

Case No. : <u>GTS20231017004-1-10</u>
Ambient Condition: <u>24</u> °C, <u>48</u> %RH, Atmos100.1Kpa,
Test Date: <u>2023.11.27</u> Test Engineer: <u>Evan ouyang</u>

Appendix A.1: 20dB Emission Bandwidth

Test Result

Test Mode	Antenna	Frequency[MHz]	20db EBW[MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
DH1	Ant1	2402	0.933	2401.541	2402.474	---	---
		2441	0.939	2440.541	2441.480	---	---
		2480	0.897	2479.538	2480.435	---	---
2DH1	Ant1	2402	1.458	2401.241	2402.699	---	---
		2441	1.473	2440.235	2441.708	---	---
		2480	1.395	2479.292	2480.687	---	---
3DH1	Ant1	2402	1.431	2401.277	2402.708	---	---
		2441	1.458	2440.262	2441.720	---	---
		2480	1.461	2479.262	2480.723	---	---

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

Test Mode	Antenna	Frequency[MHz]	OCB [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
DH1	Ant1	2402	0.84797	2401.570	2402.418	---	---
		2441	0.82870	2440.582	2441.410	---	---
		2480	0.83344	2479.579	2480.413	---	---
2DH1	Ant1	2402	1.3395	2401.319	2402.658	---	---
		2441	1.3428	2440.319	2441.662	---	---
		2480	1.3417	2479.320	2480.662	---	---
3DH1	Ant1	2402	1.3437	2401.320	2402.664	---	---
		2441	1.3371	2440.325	2441.662	---	---
		2480	1.3387	2479.326	2480.664	---	---

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.3: Maximum conducted output power

Test Result Peak

Test Mode	Antenna	Frequency[MHz]	Conducted Peak Power[dBm]	Conducted Limit[dBm]	Verdict
DH1	Ant1	2402	8.25	≤30.00	PASS
		2441	9.84	≤30.00	PASS
		2480	9.68	≤30.00	PASS
2DH1	Ant1	2402	6.16	≤20.97	PASS
		2441	7.19	≤20.97	PASS
		2480	6.37	≤20.97	PASS
3DH1	Ant1	2402	6.28	≤20.97	PASS
		2441	7.3	≤20.97	PASS
		2480	6.53	≤20.97	PASS

Appendix A.4: Carrier frequency separation

Test Result

Test Mode	Antenna	Frequency[MHz]	Result[MHz]	Limit[MHz]	Verdict
DH1	Ant1	Hop_2402	0.992	≥ 0.939	PASS
		Hop_2441	0.992	≥ 0.939	PASS
		Hop_2480	0.998	≥ 0.939	PASS
2DH1	Ant1	Hop_2402	1.144	≥ 0.982	PASS
		Hop_2441	1.146	≥ 0.982	PASS
		Hop_2480	1.012	≥ 0.982	PASS
3DH1	Ant1	Hop_2402	1.022	≥ 0.974	PASS
		Hop_2441	1.004	≥ 0.974	PASS
		Hop_2480	0.998	≥ 0.974	PASS

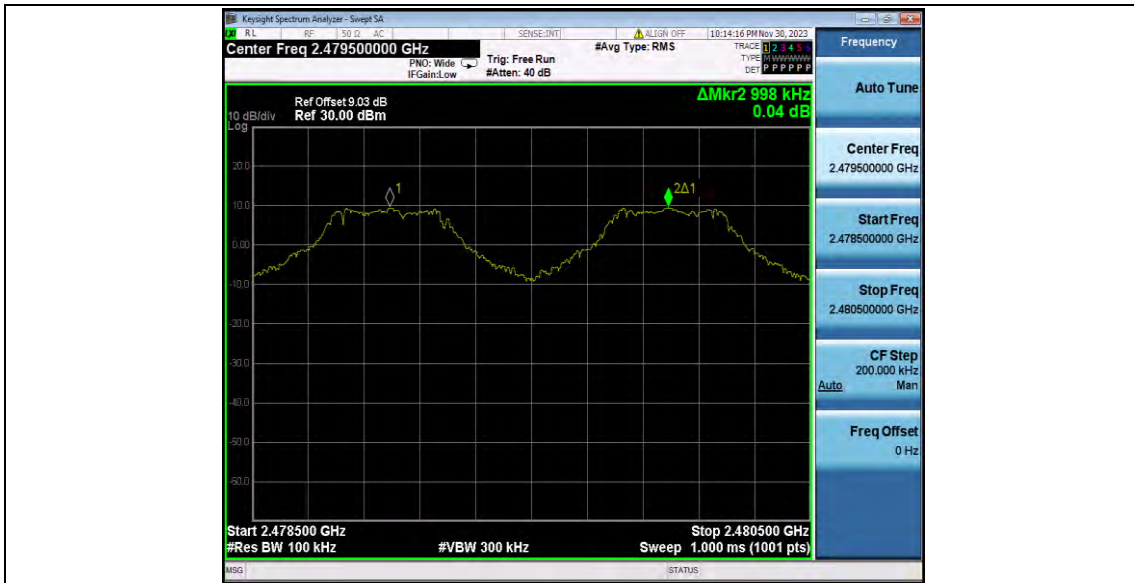
Test Graphs



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



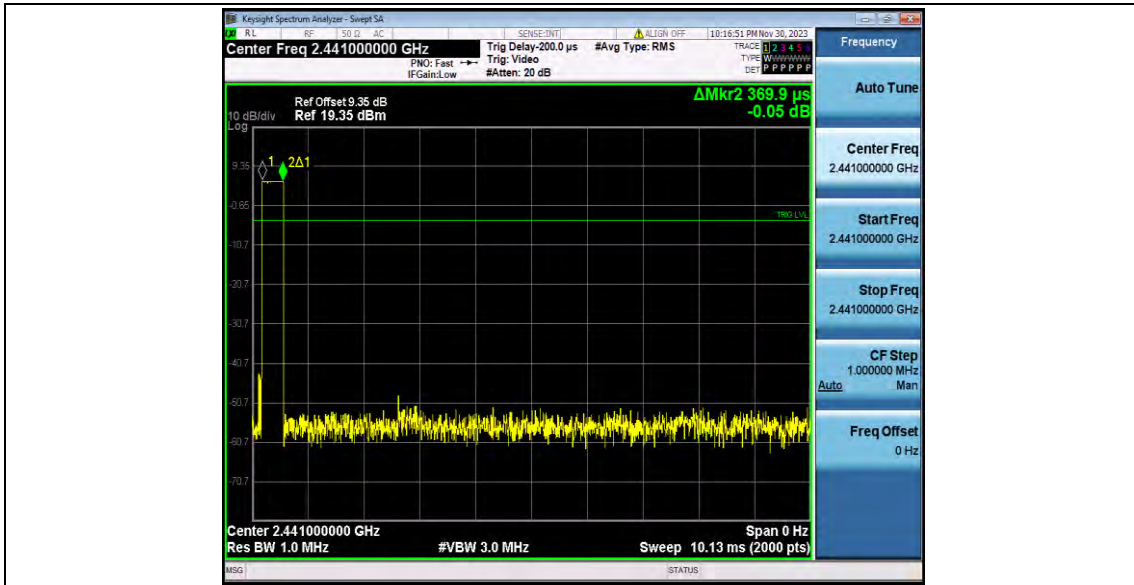
3DH1_Ant1_Hop_2480

Appendix A.5: Time of occupancy

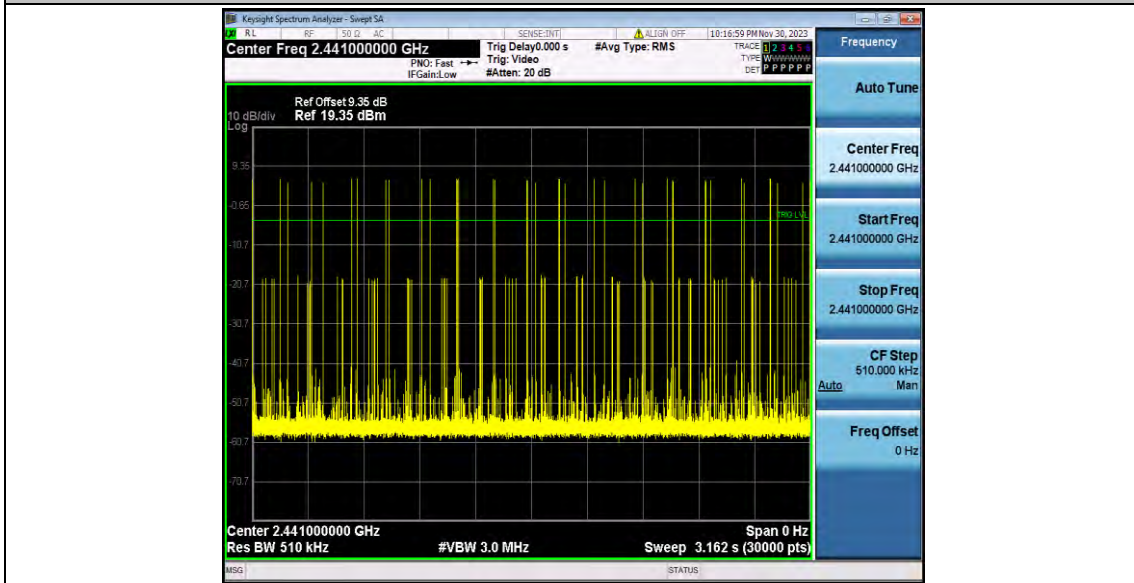
Test Result

Test Mode	Antenna	Frequency[MHz]	BurstWidth [ms]	TotalHops [Num]	Result[s]	Limit[s]	Verdict
DH1	Ant1	Hop	0.37	330	0.122	≤0.4	PASS
DH3	Ant1	Hop	1.63	140	0.228	≤0.4	PASS
DH5	Ant1	Hop	2.88	60	0.173	≤0.4	PASS
2DH1	Ant1	Hop	0.38	330	0.125	≤0.4	PASS
2DH3	Ant1	Hop	1.63	160	0.261	≤0.4	PASS
2DH5	Ant1	Hop	2.88	80	0.23	≤0.4	PASS
3DH1	Ant1	Hop	0.38	320	0.122	≤0.4	PASS
3DH3	Ant1	Hop	1.63	140	0.228	≤0.4	PASS
3DH5	Ant1	Hop	2.88	80	0.23	≤0.4	PASS

