

Case No. : <u>CTA24051700201</u>	
Ambient Condition: <u>23</u> °C, <u>49</u> %RH	
According Standard: ■Part15C	
Test Date: <u>2024.5.24</u>	Test Engineer: <u>Evan ouyang</u>

Appendix A.1: 20dB Emission Bandwidth

Test Result

TestMode	Antenna	Freq(MHz)	20dB EBW[MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
DH1	Ant0	2402	0.942	2401.493	2402.435	---	---
		2441	0.894	2440.511	2441.405	---	---
		2480	0.924	2479.505	2480.429	---	---
2DH1	Ant0	2402	1.302	2401.310	2402.612	---	---
		2441	1.308	2440.307	2441.615	---	---
		2480	1.305	2479.307	2480.612	---	---
3DH1	Ant0	2402	1.281	2401.328	2402.609	---	---
		2441	1.263	2440.340	2441.603	---	---
		2480	1.281	2479.325	2480.606	---	---

Test Graphs





2DH1_Ant0_2402



2DH1_Ant0_2441



2DH1_Ant0_2480



3DH1_Ant0_2402



3DH1_Ant0_2441



3DH1_Ant0_2480



Appendix A.2: Occupied Channel Bandwidth

Test Result

TestMode	Antenna	Freq(MHz)	OCB [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
DH1	Ant0	2402	0.78501	2401.5763	2402.3613	---	---
		2441	0.78906	2440.5666	2441.3557	---	---
		2480	0.80317	2479.5642	2480.3674	---	---
2DH1	Ant0	2402	1.2340	2401.3441	2402.5781	---	---
		2441	1.2340	2440.3420	2441.5760	---	---
		2480	1.2332	2479.3406	2480.5738	---	---
3DH1	Ant0	2402	1.1154	2401.4154	2402.5308	---	---
		2441	1.1256	2440.4033	2441.5289	---	---
		2480	1.1205	2479.4078	2480.5283	---	---

Test Graphs

DH1_Ant0_2402



DH1_Ant0_2441



DH1_Ant0_2480



2DH1_Ant0_2402



2DH1_Ant0_2441



2DH1_Ant0_2480



3DH1_Ant0_2402



3DH1_Ant0_2441



3DH1_Ant0_2480



Appendix A.3: Maximum conducted output power

Test Result Peak

Test Mode	Antenna	Freq(MHz)	Conducted Peak Power[dBm]	Conducted Limit[dBm]	Verdict
DH1	Ant0	2402	3.46	≤ 20.97	PASS
		2441	4.08	≤ 20.97	PASS
		2480	4.16	≤ 20.97	PASS
2DH1	Ant0	2402	5.30	≤ 20.97	PASS
		2441	5.99	≤ 20.97	PASS
		2480	5.99	≤ 20.97	PASS
3DH1	Ant0	2402	5.84	≤ 20.97	PASS
		2441	5.15	≤ 20.97	PASS
		2480	5.82	≤ 20.97	PASS

Appendix A.4: Carrier frequency separation

Test Result

TestMode	Antenna	Freq(MHz)	Result[MHz]	Limit[MHz]	Verdict
DH1	Ant0	Hop_2402	0.856	≥ 0.628	PASS
		Hop_2441	0.98	≥ 0.628	PASS
		Hop_2480	0.986	≥ 0.628	PASS
2DH1	Ant0	Hop_2402	1.002	≥ 0.872	PASS
		Hop_2441	1.014	≥ 0.872	PASS
		Hop_2480	0.99	≥ 0.872	PASS
3DH1	Ant0	Hop_2402	1	≥ 0.854	PASS
		Hop_2441	1.01	≥ 0.854	PASS
		Hop_2480	1.196	≥ 0.854	PASS

