

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

Product Name: TWS Earbuds Panda

Trade Mark: N/A

Test Model: YS-TWS026

FCC ID: 2AWHS-TWS026

Environmental Conditions

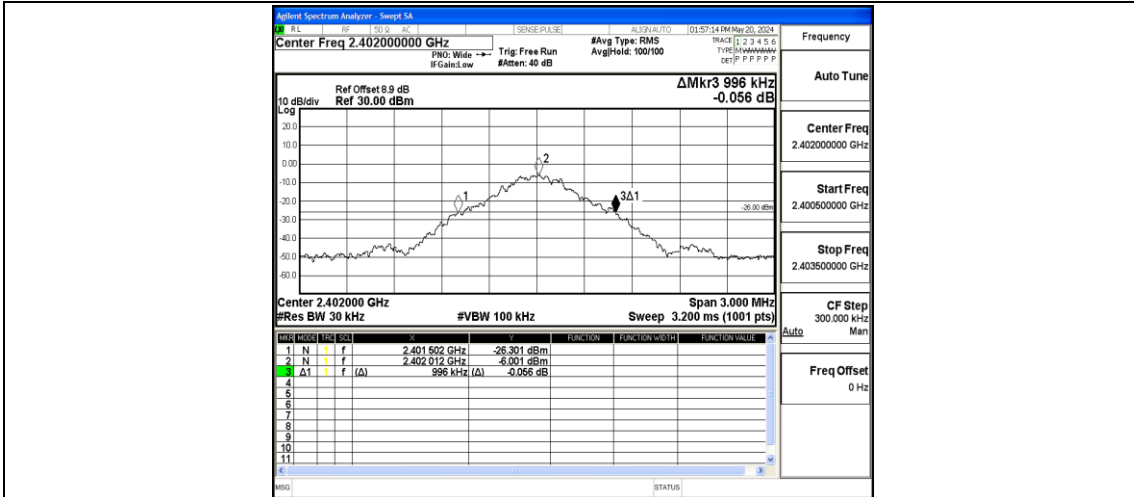
Temperature:	23.8℃
Relative Humidity:	58%
ATM Pressure:	100.0 kPa
Test Engineer:	Allen Lai
Supervised by:	Hugo Chen
NOTE	N/A

Appendix A: 20dB Emission Bandwidth

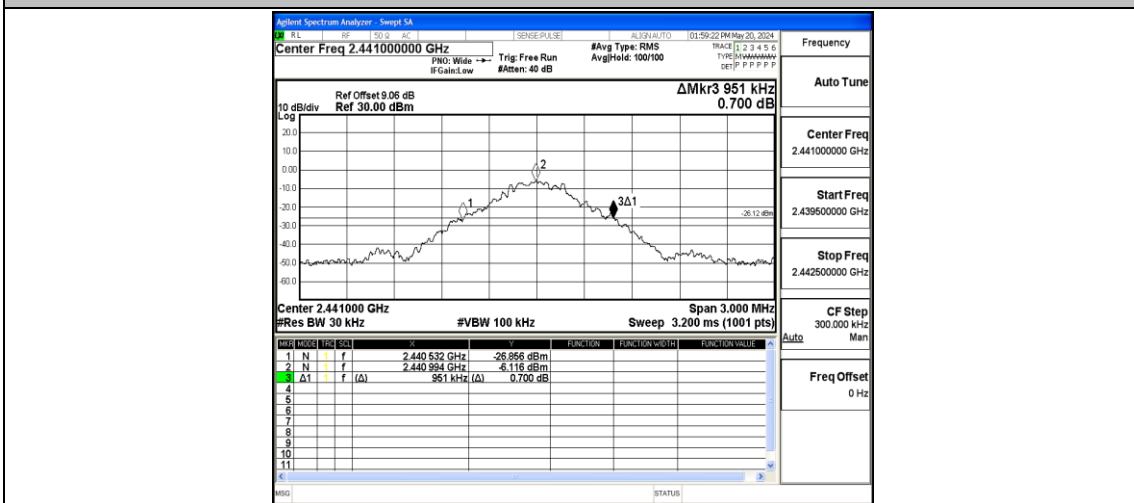
Test Result

TestMode	Antenna	Frequency[MHz]	20db EBW[MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
DH5	Ant1	2402	0.996	2401.502	2402.498	---	---
DH5	Ant1	2441	0.951	2440.532	2441.483	---	---
DH5	Ant1	2480	0.933	2479.532	2480.465	---	---
2DH5	Ant1	2402	1.290	2401.364	2402.654	---	---
2DH5	Ant1	2441	1.326	2440.337	2441.663	---	---
2DH5	Ant1	2480	1.281	2479.373	2480.654	---	---

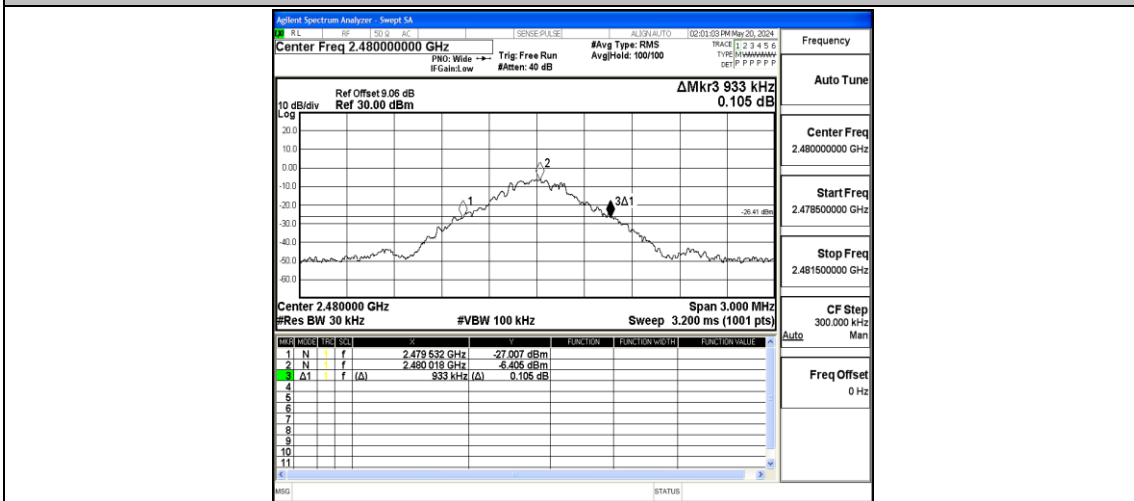
Test Graphs



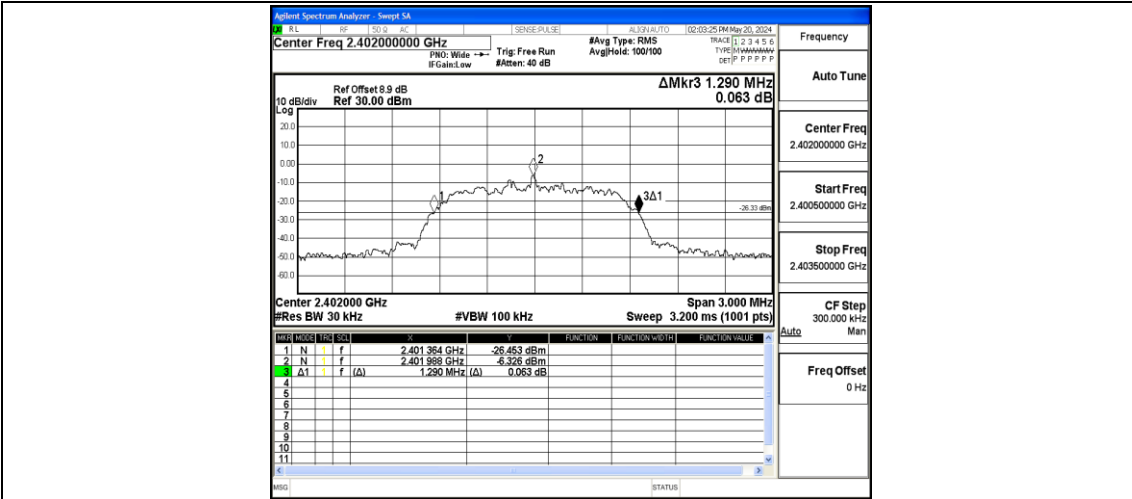
DH5-Ant1-2402



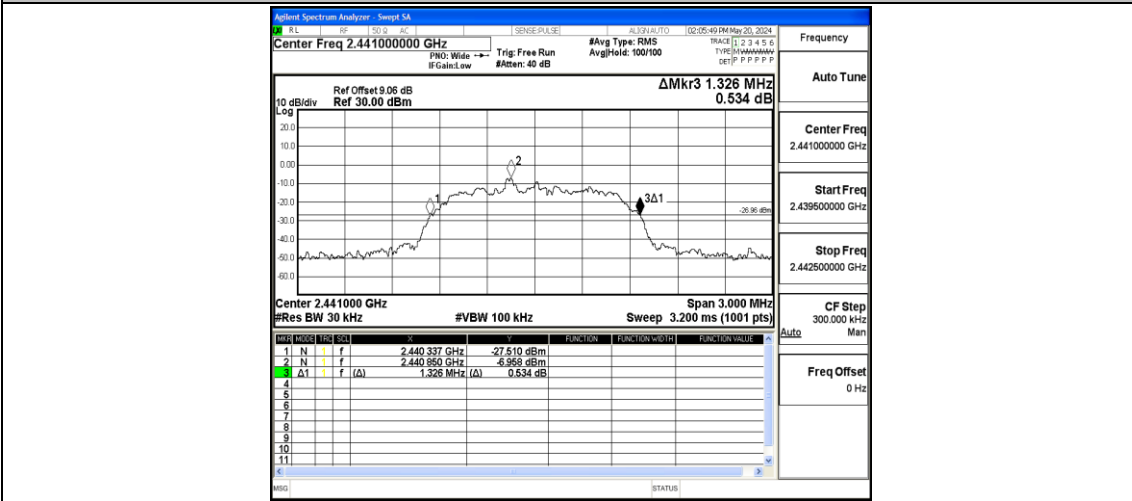
DH5-Ant1-2441



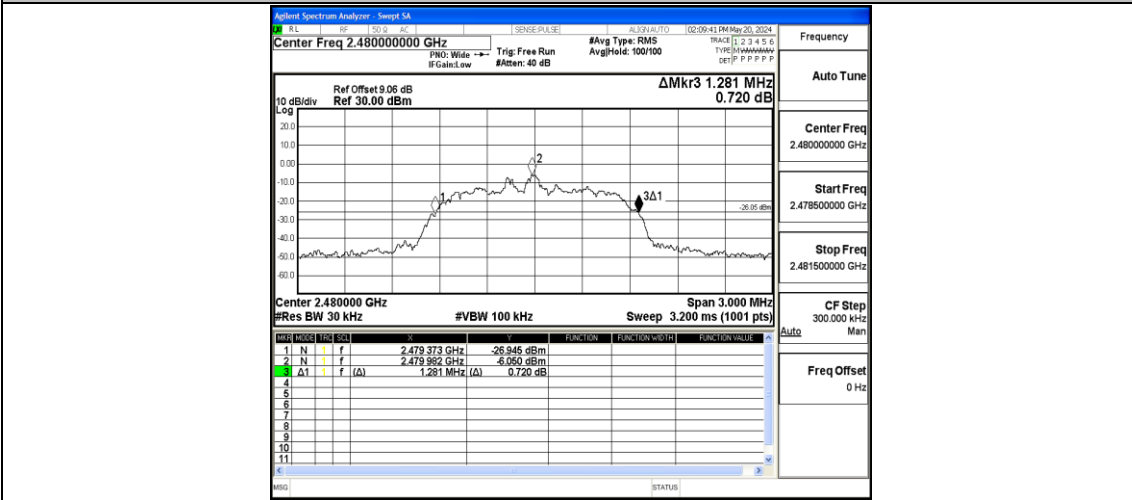
DH5-Ant1-2480



2DH5-Ant1-2402



2DH5-Ant1-2441



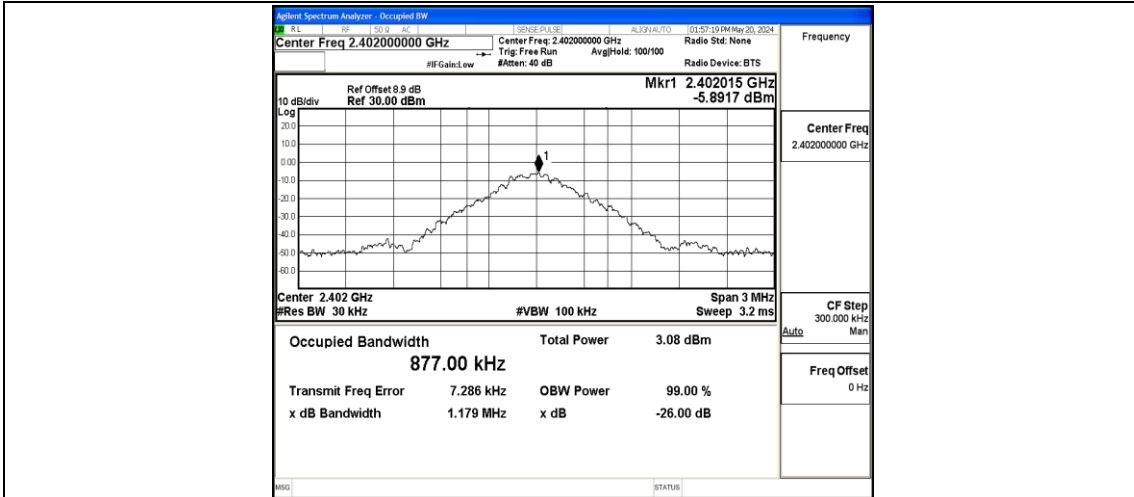
2DH5-Ant1-2480

Appendix B: Occupied Channel Bandwidth

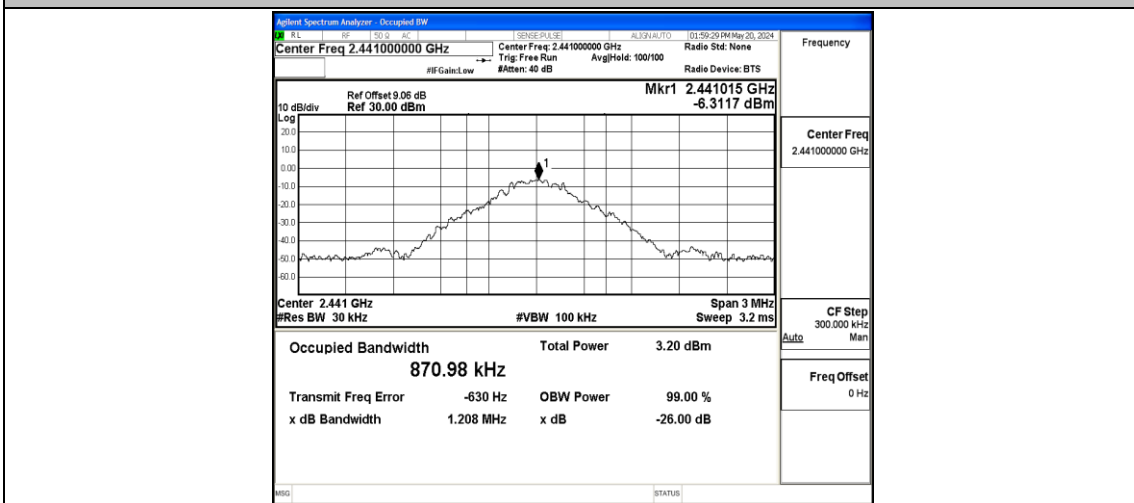
Test Result

TestMode	Antenna	Frequency[MHz]	OCB [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
DH5	Ant1	2402	0.87700	2401.5688	2402.4458	---	---
DH5	Ant1	2441	0.87098	2440.5639	2441.4349	---	---
DH5	Ant1	2480	0.88085	2479.5613	2480.4421	---	---
2DH5	Ant1	2402	1.2033	2401.4003	2402.6036	---	---
2DH5	Ant1	2441	1.1917	2440.4066	2441.5983	---	---
2DH5	Ant1	2480	1.1897	2479.4050	2480.5947	---	---

