

Case No. : <u>GTS20231208004-1-35</u>	
Ambient Condition: <u>23</u> °C, <u>48</u> %RH	
According Standard: ■Part15C	
Test Date: <u>2024.2.18</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	0.846	2401.565	2402.411	---	---
		2441	0.849	2440.559	2441.408	---	---
		2480	0.783	2479.601	2480.384	---	---
2DH1	Ant1	2402	1.215	2401.379	2402.594	---	---
		2441	1.245	2440.367	2441.612	---	---
		2480	1.257	2479.376	2480.633	---	---
3DH1	Ant1	2402	1.215	2401.400	2402.615	---	---
		2441	1.257	2440.367	2441.624	---	---
		2480	1.260	2479.367	2480.627	---	---

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	0.73349	2401.6308	2402.3643	---	---
		2441	1.6969	2440.6209	2442.3178	---	---
		2480	0.73858	2479.6243	2480.3629	---	---
2DH1	Ant1	2402	1.1470	2401.4247	2402.5717	---	---
		2441	1.1410	2440.4205	2441.5615	---	---
		2480	1.1557	2479.4176	2480.5733	---	---
3DH1	Ant1	2402	1.1413	2401.4362	2402.5775	---	---
		2441	1.1504	2440.4325	2441.5829	---	---
		2480	1.1537	2479.4319	2480.5856	---	---

Test Graphs

DH1_Ant1_2402



DH1_Ant1_2441



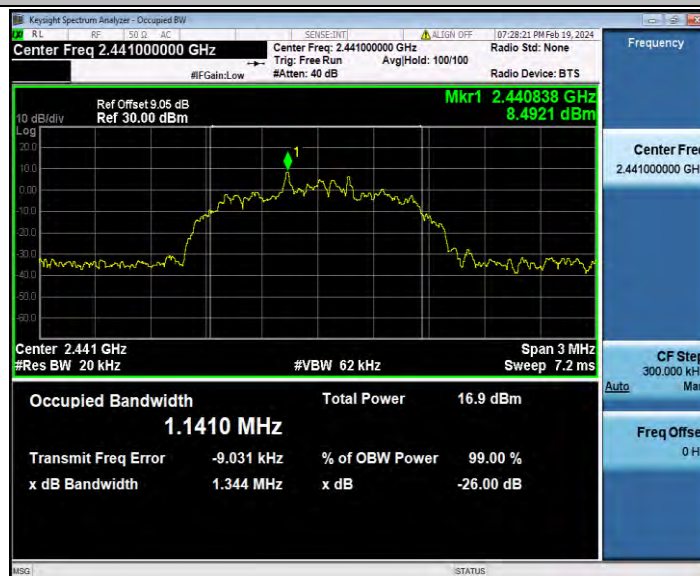
DH1_Ant1_2480



2DH1_Ant1_2402



2DH1_Ant1_2441



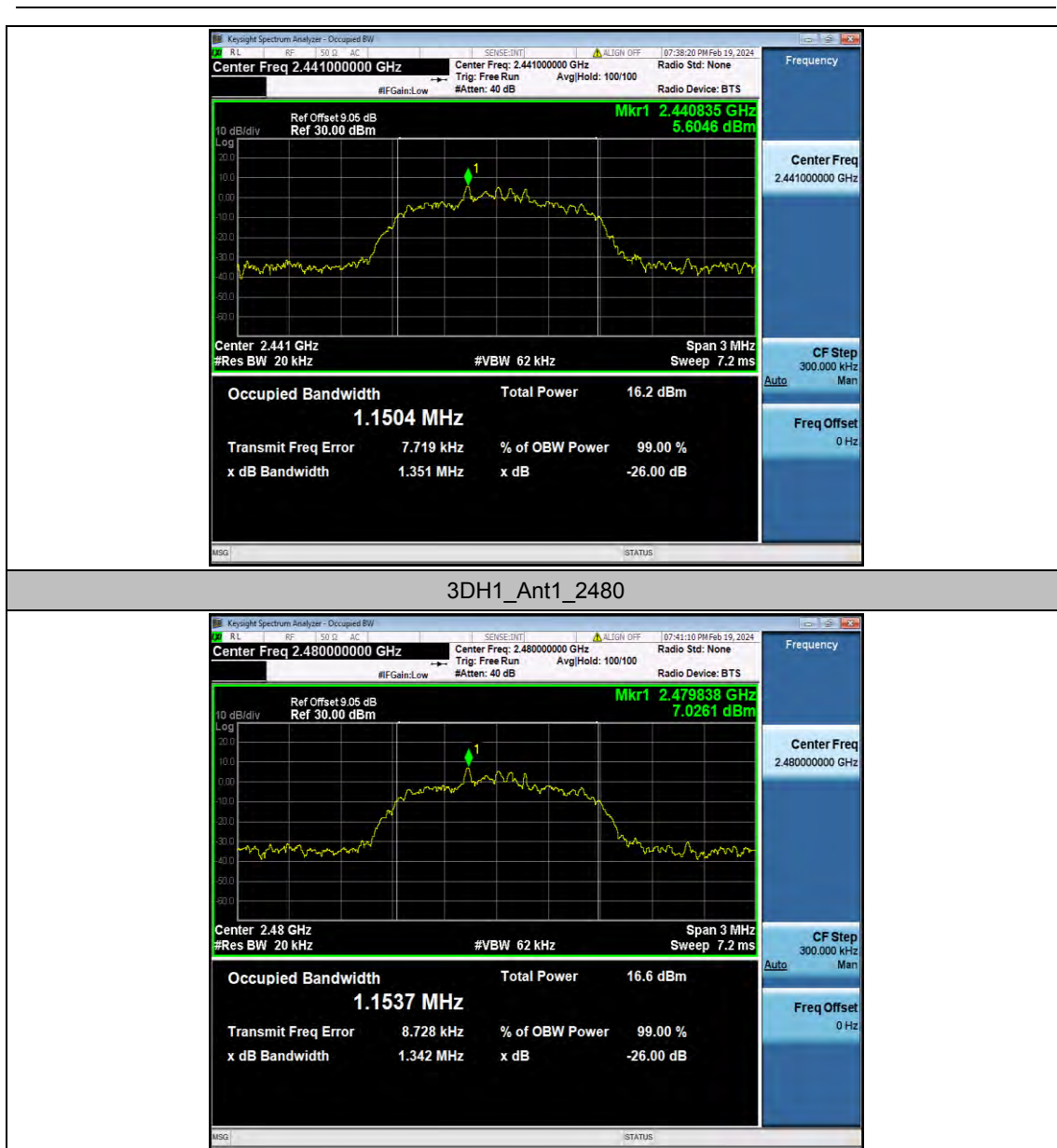
2DH1_Ant1_2480



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	8.74	≤ 20.97	PASS
		2441	11.35	≤ 20.97	PASS
		2480	11.63	≤ 20.97	PASS
2DH1	Ant1	2402	8.46	≤ 20.97	PASS
		2441	11.31	≤ 20.97	PASS
		2480	11.61	≤ 20.97	PASS
3DH1	Ant1	2402	8.05	≤ 20.97	PASS
		2441	11.25	≤ 20.97	PASS
		2480	11.58	≤ 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	1.004	≥ 0.566	PASS
		Hop_2441	0.994	≥ 0.566	PASS
		Hop_2480	0.658	≥ 0.566	PASS
2DH1	Ant1	Hop_2402	1.014	≥ 0.838	PASS
		Hop_2441	0.99	≥ 0.838	PASS
		Hop_2480	1.138	≥ 0.838	PASS
3DH1	Ant1	Hop_2402	0.996	≥ 0.840	PASS
		Hop_2441	1.05	≥ 0.840	PASS
		Hop_2480	1	≥ 0.840	PASS

