

Appendix A

RF Test Data for BT (Conducted Measurement)

Product Name: SecondBrain Note

Test Model: GSA011

Environmental Conditions

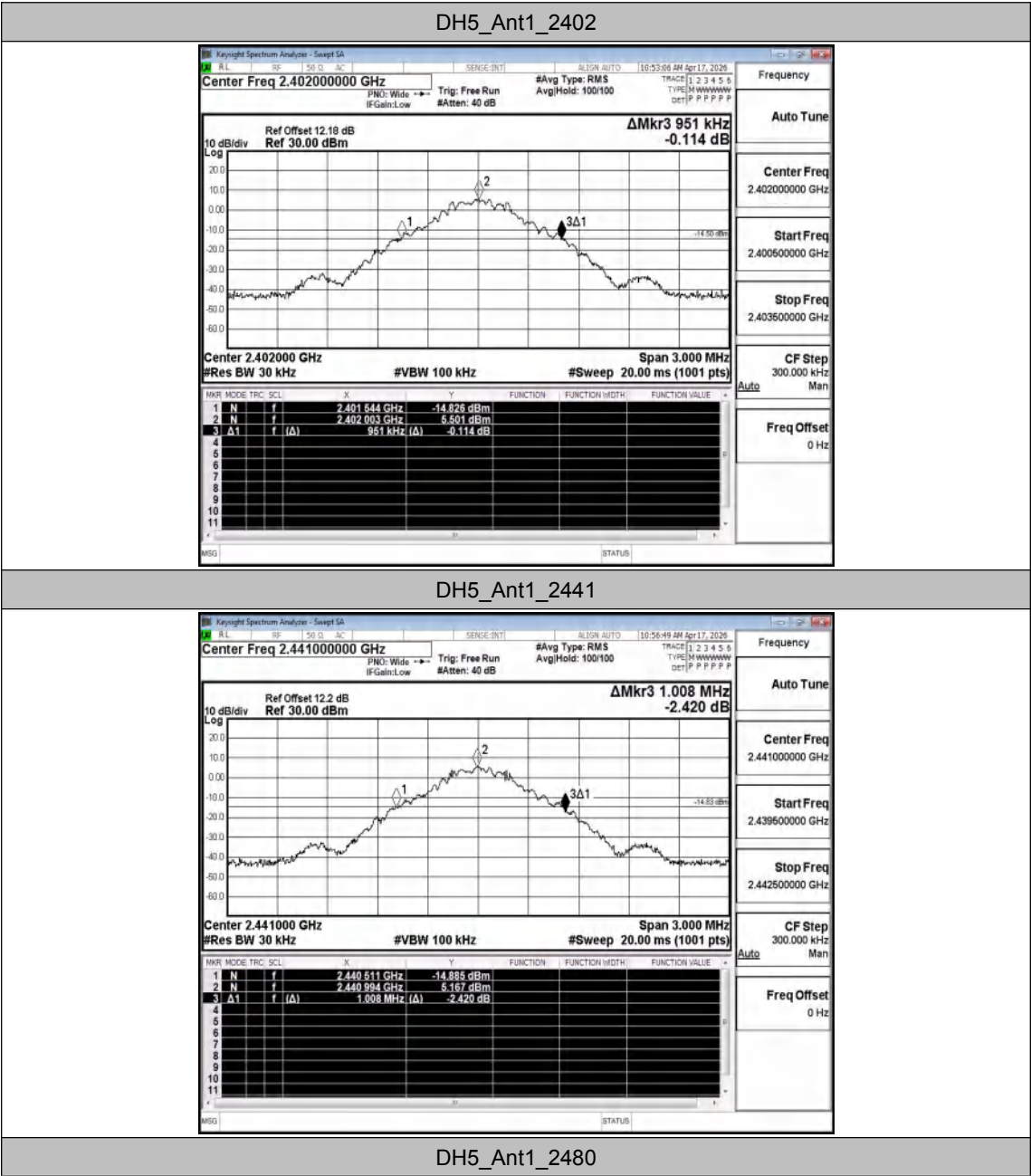
Temperature:	24.2°C
Relative Humidity:	53.6%
ATM Pressure:	100.0 kPa
Test Engineer:	Zhang hai
Supervised by:	Fengliu Tang

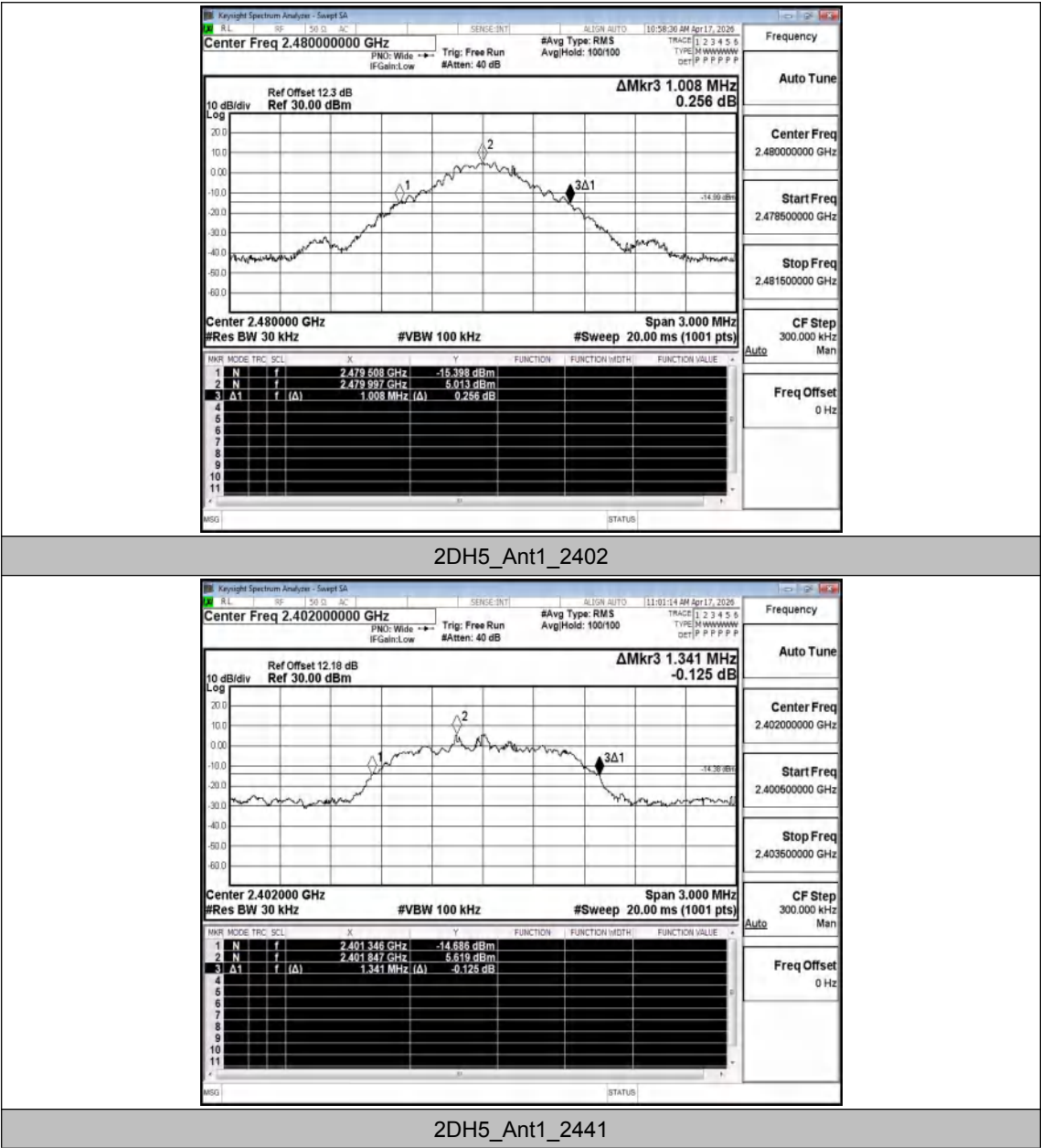
A.1 20dB Emission Bandwidth

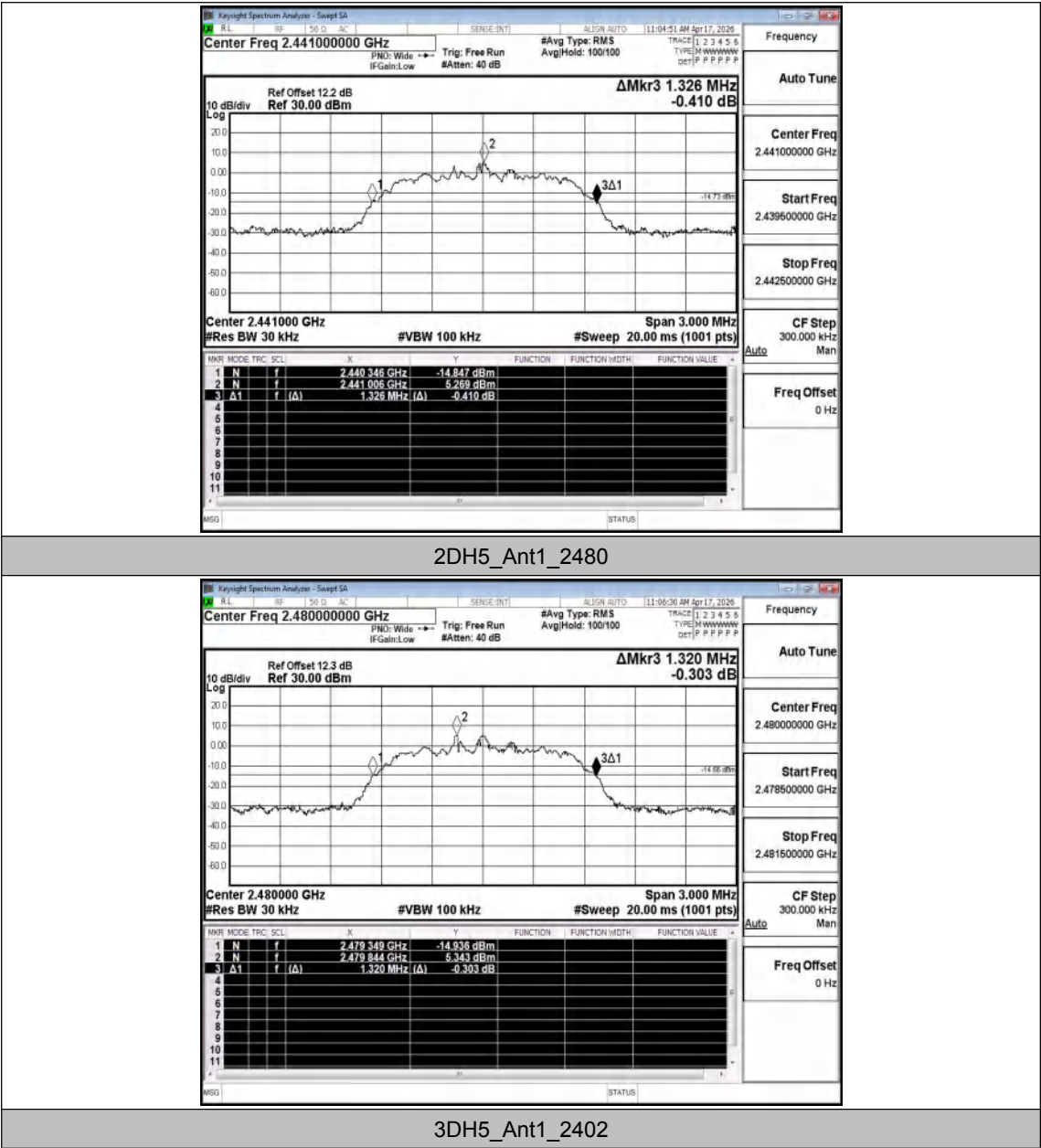
Test Result

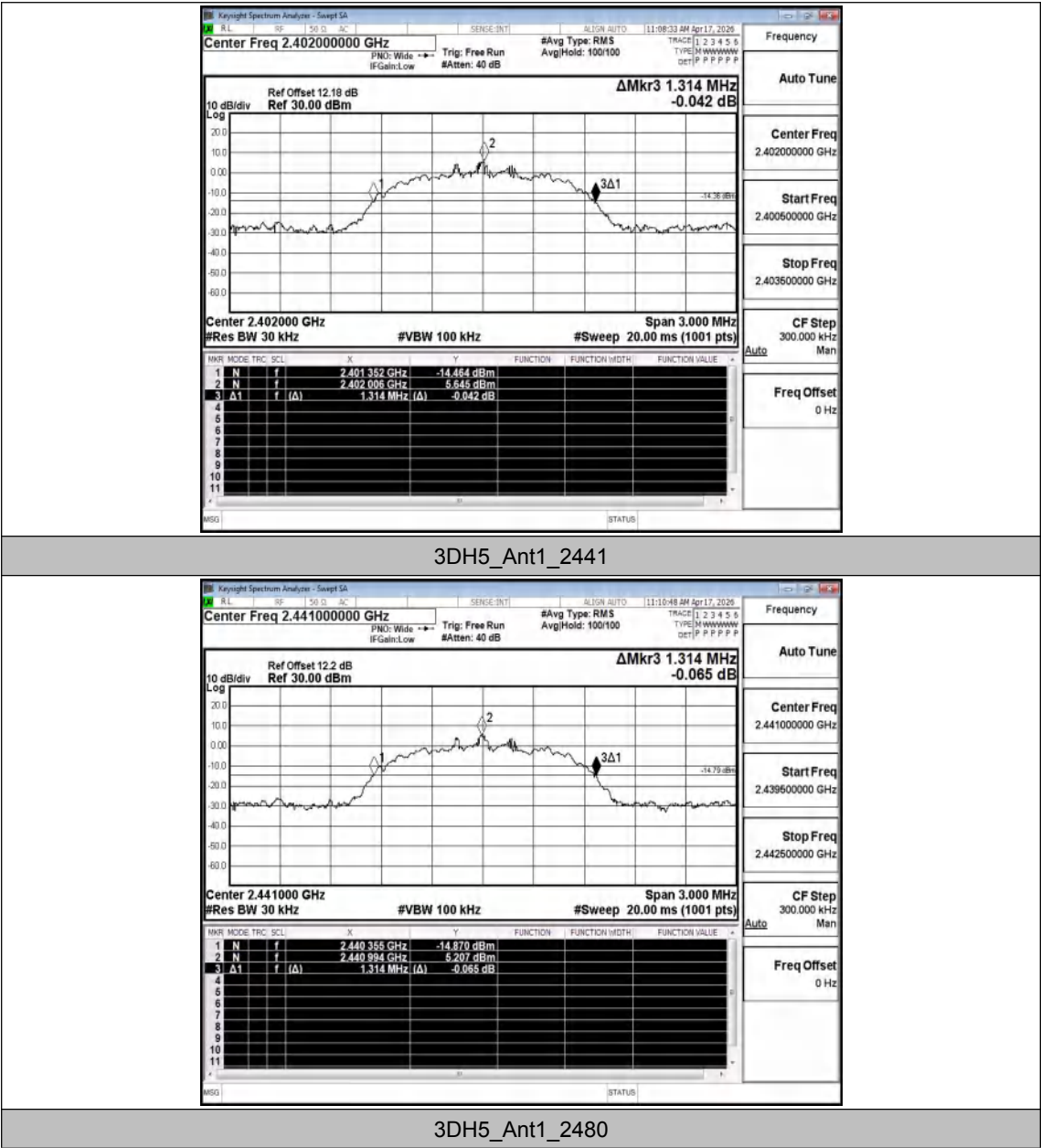
TestMode	Antenna	Freq(MHz)	20dB EBW[MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
DH5	Ant1	2402	0.951	2401.544	2402.495	---	---
		2441	1.008	2440.511	2441.519	---	---
		2480	1.008	2479.508	2480.516	---	---
2DH5	Ant1	2402	1.341	2401.346	2402.687	---	---
		2441	1.326	2440.346	2441.672	---	---
		2480	1.320	2479.349	2480.669	---	---
3DH5	Ant1	2402	1.314	2401.352	2402.666	---	---
		2441	1.314	2440.355	2441.669	---	---
		2480	1.317	2479.349	2480.666	---	---

