Appendix B

RF Test Data for BT (Conducted Measurement)

Product Name: Bluetooth Soundbar with Wireless Subwoofer

Test Model: EHS-2050

Environmental Conditions

Temperature:	23.8 ° C
Relative Humidity:	52.1%
ATM Pressure:	100.0 kPa
Test Engineer:	Nick Peng
Supervised by:	Ling Zhu

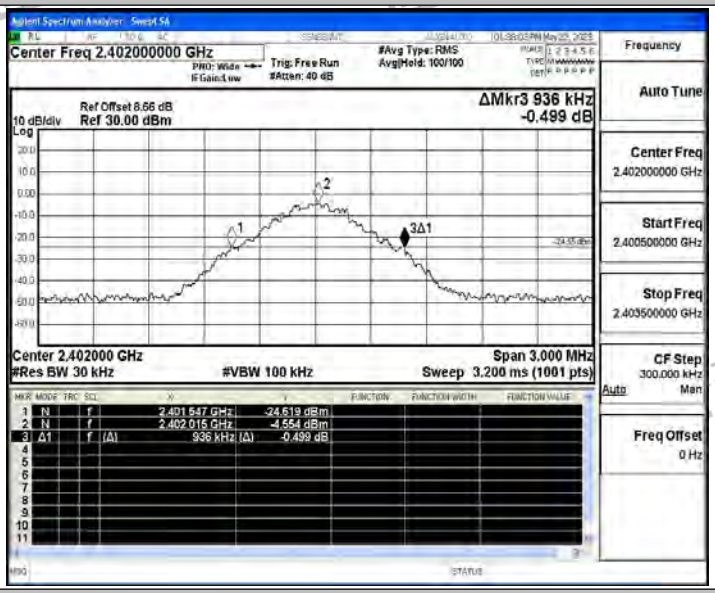
A.1 20dB Emission Bandwidth

Test Result

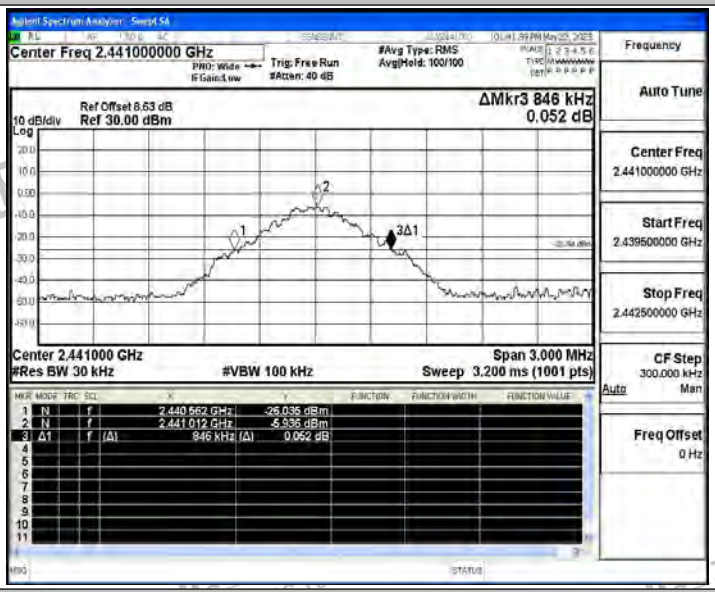
TestMode	Antenna	Frequency[MHz]	20db EBW[MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
DH5	Ant1	2402	0.936	2401.547	2402.483	---	---
		2441	0.846	2440.562	2441.408	---	---
		2480	0.843	2479.571	2480.414	---	---
2DH5	Ant1	2402	1.290	2401.364	2402.654	---	---
		2441	1.320	2440.337	2441.657	---	---
		2480	1.281	2479.364	2480.645	---	---

Test Graphs

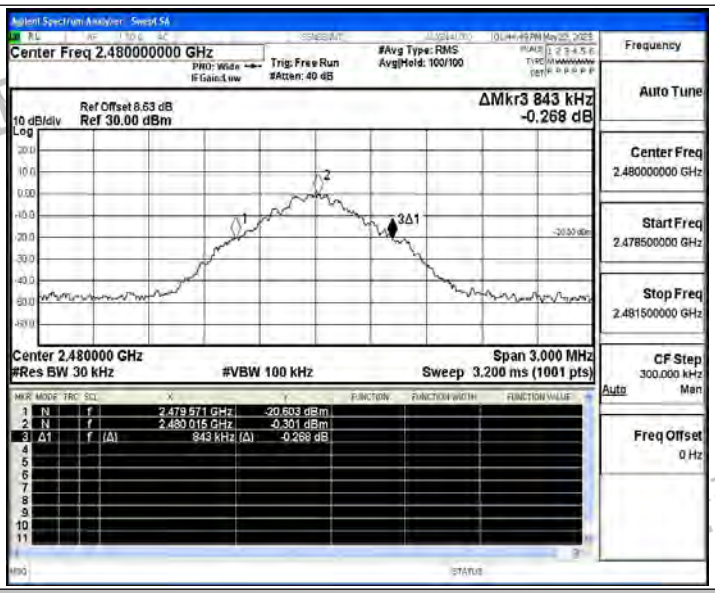
DH5_Ant1_2402



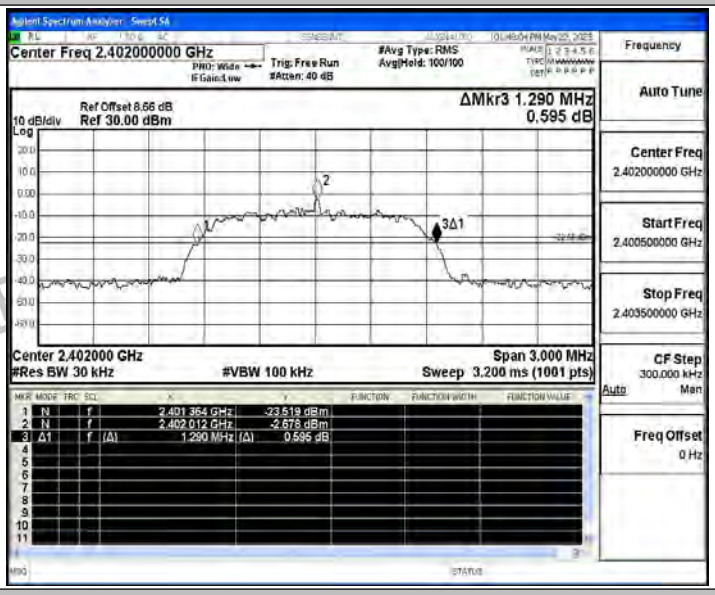
DH5_Ant1_2441



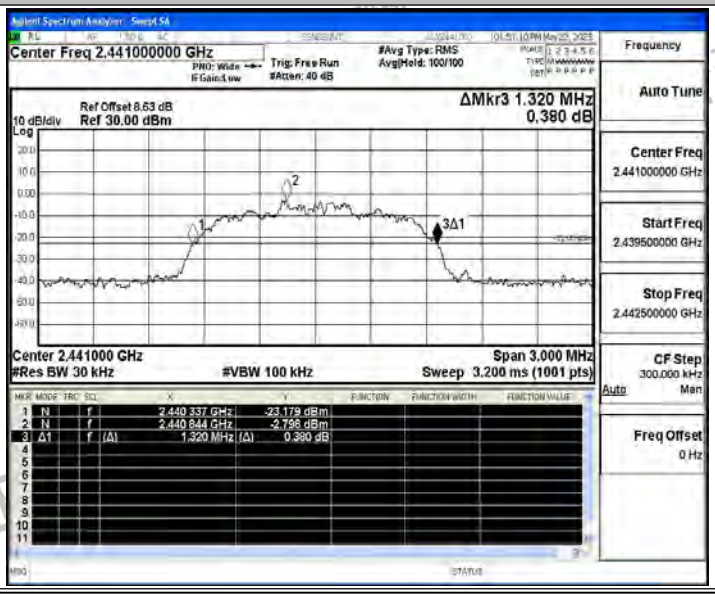
DH5_Ant1_2480

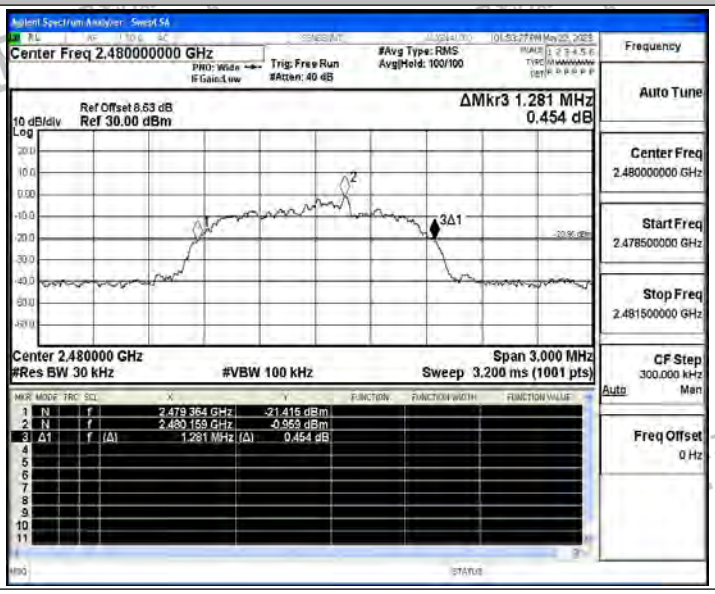


2DH5_Ant1_2402



2DH5_Ant1_2441



2DH5_Ant1_2480


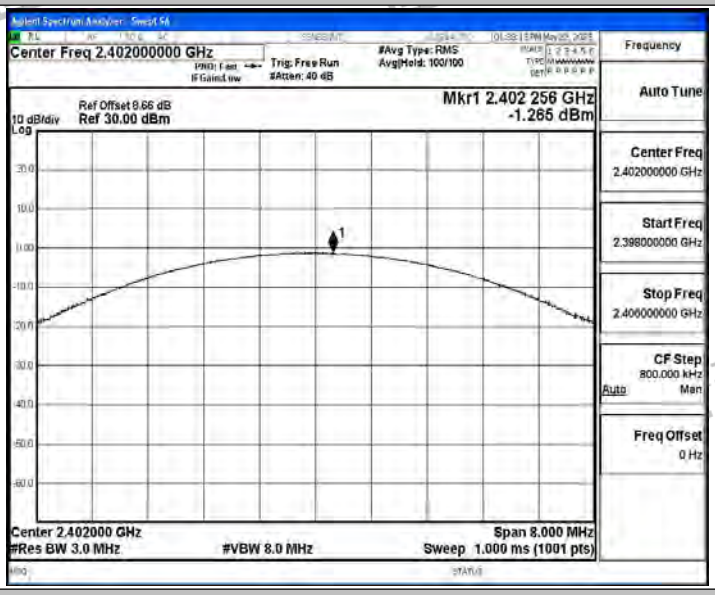
A.2 Maximum conducted output power

Test Result Peak

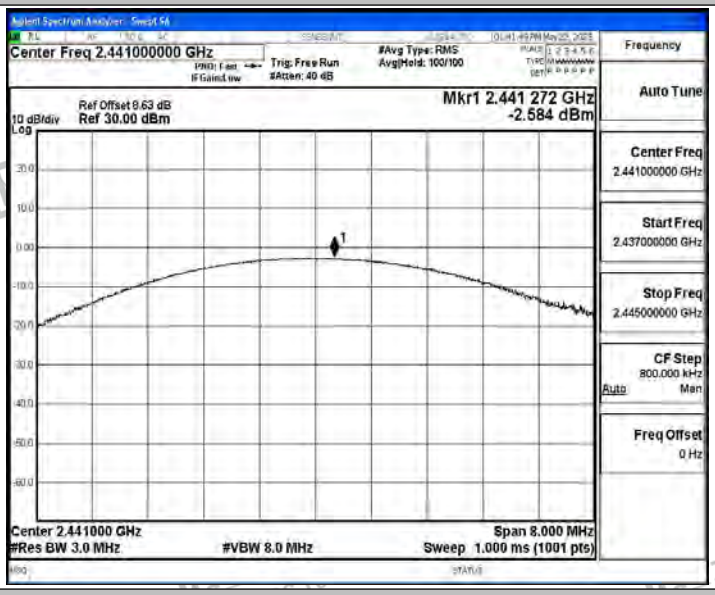
Test Mode	Antenna	Frequency[MHz]	Conducted Peak Powert[dBm]	Conducted Limit[dBm]	Verdict
DH5	Ant1	2402	-1.27	21	PASS
		2441	-2.58	21	PASS
		2480	2.69	21	PASS
2DH5	Ant1	2402	1.8	21	PASS
		2441	2.16	21	PASS
		2480	2.64	21	PASS

