

Case No. : <u>GTS20231206007-1-15</u>	
Ambient Condition: <u>24</u> °C, <u>48</u> %RH	
According Standard: ■Part15C	
Test Date: <u>2024.1.9</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	0.795	2401.598	2402.393	---	---
		2441	0.831	2440.568	2441.399	---	---
		2480	0.828	2479.574	2480.402	---	---
2DH1	Ant1	2402	1.236	2401.382	2402.618	---	---
		2441	1.236	2440.385	2441.621	---	---
		2480	1.272	2479.364	2480.636	---	---
3DH1	Ant1	2402	1.218	2401.409	2402.627	---	---
		2441	1.233	2440.391	2441.624	---	---
		2480	1.257	2479.370	2480.627	---	---

Test Graphs

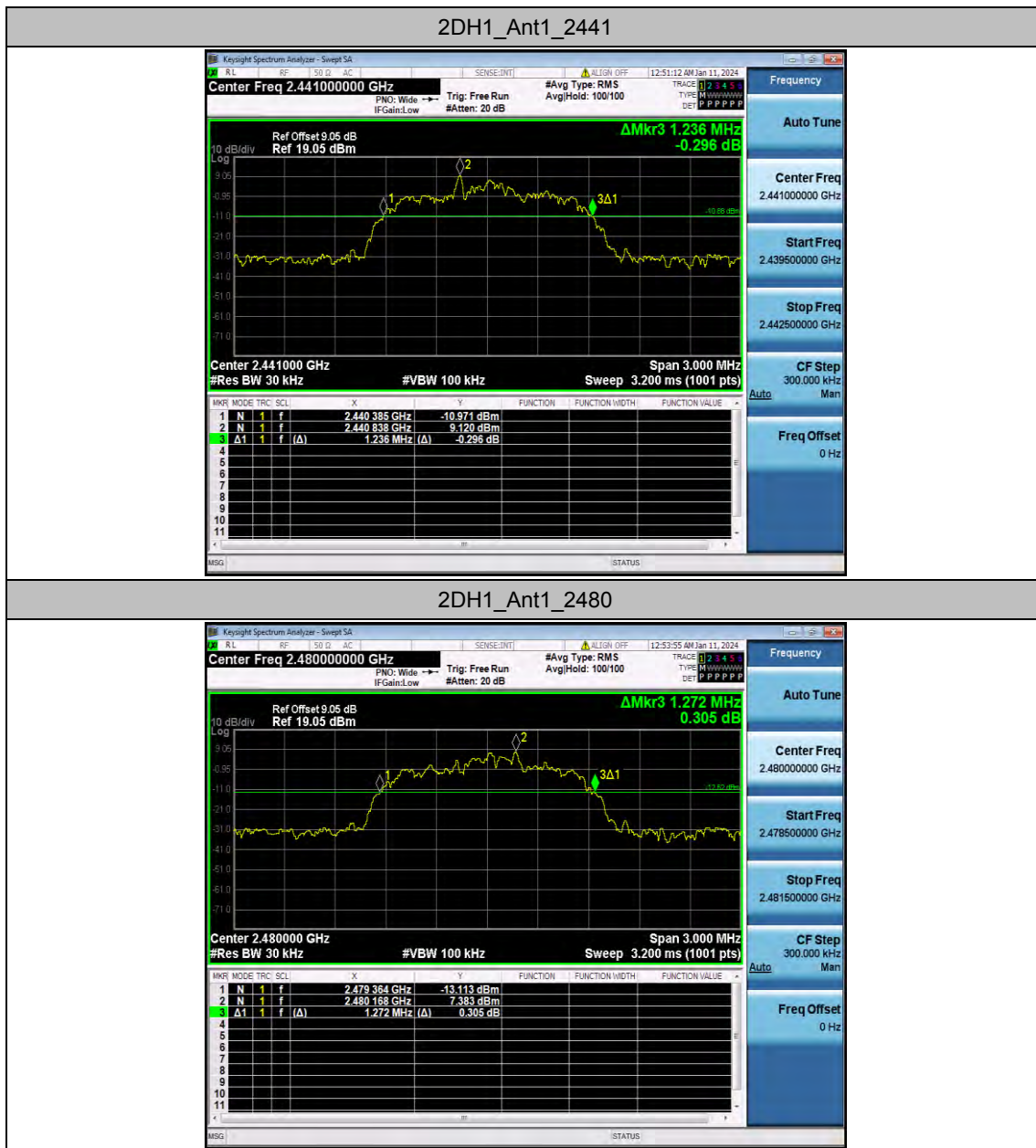
DH1_Ant1_2402



DH1_Ant1_2441







3DH1_Ant1_2402



3DH1_Ant1_2441



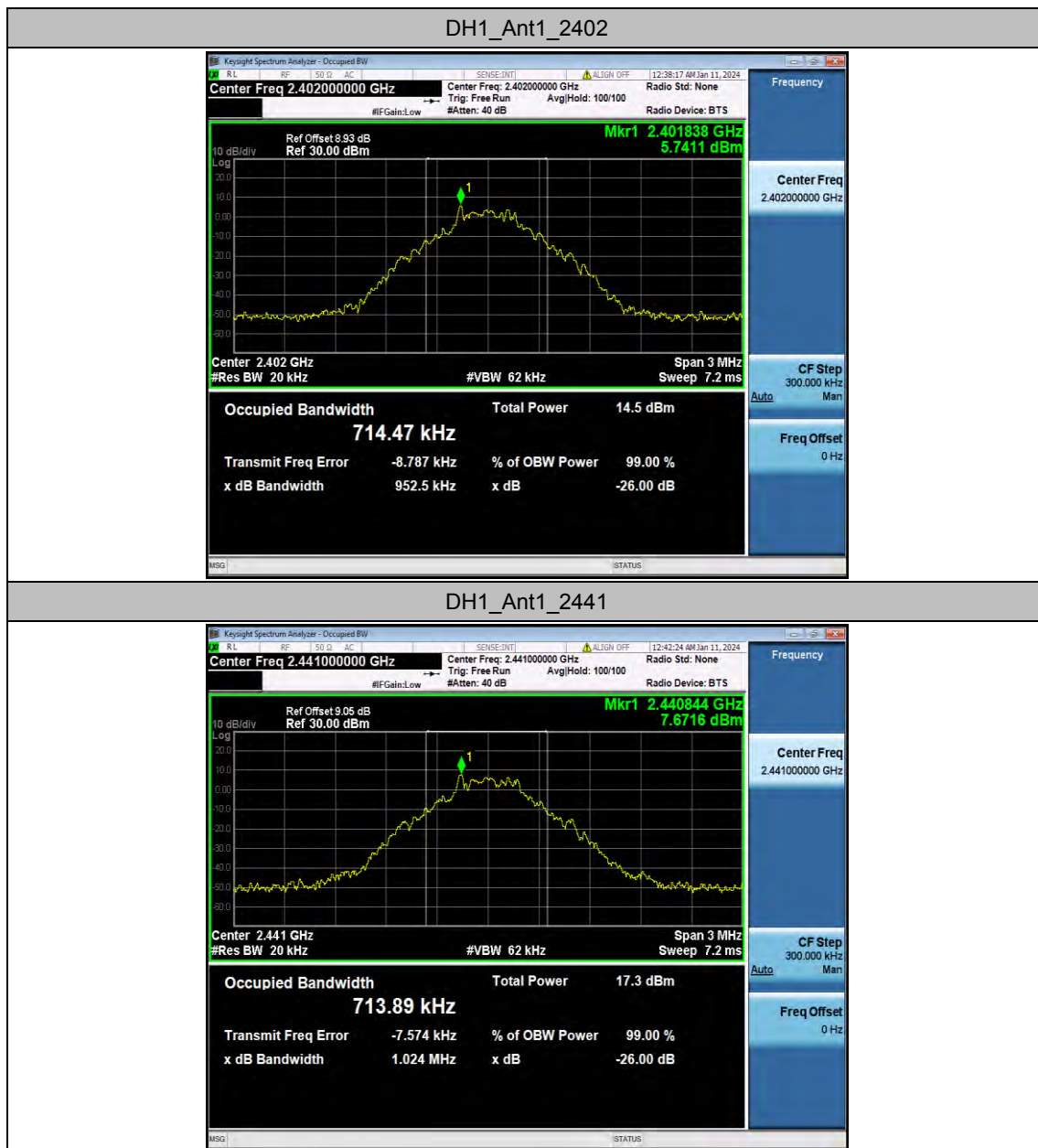


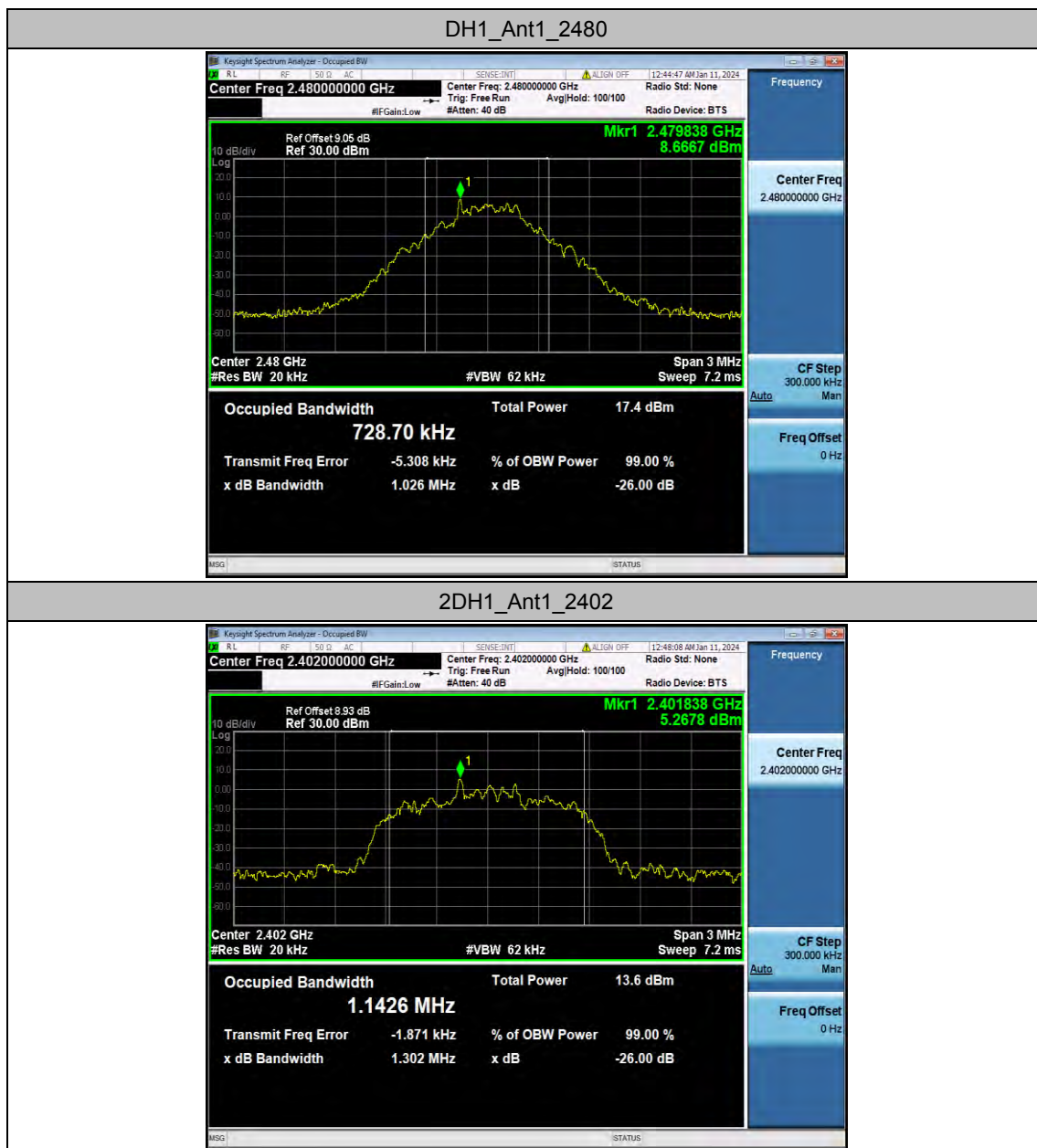
Appendix A.2: Occupied Channel Bandwidth

Test Result

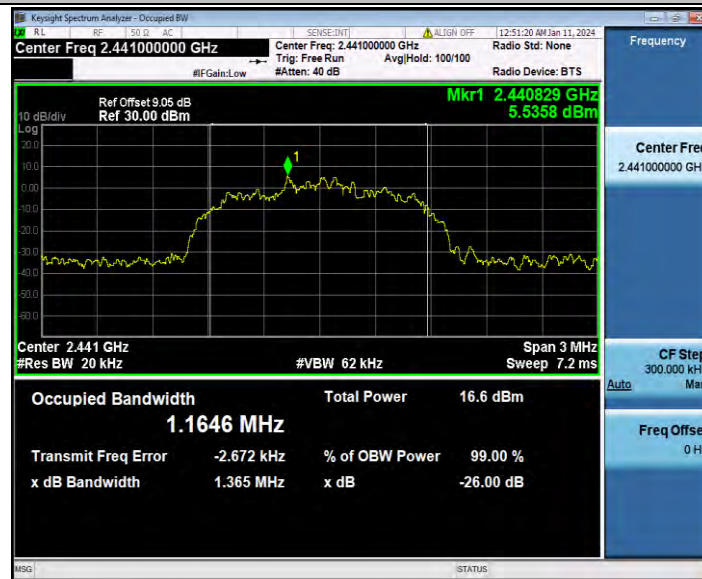
TestMode	Antenna	Freq(MHz)	OCB [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
DH1	Ant1	2402	0.71447	2401.6340	2402.3484	---	---
		2441	0.71389	2440.6355	2441.3494	---	---
		2480	0.72870	2479.6303	2480.3590	---	---
2DH1	Ant1	2402	1.1426	2401.4268	2402.5694	---	---
		2441	1.1646	2440.4150	2441.5796	---	---
		2480	1.1504	2479.4219	2480.5723	---	---
3DH1	Ant1	2402	1.1340	2401.4392	2402.5732	---	---
		2441	1.1519	2440.4336	2441.5855	---	---
		2480	1.1511	2479.4350	2480.5861	---	---

Test Graphs





2DH1_Ant1_2441



2DH1_Ant1_2480



3DH1_Ant1_2402



3DH1_Ant1_2441





Appendix A.3: Maximum conducted output power

Test Result Peak

Test Mode	Antenna	Freq(MHz)	Conducted Peak Power[dBm]	Conducted Limit[dBm]	Verdict
DH1	Ant1	2402	8.67	≤ 20.97	PASS
		2441	11.51	≤ 20.97	PASS
		2480	11.67	≤ 20.97	PASS
2DH1	Ant1	2402	7.97	≤ 20.97	PASS
		2441	11.49	≤ 20.97	PASS
		2480	11.75	≤ 20.97	PASS
3DH1	Ant1	2402	8.05	≤ 20.97	PASS
		2441	11.60	≤ 20.97	PASS
		2480	11.75	≤ 20.97	PASS

Note:

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

Appendix A.4: Carrier frequency separation

Test Result

TestMode	Antenna	Freq(MHz)	Result[MHz]	Limit[MHz]	Verdict
DH1	Ant1	Hop_2402	1.166	≥ 0.831	PASS
		Hop_2441	1.012	≥ 0.831	PASS
		Hop_2480	1.006	≥ 0.831	PASS
2DH1	Ant1	Hop_2402	1.312	≥ 1.272	PASS
		Hop_2441	1.006	≥ 0.848	PASS
		Hop_2480	1	≥ 0.848	PASS
3DH1	Ant1	Hop_2402	1.164	≥ 0.838	PASS
		Hop_2441	1.022	≥ 0.838	PASS
		Hop_2480	1.154	≥ 0.838	PASS