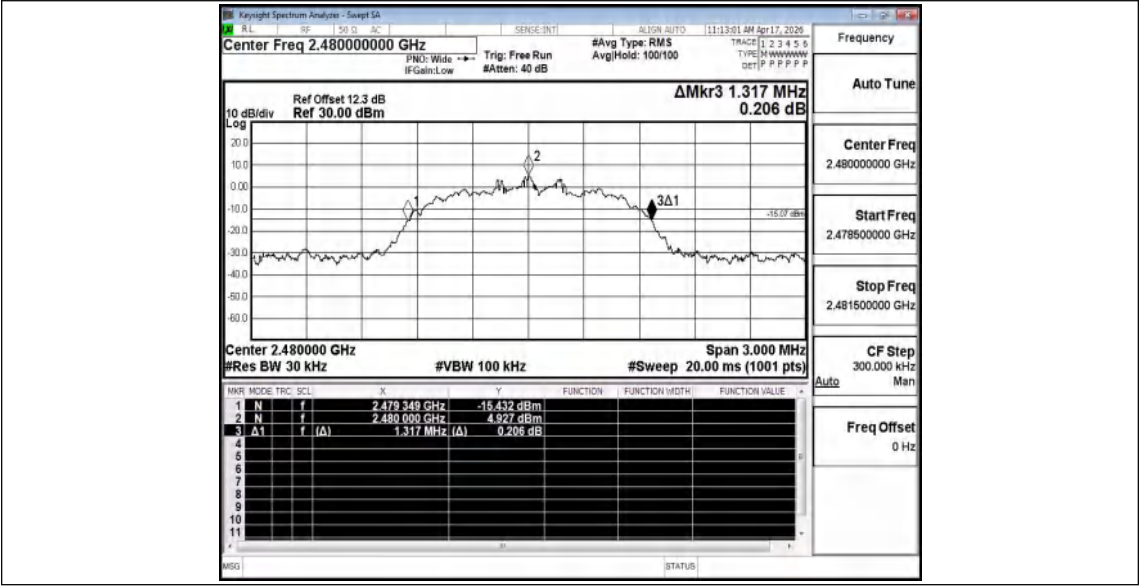
Test Graphs









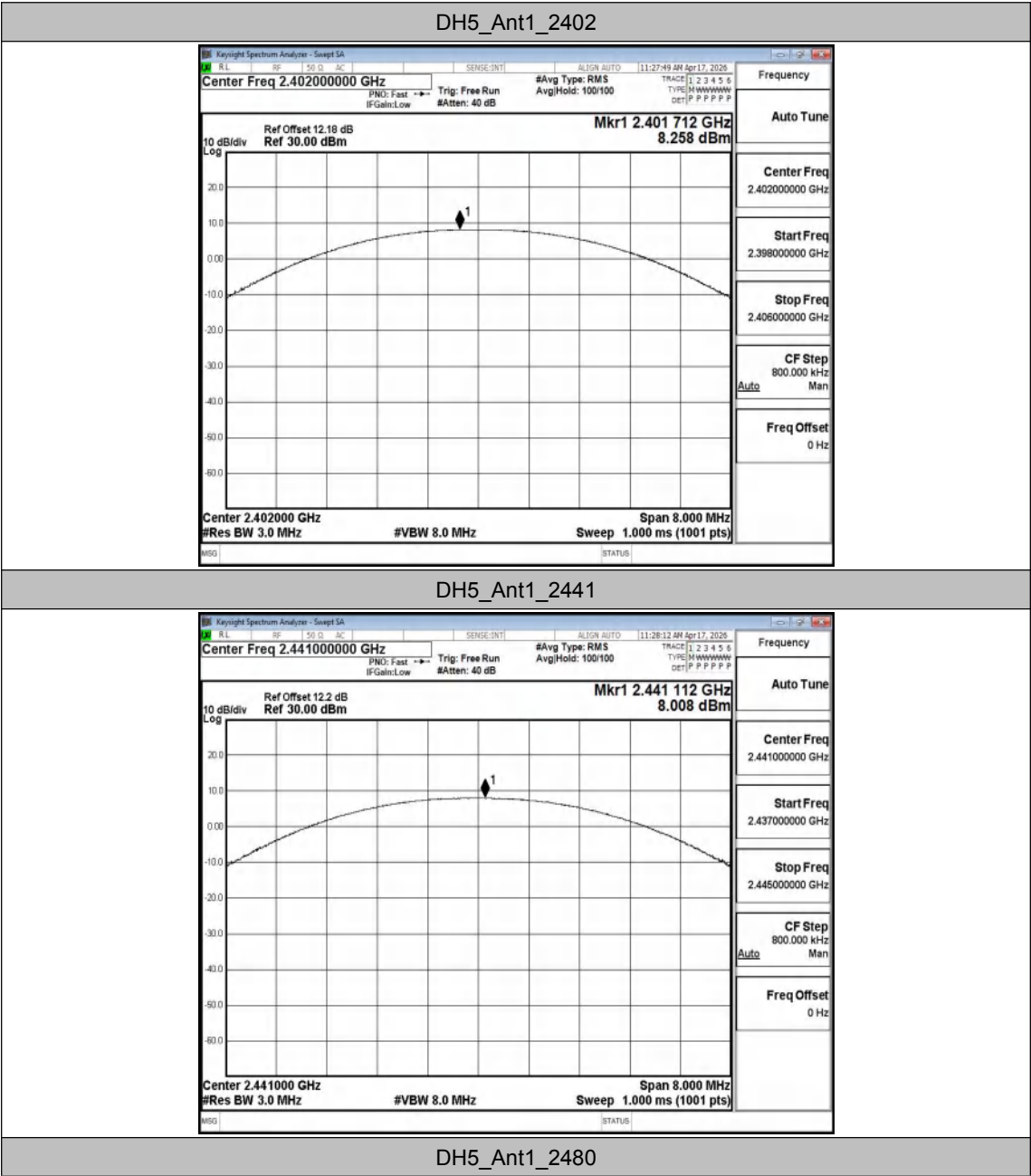


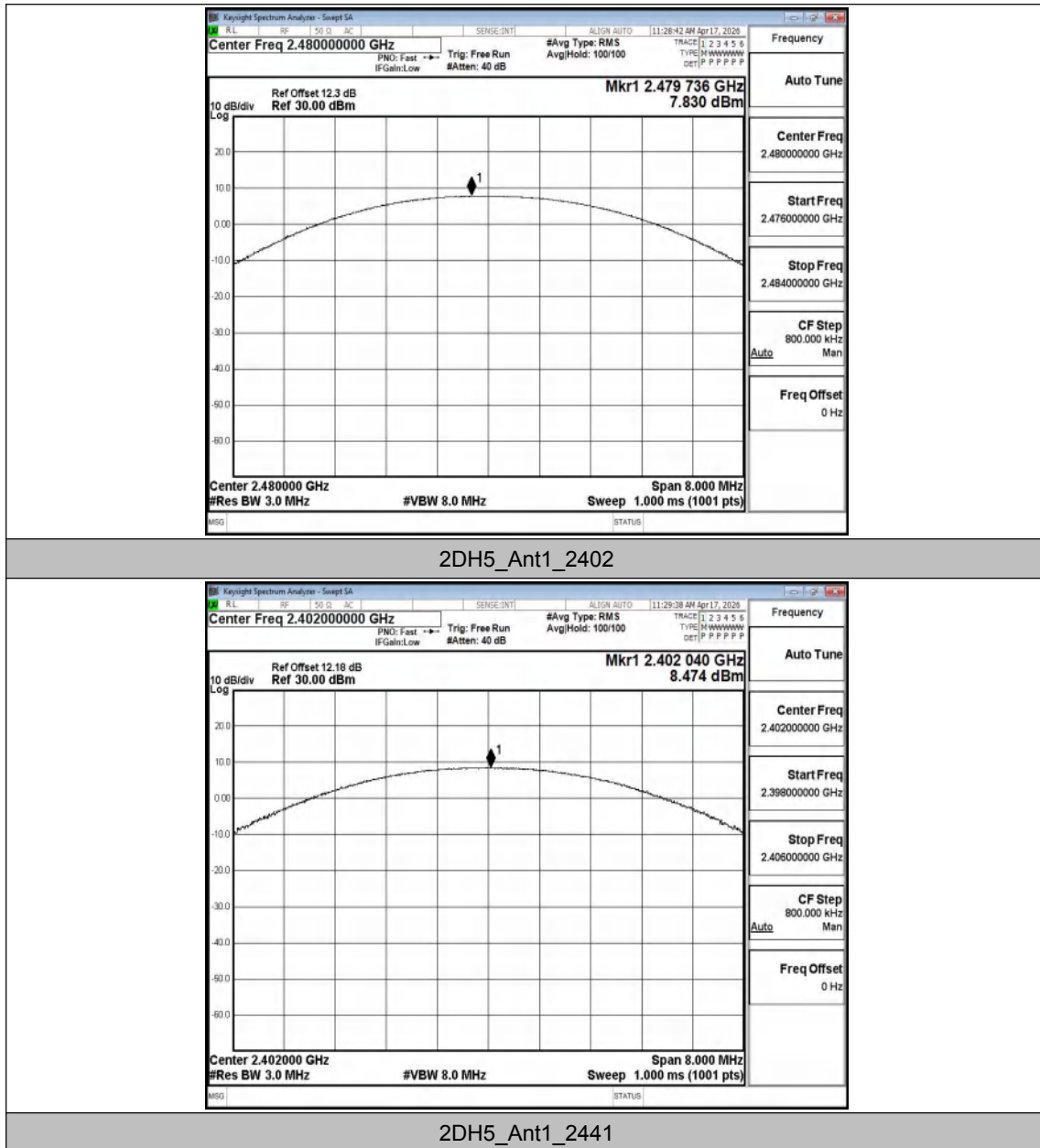
A.2 Maximum Peak Conducted Output Power

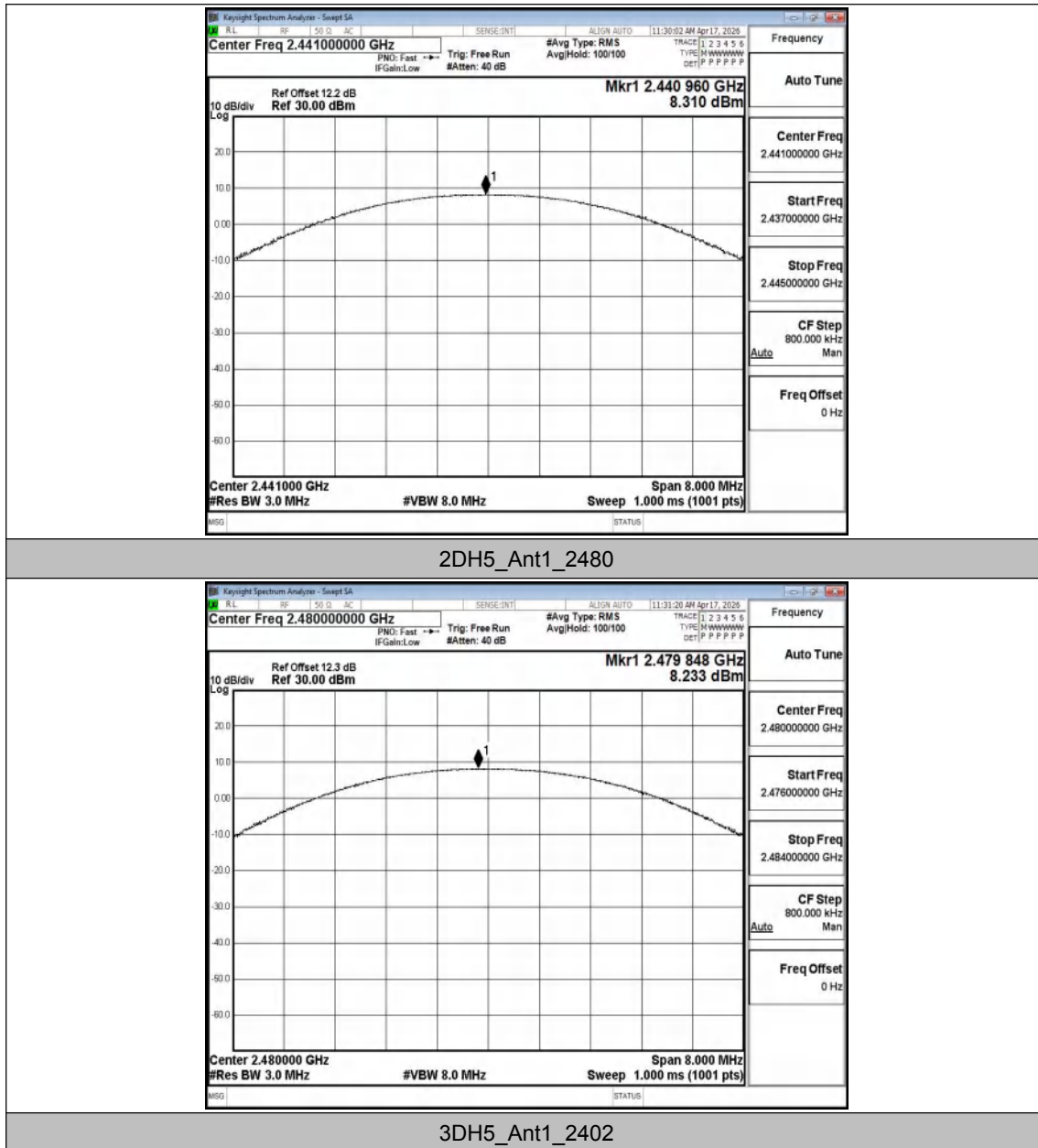
Test Result Peak

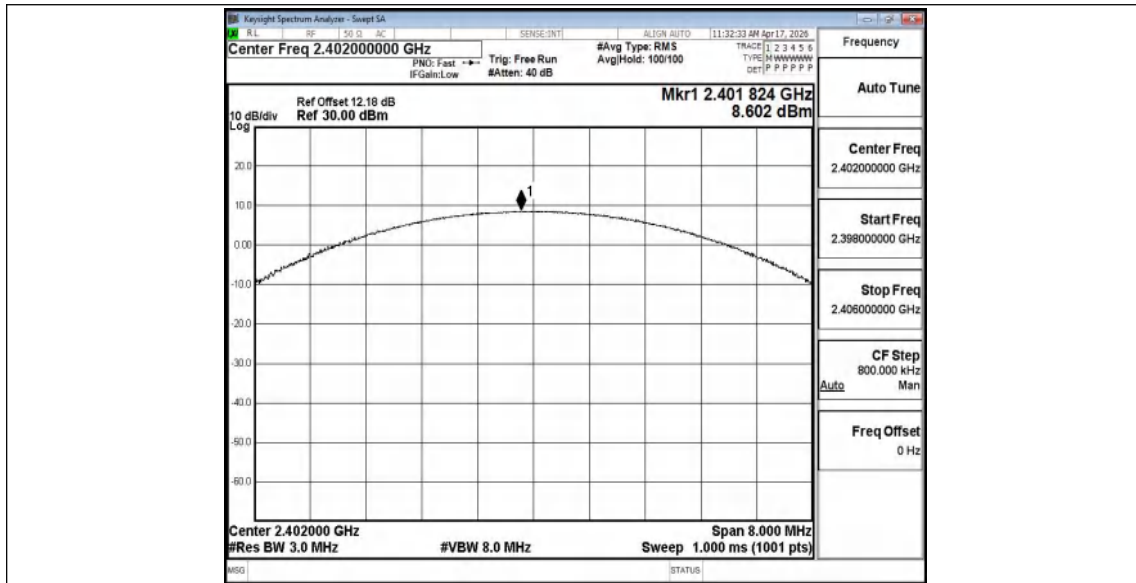
Test Mode	Antenna	Freq(MHz)	Conducted Peak Power[dBm]	Conducted Limit[dBm]	Verdict
DH5	Ant1	2402	8.26	≤30	PASS
		2441	8.01	≤30	PASS
		2480	7.83	≤30	PASS
2DH5	Ant1	2402	8.47	≤20.97	PASS
		2441	8.31	≤20.97	PASS
		2480	8.23	≤20.97	PASS
3DH5	Ant1	2402	8.60	≤20.97	PASS
		2441	8.40	≤20.97	PASS
		2480	8.38	≤20.97	PASS

Test Graphs

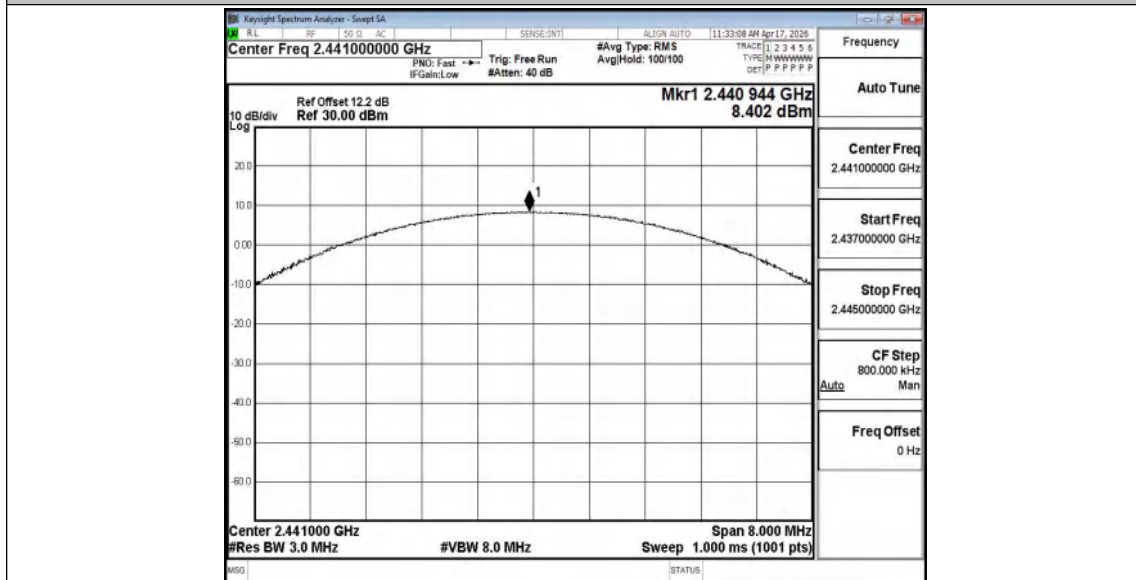




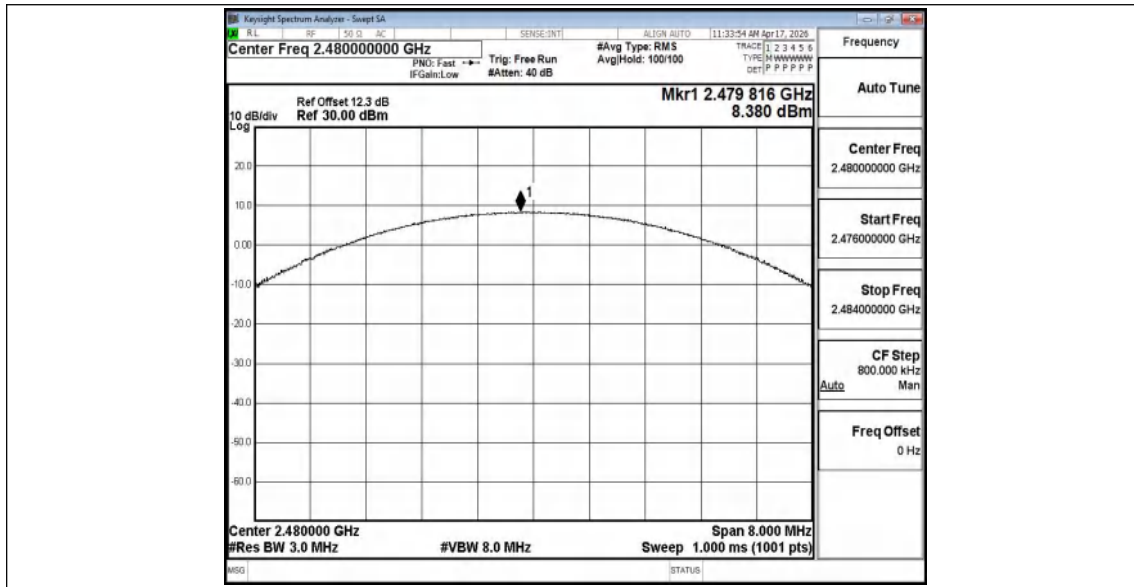




3DH5_Ant1_2441



3DH5_Ant1_2480



Guangzhou LCS Compliance Testing Laboratory Ltd.

Add: No.44-1, Qianfeng North Road, Shiqi, Panyu District, Guangzhou, Guangdong, China

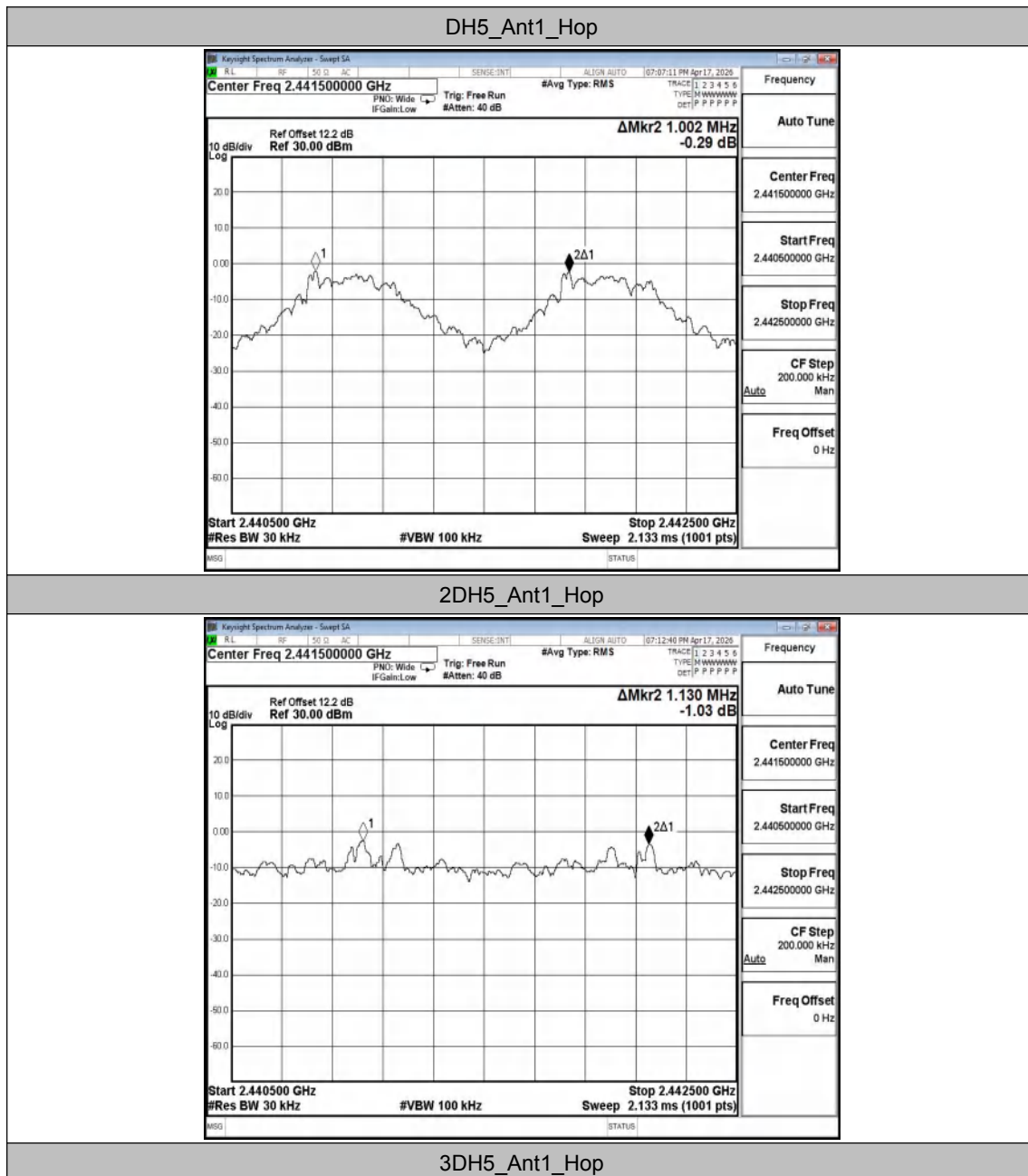
Tel: +(86) 020-39166689 | E-mail: webmaster@lcs-cert.com | Web: www.lcs-cert.com

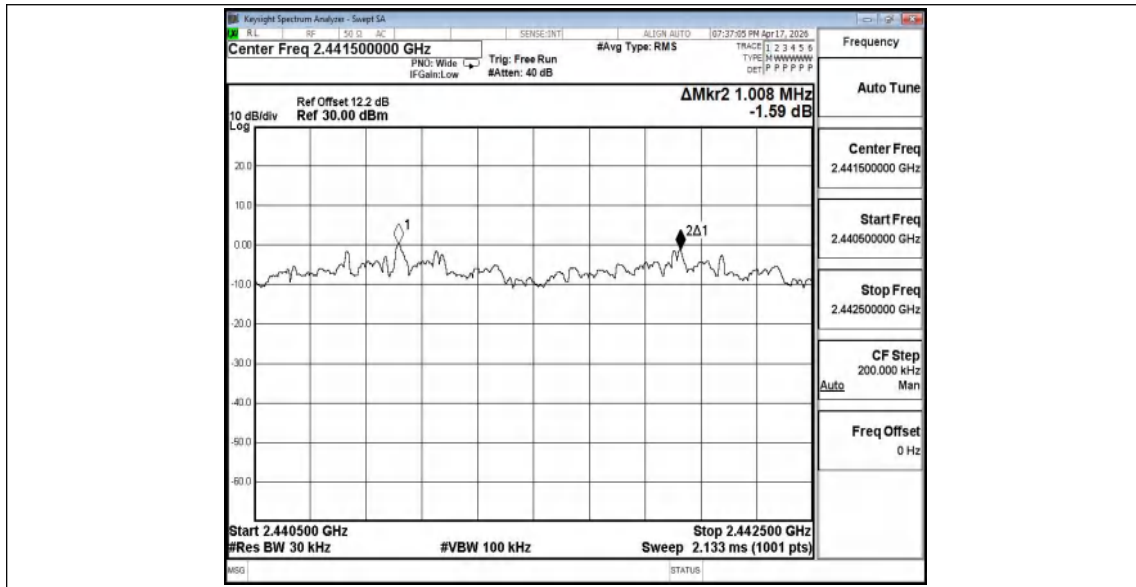
A.3 Carrier frequency separation

Test Result

TestMode	Antenna	Freq(MHz)	Result[MHz]	Limit[MHz]	Verdict
DH5	Ant1	Hop	1.002	≥ 1.008	PASS
2DH5	Ant1	Hop	1.13	≥ 0.894	PASS
3DH5	Ant1	Hop	1.008	≥ 0.878	PASS

