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

Product Name: Wireless Speaker

Trade Mark: Altec lansing

Test Model: IMW259

FCC ID: 2AL9B-IMW259

Environmental Conditions

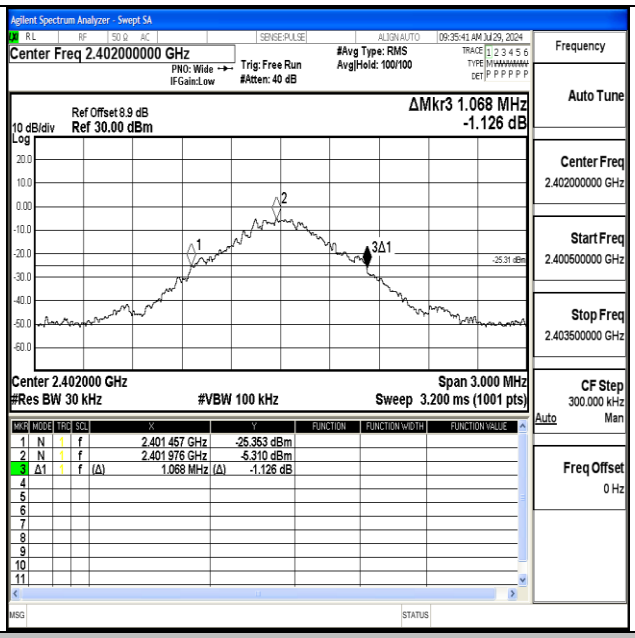
Temperature:	23.8℃
Relative Humidity:	58%
ATM Pressure:	100.0 kPa
Test Engineer:	Allen Lai
Supervised by:	Hugo Chen
NOTE	N/A

Appendix A: 20dB Emission Bandwidth

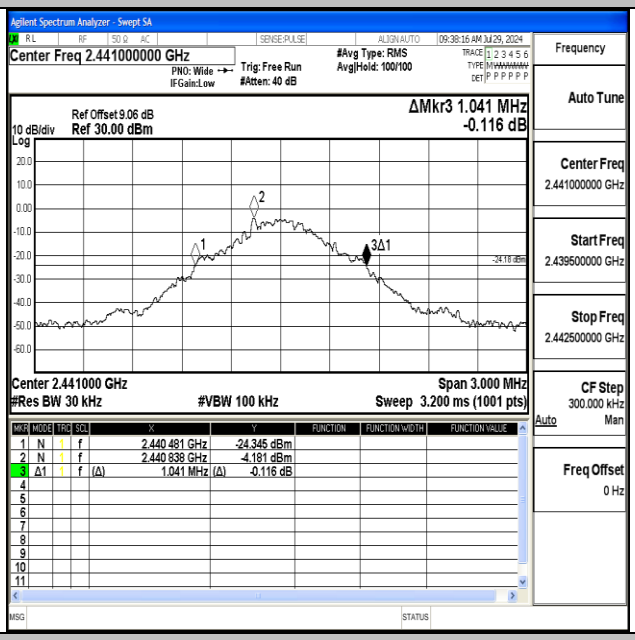
Test Result

TestMode	Antenna	Frequency[MHz]	20db EBW[MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
DH5	Ant1	2402	1.068	2401.457	2402.525	---	---
DH5	Ant1	2441	1.041	2440.481	2441.522	---	---
DH5	Ant1	2480	1.041	2479.484	2480.525	---	---
2DH5	Ant1	2402	1.356	2401.325	2402.681	---	---
2DH5	Ant1	2441	1.338	2440.331	2441.669	---	---
2DH5	Ant1	2480	1.338	2479.334	2480.672	---	---