Test Graphs

DH1_Ant1_Hop_2402



DH1_Ant1_Hop_2441



DH1_Ant1_Hop_2480



2DH1_Ant1_Hop_2402



2DH1_Ant1_Hop_2441



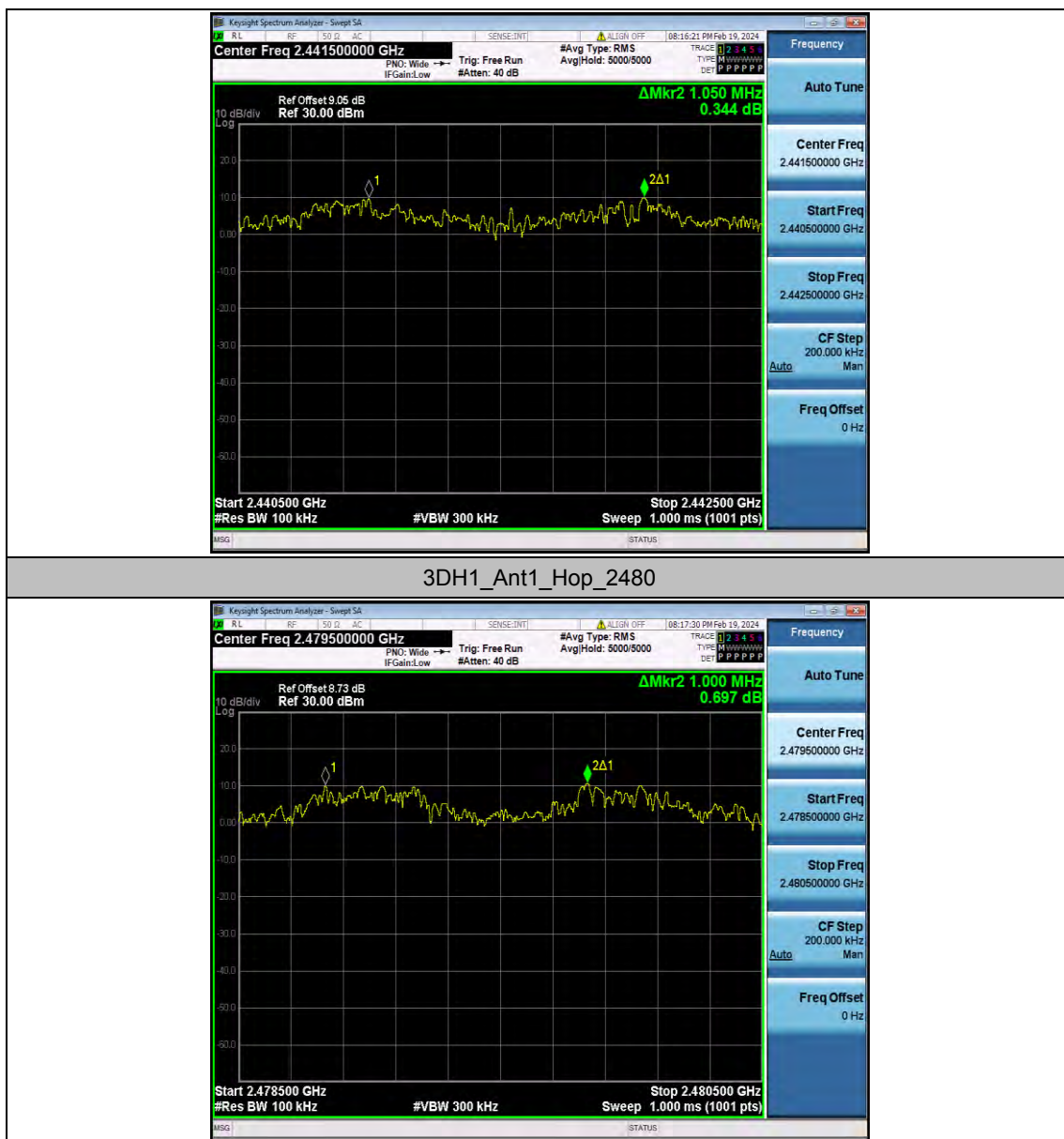
2DH1_Ant1_Hop_2480



3DH1_Ant1_Hop_2402



3DH1_Ant1_Hop_2441

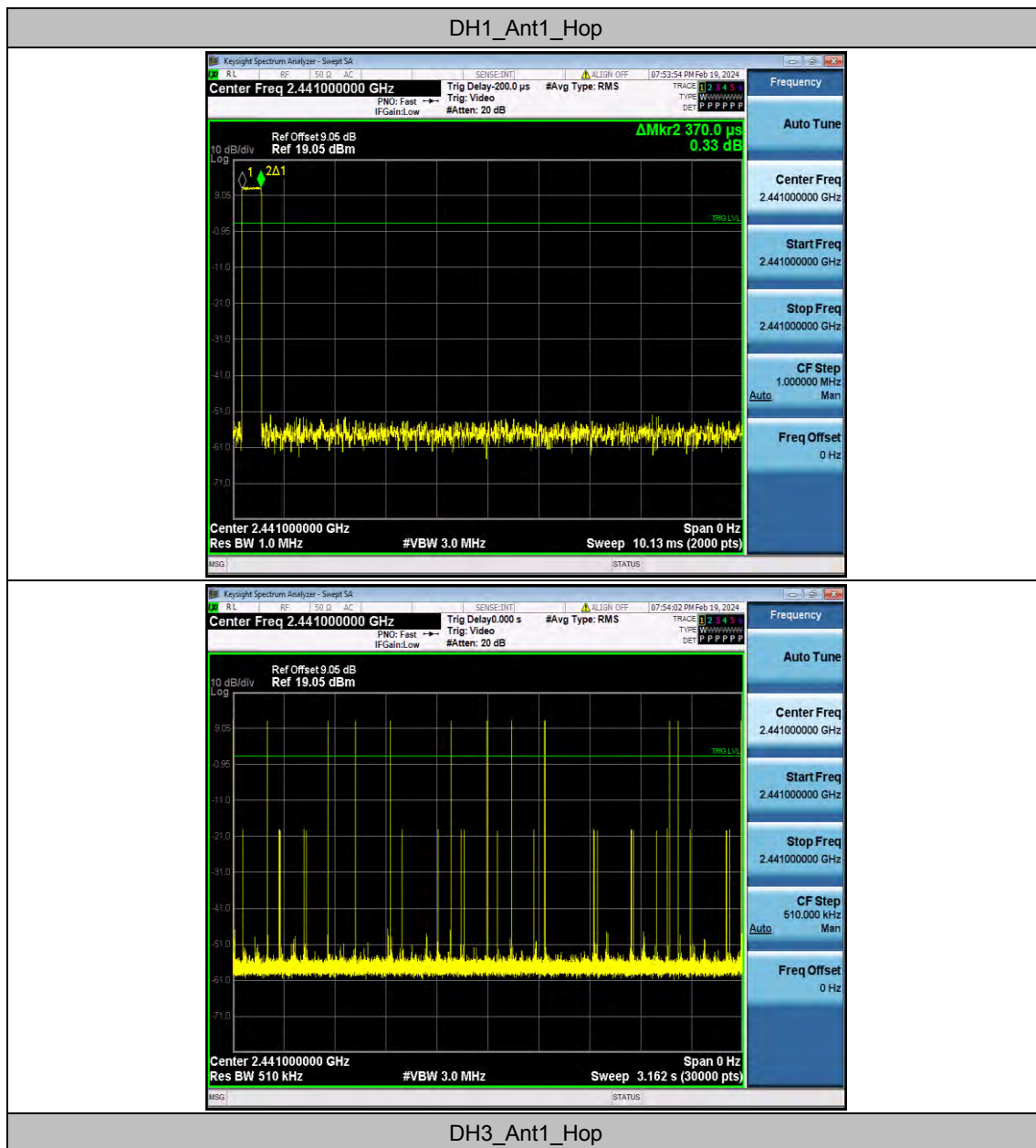


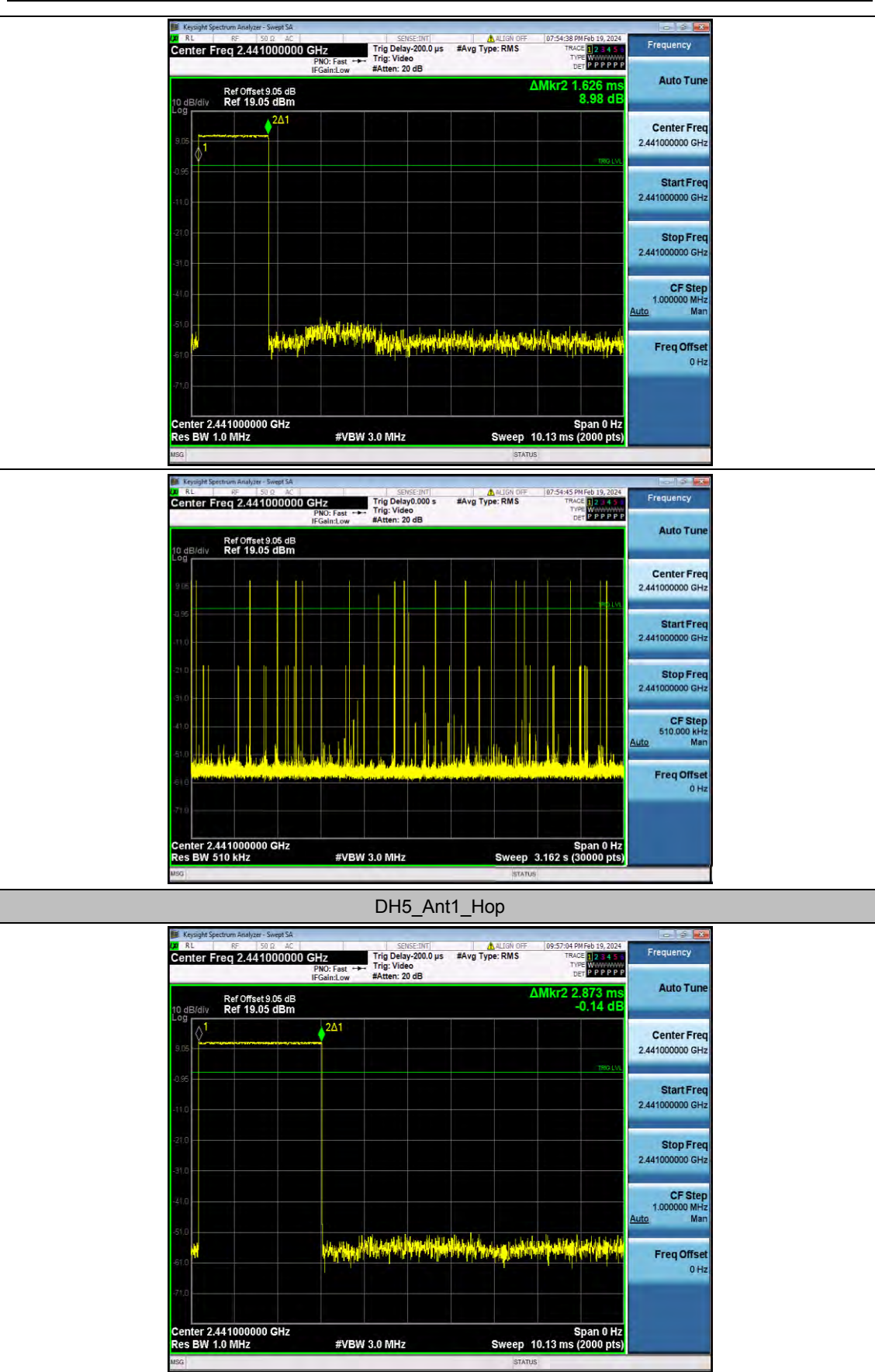
Appendix A.5: Time of occupancy

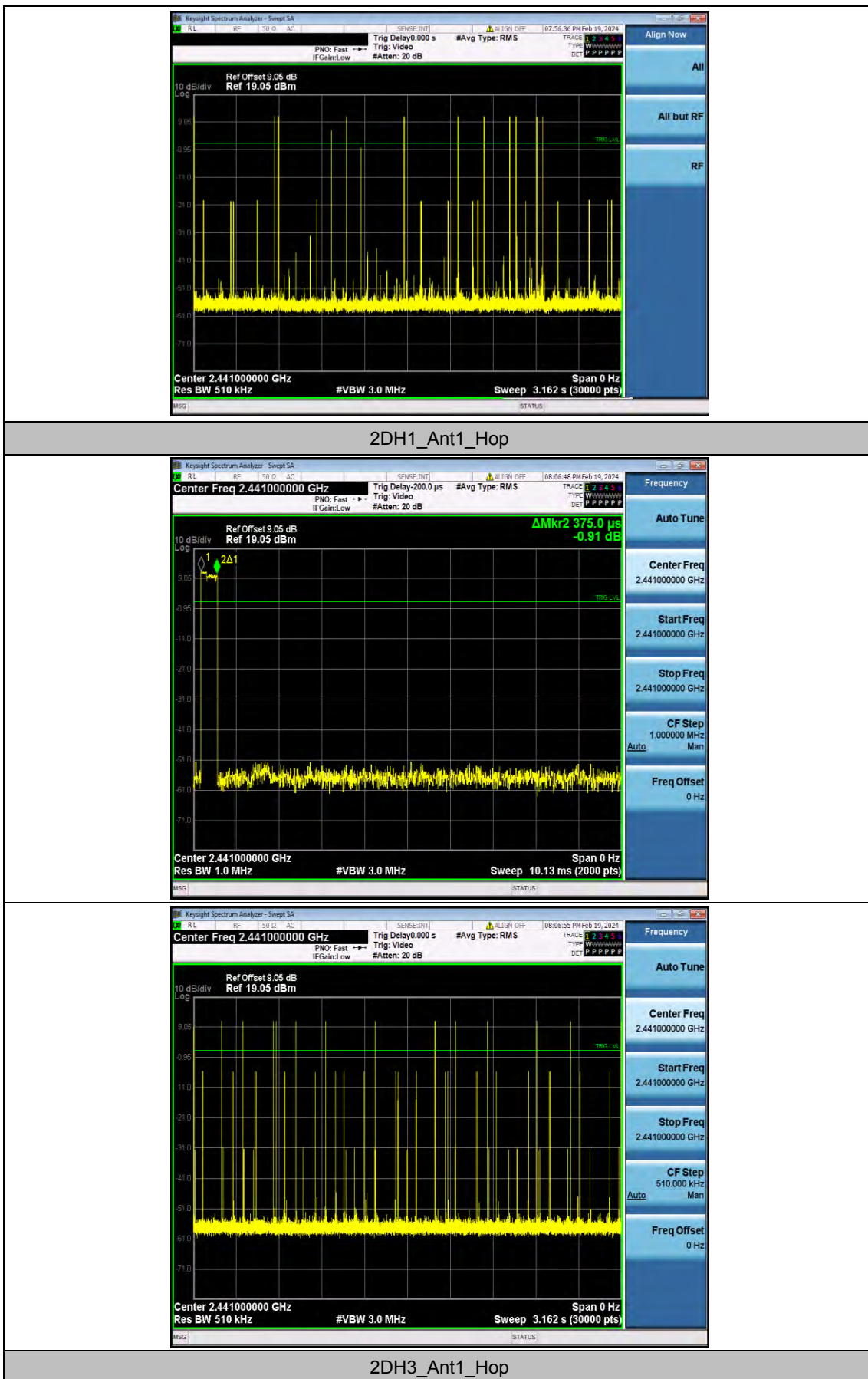
Test Result

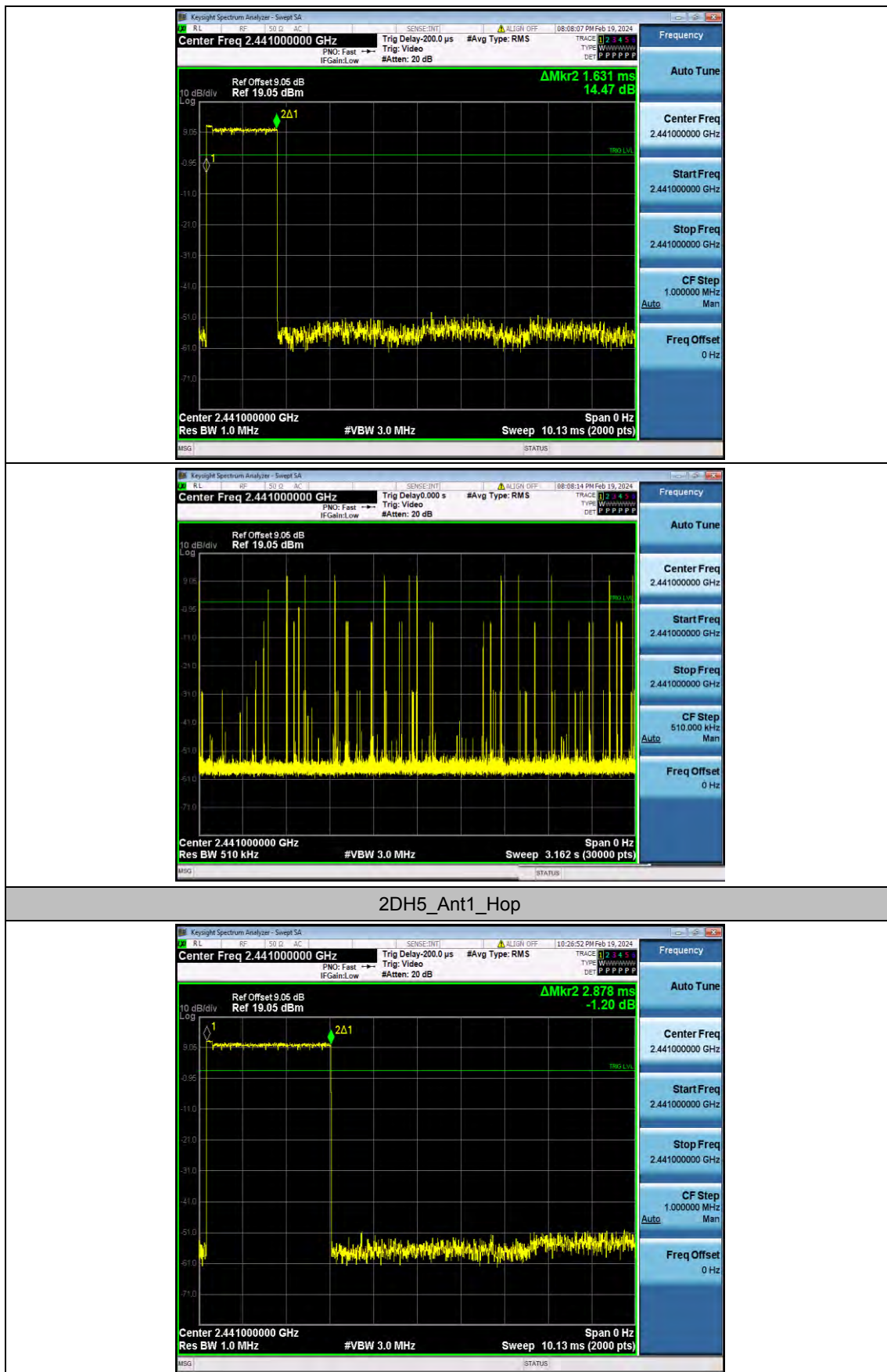
TestMode	Antenna	Freq(MHz)	BurstWidth [ms]	TotalHops [Num]	Result[s]	Limit[s]	Verdict
