



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

Product Name: Wireless Speaker

Trade Mark: CAT

Test Model: CAT-BT-CLIPSPK

FCC ID: 2APC6-CATBTCLIPSPK

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	0.933	2401.538	2402.471	---	---
DH5	Ant1	2441	0.951	2440.538	2441.489	---	---
DH5	Ant1	2480	1.044	2479.460	2480.504	---	---
2DH5	Ant1	2402	1.338	2401.322	2402.660	---	---
2DH5	Ant1	2441	1.230	2440.373	2441.603	---	---
2DH5	Ant1	2480	1.290	2479.361	2480.651	---	---
3DH5	Ant1	2402	1.203	2401.406	2402.609	---	---
3DH5	Ant1	2441	1.209	2440.400	2441.609	---	---
3DH5	Ant1	2480	1.254	2479.364	2480.618	---	---

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





3DH5-Ant1-2480





Appendix B: Occupied Channel Bandwidth

Test Result

Test Mode	Antenna	Frequency [MHz]	OCB [MHz]	FL [MHz]	FH [MHz]	Limit [MHz]	Verdict
DH5	Ant1	2402	0.89404	2401.5555	2402.4495	---	---
DH5	Ant1	2441	0.87948	2440.5602	2441.4397	---	---
DH5	Ant1	2480	0.90902	2479.5505	2480.4596	---	---
2DH5	Ant1	2402	1.1571	2401.4159	2402.5730	---	---
2DH5	Ant1	2441	1.1713	2440.4092	2441.5805	---	---
2DH5	Ant1	2480	1.1602	2479.4156	2480.5758	---	---
3DH5	Ant1	2402	1.1740	2401.4099	2402.5839	---	---
3DH5	Ant1	2441	1.1671	2440.4151	2441.5822	---	---
3DH5	Ant1	2480	1.1474	2479.4264	2480.5738	---	---

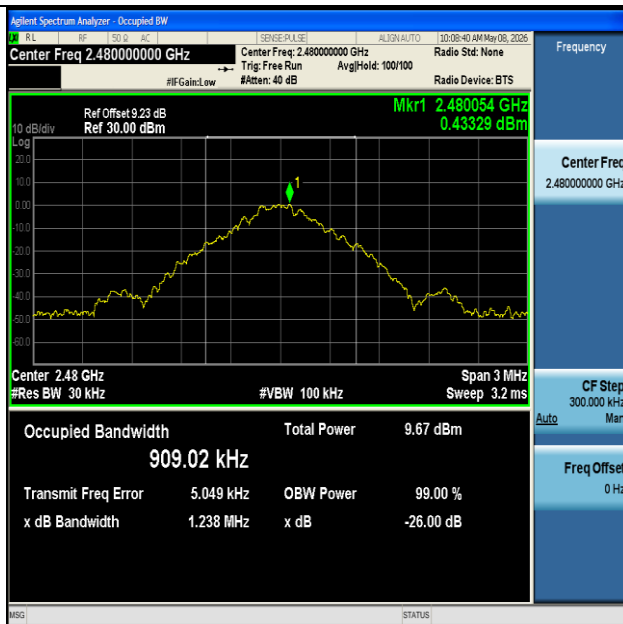
Note: offset(dB) = cable loss(dB) + attenuator factor(dB)



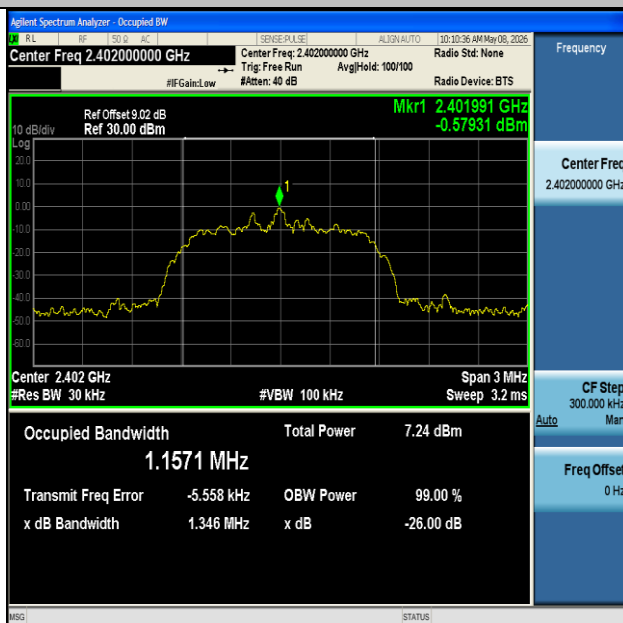


Test Graphs



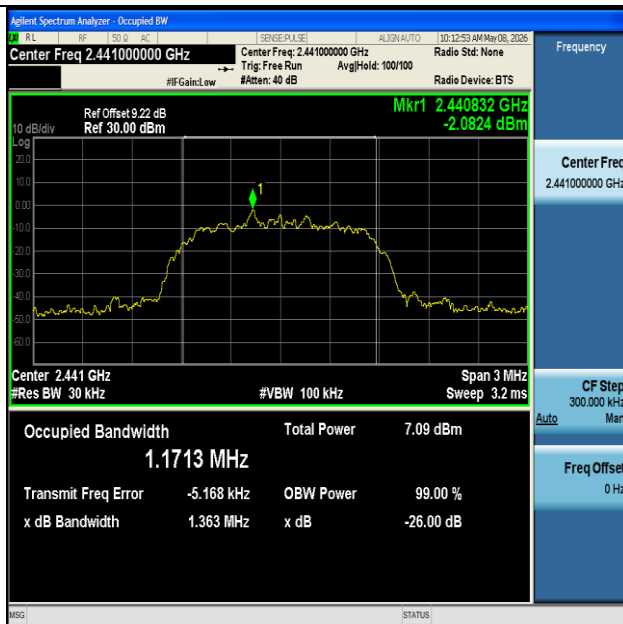


DH5-Ant1-2480

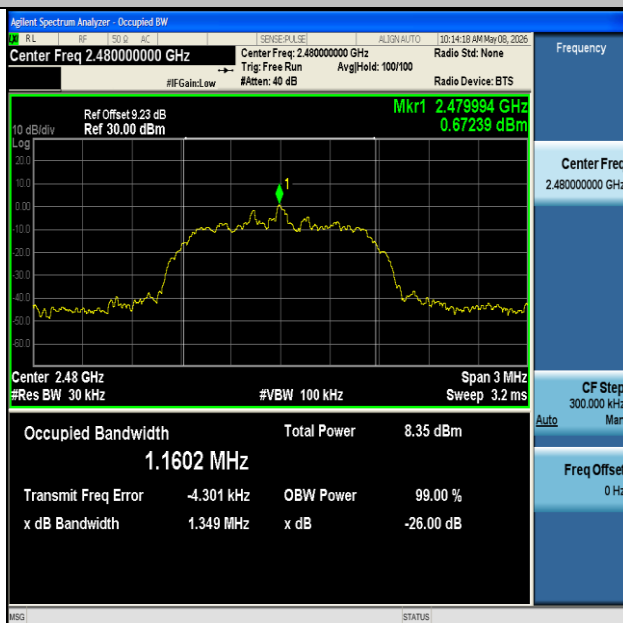


2DH5-Ant1-2402



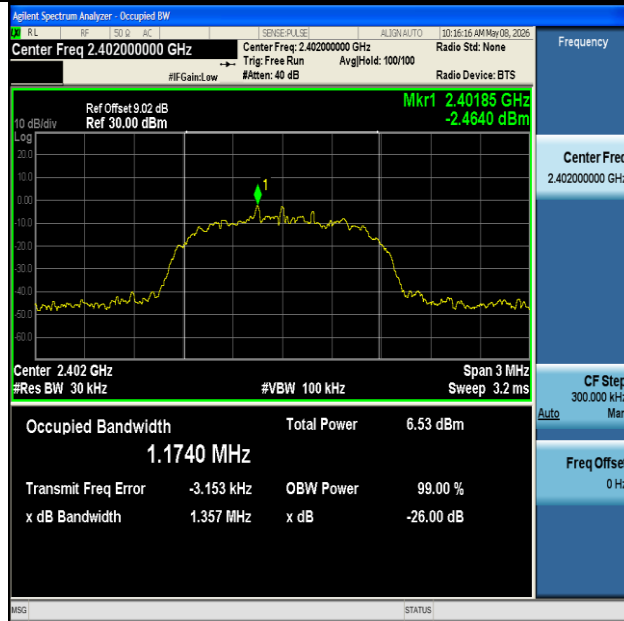


2DH5-Ant1-2441

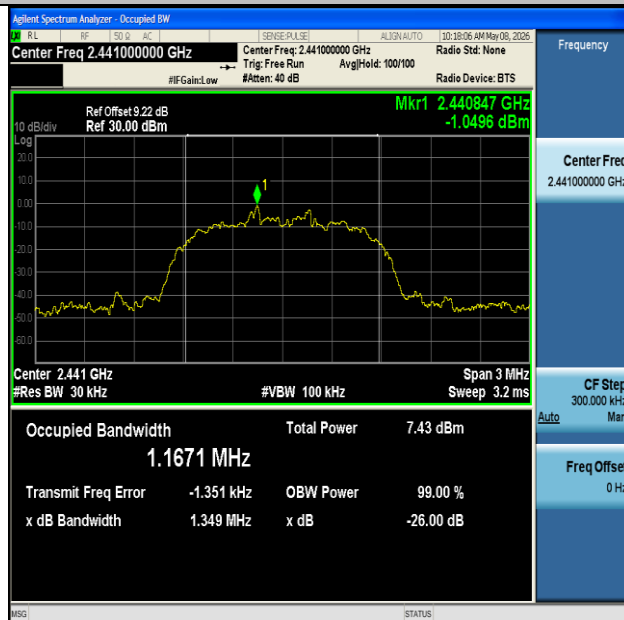


2DH5-Ant1-2480





3DH5-Ant1-2402



3DH5-Ant1-2441







Appendix C: Maximum peak conducted output power

Test Result

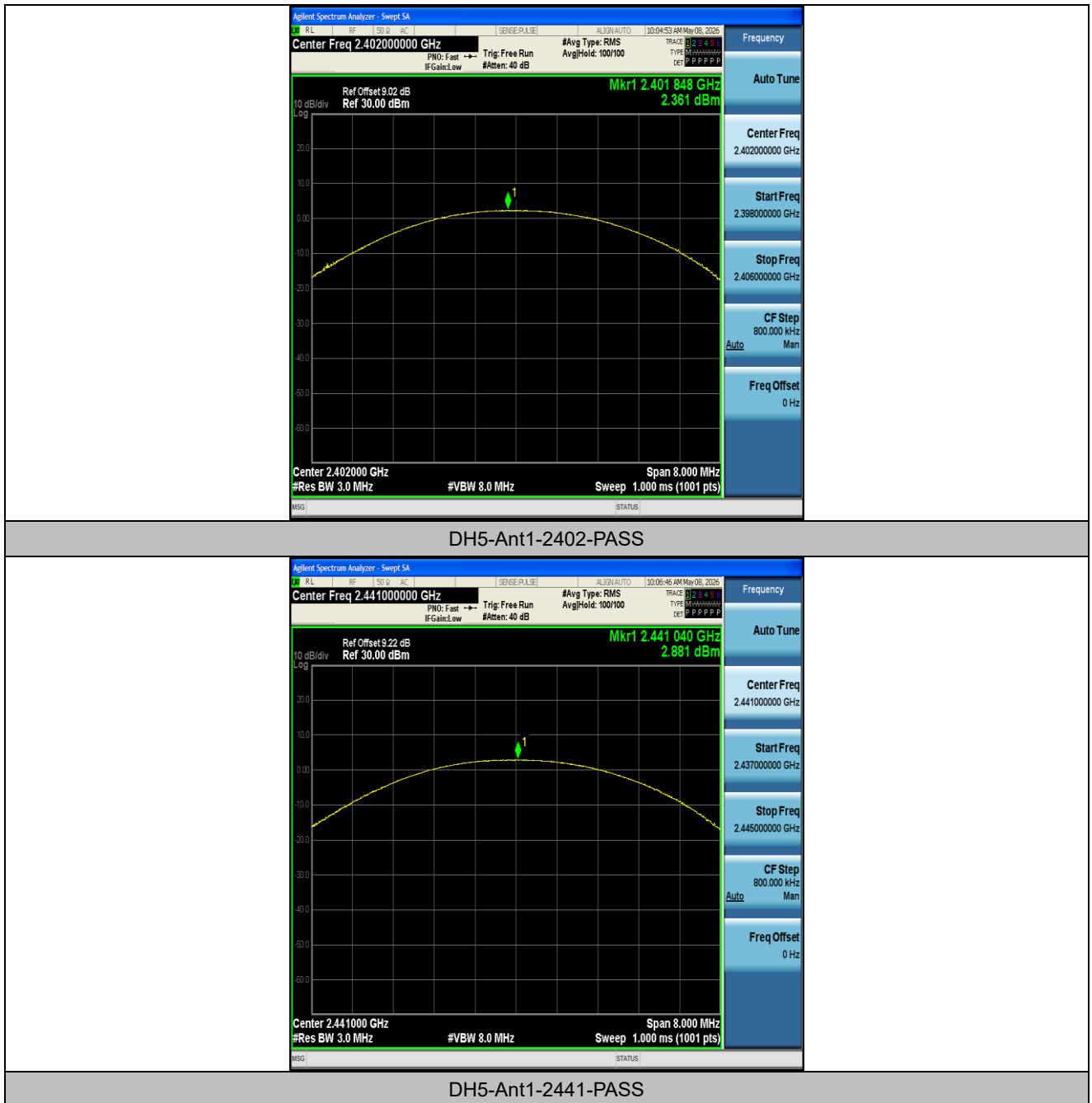
Test Mode	Antenna	Frequency [MHz]	Conducted Peak Power [dBm]	Conducted Limit [dBm]	Verdict
DH5	Ant1	2402	2.36	≤30	PASS
DH5	Ant1	2441	2.88	≤30	PASS
DH5	Ant1	2480	3.52	≤30	PASS
2DH5	Ant1	2402	2.16	≤20.97	PASS
2DH5	Ant1	2441	2.81	≤20.97	PASS
2DH5	Ant1	2480	3.42	≤20.97	PASS
3DH5	Ant1	2402	2.52	≤20.97	PASS
3DH5	Ant1	2441	3.09	≤20.97	PASS
3DH5	Ant1	2480	3.70	≤20.97	PASS