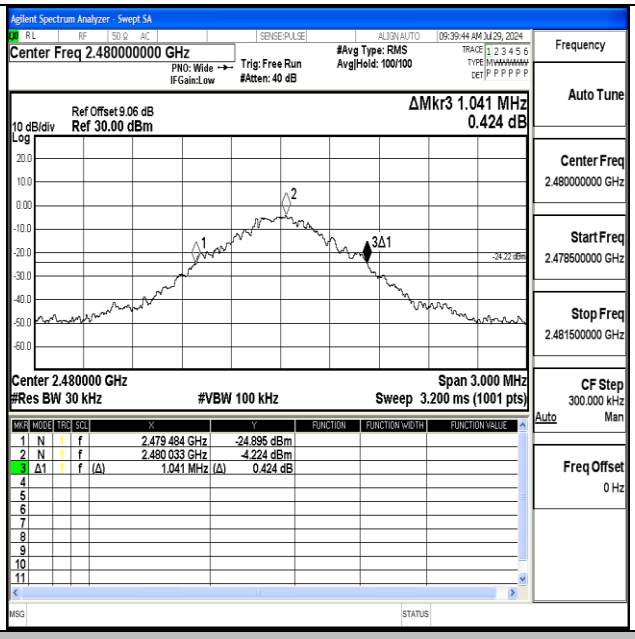
Test Graphs



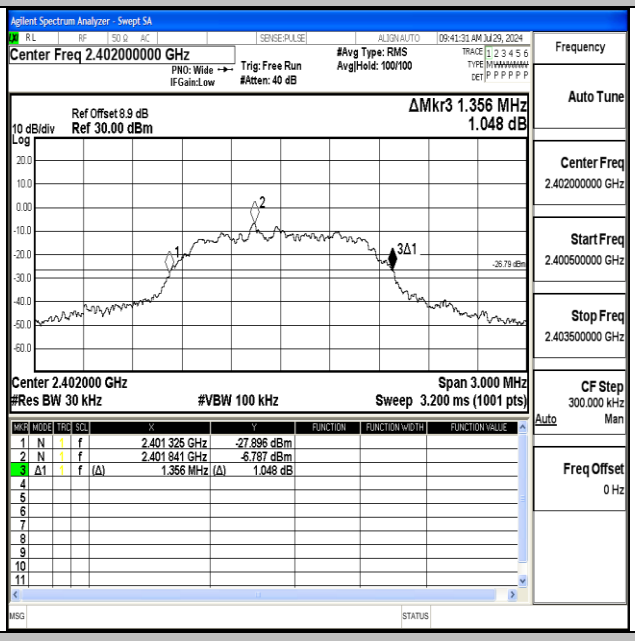
DH5-Ant1-2402



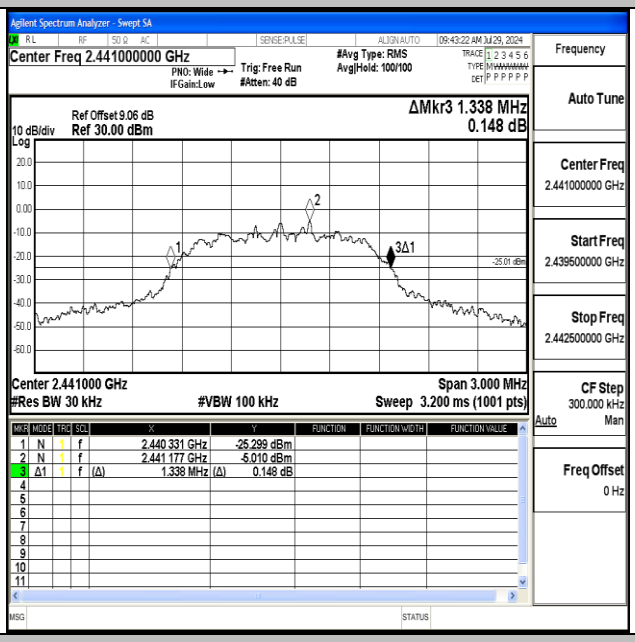
DH5-Ant1-2441



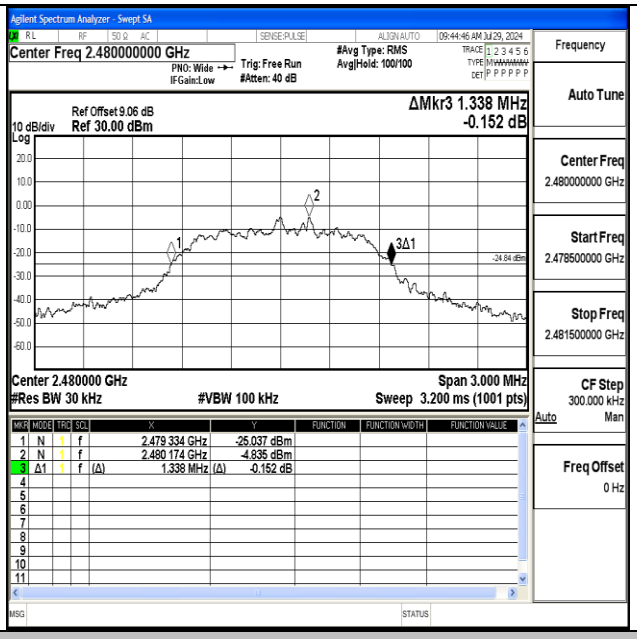
DH5-Ant1-2480



2DH5-Ant1-2402



2DH5-Ant1-2441



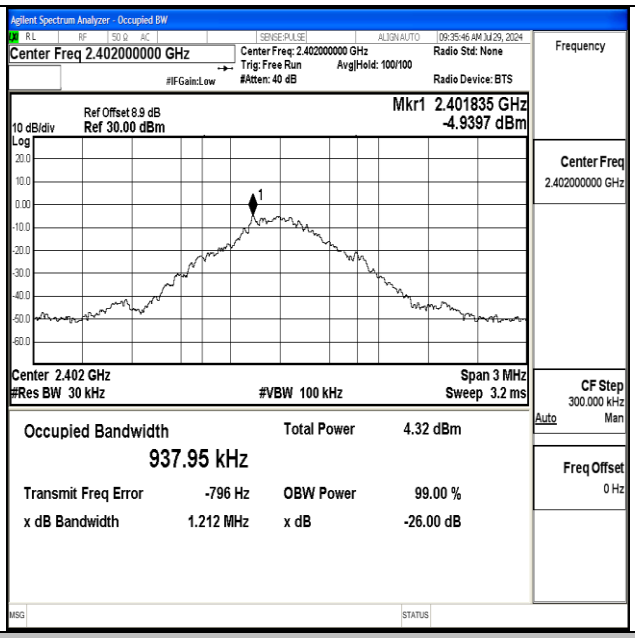
2DH5-Ant1-2480

Appendix B: Occupied Channel Bandwidth

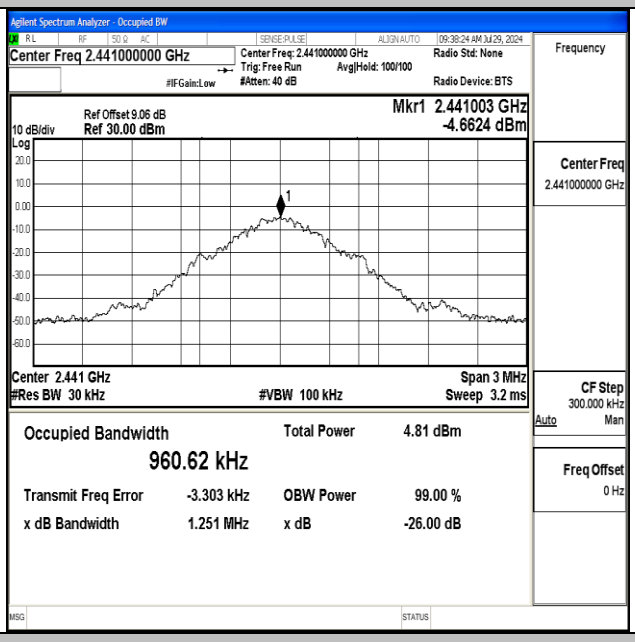
Test Result

TestMode	Antenna	Frequency[MHz]	OCB [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
DH5	Ant1	2402	0.93795	2401.5302	2402.4682	---	---
DH5	Ant1	2441	0.96062	2440.5164	2441.4770	---	---
DH5	Ant1	2480	0.95748	2479.5230	2480.4805	---	---
2DH5	Ant1	2402	1.2131	2401.4045	2402.6176	---	---
2DH5	Ant1	2441	1.2324	2440.3941	2441.6265	---	---
2DH5	Ant1	2480	1.2548	2479.3808	2480.6356	---	---

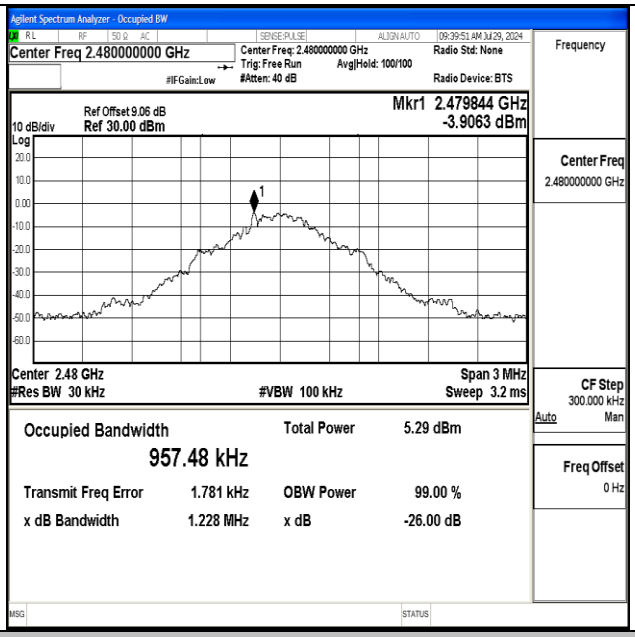
Test Graphs



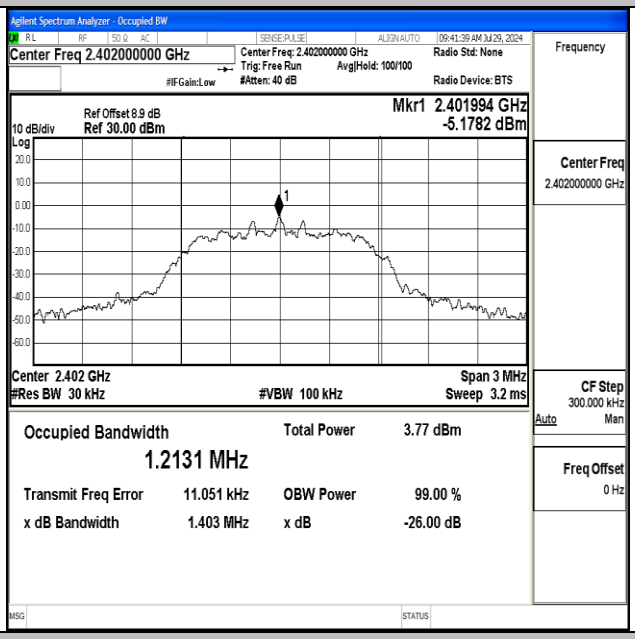
DH5-Ant1-2402



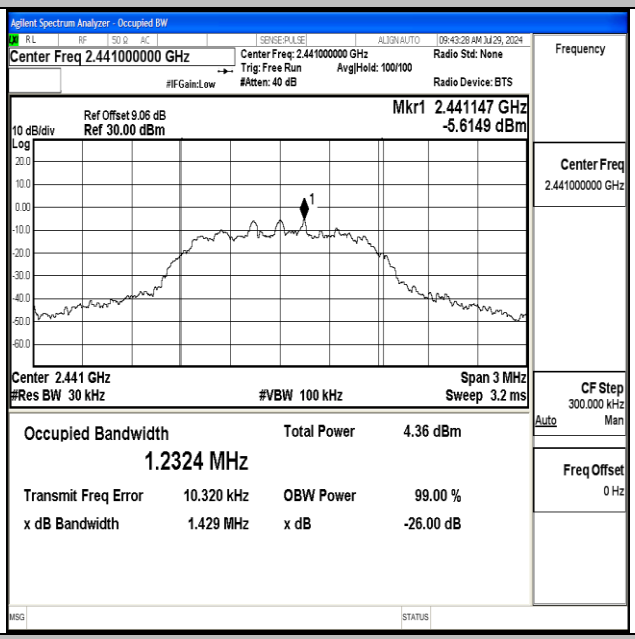
DH5-Ant1-2441



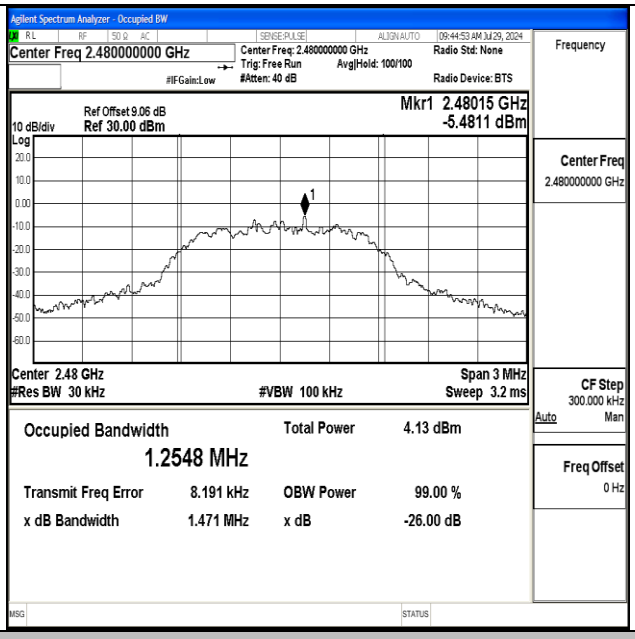
DH5-Ant1-2480



2DH5-Ant1-2402



2DH5-Ant1-2441



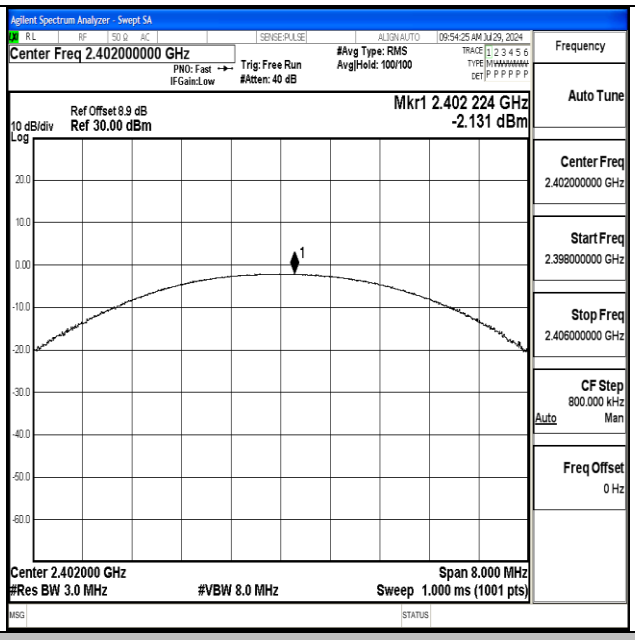
2DH5-Ant1-2480

Appendix C: Maximum peak conducted output power

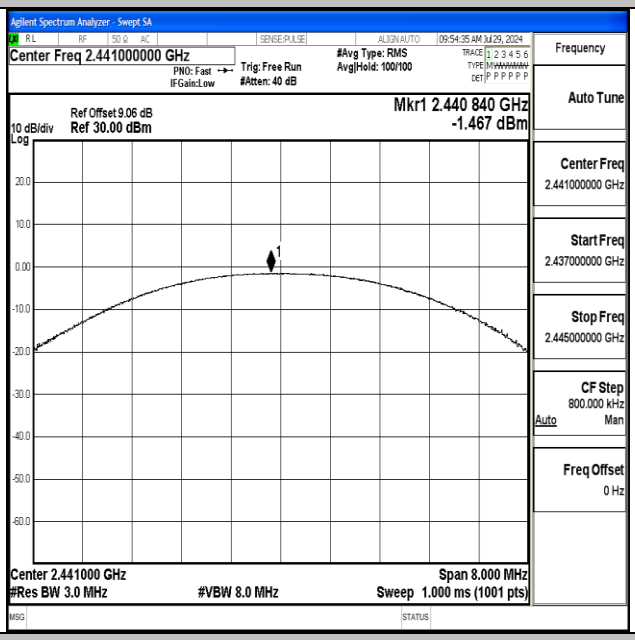
Test Result

Test Mode	Antenna	Frequency[MHz]	Conducted Peak Power[dBm]	Conducted Limit[dBm]	Verdict
DH5	Ant1	2402	-2.13	≤30	PASS
DH5	Ant1	2441	-1.47	≤30	PASS
DH5	Ant1	2480	-1.34	≤30	PASS
2DH5	Ant1	2402	-1.46	≤20.97	PASS
2DH5	Ant1	2441	-0.79	≤20.97	PASS
2DH5	Ant1	2480	-0.66	≤20.97	PASS

