



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

Product Name: MP3 KARAOKE PLAYER WITH BLUETOOTH

Trade Mark: singing machine

Test Model: SML722

FCC ID: 2AAXO-SML722

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	0.960	2401.424	2402.384	---	---
DH5	Ant1	2441	0.930	2440.442	2441.372	---	---
DH5	Ant1	2480	0.975	2479.394	2480.369	---	---
2DH5	Ant1	2402	1.299	2401.250	2402.549	---	---
2DH5	Ant1	2441	1.296	2440.247	2441.543	---	---
2DH5	Ant1	2480	1.242	2479.271	2480.513	---	---
3DH5	Ant1	2402	1.296	2401.259	2402.555	---	---
3DH5	Ant1	2441	1.314	2440.247	2441.561	---	---
3DH5	Ant1	2480	1.290	2479.241	2480.531	---	---

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





Test Graphs





DH5-Ant1-2480



2DH5-Ant1-2402





2DH5-Ant1-2441



2DH5-Ant1-2480



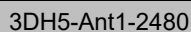


3DH5-Ant1-2402



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	0.87595	2401.4613	2402.3373	---	---
DH5	Ant1	2441	0.86002	2440.4603	2441.3203	---	---
DH5	Ant1	2480	0.87693	2479.4545	2480.3315	---	---
2DH5	Ant1	2402	1.2096	2401.2994	2402.5090	---	---
2DH5	Ant1	2441	1.2011	2440.2967	2441.4978	---	---
2DH5	Ant1	2480	1.2087	2479.2865	2480.4952	---	---
3DH5	Ant1	2402	1.1956	2401.3024	2402.4980	---	---
3DH5	Ant1	2441	1.1924	2440.2948	2441.4872	---	---
3DH5	Ant1	2480	1.2115	2479.2875	2480.4990	---	---

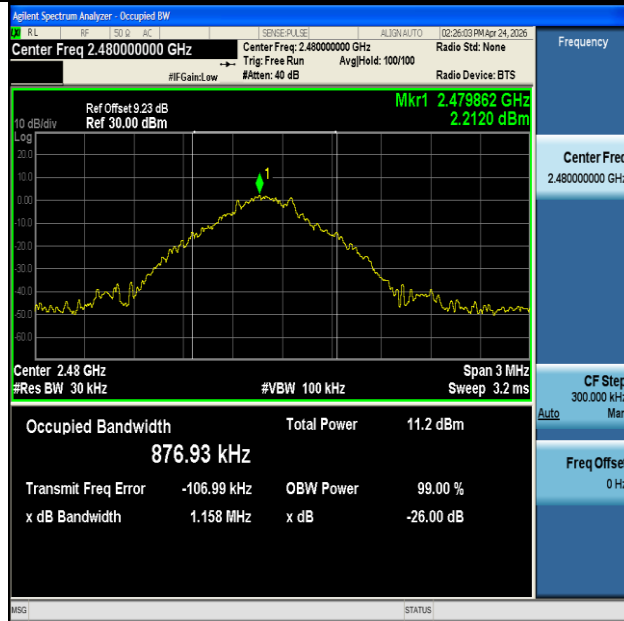
Note: offset(dB) = cable loss(dB) + attenuator factor(dB)





Test Graphs





DH5-Ant1-2480



2DH5-Ant1-2402



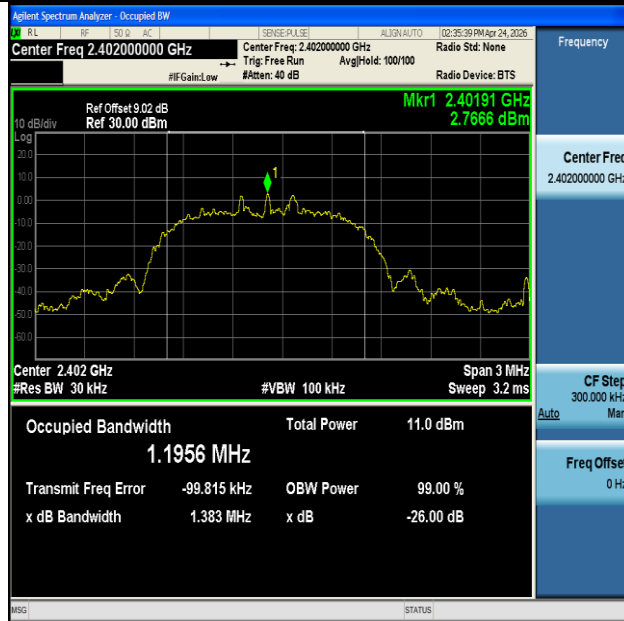


2DH5-Ant1-2441



2DH5-Ant1-2480



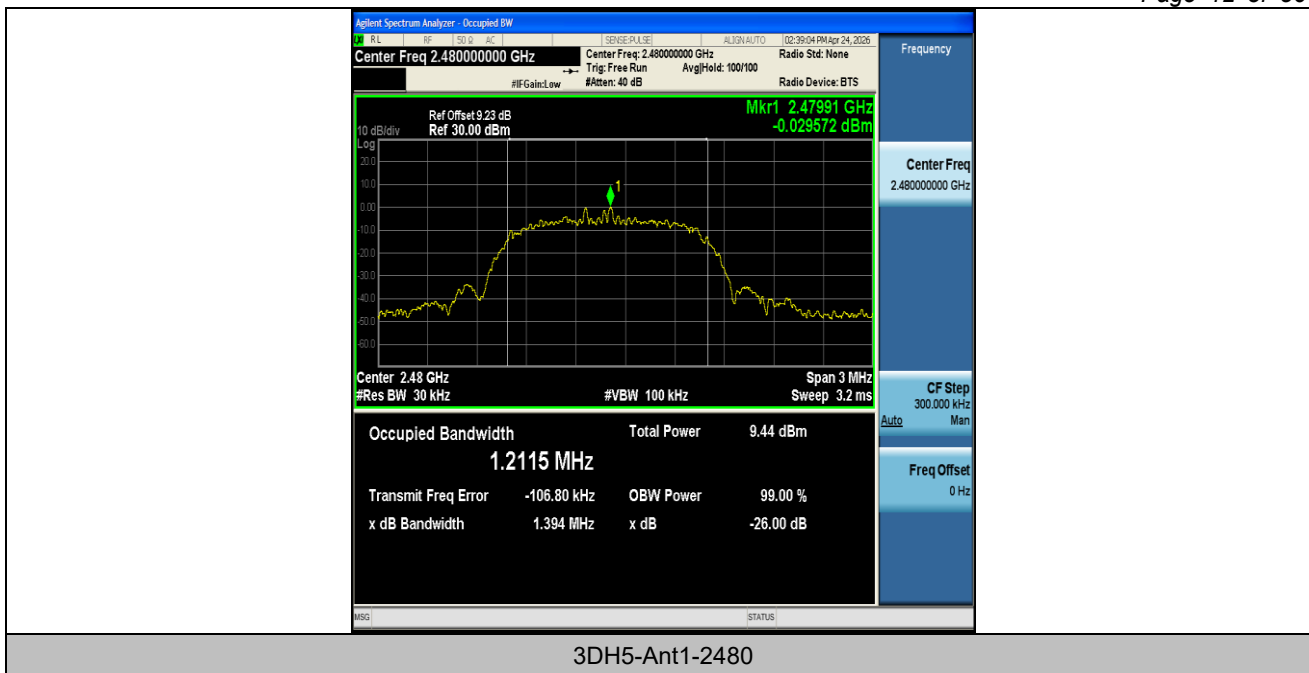


3DH5-Ant1-2402



3DH5-Ant1-2441







Appendix C: Maximum peak conducted output power

Test Result

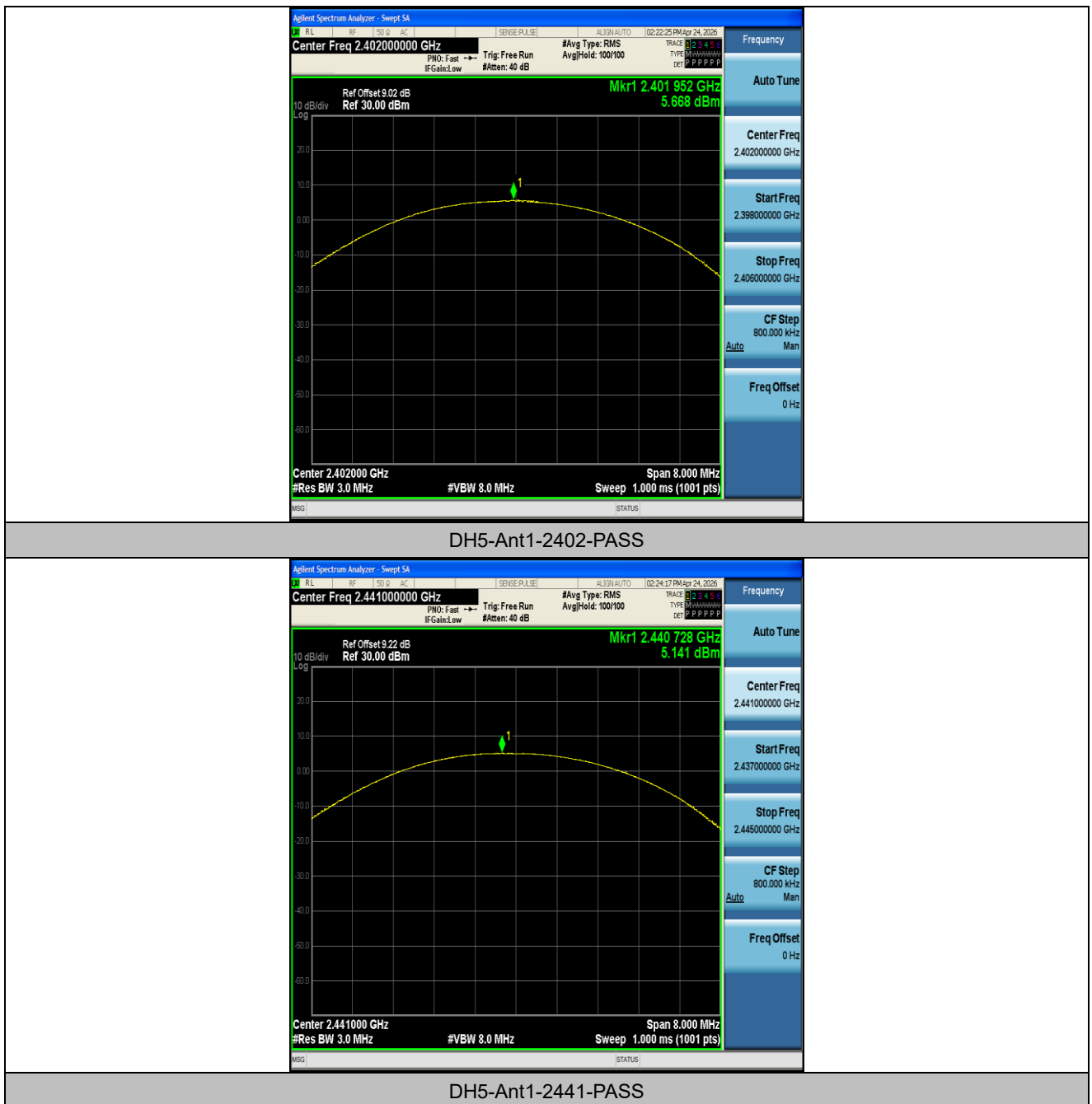
Test Mode	Antenna	Frequency [MHz]	Conducted Peak Power [dBm]	Conducted Limit [dBm]	Verdict
DH5	Ant1	2402	5.67	≤30	PASS
DH5	Ant1	2441	5.14	≤30	PASS
DH5	Ant1	2480	4.33	≤30	PASS
2DH5	Ant1	2402	5.22	≤20.97	PASS
2DH5	Ant1	2441	5.13	≤20.97	PASS
2DH5	Ant1	2480	4.37	≤20.97	PASS
3DH5	Ant1	2402	5.78	≤20.97	PASS
3DH5	Ant1	2441	5.54	≤20.97	PASS
3DH5	Ant1	2480	4.61	≤20.97	PASS

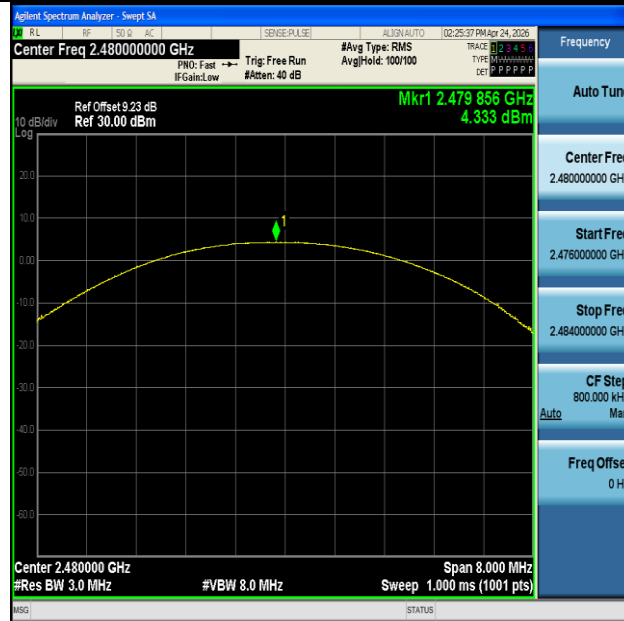
Note: offset(dB) = cable loss(dB) + attenuator factor(dB)



