

Appendix A

RF Test Data for BT (Conducted Measurement)

Product Name: Bluetooth speaker

Test Model: OS-1993

Environmental Conditions

Temperature:	24.5°C
Relative Humidity:	53.2%
ATM Pressure:	100.0 kPa
Test Engineer:	Zhang hai
Supervised by:	Fengliu Tang

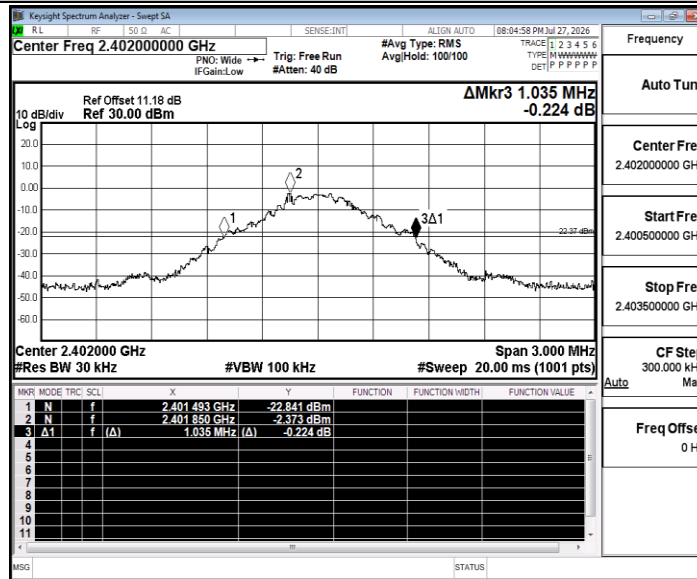
A.1 20dB Emission Bandwidth

Test Result

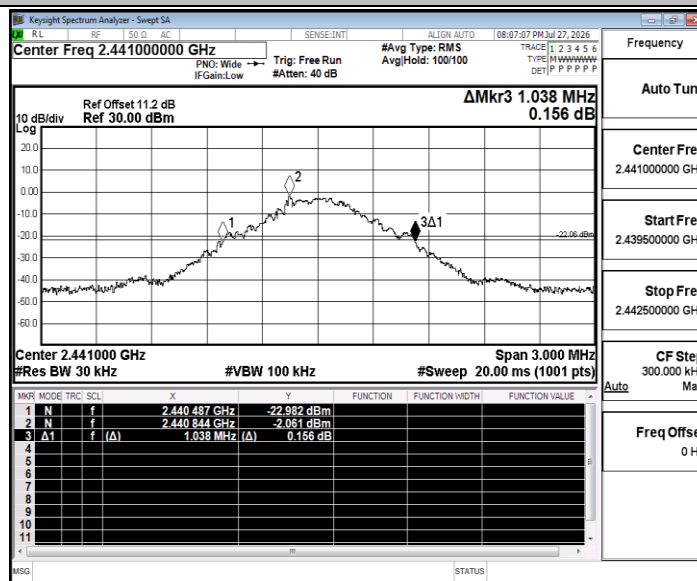
TestMode	Antenna	Freq(MHz)	20dB EBW[MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
DH5	Ant1	2402	1.035	2401.493	2402.528	---	---
		2441	1.038	2440.487	2441.525	---	---
		2480	1.035	2479.490	2480.525	---	---
2DH5	Ant1	2402	1.323	2401.355	2402.678	---	---
		2441	1.335	2440.346	2441.681	---	---
		2480	1.344	2479.346	2480.690	---	---
3DH5	Ant1	2402	1.296	2401.364	2402.660	---	---
		2441	1.293	2440.361	2441.654	---	---
		2480	1.290	2479.358	2480.648	---	---