DH1	Ant1	Hop	0.370	130	0.048	≤0.4	PASS
DH3	Ant1	Hop	1.626	190	0.309	≤0.4	PASS
DH5	Ant1	Hop	2.873	120	0.345	≤0.4	PASS
2DH1	Ant1	Hop	0.375	140	0.053	≤0.4	PASS
2DH3	Ant1	Hop	1.631	120	0.196	≤0.4	PASS
2DH5	Ant1	Hop	2.878	130	0.374	≤0.4	PASS
3DH1	Ant1	Hop	0.375	130	0.049	≤0.4	PASS
3DH3	Ant1	Hop	1.631	130	0.212	≤0.4	PASS
3DH5	Ant1	Hop	2.878	50	0.144	≤0.4	PASS

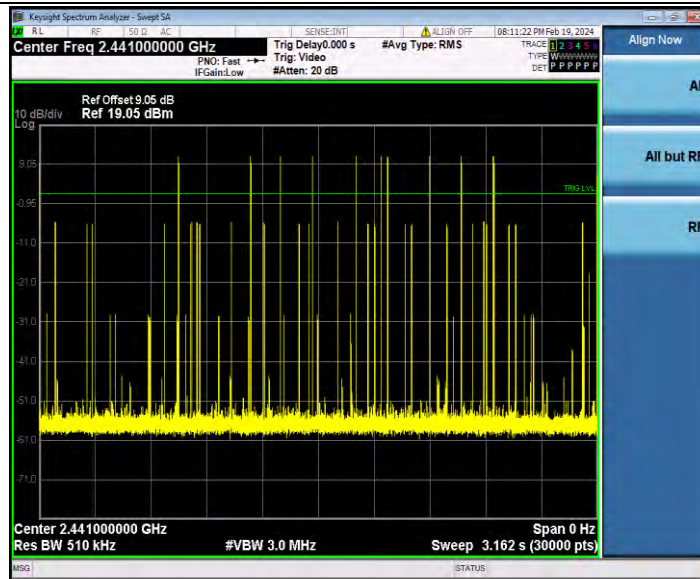
Test Graphs



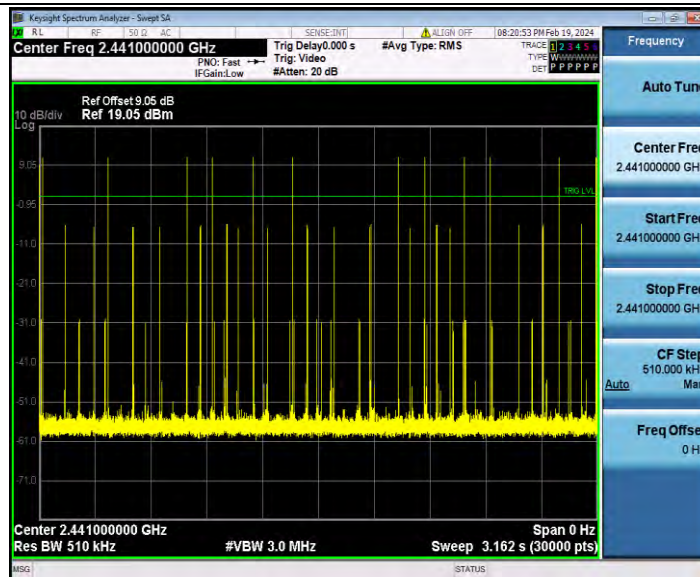
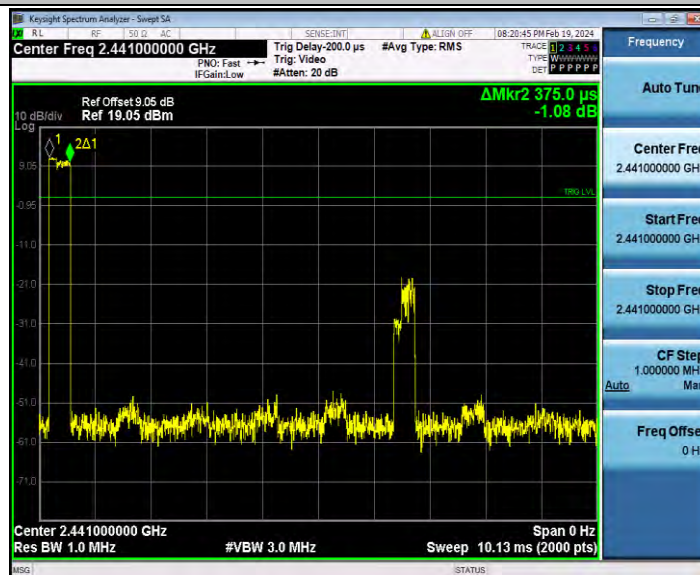




