

Appendix A

RF Test Data for BT (Conducted Measurement)

Product Name: Solar Smart Audio Hat

Test Model: PT-H-Y03

Environmental Conditions

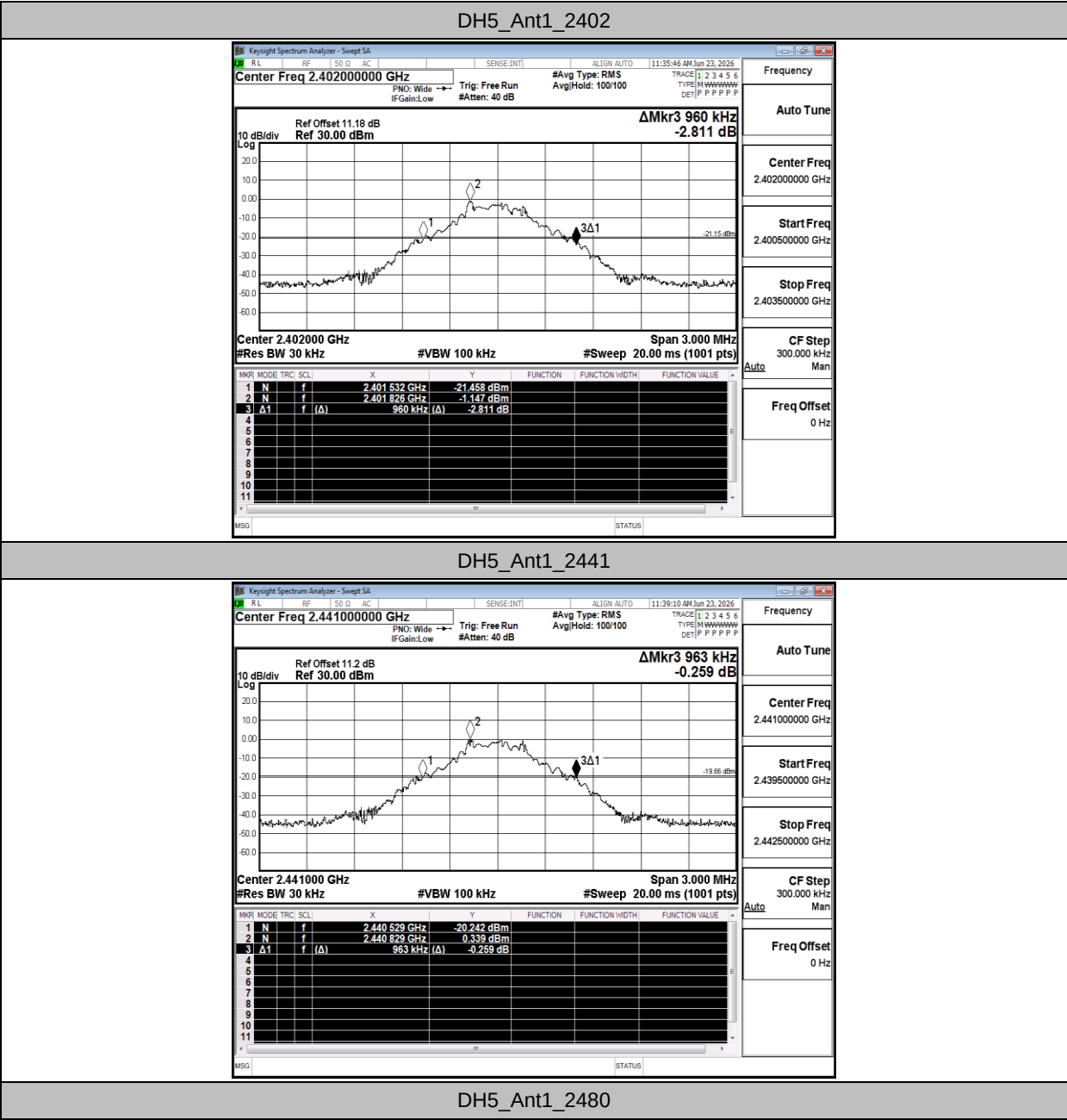
Temperature:	24.5°C
Relative Humidity:	53.2%
ATM Pressure:	100.0 kPa
Test Engineer:	zhao xing hai
Supervised by:	Fengliu Tang

