

Appendix A

RF Test Data for BT (Conducted Measurement)

Product Name: Wireless Earphone

Test Model: Vibe R3

Environmental Conditions

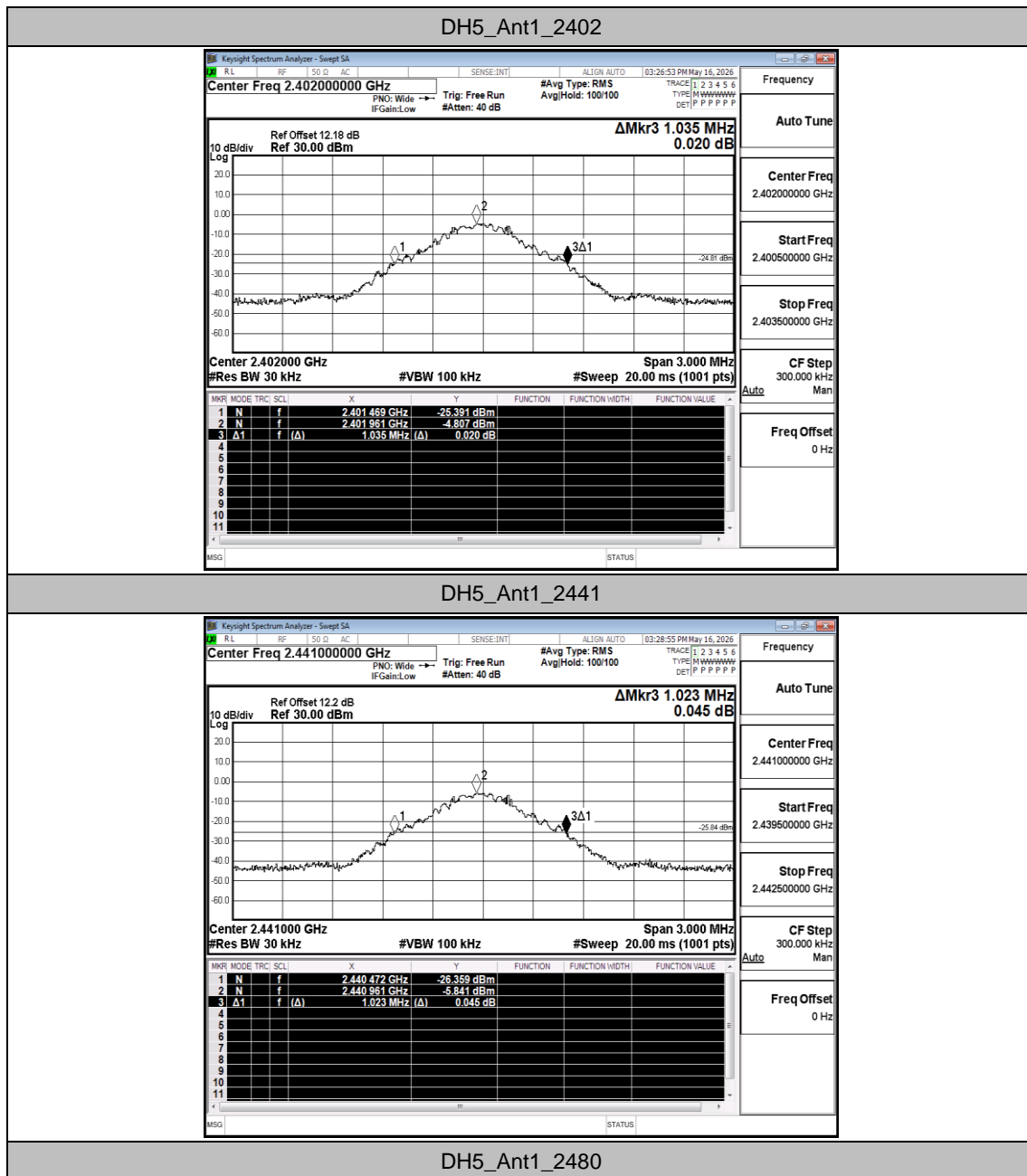
Temperature:	23.5°C
Relative Humidity:	52.1%
ATM Pressure:	100.0 kPa
Test Engineer:	Zhang hai
Supervised by:	Fengliu Tang

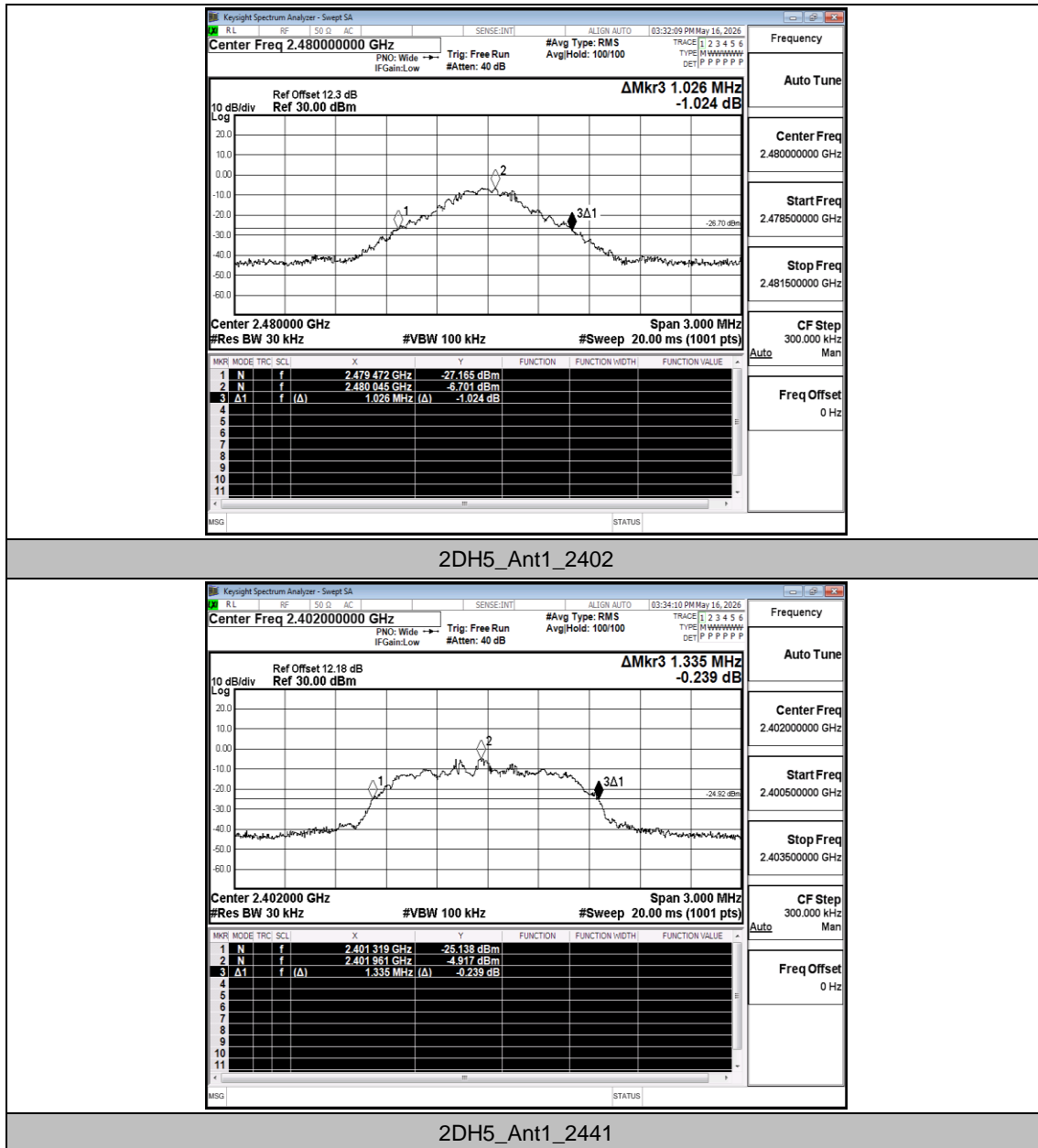
A.1 20dB Emission Bandwidth

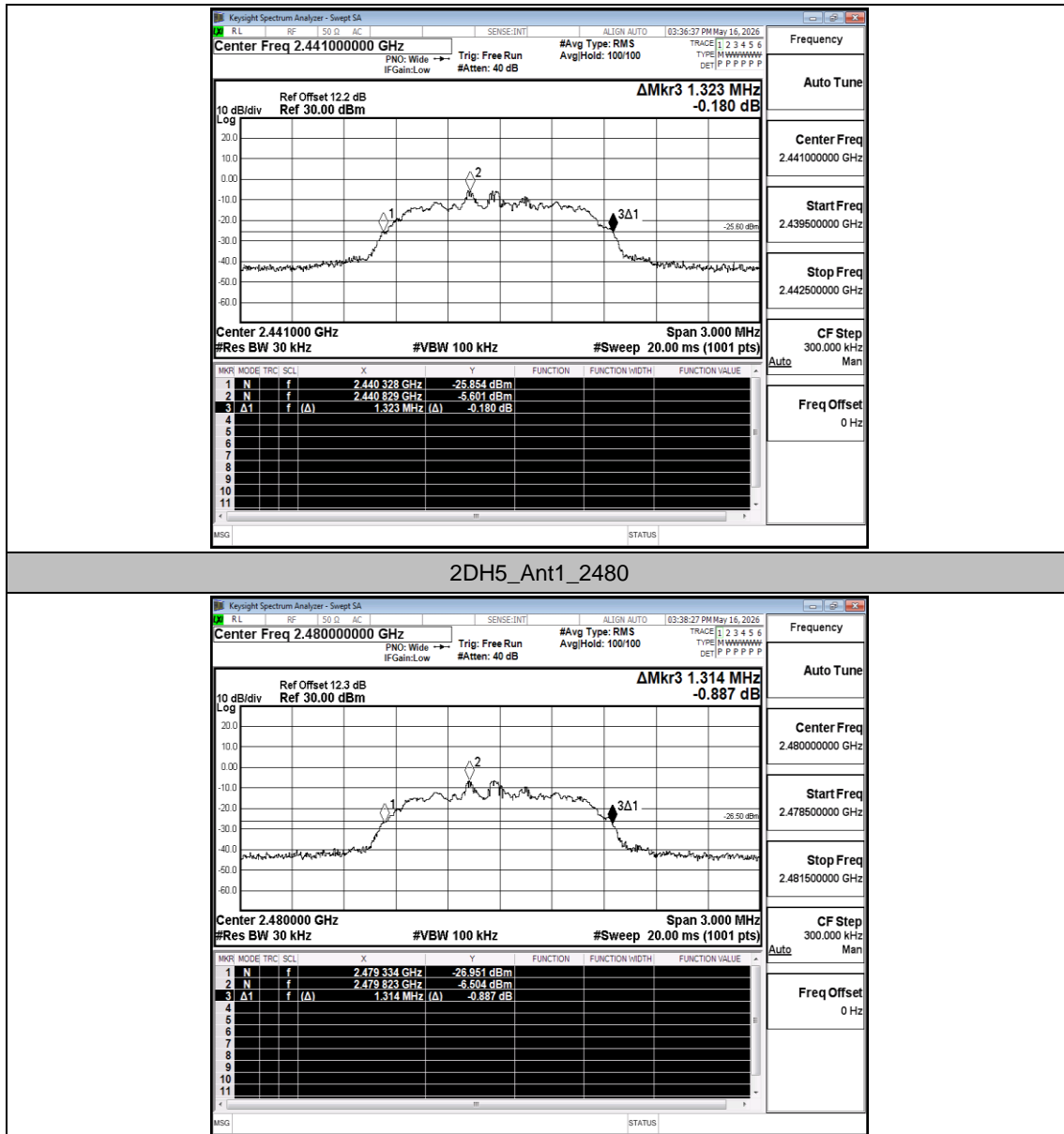
Test Result

TestMode	Antenna	Freq(MHz)	20dB EBW[MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
DH5	Ant1	2402	1.035	2401.469	2402.504	---	---
		2441	1.023	2440.472	2441.495	---	---
		2480	1.026	2479.472	2480.498	---	---
2DH5	Ant1	2402	1.335	2401.319	2402.654	---	---
		2441	1.323	2440.328	2441.651	---	---
		2480	1.314	2479.334	2480.648	---	---

