

Appendix A

RF Test Data for BT (Conducted Measurement)

Product Name: GAME CONTROLLER

Test Model: SZ-4018B

Environmental Conditions

Temperature:	23.8°C
Relative Humidity:	52.6%
ATM Pressure:	100.0 kPa
Test Engineer:	Suichao Lai
Supervised by:	Yan Chen

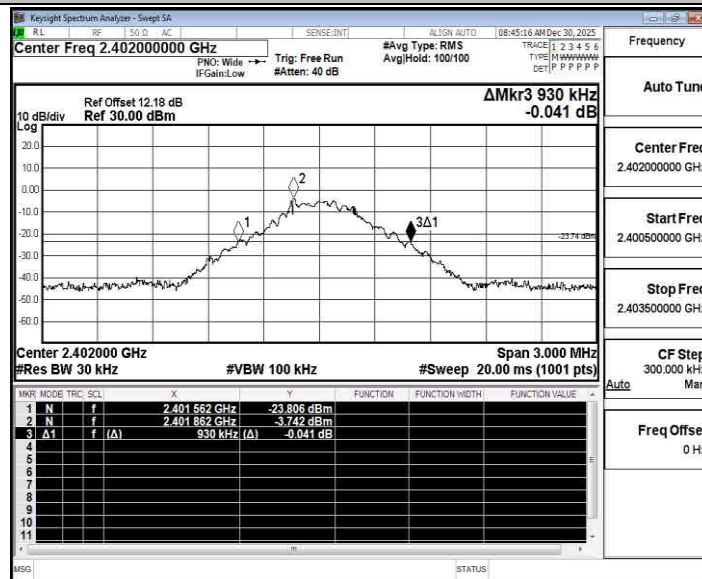
A.1 20dB Emission Bandwidth

Test Result

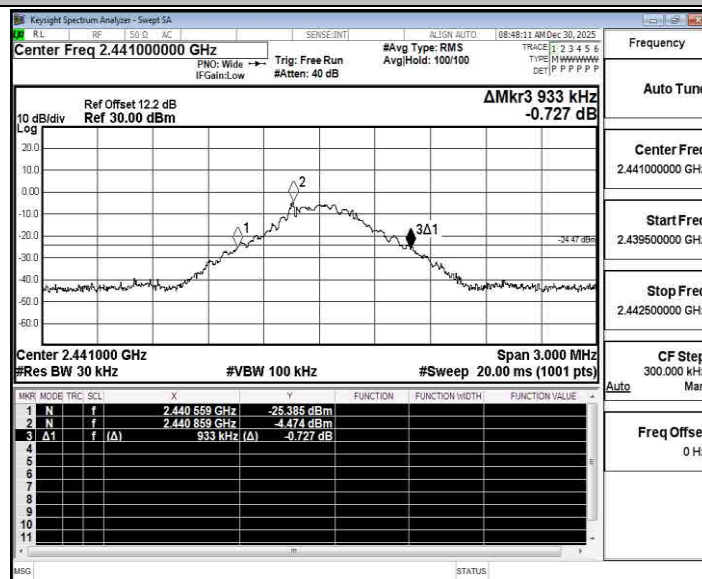
TestMode	Antenna	Freq(MHz)	20dB EBW[MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
DH5	Ant1	2402	0.930	2401.562	2402.492	---	---
		2441	0.933	2440.559	2441.492	---	---
		2480	0.927	2479.562	2480.489	---	---
2DH5	Ant1	2402	1.311	2401.367	2402.678	---	---
		2441	1.317	2440.361	2441.678	---	---
		2480	1.317	2479.364	2480.681	---	---
3DH5	Ant1	2402	1.311	2401.364	2402.675	---	---
		2441	1.284	2440.379	2441.663	---	---
		2480	1.311	2479.364	2480.675	---	---