Test Graphs

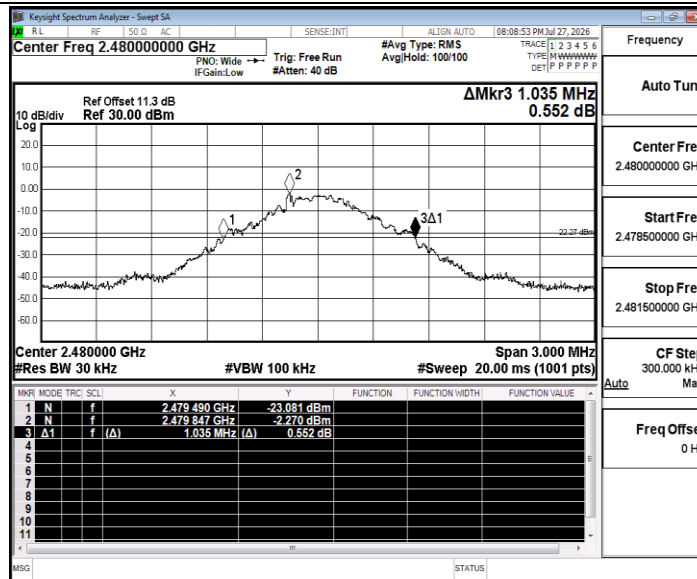
DH5_Ant1_2402



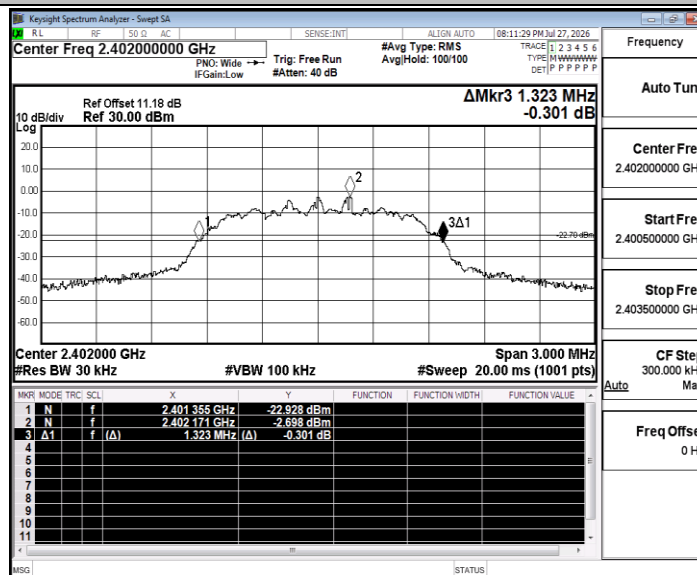
DH5_Ant1_2441



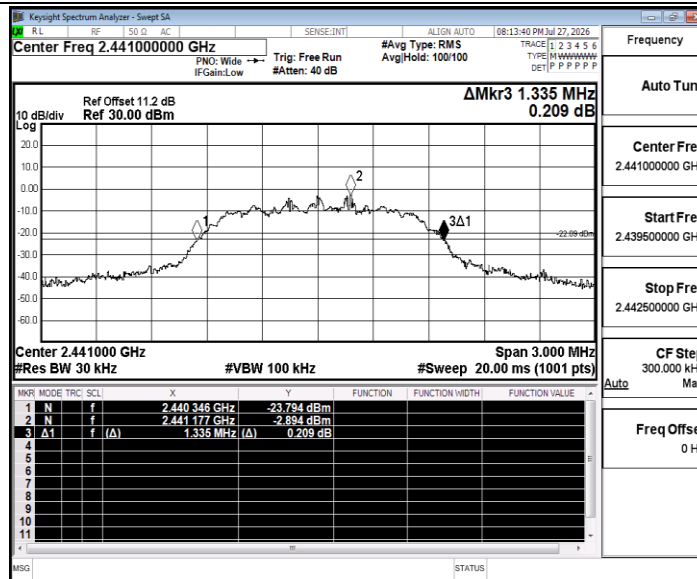
DH5_Ant1_2480



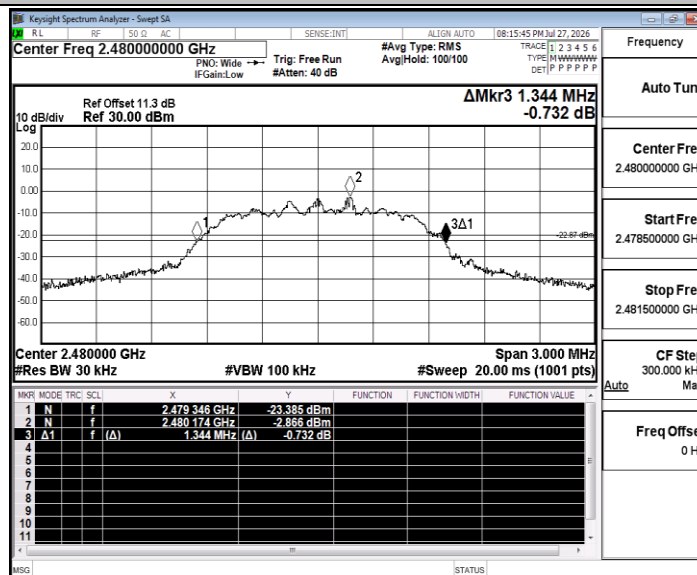
2DH5_Ant1_2402



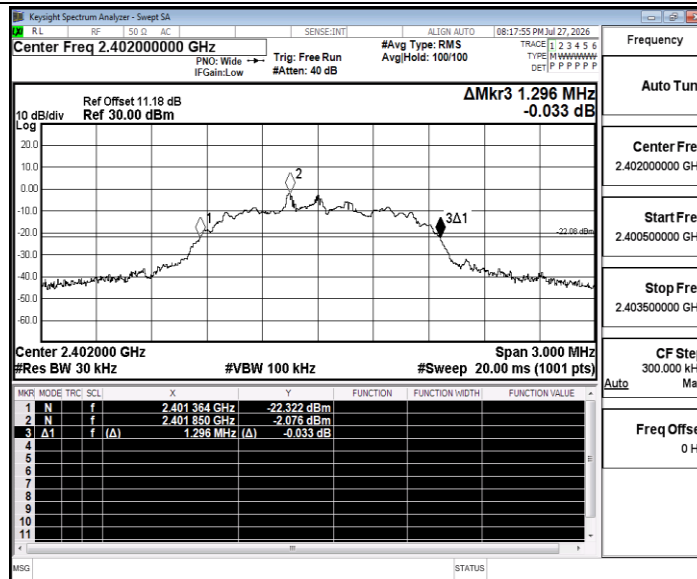
2DH5_Ant1_2441



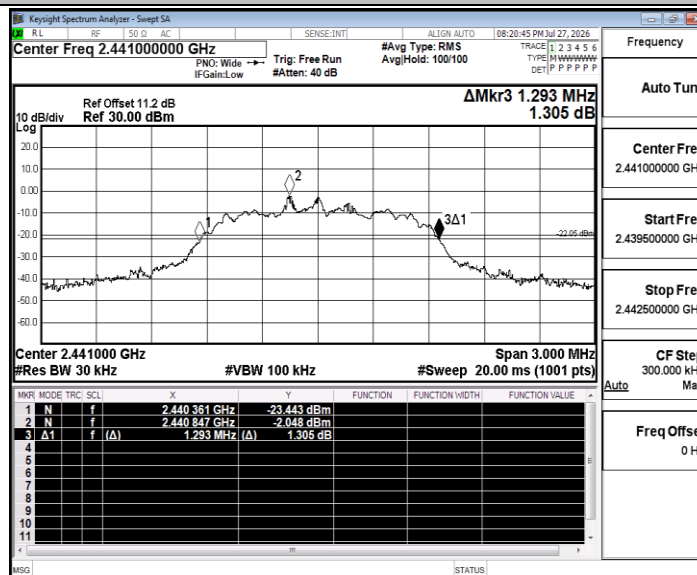
2DH5_Ant1_2480



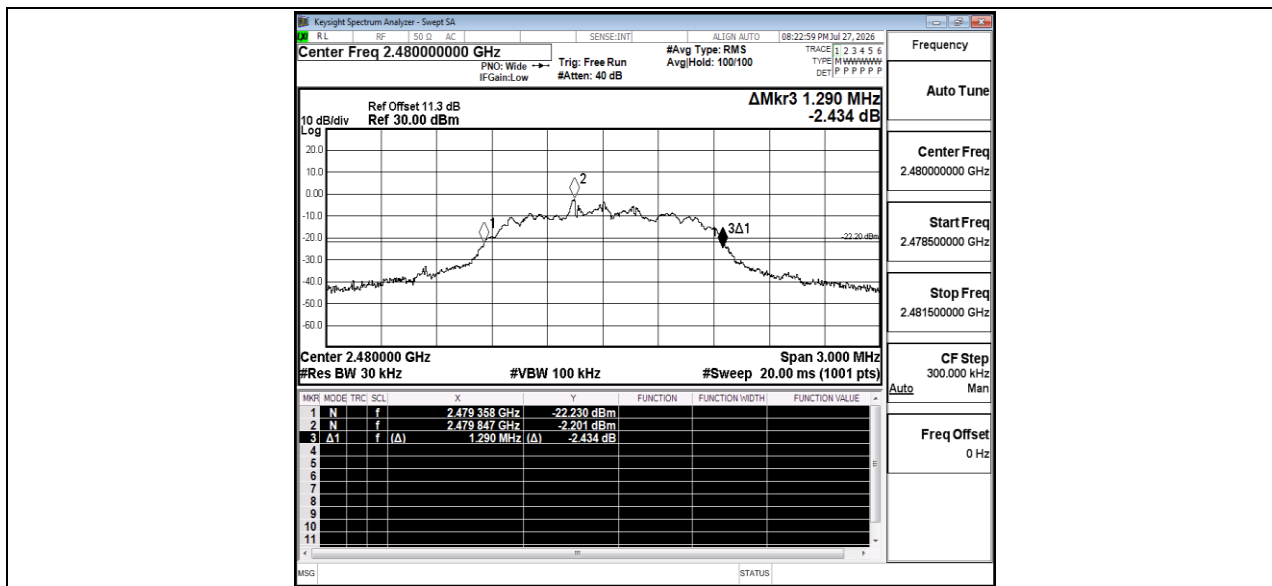
3DH5_Ant1_2402



3DH5_Ant1_2441



3DH5_Ant1_2480

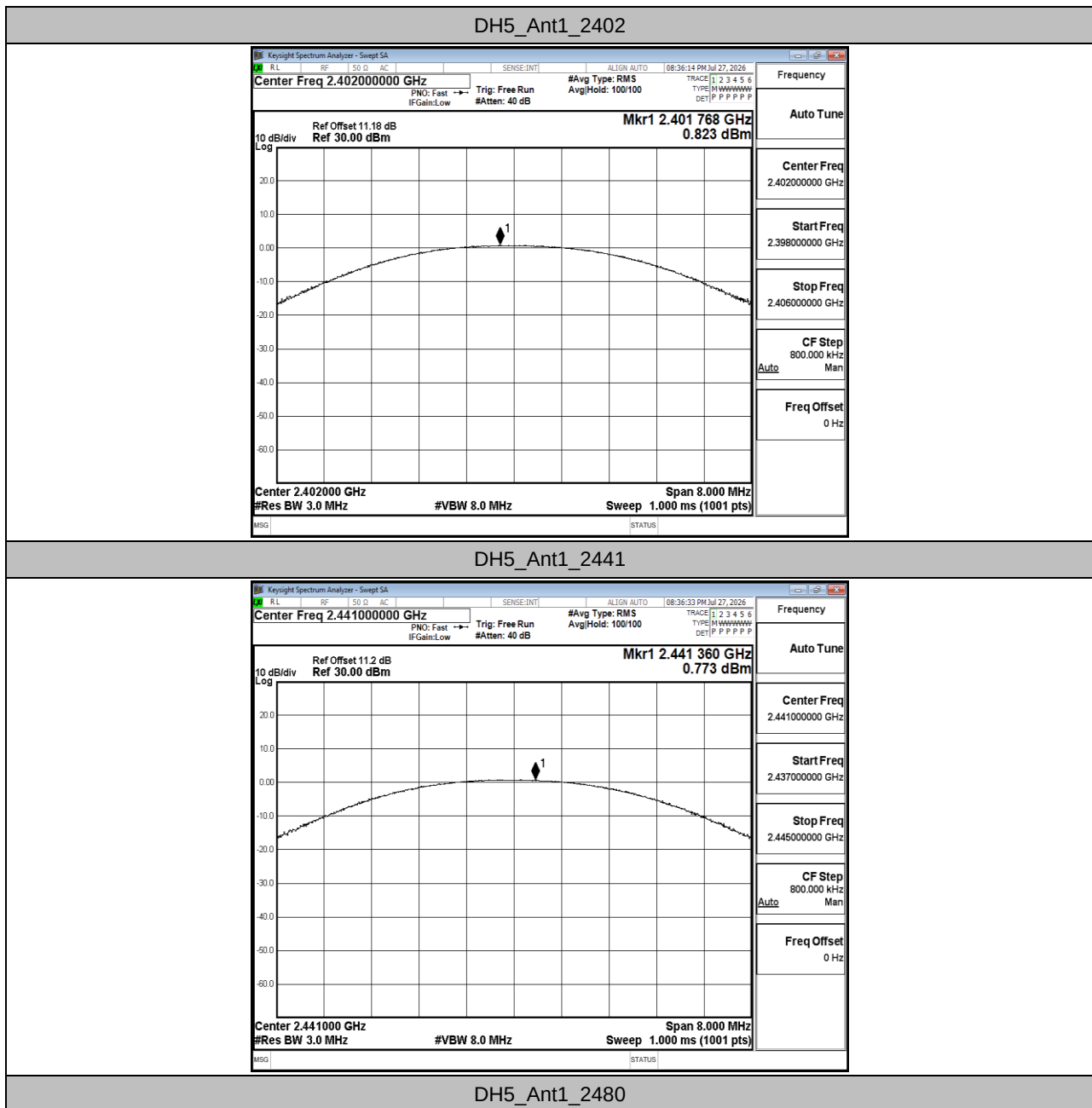


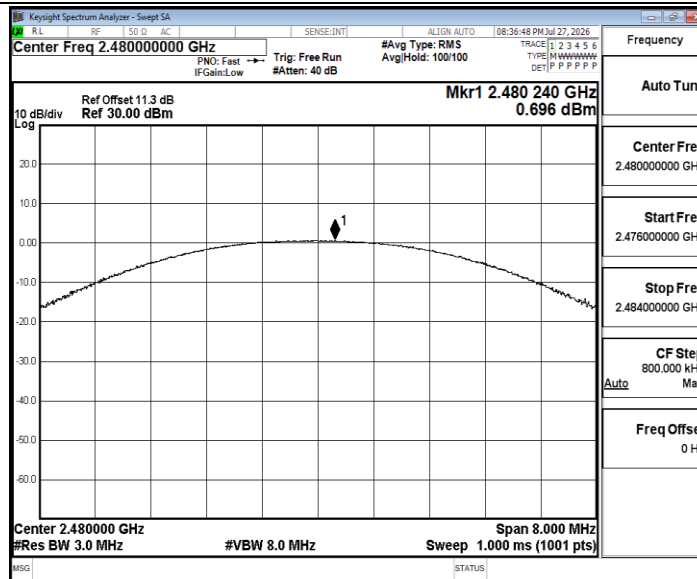
A.2 Maximum Peak conducted output power

Test Result Peak

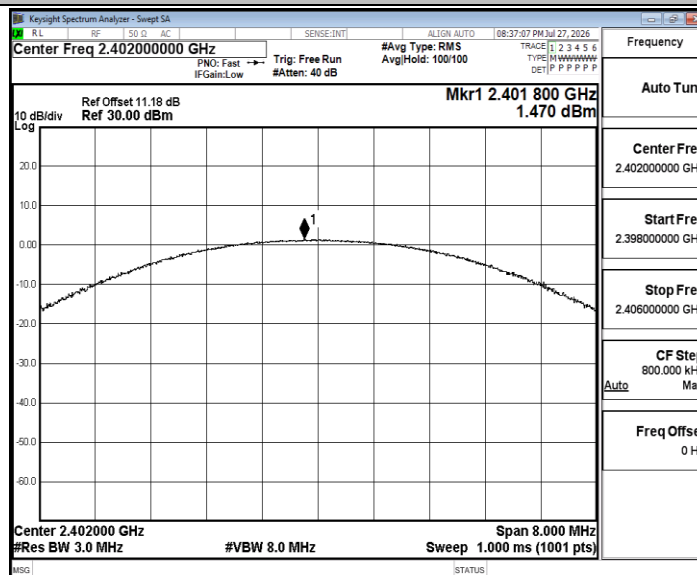
Test Mode	Antenna	Freq(MHz)	Conducted Peak Power[dBm]	Conducted Limit[dBm]	Verdict
DH5	Ant1	2402	0.82	≤30	PASS
		2441	0.77	≤30	PASS
		2480	0.70	≤30	PASS
2DH5	Ant1	2402	1.47	≤20.97	PASS
		2441	1.42	≤20.97	PASS
		2480	1.26	≤20.97	PASS
3DH5	Ant1	2402	1.79	≤20.97	PASS
		2441	1.83	≤20.97	PASS
		2480	1.62	≤20.97	PASS

