

## Appendix A

### RF Test Data for BT (Conducted Measurement)

**Product Name: Wireless Earphone**

**Test Model: Buds 3**

#### Environmental Conditions

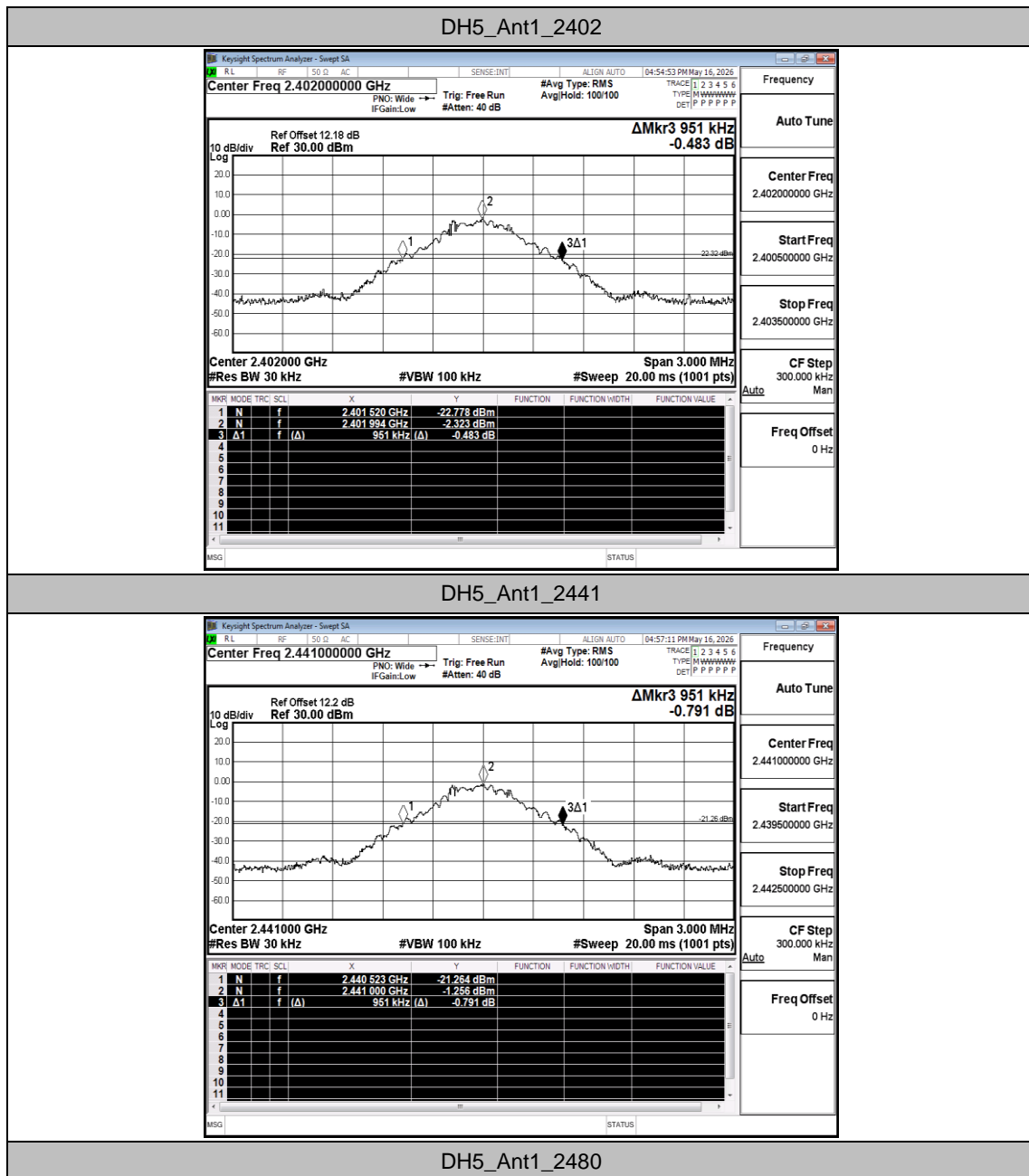
Temperature:	23.5°C
Relative Humidity:	52.1%
ATM Pressure:	100.0 kPa
Test Engineer:	Zhang hai
Supervised by:	Fengliu Tang

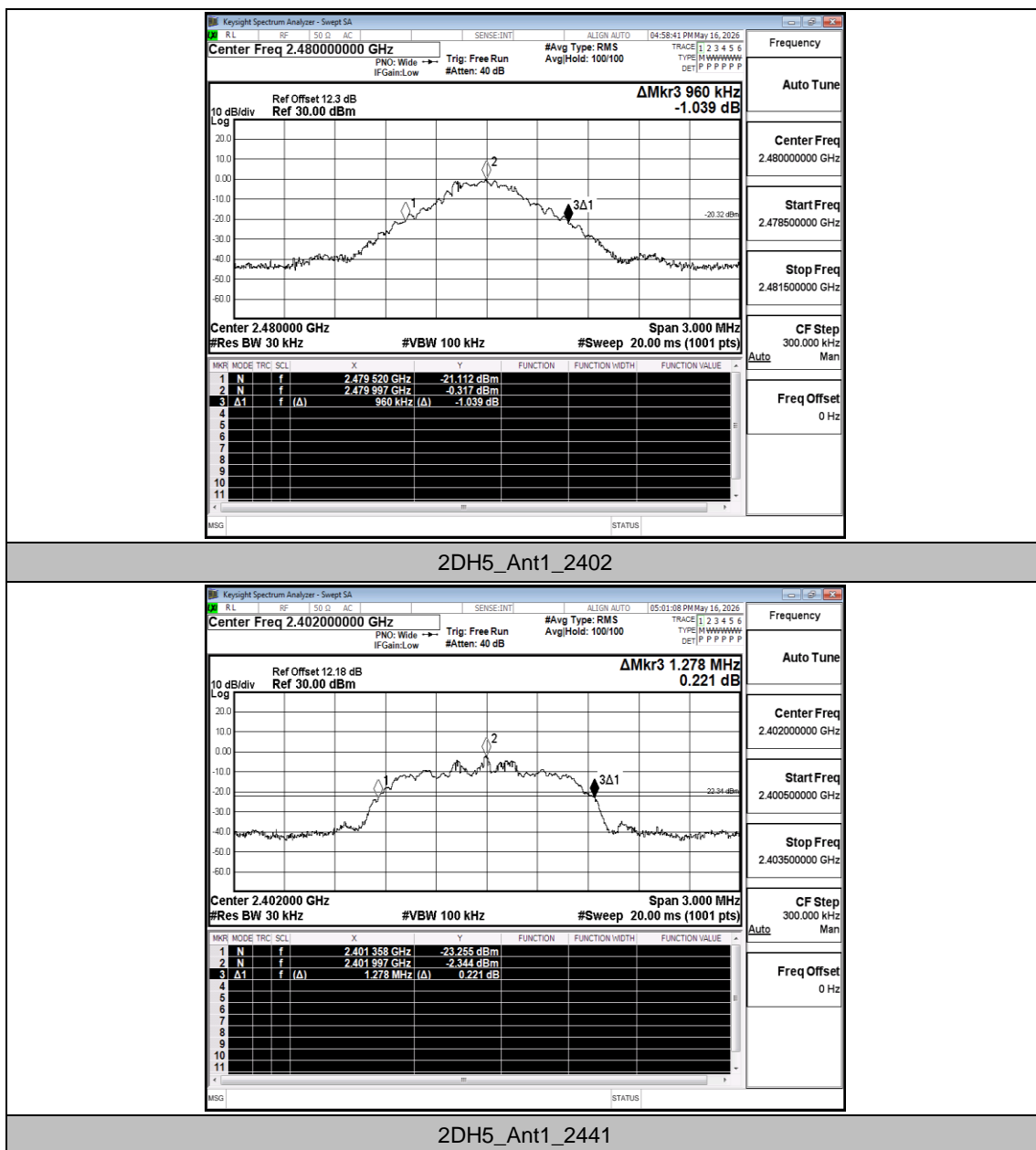
## A.1 20dB Emission Bandwidth

### Test Result

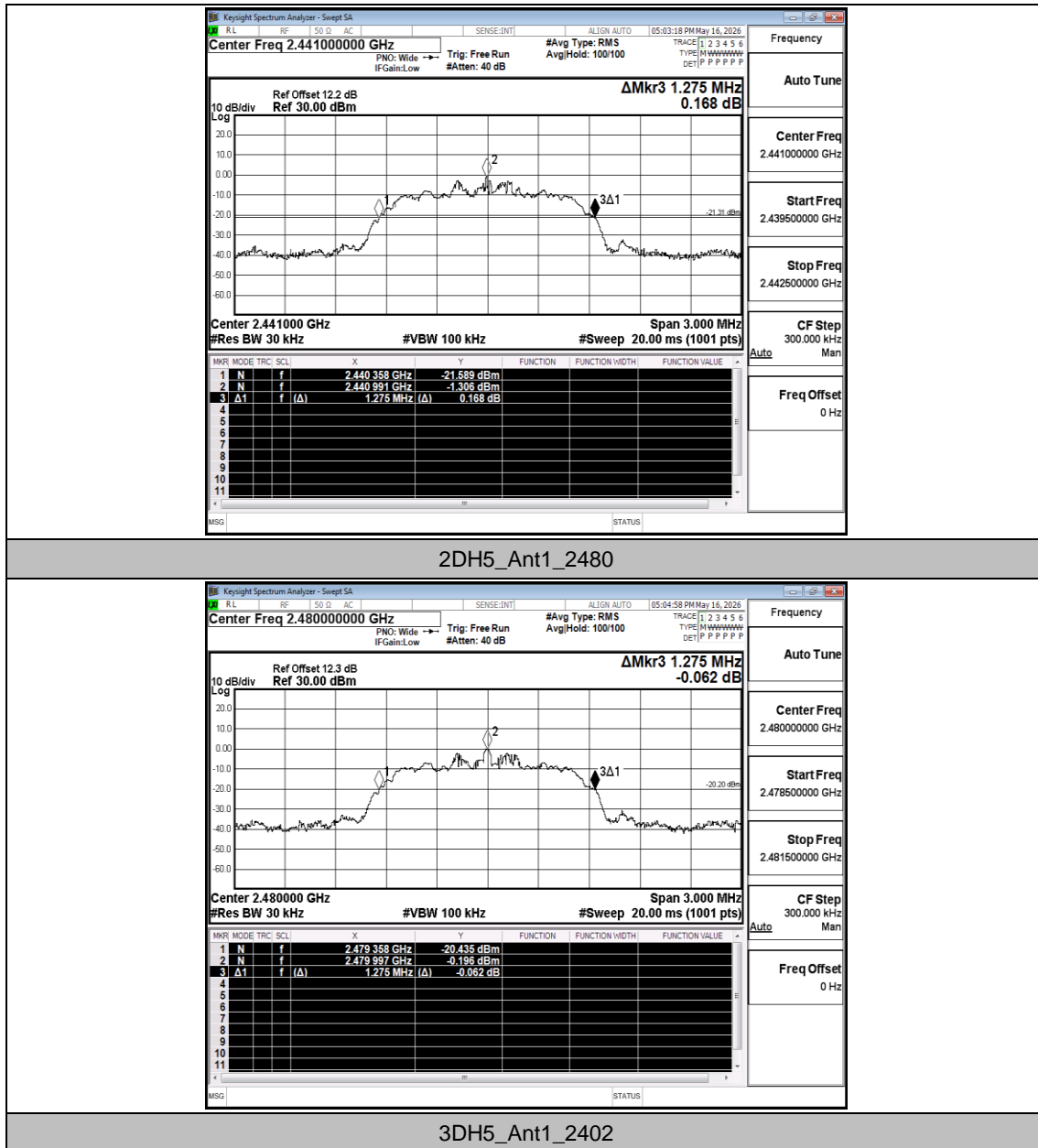
TestMode	Antenna	Freq(MHz)	20dB EBW[MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
DH5	Ant1	2402	0.951	2401.520	2402.471	---	---
		2441	0.951	2440.523	2441.474	---	---
		2480	0.960	2479.520	2480.480	---	---
2DH5	Ant1	2402	1.278	2401.358	2402.636	---	---
		2441	1.275	2440.358	2441.633	---	---
		2480	1.275	2479.358	2480.633	---	---
3DH5	Ant1	2402	1.266	2401.352	2402.618	---	---
		2441	1.275	2440.349	2441.624	---	---
		2480	1.269	2479.349	2480.618	---	---