Test Graphs

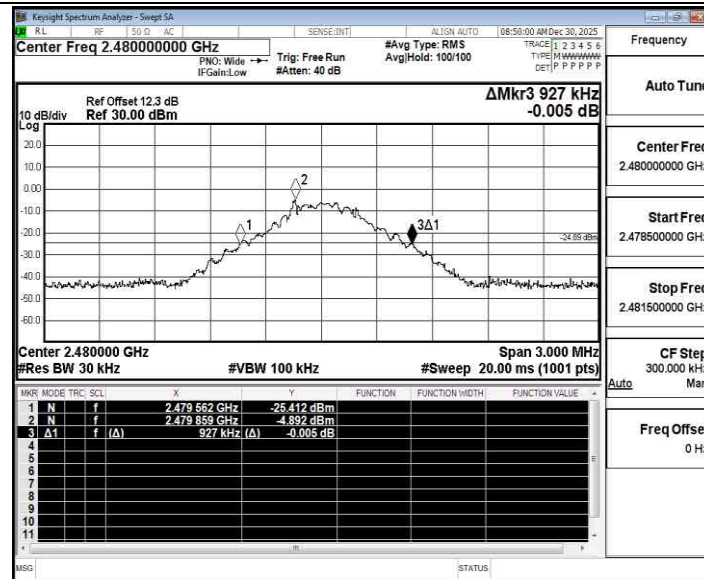
DH5_Ant1_2402



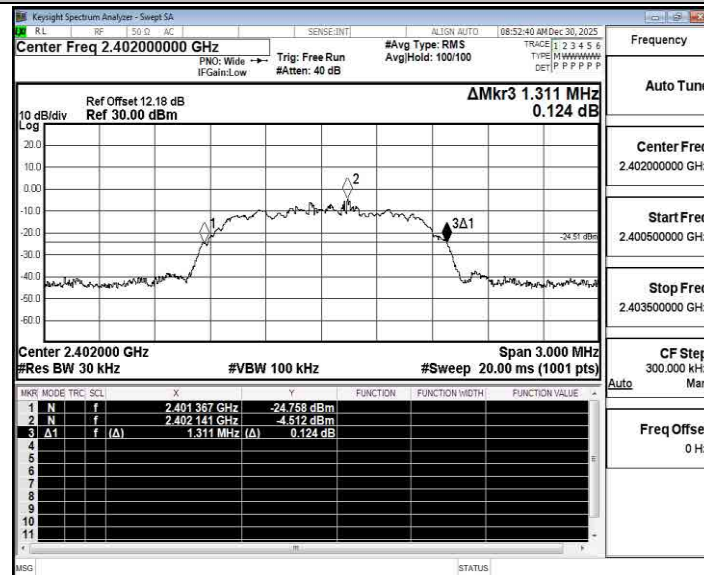
DH5_Ant1_2441



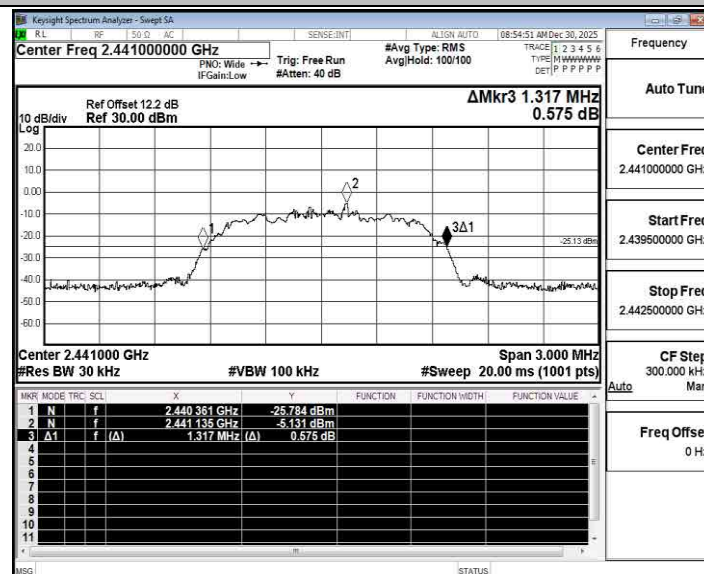
DH5_Ant1_2480

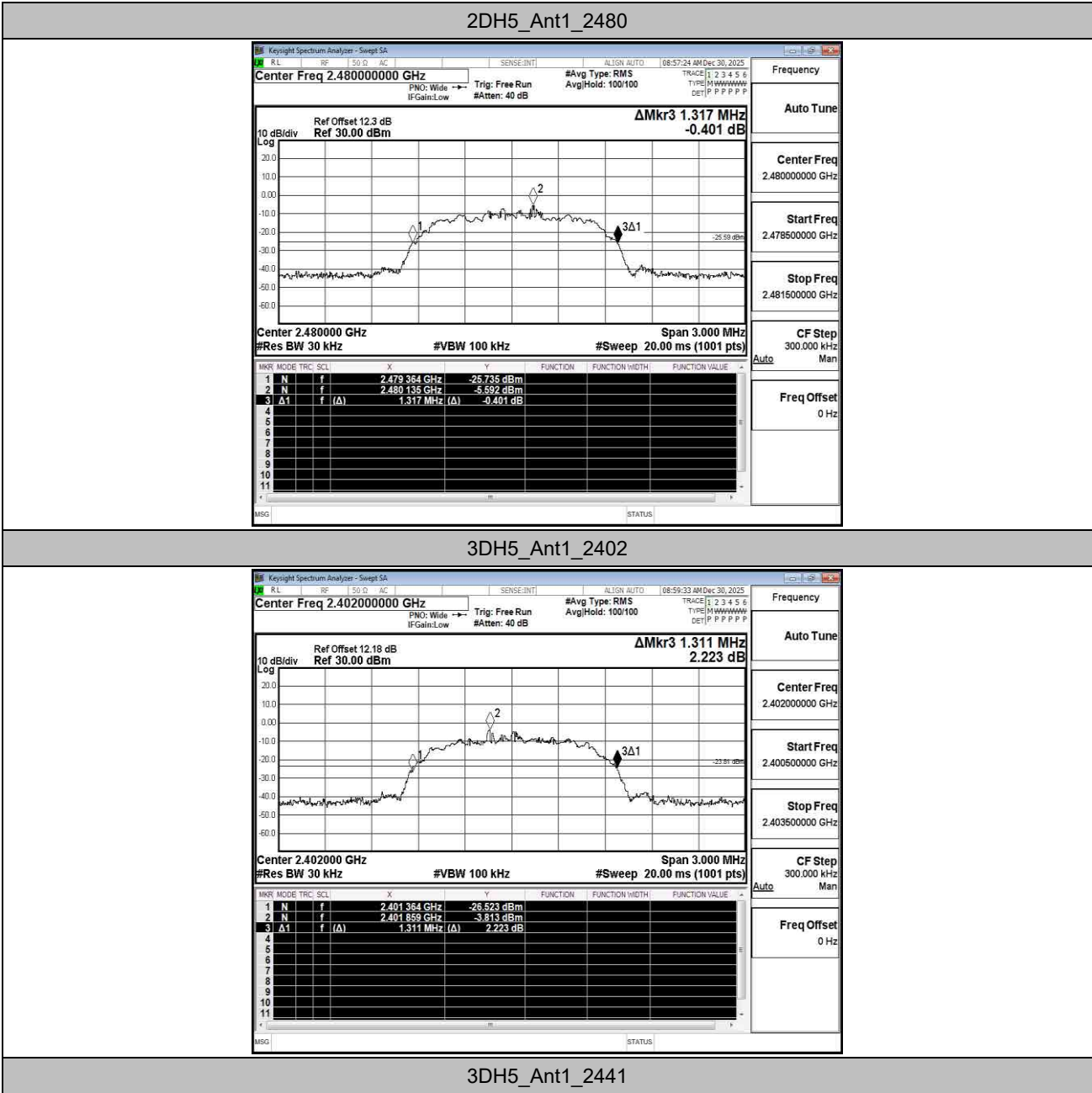


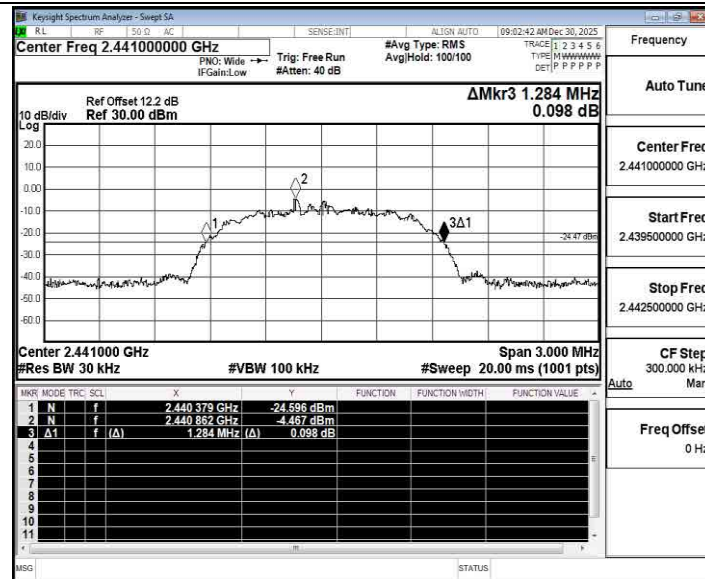
2DH5_Ant1_2402



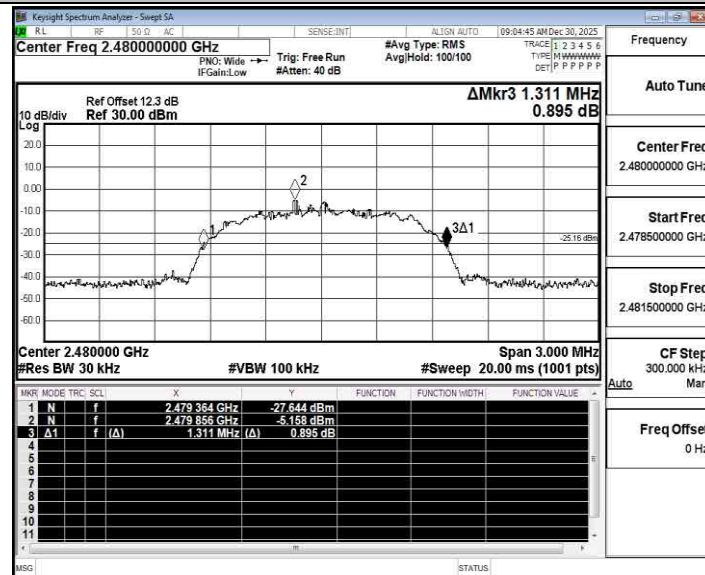
2DH5_Ant1_2441







3DH5_Ant1_2480

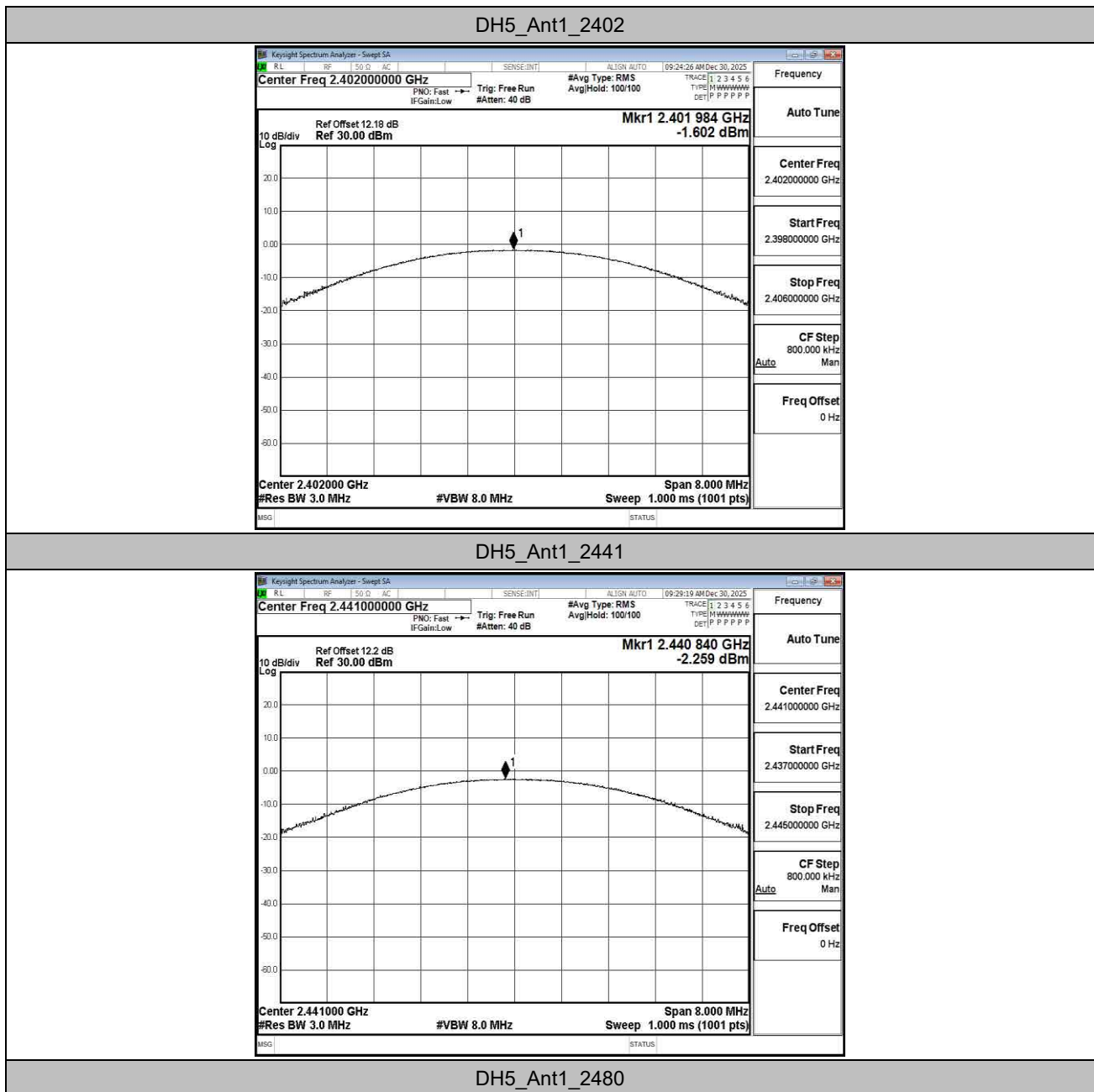


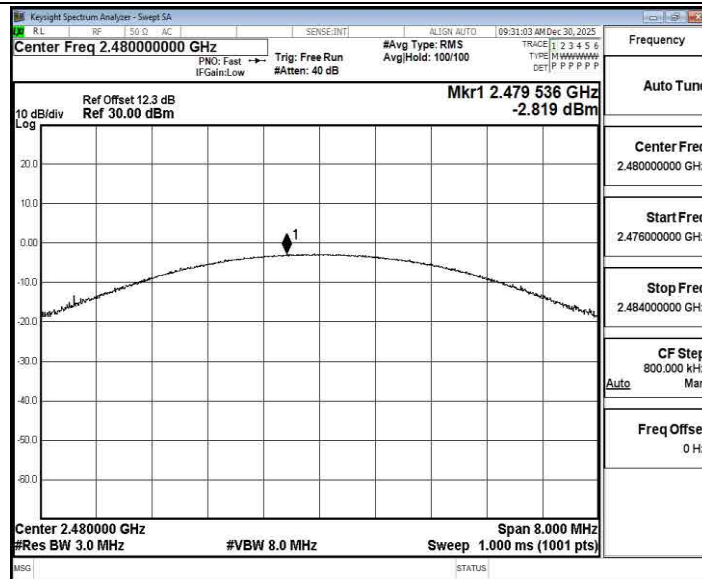
A.2 Maximum Peak conducted output power

Test Result Peak

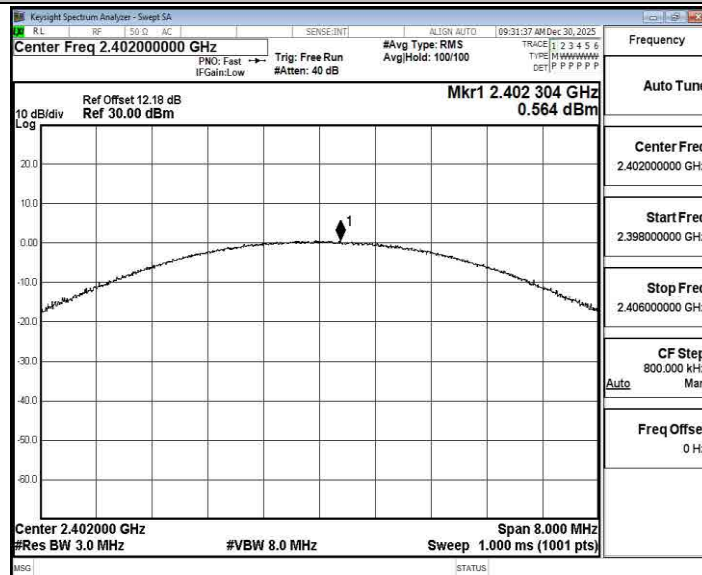
Test Mode	Antenna	Freq(MHz)	Conducted Peak Power[dBm]	Conducted Limit[dBm]	Verdict
DH5	Ant1	2402	-1.60	≤30	PASS
		2441	-2.26	≤30	PASS
		2480	-2.82	≤30	PASS
2DH5	Ant1	2402	0.56	≤30	PASS
		2441	-0.02	≤30	PASS
		2480	-0.46	≤30	PASS
3DH5	Ant1	2402	1.20	≤30	PASS
		2441	0.58	≤30	PASS
		2480	-0.22	≤30	PASS

Test Graphs

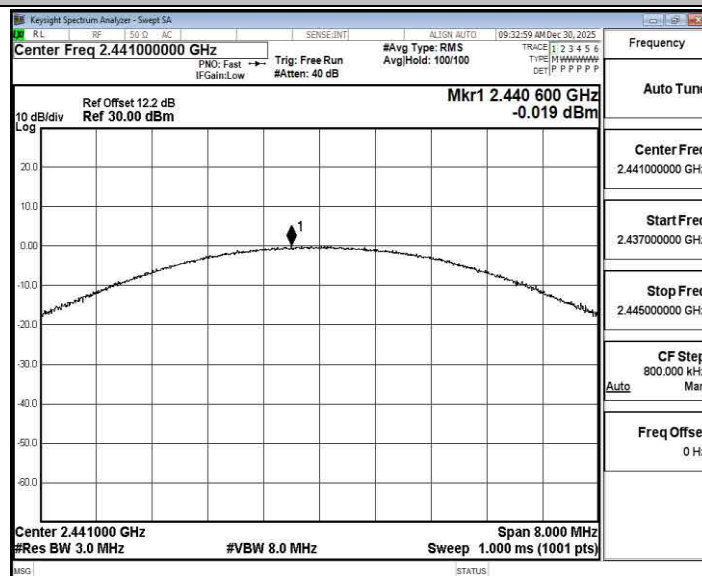




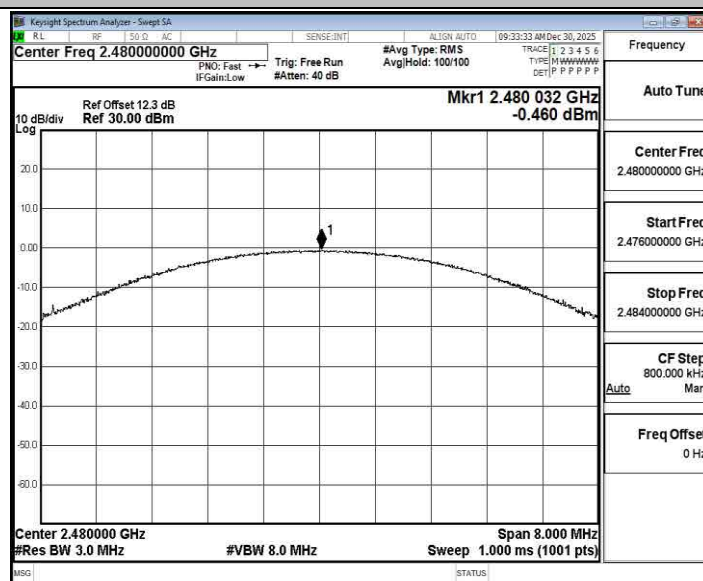
2DH5_Ant1_2402



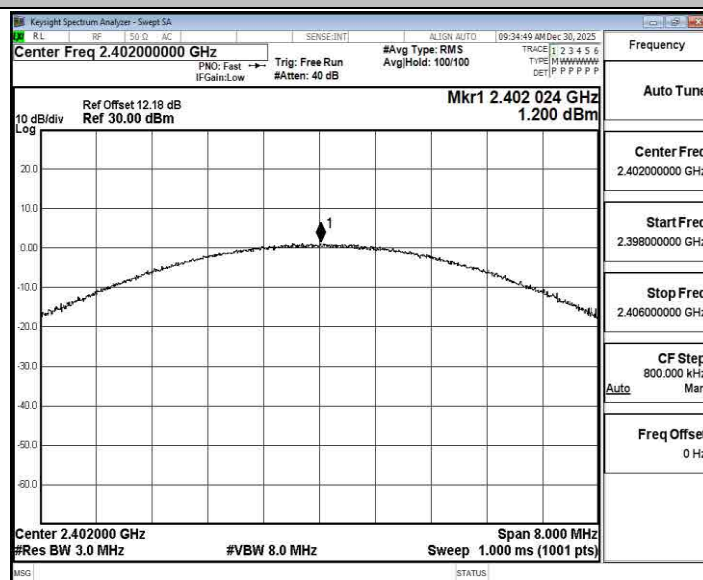
2DH5_Ant1_2441



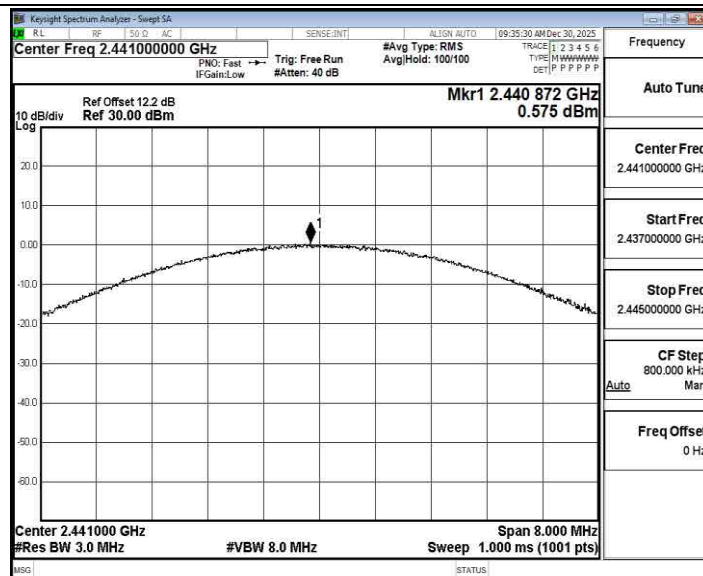
2DH5_Ant1_2480



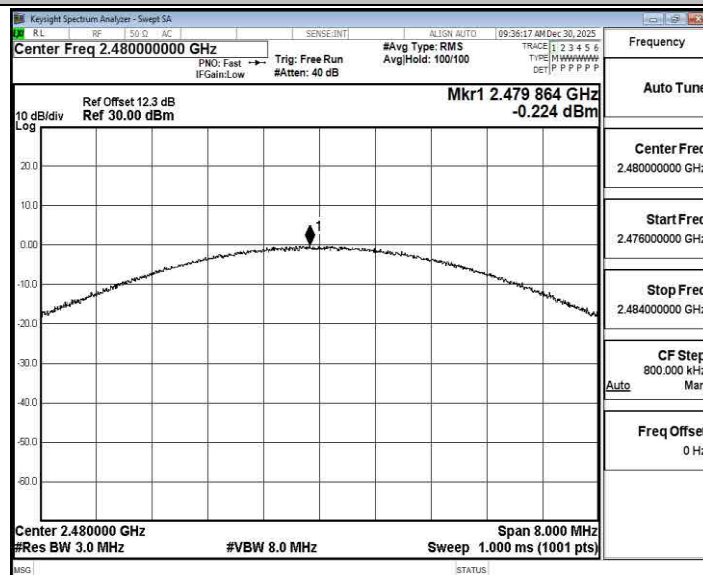
3DH5_Ant1_2402



3DH5_Ant1_2441



3DH5_Ant1_2480

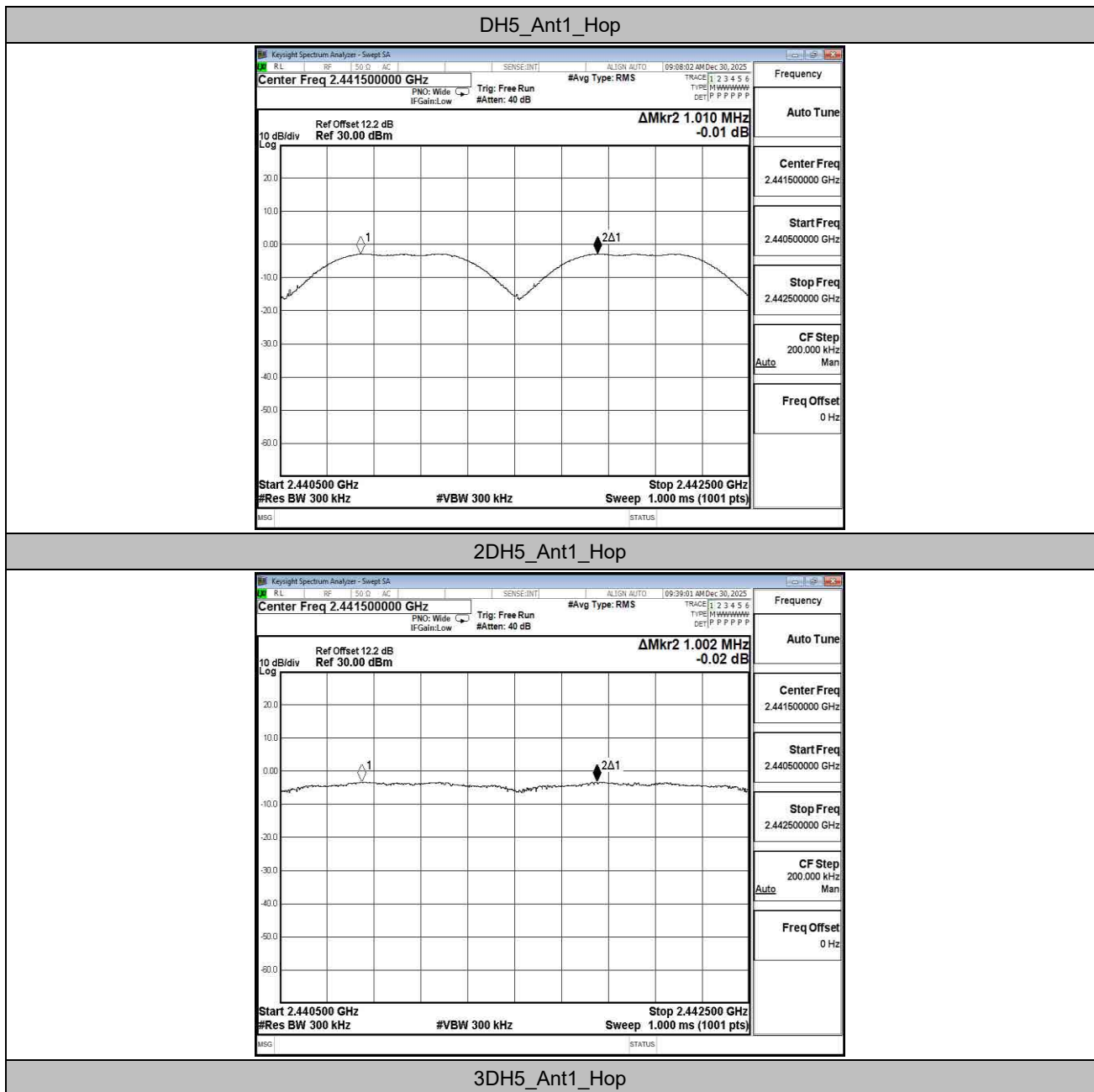


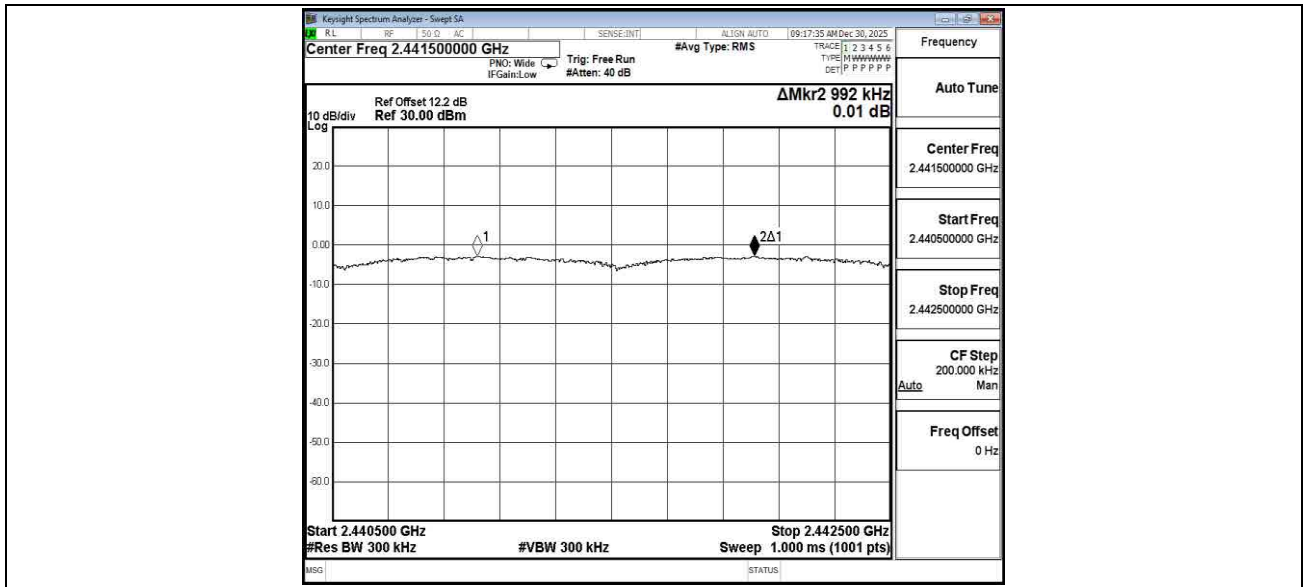
A.3 Carrier frequency separation

Test Result

TestMode	Antenna	Freq(MHz)	Result[MHz]	Limit[MHz]	Verdict
DH5	Ant1	Hop	1.01	≥0.933	PASS
2DH5	Ant1	Hop	1.002	≥0.878	PASS
3DH5	Ant1	Hop	0.992	≥0.874	PASS

