

Case No. : <u>GTS20240102009-1-2</u>	
Ambient Condition: <u>23</u> °C, <u>51</u> %RH	
According Standard: ■Part15C	
Test Date: <u>2024.3.14</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	0.954	2401.517	2402.471	---	---
		2441	0.960	2440.514	2441.474	---	---
		2480	0.960	2479.514	2480.474	---	---
2DH1	Ant1	2402	1.290	2401.343	2402.633	---	---
		2441	1.293	2440.340	2441.633	---	---
		2480	1.293	2479.340	2480.633	---	---
3DH1	Ant1	2402	1.296	2401.340	2402.636	---	---
		2441	1.302	2440.334	2441.636	---	---
		2480	1.305	2479.328	2480.633	---	---

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



3DH1_Ant1_2480

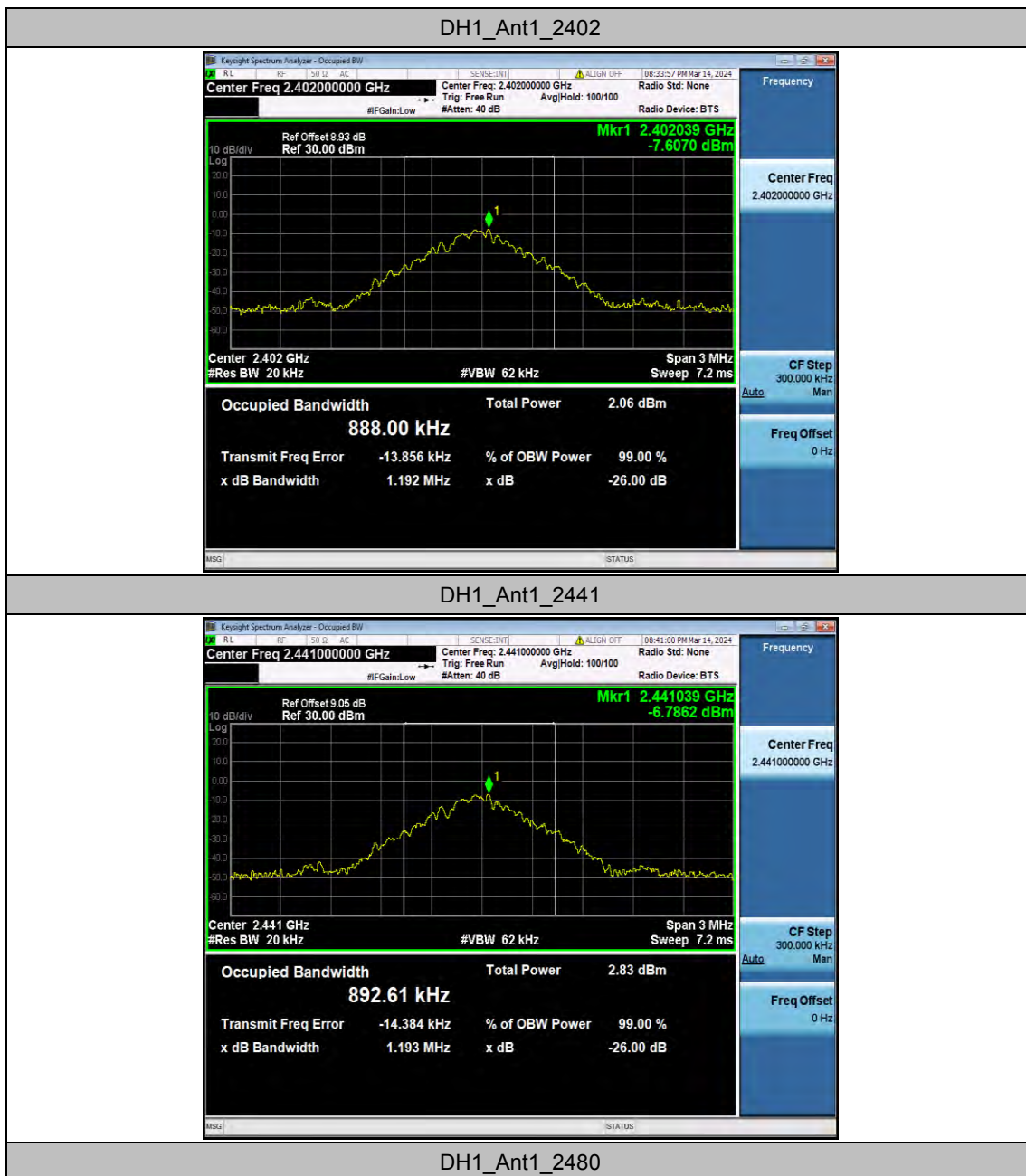


Appendix A.2: Occupied Channel Bandwidth

Test Result

TestMode	Antenna	Freq(MHz)	OCB [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
DH1	Ant1	2402	0.88800	2401.5421	2402.4301	---	---
		2441	0.89261	2440.5393	2441.4319	---	---
		2480	0.89337	2479.5376	2480.4310	---	---
2DH1	Ant1	2402	1.1716	2401.3911	2402.5627	---	---
		2441	1.1735	2440.3894	2441.5629	---	---
		2480	1.1674	2479.3940	2480.5614	---	---
3DH1	Ant1	2402	1.1704	2401.3905	2402.5609	---	---
		2441	1.1872	2440.3743	2441.5615	---	---
		2480	1.1870	2479.3756	2480.5626	---	---

Test Graphs





2DHI_Ant1_2402



2DHI_Ant1_2441



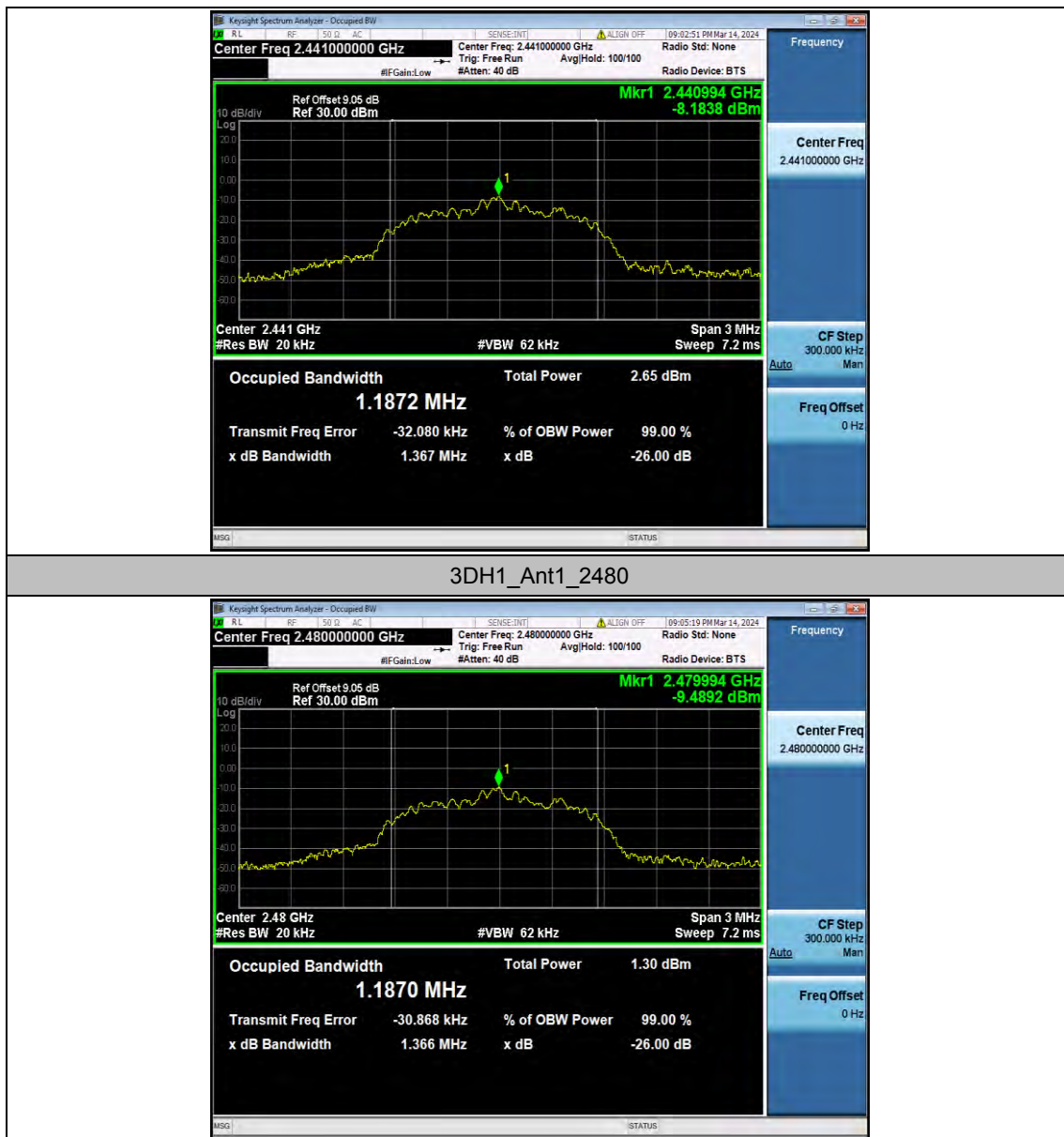
2DH1_Ant1_2480



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	-2.74	≤ 20.97	PASS
		2441	-2.05	≤ 20.97	PASS
		2480	-3.57	≤ 20.97	PASS
2DH1	Ant1	2402	-2.81	≤ 20.97	PASS
		2441	-2.25	≤ 20.97	PASS
		2480	-3.19	≤ 20.97	PASS
3DH1	Ant1	2402	-2.54	≤ 20.97	PASS
		2441	-1.55	≤ 20.97	PASS
		2480	-3.02	≤ 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	≥ 0.640	PASS
		Hop_2441	0.946	≥ 0.640	PASS
		Hop_2480	0.878	≥ 0.640	PASS
2DH1	Ant1	Hop_2402	1.002	≥ 0.862	PASS
		Hop_2441	1.152	≥ 0.862	PASS
		Hop_2480	0.926	≥ 0.862	PASS
3DH1	Ant1	Hop_2402	1.108	≥ 0.870	PASS
		Hop_2441	0.994	≥ 0.870	PASS
		Hop_2480	0.99	≥ 0.870	PASS