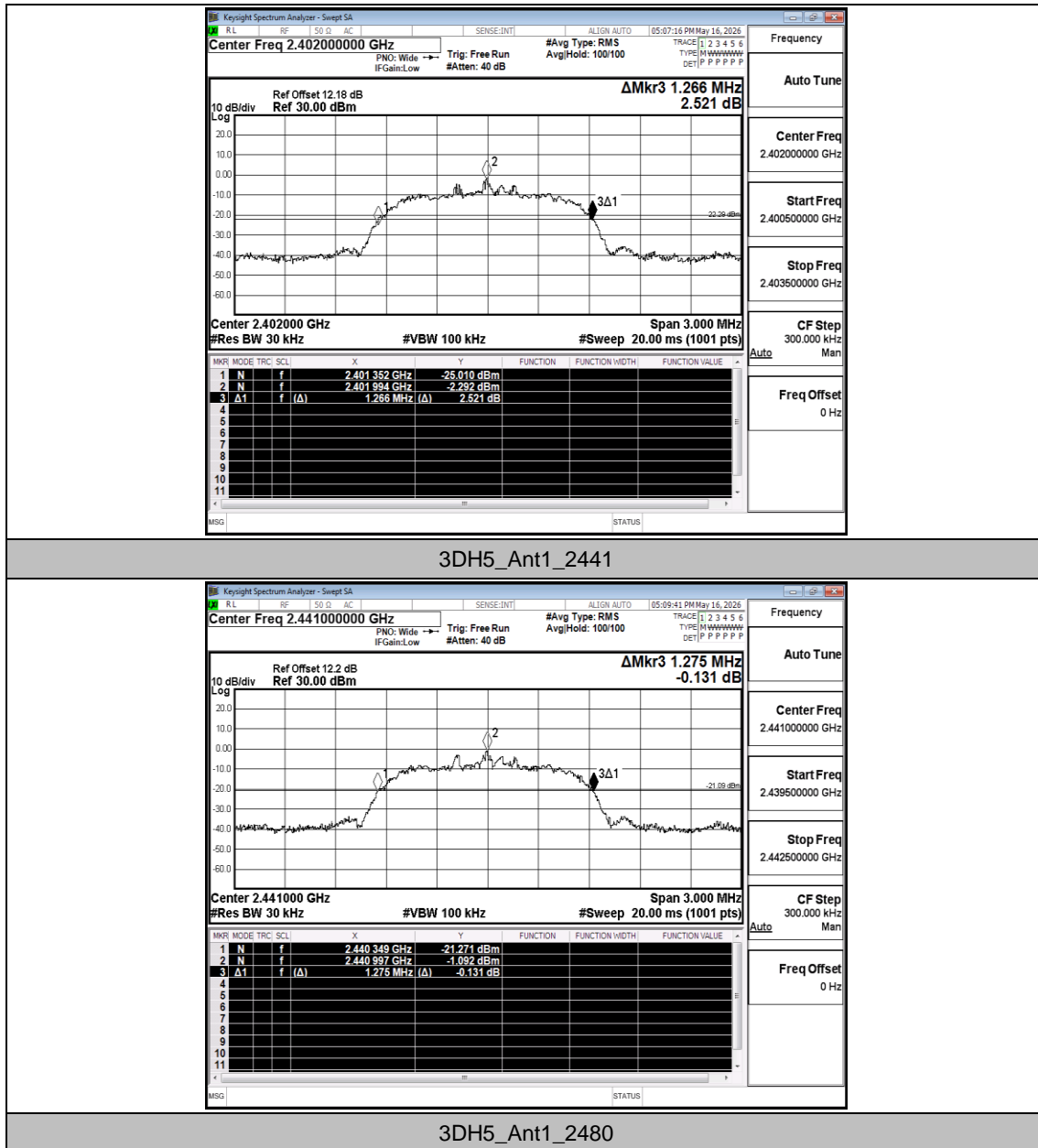
## Test Graphs

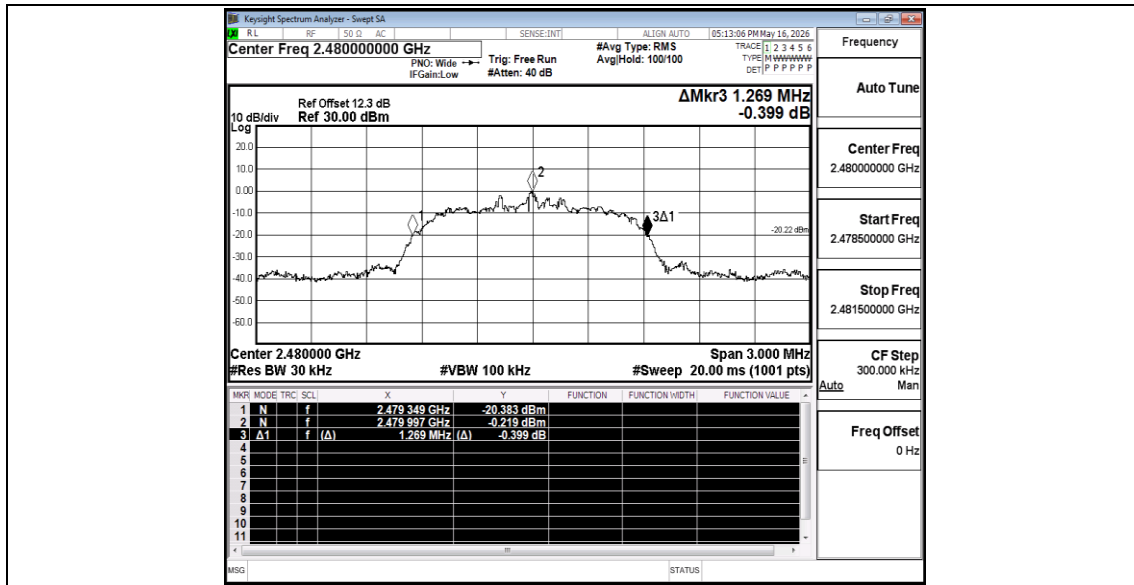










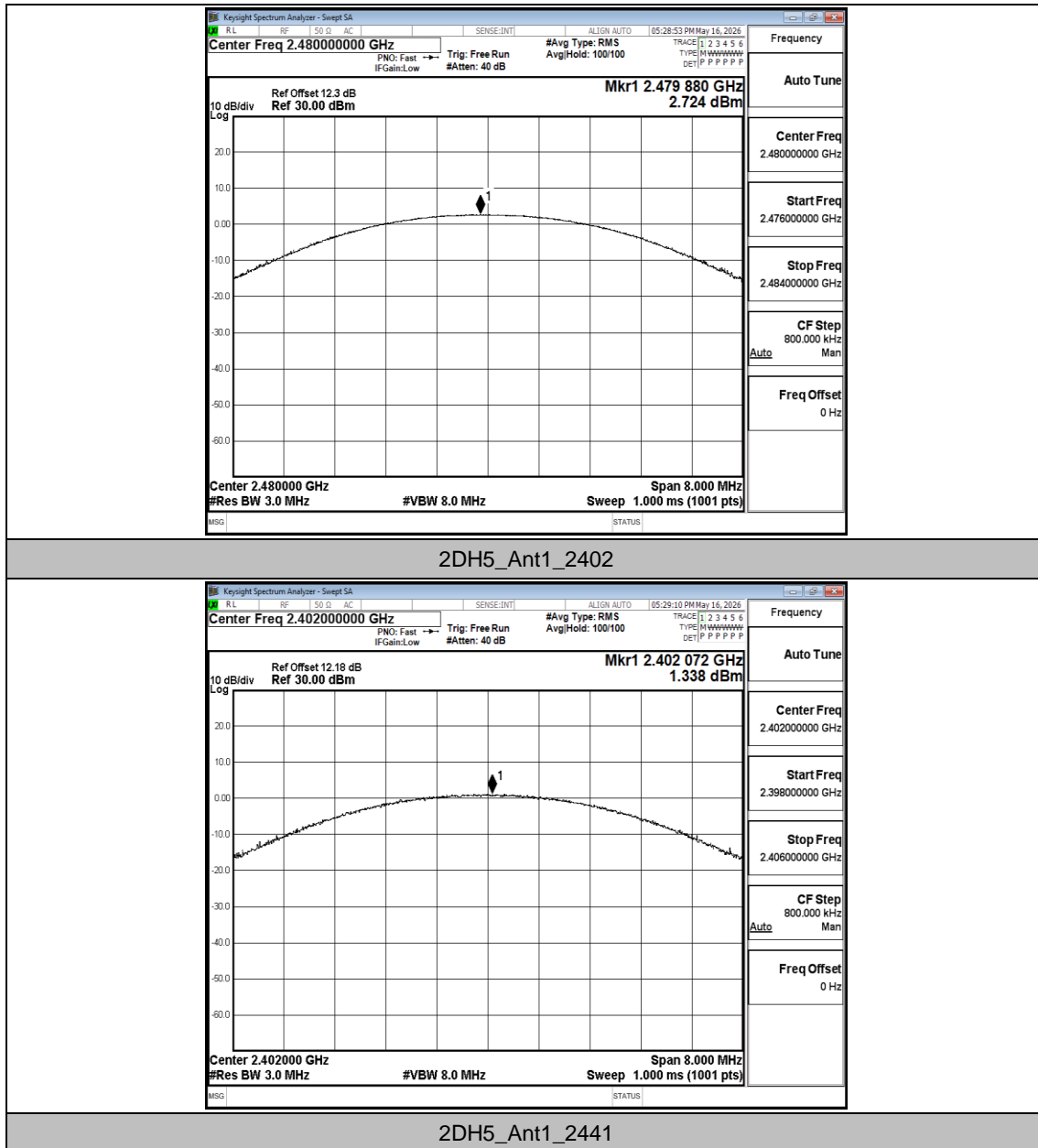


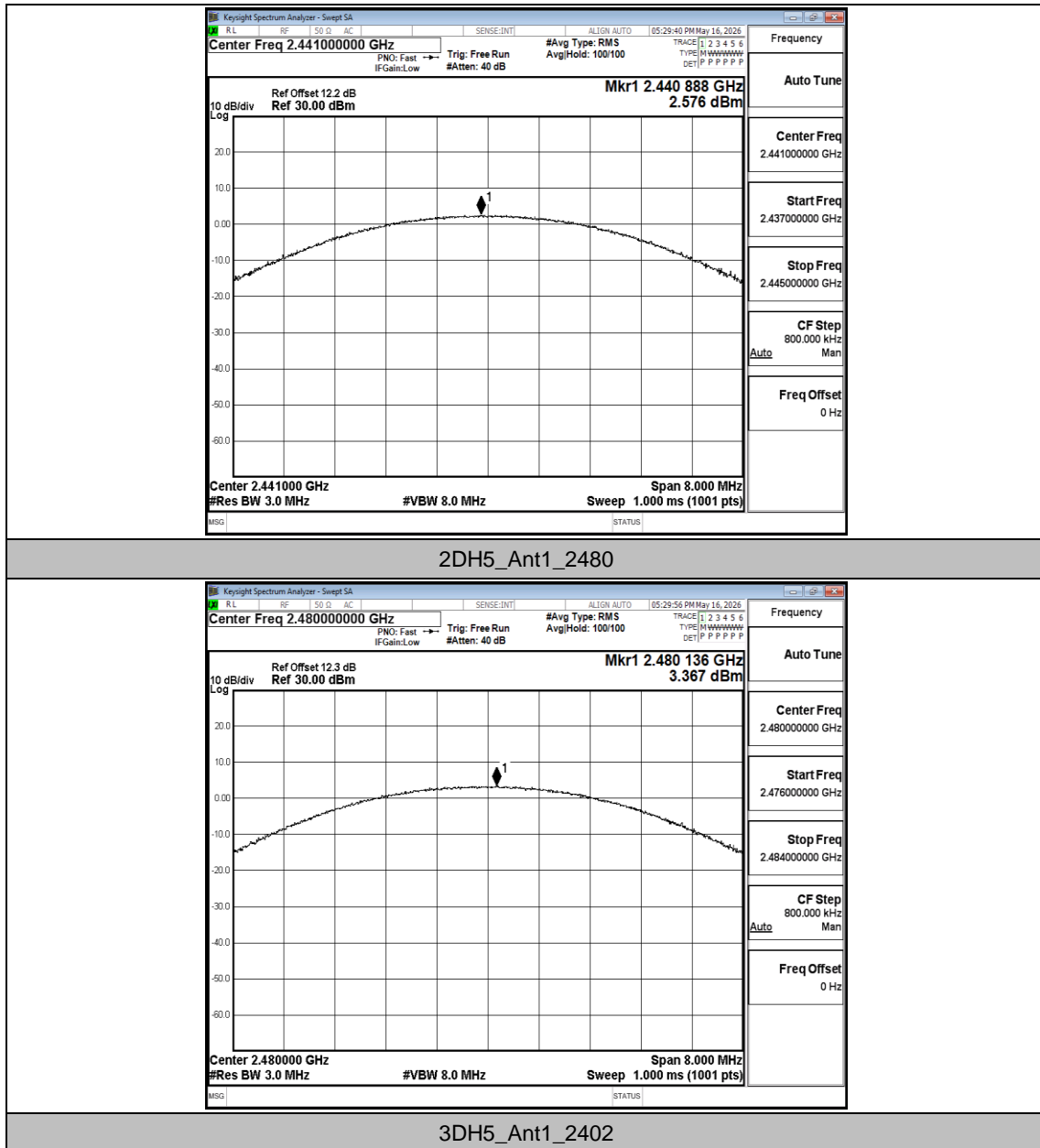
## A.2 Maximum Peak conducted output power

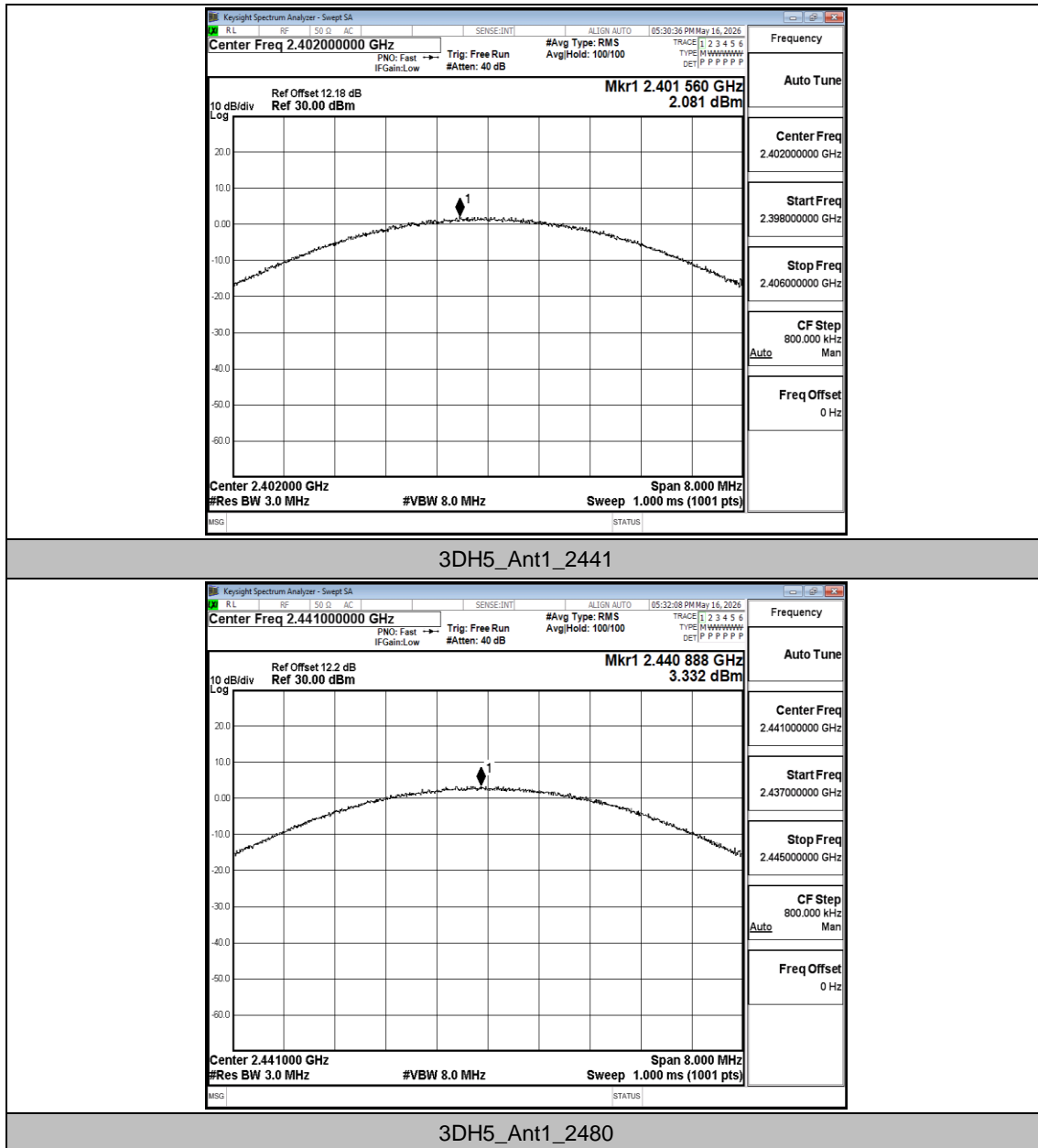
### Test Result Peak

Test Mode	Antenna	Freq(MHz)	Conducted Peak Power[dBm]	Conducted Limit[dBm]	Verdict
DH5	Ant1	2402	0.66	≤21	PASS
		2441	1.88	≤21	PASS
		2480	2.72	≤21	PASS
2DH5	Ant1	2402	1.34	≤21	PASS
		2441	2.58	≤21	PASS
		2480	3.37	≤21	PASS
3DH5	Ant1	2402	2.08	≤21	PASS
		2441	3.33	≤21	PASS
		2480	4.21	≤21	PASS

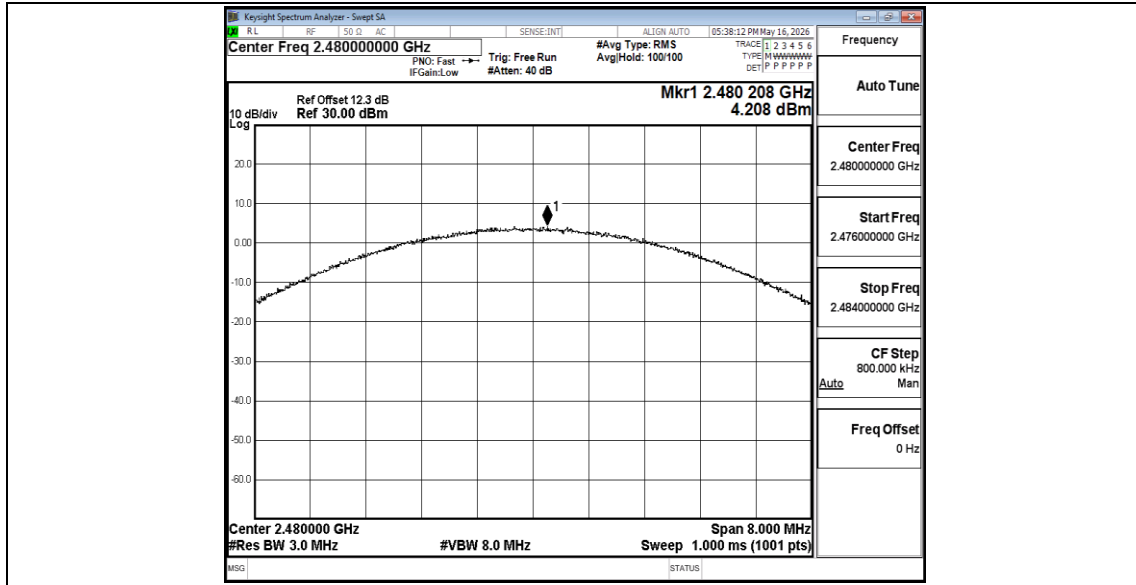










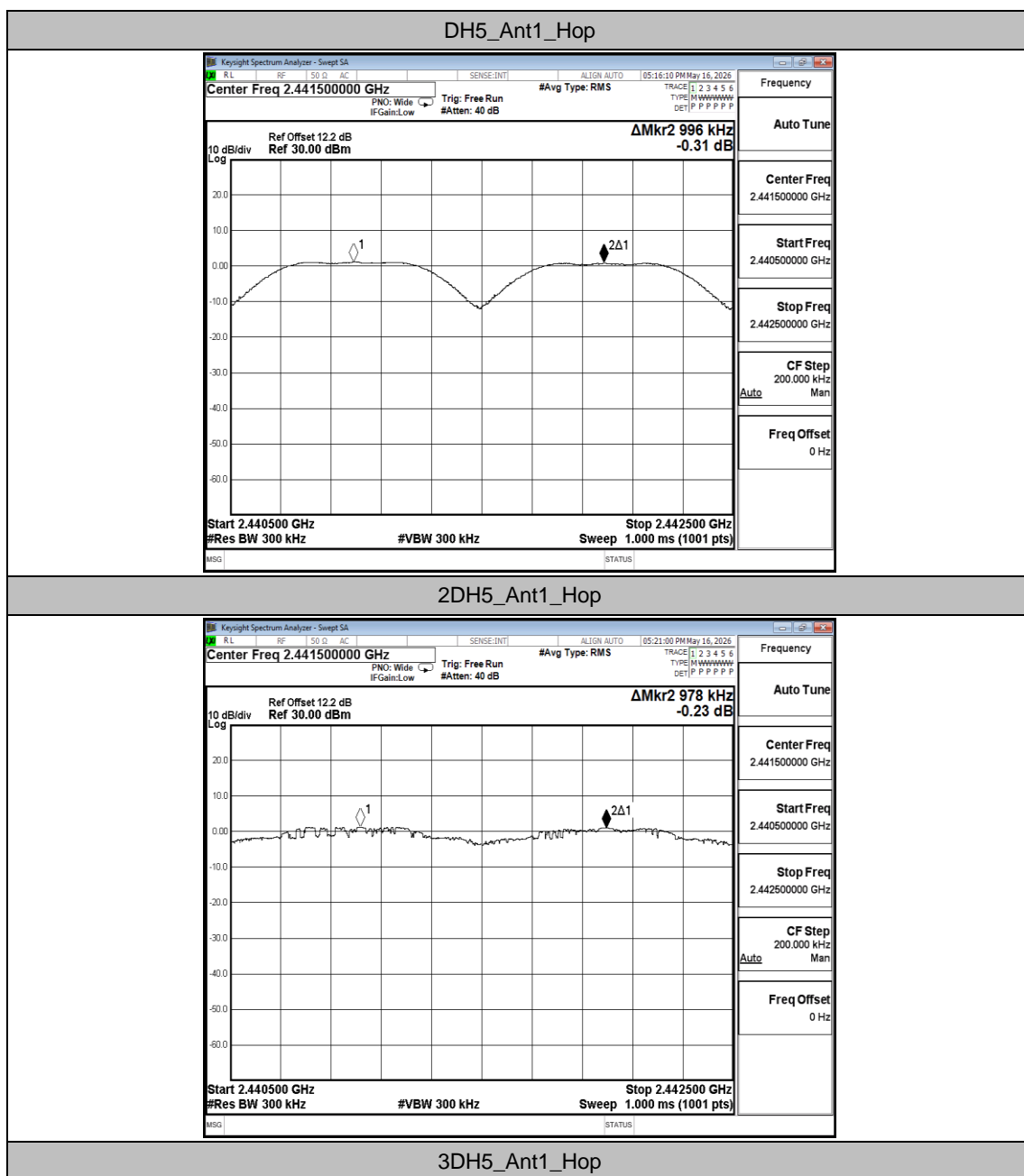


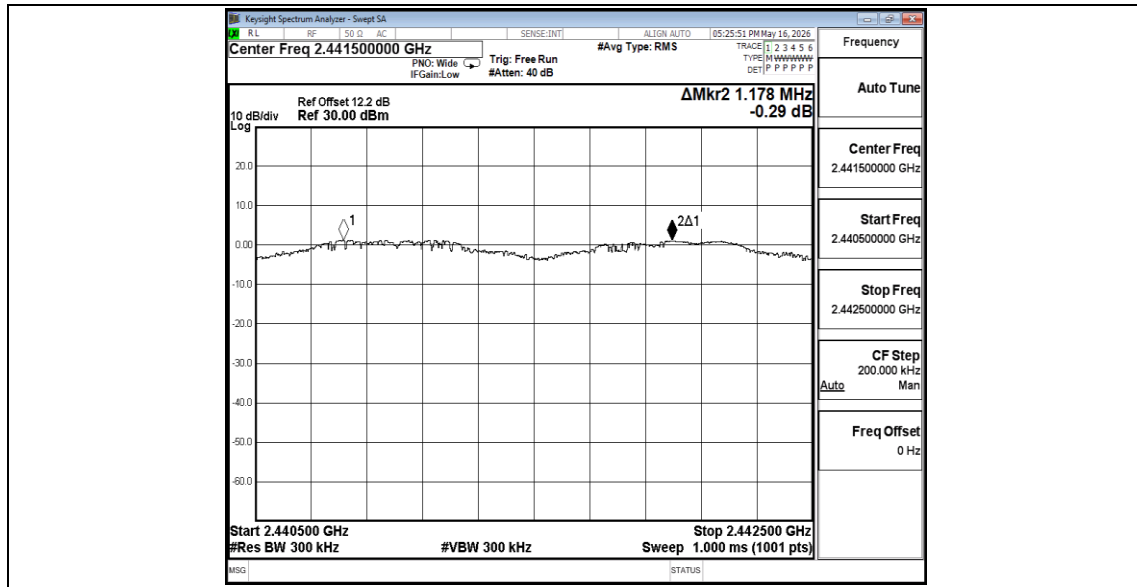
### A.3 Carrier frequency separation

#### Test Result

TestMode	Antenna	Freq(MHz)	Result[MHz]	Limit[MHz]	Verdict
DH5	Ant1	Hop	0.996	≥0.640	PASS
2DH5	Ant1	Hop	0.978	≥0.852	PASS
3DH5	Ant1	Hop	1.178	≥0.850	PASS

