

Case No. : <u>GTS20231208004-1-62</u>	
Ambient Condition: <u>22</u> °C, <u>48</u> %RH	
According Standard: ■Part15C	
Test Date: <u>2024.2.28</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	Ant1	2402	0.999	2401.487	2402.486	---	---
		2441	0.978	2440.496	2441.474	---	---
		2480	1.002	2479.478	2480.480	---	---
2DH1	Ant1	2402	1.194	2401.361	2402.555	---	---
		2441	1.317	2440.325	2441.642	---	---
		2480	1.227	2479.334	2480.561	---	---
3DH1	Ant1	2402	1.239	2401.364	2402.603	---	---
		2441	1.233	2440.385	2441.618	---	---
		2480	1.251	2479.364	2480.615	---	---

Test Graphs

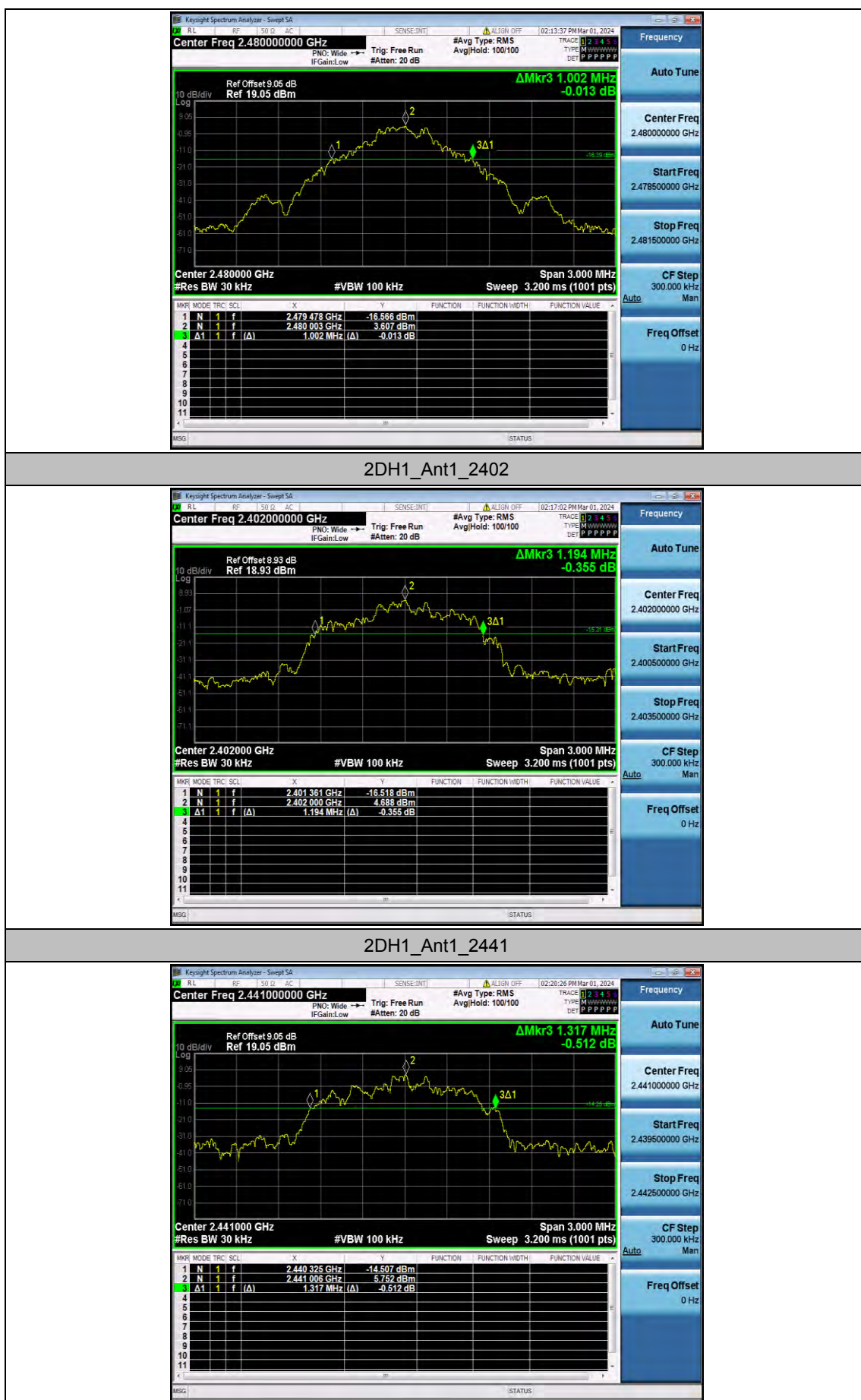
DH1_Ant1_2402



DH1_Ant1_2441



DH1_Ant1_2480



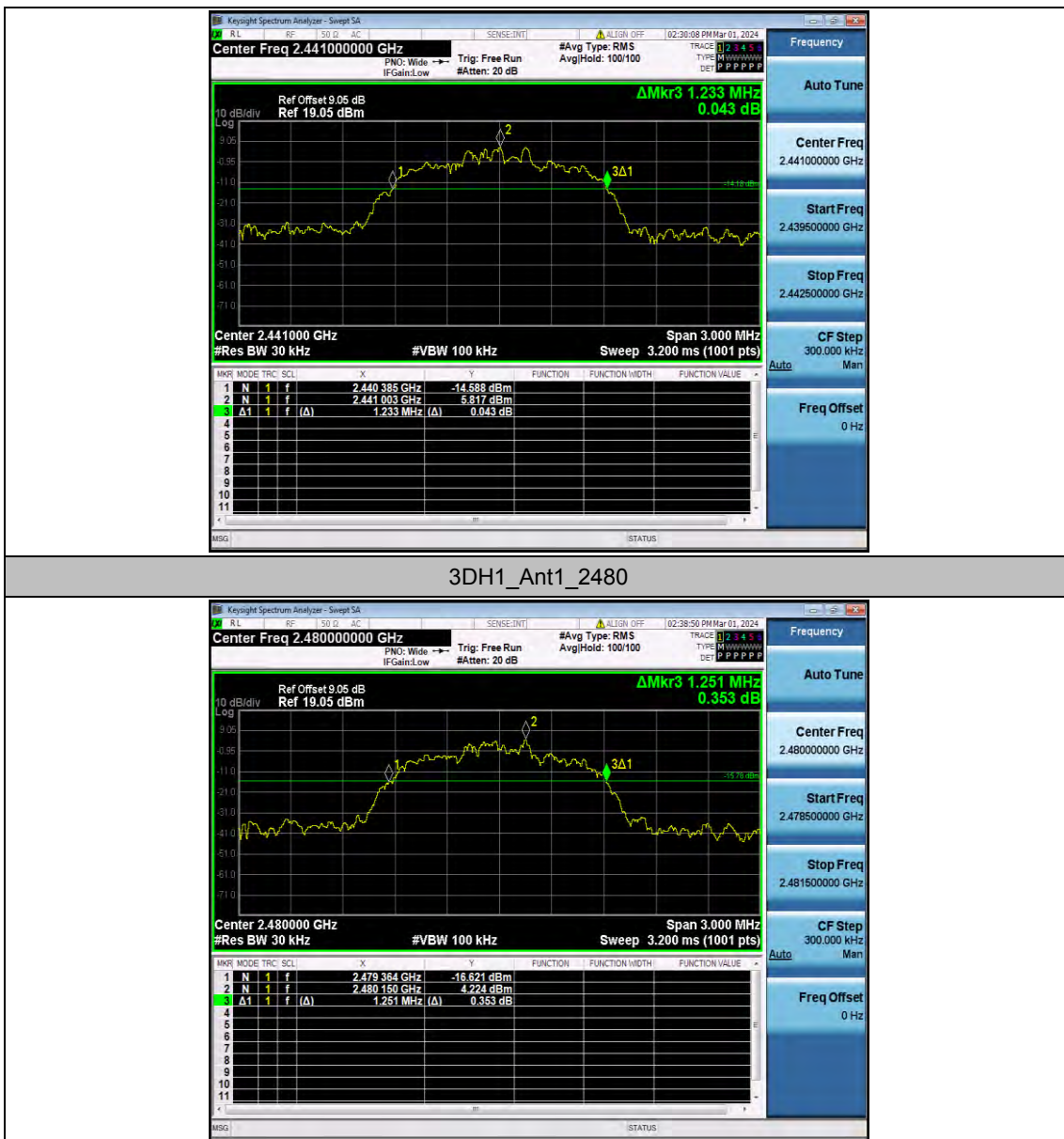
2DH1_Ant1_2480



3DH1_Ant1_2402



3DH1_Ant1_2441



Appendix A.2: Occupied Channel Bandwidth

Test Result

TestMode	Antenna	Freq(MHz)	OCB [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
DH1	Ant1	2402	0.84704	2401.5619	2402.4089	---	---
		2441	0.84050	2440.5717	2441.4122	---	---
		2480	0.85370	2479.5598	2480.4135	---	---
2DH1	Ant1	2402	1.1306	2401.4057	2402.5363	---	---
		2441	1.1231	2440.4026	2441.5257	---	---
		2480	1.1388	2479.3990	2480.5378	---	---
3DH1	Ant1	2402	1.1445	2401.4268	2402.5713	---	---
		2441	1.1469	2440.4238	2441.5707	---	---
		2480	1.1460	2479.4215	2480.5675	---	---

Test Graphs

DH1_Ant1_2402



DH1_Ant1_2441



DH1_Ant1_2480



2DH1_Ant1_2402



2DH1_Ant1_2441



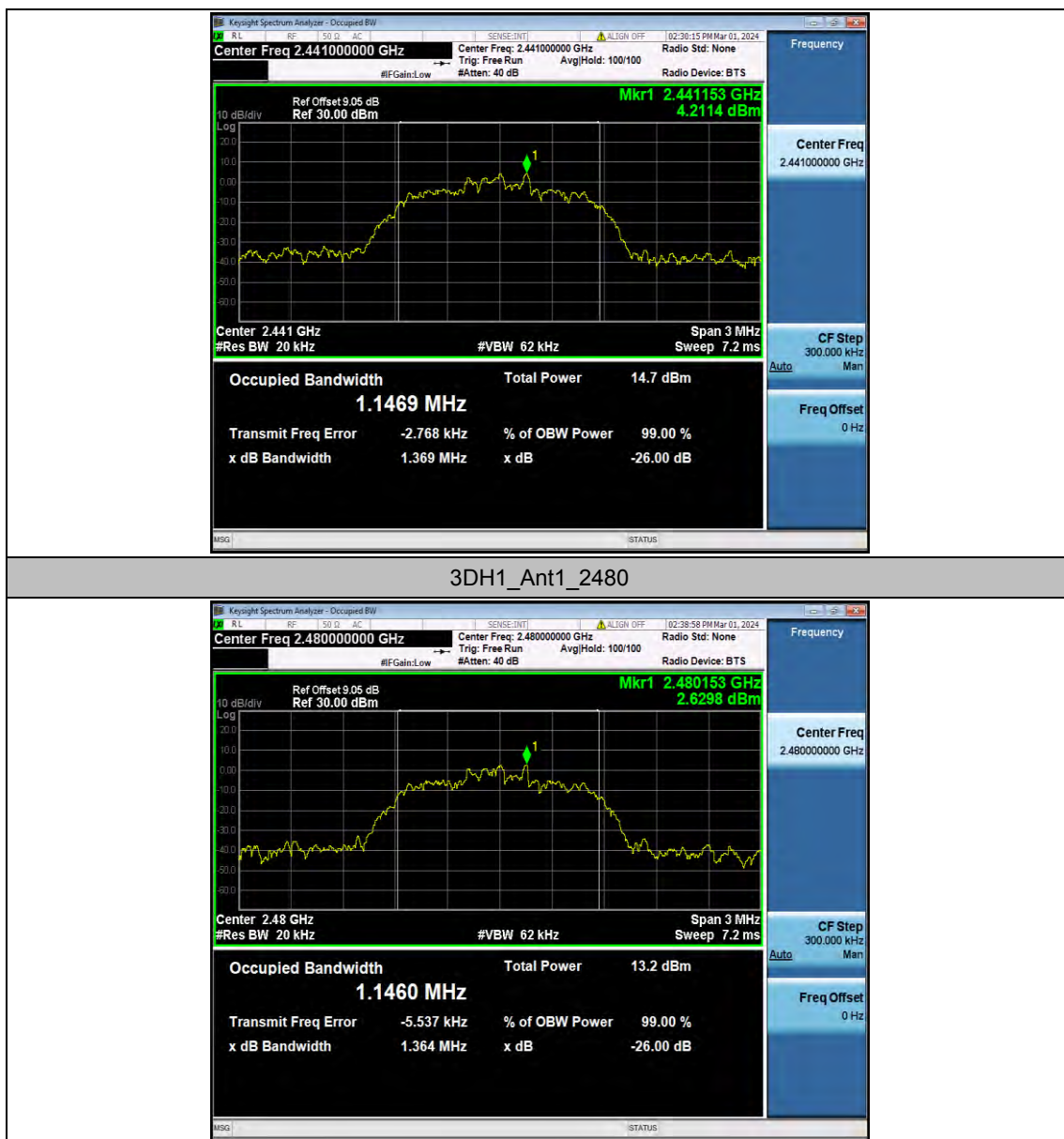
2DH1_Ant1_2480



3DH1_Ant1_2402



3DH1_Ant1_2441



Appendix A.3: Maximum conducted output power

Test Result

Test Mode	Antenna	Freq(MHz)	Conducted Peak Power[dBm]	Conducted Limit[dBm]	Verdict
DH1	Ant1	2402	6.81	≤20.97	PASS
		2441	8.15	≤20.97	PASS
		2480	6.71	≤20.97	PASS
2DH1	Ant1	2402	8.30	≤20.97	PASS
		2441	9.36	≤20.97	PASS
		2480	8.05	≤20.97	PASS
3DH1	Ant1	2402	8.88	≤20.97	PASS
		2441	9.52	≤20.97	PASS
		2480	8.33	≤20.97	PASS

Note:

1.The Duty Cycle Factor and RBW Factor is compensated in the data.