Test Graphs





2DH1_Ant0_Hop_2402



2DH1_Ant0_Hop_2441



2DH1_Ant0_Hop_2480



3DH1_Ant0_Hop_2402



3DH1_Ant0_Hop_2441

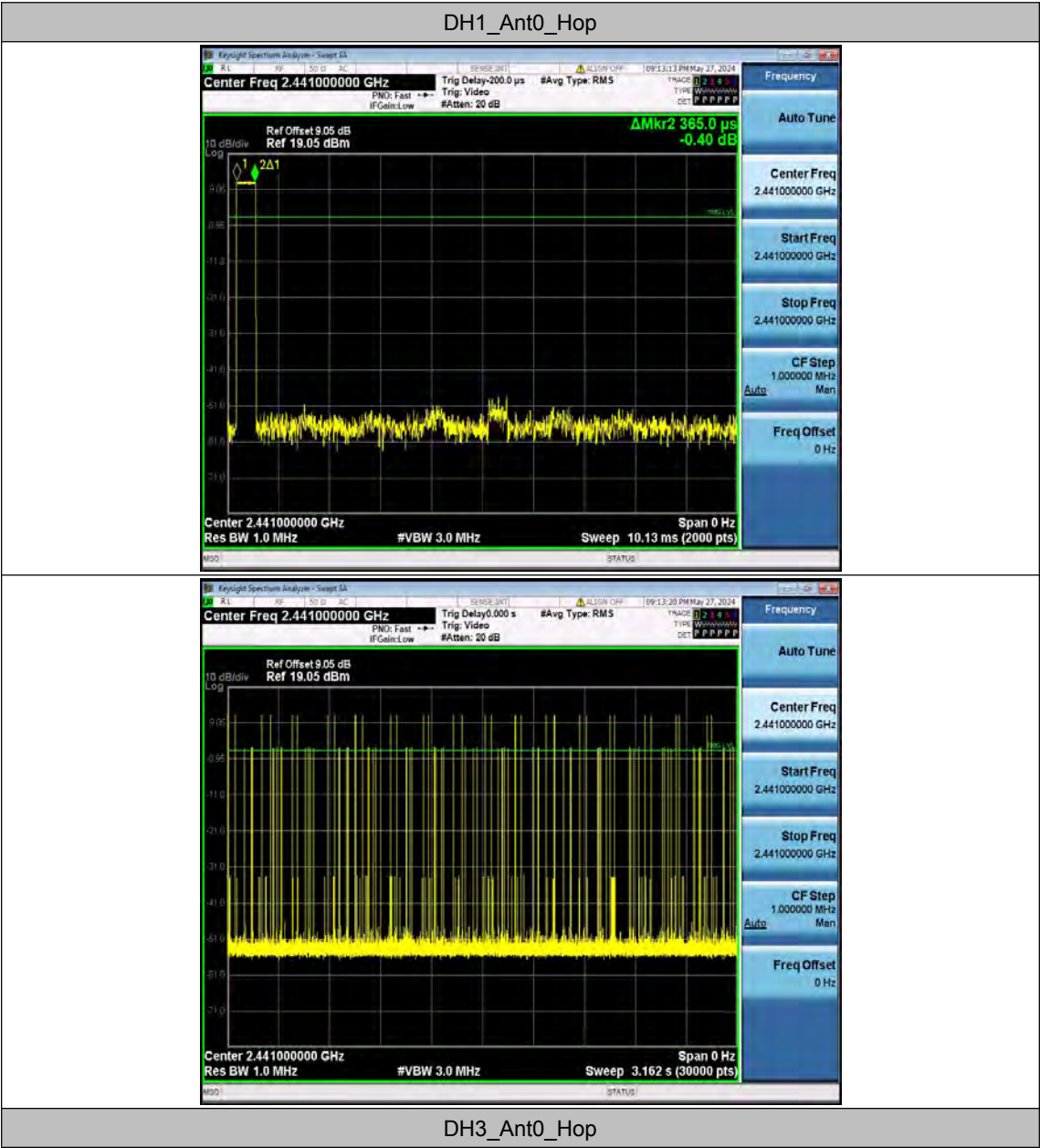


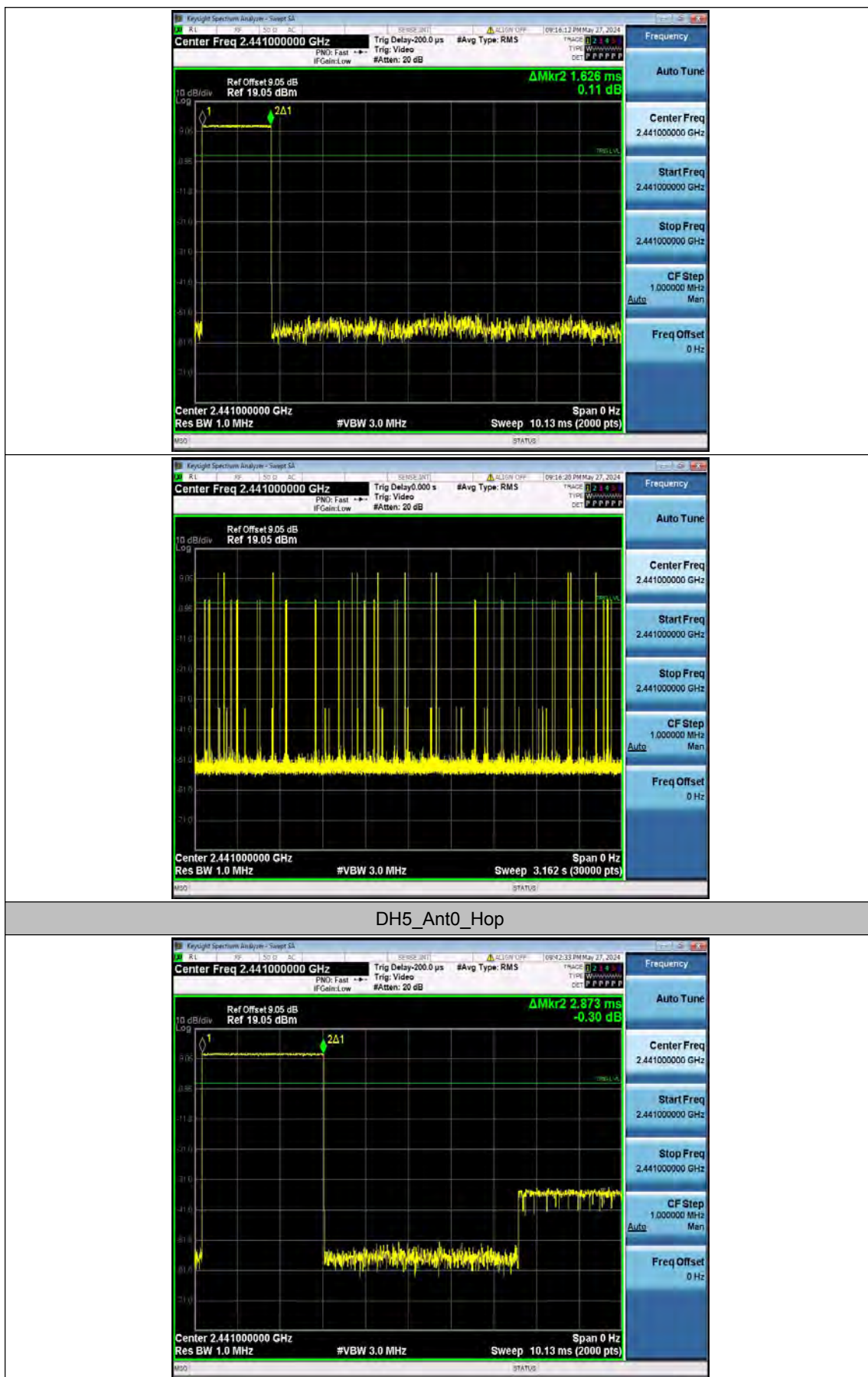
Appendix A.5: Time of occupancy

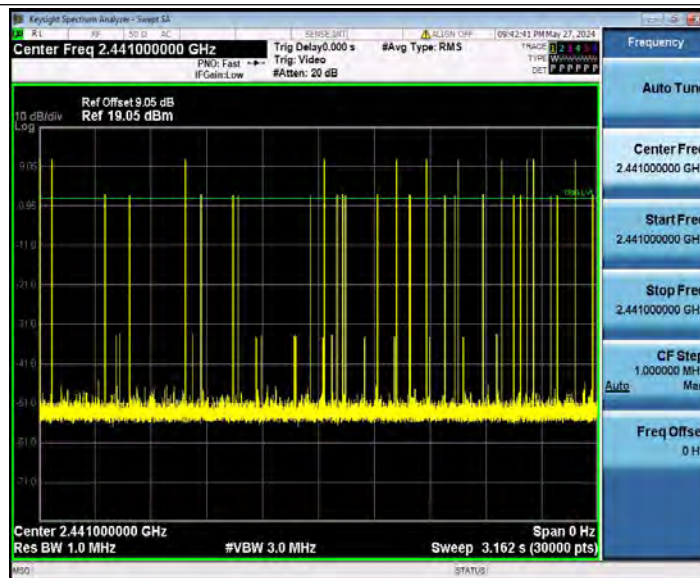
Test Result

TestMode	Antenna	Freq(MHz)	BurstWidth [ms]	TotalHops [Num]	Result[s]	Limit[s]	Verdict
DH1	Ant0	Hop	0.365	320	0.117	≤0.4	PASS
DH3	Ant0	Hop	1.626	150	0.244	≤0.4	PASS
DH5	Ant0	Hop	2.873	110	0.316	≤0.4	PASS
2DH1	Ant0	Hop	0.375	320	0.12	≤0.4	PASS
2DH3	Ant0	Hop	1.631	160	0.261	≤0.4	PASS
2DH5	Ant0	Hop	2.878	120	0.345	≤0.4	PASS
3DH1	Ant0	Hop	0.375	320	0.12	≤0.4	PASS
3DH3	Ant0	Hop	1.135	150	0.17	≤0.4	PASS
3DH5	Ant0	Hop	2.878	120	0.345	≤0.4	PASS

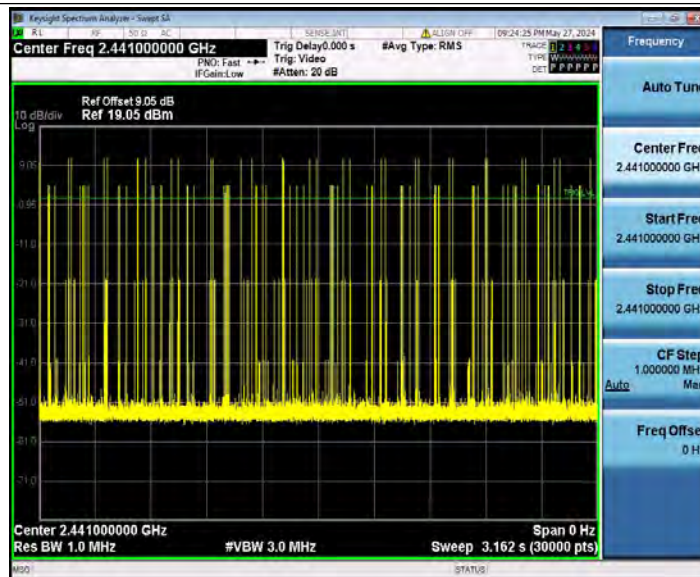
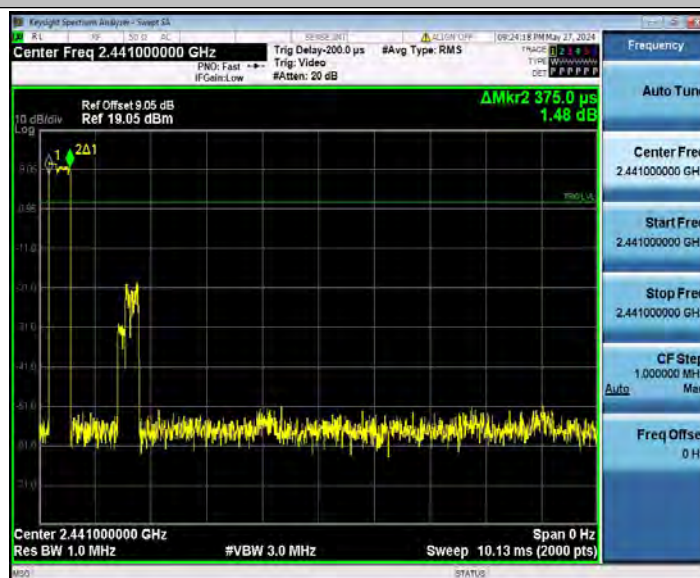
Test Graphs



