

Case No. : <u>GTS20231208004-1-49</u>	
Ambient Condition: <u>22</u> °C, <u>49</u> %RH	
According Standard: ■Part15C	
Test Date: <u>2024.2.27</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	0.831	2401.565	2402.396	---	---
		2441	0.834	2440.574	2441.408	---	---
		2480	0.792	2479.607	2480.399	---	---
2DH1	Ant1	2402	1.224	2401.373	2402.597	---	---
		2441	1.251	2440.370	2441.621	---	---
		2480	1.266	2479.364	2480.630	---	---
3DH1	Ant1	2402	1.248	2401.376	2402.624	---	---
		2441	1.245	2440.379	2441.624	---	---
		2480	1.236	2479.388	2480.624	---	---

Test Graphs

DH1_Ant1_2402

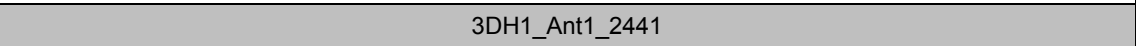
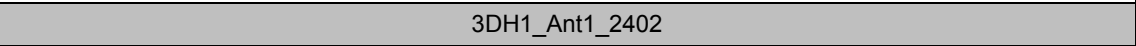


DH1_Ant1_2441



DH1_Ant1_2480







3DH1_Ant1_2480



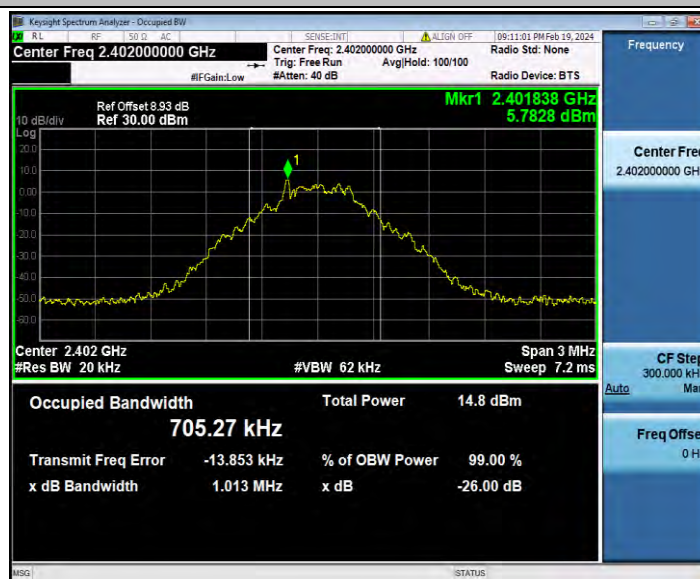
Appendix A.2: Occupied Channel Bandwidth

Test Result

TestMode	Antenna	Freq(MHz)	OCB [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
DH1	Ant1	2402	0.70527	2401.6335	2402.3388	---	---
		2441	0.72790	2440.6305	2441.3584	---	---
		2480	0.74663	2479.6221	2480.3687	---	---
2DH1	Ant1	2402	1.1438	2401.4241	2402.5679	---	---
		2441	1.1531	2440.4202	2441.5733	---	---
		2480	1.1493	2479.4177	2480.5670	---	---
3DH1	Ant1	2402	1.1382	2401.4371	2402.5753	---	---
		2441	1.1521	2440.4312	2441.5833	---	---
		2480	1.1538	2479.4311	2480.5849	---	---

Test Graphs

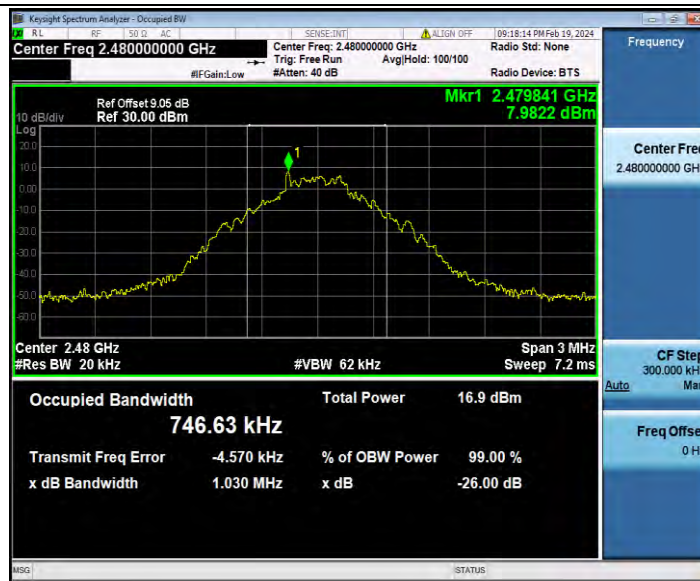
DH1_Ant1_2402



DH1_Ant1_2441



DH1_Ant1_2480



2DH1_Ant1_2402



2DH1_Ant1_2441



2DH1_Ant1_2480



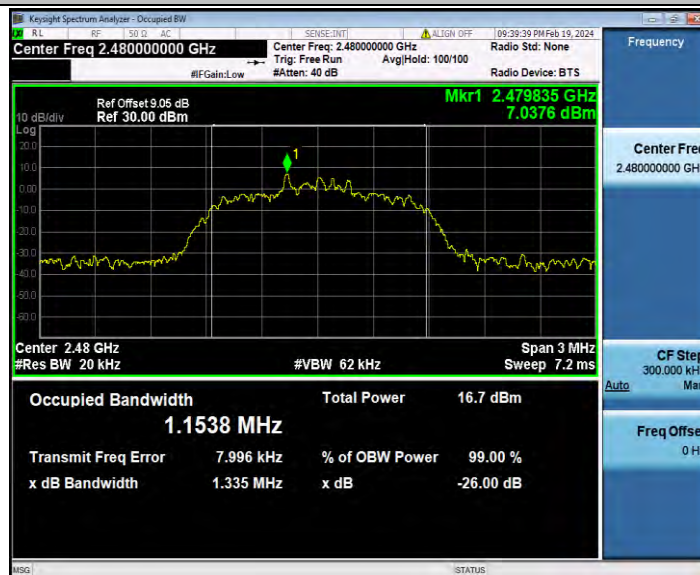
3DH1_Ant1_2402



3DH1_Ant1_2441



3D H1_Ant1_2480



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	9.29	≤30.00	PASS
		2441	11.49	≤30.00	PASS
		2480	11.78	≤30.00	PASS
2DH1	Ant1	2402	7.91	≤20.97	PASS
		2441	11.53	≤20.97	PASS
		2480	11.78	≤20.97	PASS
3DH1	Ant1	2402	8.19	≤20.97	PASS
		2441	11.48	≤20.97	PASS
		2480	11.74	≤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	0.994	≥ 0.834	PASS
		Hop_2441	1.036	≥ 0.834	PASS
		Hop_2480	1.32	≥ 0.834	PASS
2DH1	Ant1	Hop_2402	1.008	≥ 0.844	PASS
		Hop_2441	0.992	≥ 0.844	PASS
		Hop_2480	1.146	≥ 0.844	PASS
3DH1	Ant1	Hop_2402	0.98	≥ 0.832	PASS
		Hop_2441	1.018	≥ 0.832	PASS
		Hop_2480	0.882	≥ 0.832	PASS