Test Graphs

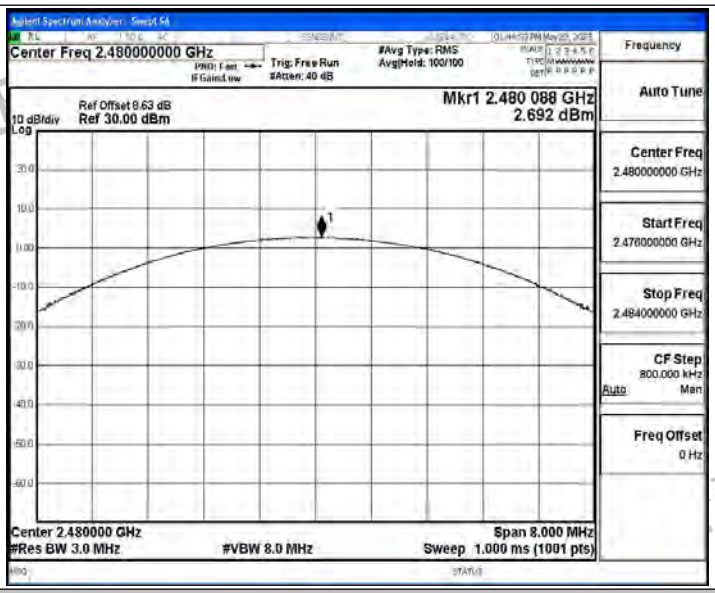
DH5_Ant1_2402



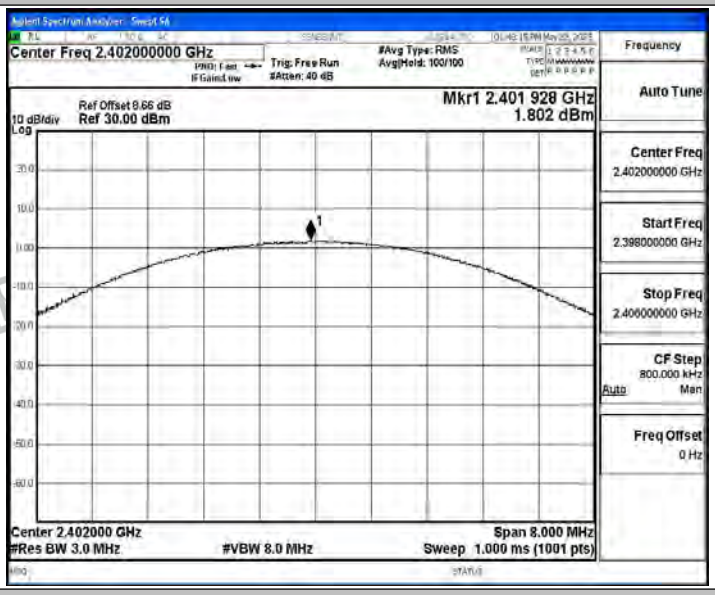
DH5_Ant1_2441



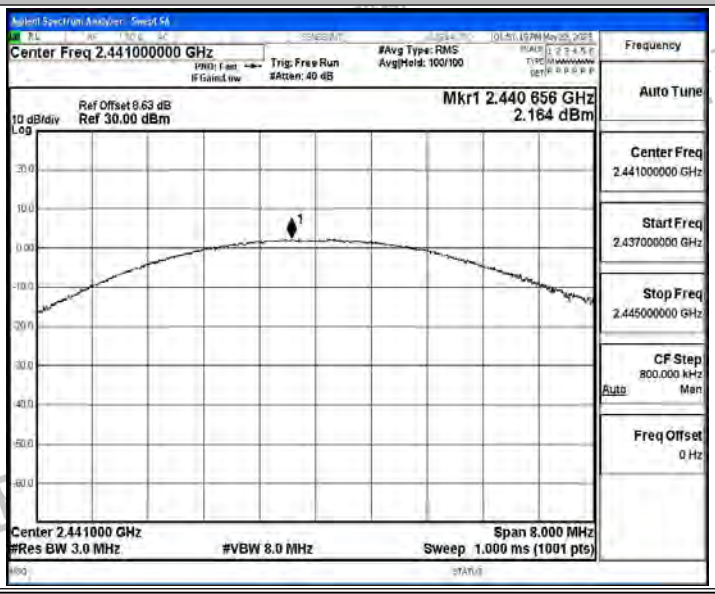
DH5_Ant1_2480



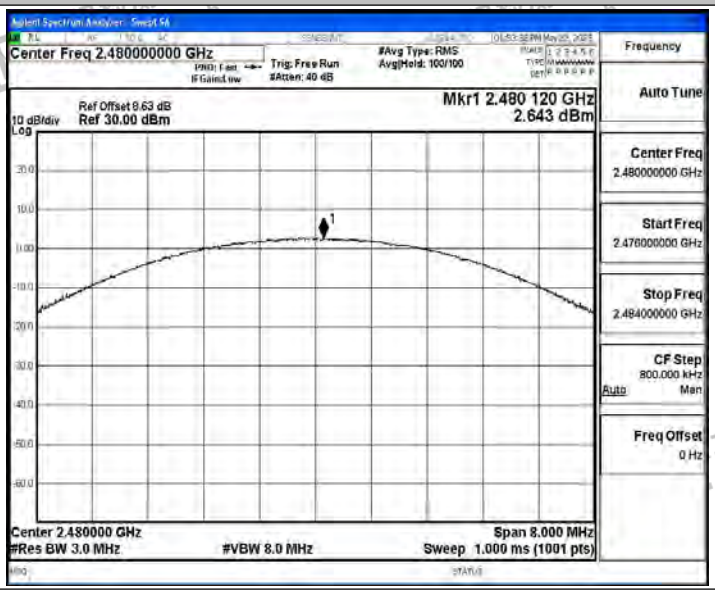
2DH5_Ant1_2402



2DH5_Ant1_2441



2DH5_Ant1_2480



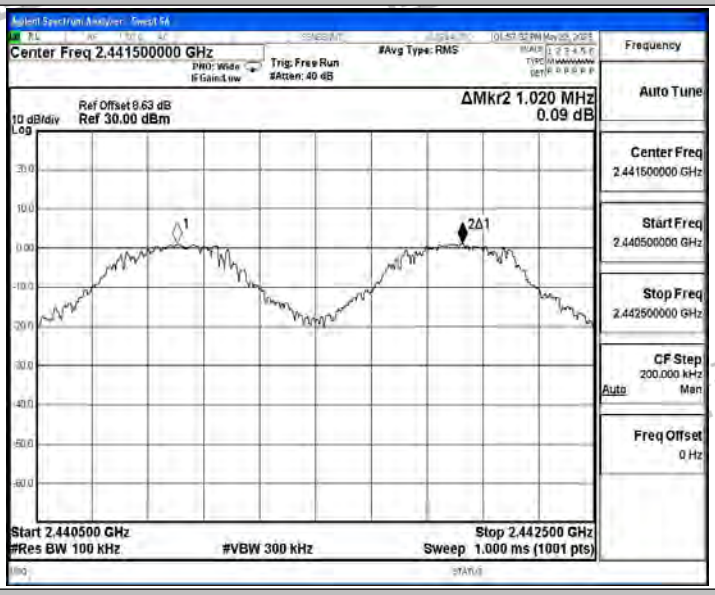
A.3 Carrier frequency separation

Test Result

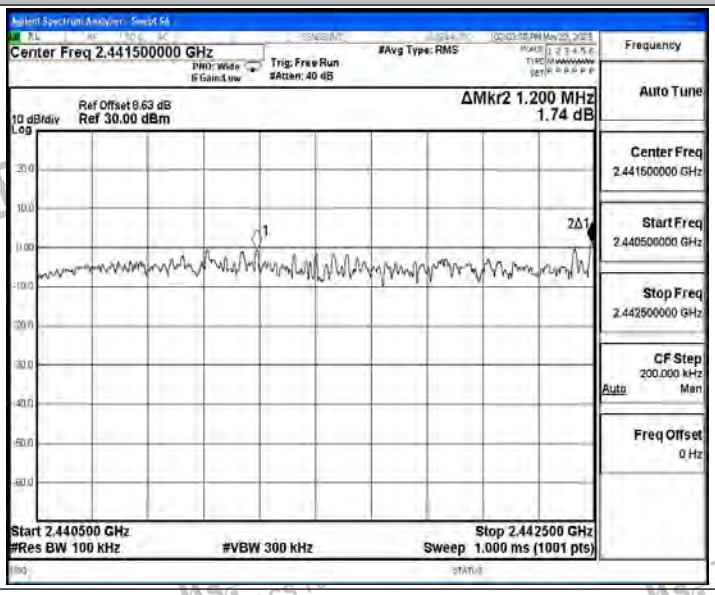
TestMode	Antenna	Frequency[MHz]	Result[MHz]	Limit[MHz]	Verdict
DH5	Ant1	Hop	1.02	≥0.624	PASS
2DH5	Ant1	Hop	1.2	≥0.880	PASS