Appendix A.4: Carrier frequency separation

Test Result

TestMode	Antenna	Freq(MHz)	Result[MHz]	Limit[MHz]	Verdict
DH1	Ant1	Hop_2402	1.026	≥ 0.668	PASS
		Hop_2441	1.018	≥ 0.668	PASS
		Hop_2480	0.99	≥ 0.668	PASS
2DH1	Ant1	Hop_2402	1.004	≥ 0.878	PASS
		Hop_2441	0.99	≥ 0.878	PASS
		Hop_2480	1.016	≥ 0.878	PASS
3DH1	Ant1	Hop_2402	1.004	≥ 0.834	PASS
		Hop_2441	1.024	≥ 0.834	PASS
		Hop_2480	1.186	≥ 0.834	PASS

Test Graphs

DH1_Ant1_Hop_2402



DH1_Ant1_Hop_2441



DH1_Ant1_Hop_2480



2DH1_Ant1_Hop_2402



2DH1_Ant1_Hop_2441



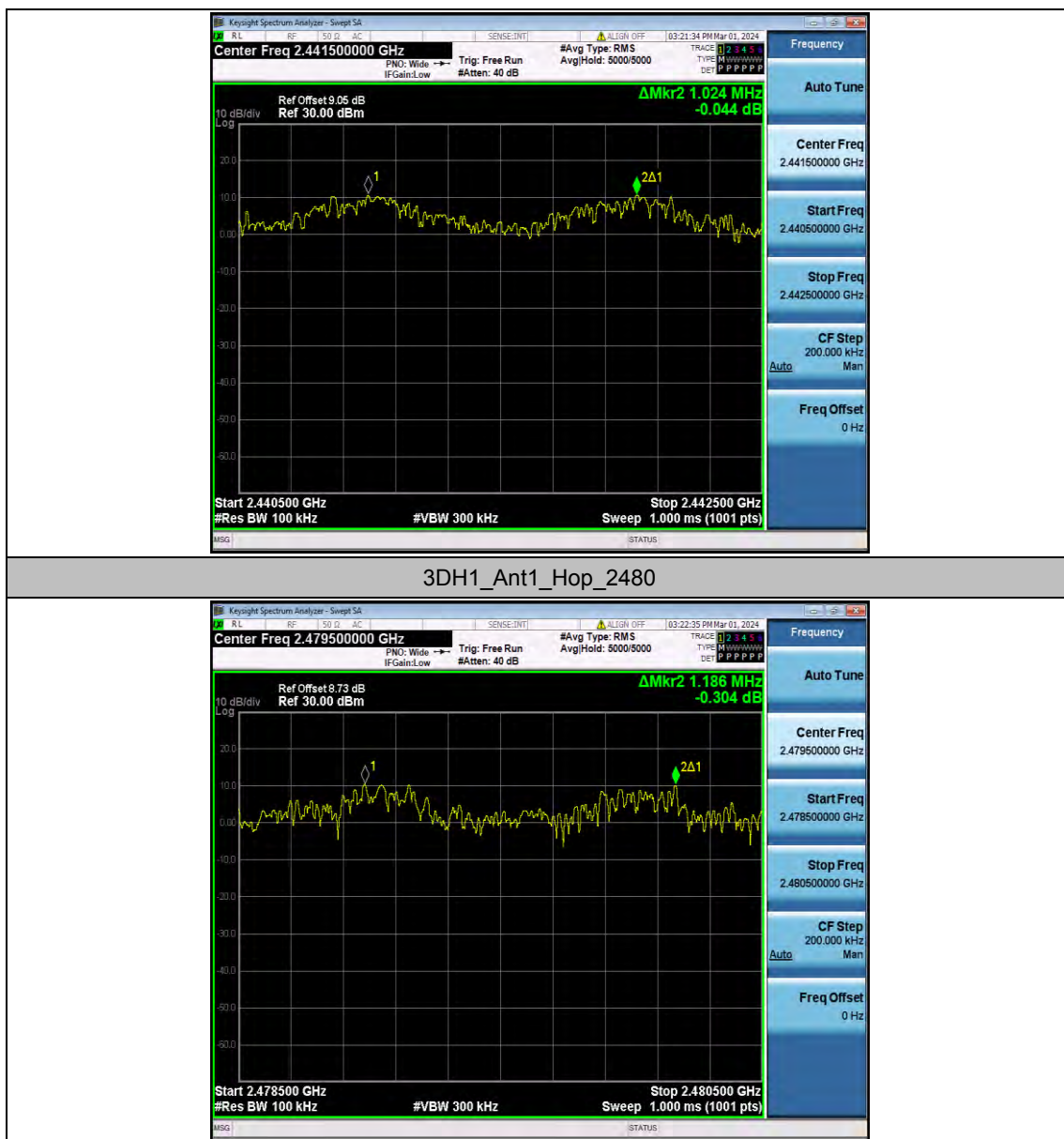
2DH1_Ant1_Hop_2480



3DH1_Ant1_Hop_2402



3DH1_Ant1_Hop_2441

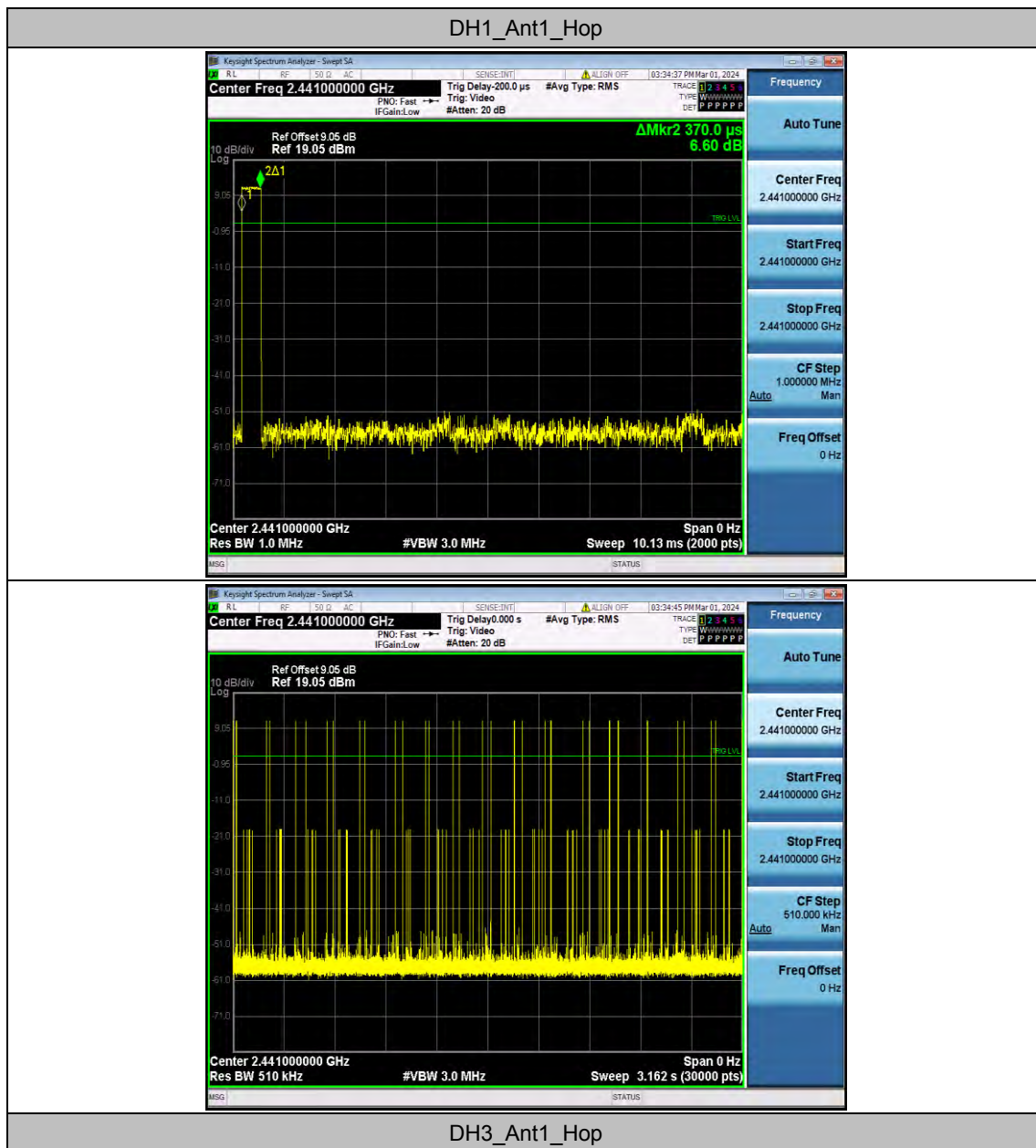


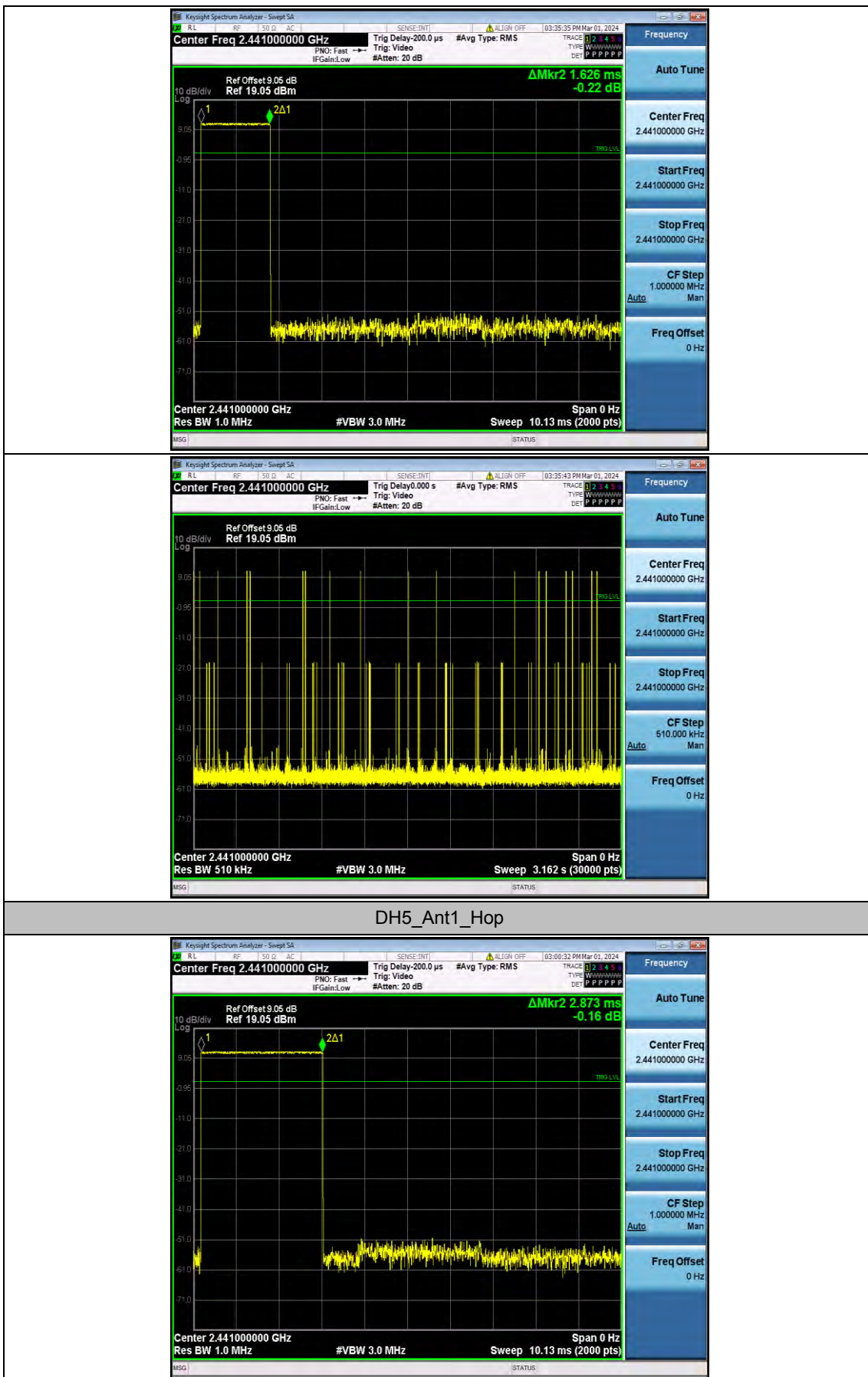
