

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

Product Name: NucBox4
Trade Mark: GMKtec,GMKTEC
Test Model: KB4
FCC ID: 2AXUD-KB4

Environmental Conditions

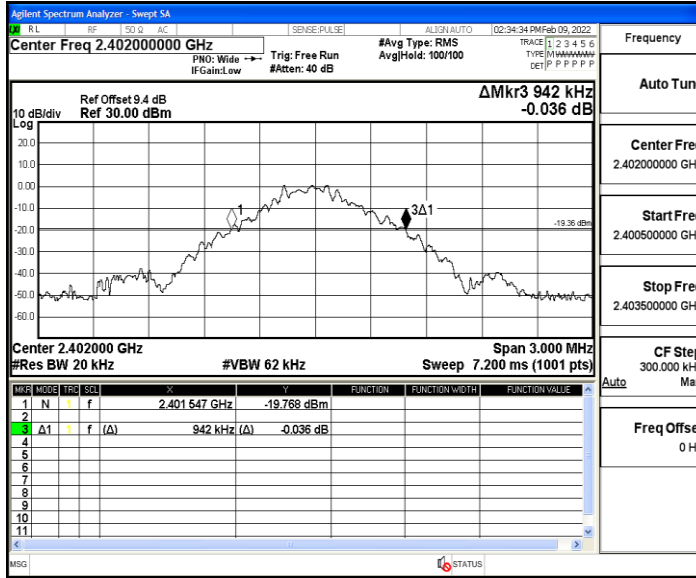
Temperature:	25.5°C
Relative Humidity:	55%
ATM Pressure:	100.0 kPa
Test Engineer:	Anna Hu
Supervised by:	Hugo Chen
NOTE	N/A

Appendix A: 20dB Emission Bandwidth**Test Result**

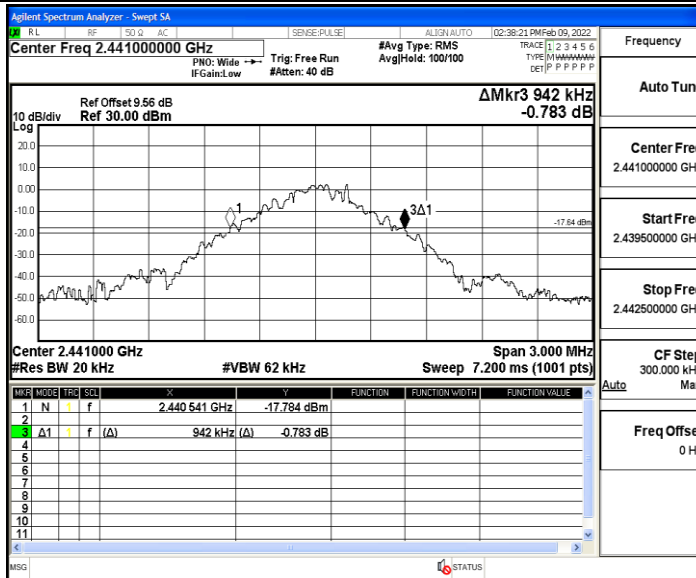
TestMode	Antenna	Channel	20db EBW[MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
DH5	Ant1	2402	0.942	2401.547	2402.489	---	PASS
		2441	0.942	2440.541	2441.483	---	PASS
		2480	0.942	2479.541	2480.483	---	PASS
2DH5	Ant1	2402	1.284	2401.367	2402.651	---	PASS
		2441	1.332	2440.337	2441.669	---	PASS
		2480	1.305	2479.349	2480.654	---	PASS
3DH5	Ant1	2402	1.278	2401.355	2402.633	---	PASS
		2441	1.296	2440.352	2441.648	---	PASS
		2480	1.287	2479.352	2480.639	---	PASS

Test Graphs

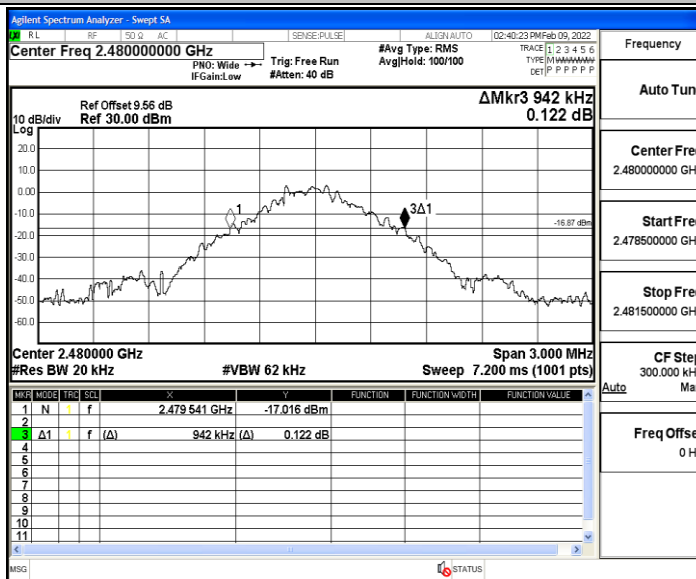
DH5_Ant1_2402



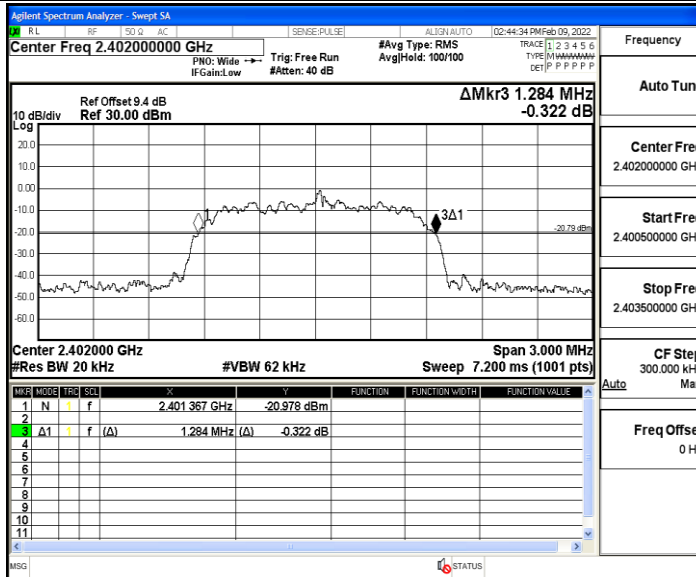
DH5_Ant1_2441



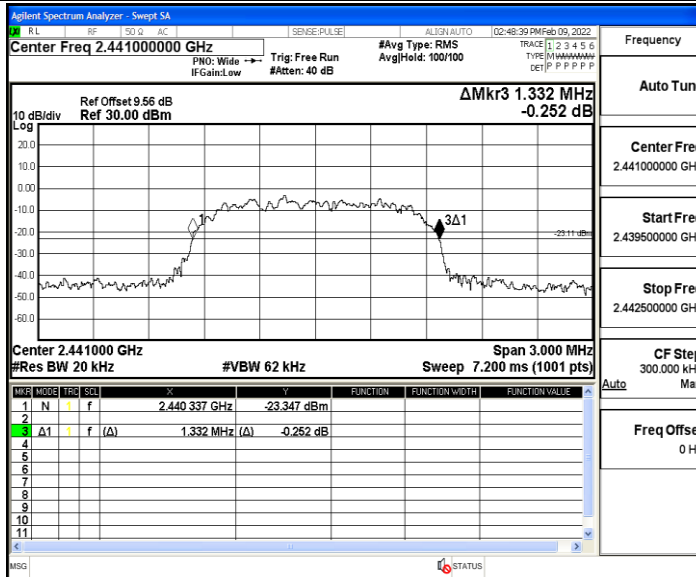
DH5_Ant1_2480



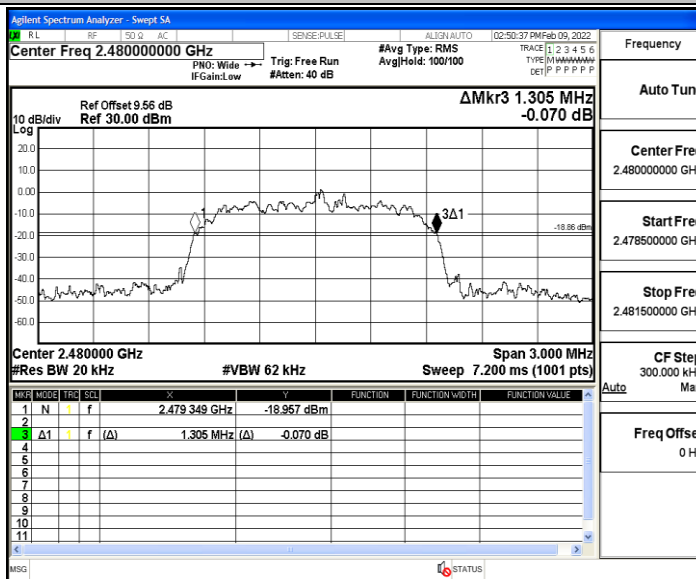
2DH5_Ant1_2402



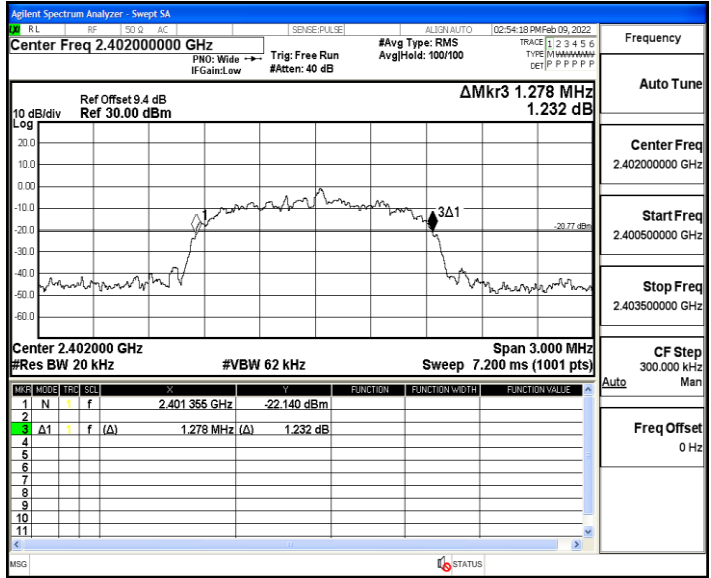
2DH5_Ant1_2441



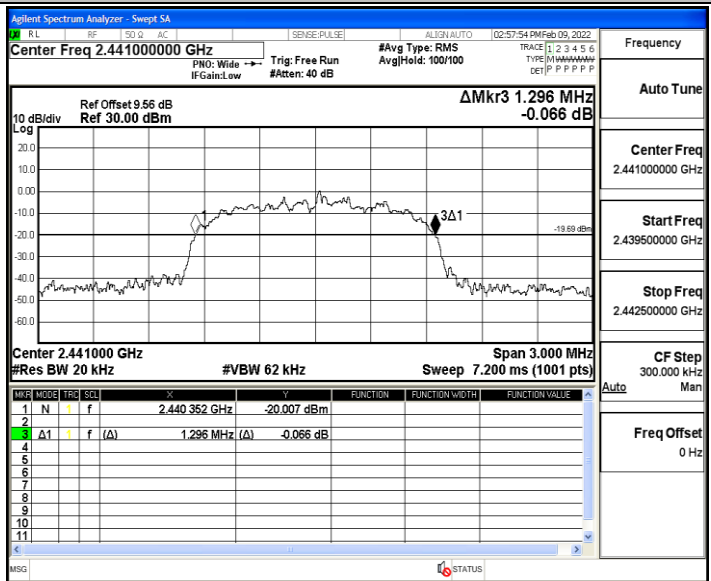
2DH5_Ant1_2480



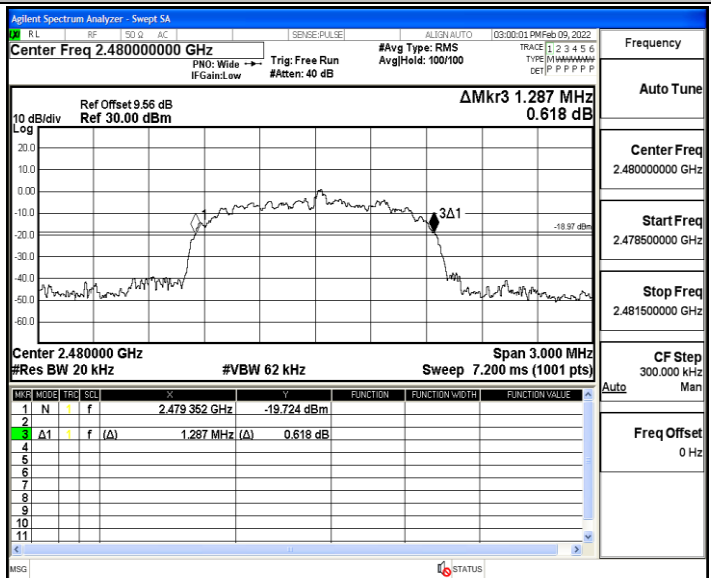
3DH5_Ant1_2402



3DH5_Ant1_2441



3DH5_Ant1_2480



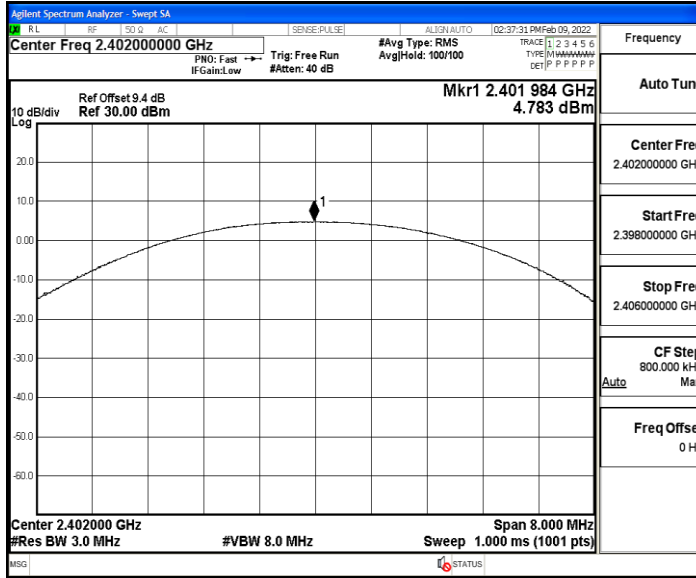
Appendix B: Maximum conducted output power