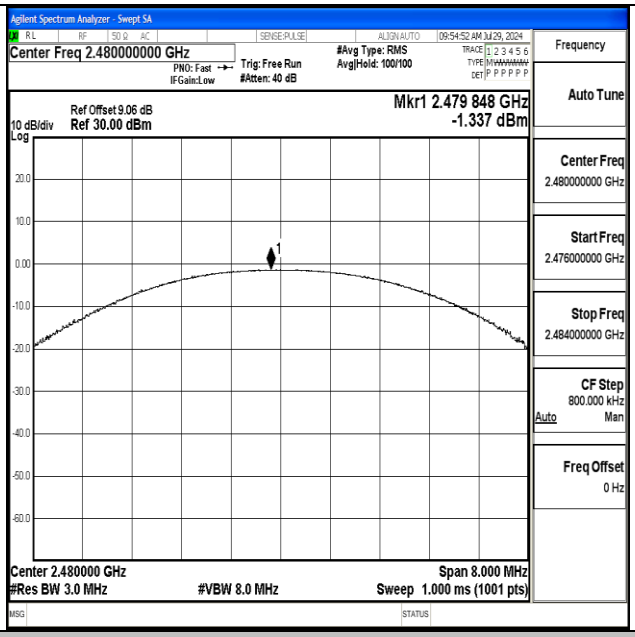
Test Graphs



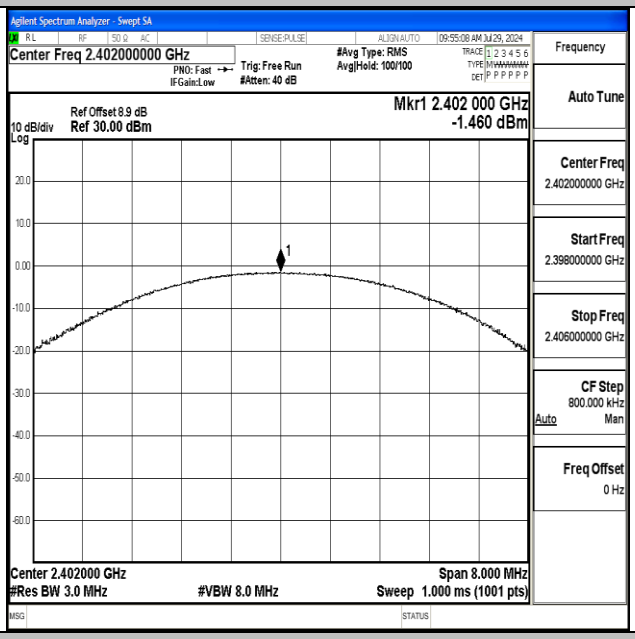
DH5-Ant1-2402-PASS



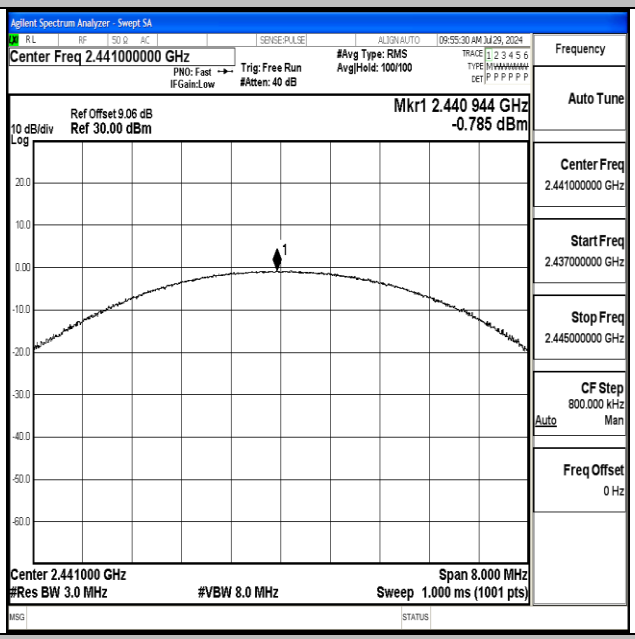
DH5-Ant1-2441-PASS



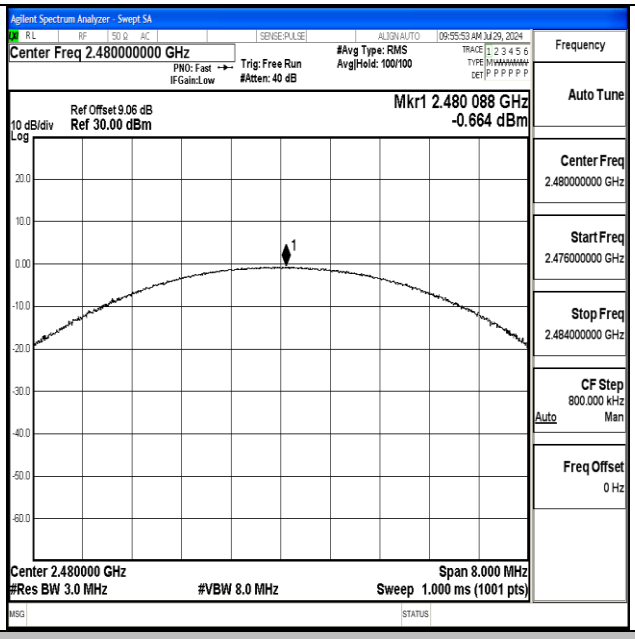
DH5-Ant1-2480-PASS



2DH5-Ant1-2402-PASS



2DH5-Ant1-2441-PASS



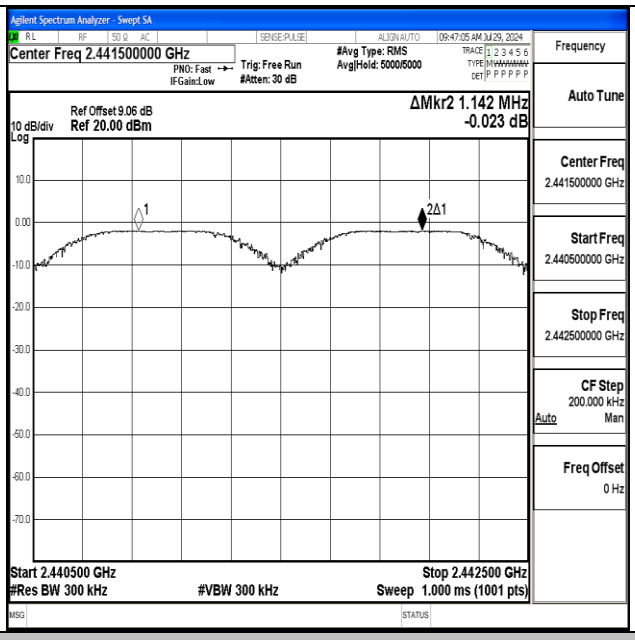
2DH5-Ant1-2480-PASS

Appendix D: Carrier frequency separation

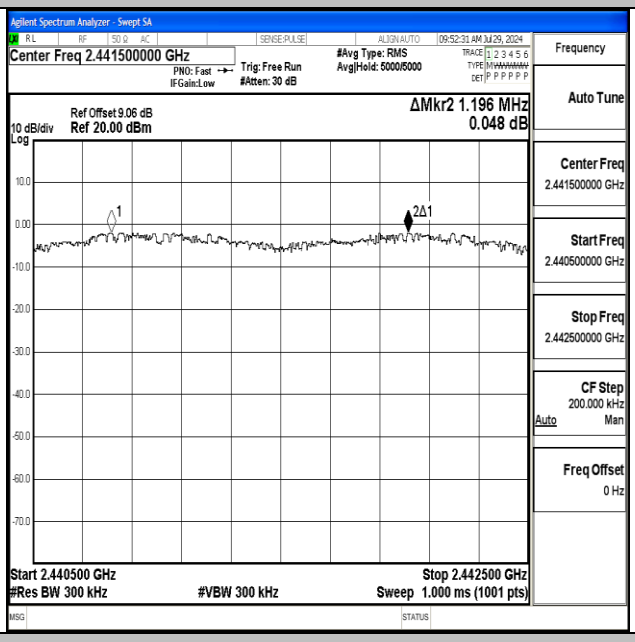
Test Result

TestMode	Antenna	Frequency[MHz]	Result[MHz]	Limit[MHz]	Verdict
DH5	Ant1	Hop	1.142	≥1.068	PASS
2DH5	Ant1	Hop	1.196	≥0.904	PASS