Test Graphs

DH1_Ant1_Hop_2402



DH1_Ant1_Hop_2441



DH1_Ant1_Hop_2480



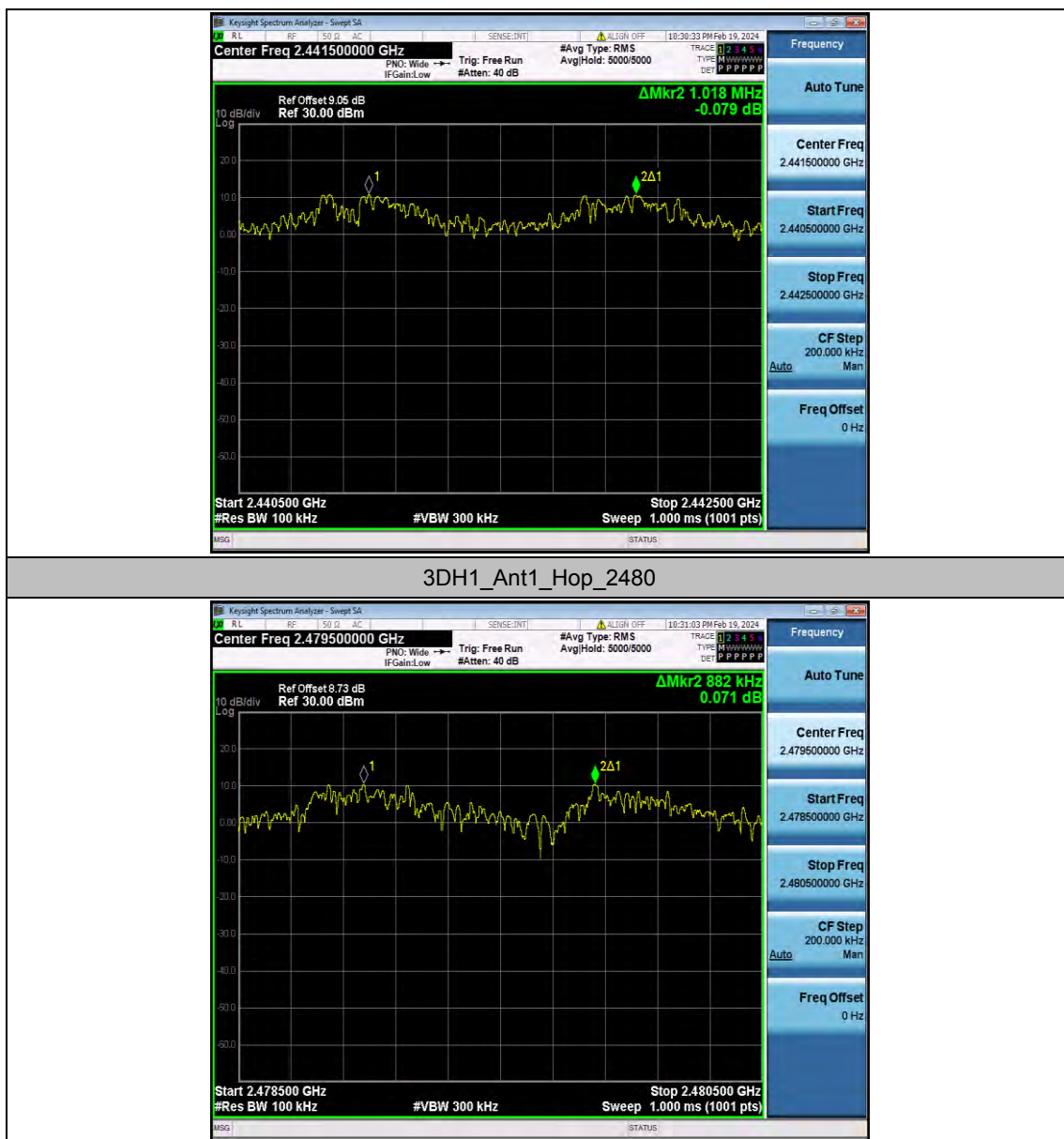
2DH1_Ant1_Hop_2480



3DH1_Ant1_Hop_2402



3DH1_Ant1_Hop_2441

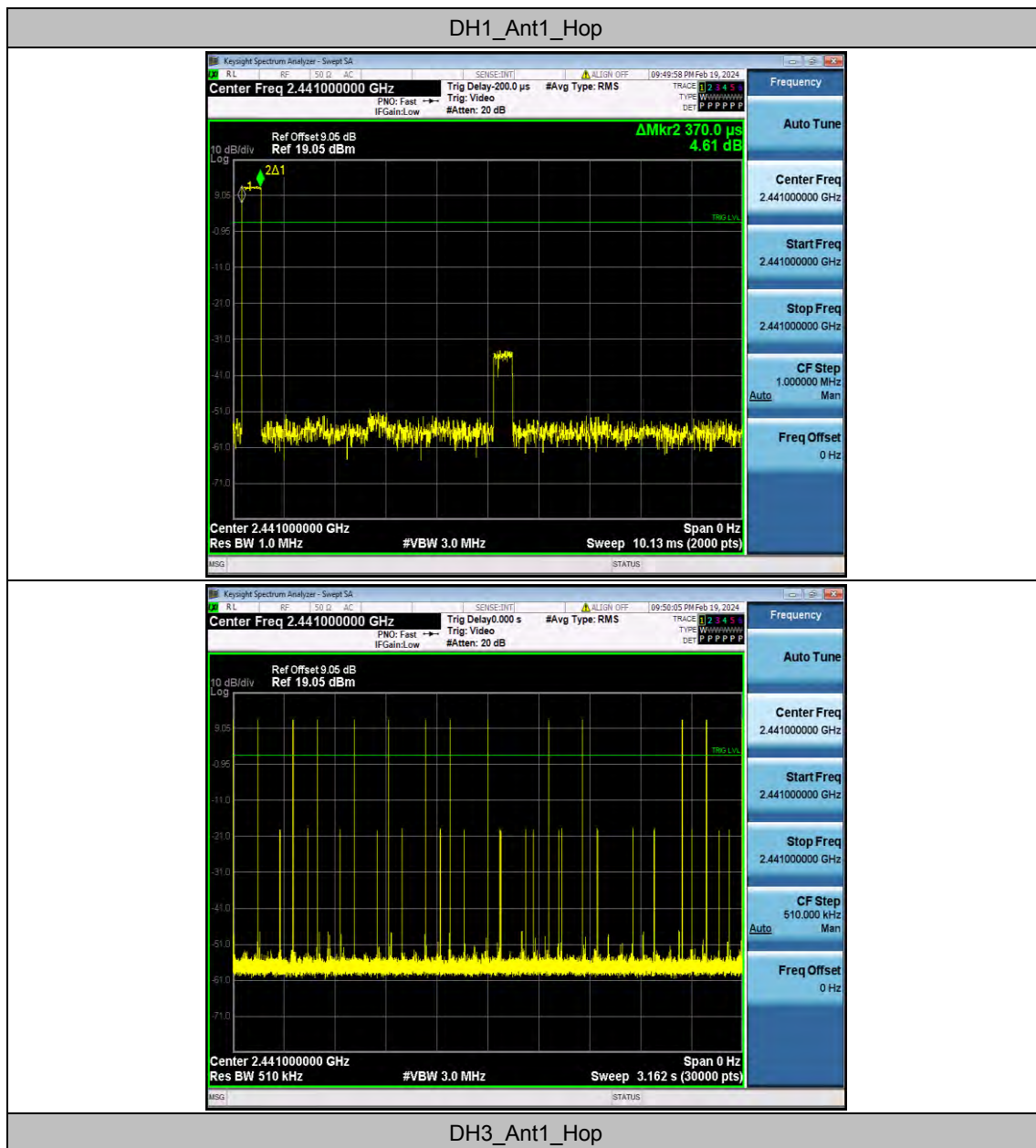


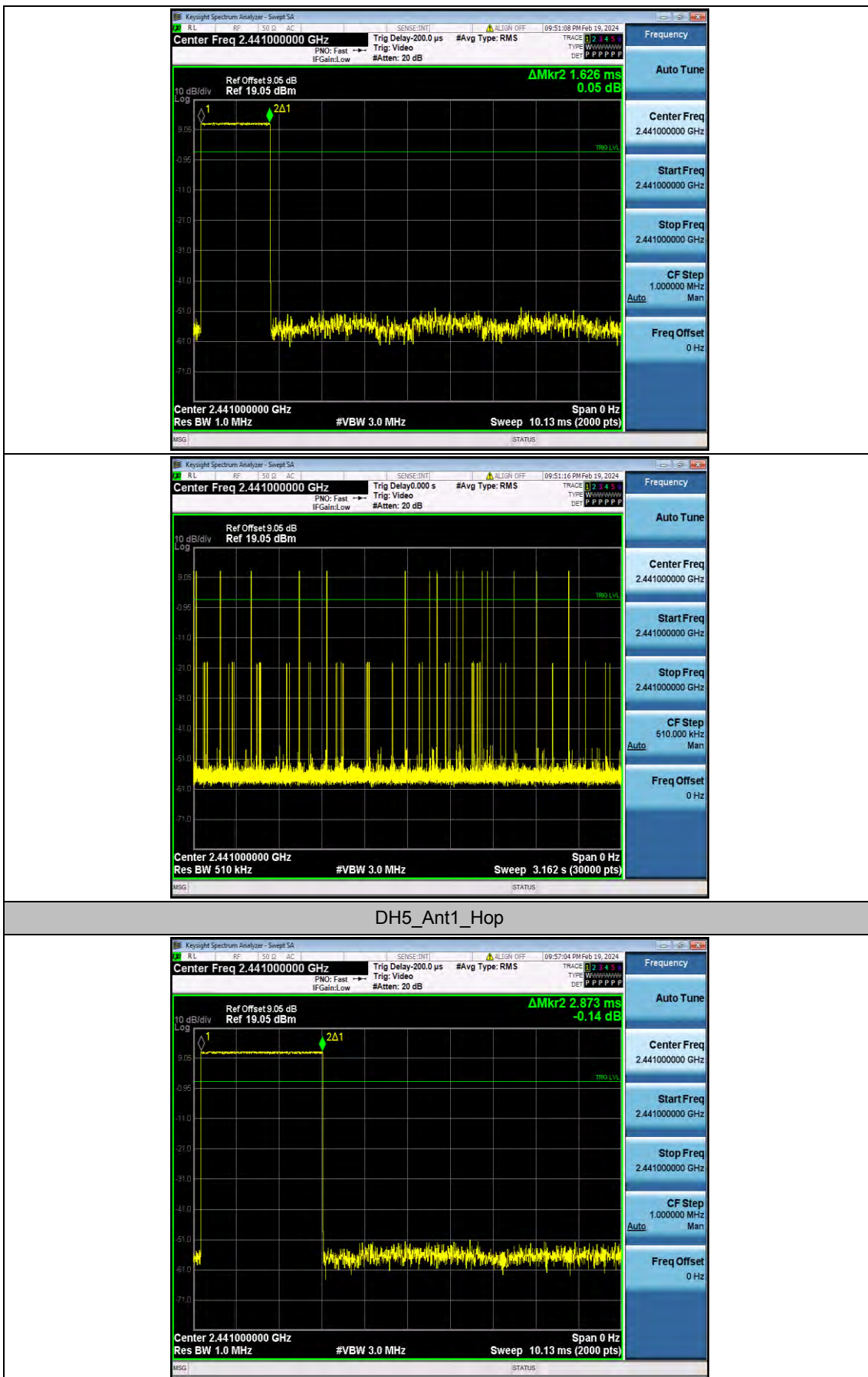
Appendix A.5: Time of occupancy

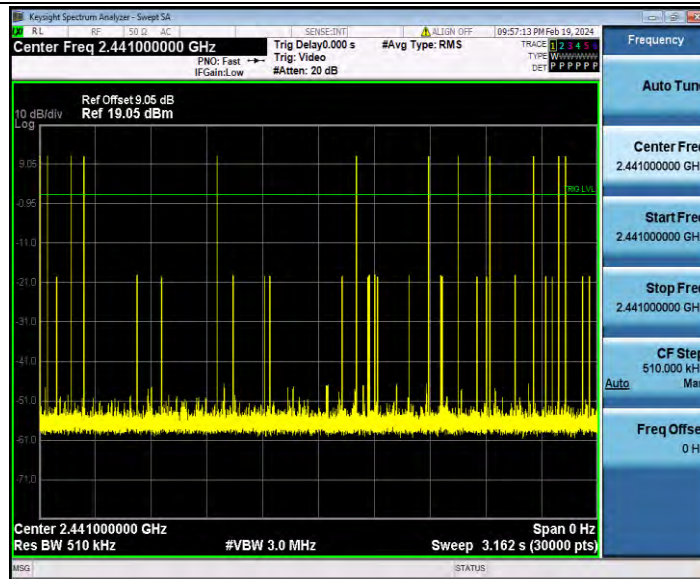
Test Result

TestMode	Antenna	Freq(MHz)	BurstWidth [ms]	TotalHops [Num]	Result[s]	Limit[s]	Verdict
DH1	Ant1	Hop	0.370	140	0.052	≤0.4	PASS
DH3	Ant1	Hop	1.626	160	0.26	≤0.4	PASS
DH5	Ant1	Hop	2.873	120	0.345	≤0.4	PASS
2DH1	Ant1	Hop	0.375	210	0.079	≤0.4	PASS
2DH3	Ant1	Hop	1.626	160	0.26	≤0.4	PASS
2DH5	Ant1	Hop	2.878	100	0.288	≤0.4	PASS
3DH1	Ant1	Hop	0.375	170	0.064	≤0.4	PASS
3DH3	Ant1	Hop	1.626	140	0.228	≤0.4	PASS
3DH5	Ant1	Hop	2.878	130	0.374	≤0.4	PASS

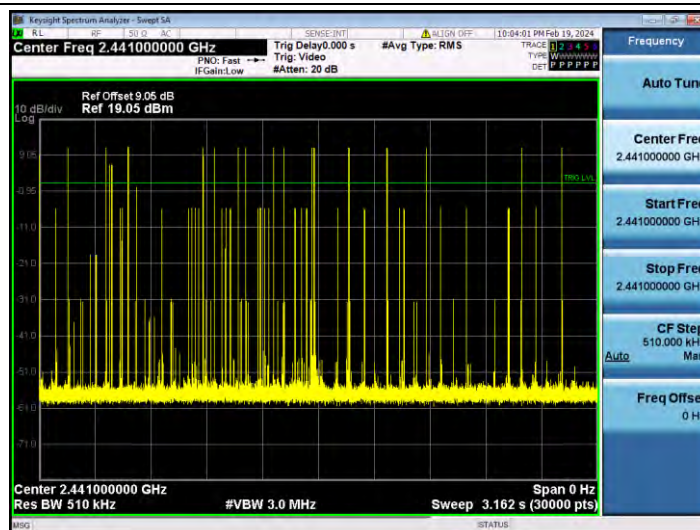
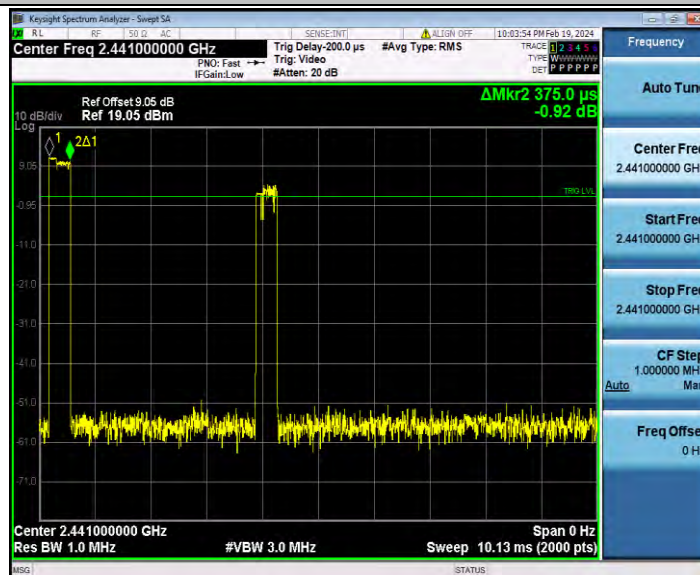
Test Graphs