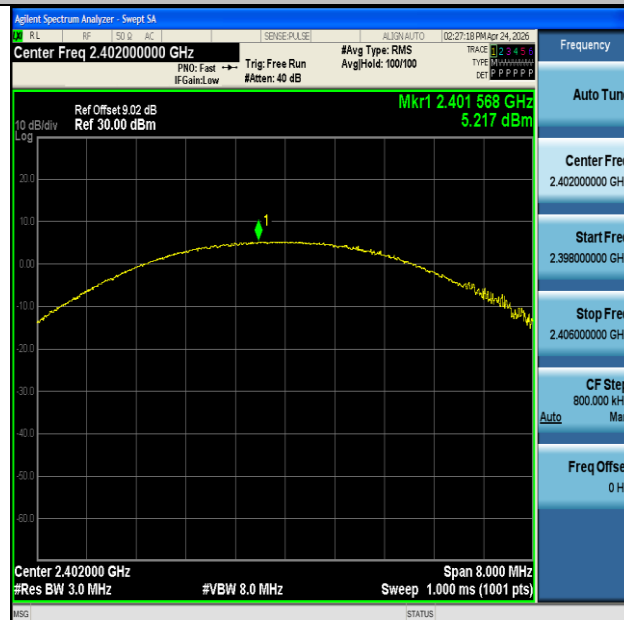


Test Graphs



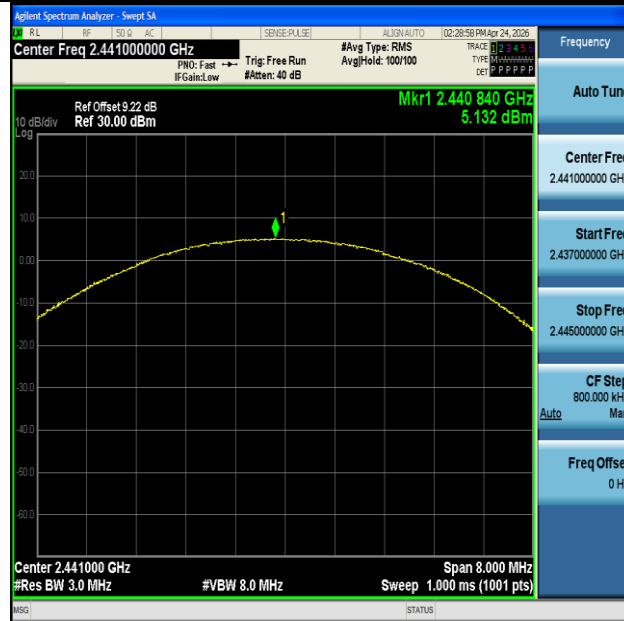


DH5-Ant1-2480-PASS

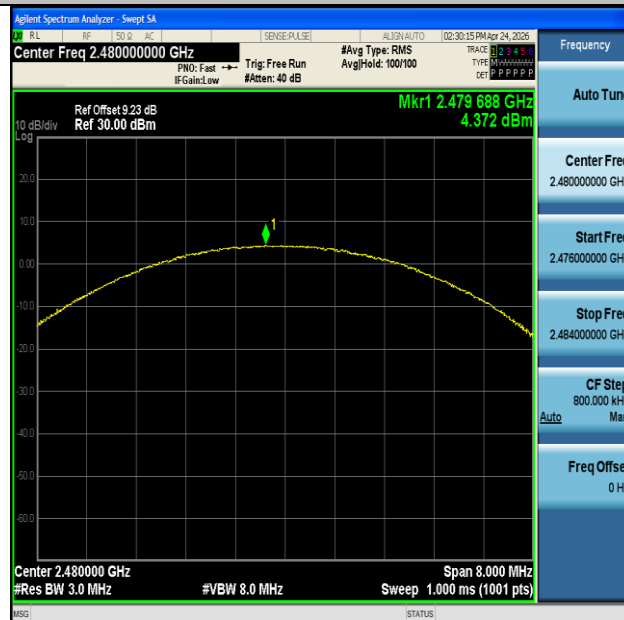


2DH5-Ant1-2402-PASS



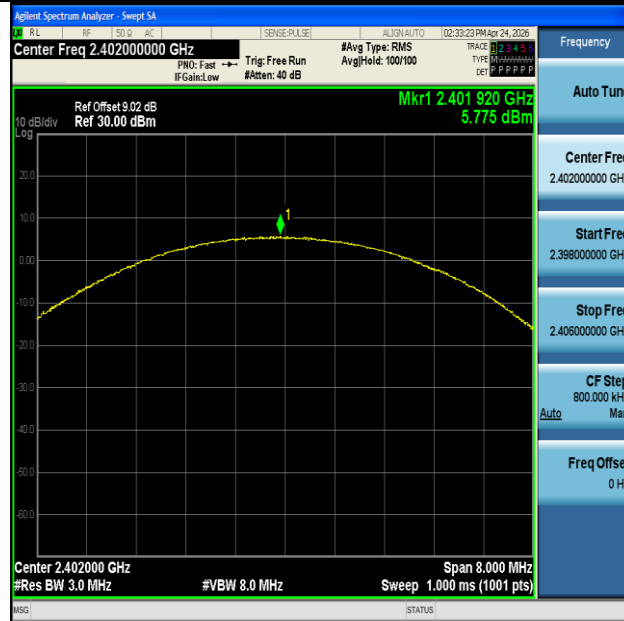


2DH5-Ant1-2441-PASS

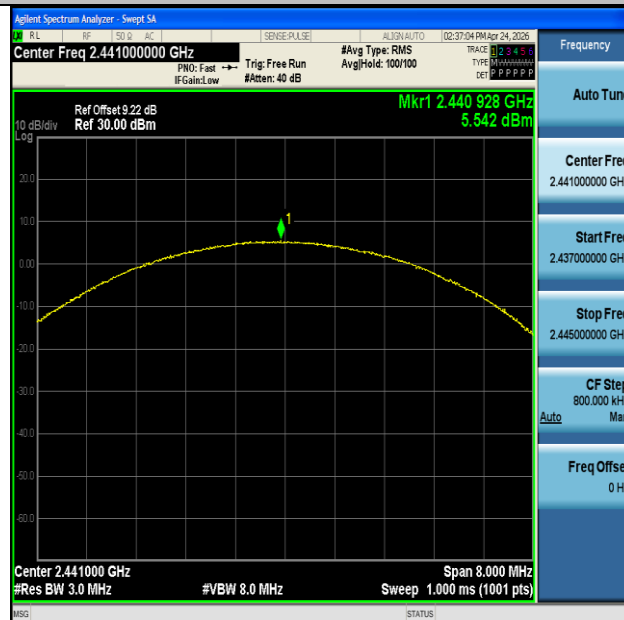


2DH5-Ant1-2480-PASS



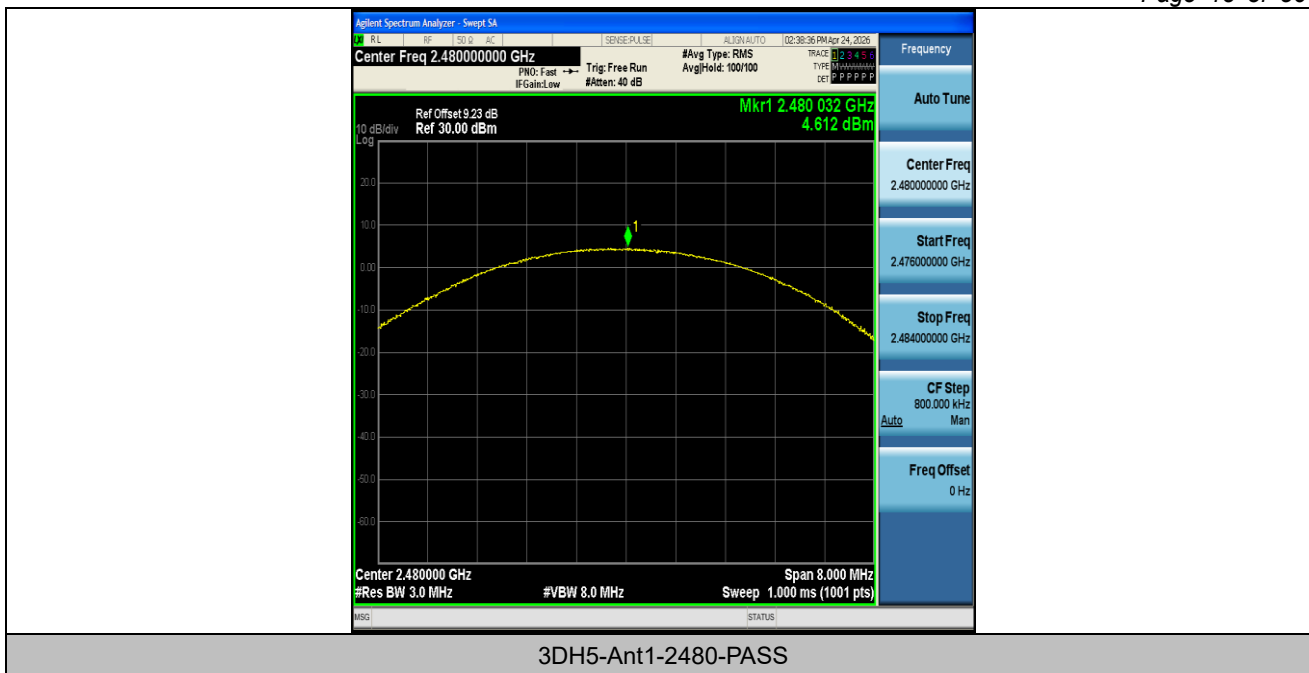


3DH5-Ant1-2402-PASS



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	≥ 0.975	PASS
2DH5	Ant1	Hop	1	≥ 0.866	PASS
3DH5	Ant1	Hop	0.99	≥ 0.876	PASS

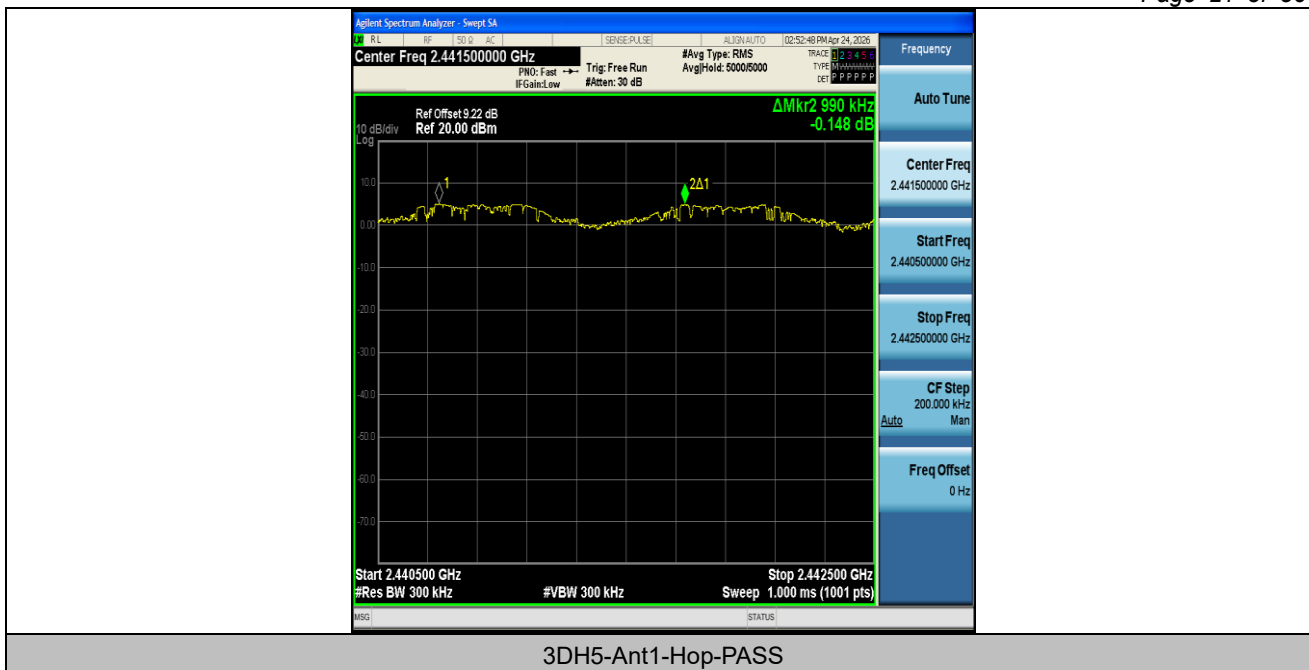
Note: offset(dB) = cable loss(dB) + attenuator factor(dB)





