



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

Product Name: Portable Karaoke Speaker PAW PATROL

Trade Mark: /

Test Model: BTC020PA

FCC ID: UU8-BTC020

Environmental Conditions

Temperature:	23.5°C
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	0.867	2401.556	2402.423	---	---
DH5	Ant1	2441	0.870	2440.556	2441.426	---	---
DH5	Ant1	2480	0.951	2479.544	2480.495	---	---
2DH5	Ant1	2402	1.284	2401.376	2402.660	---	---
2DH5	Ant1	2441	1.335	2440.340	2441.675	---	---
2DH5	Ant1	2480	1.323	2479.346	2480.669	---	---
3DH5	Ant1	2402	1.266	2401.391	2402.657	---	---
3DH5	Ant1	2441	1.263	2440.376	2441.639	---	---
3DH5	Ant1	2480	1.266	2479.400	2480.666	---	---

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



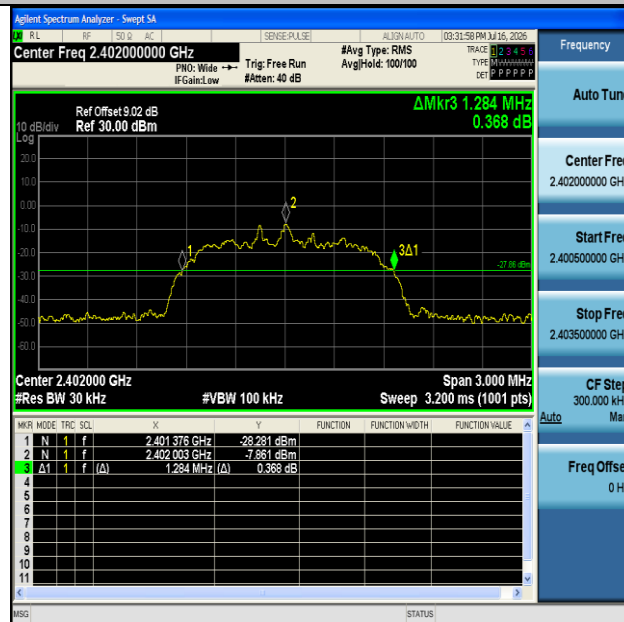


Test Graphs



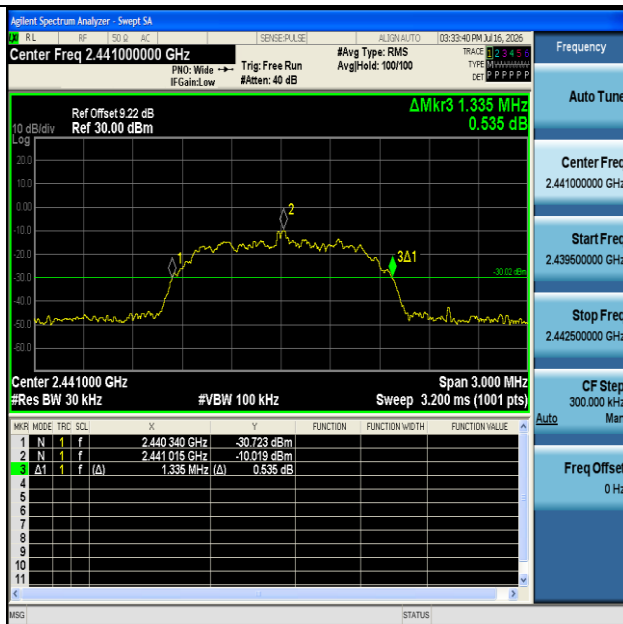


DH5-Ant1-2480

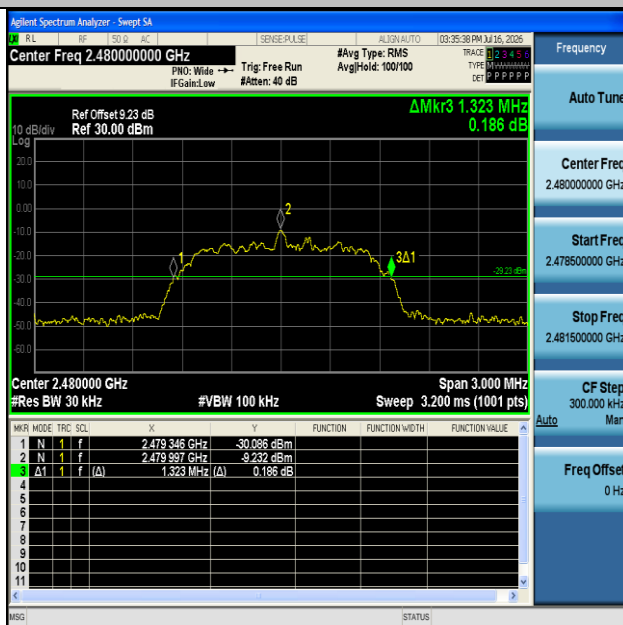


2DH5-Ant1-2402





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	0.82058	2401.5924	2402.4130	---	---
DH5	Ant1	2441	0.84553	2440.5873	2441.4328	---	---
DH5	Ant1	2480	0.89369	2479.5644	2480.4581	---	---
2DH5	Ant1	2402	1.1917	2401.4165	2402.6082	---	---
2DH5	Ant1	2441	1.1883	2440.4175	2441.6058	---	---
2DH5	Ant1	2480	1.1934	2479.4149	2480.6083	---	---
3DH5	Ant1	2402	1.1831	2401.4152	2402.5983	---	---
3DH5	Ant1	2441	1.1769	2440.4191	2441.5960	---	---
3DH5	Ant1	2480	1.1877	2479.4091	2480.5968	---	---

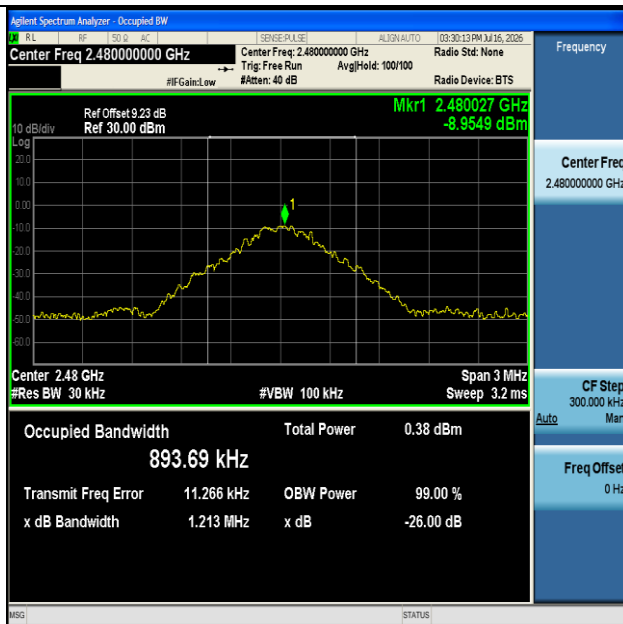
Note: offset(dB) = cable loss(dB) + attenuator factor(dB)



