

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

Product Name:OWS Bluetooth headset

Trade Mark: N/A

Test Model: TWS-S21

FCC ID:2A96C-TWS-S21

### Environmental Conditions

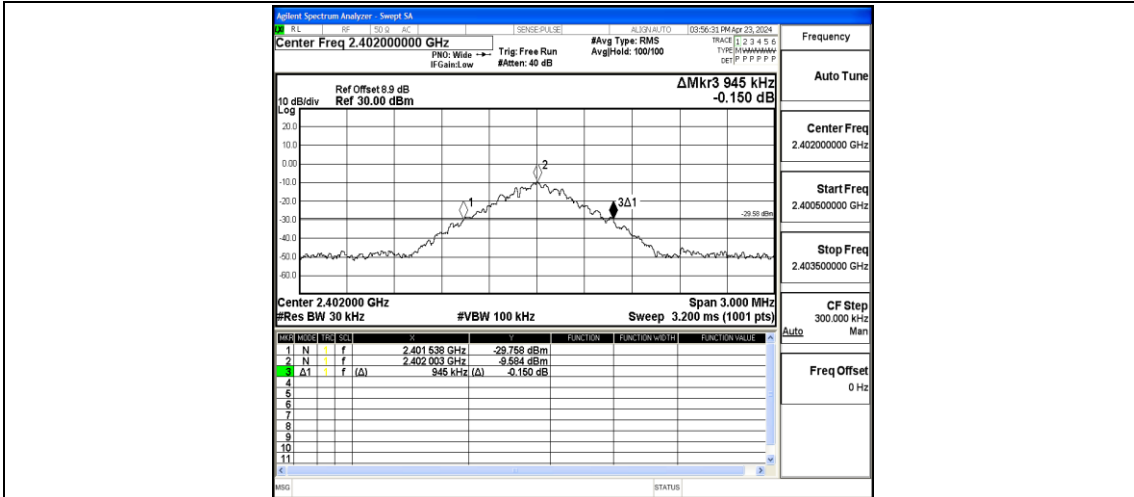
Temperature:	23.8℃
Relative Humidity:	58%
ATM Pressure:	100.0 kPa
Test Engineer:	Allen Lai
Supervised by:	Hugo Chen
NOTE	N/A

## Appendix A: 20dB Emission Bandwidth

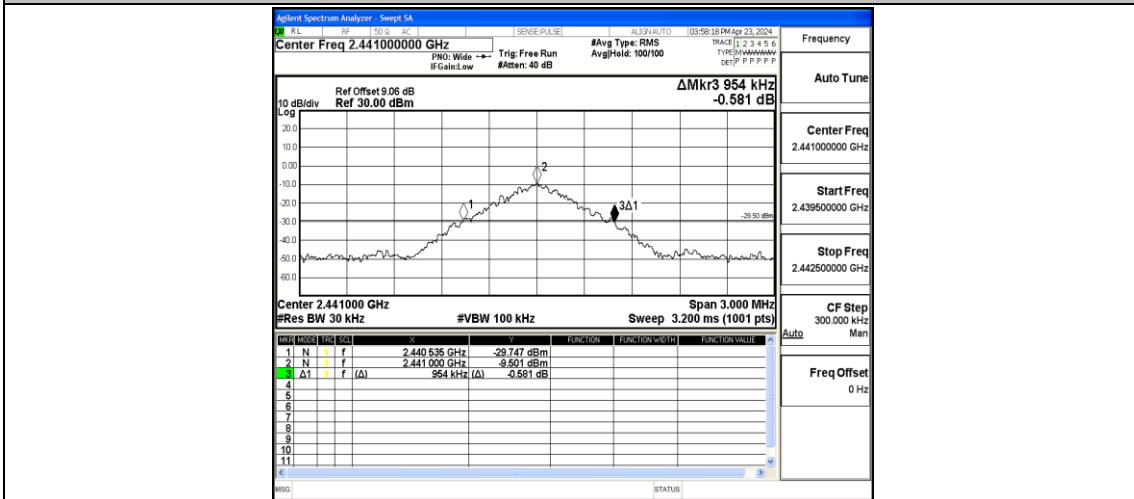
### Test Result

TestMode	Antenna	Frequency[MHz]	20db EBW[MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
DH5	Ant1	2402	0.945	2401.538	2402.483	---	---
DH5	Ant1	2441	0.954	2440.535	2441.489	---	---
DH5	Ant1	2480	0.957	2479.532	2480.489	---	---
2DH5	Ant1	2402	1.275	2401.364	2402.639	---	---
2DH5	Ant1	2441	1.317	2440.340	2441.657	---	---
2DH5	Ant1	2480	1.278	2479.367	2480.645	---	---
3DH5	Ant1	2402	1.299	2401.346	2402.645	---	---
3DH5	Ant1	2441	1.287	2440.352	2441.639	---	---
3DH5	Ant1	2480	1.284	2479.361	2480.645	---	---