Test Graphs

DH5_Ant1_Hop



2DH5_Ant1_Hop



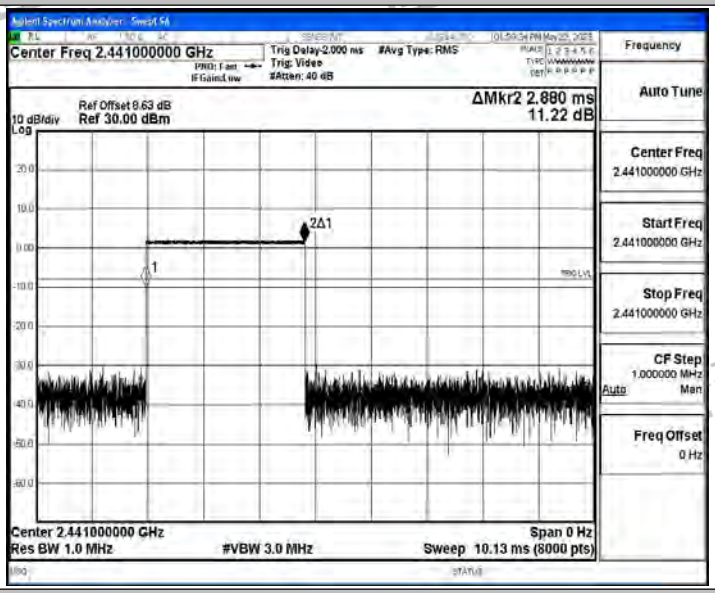
A.4 Dwell Time

Test Result

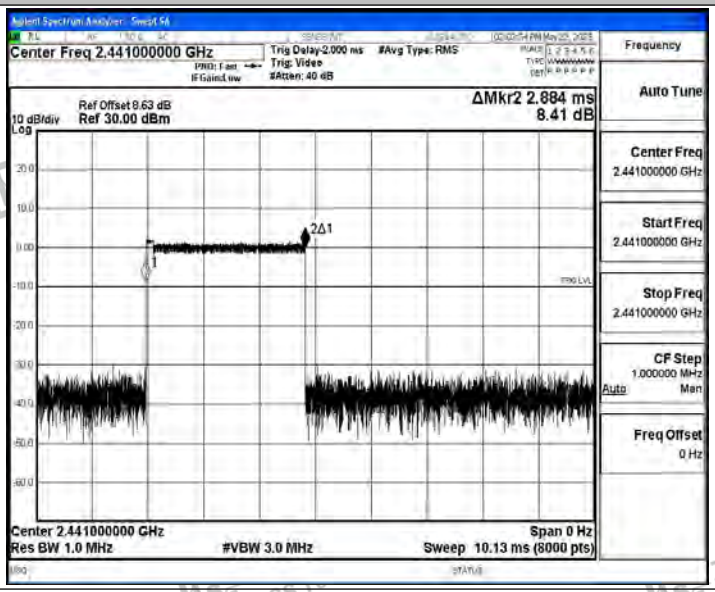
TestMode	Antenna	Frequency[MHz]	BurstWidth [ms]	TotalHops [Num]	Result[s]	Limit[s]	Verdict
DH5	Ant1	Hop	2.880	106.67	0.307	≤0.4	PASS
2DH5	Ant1	Hop	2.884	106.67	0.308	≤0.4	PASS

Test Graphs

DH5_Ant1_Hop



2DH5_Ant1_Hop



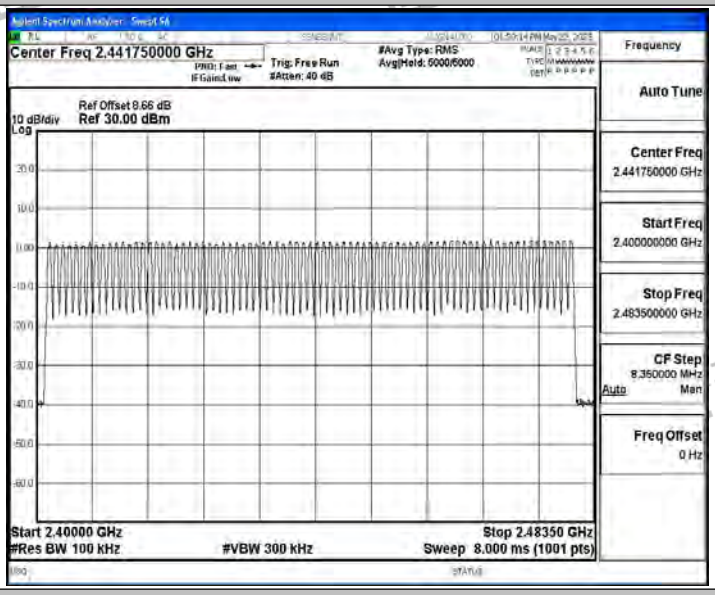
A.5 Number of hopping channels

Test Result

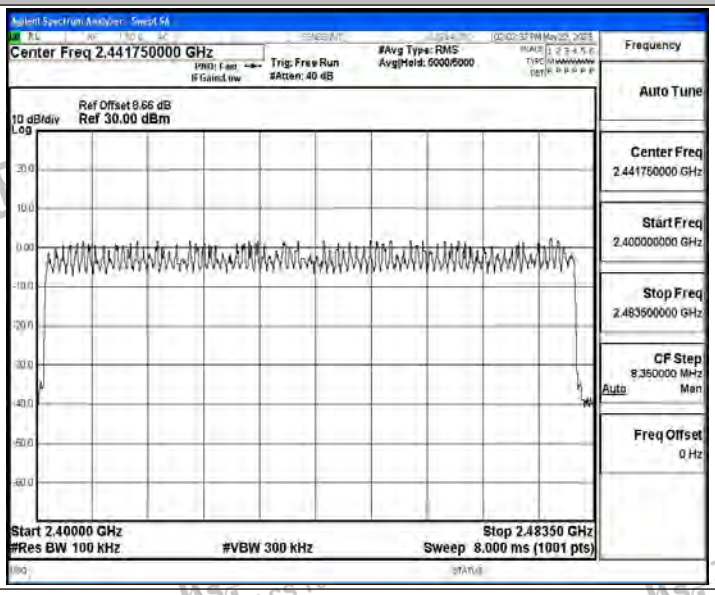
TestMode	Antenna	Frequency[MHz]	Result[Num]	Limit[Num]	Verdict
DH5	Ant1	Hop	79	≥15	PASS
2DH5	Ant1	Hop	79	≥15	PASS

Test Graphs

DH5_Ant1_Hop



2DH5_Ant1_Hop



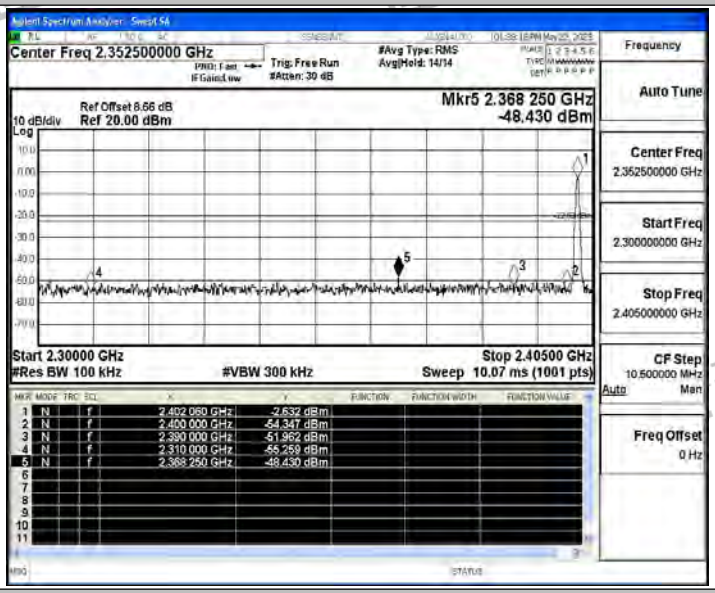
A.6 Band edge measurements

Test Result

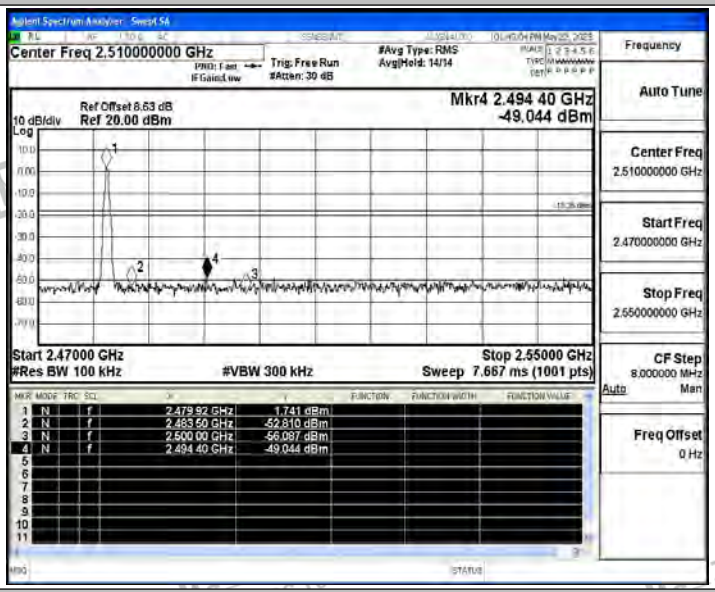
TestMode	Antenna	ChName	Frequency[MHz]	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
DH5	Ant1	Low	2402	-2.63	-48.43	≤-22.63	PASS
		High	2480	1.74	-49.04	≤-18.26	PASS
		Low	Hop_2402	0.21	-49.08	≤-19.8	PASS
		High	Hop_2480	1.92	-47.7	≤-18.08	PASS
2DH5	Ant1	Low	2402	-5.17	-50.07	≤-25.17	PASS
		High	2480	-2.05	-49.37	≤-22.05	PASS
		Low	Hop_2402	-3.69	-49.08	≤-23.69	PASS
		High	Hop_2480	1.63	-47.55	≤-18.37	PASS

