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

Product Name: vacuum tube audio headphone

Trade Mark: écoute

Test Model: e01

FCC ID: 2BHTD-E01

Environmental Conditions

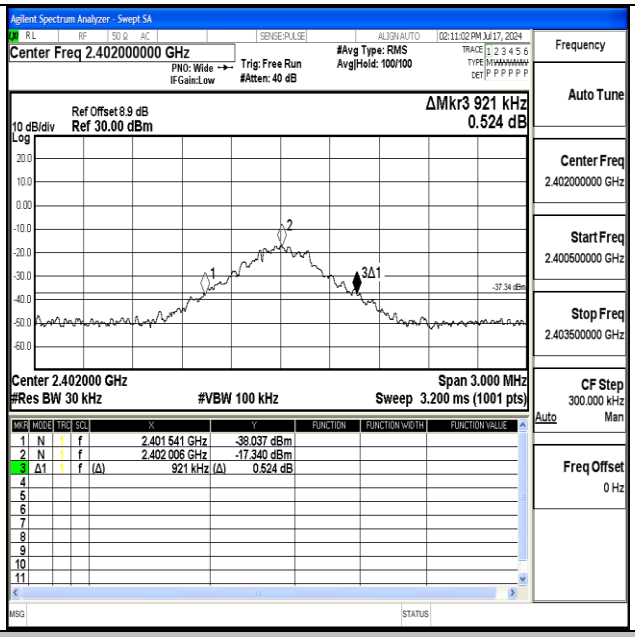
Temperature:	23.8℃
Relative Humidity:	58%
ATM Pressure:	100.0 kPa
Test Engineer:	Allen Lai
Supervised by:	Hugo Chen
NOTE	N/A

Appendix A: 20dB Emission Bandwidth

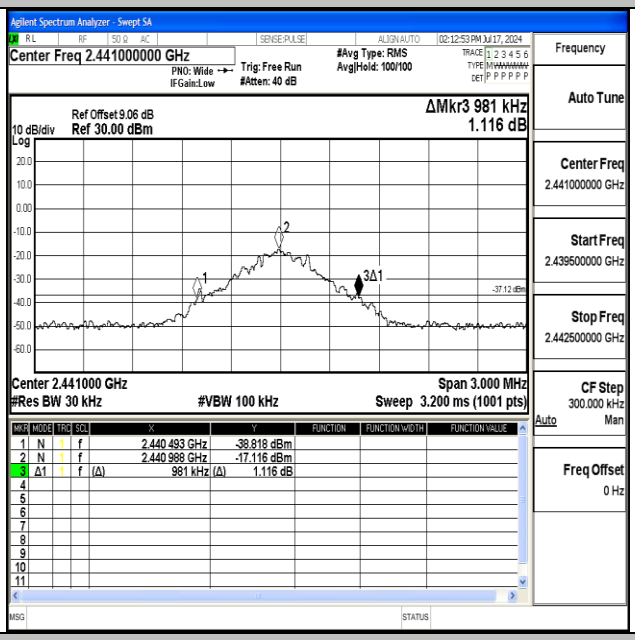
Test Result

TestMode	Antenna	Frequency[MHz]	20db EBW[MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
DH5	Ant1	2402	0.921	2401.541	2402.462	---	---
DH5	Ant1	2441	0.981	2440.493	2441.474	---	---
DH5	Ant1	2480	1.011	2479.466	2480.477	---	---
2DH5	Ant1	2402	1.227	2401.367	2402.594	---	---
2DH5	Ant1	2441	1.209	2440.388	2441.597	---	---
2DH5	Ant1	2480	1.233	2479.364	2480.597	---	---
3DH5	Ant1	2402	1.278	2401.355	2402.633	---	---
3DH5	Ant1	2441	1.191	2440.412	2441.603	---	---
3DH5	Ant1	2480	1.197	2479.400	2480.597	---	---

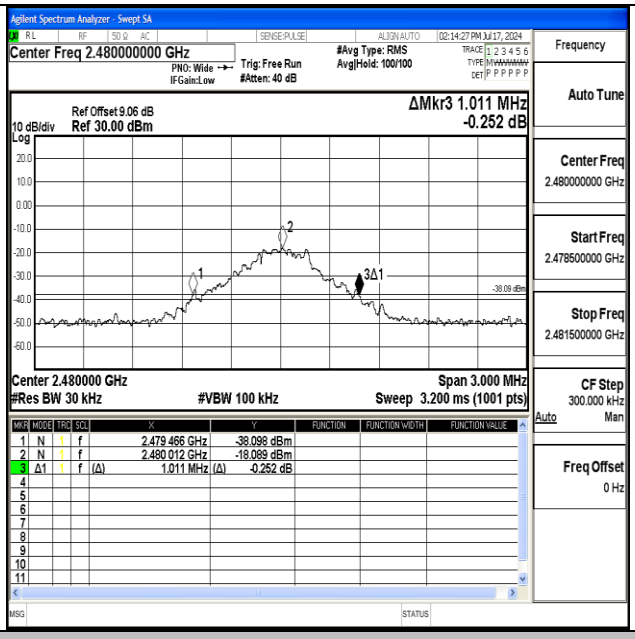
Test Graphs



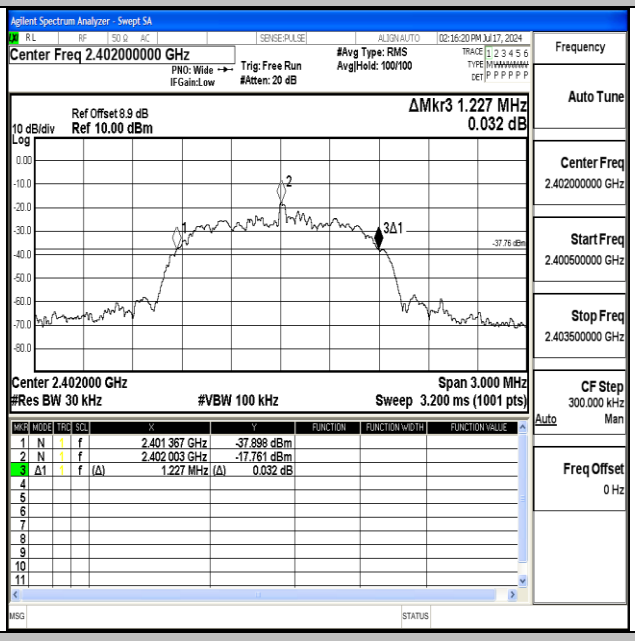
DH5-Ant1-2402



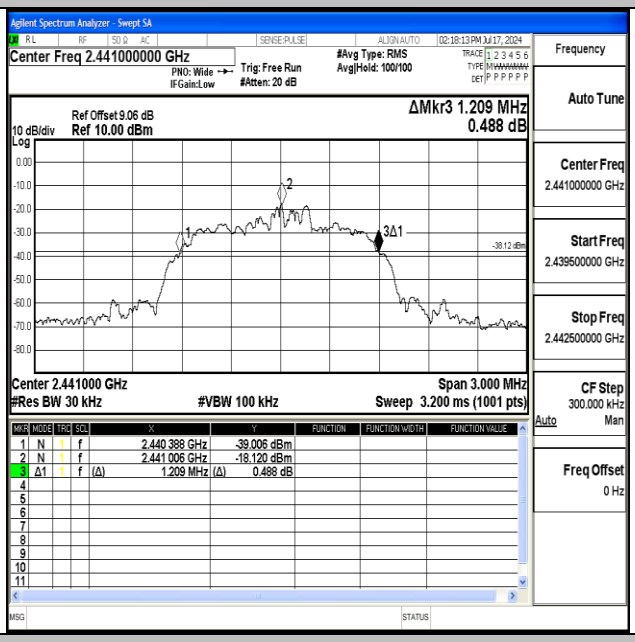
DH5-Ant1-2441



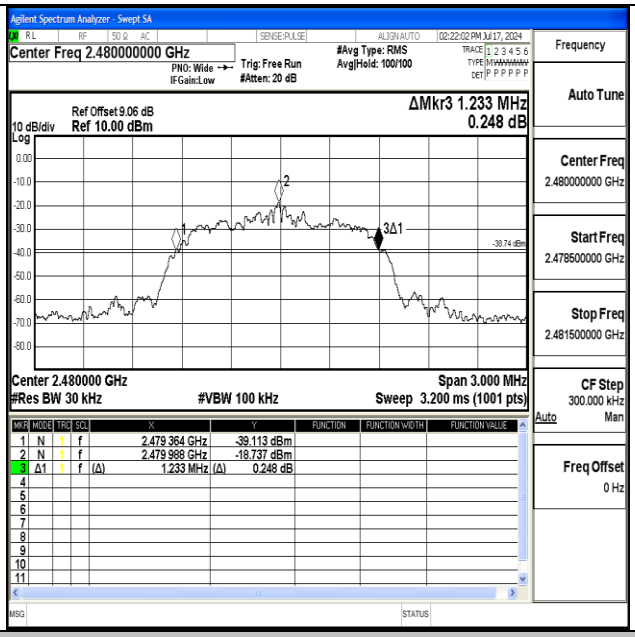
DH5-Ant1-2480



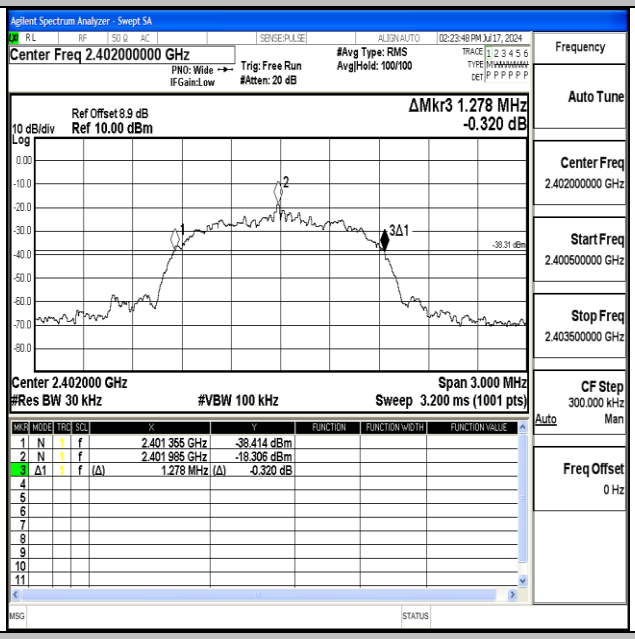
2DH5-Ant1-2402



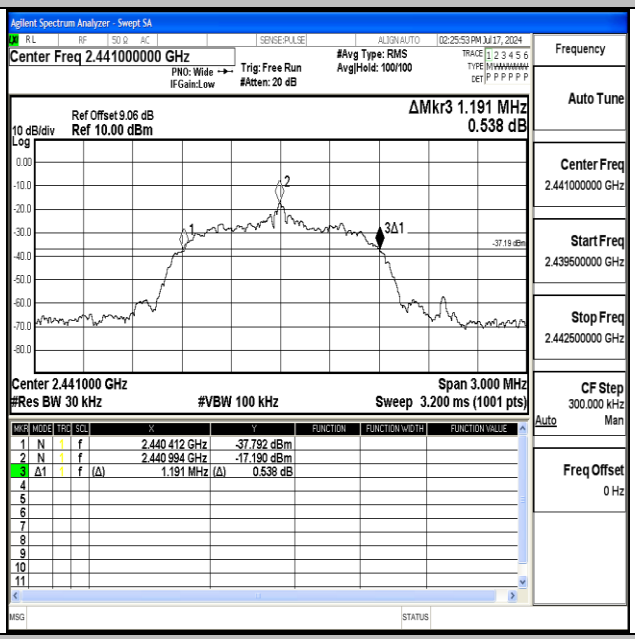
2DH5-Ant1-2441



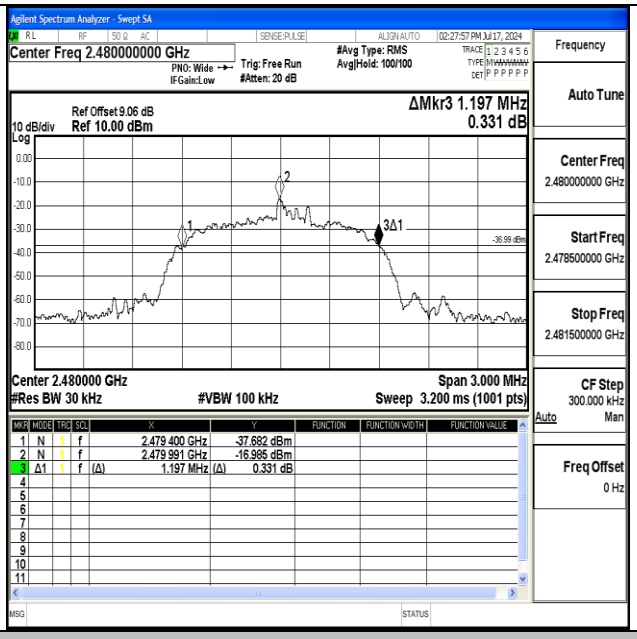
2DH5-Ant1-2480



3DH5-Ant1-2402



3DH5-Ant1-2441



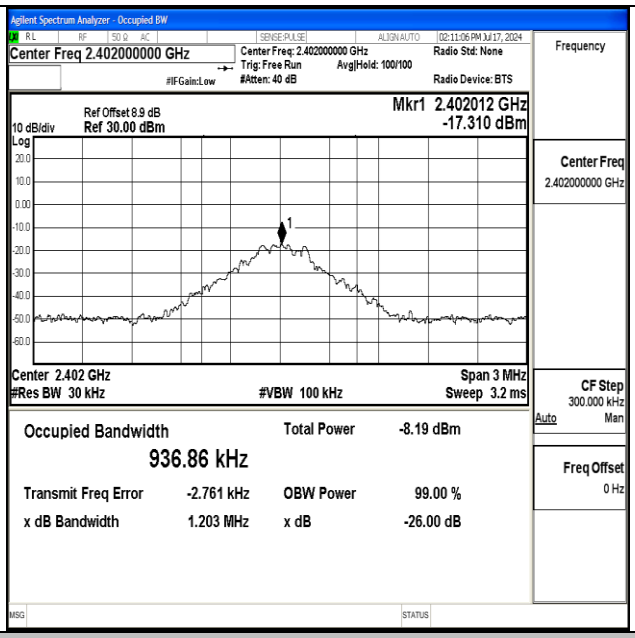
3DH5-Ant1-2480

Appendix B: Occupied Channel Bandwidth

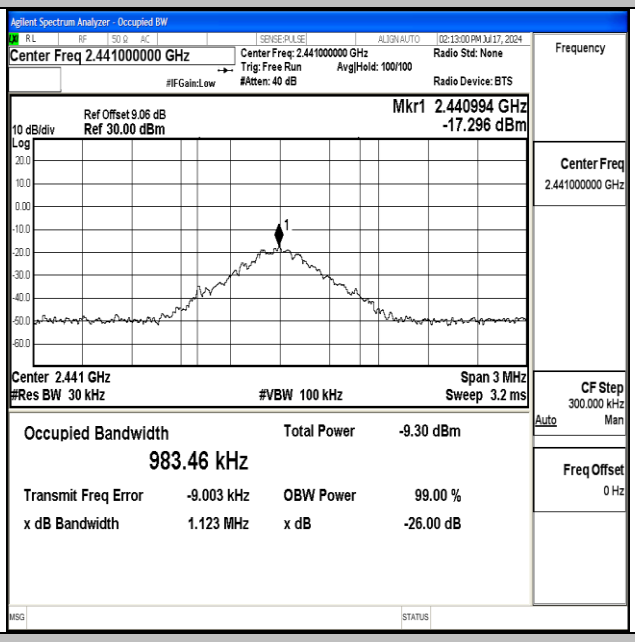
Test Result

TestMode	Antenna	Frequency[MHz]	OCB [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
DH5	Ant1	2402	0.93686	2401.5288	2402.4657	---	---
DH5	Ant1	2441	0.98346	2440.4993	2441.4827	---	---
DH5	Ant1	2480	1.0014	2479.5008	2480.5022	---	---
2DH5	Ant1	2402	1.1394	2401.4239	2402.5633	---	---
2DH5	Ant1	2441	1.1576	2440.4129	2441.5705	---	---
2DH5	Ant1	2480	1.1691	2479.4063	2480.5754	---	---
3DH5	Ant1	2402	1.1518	2401.4221	2402.5739	---	---
3DH5	Ant1	2441	1.1718	2440.4088	2441.5806	---	---
3DH5	Ant1	2480	1.1612	2479.4172	2480.5784	---	---