Test Graphs



DH1_Ant1_Hop_2480



2DH1_Ant1_Hop_2402



2DH1_Ant1_Hop_2441



2DH1_Ant1_Hop_2480

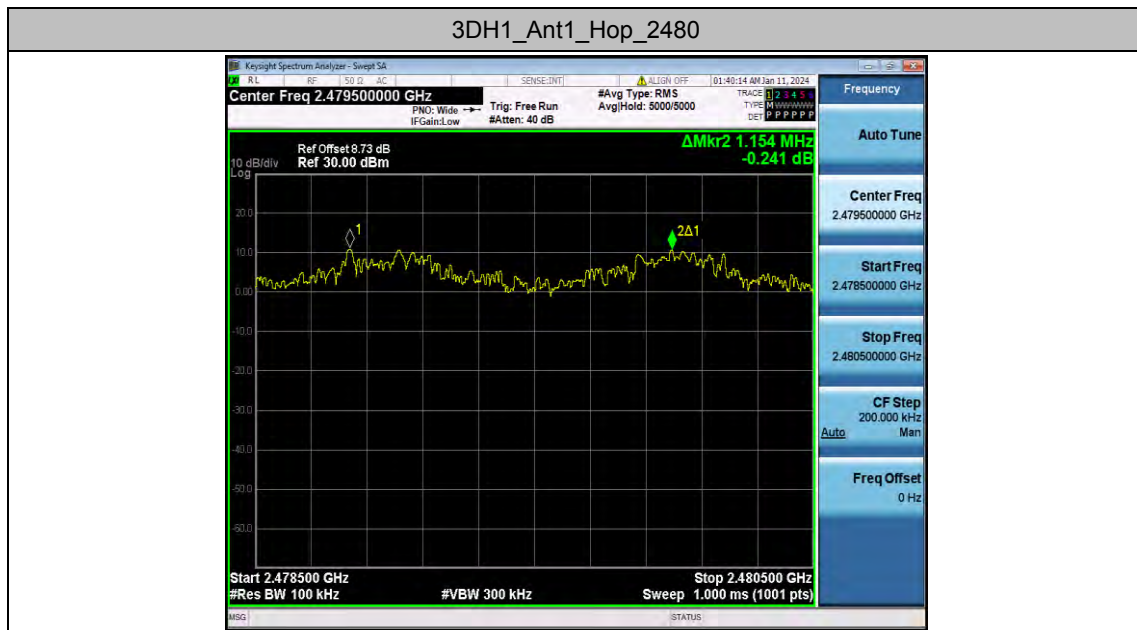


3DH1_Ant1_Hop_2402



3DH1_Ant1_Hop_2441



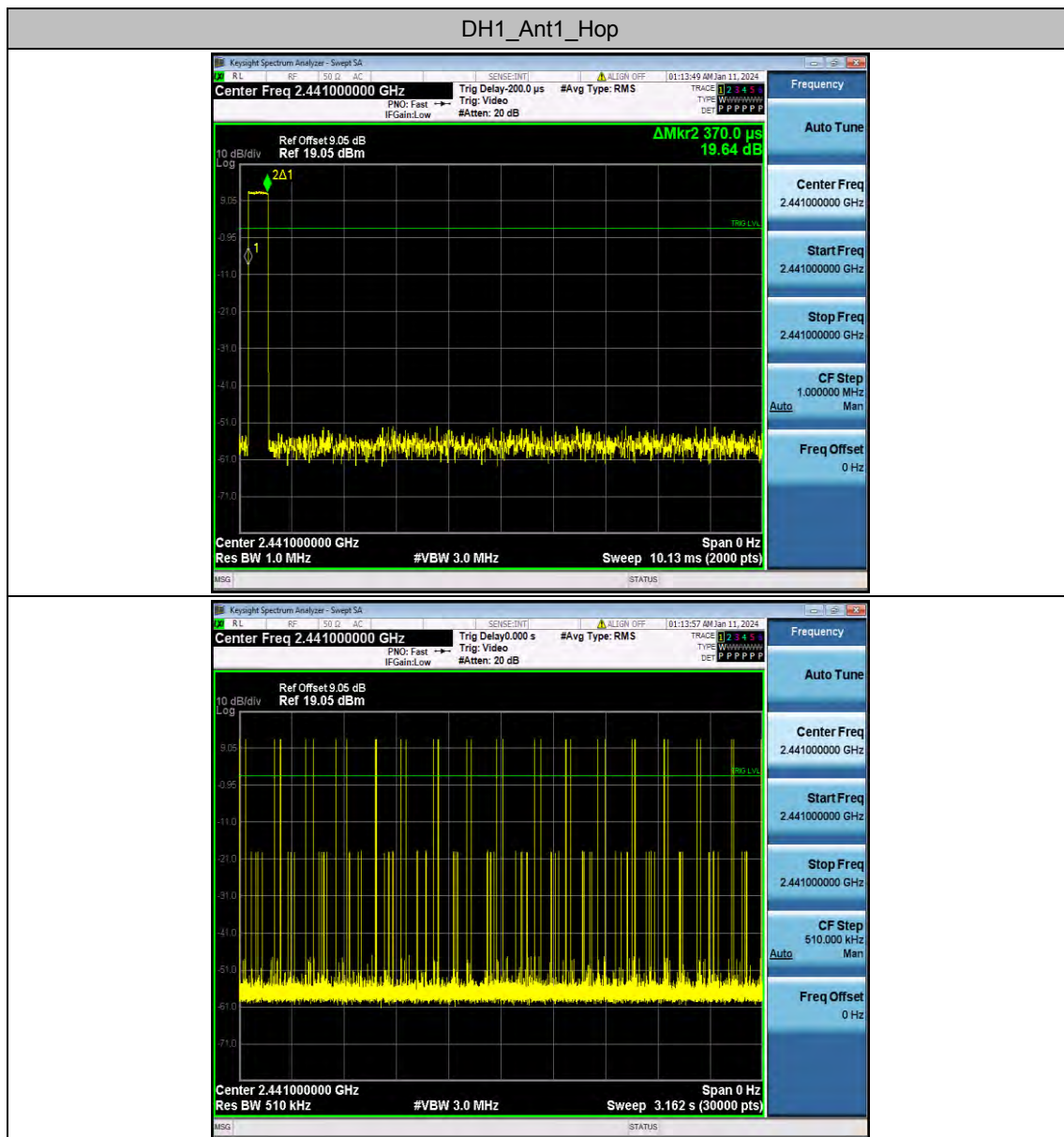


Appendix A.5: Time of occupancy

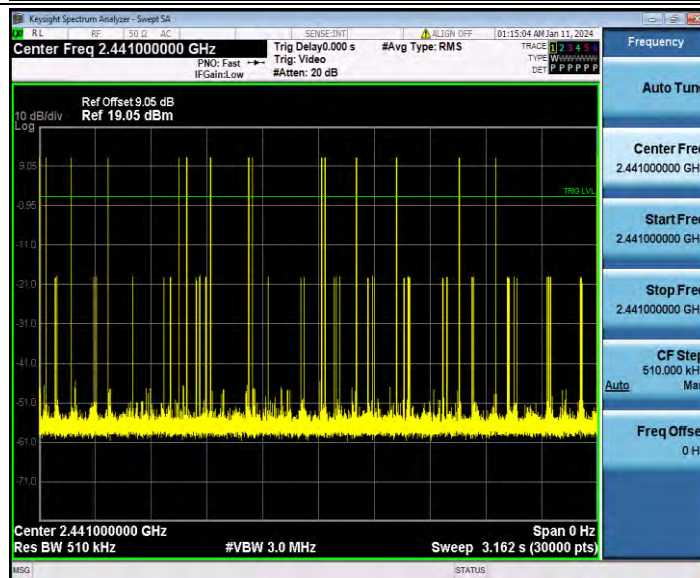
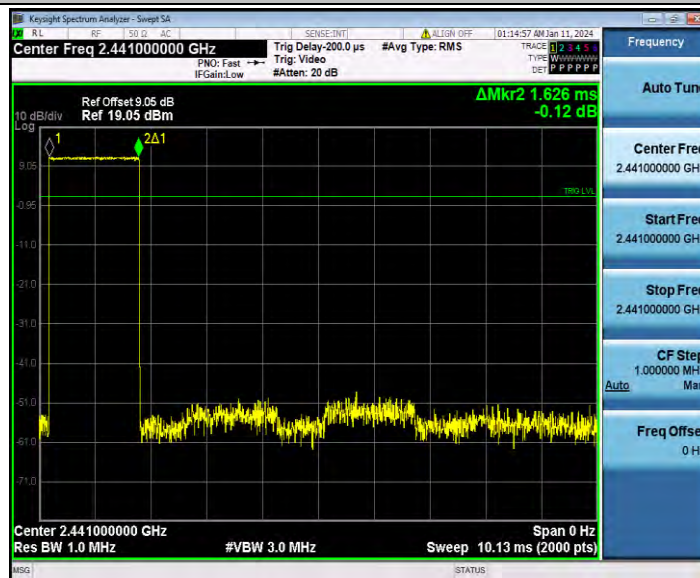
Test Result

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	160	0.26	≤0.4	PASS
DH5	Ant1	Hop	2.873	130	0.373	≤0.4	PASS
2DH1	Ant1	Hop	0.380	330	0.125	≤0.4	PASS
2DH3	Ant1	Hop	1.626	160	0.26	≤0.4	PASS
2DH5	Ant1	Hop	2.873	120	0.345	≤0.4	PASS
3DH1	Ant1	Hop	0.380	330	0.125	≤0.4	PASS
3DH3	Ant1	Hop	1.626	160	0.26	≤0.4	PASS
3DH5	Ant1	Hop	2.878	120	0.345	≤0.4	PASS

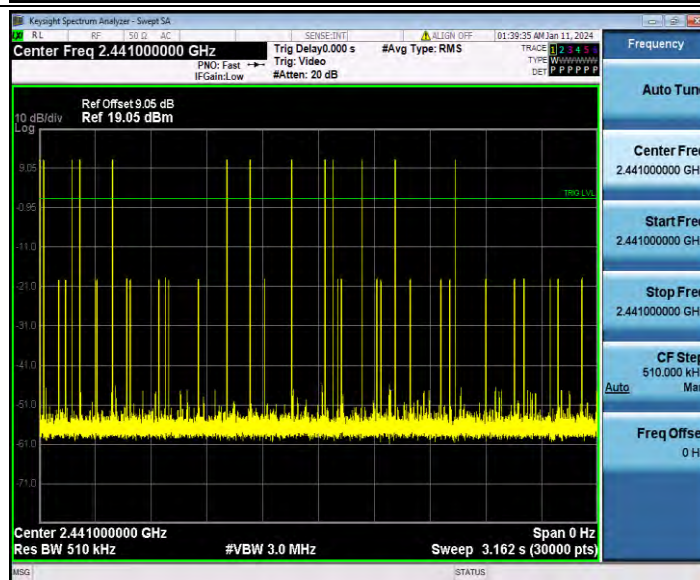
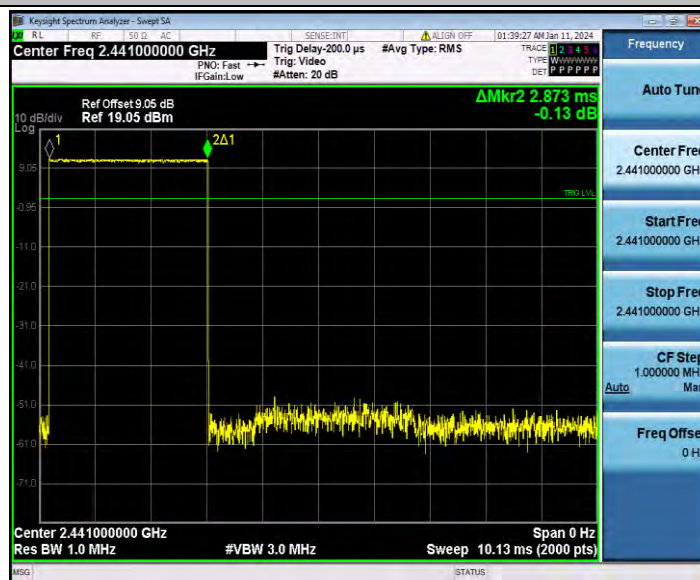
Test Graphs



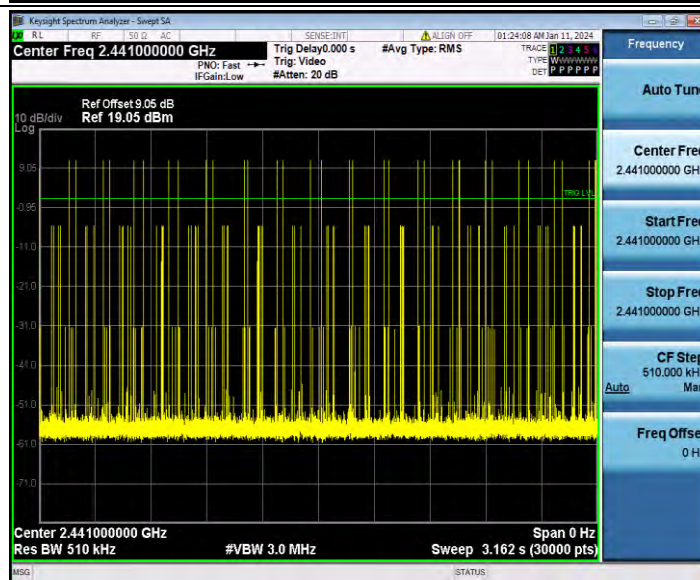
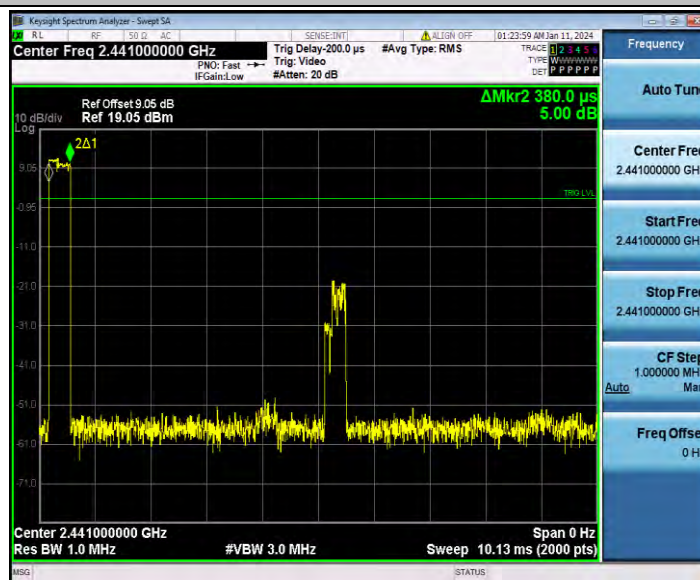
DH3_Ant1_Hop



