



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

Product Name: OWS Bluetooth Earphone

Trade Mark: /

Test Model: Cricket 16W

FCC ID: 2BVMU-CRICKET

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	2401.547	2402.480	---	---
DH5	Ant1	2441	0.942	2440.544	2441.486	---	---
DH5	Ant1	2480	0.930	2479.547	2480.477	---	---
2DH5	Ant1	2402	1.260	2401.379	2402.639	---	---
2DH5	Ant1	2441	1.260	2440.376	2441.636	---	---
2DH5	Ant1	2480	1.278	2479.373	2480.651	---	---
3DH5	Ant1	2402	1.266	2401.361	2402.627	---	---
3DH5	Ant1	2441	1.281	2440.364	2441.645	---	---
3DH5	Ant1	2480	1.245	2479.376	2480.621	---	---

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	0.85738	2401.5706	2402.4280	---	---
DH5	Ant1	2441	0.84235	2440.5801	2441.4224	---	---
DH5	Ant1	2480	0.85726	2479.5737	2480.4310	---	---
2DH5	Ant1	2402	1.1707	2401.4159	2402.5866	---	---
2DH5	Ant1	2441	1.1775	2440.4128	2441.5903	---	---
2DH5	Ant1	2480	1.1620	2479.4204	2480.5824	---	---
3DH5	Ant1	2402	1.1714	2401.4194	2402.5908	---	---
3DH5	Ant1	2441	1.1772	2440.4151	2441.5923	---	---
3DH5	Ant1	2480	1.1705	2479.4255	2480.5960	---	---

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





Test Graphs



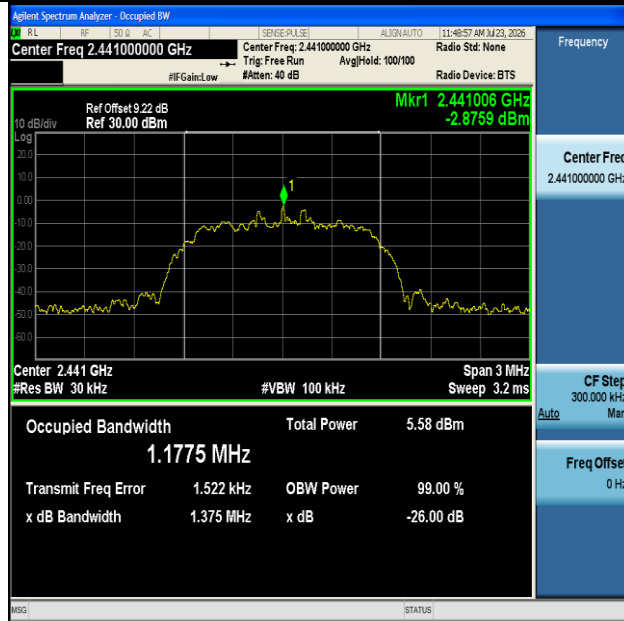


DH5-Ant1-2480



2DH5-Ant1-2402



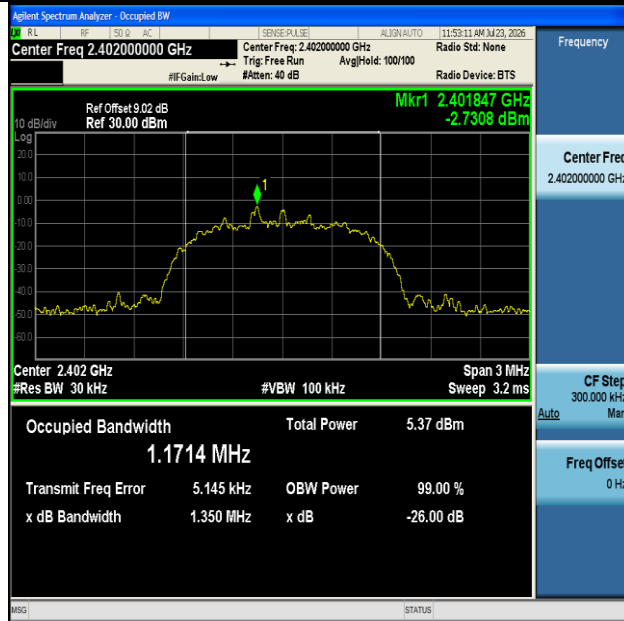


2DH5-Ant1-2441



2DH5-Ant1-2480



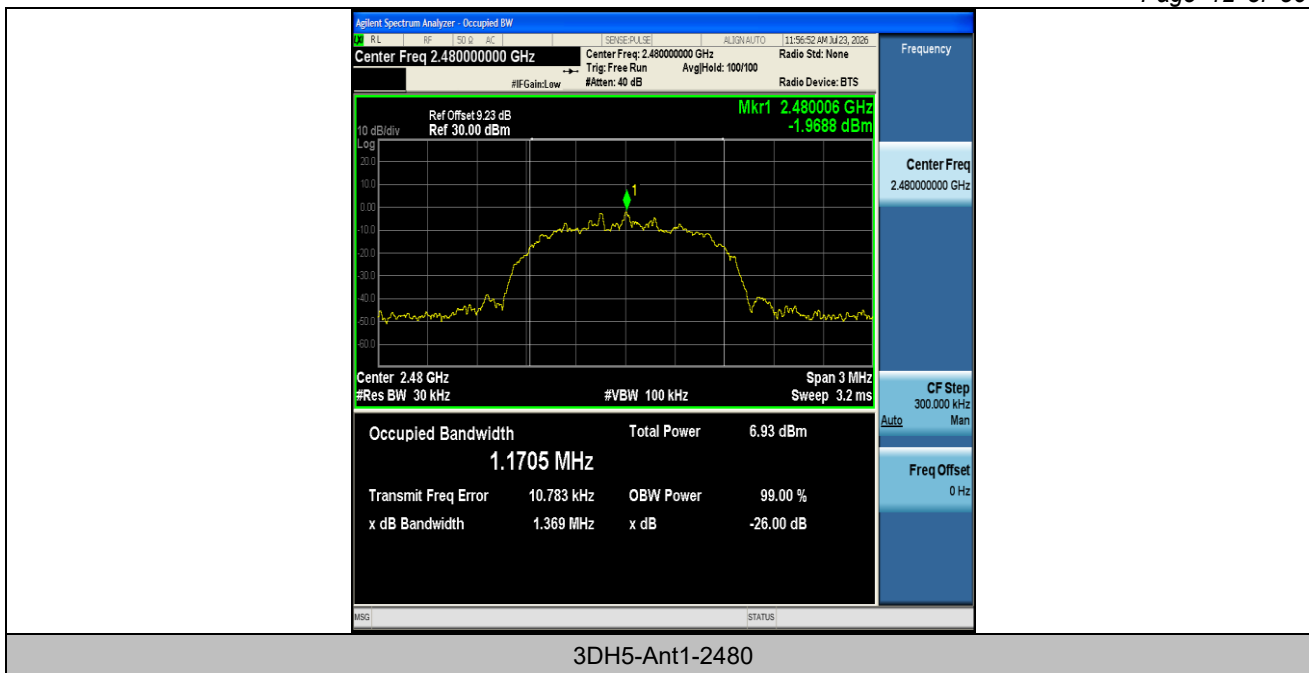


3DH5-Ant1-2402



3DH5-Ant1-2441







Appendix C: Maximum peak conducted output power

Test Result

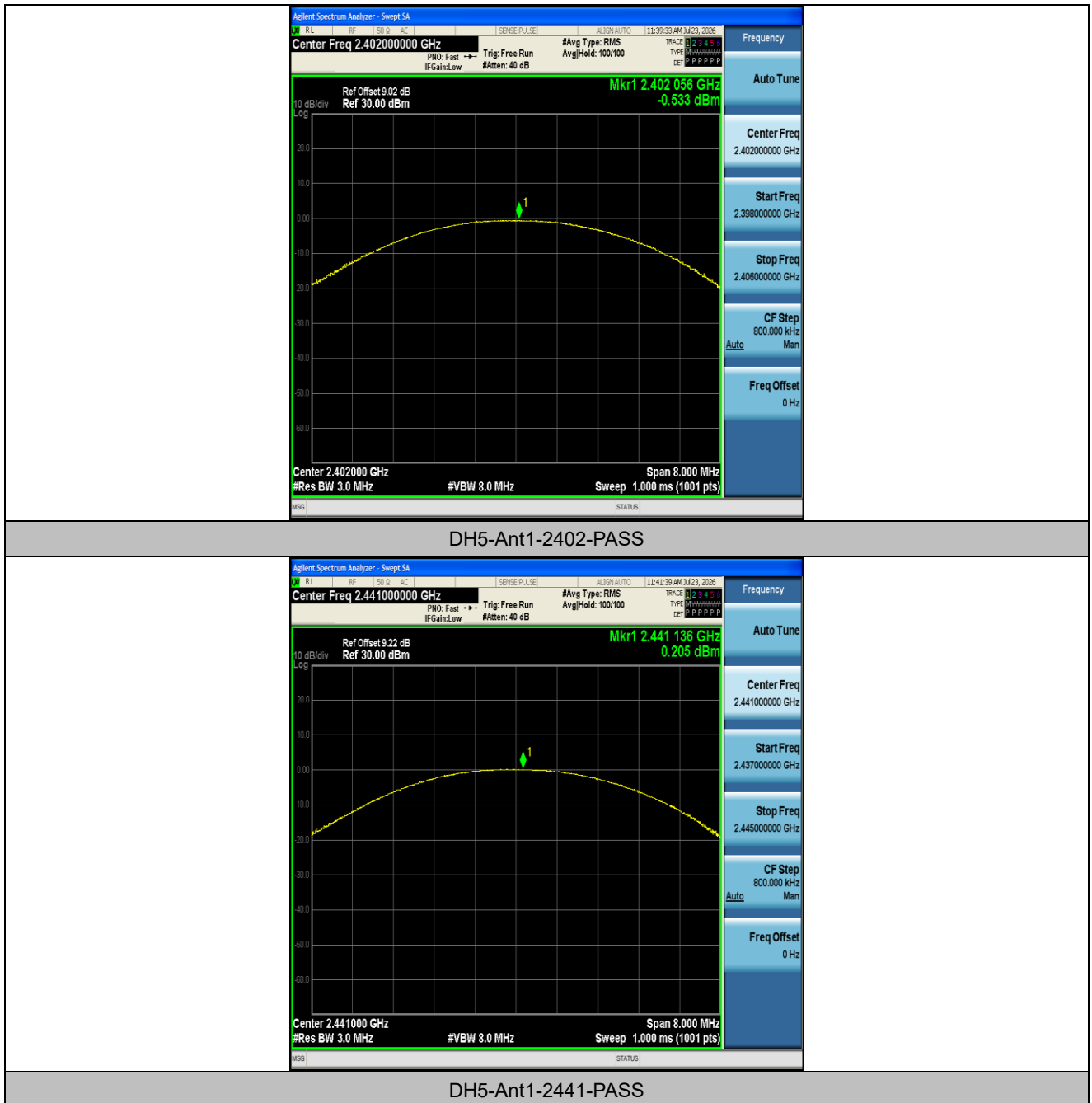
Test Mode	Antenna	Frequency [MHz]	Conducted Peak Power [dBm]	Conducted Limit [dBm]	Verdict
DH5	Ant1	2402	-0.53	≤30	PASS
DH5	Ant1	2441	0.21	≤30	PASS
DH5	Ant1	2480	1.20	≤30	PASS
2DH5	Ant1	2402	-0.01	≤20.97	PASS
2DH5	Ant1	2441	0.83	≤20.97	PASS
2DH5	Ant1	2480	1.82	≤20.97	PASS
3DH5	Ant1	2402	0.44	≤20.97	PASS
3DH5	Ant1	2441	1.34	≤20.97	PASS
3DH5	Ant1	2480	2.40	≤20.97	PASS

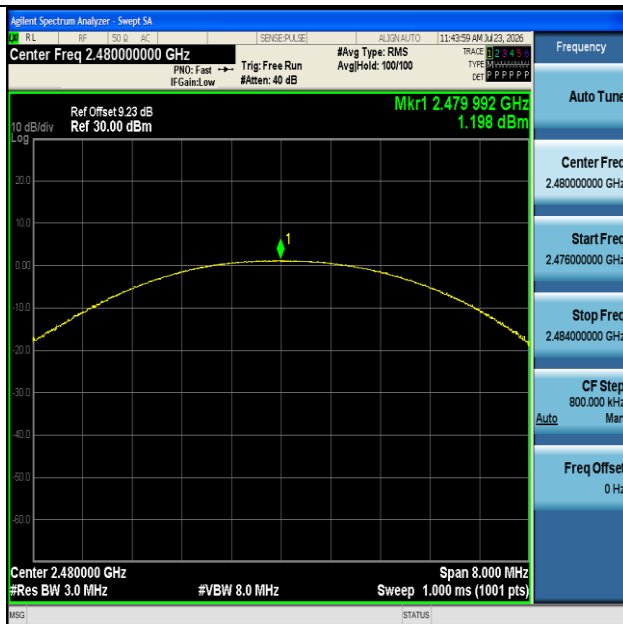
Note: offset(dB) = cable loss(dB) + attenuator factor(dB)