Test Result

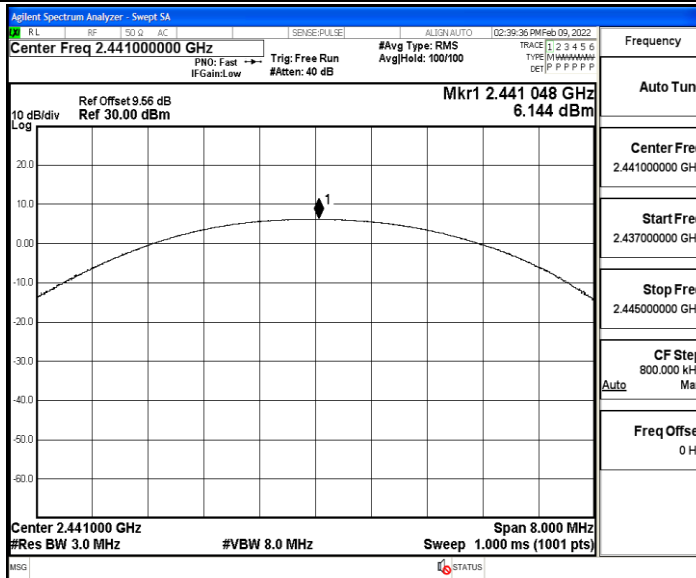
TestMode	Antenna	Channel	Result[dBm]	Limit[dBm]	Verdict
DH5	Ant1	2402	4.78	≤30.00	PASS
		2441	6.14	≤30.00	PASS
		2480	6.86	≤30.00	PASS
2DH5	Ant1	2402	5.21	≤20.97	PASS
		2441	6.57	≤20.97	PASS
		2480	7.29	≤20.97	PASS
3DH5	Ant1	2402	5.46	≤20.97	PASS
		2441	6.91	≤20.97	PASS
		2480	7.62	≤20.97	PASS

Test Graphs

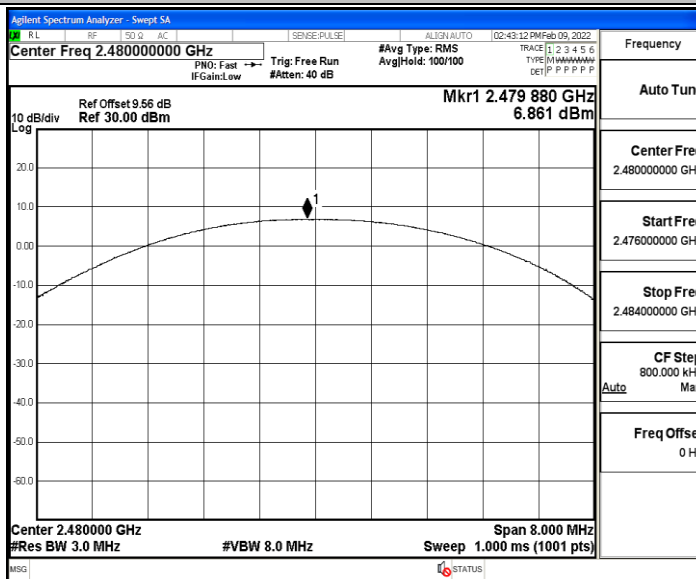
DH5_Ant1_2402



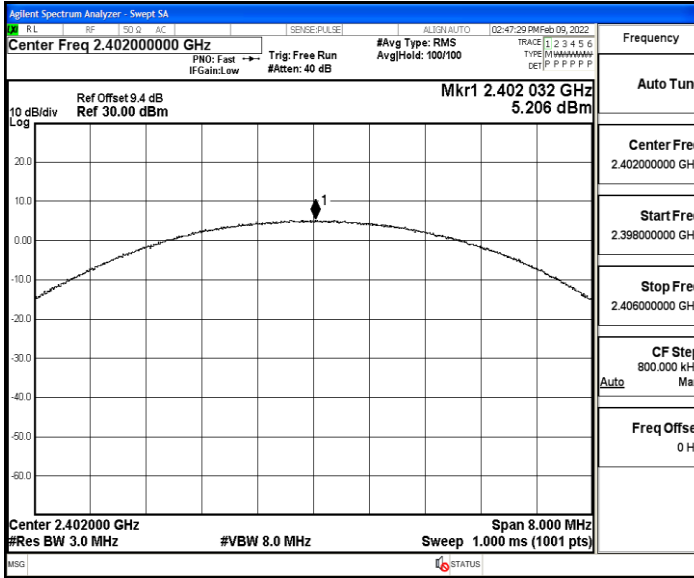
DH5_Ant1_2441



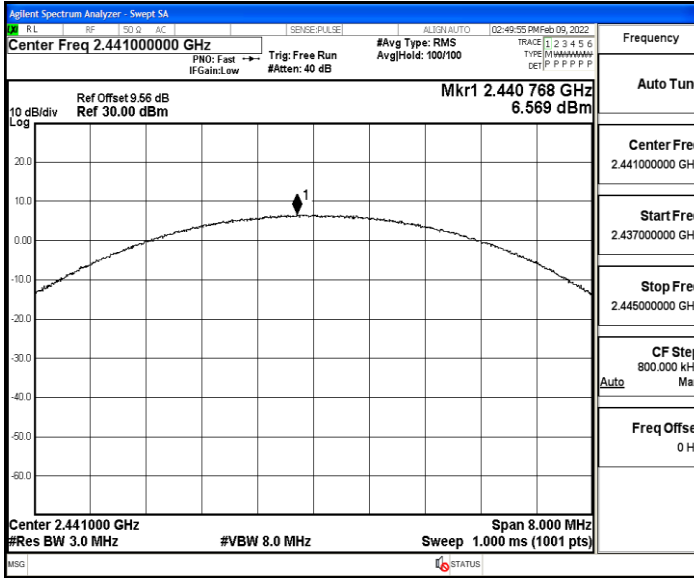
DH5_Ant1_2480



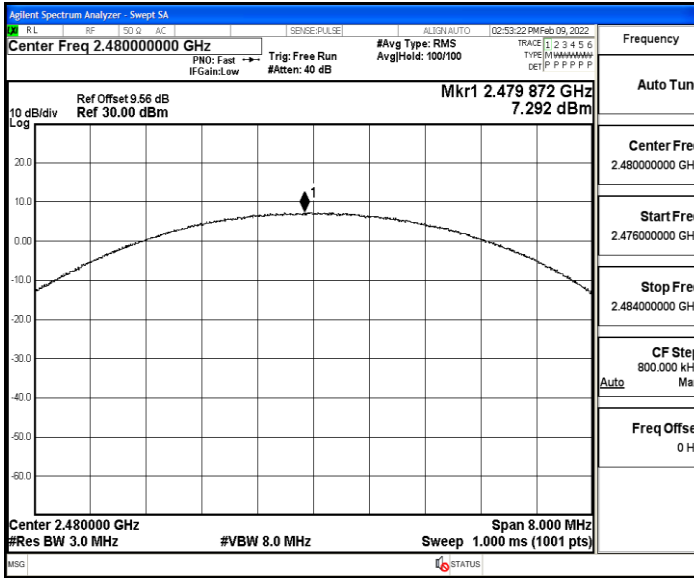
2DH5_Ant1_2402



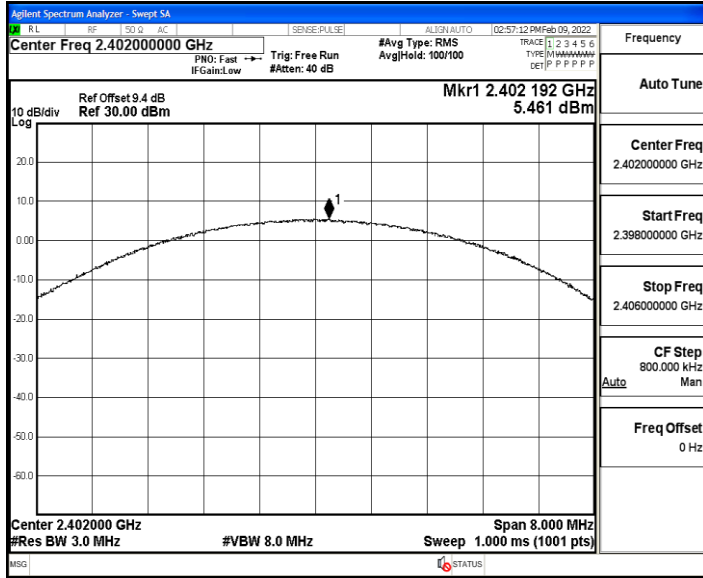
2DH5_Ant1_2441



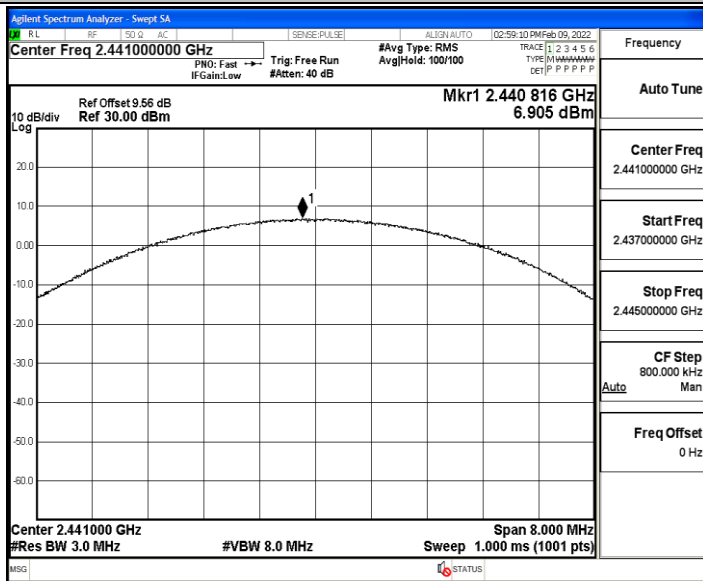
2DH5_Ant1_2480



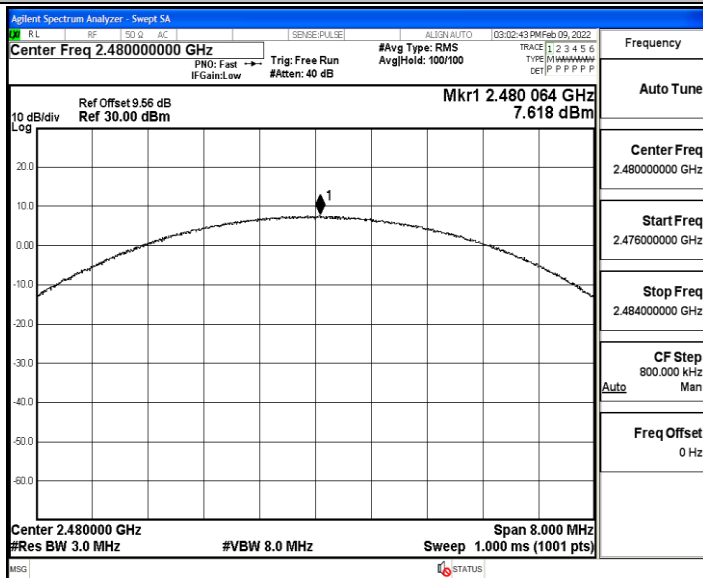
3DH5_Ant1_2402



3DH5_Ant1_2441



3DH5_Ant1_2480



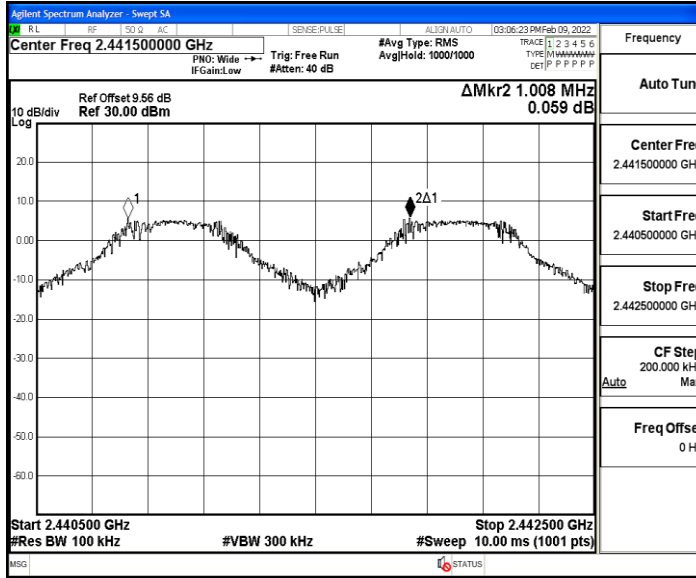
Appendix C: Carrier frequency separation

Test Result

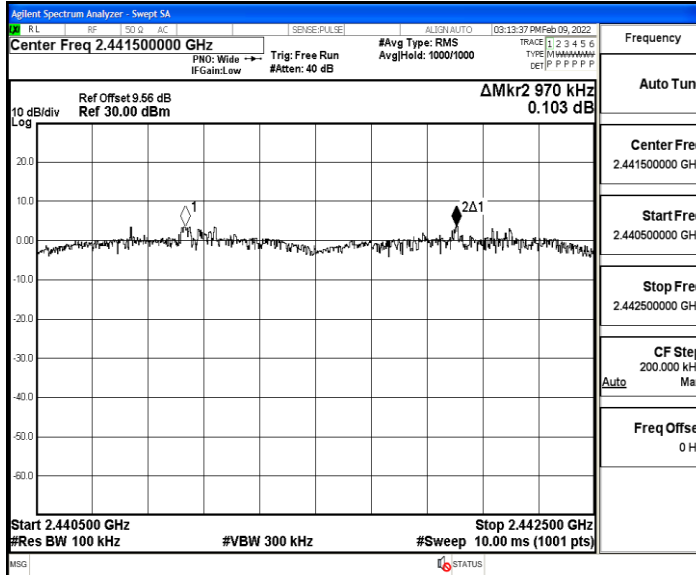
TestMode	Antenna	Channel	Result[MHz]	Limit[MHz]	Verdict
DH5	Ant1	Hop	1.008	≥0.942	PASS
2DH5	Ant1	Hop	0.97	≥0.888	PASS
3DH5	Ant1	Hop	1.152	≥0.864	PASS

