



Appendix A

RF Test Data for BT V5.2(DSS) (Conducted Measurement)

Product Name: Bean Type TWS

Test Model: JX11L

Environmental Conditions

Temperature:	21.1℃
Relative Humidity:	52.2%
ATM Pressure:	100.0 kPa
Test Engineer:	Ling.zhu
Supervised by:	Libu



A.1 20dB Emission Bandwidth

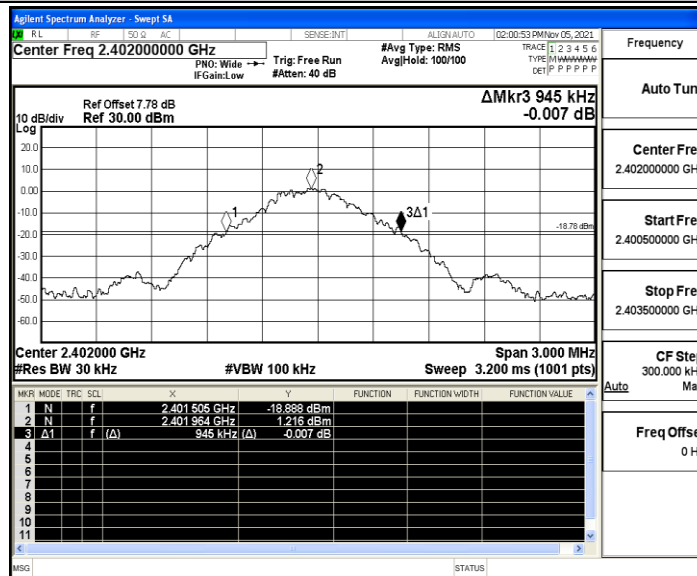
Test Result

TestMode	Antenna	Channel	20db EBW[MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
DH5	Ant1	2402	0.945	2401.505	2402.450	---	PASS
		2441	0.948	2440.511	2441.459	---	PASS
		2480	0.963	2479.505	2480.468	---	PASS
2DH5	Ant1	2402	1.284	2401.340	2402.624	---	PASS
		2441	1.335	2440.301	2441.636	---	PASS
		2480	1.371	2479.286	2480.657	---	PASS

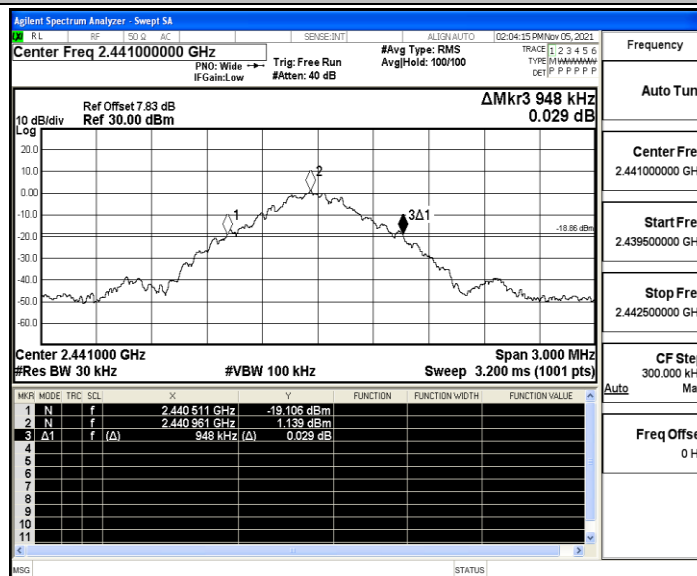


Test Graphs

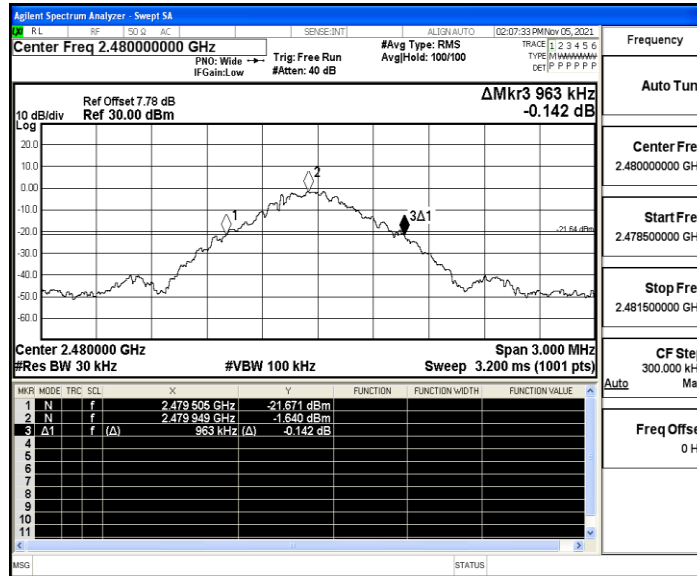
DH5_Ant1_2402



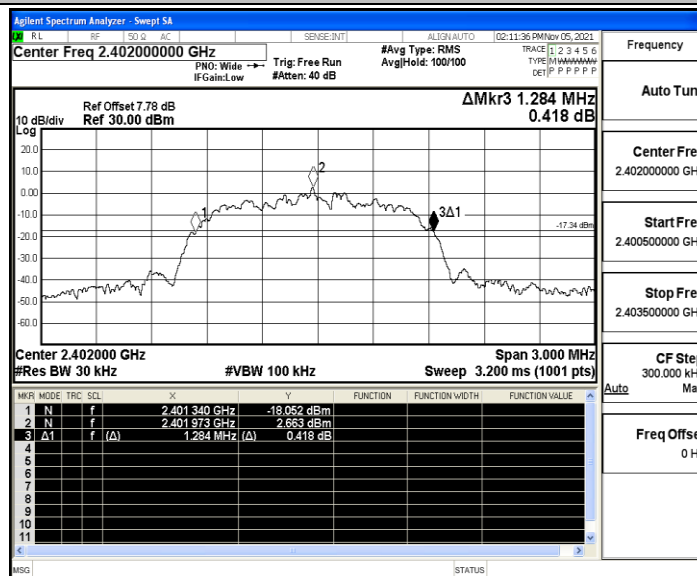
DH5_Ant1_2441



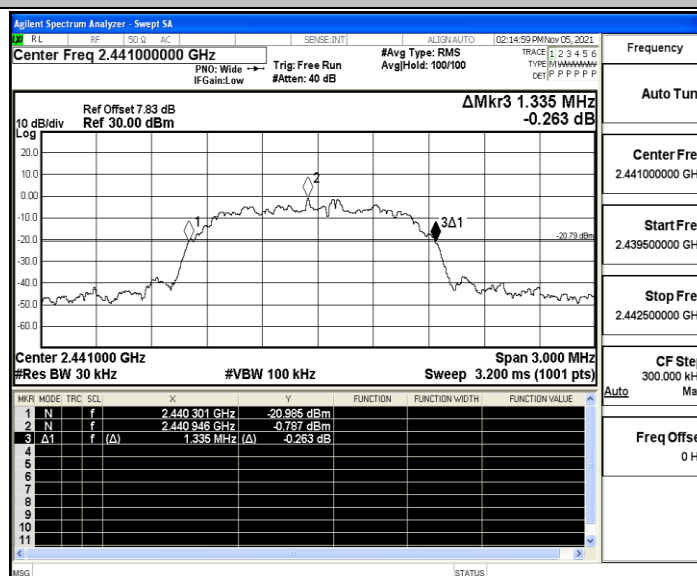
DH5_Ant1_2480



2DH5_Ant1_2402

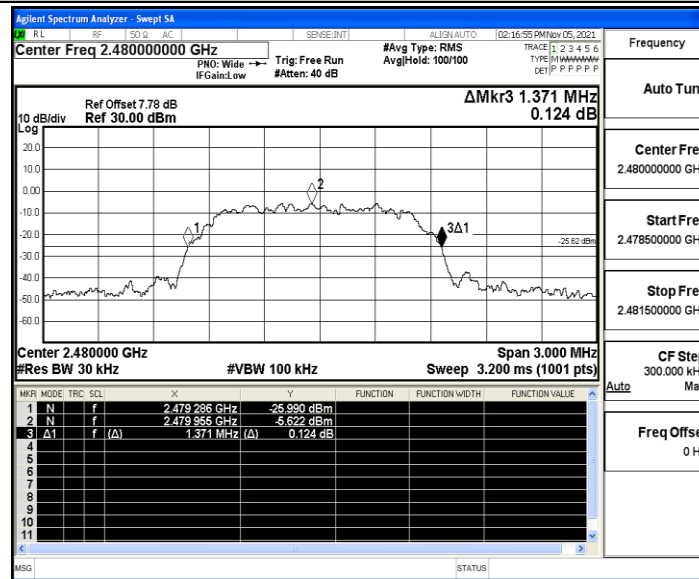


2DH5_Ant1_2441





2DH5_Ant1_2480





A.2 Maximum conducted output power

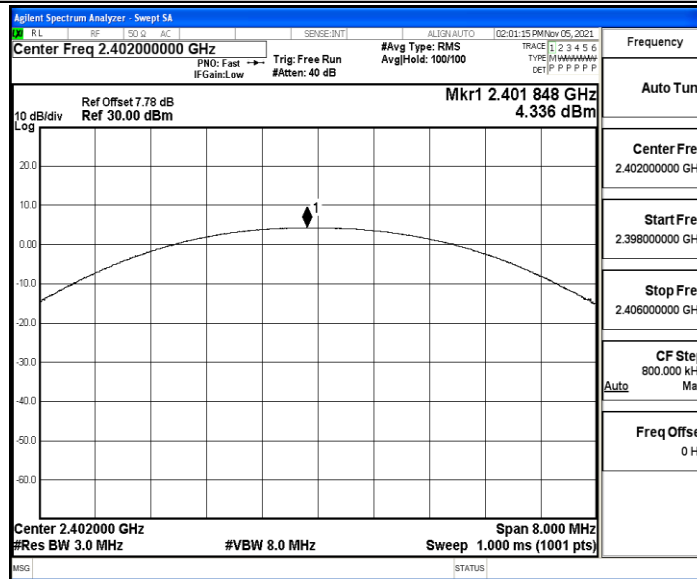
Test Result

TestMode	Antenna	Channel	Result[dBm]	Limit[dBm]	Verdict
DH5	Ant1	2402	4.34	≤ 20.97	PASS
		2441	2.96	≤ 20.97	PASS
		2480	1.48	≤ 20.97	PASS
2DH5	Ant1	2402	6.55	≤ 20.97	PASS
		2441	5.25	≤ 20.97	PASS
		2480	3.56	≤ 20.97	PASS