Appendix A.5: Time of occupancy

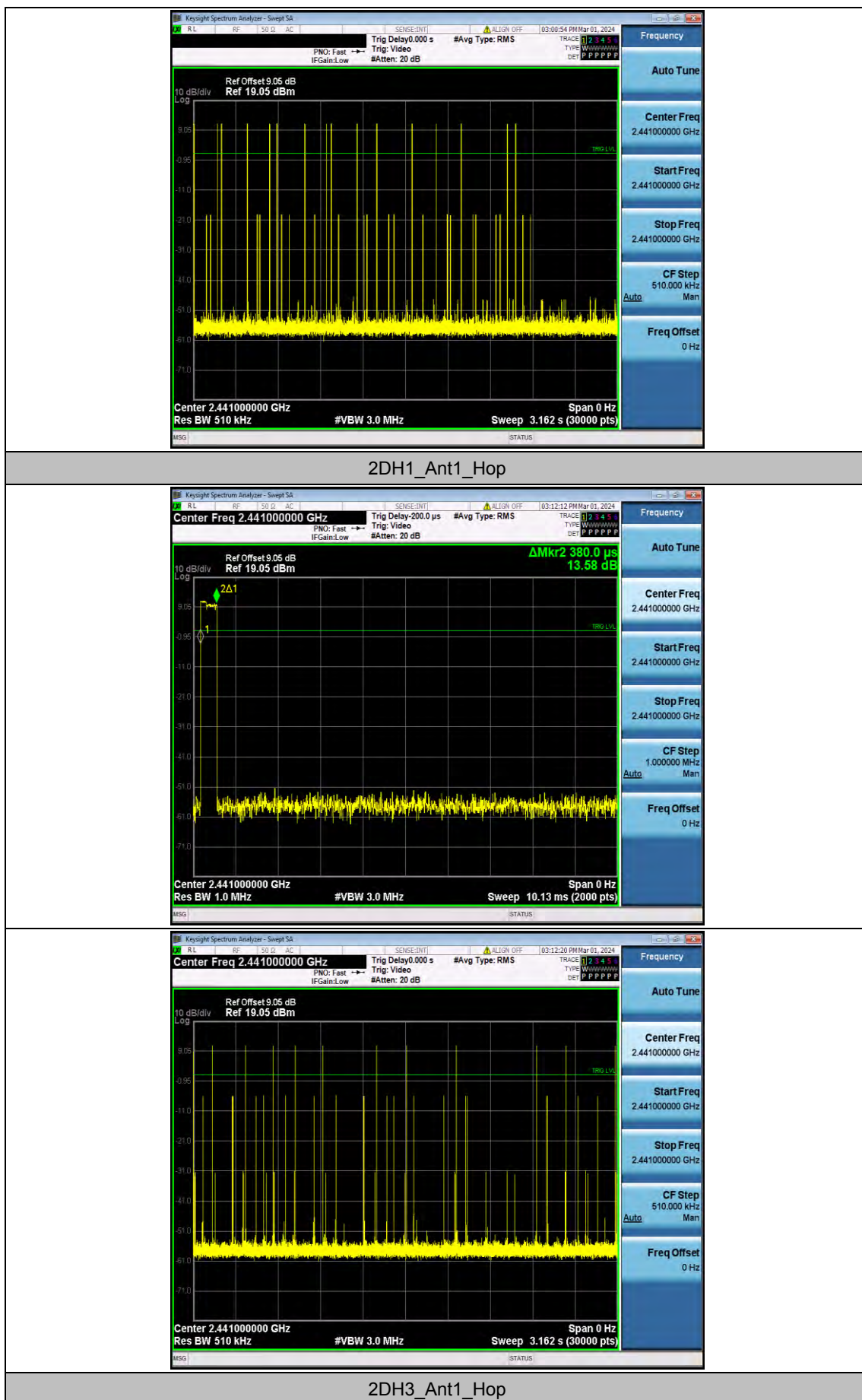
Test Result

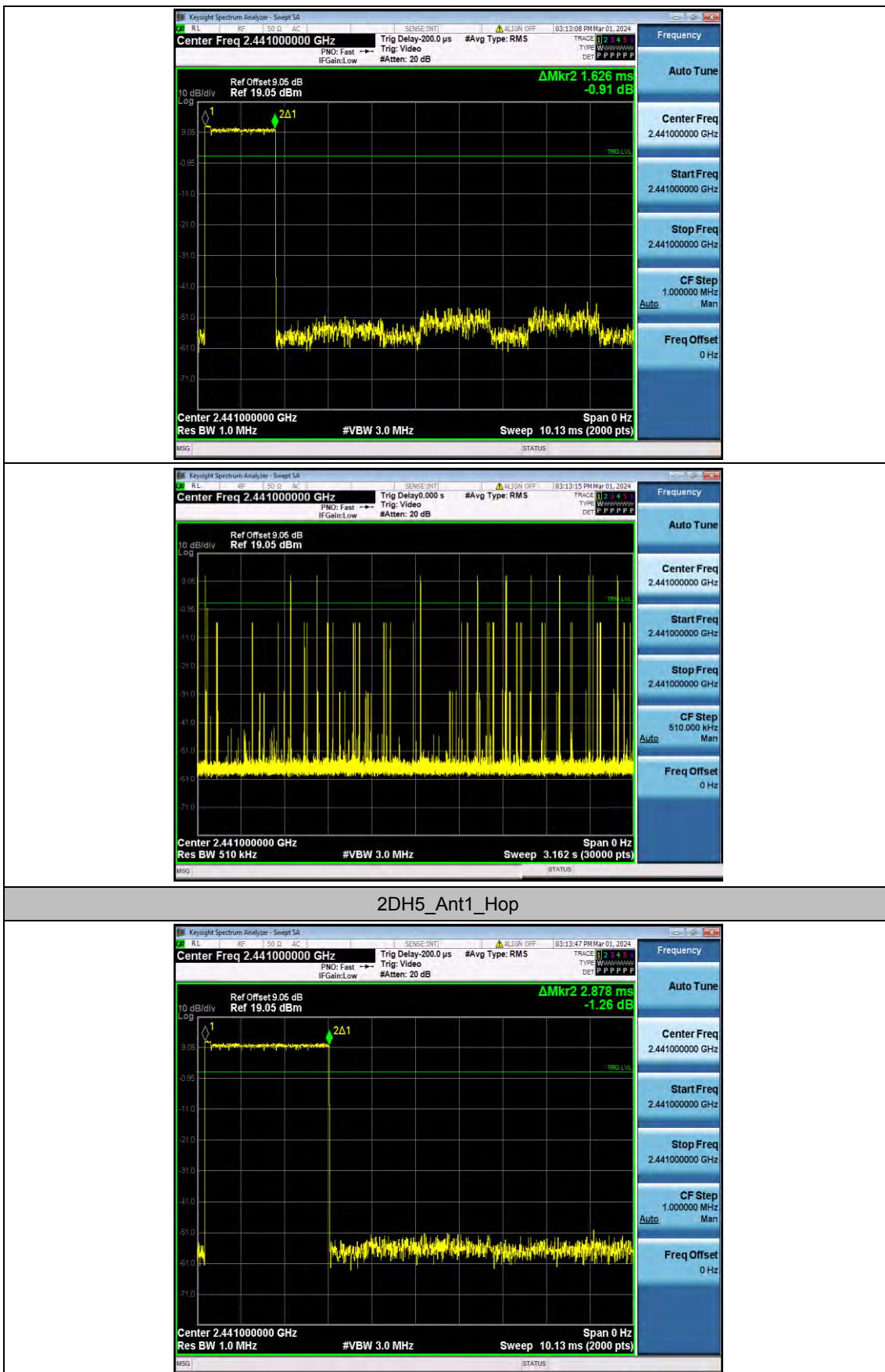
TestMode	Antenna	Freq(MHz)	BurstWidth [ms]	TotalHops [Num]	Result[s]	Limit[s]	Verdict
DH1	Ant1	Hop	0.370	330	0.122	≤0.4	PASS
DH3	Ant1	Hop	1.626	180	0.293	≤0.4	PASS
DH5	Ant1	Hop	2.873	130	0.373	≤0.4	PASS
2DH1	Ant1	Hop	0.380	120	0.046	≤0.4	PASS
2DH3	Ant1	Hop	1.626	130	0.211	≤0.4	PASS
2DH5	Ant1	Hop	2.878	120	0.345	≤0.4	PASS
3DH1	Ant1	Hop	0.375	120	0.045	≤0.4	PASS
3DH3	Ant1	Hop	1.626	170	0.276	≤0.4	PASS
3DH5	Ant1	Hop	2.878	80	0.23	≤0.4	PASS

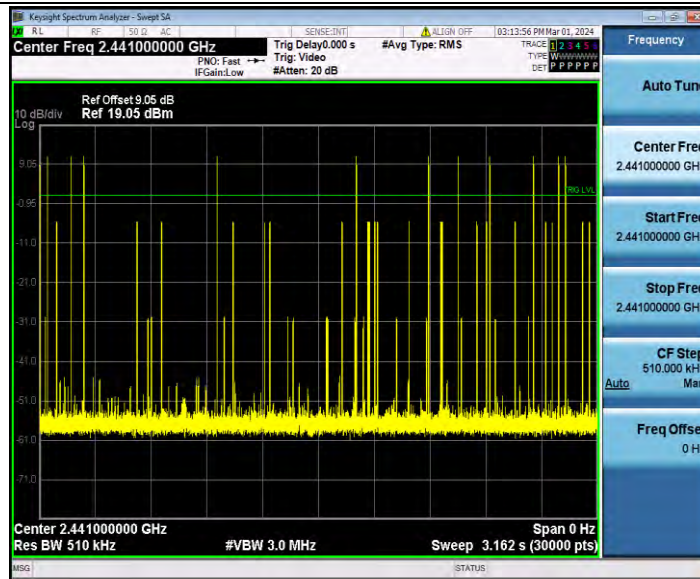
Test Graphs



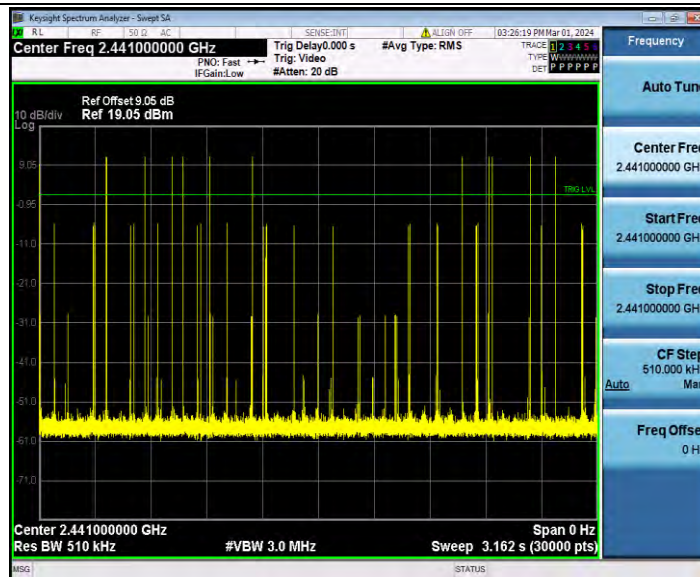
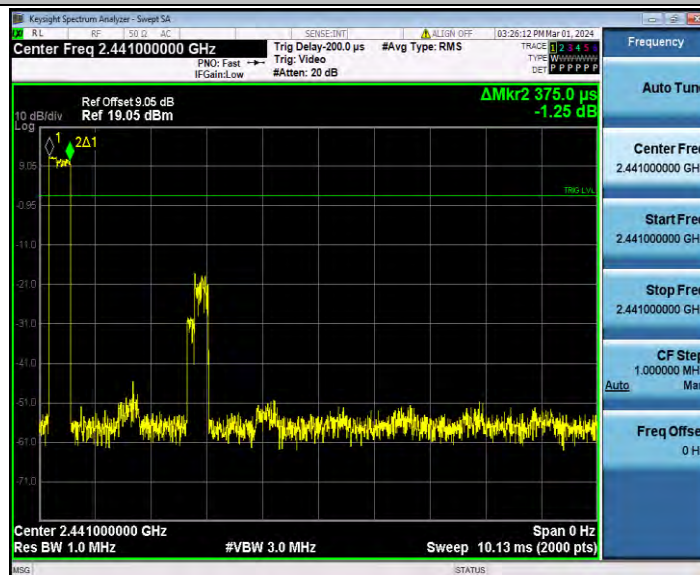