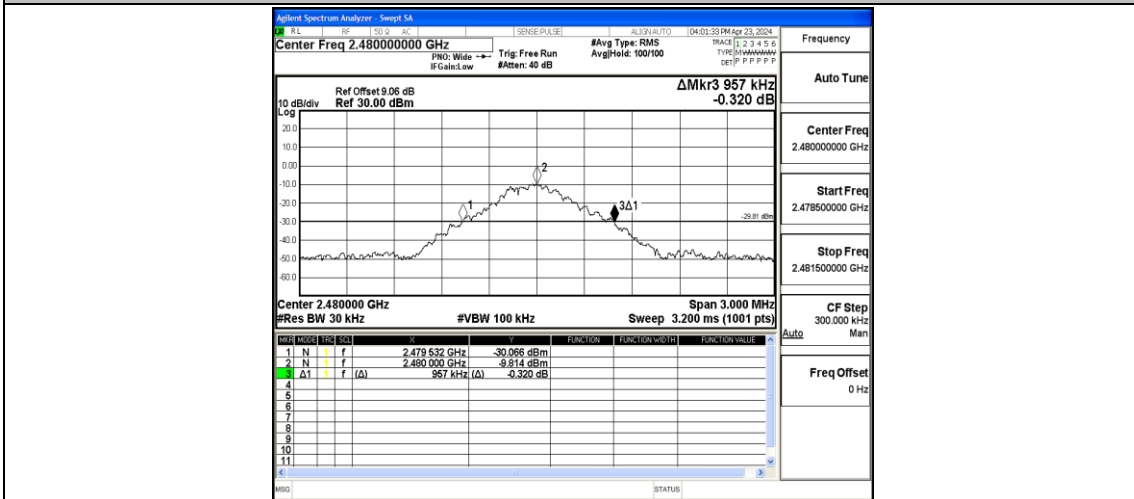
### Test Graphs



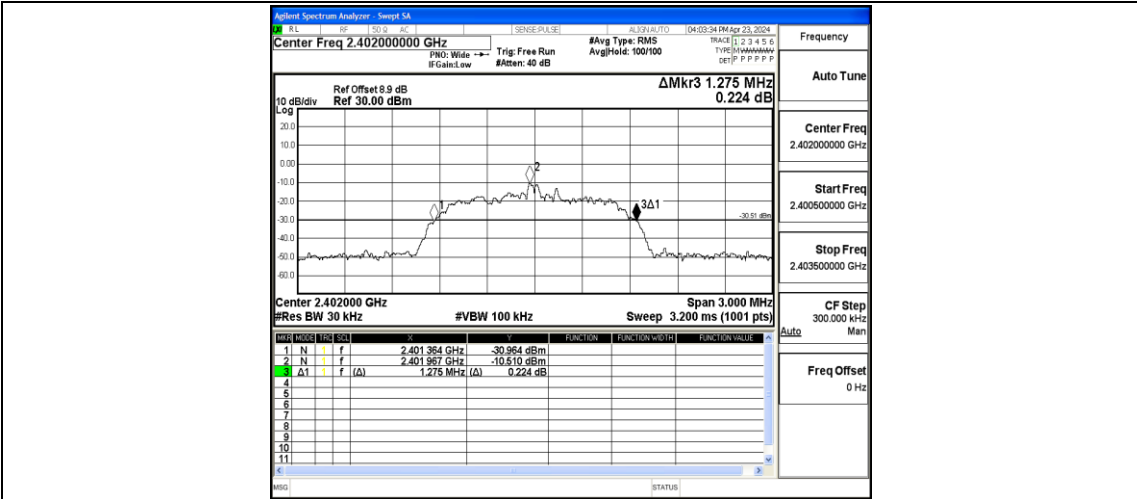
DH5-Ant1-2402



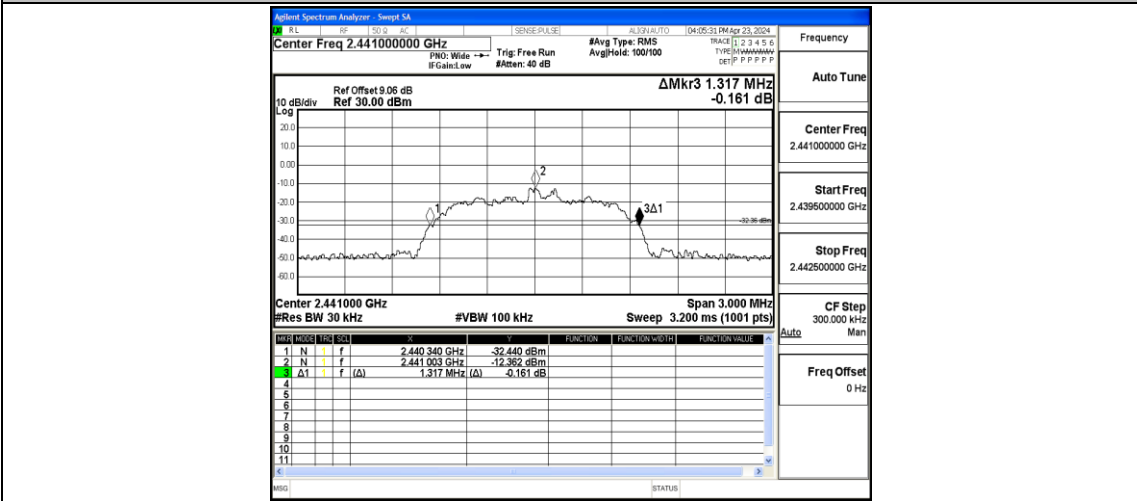
DH5-Ant1-2441



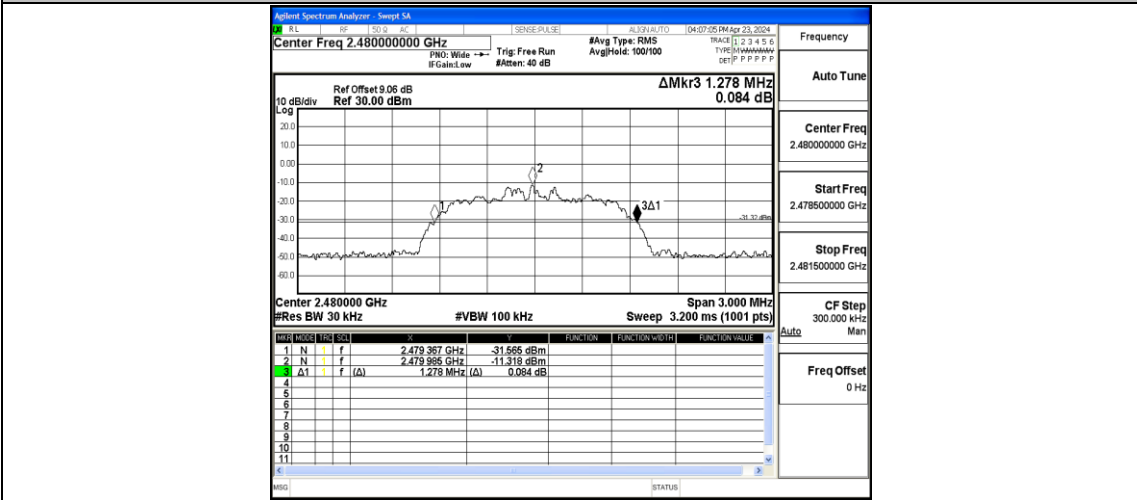
DH5-Ant1-2480



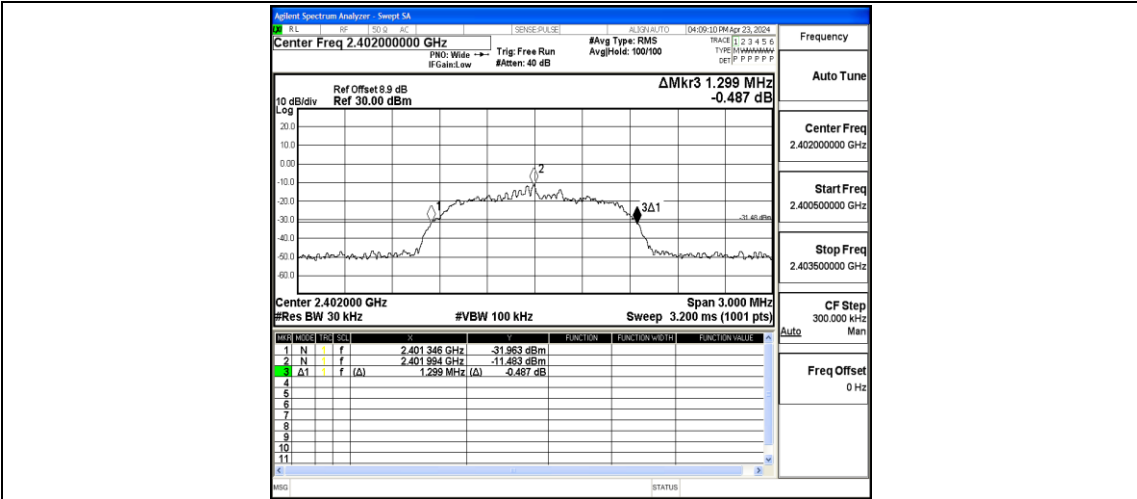
2DH5-Ant1-2402



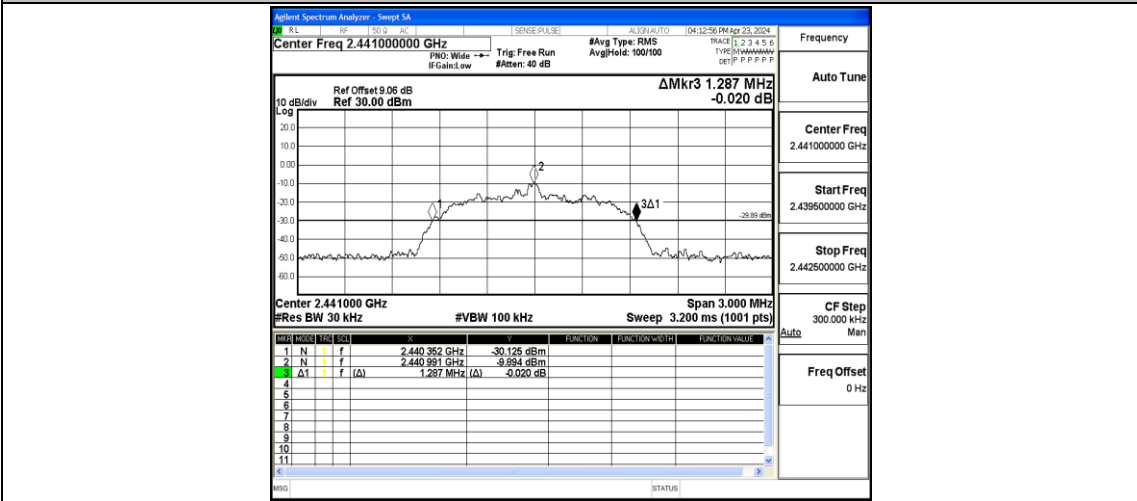
2DH5-Ant1-2441



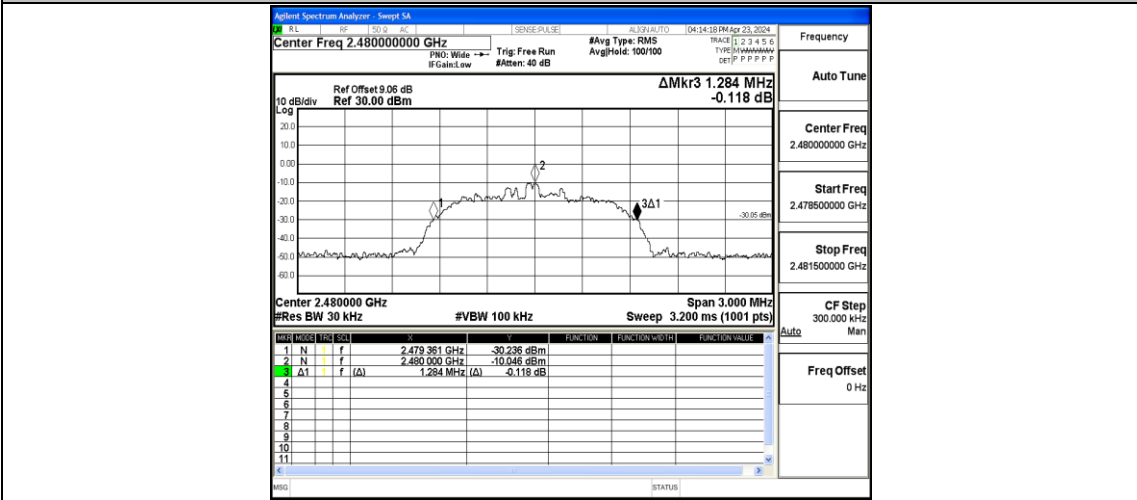
2DH5-Ant1-2480



3DH5-Ant1-2402



3DH5-Ant1-2441



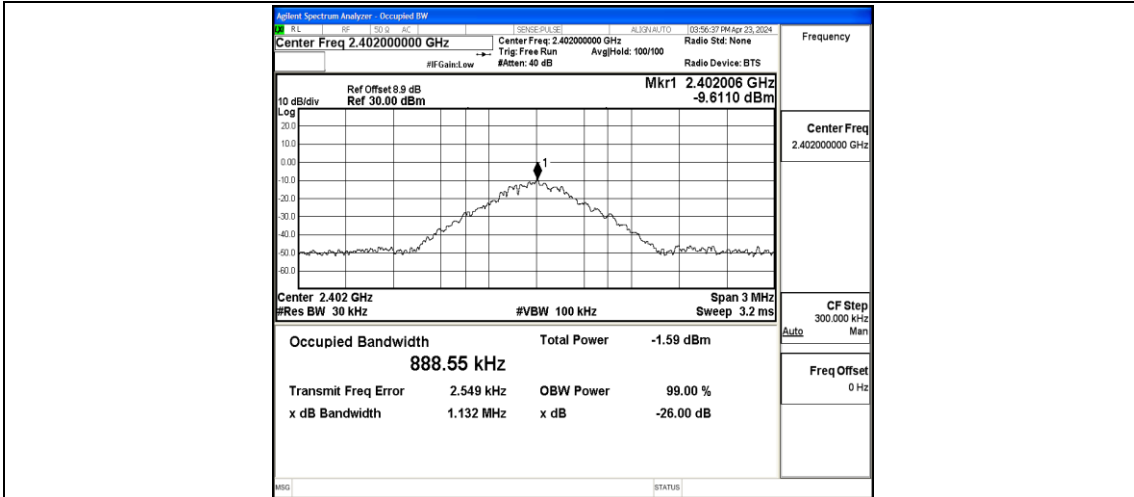
3DH5-Ant1-2480

## Appendix B: Occupied Channel Bandwidth

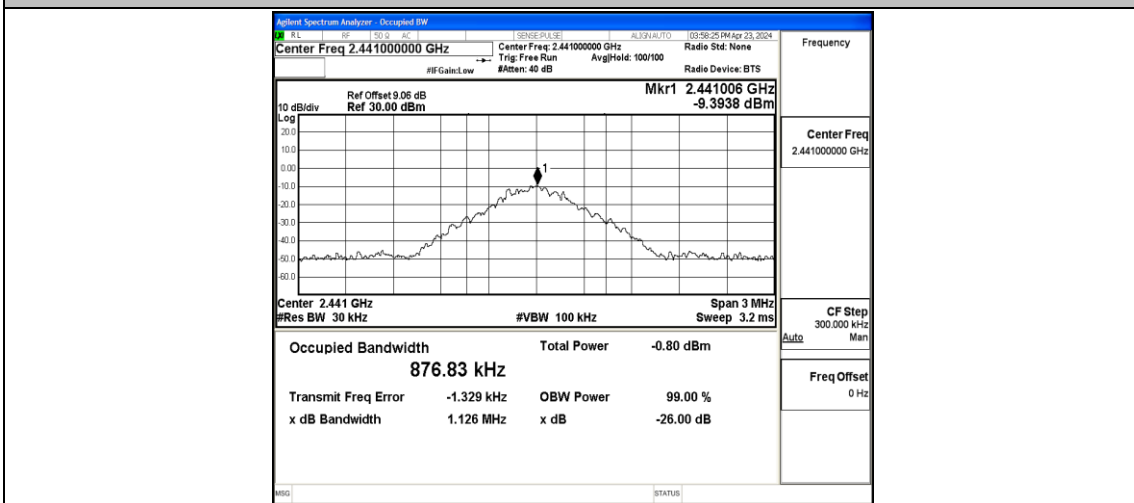
### Test Result

TestMode	Antenna	Frequency[MHz]	OCB [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
DH5	Ant1	2402	0.88855	2401.5583	2402.4468	---	---
DH5	Ant1	2441	0.87683	2440.5603	2441.4371	---	---
DH5	Ant1	2480	0.87163	2479.5581	2480.4298	---	---
2DH5	Ant1	2402	1.1892	2401.4029	2402.5921	---	---
2DH5	Ant1	2441	1.1756	2440.4099	2441.5855	---	---
2DH5	Ant1	2480	1.1909	2479.4002	2480.5911	---	---
3DH5	Ant1	2402	1.1796	2401.4102	2402.5898	---	---
3DH5	Ant1	2441	1.1905	2440.4058	2441.5963	---	---
3DH5	Ant1	2480	1.1878	2479.4071	2480.5949	---	---