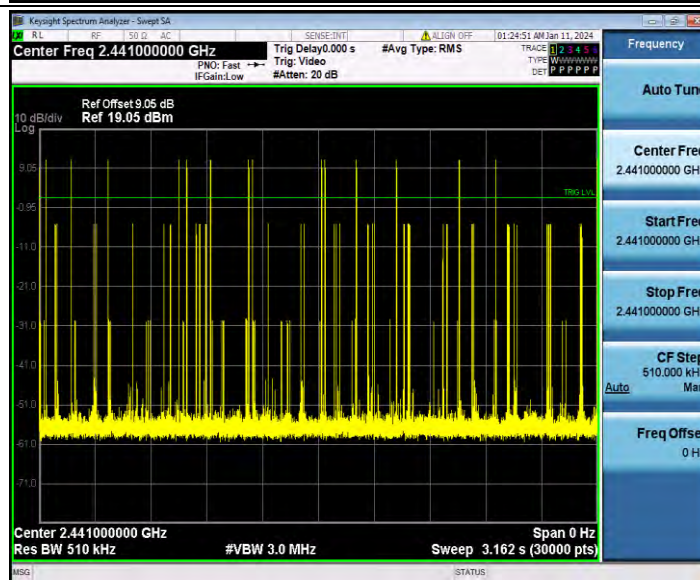
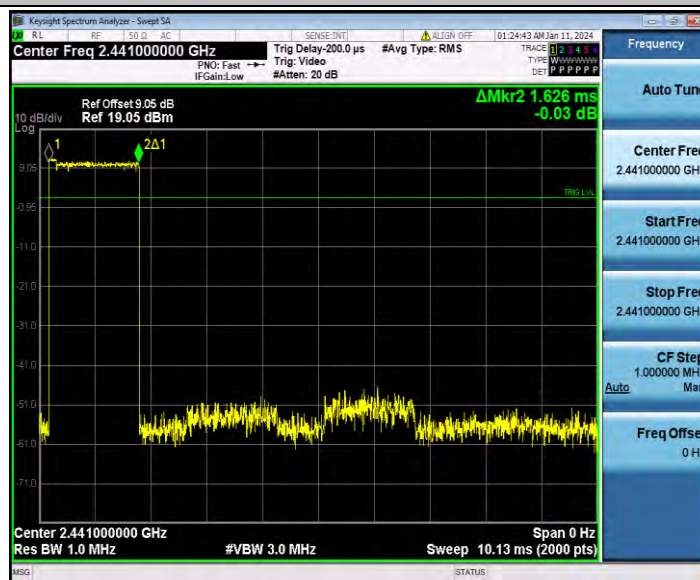
DH5_Ant1_Hop