## Test Graphs



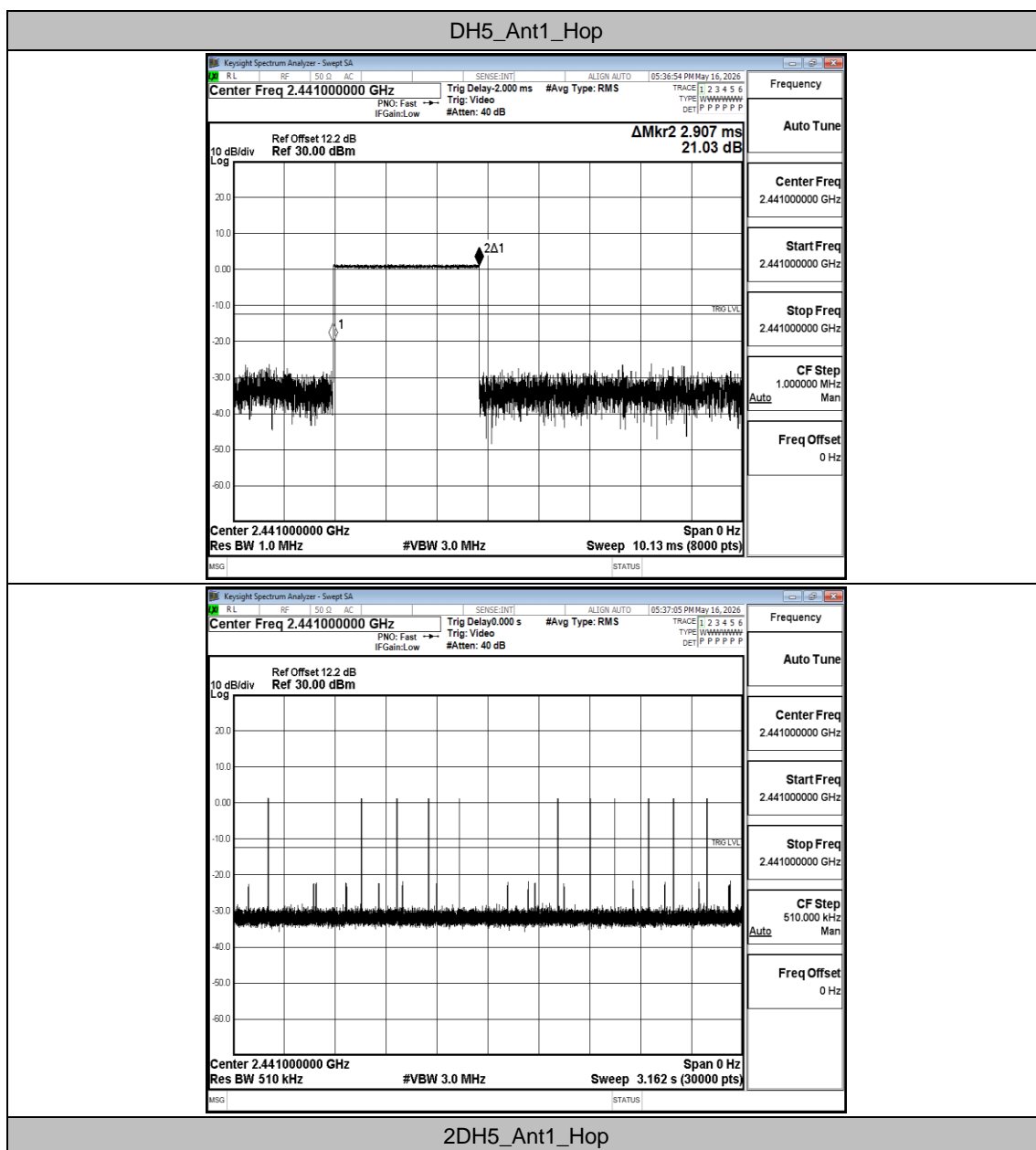


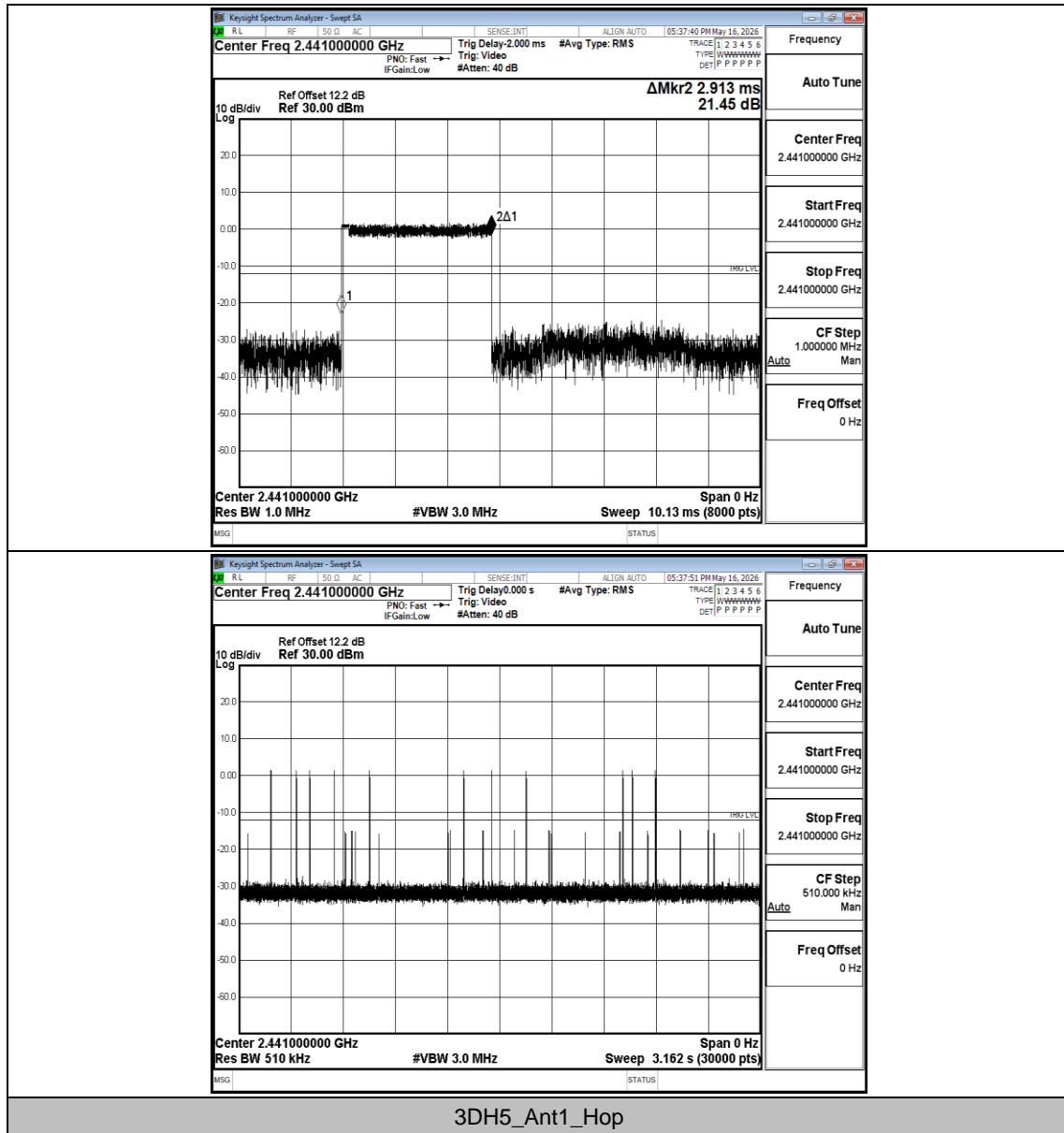
## A.4 Time of occupancy

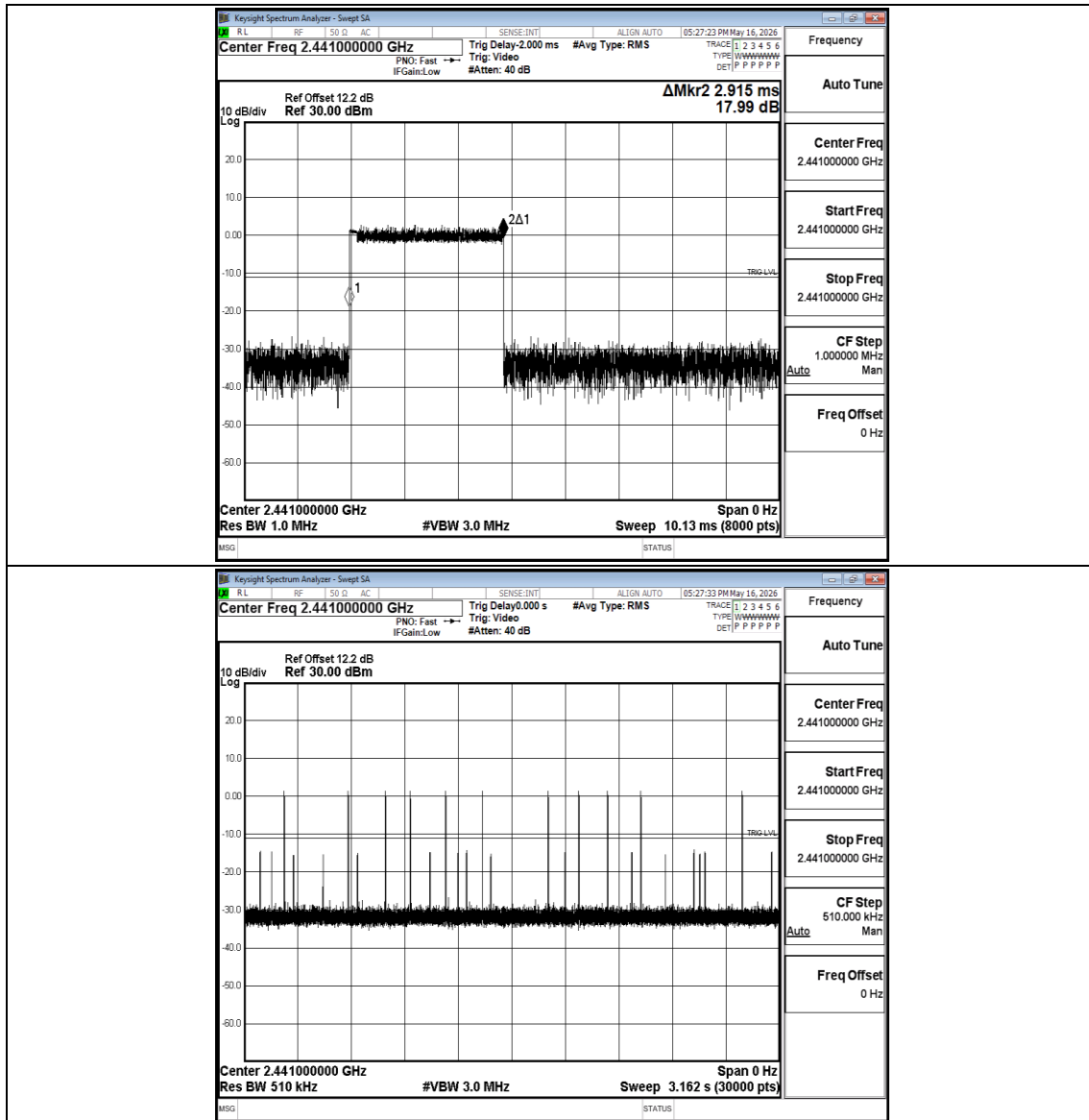
### Test Result

TestMode	Antenna	Freq(MHz)	BurstWidth [ms]	TotalHops [Num]	Result[s]	Limit[s]	Verdict
DH5	Ant1	Hop	2.907	120	0.349	≤0.4	PASS
2DH5	Ant1	Hop	2.913	120	0.35	≤0.4	PASS
3DH5	Ant1	Hop	2.915	130	0.379	≤0.4	PASS

