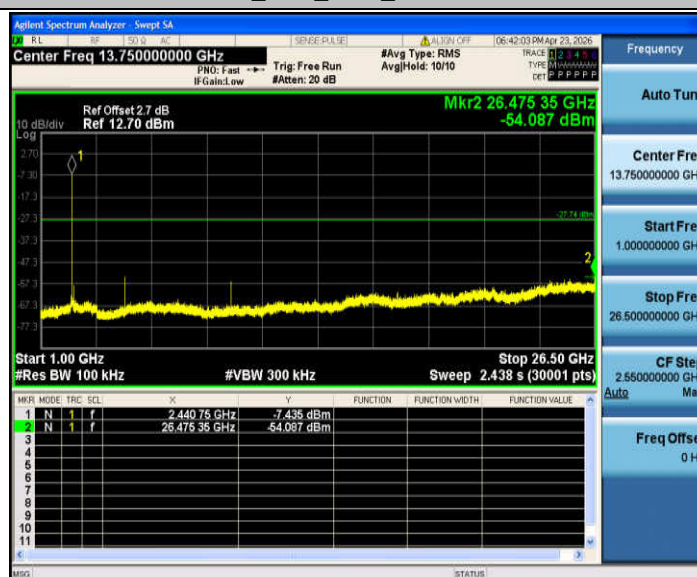
2DH5_Ant1_2441_0~Reference



2DH5_Ant1_2441_30~1000



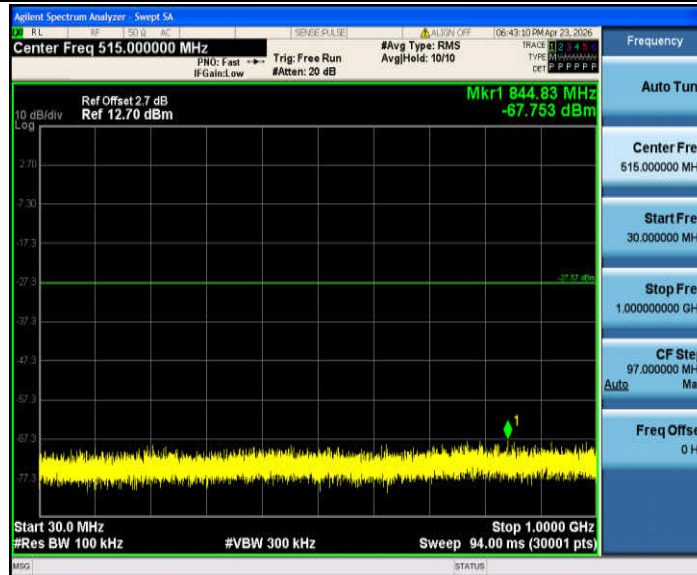
2DH5_Ant1_2441_1000~26500



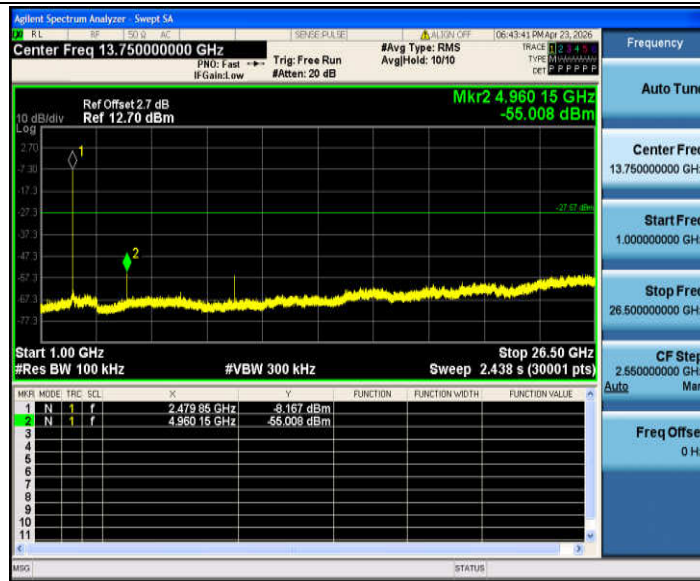
2DH5_Ant1_2480_0~Reference



2DH5_Ant1_2480_30~1000



