

Appendix A

RF Test Data for BT (Conducted Measurement)

Product Name: Fingerbot

Test Model: ADFB0301

Environmental Conditions

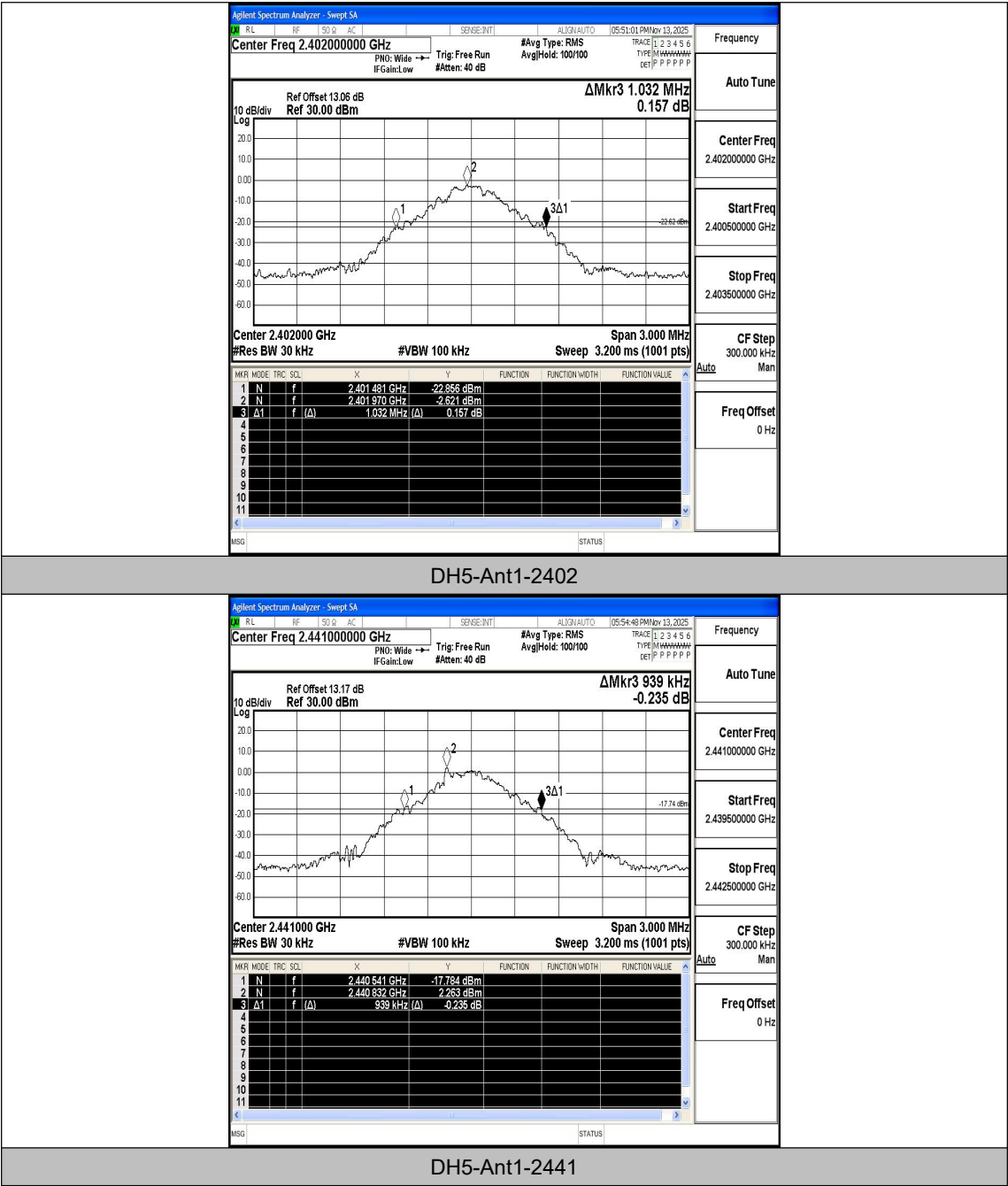
Temperature:	24.5° C
Relative Humidity:	53.1%
ATM Pressure:	100.0 kPa
Test Engineer:	Yongzhou Huang
Supervised by:	Fengliu Tang

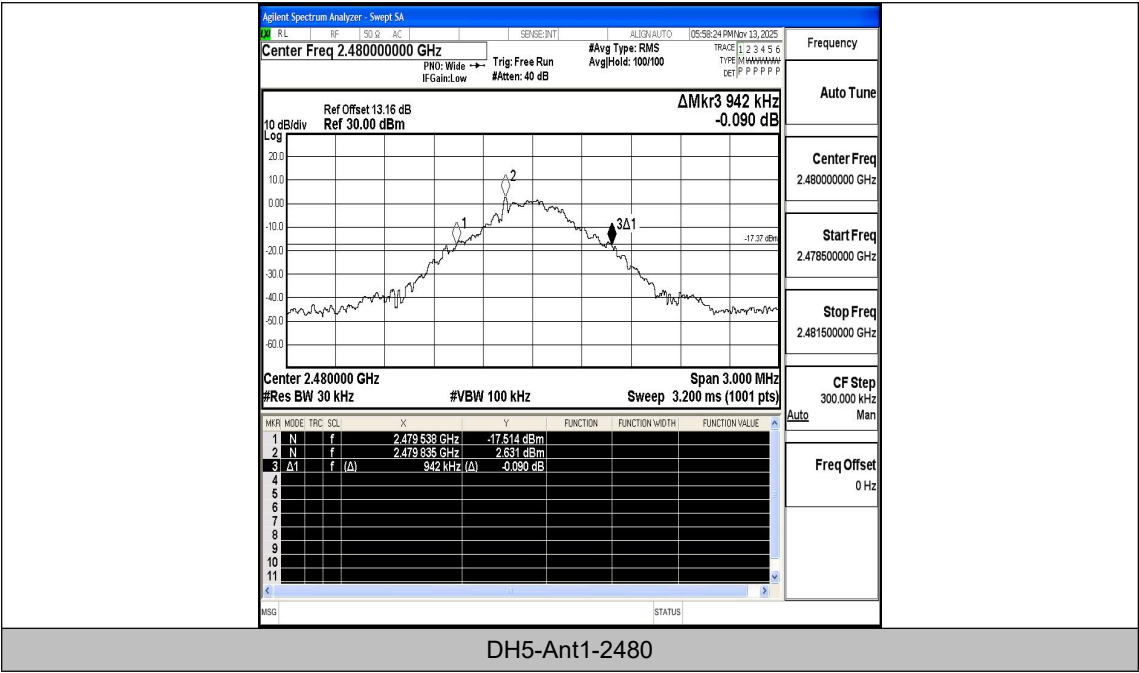
A.1 20dB Emission Bandwidth

Test Result

TestMode	Antenna	Frequency[MHz]	20db EBW[MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
DH5	Ant1	2402	1.032	2401.481	2402.513	---	---
DH5	Ant1	2441	0.939	2440.541	2441.480	---	---
DH5	Ant1	2480	0.942	2479.538	2480.480	---	---