Test Graphs







Appendix E: Time of occupancy

Test Result

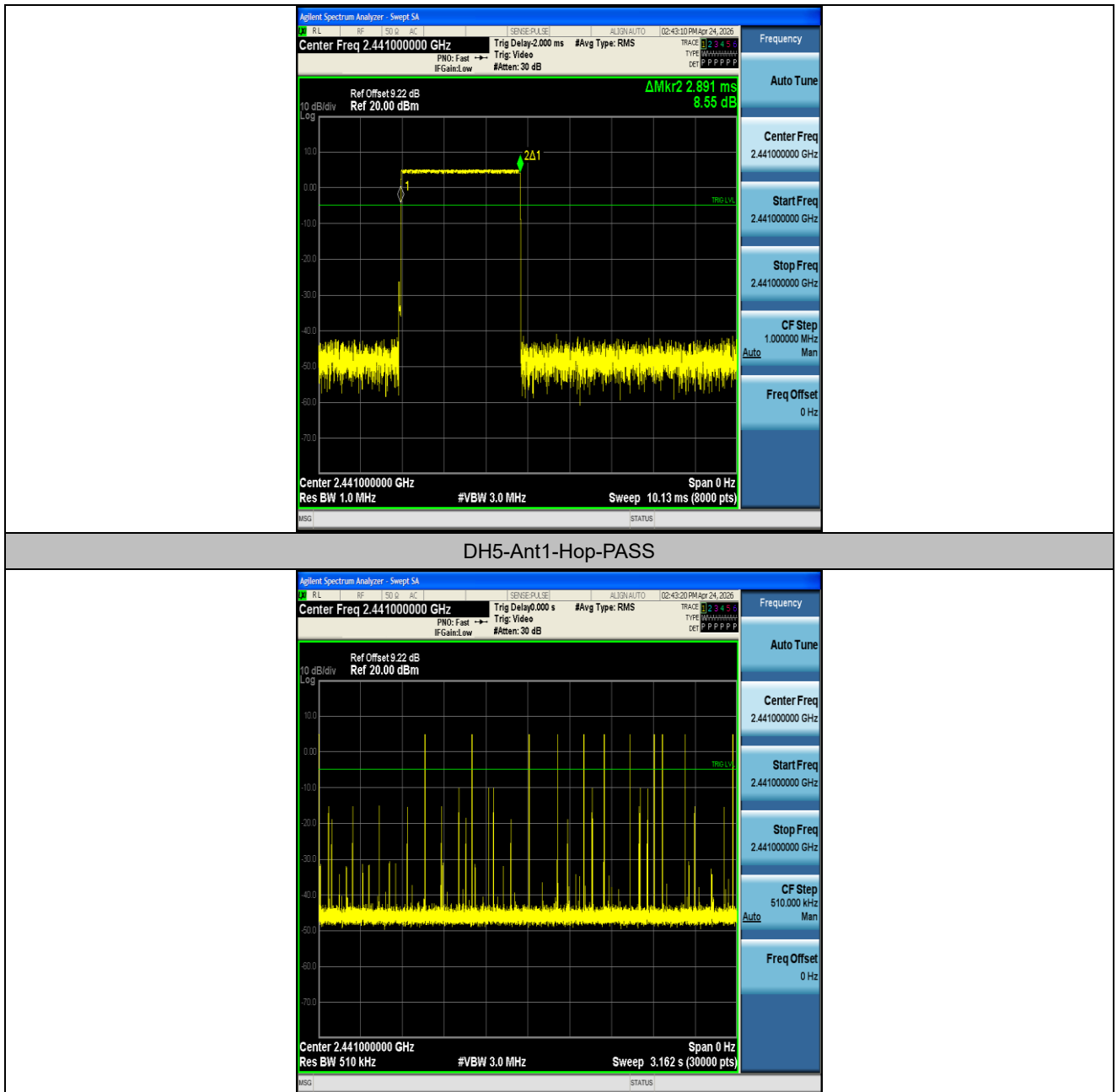
Test Mode	Antenna	Frequency [MHz]	Burst Width [ms]	TotalHops [Num]	Result [s]	Limit [s]	Verdict
DH5	Ant1	Hop	2.891	120	0.347	≤0.4	PASS
2DH5	Ant1	Hop	2.887	120	0.346	≤0.4	PASS
3DH5	Ant1	Hop	2.887	110	0.318	≤0.4	PASS

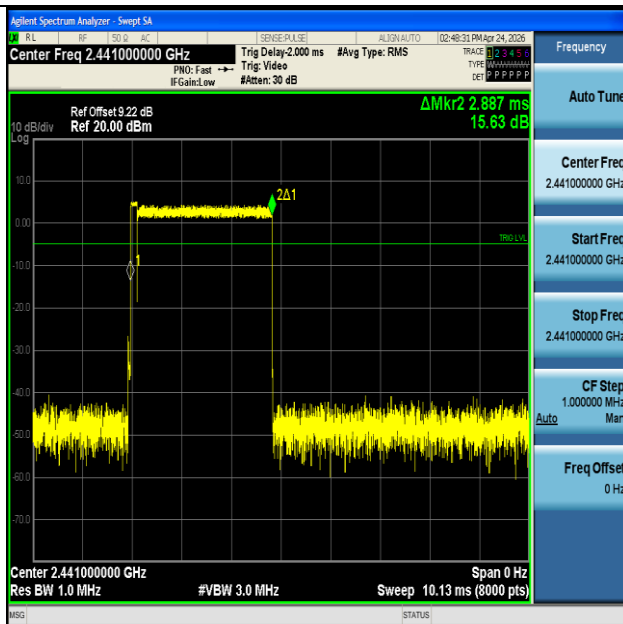
Note: offset(dB) = cable loss(dB) + attenuator factor(dB)



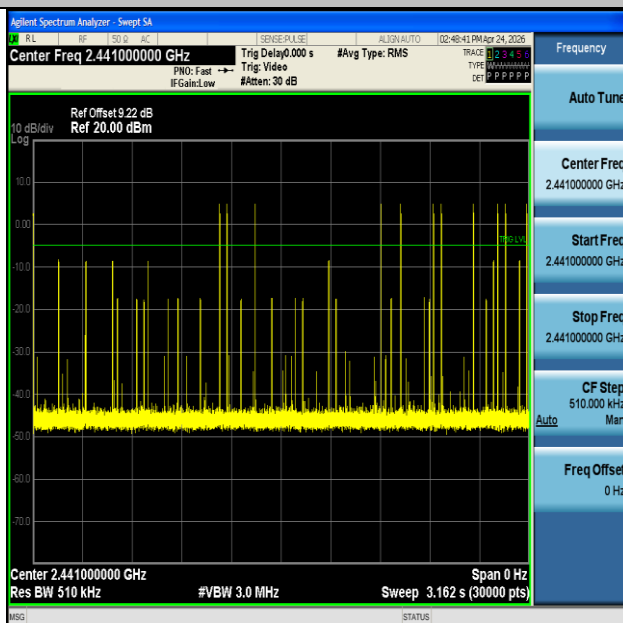


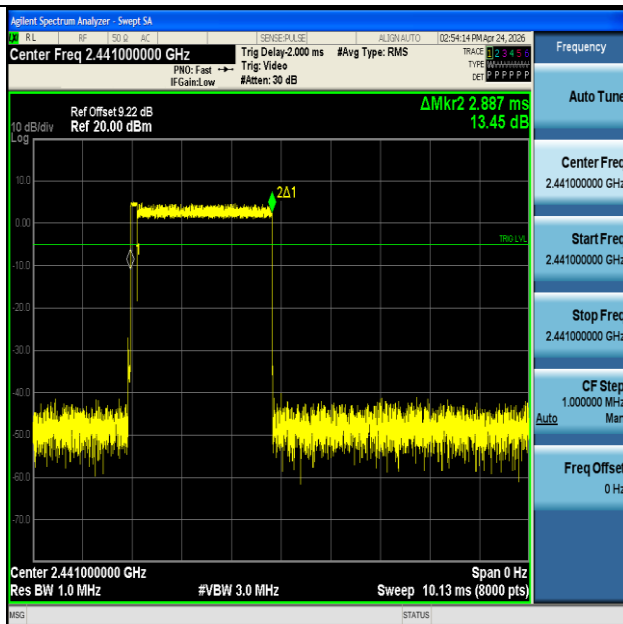
Test Graphs



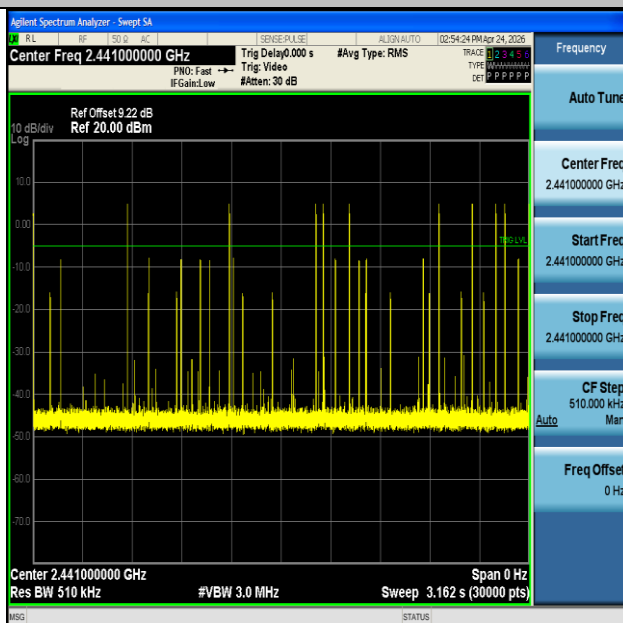


2DH5-Ant1-Hop-PASS





3DH5-Ant1-Hop-PASS





Appendix F: Number of hopping channels

Test Result

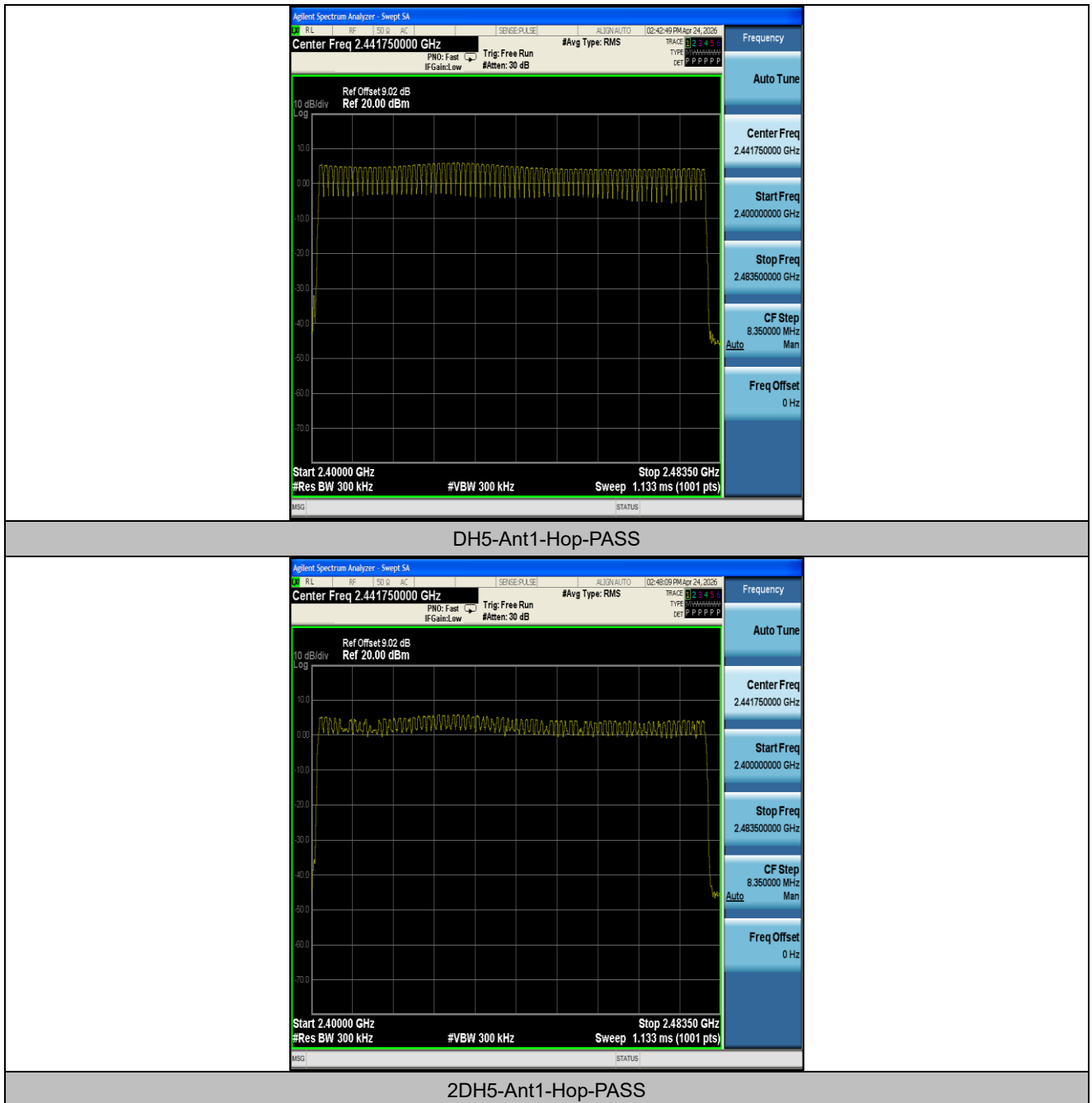
Test Mode	Antenna	Frequency [MHz]	Result [Num]	Limit [Num]	Verdict
DH5	Ant1	Hop	79	≥15	PASS
2DH5	Ant1	Hop	79	≥15	PASS
3DH5	Ant1	Hop	79	≥15	PASS