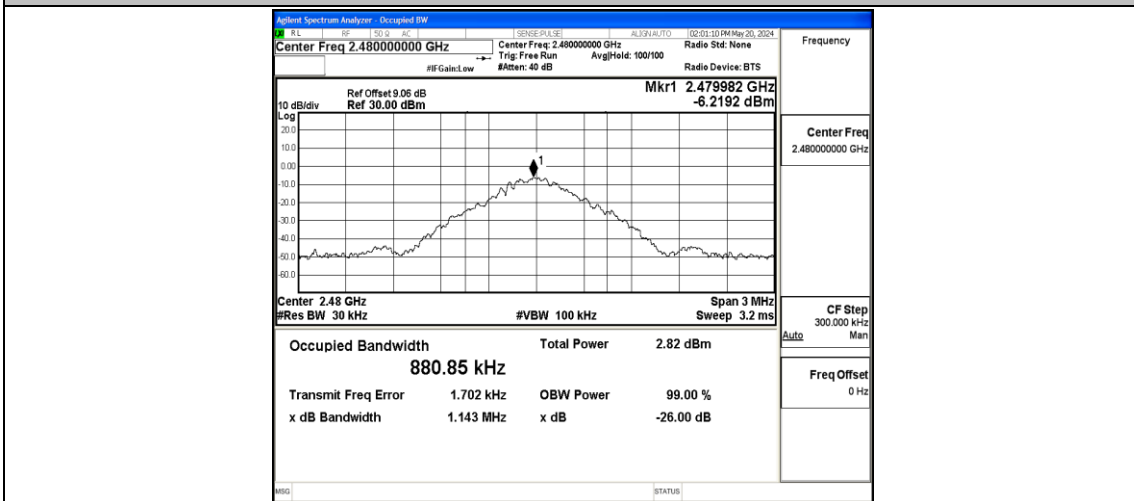
Test Graphs



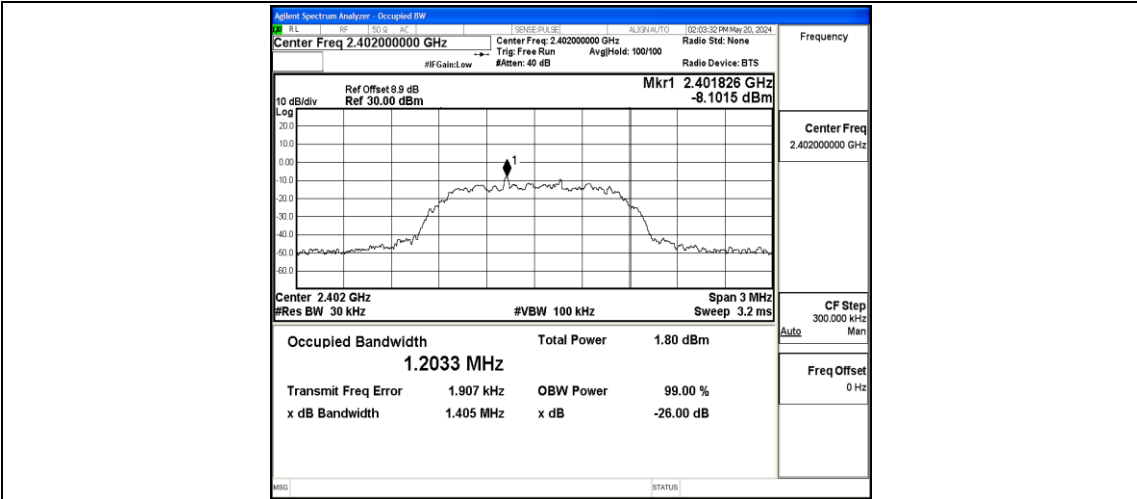
DH5-Ant1-2402



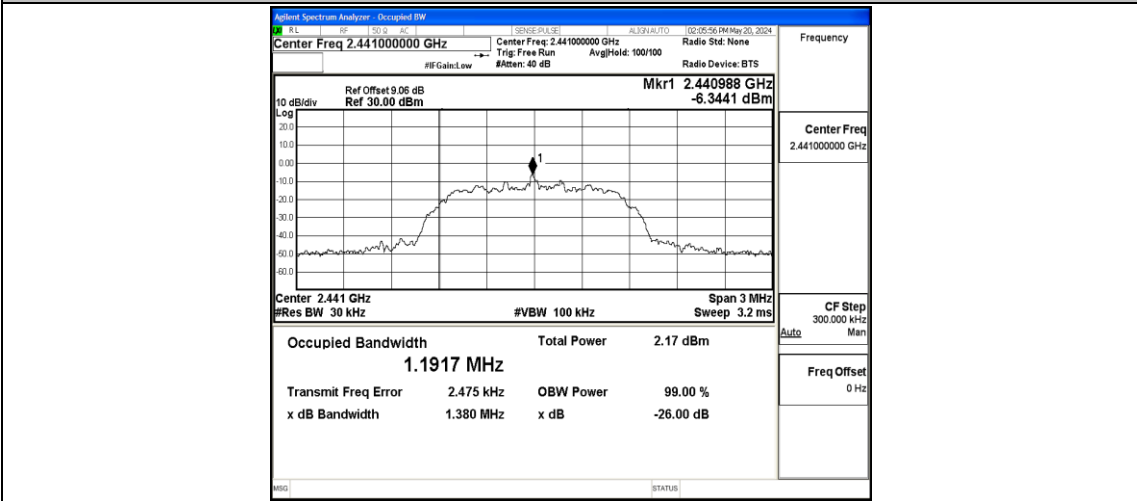
DH5-Ant1-2441



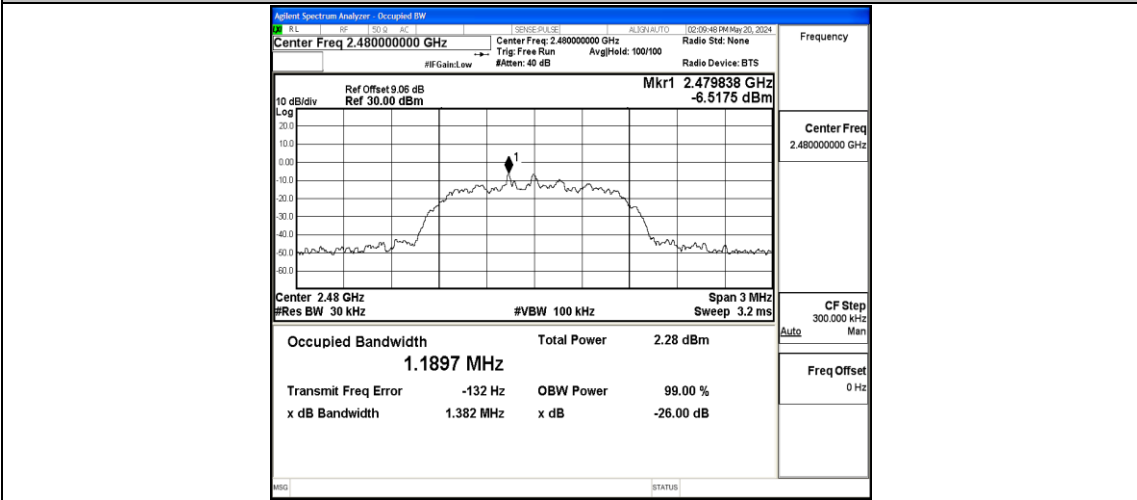
DH5-Ant1-2480



2DH5-Ant1-2402



2DH5-Ant1-2441



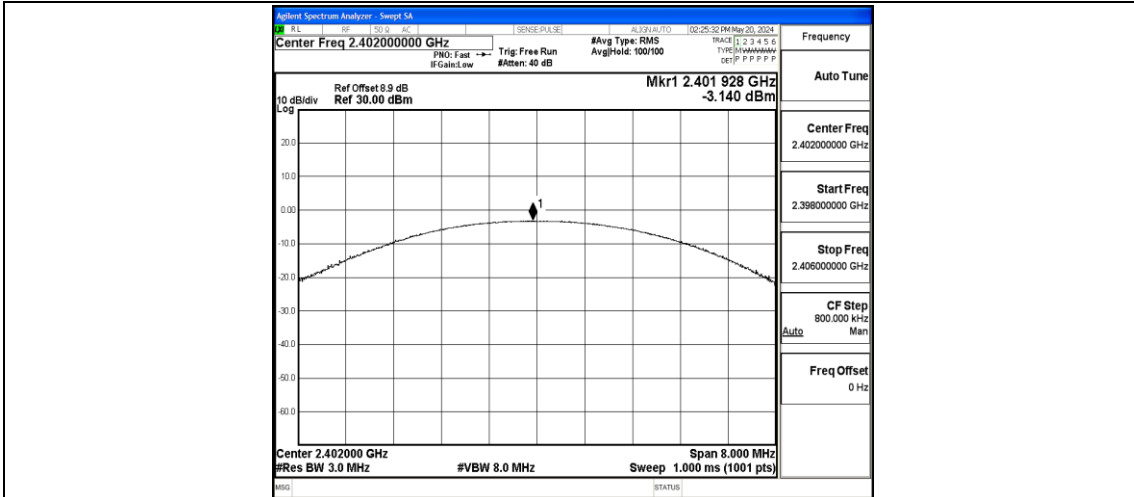
2DH5-Ant1-2480

Appendix C: Maximum peak conducted output power

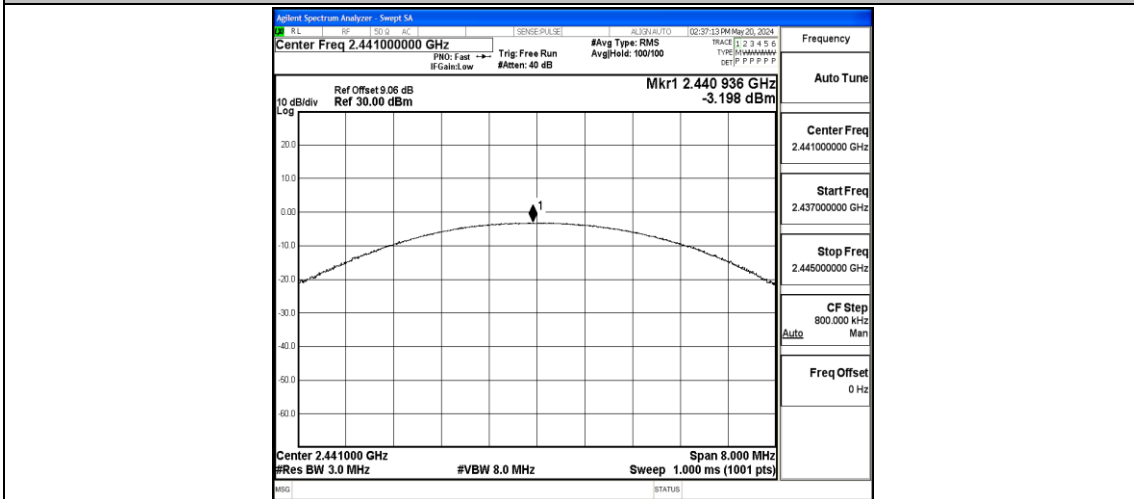
Test Result

Test Mode	Antenna	Frequency[MHz]	Conducted Peak Power[dBm]	Conducted Limit[dBm]	Verdict
DH5	Ant1	2402	-3.14	≤30	PASS
DH5	Ant1	2441	-3.20	≤30	PASS
DH5	Ant1	2480	-3.36	≤30	PASS
2DH5	Ant1	2402	-2.39	≤20.97	PASS
2DH5	Ant1	2441	-2.24	≤20.97	PASS
2DH5	Ant1	2480	-2.59	≤20.97	PASS