Test Graphs

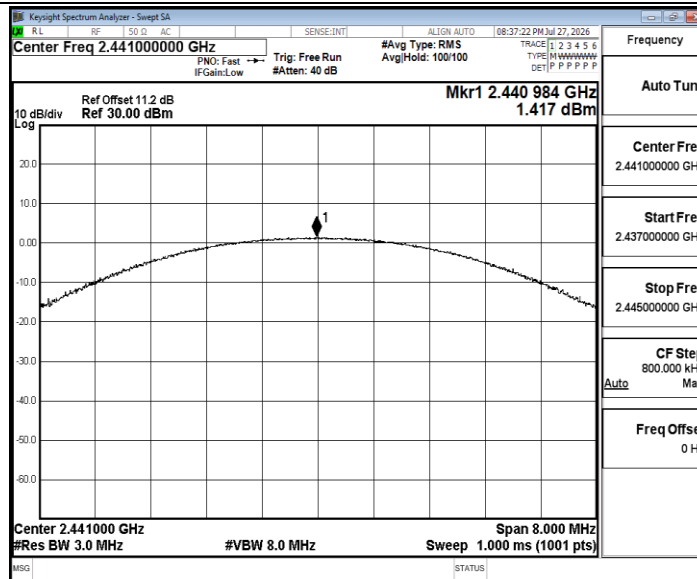




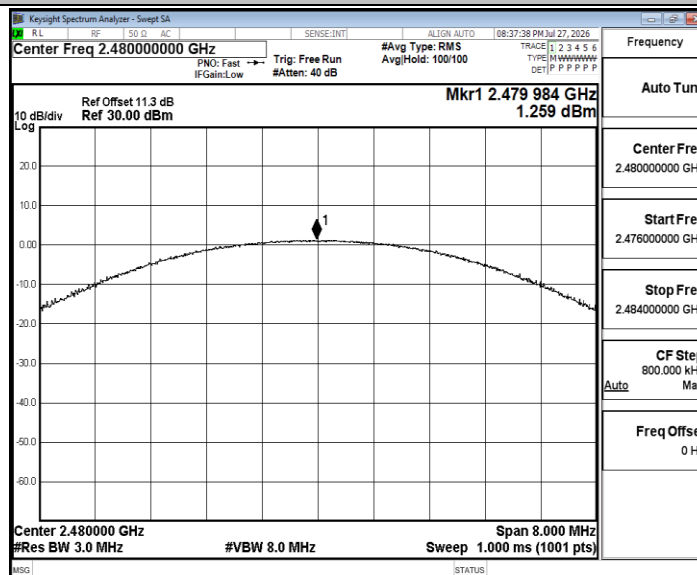
2DH5_Ant1_2402



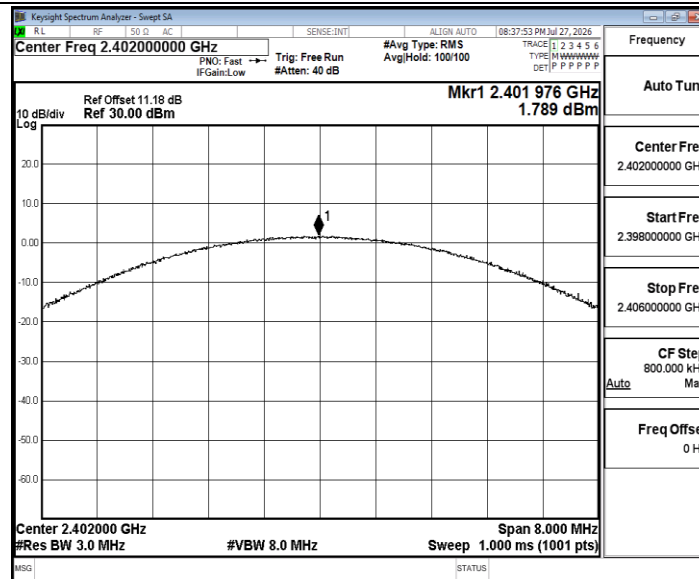
2DH5_Ant1_2441



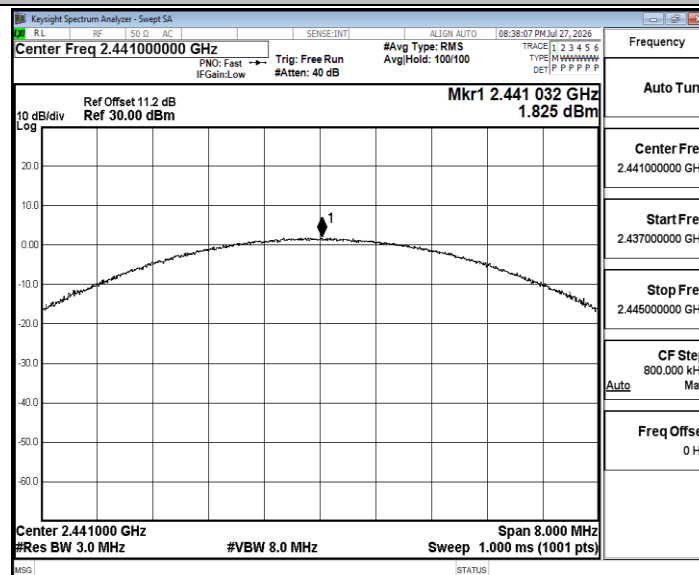
2DH5_Ant1_2480



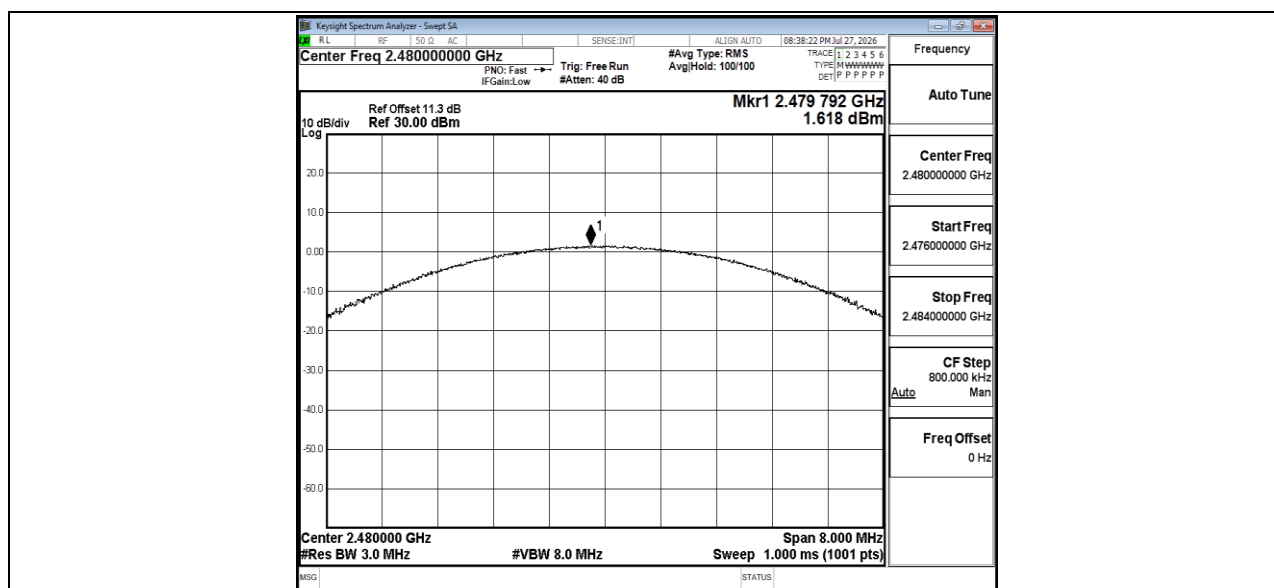
3DH5_Ant1_2402



3DH5_Ant1_2441



3DH5_Ant1_2480



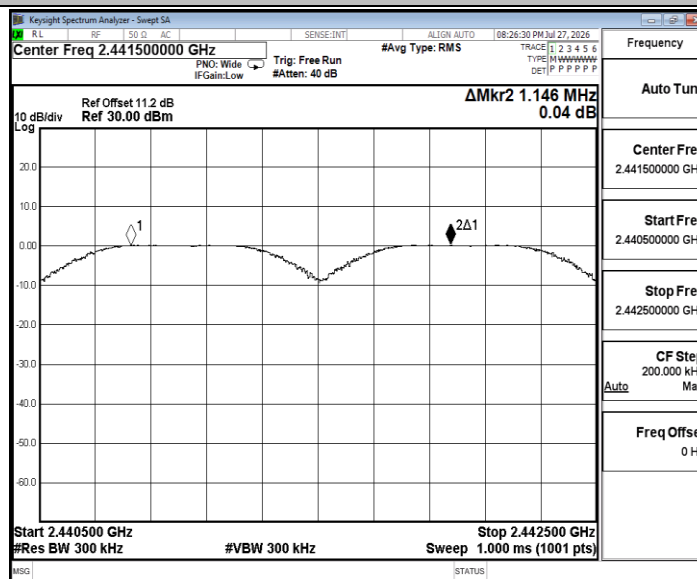
A.3 Carrier frequency separation

Test Result

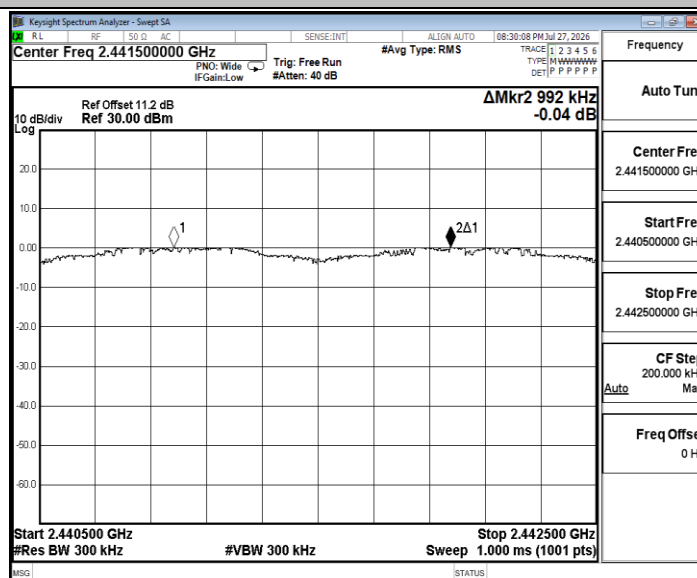
TestMode	Antenna	Freq(MHz)	Result[MHz]	Limit[MHz]	Verdict
DH5	Ant1	Hop	1.146	≥ 1.038	PASS
2DH5	Ant1	Hop	0.992	≥ 0.896	PASS
3DH5	Ant1	Hop	1.116	≥ 0.864	PASS