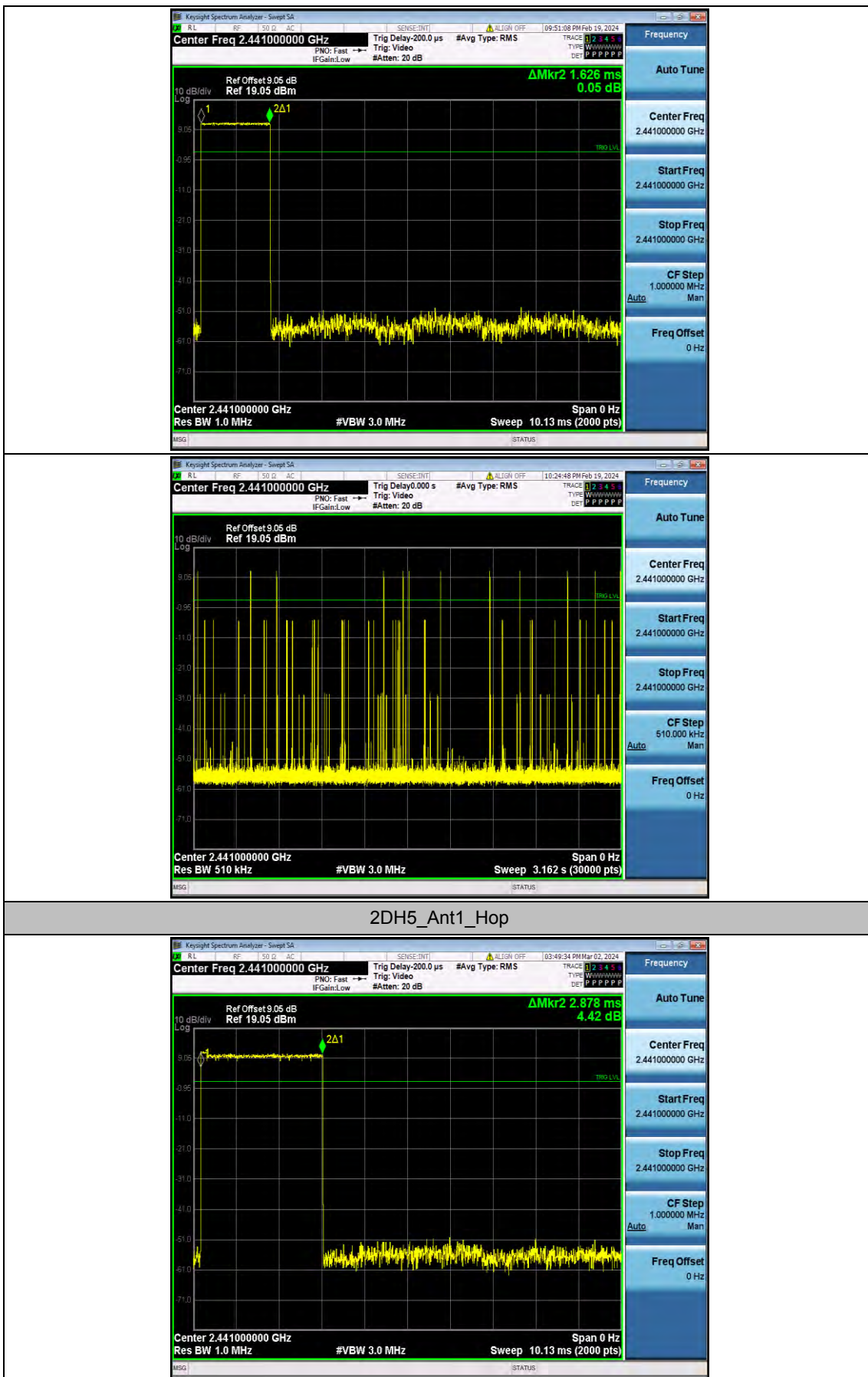


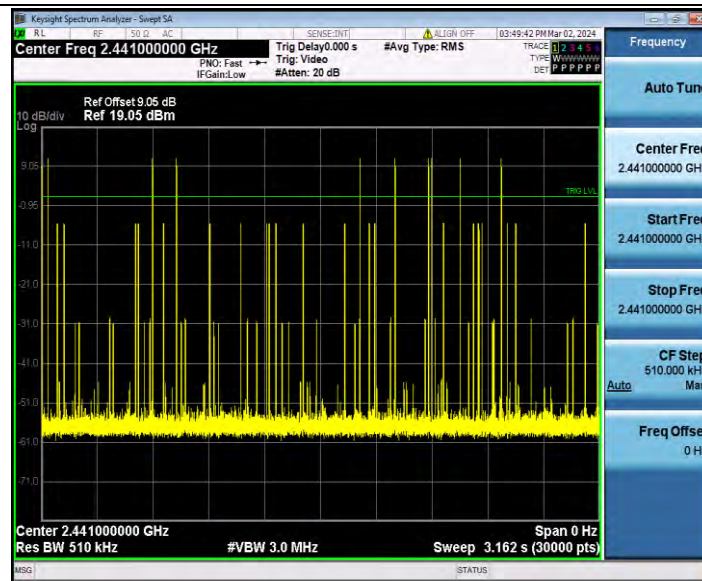


2DH1_Ant1_Hop

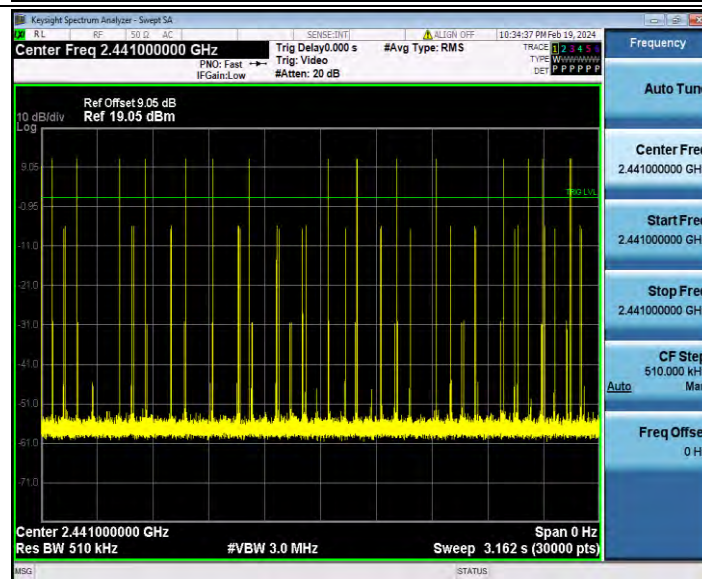
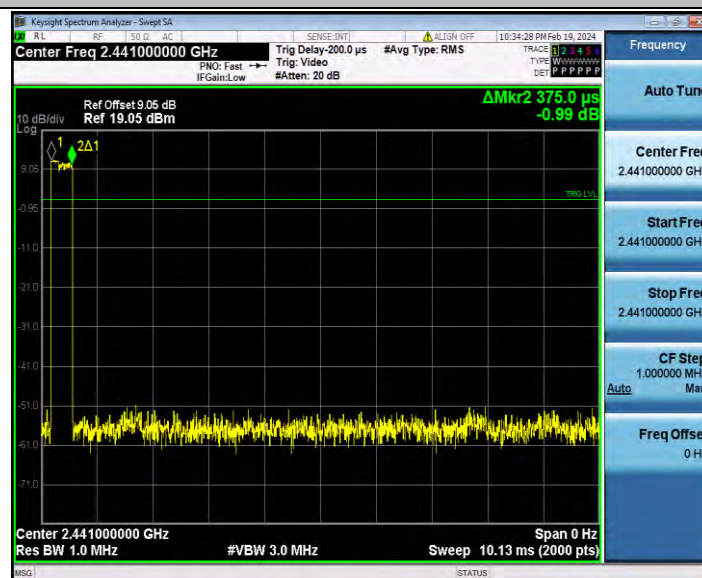