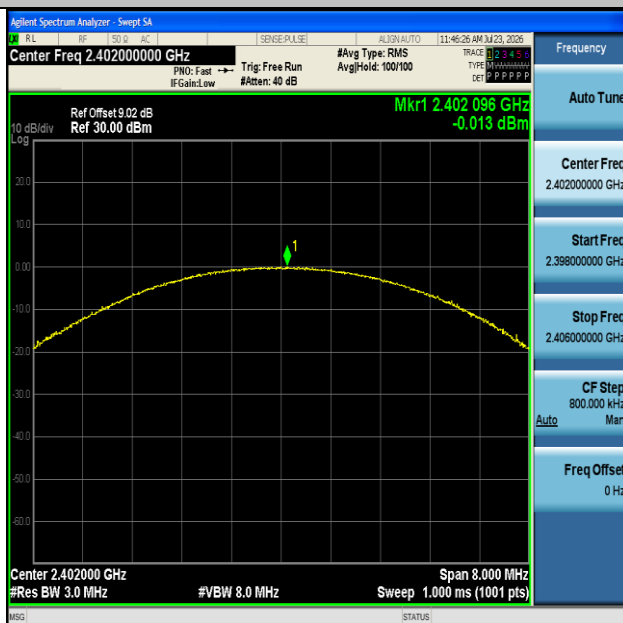


Test Graphs



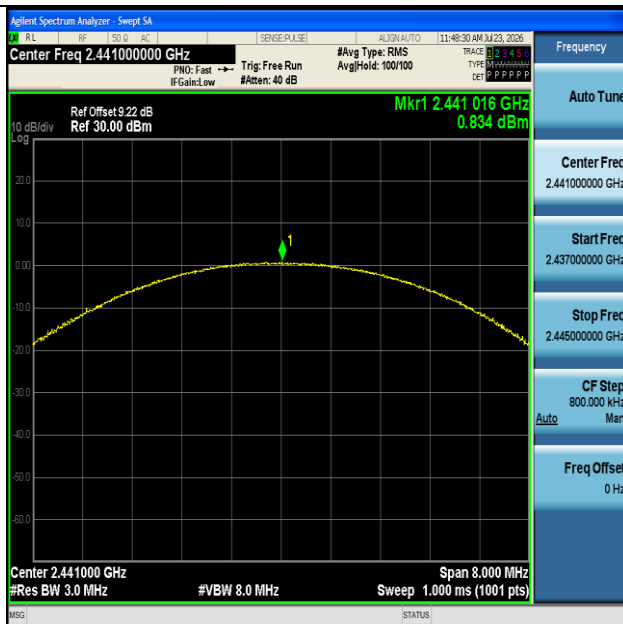


DH5-Ant1-2480-PASS

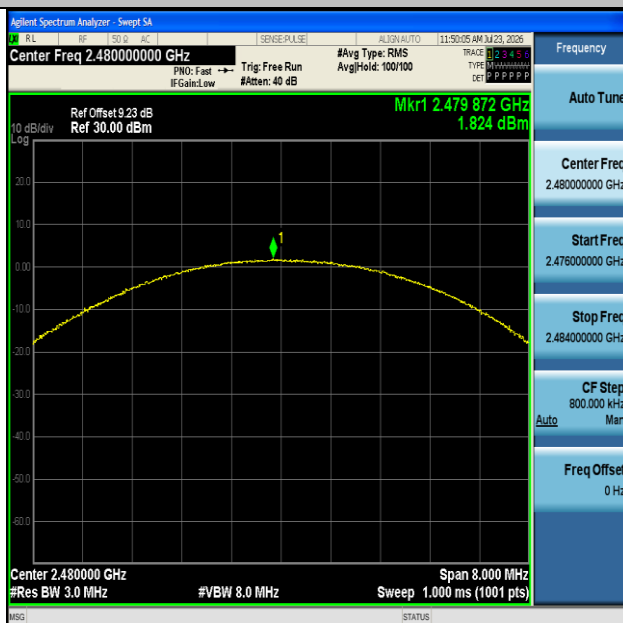


2DH5-Ant1-2402-PASS



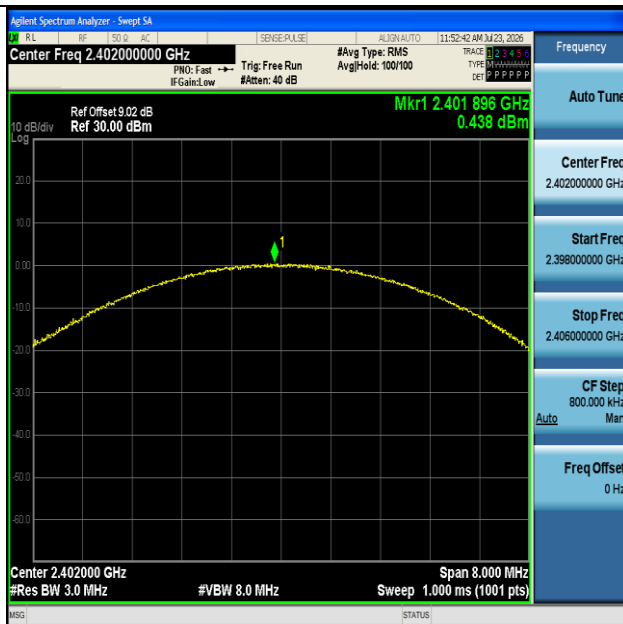


2DH5-Ant1-2441-PASS

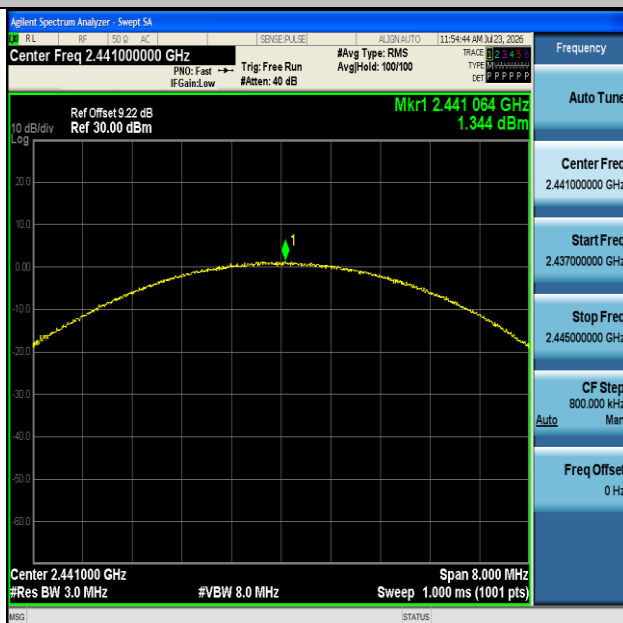


2DH5-Ant1-2480-PASS



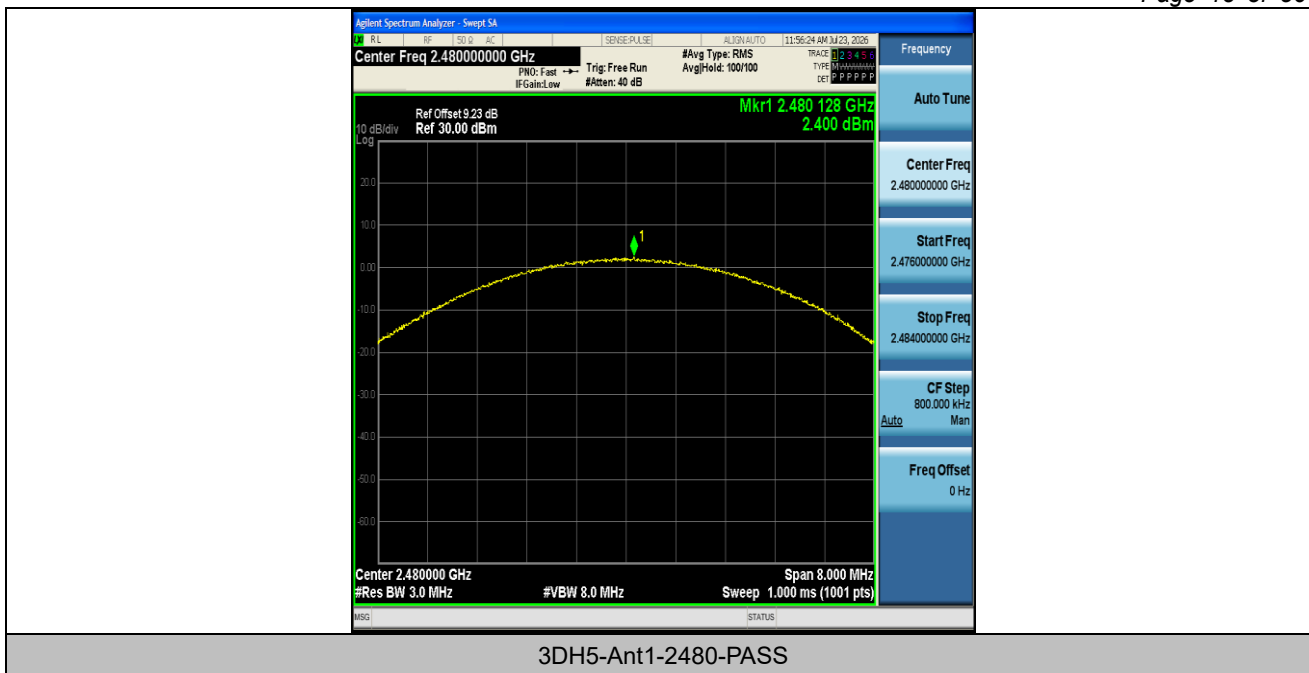


3DH5-Ant1-2402-PASS



3DH5-Ant1-2441-PASS







Appendix D: Carrier frequency separation

Test Result

Test Mode	Antenna	Frequency [MHz]	Result [MHz]	Limit [MHz]	Verdict
DH5	Ant1	Hop	0.996	≥ 0.942	PASS
2DH5	Ant1	Hop	0.988	≥ 0.852	PASS
3DH5	Ant1	Hop	0.994	≥ 0.854	PASS

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





Test Graphs







Appendix E: Time of occupancy

Test Result

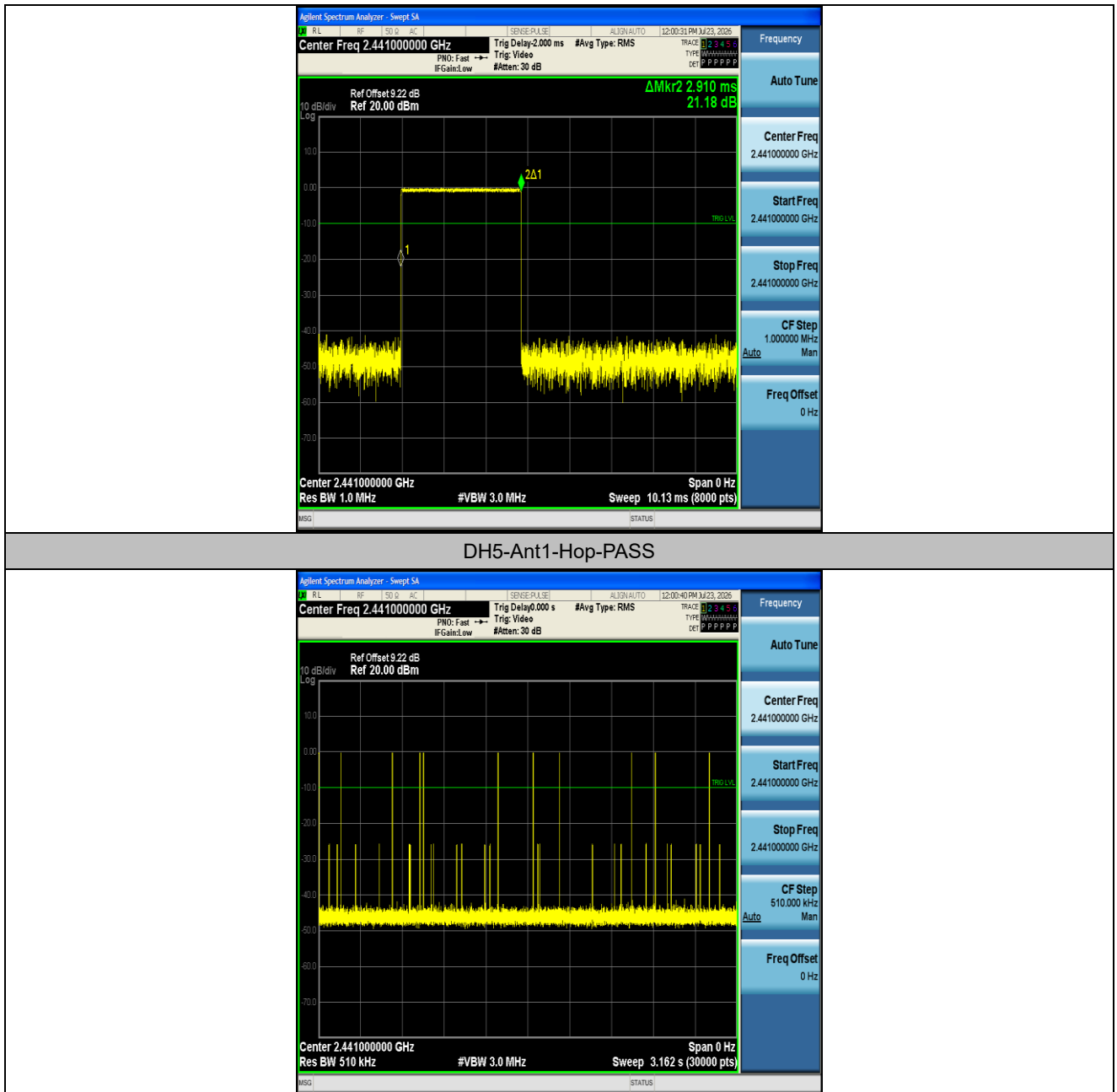
Test Mode	Antenna	Frequency [MHz]	Burst Width [ms]	TotalHops [Num]	Result [s]	Limit [s]	Verdict
DH5	Ant1	Hop	2.910	110	0.32	≤0.4	PASS
2DH5	Ant1	Hop	2.915	130	0.379	≤0.4	PASS
3DH5	Ant1	Hop	2.918	100	0.292	≤0.4	PASS