Test Graphs

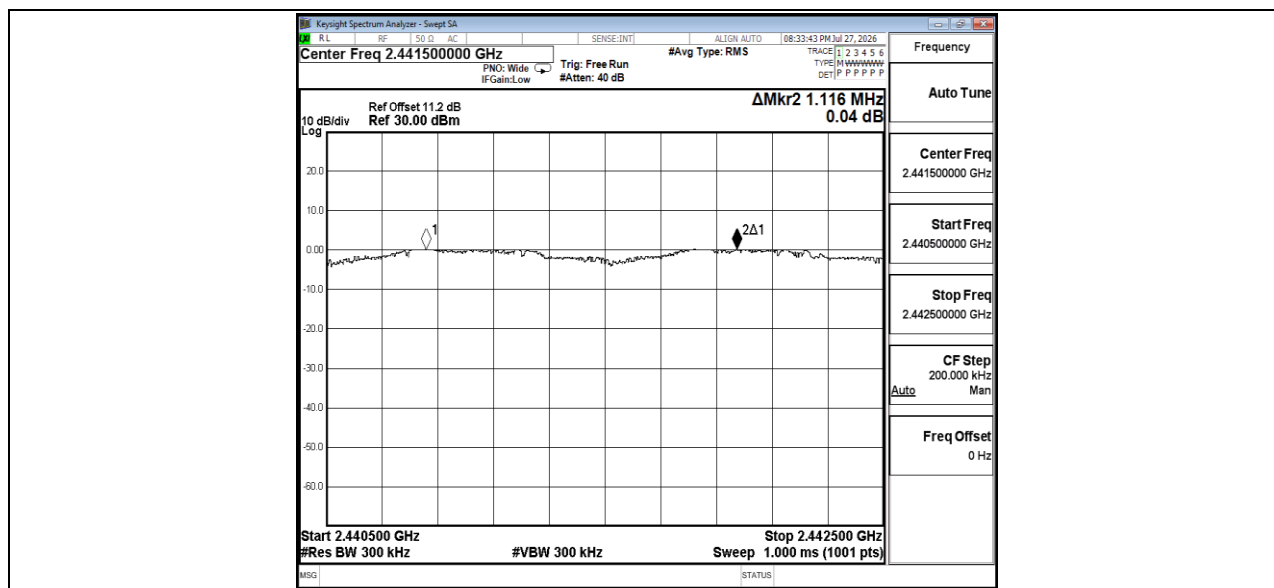
DH5_Ant1_Hop



2DH5_Ant1_Hop



3DH5_Ant1_Hop

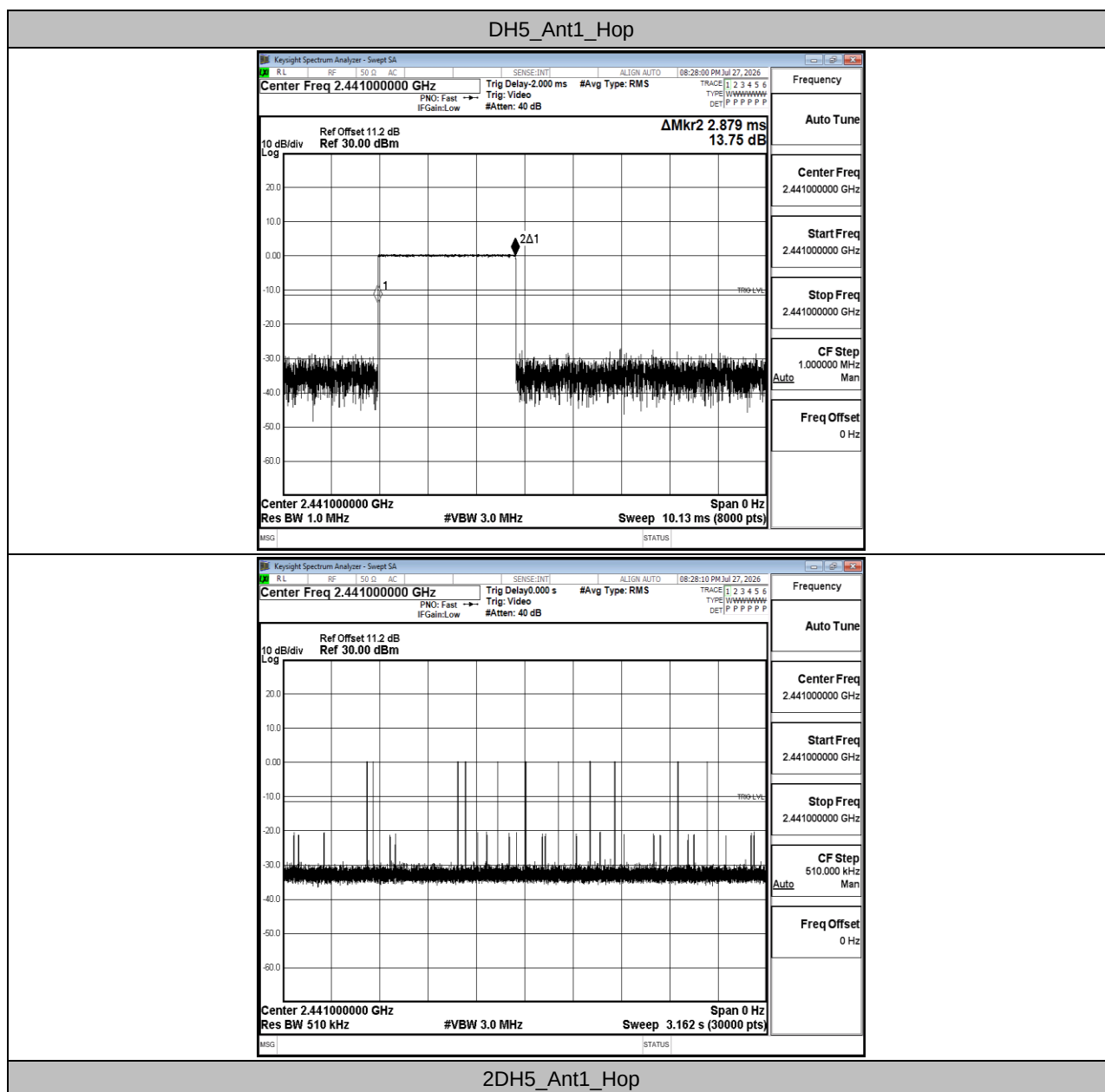


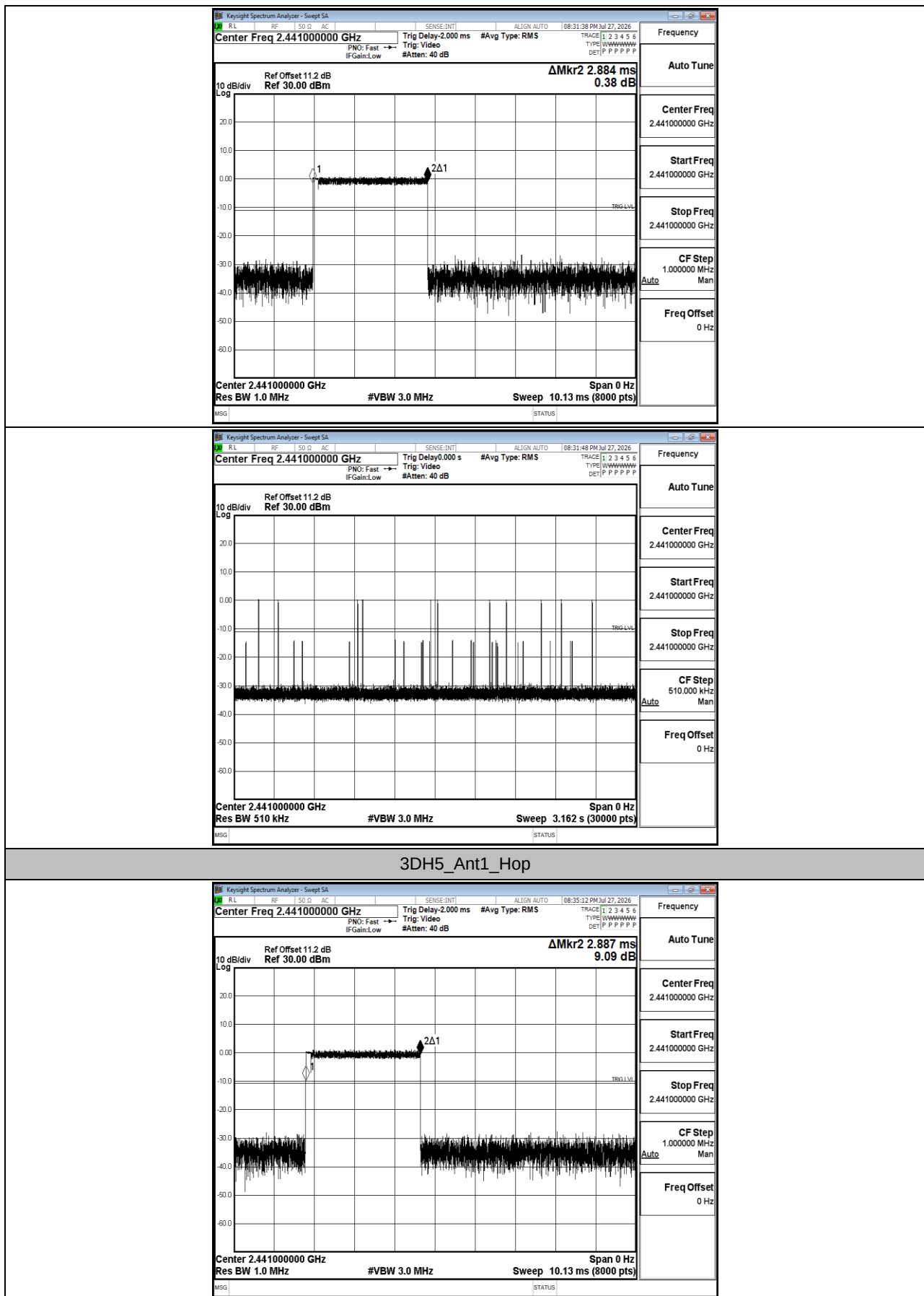
A4 Time of occupancy

Test Result

TestMode	Antenna	Freq(MHz)	BurstWidth [ms]	TotalHops [Num]	Result[s]	Limit[s]	Verdict
DH5	Ant1	Hop	2.879	120	0.345	≤0.4	PASS
2DH5	Ant1	Hop	2.884	120	0.346	≤0.4	PASS
3DH5	Ant1	Hop	2.887	110	0.318	≤0.4	PASS

Test Graphs

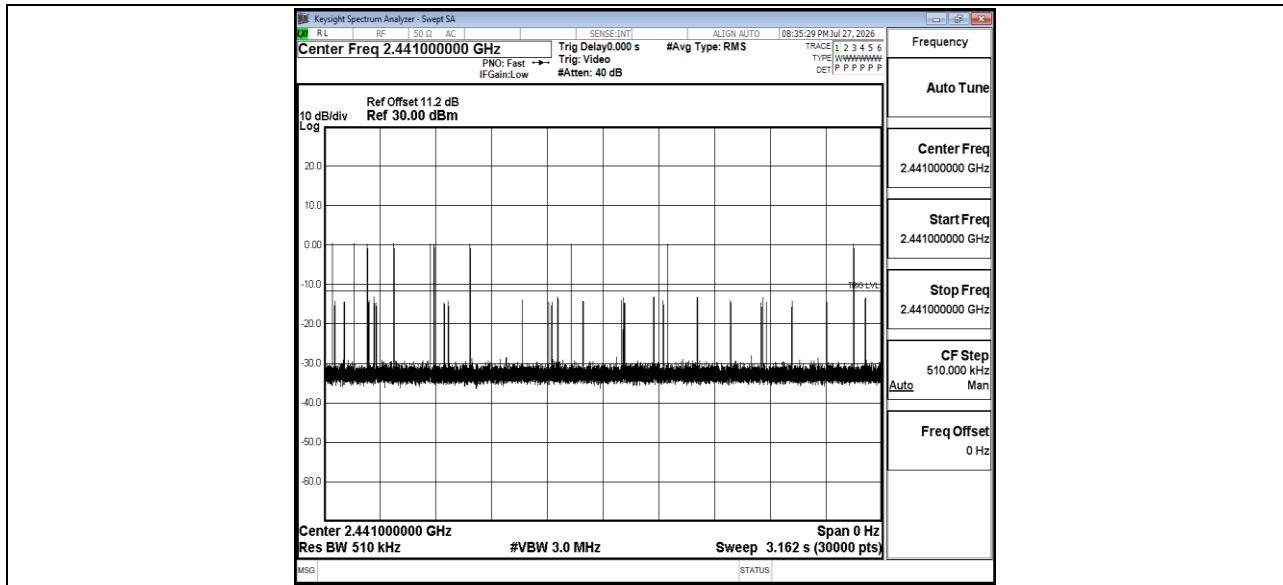




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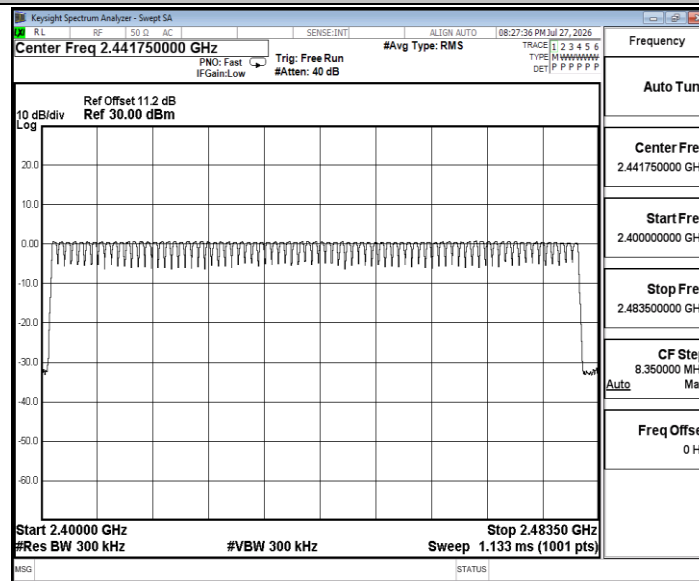
A.5 Number of hopping channels

Test Result

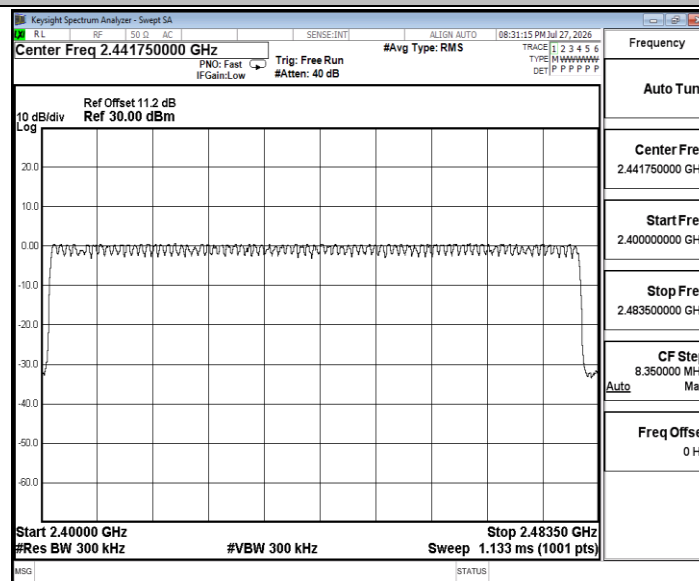
TestMode	Antenna	Freq(MHz)	Result[Num]	Limit[Num]	Verdict
DH5	Ant1	Hop	79	≥15	PASS
2DH5	Ant1	Hop	79	≥15	PASS
3DH5	Ant1	Hop	79	≥15	PASS