Test Graphs





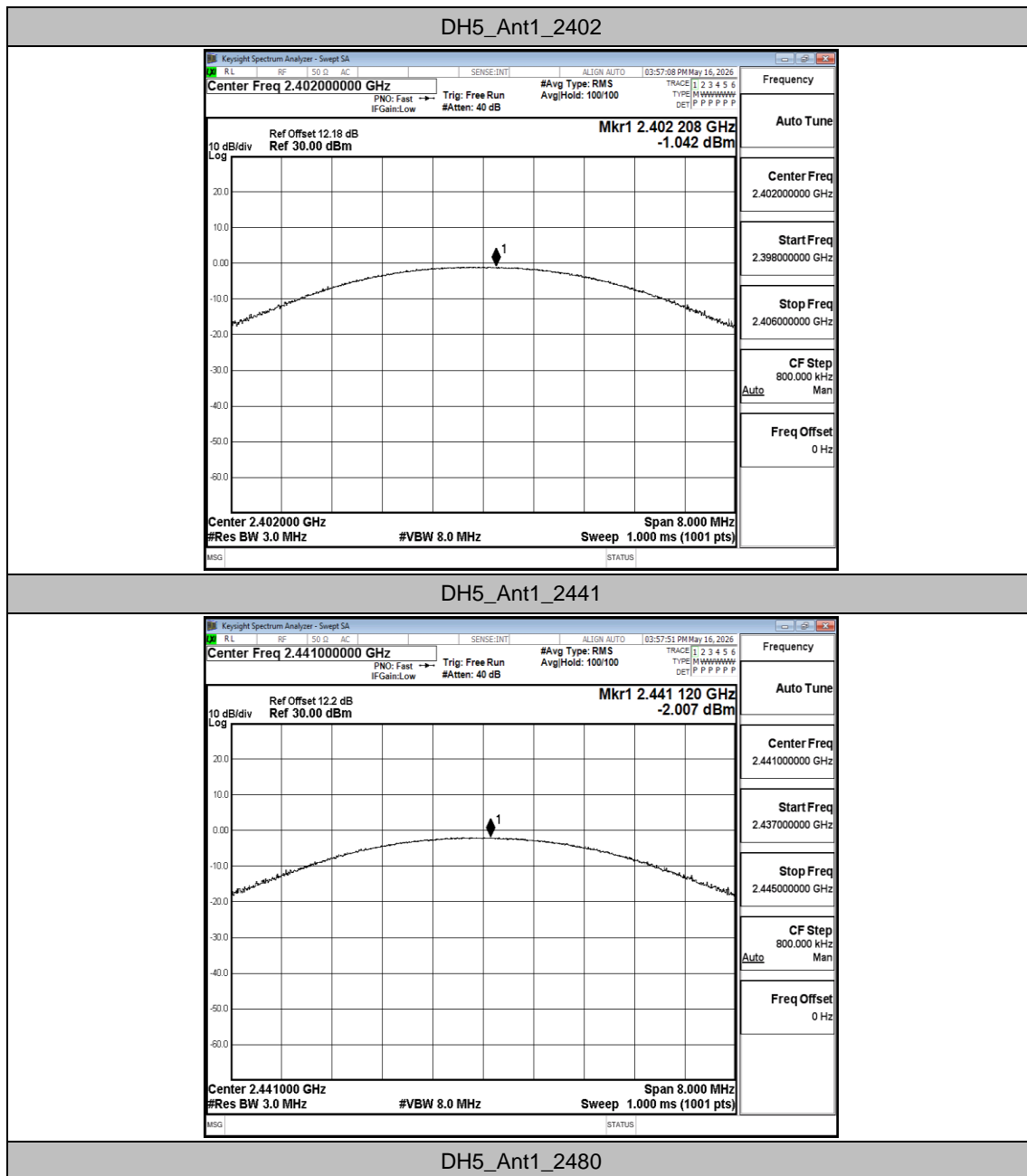


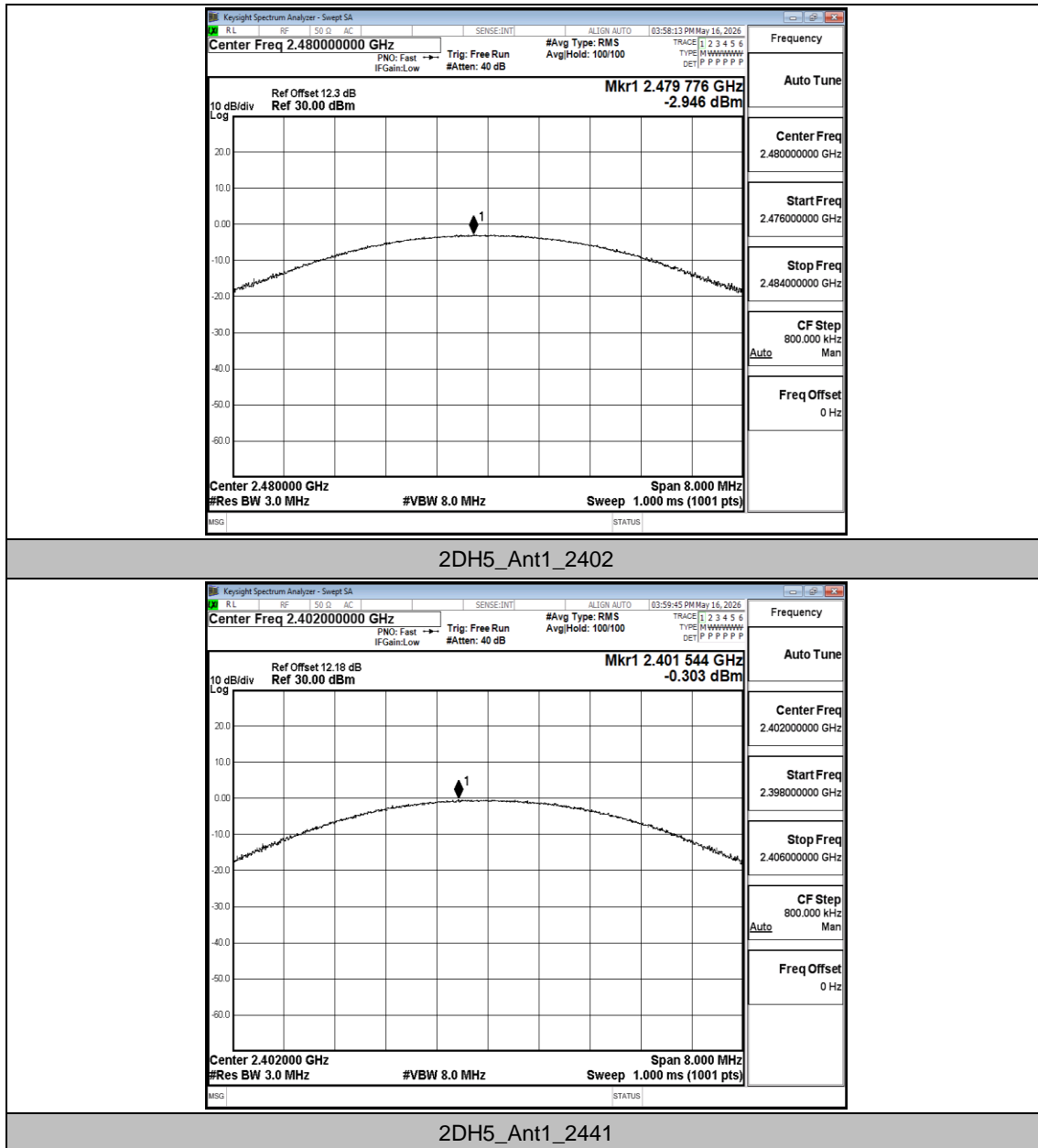
A.2 Maximum Peak conducted output power

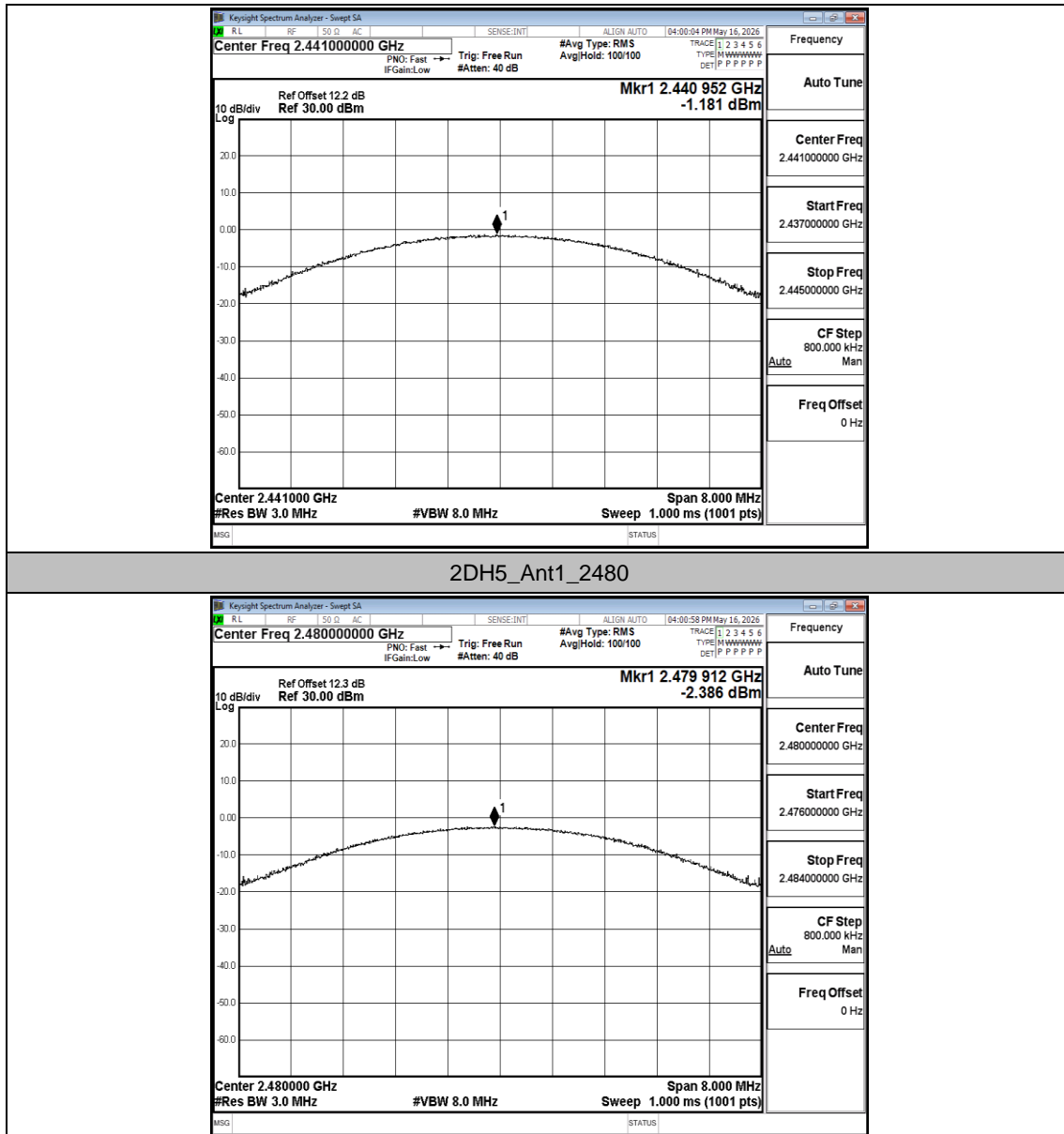
Test Result Peak

Test Mode	Antenna	Freq(MHz)	Conducted Peak Power[dBm]	Conducted Limit[dBm]	Verdict
DH5	Ant1	2402	-1.04	≤21	PASS
		2441	-2.01	≤21	PASS
		2480	-2.95	≤21	PASS
2DH5	Ant1	2402	-0.30	≤21	PASS
		2441	-1.18	≤21	PASS
		2480	-2.39	≤21	PASS

Test Graphs





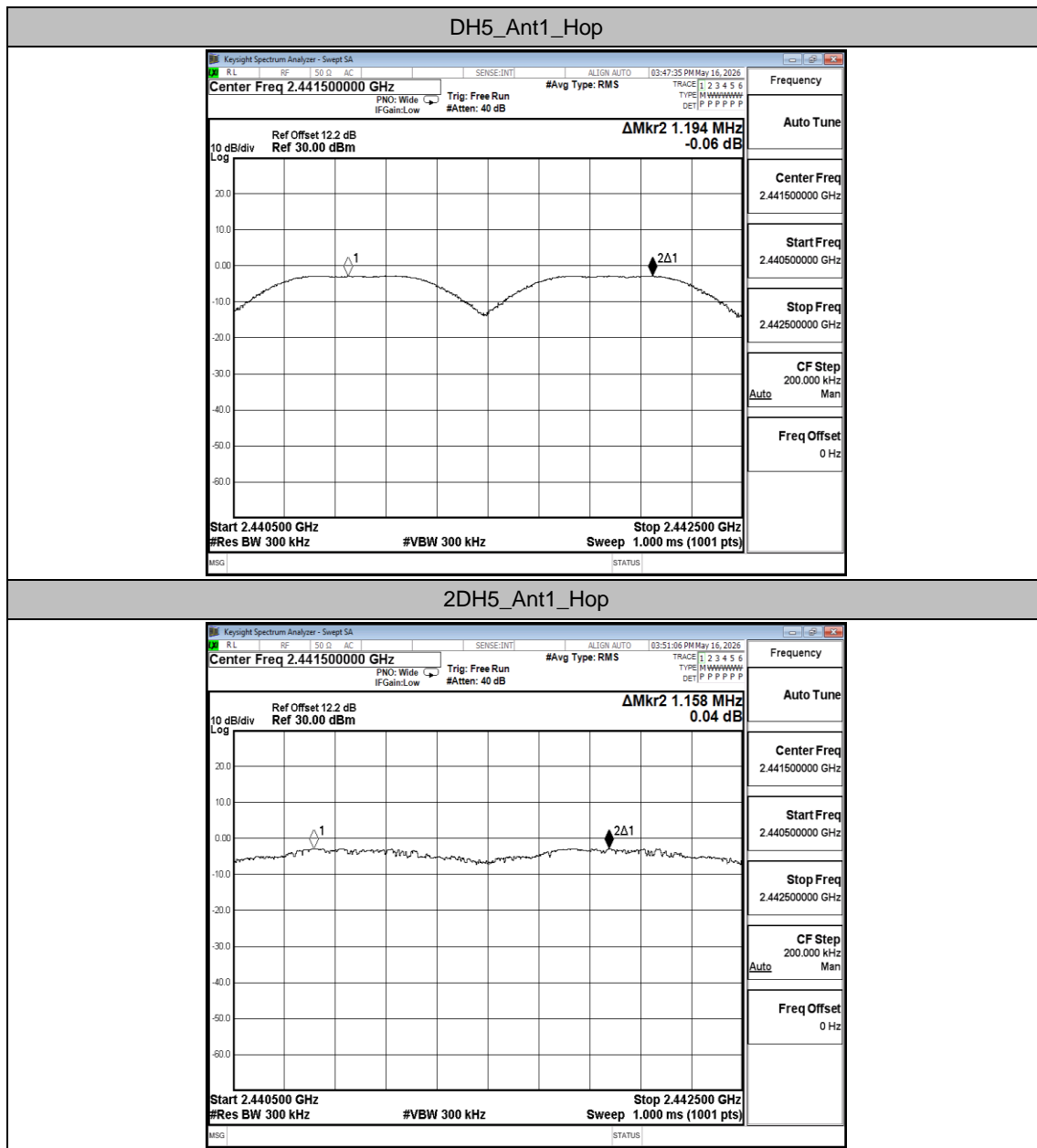


A.3 Carrier frequency separation

Test Result

TestMode	Antenna	Freq(MHz)	Result[MHz]	Limit[MHz]	Verdict
DH5	Ant1	Hop	1.194	≥0.690	PASS
2DH5	Ant1	Hop	1.158	≥0.890	PASS