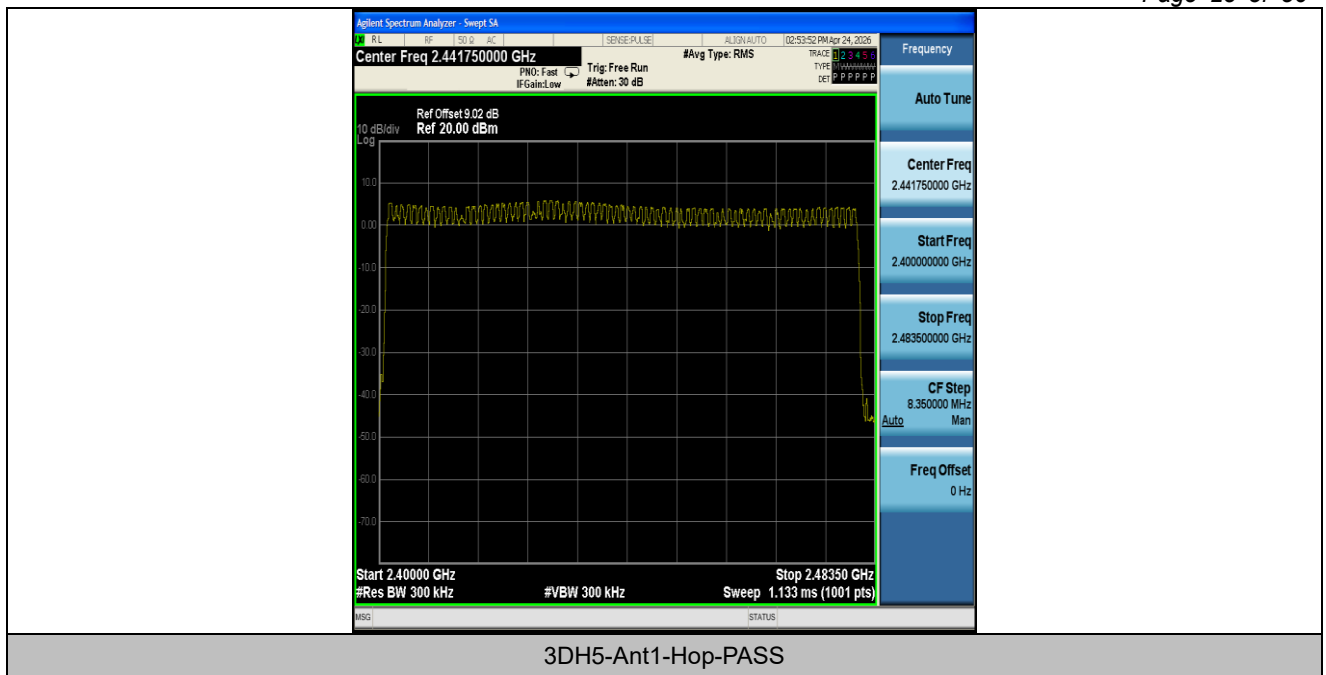
Note: offset(dB) = cable loss(dB) + attenuator factor(dB)





Test Graphs







Appendix G: Band edge measurements

Test Result

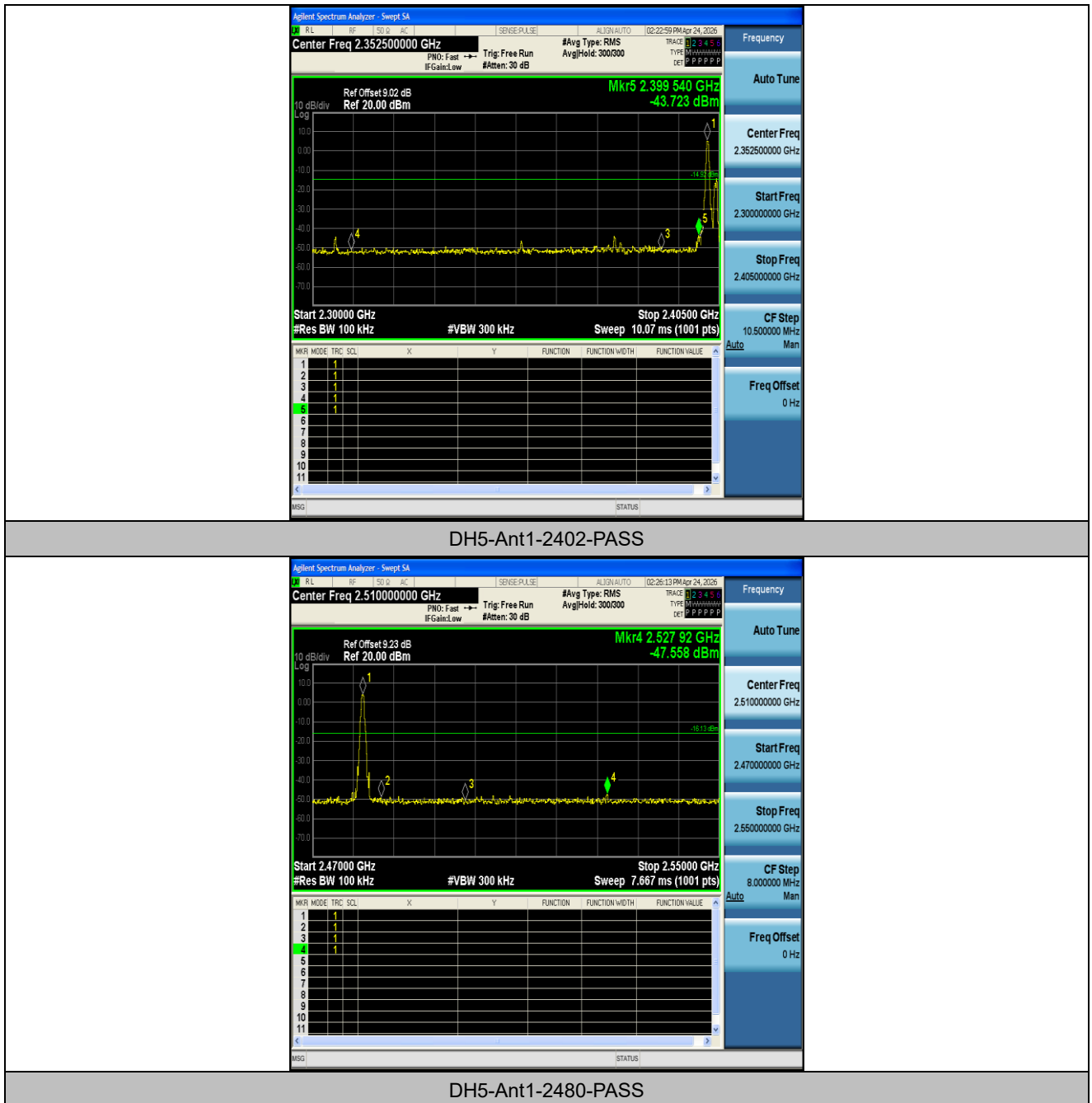
Test Mode	Antenna	Ch.Name	Frequency [MHz]	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
DH5	Ant1	Low	2402	5.08	-43.72	≤-14.92	PASS
DH5	Ant1	High	2480	3.87	-47.56	≤-16.13	PASS
DH5	Ant1	Low	Hop_2402	4.55	-44.69	≤-15.46	PASS
DH5	Ant1	High	Hop_2480	3.94	-43.72	≤-16.07	PASS
2DH5	Ant1	Low	2402	5.14	-45.72	≤-14.86	PASS
2DH5	Ant1	High	2480	4.11	-48.6	≤-15.89	PASS
2DH5	Ant1	Low	Hop_2402	-0.96	-45.99	≤-20.96	PASS
2DH5	Ant1	High	Hop_2480	2.67	-44.97	≤-17.33	PASS
3DH5	Ant1	Low	2402	5.03	-44.09	≤-14.98	PASS
3DH5	Ant1	High	2480	0.54	-46.69	≤-19.46	PASS
3DH5	Ant1	Low	Hop_2402	3.13	-46.25	≤-16.87	PASS
3DH5	Ant1	High	Hop_2480	4.06	-43.98	≤-15.94	PASS

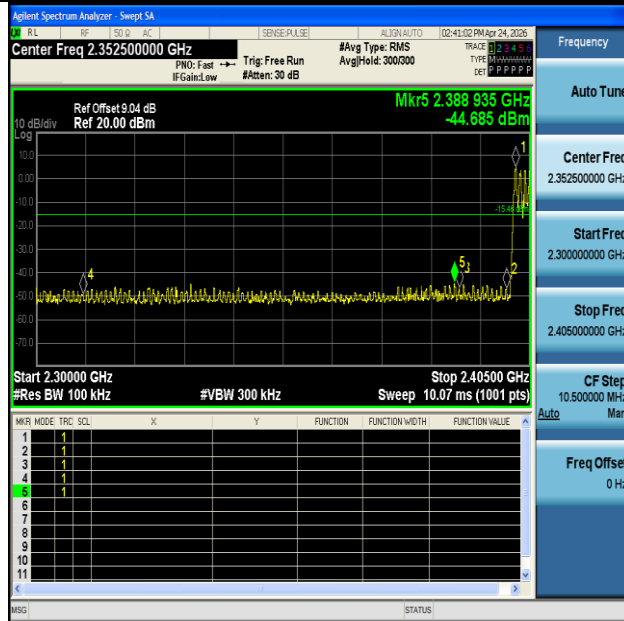
Note: offset(dB) = cable loss(dB) + attenuator factor(dB)