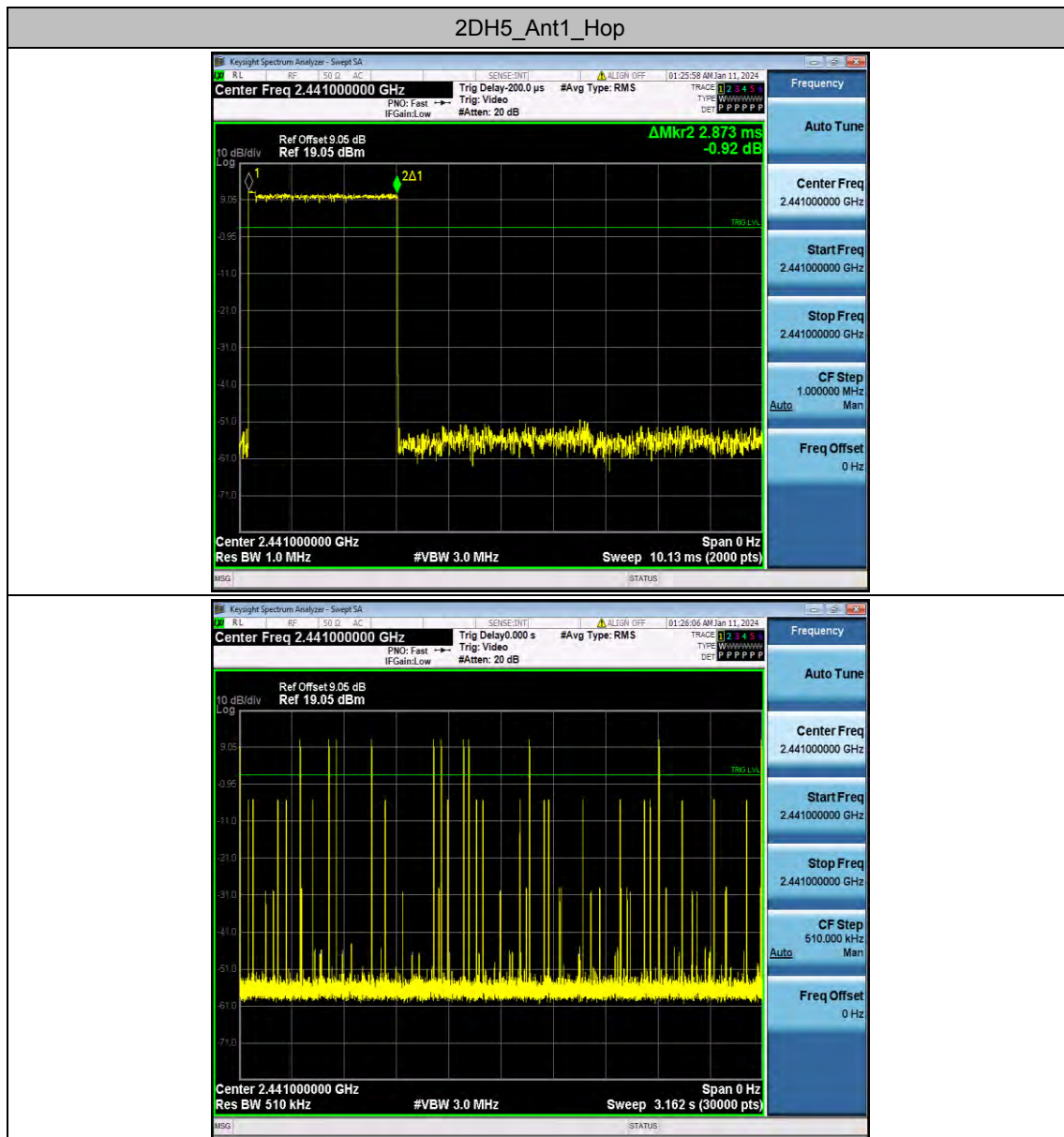


2DH1_Ant1_Hop

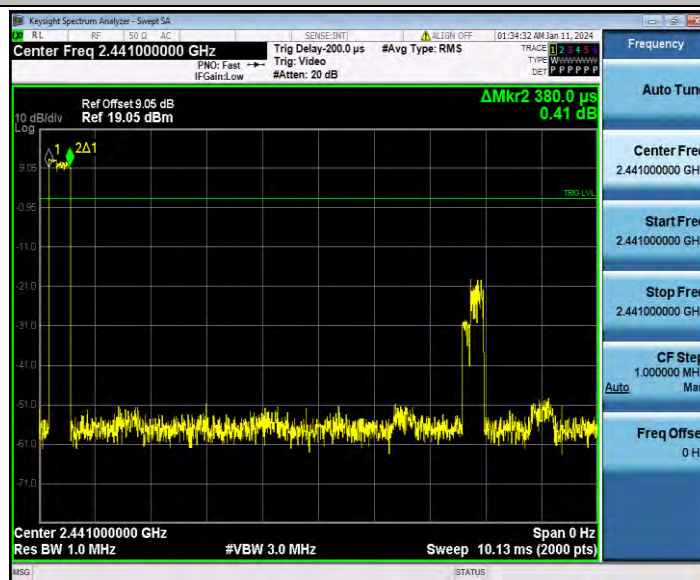


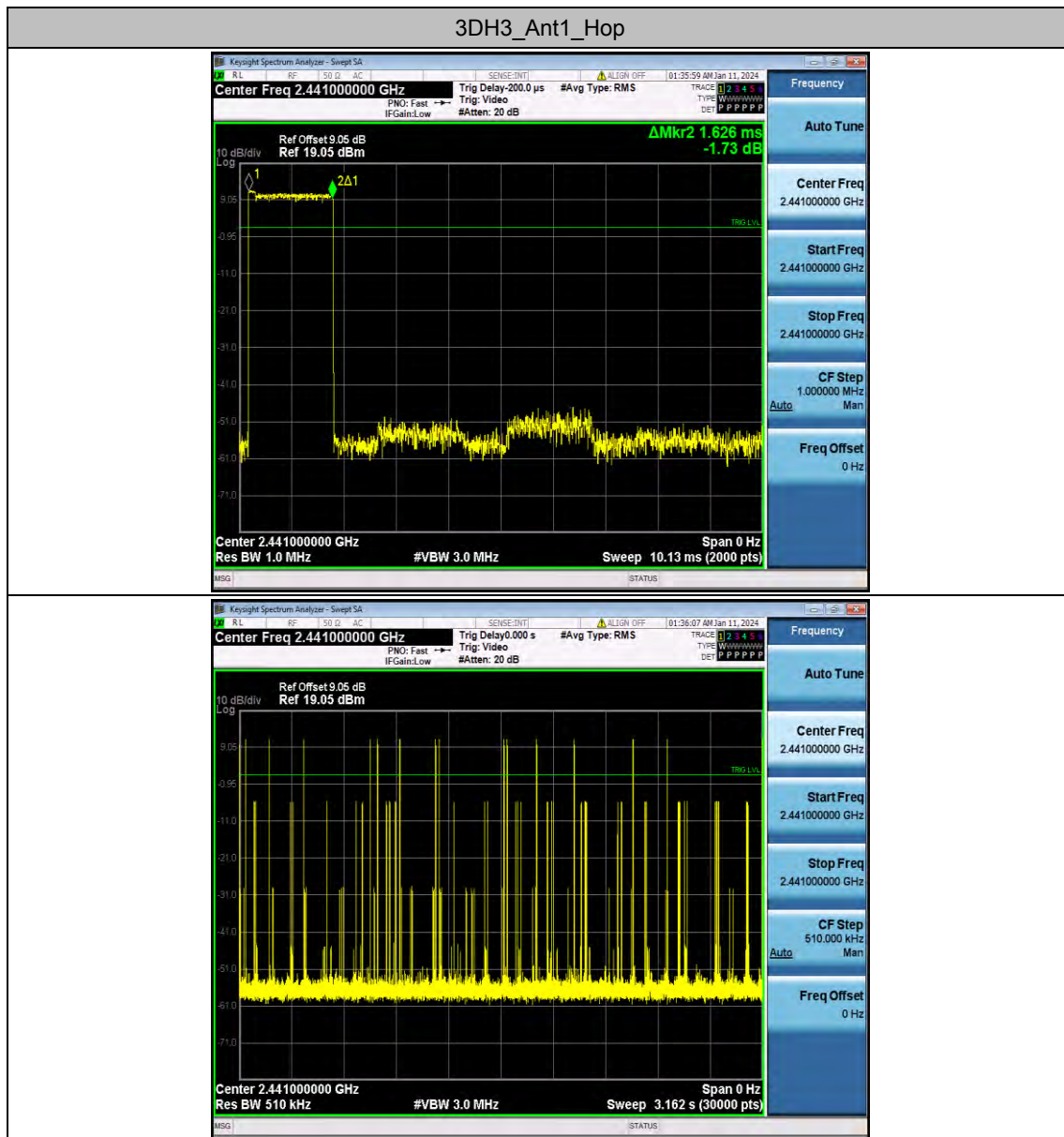
2DH3_Ant1_Hop



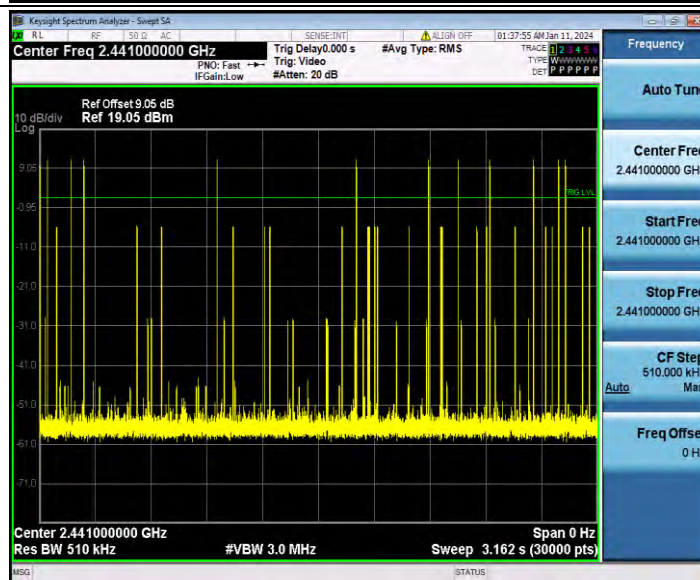


3DH1_Ant1_Hop





3DH5_Ant1_Hop

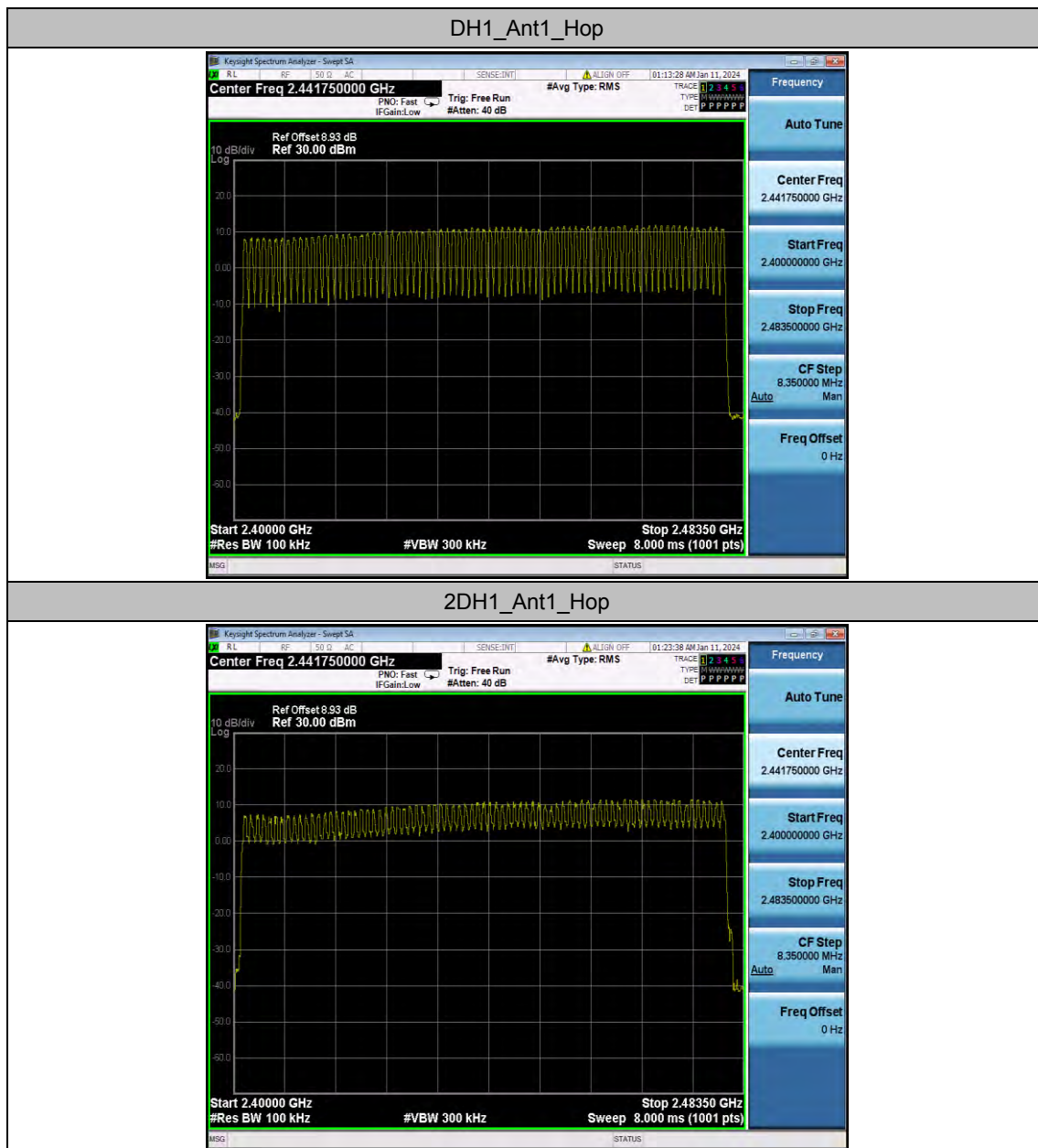


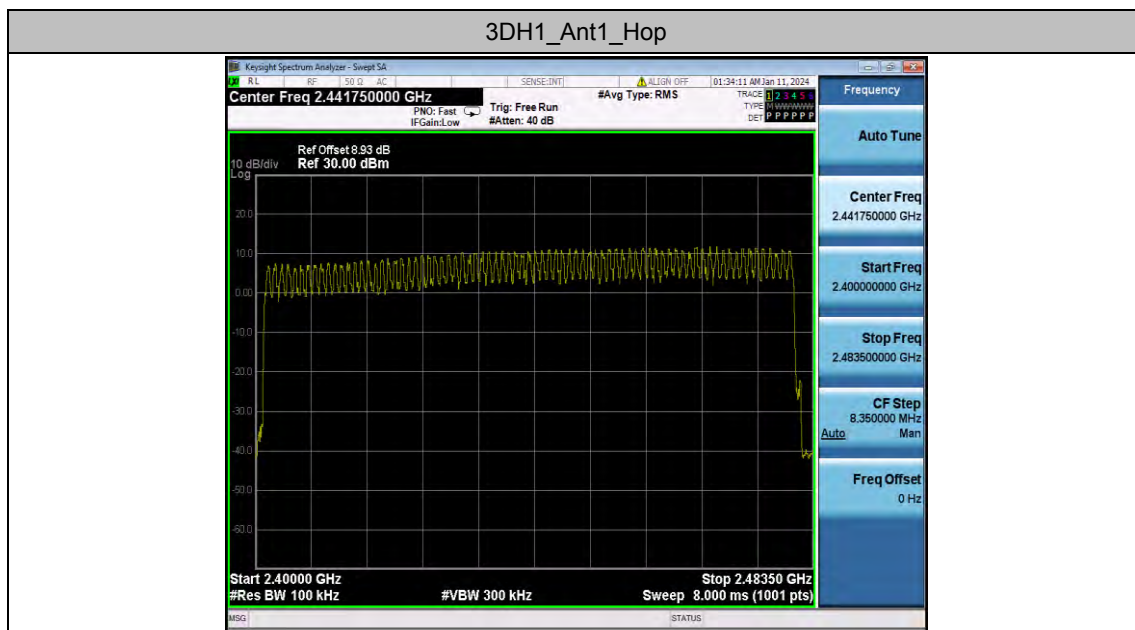
Appendix A.6: Number of hopping channels

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



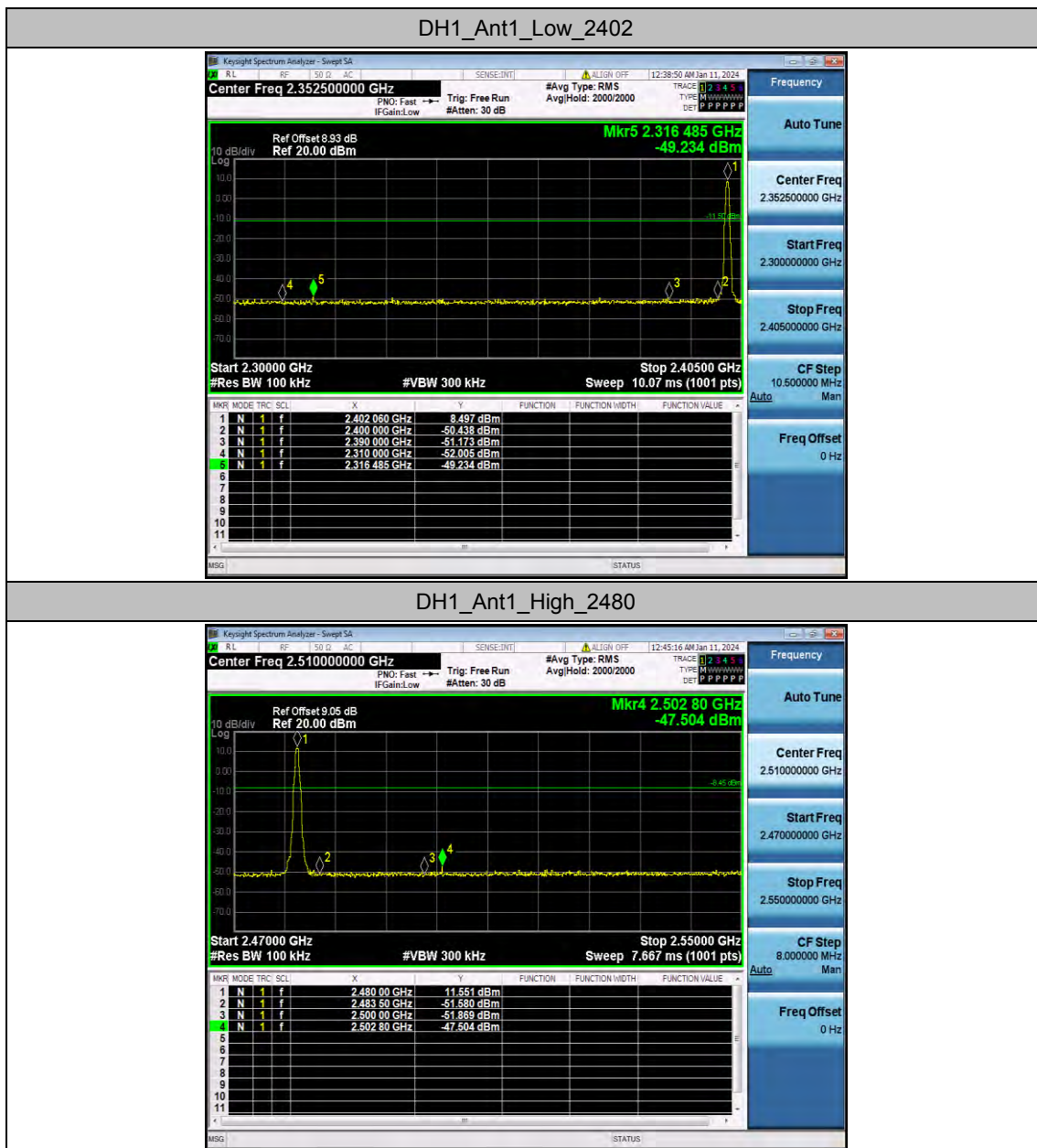


Appendix A.7: Band edge measurements

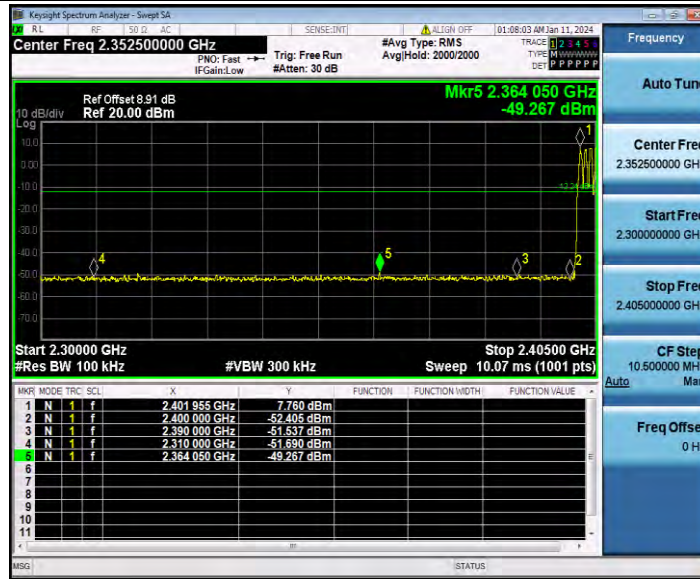
Test Result

TestMode	Antenna	ChName	Freq(MHz)	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
DH1	Ant1	Low	2402	8.50	-49.23	≤ -11.5	PASS
		High	2480	11.55	-47.5	≤ -8.45	PASS
		Low	Hop_2402	7.76	-49.27	≤ -12.24	PASS
		High	Hop_2480	11.15	-49.06	≤ -8.85	PASS
2DH1	Ant1	Low	2402	7.72	-48.74	≤ -12.28	PASS
		High	2480	11.38	-48.86	≤ -8.63	PASS
		Low	Hop_2402	7.64	-49.8	≤ -12.36	PASS
		High	Hop_2480	10.60	-48.62	≤ -9.4	PASS
3DH1	Ant1	Low	2402	7.77	-48.81	≤ -12.23	PASS
		High	2480	11.49	-48.19	≤ -8.51	PASS
		Low	Hop_2402	7.49	-49.64	≤ -12.51	PASS
		High	Hop_2480	11.39	-48.84	≤ -8.62	PASS