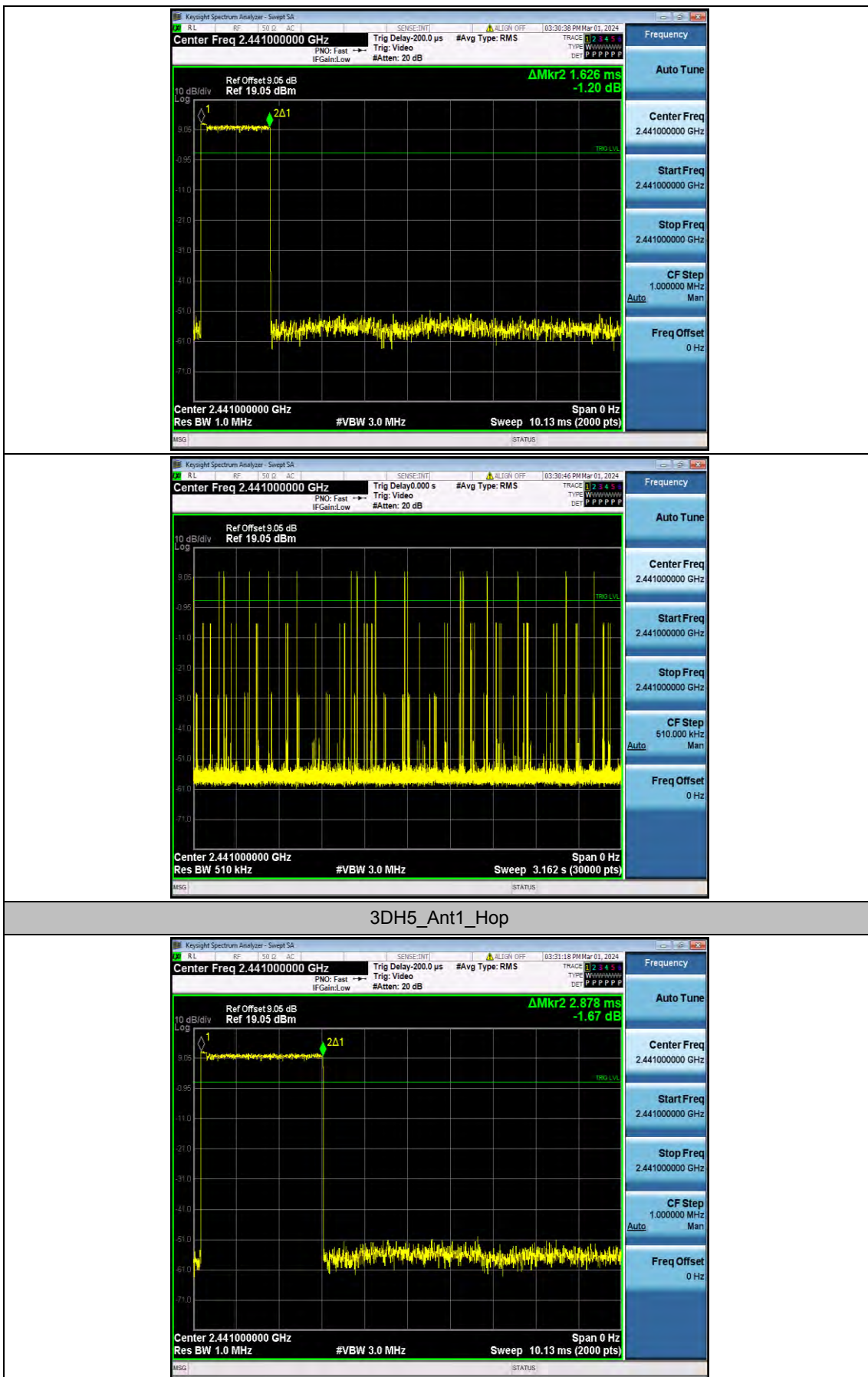


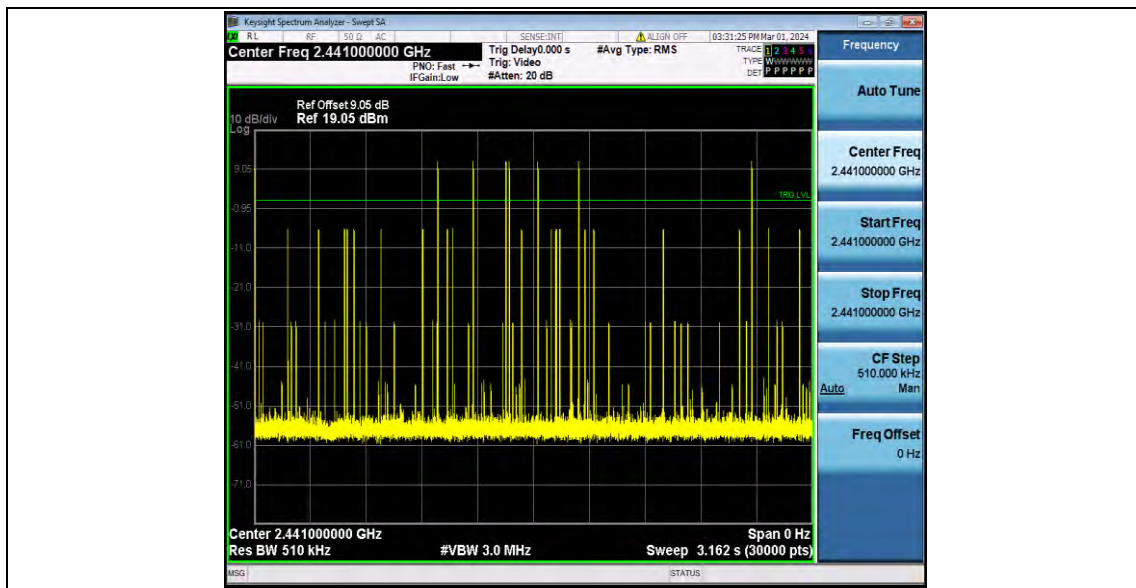


3DH1_Ant1_Hop



3DH3_Ant1_Hop



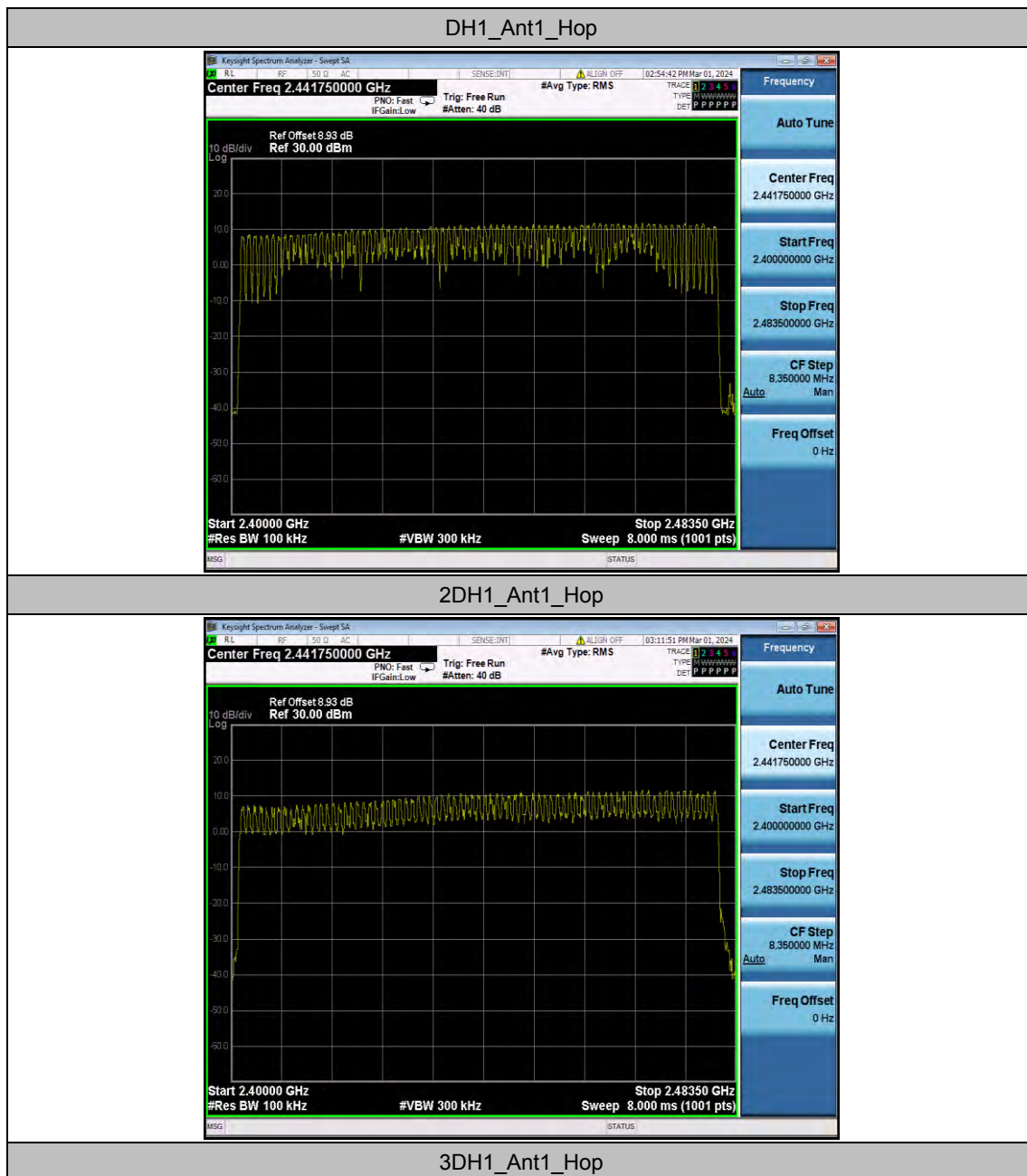


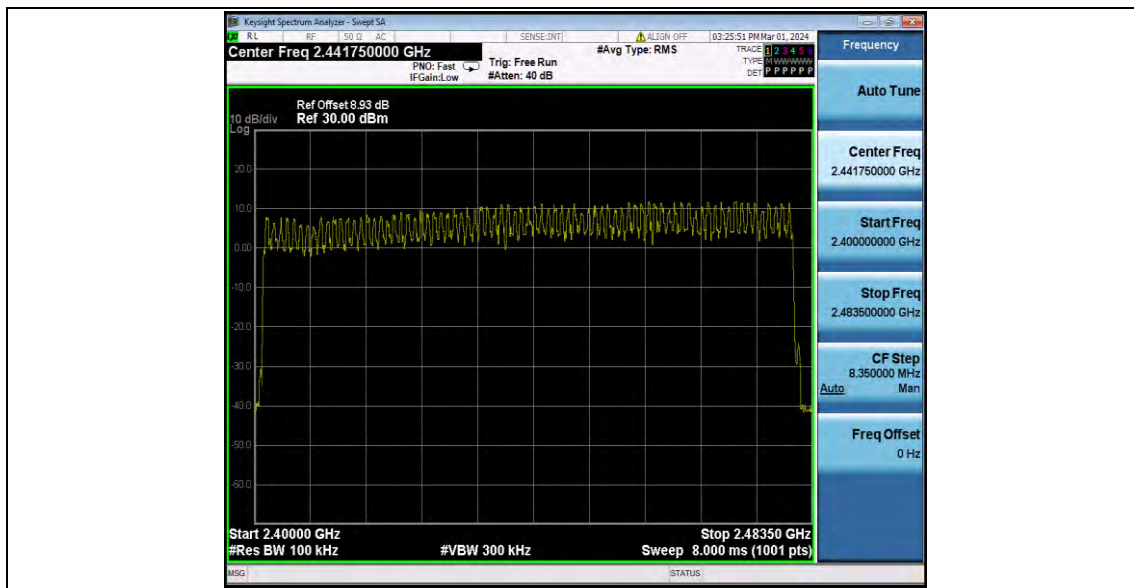
Appendix A.6: Number of hopping channels

Test Result

TestMode	Antenna	Freq(MHz)	Result[Num]	Limit[Num]	Verdict
DH1	Ant1	Hop	79	≥15	PASS
2DH1	Ant1	Hop	79	≥15	PASS
3DH1	Ant1	Hop	79	≥15	PASS