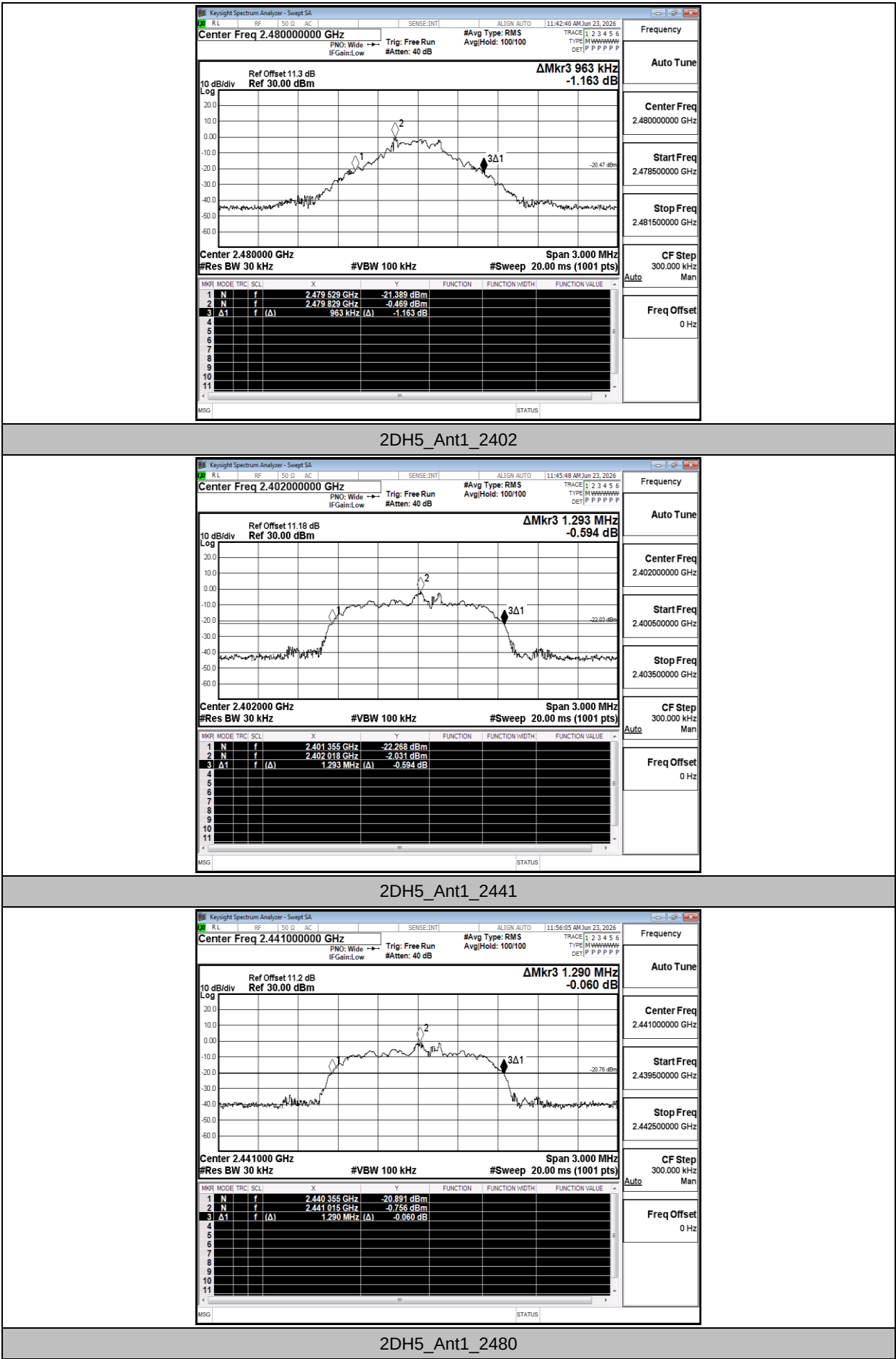
A.1 20dB Emission Bandwidth

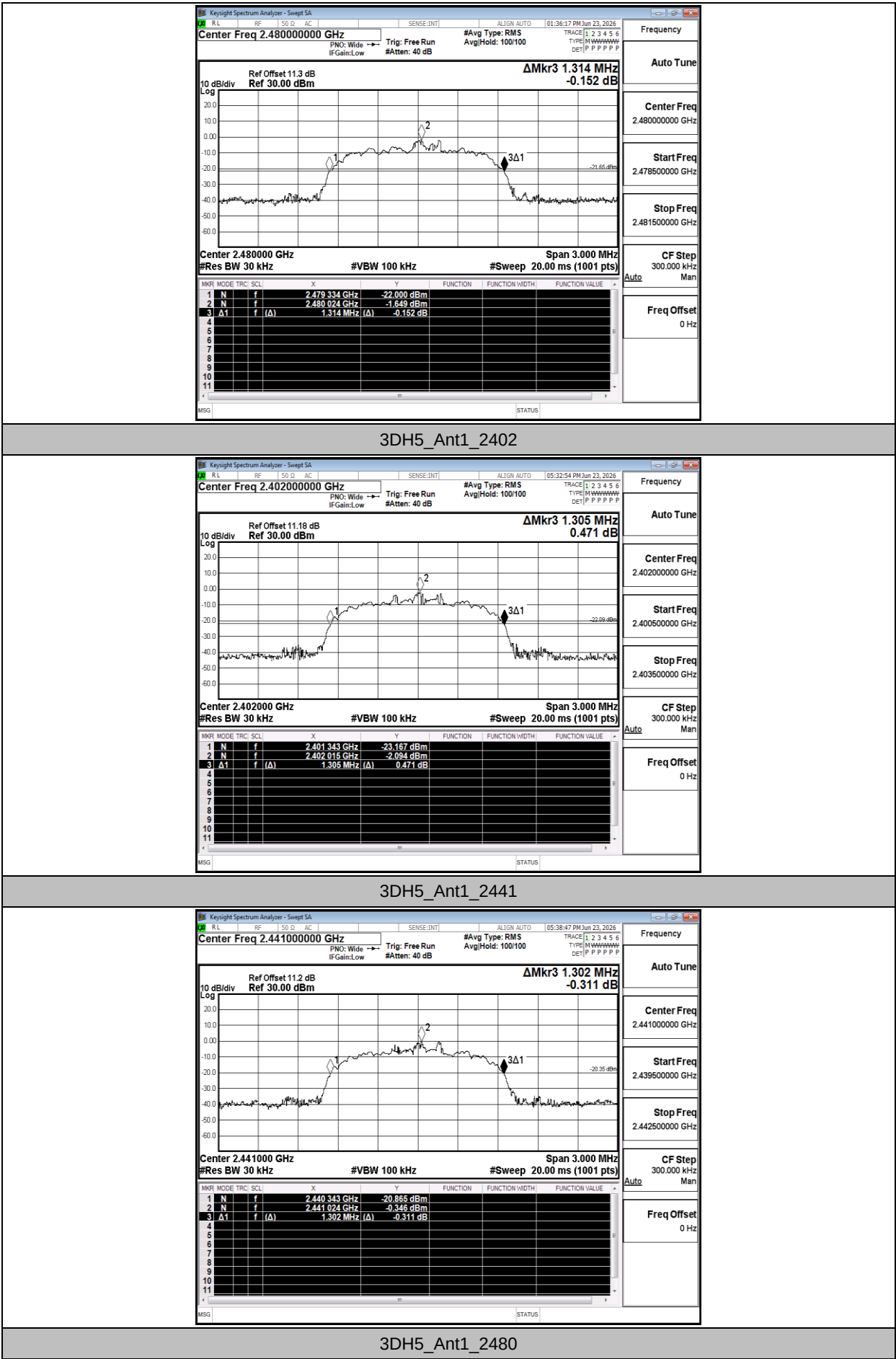
Test Result

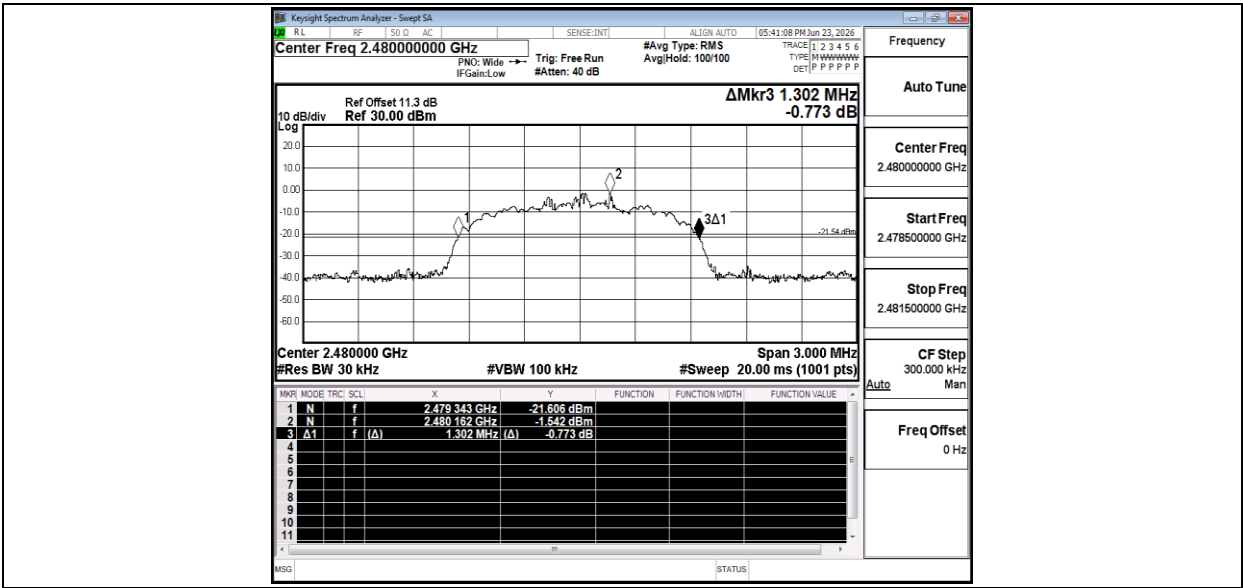
TestMode	Antenna	Freq(MHz)	20dB EBW[MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
DH5	Ant1	2402	0.960	2401.532	2402.492	---	---
		2441	0.963	2440.529	2441.492	---	---
		2480	0.963	2479.529	2480.492	---	---
2DH5	Ant1	2402	1.293	2401.355	2402.648	---	---
		2441	1.290	2440.355	2441.645	---	---
		2480	1.314	2479.334	2480.648	---	---
3DH5	Ant1	2402	1.305	2401.343	2402.648	---	---
		2441	1.302	2440.343	2441.645	---	---
		2480	1.302	2479.343	2480.645	---	---