Test Graphs

DH1_Ant1_Hop_2402



DH1_Ant1_Hop_2441



DH1_Ant1_Hop_2480



2DH1_Ant1_Hop_2402



2DH1_Ant1_Hop_2441



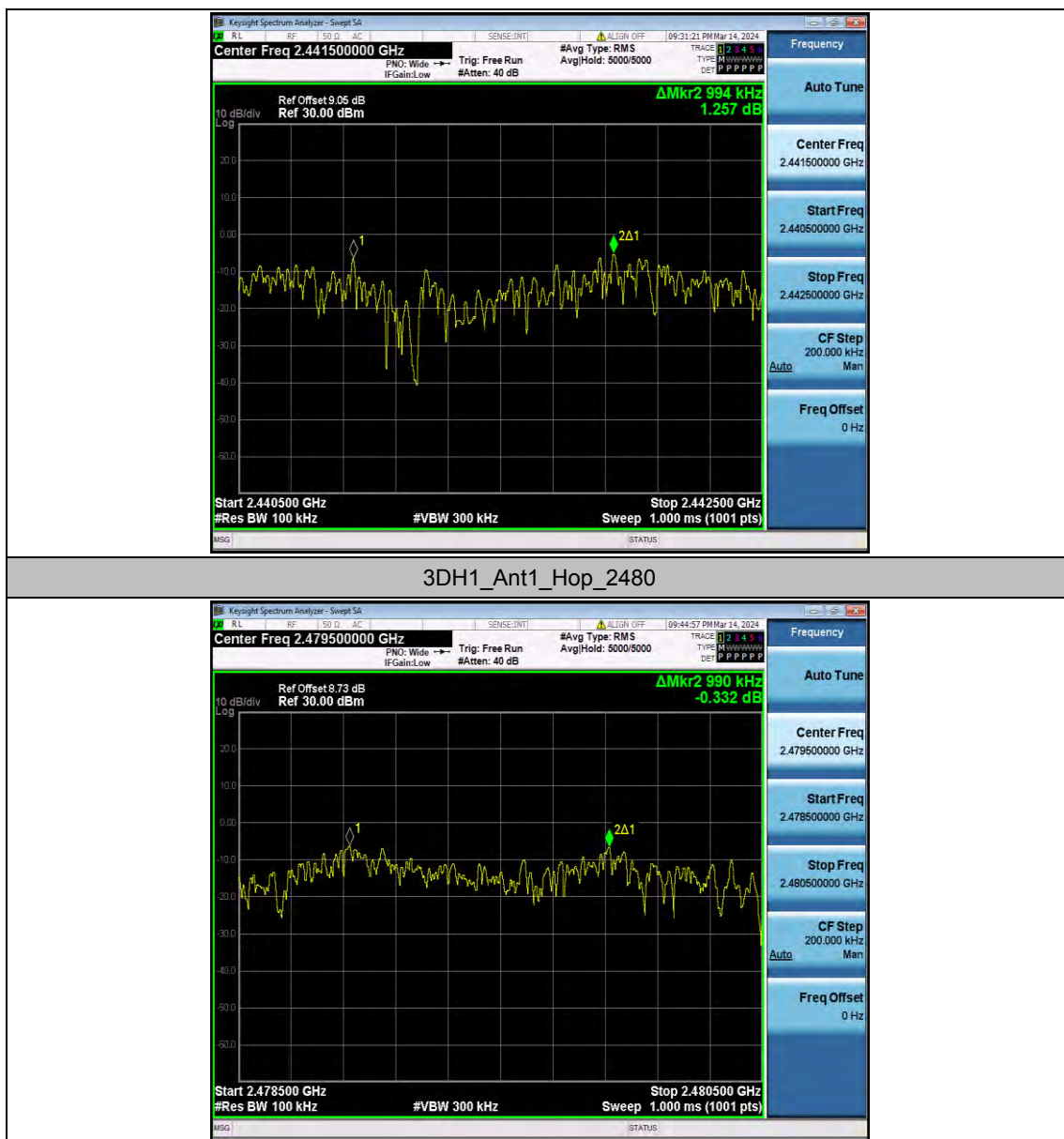
2DH1_Ant1_Hop_2480



3DH1_Ant1_Hop_2402



3DH1_Ant1_Hop_2441

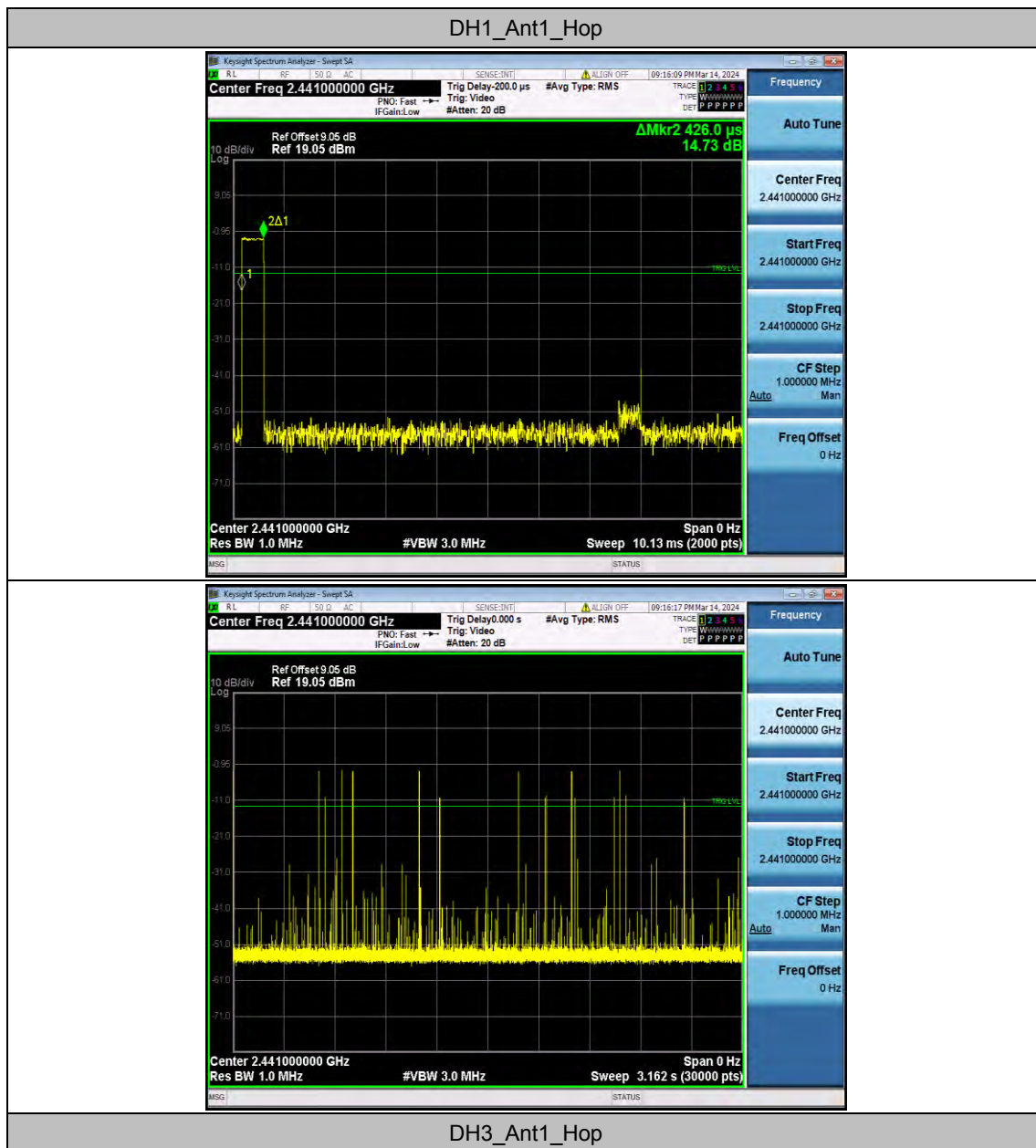


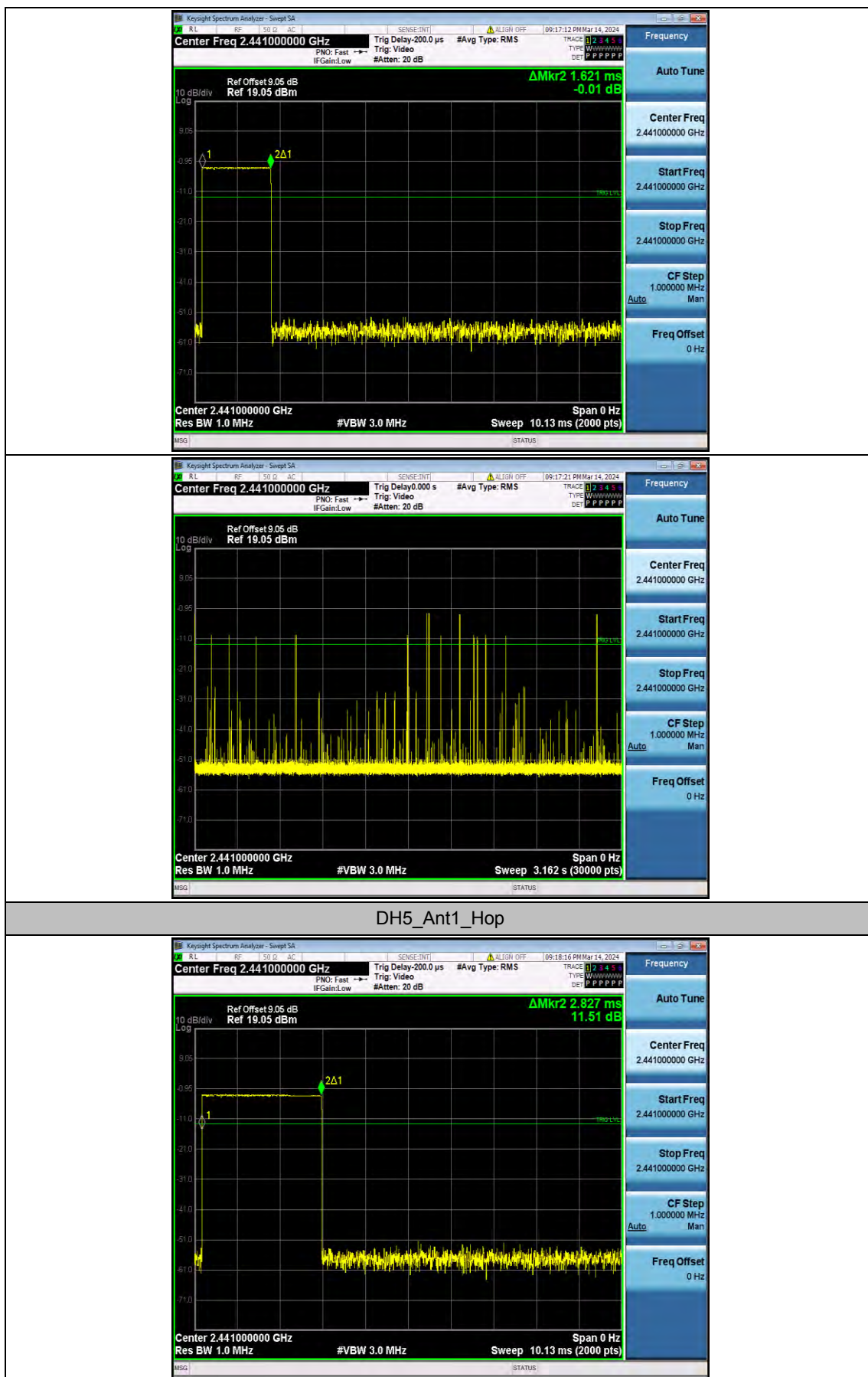
Appendix A.5: Time of occupancy

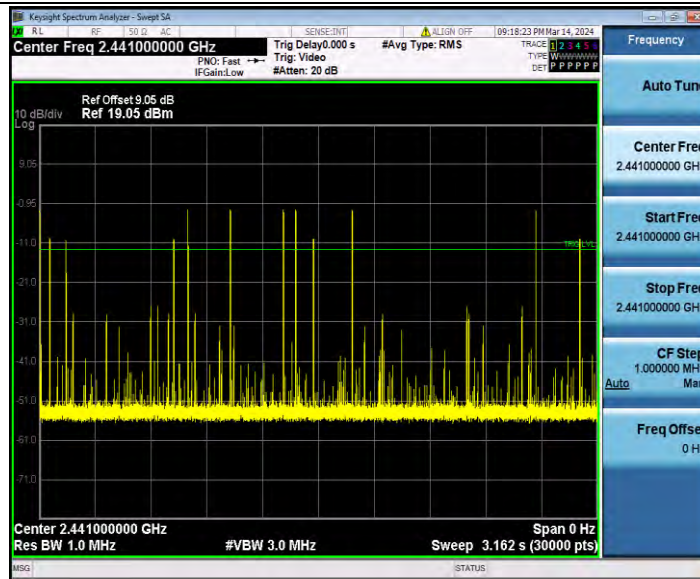
Test Result

TestMode	Antenna	Freq(MHz)	BurstWidth [ms]	TotalHops [Num]	Result[s]	Limit[s]	Verdict
DH1	Ant1	Hop	0.426	80	0.034	≤0.4	PASS
DH3	Ant1	Hop	1.621	50	0.081	≤0.4	PASS
DH5	Ant1	Hop	2.827	70	0.198	≤0.4	PASS
2DH1	Ant1	Hop	0.481	100	0.048	≤0.4	PASS
2DH3	Ant1	Hop	1.687	40	0.067	≤0.4	PASS
2DH5	Ant1	Hop	2.888	20	0.058	≤0.4	PASS
3DH1	Ant1	Hop	0.410	50	0.021	≤0.4	PASS
3DH3	Ant1	Hop	1.662	70	0.116	≤0.4	PASS
3DH5	Ant1	Hop	2.756	60	0.165	≤0.4	PASS

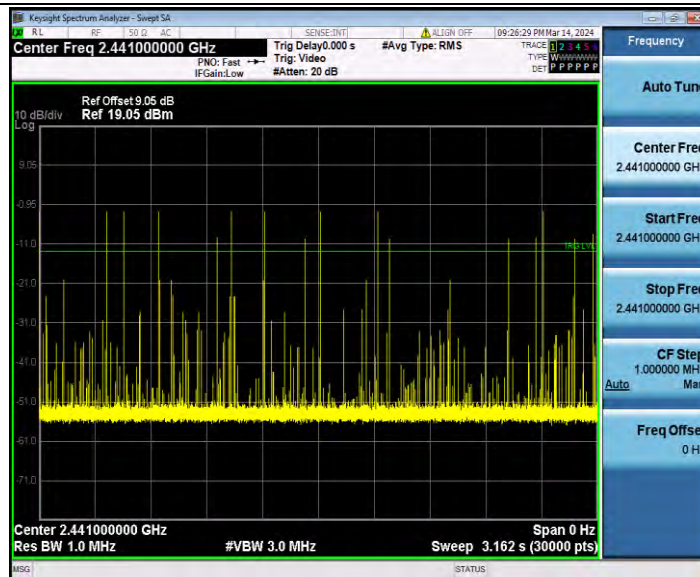
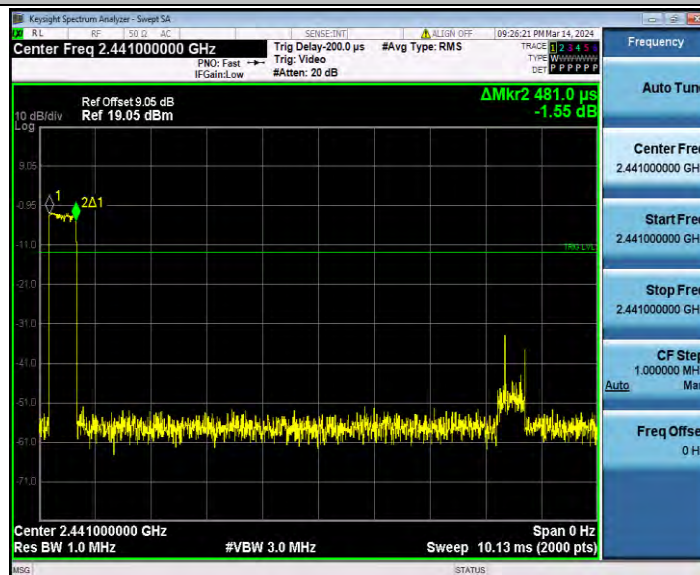
Test Graphs