Test Graphs



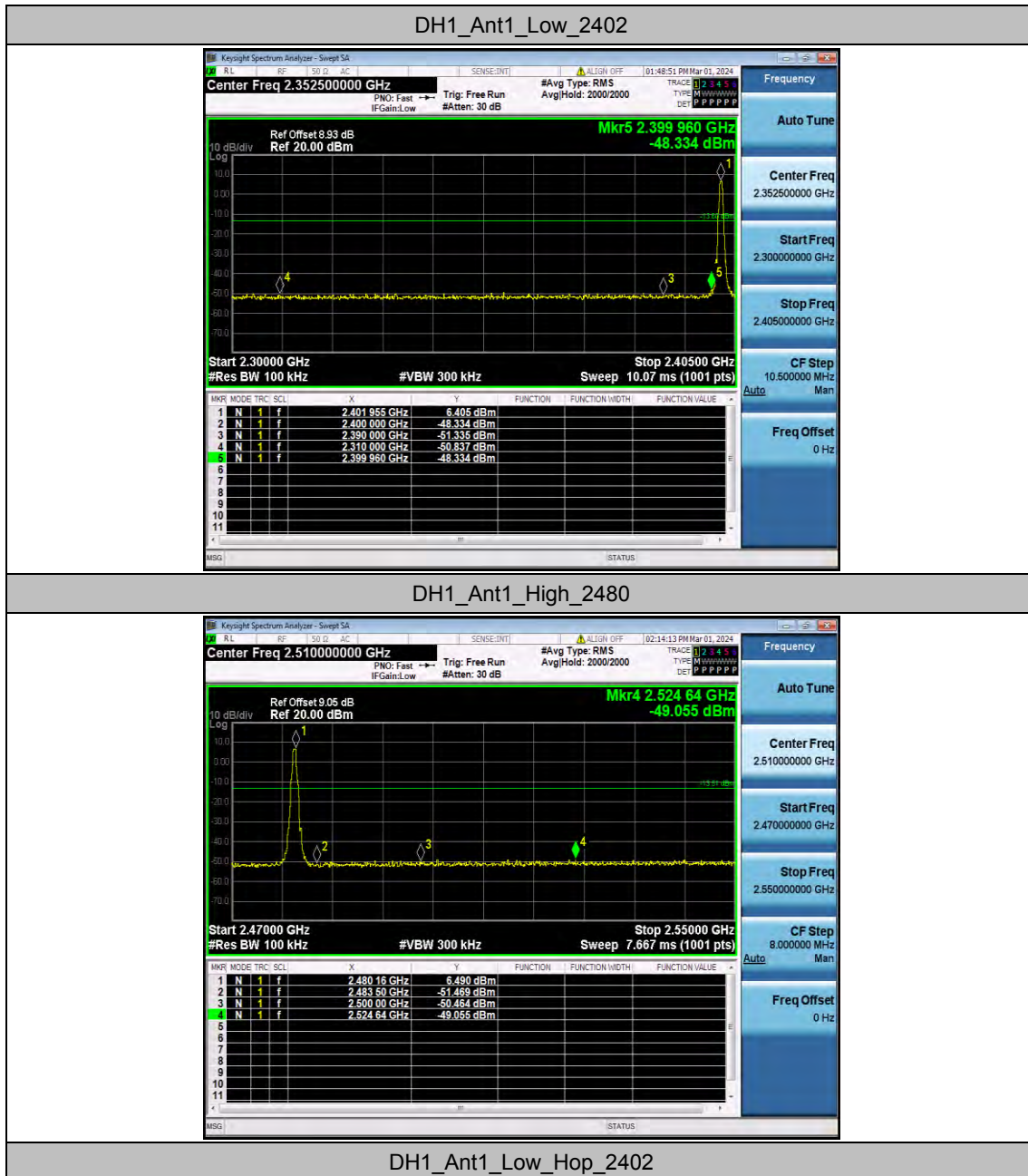


Appendix A.7: Band edge measurements

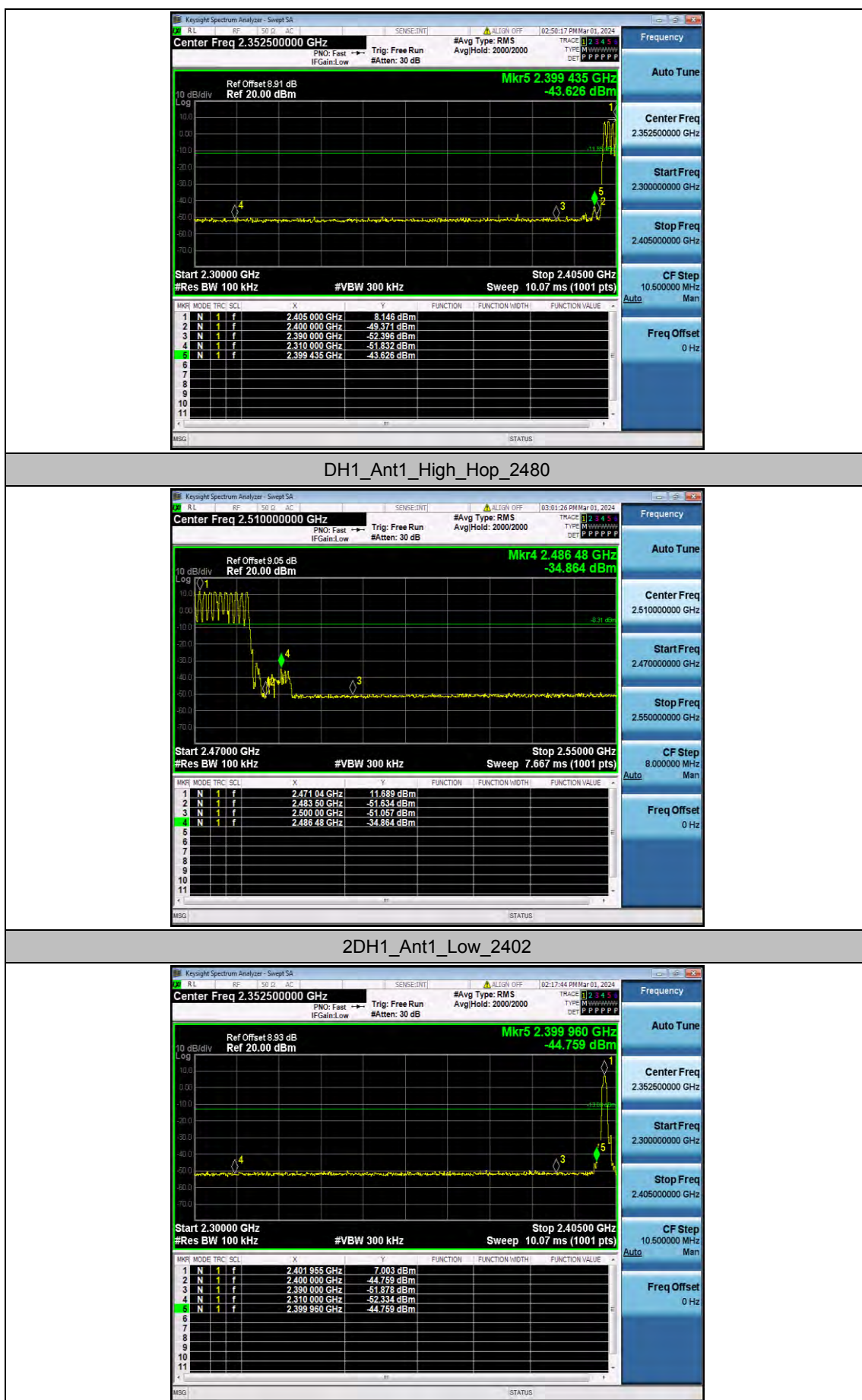
Test Result

TestMode	Antenna	ChName	Freq(MHz)	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
DH1	Ant1	Low	2402	6.41	-48.33	≤-13.6	PASS
		High	2480	6.49	-49.06	≤-13.51	PASS
		Low	Hop_2402	8.15	-43.63	≤-11.85	PASS
		High	Hop_2480	11.69	-34.86	≤-8.31	PASS
2DH1	Ant1	Low	2402	7.00	-44.76	≤-13	PASS
		High	2480	6.94	-47.96	≤-13.06	PASS
		Low	Hop_2402	7.60	-49.83	≤-12.4	PASS
		High	Hop_2480	9.07	-49.16	≤-10.93	PASS
3DH1	Ant1	Low	2402	7.01	-42.7	≤-12.99	PASS
		High	2480	6.93	-48.94	≤-13.07	PASS
		Low	Hop_2402	7.60	-39.53	≤-12.4	PASS
		High	Hop_2480	11.32	-36.91	≤-8.68	PASS