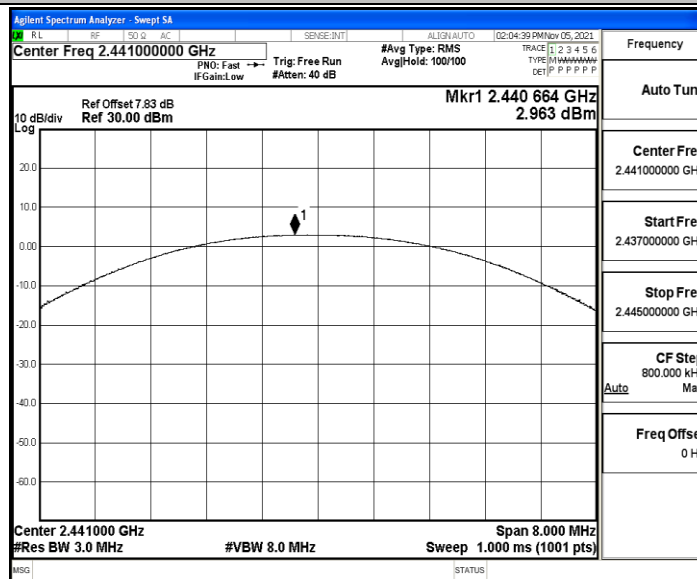


Test Graphs

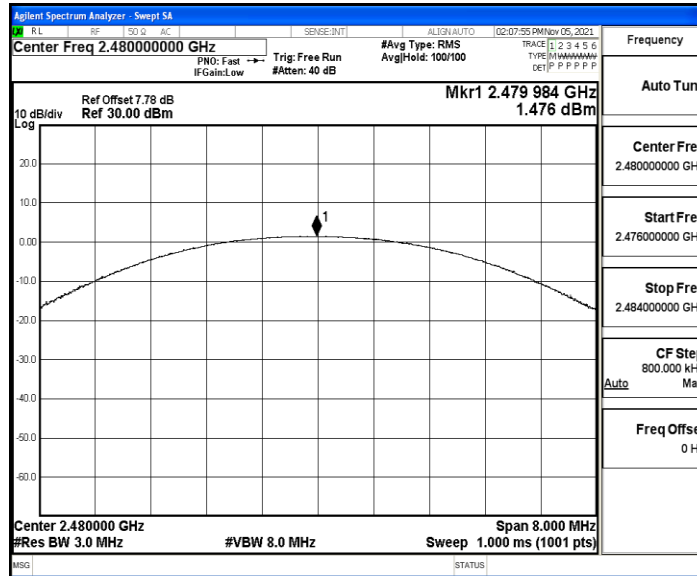
DH5_Ant1_2402



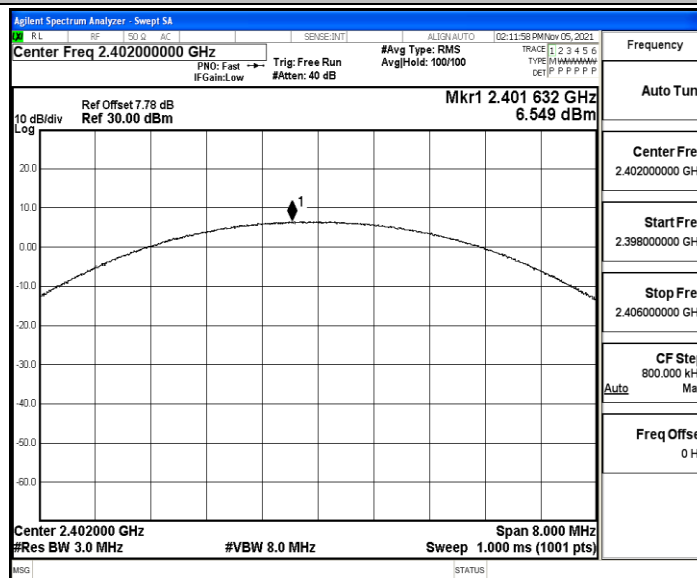
DH5_Ant1_2441



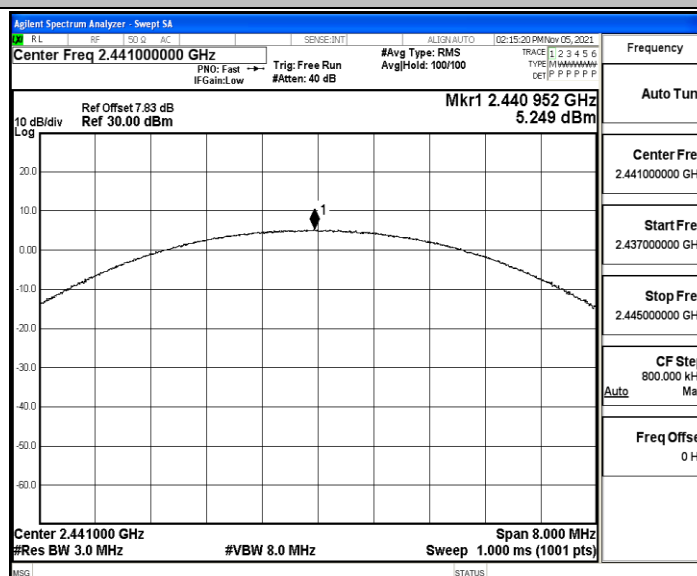
DH5_Ant1_2480



2DH5_Ant1_2402

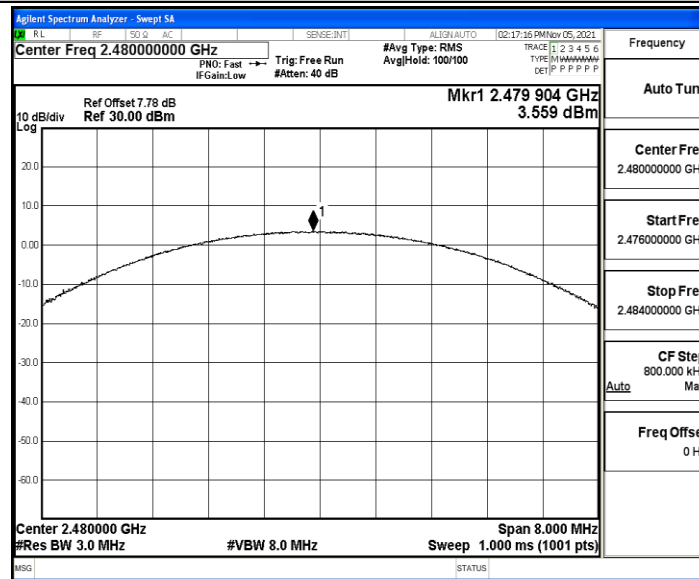


2DH5_Ant1_2441





2DH5_Ant1_2480



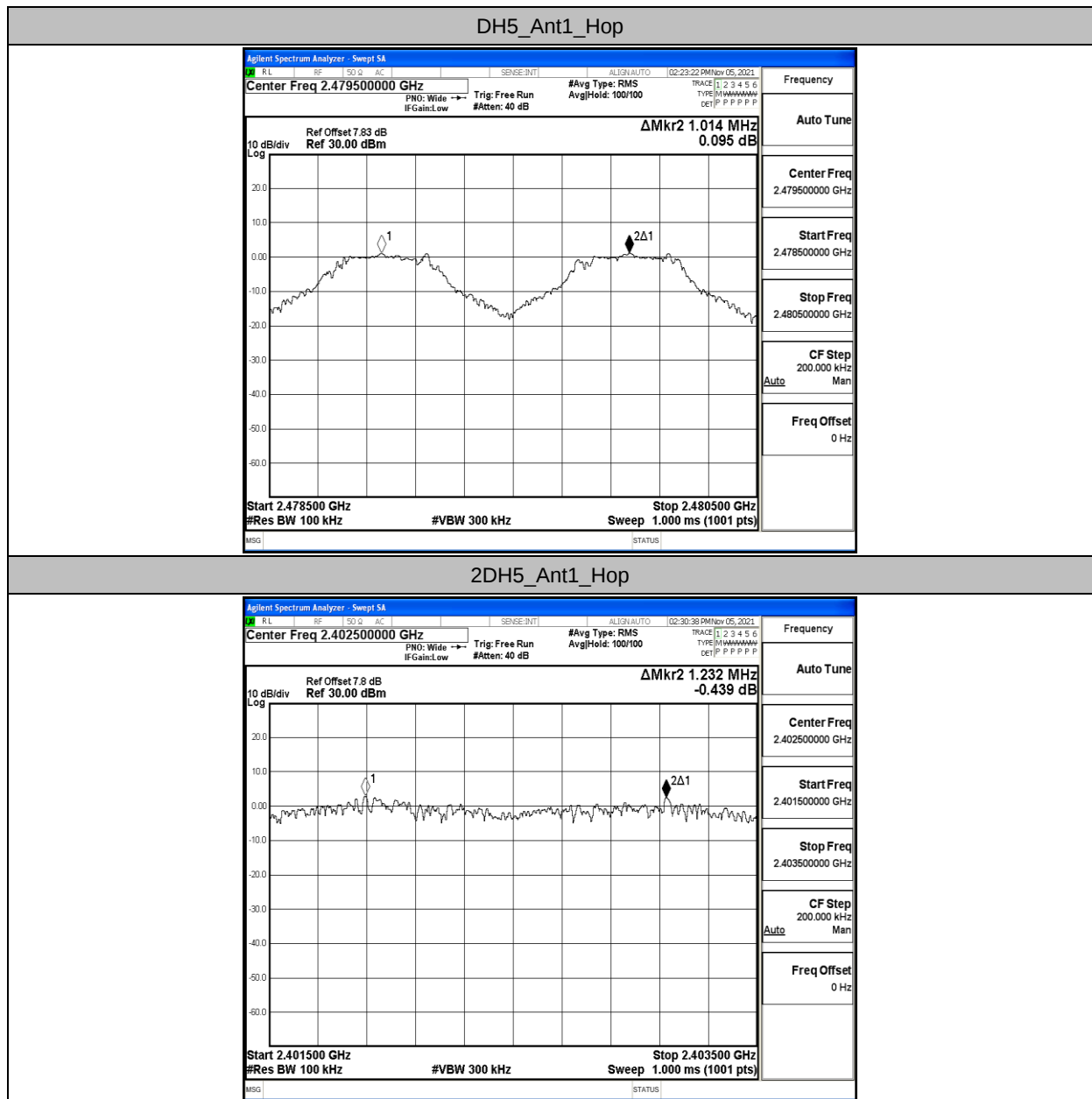


A.3 Carrier frequency separation

Test Result

TestMode	Antenna	Channel	Result[MHz]	Limit[MHz]	Verdict
DH5	Ant1	Hop	1.014	≥ 0.642	PASS
2DH5	Ant1	Hop	1.232	≥ 0.914	PASS