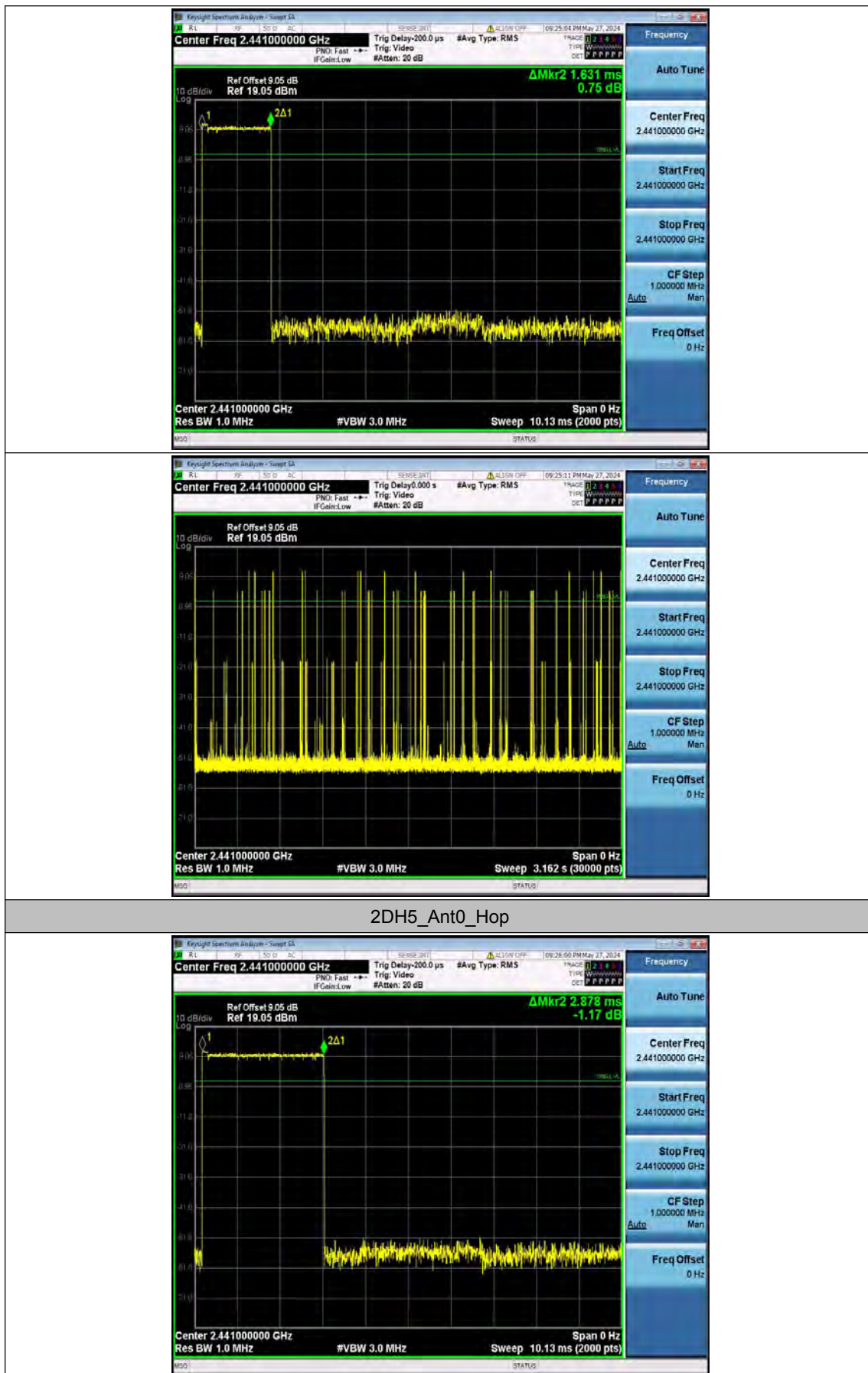


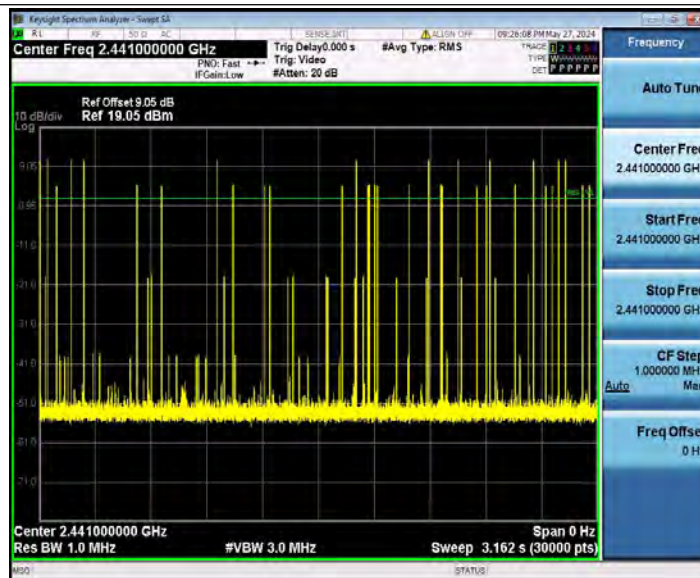


2DH1_Ant0_Hop

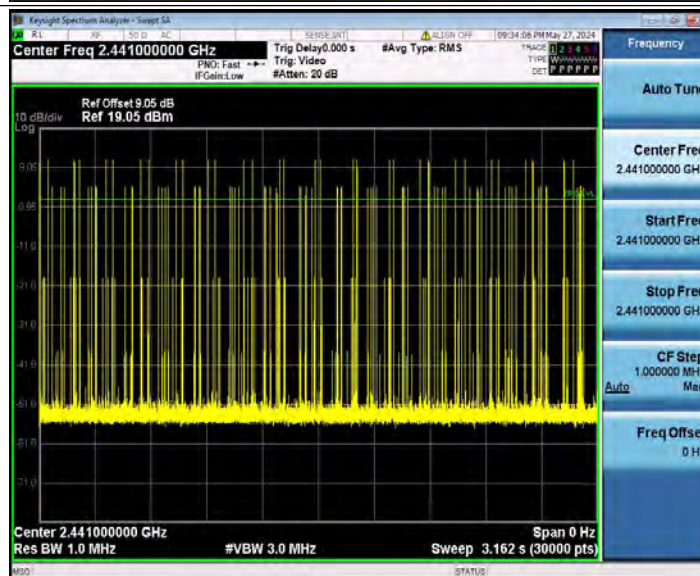
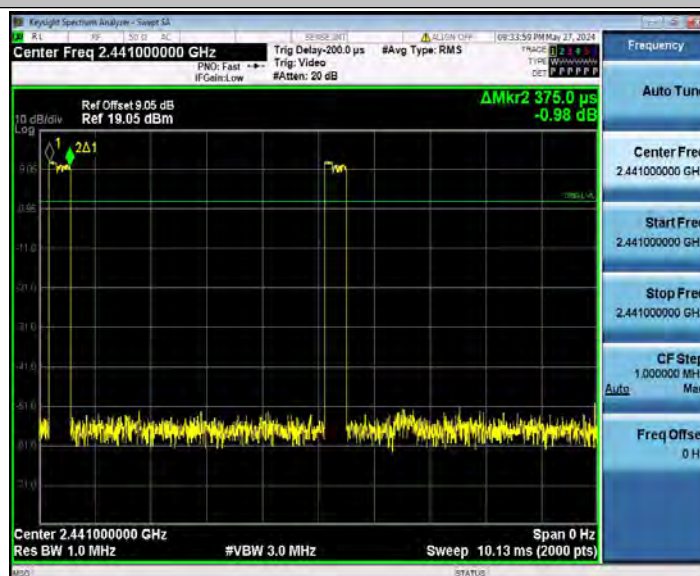