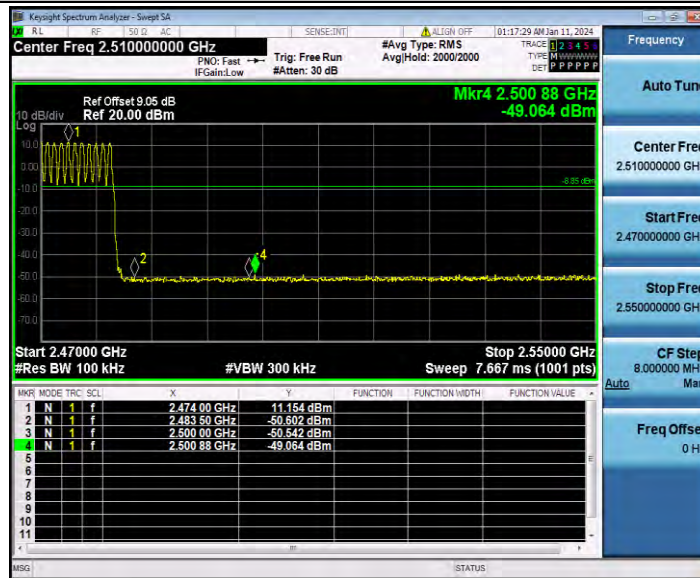
Test Graphs



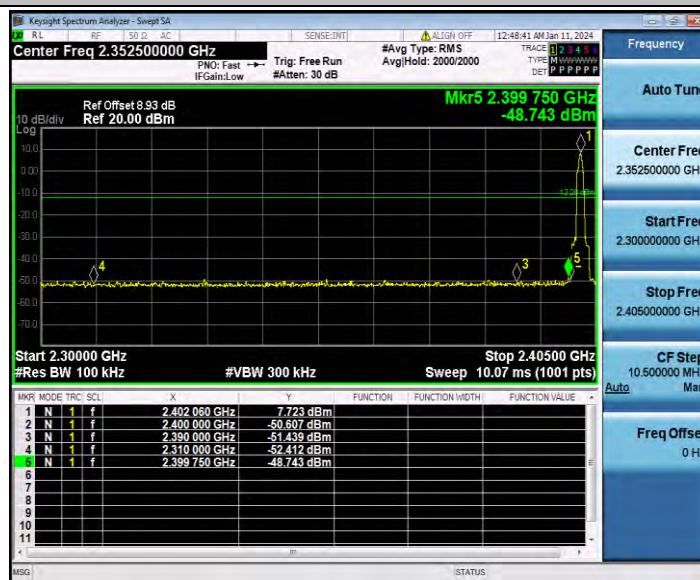
DH1_Ant1_Low_Hop_2402



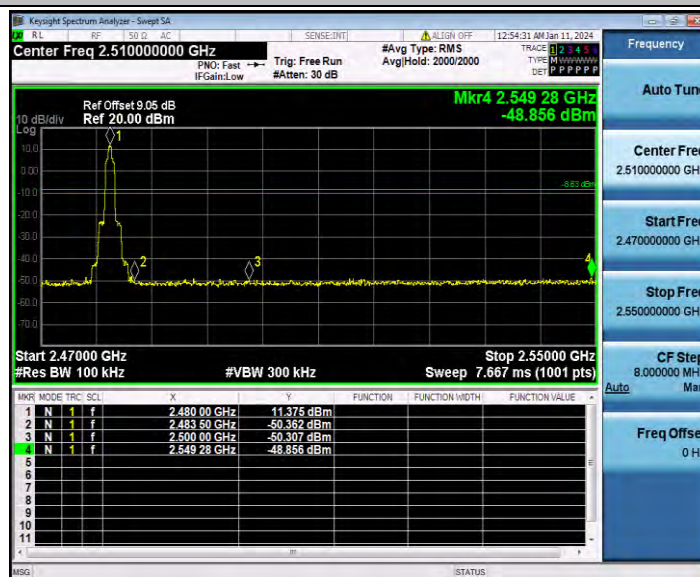
DH1_Ant1_High_Hop_2480



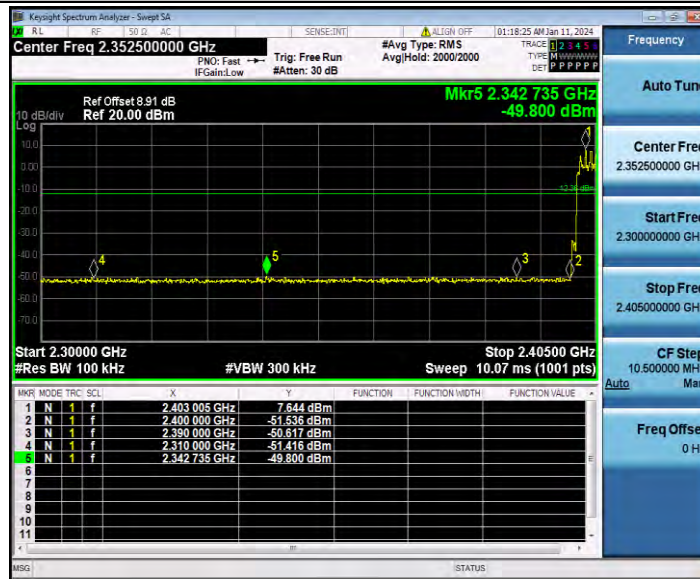
2DH1_Ant1_Low_2402



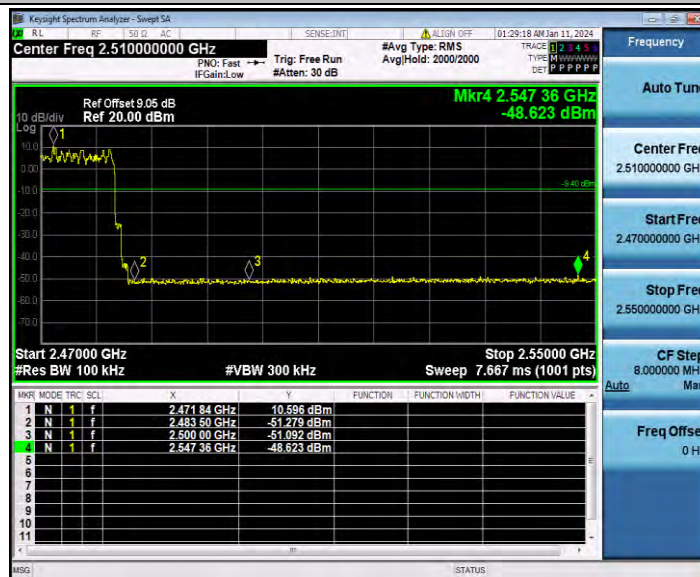
2DH1_Ant1_High_2480



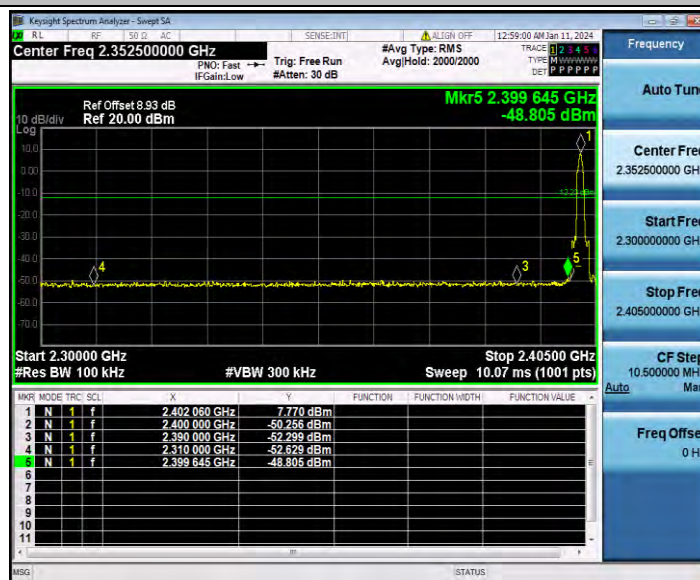
2DH1_Ant1_Low_Hop_2402



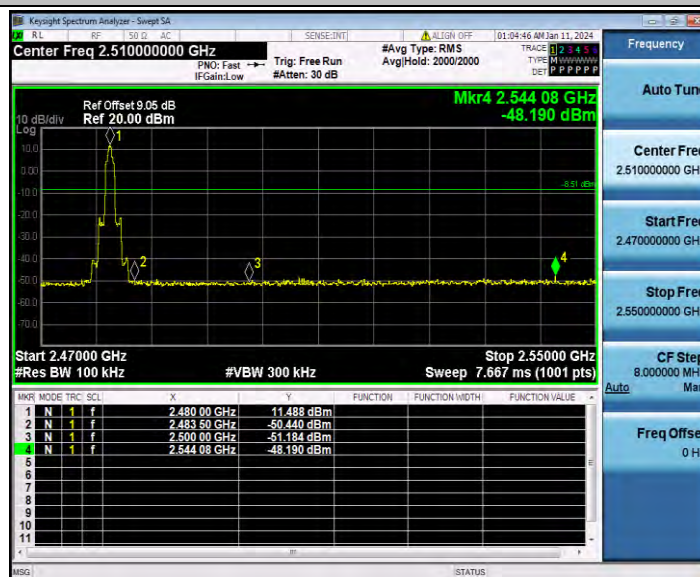
2DH1_Ant1_High_Hop_2480



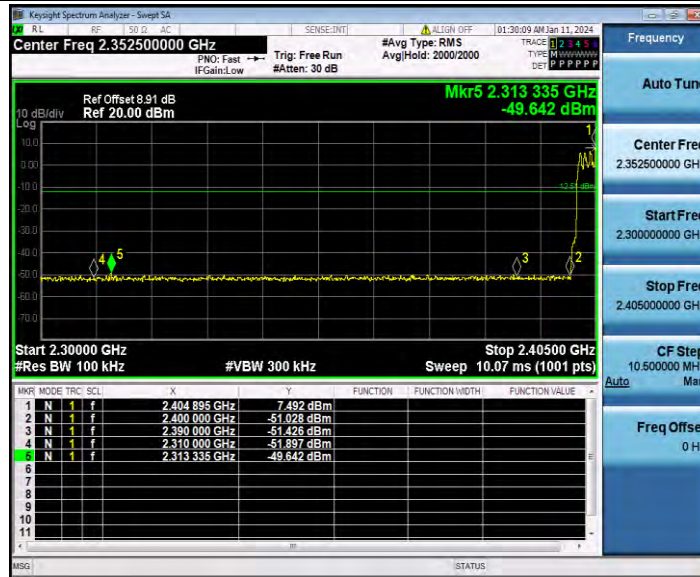
3DH1_Ant1_Low_2402



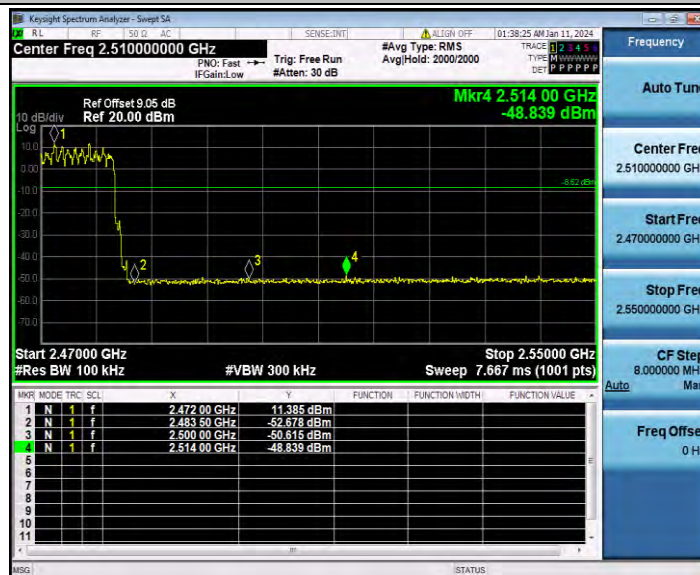
3DH1_Ant1_High_2480



3DH1_Ant1_Low_Hop_2402



3DH1_Ant1_High_Hop_2480

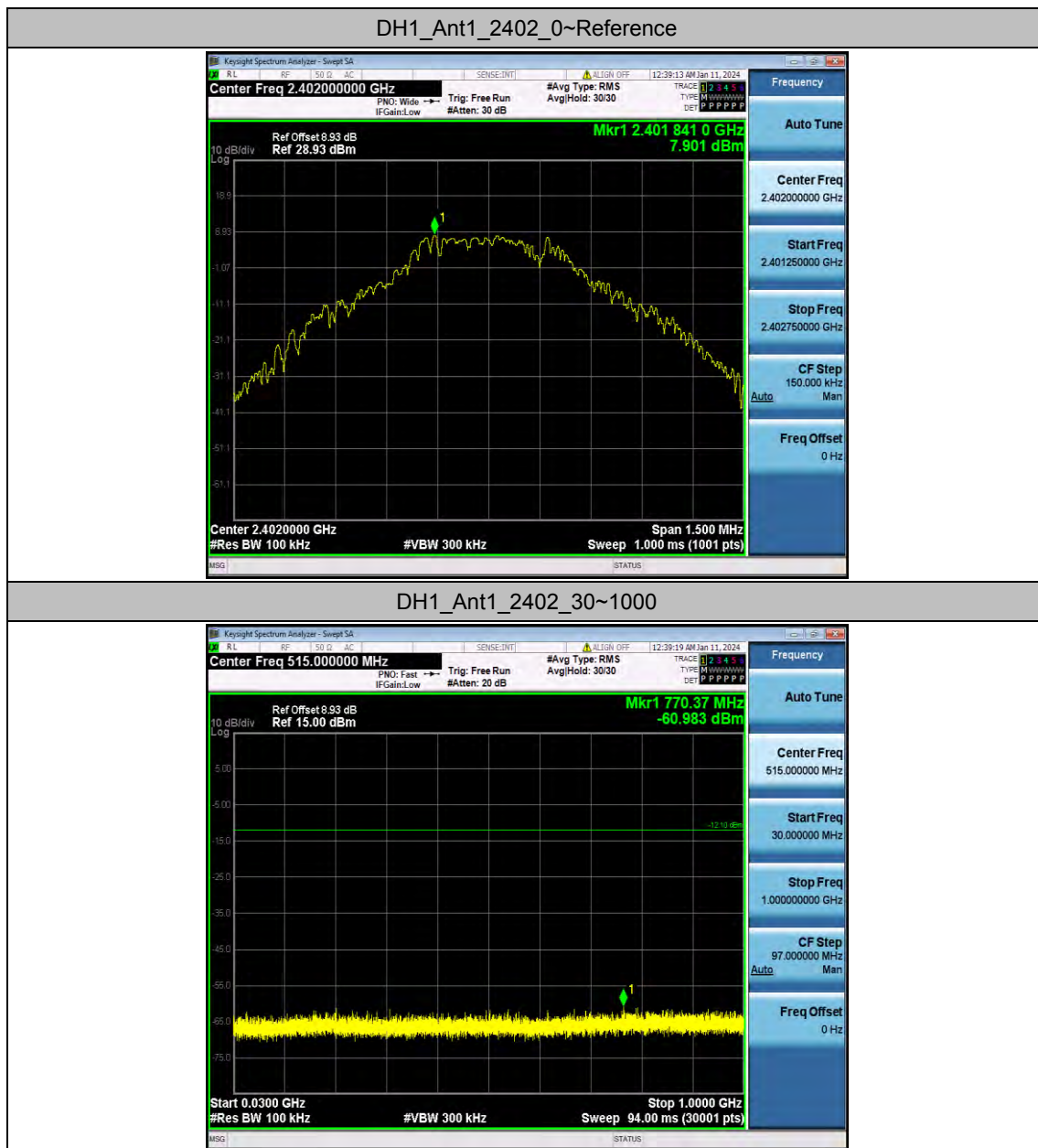


Appendix A.8: Conducted Spurious Emission

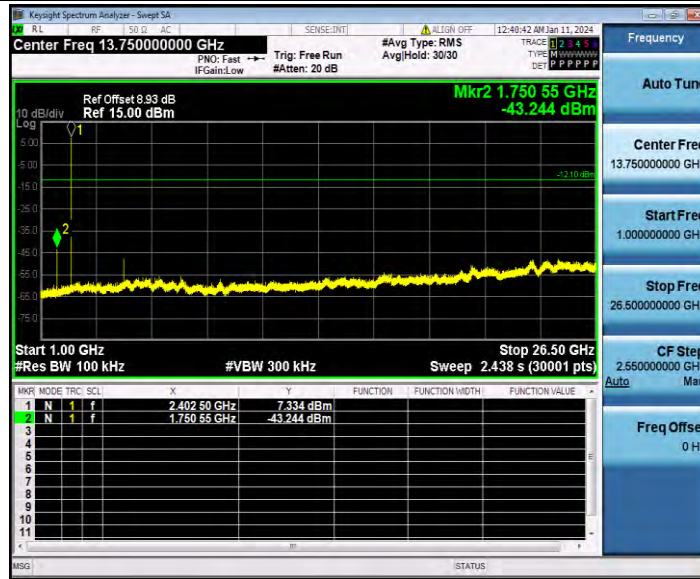
Test Result

TestMode	Antenna	Freq(MHz)	FreqRange [MHz]	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
DH1	Ant1	2402	Reference	7.90	7.90	---	PASS
			30~1000	7.90	-60.98	≤ -12.1	PASS
			1000~26500	7.90	-43.24	≤ -12.1	PASS
		2441	Reference	10.60	10.60	---	PASS
			30~1000	10.60	-60.66	≤ -9.4	PASS
			1000~26500	10.60	-48.22	≤ -9.4	PASS
		2480	Reference	10.59	10.59	---	PASS
			30~1000	10.59	-60.38	≤ -9.41	PASS
			1000~26500	10.59	-47.12	≤ -9.41	PASS
2DH1	Ant1	2402	Reference	7.35	7.35	---	PASS
			30~1000	7.35	-60.96	≤ -12.65	PASS
			1000~26500	7.35	-48.2	≤ -12.65	PASS
		2441	Reference	10.79	10.79	---	PASS
			30~1000	10.79	-60.24	≤ -9.21	PASS
			1000~26500	10.79	-47.44	≤ -9.21	PASS
		2480	Reference	10.67	10.67	---	PASS
			30~1000	10.67	-59.82	≤ -9.33	PASS
			1000~26500	10.67	-48.1	≤ -9.33	PASS
3DH1	Ant1	2402	Reference	7.49	7.49	---	PASS
			30~1000	7.49	-60.79	≤ -12.51	PASS
			1000~26500	7.49	-47.52	≤ -12.51	PASS
		2441	Reference	10.89	10.89	---	PASS
			30~1000	10.89	-60.1	≤ -9.11	PASS
			1000~26500	10.89	-47.5	≤ -9.11	PASS
		2480	Reference	11.08	11.08	---	PASS
			30~1000	11.08	-59.78	≤ -8.92	PASS
			1000~26500	11.08	-47.68	≤ -8.92	PASS