Test Graphs



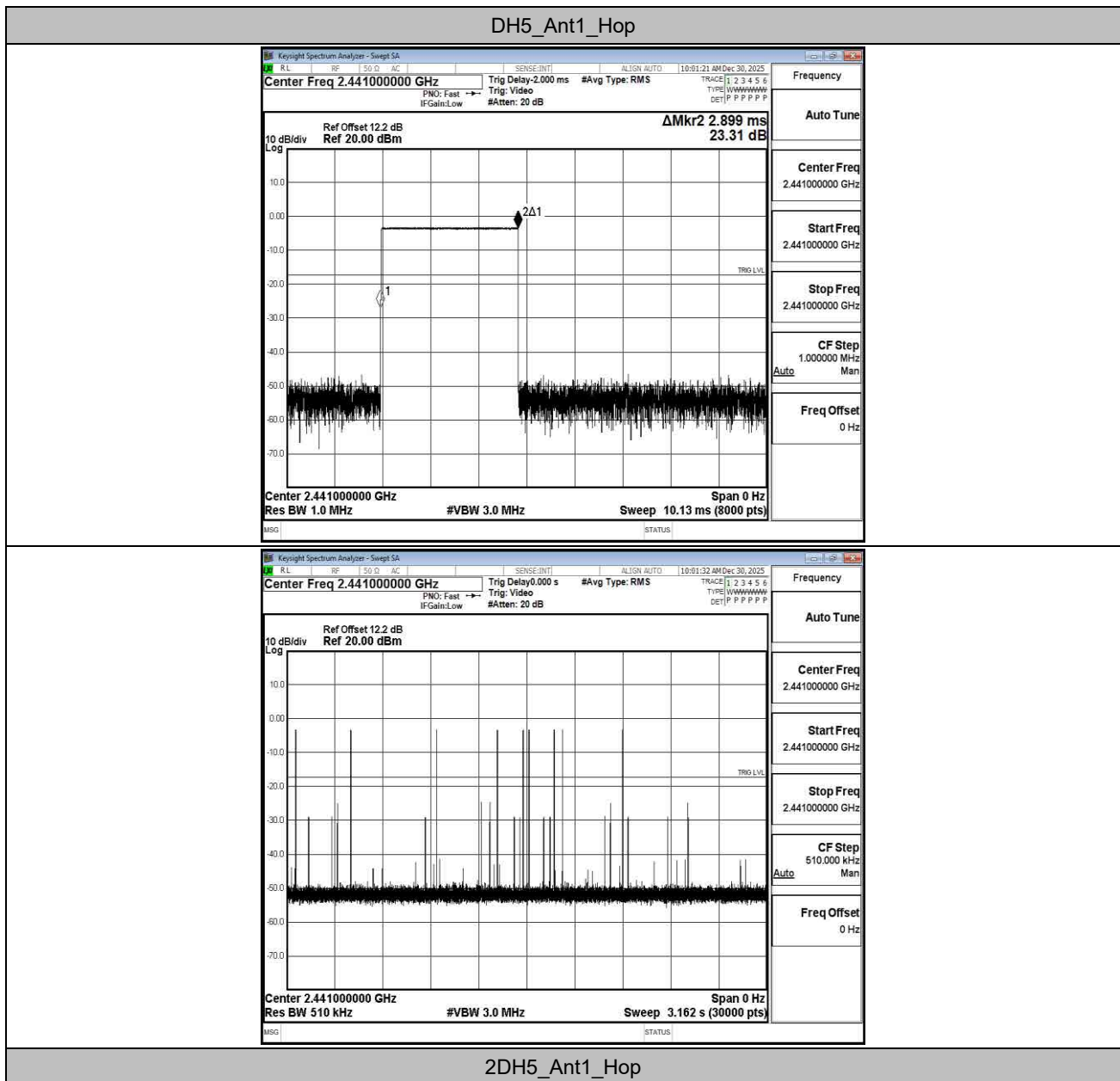


A.4 Time of occupancy

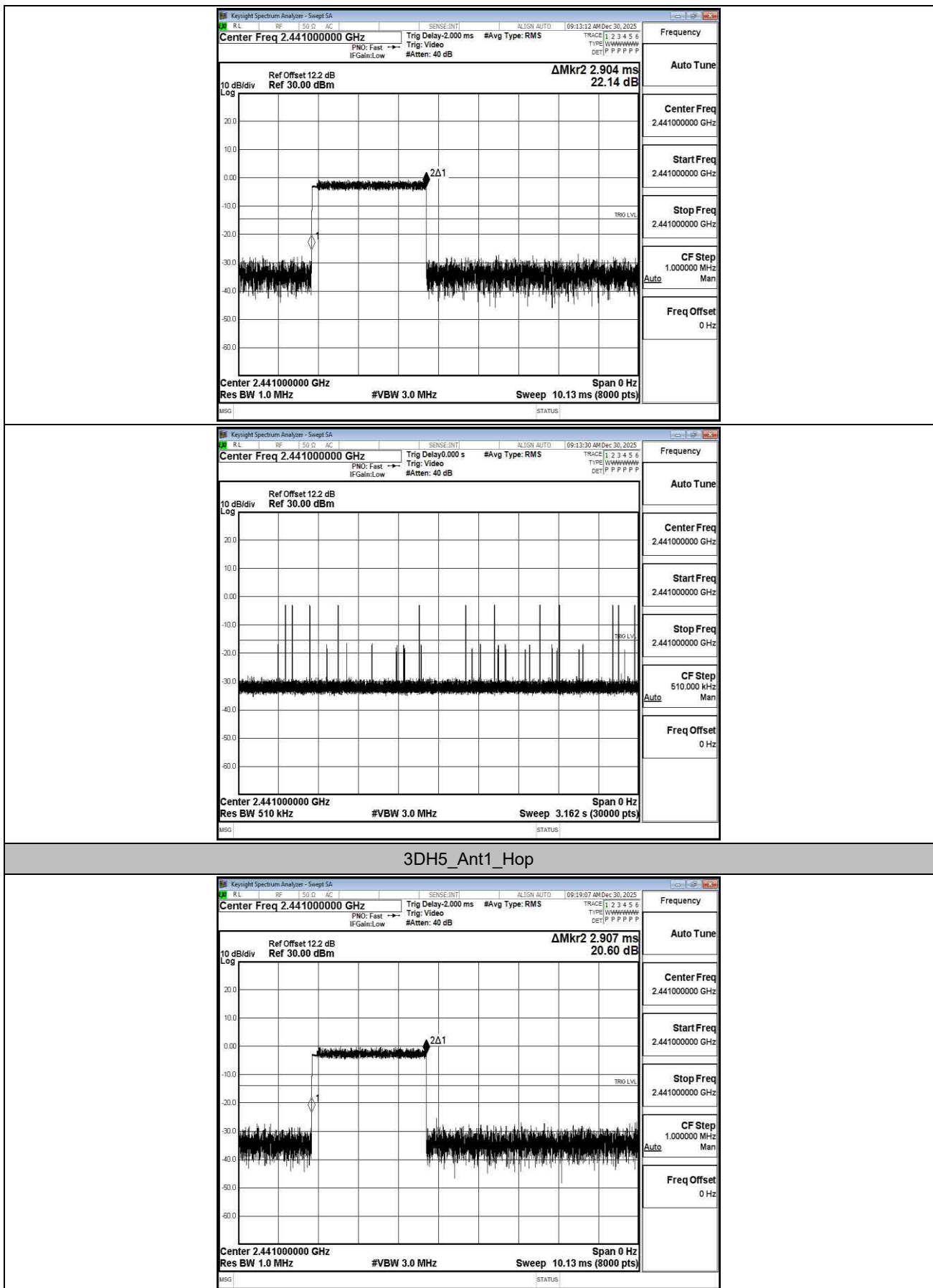
Test Result

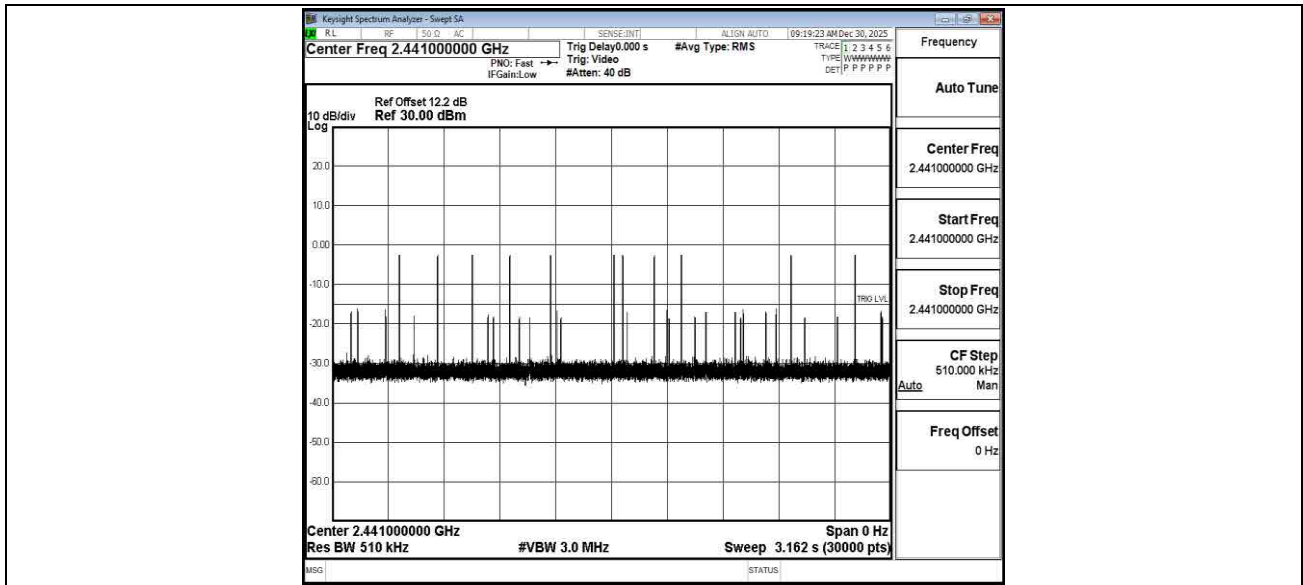
TestMode	Antenna	Freq(MHz)	BurstWidth [ms]	TotalHops [Num]	Result[s]	Limit[s]	Verdict
DH5	Ant1	Hop	2.899	100	0.29	≤0.4	PASS
2DH5	Ant1	Hop	2.904	130	0.378	≤0.4	PASS
3DH5	Ant1	Hop	2.907	120	0.349	≤0.4	PASS

Test Graphs



2DH5_Ant1_Hop





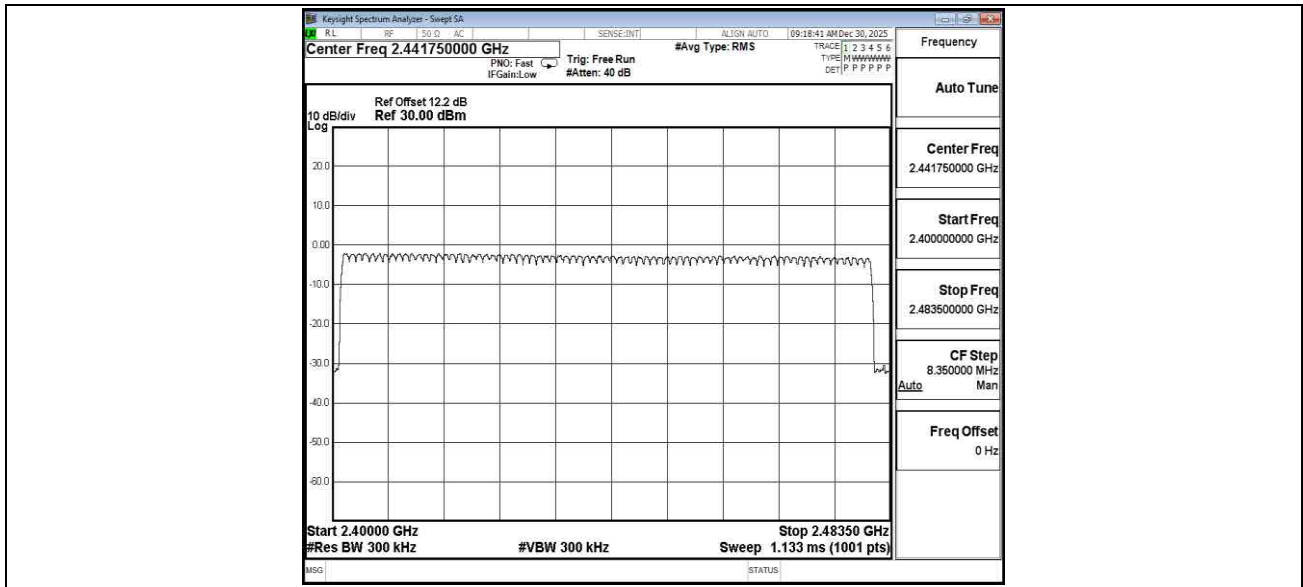
A.5 Number of hopping channels

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





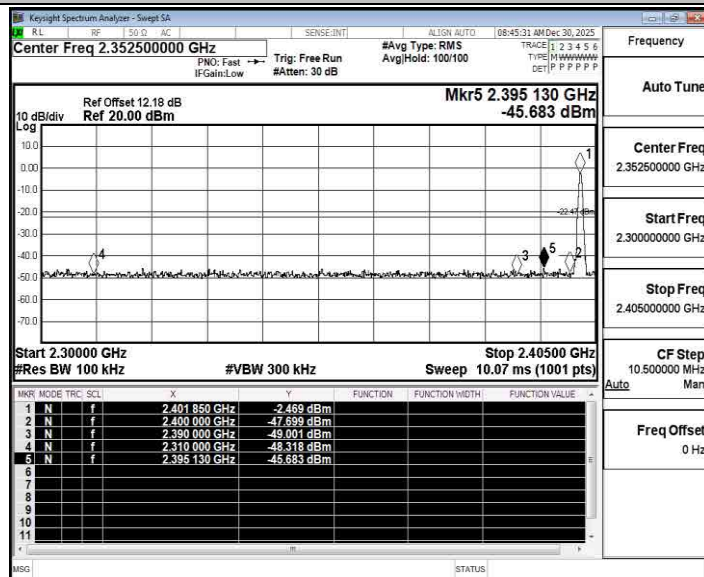
A.6 Band edge measurements

Test Result

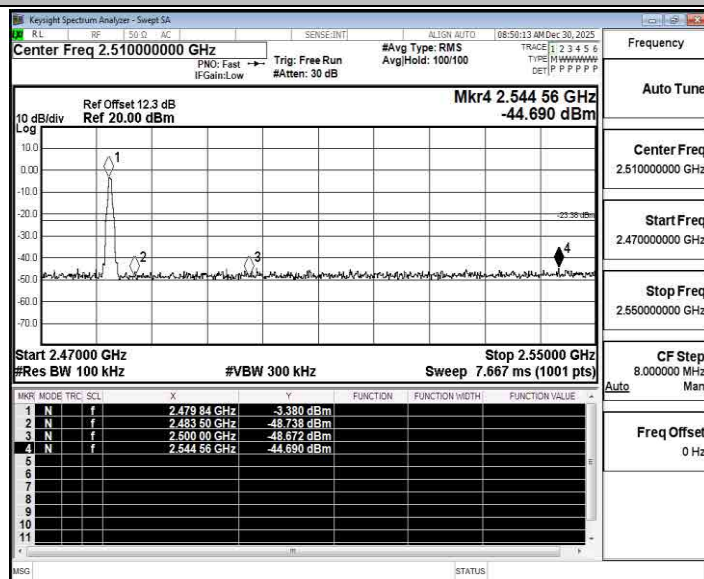
TestMode	Antenna	ChName	Freq(MHz)	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
DH5	Ant1	Low	2402	-2.47	-45.68	≤ -22.47	PASS
		High	2480	-3.38	-44.69	≤ -23.38	PASS
		Low	Hop_2402	-3.33	-45.9	≤ -23.33	PASS
		High	Hop_2480	-3.56	-44.15	≤ -23.56	PASS
2DH5	Ant1	Low	2402	-2.99	-45.73	≤ -22.99	PASS
		High	2480	-3.55	-43.75	≤ -23.55	PASS
		Low	Hop_2402	-6.70	-46	≤ -26.7	PASS
		High	Hop_2480	-5.88	-45.16	≤ -25.88	PASS
3DH5	Ant1	Low	2402	-2.27	-45.87	≤ -22.27	PASS
		High	2480	-3.43	-45.08	≤ -23.43	PASS
		Low	Hop_2402	-5.71	-45.76	≤ -25.71	PASS
		High	Hop_2480	-5.05	-44.65	≤ -25.05	PASS