Test Graphs



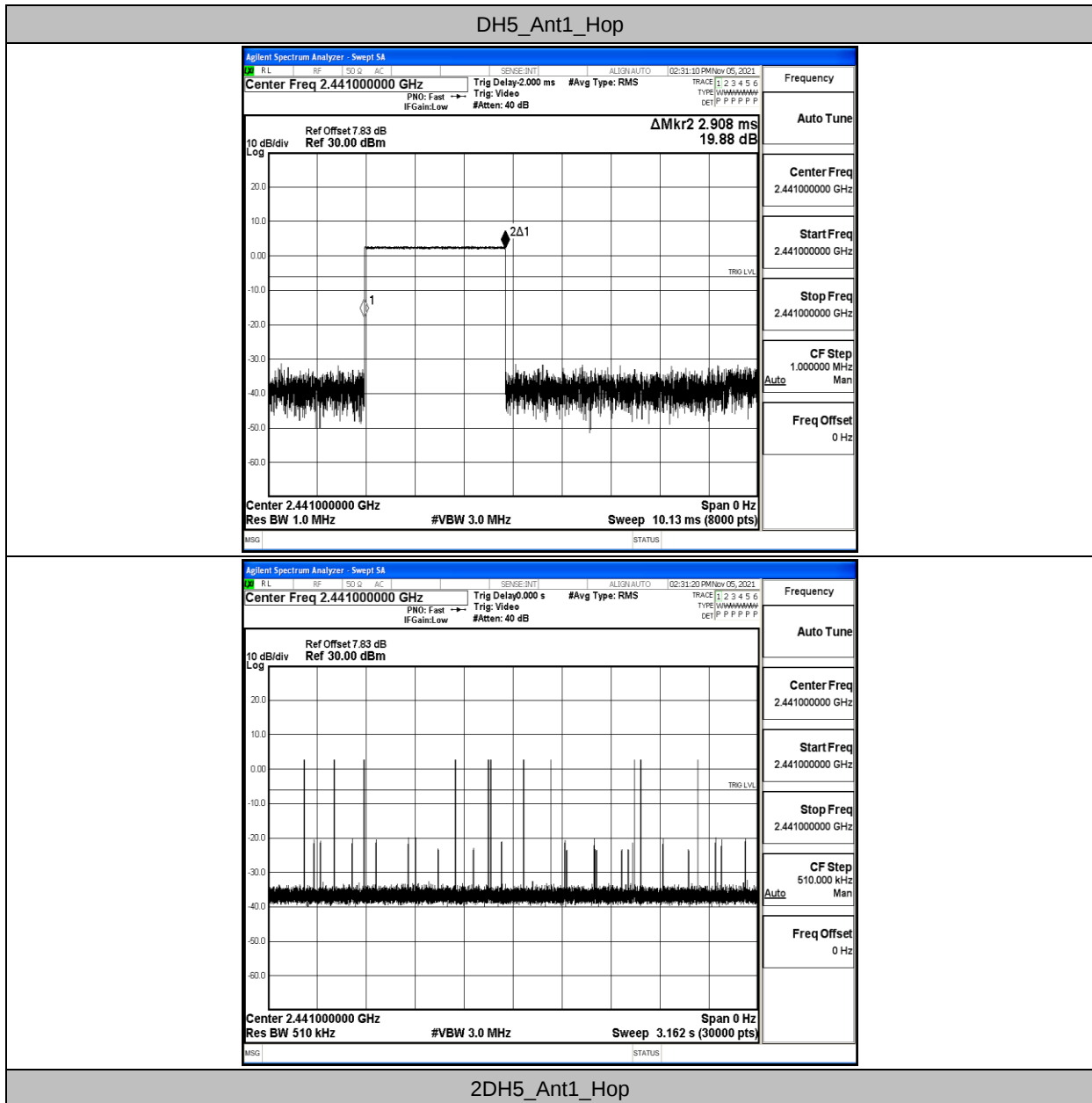


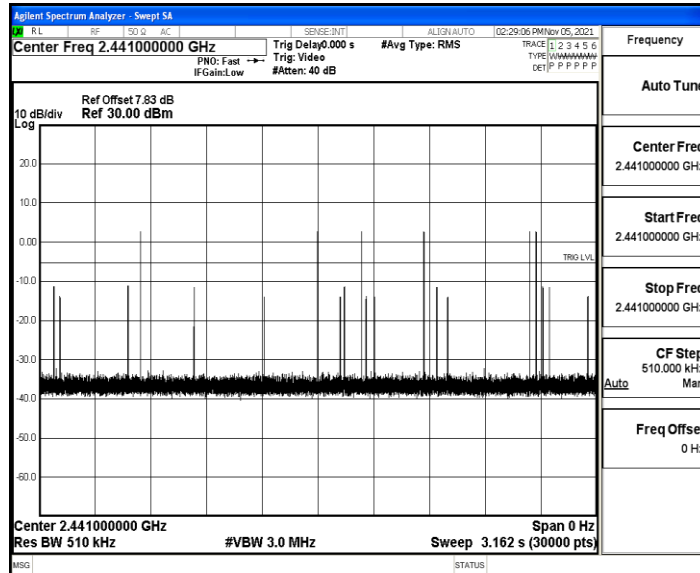
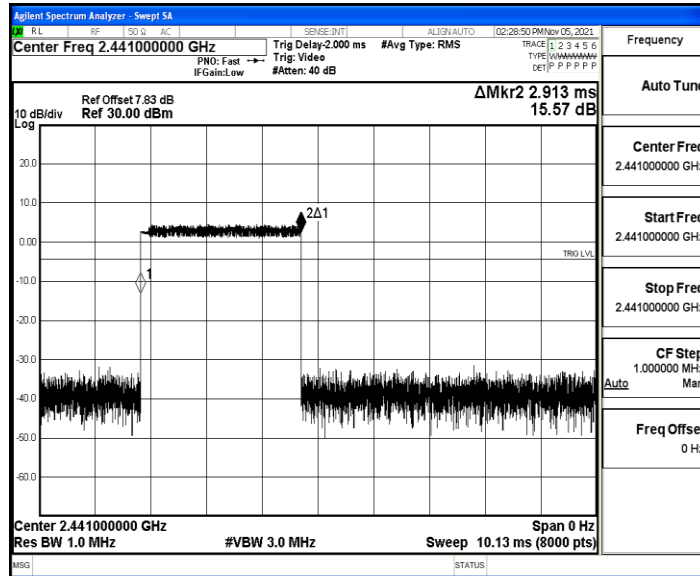
A.4 Time of occupancy

Test Result

TestMode	Antenna	Channel	BurstWidth [ms]	TotalHops [Num]	Result[s]	Limit[s]	Verdict
DH5	Ant1	Hop	2.91	120	0.349	≤0.4	PASS
2DH5	Ant1	Hop	2.91	70	0.204	≤0.4	PASS