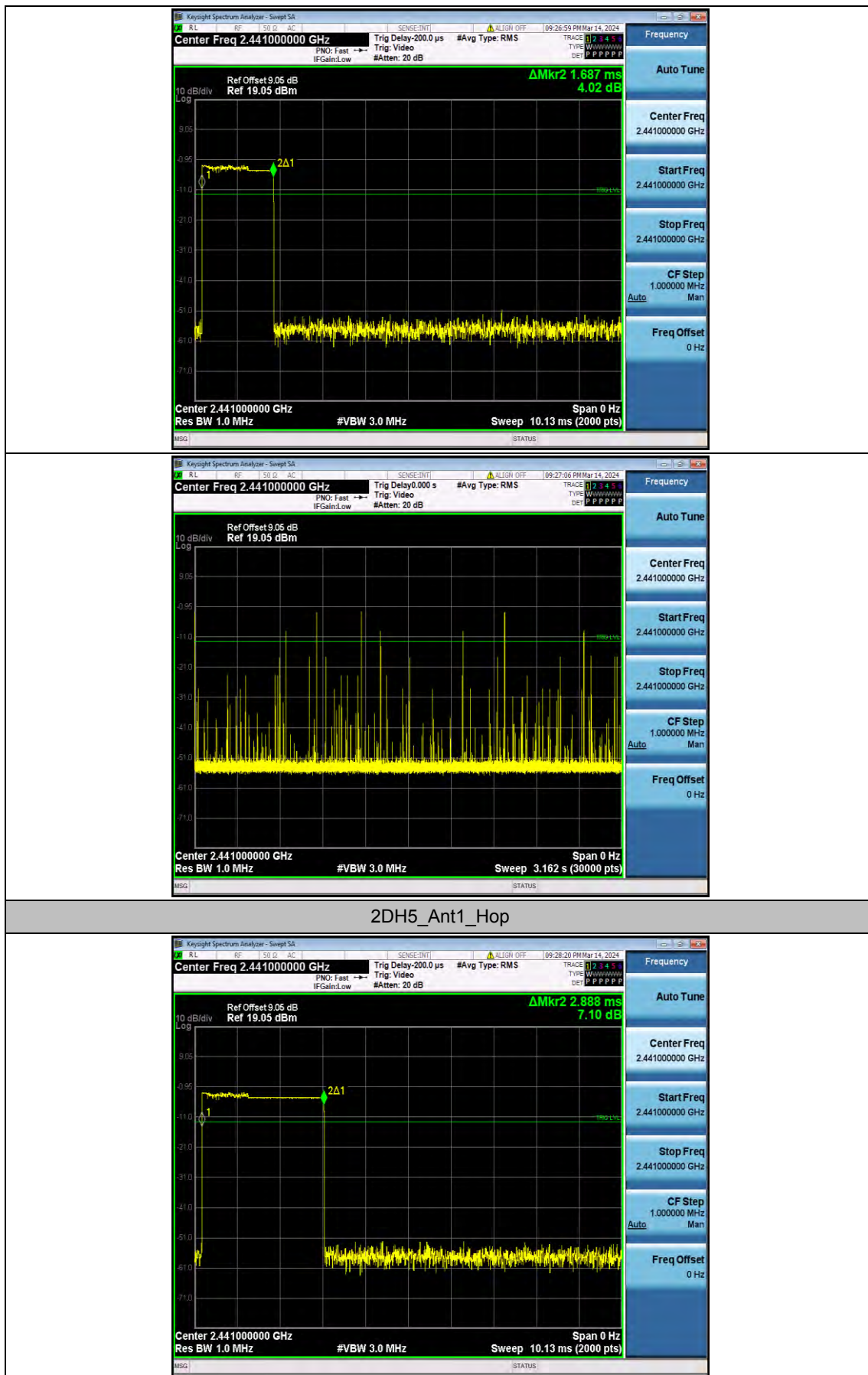


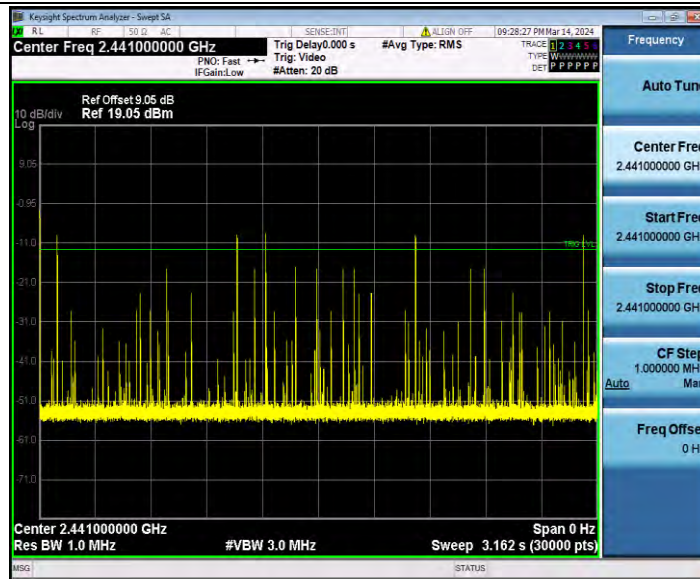


2DH1_Ant1_Hop

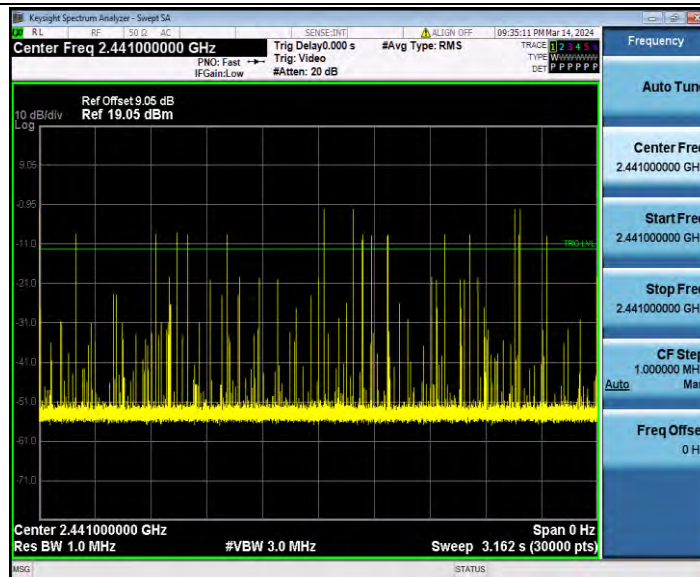
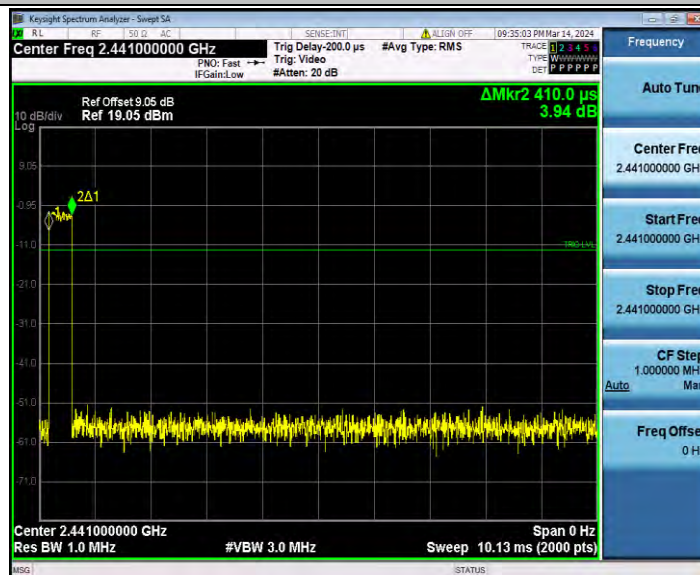