## Test Graphs







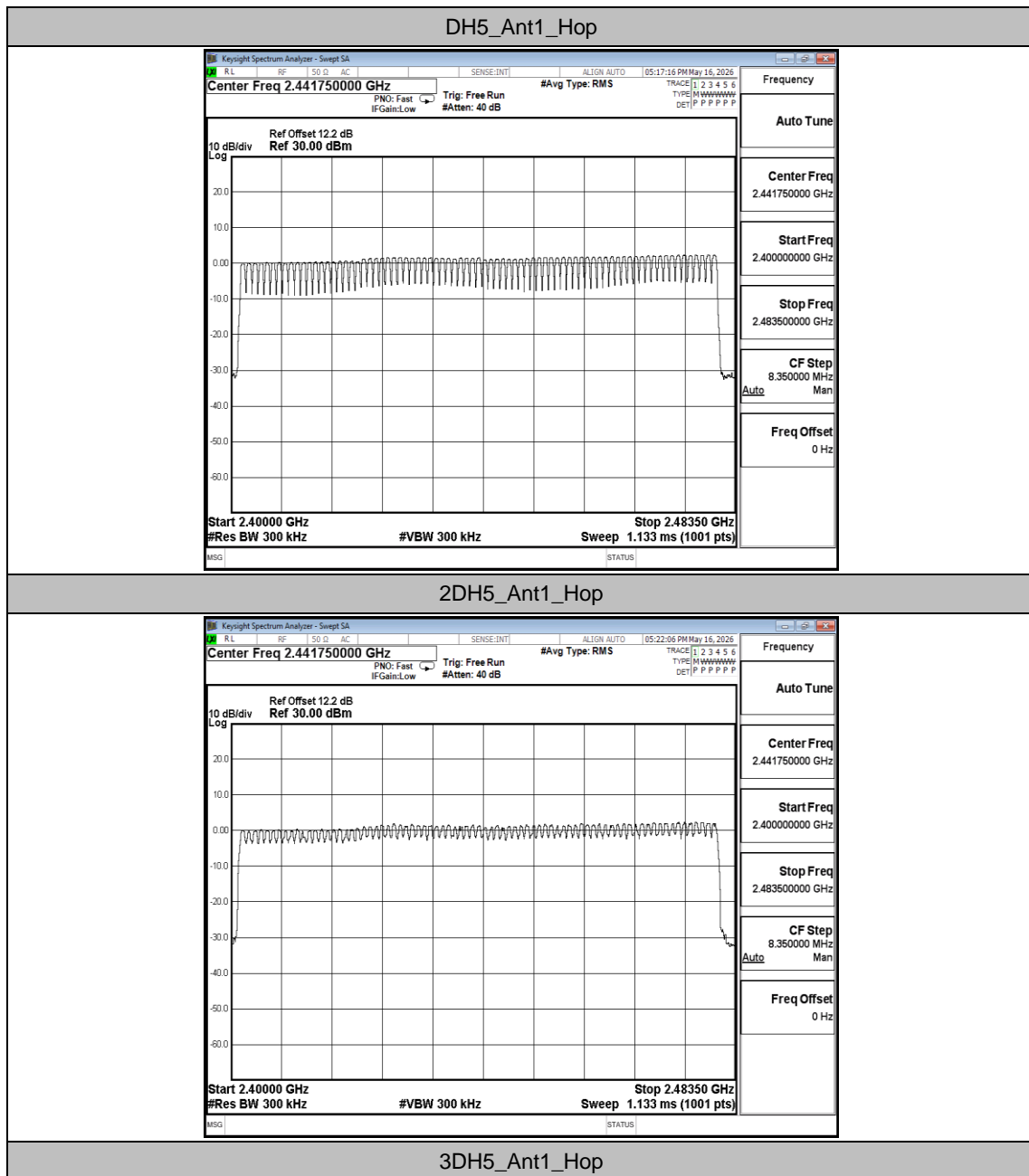


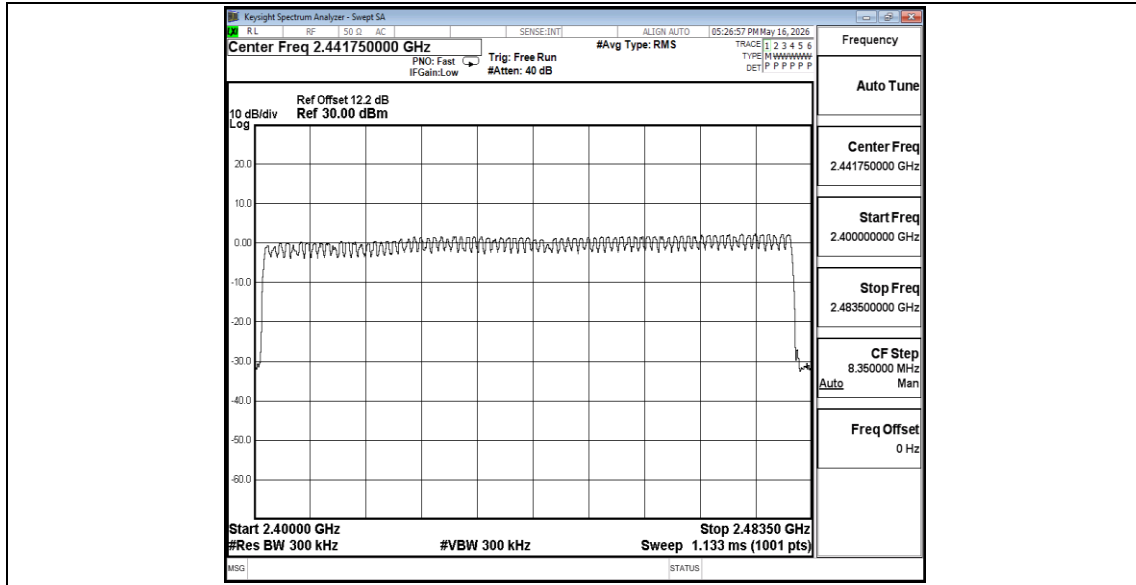
## A.5 Number of hopping channels

### 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



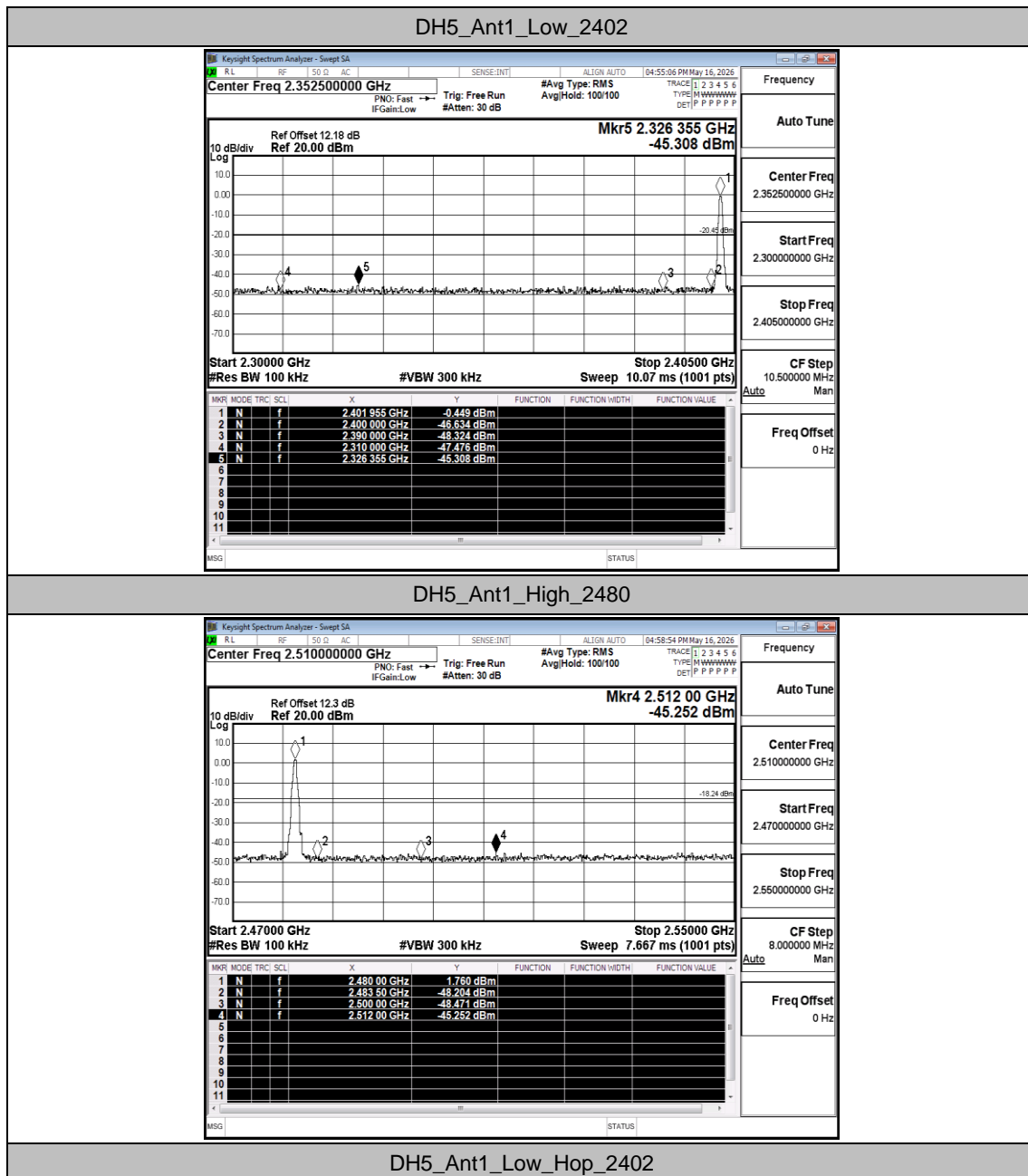


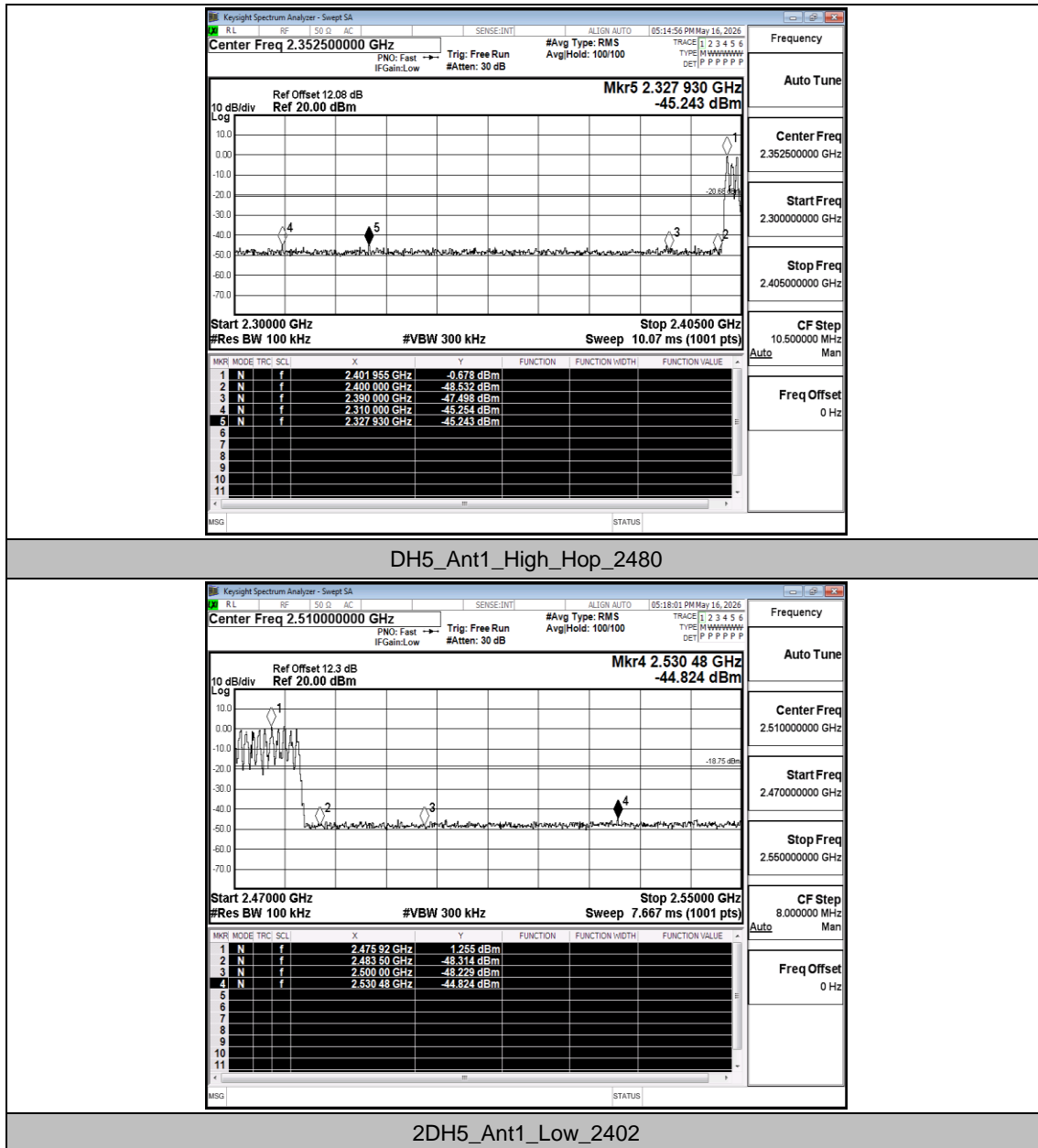
## A.6 Band edge measurements

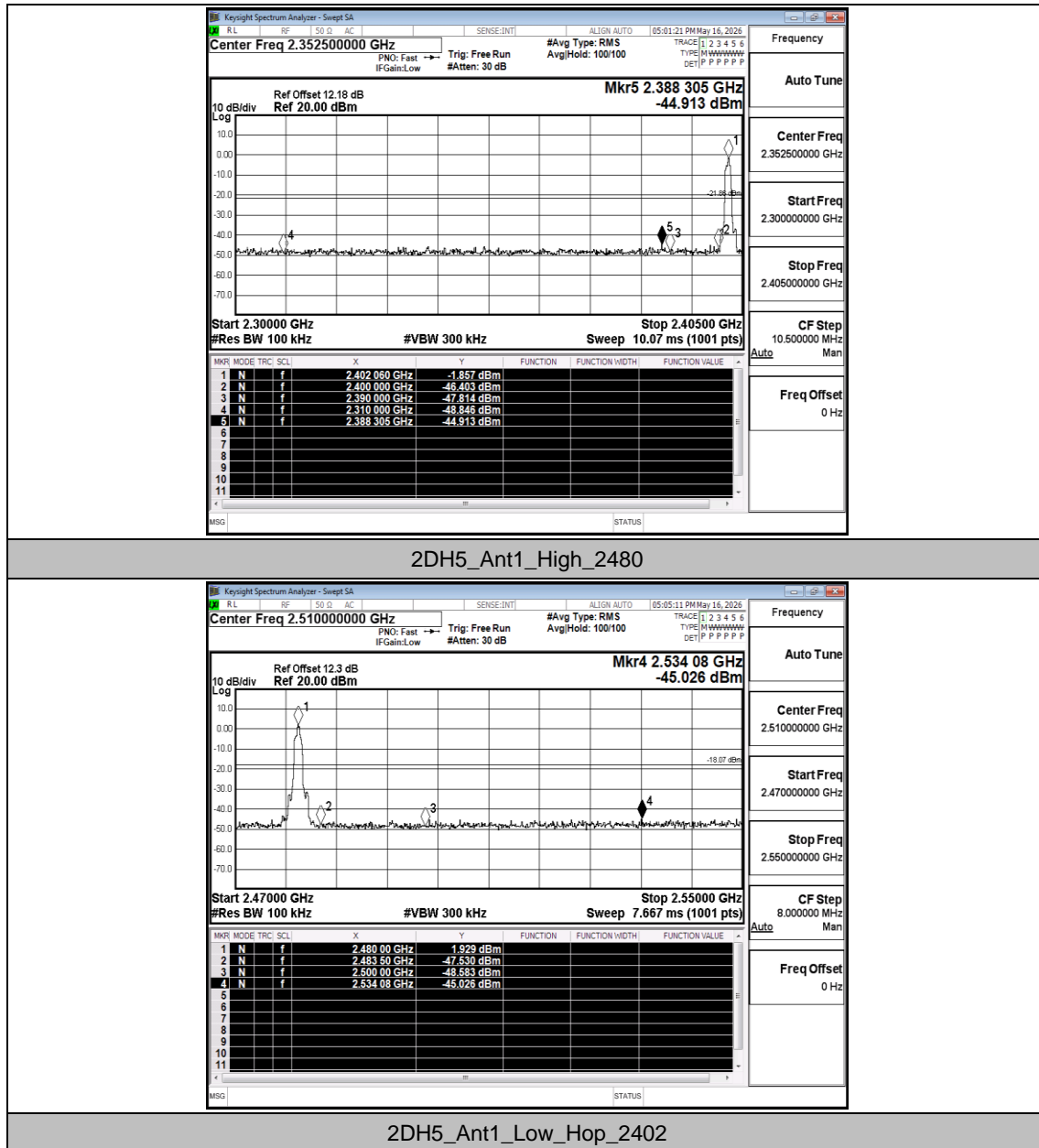
### Test Result

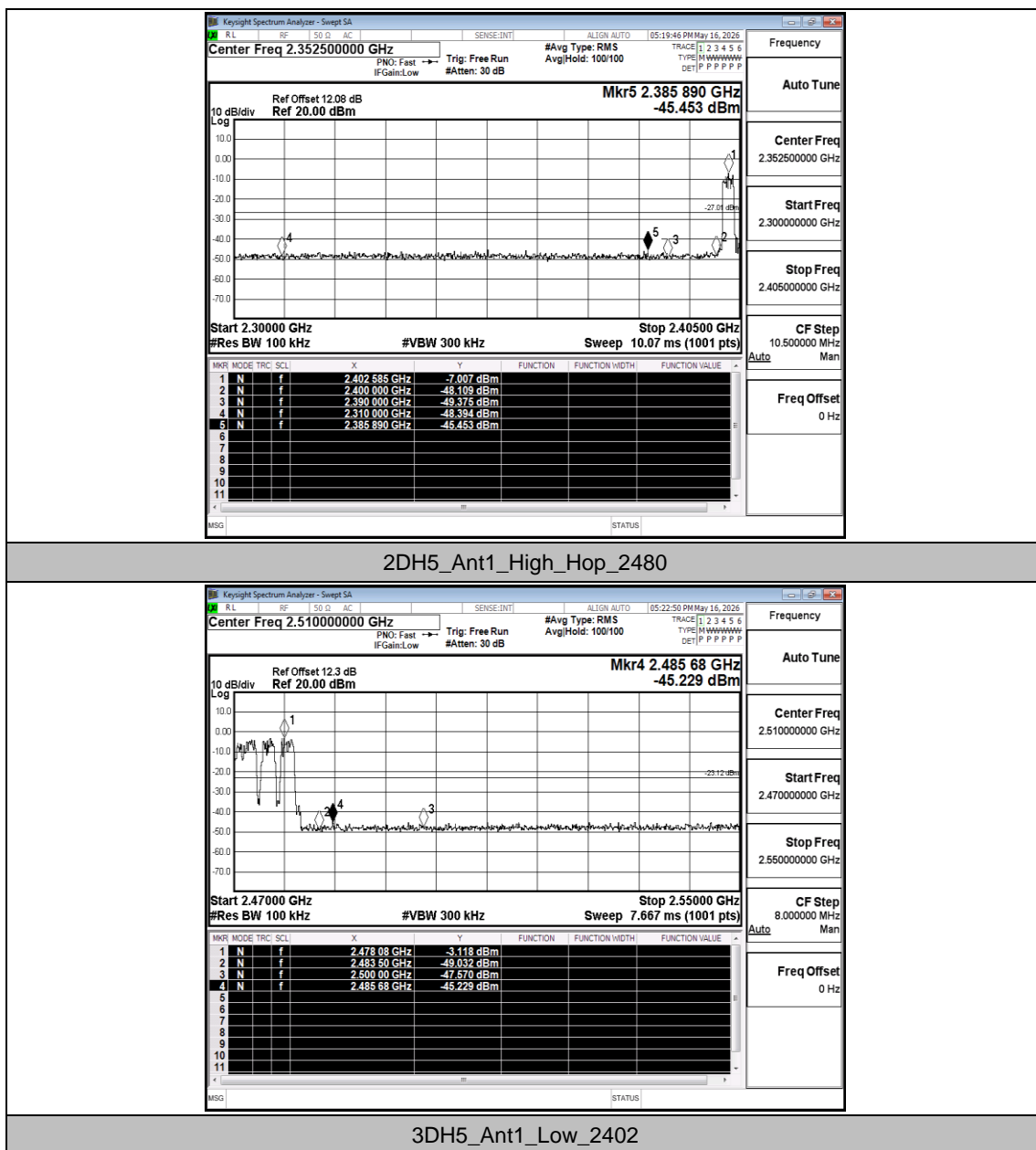
TestMode	Antenna	ChName	Freq(MHz)	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
DH5	Ant1	Low	2402	-0.45	-45.31	≤-20.45	PASS
		High	2480	1.76	-45.25	≤-18.24	PASS
		Low	Hop_2402	-0.68	-45.24	≤-20.68	PASS
		High	Hop_2480	1.26	-44.82	≤-18.75	PASS
2DH5	Ant1	Low	2402	-1.86	-44.91	≤-21.86	PASS
		High	2480	1.93	-45.03	≤-18.07	PASS
		Low	Hop_2402	-7.01	-45.45	≤-27.01	PASS
		High	Hop_2480	-3.12	-45.23	≤-23.12	PASS
3DH5	Ant1	Low	2402	-0.97	-45.21	≤-20.97	PASS
		High	2480	1.04	-44.9	≤-18.96	PASS
		Low	Hop_2402	-2.74	-45.55	≤-22.74	PASS
		High	Hop_2480	-2.43	-45	≤-22.43	PASS