2DH3_Ant0_Hop

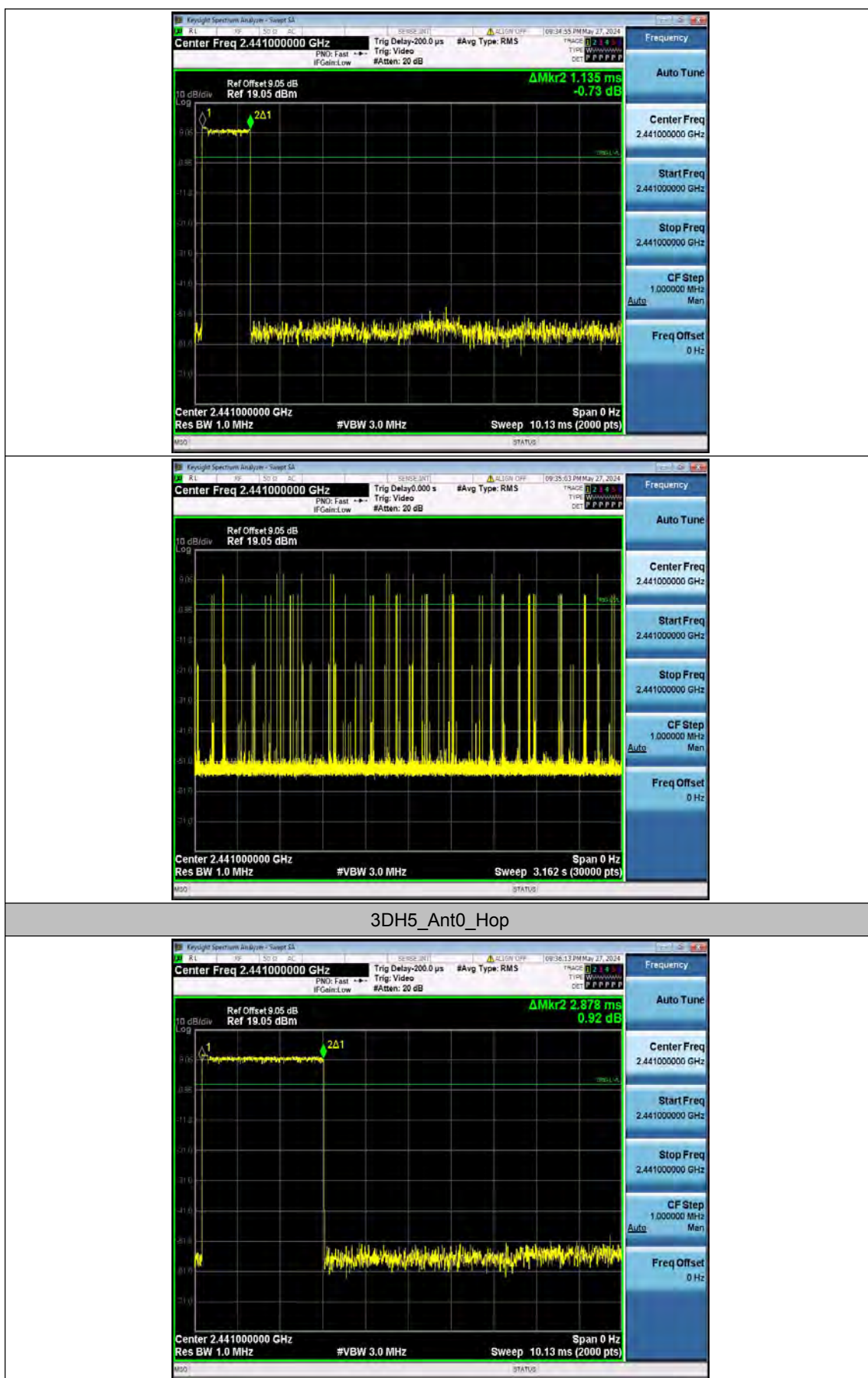


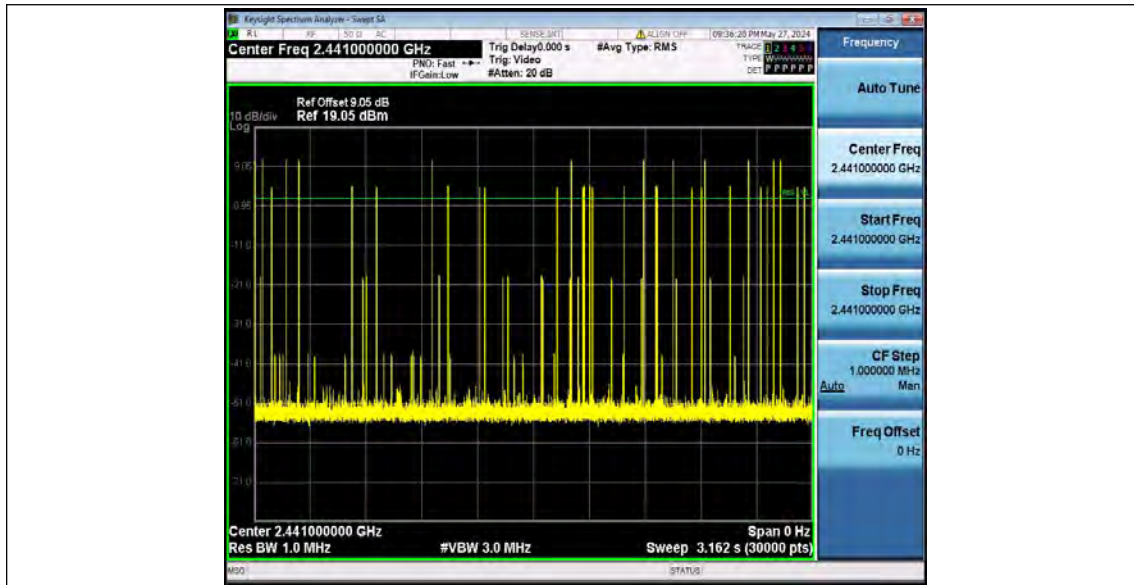


3DH1_Ant0_Hop



3DH3_Ant0_Hop





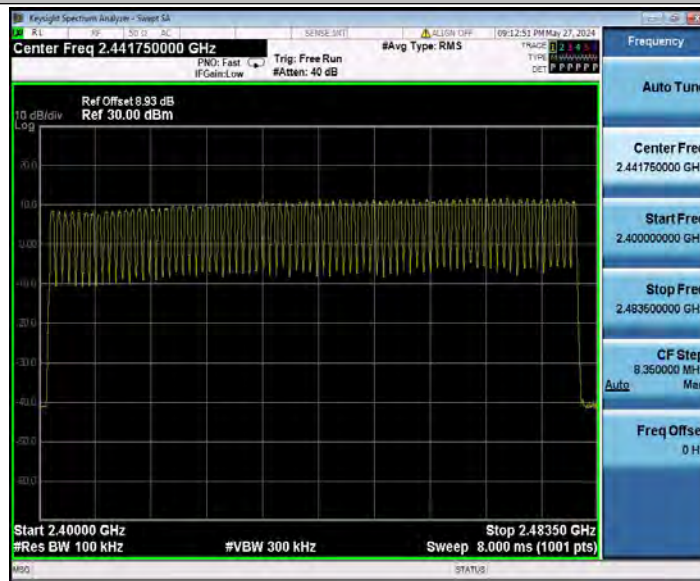
Appendix A.6: Number of hopping channels

Test Result

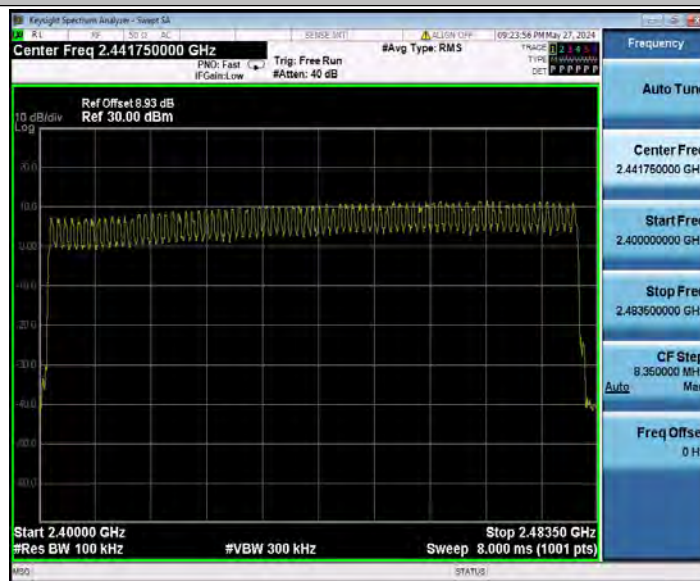
TestMode	Antenna	Freq(MHz)	Result[Num]	Limit[Num]	Verdict
DH1	Ant0	Hop	79	≥15	PASS
2DH1	Ant0	Hop	79	≥15	PASS
3DH1	Ant0	Hop	79	≥15	PASS

Test Graphs

DH1_Ant0_Hop



2DH1_Ant0_Hop



3DH1_Ant0_Hop



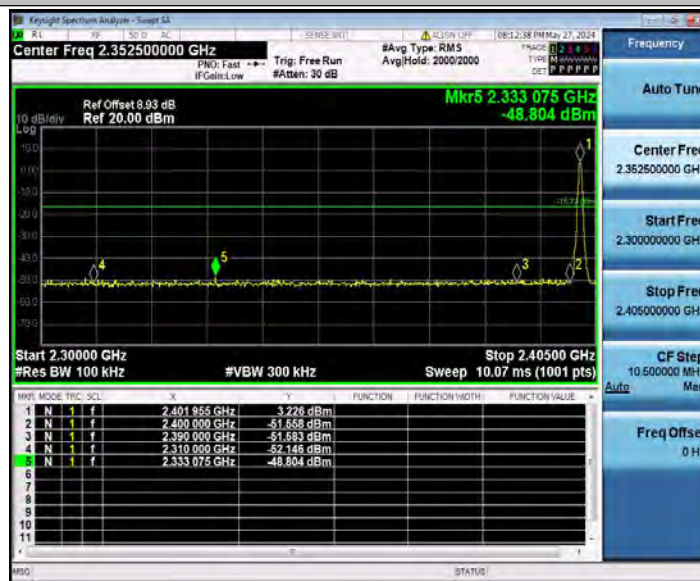
Appendix A.7: Band edge measurements

Test Result

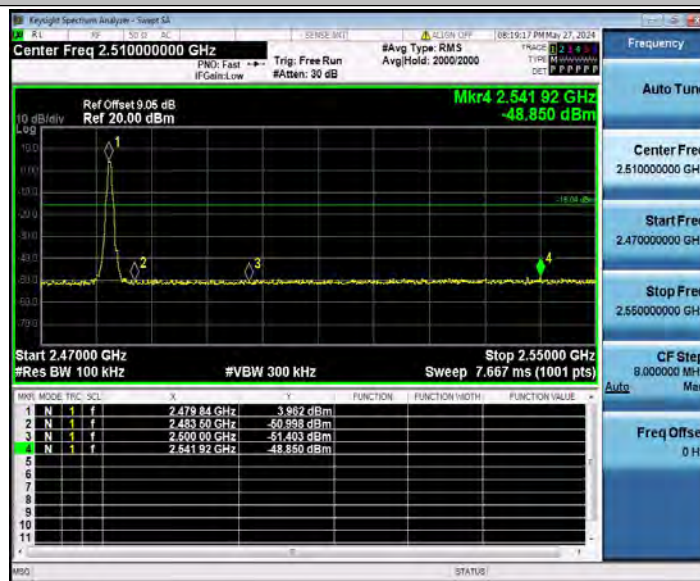
TestMode	Antenna	ChName	Freq(MHz)	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
DH1	Ant0	Low	2402	3.23	-48.8	≤ -16.77	PASS
		High	2480	3.96	-48.85	≤ -16.04	PASS
		Low	Hop_2402	8.27	-49.34	≤ -11.73	PASS
		High	Hop_2480	11.26	-48.93	≤ -8.74	PASS
2DH1	Ant0	Low	2402	2.75	-49.5	≤ -17.26	PASS
		High	2480	3.49	-47.93	≤ -16.52	PASS
		Low	Hop_2402	6.53	-49.03	≤ -13.47	PASS
		High	Hop_2480	10.97	-48.95	≤ -9.03	PASS
3DH1	Ant0	Low	2402	2.80	-49.04	≤ -17.2	PASS
		High	2480	2.77	-48.61	≤ -17.23	PASS
		Low	Hop_2402	7.55	-49.69	≤ -12.45	PASS
		High	Hop_2480	10.98	-48.67	≤ -9.02	PASS