Test Graphs

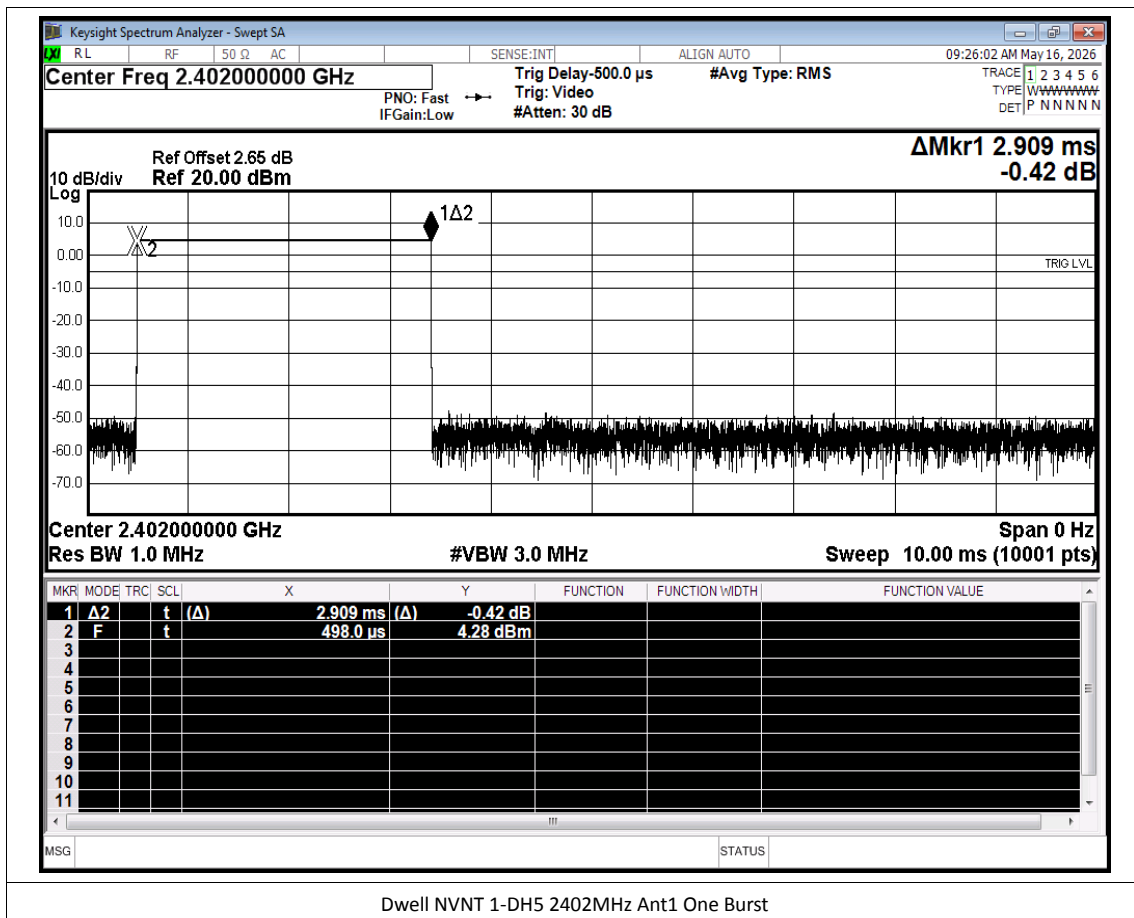


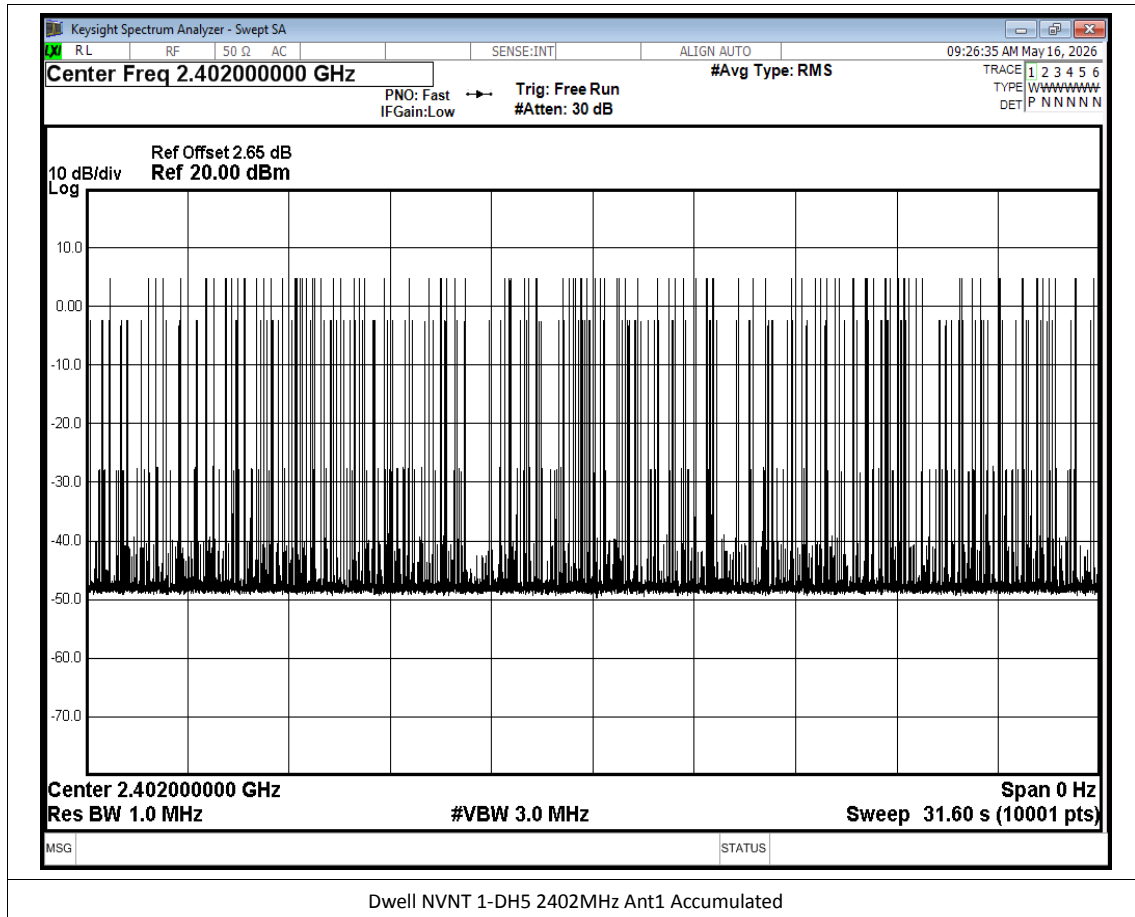
A.4 Time of occupancy

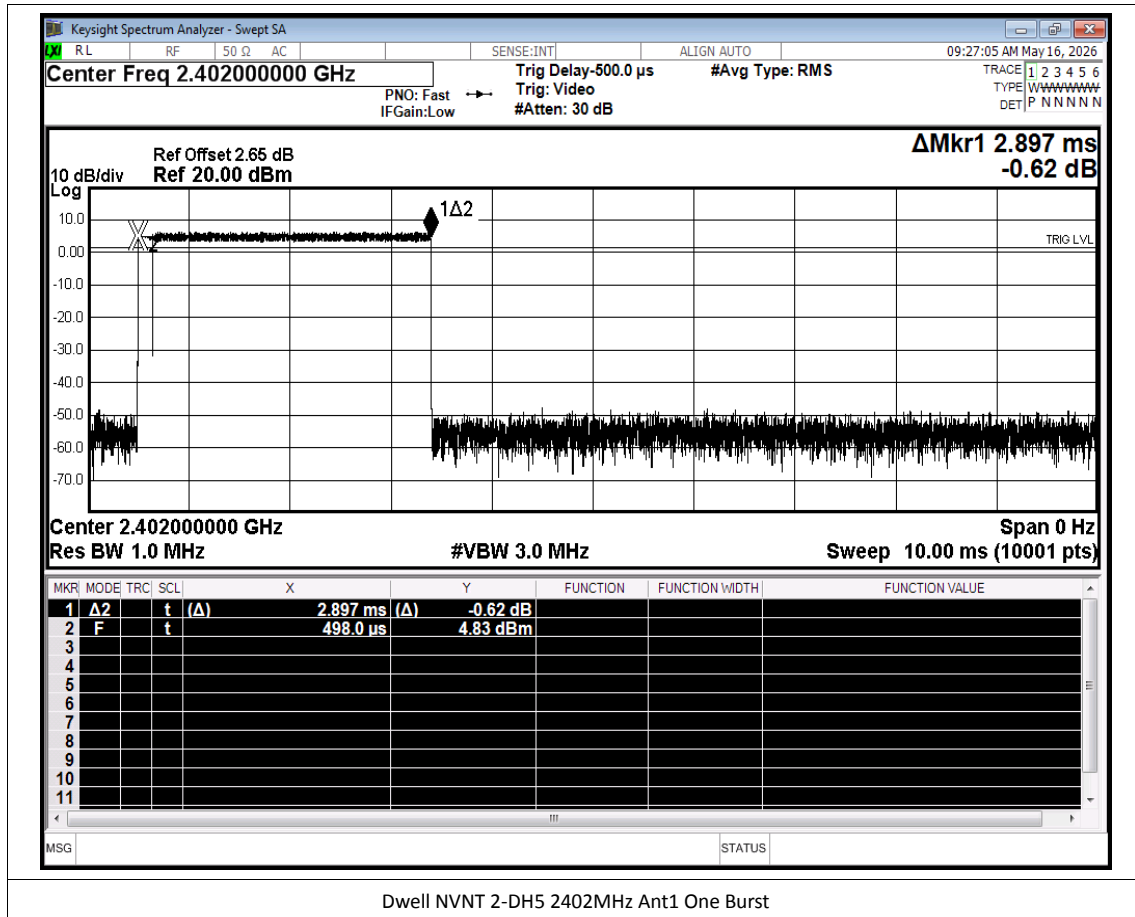
Test Result

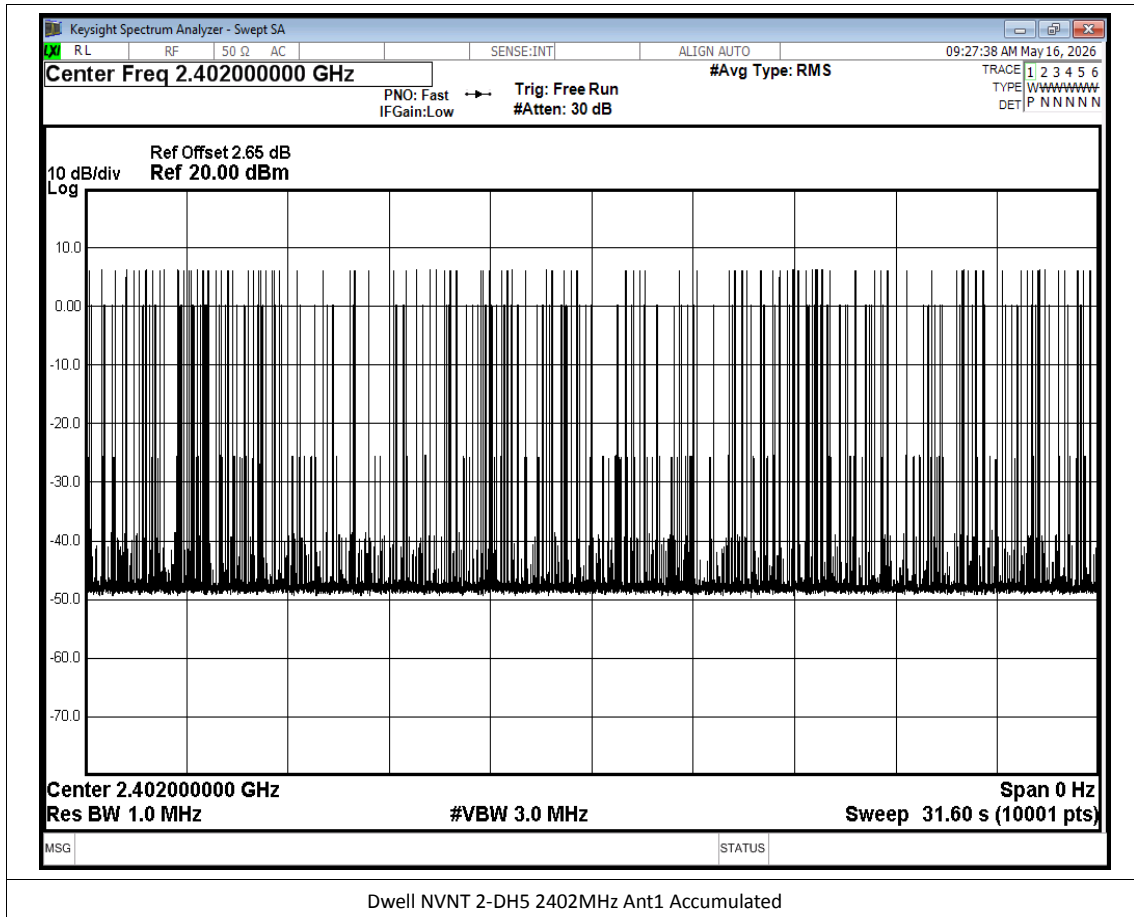
Condition	Mode	Frequency (MHz)	Antenna	Pulse Time (ms)	Total Dwell Time (ms)	Burst Count	Period Time (ms)	Limit (ms)	Verdict
NVNT	1-DH5	2402	Ant1	2.909	296.718	102	31600	400	Pass
NVNT	2-DH5	2402	Ant1	2.897	341.846	118	31600	400	Pass