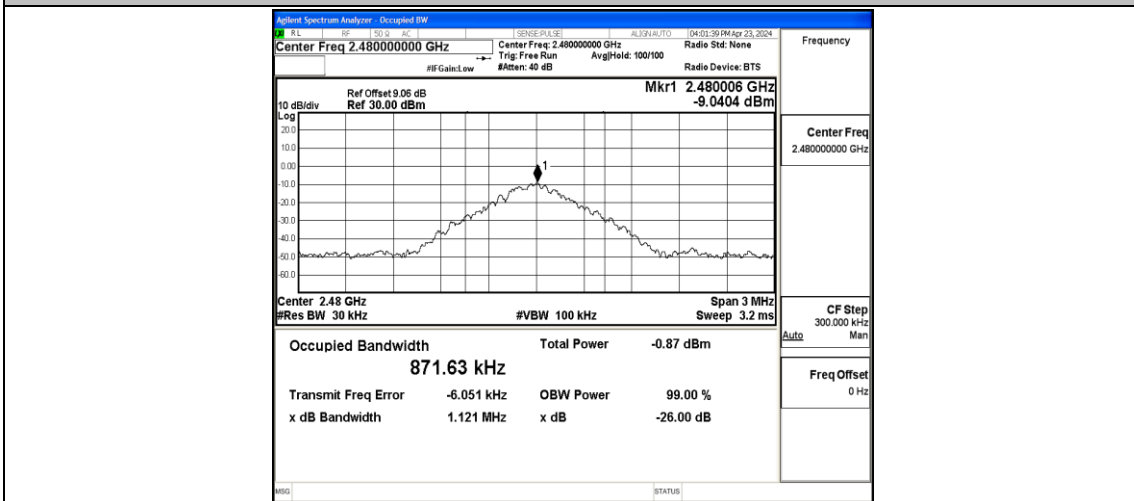
### Test Graphs



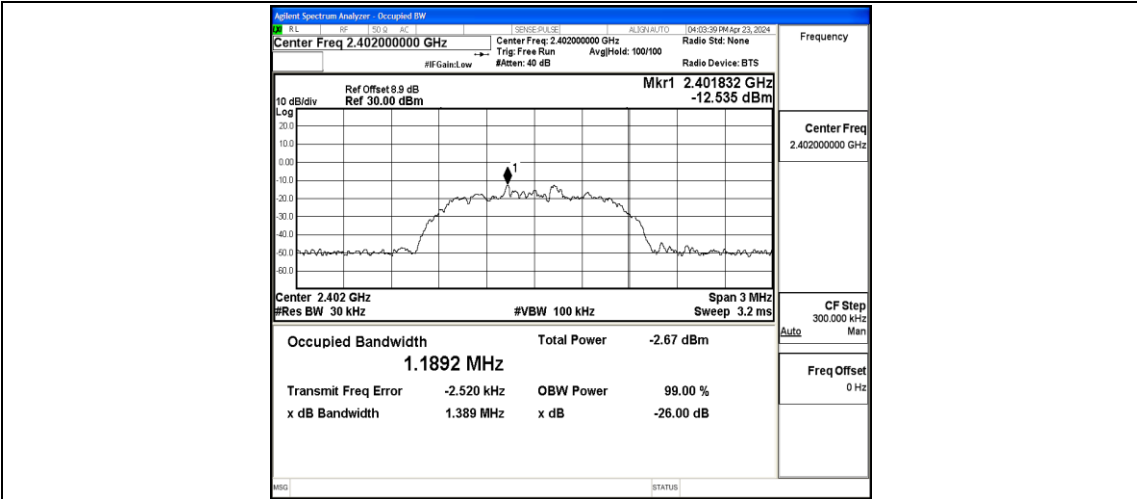
DH5-Ant1-2402



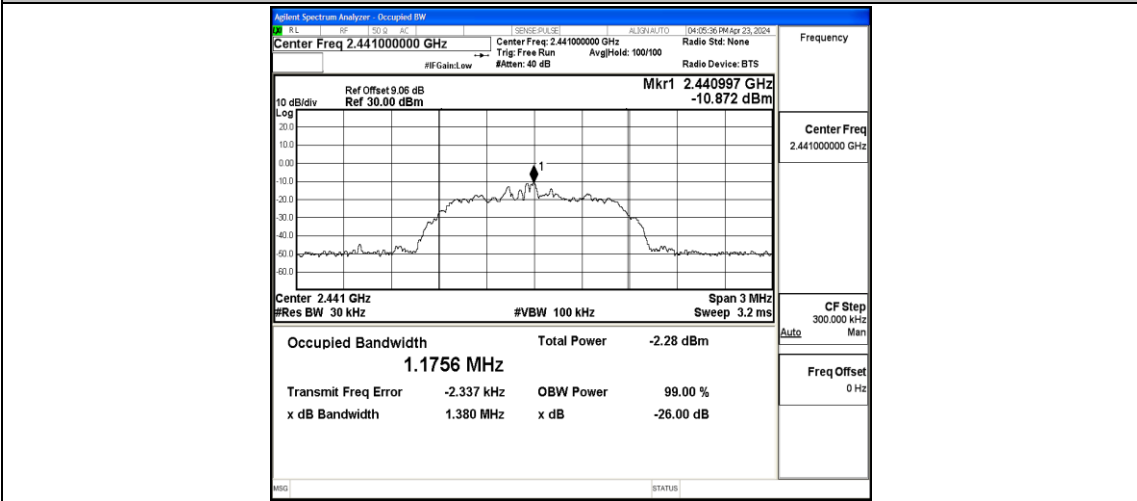
DH5-Ant1-2441



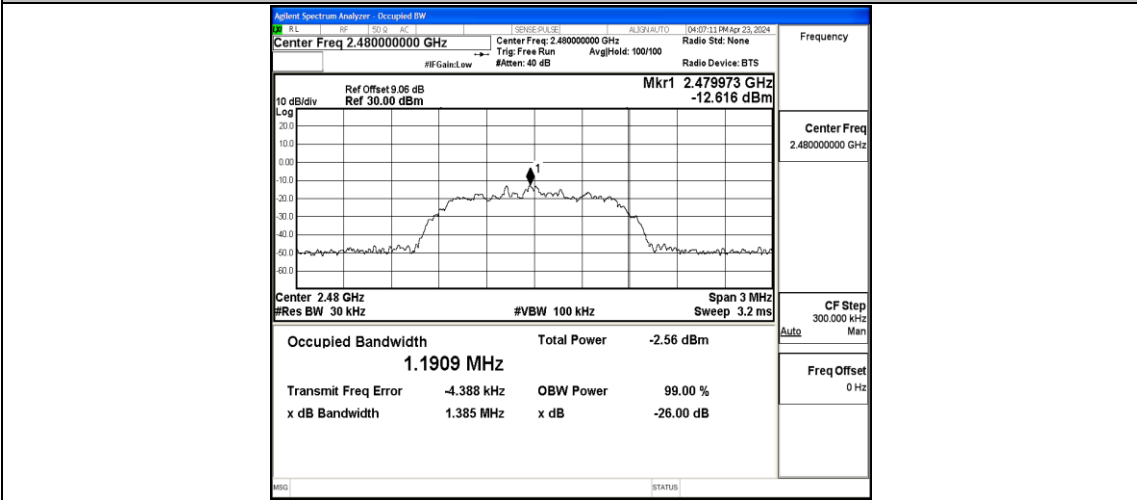
DH5-Ant1-2480



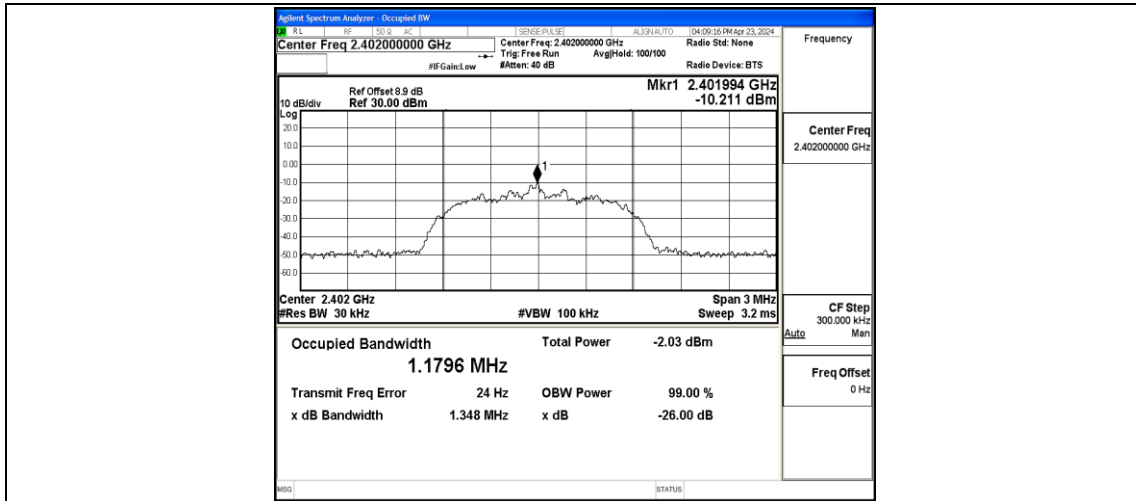
2DH5-Ant1-2402



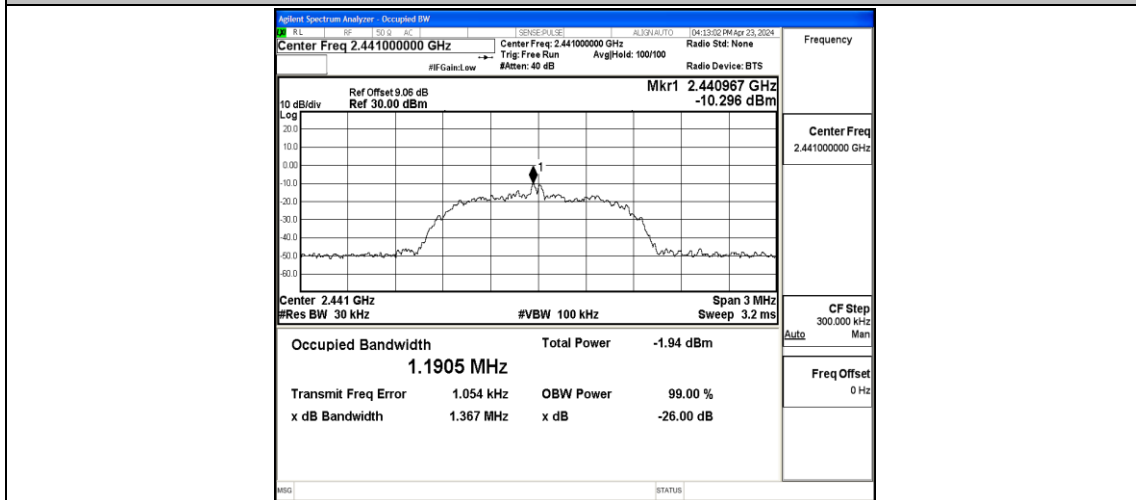
2DH5-Ant1-2441



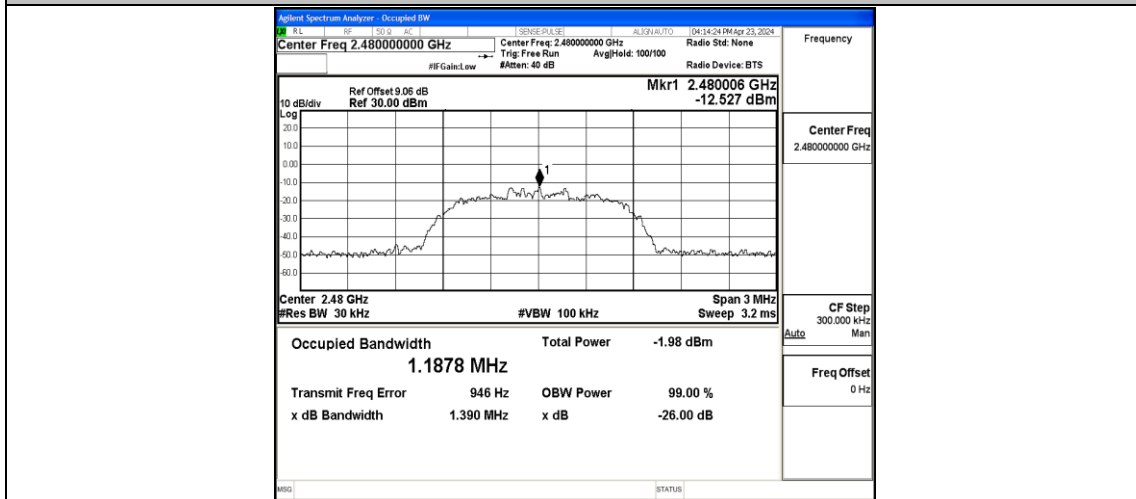
2DH5-Ant1-2480



3DH5-Ant1-2402



3DH5-Ant1-2441



3DH5-Ant1-2480

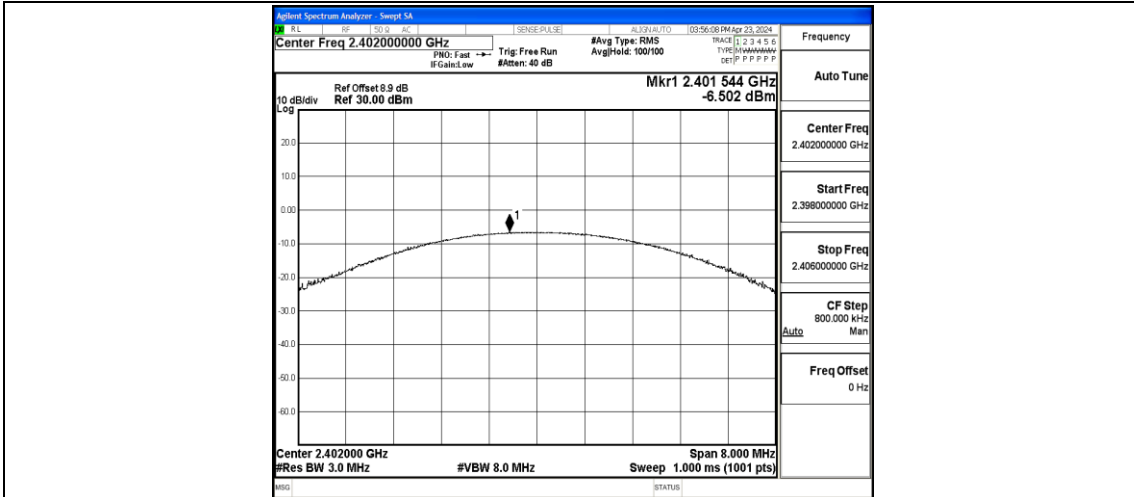


## Appendix C: Maximum peak conducted output power

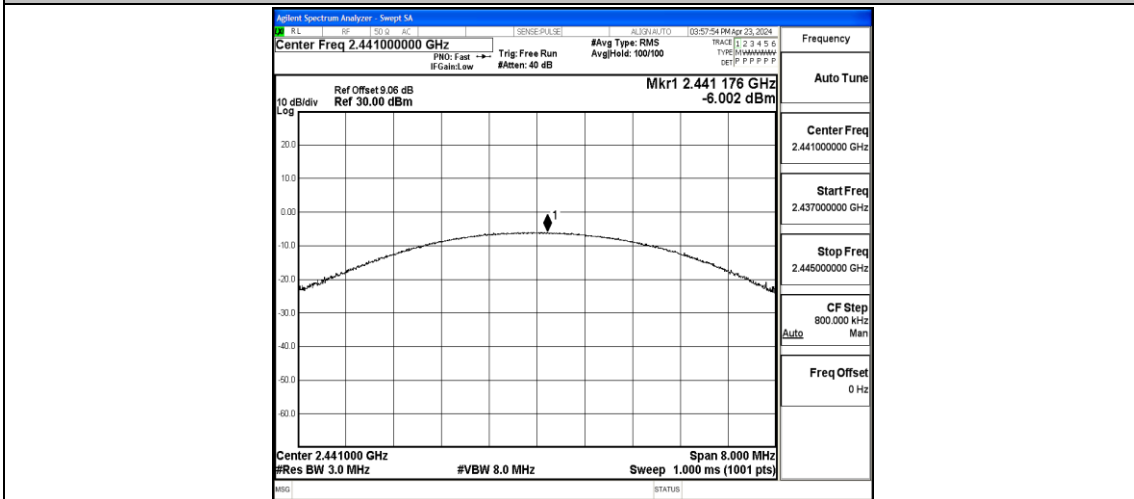
### Test Result

Test Mode	Antenna	Frequency[MHz]	Conducted Peak Power[dBm]	Conducted Limit[dBm]	Verdict
DH5	Ant1	2402	-6.50	≤30	PASS
DH5	Ant1	2441	-6.00	≤30	PASS
DH5	Ant1	2480	-5.92	≤30	PASS
2DH5	Ant1	2402	-6.33	≤20.97	PASS
2DH5	Ant1	2441	-6.51	≤20.97	PASS
2DH5	Ant1	2480	-6.13	≤20.97	PASS
3DH5	Ant1	2402	-6.14	≤20.97	PASS
3DH5	Ant1	2441	-5.78	≤20.97	PASS
3DH5	Ant1	2480	-5.48	≤20.97	PASS