2DH3_Ant1_Hop

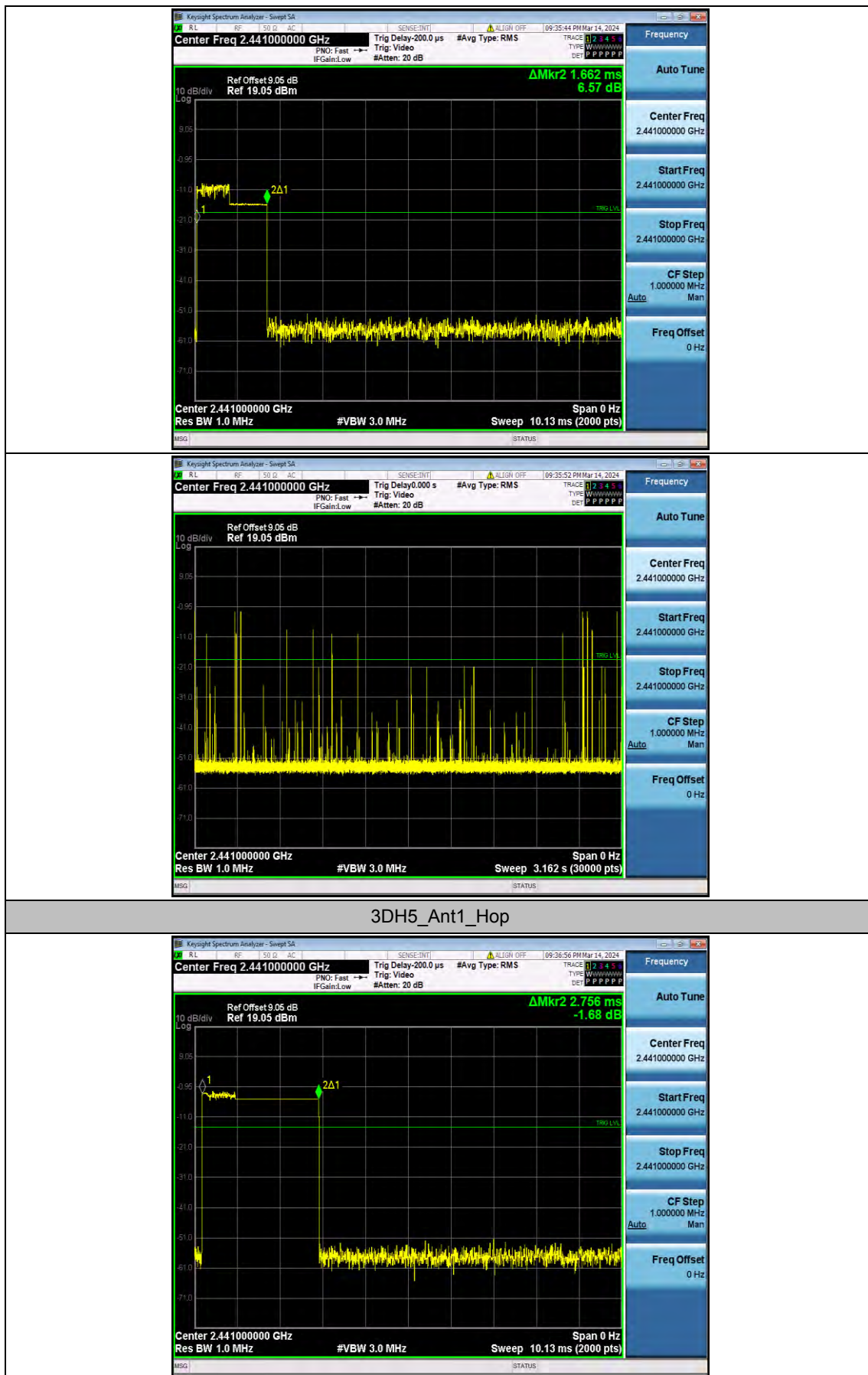


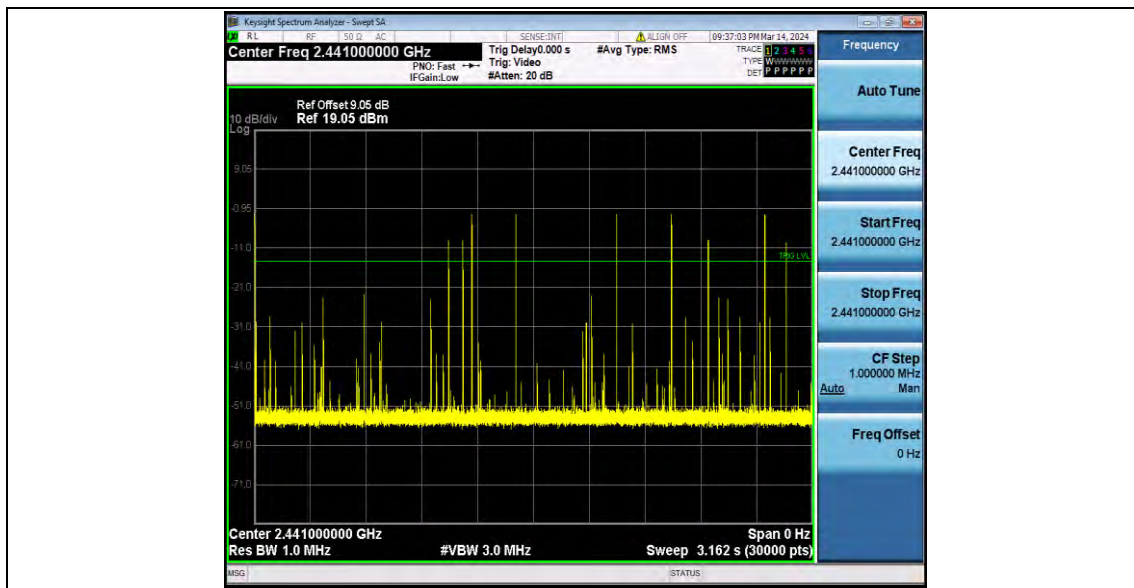


3DH1_Ant1_Hop



3DH3_Ant1_Hop



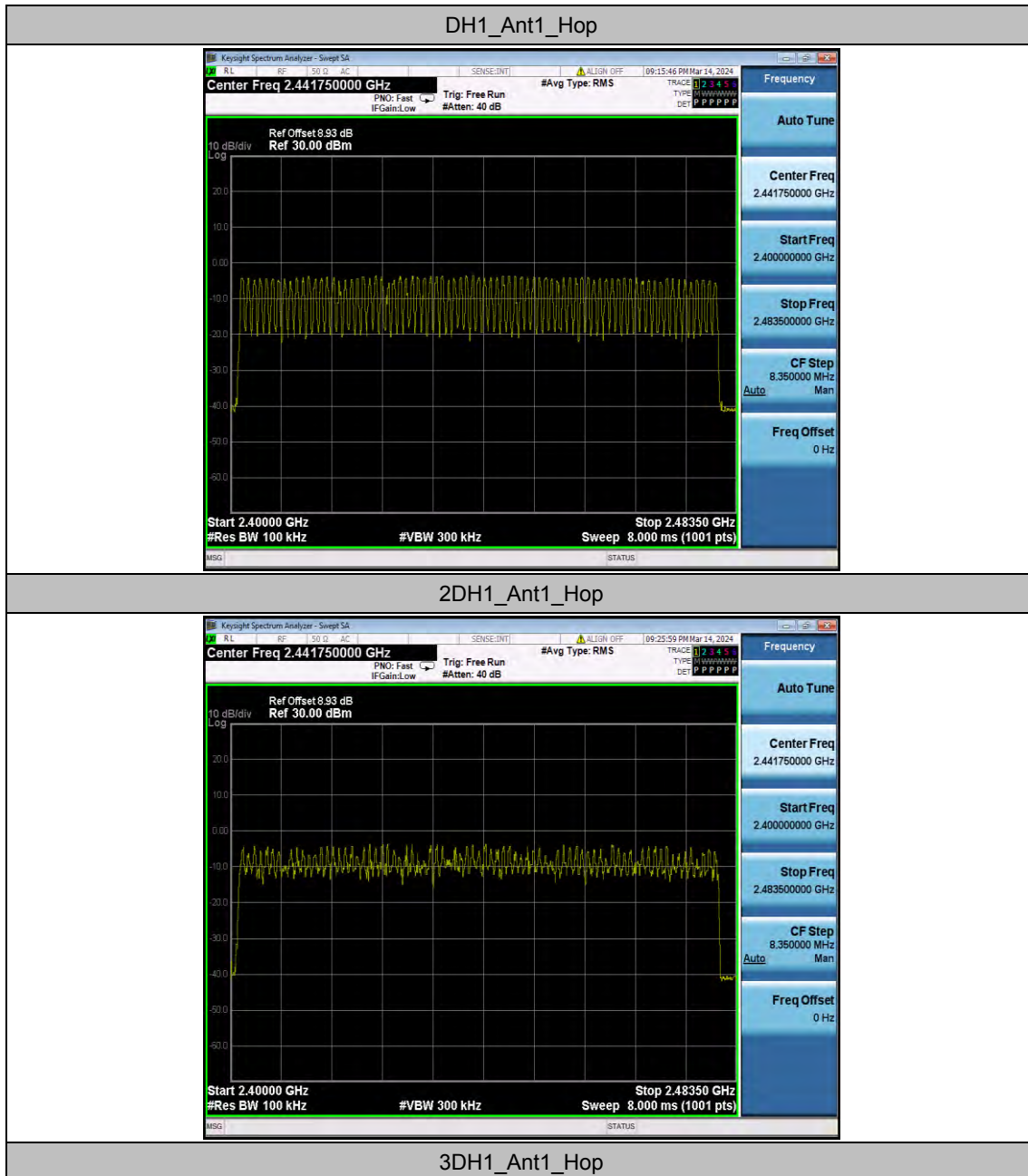


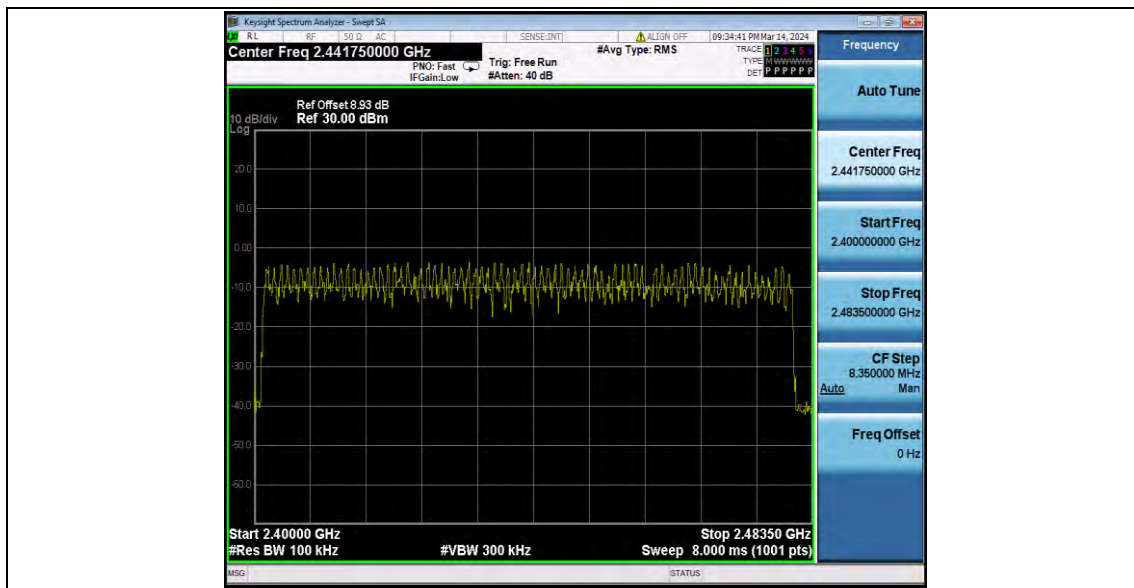
Appendix A.6: Number of hopping channels

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



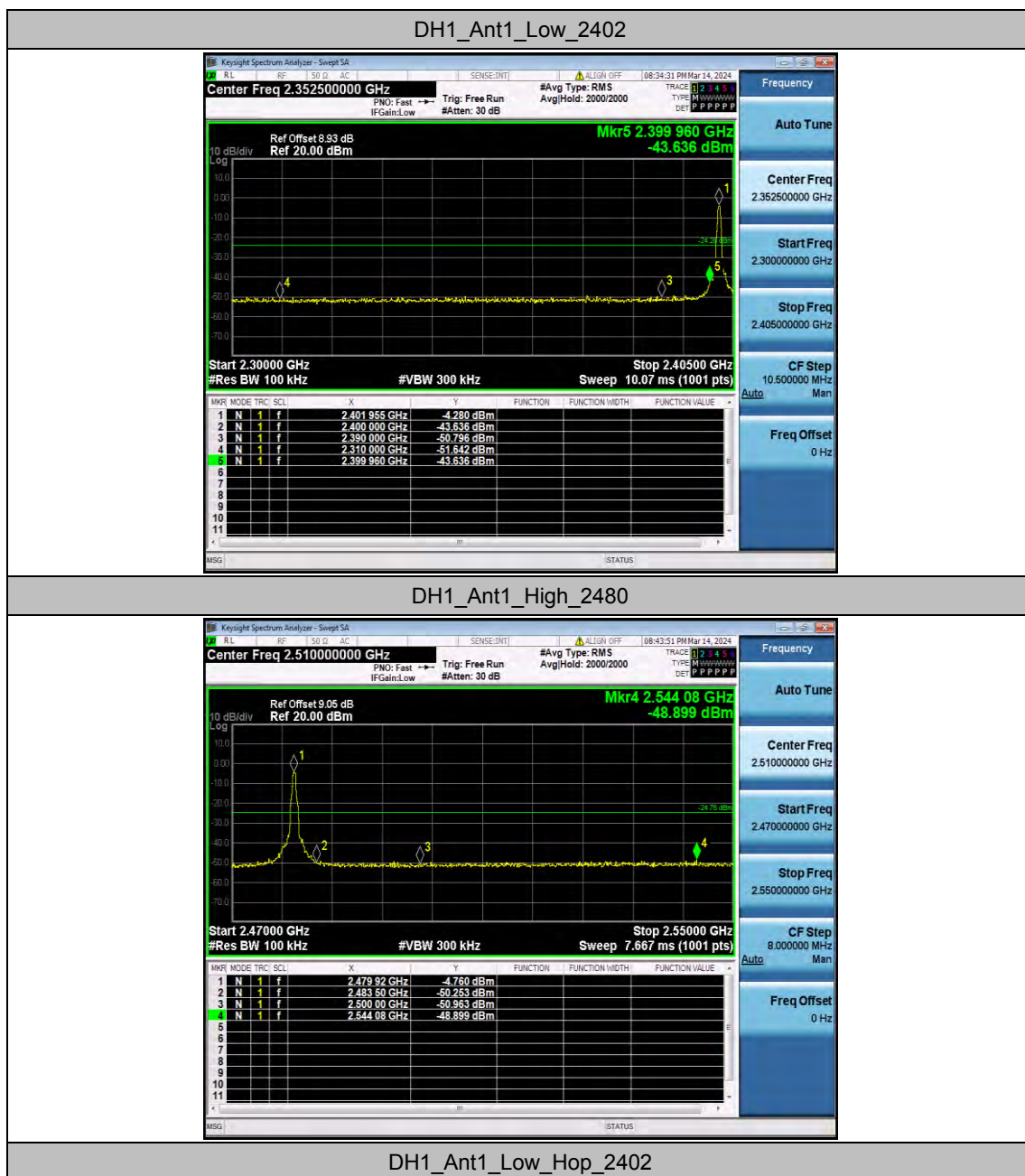


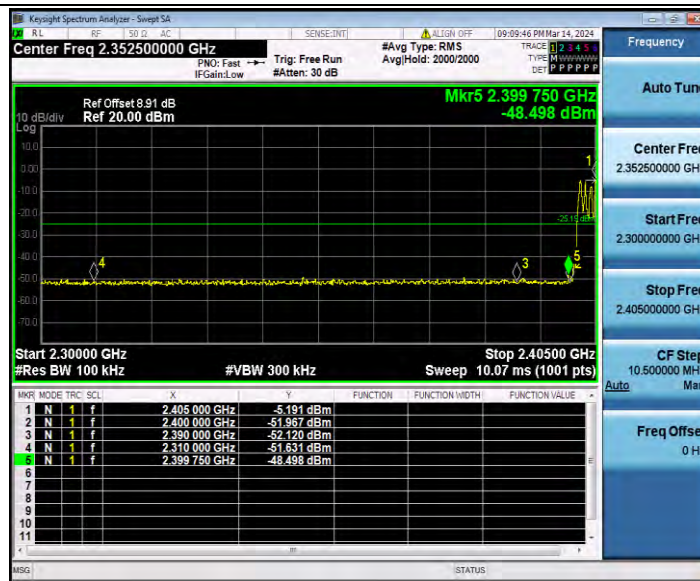
Appendix A.7: Band edge measurements

Test Result

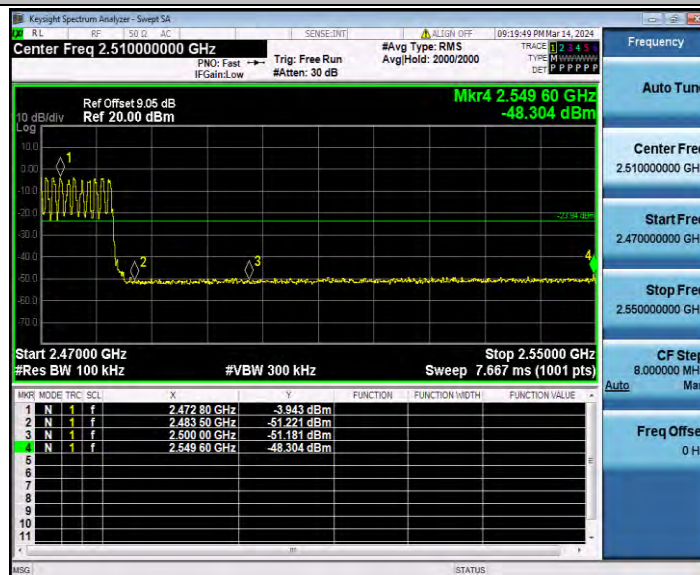
TestMode	Antenna	ChName	Freq(MHz)	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
DH1	Ant1	Low	2402	-4.28	-43.64	≤ -24.28	PASS
		High	2480	-4.76	-48.9	≤ -24.76	PASS
		Low	Hop_2402	-5.19	-48.5	≤ -25.19	PASS
		High	Hop_2480	-3.94	-48.3	≤ -23.94	PASS
2DH1	Ant1	Low	2402	-4.24	-37.56	≤ -24.24	PASS
		High	2480	-4.81	-45.94	≤ -24.81	PASS
		Low	Hop_2402	-6.30	-40.58	≤ -26.3	PASS
		High	Hop_2480	-5.32	-49.14	≤ -25.32	PASS
3DH1	Ant1	Low	2402	-4.25	-37.91	≤ -24.25	PASS
		High	2480	-4.75	-43.9	≤ -24.75	PASS
		Low	Hop_2402	-5.06	-42.25	≤ -25.06	PASS
		High	Hop_2480	-4.47	-48.3	≤ -24.47	PASS