Test Graphs



DH5-Ant1-Hop-PASS



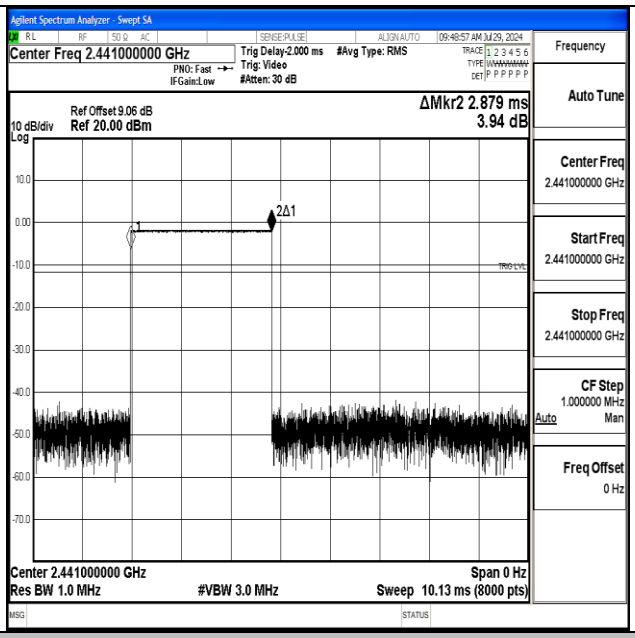
2DH5-Ant1-Hop-PASS

Appendix E: Time of occupancy

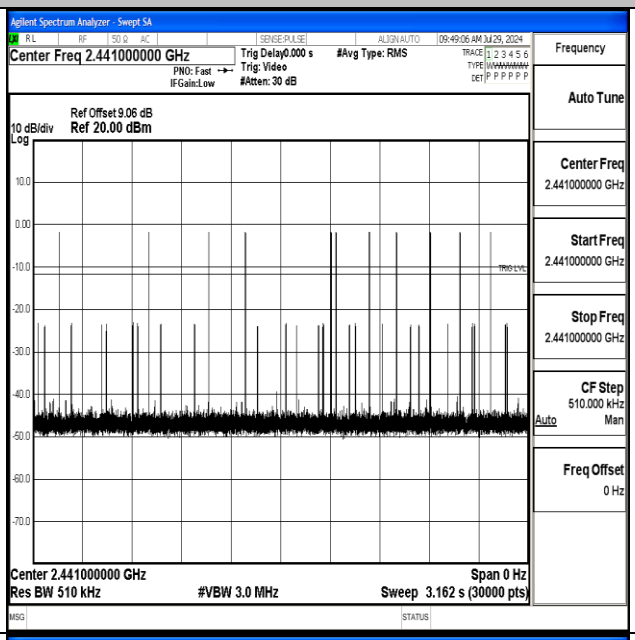
Test Result

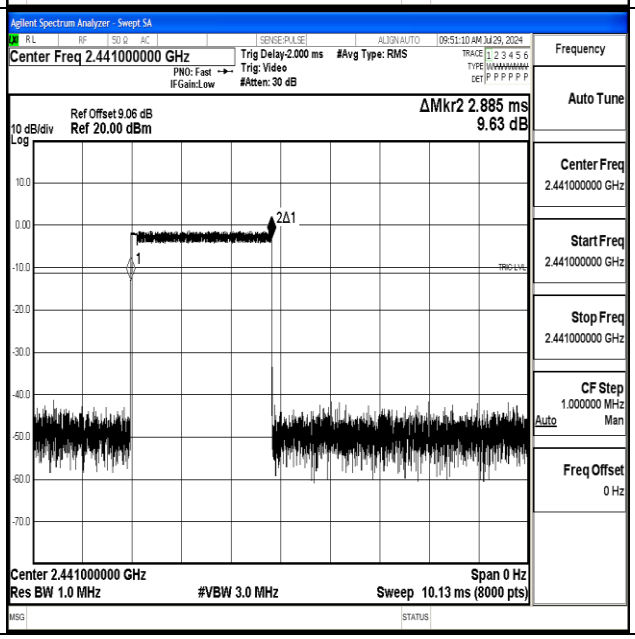
TestMode	Antenna	Frequency[MHz]	BurstWidth [ms]	TotalHops [Num]	Result[s]	Limit[s]	Verdict
DH5	Ant1	Hop	2.879	120	0.345	≤0.4	PASS
2DH5	Ant1	Hop	2.885	80	0.231	≤0.4	PASS

Test Graphs

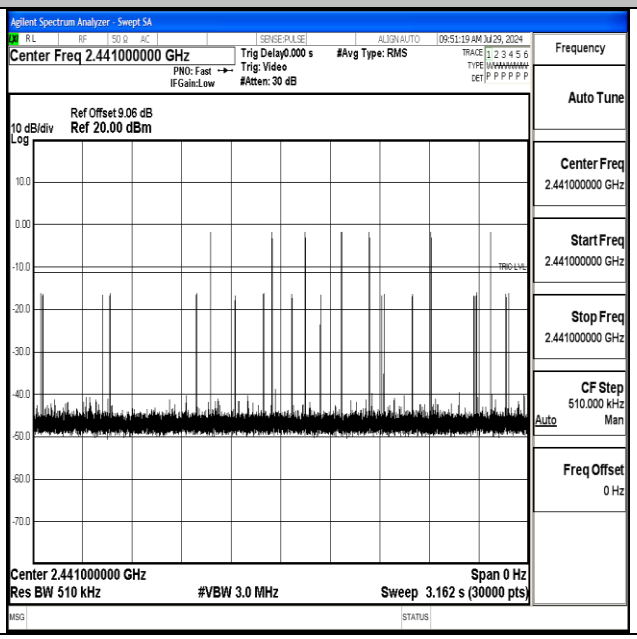


DH5-Ant1-Hop-PASS





2DH5-Ant1-Hop-PASS

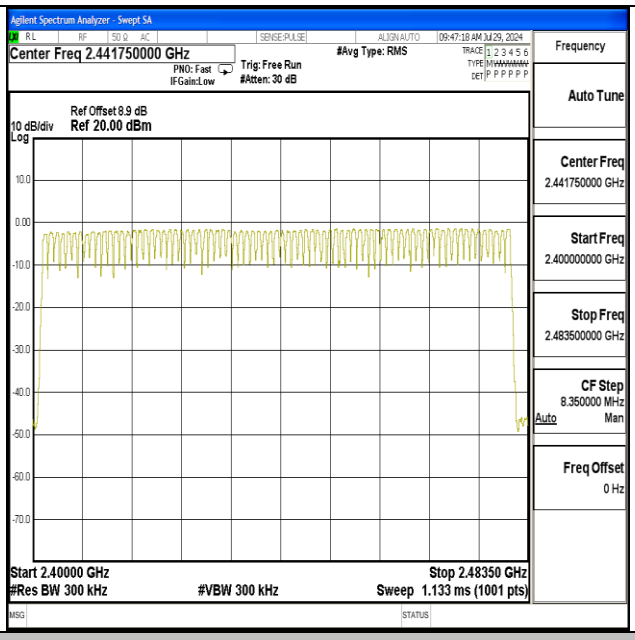


Appendix F: Number of hopping channels

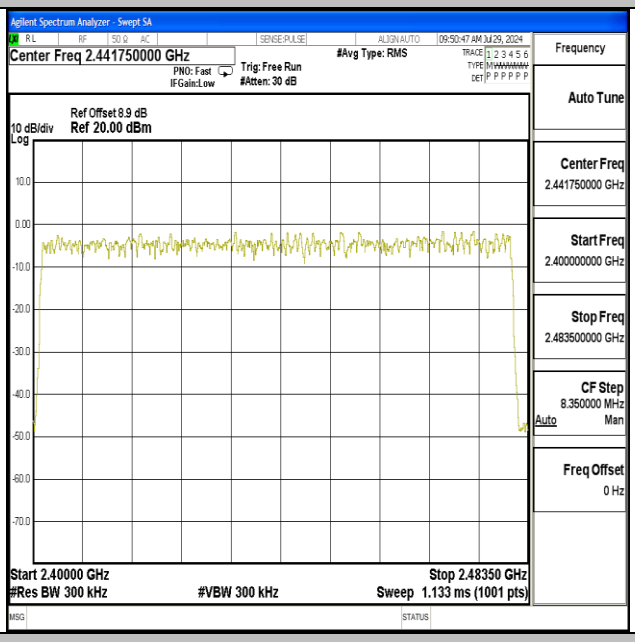
Test Result

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

Test Graphs



DH5-Ant1-Hop-PASS



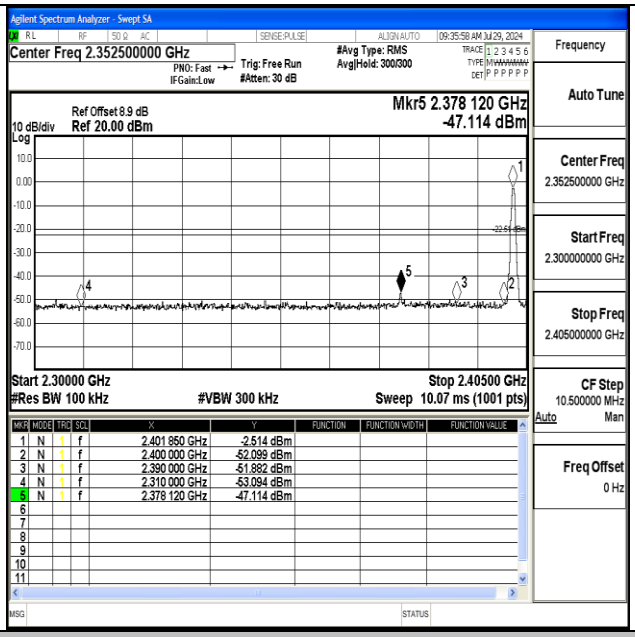
2DH5-Ant1-Hop-PASS

Appendix G: Band edge measurements

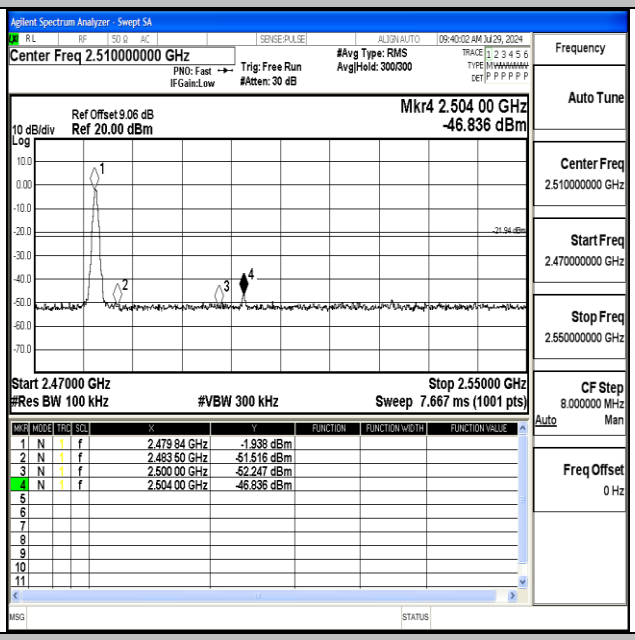
Test Result

TestMode	Antenna	ChName	Frequency[MHz]	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
DH5	Ant1	Low	2402	-2.51	-47.11	≤-22.51	PASS
DH5	Ant1	High	2480	-1.94	-46.84	≤-21.94	PASS
DH5	Ant1	Low	Hop_2402	-3.38	-48.28	≤-23.38	PASS
DH5	Ant1	High	Hop_2480	-2.01	-46.26	≤-22.01	PASS
2DH5	Ant1	Low	2402	-2.61	-48.26	≤-22.61	PASS
2DH5	Ant1	High	2480	-3.42	-47.41	≤-23.42	PASS
2DH5	Ant1	Low	Hop_2402	-7.69	-50.53	≤-27.69	PASS
2DH5	Ant1	High	Hop_2480	-5.27	-48.93	≤-25.27	PASS

