

Appendix Test Data for BT(BDR/EDR) (Conducted Measurement)

Product Name: Bluetooth Speaker

Trade Mark: /

Test Model: A02

FCC ID: 2AO47-A02

Environmental Conditions

Temperature:	23.5℃
Relative Humidity:	58%
ATM Pressure:	100.0 kPa
Test Engineer:	Allen Lai
Supervised by:	Max Zhang
NOTE	N/A

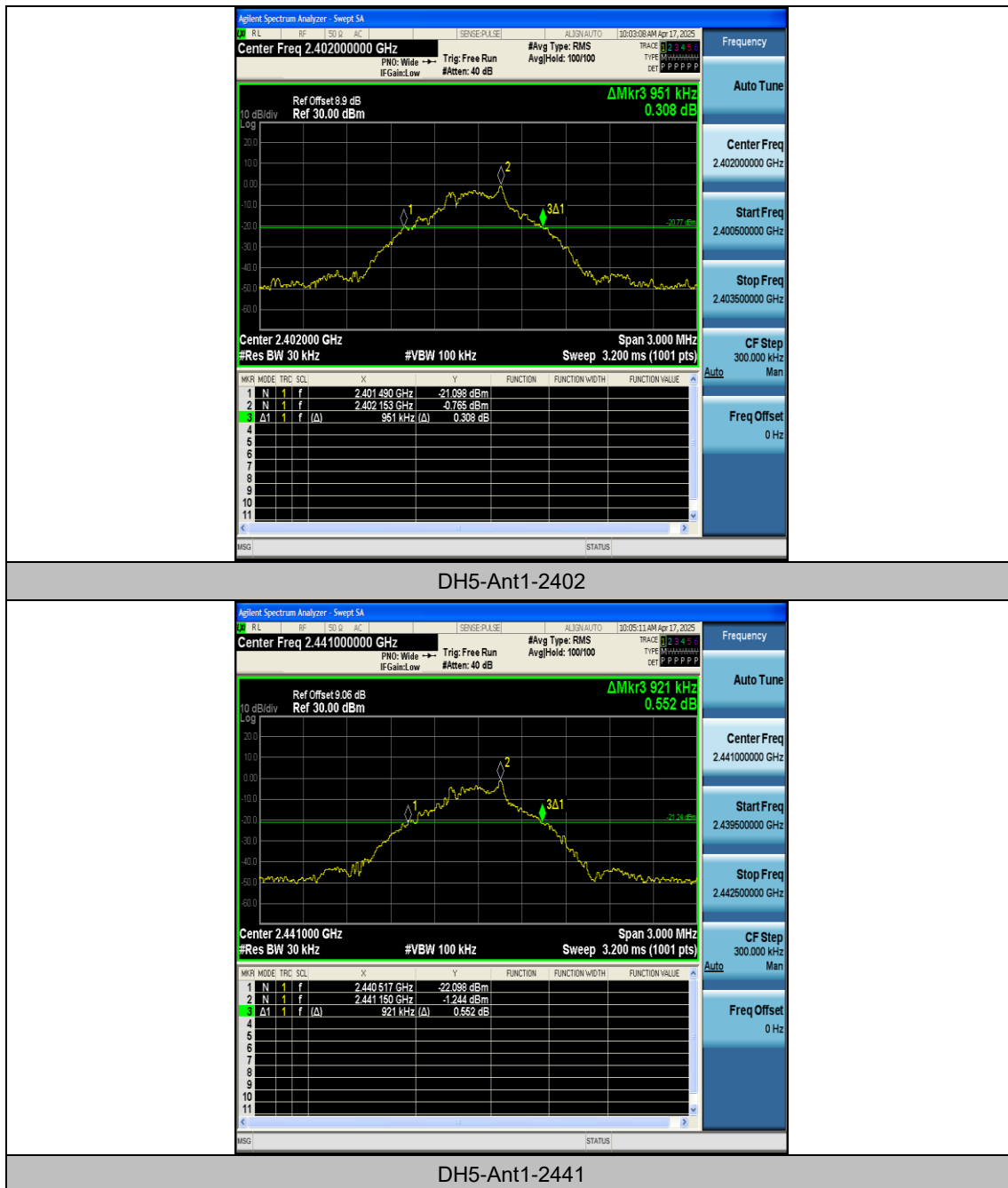
Appendix A: 20dB Emission Bandwidth

Test Result

Test Mode	Antenna	Frequency [MHz]	20db EBW [MHz]	FL [MHz]	FH [MHz]	Limit [MHz]	Verdict
DH5	Ant1	2402	0.951	2401.490	2402.441	---	---
DH5	Ant1	2441	0.921	2440.517	2441.438	---	---
DH5	Ant1	2480	0.957	2479.508	2480.465	---	---
2DH5	Ant1	2402	1.317	2401.334	2402.651	---	---
2DH5	Ant1	2441	1.299	2440.349	2441.648	---	---
2DH5	Ant1	2480	1.299	2479.346	2480.645	---	---
3DH5	Ant1	2402	1.311	2401.325	2402.636	---	---
3DH5	Ant1	2441	1.293	2440.331	2441.624	---	---
3DH5	Ant1	2480	1.311	2479.319	2480.630	---	---

Note: offset(dB) = cable loss(dB) + attenuator factor(dB)

Test Graphs





DH5-Ant1-2480



2DH5-Ant1-2402



2DH5-Ant1-2441



2DH5-Ant1-2480



3DH5-Ant1-2402



3DH5-Ant1-2441



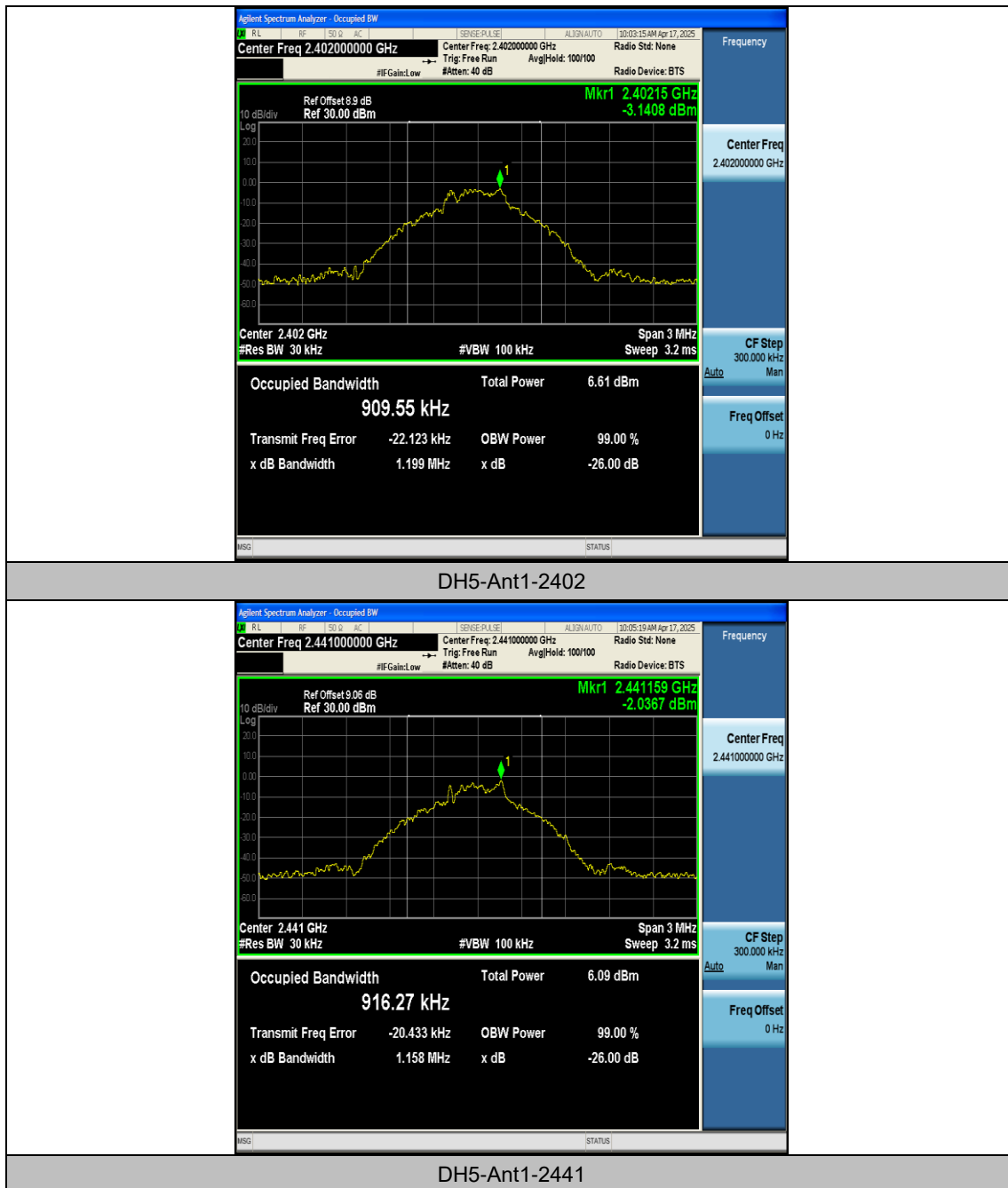
Appendix B: Occupied Channel Bandwidth

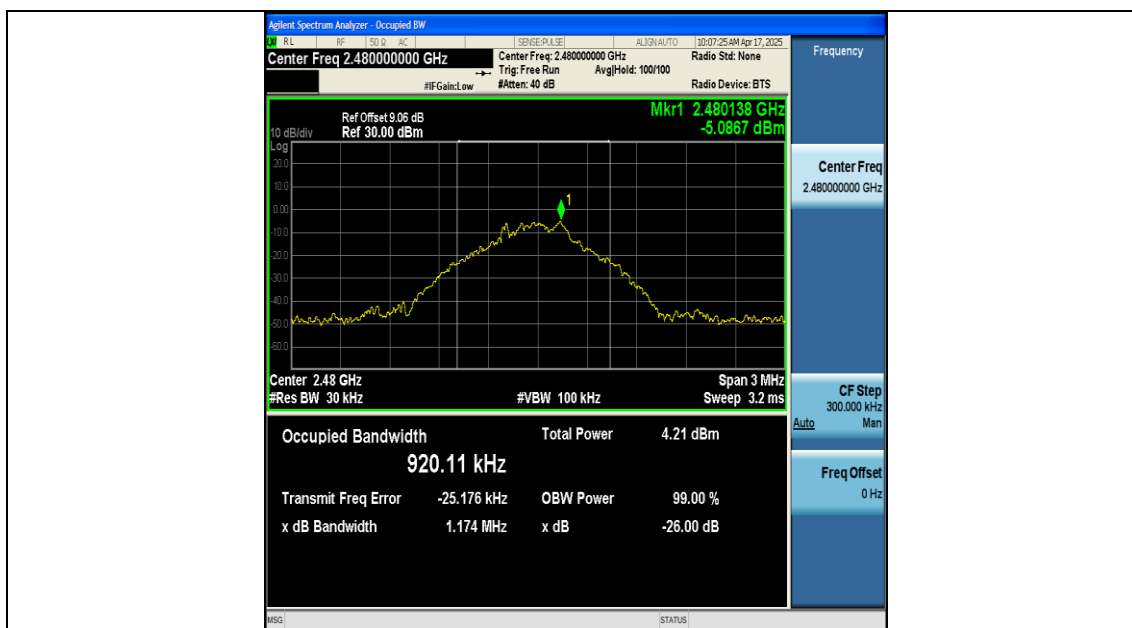
Test Result

Test Mode	Antenna	Frequency [MHz]	OCB [MHz]	FL [MHz]	FH [MHz]	Limit [MHz]	Verdict
DH5	Ant1	2402	0.90955	2401.5231	2402.4327	---	---
DH5	Ant1	2441	0.91627	2440.5214	2441.4377	---	---
DH5	Ant1	2480	0.92011	2479.5148	2480.4349	---	---
2DH5	Ant1	2402	1.2139	2401.3922	2402.6061	---	---
2DH5	Ant1	2441	1.1938	2440.3994	2441.5932	---	---
2DH5	Ant1	2480	1.1824	2479.3933	2480.5757	---	---
3DH5	Ant1	2402	1.2095	2401.3895	2402.5990	---	---
3DH5	Ant1	2441	1.2164	2440.3799	2441.5963	---	---
3DH5	Ant1	2480	1.2076	2479.3797	2480.5873	---	---

Note: offset(dB) = cable loss(dB) + attenuator factor(dB)