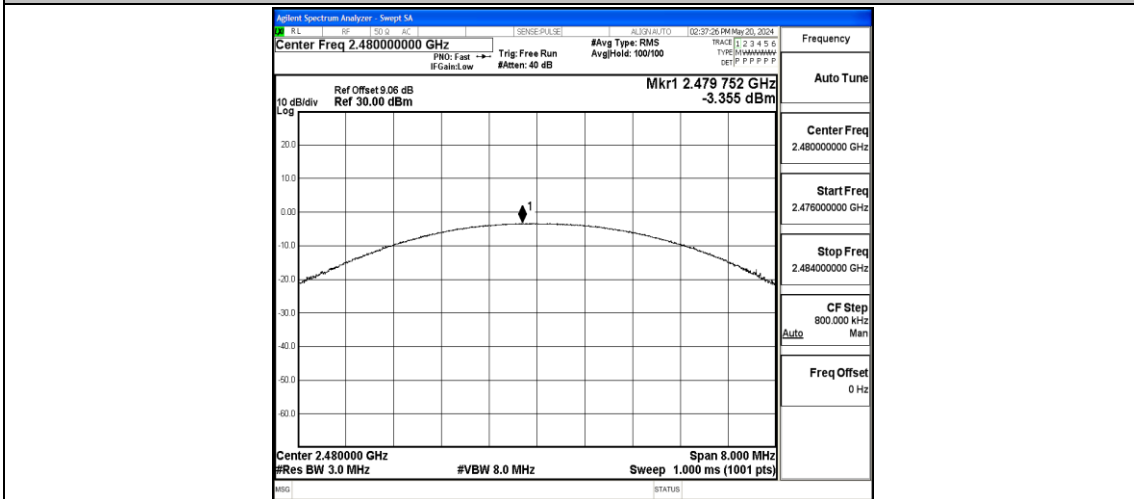
Test Graphs



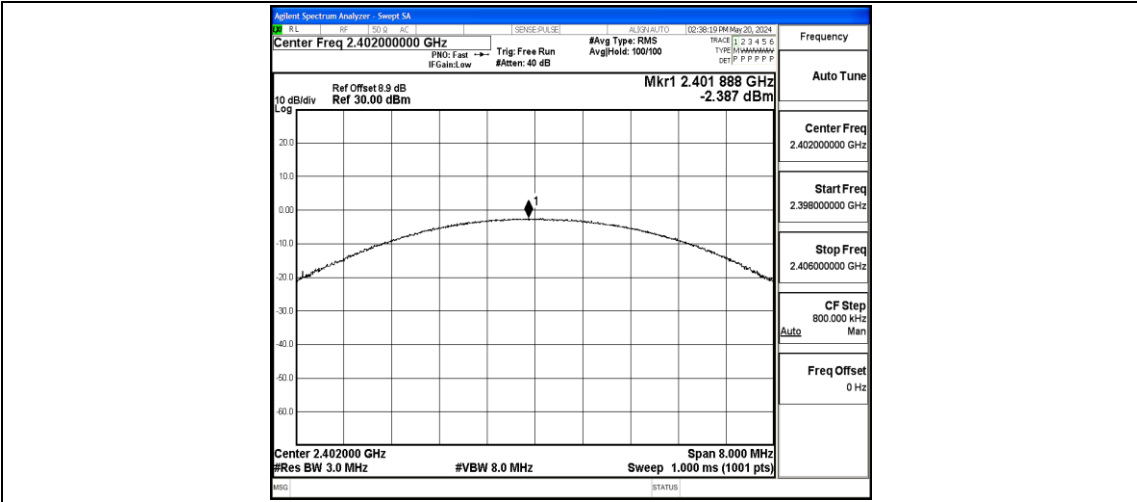
DH5-Ant1-2402-PASS



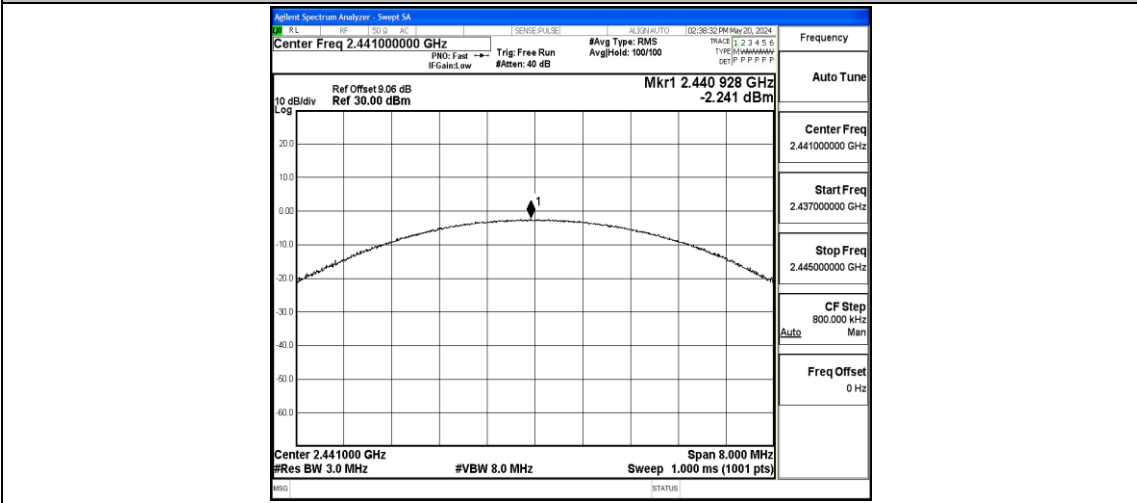
DH5-Ant1-2441-PASS



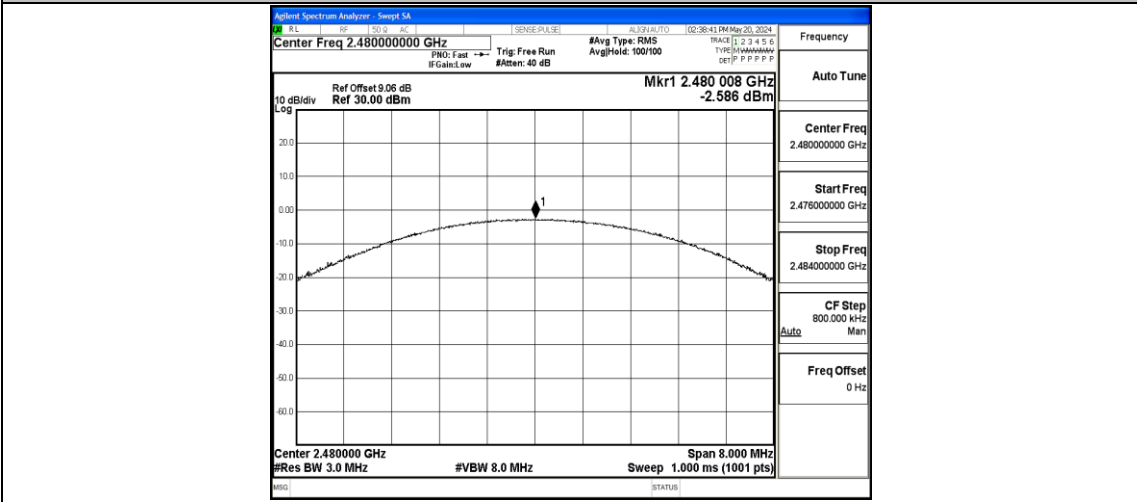
DH5-Ant1-2480-PASS



2DH5-Ant1-2402-PASS



2DH5-Ant1-2441-PASS



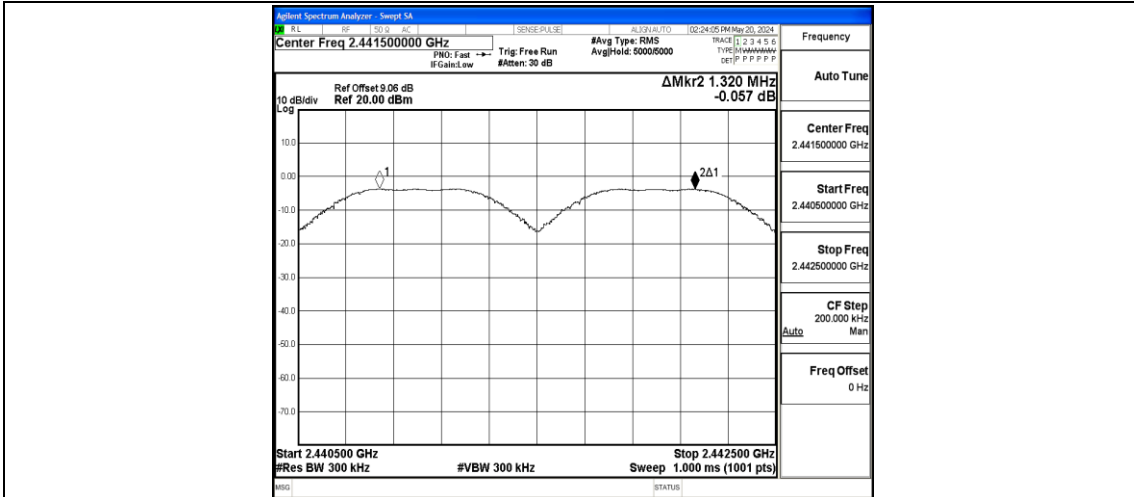
2DH5-Ant1-2480-PASS

Appendix D: Carrier frequency separation

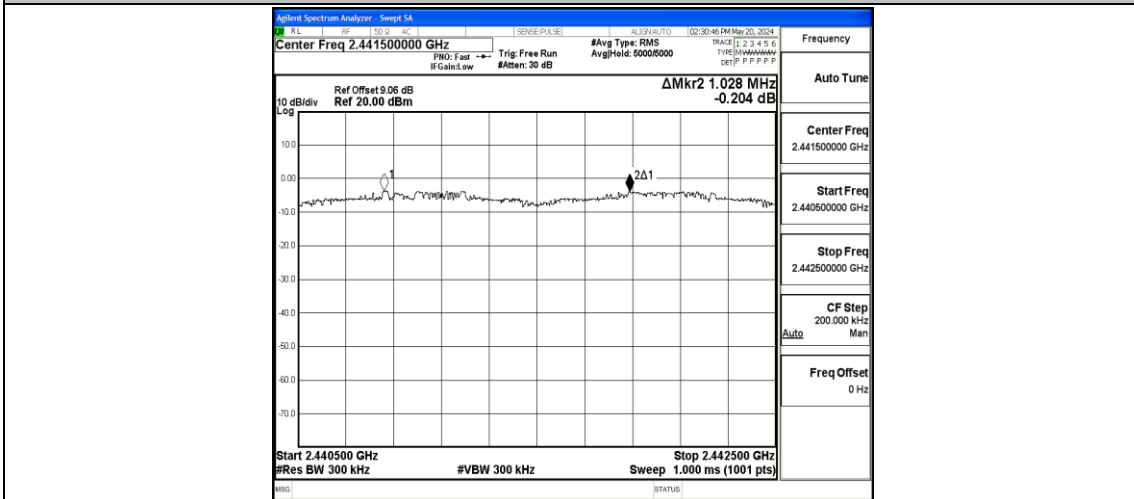
Test Result

TestMode	Antenna	Frequency[MHz]	Result[MHz]	Limit[MHz]	Verdict
DH5	Ant1	Hop	1.32	≥ 0.996	PASS
2DH5	Ant1	Hop	1.028	≥ 0.884	PASS

Test Graphs



DH5-Ant1-Hop-PASS



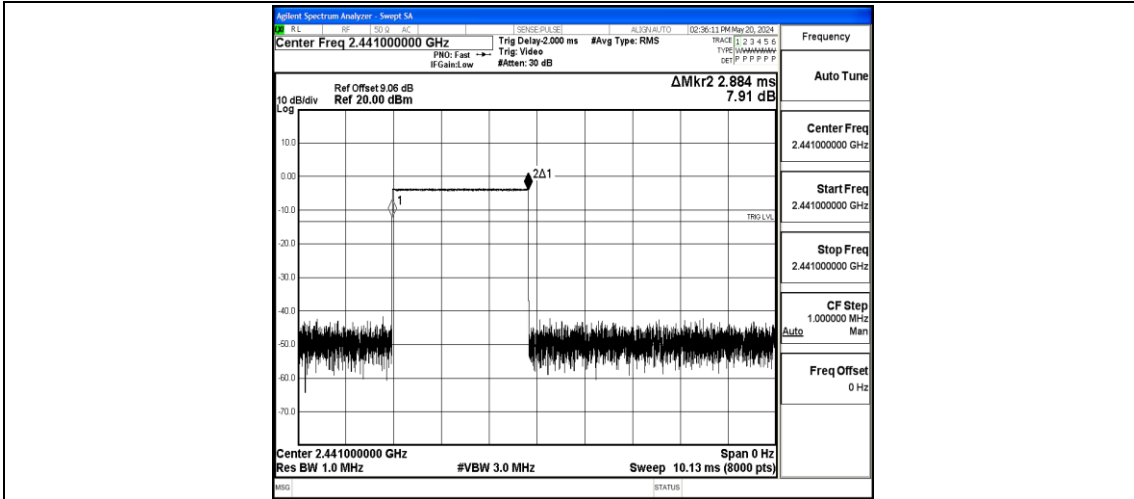
2DH5-Ant1-Hop-PASS

Appendix E: Time of occupancy

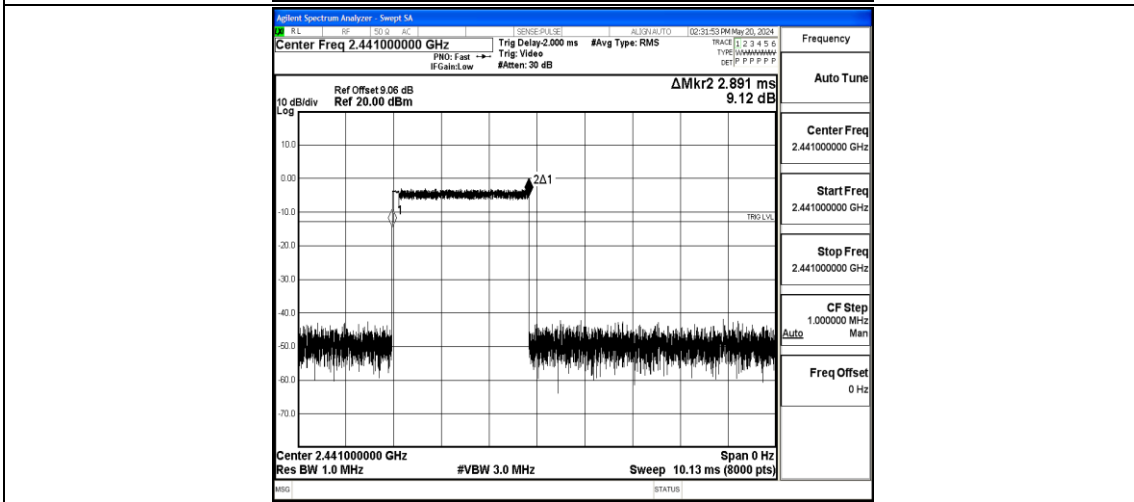
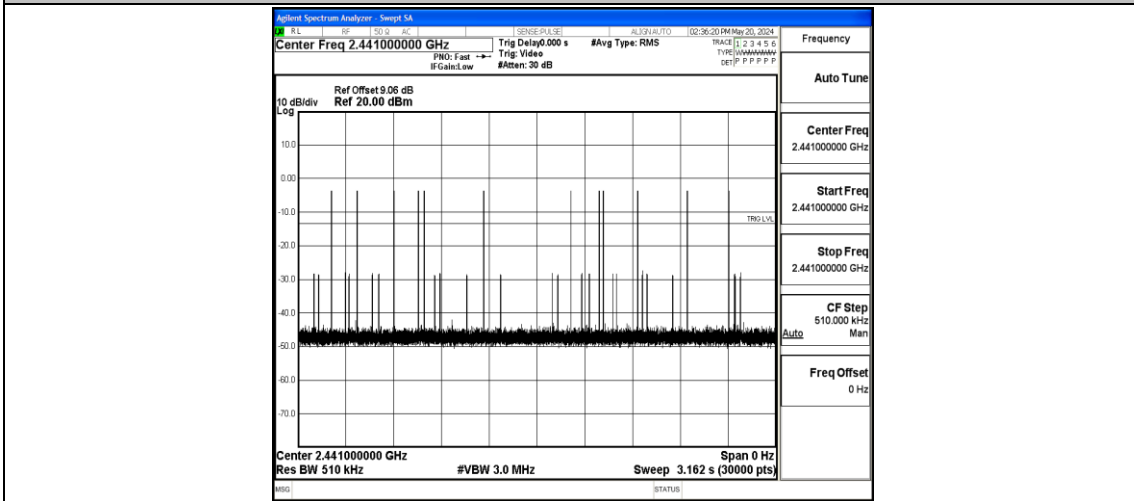
Test Result

TestMode	Antenna	Frequency[MHz]	BurstWidth [ms]	TotalHops [Num]	Result[s]	Limit[s]	Verdict
DH5	Ant1	Hop	2.884	130	0.375	≤0.4	PASS
2DH5	Ant1	Hop	2.891	90	0.26	≤0.4	PASS