Test Graphs

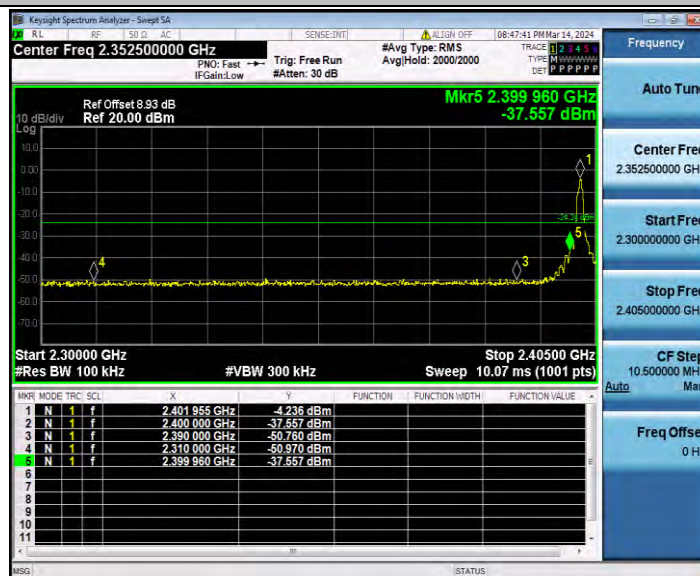




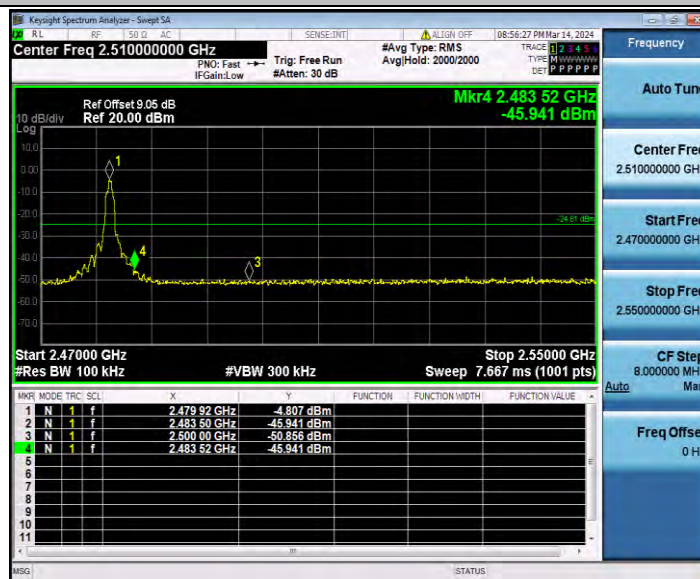
DH1_Ant1_High_Hop_2480



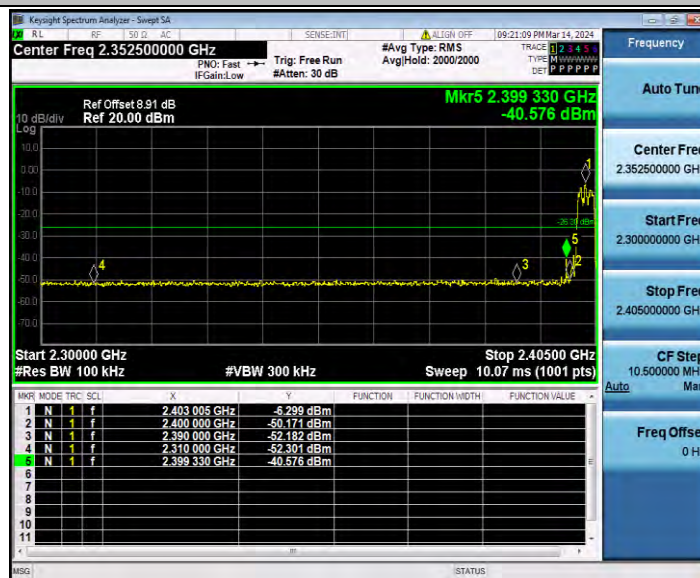
2DH1_Ant1_Low_2402



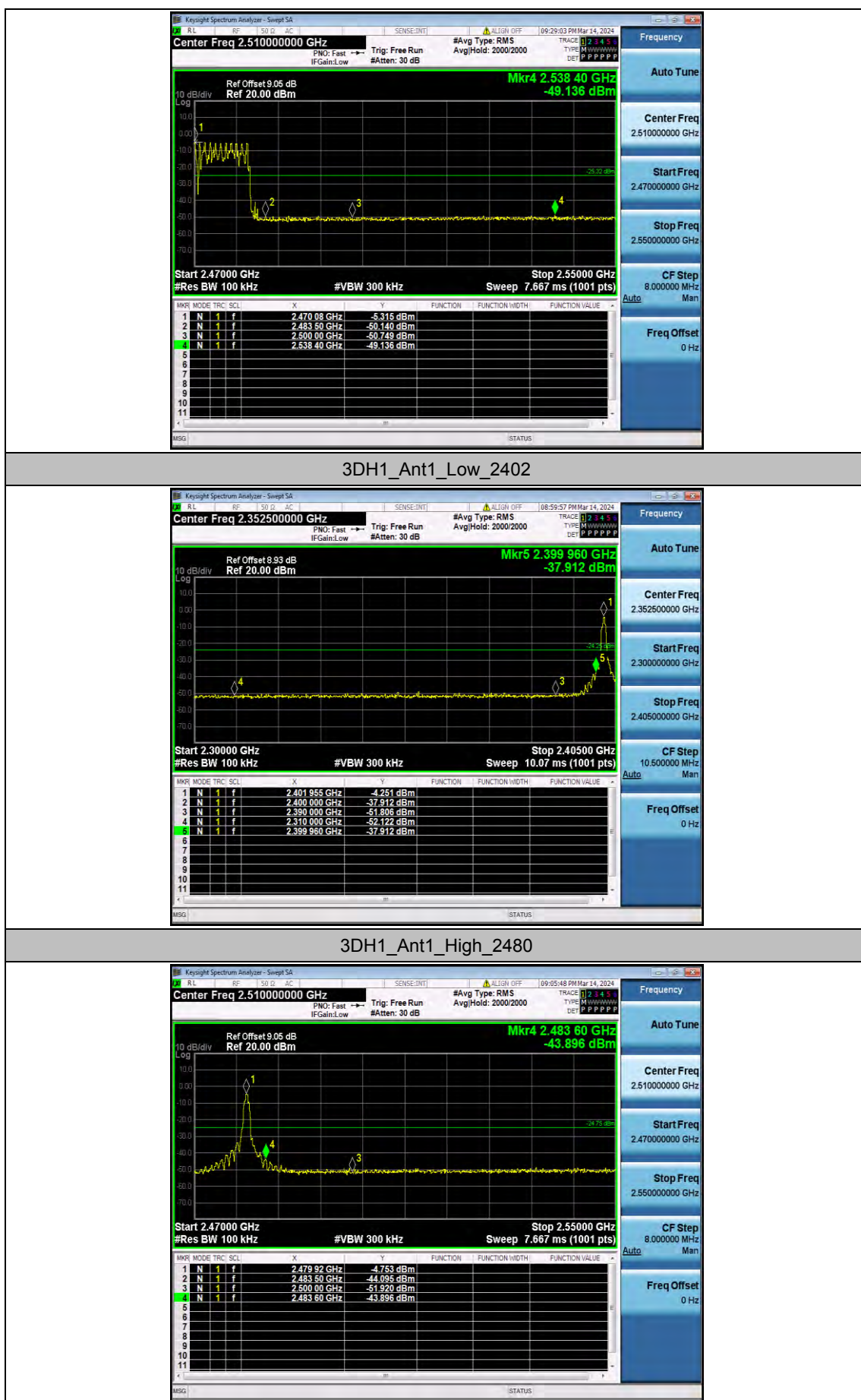
2DH1_Ant1_High_2480



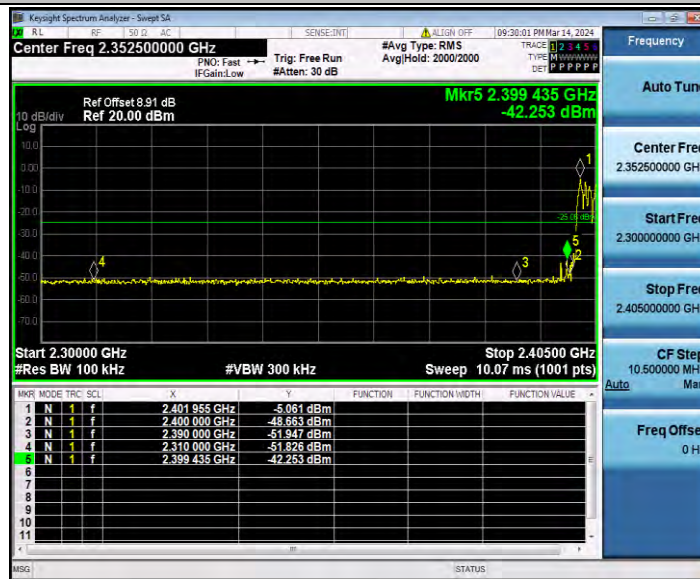
2DH1_Ant1_Low_Hop_2402



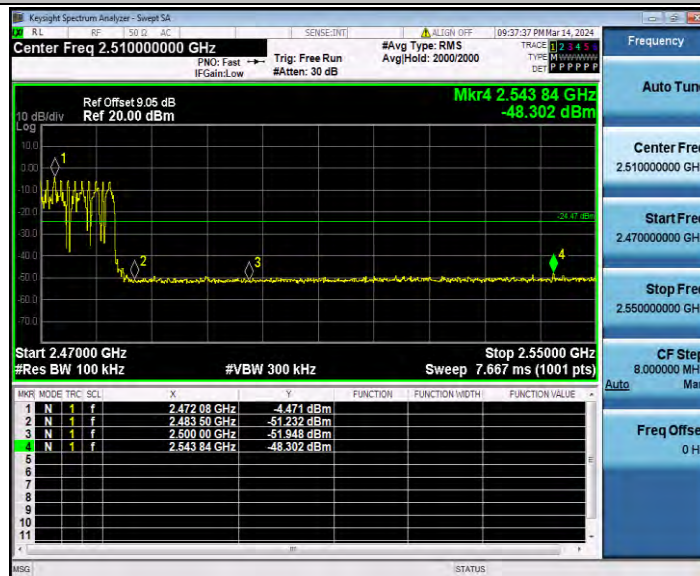
2DH1_Ant1_High_Hop_2480



3DH1_Ant1_Low_Hop_2402



3DH1_Ant1_High_Hop_2480

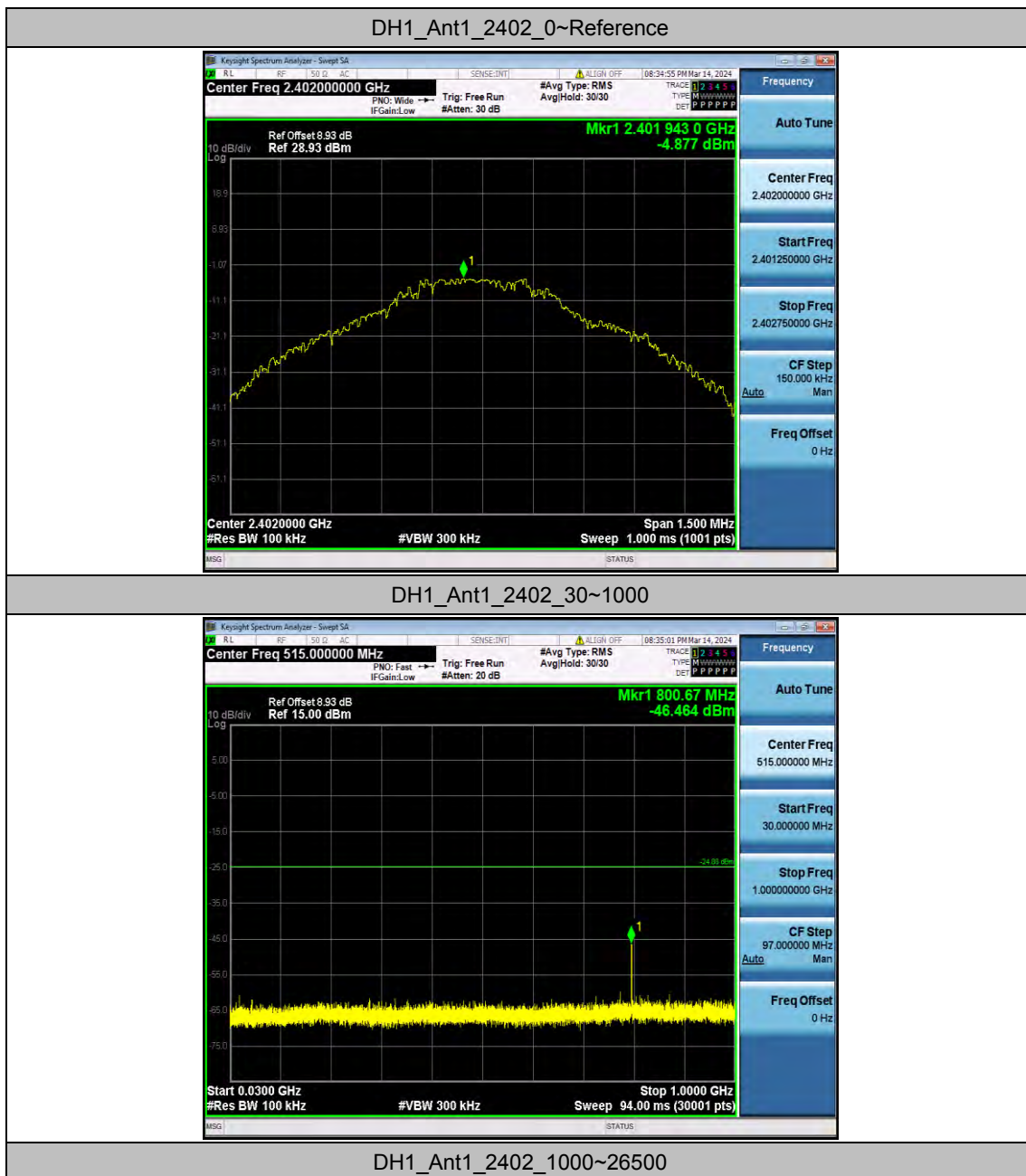


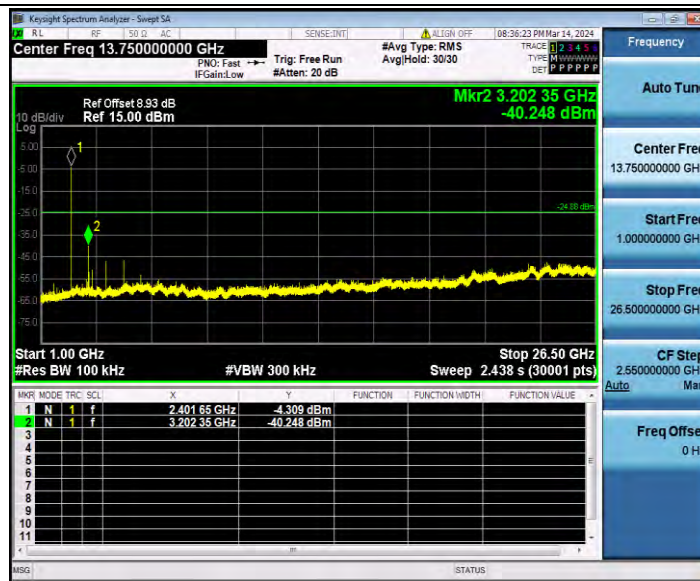
Appendix A.8: Conducted Spurious Emission