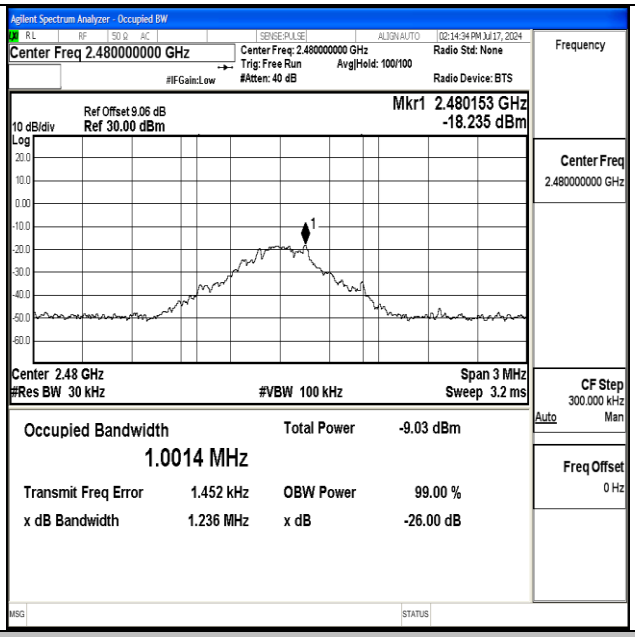
Test Graphs



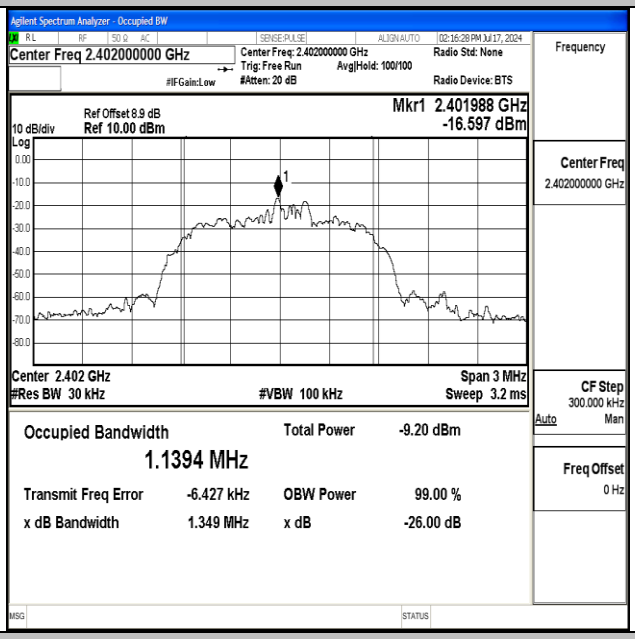
DH5-Ant1-2402



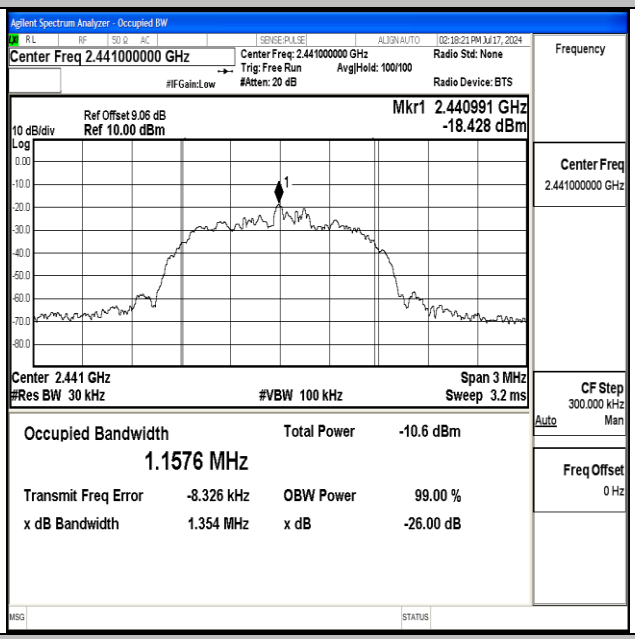
DH5-Ant1-2441



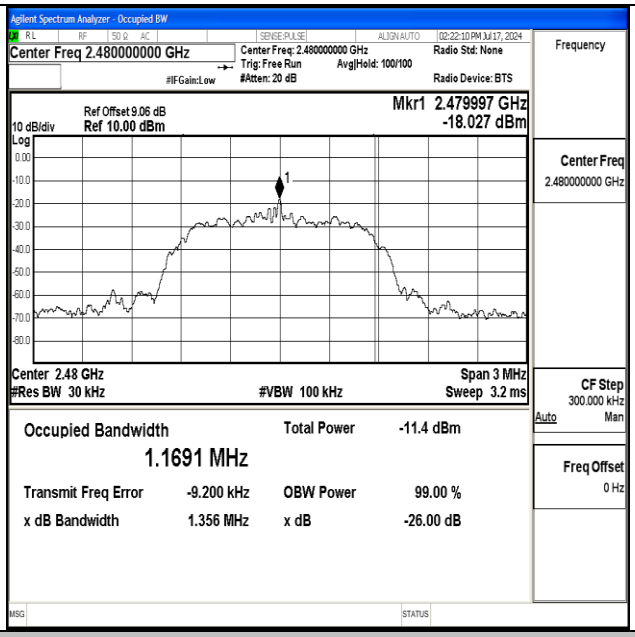
DH5-Ant1-2480



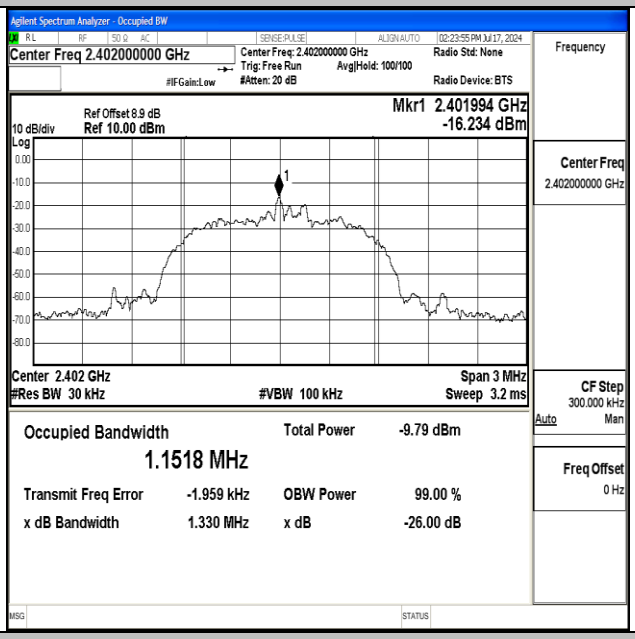
2DH5-Ant1-2402



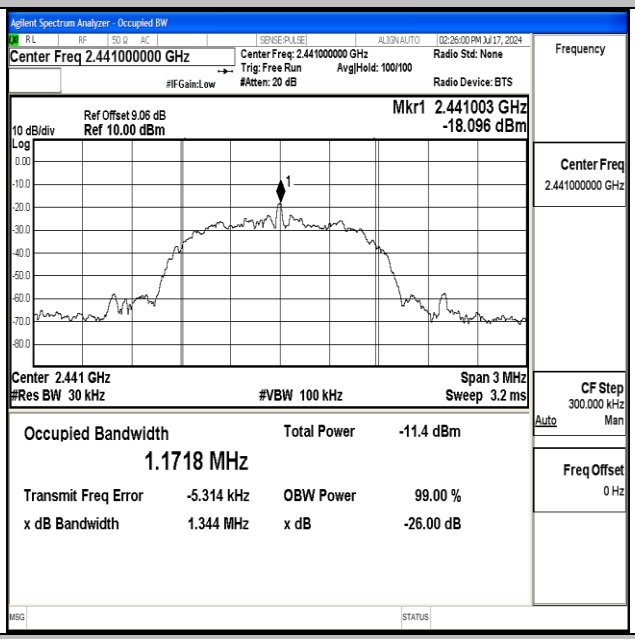
2DH5-Ant1-2441



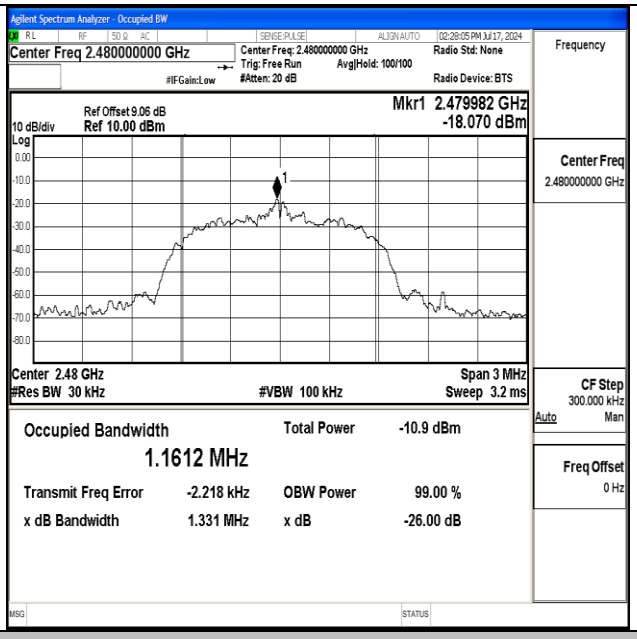
2DH5-Ant1-2480



3DH5-Ant1-2402



3DH5-Ant1-2441



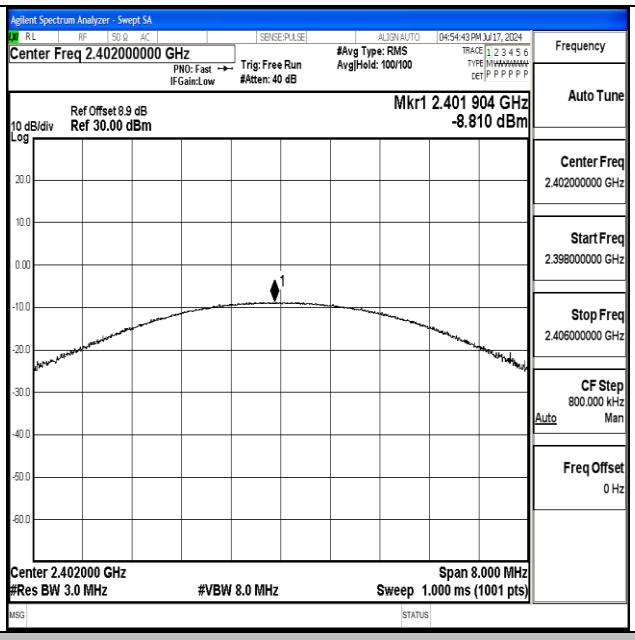
3DH5-Ant1-2480

Appendix C: Maximum peak conducted output power

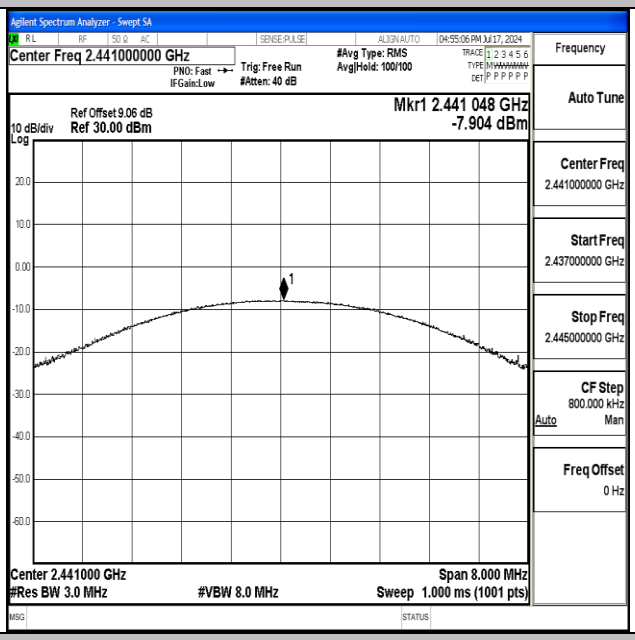
Test Result

Test Mode	Antenna	Frequency[MHz]	Conducted Peak Power[dBm]	Conducted Limit[dBm]	Verdict
DH5	Ant1	2402	-8.81	≤30	PASS
DH5	Ant1	2441	-7.90	≤30	PASS
DH5	Ant1	2480	-7.24	≤30	PASS
2DH5	Ant1	2402	-7.98	≤20.97	PASS
2DH5	Ant1	2441	-7.07	≤20.97	PASS
2DH5	Ant1	2480	-6.66	≤20.97	PASS
3DH5	Ant1	2402	-7.76	≤30	PASS
3DH5	Ant1	2441	-6.80	≤30	PASS
3DH5	Ant1	2480	-6.15	≤30	PASS

