

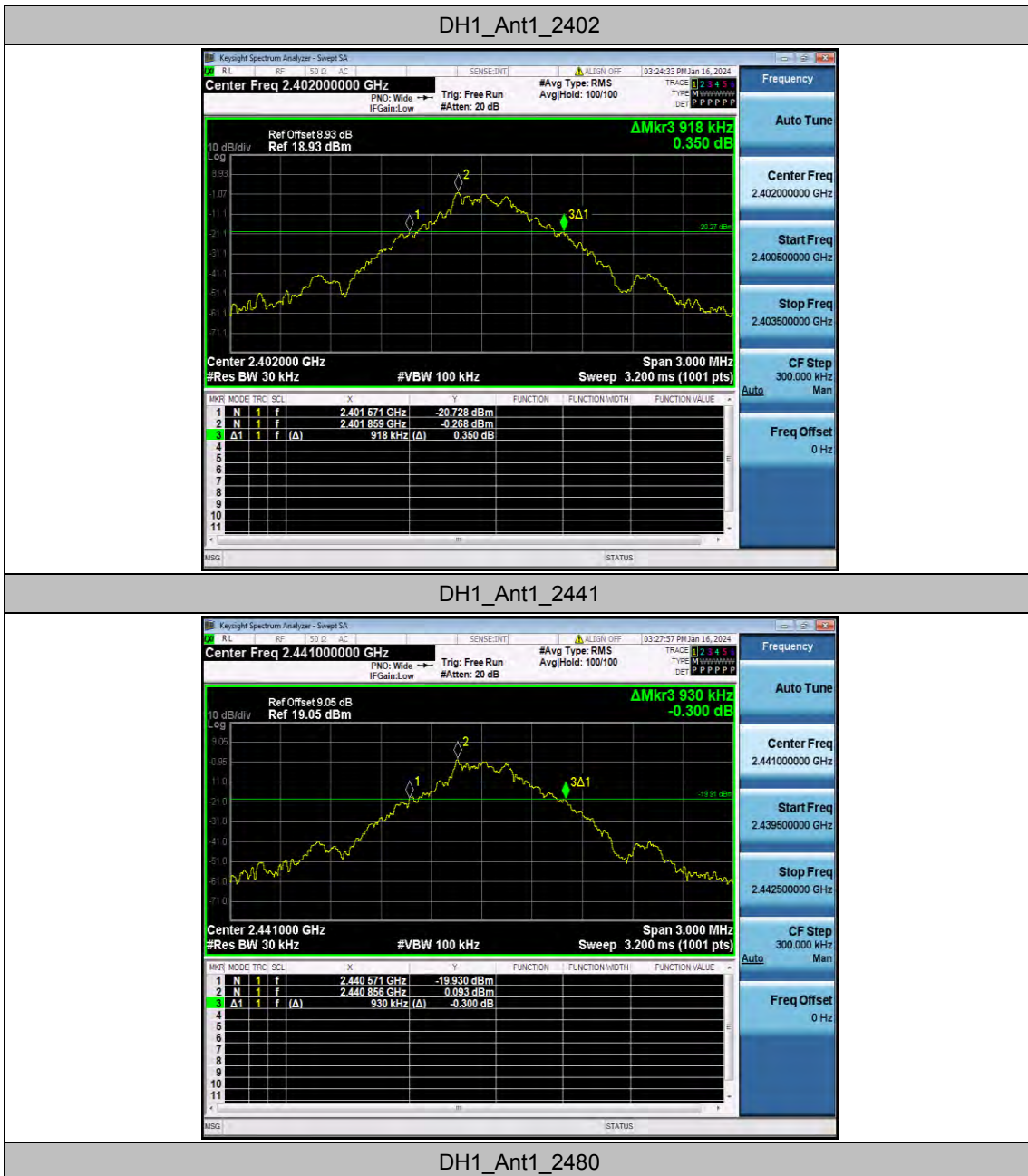
Case No. : <u>GTS20231222011-1-16</u>
Ambient Condition: <u>23 °C, 48 %RH</u>
According Standard: <u>■Part15C</u>
Test Date: <u>2024.1.16</u> Test Engineer: <u>Evan ouyang</u>

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	0.918	2401.571	2402.489	---	---
		2441	0.930	2440.571	2441.501	---	---
		2480	0.888	2479.598	2480.486	---	---
2DH1	Ant1	2402	1.272	2401.388	2402.660	---	---
		2441	1.233	2440.391	2441.624	---	---
		2480	1.260	2479.391	2480.651	---	---
3DH1	Ant1	2402	1.224	2401.424	2402.648	---	---
		2441	1.254	2440.394	2441.648	---	---
		2480	1.245	2479.400	2480.645	---	---

Test Graphs





2DH1_Ant1_2402



2DH1_Ant1_2441



2DH1_Ant1_2480



3DH1_Ant1_2402



3DH1_Ant1_2441



3DH1_Ant1_2480

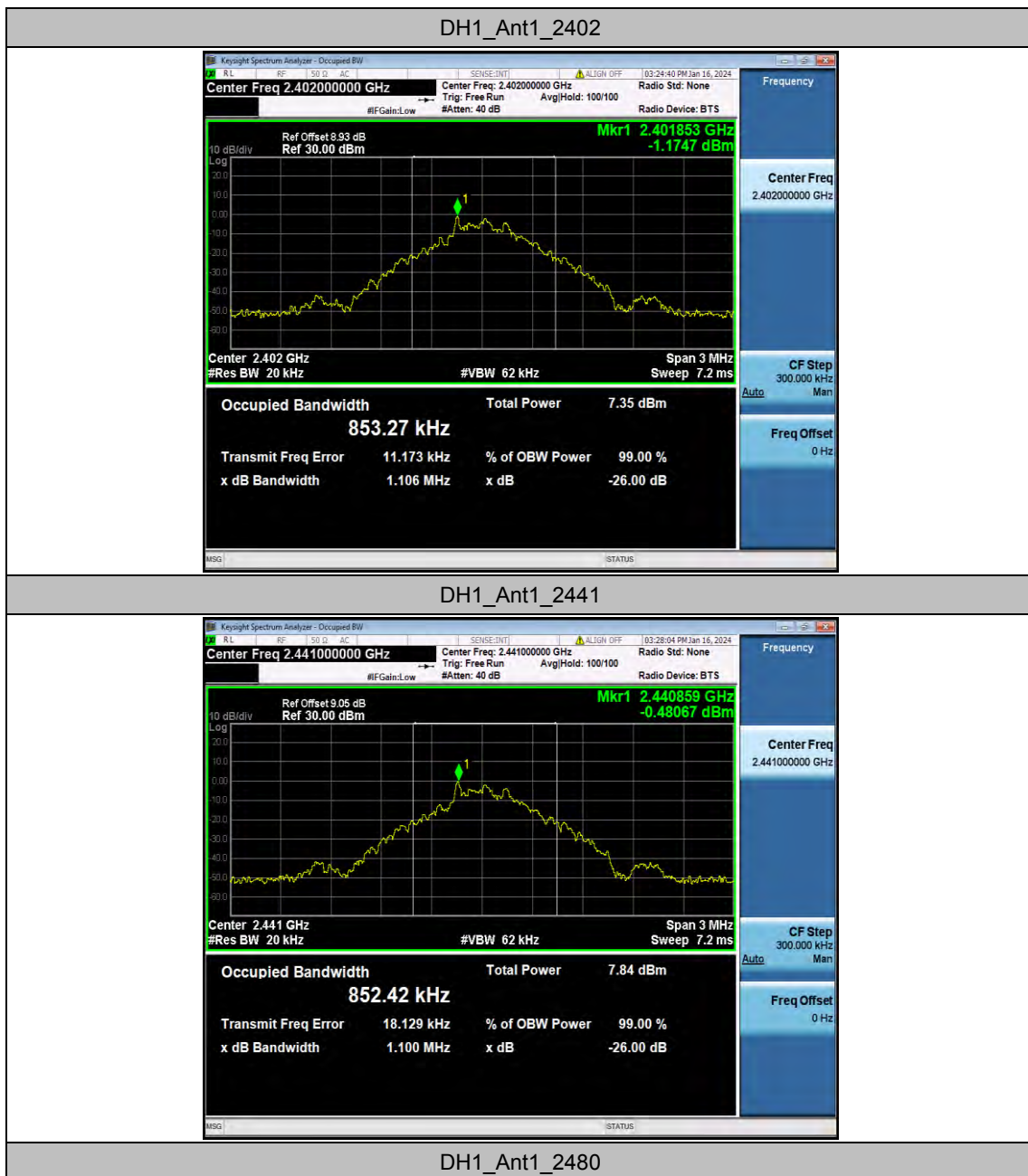


Appendix A.2: Occupied Channel Bandwidth

Test Result

TestMode	Antenna	Freq(MHz)	OCB [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
DH1	Ant1	2402	0.85327	2401.5845	2402.4378	---	---
		2441	0.85242	2440.5919	2441.4443	---	---
		2480	0.86072	2479.5915	2480.4523	---	---
2DH1	Ant1	2402	1.1677	2401.4353	2402.6030	---	---
		2441	1.1641	2440.4365	2441.6006	---	---
		2480	1.1662	2479.4343	2480.6005	---	---
3DH1	Ant1	2402	1.1558	2401.4548	2402.6106	---	---
		2441	1.1494	2440.4563	2441.6057	---	---
		2480	1.1525	2479.4583	2480.6108	---	---

Test Graphs





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

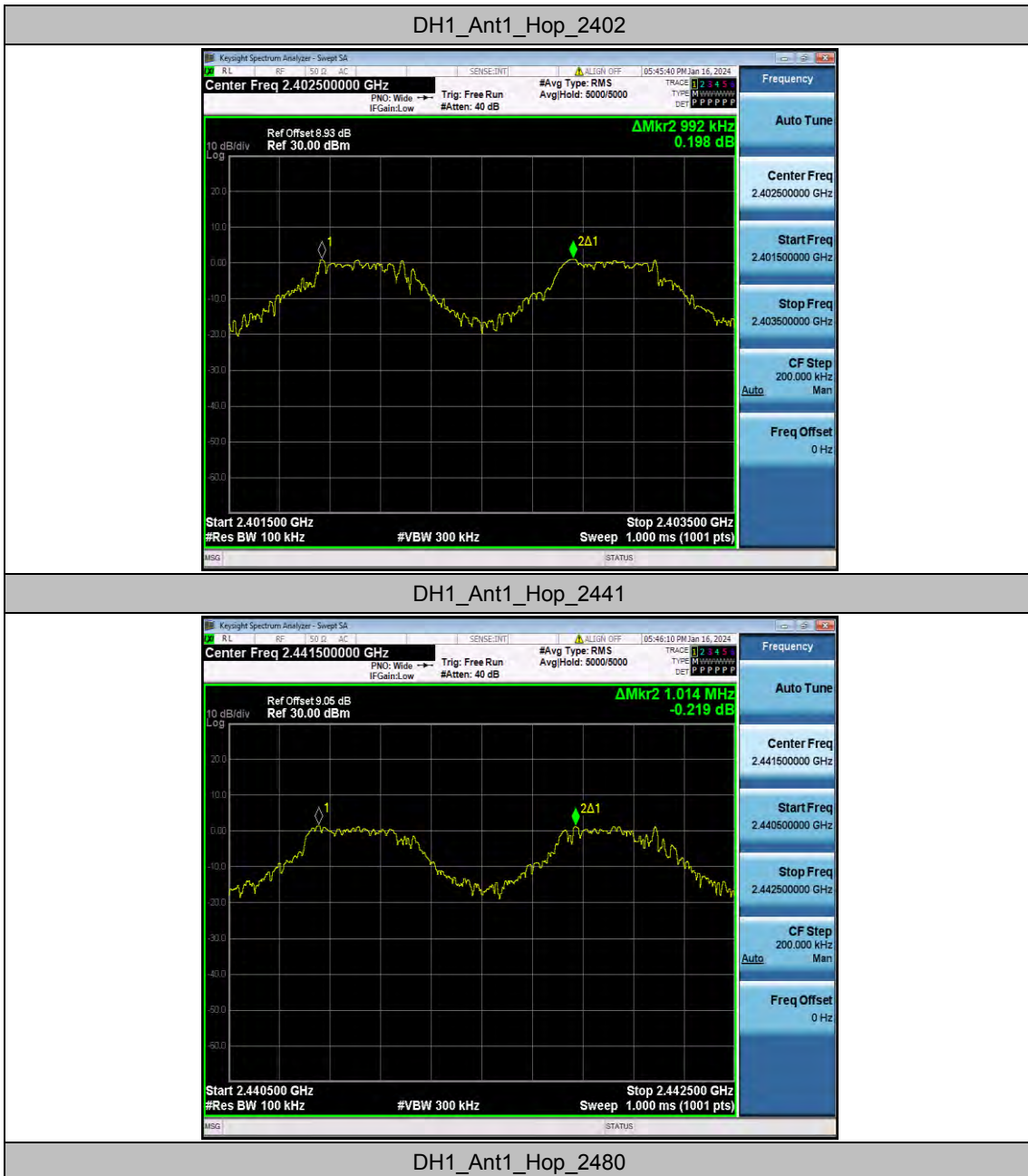
Test Mode	Antenna	Freq(MHz)	Conducted Peak Power[dBm]	Conducted Limit[dBm]	Verdict
DH1	Ant1	2402	1.62	≤30.00	PASS
		2441	2.05	≤30.00	PASS
		2480	1.02	≤30.00	PASS
2DH1	Ant1	2402	2.36	≤20.97	PASS
		2441	2.65	≤20.97	PASS
		2480	1.71	≤20.97	PASS
3DH1	Ant1	2402	2.74	≤20.97	PASS
		2441	3.11	≤20.97	PASS
		2480	1.85	≤20.97	PASS

Appendix A.4: Carrier frequency separation

Test Result

TestMode	Antenna	Freq(MHz)	Result[MHz]	Limit[MHz]	Verdict
DH1	Ant1	Hop_2402	0.992	≥ 0.930	PASS
		Hop_2441	1.014	≥ 0.930	PASS
		Hop_2480	0.992	≥ 0.930	PASS
2DH1	Ant1	Hop_2402	1.19	≥ 0.848	PASS
		Hop_2441	0.996	≥ 0.848	PASS
		Hop_2480	1	≥ 0.848	PASS
3DH1	Ant1	Hop_2402	1.002	≥ 0.836	PASS
		Hop_2441	1.006	≥ 0.836	PASS
		Hop_2480	0.862	≥ 0.836	PASS