2DH3_Ant1_Hop

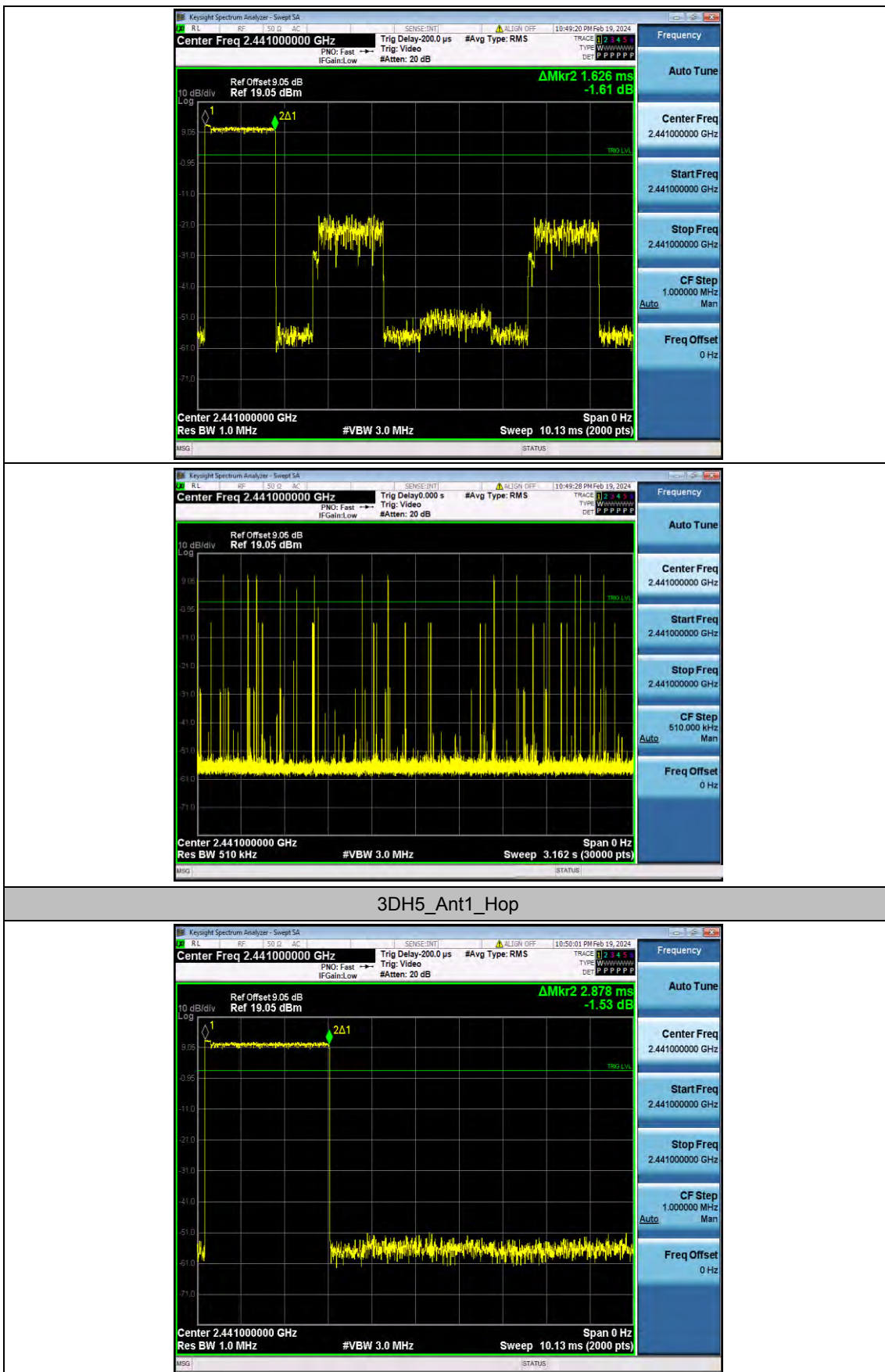


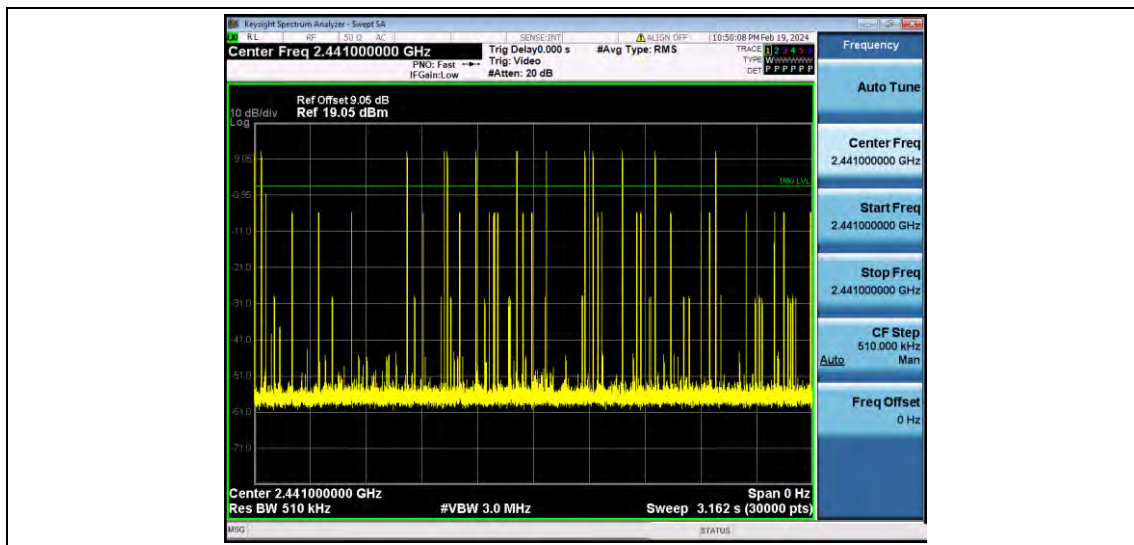


3DH1_Ant1_Hop



3DH3_Ant1_Hop



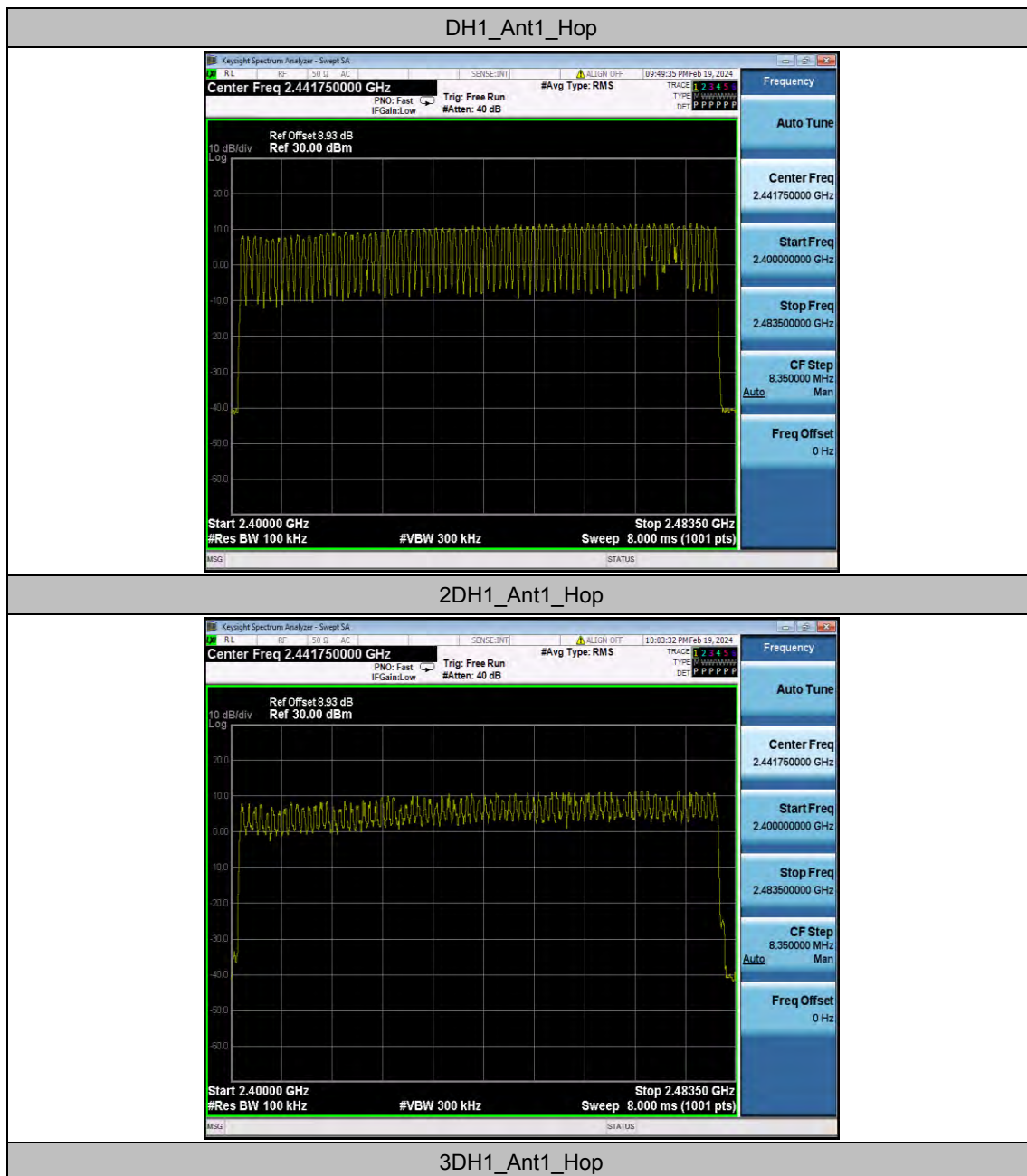


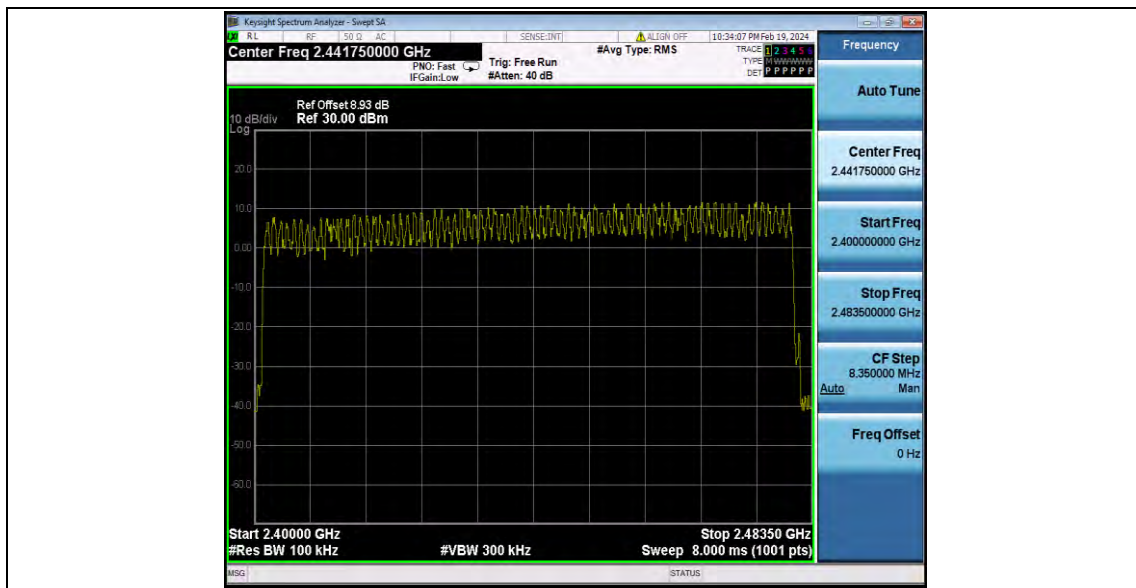
Appendix A.6: Number of hopping channels