2DH5_Ant1_2480_1000~26500

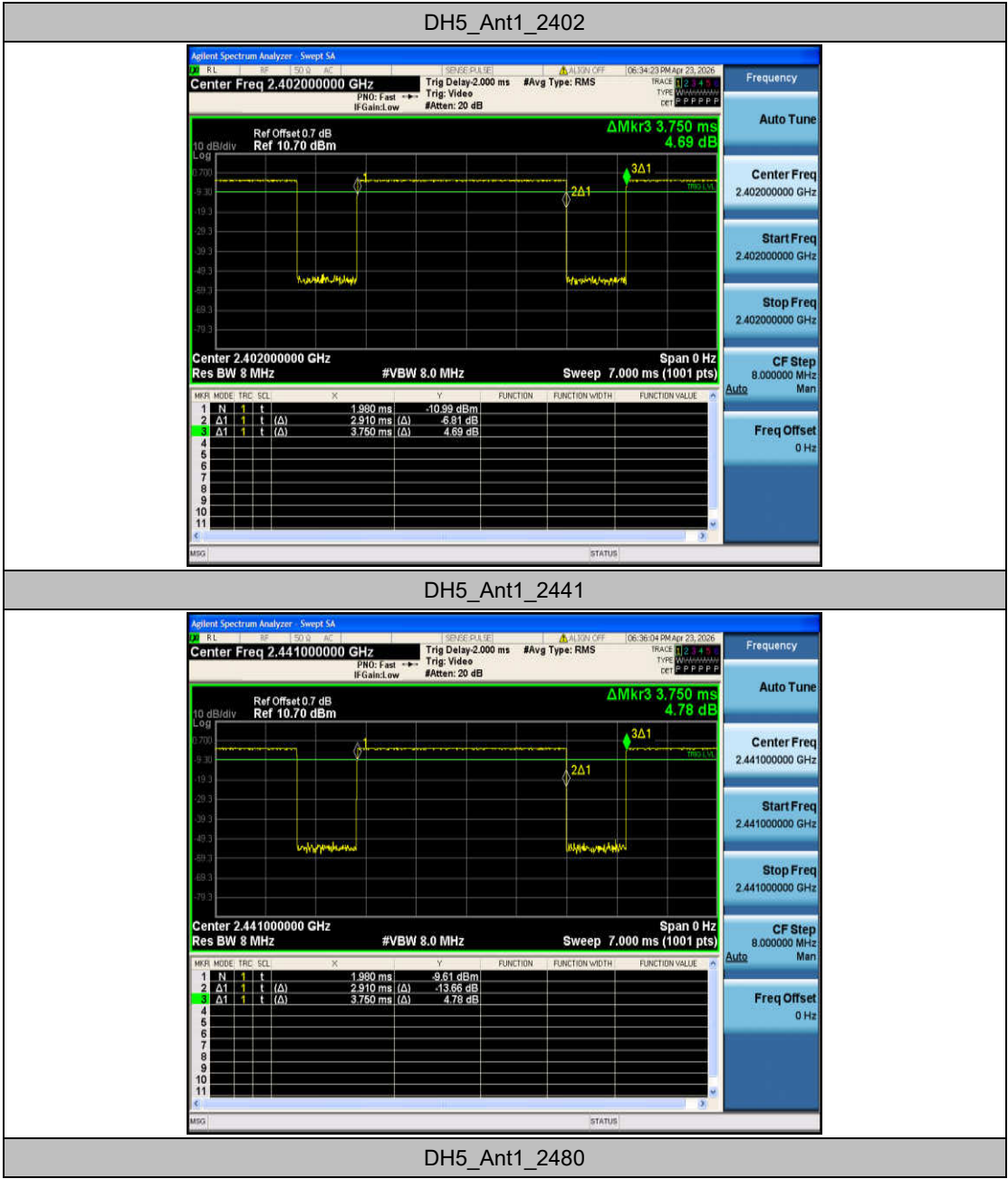


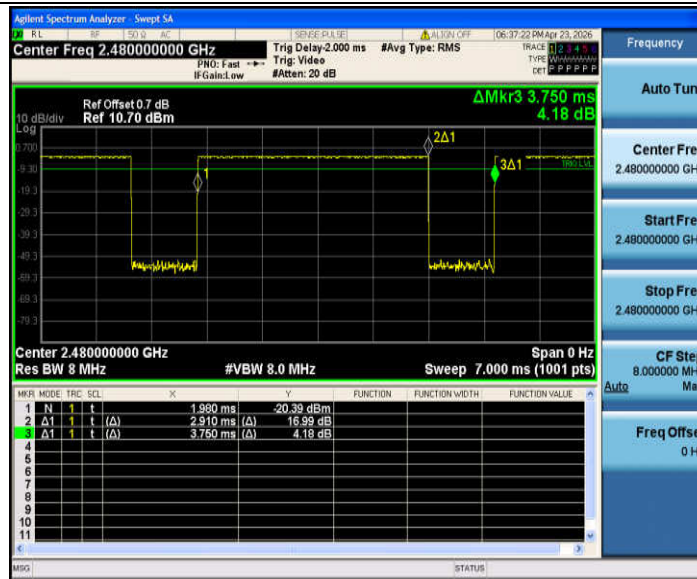
Appendix I: Duty Cycle

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	2.91	3.74	77.81	1.09	---	---
		2441	2.92	3.75	77.87	1.09	---	---
		2480	2.91	3.74	77.81	1.09	---	---