Test Graphs





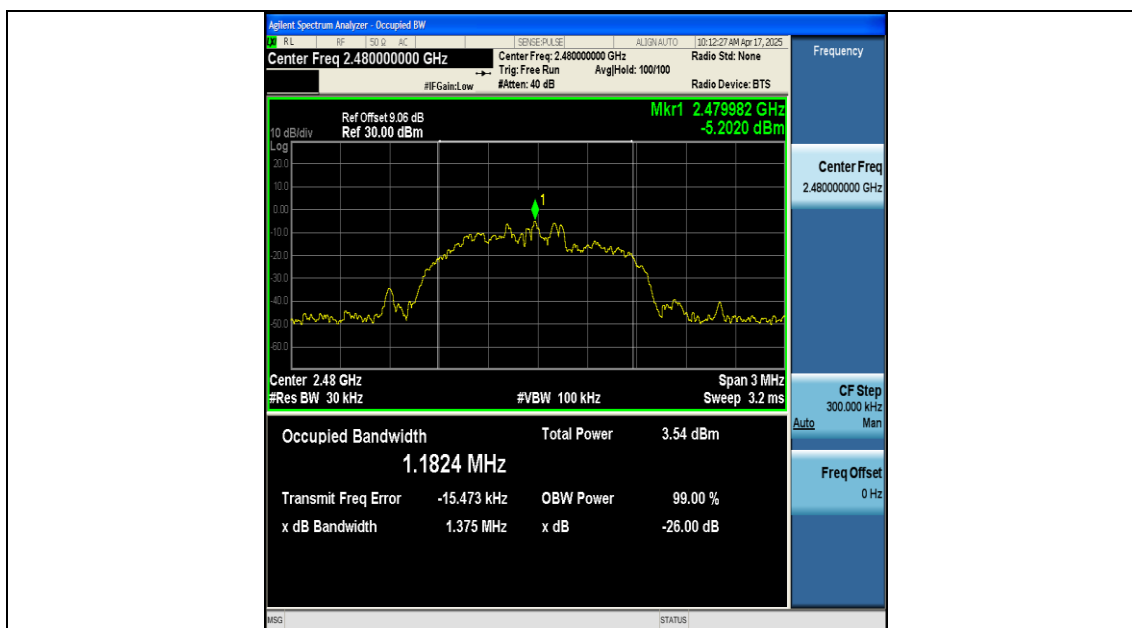
DH5-Ant1-2480



2DH5-Ant1-2402



2DH5-Ant1-2441



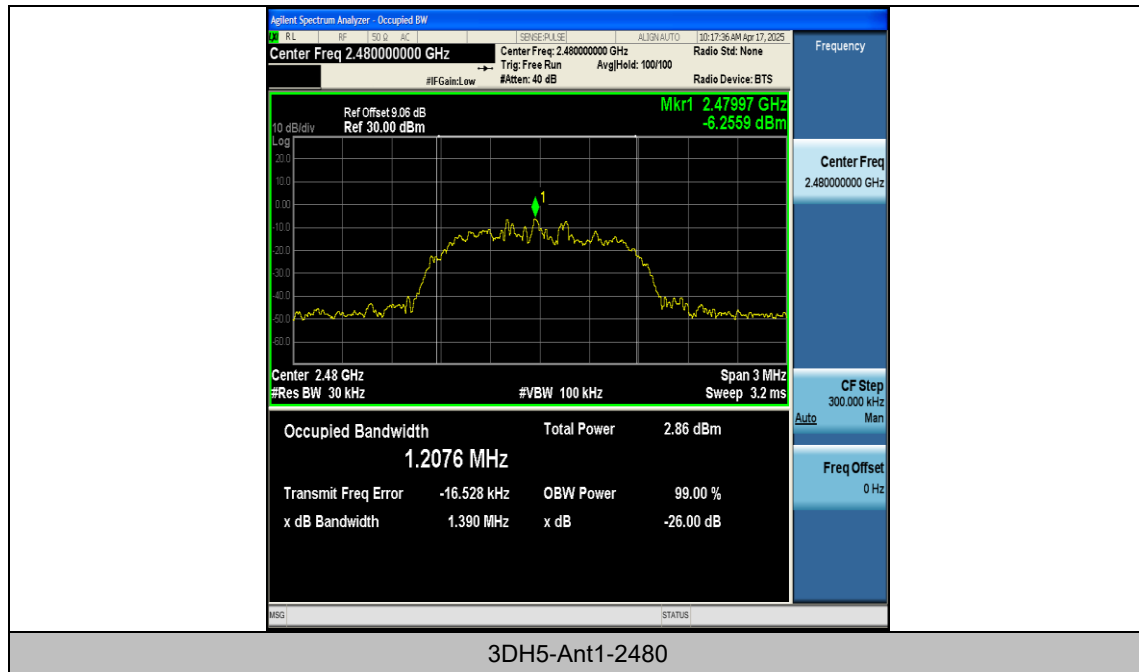
2DH5-Ant1-2480



3DH5-Ant1-2402



3DH5-Ant1-2441



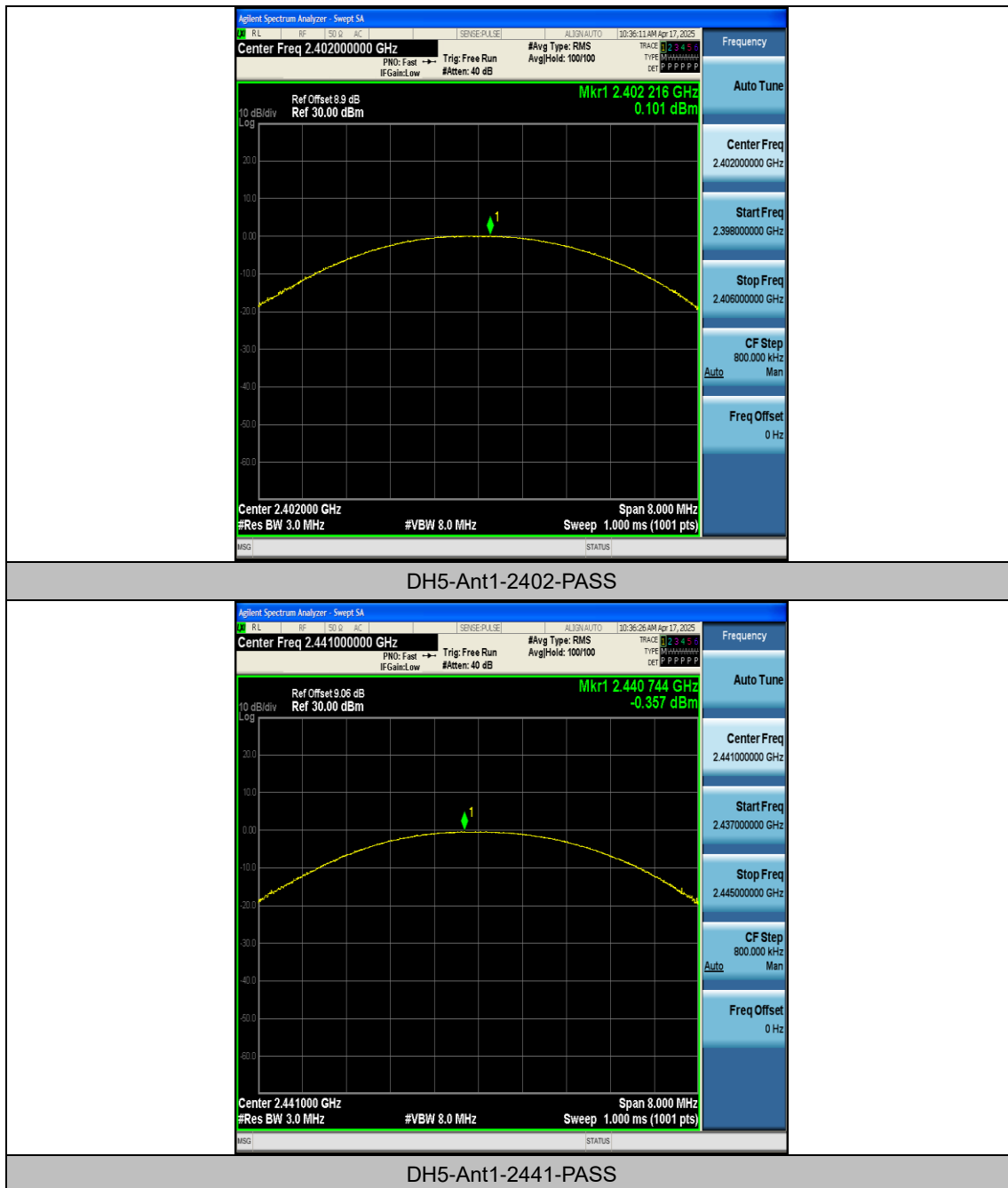
Appendix C: Maximum peak conducted output power

Test Result

Test Mode	Antenna	Frequency [MHz]	Conducted Peak Power [dBm]	Conducted Limit [dBm]	Verdict
DH5	Ant1	2402	0.10	≤30	PASS
DH5	Ant1	2441	-0.36	≤30	PASS
DH5	Ant1	2480	-2.11	≤30	PASS
2DH5	Ant1	2402	0.00	≤20.97	PASS
2DH5	Ant1	2441	-0.44	≤20.97	PASS
2DH5	Ant1	2480	-2.20	≤20.97	PASS
3DH5	Ant1	2402	-0.06	≤20.97	PASS
3DH5	Ant1	2441	-0.51	≤20.97	PASS
3DH5	Ant1	2480	-2.18	≤20.97	PASS

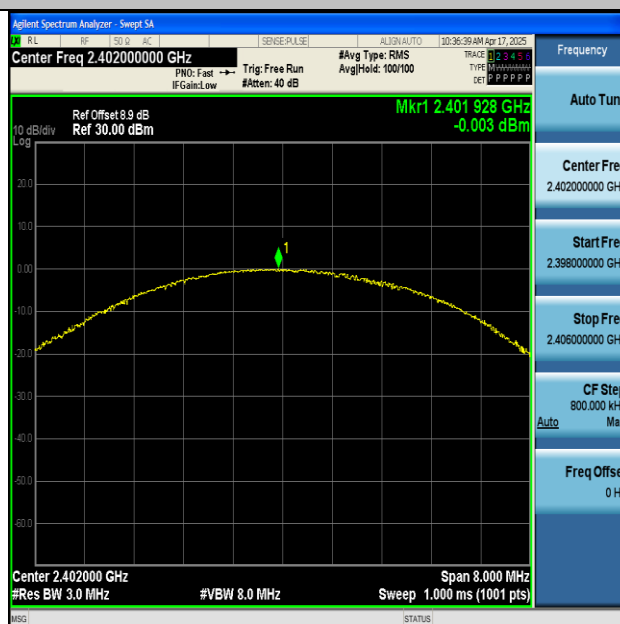
Note: offset(dB) = cable loss(dB) + attenuator factor(dB)

Test Graphs

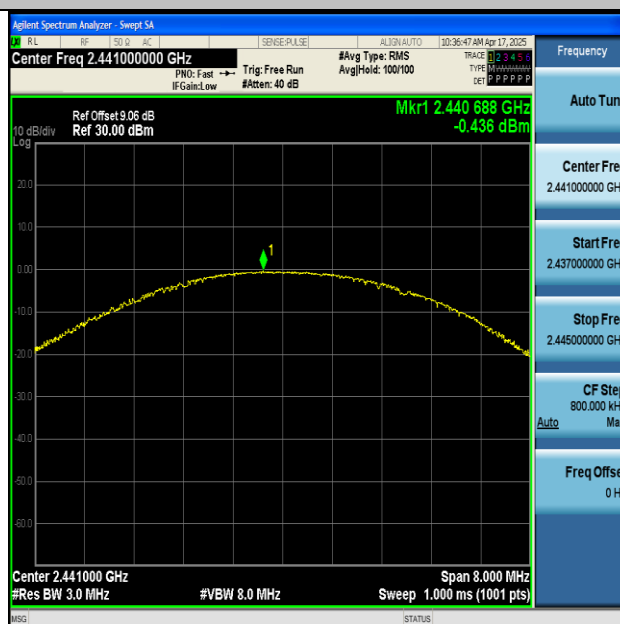




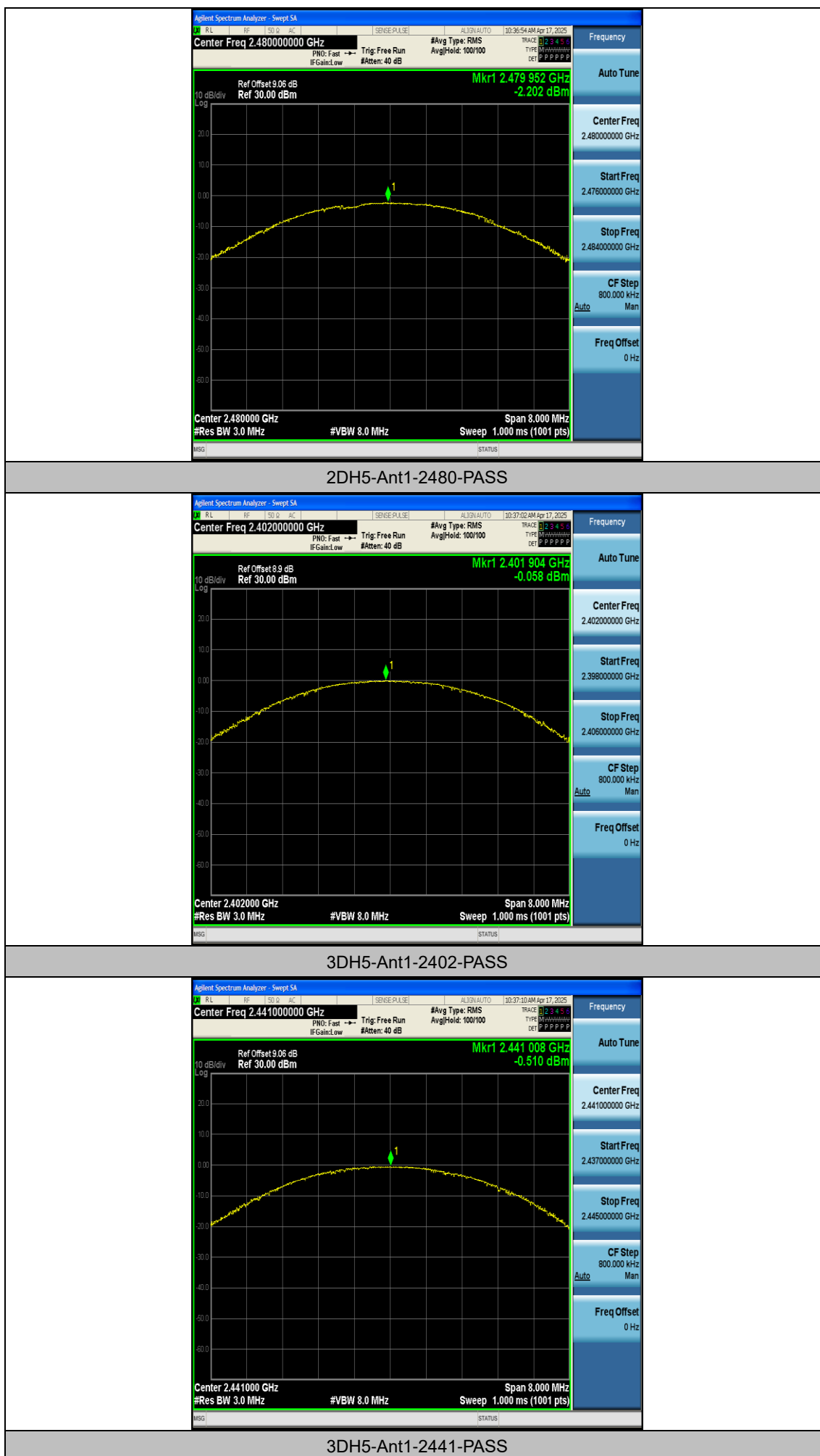
DH5-Ant1-2480-PASS

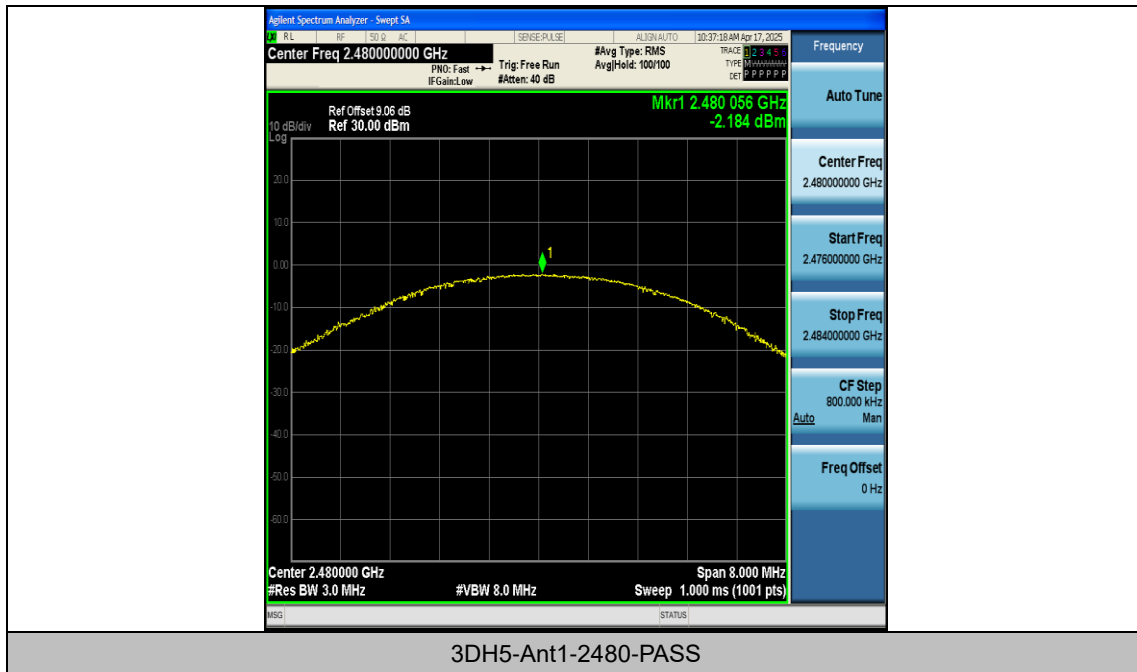


2DH5-Ant1-2402-PASS



2DH5-Ant1-2441-PASS





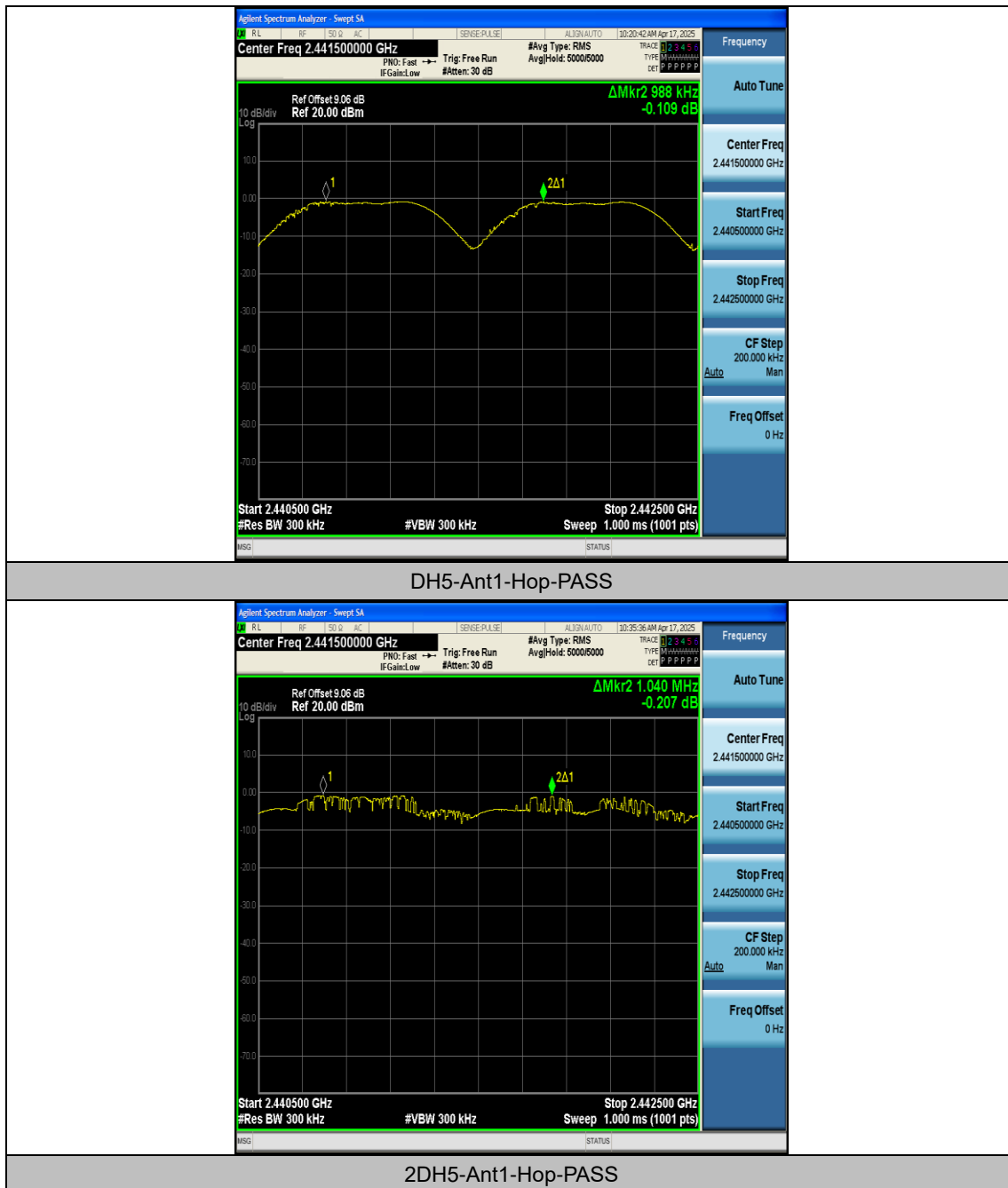
Appendix D: Carrier frequency separation