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



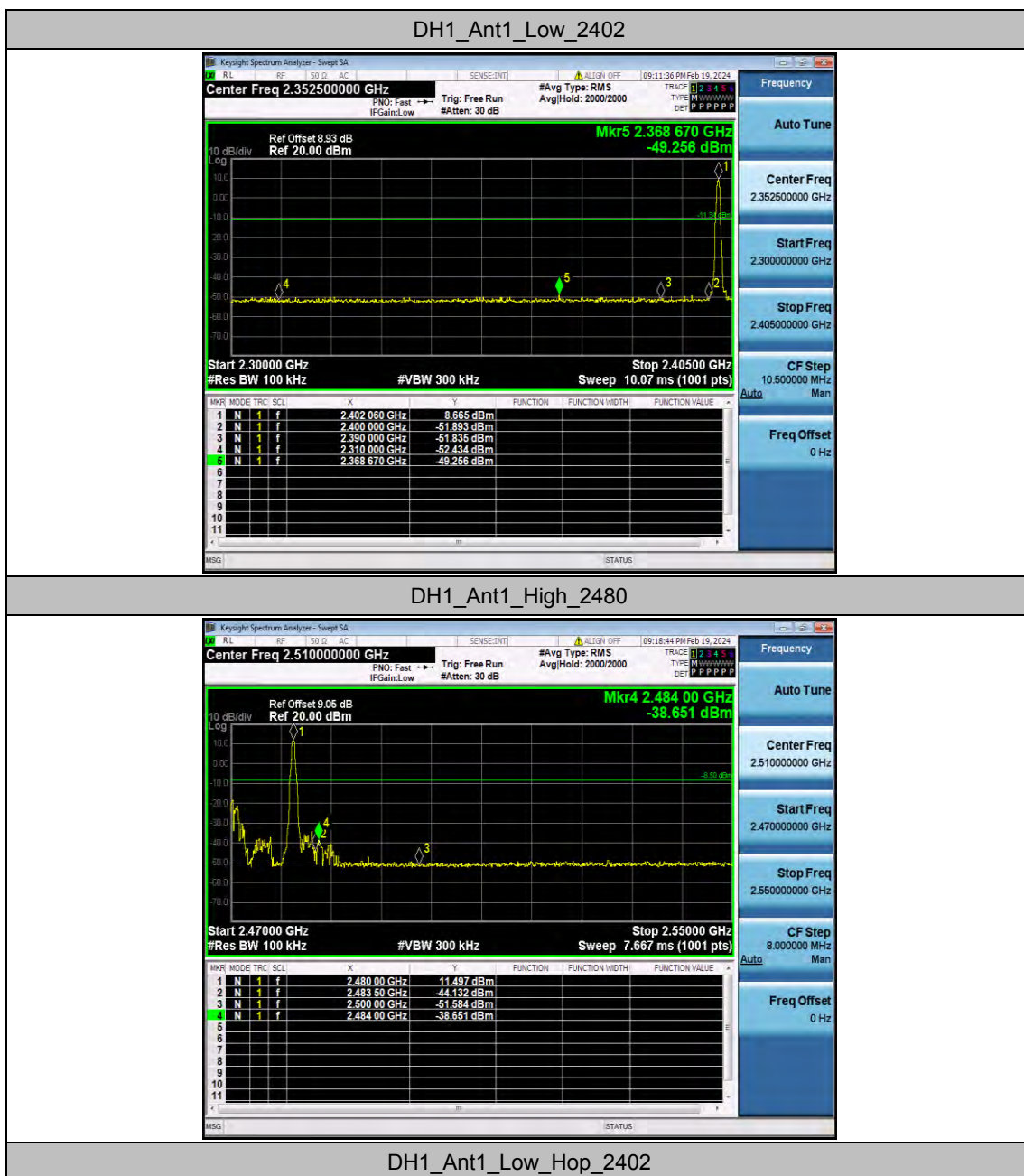


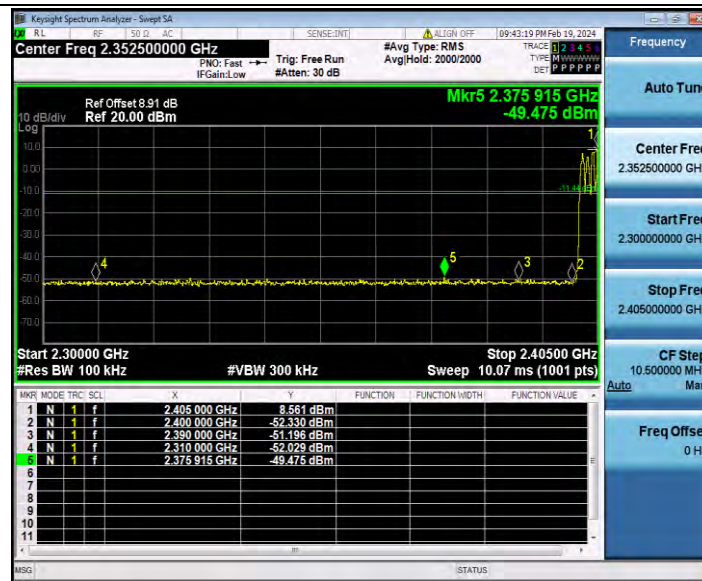
Appendix A.7: Band edge measurements

Test Result

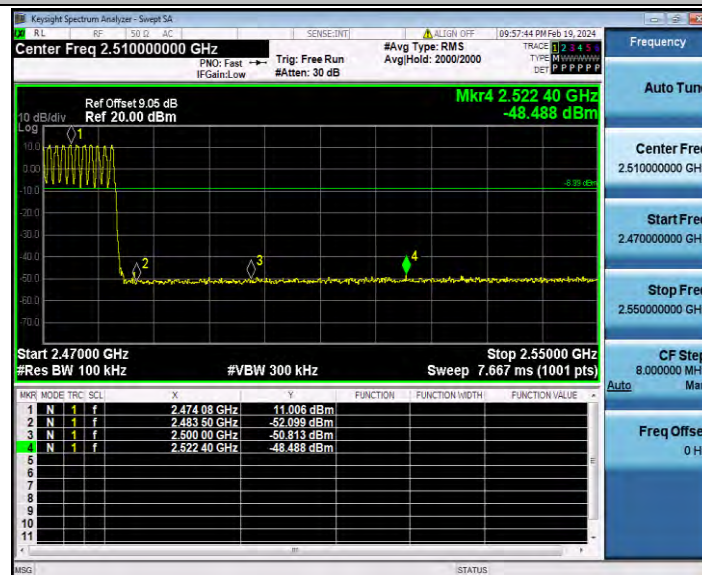
TestMode	Antenna	ChName	Freq(MHz)	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
DH1	Ant1	Low	2402	8.67	-49.26	≤ -11.34	PASS
		High	2480	11.50	-38.65	≤ -8.5	PASS
		Low	Hop_2402	8.56	-49.48	≤ -11.44	PASS
		High	Hop_2480	11.01	-48.49	≤ -8.99	PASS
2DH1	Ant1	Low	2402	7.92	-44.15	≤ -12.08	PASS
		High	2480	11.38	-36.06	≤ -8.62	PASS
		Low	Hop_2402	7.44	-49.21	≤ -12.56	PASS
		High	Hop_2480	11.05	-48.9	≤ -8.95	PASS
3DH1	Ant1	Low	2402	8.14	-45.86	≤ -11.86	PASS
		High	2480	11.37	-48.49	≤ -8.63	PASS
		Low	Hop_2402	7.75	-49.18	≤ -12.26	PASS
		High	Hop_2480	10.88	-47.52	≤ -9.13	PASS