Test Graphs

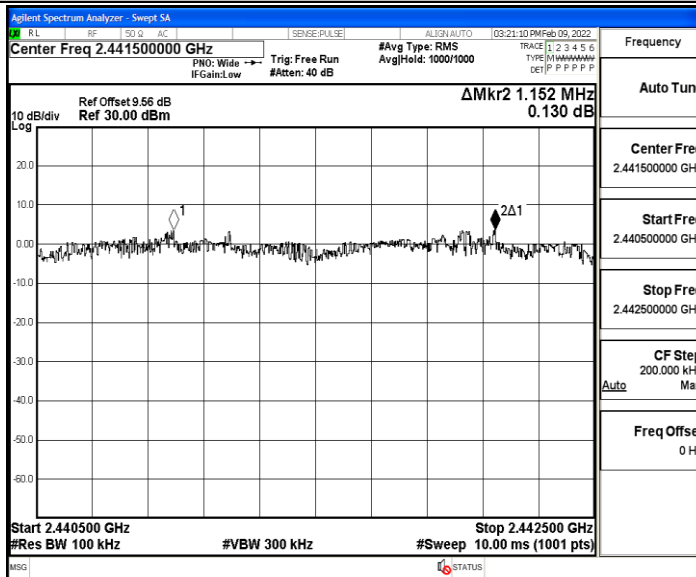
DH5_Ant1_Hop



2DH5_Ant1_Hop



3DH5_Ant1_Hop



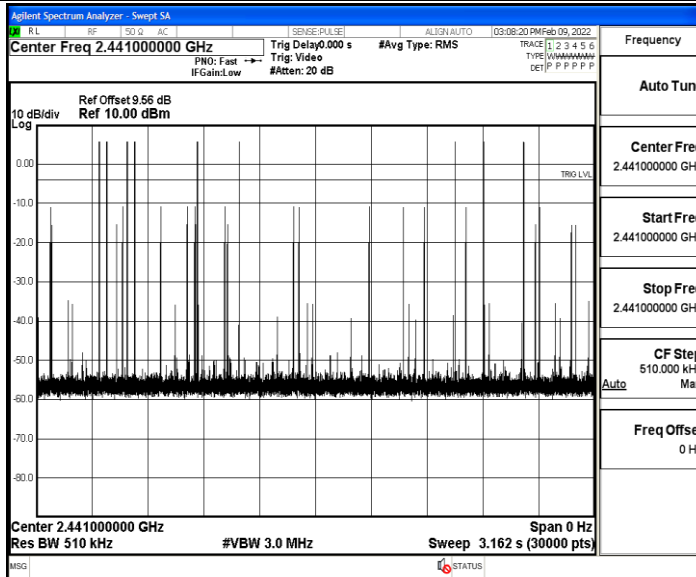
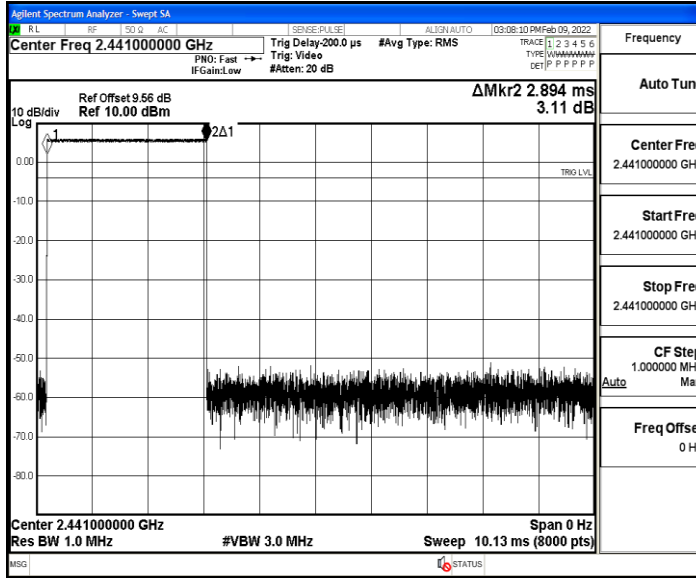
Appendix D: Time of occupancy

Test Result

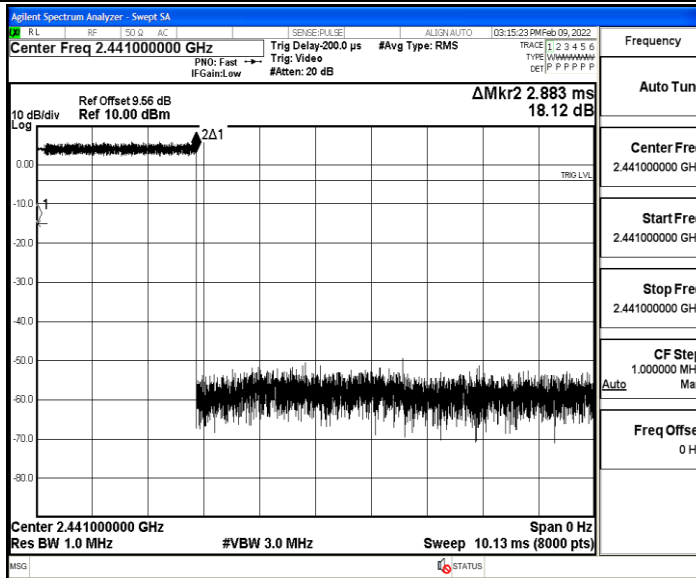
TestMode	Antenna	Channel	BurstWidth [ms]	TotalHops [Num]	Result[s]	Limit[s]	Verdict
DH5	Ant1	Hop	2.89	100	0.289	≤0.4	PASS
2DH5	Ant1	Hop	2.88	100	0.288	≤0.4	PASS
3DH5	Ant1	Hop	2.88	70	0.202	≤0.4	PASS

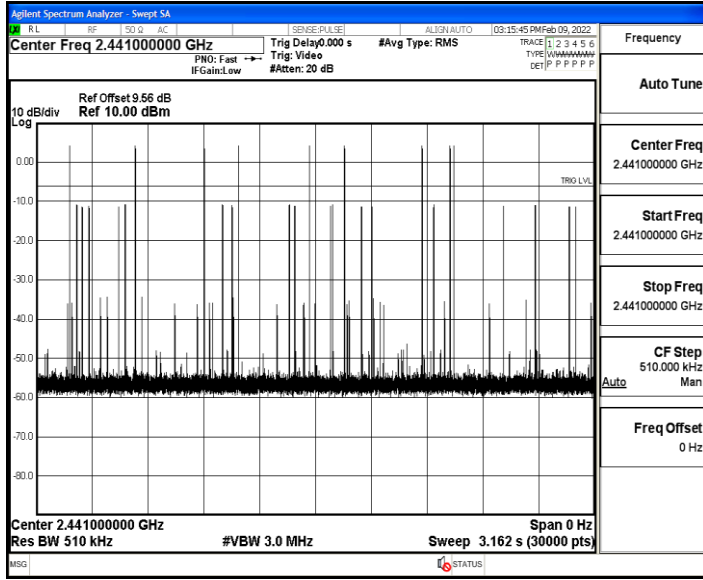
Test Graphs

DH5_Ant1_Hop

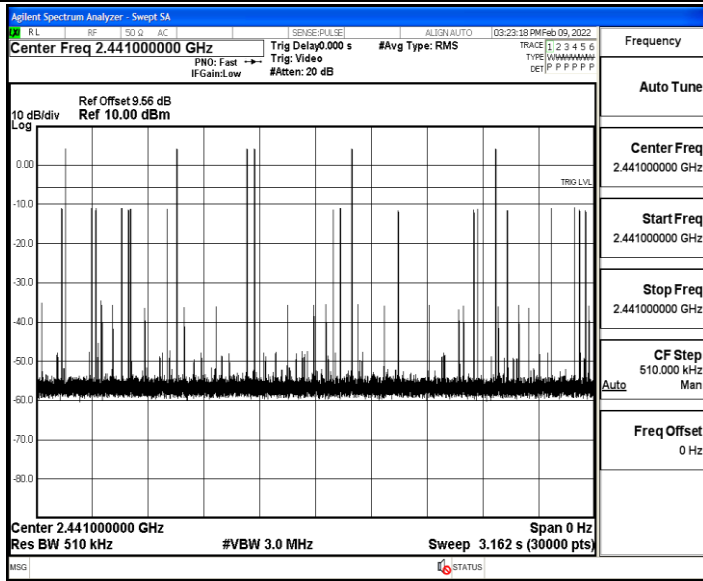
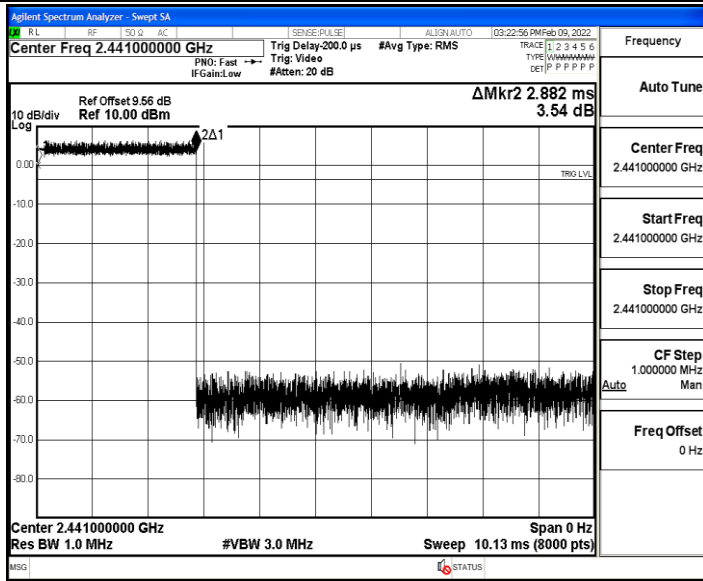


2DH5_Ant1_Hop





3DH5_Ant1_Hop



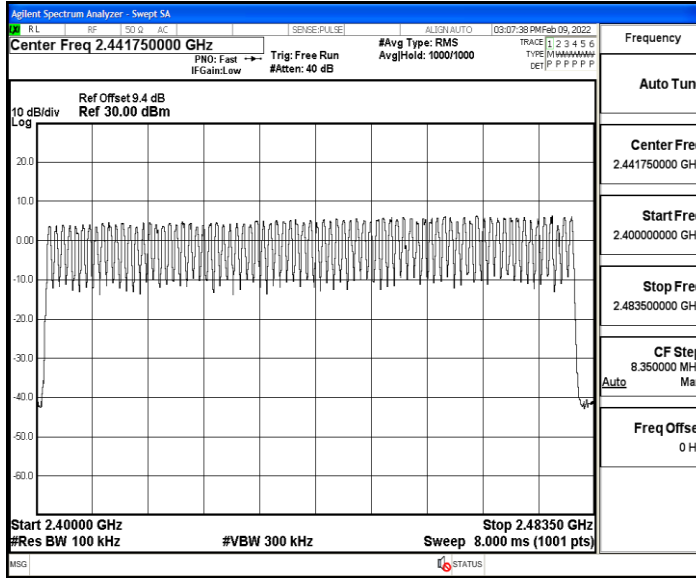
Appendix E: Number of hopping channels

Test Result

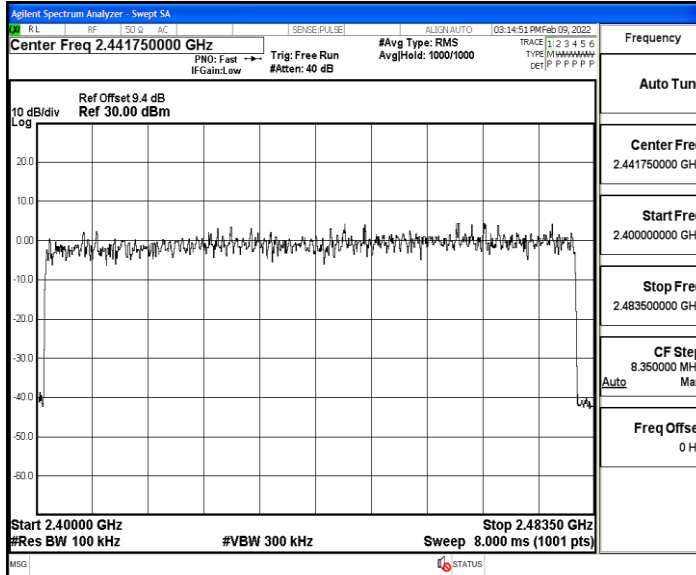
TestMode	Antenna	Channel	Result[Num]	Limit[Num]	Verdict
DH5	Ant1	Hop	79	≥15	PASS
2DH5	Ant1	Hop	79	≥15	PASS
3DH5	Ant1	Hop	79	≥15	PASS