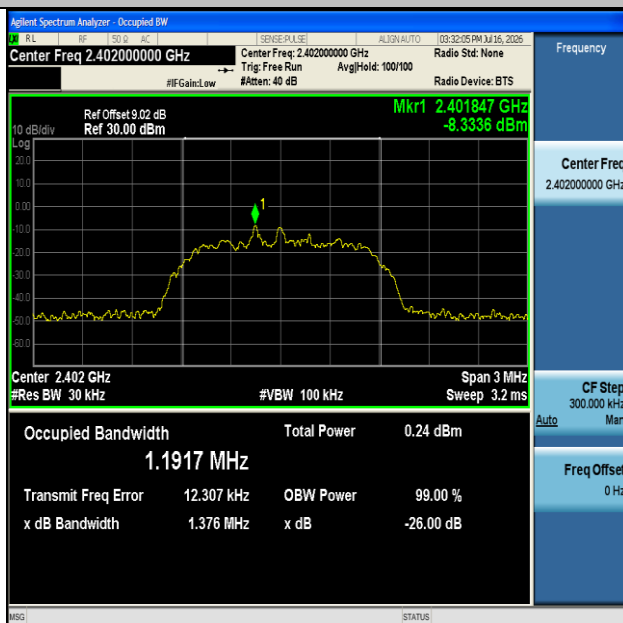


Test Graphs



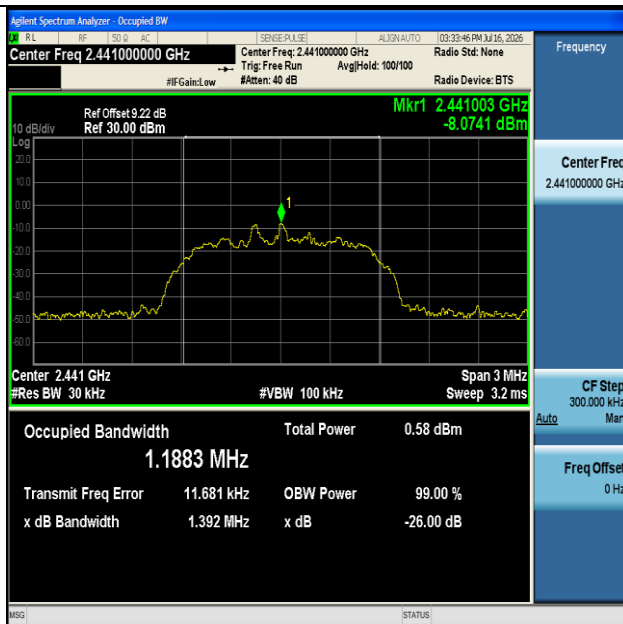


DH5-Ant1-2480

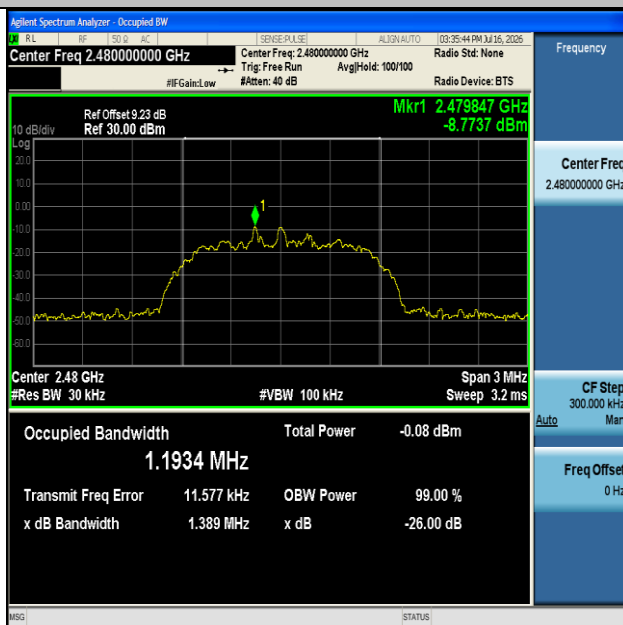


2DH5-Ant1-2402



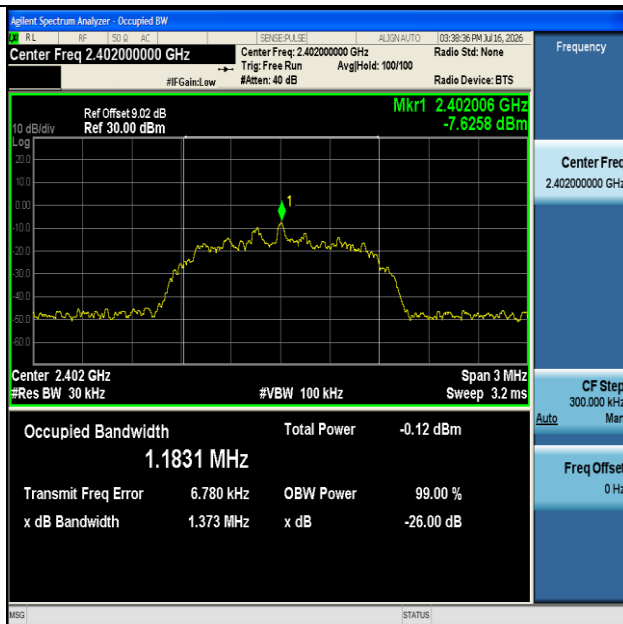


2DH5-Ant1-2441

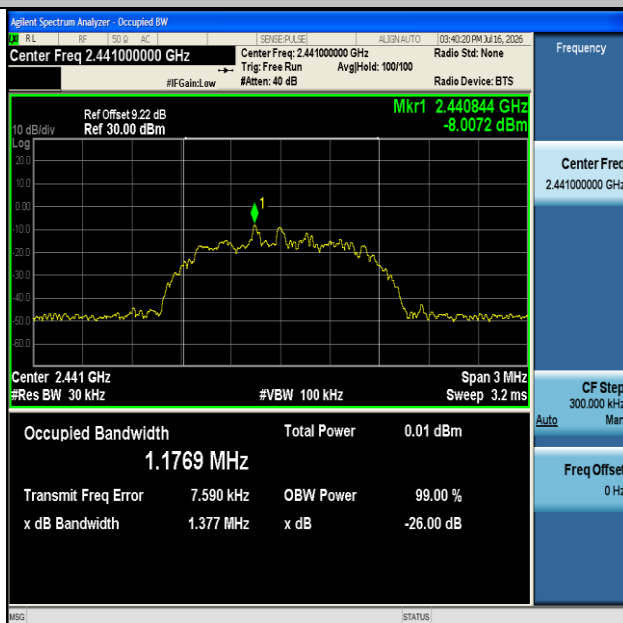


2DH5-Ant1-2480



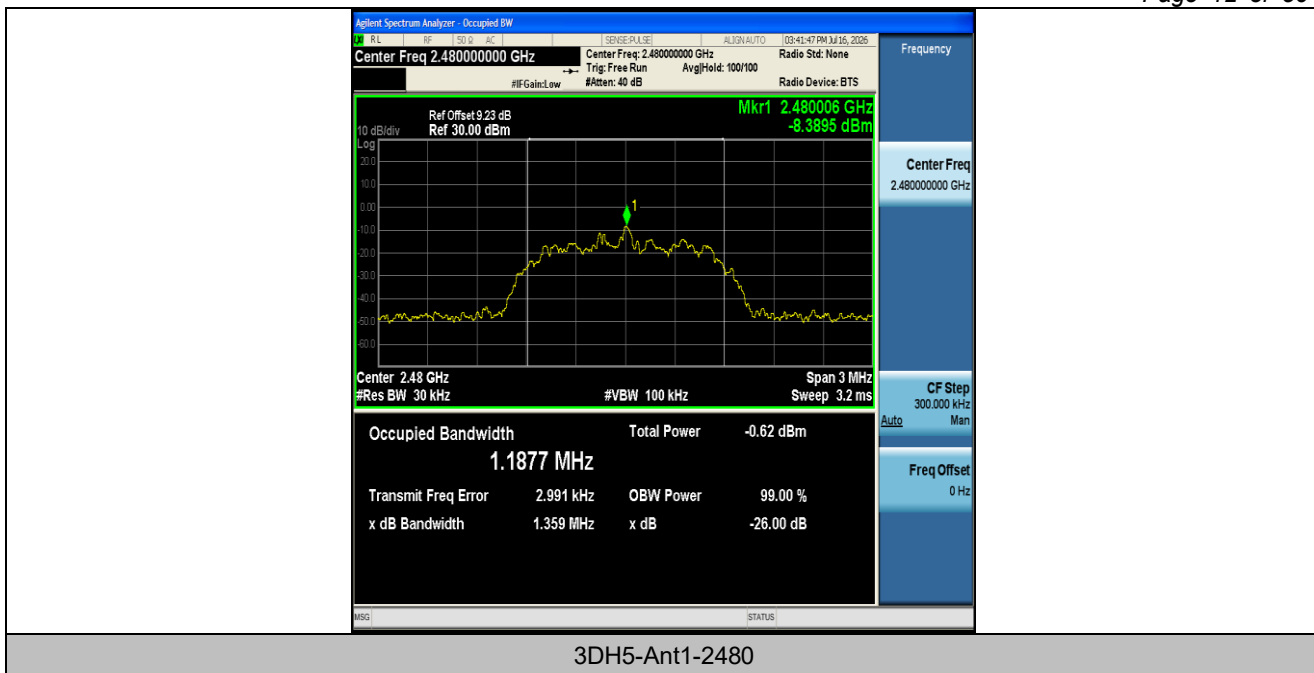


3DH5-Ant1-2402



3DH5-Ant1-2441







Appendix C: Maximum peak conducted output power

Test Result

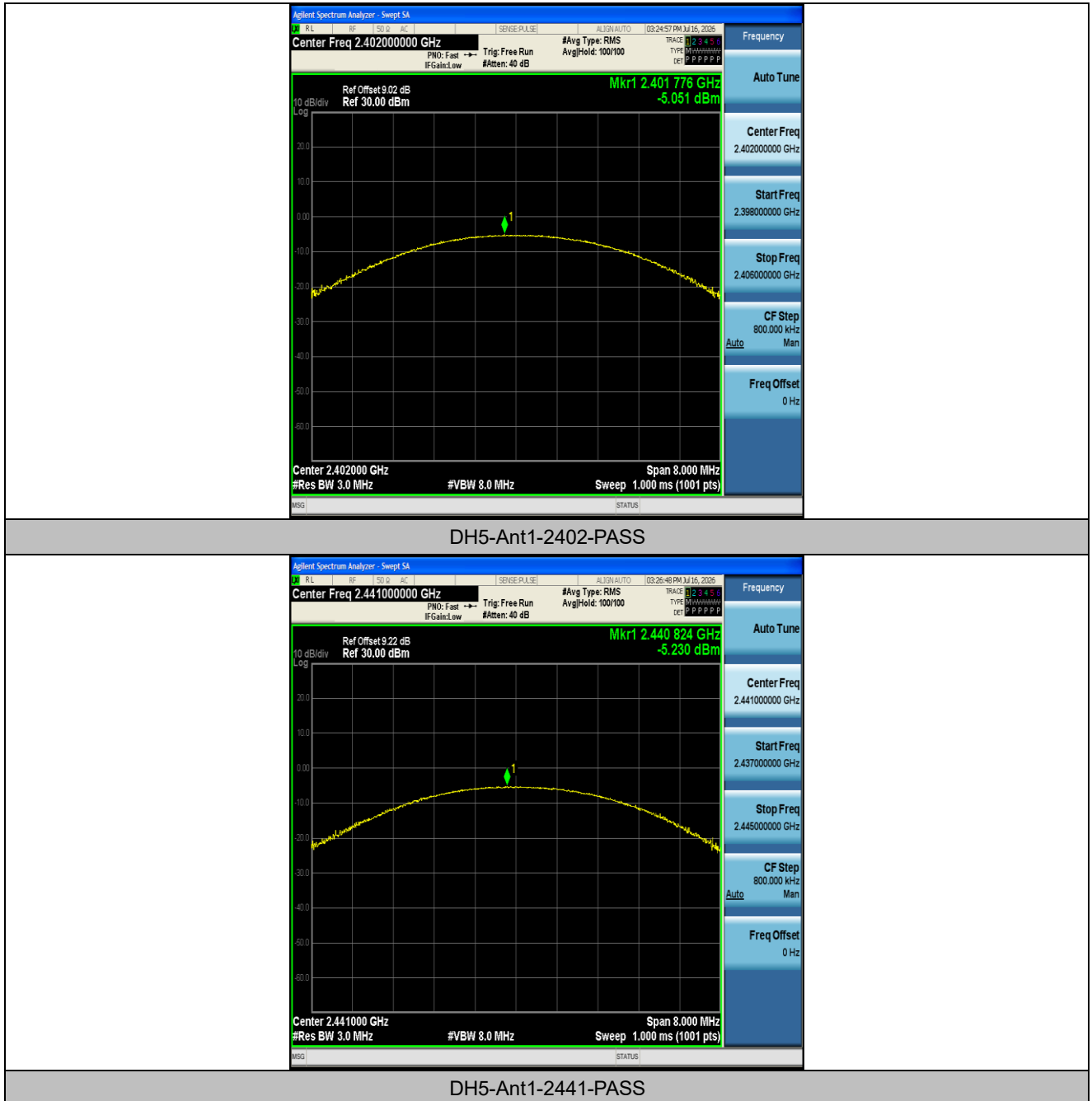
Test Mode	Antenna	Frequency [MHz]	Conducted Peak Power [dBm]	Conducted Limit [dBm]	Verdict
DH5	Ant1	2402	-5.05	≤30	PASS
DH5	Ant1	2441	-5.23	≤30	PASS
DH5	Ant1	2480	-5.61	≤30	PASS
2DH5	Ant1	2402	-4.84	≤20.97	PASS
2DH5	Ant1	2441	-4.63	≤20.97	PASS
2DH5	Ant1	2480	-5.18	≤20.97	PASS
3DH5	Ant1	2402	-4.80	≤20.97	PASS
3DH5	Ant1	2441	-4.49	≤20.97	PASS
3DH5	Ant1	2480	-4.92	≤20.97	PASS

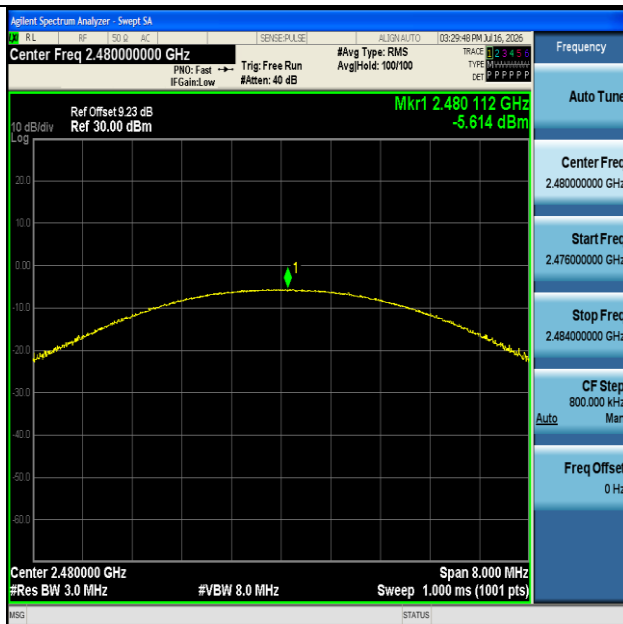
Note: offset(dB) = cable loss(dB) + attenuator factor(dB)