Test Graphs



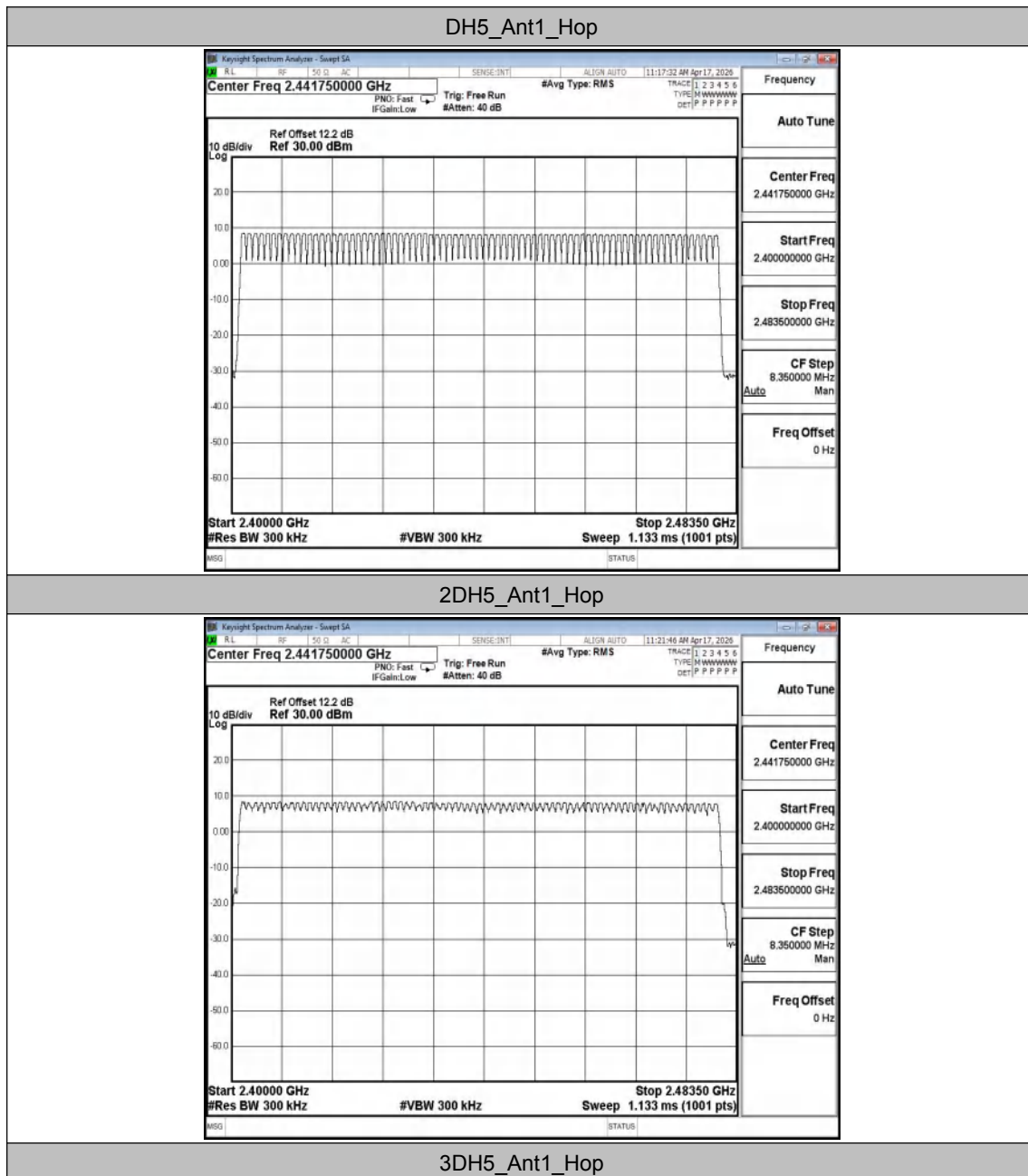


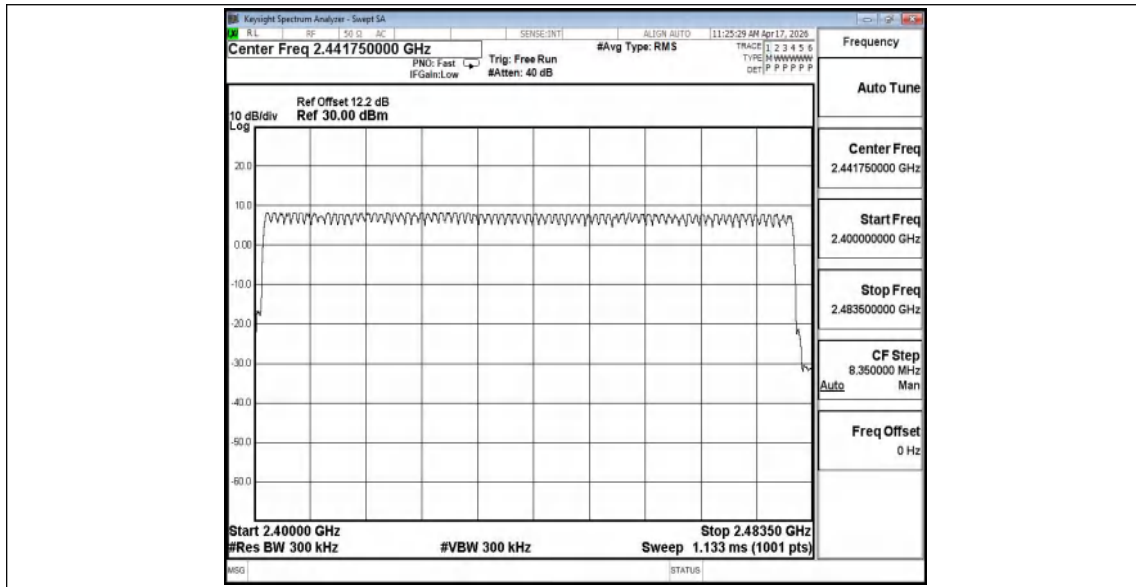
A.4 Number of hopping channels

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



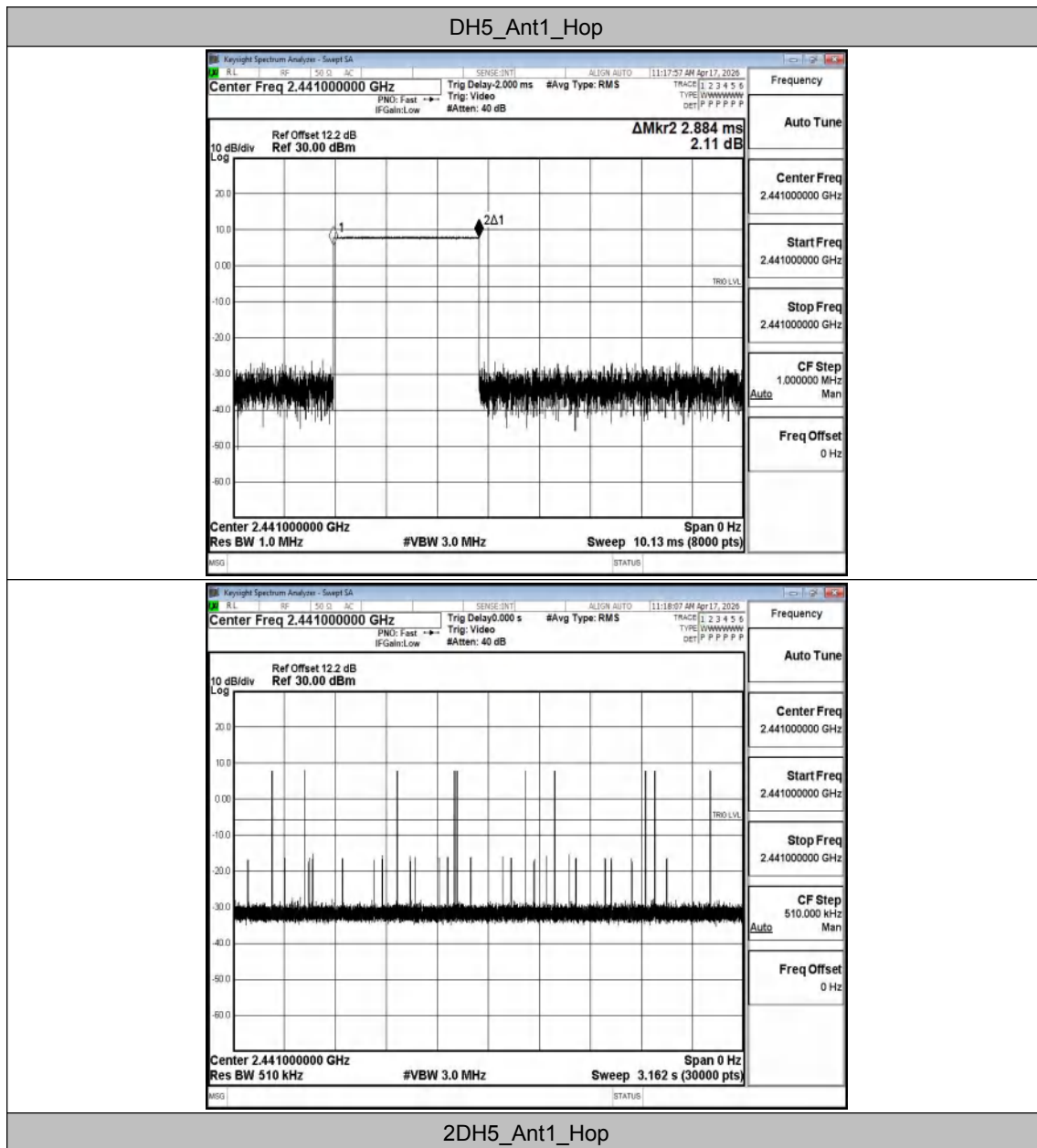


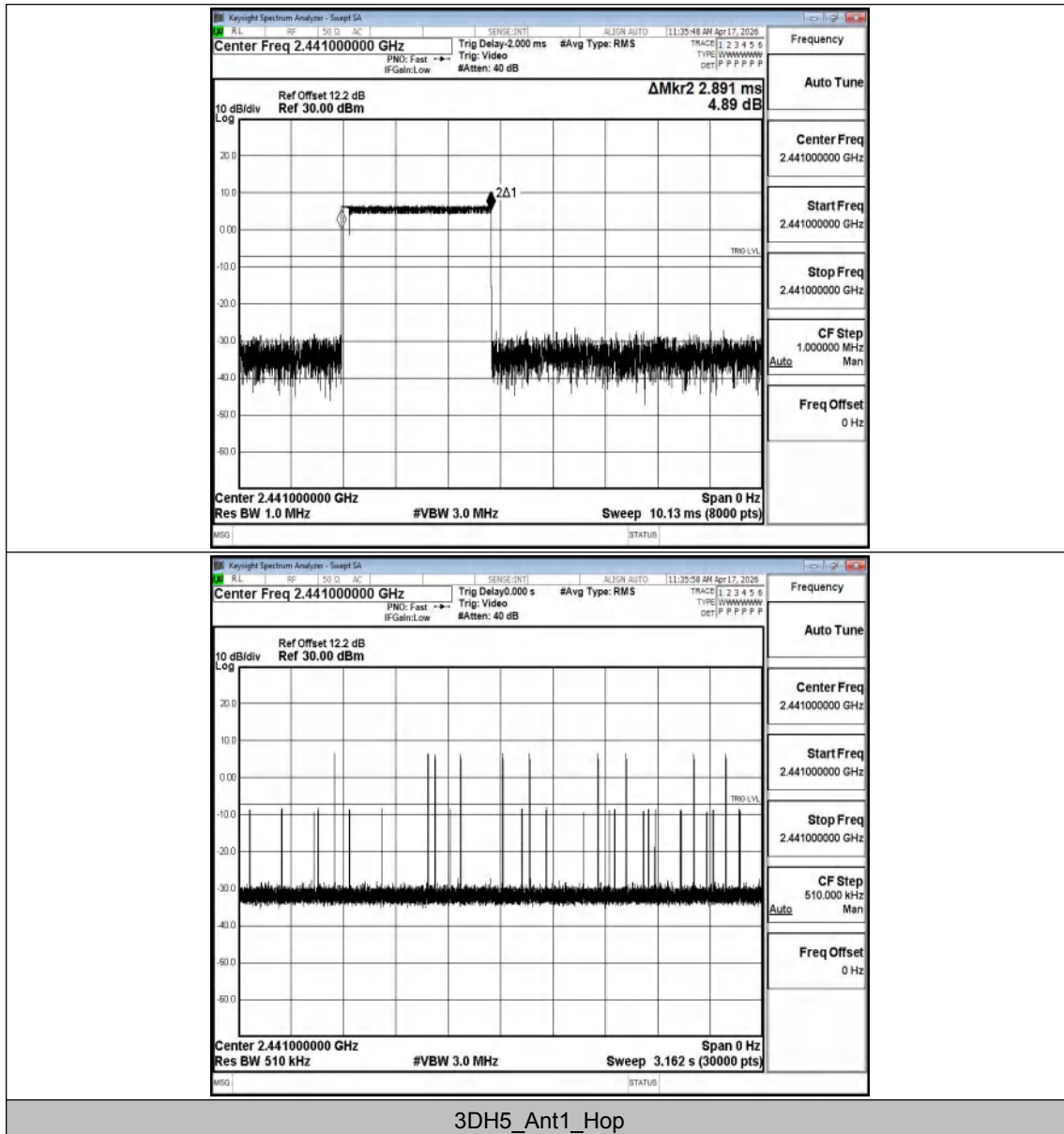
A.5 Time of occupancy

Test Result

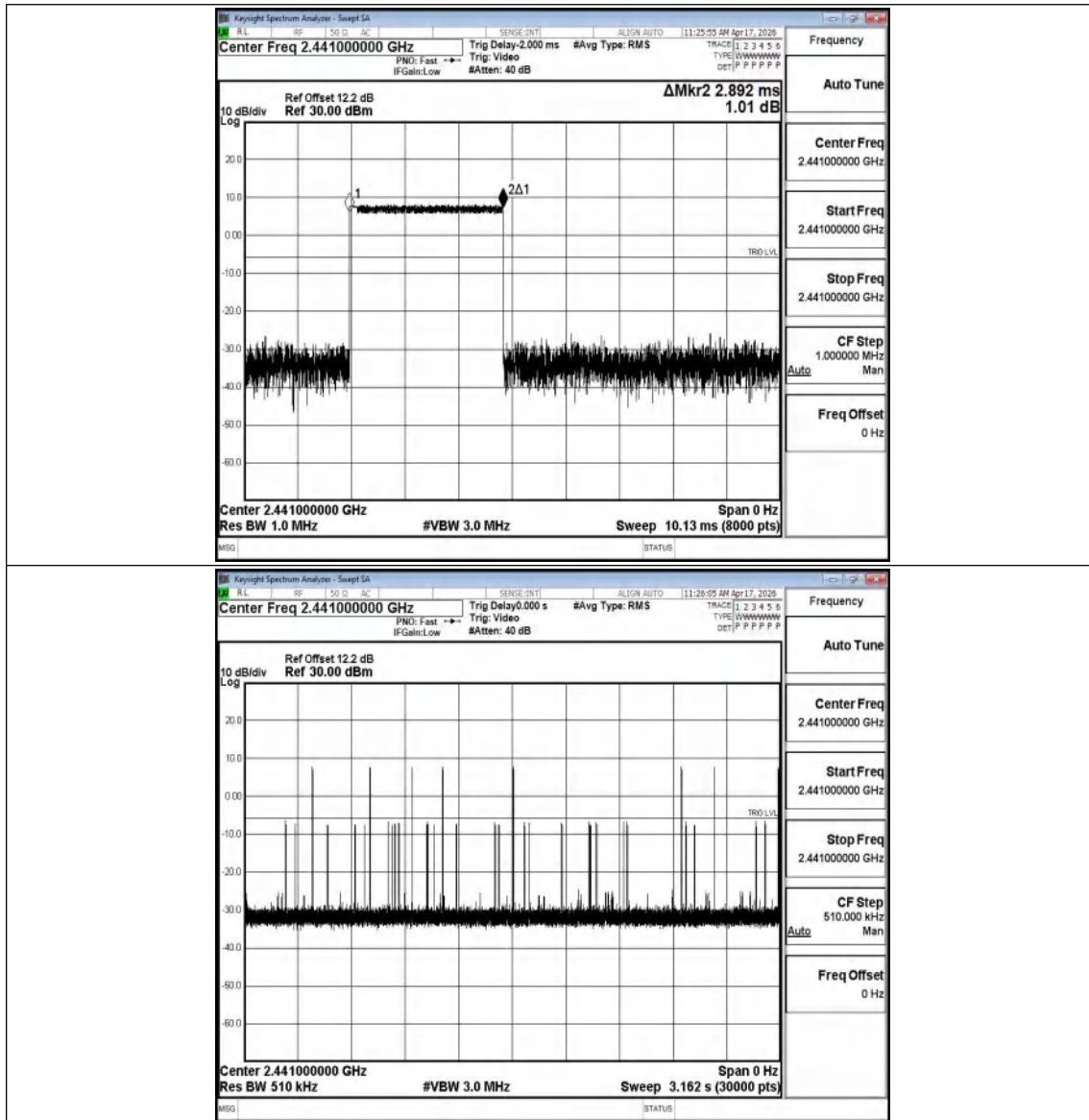
TestMode	Antenna	Freq(MHz)	BurstWidth [ms]	TotalHops [Num]	Result[s]	Limit[s]	Verdict
DH5	Ant1	Hop	2.884	120	0.346	≤0.4	PASS
2DH5	Ant1	Hop	2.891	110	0.318	≤0.4	PASS
3DH5	Ant1	Hop	2.892	90	0.26	≤0.4	PASS

Test Graphs





3DH5_Ant1_Hop



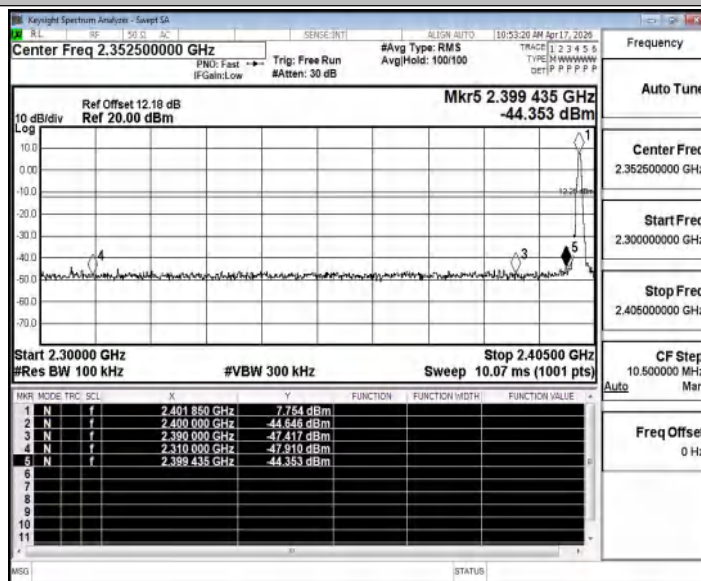
A.6 Band edge measurements

Test Result

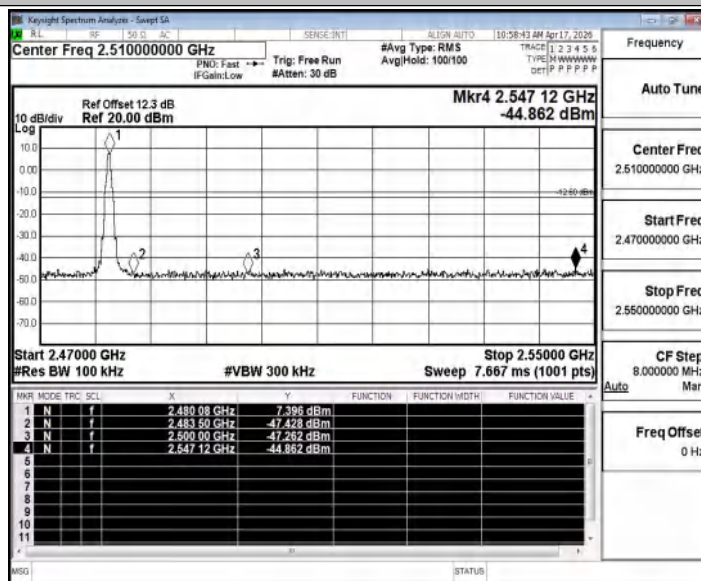
TestMode	Antenna	ChName	Freq(MHz)	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
DH5	Ant1	Low	2402	7.75	-44.35	≤ -12.25	PASS
		High	2480	7.40	-44.86	≤ -12.6	PASS
		Low	Hop_2402	6.99	-44.68	≤ -13.01	PASS
		High	Hop_2480	7.36	-44.12	≤ -12.64	PASS
2DH5	Ant1	Low	2402	7.98	-40.93	≤ -12.02	PASS
		High	2480	7.46	-44.55	≤ -12.54	PASS
		Low	Hop_2402	4.26	-45.73	≤ -15.74	PASS
		High	Hop_2480	6.53	-44.78	≤ -13.48	PASS
3DH5	Ant1	Low	2402	7.97	-38.97	≤ -12.03	PASS
		High	2480	7.46	-43.15	≤ -12.54	PASS
		Low	Hop_2402	2.73	-45.05	≤ -17.27	PASS
		High	Hop_2480	3.15	-44.67	≤ -16.85	PASS