Test Graphs

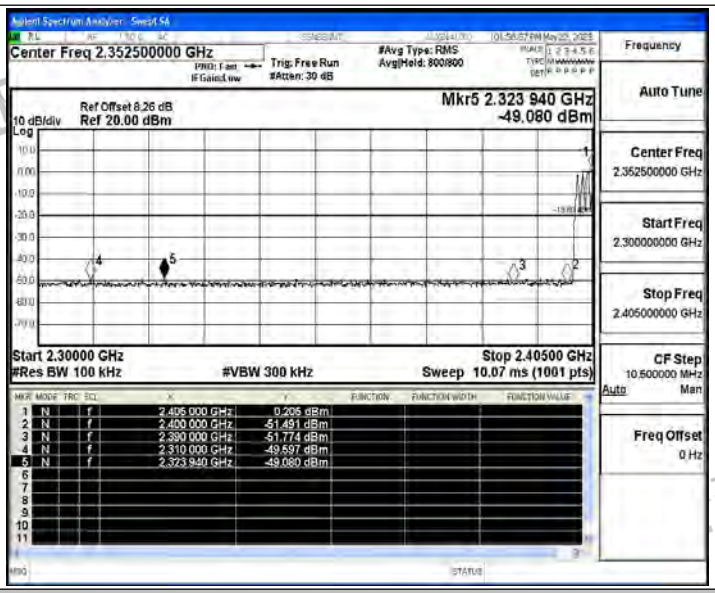
DH5_Ant1_Low_2402



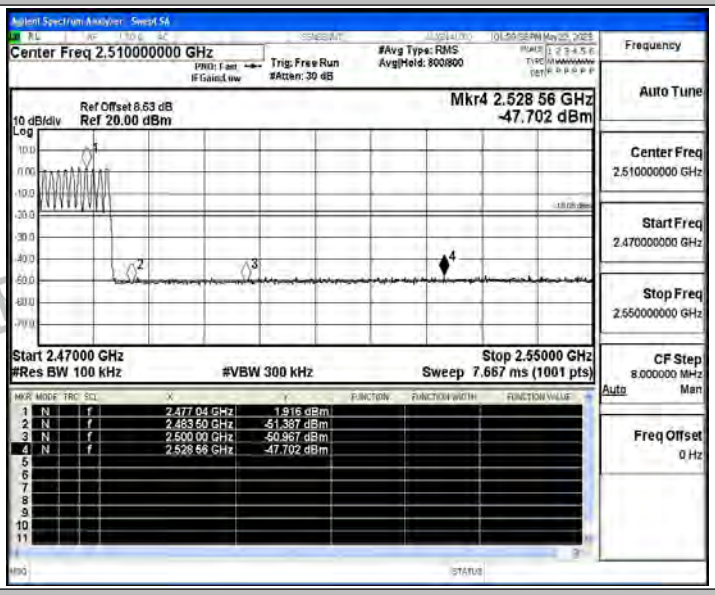
DH5_Ant1_High_2480



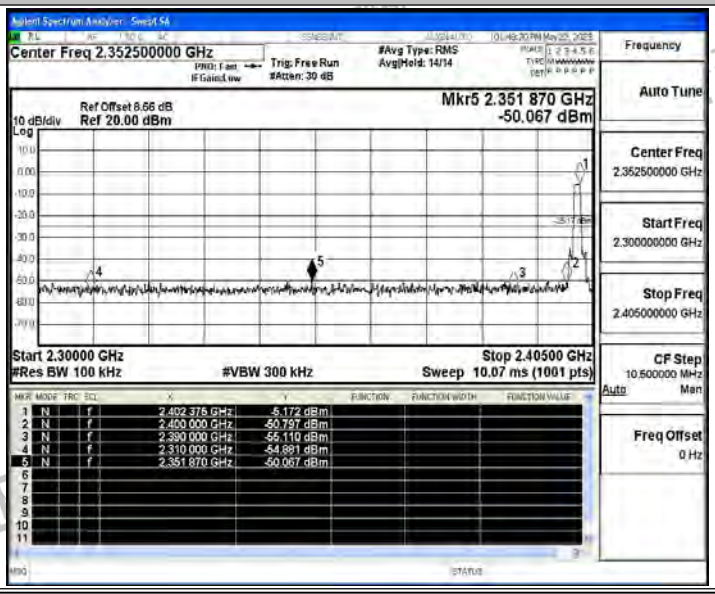
DH5_Ant1_Low_Hop_2402

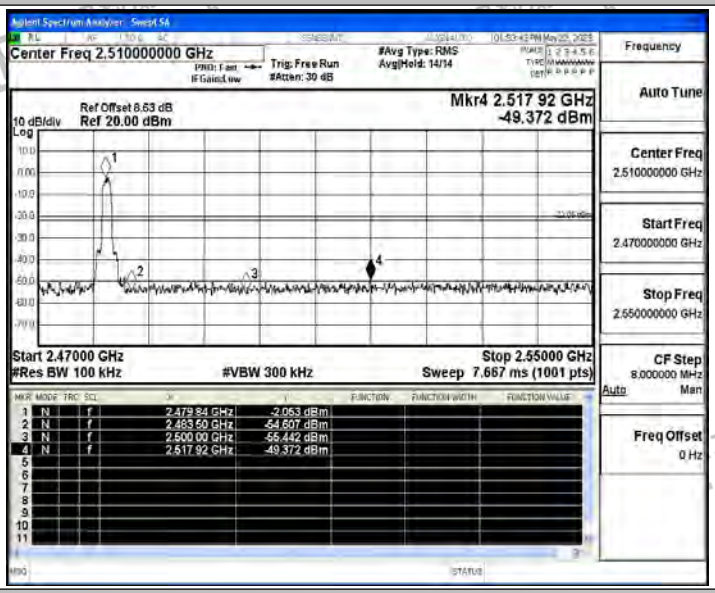
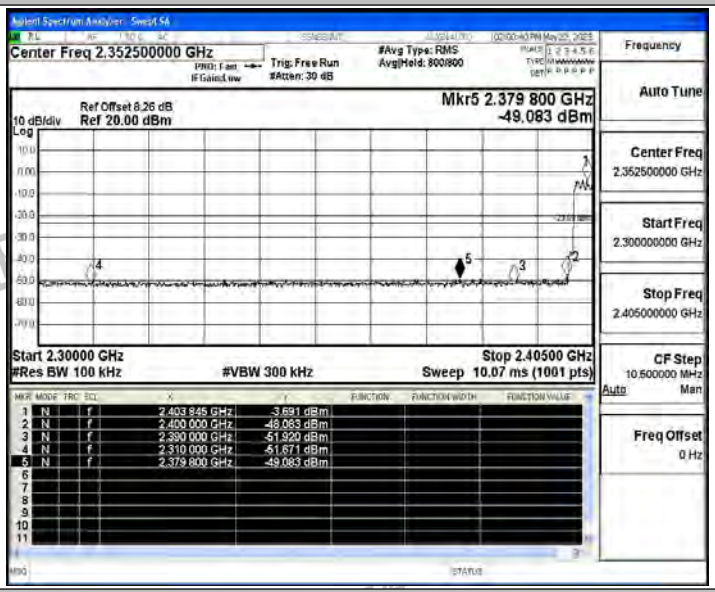


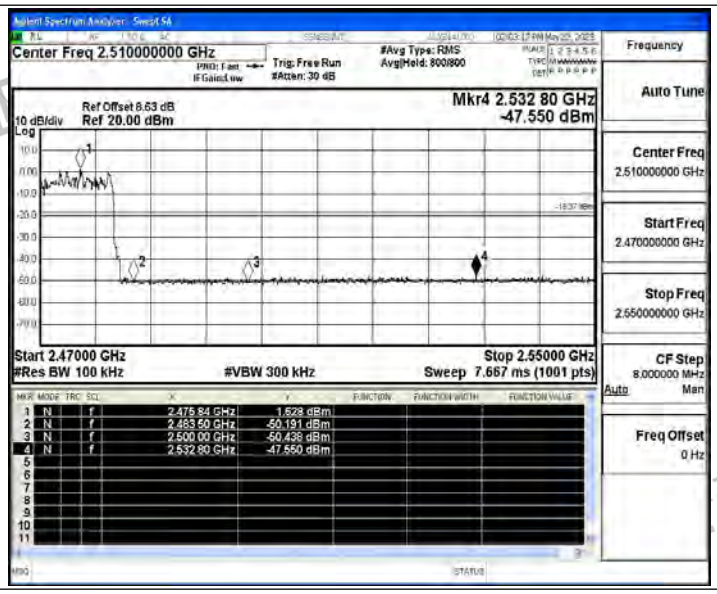
DH5_Ant1_High_Hop_2480



2DH5_Ant1_Low_2402



2DH5_Ant1_High_2480

2DH5_Ant1_Low_Hop_2402

2DH5_Ant1_High_Hop_2480



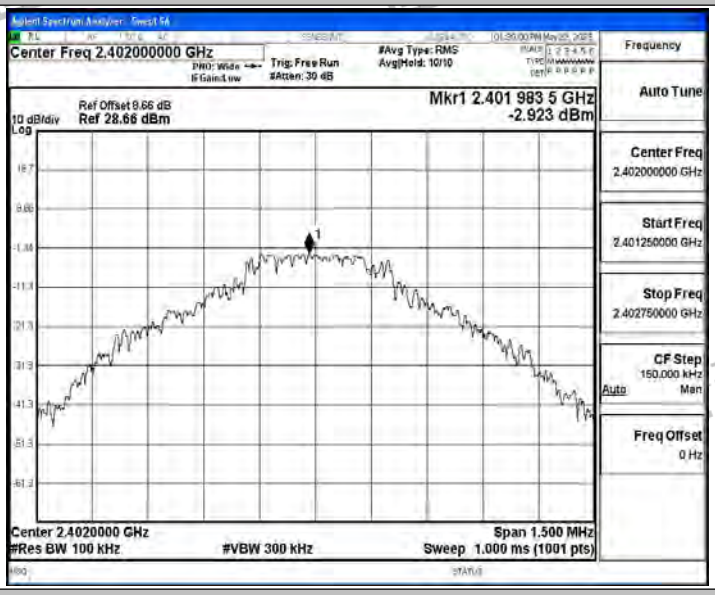
A.7 Conducted Spurious Emission

Test Result

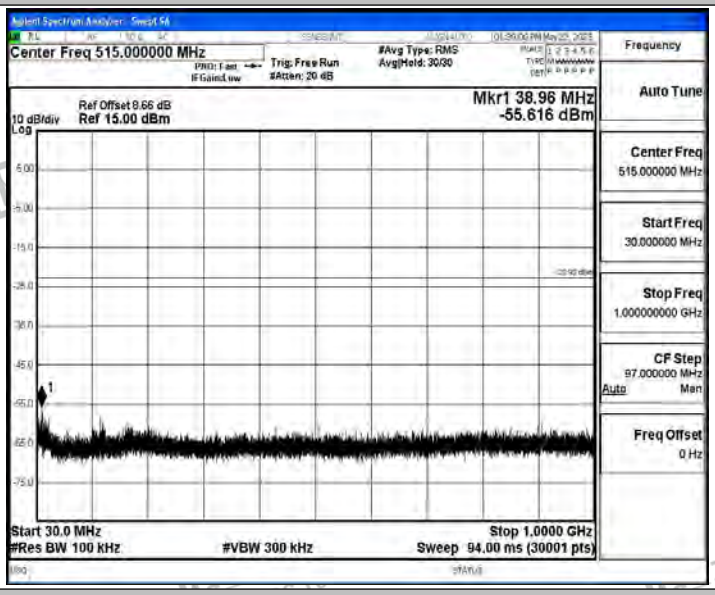
TestMode	Antenna	Frequency[MHz]	FreqRange [MHz]	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
DH5	Ant1	2402	Reference	-2.92	-2.92	---	PASS
			30~1000	-2.92	-55.62	≤-22.92	PASS
			1000~26500	-2.92	-43.59	≤-22.92	PASS
		2441	Reference	-4.26	-4.26	---	PASS
			30~1000	-4.26	-56.53	≤-24.26	PASS
			1000~26500	-4.26	-38.15	≤-24.26	PASS
		2480	Reference	1.20	1.20	---	PASS
			30~1000	1.20	-55.77	≤-18.8	PASS
			1000~26500	1.20	-45.36	≤-18.8	PASS
2DH5	Ant1	2402	Reference	-3.66	-3.66	---	PASS
			30~1000	-3.66	-55.2	≤-23.66	PASS
			1000~26500	-3.66	-39.23	≤-23.66	PASS
		2441	Reference	-3.55	-3.55	---	PASS
			30~1000	-3.55	-56.07	≤-23.55	PASS
			1000~26500	-3.55	-46.04	≤-23.55	PASS
		2480	Reference	-2.51	-2.51	---	PASS
			30~1000	-2.51	-55.37	≤-22.51	PASS
			1000~26500	-2.51	-43.25	≤-22.51	PASS