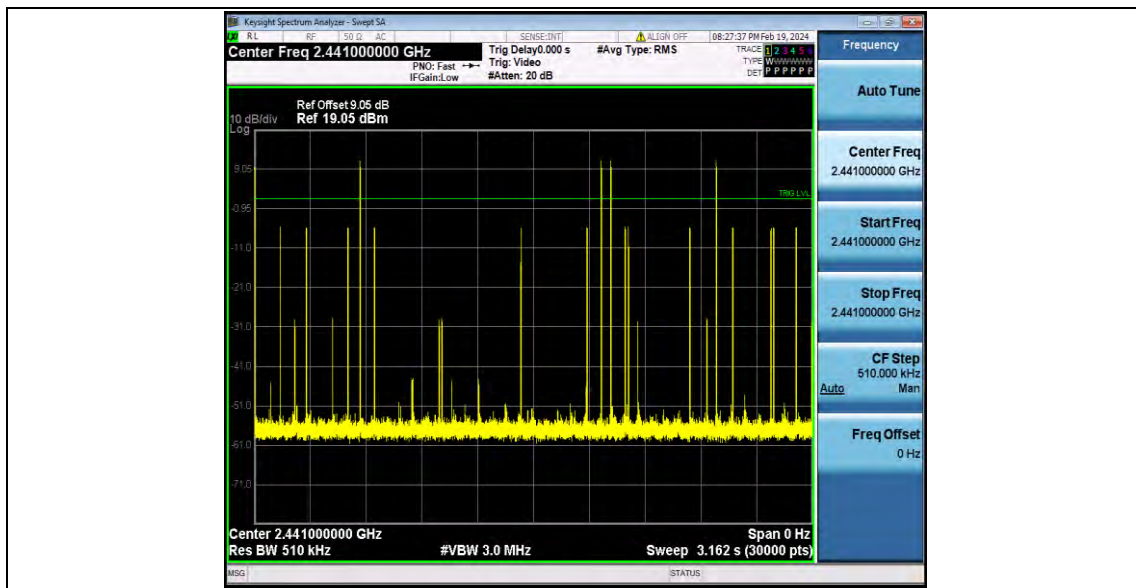




3DH1_Ant1_Hop



3DH3_Ant1_Hop

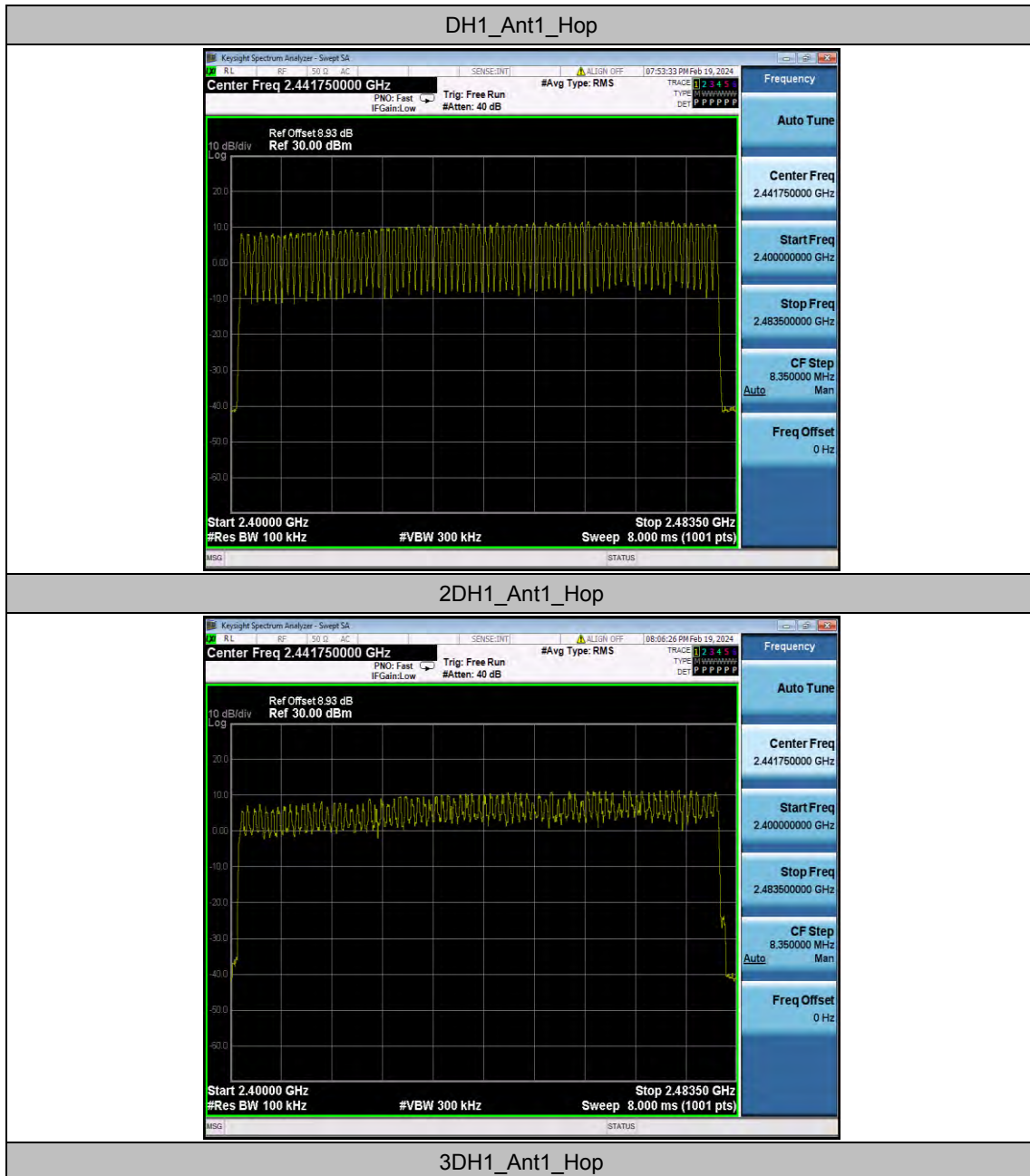


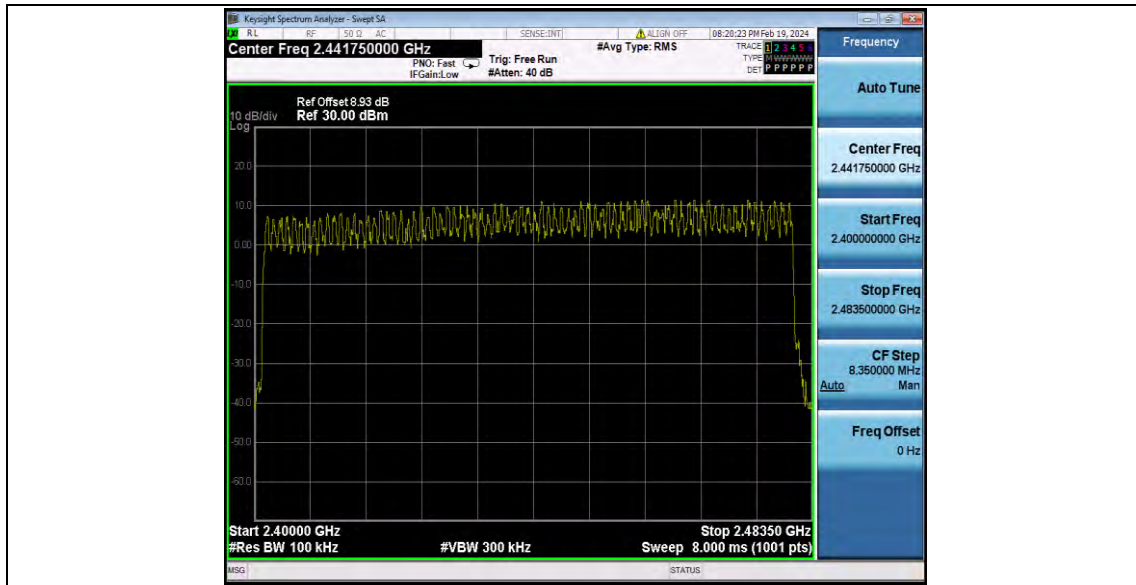
Appendix A.6: Number of hopping channels

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



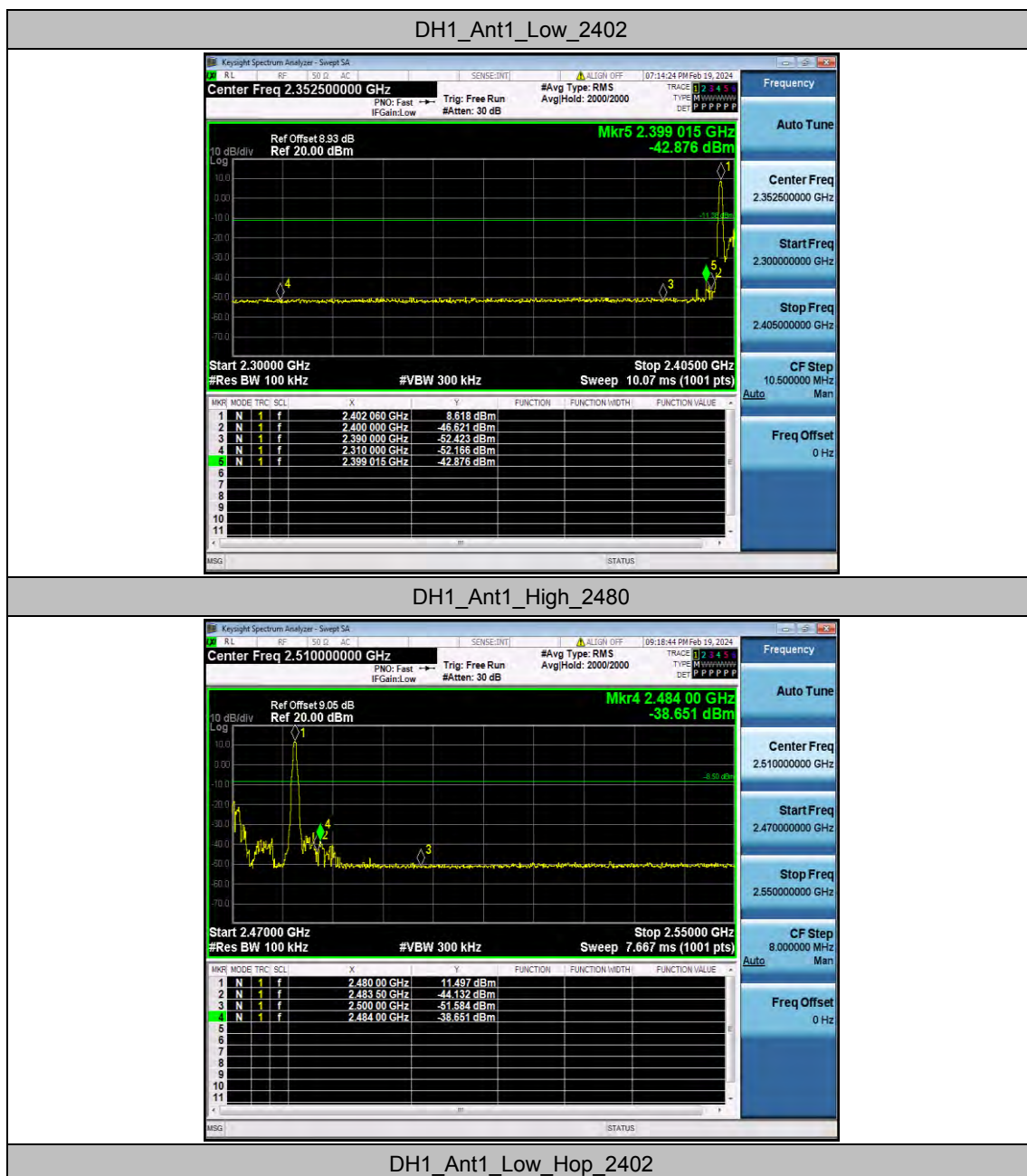


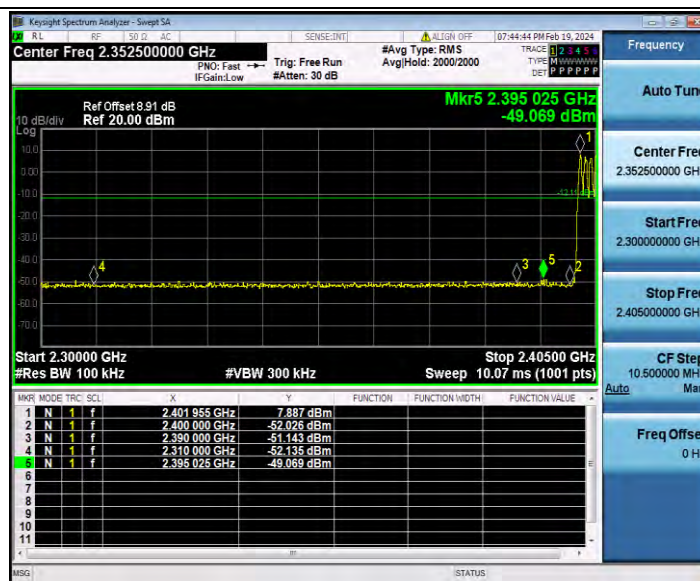
Appendix A.7: Band edge measurements

Test Result

TestMode	Antenna	ChName	Freq(MHz)	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
DH1	Ant1	Low	2402	8.62	-42.88	≤ -11.38	PASS
		High	2480	11.50	-38.65	≤ -8.5	PASS
		Low	Hop_2402	7.89	-49.07	≤ -12.11	PASS
		High	Hop_2480	10.97	-33.97	≤ -9.03	PASS
2DH1	Ant1	Low	2402	7.97	-48.91	≤ -12.03	PASS
		High	2480	11.21	-48.89	≤ -8.79	PASS
		Low	Hop_2402	7.32	-48.93	≤ -12.69	PASS
		High	Hop_2480	11.15	-37.34	≤ -8.85	PASS
3DH1	Ant1	Low	2402	8.01	-38.16	≤ -11.99	PASS
		High	2480	11.31	-47.04	≤ -8.69	PASS
		Low	Hop_2402	7.16	-49.53	≤ -12.85	PASS
		High	Hop_2480	10.10	-49.08	≤ -9.9	PASS