Test Graphs

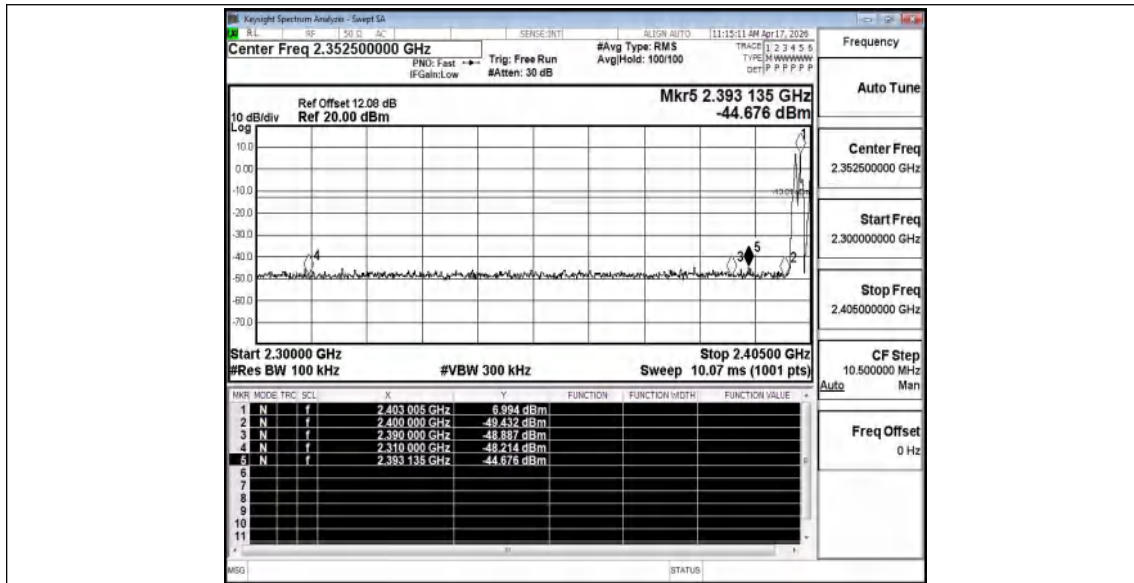
DH5_Ant1_Low_2402



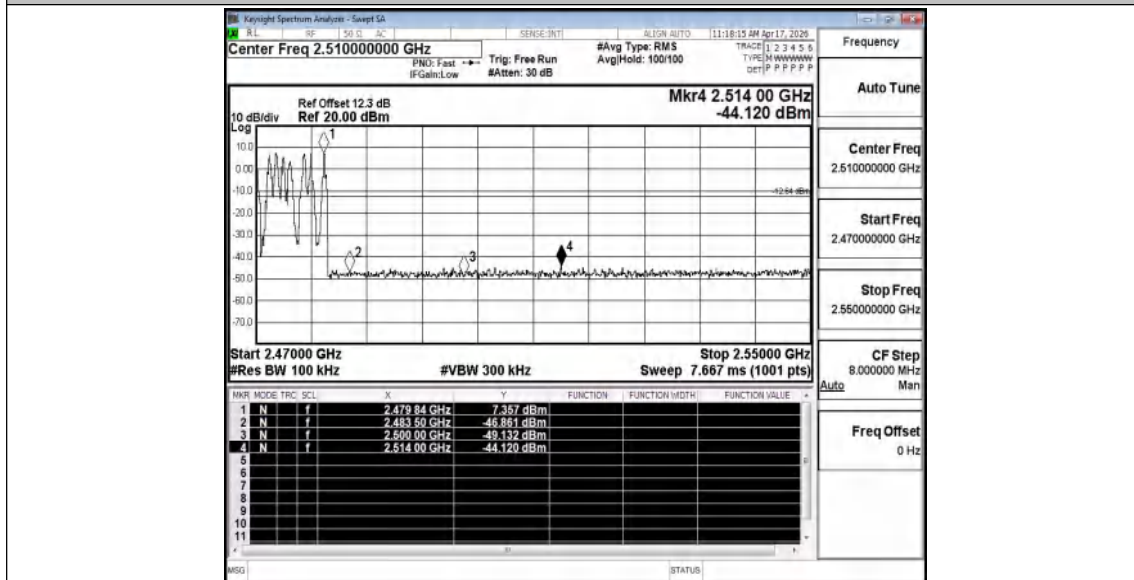
DH5_Ant1_High_2480



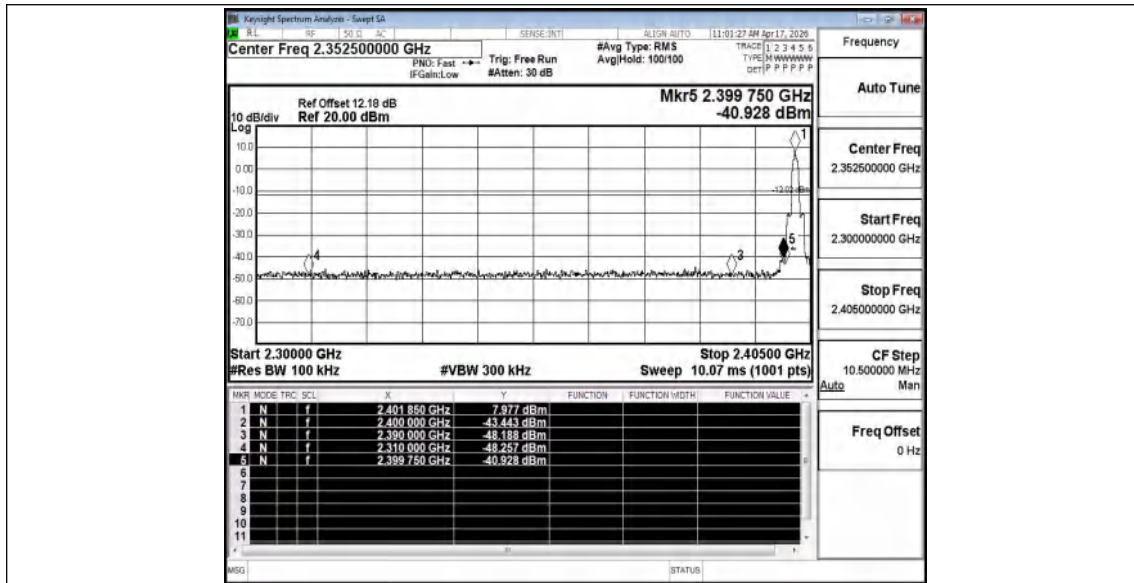
DH5_Ant1_Low_Hop_2402



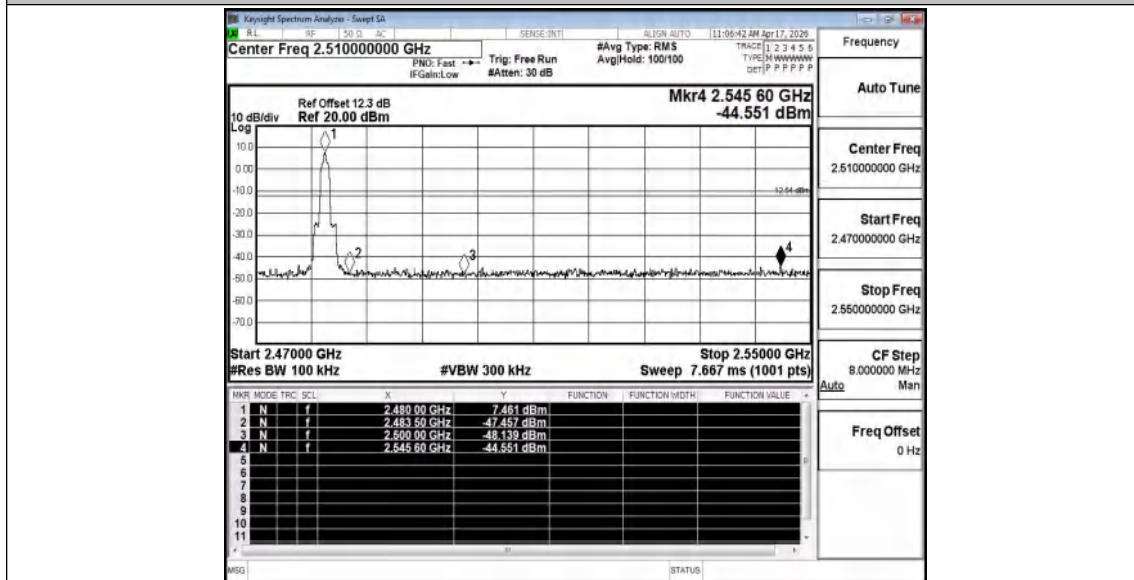
DH5_Ant1_High_Hop_2480



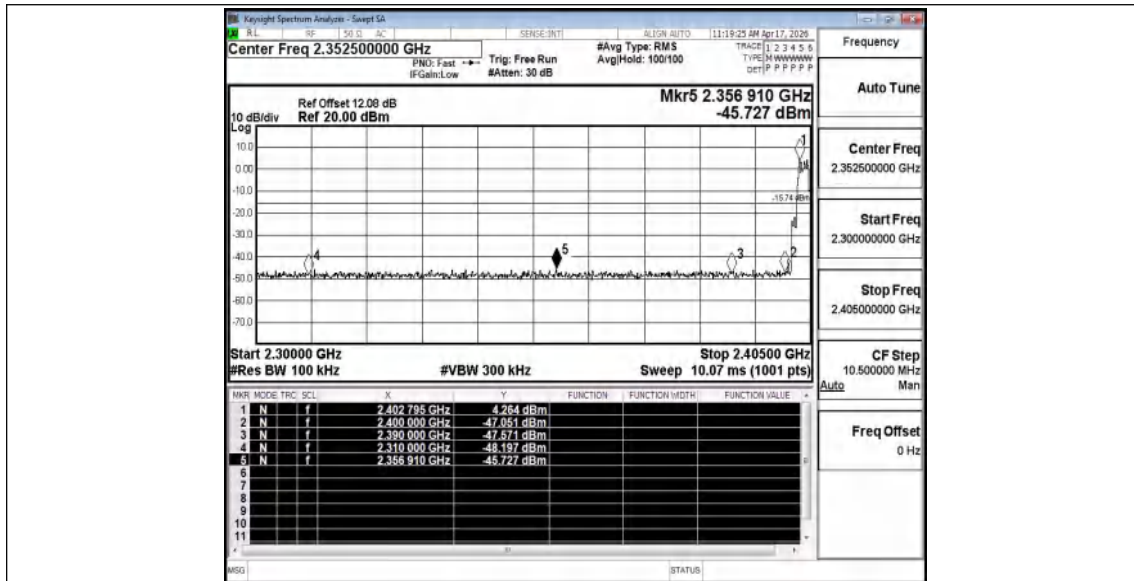
2DH5_Ant1_Low_2402



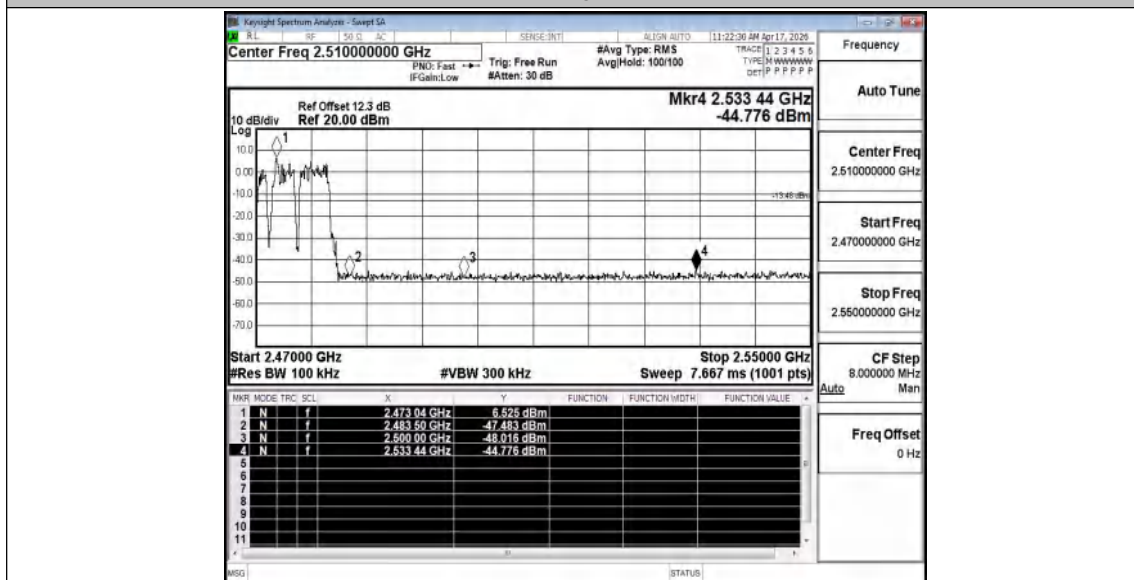
2DH5_Ant1_High_2480



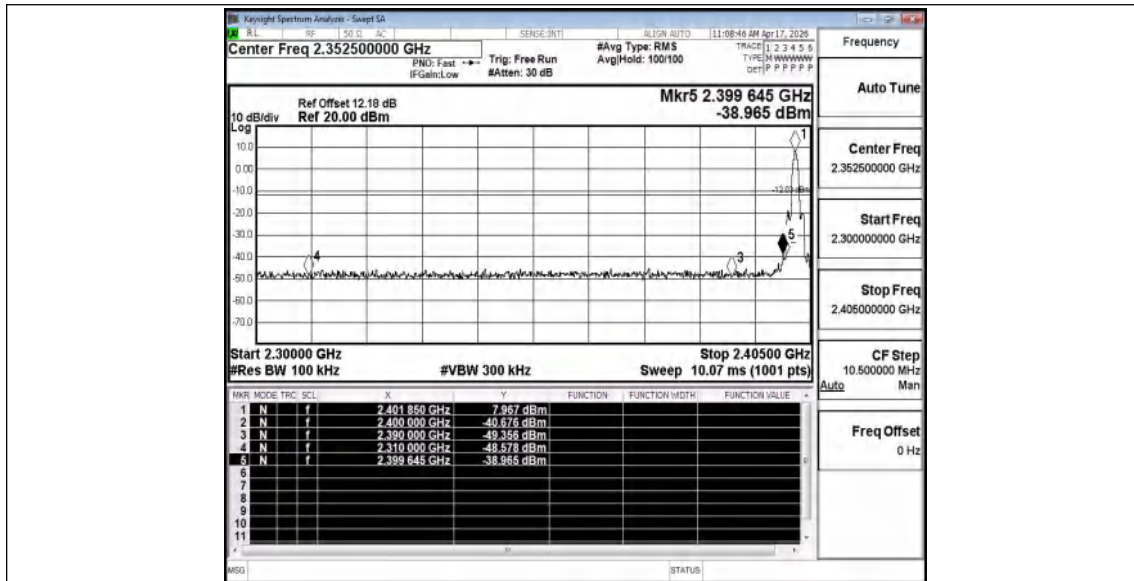
2DH5_Ant1_Low_Hop_2402



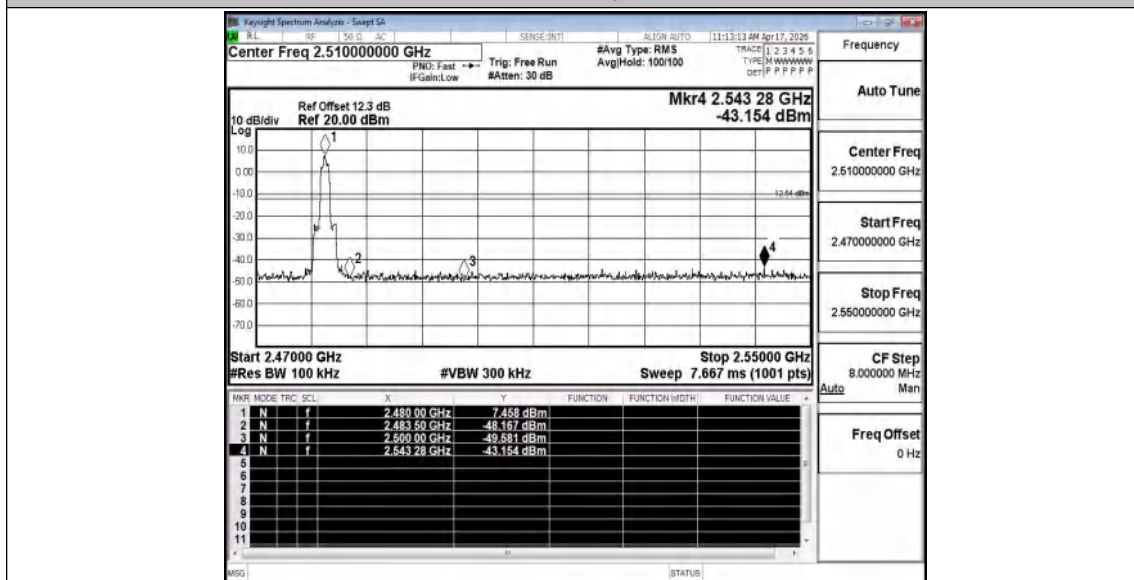
2DH5_Ant1_High_Hop_2480



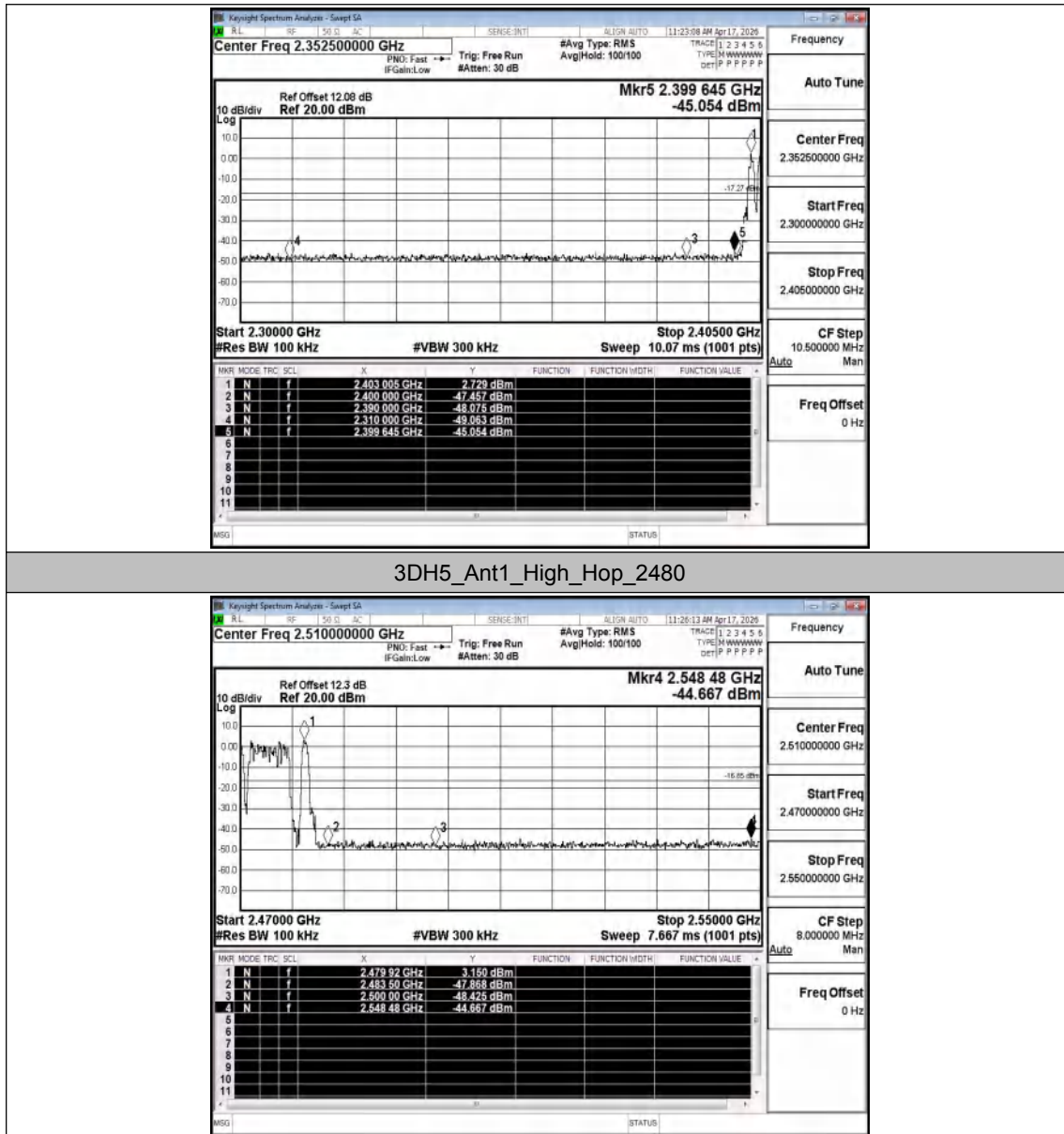
3DH5_Ant1_Low_2402



3DH5_Ant1_High_2480



3DH5_Ant1_Low_Hop_2402

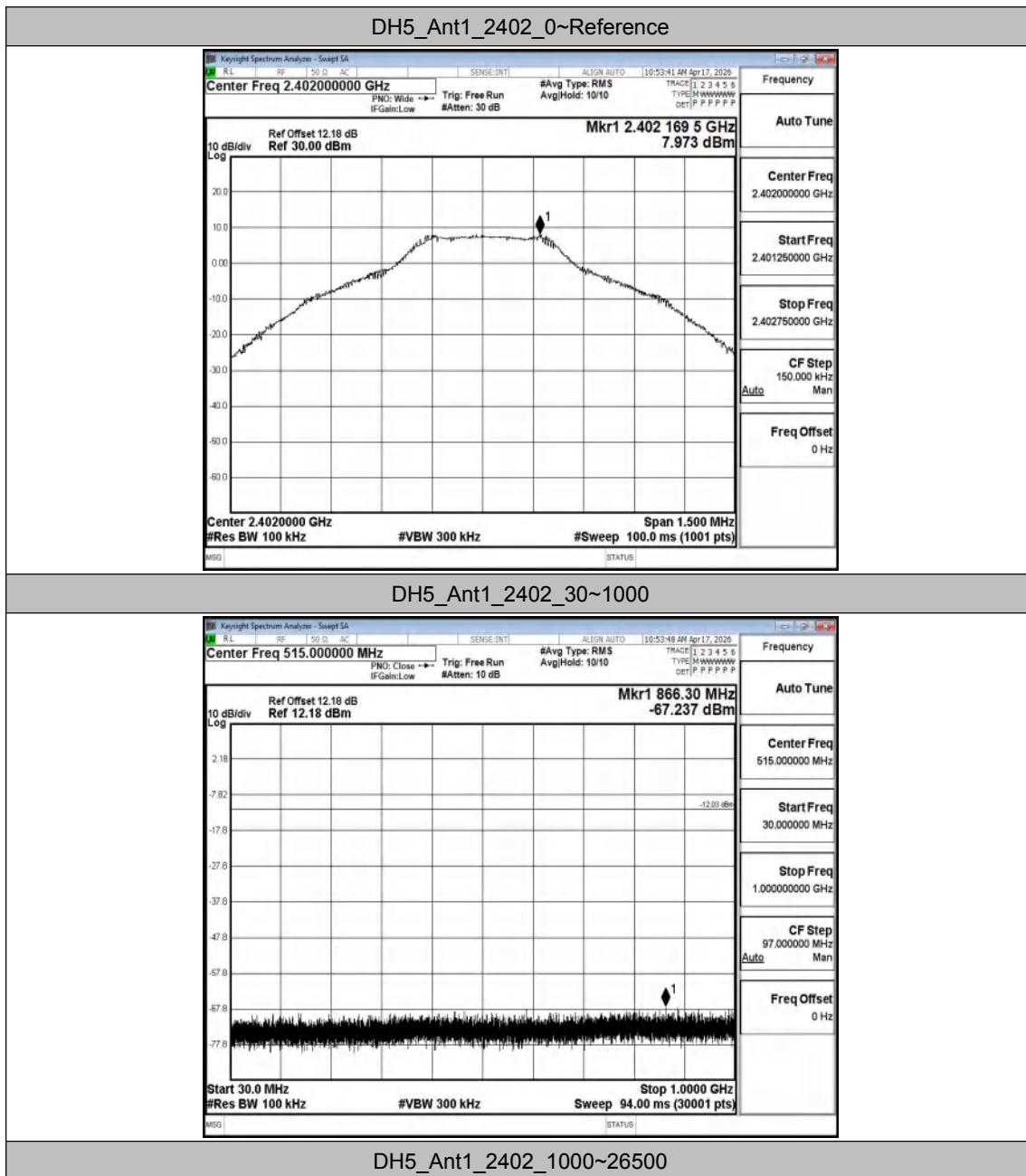


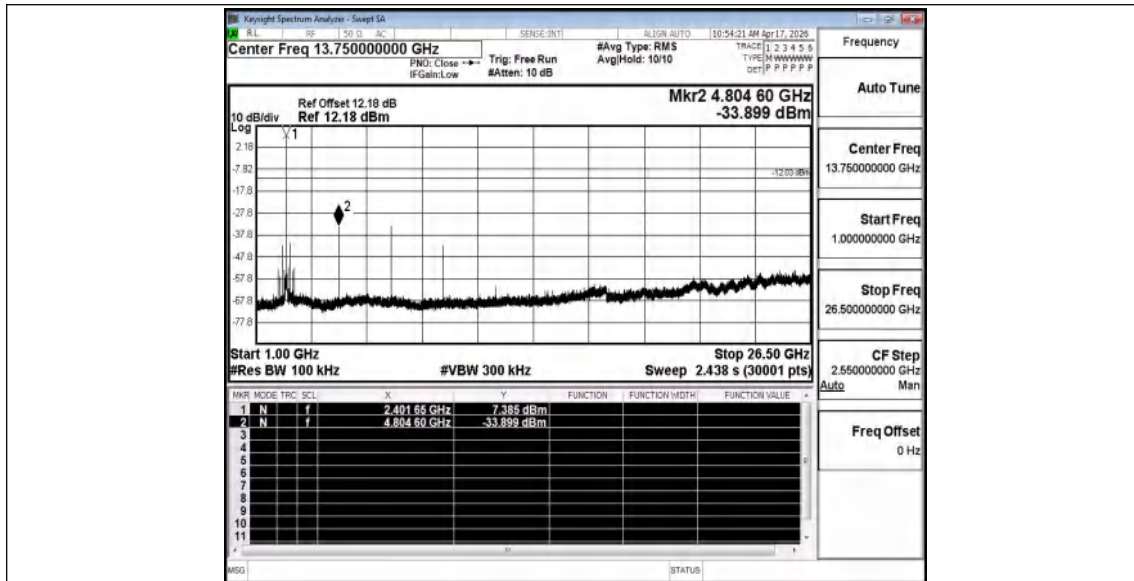
A.7 Conducted Spurious Emission

Test Result

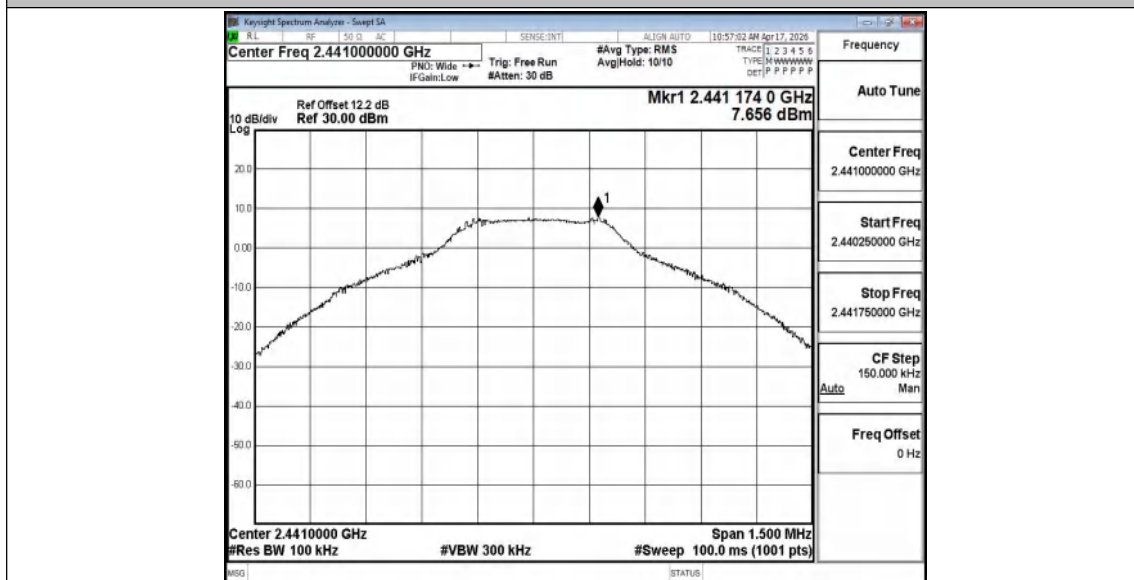
TestMode	Antenna	Freq(MHz)	FreqRange [MHz]	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
DH5	Ant1	2402	Reference	7.97	7.97	---	PASS
			30~1000	7.97	-67.24	≤-12.03	PASS
			1000~26500	7.97	-33.9	≤-12.03	PASS
		2441	Reference	7.66	7.66	---	PASS
			30~1000	7.66	-67.78	≤-12.34	PASS
			1000~26500	7.66	-34.51	≤-12.34	PASS
		2480	Reference	7.55	7.55	---	PASS
			30~1000	7.55	-66.59	≤-12.45	PASS
			1000~26500	7.55	-39.23	≤-12.45	PASS
2DH5	Ant1	2402	Reference	8.00	8.00	---	PASS
			30~1000	8.00	-67.81	≤-12	PASS
			1000~26500	8.00	-36.66	≤-12	PASS
		2441	Reference	7.69	7.69	---	PASS
			30~1000	7.69	-66.84	≤-12.31	PASS
			1000~26500	7.69	-37.99	≤-12.31	PASS
		2480	Reference	7.59	7.59	---	PASS
			30~1000	7.59	-67.45	≤-12.41	PASS
			1000~26500	7.59	-40.72	≤-12.41	PASS
3DH5	Ant1	2402	Reference	8.00	8.00	---	PASS
			30~1000	8.00	-66.78	≤-12	PASS
			1000~26500	8.00	-32.53	≤-12	PASS
		2441	Reference	7.68	7.68	---	PASS
			30~1000	7.68	-67.21	≤-12.32	PASS
			1000~26500	7.68	-33.45	≤-12.32	PASS
		2480	Reference	7.58	7.58	---	PASS
			30~1000	7.58	-67.18	≤-12.42	PASS
			1000~26500	7.58	-37	≤-12.42	PASS

