



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

Product Name: Marine Gauge Stereo Receiver

Trade Mark: /

Test Model: MCR-1

FCC ID: 2BTKR-MCR1

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	0.942	2401.547	2402.489	---	---
DH5	Ant1	2441	0.951	2440.544	2441.495	---	---
DH5	Ant1	2480	0.960	2479.541	2480.501	---	---
2DH5	Ant1	2402	1.311	2401.358	2402.669	---	---
2DH5	Ant1	2441	1.317	2440.349	2441.666	---	---
2DH5	Ant1	2480	1.326	2479.346	2480.672	---	---
3DH5	Ant1	2402	1.320	2401.352	2402.672	---	---
3DH5	Ant1	2441	1.302	2440.361	2441.663	---	---
3DH5	Ant1	2480	1.317	2479.355	2480.672	---	---

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	0.87286	2401.5709	2402.4437	---	---
DH5	Ant1	2441	0.85055	2440.5778	2441.4283	---	---
DH5	Ant1	2480	0.86728	2479.5768	2480.4440	---	---
2DH5	Ant1	2402	1.1843	2401.4165	2402.6008	---	---
2DH5	Ant1	2441	1.1802	2440.4200	2441.6002	---	---
2DH5	Ant1	2480	1.1883	2479.4150	2480.6033	---	---
3DH5	Ant1	2402	1.1733	2401.4225	2402.5958	---	---
3DH5	Ant1	2441	1.1963	2440.4110	2441.6073	---	---
3DH5	Ant1	2480	1.1853	2479.4128	2480.5981	---	---

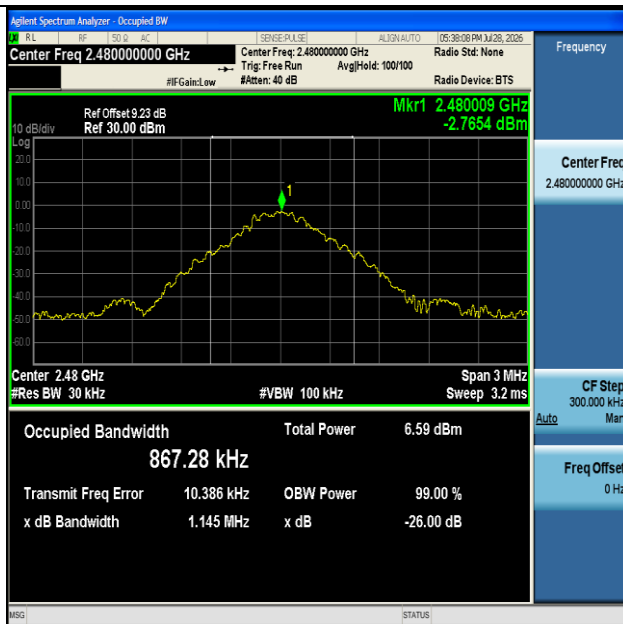
Note: offset(dB) = cable loss(dB) + attenuator factor(dB)