Test Graphs

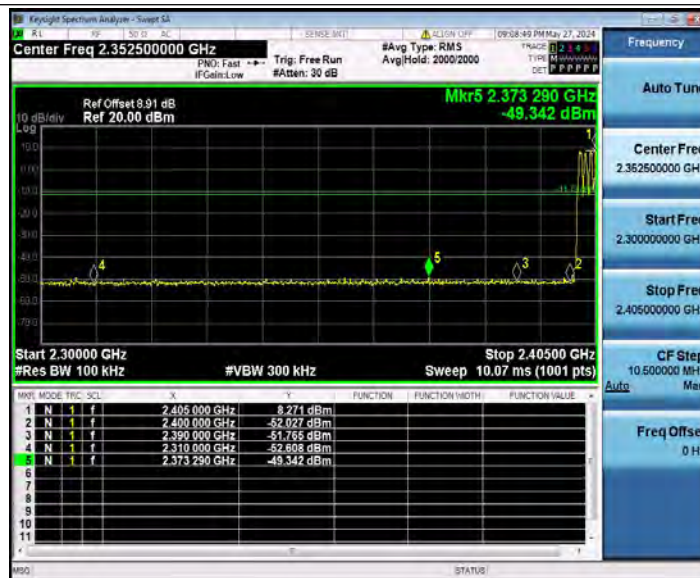
DH1_Ant0_Low_2402



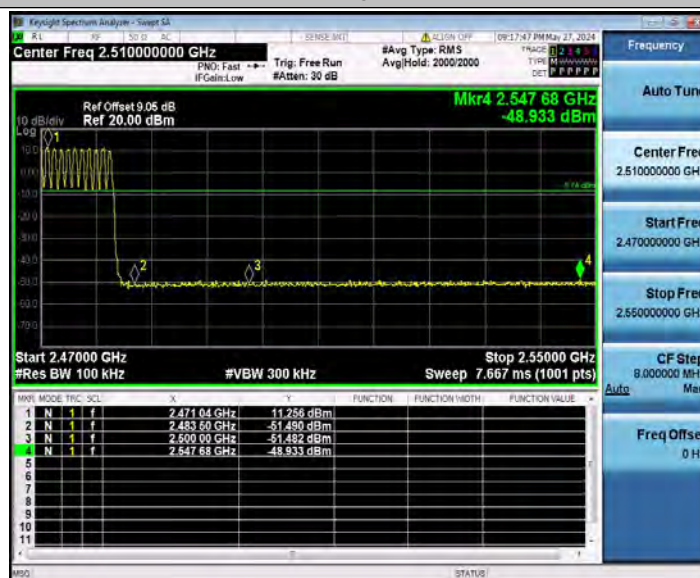
DH1_Ant0_High_2480



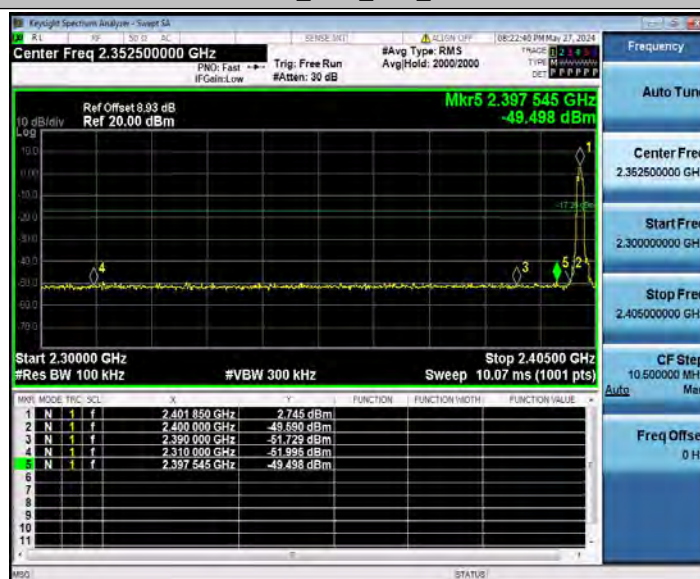
DH1_Ant0_Low_Hop_2402



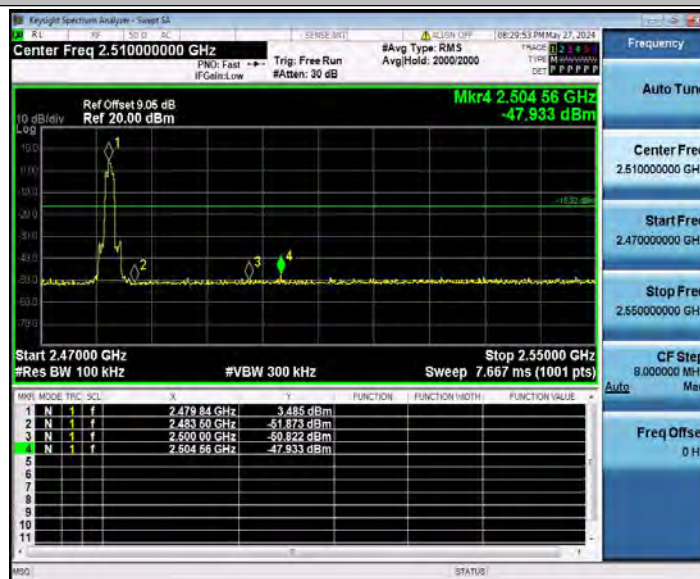
DH1_Ant0_High_Hop_2480



2DH1_Ant0_Low_2402



2DH1_Ant0_High_2480



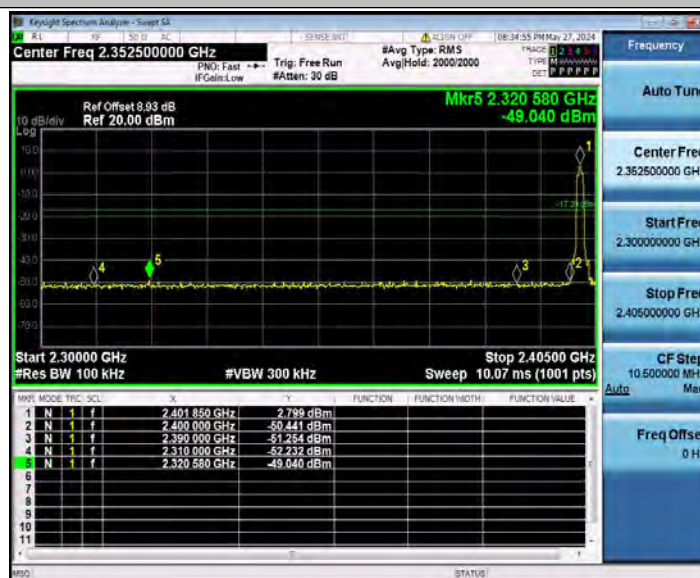
2DH1_Ant0_Low_Hop_2402



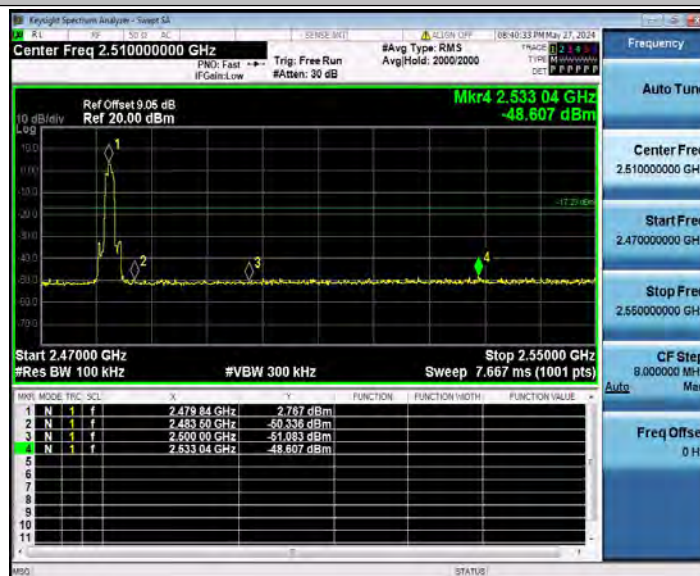
2DH1_Ant0_High_Hop_2480



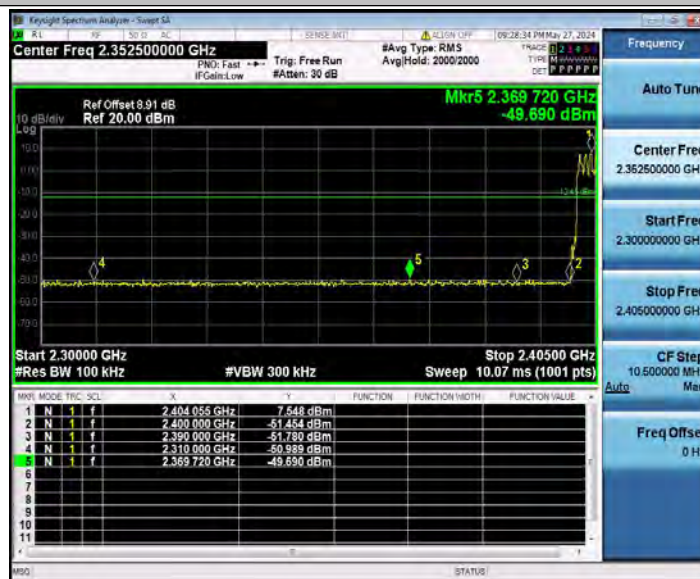
3DH1_Ant0_Low_2402



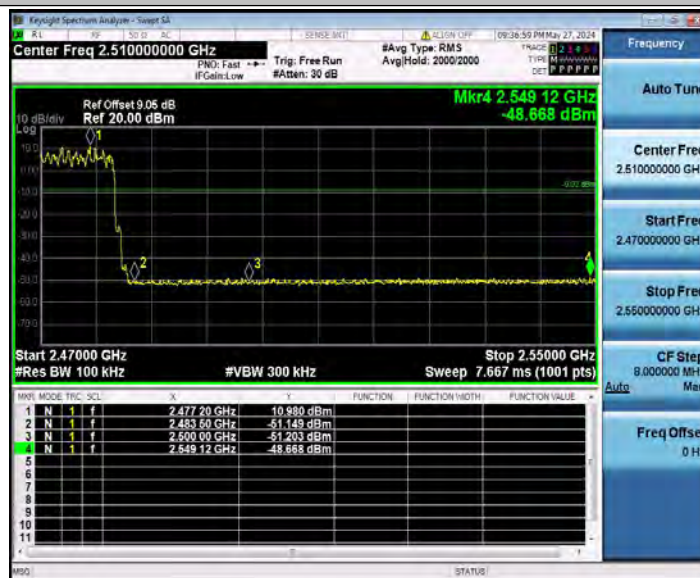
3DH1_Ant0_High_2480



3DH1_Ant0_Low_Hop_2402



3DH1_Ant0_High_Hop_2480

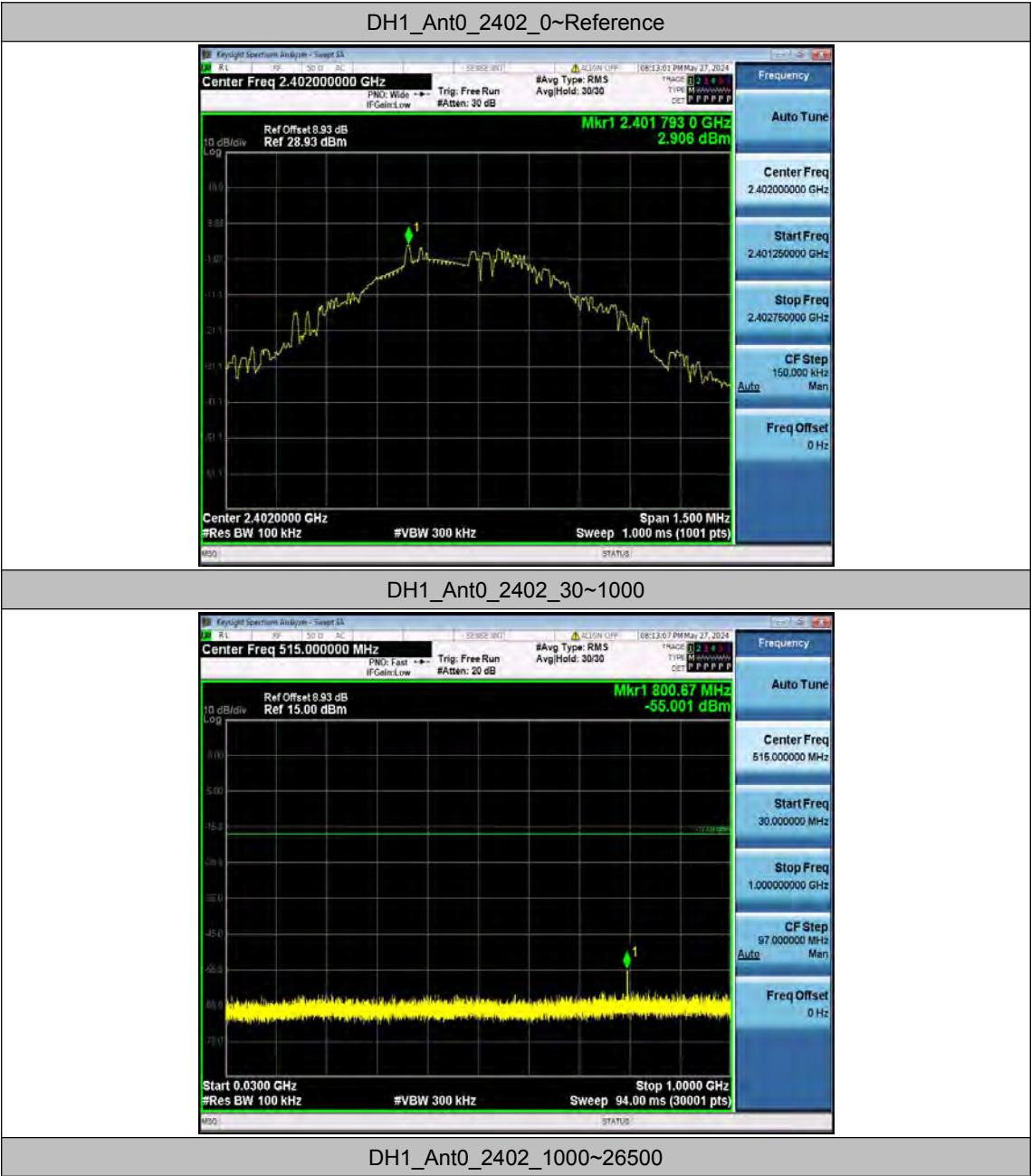


Appendix A.8: Conducted Spurious Emission

Test Result

TestMode	Antenna	Freq(MHz)	FreqRange [MHz]	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
DH1	Ant0	2402	Reference	2.91	2.91	---	PASS
			30~1000	2.91	-55	≤-17.09	PASS
			1000~26500	2.91	-44.77	≤-17.09	PASS