Test Graphs

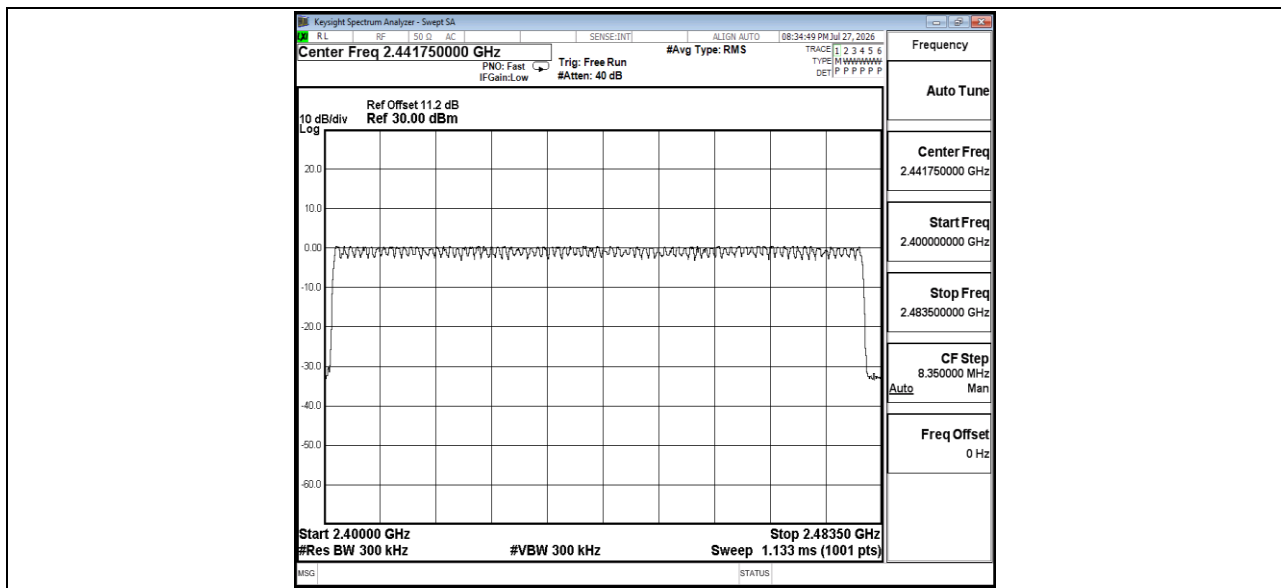
DH5_Ant1_Hop



2DH5_Ant1_Hop



3DH5_Ant1_Hop



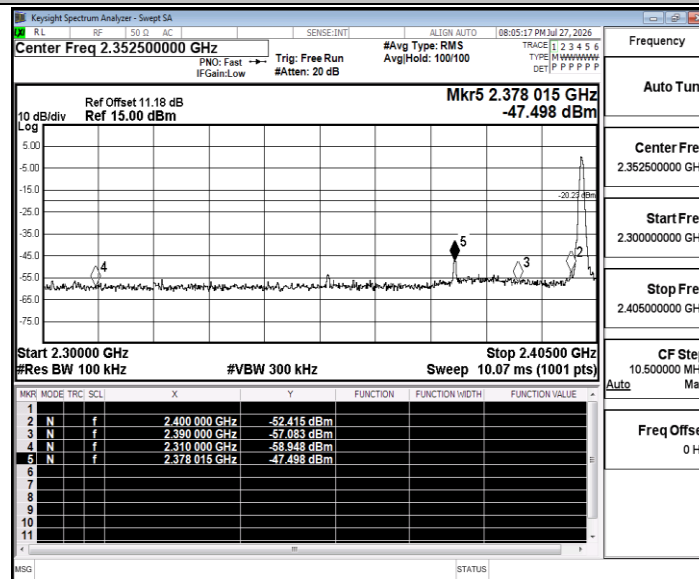
A.6 Band edge measurements

Test Result

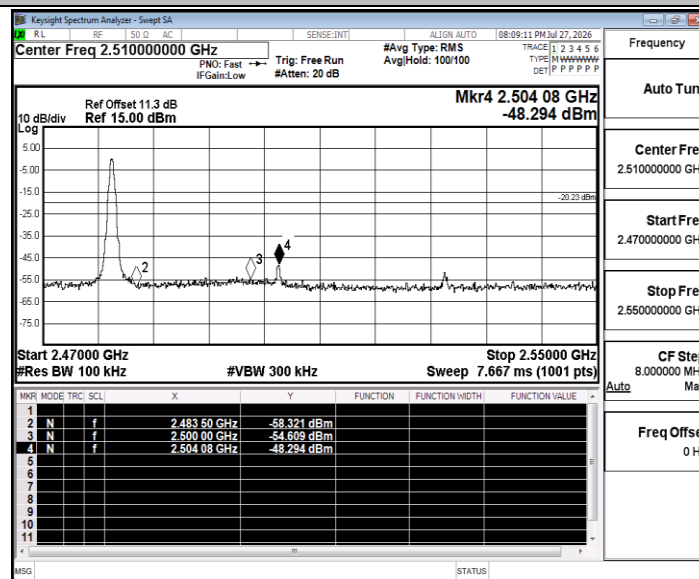
TestMode	Antenna	ChName	Freq(MHz)	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
DH5	Ant1	Low	2402	-0.23	-47.5	≤ -20.23	PASS
		High	2480	-0.23	-48.29	≤ -20.23	PASS
		Low	Hop_2402	-0.79	-47.64	≤ -20.79	PASS
		High	Hop_2480	-0.36	-49.02	≤ -20.36	PASS
2DH5	Ant1	Low	2402	-0.08	-48.77	≤ -20.08	PASS
		High	2480	-2.86	-48.87	≤ -22.86	PASS
		Low	Hop_2402	-3.81	-50.26	≤ -23.81	PASS
		High	Hop_2480	-4.88	-50.96	≤ -24.88	PASS
3DH5	Ant1	Low	2402	-0.29	-49.31	≤ -20.29	PASS
		High	2480	-0.36	-49.11	≤ -20.36	PASS
		Low	Hop_2402	-5.87	-50.45	≤ -25.87	PASS
		High	Hop_2480	-3.15	-51.06	≤ -23.15	PASS