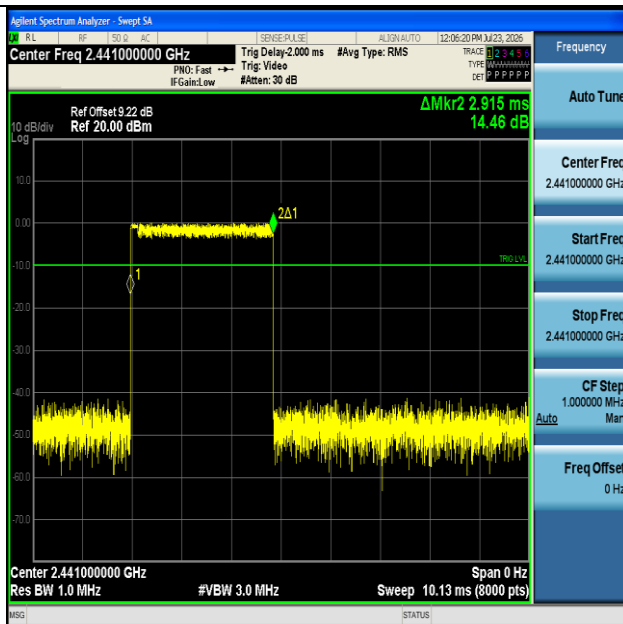
Note: offset(dB) = cable loss(dB) + attenuator factor(dB)



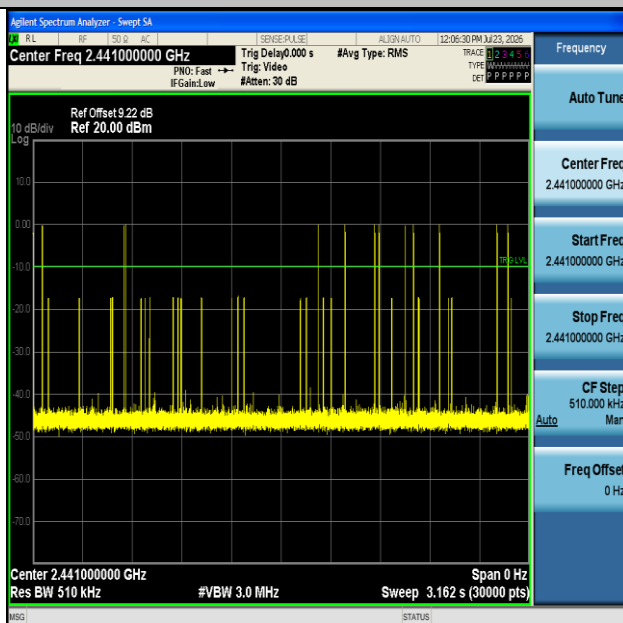


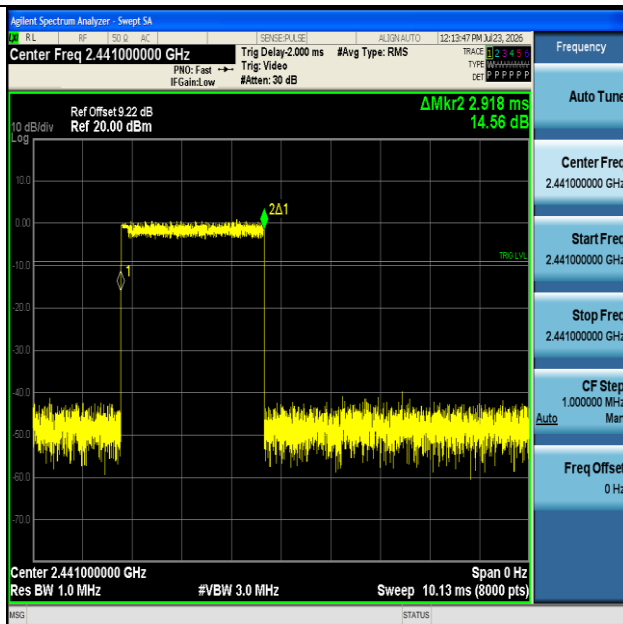
Test Graphs



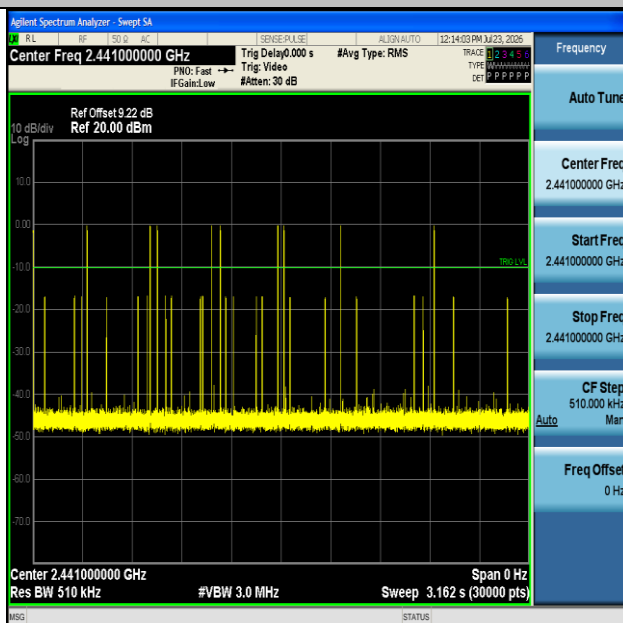


2DH5-Ant1-Hop-PASS





3DH5-Ant1-Hop-PASS





Appendix F: Number of hopping channels

Test Result

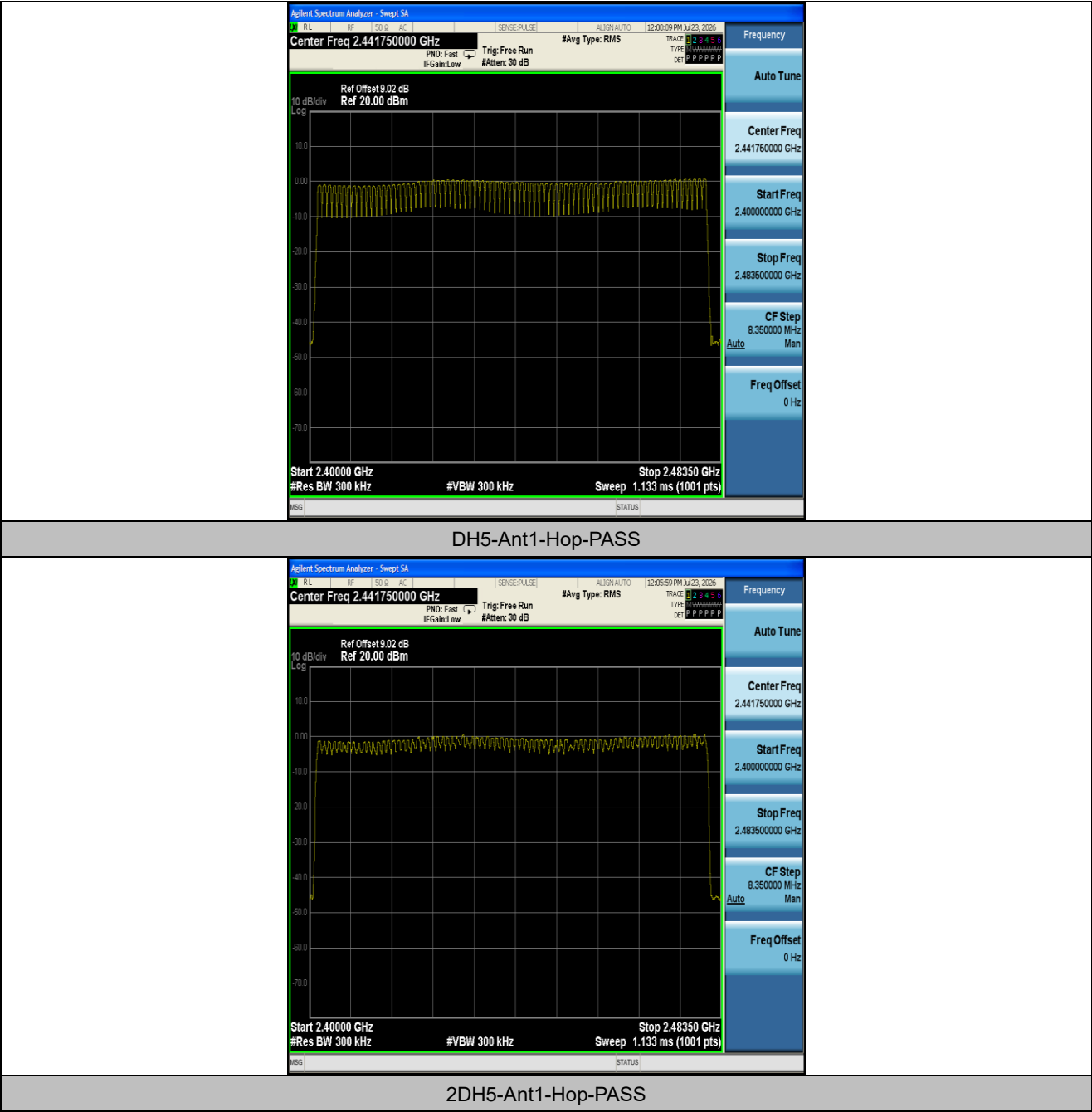
Test Mode	Antenna	Frequency [MHz]	Result [Num]	Limit [Num]	Verdict
DH5	Ant1	Hop	79	≥15	PASS
2DH5	Ant1	Hop	79	≥15	PASS
3DH5	Ant1	Hop	79	≥15	PASS

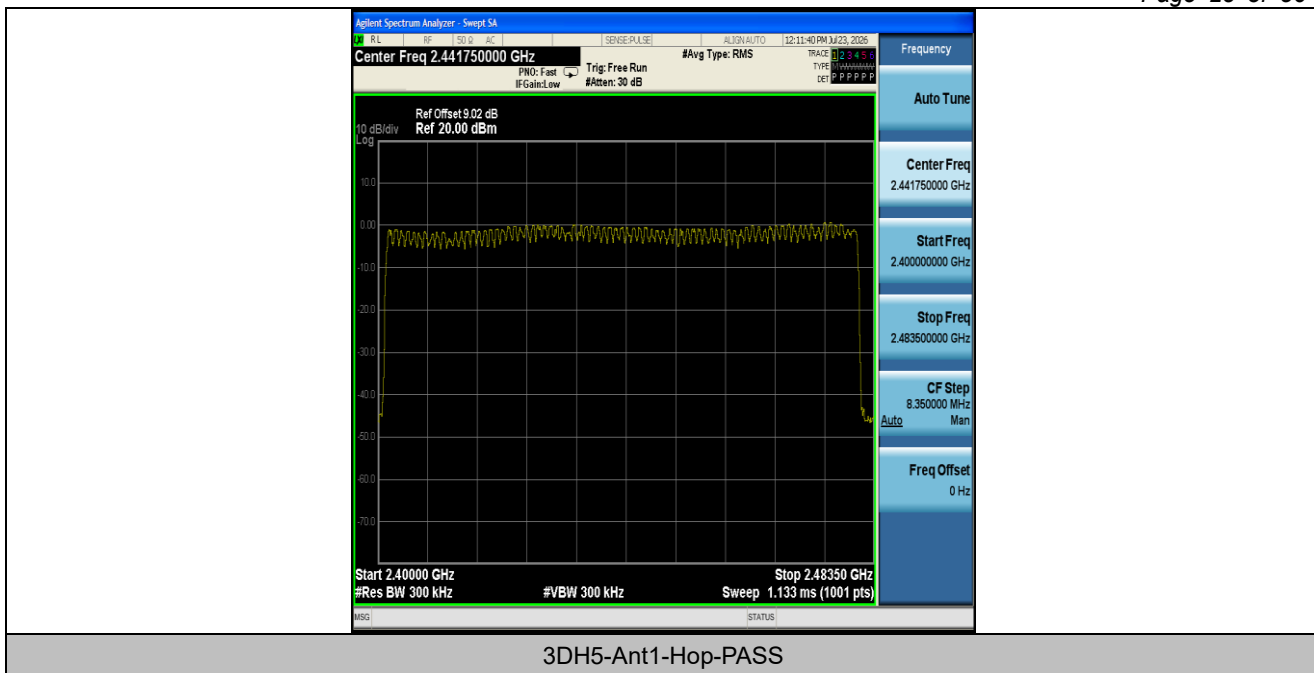
Note: offset(dB) = cable loss(dB) + attenuator factor(dB)