Test Graphs

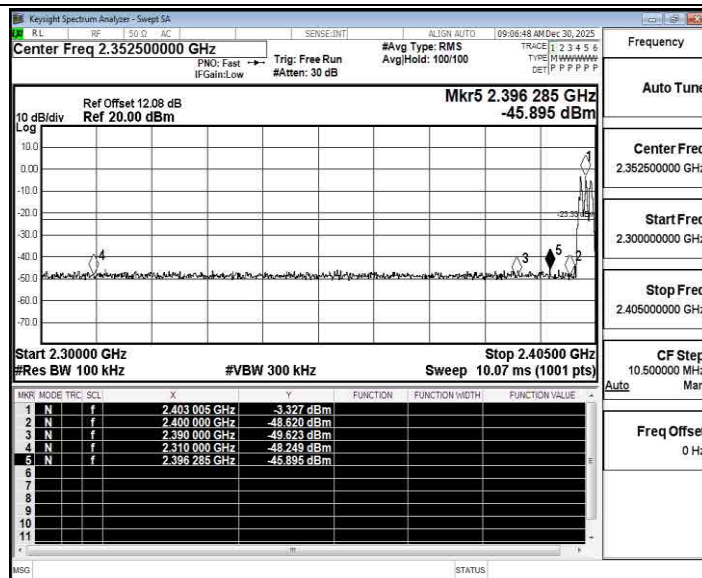
DH5_Ant1_Low_2402



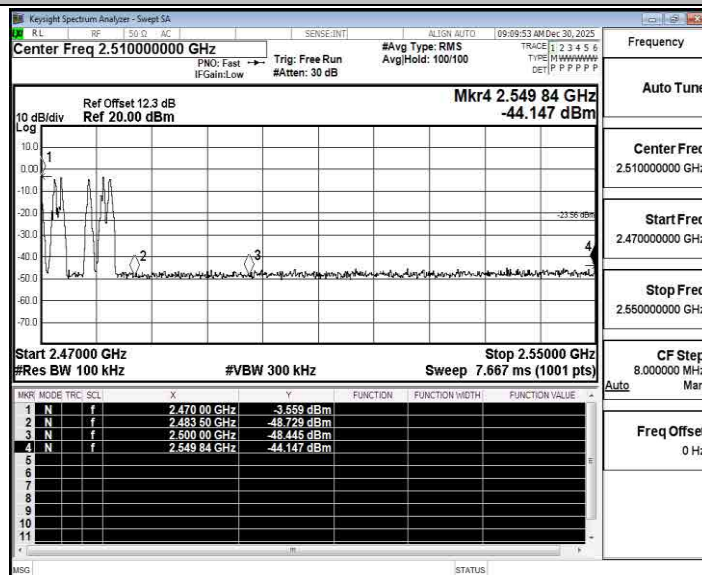
DH5_Ant1_High_2480



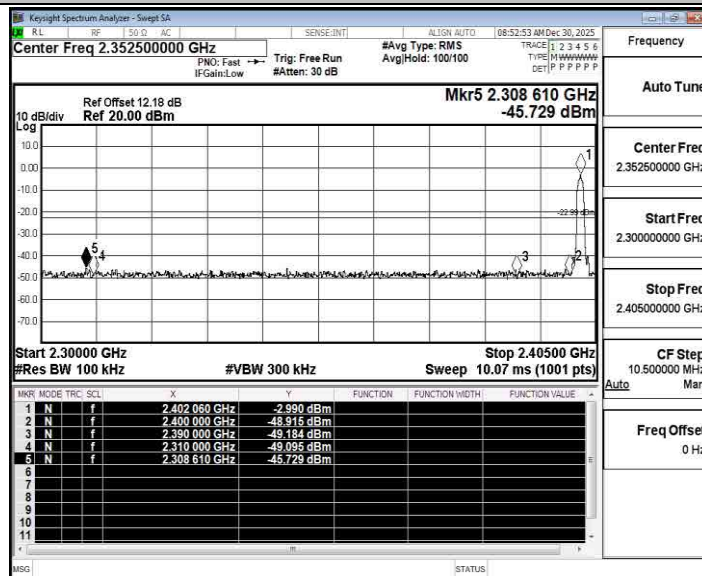
DH5_Ant1_Low_Hop_2402



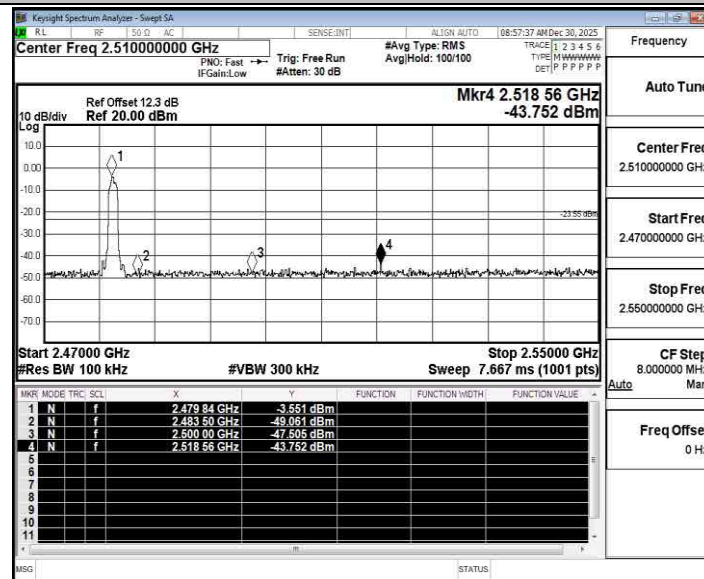
DH5_Ant1_High_Hop_2480



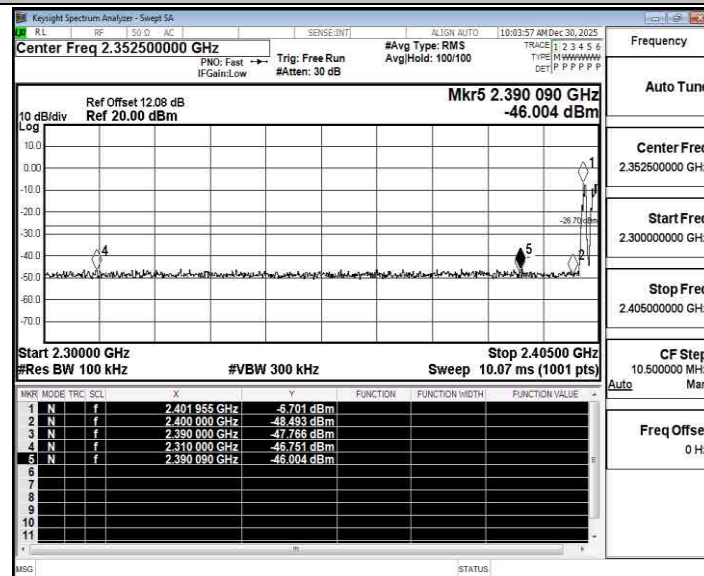
2DH5_Ant1_Low_2402



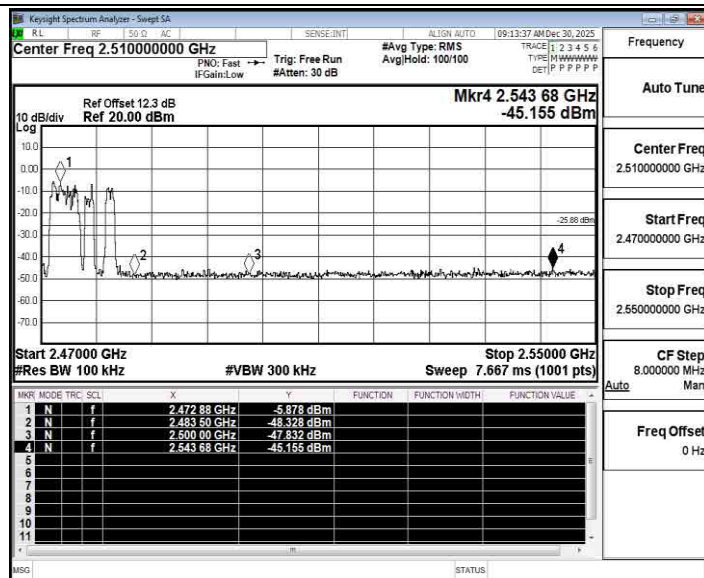
2DH5_Ant1_High_2480



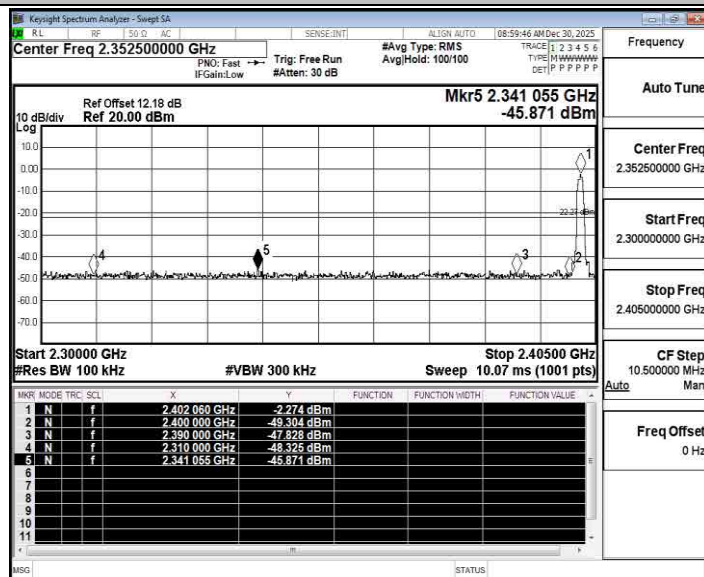
2DH5_Ant1_Low_Hop_2402



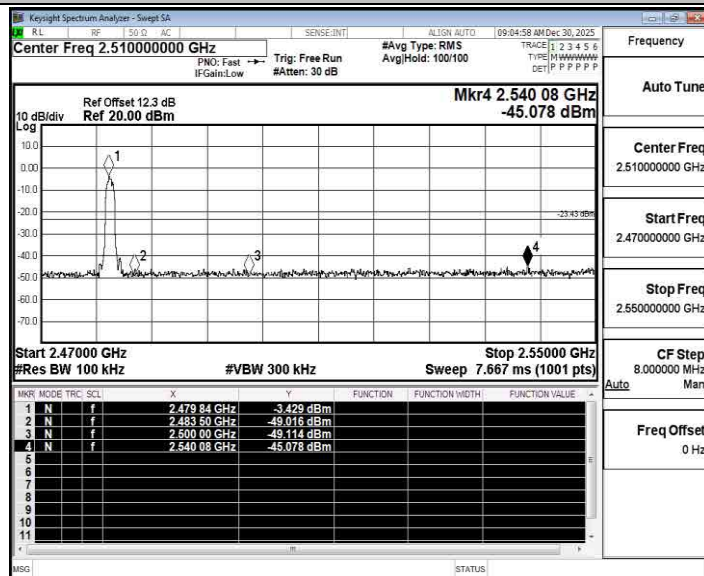
2DH5_Ant1_High_Hop_2480



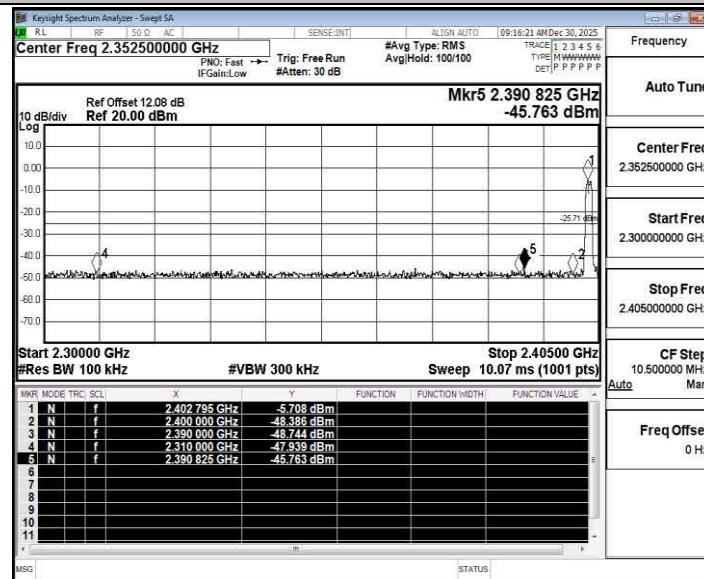
3DH5_Ant1_Low_2402



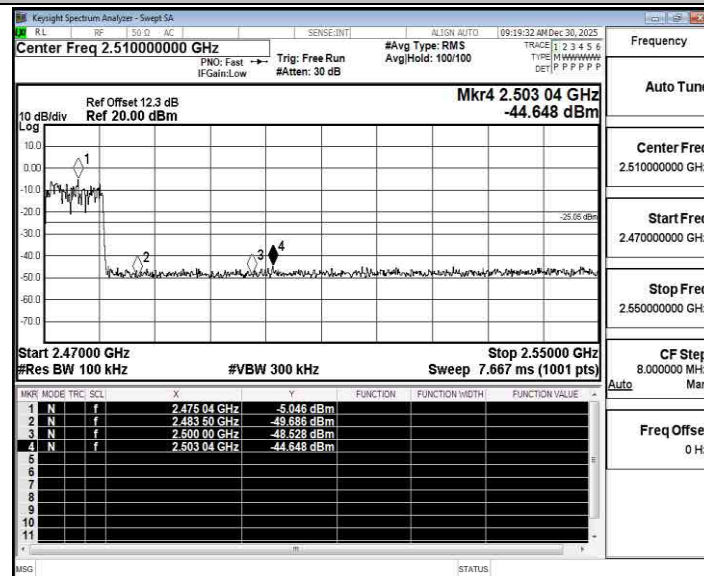
3DH5_Ant1_High_2480



3DH5_Ant1_Low_Hop_2402



3DH5_Ant1_High_Hop_2480

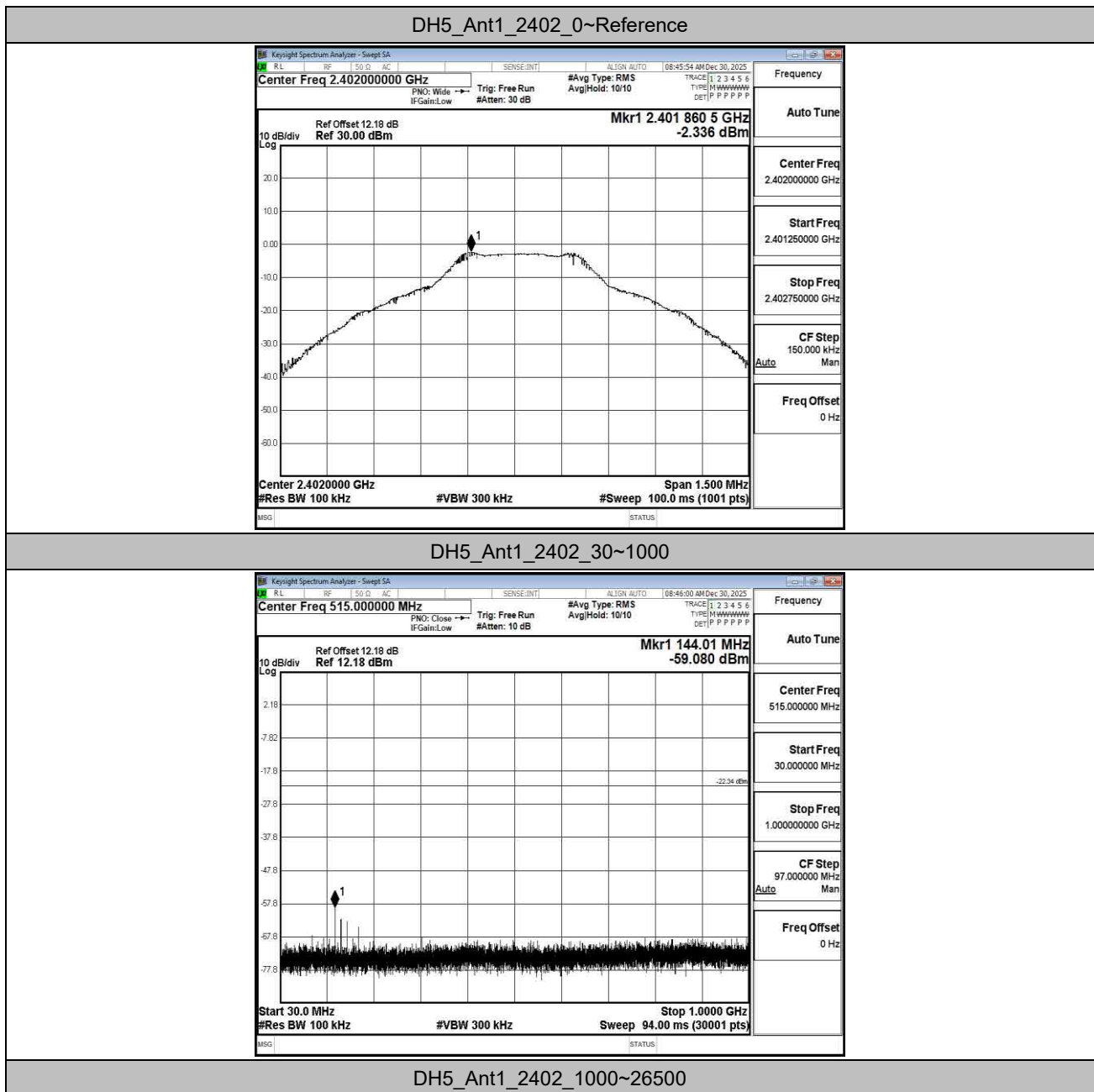


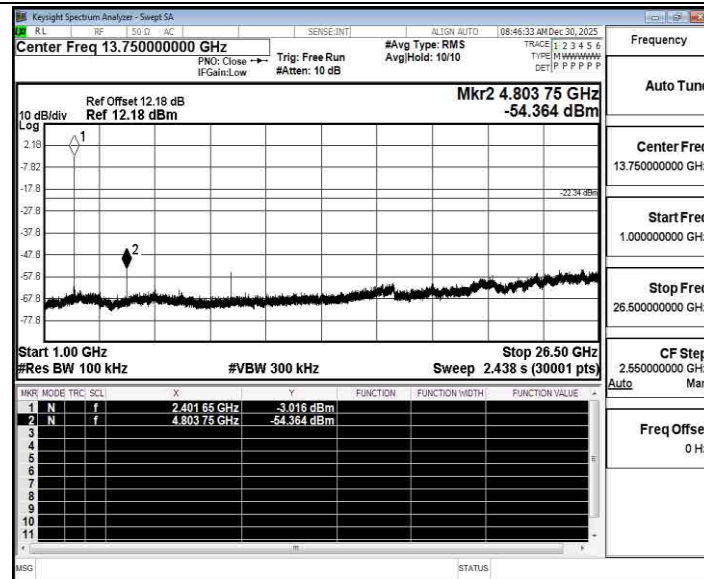
A.7 Conducted Spurious Emission

Test Result

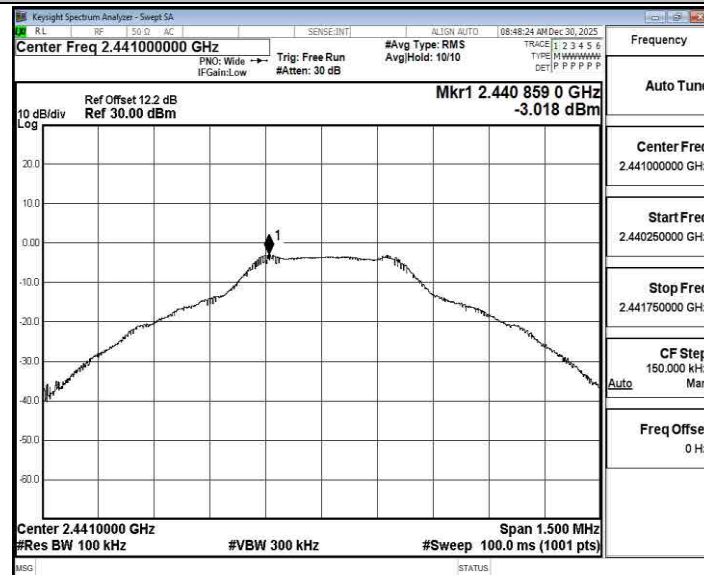
TestMode	Antenna	Freq(MHz)	FreqRange [MHz]	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
DH5	Ant1	2402	Reference	-2.34	-2.34	---	PASS
			30~1000	-2.34	-59.08	≤ -22.34	PASS
			1000~26500	-2.34	-54.36	≤ -22.34	PASS
		2441	Reference	-3.02	-3.02	---	PASS
			30~1000	-3.02	-55.89	≤ -23.02	PASS
			1000~26500	-3.02	-53.04	≤ -23.02	PASS
		2480	Reference	-3.39	-3.39	---	PASS
			30~1000	-3.39	-57.27	≤ -23.39	PASS
			1000~26500	-3.39	-51.16	≤ -23.39	PASS
2DH5	Ant1	2402	Reference	-2.48	-2.48	---	PASS
			30~1000	-2.48	-58.7	≤ -22.48	PASS
			1000~26500	-2.48	-54.94	≤ -22.48	PASS
		2441	Reference	-3.19	-3.19	---	PASS
			30~1000	-3.19	-59	≤ -23.19	PASS
			1000~26500	-3.19	-53.94	≤ -23.19	PASS
		2480	Reference	-3.59	-3.59	---	PASS
			30~1000	-3.59	-58.79	≤ -23.59	PASS
			1000~26500	-3.59	-53.96	≤ -23.59	PASS
3DH5	Ant1	2402	Reference	-2.26	-2.26	---	PASS
			30~1000	-2.26	-58.52	≤ -22.26	PASS
			1000~26500	-2.26	-53.52	≤ -22.26	PASS
		2441	Reference	-3.00	-3.00	---	PASS
			30~1000	-3.00	-58.79	≤ -23	PASS
			1000~26500	-3.00	-54.7	≤ -23	PASS
		2480	Reference	-3.37	-3.37	---	PASS
			30~1000	-3.37	-58.3	≤ -23.37	PASS
			1000~26500	-3.37	-53.49	≤ -23.37	PASS

