



Appendix A

RF Test Data for BT V5.0(DSS) (Conducted Measurement)

Product Name: True Wireless Stereo Speaker

Test Model: HSP-40

Environmental Conditions

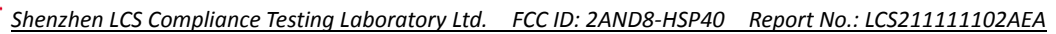
Temperature:	21.1℃
Relative Humidity:	52.2%
ATM Pressure:	100.0 kPa
Test Engineer:	Ling. Zhu
Supervised by:	Lihua



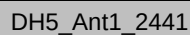
A.1 20dB Emission Bandwidth

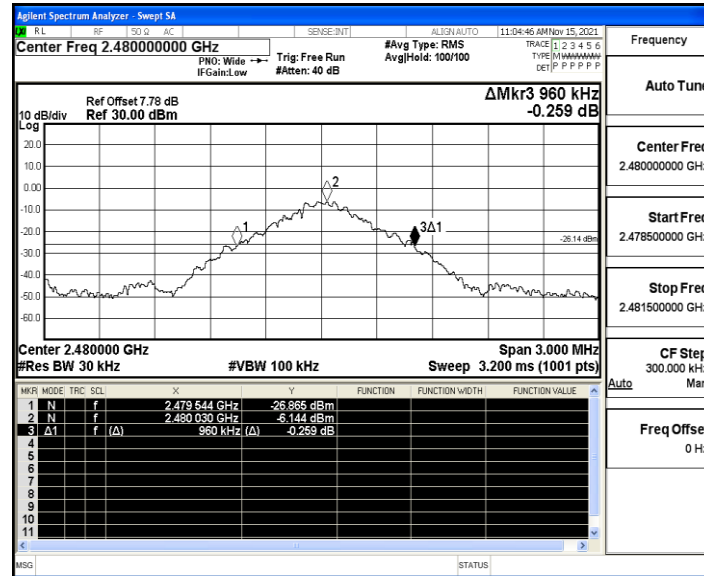
Test Result

TestMode	Antenna	Channel	20db EBW[MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
DH5	Ant1	2402	0.957	2401.547	2402.504	---	PASS
		2441	0.960	2440.547	2441.507	---	PASS
		2480	0.960	2479.544	2480.504	---	PASS
2DH5	Ant1	2402	1.332	2401.343	2402.675	---	PASS
		2441	1.323	2440.349	2441.672	---	PASS
		2480	1.371	2479.331	2480.702	---	PASS