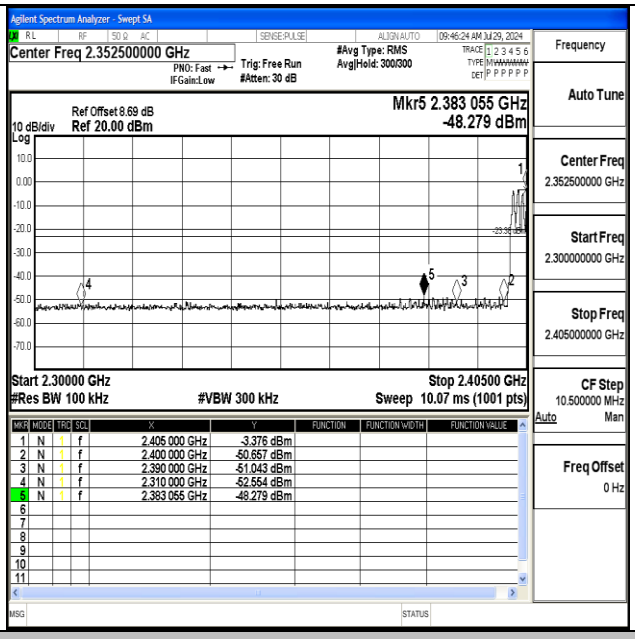
Test Graphs



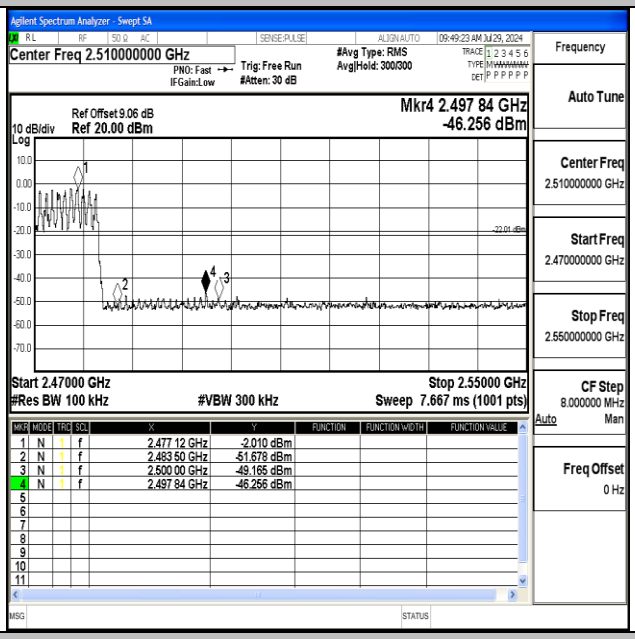
DH5-Ant1-2402-PASS



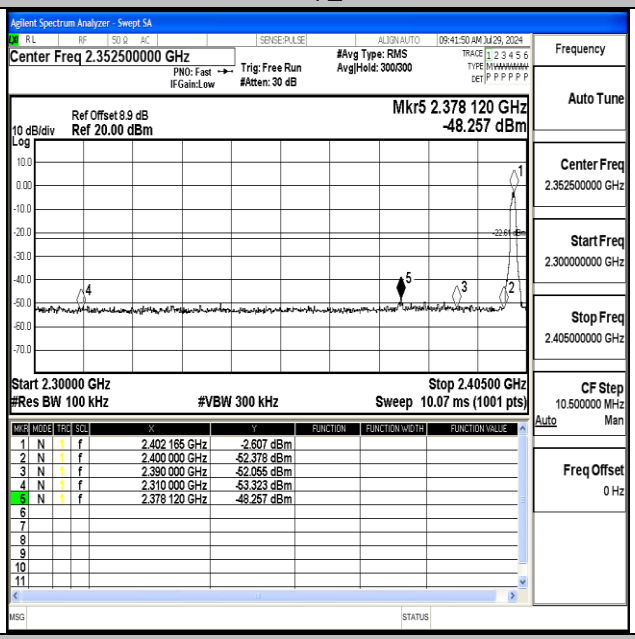
DH5-Ant1-2480-PASS



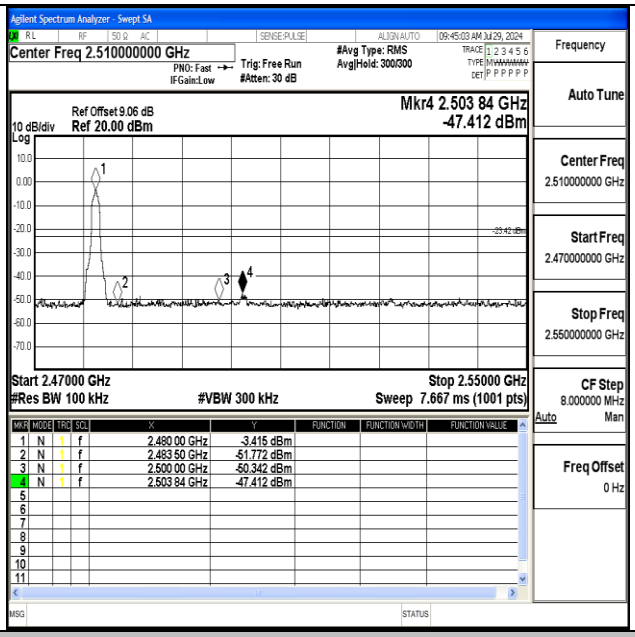
DH5-Ant1-Hop_2402-PASS



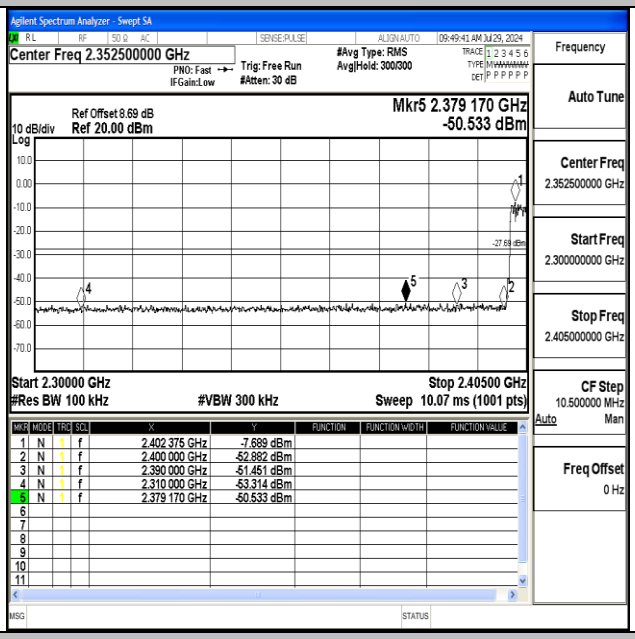
DH5-Ant1-Hop_2480-PASS



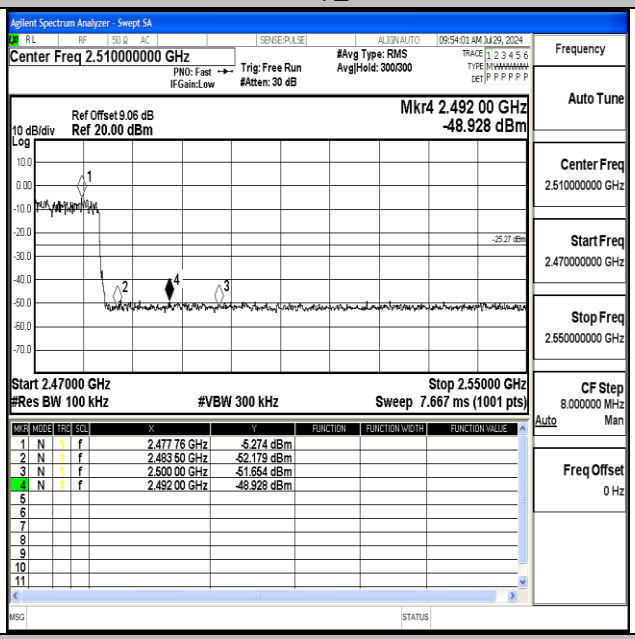
2DH5-Ant1-2402-PASS



2DH5-Ant1-2480-PASS



2DH5-Ant1-Hop_2402-PASS



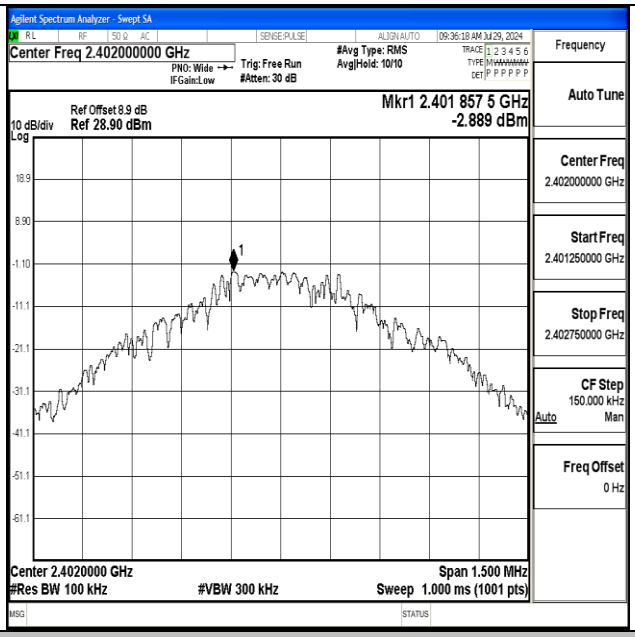
2DH5-Ant1-Hop_2480-PASS

Appendix H: Conducted Spurious Emission

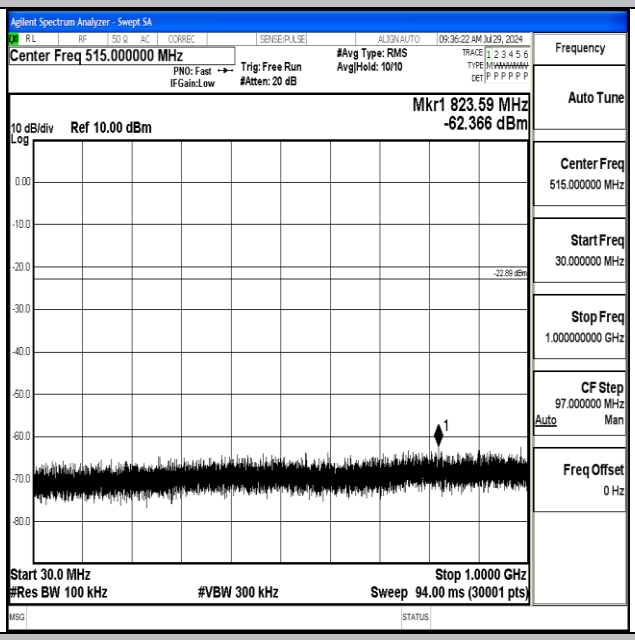
Test Result

TestMode	Antenna	Frequency[MHz]	FreqRange [MHz]	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
DH5	Ant1	2402	0~Reference	-2.89	-2.89	---	PASS
DH5	Ant1	2402	30~1000	-2.89	-62.37	≤-22.89	PASS
DH5	Ant1	2402	1000~26500	-2.89	-45.22	≤-22.89	PASS
DH5	Ant1	2441	0~Reference	-2.63	-2.63	---	PASS
DH5	Ant1	2441	30~1000	-2.63	-62.32	≤-22.63	PASS
DH5	Ant1	2441	1000~26500	-2.63	-42.6	≤-22.63	PASS
DH5	Ant1	2480	0~Reference	-2.42	-2.42	---	PASS
DH5	Ant1	2480	30~1000	-2.42	-62.52	≤-22.42	PASS
DH5	Ant1	2480	1000~26500	-2.42	-44.06	≤-22.42	PASS
2DH5	Ant1	2402	0~Reference	-3.55	-3.55	---	PASS
2DH5	Ant1	2402	30~1000	-3.55	-61.69	≤-23.55	PASS
2DH5	Ant1	2402	1000~26500	-3.55	-46.29	≤-23.55	PASS
2DH5	Ant1	2441	0~Reference	-6.10	-6.10	---	PASS
2DH5	Ant1	2441	30~1000	-6.10	-62.44	≤-26.1	PASS
2DH5	Ant1	2441	1000~26500	-6.10	-45.47	≤-26.1	PASS
2DH5	Ant1	2480	0~Reference	-5.35	-5.35	---	PASS
2DH5	Ant1	2480	30~1000	-5.35	-62.72	≤-25.35	PASS
2DH5	Ant1	2480	1000~26500	-5.35	-44.78	≤-25.35	PASS