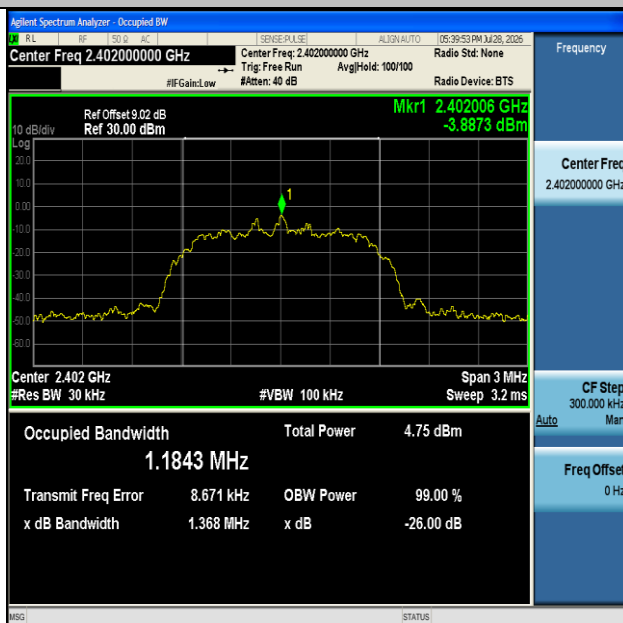


Test Graphs



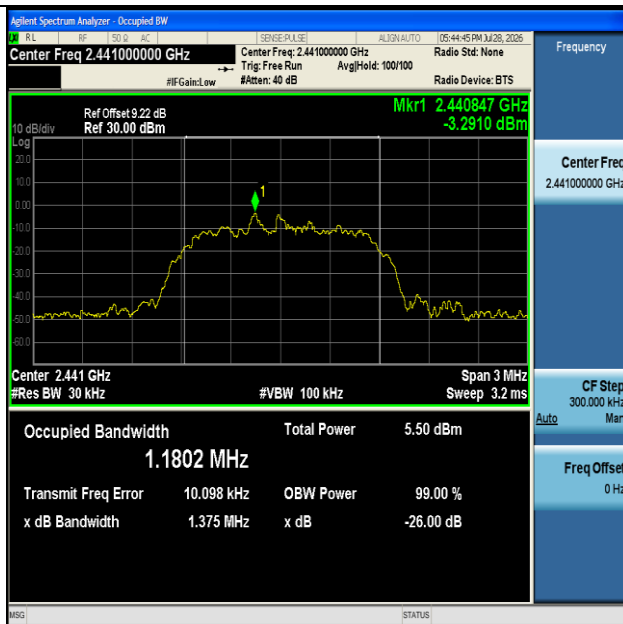


DH5-Ant1-2480

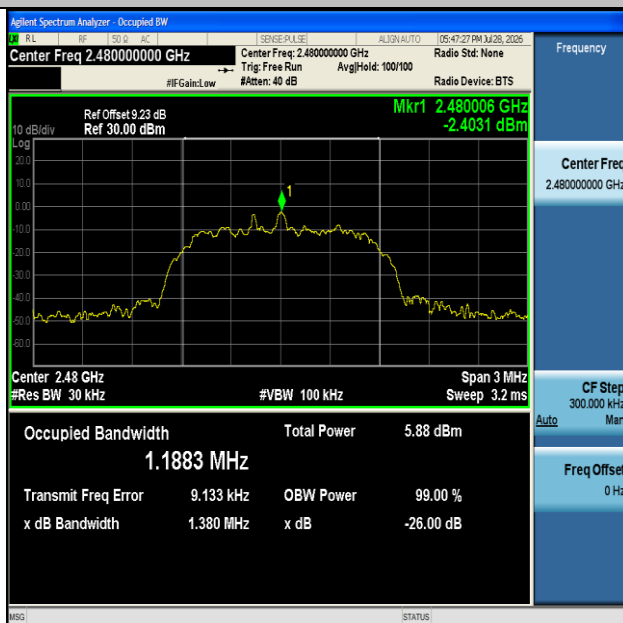


2DH5-Ant1-2402



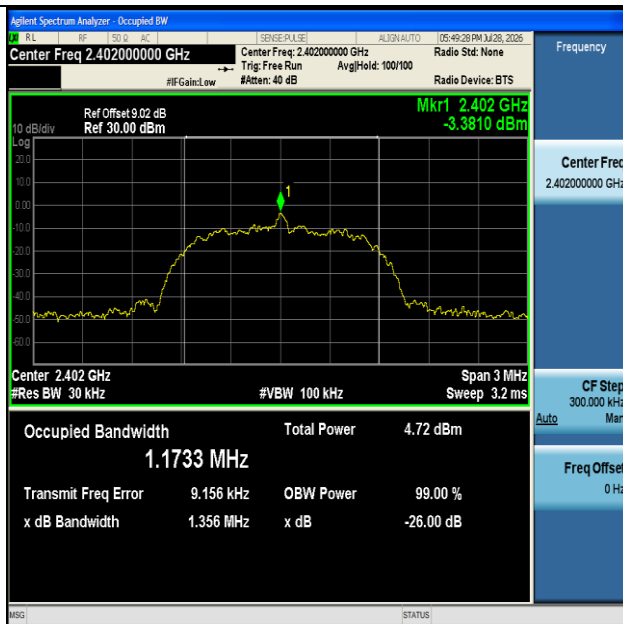


2DH5-Ant1-2441

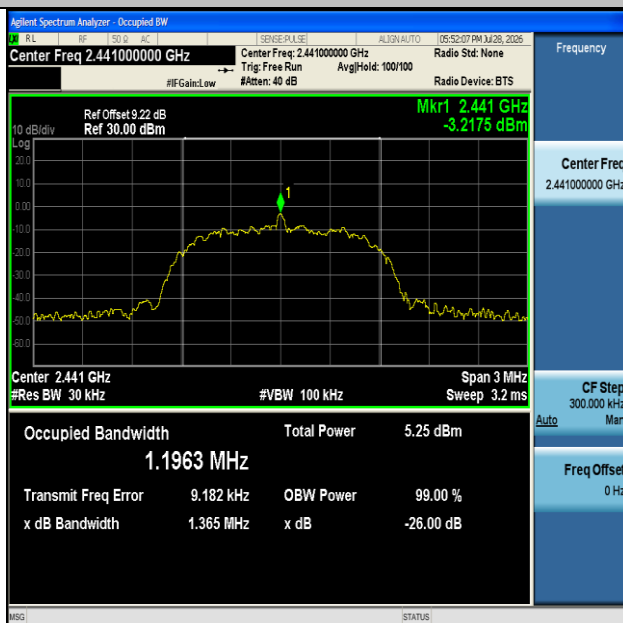


2DH5-Ant1-2480



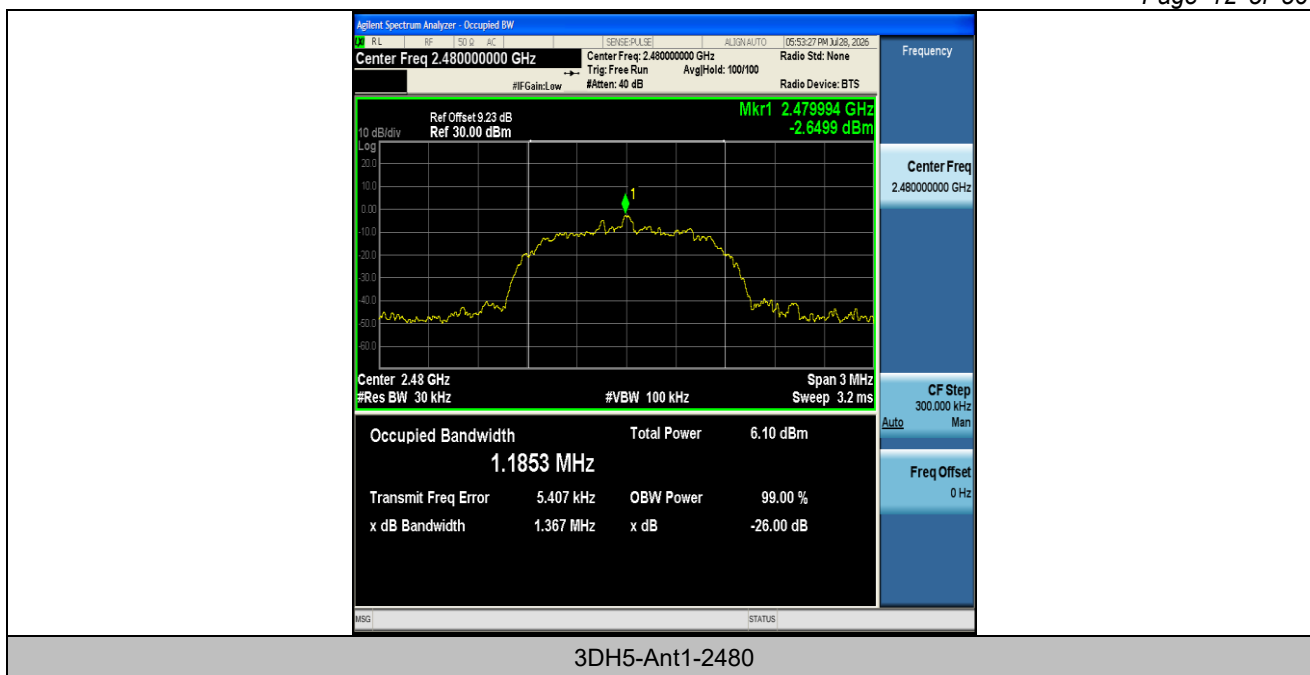


3DH5-Ant1-2402



3DH5-Ant1-2441







Appendix C: Maximum peak conducted output power

Test Result

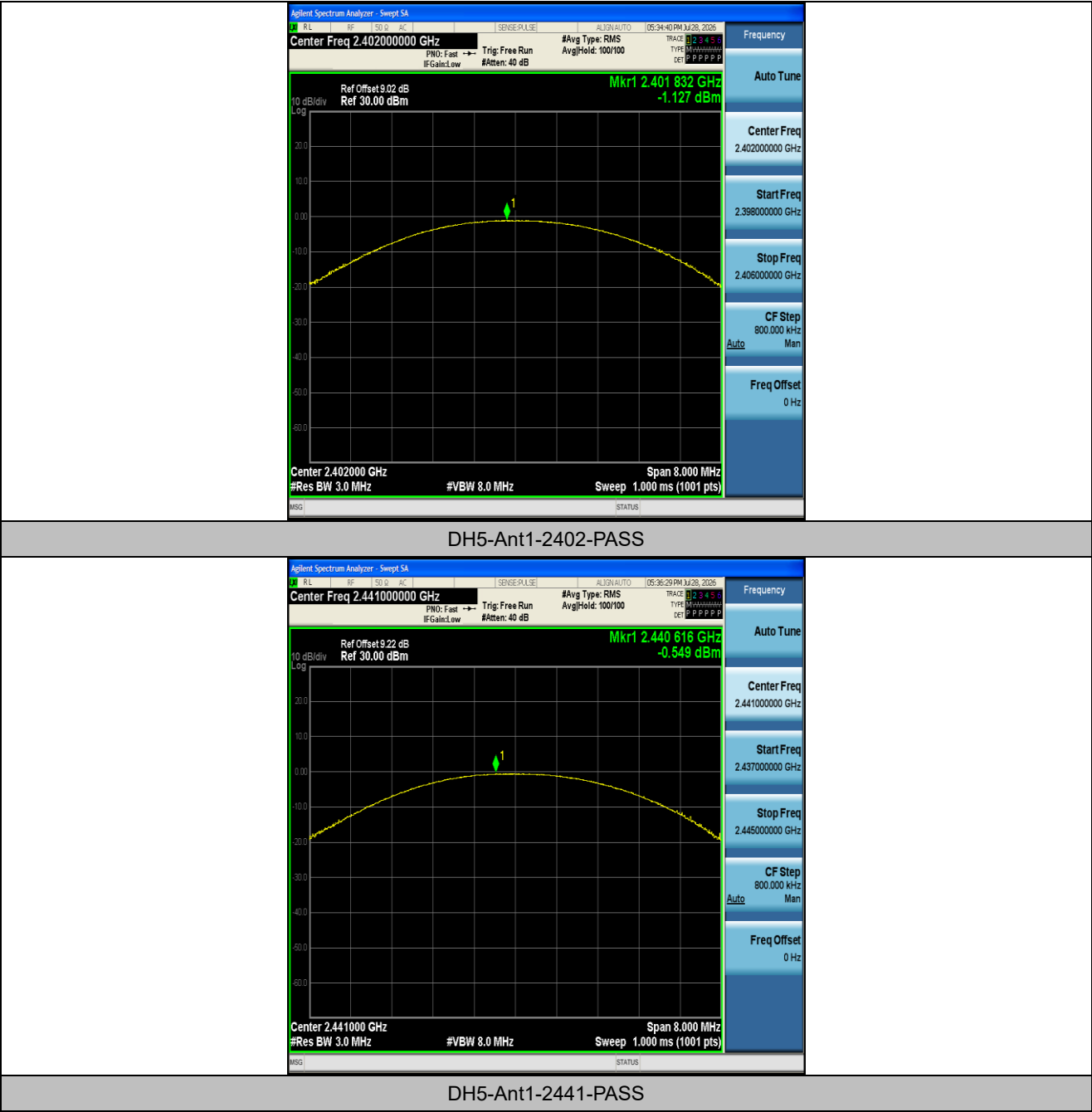
Test Mode	Antenna	Frequency [MHz]	Conducted Peak Power [dBm]	Conducted Limit [dBm]	Verdict
DH5	Ant1	2402	-1.13	≤30	PASS
DH5	Ant1	2441	-0.55	≤30	PASS
DH5	Ant1	2480	-0.01	≤30	PASS
2DH5	Ant1	2402	-0.31	≤20.97	PASS
2DH5	Ant1	2441	0.39	≤20.97	PASS
2DH5	Ant1	2480	0.99	≤20.97	PASS
3DH5	Ant1	2402	0.02	≤20.97	PASS
3DH5	Ant1	2441	0.75	≤20.97	PASS
3DH5	Ant1	2480	1.29	≤20.97	PASS

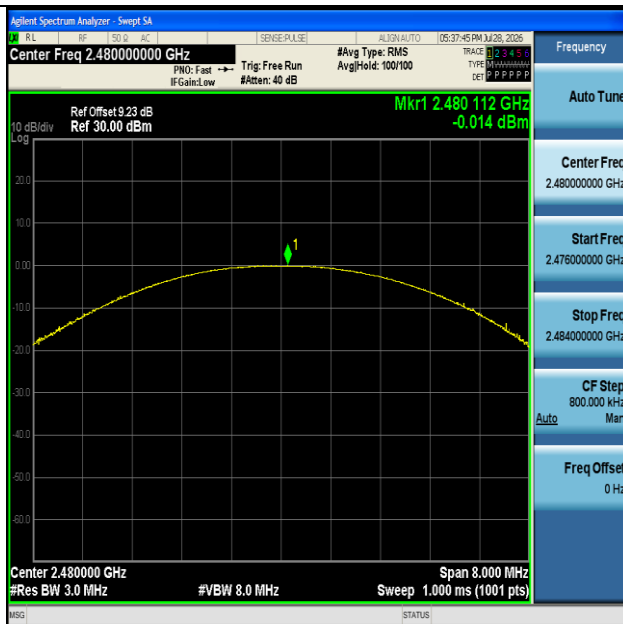
Note: offset(dB) = cable loss(dB) + attenuator factor(dB)



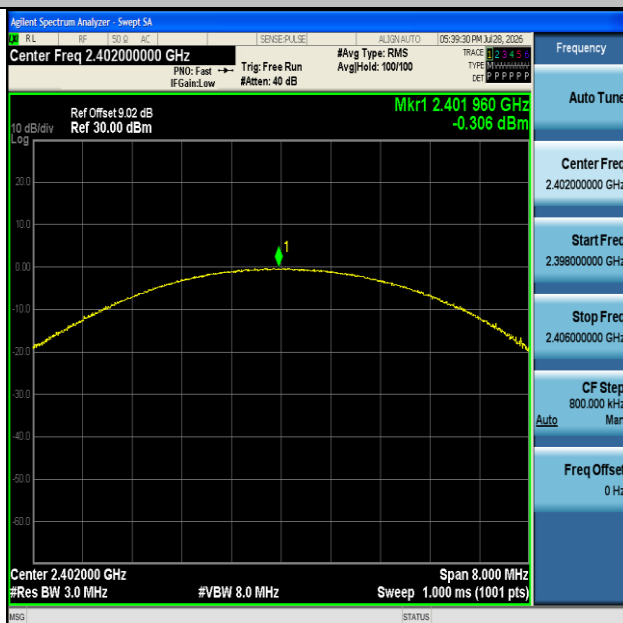


Test Graphs



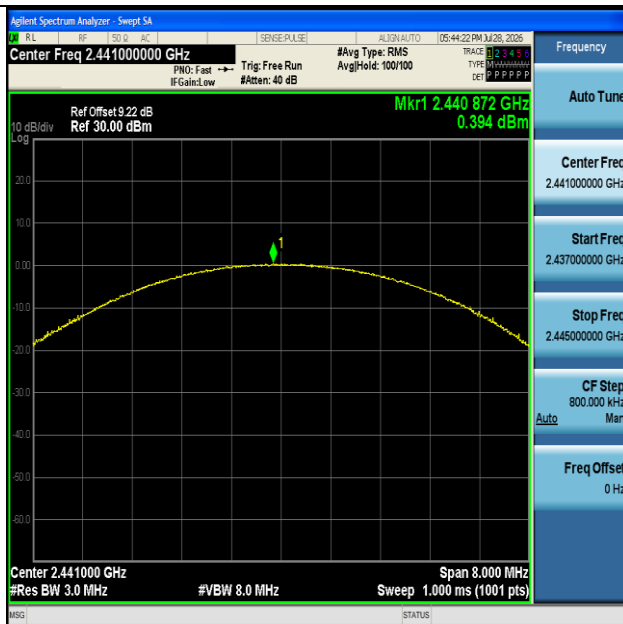


DH5-Ant1-2480-PASS

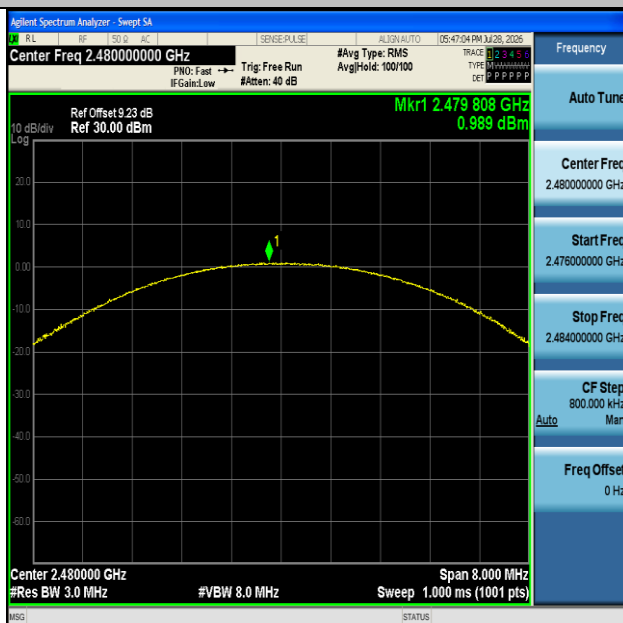


2DH5-Ant1-2402-PASS



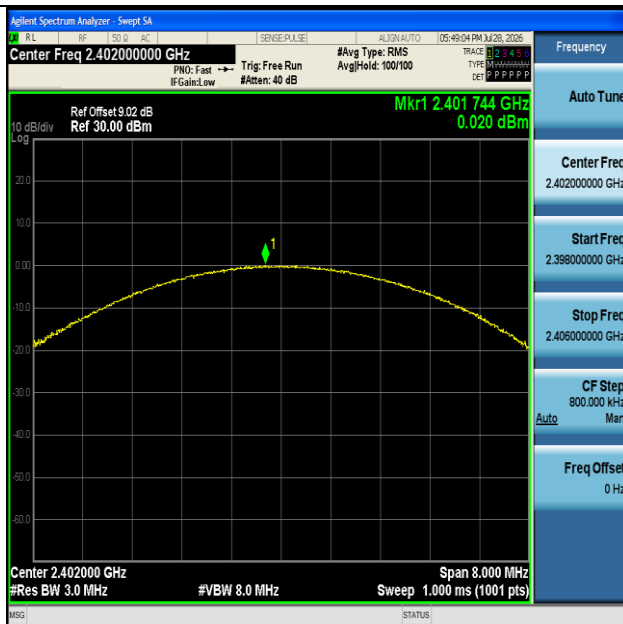


2DH5-Ant1-2441-PASS

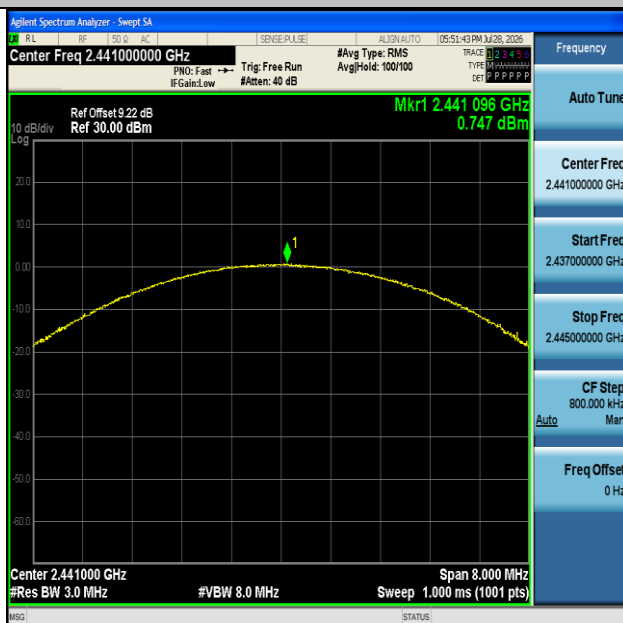


2DH5-Ant1-2480-PASS





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	1.014	≥ 0.960	PASS
2DH5	Ant1	Hop	1	≥ 0.884	PASS
3DH5	Ant1	Hop	1.026	≥ 0.880	PASS