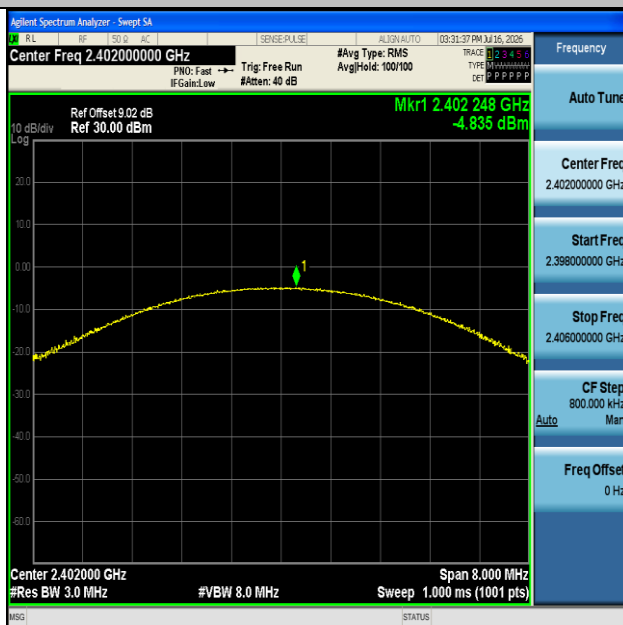


Test Graphs



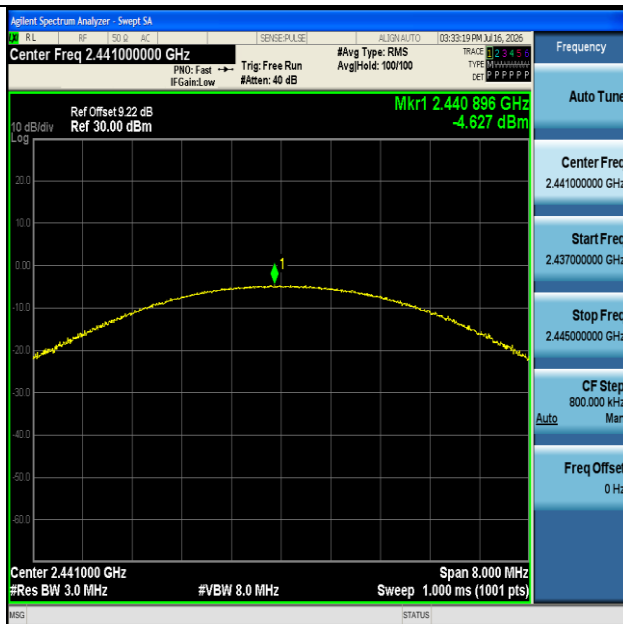


DH5-Ant1-2480-PASS

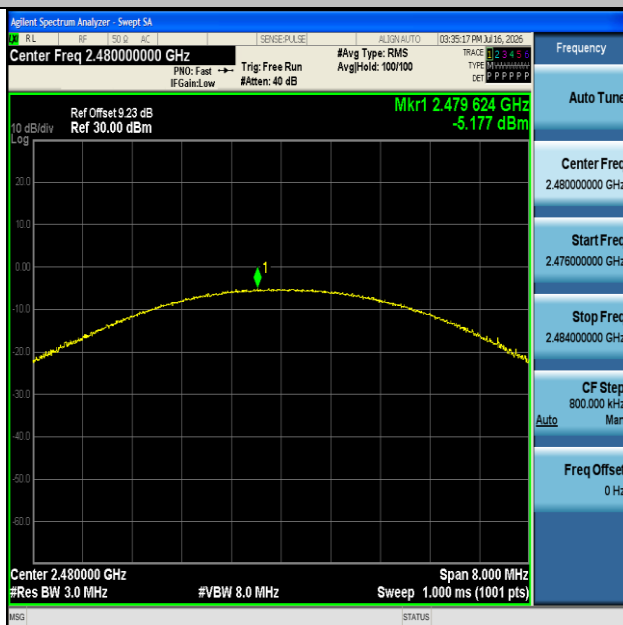


2DH5-Ant1-2402-PASS



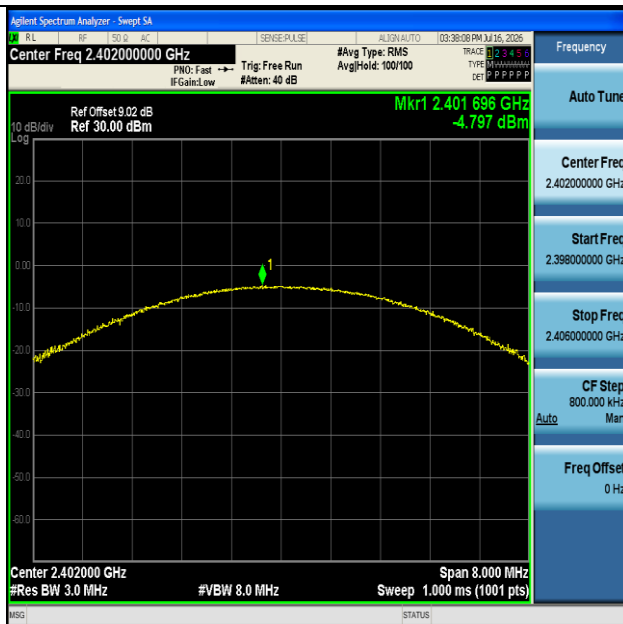


2DH5-Ant1-2441-PASS

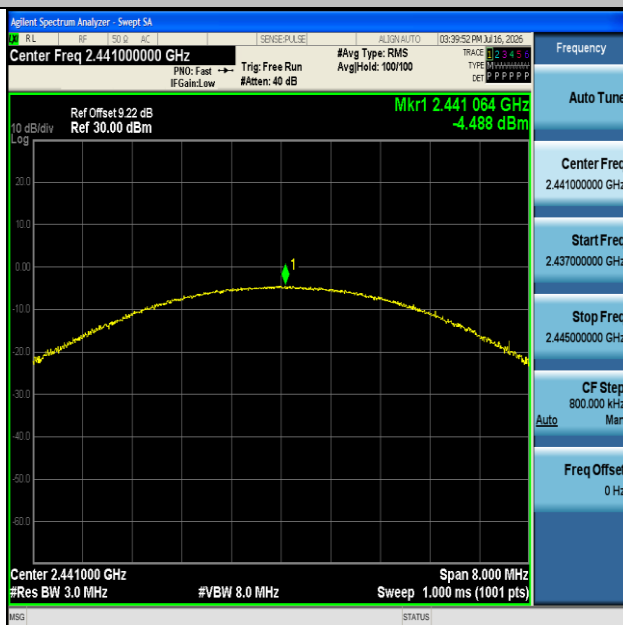


2DH5-Ant1-2480-PASS



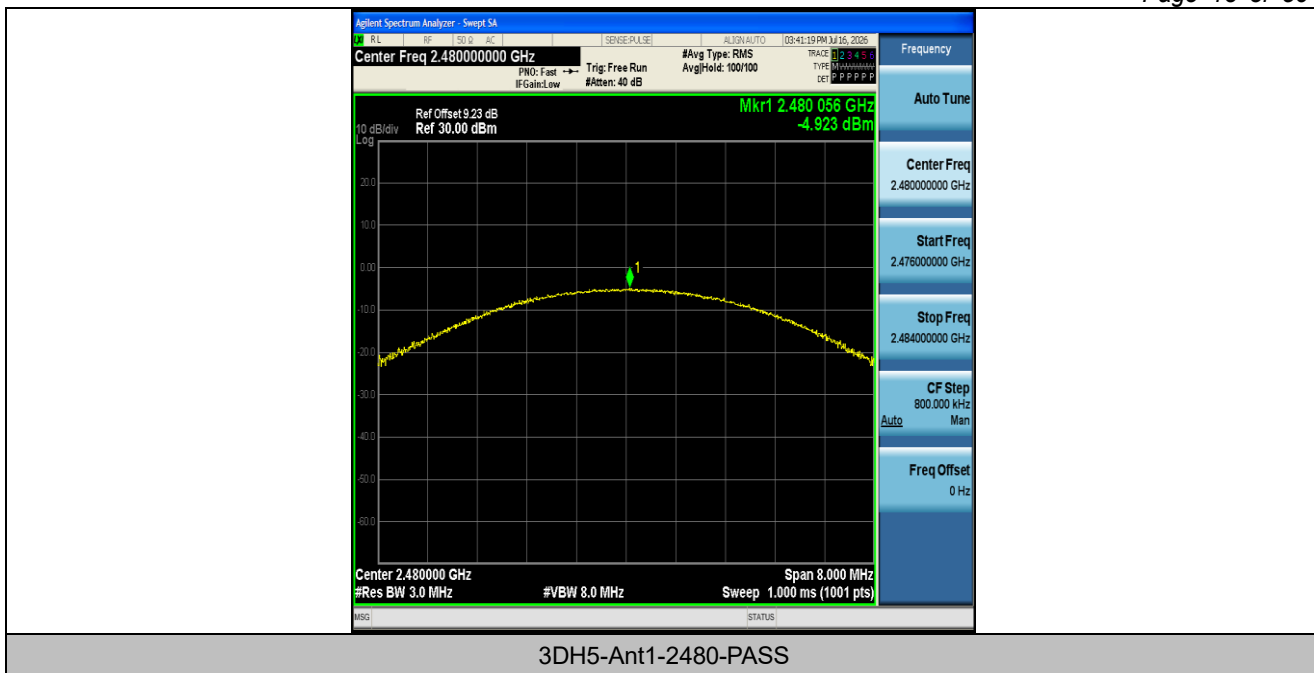


3DH5-Ant1-2402-PASS



3DH5-Ant1-2441-PASS







Appendix D: Carrier frequency separation

Test Result

Test Mode	Antenna	Frequency [MHz]	Result [MHz]	Limit [MHz]	Verdict
DH5	Ant1	Hop	1.188	≥0.951	PASS
2DH5	Ant1	Hop	0.998	≥0.890	PASS
3DH5	Ant1	Hop	0.976	≥0.844	PASS

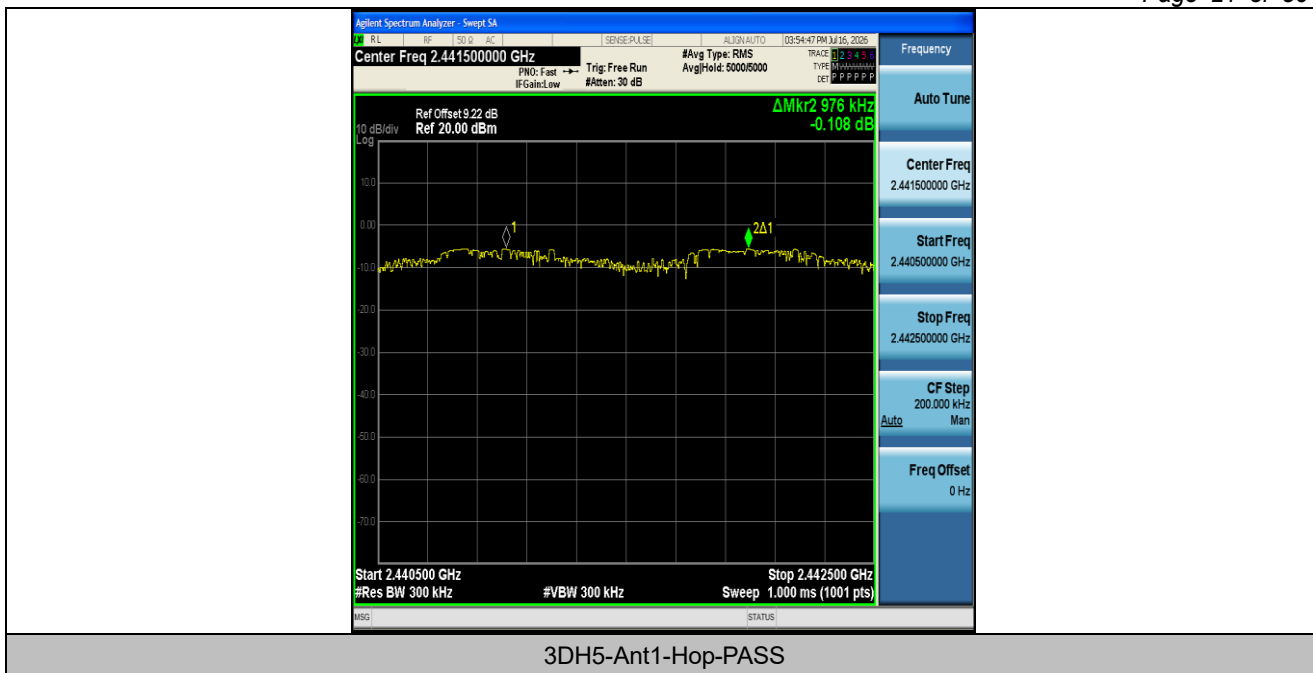
Note: offset(dB) = cable loss(dB) + attenuator factor(dB)





Test Graphs







Appendix E: Time of occupancy

Test Result

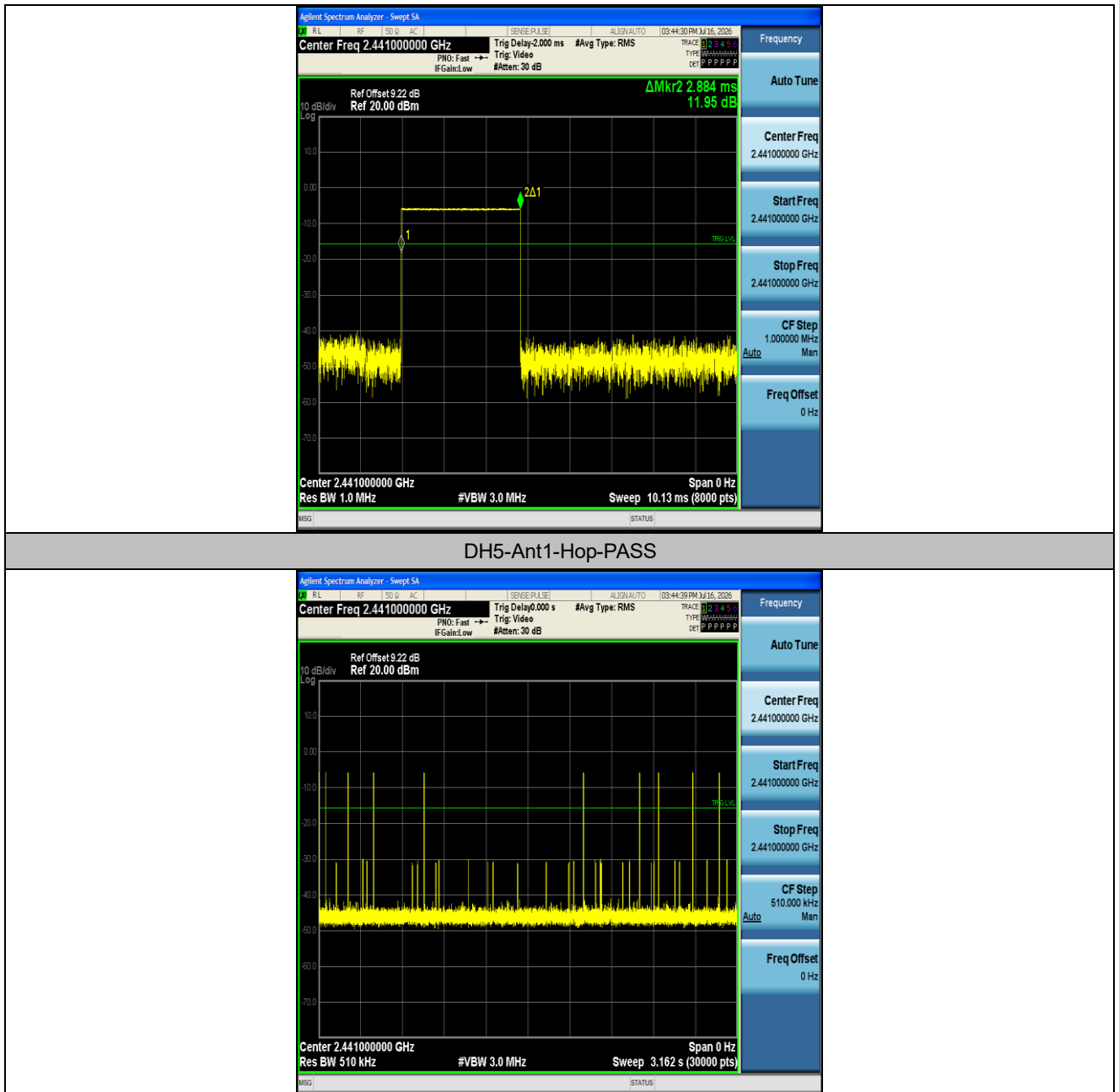
Test Mode	Antenna	Frequency [MHz]	Burst Width [ms]	TotalHops [Num]	Result [s]	Limit [s]	Verdict
DH5	Ant1	Hop	2.884	100	0.288	≤0.4	PASS
2DH5	Ant1	Hop	2.891	100	0.289	≤0.4	PASS
3DH5	Ant1	Hop	0.894	130	0.116	≤0.4	PASS

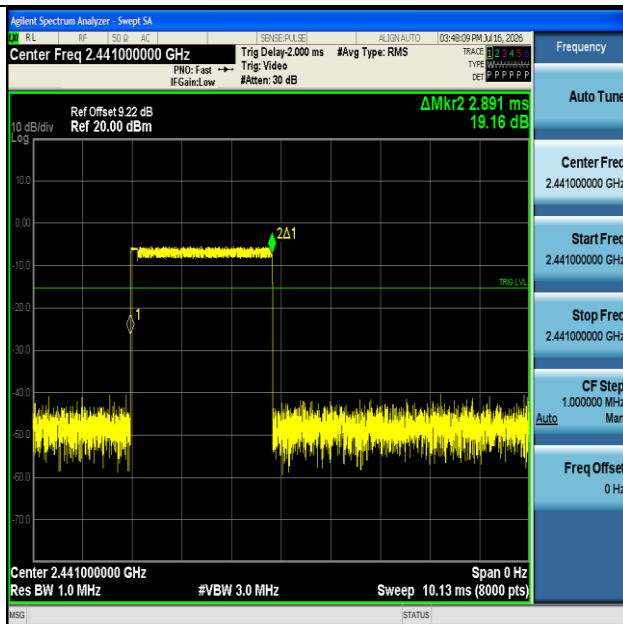
Note: offset(dB) = cable loss(dB) + attenuator factor(dB)