Test Graphs

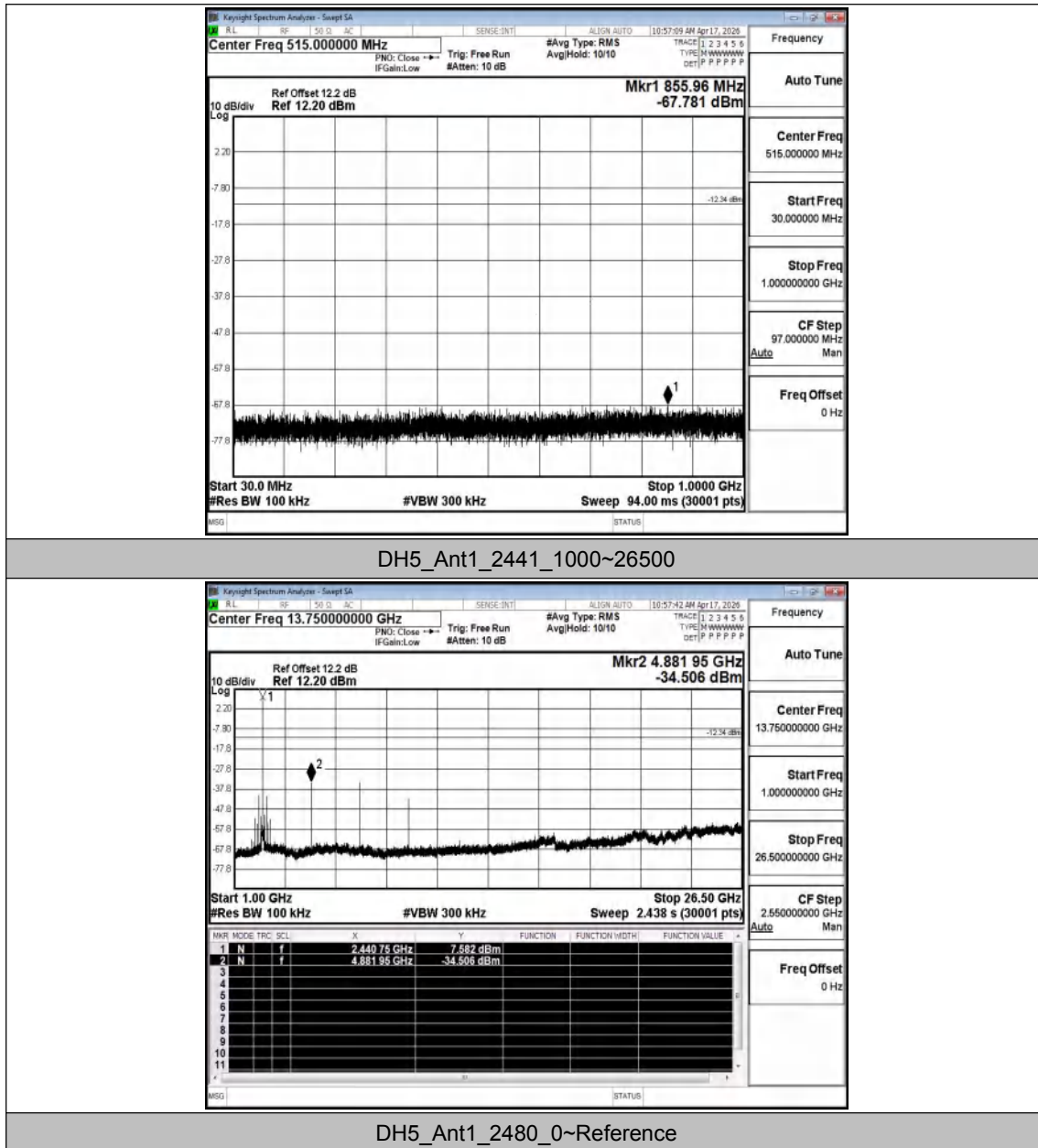


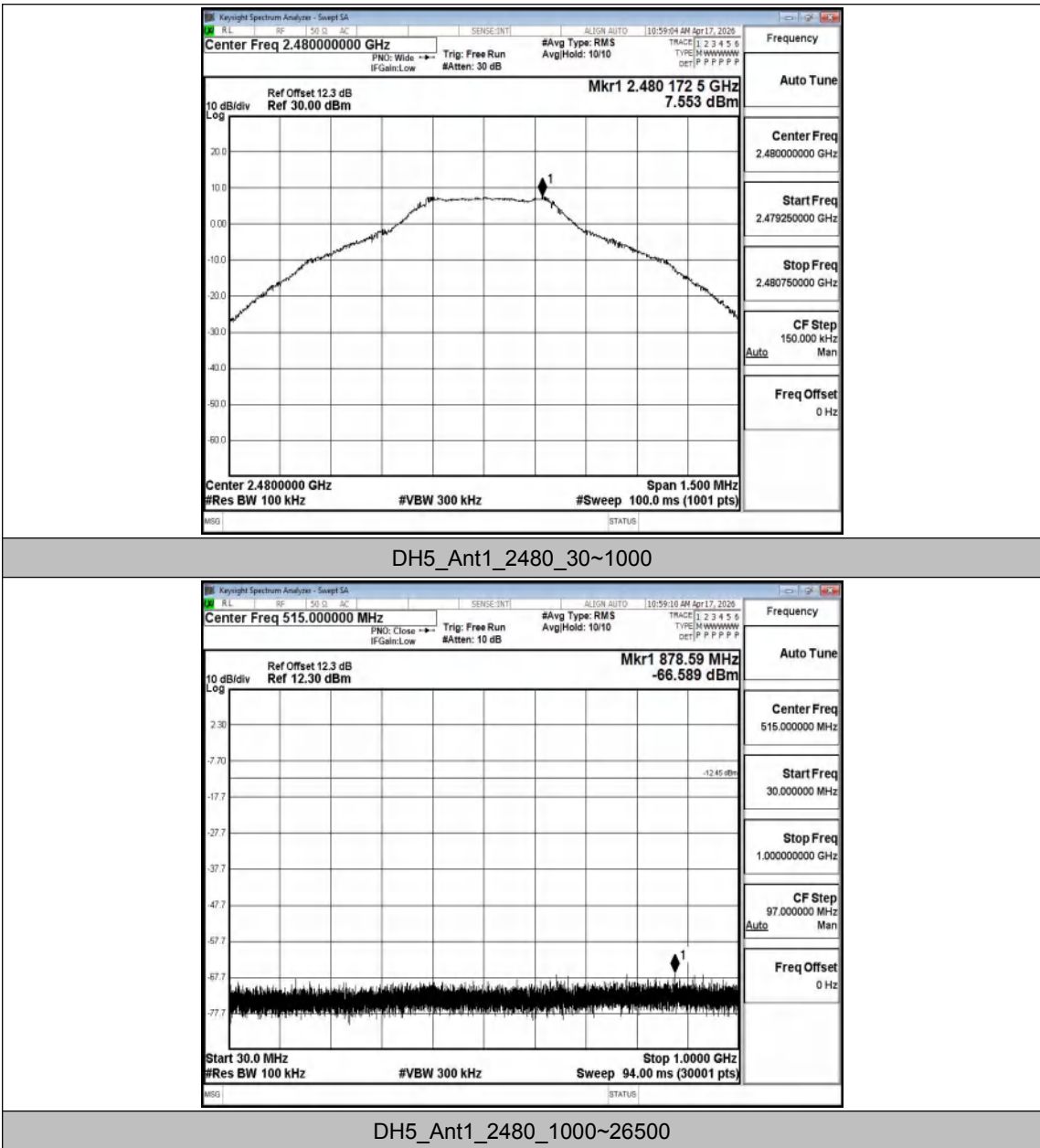


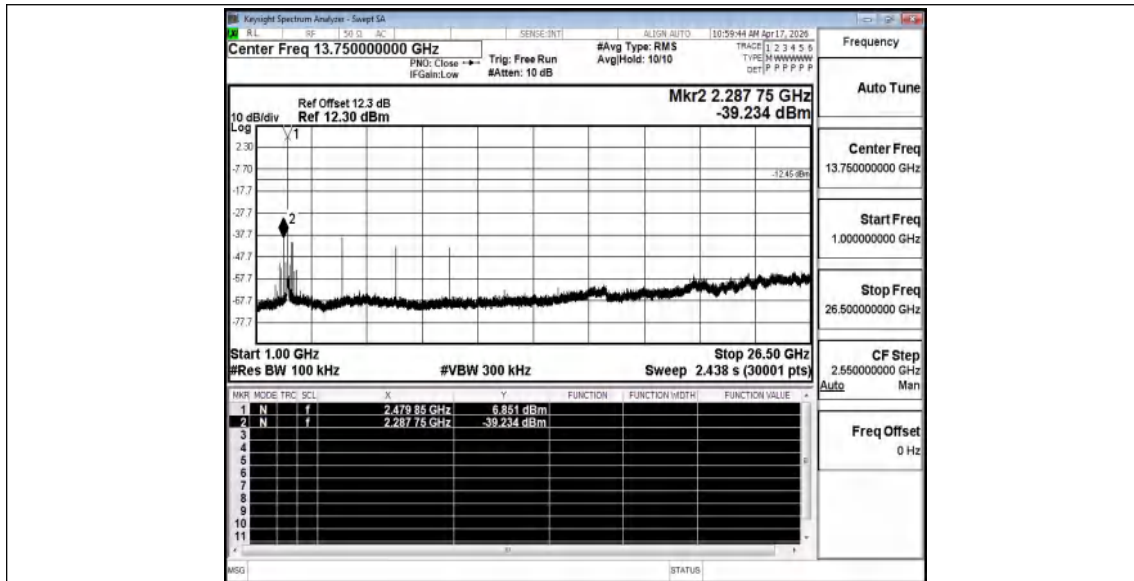
DH5_Ant1_2441_0~Reference



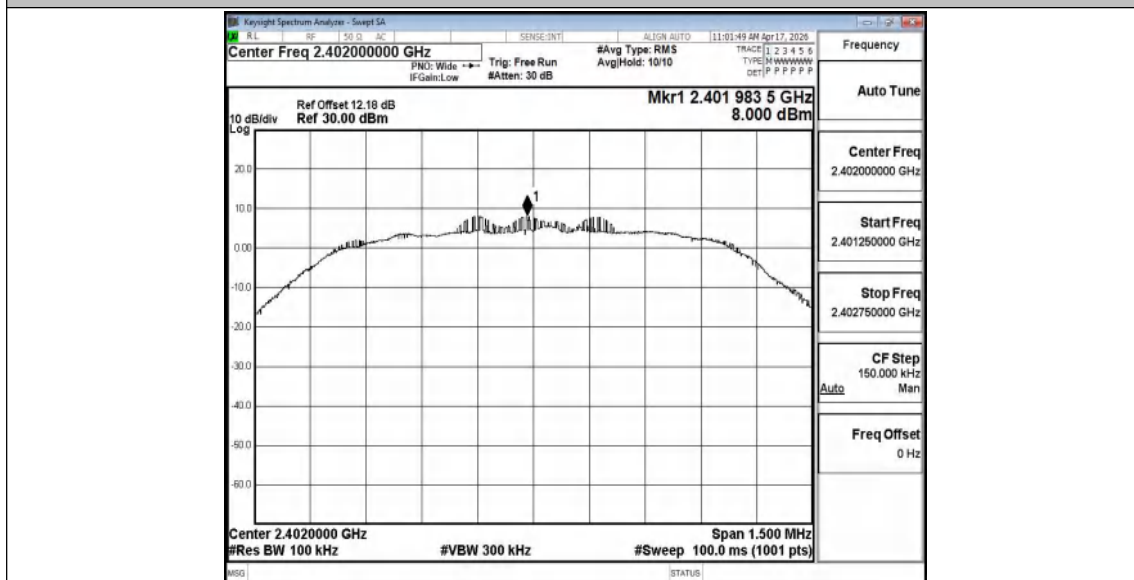
DH5_Ant1_2441_30~1000



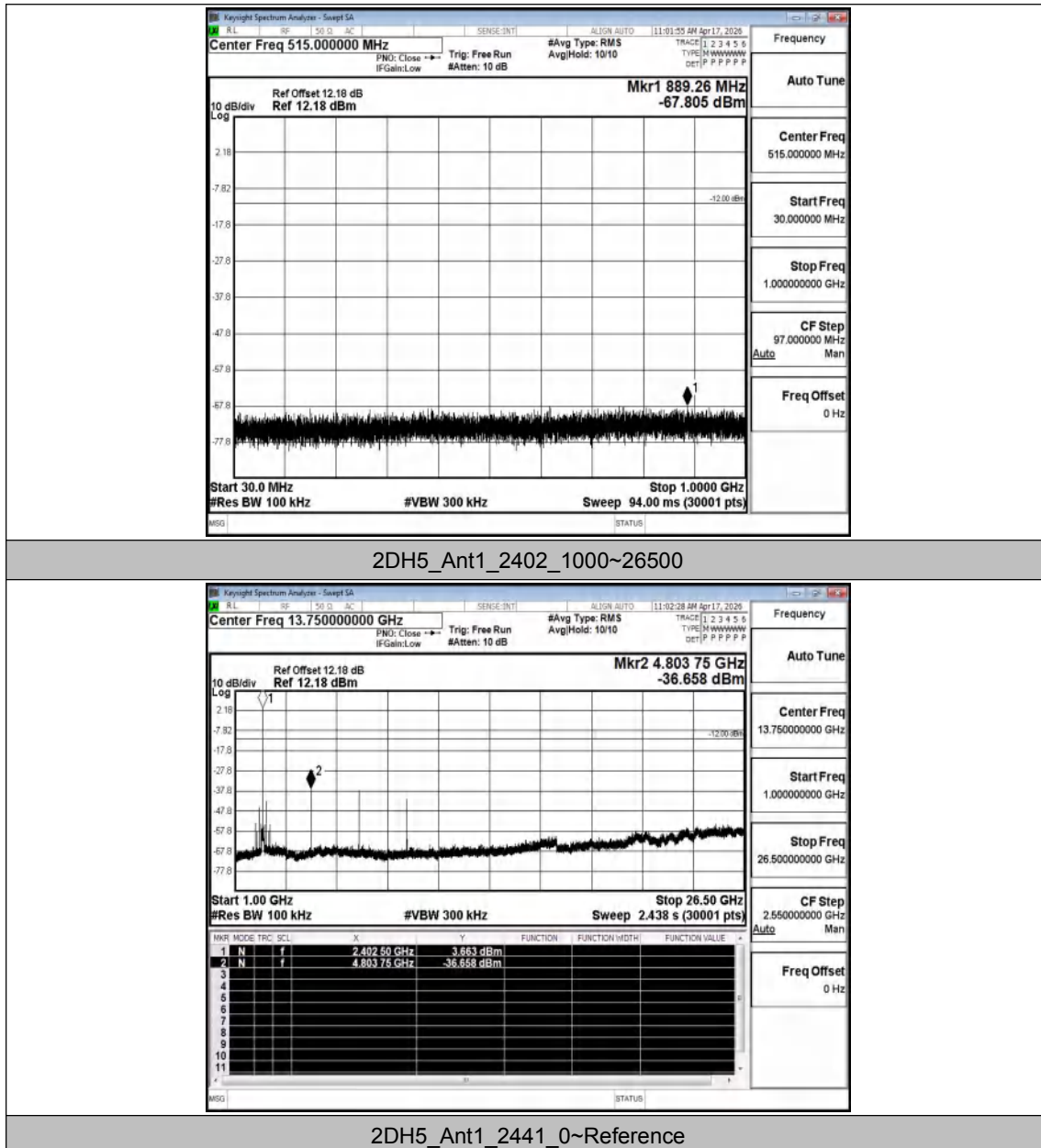


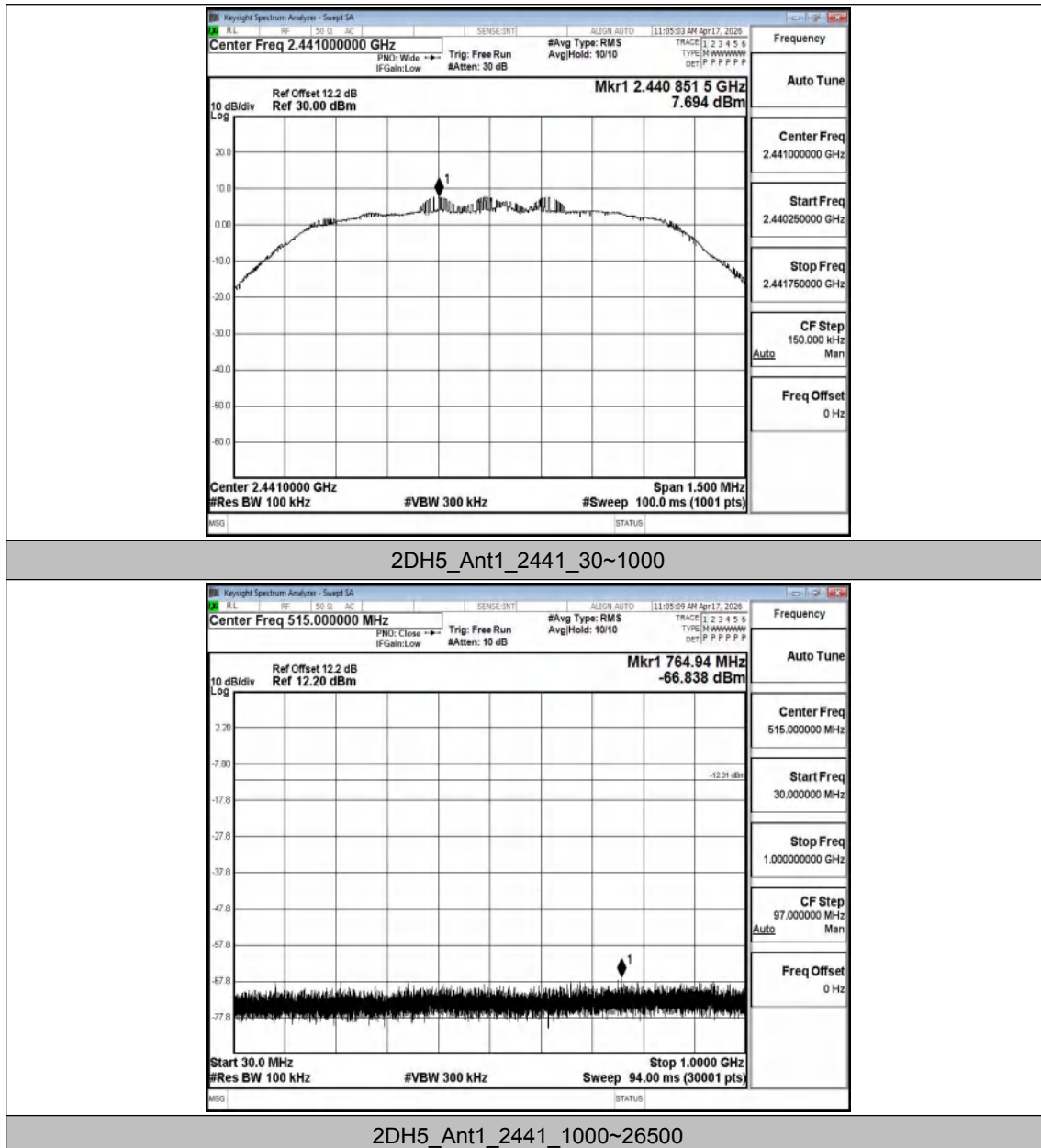


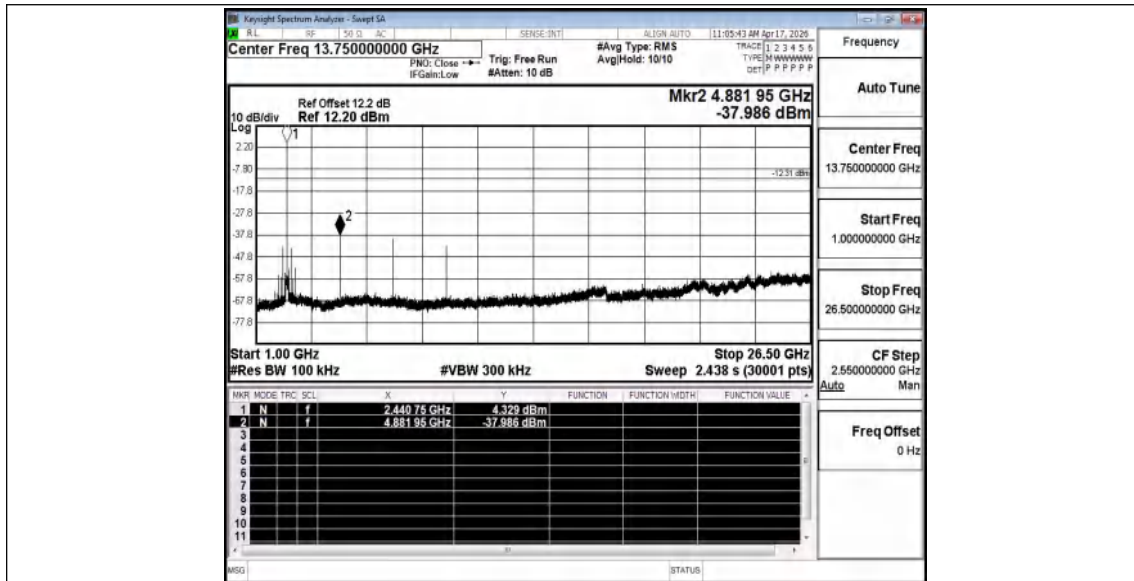
2DH5_Ant1_2402_0~Reference



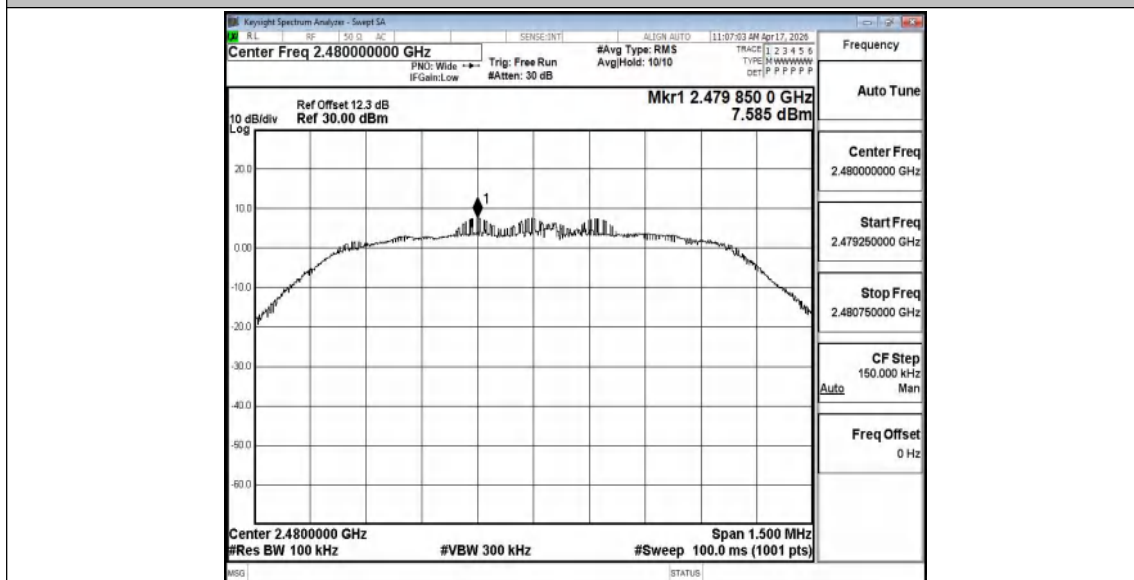
2DH5_Ant1_2402_30~1000



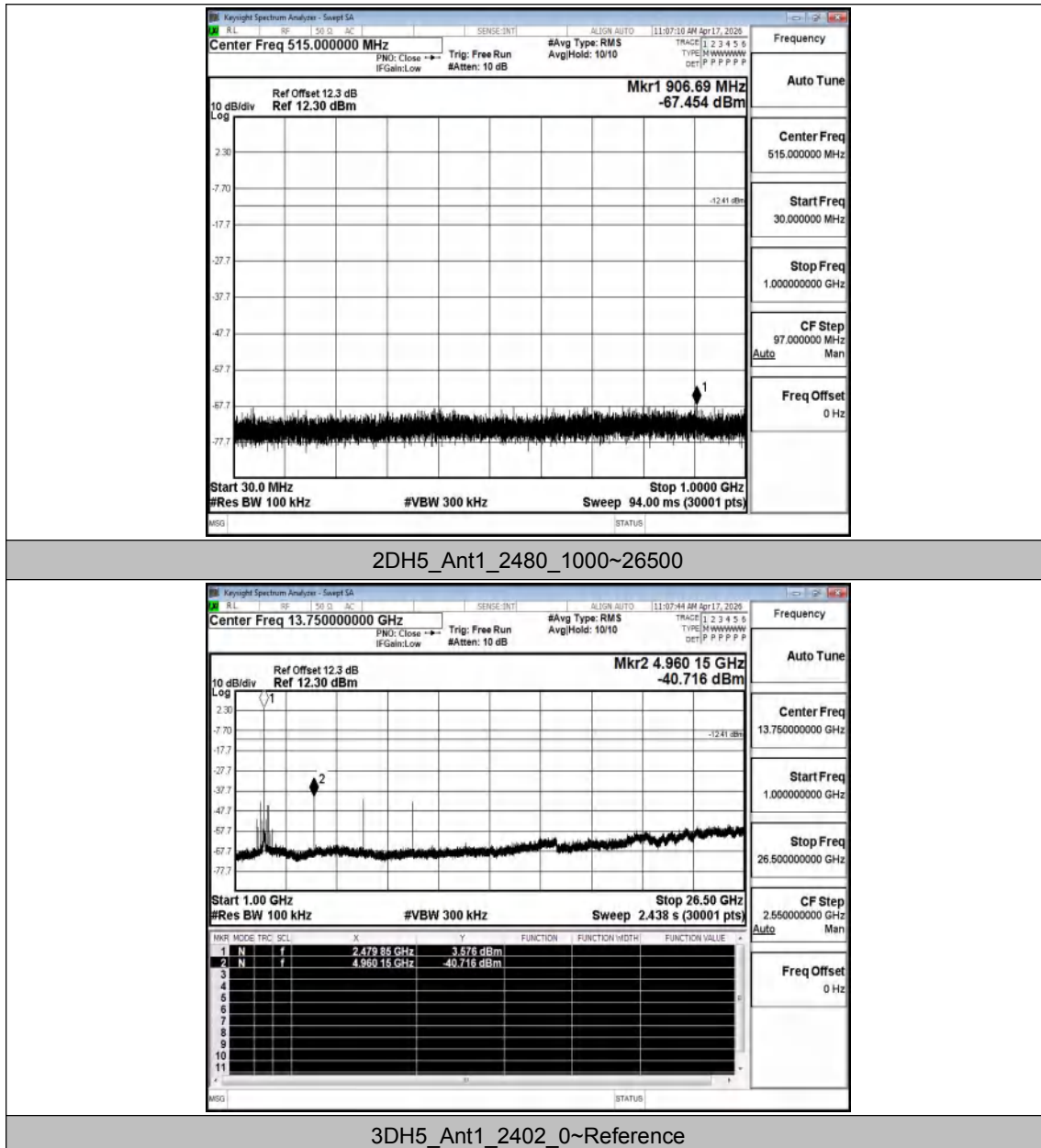


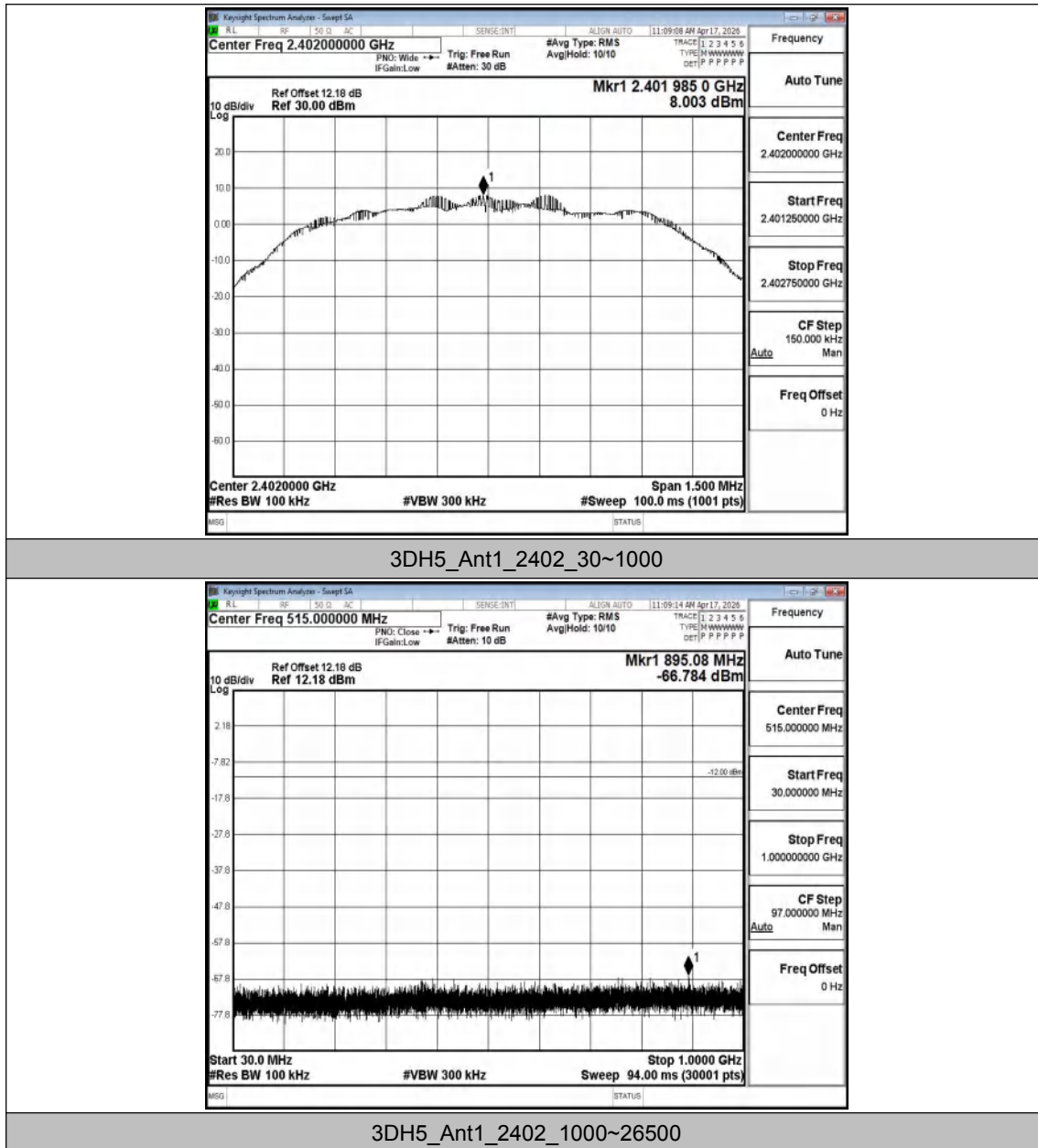


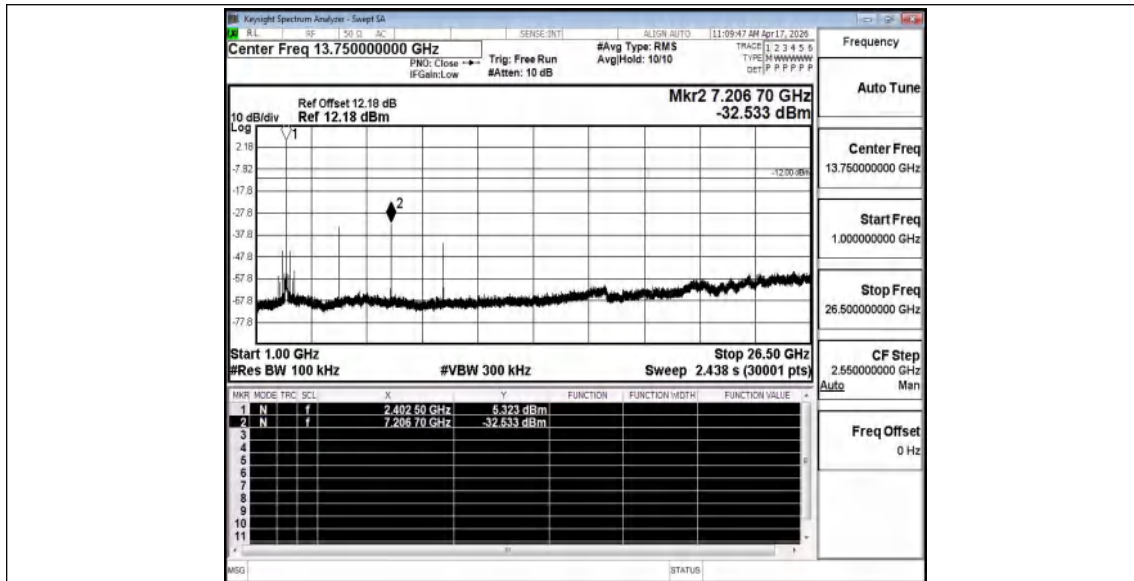
2DH5_Ant1_2480_0~Reference