Test Graphs



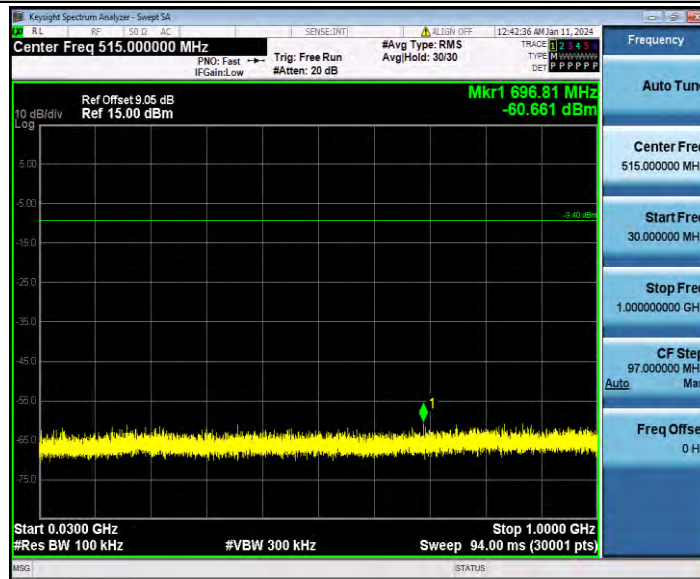
DH1_Ant1_2402_1000~26500



DH1_Ant1_2441_0~Reference

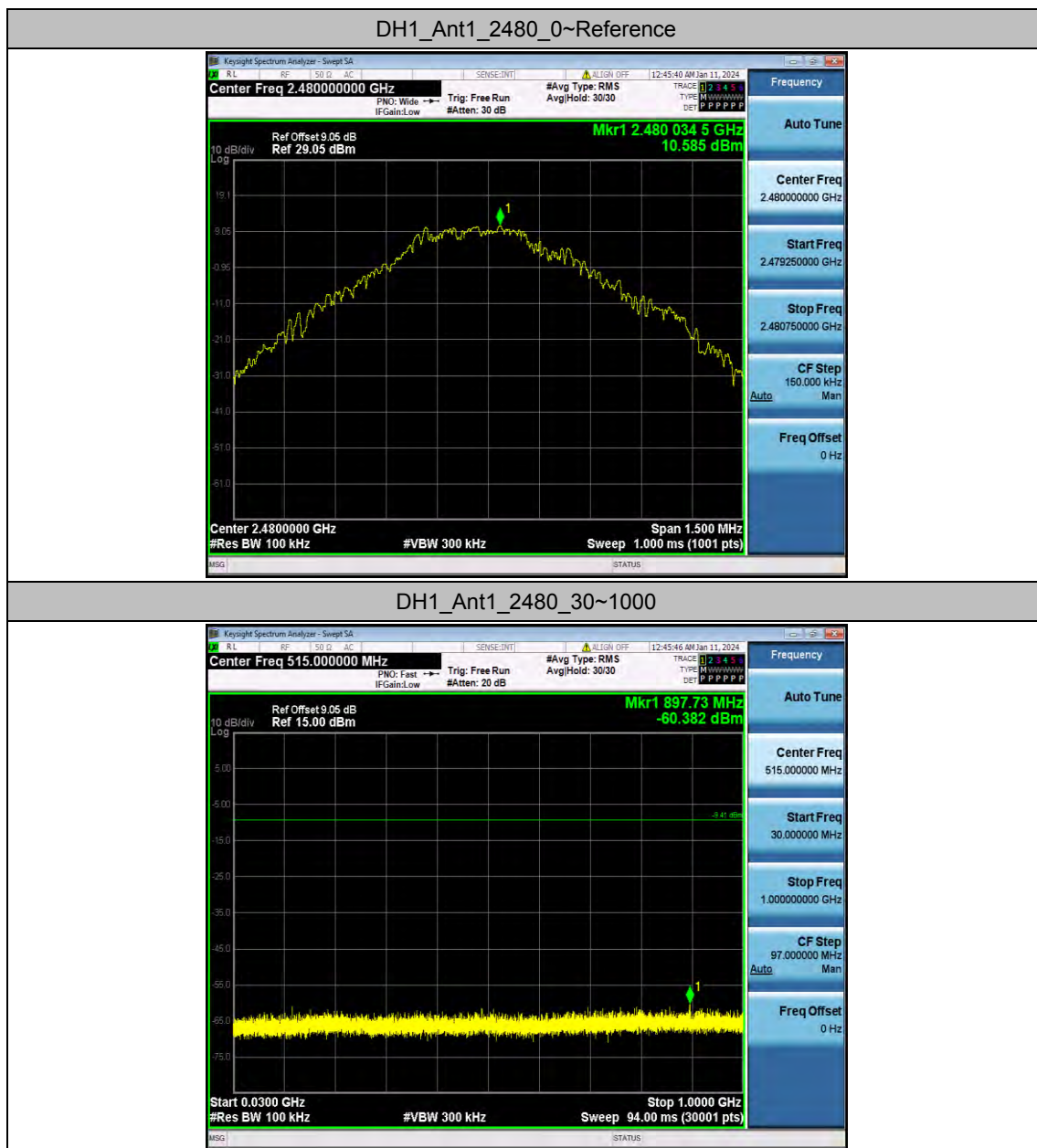


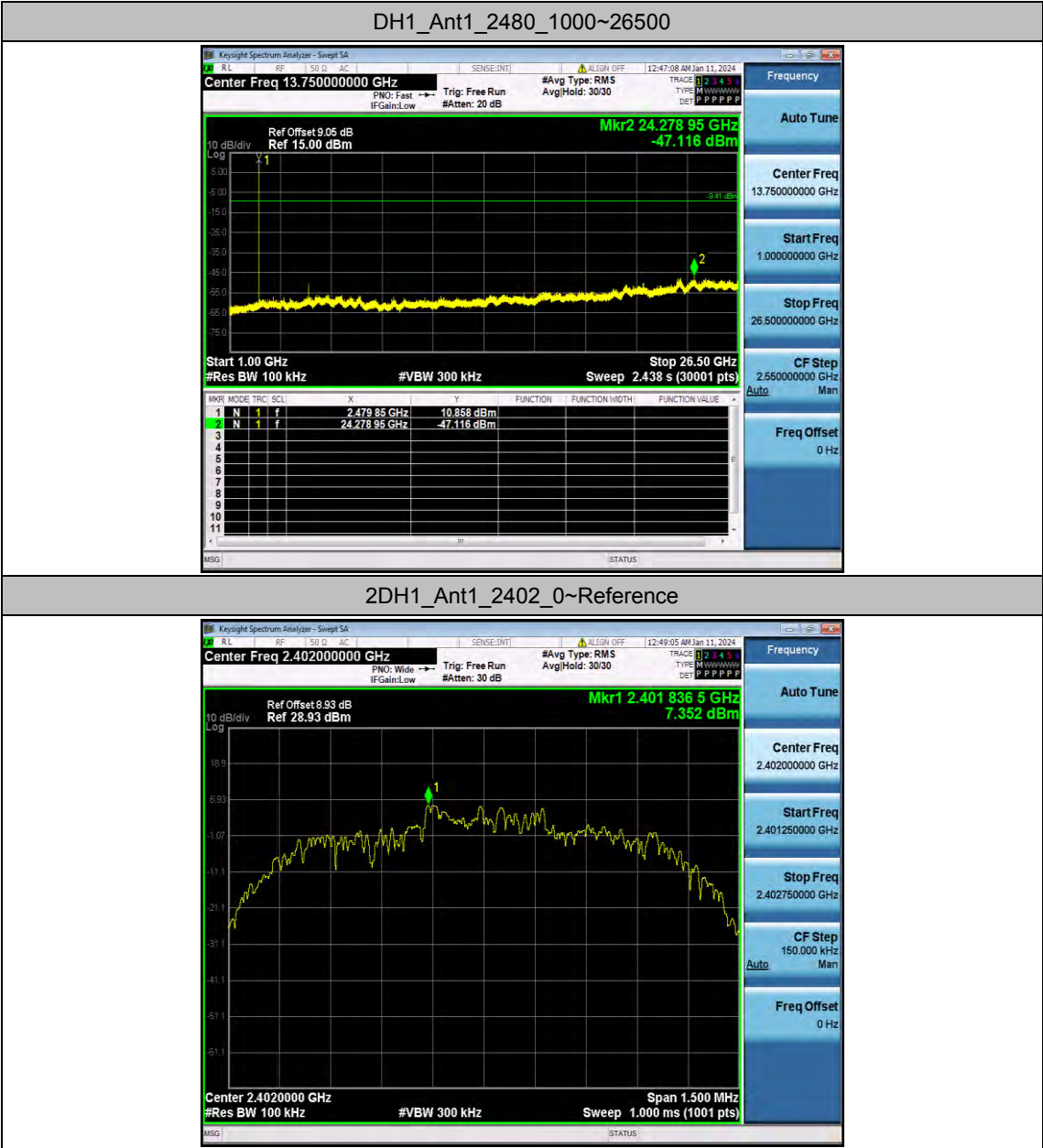
DH1_Ant1_2441_30~1000

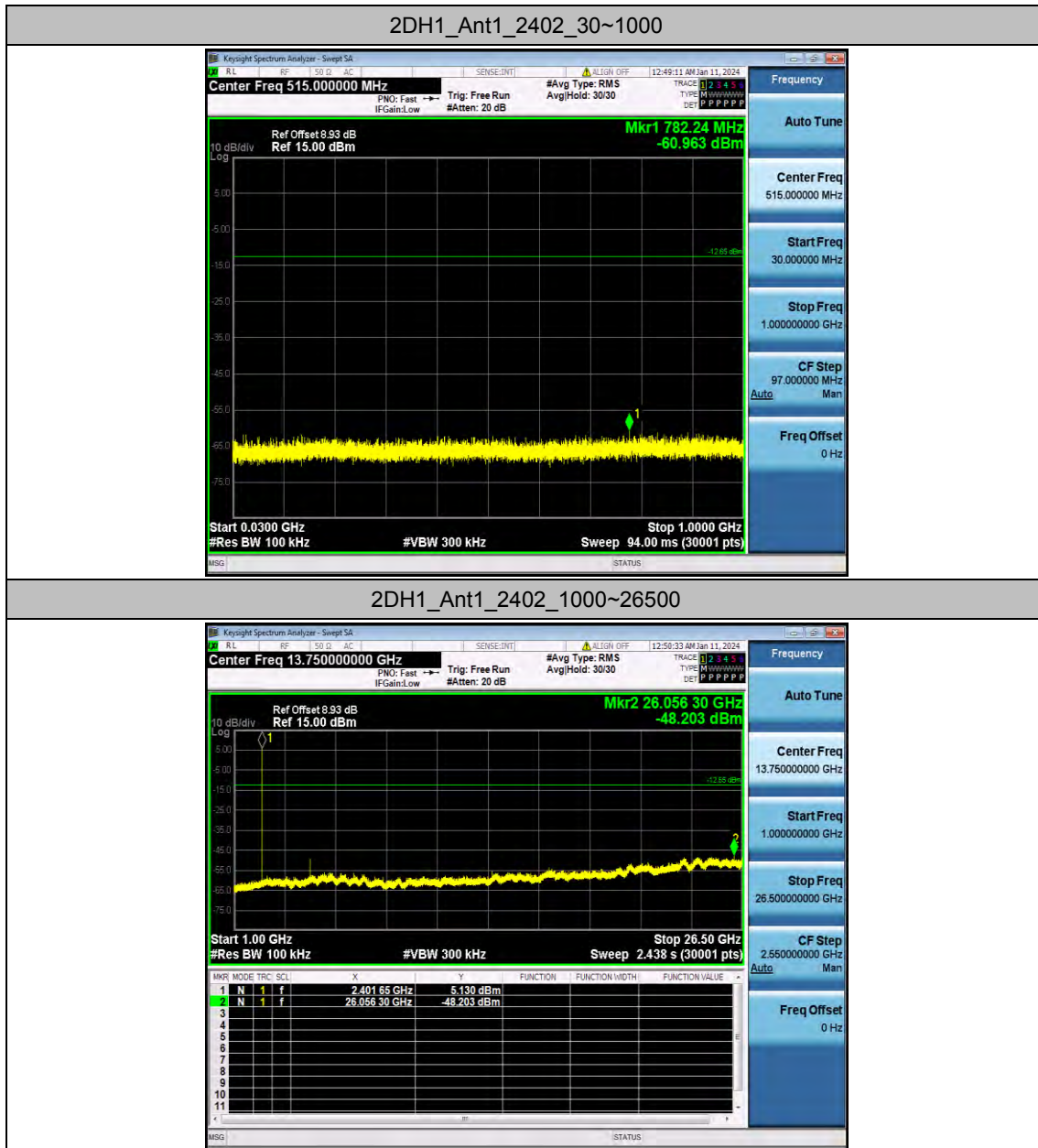


DH1_Ant1_2441_1000~26500





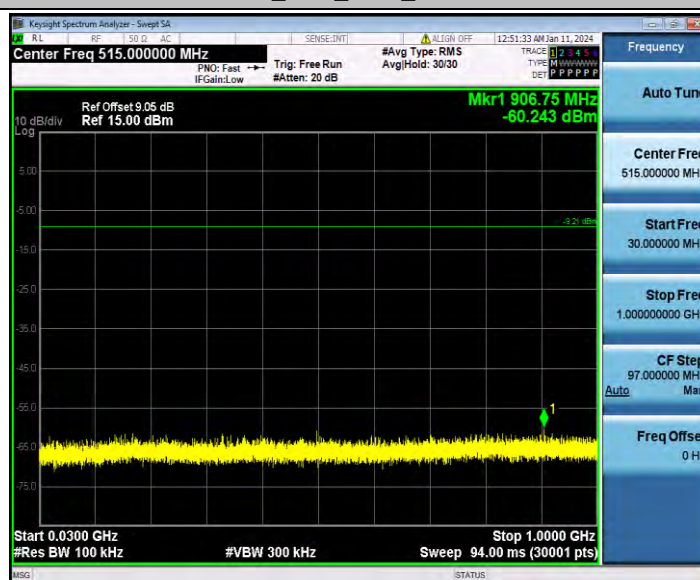




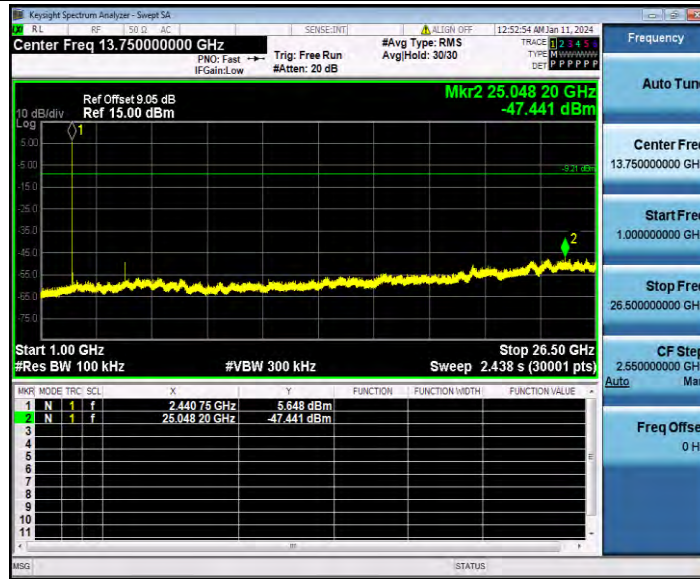
2DH1_Ant1_2441_0~Reference



2DH1_Ant1_2441_30~1000

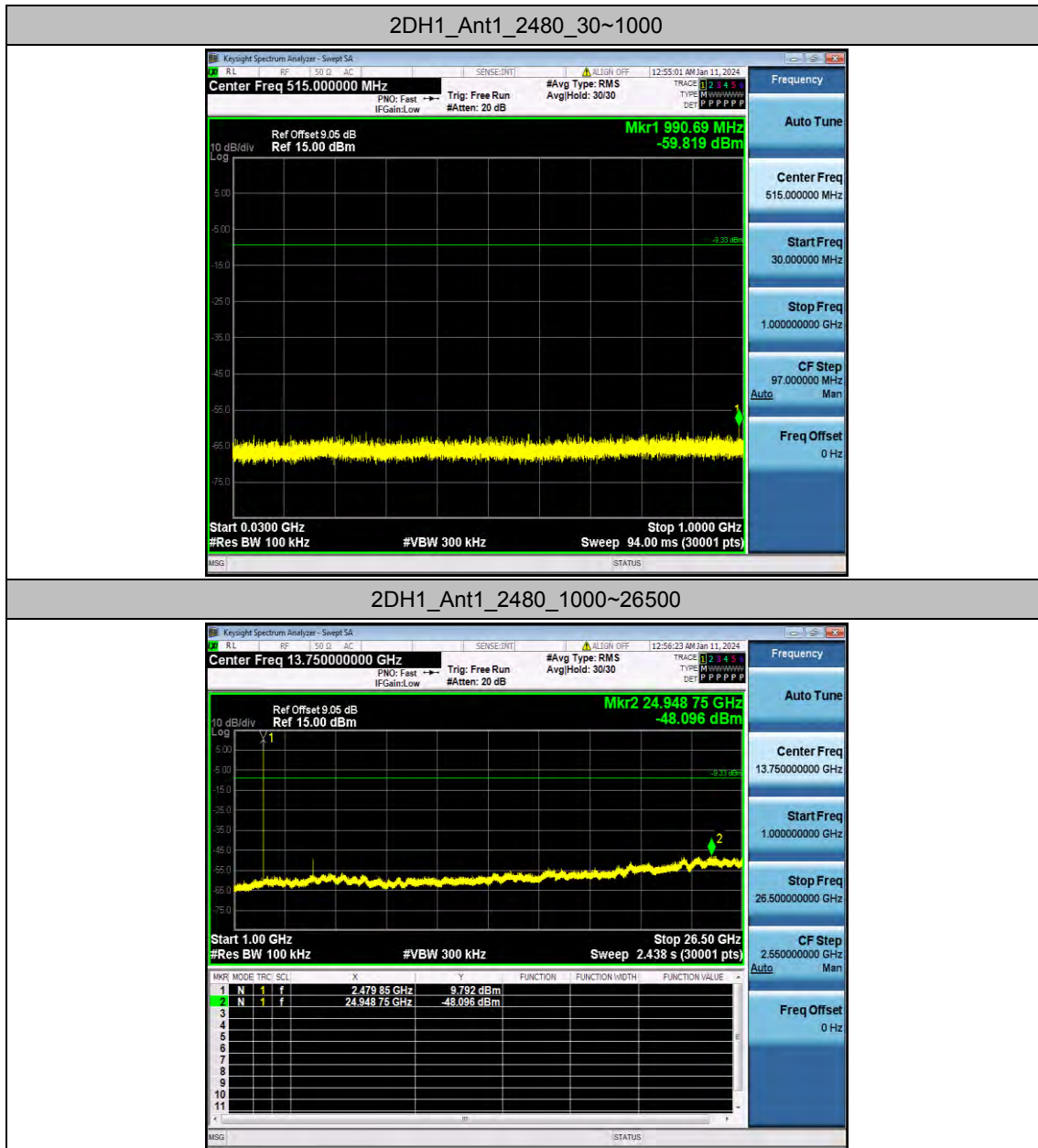


2DH1_Ant1_2441_1000~26500



2DH1_Ant1_2480_0~Reference

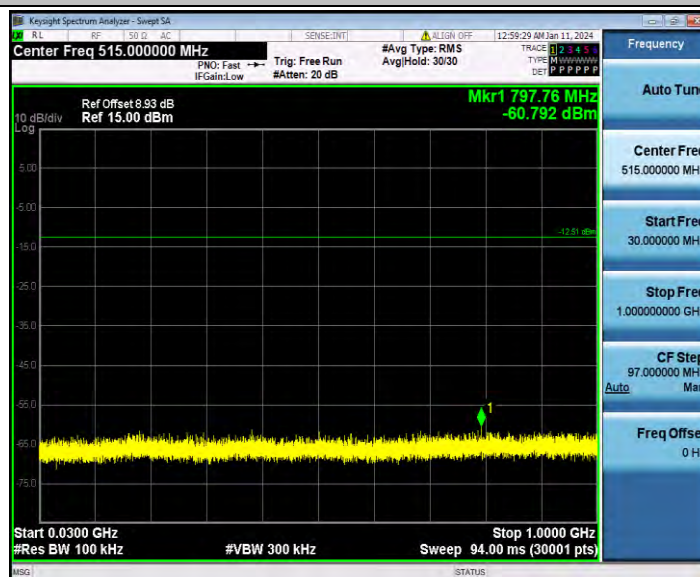




3DH1_Ant1_2402_0~Reference



3DH1_Ant1_2402_30~1000

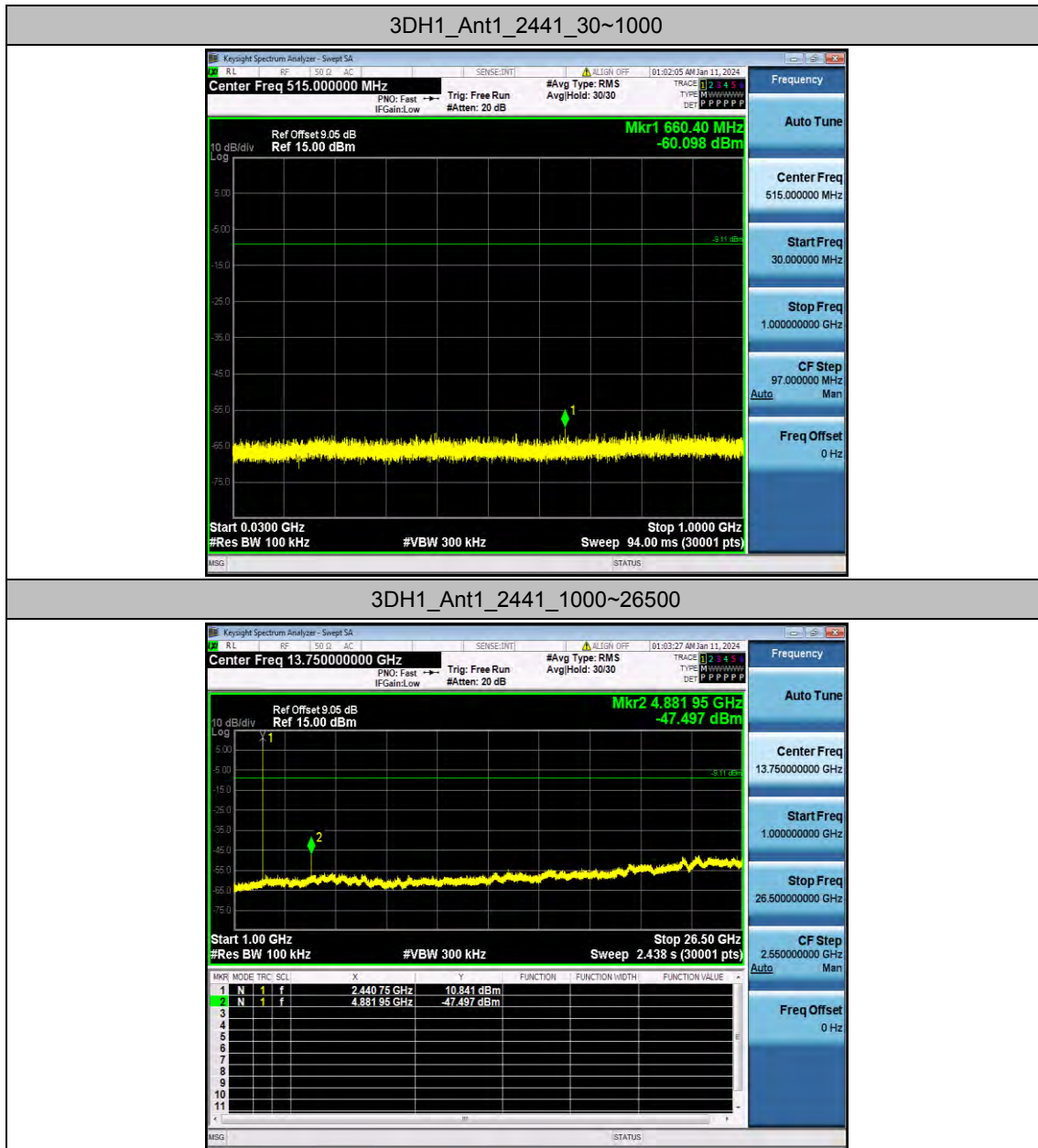


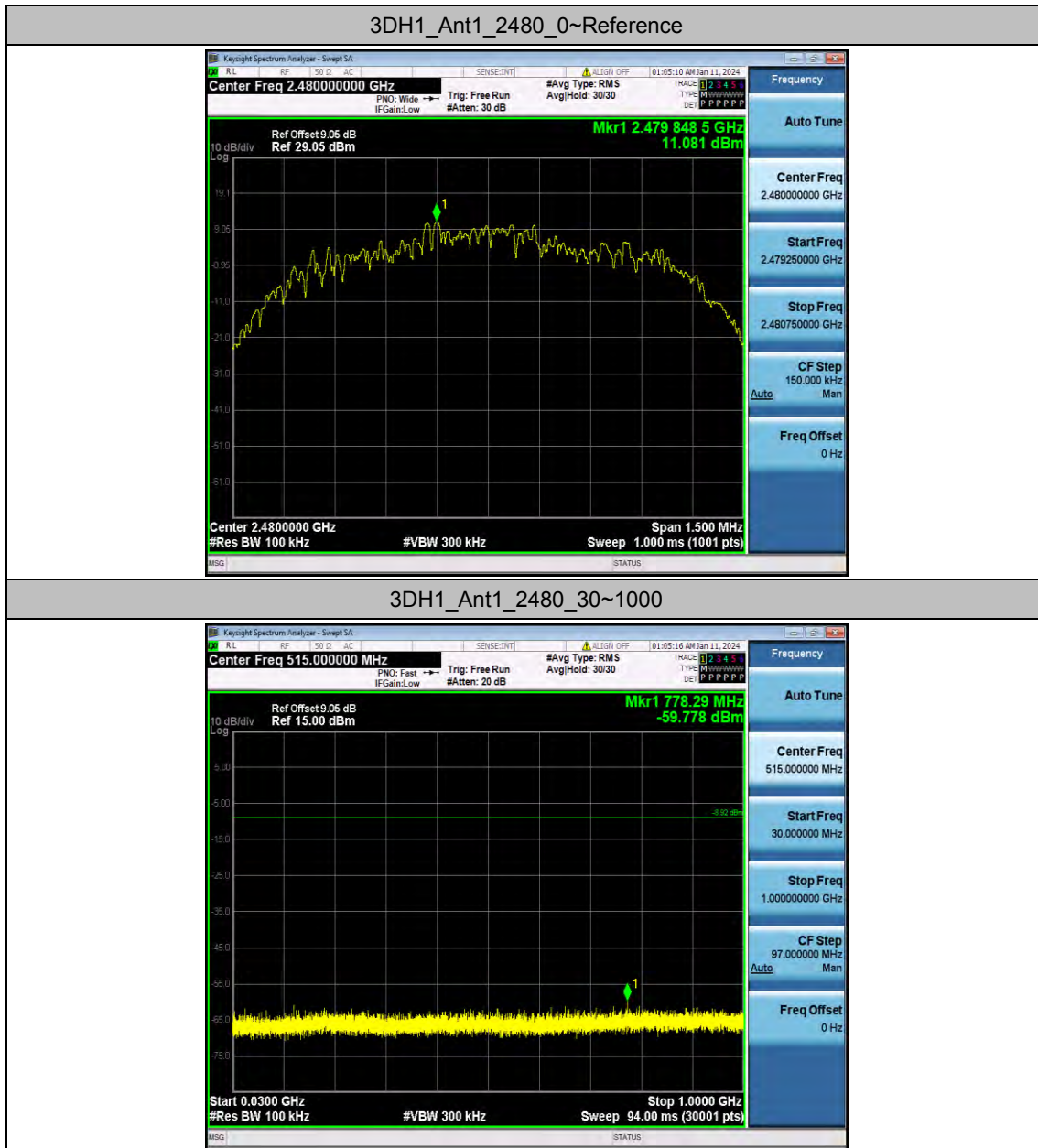
3DH1_Ant1_2402_1000~26500

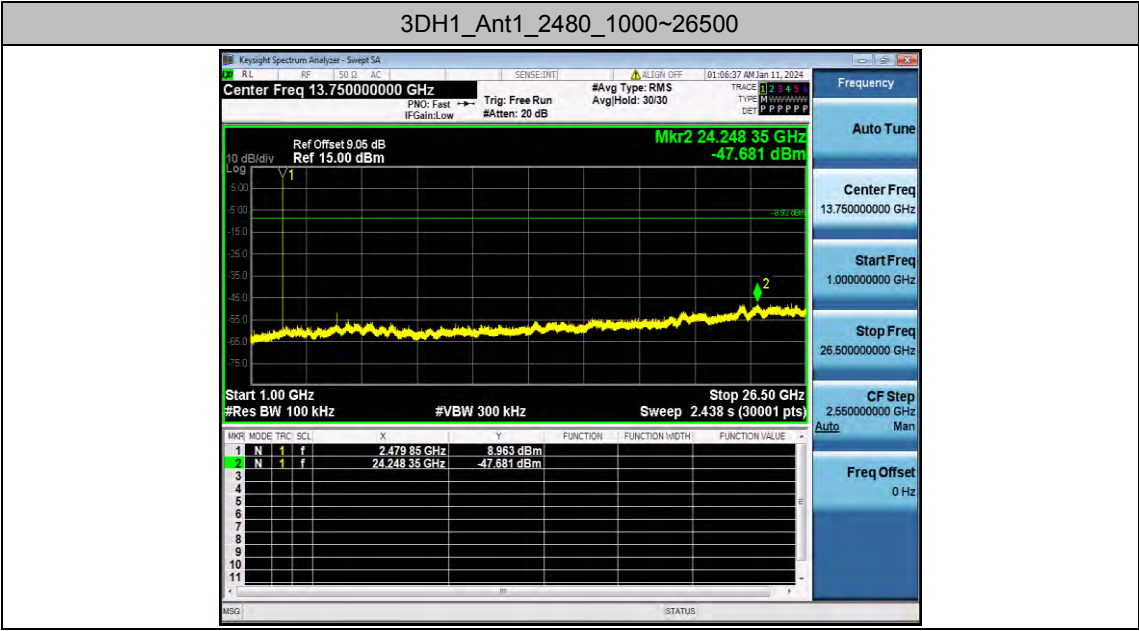


3DH1_Ant1_2441_0~Reference









Appendix A.9: Emissions in Restricted Bands

Test Result

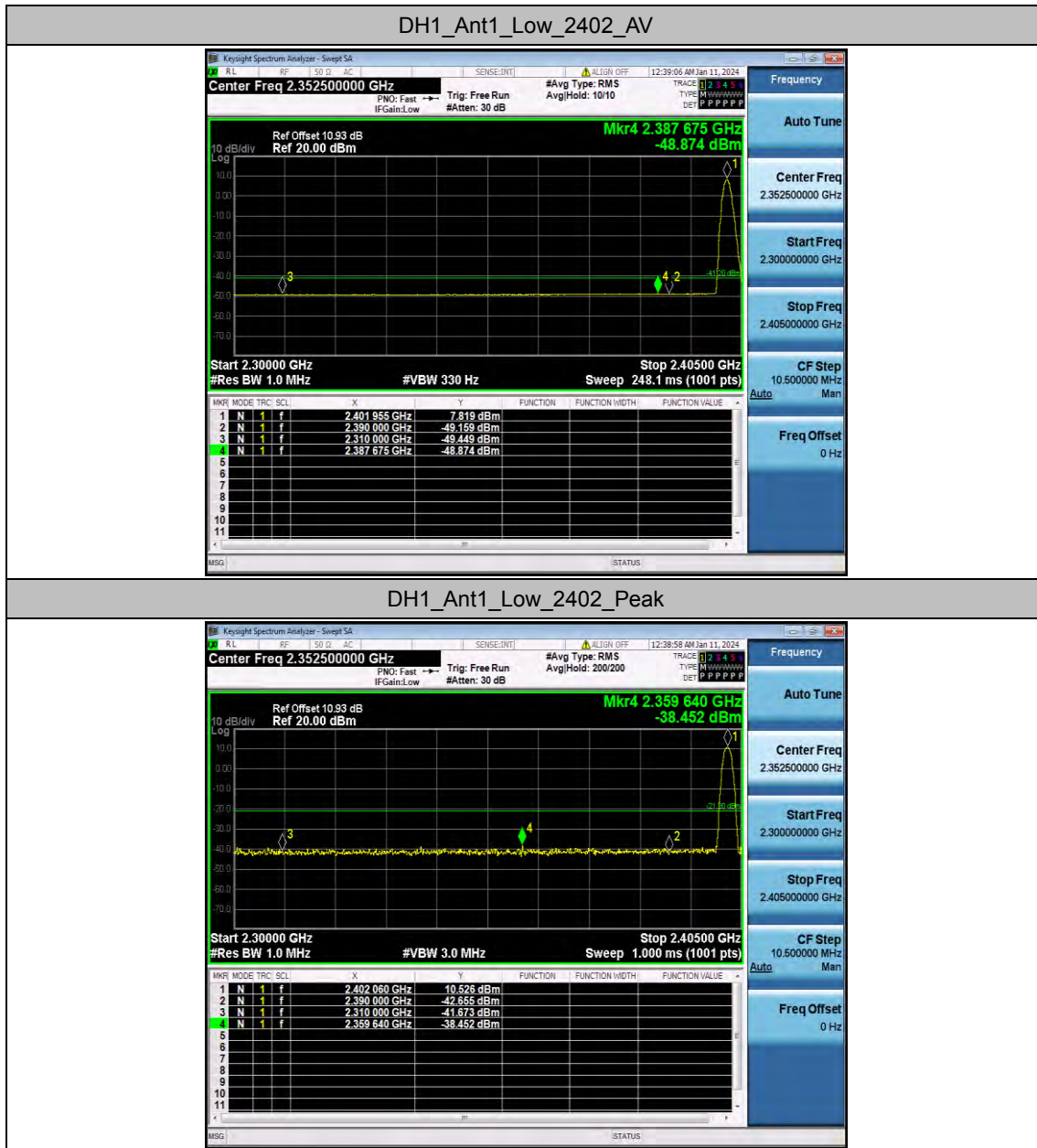
TestMode	Antenna	ChName	Freq(MHz)	Detector	Freq [MHz]	Result [dBm]	Limit [dBm]	Result [dBuV/m]	Limit [dBuV/m]	Verdict
DH1	Ant1	Low	2402	AV	2310.000	-49.45	≤-41.20	45.75	≤54	PASS
				AV	2387.675	-48.87	≤-41.20	46.33	≤54	PASS
				AV	2390.000	-49.16	≤-41.20	46.04	≤54	PASS
				Peak	2310.000	-41.67	≤-21.20	53.53	≤74	PASS
				Peak	2359.640	-38.45	≤-21.20	56.75	≤74	PASS
				Peak	2390.000	-42.66	≤-21.20	52.54	≤74	PASS
		High	2480	AV	2483.500	-47.2	≤-41.20	48.00	≤54	PASS