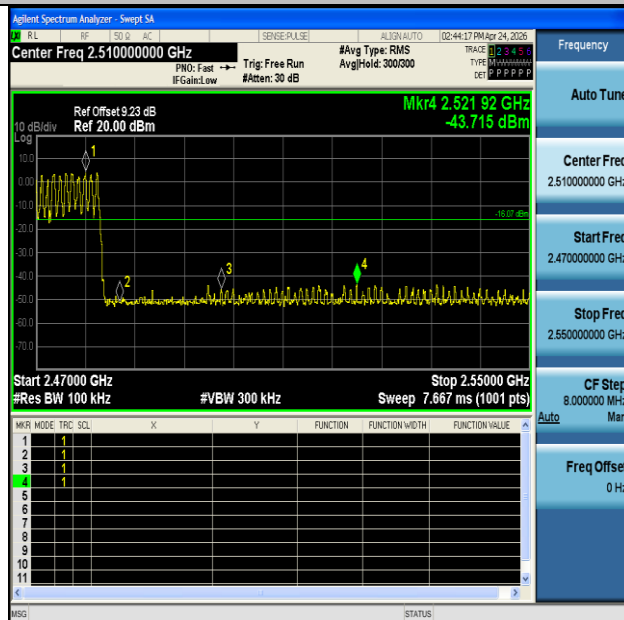


Test Graphs



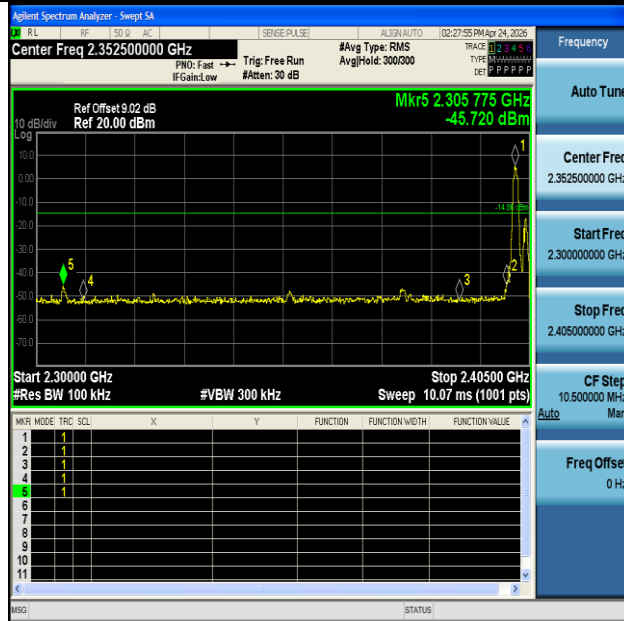


DH5-Ant1-Hop_2402-PASS

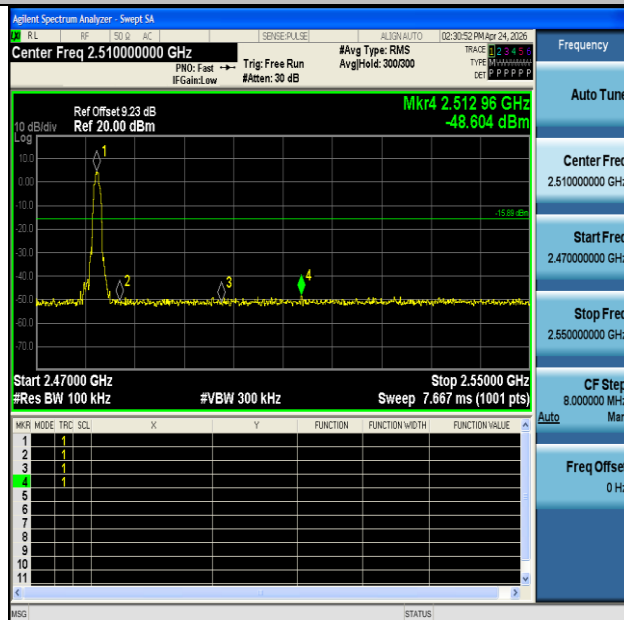


DH5-Ant1-Hop_2480-PASS



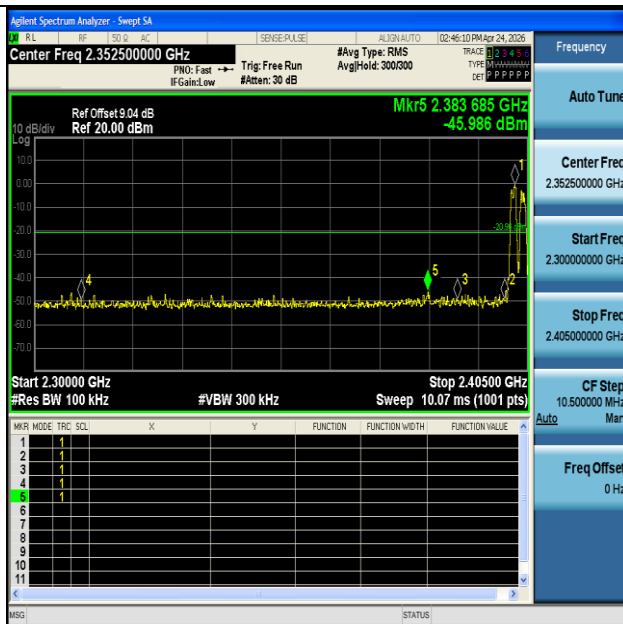


2DH5-Ant1-2402-PASS

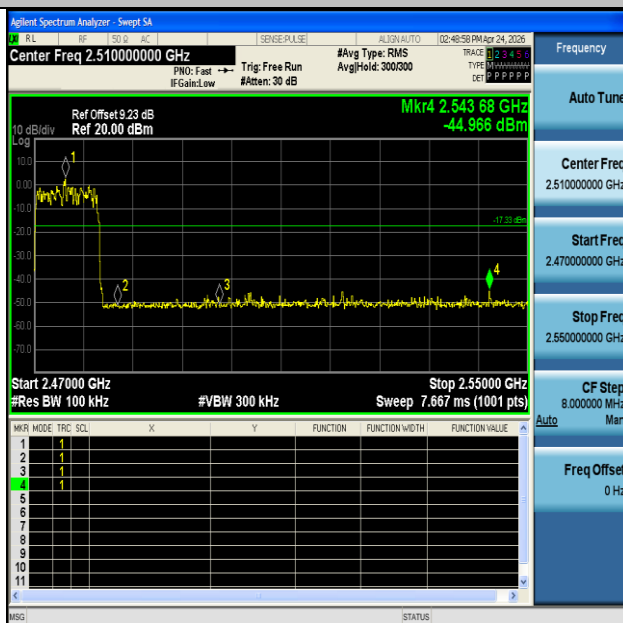


2DH5-Ant1-2480-PASS



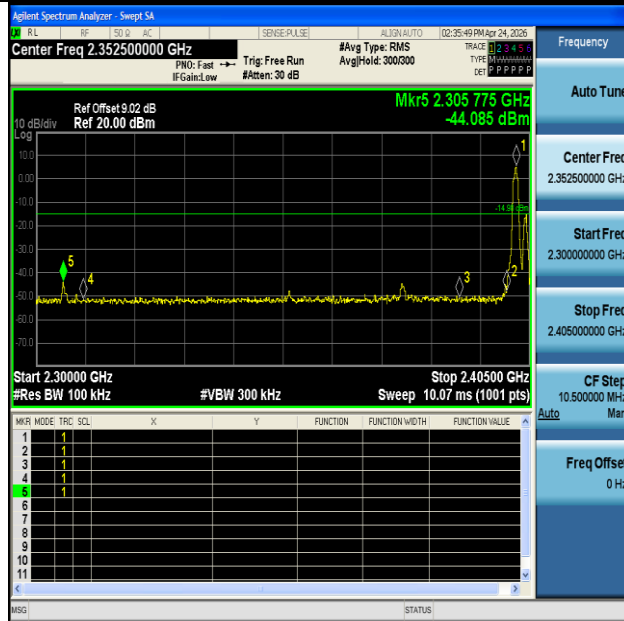


2DH5-Ant1-Hop_2402-PASS

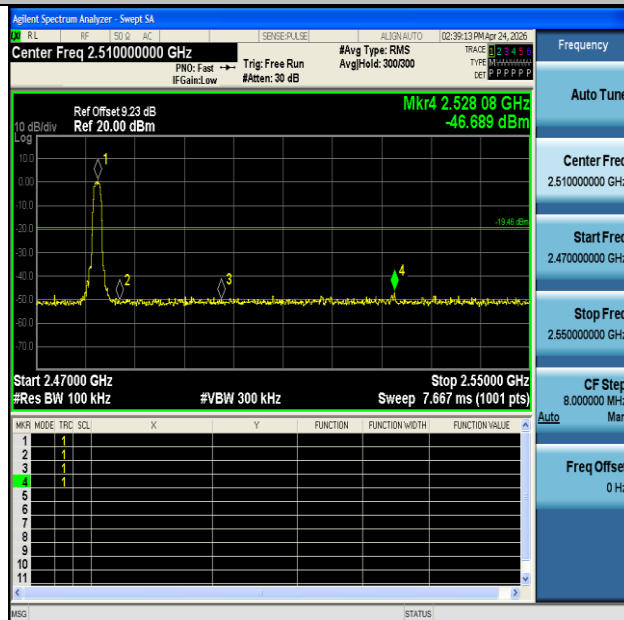


2DH5-Ant1-Hop_2480-PASS



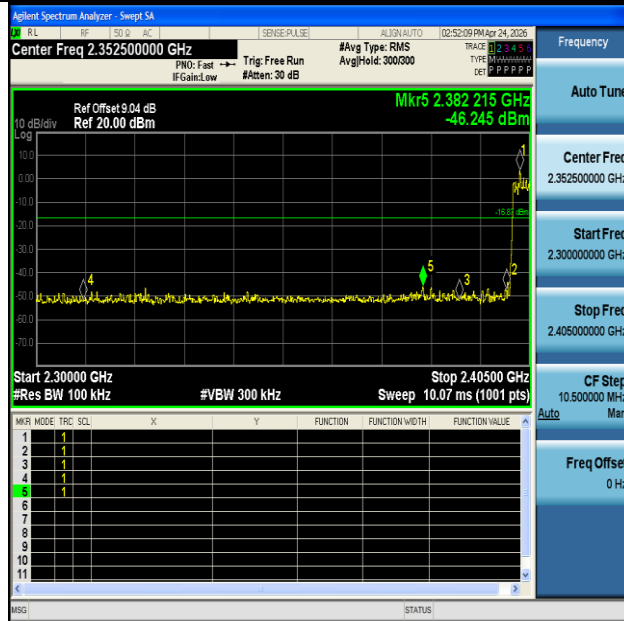


3DH5-Ant1-2402-PASS

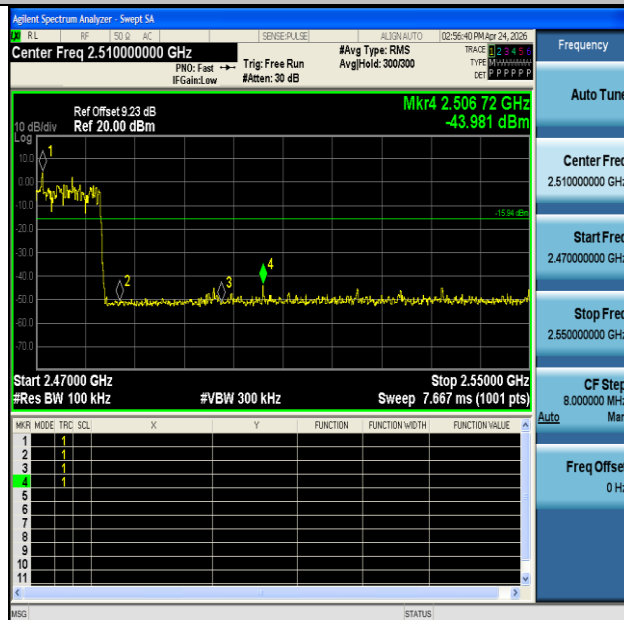


3DH5-Ant1-2480-PASS





3DH5-Ant1-Hop_2402-PASS



3DH5-Ant1-Hop_2480-PASS





Appendix H: Conducted Spurious Emission

Test Result

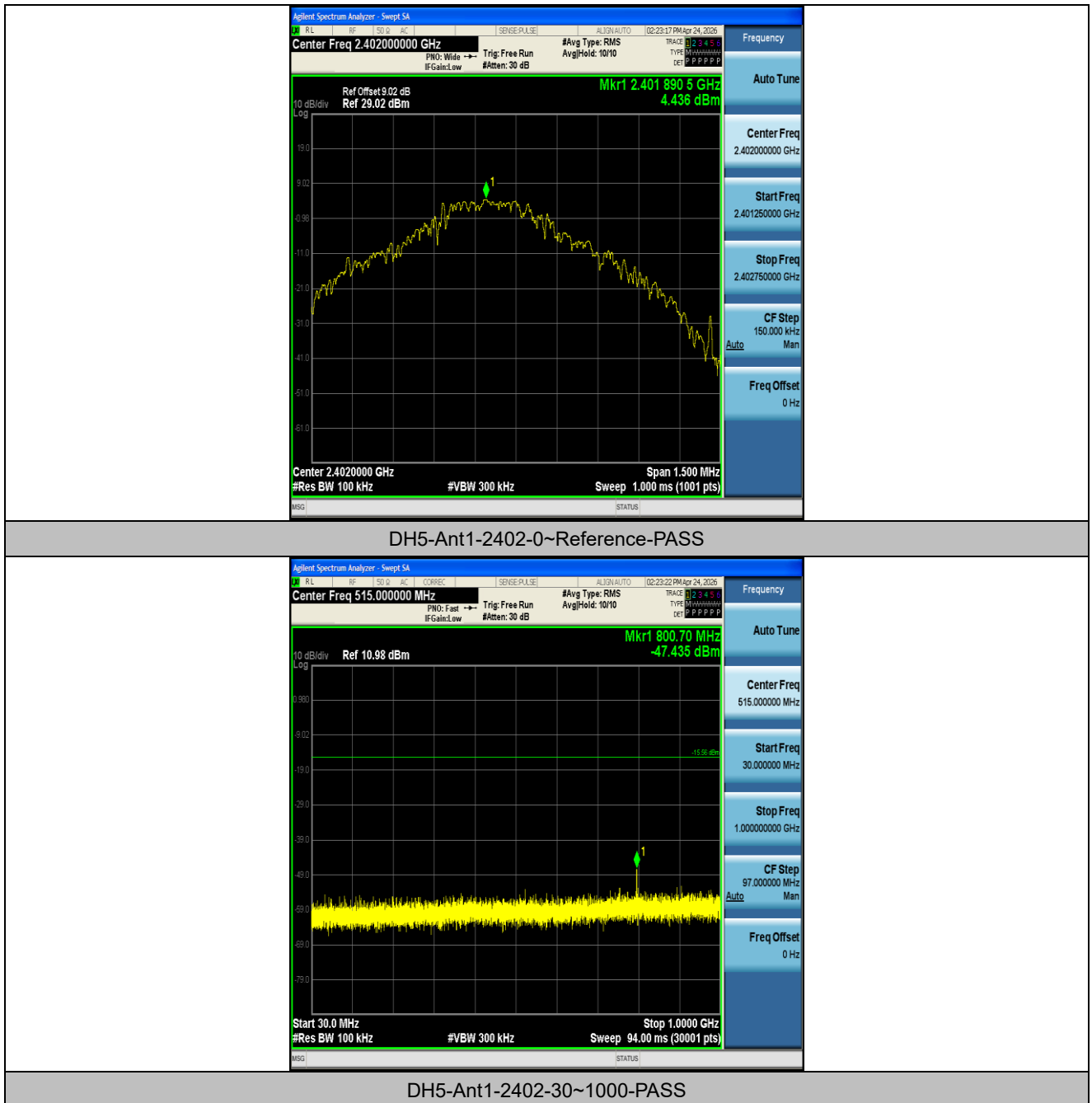
Test Mode	Antenna	Frequency [MHz]	Freq. Range [MHz]	Ref. Level [dBm]	Result [dBm]	Limit [dBm]	Verdict
DH5	Ant1	2402	0~Reference	4.44	4.44	---	PASS
DH5	Ant1	2402	30~1000	4.44	-47.44	≤-15.56	PASS
DH5	Ant1	2402	1000~26500	4.44	-27.5	≤-15.56	PASS
DH5	Ant1	2441	0~Reference	4.17	4.17	---	PASS
DH5	Ant1	2441	30~1000	4.17	-47.15	≤-15.83	PASS
DH5	Ant1	2441	1000~26500	4.17	-27.04	≤-15.83	PASS
DH5	Ant1	2480	0~Reference	3.84	3.84	---	PASS
DH5	Ant1	2480	30~1000	3.84	-48.41	≤-16.16	PASS
DH5	Ant1	2480	1000~26500	3.84	-27.65	≤-16.16	PASS
2DH5	Ant1	2402	0~Reference	-0.76	-0.76	---	PASS
2DH5	Ant1	2402	30~1000	-0.76	-49.84	≤-20.76	PASS
2DH5	Ant1	2402	1000~26500	-0.76	-27.39	≤-20.76	PASS
2DH5	Ant1	2441	0~Reference	4.60	4.60	---	PASS
2DH5	Ant1	2441	30~1000	4.60	-51.2	≤-15.4	PASS
2DH5	Ant1	2441	1000~26500	4.60	-26.98	≤-15.4	PASS
2DH5	Ant1	2480	0~Reference	1.23	1.23	---	PASS
2DH5	Ant1	2480	30~1000	1.23	-52.65	≤-18.77	PASS
2DH5	Ant1	2480	1000~26500	1.23	-27.43	≤-18.77	PASS
3DH5	Ant1	2402	0~Reference	-0.14	-0.14	---	PASS
3DH5	Ant1	2402	30~1000	-0.14	-50.53	≤-20.14	PASS
3DH5	Ant1	2402	1000~26500	-0.14	-27.19	≤-20.14	PASS
3DH5	Ant1	2441	0~Reference	3.64	3.64	---	PASS
3DH5	Ant1	2441	30~1000	3.64	-52.28	≤-16.36	PASS
3DH5	Ant1	2441	1000~26500	3.64	-26.75	≤-16.36	PASS
3DH5	Ant1	2480	0~Reference	4.01	4.01	---	PASS
3DH5	Ant1	2480	30~1000	4.01	-50.45	≤-15.99	PASS
3DH5	Ant1	2480	1000~26500	4.01	-27.54	≤-15.99	PASS