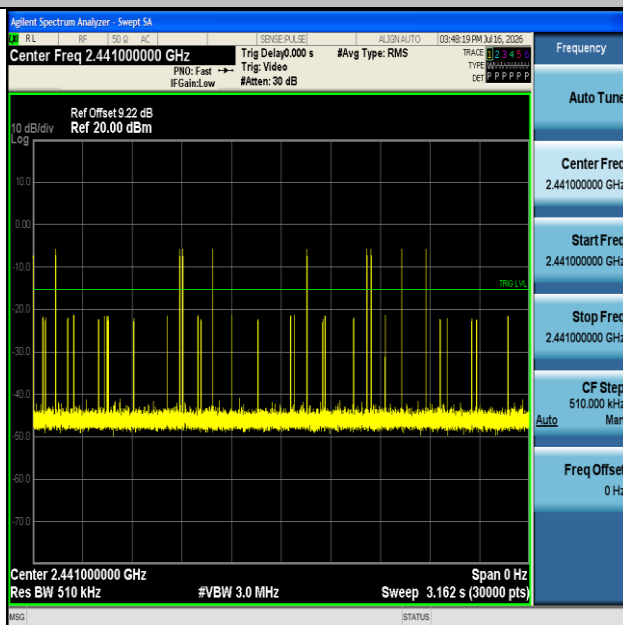


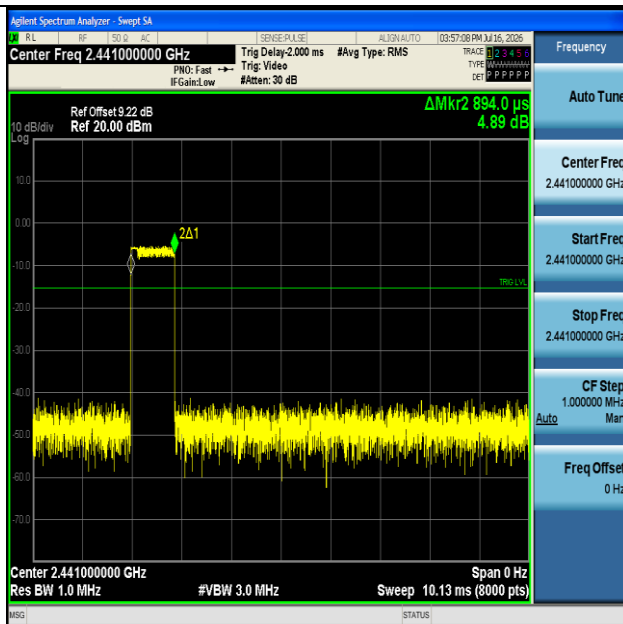
Test Graphs



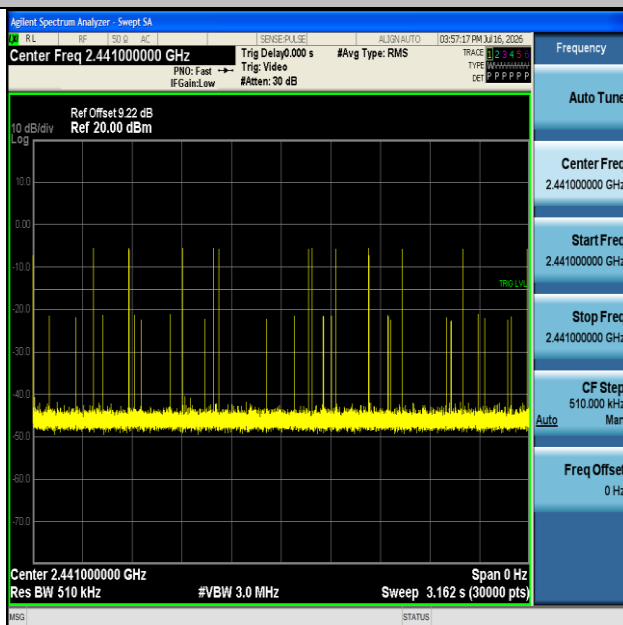


2DH5-Ant1-Hop-PASS





3DH5-Ant1-Hop-PASS





Appendix F: Number of hopping channels

Test Result

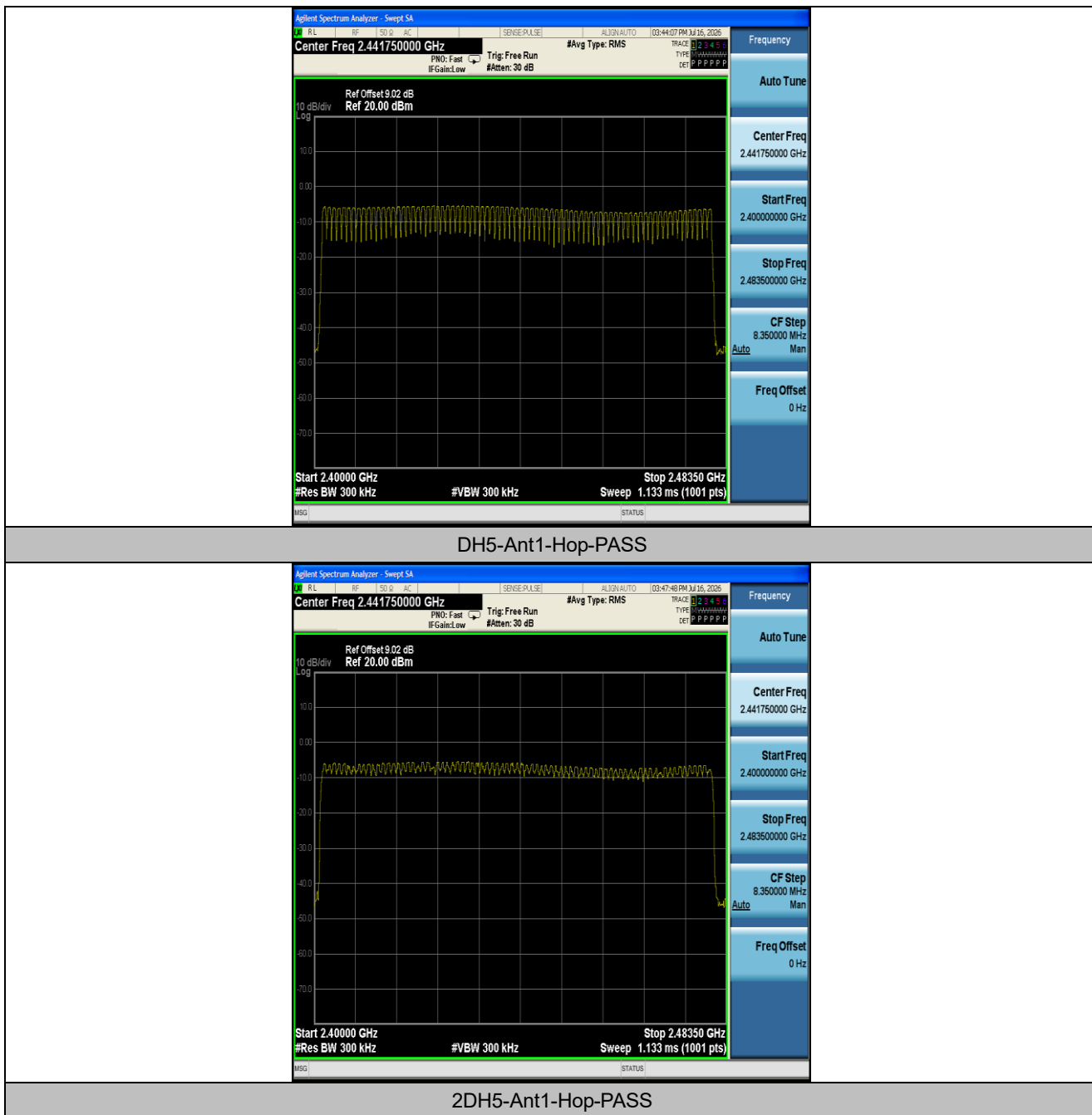
Test Mode	Antenna	Frequency [MHz]	Result [Num]	Limit [Num]	Verdict
DH5	Ant1	Hop	79	≥15	PASS
2DH5	Ant1	Hop	79	≥15	PASS
3DH5	Ant1	Hop	79	≥15	PASS

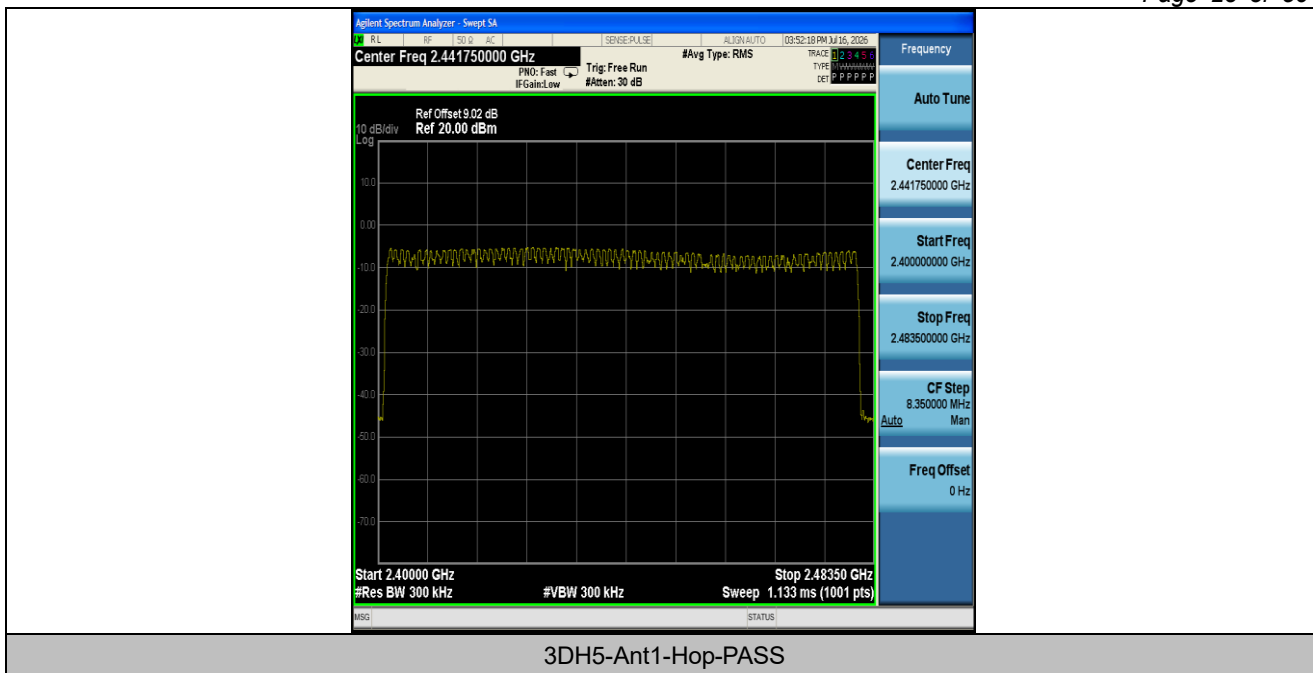
Note: offset(dB) = cable loss(dB) + attenuator factor(dB)





Test Graphs







Appendix G: Band edge measurements

Test Result

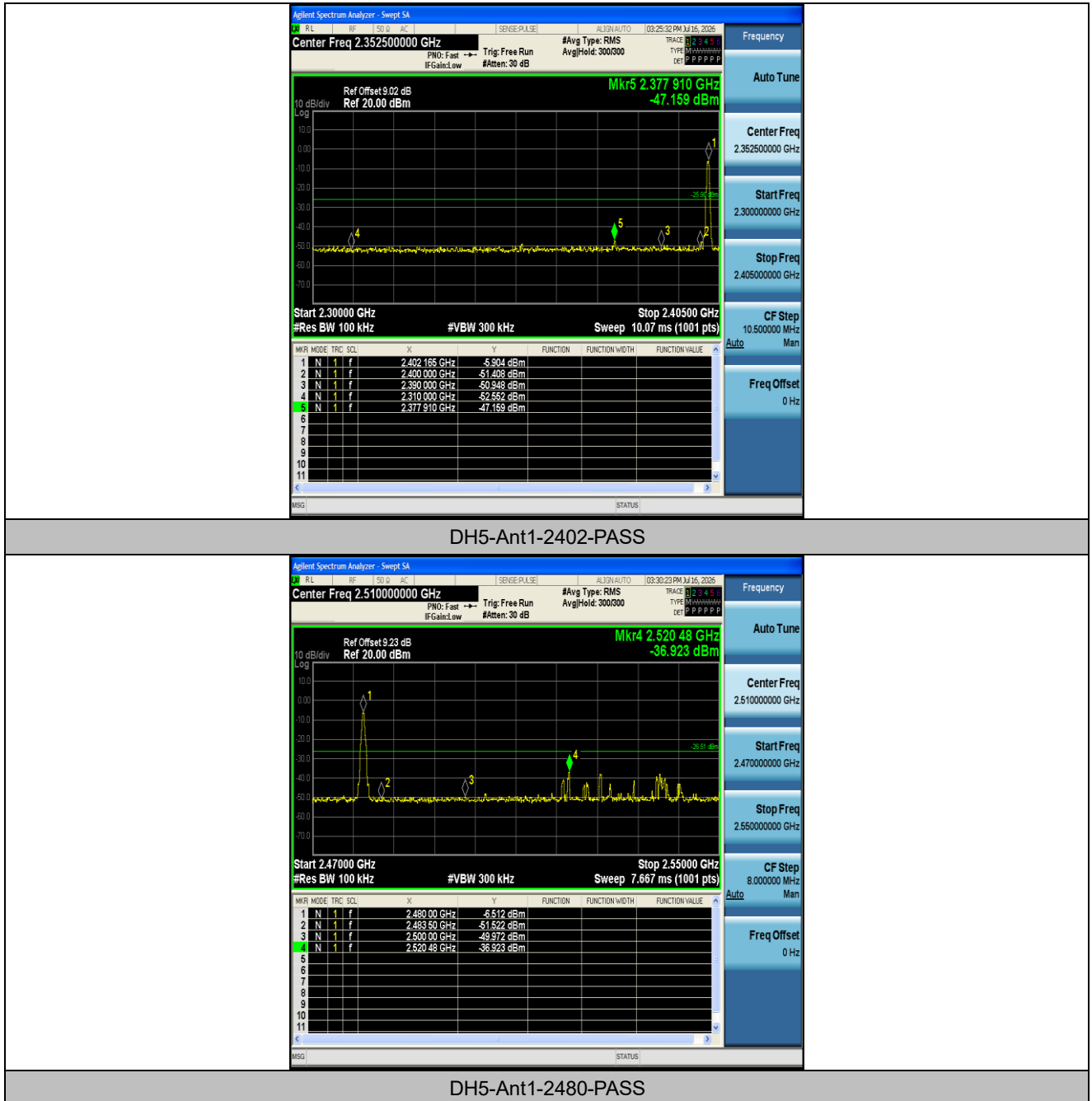
Test Mode	Antenna	Ch.Name	Frequency [MHz]	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
DH5	Ant1	Low	2402	-5.90	-47.16	≤ -25.9	PASS
DH5	Ant1	High	2480	-6.51	-36.92	≤ -26.51	PASS
DH5	Ant1	Low	Hop_2402	-6.44	-46.39	≤ -26.44	PASS
DH5	Ant1	High	Hop_2480	-6.83	-47.56	≤ -26.83	PASS
2DH5	Ant1	Low	2402	-6.37	-48.51	≤ -26.37	PASS
2DH5	Ant1	High	2480	-6.37	-41.72	≤ -26.37	PASS
2DH5	Ant1	Low	Hop_2402	-10.92	-48.48	≤ -30.92	PASS
2DH5	Ant1	High	Hop_2480	-10.47	-48.69	≤ -30.47	PASS
3DH5	Ant1	Low	2402	-6.97	-47.54	≤ -26.97	PASS
3DH5	Ant1	High	2480	-6.16	-47.94	≤ -26.16	PASS
3DH5	Ant1	Low	Hop_2402	-7.32	-48.95	≤ -27.32	PASS
3DH5	Ant1	High	Hop_2480	-6.42	-47.91	≤ -26.42	PASS

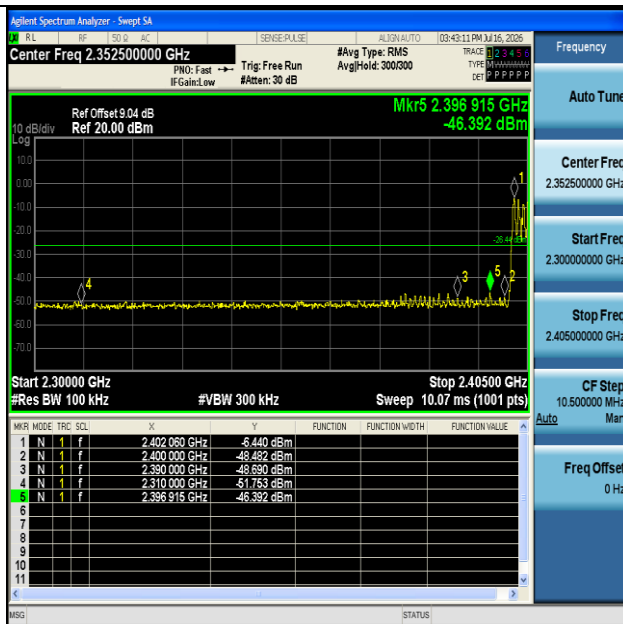
Note: offset(dB) = cable loss(dB) + attenuator factor(dB)