Test Graphs







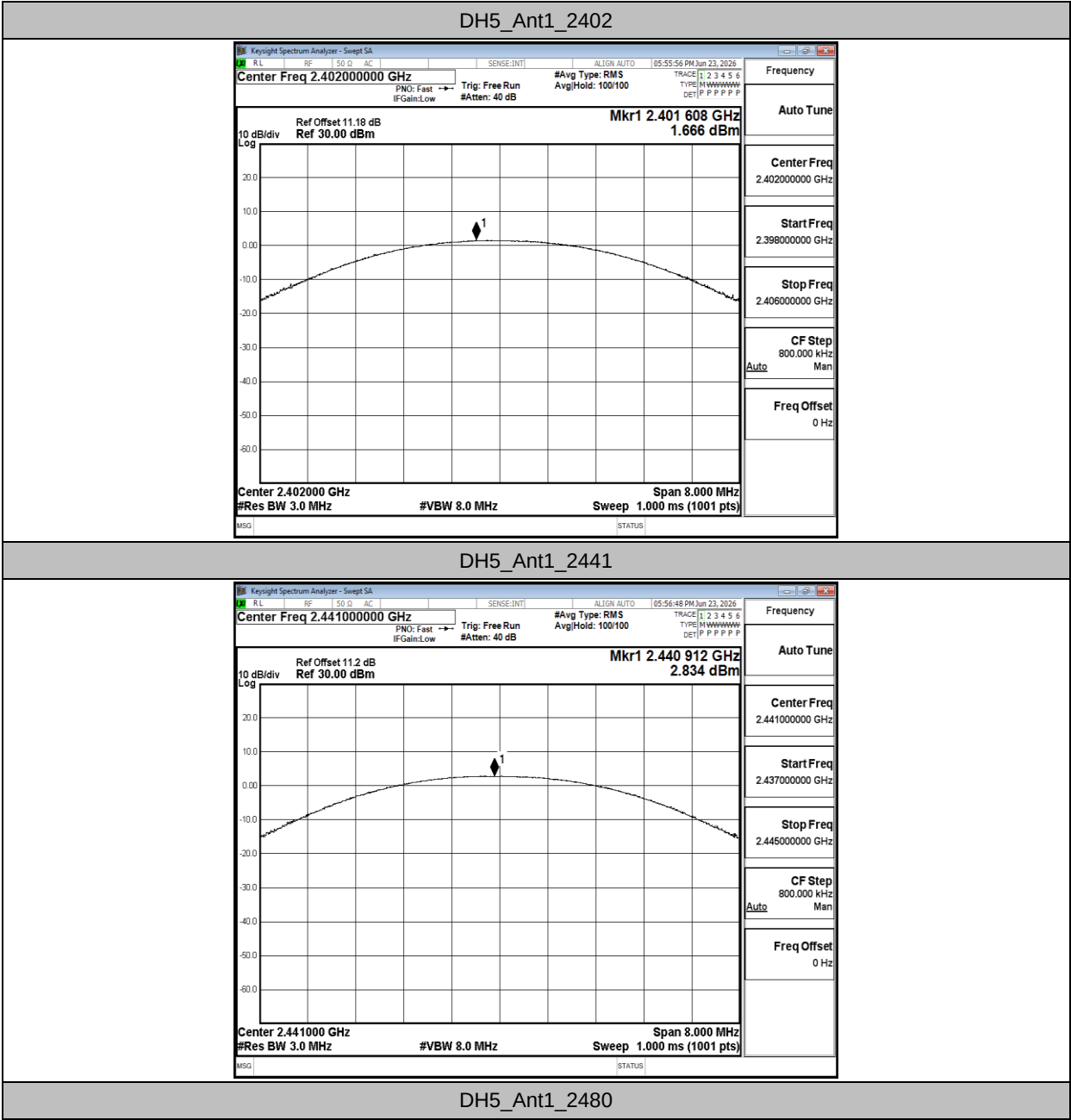


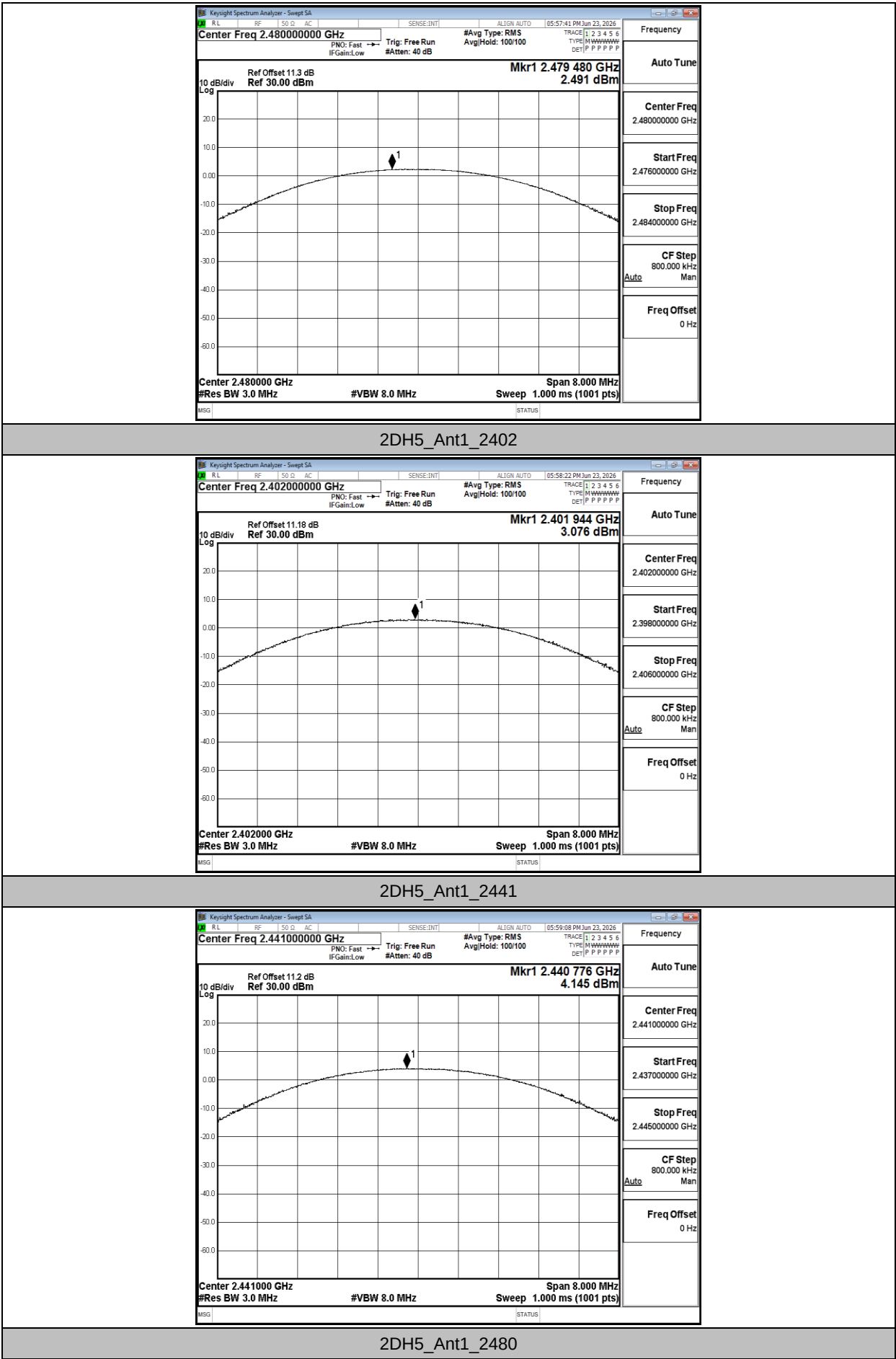
A.2 Maximum conducted output power

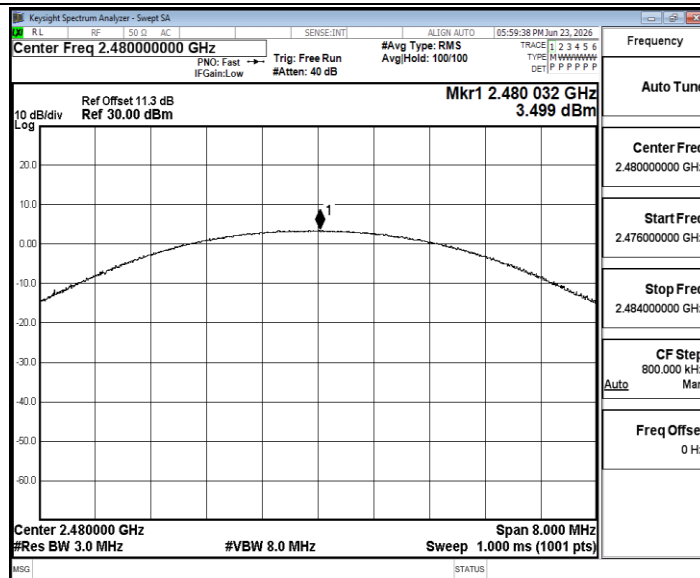
Test Result Peak

Test Mode	Antenna	Freq(MHz)	Conducted Peak Power[dBm]	Conducted Limit[dBm]	Verdict
DH5	Ant1	2402	1.67	≤30	PASS
		2441	2.83	≤30	PASS
		2480	2.49	≤30	PASS
2DH5	Ant1	2402	3.08	≤30	PASS
		2441	4.15	≤30	PASS
		2480	3.50	≤30	PASS
3DH5	Ant1	2402	3.27	≤30	PASS
		2441	4.28	≤30	PASS
		2480	3.52	≤30	PASS