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

Test Graphs

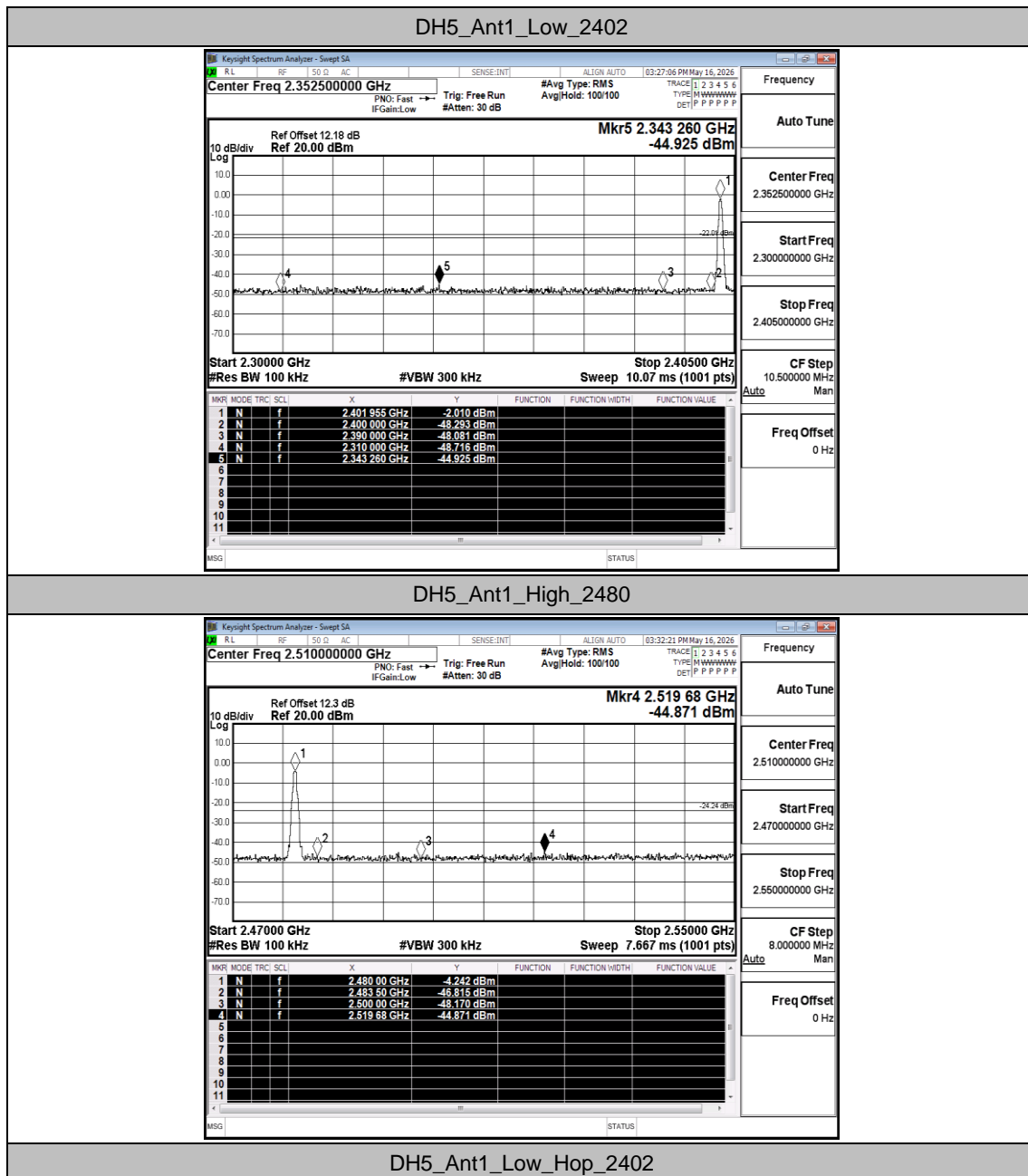


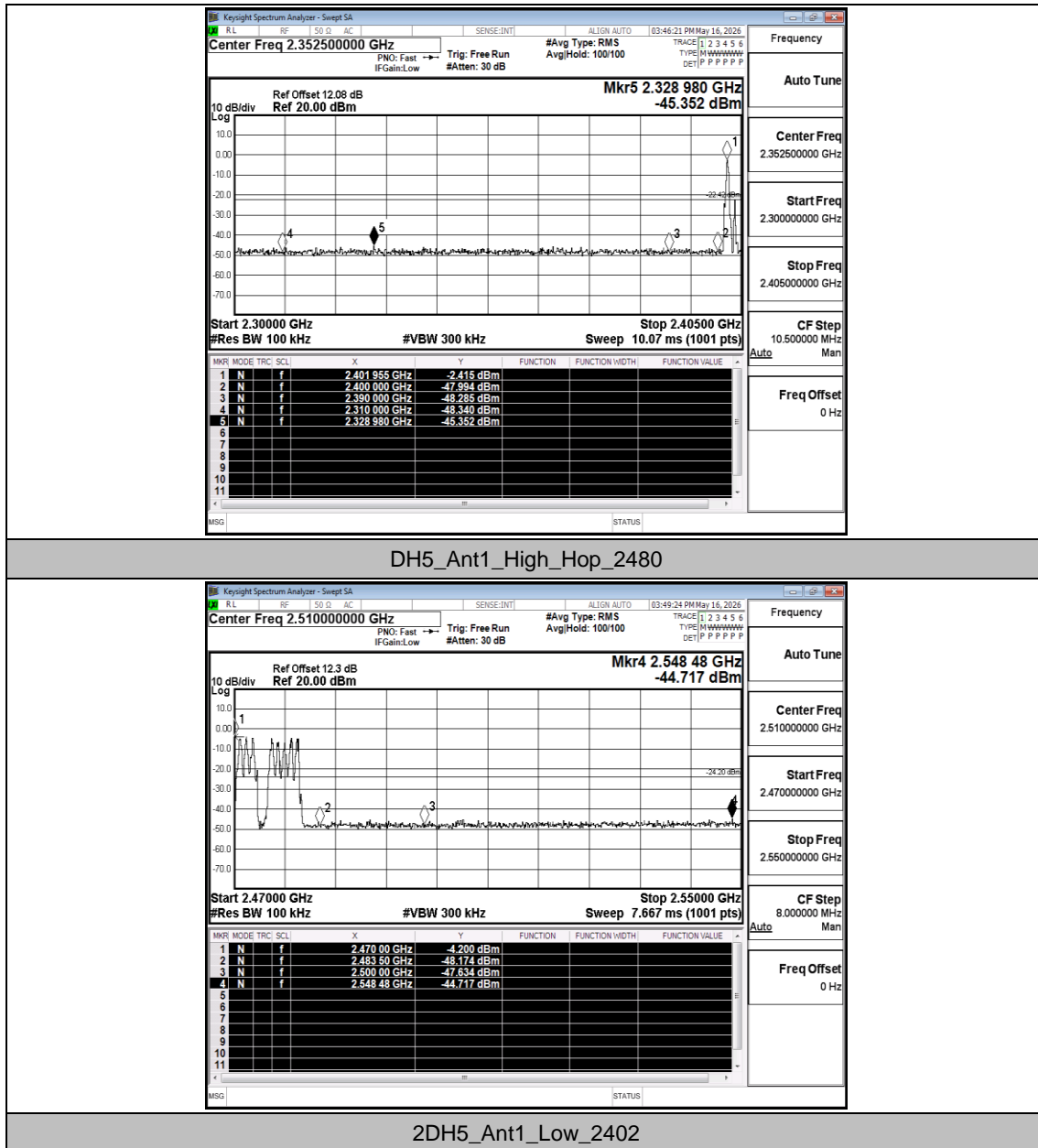
A.6 Band edge measurements

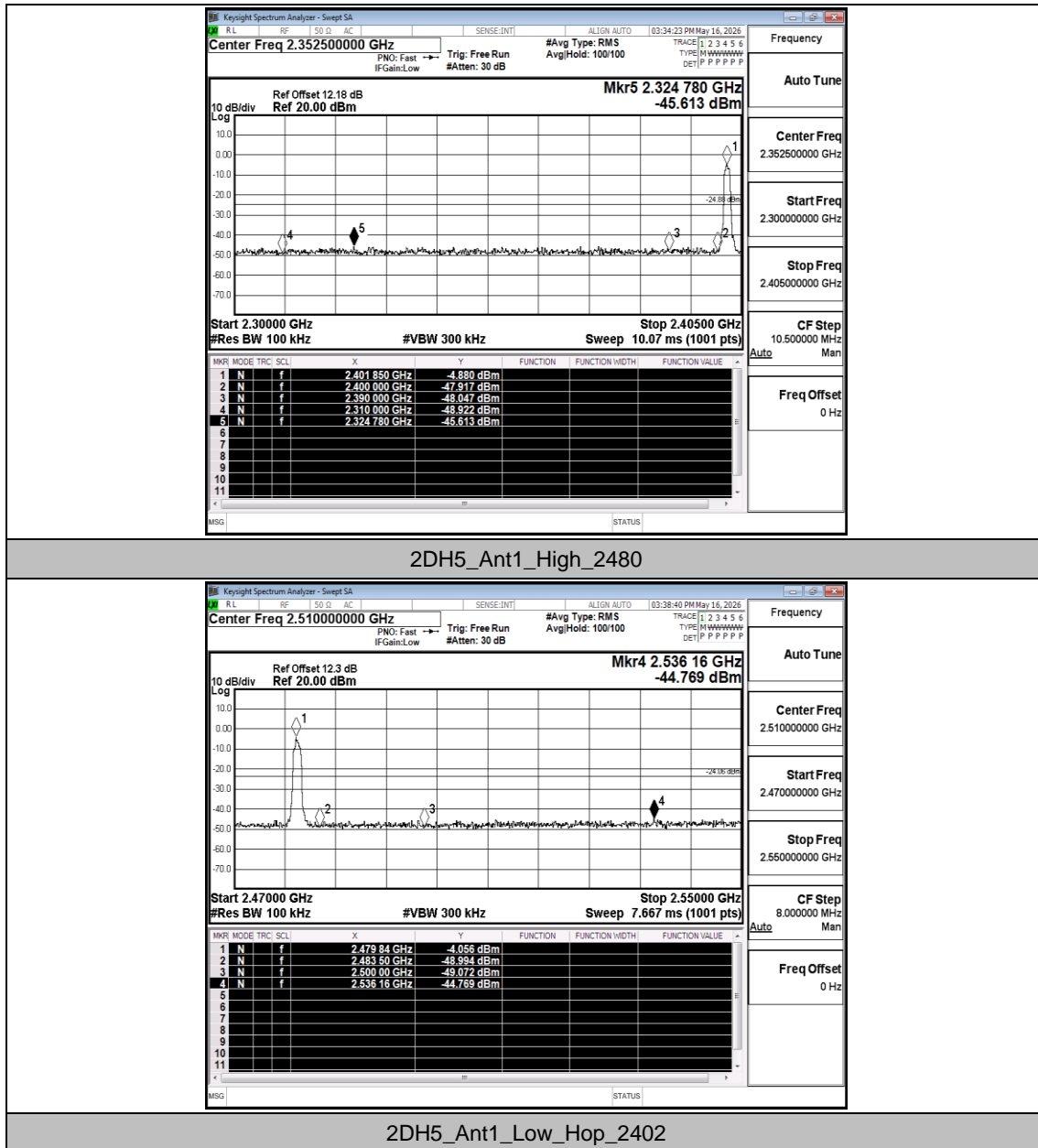
Test Result

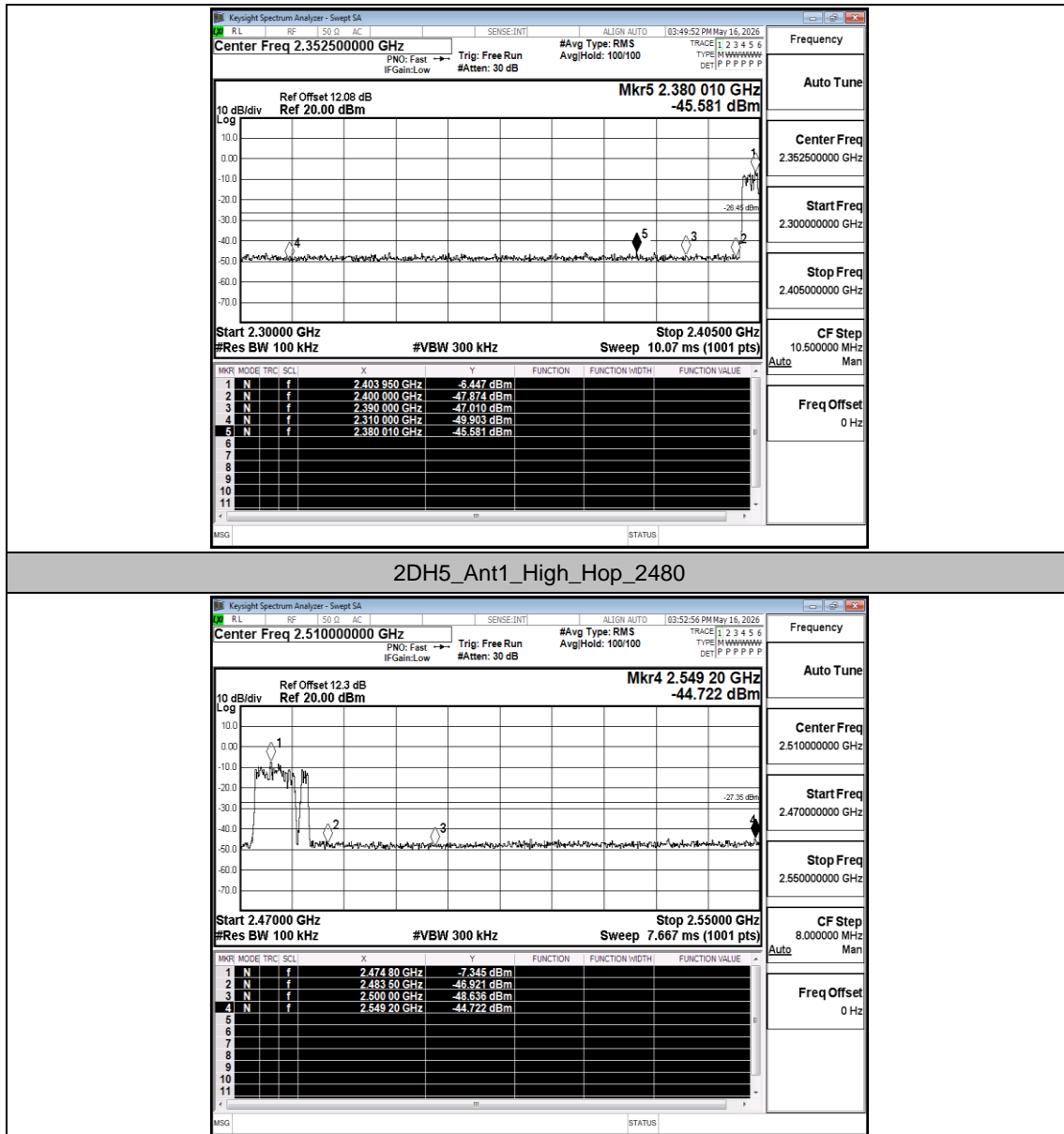
TestMode	Antenna	ChName	Freq(MHz)	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
DH5	Ant1	Low	2402	-2.01	-44.93	≤ -22.01	PASS
		High	2480	-4.24	-44.87	≤ -24.24	PASS
		Low	Hop_2402	-2.42	-45.35	≤ -22.42	PASS
		High	Hop_2480	-4.20	-44.72	≤ -24.2	PASS
2DH5	Ant1	Low	2402	-4.88	-45.61	≤ -24.88	PASS
		High	2480	-4.06	-44.77	≤ -24.06	PASS
		Low	Hop_2402	-6.45	-45.58	≤ -26.45	PASS
		High	Hop_2480	-7.35	-44.72	≤ -27.35	PASS