Test Graphs



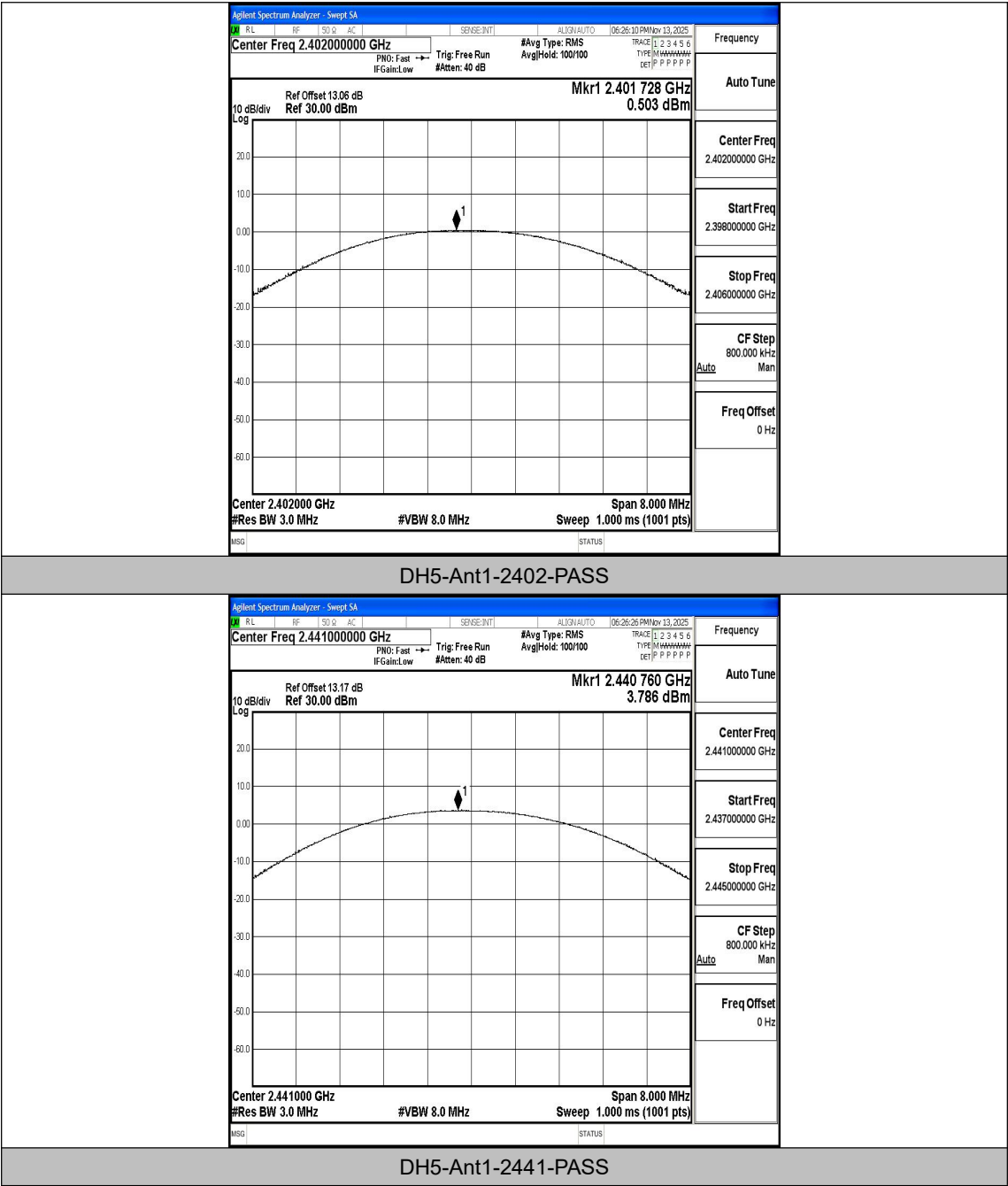


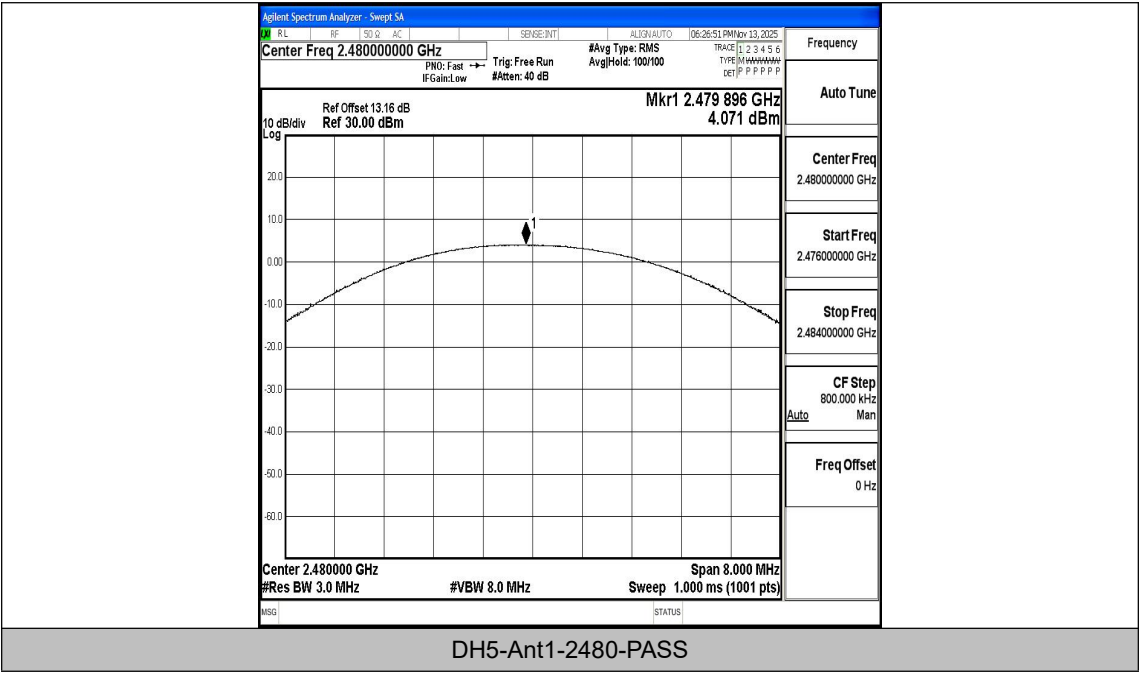
A.2 Maximum Peak conducted output power

Test Result Peak

Test Mode	Antenna	Frequency[MHz]	Conducted Peak Power[dBm]	Conducted Limit[dBm]	Verdict
DH5	Ant1	2402	0.50	≤30	PASS
DH5	Ant1	2441	3.79	≤30	PASS
DH5	Ant1	2480	4.07	≤30	PASS

Test Graphs



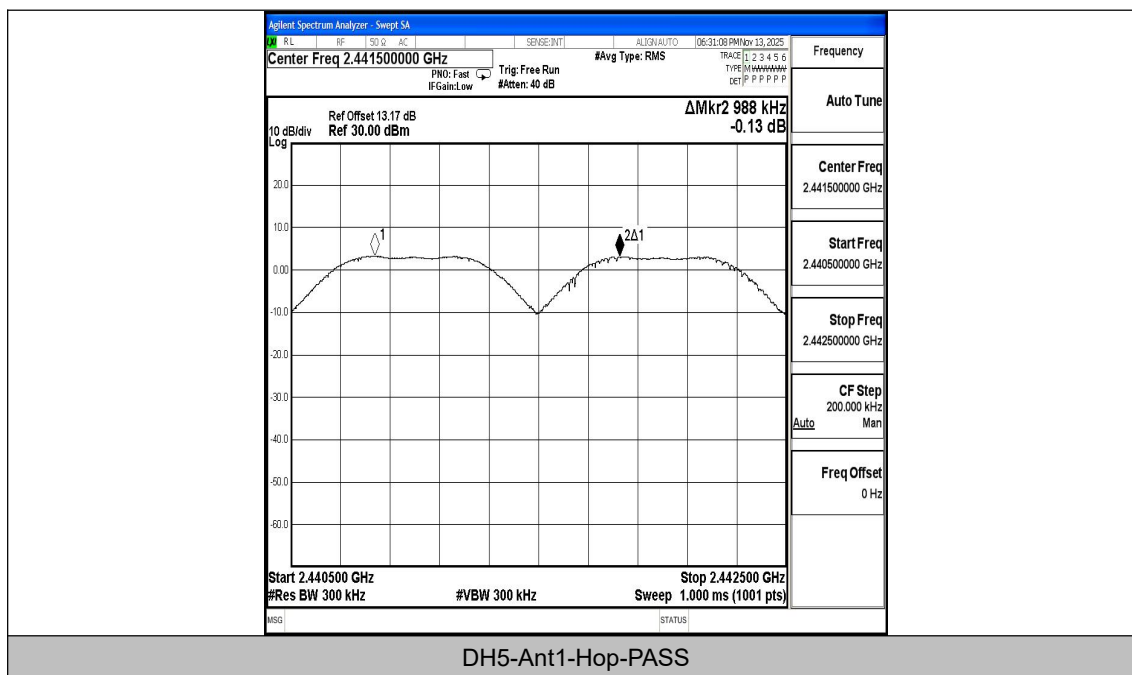


A.3 Carrier frequency separation

Test Result

TestMode	Antenna	Frequency[MHz]	Result[MHz]	Limit[MHz]	Verdict
DH5	Ant1	Hop	0.988	≥0.688	PASS