Test Graphs

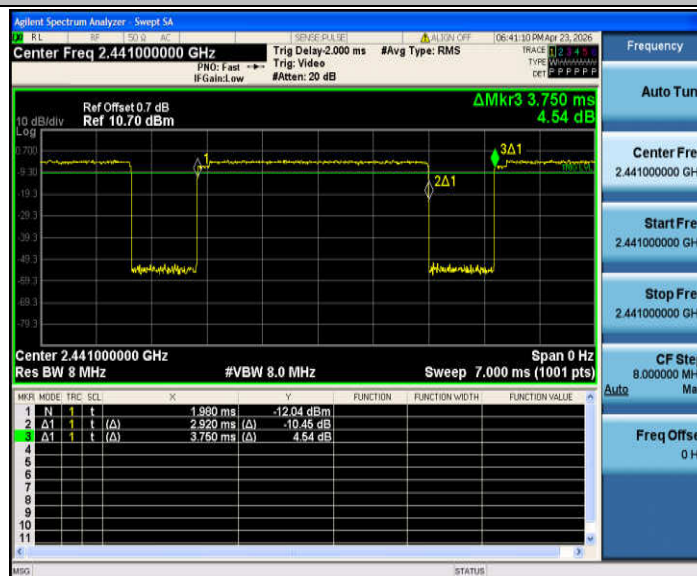




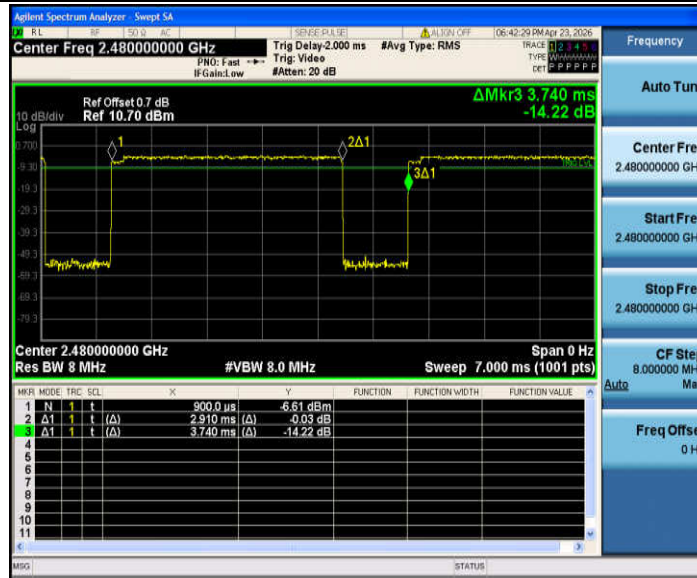
2DH5_Ant1_2402



2DH5_Ant1_2441



2DH5_Ant1_2480



Appendix J: Emissions in Restricted Bands

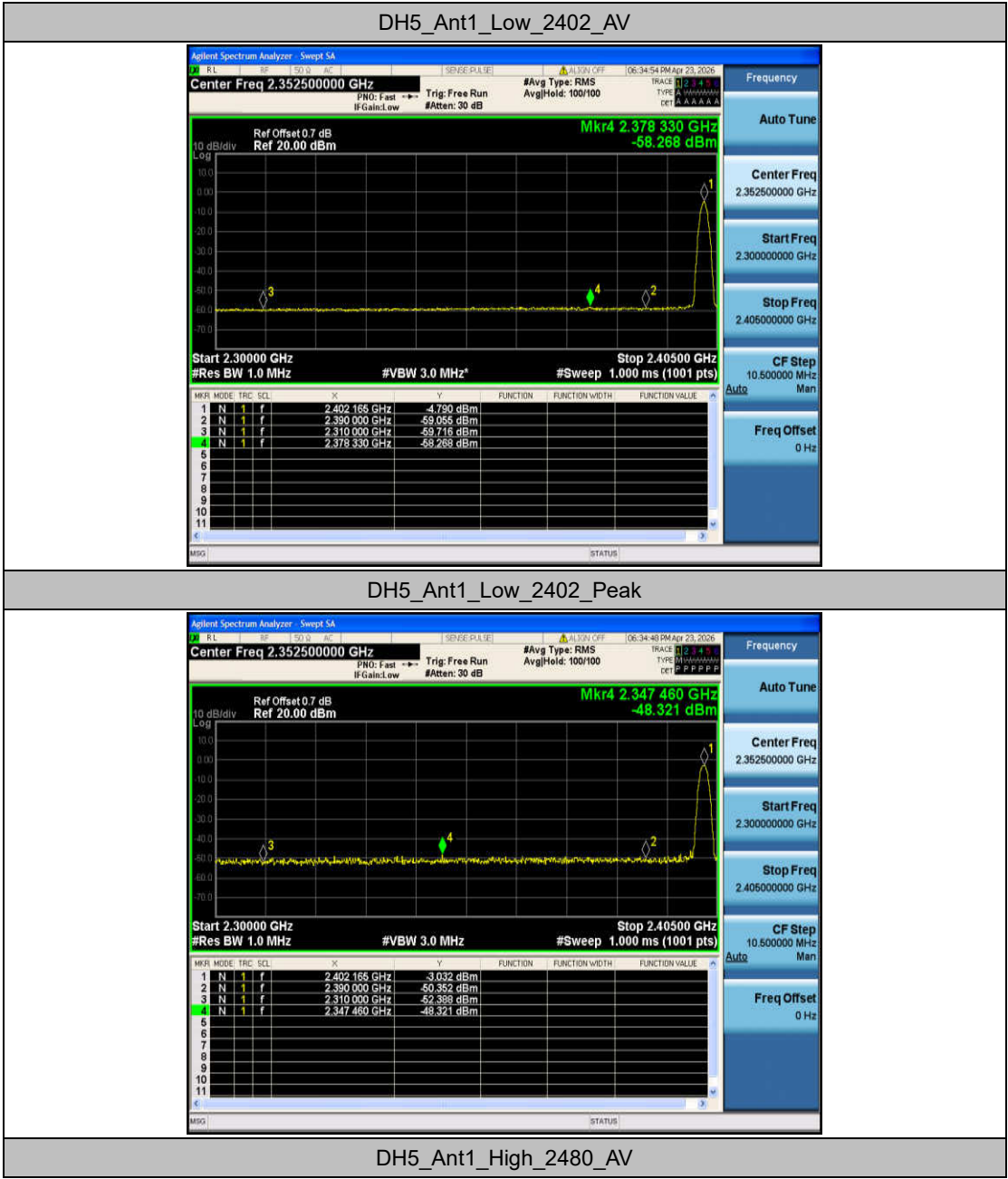
Test Result

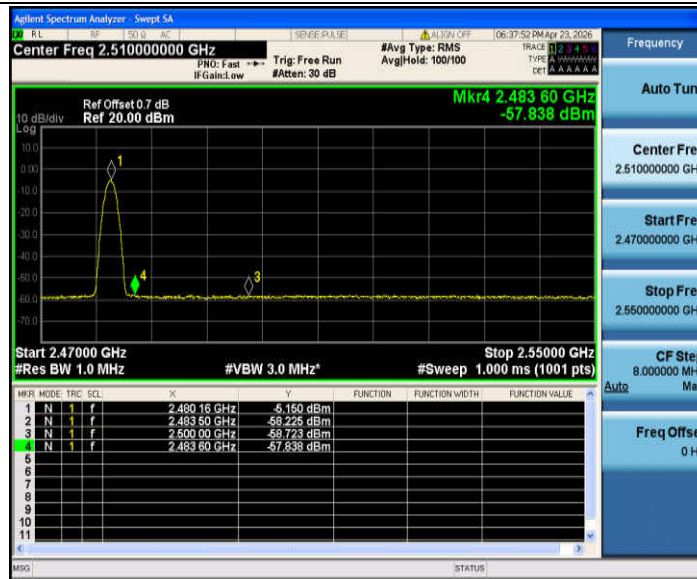
TestMode	Antenna	ChName	Freq(MHz)	Detector	Freq [MHz]	Result [dBm]	Gain [dB]	DC Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Verdict
DH5	Ant1	Low	2402	AV	2310.000	-59.72	2.00	1.10	38.58	≤54	PASS
				AV	2378.330	-58.27	2.00	1.10	40.03	≤54	PASS
				AV	2390.000	-59.06	2.00	1.10	39.24	≤54	PASS
				Peak	2310.000	-52.39	2.00	0.00	44.81	≤74	PASS