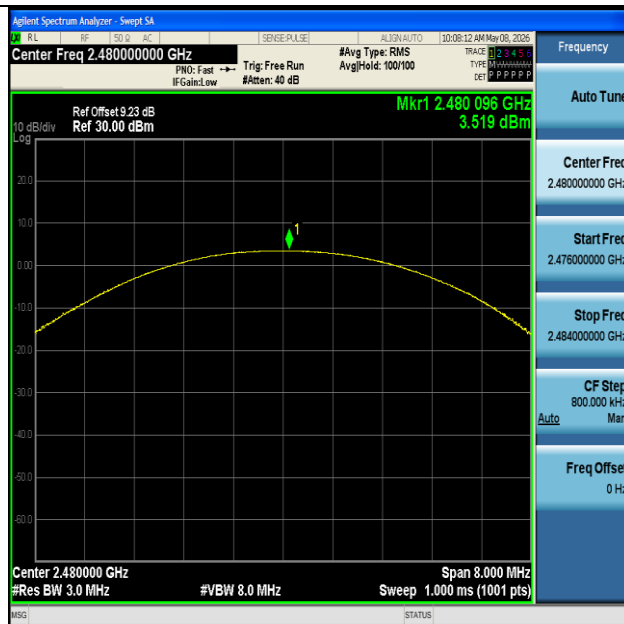
Note: offset(dB) = cable loss(dB) + attenuator factor(dB)



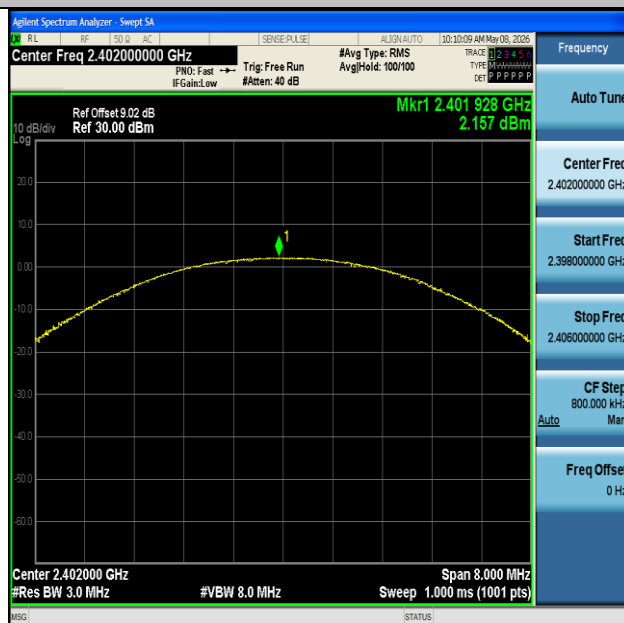


Test Graphs



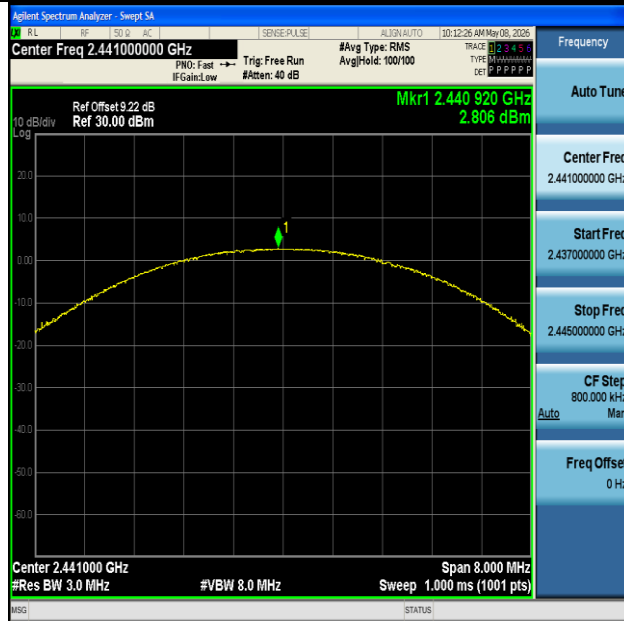


DH5-Ant1-2480-PASS



2DH5-Ant1-2402-PASS



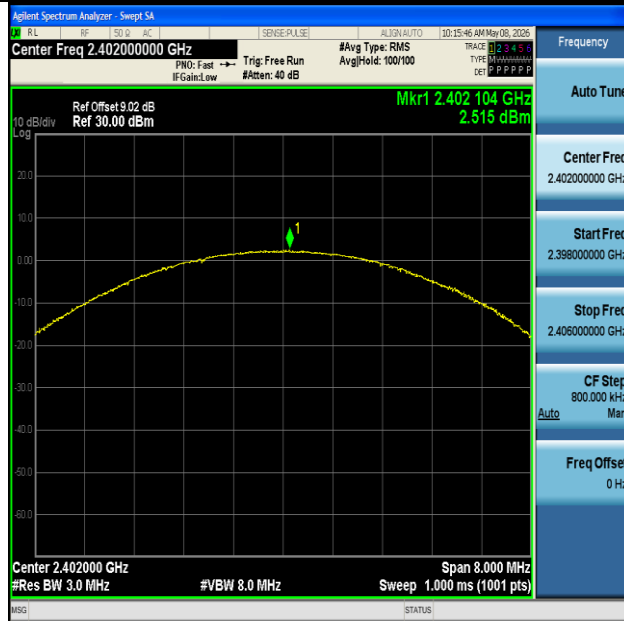


2DH5-Ant1-2441-PASS

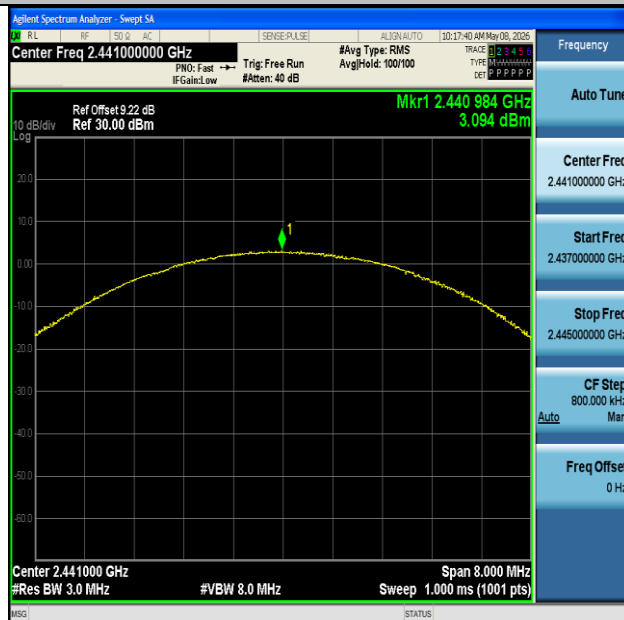


2DH5-Ant1-2480-PASS



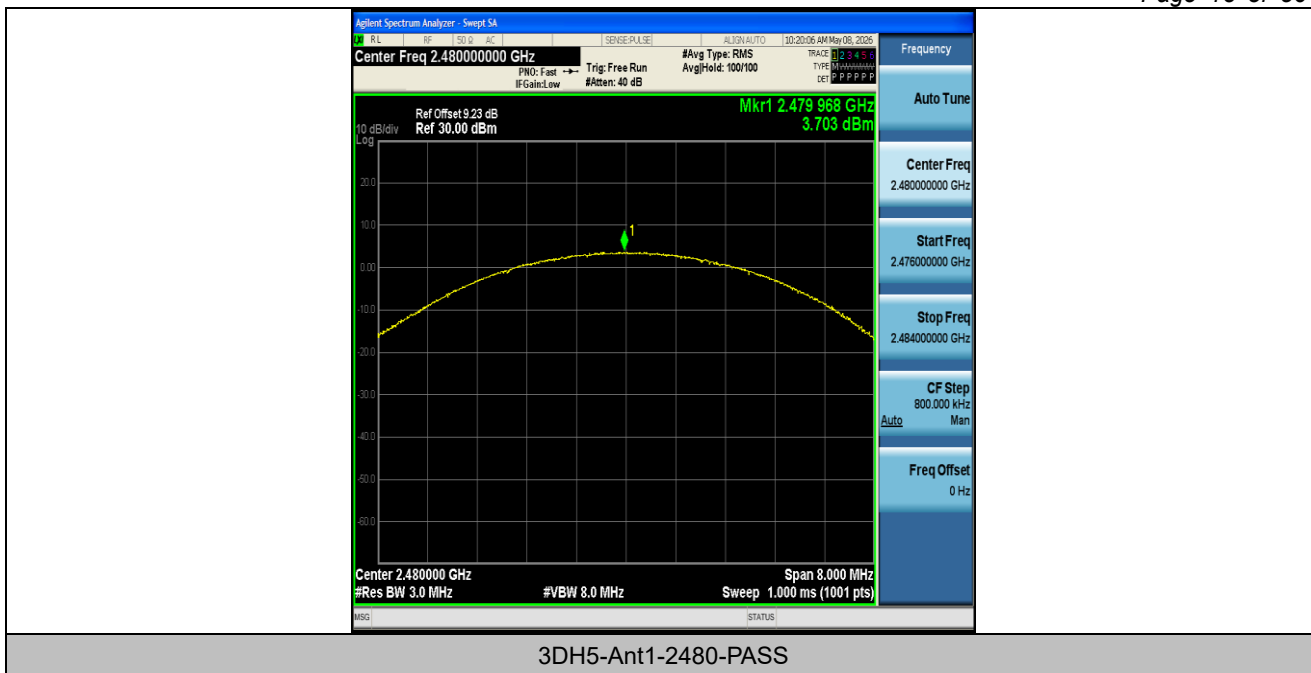


3DH5-Ant1-2402-PASS



3DH5-Ant1-2441-PASS







Appendix D: Carrier frequency separation

Test Result

Test Mode	Antenna	Frequency [MHz]	Result [MHz]	Limit [MHz]	Verdict
DH5	Ant1	Hop	1.338	≥ 1.044	PASS
2DH5	Ant1	Hop	1.014	≥ 0.892	PASS
3DH5	Ant1	Hop	1.032	≥ 0.836	PASS

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





Test Graphs







Appendix E: Time of occupancy

Test Result

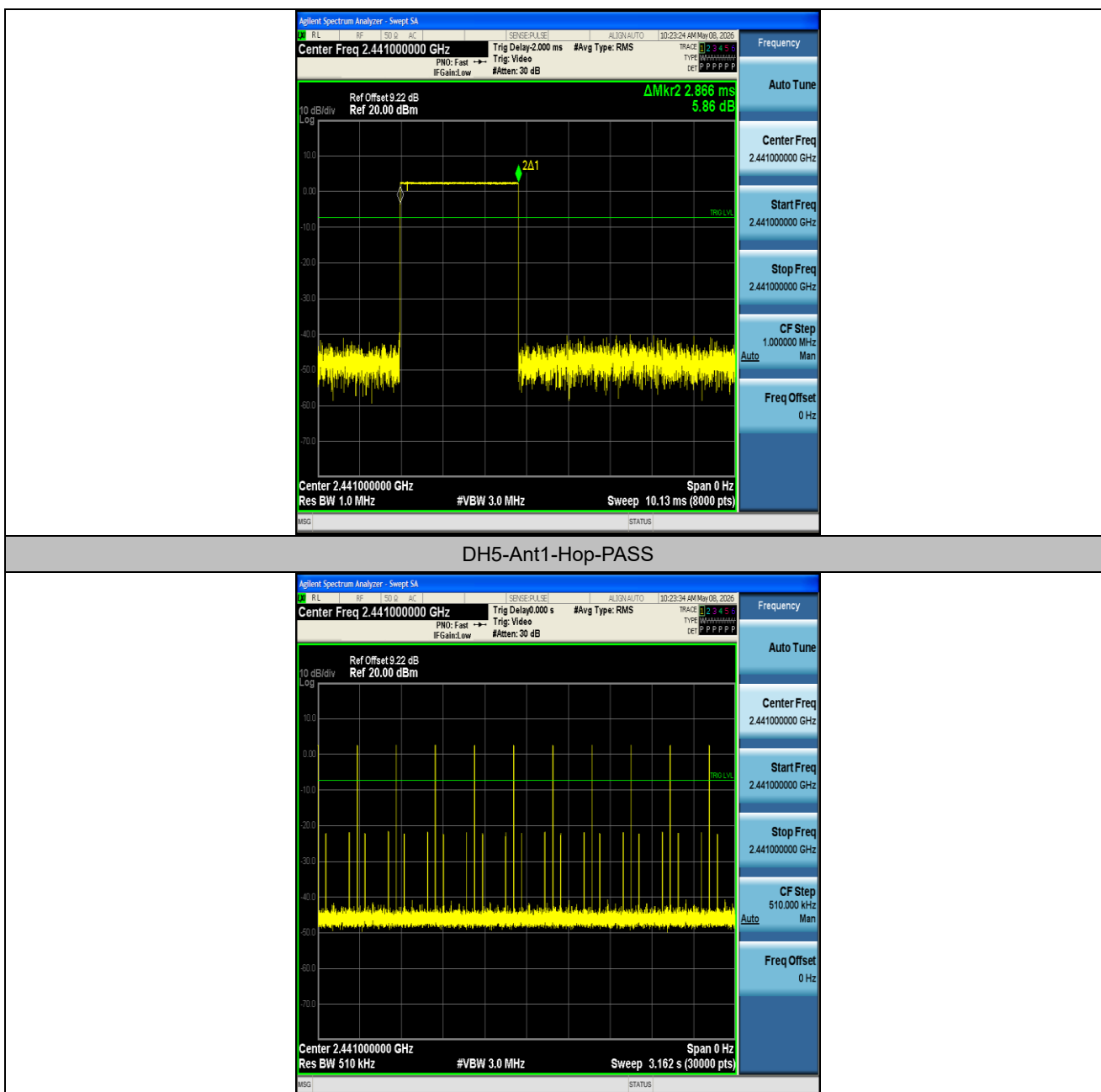
Test Mode	Antenna	Frequency [MHz]	Burst Width [ms]	TotalHops [Num]	Result [s]	Limit [s]	Verdict
DH5	Ant1	Hop	2.866	110	0.315	≤0.4	PASS
2DH5	Ant1	Hop	2.879	110	0.317	≤0.4	PASS
3DH5	Ant1	Hop	2.880	110	0.317	≤0.4	PASS