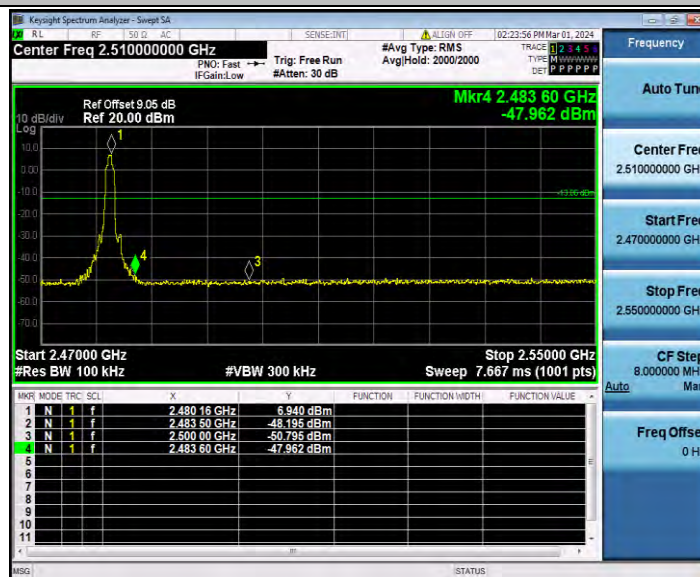
Test Graphs



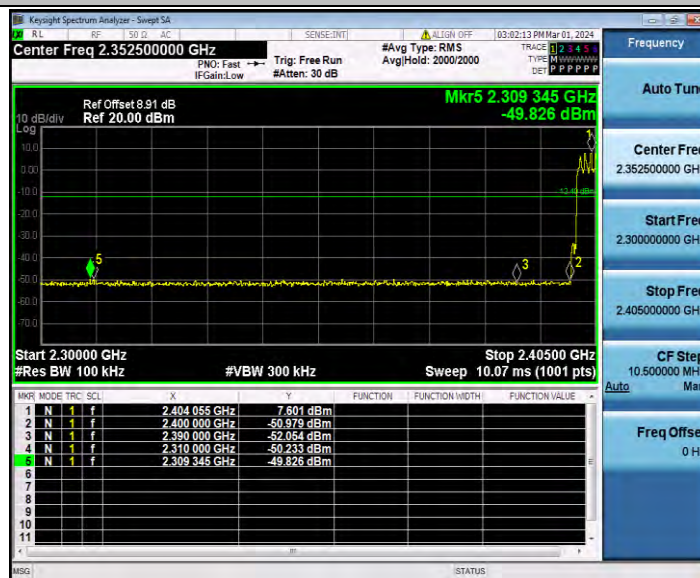
DH1_Ant1_Low_Hop_2402



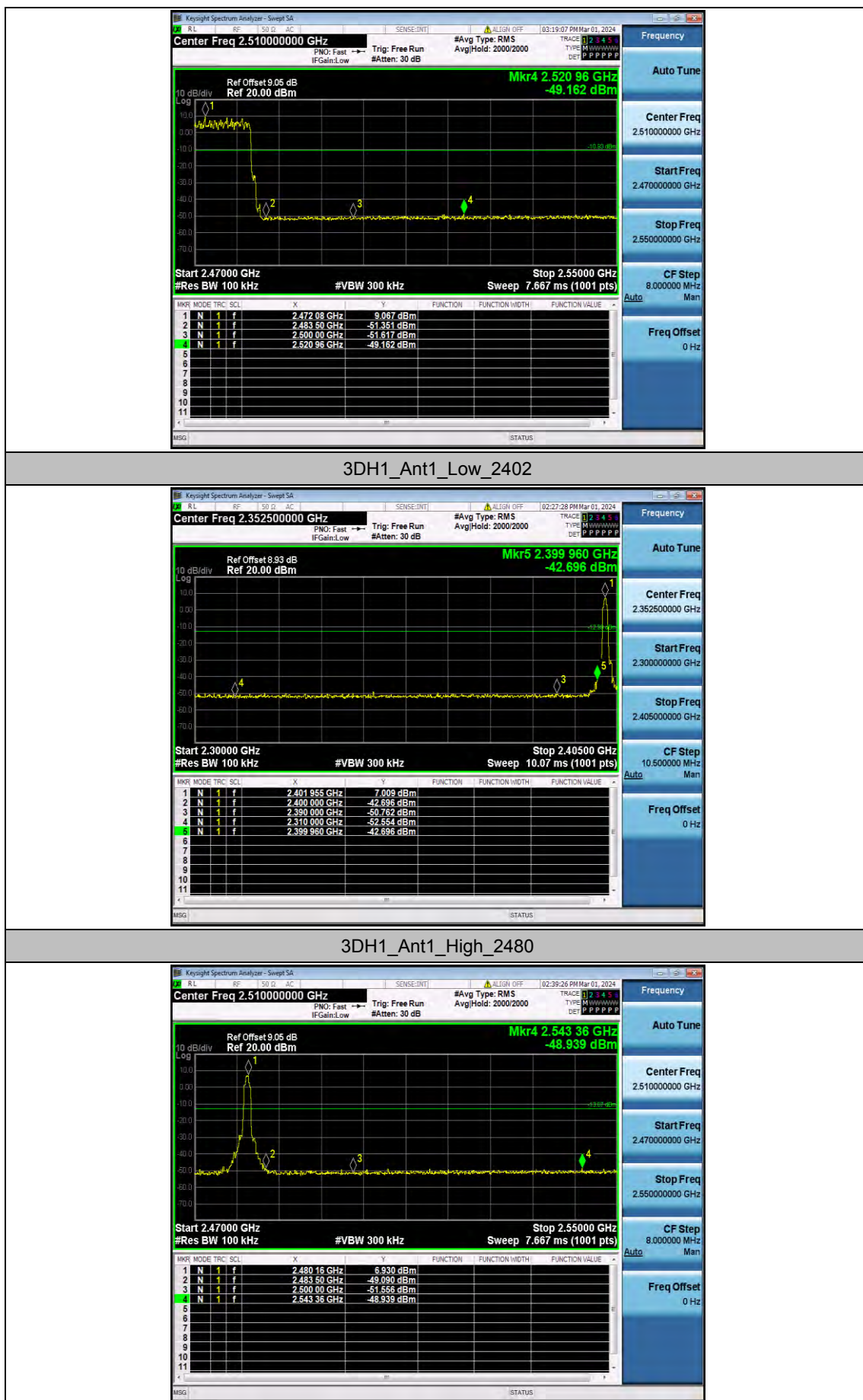
2DH1_Ant1_High_2480



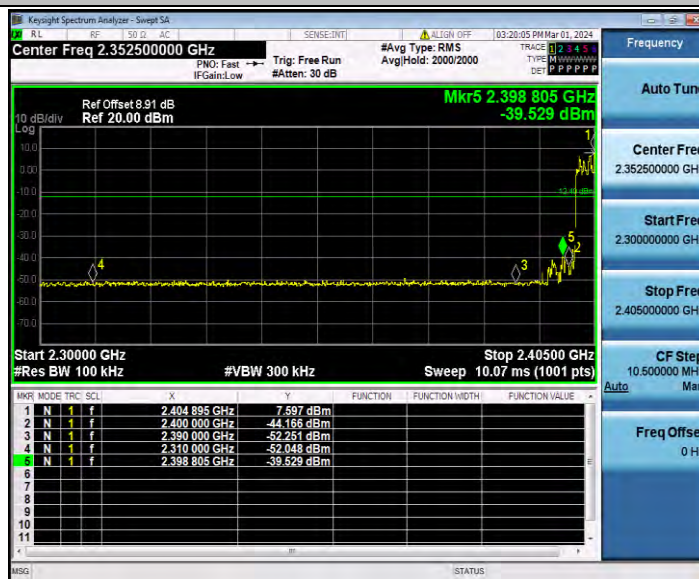
2DH1_Ant1_Low_Hop_2402



2DH1_Ant1_High_Hop_2480



3DH1_Ant1_Low_Hop_2402



3DH1_Ant1_High_Hop_2480

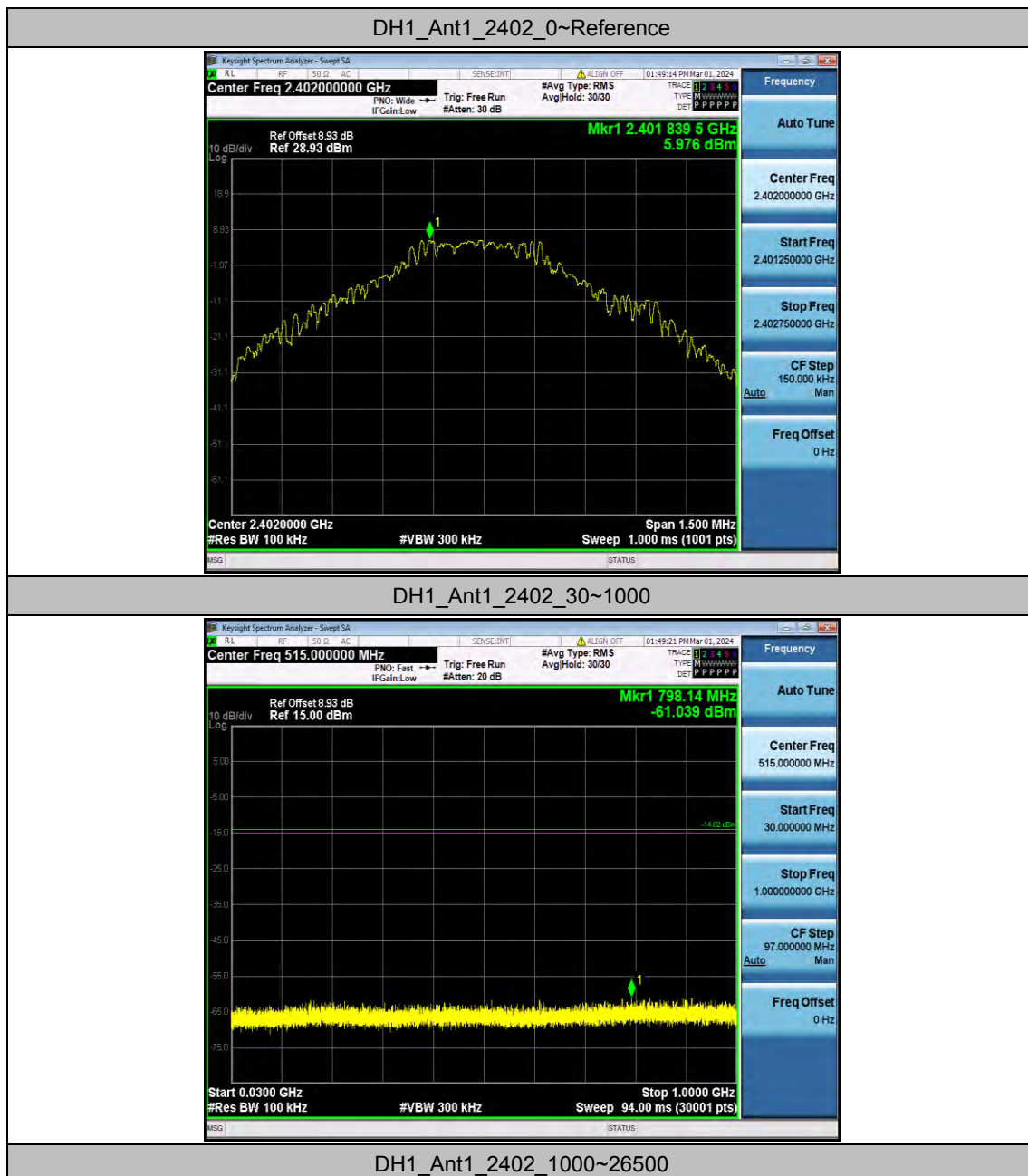


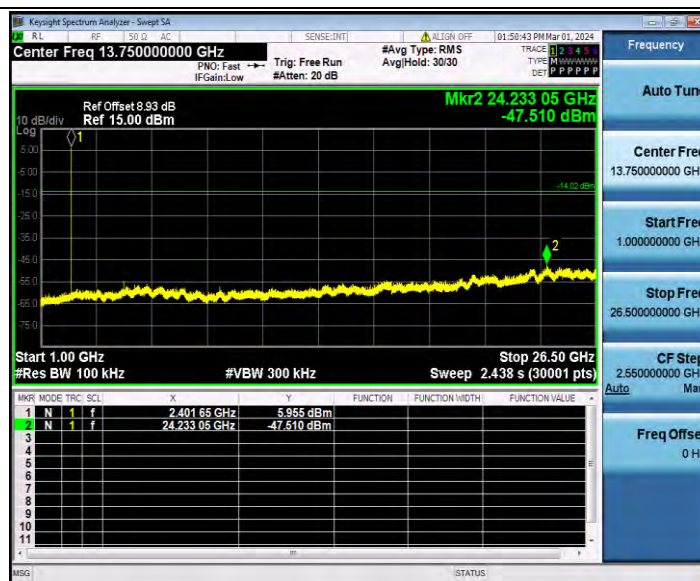
Appendix A.8: Conducted Spurious Emission

Test Result

TestMode	Antenna	Freq(MHz)	FreqRange [MHz]	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
DH1	Ant1	2402	Reference	5.98	5.98	---	PASS
			30~1000	5.98	-61.04	≤ -14.02	PASS
			1000~26500	5.98	-47.51	≤ -14.02	PASS
		2441	Reference	7.54	7.54	---	PASS
			30~1000	7.54	-60.7	≤ -12.46	PASS
			1000~26500	7.54	-47.31	≤ -12.46	PASS
		2480	Reference	6.14	6.14	---	PASS
			30~1000	6.14	-60.18	≤ -13.86	PASS
			1000~26500	6.14	-47.8	≤ -13.86	PASS
2DH1	Ant1	2402	Reference	6.69	6.69	---	PASS
			30~1000	6.69	-60.68	≤ -13.31	PASS
			1000~26500	6.69	-47.61	≤ -13.31	PASS
		2441	Reference	7.18	7.18	---	PASS
			30~1000	7.18	-60.19	≤ -12.82	PASS
			1000~26500	7.18	-47.54	≤ -12.82	PASS
		2480	Reference	6.67	6.67	---	PASS
			30~1000	6.67	-61.17	≤ -13.33	PASS
			1000~26500	6.67	-47.33	≤ -13.33	PASS
3DH1	Ant1	2402	Reference	6.39	6.39	---	PASS
			30~1000	6.39	-60.86	≤ -13.61	PASS
			1000~26500	6.39	-48.45	≤ -13.61	PASS
		2441	Reference	8.21	8.21	---	PASS
			30~1000	8.21	-60.75	≤ -11.79	PASS
			1000~26500	8.21	-47.81	≤ -11.79	PASS
		2480	Reference	6.58	6.58	---	PASS
			30~1000	6.58	-60.76	≤ -13.42	PASS
			1000~26500	6.58	-47.92	≤ -13.42	PASS