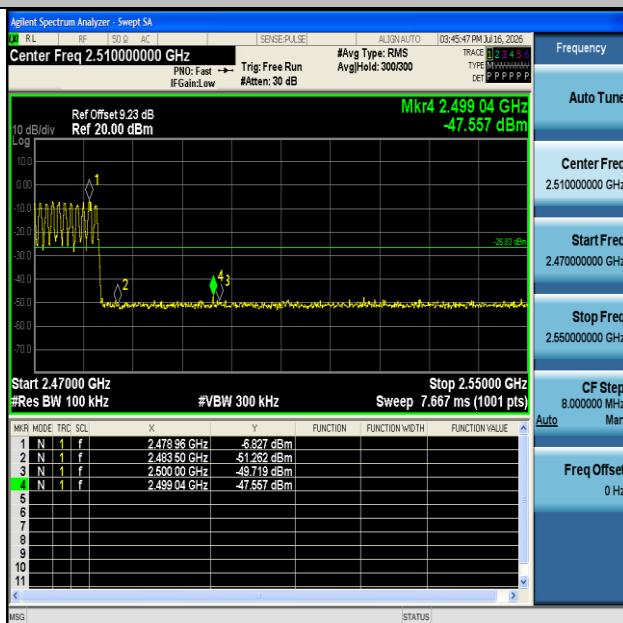


Test Graphs



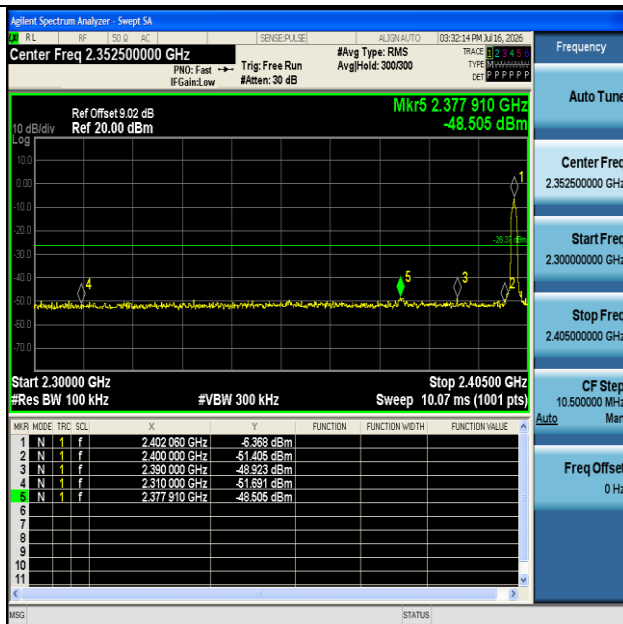


DH5-Ant1-Hop_2402-PASS

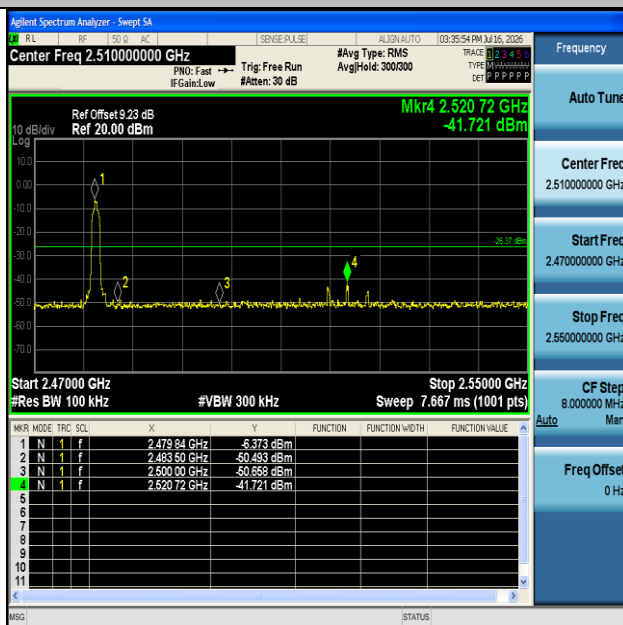


DH5-Ant1-Hop_2480-PASS



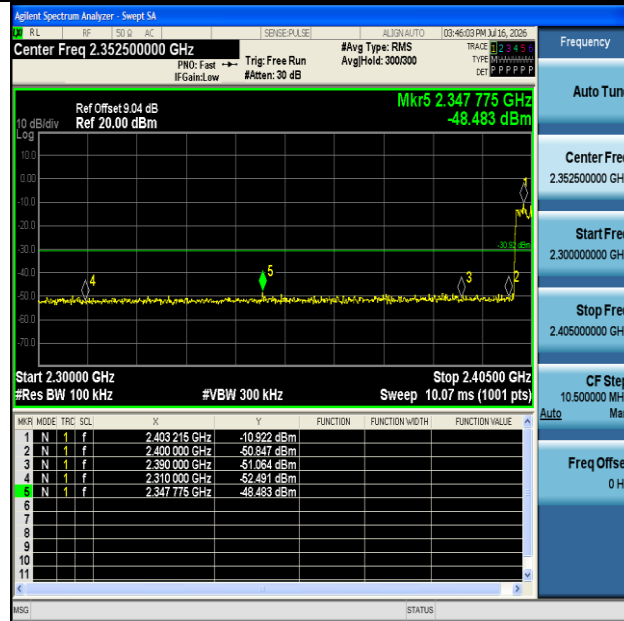


2DH5-Ant1-2402-PASS

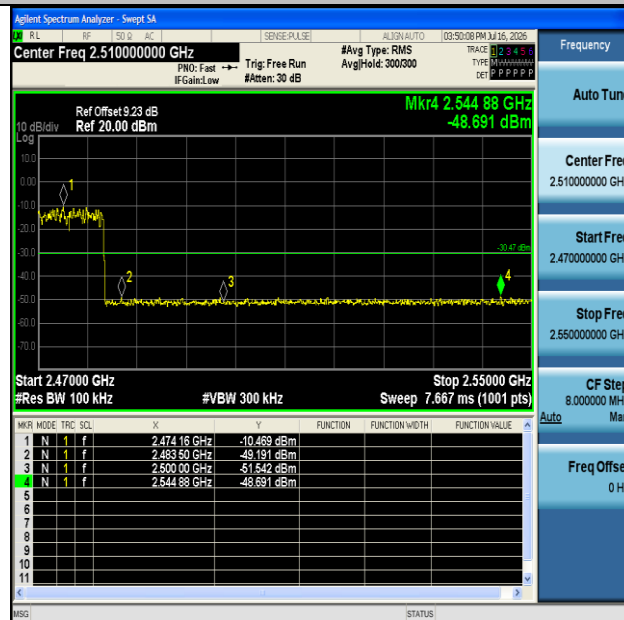


2DH5-Ant1-2480-PASS



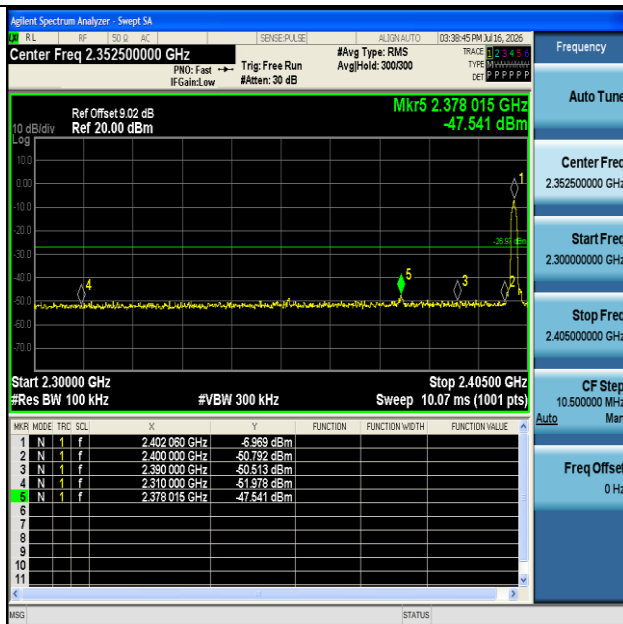


2DH5-Ant1-Hop_2402-PASS

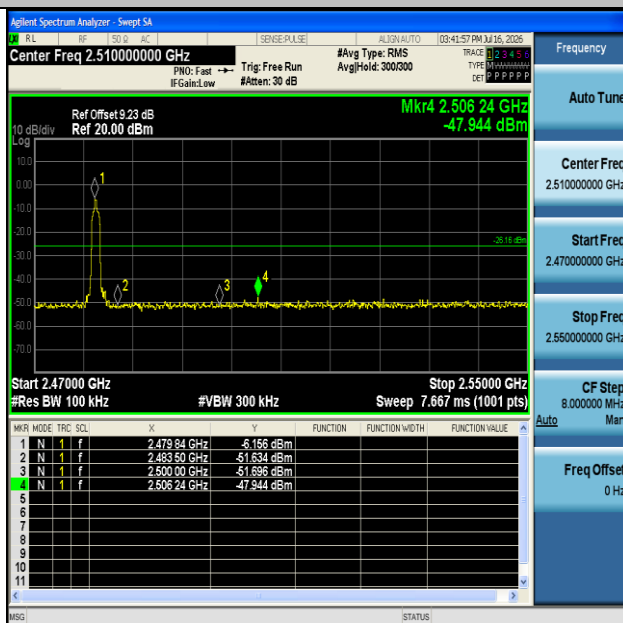


2DH5-Ant1-Hop_2480-PASS



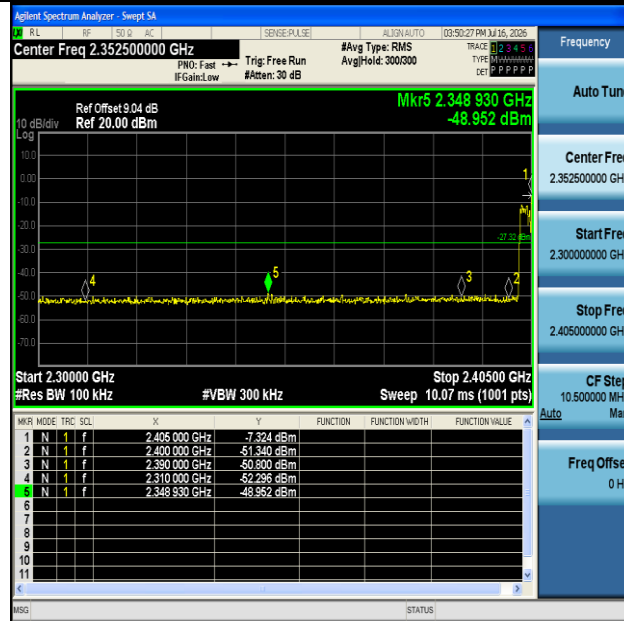


3DH5-Ant1-2402-PASS

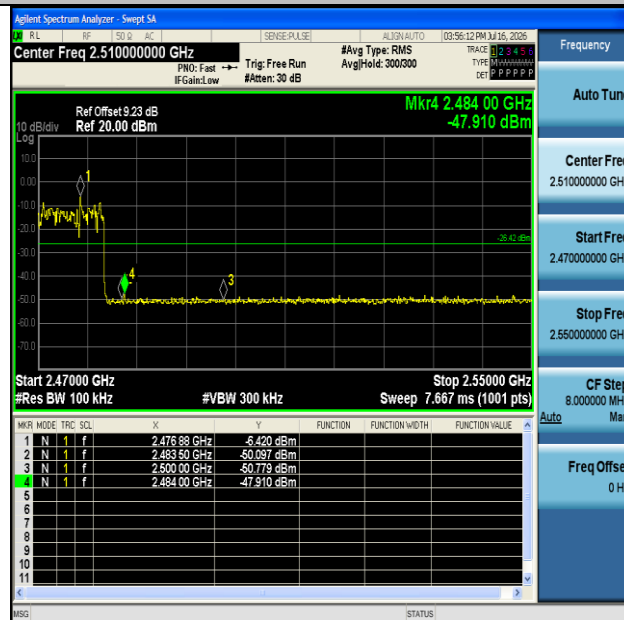


3DH5-Ant1-2480-PASS





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	-5.98	-5.98	---	PASS
DH5	Ant1	2402	30~1000	-5.98	-62.41	≤-25.98	PASS
DH5	Ant1	2402	1000~26500	-5.98	-36.55	≤-25.98	PASS
DH5	Ant1	2441	0~Reference	-12.38	-12.38	---	PASS
DH5	Ant1	2441	30~1000	-12.38	-62.89	≤-32.38	PASS
DH5	Ant1	2441	1000~26500	-12.38	-37.61	≤-32.38	PASS
DH5	Ant1	2480	0~Reference	-6.93	-6.93	---	PASS
DH5	Ant1	2480	30~1000	-6.93	-62.51	≤-26.93	PASS
DH5	Ant1	2480	1000~26500	-6.93	-37.5	≤-26.93	PASS
2DH5	Ant1	2402	0~Reference	-9.95	-9.95	---	PASS
2DH5	Ant1	2402	30~1000	-9.95	-62.01	≤-29.95	PASS
2DH5	Ant1	2402	1000~26500	-9.95	-37.14	≤-29.95	PASS
2DH5	Ant1	2441	0~Reference	-7.15	-7.15	---	PASS
2DH5	Ant1	2441	30~1000	-7.15	-62.93	≤-27.15	PASS
2DH5	Ant1	2441	1000~26500	-7.15	-37.5	≤-27.15	PASS
2DH5	Ant1	2480	0~Reference	-7.28	-7.28	---	PASS
2DH5	Ant1	2480	30~1000	-7.28	-61.97	≤-27.28	PASS
2DH5	Ant1	2480	1000~26500	-7.28	-37.54	≤-27.28	PASS
3DH5	Ant1	2402	0~Reference	-6.11	-6.11	---	PASS
3DH5	Ant1	2402	30~1000	-6.11	-61.84	≤-26.11	PASS
3DH5	Ant1	2402	1000~26500	-6.11	-37.4	≤-26.11	PASS
3DH5	Ant1	2441	0~Reference	-8.54	-8.54	---	PASS
3DH5	Ant1	2441	30~1000	-8.54	-63.01	≤-28.54	PASS
3DH5	Ant1	2441	1000~26500	-8.54	-37.18	≤-28.54	PASS
3DH5	Ant1	2480	0~Reference	-7.38	-7.38	---	PASS
3DH5	Ant1	2480	30~1000	-7.38	-62.82	≤-27.38	PASS
3DH5	Ant1	2480	1000~26500	-7.38	-37.64	≤-27.38	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.