Test Graphs







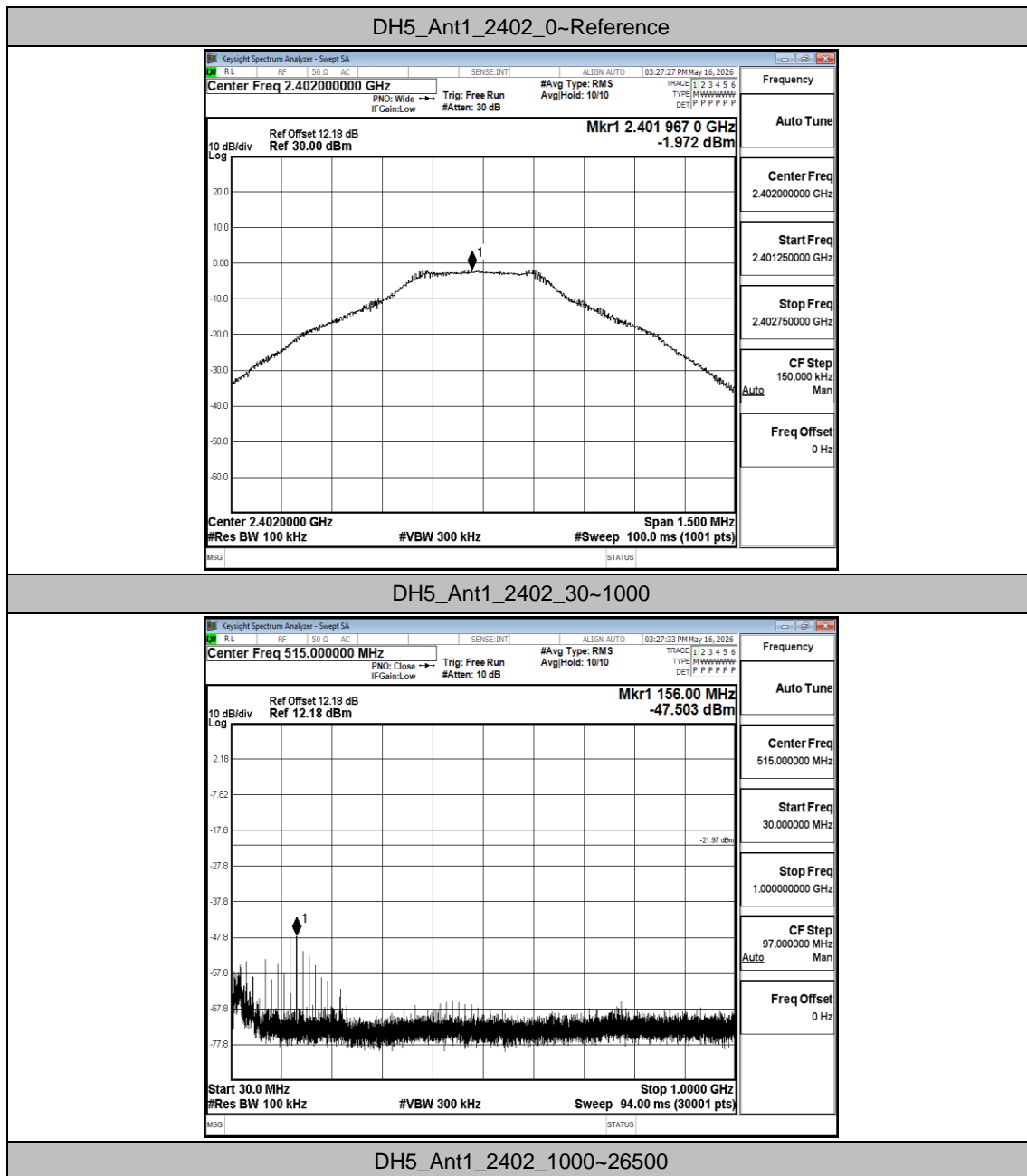


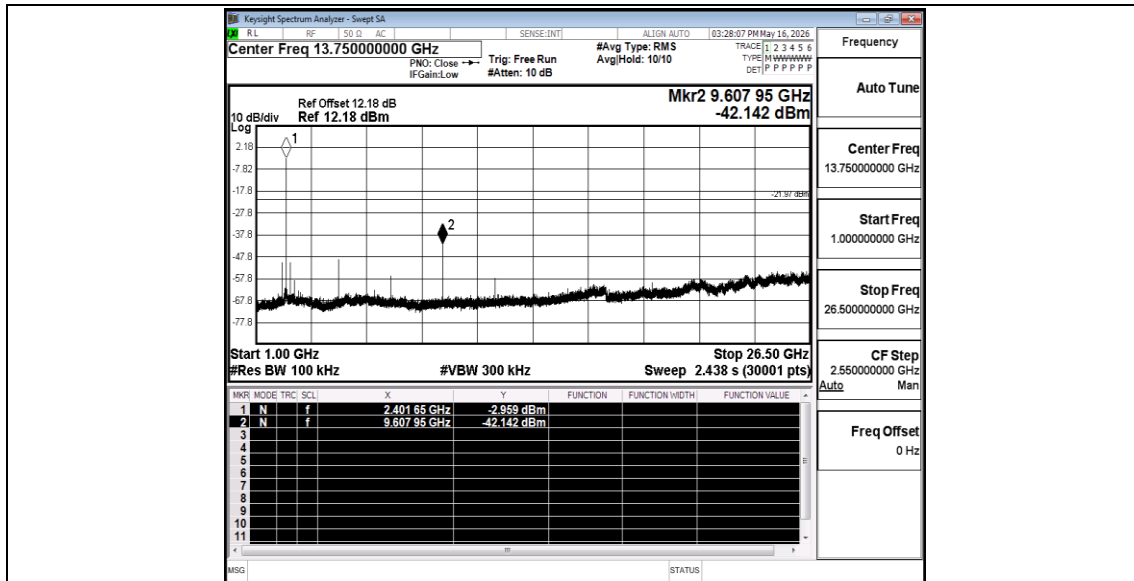
A.7 Conducted Spurious Emission

Test Result

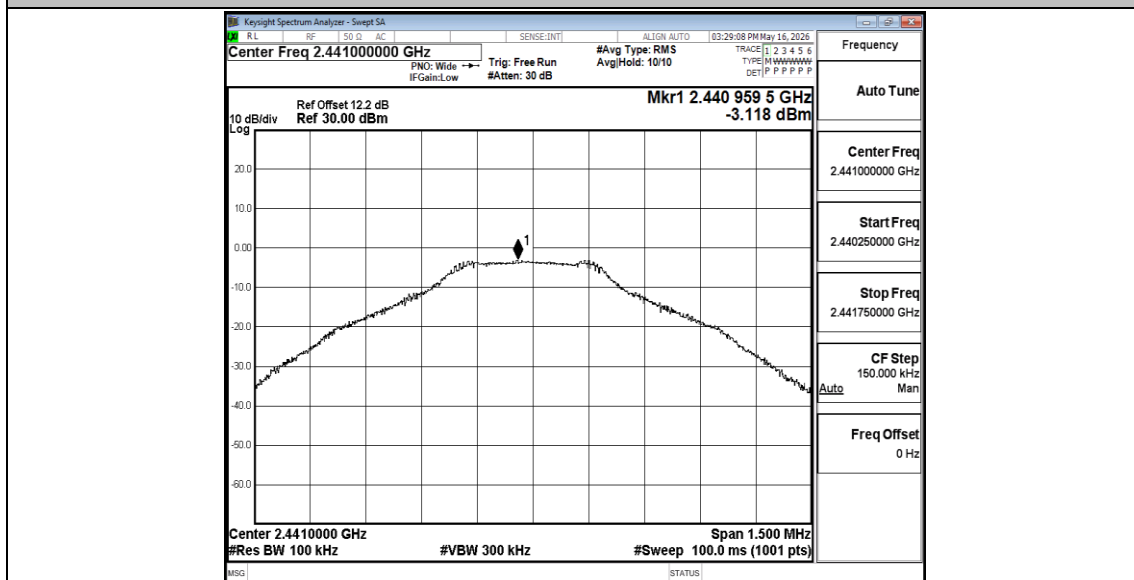
TestMode	Antenna	Freq(MHz)	FreqRange [MHz]	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
DH5	Ant1	2402	Reference	-1.97	-1.97	---	PASS
			30~1000	-1.97	-47.5	≤ -21.97	PASS
			1000~26500	-1.97	-42.14	≤ -21.97	PASS
		2441	Reference	-3.12	-3.12	---	PASS
			30~1000	-3.12	-46.95	≤ -23.12	PASS
			1000~26500	-3.12	-36.86	≤ -23.12	PASS
		2480	Reference	-4.10	-4.10	---	PASS
			30~1000	-4.10	-47.12	≤ -24.1	PASS
			1000~26500	-4.10	-40.23	≤ -24.1	PASS
2DH5	Ant1	2402	Reference	-1.99	-1.99	---	PASS
			30~1000	-1.99	-47.66	≤ -21.99	PASS
			1000~26500	-1.99	-41.73	≤ -21.99	PASS
		2441	Reference	-3.07	-3.07	---	PASS
			30~1000	-3.07	-47.27	≤ -23.07	PASS
			1000~26500	-3.07	-37.12	≤ -23.07	PASS
		2480	Reference	-4.04	-4.04	---	PASS
			30~1000	-4.04	-47.14	≤ -24.04	PASS
			1000~26500	-4.04	-40.02	≤ -24.04	PASS