Test Graphs





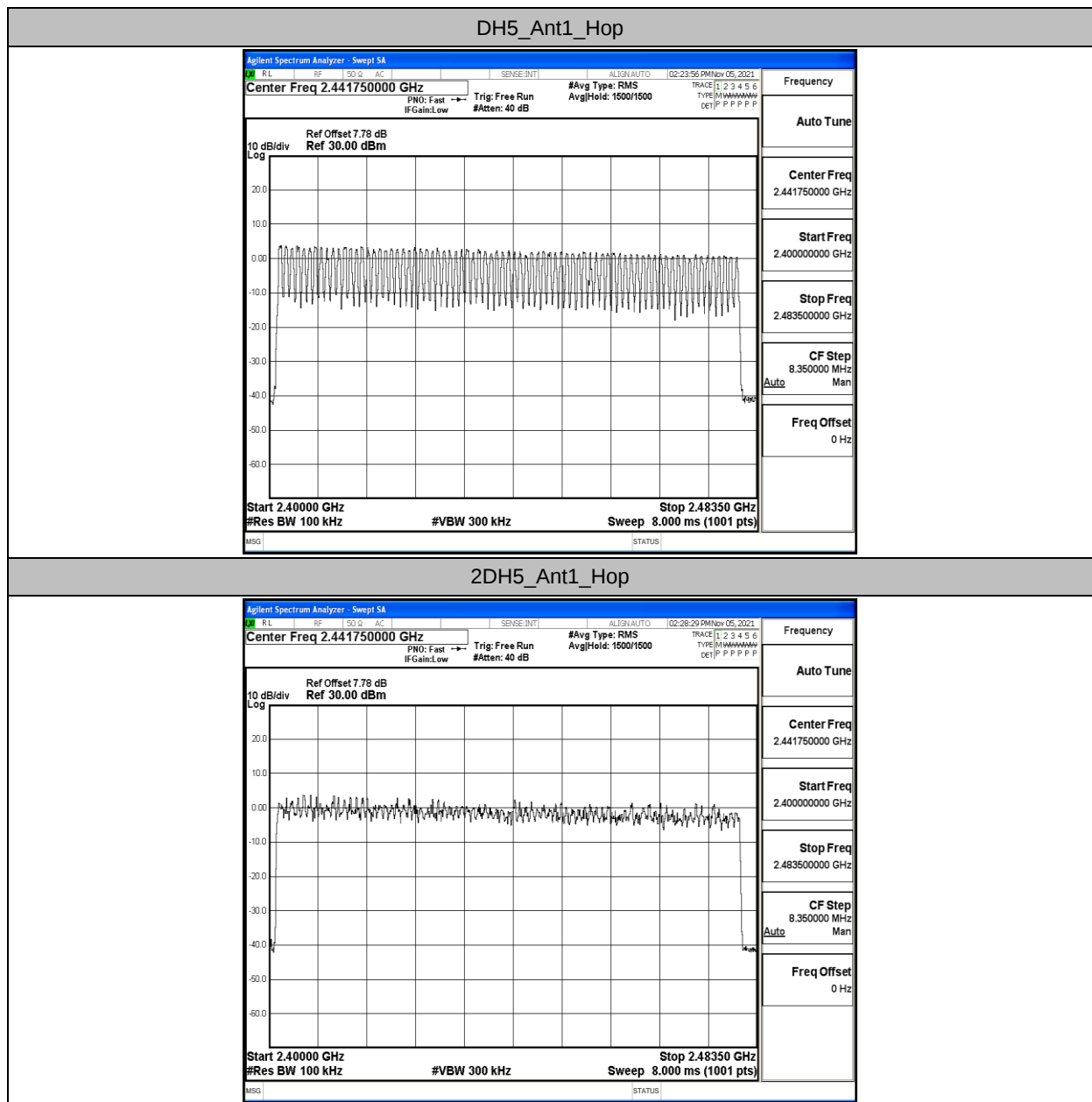


A.5 Number of hopping channels

Test Result

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

Test Graphs



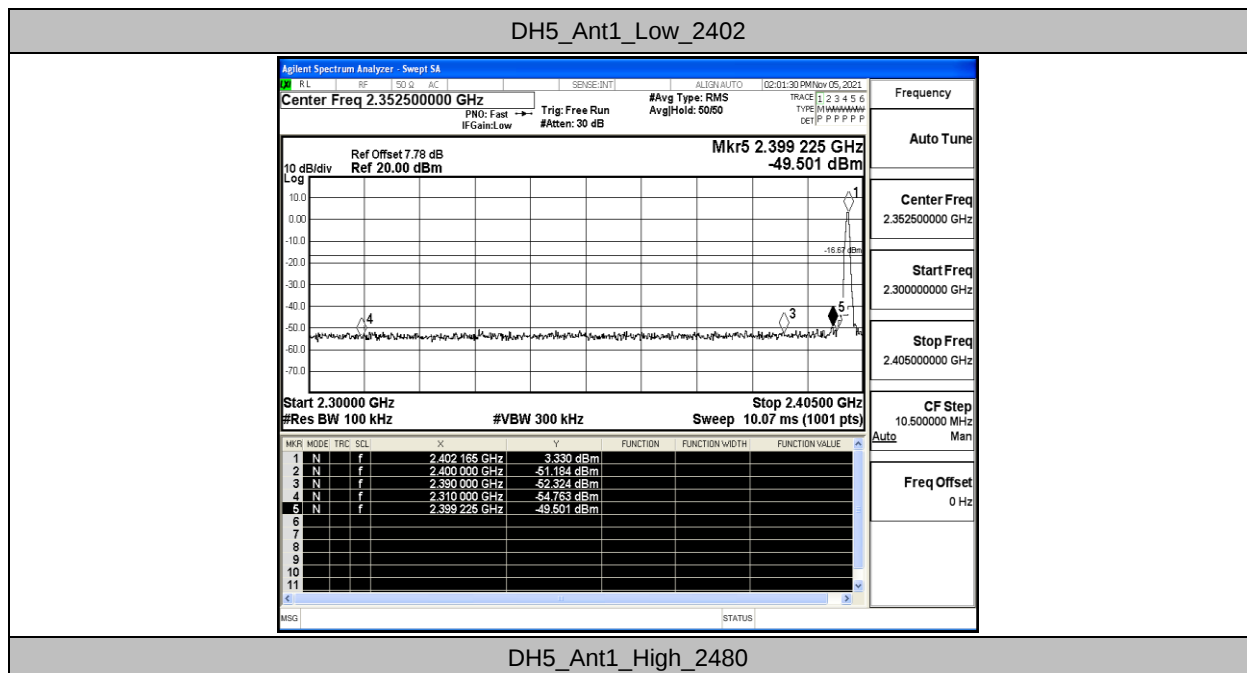


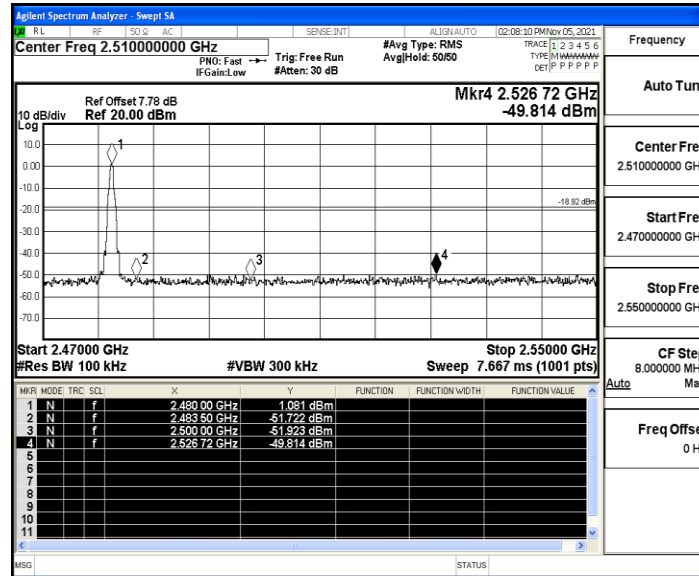
A.6 Band edge measurements

Test Result

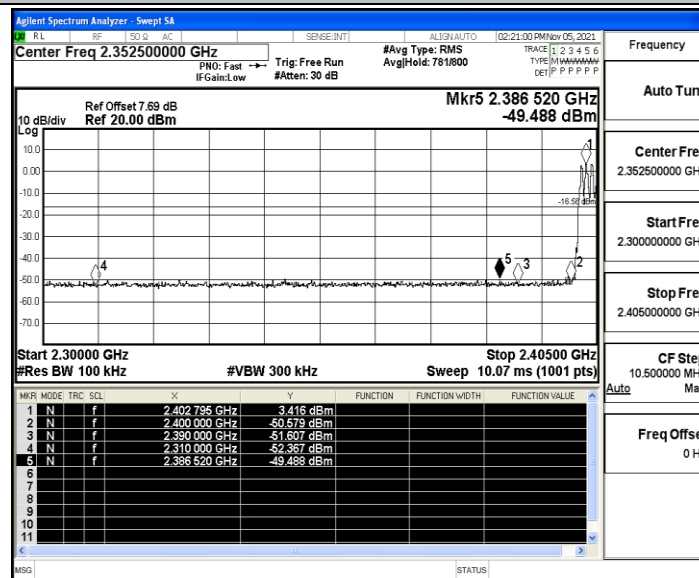
TestMode	Antenna	ChName	Channel	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
DH5	Ant1	Low	2402	3.33	-49.5	≤-16.67	PASS
		High	2480	1.08	-49.81	≤-18.92	PASS
		Low	Hop_2402	3.42	-49.49	≤-16.58	PASS
		High	Hop_2480	1.20	-48.29	≤-18.8	PASS
2DH5	Ant1	Low	2402	3.26	-47.46	≤-16.74	PASS
		High	2480	0.98	-49.28	≤-19.02	PASS
		Low	Hop_2402	1.28	-49.8	≤-18.72	PASS
		High	Hop_2480	0.65	-48.16	≤-19.35	PASS