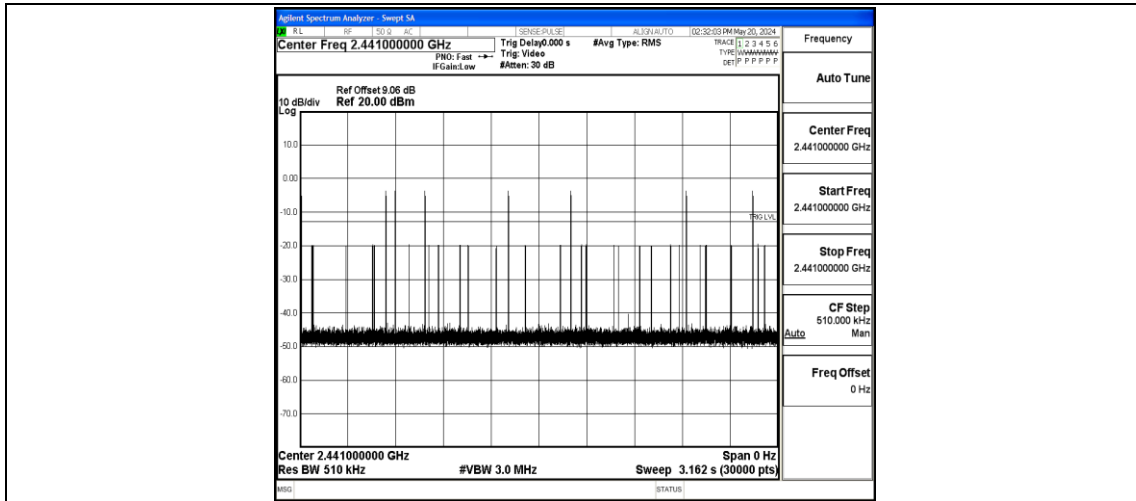
Test Graphs



DH5-Ant1-Hop-PASS



2DH5-Ant1-Hop-PASS

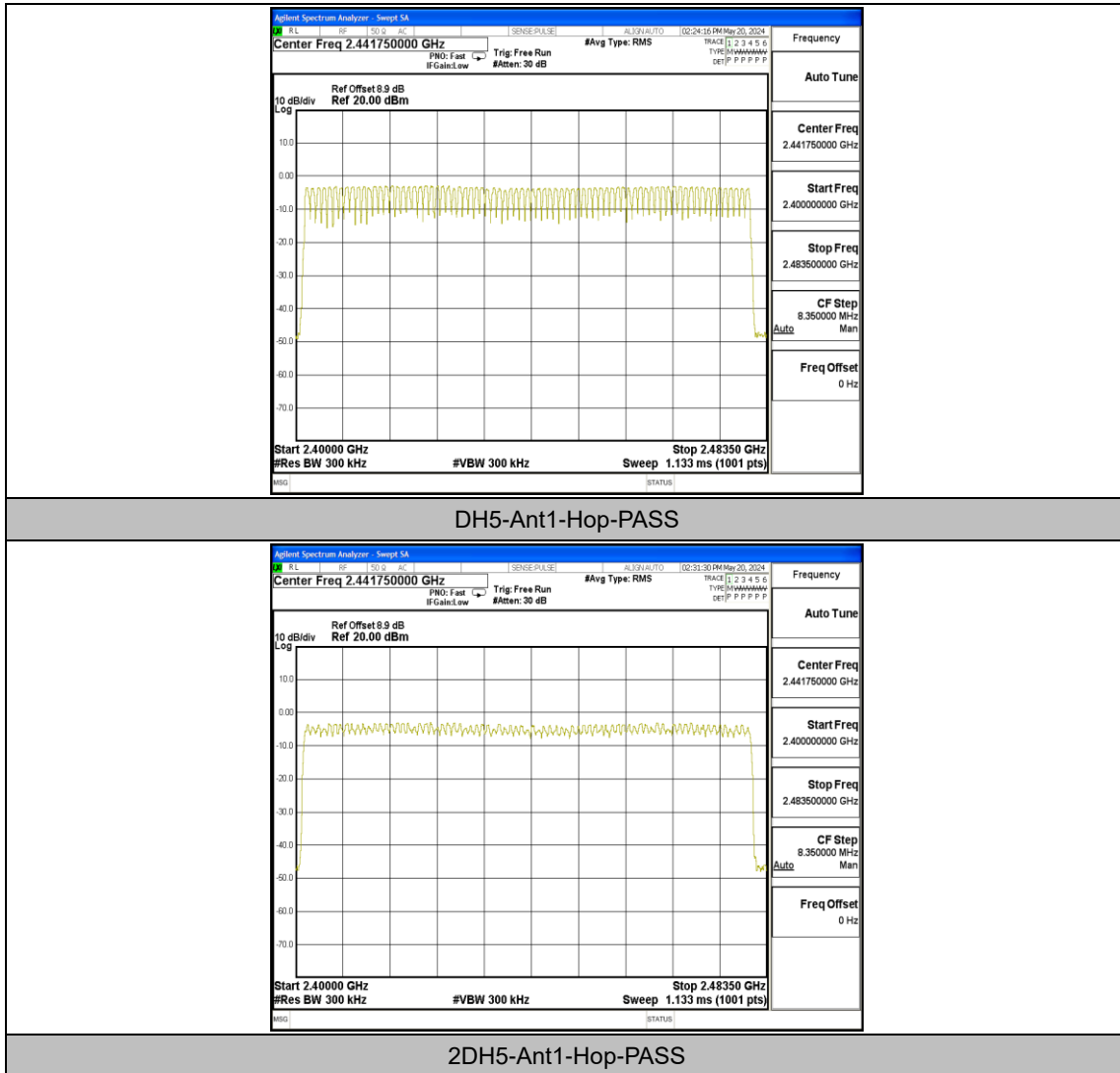


Appendix F: Number of hopping channels

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

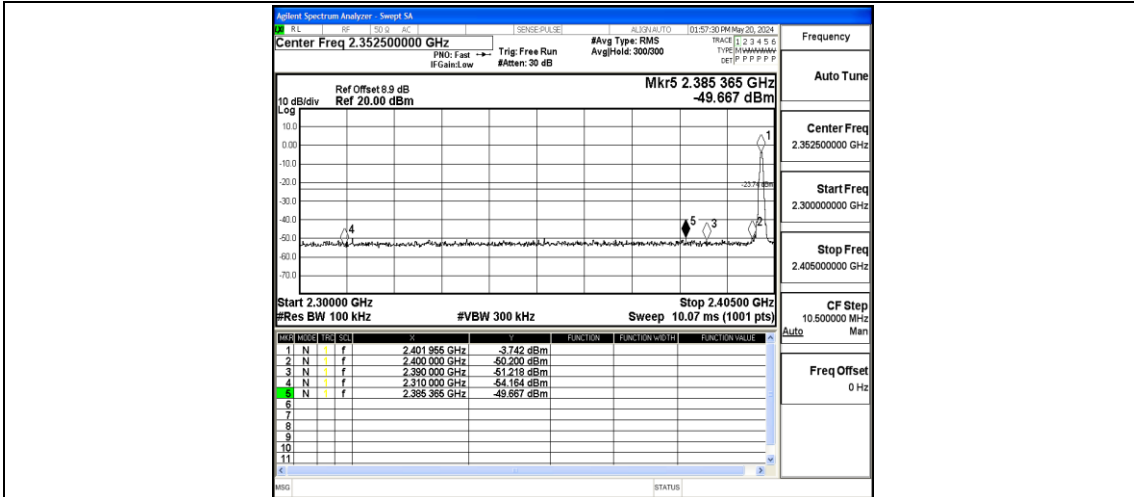


Appendix G: Band edge measurements

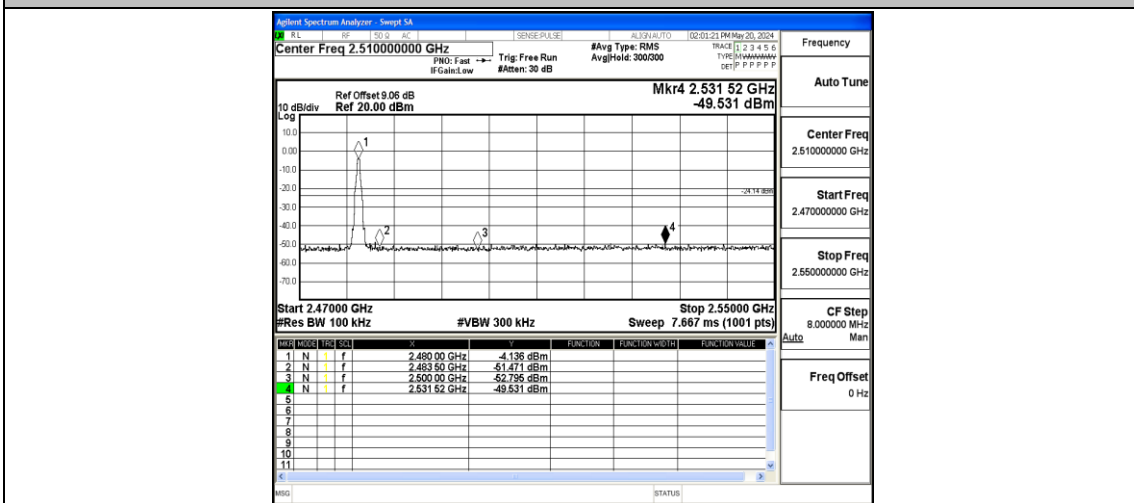
Test Result

TestMode	Antenna	ChName	Frequency[MHz]	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
DH5	Ant1	Low	2402	-3.74	-49.67	≤-23.74	PASS
DH5	Ant1	High	2480	-4.14	-49.53	≤-24.14	PASS
DH5	Ant1	Low	Hop_2402	-4.05	-50.05	≤-24.05	PASS
DH5	Ant1	High	Hop_2480	-3.97	-49.37	≤-23.97	PASS
2DH5	Ant1	Low	2402	-3.81	-49.87	≤-23.81	PASS
2DH5	Ant1	High	2480	-3.83	-49.32	≤-23.83	PASS
2DH5	Ant1	Low	Hop_2402	-8.28	-50.64	≤-28.28	PASS
2DH5	Ant1	High	Hop_2480	-7.13	-49.62	≤-27.13	PASS