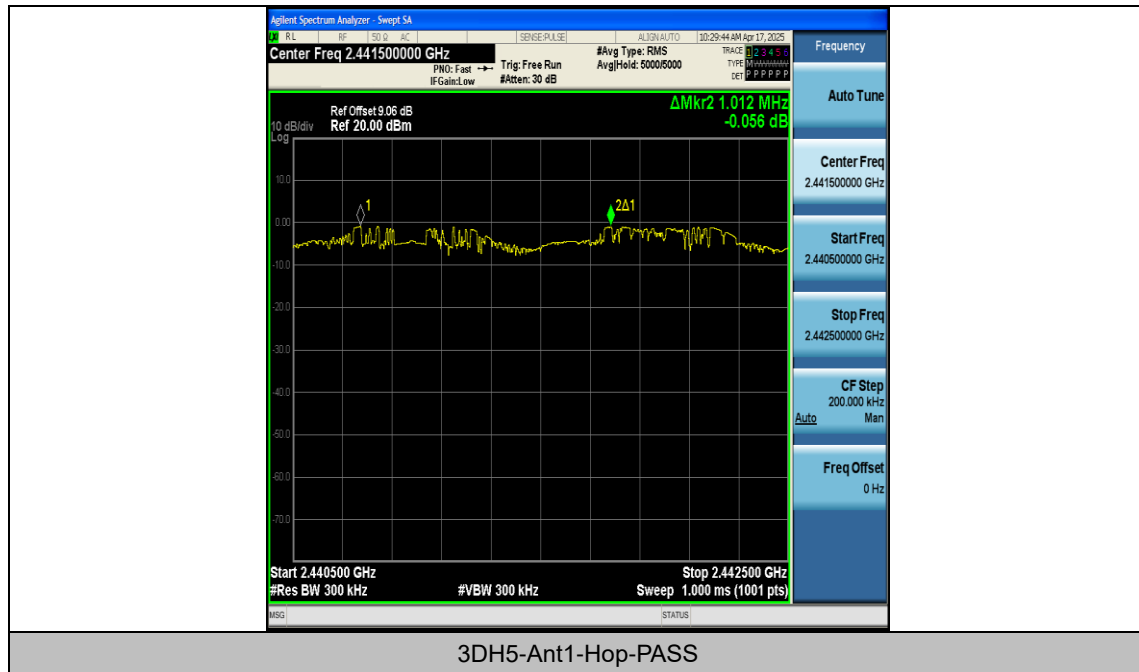
Test Result

Test Mode	Antenna	Frequency [MHz]	Result [MHz]	Limit [MHz]	Verdict
DH5	Ant1	Hop	0.988	≥ 0.957	PASS
2DH5	Ant1	Hop	1.04	≥ 0.878	PASS
3DH5	Ant1	Hop	1.012	≥ 0.874	PASS

Note: offset(dB) = cable loss(dB) + attenuator factor(dB)

Test Graphs





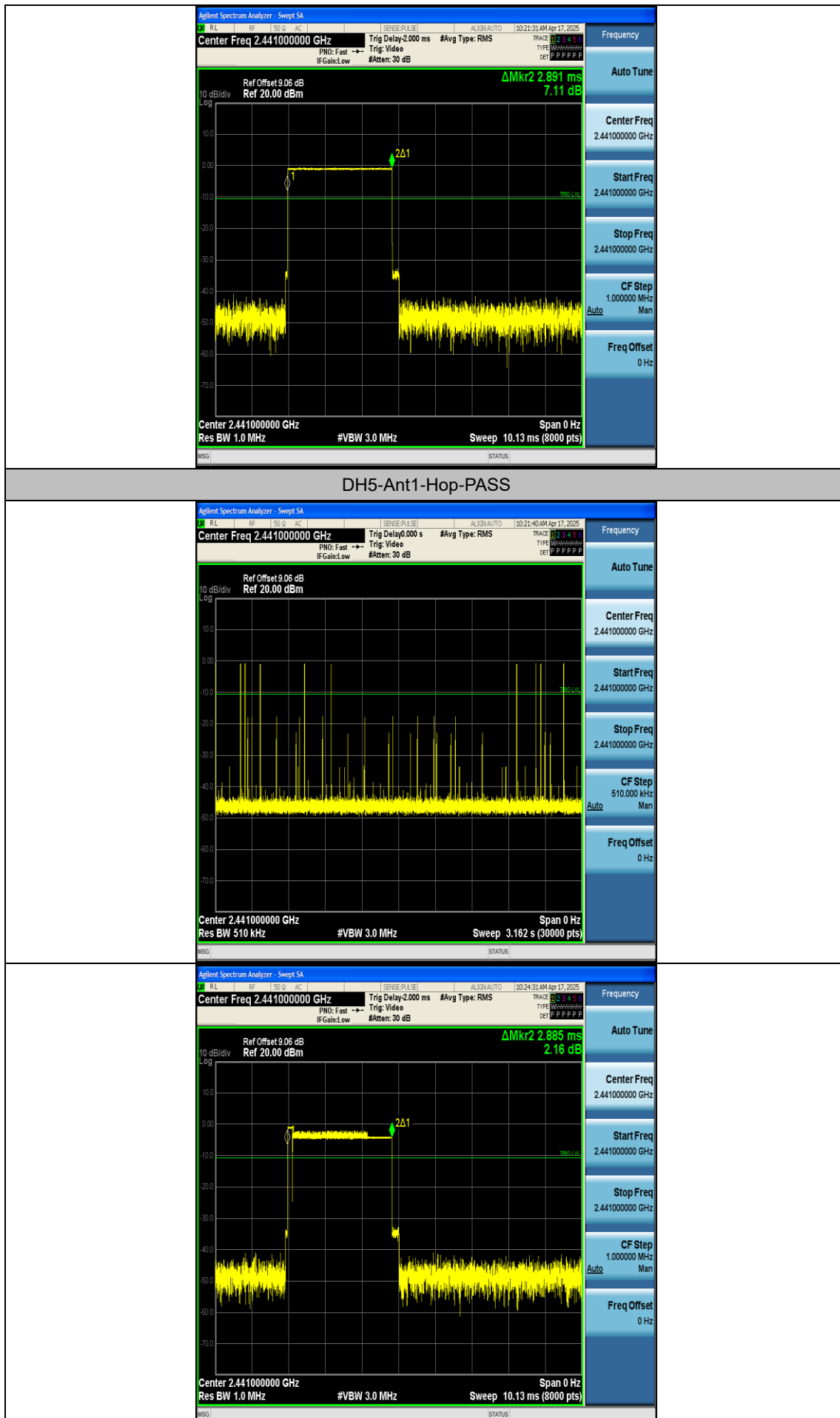
Appendix E: Time of occupancy

Test Result

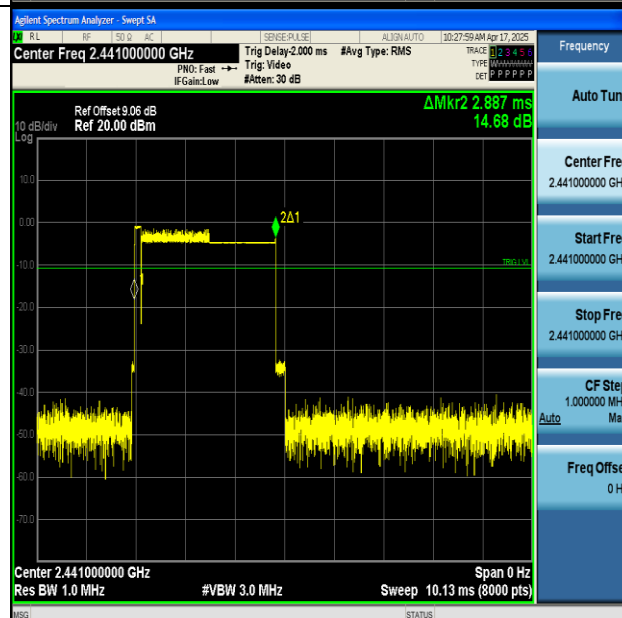
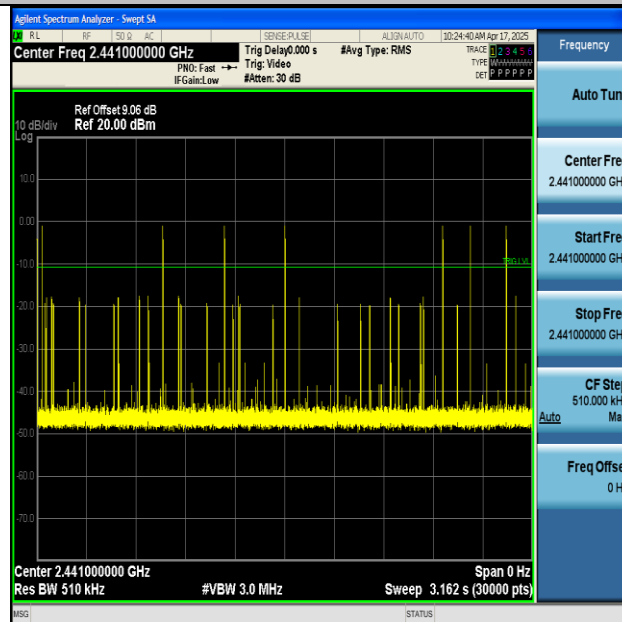
Test Mode	Antenna	Frequency [MHz]	Burst Width [ms]	TotalHops [Num]	Result [s]	Limit [s]	Verdict
DH5	Ant1	Hop	2.891	100	0.289	≤0.4	PASS
2DH5	Ant1	Hop	2.885	80	0.231	≤0.4	PASS
3DH5	Ant1	Hop	2.887	90	0.26	≤0.4	PASS

Note: offset(dB) = cable loss(dB) + attenuator factor(dB)

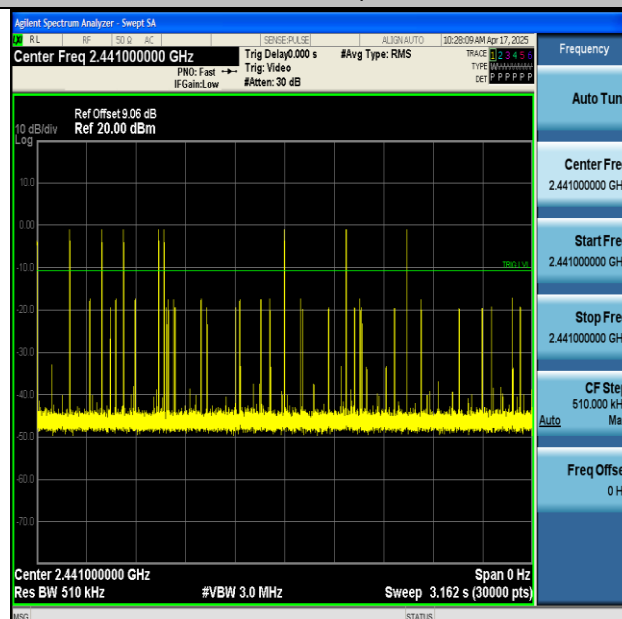
Test Graphs



2DH5-Ant1-Hop-PASS



3DH5-Ant1-Hop-PASS



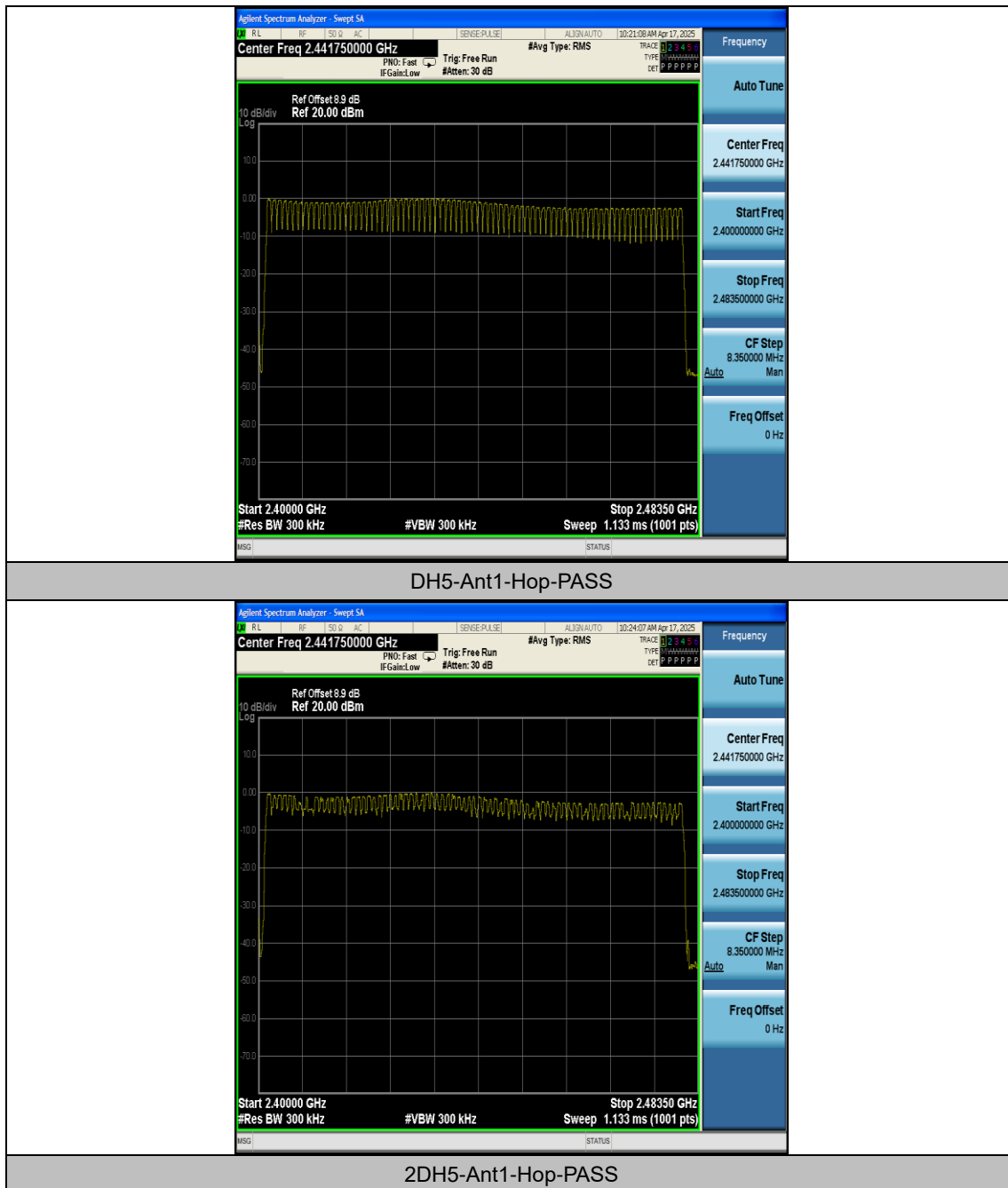
Appendix F: Number of hopping channels

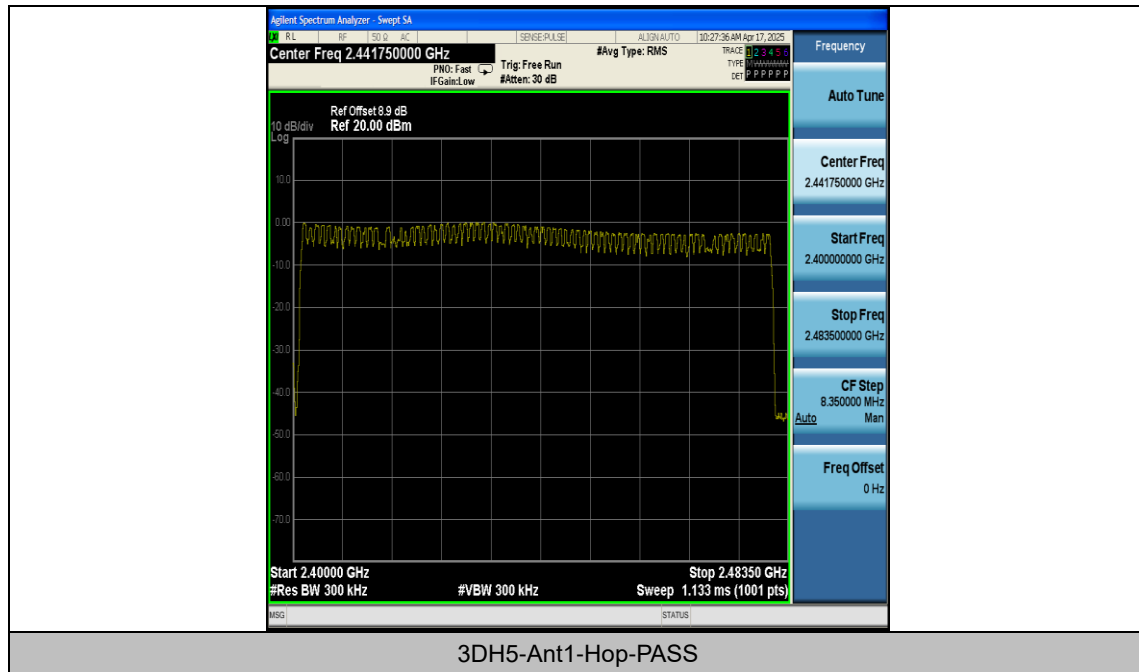
Test Result

Test Mode	Antenna	Frequency [MHz]	Result [Num]	Limit [Num]	Verdict
DH5	Ant1	Hop	79	≥15	PASS
2DH5	Ant1	Hop	79	≥15	PASS
3DH5	Ant1	Hop	79	≥15	PASS