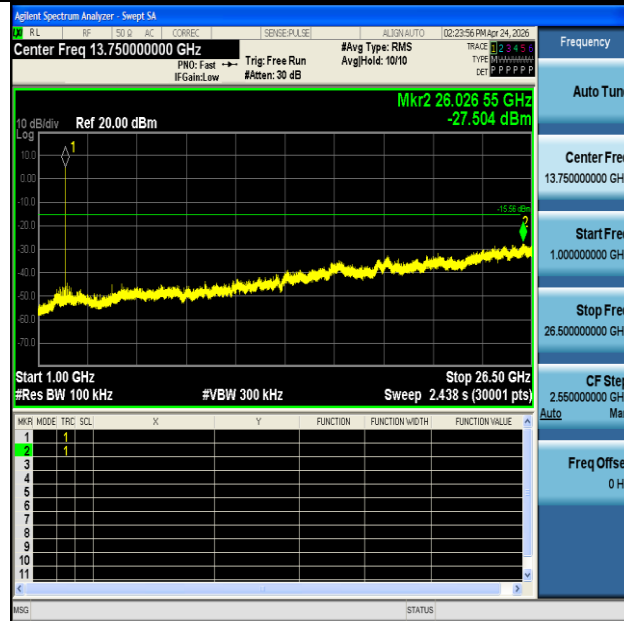
Note: offset(dB) in Reference test plots = cable loss(dB) + attenuator factor(dB); For spurious emissions plots from 30MHz to 26.5GHz, the cable loss and attenuator factors have been set in the 'Input Correction' of the Spectrum Analyzer during the test.