Test Graphs

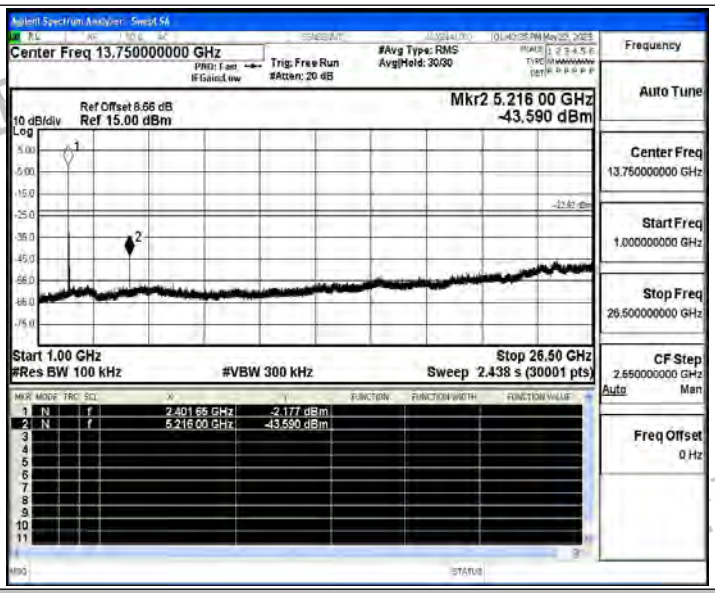
DH5_Ant1_2402_0~Reference



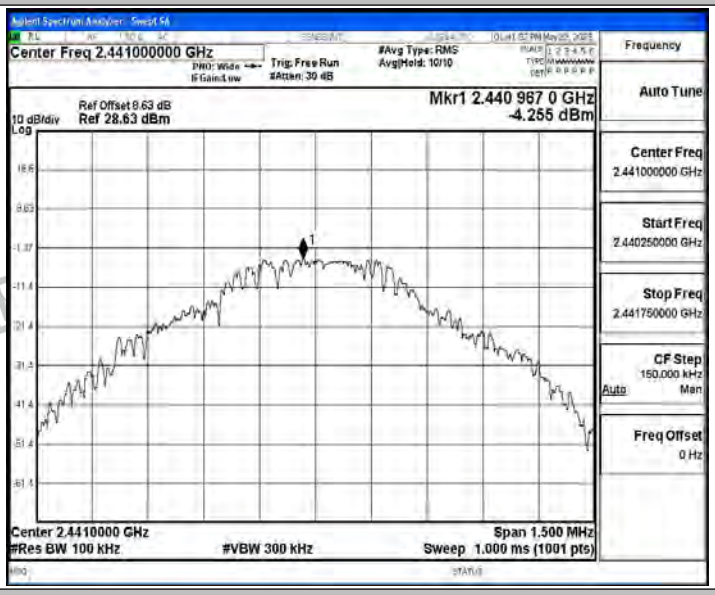
DH5_Ant1_2402_30~1000



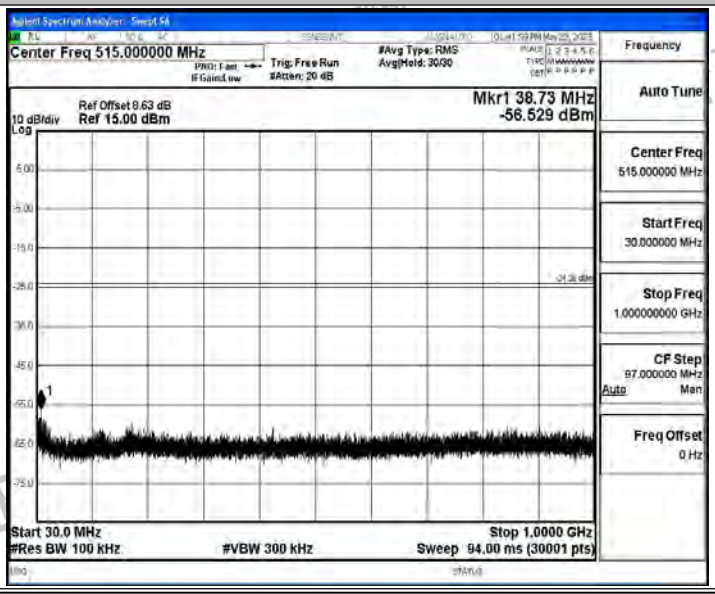
DH5_Ant1_2402_1000~26500

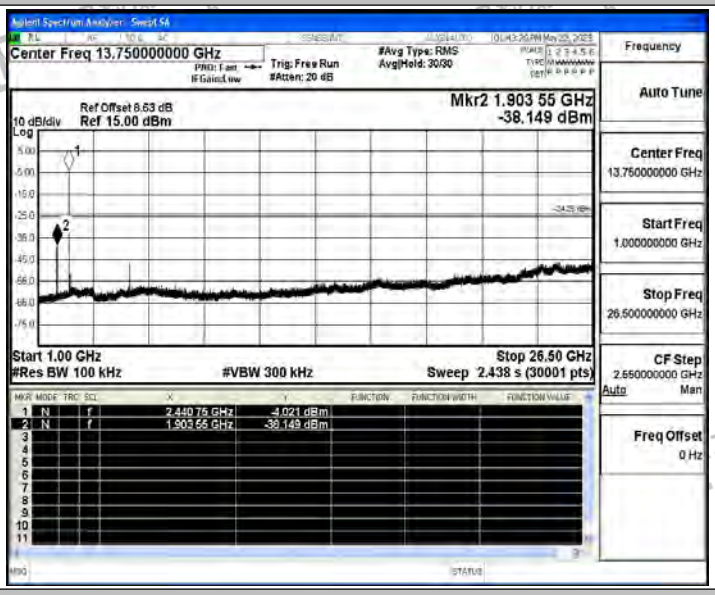
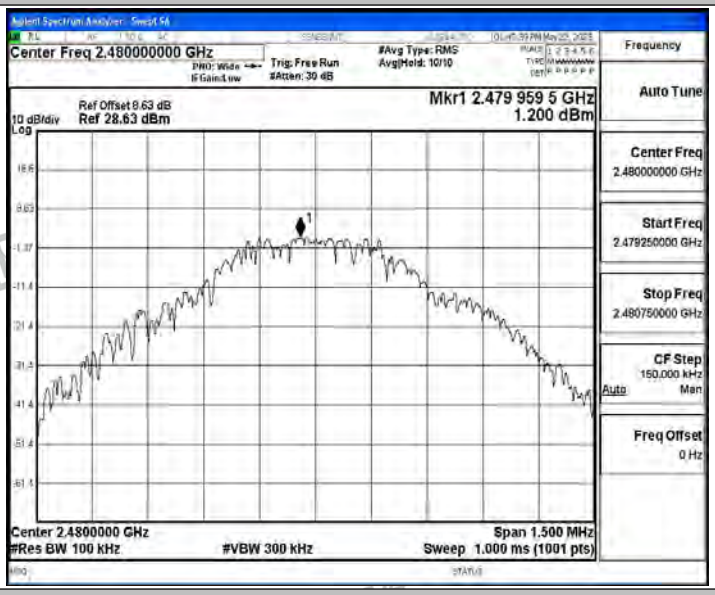