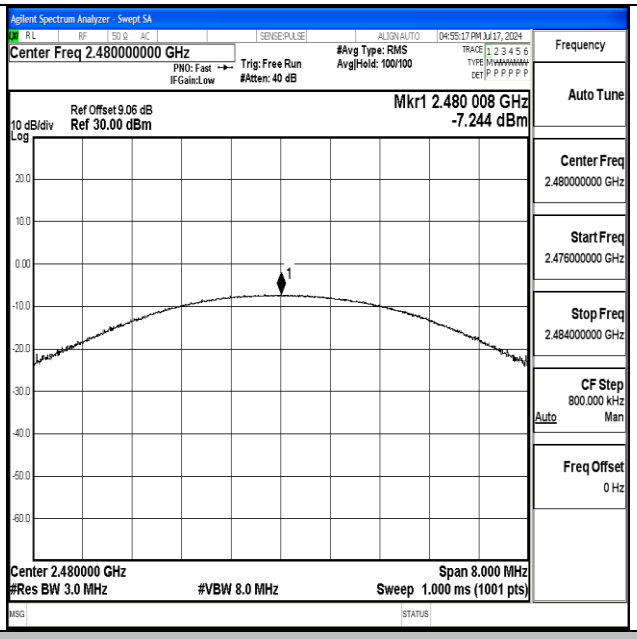
Test Graphs



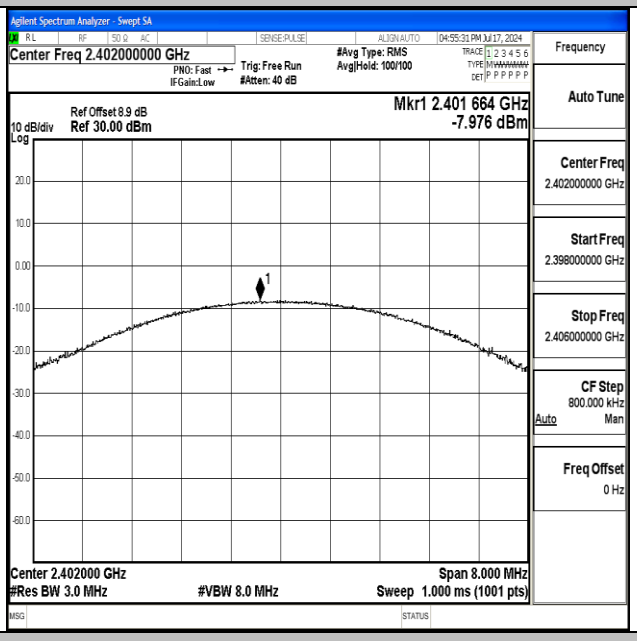
DH5-Ant1-2402-PASS



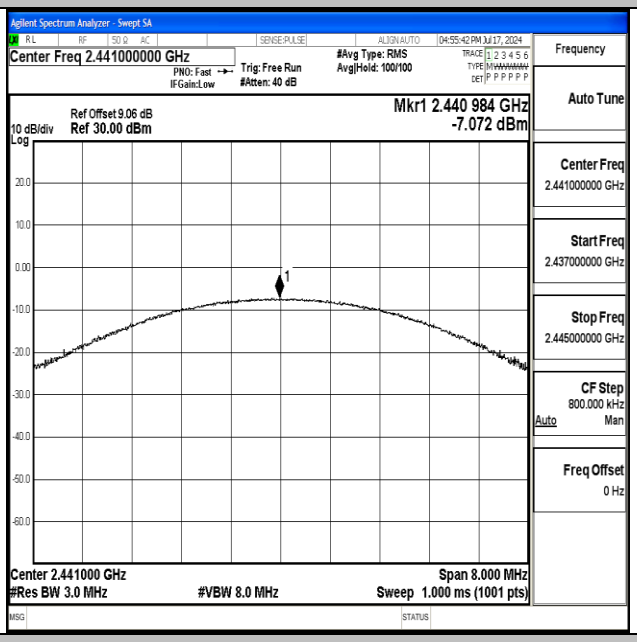
DH5-Ant1-2441-PASS



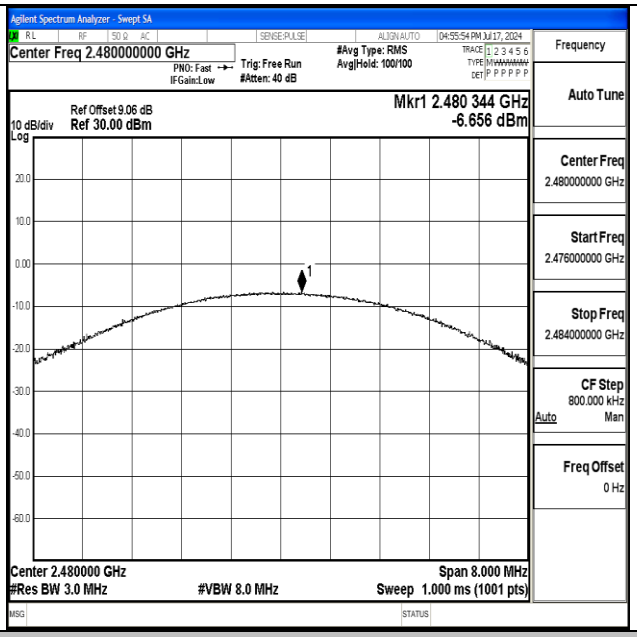
DH5-Ant1-2480-PASS



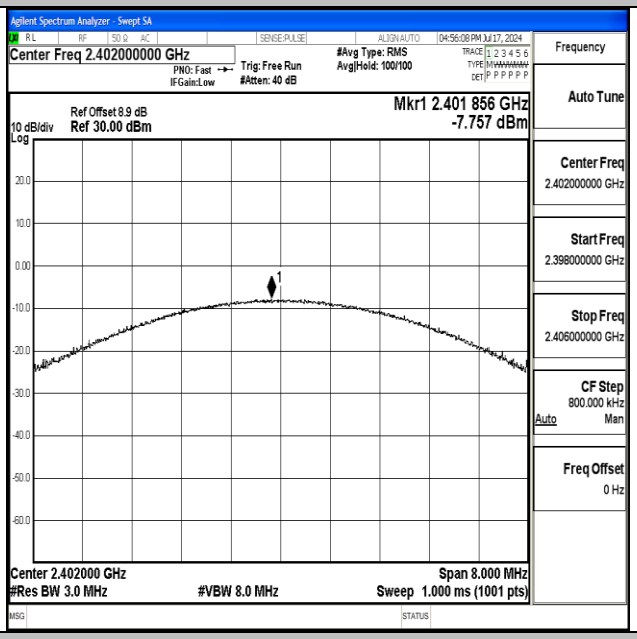
2DH5-Ant1-2402-PASS



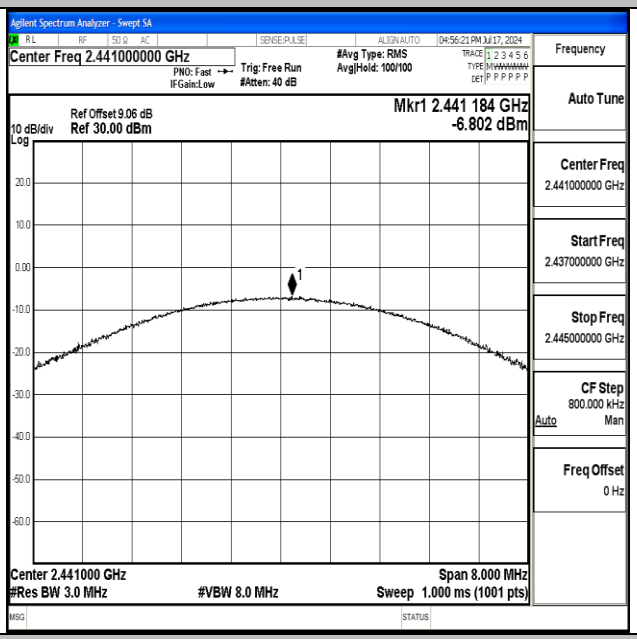
2DH5-Ant1-2441-PASS



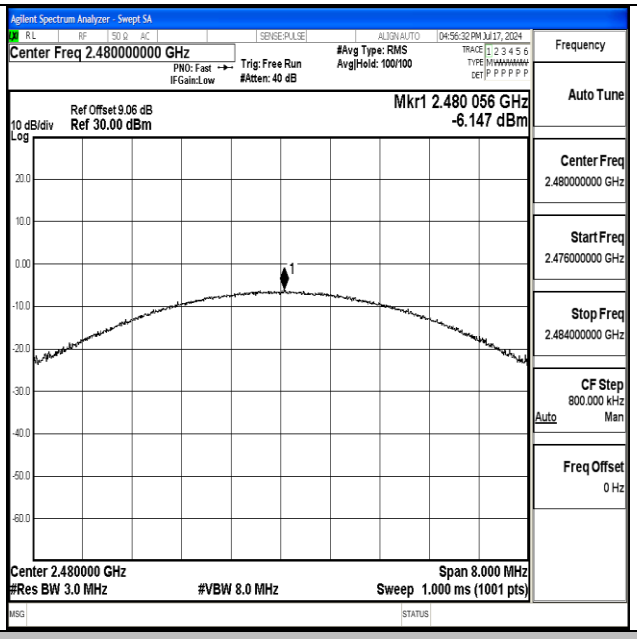
2DH5-Ant1-2480-PASS



3DH5-Ant1-2402-PASS



3DH5-Ant1-2441-PASS



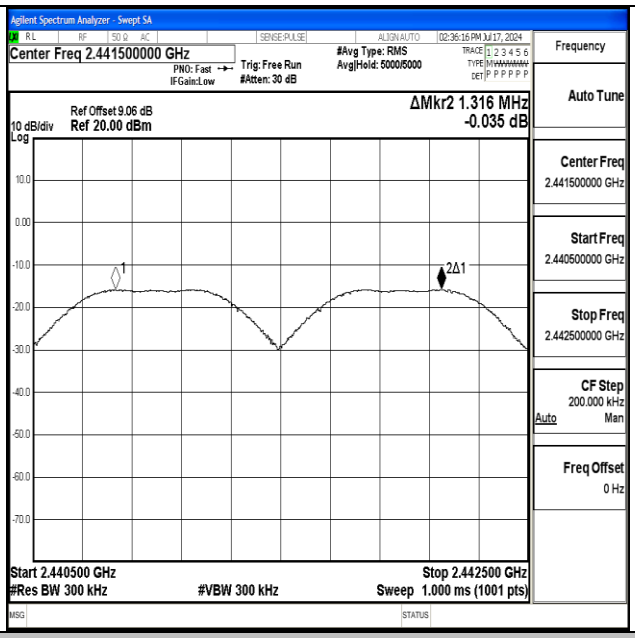
3DH5-Ant1-2480-PASS

Appendix D: Carrier frequency separation

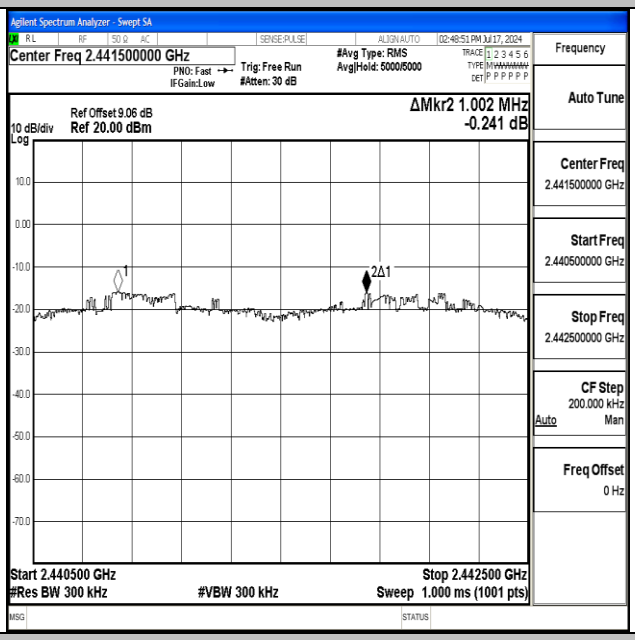
Test Result

TestMode	Antenna	Frequency[MHz]	Result[MHz]	Limit[MHz]	Verdict
DH5	Ant1	Hop	1.316	≥1.011	PASS
2DH5	Ant1	Hop	1.002	≥0.822	PASS
3DH5	Ant1	Hop	1.324	≥1.278	PASS

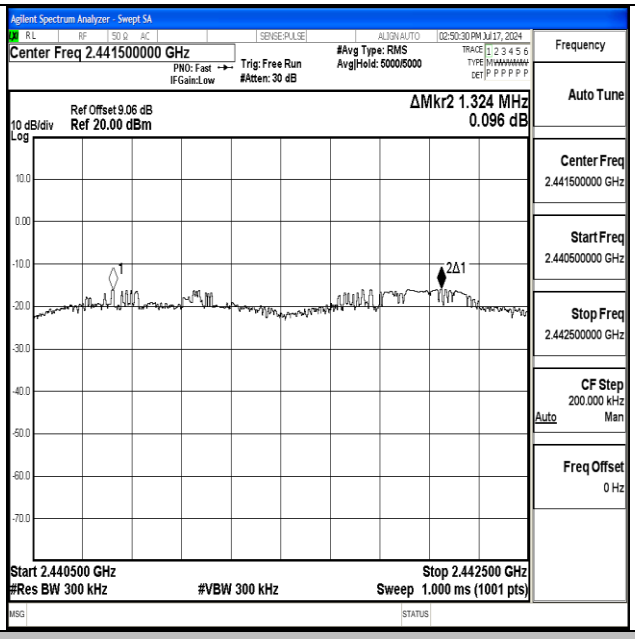
Test Graphs



DH5-Ant1-Hop-PASS



2DH5-Ant1-Hop-PASS



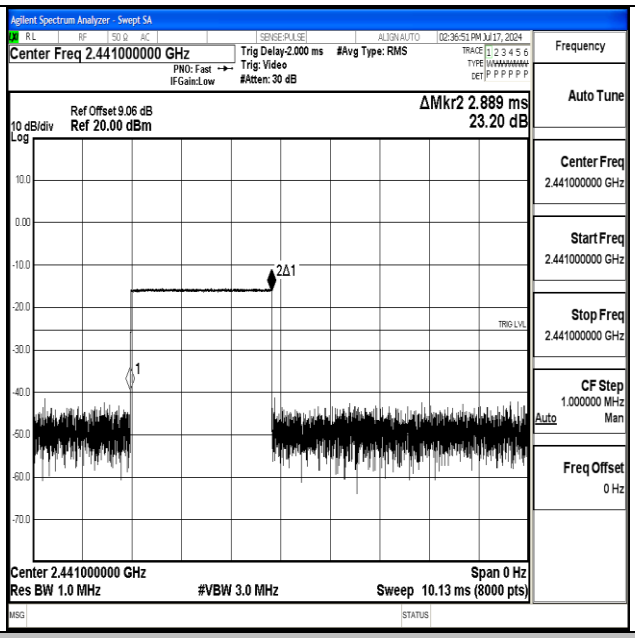
3DH5-Ant1-Hop-PASS

Appendix E: Time of occupancy

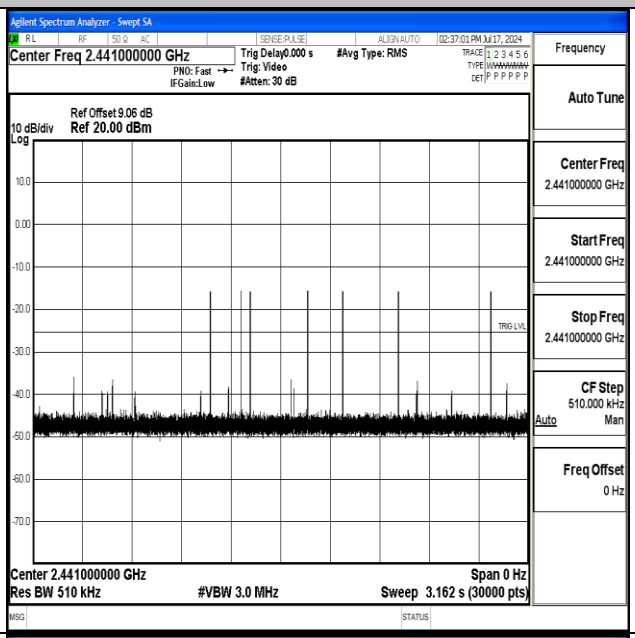
Test Result

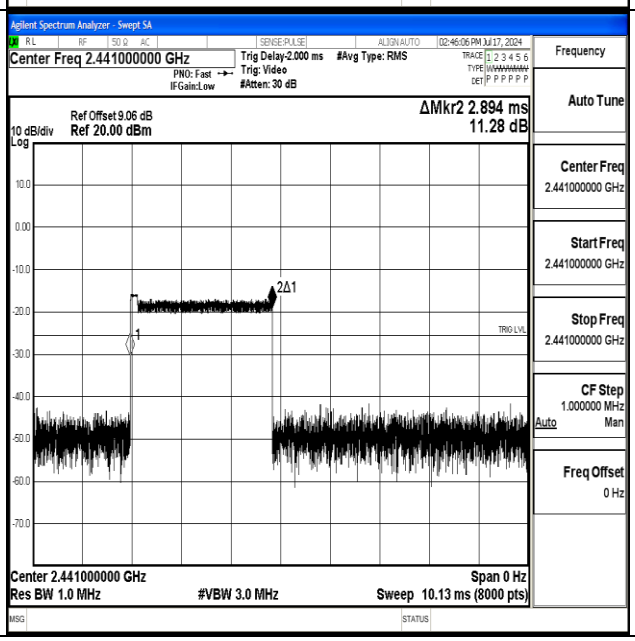
TestMode	Antenna	Frequency[MHz]	BurstWidth [ms]	TotalHops [Num]	Result[s]	Limit[s]	Verdict
DH5	Ant1	Hop	2.889	80	0.231	≤0.4	PASS
2DH5	Ant1	Hop	2.894	110	0.318	≤0.4	PASS
3DH5	Ant1	Hop	2.894	90	0.26	≤0.4	PASS