Note: offset(dB) = cable loss(dB) + attenuator factor(dB)

Test Graphs





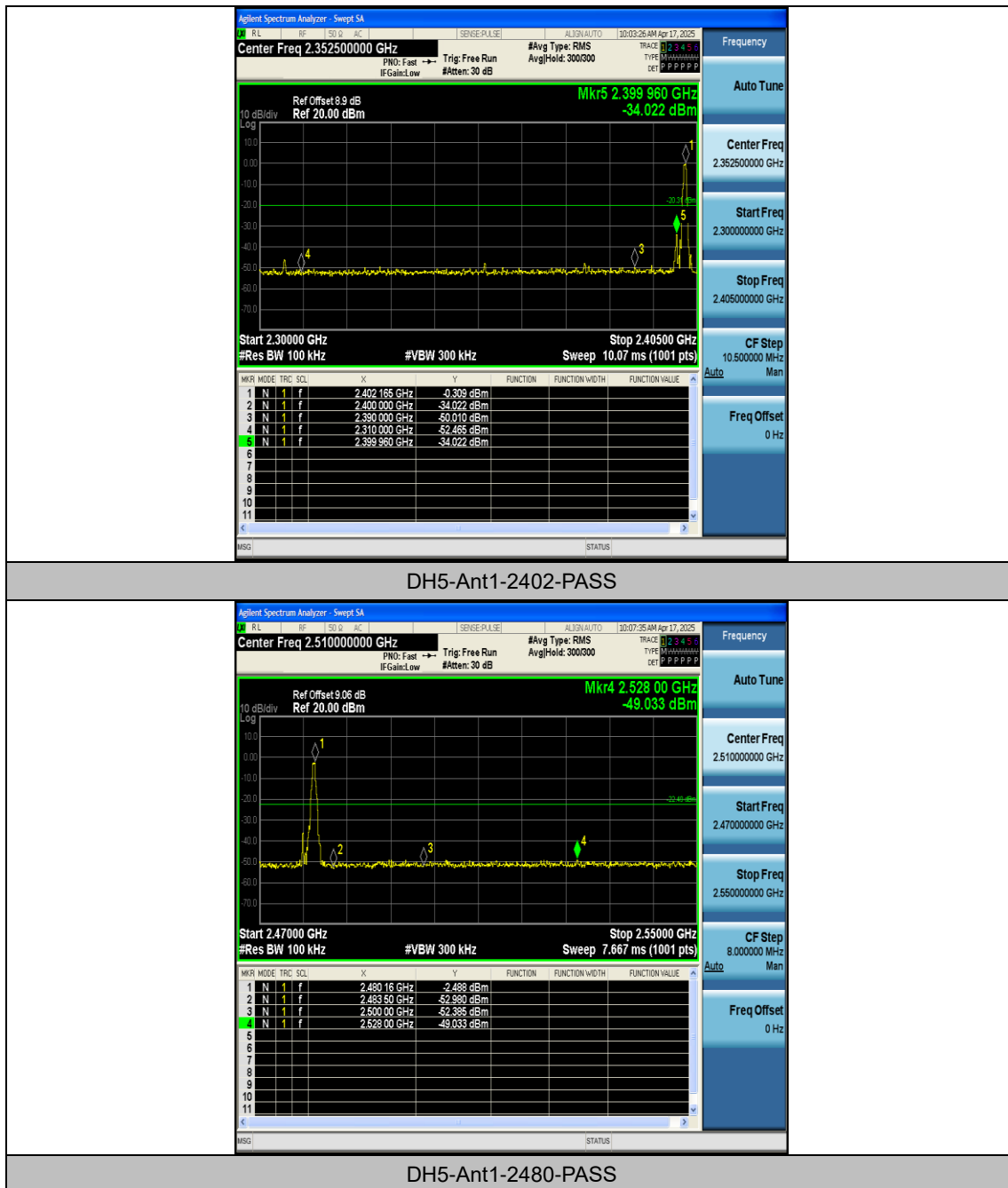
Appendix G: Band edge measurements

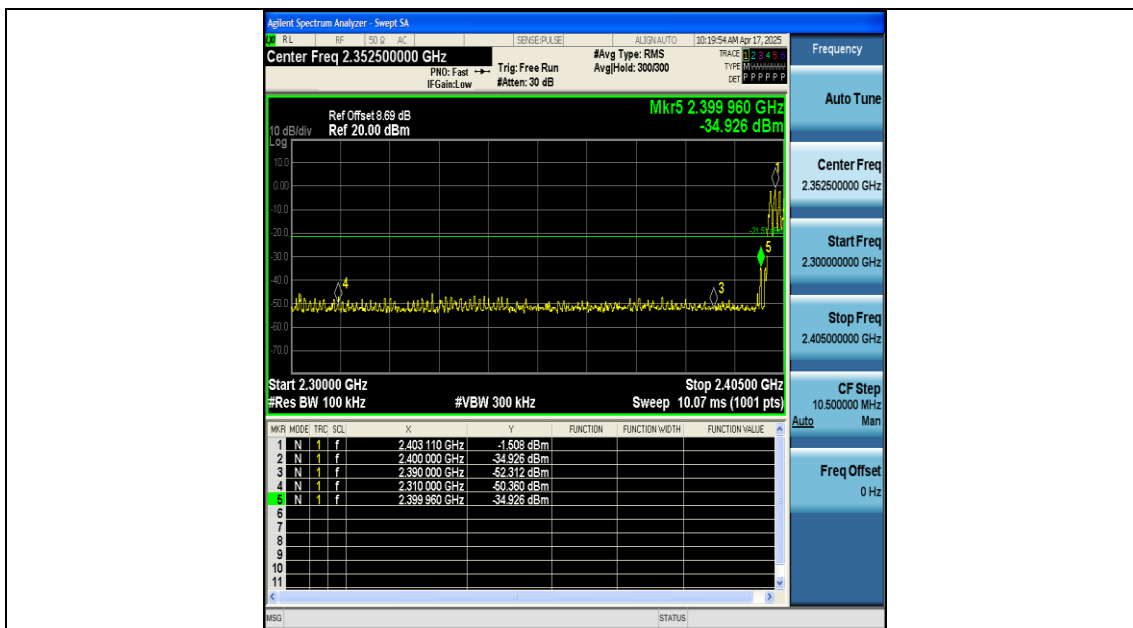
Test Result

Test Mode	Antenna	Ch.Name	Frequency [MHz]	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
DH5	Ant1	Low	2402	-0.31	-34.02	≤ -20.31	PASS
DH5	Ant1	High	2480	-2.49	-49.03	≤ -22.49	PASS
DH5	Ant1	Low	Hop_2402	-1.51	-34.93	≤ -21.51	PASS
DH5	Ant1	High	Hop_2480	-2.50	-46.25	≤ -22.5	PASS
2DH5	Ant1	Low	2402	-0.37	-33.63	≤ -20.37	PASS
2DH5	Ant1	High	2480	-2.56	-48.71	≤ -22.56	PASS
2DH5	Ant1	Low	Hop_2402	-4.02	-36.49	≤ -24.02	PASS
2DH5	Ant1	High	Hop_2480	-4.64	-46.12	≤ -24.64	PASS
3DH5	Ant1	Low	2402	-0.81	-34.26	≤ -20.81	PASS
3DH5	Ant1	High	2480	-2.61	-49.15	≤ -22.61	PASS
3DH5	Ant1	Low	Hop_2402	-4.54	-46.53	≤ -24.54	PASS
3DH5	Ant1	High	Hop_2480	-4.21	-47.23	≤ -24.21	PASS

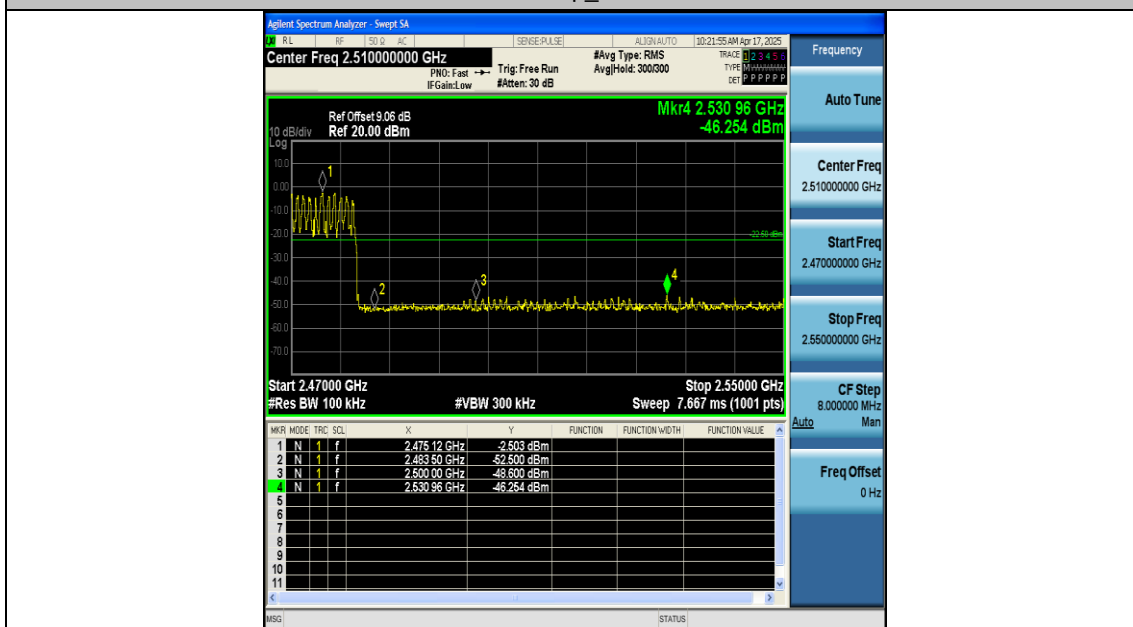
Note: offset(dB) = cable loss(dB) + attenuator factor(dB)