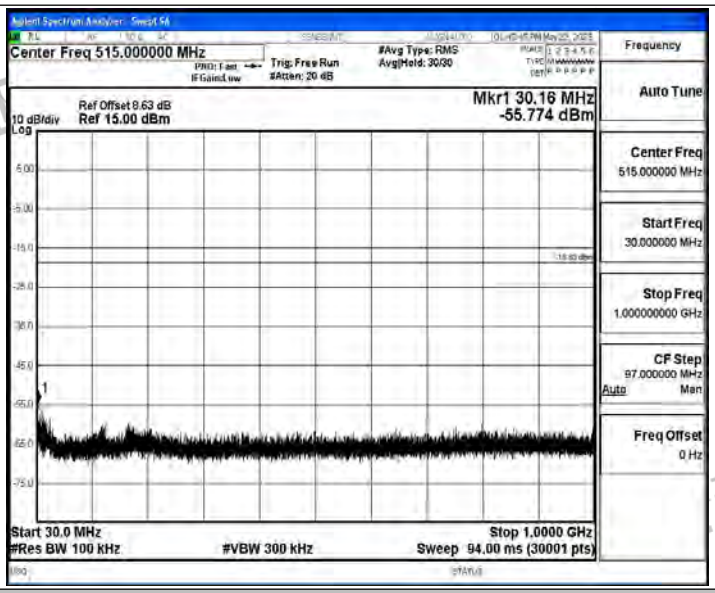
DH5_Ant1_2441_0~Reference



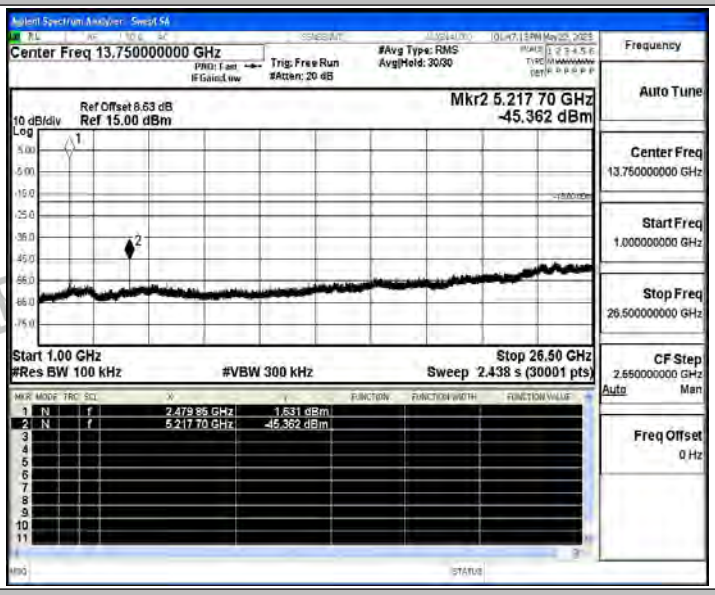
DH5_Ant1_2441_30~1000



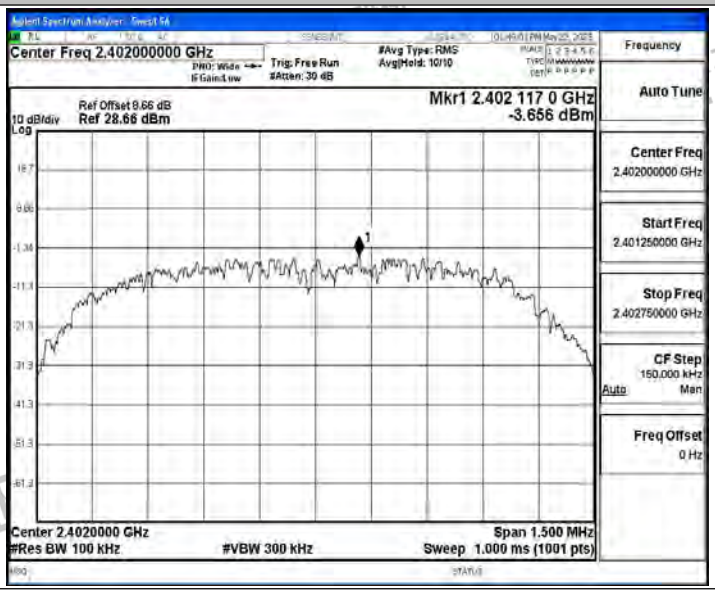
DH5_Ant1_2441_1000~26500

DH5_Ant1_2480_0~Reference

DH5_Ant1_2480_30~1000

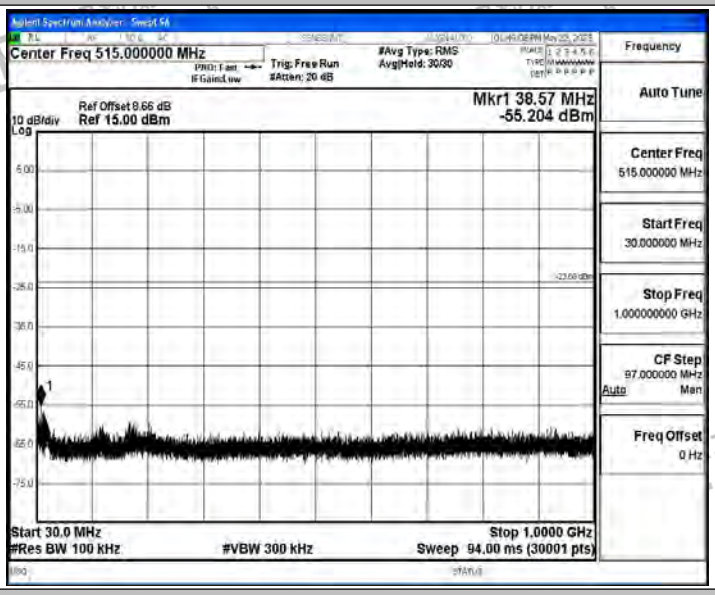
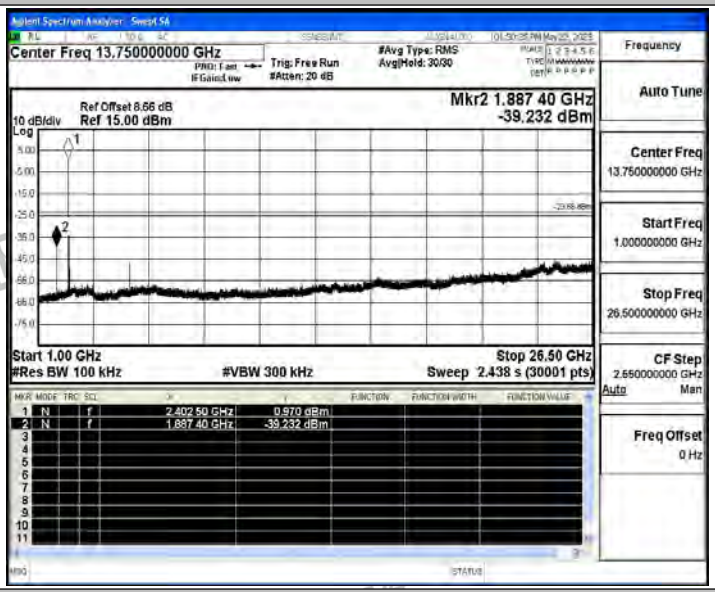


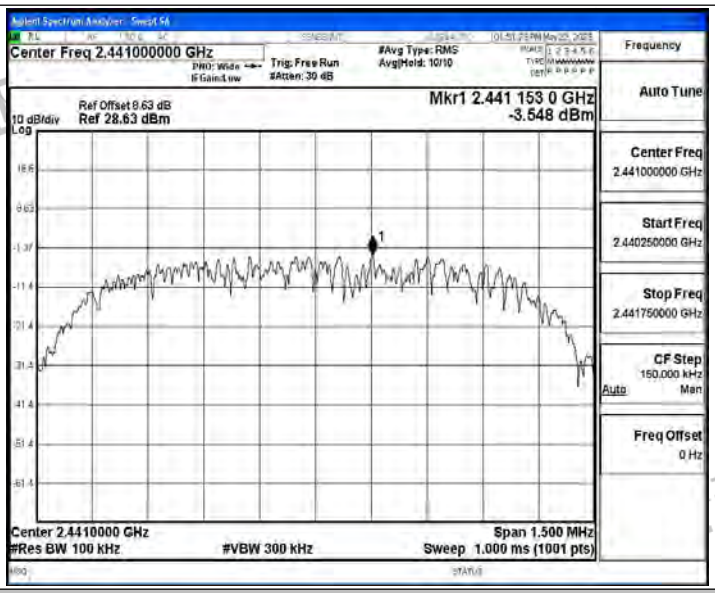
DH5_Ant1_2480_1000~26500



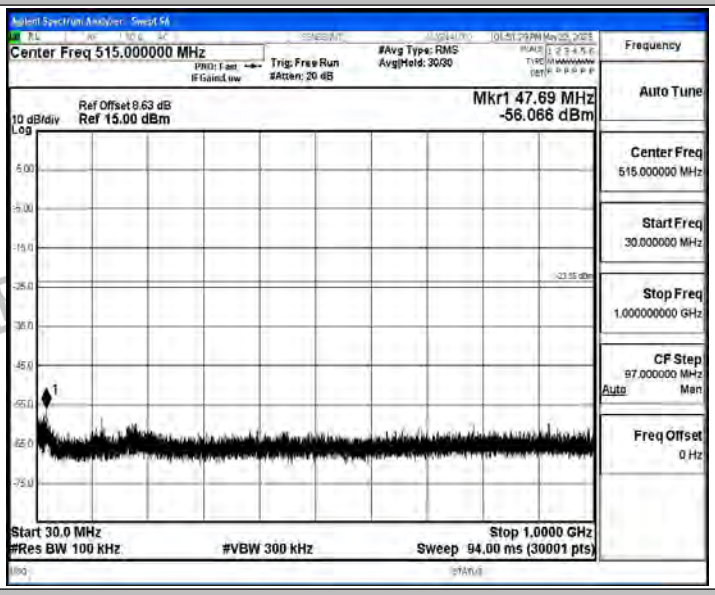
2DH5_Ant1_2402_0~Reference



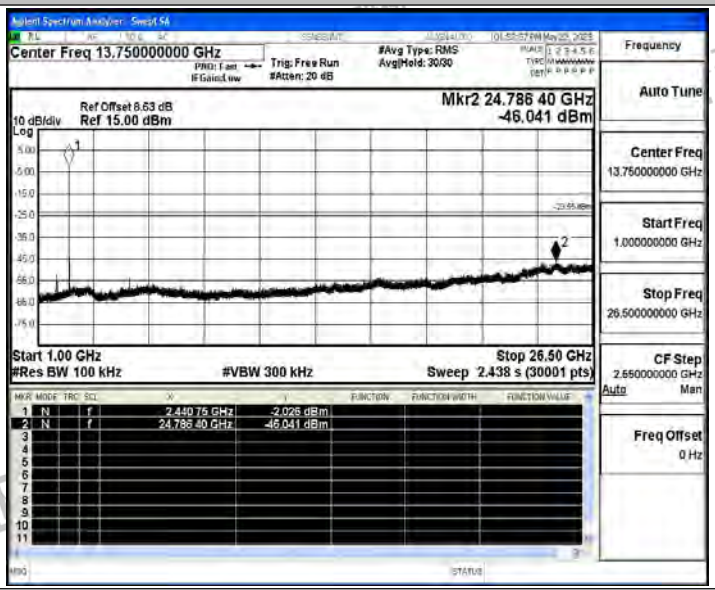
2DH5_Ant1_2402_30~1000

2DH5_Ant1_2402_1000~26500

2DH5_Ant1_2441_0~Reference

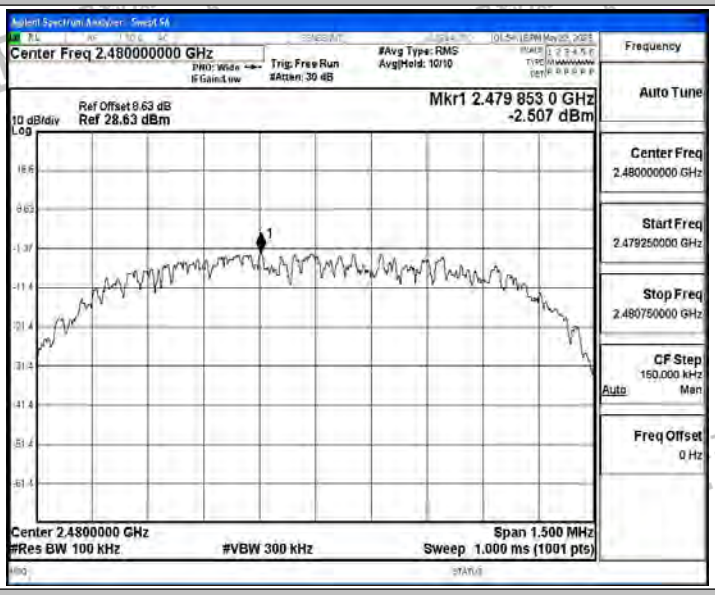
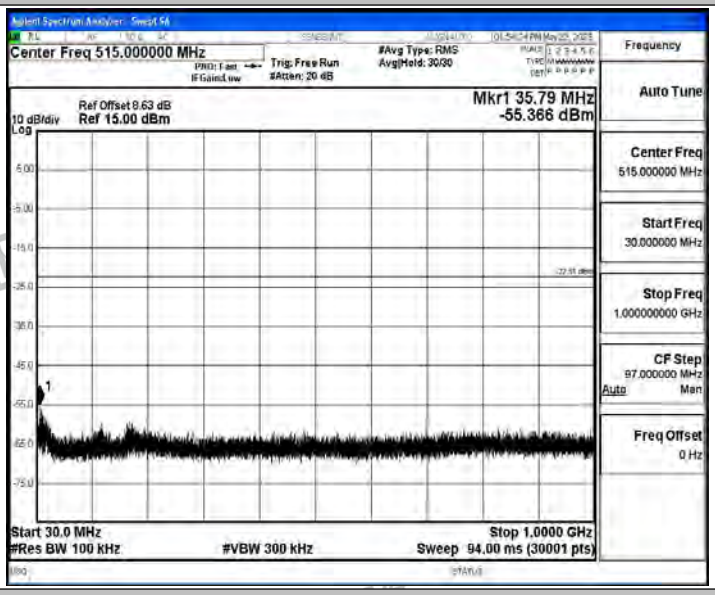