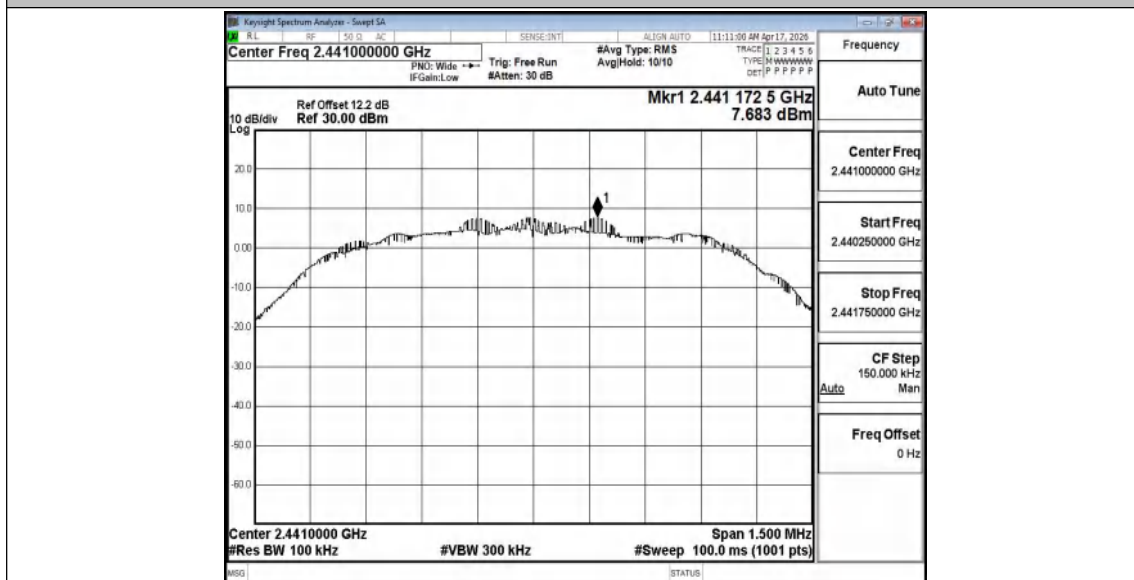
2DH5_Ant1_2480_30~1000



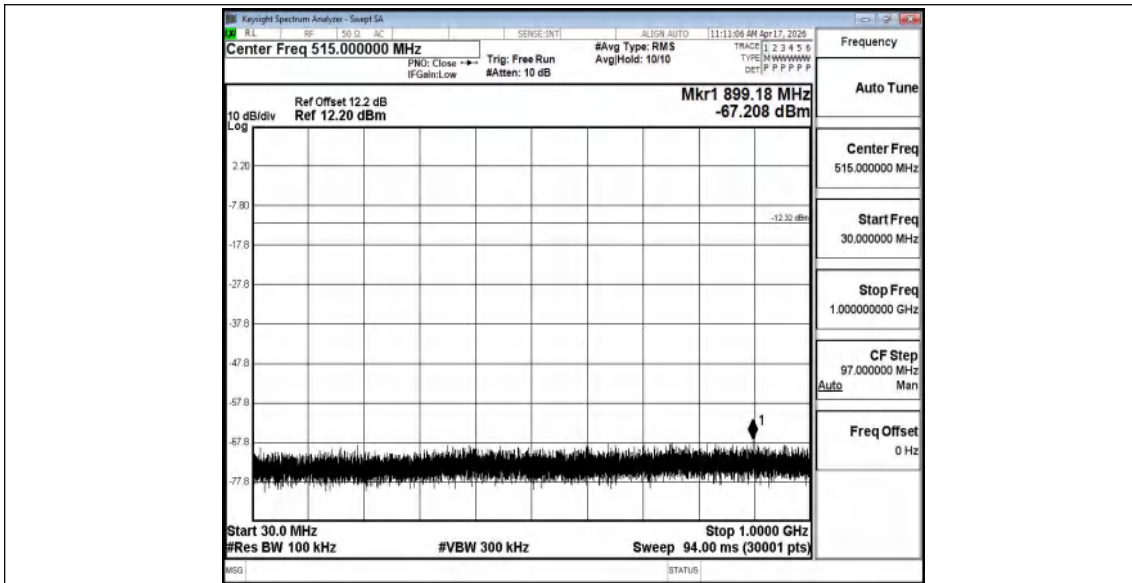




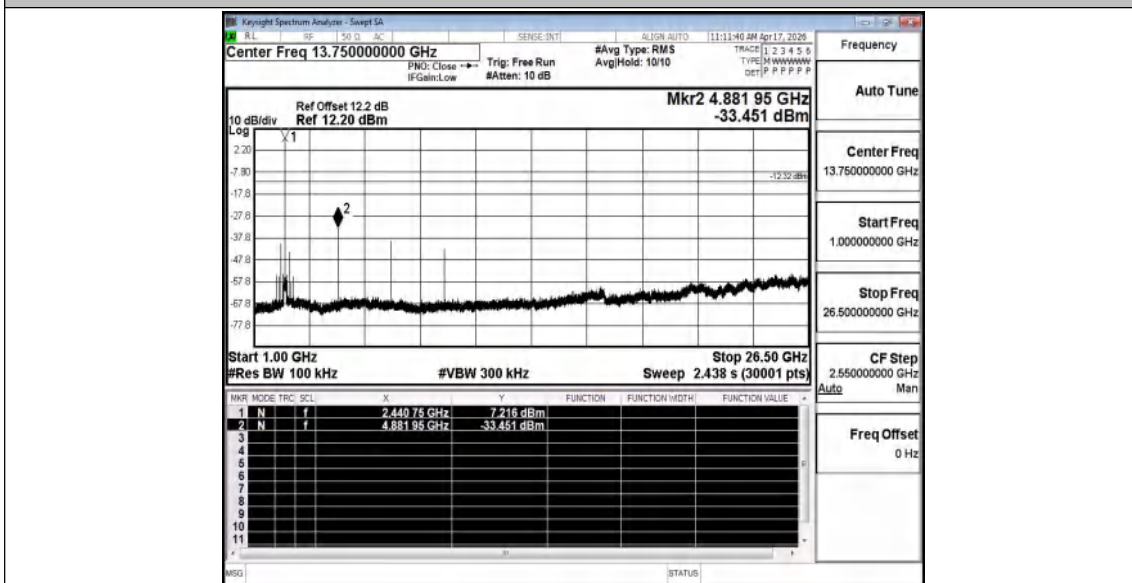
3DH5_Ant1_2441_0~Reference



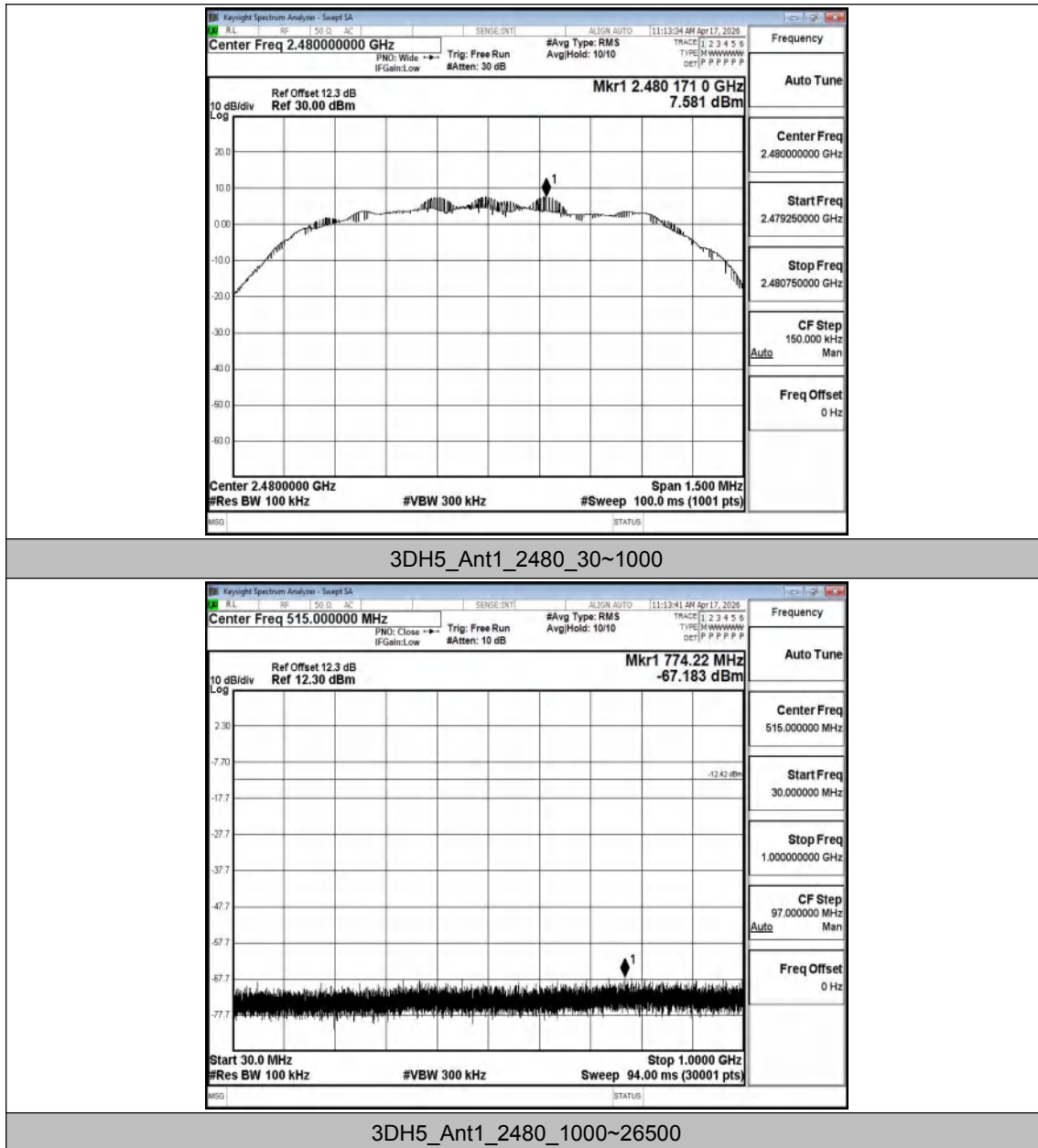
3DH5_Ant1_2441_30~1000

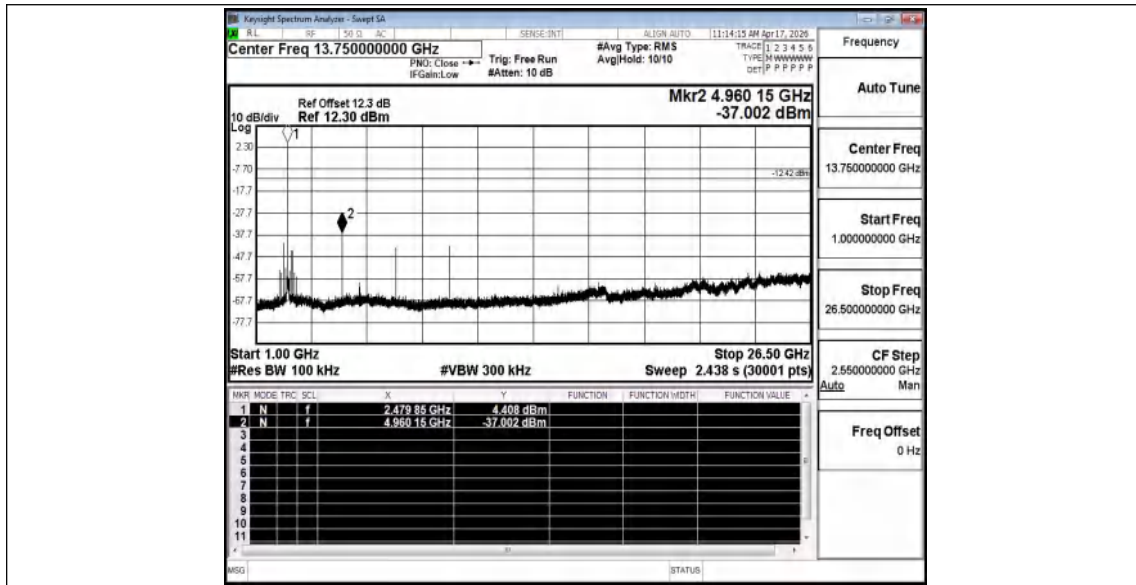


3DH5_Ant1_2441_1000~26500



3DH5_Ant1_2480_0~Reference





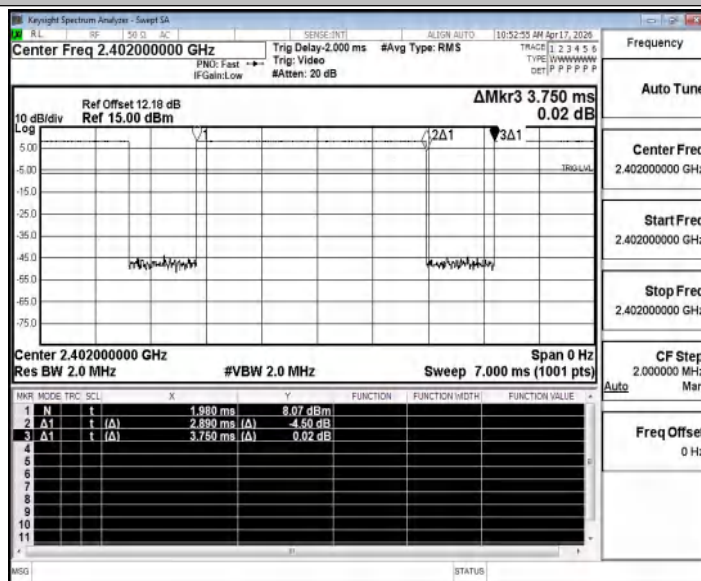
A.8 Duty Cycle

Test Result

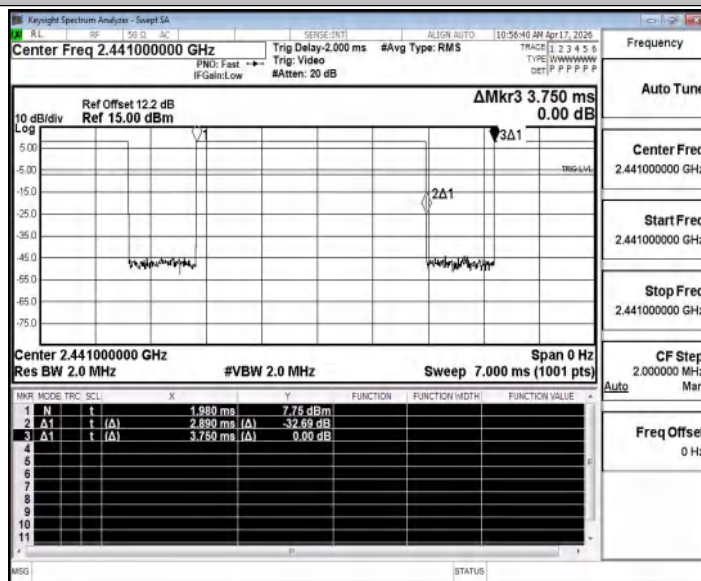
TestMode	Antenna	Freq(MHz)	ON Time [ms]	Period [ms]	DC [%]	xFactor	Limit	Verdict
DH5	Ant1	2402	2.89	3.75	77.07	1.13	---	---
		2441	2.89	3.75	77.07	1.13	---	---