Test Graphs

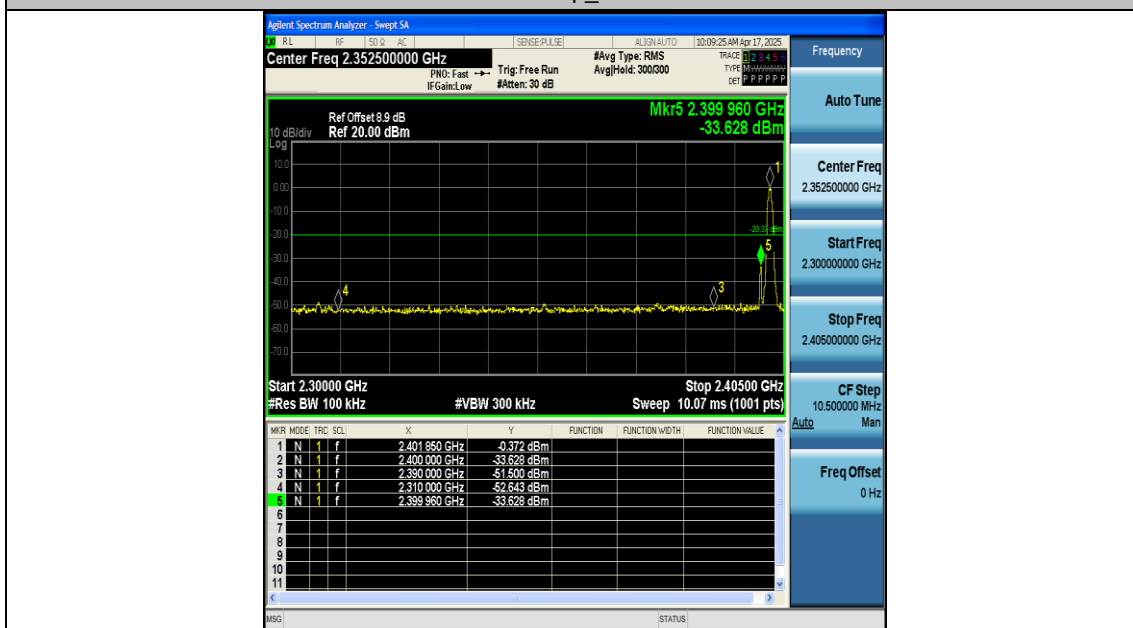




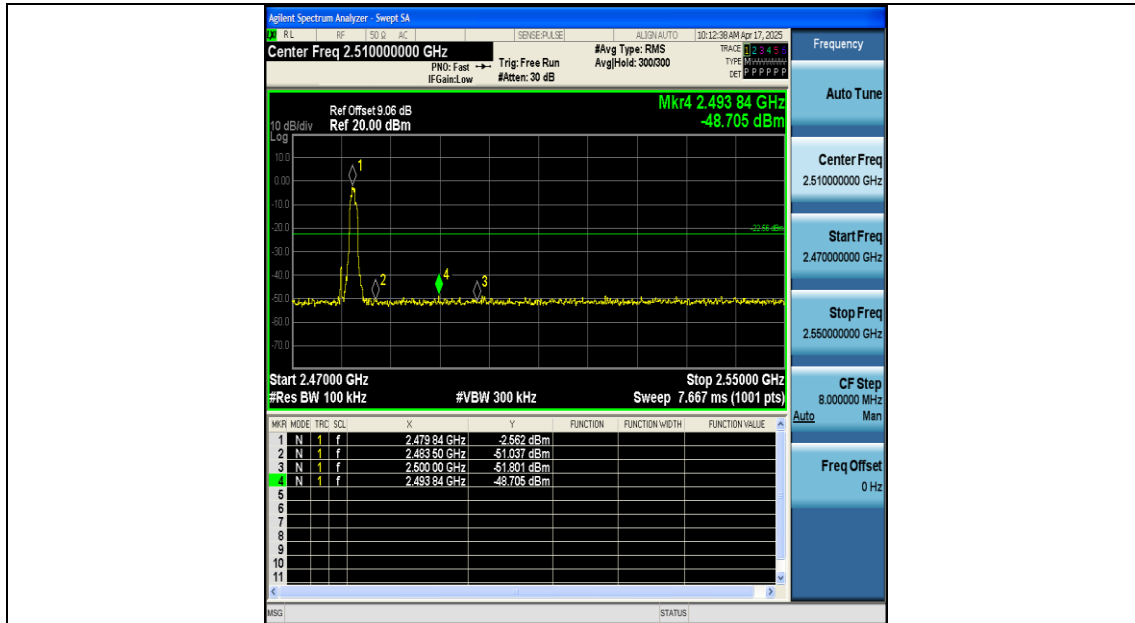
DH5-Ant1-Hop_2402-PASS



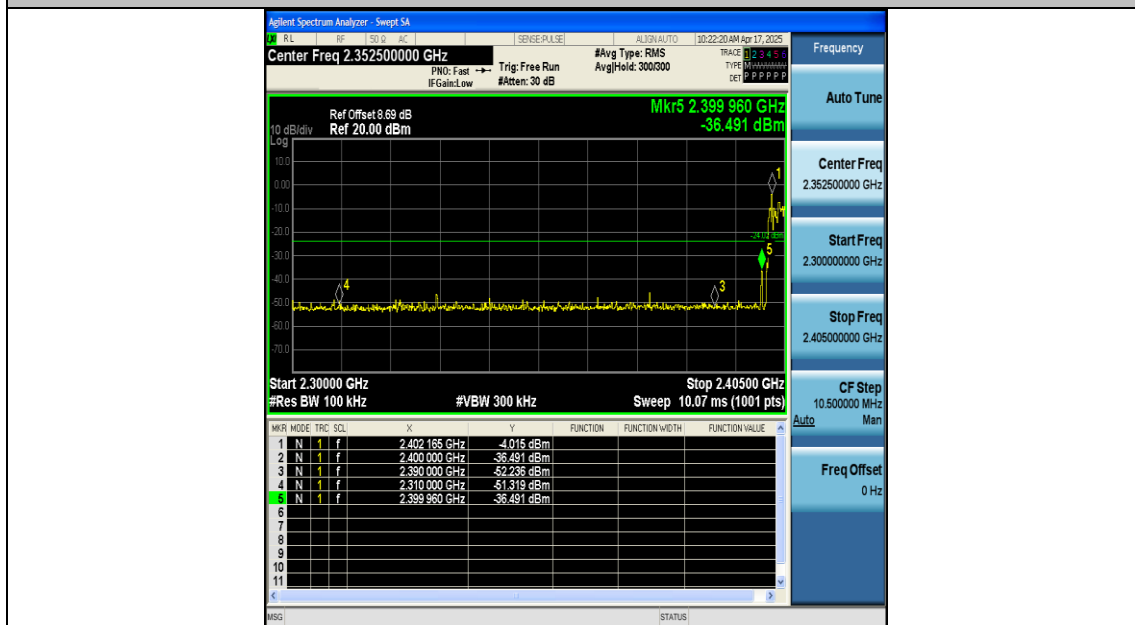
DH5-Ant1-Hop_2480-PASS



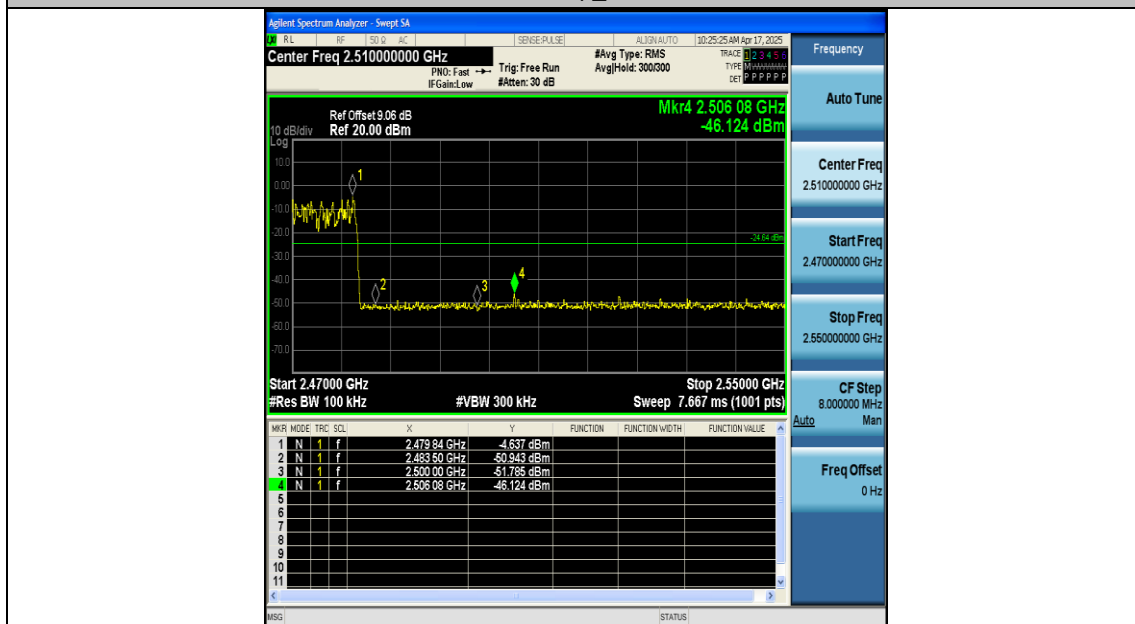
2DH5-Ant1-2402-PASS



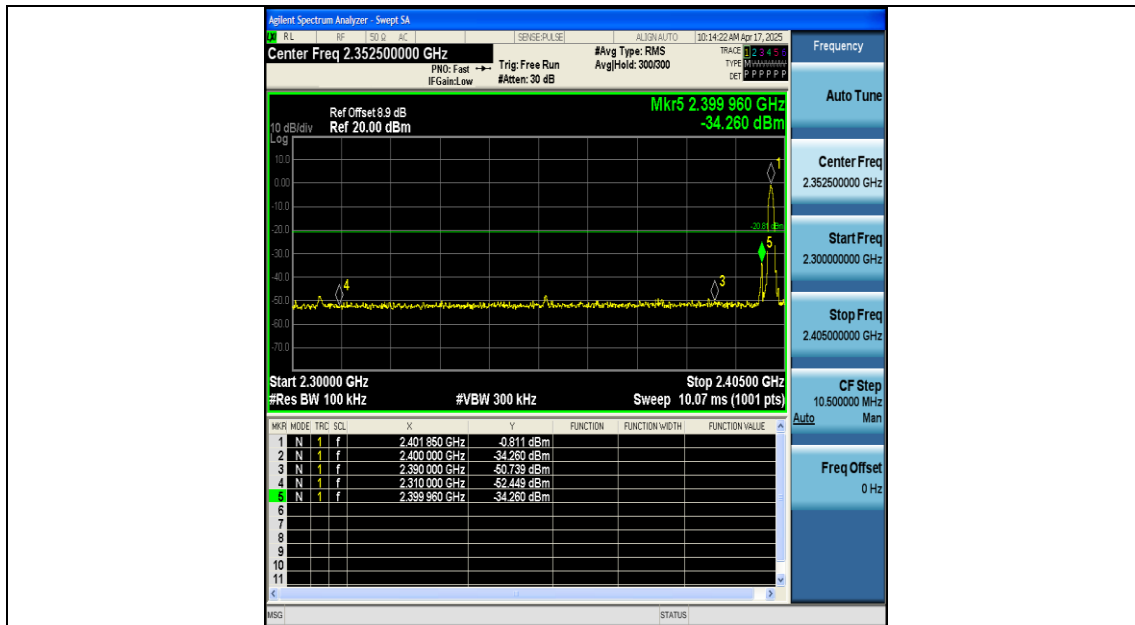
2DH5-Ant1-2480-PASS



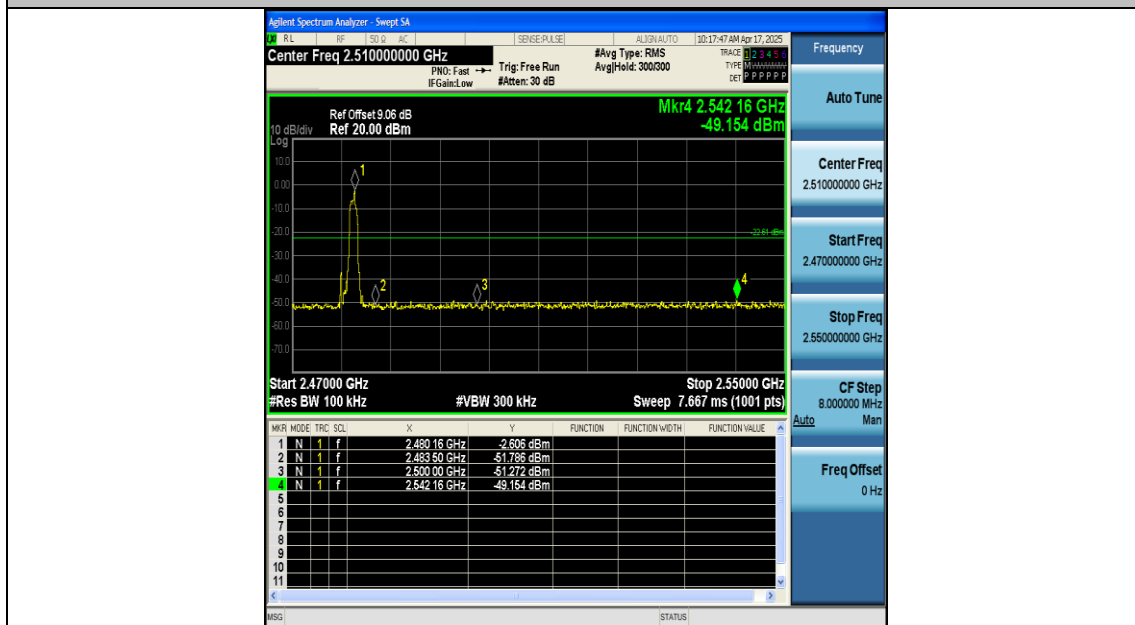
2DH5-Ant1-Hop_2402-PASS



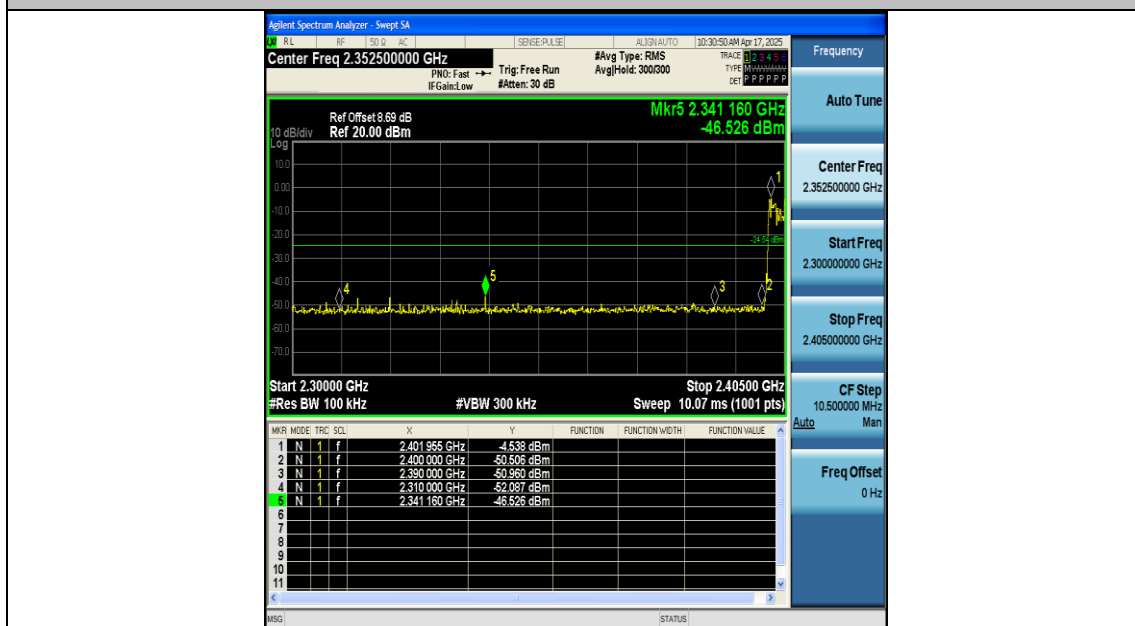
2DH5-Ant1-Hop_2480-PASS



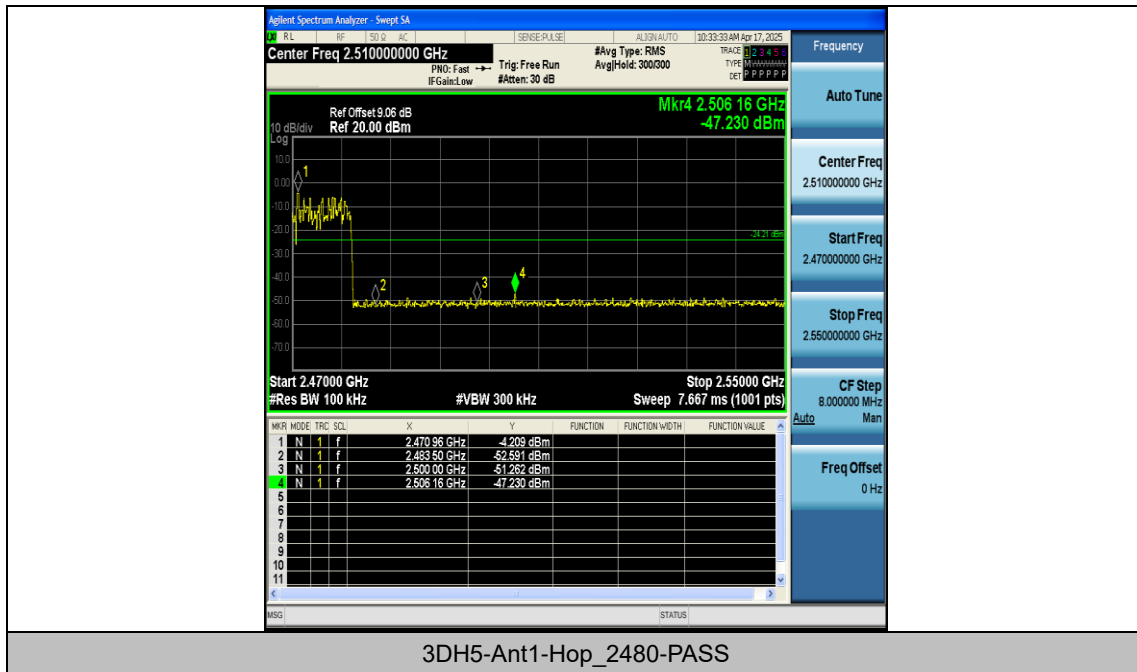
3DH5-Ant1-2402-PASS



3DH5-Ant1-2480-PASS



3DH5-Ant1-Hop_2402-PASS



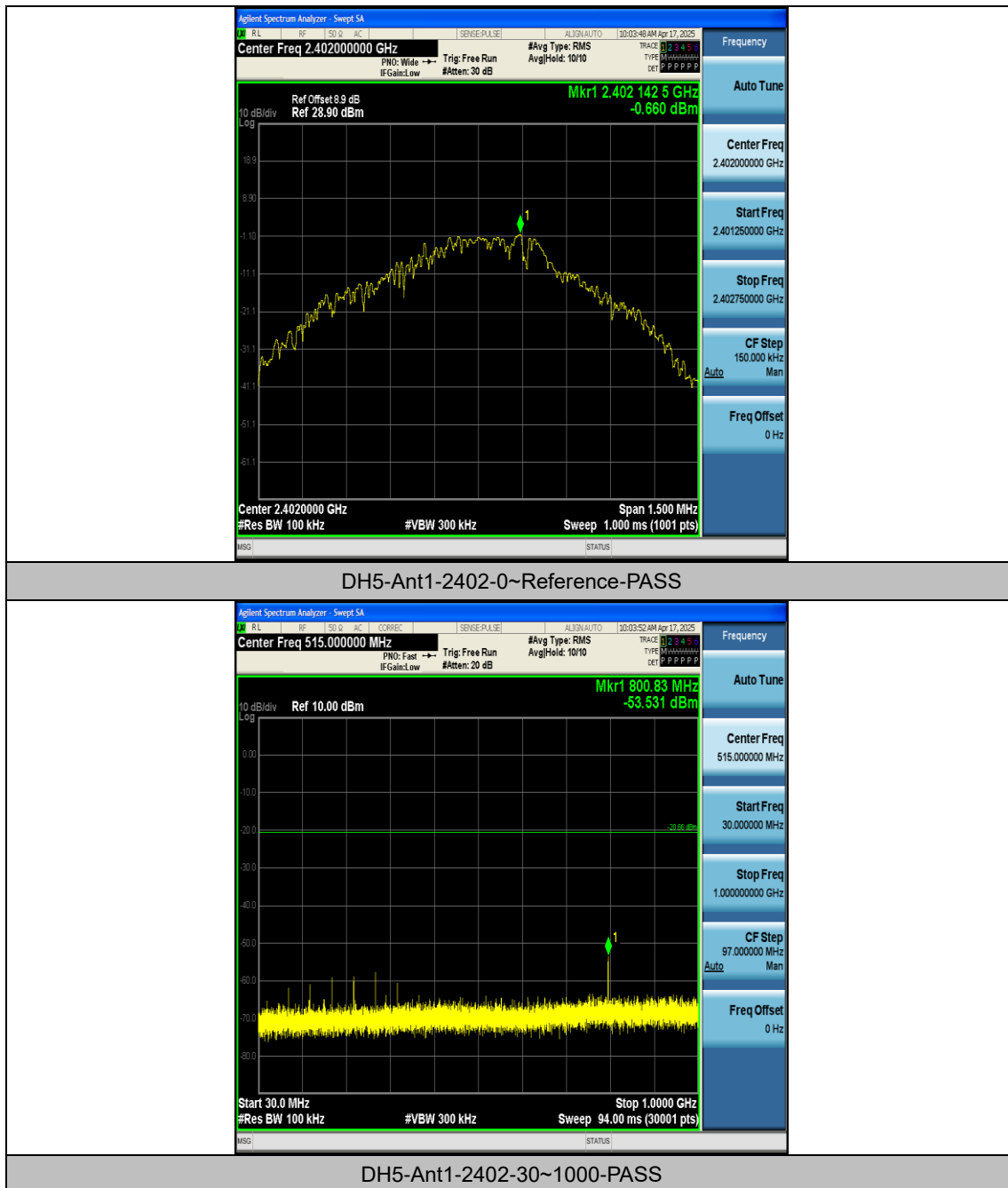
Appendix H: Conducted Spurious Emission

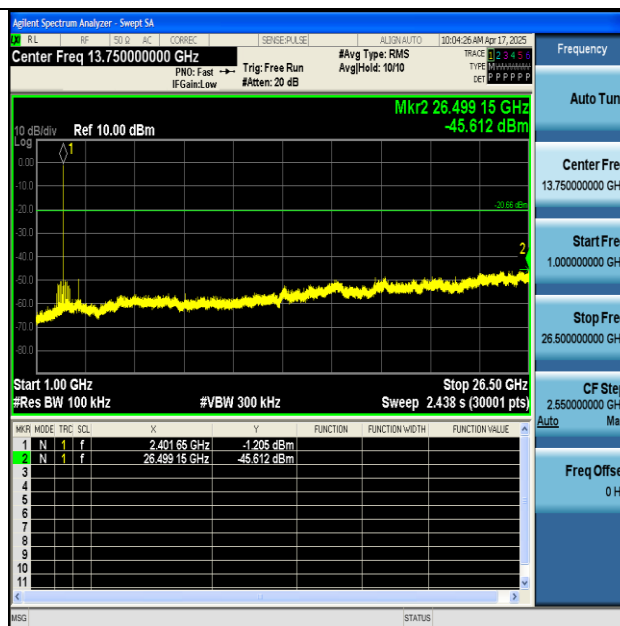
Test Result

Test Mode	Antenna	Frequency [MHz]	Freq. Range [MHz]	Ref. Level [dBm]	Result [dBm]	Limit [dBm]	Verdict
DH5	Ant1	2402	0~Reference	-0.66	-0.66	---	PASS
DH5	Ant1	2402	30~1000	-0.66	-53.53	≤-20.66	PASS
DH5	Ant1	2402	1000~26500	-0.66	-45.61	≤-20.66	PASS
DH5	Ant1	2441	0~Reference	-1.39	-1.39	---	PASS
DH5	Ant1	2441	30~1000	-1.39	-53.57	≤-21.39	PASS
DH5	Ant1	2441	1000~26500	-1.39	-45.19	≤-21.39	PASS
DH5	Ant1	2480	0~Reference	-2.76	-2.76	---	PASS
DH5	Ant1	2480	30~1000	-2.76	-56.83	≤-22.76	PASS
DH5	Ant1	2480	1000~26500	-2.76	-45.83	≤-22.76	PASS
2DH5	Ant1	2402	0~Reference	-1.41	-1.41	---	PASS
2DH5	Ant1	2402	30~1000	-1.41	-56.66	≤-21.41	PASS
2DH5	Ant1	2402	1000~26500	-1.41	-45.18	≤-21.41	PASS
2DH5	Ant1	2441	0~Reference	-1.09	-1.09	---	PASS
2DH5	Ant1	2441	30~1000	-1.09	-57.35	≤-21.09	PASS
2DH5	Ant1	2441	1000~26500	-1.09	-43.85	≤-21.09	PASS
2DH5	Ant1	2480	0~Reference	-5.91	-5.91	---	PASS
2DH5	Ant1	2480	30~1000	-5.91	-57.4	≤-25.91	PASS
2DH5	Ant1	2480	1000~26500	-5.91	-45.64	≤-25.91	PASS
3DH5	Ant1	2402	0~Reference	-3.15	-3.15	---	PASS
3DH5	Ant1	2402	30~1000	-3.15	-56.98	≤-23.15	PASS
3DH5	Ant1	2402	1000~26500	-3.15	-45.25	≤-23.15	PASS
3DH5	Ant1	2441	0~Reference	-1.37	-1.37	---	PASS
3DH5	Ant1	2441	30~1000	-1.37	-57.8	≤-21.37	PASS
3DH5	Ant1	2441	1000~26500	-1.37	-44.7	≤-21.37	PASS
3DH5	Ant1	2480	0~Reference	-2.97	-2.97	---	PASS
3DH5	Ant1	2480	30~1000	-2.97	-57.49	≤-22.97	PASS
3DH5	Ant1	2480	1000~26500	-2.97	-45.15	≤-22.97	PASS

Note: offset(dB) in Reference test plots = cable loss(dB) + attenuator factor(dB); For spurious emissions plots from 30MHz to 26.5GHz, the cable loss and attenuator factors have been set in the 'Input Correction' of the Spectrum Analyzer during the test.