Test Graphs

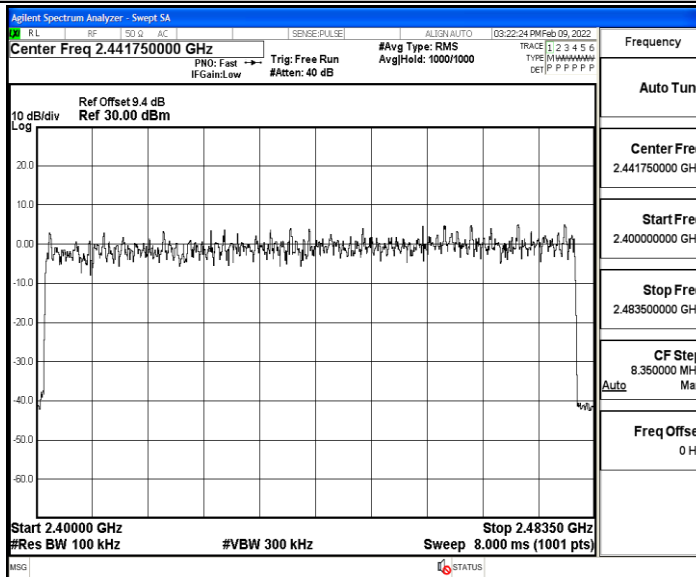
DH5_Ant1_Hop



2DH5_Ant1_Hop



3DH5_Ant1_Hop



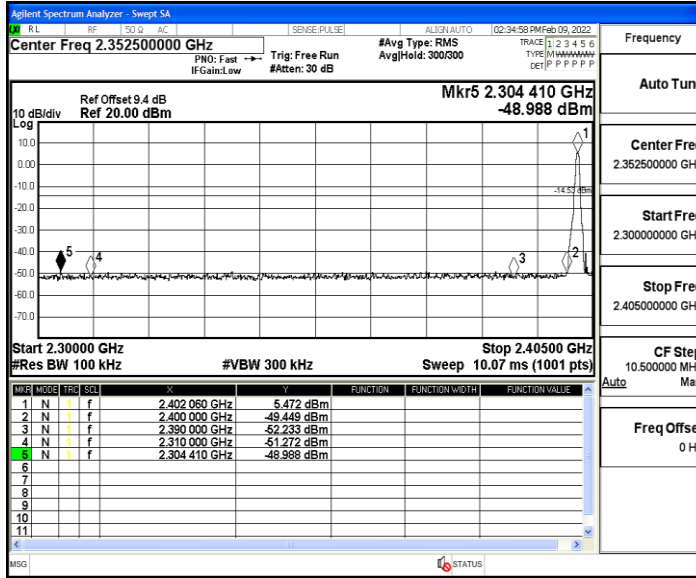
Appendix F: Band edge measurements

Test Result

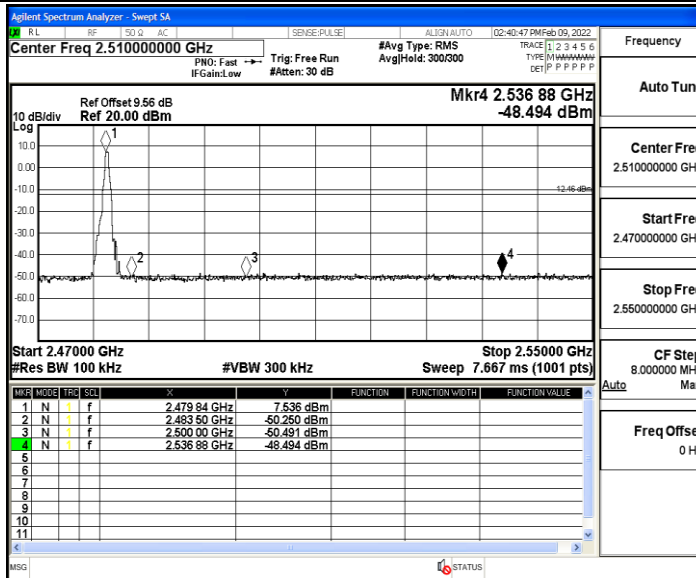
TestMode	Antenna	ChName	Channel	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
DH5	Ant1	Low	2402	5.47	-48.99	≤-14.53	PASS
		High	2480	7.54	-48.49	≤-12.46	PASS
		Low	Hop_2402	5.04	-49.02	≤-14.96	PASS
		High	Hop_2480	7.51	-47.45	≤-12.49	PASS
2DH5	Ant1	Low	2402	3.28	-46.49	≤-16.72	PASS
		High	2480	5.63	-47.41	≤-14.37	PASS
		Low	Hop_2402	1.01	-49.11	≤-18.99	PASS
		High	Hop_2480	3.11	-48.01	≤-16.89	PASS
3DH5	Ant1	Low	2402	3.77	-46.64	≤-16.24	PASS
		High	2480	6.08	-47.35	≤-13.92	PASS
		Low	Hop_2402	-0.30	-49.13	≤-20.3	PASS
		High	Hop_2480	4.19	-47.32	≤-15.81	PASS