Test Graphs

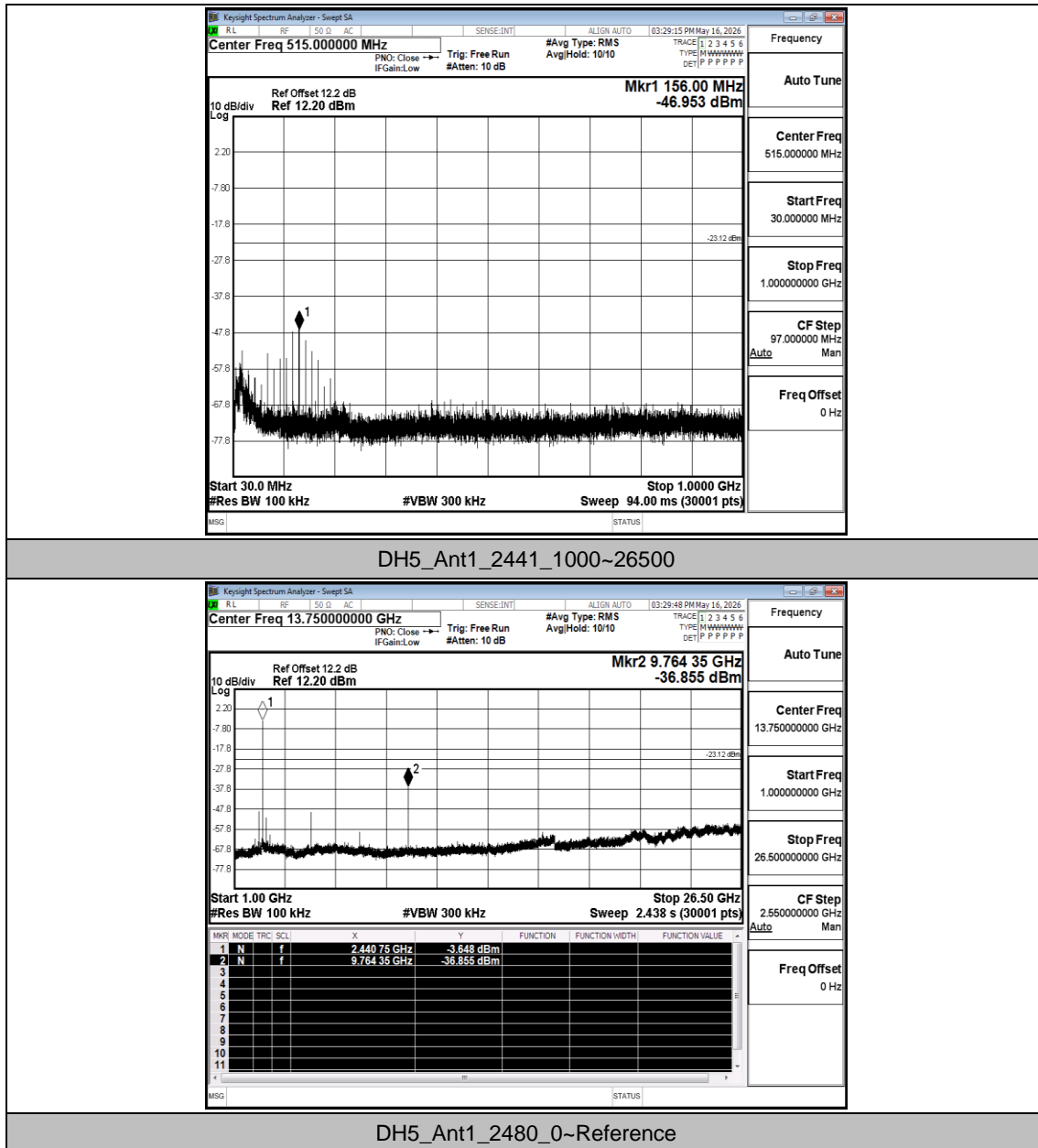


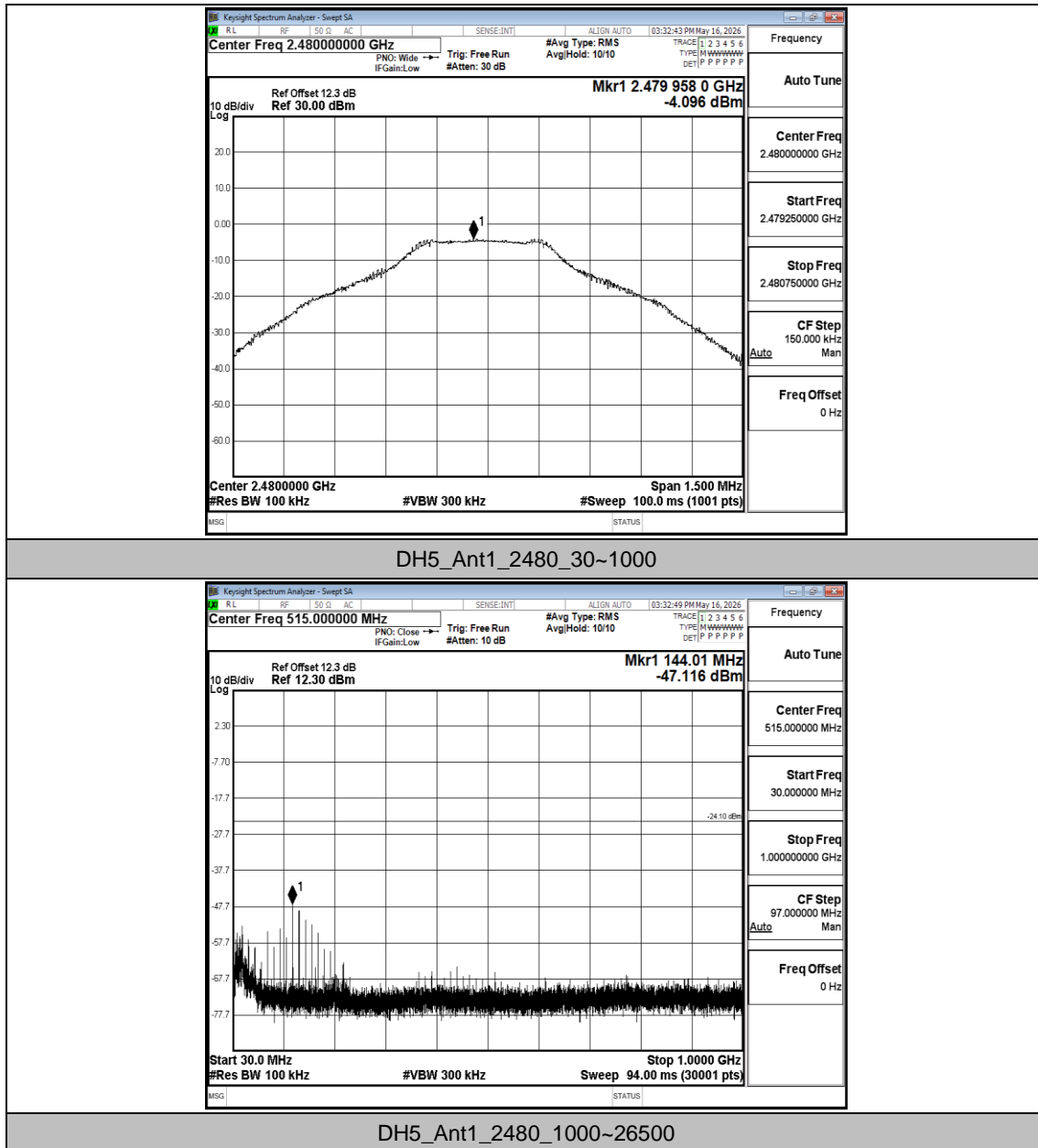


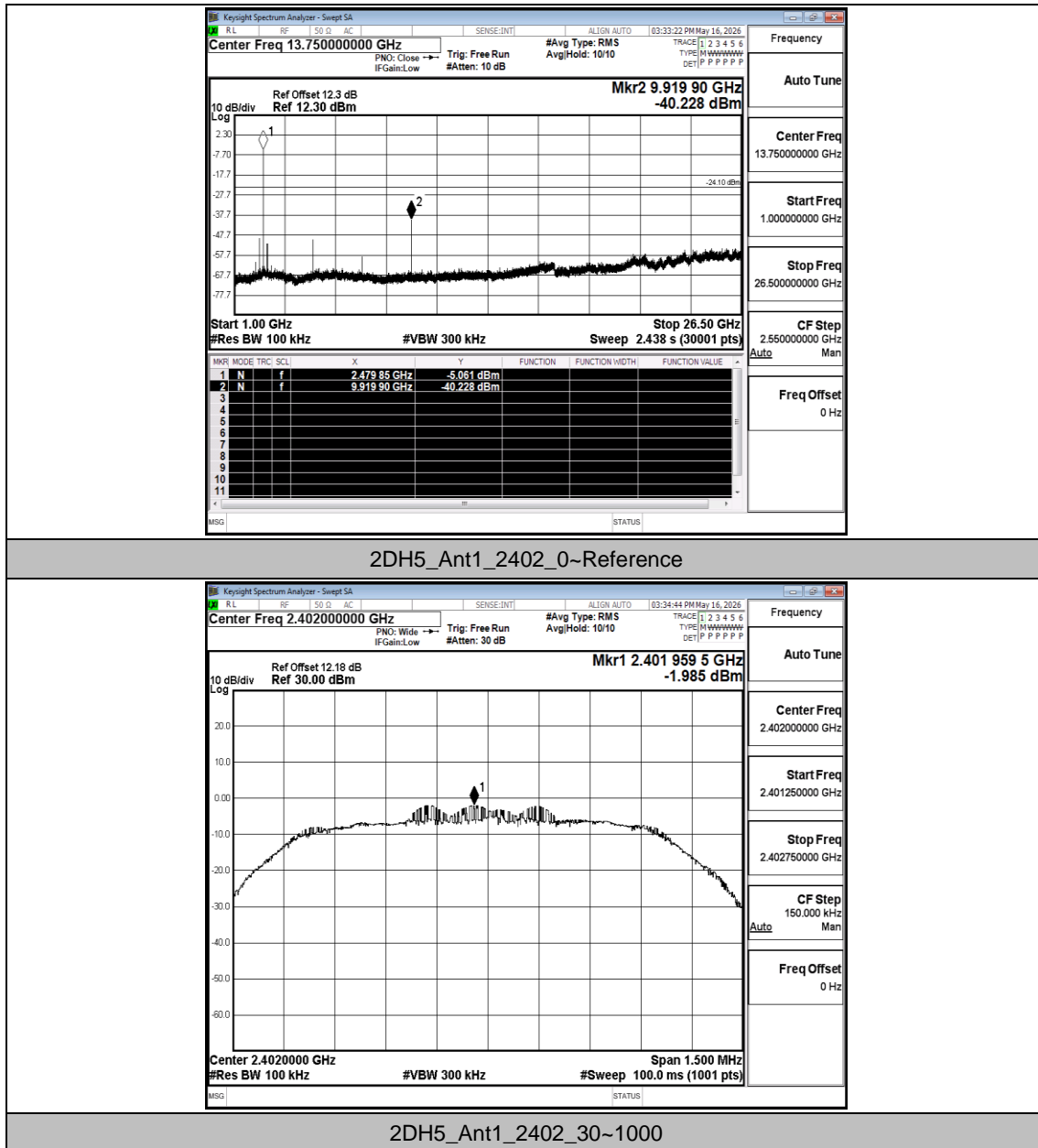
DH5_Ant1_2441_0~Reference

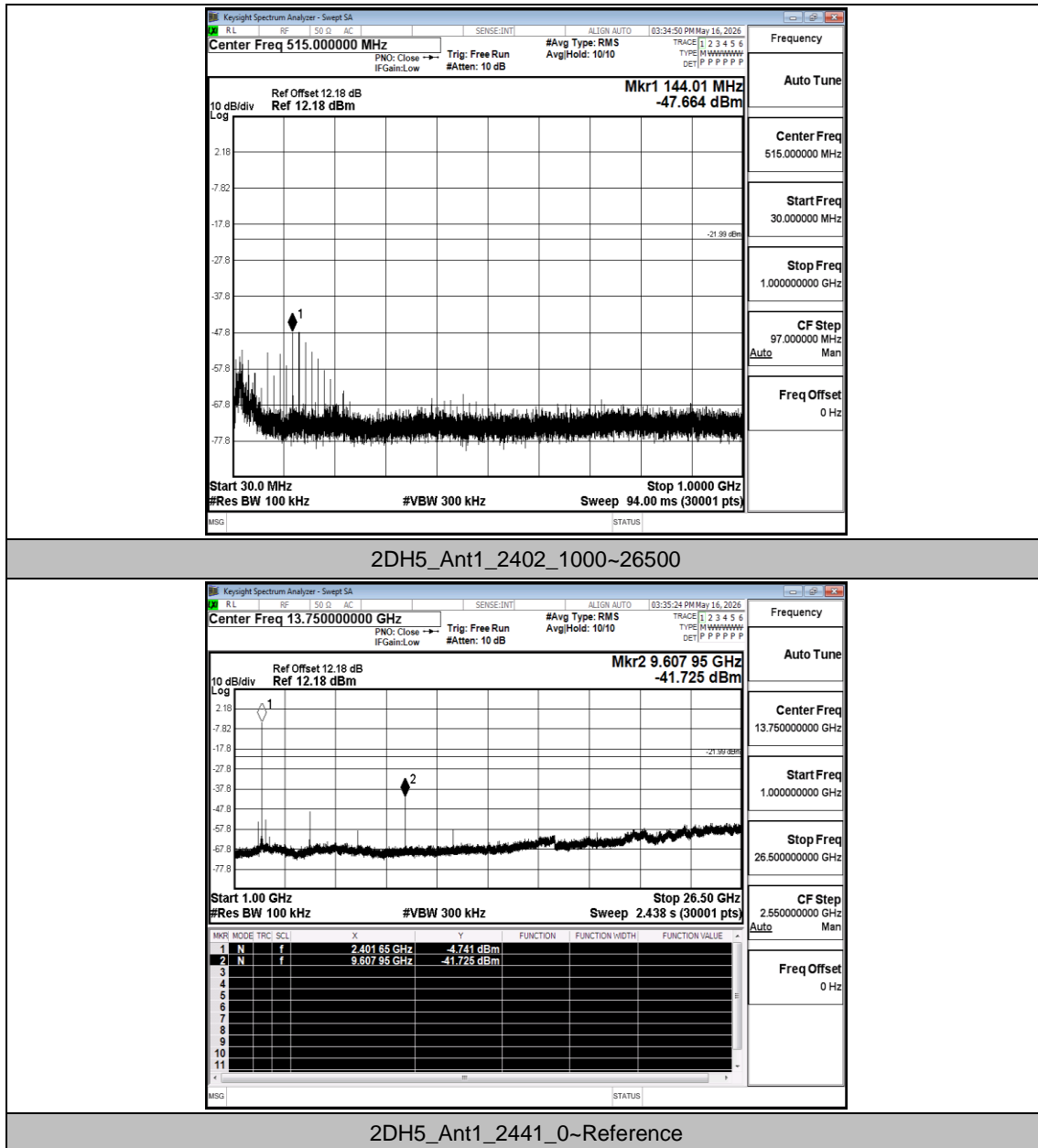


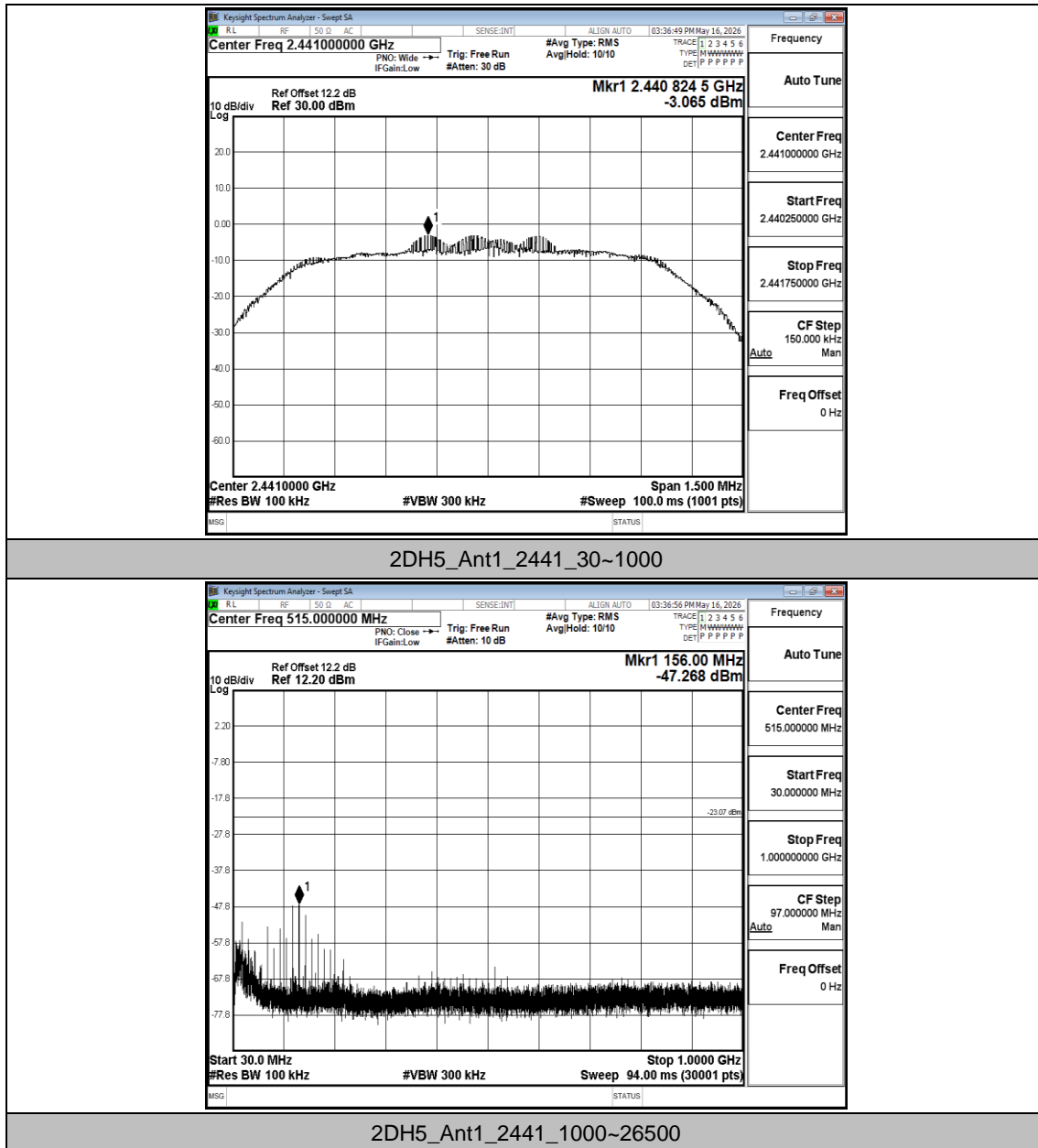
DH5_Ant1_2441_30~1000

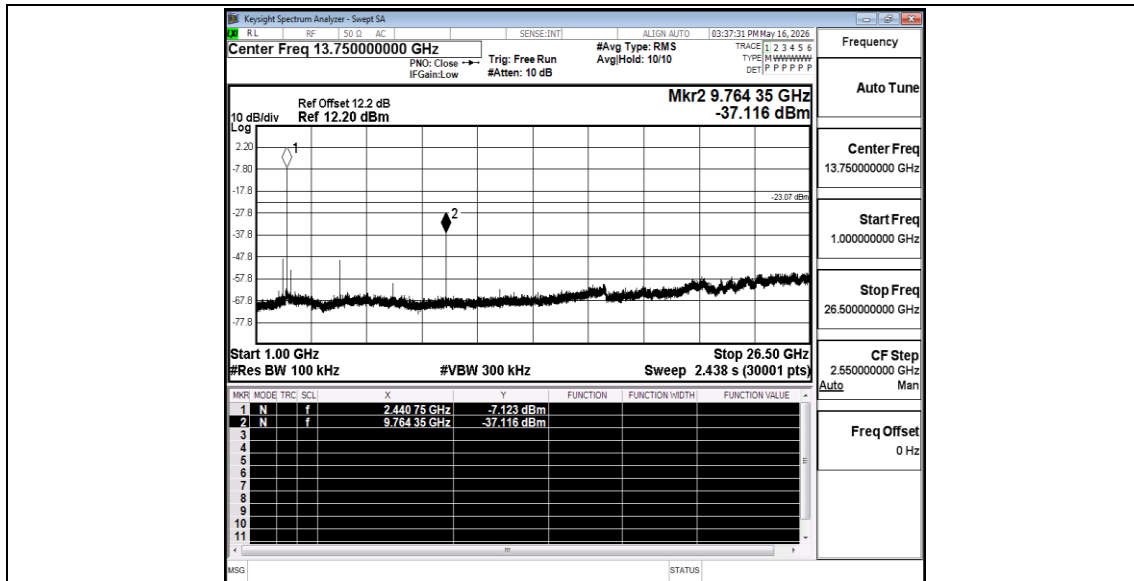




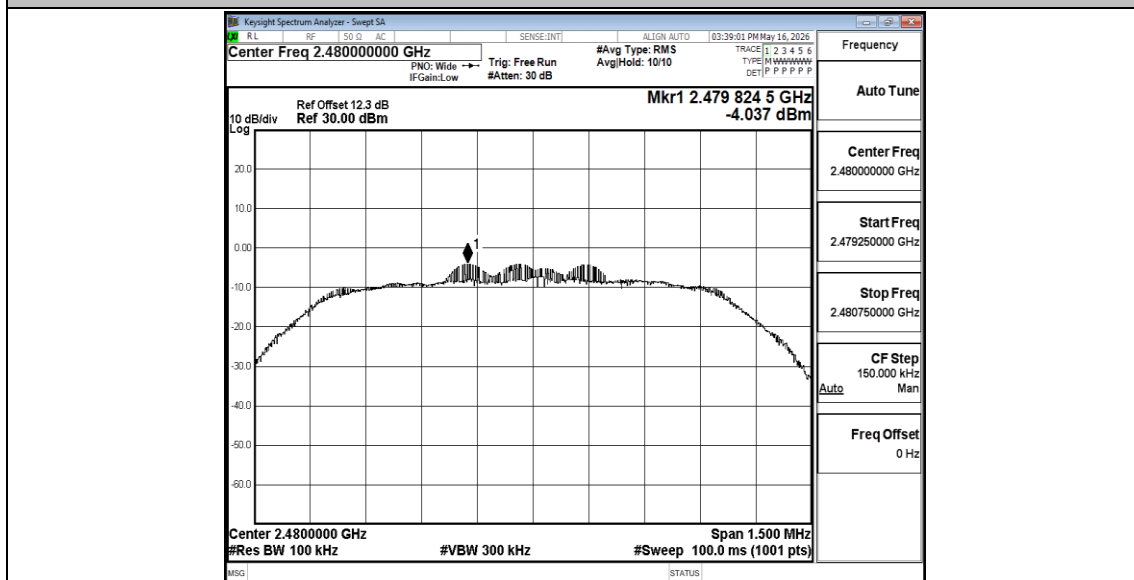




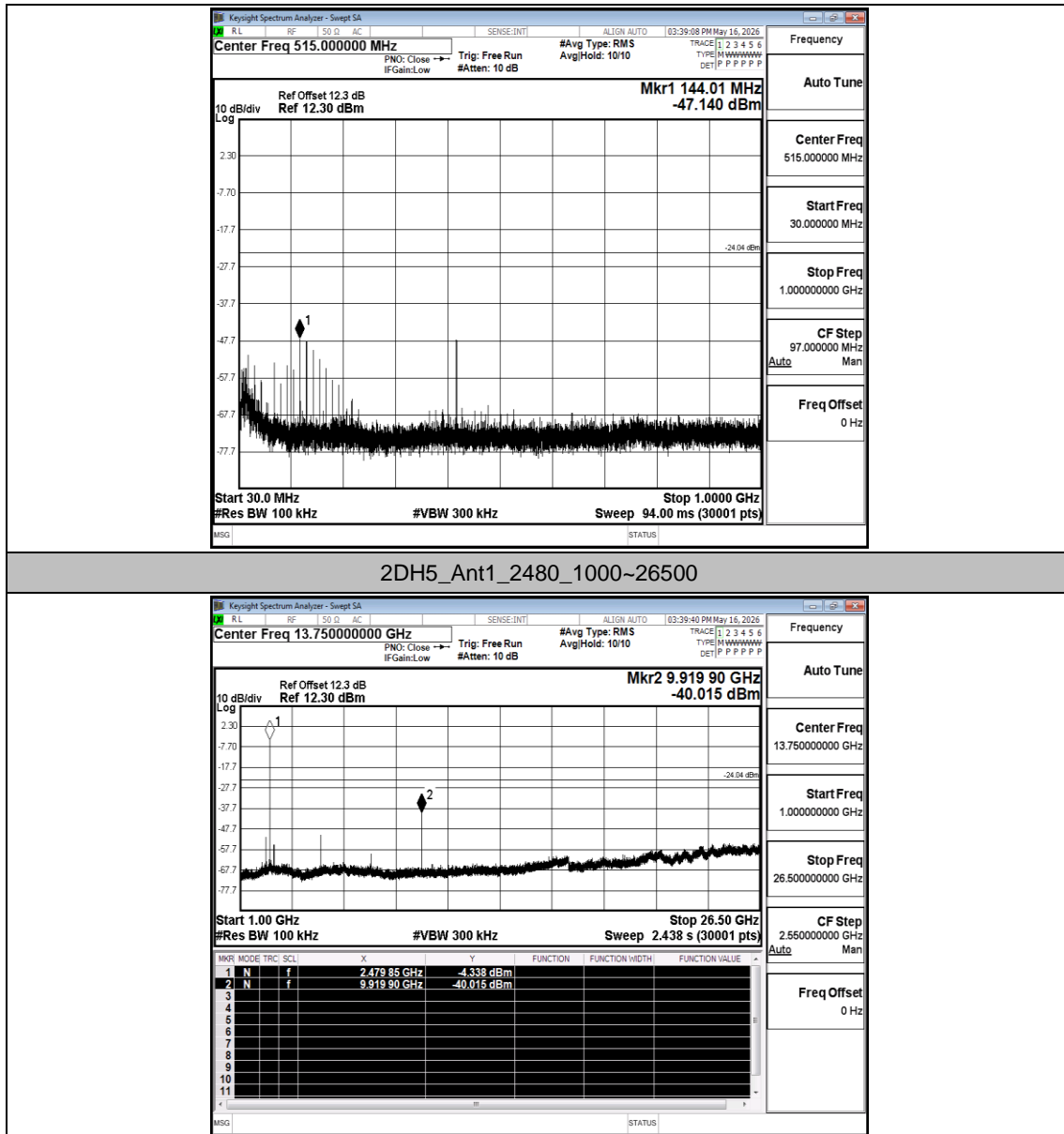




2DH5_Ant1_2480_0~Reference



2DH5_Ant1_2480_30~1000

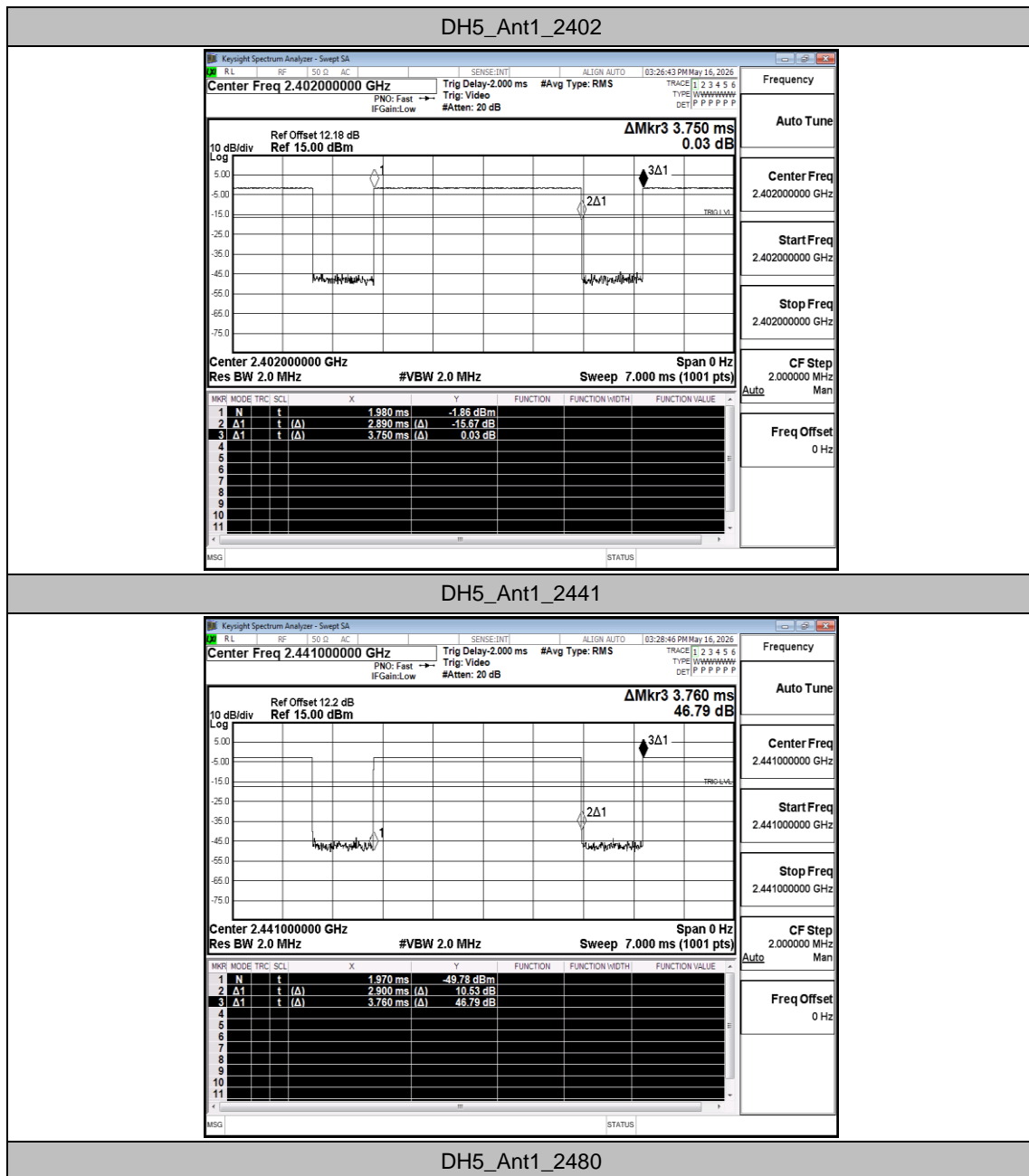


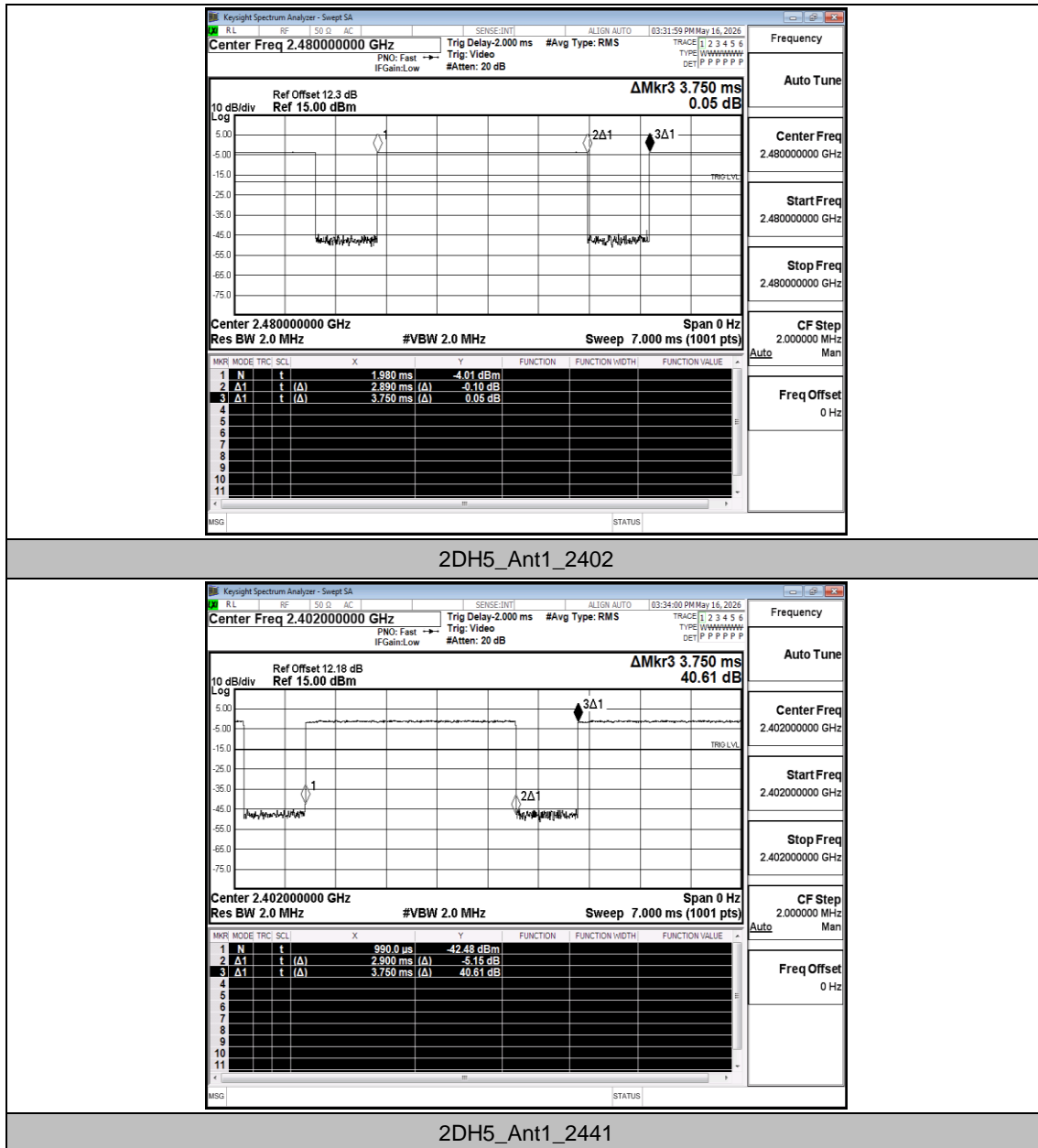
A.8 Duty Cycle

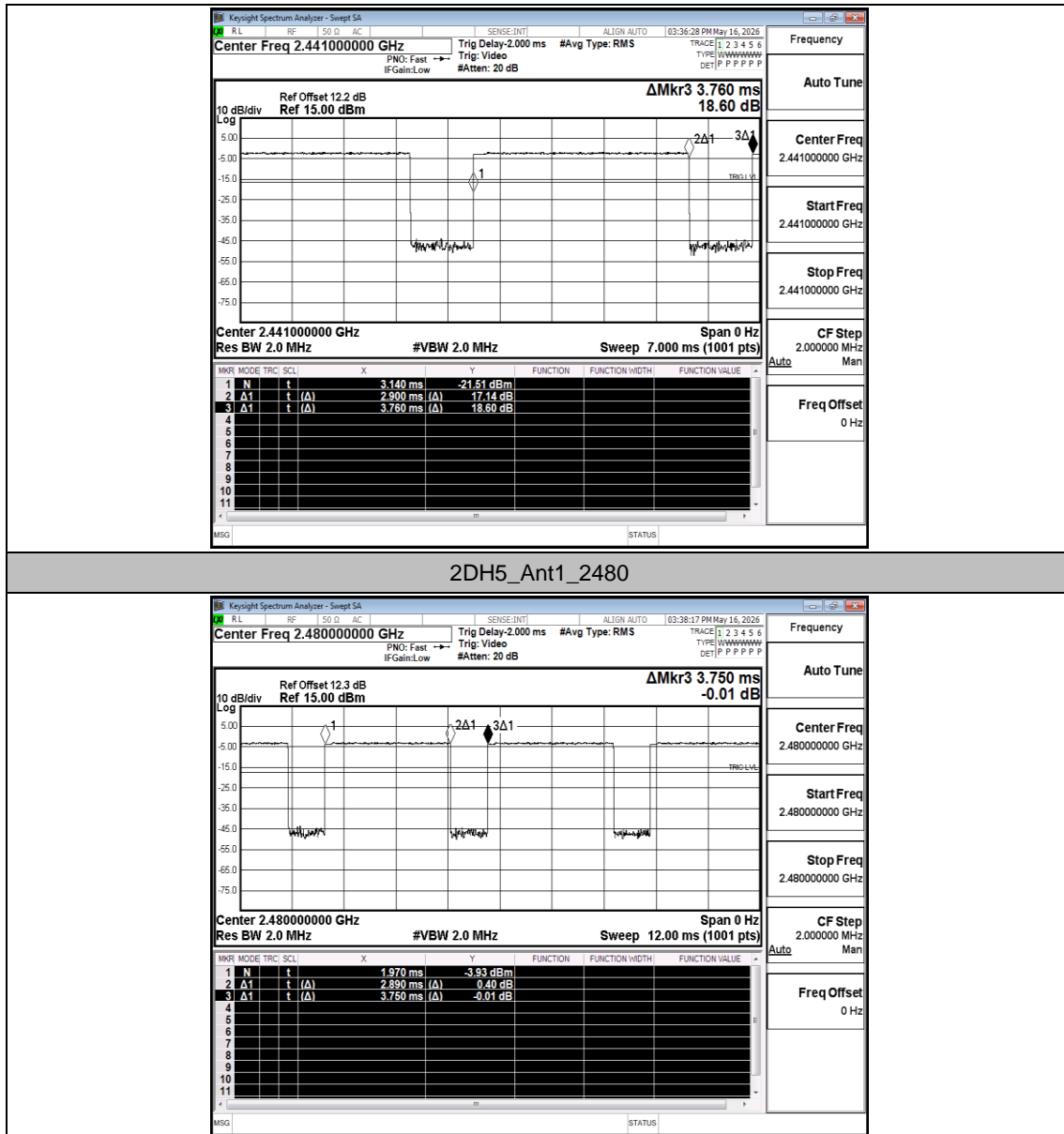
Test Result

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	2.90	3.76	77.13	1.13	---	---
		2480	2.89	3.75	77.07	1.13	---	---
2DH5	Ant1	2402	2.90	3.75	77.33	1.12	---	---
		2441	2.90	3.76	77.13	1.13	---	---
		2480	2.89	3.75	77.07	1.13	---	---

Test Graphs







A.9 Emissions in Restricted Bands

Test Result

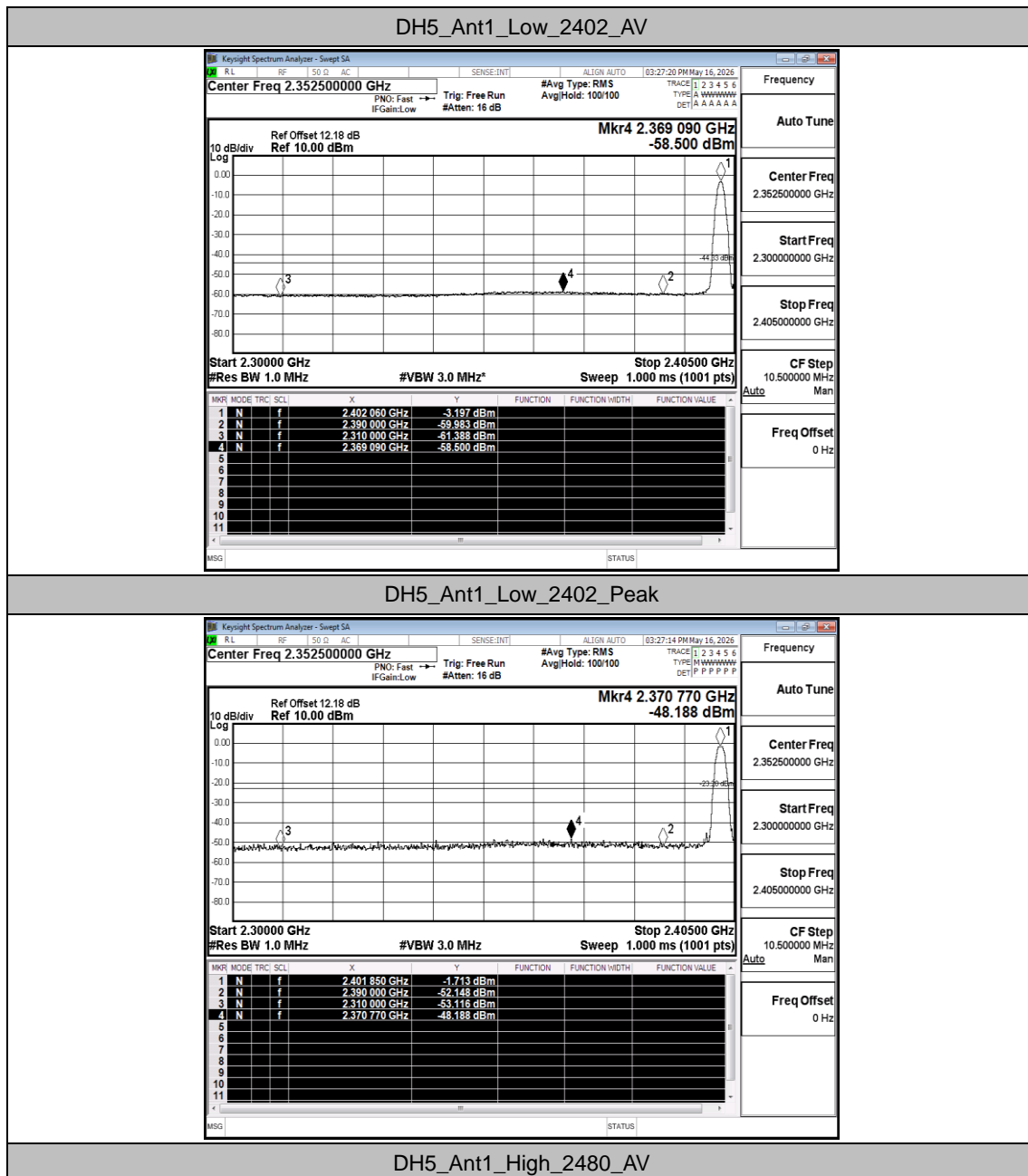
TestMode	Antenna	ChName	Freq (MHz)	Detector	Freq [MHz]	Result [dBm]	Limit [dBm]	Gain [dBi]	DC Factor [dB]	Result [dBUV/m]	Limit [dBUV/m]	Verdict
DH5	Ant1	Low	2402	AV	2310.000	-61.39	≤-44.33	2.00	1.13	36.94	≤54	PASS
				AV	2369.090	-58.5	≤-44.33	2.00	1.13	39.83	≤54	PASS