Test Graphs

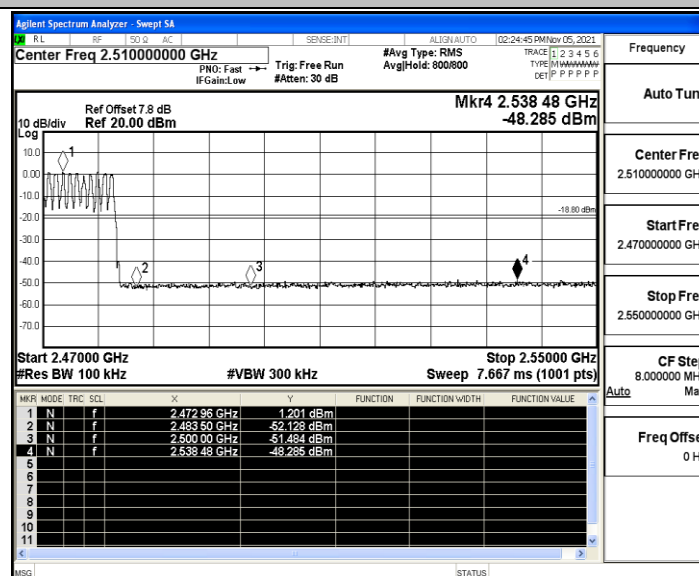




DH5_Ant1_Low_Hop_2402

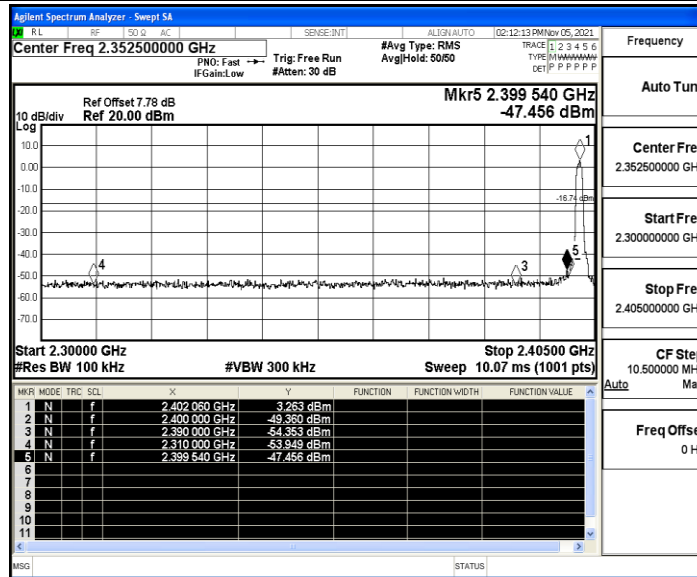


DH5_Ant1_High_Hop_2480

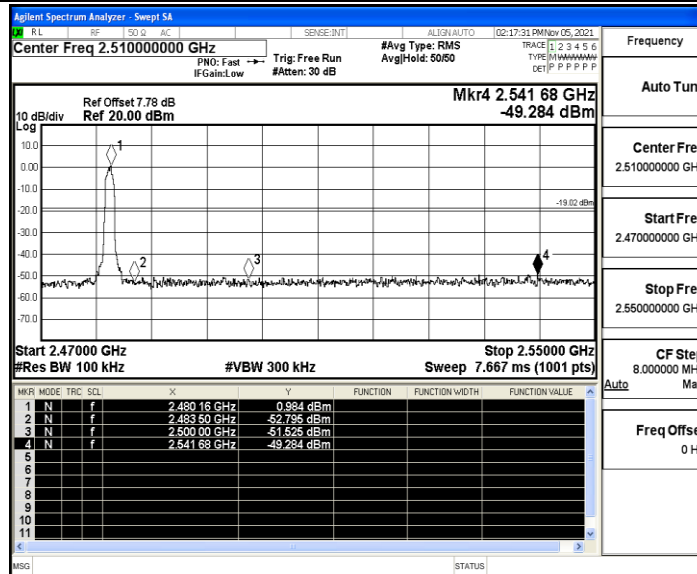




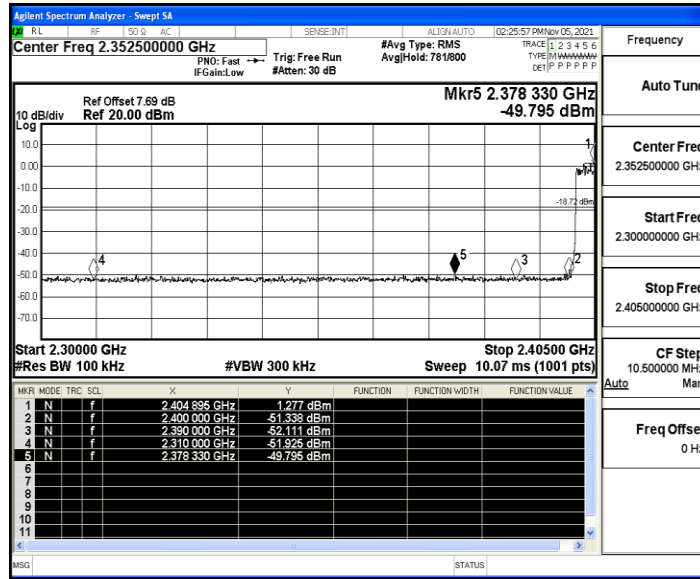
2DH5_Ant1_Low_2402



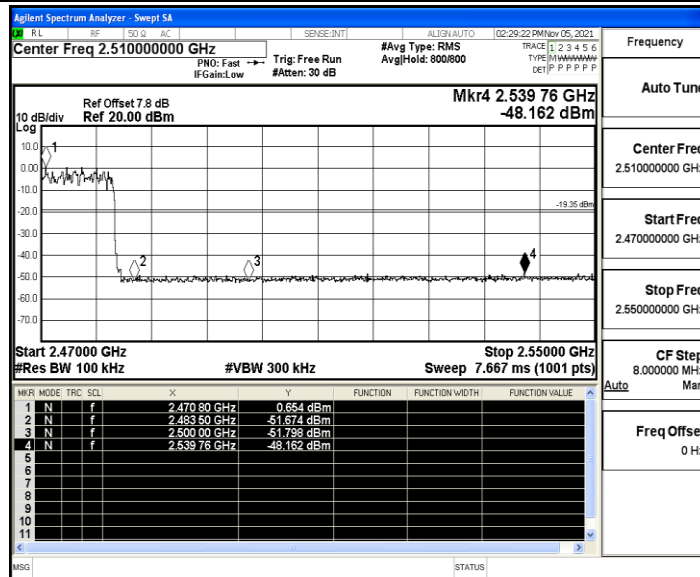
2DH5_Ant1_High_2480



2DH5_Ant1_Low_Hop_2402



2DH5_Ant1_High_Hop_2480





A.7 Conducted Spurious Emission

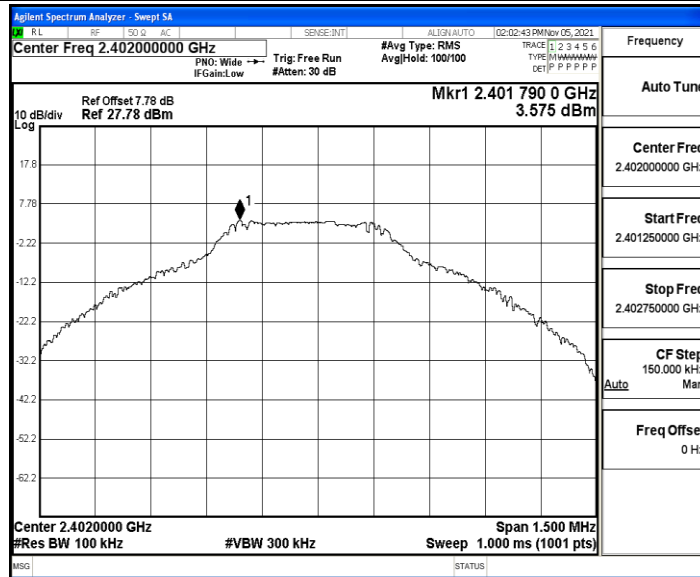
Test Result

TestMode	Antenna	Channel	FreqRange [MHz]	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
DH5	Ant1	2402	Reference	3.58	3.58	---	PASS
			30~1000	3.58	-61.83	≤-16.43	PASS
			1000~26500	3.58	-25.68	≤-16.43	PASS
		2441	Reference	1.95	1.95	---	PASS
			30~1000	1.95	-61.79	≤-18.05	PASS
			1000~26500	1.95	-28.1	≤-18.05	PASS
		2480	Reference	0.91	0.91	---	PASS
			30~1000	0.91	-61.22	≤-19.09	PASS
			1000~26500	0.91	-32.18	≤-19.09	PASS
2DH5	Ant1	2402	Reference	1.89	1.89	---	PASS
			30~1000	1.89	-61.14	≤-18.11	PASS
			1000~26500	1.89	-29.54	≤-18.11	PASS
		2441	Reference	1.48	1.48	---	PASS
			30~1000	1.48	-61.97	≤-18.52	PASS
			1000~26500	1.48	-31.35	≤-18.52	PASS
		2480	Reference	0.60	0.60	---	PASS
			30~1000	0.60	-62.31	≤-19.4	PASS
			1000~26500	0.60	-31.79	≤-19.4	PASS