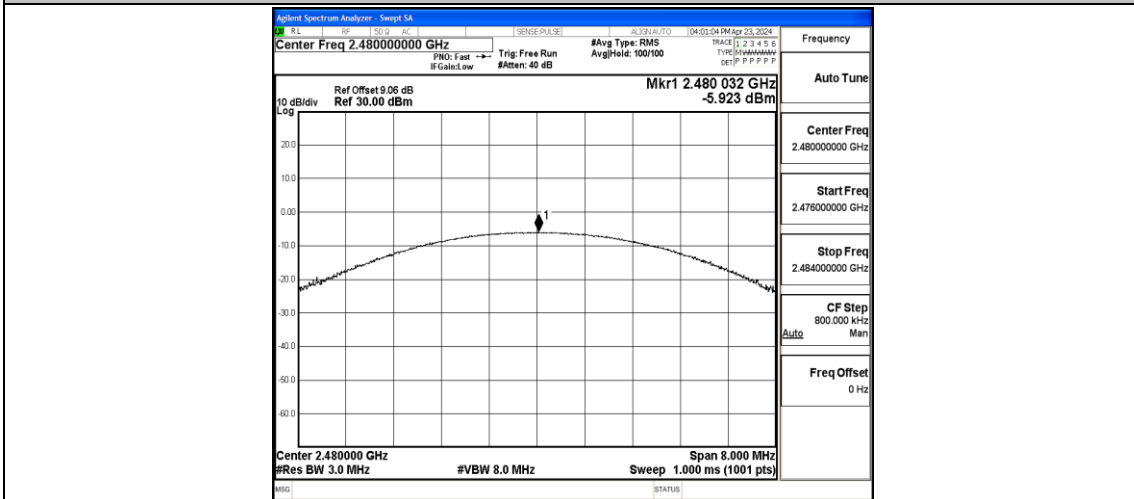
### Test Graphs



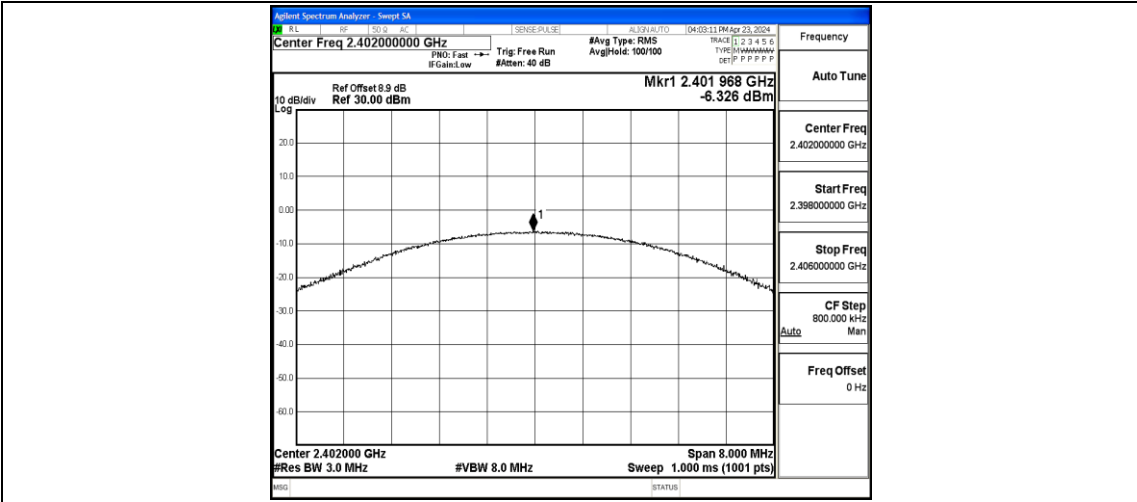
DH5-Ant1-2402-PASS



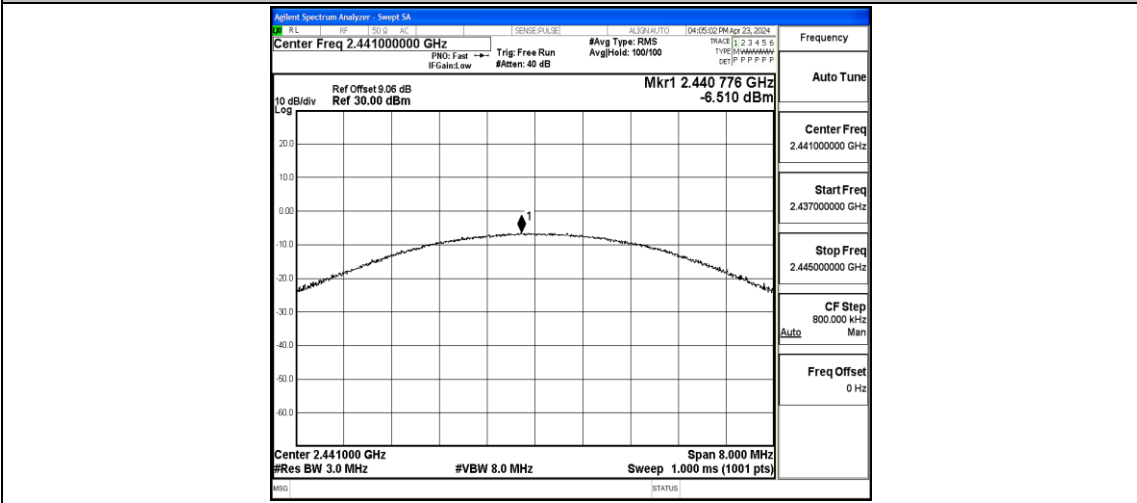
DH5-Ant1-2441-PASS



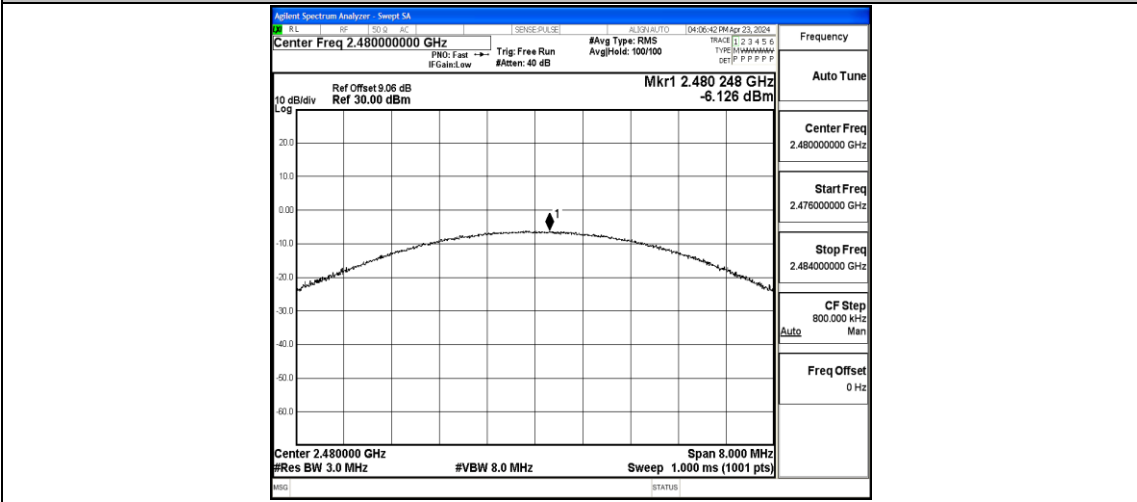
DH5-Ant1-2480-PASS



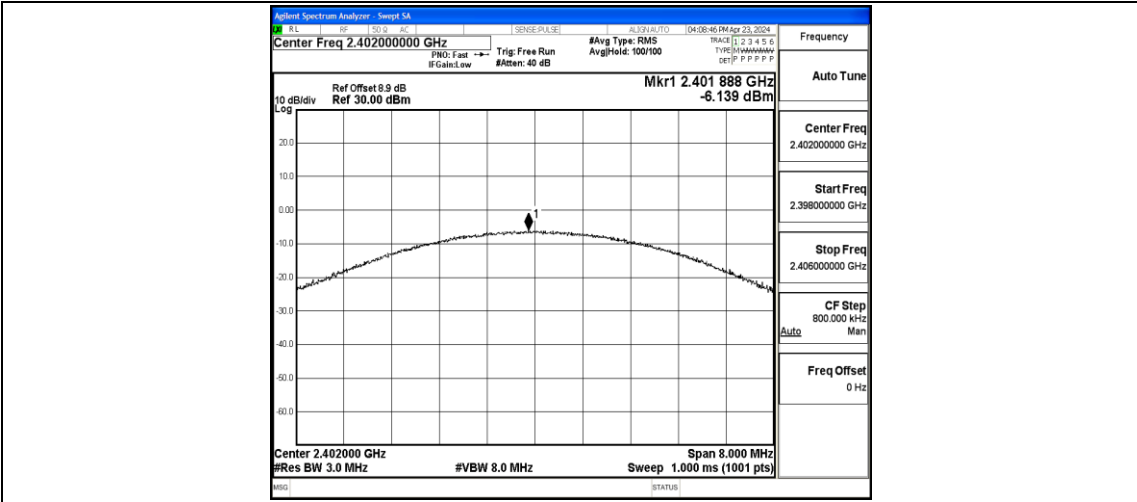
2DH5-Ant1-2402-PASS



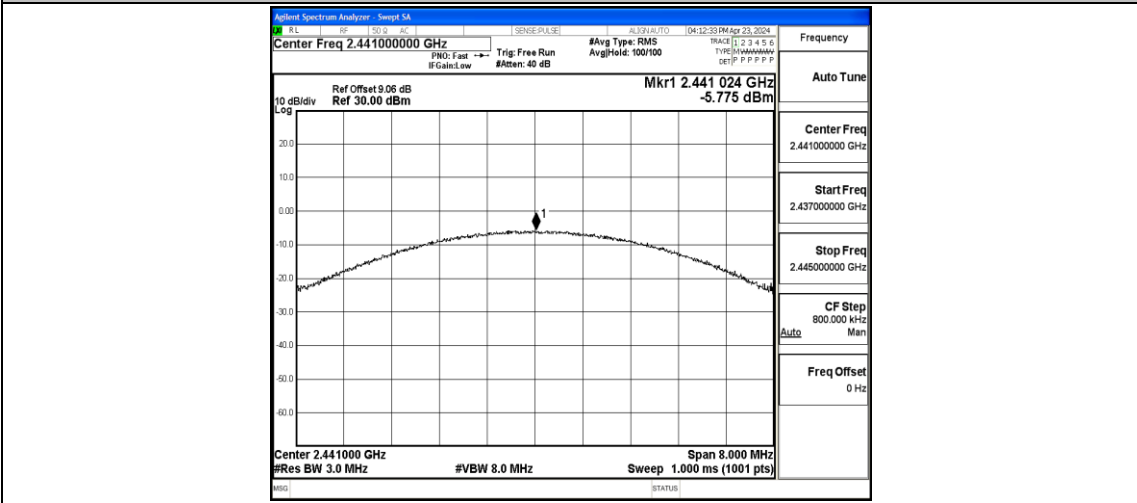
2DH5-Ant1-2441-PASS



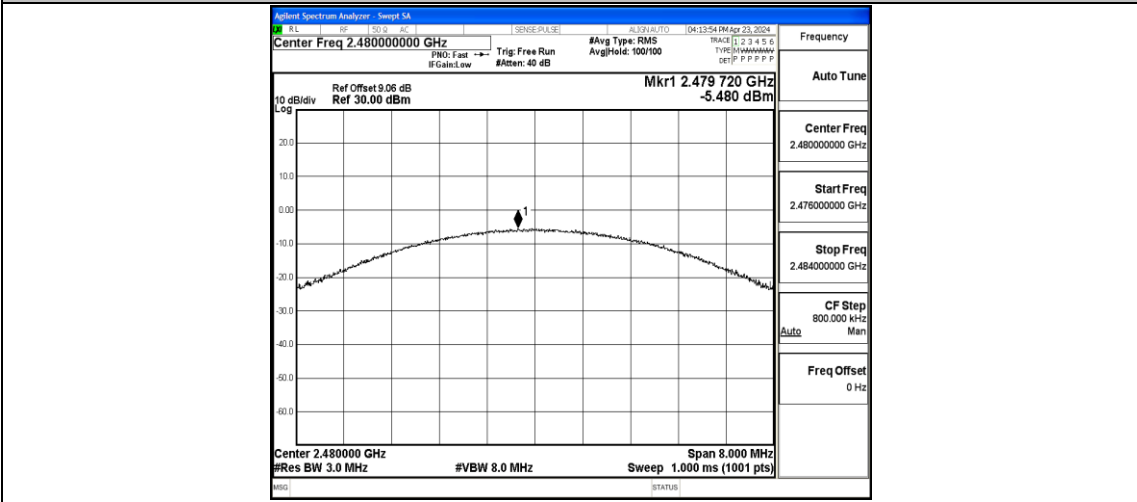
2DH5-Ant1-2480-PASS



3DH5-Ant1-2402-PASS



3DH5-Ant1-2441-PASS



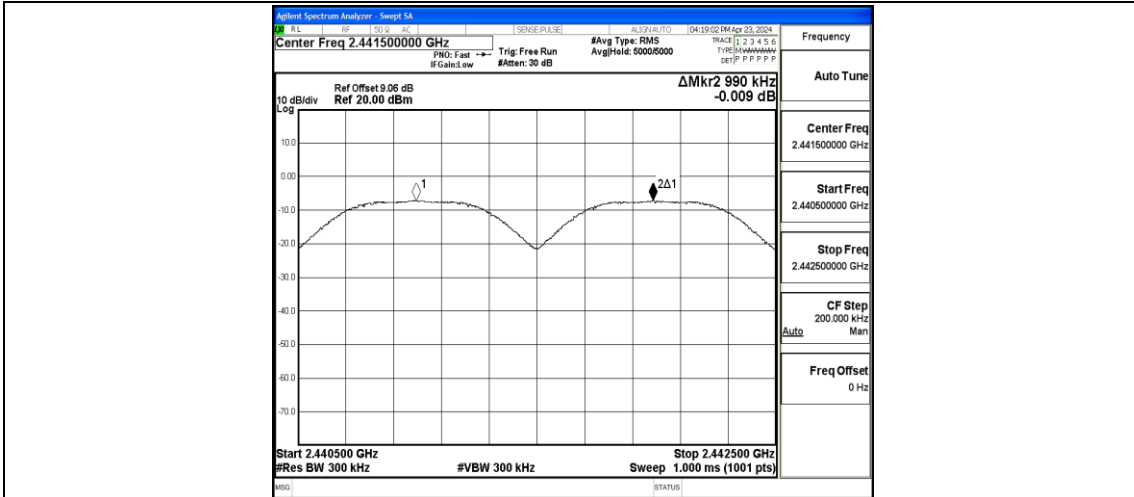
3DH5-Ant1-2480-PASS

## Appendix D: Carrier frequency separation

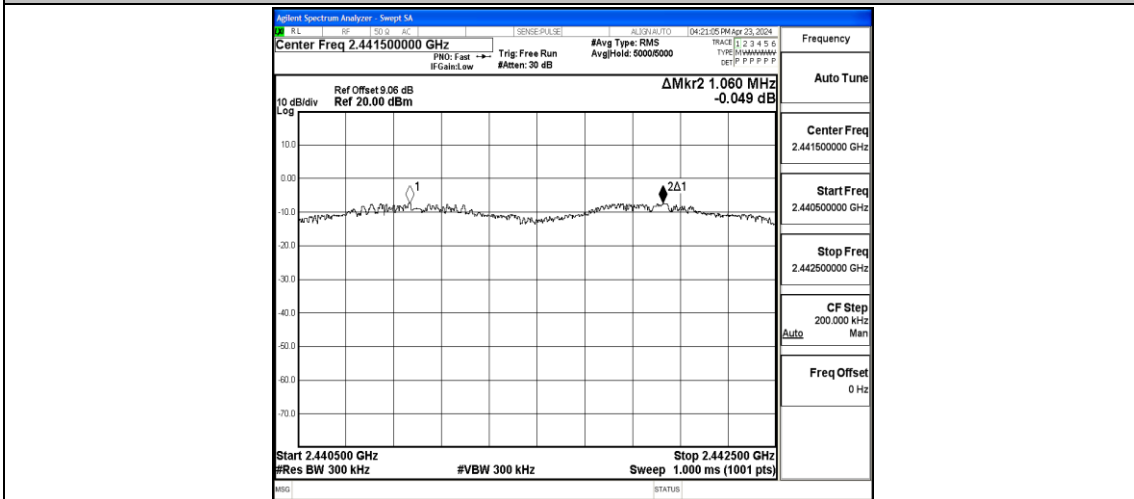
### Test Result

TestMode	Antenna	Frequency[MHz]	Result[MHz]	Limit[MHz]	Verdict
DH5	Ant1	Hop	0.99	$\geq 0.957$	PASS
2DH5	Ant1	Hop	1.06	$\geq 0.878$	PASS
3DH5	Ant1	Hop	1.02	$\geq 0.866$	PASS