				AV	2390.000	-59.98	≤-44.33	2.00	1.13	38.35	≤54	PASS
				Peak	2310.000	-53.12	≤-23.20	2.00	0.00	44.08	≤74	PASS
				Peak	2370.770	-48.19	≤-23.20	2.00	0.00	49.01	≤74	PASS
				Peak	2390.000	-52.15	≤-23.20	2.00	0.00	45.05	≤74	PASS
		High	2480	AV	2483.500	-59.45	≤-44.33	2.00	1.13	38.88	≤54	PASS
				AV	2483.600	-59.05	≤-44.33	2.00	1.13	39.28	≤54	PASS
				AV	2500.000	-59.75	≤-44.33	2.00	1.13	38.58	≤54	PASS
				Peak	2483.500	-50.32	≤-23.20	2.00	0.00	46.88	≤74	PASS
				Peak	2486.000	-48.67	≤-23.20	2.00	0.00	48.53	≤74	PASS
				Peak	2500.000	-51.56	≤-23.20	2.00	0.00	45.64	≤74	PASS
		Low	Hop_2402	Peak	2310.000	-54.22	≤-23.20	2.00	0.00	42.98	≤74	PASS
				Peak	2386.415	-49.55	≤-23.20	2.00	0.00	47.65	≤74	PASS
				Peak	2390.000	-50.12	≤-23.20	2.00	0.00	47.08	≤74	PASS
		High	Hop_2480	Peak	2483.500	-52.44	≤-23.20	2.00	0.00	44.76	≤74	PASS
				Peak	2489.920	-48.87	≤-23.20	2.00	0.00	48.33	≤74	PASS
				Peak	2500.000	-51.1	≤-23.20	2.00	0.00	46.10	≤74	PASS
2DH5	Ant1	Low	2402	AV	2310.000	-61.06	≤-44.32	2.00	1.12	37.26	≤54	PASS
				AV	2364.365	-58.41	≤-44.32	2.00	1.12	39.91	≤54	PASS
				AV	2390.000	-60.35	≤-44.32	2.00	1.12	37.97	≤54	PASS
				Peak	2310.000	-53.72	≤-23.20	2.00	0.00	43.48	≤74	PASS