Test Graphs

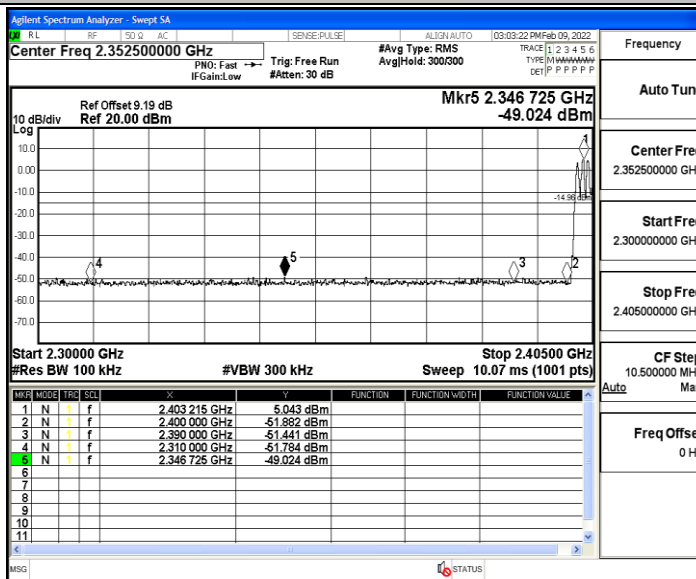
DH5_Ant1_Low_2402



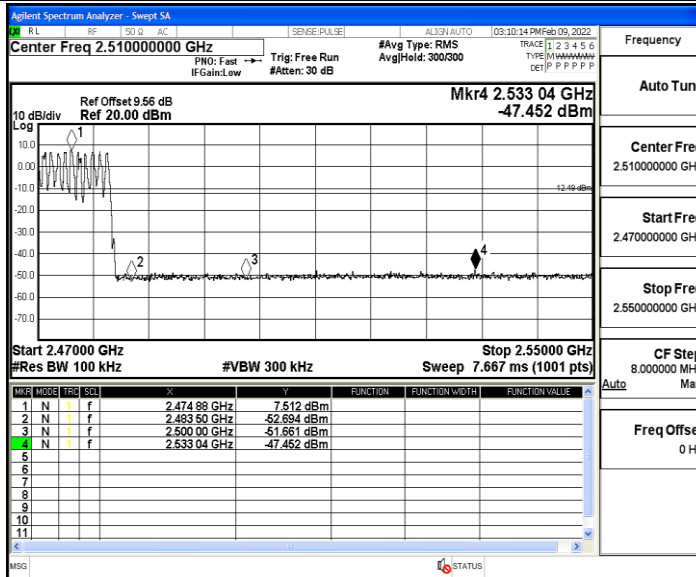
DH5_Ant1_High_2480



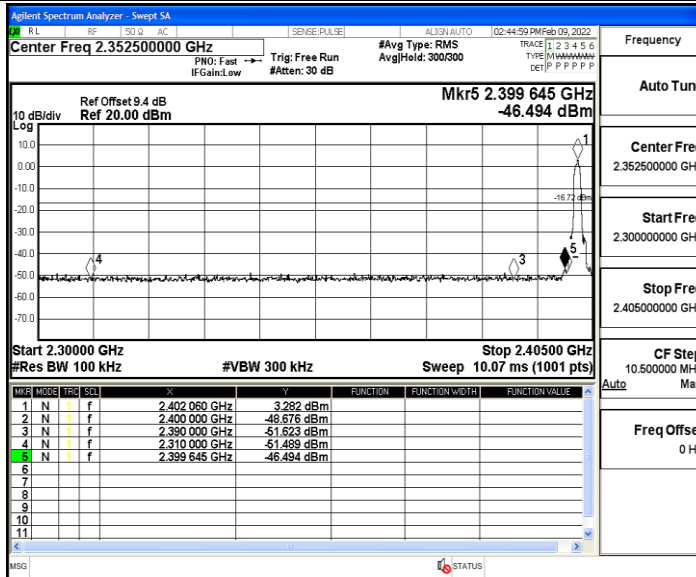
DH5_Ant1_Low_Hop_2402



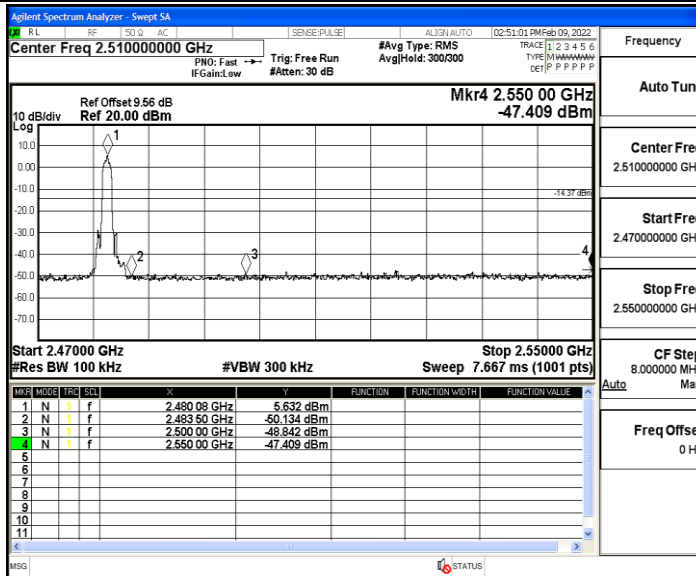
DH5_Ant1_High_Hop_2480



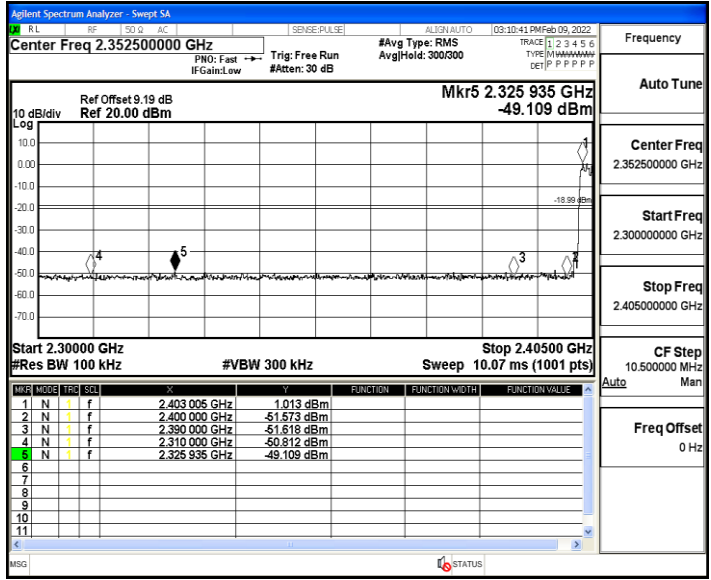
2DH5_Ant1_Low_2402



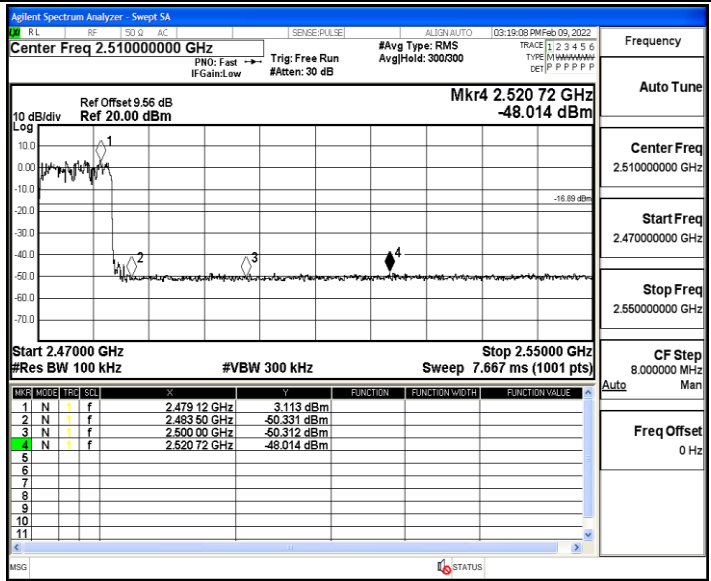
2DH5_Ant1_High_2480



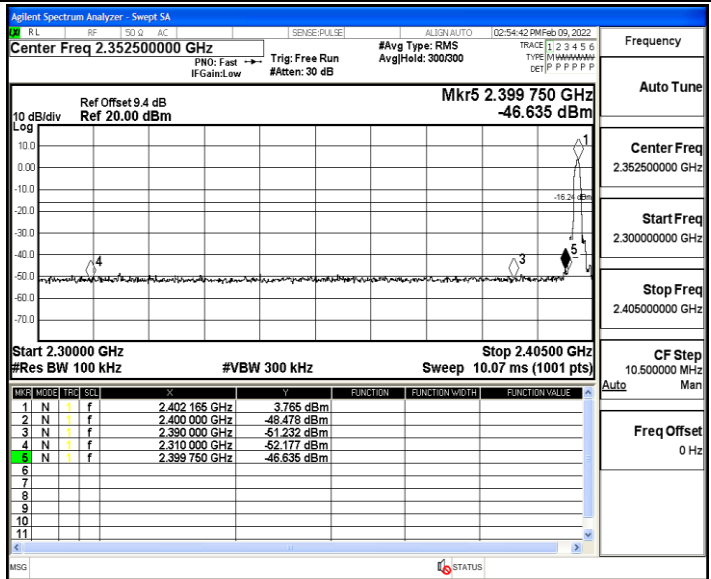
2DH5_Ant1_Low_Hop_2402



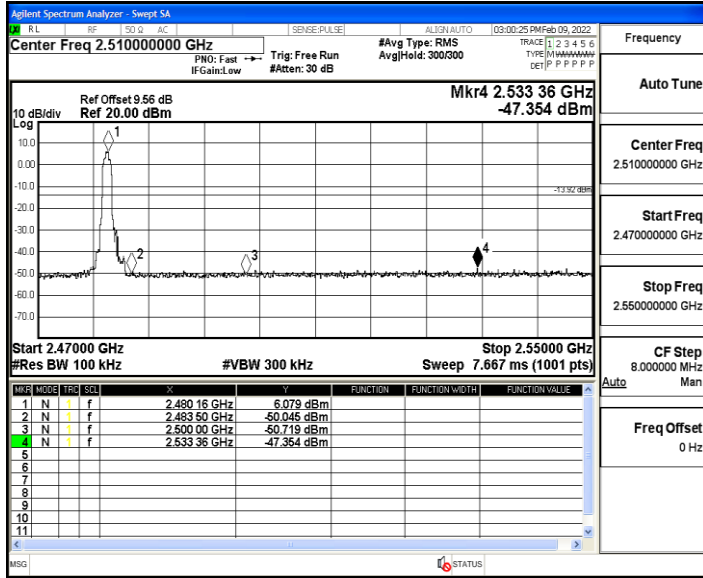
2DH5_Ant1_High_Hop_2480



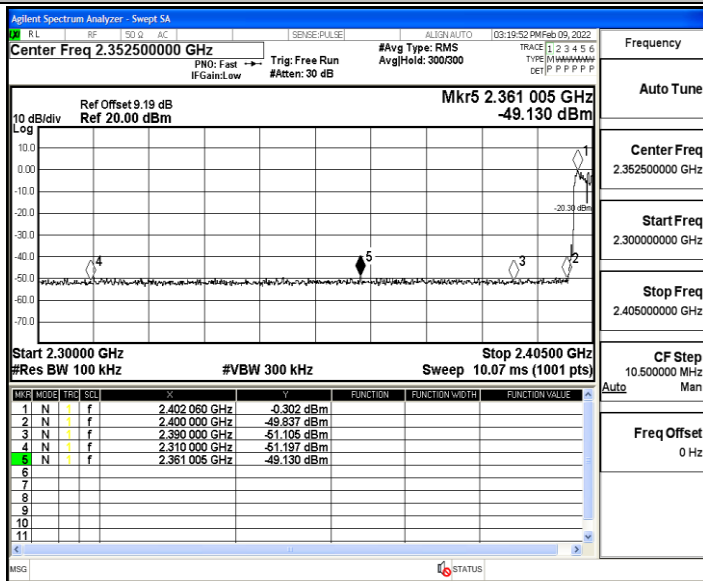
3DH5_Ant1_Low_2402



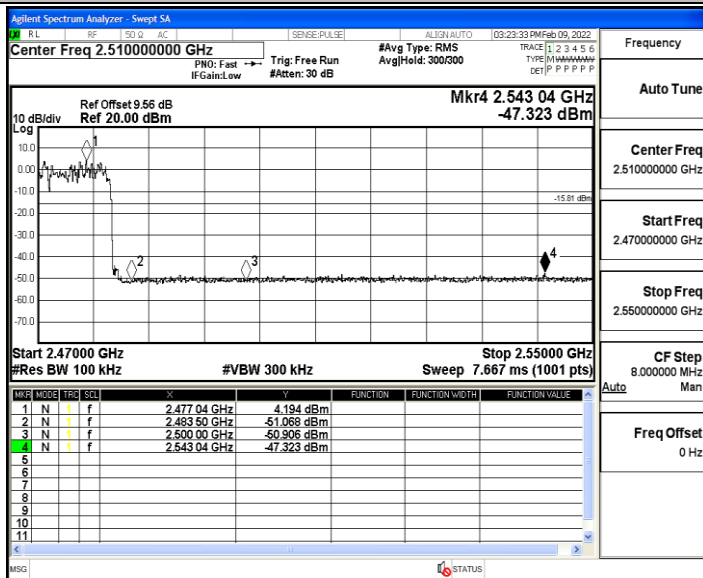
3DH5_Ant1_High_2480



3DH5_Ant1_Low_Hop_2402



3DH5_Ant1_High_Hop_2480



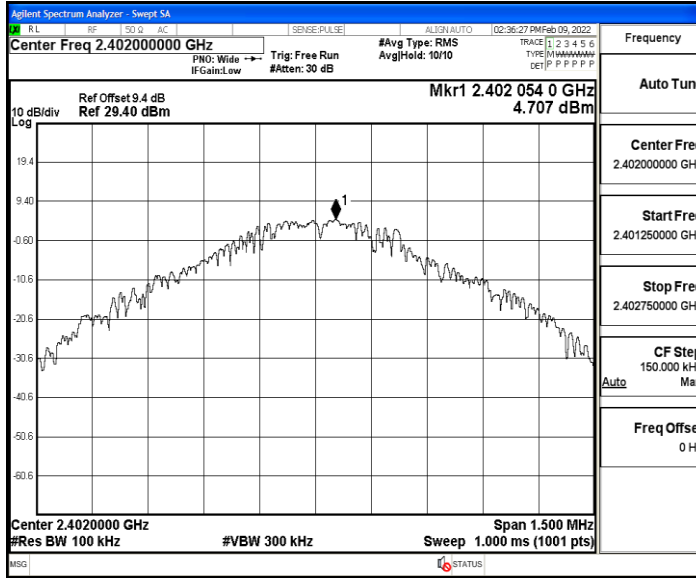
Appendix G: Conducted Spurious Emission

Test Result

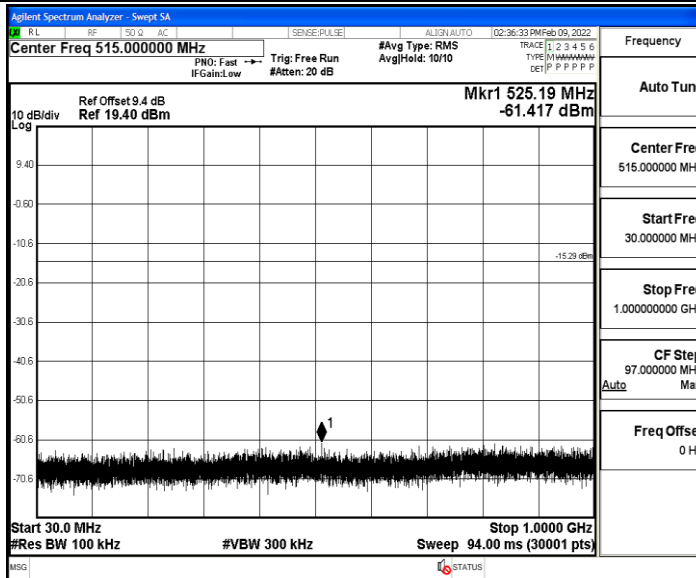
TestMode	Antenna	Channel	FreqRange [MHz]	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
DH5	Ant1	2402	Reference	4.71	4.71	---	PASS
			30~1000	4.71	-61.42	≤-15.29	PASS
			1000~26500	4.71	-52.87	≤-15.29	PASS
		2441	Reference	6.60	6.60	---	PASS
			30~1000	6.60	-61.11	≤-13.4	PASS
			1000~26500	6.60	-52.67	≤-13.4	PASS
		2480	Reference	7.13	7.13	---	PASS
			30~1000	7.13	-60.8	≤-12.87	PASS
			1000~26500	7.13	-52.92	≤-12.87	PASS
2DH5	Ant1	2402	Reference	3.16	3.16	---	PASS
			30~1000	3.16	-60.98	≤-16.85	PASS
			1000~26500	3.16	-53.28	≤-16.85	PASS
		2441	Reference	3.30	3.30	---	PASS
			30~1000	3.30	-61.5	≤-16.7	PASS
			1000~26500	3.30	-52.63	≤-16.7	PASS
		2480	Reference	3.59	3.59	---	PASS
			30~1000	3.59	-61.25	≤-16.41	PASS
			1000~26500	3.59	-52.05	≤-16.41	PASS
3DH5	Ant1	2402	Reference	1.55	1.55	---	PASS
			30~1000	1.55	-60.67	≤-18.45	PASS
			1000~26500	1.55	-52.99	≤-18.45	PASS
		2441	Reference	4.06	4.06	---	PASS
			30~1000	4.06	-61	≤-15.94	PASS
			1000~26500	4.06	-52.63	≤-15.94	PASS
		2480	Reference	3.37	3.37	---	PASS
			30~1000	3.37	-60.92	≤-16.63	PASS
			1000~26500	3.37	-52.01	≤-16.63	PASS