Test Graphs


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

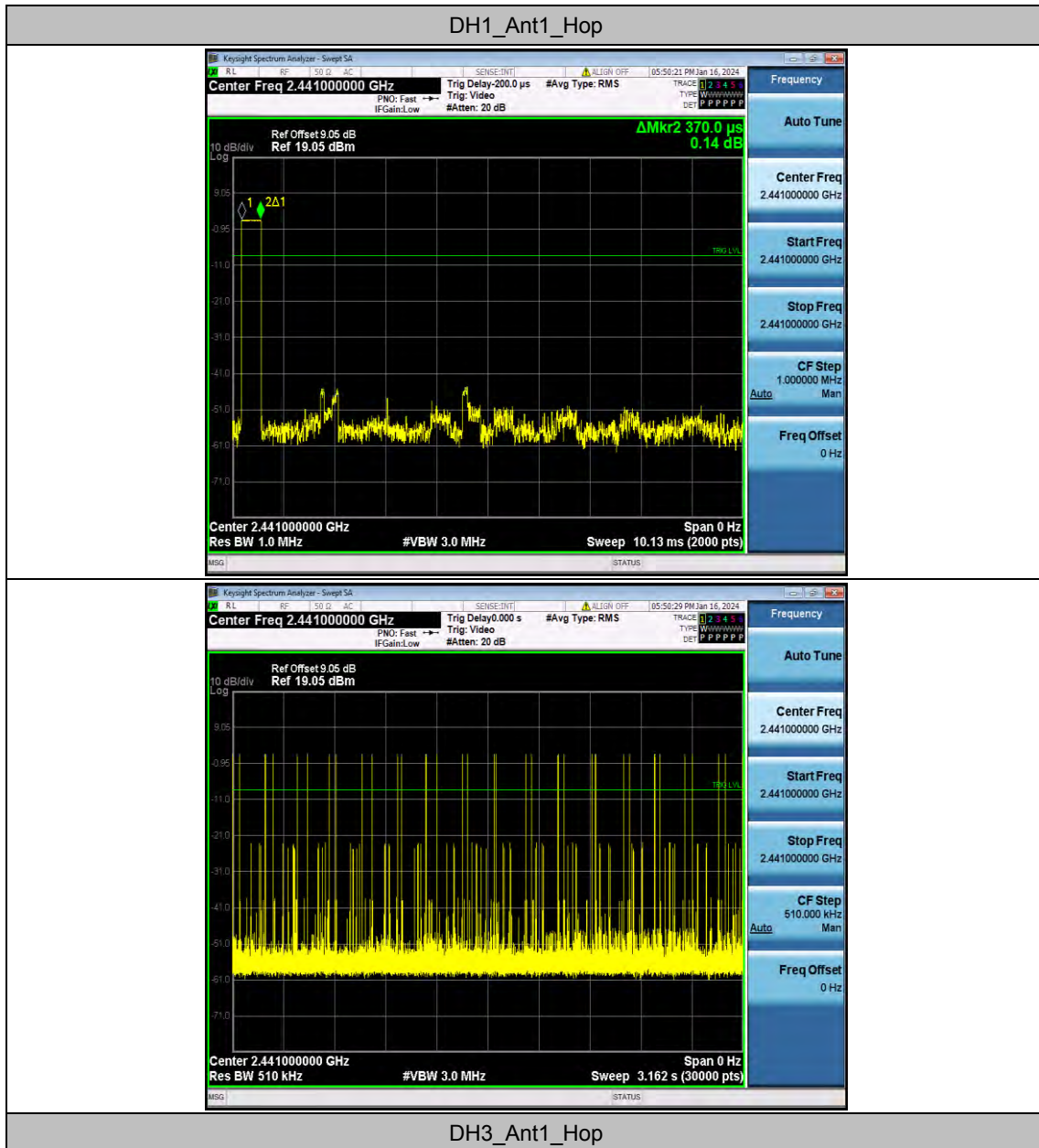


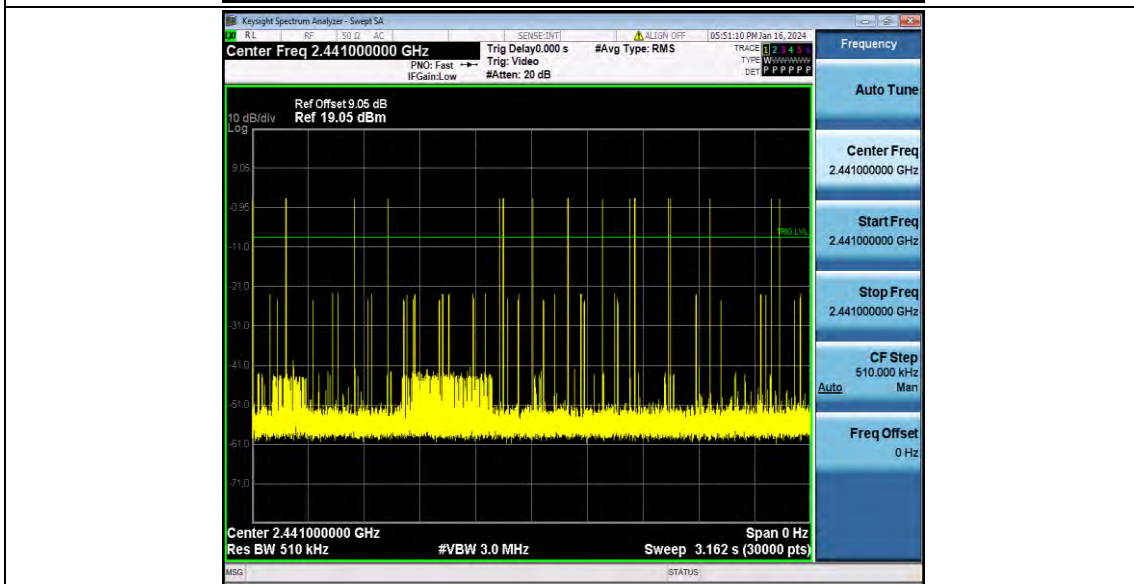
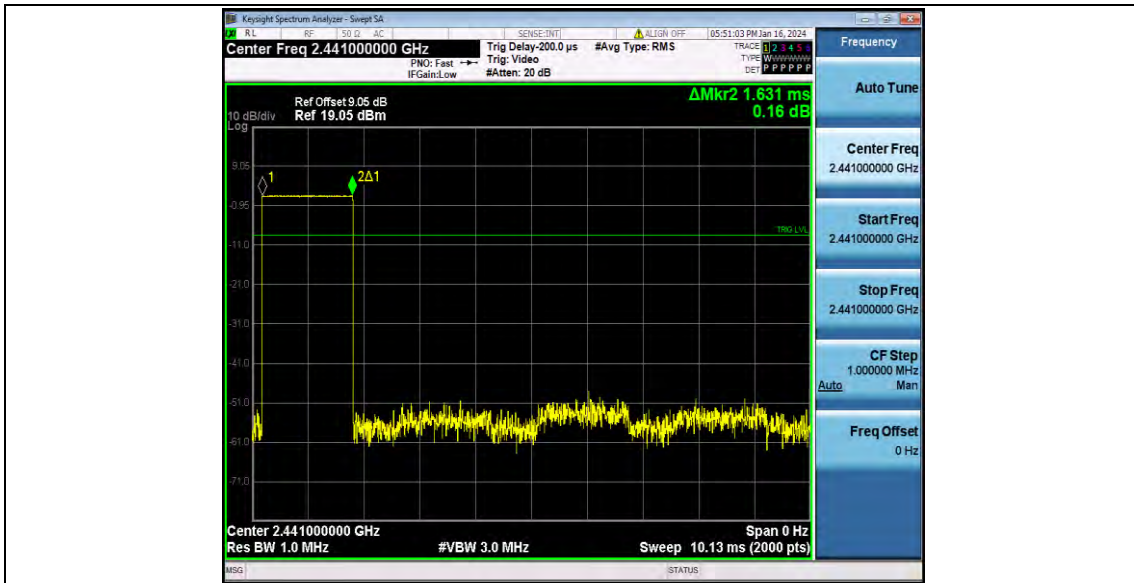
Appendix A.5: Time of occupancy

Test Result

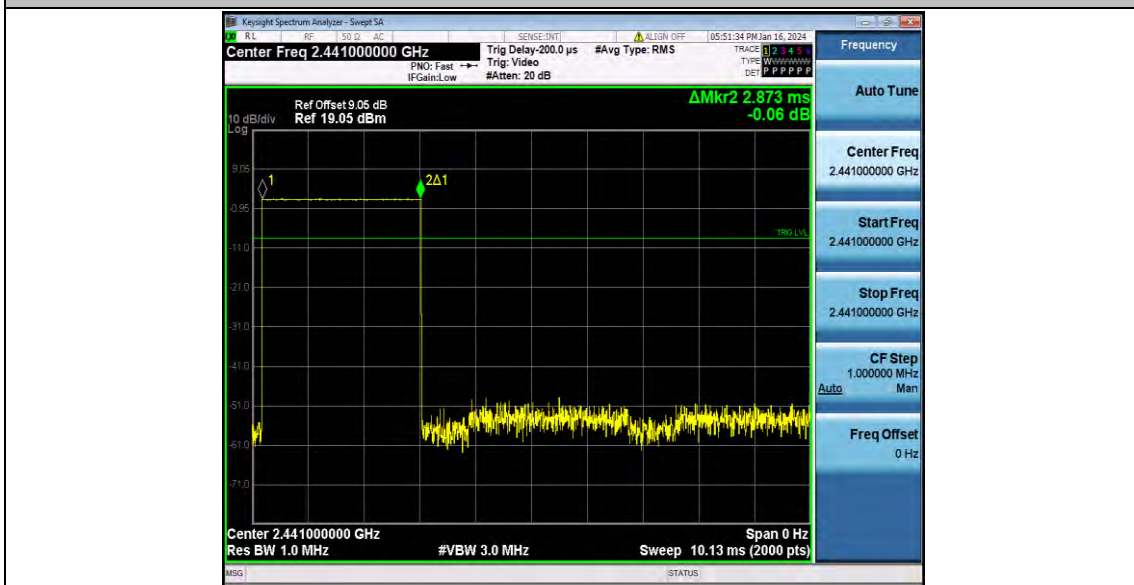
TestMode	Antenna	Freq(MHz)	BurstWidth [ms]	TotalHops [Num]	Result[s]	Limit[s]	Verdict
DH1	Ant1	Hop	0.370	330	0.122	≤0.4	PASS
DH3	Ant1	Hop	1.631	160	0.261	≤0.4	PASS
DH5	Ant1	Hop	2.873	120	0.345	≤0.4	PASS
2DH1	Ant1	Hop	0.380	330	0.125	≤0.4	PASS
2DH3	Ant1	Hop	1.631	160	0.261	≤0.4	PASS
2DH5	Ant1	Hop	2.883	110	0.317	≤0.4	PASS
3DH1	Ant1	Hop	0.380	330	0.125	≤0.4	PASS
3DH3	Ant1	Hop	1.631	180	0.294	≤0.4	PASS
3DH5	Ant1	Hop	2.883	120	0.346	≤0.4	PASS