Test Graphs

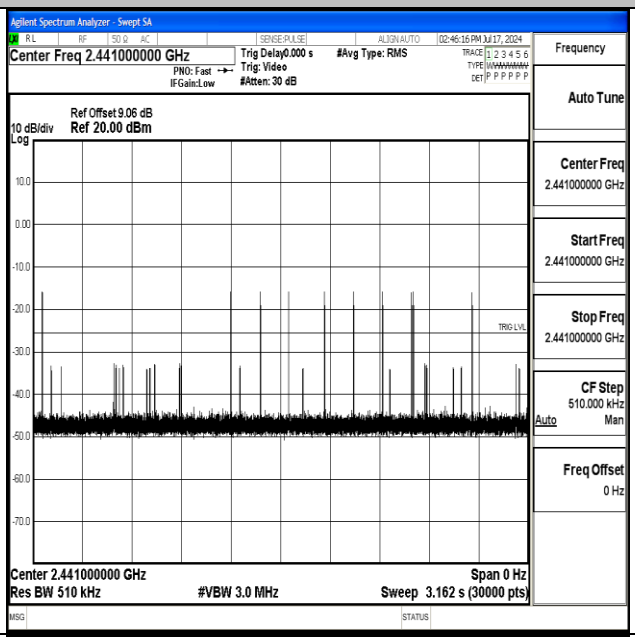


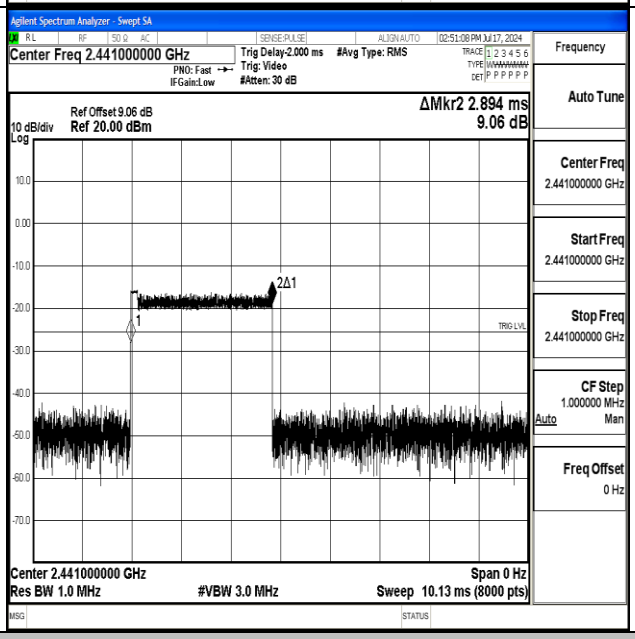
DH5-Ant1-Hop-PASS



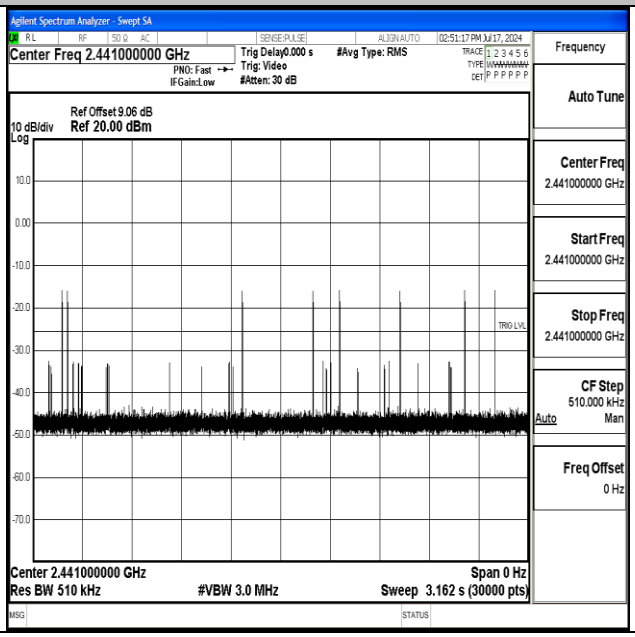


2DH5-Ant1-Hop-PASS





3DH5-Ant1-Hop-PASS

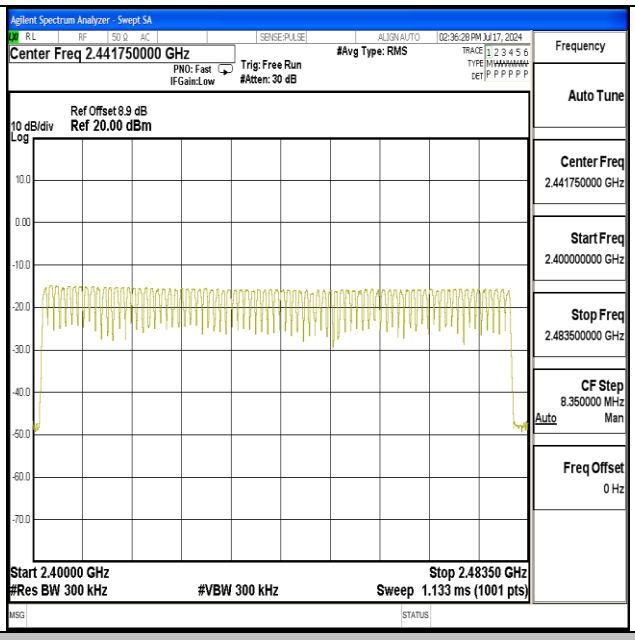


Appendix F: Number of hopping channels

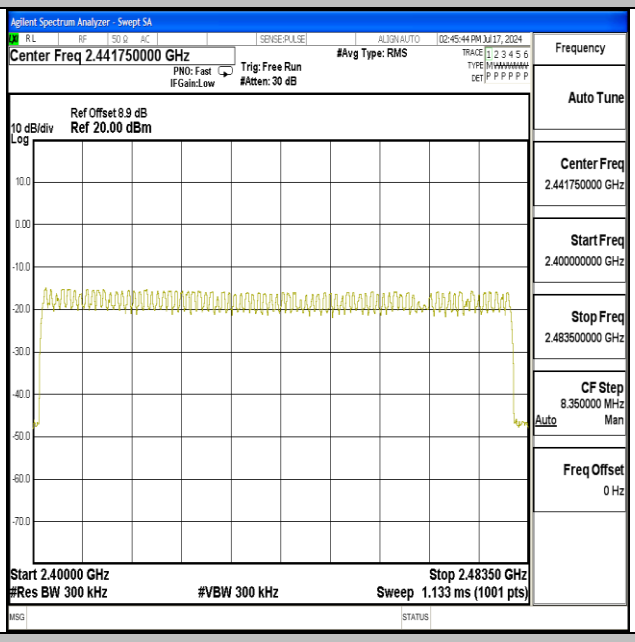
Test Result

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

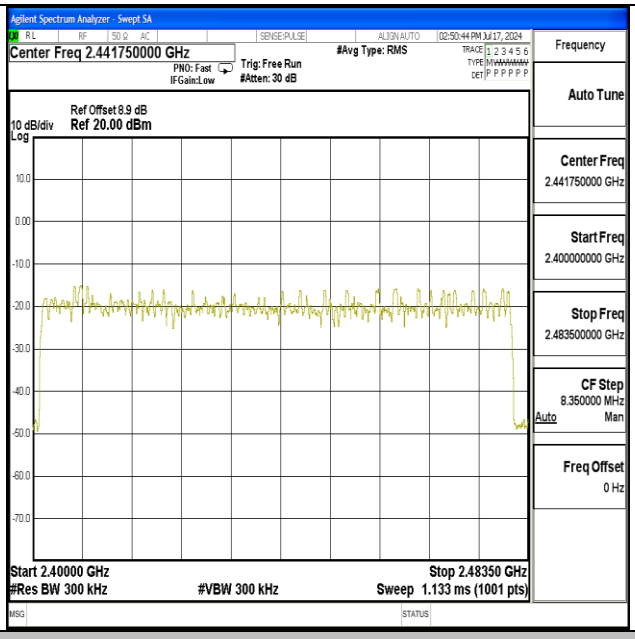
Test Graphs



DH5-Ant1-Hop-PASS



2DH5-Ant1-Hop-PASS



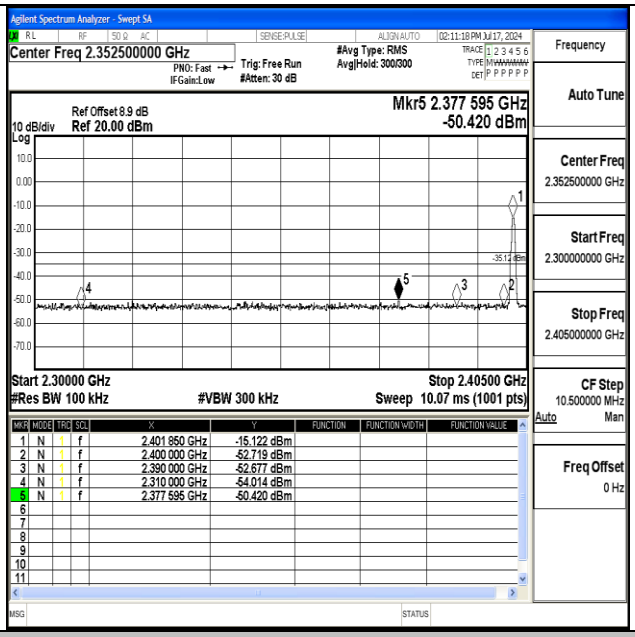
3DH5-Ant1-Hop-PASS

Appendix G: Band edge measurements

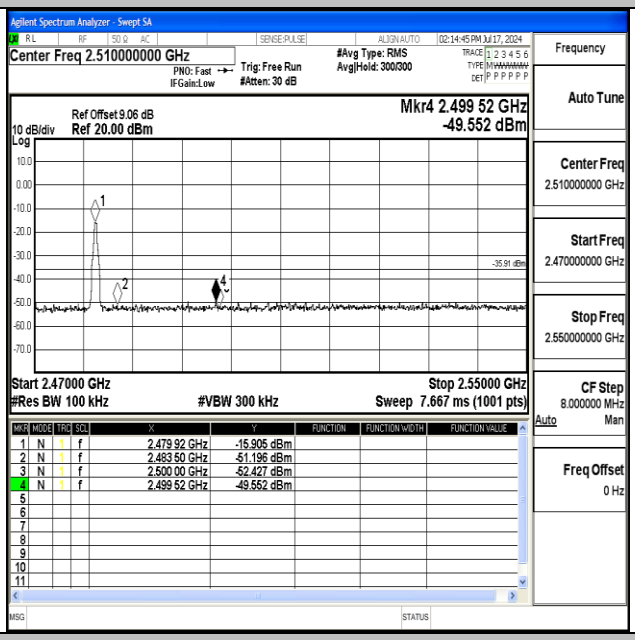
Test Result

TestMode	Antenna	ChName	Frequency[MHz]	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
DH5	Ant1	Low	2402	-15.12	-50.42	≤-35.12	PASS
DH5	Ant1	High	2480	-15.91	-49.55	≤-35.91	PASS
DH5	Ant1	Low	Hop_2402	-15.48	-50.3	≤-35.48	PASS
DH5	Ant1	High	Hop_2480	-16.10	-48.83	≤-36.1	PASS
2DH5	Ant1	Low	2402	-15.36	-50.64	≤-35.36	PASS
2DH5	Ant1	High	2480	-17.94	-49.55	≤-37.94	PASS
2DH5	Ant1	Low	Hop_2402	-20.07	-51.07	≤-40.07	PASS
2DH5	Ant1	High	Hop_2480	-19.36	-49.01	≤-39.36	PASS
3DH5	Ant1	Low	2402	-15.43	-50.56	≤-35.43	PASS
3DH5	Ant1	High	2480	-15.98	-48.52	≤-35.98	PASS
3DH5	Ant1	Low	Hop_2402	-21.03	-50.5	≤-41.03	PASS
3DH5	Ant1	High	Hop_2480	-20.57	-49.17	≤-40.57	PASS