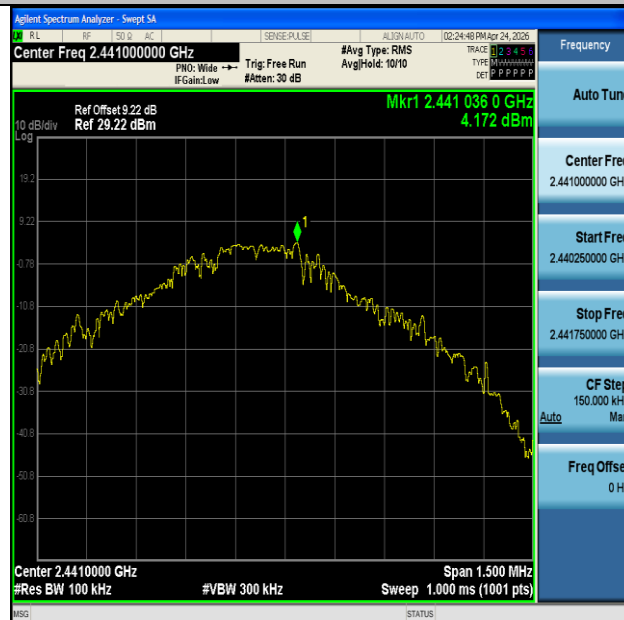


Test Graphs



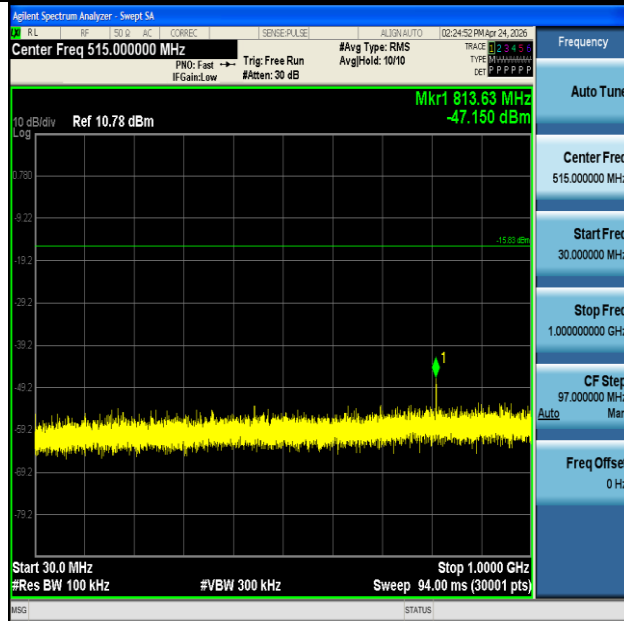


DH5-Ant1-2402-1000~26500-PASS

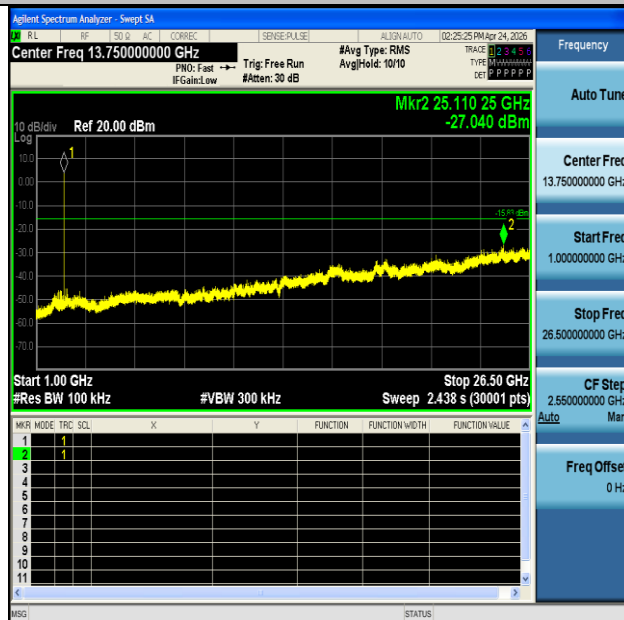


DH5-Ant1-2441-0~Reference-PASS





DH5-Ant1-2441-30~1000-PASS

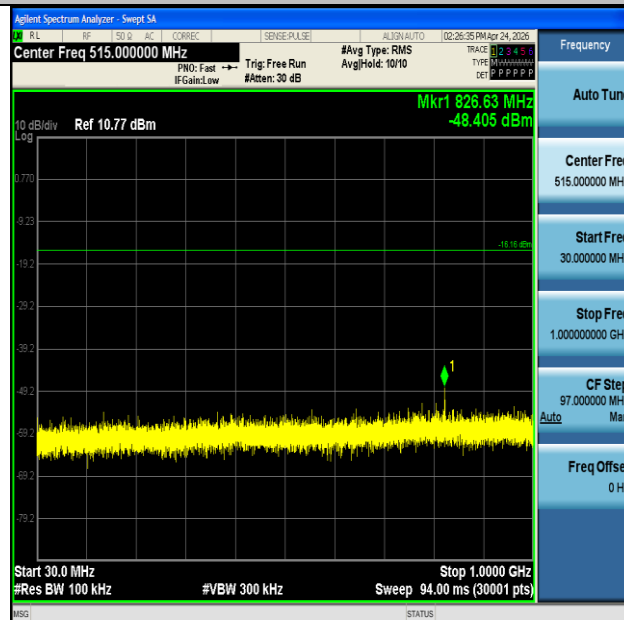


DH5-Ant1-2441-1000~26500-PASS



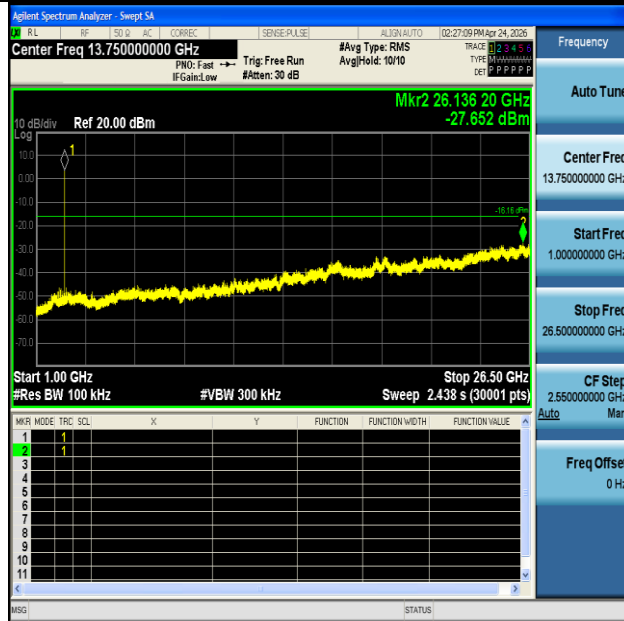


DH5-Ant1-2480-0~Reference-PASS



DH5-Ant1-2480-30~1000-PASS



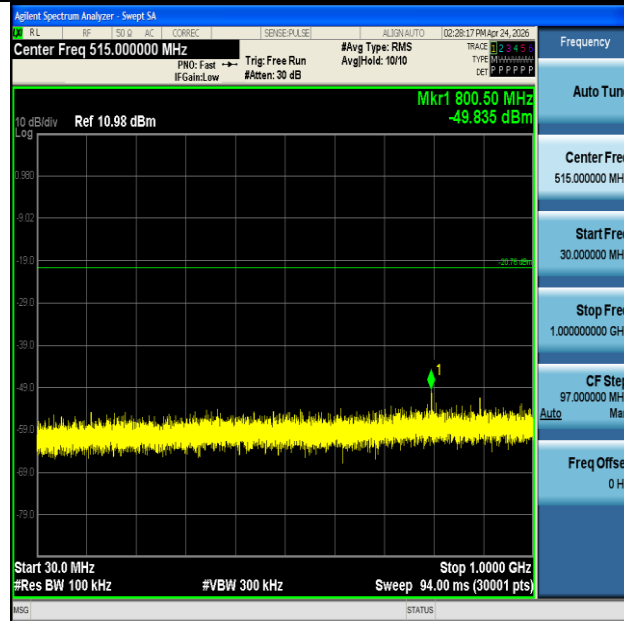


DH5-Ant1-2480-1000~26500-PASS

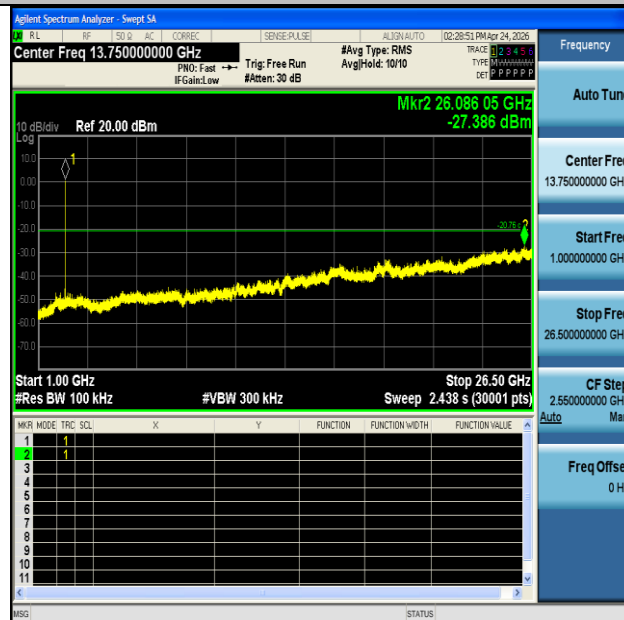


2DH5-Ant1-2402-0~Reference-PASS





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

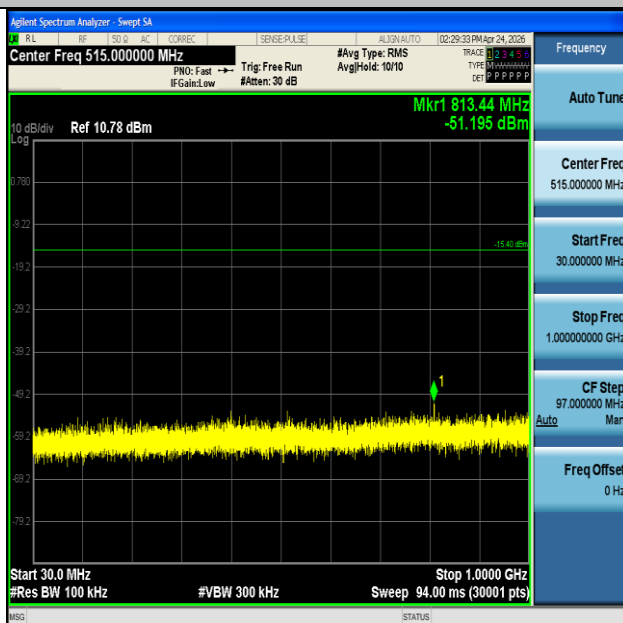


2DH5-Ant1-2402-1000~26500-PASS



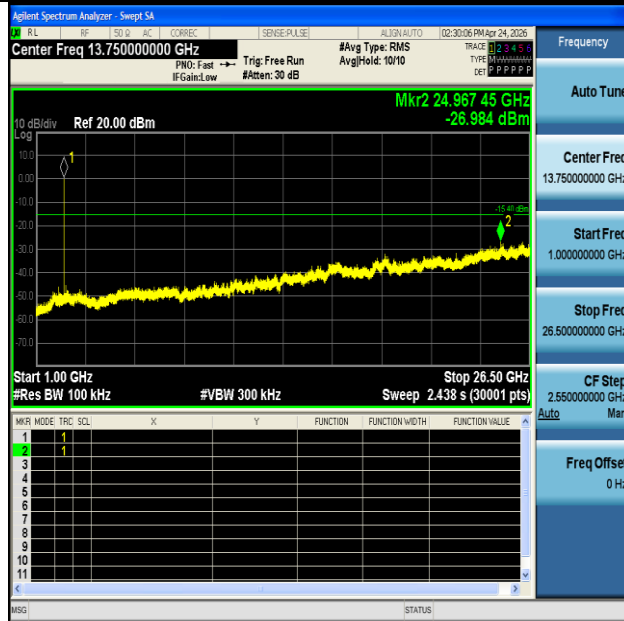


2DH5-Ant1-2441-0~Reference-PASS



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



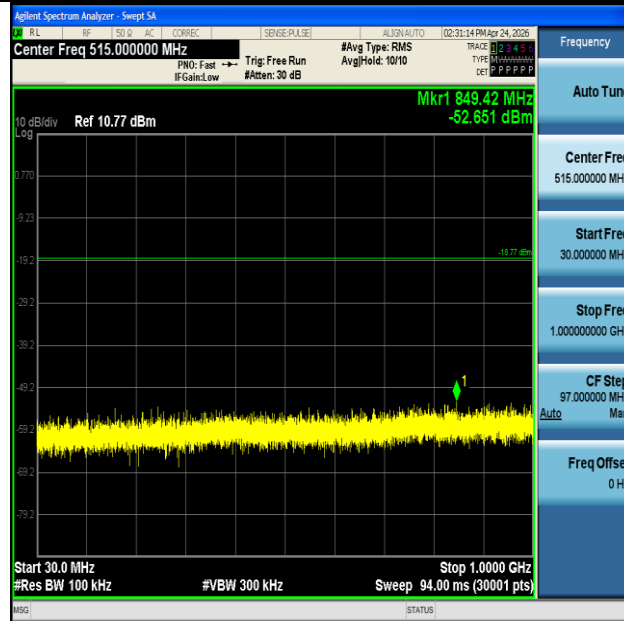


2DH5-Ant1-2441-1000~26500-PASS

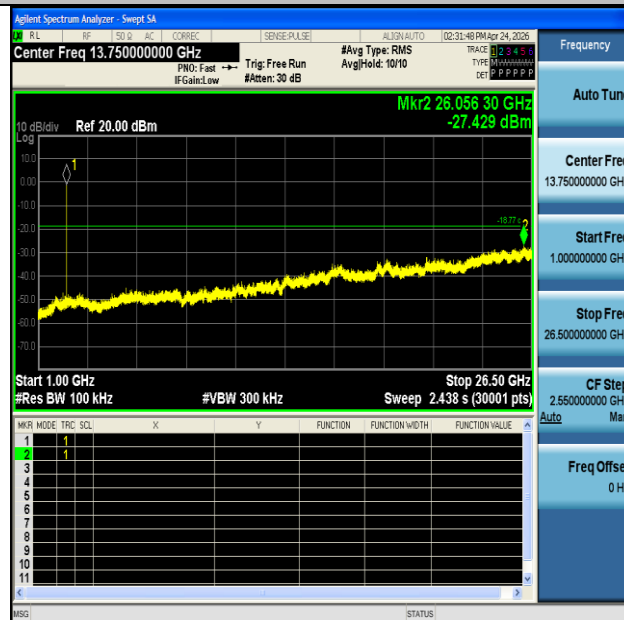


2DH5-Ant1-2480-0~Reference-PASS



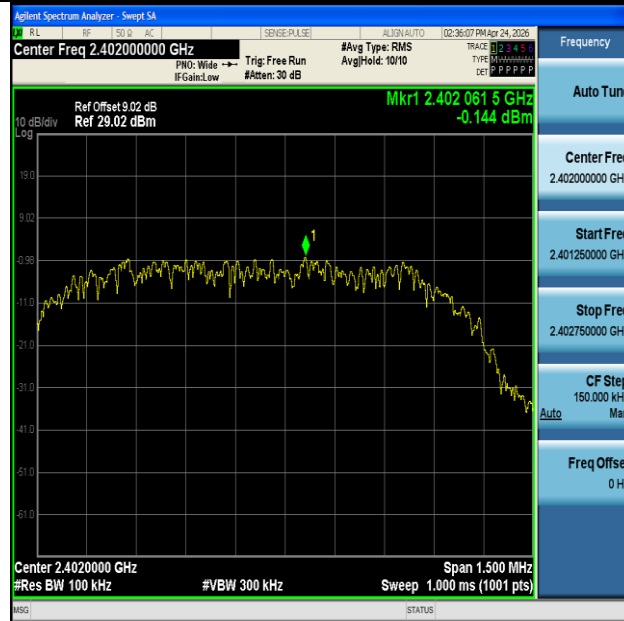


2DH5-Ant1-2480-30~1000-PASS

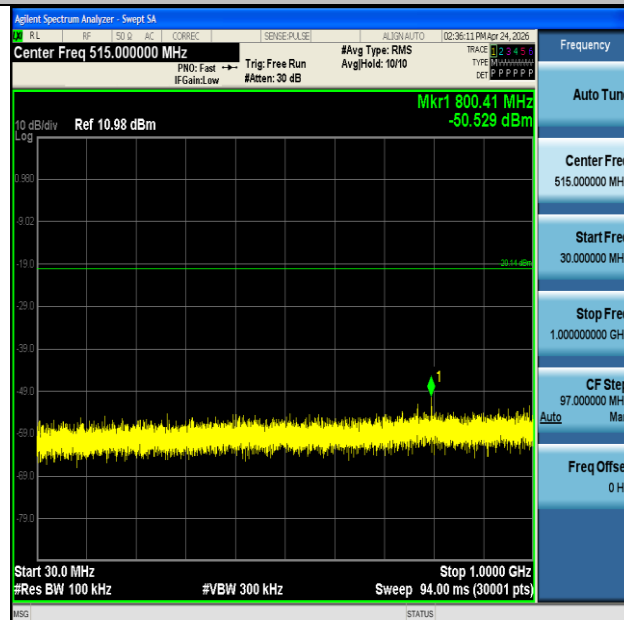


2DH5-Ant1-2480-1000~26500-PASS



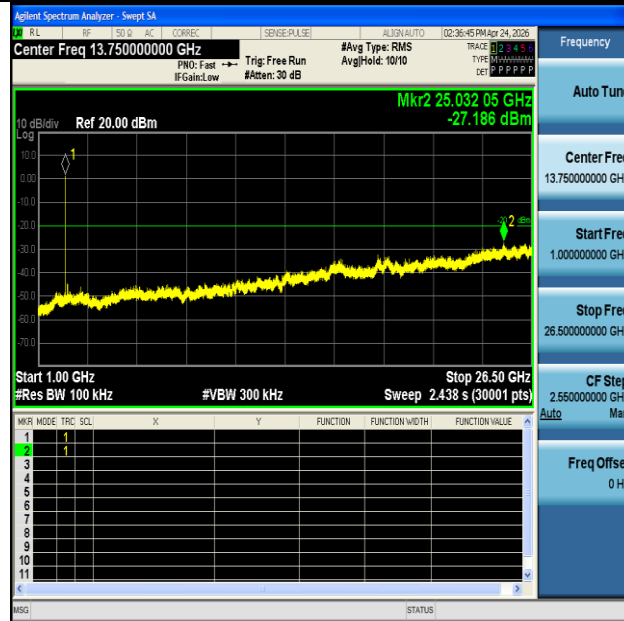


3DH5-Ant1-2402-0~Reference-PASS

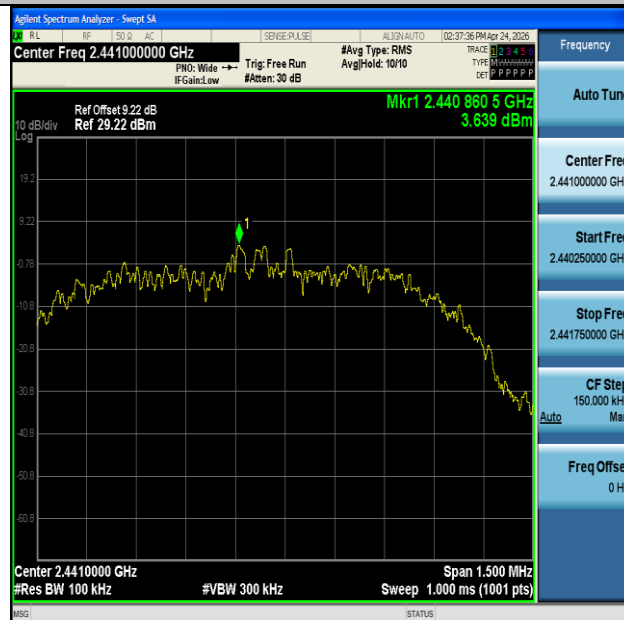