Test Graphs

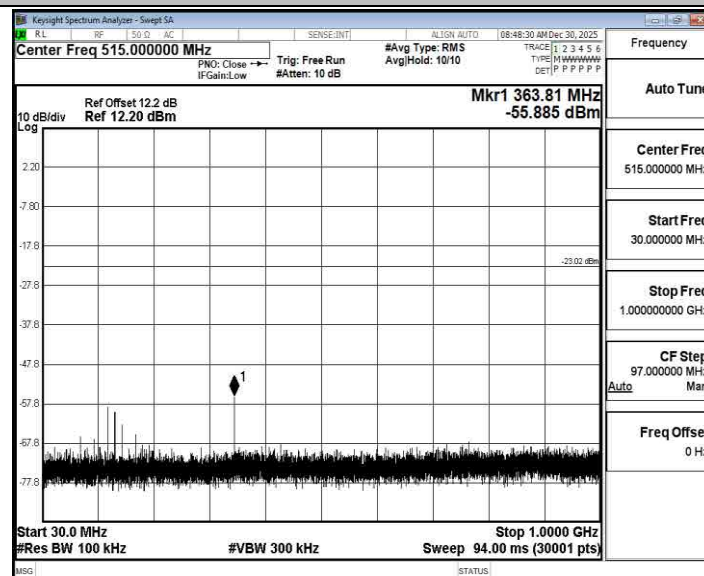




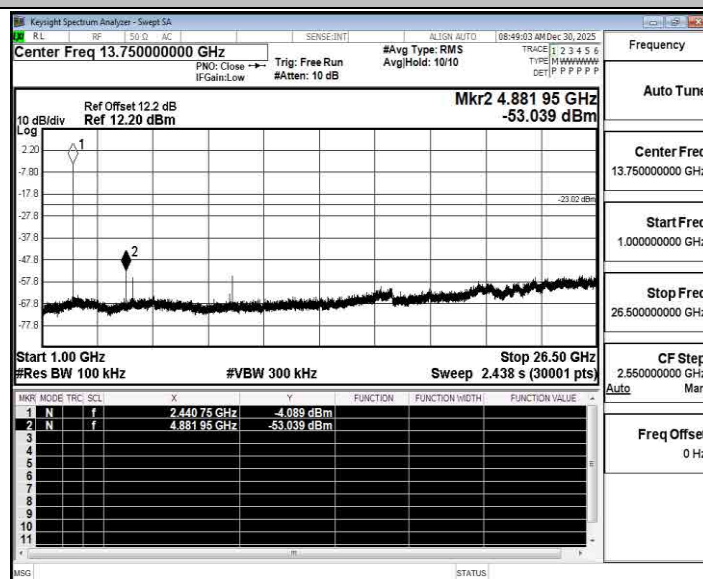
DH5_Ant1_2441_0~Reference



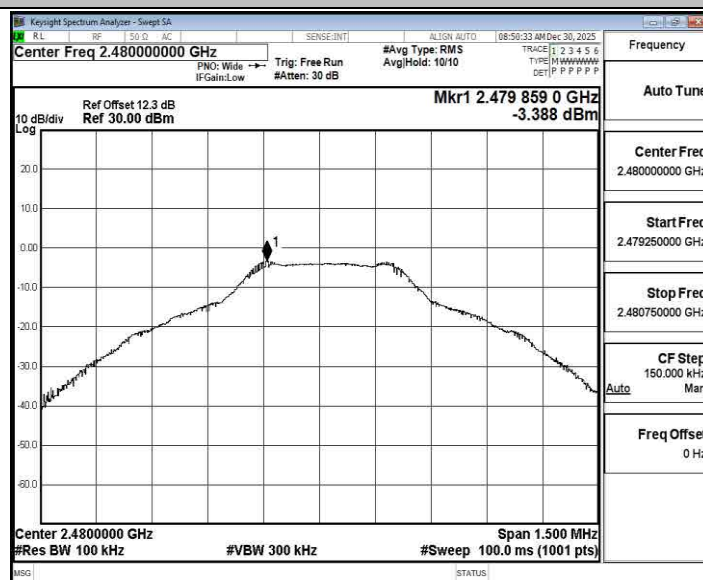
DH5_Ant1_2441_30~1000



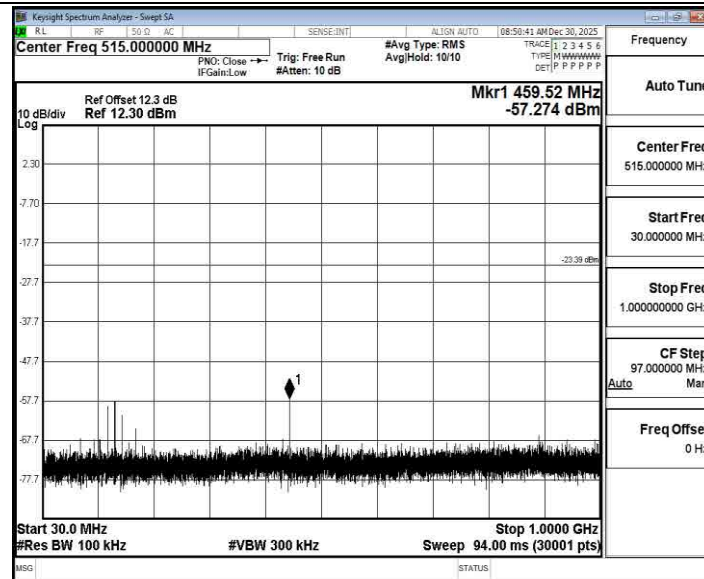
DH5_Ant1_2441_1000~26500



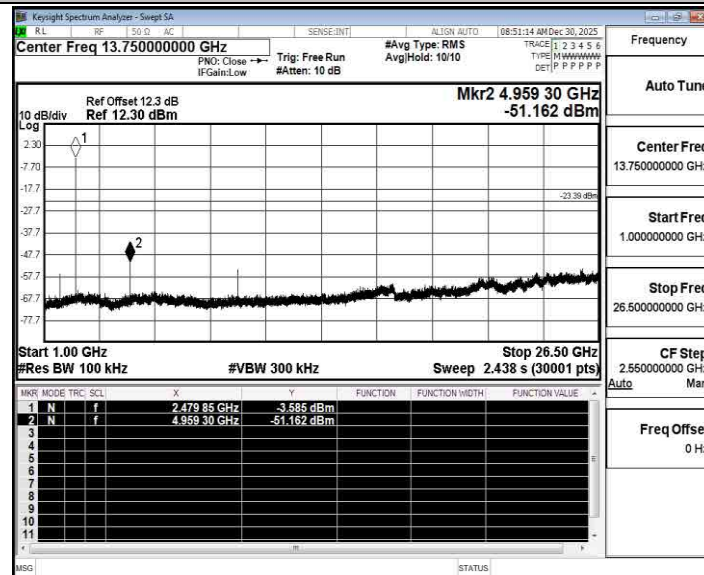
DH5_Ant1_2480_0~Reference



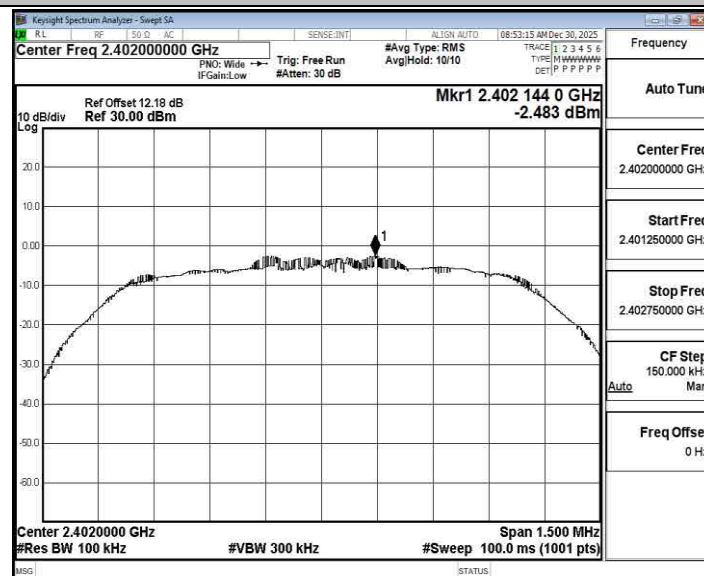
DH5_Ant1_2480_30~1000



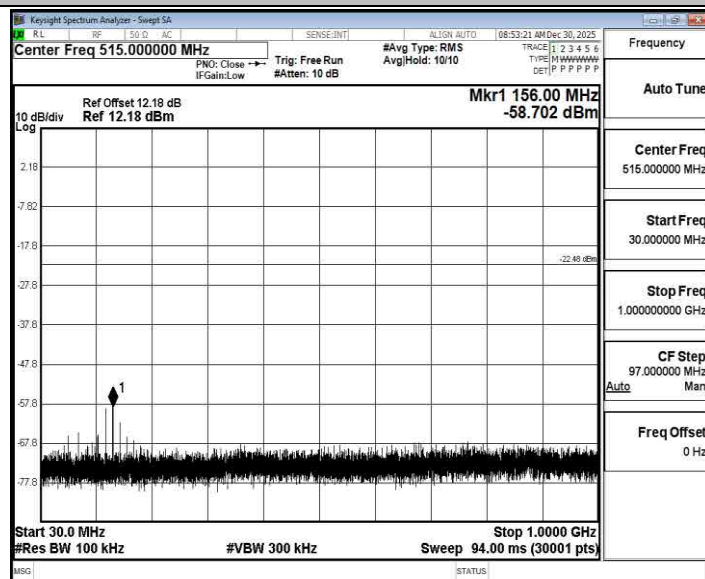
DH5_Ant1_2480_1000~26500



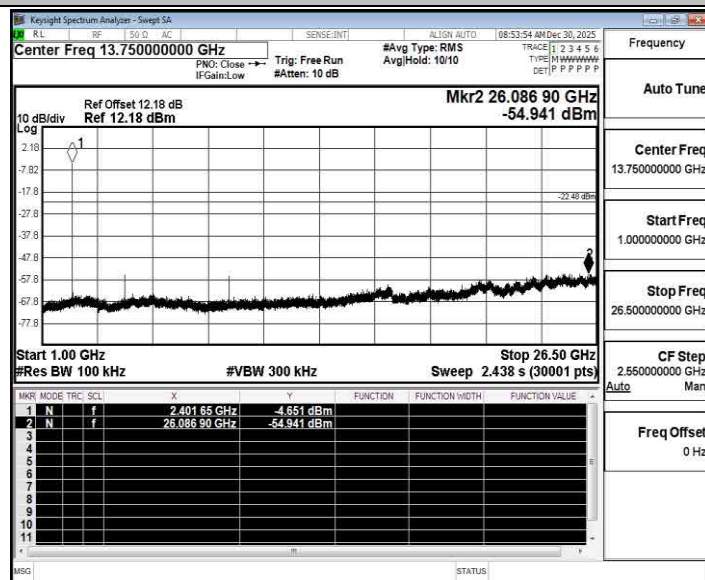
2DH5_Ant1_2402_0~Reference



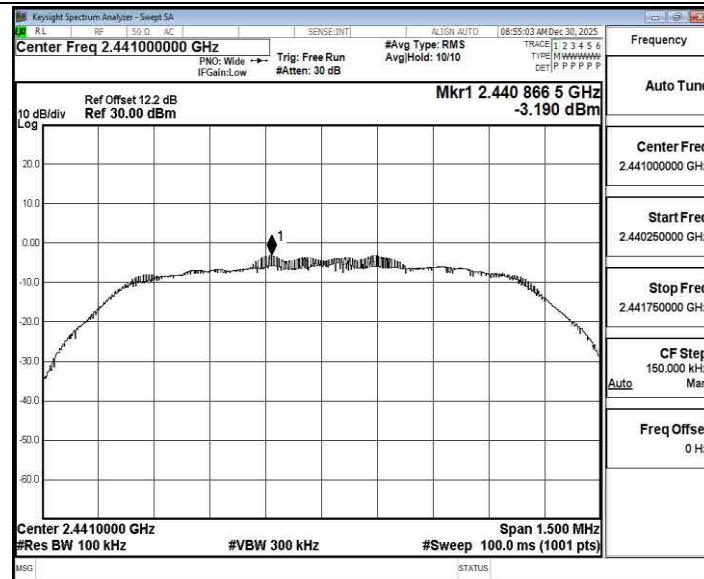
2DH5_Ant1_2402_30~1000



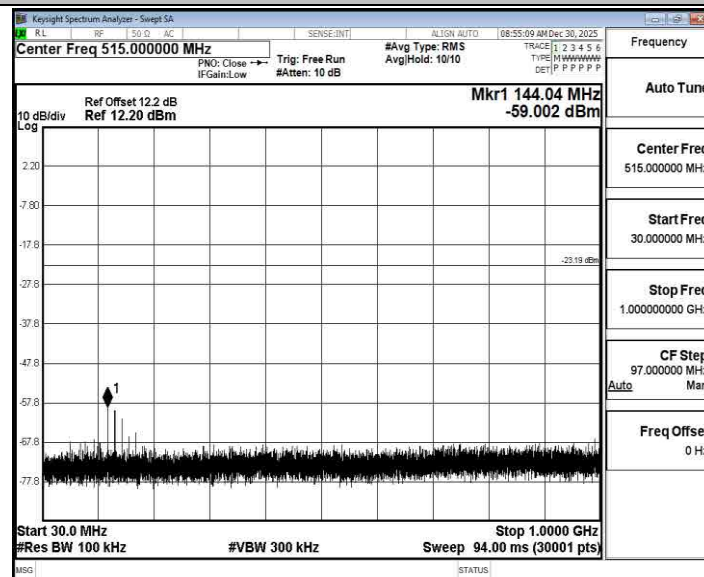
2DH5_Ant1_2402_1000~26500



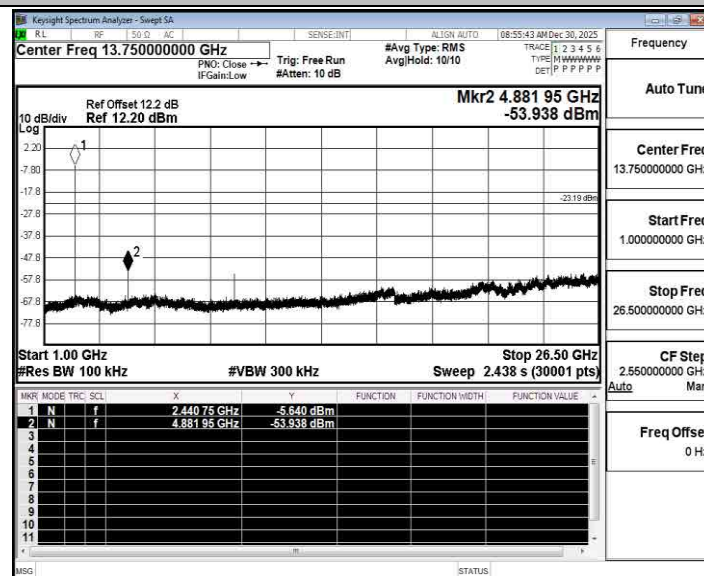
2DH5_Ant1_2441_0~Reference



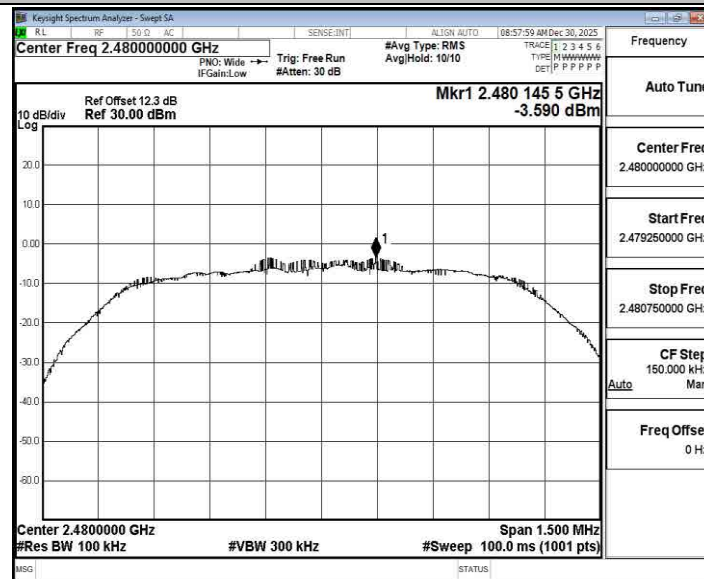
2DH5_Ant1_2441_30~1000



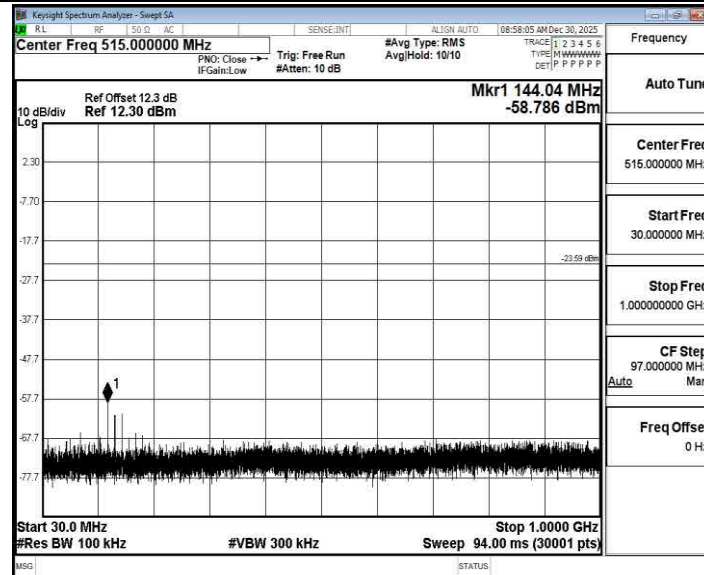
2DH5_Ant1_2441_1000~26500



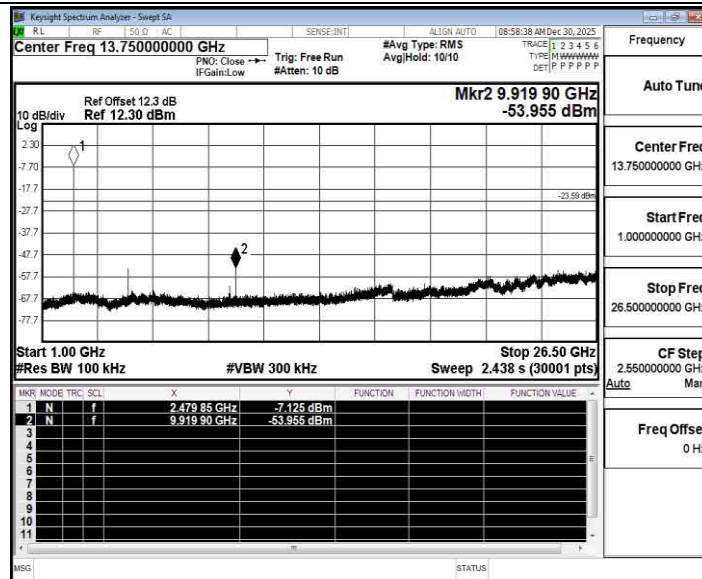
2DH5_Ant1_2480_0~Reference



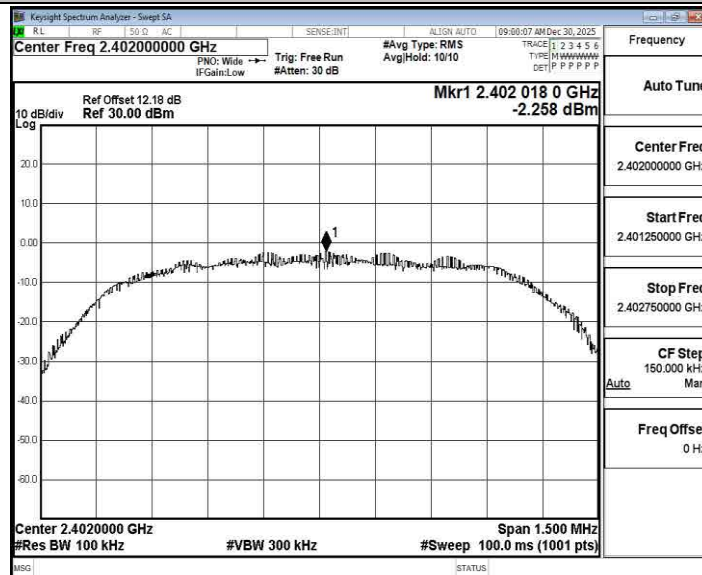
2DH5_Ant1_2480_30~1000



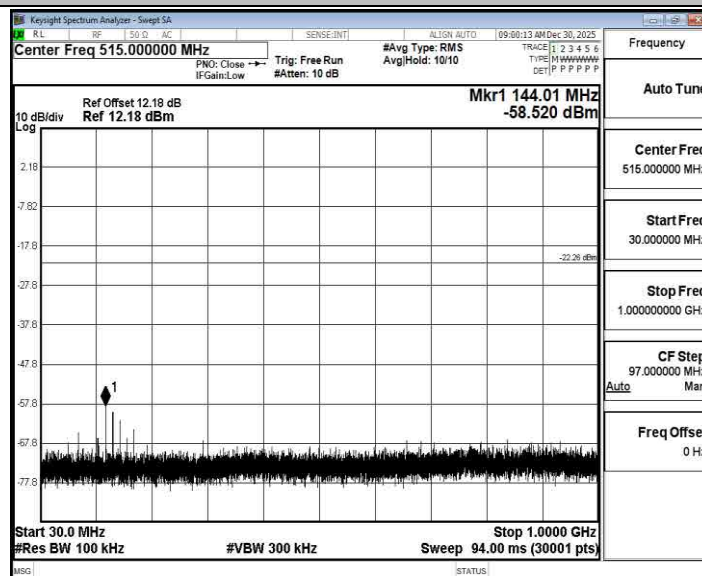
2DH5_Ant1_2480_1000~26500