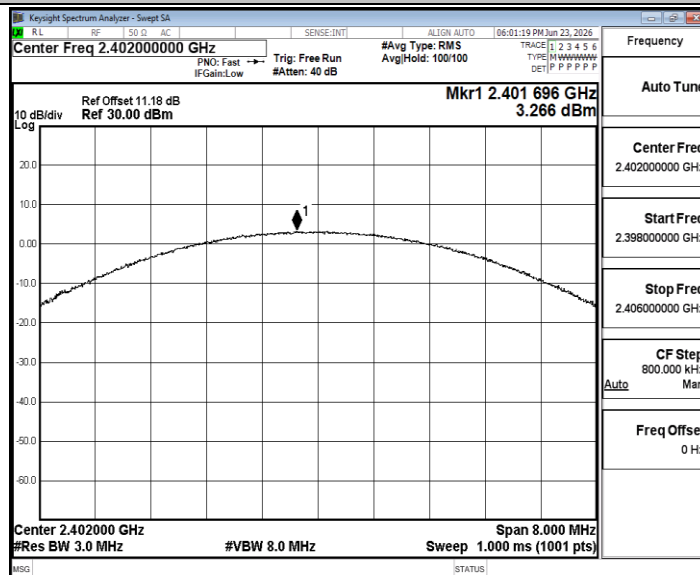
Test Graphs



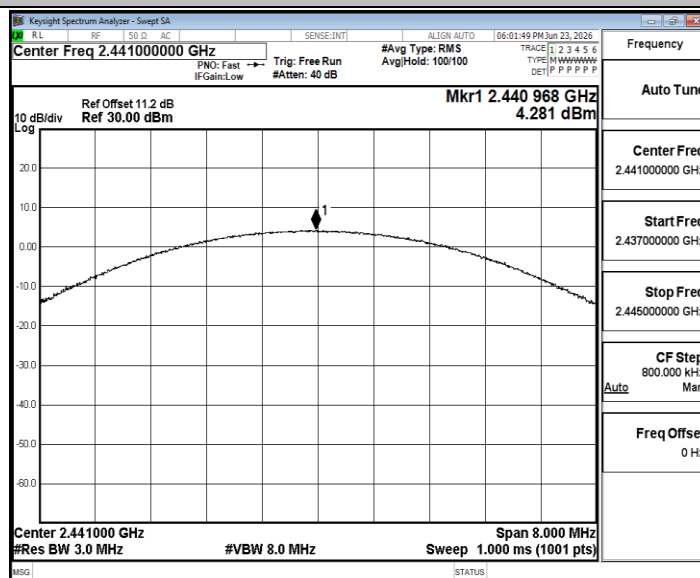




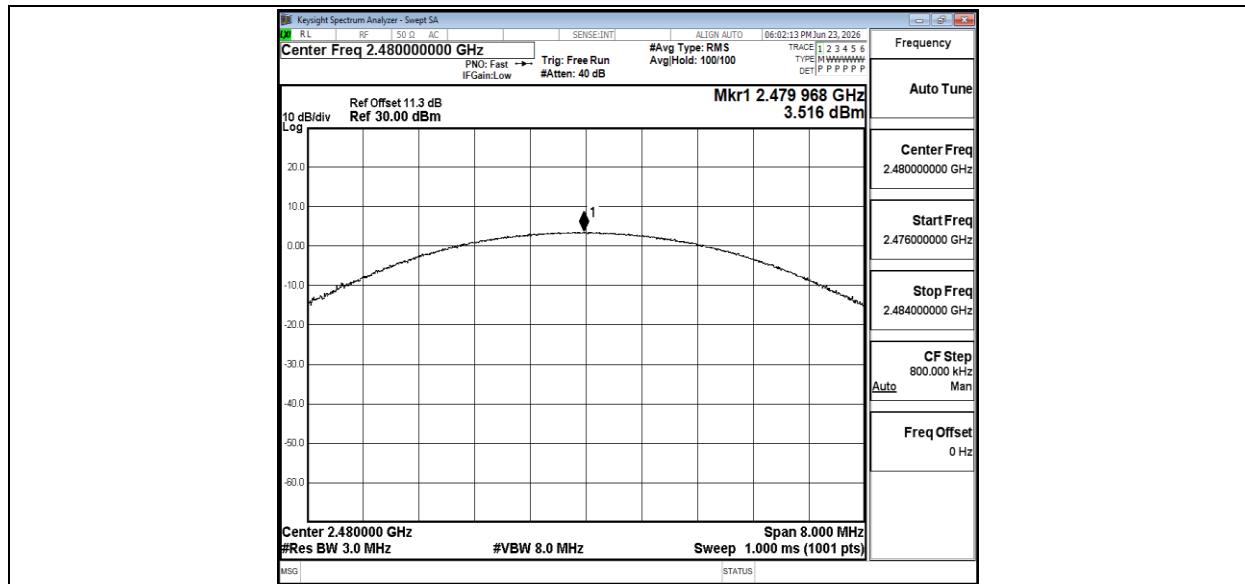
3DH5_Ant1_2402



3DH5_Ant1_2441



3DH5_Ant1_2480



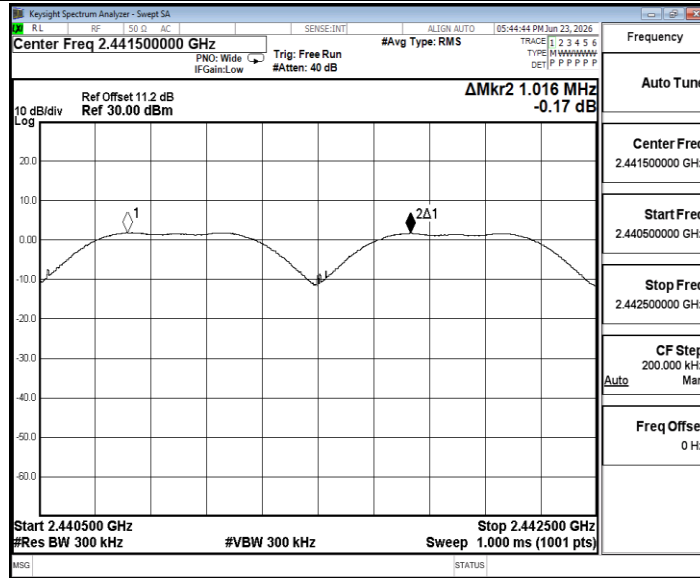
A.3 Carrier frequency separation

Test Result

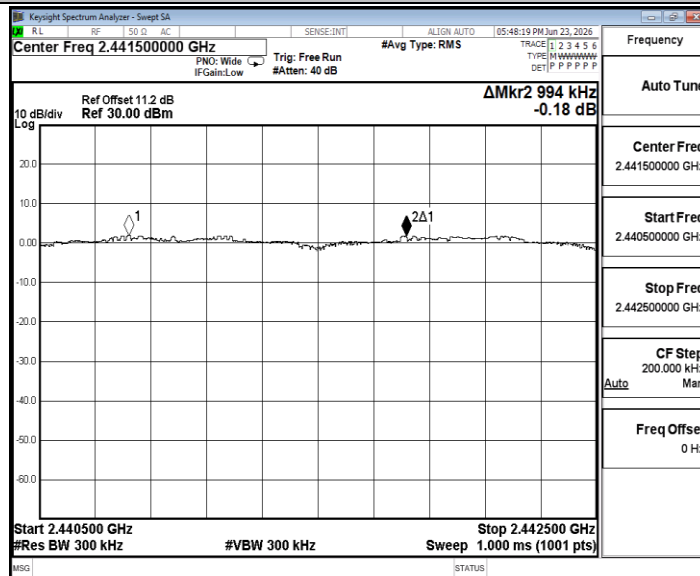
TestMode	Antenna	Freq(MHz)	Result[MHz]	Limit[MHz]	Verdict
DH5	Ant1	Hop	1.016	0.642	PASS
2DH5	Ant1	Hop	0.994	0.876	PASS
3DH5	Ant1	Hop	1.332	0.870	PASS