## Test Graphs

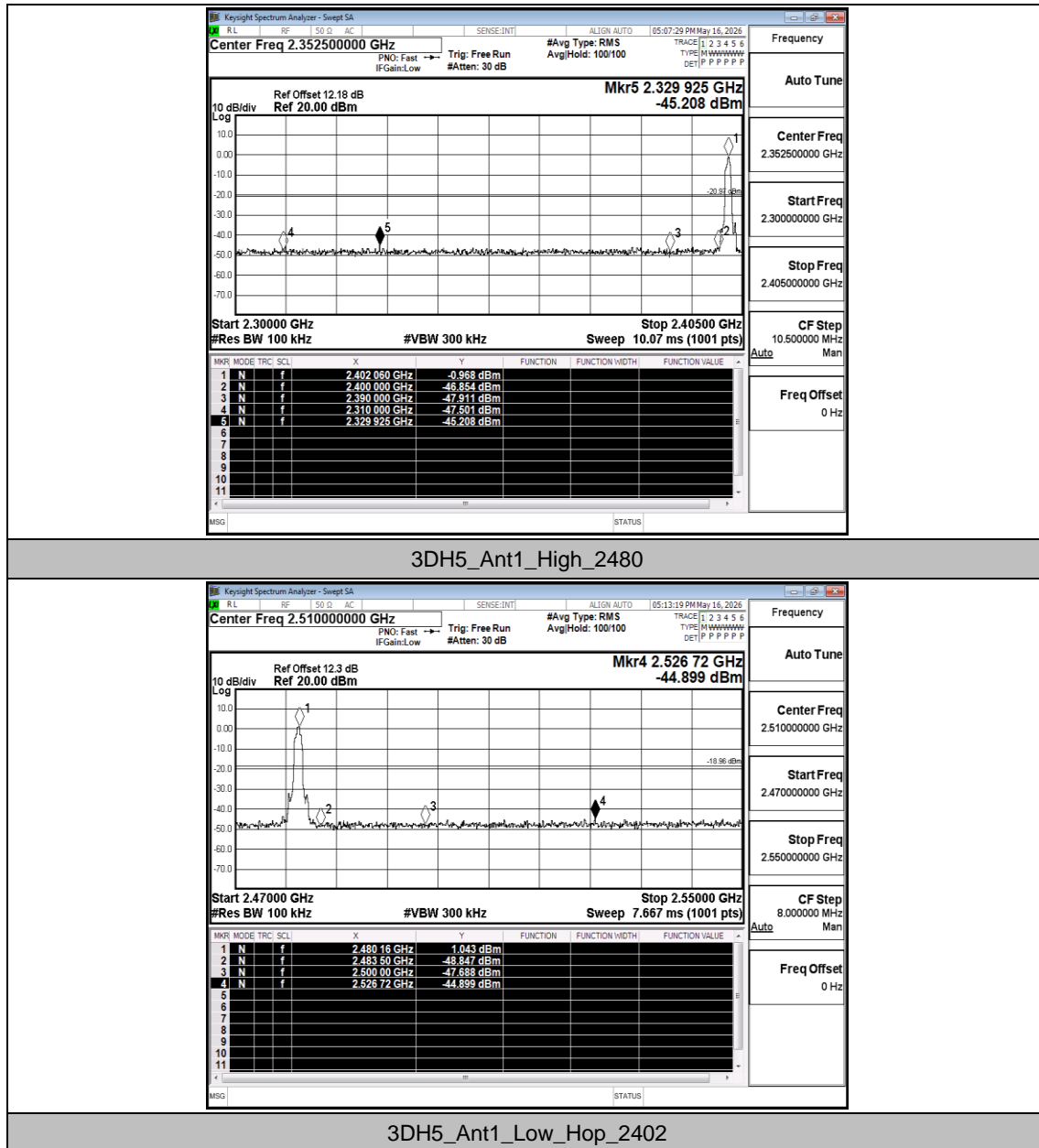


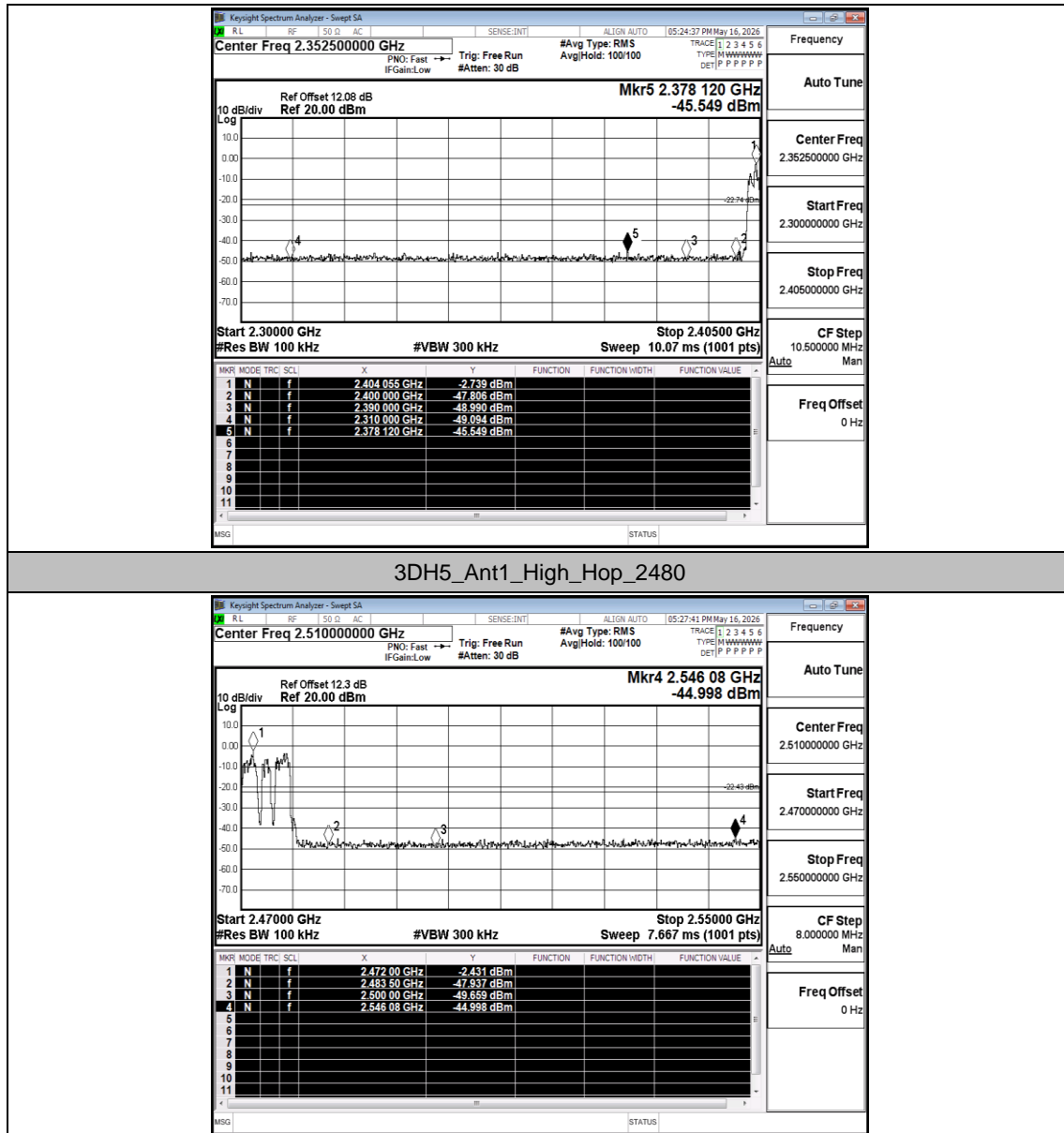










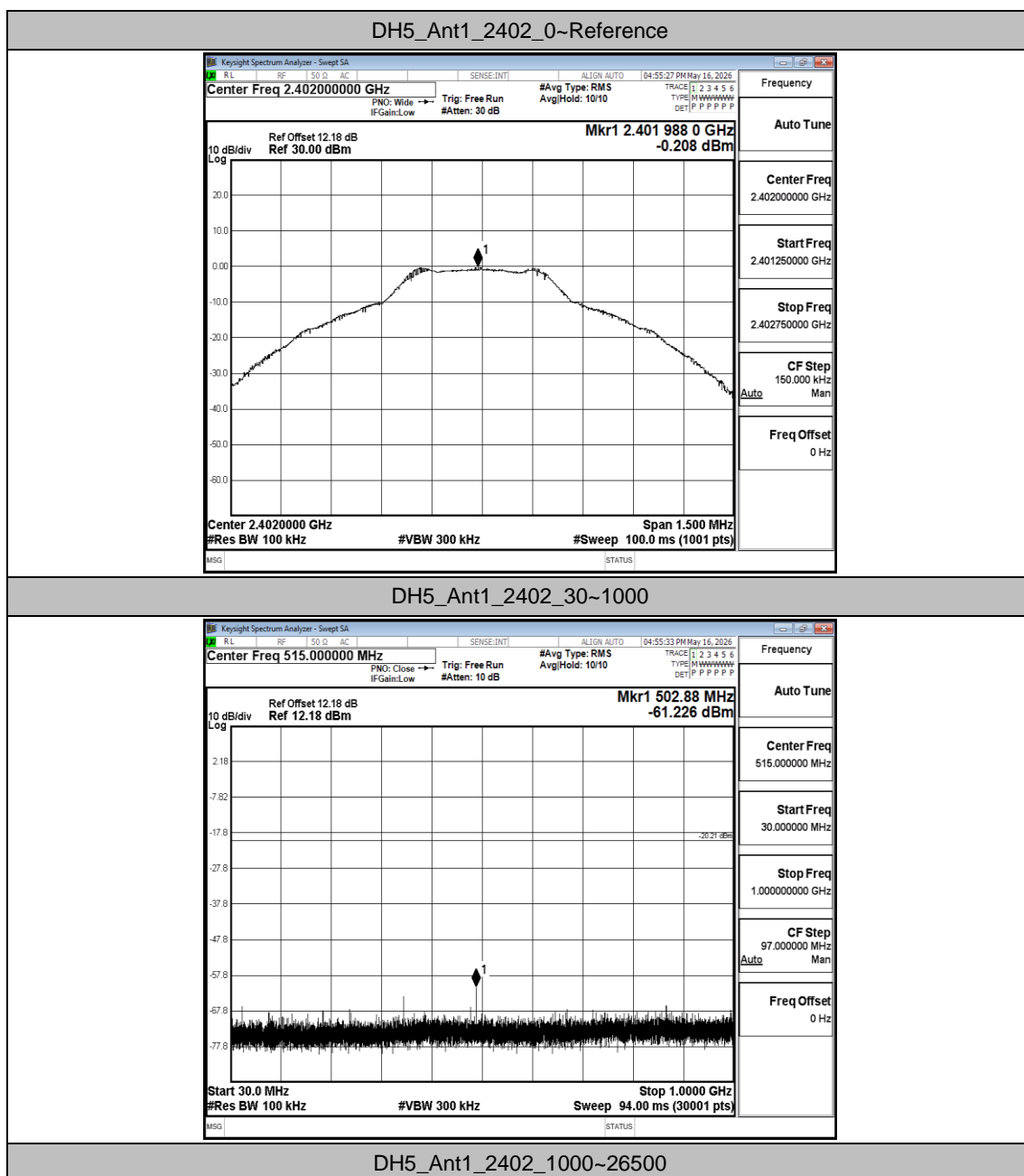


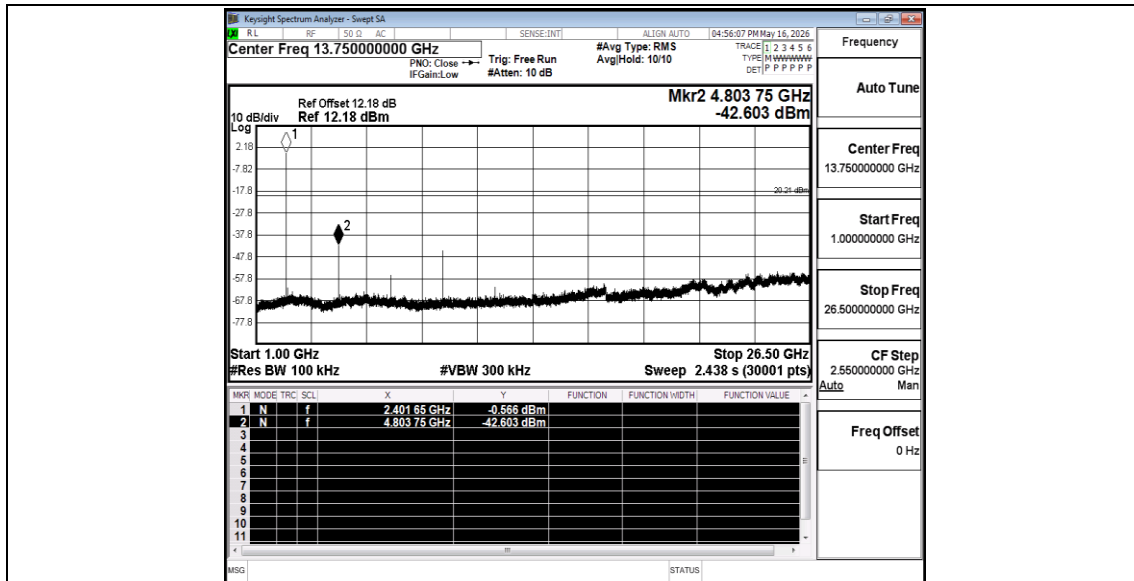
## A.7 Conducted Spurious Emission

### Test Result

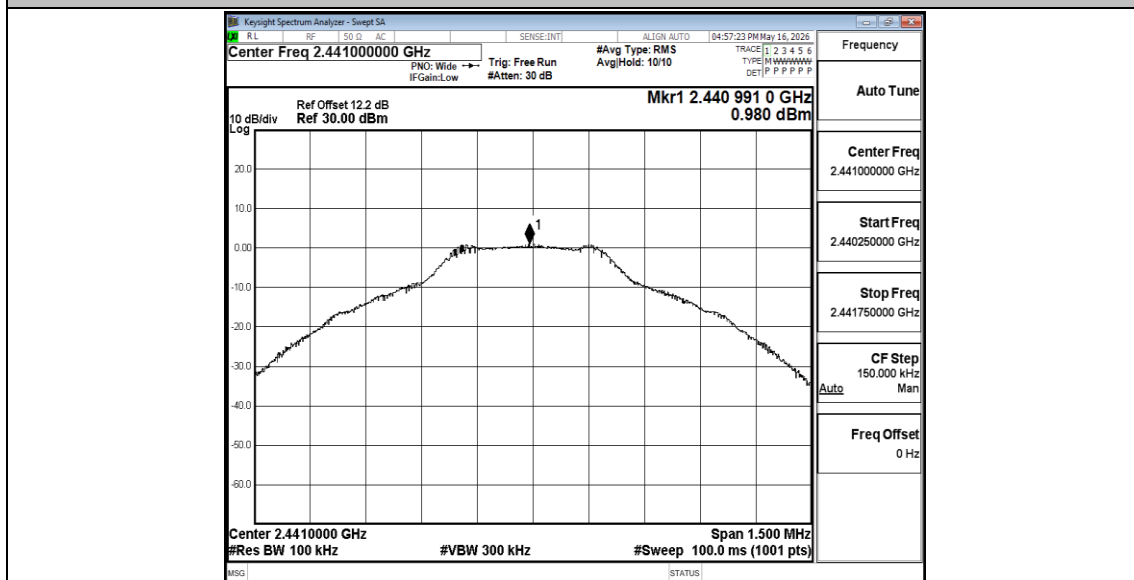
TestMode	Antenna	Freq(MHz)	FreqRange [MHz]	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
DH5	Ant1	2402	Reference	-0.21	-0.21	---	PASS
			30~1000	-0.21	-61.23	≤-20.21	PASS
			1000~26500	-0.21	-42.6	≤-20.21	PASS
		2441	Reference	0.98	0.98	---	PASS
			30~1000	0.98	-58.36	≤-19.02	PASS
			1000~26500	0.98	-41.73	≤-19.02	PASS
		2480	Reference	1.96	1.96	---	PASS
			30~1000	1.96	-60.72	≤-18.04	PASS
			1000~26500	1.96	-40.56	≤-18.04	PASS
2DH5	Ant1	2402	Reference	-0.24	-0.24	---	PASS
			30~1000	-0.24	-61.64	≤-20.24	PASS
			1000~26500	-0.24	-45.44	≤-20.24	PASS
		2441	Reference	1.09	1.09	---	PASS
			30~1000	1.09	-59.32	≤-18.91	PASS
			1000~26500	1.09	-46.57	≤-18.91	PASS
		2480	Reference	2.05	2.05	---	PASS
			30~1000	2.05	-60.24	≤-17.95	PASS
			1000~26500	2.05	-45.8	≤-17.95	PASS
3DH5	Ant1	2402	Reference	-0.16	-0.16	---	PASS
			30~1000	-0.16	-65.03	≤-20.16	PASS
			1000~26500	-0.16	-44.52	≤-20.16	PASS
		2441	Reference	1.08	1.08	---	PASS
			30~1000	1.08	-60.22	≤-18.92	PASS
			1000~26500	1.08	-40.31	≤-18.92	PASS
		2480	Reference	2.01	2.01	---	PASS
			30~1000	2.01	-60.59	≤-17.99	PASS
			1000~26500	2.01	-38.79	≤-17.99	PASS