3DH5-Ant1-2402-30~1000-PASS



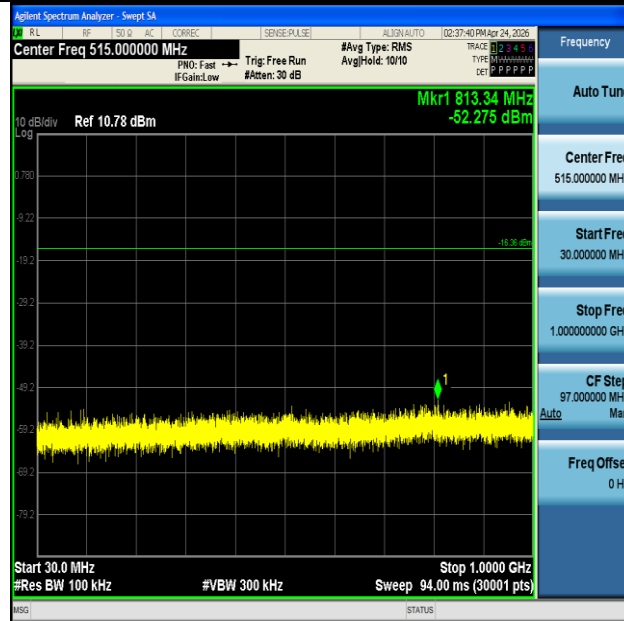


3DH5-Ant1-2402-1000~26500-PASS

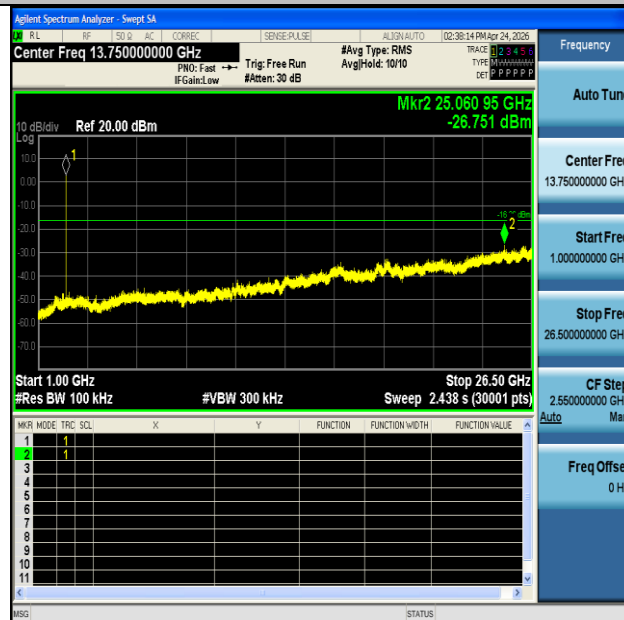


3DH5-Ant1-2441-0~Reference-PASS





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

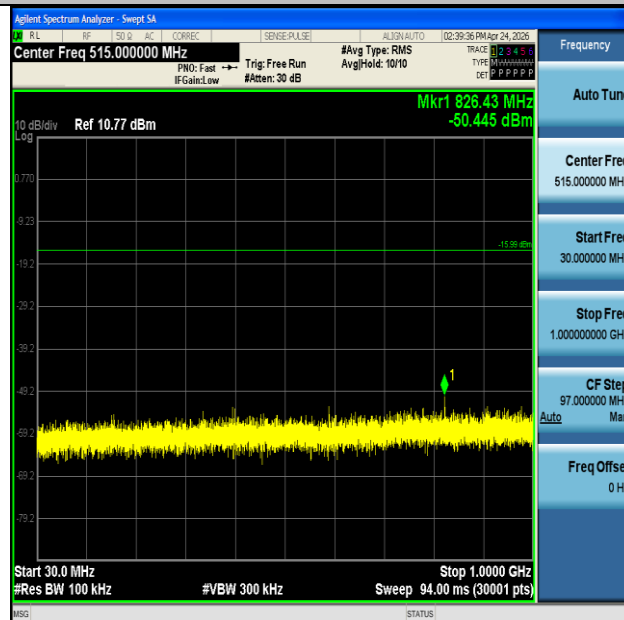


3DH5-Ant1-2441-1000~26500-PASS



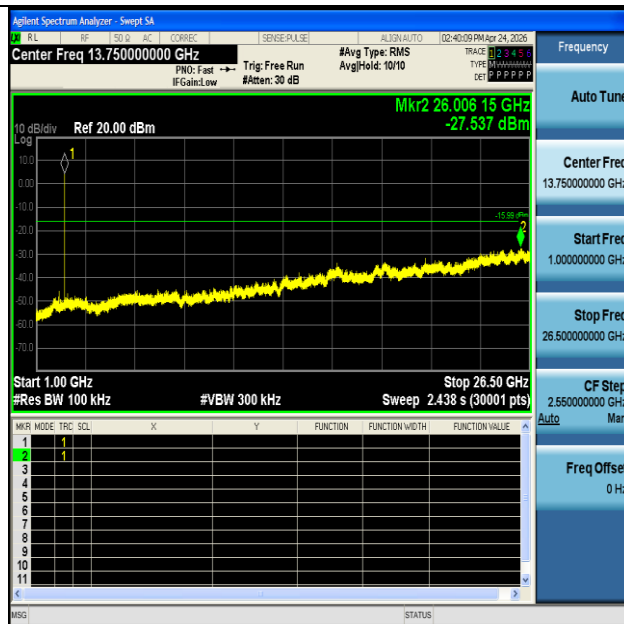


3DH5-Ant1-2480-0~Reference-PASS



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	2.90	3.76	77.13	1.13
DH5	Ant1	2441	2.90	3.75	77.33	1.12
DH5	Ant1	2480	2.90	3.76	77.13	1.13
2DH5	Ant1	2402	2.88	3.74	77.01	1.13
2DH5	Ant1	2441	2.88	3.75	76.80	1.15
2DH5	Ant1	2480	2.89	3.75	77.07	1.13
3DH5	Ant1	2402	2.89	3.75	77.07	1.13
3DH5	Ant1	2441	2.89	3.76	76.86	1.14
3DH5	Ant1	2480	2.75	3.61	76.18	1.18

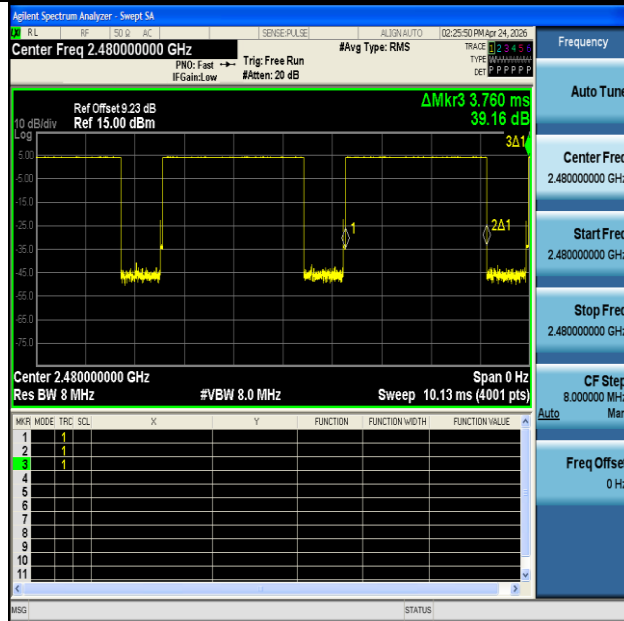
Note: offset(dB) = cable loss(dB) + attenuator factor(dB)



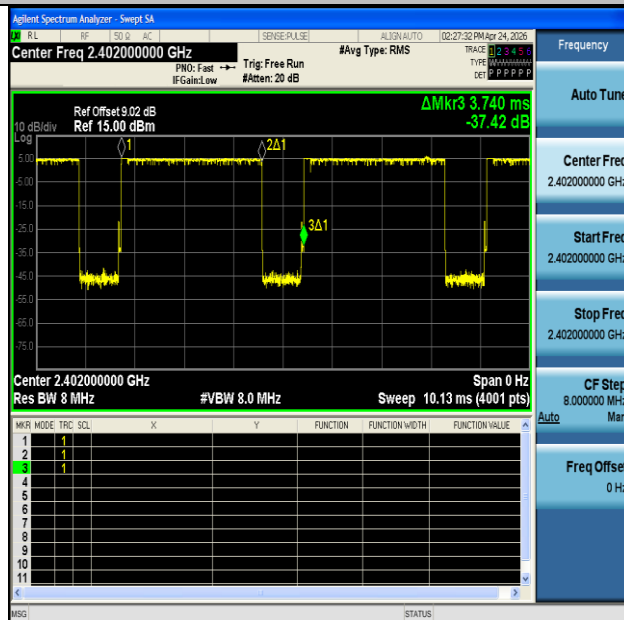


Test Graphs



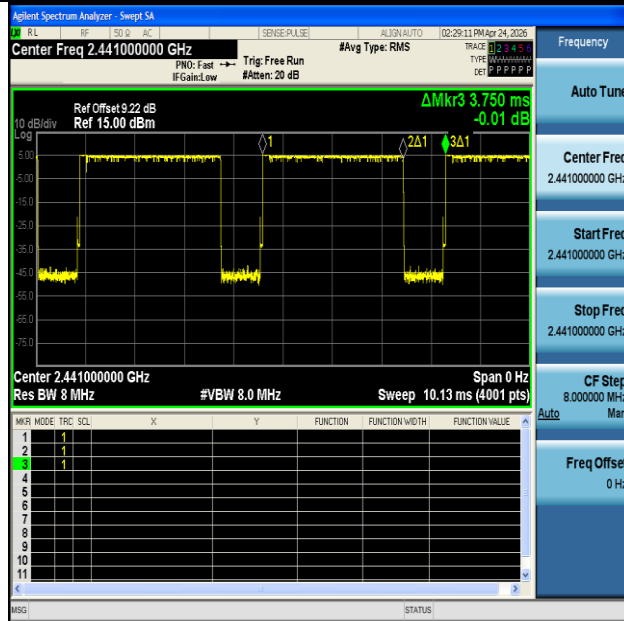


NTNV-DH5-Ant1-2480

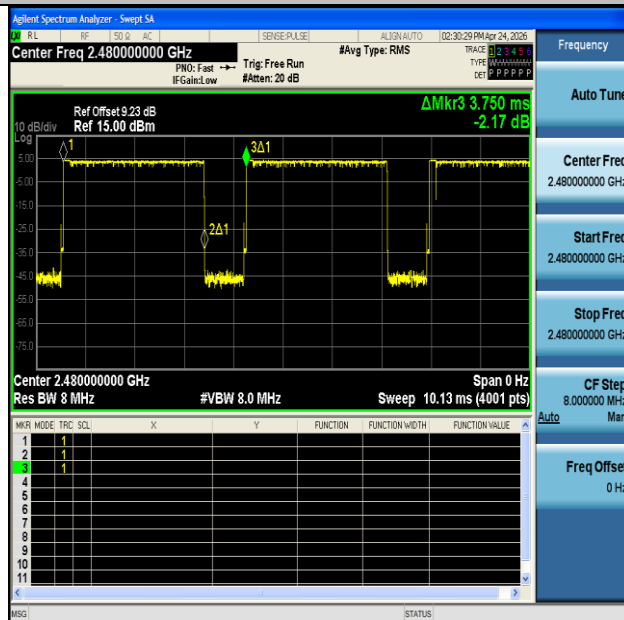


NTNV-2DH5-Ant1-2402



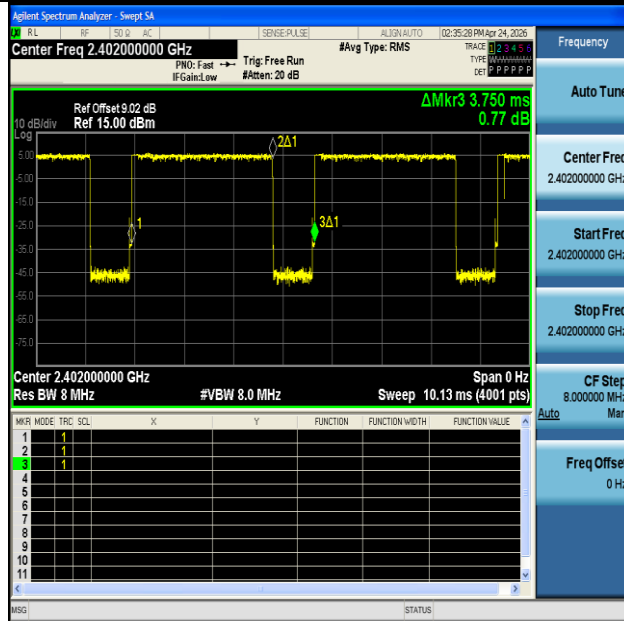


NTNV-2DH5-Ant1-2441

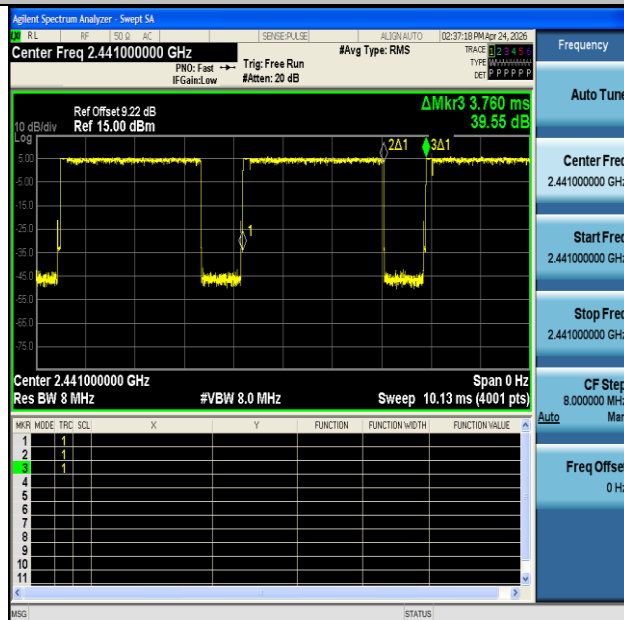


NTNV-2DH5-Ant1-2480



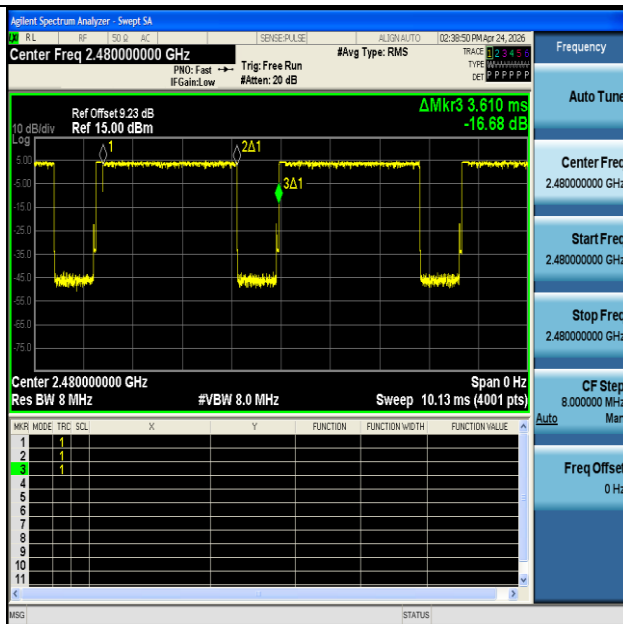


NTNV-3DH5-Ant1-2402



NTNV-3DH5-Ant1-2441





NTNV-3DH5-Ant1-2480