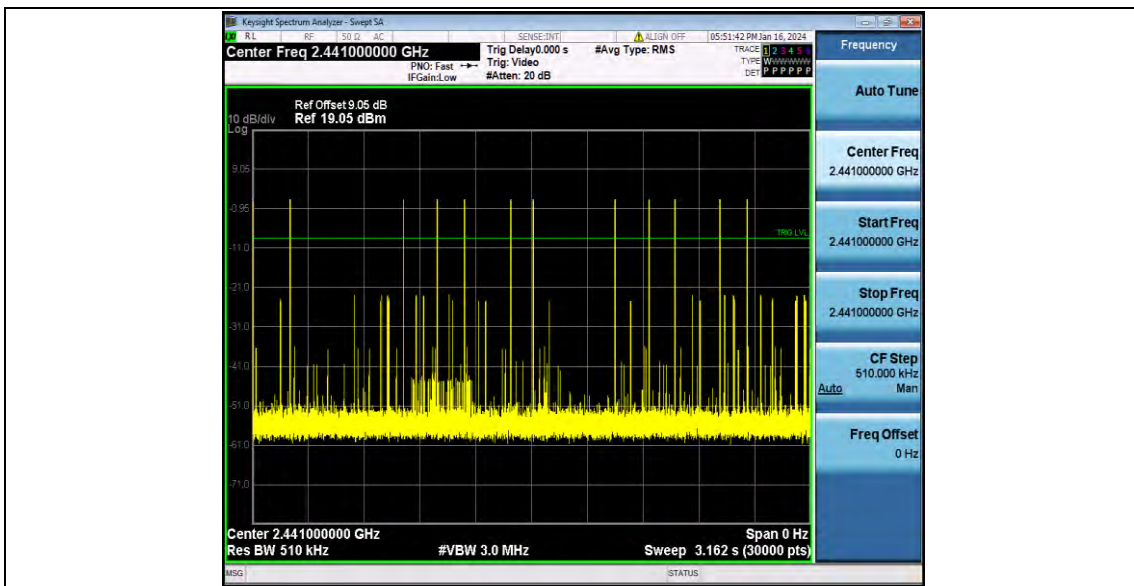
Test Graphs



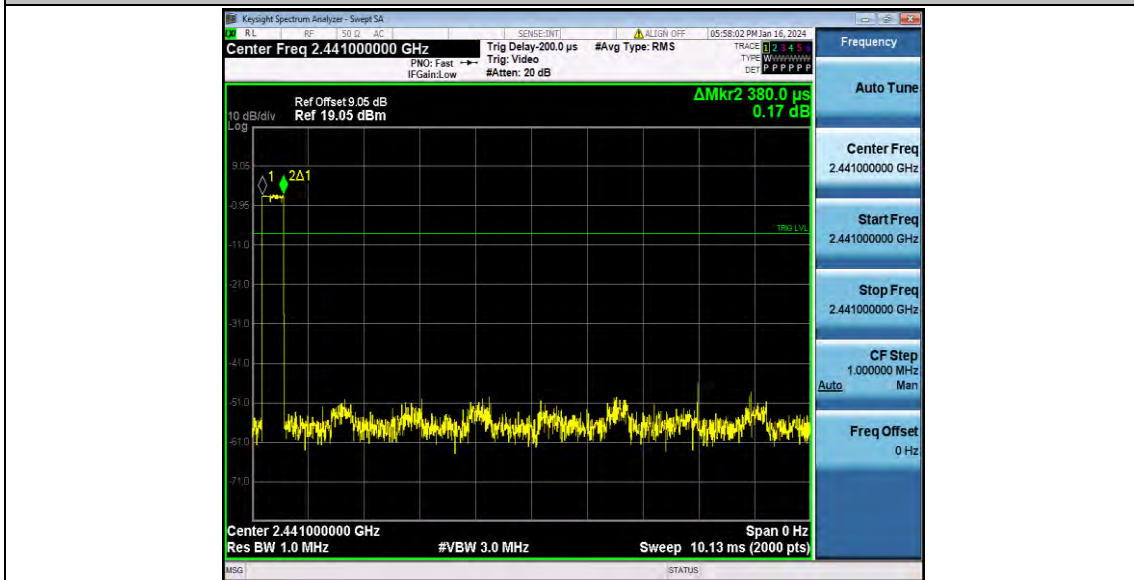


DH5_Ant1_Hop

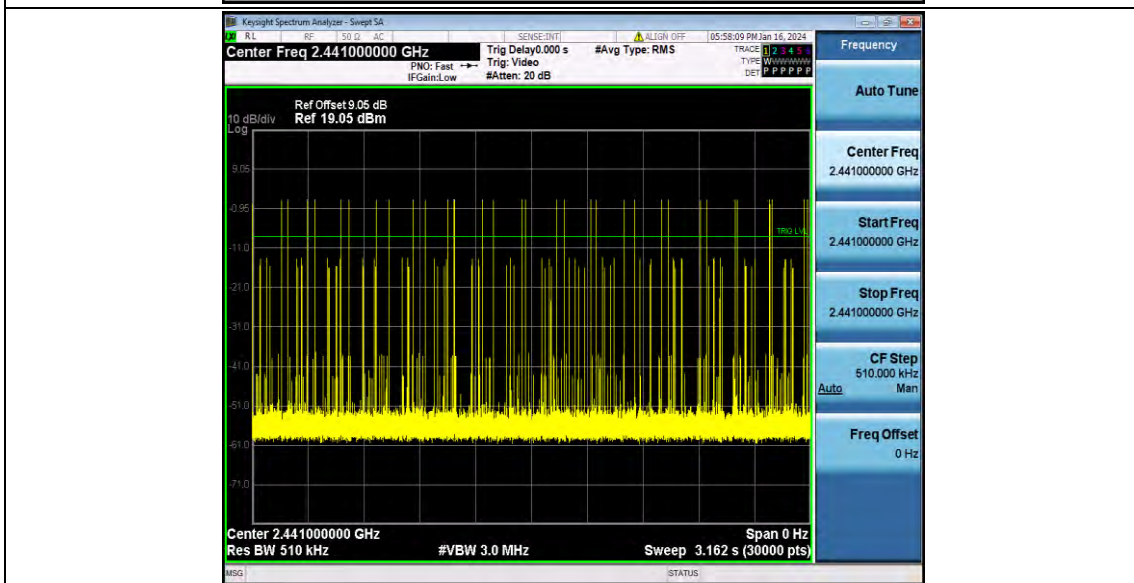


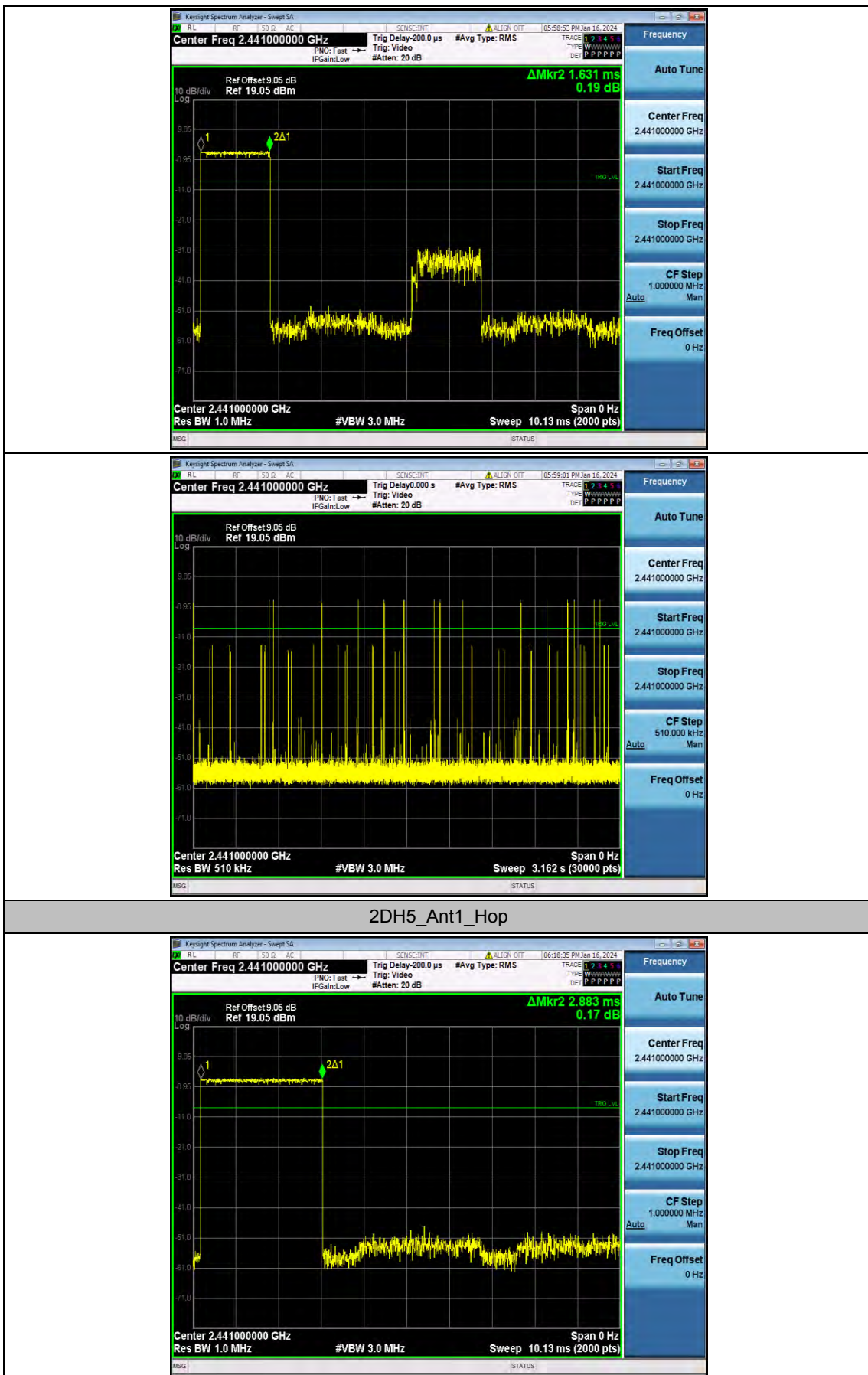


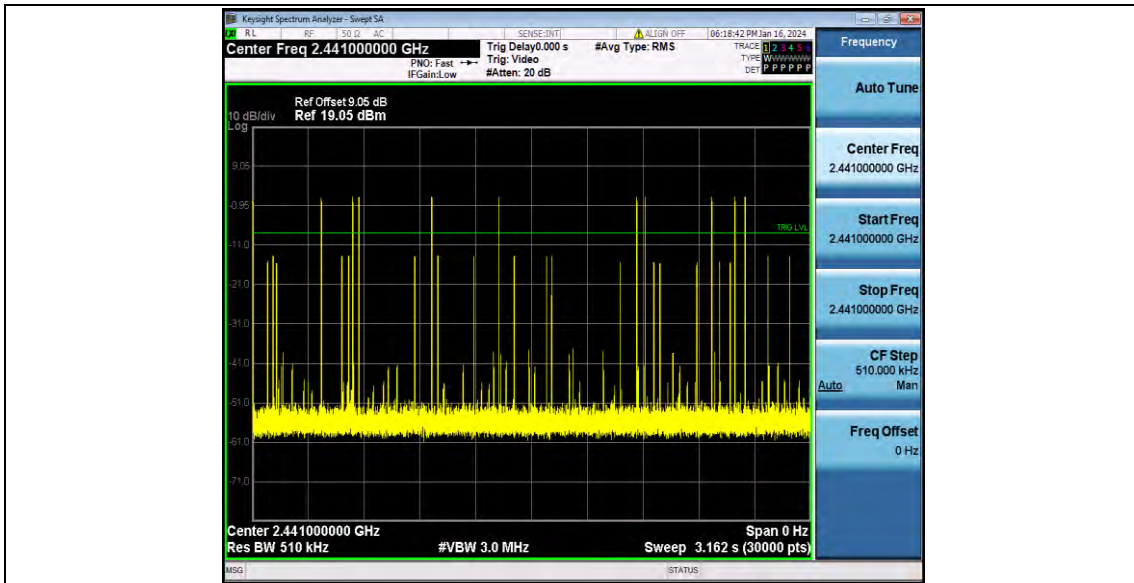
2DH1_Ant1_Hop



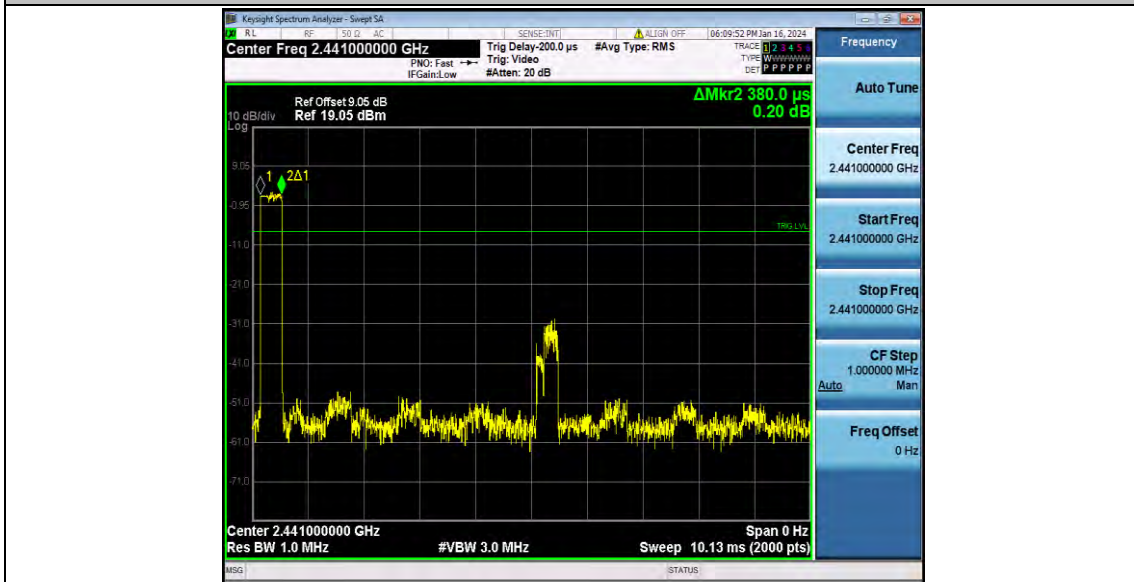
2DH3_Ant1_Hop



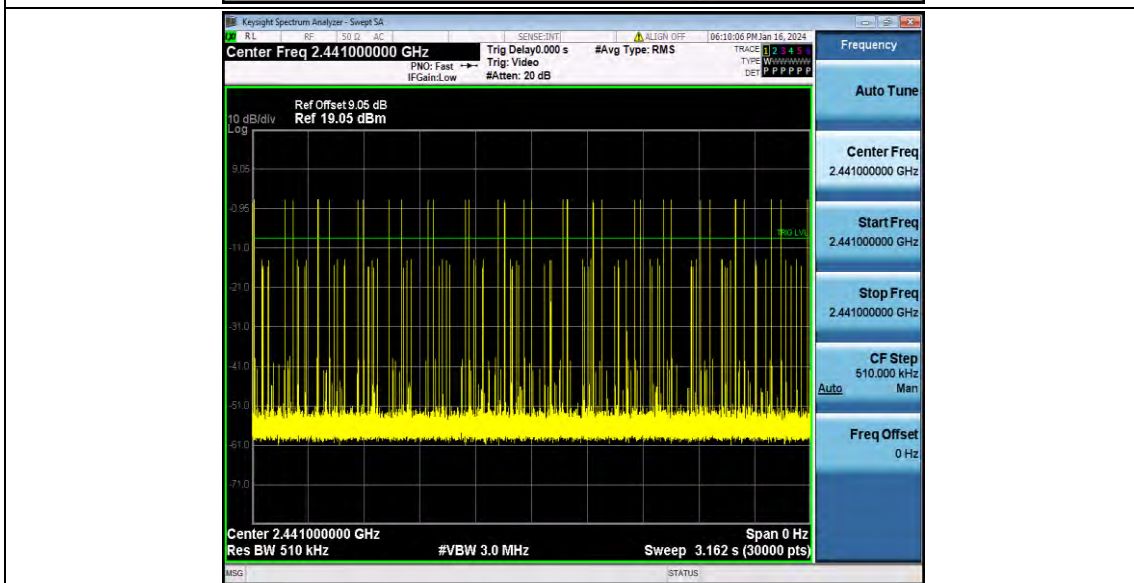


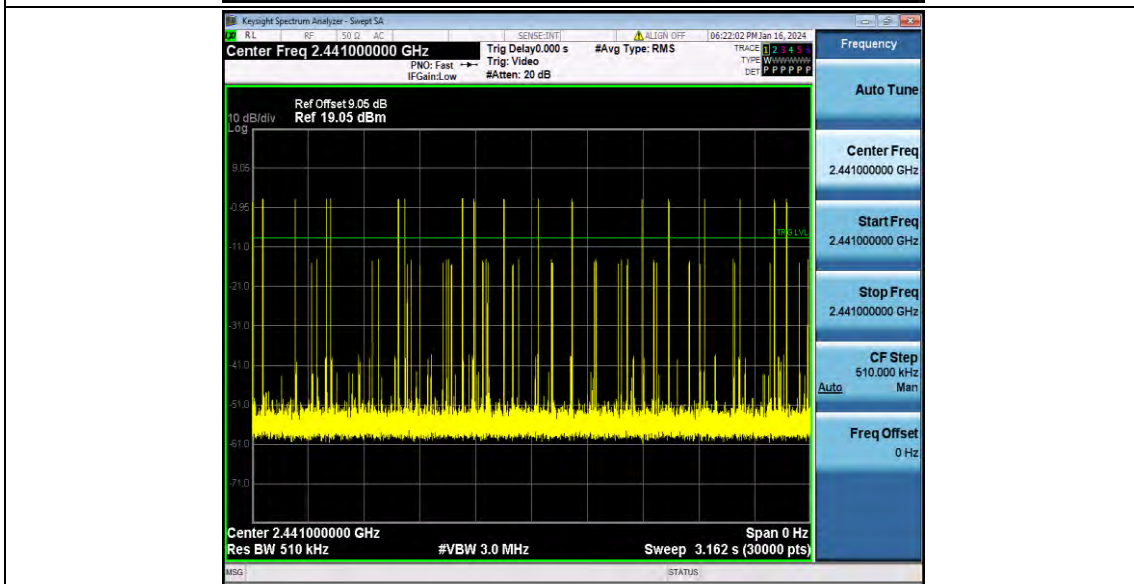
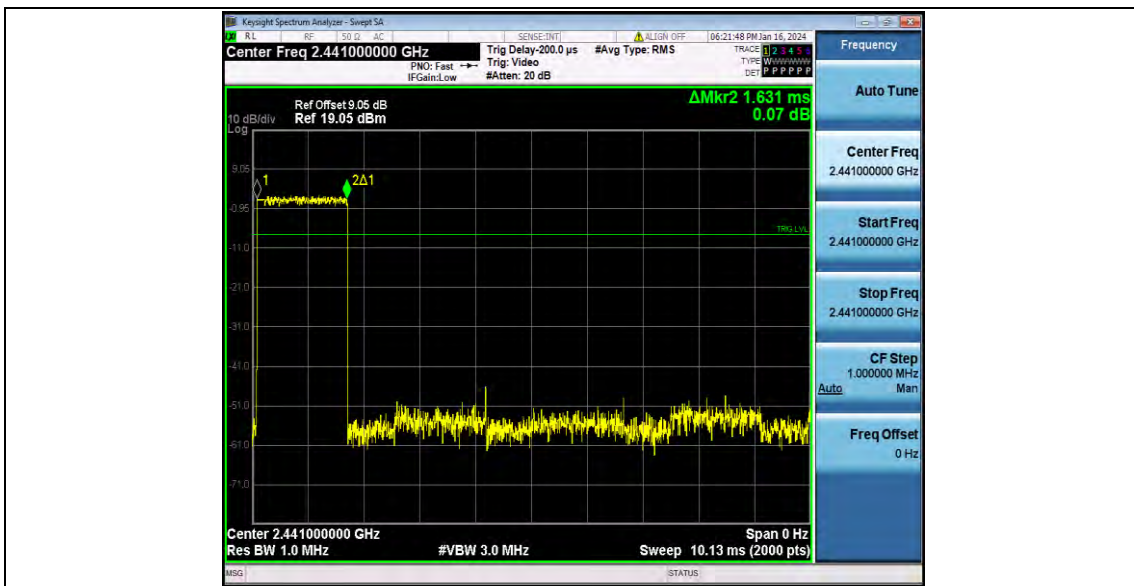