## Test Graphs

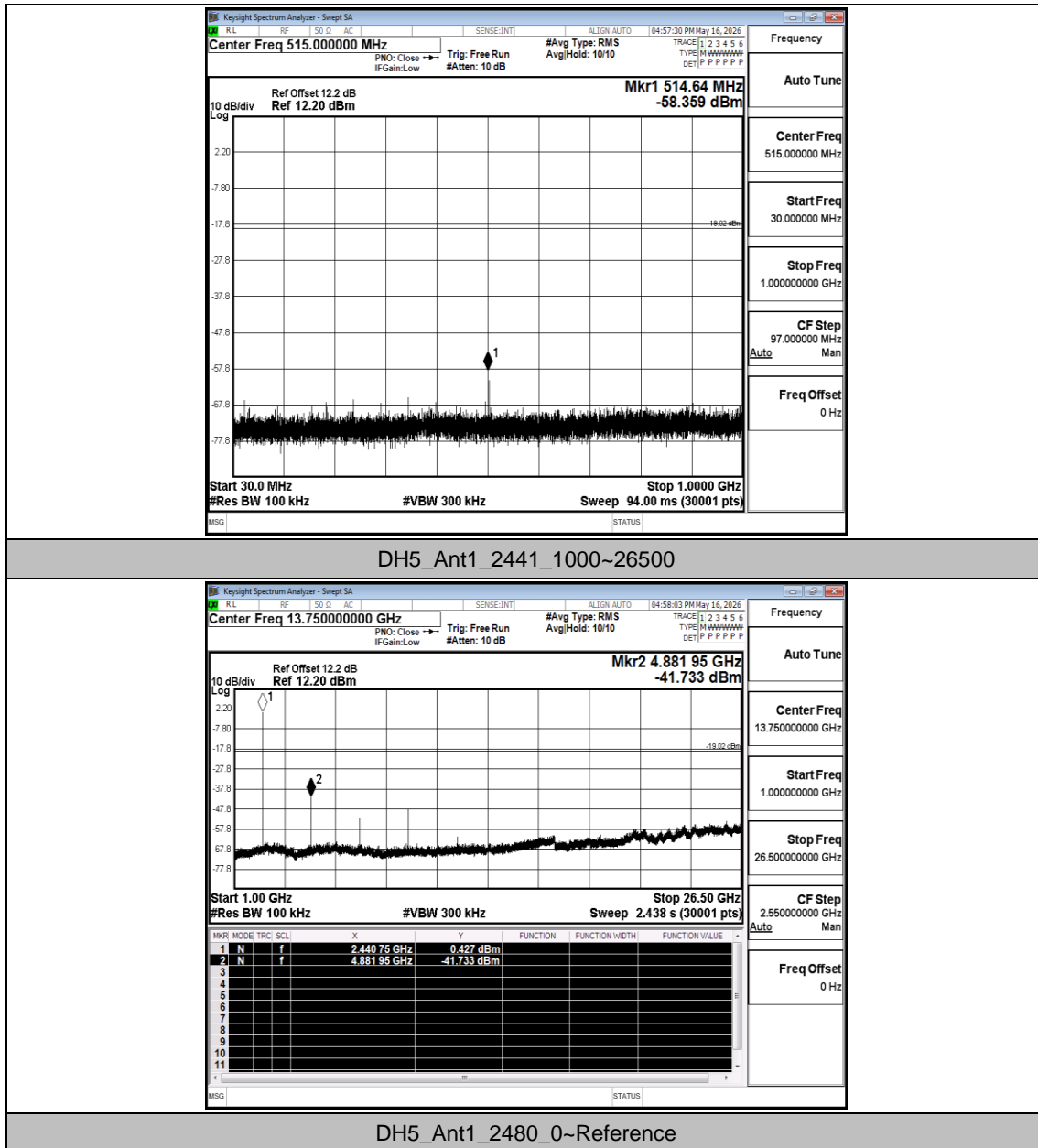




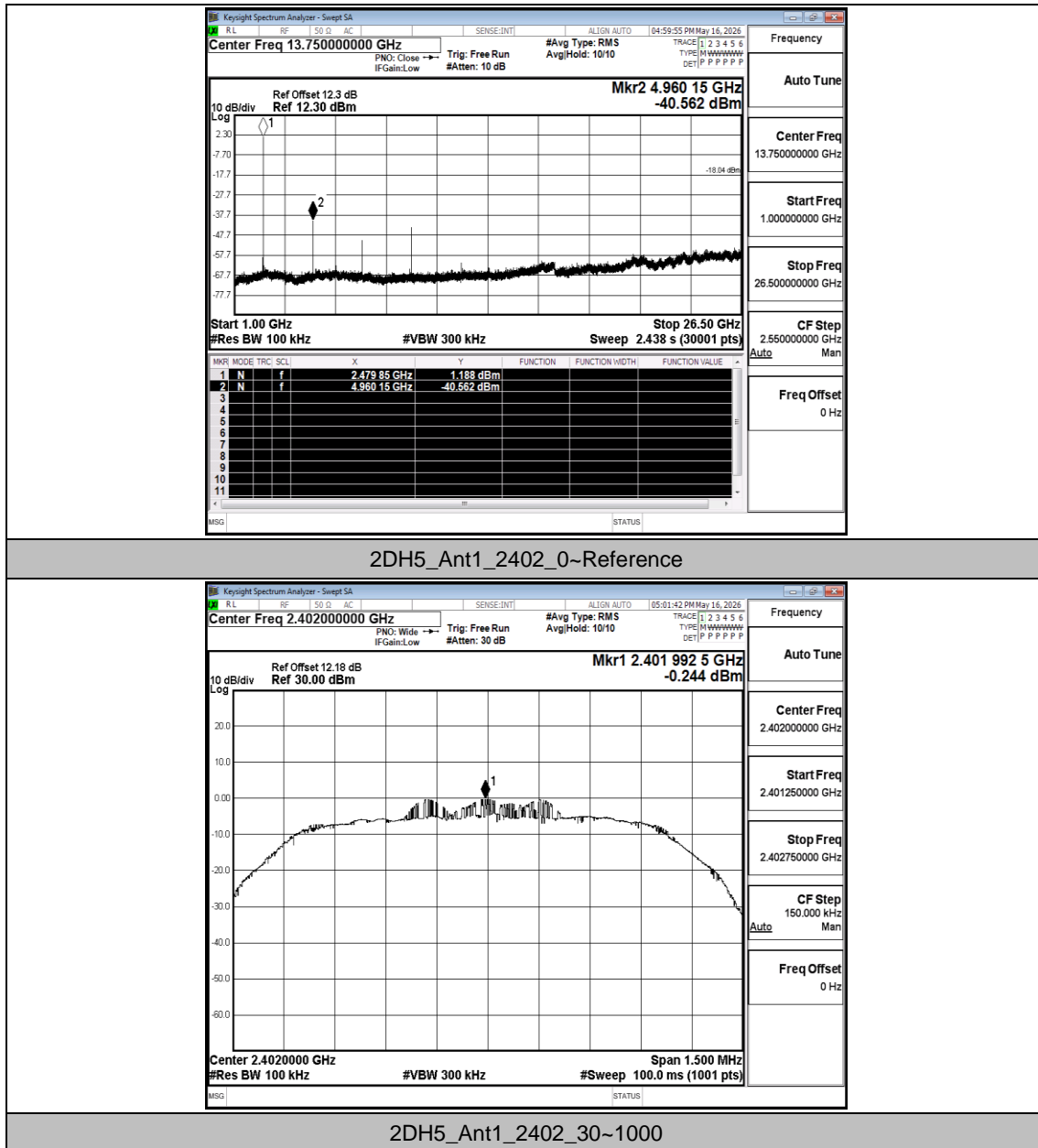
DH5\_Ant1\_2441\_0~Reference



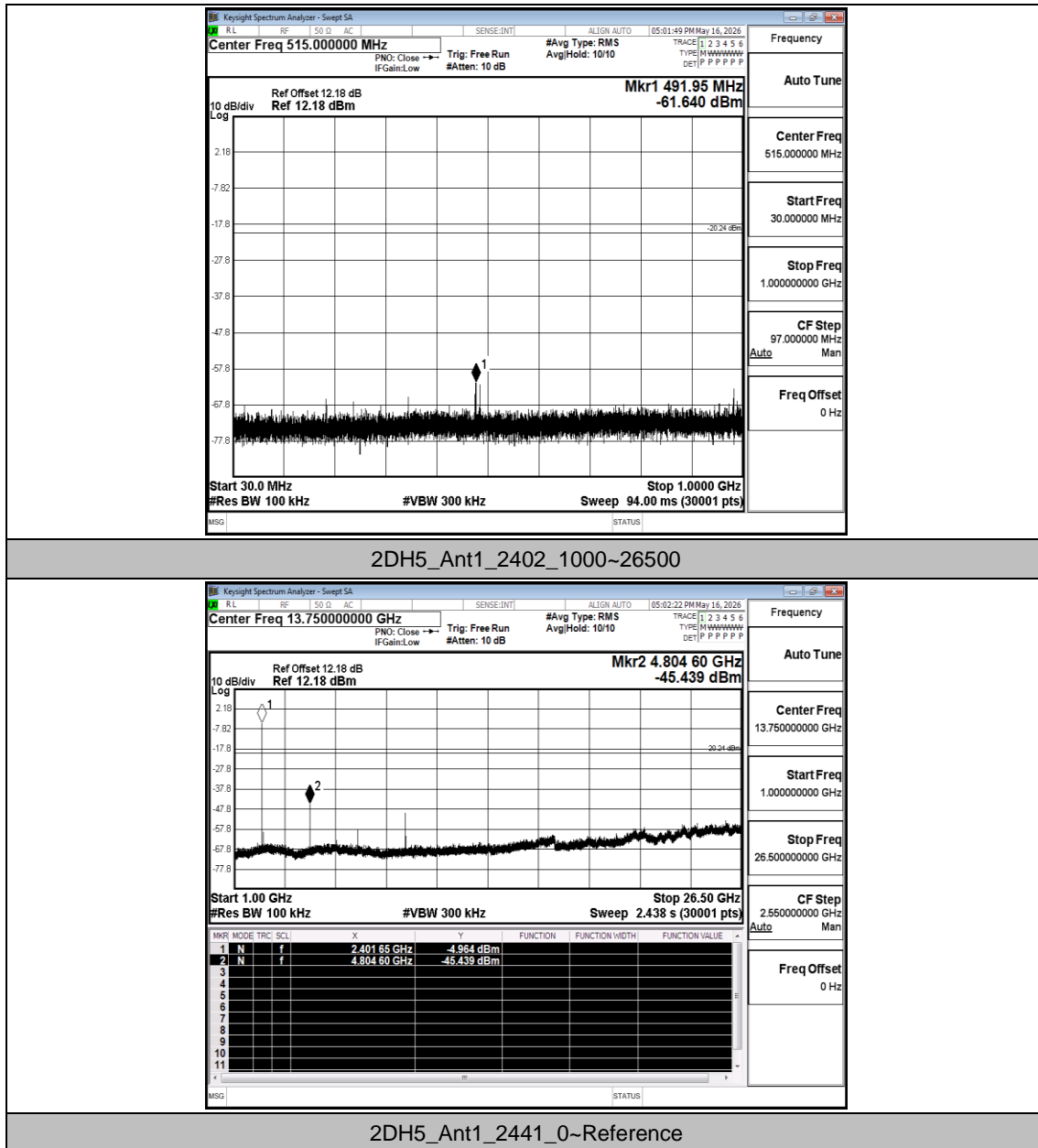
DH5\_Ant1\_2441\_30~1000

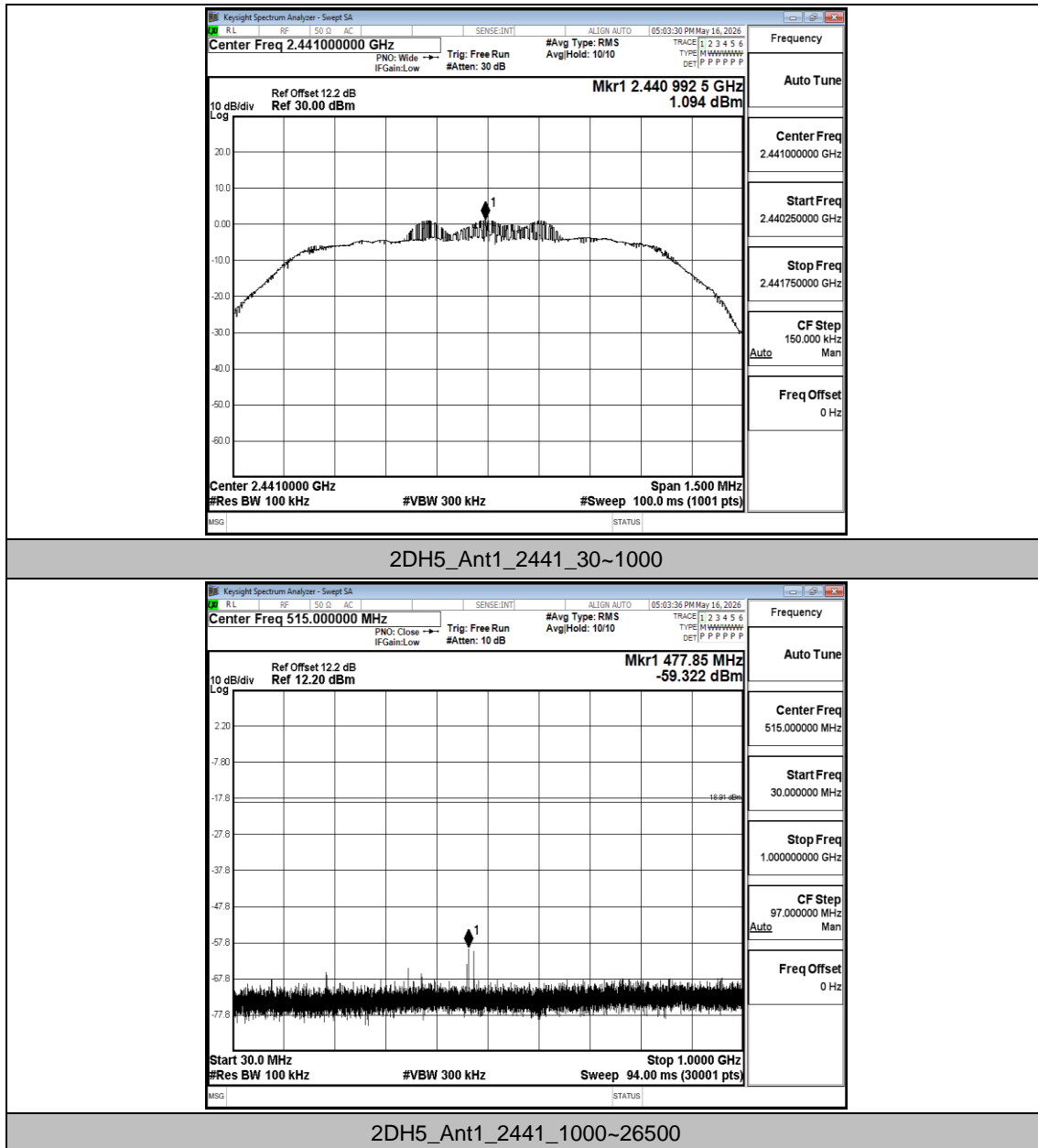


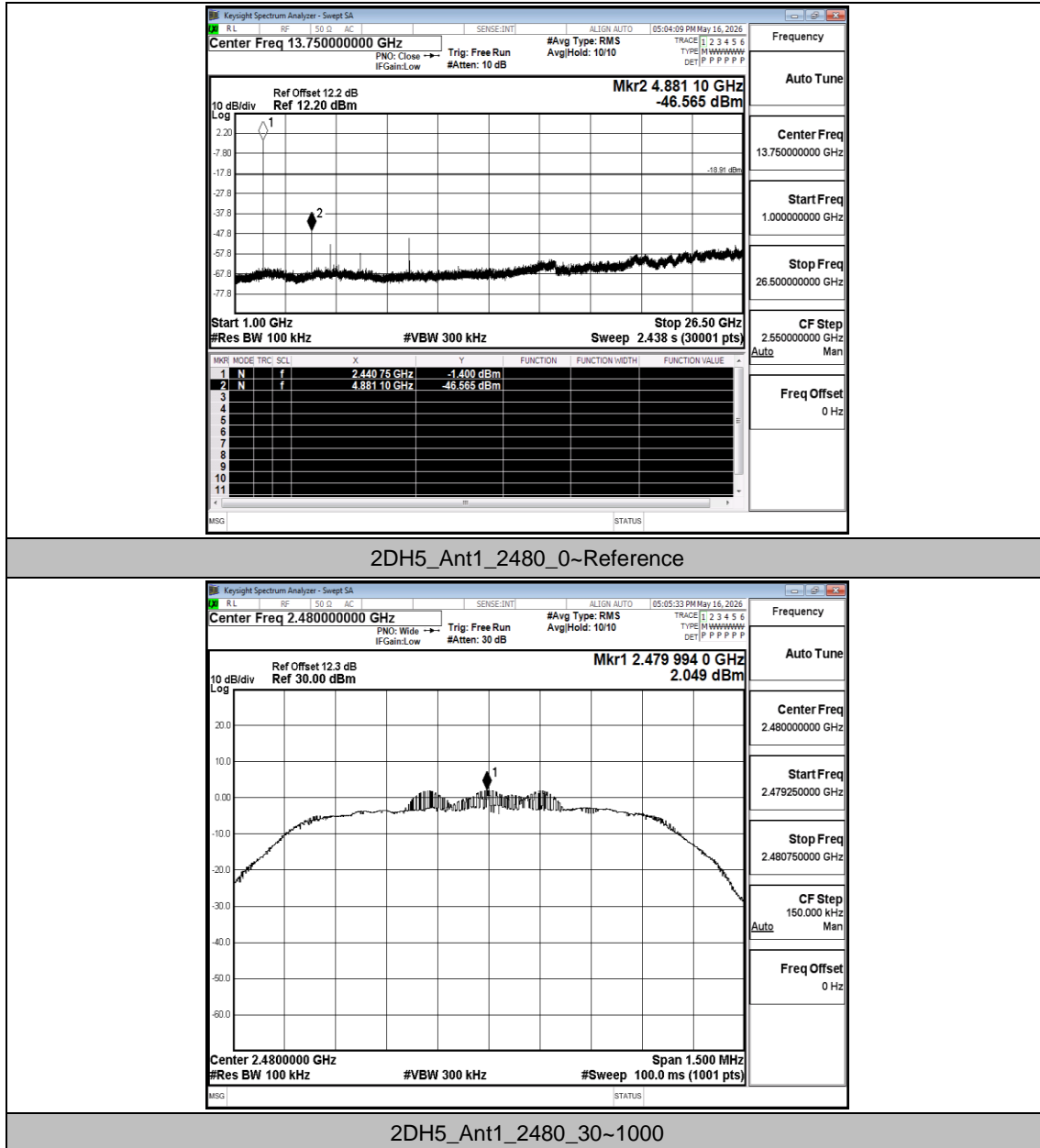


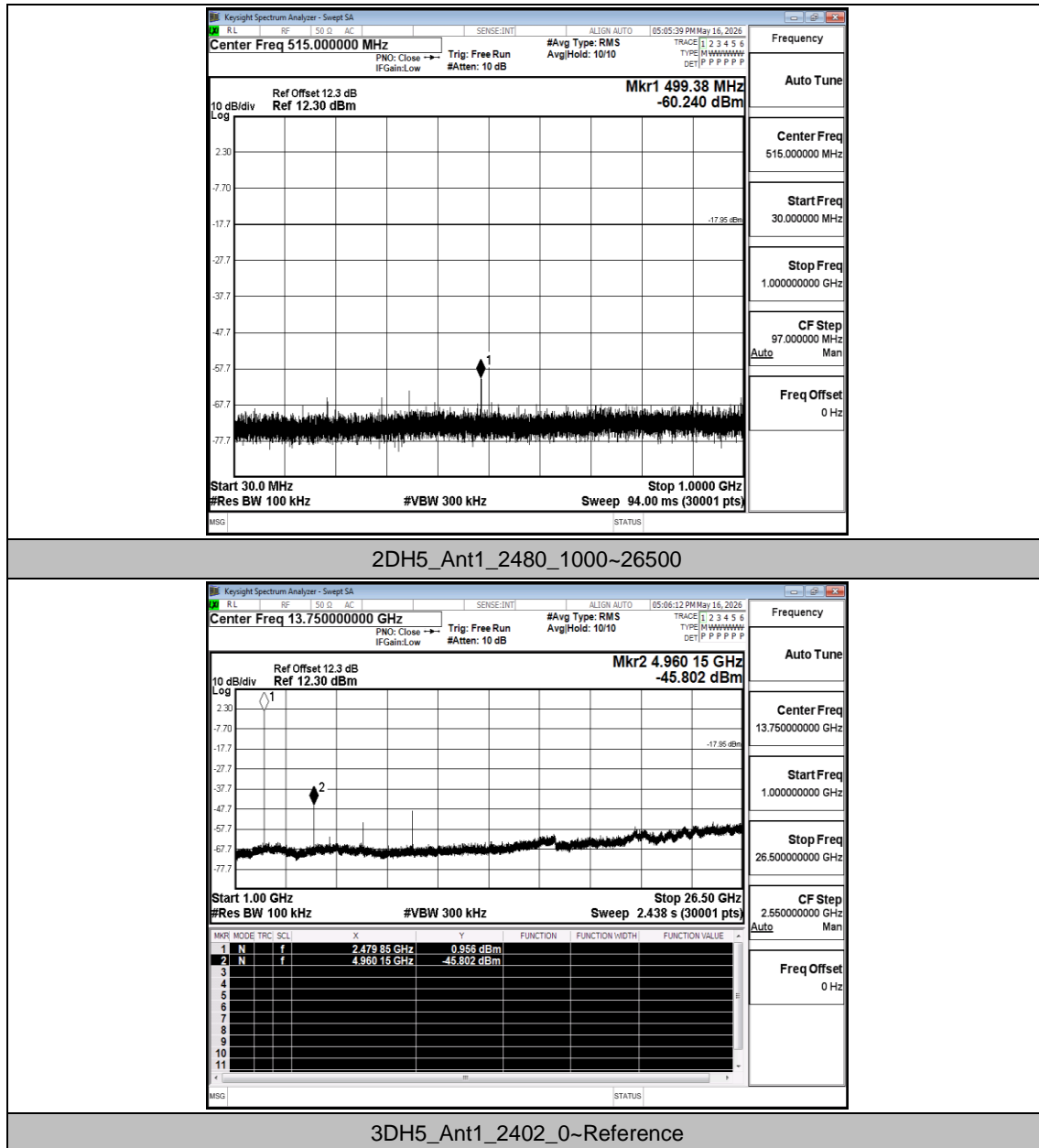


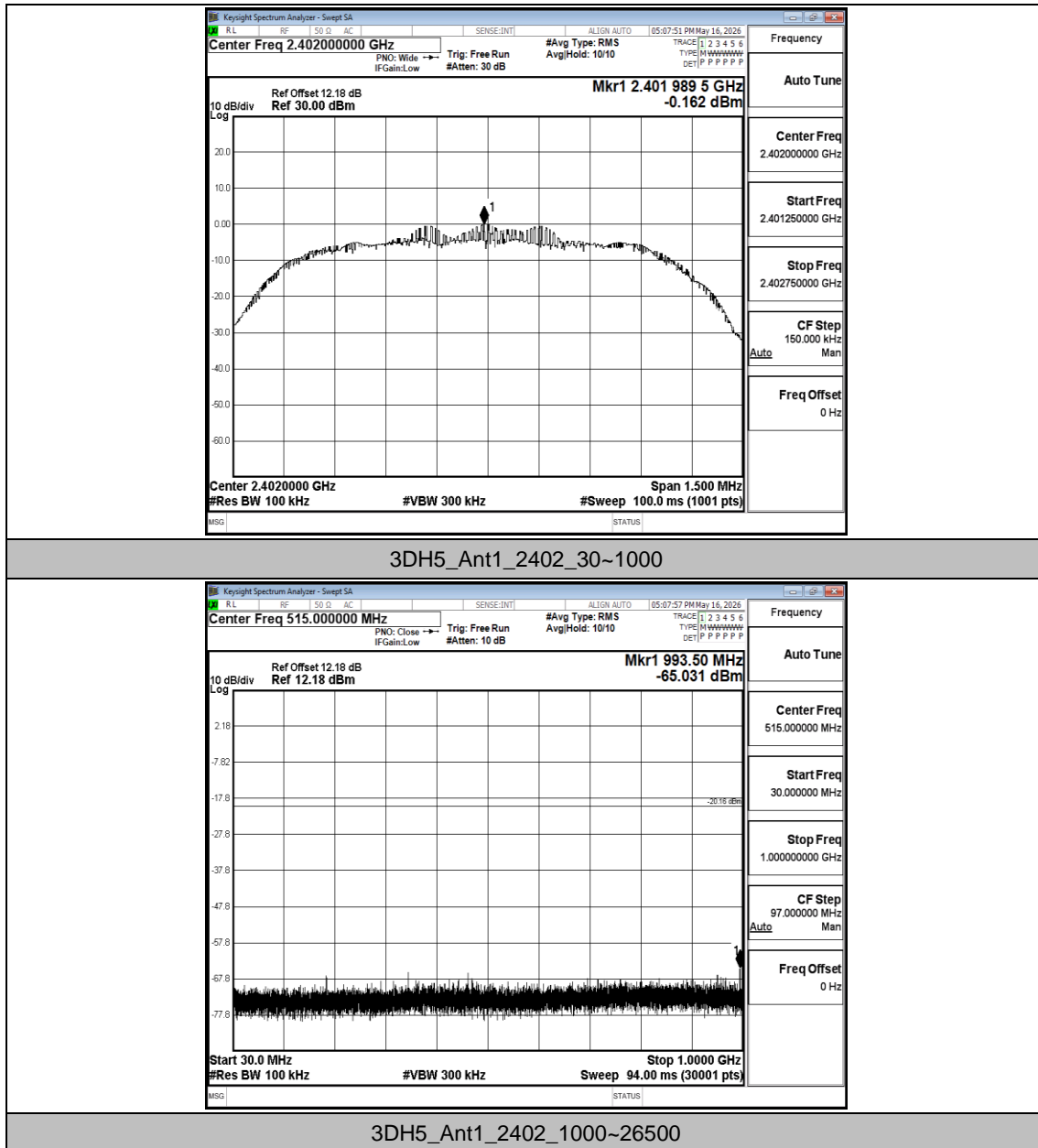


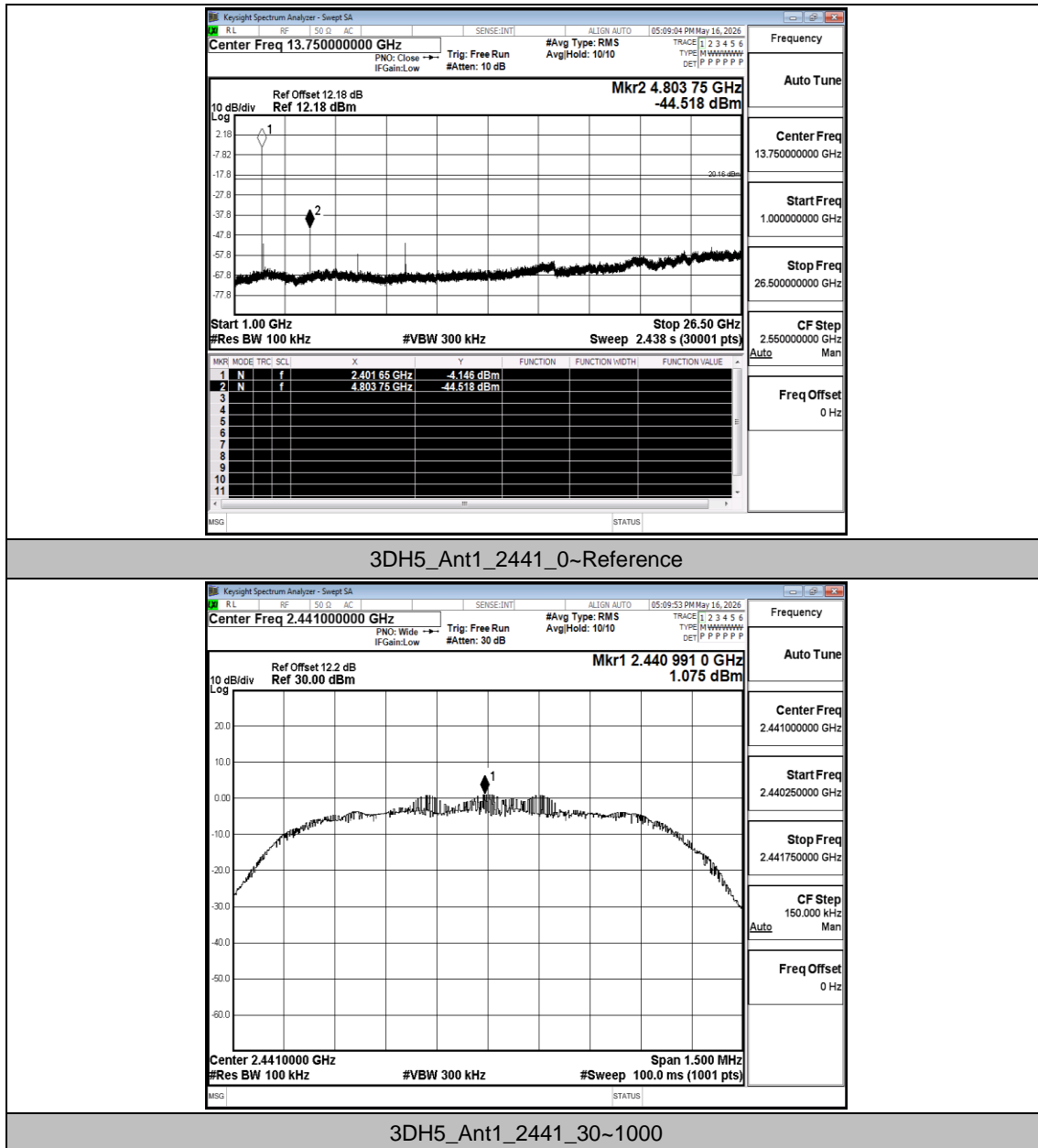


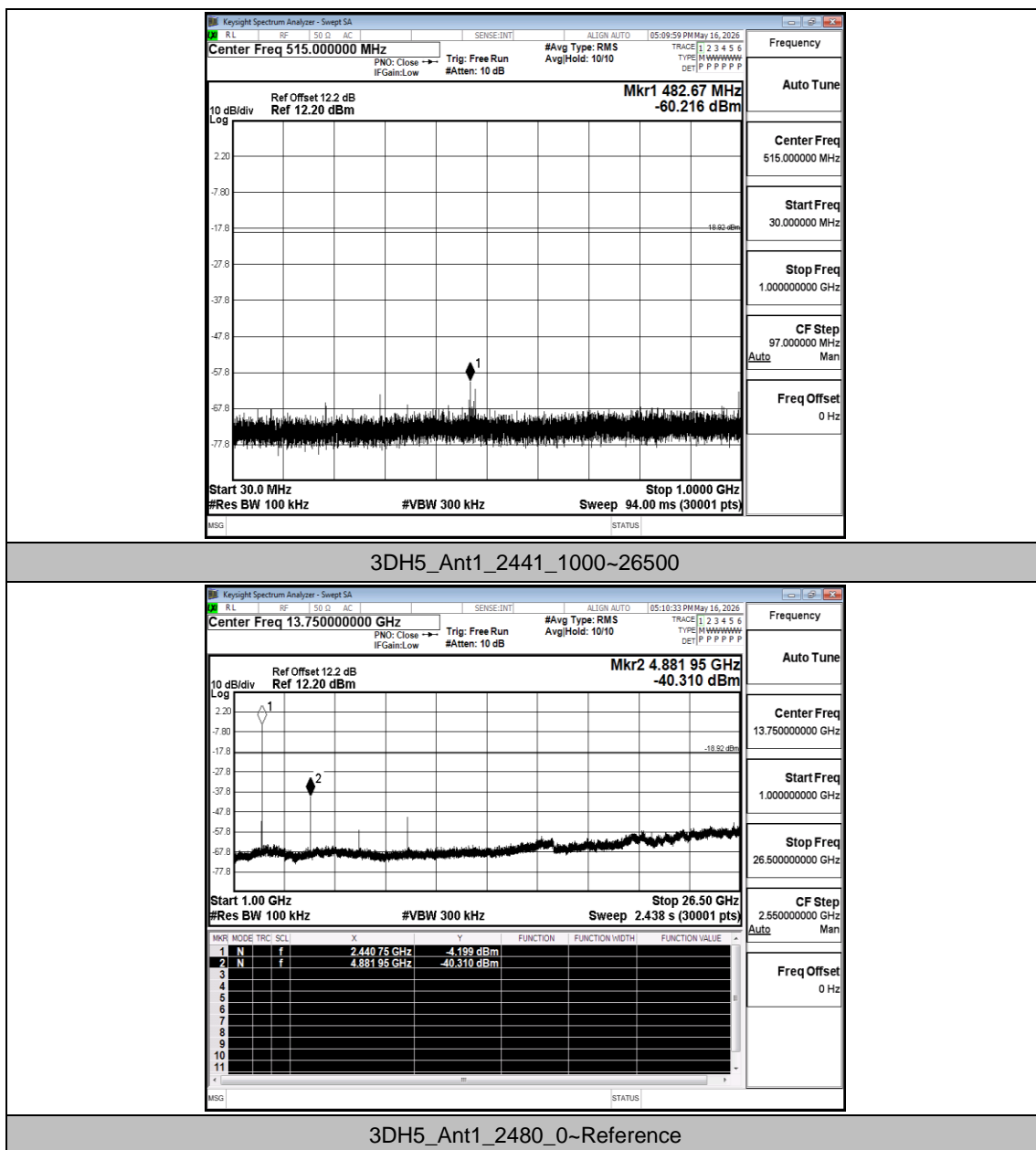


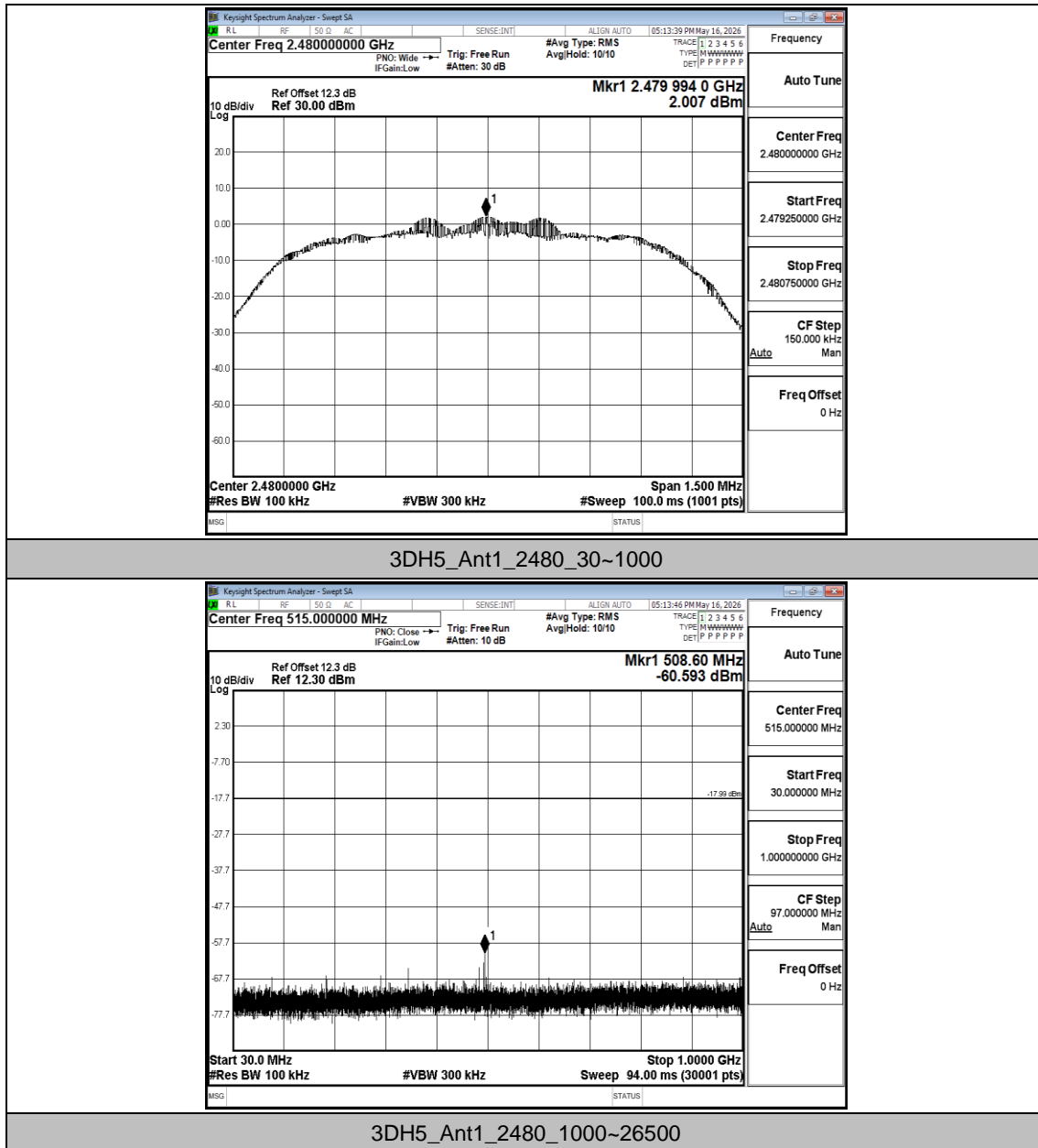




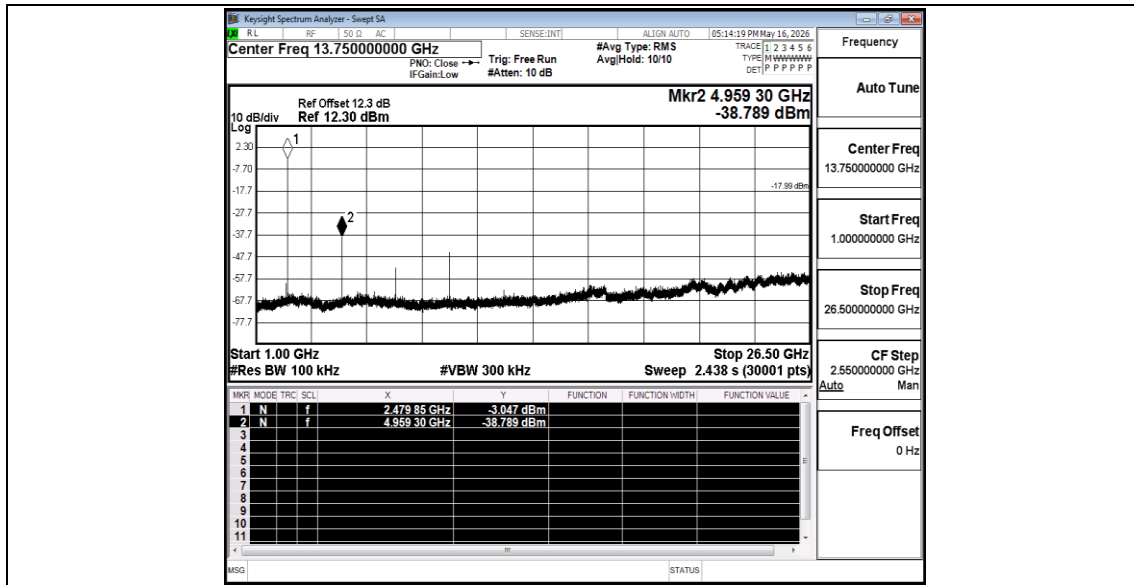










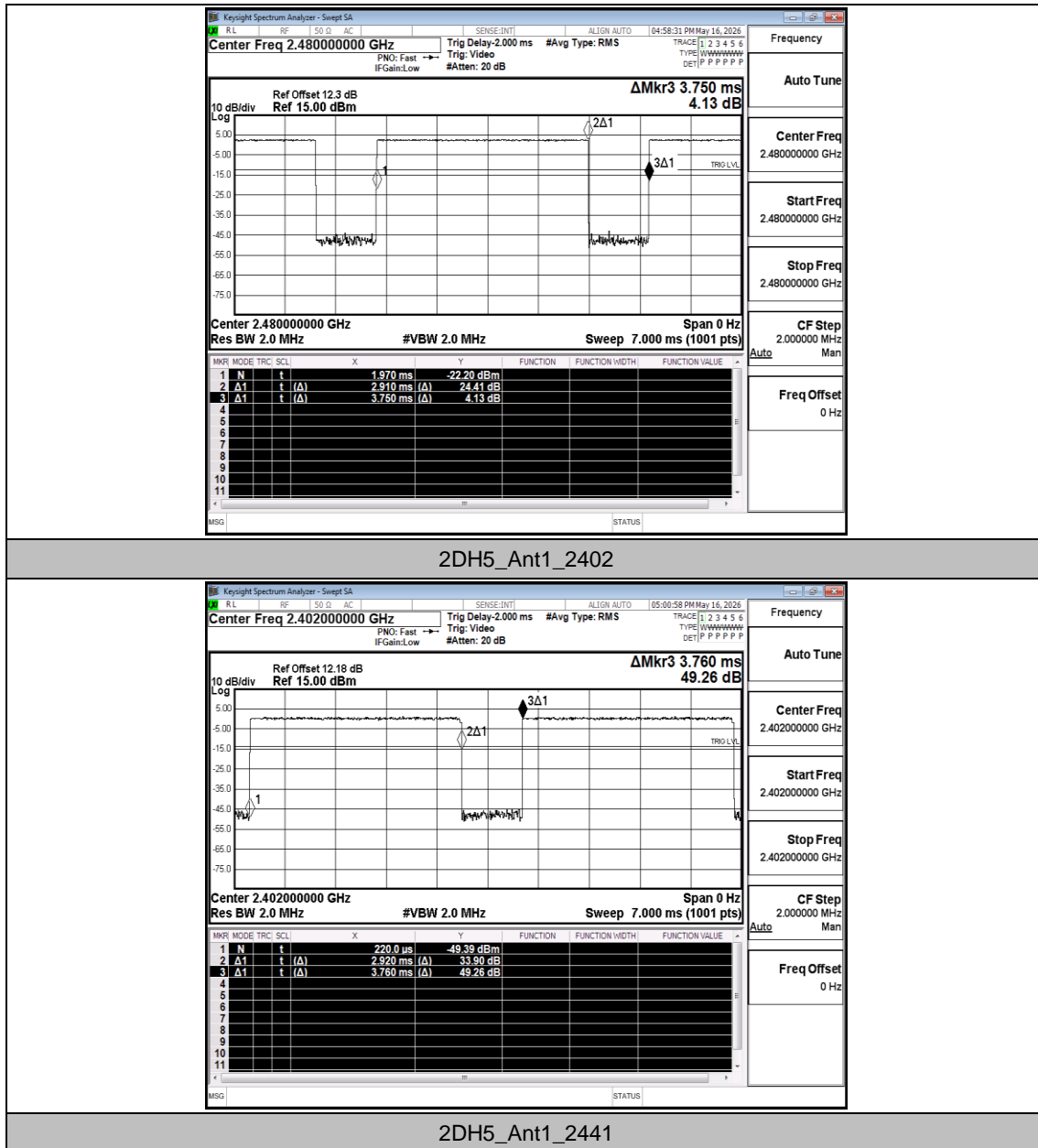


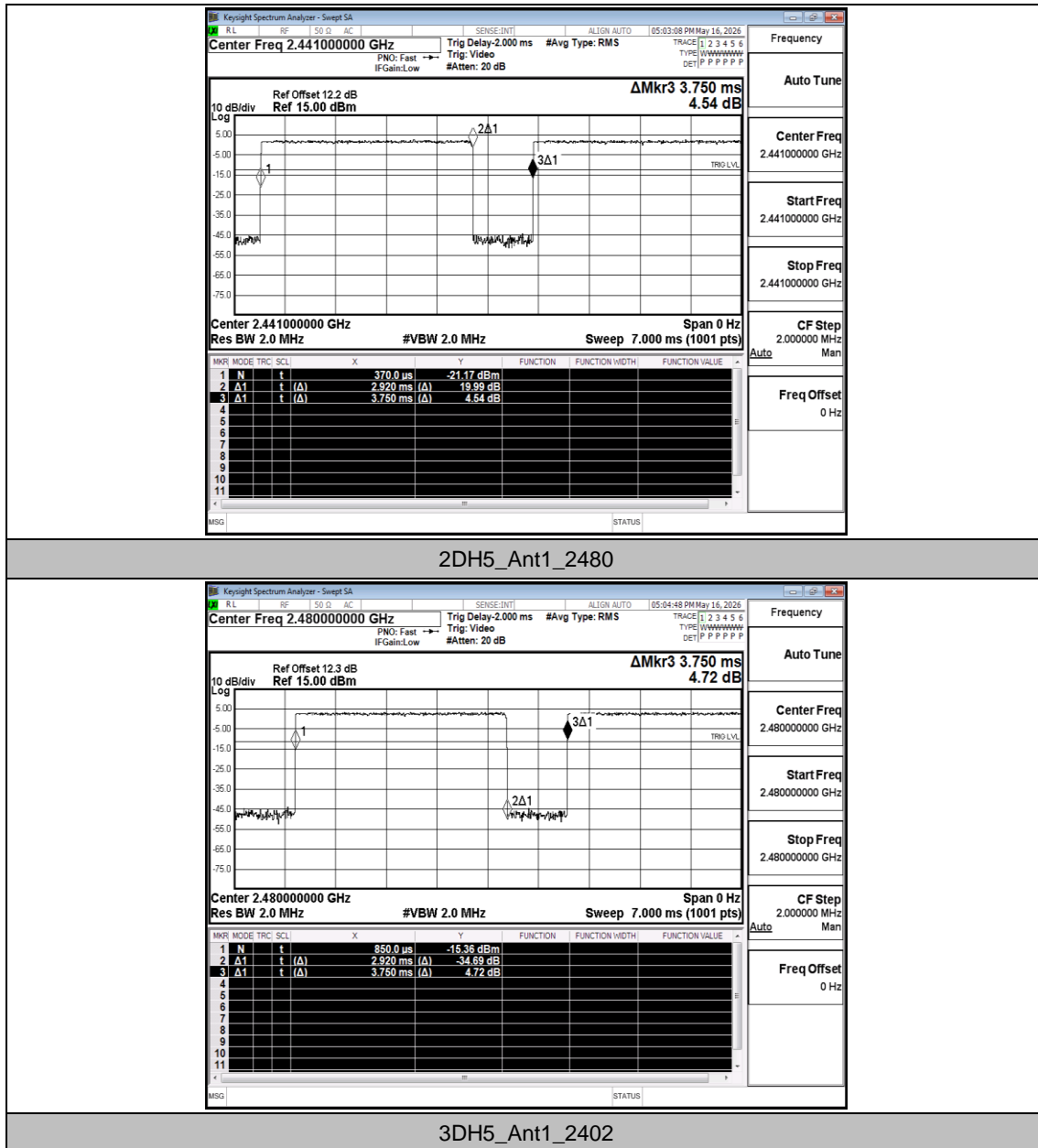
## A.8 Duty Cycle

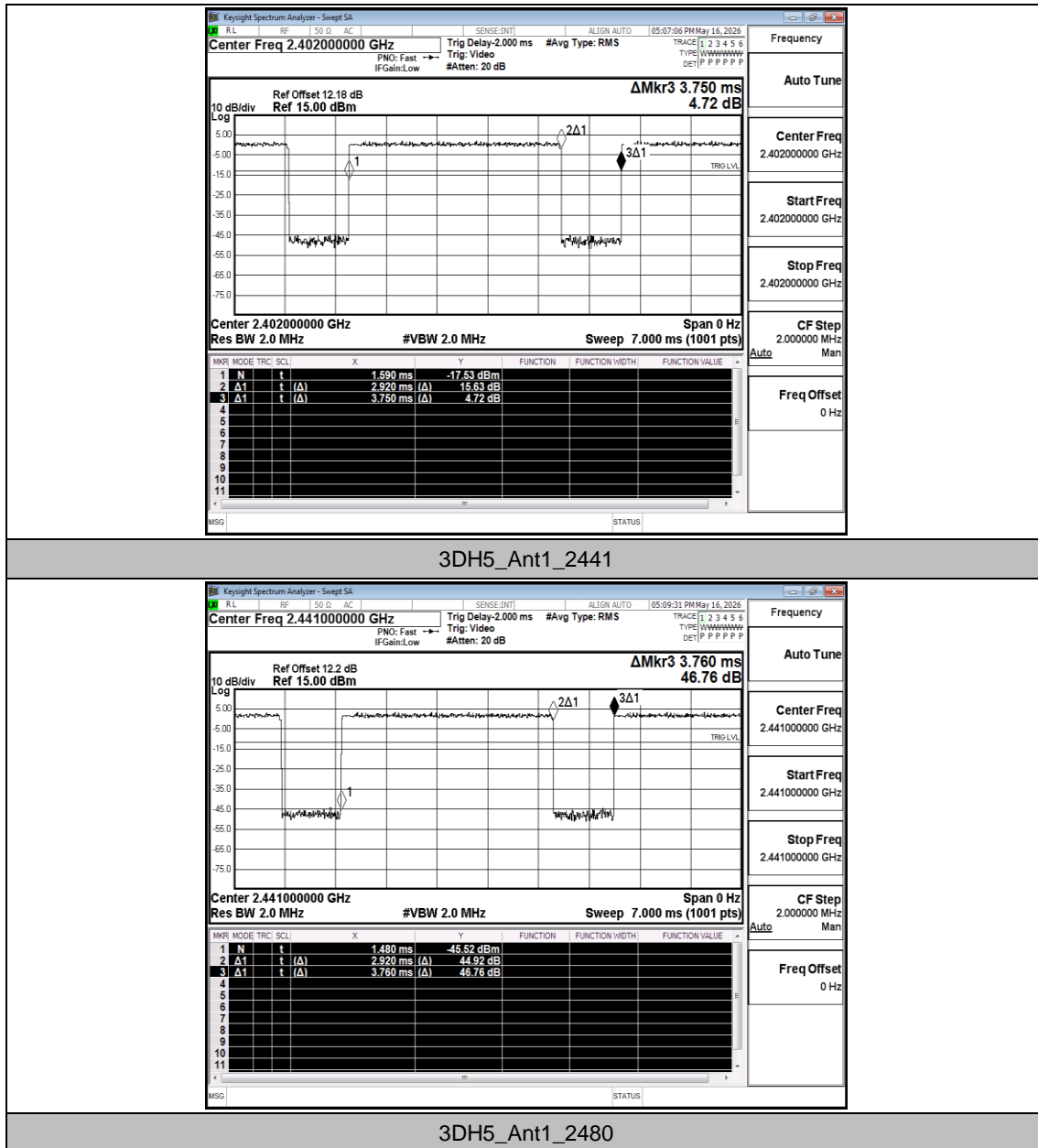
### Test Result

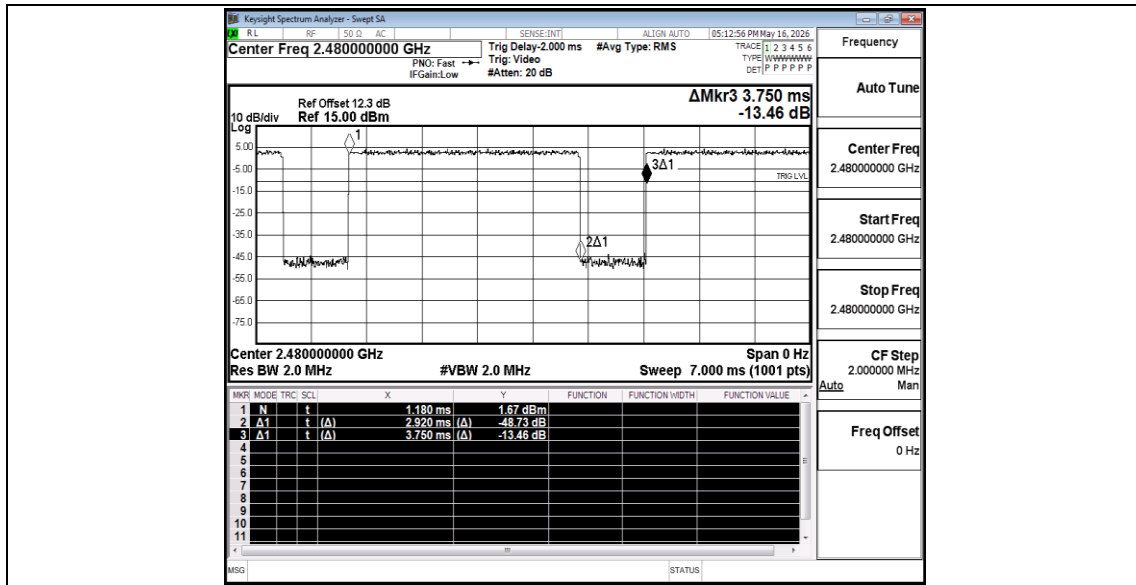
TestMode	Antenna	Freq(MHz)	ON Time [ms]	Period [ms]	DC [%]	xFactor	Limit	Verdict
DH5	Ant1	2402	2.91	3.75	77.60	1.10	---	---
		2441	2.91	3.75	77.60	1.10	---	---
		2480	2.91	3.75	77.60	1.10	---	---
2DH5	Ant1	2402	2.92	3.76	77.66	1.10	---	---
		2441	2.92	3.75	77.87	1.09	---	---
		2480	2.92	3.75	77.87	1.09	---	---
3DH5	Ant1	2402	2.92	3.75	77.87	1.09	---	---
		2441	2.92	3.76	77.66	1.10	---	---
		2480	2.92	3.75	77.87	1.09	---	---











## 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	-60.52	≤-44.30	2.00	1.10	37.78	≤54	PASS
				AV	2388.935	-59.99	≤-44.30	2.00	1.10	38.31	≤54	PASS
				AV	2390.000	-60.77	≤-44.30	2.00	1.10	37.53	≤54	PASS
				Peak	2310.000	-53.3	≤-23.20	2.00	0.00	43.90	≤74	PASS
				Peak	2354.495	-49.77	≤-23.20	2.00	0.00	47.43	≤74	PASS
				Peak	2390.000	-52.2	≤-23.20	2.00	0.00	45.00	≤74	PASS
		High	2480	AV	2483.500	-58.82	≤-44.30	2.00	1.10	39.48	≤54	PASS