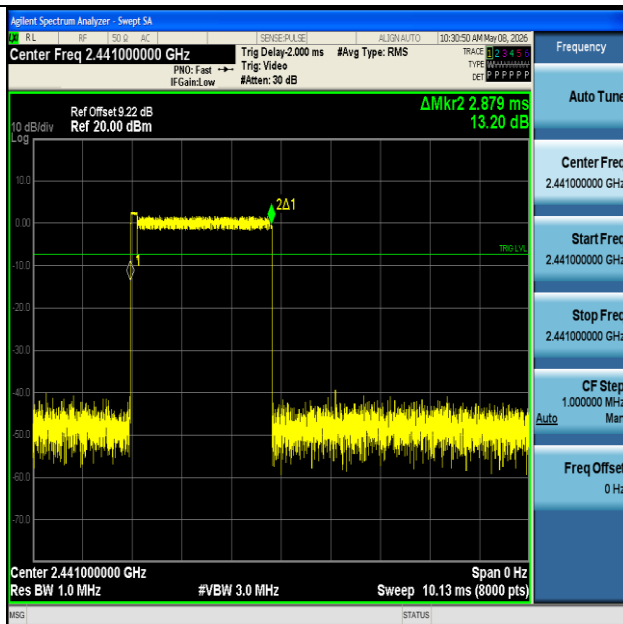
Note: offset(dB) = cable loss(dB) + attenuator factor(dB)



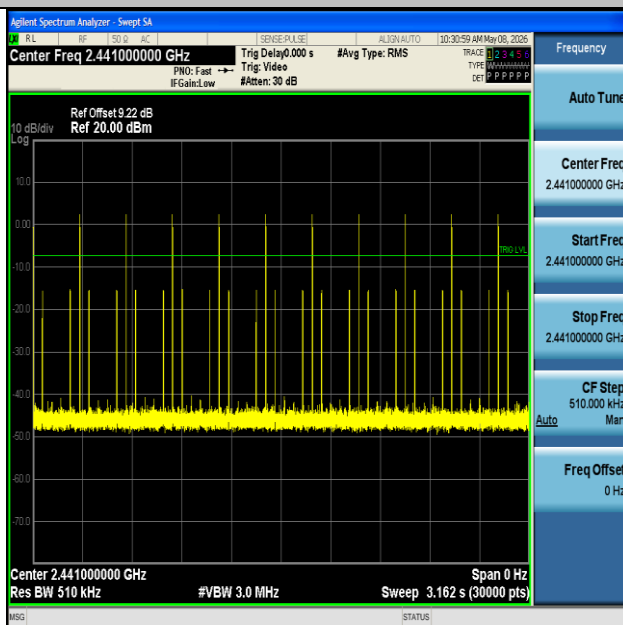


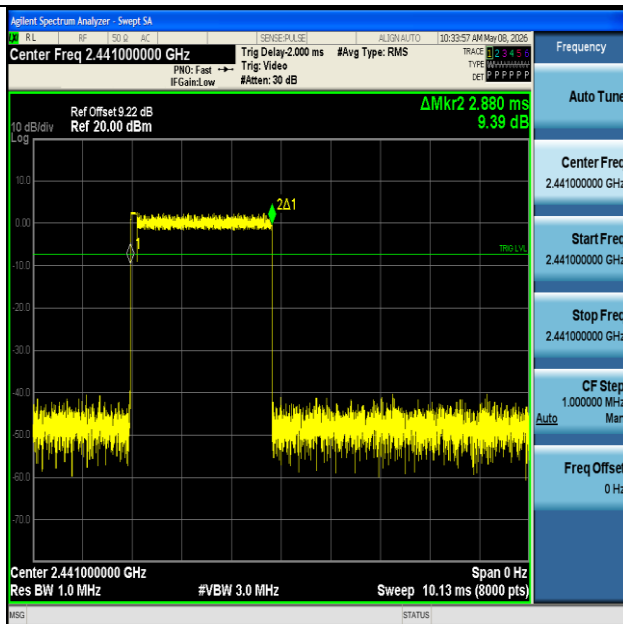
Test Graphs



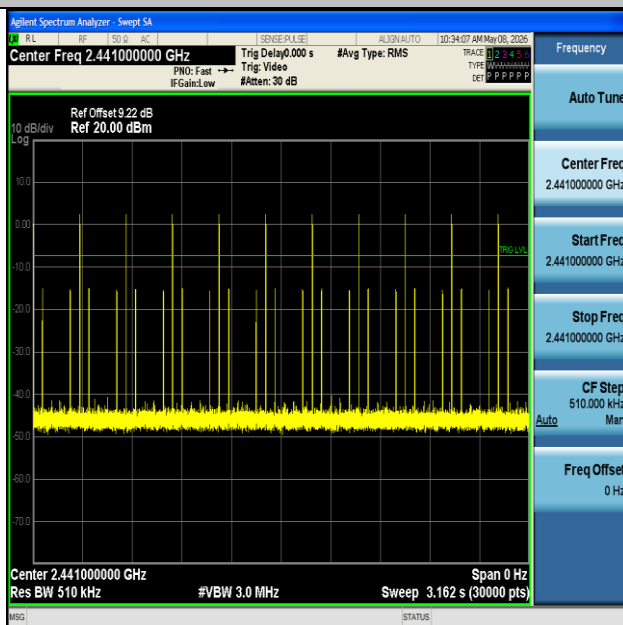


2DH5-Ant1-Hop-PASS





3DH5-Ant1-Hop-PASS





Appendix F: Number of hopping channels

Test Result

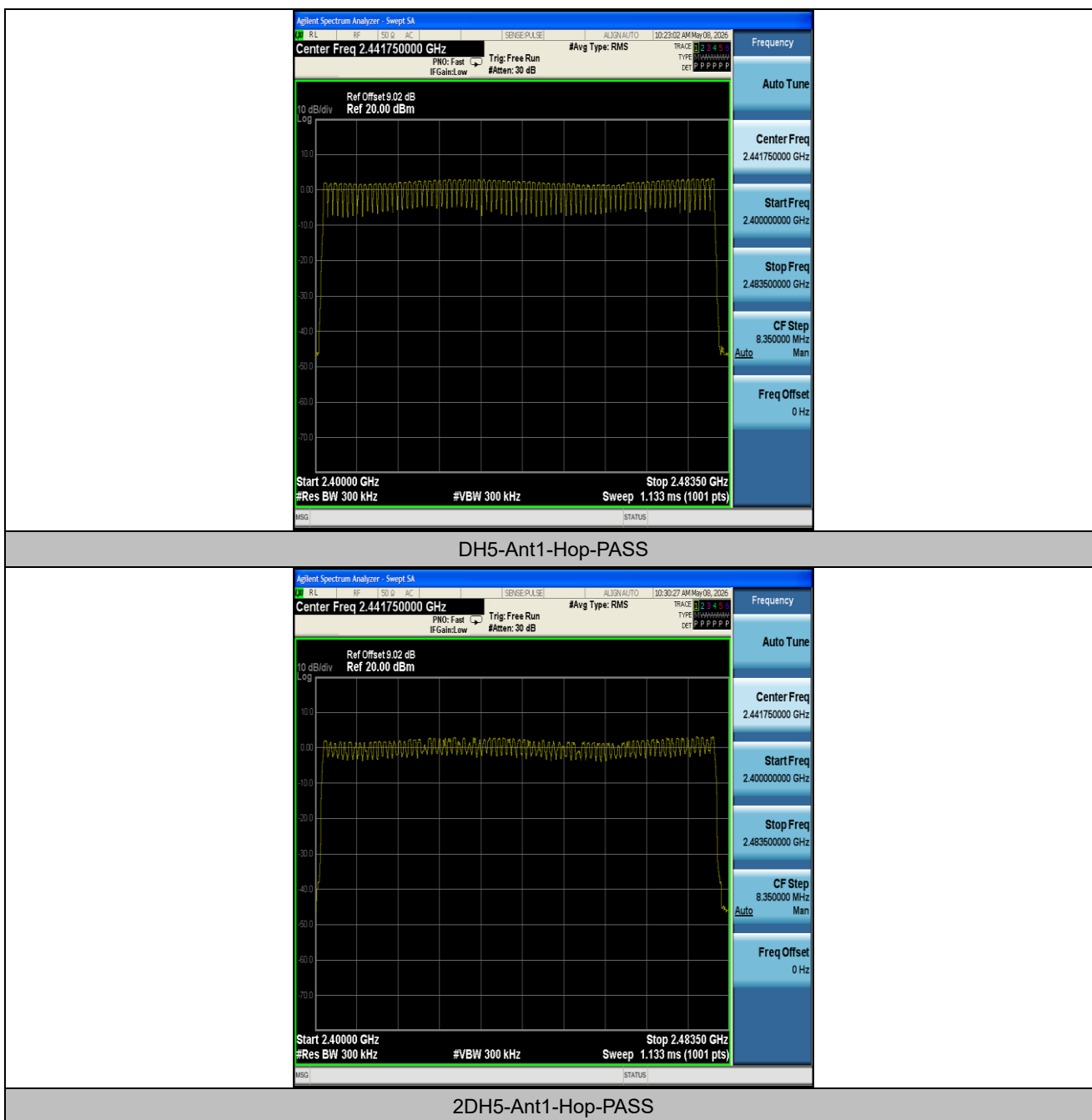
Test Mode	Antenna	Frequency [MHz]	Result [Num]	Limit [Num]	Verdict
DH5	Ant1	Hop	79	≥15	PASS
2DH5	Ant1	Hop	79	≥15	PASS
3DH5	Ant1	Hop	79	≥15	PASS

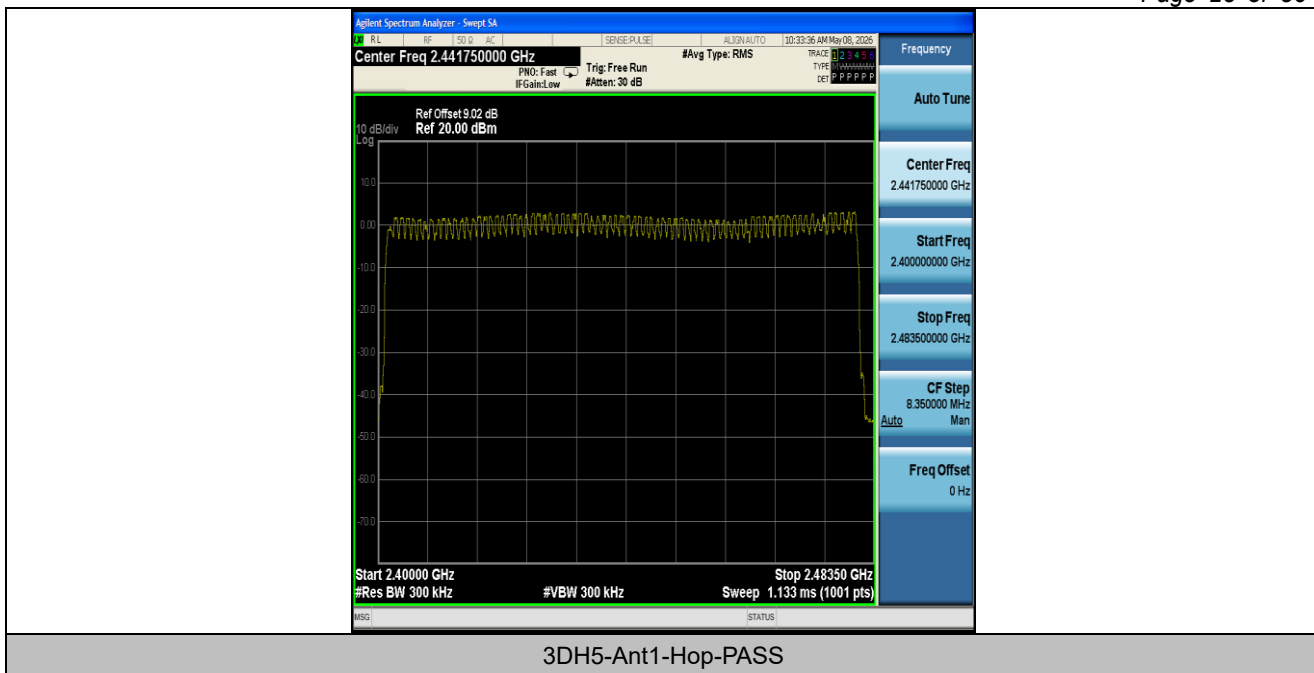
Note: offset(dB) = cable loss(dB) + attenuator factor(dB)