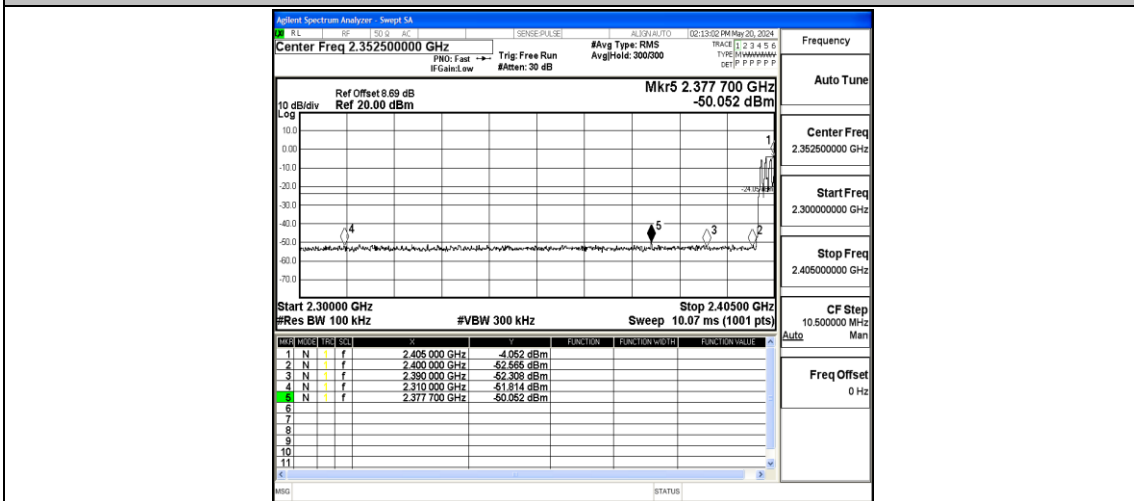
Test Graphs



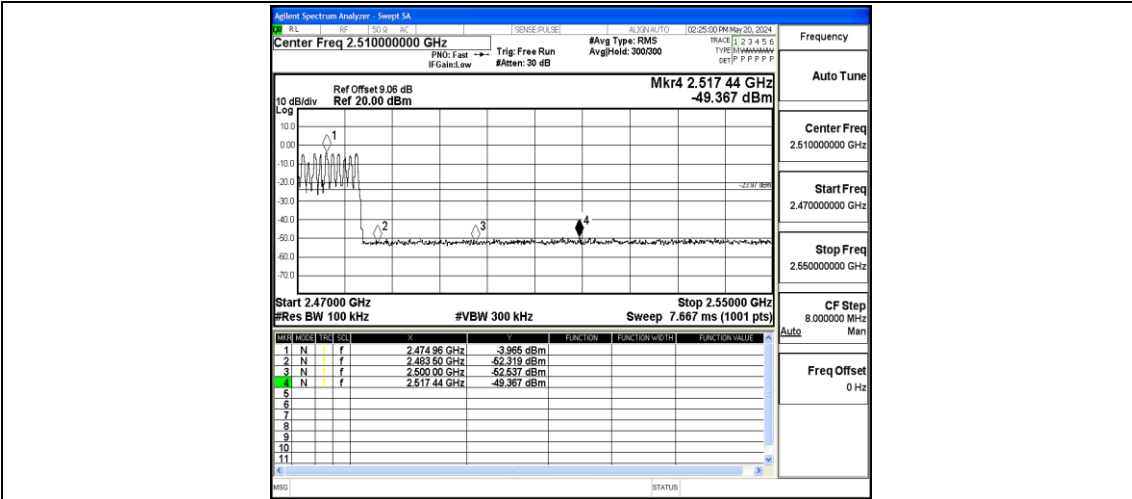
DH5-Ant1-2402-PASS



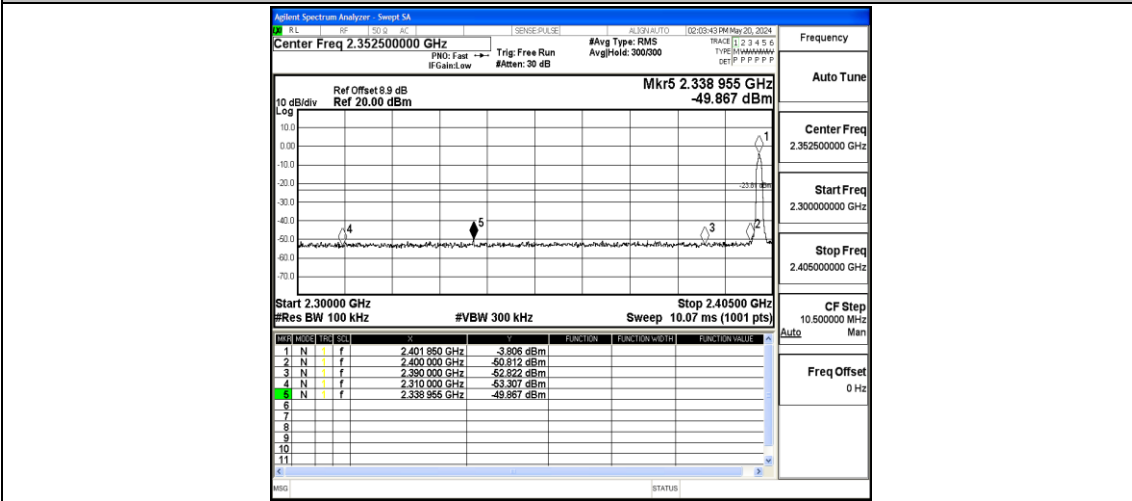
DH5-Ant1-2480-PASS



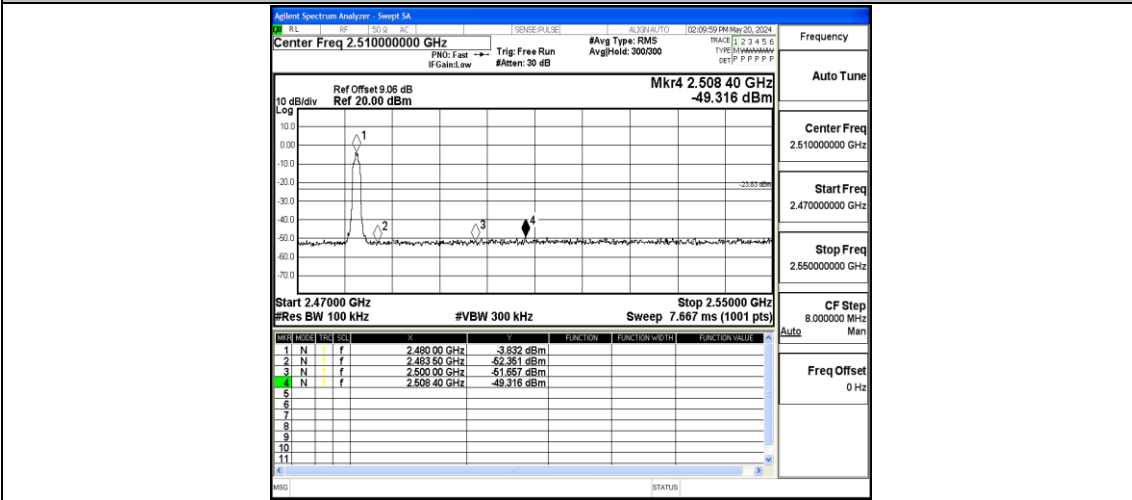
DH5-Ant1-Hop_2402-PASS



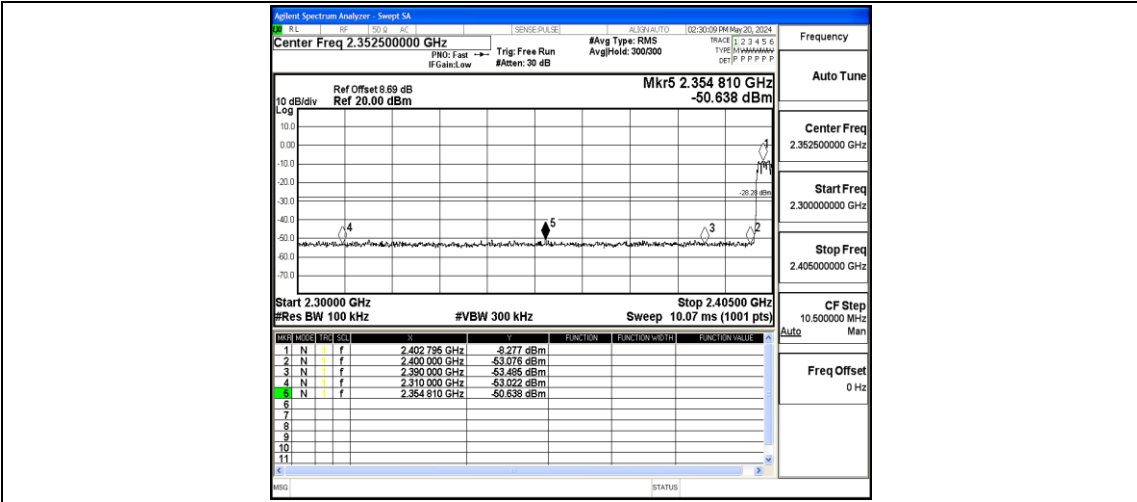
DH5-Ant1-Hop_2480-PASS



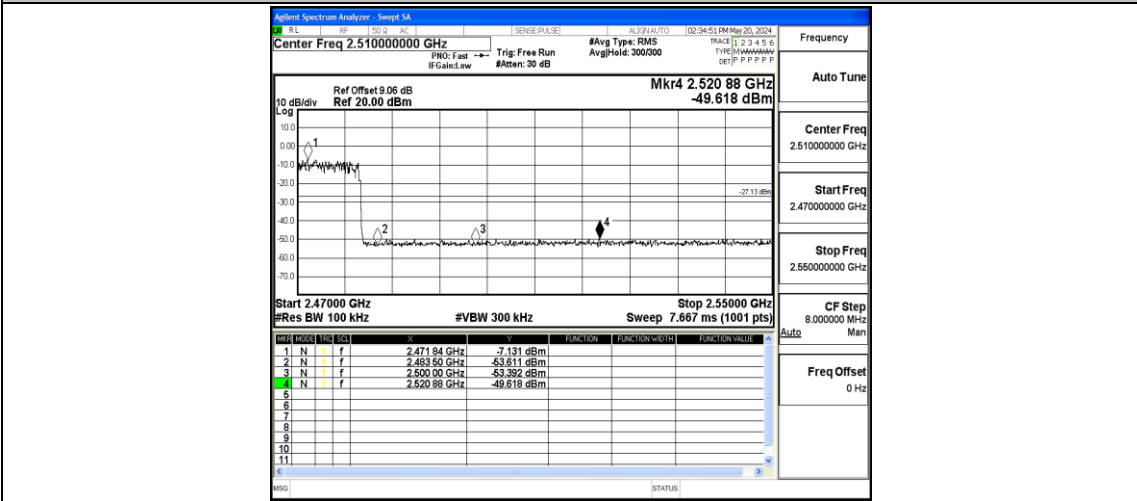
2DH5-Ant1-2402-PASS



2DH5-Ant1-2480-PASS



2DH5-Ant1-Hop_2402-PASS



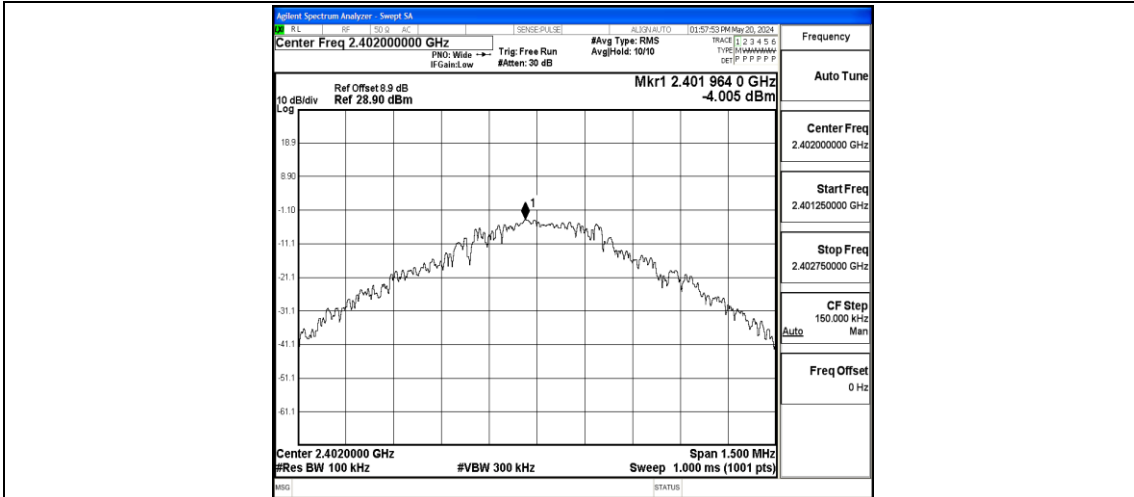
2DH5-Ant1-Hop_2480-PASS

Appendix H: Conducted Spurious Emission

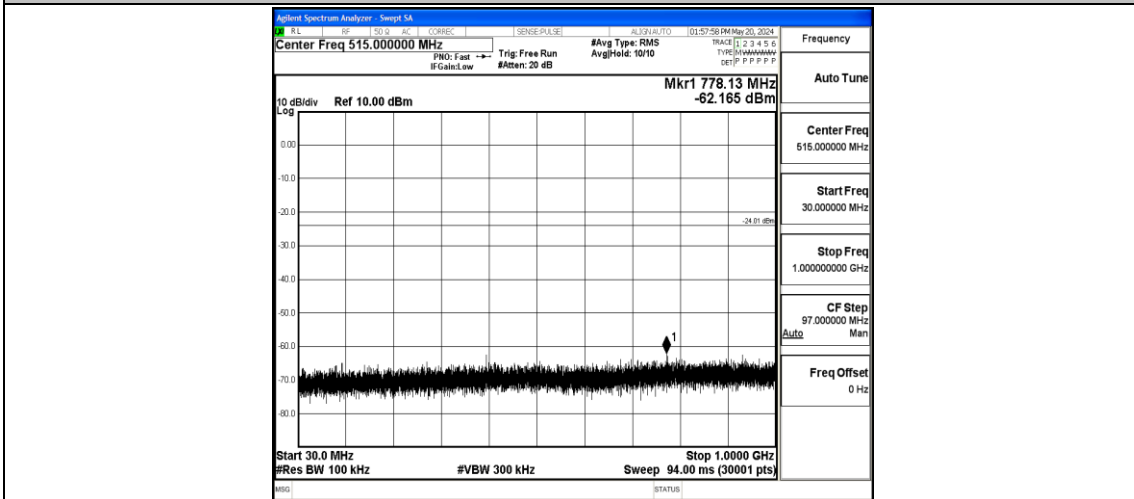
Test Result

TestMode	Antenna	Frequency[MHz]	FreqRange [MHz]	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
DH5	Ant1	2402	0~Reference	-4.01	-4.01	---	PASS
DH5	Ant1	2402	30~1000	-4.01	-62.17	≤-24.01	PASS
DH5	Ant1	2402	1000~26500	-4.01	-30.7	≤-24.01	PASS
DH5	Ant1	2441	0~Reference	-3.87	-3.87	---	PASS
DH5	Ant1	2441	30~1000	-3.87	-61.81	≤-23.87	PASS
DH5	Ant1	2441	1000~26500	-3.87	-30.19	≤-23.87	PASS
DH5	Ant1	2480	0~Reference	-4.55	-4.55	---	PASS
DH5	Ant1	2480	30~1000	-4.55	-62.94	≤-24.55	PASS
DH5	Ant1	2480	1000~26500	-4.55	-29.85	≤-24.55	PASS
2DH5	Ant1	2402	0~Reference	-5.43	-5.43	---	PASS
2DH5	Ant1	2402	30~1000	-5.43	-62.45	≤-25.43	PASS
2DH5	Ant1	2402	1000~26500	-5.43	-30.62	≤-25.43	PASS
2DH5	Ant1	2441	0~Reference	-3.91	-3.91	---	PASS
2DH5	Ant1	2441	30~1000	-3.91	-62.92	≤-23.91	PASS
2DH5	Ant1	2441	1000~26500	-3.91	-30.23	≤-23.91	PASS
2DH5	Ant1	2480	0~Reference	-5.13	-5.13	---	PASS
2DH5	Ant1	2480	30~1000	-5.13	-62.19	≤-25.13	PASS
2DH5	Ant1	2480	1000~26500	-5.13	-29.63	≤-25.13	PASS