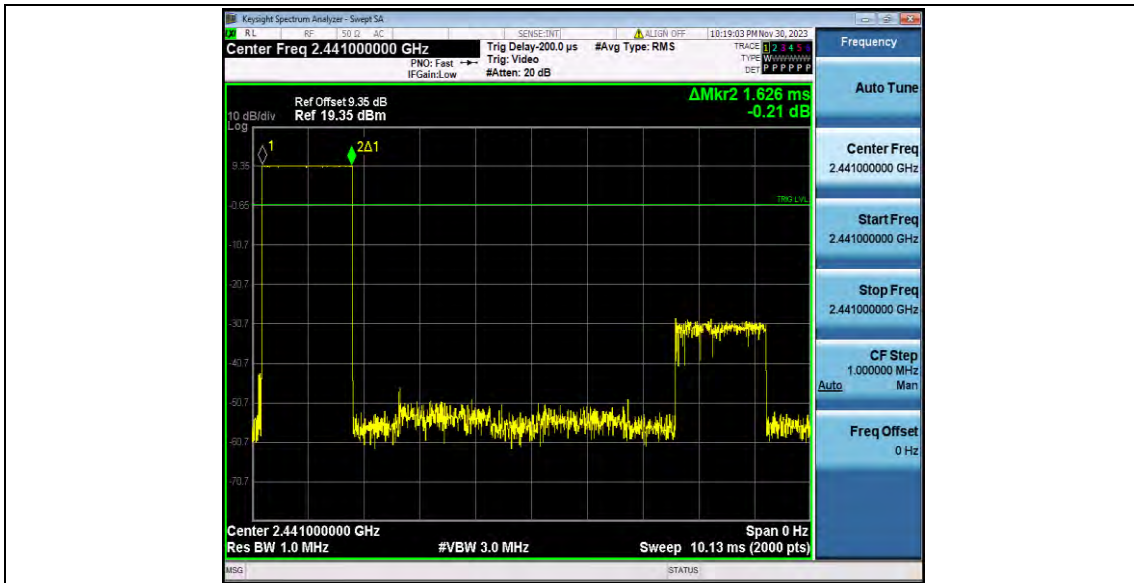
Test Graphs



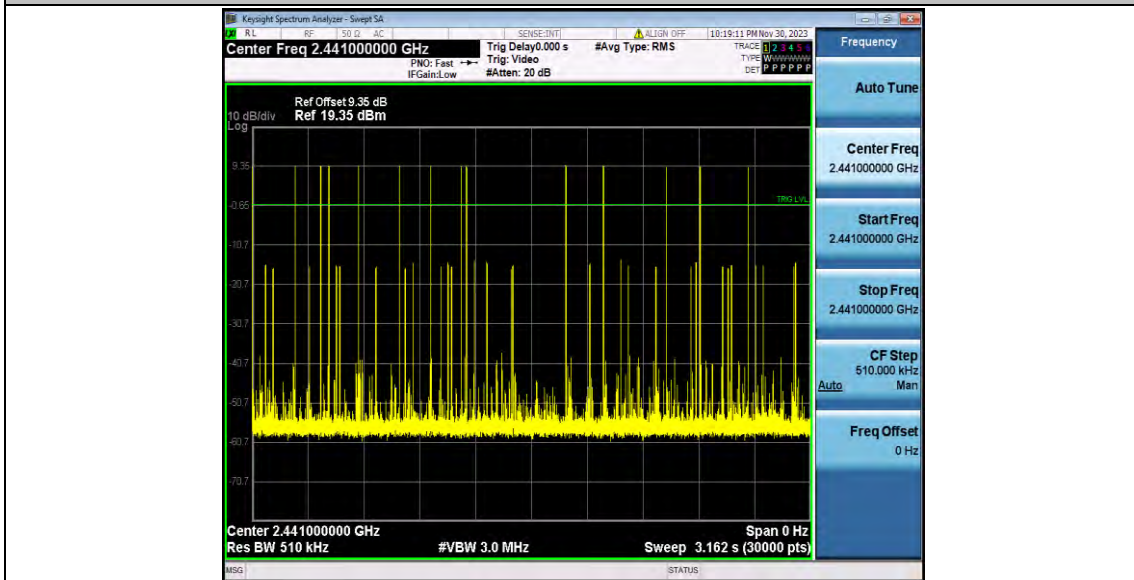
DH1_Ant1_Hop



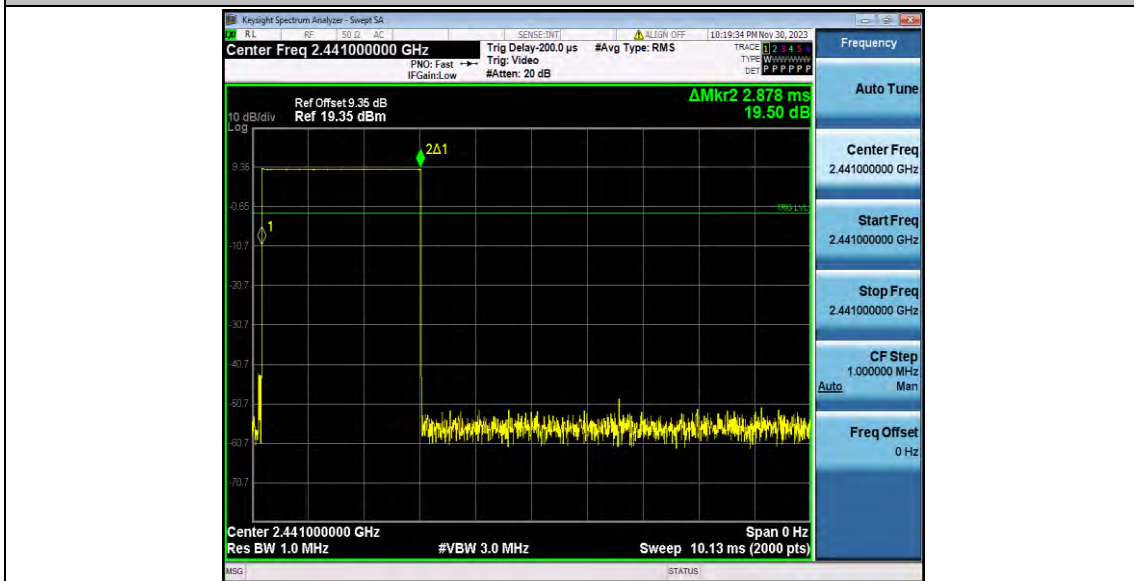
DH1_Ant1_Hop



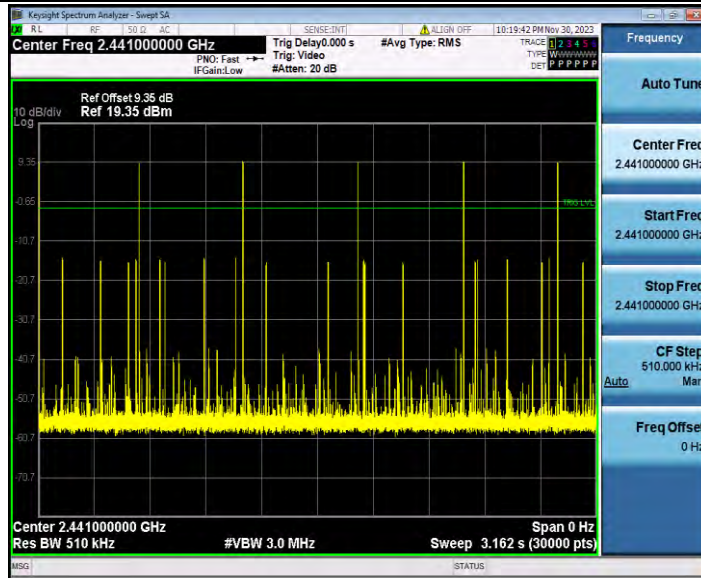
DH3_Ant1_Hop



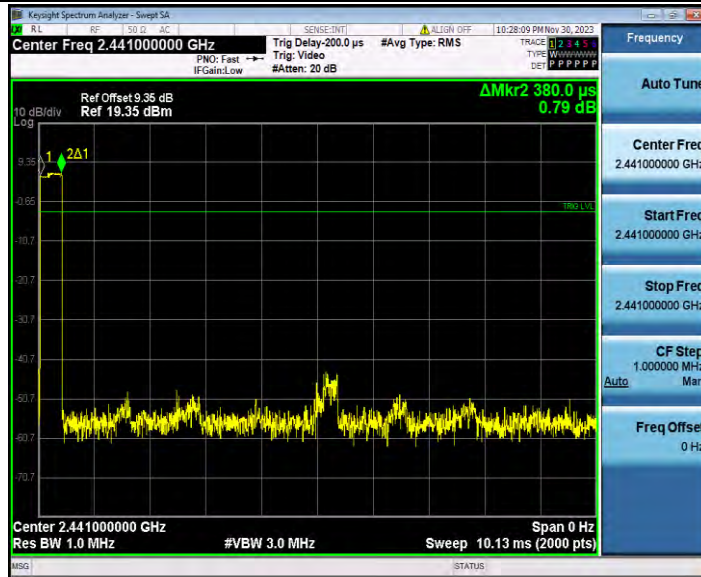
DH3_Ant1_Hop



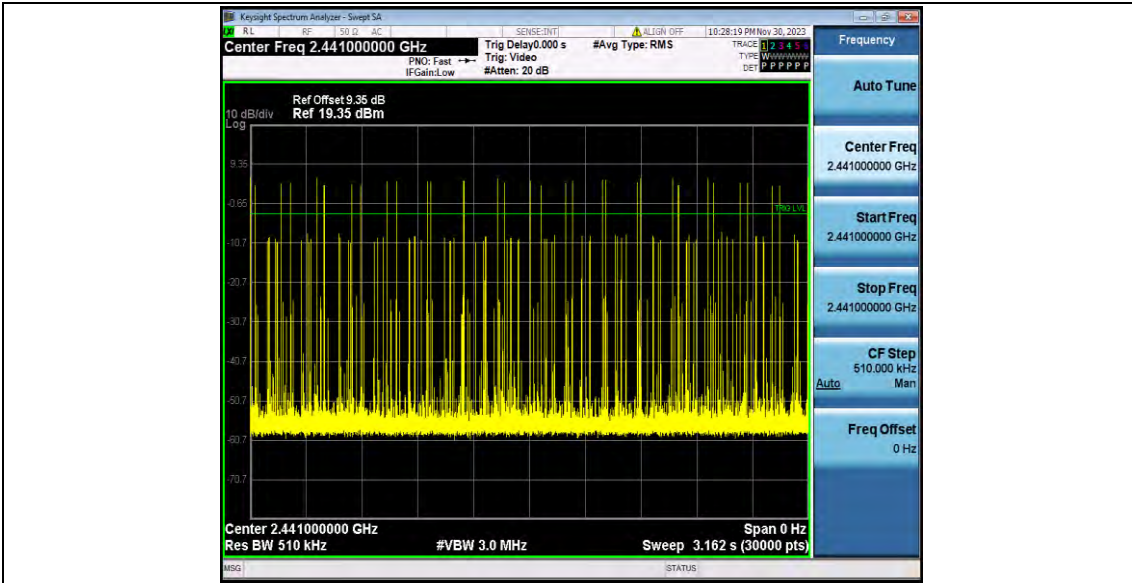
DH5_Ant1_Hop



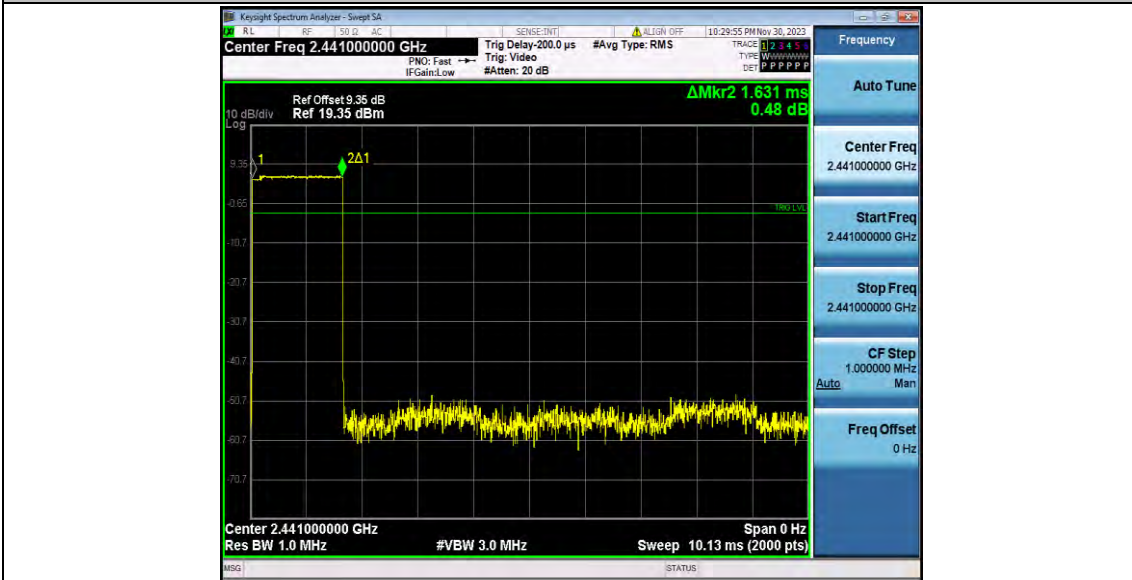
DH5_Ant1_Hop



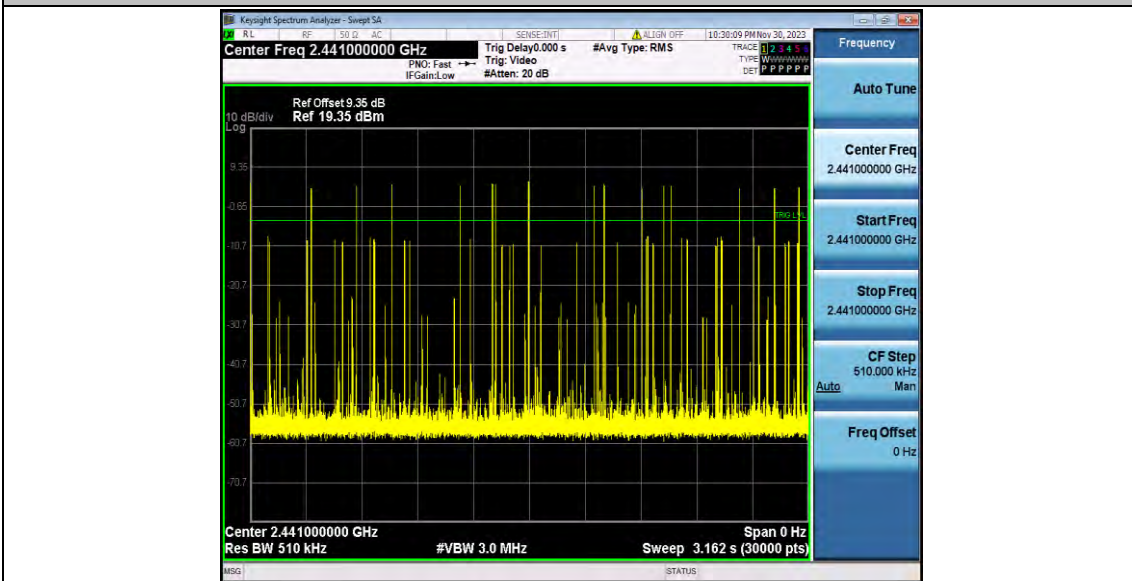
2DH1_Ant1_Hop



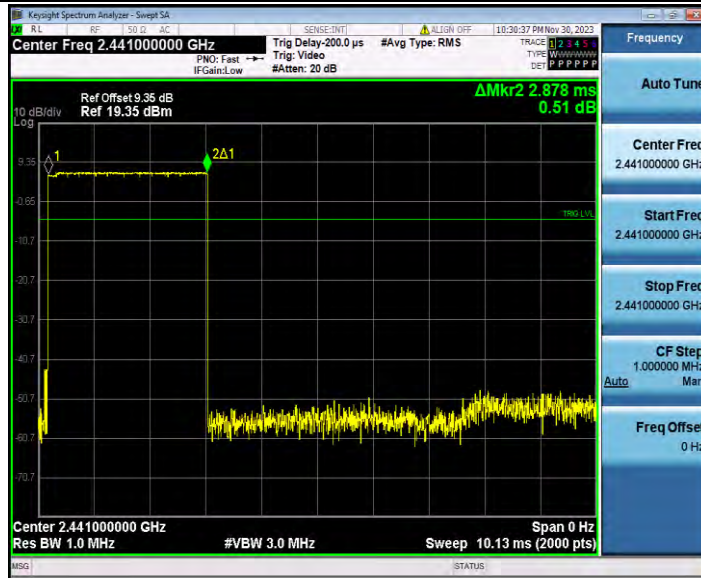
2DH1_Ant1_Hop



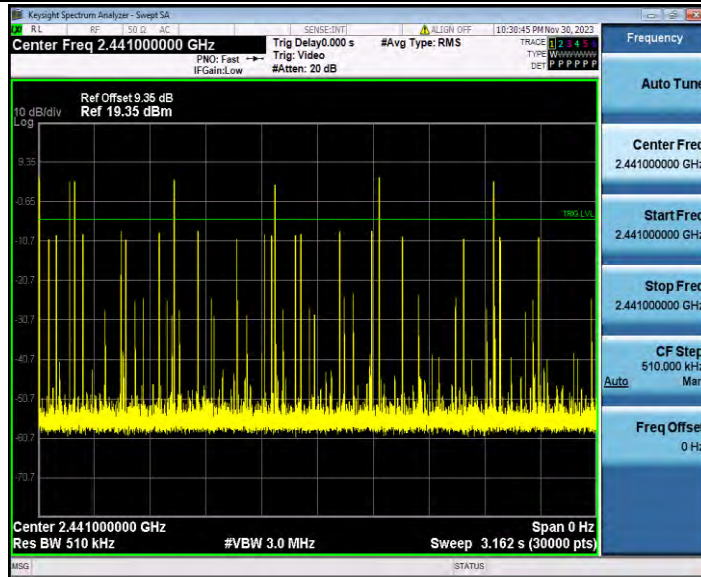
2DH3_Ant1_Hop



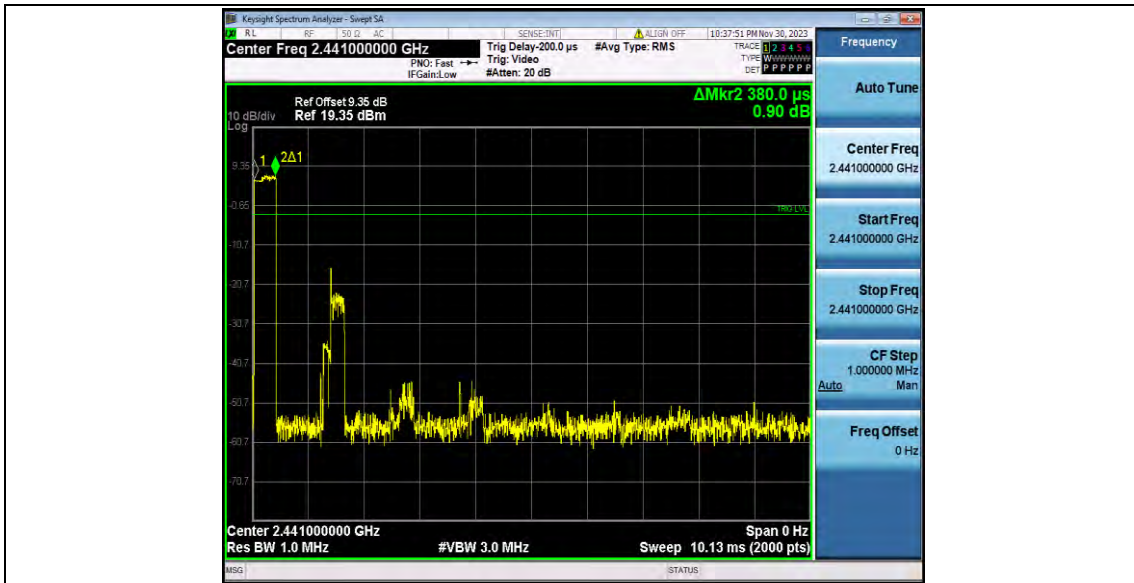