Test Graphs

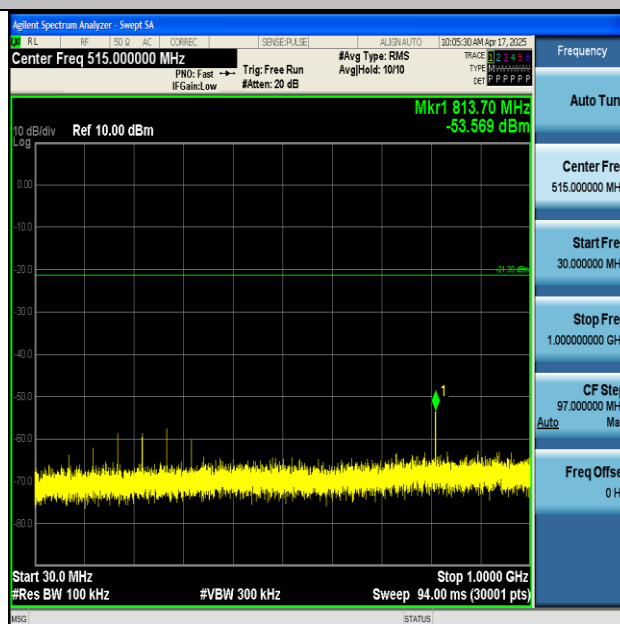




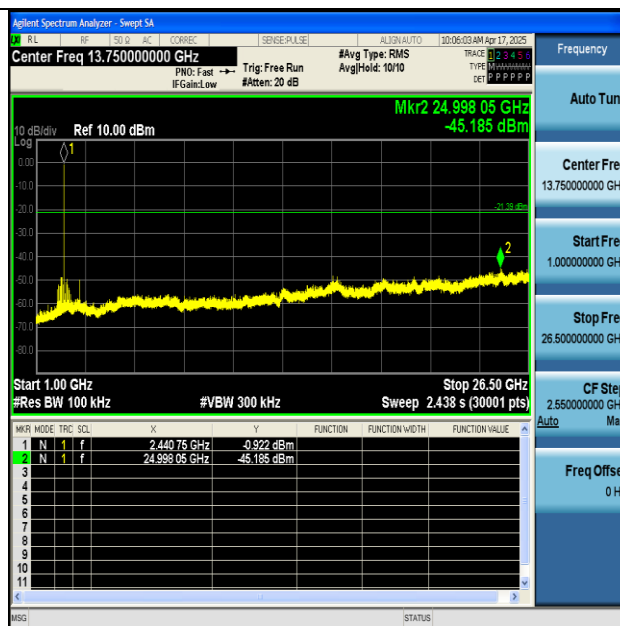
DH5-Ant1-2402-1000~26500-PASS



DH5-Ant1-2441-0~Reference-PASS



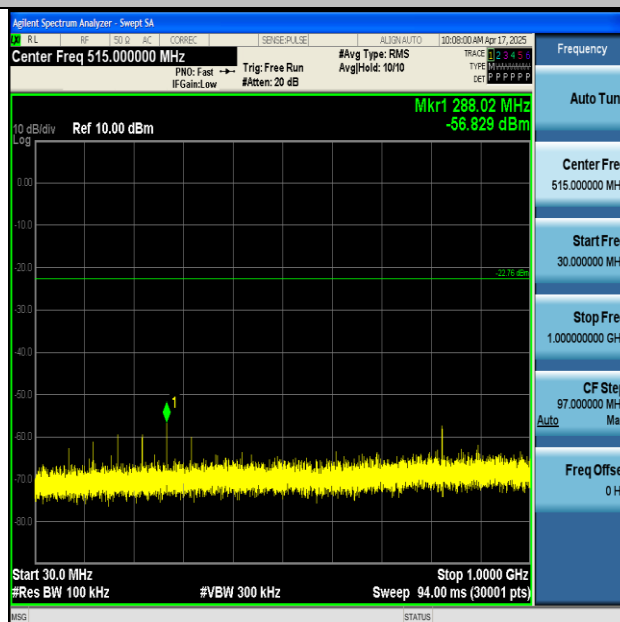
DH5-Ant1-2441-30~1000-PASS



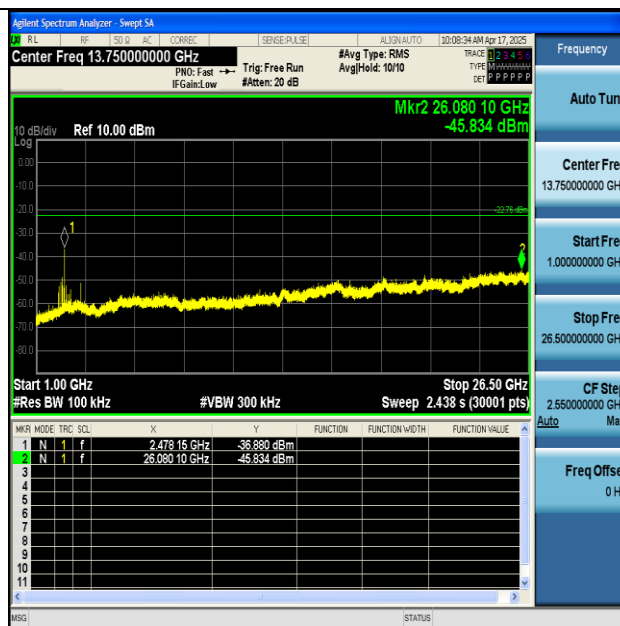
DH5-Ant1-2441-1000~26500-PASS



DH5-Ant1-2480-0~Reference-PASS



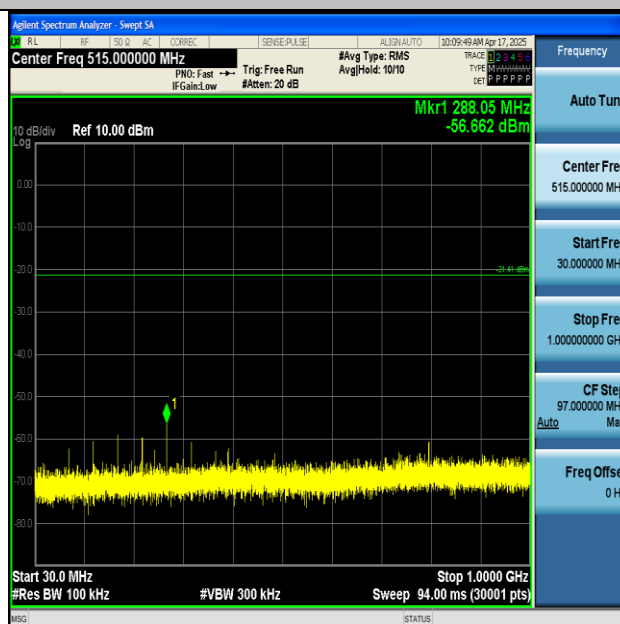
DH5-Ant1-2480-30~1000-PASS



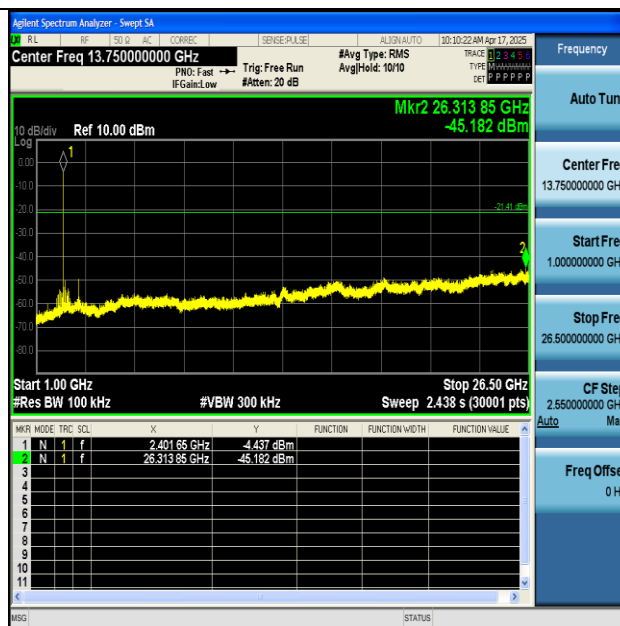
DH5-Ant1-2480-1000~26500-PASS



2DH5-Ant1-2402-0~Reference-PASS



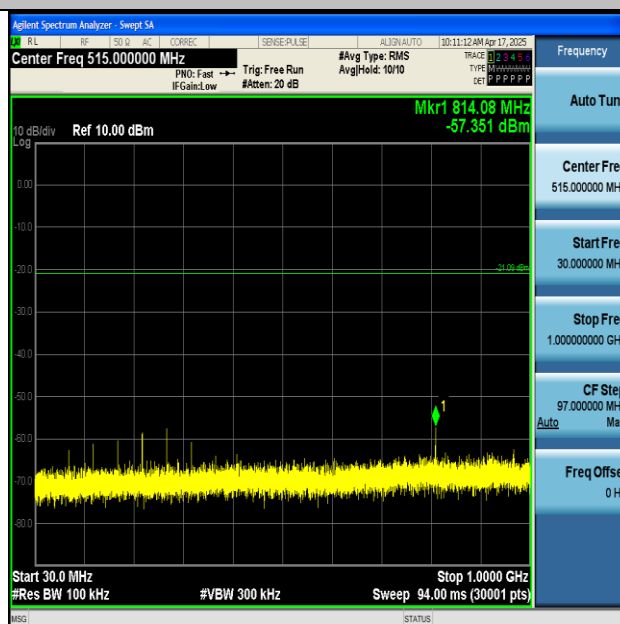
2DH5-Ant1-2402-30~1000-PASS



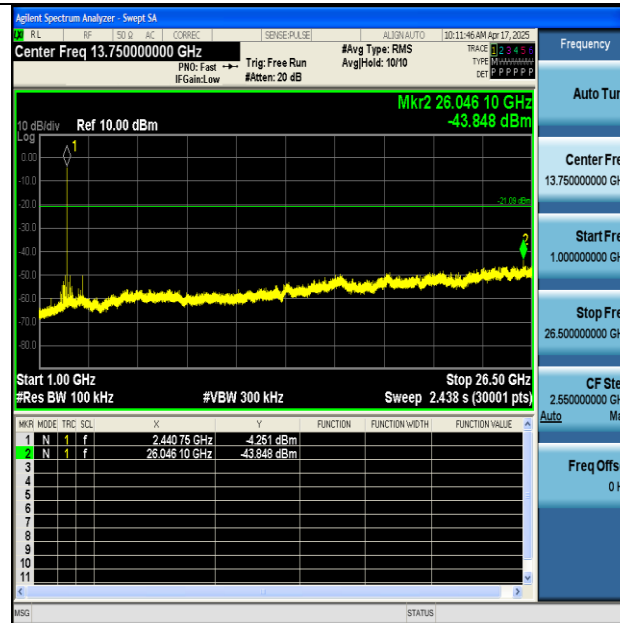
2DH5-Ant1-2402-1000~26500-PASS



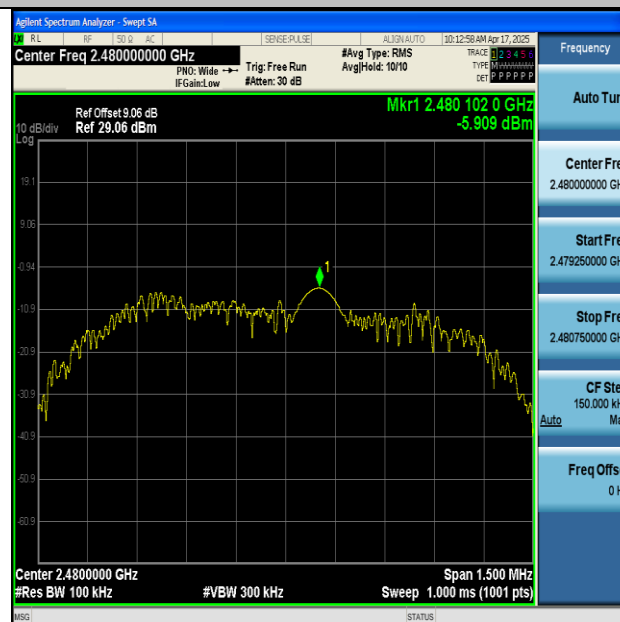
2DH5-Ant1-2441-0~Reference-PASS



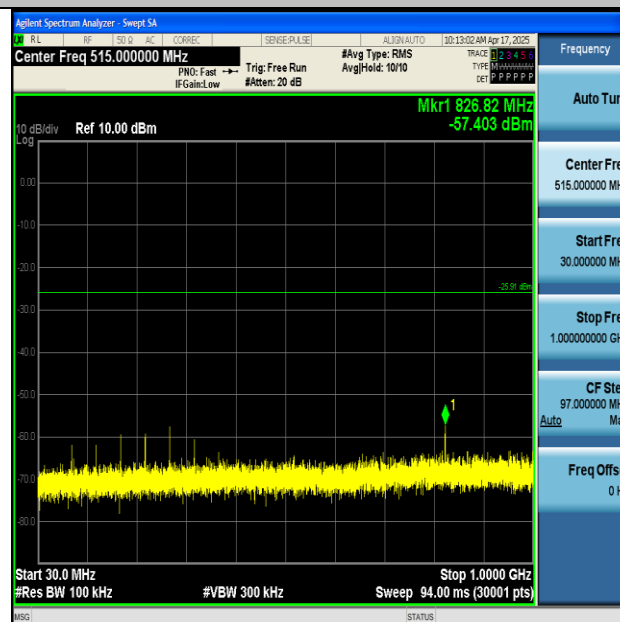
2DH5-Ant1-2441-30~1000-PASS