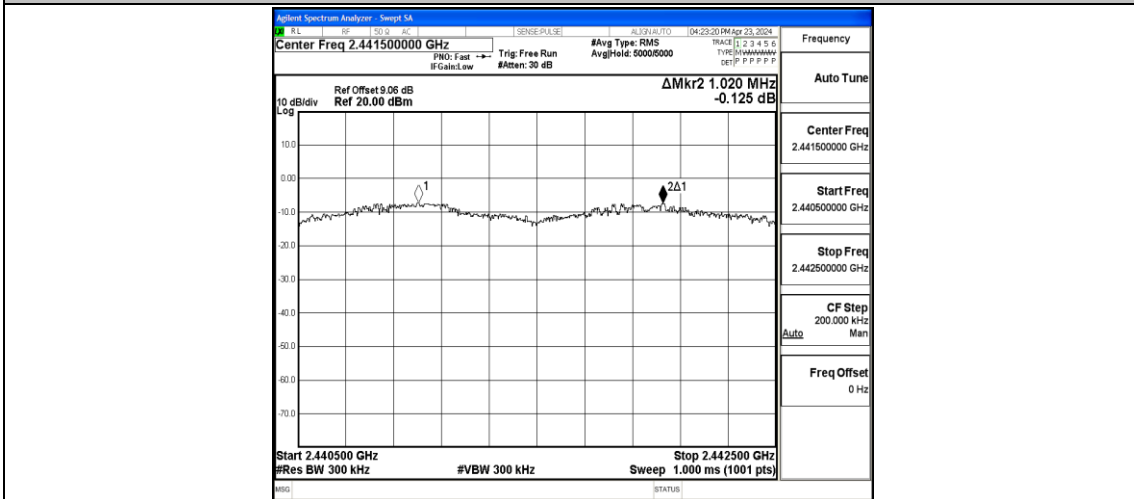
### Test Graphs



DH5-Ant1-Hop-PASS



2DH5-Ant1-Hop-PASS



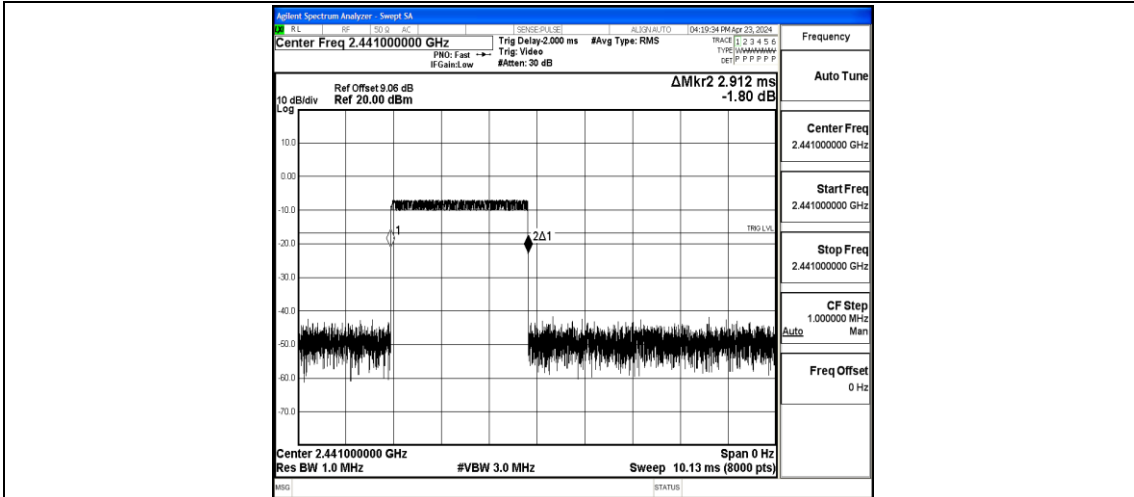
3DH5-Ant1-Hop-PASS

## Appendix E: Time of occupancy

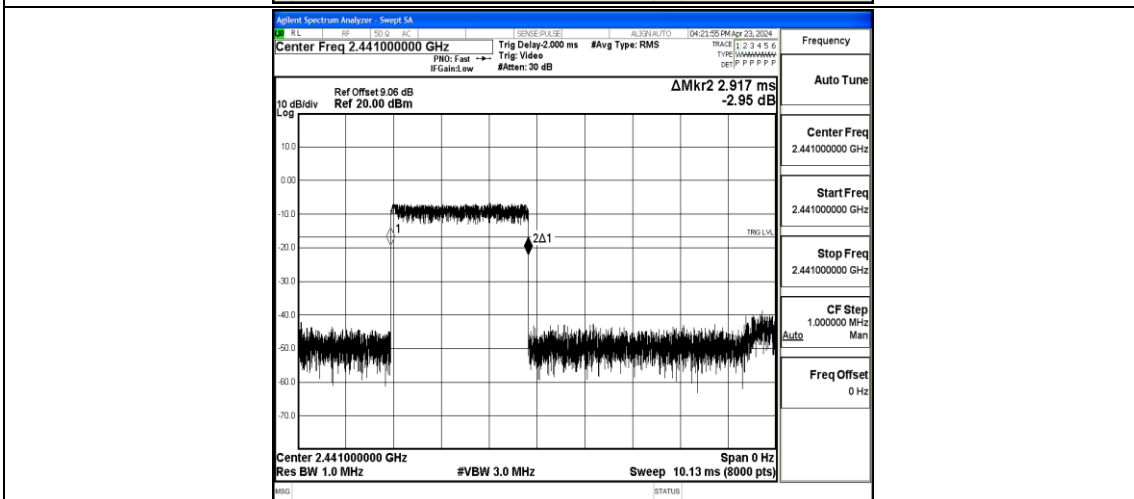
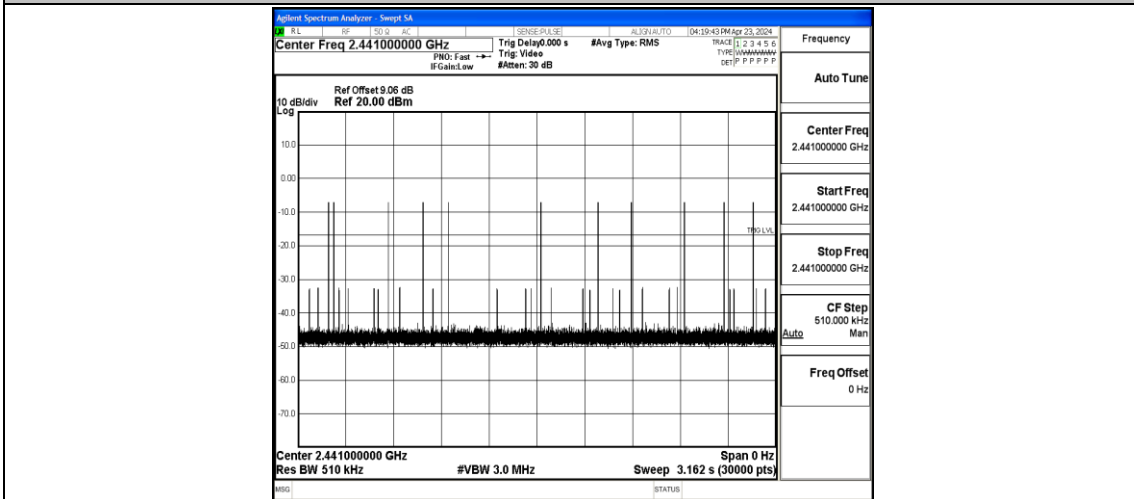
### Test Result

TestMode	Antenna	Frequency[MHz]	BurstWidth [ms]	TotalHops [Num]	Result[s]	Limit[s]	Verdict
DH5	Ant1	Hop	2.912	120	0.349	≤0.4	PASS
2DH5	Ant1	Hop	2.917	120	0.35	≤0.4	PASS
3DH5	Ant1	Hop	2.921	110	0.321	≤0.4	PASS

### Test Graphs

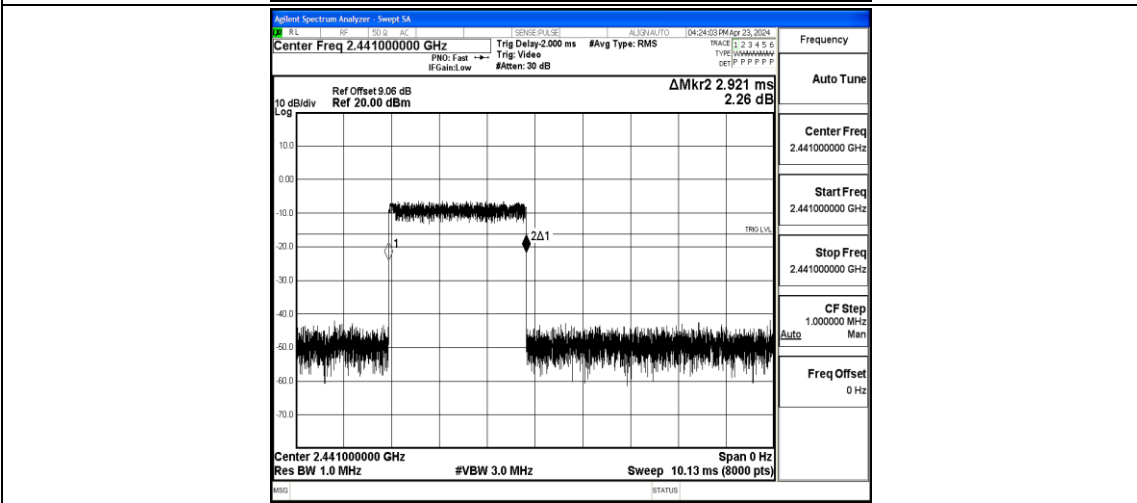
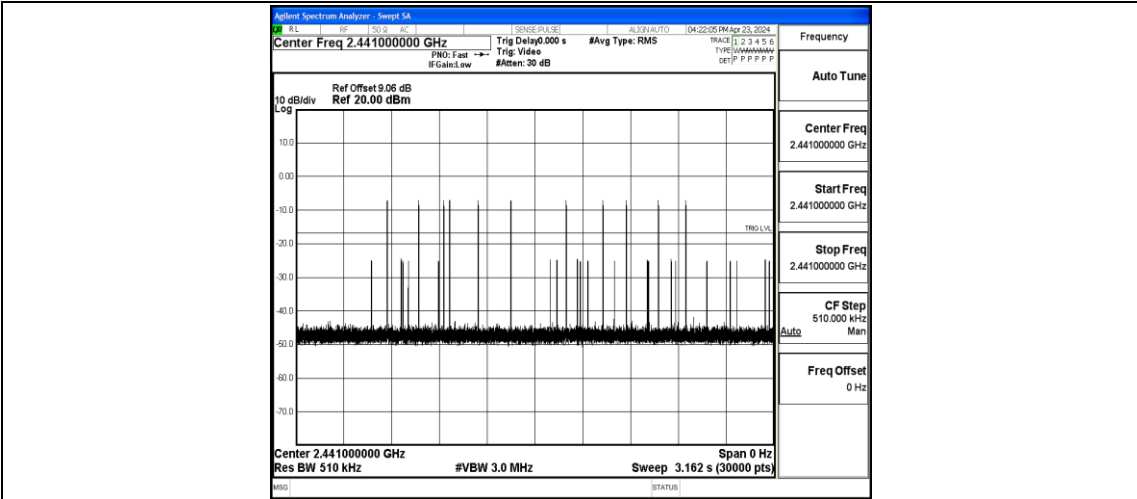