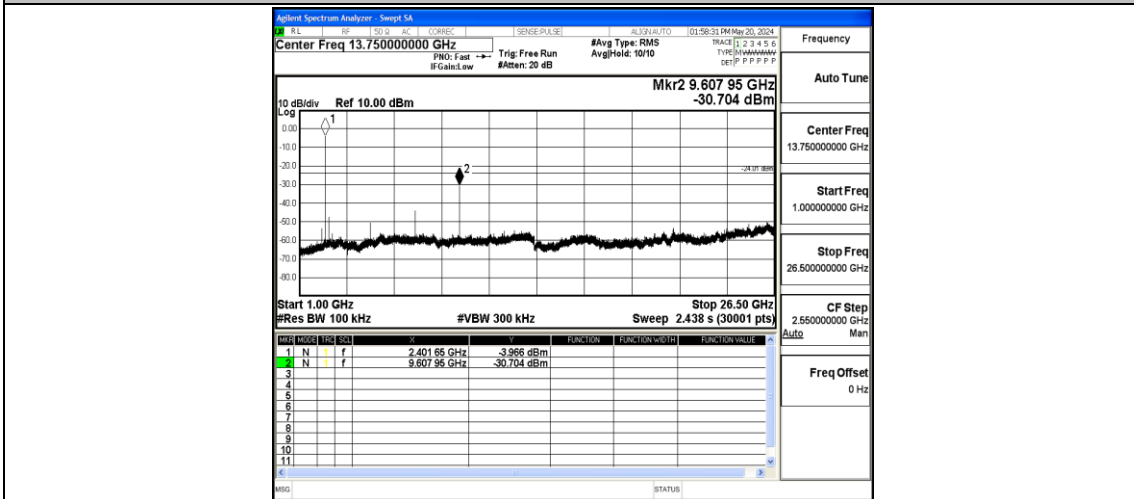
Test Graphs



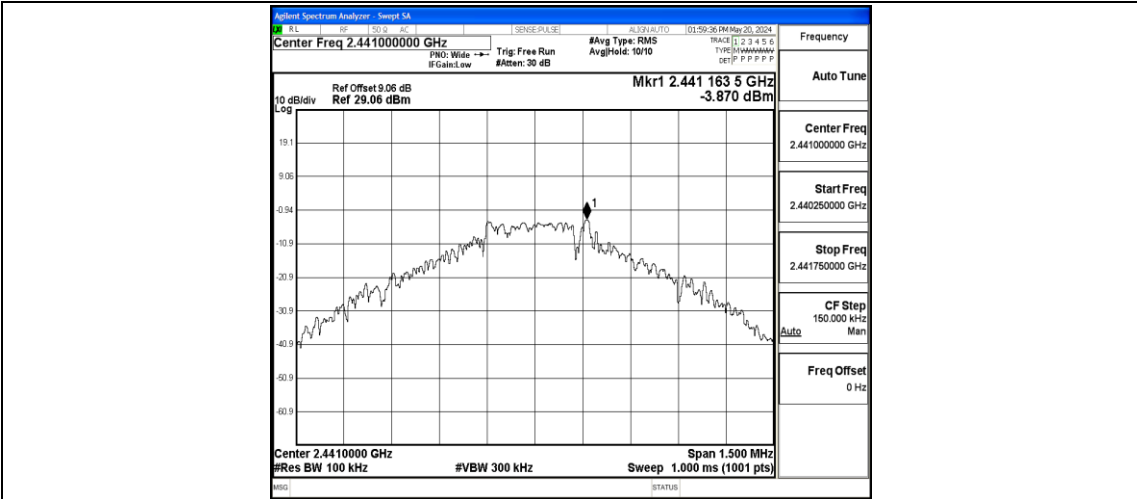
DH5-Ant1-2402-0~Reference-PASS



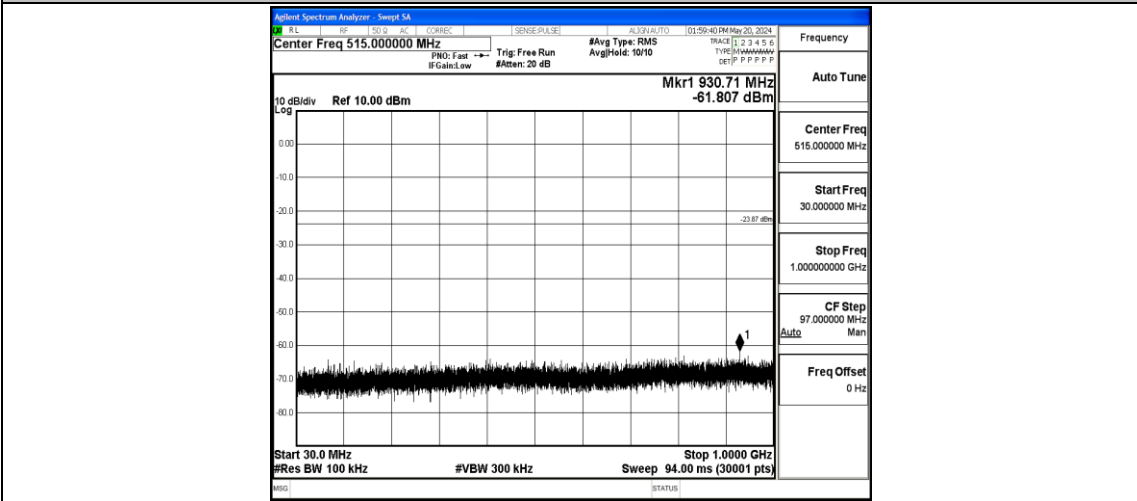
DH5-Ant1-2402-30~1000-PASS



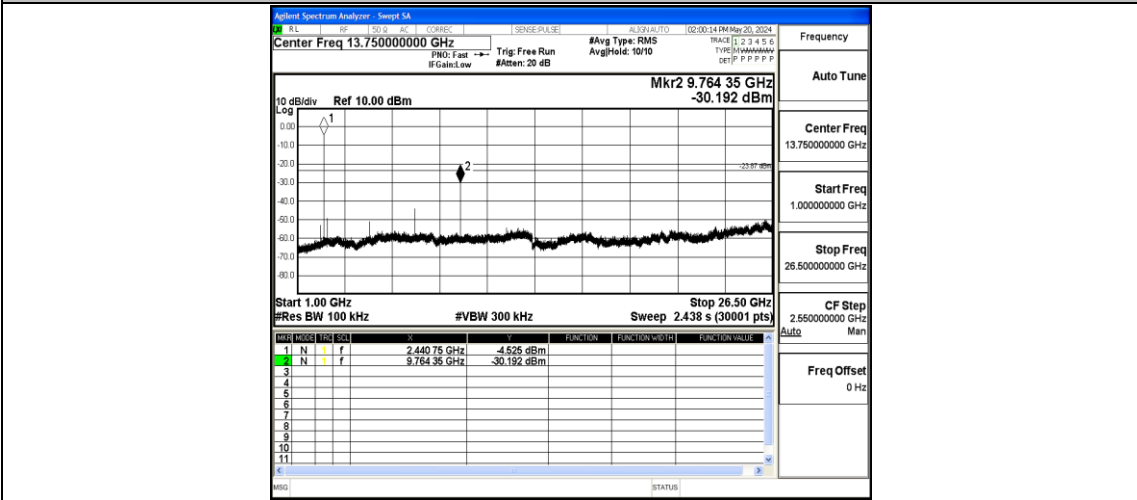
DH5-Ant1-2402-1000~26500-PASS



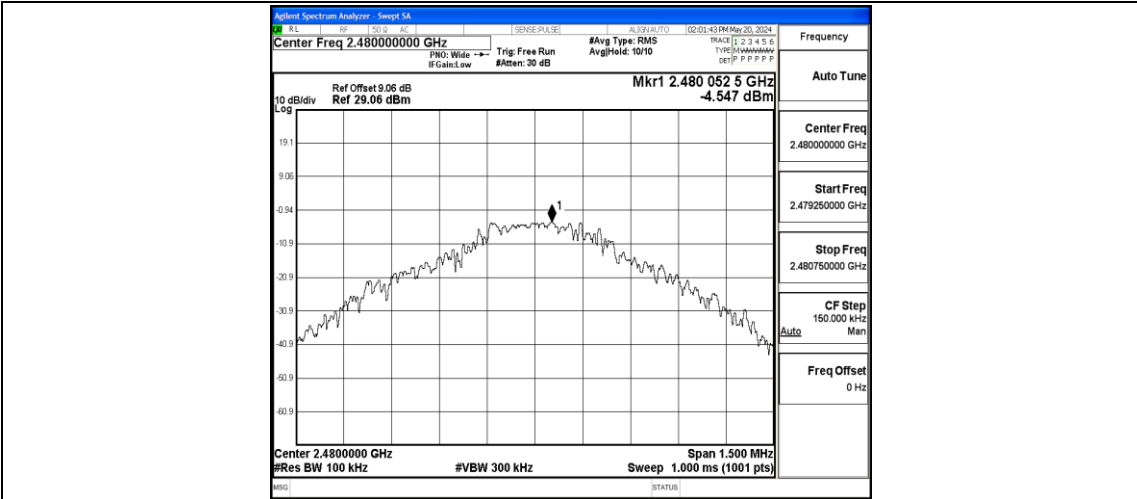
DH5-Ant1-2441-0~Reference-PASS



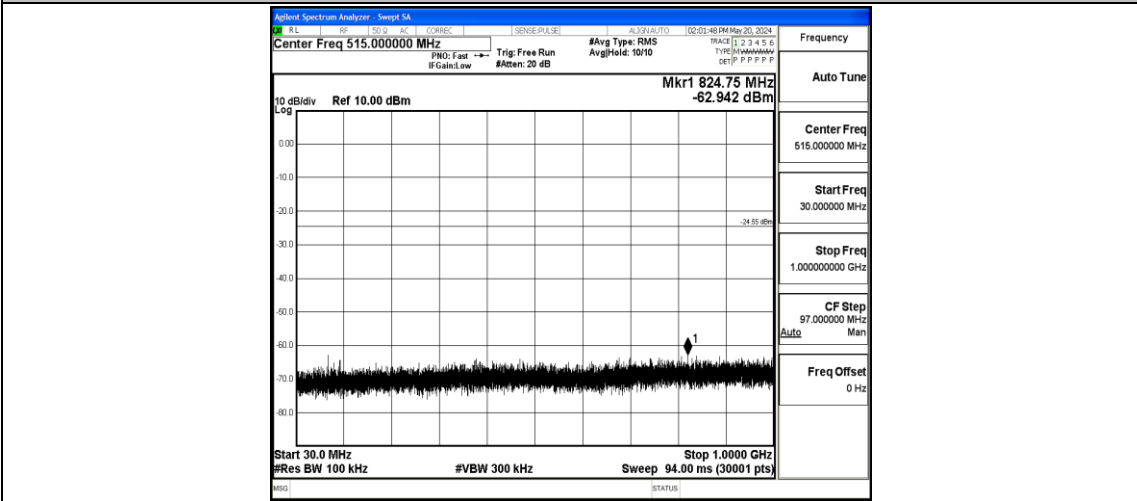
DH5-Ant1-2441-30~1000-PASS



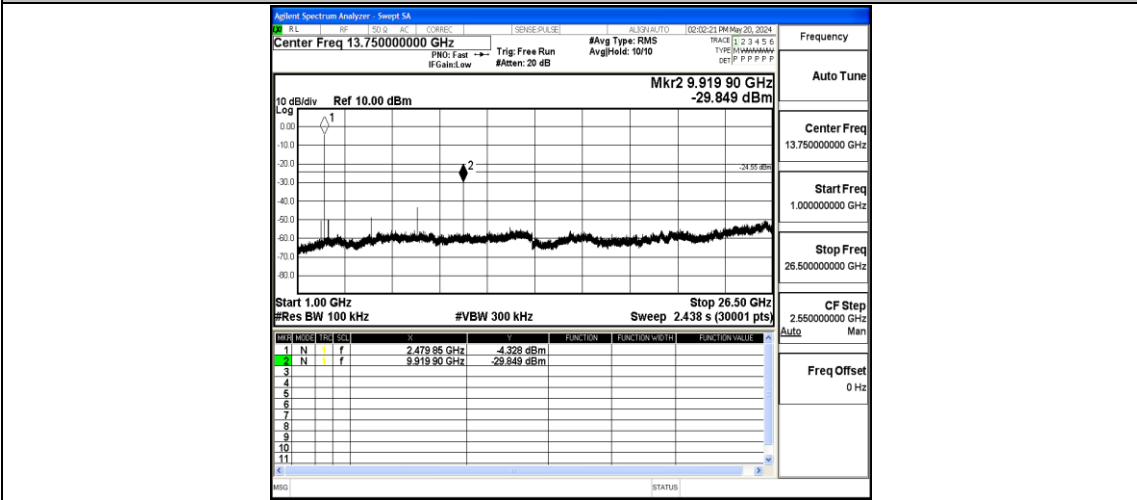
DH5-Ant1-2441-1000~26500-PASS



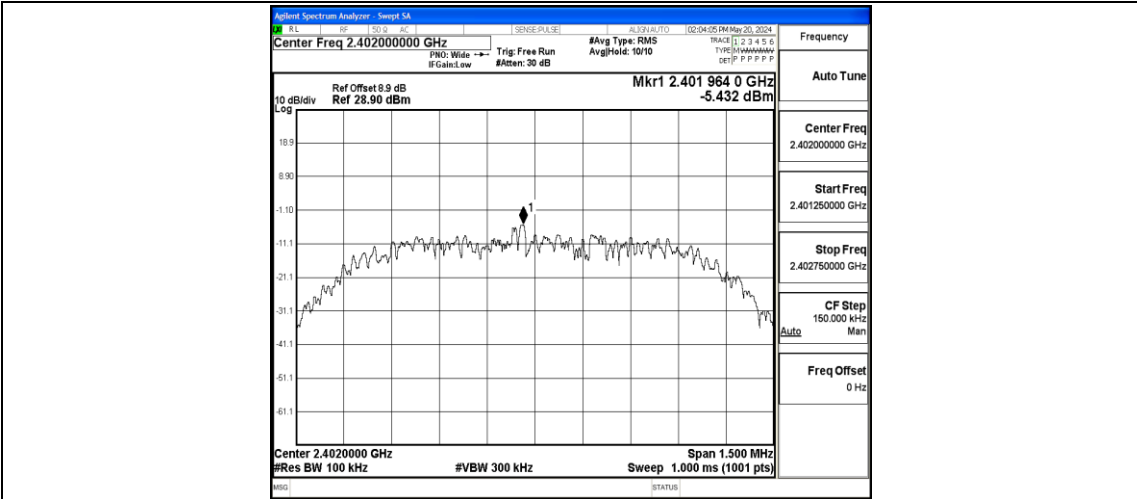
DH5-Ant1-2480-0~Reference-PASS



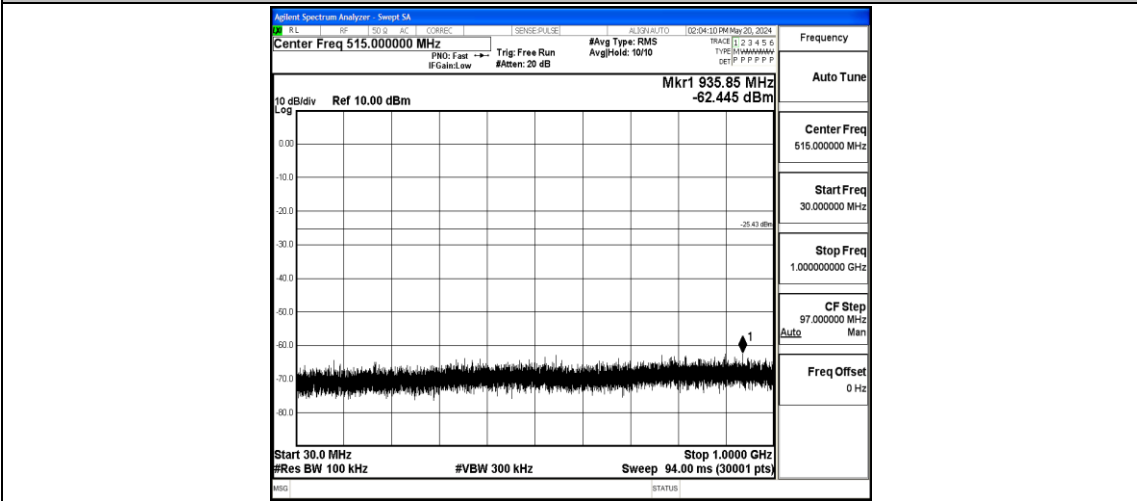
DH5-Ant1-2480-30~1000-PASS



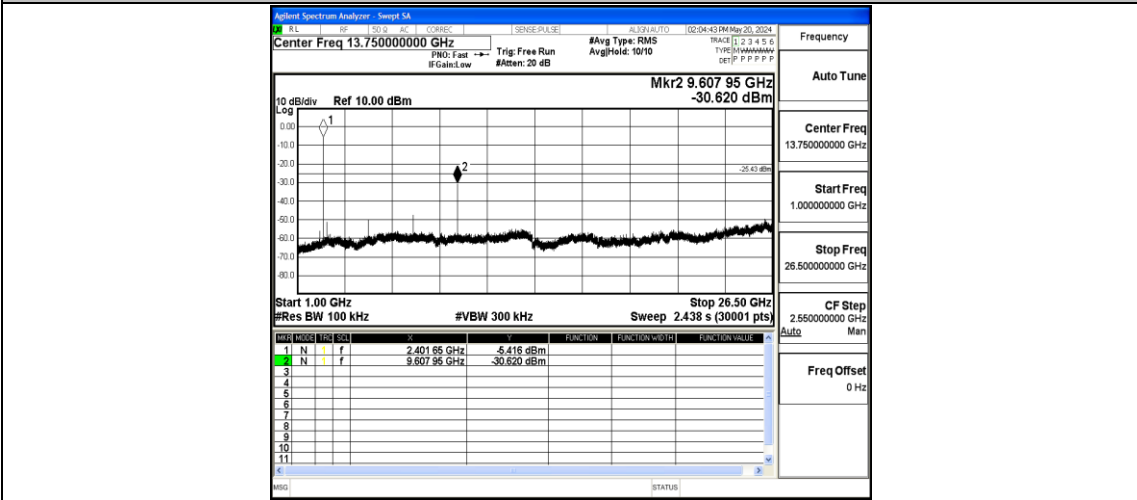
DH5-Ant1-2480-1000~26500-PASS



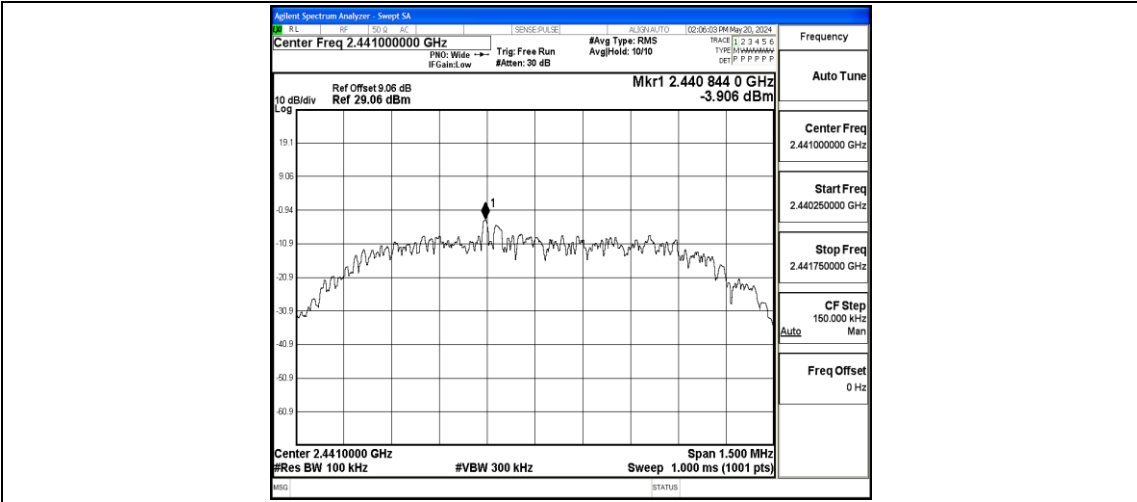
2DH5-Ant1-2402-0~Reference-PASS



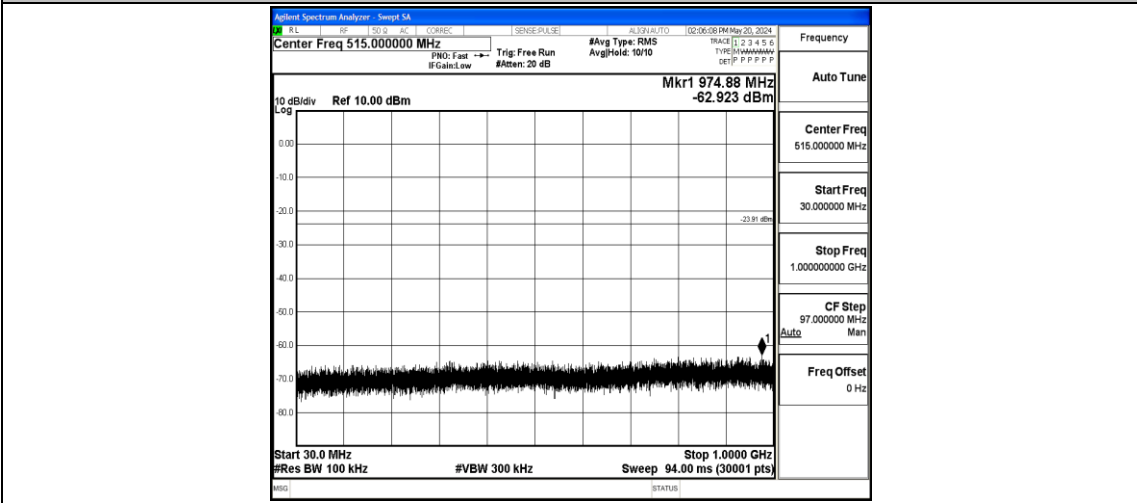
2DH5-Ant1-2402-30~1000-PASS