Test Graphs

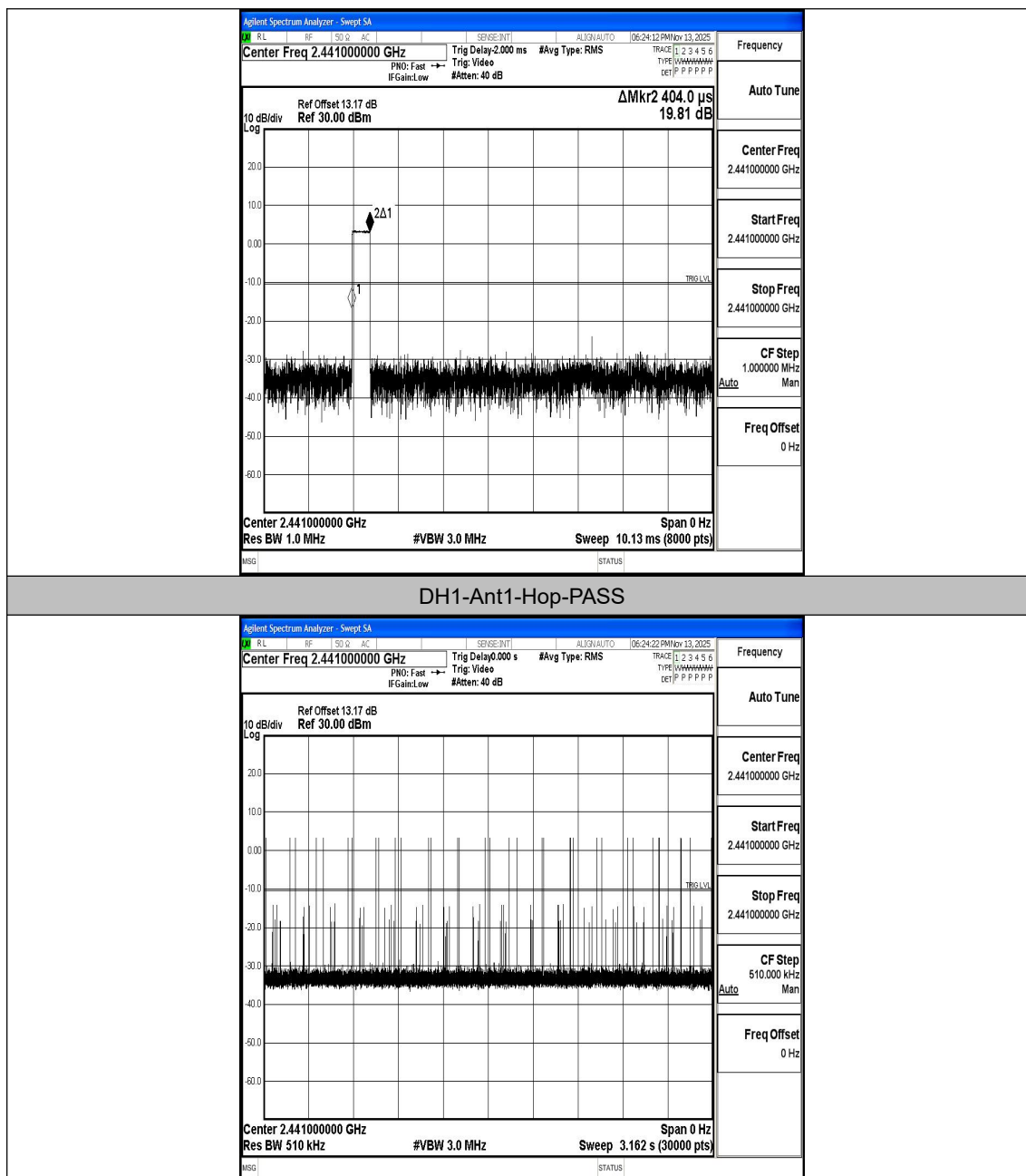


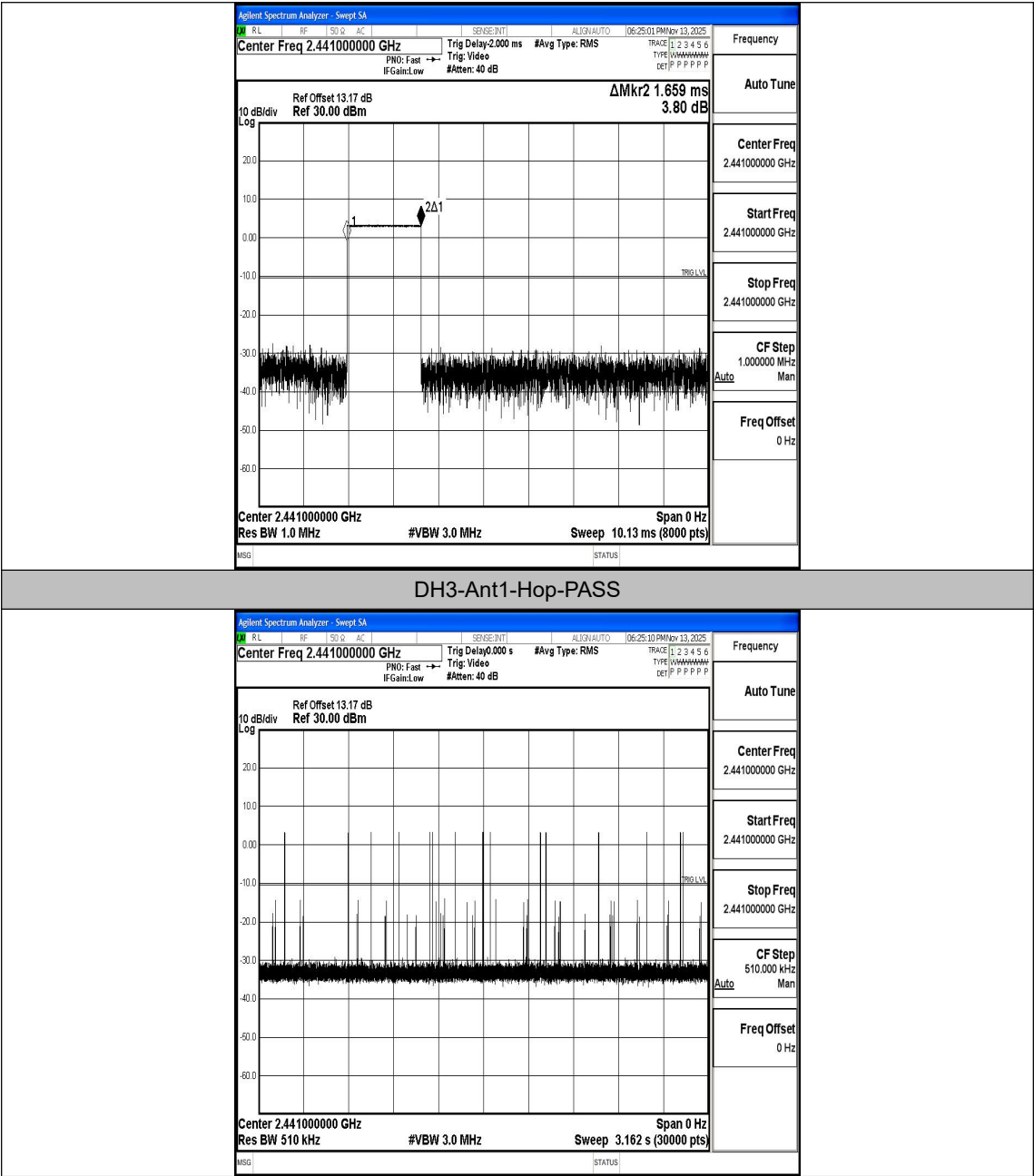
A.4 Time of occupancy

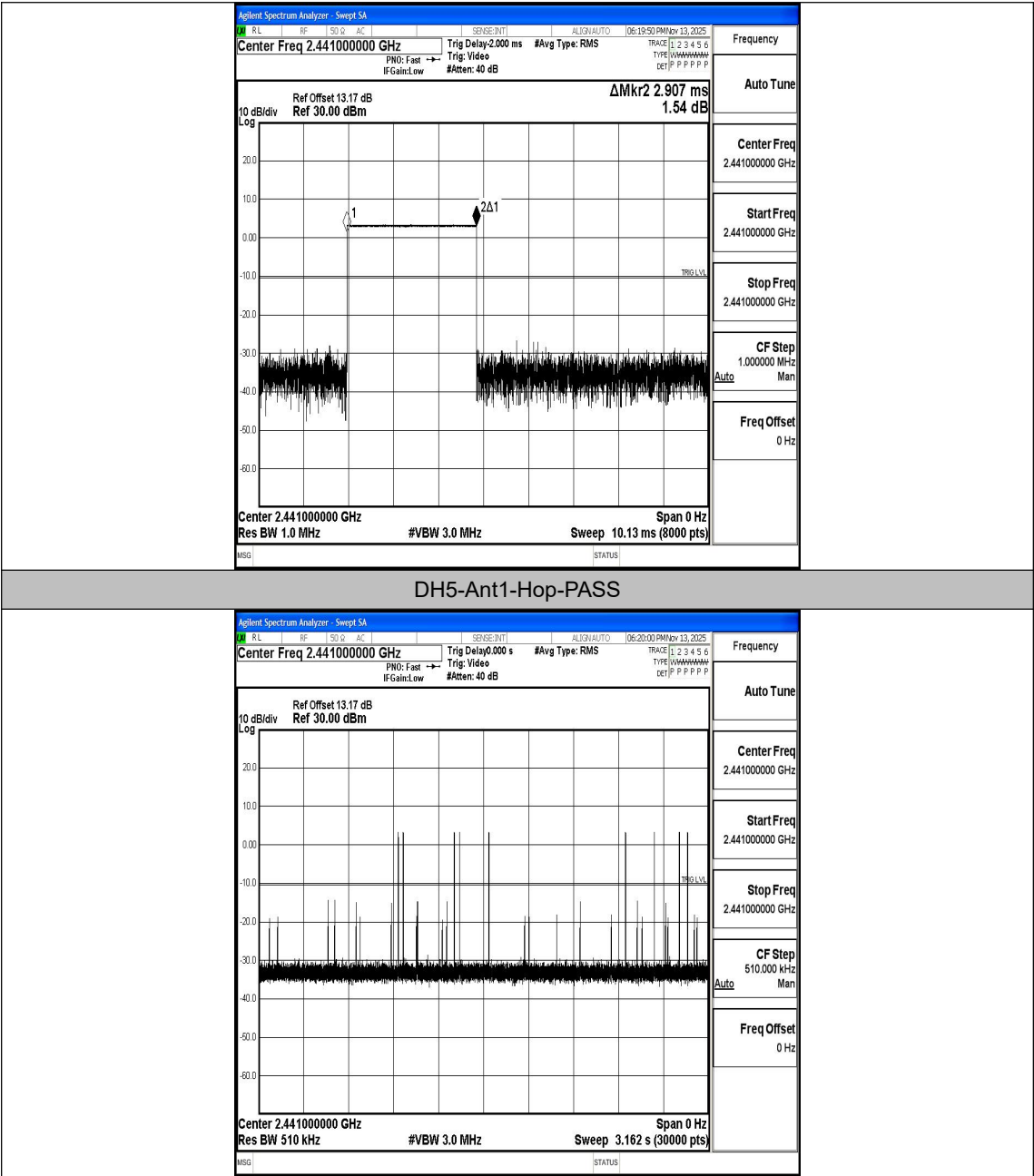
Test Result

TestMode	Antenna	Frequency[MHz]	BurstWidth [ms]	TotalHops [Num]	Result[s]	Limit[s]	Verdict
DH1	Ant1	Hop	0.404	330	0.133	≤0.4	PASS