Test Graphs







Appendix G: Band edge measurements

Test Result

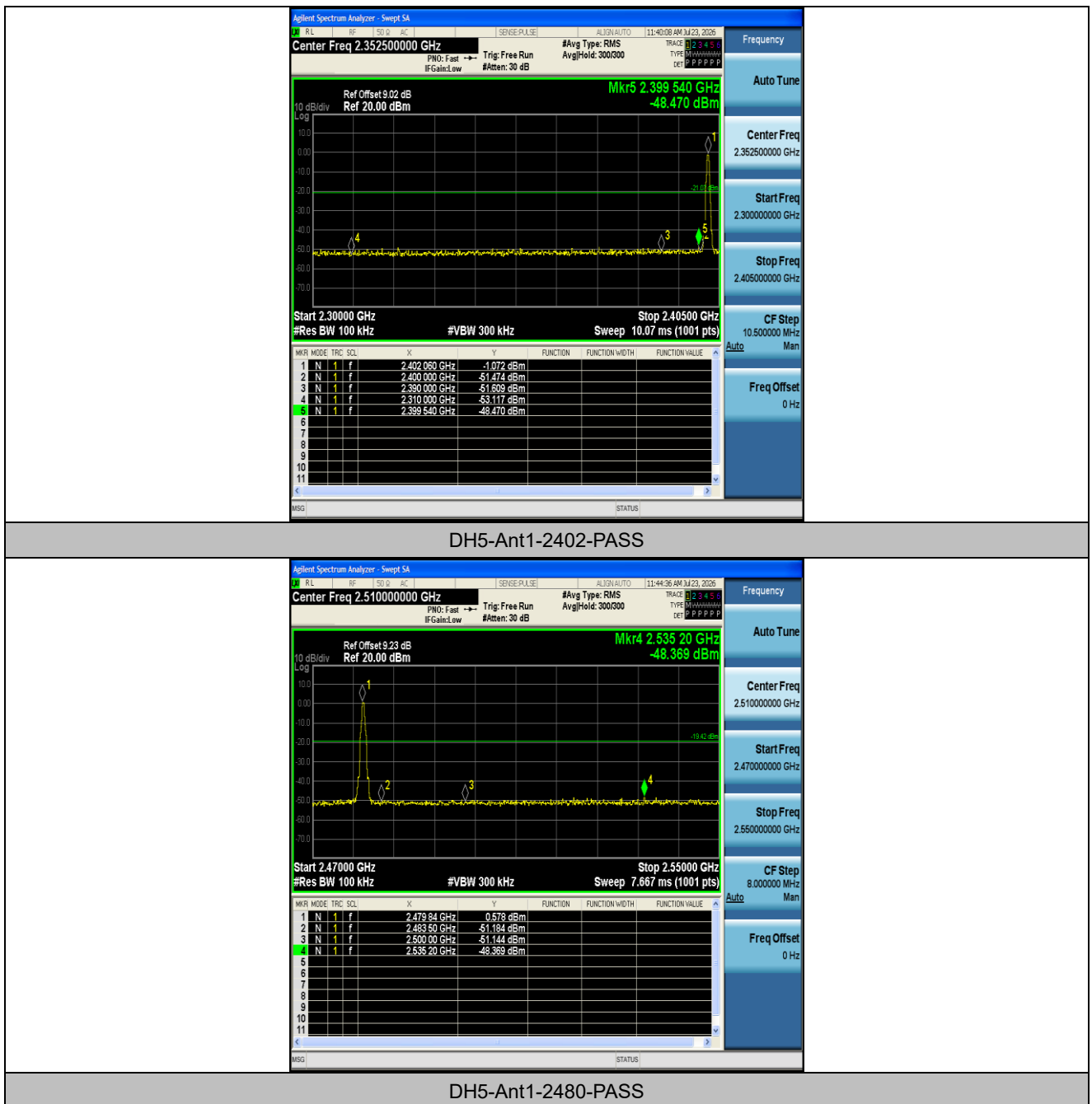
Test Mode	Antenna	Ch.Name	Frequency [MHz]	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
DH5	Ant1	Low	2402	-1.07	-48.47	≤-21.07	PASS
DH5	Ant1	High	2480	0.58	-48.37	≤-19.42	PASS
DH5	Ant1	Low	Hop_2402	-1.34	-49.31	≤-21.34	PASS
DH5	Ant1	High	Hop_2480	0.10	-48.11	≤-19.9	PASS
2DH5	Ant1	Low	2402	-1.20	-49.3	≤-21.2	PASS
2DH5	Ant1	High	2480	0.50	-48.16	≤-19.5	PASS
2DH5	Ant1	Low	Hop_2402	-4.69	-48.76	≤-24.69	PASS
2DH5	Ant1	High	Hop_2480	0.31	-47.18	≤-19.69	PASS
3DH5	Ant1	Low	2402	-1.21	-48.66	≤-21.21	PASS
3DH5	Ant1	High	2480	-0.19	-48.63	≤-20.19	PASS
3DH5	Ant1	Low	Hop_2402	-5.19	-48.73	≤-25.19	PASS
3DH5	Ant1	High	Hop_2480	0.37	-48.21	≤-19.63	PASS

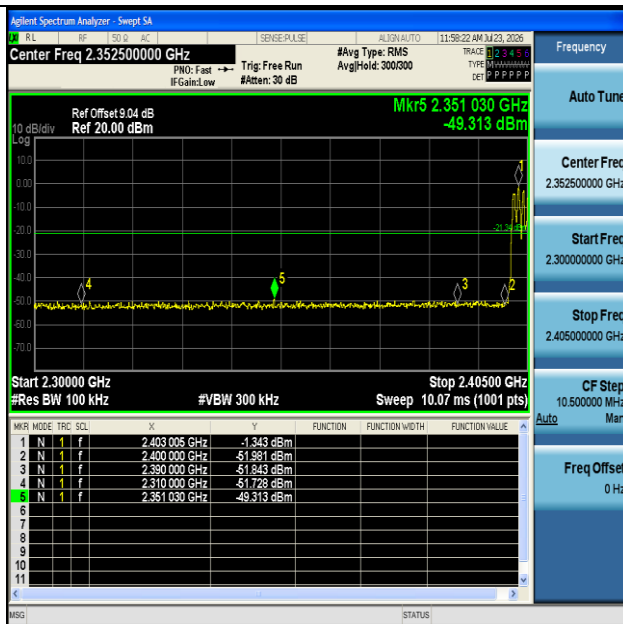
Note: offset(dB) = cable loss(dB) + attenuator factor(dB)