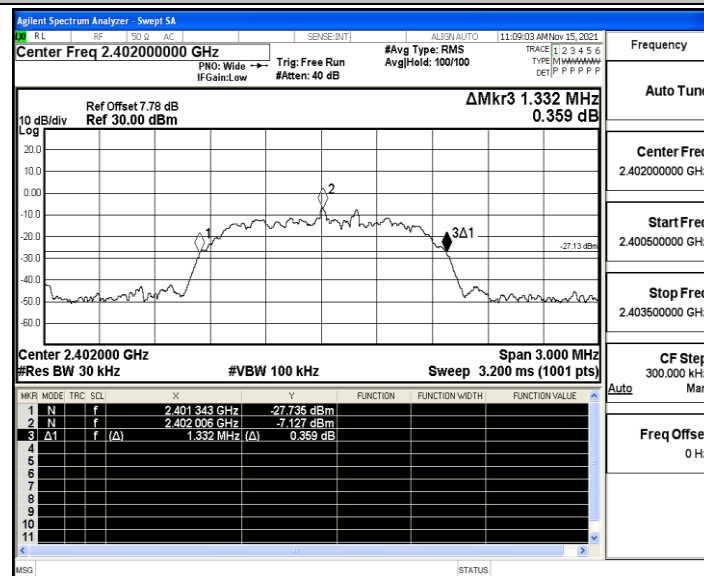


DH5_Ant1_2402

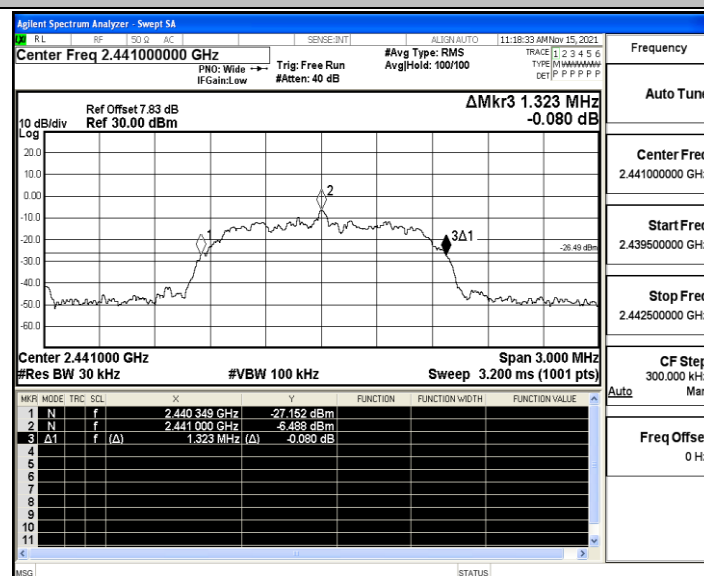




2DH5_Ant1_2402

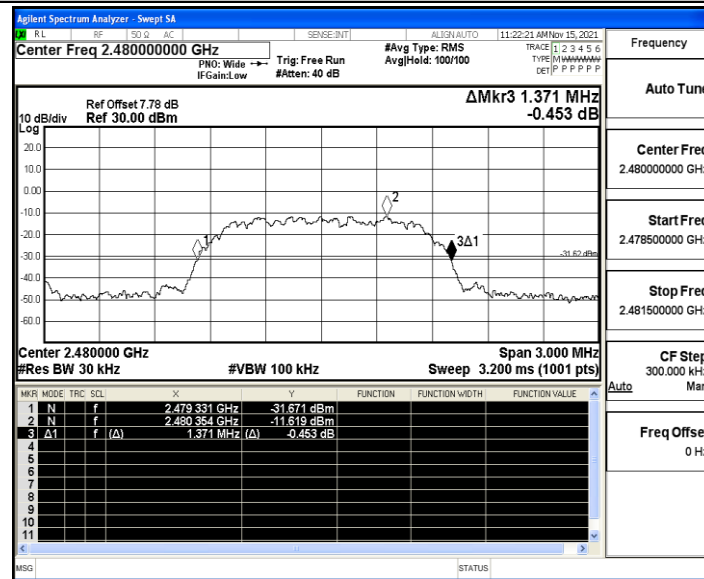


2DH5_Ant1_2441





2DH5_Ant1_2480





A.2 Maximum conducted output power

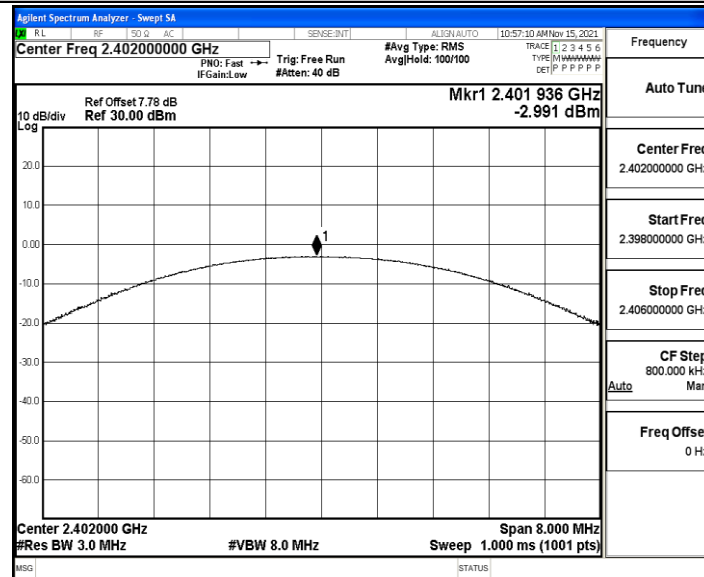
Test Result

TestMode	Antenna	Channel	Result[dBm]	Limit[dBm]	Verdict
DH5	Ant1	2402	-2.99	≤ 20.97	PASS
		2441	-2.85	≤ 20.97	PASS
		2480	-3.14	≤ 20.97	PASS
2DH5	Ant1	2402	-2.29	≤ 20.97	PASS
		2441	-2.22	≤ 20.97	PASS
		2480	-2.33	≤ 20.97	PASS