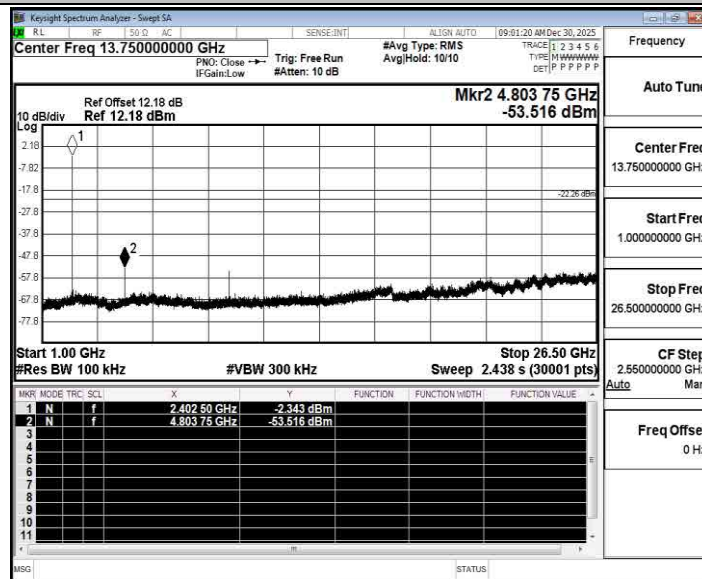
3DH5_Ant1_2402_0~Reference



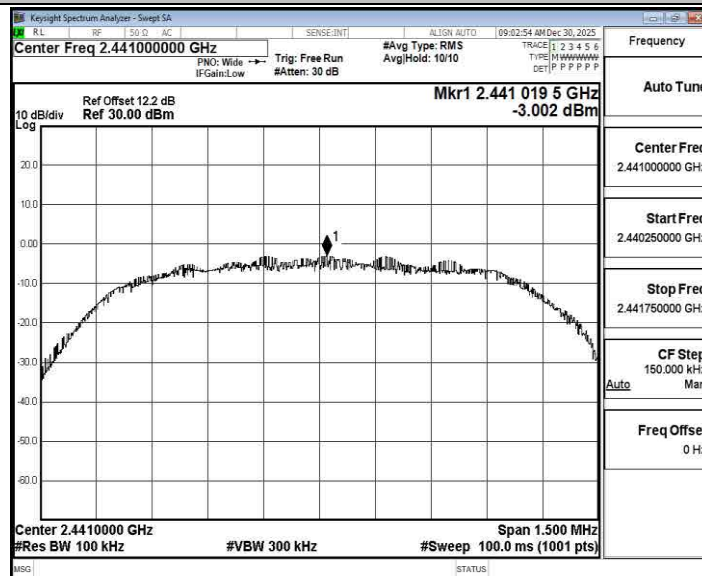
3DH5_Ant1_2402_30~1000



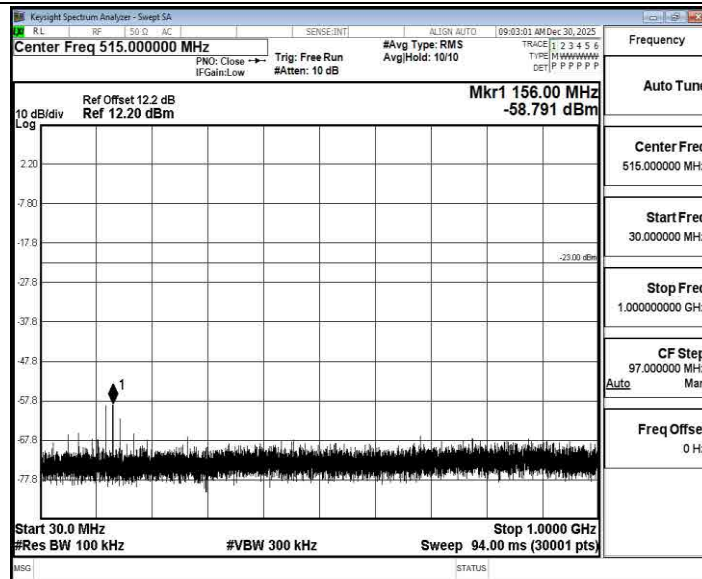
3DH5_Ant1_2402_1000~26500



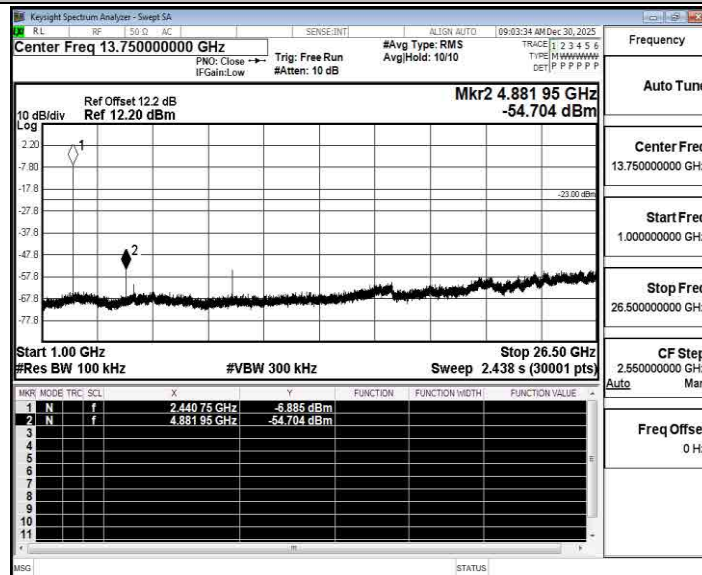
3DH5_Ant1_2441_0~Reference



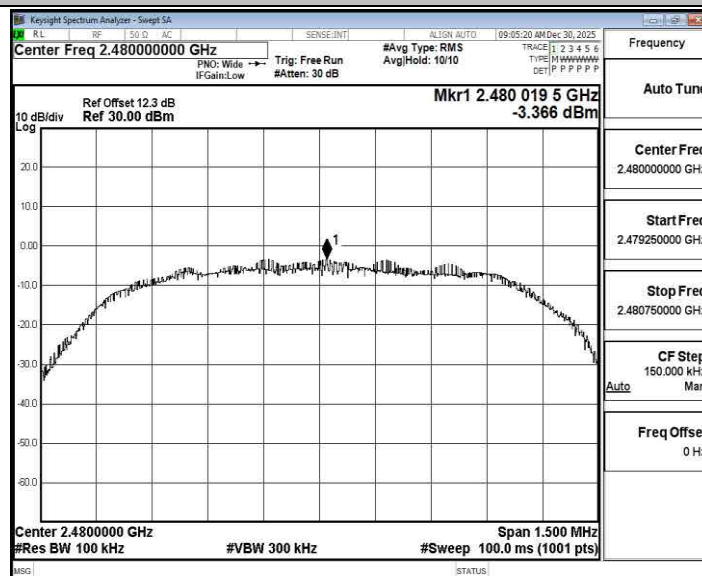
3DH5_Ant1_2441_30~1000



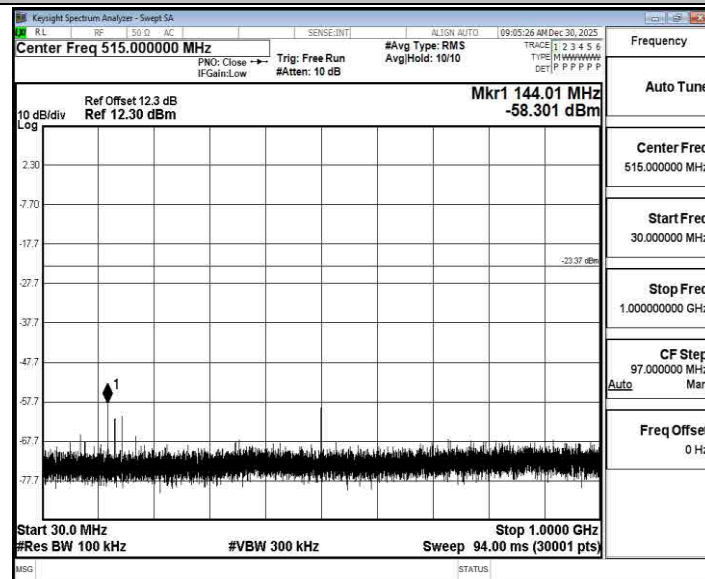
3DH5_Ant1_2441_1000~26500



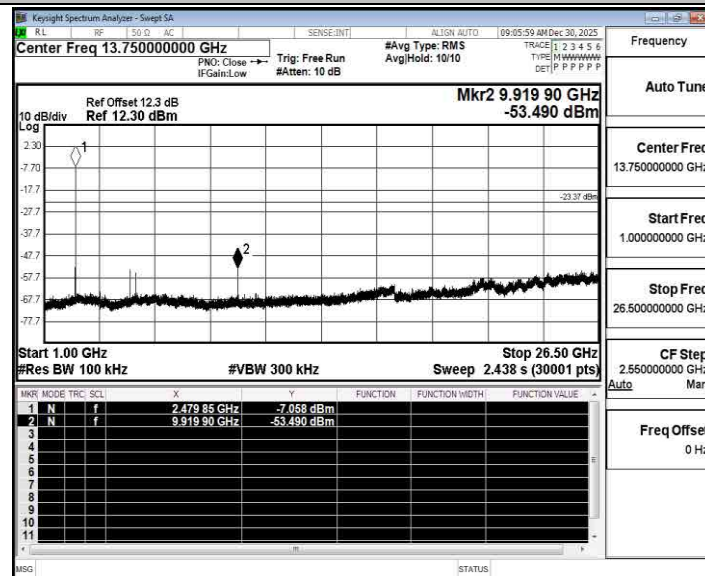
3DH5_Ant1_2480_0~Reference



3DH5_Ant1_2480_30~1000



3DH5_Ant1_2480_1000~26500



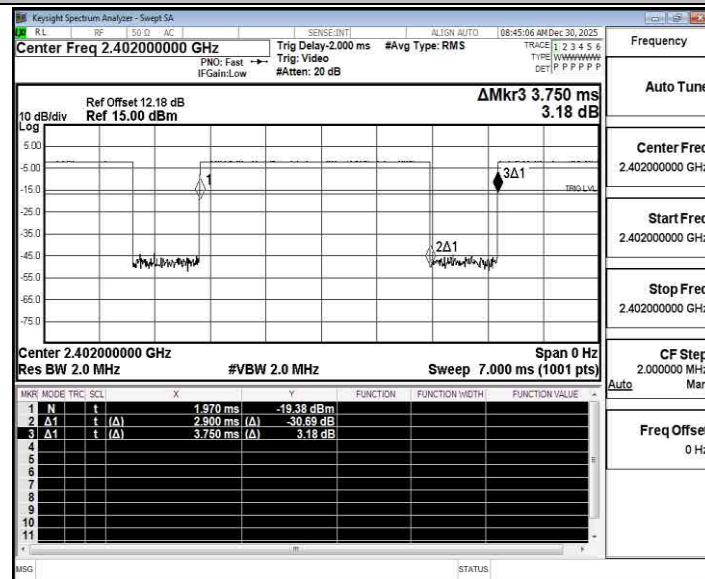
A.8 Duty Cycle

Test Result

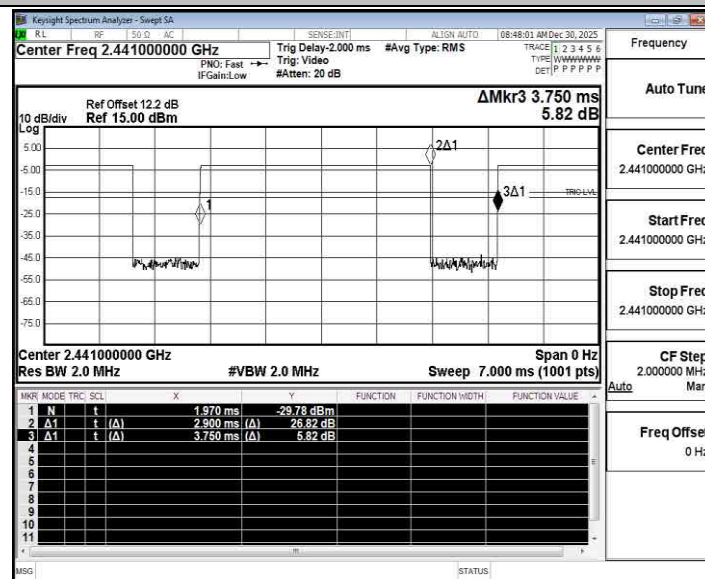
TestMode	Antenna	Freq(MHz)	ON Time [ms]	Period [ms]	DC [%]	xFactor	Limit	Verdict
DH5	Ant1	2402	2.90	3.75	77.33	1.12	---	---
		2441	2.90	3.75	77.33	1.12	---	---
		2480	2.90	3.75	77.33	1.12	---	---
2DH5	Ant1	2402	2.91	3.75	77.60	1.10	---	---
		2441	2.92	3.76	77.66	1.10	---	---
		2480	2.91	3.75	77.60	1.10	---	---
3DH5	Ant1	2402	2.91	3.75	77.60	1.10	---	---
		2441	2.91	3.75	77.60	1.10	---	---
		2480	2.92	3.76	77.66	1.10	---	---