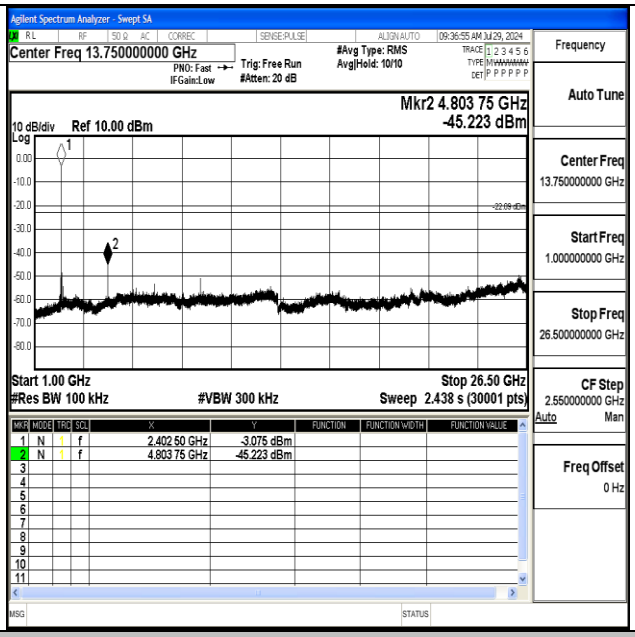
Test Graphs



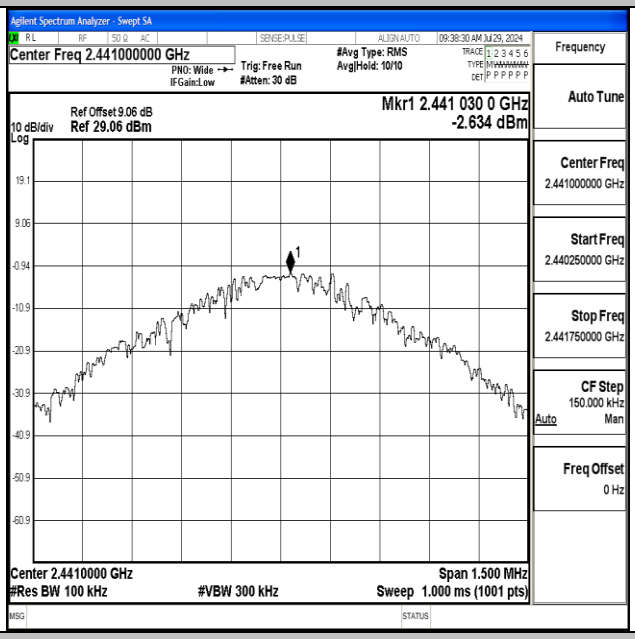
DH5-Ant1-2402-0~Reference-PASS



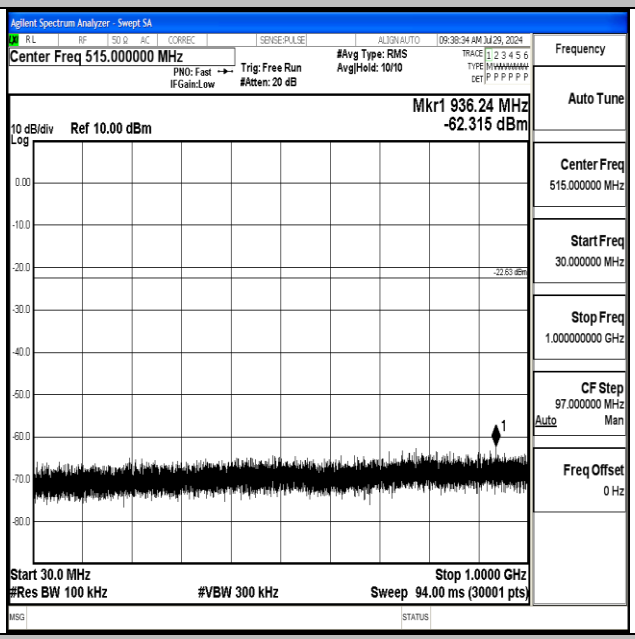
DH5-Ant1-2402-30~1000-PASS



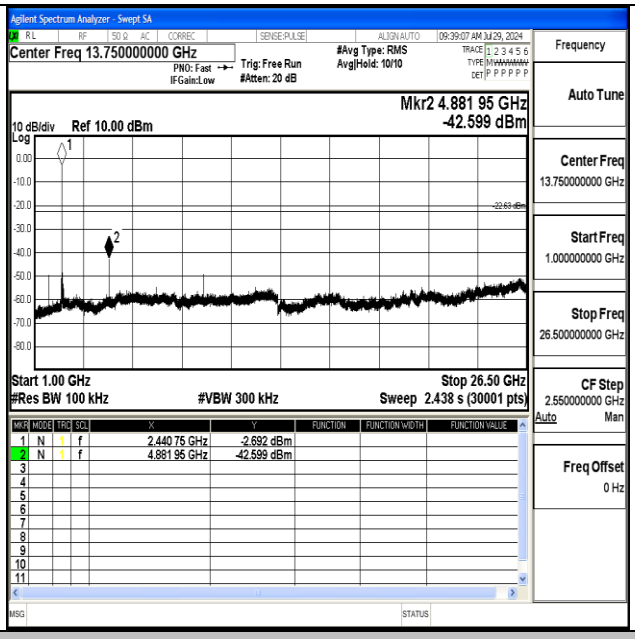
DH5-Ant1-2402-1000~26500-PASS



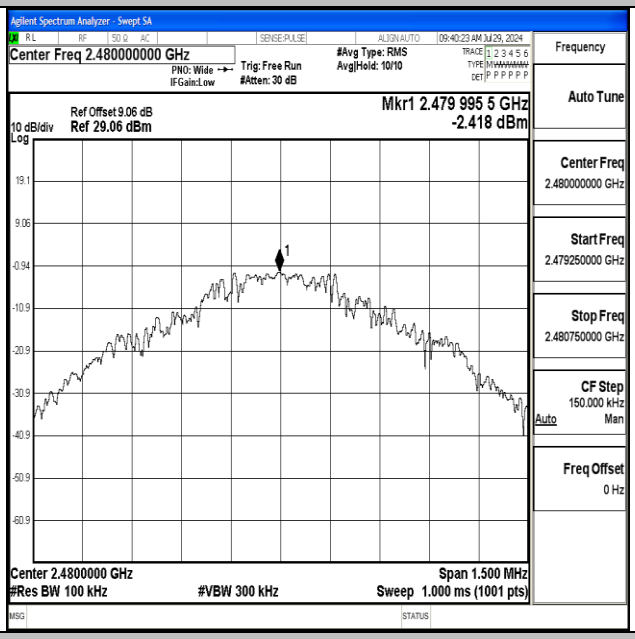
DH5-Ant1-2441-0~Reference-PASS



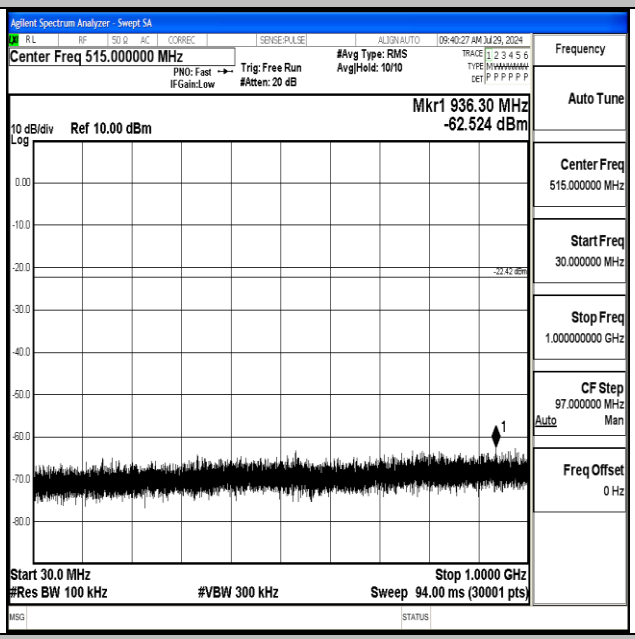
DH5-Ant1-2441-30~1000-PASS



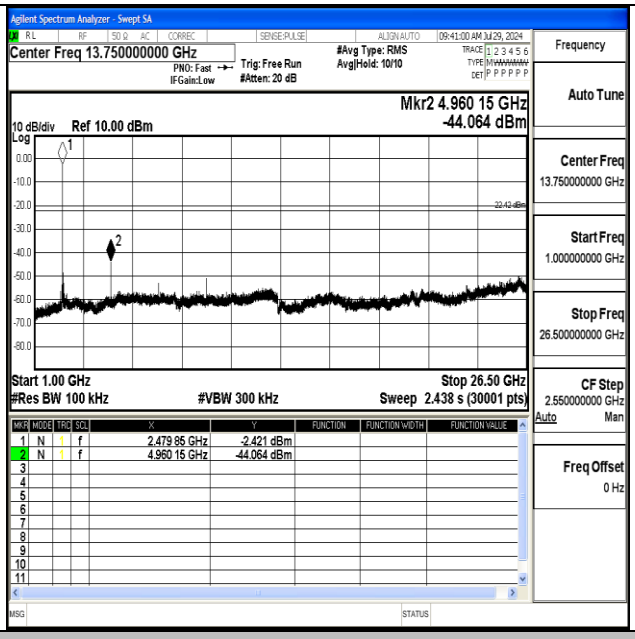
DH5-Ant1-2441-1000~26500-PASS



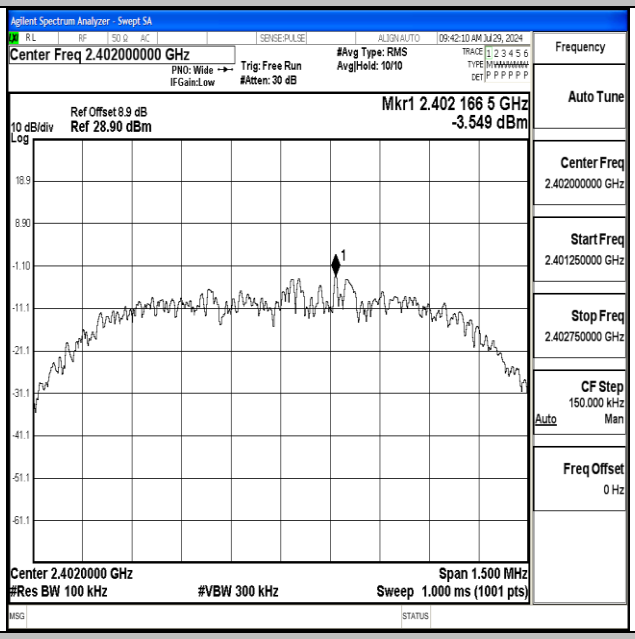
DH5-Ant1-2480-0~Reference-PASS



DH5-Ant1-2480-30~1000-PASS



DH5-Ant1-2480-1000~26500-PASS