Test Graphs

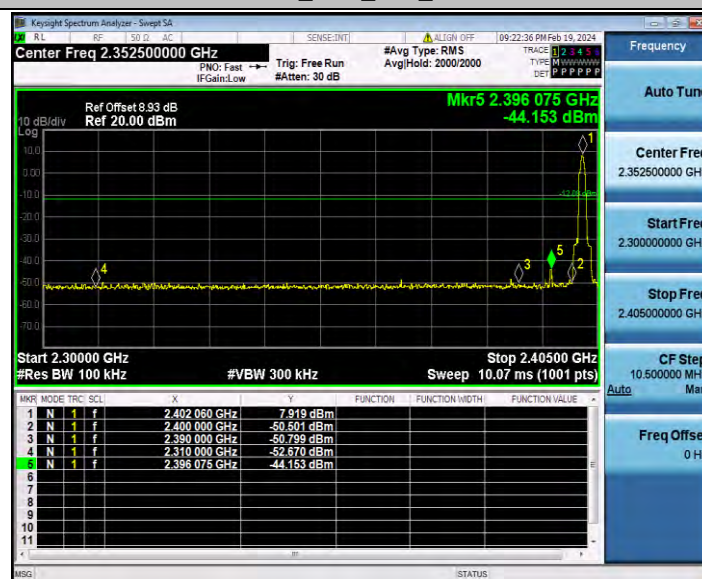




DH1_Ant1_High_Hop_2480



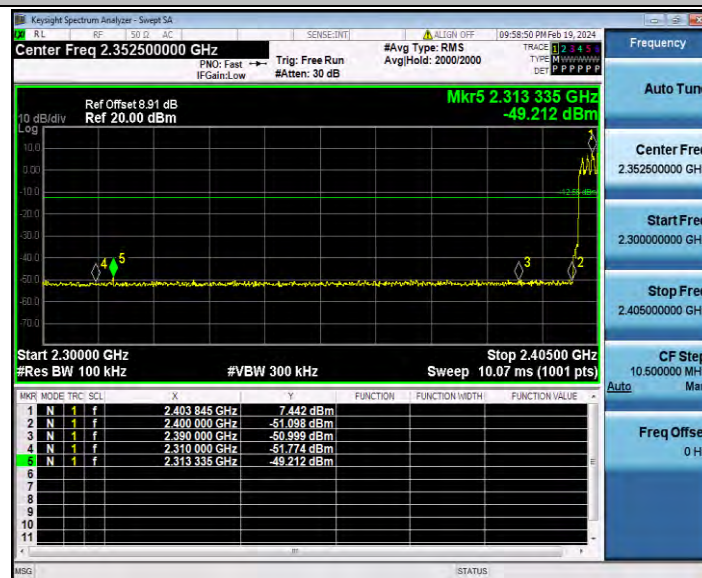
2DH1_Ant1_Low_2402



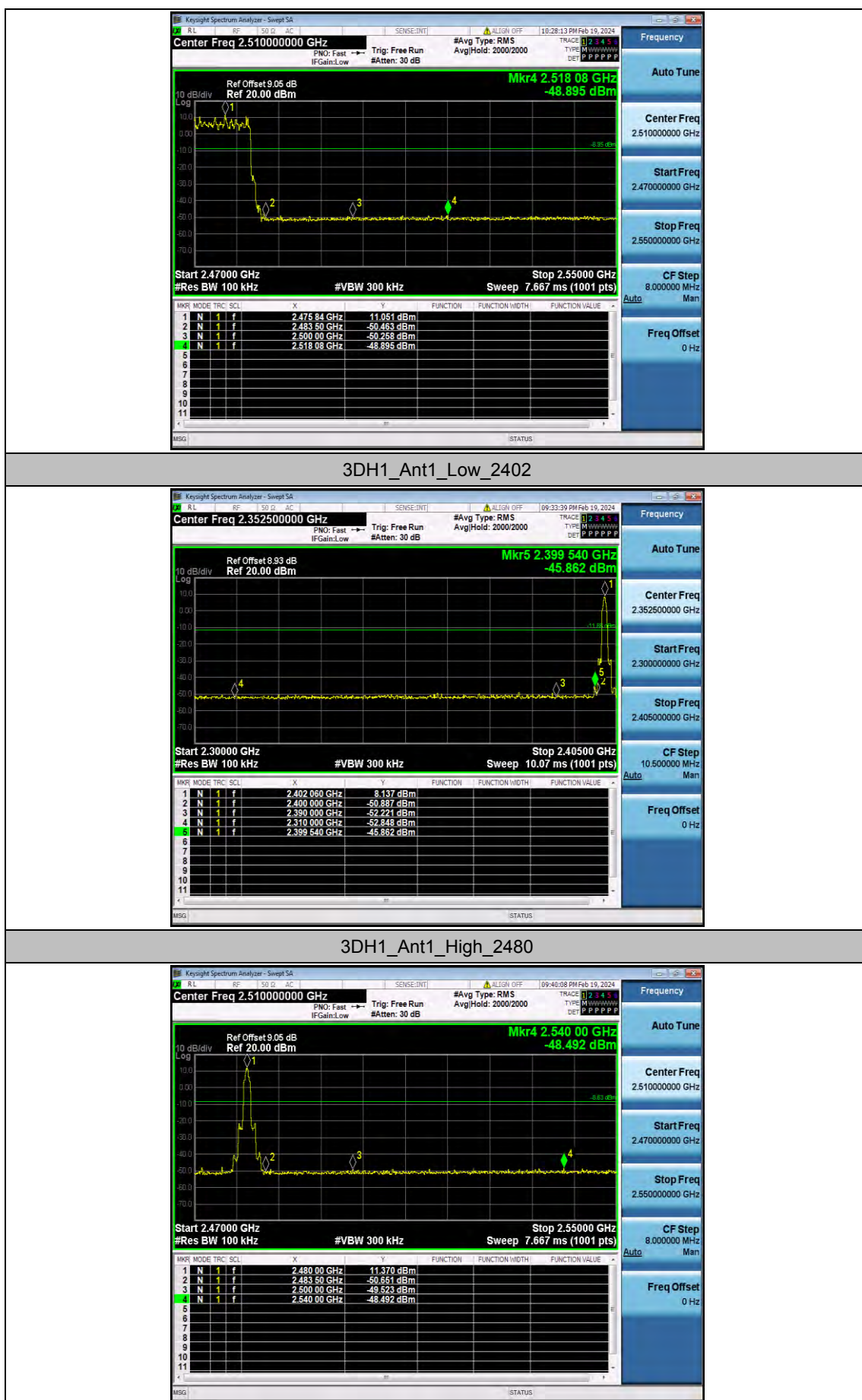
2DH1_Ant1_High_2480



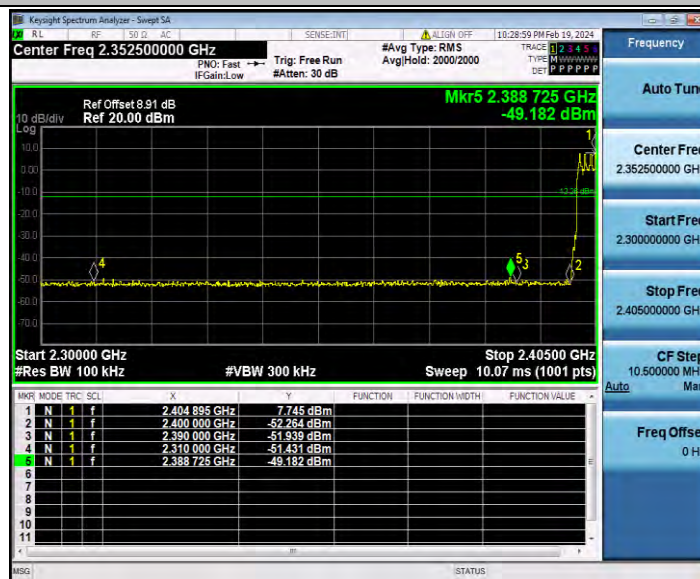
2DH1_Ant1_Low_Hop_2402



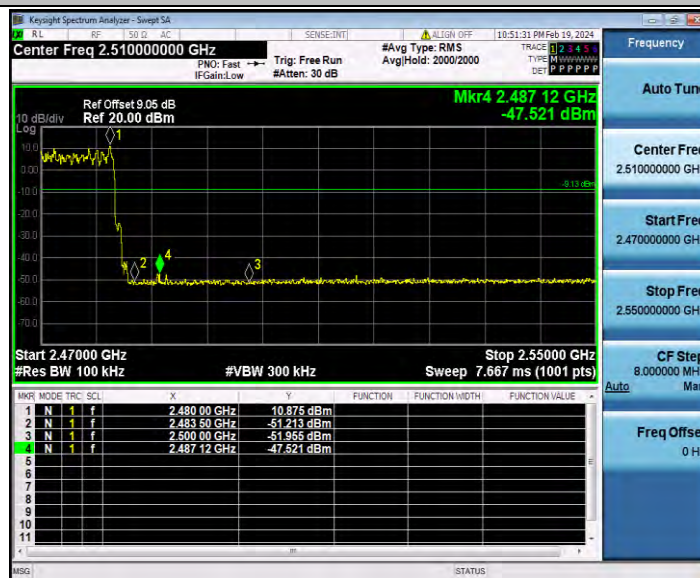
2DH1_Ant1_High_Hop_2480



3DH1_Ant1_Low_Hop_2402



3DH1_Ant1_High_Hop_2480

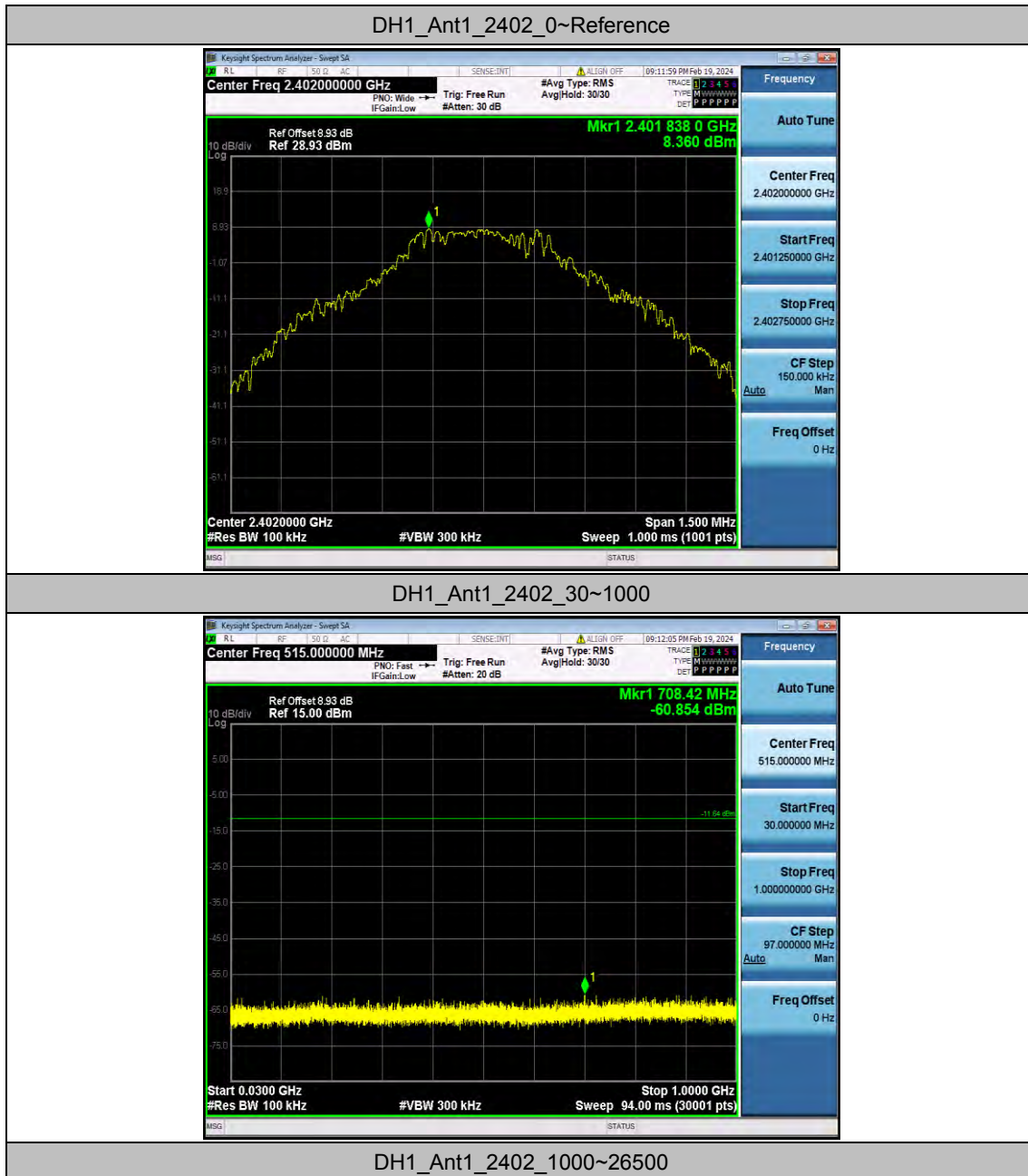


Appendix A.8: Conducted Spurious Emission

Test Result

TestMode	Antenna	Freq(MHz)	FreqRange [MHz]	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
DH1	Ant1	2402	Reference	8.36	8.36	---	PASS
			30~1000	8.36	-60.85	≤ -11.64	PASS
			1000~26500	8.36	-47.88	≤ -11.64	PASS
		2441	Reference	10.52	10.52	---	PASS
			30~1000	10.52	-60.37	≤ -9.48	PASS
			1000~26500	10.52	-47.25	≤ -9.48	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	7.36	7.36	---	PASS
			30~1000	7.36	-59.98	≤ -12.64	PASS
			1000~26500	7.36	-47.96	≤ -12.64	PASS
		2441	Reference	10.75	10.75	---	PASS
			30~1000	10.75	-59.22	≤ -9.25	PASS
			1000~26500	10.75	-43.24	≤ -9.25	PASS
		2480	Reference	10.16	10.16	---	PASS
			30~1000	10.16	-60.21	≤ -9.84	PASS
			1000~26500	10.16	-47.43	≤ -9.84	PASS
3DH1	Ant1	2402	Reference	7.09	7.09	---	PASS
			30~1000	7.09	-60.88	≤ -12.91	PASS
			1000~26500	7.09	-47.84	≤ -12.91	PASS
		2441	Reference	10.81	10.81	---	PASS
			30~1000	10.81	-59.56	≤ -9.19	PASS
			1000~26500	10.81	-46.92	≤ -9.19	PASS
		2480	Reference	10.32	10.32	---	PASS
			30~1000	10.32	-60.71	≤ -9.68	PASS
			1000~26500	10.32	-47.94	≤ -9.68	PASS