Test Graphs

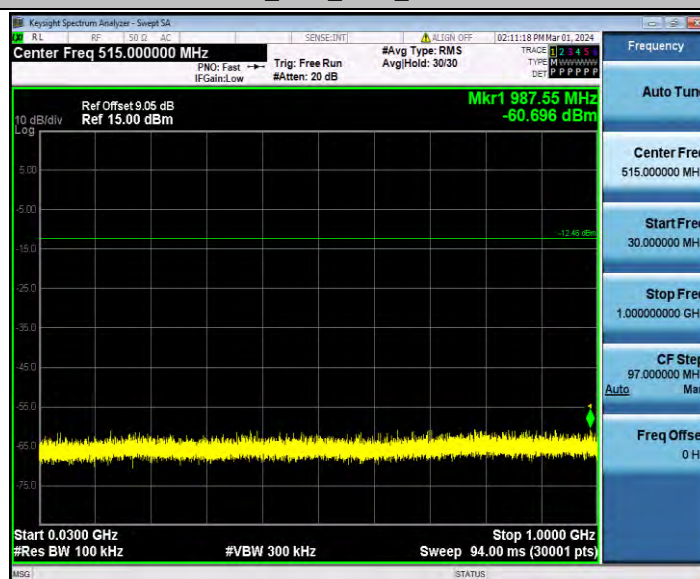




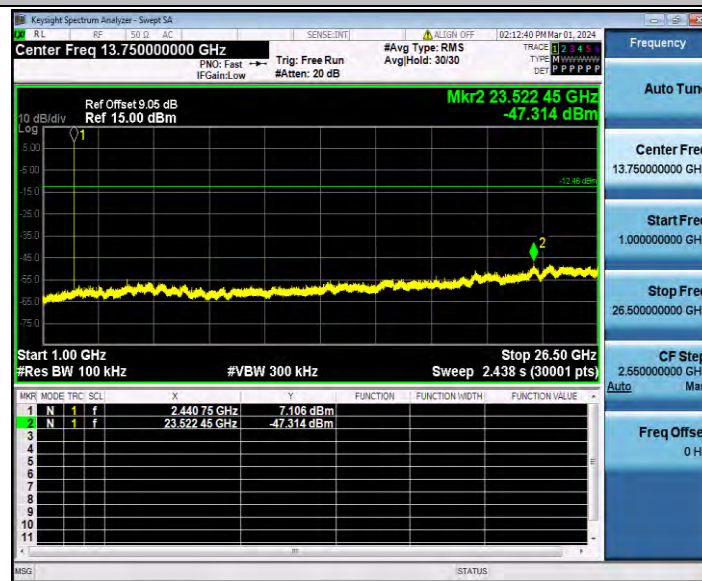
DH1_Ant1_2441_0~Reference



DH1_Ant1_2441_30~1000



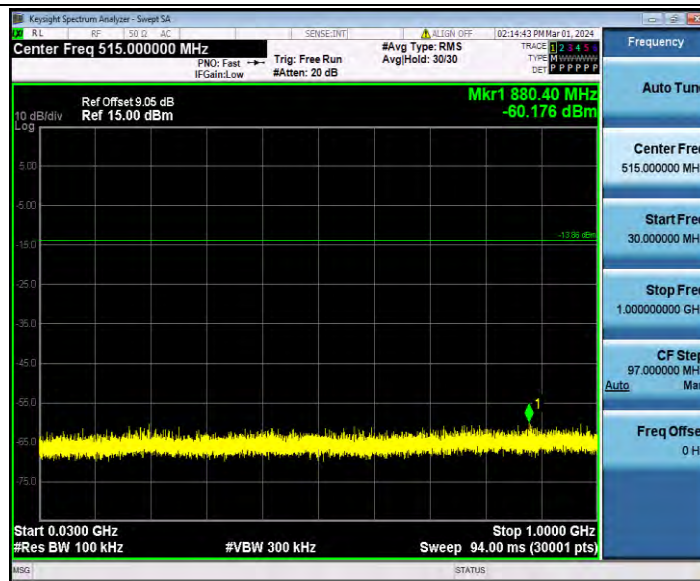
DH1_Ant1_2441_1000~26500



DH1_Ant1_2480_0~Reference



DH1_Ant1_2480_30~1000

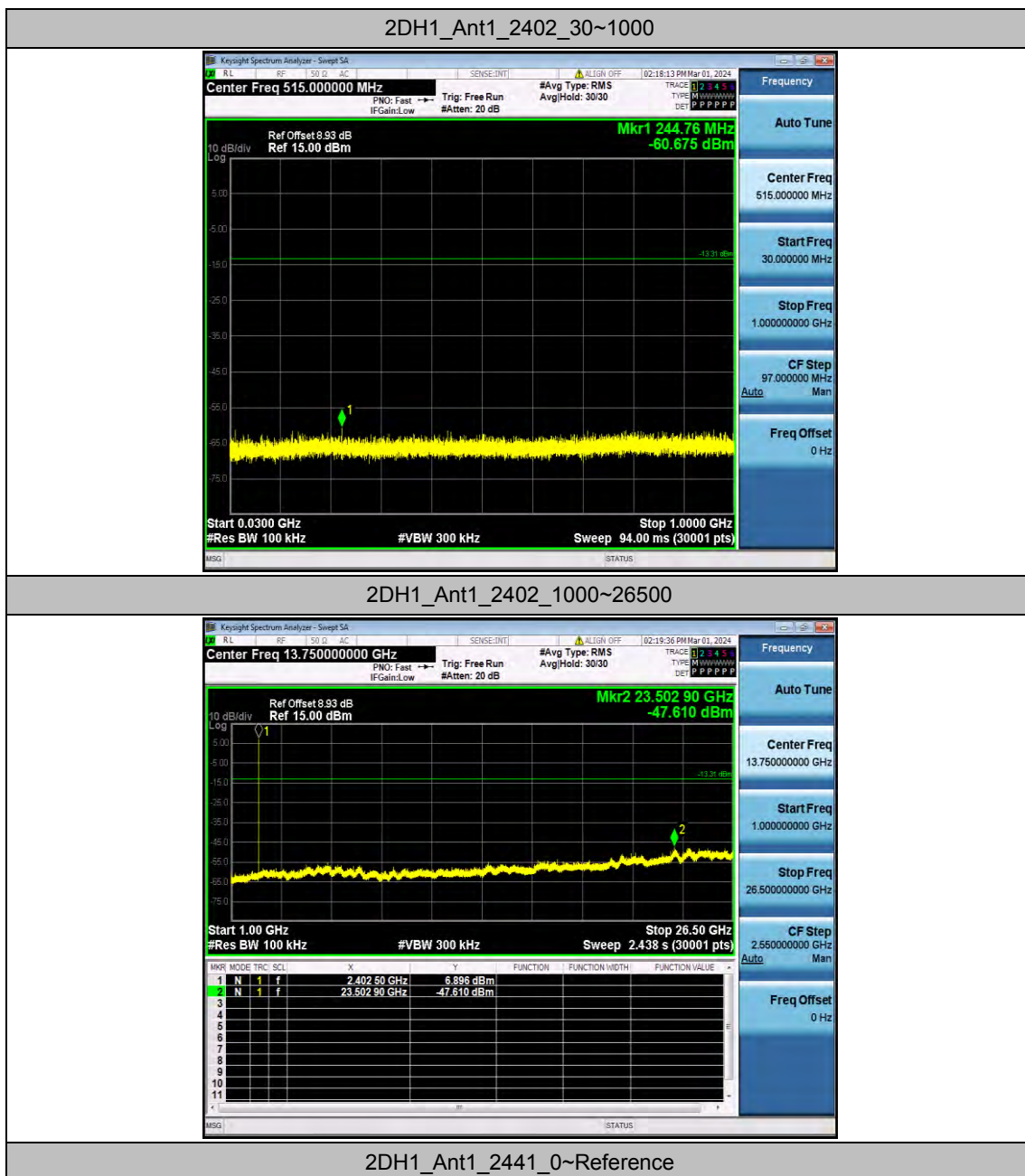


DH1_Ant1_2480_1000~26500



2DH1_Ant1_2402_0~Reference

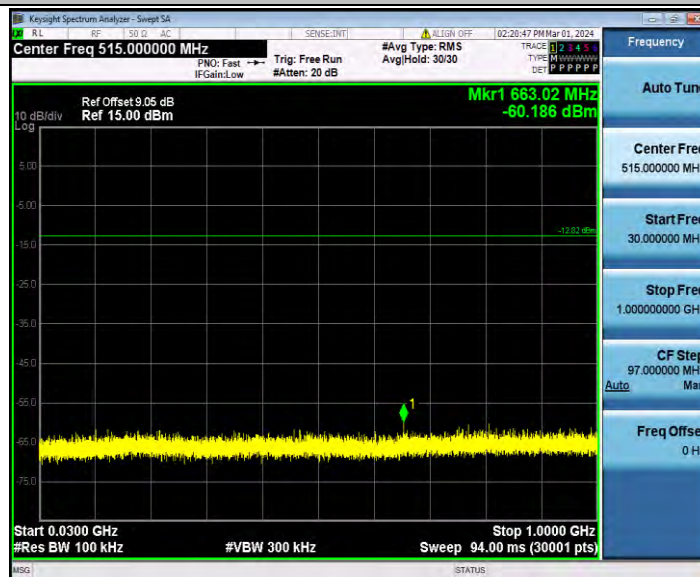




2DH1_Ant1_2441_0~Reference



2DH1_Ant1_2441_30~1000



2DH1_Ant1_2441_1000~26500



2DH1_Ant1_2480_0~Reference



2DH1_Ant1_2480_30~1000



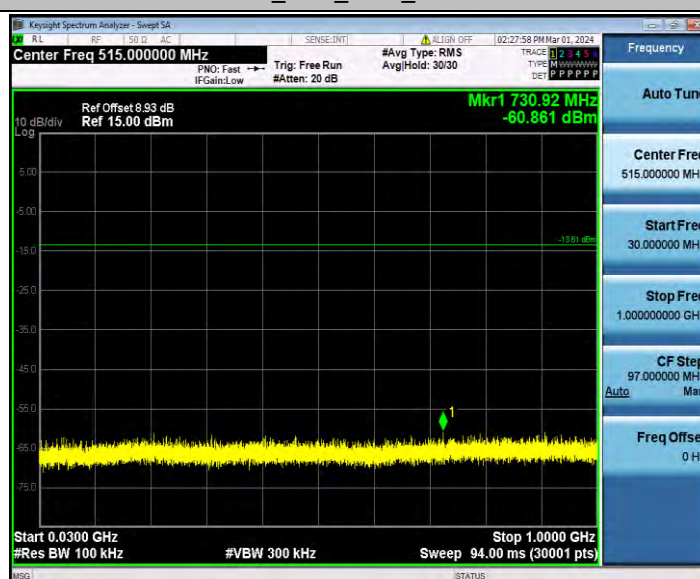
2DH1_Ant1_2480_1000~26500



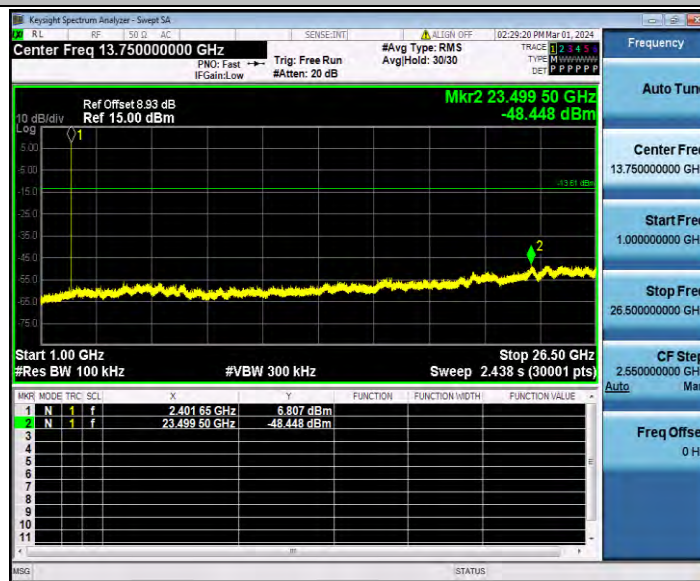
3DH1_Ant1_2402_0~Reference



3DH1_Ant1_2402_30~1000



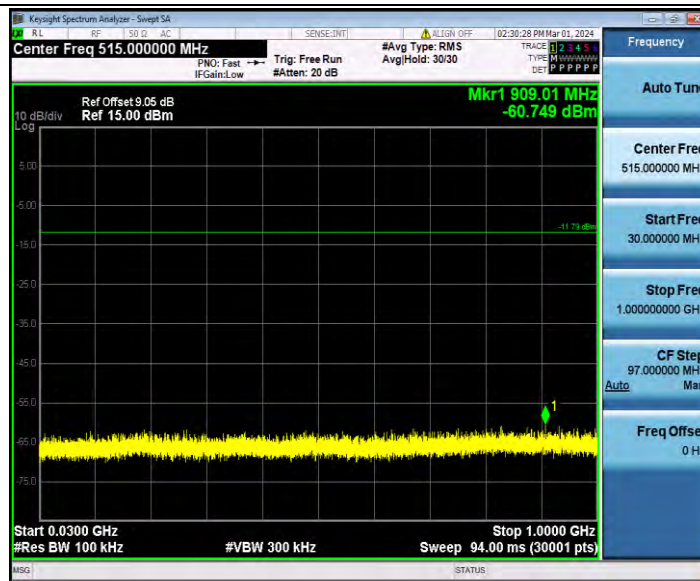
3DH1_Ant1_2402_1000~26500



3DH1_Ant1_2441_0~Reference



3DH1_Ant1_2441_30~1000

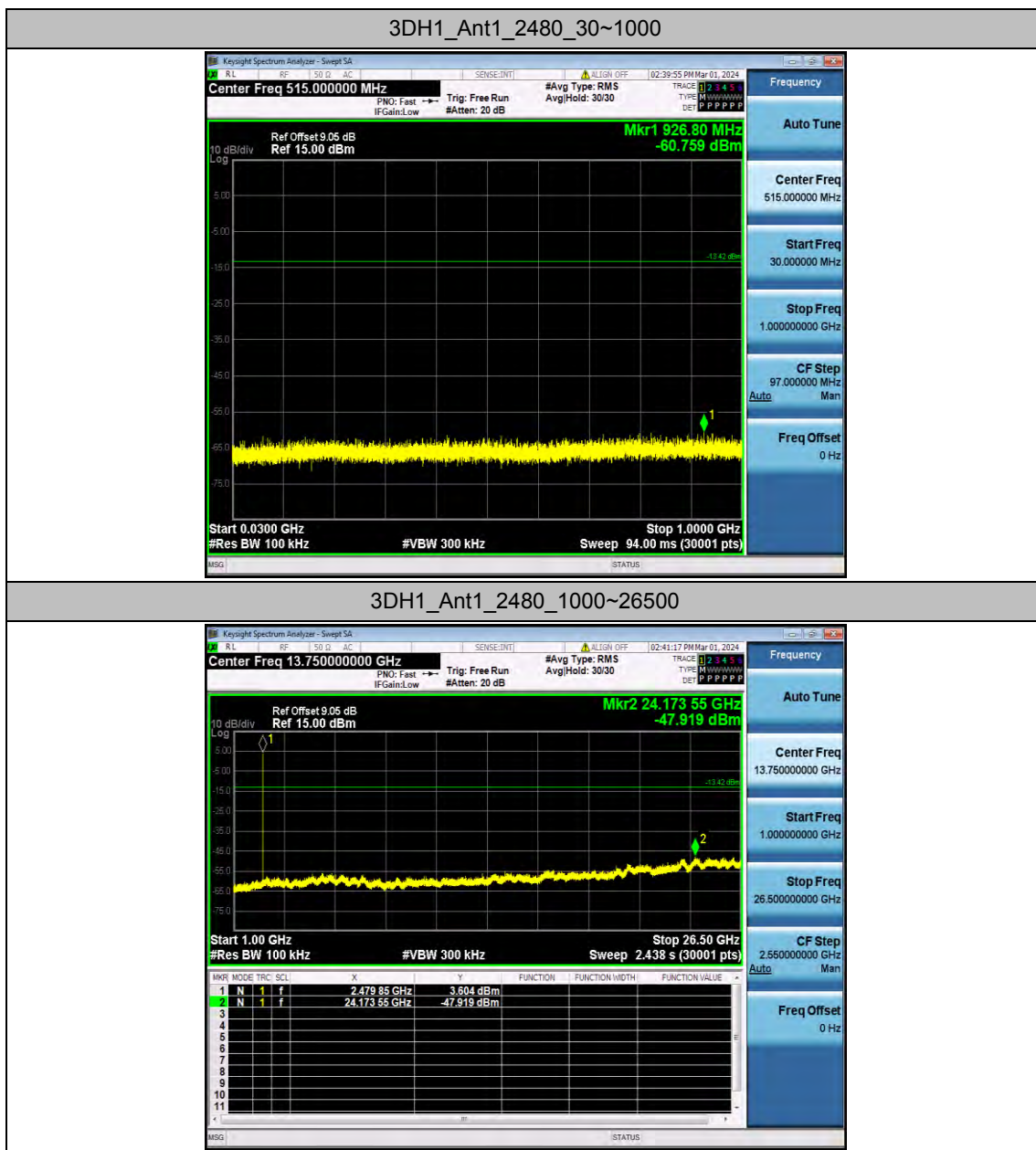


3DH1_Ant1_2441_1000~26500



3DH1_Ant1_2480_0~Reference





Appendix A.9: Emissions in Restricted Bands

Test Result

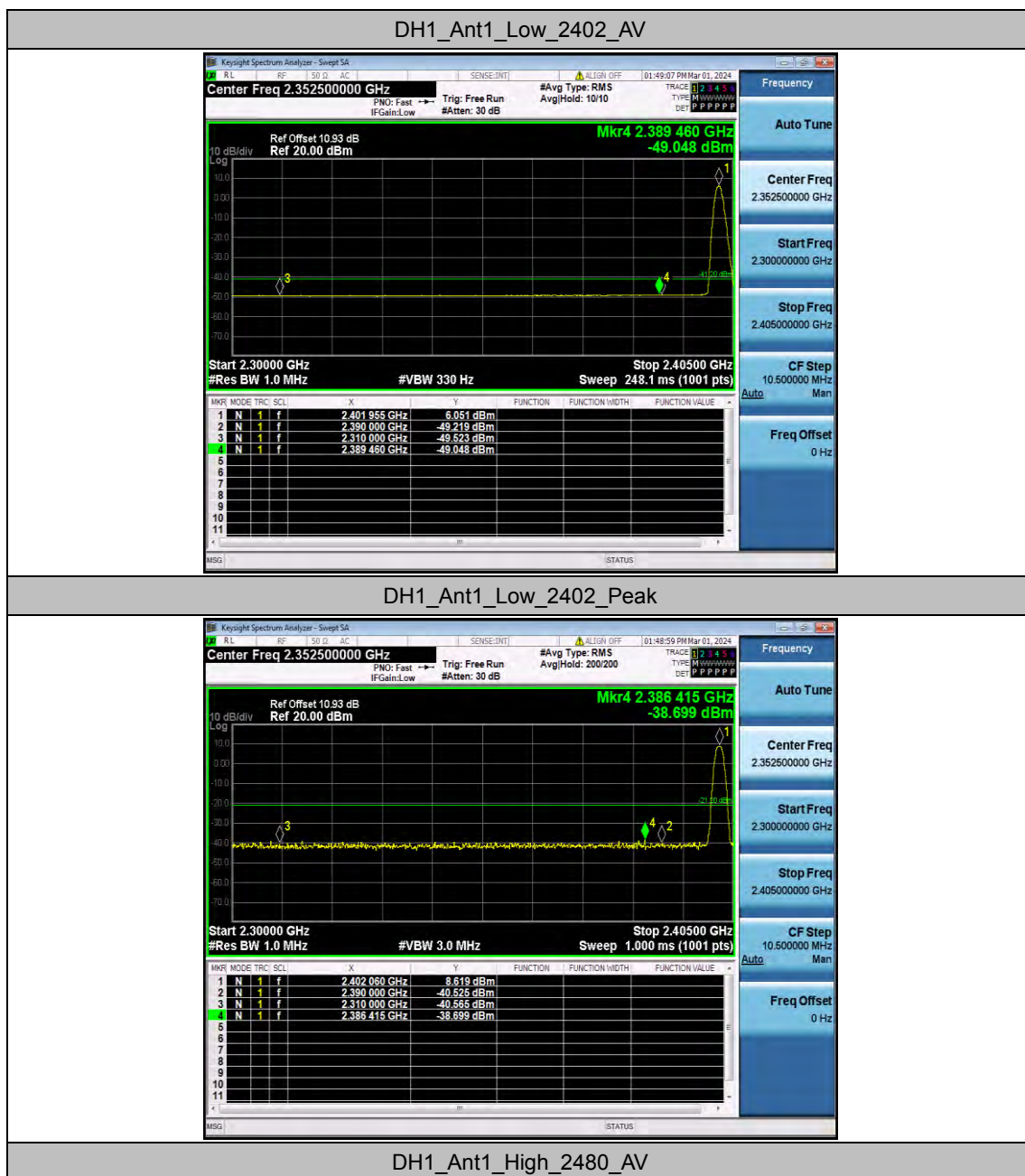
TestMode	Antenna	ChName	Freq (MHz)	Detector	Freq [MHz]	Result [dBm]	Limit [dBm]	Result [dBuV/m]	Limit [dBuV/m]	Verdict
DH1	Ant1	Low	2402	AV	2310.000	-49.52	≤-41.20	45.68	≤54	PASS
				AV	2389.460	-49.05	≤-41.20	46.15	≤54	PASS
				AV	2390.000	-49.22	≤-41.20	45.98	≤54	PASS
				Peak	2310.000	-40.57	≤-21.20	54.63	≤74	PASS
				Peak	2386.415	-38.7	≤-21.20	56.50	≤74	PASS
				Peak	2390.000	-40.53	≤-21.20	54.67	≤74	PASS
		High	2480	AV	2483.500	-48.52	≤-41.20	46.68	≤54	PASS
				AV	2483.520	-48.52	≤-41.20	46.68	≤54	PASS
				AV	2500.000	-48.91	≤-41.20	46.29	≤54	PASS
				Peak	2483.500	-40.58	≤-21.20	54.62	≤74	PASS
				Peak	2492.240	-38.53	≤-21.20	56.67	≤74	PASS
				Peak	2500.000	-40.54	≤-21.20	54.66	≤74	PASS
2DH1	Ant1	Low	2402	AV	2310.000	-49.6	≤-41.20	45.60	≤54	PASS