2DH3_Ant1_Hop



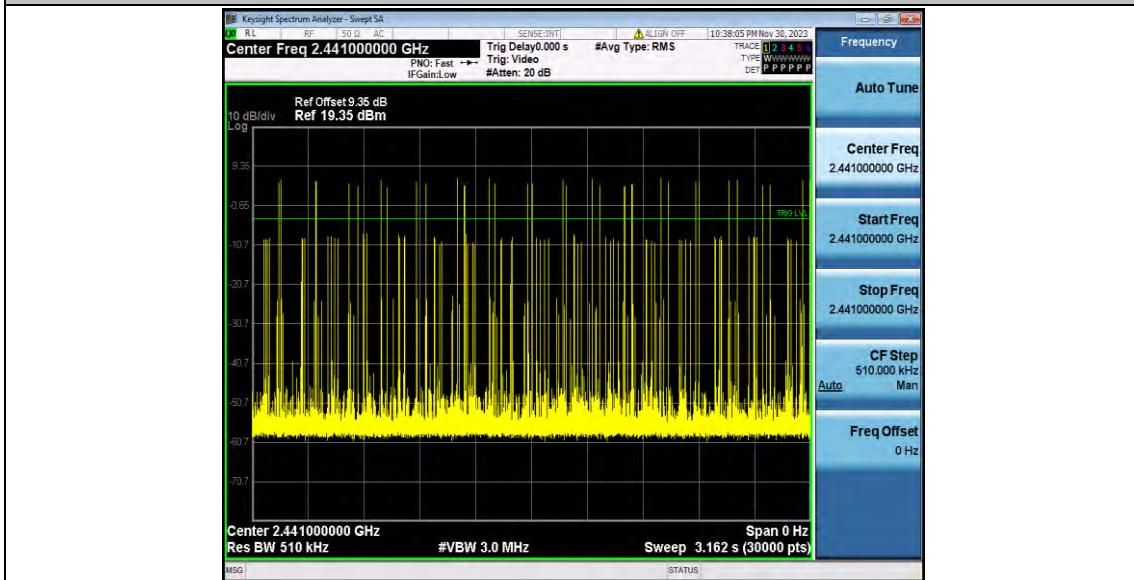
2DH5_Ant1_Hop



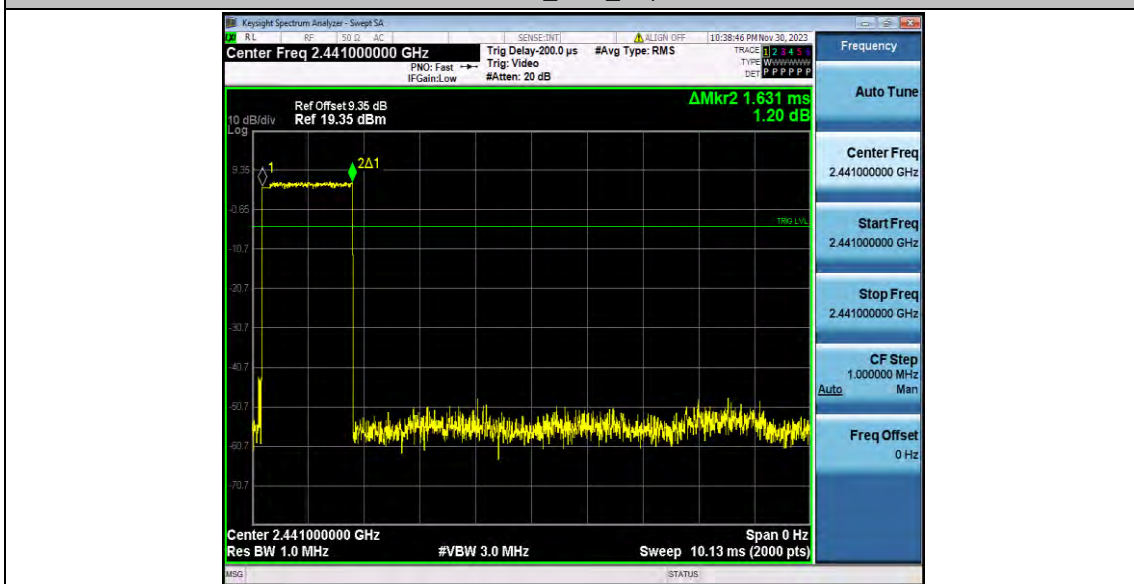
2DH5_Ant1_Hop



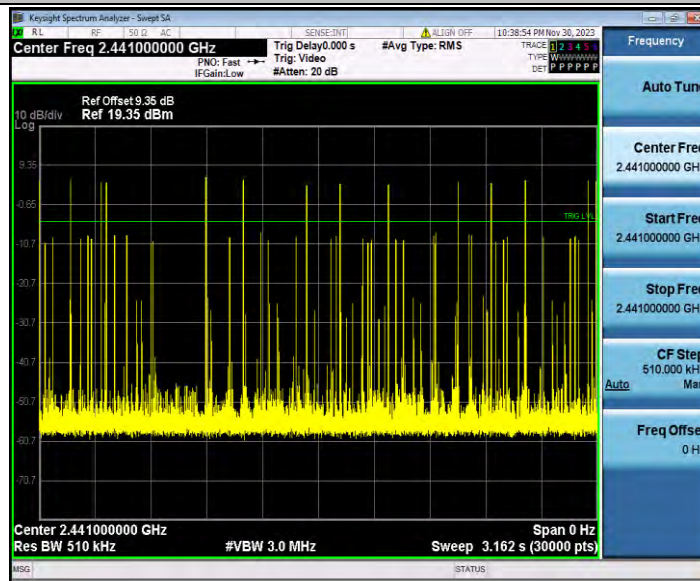
3DH1_Ant1_Hop



3DH1_Ant1_Hop



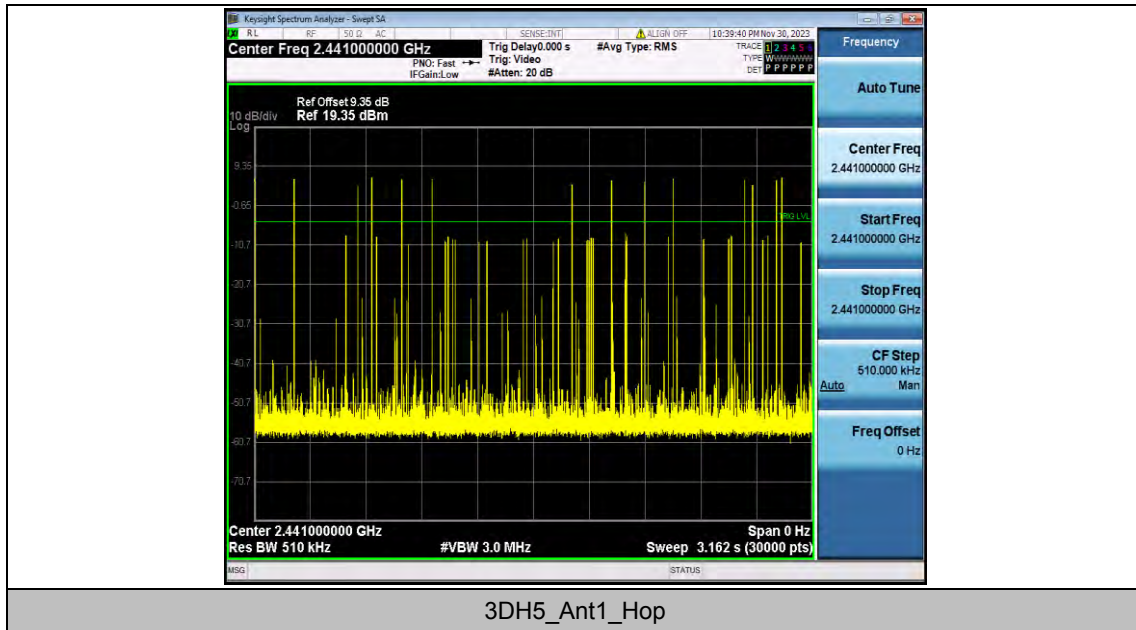
3DH3_Ant1_Hop



3DH3_Ant1_Hop



3DH5_Ant1_Hop



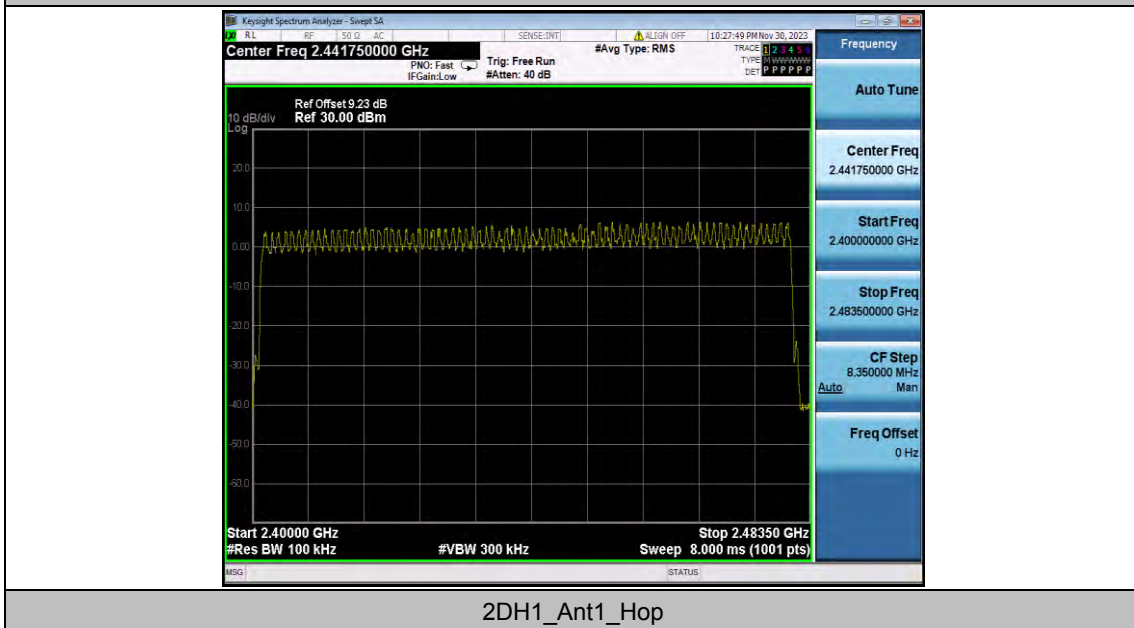
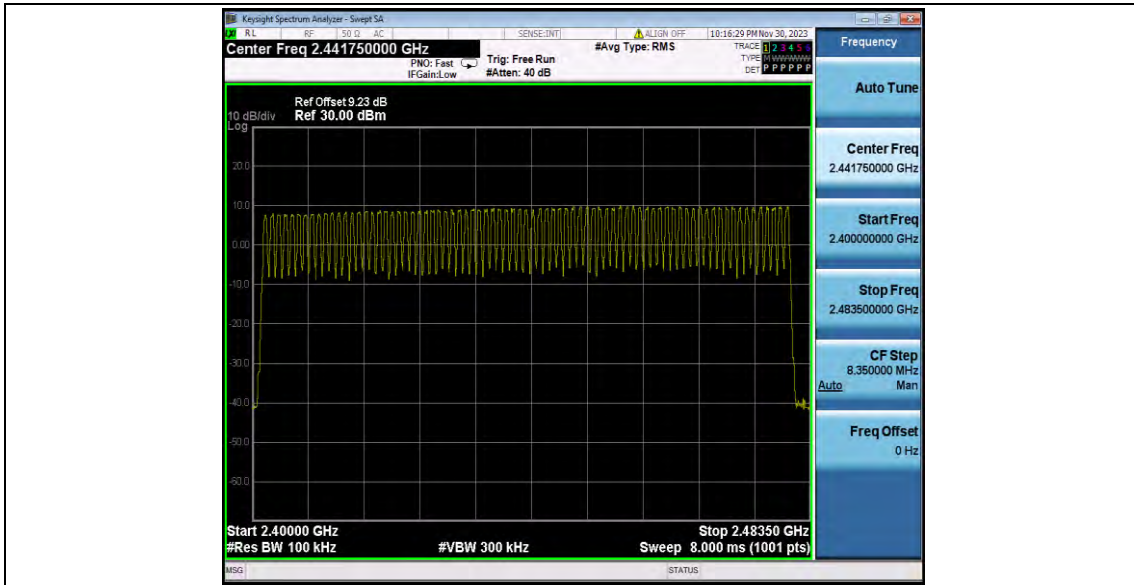
3DH5_Ant1_Hop

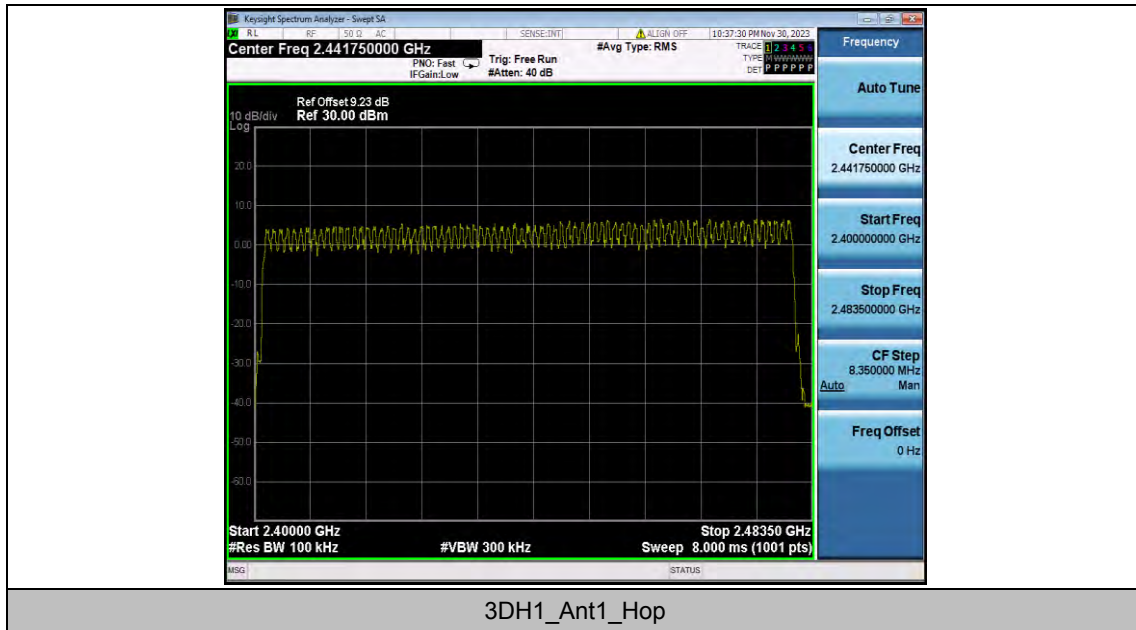
Appendix A.6: Number of hopping channels

Test Result

Test Mode	Antenna	Frequency[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