		2441	Reference	3.66	3.66	---	PASS
			30~1000	3.66	-55.91	≤-16.34	PASS
			1000~26500	3.66	-43.41	≤-16.34	PASS
		2480	Reference	2.05	2.05	---	PASS
			30~1000	2.05	-56.39	≤-17.95	PASS
			1000~26500	2.05	-42.07	≤-17.95	PASS
2DH1	Ant0	2402	Reference	1.98	1.98	---	PASS
			30~1000	1.98	-56.75	≤-18.02	PASS
			1000~26500	1.98	-43.88	≤-18.02	PASS
		2441	Reference	2.54	2.54	---	PASS
			30~1000	2.54	-56.56	≤-17.46	PASS
			1000~26500	2.54	-43.95	≤-17.46	PASS
		2480	Reference	2.56	2.56	---	PASS
			30~1000	2.56	-47.49	≤-17.44	PASS
			1000~26500	2.56	-43.73	≤-17.44	PASS
3DH1	Ant0	2402	Reference	2.21	2.21	---	PASS
			30~1000	2.21	-56.34	≤-17.79	PASS
			1000~26500	2.21	-44.49	≤-17.79	PASS
		2441	Reference	3.12	3.12	---	PASS
			30~1000	3.12	-56.16	≤-16.88	PASS
			1000~26500	3.12	-42.26	≤-16.88	PASS
		2480	Reference	2.47	2.47	---	PASS
			30~1000	2.47	-56.61	≤-17.53	PASS
			1000~26500	2.47	-44.11	≤-17.53	PASS