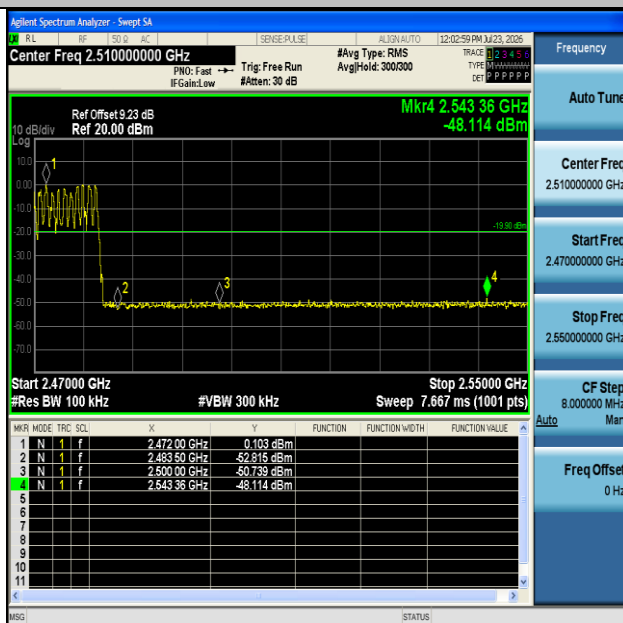


Test Graphs



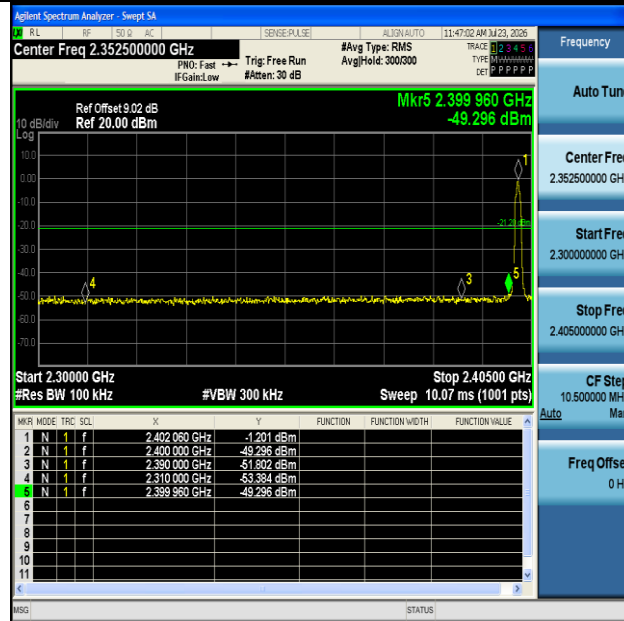


DH5-Ant1-Hop_2402-PASS

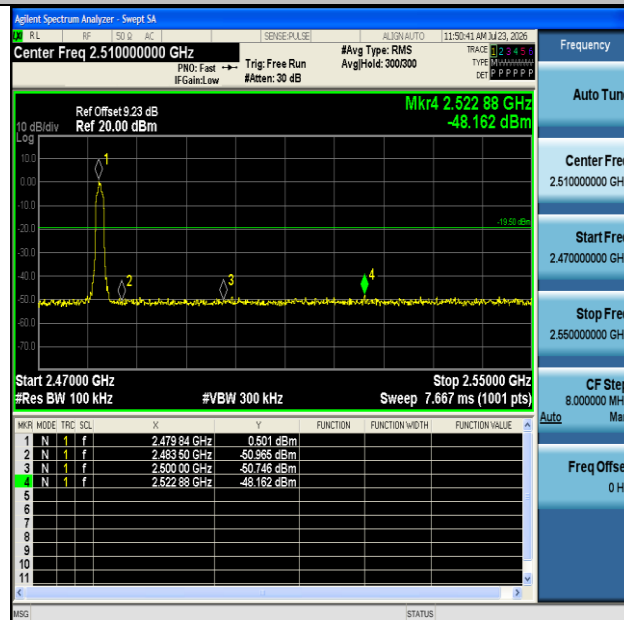


DH5-Ant1-Hop_2480-PASS



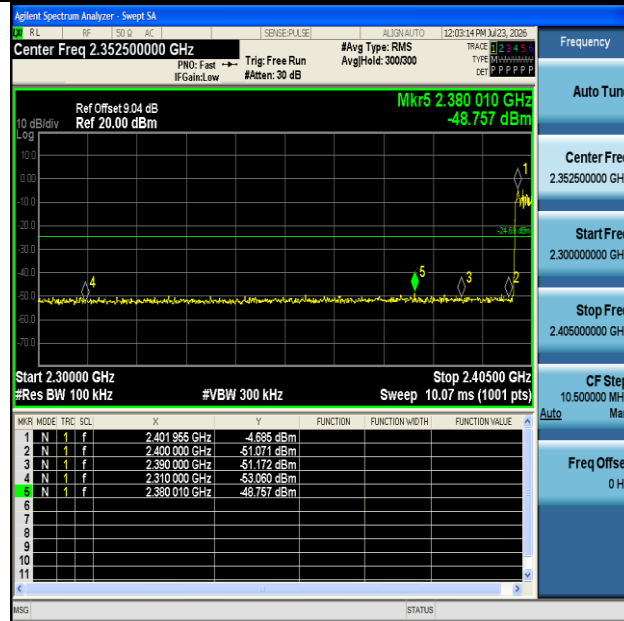


2DH5-Ant1-2402-PASS

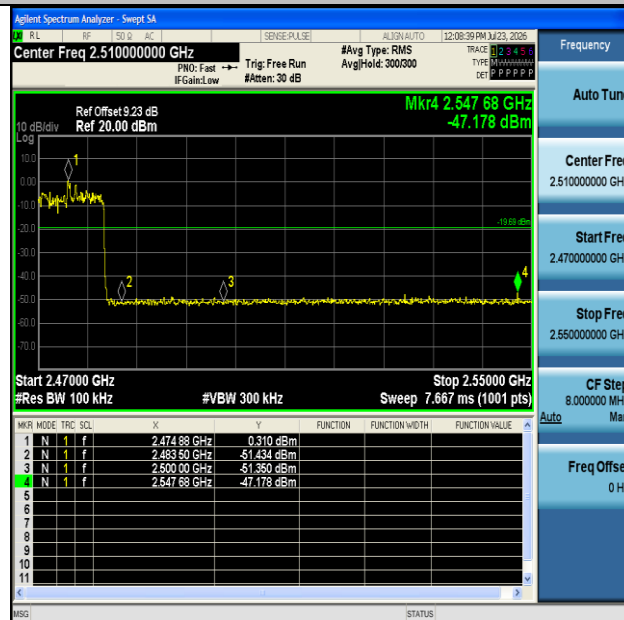


2DH5-Ant1-2480-PASS



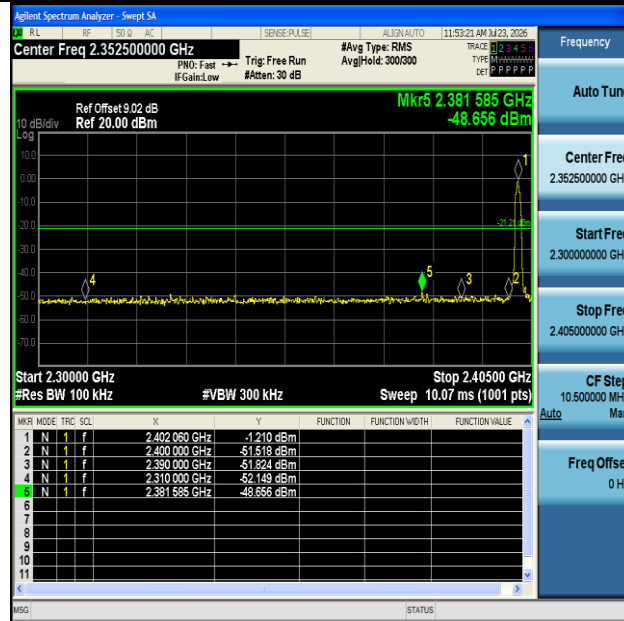


2DH5-Ant1-Hop_2402-PASS

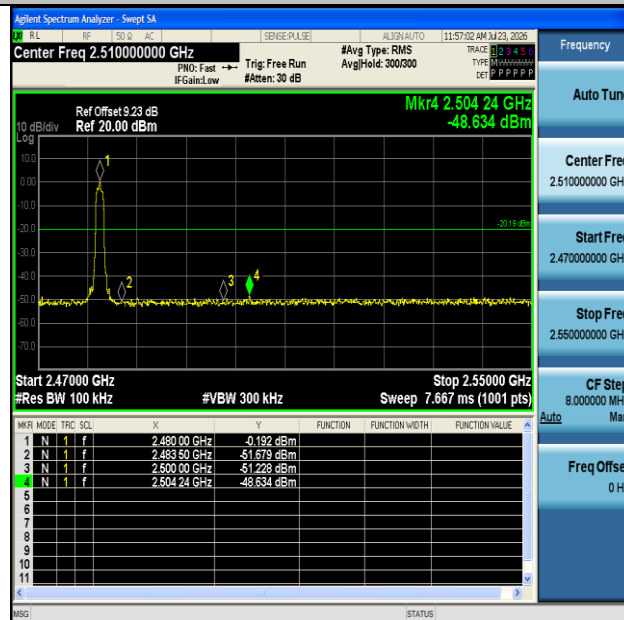


2DH5-Ant1-Hop_2480-PASS



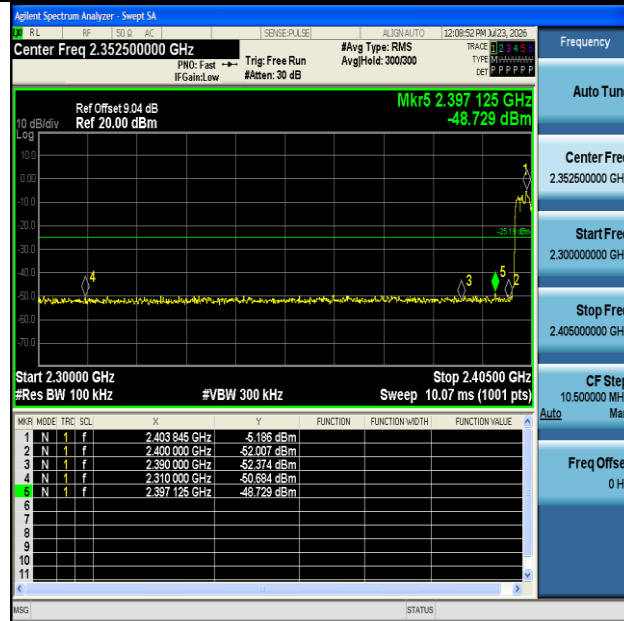


3DH5-Ant1-2402-PASS

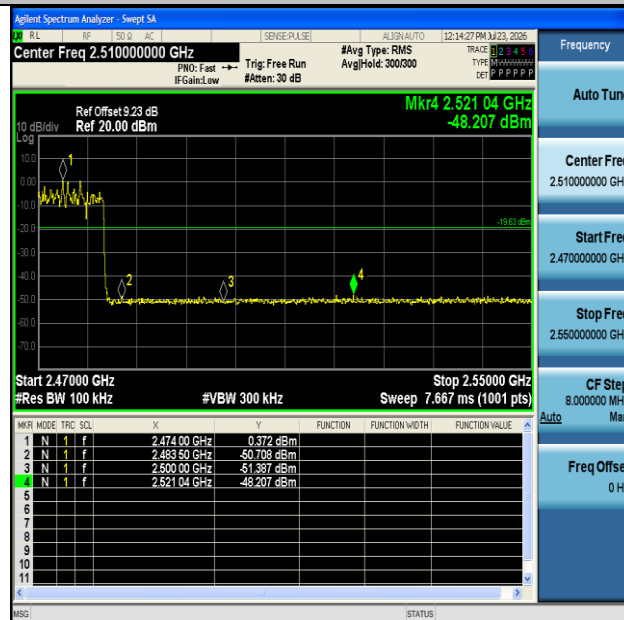


3DH5-Ant1-2480-PASS





3DH5-Ant1-Hop_2402-PASS



3DH5-Ant1-Hop_2480-PASS





Appendix H: Conducted Spurious Emission

Test Result

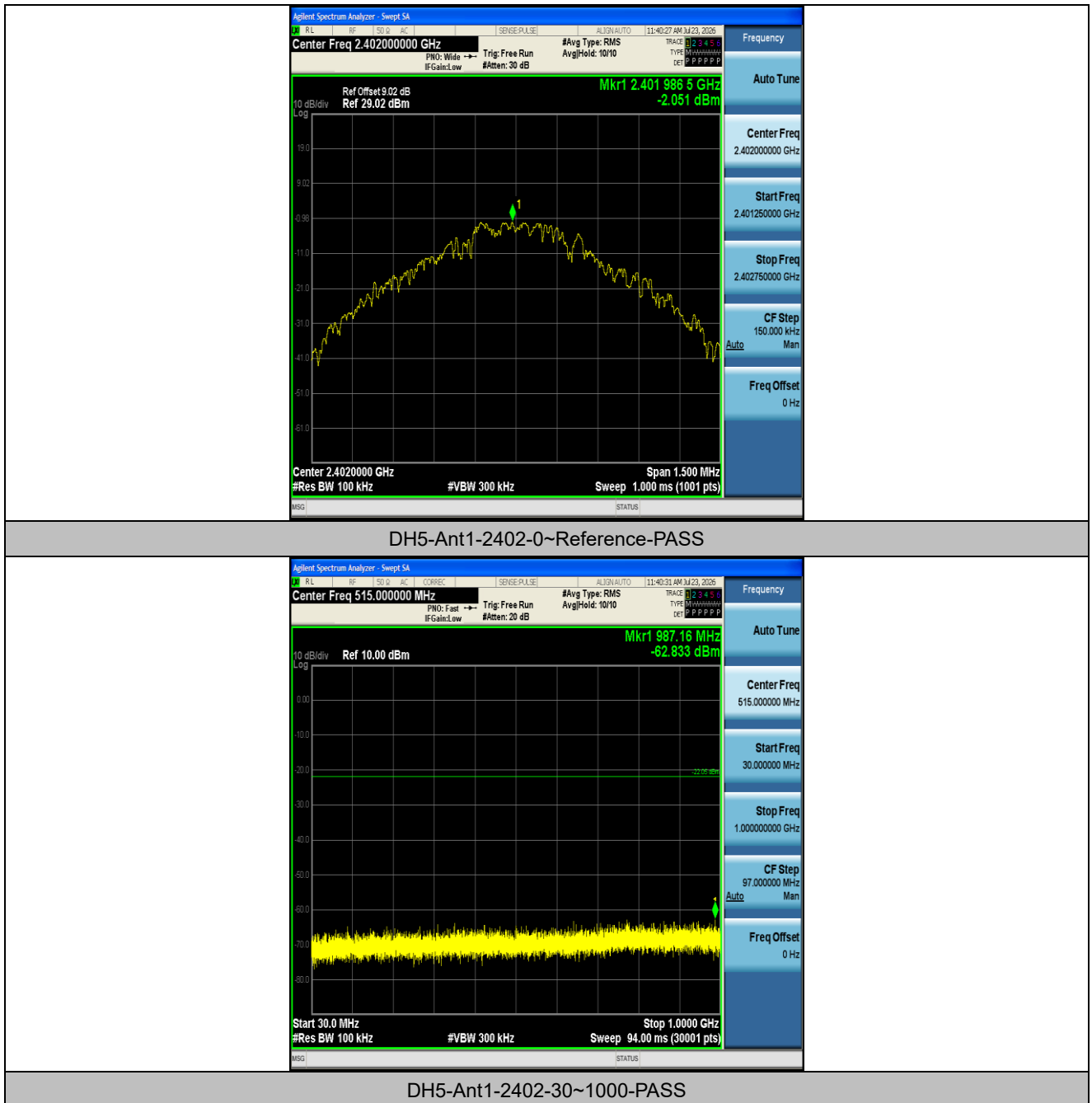
Test Mode	Antenna	Frequency [MHz]	Freq. Range [MHz]	Ref. Level [dBm]	Result [dBm]	Limit [dBm]	Verdict
DH5	Ant1	2402	0~Reference	-2.05	-2.05	---	PASS
DH5	Ant1	2402	30~1000	-2.05	-62.83	≤ -22.05	PASS
DH5	Ant1	2402	1000~26500	-2.05	-35.18	≤ -22.05	PASS
DH5	Ant1	2441	0~Reference	-1.06	-1.06	---	PASS
DH5	Ant1	2441	30~1000	-1.06	-62.76	≤ -21.06	PASS
DH5	Ant1	2441	1000~26500	-1.06	-32.34	≤ -21.06	PASS
DH5	Ant1	2480	0~Reference	0.16	0.16	---	PASS
DH5	Ant1	2480	30~1000	0.16	-62.35	≤ -19.84	PASS
DH5	Ant1	2480	1000~26500	0.16	-27.38	≤ -19.84	PASS
2DH5	Ant1	2402	0~Reference	-3.19	-3.19	---	PASS
2DH5	Ant1	2402	30~1000	-3.19	-62.02	≤ -23.19	PASS
2DH5	Ant1	2402	1000~26500	-3.19	-36.85	≤ -23.19	PASS
2DH5	Ant1	2441	0~Reference	-1.99	-1.99	---	PASS
2DH5	Ant1	2441	30~1000	-1.99	-62.62	≤ -21.99	PASS
2DH5	Ant1	2441	1000~26500	-1.99	-33.61	≤ -21.99	PASS
2DH5	Ant1	2480	0~Reference	-3.68	-3.68	---	PASS
2DH5	Ant1	2480	30~1000	-3.68	-62.64	≤ -23.68	PASS
2DH5	Ant1	2480	1000~26500	-3.68	-34.23	≤ -23.68	PASS
3DH5	Ant1	2402	0~Reference	-4.44	-4.44	---	PASS
3DH5	Ant1	2402	30~1000	-4.44	-62.33	≤ -24.44	PASS
3DH5	Ant1	2402	1000~26500	-4.44	-35.36	≤ -24.44	PASS
3DH5	Ant1	2441	0~Reference	-0.55	-0.55	---	PASS
3DH5	Ant1	2441	30~1000	-0.55	-62.74	≤ -20.55	PASS
3DH5	Ant1	2441	1000~26500	-0.55	-35.75	≤ -20.55	PASS
3DH5	Ant1	2480	0~Reference	-3.43	-3.43	---	PASS
3DH5	Ant1	2480	30~1000	-3.43	-62.94	≤ -23.43	PASS
3DH5	Ant1	2480	1000~26500	-3.43	-33.58	≤ -23.43	PASS

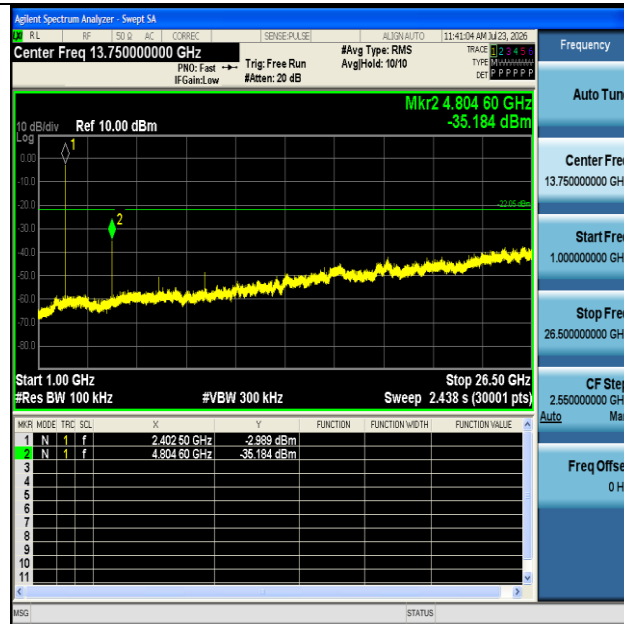
Note: offset(dB) in Reference test plots = cable loss(dB) + attenuator factor(dB); For spurious emissions plots from 30MHz to 26.5GHz, the cable loss and attenuator factors have been set in the 'Input Correction' of the Spectrum Analyzer during the test.