DH3	Ant1	Hop	1.659	170	0.282	≤0.4	PASS
DH5	Ant1	Hop	2.907	100	0.291	≤0.4	PASS

Test Graphs





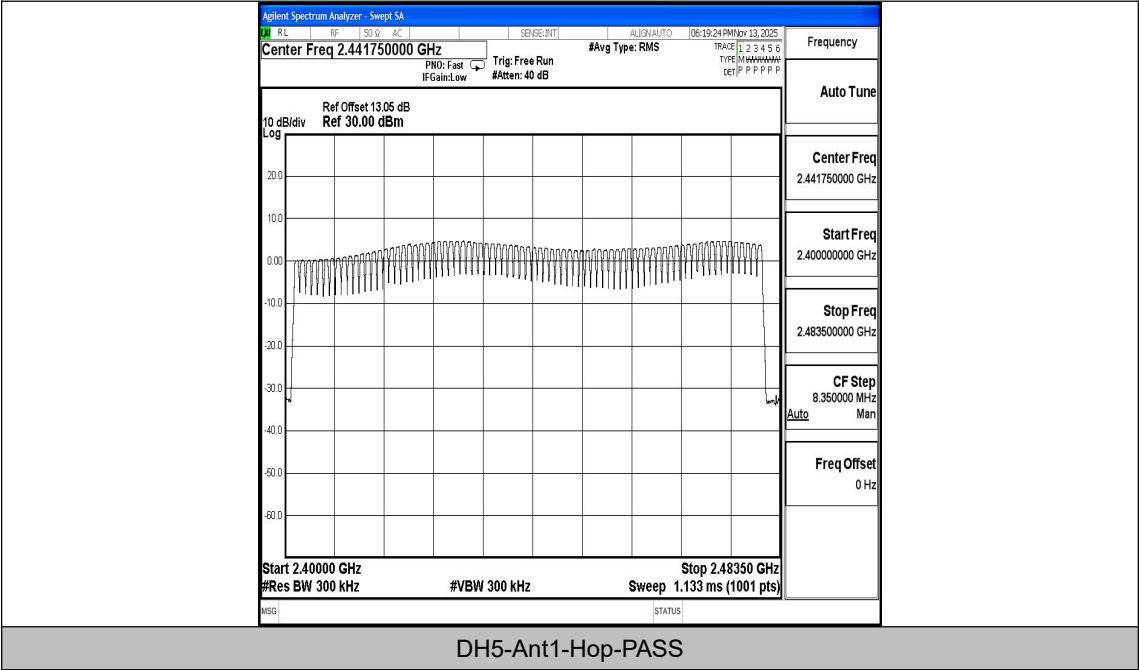


A.5 Number of hopping channels

Test Result

TestMode	Antenna	Frequency[MHz]	Result[Num]	Limit[Num]	Verdict
DH5	Ant1	Hop	79	≥15	PASS