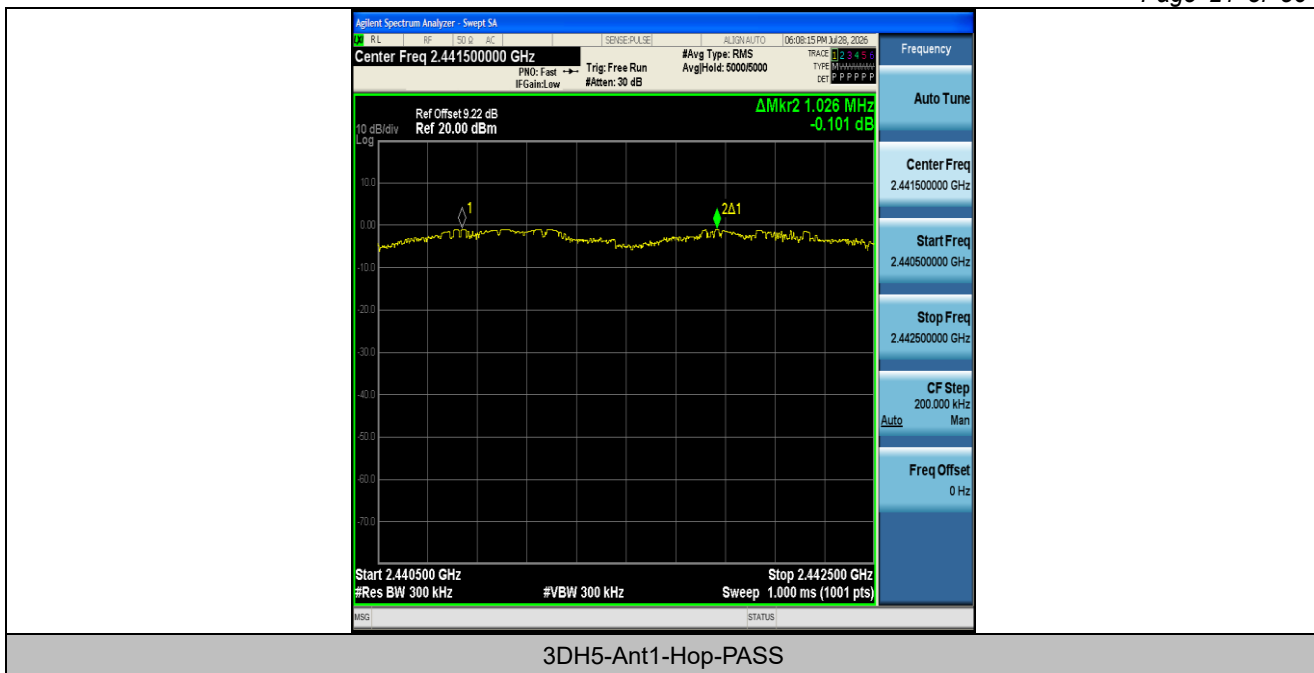
Note: offset(dB) = cable loss(dB) + attenuator factor(dB)





Test Graphs







Appendix E: Time of occupancy

Test Result

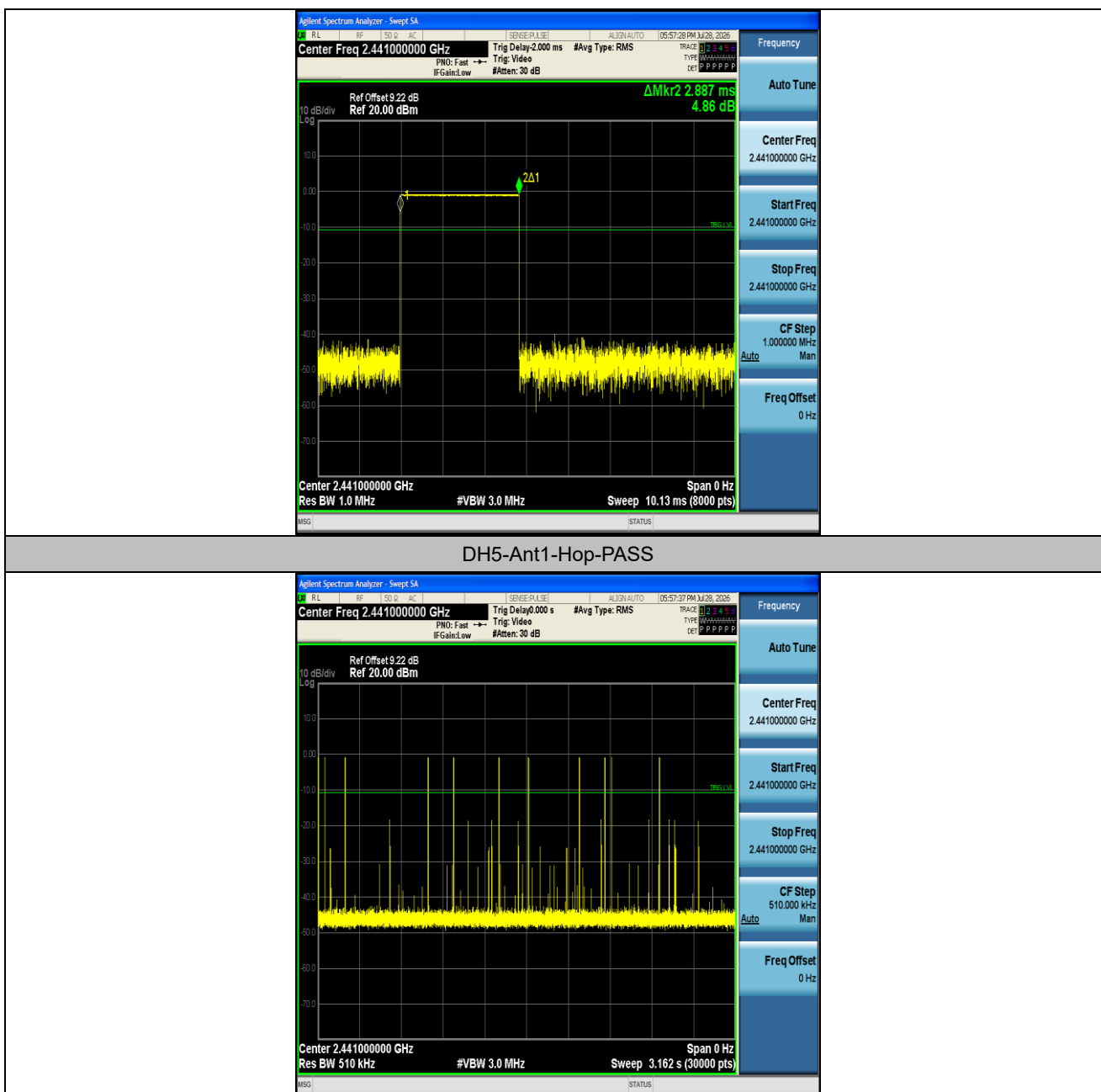
Test Mode	Antenna	Frequency [MHz]	Burst Width [ms]	TotalHops [Num]	Result [s]	Limit [s]	Verdict
DH5	Ant1	Hop	2.887	110	0.318	≤0.4	PASS
2DH5	Ant1	Hop	2.892	130	0.376	≤0.4	PASS
3DH5	Ant1	Hop	2.894	120	0.347	≤0.4	PASS

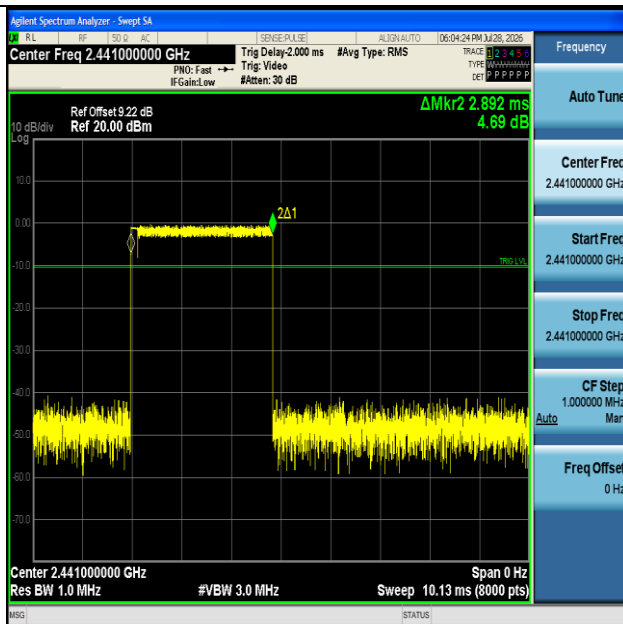
Note: offset(dB) = cable loss(dB) + attenuator factor(dB)