				AV	2388.830	-49.05	≤-41.20	46.15	≤54	PASS
				AV	2390.000	-49.09	≤-41.20	46.11	≤54	PASS
				Peak	2310.000	-42.52	≤-21.20	52.68	≤74	PASS
				Peak	2386.835	-38.56	≤-21.20	56.64	≤74	PASS
				Peak	2390.000	-41.69	≤-21.20	53.51	≤74	PASS
		High	2480	AV	2483.500	-47.7	≤-41.20	47.50	≤54	PASS
				AV	2483.520	-47.7	≤-41.20	47.50	≤54	PASS
				AV	2500.000	-48.93	≤-41.20	46.27	≤54	PASS
				Peak	2483.500	-33.78	≤-21.20	61.42	≤74	PASS
				Peak	2483.520	-33.78	≤-21.20	61.42	≤74	PASS
				Peak	2500.000	-41.65	≤-21.20	53.55	≤74	PASS
3DH1	Ant1	Low	2402	AV	2310.000	-49.51	≤-41.20	45.69	≤54	PASS
				AV	2389.460	-49.07	≤-41.20	46.13	≤54	PASS
				AV	2390.000	-49.2	≤-41.20	46.00	≤54	PASS
				Peak	2310.000	-42.3	≤-21.20	52.90	≤74	PASS
				Peak	2338.430	-38.63	≤-21.20	56.57	≤74	PASS
				Peak	2390.000	-41.87	≤-21.20	53.33	≤74	PASS
		High	2480	AV	2483.500	-47.53	≤-41.20	47.67	≤54	PASS
				AV	2483.520	-47.53	≤-41.20	47.67	≤54	PASS
				AV	2500.000	-48.95	≤-41.20	46.25	≤54	PASS
				Peak	2483.500	-32.28	≤-21.20	62.92	≤74	PASS
				Peak	2483.520	-32.28	≤-21.20	62.92	≤74	PASS

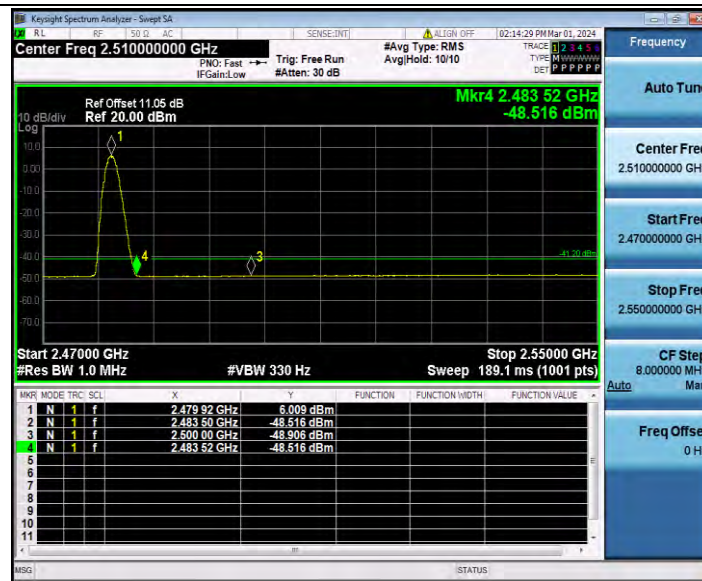
				Peak	2500.000	-42.44	≤ -21.20	52.76	≤ 74	PASS
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Note:

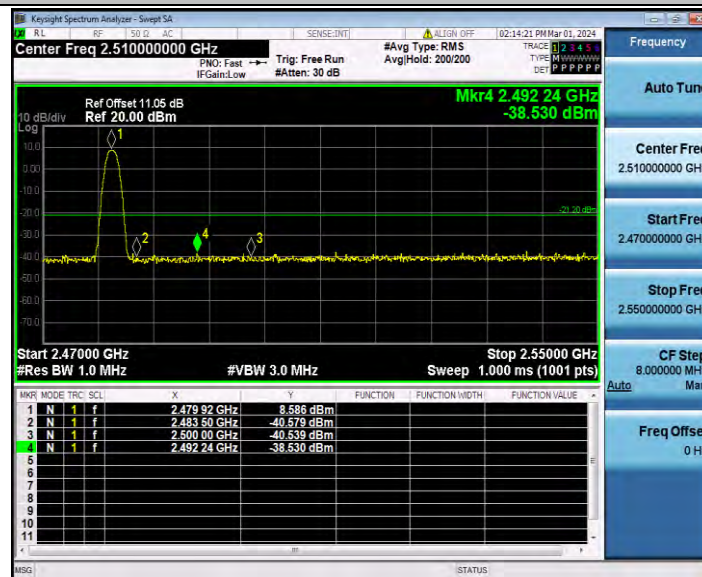
1. The Antenna Gain is compensated in the graph.
2. The Duty Cycle Factor and RBW Factor is compensated in the graph.
3. The limit in dBm for average detector is conversion from 54dBuV/m, according to 15.209(a). The limit in dBm for peak detector is 20dB above the limit of average detector in dBm.

Test Graphs

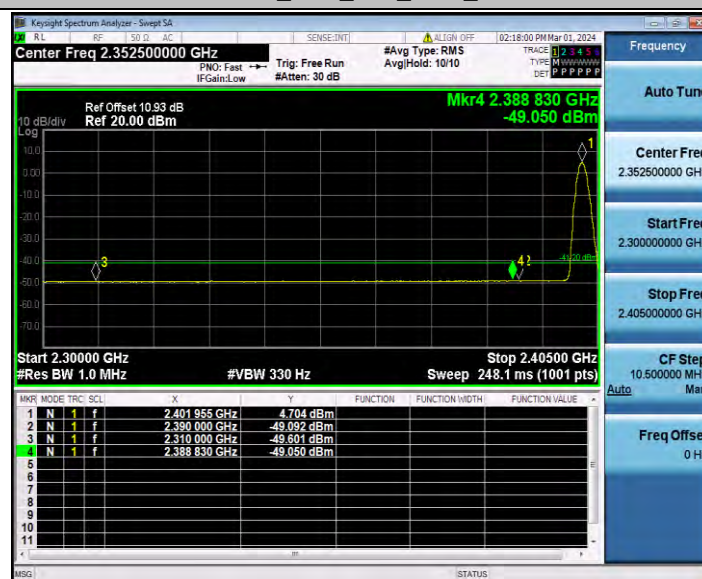




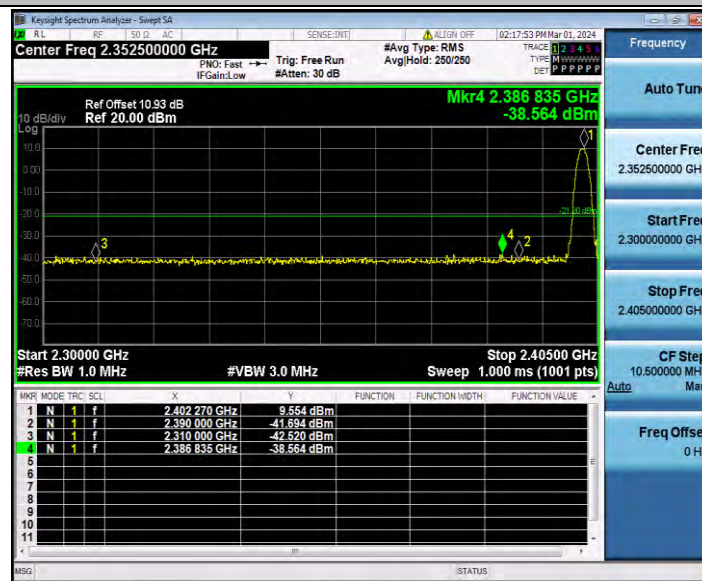
DH1_Ant1_High_2480_Peak



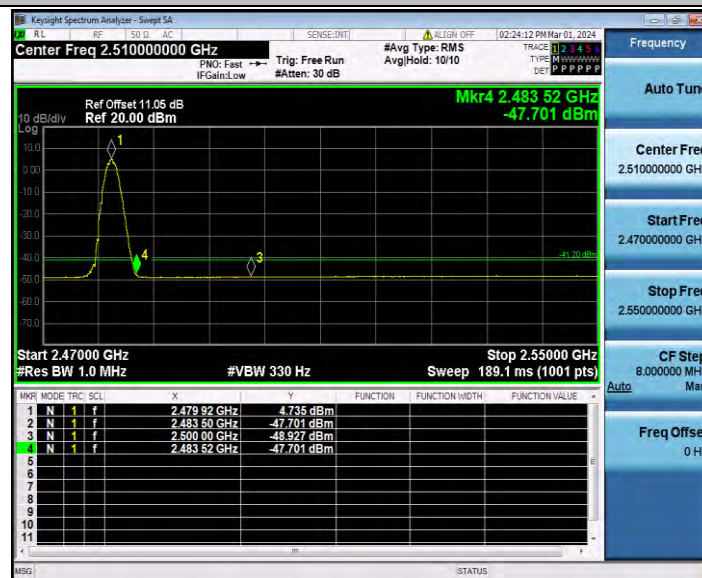
2DH1_Ant1_Low_2402_AV



2DH1_Ant1_Low_2402_Peak



2DH1_Ant1_High_2480_AV



2DH1_Ant1_High_2480_Peak