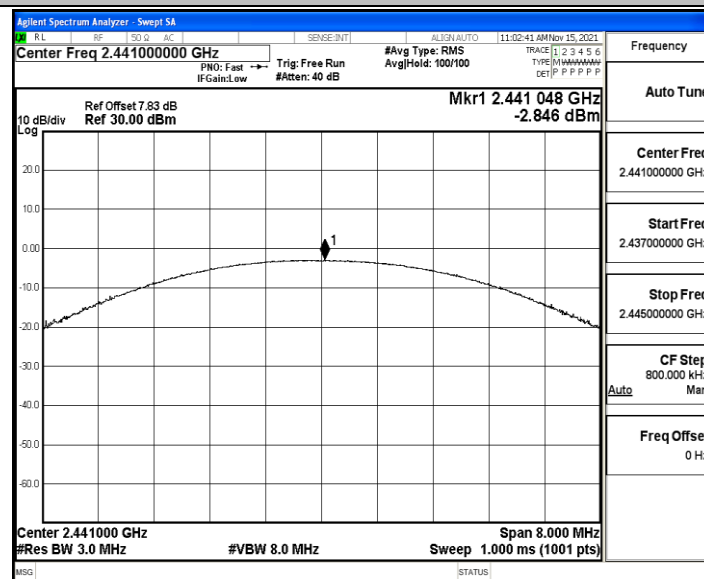


Test Graphs

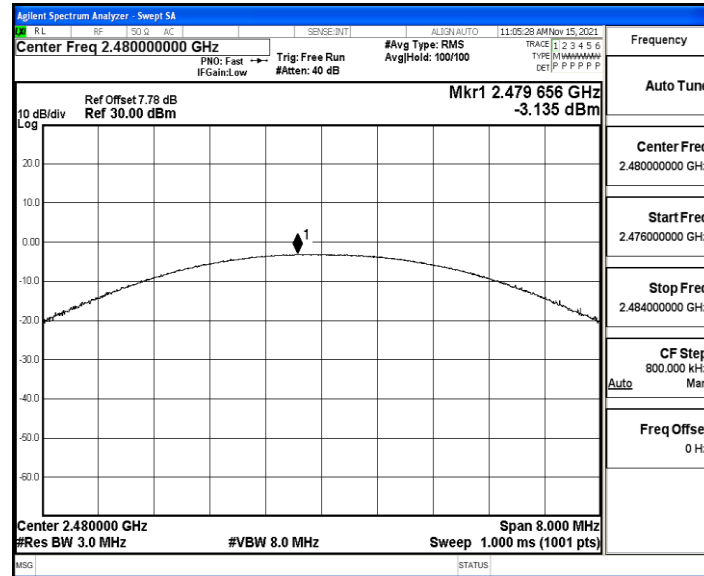
DH5_Ant1_2402



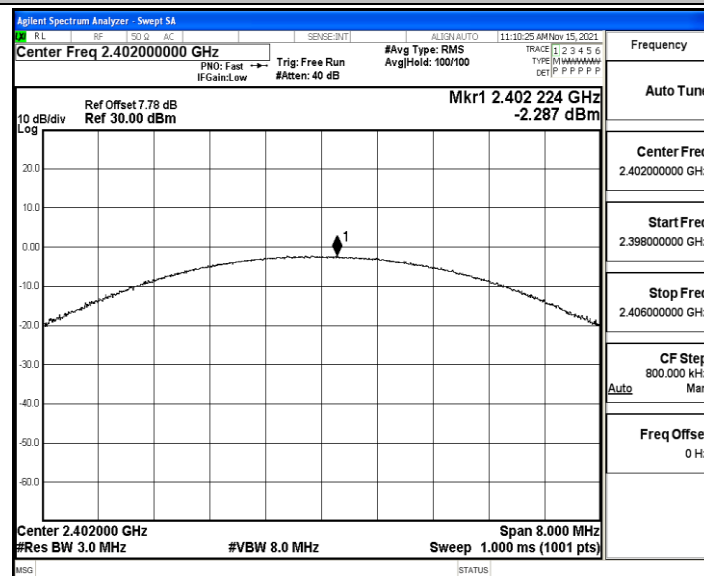
DH5_Ant1_2441