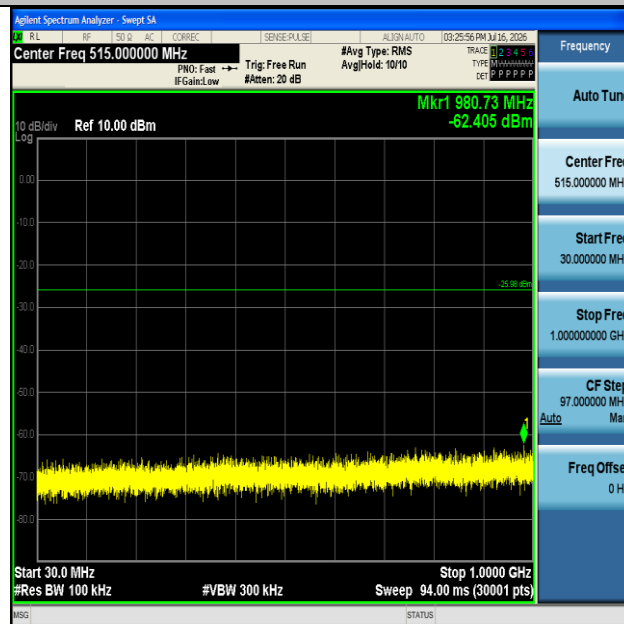




Test Graphs

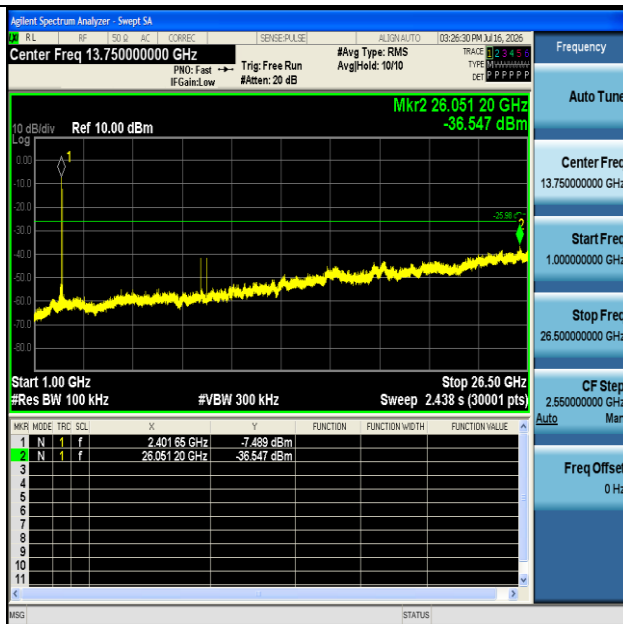


DH5-Ant1-2402-0~Reference-PASS

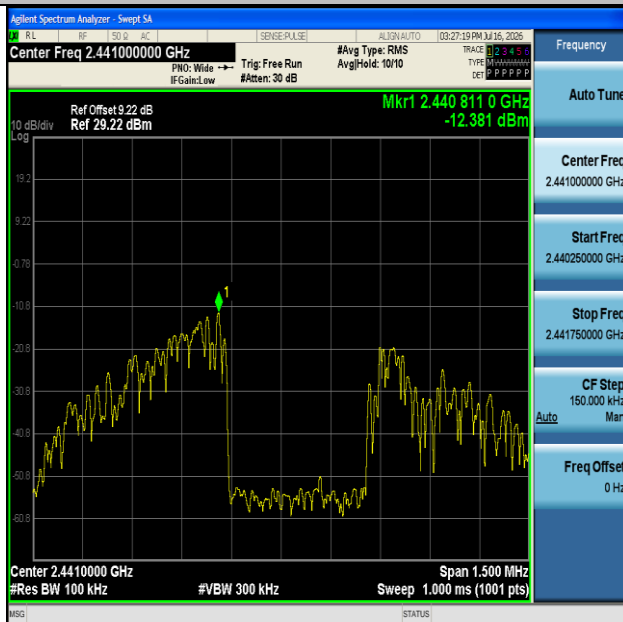


DH5-Ant1-2402-30~1000-PASS



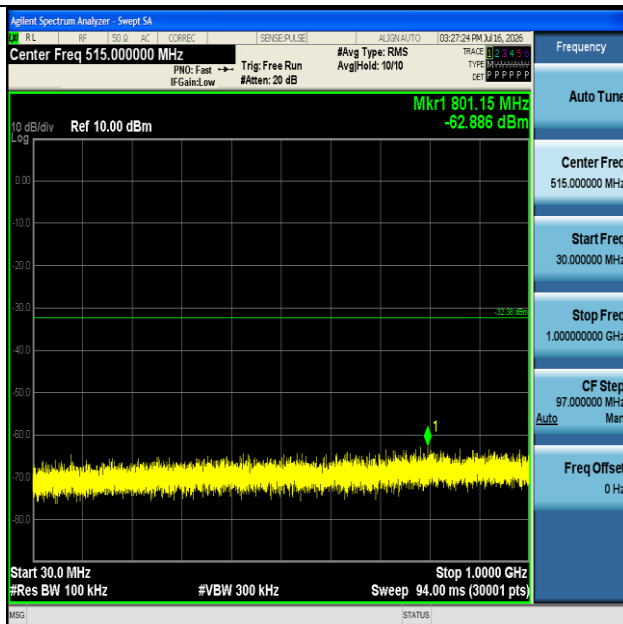


DH5-Ant1-2402-1000~26500-PASS

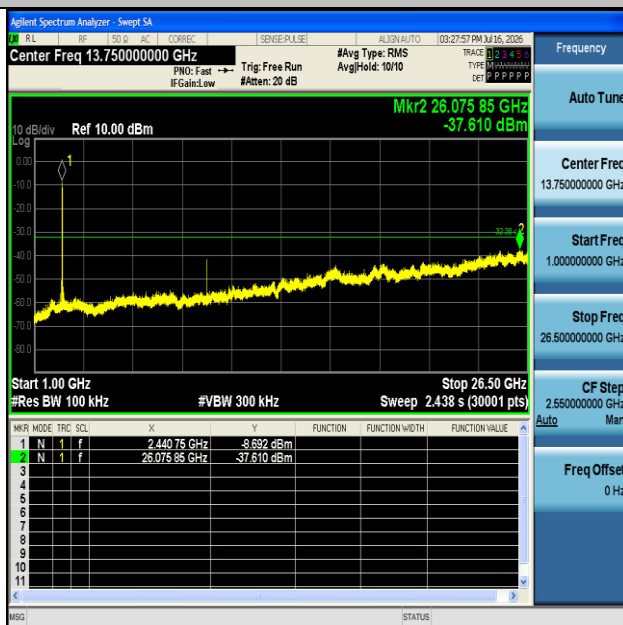


DH5-Ant1-2441-0~Reference-PASS





DH5-Ant1-2441-30~1000-PASS

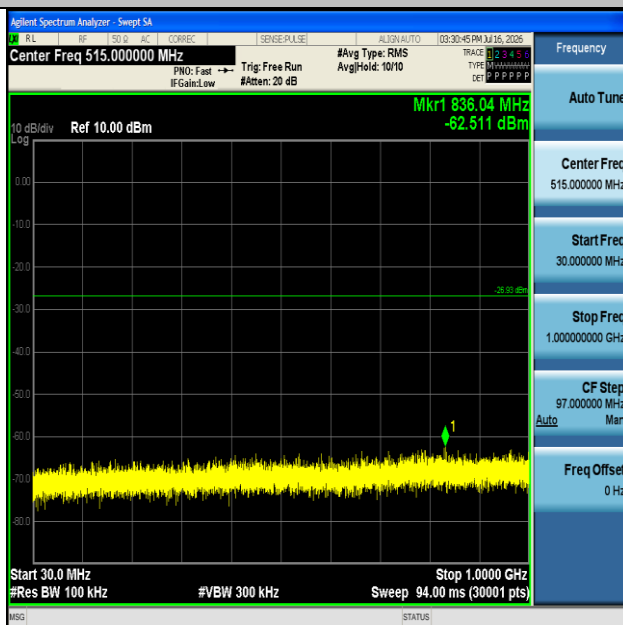


DH5-Ant1-2441-1000~26500-PASS



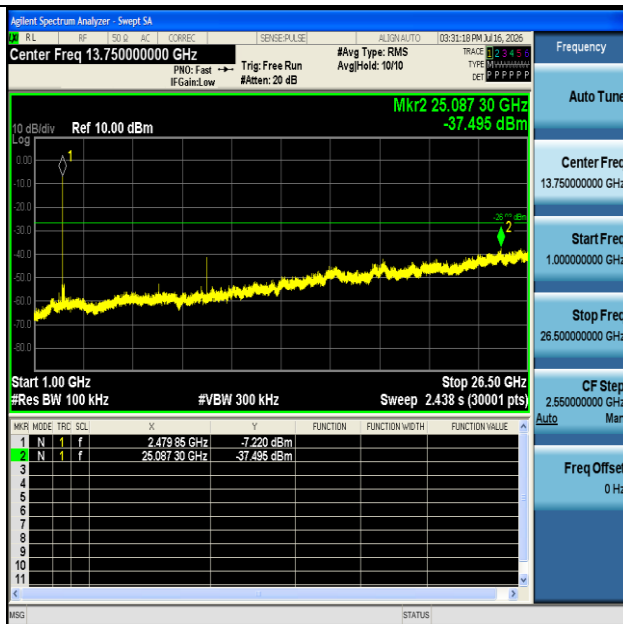


DH5-Ant1-2480-0~Reference-PASS

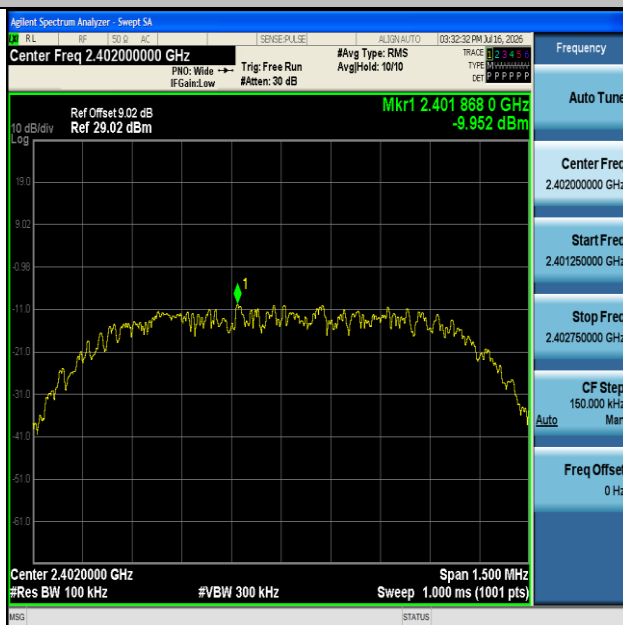


DH5-Ant1-2480-30~1000-PASS



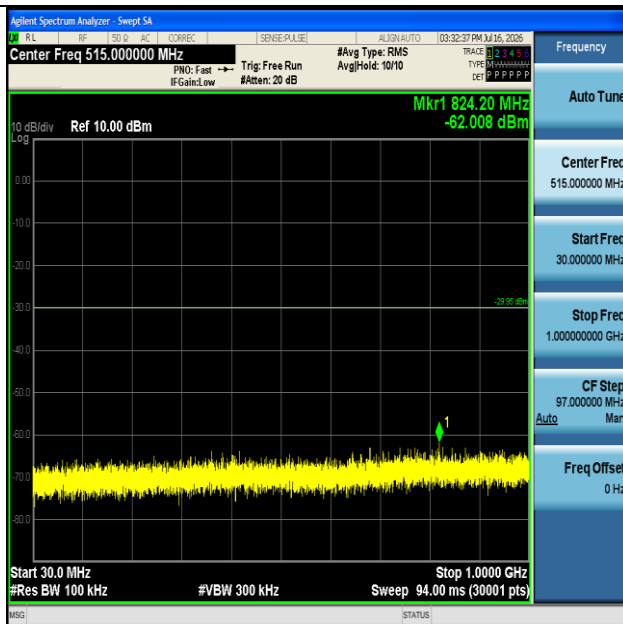


DH5-Ant1-2480-1000~26500-PASS

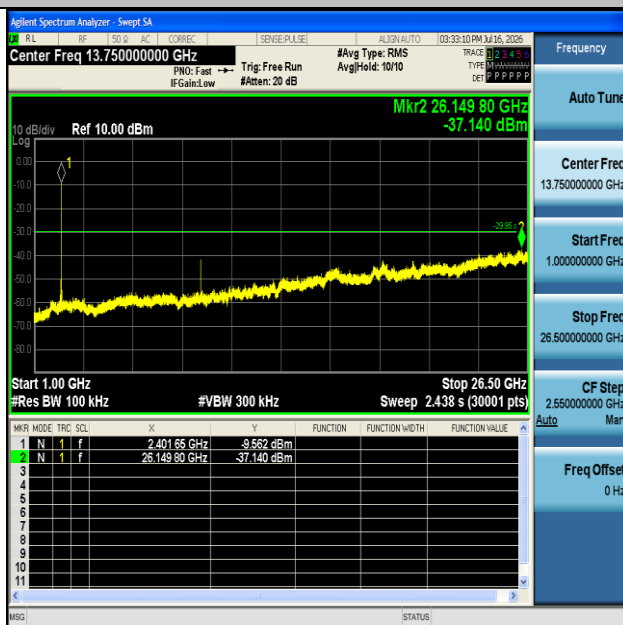


2DH5-Ant1-2402-0~Reference-PASS



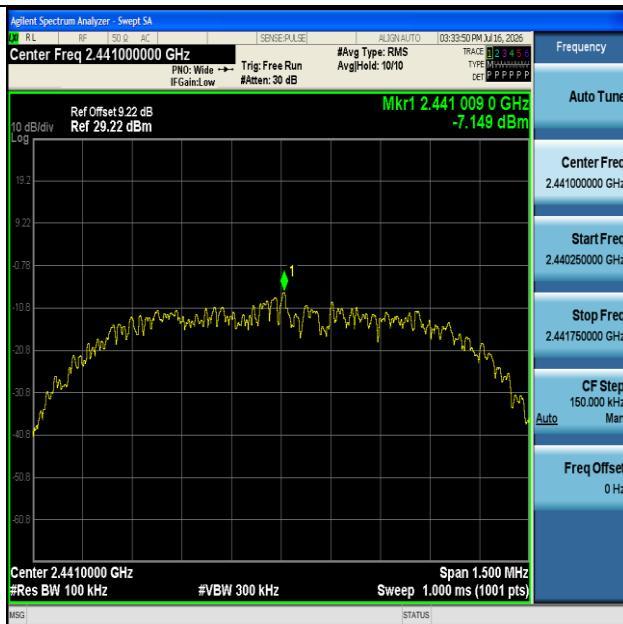


2DH5-Ant1-2402-30~1000-PASS

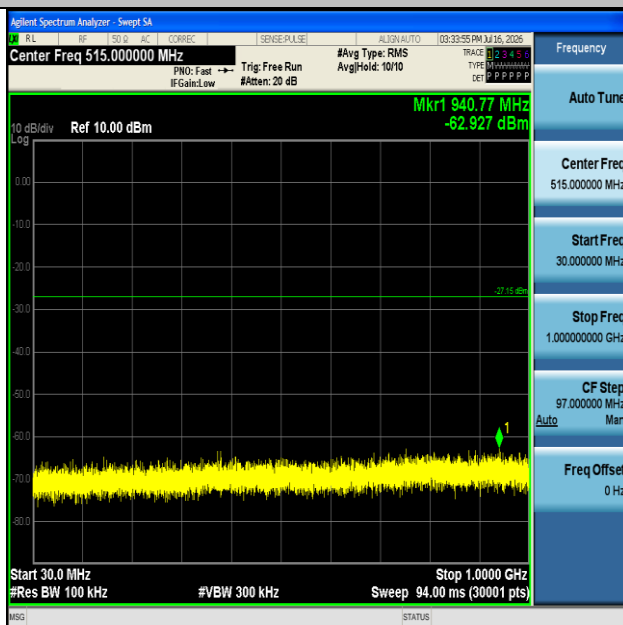


2DH5-Ant1-2402-1000~26500-PASS



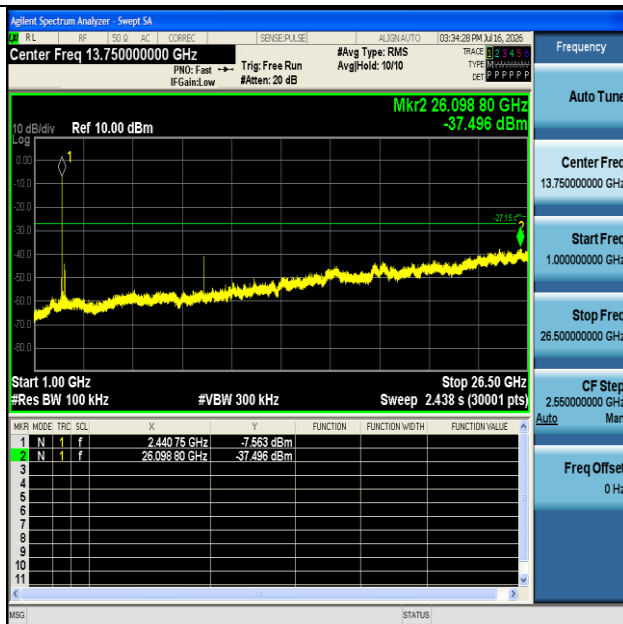


2DH5-Ant1-2441-0~Reference-PASS