				AV	2483.520	-47.2	≤-41.20	48.00	≤54	PASS
				AV	2500.000	-48.86	≤-41.20	46.34	≤54	PASS
				Peak	2483.500	-41.33	≤-21.20	53.87	≤74	PASS
				Peak	2493.120	-38.45	≤-21.20	56.75	≤74	PASS
				Peak	2500.000	-40.79	≤-21.20	54.41	≤74	PASS
2DH1	Ant1	Low	2402	AV	2310.000	-49.44	≤-41.20	45.76	≤54	PASS
				AV	2381.165	-48.96	≤-41.20	46.24	≤54	PASS
				AV	2390.000	-49.07	≤-41.20	46.13	≤54	PASS
				Peak	2310.000	-41.28	≤-21.20	53.92	≤74	PASS
				Peak	2373.710	-38.87	≤-21.20	56.33	≤74	PASS
				Peak	2390.000	-40.41	≤-21.20	54.79	≤74	PASS
		High	2480	AV	2483.500	-46.14	≤-41.20	49.06	≤54	PASS
				AV	2483.520	-46.14	≤-41.20	49.06	≤54	PASS
				AV	2500.000	-48.77	≤-41.20	46.43	≤54	PASS
				Peak	2483.500	-39.94	≤-21.20	55.26	≤74	PASS
				Peak	2484.240	-38.45	≤-21.20	56.75	≤74	PASS
				Peak	2500.000	-42.2	≤-21.20	53.00	≤74	PASS
3DH1	Ant1	Low	2402	AV	2310.000	-49.44	≤-41.20	45.76	≤54	PASS
				AV	2388.095	-48.95	≤-41.20	46.25	≤54	PASS
				AV	2390.000	-49.04	≤-41.20	46.16	≤54	PASS
				Peak	2310.000	-43.45	≤-21.20	51.75	≤74	PASS
				Peak	2311.235	-38.46	≤-21.20	56.74	≤74	PASS
				Peak	2390.000	-40.74	≤-21.20	54.46	≤74	PASS
		High	2480	AV	2483.500	-46.22	≤-41.20	48.98	≤54	PASS
				AV	2483.520	-46.22	≤-41.20	48.98	≤54	PASS
				AV	2500.000	-48.78	≤-41.20	46.42	≤54	PASS
				Peak	2483.500	-40.38	≤-21.20	54.82	≤74	PASS
				Peak	2496.720	-38.99	≤-21.20	56.21	≤74	PASS