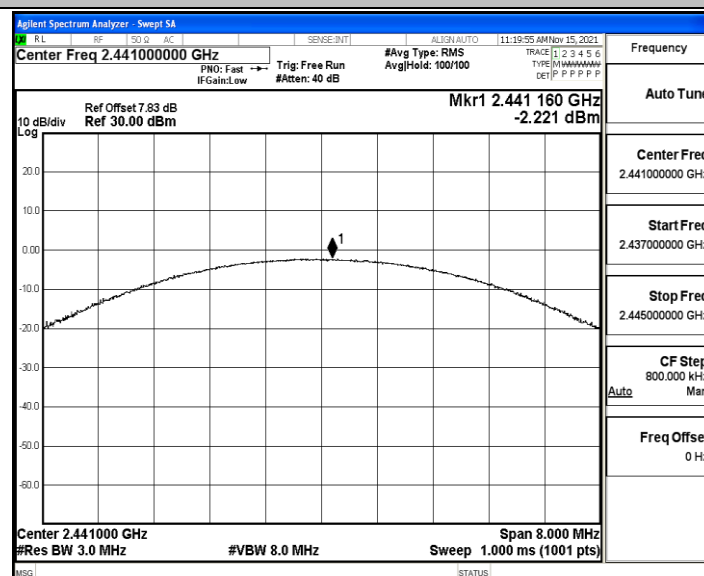
DH5_Ant1_2480



2DH5_Ant1_2402

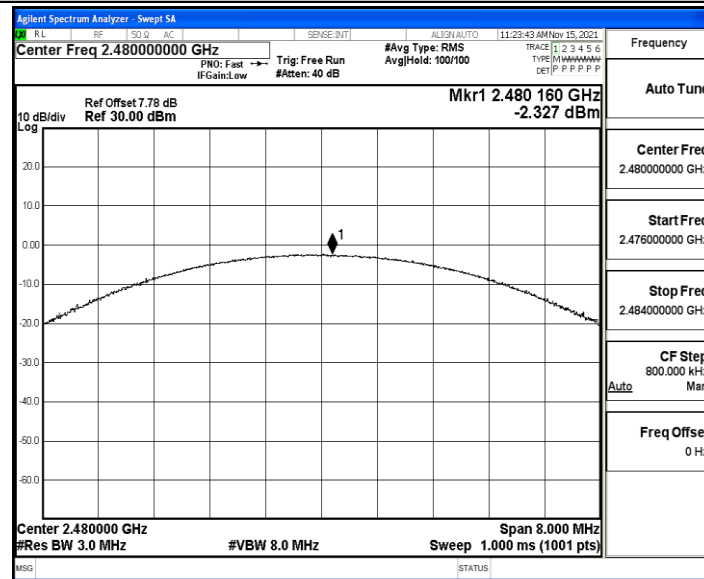


2DH5_Ant1_2441





2DH5_Ant1_2480



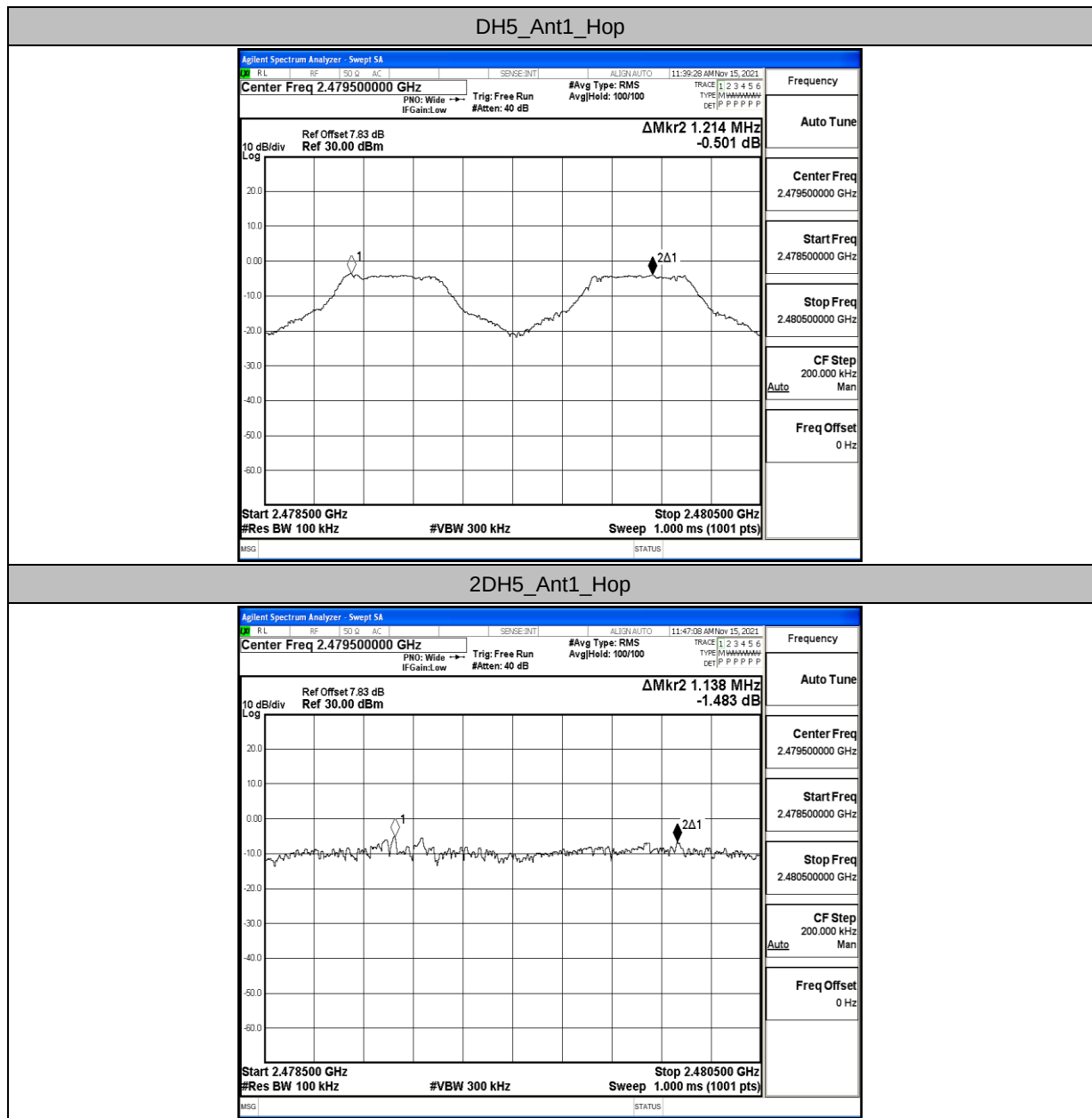


A.3 Carrier frequency separation

Test Result

TestMode	Antenna	Channel	Result[MHz]	Limit[MHz]	Verdict
DH5	Ant1	Hop	1.214	≥0.960	PASS
2DH5	Ant1	Hop	1.138	≥0.914	PASS