3DH1_Ant1_Hop



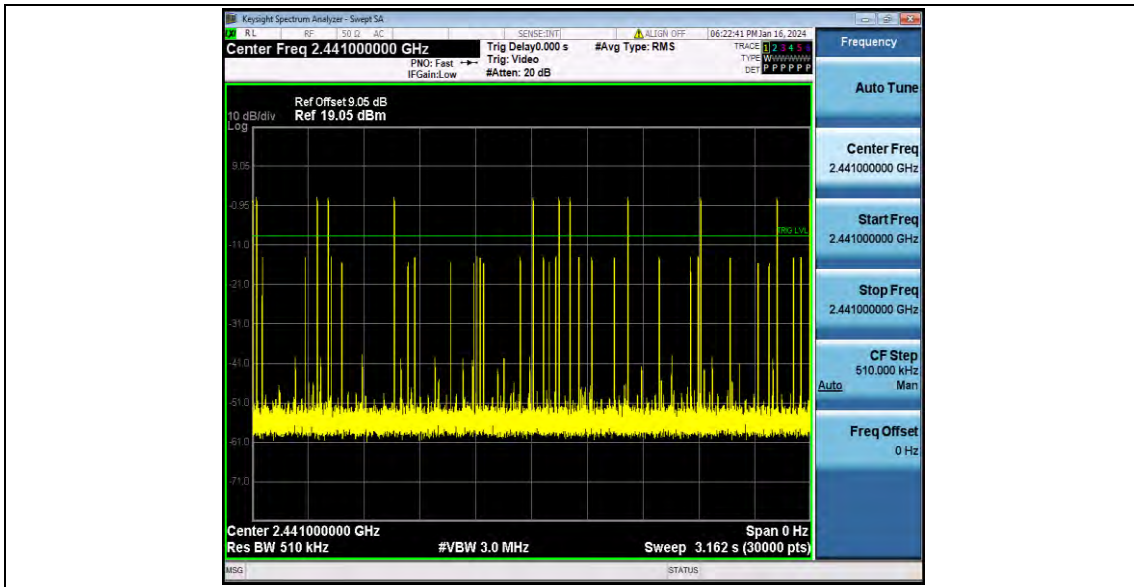
3DH3_Ant1_Hop





3DH5_Ant1_Hop



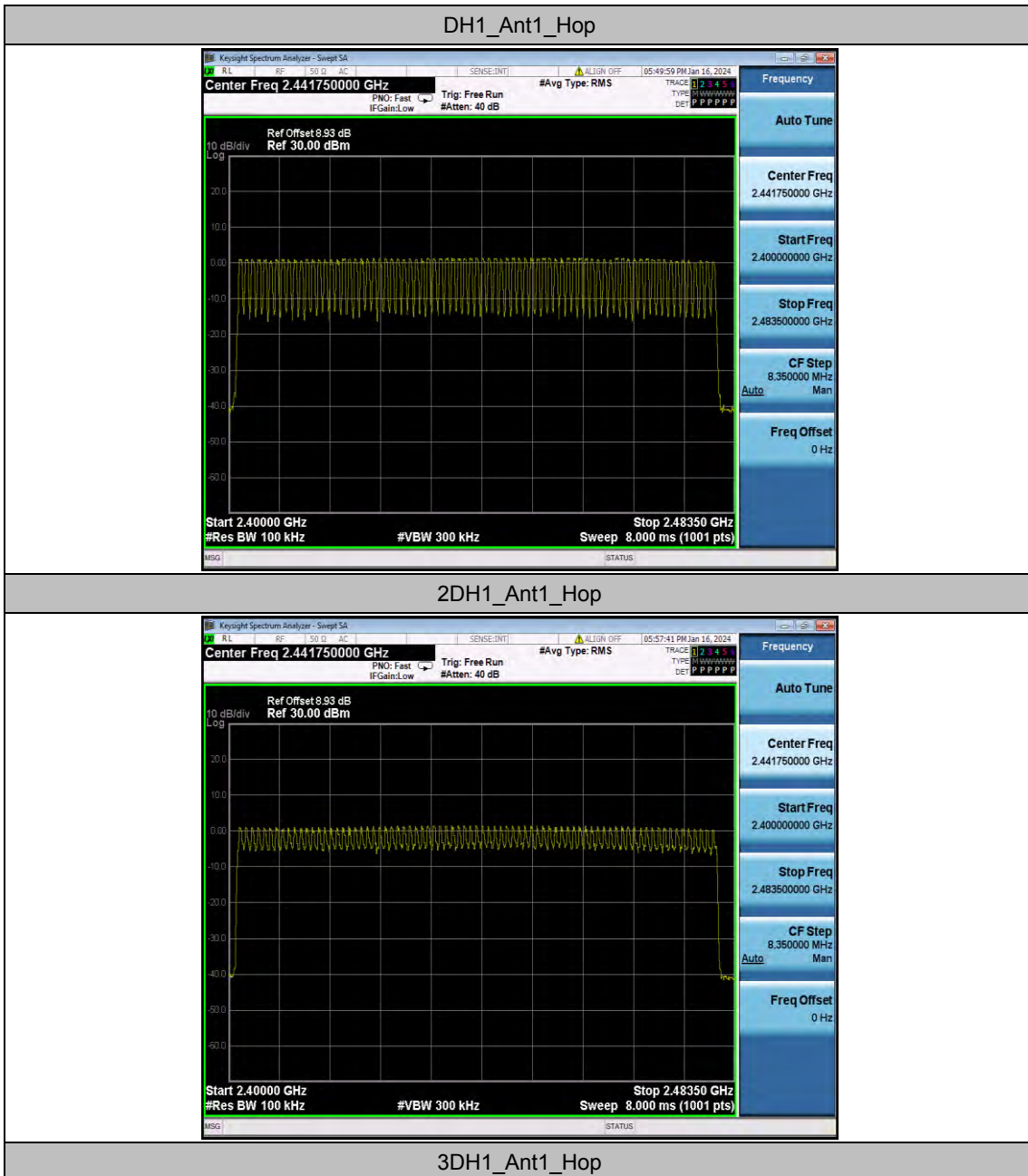


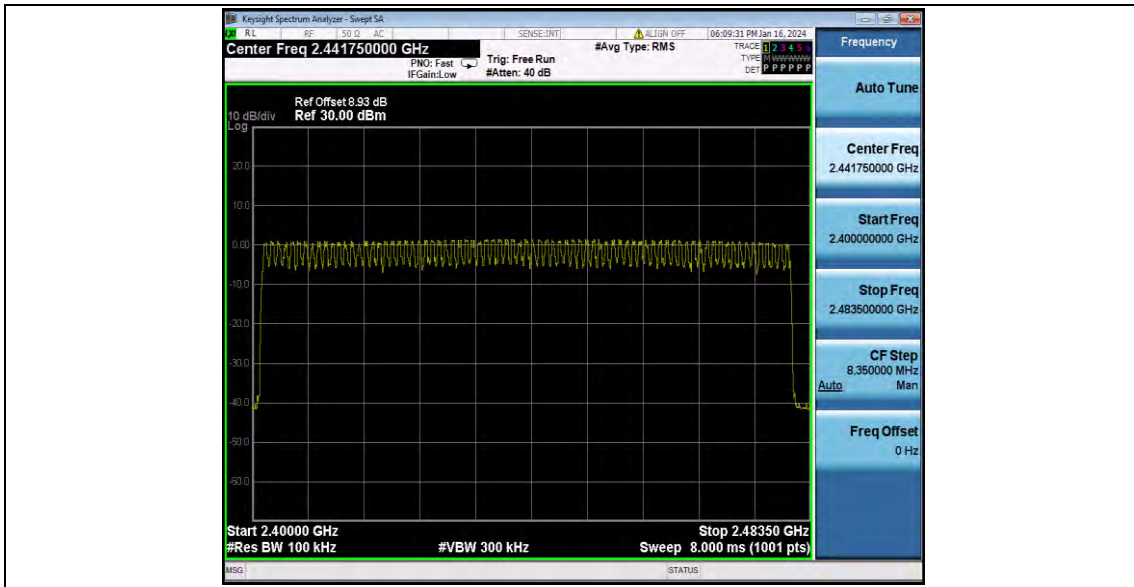
Appendix A.6: Number of hopping channels

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



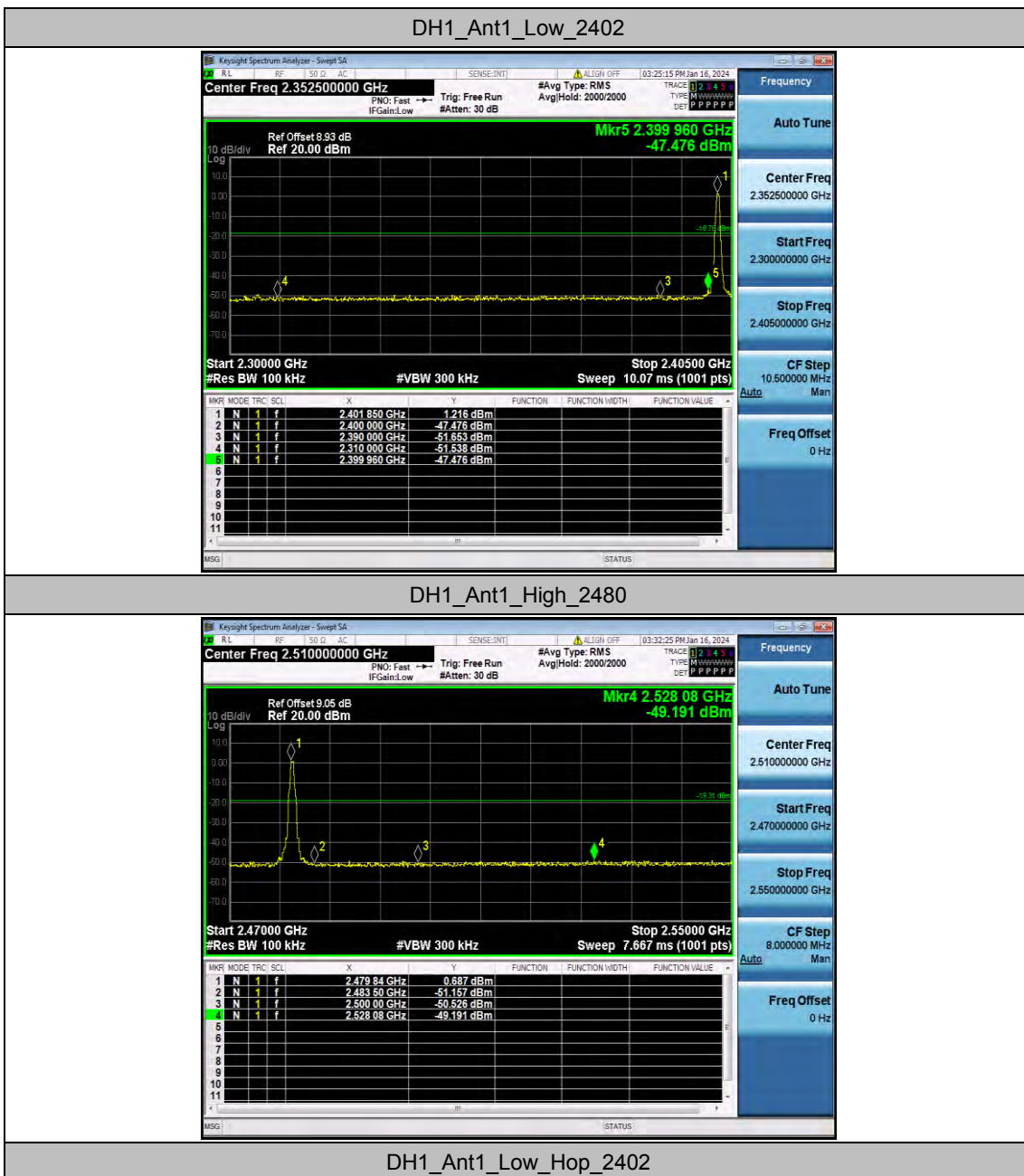


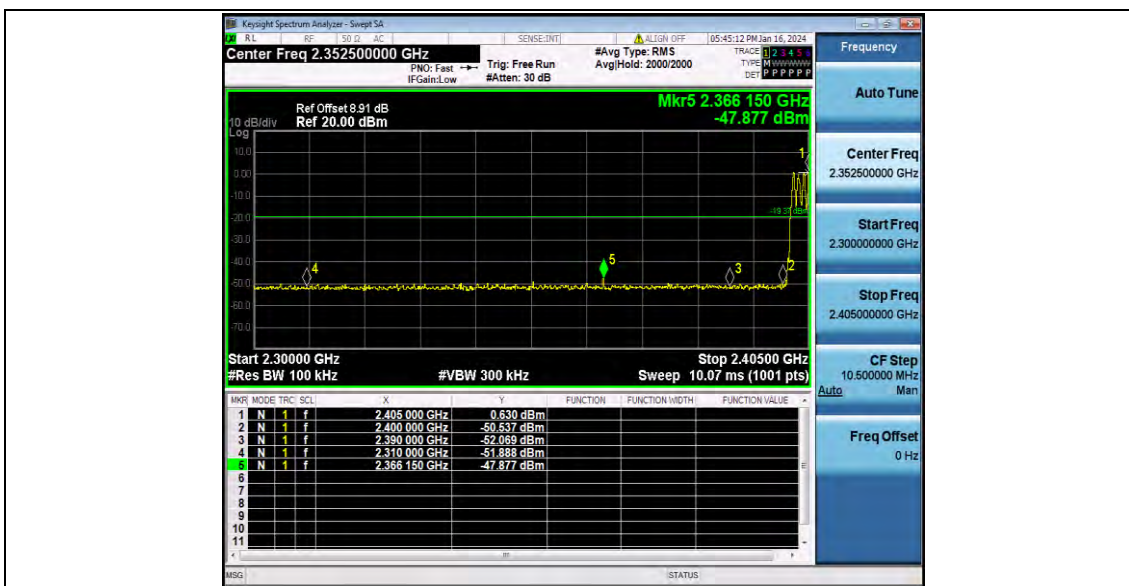
Appendix A.7: Band edge measurements

Test Result

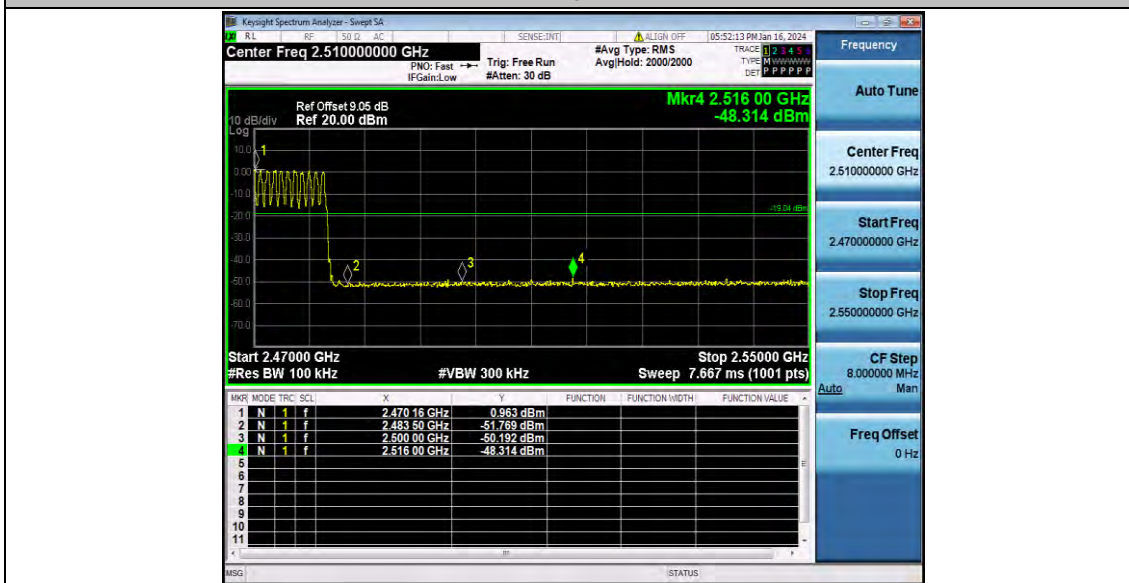
TestMode	Antenna	ChName	Freq(MHz)	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
DH1	Ant1	Low	2402	1.22	-47.48	≤-18.78	PASS
		High	2480	0.69	-49.19	≤-19.31	PASS
		Low	Hop_2402	0.63	-47.88	≤-19.37	PASS
		High	Hop_2480	0.96	-48.31	≤-19.04	PASS
2DH1	Ant1	Low	2402	1.28	-45.76	≤-18.72	PASS
		High	2480	0.68	-49.3	≤-19.32	PASS
		Low	Hop_2402	0.86	-49.08	≤-19.14	PASS
		High	Hop_2480	0.56	-48.38	≤-19.44	PASS
3DH1	Ant1	Low	2402	1.15	-46.13	≤-18.85	PASS
		High	2480	0.49	-48.43	≤-19.51	PASS
		Low	Hop_2402	-0.73	-49.21	≤-20.73	PASS
		High	Hop_2480	0.26	-48.51	≤-19.74	PASS