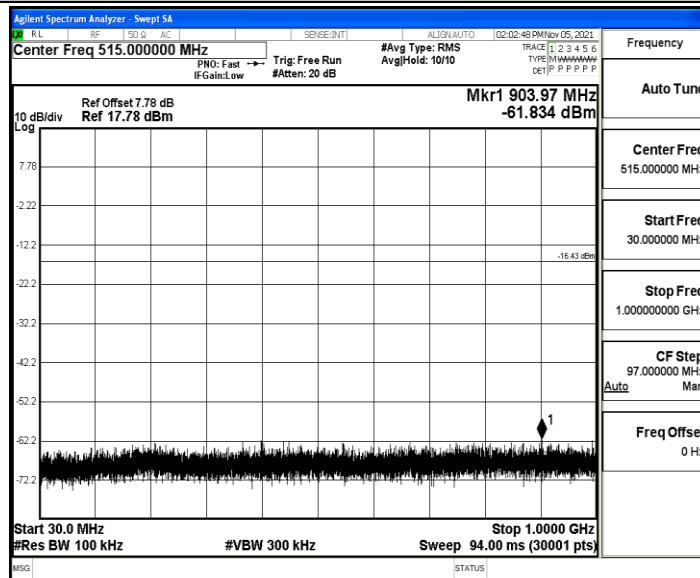


Test Graphs

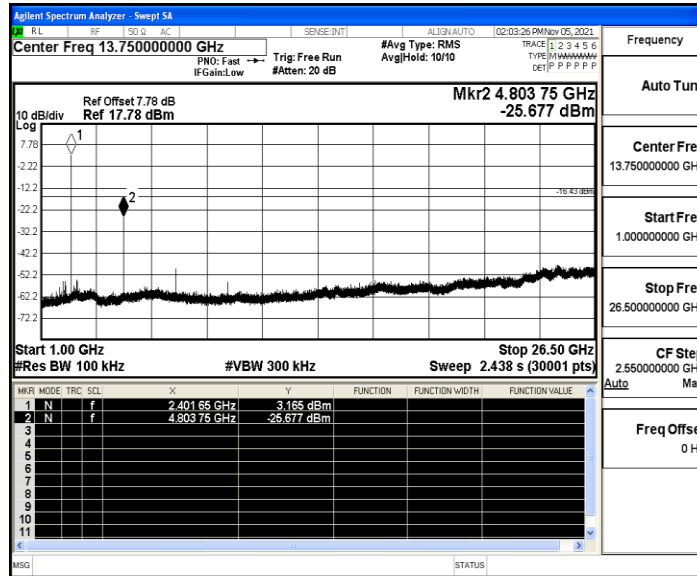
DH5_Ant1_2402_0~Reference



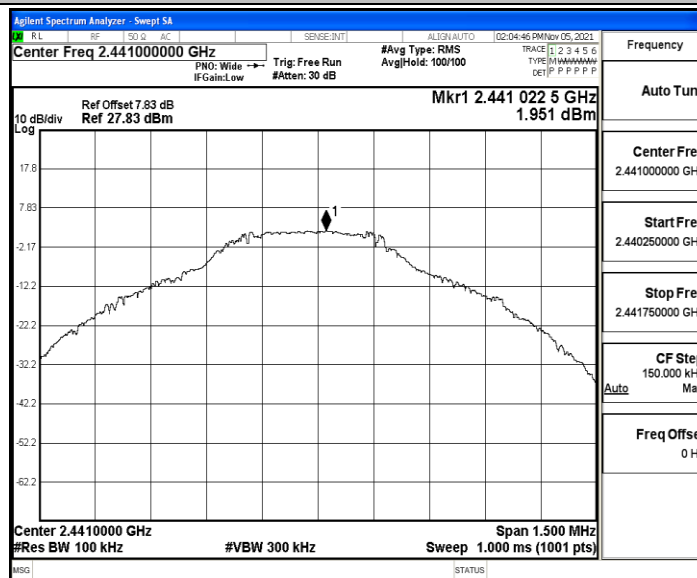
DH5_Ant1_2402_30~1000



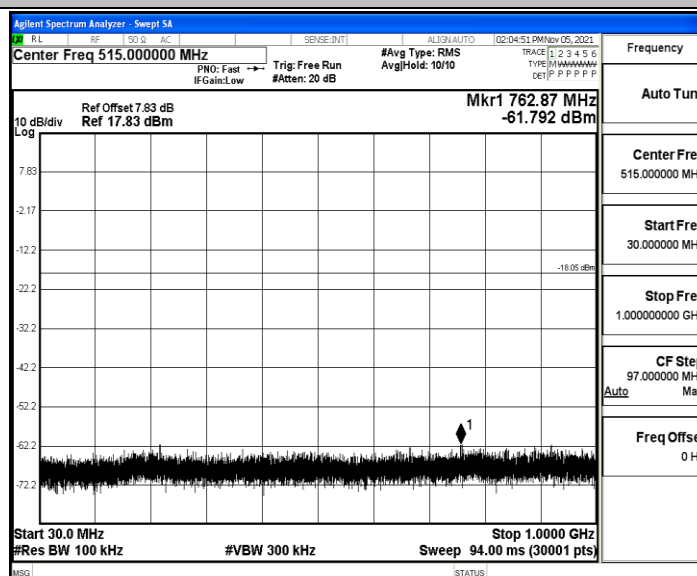
DH5_Ant1_2402_1000~26500



DH5_Ant1_2441_0~Reference

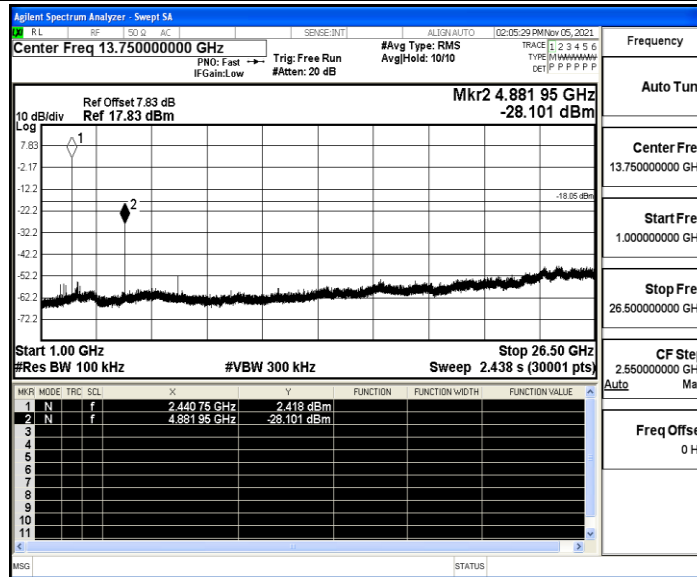


DH5_Ant1_2441_30~1000

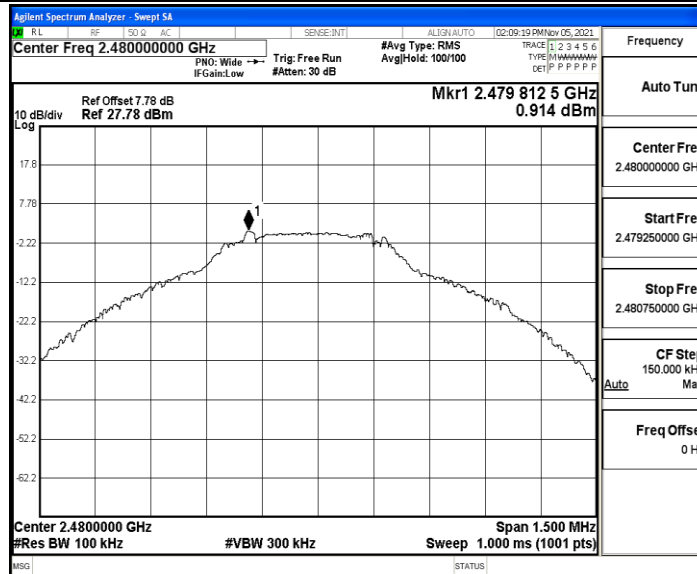




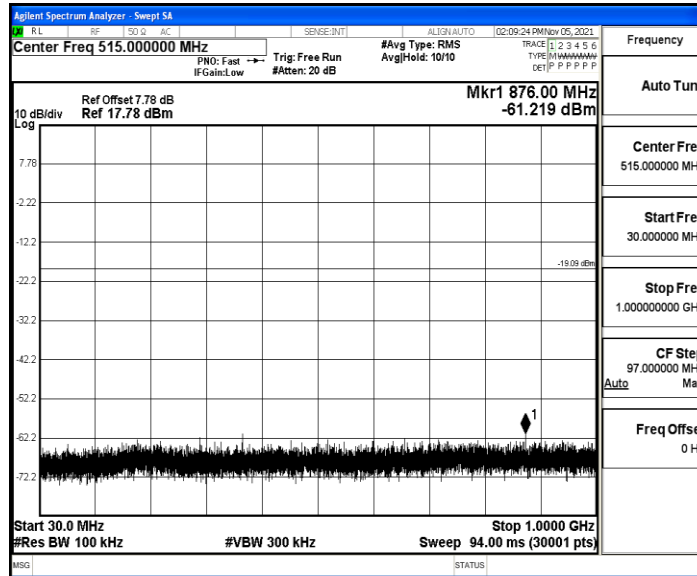
DH5_Ant1_2441_1000~26500



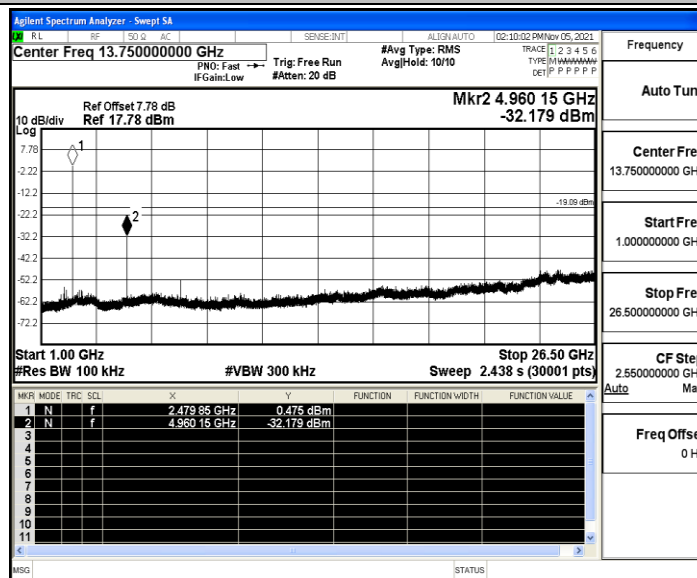
DH5_Ant1_2480_0~Reference



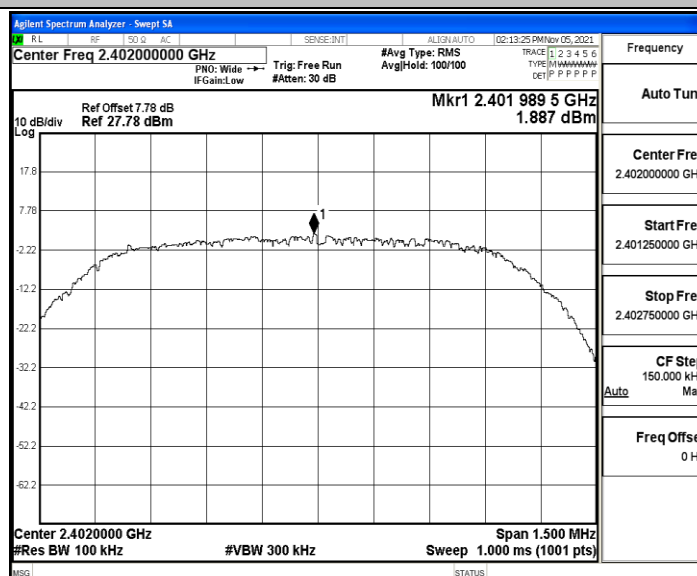
DH5_Ant1_2480_30~1000



DH5_Ant1_2480_1000~26500

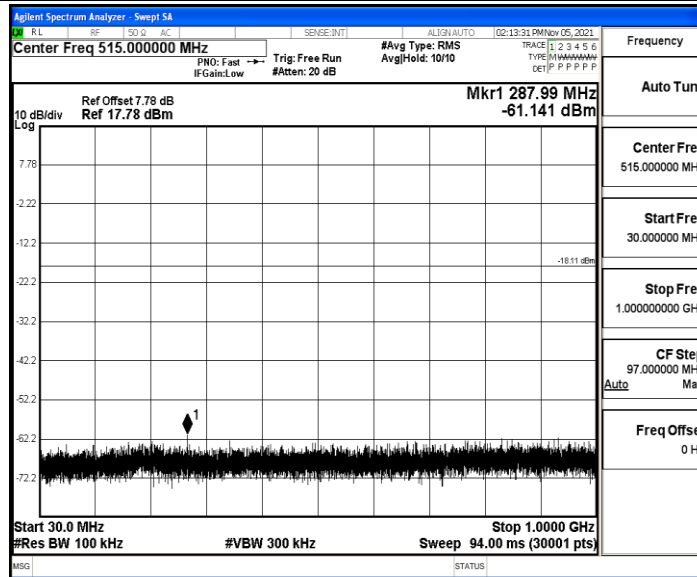


2DH5_Ant1_2402_0~Reference

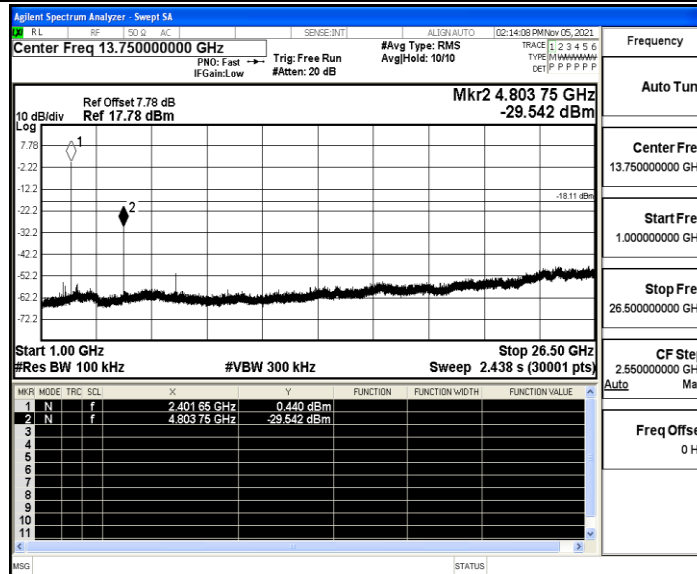




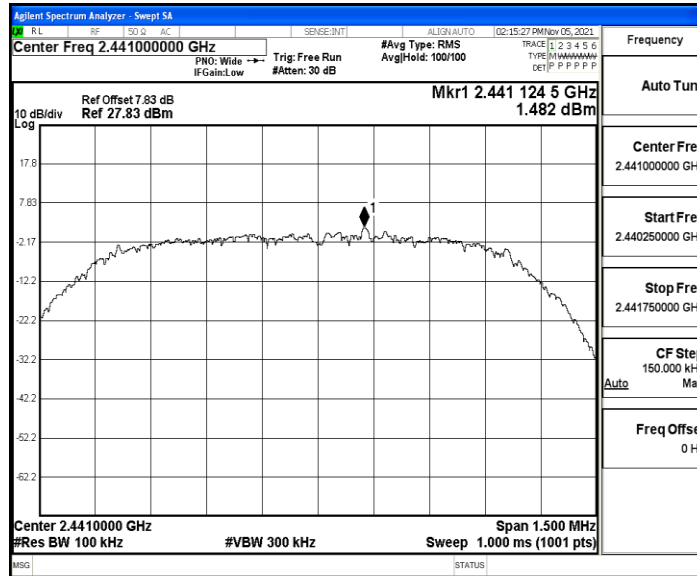
2DH5_Ant1_2402_30~1000



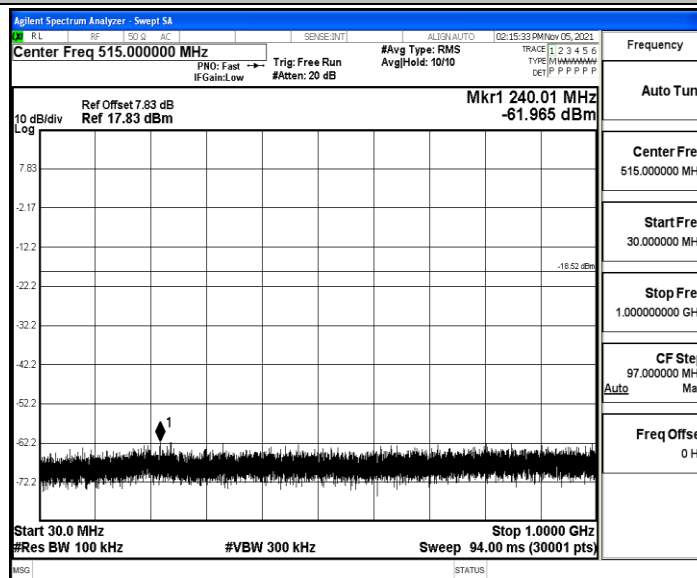
2DH5_Ant1_2402_1000~26500



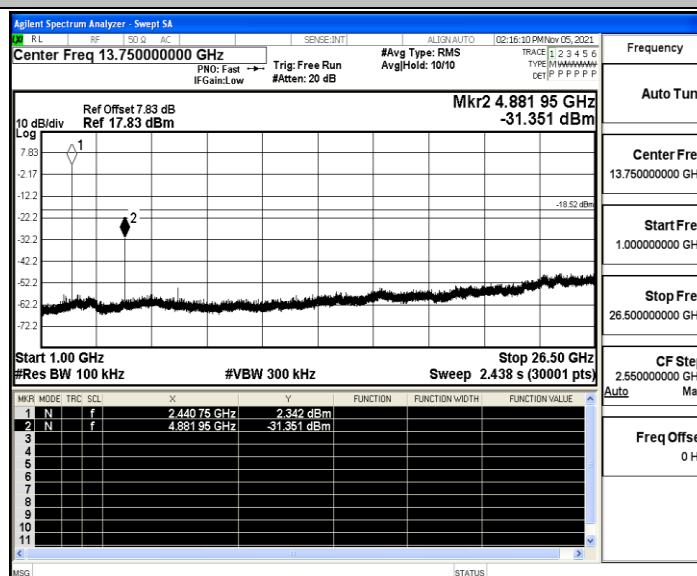
2DH5_Ant1_2441_0~Reference



2DH5_Ant1_2441_30~1000

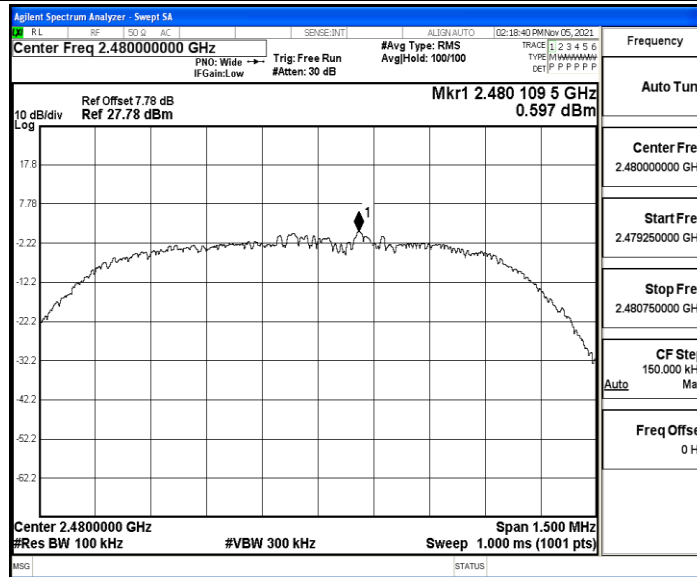


2DH5_Ant1_2441_1000~26500

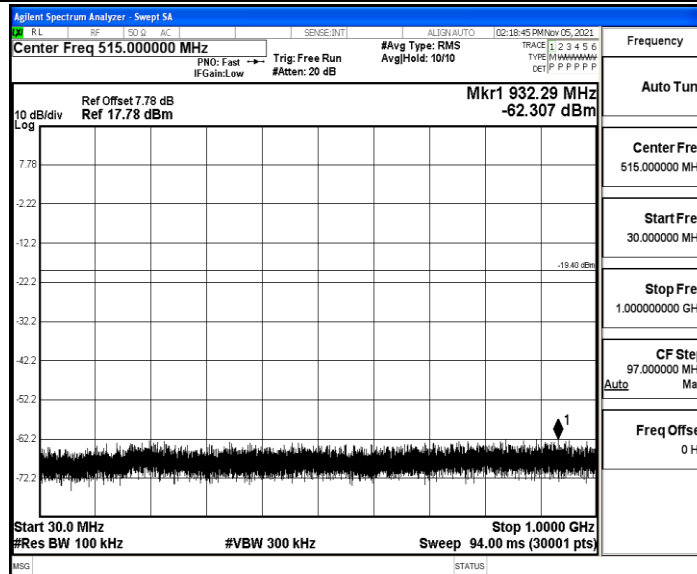




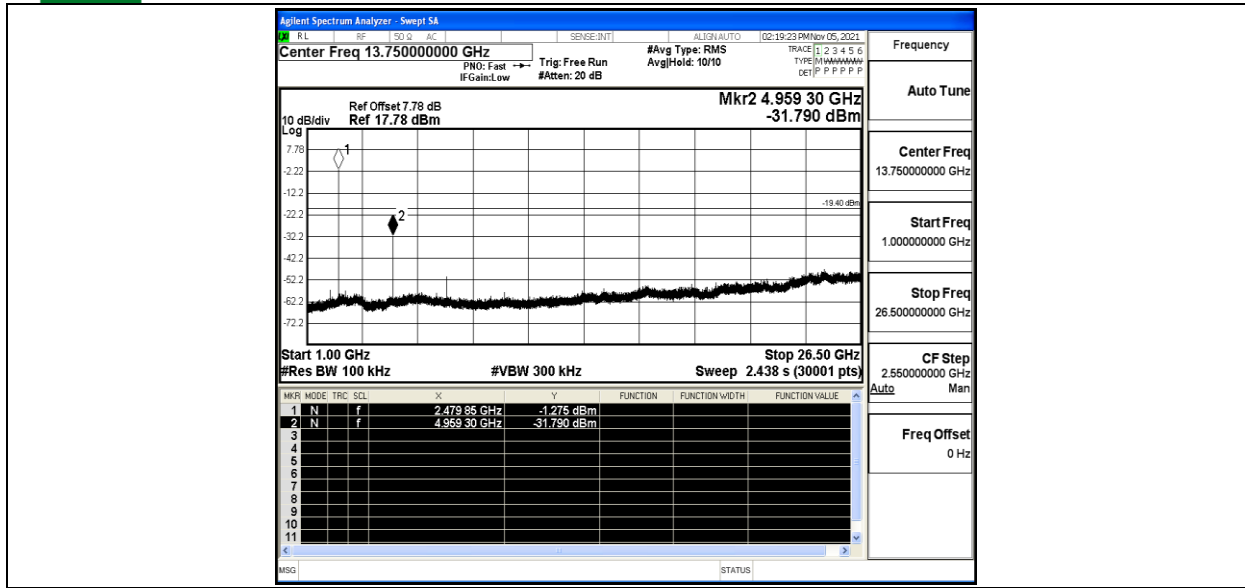
2DH5_Ant1_2480_0~Reference



2DH5_Ant1_2480_30~1000



2DH5_Ant1_2480_1000~26500





A.8 Emissions in Restricted Bands

Test Result

TestMode	Channel	Detector	Freq. [MHz]	Result [dBm]	Limit [dBm]	Result [dBuV/m]	Limit [dBuV/m]	Verdict
DH5	2402	AV	2310.000	-49.09	≤-41.20	46.11	≤54	PASS
		AV	2385.575	-48.55	≤-41.20	46.65	≤54	PASS
		AV	2390.000	-48.83	≤-41.20	46.37	≤54	PASS
		Peak	2310.000	-42.52	≤-21.20	52.68	≤74	PASS
		Peak	2321.105	-39.39	≤-21.20	55.81	≤74	PASS