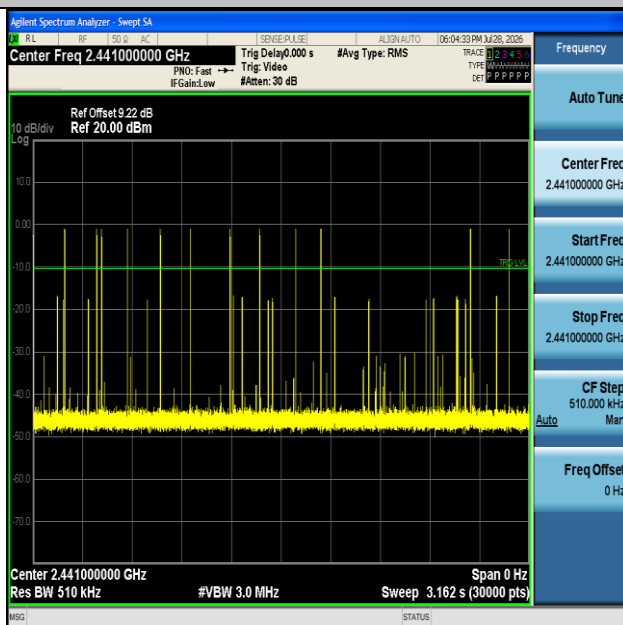


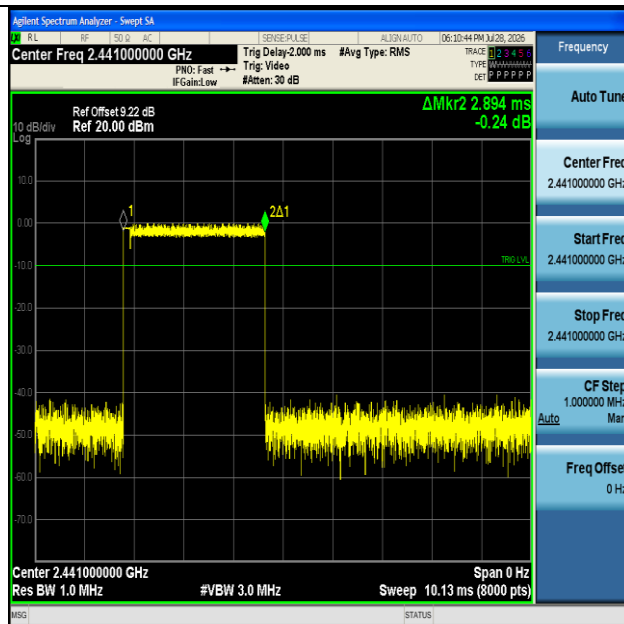
Test Graphs



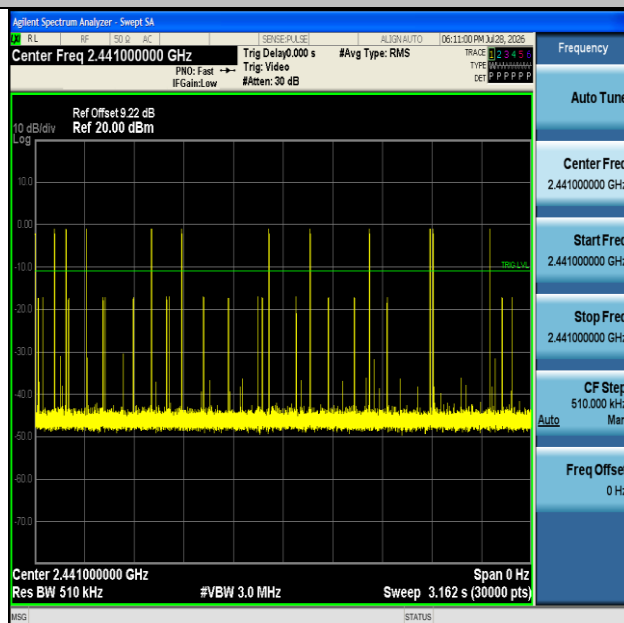


2DH5-Ant1-Hop-PASS





3DH5-Ant1-Hop-PASS





Appendix F: Number of hopping channels

Test Result

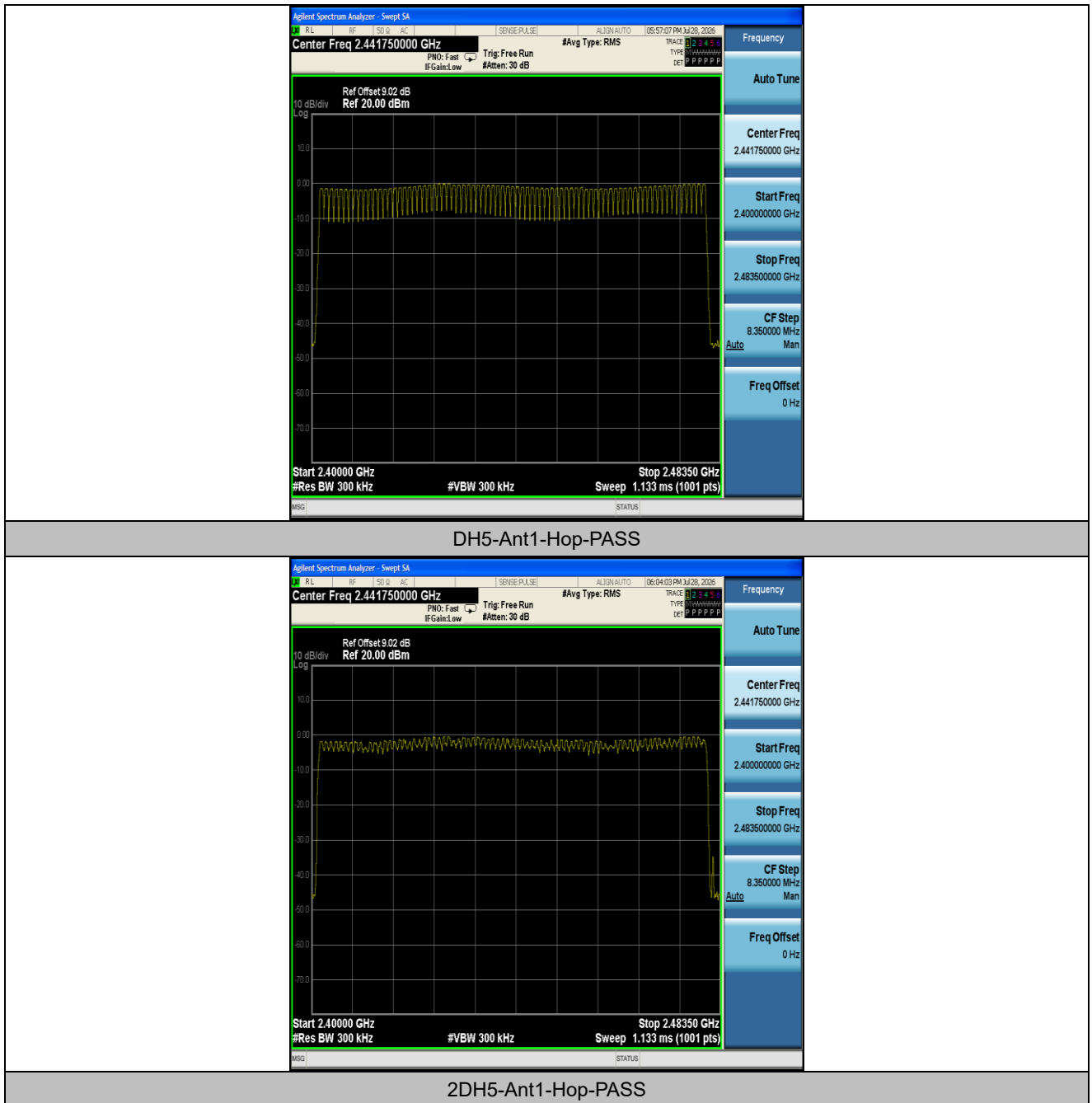
Test Mode	Antenna	Frequency [MHz]	Result [Num]	Limit [Num]	Verdict
DH5	Ant1	Hop	79	≥15	PASS
2DH5	Ant1	Hop	79	≥15	PASS
3DH5	Ant1	Hop	79	≥15	PASS

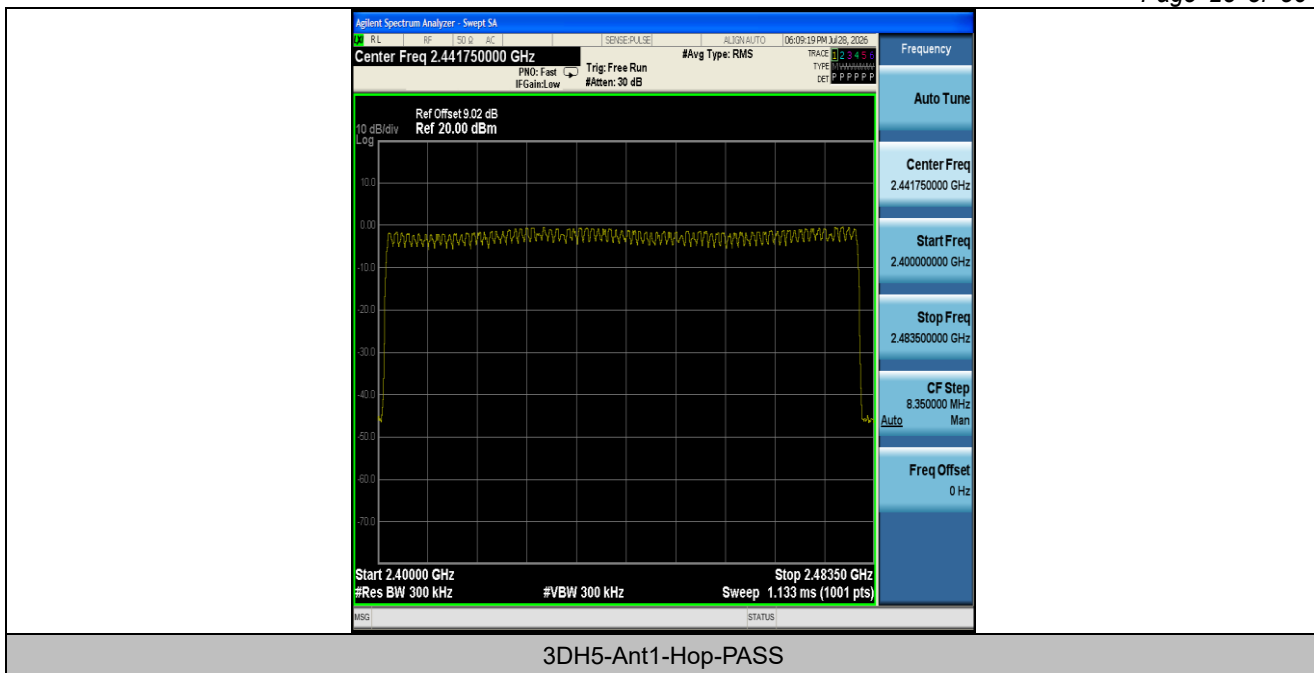
Note: offset(dB) = cable loss(dB) + attenuator factor(dB)





Test Graphs







Appendix G: Band edge measurements

Test Result

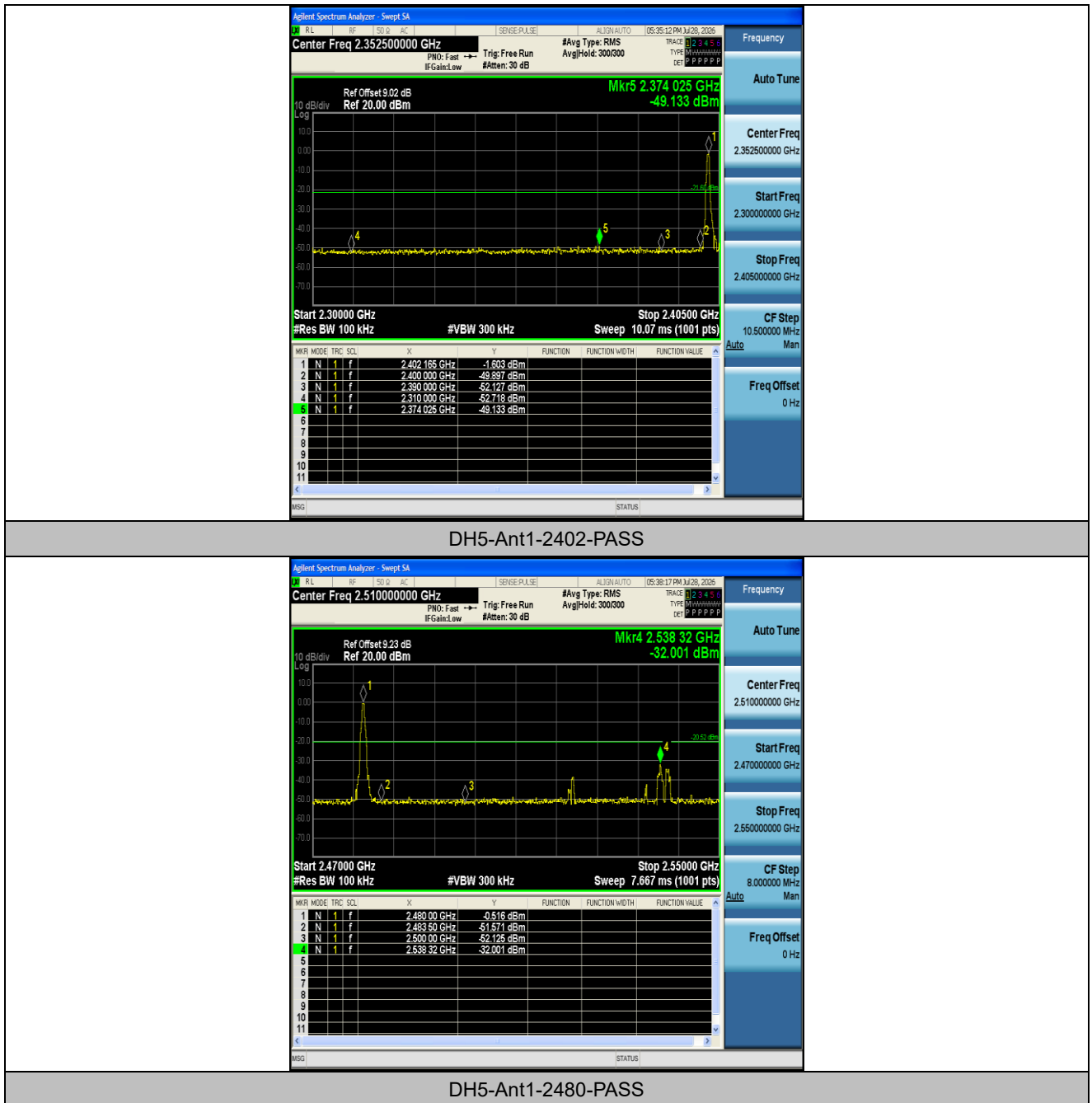
Test Mode	Antenna	Ch.Name	Frequency [MHz]	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
DH5	Ant1	Low	2402	-1.60	-49.13	≤-21.6	PASS
DH5	Ant1	High	2480	-0.52	-32	≤-20.52	PASS
DH5	Ant1	Low	Hop_2402	-2.52	-48.71	≤-22.52	PASS
DH5	Ant1	High	Hop_2480	-0.33	-41.76	≤-20.33	PASS
2DH5	Ant1	Low	2402	-1.89	-49.35	≤-21.89	PASS
2DH5	Ant1	High	2480	-0.26	-47.56	≤-20.26	PASS
2DH5	Ant1	Low	Hop_2402	-5.83	-48.19	≤-25.83	PASS
2DH5	Ant1	High	Hop_2480	-0.88	-43.94	≤-20.88	PASS
3DH5	Ant1	Low	2402	-1.59	-49.18	≤-21.59	PASS
3DH5	Ant1	High	2480	-0.33	-48.84	≤-20.33	PASS
3DH5	Ant1	Low	Hop_2402	-6.37	-49.06	≤-26.37	PASS
3DH5	Ant1	High	Hop_2480	-3.49	-35.89	≤-23.49	PASS

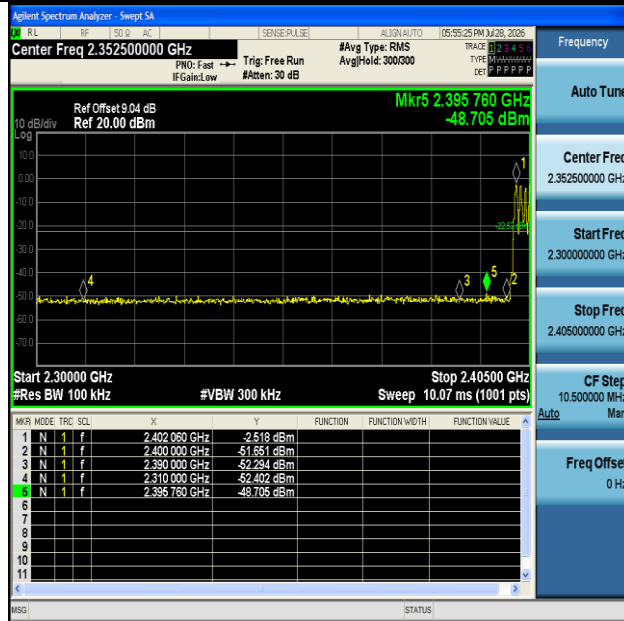
Note: offset(dB) = cable loss(dB) + attenuator factor(dB)