Test Graphs

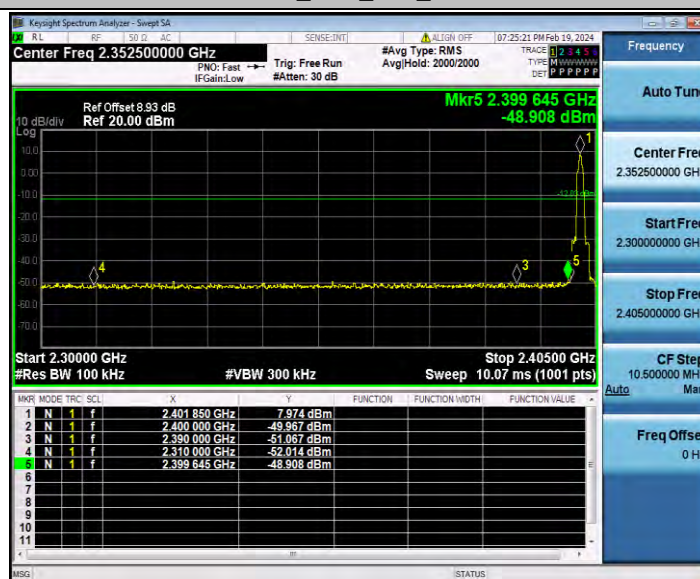




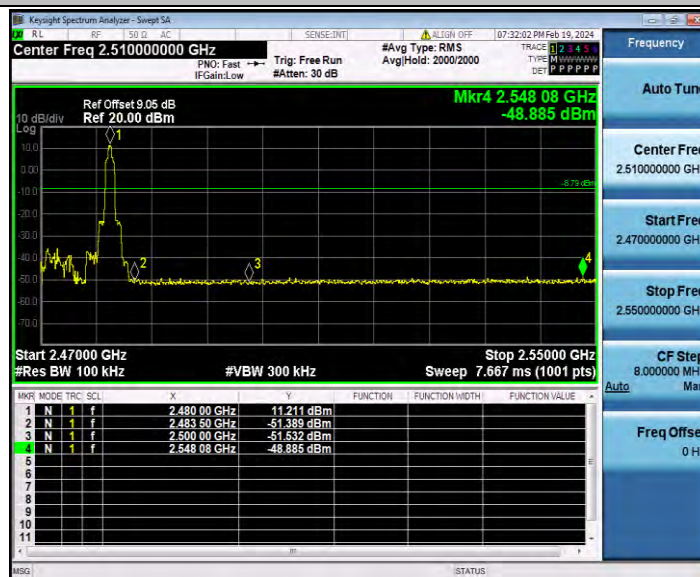
DH1_Ant1_High_Hop_2480



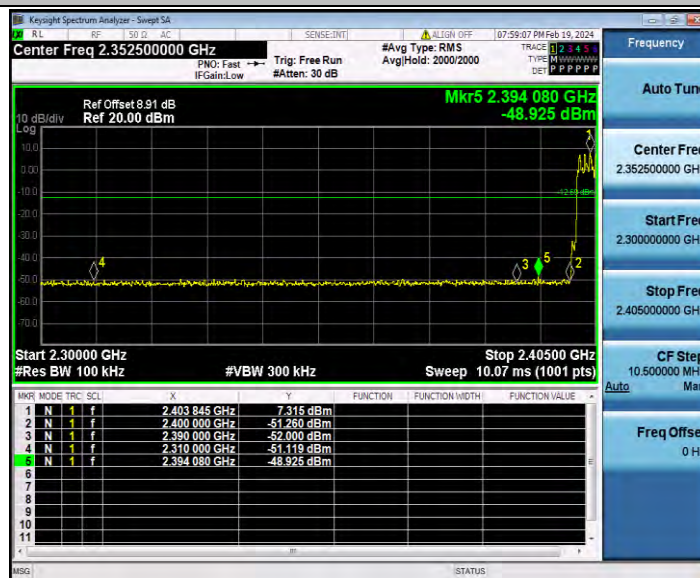
2DH1_Ant1_Low_2402



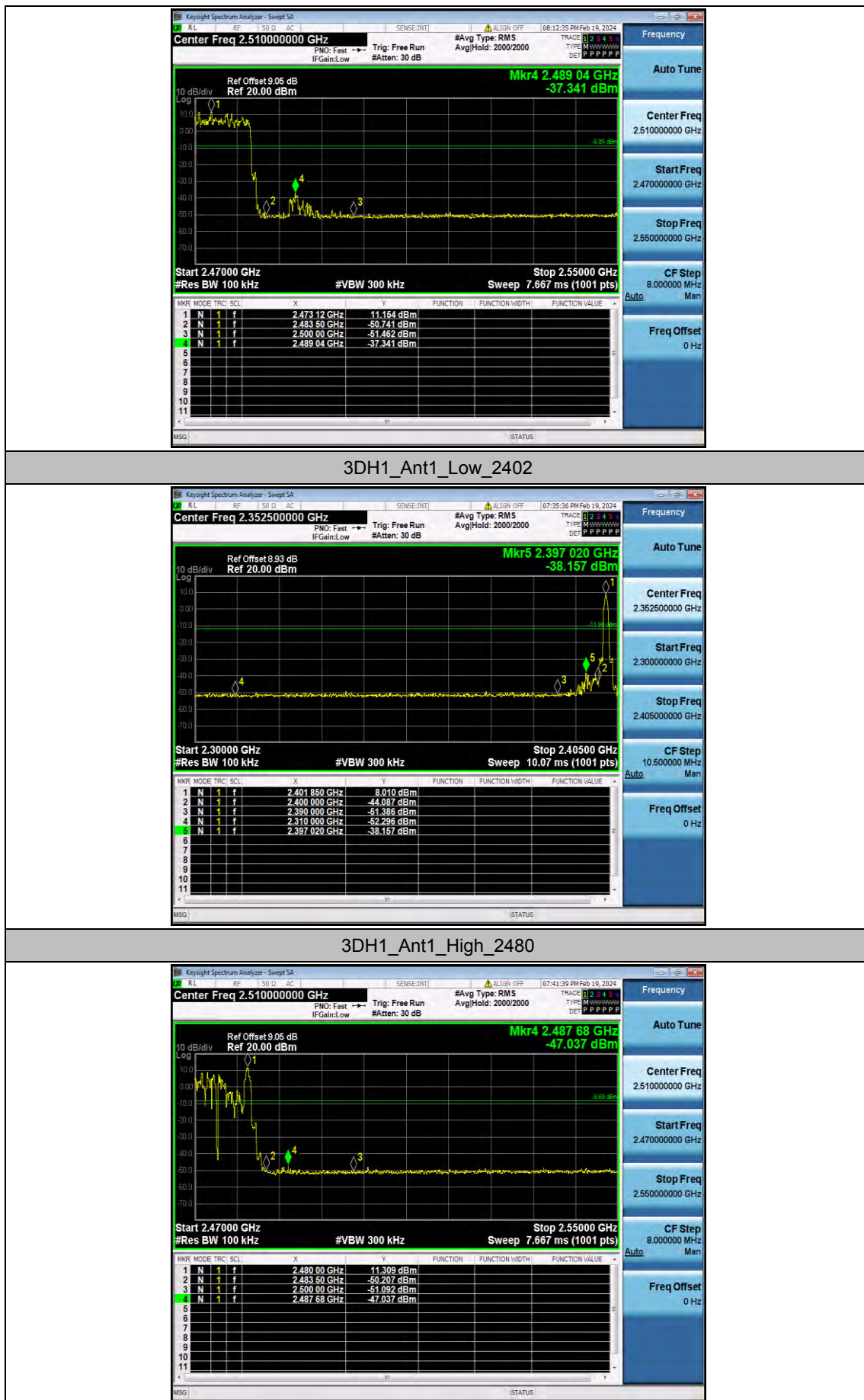
2DH1_Ant1_High_2480



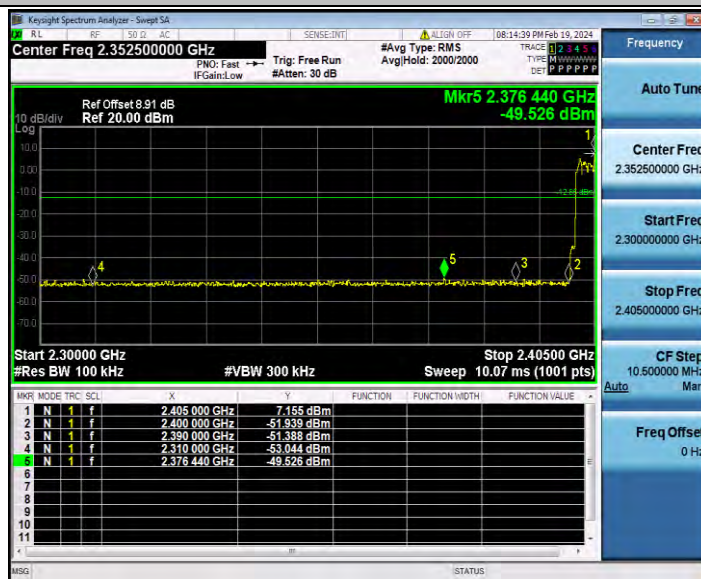
2DH1_Ant1_Low_Hop_2402



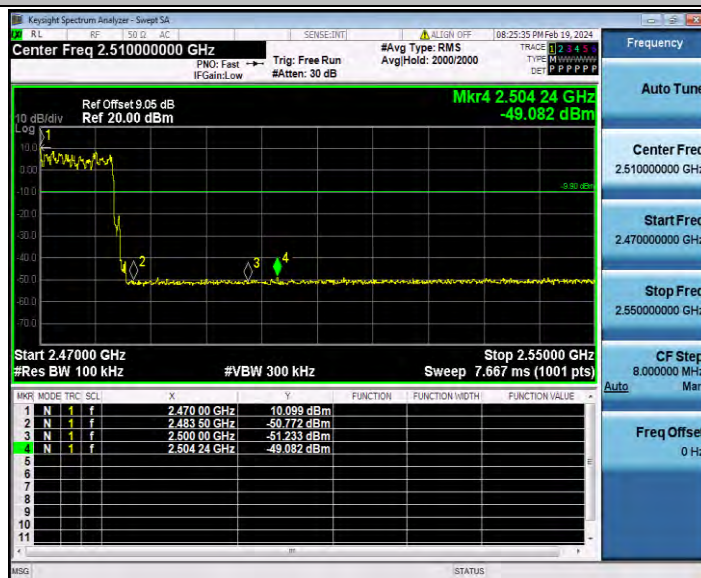
2DH1_Ant1_High_Hop_2480



3DH1_Ant1_Low_Hop_2402



3DH1_Ant1_High_Hop_2480

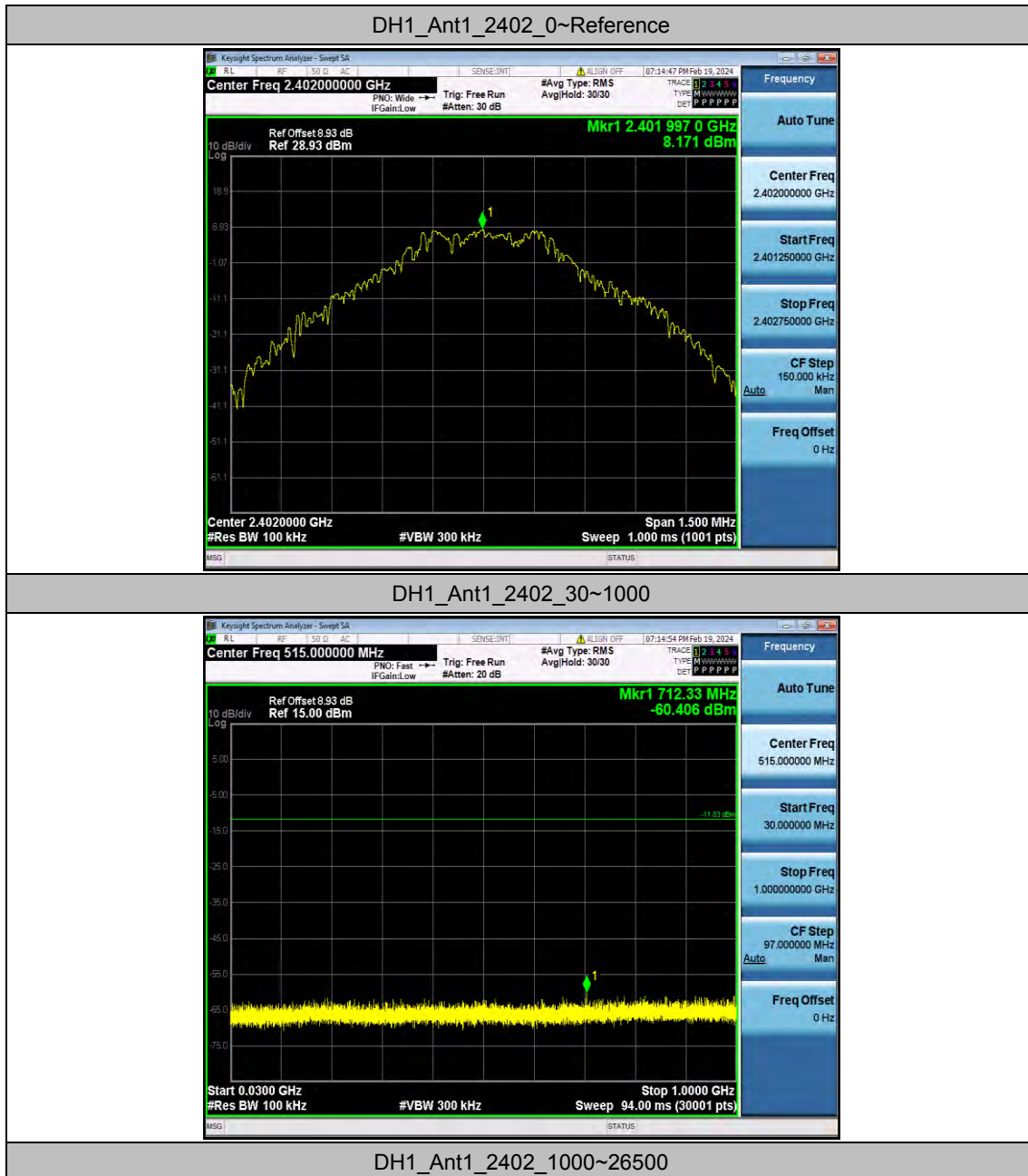


Appendix A.8: Conducted Spurious Emission

Test Result

TestMode	Antenna	Freq(MHz)	FreqRange [MHz]	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
DH1	Ant1	2402	Reference	8.17	8.17	---	PASS
			30~1000	8.17	-60.41	≤ -11.83	PASS
			1000~26500	8.17	-47.57	≤ -11.83	PASS
		2441	Reference	10.76	10.76	---	PASS
			30~1000	10.76	-60.44	≤ -9.24	PASS
			1000~26500	10.76	-40.55	≤ -9.24	PASS
		2480	Reference	10.29	10.29	---	PASS
			30~1000	10.29	-60.67	≤ -9.71	PASS
			1000~26500	10.29	-47.77	≤ -9.71	PASS
2DH1	Ant1	2402	Reference	7.90	7.90	---	PASS
			30~1000	7.90	-60.6	≤ -12.1	PASS
			1000~26500	7.90	-47.86	≤ -12.1	PASS
		2441	Reference	10.72	10.72	---	PASS
			30~1000	10.72	-59.97	≤ -9.28	PASS
			1000~26500	10.72	-47.7	≤ -9.28	PASS
		2480	Reference	10.84	10.84	---	PASS
			30~1000	10.84	-60.25	≤ -9.16	PASS
			1000~26500	10.84	-42.24	≤ -9.16	PASS
3DH1	Ant1	2402	Reference	7.62	7.62	---	PASS
			30~1000	7.62	-60.23	≤ -12.38	PASS
			1000~26500	7.62	-47.87	≤ -12.38	PASS
		2441	Reference	10.49	10.49	---	PASS
			30~1000	10.49	-60.65	≤ -9.51	PASS
			1000~26500	10.49	-47.28	≤ -9.51	PASS
		2480	Reference	10.73	10.73	---	PASS
			30~1000	10.73	-60	≤ -9.27	PASS
			1000~26500	10.73	-47.87	≤ -9.27	PASS