Test Graphs

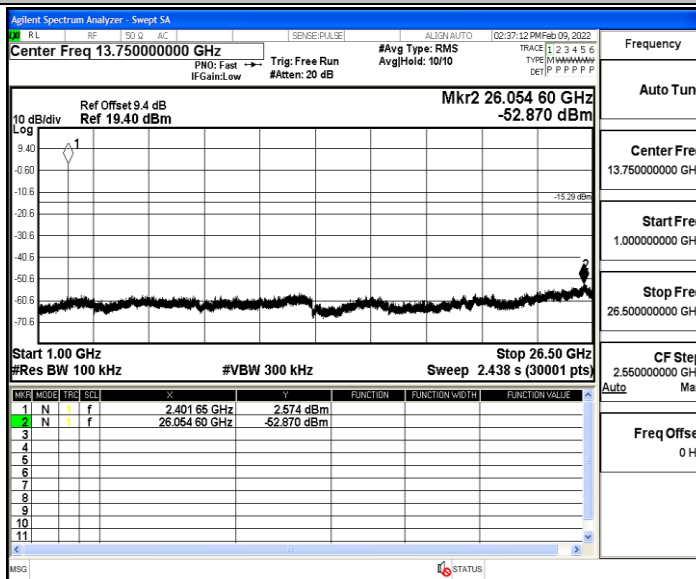
DH5_Ant1_2402_0~Reference



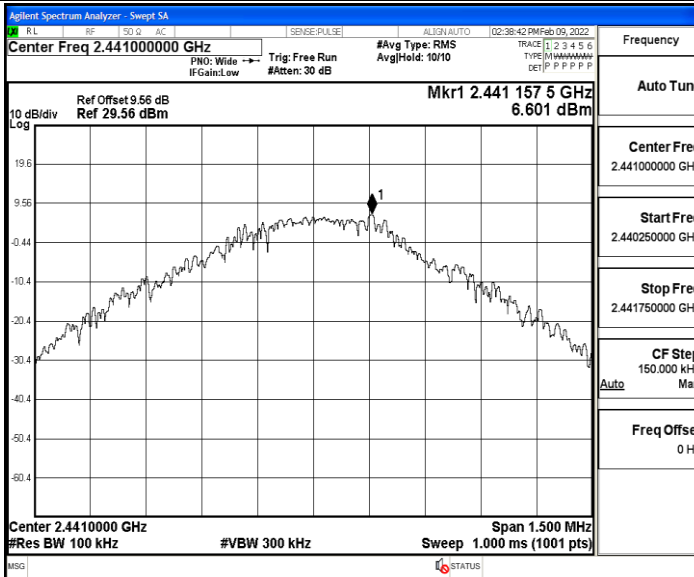
DH5_Ant1_2402_30~1000



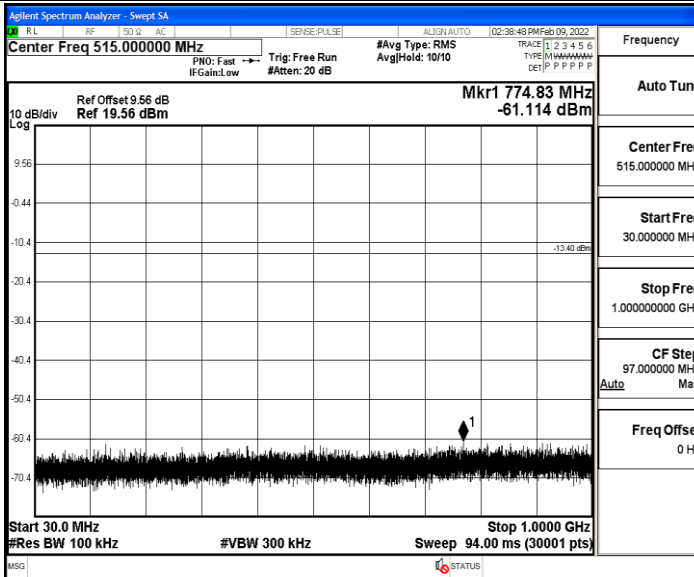
DH5_Ant1_2402_1000~26500



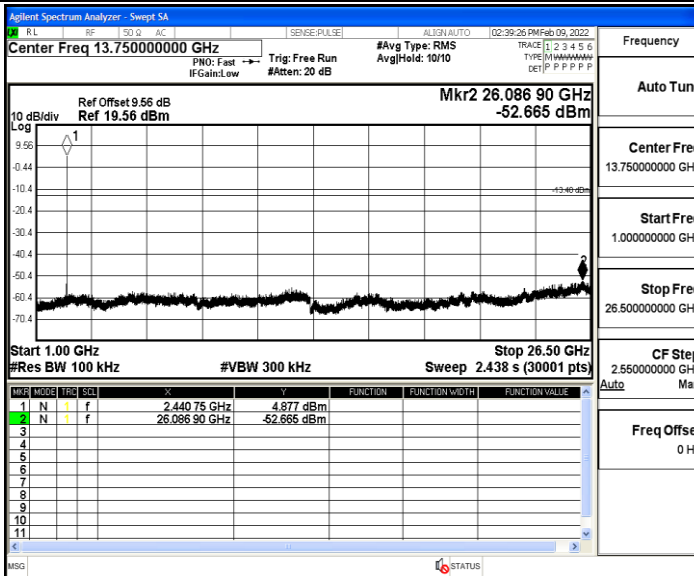
DH5_Ant1_2441_0~Reference



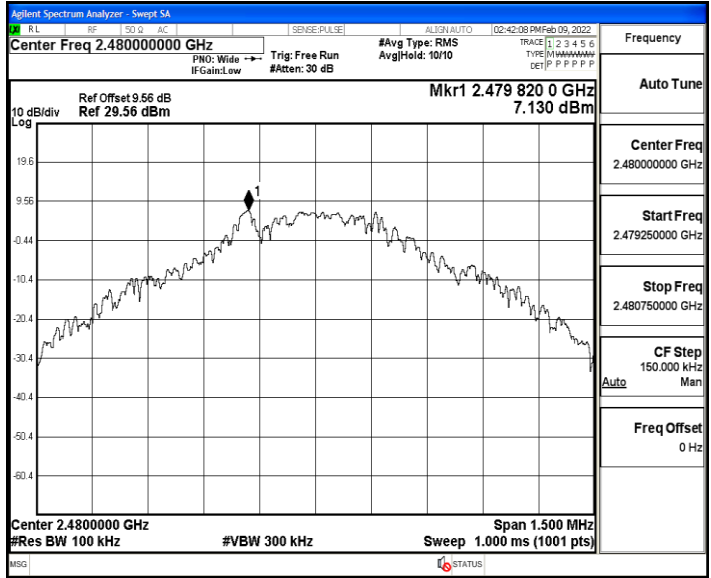
DH5_Ant1_2441_30~1000



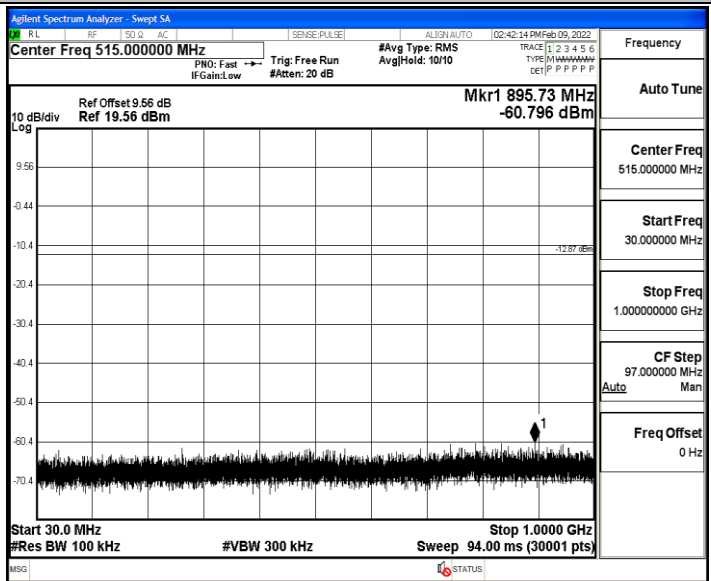
DH5_Ant1_2441_1000~26500



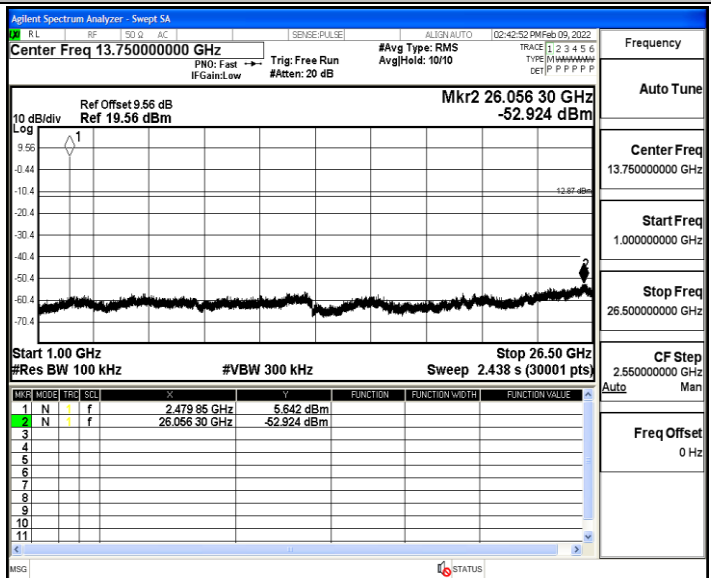
DH5_Ant1_2480_0~Reference



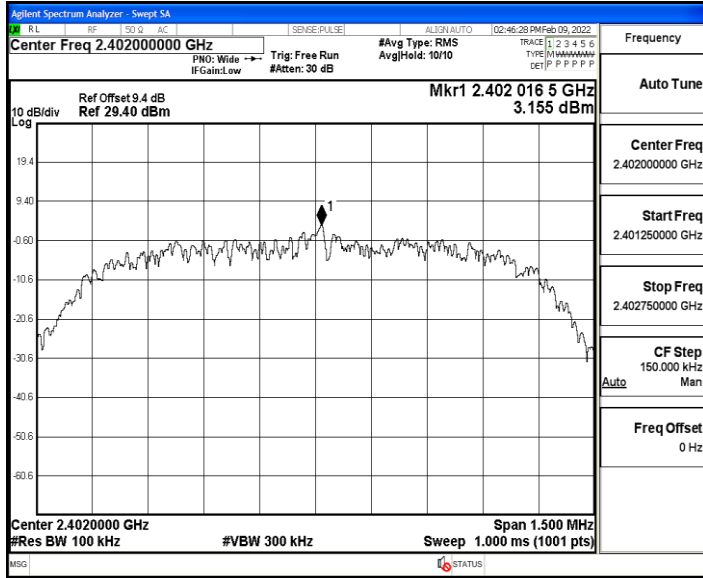
DH5_Ant1_2480_30~1000



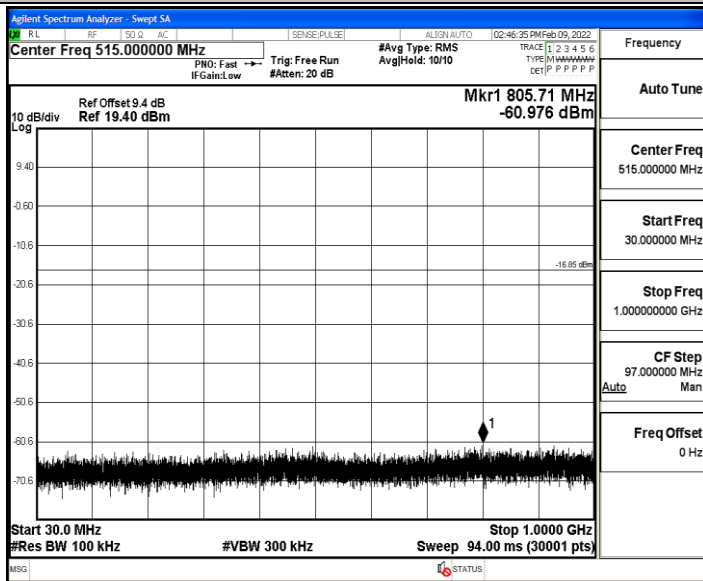
DH5_Ant1_2480_1000~26500



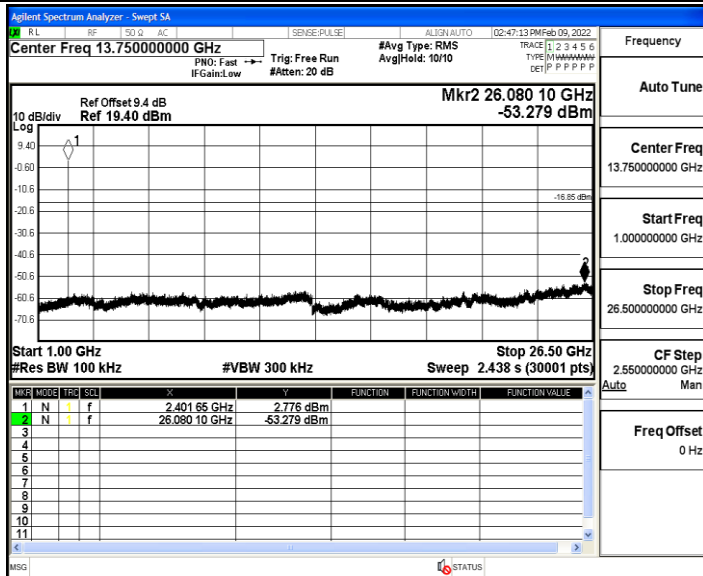
2DH5_Ant1_2402_0~Reference



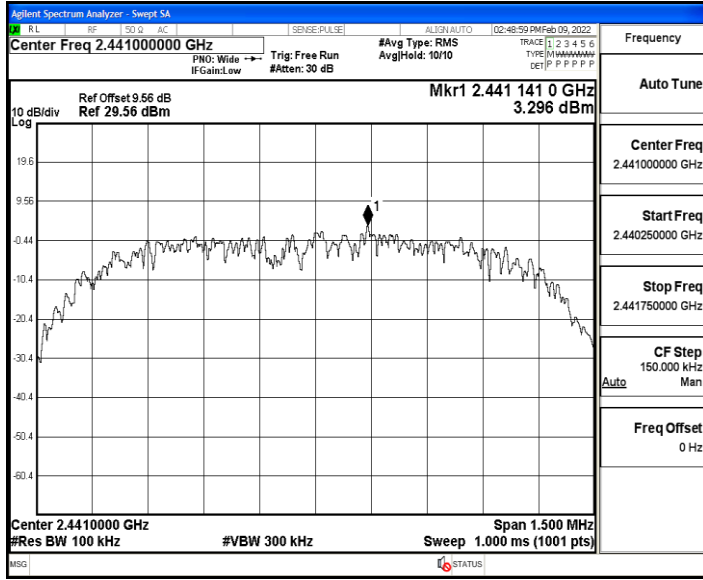
2DH5_Ant1_2402_30~1000



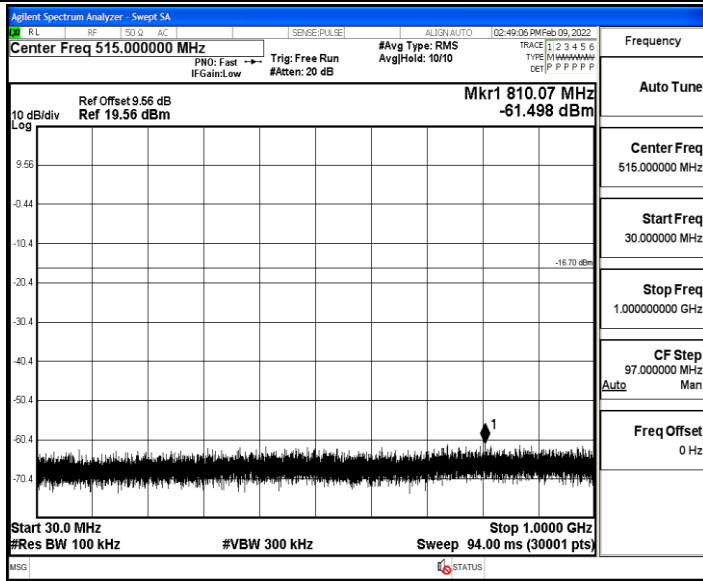
2DH5_Ant1_2402_1000~26500



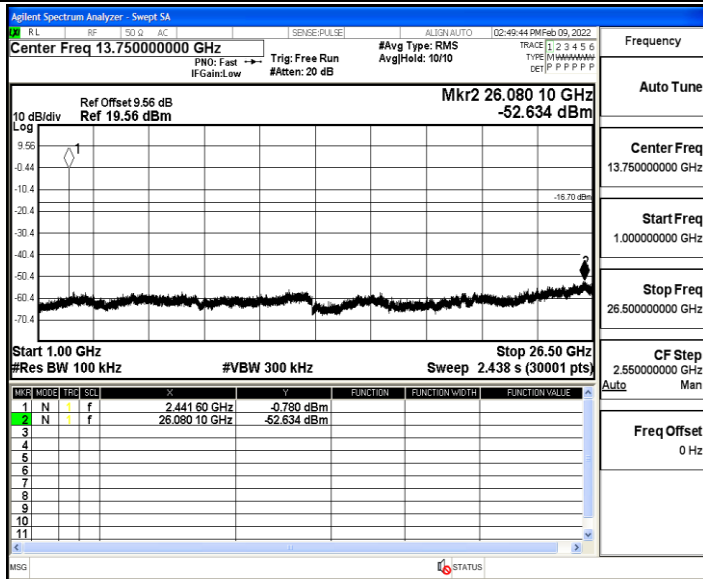
2DH5_Ant1_2441_0~Reference



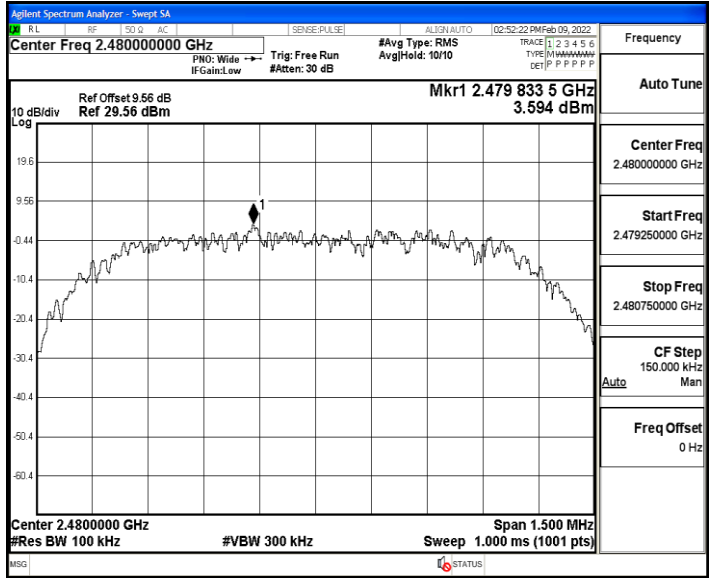
2DH5_Ant1_2441_30~1000



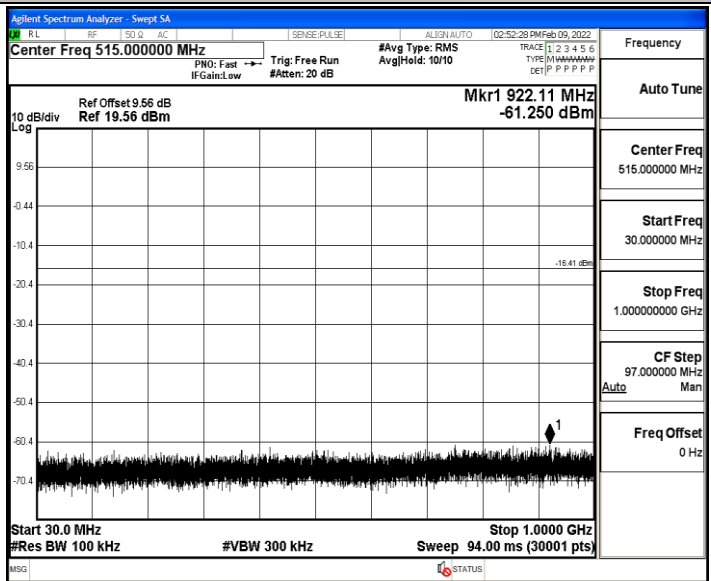
2DH5_Ant1_2441_1000~26500



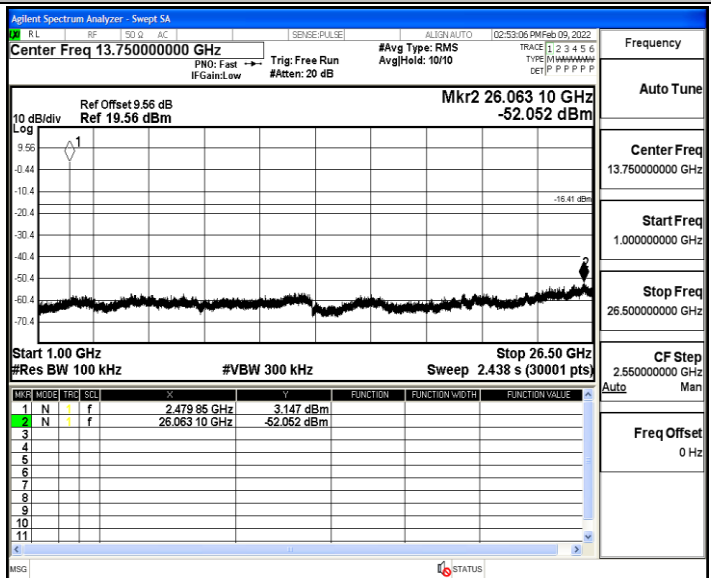
2DH5_Ant1_2480_0~Reference



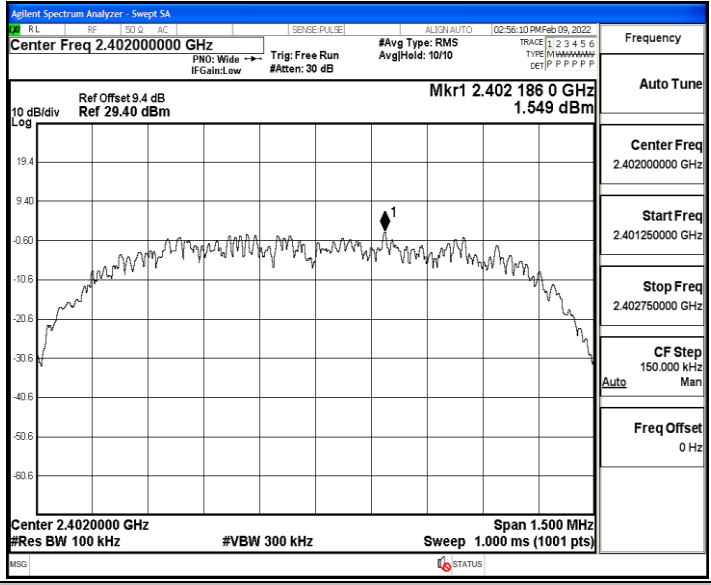
2DH5_Ant1_2480_30~1000



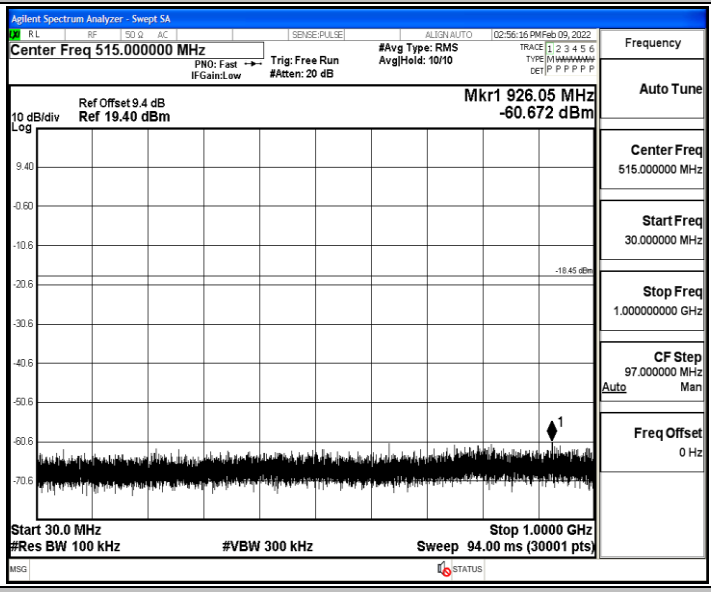
2DH5_Ant1_2480_1000~26500



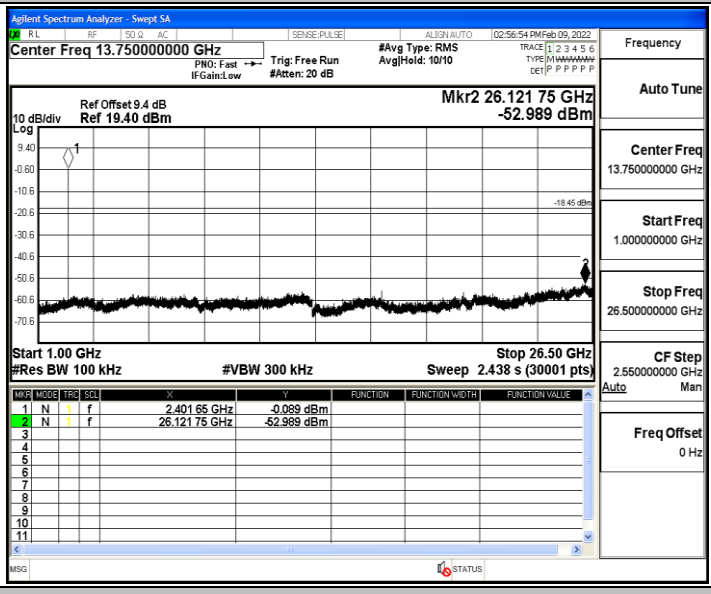
3DH5_Ant1_2402_0~Reference



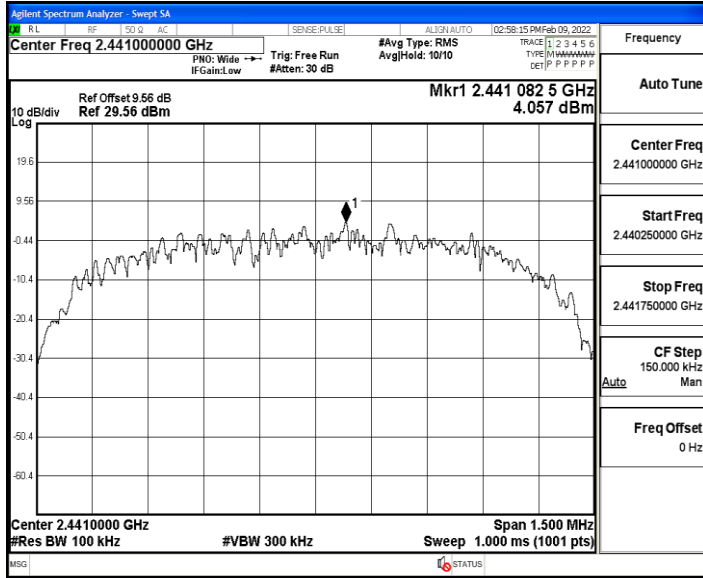
3DH5_Ant1_2402_30~1000



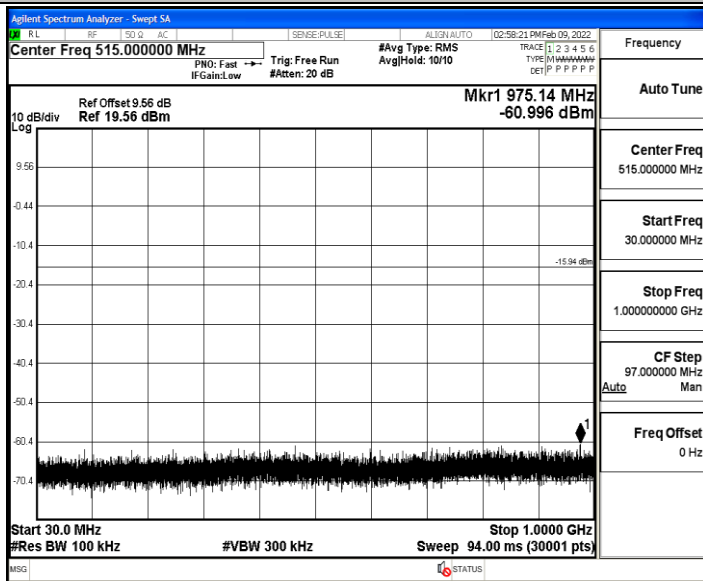
3DH5_Ant1_2402_1000~26500



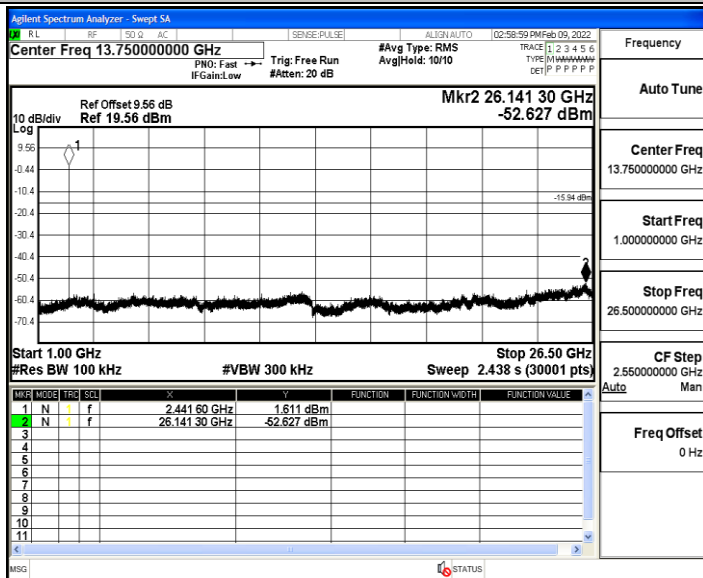
3DH5_Ant1_2441_0~Reference



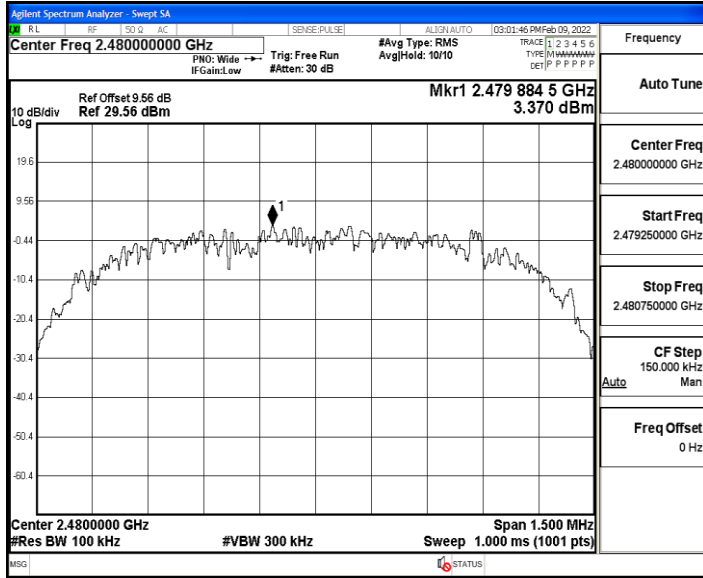
3DH5_Ant1_2441_30~1000



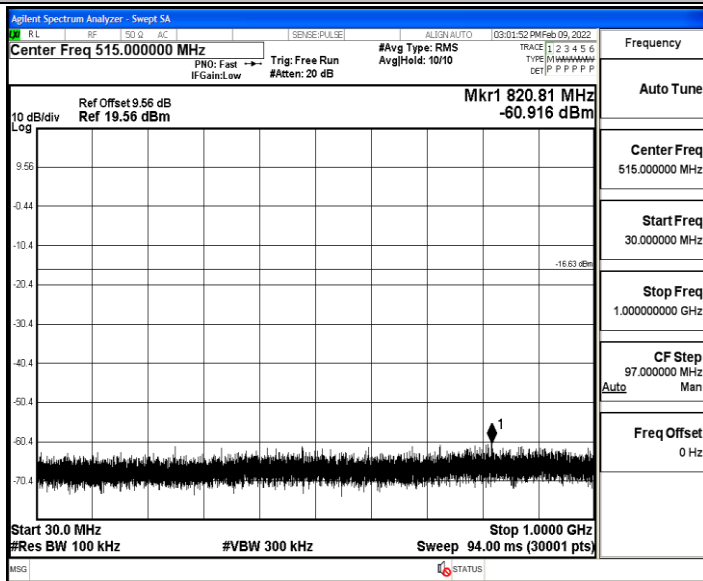
3DH5_Ant1_2441_1000~26500



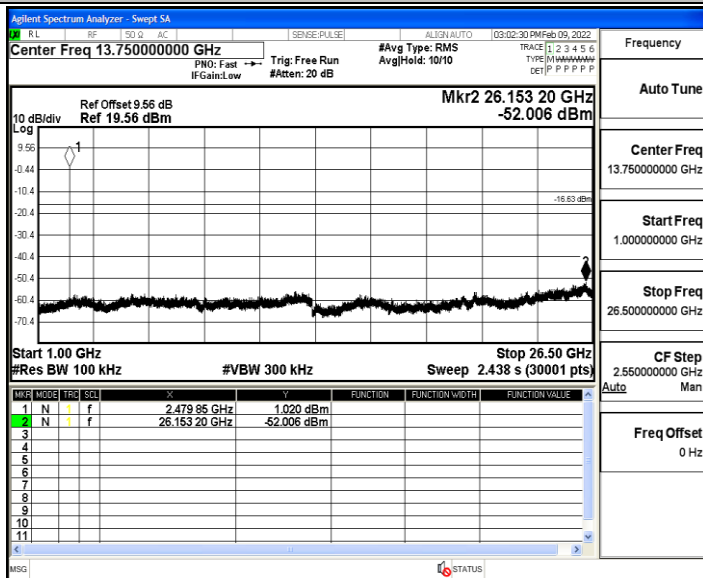
3DH5_Ant1_2480_0~Reference



3DH5_Ant1_2480_30~1000



3DH5_Ant1_2480_1000~26500