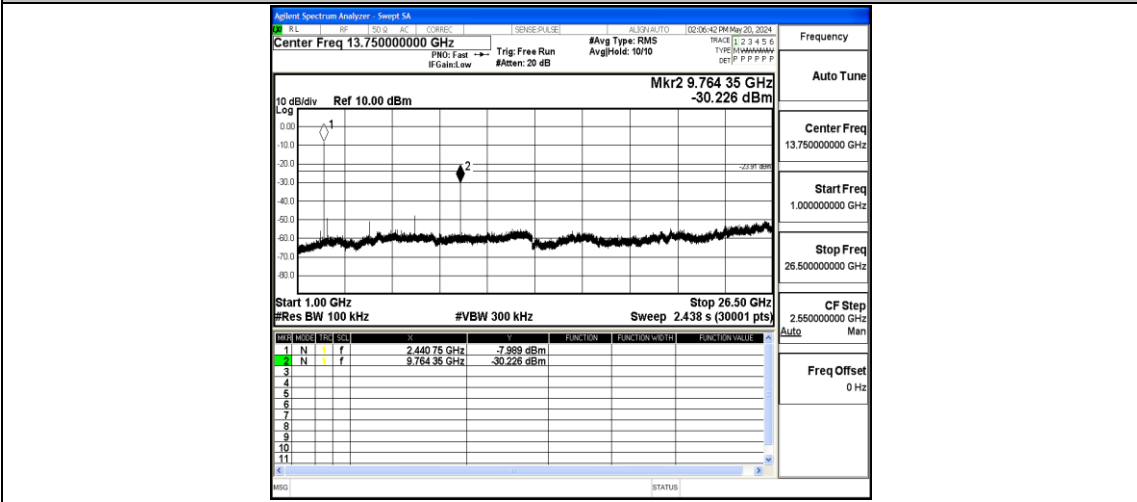
2DH5-Ant1-2402-1000~26500-PASS



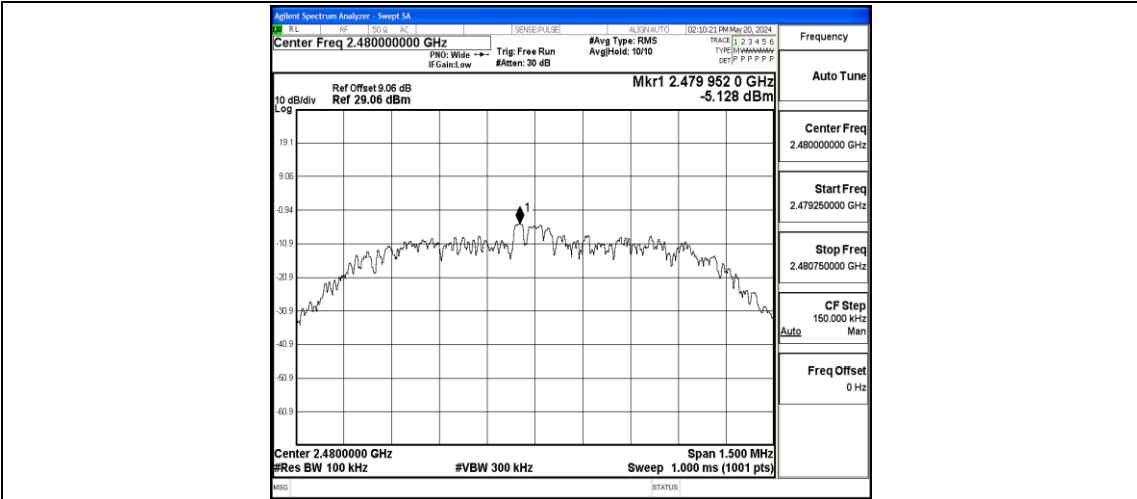
2DH5-Ant1-2441-0~Reference-PASS



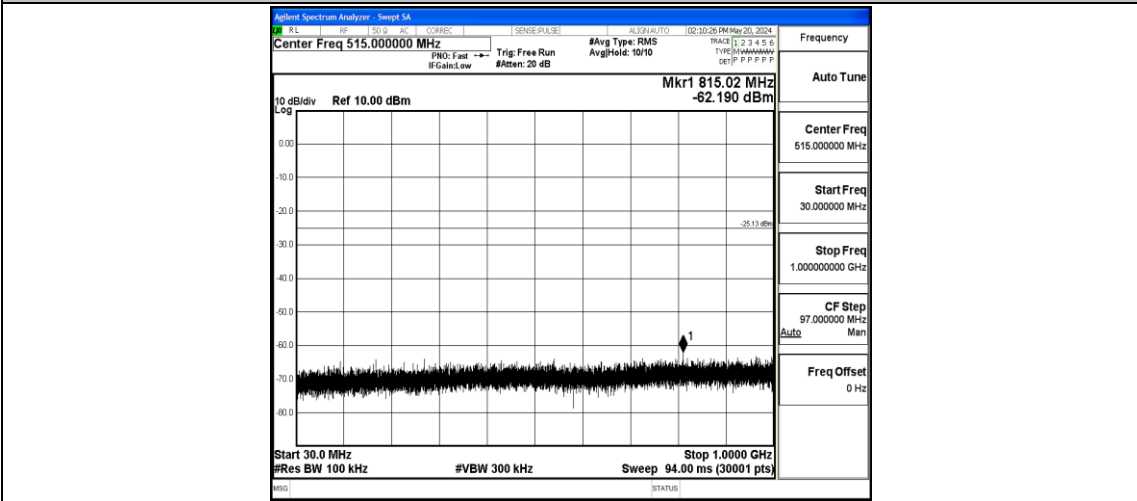
2DH5-Ant1-2441-30~1000-PASS



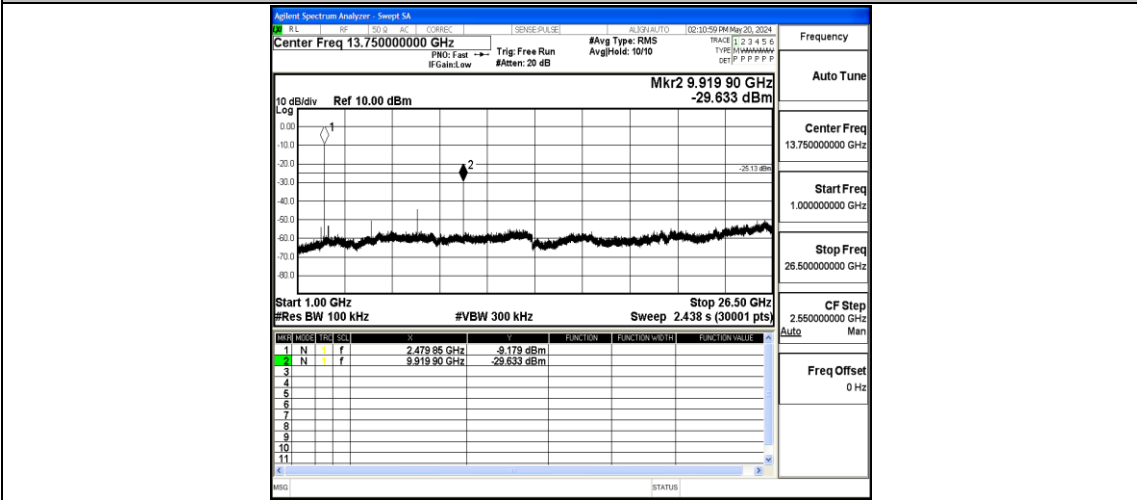
2DH5-Ant1-2441-1000~26500-PASS



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



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



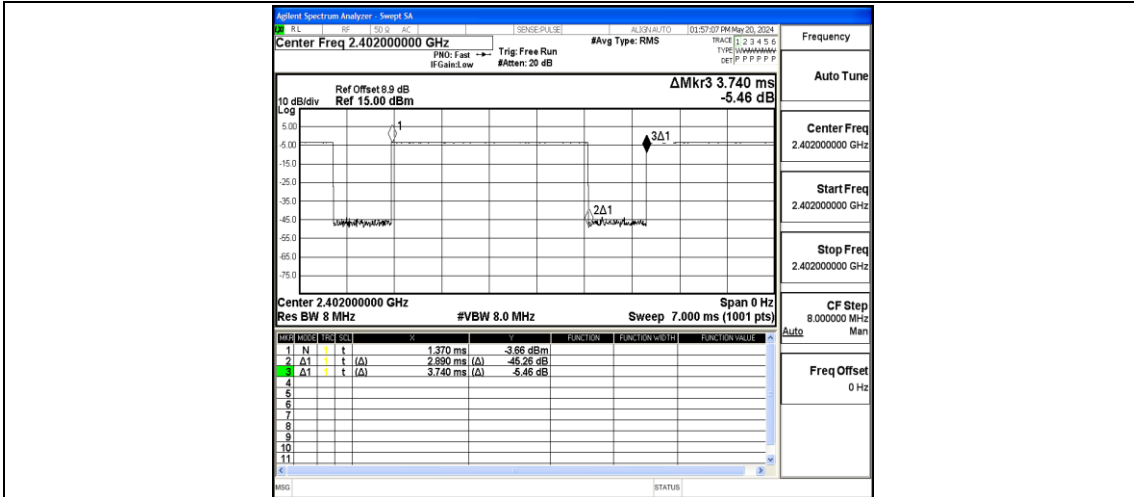
2DH5-Ant1-2480-1000~26500-PASS

Appendix I: Duty Cycle

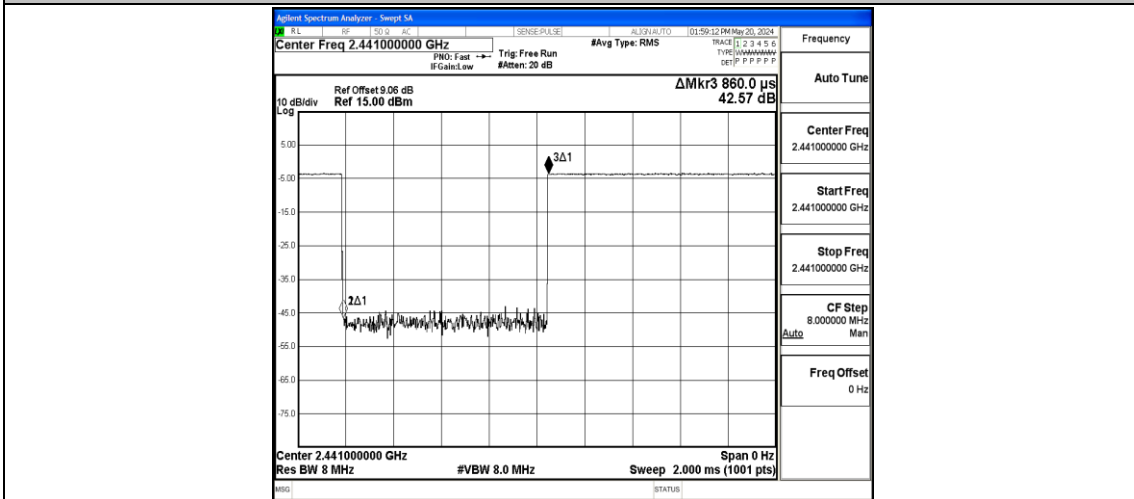
Test Result

TestMode	Antenna	Frequency[MHz]	ON Time [ms]	Period [ms]	Duty Cycle [%]	Duty Cycle Factor[dB]
DH5	Ant1	2402	2.89	3.74	77.27	1.12
DH5	Ant1	2441	0.00	0.86	100	∞
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	2.89	3.76	76.86	1.14
2DH5	Ant1	2480	2.89	3.74	77.27	1.12