Test Graphs







Appendix G: Band edge measurements

Test Result

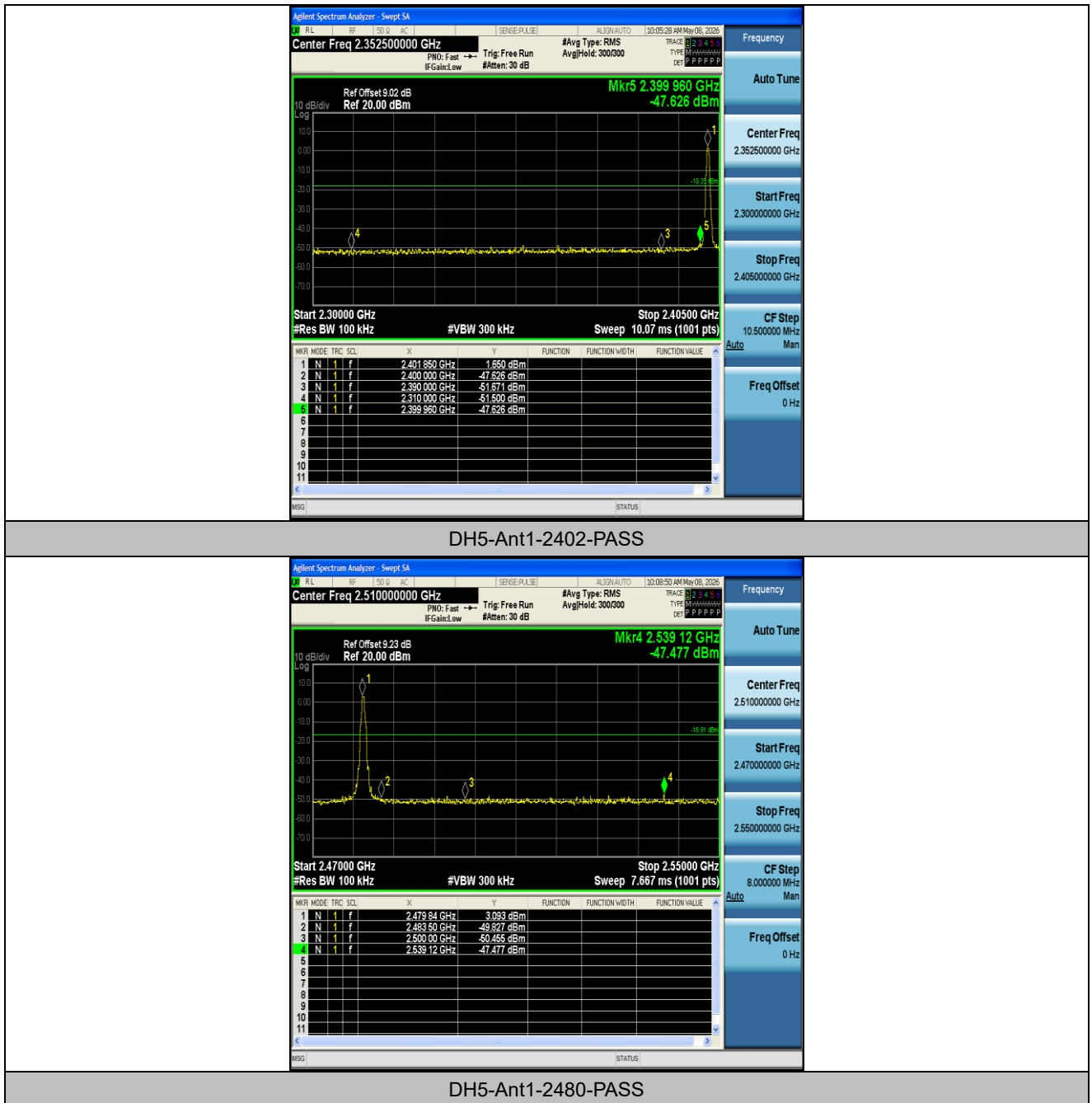
Test Mode	Antenna	Ch.Name	Frequency [MHz]	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
DH5	Ant1	Low	2402	1.65	-47.63	≤-18.35	PASS
DH5	Ant1	High	2480	3.09	-47.48	≤-16.91	PASS
DH5	Ant1	Low	Hop_2402	0.98	-49.45	≤-19.02	PASS
DH5	Ant1	High	Hop_2480	2.67	-48.22	≤-17.33	PASS
2DH5	Ant1	Low	2402	0.83	-49.4	≤-19.17	PASS
2DH5	Ant1	High	2480	2.71	-47.46	≤-17.29	PASS
2DH5	Ant1	Low	Hop_2402	-3.61	-49.39	≤-23.61	PASS
2DH5	Ant1	High	Hop_2480	0.45	-48.06	≤-19.55	PASS
3DH5	Ant1	Low	2402	1.80	-49	≤-18.2	PASS
3DH5	Ant1	High	2480	3.04	-48.7	≤-16.96	PASS
3DH5	Ant1	Low	Hop_2402	1.70	-48.61	≤-18.3	PASS
3DH5	Ant1	High	Hop_2480	0.63	-48.09	≤-19.37	PASS

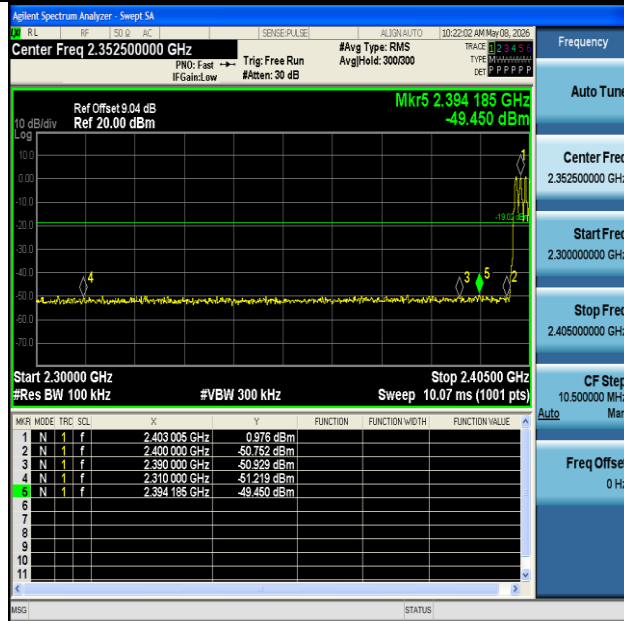
Note: offset(dB) = cable loss(dB) + attenuator factor(dB)