Test Graphs

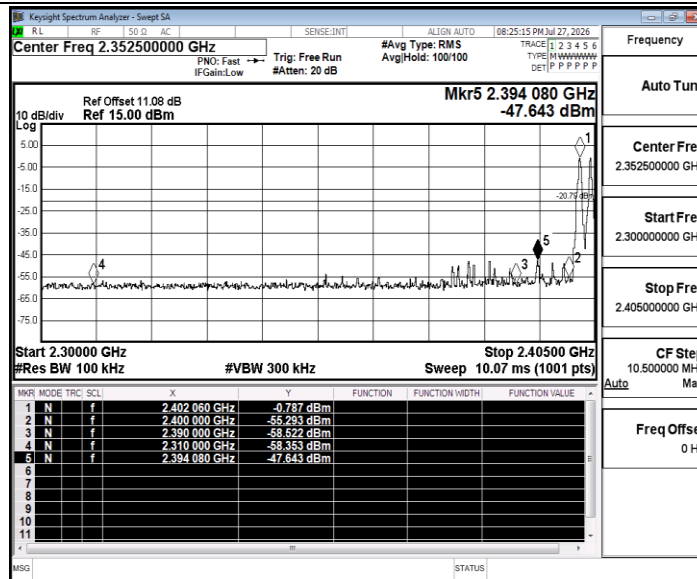
DH5_Ant1_Low_2402



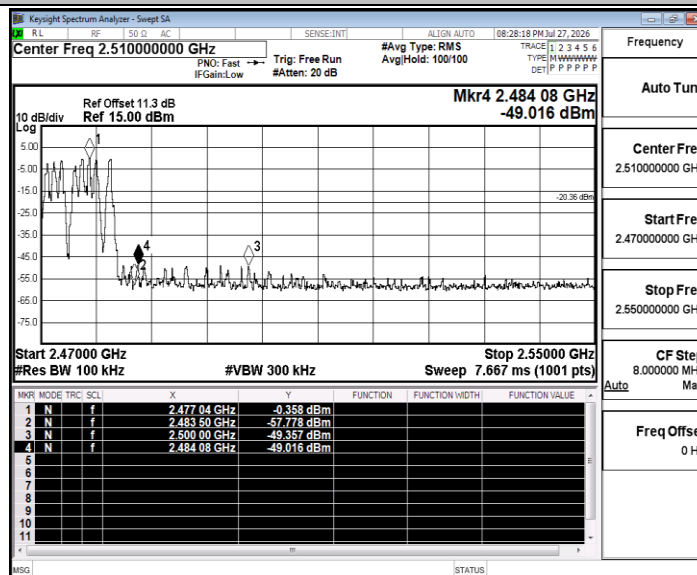
DH5_Ant1_High_2480



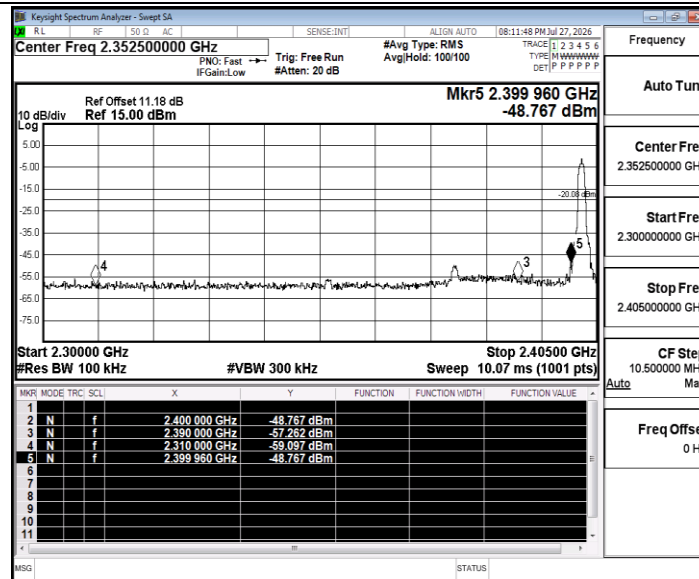
DH5_Ant1_Low_Hop_2402



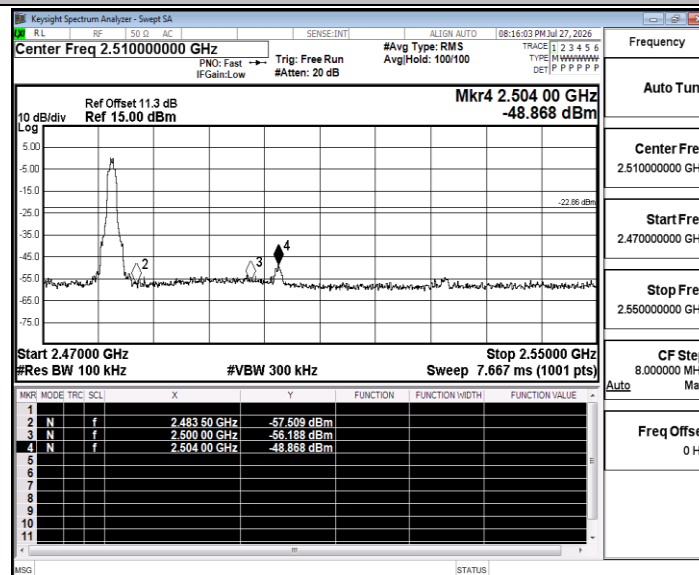
DH5_Ant1_High_Hop_2480



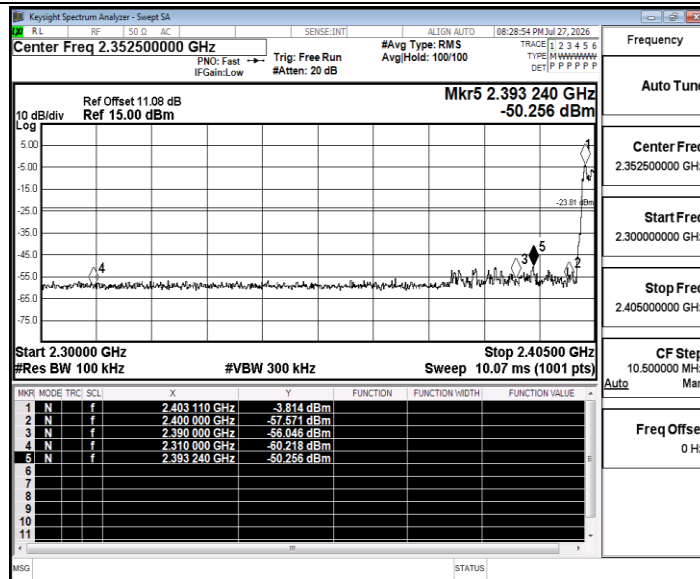
2DH5_Ant1_Low_2402



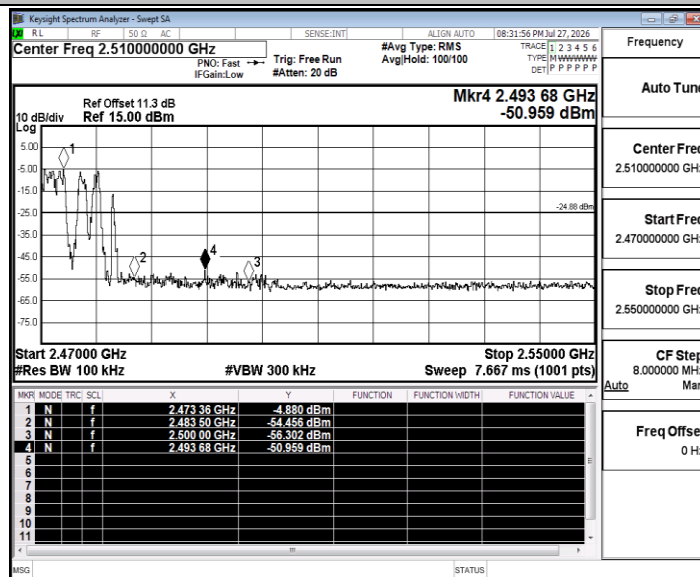
2DH5_Ant1_High_2480



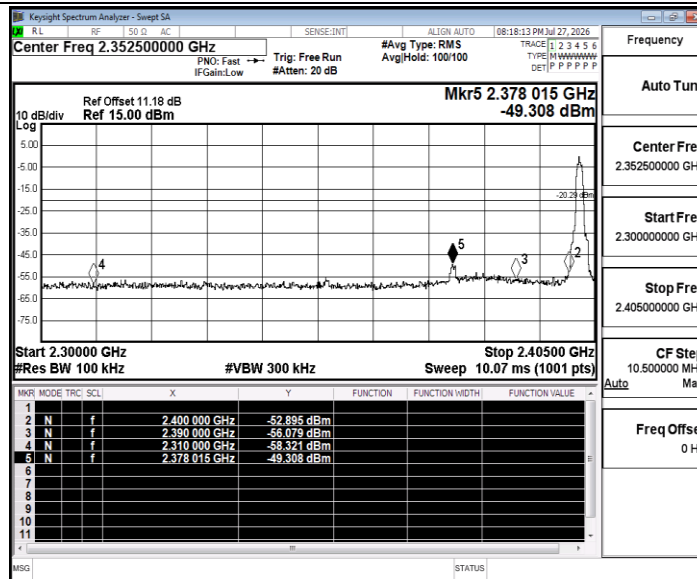
2DH5_Ant1_Low_Hop_2402



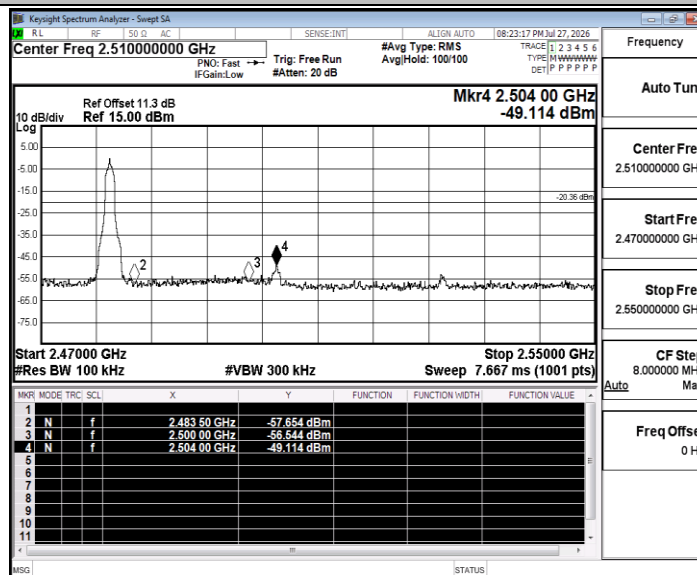
2DH5_Ant1_High_Hop_2480



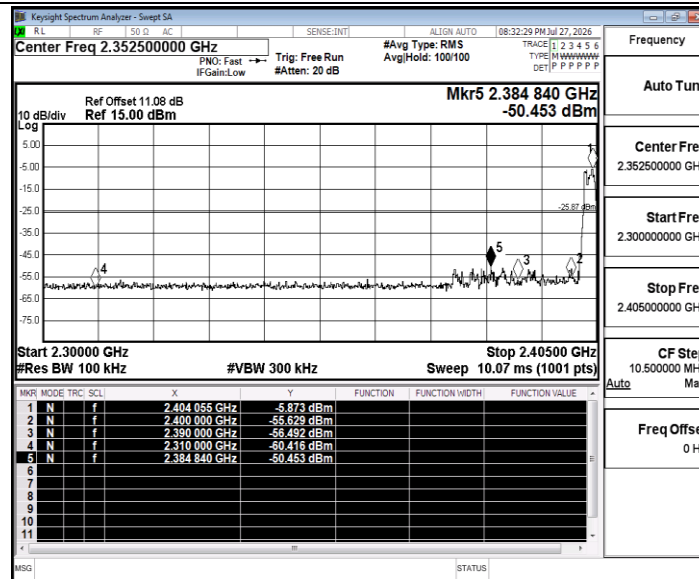
3DH5_Ant1_Low_2402



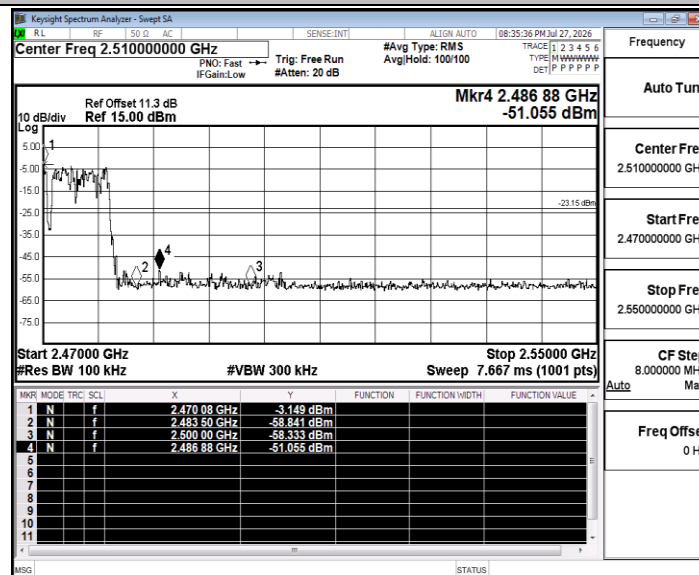
3DH5_Ant1_High_2480



3DH5_Ant1_Low_Hop_2402



3DH5_Ant1_High_Hop_2480

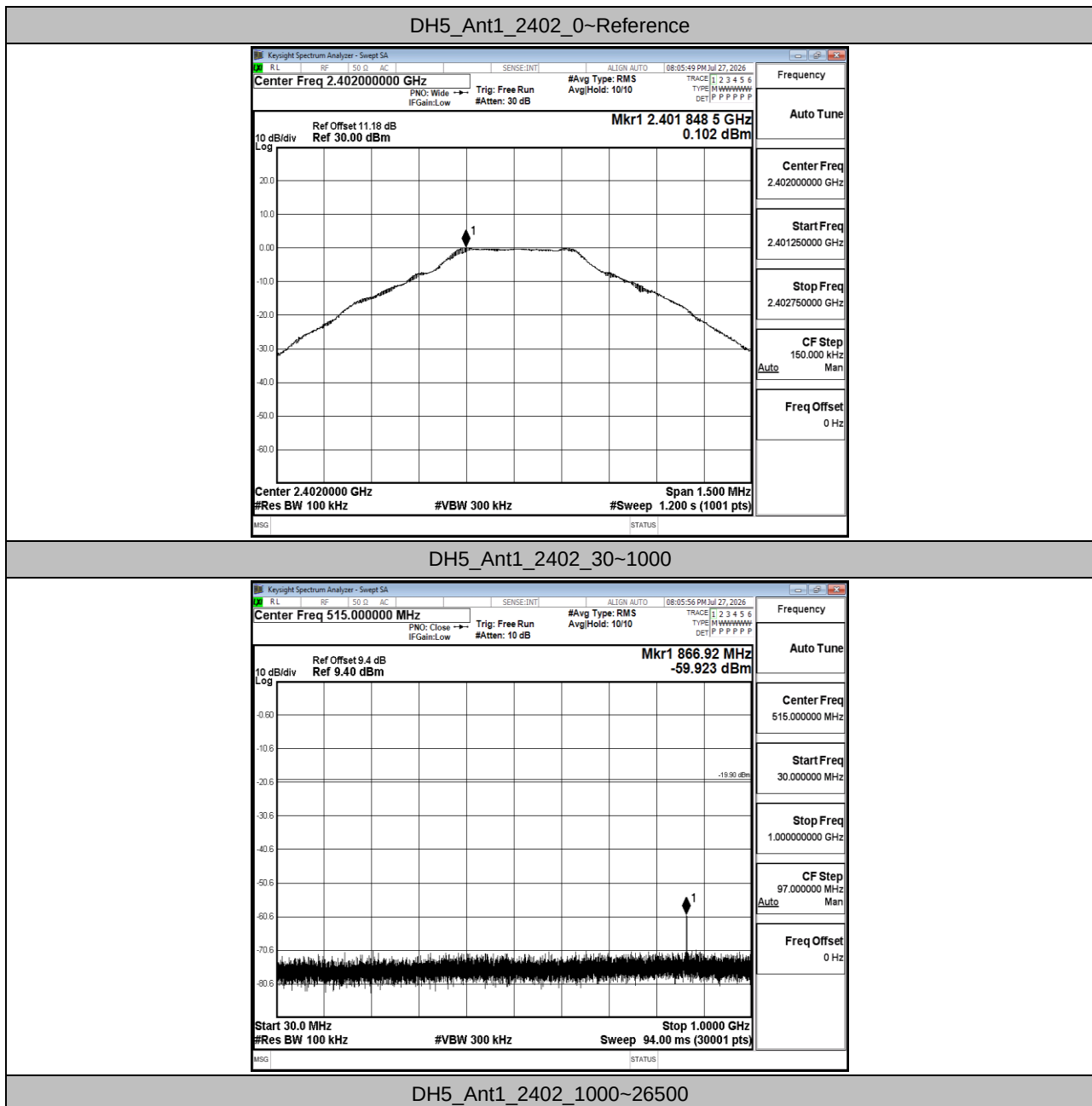


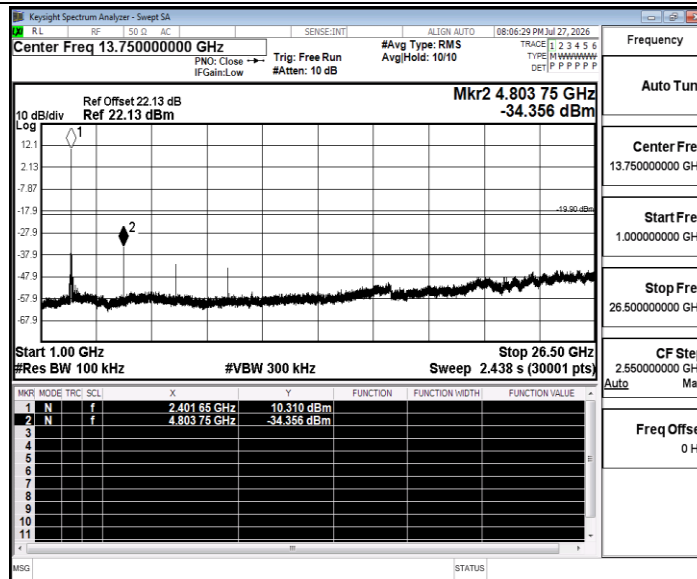
A.7 Conducted Spurious Emission

Test Result

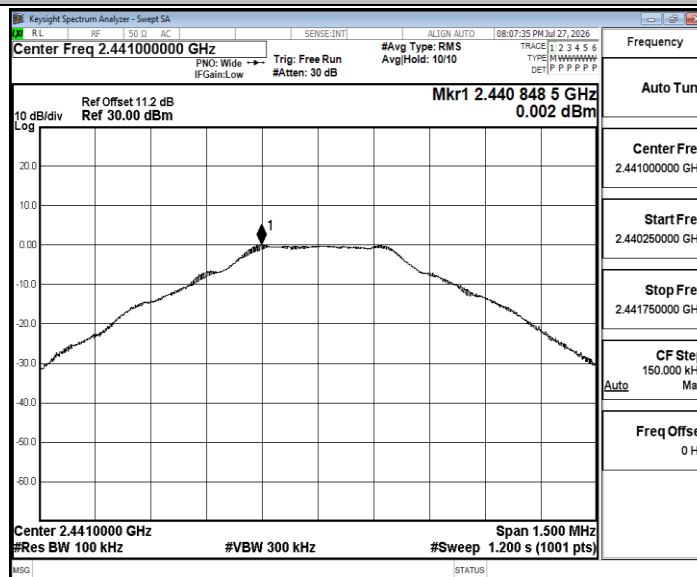
TestMode	Antenna	Freq(MHz)	FreqRange [MHz]	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
DH5	Ant1	2402	Reference	0.10	0.10	---	PASS
			30~1000	0.10	-59.92	≤-19.9	PASS
			1000~26500	0.10	-34.36	≤-19.9	PASS
		2441	Reference	0.00	0.00	---	PASS
			30~1000	0.00	-63.98	≤-20	PASS
			1000~26500	0.00	-31.4	≤-20	PASS
		2480	Reference	-0.11	-0.11	---	PASS
			30~1000	-0.11	-61.19	≤-20.11	PASS
			1000~26500	-0.11	-30.32	≤-20.11	PASS
2DH5	Ant1	2402	Reference	0.12	0.12	---	PASS
			30~1000	0.12	-65.43	≤-19.88	PASS
			1000~26500	0.12	-37.95	≤-19.88	PASS
		2441	Reference	0.03	0.03	---	PASS
			30~1000	0.03	-61.42	≤-19.97	PASS
			1000~26500	0.03	-35.74	≤-19.97	PASS
		2480	Reference	-0.11	-0.11	---	PASS
			30~1000	-0.11	-62.2	≤-20.11	PASS
			1000~26500	-0.11	-34.27	≤-20.11	PASS
3DH5	Ant1	2402	Reference	0.12	0.12	---	PASS
			30~1000	0.12	-64.86	≤-19.88	PASS
			1000~26500	0.12	-36.91	≤-19.88	PASS
		2441	Reference	0.02	0.02	---	PASS
			30~1000	0.02	-65.55	≤-19.98	PASS
			1000~26500	0.02	-34.71	≤-19.98	PASS
		2480	Reference	-0.10	-0.10	---	PASS
			30~1000	-0.10	-59.98	≤-20.1	PASS
			1000~26500	-0.10	-32.67	≤-20.1	PASS