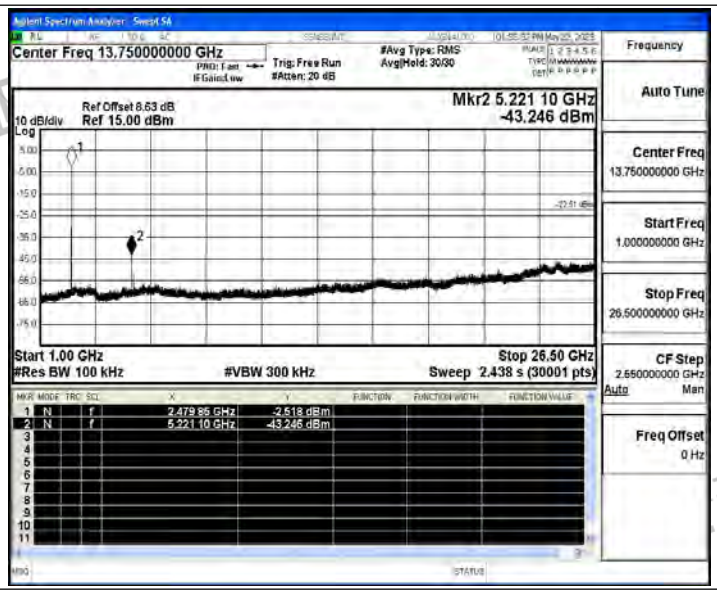
2DH5_Ant1_2441_30~1000



2DH5_Ant1_2441_1000~26500



2DH5_Ant1_2480_0~Reference

2DH5_Ant1_2480_30~1000

2DH5_Ant1_2480_1000~26500


Agilent Spectrum Analyzer - Swept SA
Center Freq 13.750000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 20 dB
#Avg Type: RMS
Avg|Hold: 30/30
Frequency
Auto Tune
Ref Offset 8.63 dB
10 dB/div Ref 15.00 dBm
Log
Mkr2 5.221 10 GHz
-43.246 dBm
Center Freq
13.750000000 GHz
Start Freq
1.000000000 GHz
Stop Freq
26.500000000 GHz
Start 1.00 GHz
#Res BW 100 kHz
#VBW 300 kHz
Stop 26.50 GHz
Sweep 2.438 s (30001 pts)
CF Step
2.650000000 GHz
Auto
Man
Freq Offset
0 Hz
1 N 1 f 2.479 85 GHz -2.518 dBm
2 N 1 f 5.221 10 GHz -43.246 dBm
MSG
STATUS

A.8 Emissions in Restricted Bands

Test Result

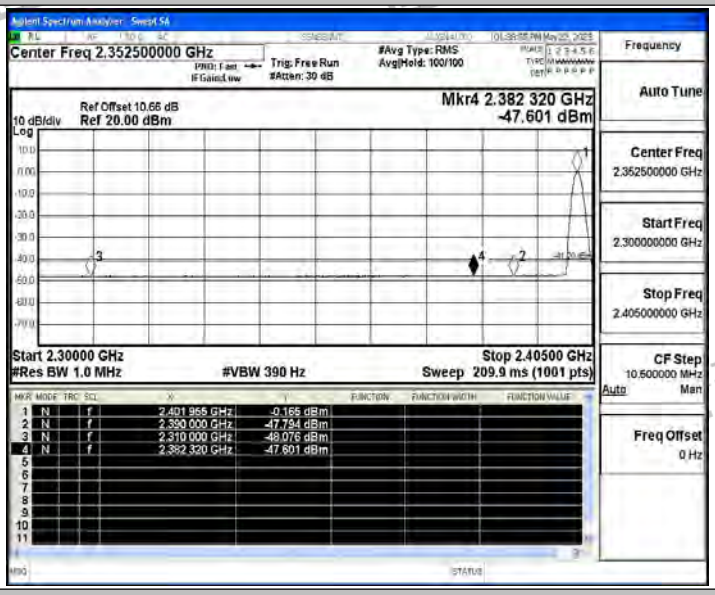
TestMode	Antenna	ChName	Frequency [MHz]	Detector	Freq [MHz]	Result [dBm]	Limit [dBm]	Result [dBuV/m]	Limit [dBuV/m]	Verdict
DH5	Ant1	Low	2402	AV	2310.000	-48.08	≤-41.20	47.12	≤54	PASS
				AV	2382.320	-47.6	≤-41.20	47.60	≤54	PASS
				AV	2390.000	-47.79	≤-41.20	47.41	≤54	PASS
				Peak	2310.000	-43	≤-21.20	52.20	≤74	PASS
				Peak	2348.195	-38.52	≤-21.20	56.68	≤74	PASS
				Peak	2390.000	-42.34	≤-21.20	52.86	≤74	PASS
		High	2480	AV	2483.500	-47.11	≤-41.20	48.09	≤54	PASS
				AV	2499.920	-46.99	≤-41.20	48.21	≤54	PASS
				AV	2500.000	-47.04	≤-41.20	48.16	≤54	PASS
				Peak	2483.500	-41.49	≤-21.20	53.71	≤74	PASS
				Peak	2488.320	-37.12	≤-21.20	58.08	≤74	PASS
				Peak	2500.000	-41.47	≤-21.20	53.73	≤74	PASS
		Low	Hop_2402	Peak	2310.000	-39.55	≤-21.20	55.65	≤74	PASS
				Peak	2352.710	-37.66	≤-21.20	57.54	≤74	PASS
				Peak	2390.000	-39.09	≤-21.20	56.11	≤74	PASS
		High	Hop_2480	Peak	2483.500	-39.14	≤-21.20	56.06	≤74	PASS
				Peak	2491.120	-36.99	≤-21.20	58.21	≤74	PASS
				Peak	2500.000	-39.05	≤-21.20	56.15	≤74	PASS
2DH5	Ant1	Low	2402	AV	2310.000	-48.17	≤-41.20	47.03	≤54	PASS
				AV	2386.730	-47.58	≤-41.20	47.62	≤54	PASS
				AV	2390.000	-47.65	≤-41.20	47.55	≤54	PASS
				Peak	2310.000	-41.89	≤-21.20	53.31	≤74	PASS
				Peak	2353.130	-38.1	≤-21.20	57.10	≤74	PASS
				Peak	2390.000	-42.26	≤-21.20	52.94	≤74	PASS
		High	2480	AV	2483.500	-44.03	≤-41.20	51.17	≤54	PASS
				AV	2483.520	-44.03	≤-41.20	51.17	≤54	PASS
				AV	2500.000	-47.13	≤-41.20	48.07	≤54	PASS
				Peak	2483.500	-38.79	≤-21.20	56.41	≤74	PASS
				Peak	2492.720	-37.6	≤-21.20	57.60	≤74	PASS
				Peak	2500.000	-39.9	≤-21.20	55.30	≤74	PASS
		Low	Hop_2402	Peak	2310.000	-39.91	≤-21.20	55.29	≤74	PASS
				Peak	2368.880	-37.39	≤-21.20	57.81	≤74	PASS
				Peak	2390.000	-40.73	≤-21.20	54.47	≤74	PASS
		High	Hop_2480	Peak	2483.500	-38.35	≤-21.20	56.85	≤74	PASS
				Peak	2491.920	-36.79	≤-21.20	58.41	≤74	PASS
				Peak	2500.000	-38.35	≤-21.20	56.85	≤74	PASS

Note:

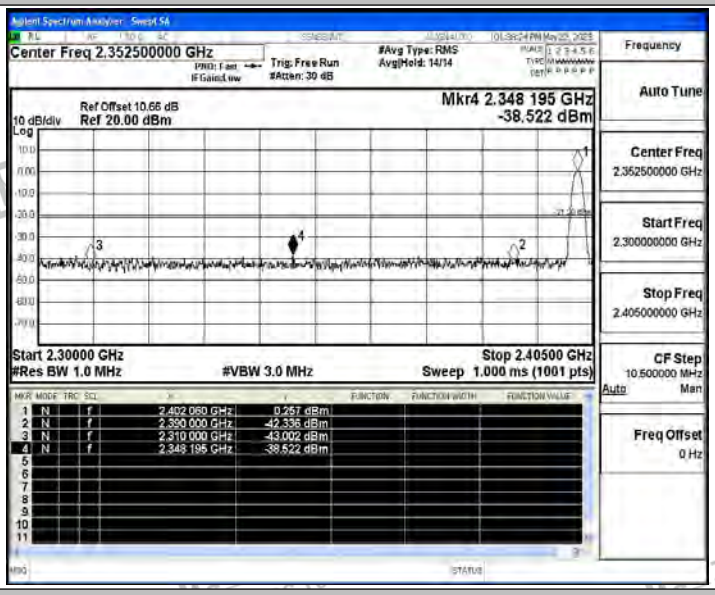
1. The Antenna Gain is compensated in the graph.
2. The limit in dBm for average detector is conversion from 54dBuV/m, according to 15.209(a). The limit in dBm for peak detector is 20dB above the limit of average detector in dBm.