Test Graphs

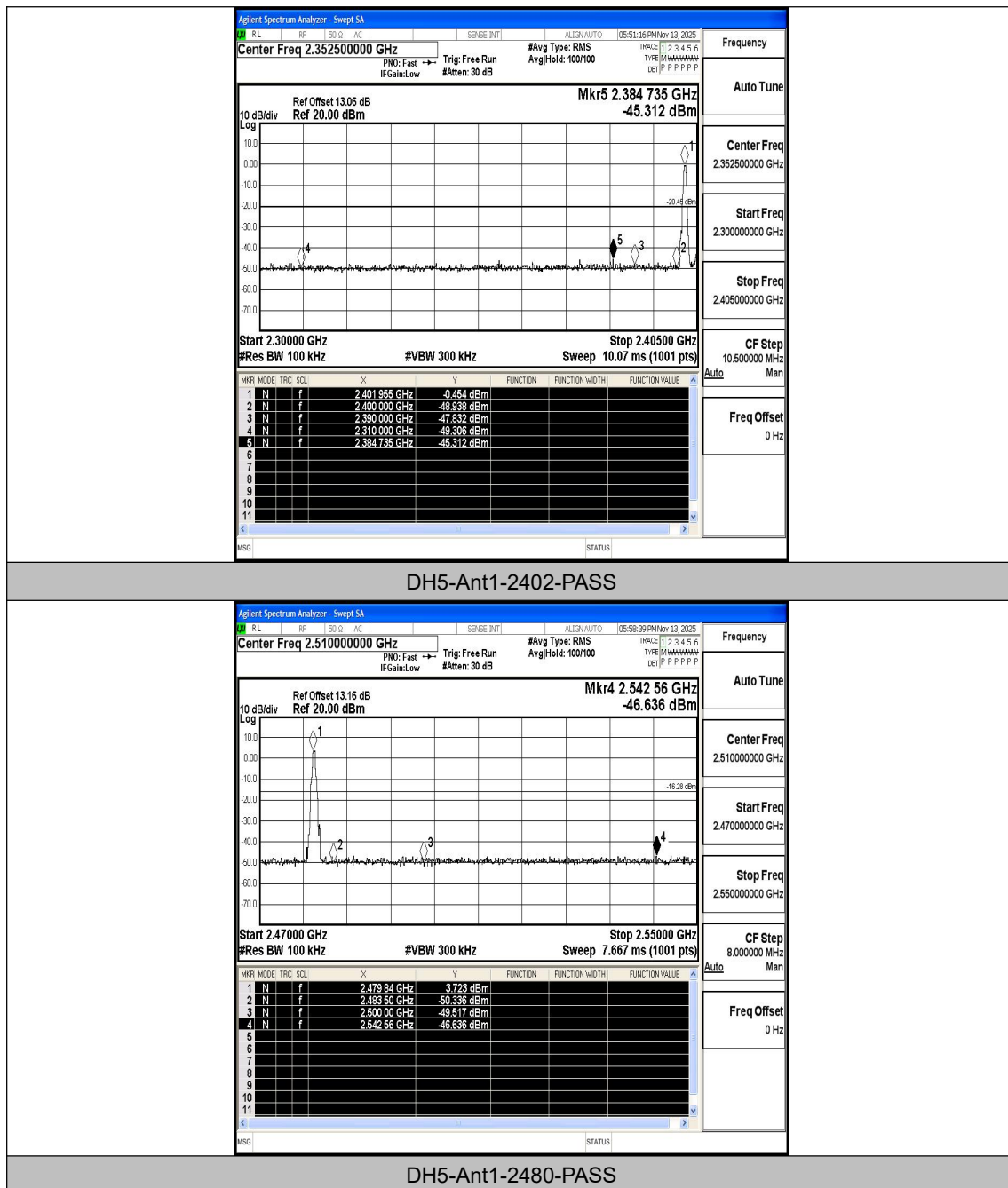


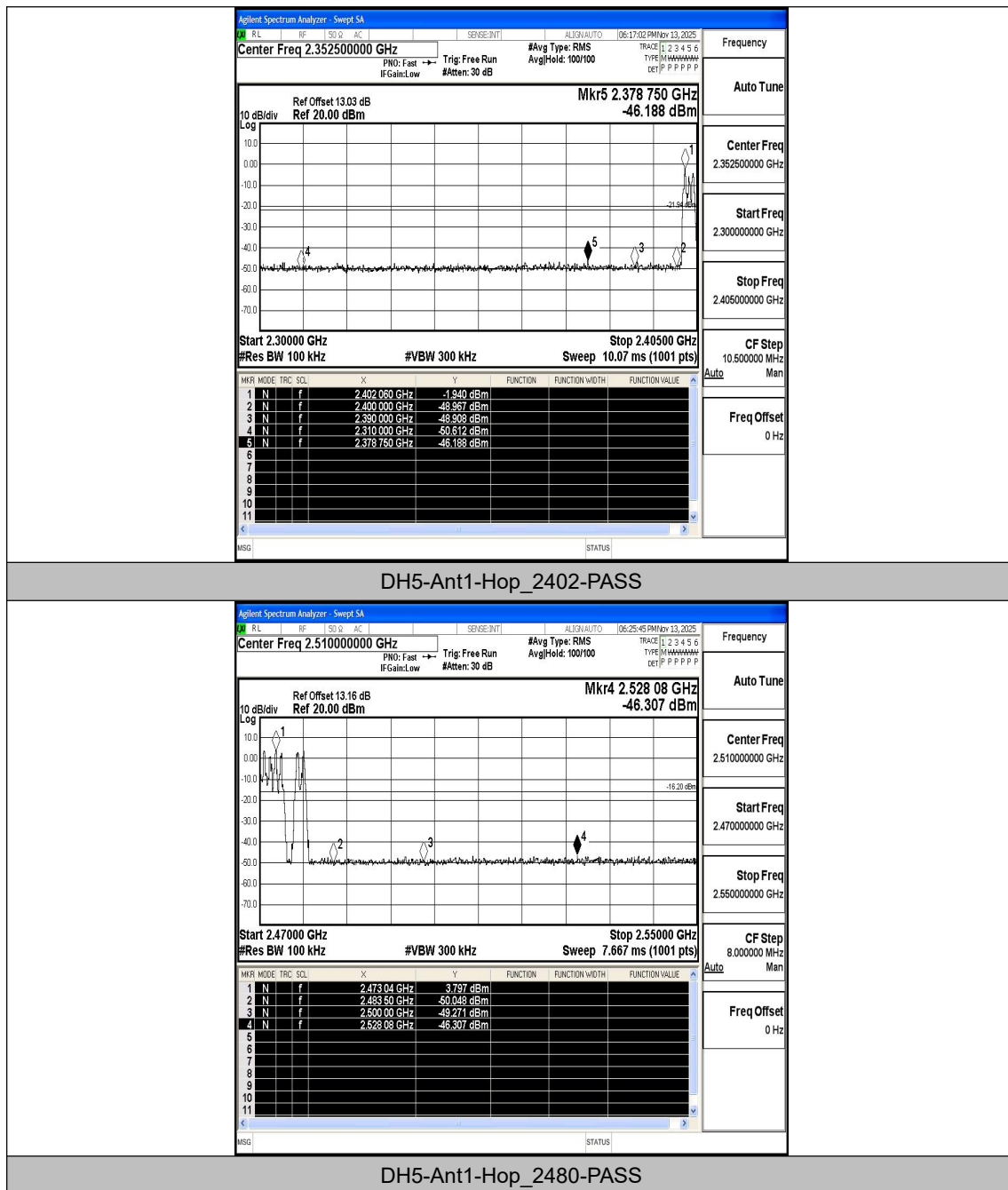
A.6 Band edge measurements

Test Result

TestMode	Antenna	ChName	Frequency[MHz]	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
DH5	Ant1	Low	2402	-0.45	-45.31	≤ -20.45	PASS
DH5	Ant1	High	2480	3.72	-46.64	≤ -16.28	PASS
DH5	Ant1	Low	Hop_2402	-1.94	-46.19	≤ -21.94	PASS
DH5	Ant1	High	Hop_2480	3.80	-46.31	≤ -16.2	PASS