Test Graphs

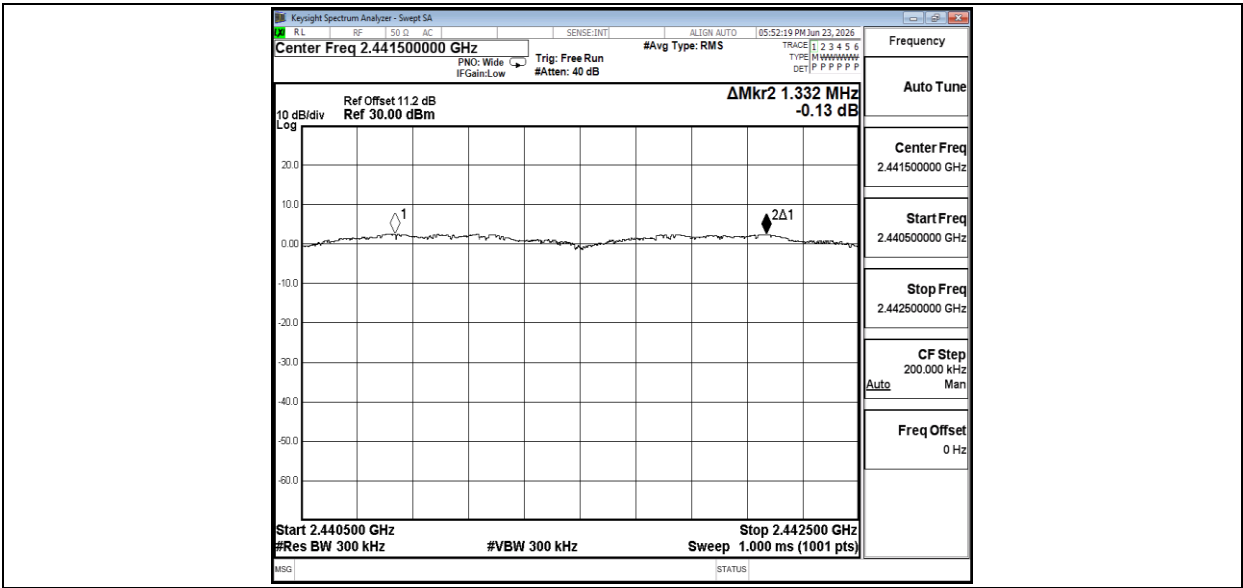
DH5_Ant1_Hop



2DH5_Ant1_Hop



3DH5_Ant1_Hop

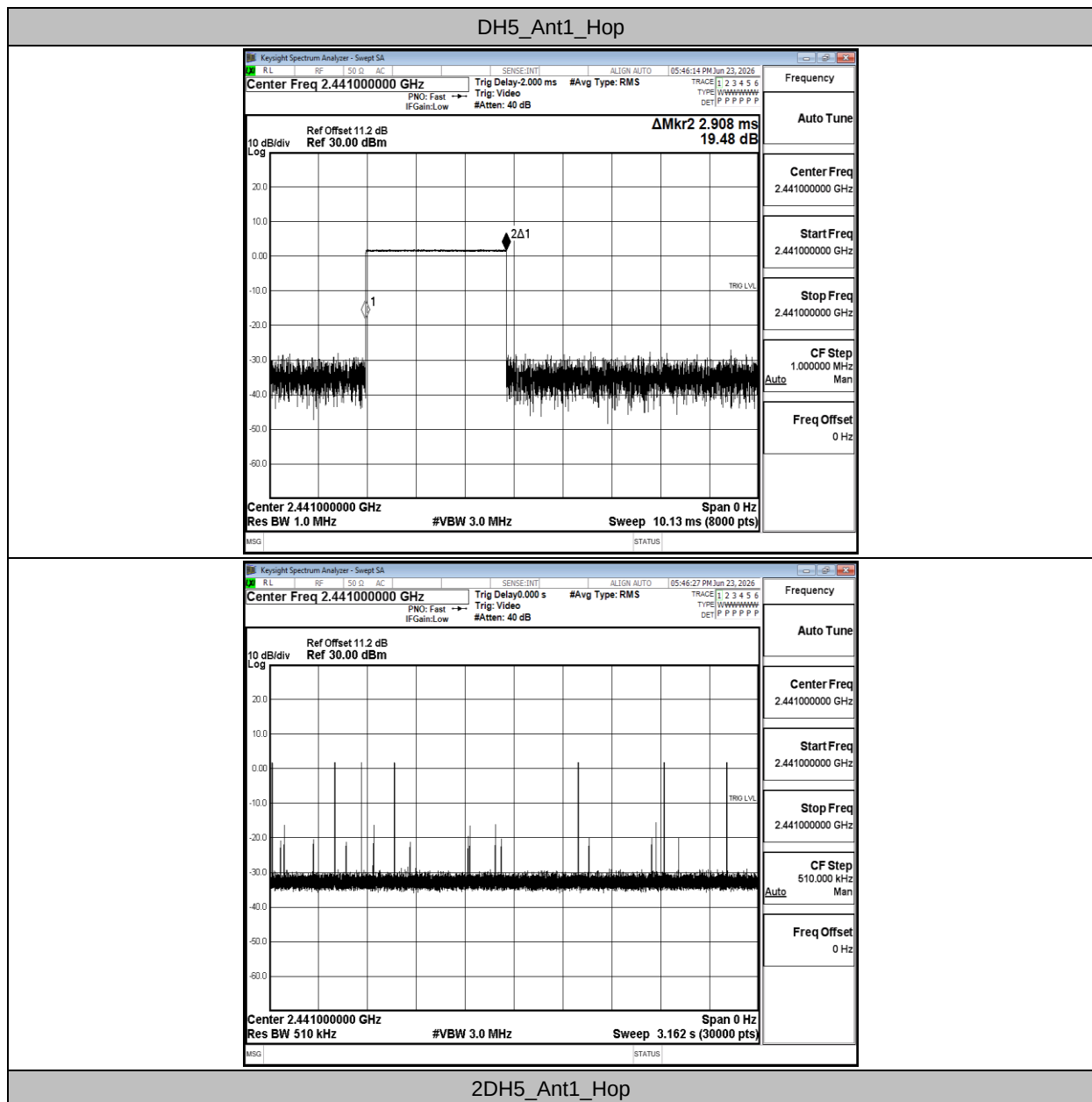


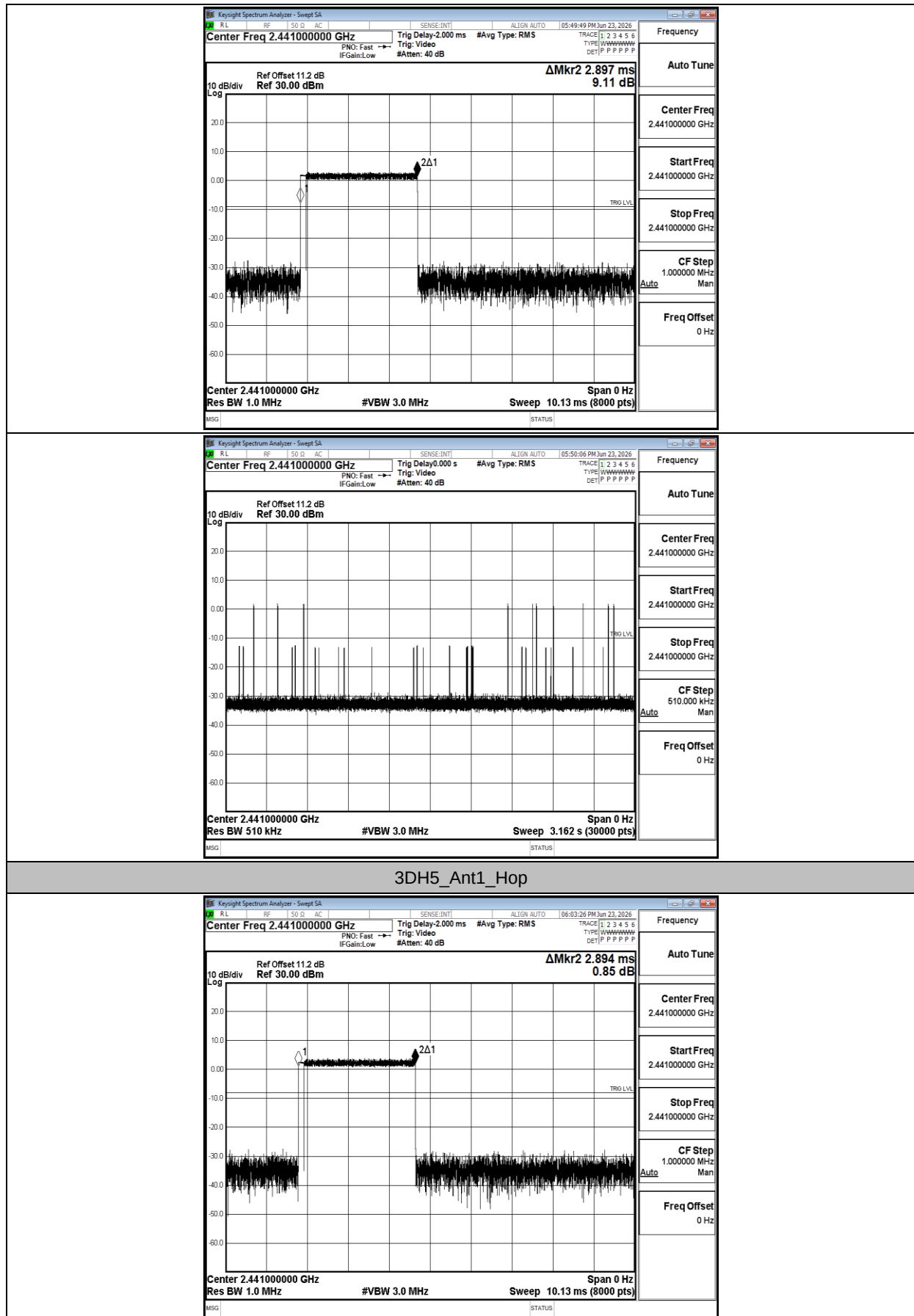
A.4 Time of occupancy

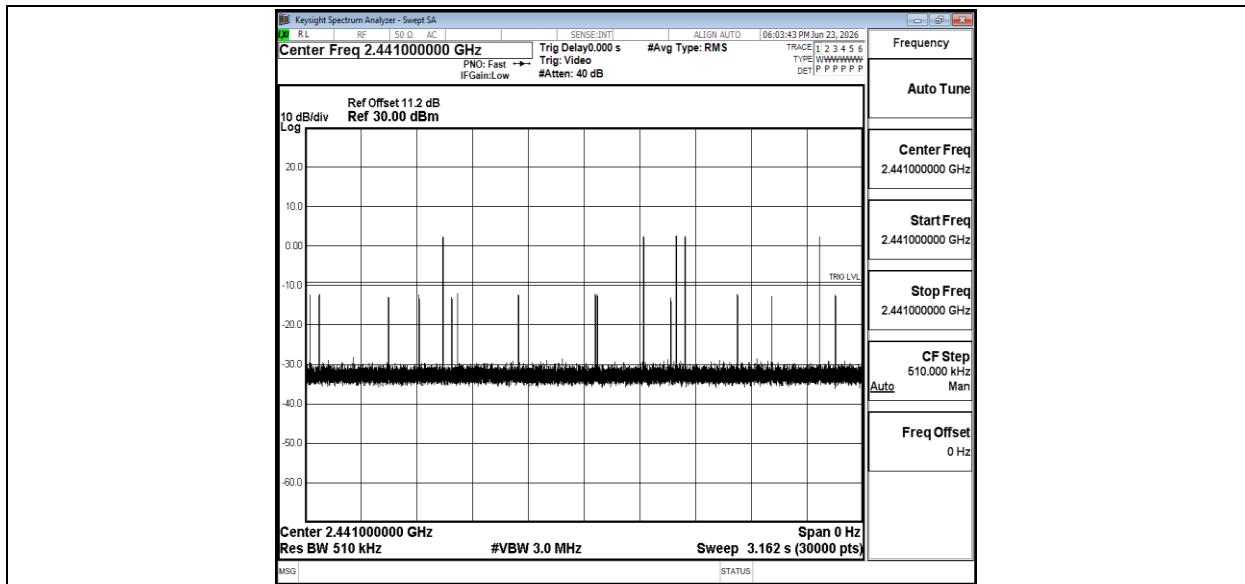
Test Result

TestMode	Antenna	Freq(MHz)	BurstWidth [ms]	TotalHops [Num]	Result[s]	Limit[s]	Verdict
DH5	Ant1	Hop	2.908	80	0.233	≤0.4	PASS
2DH5	Ant1	Hop	2.897	110	0.319	≤0.4	PASS
3DH5	Ant1	Hop	2.894	86	0.249	≤0.4	PASS

Test Graphs







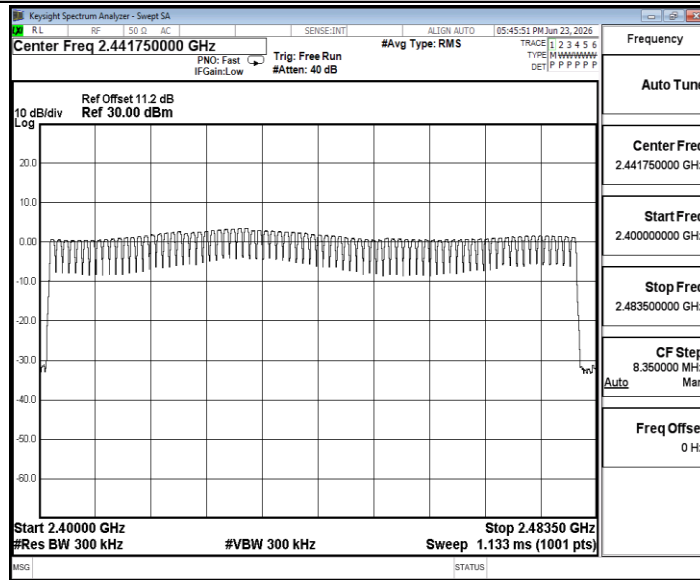
A.5 Number of hopping channels

Test Result

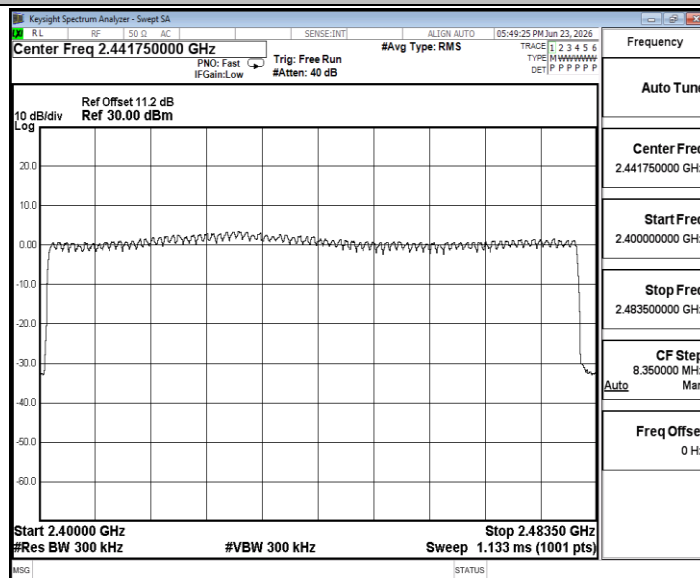
TestMode	Antenna	Freq(MHz)	Result[Num]	Limit[Num]	Verdict
DH5	Ant1	Hop	79	≥15	PASS
2DH5	Ant1	Hop	79	≥15	PASS
3DH5	Ant1	Hop	79	≥15	PASS