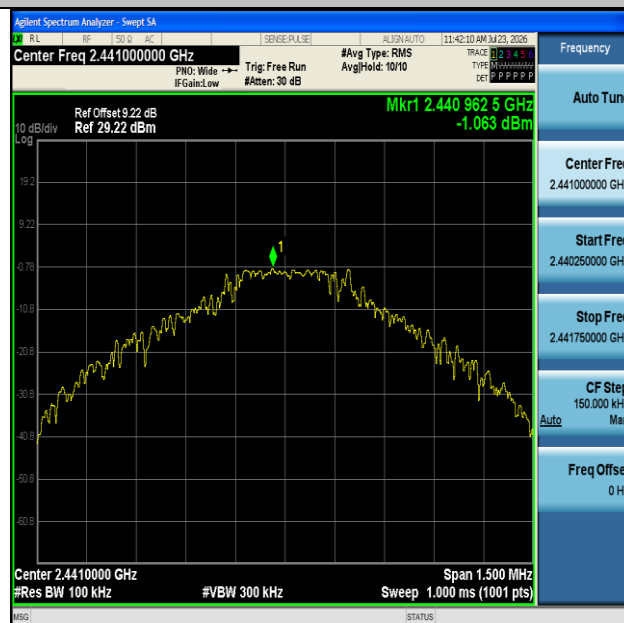


Test Graphs



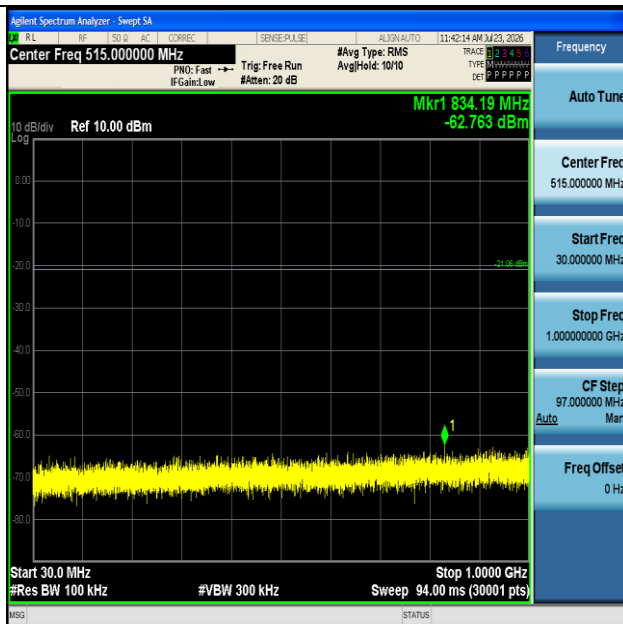


DH5-Ant1-2402-1000~26500-PASS

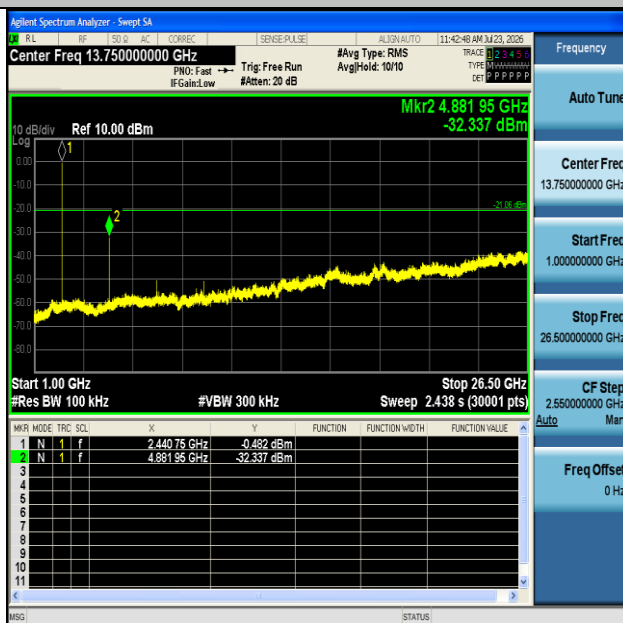


DH5-Ant1-2441-0~Reference-PASS





DH5-Ant1-2441-30~1000-PASS

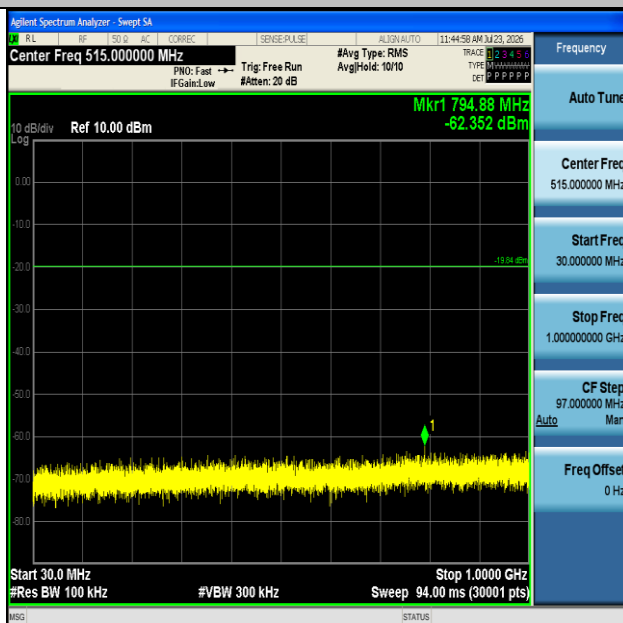


DH5-Ant1-2441-1000~26500-PASS



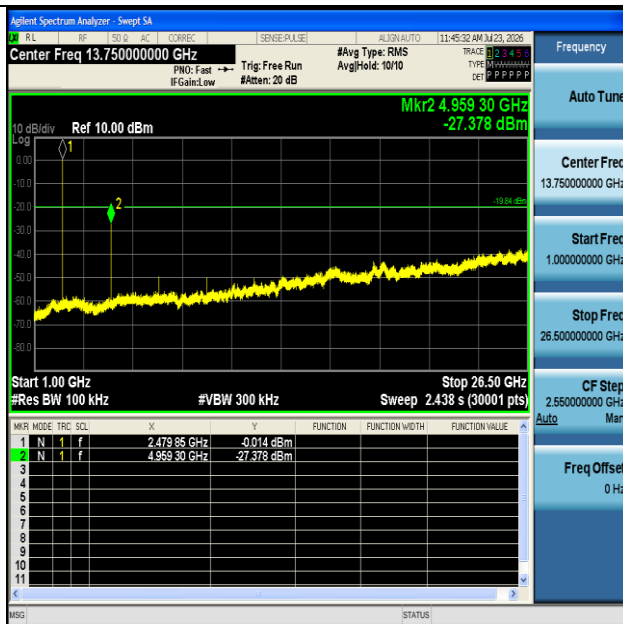


DH5-Ant1-2480-0~Reference-PASS

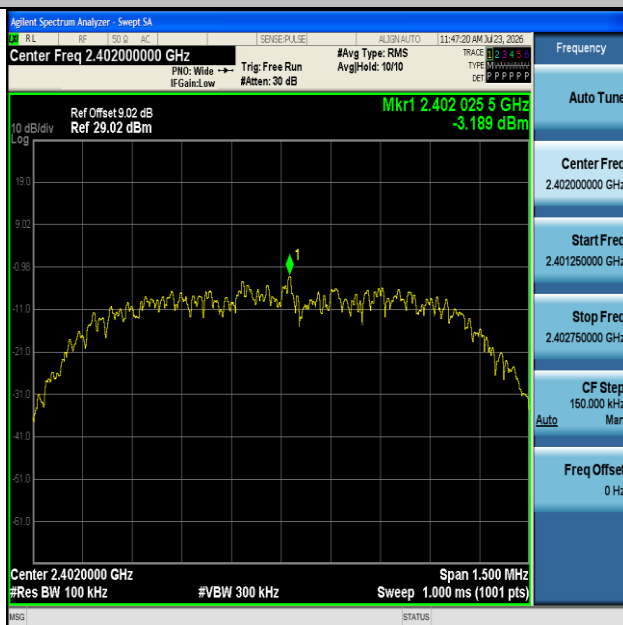


DH5-Ant1-2480-30~1000-PASS



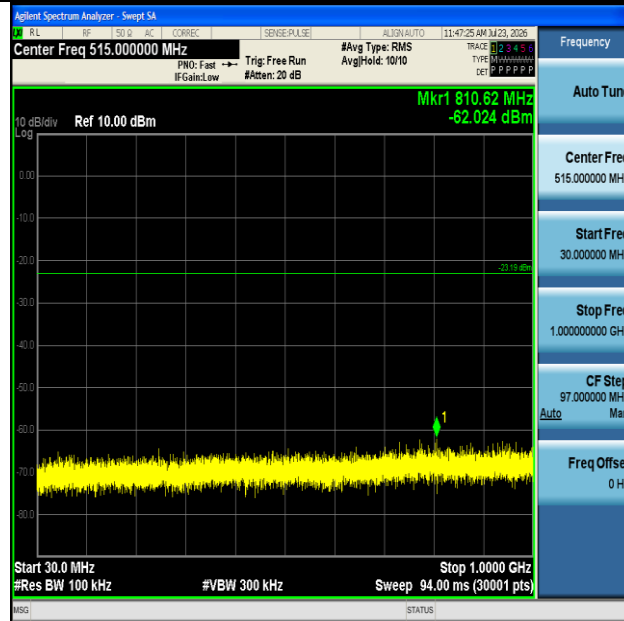


DH5-Ant1-2480-1000~26500-PASS

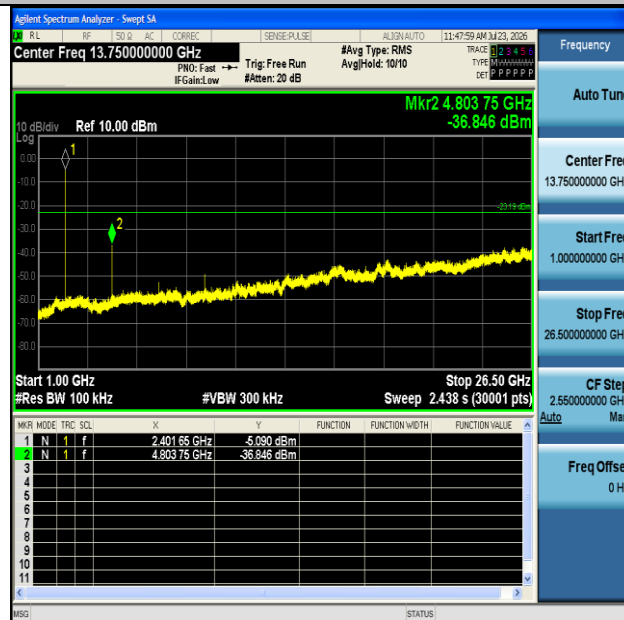


2DH5-Ant1-2402-0~Reference-PASS



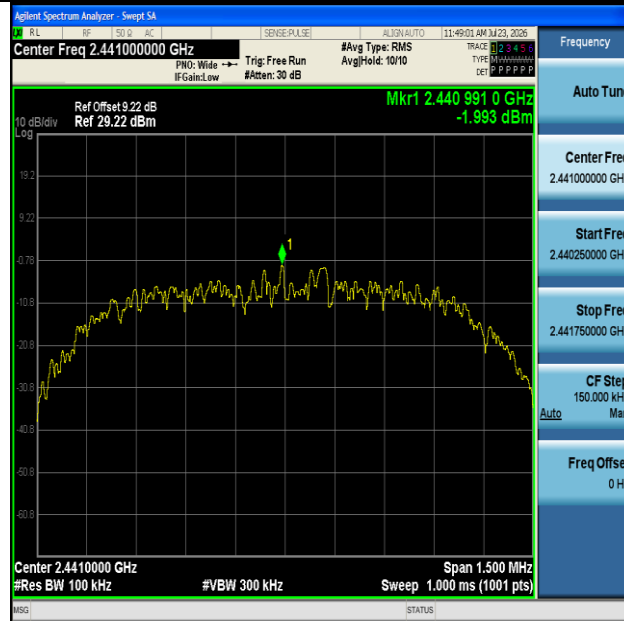


2DH5-Ant1-2402-30~1000-PASS

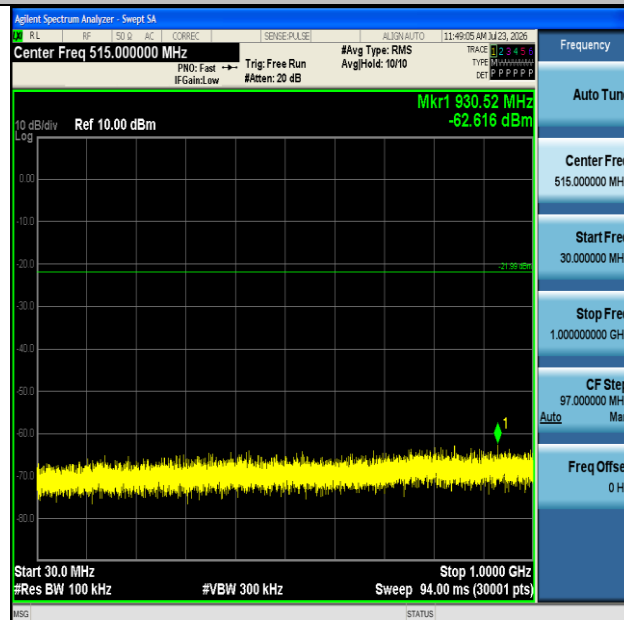


2DH5-Ant1-2402-1000~26500-PASS



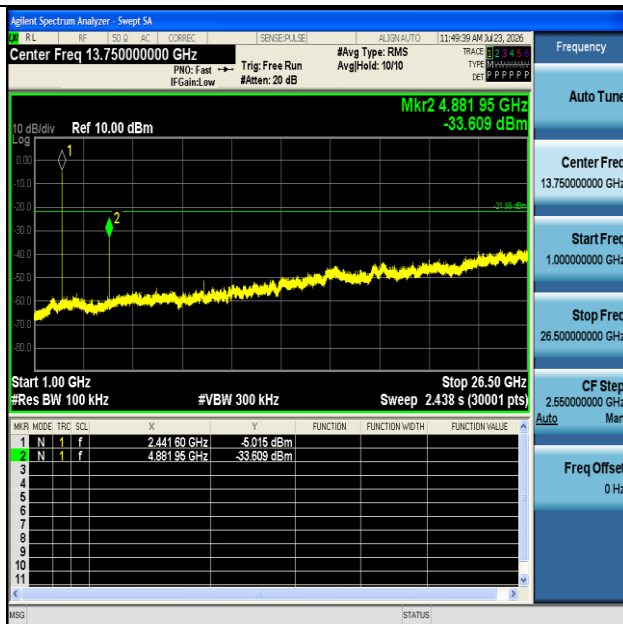


2DH5-Ant1-2441-0~Reference-PASS

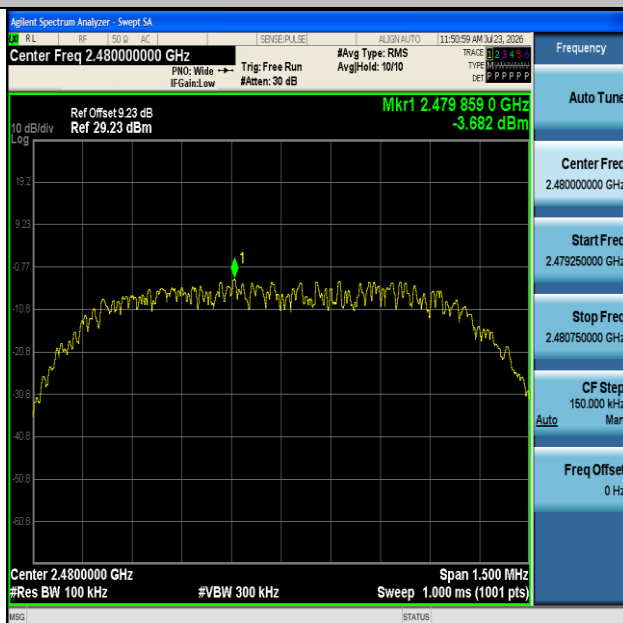