Test Graphs



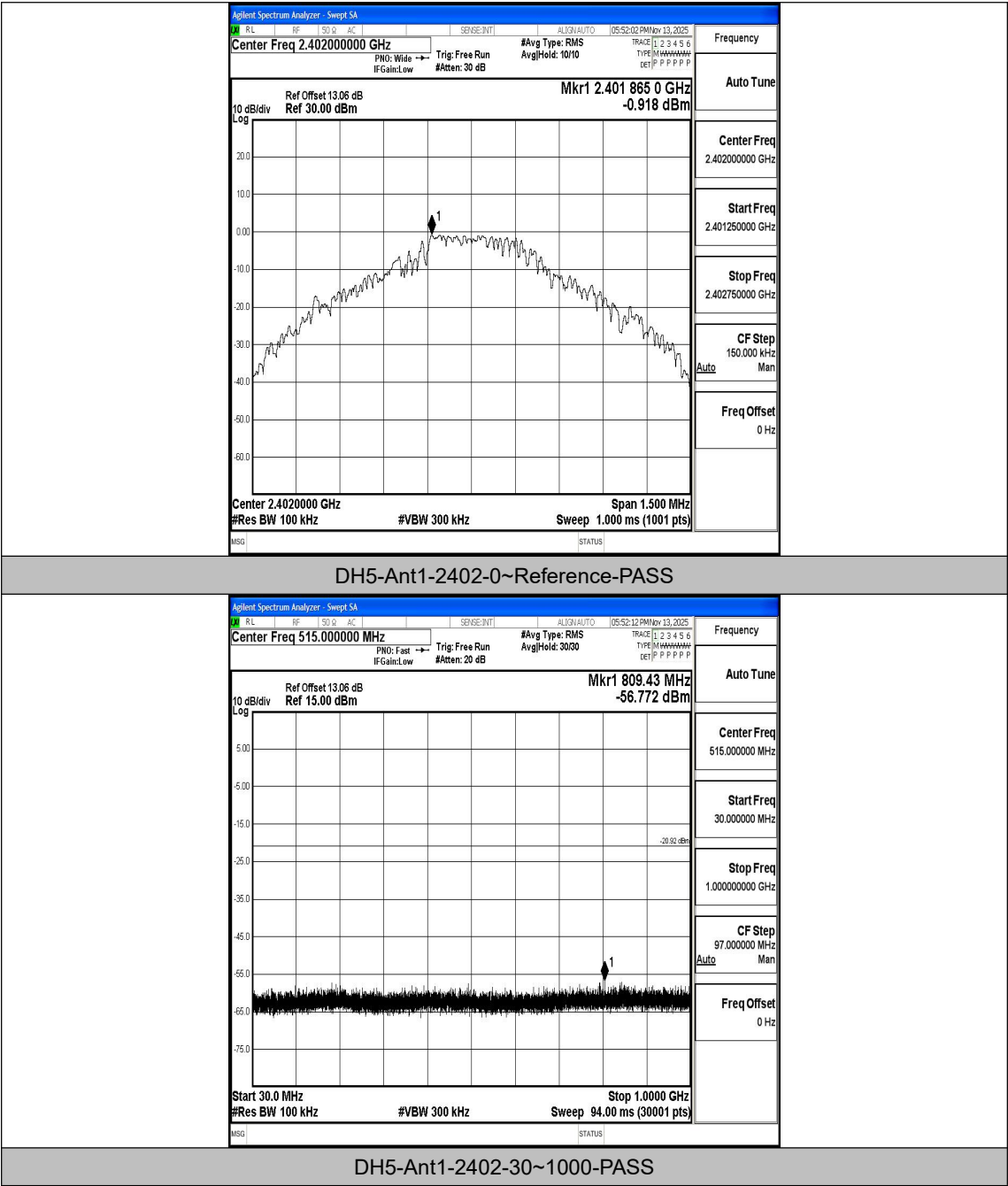


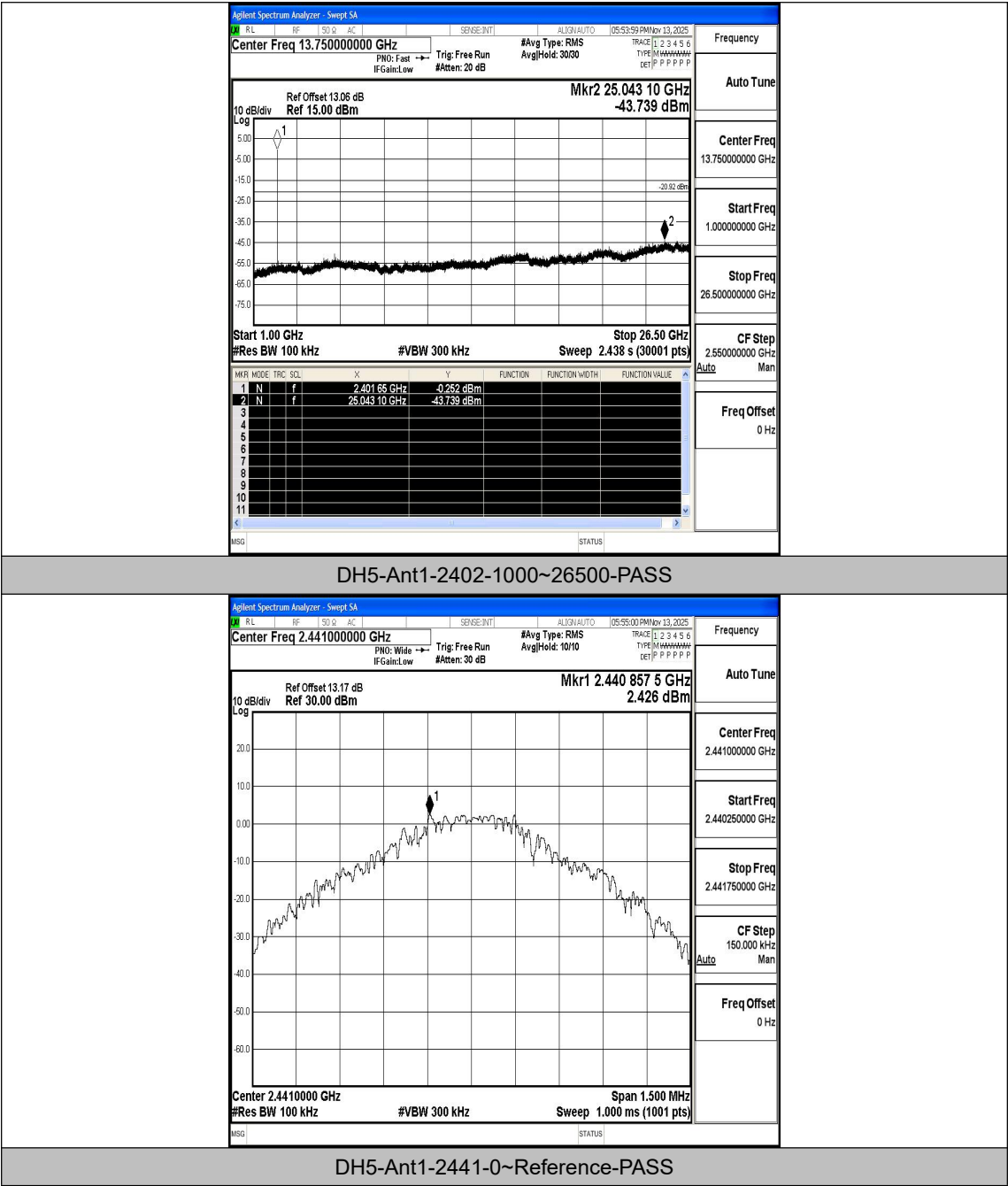
A.7 Conducted Spurious Emission

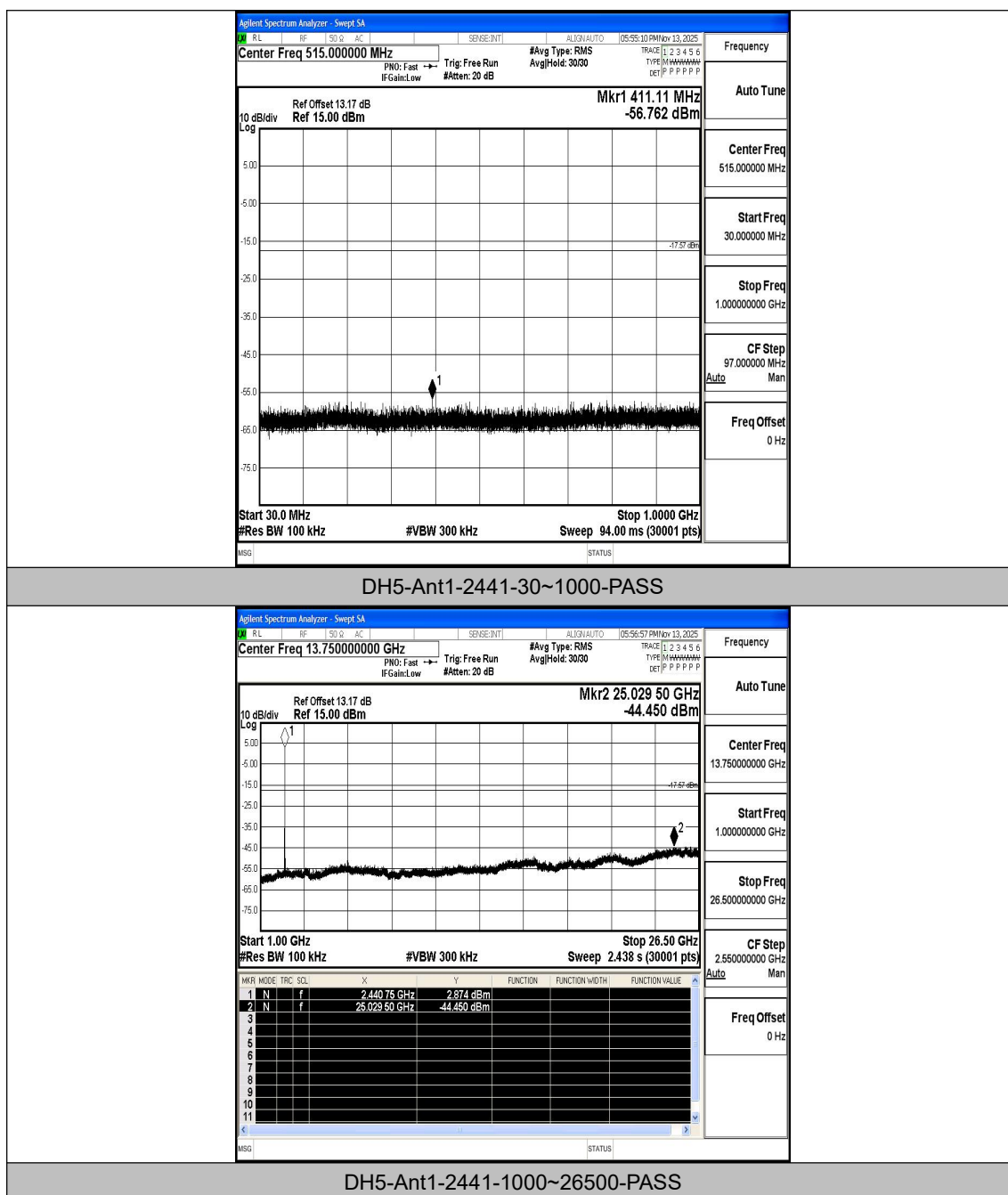
Test Result

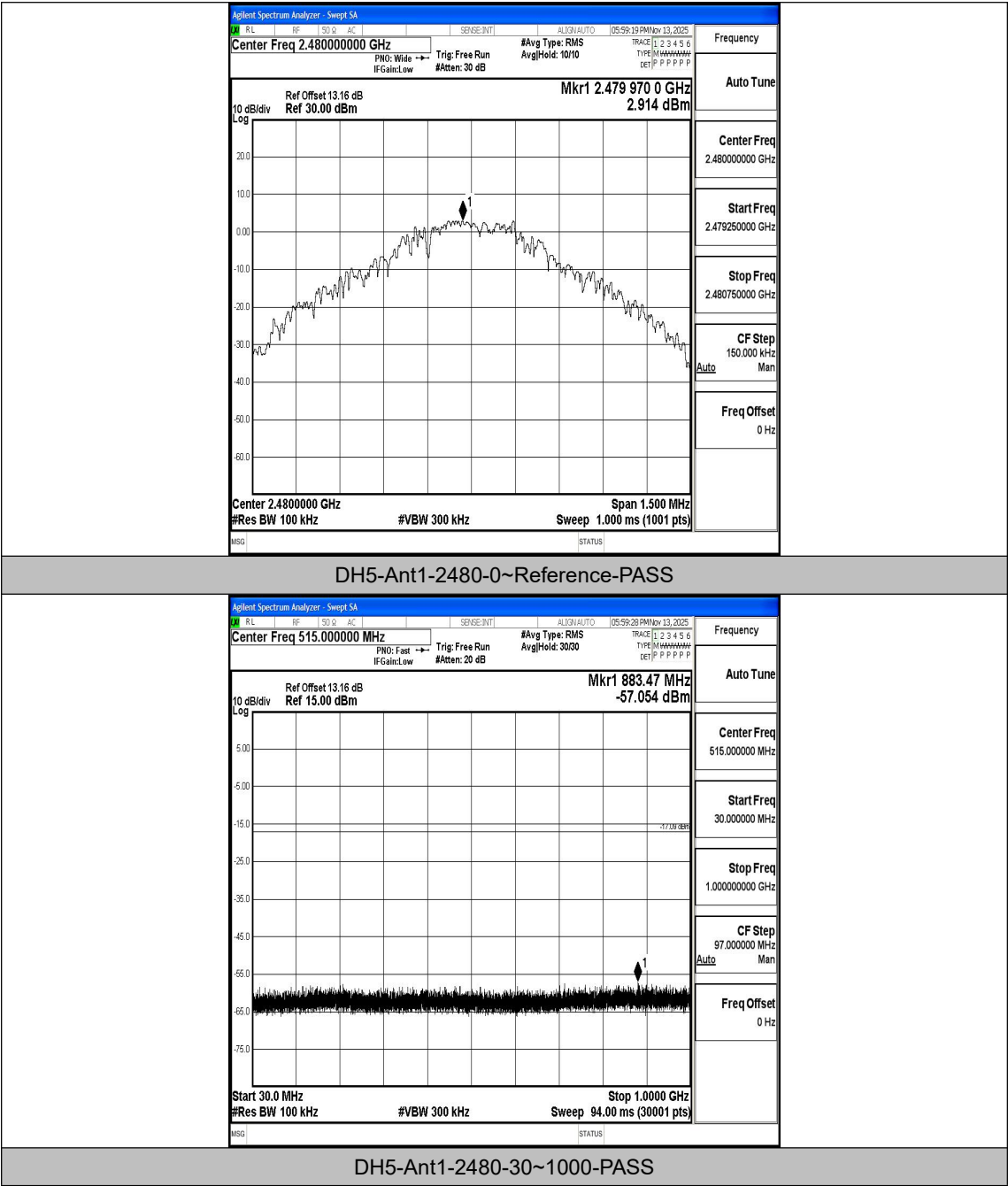
TestMode	Antenna	Frequency[MHz]	FreqRange [MHz]	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
DH5	Ant1	2402	0~Reference	-0.92	-0.92	---	PASS
DH5	Ant1	2402	30~1000	-0.92	-56.77	≤-20.92	PASS
DH5	Ant1	2402	1000~26500	-0.92	-43.74	≤-20.92	PASS
DH5	Ant1	2441	0~Reference	2.43	2.43	---	PASS
DH5	Ant1	2441	30~1000	2.43	-56.76	≤-17.57	PASS
DH5	Ant1	2441	1000~26500	2.43	-44.45	≤-17.57	PASS
DH5	Ant1	2480	0~Reference	2.91	2.91	---	PASS
DH5	Ant1	2480	30~1000	2.91	-57.05	≤-17.09	PASS
DH5	Ant1	2480	1000~26500	2.91	-43.97	≤-17.09	PASS