Test Graphs

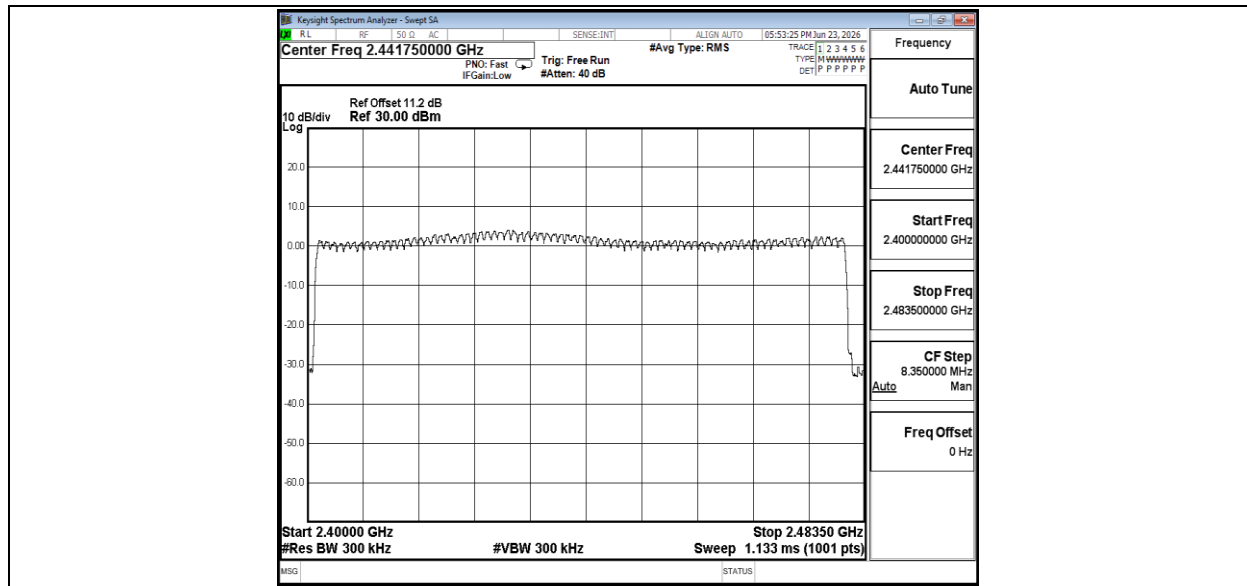
DH5_Ant1_Hop



2DH5_Ant1_Hop



3DH5_Ant1_Hop

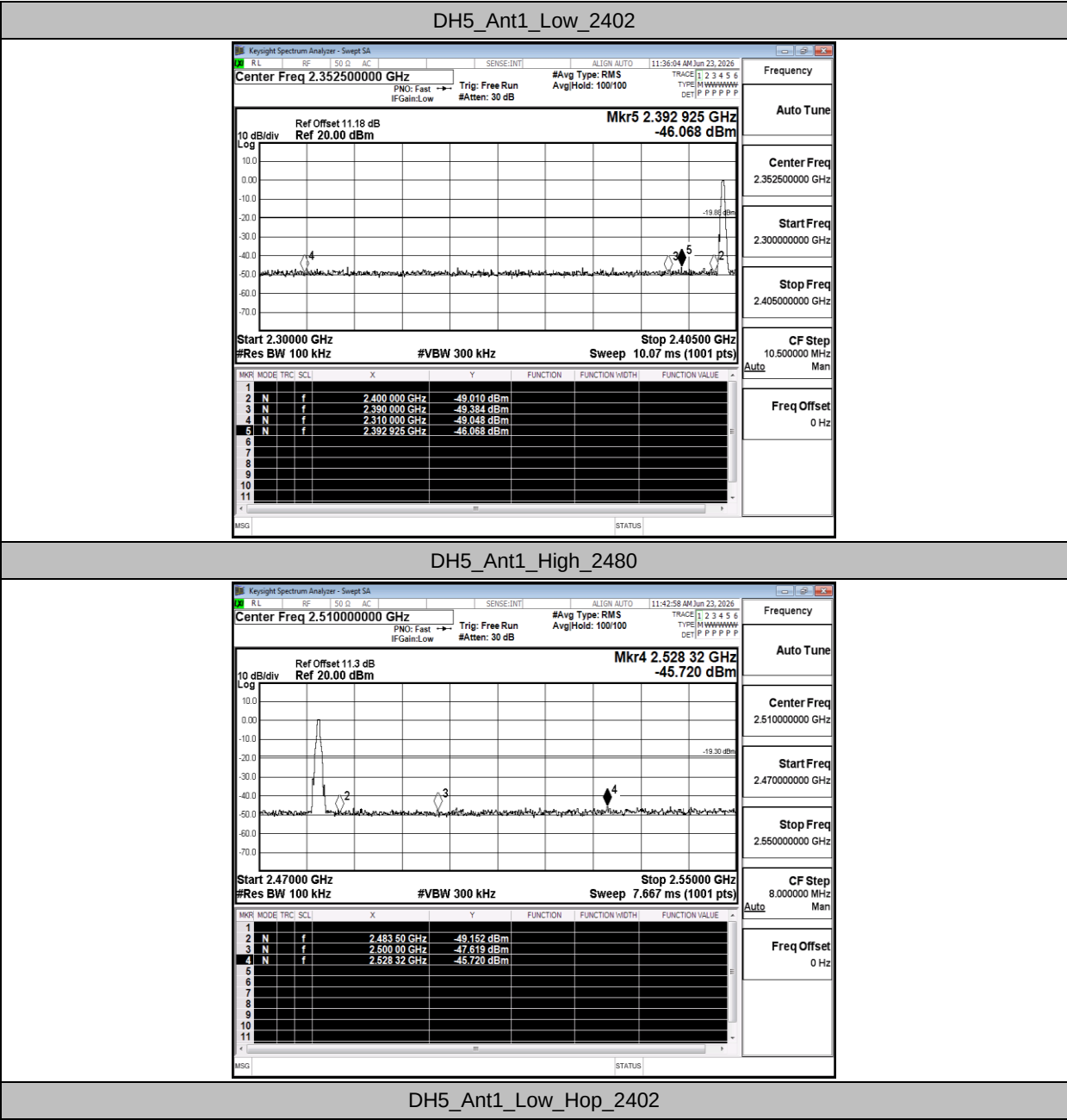


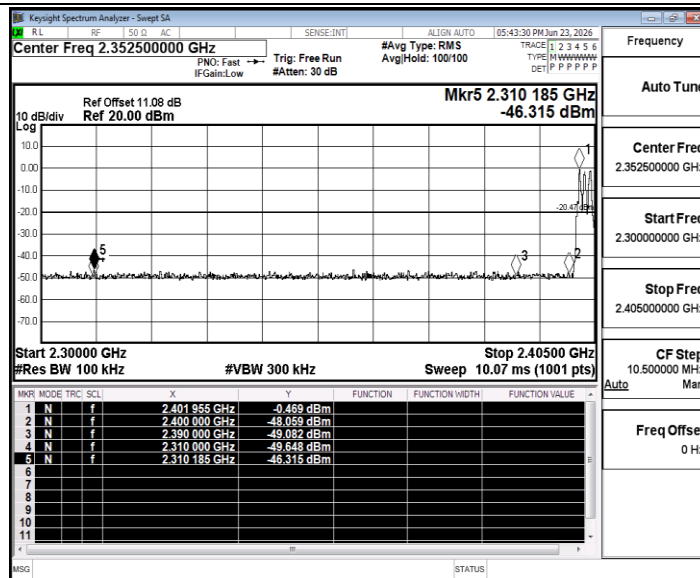
A.6 Band edge measurements

Test Result

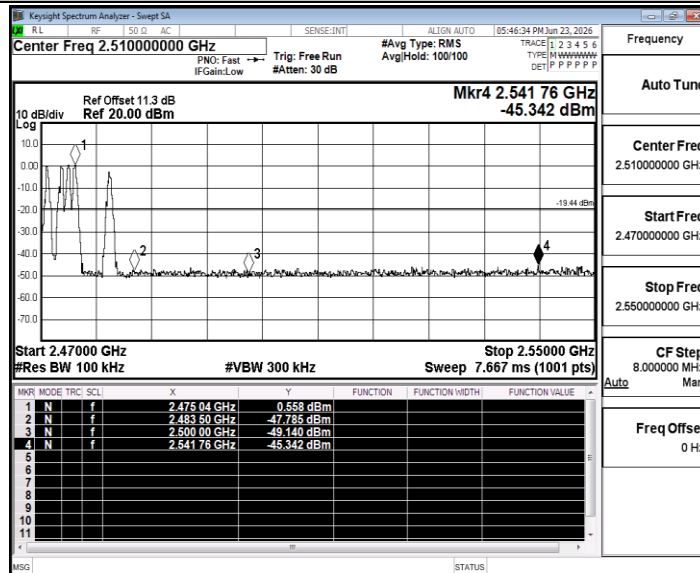
TestMode	Antenna	ChName	Freq(MHz)	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
DH5	Ant1	Low	2402	0.12	-46.07	≤-19.88	PASS
		High	2480	0.70	-45.72	≤-19.3	PASS
		Low	Hop_2402	-0.47	-46.32	≤-20.47	PASS
		High	Hop_2480	0.56	-45.34	≤-19.44	PASS
2DH5	Ant1	Low	2402	-0.67	-46.38	≤-20.67	PASS
		High	2480	-0.01	-45.51	≤-20.01	PASS
		Low	Hop_2402	-3.53	-46.13	≤-23.53	PASS
		High	Hop_2480	-2.49	-45.35	≤-22.49	PASS
3DH5	Ant1	Low	2402	-0.14	-46.49	≤-20.14	PASS
		High	2480	1.00	-45.62	≤-19	PASS
		Low	Hop_2402	-2.82	-46.51	≤-22.82	PASS
		High	Hop_2480	-0.92	-45.65	≤-20.92	PASS