Test Graphs

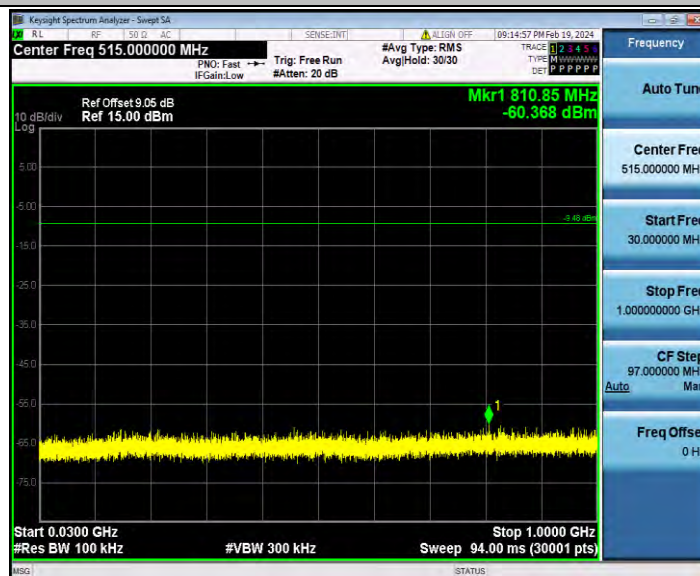




DH1_Ant1_2441_0~Reference



DH1_Ant1_2441_30~1000



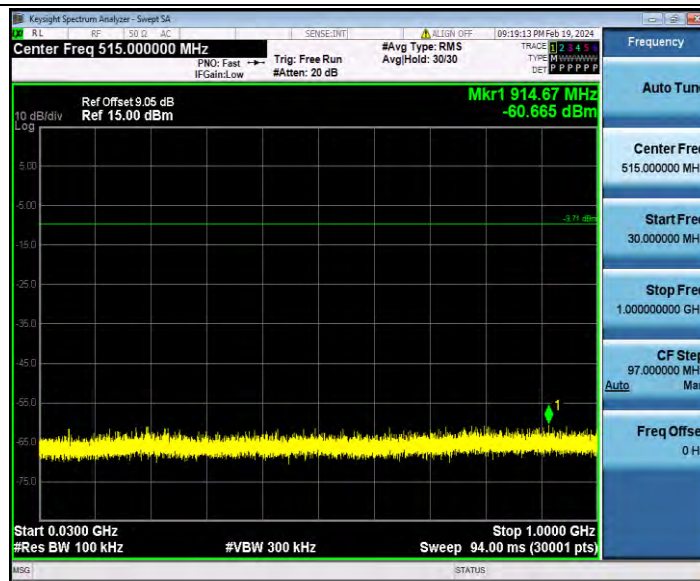
DH1_Ant1_2441_1000~26500



DH1_Ant1_2480_0~Reference



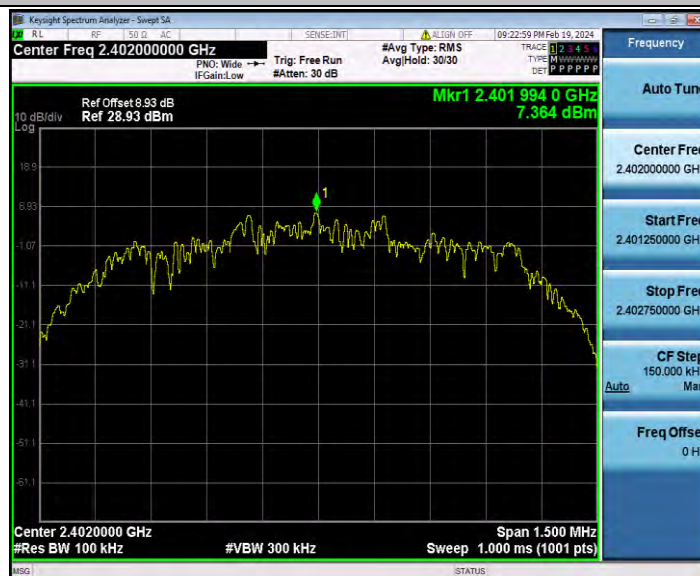
DH1_Ant1_2480_30~1000



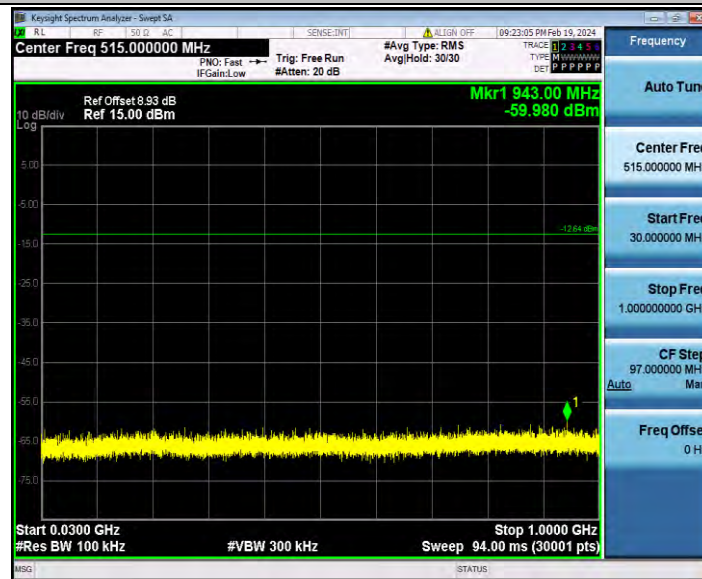
DH1_Ant1_2480_1000~26500



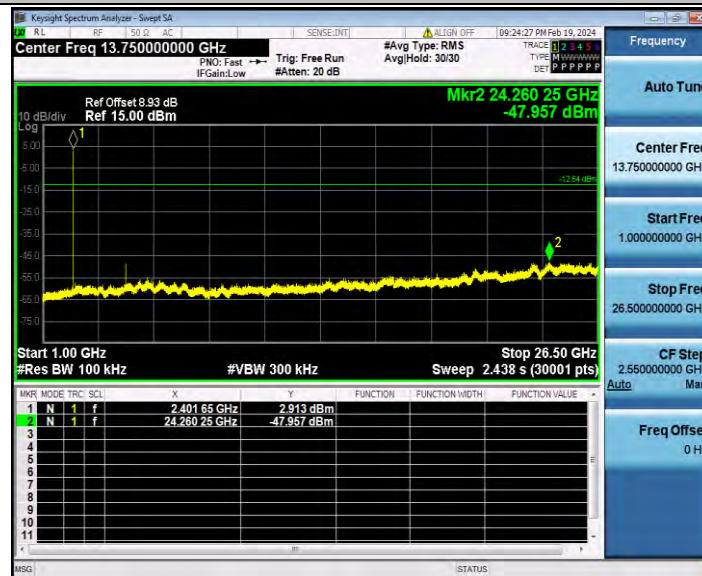
2DH1_Ant1_2402_0~Reference



2DH1_Ant1_2402_30~1000



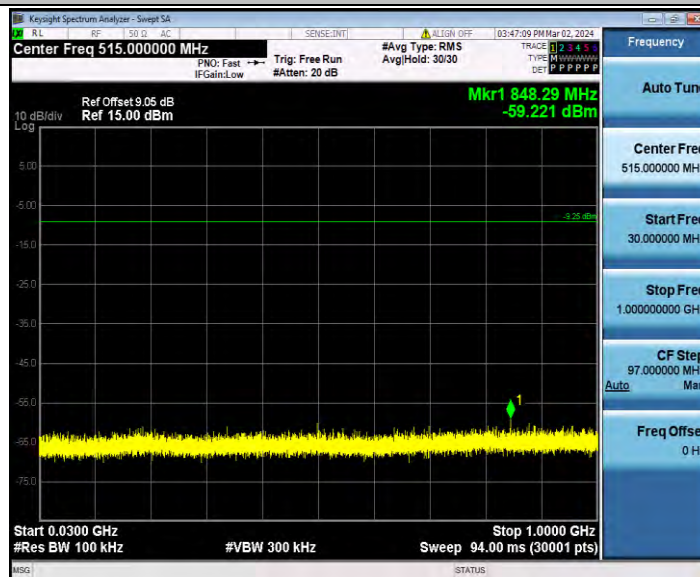
2DH1_Ant1_2402_1000~26500



2DH1_Ant1_2441_0~Reference



2DH1_Ant1_2441_30~1000



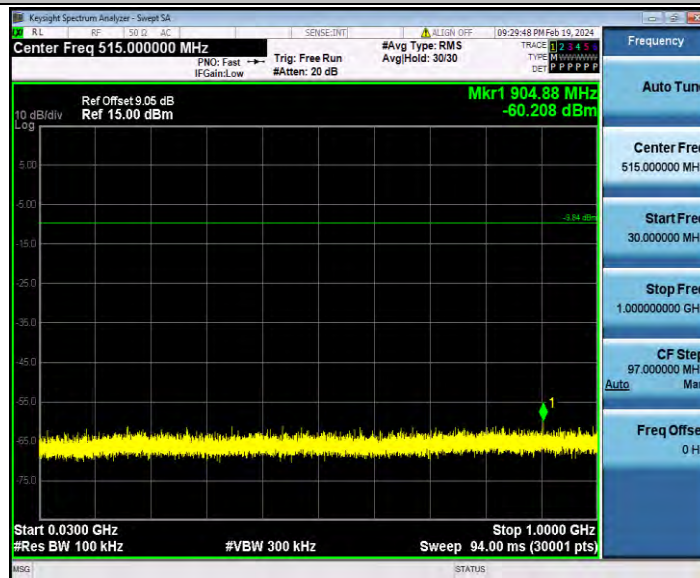
2DH1_Ant1_2441_1000~26500



2DH1_Ant1_2480_0~Reference



2DH1_Ant1_2480_30~1000



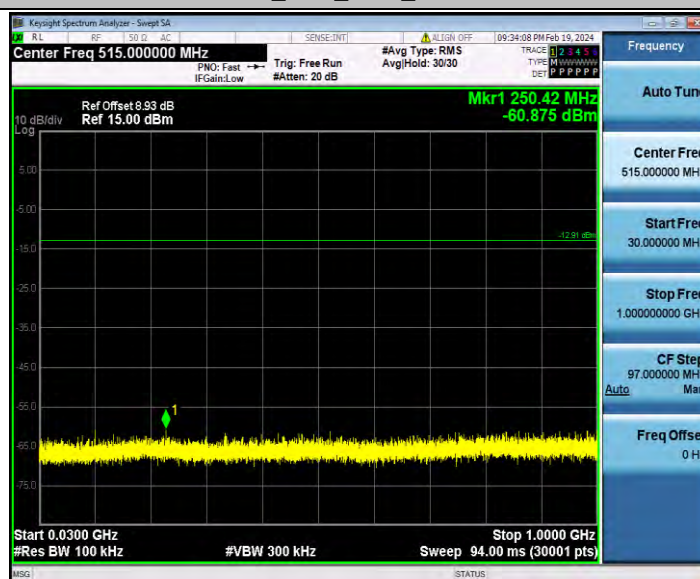
2DH1_Ant1_2480_1000~26500



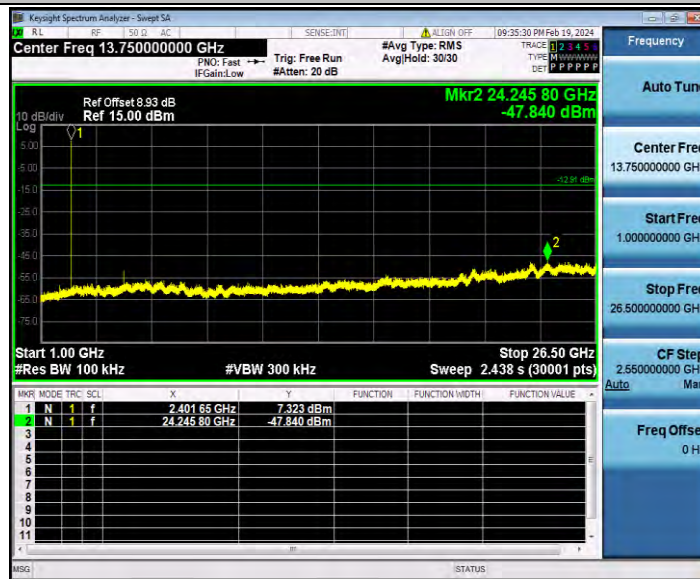
3DH1_Ant1_2402_0~Reference



3DH1_Ant1_2402_30~1000



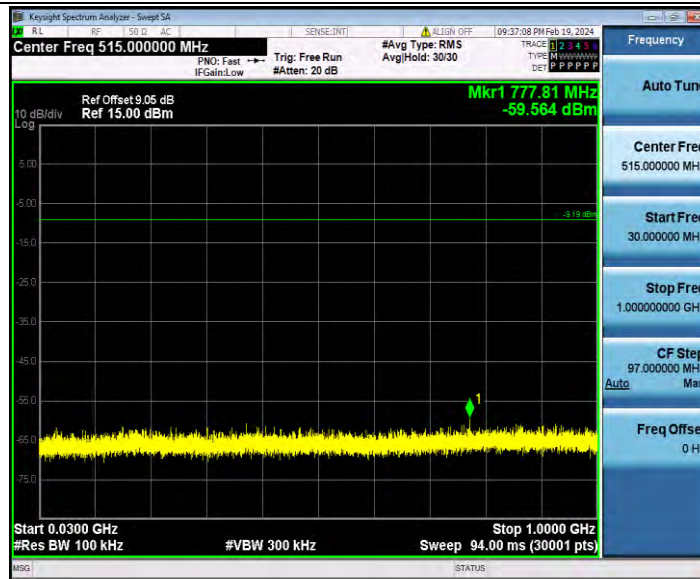
3DH1_Ant1_2402_1000~26500



3DH1_Ant1_2441_0~Reference



3DH1_Ant1_2441_30~1000

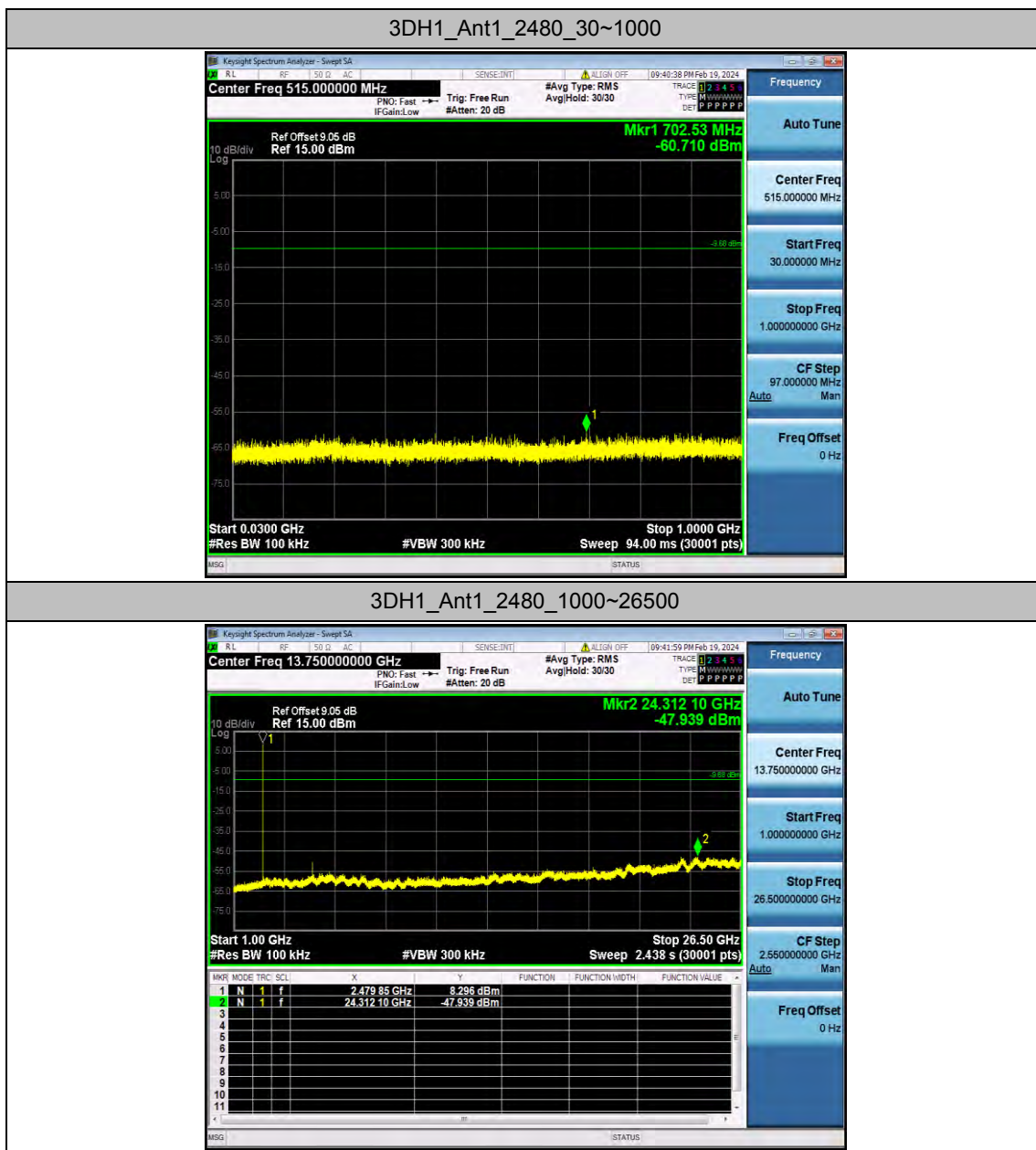


3DH1_Ant1_2441_1000~26500



3DH1_Ant1_2480_0~Reference





Appendix A.9: Emissions in Restricted Bands

Test Result

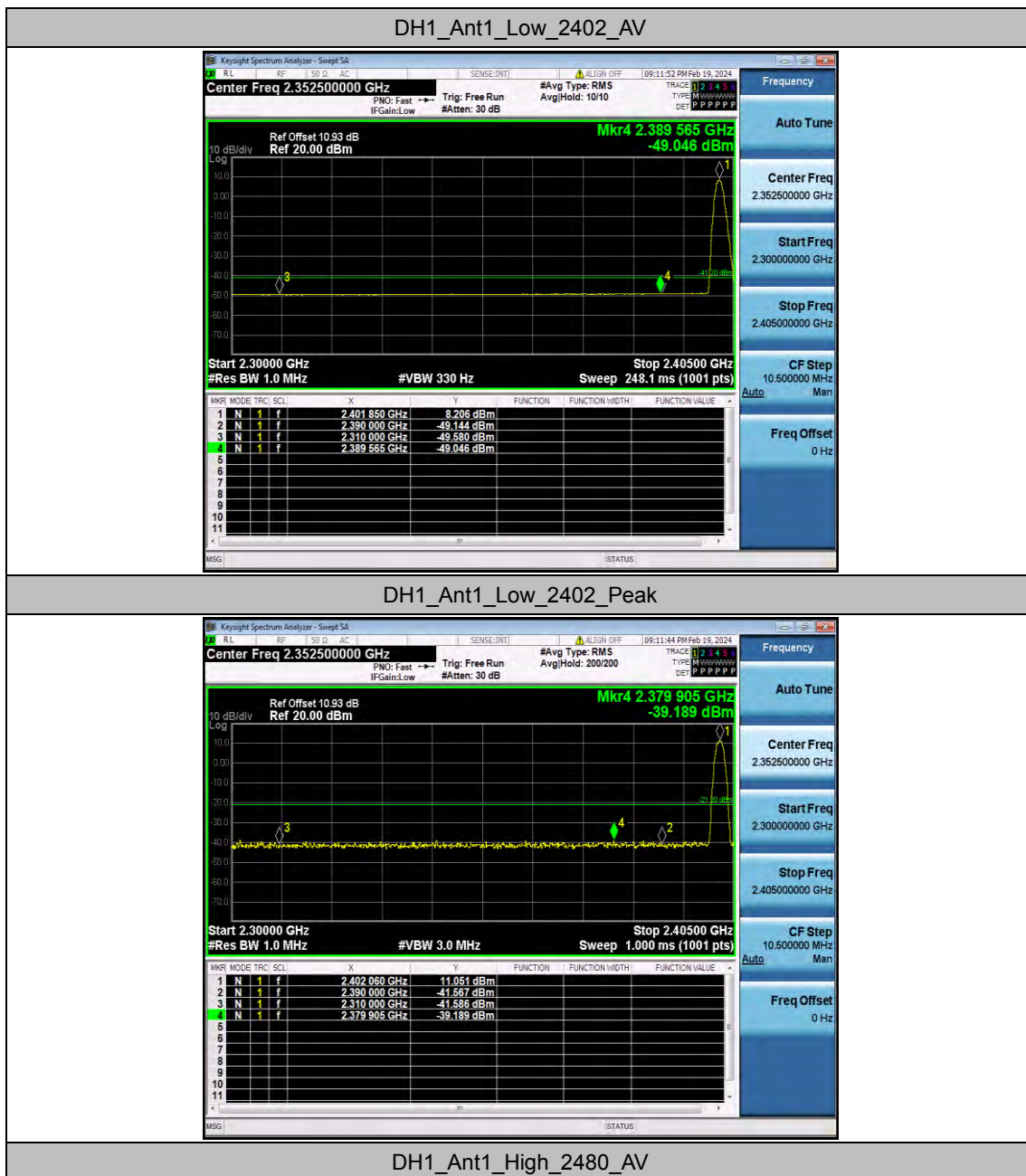
TestMode	Antenna	ChName	Freq (MHz)	Detector	Freq [MHz]	Result [dBm]	Limit [dBm]	Result [dBuV/m]	Limit [dBuV/m]	Verdict
DH1	Ant1	Low	2402	AV	2310.000	-49.58	≤-41.20	45.62	≤54	PASS
				AV	2389.565	-49.05	≤-41.20	46.15	≤54	PASS
				AV	2390.000	-49.14	≤-41.20	46.06	≤54	PASS
				Peak	2310.000	-41.59	≤-21.20	53.61	≤74	PASS
				Peak	2379.905	-39.19	≤-21.20	56.01	≤74	PASS
				Peak	2390.000	-41.57	≤-21.20	53.63	≤74	PASS
		High	2480	AV	2483.500	-47.03	≤-41.20	48.17	≤54	PASS
				AV	2489.040	-46.1	≤-41.20	49.10	≤54	PASS
				AV	2500.000	-48.71	≤-41.20	46.49	≤54	PASS
				Peak	2483.500	-40.56	≤-21.20	54.64	≤74	PASS
				Peak	2496.240	-38.09	≤-21.20	57.11	≤74	PASS
				Peak	2500.000	-40.49	≤-21.20	54.71	≤74	PASS