2DH5-Ant1-2441-30~1000-PASS



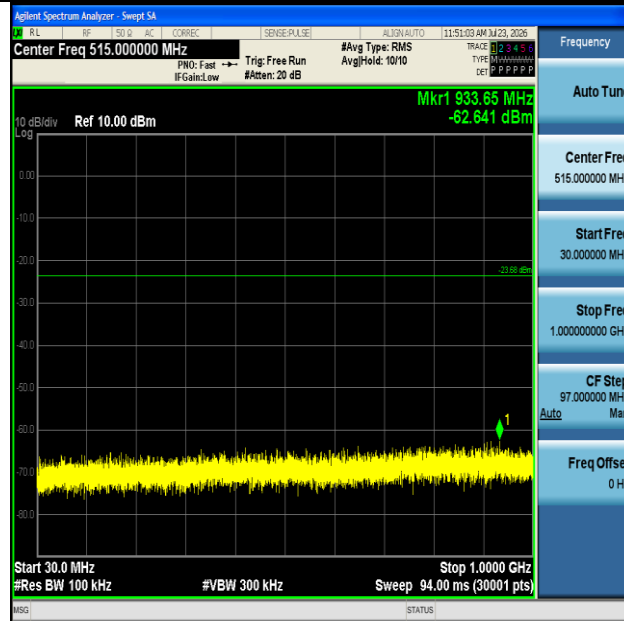


2DH5-Ant1-2441-1000~26500-PASS

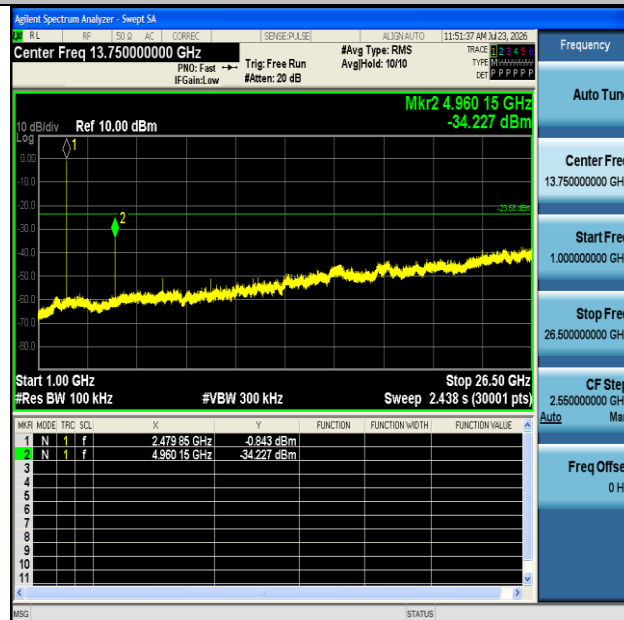


2DH5-Ant1-2480-0~Reference-PASS





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

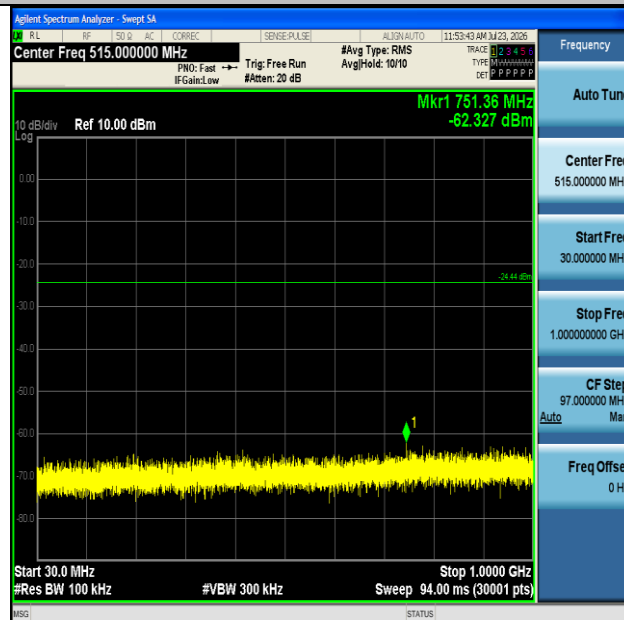


2DH5-Ant1-2480-1000~26500-PASS



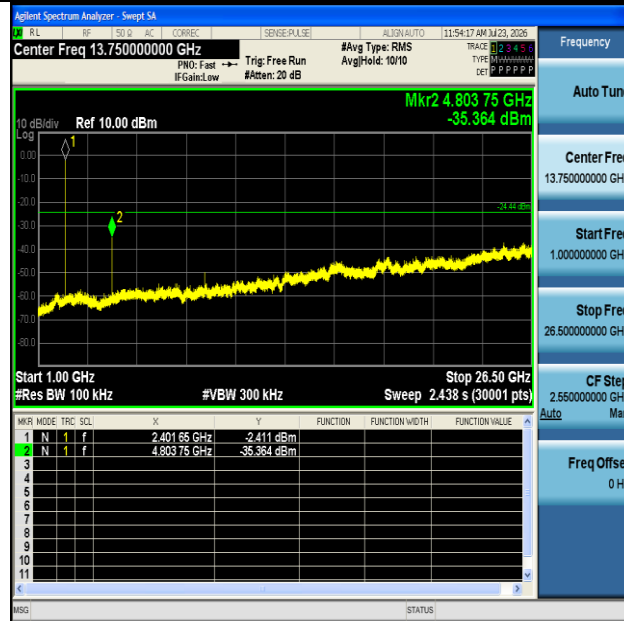


3DH5-Ant1-2402-0~Reference-PASS

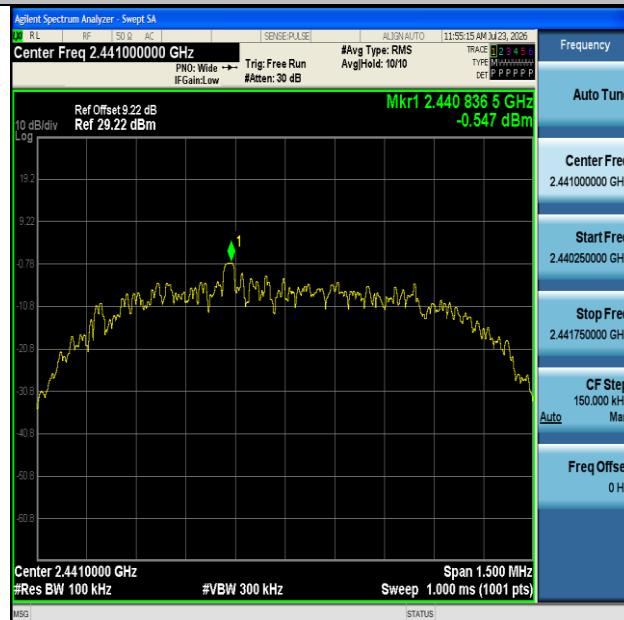


3DH5-Ant1-2402-30~1000-PASS





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

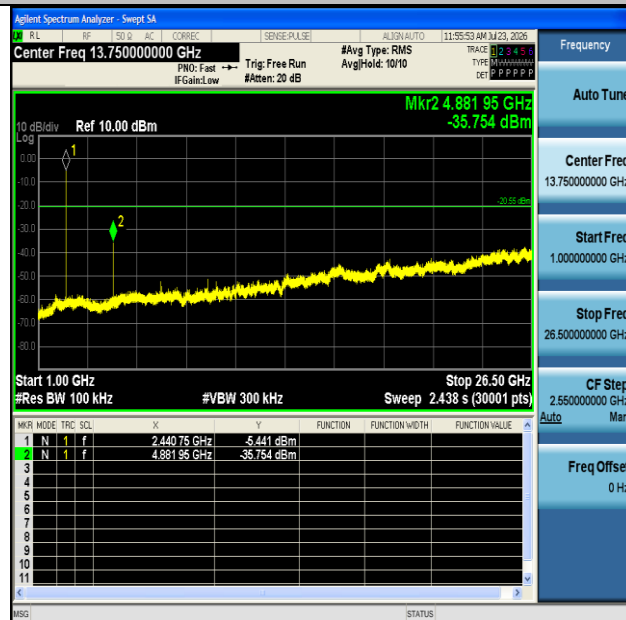


3DH5-Ant1-2441-0~Reference-PASS



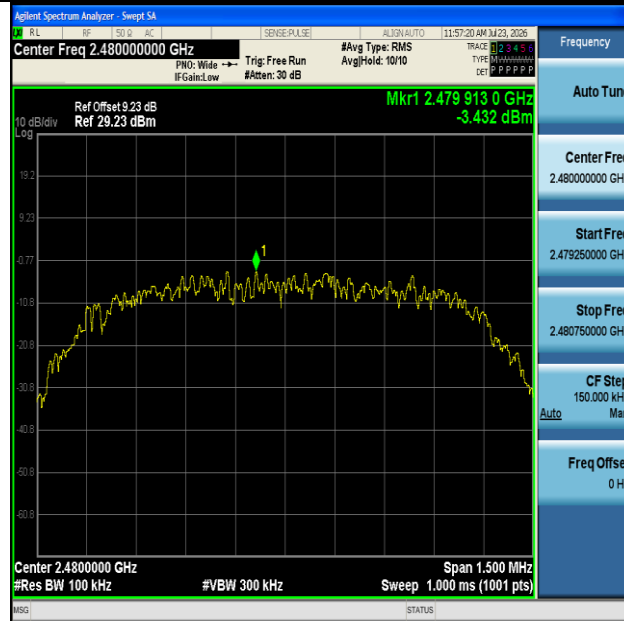


3DH5-Ant1-2441-30~1000-PASS

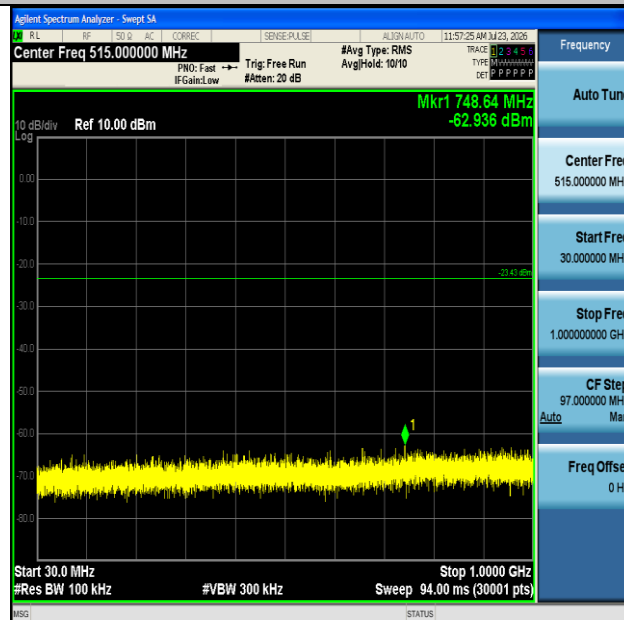


3DH5-Ant1-2441-1000~26500-PASS



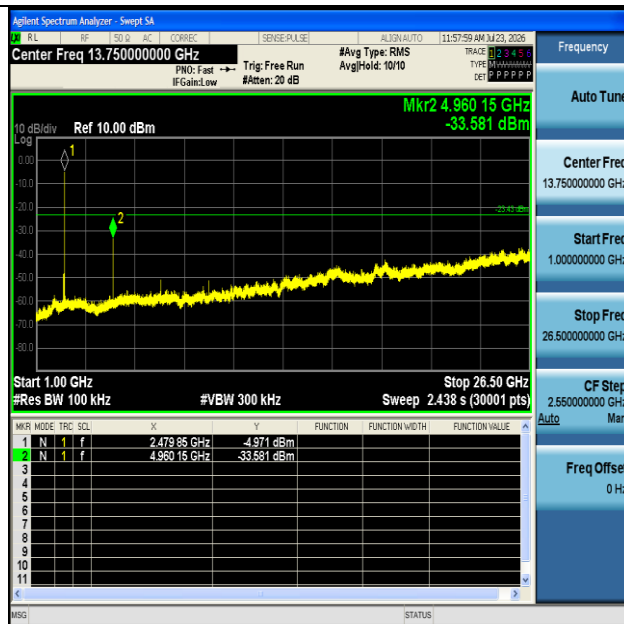


3DH5-Ant1-2480-0~Reference-PASS