Test Graphs

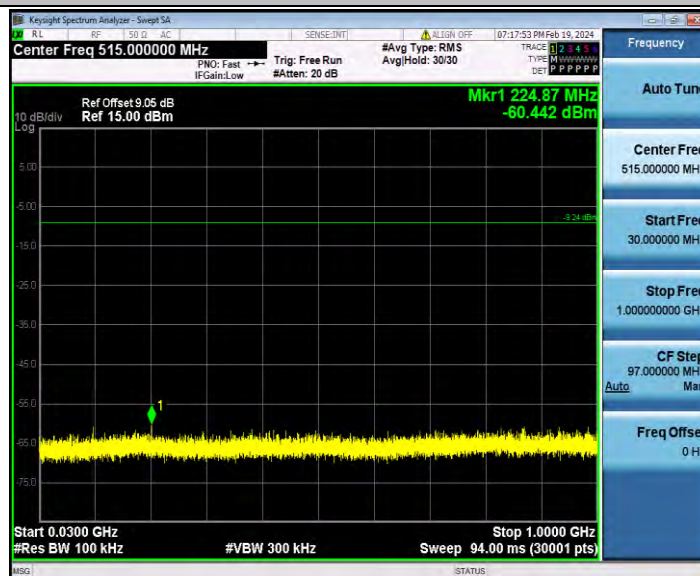




DH1_Ant1_2441_0~Reference



DH1_Ant1_2441_30~1000



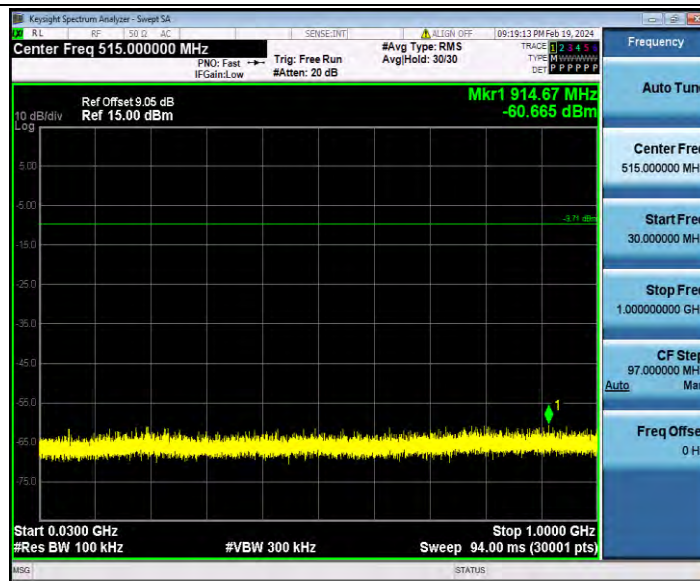
DH1_Ant1_2441_1000~26500



DH1_Ant1_2480_0~Reference



DH1_Ant1_2480_30~1000

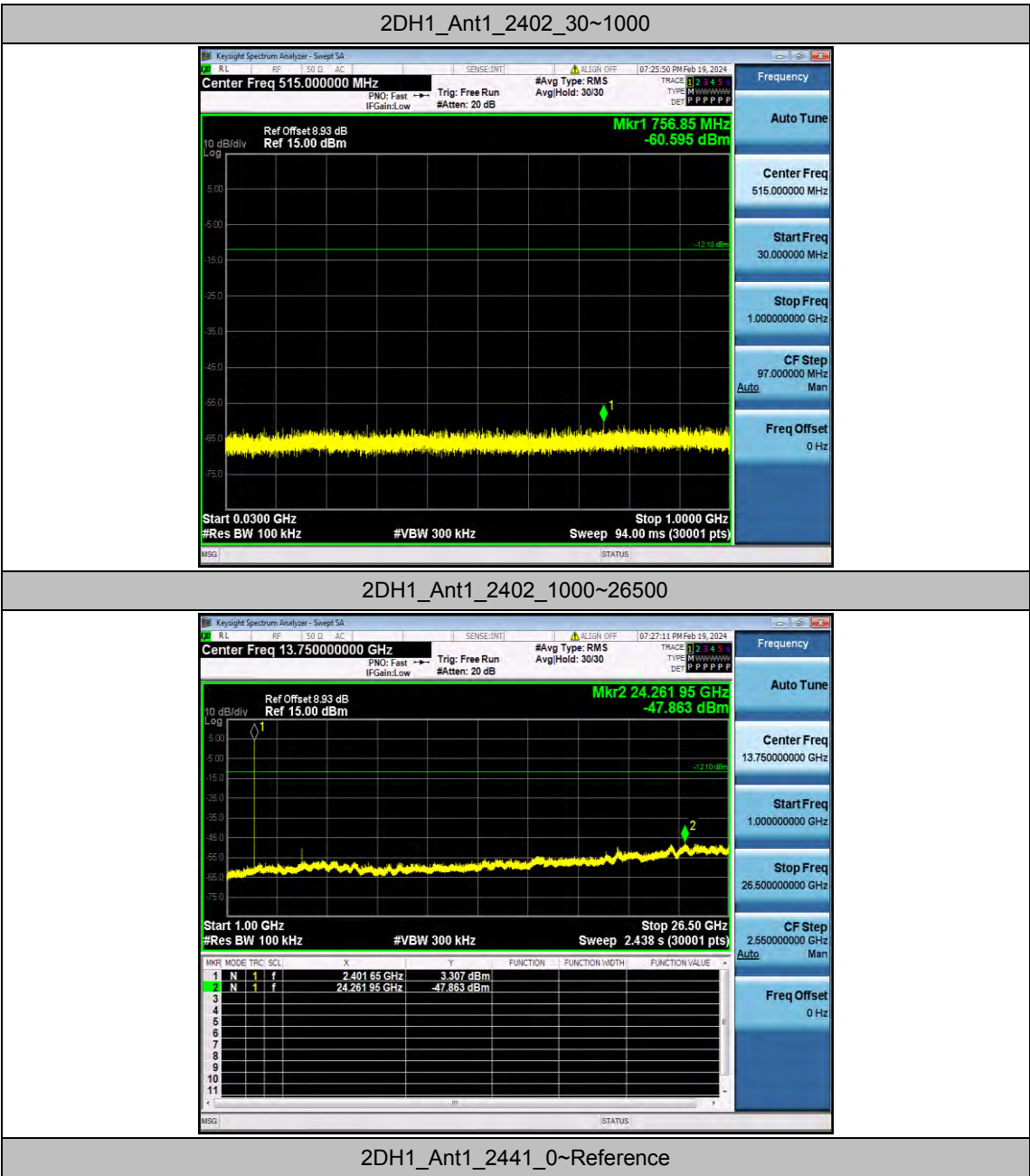


DH1_Ant1_2480_1000~26500



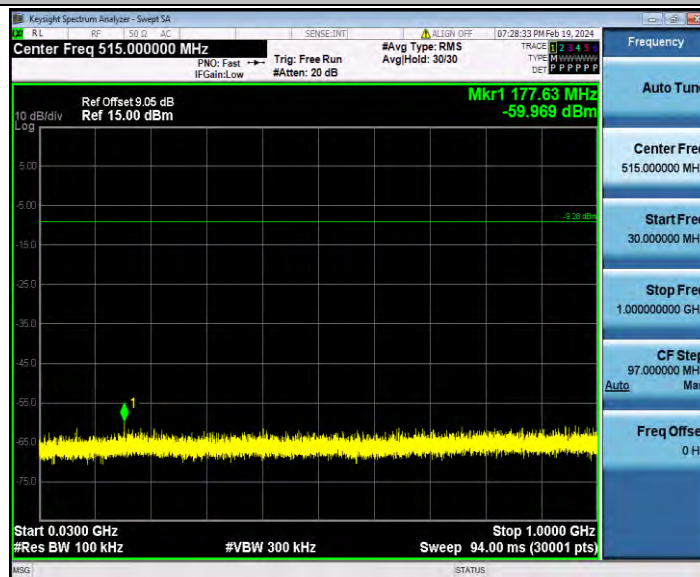
2DH1_Ant1_2402_0~Reference







2DH1_Ant1_2441_30~1000



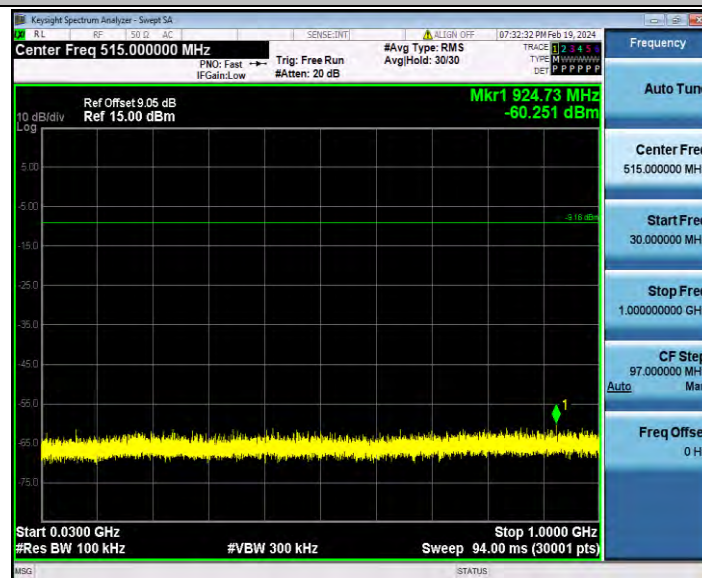
2DH1_Ant1_2441_1000~26500



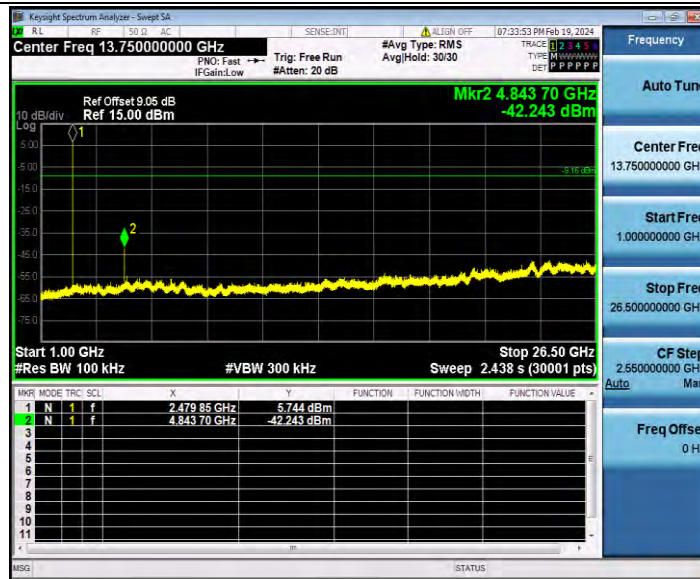
2DH1_Ant1_2480_0~Reference



2DH1_Ant1_2480_30~1000



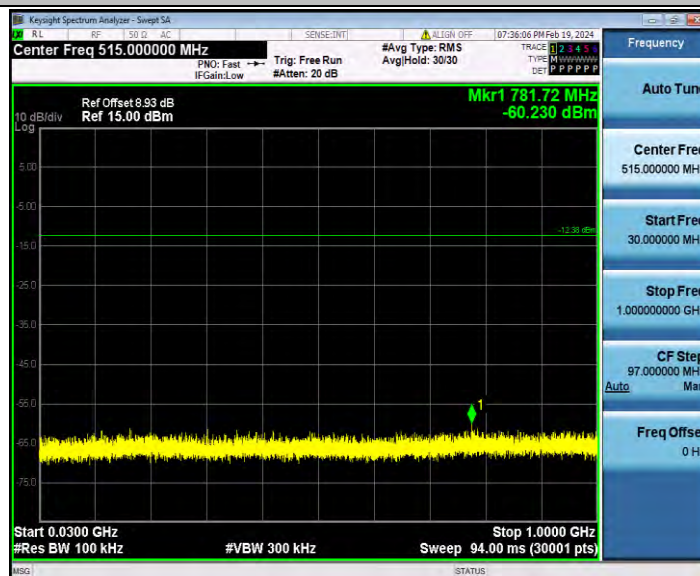
2DH1_Ant1_2480_1000~26500



3DH1_Ant1_2402_0~Reference



3DH1_Ant1_2402_30~1000



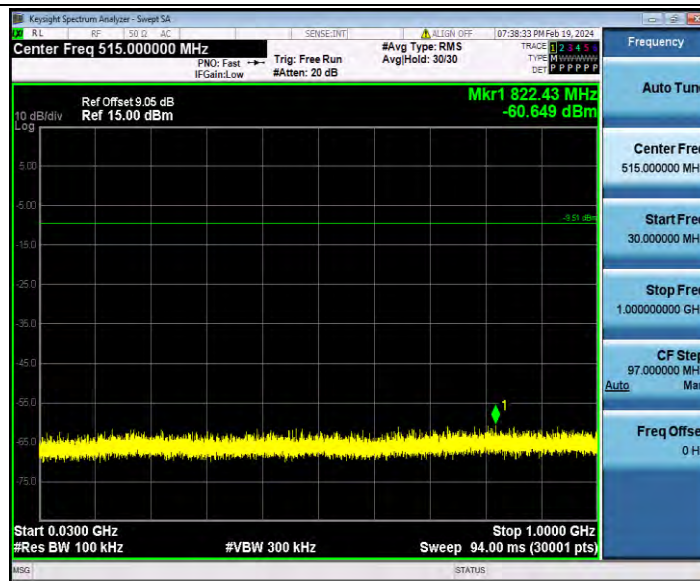
3DH1_Ant1_2402_1000~26500



3DH1_Ant1_2441_0~Reference



3DH1_Ant1_2441_30~1000

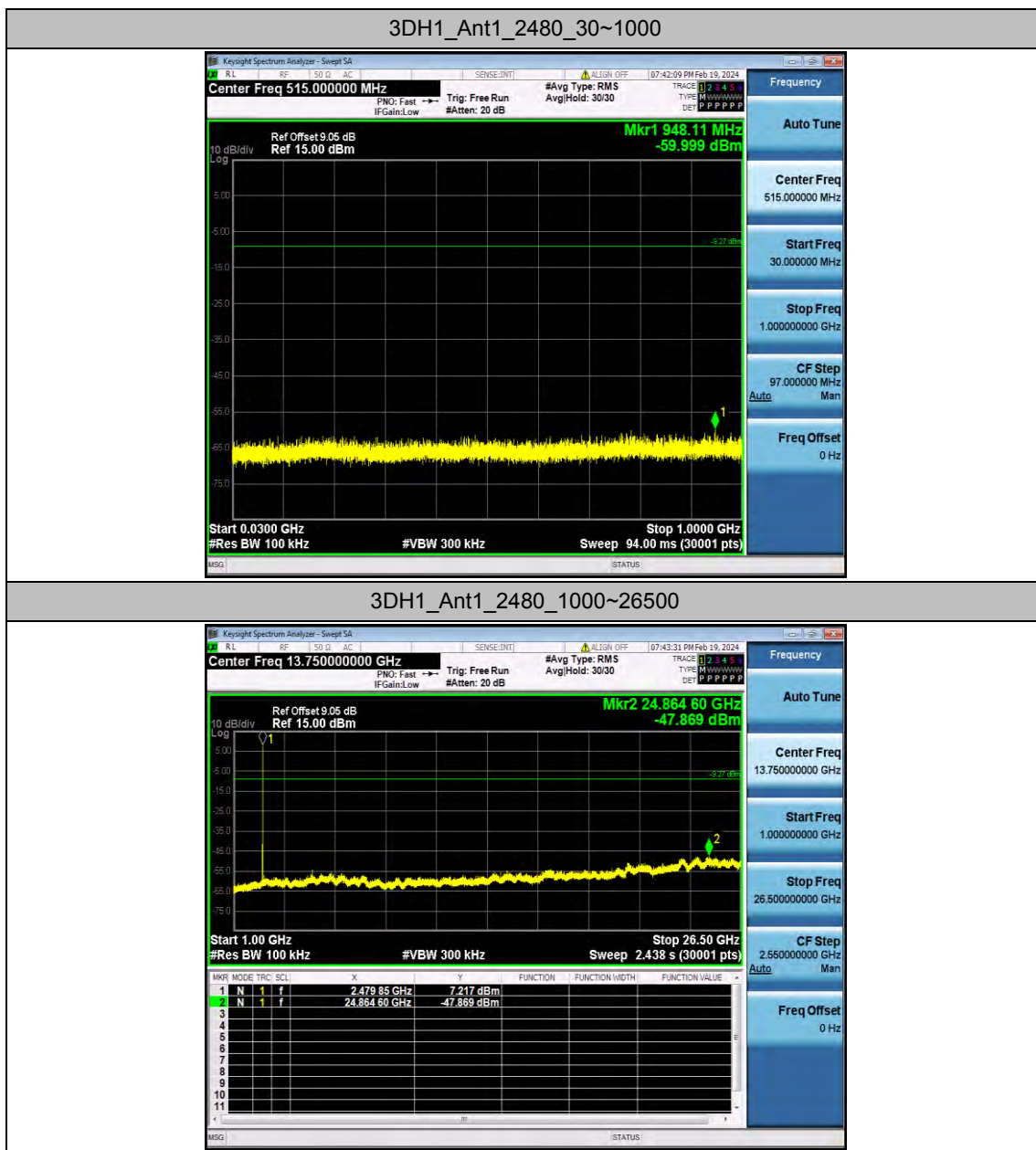


3DH1_Ant1_2441_1000~26500



3DH1_Ant1_2480_0~Reference





Appendix A.9: Emissions in Restricted Bands

Test Result

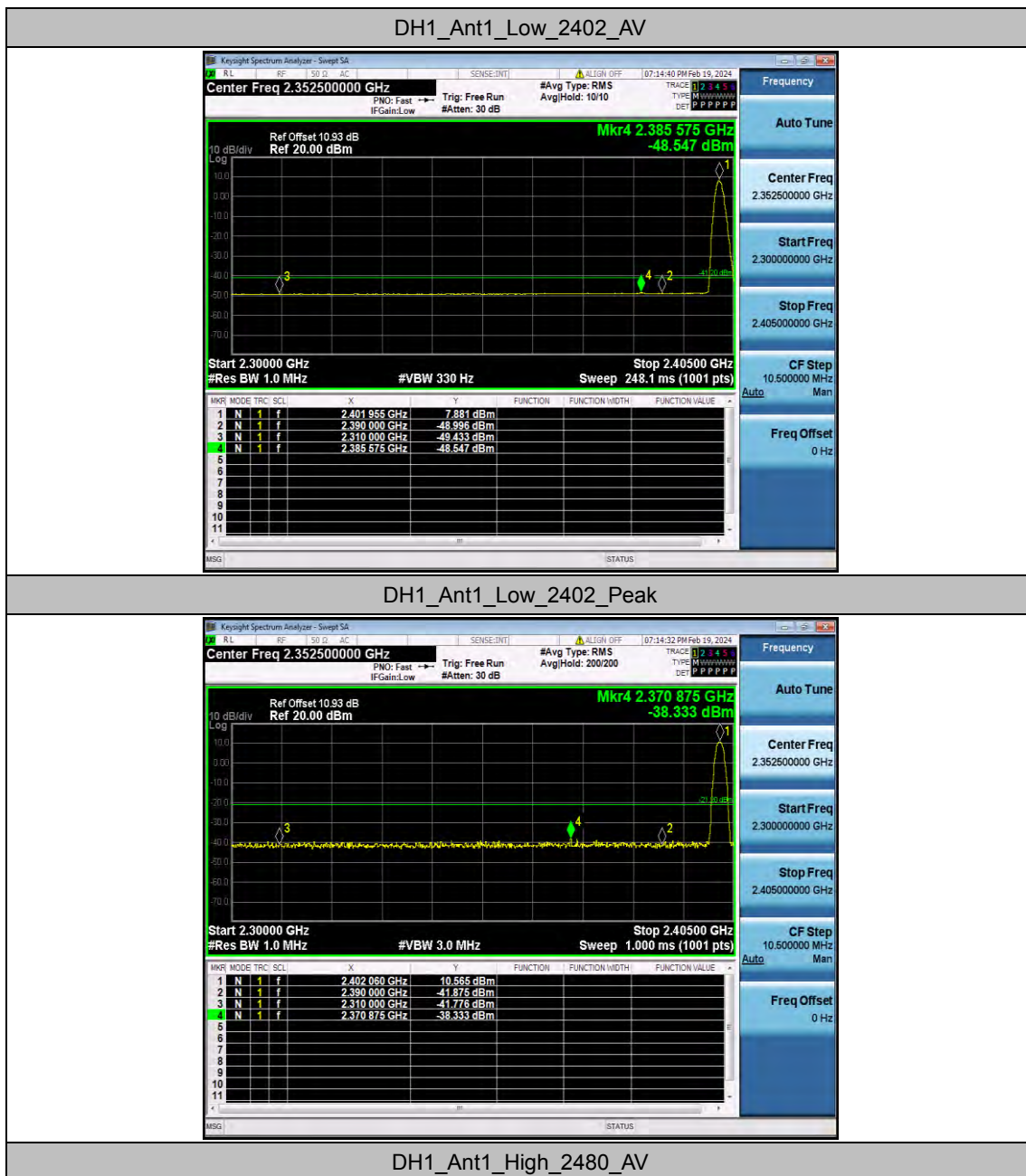
TestMode	Antenna	ChName	Freq(MHz)	Detector	Freq [MHz]	Result [dBm]	Limit [dBm]	Result [dBuV/m]	Limit [dBuV/m]	Verdict
DH1	Ant1	Low	2402	AV	2310.000	-49.43	≤-41.20	45.77	≤54	PASS