2DH1	Ant1	Low	2402	AV	2310.000	-49.66	≤-41.20	45.54	≤54	PASS
				AV	2368.250	-48.69	≤-41.20	46.51	≤54	PASS
				AV	2390.000	-49.12	≤-41.20	46.08	≤54	PASS
				Peak	2310.000	-42.26	≤-21.20	52.94	≤74	PASS
				Peak	2349.035	-38.77	≤-21.20	56.43	≤74	PASS
				Peak	2390.000	-41.54	≤-21.20	53.66	≤74	PASS
		High	2480	AV	2483.500	-46.13	≤-41.20	49.07	≤54	PASS
				AV	2483.520	-46.13	≤-41.20	49.07	≤54	PASS
				AV	2500.000	-48.56	≤-41.20	46.64	≤54	PASS
				Peak	2483.500	-39.92	≤-21.20	55.28	≤74	PASS
				Peak	2493.920	-39.28	≤-21.20	55.92	≤74	PASS
				Peak	2500.000	-40.57	≤-21.20	54.63	≤74	PASS
3DH1	Ant1	Low	2402	AV	2310.000	-49.65	≤-41.20	45.55	≤54	PASS
				AV	2387.780	-49.01	≤-41.20	46.19	≤54	PASS
				AV	2390.000	-49.18	≤-41.20	46.02	≤54	PASS
				Peak	2310.000	-42.76	≤-21.20	52.44	≤74	PASS
				Peak	2320.580	-38.78	≤-21.20	56.42	≤74	PASS
				Peak	2390.000	-42.14	≤-21.20	53.06	≤74	PASS
		High	2480	AV	2483.500	-46.26	≤-41.20	48.94	≤54	PASS
				AV	2483.520	-46.26	≤-41.20	48.94	≤54	PASS
				AV	2500.000	-48.61	≤-41.20	46.59	≤54	PASS
				Peak	2483.500	-38.88	≤-21.20	56.32	≤74	PASS
				Peak	2495.760	-38.61	≤-21.20	56.59	≤74	PASS

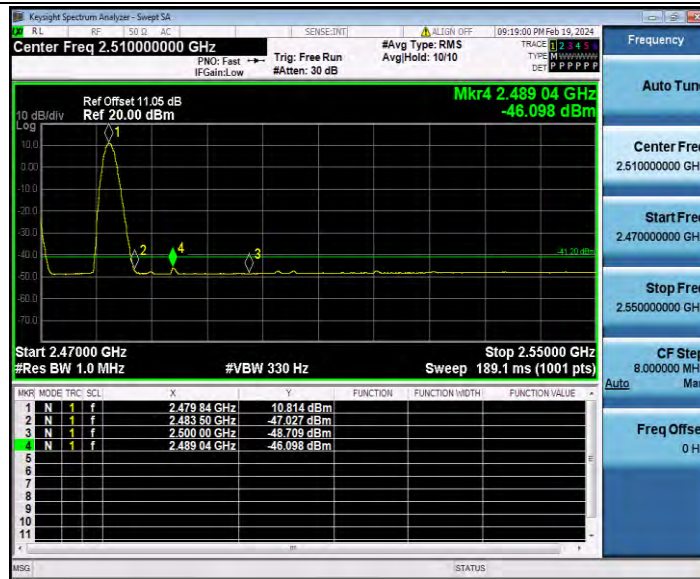
				Peak	2500.000	-41.41	≤ -21.20	53.79	≤ 74	PASS
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Note:

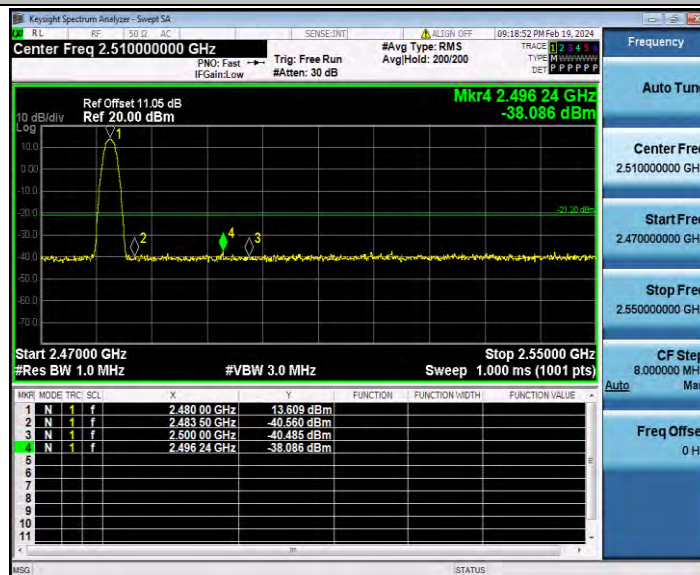
1. The Antenna Gain is compensated in the graph.
2. The Duty Cycle Factor and RBW Factor is compensated in the graph.
3. The limit in dBm for average detector is conversion from 54dBuV/m, according to 15.209(a). The limit in dBm for peak detector is 20dB above the limit of average detector in dBm.

Test Graphs

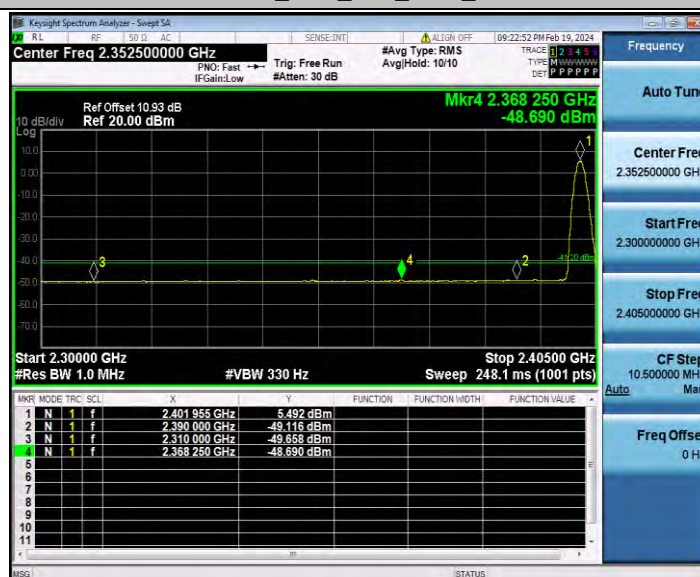




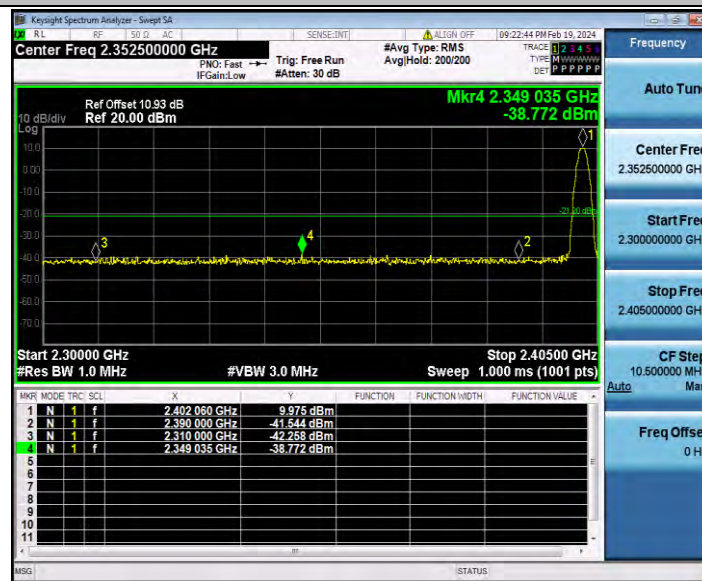
DH1_Ant1_High_2480_Peak



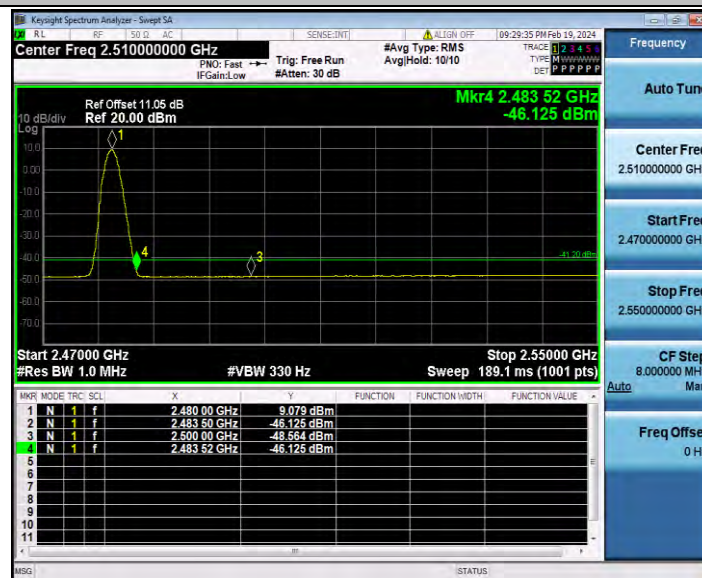
2DH1_Ant1_Low_2402_AV



2DH1_Ant1_Low_2402_Peak



2DH1_Ant1_High_2480_AV



2DH1_Ant1_High_2480_Peak