Test Graphs

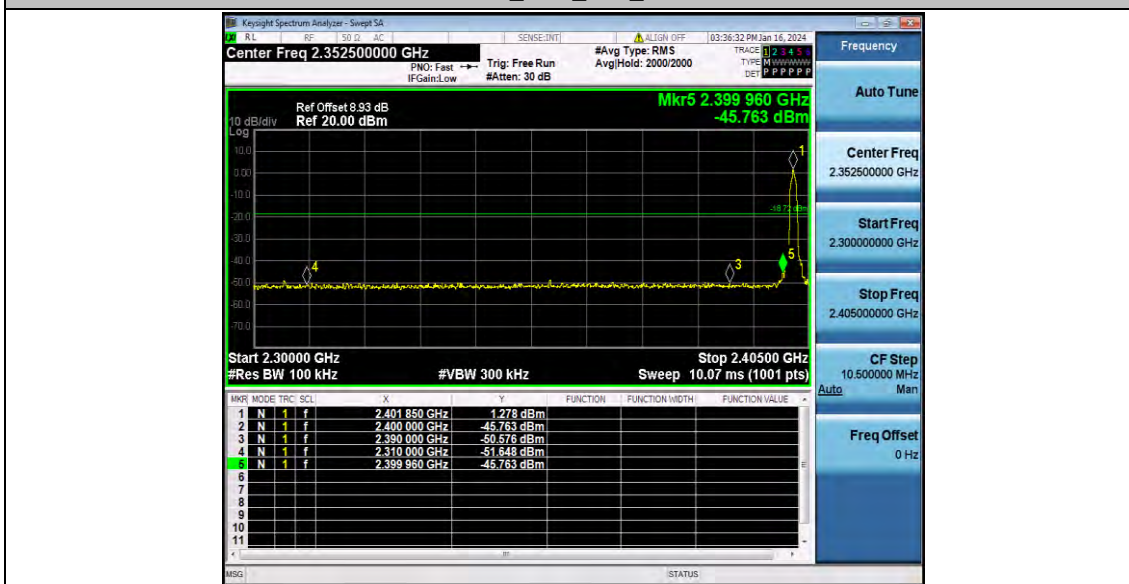




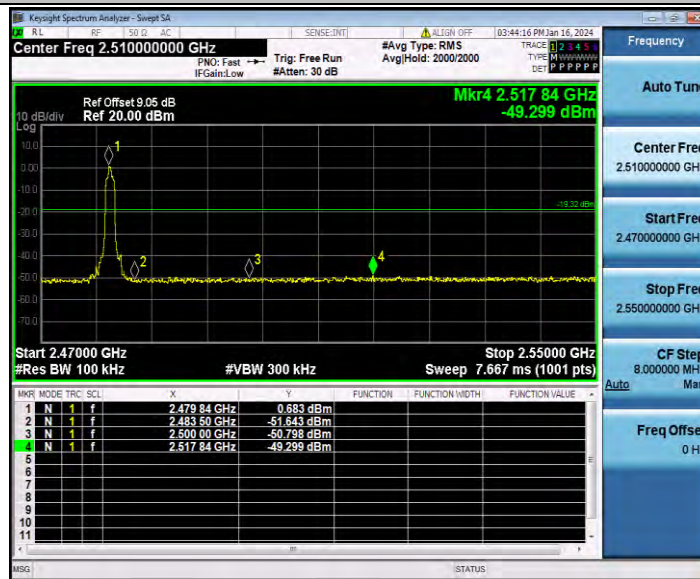
DH1_Ant1_High_Hop_2480



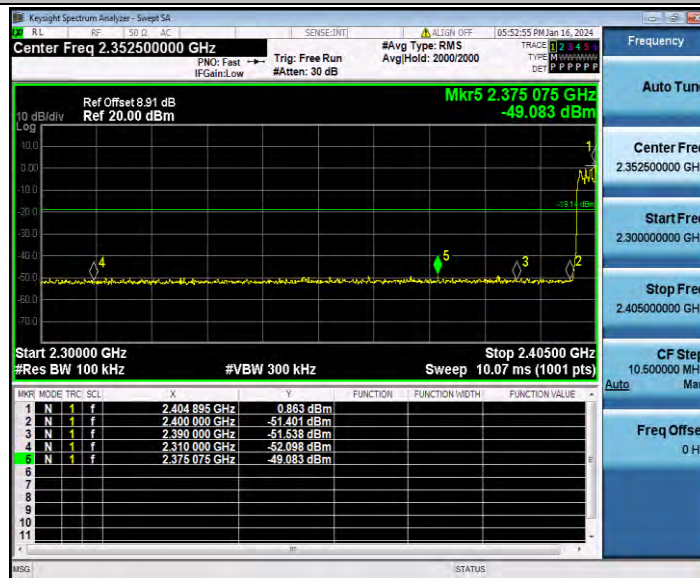
2DH1_Ant1_Low_2402



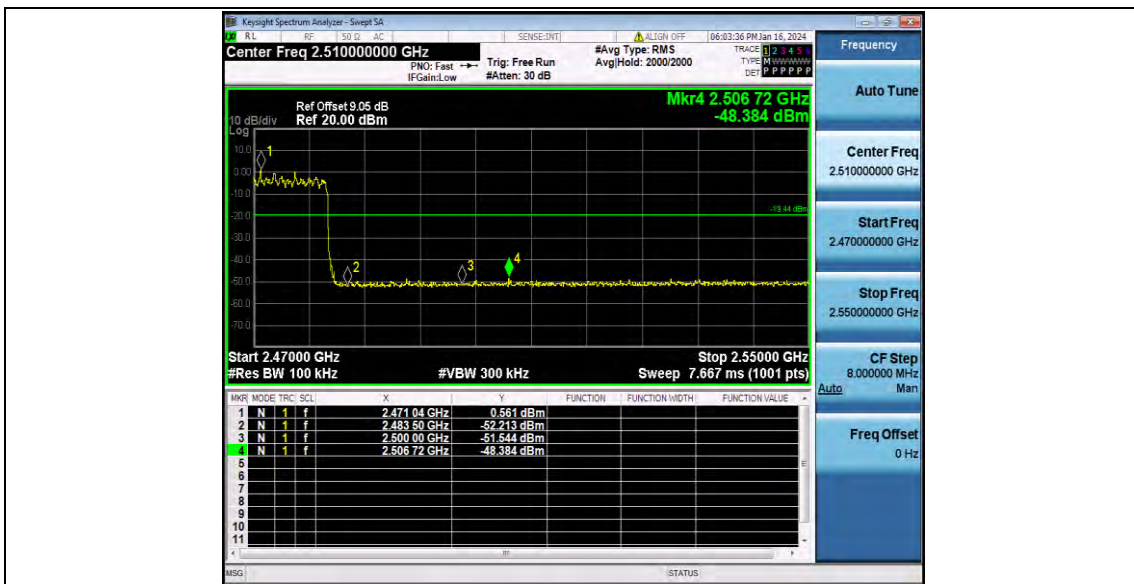
2DH1_Ant1_High_2480



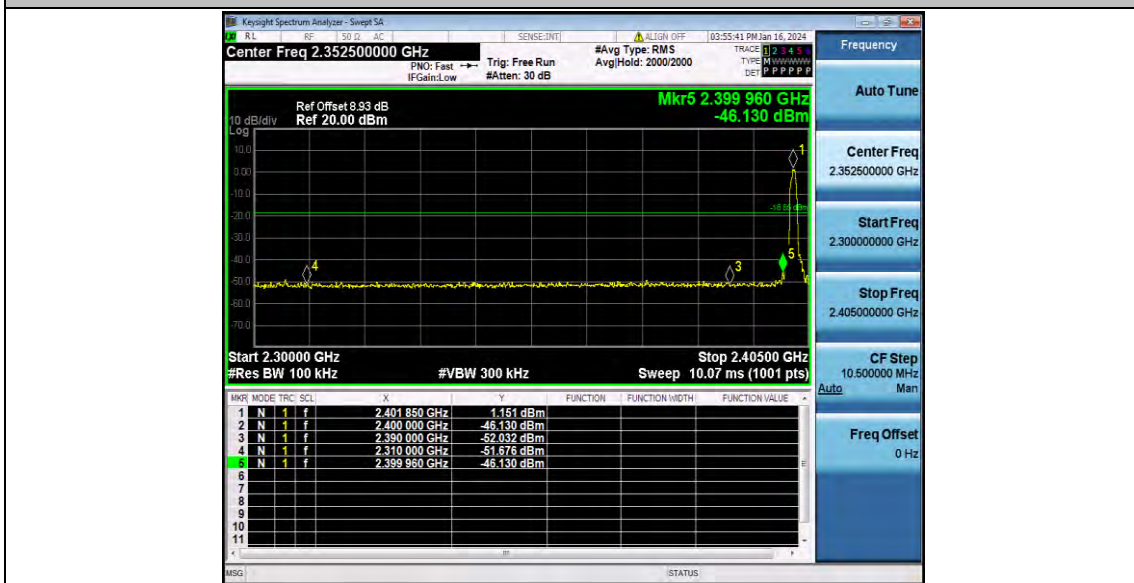
2DH1_Ant1_Low_Hop_2402



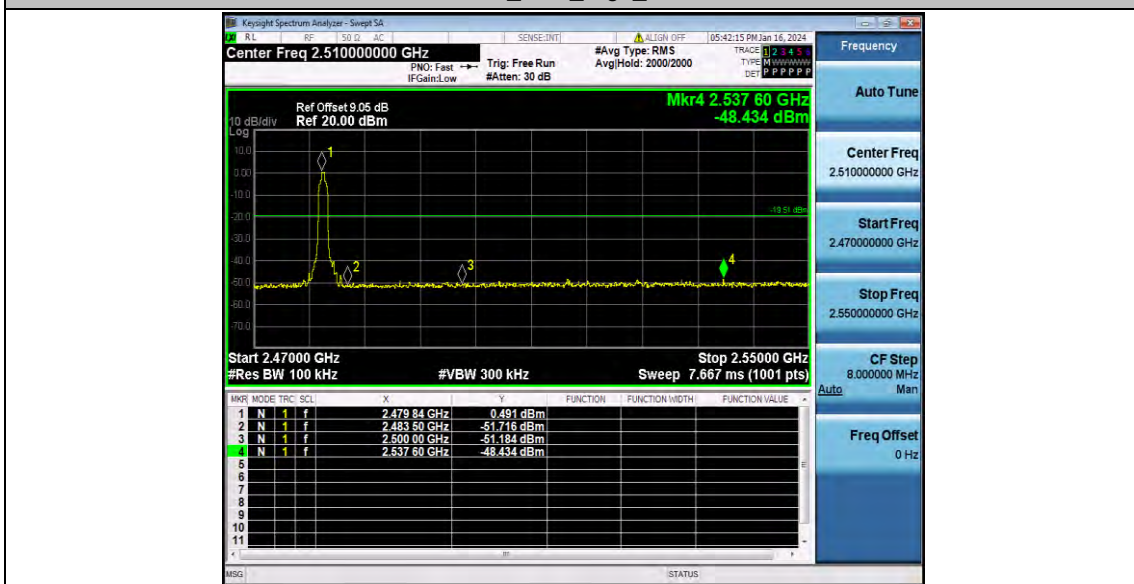
2DH1_Ant1_High_Hop_2480



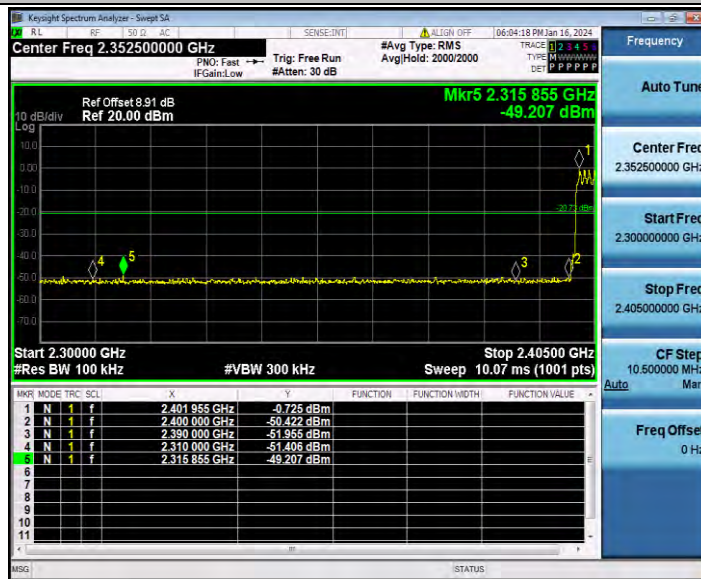
3DH1_Ant1_Low_2402



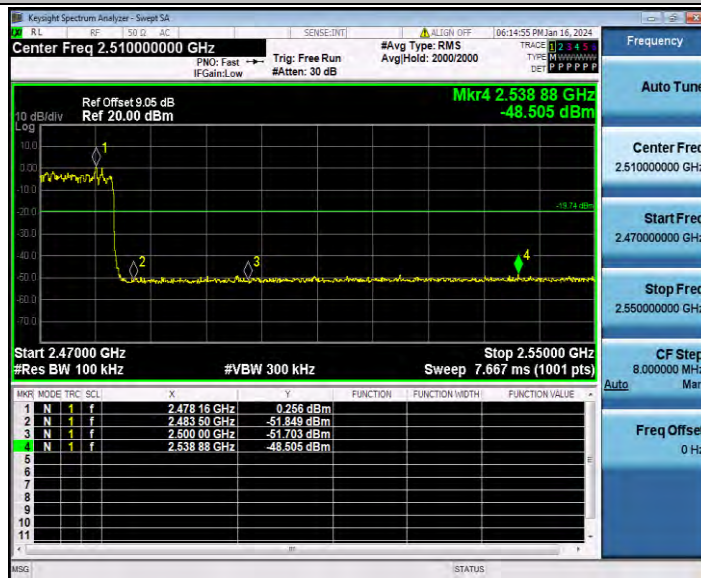
3DH1_Ant1_High_2480



3DH1_Ant1_Low_Hop_2402



3DH1_Ant1_High_Hop_2480

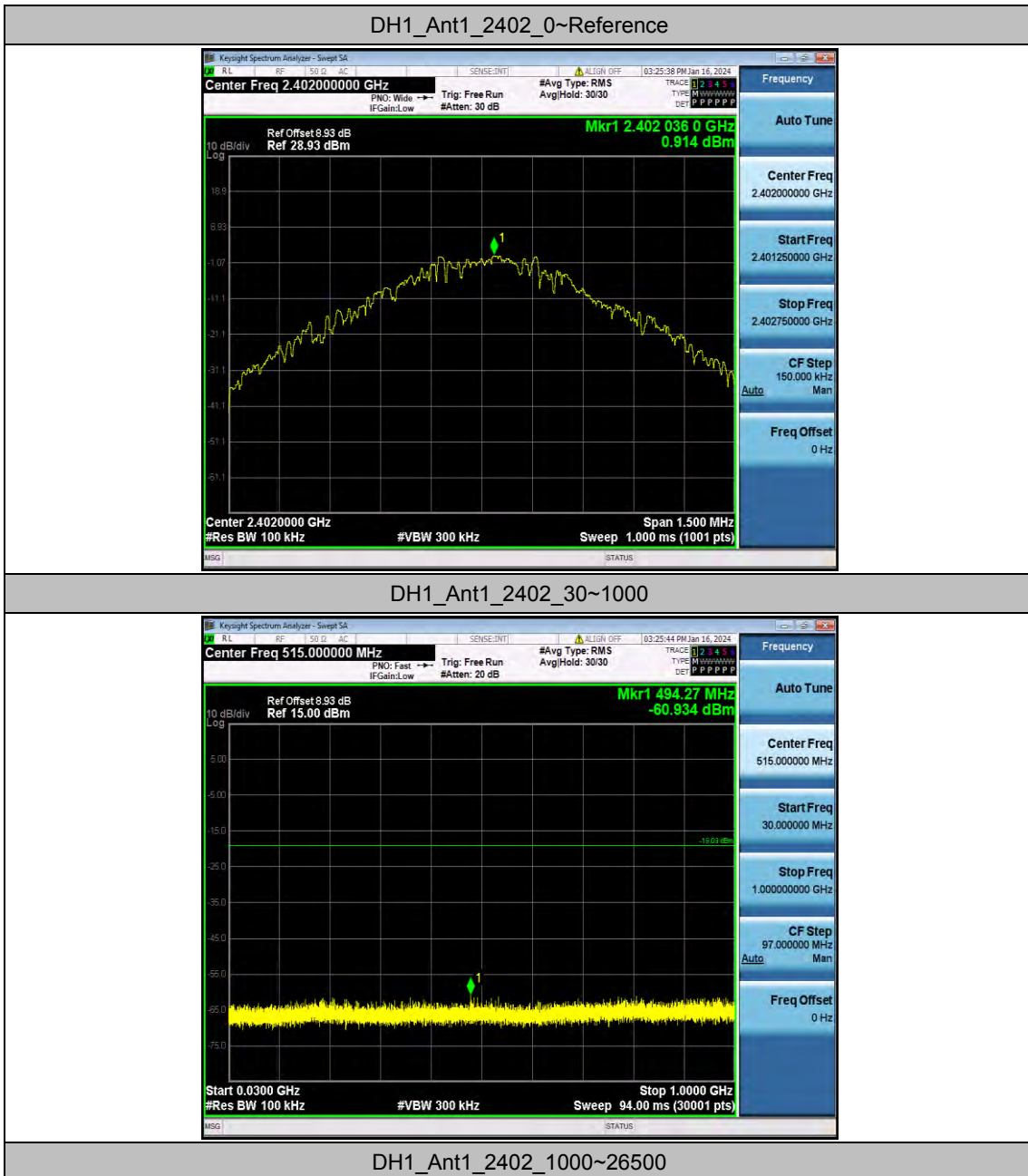


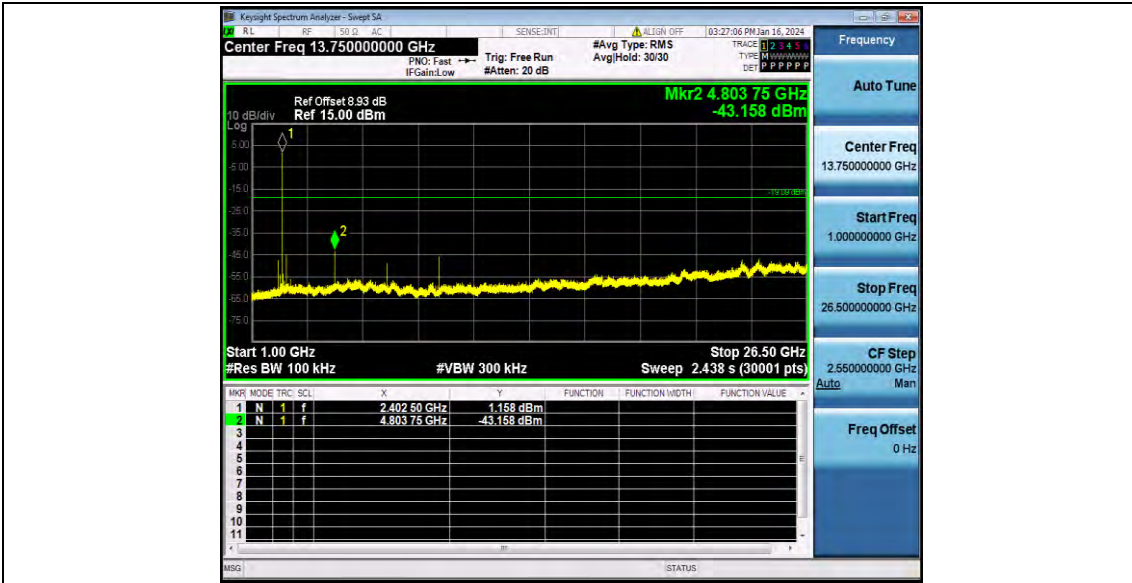
Appendix A.8: Conducted Spurious Emission