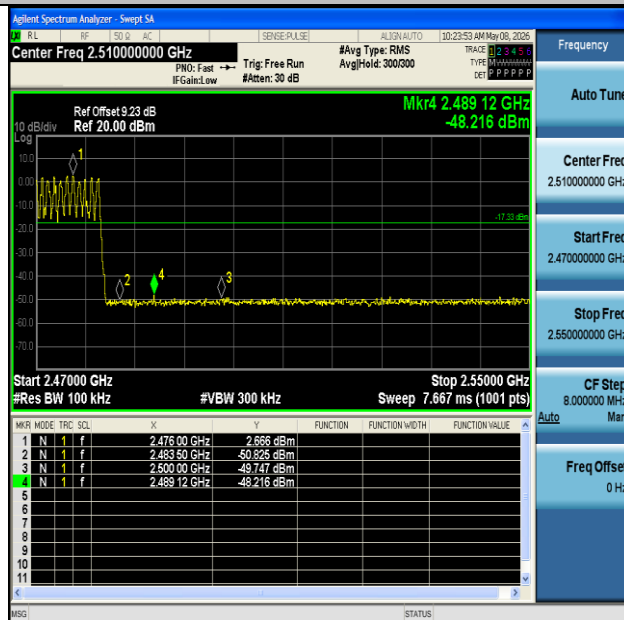


Test Graphs



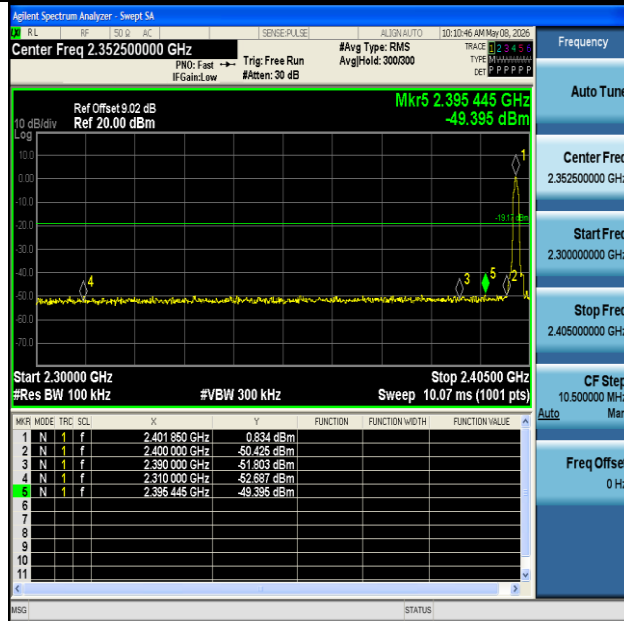


DH5-Ant1-Hop_2402-PASS

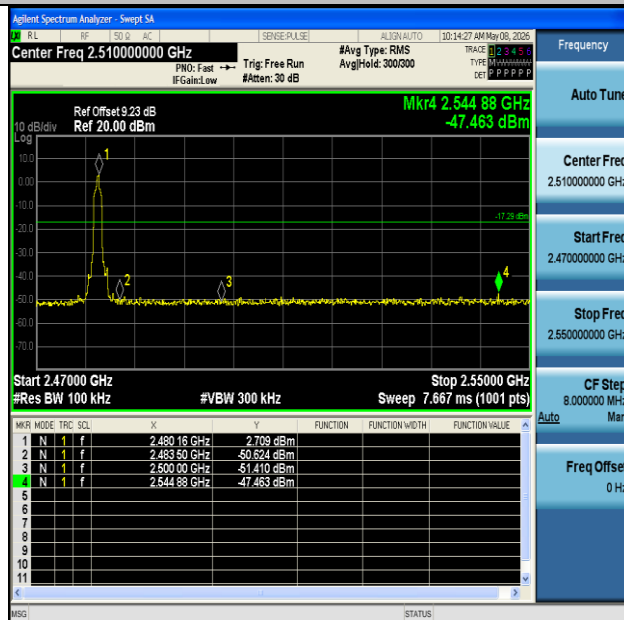


DH5-Ant1-Hop_2480-PASS



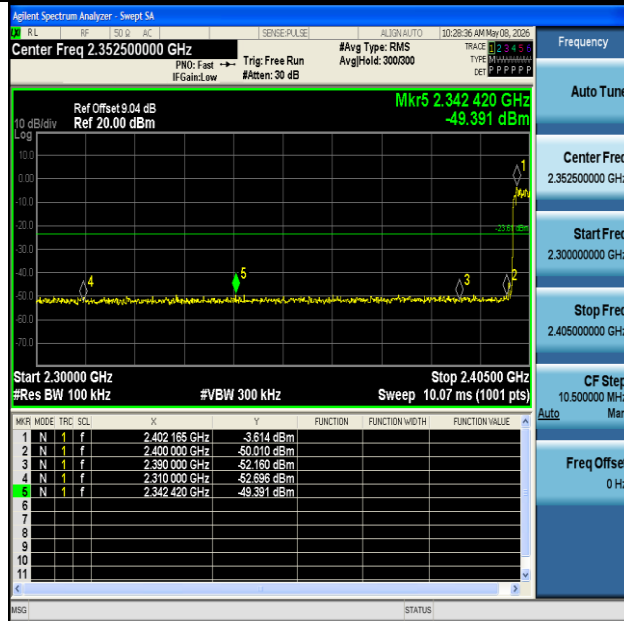


2DH5-Ant1-2402-PASS

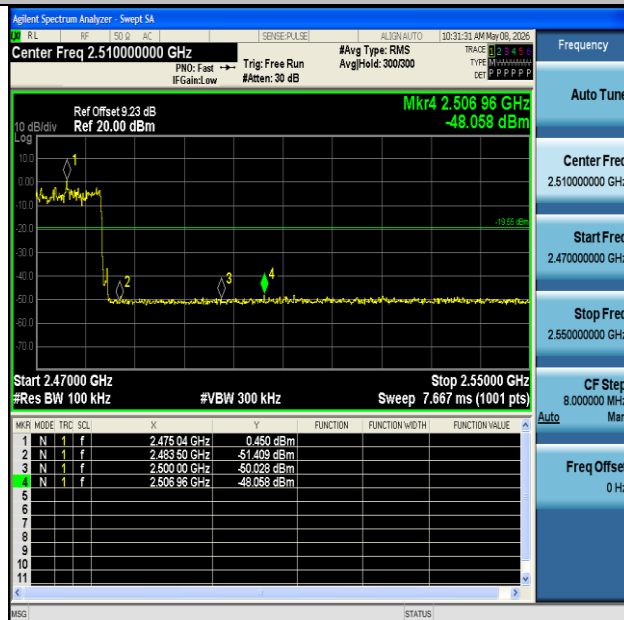


2DH5-Ant1-2480-PASS



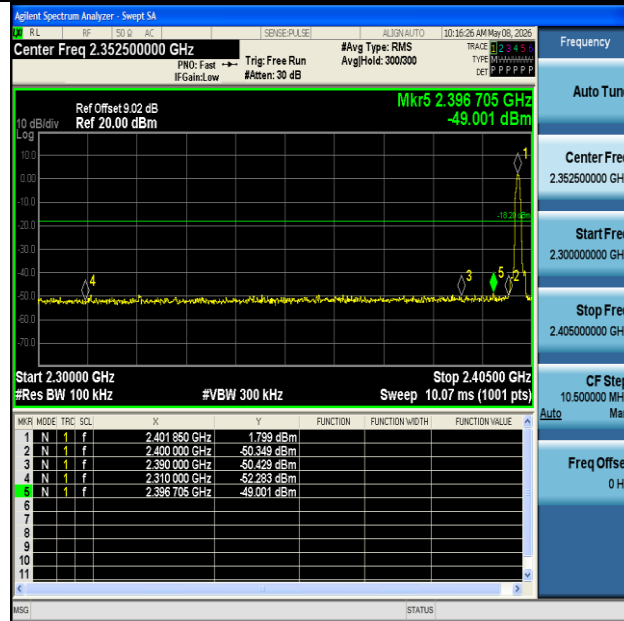


2DH5-Ant1-Hop_2402-PASS

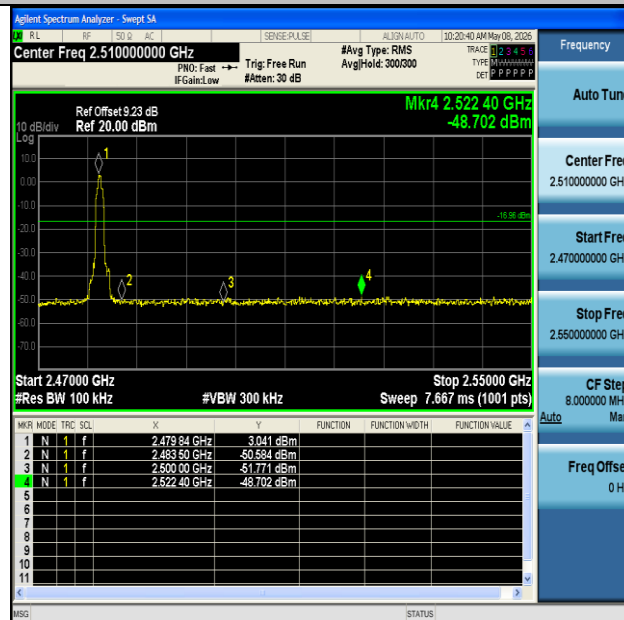


2DH5-Ant1-Hop_2480-PASS



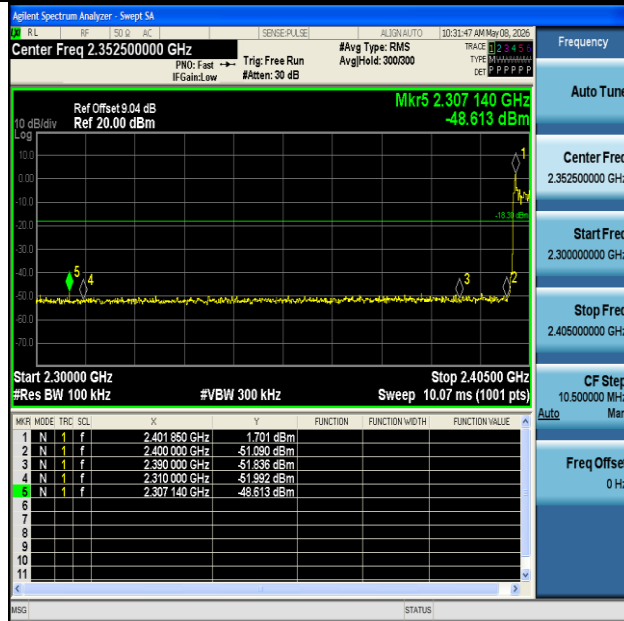


3DH5-Ant1-2402-PASS

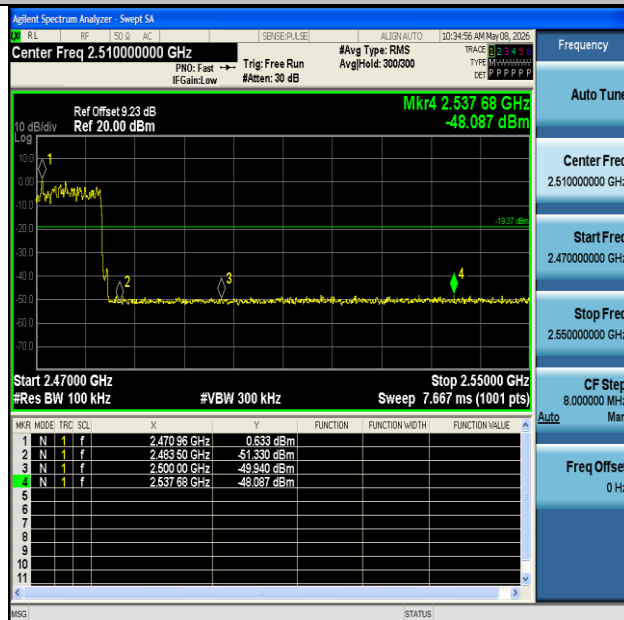


3DH5-Ant1-2480-PASS





3DH5-Ant1-Hop_2402-PASS



3DH5-Ant1-Hop_2480-PASS





Appendix H: Conducted Spurious Emission

Test Result

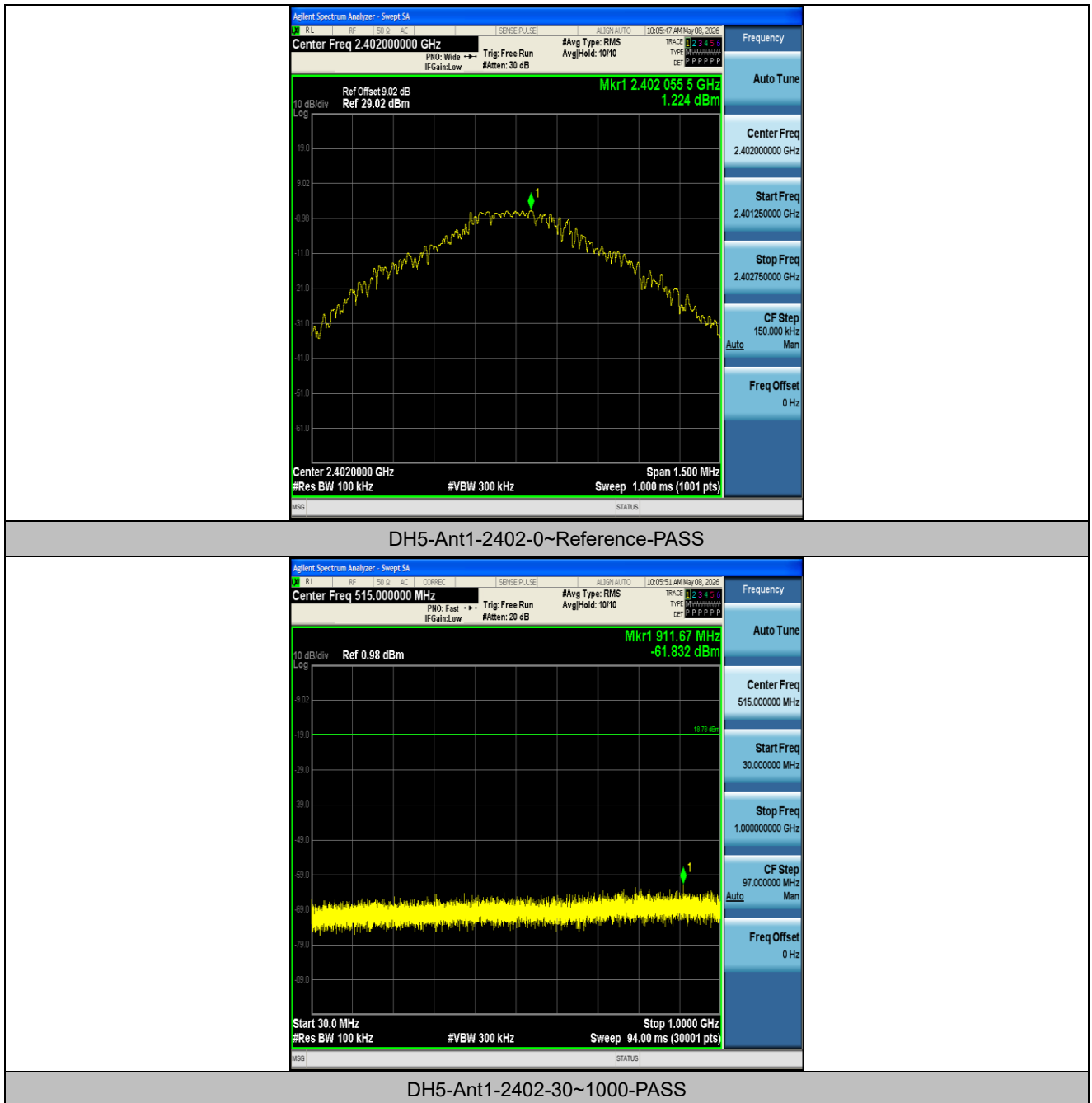
Test Mode	Antenna	Frequency [MHz]	Freq. Range [MHz]	Ref. Level [dBm]	Result [dBm]	Limit [dBm]	Verdict
DH5	Ant1	2402	0~Reference	1.22	1.22	---	PASS
DH5	Ant1	2402	30~1000	1.22	-61.83	≤-18.78	PASS
DH5	Ant1	2402	1000~26500	1.22	-36.67	≤-18.78	PASS
DH5	Ant1	2441	0~Reference	1.81	1.81	---	PASS
DH5	Ant1	2441	30~1000	1.81	-63.18	≤-18.19	PASS
DH5	Ant1	2441	1000~26500	1.81	-37.48	≤-18.19	PASS
DH5	Ant1	2480	0~Reference	2.31	2.31	---	PASS
DH5	Ant1	2480	30~1000	2.31	-62.38	≤-17.69	PASS
DH5	Ant1	2480	1000~26500	2.31	-37.49	≤-17.69	PASS
2DH5	Ant1	2402	0~Reference	0.41	0.41	---	PASS
2DH5	Ant1	2402	30~1000	0.41	-62.72	≤-19.59	PASS
2DH5	Ant1	2402	1000~26500	0.41	-37.66	≤-19.59	PASS
2DH5	Ant1	2441	0~Reference	-0.28	-0.28	---	PASS
2DH5	Ant1	2441	30~1000	-0.28	-63.36	≤-20.28	PASS
2DH5	Ant1	2441	1000~26500	-0.28	-37.64	≤-20.28	PASS
2DH5	Ant1	2480	0~Reference	-0.24	-0.24	---	PASS
2DH5	Ant1	2480	30~1000	-0.24	-61.94	≤-20.24	PASS
2DH5	Ant1	2480	1000~26500	-0.24	-37.5	≤-20.24	PASS
3DH5	Ant1	2402	0~Reference	1.50	1.50	---	PASS
3DH5	Ant1	2402	30~1000	1.50	-62.54	≤-18.5	PASS
3DH5	Ant1	2402	1000~26500	1.50	-37.66	≤-18.5	PASS
3DH5	Ant1	2441	0~Reference	-2.70	-2.70	---	PASS
3DH5	Ant1	2441	30~1000	-2.70	-62.34	≤-22.7	PASS
3DH5	Ant1	2441	1000~26500	-2.70	-37.76	≤-22.7	PASS
3DH5	Ant1	2480	0~Reference	2.25	2.25	---	PASS
3DH5	Ant1	2480	30~1000	2.25	-62.44	≤-17.75	PASS
3DH5	Ant1	2480	1000~26500	2.25	-38.01	≤-17.75	PASS

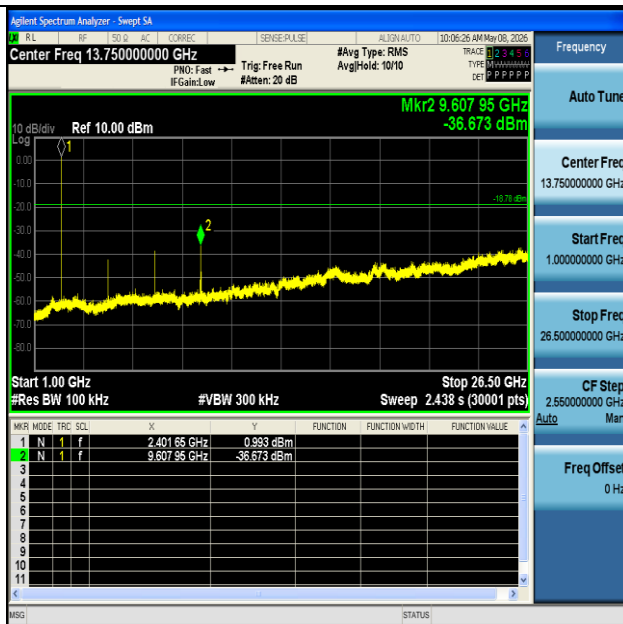
Note: offset(dB) in Reference test plots = cable loss(dB) + attenuator factor(dB); For spurious emissions plots from 30MHz to 26.5GHz, the cable loss and attenuator factors have been set in the 'Input Correction' of the Spectrum Analyzer during the test.