		Peak	2390.000	-42.3	≤-21.20	52.90	≤74	PASS
	2480	AV	2483.500	-47.86	≤-41.20	47.34	≤54	PASS
		AV	2483.600	-47.84	≤-41.20	47.36	≤54	PASS
		AV	2500.000	-48.08	≤-41.20	47.12	≤54	PASS
		Peak	2483.500	-41.17	≤-21.20	54.03	≤74	PASS
		Peak	2496.800	-38.72	≤-21.20	56.48	≤74	PASS
		Peak	2500.000	-41.58	≤-21.20	53.62	≤74	PASS
	Hop_24 02	Peak	2310.000	-39.34	≤-21.20	55.86	≤74	PASS
		Peak	2379.590	-38.02	≤-21.20	57.18	≤74	PASS
		Peak	2390.000	-40.55	≤-21.20	54.65	≤74	PASS
	Hop_24 80	Peak	2483.500	-40.15	≤-21.20	55.05	≤74	PASS
		Peak	2485.360	-37.01	≤-21.20	58.19	≤74	PASS
		Peak	2500.000	-39.94	≤-21.20	55.26	≤74	PASS
2DH5	2402	AV	2310.000	-49.12	≤-41.20	46.08	≤54	PASS
		AV	2370.140	-48.54	≤-41.20	46.66	≤54	PASS
		AV	2390.000	-48.57	≤-41.20	46.63	≤54	PASS
		Peak	2310.000	-41.14	≤-21.20	54.06	≤74	PASS
		Peak	2348.720	-38.57	≤-21.20	56.63	≤74	PASS
		Peak	2390.000	-42	≤-21.20	53.20	≤74	PASS
	2480	AV	2483.500	-47.44	≤-41.20	47.76	≤54	PASS
		AV	2483.520	-47.44	≤-41.20	47.76	≤54	PASS
		AV	2500.000	-48.03	≤-41.20	47.17	≤54	PASS
		Peak	2483.500	-42.07	≤-21.20	53.13	≤74	PASS
		Peak	2494.640	-37.65	≤-21.20	57.55	≤74	PASS
		Peak	2500.000	-41.47	≤-21.20	53.73	≤74	PASS
	Hop_24 02	Peak	2310.000	-40.88	≤-21.20	54.32	≤74	PASS
		Peak	2362.685	-38.42	≤-21.20	56.78	≤74	PASS
		Peak	2390.000	-39.85	≤-21.20	55.35	≤74	PASS
	Hop_24	Peak	2483.500	-40.63	≤-21.20	54.57	≤74	PASS



	80	Peak	2491.440	-37.84	≤ -21.20	57.36	≤ 74	PASS
		Peak	2500.000	-39.23	≤ -21.20	55.97	≤ 74	PASS

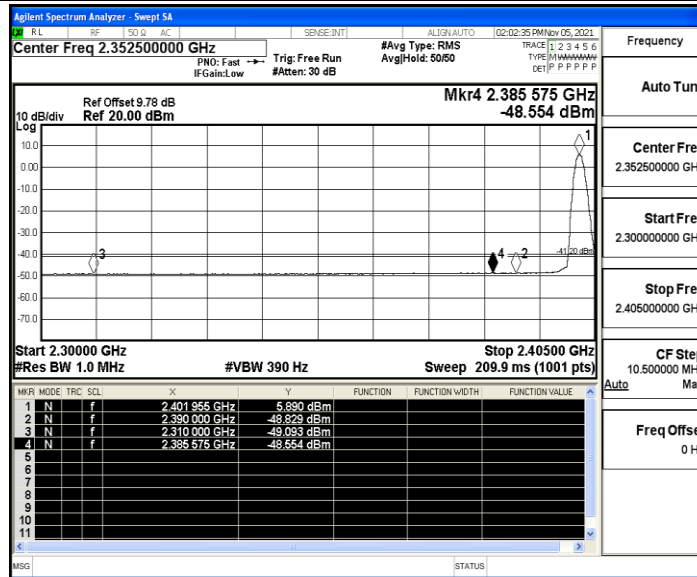
Note:

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.