Test Graphs

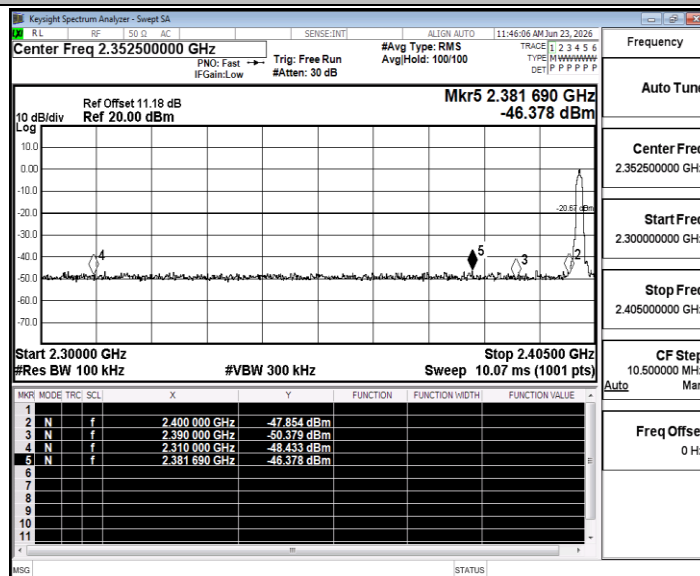




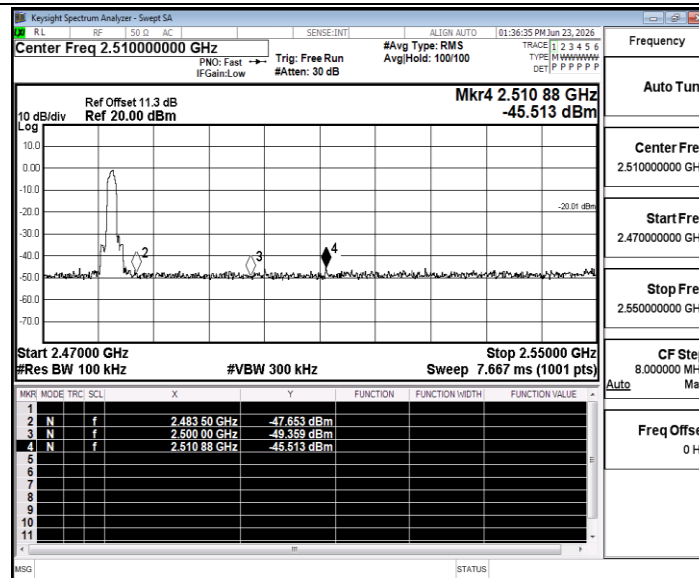
DH5_Ant1_High_Hop_2480



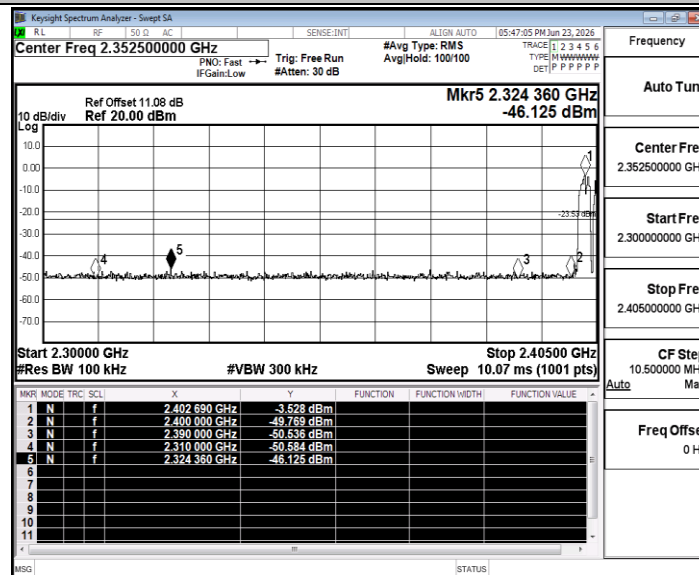
2DH5_Ant1_Low_2402



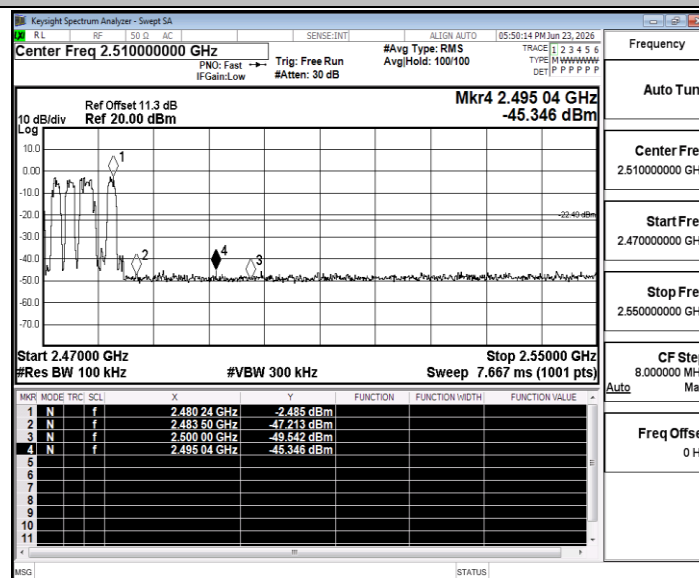
2DH5_Ant1_High_2480



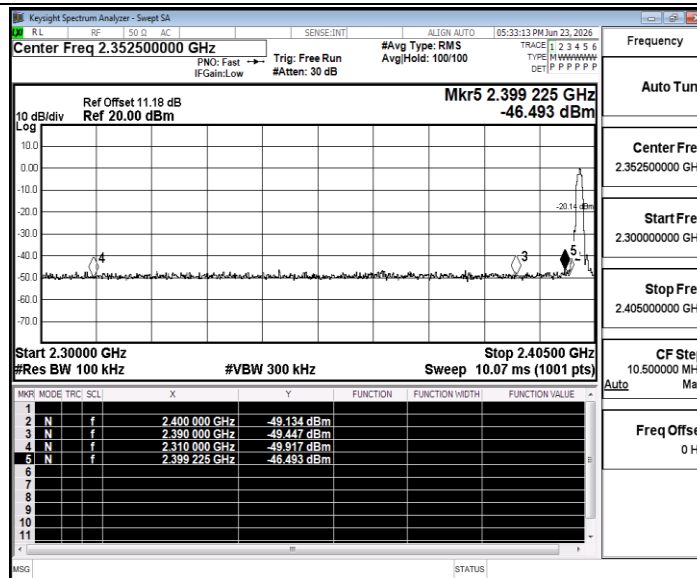
2DH5_Ant1_Low_Hop_2402



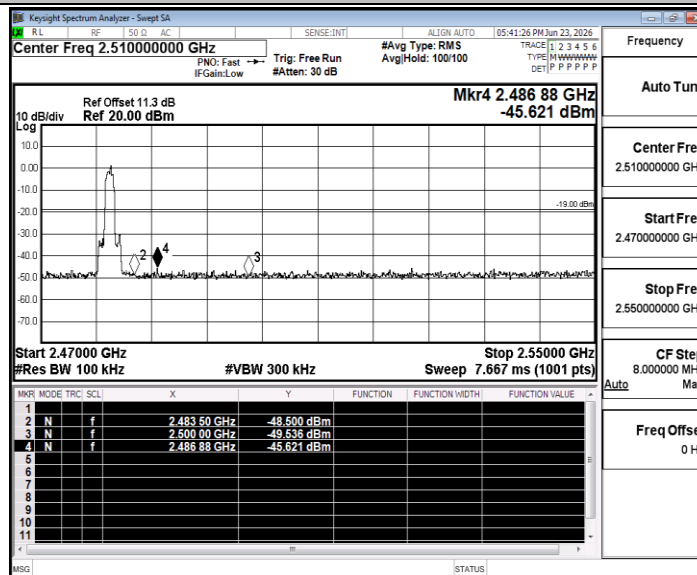
2DH5_Ant1_High_Hop_2480



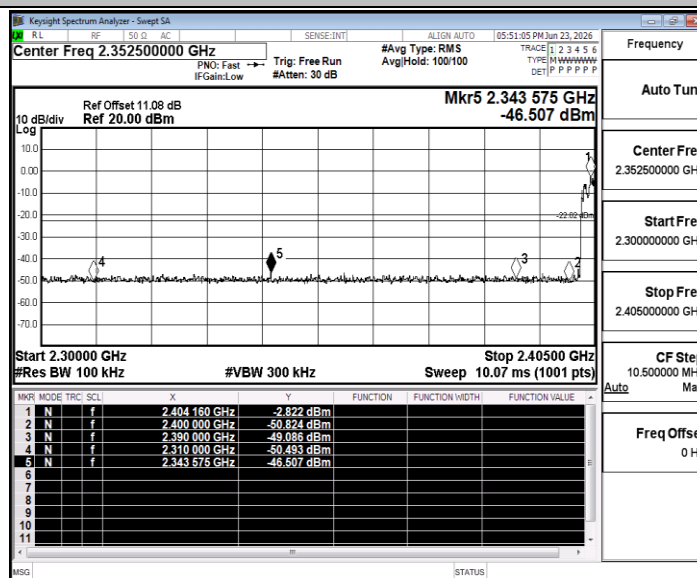
3DH5_Ant1_Low_2402



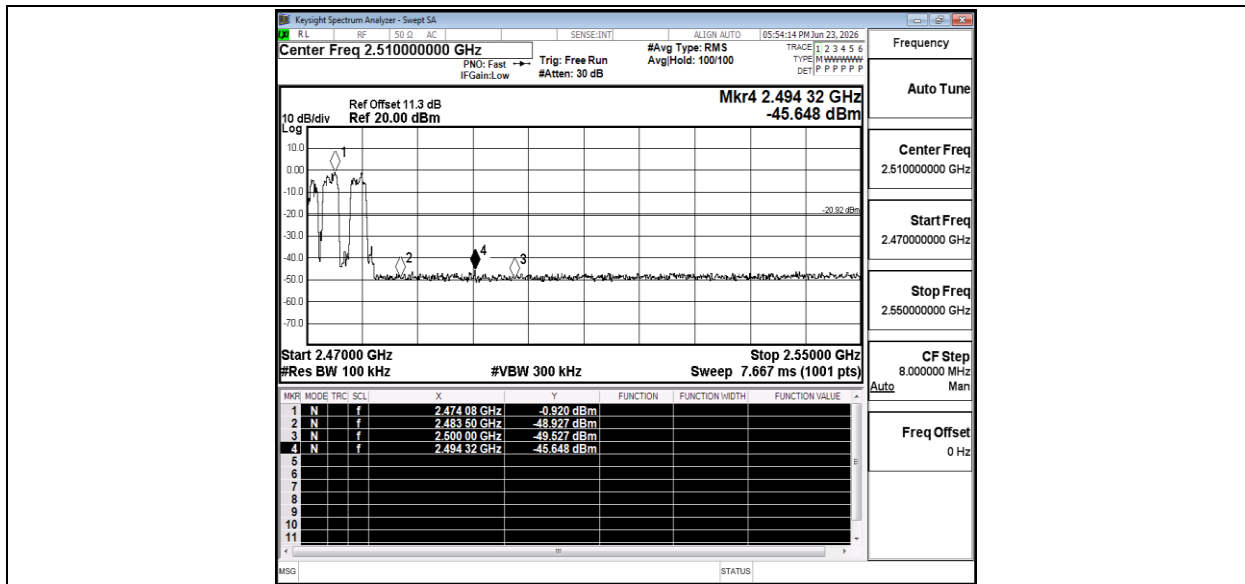
3DH5_Ant1_High_2480



3DH5_Ant1_Low_Hop_2402



3DH5_Ant1_High_Hop_2480



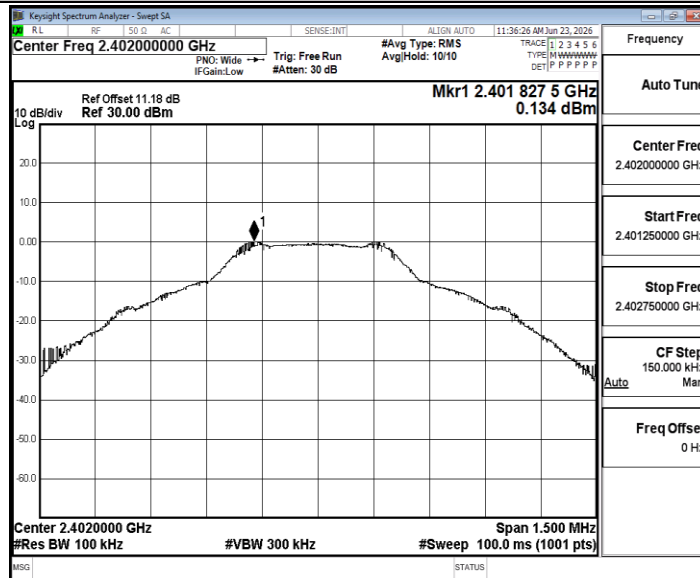
A.7 Conducted Spurious Emission

Test Result

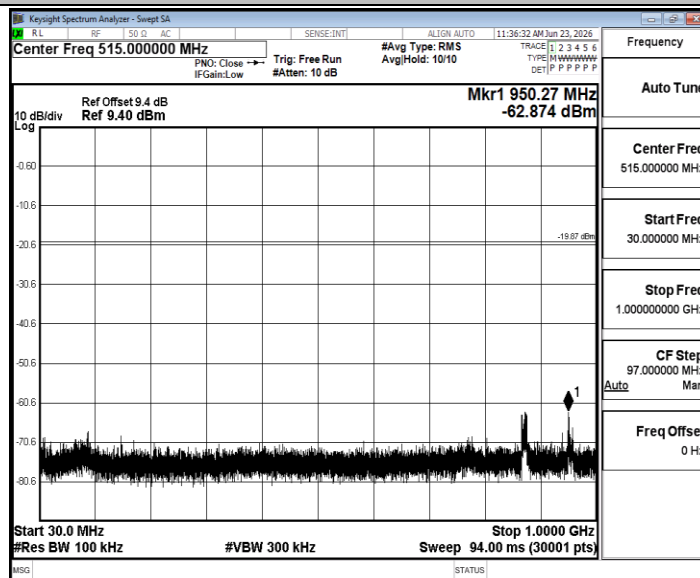
TestMode	Antenna	Freq(MHz)	FreqRange [MHz]	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
DH5	Ant1	2402	Reference	0.13	0.13	---	PASS
			30~1000	0.13	-62.87	≤-19.87	PASS
			1000~26500	0.13	-38.54	≤-19.87	PASS
		2441	Reference	1.51	1.51	---	PASS
			30~1000	1.51	-61.74	≤-18.49	PASS
			1000~26500	1.51	-42.31	≤-18.49	PASS
		2480	Reference	0.75	0.75	---	PASS