				Peak	2500.000	-40.58	≤ -21.20	54.62	≤ 74	PASS
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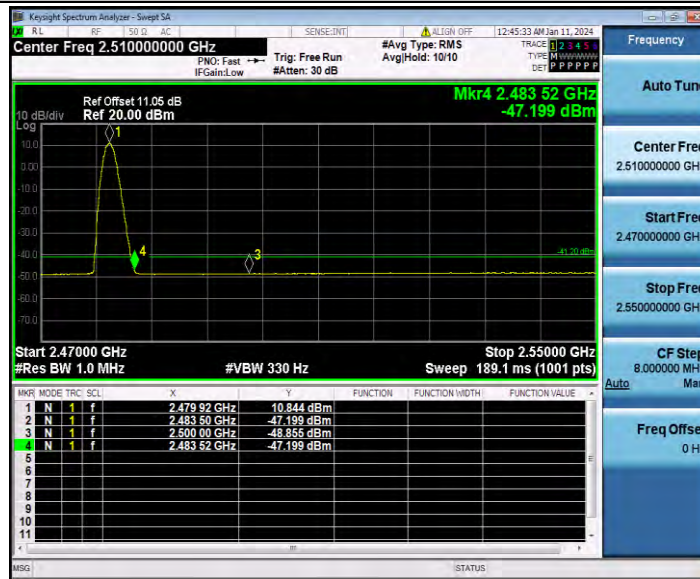
Note:

2. The Antenna Gain is compensated in the graph.
3. The Duty Cycle Factor and RBW Factor is compensated in the graph.
4. 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.

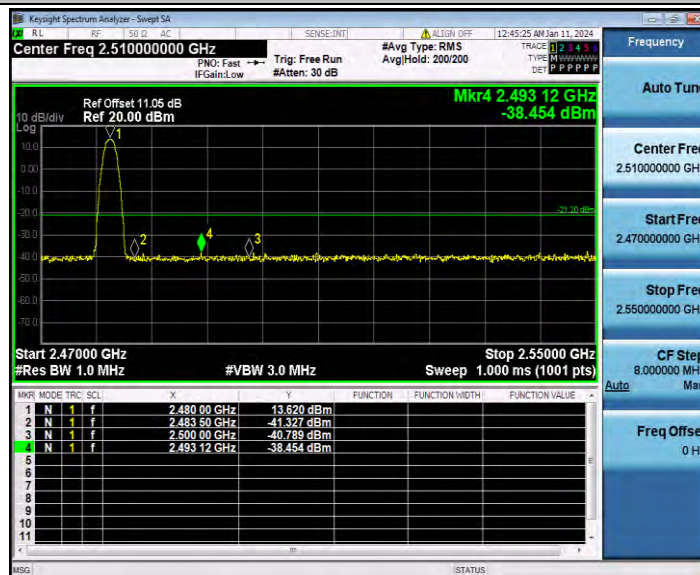
Test Graphs



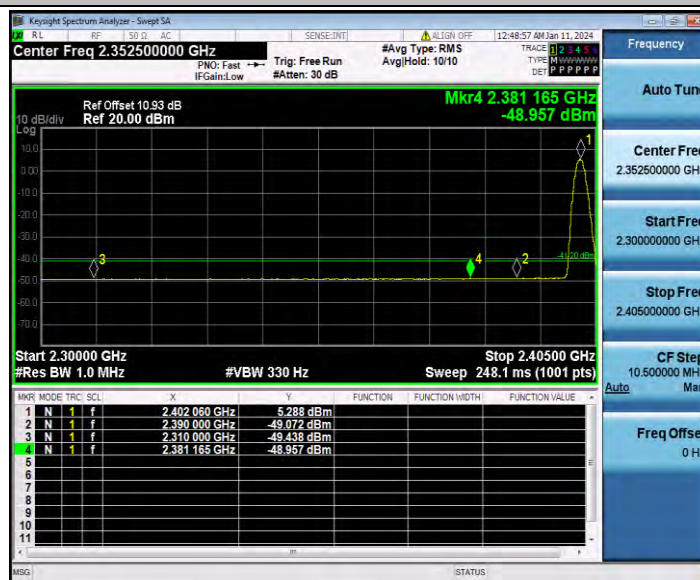
DH1_Ant1_High_2480_AV



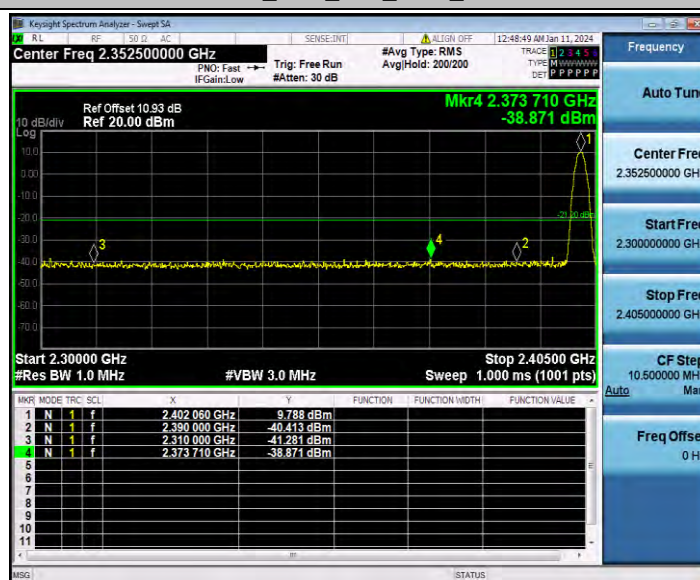
DH1_Ant1_High_2480_Peak

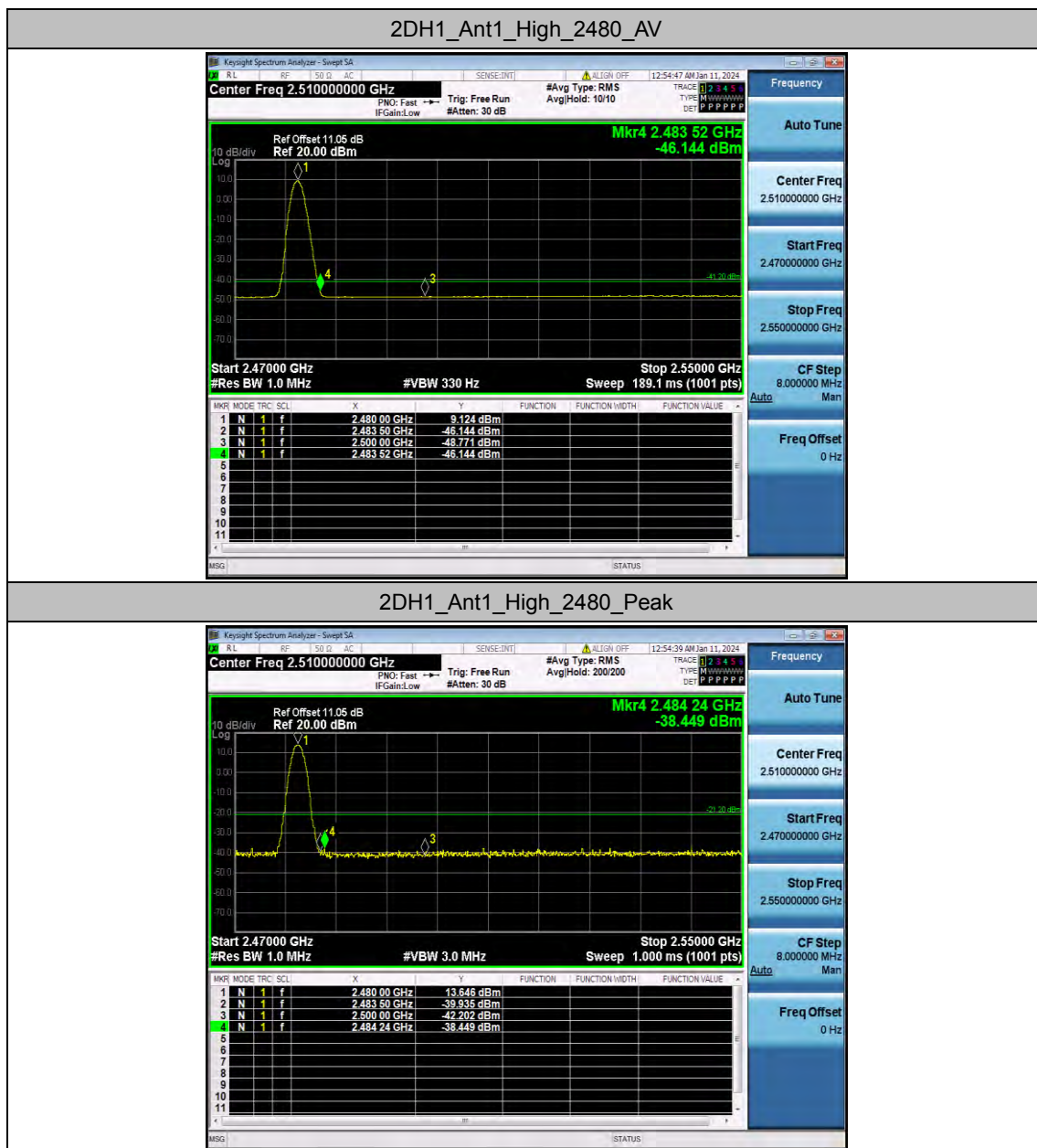


2DH1_Ant1_Low_2402_AV

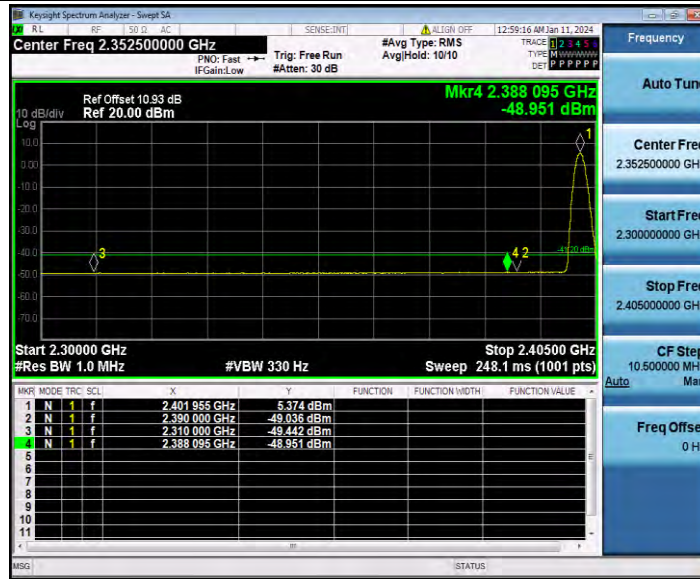


2DH1_Ant1_Low_2402_Peak

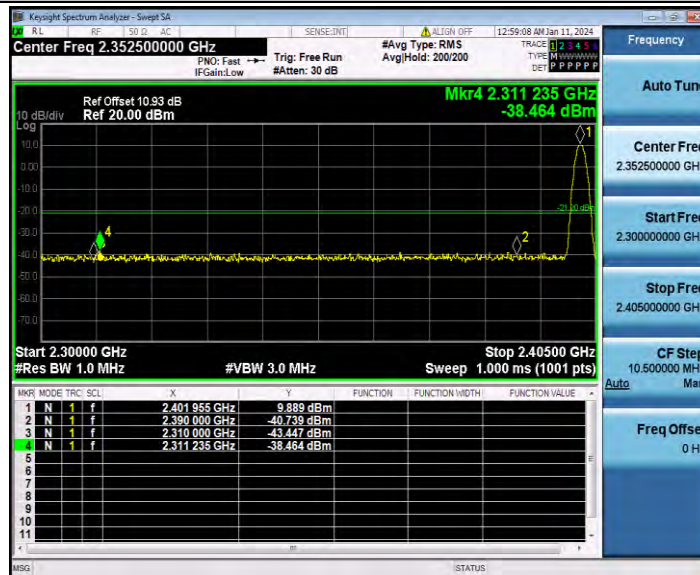




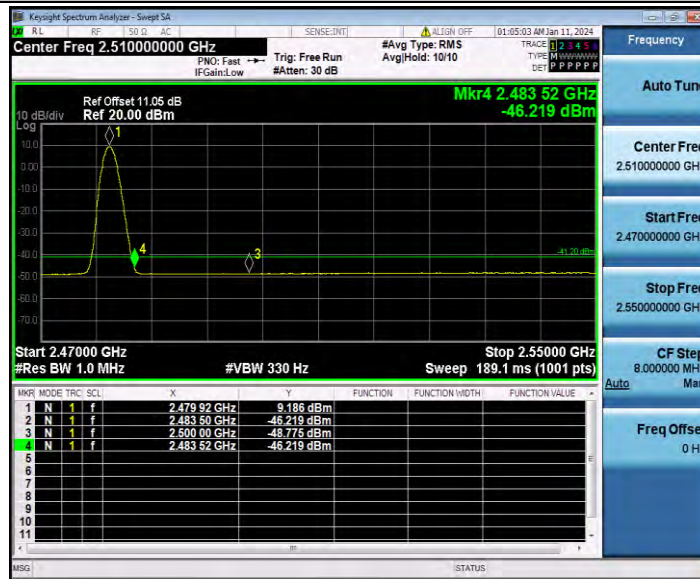
3DH1_Ant1_Low_2402_AV



3DH1_Ant1_Low_2402_Peak



3DH1_Ant1_High_2480_AV



3DH1_Ant1_High_2480_Peak