				Peak	2347.460	-48.32	2.00	0.00	48.88	≤74	PASS
				Peak	2390.000	-50.35	2.00	0.00	46.85	≤74	PASS
		High	2480	AV	2483.500	-58.23	2.00	1.10	40.07	≤54	PASS
				AV	2483.600	-57.84	2.00	1.10	40.46	≤54	PASS
				AV	2500.000	-58.72	2.00	1.10	39.58	≤54	PASS
				Peak	2483.500	-49.15	2.00	0.00	48.05	≤74	PASS
				Peak	2484.720	-46.36	2.00	0.00	50.84	≤74	PASS
				Peak	2500.000	-49.8	2.00	0.00	47.40	≤74	PASS
2DH5	Ant1	Low	2402	AV	2310.000	-59.69	2.00	1.09	38.60	≤54	PASS
				AV	2373.605	-58.16	2.00	1.09	40.13	≤54	PASS
				AV	2390.000	-59.76	2.00	1.09	38.53	≤54	PASS
				Peak	2310.000	-52.7	2.00	0.00	44.50	≤74	PASS
				Peak	2379.170	-48.48	2.00	0.00	48.72	≤74	PASS
				Peak	2390.000	-51.99	2.00	0.00	45.21	≤74	PASS
		High	2480	AV	2483.500	-58.82	2.00	1.09	39.47	≤54	PASS
				AV	2483.680	-58.06	2.00	1.09	40.23	≤54	PASS
				AV	2500.000	-59.1	2.00	1.09	39.19	≤54	PASS
				Peak	2483.500	-49.5	2.00	0.00	47.70	≤74	PASS
				Peak	2498.400	-48.61	2.00	0.00	48.59	≤74	PASS
				Peak	2500.000	-51.02	2.00	0.00	46.18	≤74	PASS

Note:

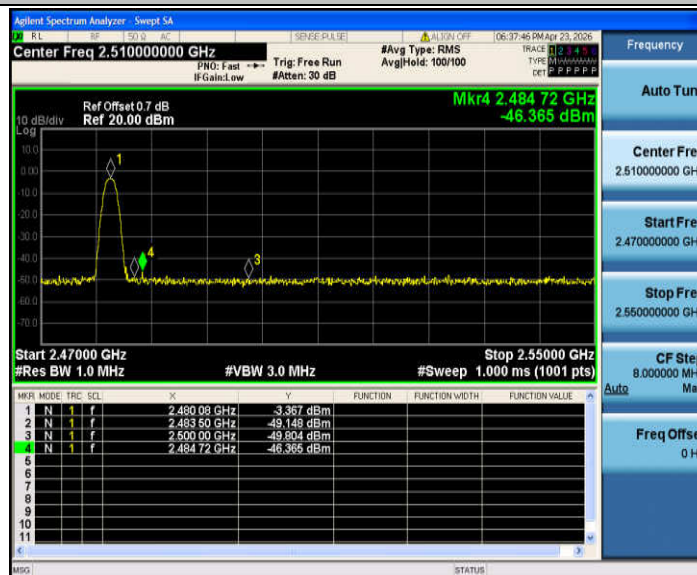
The limit in dBm for average detector is conversion from 54dBuV/m, according to 15.209(a). The limit in dBm for peak detector is 20dB above the limit of average detector in dBm.