Test Graphs



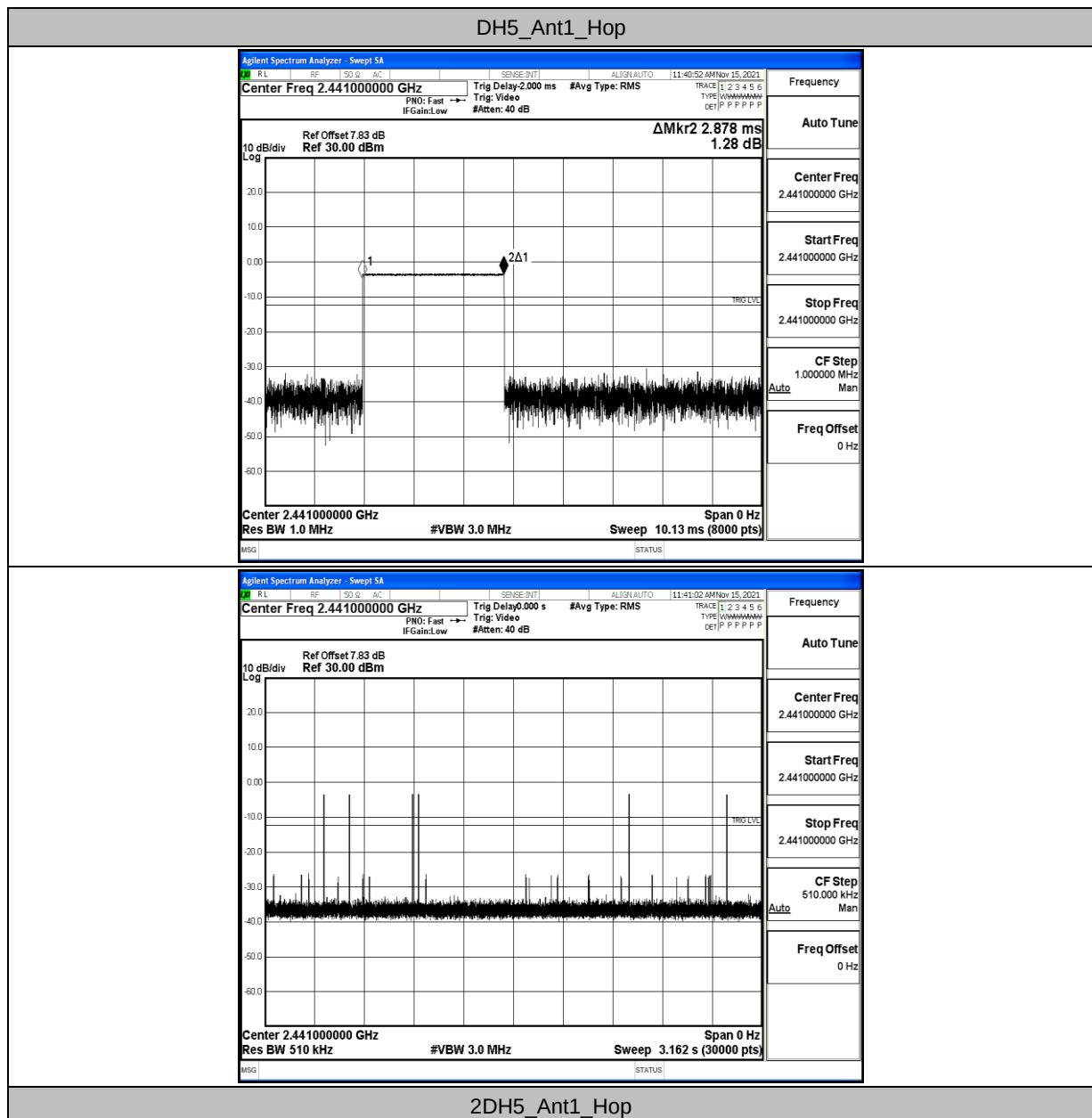


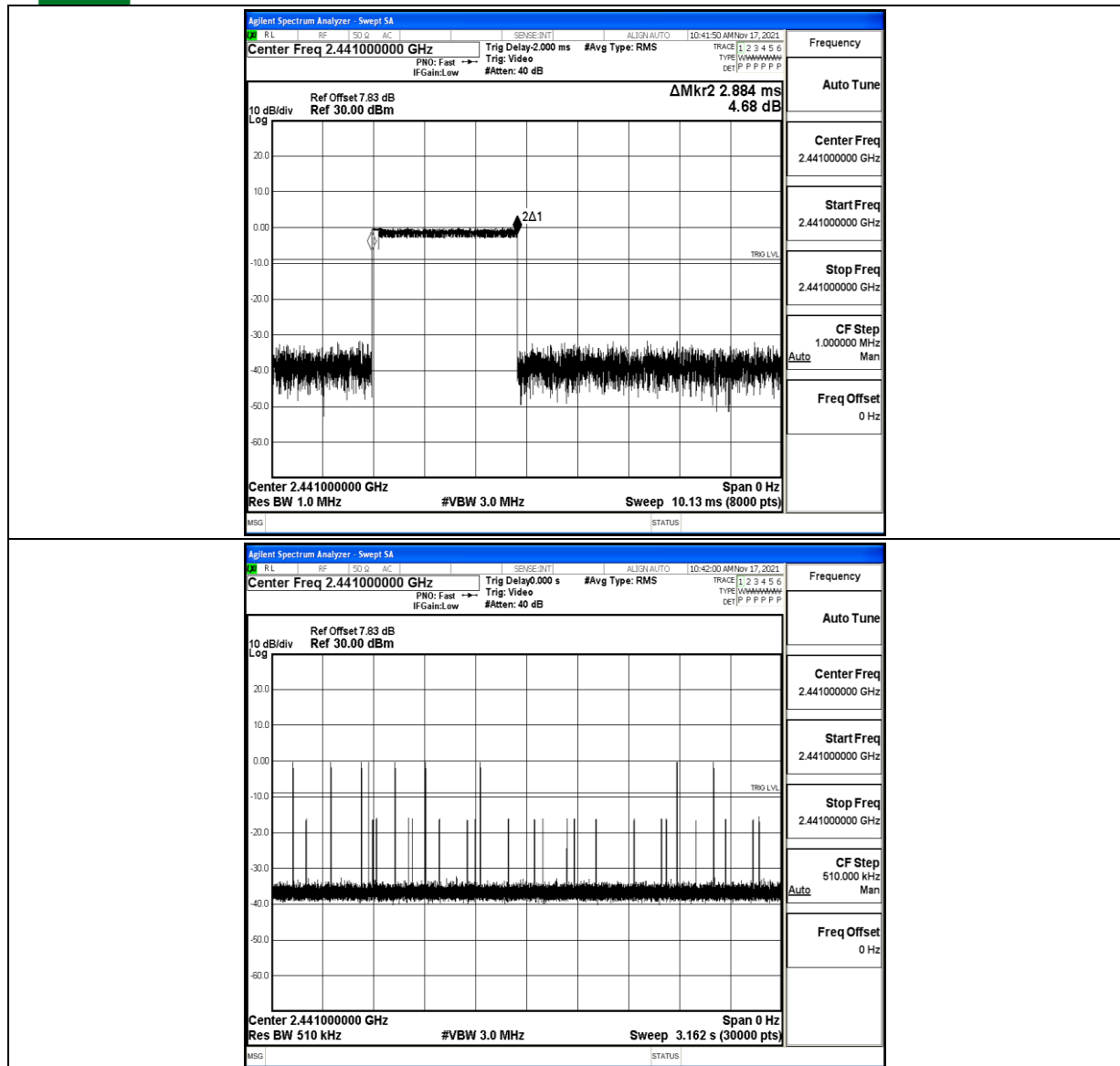
A.4 Time of occupancy

Test Result

TestMode	Antenna	Channel	BurstWidth [ms]	TotalHops [Num]	Result[s]	Limit[s]	Verdict
DH5	Ant1	Hop	2.88	70	0.201	≤0.4	PASS
2DH5	Ant1	Hop	2.88	100	0.288	≤0.4	PASS