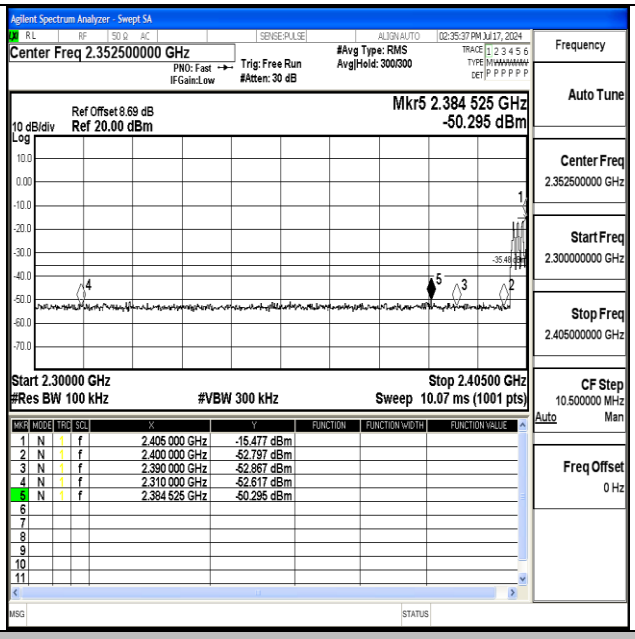
Test Graphs



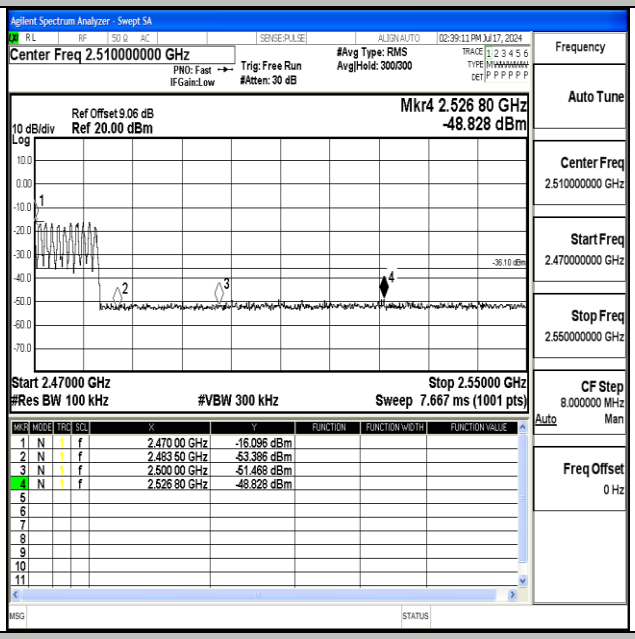
DH5-Ant1-2402-PASS



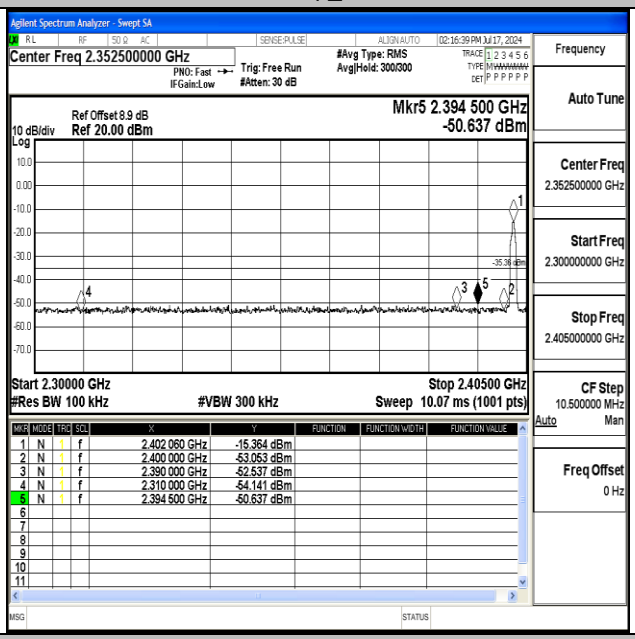
DH5-Ant1-2480-PASS



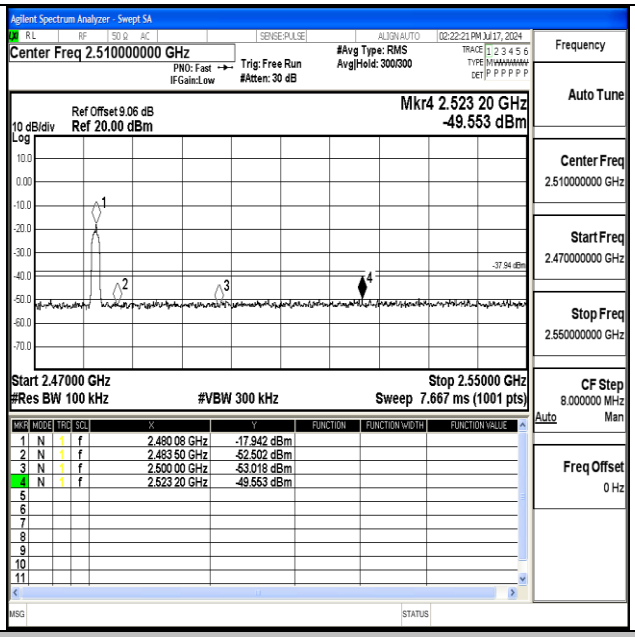
DH5-Ant1-Hop_2402-PASS



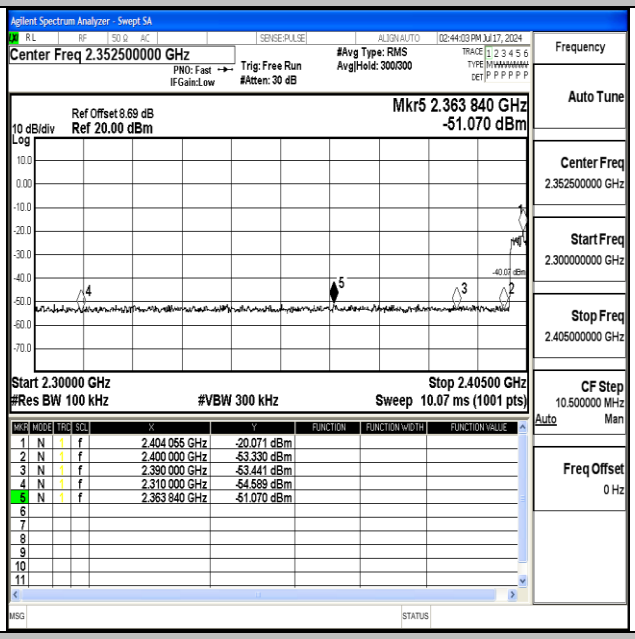
DH5-Ant1-Hop_2480-PASS



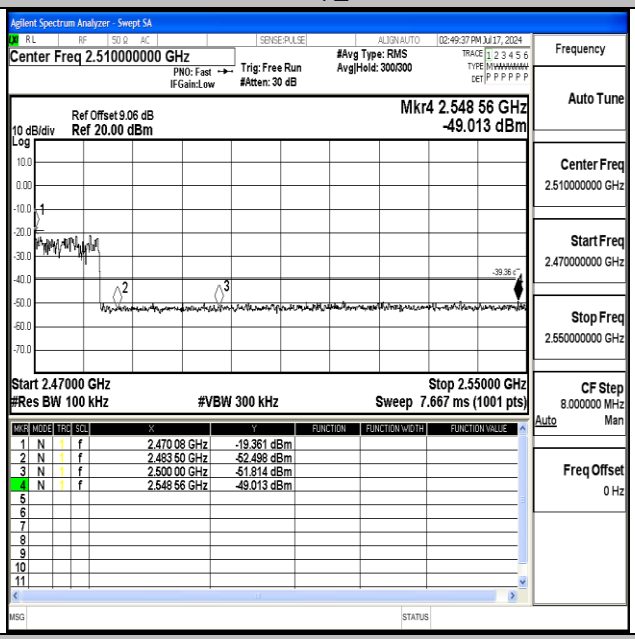
2DH5-Ant1-2402-PASS



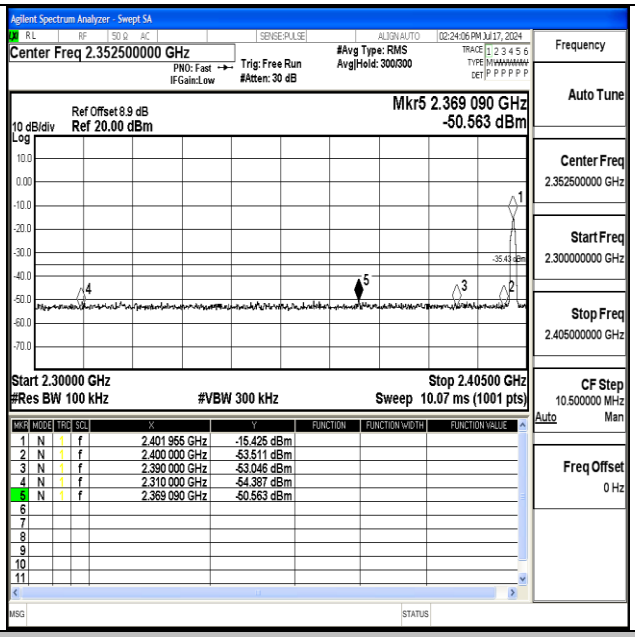
2DH5-Ant1-2480-PASS



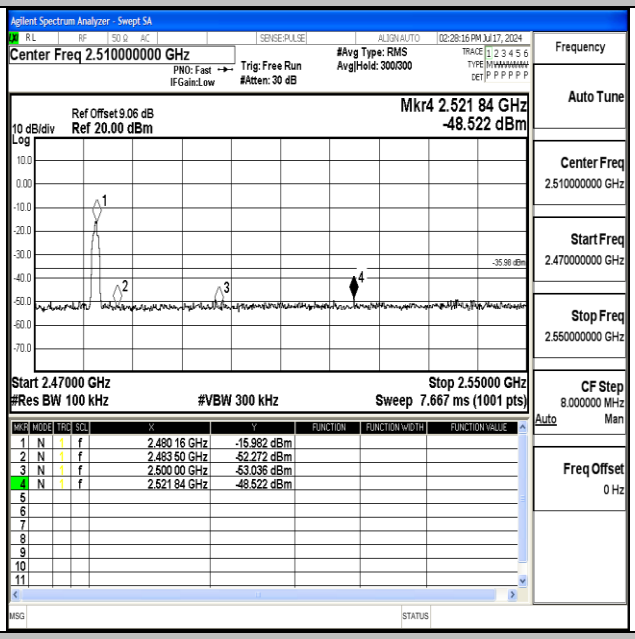
2DH5-Ant1-Hop_2402-PASS



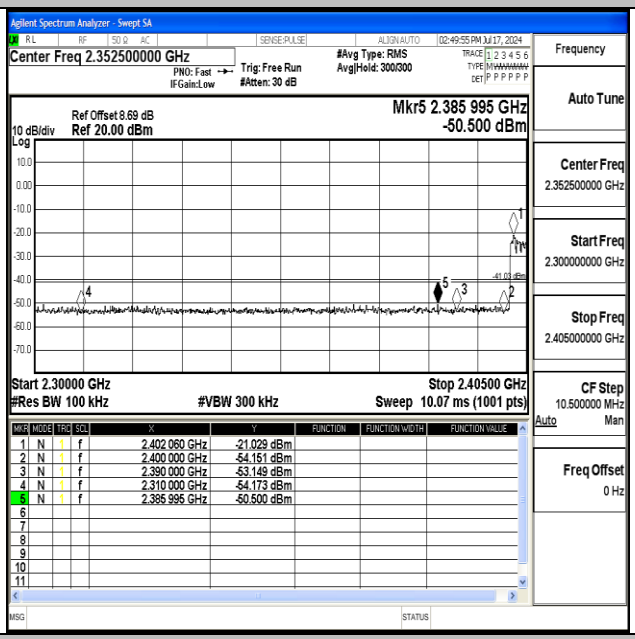
2DH5-Ant1-Hop_2480-PASS



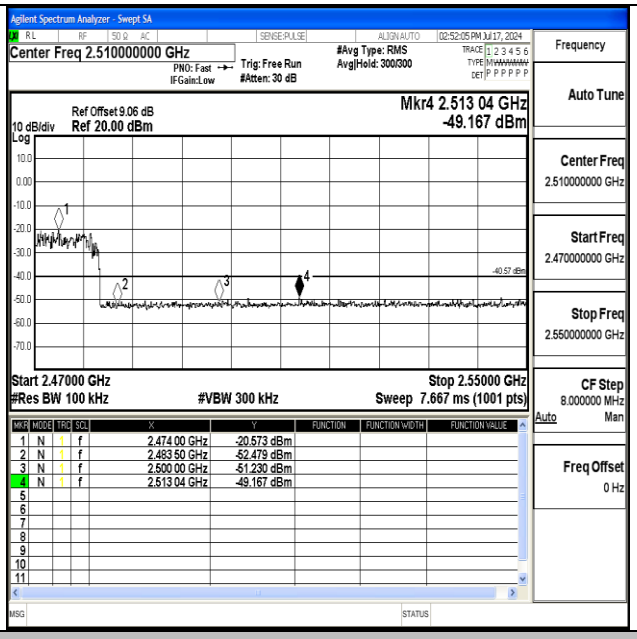
3DH5-Ant1-2402-PASS



3DH5-Ant1-2480-PASS



3DH5-Ant1-Hop_2402-PASS



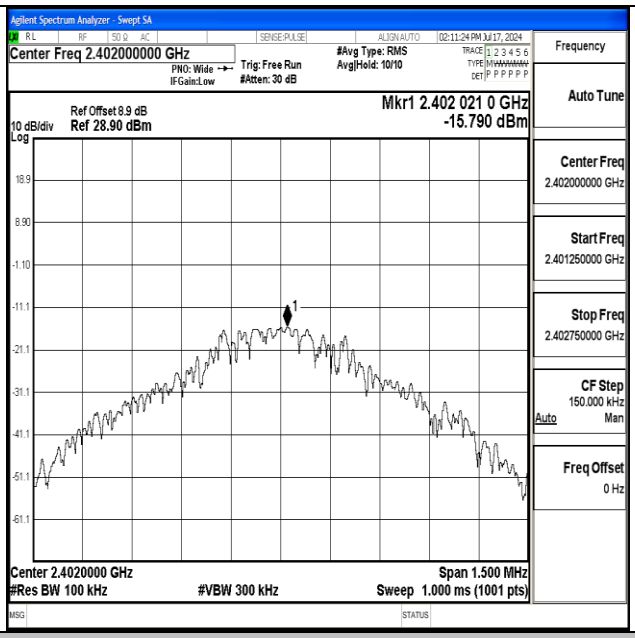
3DH5-Ant1-Hop_2480-PASS

Appendix H: Conducted Spurious Emission

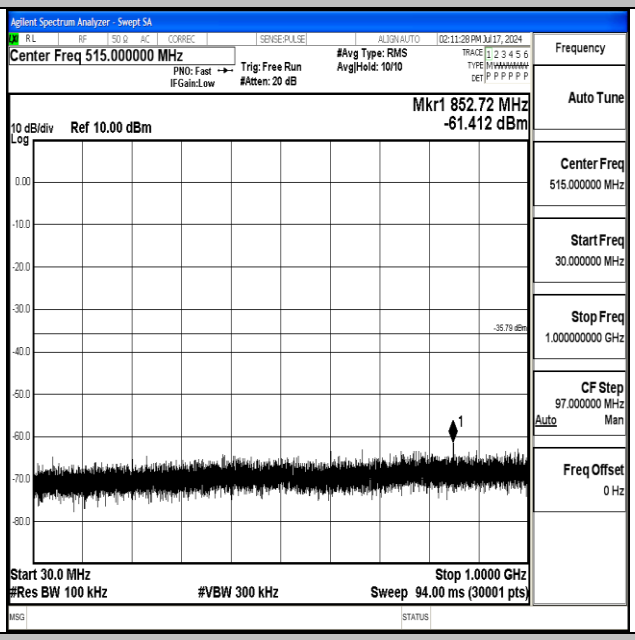
Test Result

TestMode	Antenna	Frequency[MHz]	FreqRange [MHz]	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
DH5	Ant1	2402	0~Reference	-15.79	-15.79	---	PASS
DH5	Ant1	2402	30~1000	-15.79	-61.41	≤-35.79	PASS
DH5	Ant1	2402	1000~26500	-15.79	-44.25	≤-35.79	PASS
DH5	Ant1	2441	0~Reference	-16.48	-16.48	---	PASS
DH5	Ant1	2441	30~1000	-16.48	-62.41	≤-36.48	PASS
DH5	Ant1	2441	1000~26500	-16.48	-49.61	≤-36.48	PASS
DH5	Ant1	2480	0~Reference	-16.44	-16.44	---	PASS
DH5	Ant1	2480	30~1000	-16.44	-62.97	≤-36.44	PASS
DH5	Ant1	2480	1000~26500	-16.44	-45.49	≤-36.44	PASS
2DH5	Ant1	2402	0~Reference	-19.93	-19.93	---	PASS
2DH5	Ant1	2402	30~1000	-19.93	-62.01	≤-39.93	PASS
2DH5	Ant1	2402	1000~26500	-19.93	-50.4	≤-39.93	PASS
2DH5	Ant1	2441	0~Reference	-21.43	-21.43	---	PASS
2DH5	Ant1	2441	30~1000	-21.43	-62.02	≤-41.43	PASS
2DH5	Ant1	2441	1000~26500	-21.43	-50.54	≤-41.43	PASS
2DH5	Ant1	2480	0~Reference	-22.18	-22.18	---	PASS
2DH5	Ant1	2480	30~1000	-22.18	-62.6	≤-42.18	PASS
2DH5	Ant1	2480	1000~26500	-22.18	-50.96	≤-42.18	PASS
3DH5	Ant1	2402	0~Reference	-20.11	-20.11	---	PASS
3DH5	Ant1	2402	30~1000	-20.11	-62.57	≤-40.11	PASS
3DH5	Ant1	2402	1000~26500	-20.11	-49.86	≤-40.11	PASS
3DH5	Ant1	2441	0~Reference	-16.12	-16.12	---	PASS
3DH5	Ant1	2441	30~1000	-16.12	-62.5	≤-36.12	PASS
3DH5	Ant1	2441	1000~26500	-16.12	-49.45	≤-36.12	PASS
3DH5	Ant1	2480	0~Reference	-20.94	-20.94	---	PASS
3DH5	Ant1	2480	30~1000	-20.94	-63.04	≤-40.94	PASS
3DH5	Ant1	2480	1000~26500	-20.94	-46.01	≤-40.94	PASS