Test Graphs

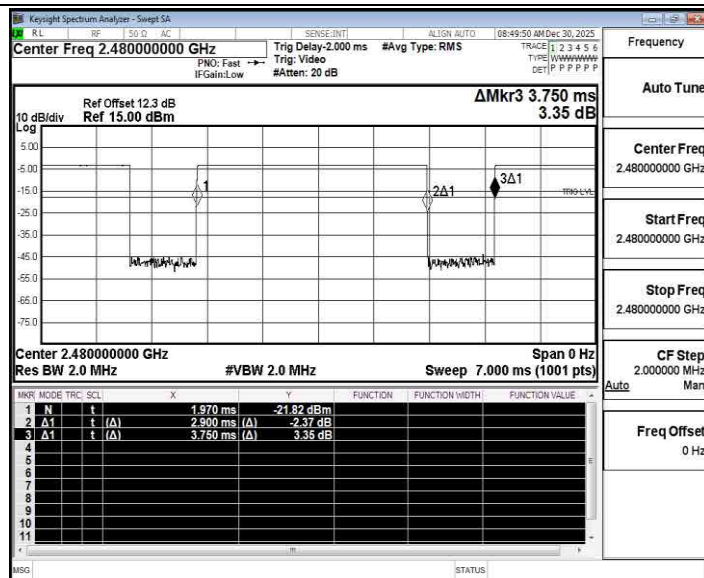
DH5_Ant1_2402



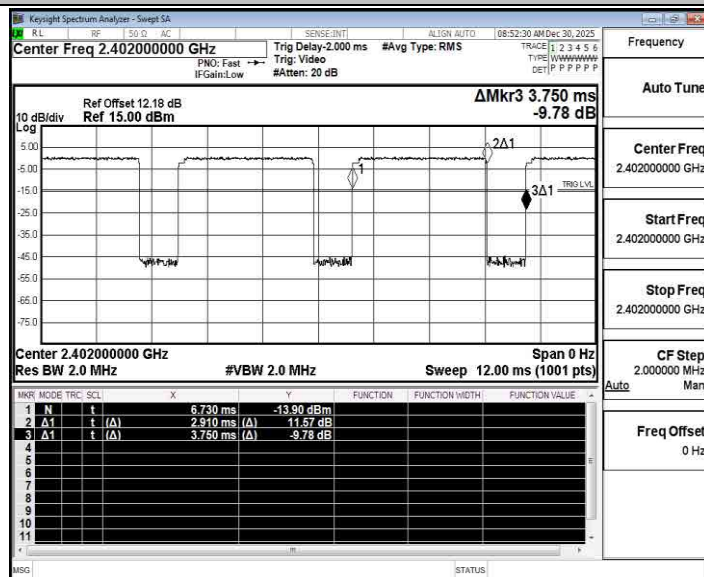
DH5_Ant1_2441



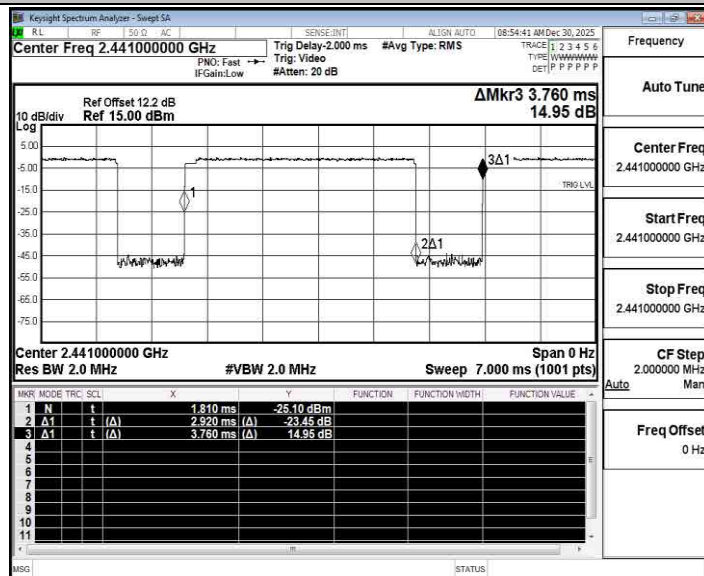
DH5_Ant1_2480



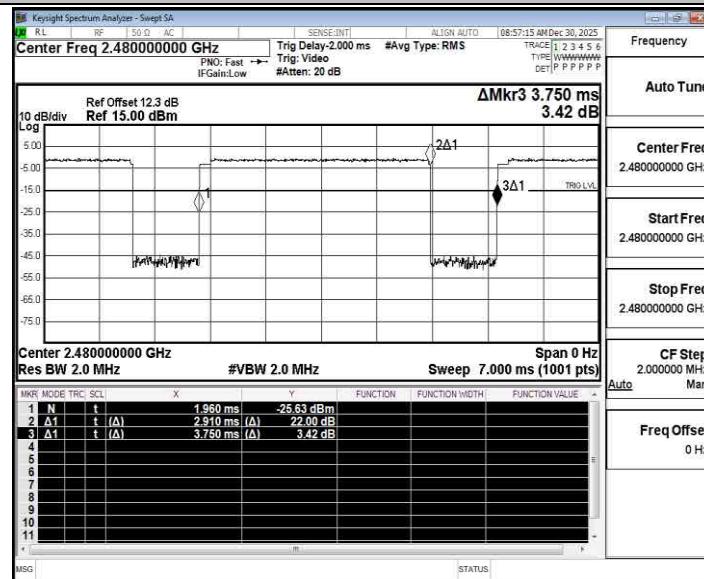
2DH5_Ant1_2402



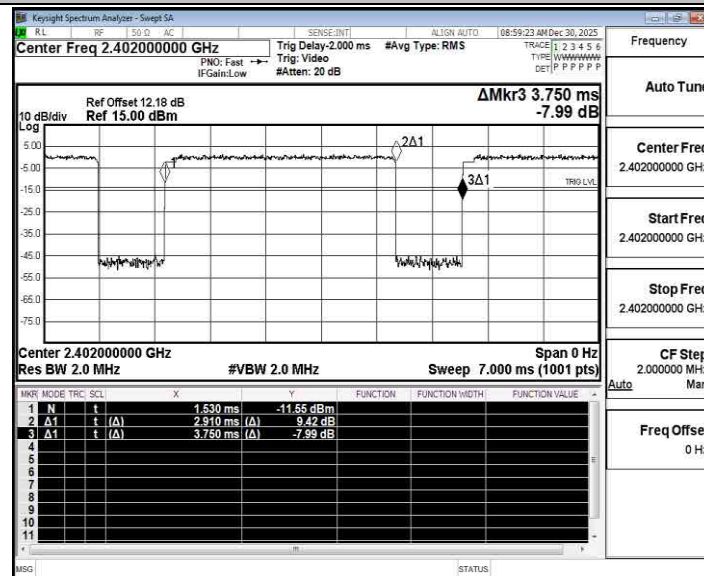
2DH5_Ant1_2441



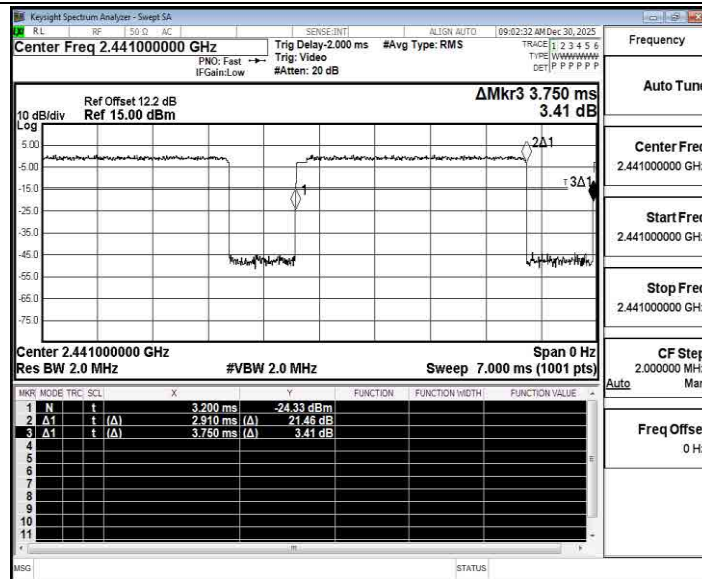
2DH5_Ant1_2480



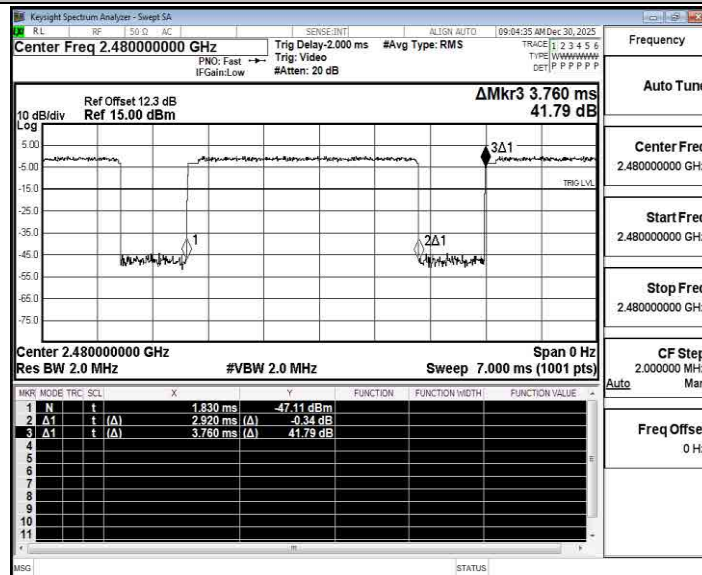
3DH5_Ant1_2402



3DH5_Ant1_2441



3DH5_Ant1_2480



A.9 Emissions in Restricted Bands

Test Result

TestMode	Antenna	ChName	Freq (MHz)	Detector	Freq [MHz]	Result [dBm]	Limit [dBm]	Gain [dBi]	DC Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Verdict
DH5	Ant1	Low	2402	AV	2310.000	-61.23	≤-45.16	2.84	1.12	37.93	≤54	PASS
				AV	2376.020	-59.86	≤-45.16	2.84	1.12	39.30	≤54	PASS
				AV	2390.000	-60.71	≤-45.16	2.84	1.12	38.45	≤54	PASS
				Peak	2310.000	-53.97	≤-24.04	2.84	0.00	44.07	≤74	PASS
				Peak	2364.575	-49.92	≤-24.04	2.84	0.00	48.12	≤74	PASS
				Peak	2390.000	-54.35	≤-24.04	2.84	0.00	43.69	≤74	PASS
		High	2480	AV	2483.500	-60.1	≤-45.16	2.84	1.12	39.06	≤54	PASS
				AV	2486.880	-59.66	≤-45.16	2.84	1.12	39.50	≤54	PASS
				AV	2500.000	-60.4	≤-45.16	2.84	1.12	38.76	≤54	PASS
				Peak	2483.500	-51.92	≤-24.04	2.84	0.00	46.12	≤74	PASS
				Peak	2492.400	-49.98	≤-24.04	2.84	0.00	48.06	≤74	PASS
				Peak	2500.000	-52.72	≤-24.04	2.84	0.00	45.32	≤74	PASS
		Low	Hop_2402	Peak	2310.000	-52.8	≤-24.04	2.84	0.00	45.24	≤74	PASS
				Peak	2378.540	-49.73	≤-24.04	2.84	0.00	48.31	≤74	PASS
				Peak	2390.000	-54.58	≤-24.04	2.84	0.00	43.46	≤74	PASS
		High	Hop_2480	Peak	2483.500	-53.07	≤-24.04	2.84	0.00	44.97	≤74	PASS
				Peak	2496.720	-49.51	≤-24.04	2.84	0.00	48.53	≤74	PASS
				Peak	2500.000	-53.23	≤-24.04	2.84	0.00	44.81	≤74	PASS
2DH5	Ant1	Low	2402	AV	2310.000	-61	≤-45.14	2.84	1.10	38.14	≤54	PASS
				AV	2376.335	-59.77	≤-45.14	2.84	1.10	39.37	≤54	PASS
				AV	2390.000	-60.37	≤-45.14	2.84	1.10	38.77	≤54	PASS
				Peak	2310.000	-51.56	≤-24.04	2.84	0.00	46.48	≤74	PASS
				Peak	2376.440	-50.16	≤-24.04	2.84	0.00	47.88	≤74	PASS
				Peak	2390.000	-52.28	≤-24.04	2.84	0.00	45.76	≤74	PASS
		High	2480	AV	2483.500	-59.78	≤-45.14	2.84	1.10	39.36	≤54	PASS
				AV	2490.720	-59.78	≤-45.14	2.84	1.10	39.36	≤54	PASS
				AV	2500.000	-60.72	≤-45.14	2.84	1.10	38.42	≤54	PASS
				Peak	2483.500	-51.55	≤-24.04	2.84	0.00	46.49	≤74	PASS
				Peak	2485.040	-50.02	≤-24.04	2.84	0.00	48.02	≤74	PASS
				Peak	2500.000	-53.99	≤-24.04	2.84	0.00	44.05	≤74	PASS
		Low	Hop_2402	Peak	2310.000	-53.79	≤-24.04	2.84	0.00	44.25	≤74	PASS
				Peak	2316.380	-50.04	≤-24.04	2.84	0.00	48.00	≤74	PASS
				Peak	2390.000	-54.14	≤-24.04	2.84	0.00	43.90	≤74	PASS
		High	Hop_2480	Peak	2483.500	-52.67	≤-24.04	2.84	0.00	45.37	≤74	PASS
				Peak	2486.080	-50.1	≤-24.04	2.84	0.00	47.94	≤74	PASS
				Peak	2500.000	-51.84	≤-24.04	2.84	0.00	46.20	≤74	PASS

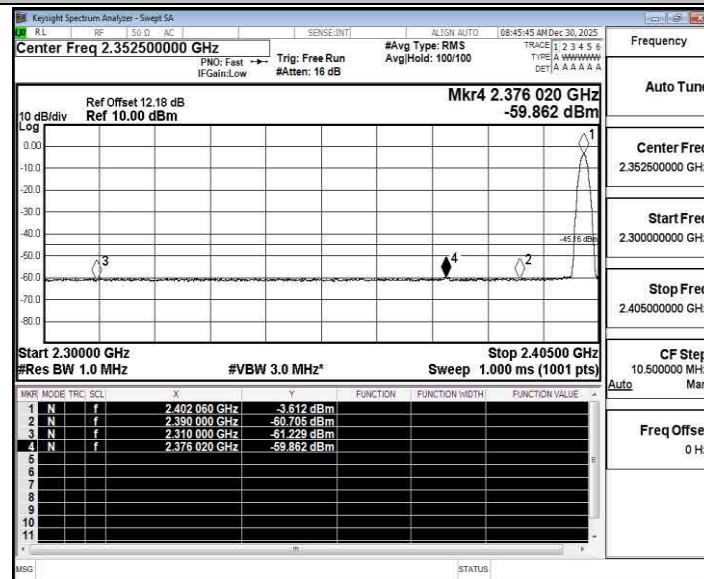
3DH5	Ant1	Low	2402	AV	2310.000	-61.33	≤-45.14	2.84	1.10	37.81	≤54	PASS
				AV	2376.650	-59.81	≤-45.14	2.84	1.10	39.33	≤54	PASS
				AV	2390.000	-60.9	≤-45.14	2.84	1.10	38.24	≤54	PASS
				Peak	2310.000	-53.51	≤-24.04	2.84	0.00	44.53	≤74	PASS
				Peak	2332.340	-50.38	≤-24.04	2.84	0.00	47.66	≤74	PASS
				Peak	2390.000	-52.78	≤-24.04	2.84	0.00	45.26	≤74	PASS
		High	2480	AV	2483.500	-60.21	≤-45.14	2.84	1.10	38.93	≤54	PASS
				AV	2498.320	-59.92	≤-45.14	2.84	1.10	39.22	≤54	PASS
				AV	2500.000	-60.65	≤-45.14	2.84	1.10	38.49	≤54	PASS
				Peak	2483.500	-52.71	≤-24.04	2.84	0.00	45.33	≤74	PASS
				Peak	2499.760	-50.09	≤-24.04	2.84	0.00	47.95	≤74	PASS
				Peak	2500.000	-52.25	≤-24.04	2.84	0.00	45.79	≤74	PASS
		Low	Hop_2402	Peak	2310.000	-53.81	≤-24.04	2.84	0.00	44.23	≤74	PASS
				Peak	2343.050	-50	≤-24.04	2.84	0.00	48.04	≤74	PASS
				Peak	2390.000	-52.87	≤-24.04	2.84	0.00	45.17	≤74	PASS
		High	Hop_2480	Peak	2483.500	-53.04	≤-24.04	2.84	0.00	45.00	≤74	PASS
				Peak	2490.560	-50.13	≤-24.04	2.84	0.00	47.91	≤74	PASS
				Peak	2500.000	-53.3	≤-24.04	2.84	0.00	44.74	≤74	PASS

Note:

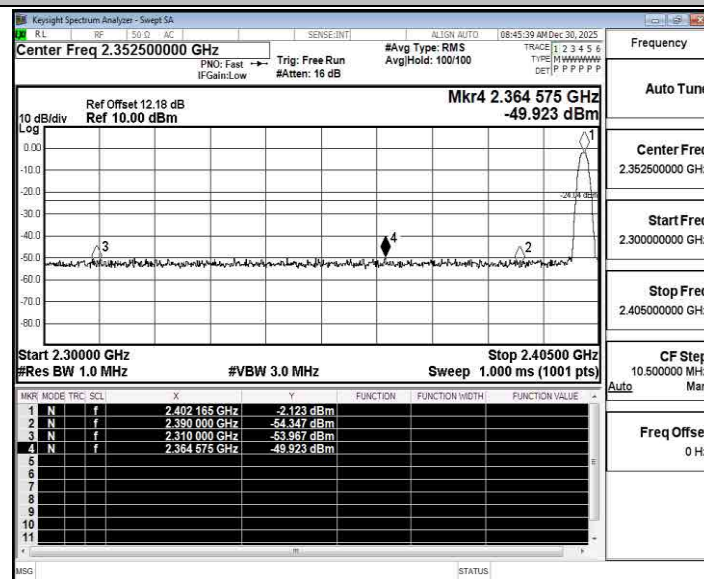
1. The limit in dBm for average detector is conversion from 54dBuV/m, according to 15.209(a). The limit in dBm for peak detector is 20dB above the limit of average detector in dBm.