		2480	2.89	3.75	77.07	1.13	---	---
2DH5	Ant1	2402	2.89	3.75	77.07	1.13	---	---
		2441	2.89	3.75	77.07	1.13	---	---
		2480	2.89	3.74	77.27	1.12	---	---
3DH5	Ant1	2402	2.90	3.75	77.33	1.12	---	---
		2441	2.90	3.76	77.13	1.13	---	---
		2480	2.90	3.75	77.33	1.12	---	---

Test Graphs

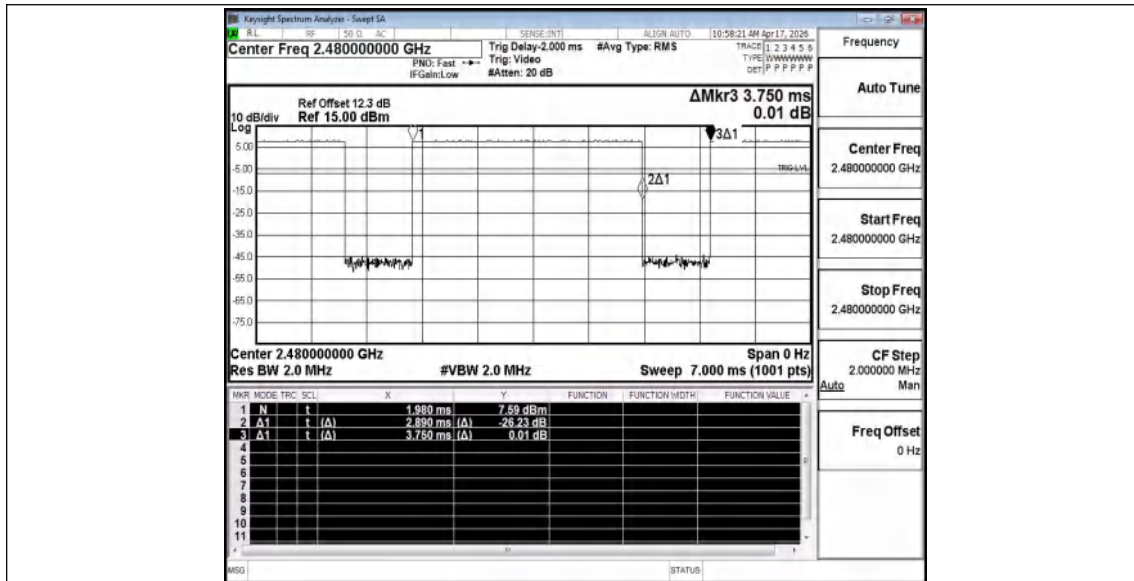
DH5_Ant1_2402



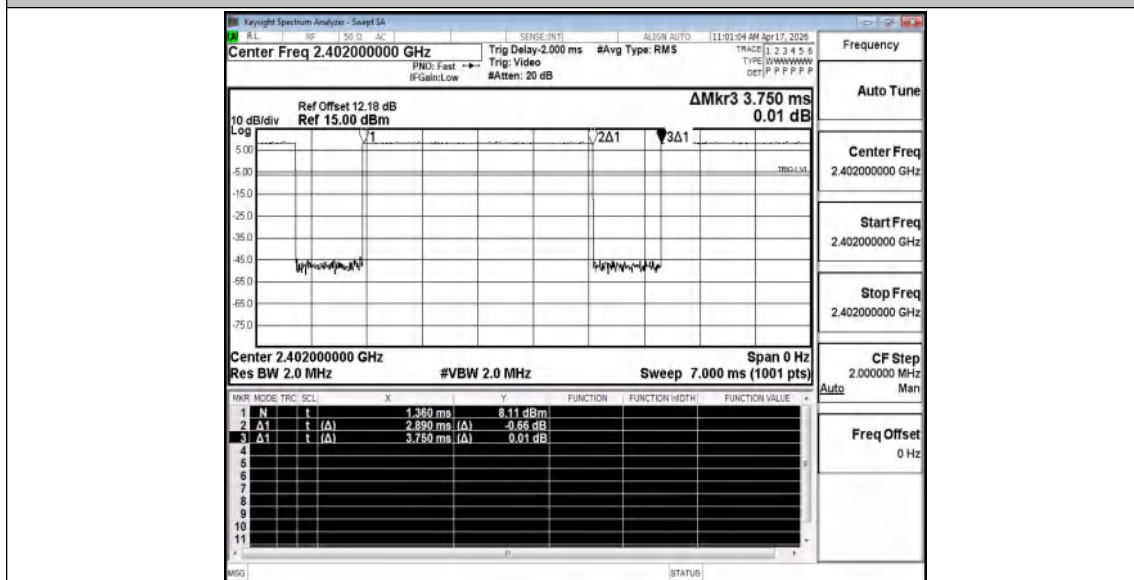
DH5_Ant1_2441



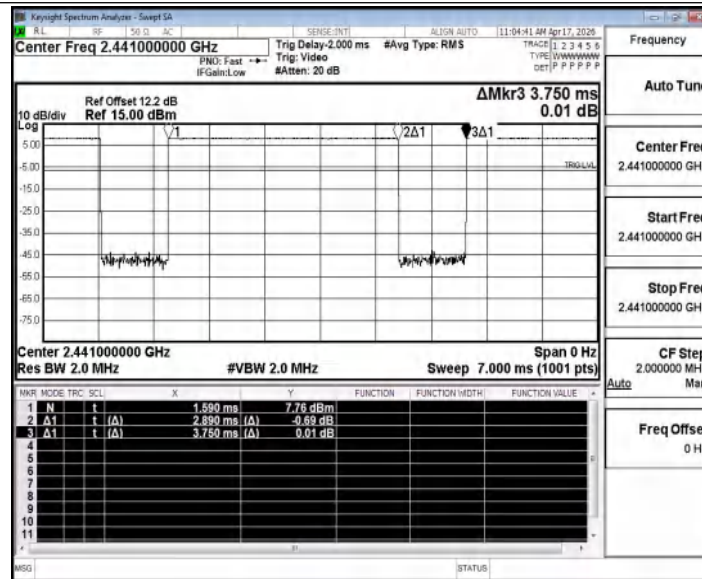
DH5_Ant1_2480



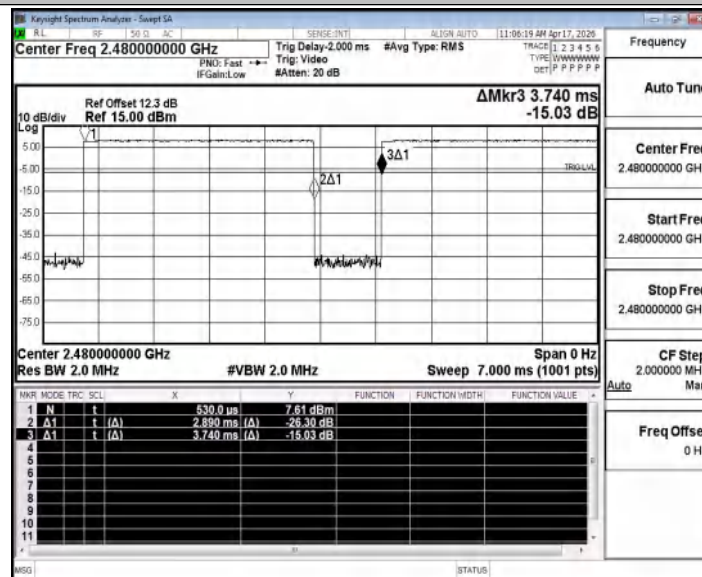
2DH5_Ant1_2402



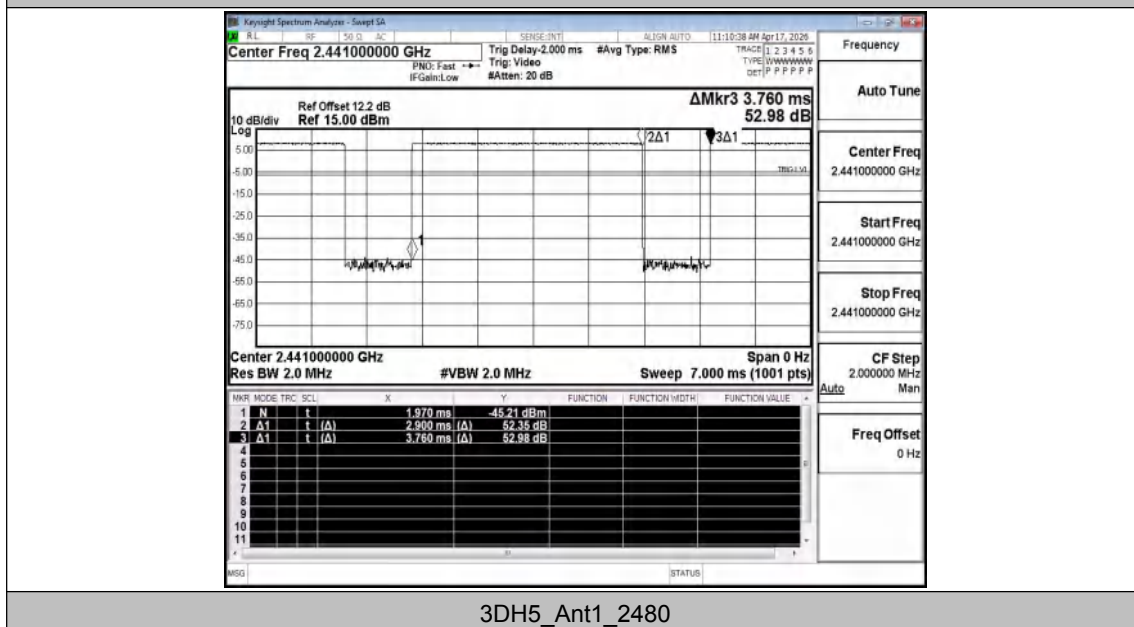
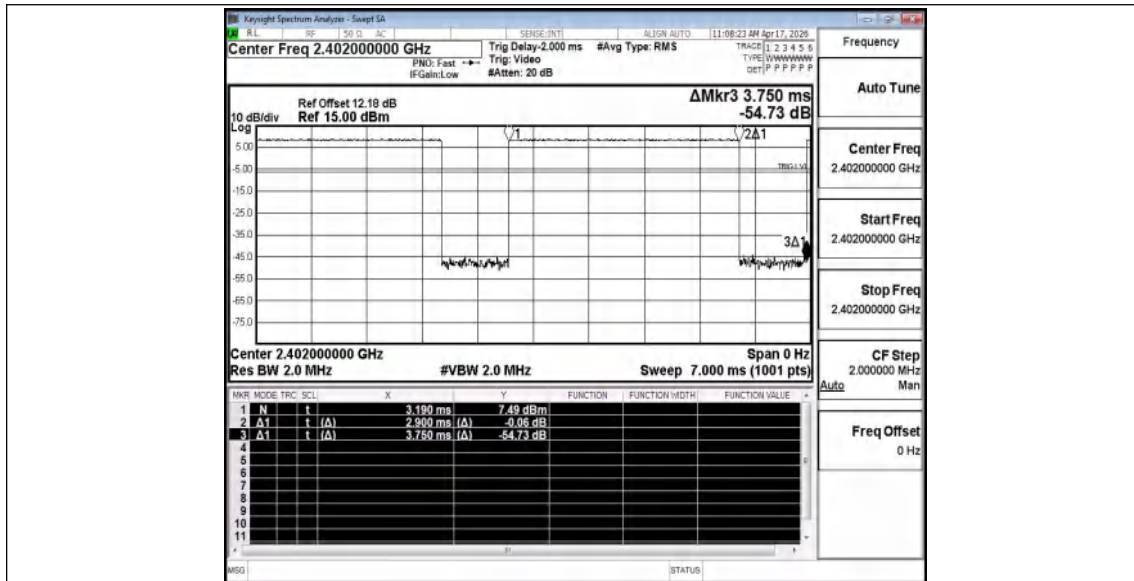
2DH5_Ant1_2441