Test Graphs

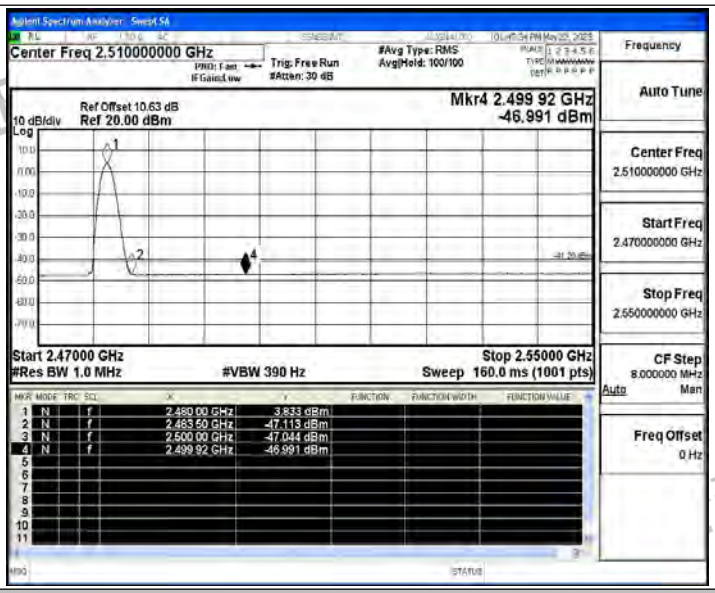
DH5_Ant1_Low_2402_AV



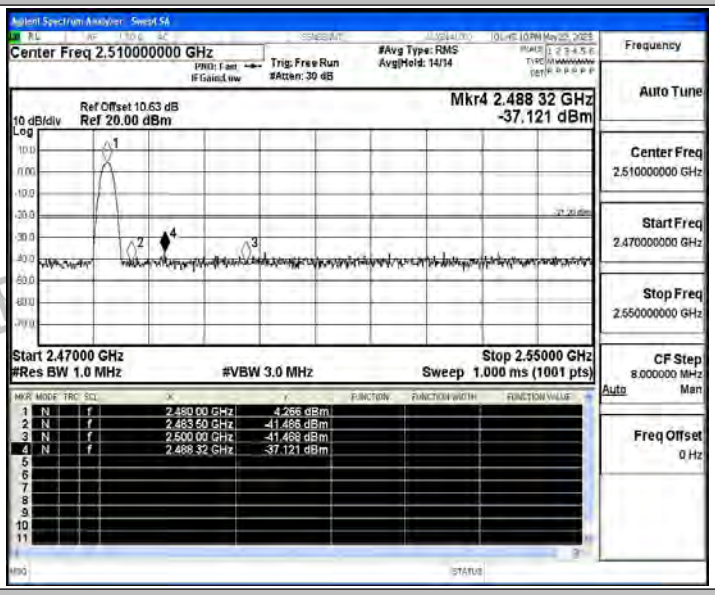
DH5_Ant1_Low_2402_Peak



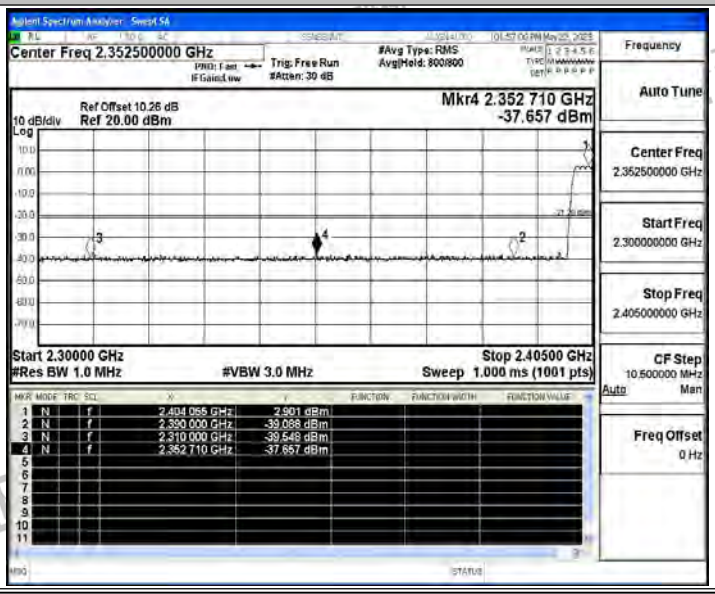
DH5_Ant1_High_2480_AV



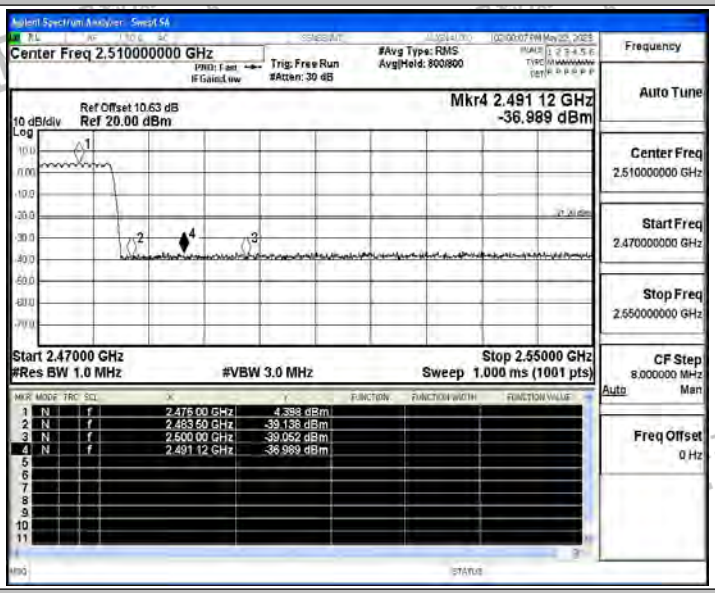
DH5_Ant1_High_2480_Peak



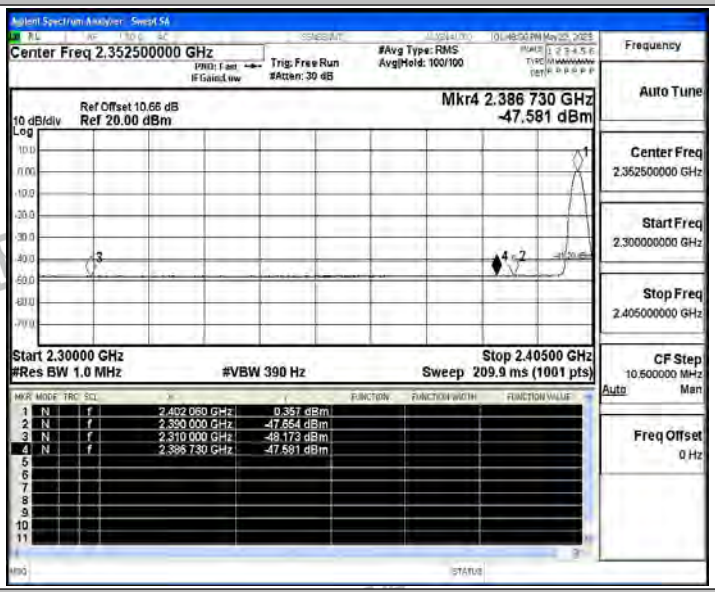
DH5_Ant1_Low_Hop_2402_Peak



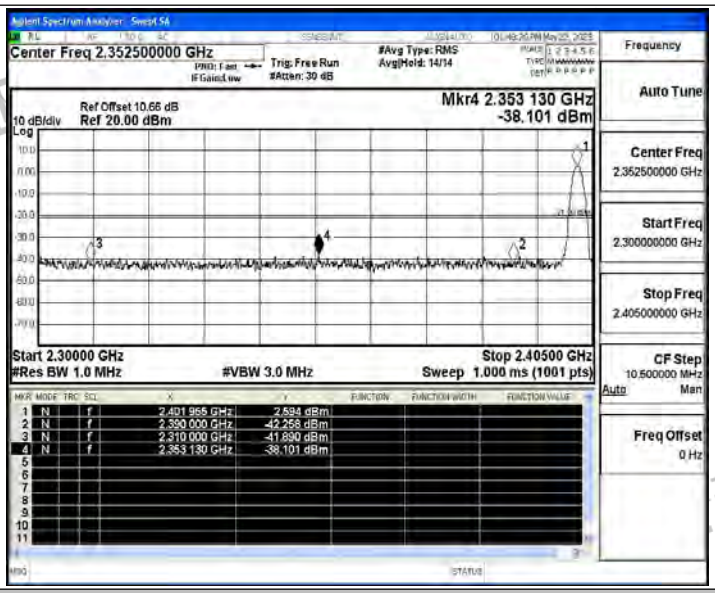
DH5_Ant1_High_Hop_2480_Peak



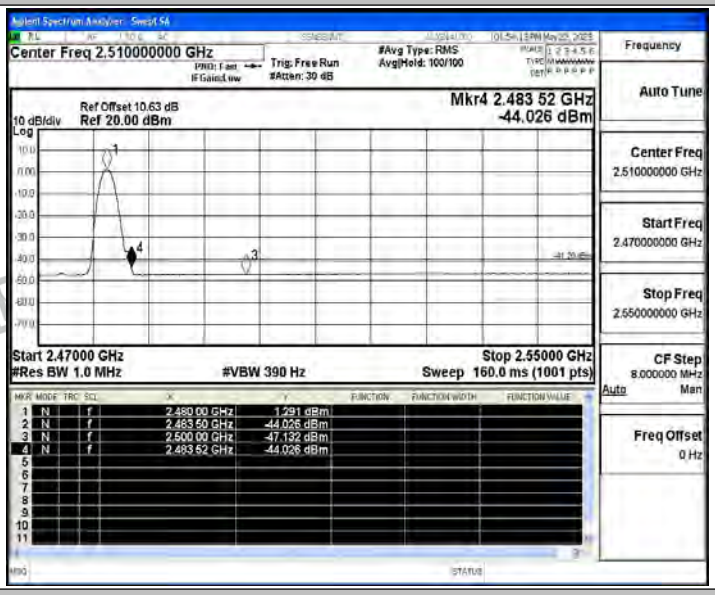
2DH5_Ant1_Low_2402_AV



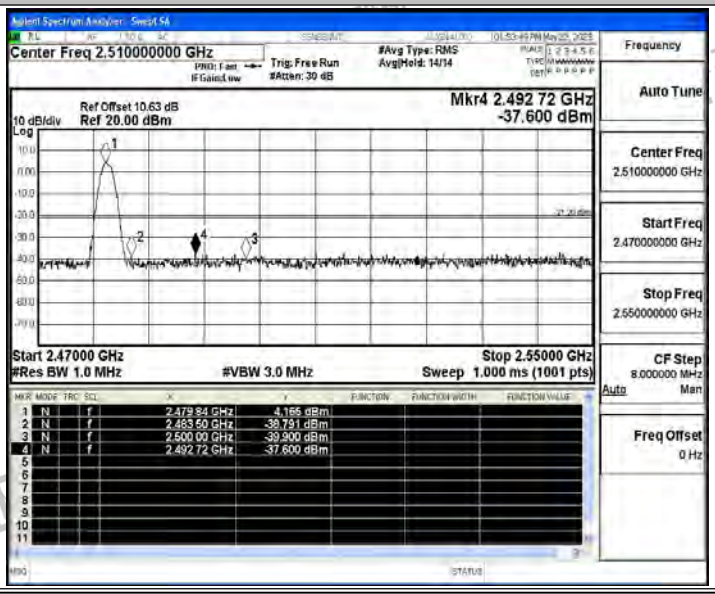
2DH5_Ant1_Low_2402_Peak



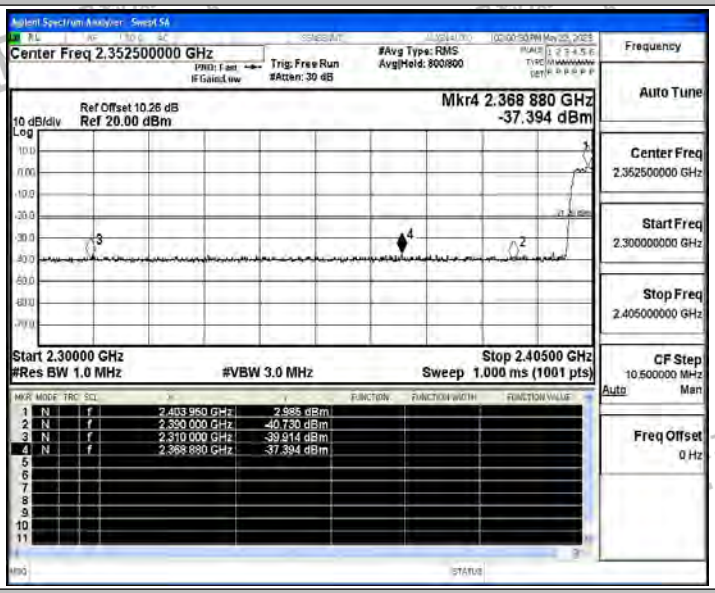
2DH5_Ant1_High_2480_AV



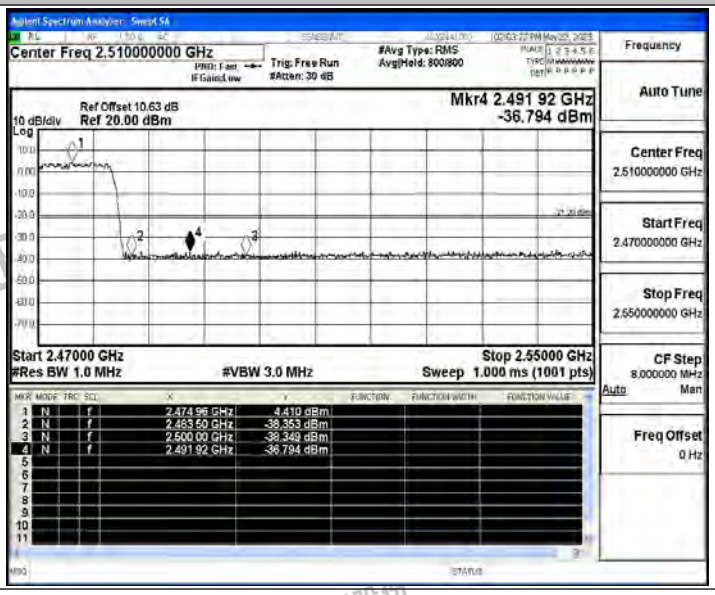
2DH5_Ant1_High_2480_Peak



2DH5_Ant1_Low_Hop_2402_Peak



2DH5_Ant1_High_Hop_2480_Peak



Note: Antenna 1 is used to connect subwoofers