Test Result

TestMode	Antenna	Freq(MHz)	FreqRange [MHz]	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
DH1	Ant1	2402	Reference	0.91	0.91	---	PASS
			30~1000	0.91	-60.93	≤-19.09	PASS
			1000~26500	0.91	-43.16	≤-19.09	PASS
		2441	Reference	1.56	1.56	---	PASS
			30~1000	1.56	-60.42	≤-18.44	PASS
			1000~26500	1.56	-43.2	≤-18.44	PASS
		2480	Reference	0.58	0.58	---	PASS
			30~1000	0.58	-60.4	≤-19.42	PASS
			1000~26500	0.58	-43.5	≤-19.42	PASS
2DH1	Ant1	2402	Reference	0.86	0.86	---	PASS
			30~1000	0.86	-61.12	≤-19.14	PASS
			1000~26500	0.86	-43.65	≤-19.14	PASS
		2441	Reference	1.32	1.32	---	PASS
			30~1000	1.32	-60.27	≤-18.68	PASS
			1000~26500	1.32	-44.51	≤-18.68	PASS
		2480	Reference	0.56	0.56	---	PASS
			30~1000	0.56	-60.53	≤-19.44	PASS
			1000~26500	0.56	-43.74	≤-19.44	PASS
3DH1	Ant1	2402	Reference	1.06	1.06	---	PASS
			30~1000	1.06	-43.67	≤-18.94	PASS
			1000~26500	1.06	-42.17	≤-18.94	PASS
		2441	Reference	1.49	1.49	---	PASS
			30~1000	1.49	-39.88	≤-18.51	PASS
			1000~26500	1.49	-42.62	≤-18.51	PASS
		2480	Reference	0.40	0.40	---	PASS
			30~1000	0.40	-60.42	≤-19.6	PASS
			1000~26500	0.40	-43.56	≤-19.6	PASS