Test Graphs

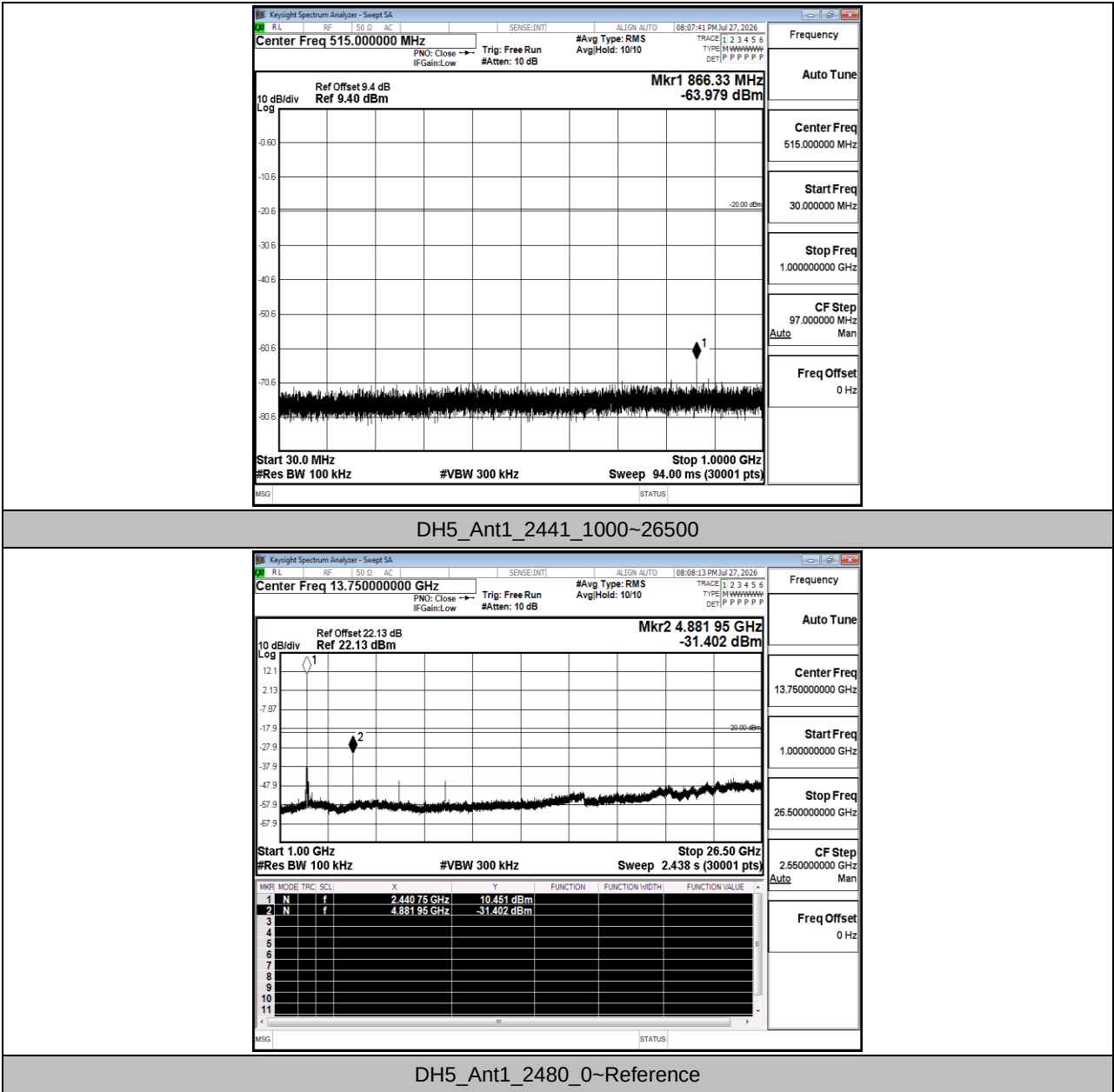


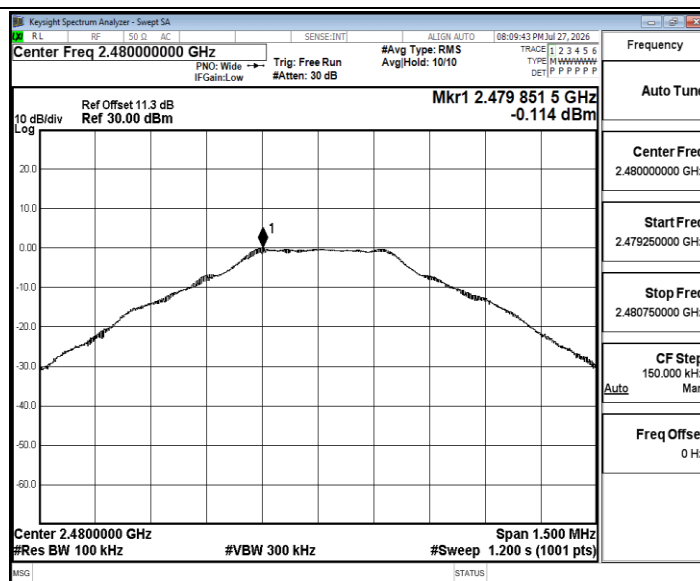


DH5_Ant1_2441_0~Reference

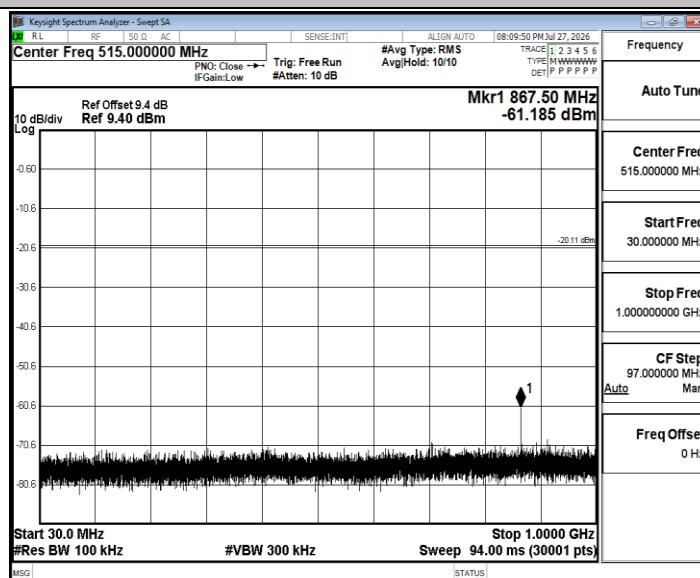


DH5_Ant1_2441_30~1000

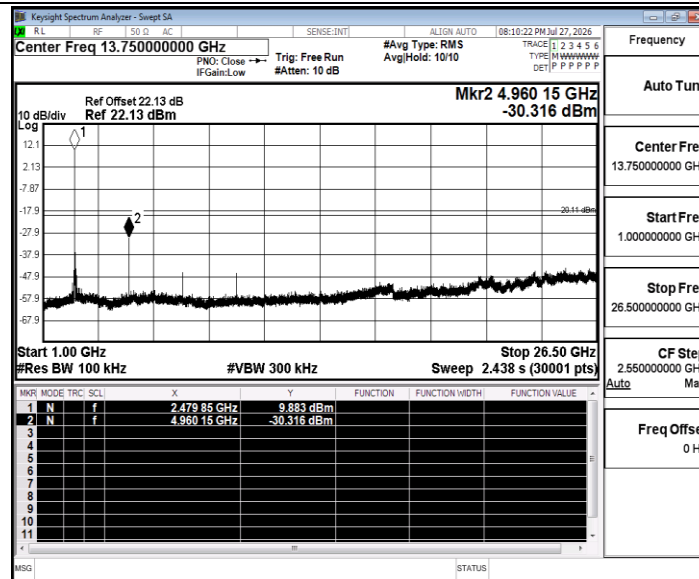




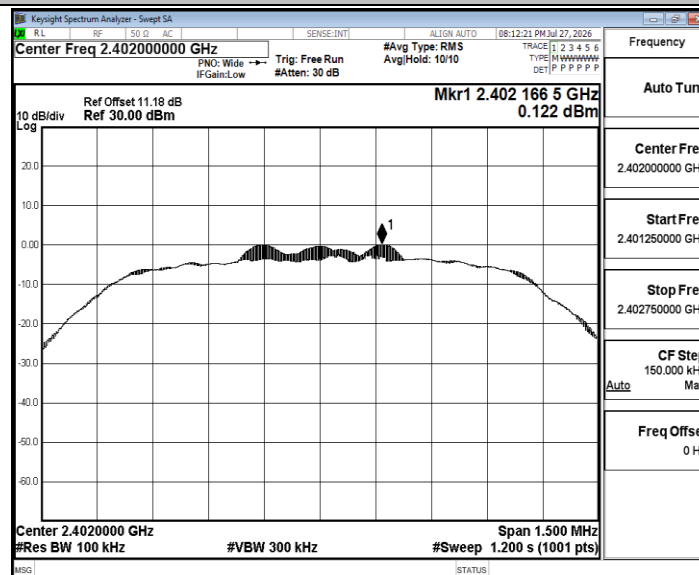
DH5_Ant1_2480_30~1000



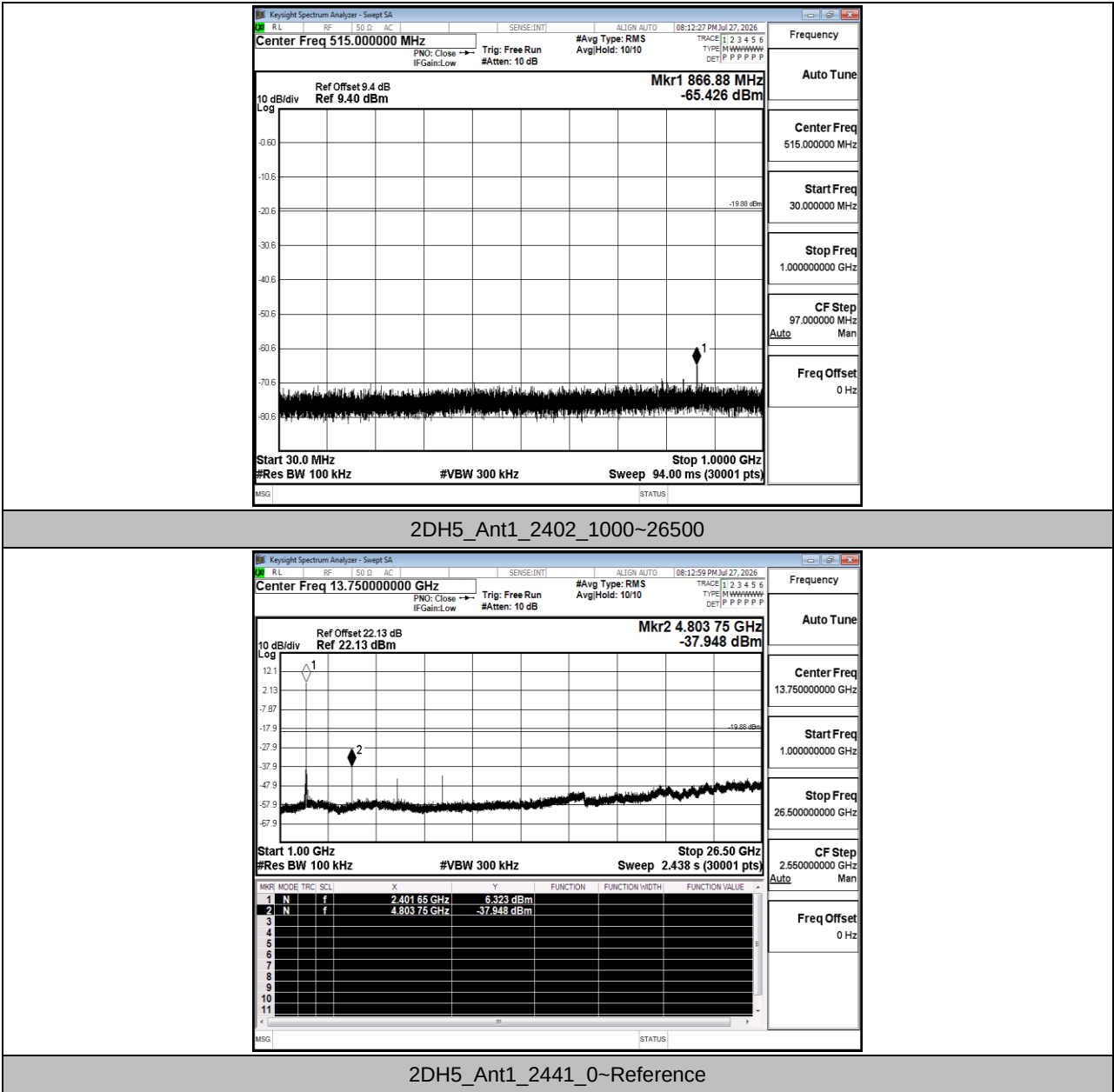
DH5_Ant1_2480_1000~26500

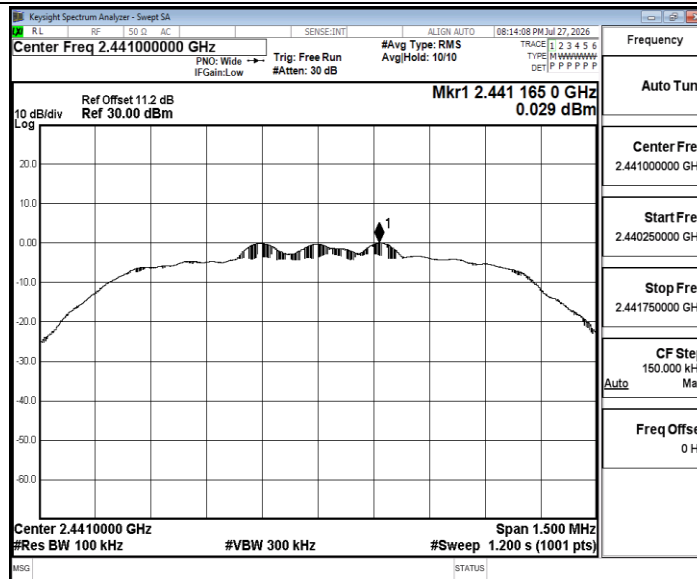


2DH5_Ant1_2402_0~Reference

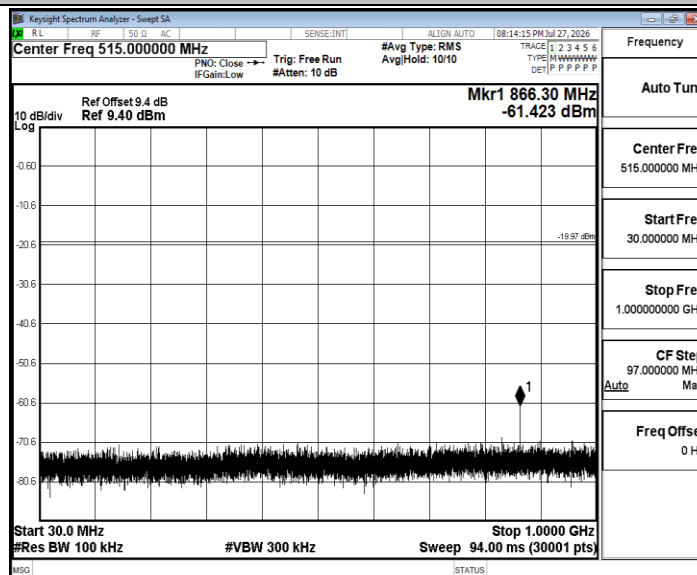