				Peak	2365.310	-48.2	≤-23.20	2.00	0.00	49.00	≤74	PASS
				Peak	2390.000	-52.07	≤-23.20	2.00	0.00	45.13	≤74	PASS
		High	2480	AV	2483.500	-59.6	≤-44.33	2.00	1.13	38.73	≤54	PASS
				AV	2491.280	-59.28	≤-44.33	2.00	1.13	39.05	≤54	PASS
				AV	2500.000	-59.84	≤-44.33	2.00	1.13	38.49	≤54	PASS
				Peak	2483.500	-49.82	≤-23.20	2.00	0.00	47.38	≤74	PASS
				Peak	2483.520	-49.82	≤-23.20	2.00	0.00	47.38	≤74	PASS
				Peak	2500.000	-52.09	≤-23.20	2.00	0.00	45.11	≤74	PASS
		Low	Hop_2402	Peak	2310.000	-53.48	≤-23.20	2.00	0.00	43.72	≤74	PASS
				Peak	2381.270	-49.06	≤-23.20	2.00	0.00	48.14	≤74	PASS
				Peak	2390.000	-51.78	≤-23.20	2.00	0.00	45.42	≤74	PASS
		High	Hop_2480	Peak	2483.500	-51.28	≤-23.20	2.00	0.00	45.92	≤74	PASS

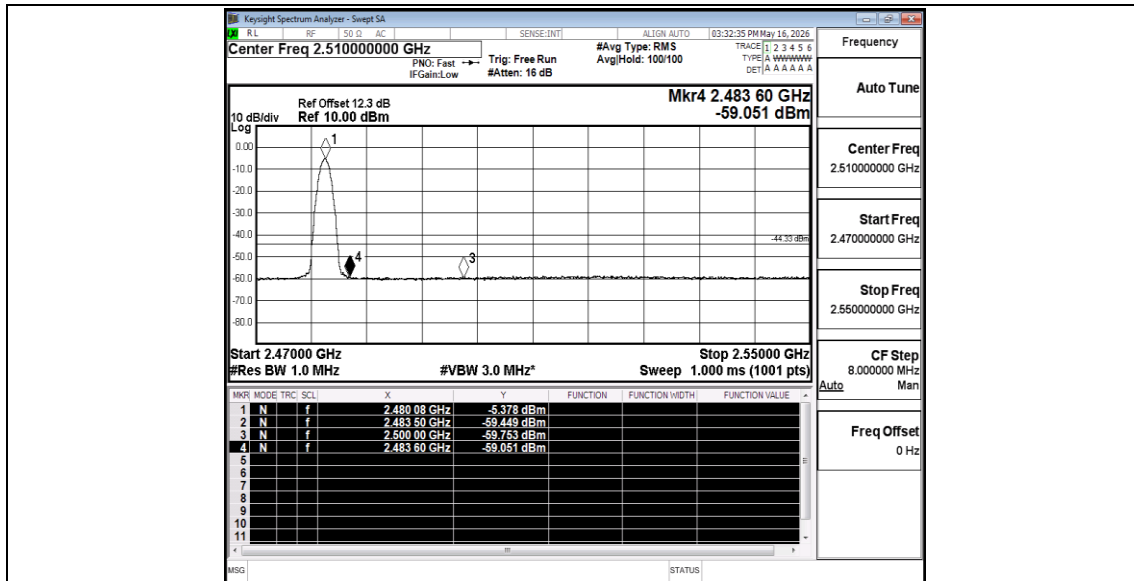
				Peak	2490.720	-49.9	≤-23.20	2.00	0.00	47.30	≤74	PASS
				Peak	2500.000	-50.88	≤-23.20	2.00	0.00	46.32	≤74	PASS

Note:

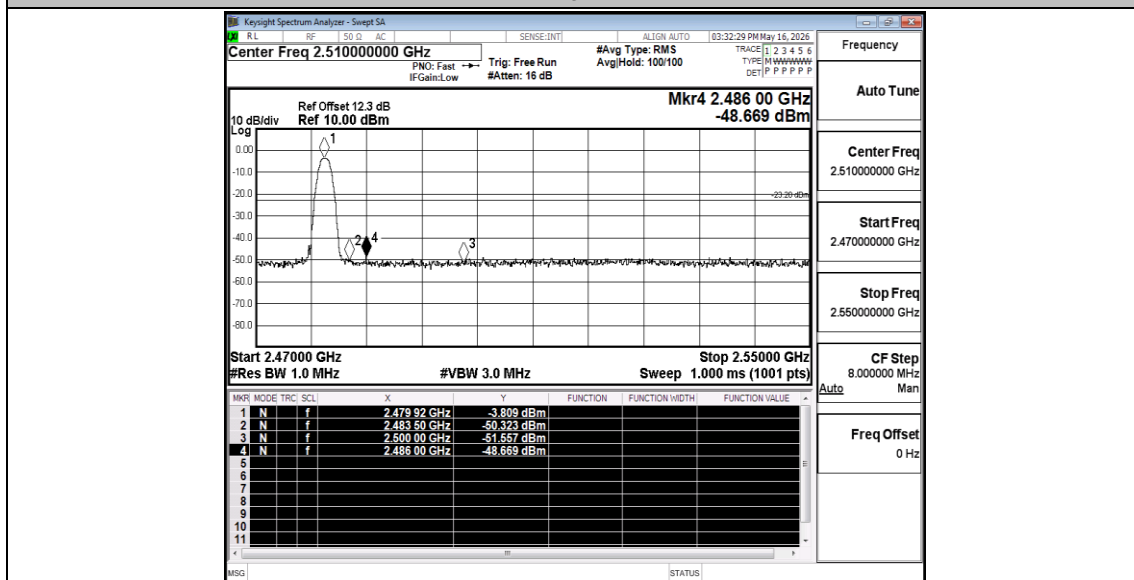
1. The Antenna Gain is compensated in the graph.
2. The limit in dBm for average detector is conversion from 54dBuV/m, according to 15.209(a). The limit in dBm for peak detector is 20dB above the limit of average detector in dBm.

Test Graphs





DH5_Ant1_High_2480_Peak



DH5_Ant1_Low_Hop_2402_Peak