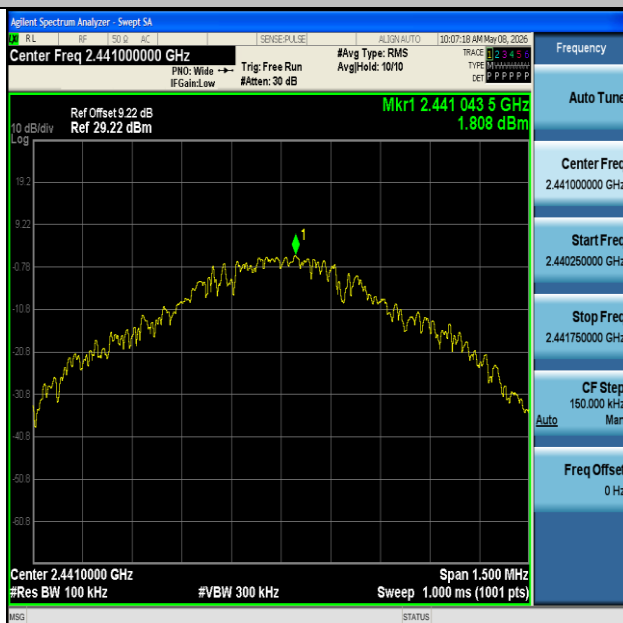


Test Graphs





DH5-Ant1-2402-1000~26500-PASS

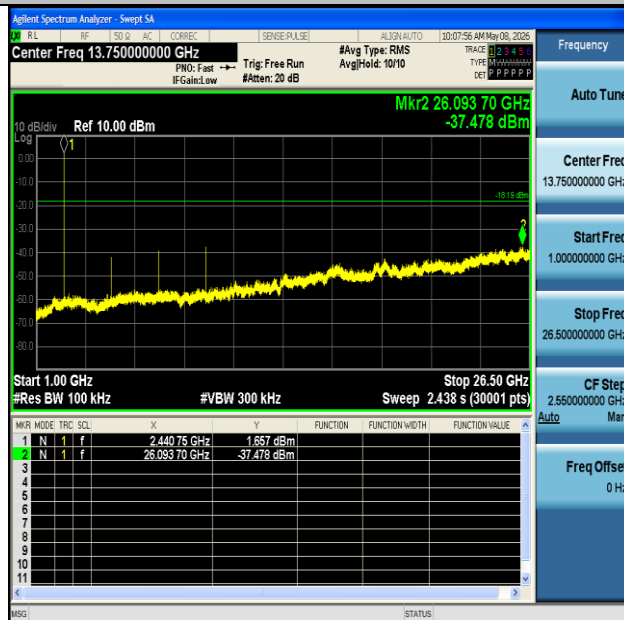


DH5-Ant1-2441-0~Reference-PASS



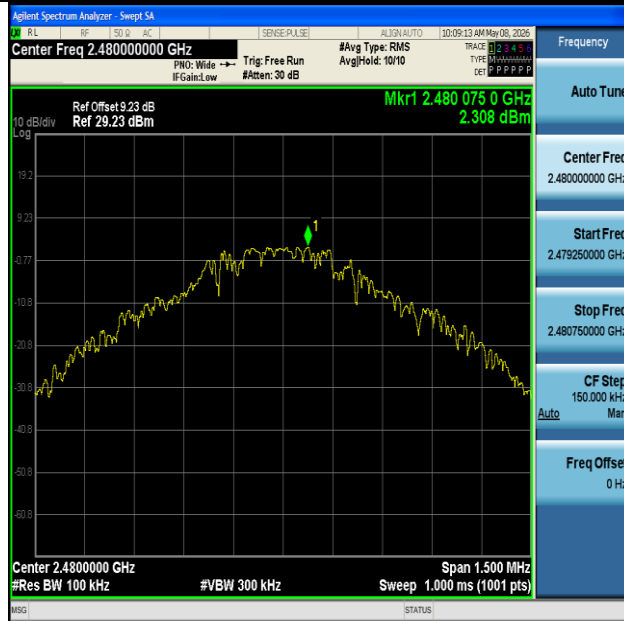


DH5-Ant1-2441-30~1000-PASS

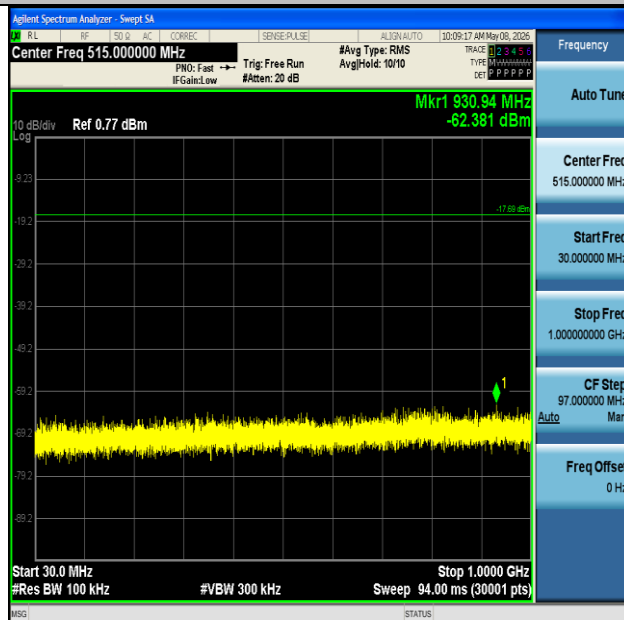


DH5-Ant1-2441-1000~26500-PASS



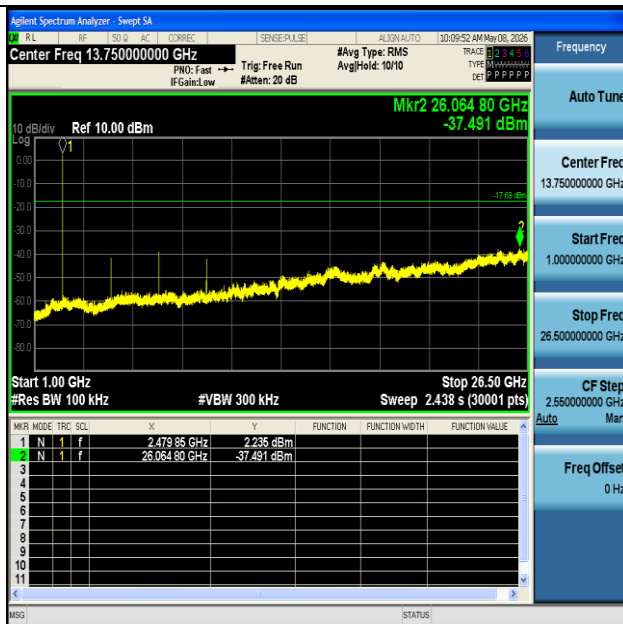


DH5-Ant1-2480-0~Reference-PASS

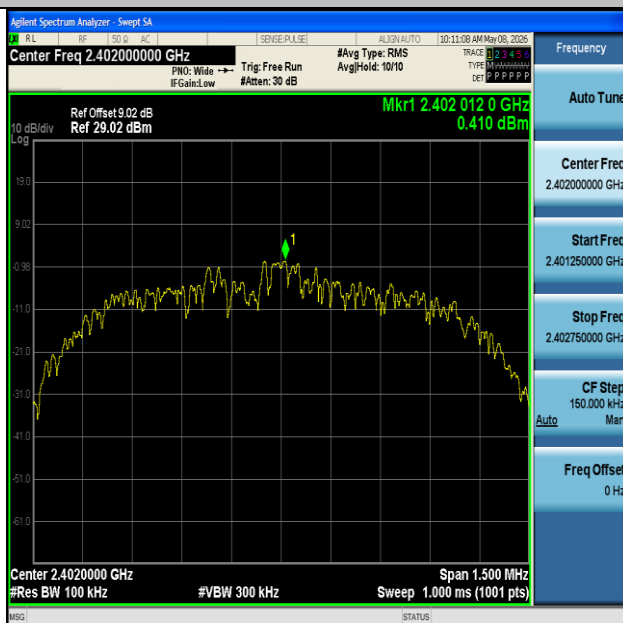


DH5-Ant1-2480-30~1000-PASS



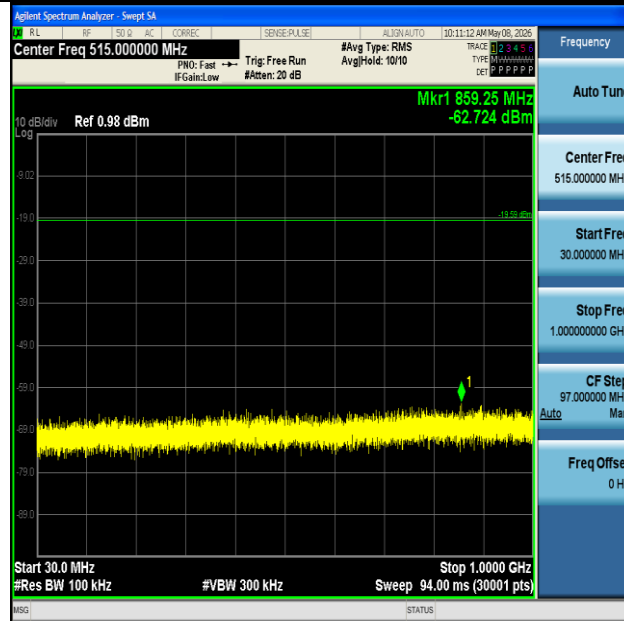


DH5-Ant1-2480-1000~26500-PASS

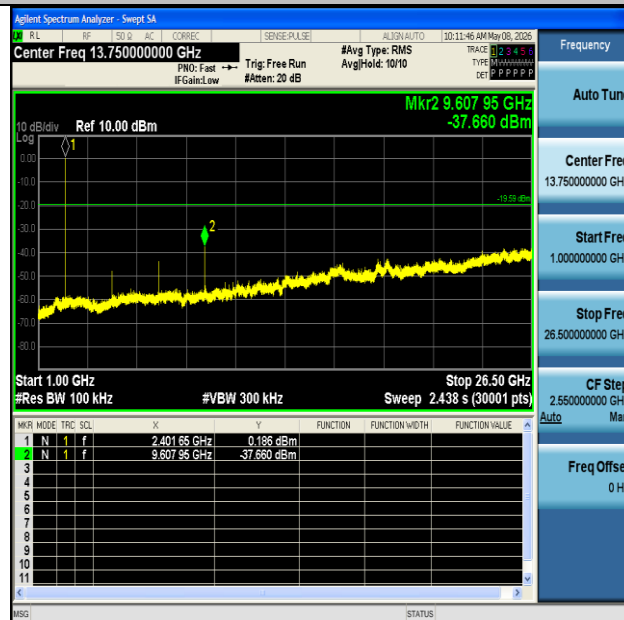


2DH5-Ant1-2402-0~Reference-PASS



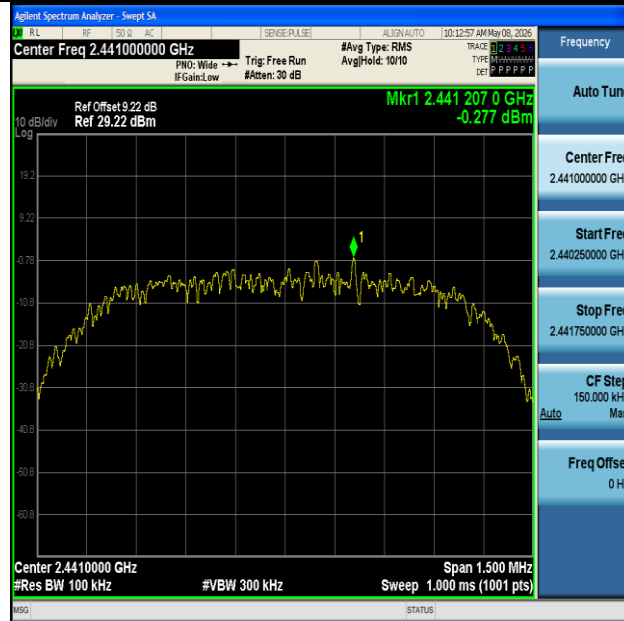


2DH5-Ant1-2402-30~1000-PASS

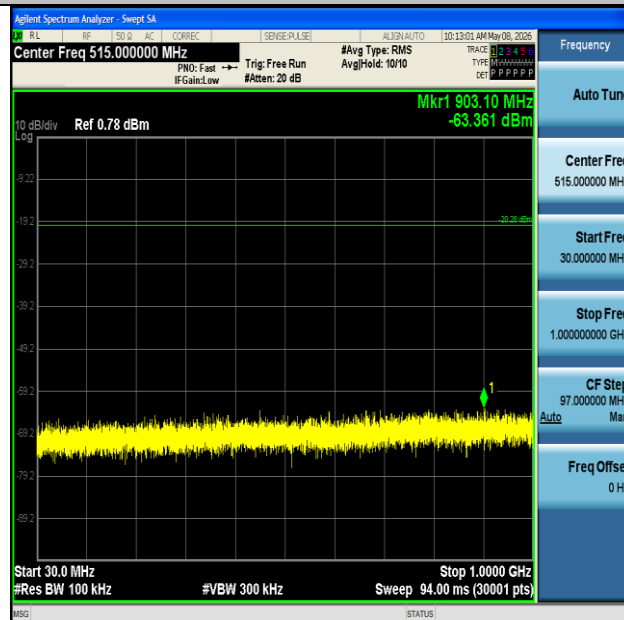


2DH5-Ant1-2402-1000~26500-PASS



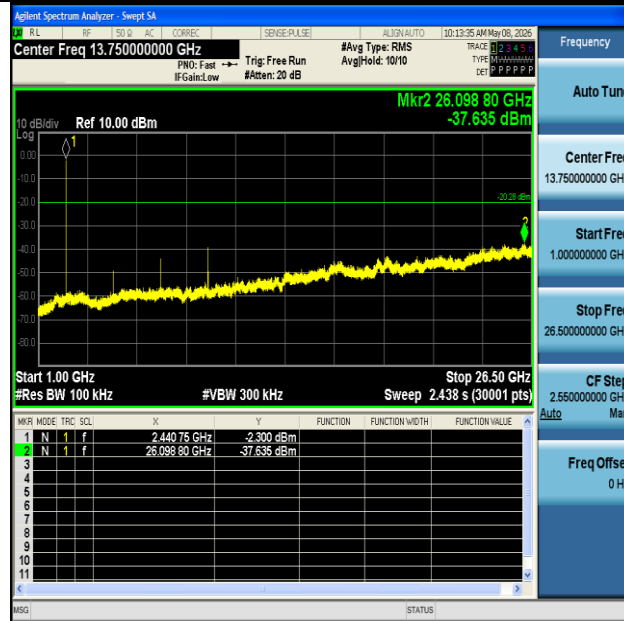


2DH5-Ant1-2441-0~Reference-PASS

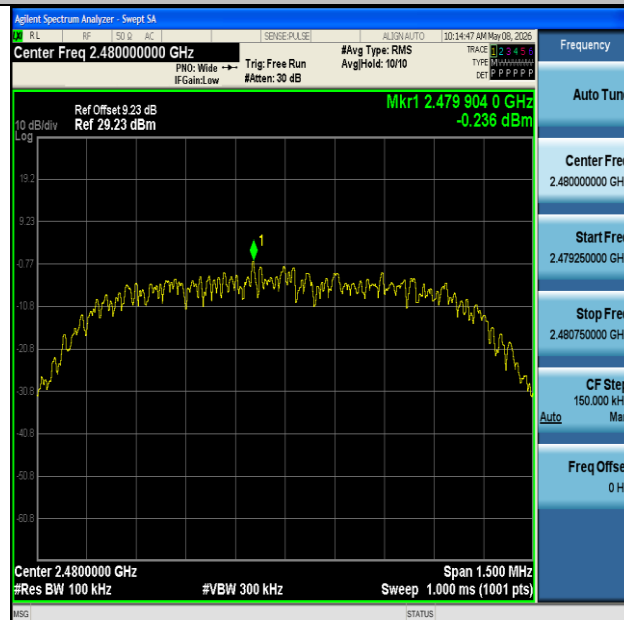


2DH5-Ant1-2441-30~1000-PASS



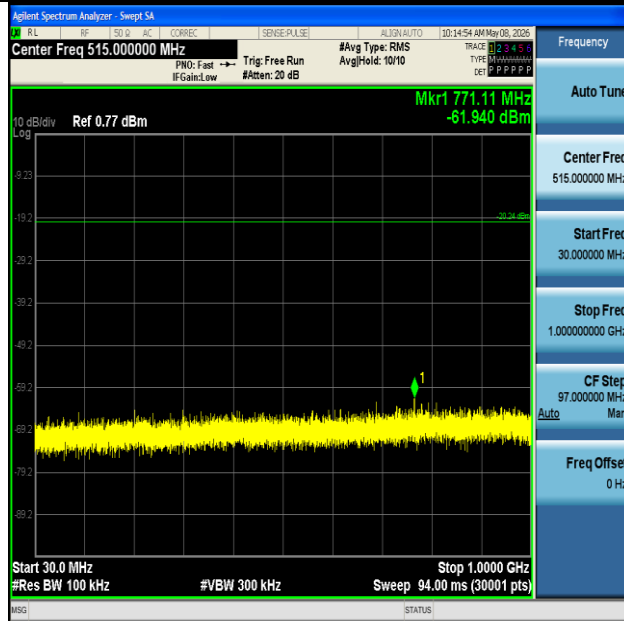