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	3.74	77.54	1.10
DH5	Ant1	2441	2.91	3.75	77.60	1.10
DH5	Ant1	2480	2.90	3.75	77.33	1.12
2DH5	Ant1	2402	2.91	3.75	77.60	1.10
2DH5	Ant1	2441	2.91	3.75	77.60	1.10
2DH5	Ant1	2480	2.91	3.75	77.60	1.10
3DH5	Ant1	2402	2.91	3.75	77.60	1.10
3DH5	Ant1	2441	2.92	3.75	77.87	1.09
3DH5	Ant1	2480	2.91	3.75	77.60	1.10

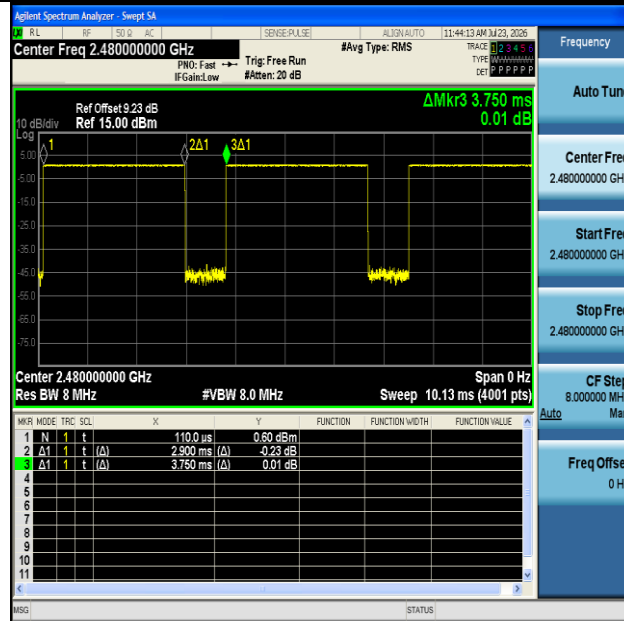
Note: offset(dB) = cable loss(dB) + attenuator factor(dB)



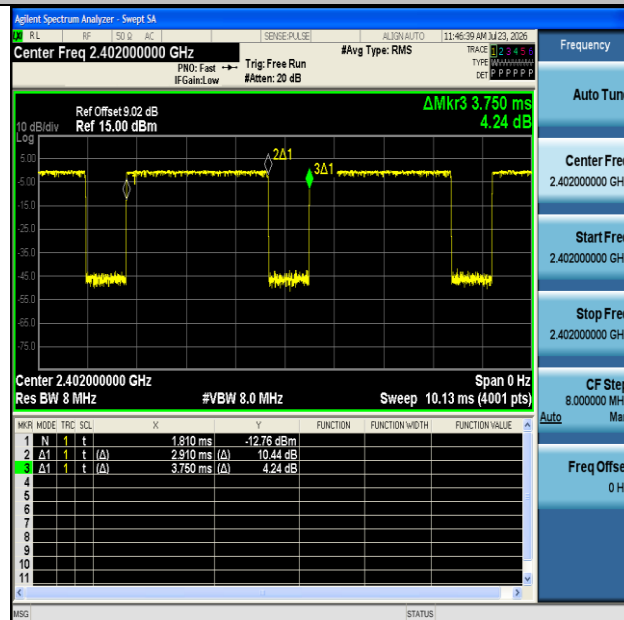


Test Graphs



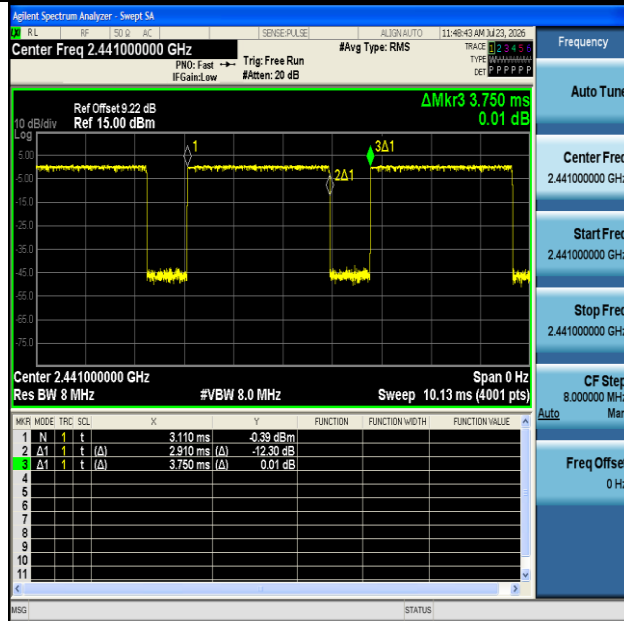


NTNV-DH5-Ant1-2480

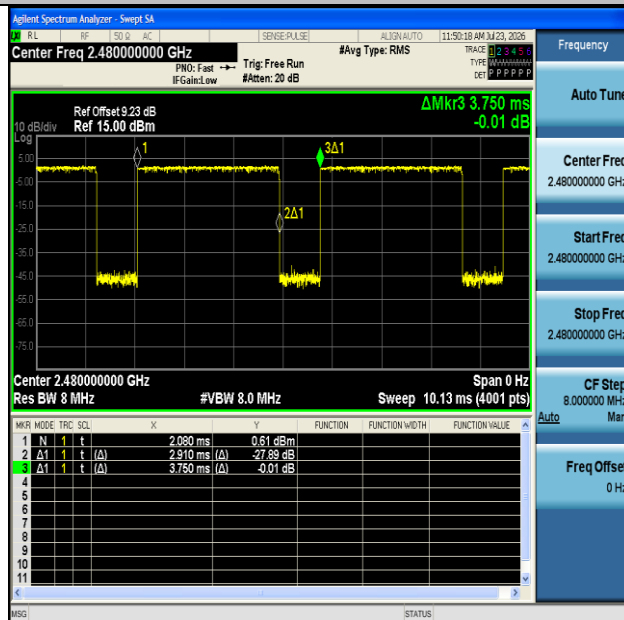


NTNV-2DH5-Ant1-2402



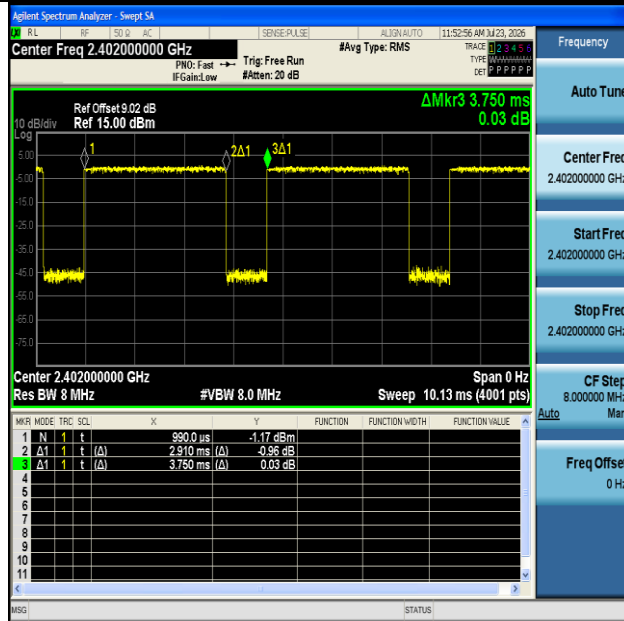


NTNV-2DH5-Ant1-2441

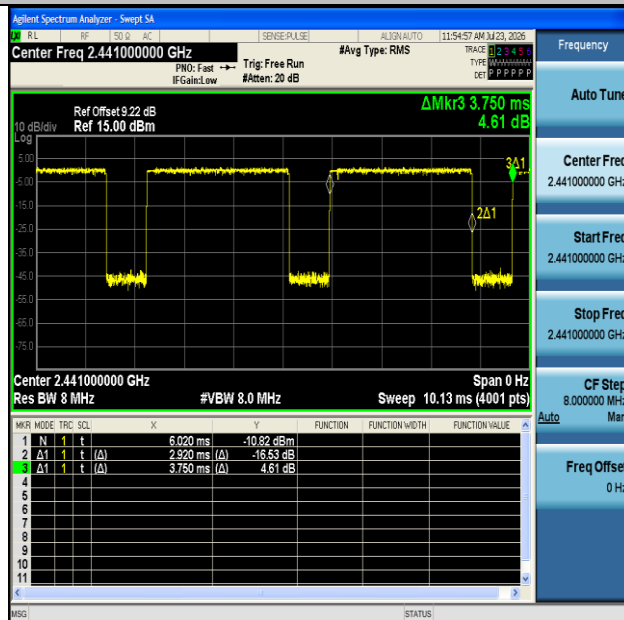


NTNV-2DH5-Ant1-2480



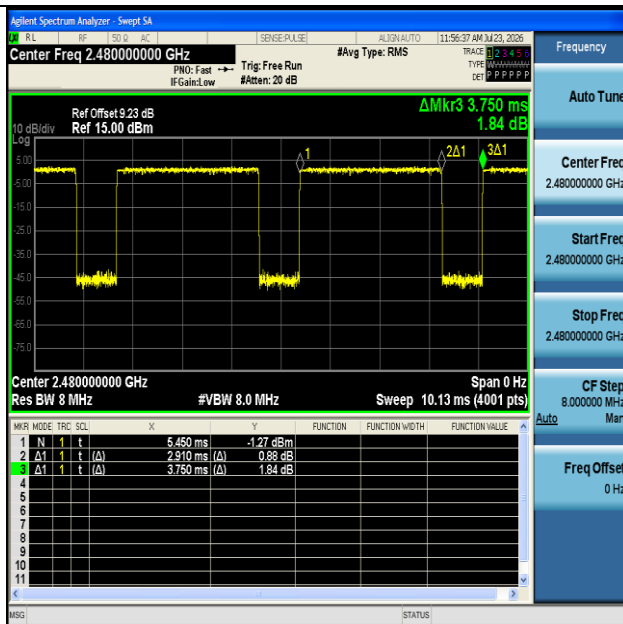


NTNV-3DH5-Ant1-2402



NTNV-3DH5-Ant1-2441





NTNV-3DH5-Ant1-2480