DH5-Ant1-Hop-PASS

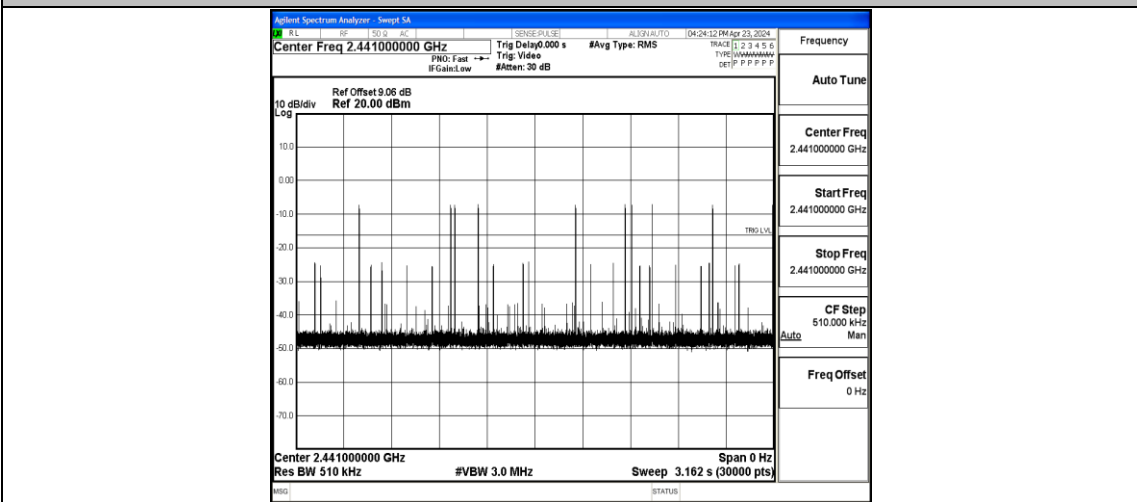


2DH5-Ant1-Hop-PASS





3DH5-Ant1-Hop-PASS

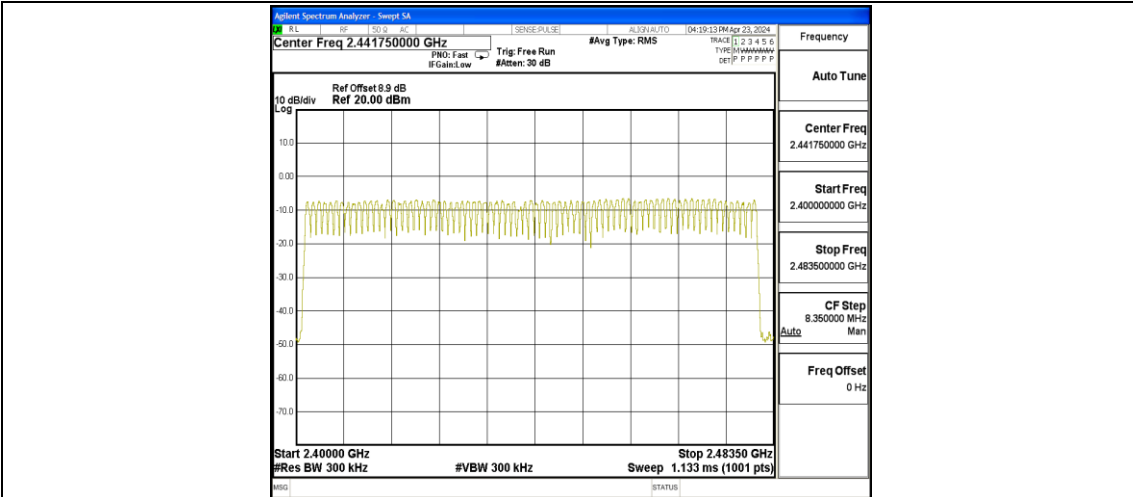


## Appendix F: Number of hopping channels

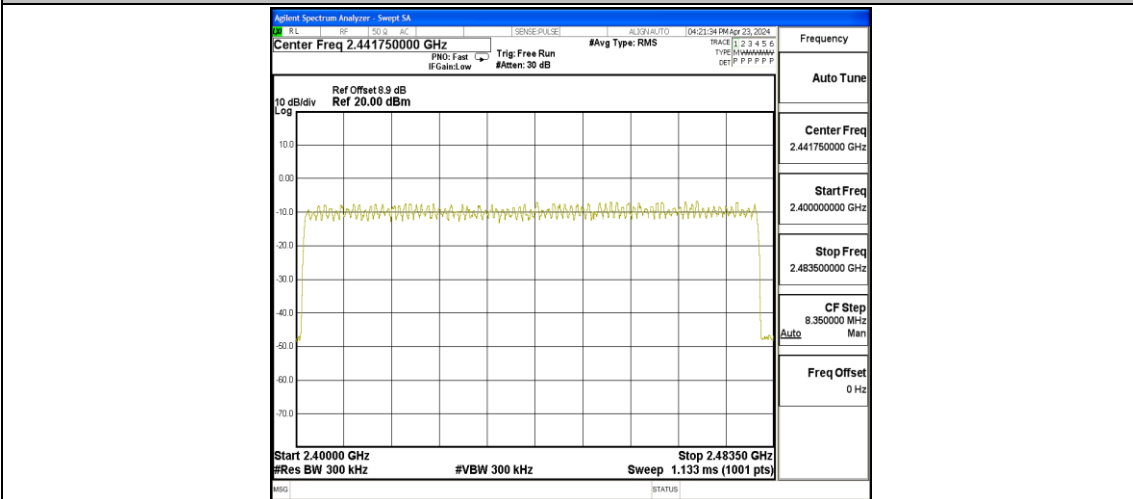
### Test Result

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

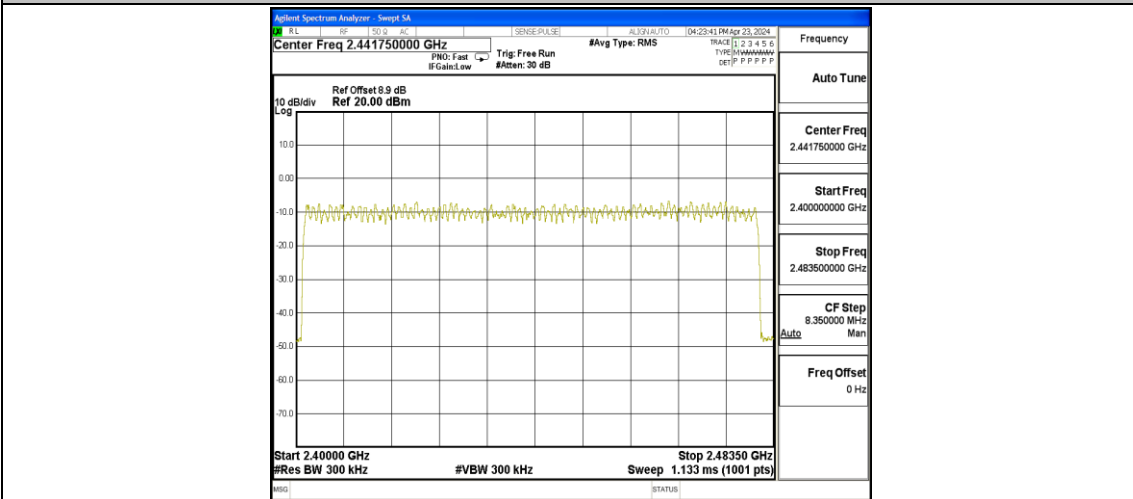
### Test Graphs



DH5-Ant1-Hop-PASS



2DH5-Ant1-Hop-PASS



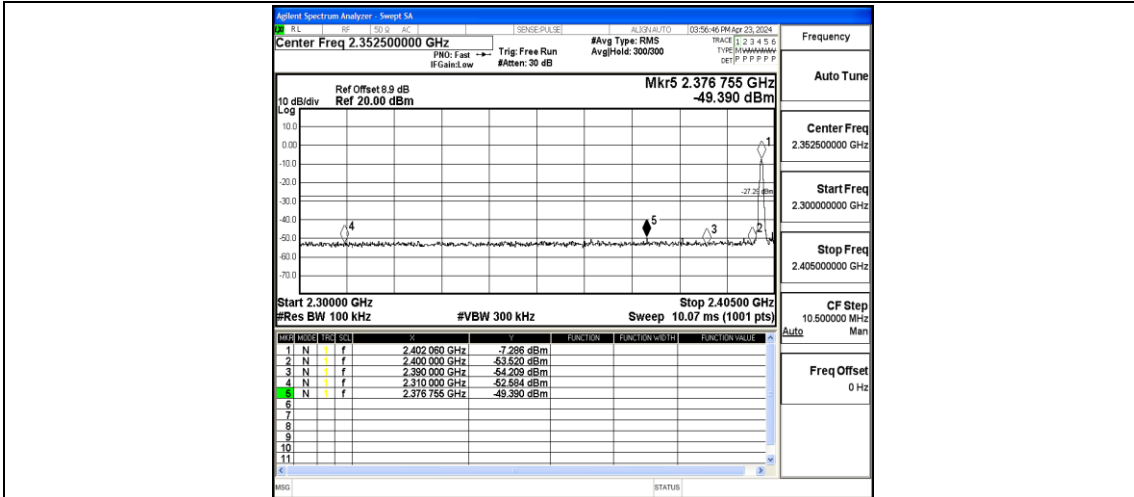
3DH5-Ant1-Hop-PASS

## Appendix G: Band edge measurements

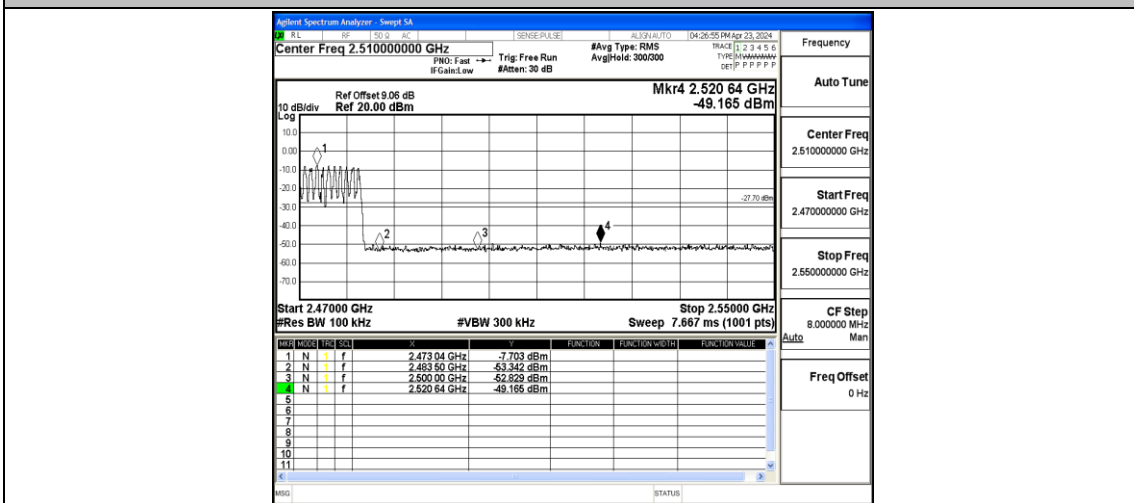
### Test Result

TestMode	Antenna	ChName	Frequency[MHz]	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
DH5	Ant1	Low	2402	-7.29	-49.39	≤-27.29	PASS
DH5	Ant1	High	2480	-7.70	-49.17	≤-27.7	PASS
DH5	Ant1	Low	Hop_2402	-9.39	-50.5	≤-29.39	PASS
DH5	Ant1	High	Hop_2480	-7.64	-49.62	≤-27.64	PASS
2DH5	Ant1	Low	2402	-8.57	-49.86	≤-28.57	PASS
2DH5	Ant1	High	2480	-8.60	-48.53	≤-28.6	PASS
2DH5	Ant1	Low	Hop_2402	-13.51	-50.92	≤-33.51	PASS
2DH5	Ant1	High	Hop_2480	-8.80	-49.44	≤-28.8	PASS
3DH5	Ant1	Low	2402	-9.39	-50.66	≤-29.39	PASS
3DH5	Ant1	High	2480	-8.17	-49.53	≤-28.17	PASS
3DH5	Ant1	Low	Hop_2402	-9.01	-50.53	≤-29.01	PASS
3DH5	Ant1	High	Hop_2480	-11.46	-49.59	≤-31.46	PASS