2DH5_Ant1_2402_30~1000

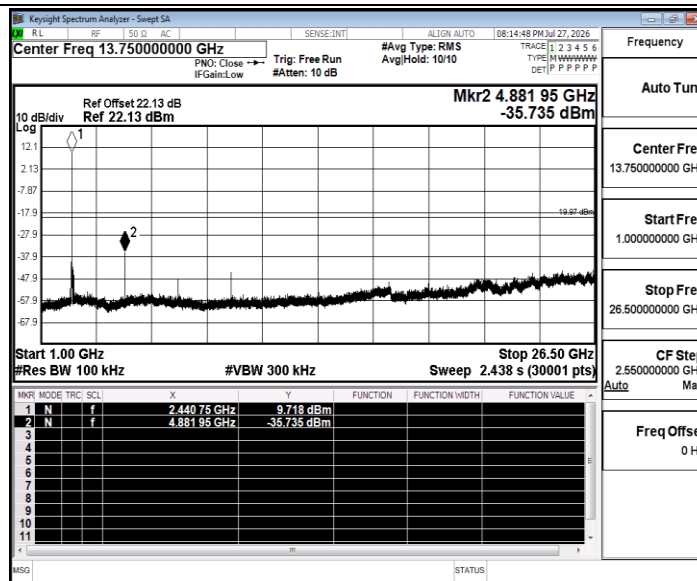




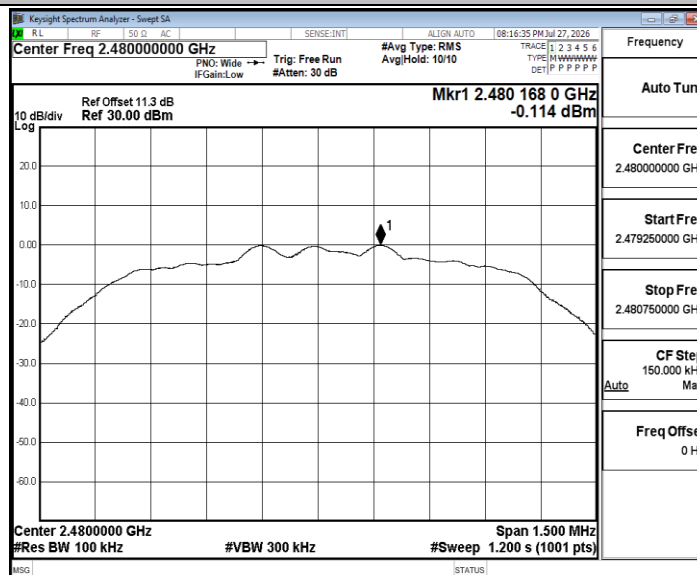
2DH5_Ant1_2441_30~1000



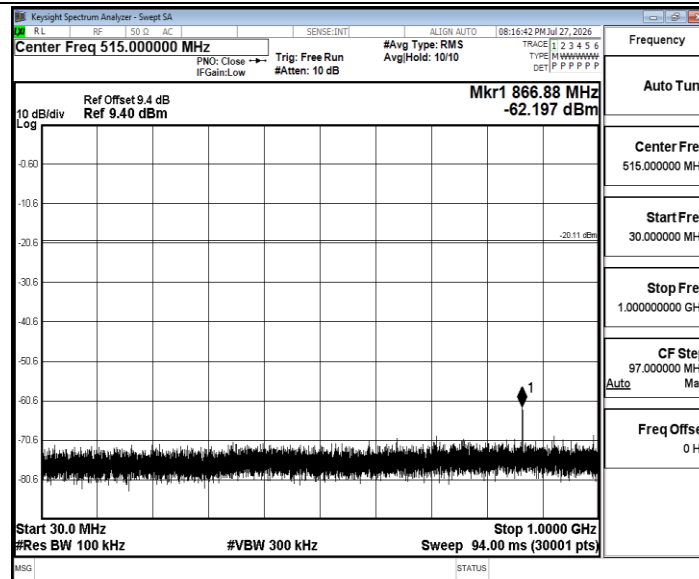
2DH5_Ant1_2441_1000~26500



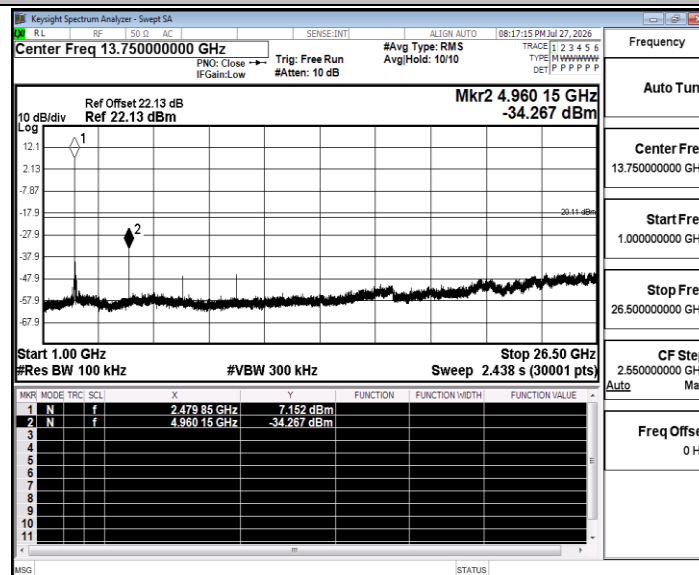
2DH5_Ant1_2480_0~Reference



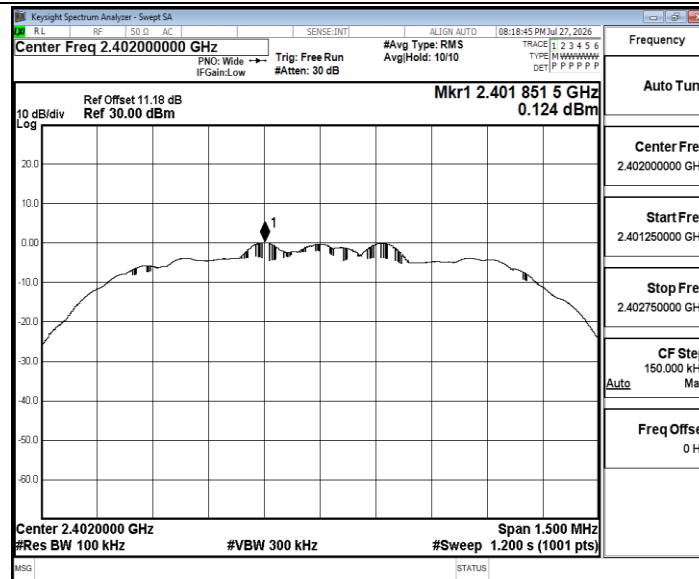
2DH5_Ant1_2480_30~1000



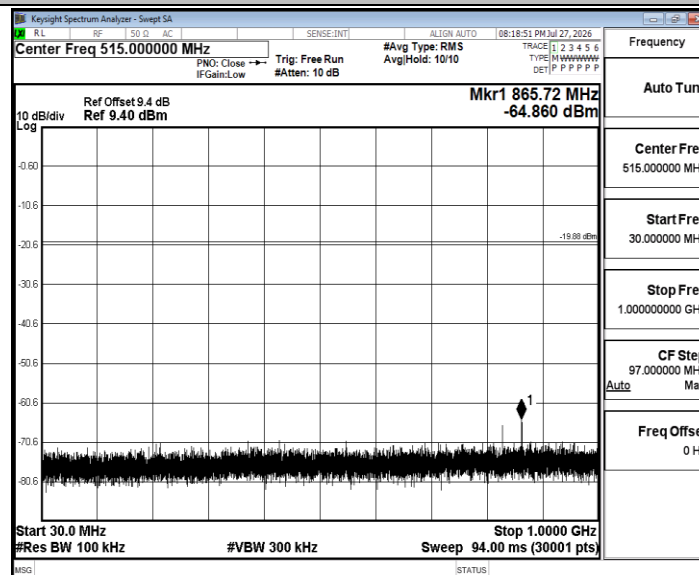
2DH5_Ant1_2480_1000~26500



3DH5_Ant1_2402_0~Reference



3DH5_Ant1_2402_30~1000



3DH5_Ant1_2402_1000~26500