				AV	2484.000	-58.27	≤-44.30	2.00	1.10	40.03	≤54	PASS
				AV	2500.000	-59.57	≤-44.30	2.00	1.10	38.73	≤54	PASS
				Peak	2483.500	-45.22	≤-23.20	2.00	0.00	51.98	≤74	PASS
				Peak	2483.520	-45.22	≤-23.20	2.00	0.00	51.98	≤74	PASS
				Peak	2500.000	-52.8	≤-23.20	2.00	0.00	44.40	≤74	PASS
		Low	Hop_2402	Peak	2310.000	-52.61	≤-23.20	2.00	0.00	44.59	≤74	PASS
				Peak	2357.960	-50.28	≤-23.20	2.00	0.00	46.92	≤74	PASS
				Peak	2390.000	-54.15	≤-23.20	2.00	0.00	43.05	≤74	PASS
		High	Hop_2480	Peak	2483.500	-49.86	≤-23.20	2.00	0.00	47.34	≤74	PASS
				Peak	2500.000	-53.19	≤-23.20	2.00	0.00	44.01	≤74	PASS
2DH5	Ant1	Low	2402	AV	2310.000	-60.49	≤-44.30	2.00	1.10	37.81	≤54	PASS
				AV	2387.465	-60.22	≤-44.30	2.00	1.10	38.08	≤54	PASS
				AV	2390.000	-61.23	≤-44.30	2.00	1.10	37.07	≤54	PASS
				Peak	2310.000	-53.19	≤-23.20	2.00	0.00	44.01	≤74	PASS
				Peak	2386.205	-49.98	≤-23.20	2.00	0.00	47.22	≤74	PASS
				Peak	2390.000	-53.32	≤-23.20	2.00	0.00	43.88	≤74	PASS
		High	2480	AV	2483.500	-58.36	≤-44.29	2.00	1.09	39.93	≤54	PASS
				AV	2483.600	-58.25	≤-44.29	2.00	1.09	40.04	≤54	PASS
				AV	2500.000	-59.61	≤-44.29	2.00	1.09	38.68	≤54	PASS
				Peak	2483.500	-49.45	≤-23.20	2.00	0.00	47.75	≤74	PASS
				Peak	2485.200	-45.09	≤-23.20	2.00	0.00	52.11	≤74	PASS
				Peak	2500.000	-51.93	≤-23.20	2.00	0.00	45.27	≤74	PASS
		Low	Hop_2402	Peak	2310.000	-53.43	≤-23.20	2.00	0.00	43.77	≤74	PASS
				Peak	2381.690	-49.6	≤-23.20	2.00	0.00	47.60	≤74	PASS
				Peak	2390.000	-53.25	≤-23.20	2.00	0.00	43.95	≤74	PASS
		High	Hop_2480	Peak	2483.500	-53.13	≤-23.20	2.00	0.00	44.07	≤74	PASS