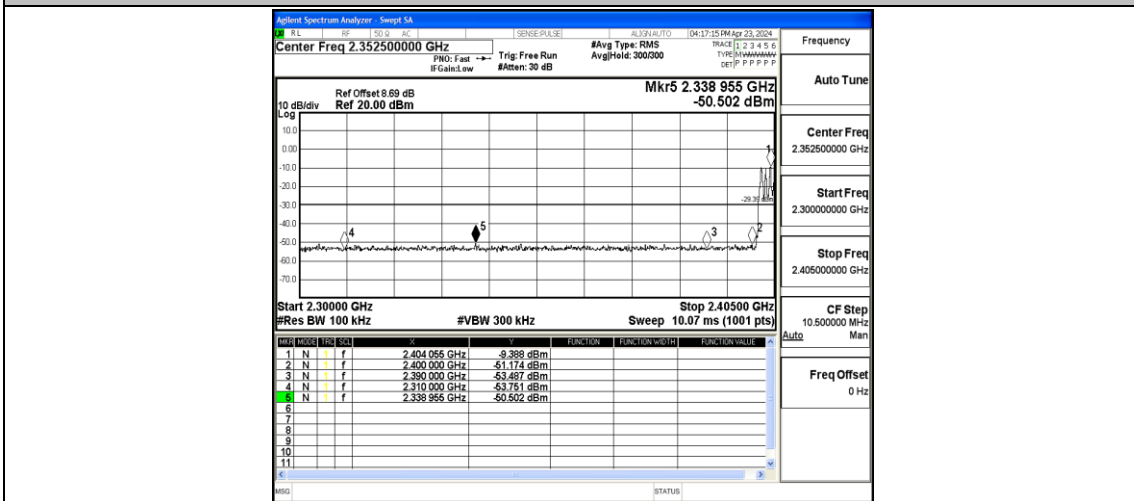
### Test Graphs



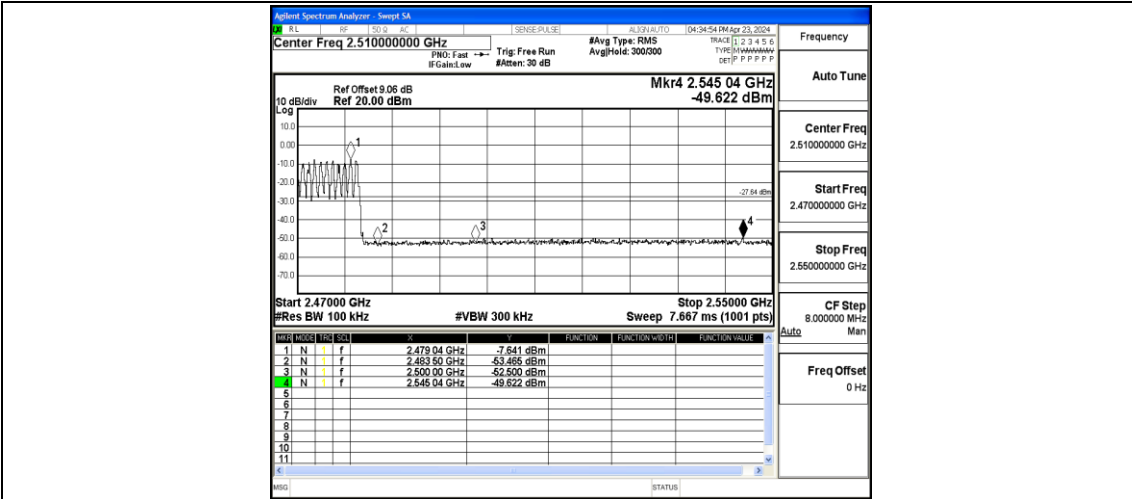
DH5-Ant1-2402-PASS



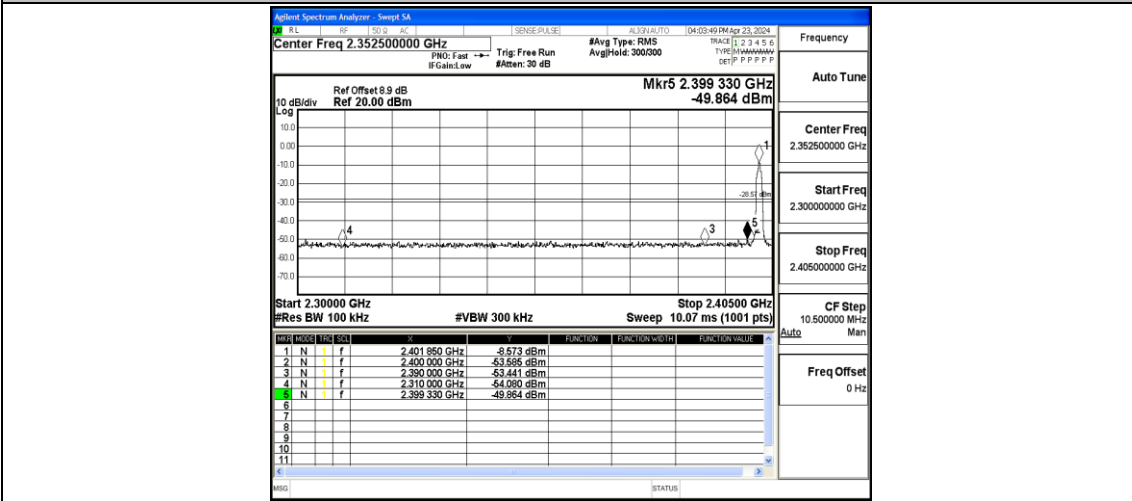
DH5-Ant1-2480-PASS



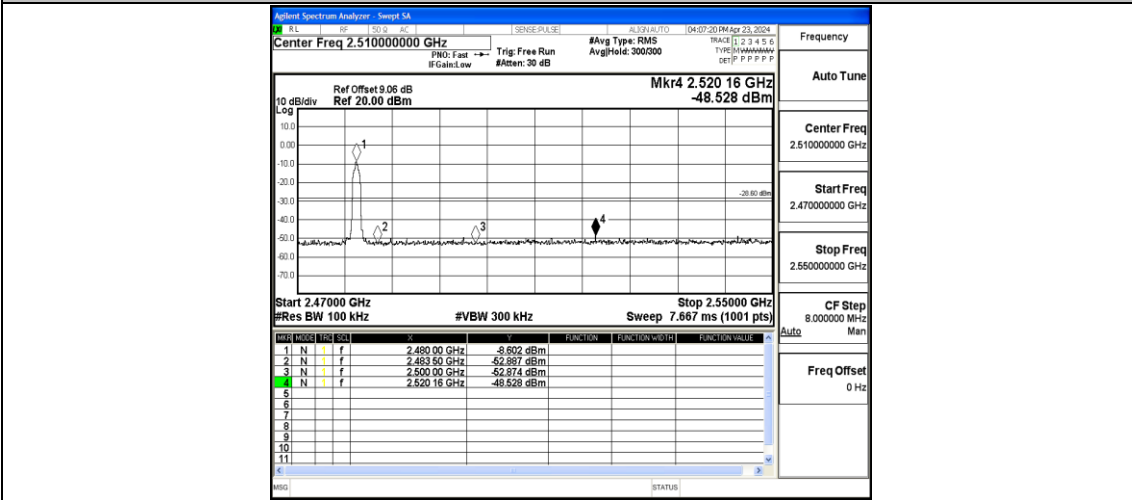
DH5-Ant1-Hop\_2402-PASS



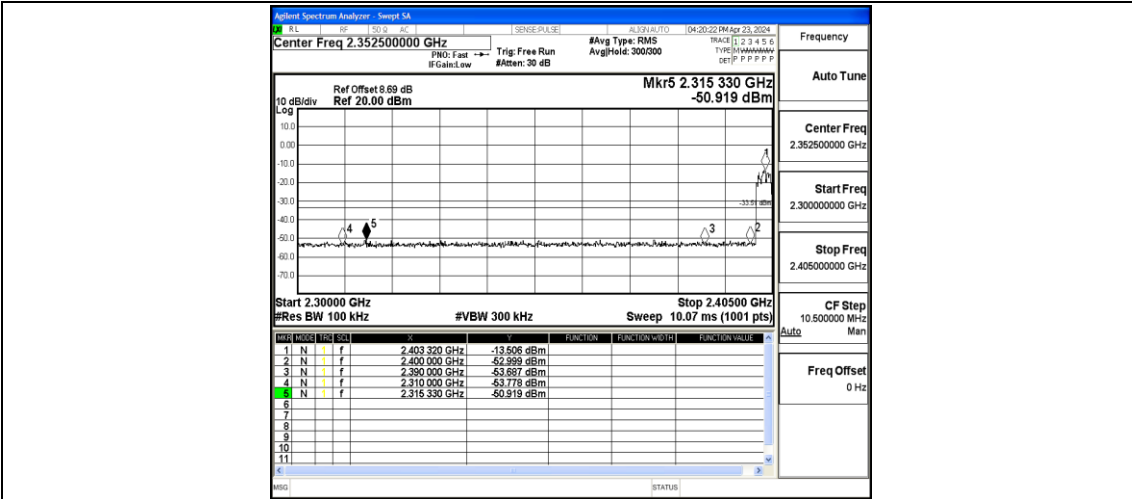
DH5-Ant1-Hop\_2480-PASS



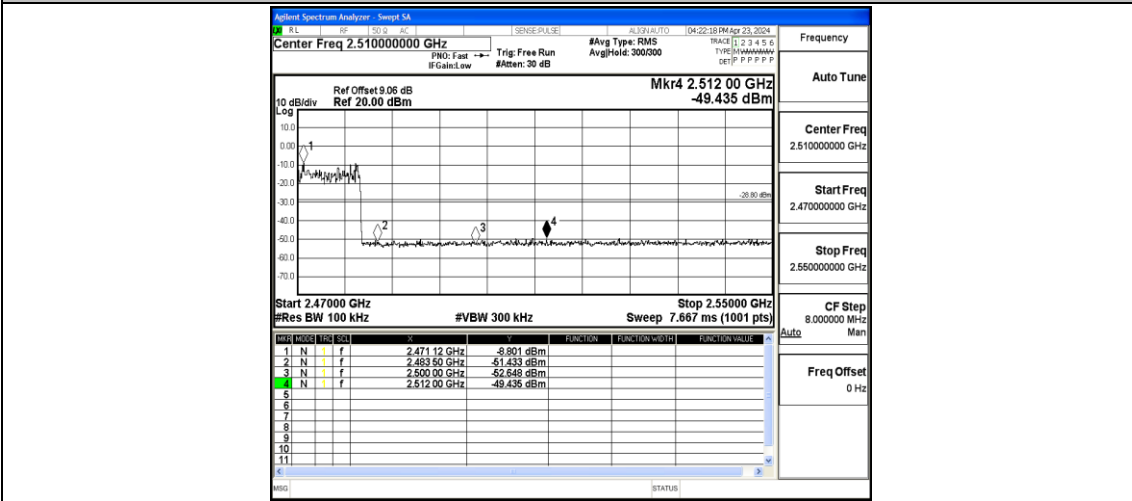
2DH5-Ant1-2402-PASS



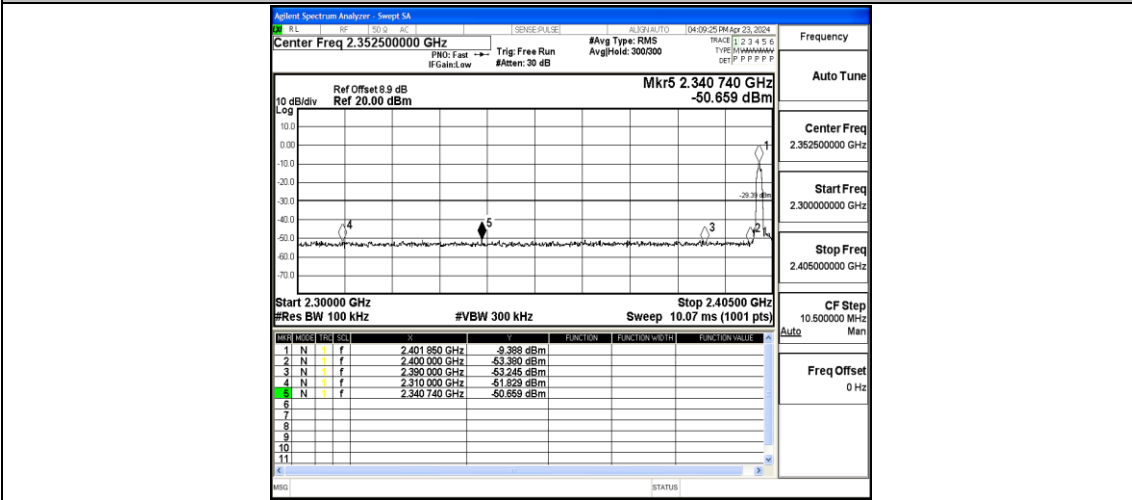
2DH5-Ant1-2480-PASS



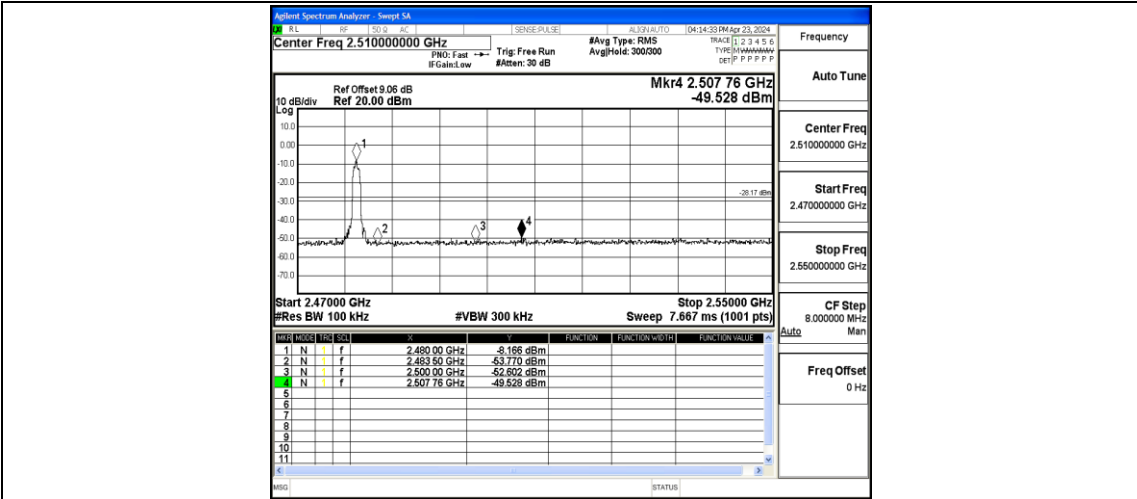
2DH5-Ant1-Hop\_2402-PASS



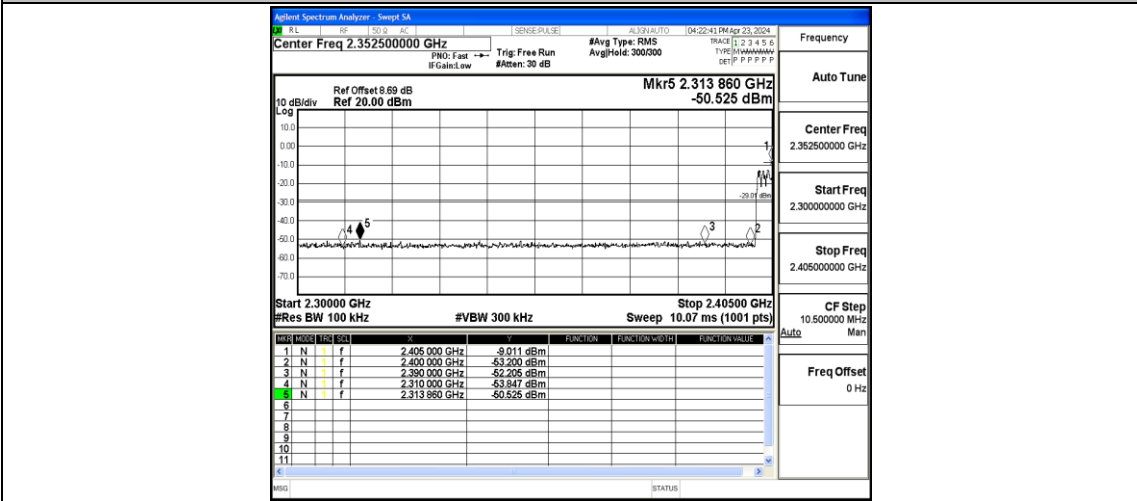
2DH5-Ant1-Hop\_2480-PASS



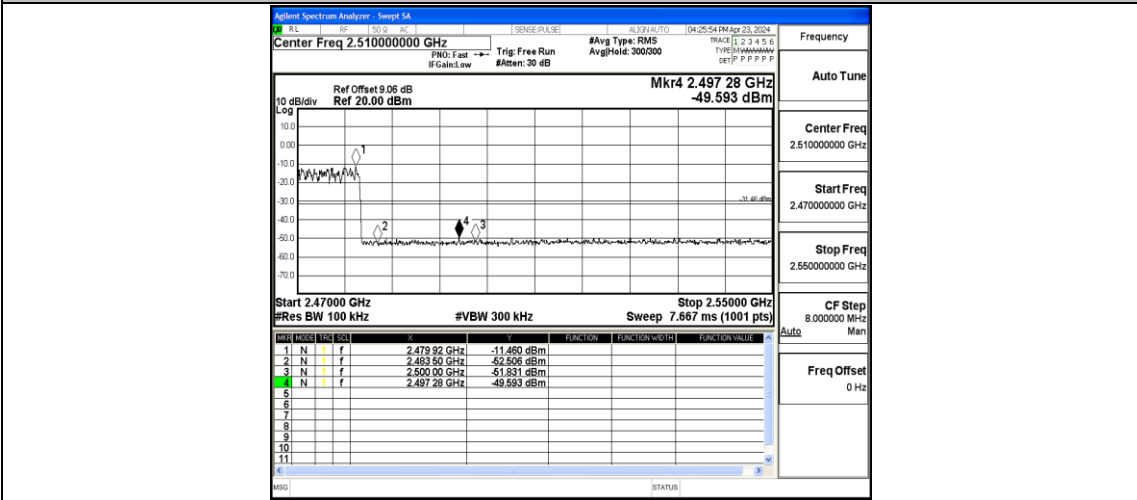
3DH5-Ant1-2402-PASS



3DH5-Ant1-2480-PASS



3DH5-Ant1-Hop\_2402-PASS



3DH5-Ant1-Hop\_2480-PASS

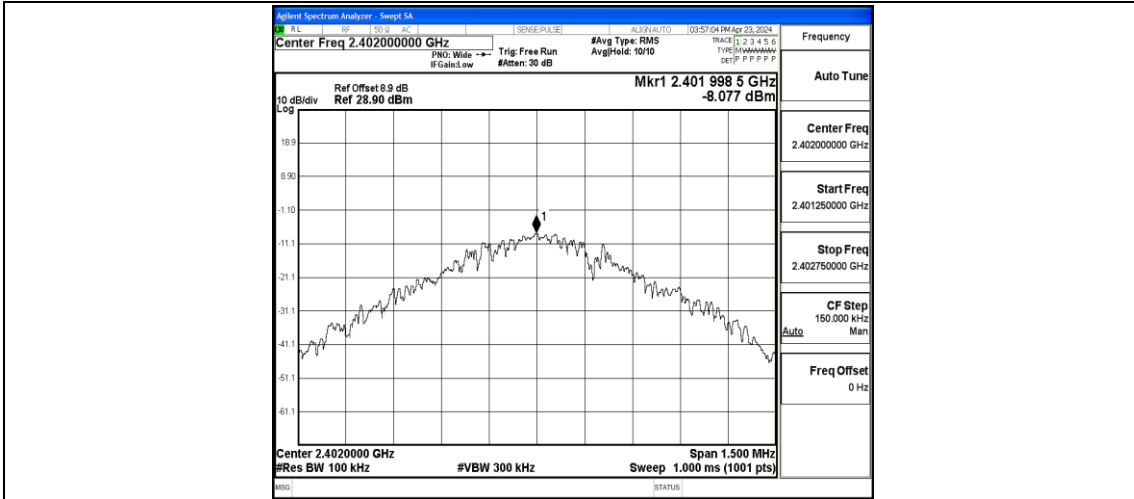


## Appendix H: Conducted Spurious Emission

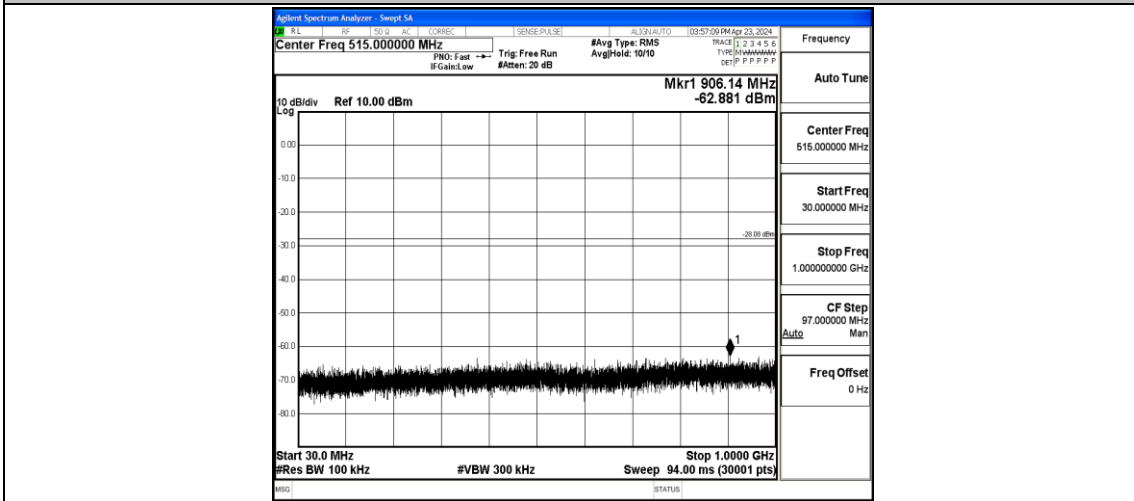
### Test Result

TestMode	Antenna	Frequency[MHz]	FreqRange [MHz]	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
DH5	Ant1	2402	0~Reference	-8.08	-8.08	---	PASS
DH5	Ant1	2402	30~1000	-8.08	-62.88	≤-28.08	PASS
DH5	Ant1	2402	1000~26500	-8.08	-42.6	≤-28.08	PASS
DH5	Ant1	2441	0~Reference	-7.57	-7.57	---	PASS
DH5	Ant1	2441	30~1000	-7.57	-62.2	≤-27.57	PASS
DH5	Ant1	2441	1000~26500	-7.57	-43.59	≤-27.57	PASS
DH5	Ant1	2480	0~Reference	-7.48	-7.48	---	PASS
DH5	Ant1	2480	30~1000	-7.48	-61.86	≤-27.48	PASS