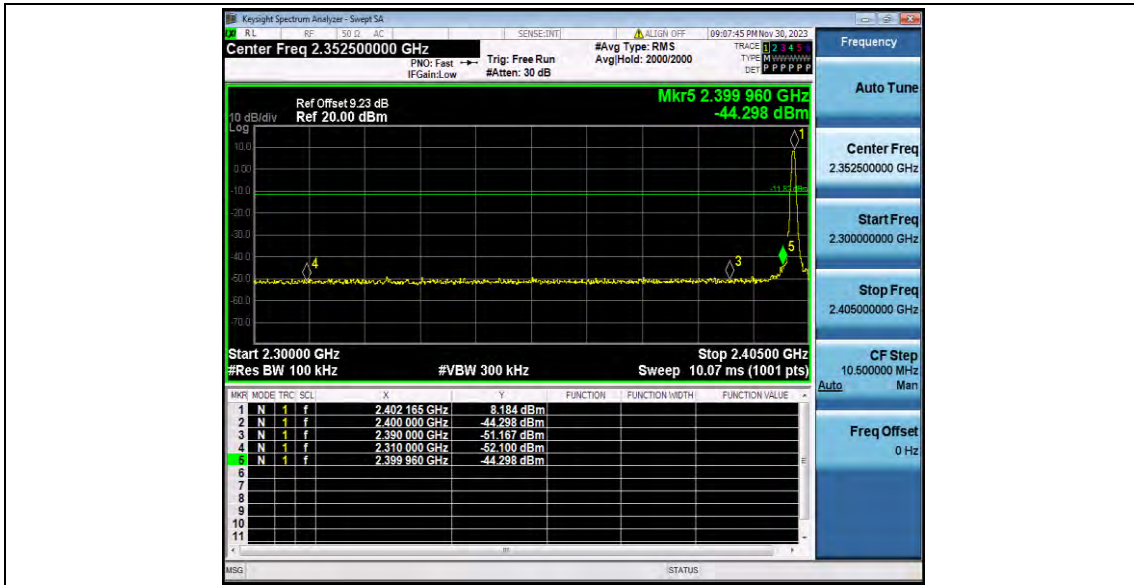
3DH1_Ant1_Hop

Appendix A.7: Band edge measurements

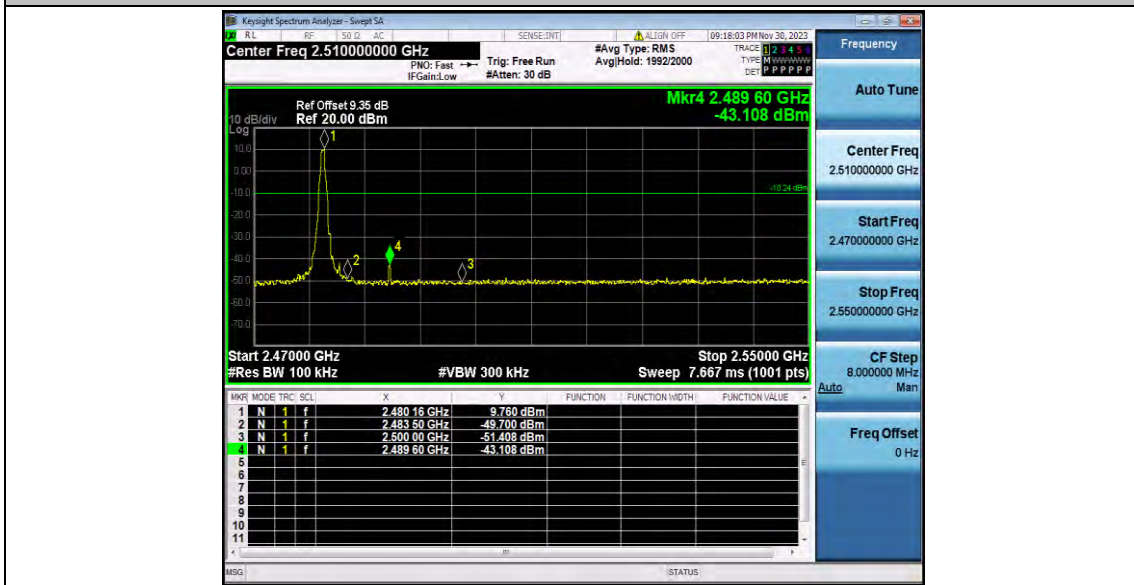
Test Result

Test Mode	Antenna	ChName	Frequency[MHz]	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
DH1	Ant1	Low	2402	8.18	-44.3	≤-11.82	PASS
		High	2480	9.76	-43.11	≤-10.24	PASS
		Low	Hop_2402	7.87	-48.8	≤-12.13	PASS
		High	Hop_2480	9.53	-46.39	≤-10.47	PASS
2DH1	Ant1	Low	2402	4.15	-39.79	≤-15.86	PASS
		High	2480	4.24	-42.66	≤-15.76	PASS
		Low	Hop_2402	3.56	-49.2	≤-16.45	PASS
		High	Hop_2480	4.57	-47.76	≤-15.43	PASS
3DH1	Ant1	Low	2402	4.20	-42.92	≤-15.8	PASS
		High	2480	4.26	-43.2	≤-15.74	PASS
		Low	Hop_2402	3.59	-49.37	≤-16.41	PASS
		High	Hop_2480	6.82	-48.32	≤-13.18	PASS