Test Graphs

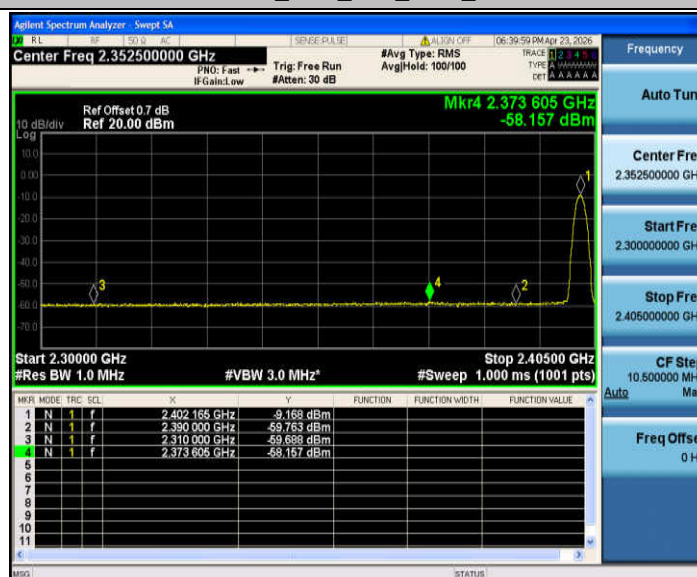




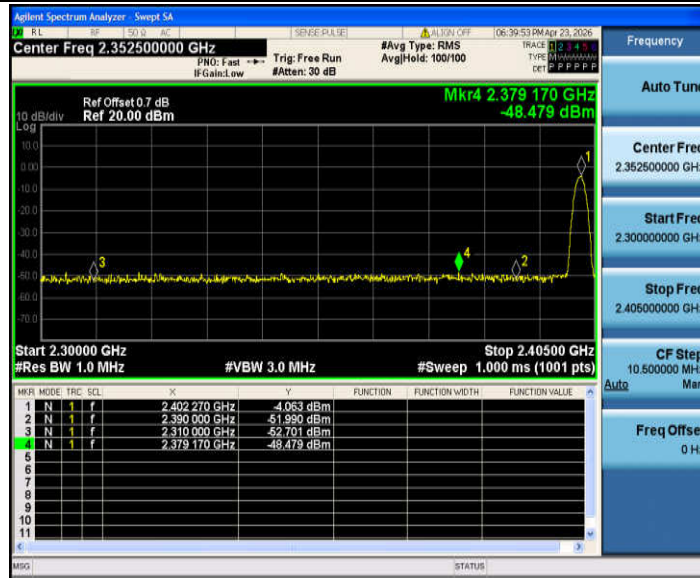
DH5_Ant1_High_2480_Peak



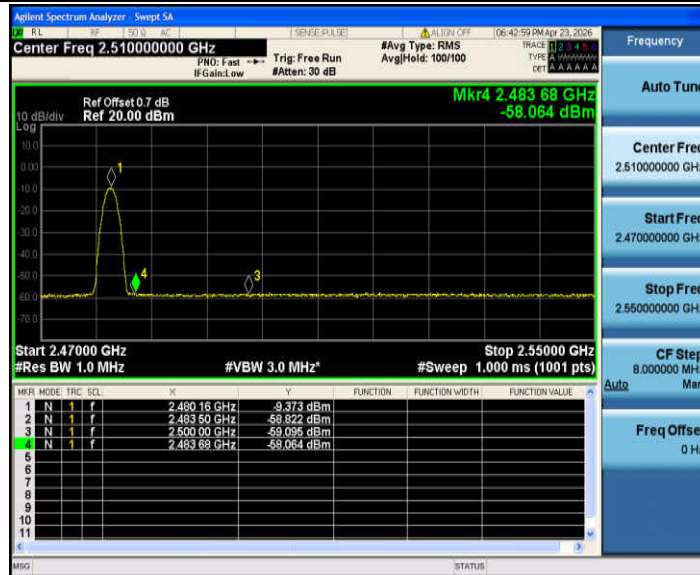
2DH5_Ant1_Low_2402_AV



2DH5_Ant1_Low_2402_Peak



2DH5_Ant1_High_2480_AV



2DH5_Ant1_High_2480_Peak