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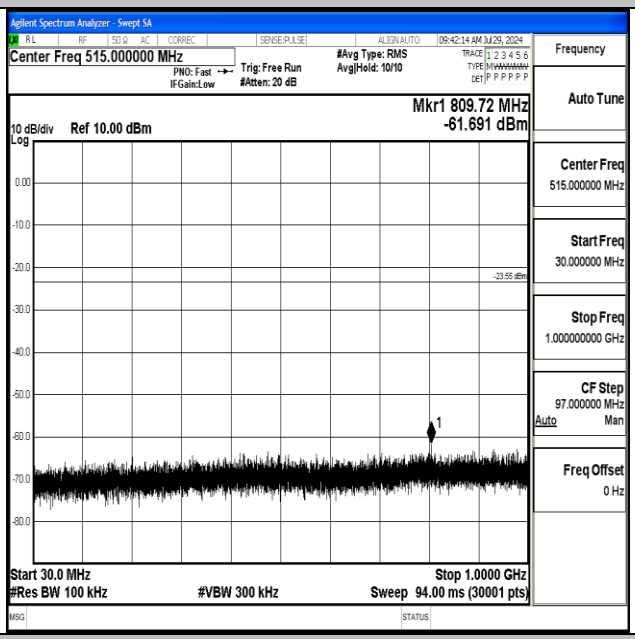
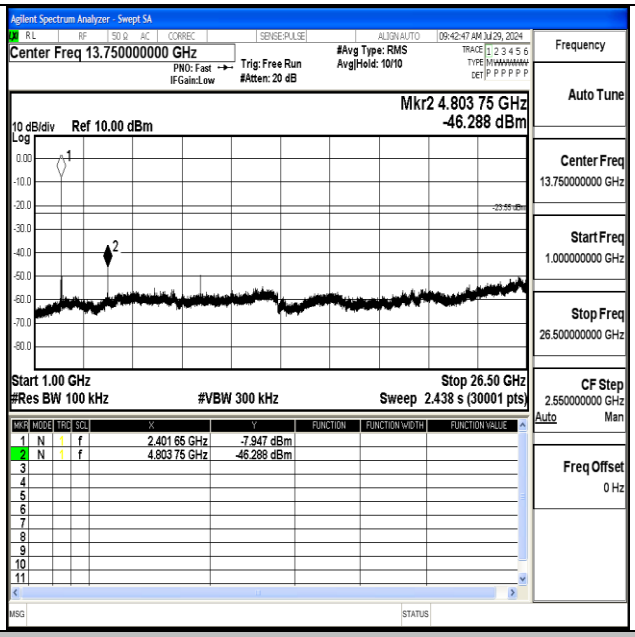
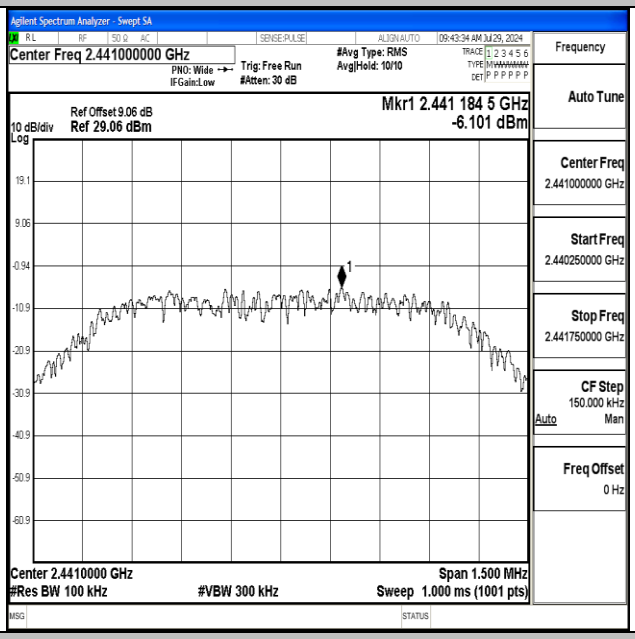


2DH5-Ant1-2402-30~1000-PASS



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



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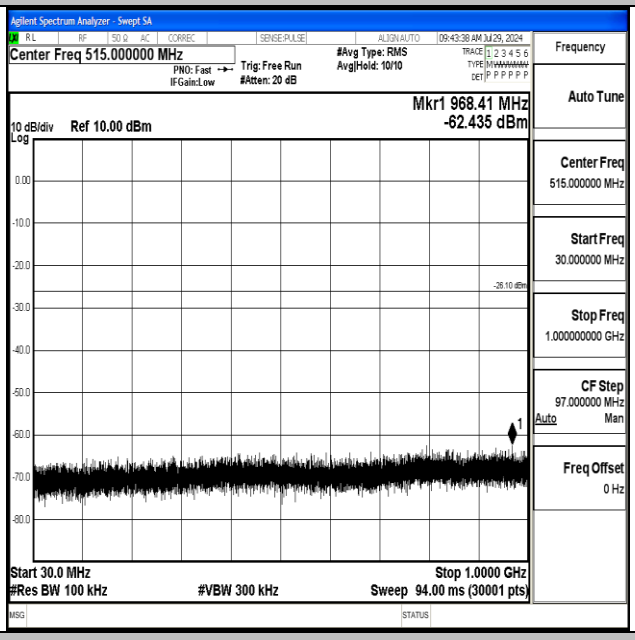

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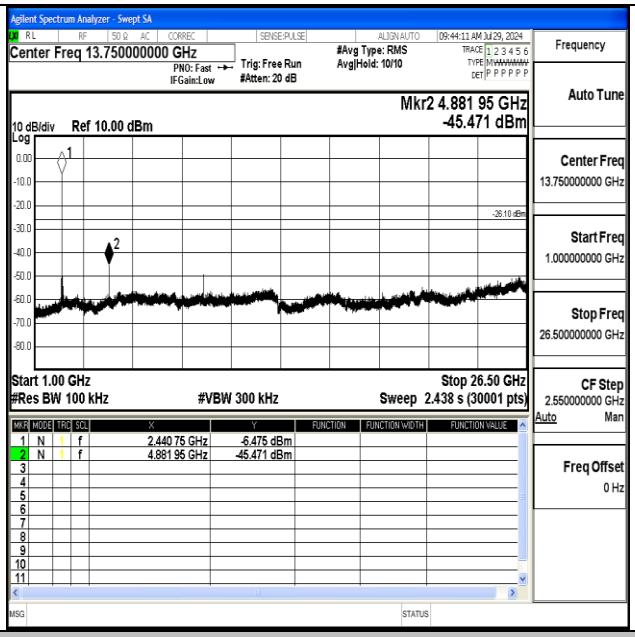

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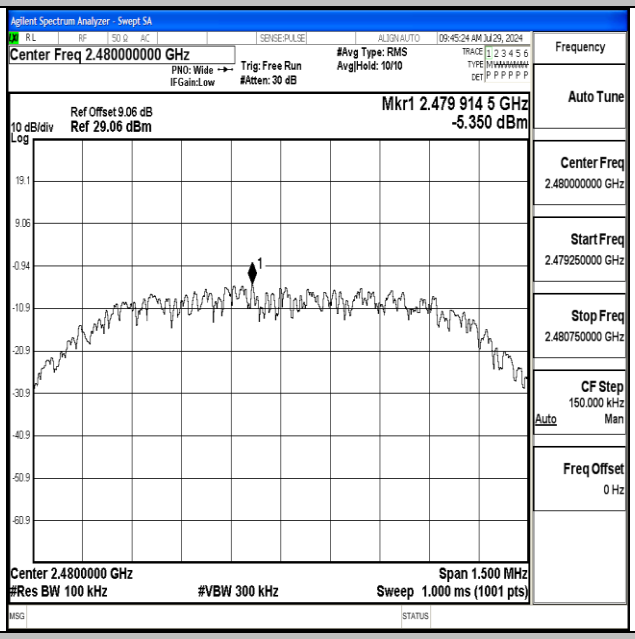
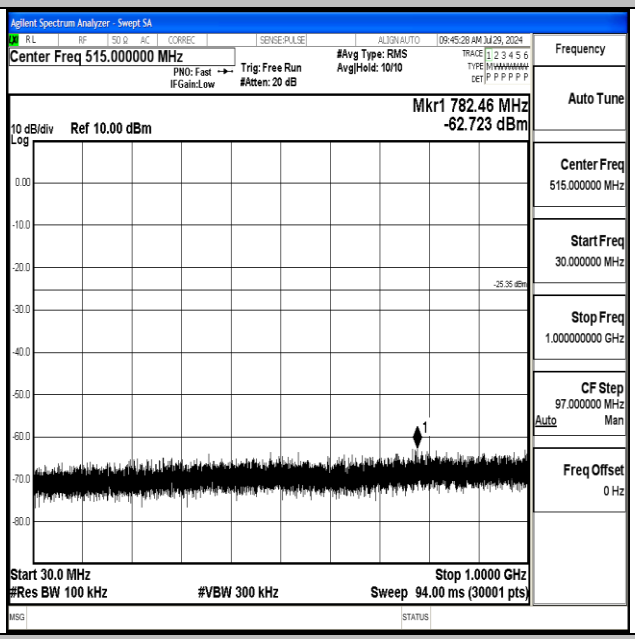
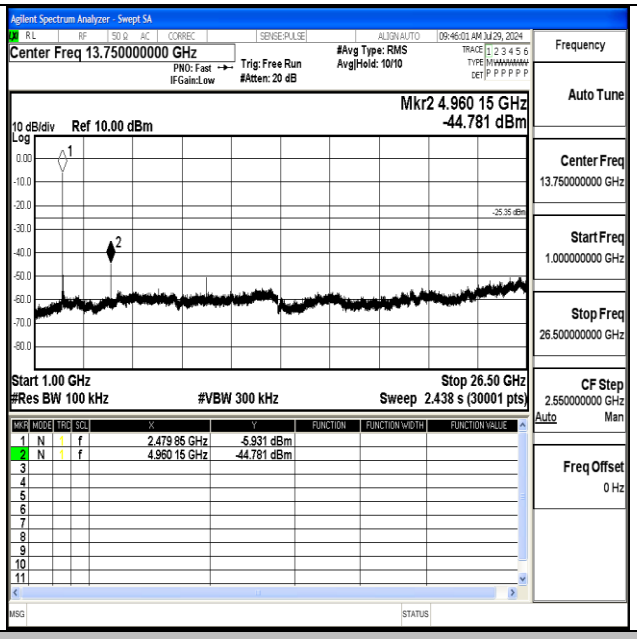