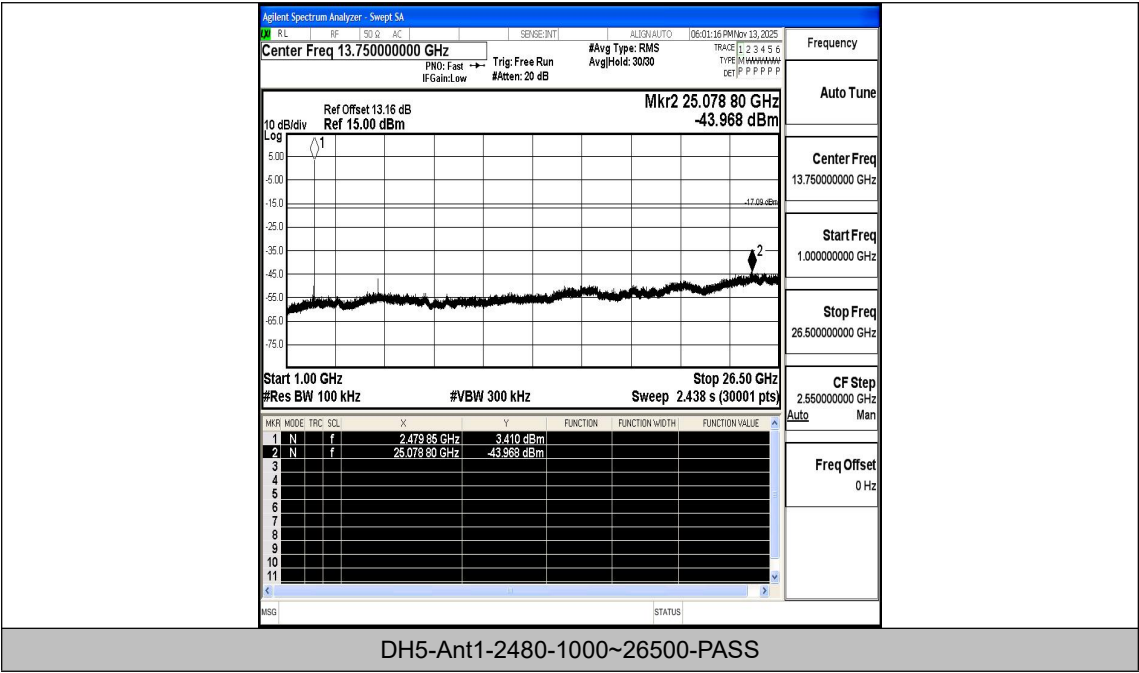
Test Graphs









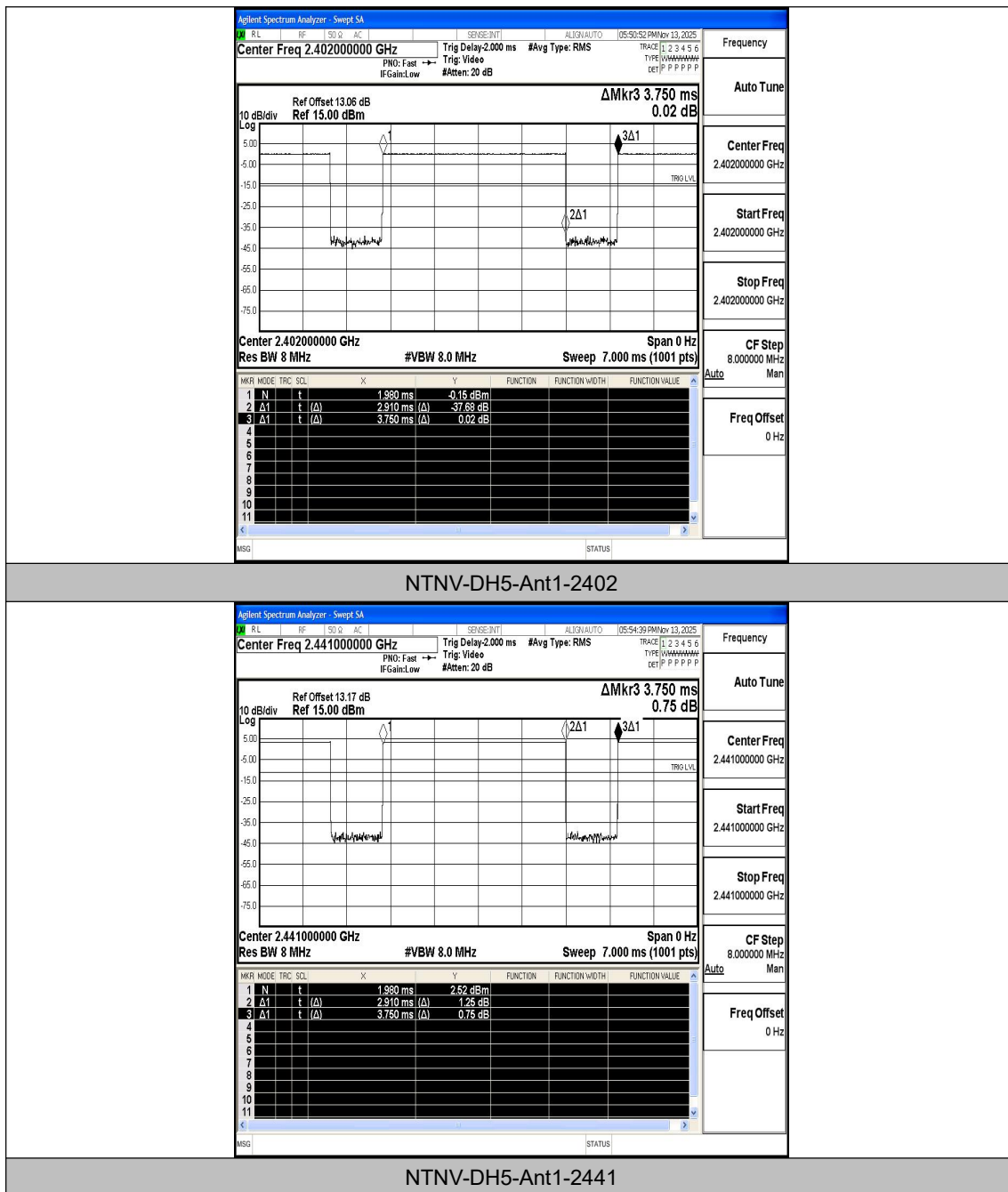


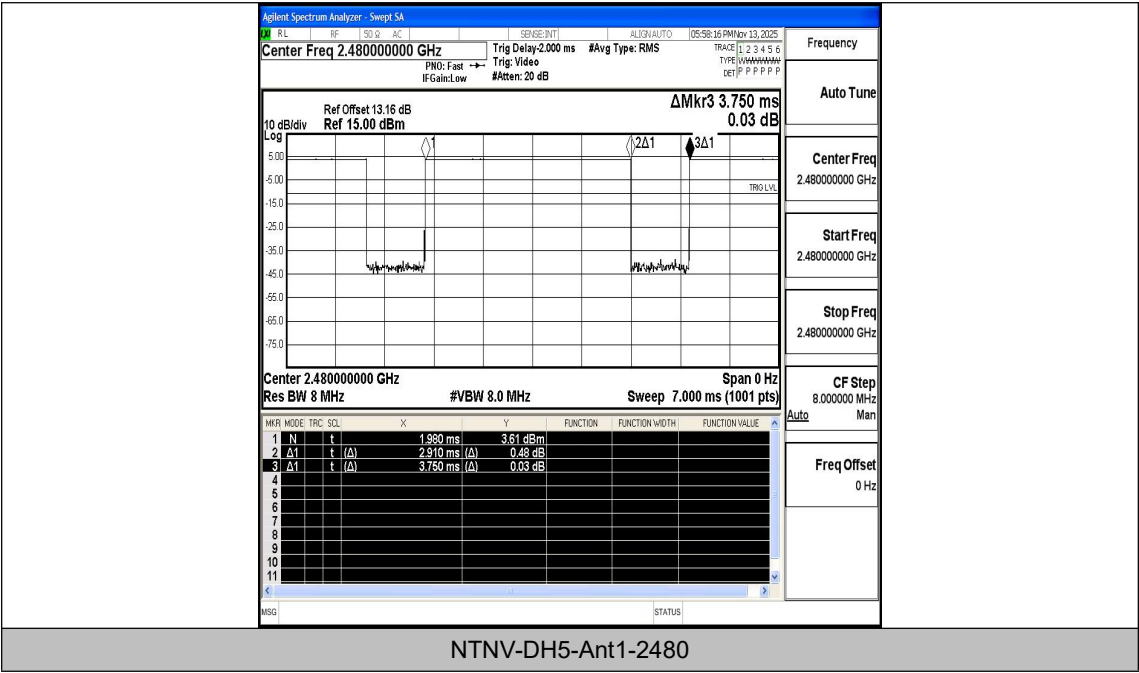
A.8 Duty Cycle

Test Result

TestMode	Antenna	Frequency[MHz]	ON Time[ms]	Period[ms]	Duty Cycle[%]	Duty Cycle Factor[dB]
DH5	Ant1	2402	2.91	3.75	77.60	1.10
DH5	Ant1	2441	2.91	3.75	77.60	1.10
DH5	Ant1	2480	2.91	3.75	77.60	1.10

Test Graphs





A.9 Emissions in Restricted Bands

Test Result

TestMode	Antenna	ChName	Frequency [MHz]	Detector	Freq [MHz]	Result [dBm]	Limit [dBm]	Result [dBuV/m]	Limit [dBuV/m]	Verdict
DH5	Ant1	Low	2402	Peak	2390.000	-36.81	≤-21.20	58.39	≤74	PASS
DH5	Ant1	Low	2402	Peak	2310.000	-37.62	≤-21.20	57.58	≤74	PASS
DH5	Ant1	Low	2402	Peak	2341.265	-35.29	≤-21.20	59.91	≤74	PASS
DH5	Ant1	Low	2402	AV	2390.000	-44.91	≤-41.20	50.29	≤54	PASS
DH5	Ant1	Low	2402	AV	2310.000	-45.5	≤-41.20	49.70	≤54	PASS
DH5	Ant1	Low	2402	AV	2388.200	-44.86	≤-41.20	50.34	≤54	PASS
DH5	Ant1	High	2480	Peak	2483.500	-38.36	≤-21.20	56.84	≤74	PASS
DH5	Ant1	High	2480	Peak	2500.000	-36.65	≤-21.20	58.55	≤74	PASS
DH5	Ant1	High	2480	Peak	2486.000	-35.53	≤-21.20	59.67	≤74	PASS
DH5	Ant1	High	2480	AV	2483.500	-44.73	≤-41.20	50.47	≤54	PASS
DH5	Ant1	High	2480	AV	2500.000	-45.01	≤-41.20	50.19	≤54	PASS
DH5	Ant1	High	2480	AV	2483.520	-44.73	≤-41.20	50.47	≤54	PASS
DH5	Ant1	Low	Hop_2402	Peak	2390.000	-37.97	≤-21.20	57.23	≤74	PASS
DH5	Ant1	Low	Hop_2402	Peak	2310.000	-37.99	≤-21.20	57.21	≤74	PASS
DH5	Ant1	Low	Hop_2402	Peak	2353.235	-35.34	≤-21.20	59.86	≤74	PASS
DH5	Ant1	High	Hop_2480	Peak	2483.500	-38.84	≤-21.20	56.36	≤74	PASS
DH5	Ant1	High	Hop_2480	Peak	2500.000	-38.2	≤-21.20	57.00	≤74	PASS
DH5	Ant1	High	Hop_2480	Peak	2497.040	-34.91	≤-21.20	60.29	≤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