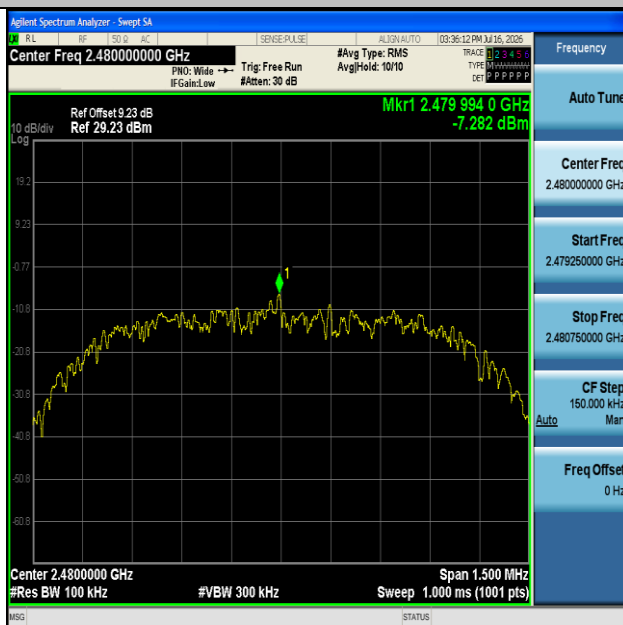


2DH5-Ant1-2441-30~1000-PASS



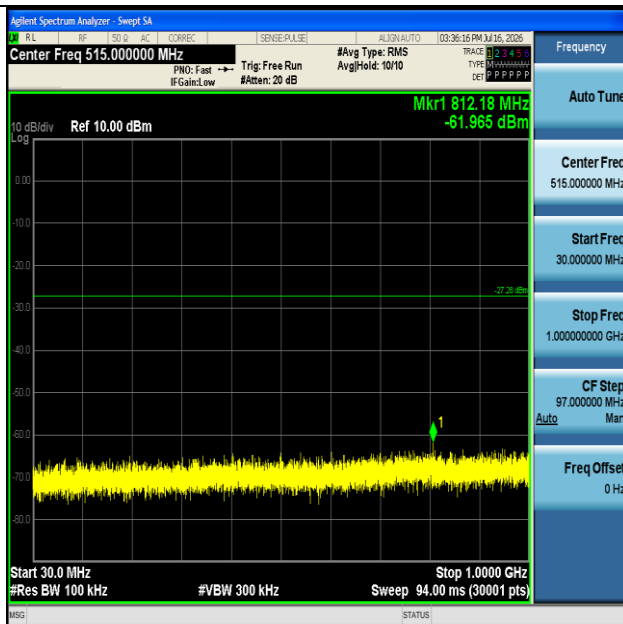


2DH5-Ant1-2441-1000~26500-PASS

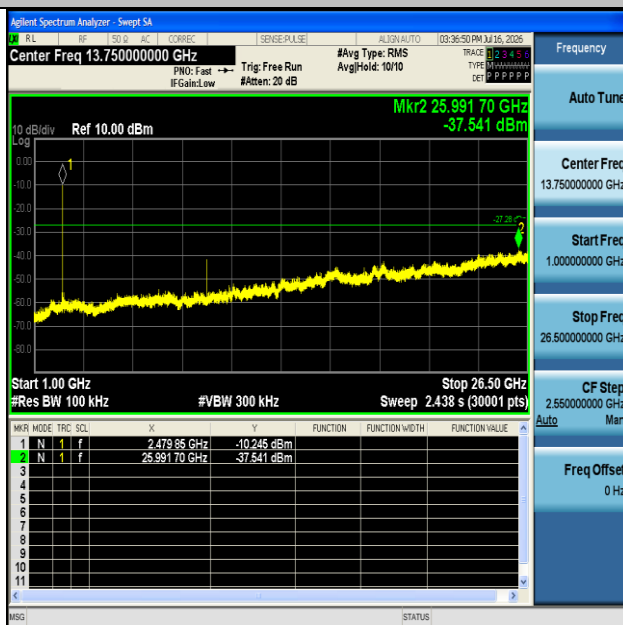


2DH5-Ant1-2480-0~Reference-PASS



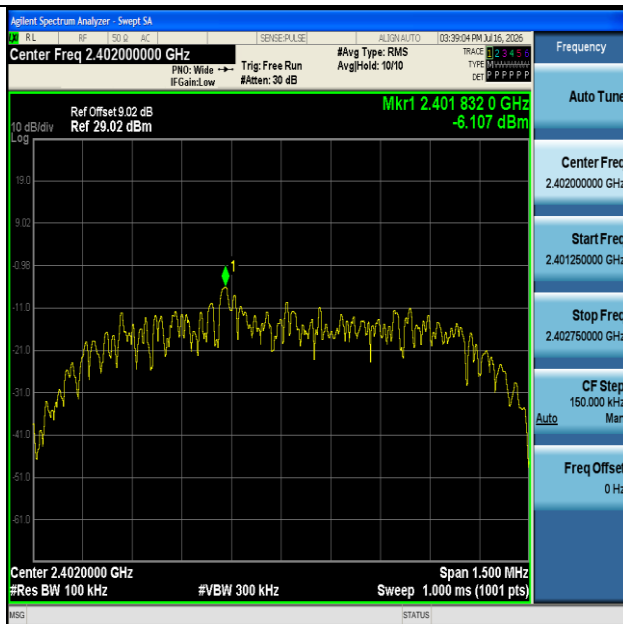


2DH5-Ant1-2480-30~1000-PASS

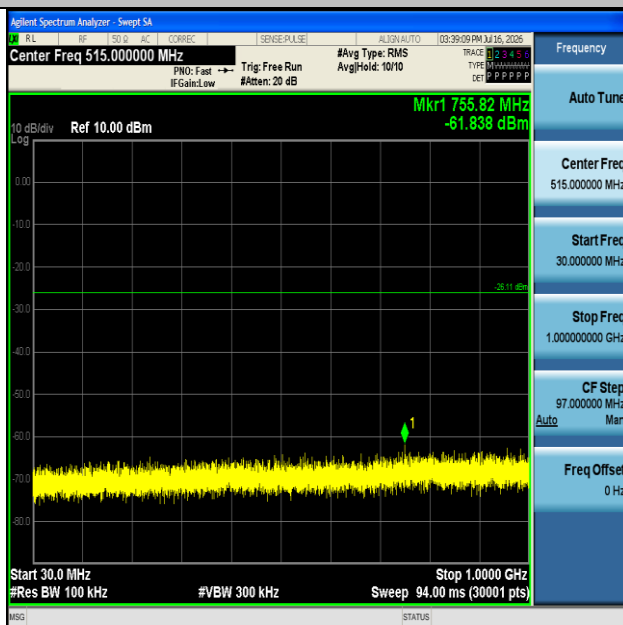


2DH5-Ant1-2480-1000~26500-PASS



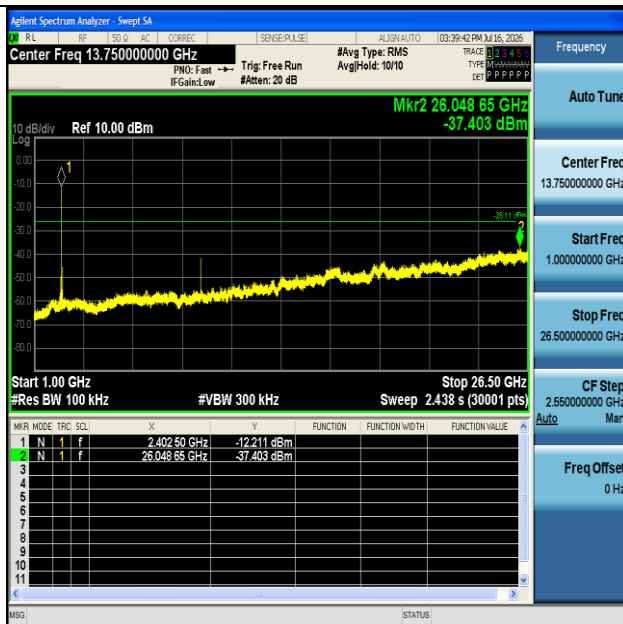


3DH5-Ant1-2402-0~Reference-PASS

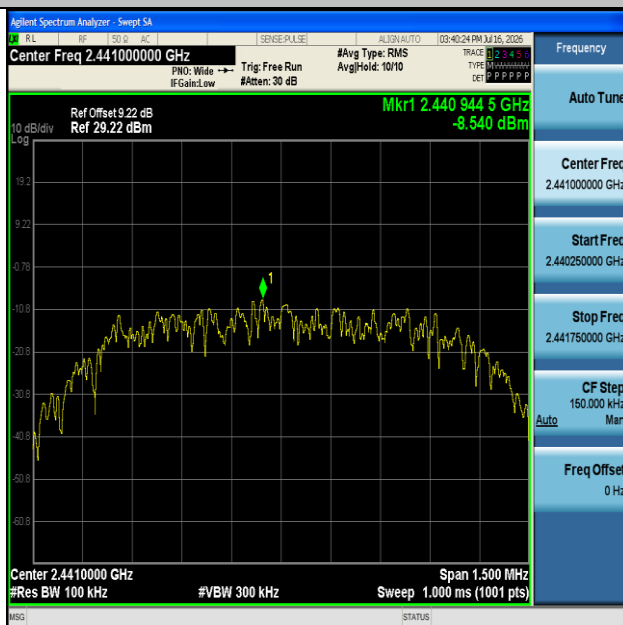


3DH5-Ant1-2402-30~1000-PASS



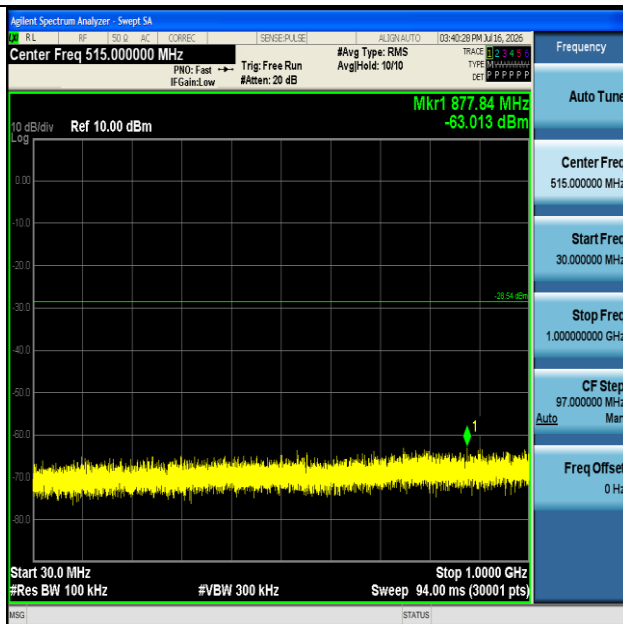


3DH5-Ant1-2402-1000~26500-PASS

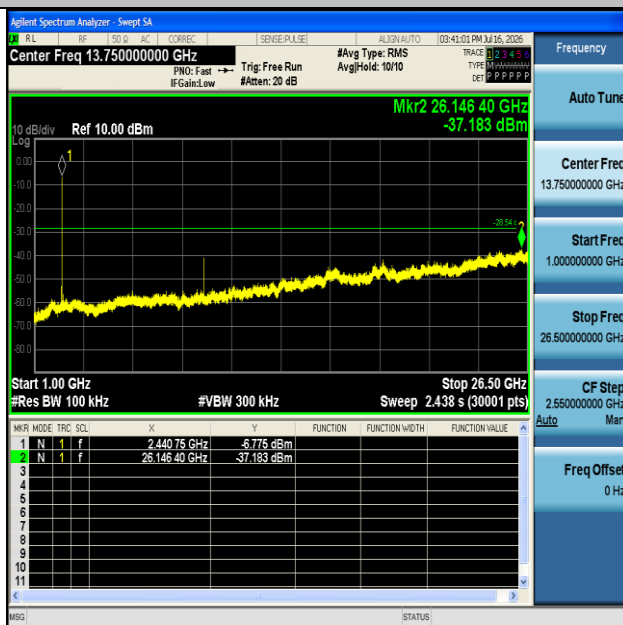


3DH5-Ant1-2441-0~Reference-PASS





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

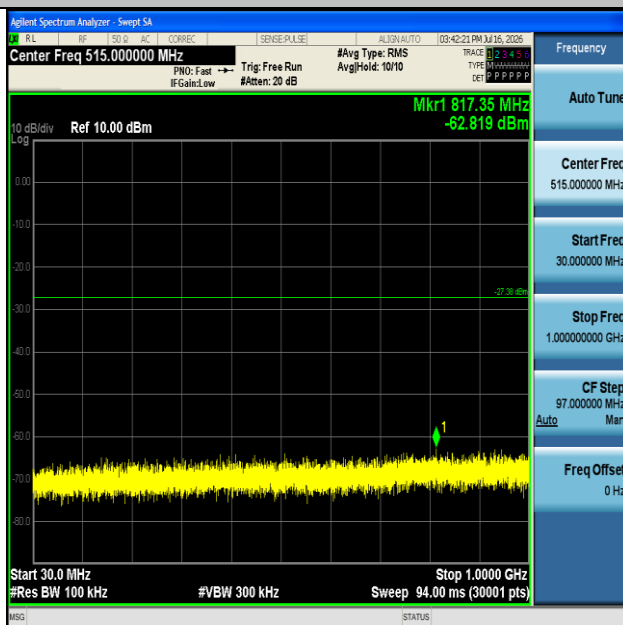


3DH5-Ant1-2441-1000~26500-PASS



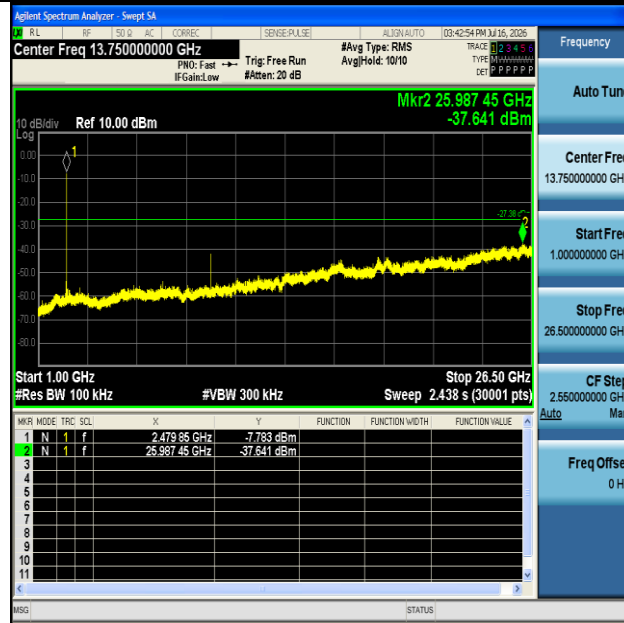


3DH5-Ant1-2480-0~Reference-PASS



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