Test Result

TestMode	Antenna	Freq(MHz)	FreqRange [MHz]	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
DH1	Ant1	2402	Reference	-4.88	-4.88	---	PASS
			30~1000	-4.88	-46.46	≤ -24.88	PASS
			1000~26500	-4.88	-40.25	≤ -24.88	PASS
		2441	Reference	-3.86	-3.86	---	PASS
			30~1000	-3.86	-46.36	≤ -23.86	PASS
			1000~26500	-3.86	-25.19	≤ -23.86	PASS
		2480	Reference	-5.21	-5.21	---	PASS
			30~1000	-5.21	-46.29	≤ -25.21	PASS
			1000~26500	-5.21	-35.58	≤ -25.21	PASS
2DH1	Ant1	2402	Reference	-4.87	-4.87	---	PASS
			30~1000	-4.87	-45.69	≤ -24.87	PASS
			1000~26500	-4.87	-40.47	≤ -24.87	PASS
		2441	Reference	-4.14	-4.14	---	PASS
			30~1000	-4.14	-46.34	≤ -24.14	PASS
			1000~26500	-4.14	-40.85	≤ -24.14	PASS
		2480	Reference	-5.46	-5.46	---	PASS
			30~1000	-5.46	-46.53	≤ -25.46	PASS
			1000~26500	-5.46	-42.65	≤ -25.46	PASS
3DH1	Ant1	2402	Reference	-4.91	-4.91	---	PASS
			30~1000	-4.91	-49.16	≤ -24.91	PASS
			1000~26500	-4.91	-40.51	≤ -24.91	PASS
		2441	Reference	-4.08	-4.08	---	PASS
			30~1000	-4.08	-47	≤ -24.08	PASS
			1000~26500	-4.08	-40.93	≤ -24.08	PASS
		2480	Reference	-5.43	-5.43	---	PASS
			30~1000	-5.43	-46.89	≤ -25.43	PASS
			1000~26500	-5.43	-42.43	≤ -25.43	PASS