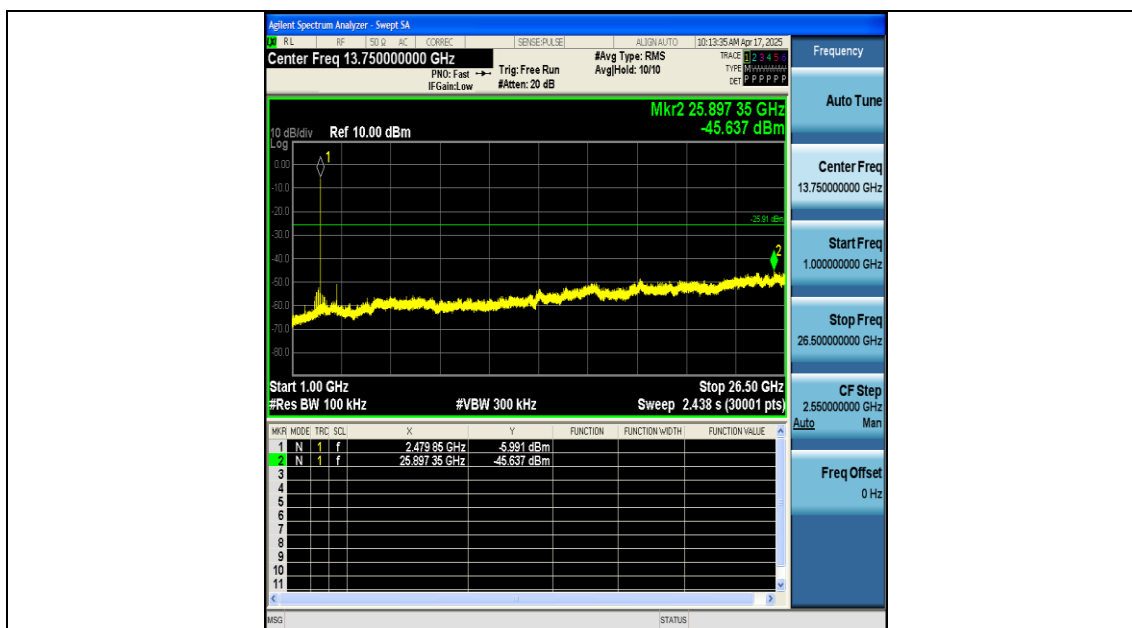
2DH5-Ant1-2441-1000~26500-PASS



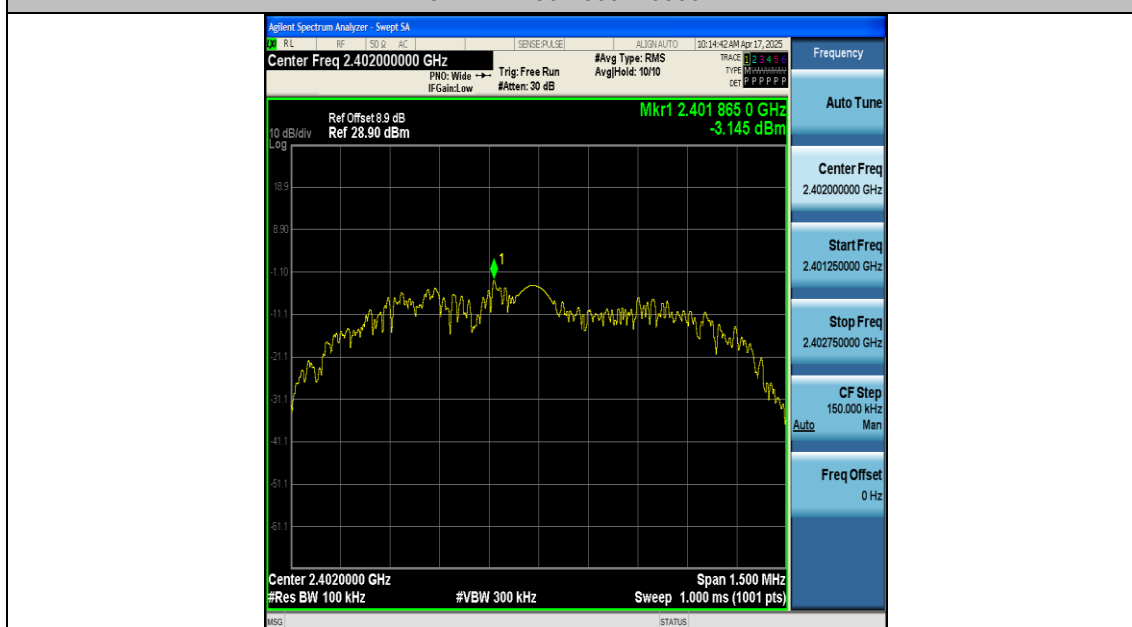
2DH5-Ant1-2480-0~Reference-PASS



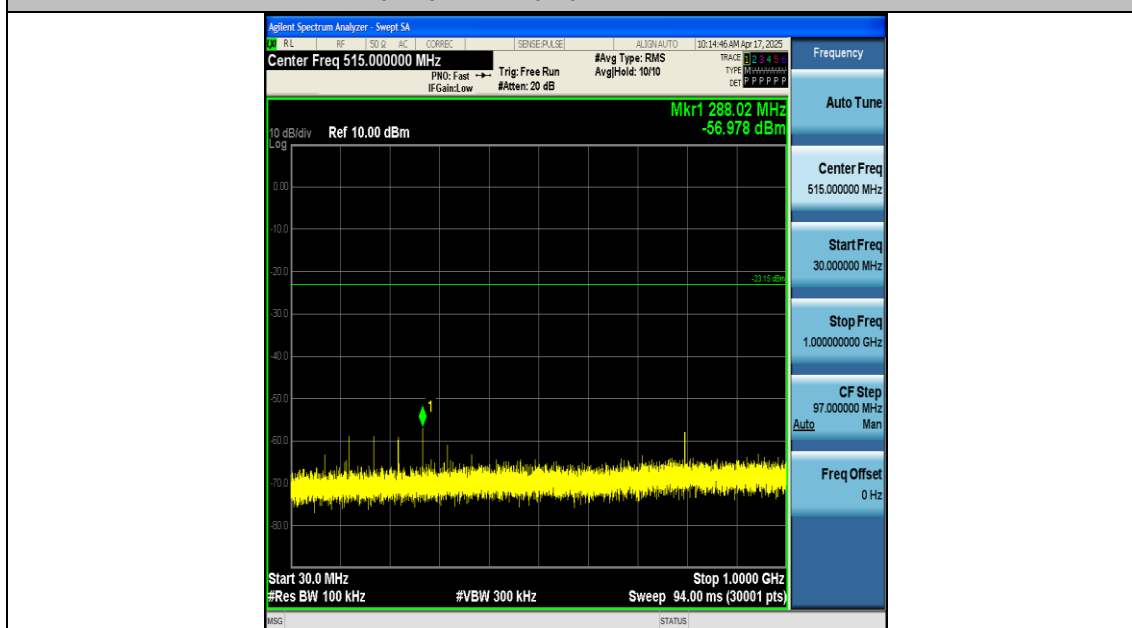
2DH5-Ant1-2480-30~1000-PASS



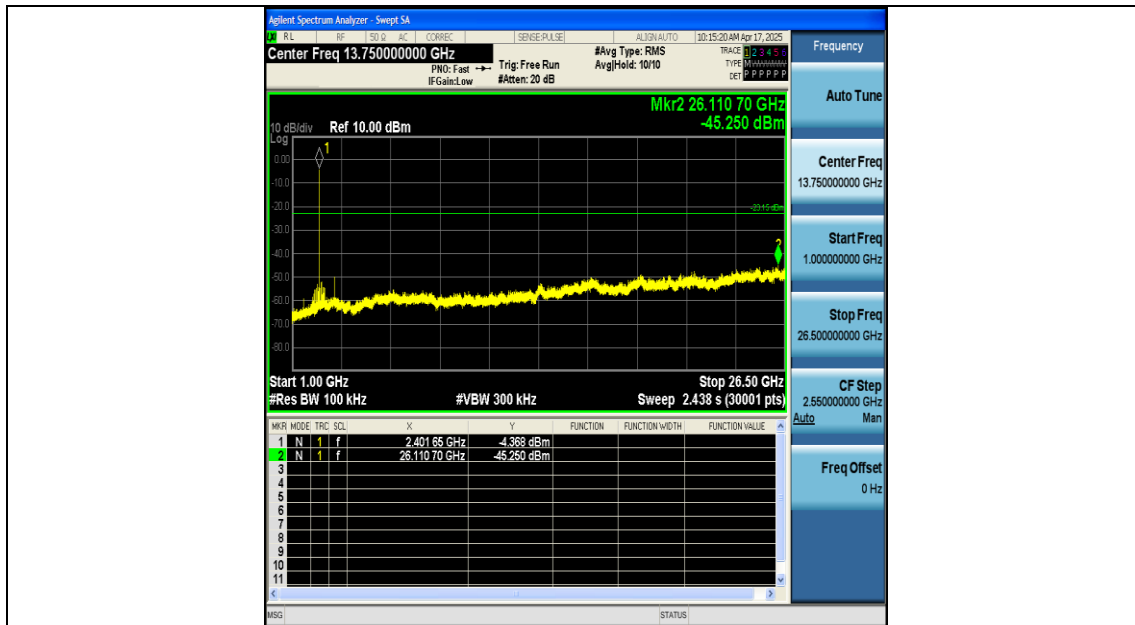
2DH5-Ant1-2480-1000~26500-PASS



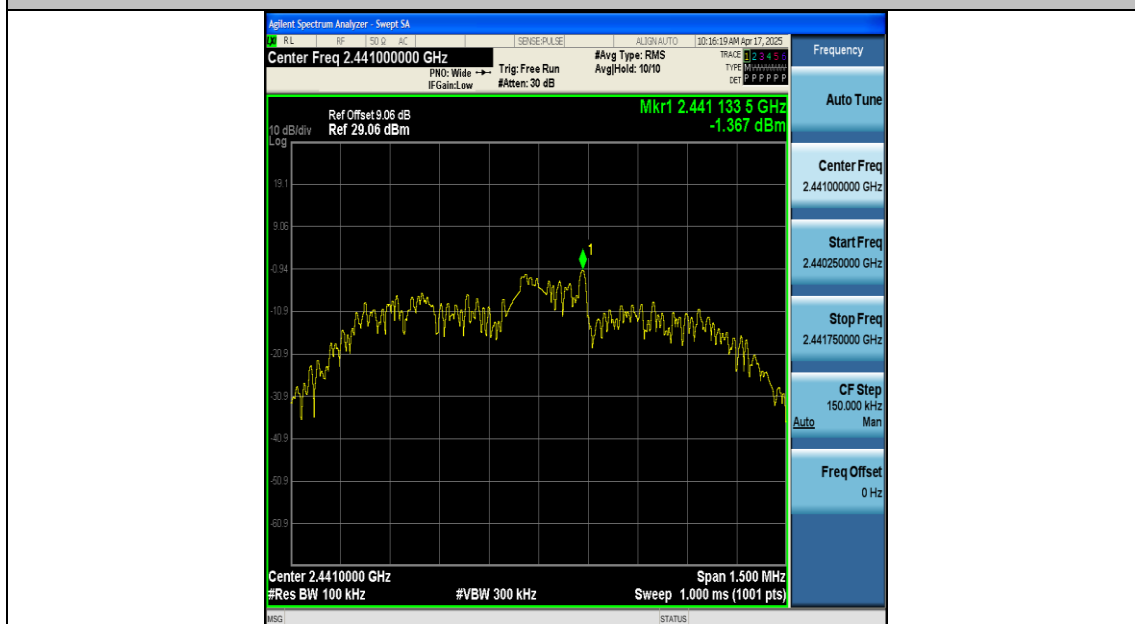
3DH5-Ant1-2402-0~Reference-PASS



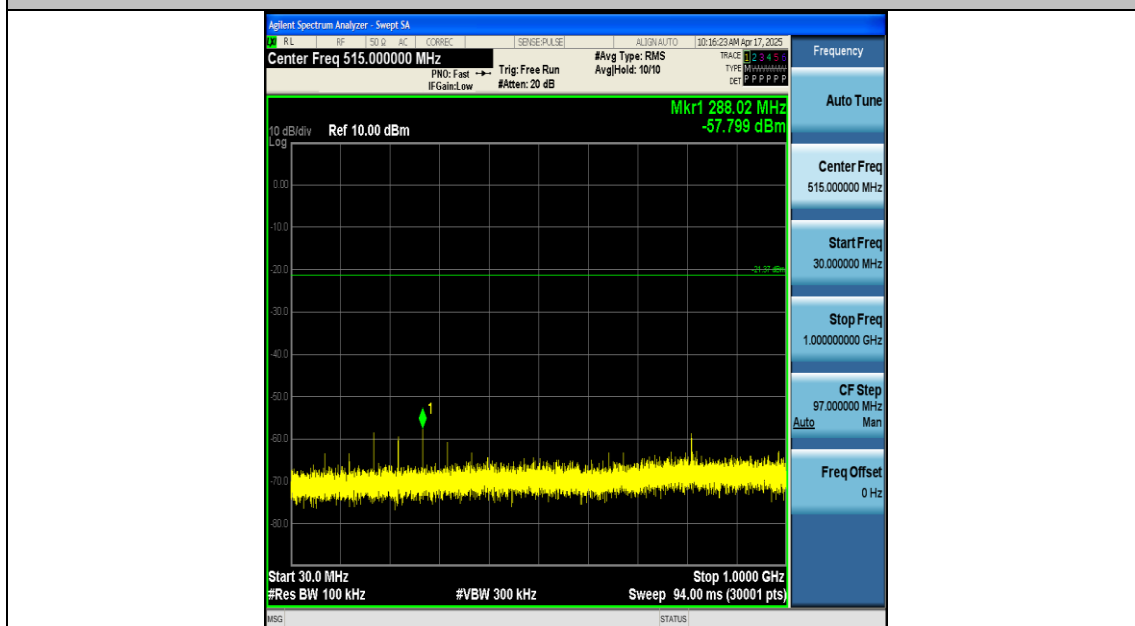
3DH5-Ant1-2402-30~1000-PASS



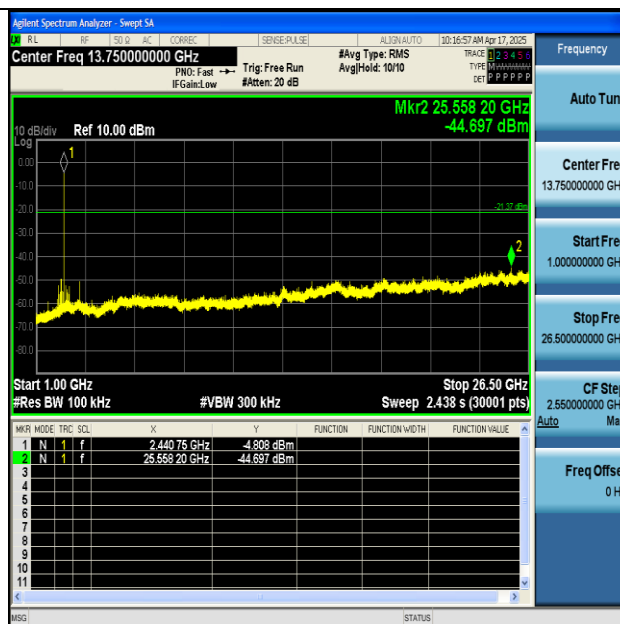
3DH5-Ant1-2402-1000~26500-PASS



3DH5-Ant1-2441-0~Reference-PASS



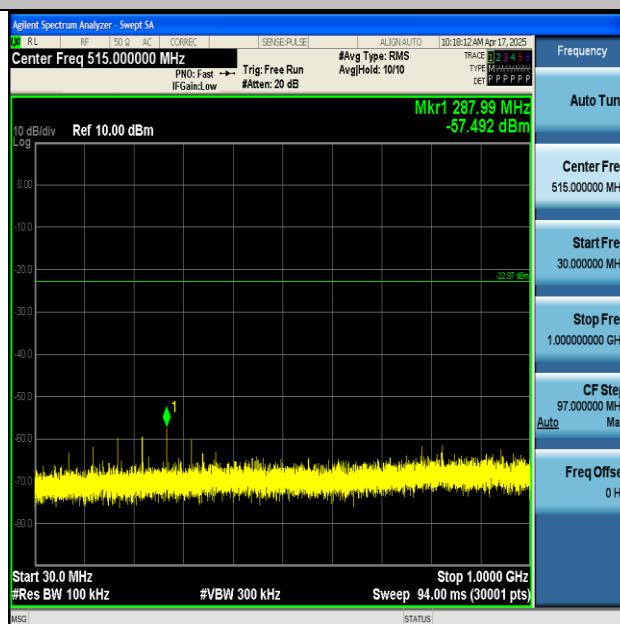
3DH5-Ant1-2441-30~1000-PASS



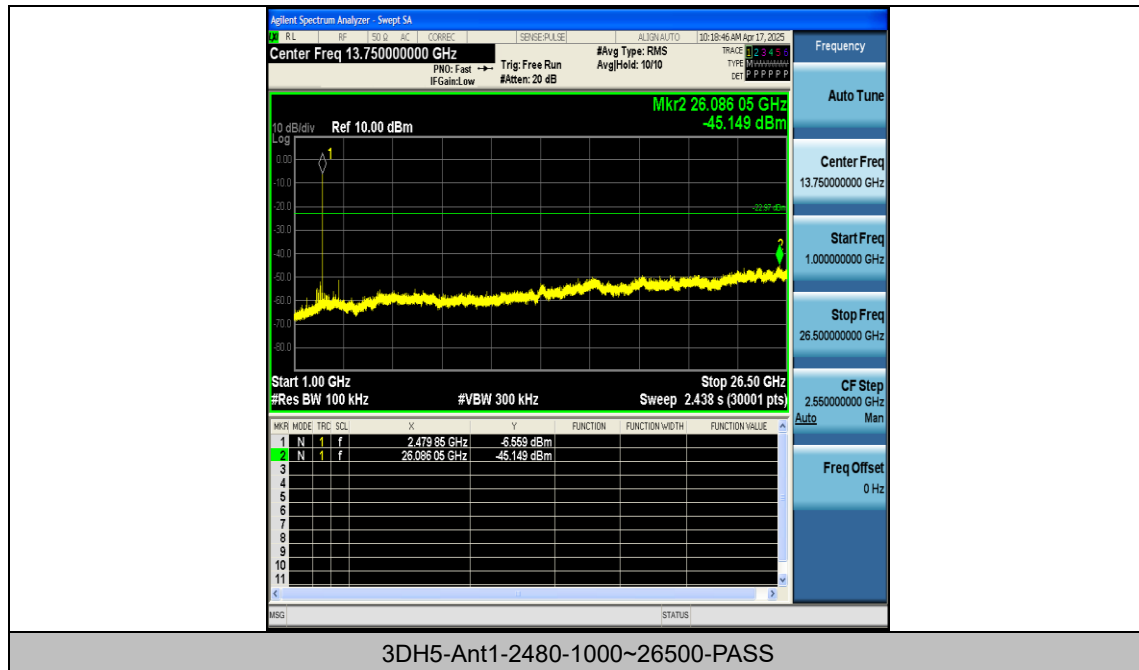
3DH5-Ant1-2441-1000~26500-PASS



3DH5-Ant1-2480-0~Reference-PASS



3DH5-Ant1-2480-30~1000-PASS



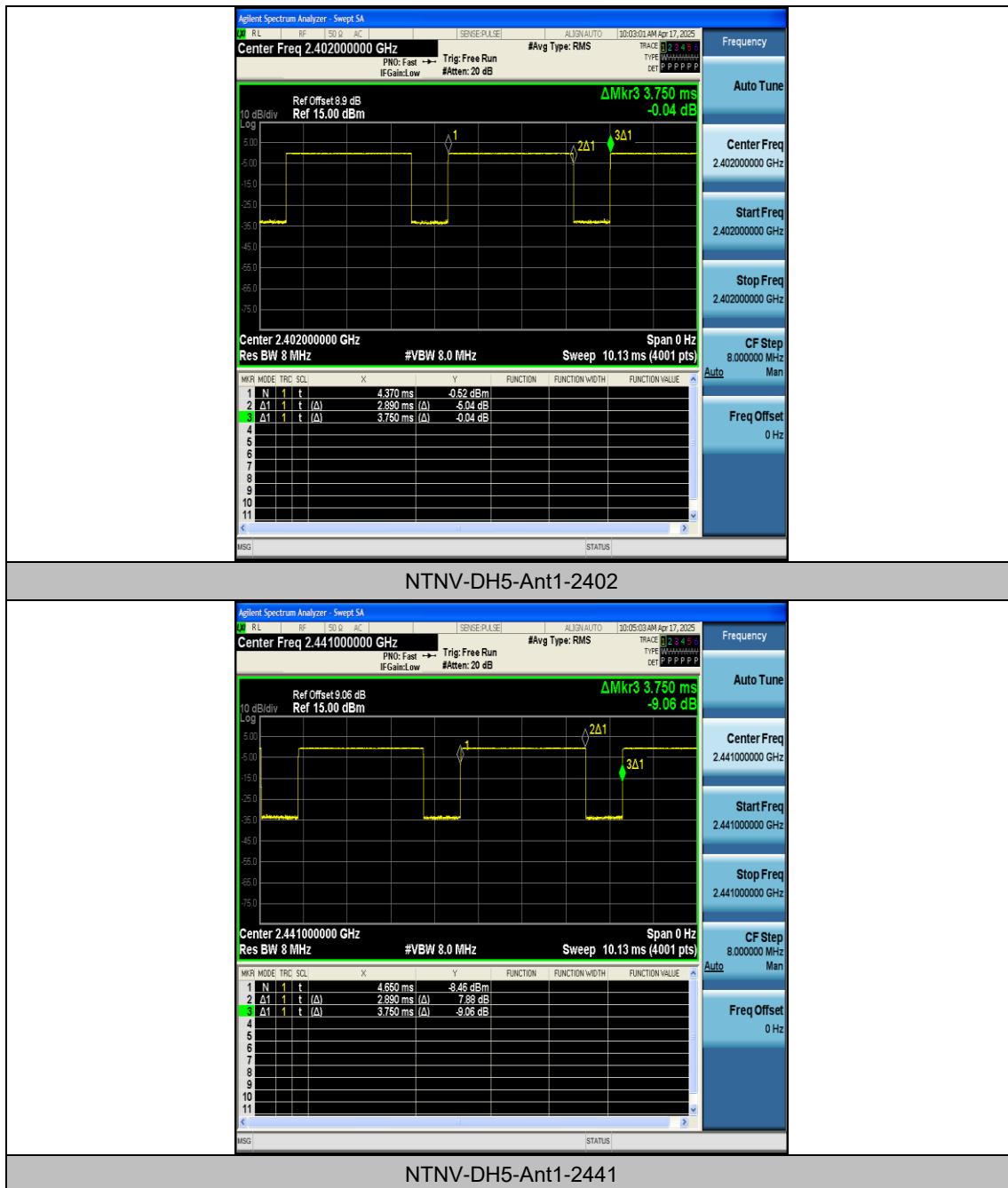
Appendix I: Duty Cycle

Test Result