				AV	2385.575	-48.55	≤-41.20	46.65	≤54	PASS
				AV	2390.000	-49	≤-41.20	46.20	≤54	PASS
				Peak	2310.000	-41.78	≤-21.20	53.42	≤74	PASS
				Peak	2370.875	-38.33	≤-21.20	56.87	≤74	PASS
				Peak	2390.000	-41.88	≤-21.20	53.32	≤74	PASS
		High	2480	AV	2483.500	-47.26	≤-41.20	47.94	≤54	PASS
				AV	2485.200	-43.07	≤-41.20	52.13	≤54	PASS
				AV	2500.000	-48.72	≤-41.20	46.48	≤54	PASS
				Peak	2483.500	-41.14	≤-21.20	54.06	≤74	PASS
				Peak	2490.320	-38.42	≤-21.20	56.78	≤74	PASS
				Peak	2500.000	-40.35	≤-21.20	54.85	≤74	PASS
2DH1	Ant1	Low	2402	AV	2310.000	-49.47	≤-41.20	45.73	≤54	PASS
				AV	2388.830	-48.96	≤-41.20	46.24	≤54	PASS
				AV	2390.000	-49.07	≤-41.20	46.13	≤54	PASS
				Peak	2310.000	-41.77	≤-21.20	53.43	≤74	PASS
				Peak	2382.740	-38.65	≤-21.20	56.55	≤74	PASS
				Peak	2390.000	-42.12	≤-21.20	53.08	≤74	PASS
		High	2480	AV	2483.500	-46.52	≤-41.20	48.68	≤54	PASS
				AV	2483.520	-46.52	≤-41.20	48.68	≤54	PASS
				AV	2500.000	-48.71	≤-41.20	46.49	≤54	PASS
				Peak	2483.500	-40	≤-21.20	55.20	≤74	PASS
				Peak	2490.960	-38.9	≤-21.20	56.30	≤74	PASS
				Peak	2500.000	-41.08	≤-21.20	54.12	≤74	PASS
3DH1	Ant1	Low	2402	AV	2310.000	-49.37	≤-41.20	45.83	≤54	PASS
				AV	2381.270	-48.93	≤-41.20	46.27	≤54	PASS