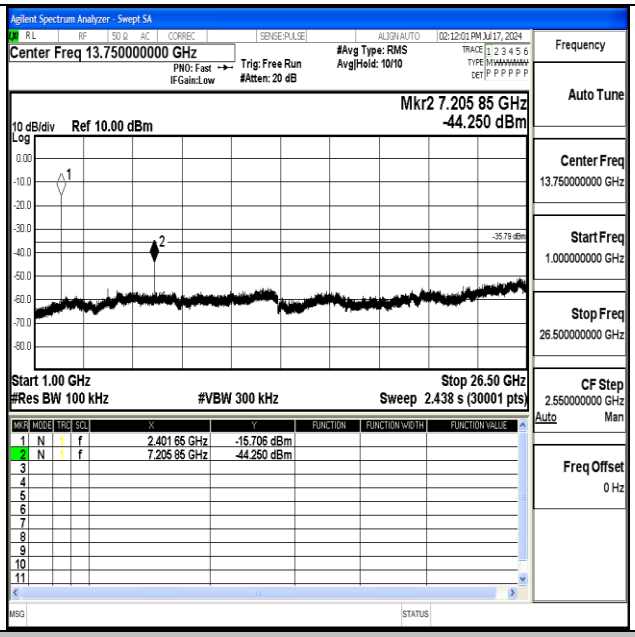
Test Graphs



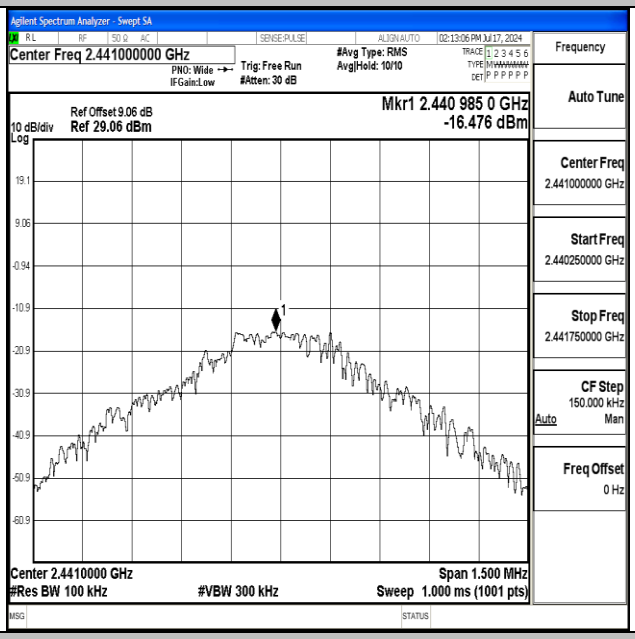
DH5-Ant1-2402-0~Reference-PASS



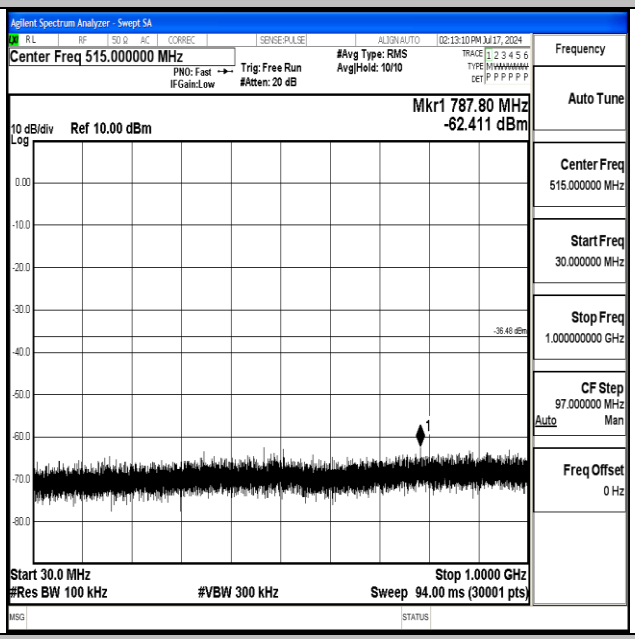
DH5-Ant1-2402-30~1000-PASS



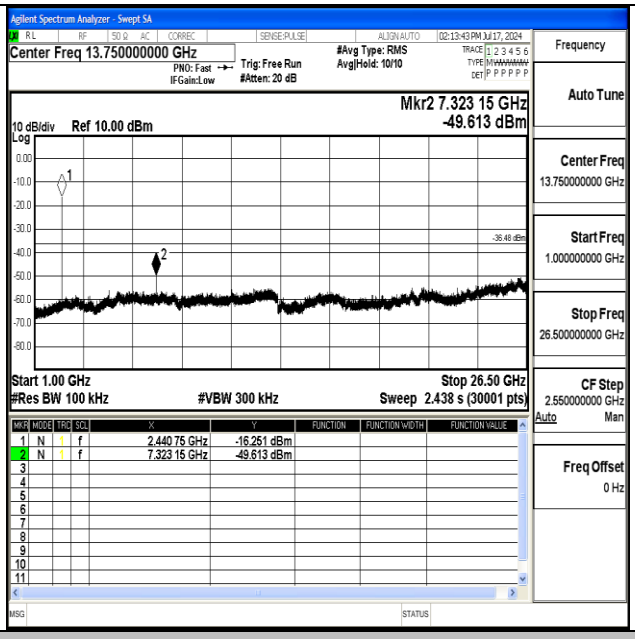
DH5-Ant1-2402-1000~26500-PASS



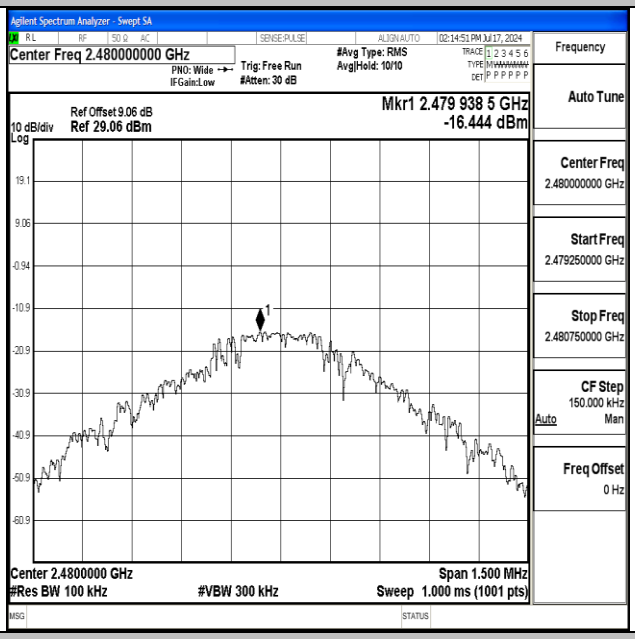
DH5-Ant1-2441-0~Reference-PASS



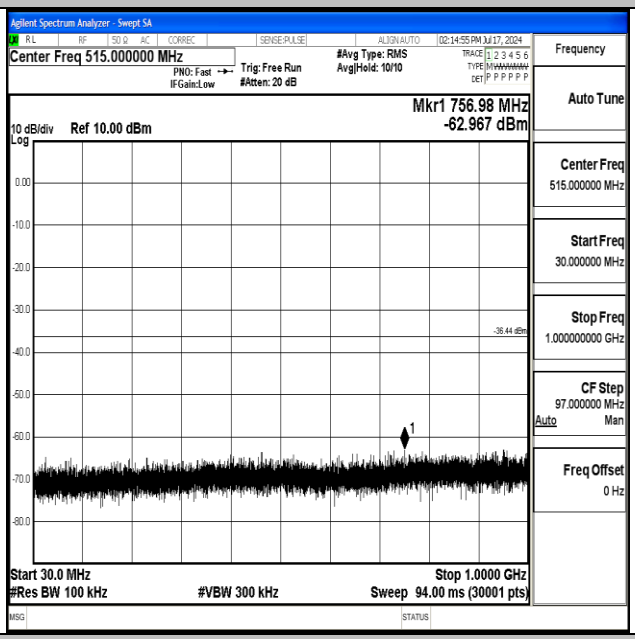
DH5-Ant1-2441-30~1000-PASS



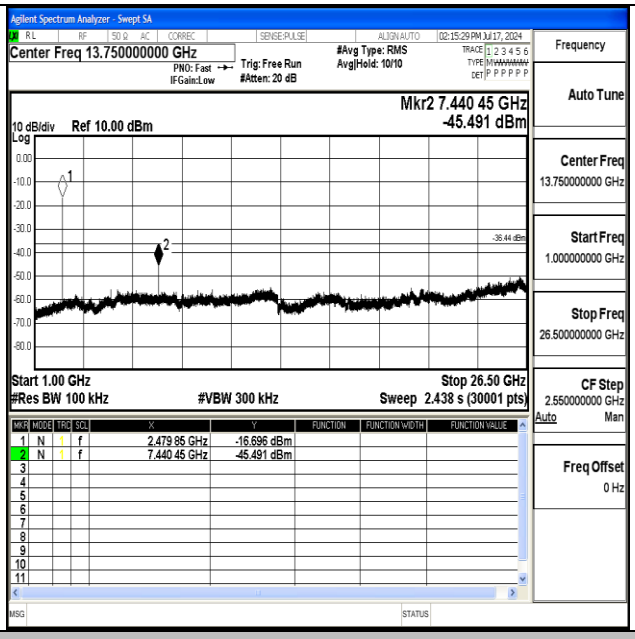
DH5-Ant1-2441-1000~26500-PASS



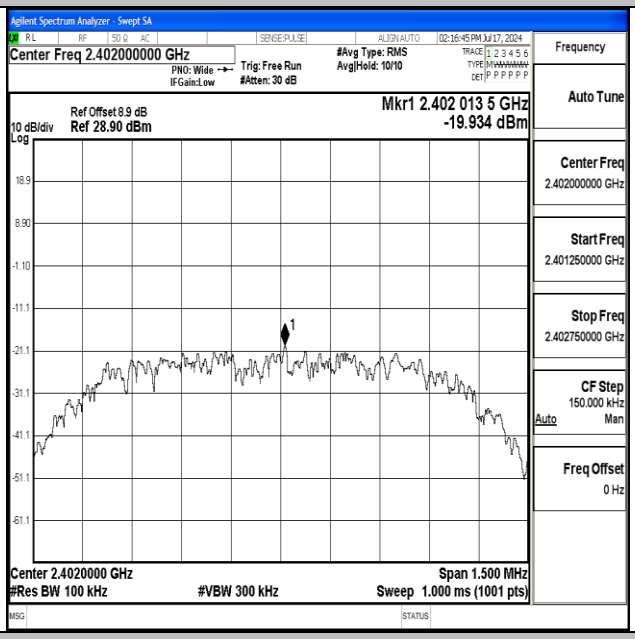
DH5-Ant1-2480-0~Reference-PASS



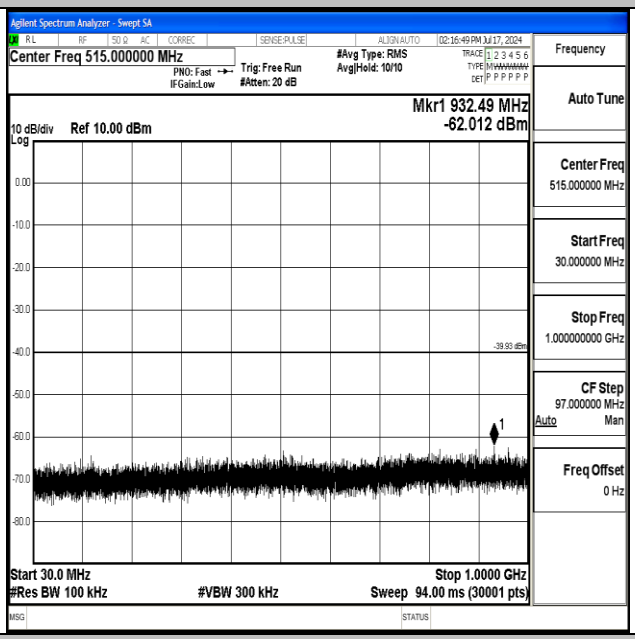
DH5-Ant1-2480-30~1000-PASS



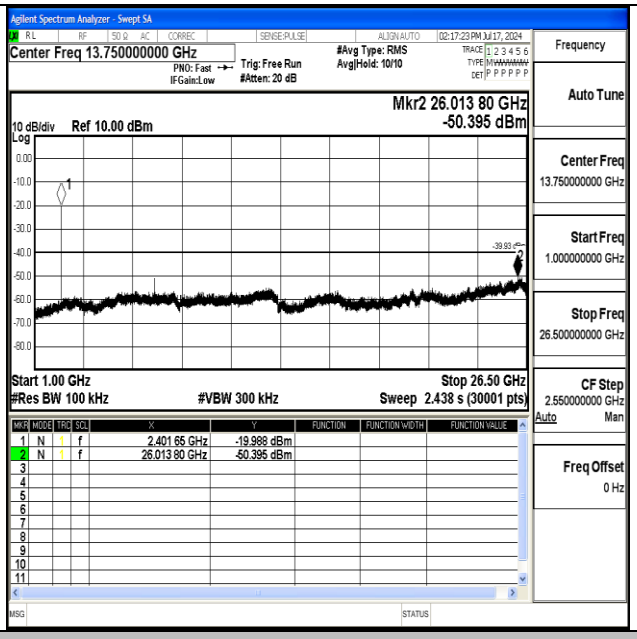
DH5-Ant1-2480-1000~26500-PASS



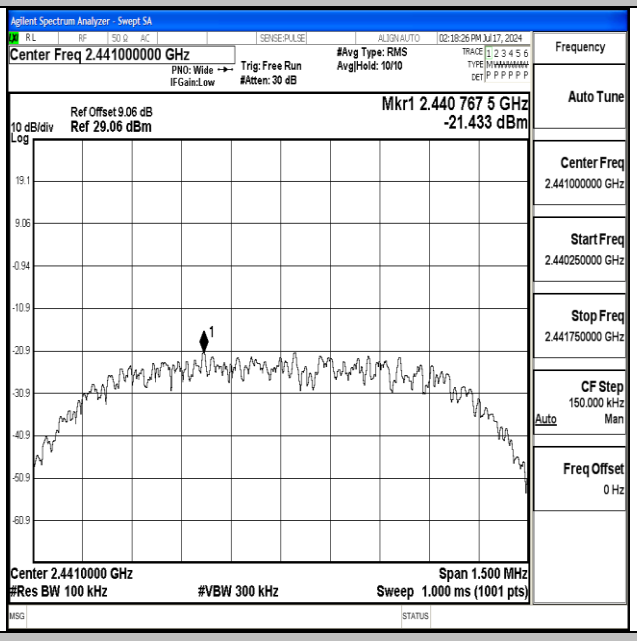
2DH5-Ant1-2402-0~Reference-PASS



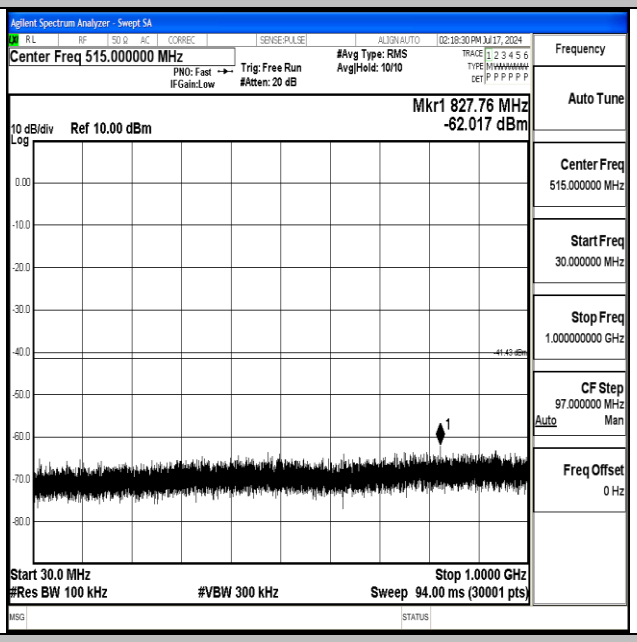
2DH5-Ant1-2402-30~1000-PASS



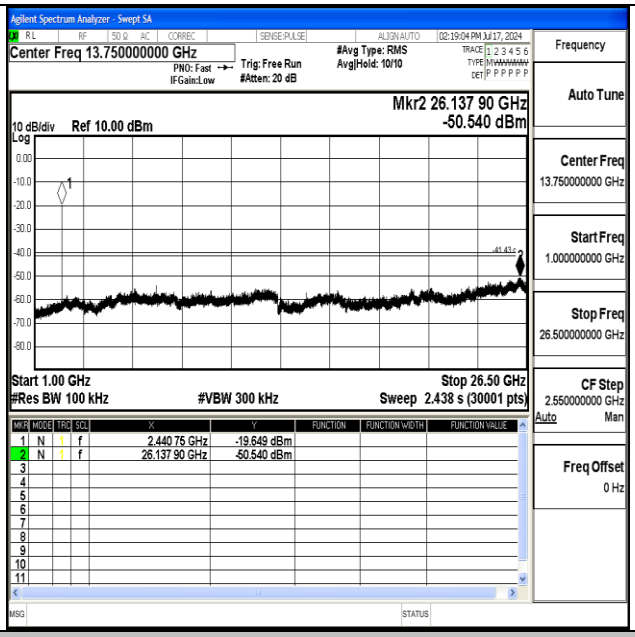
2DH5-Ant1-2402-1000~26500-PASS



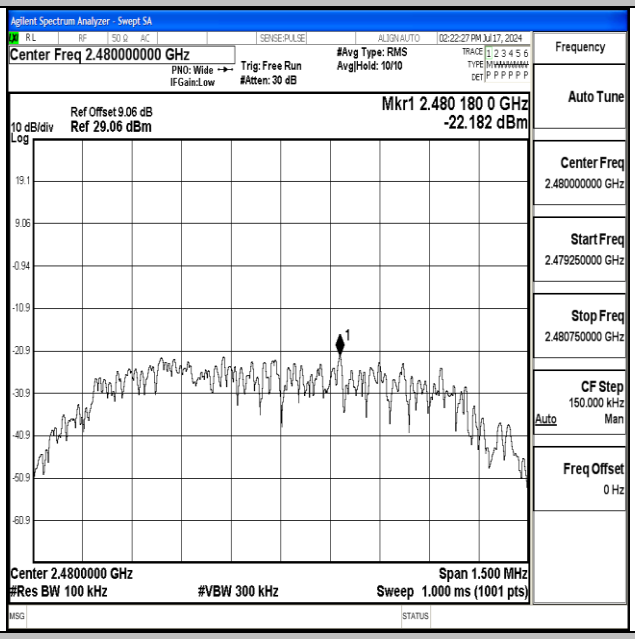
2DH5-Ant1-2441-0~Reference-PASS