Test Mode	Antenna	Frequency [MHz]	ON Time [ms]	Period [ms]	Duty Cycle [%]	Duty Cycle Factor [dB]
DH5	Ant1	2402	2.89	3.75	77.07	1.13
DH5	Ant1	2441	2.89	3.75	77.07	1.13
DH5	Ant1	2480	2.89	3.74	77.27	1.12
2DH5	Ant1	2402	2.89	3.75	77.07	1.13
2DH5	Ant1	2441	2.89	3.75	77.07	1.13
2DH5	Ant1	2480	2.89	3.75	77.07	1.13
3DH5	Ant1	2402	2.88	3.75	76.80	1.15
3DH5	Ant1	2441	2.88	3.75	76.80	1.15
3DH5	Ant1	2480	2.89	3.75	77.07	1.13

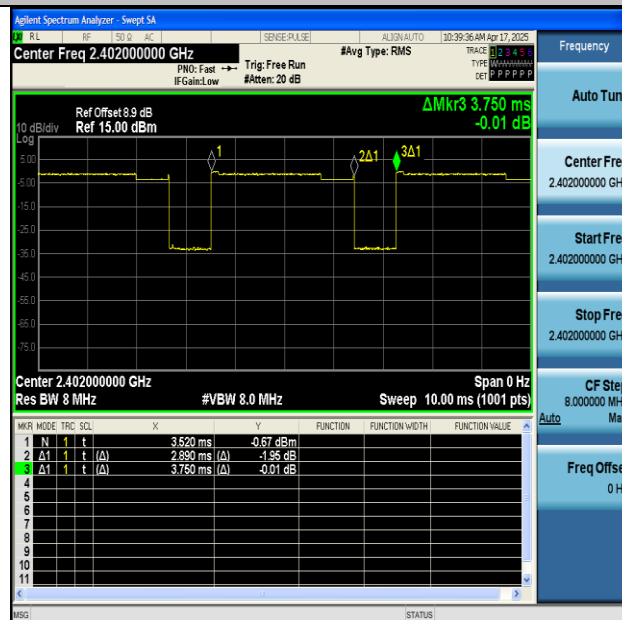
Note: offset(dB) = cable loss(dB) + attenuator factor(dB)

Test Graphs

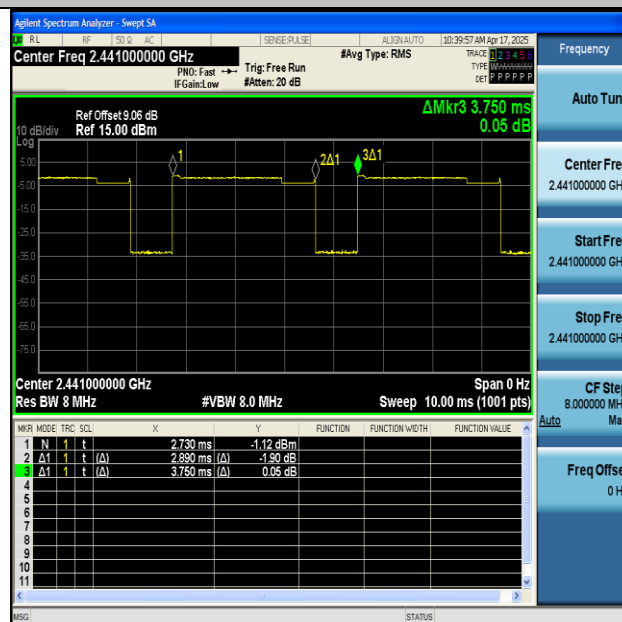




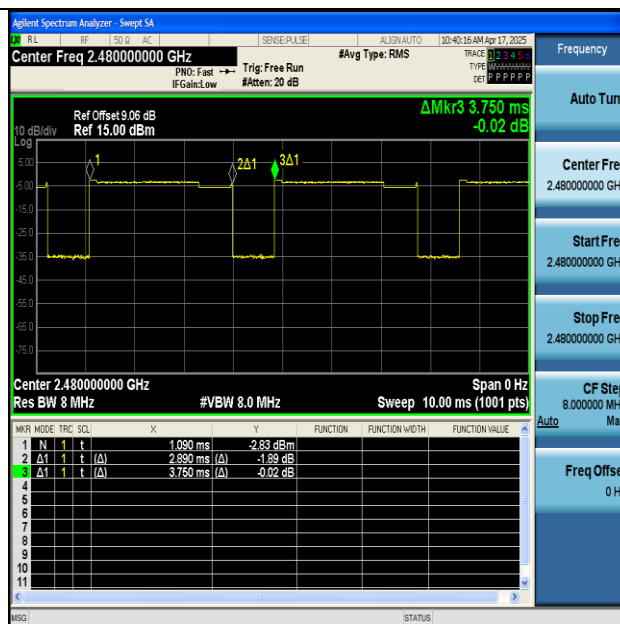
NTNV-DH5-Ant1-2480



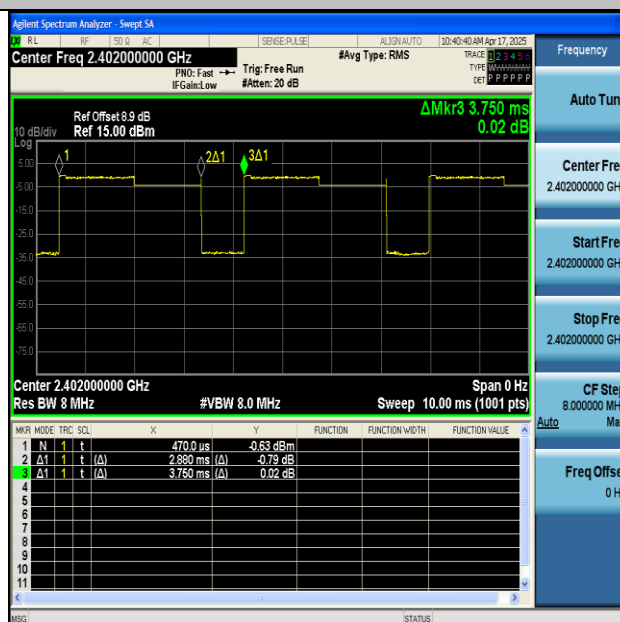
NTNV-2DH5-Ant1-2402



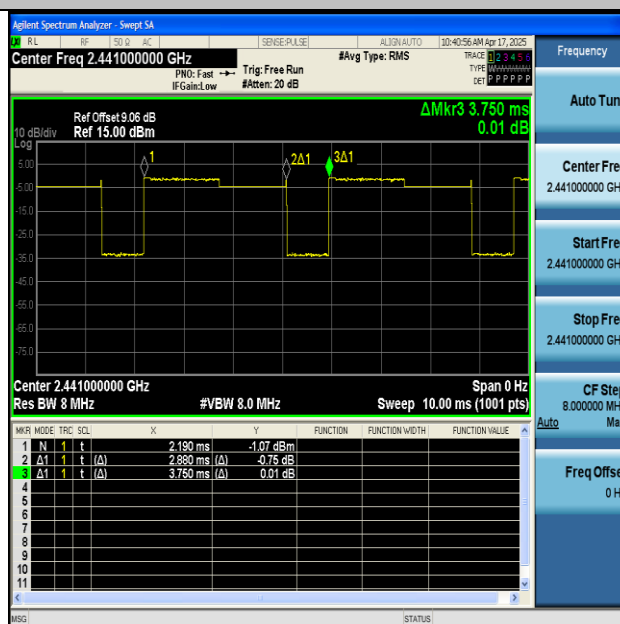
NTNV-2DH5-Ant1-2441



NTNV-2DH5-Ant1-2480



NTNV-3DH5-Ant1-2402



NTNV-3DH5-Ant1-2441