Test Graphs

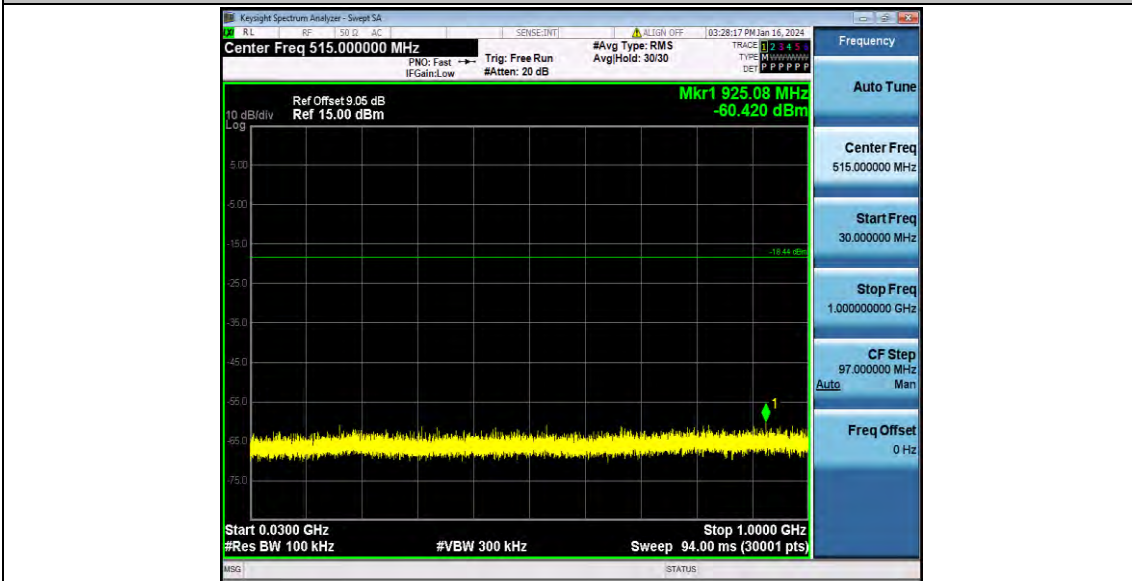




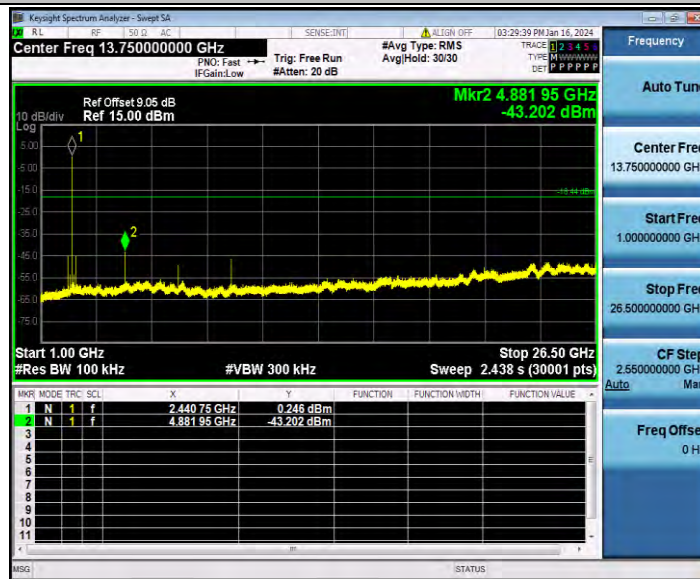
DH1_Ant1_2441_0~Reference



DH1_Ant1_2441_30~1000



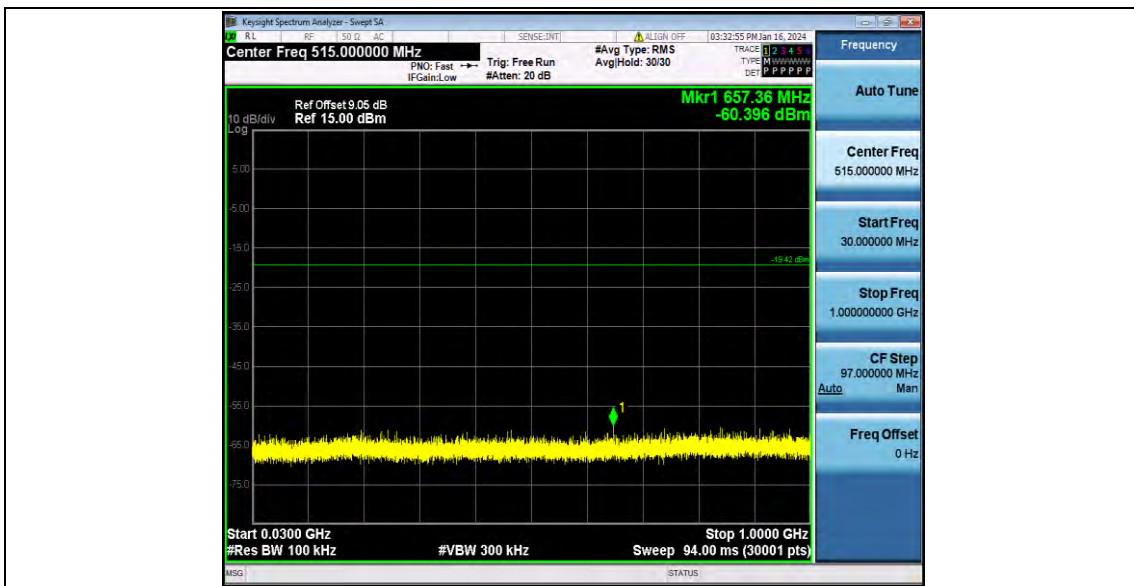
DH1_Ant1_2441_1000~26500



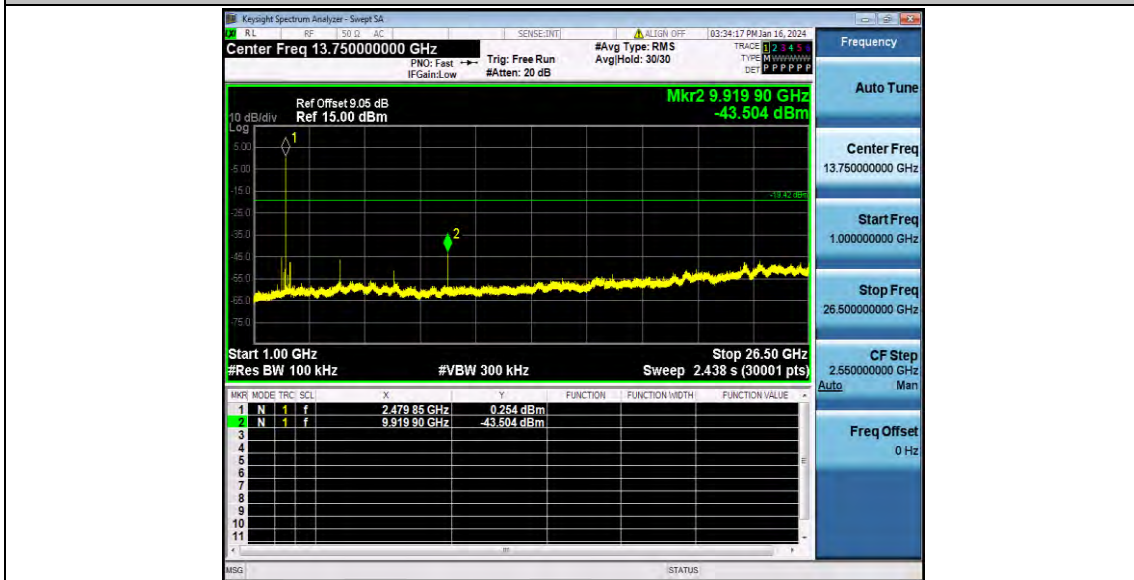
DH1_Ant1_2480_0~Reference



DH1_Ant1_2480_30~1000



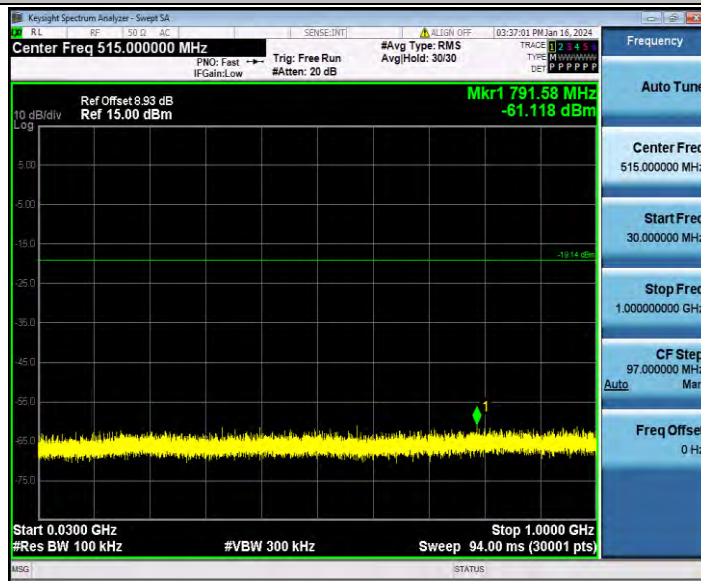
DH1_Ant1_2480_1000~26500



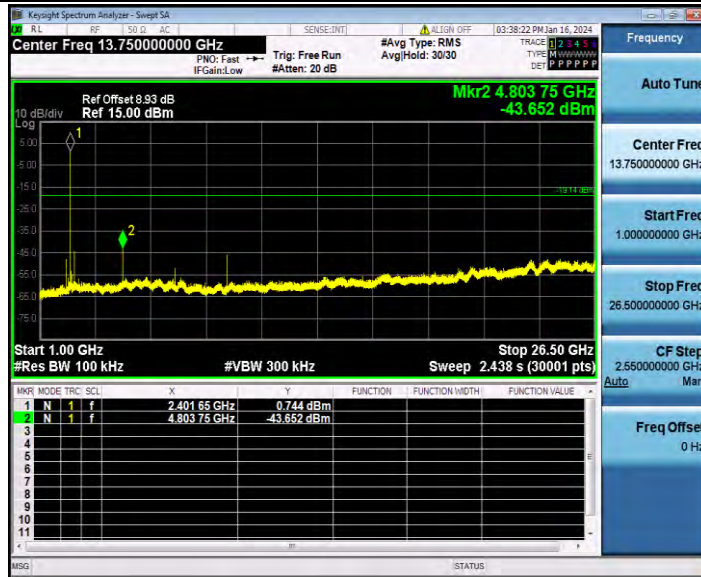
2DH1_Ant1_2402_0~Reference



2DH1_Ant1_2402_30~1000



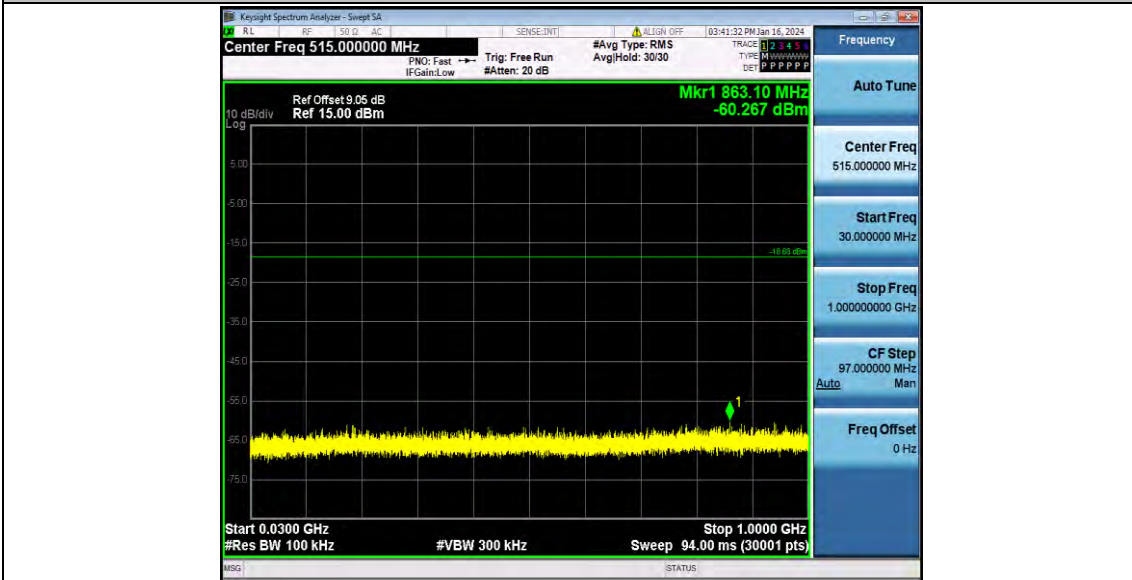
2DH1_Ant1_2402_1000~26500



2DH1_Ant1_2441_0~Reference



2DH1_Ant1_2441_30~100



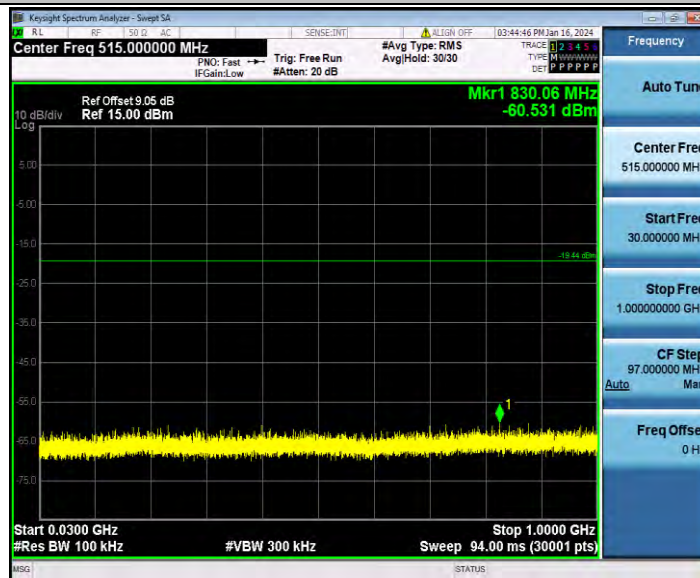
2DH1_Ant1_2441_1000~26500



2DH1_Ant1_2480_0~Reference



2DH1_Ant1_2480_30~1000



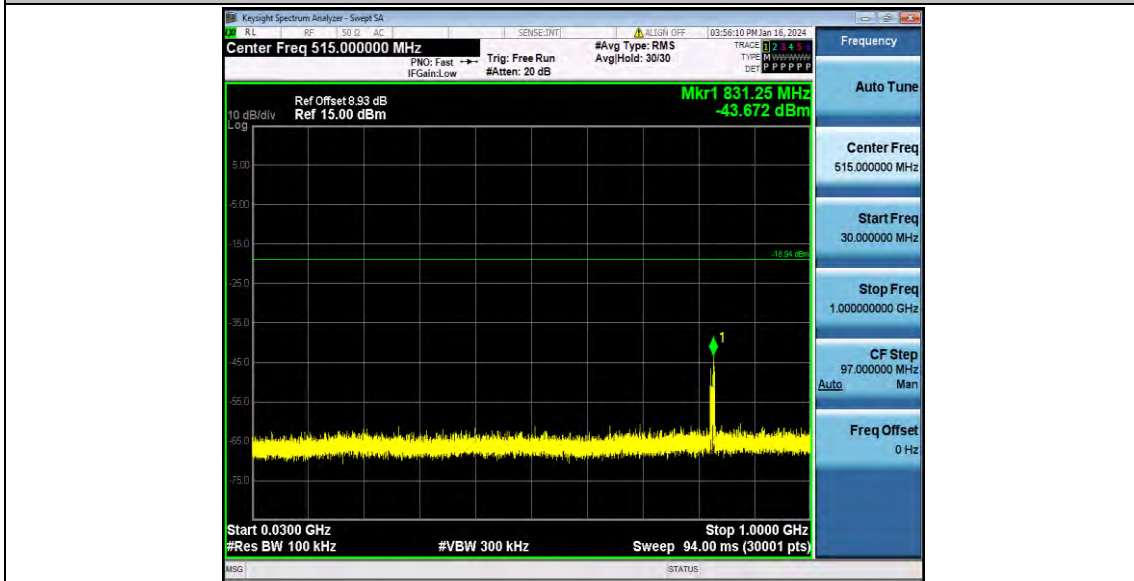
2DH1_Ant1_2480_1000~26500



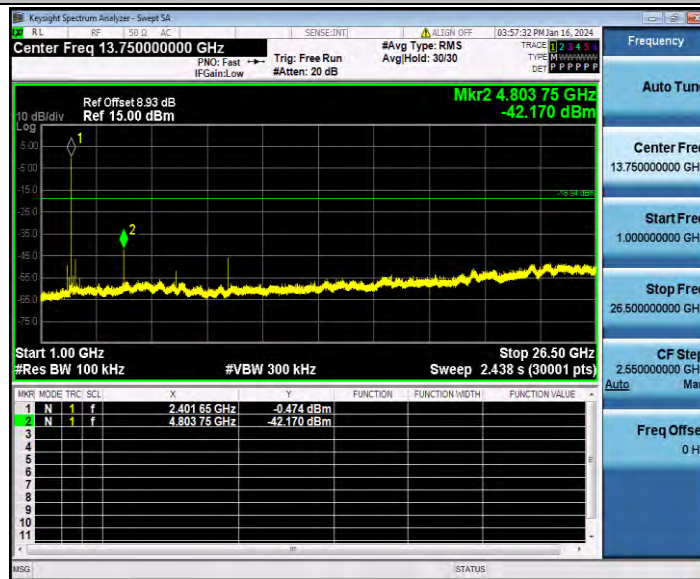
3DH1_Ant1_2402_0~Reference



3DH1_Ant1_2402_30~1000



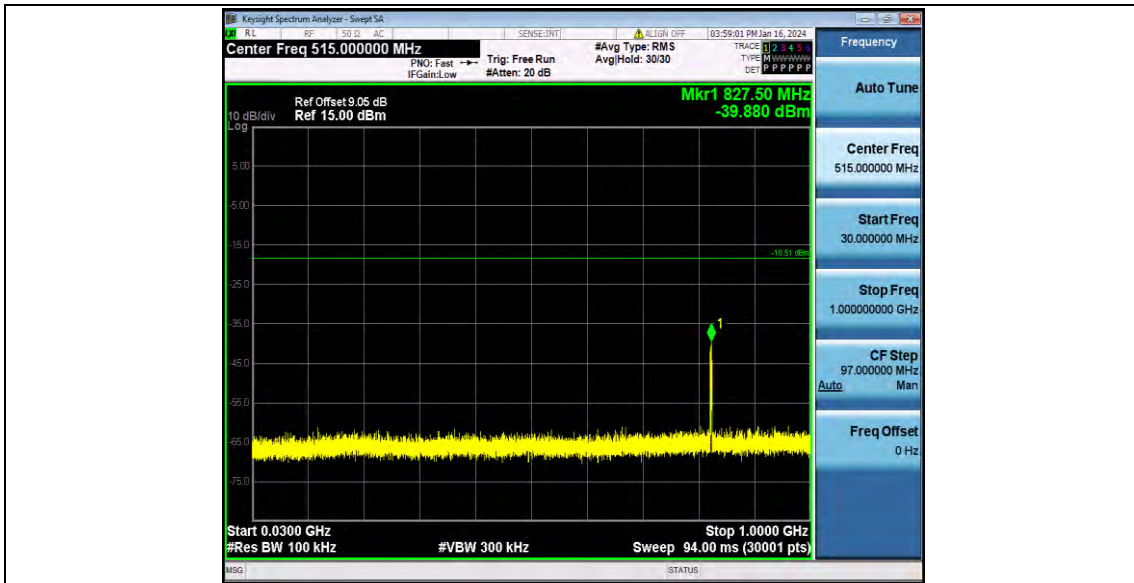
3DH1_Ant1_2402_1000~26500



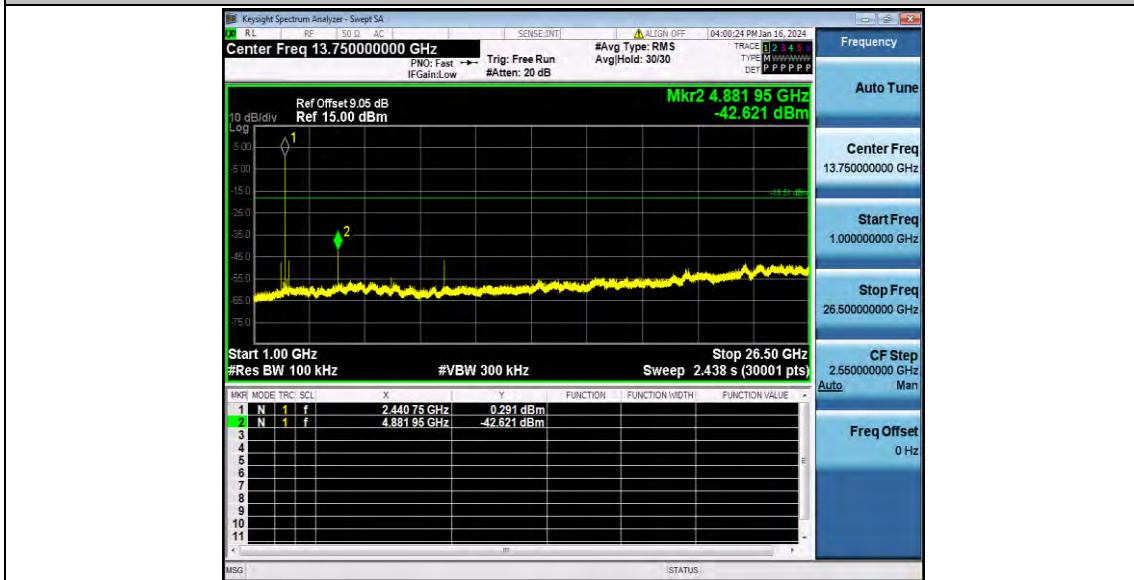
3DH1_Ant1_2441_0~Reference



3DH1_Ant1_2441_30~1000



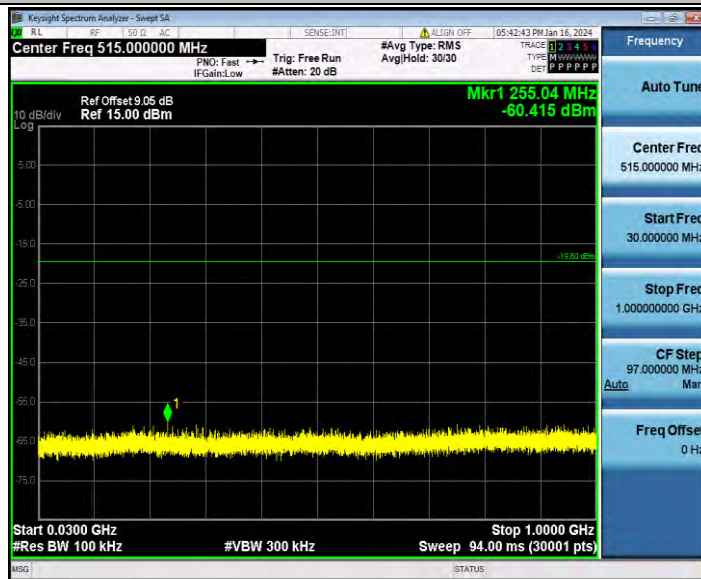
3DH1_Ant1_2441_1000~26500



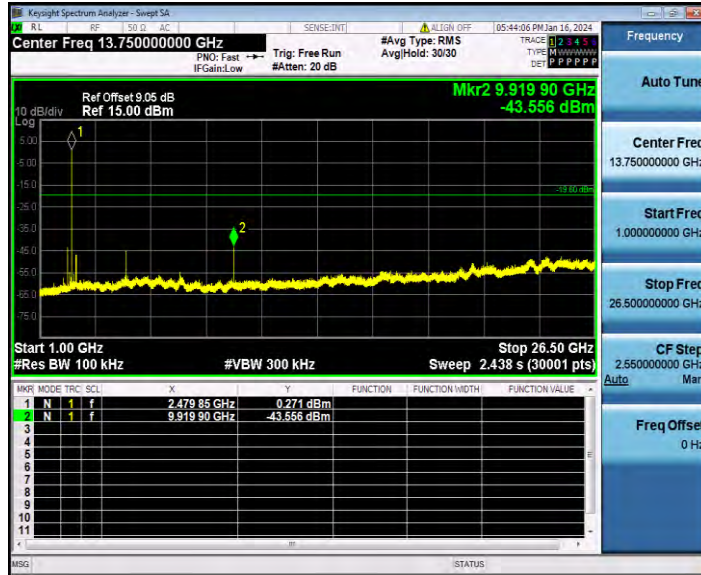
3DH1_Ant1_2480_0~Reference



3DH1_Ant1_2480_30~1000



3DH1_Ant1_2480_1000~26500



Appendix A.9: Emissions in Restricted Bands

Test Result

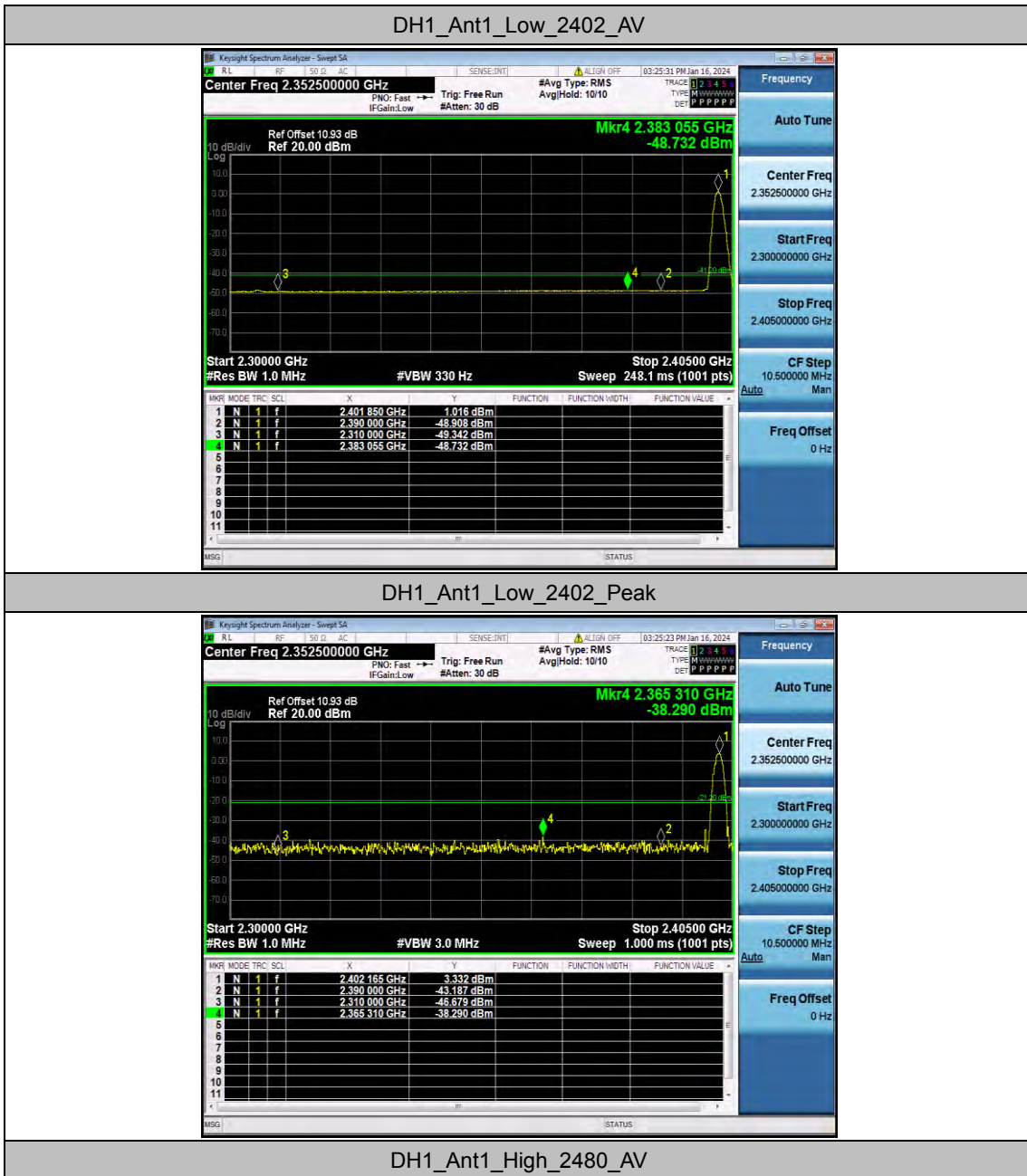
TestMode	Antenna	ChName	Freq(MHz)	Detector	Freq [MHz]	Result [dBm]	Limit [dBm]	Result [dBuV/m]	Limit [dBuV/m]	Verdict
DH1	Ant1	Low	2402	AV	2310.000	-49.34	≤-41.20	45.86	≤54	PASS
				AV	2383.055	-48.73	≤-41.20	46.47	≤54	PASS
				AV	2390.000	-48.91	≤-41.20	46.29	≤54	PASS
				Peak	2310.000	-46.68	≤-21.20	48.52	≤74	PASS
				Peak	2365.310	-38.29	≤-21.20	56.91	≤74	PASS
				Peak	2390.000	-43.19	≤-21.20	52.01	≤74	PASS
		High	2480	AV	2483.500	-48.71	≤-41.20	46.49	≤54	PASS
				AV	2498.560	-48.5	≤-41.20	46.70	≤54	PASS
				AV	2500.000	-48.59	≤-41.20	46.61	≤54	PASS
				Peak	2483.500	-37.73	≤-21.20	57.47	≤74	PASS
				Peak	2484.080	-36.85	≤-21.20	58.35	≤74	PASS
				Peak	2500.000	-40.67	≤-21.20	54.53	≤74	PASS
2DH1	Ant1	Low	2402	AV	2310.000	-49.31	≤-41.20	45.89	≤54	PASS
				AV	2387.465	-48.76	≤-41.20	46.44	≤54	PASS
				AV	2390.000	-48.94	≤-41.20	46.26	≤54	PASS
				Peak	2310.000	-41.68	≤-21.20	53.52	≤74	PASS
				Peak	2312.495	-38.61	≤-21.20	56.59	≤74	PASS
				Peak	2390.000	-41.47	≤-21.20	53.73	≤74	PASS
		High	2480	AV	2483.500	-48.58	≤-41.20	46.62	≤54	PASS
				AV	2483.680	-48.53	≤-41.20	46.67	≤54	PASS
				AV	2500.000	-48.65	≤-41.20	46.55	≤54	PASS
				Peak	2483.500	-41.22	≤-21.20	53.98	≤74	PASS
				Peak	2490.320	-37.99	≤-21.20	57.21	≤74	PASS
				Peak	2500.000	-40.18	≤-21.20	55.02	≤74	PASS
3DH1	Ant1	Low	2402	AV	2310.000	-49.44	≤-41.20	45.76	≤54	PASS
				AV	2372.030	-48.77	≤-41.20	46.43	≤54	PASS
				AV	2390.000	-48.91	≤-41.20	46.29	≤54	PASS
				Peak	2310.000	-42.53	≤-21.20	52.67	≤74	PASS
				Peak	2376.965	-38.21	≤-21.20	56.99	≤74	PASS
				Peak	2390.000	-39.74	≤-21.20	55.46	≤74	PASS
		High	2480	AV	2483.500	-48.77	≤-41.20	46.43	≤54	PASS
				AV	2499.520	-48.64	≤-41.20	46.56	≤54	PASS
				AV	2500.000	-48.83	≤-41.20	46.37	≤54	PASS
				Peak	2483.500	-41.36	≤-21.20	53.84	≤74	PASS
Peak	2497.360	-38.55	≤-21.20	56.65	≤74	PASS				