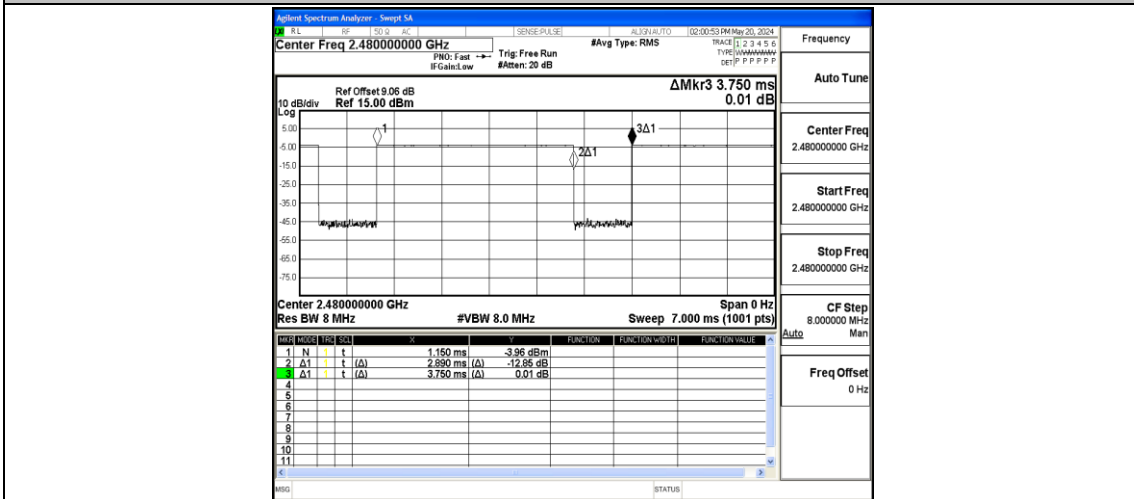
Test Graphs



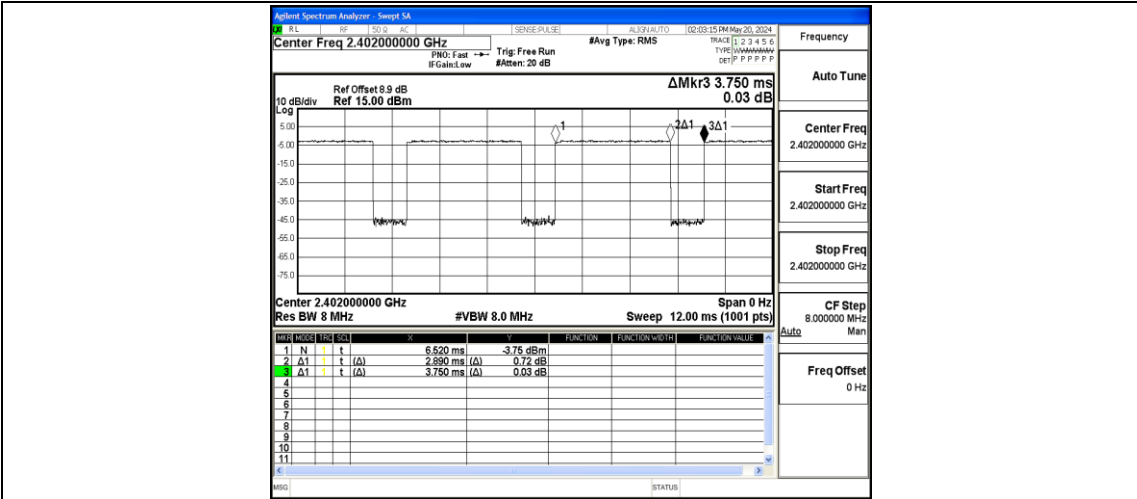
NTNV-DH5-Ant1-2402



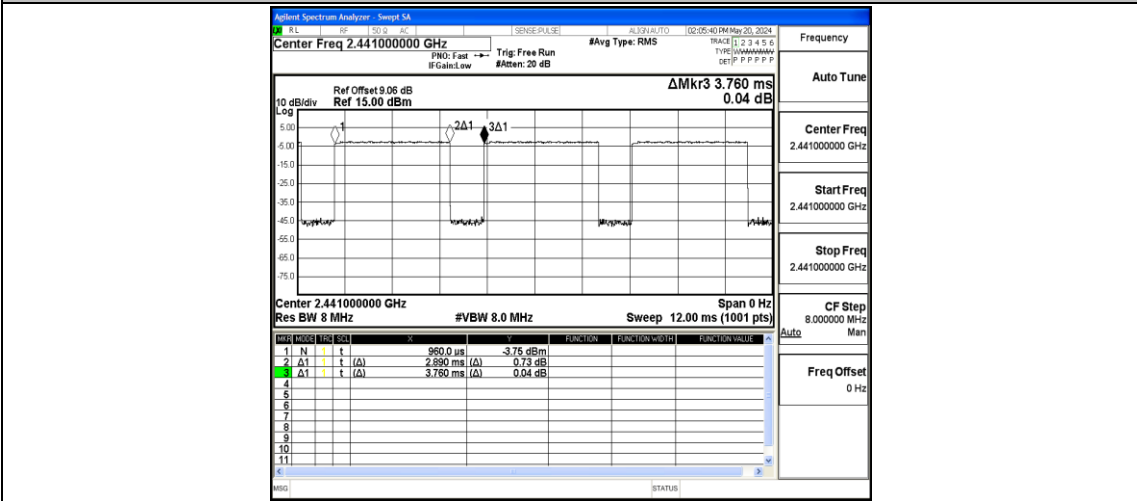
NTNV-DH5-Ant1-2441



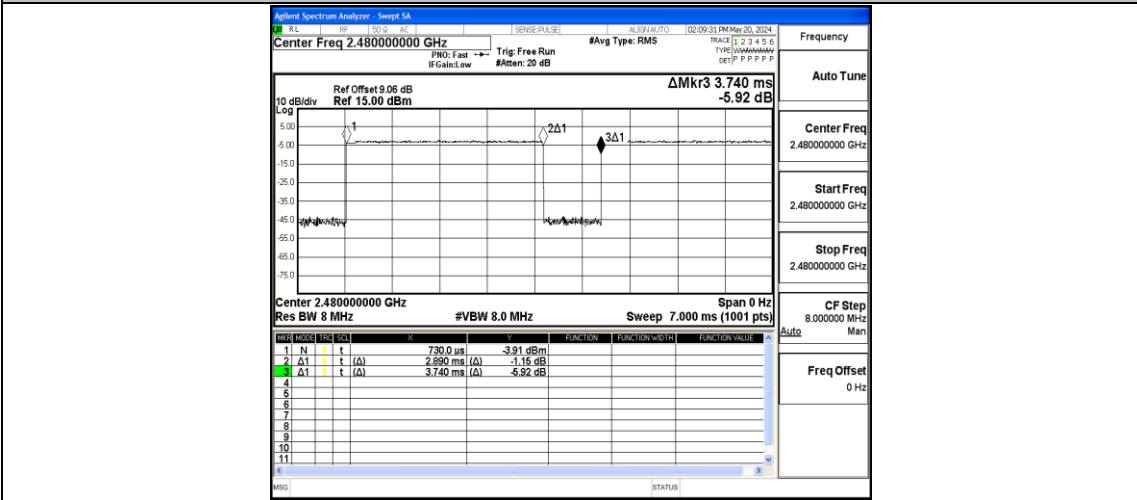
NTNV-DH5-Ant1-2480



NTNV-2DH5-Ant1-2402



NTNV-2DH5-Ant1-2441



NTNV-2DH5-Ant1-2480

Appendix J: Emissions in Restricted Bands

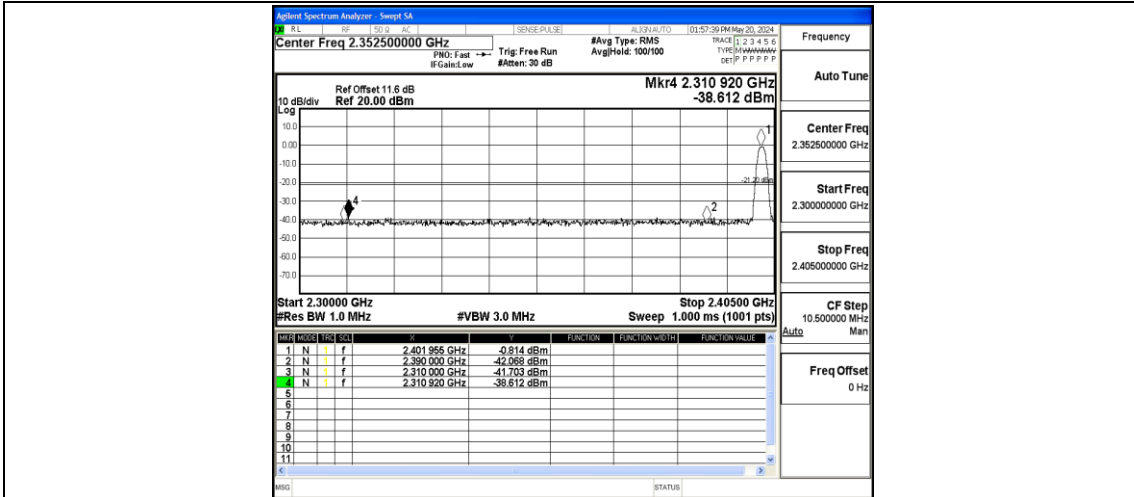
Test Result

TestMode	Antenna	ChName	Frequency [MHz]	Detector	Freq [MHz]	Result [dBm]	Limit [dBm]	Result [dBuV/m]	Limit [dBuV/m]	Verdict
DH5	Ant1	Low	2402	Peak	2390.000	-42.07	≤-21.20	53.13	≤74	PASS
DH5	Ant1	Low	2402	Peak	2310.000	-41.7	≤-21.20	53.50	≤74	PASS
DH5	Ant1	Low	2402	Peak	2310.920	-38.61	≤-21.20	56.59	≤74	PASS
DH5	Ant1	Low	2402	AV	2390.000	-48.46	≤-41.20	46.74	≤54	PASS
DH5	Ant1	Low	2402	AV	2310.000	-48.8	≤-41.20	46.40	≤54	PASS
DH5	Ant1	Low	2402	AV	2389.775	-47.3	≤-41.20	47.90	≤54	PASS
DH5	Ant1	High	2480	Peak	2483.500	-41.23	≤-21.20	53.97	≤74	PASS
DH5	Ant1	High	2480	Peak	2500.000	-40.38	≤-21.20	54.82	≤74	PASS
DH5	Ant1	High	2480	Peak	2492.720	-38.94	≤-21.20	56.26	≤74	PASS
DH5	Ant1	High	2480	AV	2483.500	-47.92	≤-41.20	47.28	≤54	PASS
DH5	Ant1	High	2480	AV	2500.000	-48.01	≤-41.20	47.19	≤54	PASS
DH5	Ant1	High	2480	AV	2497.120	-46.7	≤-41.20	48.50	≤54	PASS
2DH5	Ant1	Low	2402	Peak	2390.000	-40.98	≤-21.20	54.22	≤74	PASS
2DH5	Ant1	Low	2402	Peak	2310.000	-42.48	≤-21.20	52.72	≤74	PASS
2DH5	Ant1	Low	2402	Peak	2324.780	-38.19	≤-21.20	57.01	≤74	PASS
2DH5	Ant1	Low	2402	AV	2390.000	-48.34	≤-41.20	46.86	≤54	PASS
2DH5	Ant1	Low	2402	AV	2310.000	-48.83	≤-41.20	46.37	≤54	PASS
2DH5	Ant1	Low	2402	AV	2386.415	-47.41	≤-41.20	47.79	≤54	PASS
2DH5	Ant1	High	2480	Peak	2483.500	-40.77	≤-21.20	54.43	≤74	PASS
2DH5	Ant1	High	2480	Peak	2500.000	-39.47	≤-21.20	55.73	≤74	PASS
2DH5	Ant1	High	2480	Peak	2489.360	-37.38	≤-21.20	57.82	≤74	PASS
2DH5	Ant1	High	2480	AV	2483.500	-48.04	≤-41.20	47.16	≤54	PASS
2DH5	Ant1	High	2480	AV	2500.000	-48.18	≤-41.20	47.02	≤54	PASS
2DH5	Ant1	High	2480	AV	2492.320	-46.9	≤-41.20	48.30	≤54	PASS

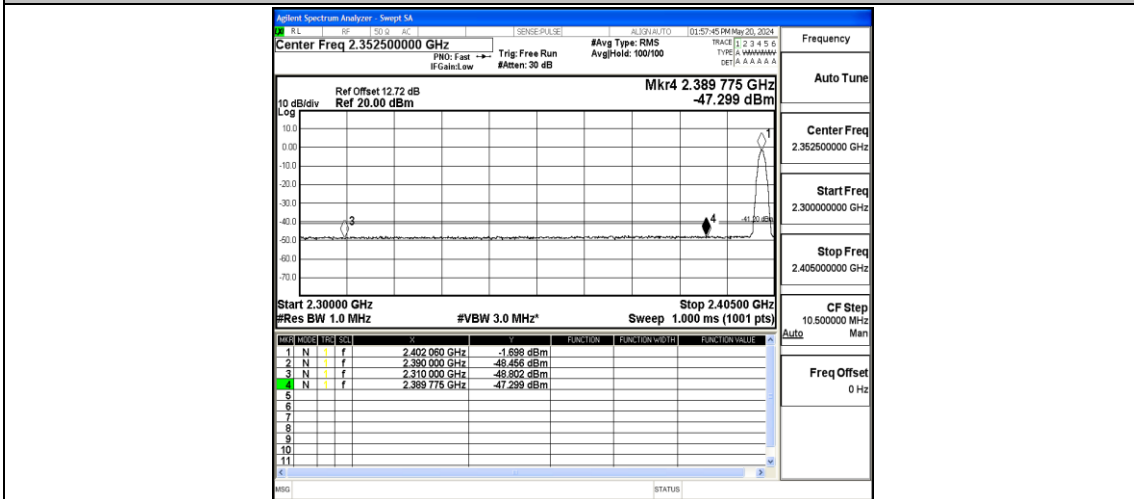
Note:

1. The Antenna Gain is compensated in the graph.
2. The limit in dBm for average detector is conversion from 54dBuV/m, according to 15.209(a). The limit in dBm for peak detector is 20dB above the limit of average detector in dBm.

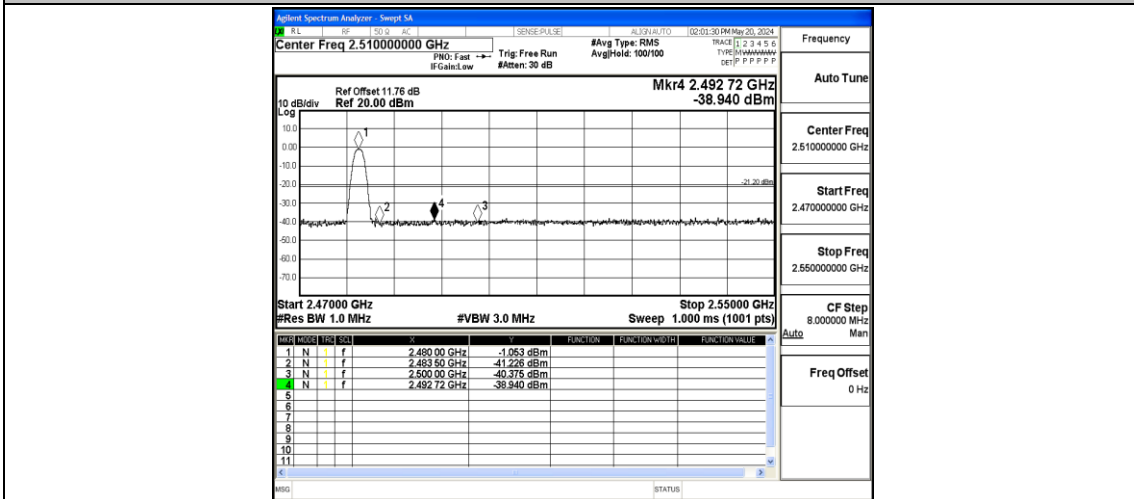
Test Graphs



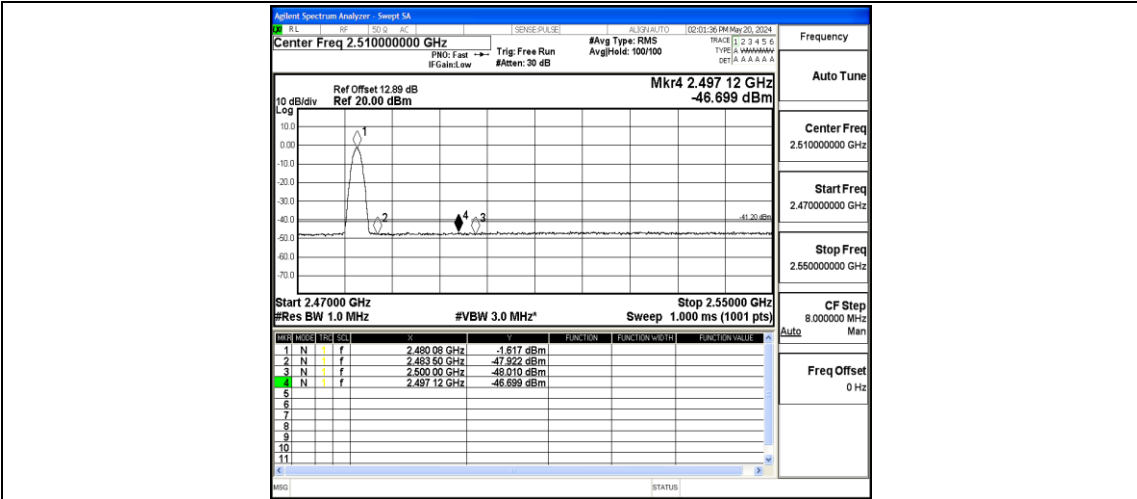
DH5-Ant1-2402-PASS



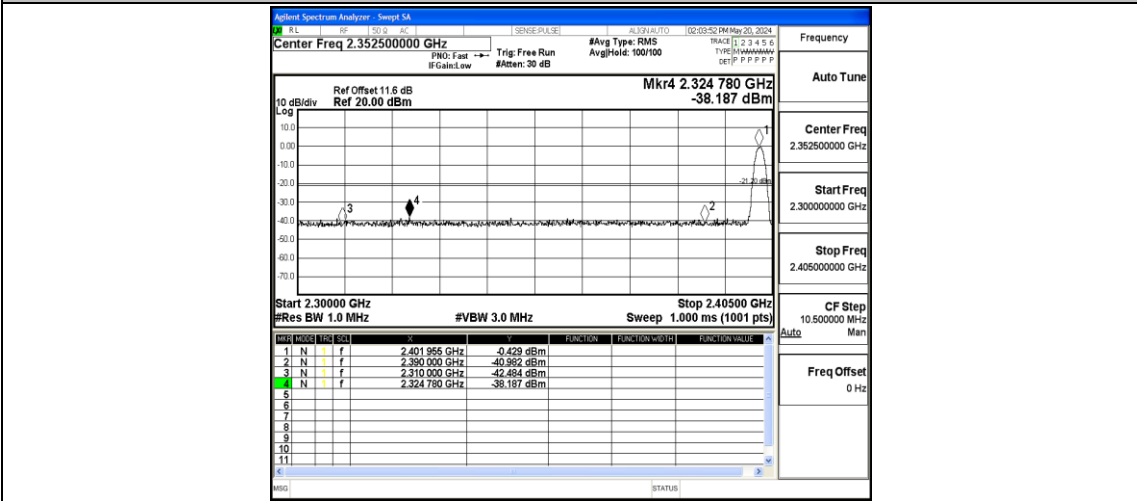
DH5-Ant1-2402-PASS



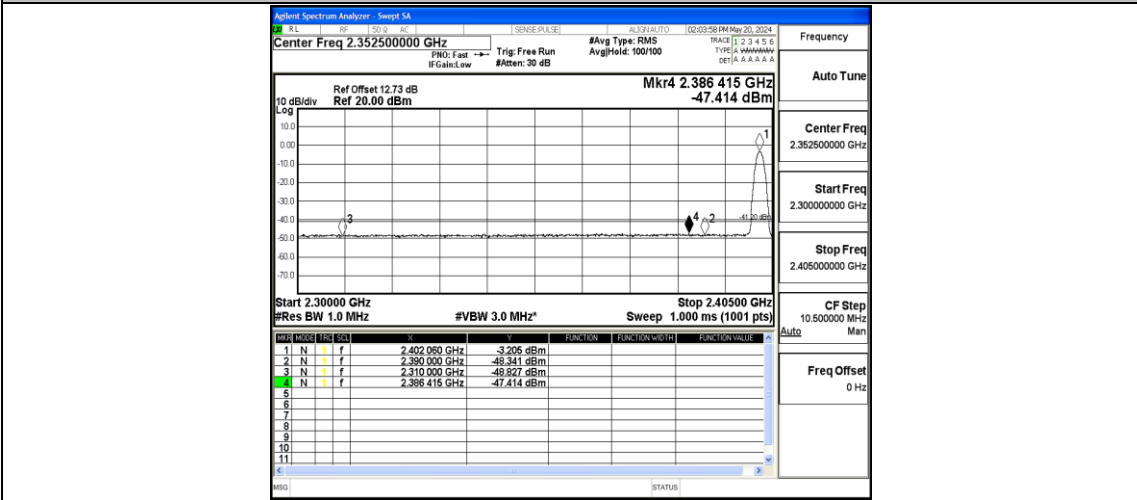
DH5-Ant1-2480-PASS



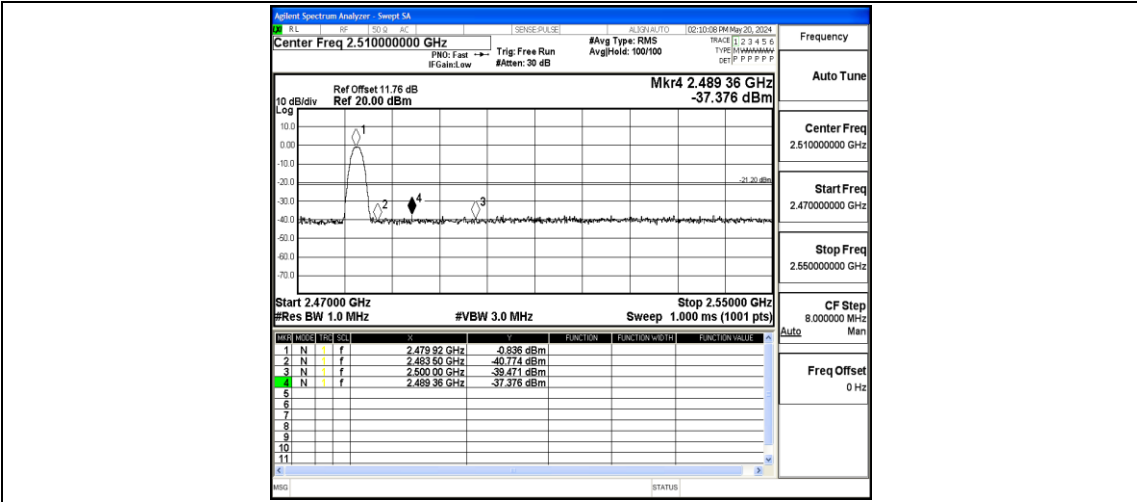
DH5-Ant1-2480-PASS



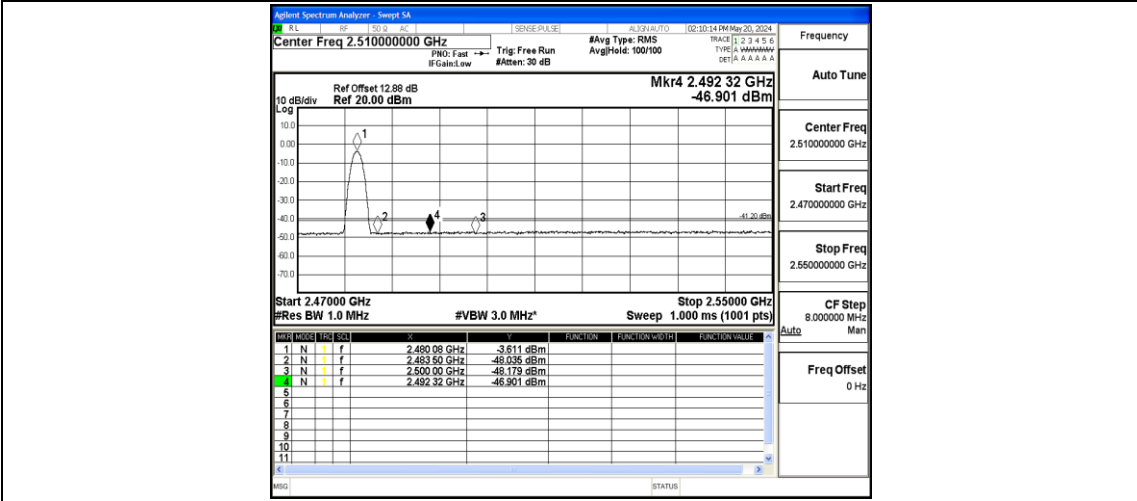
2DH5-Ant1-2402-PASS



2DH5-Ant1-2402-PASS



2DH5-Ant1-2480-PASS



2DH5-Ant1-2480-PASS