Test Graphs

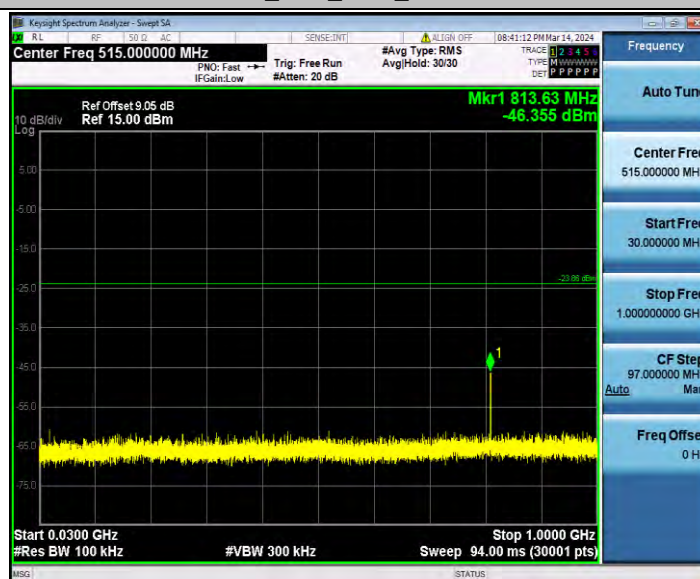




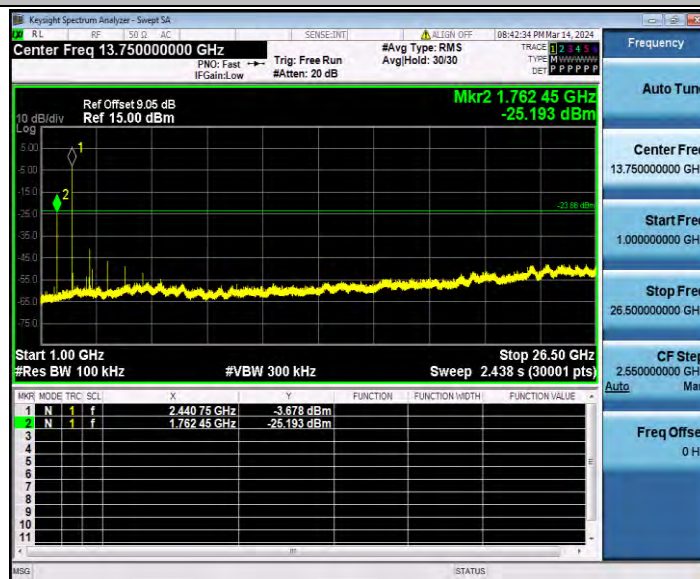
DH1_Ant1_2441_0~Reference



DH1_Ant1_2441_30~1000



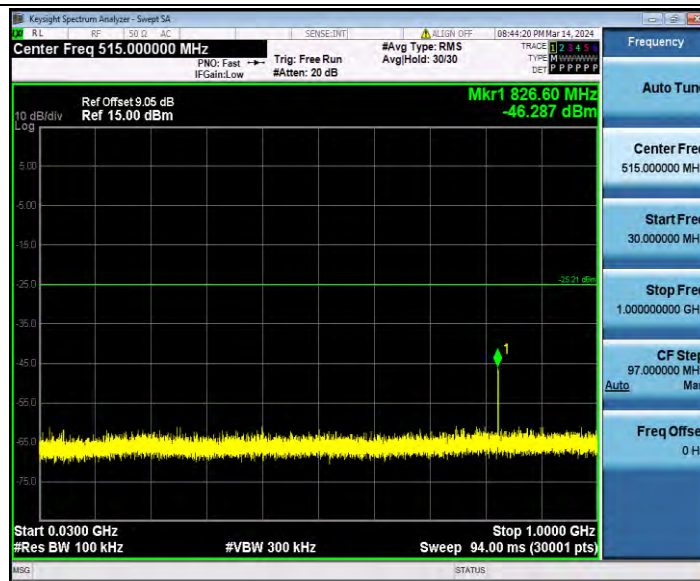
DH1_Ant1_2441_1000~26500



DH1_Ant1_2480_0~Reference



DH1_Ant1_2480_30~1000

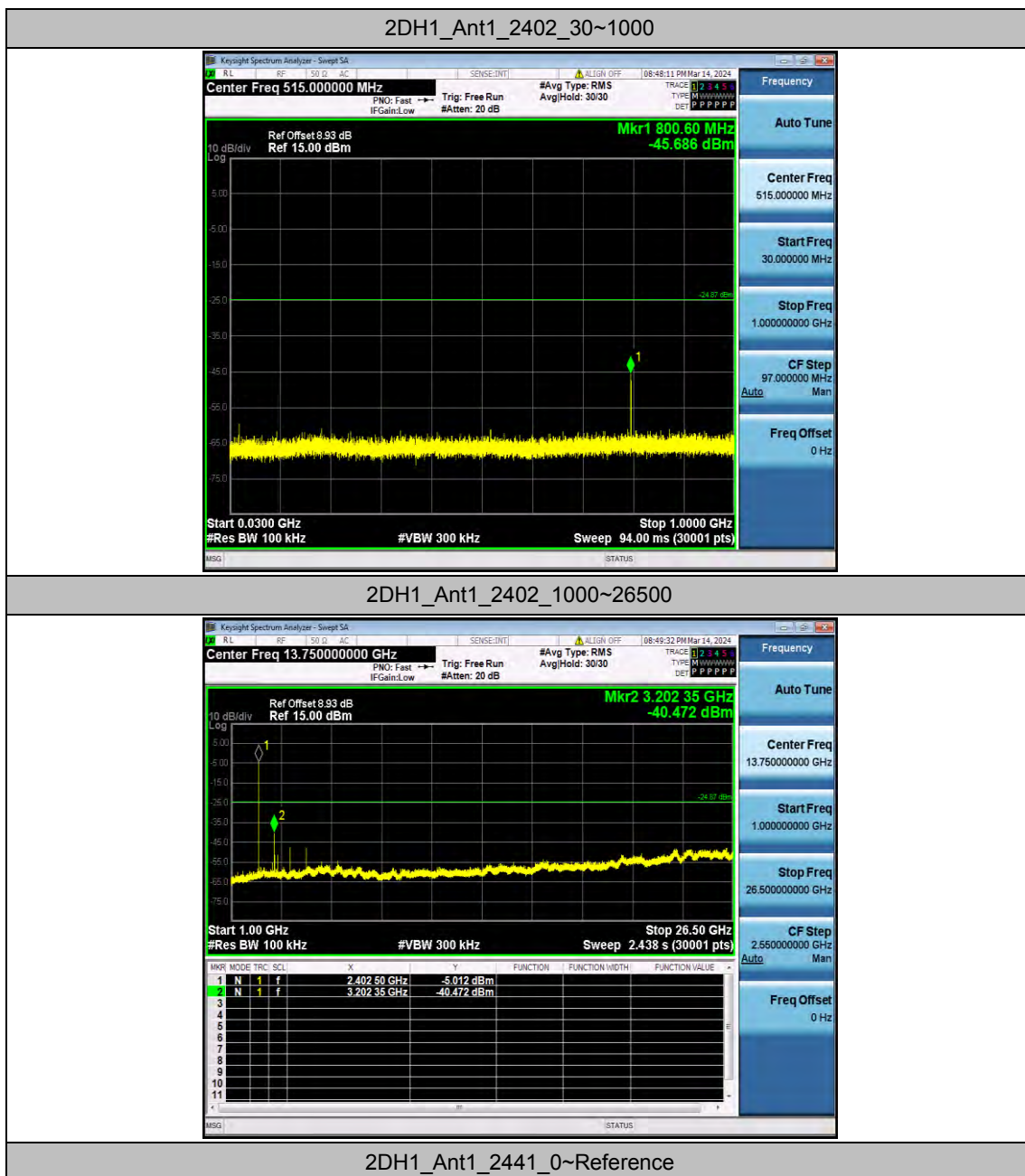


DH1_Ant1_2480_1000~26500



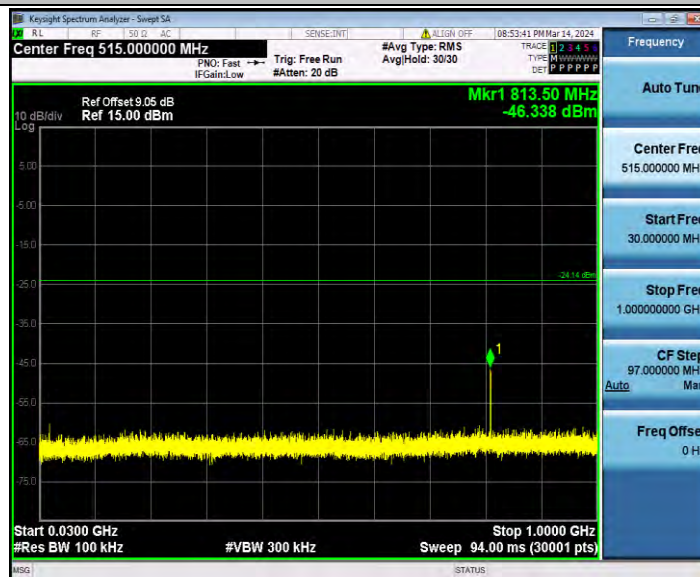
2DH1_Ant1_2402_0~Reference



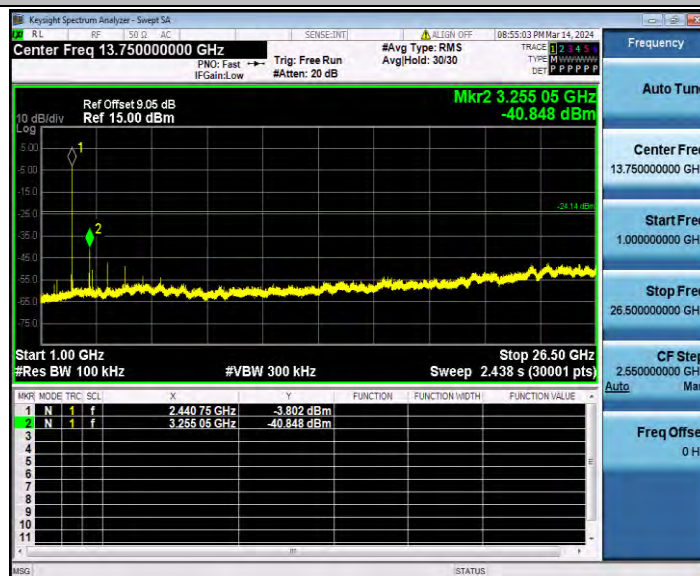




2DH1_Ant1_2441_30~1000



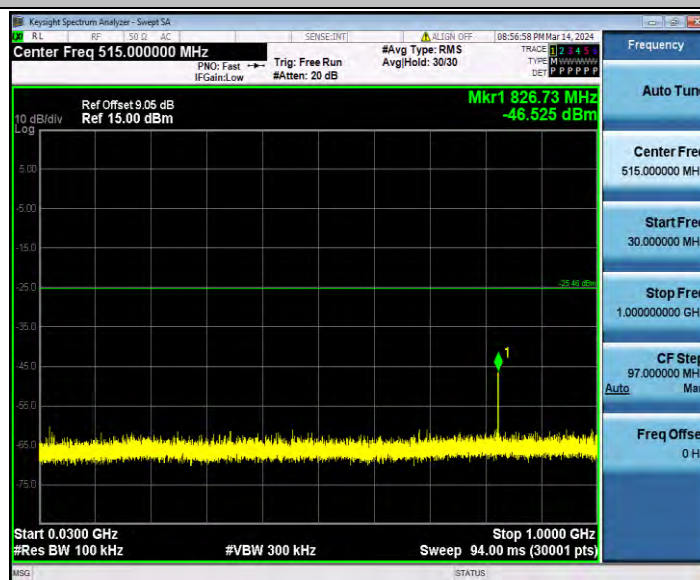
2DH1_Ant1_2441_1000~26500



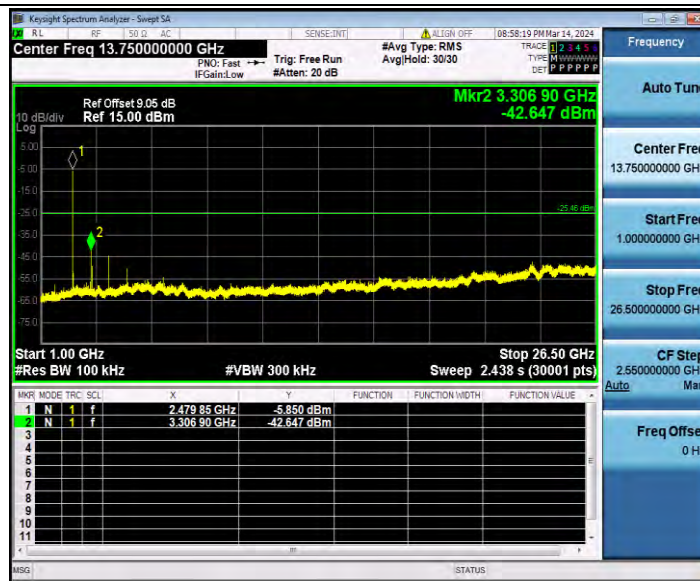
2DH1_Ant1_2480_0~Reference



2DH1_Ant1_2480_30~1000



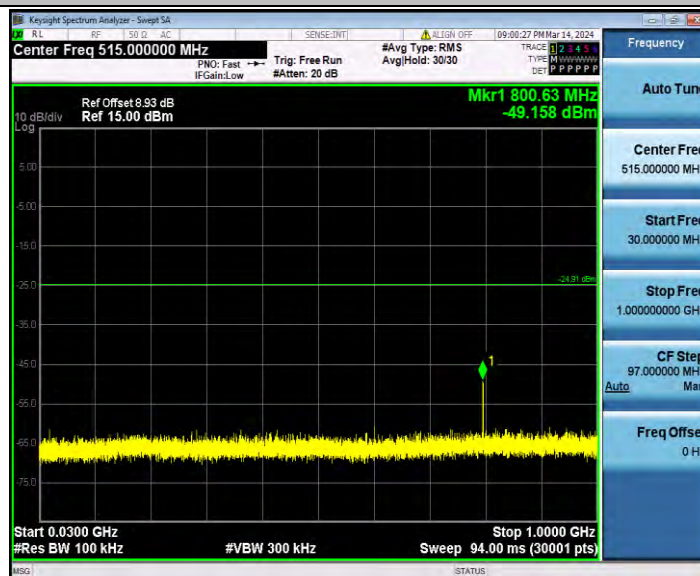
2DH1_Ant1_2480_1000~26500



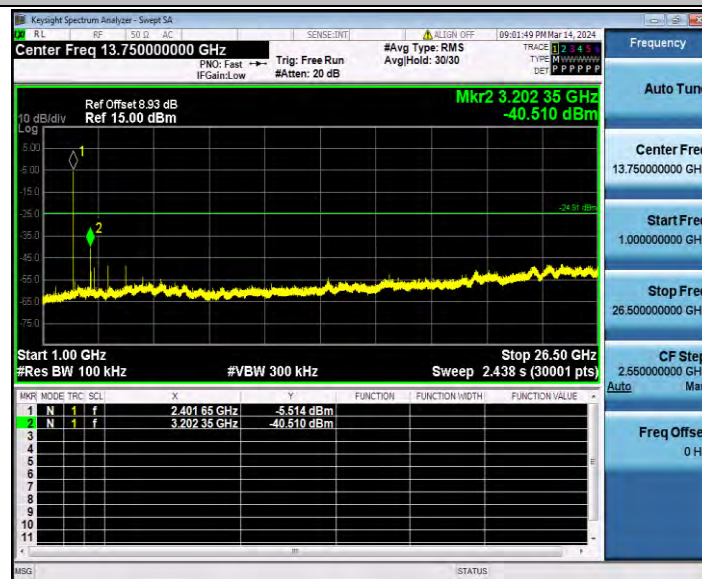
3DH1_Ant1_2402_0~Reference



3DH1_Ant1_2402_30~1000



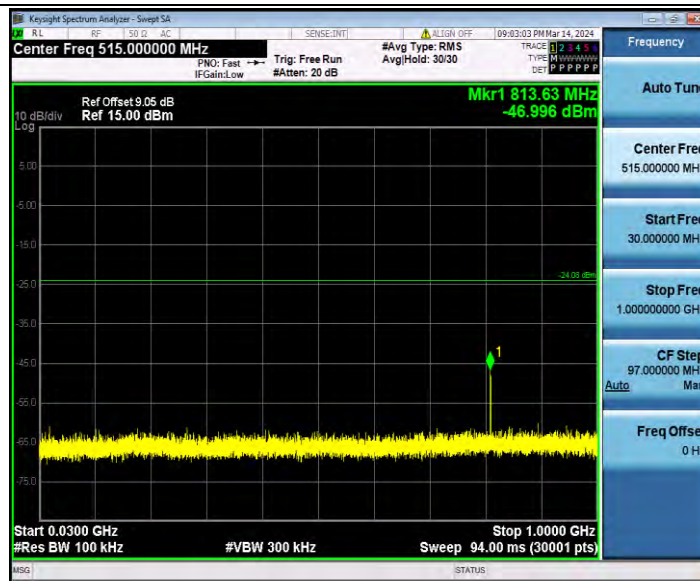
3DH1_Ant1_2402_1000~26500



3DH1_Ant1_2441_0~Reference



3DH1_Ant1_2441_30~1000

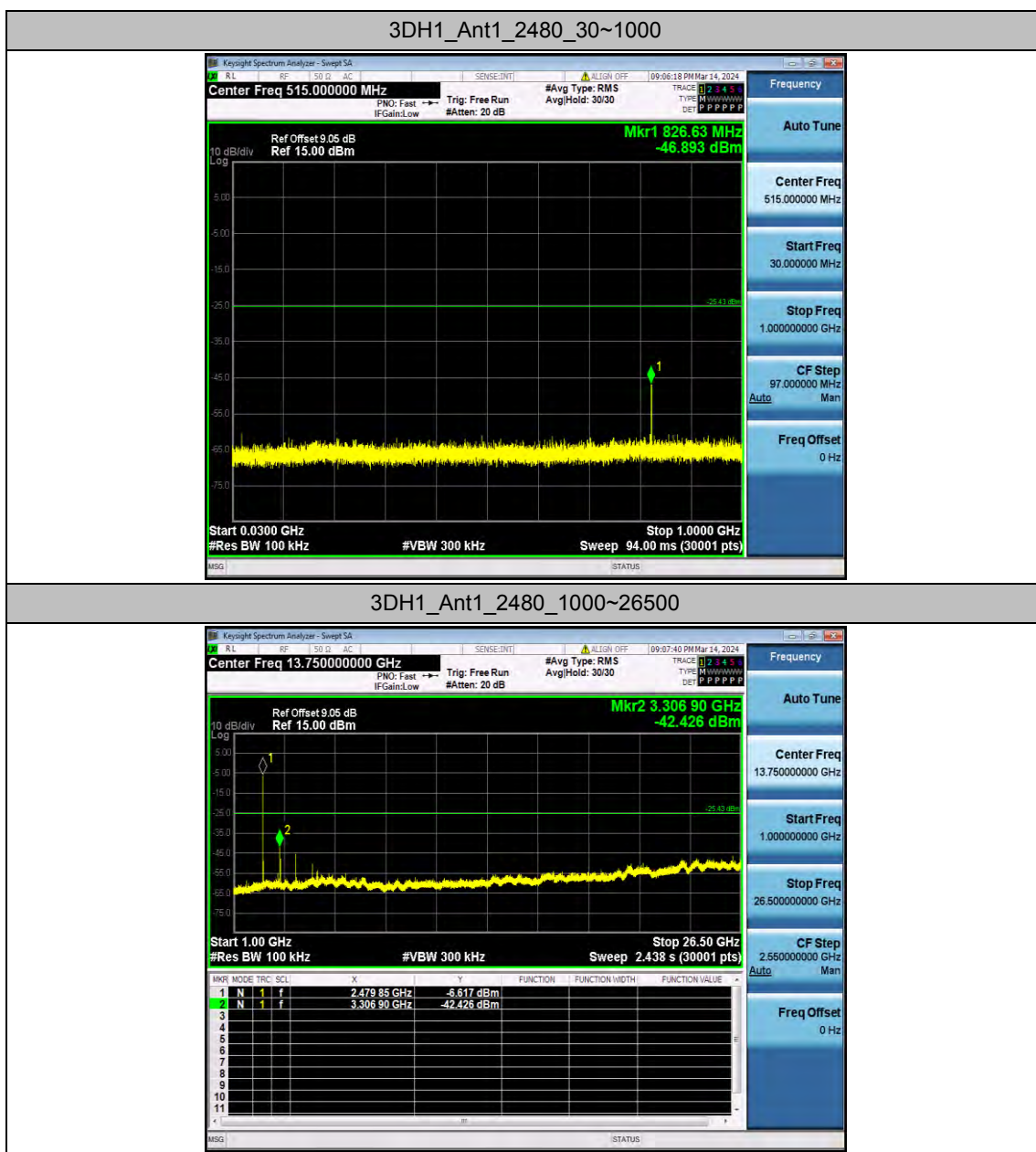


3DH1_Ant1_2441_1000~26500



3DH1_Ant1_2480_0~Reference





Appendix A.9: Emissions in Restricted Bands

Test Result

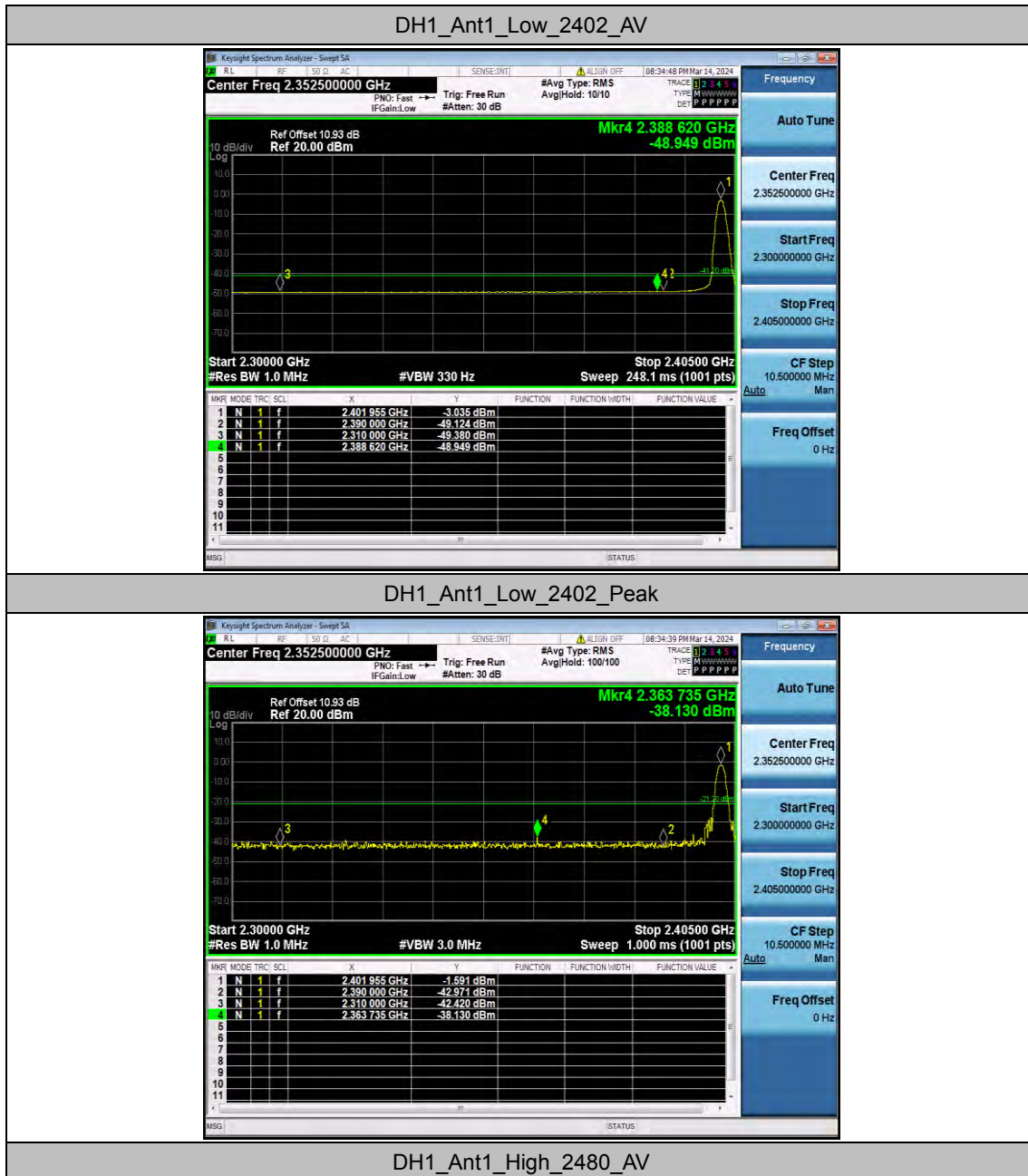
TestMode	Antenna	ChName	Freq (MHz)	Detector	Freq [MHz]	Result [dBm]	Limit [dBm]	Result [dBuV/m]	Limit [dBuV/m]	Verdict
DH1	Ant1	Low	2402	AV	2310.000	-49.38	≤-41.20	45.82	≤54	PASS
				AV	2388.620	-48.95	≤-41.20	46.25	≤54	PASS
				AV	2390.000	-49.12	≤-41.20	46.08	≤54	PASS
				Peak	2310.000	-42.42	≤-21.20	52.78	≤74	PASS
				Peak	2363.735	-38.13	≤-21.20	57.07	≤74	PASS
				Peak	2390.000	-42.97	≤-21.20	52.23	≤74	PASS
		High	2480	AV	2483.500	-47.26	≤-41.20	47.94	≤54	PASS
				AV	2483.520	-47.26	≤-41.20	47.94	≤54	PASS
				AV	2500.000	-48.92	≤-41.20	46.28	≤54	PASS
				Peak	2483.500	-38.77	≤-21.20	56.43	≤74	PASS
				Peak	2484.480	-35.21	≤-21.20	59.99	≤74	PASS
				Peak	2500.000	-41.73	≤-21.20	53.47	≤74	PASS
2DH1	Ant1	Low	2402	AV	2310.000	-49.55	≤-41.20	45.65	≤54	PASS