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





Appendix I: Duty Cycle

Test Result

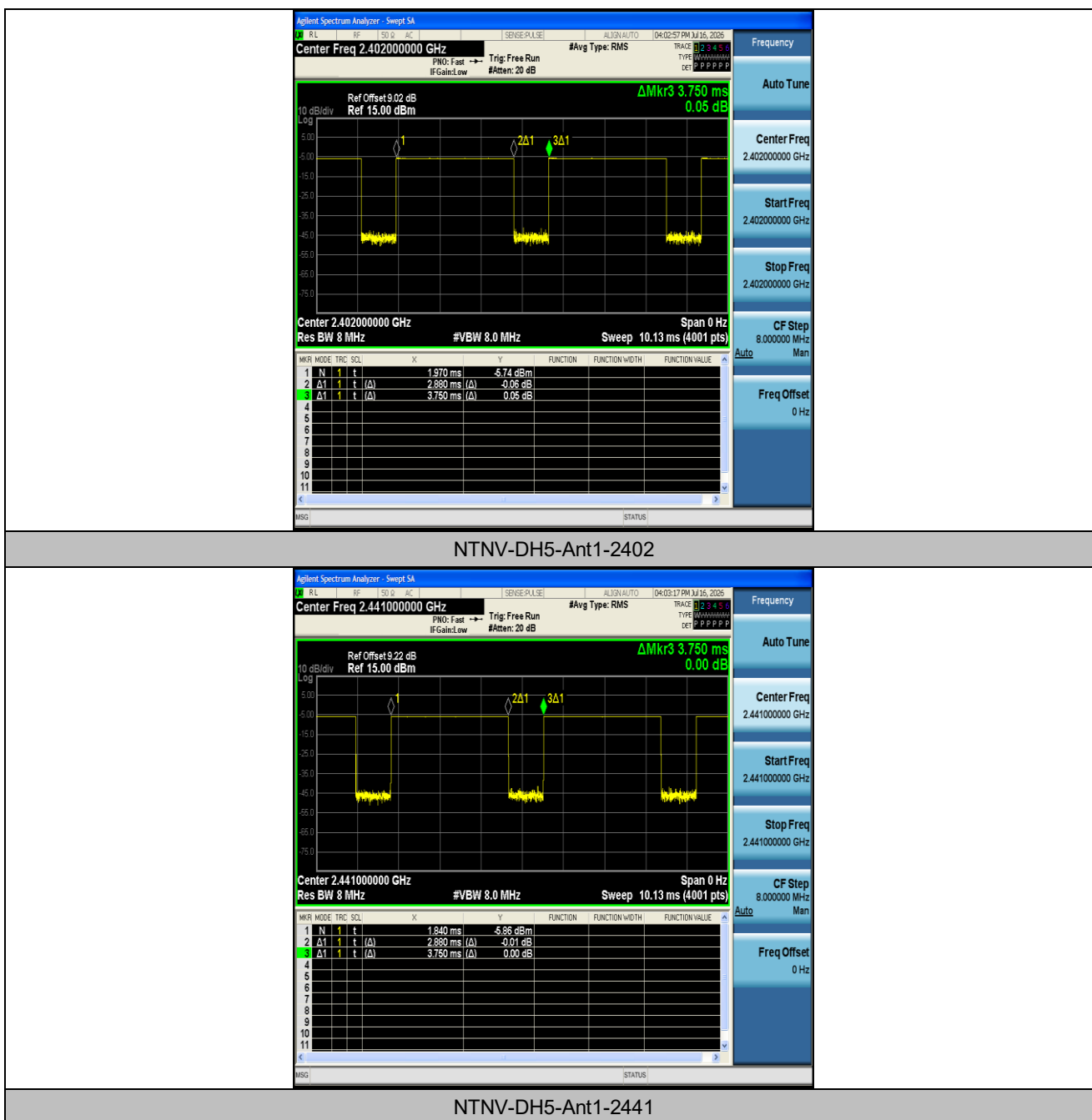
Test Mode	Antenna	Frequency [MHz]	ON Time [ms]	Period [ms]	Duty Cycle [%]	Duty Cycle Factor [dB]
DH5	Ant1	2402	2.88	3.75	76.80	1.15
DH5	Ant1	2441	2.88	3.75	76.80	1.15
DH5	Ant1	2480	2.89	3.75	77.07	1.13
2DH5	Ant1	2402	2.89	3.76	76.86	1.14
2DH5	Ant1	2441	2.89	3.75	77.07	1.13
2DH5	Ant1	2480	2.90	3.76	77.13	1.13
3DH5	Ant1	2402	0.89	3.75	23.73	6.25
3DH5	Ant1	2441	0.89	3.75	23.73	6.25
3DH5	Ant1	2480	0.89	3.75	23.73	6.25

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



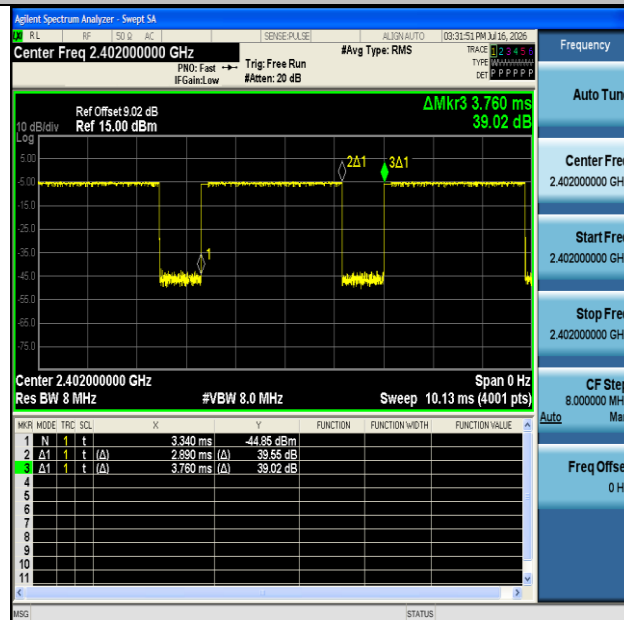


Test Graphs



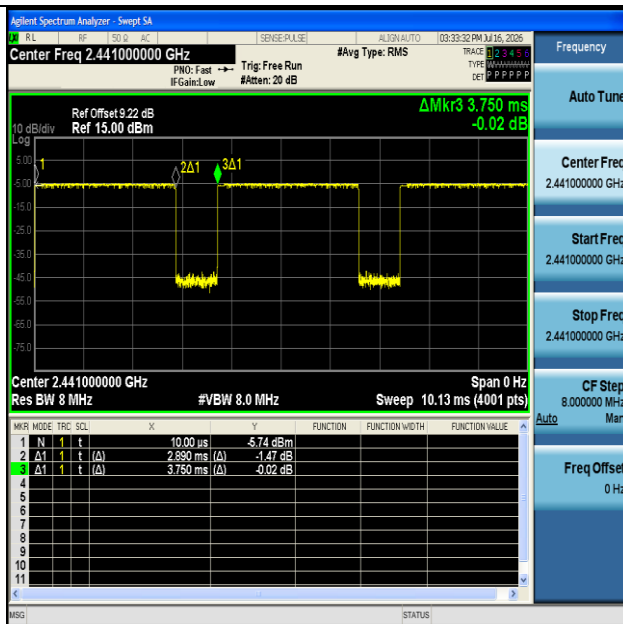


NTNV-DH5-Ant1-2480

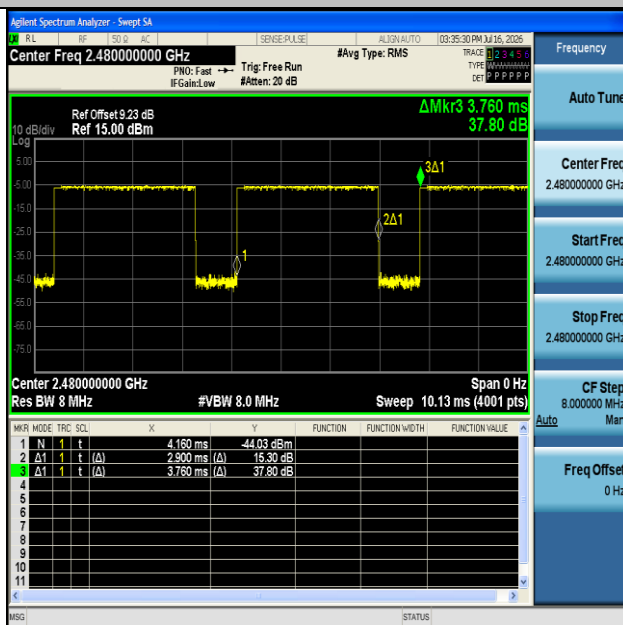


NTNV-2DH5-Ant1-2402



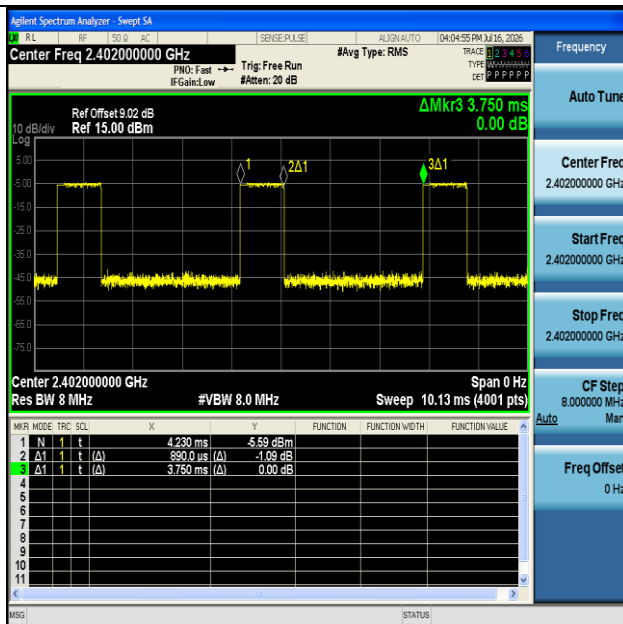


NTNV-2DH5-Ant1-2441

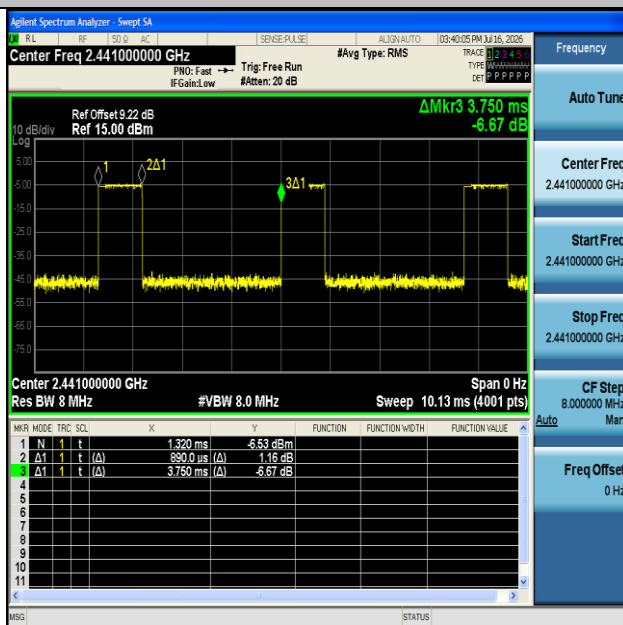


NTNV-2DH5-Ant1-2480





NTNV-3DH5-Ant1-2402



NTNV-3DH5-Ant1-2441