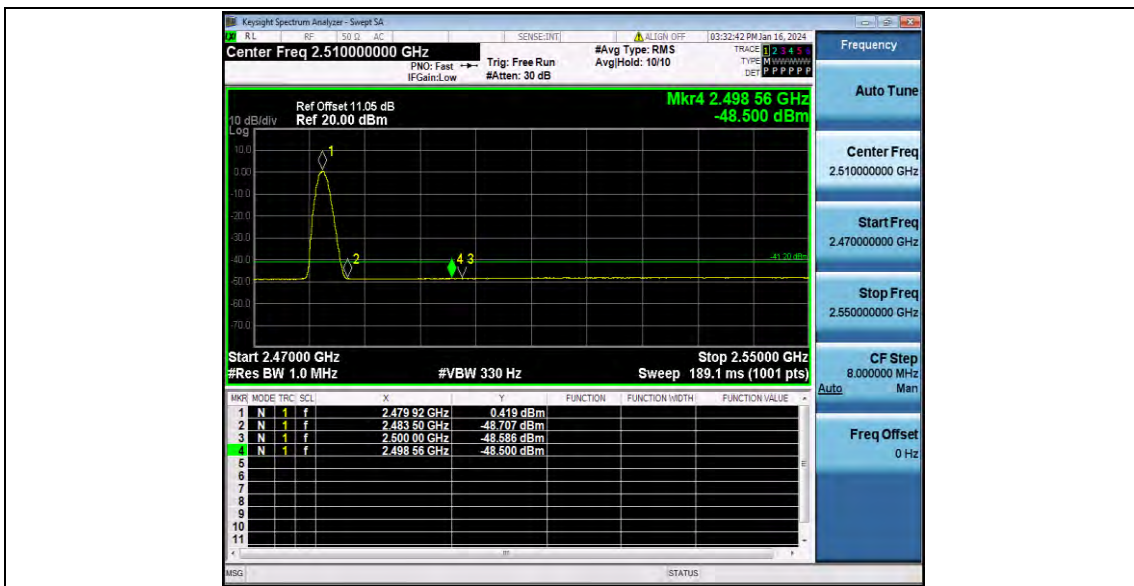
				Peak	2500.000	-42.06	≤-21.20	53.14	≤74	PASS
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Note:

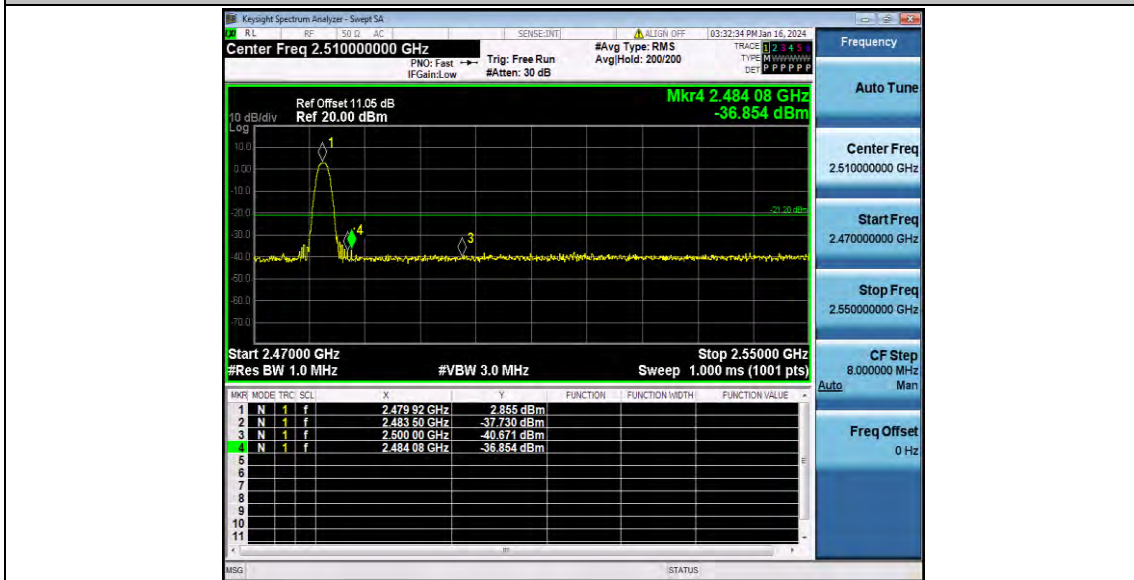
1. The Antenna Gain is compensated in the graph.
2. The Duty Cycle Factor and RBW Factor is compensated in the graph.
3. The limit in dBm for average detector is conversion from 54dBuV/m, according to 15.209(a). The limit in dBm for peak detector is 20dB above the limit of average detector in dBm.

Test Graphs

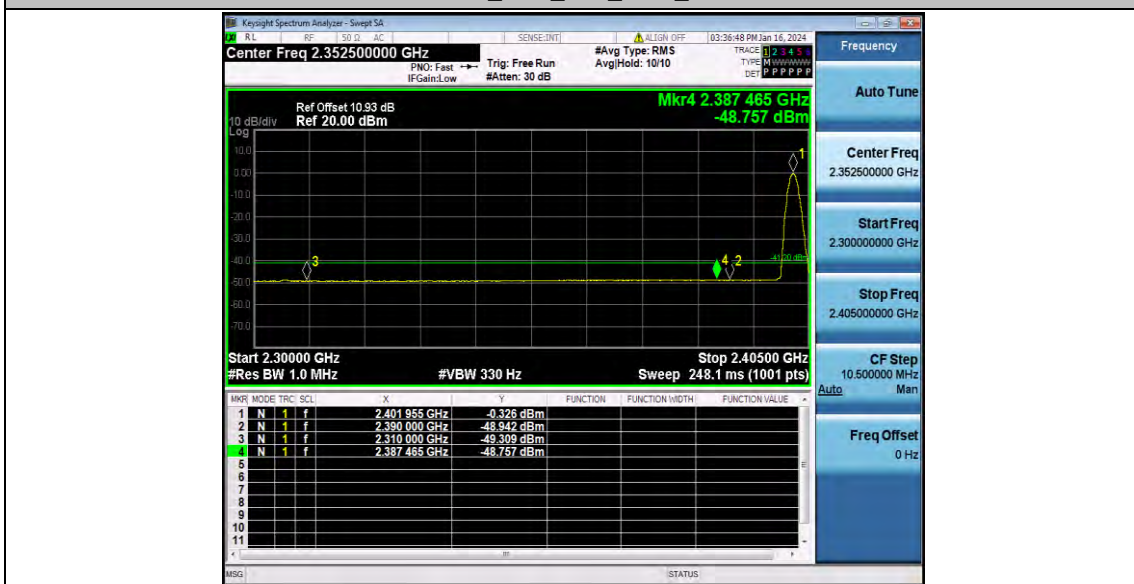




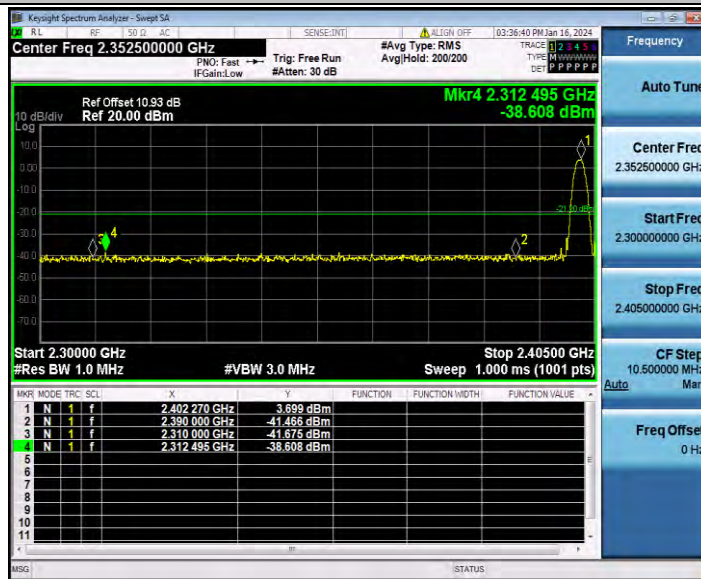
DH1_Ant1_High_2480_Peak



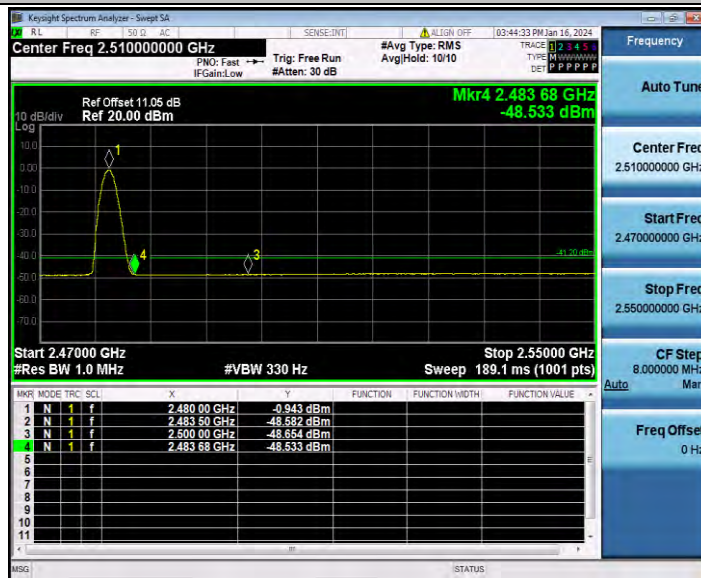
2DH1_Ant1_Low_2402_AV



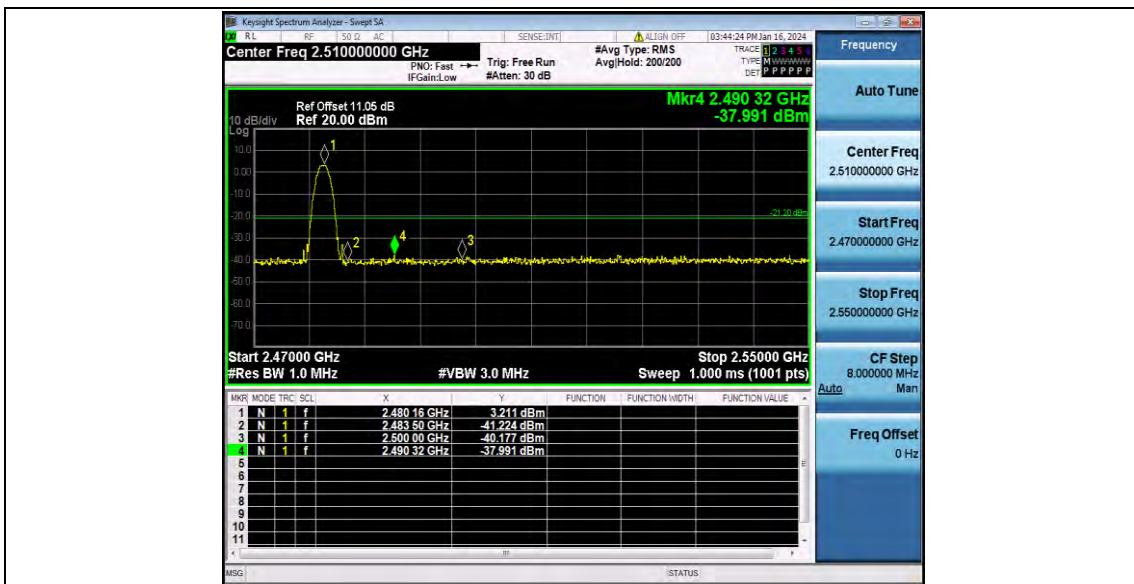
2DH1_Ant1_Low_2402_Peak



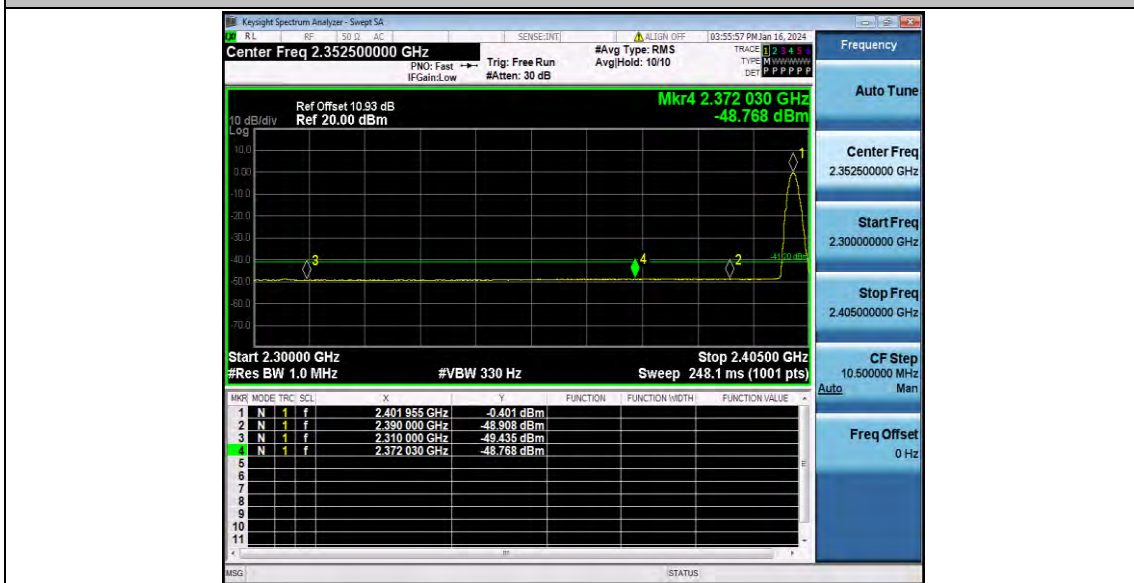
2DH1_Ant1_High_2480_AV



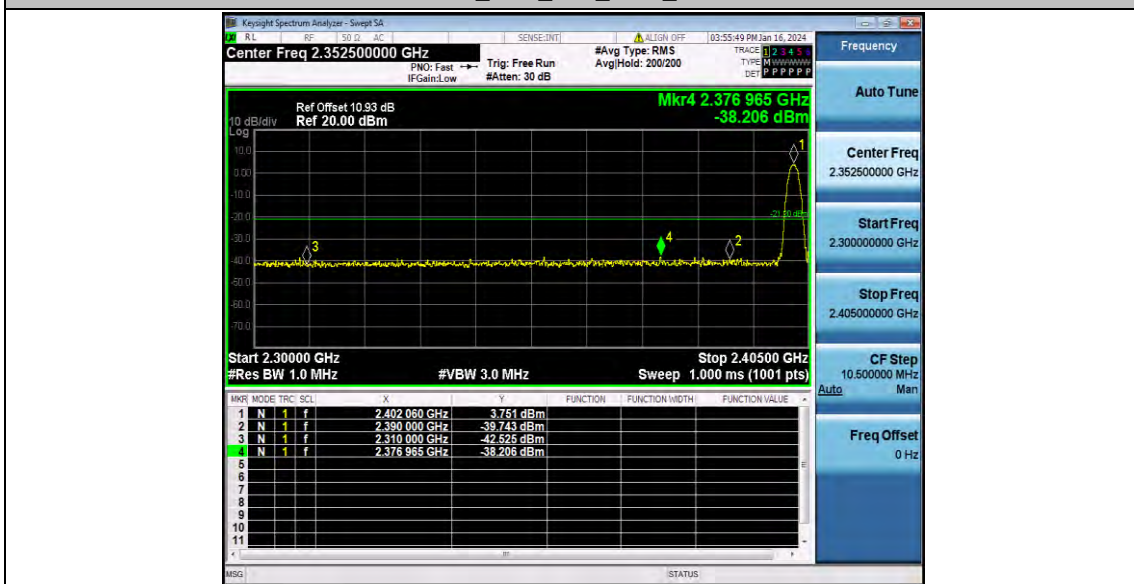
2DH1_Ant1_High_2480_Peak



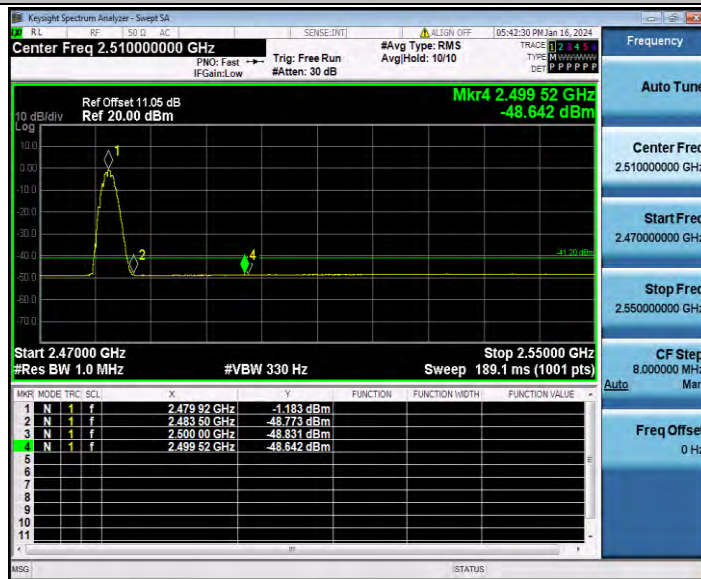
3DH1_Ant1_Low_2402_AV



3DH1_Ant1_Low_2402_Peak



3DH1_Ant1_High_2480_AV



3DH1_Ant1_High_2480_Peak