DH5	Ant1	2480	1000~26500	-7.48	-46.79	≤-27.48	PASS
2DH5	Ant1	2402	0~Reference	-8.18	-8.18	---	PASS
2DH5	Ant1	2402	30~1000	-8.18	-62.99	≤-28.18	PASS
2DH5	Ant1	2402	1000~26500	-8.18	-45.11	≤-28.18	PASS
2DH5	Ant1	2441	0~Reference	-11.97	-11.97	---	PASS
2DH5	Ant1	2441	30~1000	-11.97	-62.14	≤-31.97	PASS
2DH5	Ant1	2441	1000~26500	-11.97	-43.18	≤-31.97	PASS
2DH5	Ant1	2480	0~Reference	-10.56	-10.56	---	PASS
2DH5	Ant1	2480	30~1000	-10.56	-63.46	≤-30.56	PASS
2DH5	Ant1	2480	1000~26500	-10.56	-49.11	≤-30.56	PASS
3DH5	Ant1	2402	0~Reference	-11.46	-11.46	---	PASS
3DH5	Ant1	2402	30~1000	-11.46	-62.76	≤-31.46	PASS
3DH5	Ant1	2402	1000~26500	-11.46	-47.38	≤-31.46	PASS
3DH5	Ant1	2441	0~Reference	-9.71	-9.71	---	PASS
3DH5	Ant1	2441	30~1000	-9.71	-62.82	≤-29.71	PASS
3DH5	Ant1	2441	1000~26500	-9.71	-48.58	≤-29.71	PASS
3DH5	Ant1	2480	0~Reference	-8.52	-8.52	---	PASS
3DH5	Ant1	2480	30~1000	-8.52	-63.27	≤-28.52	PASS
3DH5	Ant1	2480	1000~26500	-8.52	-49.6	≤-28.52	PASS

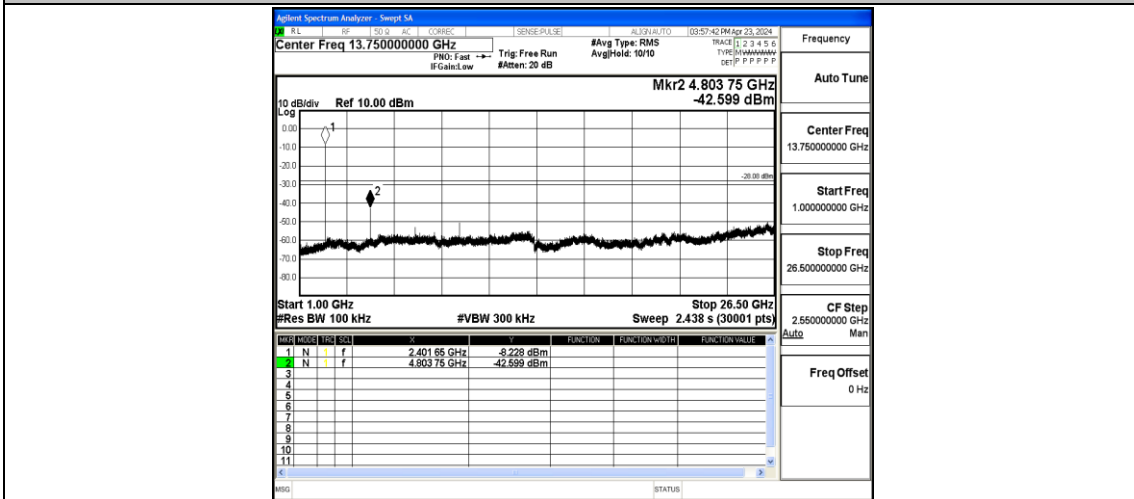
### Test Graphs



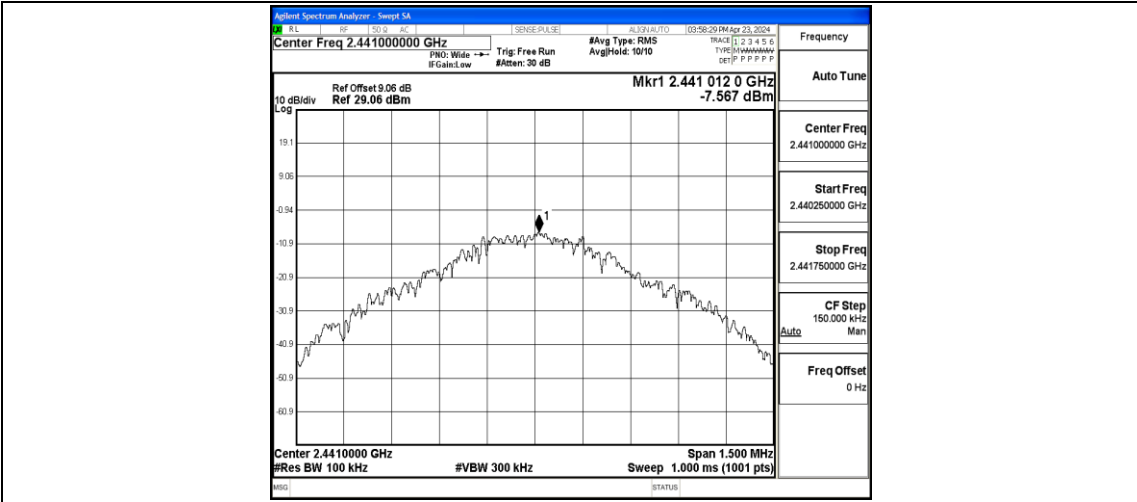
DH5-Ant1-2402-0~Reference-PASS



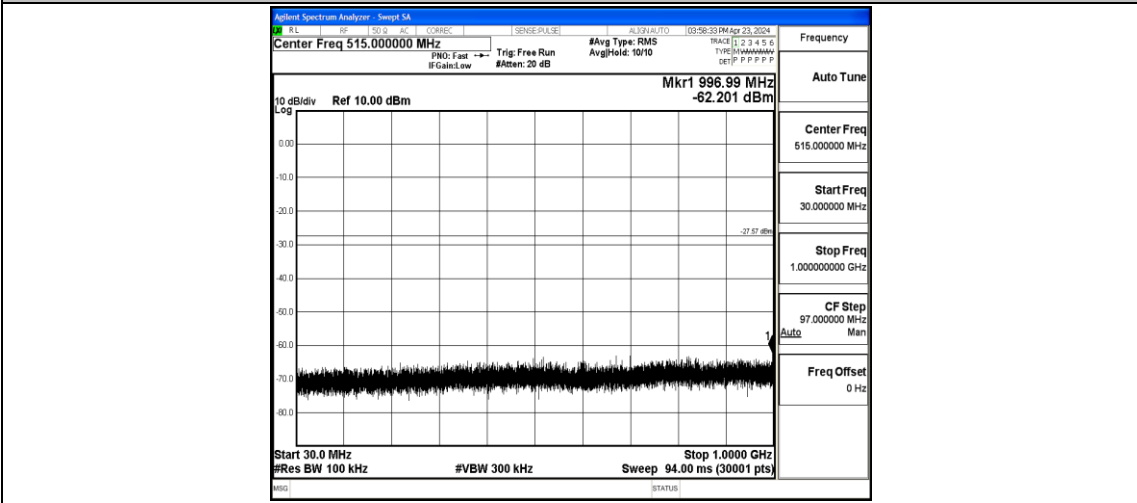
DH5-Ant1-2402-30~1000-PASS



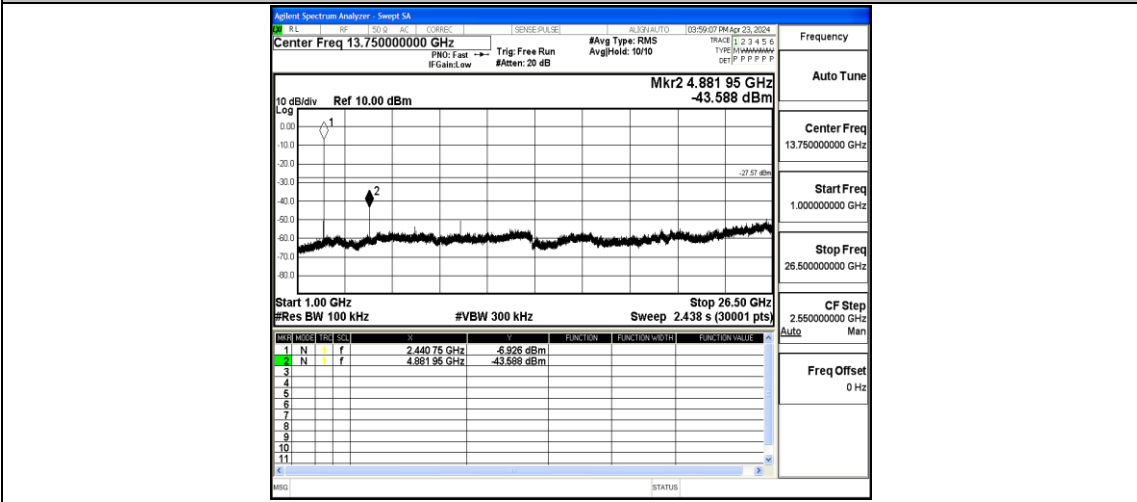
DH5-Ant1-2402-1000~26500-PASS



DH5-Ant1-2441-0~Reference-PASS



DH5-Ant1-2441-30~1000-PASS



DH5-Ant1-2441-1000~26500-PASS