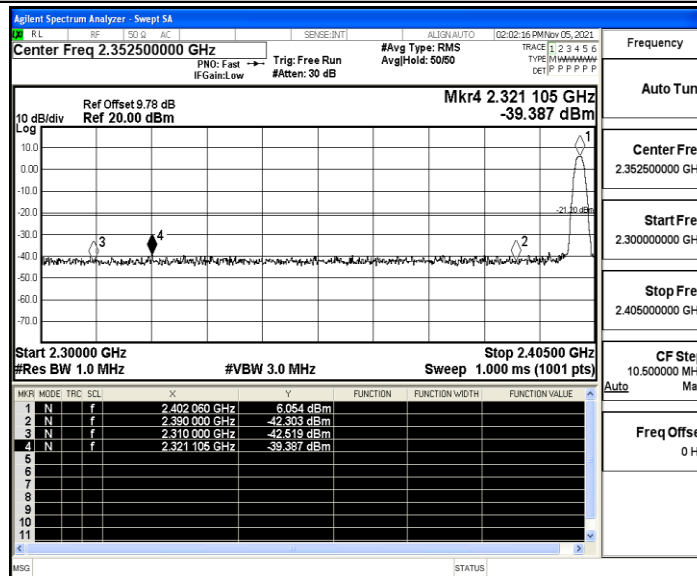


Test Graphs

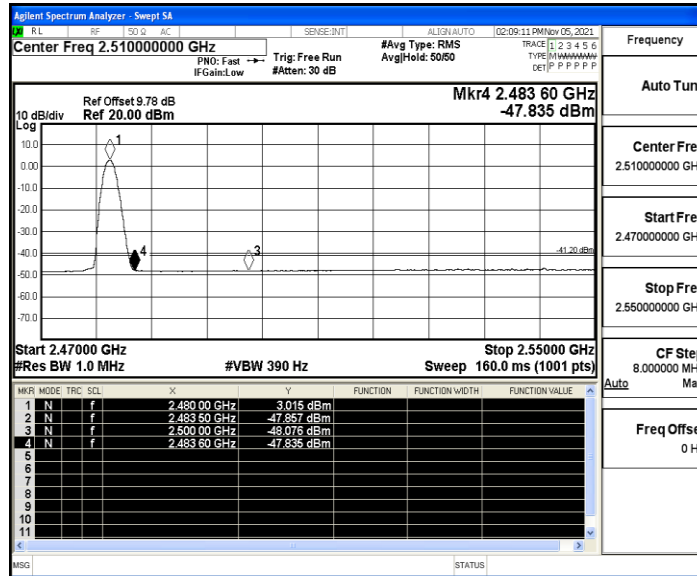
DH5_Ant1_Low_2402_AV



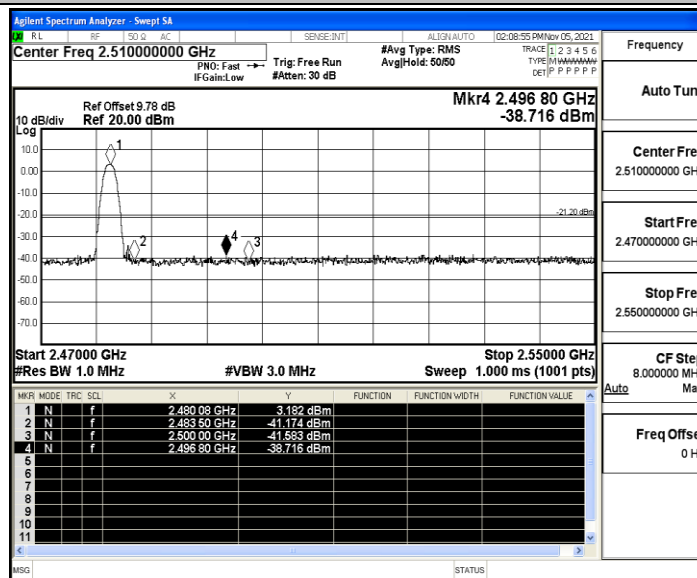
DH5_Ant1_Low_2402_Peak



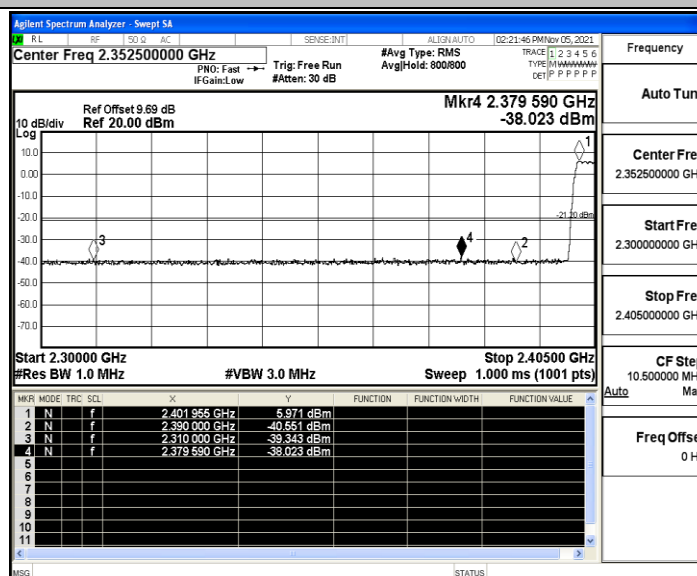
DH5_Ant1_High_2480_AV



DH5_Ant1_High_2480_Peak

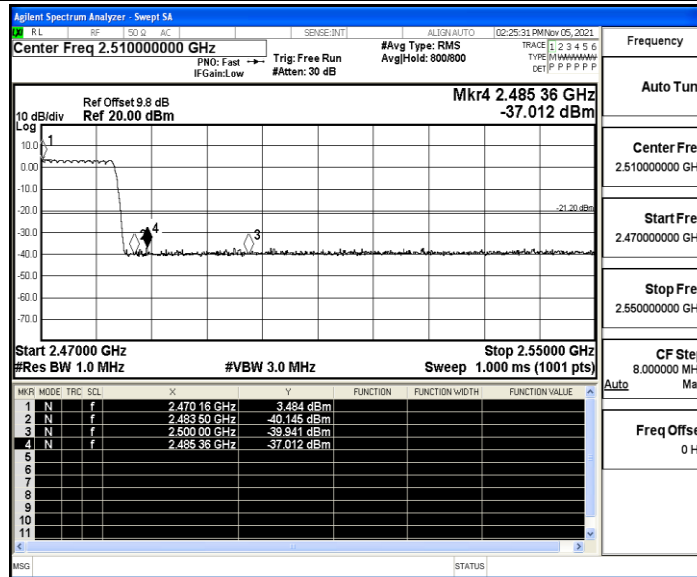


DH5_Ant1_Low_Hop_2402_Peak

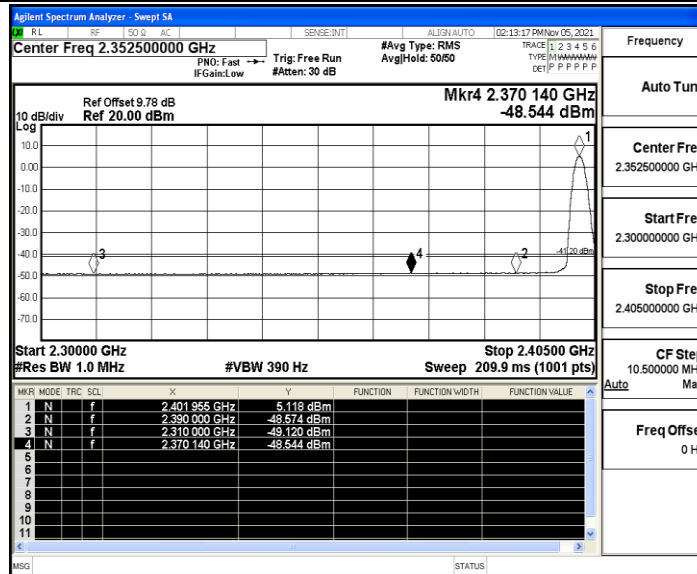




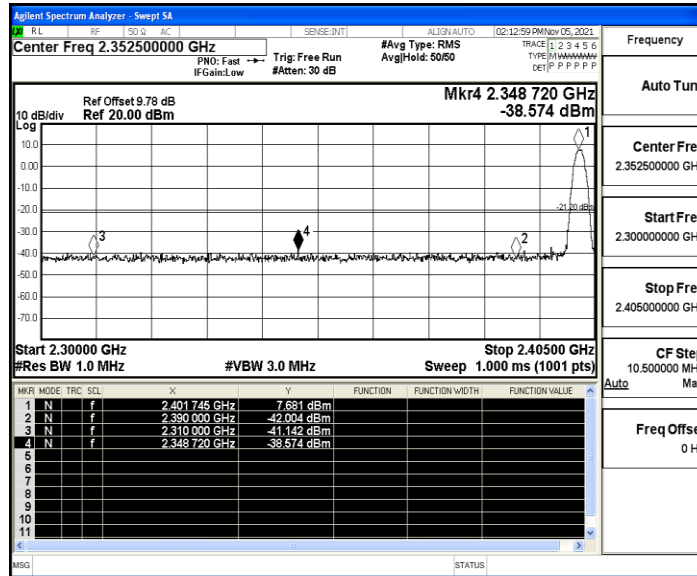
DH5_Ant1_High_Hop_2480_Peak



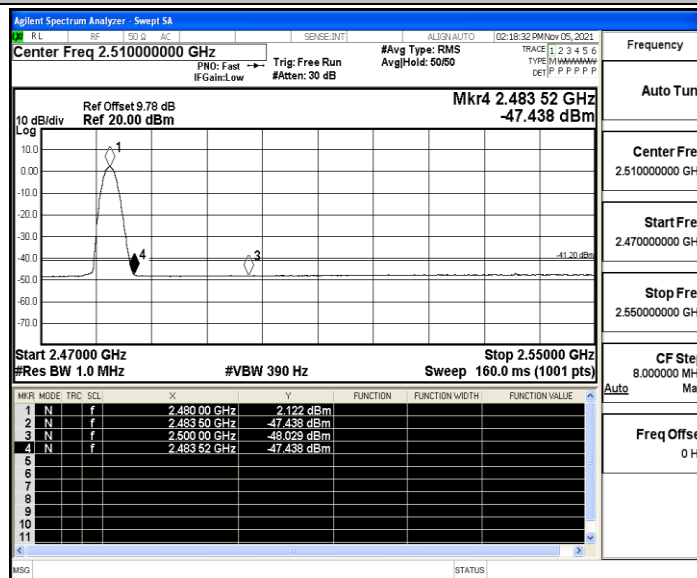
2DH5_Ant1_Low_2402_AV



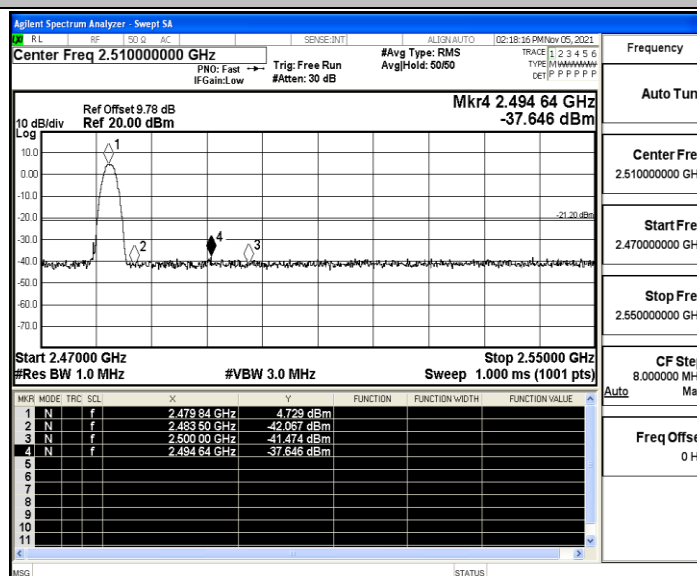
2DH5_Ant1_Low_2402_Peak



2DH5_Ant1_High_2480_AV

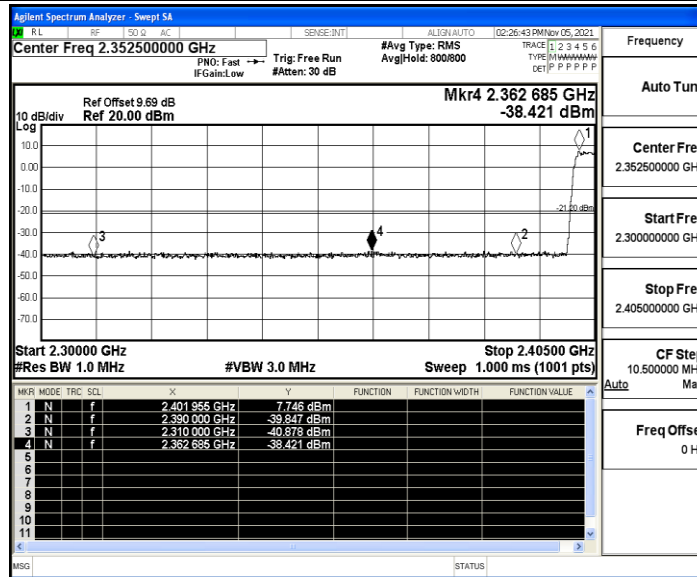


2DH5_Ant1_High_2480_Peak





2DH5_Ant1_Low_Hop_2402_Peak



2DH5_Ant1_High_Hop_2480_Peak