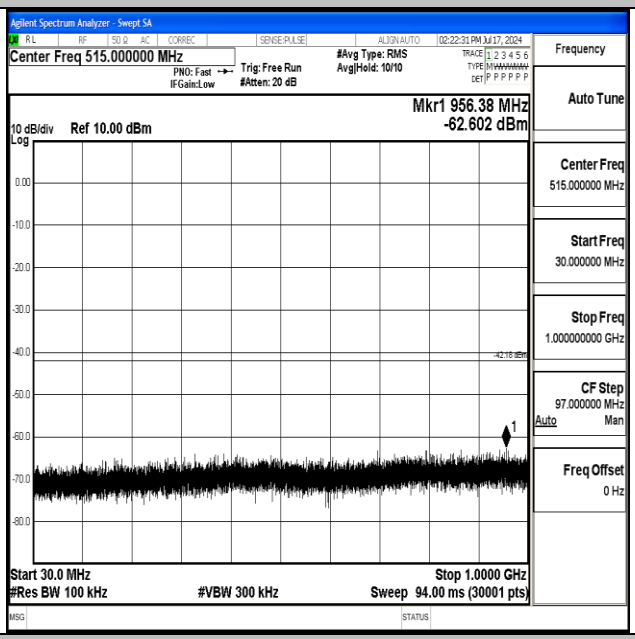
2DH5-Ant1-2441-30~1000-PASS



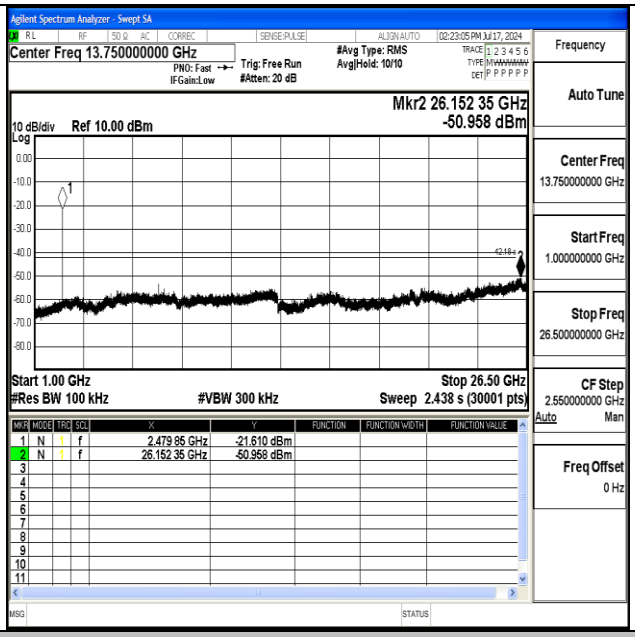
2DH5-Ant1-2441-1000~26500-PASS



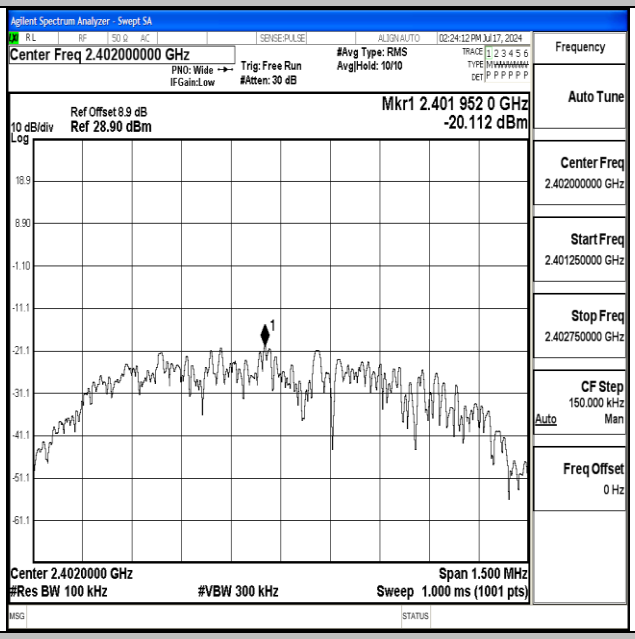
2DH5-Ant1-2480-0~Reference-PASS



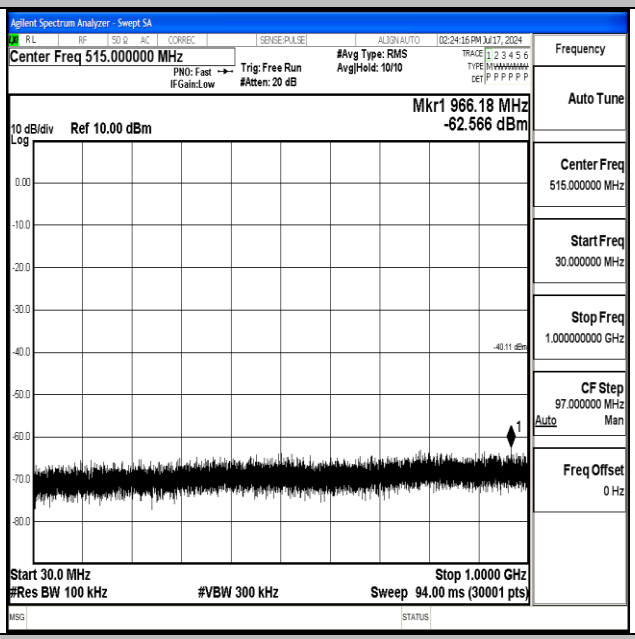
2DH5-Ant1-2480-30~1000-PASS



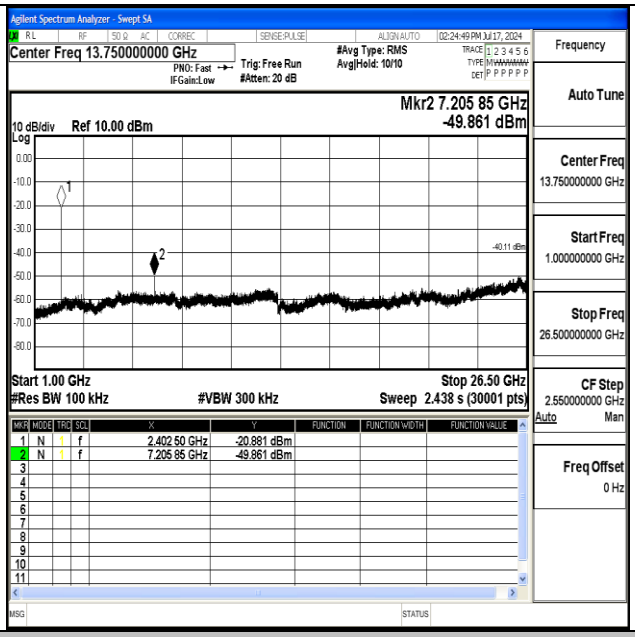
2DH5-Ant1-2480-1000~26500-PASS



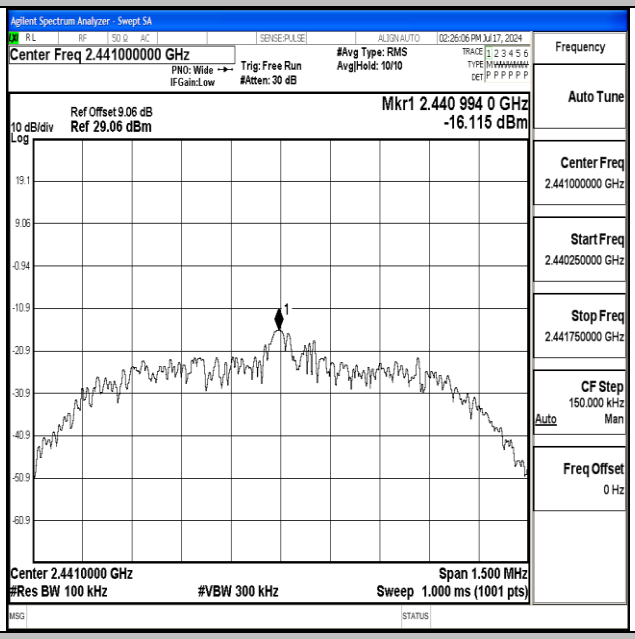
3DH5-Ant1-2402-0~Reference-PASS



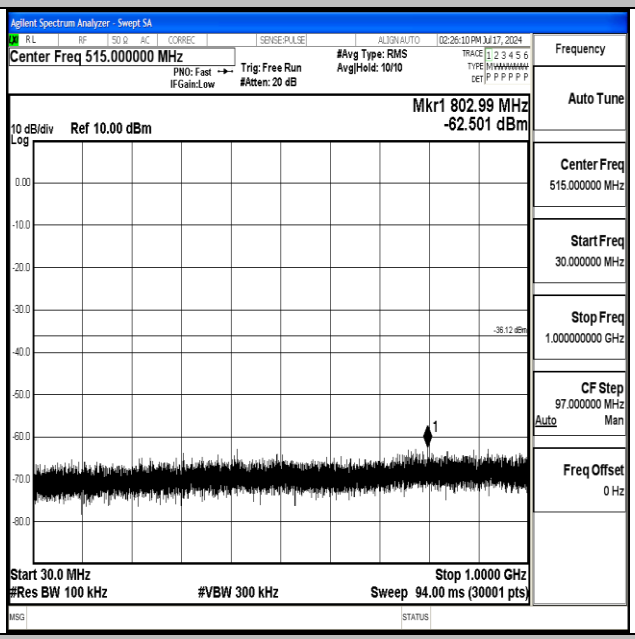
3DH5-Ant1-2402-30~1000-PASS



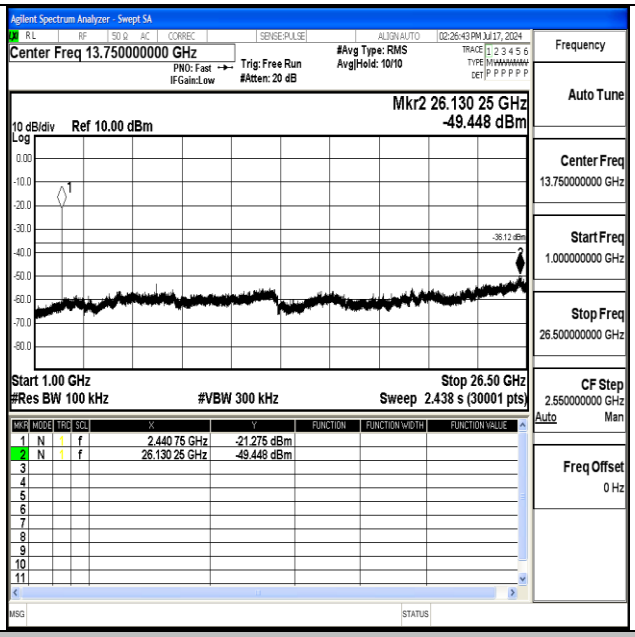
3DH5-Ant1-2402-1000~26500-PASS



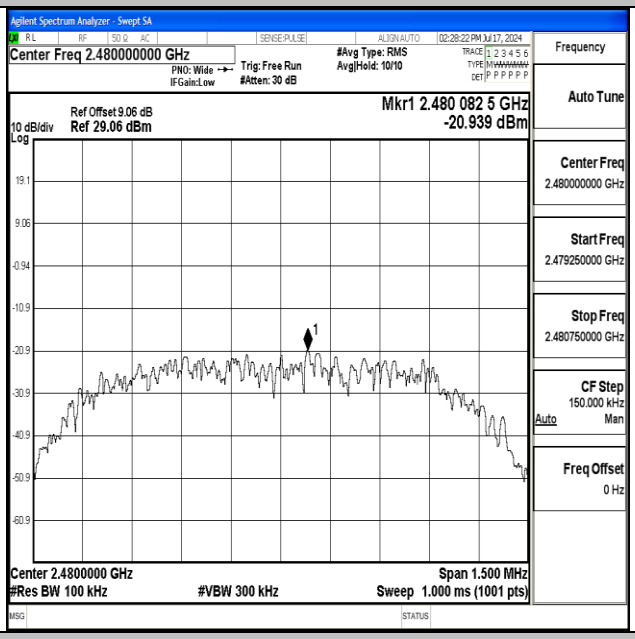
3DH5-Ant1-2441-0~Reference-PASS



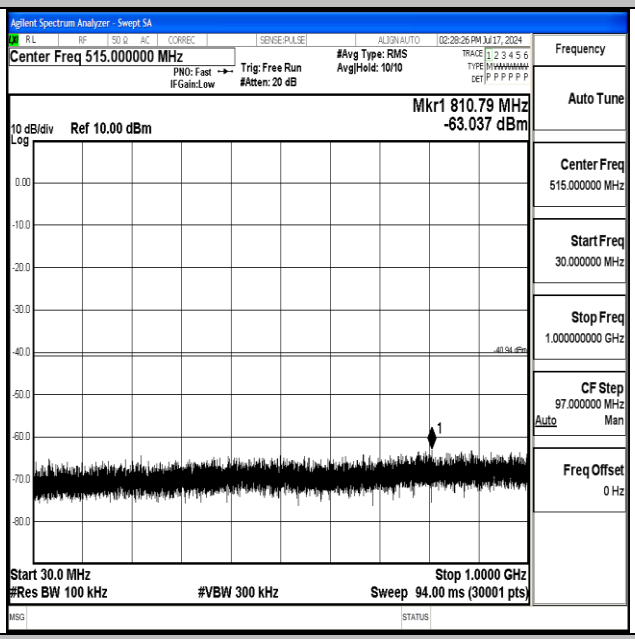
3DH5-Ant1-2441-30~1000-PASS



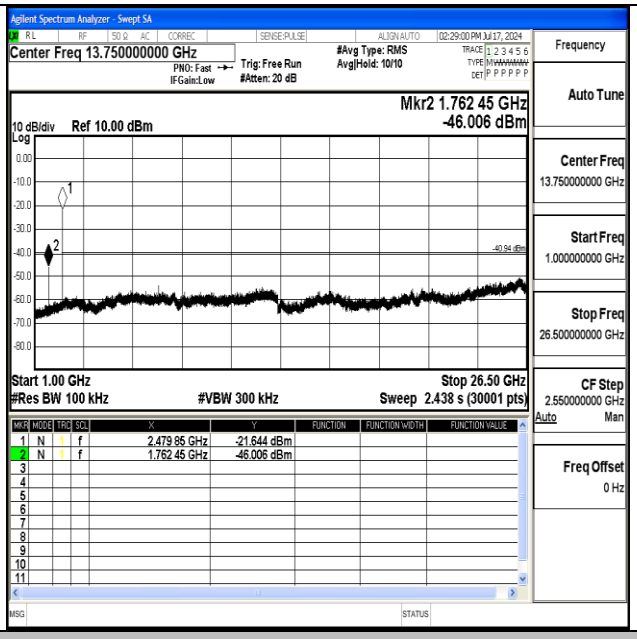
3DH5-Ant1-2441-1000~26500-PASS



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



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



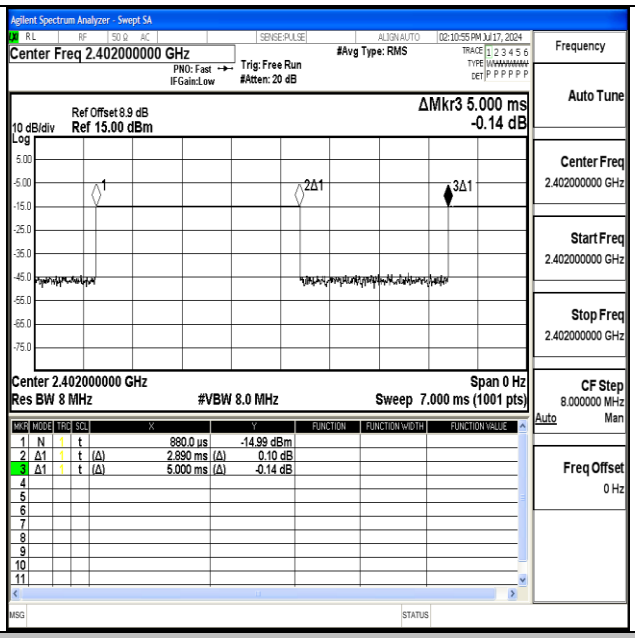
3DH5-Ant1-2480-1000~26500-PASS