				AV	2390.000	-49.12	≤-41.20	46.08	≤54	PASS
				Peak	2310.000	-39.96	≤-21.20	55.24	≤74	PASS
				Peak	2384.840	-38.66	≤-21.20	56.54	≤74	PASS
				Peak	2390.000	-40.84	≤-21.20	54.36	≤74	PASS
		High	2480	AV	2483.500	-46.51	≤-41.20	48.69	≤54	PASS
				AV	2486.640	-43.22	≤-41.20	51.98	≤54	PASS
				AV	2500.000	-48.75	≤-41.20	46.45	≤54	PASS
				Peak	2483.500	-38.63	≤-21.20	56.57	≤74	PASS
				Peak	2483.520	-38.63	≤-21.20	56.57	≤74	PASS

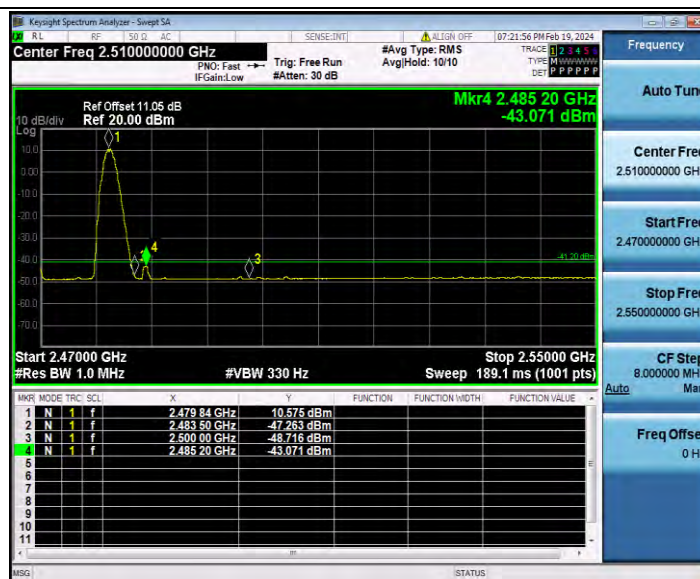
				Peak	2500.000	-42.07	≤ -21.20	53.13	≤ 74	PASS
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Note:

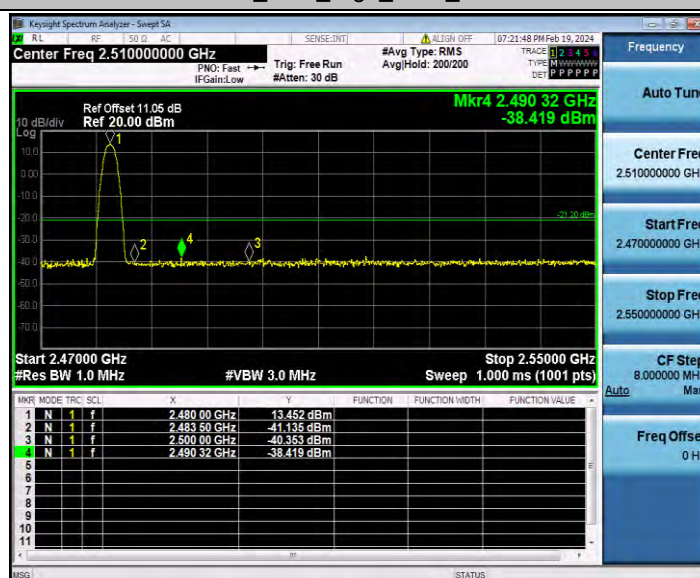
1. The Antenna Gain is compensated in the graph.
2. The Duty Cycle Factor and RBW Factor is compensated in the graph.
3. The limit in dBm for average detector is conversion from 54dBuV/m, according to 15.209(a). The limit in dBm for peak detector is 20dB above the limit of average detector in dBm.

Test Graphs

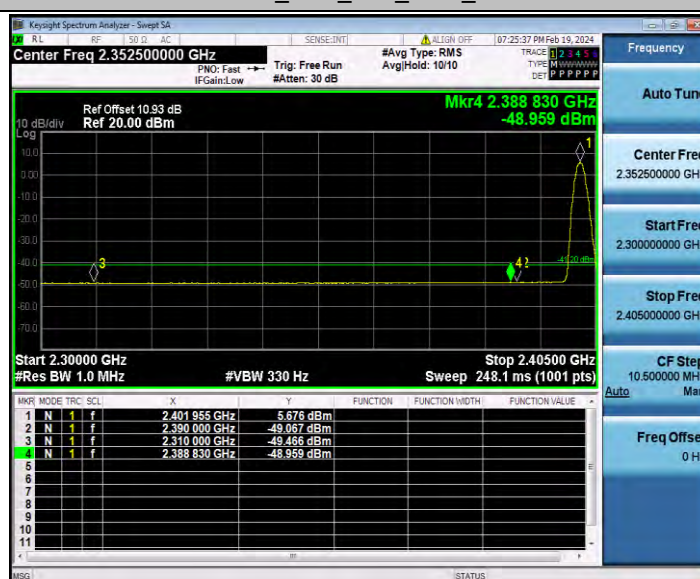




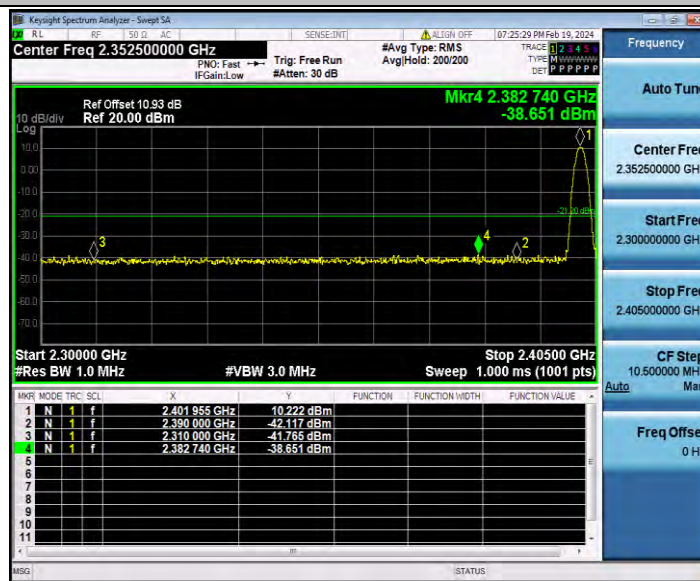
DH1_Ant1_High_2480_Peak



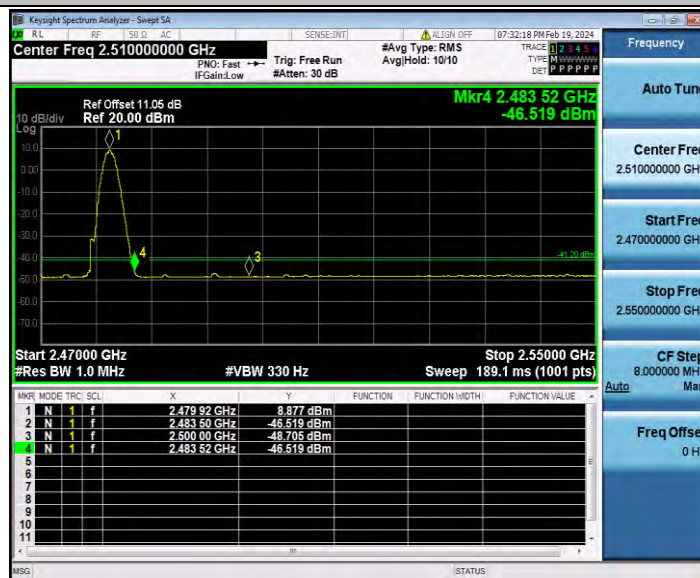
2DH1_Ant1_Low_2402_AV



2DH1_Ant1_Low_2402_Peak



2DH1_Ant1_High_2480_AV



2DH1_Ant1_High_2480_Peak