Appendix H: Emissions in Restricted Bands

Test Result

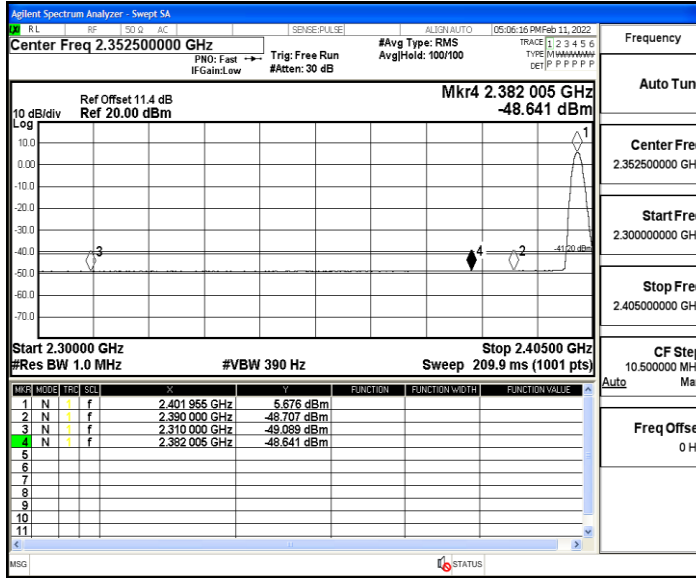
TestMode	Antenna	ChName	Channel	Detector	Freq(MHz)	Result(dBm)	Limit(dBm)	Verdict
DH5	Ant1	Low	2402	AV	2310.000	-49.09	≤-41.20	PASS
				AV	2382.005	-48.64	≤-41.20	PASS
				AV	2390.000	-48.71	≤-41.20	PASS
				Peak	2310.000	-41.83	≤-21.20	PASS
				Peak	2383.790	-39.1	≤-21.20	PASS
		High	2480	Peak	2390.000	-42.4	≤-21.20	PASS
				AV	2483.500	-47.17	≤-41.20	PASS
				AV	2483.520	-47.17	≤-41.20	PASS
				AV	2500.000	-48.1	≤-41.20	PASS
				Peak	2483.500	-40.35	≤-21.20	PASS
2DH5	Ant1	Low	2402	AV	2310.000	-49.04	≤-41.20	PASS
				AV	2388.095	-48.66	≤-41.20	PASS
				AV	2390.000	-48.81	≤-41.20	PASS
				Peak	2310.000	-41.13	≤-21.20	PASS
				Peak	2358.170	-38.15	≤-21.20	PASS
		High	2480	Peak	2390.000	-41.73	≤-21.20	PASS
				AV	2483.500	-46.46	≤-41.20	PASS
				AV	2483.520	-46.46	≤-41.20	PASS
				AV	2500.000	-47.99	≤-41.20	PASS
				Peak	2483.500	-41.66	≤-21.20	PASS
3DH5	Ant1	Low	2402	Peak	2495.360	-38.72	≤-21.20	PASS
				Peak	2500.000	-39.92	≤-21.20	PASS
				AV	2310.000	-49.08	≤-41.20	PASS
				AV	2389.040	-48.67	≤-41.20	PASS
				AV	2390.000	-48.84	≤-41.20	PASS
		High	2480	Peak	2310.000	-42.06	≤-21.20	PASS
				Peak	2335.595	-39.64	≤-21.20	PASS
				Peak	2390.000	-42.1	≤-21.20	PASS
				AV	2483.500	-46.4	≤-41.20	PASS
				AV	2483.520	-46.4	≤-41.20	PASS
				AV	2500.000	-48.04	≤-41.20	PASS
				Peak	2483.500	-40.43	≤-21.20	PASS
				Peak	2499.280	-37.72	≤-21.20	PASS
				Peak	2500.000	-41.17	≤-21.20	PASS

Note:

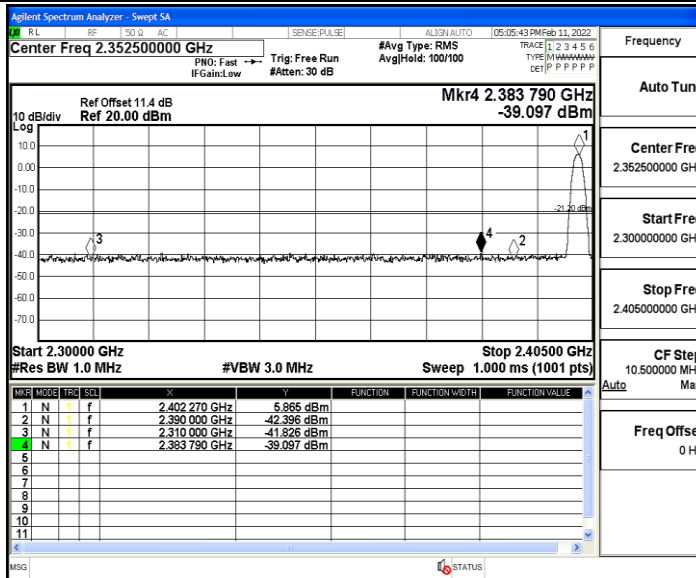
1. The Antenna Gain is compensated in the graph with 2dBi and Antenna Gain which is Higher.
2. The limit in dBm for average detector is conversion from 54dBuV/m, according to 15.209(a). The limit in dBm for peak detector is 20dB above the limit of average detector in dBm.