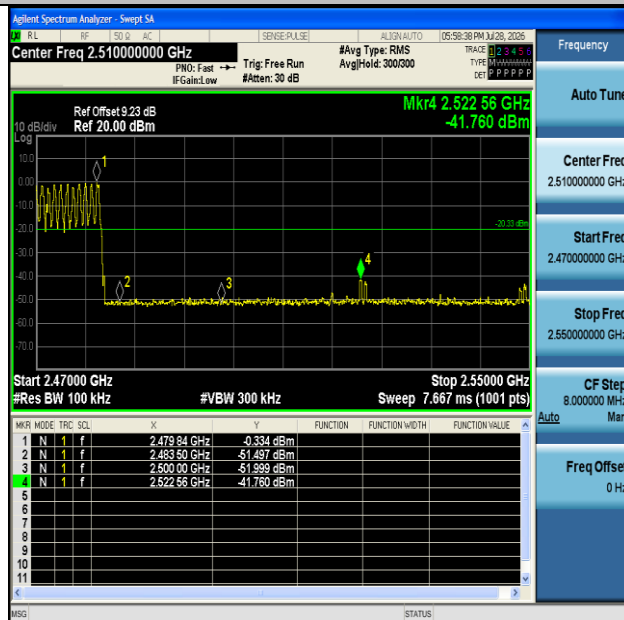


Test Graphs



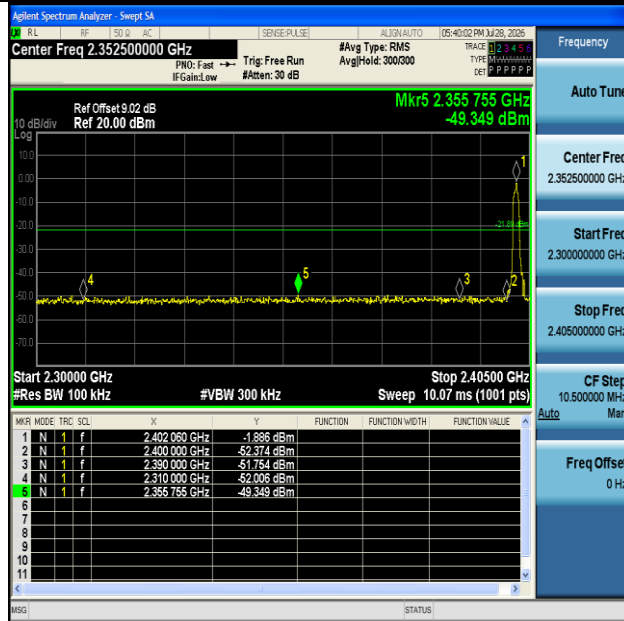


DH5-Ant1-Hop_2402-PASS

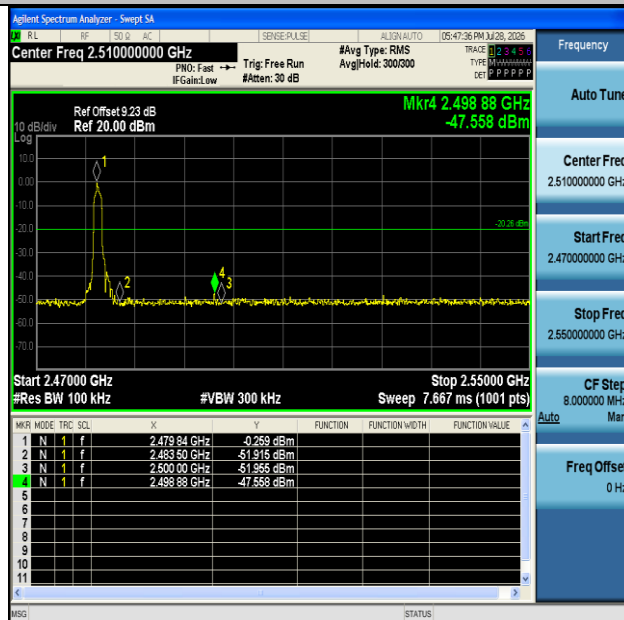


DH5-Ant1-Hop_2480-PASS



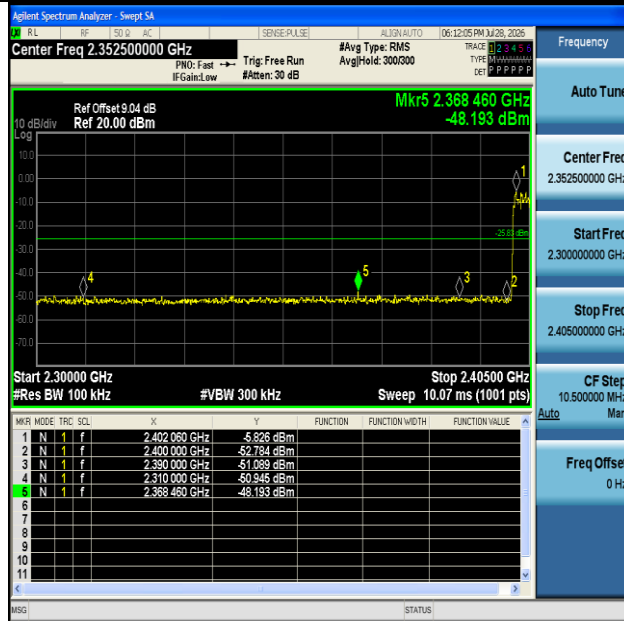


2DH5-Ant1-2402-PASS

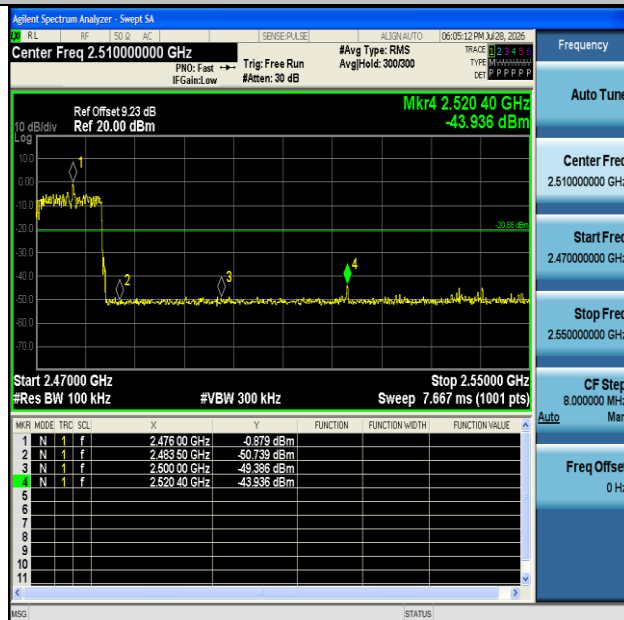


2DH5-Ant1-2480-PASS



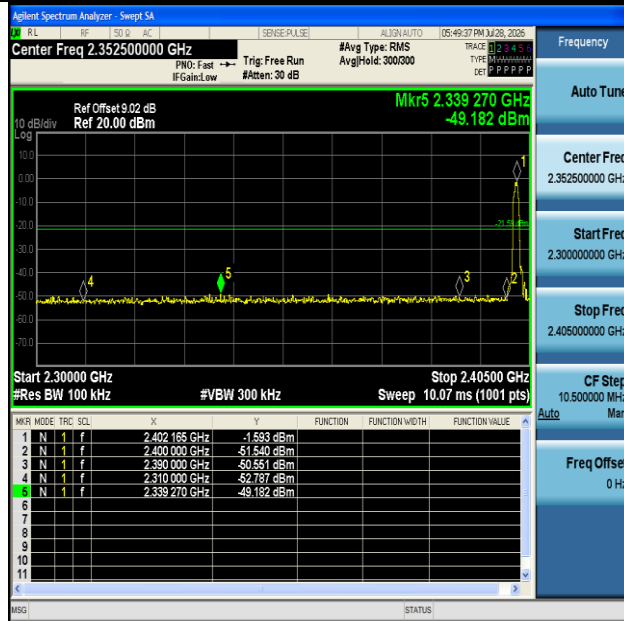


2DH5-Ant1-Hop_2402-PASS

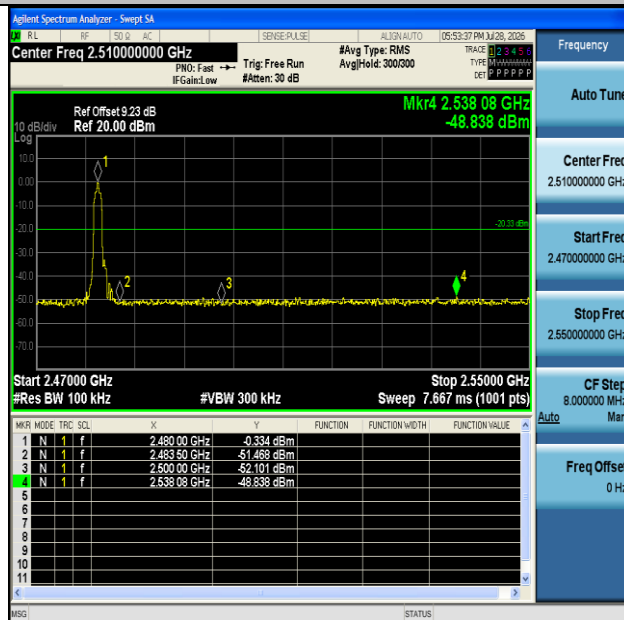


2DH5-Ant1-Hop_2480-PASS



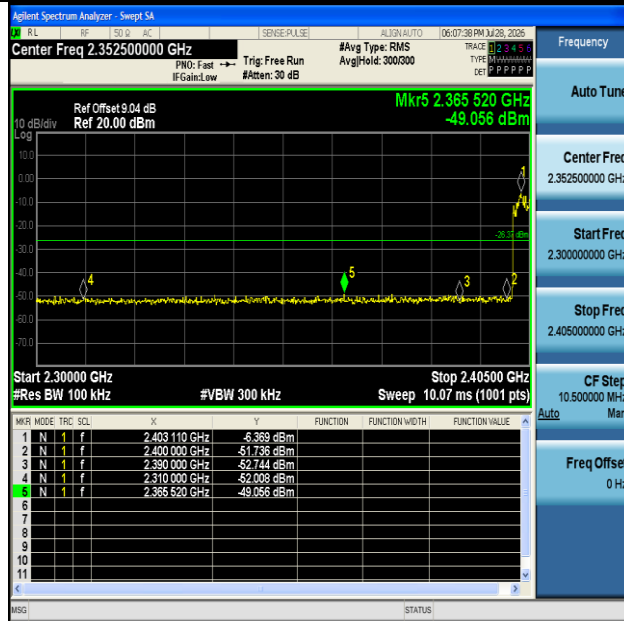


3DH5-Ant1-2402-PASS

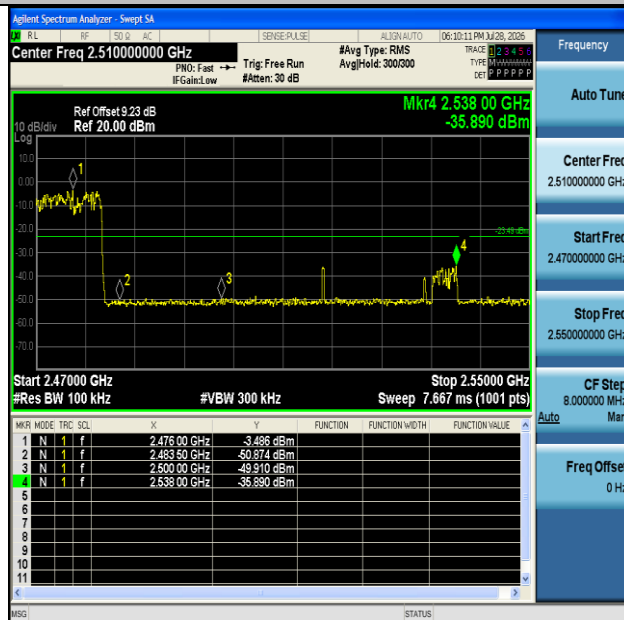


3DH5-Ant1-2480-PASS





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	-2.19	-2.19	---	PASS
DH5	Ant1	2402	30~1000	-2.19	-59.89	≤ -22.19	PASS
DH5	Ant1	2402	1000~26500	-2.19	-37.94	≤ -22.19	PASS
DH5	Ant1	2441	0~Reference	-1.77	-1.77	---	PASS
DH5	Ant1	2441	30~1000	-1.77	-63.21	≤ -21.77	PASS
DH5	Ant1	2441	1000~26500	-1.77	-36.01	≤ -21.77	PASS
DH5	Ant1	2480	0~Reference	-1.17	-1.17	---	PASS
DH5	Ant1	2480	30~1000	-1.17	-62.4	≤ -21.17	PASS
DH5	Ant1	2480	1000~26500	-1.17	-37.59	≤ -21.17	PASS
2DH5	Ant1	2402	0~Reference	-4.98	-4.98	---	PASS
2DH5	Ant1	2402	30~1000	-4.98	-62.63	≤ -24.98	PASS
2DH5	Ant1	2402	1000~26500	-4.98	-37.11	≤ -24.98	PASS
2DH5	Ant1	2441	0~Reference	-1.95	-1.95	---	PASS
2DH5	Ant1	2441	30~1000	-1.95	-61.83	≤ -21.95	PASS
2DH5	Ant1	2441	1000~26500	-1.95	-37.12	≤ -21.95	PASS
2DH5	Ant1	2480	0~Reference	-3.56	-3.56	---	PASS
2DH5	Ant1	2480	30~1000	-3.56	-62.69	≤ -23.56	PASS
2DH5	Ant1	2480	1000~26500	-3.56	-36.8	≤ -23.56	PASS
3DH5	Ant1	2402	0~Reference	-5.05	-5.05	---	PASS
3DH5	Ant1	2402	30~1000	-5.05	-62.06	≤ -25.05	PASS
3DH5	Ant1	2402	1000~26500	-5.05	-37.79	≤ -25.05	PASS
3DH5	Ant1	2441	0~Reference	-4.57	-4.57	---	PASS
3DH5	Ant1	2441	30~1000	-4.57	-62.27	≤ -24.57	PASS
3DH5	Ant1	2441	1000~26500	-4.57	-37.67	≤ -24.57	PASS
3DH5	Ant1	2480	0~Reference	-0.76	-0.76	---	PASS
3DH5	Ant1	2480	30~1000	-0.76	-61.97	≤ -20.76	PASS
3DH5	Ant1	2480	1000~26500	-0.76	-36.73	≤ -20.76	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.