				Peak	2497.200	-50.16	≤-23.20	2.00	0.00	47.04	≤74	PASS

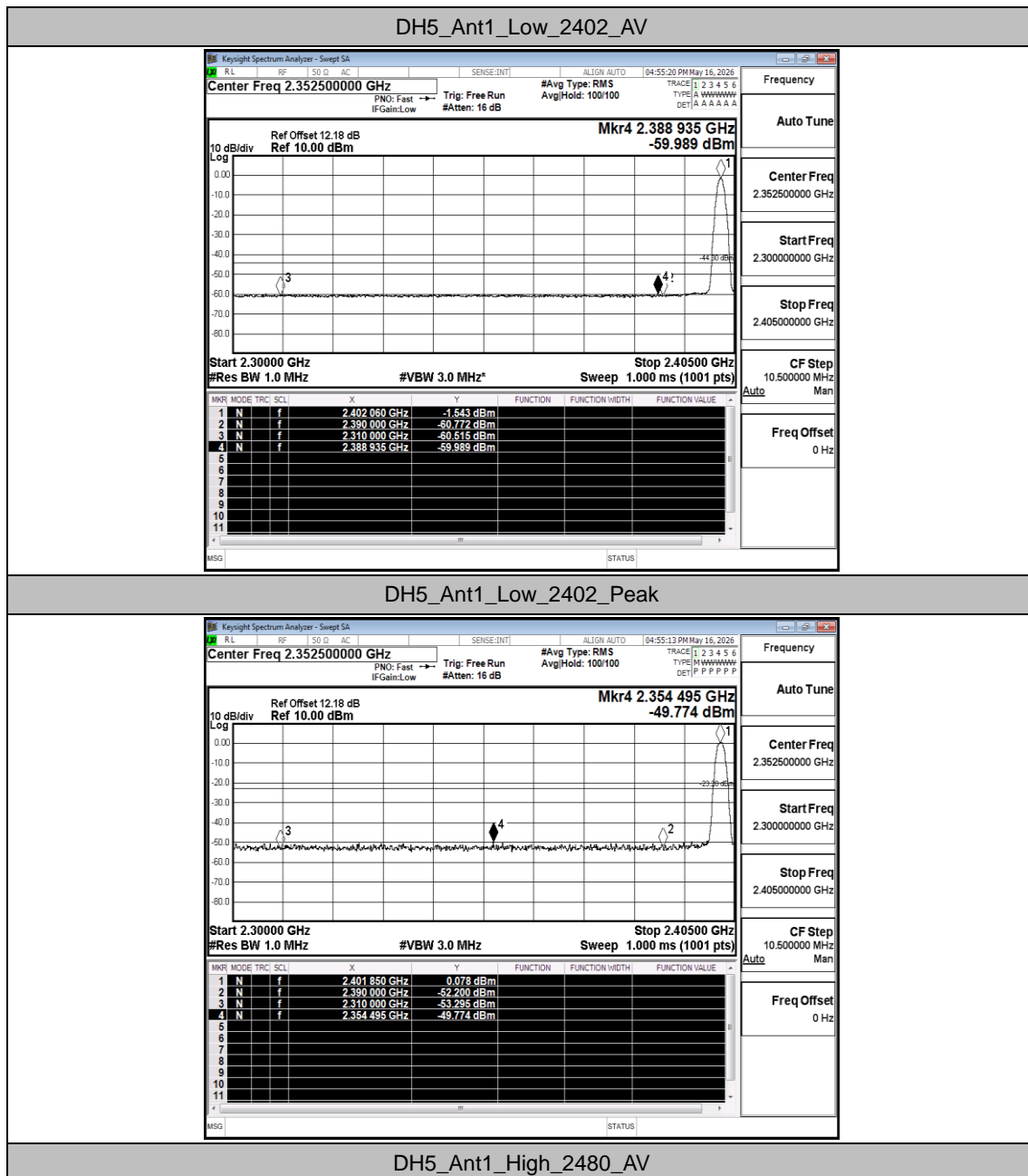


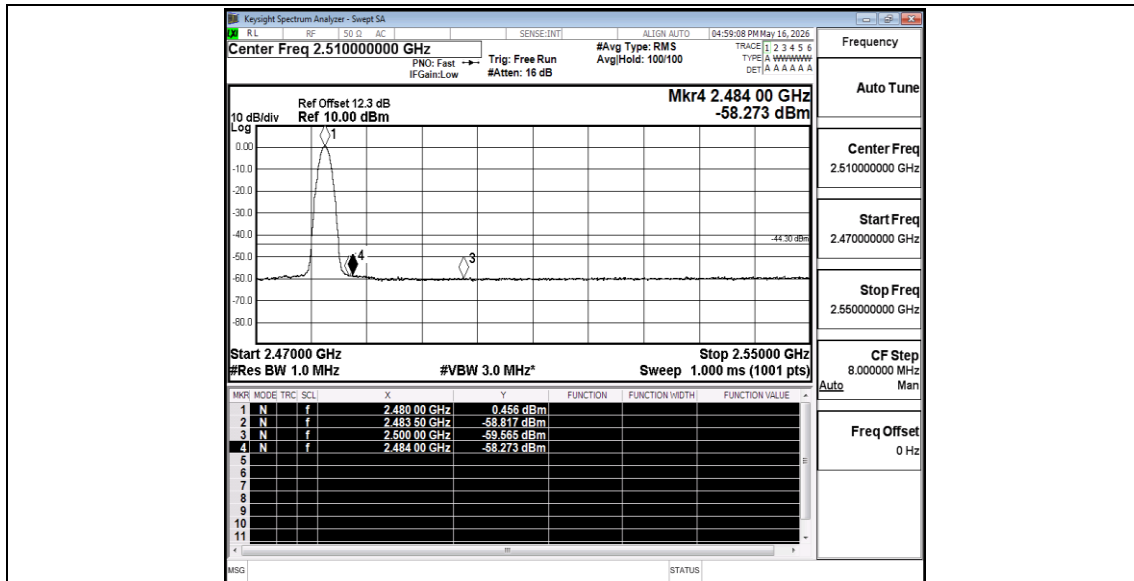
				Peak	2500.000	-53.17	≤-23.20	2.00	0.00	44.03	≤74	PASS
3DH5	Ant1	Low	2402	AV	2310.000	-60.78	≤-44.29	2.00	1.09	37.51	≤54	PASS
				AV	2348.405	-59.87	≤-44.29	2.00	1.09	38.42	≤54	PASS
				AV	2390.000	-61.81	≤-44.29	2.00	1.09	36.48	≤54	PASS
				Peak	2310.000	-52.57	≤-23.20	2.00	0.00	44.63	≤74	PASS
				Peak	2335.595	-50.01	≤-23.20	2.00	0.00	47.19	≤74	PASS
				Peak	2390.000	-53.13	≤-23.20	2.00	0.00	44.07	≤74	PASS
		High	2480	AV	2483.500	-57.84	≤-44.29	2.00	1.09	40.45	≤54	PASS
				AV	2483.760	-57.28	≤-44.29	2.00	1.09	41.01	≤54	PASS
				AV	2500.000	-60.14	≤-44.29	2.00	1.09	38.15	≤54	PASS
				Peak	2483.500	-48.71	≤-23.20	2.00	0.00	48.49	≤74	PASS
				Peak	2484.240	-40.8	≤-23.20	2.00	0.00	56.40	≤74	PASS
				Peak	2500.000	-53.62	≤-23.20	2.00	0.00	43.58	≤74	PASS
		Low	Hop_2402	Peak	2310.000	-52.07	≤-23.20	2.00	0.00	45.13	≤74	PASS
				Peak	2311.865	-49.87	≤-23.20	2.00	0.00	47.33	≤74	PASS
				Peak	2390.000	-53.18	≤-23.20	2.00	0.00	44.02	≤74	PASS
		High	Hop_2480	Peak	2483.500	-52.53	≤-23.20	2.00	0.00	44.67	≤74	PASS
				Peak	2492.080	-49.65	≤-23.20	2.00	0.00	47.55	≤74	PASS
				Peak	2500.000	-51.6	≤-23.20	2.00	0.00	45.60	≤74	PASS

## Note:

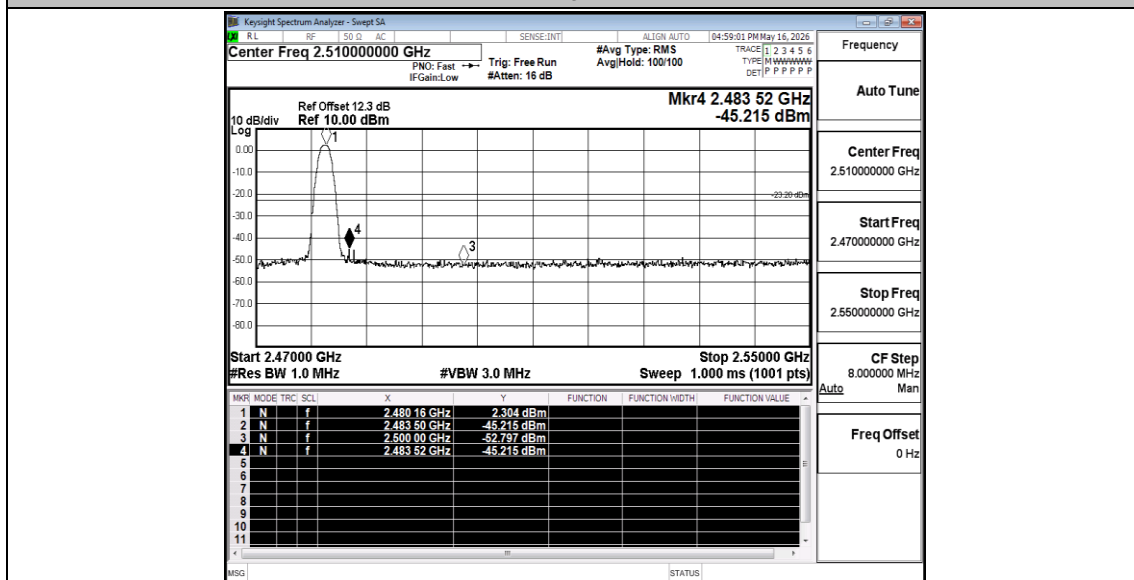
1. The Antenna Gain is compensated in the graph.
2. The limit in dBm for average detector is conversion from 54dBuV/m, according to 15.209(a). The limit in dBm for peak detector is 20dB above the limit of average detector in dBm.

## Test Graphs





DH5\_Ant1\_High\_2480\_Peak



DH5\_Ant1\_Low\_Hop\_2402\_Peak