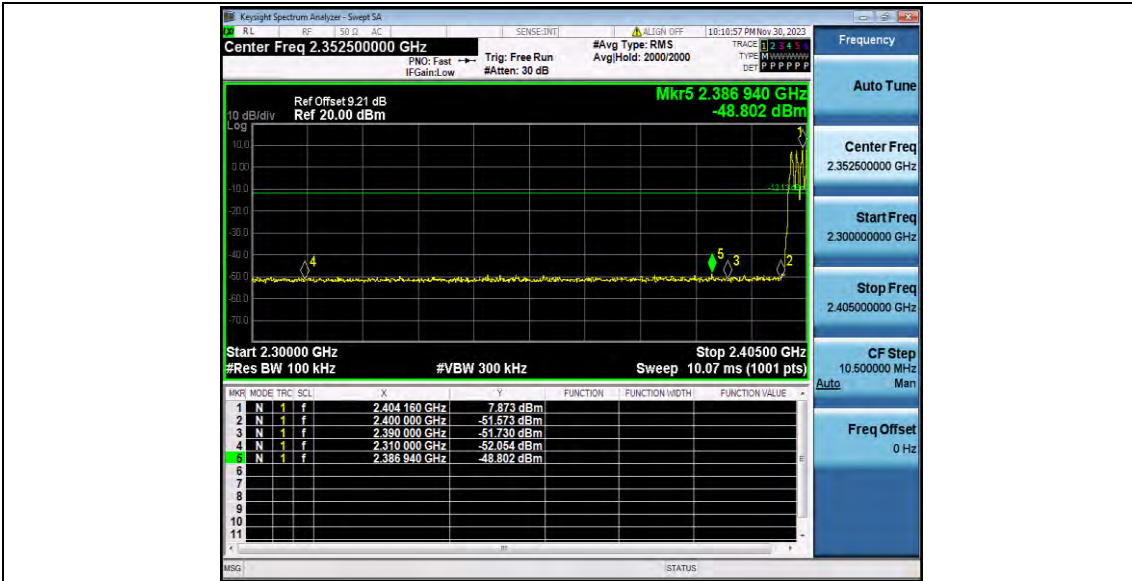
Test Graphs



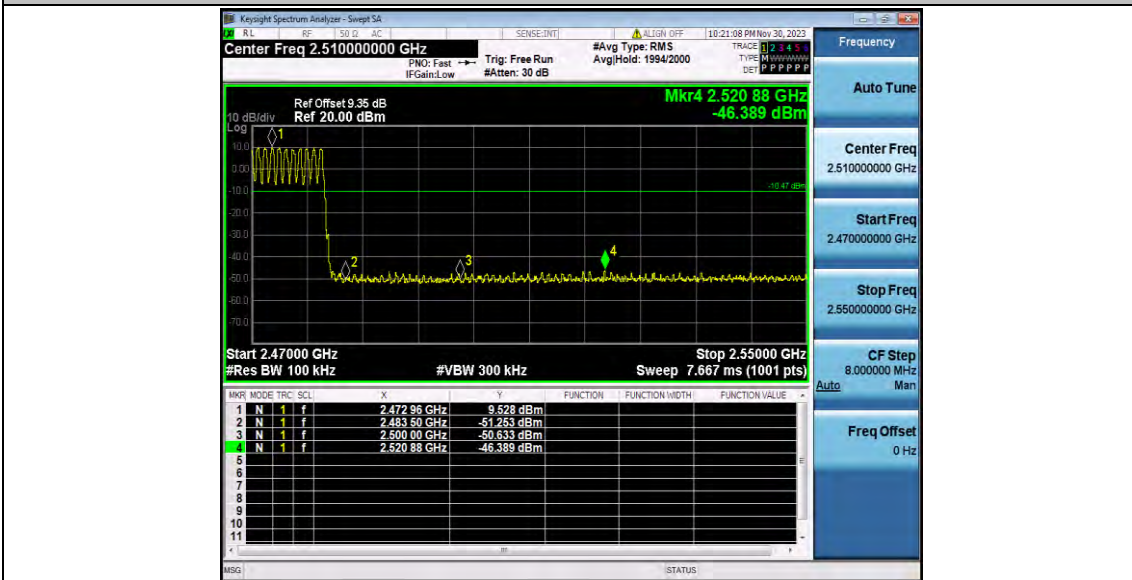
DH1_Ant1_Low_2402



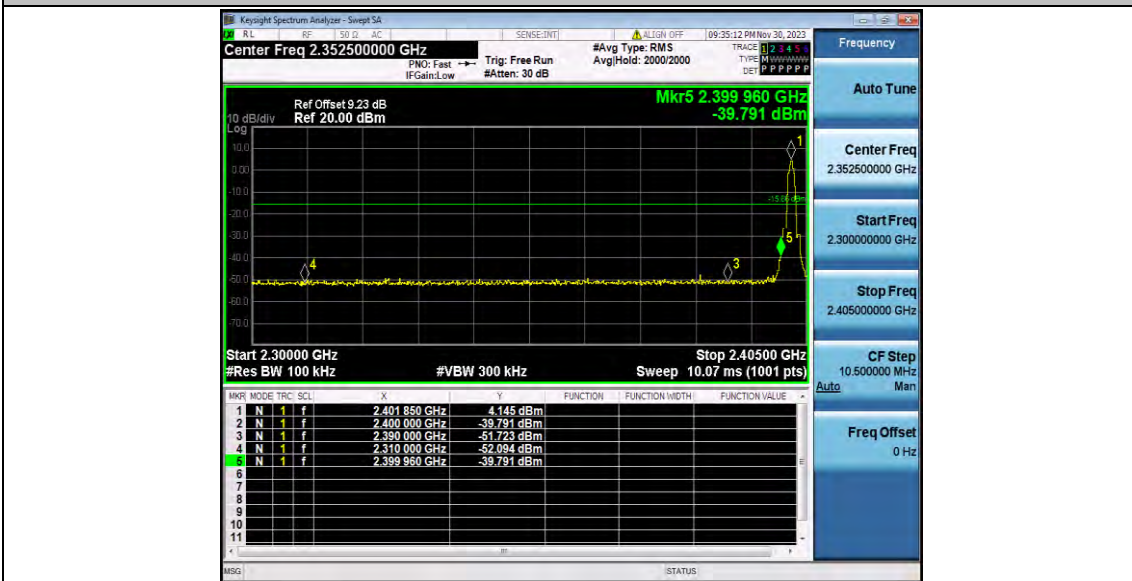
DH1_Ant1_High_2480



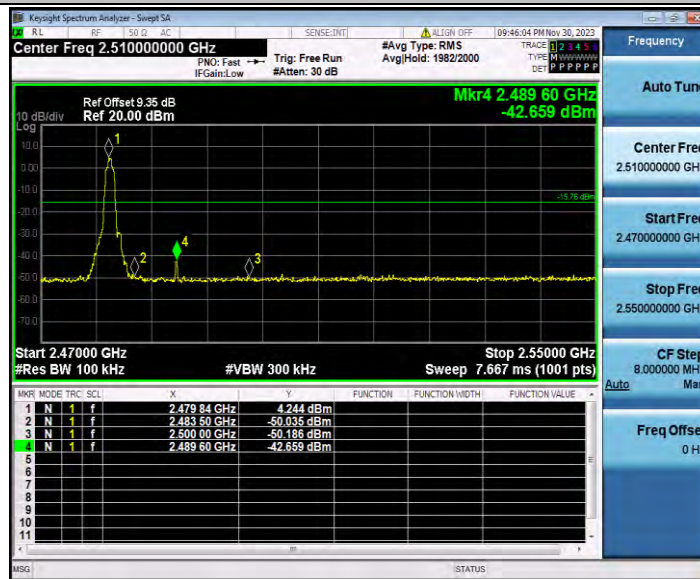
DH1_Ant1_Low_Hop_2402



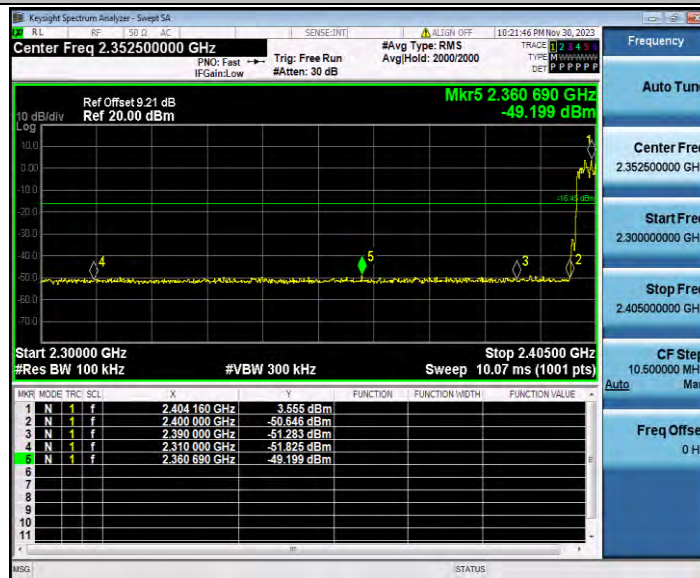
DH1_Ant1_High_Hop_2480



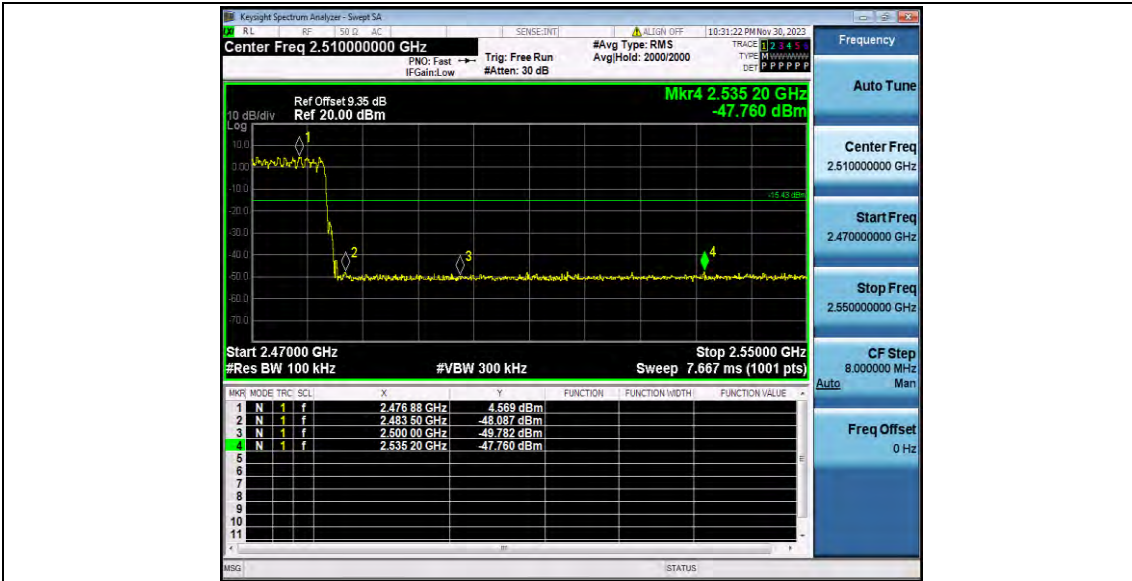
2DH1_Ant1_Low_2402



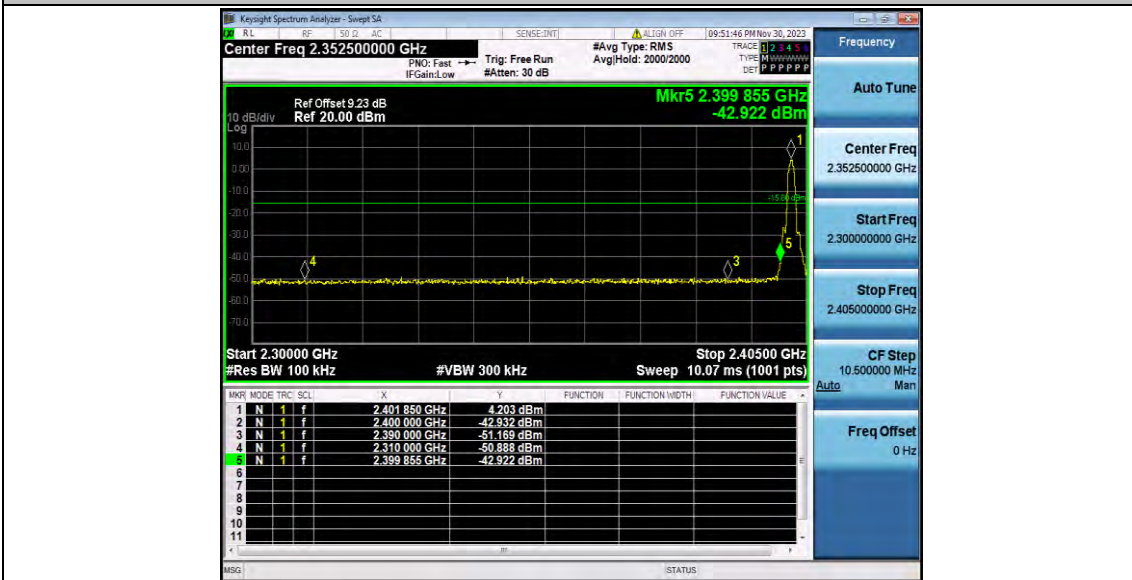
2DH1_Ant1_High_2480



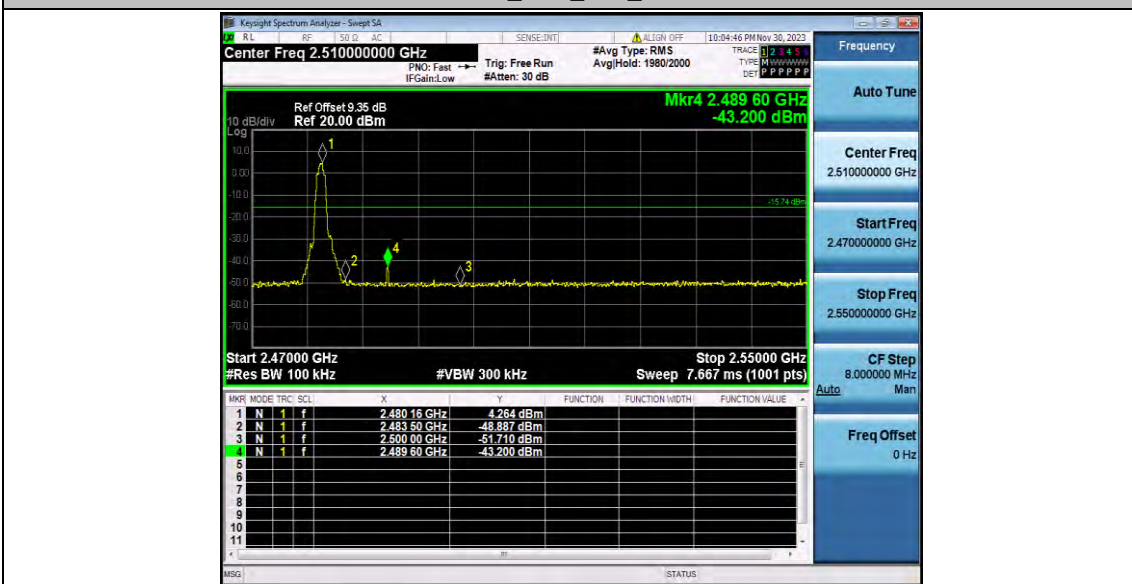
2DH1_Ant1_Low_Hop_2402



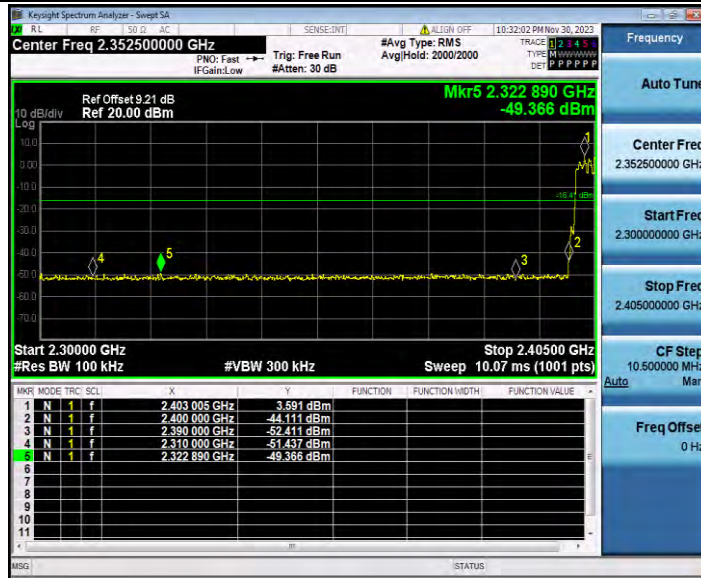
2DH1_Ant1_High_Hop_2480



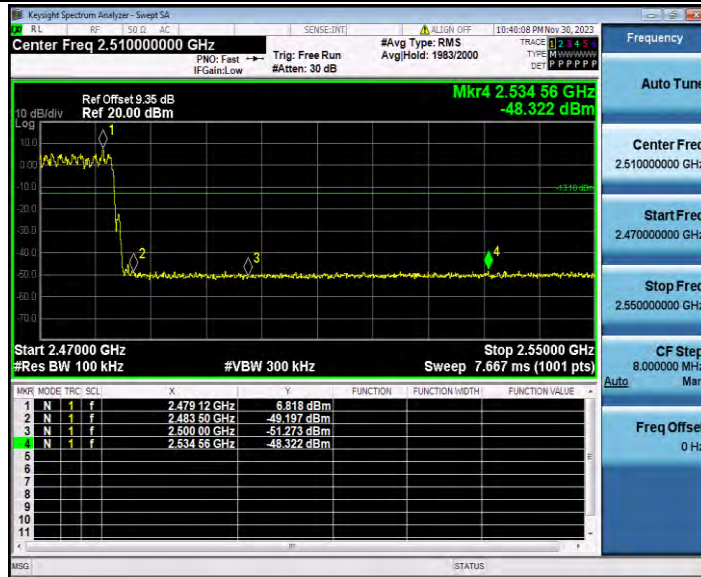
3DH1_Ant1_Low_2402



3DH1_Ant1_High_2480



3DH1_Ant1_Low_Hop_2402



3DH1_Ant1_High_Hop_2480

Appendix A.8: Conducted Spurious Emission

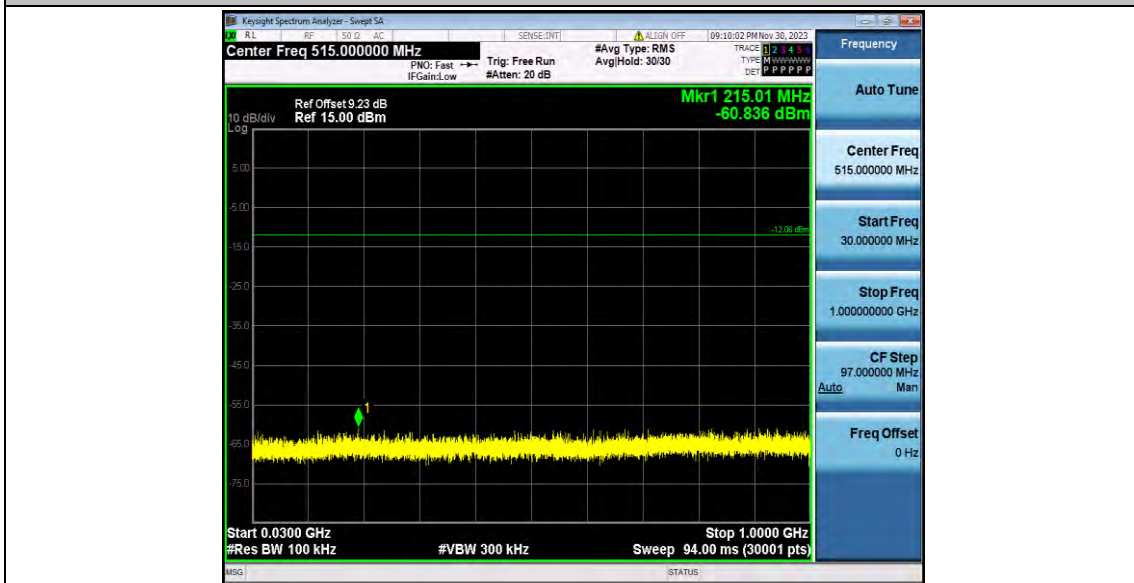
Test Result

Test Mode	Antenna	Frequency[MHz]	FreqRange [MHz]	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
DH1	Ant1	2402	Reference	7.94	7.94	---	PASS
			30~1000	7.94	-60.84	≤-12.06	PASS
			1000~26500	7.94	-47.63	≤-12.06	PASS
		2441	Reference	9.19	9.19	---	PASS
			30~1000	9.19	-60.64	≤-10.81	PASS
			1000~26500	9.19	-47.06	≤-10.81	PASS
		2480	Reference	9.35	9.35	---	PASS
			30~1000	9.35	-60.12	≤-10.65	PASS
			1000~26500	9.35	-47.38	≤-10.65	PASS
2DH1	Ant1	2402	Reference	3.78	3.78	---	PASS
			30~1000	3.78	-60.17	≤-16.22	PASS
			1000~26500	3.78	-47.72	≤-16.22	PASS
		2441	Reference	4.89	4.89	---	PASS
			30~1000	4.89	-60.4	≤-15.11	PASS
			1000~26500	4.89	-46.6	≤-15.11	PASS
		2480	Reference	4.10	4.10	---	PASS
			30~1000	4.10	-60.49	≤-15.9	PASS
			1000~26500	4.10	-47.15	≤-15.9	PASS
3DH1	Ant1	2402	Reference	3.97	3.97	---	PASS
			30~1000	3.97	-60.39	≤-16.03	PASS
			1000~26500	3.97	-47.51	≤-16.03	PASS
		2441	Reference	5.02	5.02	---	PASS
			30~1000	5.02	-60.45	≤-14.98	PASS
			1000~26500	5.02	-47.37	≤-14.98	PASS
		2480	Reference	3.73	3.73	---	PASS
			30~1000	3.73	-53.83	≤-16.27	PASS
			1000~26500	3.73	-47.14	≤-16.27	PASS