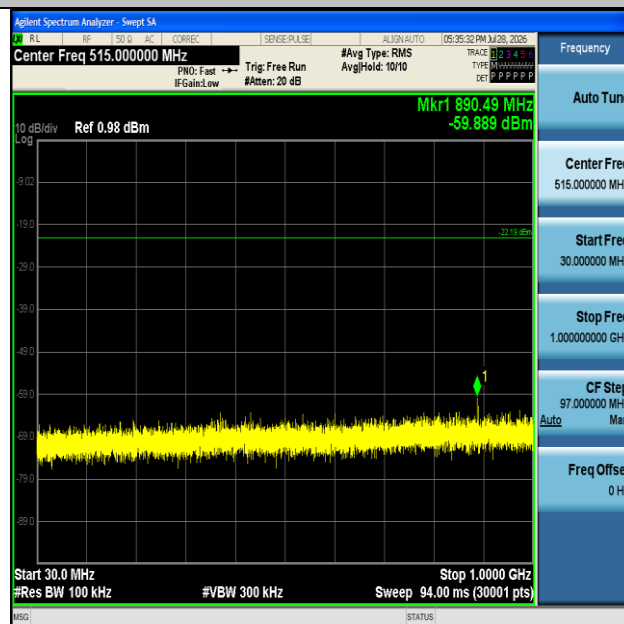




Test Graphs

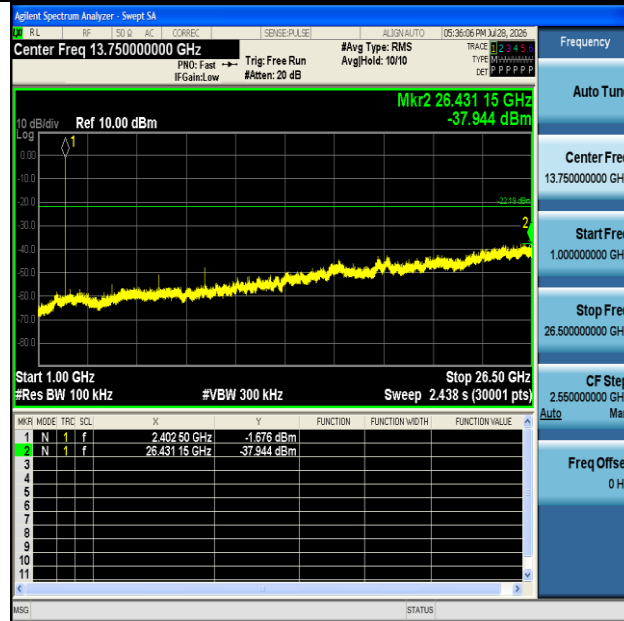


DH5-Ant1-2402-0~Reference-PASS

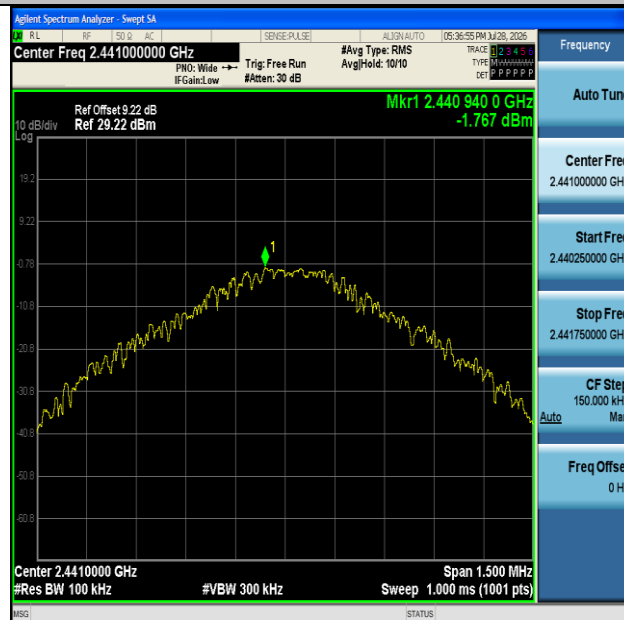


DH5-Ant1-2402-30~1000-PASS



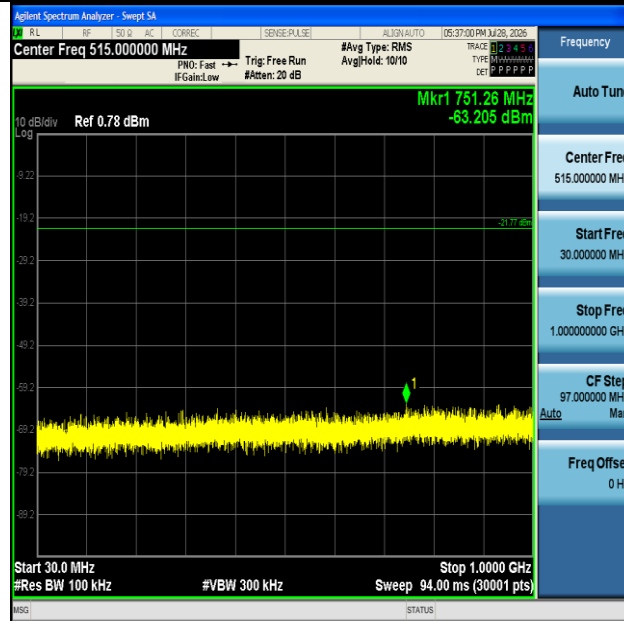


DH5-Ant1-2402-1000~26500-PASS

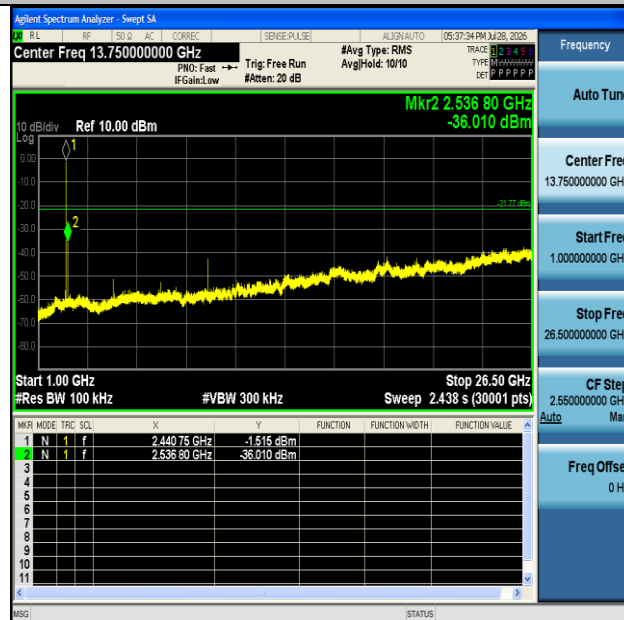


DH5-Ant1-2441-0~Reference-PASS





DH5-Ant1-2441-30~1000-PASS

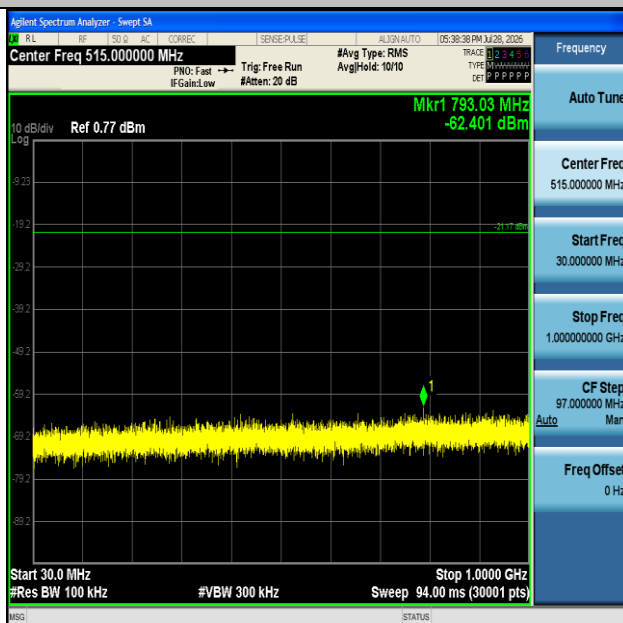


DH5-Ant1-2441-1000~26500-PASS



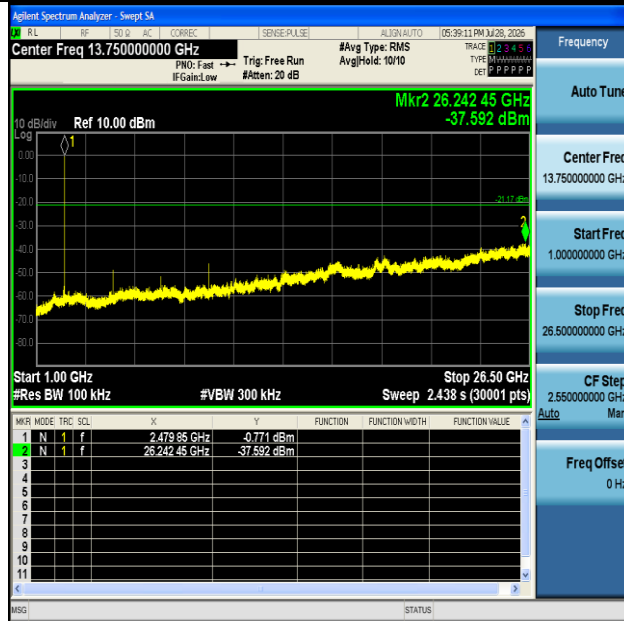


DH5-Ant1-2480-0~Reference-PASS



DH5-Ant1-2480-30~1000-PASS





DH5-Ant1-2480-1000~26500-PASS

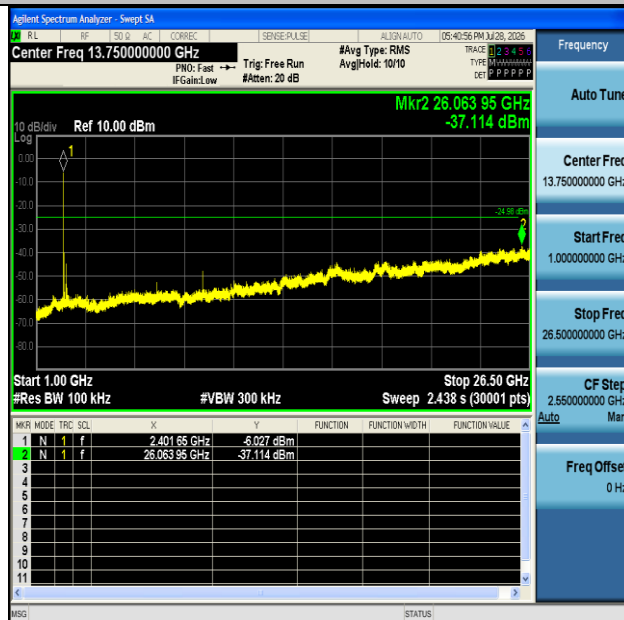


2DH5-Ant1-2402-0~Reference-PASS



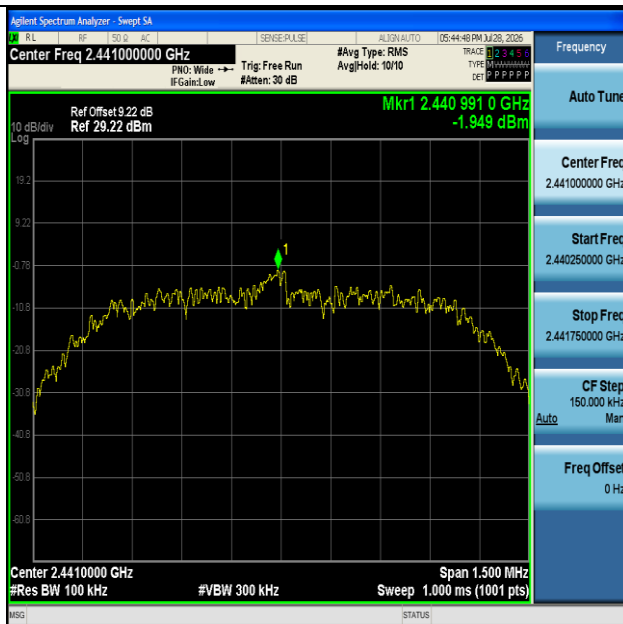


2DH5-Ant1-2402-30~1000-PASS

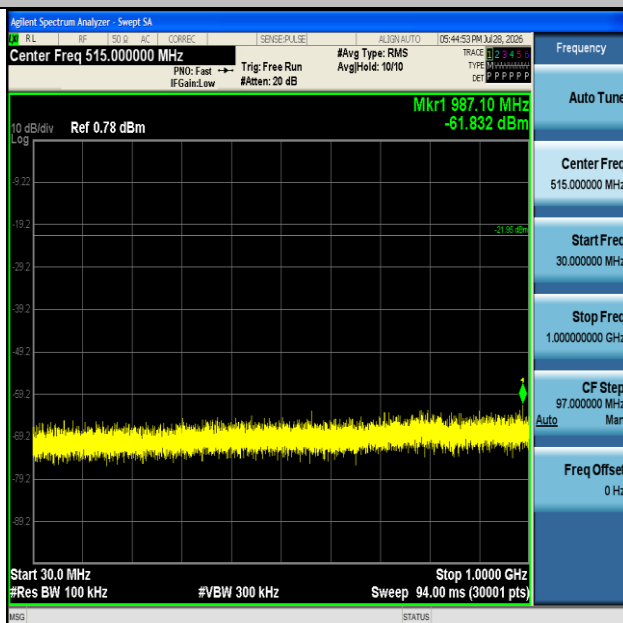


2DH5-Ant1-2402-1000~26500-PASS



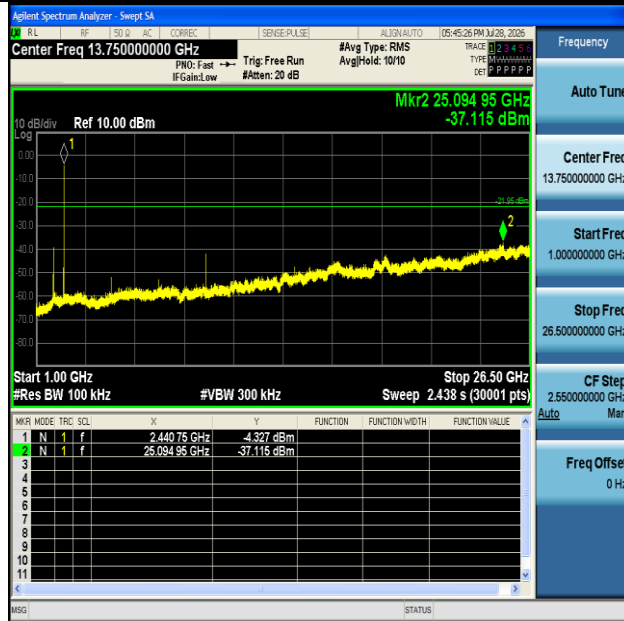