Test Graphs

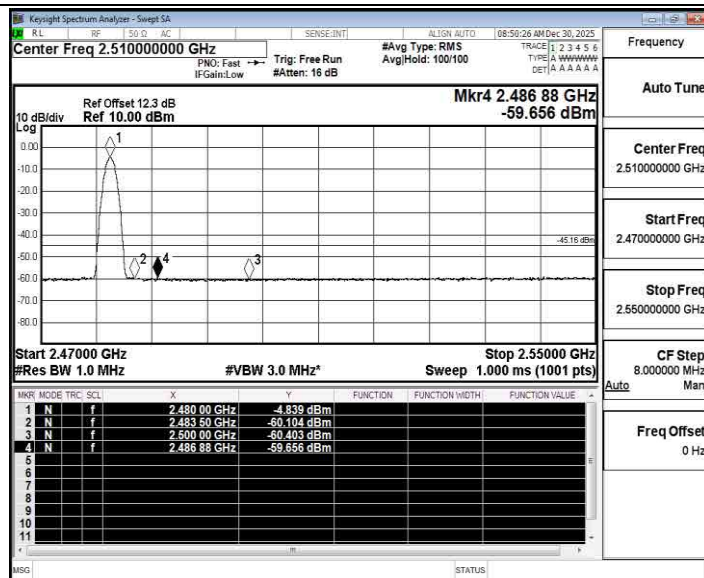
DH5_Ant1_Low_2402_AV



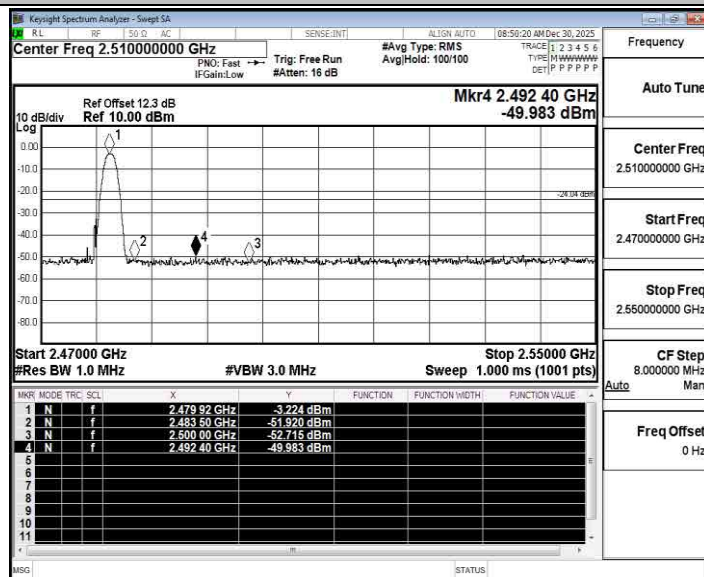
DH5_Ant1_Low_2402_Peak



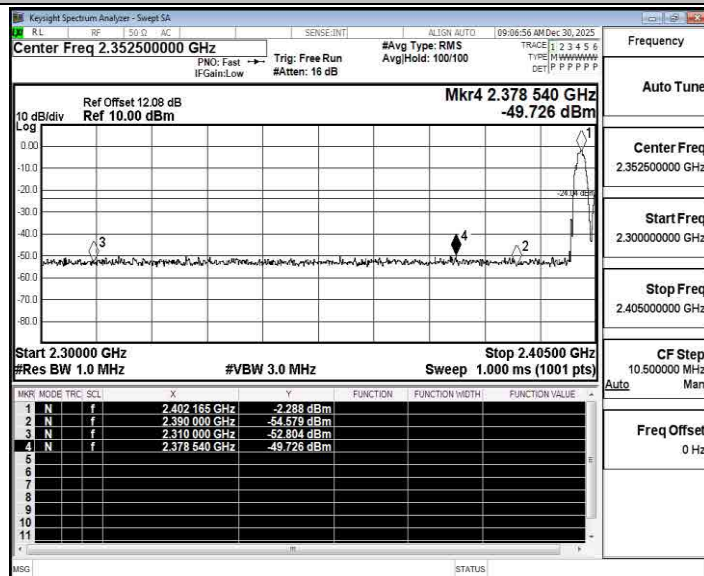
DH5_Ant1_High_2480_AV



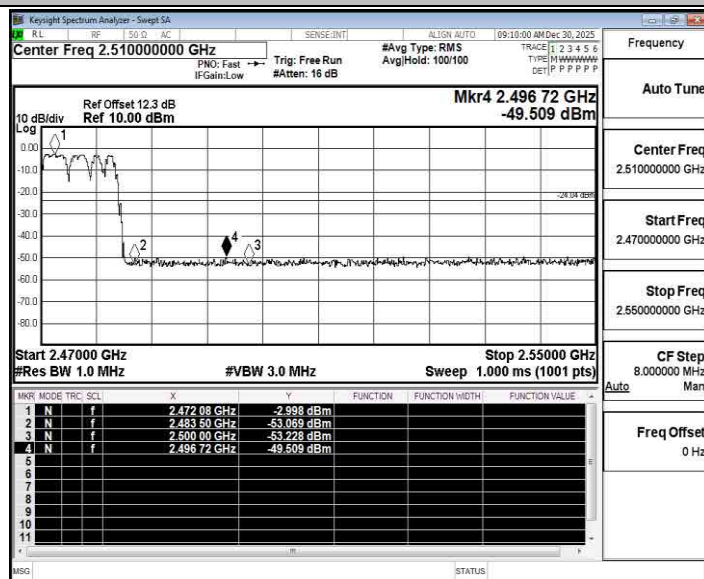
DH5_Ant1_High_2480_Peak



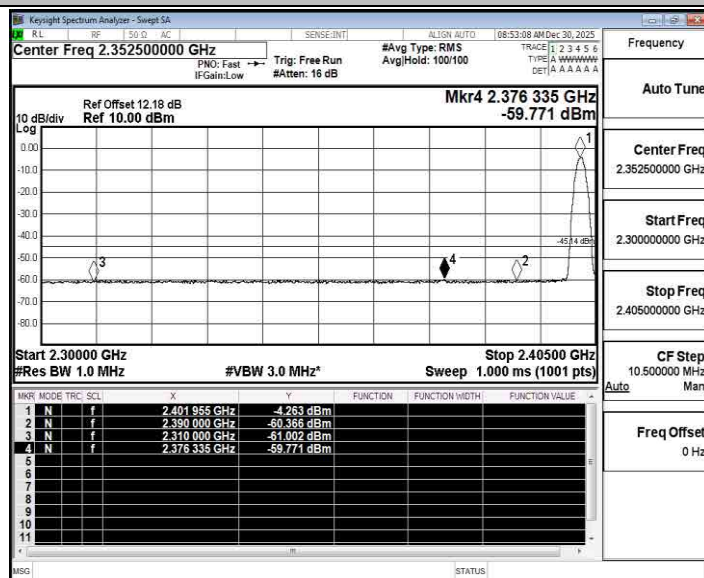
DH5_Ant1_Low_Hop_2402_Peak



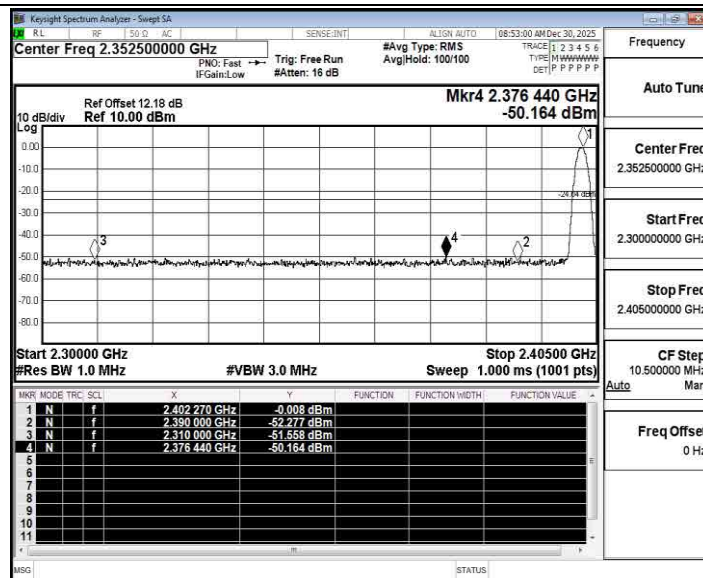
DH5_Ant1_High_Hop_2480_Peak



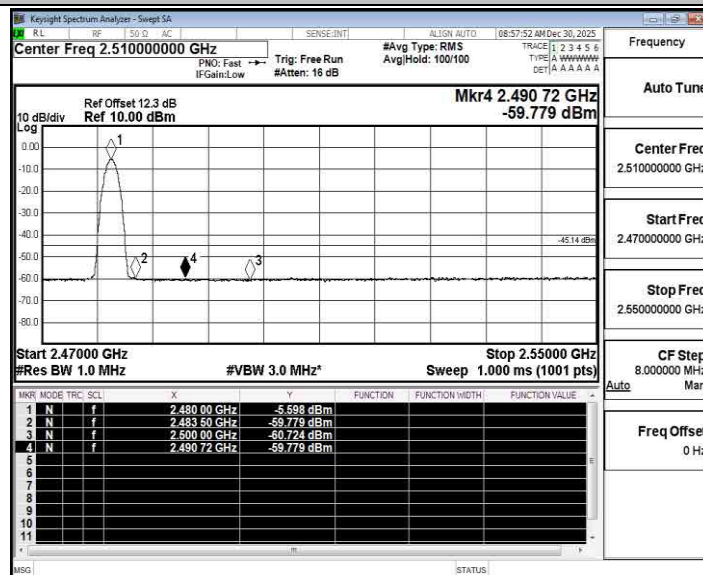
2DH5_Ant1_Low_2402_AV



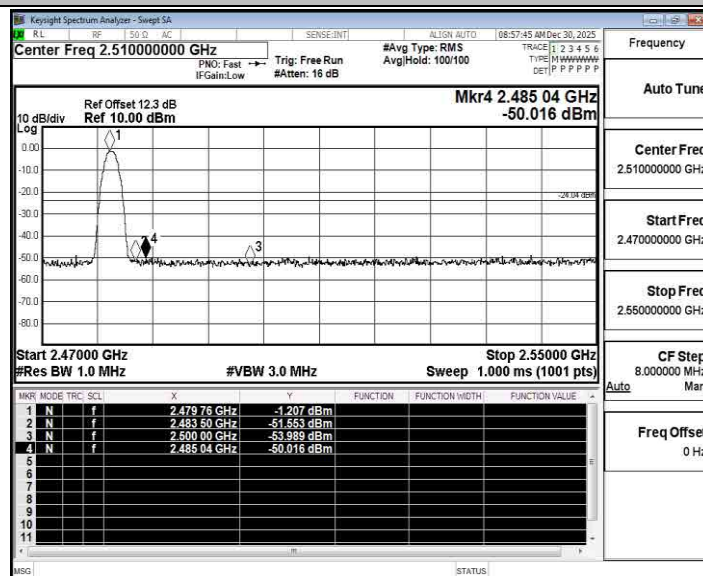
2DH5_Ant1_Low_2402_Peak



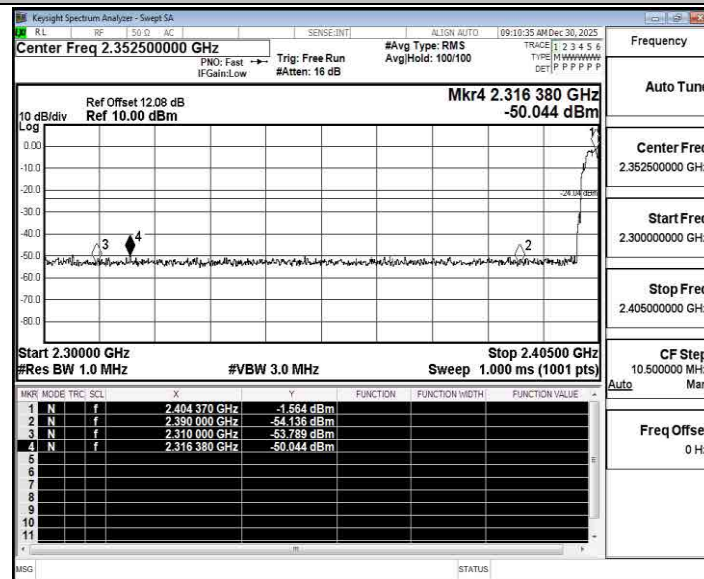
2DH5_Ant1_High_2480_AV



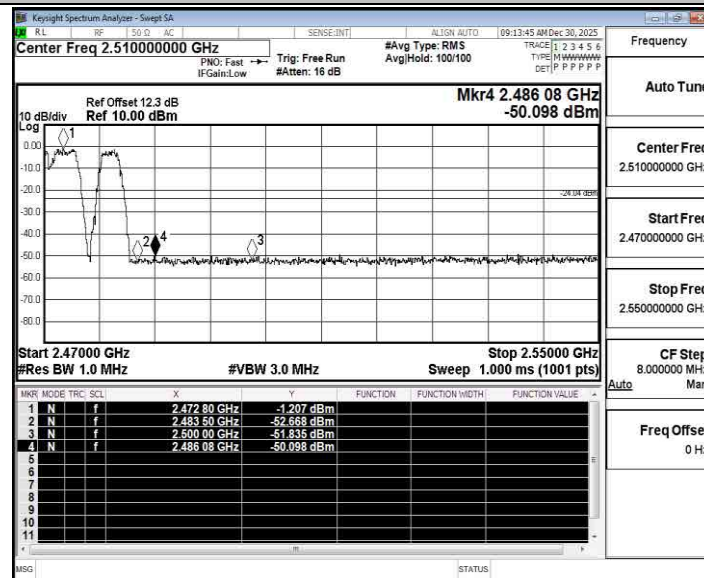
2DH5_Ant1_High_2480_Peak



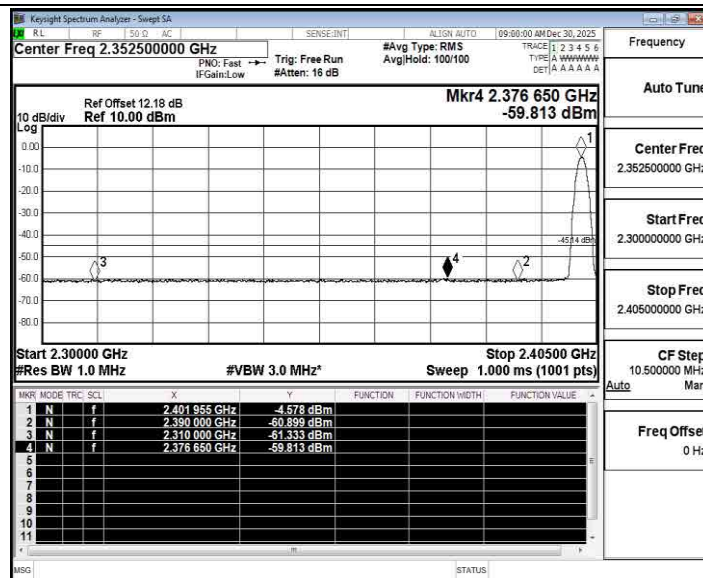
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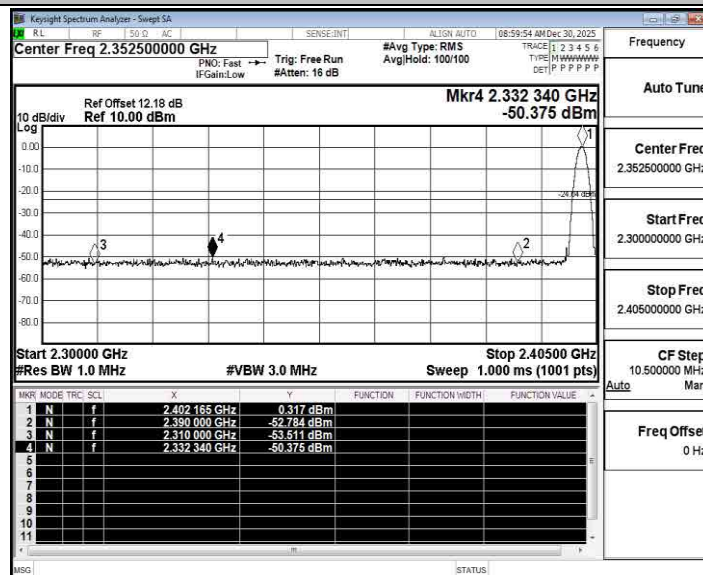
2DH5_Ant1_High_Hop_2480_Peak



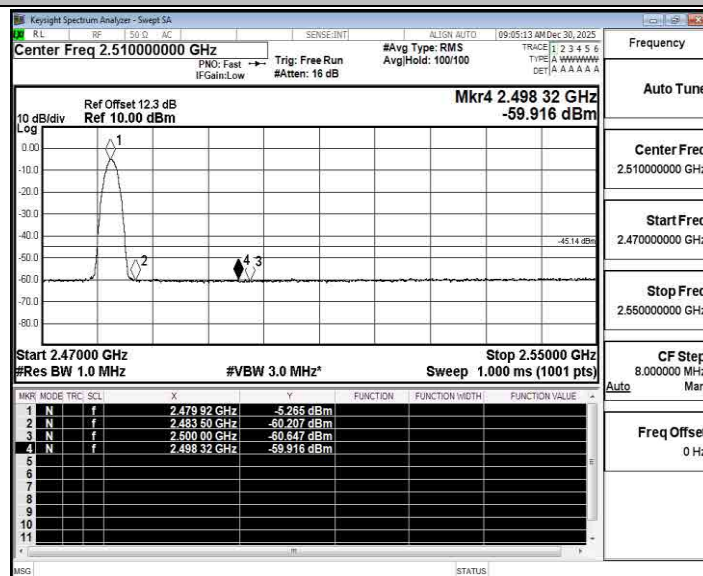
3DH5_Ant1_Low_2402_AV



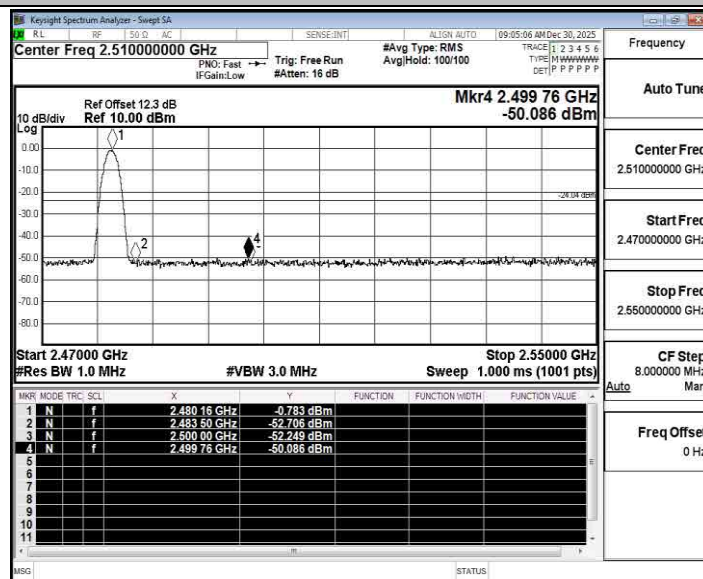
3DH5_Ant1_Low_2402_Peak



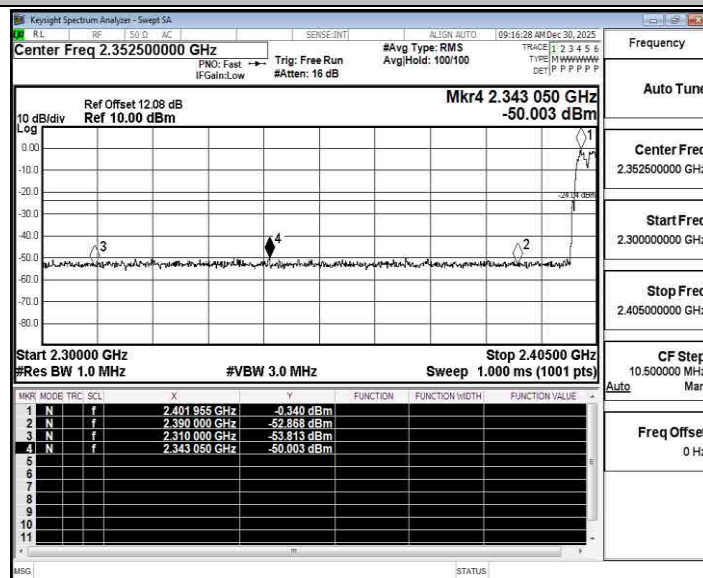
3DH5_Ant1_High_2480_AV



3DH5_Ant1_High_2480_Peak



3DH5_Ant1_Low_Hop_2402_Peak



3DH5_Ant1_High_Hop_2480_Peak