2DH5-Ant1-2480-0~Reference-PASS



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



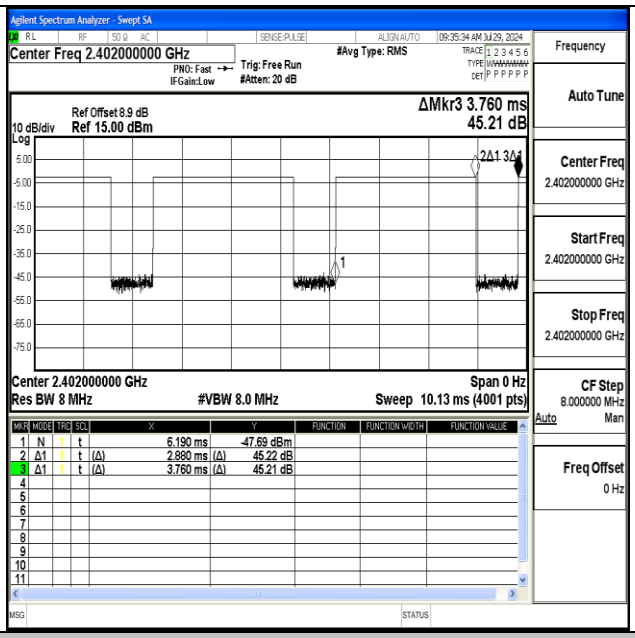
2DH5-Ant1-2480-1000~26500-PASS

Appendix I: Duty Cycle

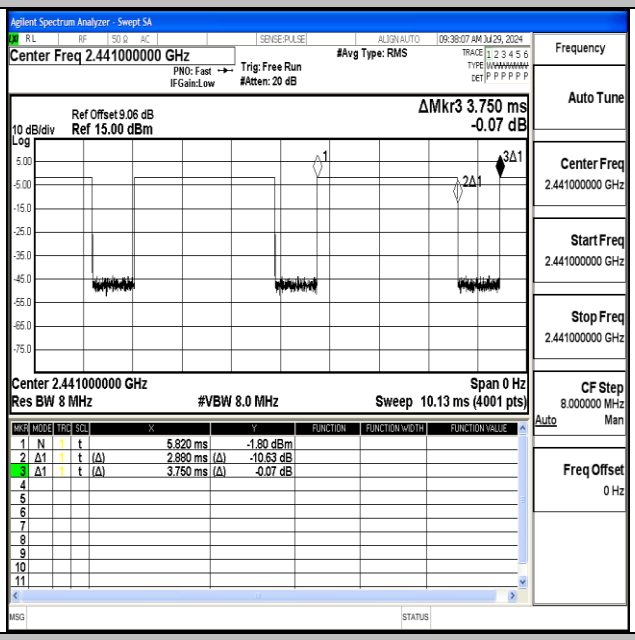
Test Result

TestMode	Antenna	Frequency[MHz]	ON Time [ms]	Period [ms]	Duty Cycle [%]	Duty Cycle Factor[dB]
DH5	Ant1	2402	2.88	3.76	76.60	1.16
DH5	Ant1	2441	2.88	3.75	76.80	1.15
DH5	Ant1	2480	2.88	3.75	76.80	1.15
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	2.88	3.74	77.01	1.13

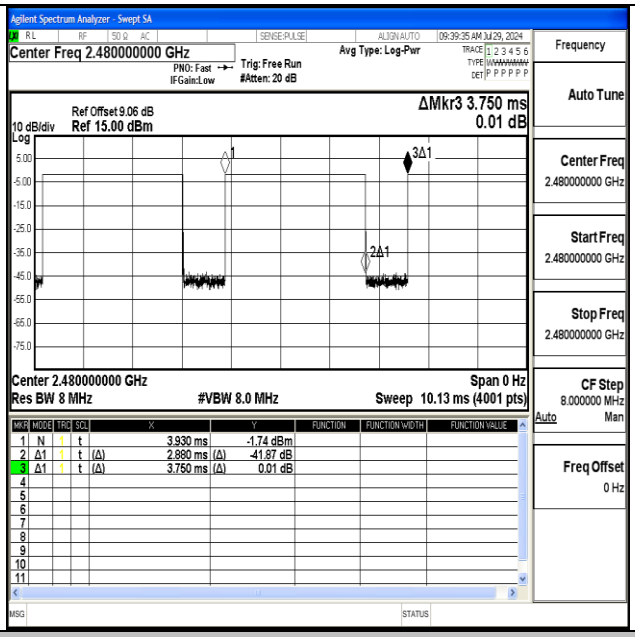
Test Graphs



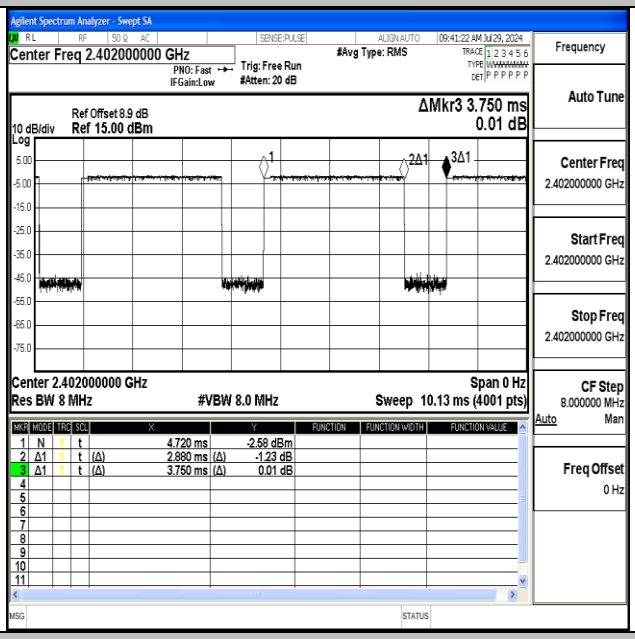
NTNV-DH5-Ant1-2402



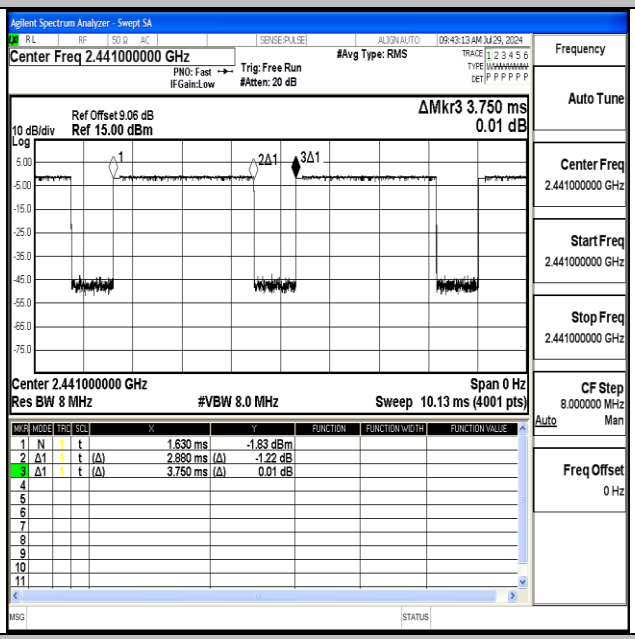
NTNV-DH5-Ant1-2441



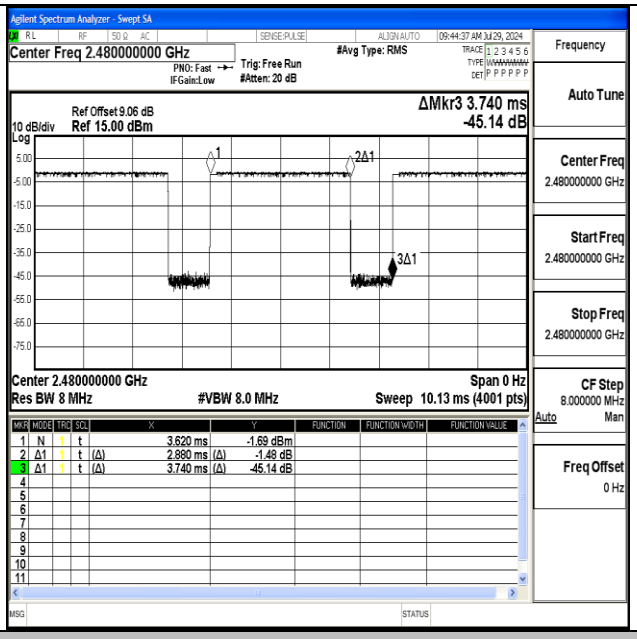
NTNV-DH5-Ant1-2480



NTNV-2DH5-Ant1-2402



NTNV-2DH5-Ant1-2441



NTNV-2DH5-Ant1-2480