2DH5-Ant1-2441-0~Reference-PASS



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



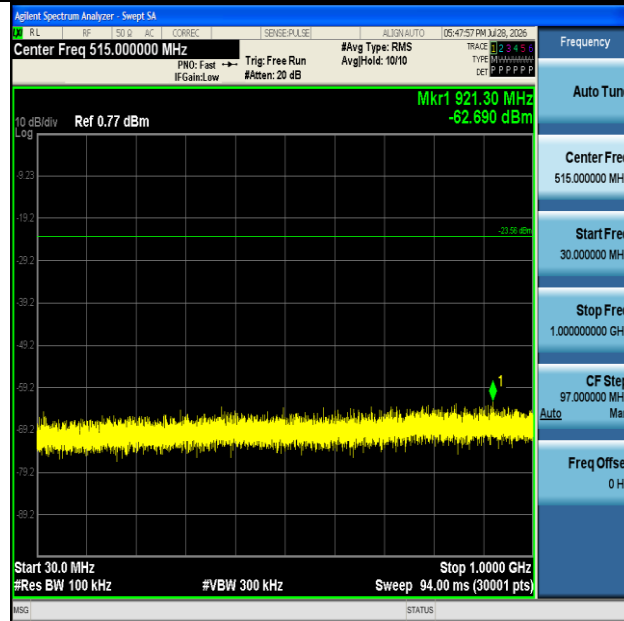


2DH5-Ant1-2441-1000~26500-PASS



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



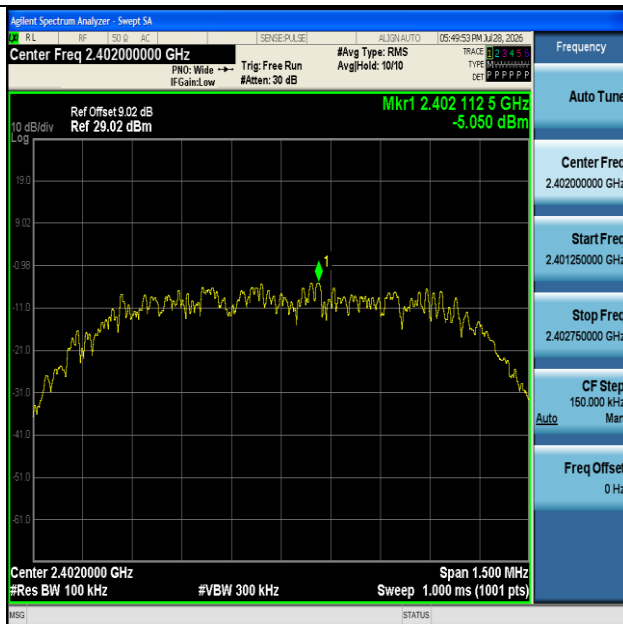


2DH5-Ant1-2480-30~1000-PASS

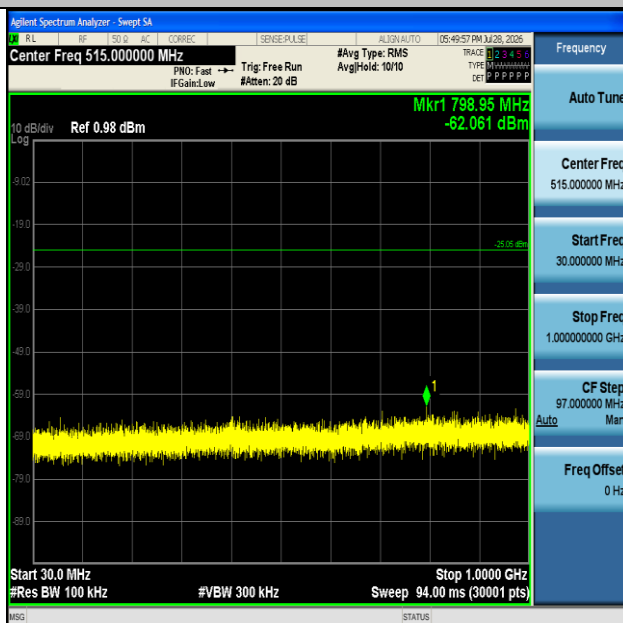


2DH5-Ant1-2480-1000~26500-PASS



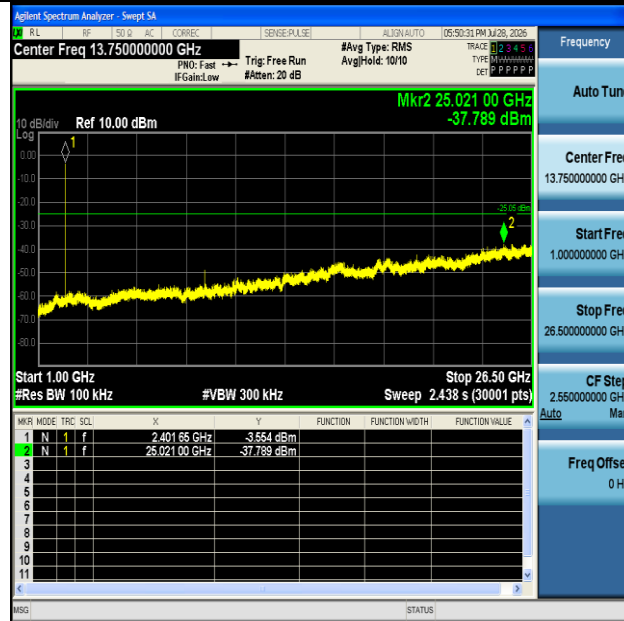


3DH5-Ant1-2402-0~Reference-PASS

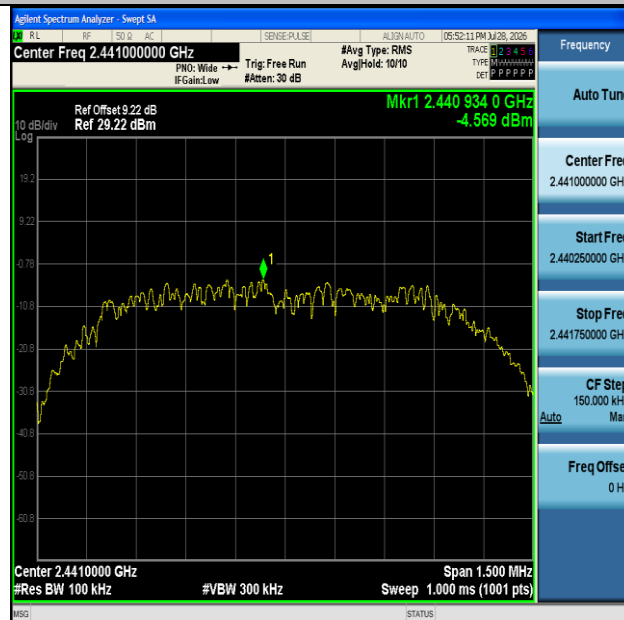


3DH5-Ant1-2402-30~1000-PASS



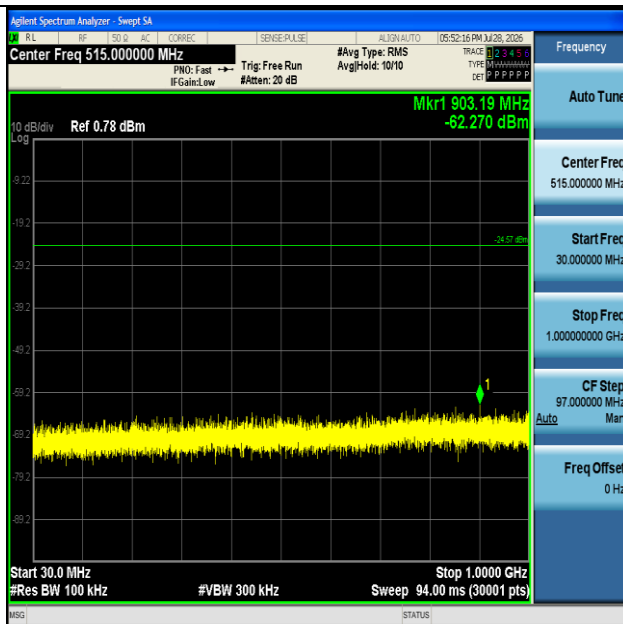


3DH5-Ant1-2402-1000~26500-PASS

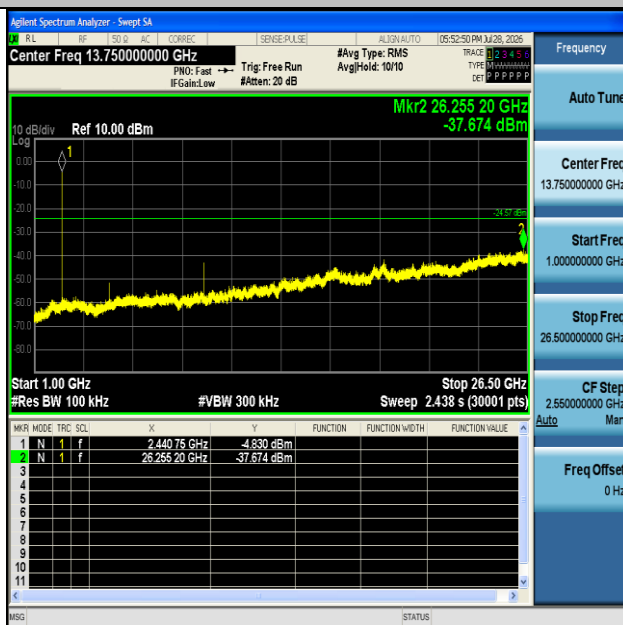


3DH5-Ant1-2441-0~Reference-PASS



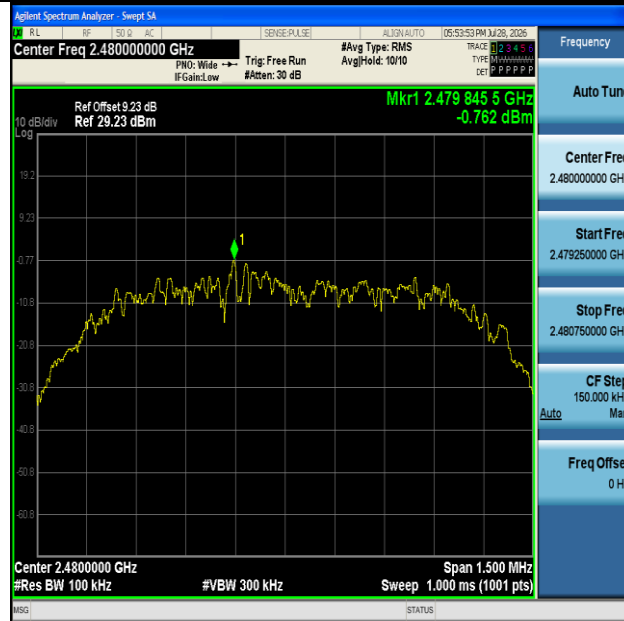


3DH5-Ant1-2441-30~1000-PASS

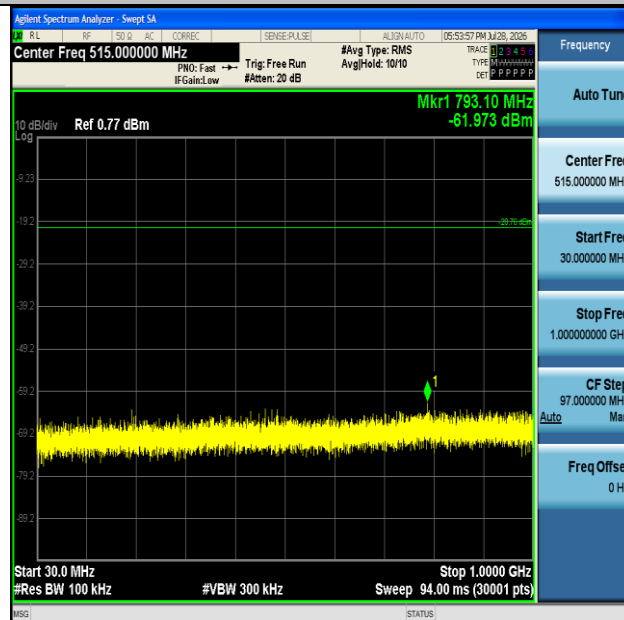


3DH5-Ant1-2441-1000~26500-PASS



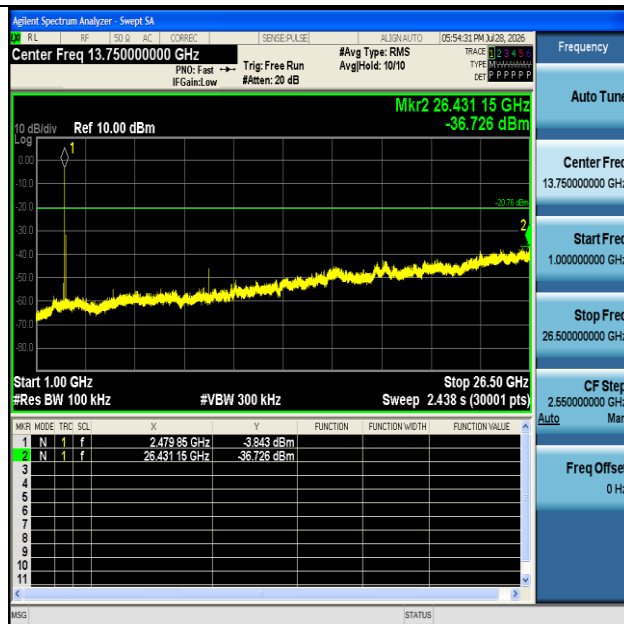