			30~1000	0.75	-61.09	≤-19.25	PASS
			1000~26500	0.75	-44.62	≤-19.25	PASS
2DH5	Ant1	2402	Reference	0.02	0.02	---	PASS
			30~1000	0.02	-60.35	≤-19.98	PASS
			1000~26500	0.02	-36.8	≤-19.98	PASS
		2441	Reference	1.34	1.34	---	PASS
			30~1000	1.34	-58.62	≤-18.66	PASS
			1000~26500	1.34	-44.85	≤-18.66	PASS
		2480	Reference	0.57	0.57	---	PASS
			30~1000	0.57	-61.3	≤-19.43	PASS
			1000~26500	0.57	-44.44	≤-19.43	PASS
3DH5	Ant1	2402	Reference	0.50	0.50	---	PASS
			30~1000	0.50	-58.55	≤-19.5	PASS
			1000~26500	0.50	-43.64	≤-19.5	PASS
		2441	Reference	1.83	1.83	---	PASS
			30~1000	1.83	-58.54	≤-18.17	PASS
			1000~26500	1.83	-44.3	≤-18.17	PASS
		2480	Reference	1.11	1.11	---	PASS
			30~1000	1.11	-56.23	≤-18.89	PASS
			1000~26500	1.11	-42.93	≤-18.89	PASS

Test Graphs

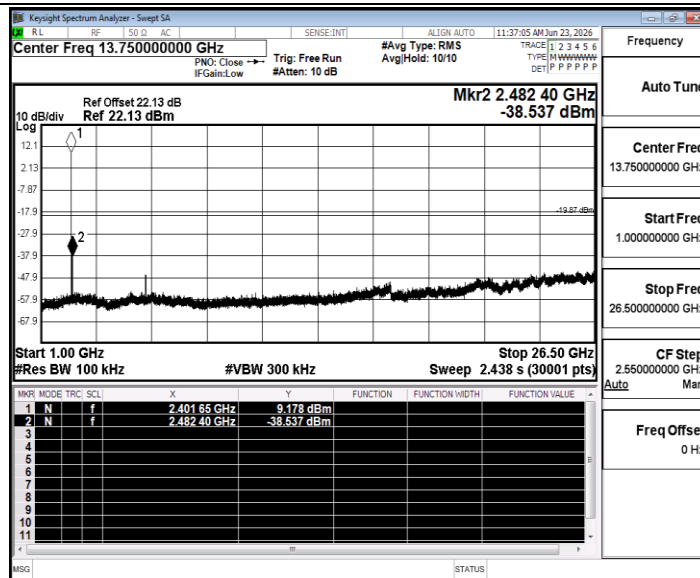
DH5_Ant1_2402_0~Reference



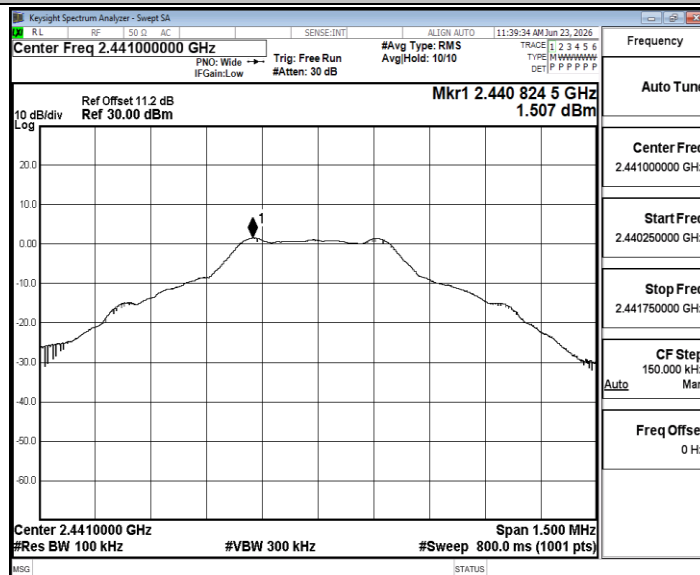
DH5_Ant1_2402_30~1000



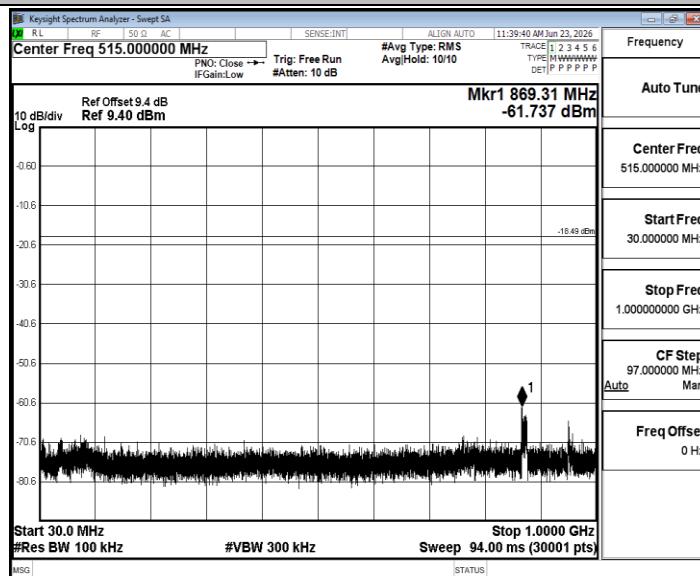
DH5_Ant1_2402_1000~26500



DH5_Ant1_2441_0~Reference



DH5_Ant1_2441_30~1000



DH5_Ant1_2441_1000~26500