2DH5-Ant1-2441-1000~26500-PASS

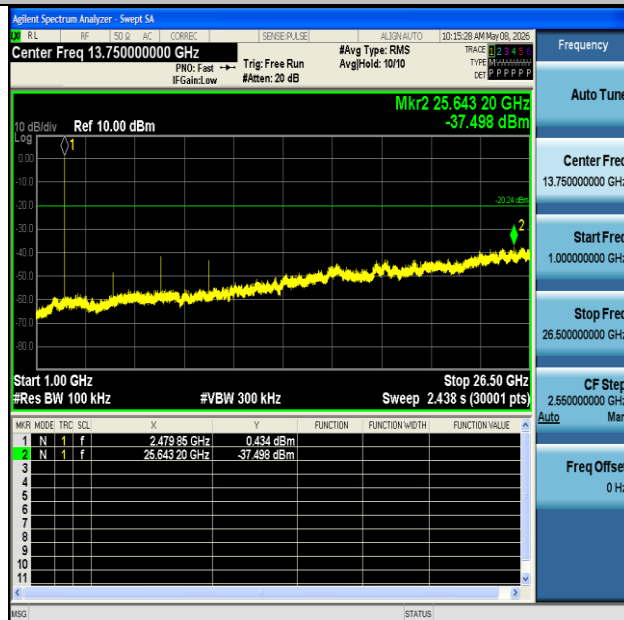


2DH5-Ant1-2480-0~Reference-PASS



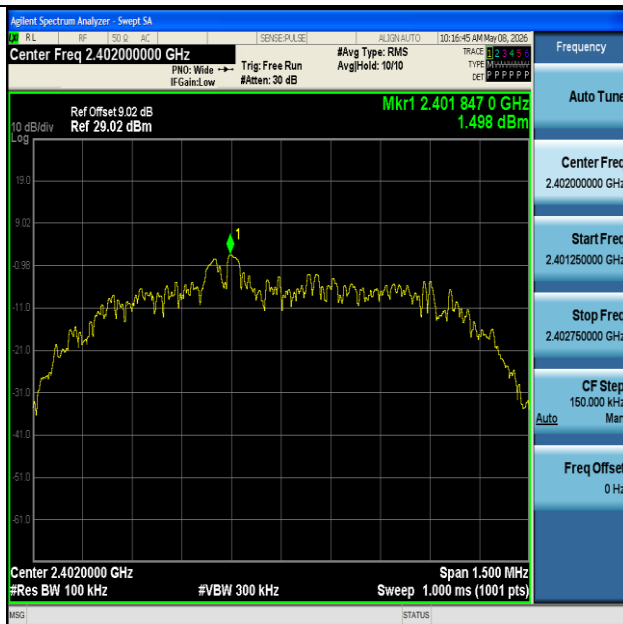


2DH5-Ant1-2480-30~1000-PASS

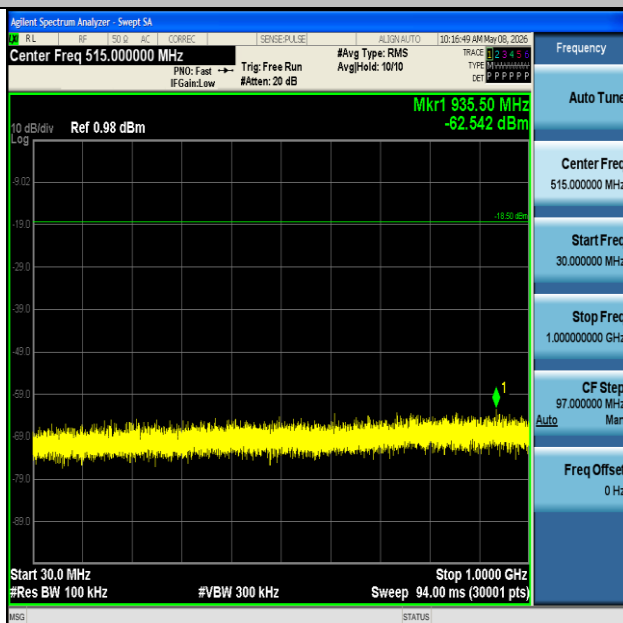


2DH5-Ant1-2480-1000~26500-PASS



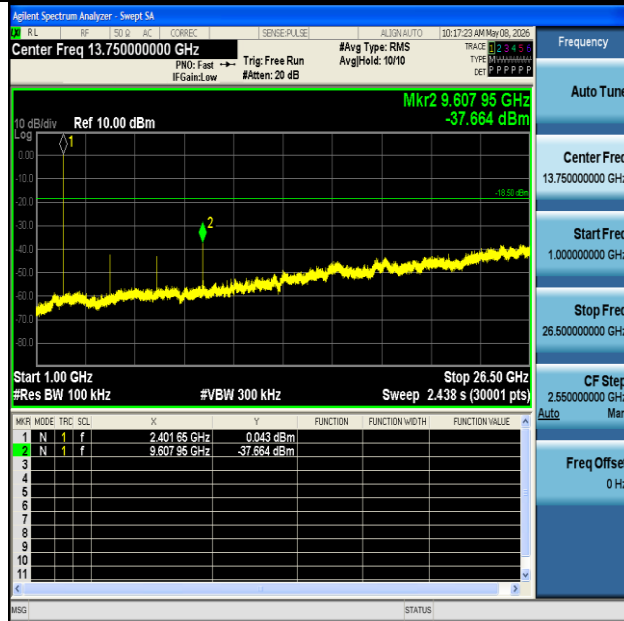


3DH5-Ant1-2402-0~Reference-PASS

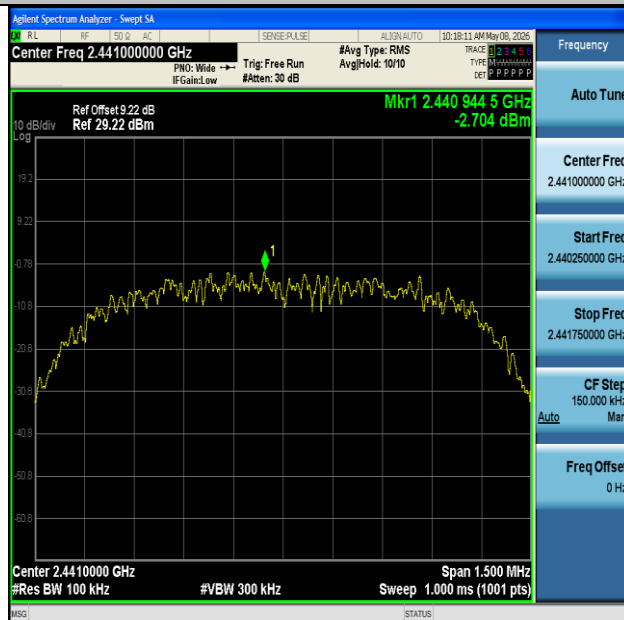


3DH5-Ant1-2402-30~1000-PASS



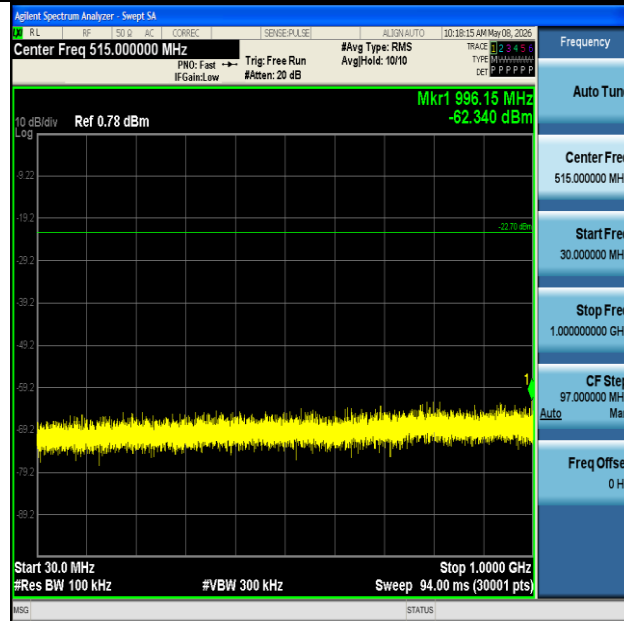


3DH5-Ant1-2402-1000~26500-PASS

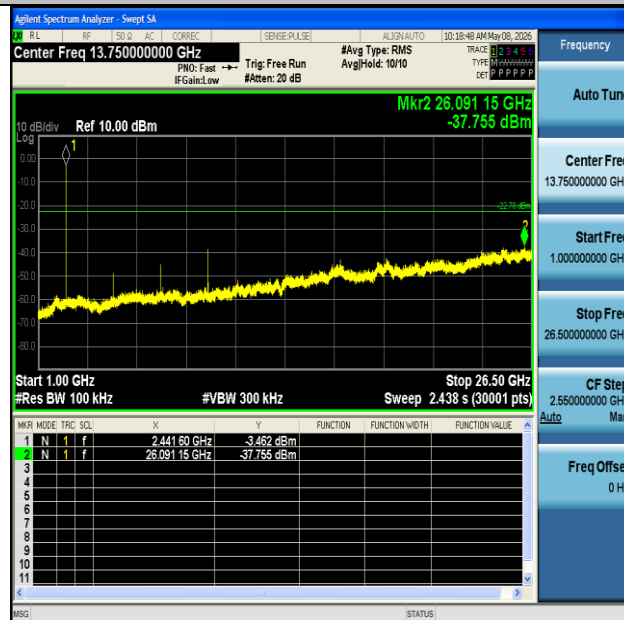


3DH5-Ant1-2441-0~Reference-PASS



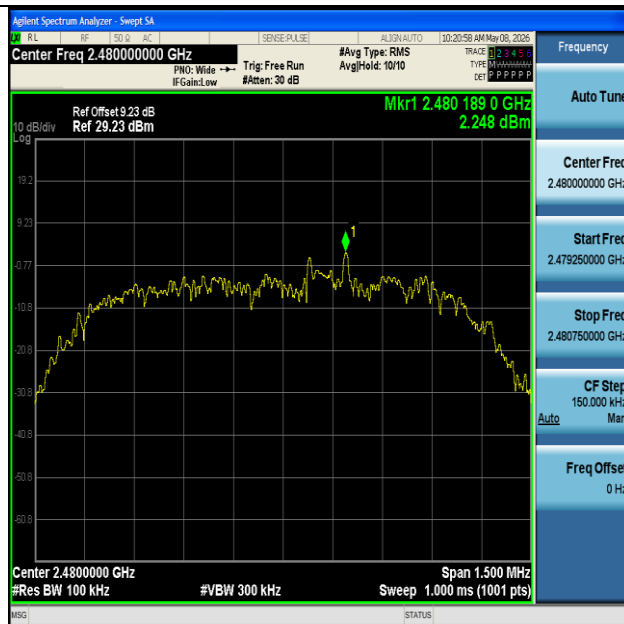


3DH5-Ant1-2441-30~1000-PASS

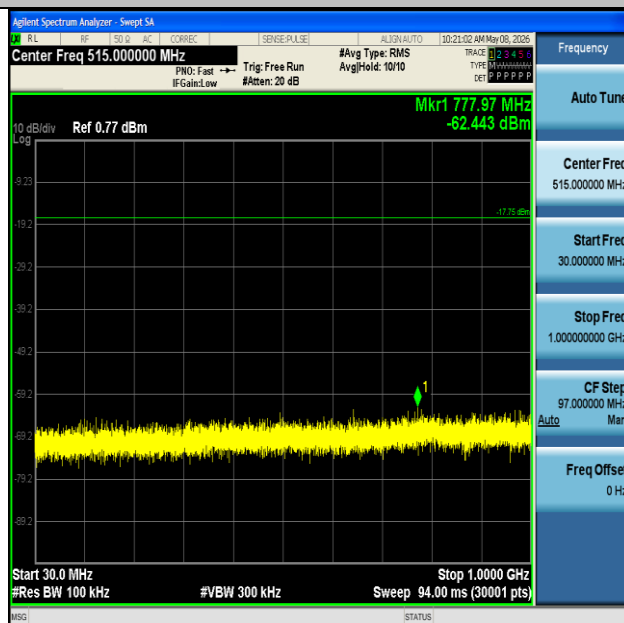


3DH5-Ant1-2441-1000~26500-PASS



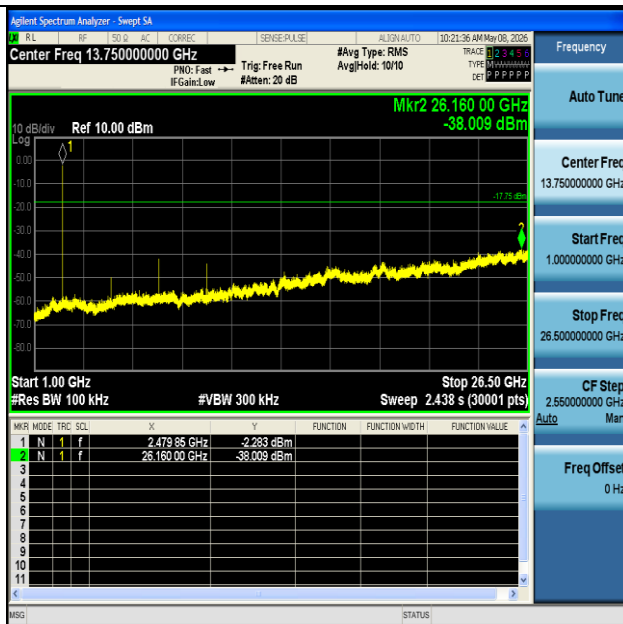


3DH5-Ant1-2480-0~Reference-PASS



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





3DH5-Ant1-2480-1000~26500-PASS





Appendix I: Duty Cycle

Test Result

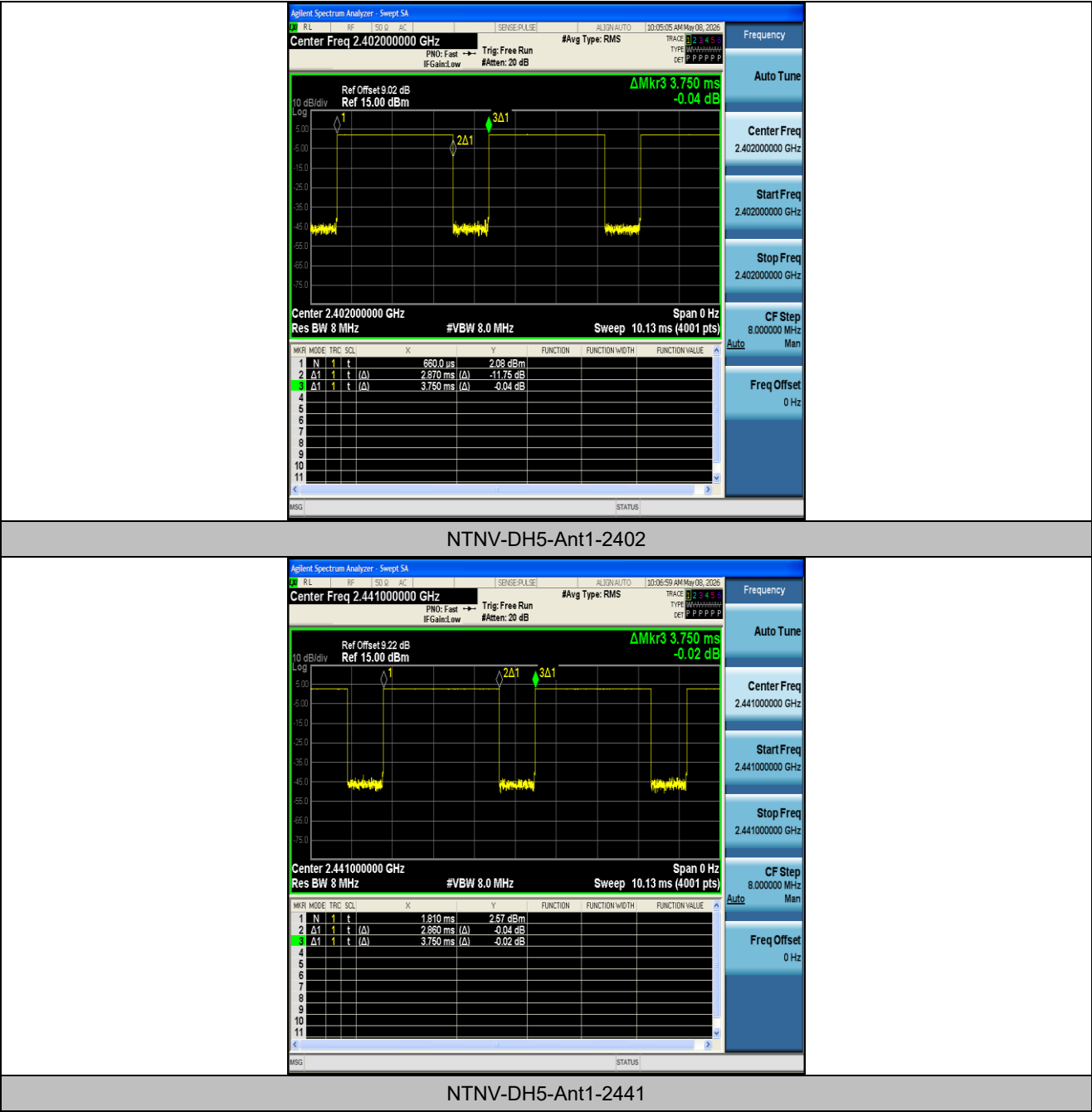