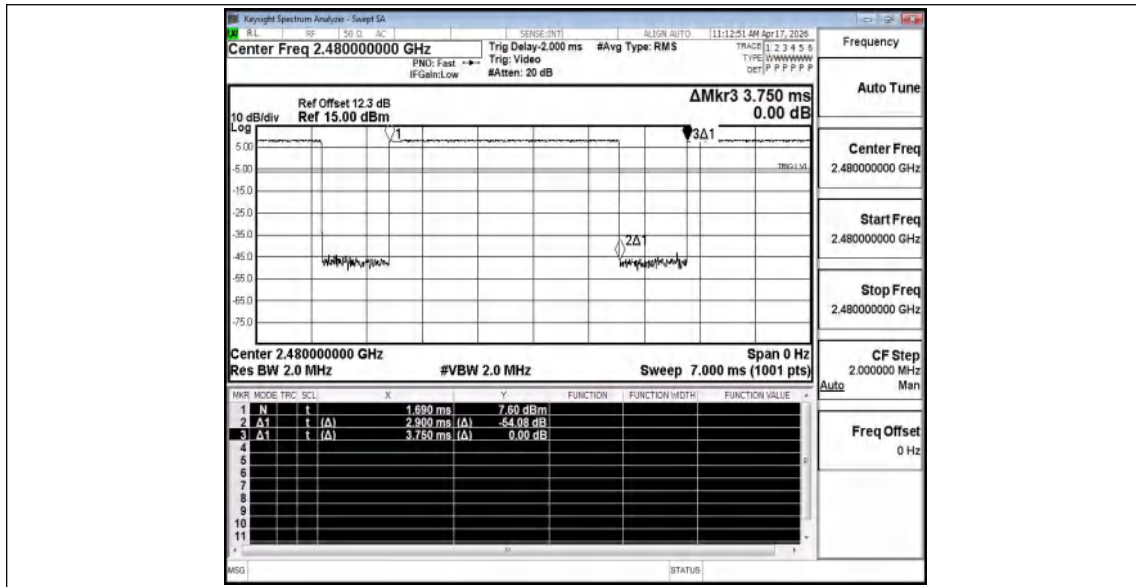


2DH5_Ant1_2480



3DH5 Ant1 2402





A.9 Emissions in Restricted Bands

Test Result

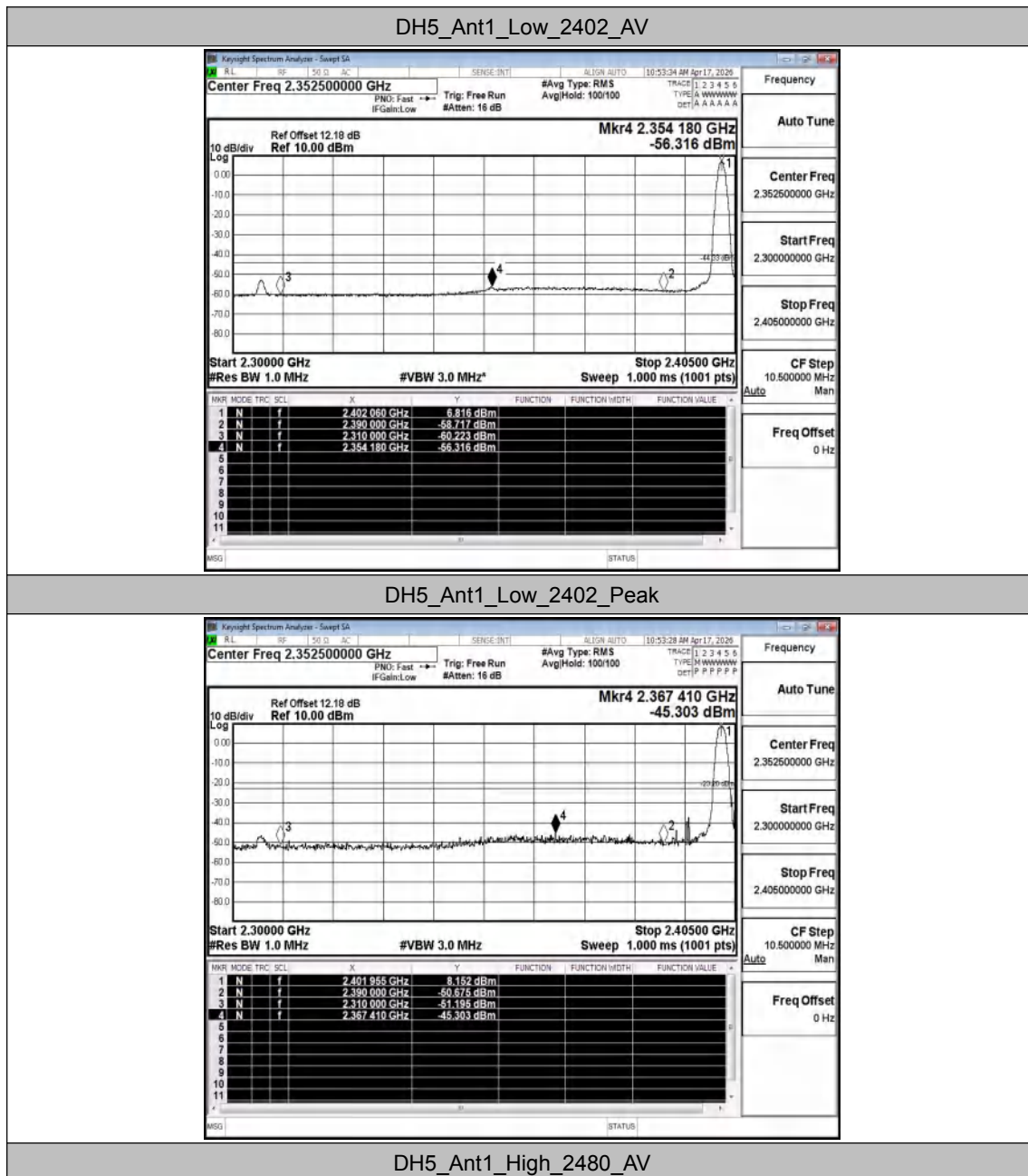
TestMode	Antenna	ChName	Freq (MHz)	Detector	Freq [MHz]	Result [dBm]	Limit [dBm]	Gain [dBi]	DC Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Verdict
DH5	Ant1	Low	2402	AV	2310.000	-60.22	≤-44.33	2.00	1.13	38.11	≤54	PASS
				AV	2354.180	-56.32	≤-44.33	2.00	1.13	42.01	≤54	PASS
				AV	2390.000	-58.72	≤-44.33	2.00	1.13	39.61	≤54	PASS
				Peak	2310.000	-51.2	≤-23.20	2.00	0.00	46.00	≤74	PASS
				Peak	2367.410	-45.3	≤-23.20	2.00	0.00	51.90	≤74	PASS
				Peak	2390.000	-50.68	≤-23.20	2.00	0.00	46.52	≤74	PASS
		High	2480	AV	2483.500	-53.2	≤-44.33	2.00	1.13	45.13	≤54	PASS
				AV	2483.600	-53.2	≤-44.33	2.00	1.13	45.13	≤54	PASS
				AV	2500.000	-55.3	≤-44.33	2.00	1.13	43.03	≤54	PASS
				Peak	2483.500	-45.72	≤-23.20	2.00	0.00	51.48	≤74	PASS
				Peak	2483.600	-43.35	≤-23.20	2.00	0.00	53.85	≤74	PASS
				Peak	2500.000	-47.11	≤-23.20	2.00	0.00	50.09	≤74	PASS
2DH5	Ant1	Low	2402	AV	2310.000	-56.94	≤-44.33	2.00	1.13	41.39	≤54	PASS
				AV	2371.295	-53.73	≤-44.33	2.00	1.13	44.60	≤54	PASS
				AV	2390.000	-55.84	≤-44.33	2.00	1.13	42.49	≤54	PASS
				Peak	2310.000	-49.36	≤-23.20	2.00	0.00	47.84	≤74	PASS
				Peak	2360.270	-43.27	≤-23.20	2.00	0.00	53.93	≤74	PASS
				Peak	2390.000	-46.37	≤-23.20	2.00	0.00	50.83	≤74	PASS
		High	2480	AV	2483.500	-53.58	≤-44.32	2.00	1.12	44.74	≤54	PASS
				AV	2483.680	-53.36	≤-44.32	2.00	1.12	44.96	≤54	PASS
				AV	2500.000	-54.23	≤-44.32	2.00	1.12	44.09	≤54	PASS
				Peak	2483.500	-44.04	≤-23.20	2.00	0.00	53.16	≤74	PASS
				Peak	2487.840	-41.56	≤-23.20	2.00	0.00	55.64	≤74	PASS
				Peak	2500.000	-46.15	≤-23.20	2.00	0.00	51.05	≤74	PASS
3DH5	Ant1	Low	2402	AV	2310.000	-56.15	≤-44.32	2.00	1.12	42.17	≤54	PASS
				AV	2366.150	-53.54	≤-44.32	2.00	1.12	44.78	≤54	PASS
				AV	2390.000	-56.59	≤-44.32	2.00	1.12	41.73	≤54	PASS
				Peak	2310.000	-47.1	≤-23.20	2.00	0.00	50.10	≤74	PASS
				Peak	2371.715	-43.73	≤-23.20	2.00	0.00	53.47	≤74	PASS
				Peak	2390.000	-46.4	≤-23.20	2.00	0.00	50.80	≤74	PASS
		High	2480	AV	2483.500	-52.78	≤-44.32	2.00	1.12	45.54	≤54	PASS
				AV	2483.520	-52.78	≤-44.32	2.00	1.12	45.54	≤54	PASS
				AV	2500.000	-54.47	≤-44.32	2.00	1.12	43.85	≤54	PASS
				Peak	2483.500	-42.85	≤-23.20	2.00	0.00	54.35	≤74	PASS

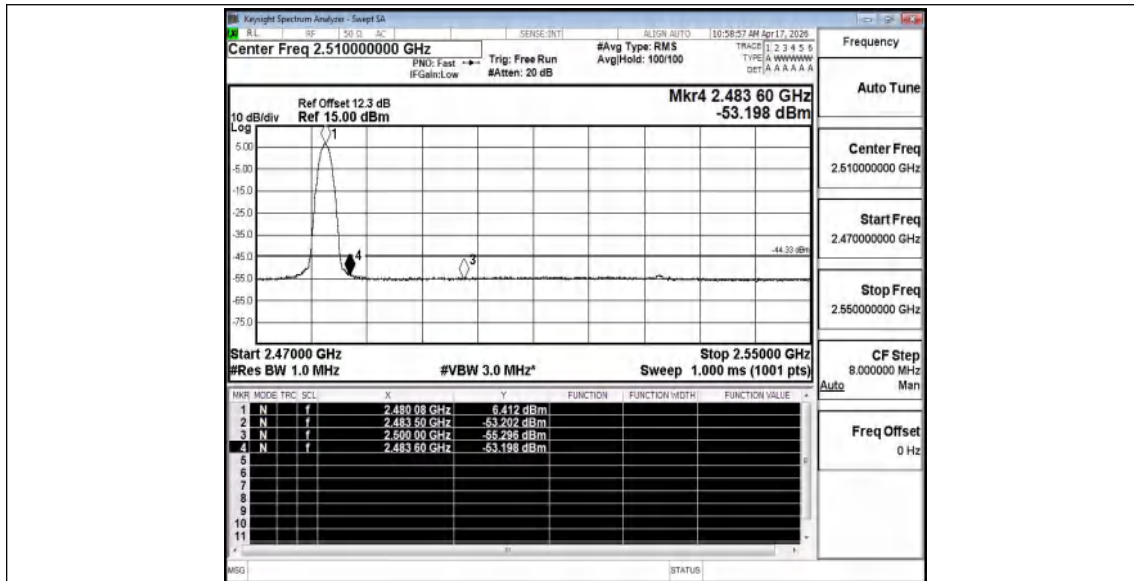
				Peak	2483.760	-40.86	≤-23.20	2.00	0.00	56.34	≤74	PASS
				Peak	2500.000	-45.81	≤-23.20	2.00	0.00	51.39	≤74	PASS

Note:

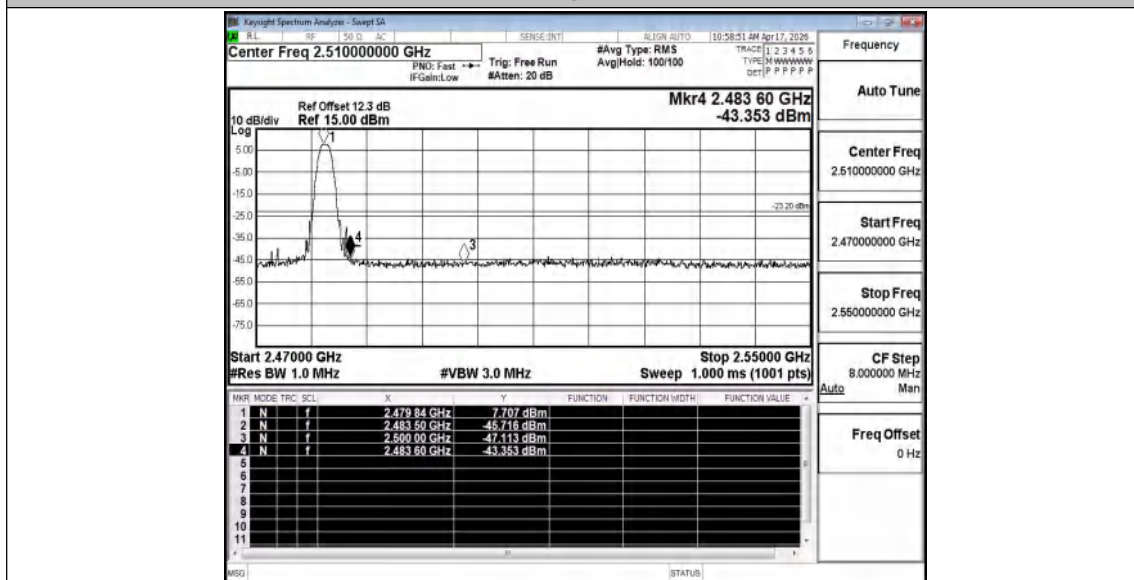
1. The Antenna Gain is compensated in the graph.
2. The limit in dBm for average detector is conversion from 54dBuV/m, according to 15.209(a). The limit in dBm for peak detector is 20dB above the limit of average detector in dBm.

Test Graphs

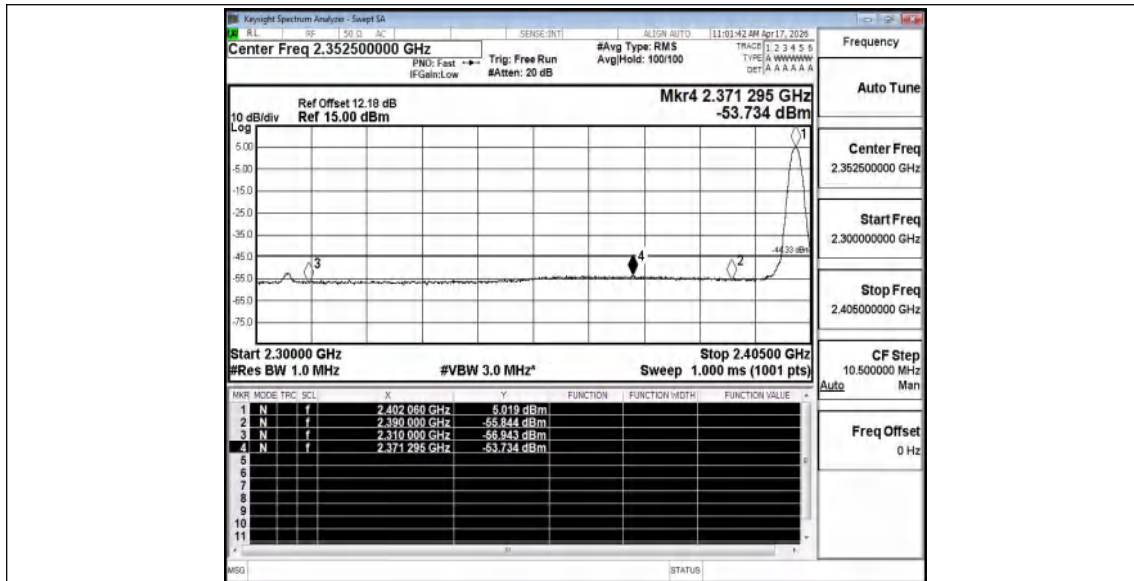




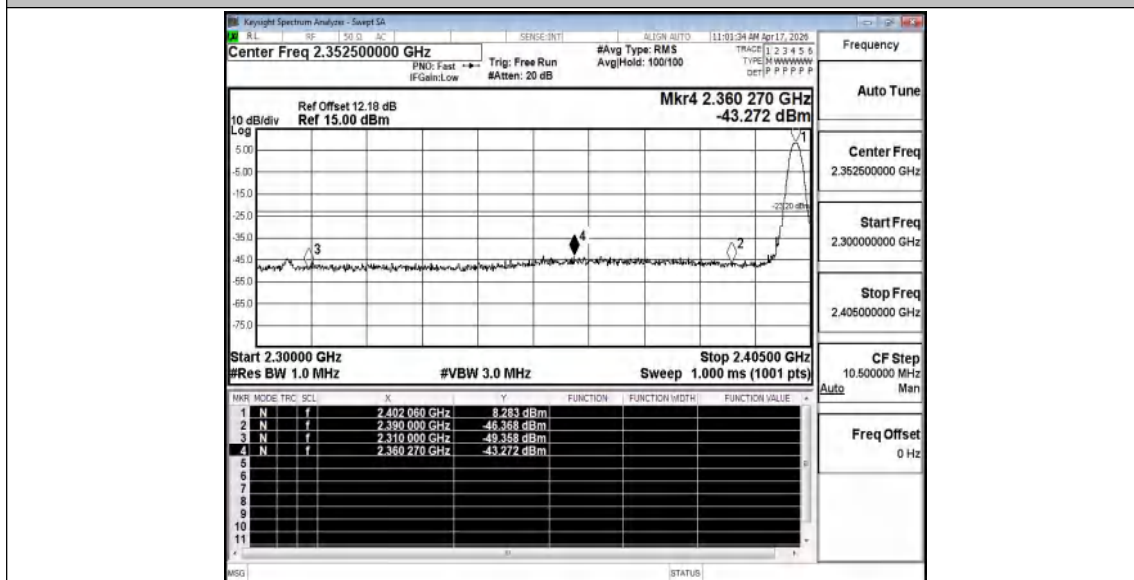
DH5_Ant1_High_2480_Peak



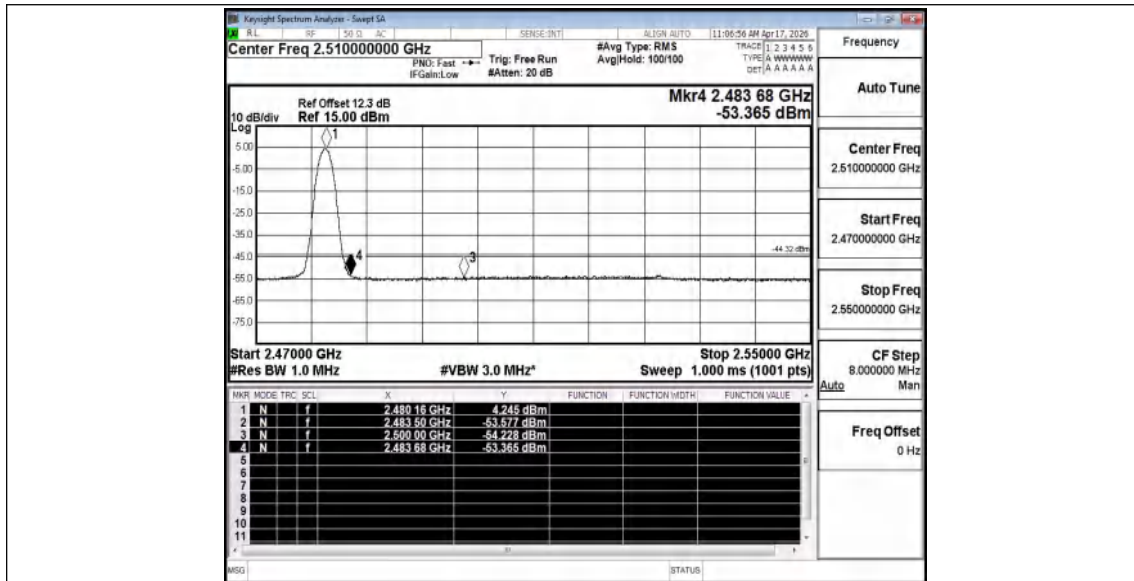
2DH5_Ant1_Low_2402_AV



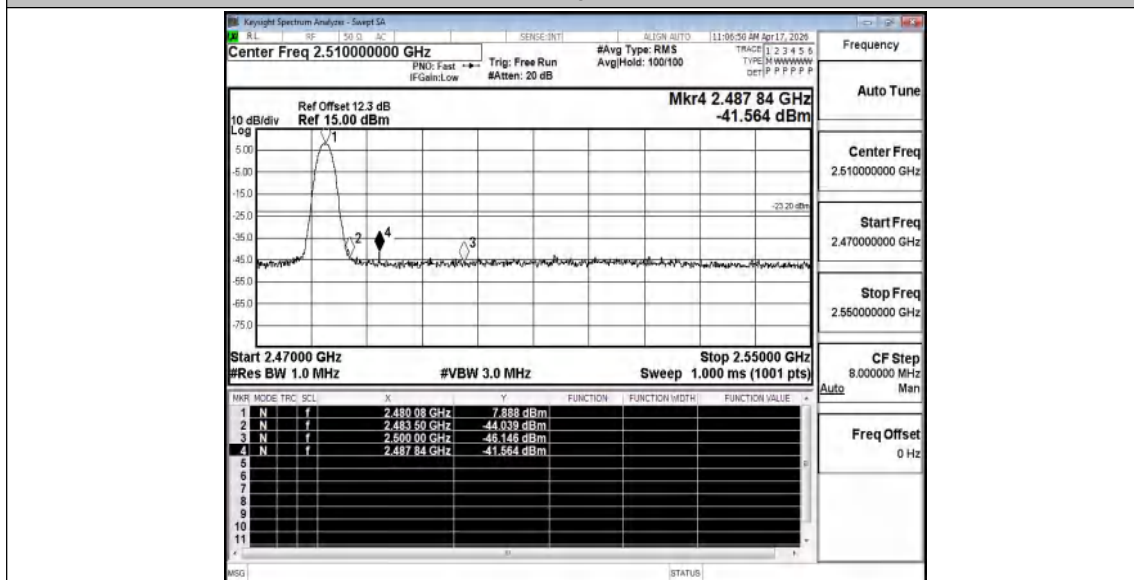
2DH5_Ant1_Low_2402_Peak



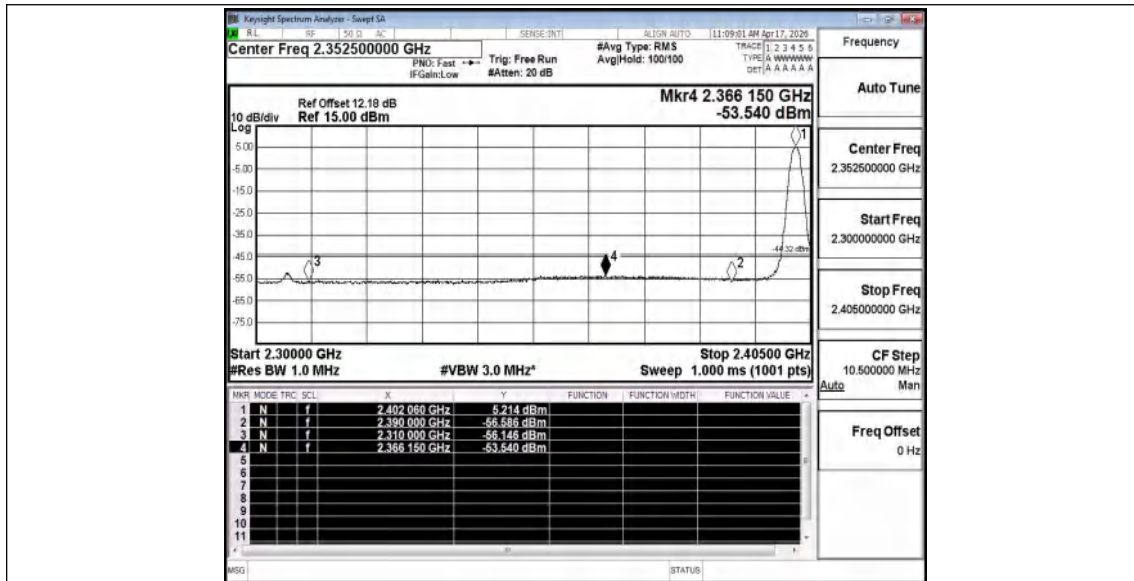
2DH5_Ant1_High_2480_AV



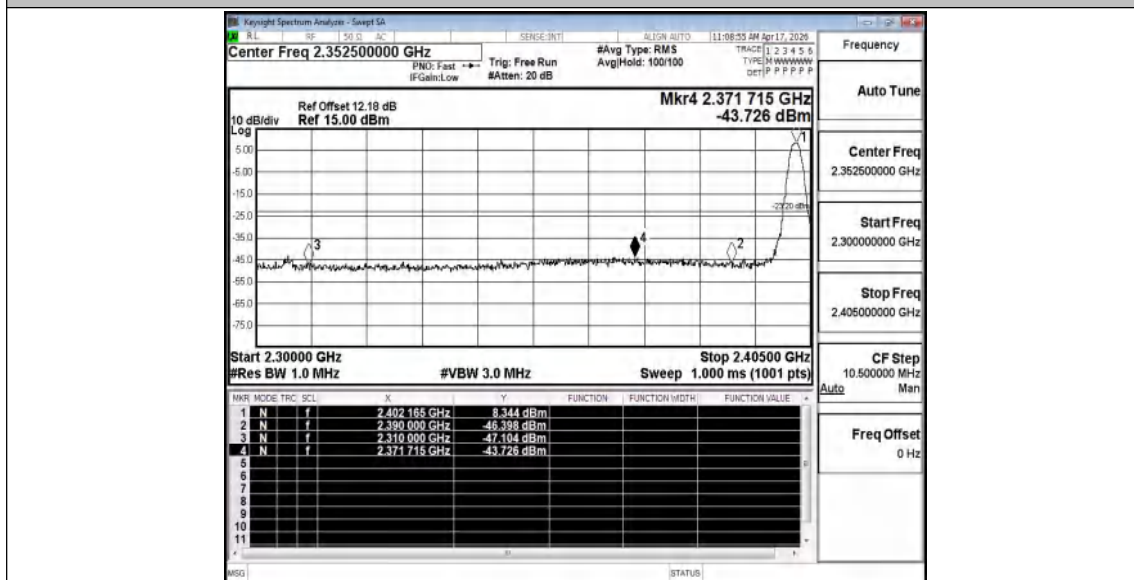
2DH5_Ant1_High_2480_Peak



3DH5_Ant1_Low_2402_AV



3DH5_Ant1_Low_2402_Peak



3DH5_Ant1_High_2480_AV