3DH5-Ant1-2480-0~Reference-PASS



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	3.74	77.01	1.13
DH5	Ant1	2441	2.89	3.75	77.07	1.13
DH5	Ant1	2480	2.89	3.75	77.07	1.13
2DH5	Ant1	2402	2.89	3.75	77.07	1.13
2DH5	Ant1	2441	2.90	3.75	77.33	1.12
2DH5	Ant1	2480	2.89	3.74	77.27	1.12
3DH5	Ant1	2402	2.89	3.75	77.07	1.13
3DH5	Ant1	2441	2.89	3.75	77.07	1.13
3DH5	Ant1	2480	2.90	3.75	77.33	1.12

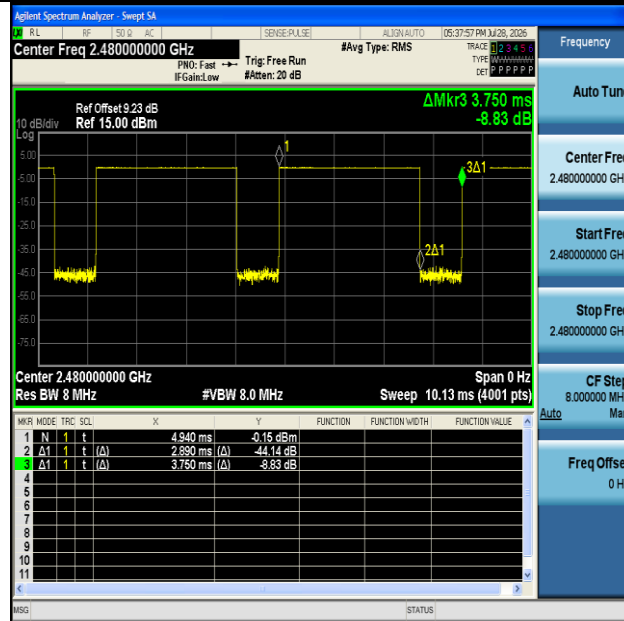
Note: offset(dB) = cable loss(dB) + attenuator factor(dB)



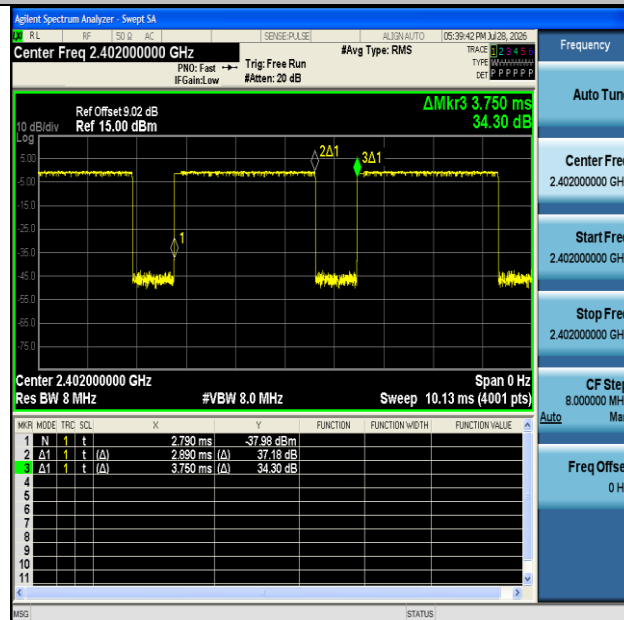


Test Graphs





NTNV-DH5-Ant1-2480



NTNV-2DH5-Ant1-2402



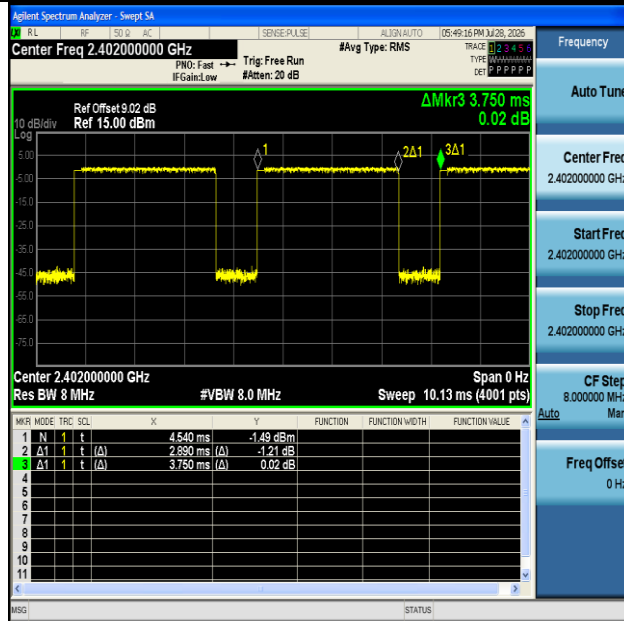


NTNV-2DH5-Ant1-2441

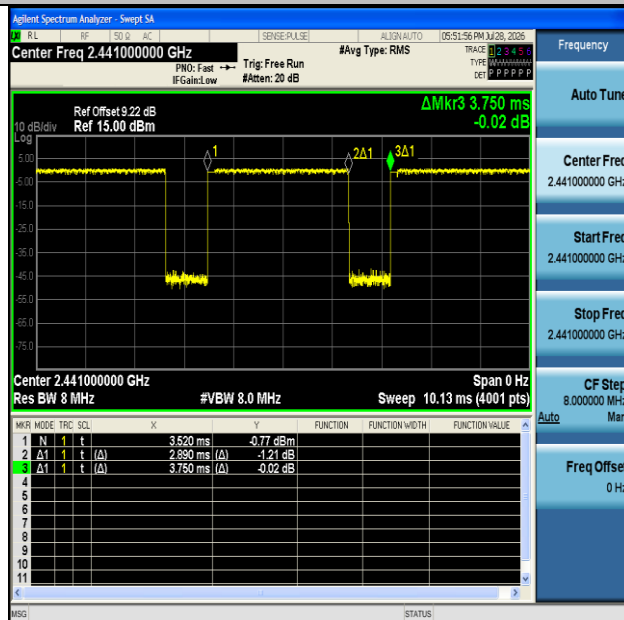


NTNV-2DH5-Ant1-2480



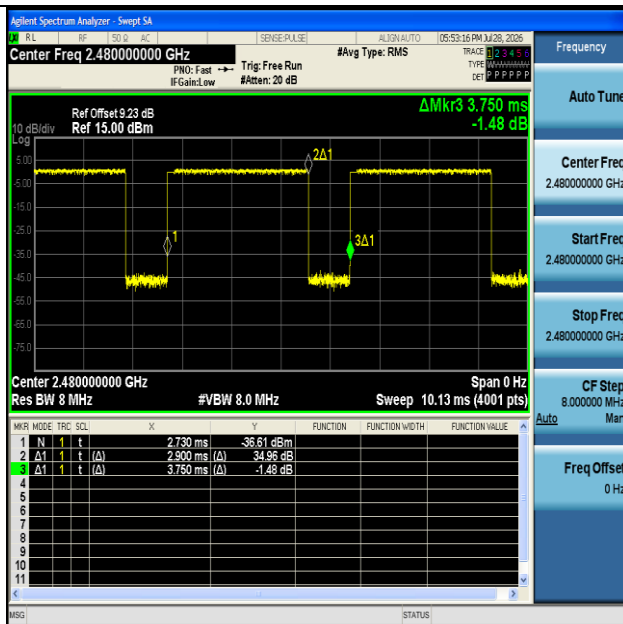


NTNV-3DH5-Ant1-2402



NTNV-3DH5-Ant1-2441





NTNV-3DH5-Ant1-2480