Test Mode	Antenna	Frequency [MHz]	ON Time [ms]	Period [ms]	Duty Cycle [%]	Duty Cycle Factor [dB]
DH5	Ant1	2402	2.87	3.75	76.53	1.16
DH5	Ant1	2441	2.86	3.75	76.27	1.18
DH5	Ant1	2480	2.86	3.75	76.27	1.18
2DH5	Ant1	2402	2.88	3.75	76.80	1.15
2DH5	Ant1	2441	2.88	3.75	76.80	1.15
2DH5	Ant1	2480	2.87	3.75	76.53	1.16
3DH5	Ant1	2402	2.75	3.62	75.97	1.19
3DH5	Ant1	2441	2.87	3.74	76.74	1.15
3DH5	Ant1	2480	2.88	3.75	76.80	1.15

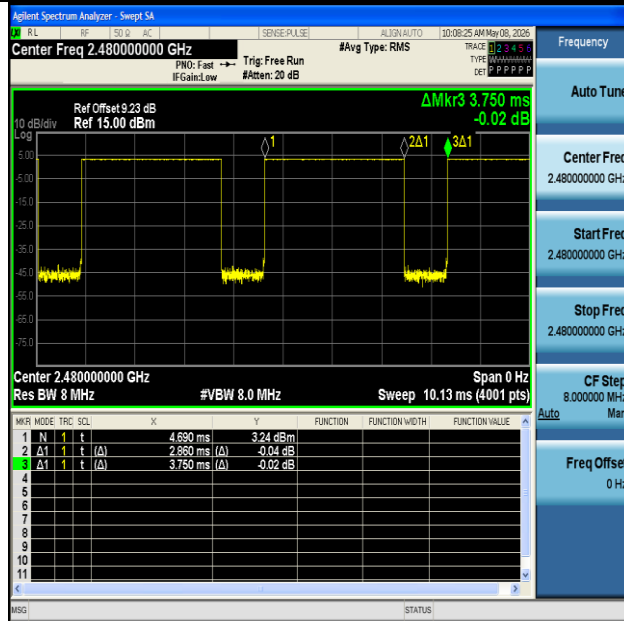
Note: offset(dB) = cable loss(dB) + attenuator factor(dB)



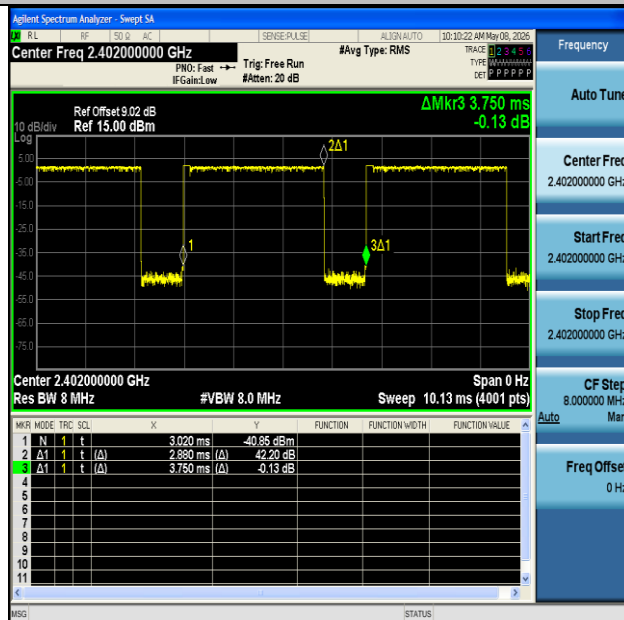


Test Graphs



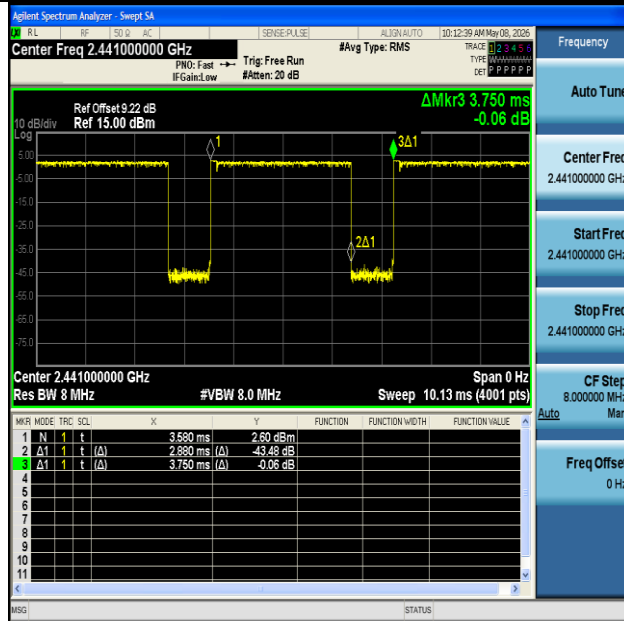


NTNV-DH5-Ant1-2480

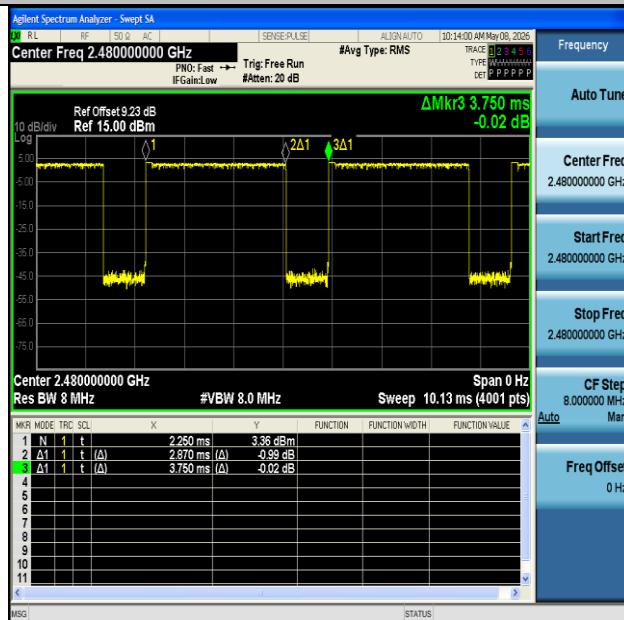


NTNV-2DH5-Ant1-2402



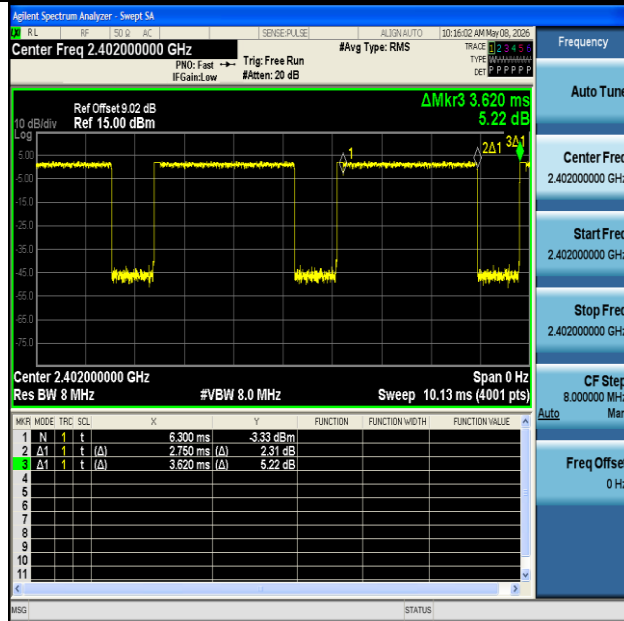


NTNV-2DH5-Ant1-2441

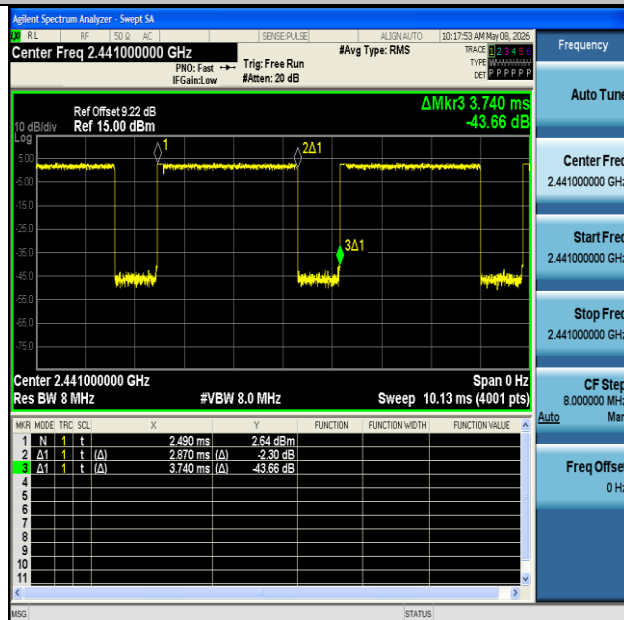


NTNV-2DH5-Ant1-2480



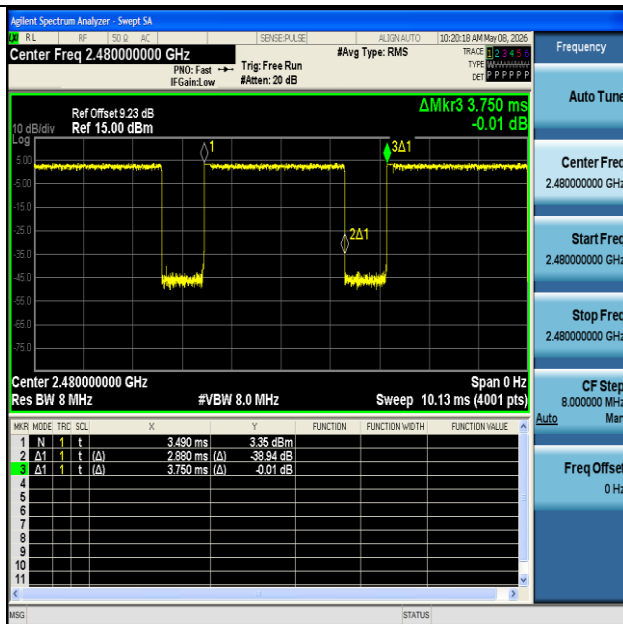


NTNV-3DH5-Ant1-2402



NTNV-3DH5-Ant1-2441





NTNV-3DH5-Ant1-2480