				AV	2381.060	-48.99	≤-41.20	46.21	≤54	PASS
				AV	2390.000	-49.16	≤-41.20	46.04	≤54	PASS
				Peak	2310.000	-42.84	≤-21.20	52.36	≤74	PASS
				Peak	2335.595	-38.17	≤-21.20	57.03	≤74	PASS
				Peak	2390.000	-41.94	≤-21.20	53.26	≤74	PASS
		High	2480	AV	2483.500	-46.1	≤-41.20	49.10	≤54	PASS
				AV	2483.520	-46.09	≤-41.20	49.11	≤54	PASS
				AV	2500.000	-48.81	≤-41.20	46.39	≤54	PASS
				Peak	2483.500	-25.87	≤-21.20	69.33	≤74	PASS
				Peak	2483.520	-25.87	≤-21.20	69.33	≤74	PASS
				Peak	2500.000	-42.16	≤-21.20	53.04	≤74	PASS
3DH1	Ant1	Low	2402	AV	2310.000	-49.57	≤-41.20	45.63	≤54	PASS
				AV	2389.460	-48.91	≤-41.20	46.29	≤54	PASS
				AV	2390.000	-49.12	≤-41.20	46.08	≤54	PASS
				Peak	2310.000	-41.45	≤-21.20	53.75	≤74	PASS
				Peak	2383.055	-38.01	≤-21.20	57.19	≤74	PASS
				Peak	2390.000	-41.69	≤-21.20	53.51	≤74	PASS
		High	2480	AV	2483.500	-46.31	≤-41.20	48.89	≤54	PASS
				AV	2483.520	-46.31	≤-41.20	48.89	≤54	PASS
				AV	2500.000	-48.79	≤-41.20	46.41	≤54	PASS
				Peak	2483.500	-37.89	≤-21.20	57.31	≤74	PASS
				Peak	2483.760	-29.17	≤-21.20	66.03	≤74	PASS

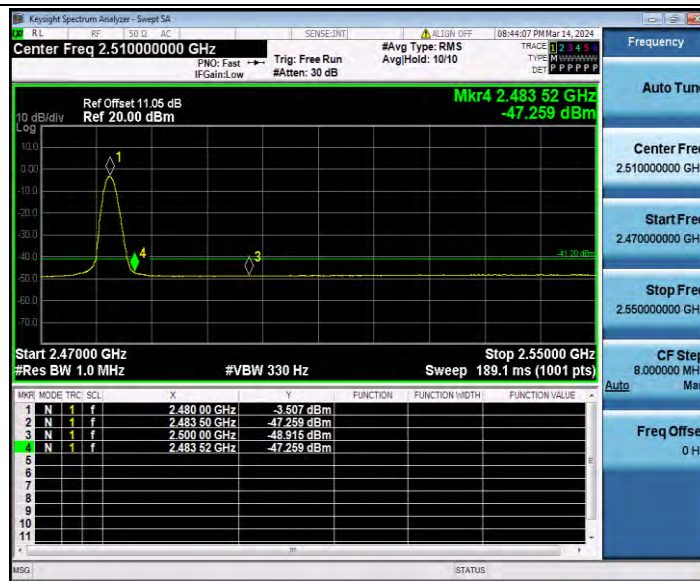
				Peak	2500.000	-42.26	≤ -21.20	52.94	≤ 74	PASS
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Note:

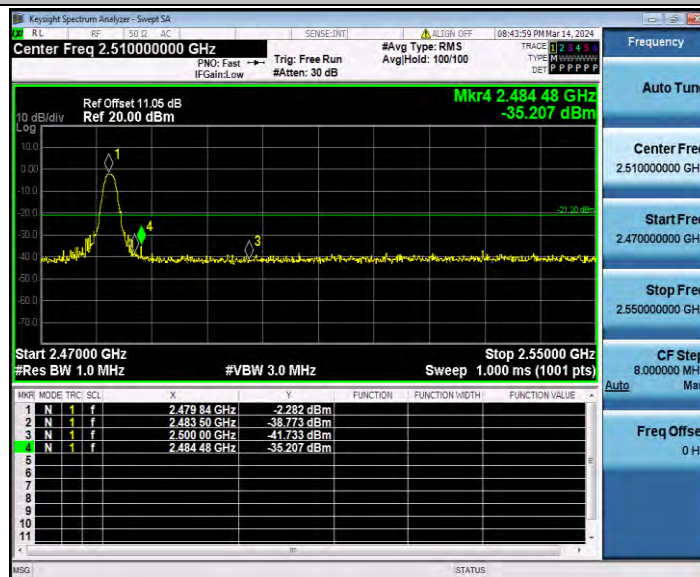
1. The Antenna Gain is compensated in the graph.
2. The Duty Cycle Factor and RBW Factor is compensated in the graph.
3. The limit in dBm for average detector is conversion from 54dBuV/m, according to 15.209(a). The limit in dBm for peak detector is 20dB above the limit of average detector in dBm.

Test Graphs

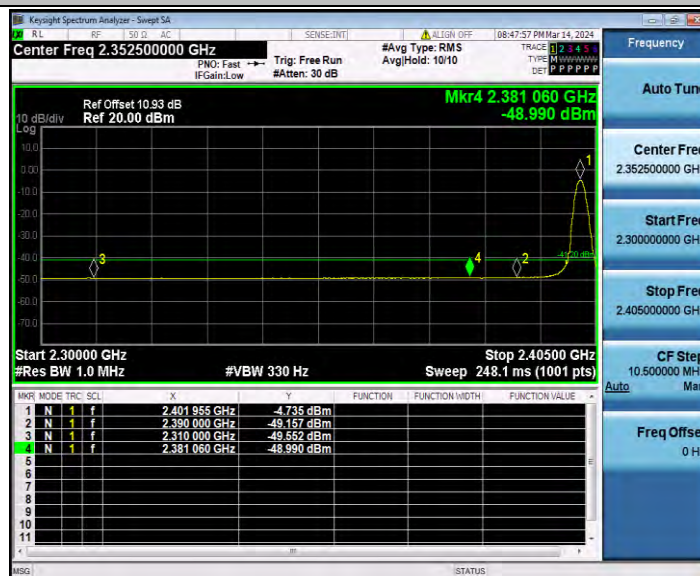




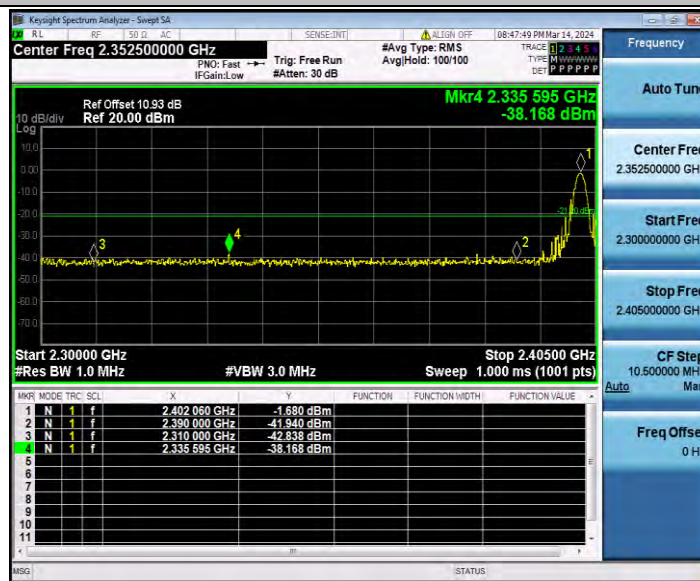
DH1_Ant1_High_2480_Peak



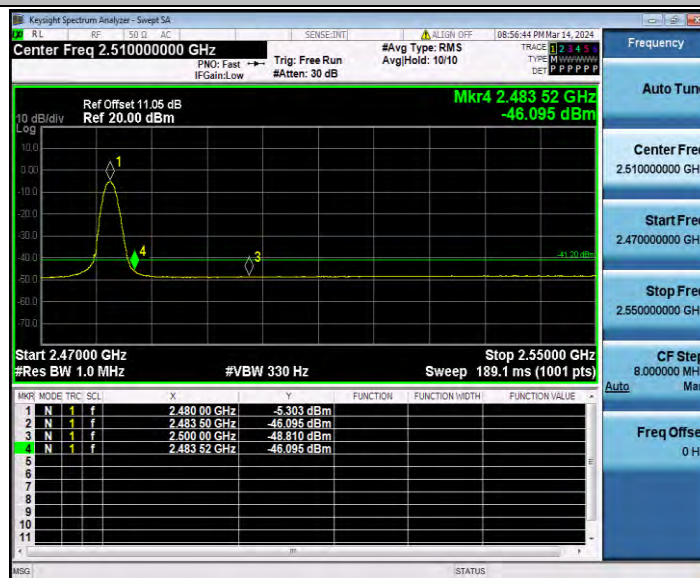
2DH1_Ant1_Low_2402_AV



2DH1_Ant1_Low_2402_Peak



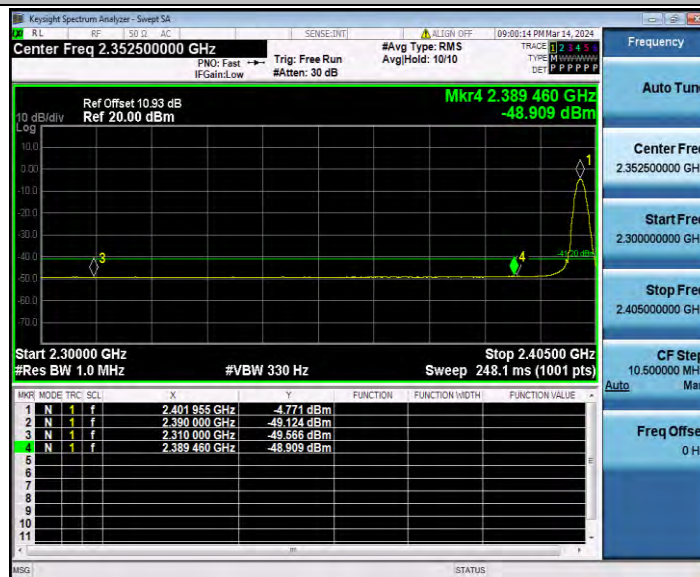
2DH1_Ant1_High_2480_AV



2DH1_Ant1_High_2480_Peak



3DH1_Ant1_Low_2402_AV



3DH1_Ant1_Low_2402_Peak