Test Graphs





DH1_Ant0_2441_0~Reference



DH1_Ant0_2441_30~1000



DH1_Ant0_2441_1000~26500



DH1_Ant0_2480_0~Reference



DH1_Ant0_2480_30~1000



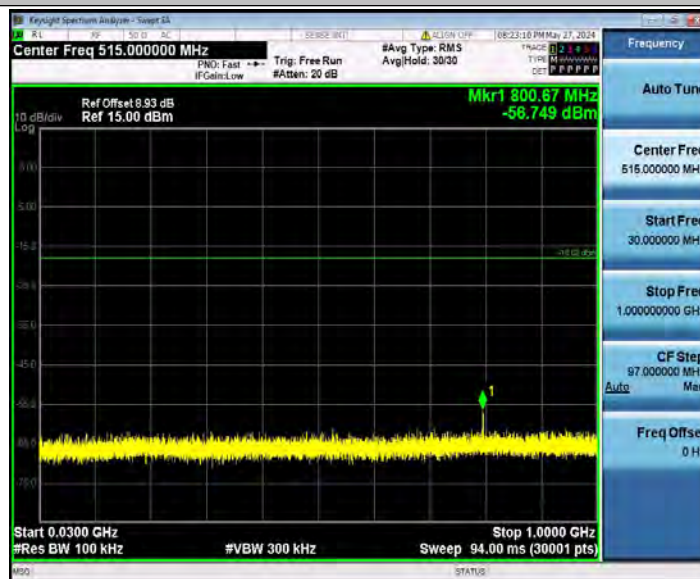
DH1_Ant0_2480_1000~26500



2DH1_Ant0_2402_0~Reference



2DH1_Ant0_2402_30~1000



2DH1_Ant0_2402_1000~26500



2DH1_Ant0_2441_0~Reference



2DH1_Ant0_2441_30~1000



2DH1_Ant0_2441_1000~26500



2DH1_Ant0_2480_0~Reference



2DH1_Ant0_2480_30~1000



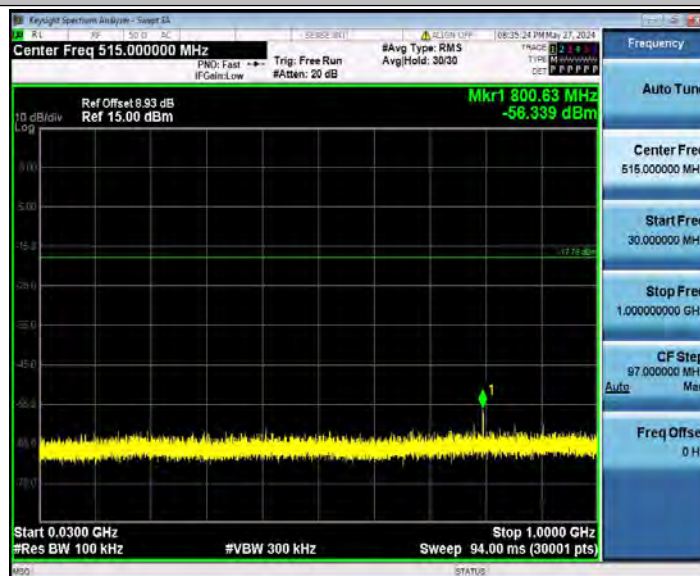
2DH1_Ant0_2480_1000~26500



3DH1_Ant0_2402_0~Reference



3DH1_Ant0_2402_30~1000



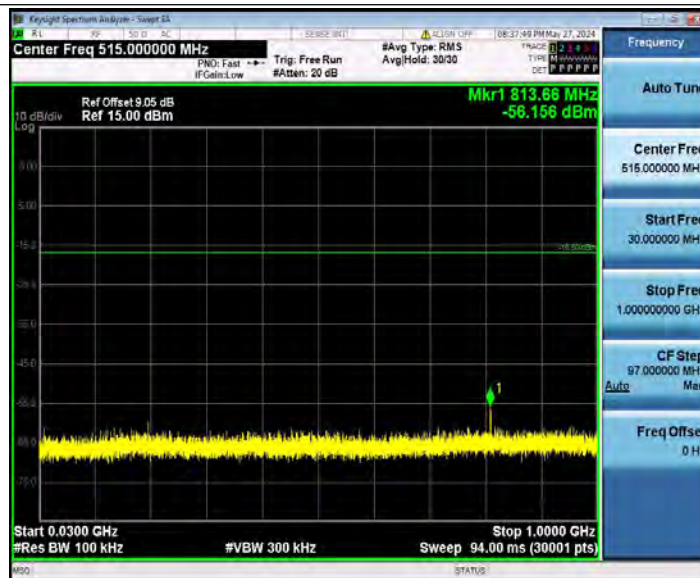
3DH1_Ant0_2402_1000~26500



3DH1_Ant0_2441_0~Reference



3DH1_Ant0_2441_30~1000

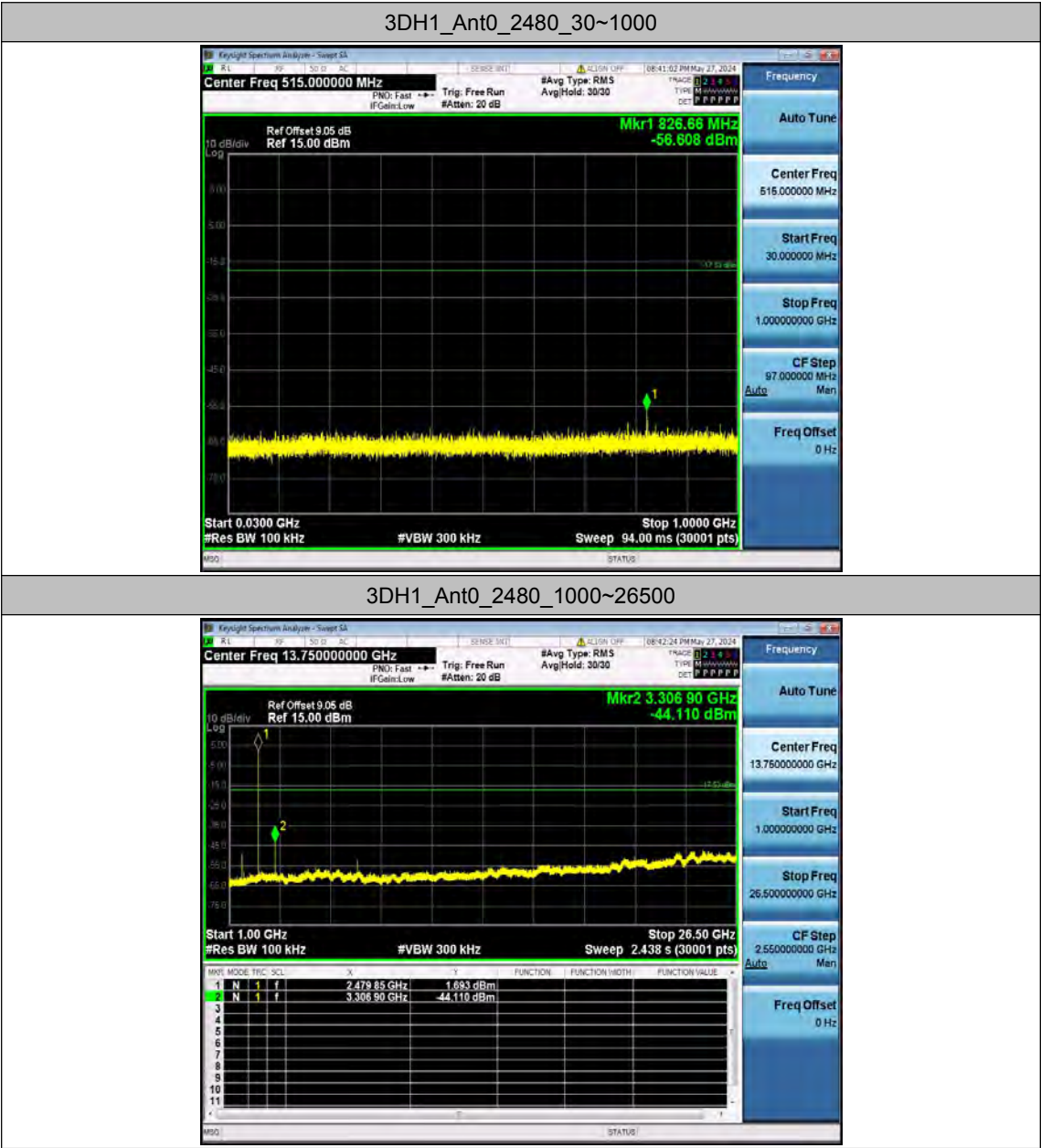


3DH1_Ant0_2441_1000~26500



3DH1_Ant0_2480_0~Reference





Appendix A.9: Emissions in Restricted Bands

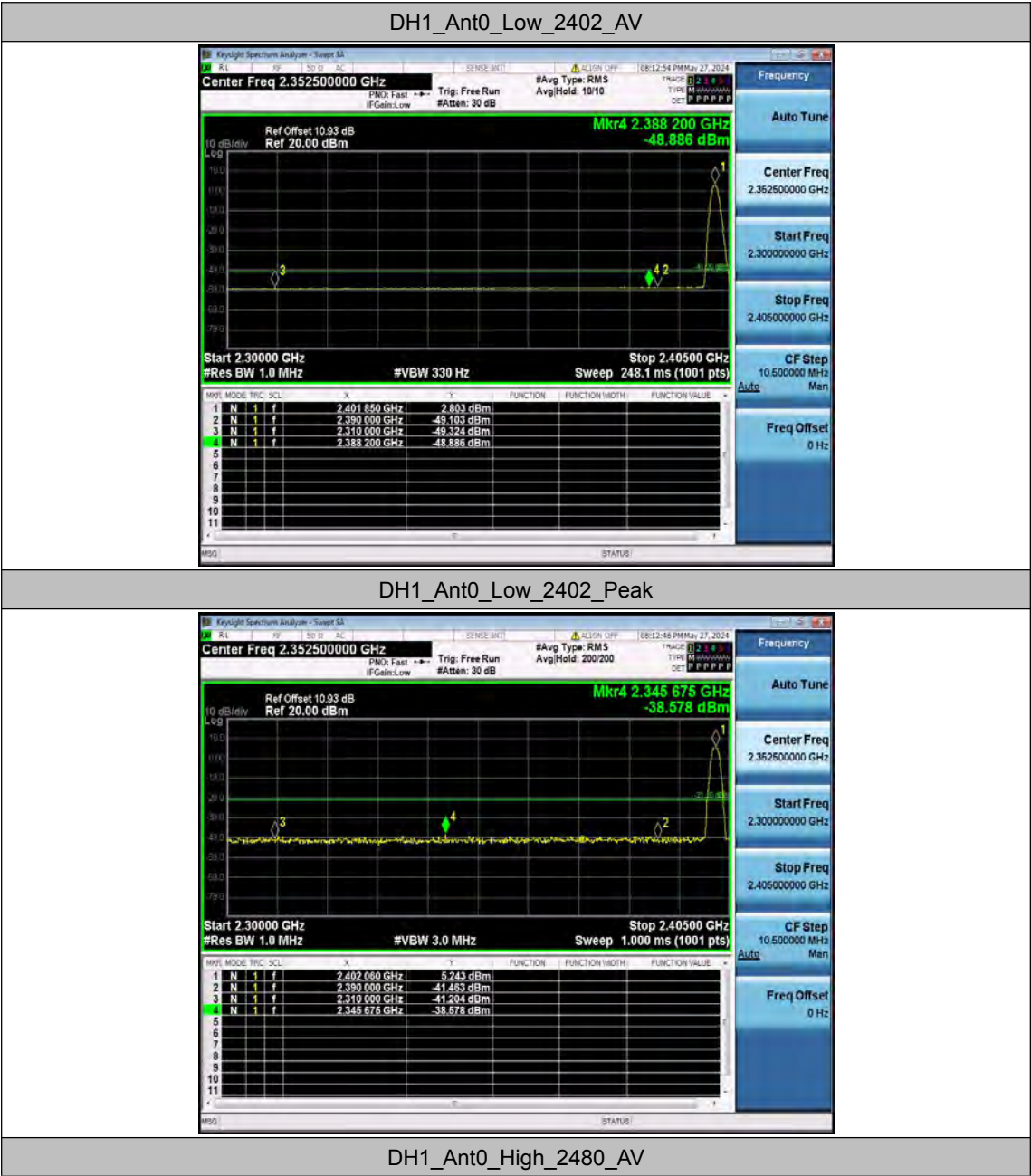
Test Result

TestMode	Antenna	ChName	Freq(MHz)	Detector	Freq [MHz]	Result [dBm]	Limit [dBm]	Result [dBuV/m]	Limit [dBuV/m]	Verdict
DH1	Ant0	Low	2402	AV	2310.000	-49.32	≤-41.20	45.88	≤54	PASS
				AV	2388.200	-48.89	≤-41.20	46.31	≤54	PASS
				AV	2390.000	-49.1	≤-41.20	46.10	≤54	PASS
				Peak	2310.000	-41.2	≤-21.20	54.00	≤74	PASS
				Peak	2345.675	-38.58	≤-21.20	56.62	≤74	PASS
				Peak	2390.000	-41.46	≤-21.20	53.74	≤74	PASS
		High	2480	AV	2483.500	-48.49	≤-41.20	46.71	≤54	PASS
				AV	2483.520	-48.49	≤-41.20	46.71	≤54	PASS
				AV	2500.000	-48.73	≤-41.20	46.47	≤54	PASS
				Peak	2483.500	-39.6	≤-21.20	55.60	≤74	PASS
				Peak	2484.960	-38.95	≤-21.20	56.25	≤74	PASS
				Peak	2500.000	-41.73	≤-21.20	53.47	≤74	PASS
2DH1	Ant0	Low	2402	AV	2310.000	-49.48	≤-41.20	45.72	≤54	PASS
				AV	2380.640	-48.9	≤-41.20	46.30	≤54	PASS
				AV	2390.000	-49.1	≤-41.20	46.10	≤54	PASS