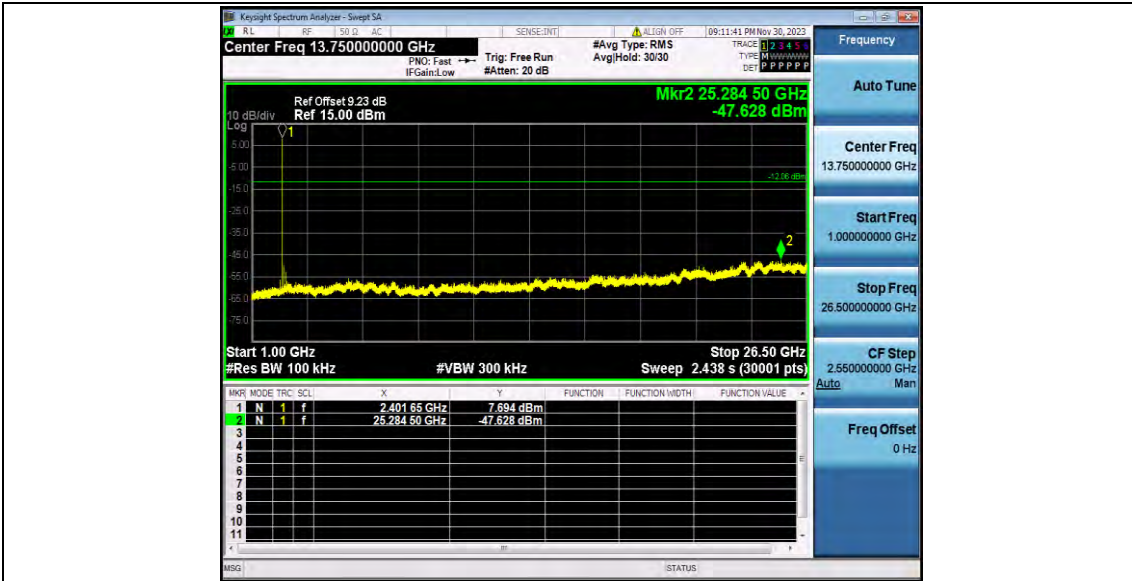
Test Graphs



DH1_Ant1_2402_0~Reference



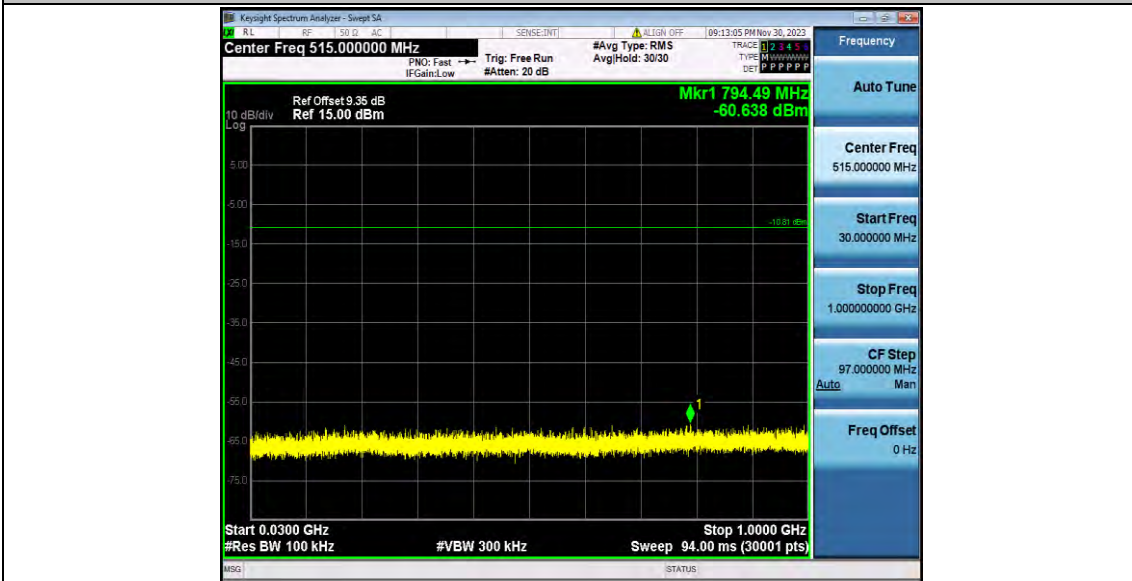
DH1_Ant1_2402_30~1000



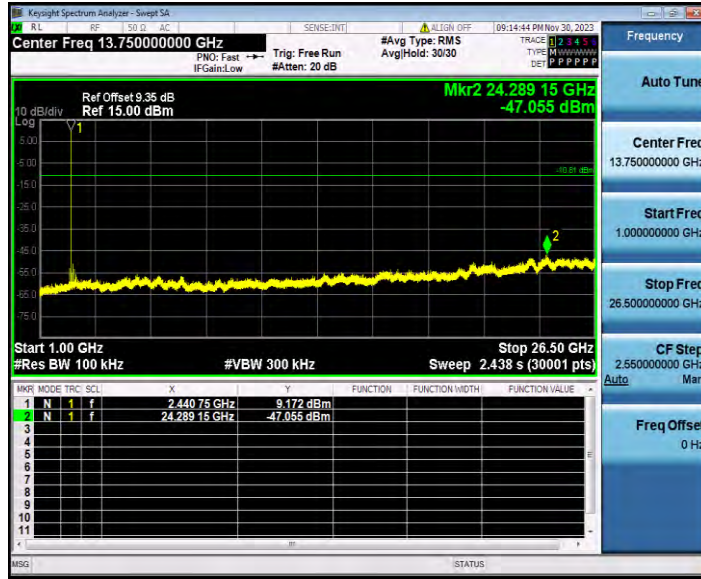
DH1_Ant1_2402_1000~26500



DH1_Ant1_2441_0~Reference



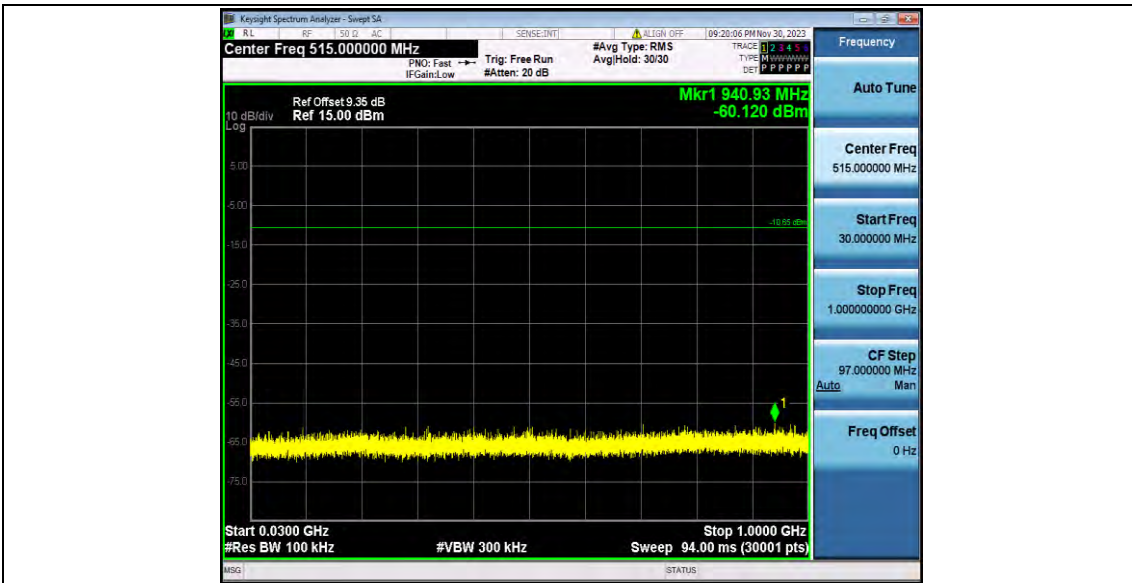
DH1_Ant1_2441_30~1000



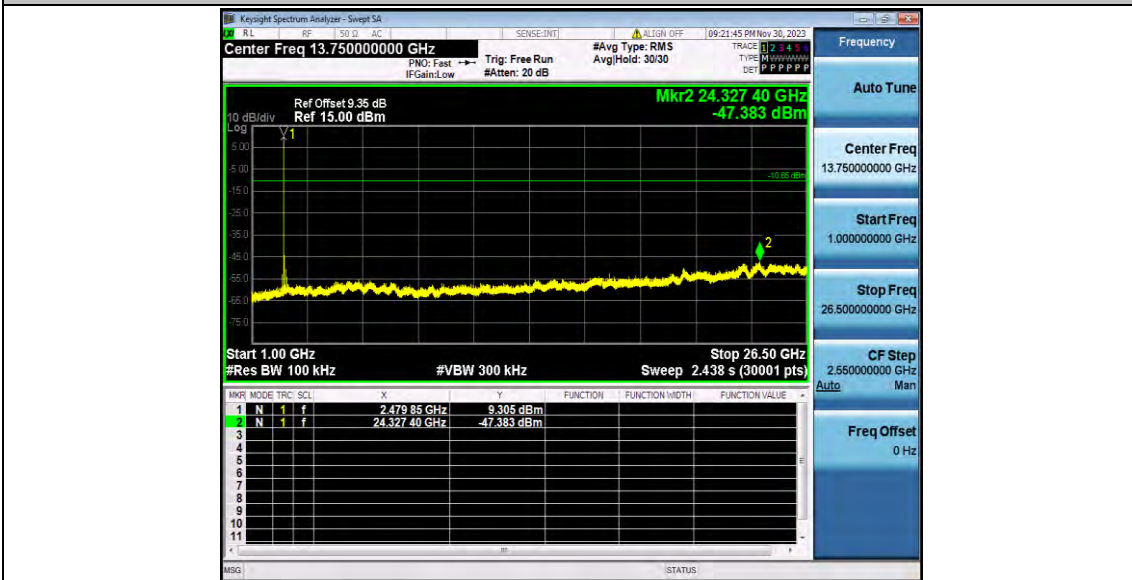
DH1_Ant1_2441_1000~26500



DH1_Ant1_2480_0~Reference



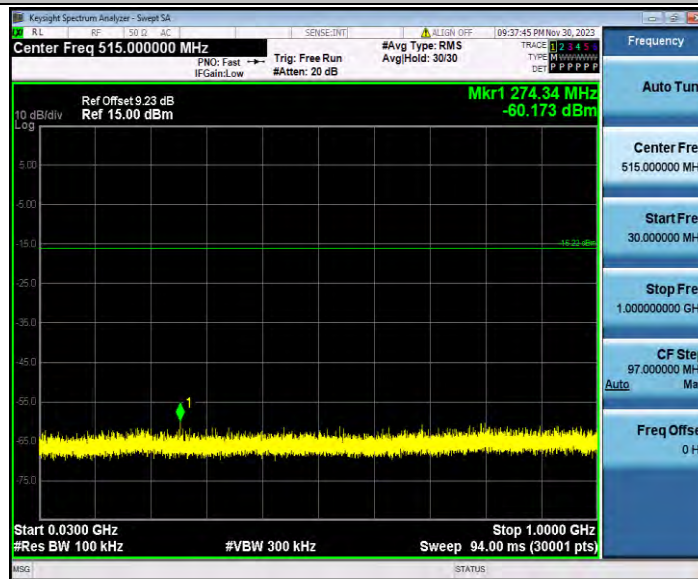
DH1_Ant1_2480_30~1000



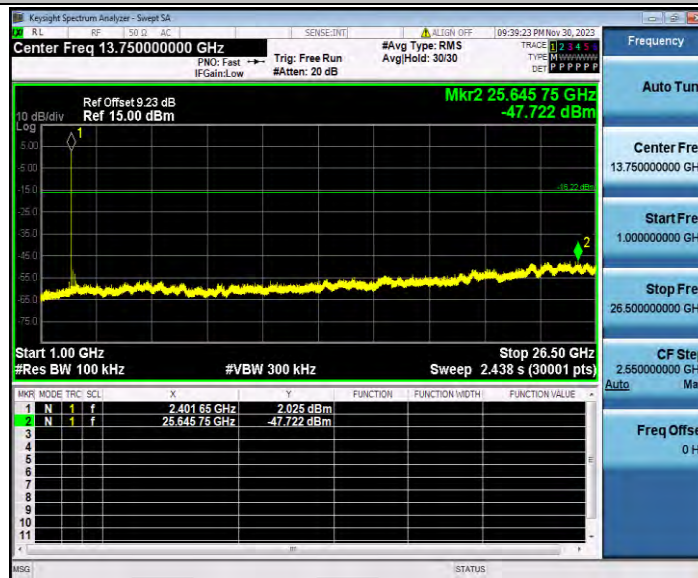
DH1_Ant1_2480_1000~26500



2DH1_Ant1_2402_0~Reference



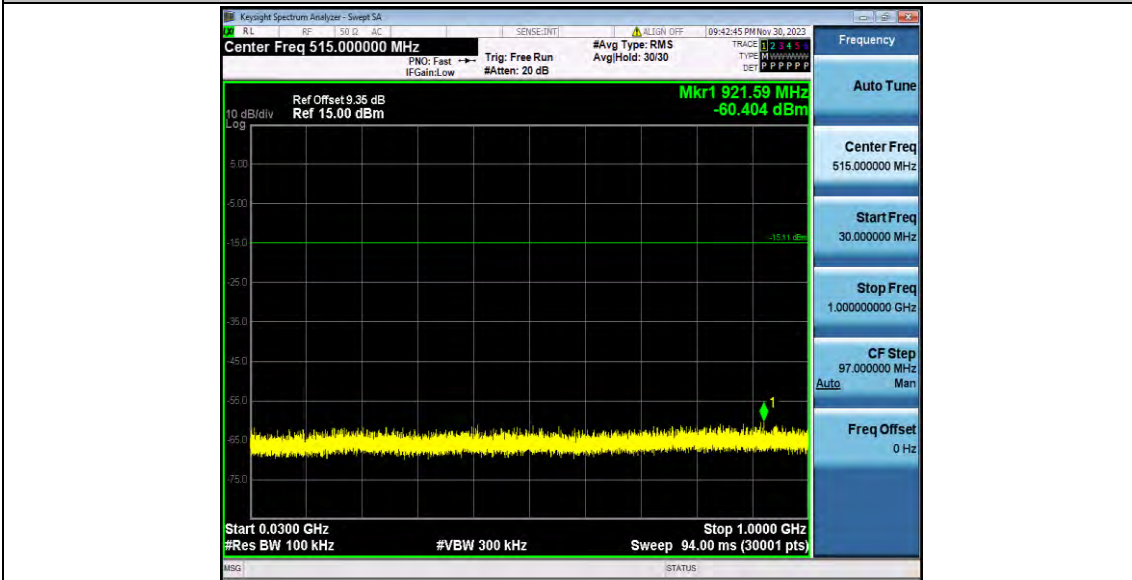
2DH1_Ant1_2402_30~1000



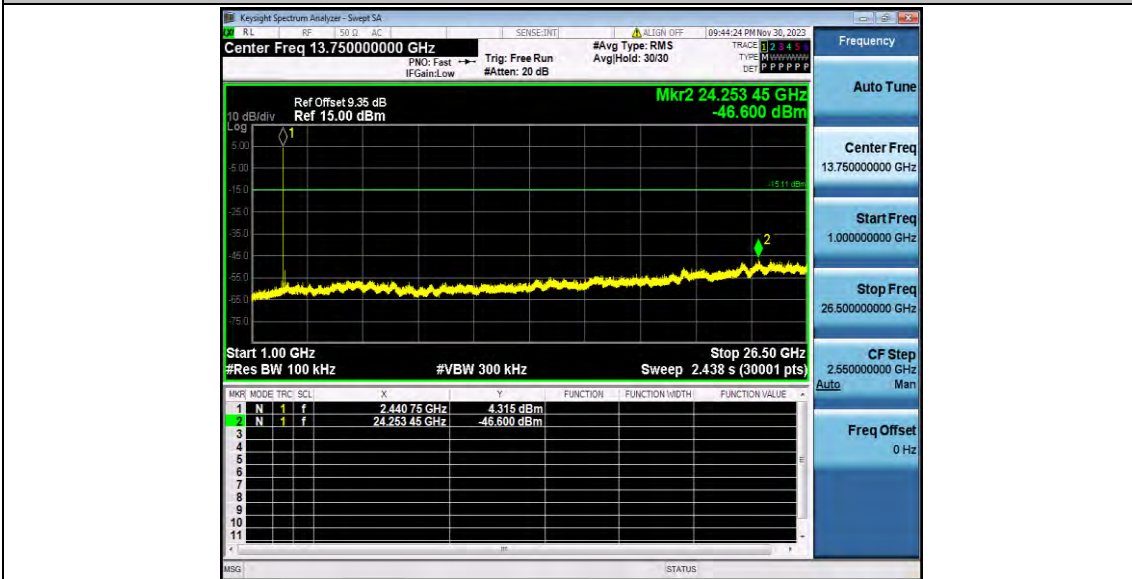
2DH1_Ant1_2402_1000~26500



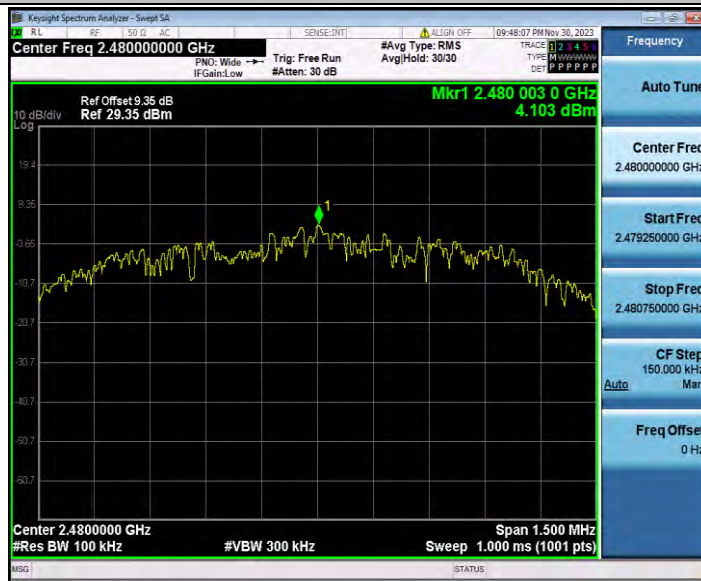
2DH1_Ant1_2441_0~Reference



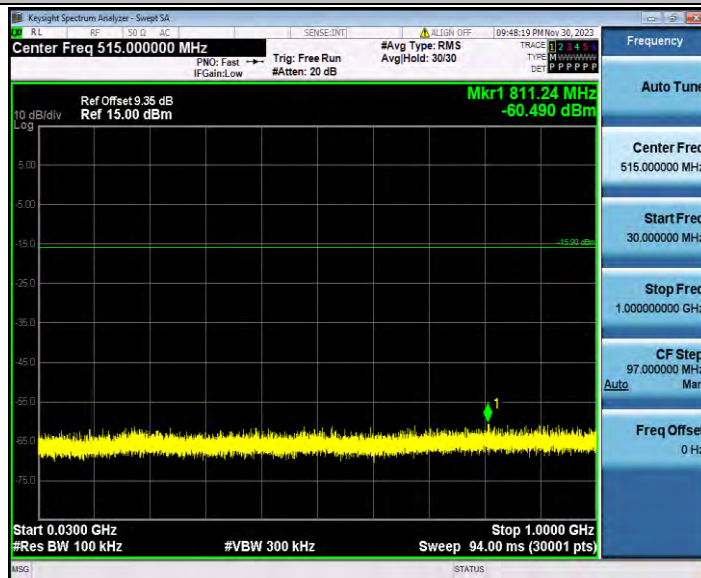
2DH1_Ant1_2441_30~1000



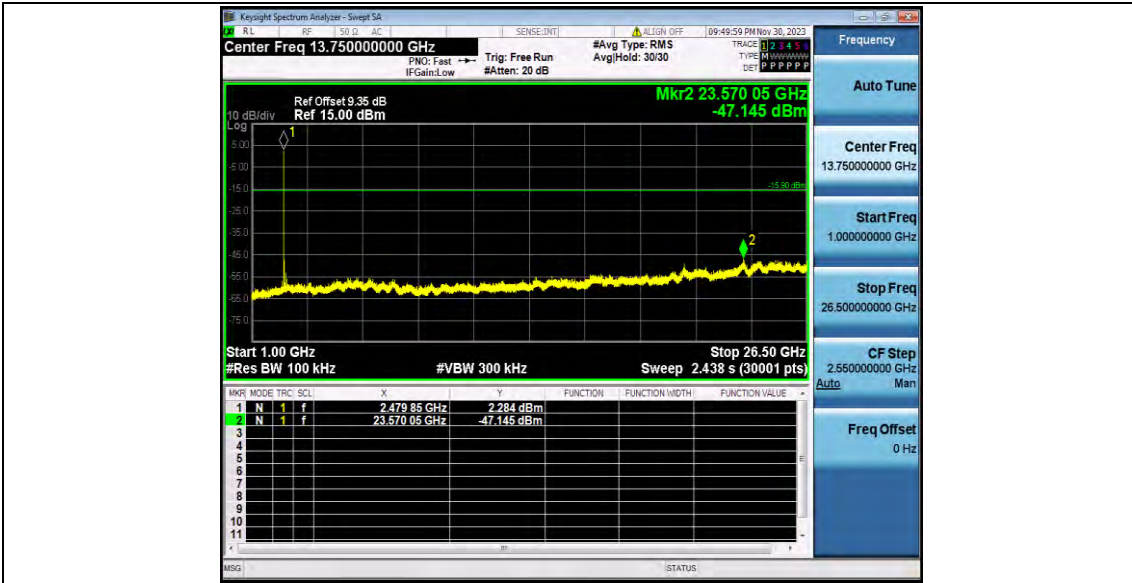
2DH1_Ant1_2441_1000~26500



2DH1_Ant1_2480_0~Reference



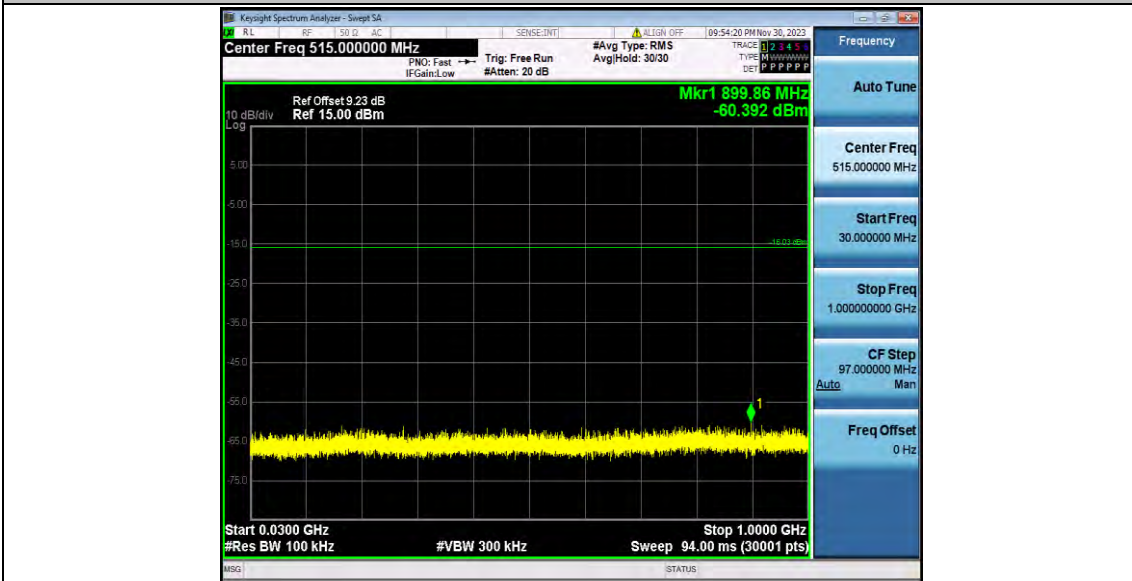
2DH1_Ant1_2480_30~1000



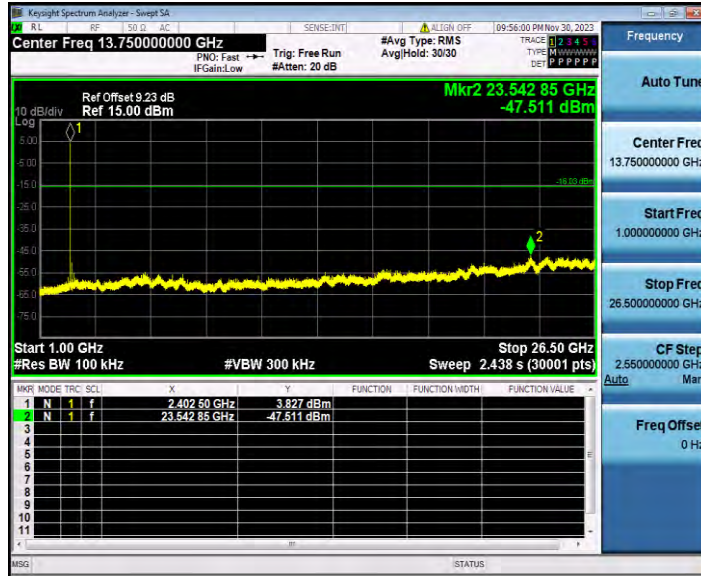
2DH1_Ant1_2480_1000~26500



3DH1_Ant1_2402_0~Reference



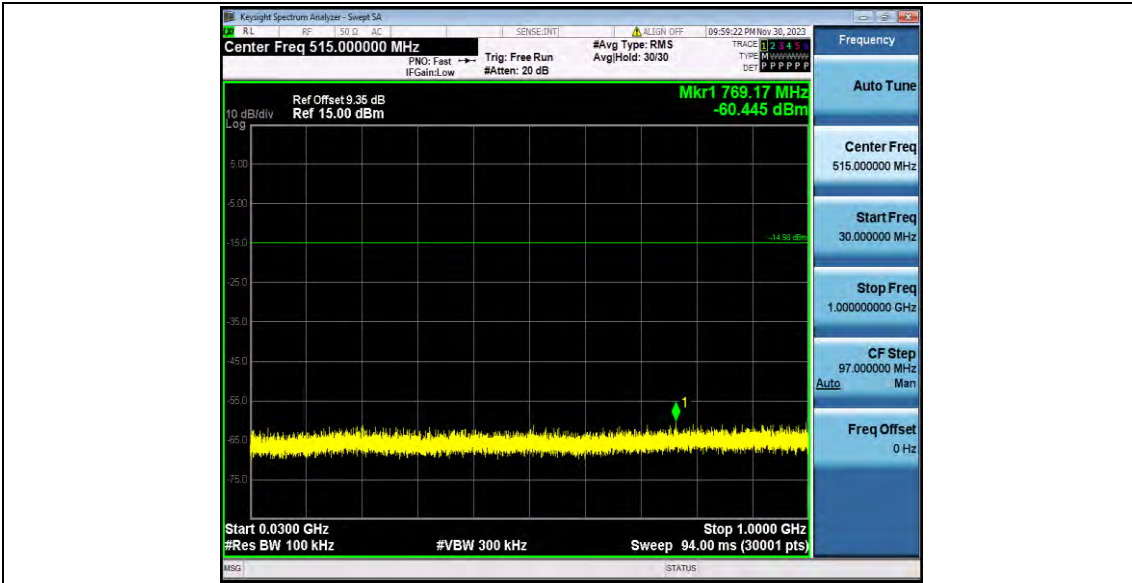
3DH1_Ant1_2402_30~1000



3DH1_Ant1_2402_1000~26500



3DH1_Ant1_2441_0~Reference



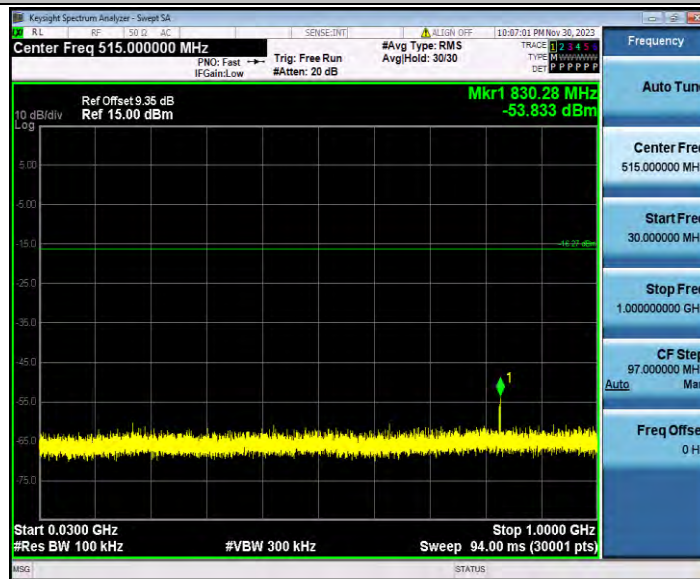
3DH1_Ant1_2441_30~100



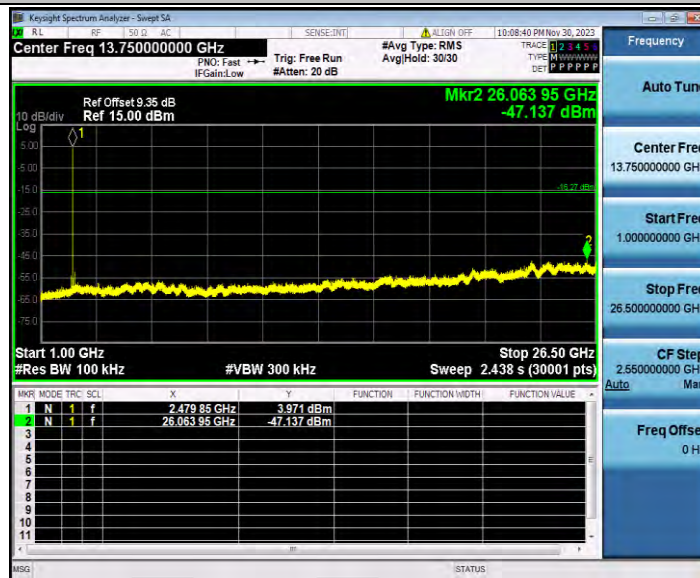
3DH1_Ant1_2441_1000~26500



3DH1_Ant1_2480_0~Reference



3DH1_Ant1_2480_30~1000



3DH1_Ant1_2480_1000~26500

Appendix A.9: Emissions in Restricted Bands

Test Result

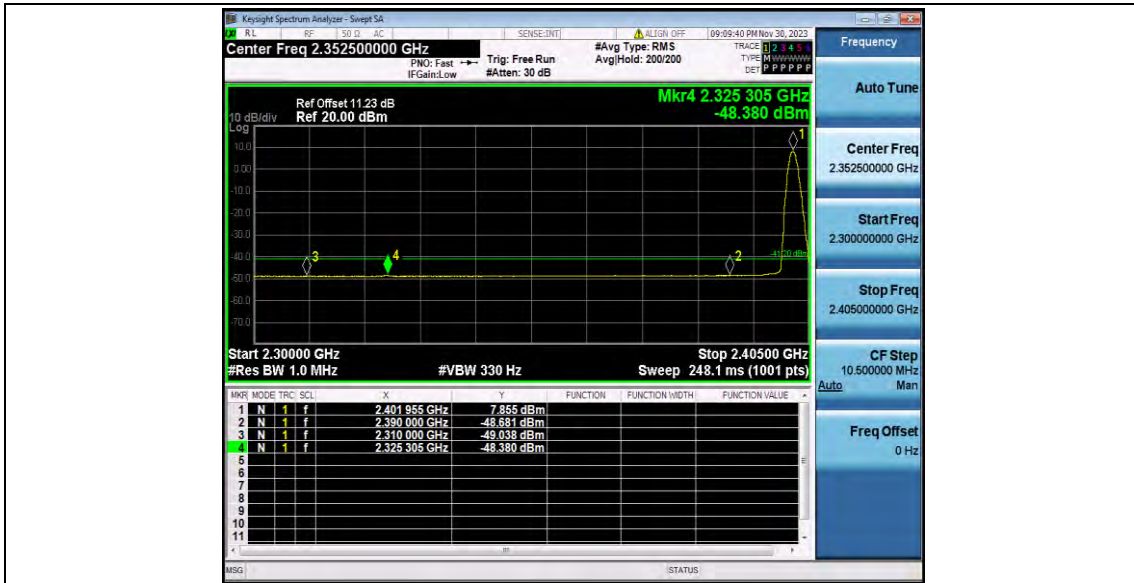
TestMode	Antenna	ChName	Frequency [MHz]	Detector	Freq [MHz]	Result [dBm]	Limit [dBm]	Result [dBuV/m]	Limit [dBuV/m]	Verdict
DH1	Ant1	Low	2402	AV	2310.000	-49.04	≤-41.20	46.16	≤54	PASS