Test Graphs

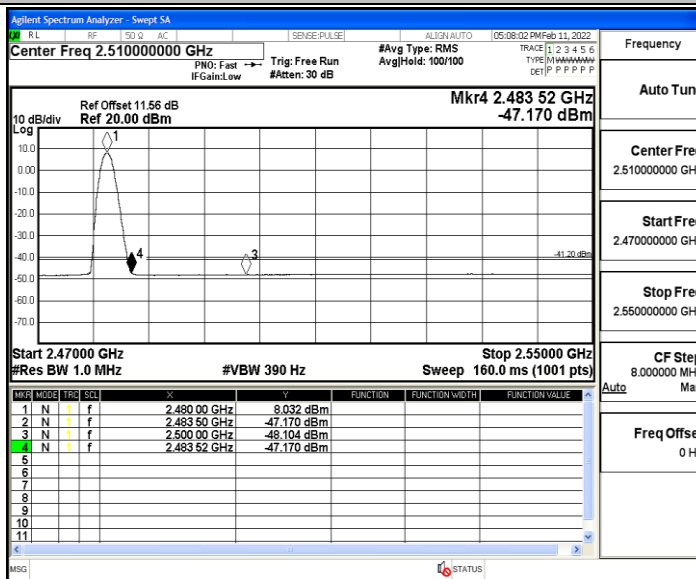
DH5_Ant1_Low_2402_AV



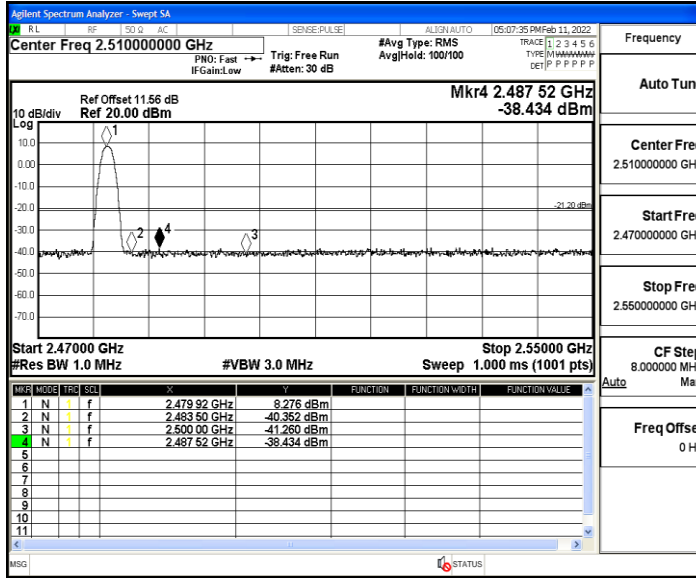
DH5_Ant1_Low_2402_Peak



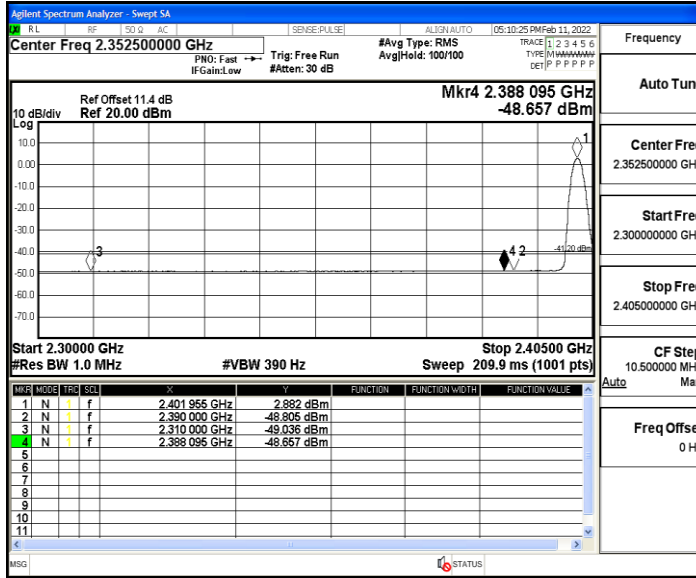
DH5_Ant1_High_2480_AV



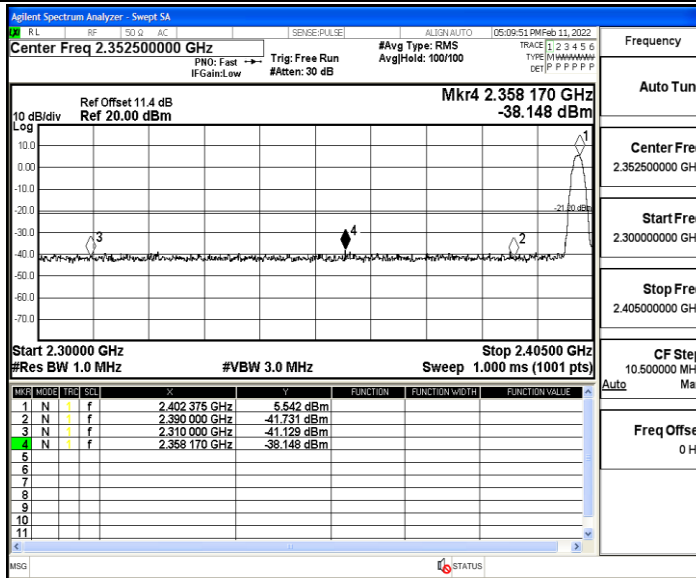
DH5_Ant1_High_2480_Peak



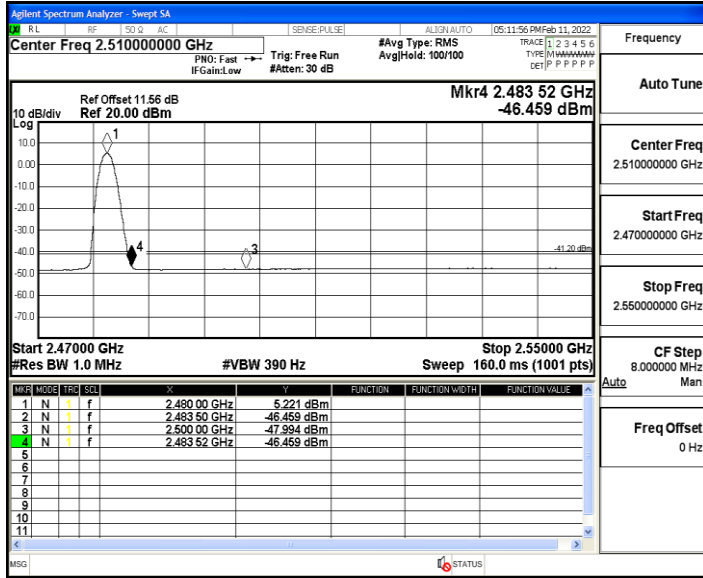
2DH5_Ant1_Low_2402_AV



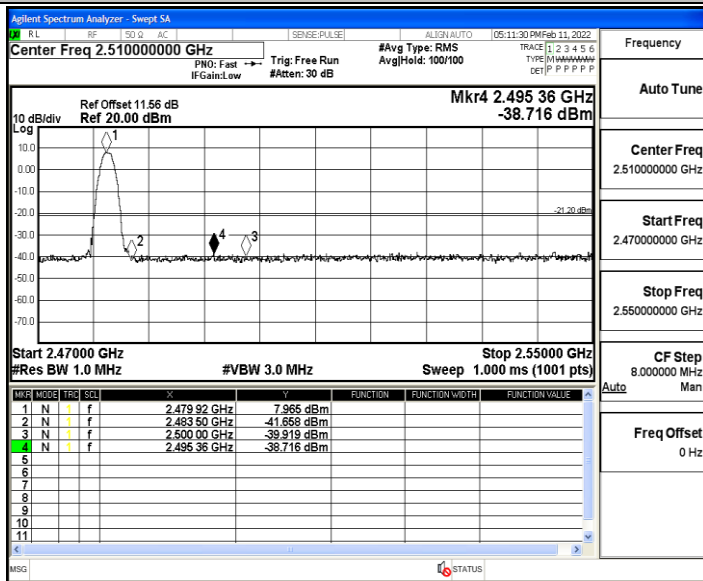
2DH5_Ant1_Low_2402_Peak



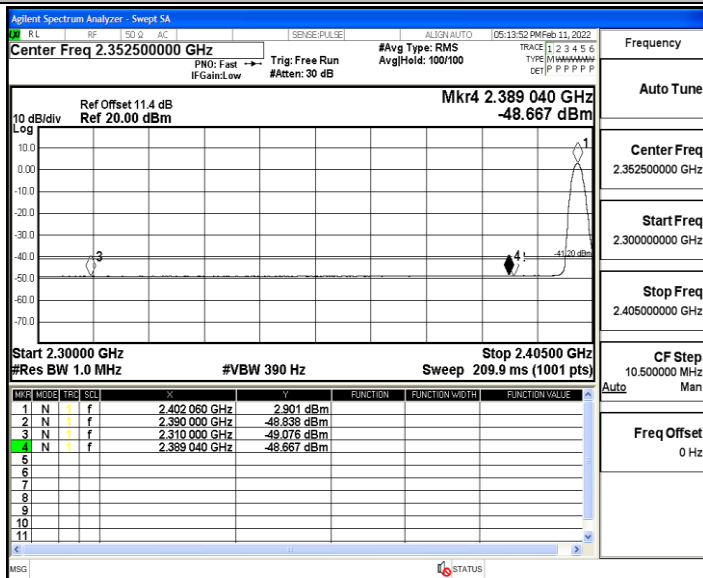
2DH5_Ant1_High_2480_AV



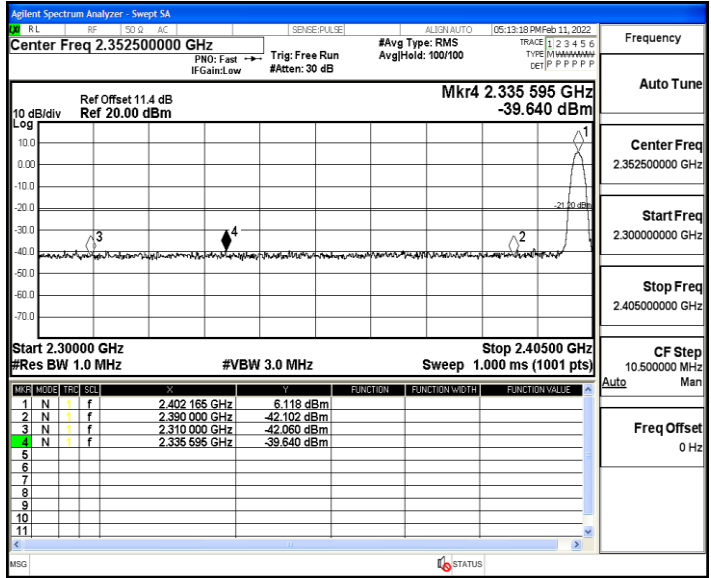
2DH5_Ant1_High_2480_Peak



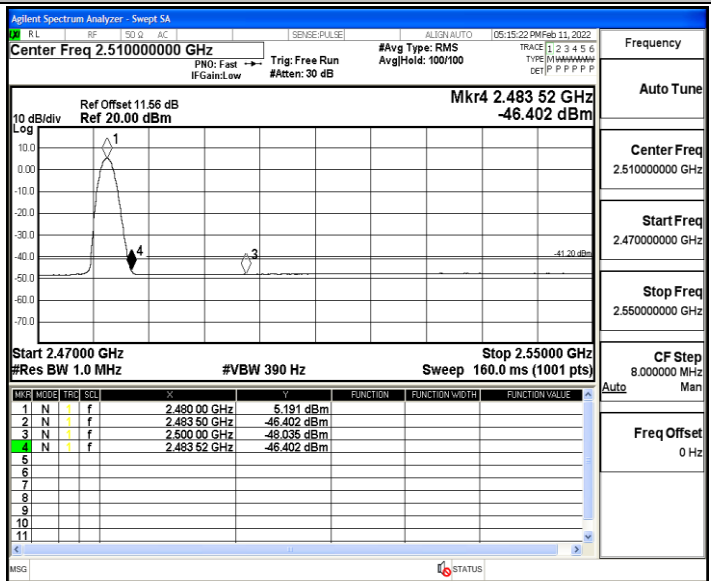
3DH5_Ant1_Low_2480_AV



3DH5_Ant1_Low_2402_Peak



3DH5_Ant1_High_2480_AV



3DH5_Ant1_High_2480_Peak