				Peak	2310.000	-42.41	≤-21.20	52.79	≤74	PASS
				Peak	2372.240	-38.73	≤-21.20	56.47	≤74	PASS
				Peak	2390.000	-40.39	≤-21.20	54.81	≤74	PASS
		High	2480	AV	2483.500	-48.41	≤-41.20	46.79	≤54	PASS
				AV	2483.520	-48.41	≤-41.20	46.79	≤54	PASS
				AV	2500.000	-48.72	≤-41.20	46.48	≤54	PASS
				Peak	2483.500	-41.47	≤-21.20	53.73	≤74	PASS
				Peak	2498.640	-37.83	≤-21.20	57.37	≤74	PASS
				Peak	2500.000	-41.73	≤-21.20	53.47	≤74	PASS
3DH1	Ant0	Low	2402	AV	2310.000	-49.43	≤-41.20	45.77	≤54	PASS
				AV	2378.960	-48.89	≤-41.20	46.31	≤54	PASS
				AV	2390.000	-49.13	≤-41.20	46.07	≤54	PASS
				Peak	2310.000	-41.34	≤-21.20	53.86	≤74	PASS
				Peak	2374.340	-38.16	≤-21.20	57.04	≤74	PASS
				Peak	2390.000	-42.04	≤-21.20	53.16	≤74	PASS
		High	2480	AV	2483.500	-48.51	≤-41.20	46.69	≤54	PASS
				AV	2483.520	-48.51	≤-41.20	46.69	≤54	PASS
				AV	2500.000	-48.75	≤-41.20	46.45	≤54	PASS
				Peak	2483.500	-41.61	≤-21.20	53.59	≤74	PASS
				Peak	2486.640	-38.36	≤-21.20	56.84	≤74	PASS
				Peak	2500.000	-40.99	≤-21.20	54.21	≤74	PASS

Note:

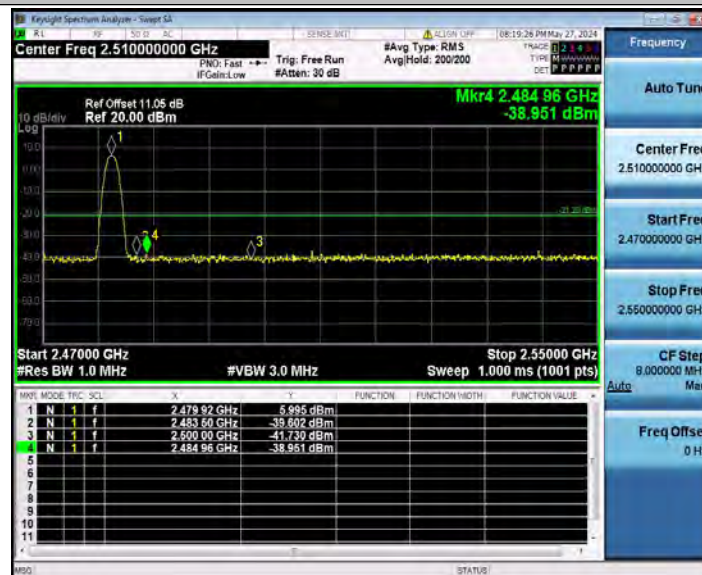
1. The Antenna Gain is compensated in the graph.
2. The Duty Cycle Factor and RBW Factor is compensated in the graph.
3. The limit in dBm for average detector is conversion from 54dBuV/m, according to 15.209(a). The limit in dBm for peak detector is 20dB above the limit of average detector in dBm.

Test Graphs





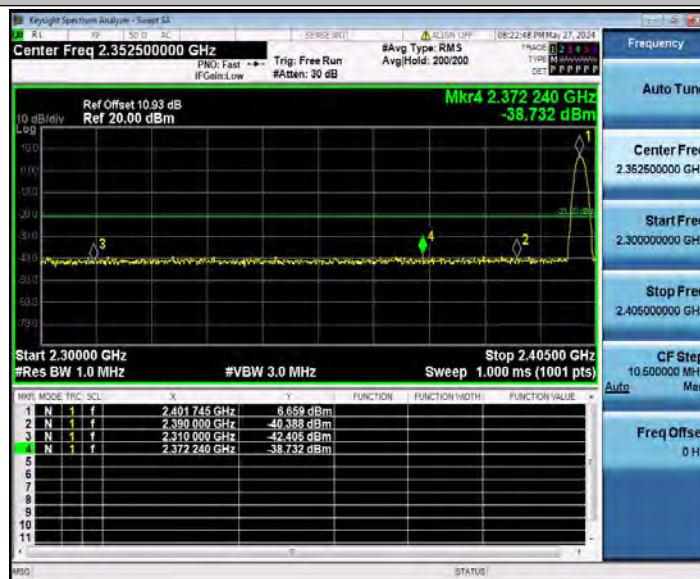
DH1_Ant0_High_2480_Peak



2DH1_Ant0_Low_2402_AV



2DH1_Ant0_Low_2402_Peak



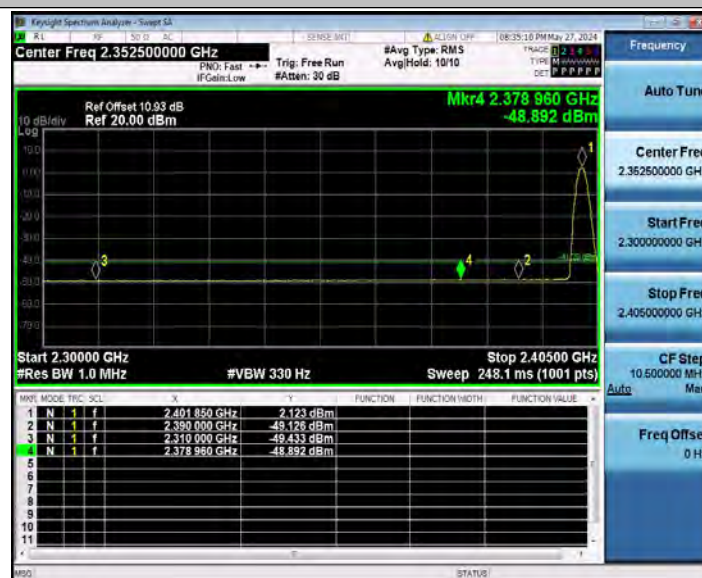
2DH1_Ant0_High_2480_AV



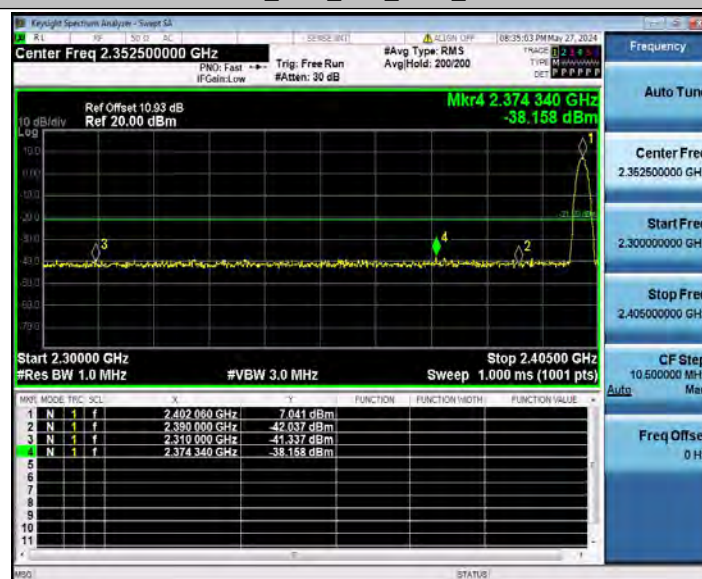
2DH1_Ant0_High_2480_Peak



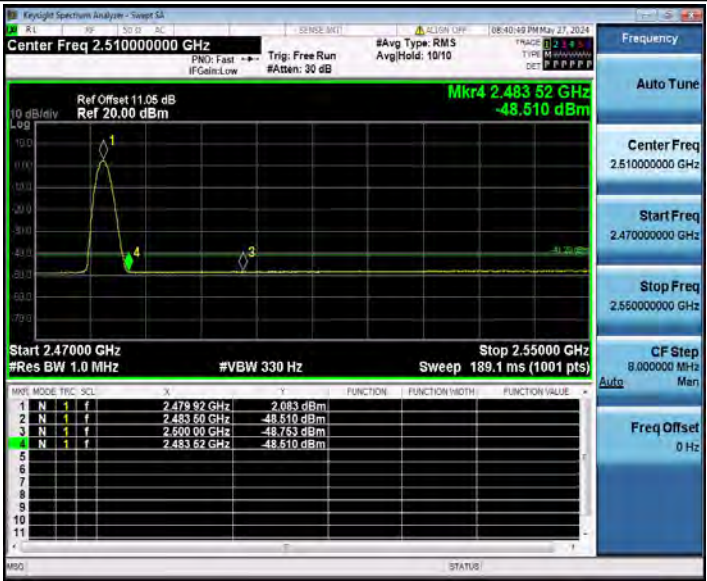
3DH1_Ant0_Low_2402_AV



3DH1_Ant0_Low_2402_Peak



3DH1_Ant0_High_2480_AV



3DH1_Ant0_High_2480_Peak