				AV	2325.305	-48.38	≤-41.20	46.82	≤54	PASS
				AV	2390.000	-48.68	≤-41.20	46.52	≤54	PASS
				Peak	2310.000	-40.79	≤-21.20	54.41	≤74	PASS
				Peak	2339.900	-38.45	≤-21.20	56.75	≤74	PASS
				Peak	2390.000	-41.02	≤-21.20	54.18	≤74	PASS
		High	2480	AV	2483.500	-46.43	≤-41.20	48.77	≤54	PASS
				AV	2483.520	-46.43	≤-41.20	48.77	≤54	PASS
				AV	2500.000	-48.35	≤-41.20	46.85	≤54	PASS
				Peak	2483.500	-39.68	≤-21.20	55.52	≤74	PASS
				Peak	2483.680	-36.59	≤-21.20	58.61	≤74	PASS
				Peak	2500.000	-40.92	≤-21.20	54.28	≤74	PASS
2DH1	Ant1	Low	2402	AV	2310.000	-49.01	≤-41.20	46.19	≤54	PASS
				AV	2389.985	-48.51	≤-41.20	46.69	≤54	PASS
				AV	2390.000	-48.51	≤-41.20	46.69	≤54	PASS
				Peak	2310.000	-41.5	≤-21.20	53.70	≤74	PASS
				Peak	2380.640	-37.73	≤-21.20	57.47	≤74	PASS
				Peak	2390.000	-39.97	≤-21.20	55.23	≤74	PASS
		High	2480	AV	2483.500	-46.92	≤-41.20	48.28	≤54	PASS
				AV	2483.520	-46.92	≤-41.20	48.28	≤54	PASS
				AV	2500.000	-48.2	≤-41.20	47.00	≤54	PASS
				Peak	2483.500	-40.74	≤-21.20	54.46	≤74	PASS
				Peak	2484.800	-38.46	≤-21.20	56.74	≤74	PASS
				Peak	2500.000	-39.39	≤-21.20	55.81	≤74	PASS
3DH1	Ant1	Low	2402	AV	2310.000	-48.96	≤-41.20	46.24	≤54	PASS
				AV	2389.670	-48.44	≤-41.20	46.76	≤54	PASS
				AV	2390.000	-48.61	≤-41.20	46.59	≤54	PASS
				Peak	2310.000	-41.28	≤-21.20	53.92	≤74	PASS
				Peak	2389.250	-38.65	≤-21.20	56.55	≤74	PASS
				Peak	2390.000	-41.14	≤-21.20	54.06	≤74	PASS
		High	2480	AV	2483.500	-46.86	≤-41.20	48.34	≤54	PASS
				AV	2483.520	-46.86	≤-41.20	48.34	≤54	PASS
				AV	2500.000	-48.25	≤-41.20	46.95	≤54	PASS
				Peak	2483.500	-39.73	≤-21.20	55.47	≤74	PASS

				Peak	2484.000	-37.41	≤-21.20	57.79	≤74	PASS
				Peak	2500.000	-40.34	≤-21.20	54.86	≤74	PASS

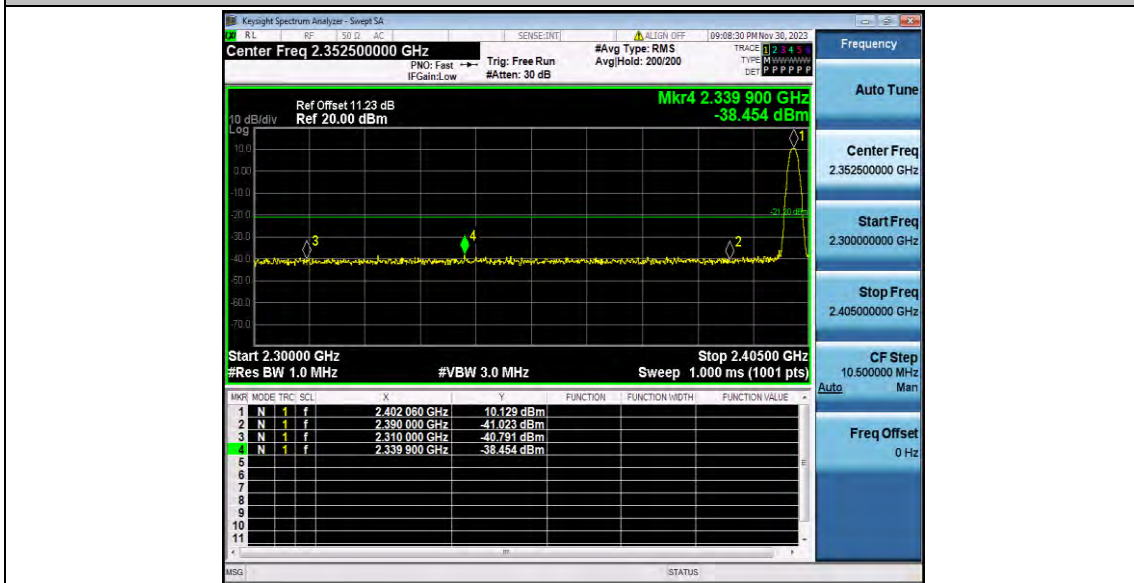
Note:

1. The Antenna Gain is compensated in the graph.
2. 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.

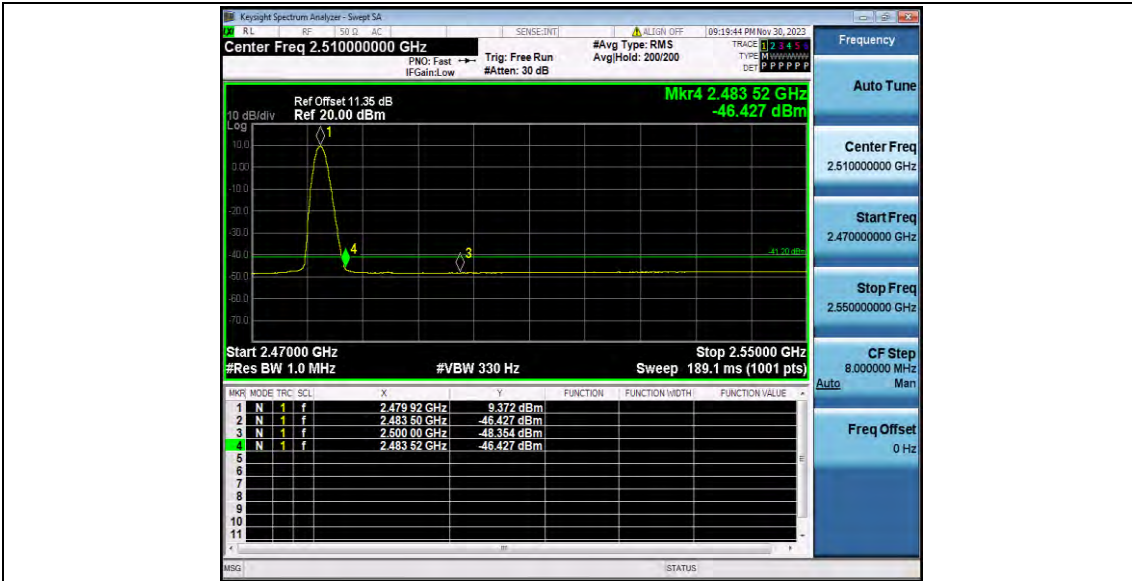
Test Graphs



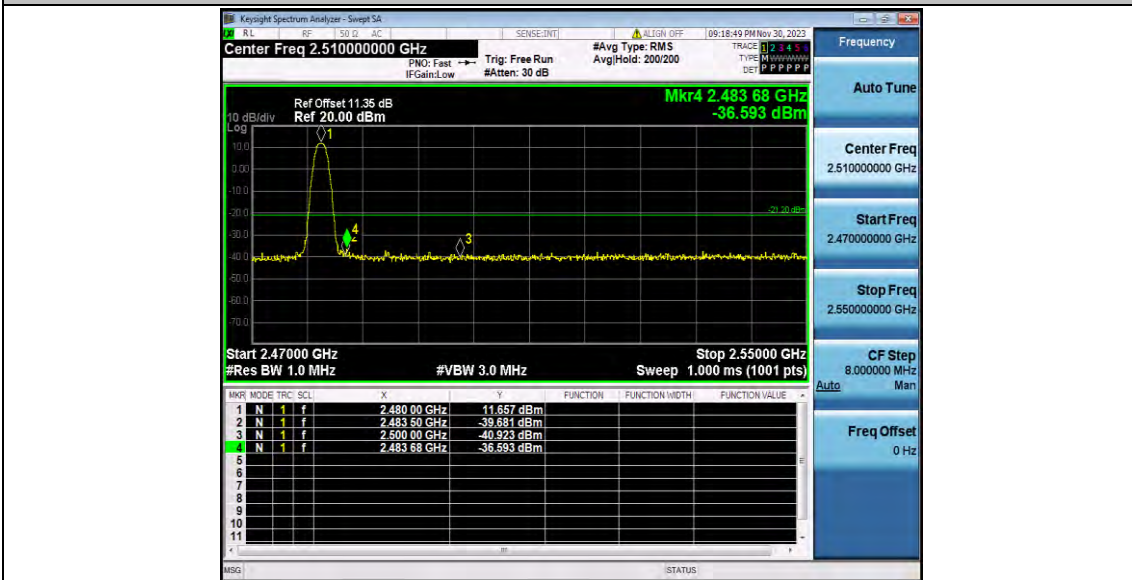
DH1_Ant1_Low_2402_AV



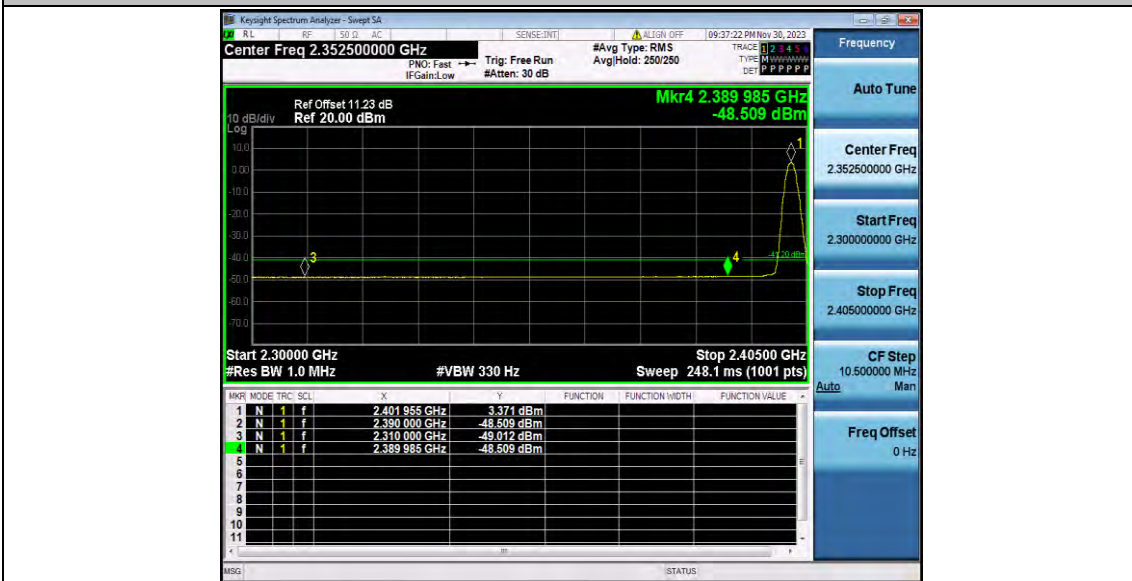
DH1_Ant1_Low_2402_Peak



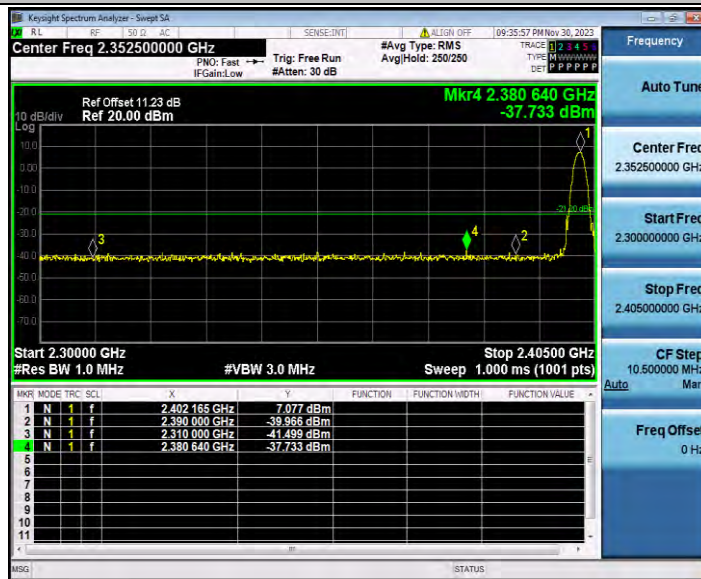
DH1_Ant1_High_2480_AV



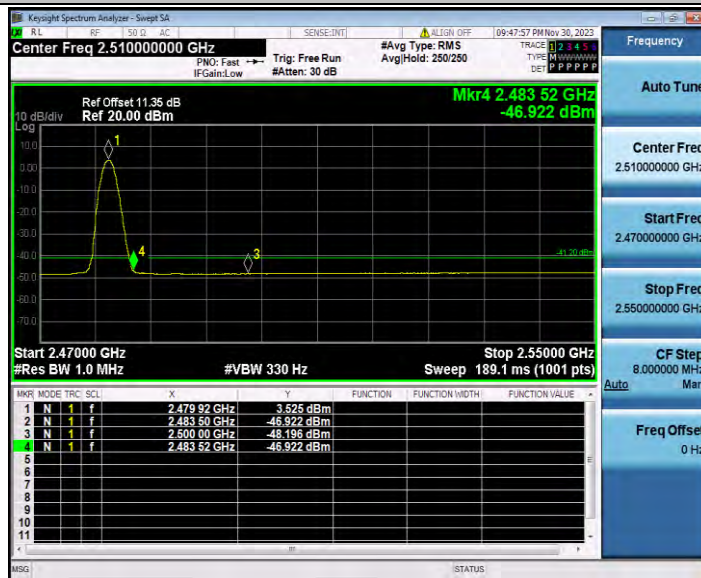
DH1_Ant1_High_2480_Peak



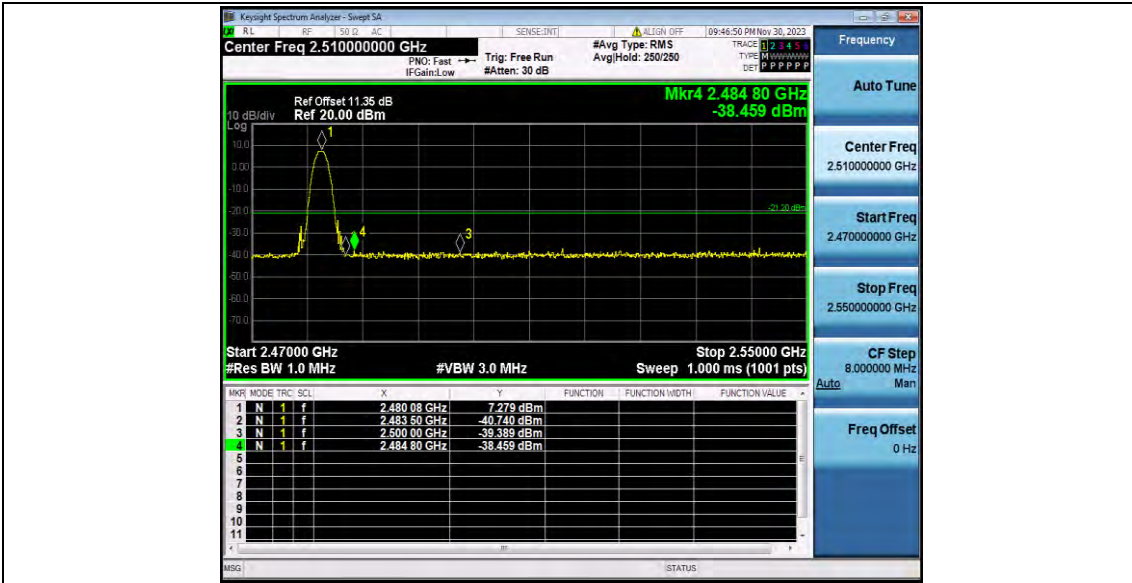
2DH1_Ant1_Low_2402_AV



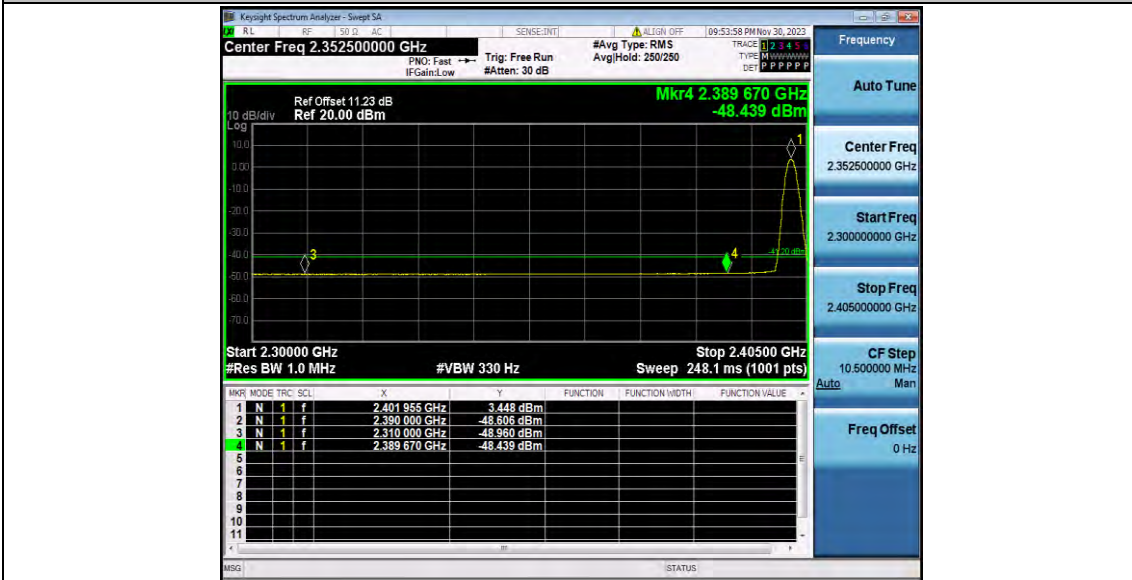
2DH1_Ant1_Low_2402_Peak



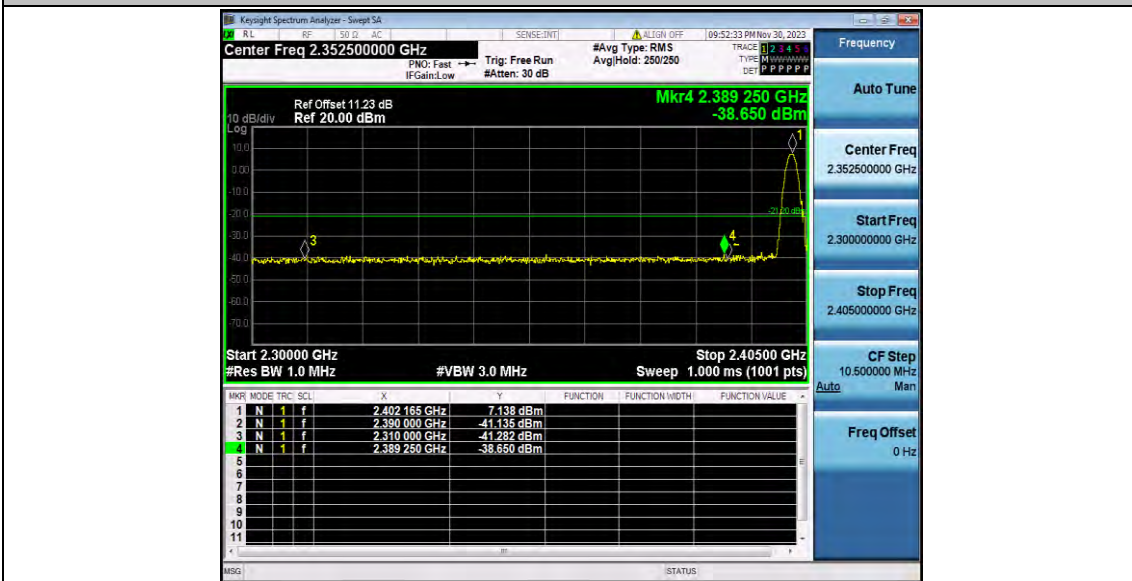
2DH1_Ant1_High_2480_AV



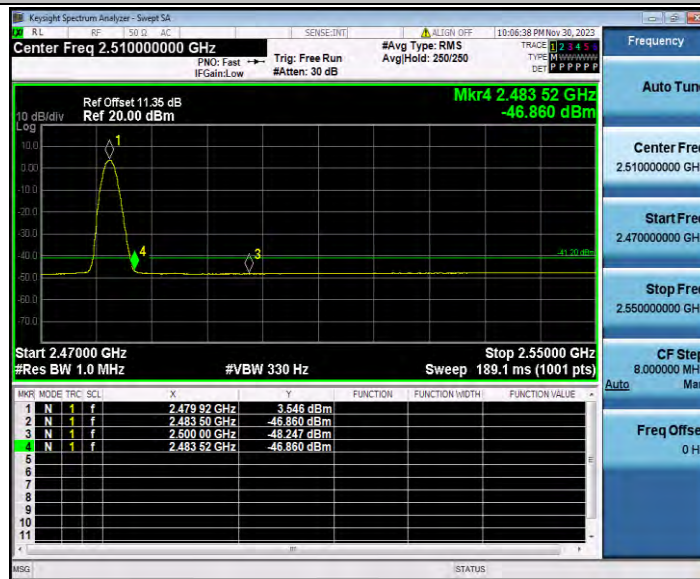
2DH1_Ant1_High_2480_Peak



3DH1_Ant1_Low_2402_AV



3DH1_Ant1_Low_2402_Peak



3DH1_Ant1_High_2480_AV



3DH1_Ant1_High_2480_Peak