Appendix I: Duty Cycle

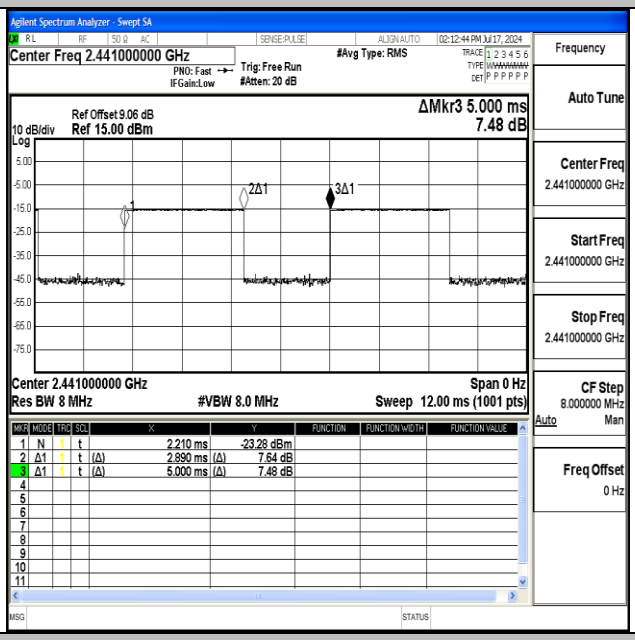
Test Result

TestMode	Antenna	Frequency[MHz]	ON Time [ms]	Period [ms]	Duty Cycle [%]	Duty Cycle Factor[dB]
DH5	Ant1	2402	2.89	5.00	57.80	2.38
DH5	Ant1	2441	2.89	5.00	57.80	2.38
DH5	Ant1	2480	2.89	5.00	57.80	2.38
2DH5	Ant1	2402	2.89	5.00	57.80	2.38
2DH5	Ant1	2441	2.90	5.00	58.00	2.37
2DH5	Ant1	2480	2.90	5.00	58.00	2.37
3DH5	Ant1	2402	2.89	4.99	57.92	2.37
3DH5	Ant1	2441	2.89	4.99	57.92	2.37
3DH5	Ant1	2480	2.89	5.00	57.80	2.38

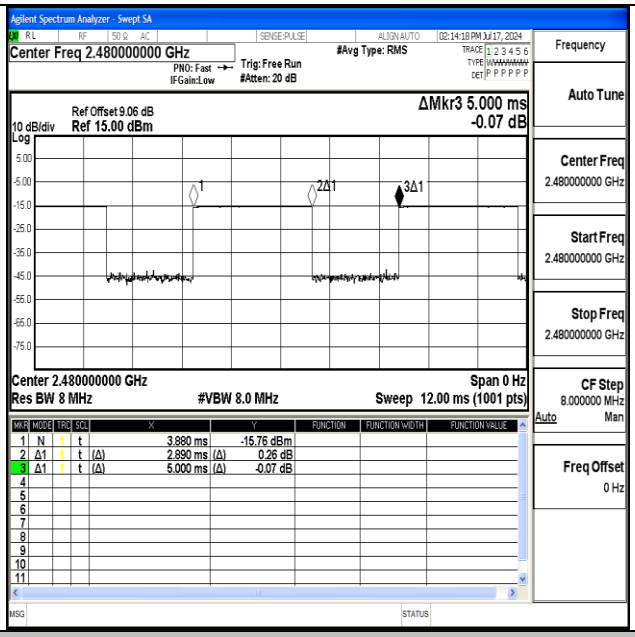
Test Graphs



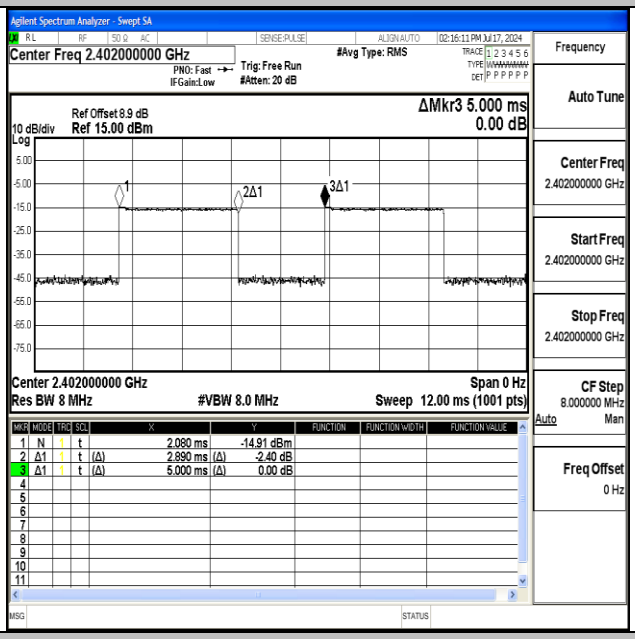
NTNV-DH5-Ant1-2402



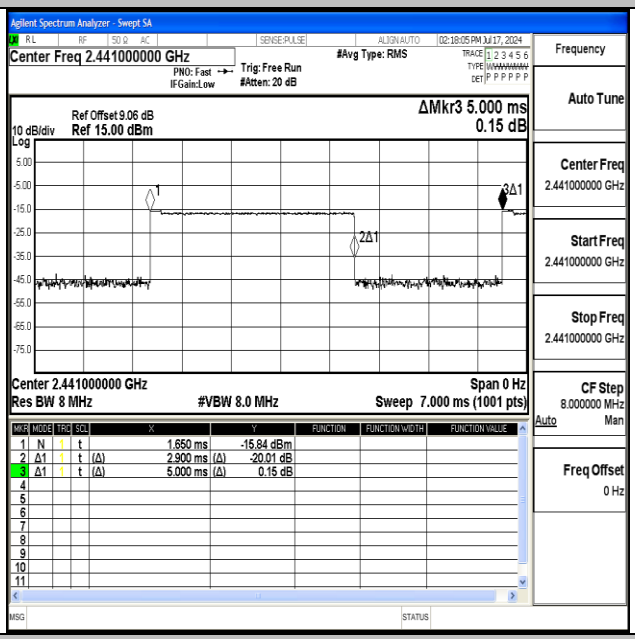
NTNV-DH5-Ant1-2441



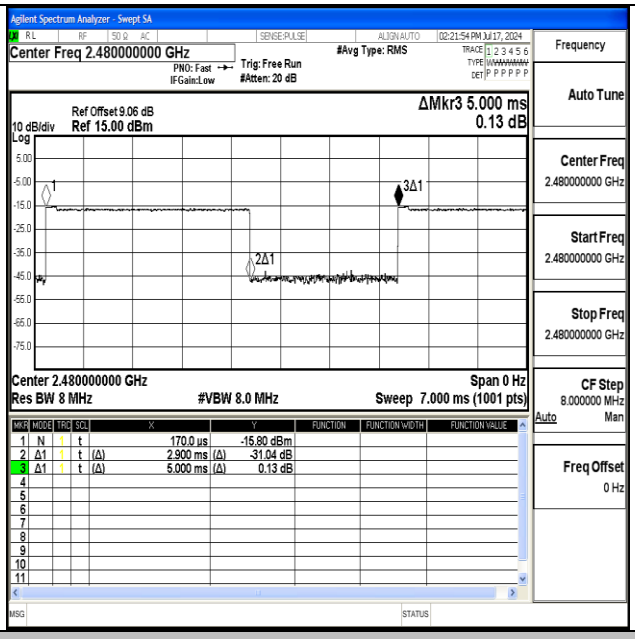
NTNV-DH5-Ant1-2480



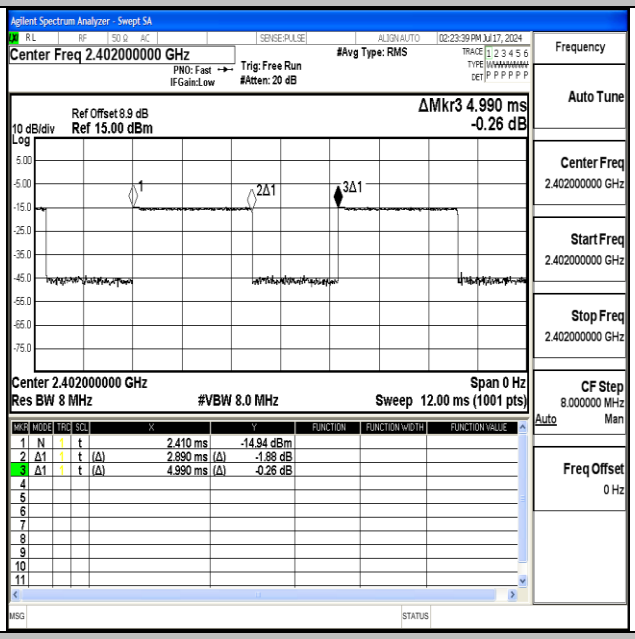
NTNV-2DH5-Ant1-2402



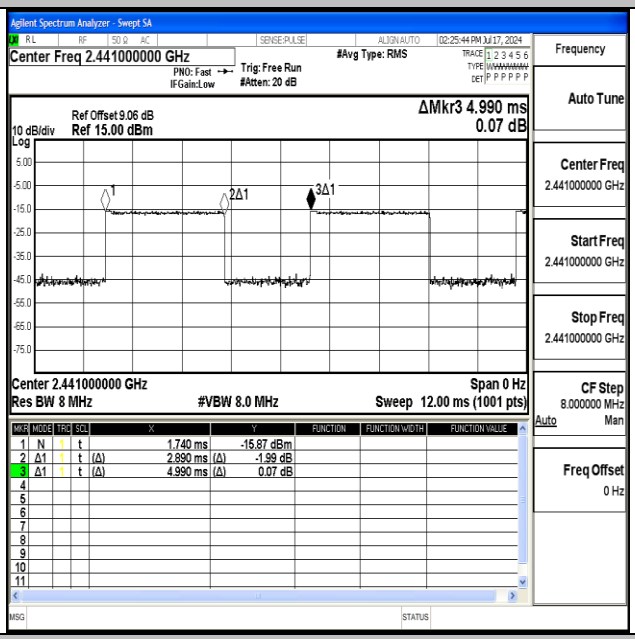
NTNV-2DH5-Ant1-2441



NTNV-2DH5-Ant1-2480



NTNV-3DH5-Ant1-2402



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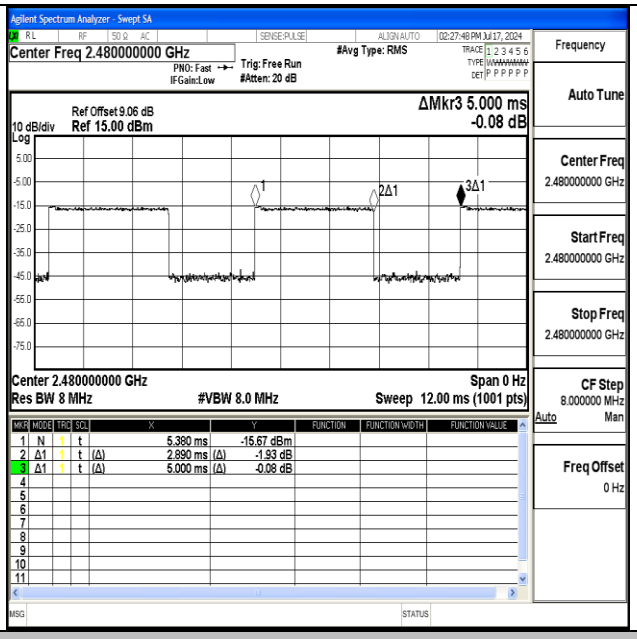

NTNV-3DH5-Ant1-2480