Test Graphs





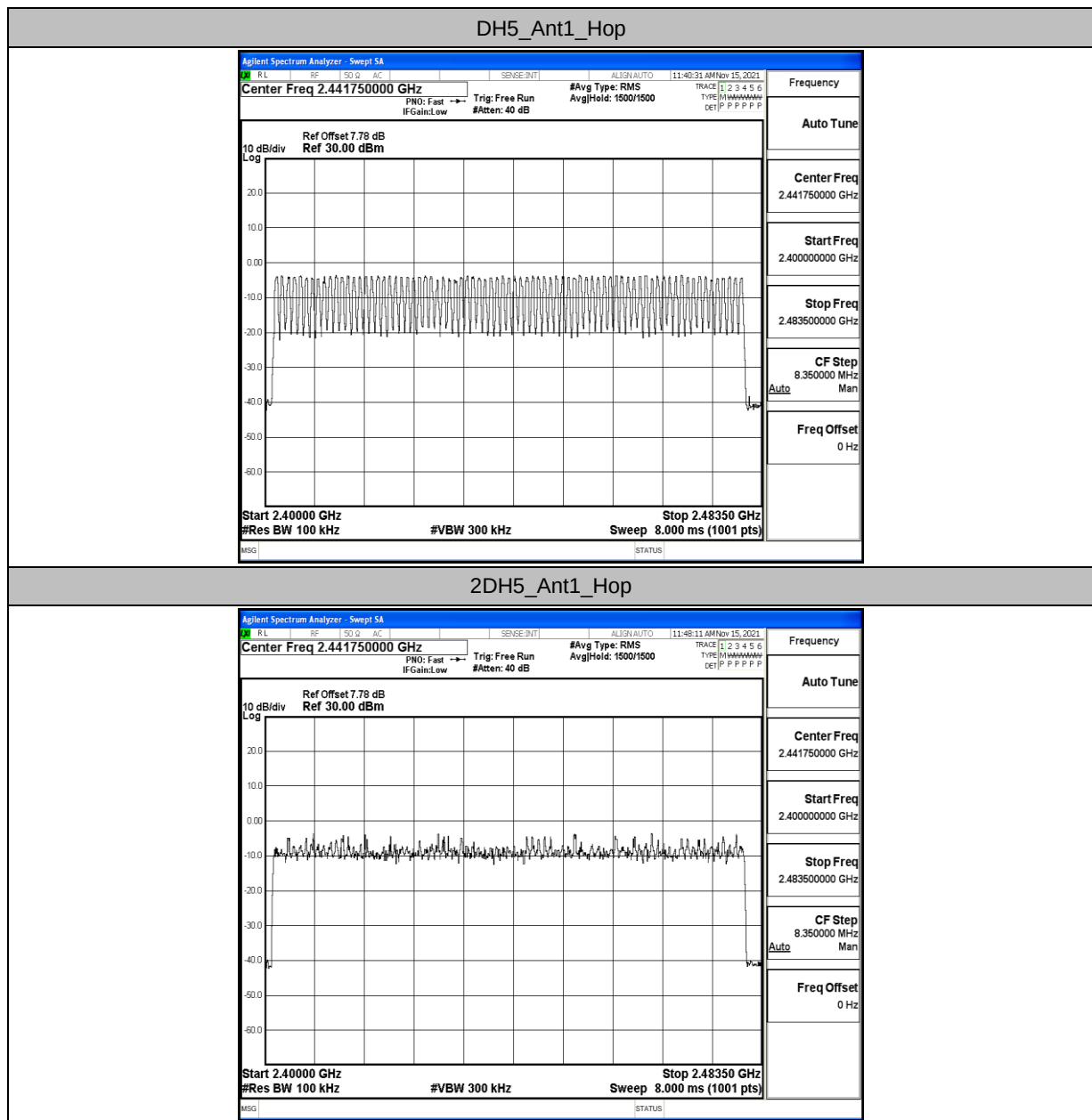


A.5 Number of hopping channels

Test Result

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

Test Graphs



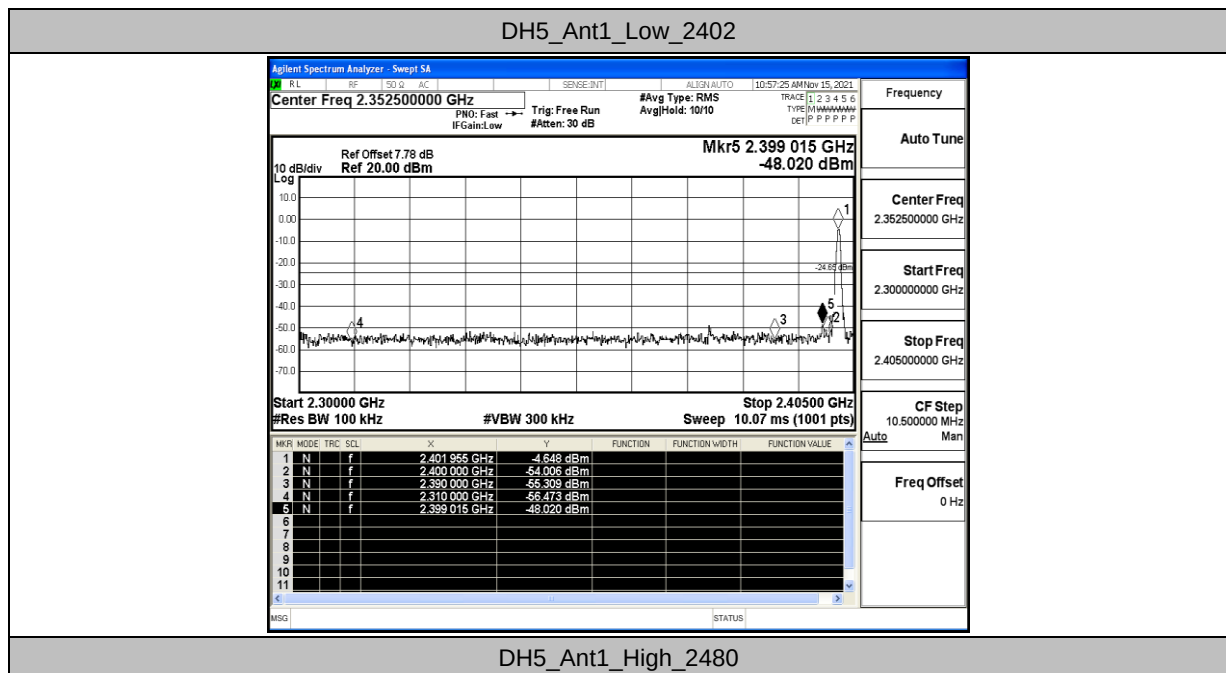


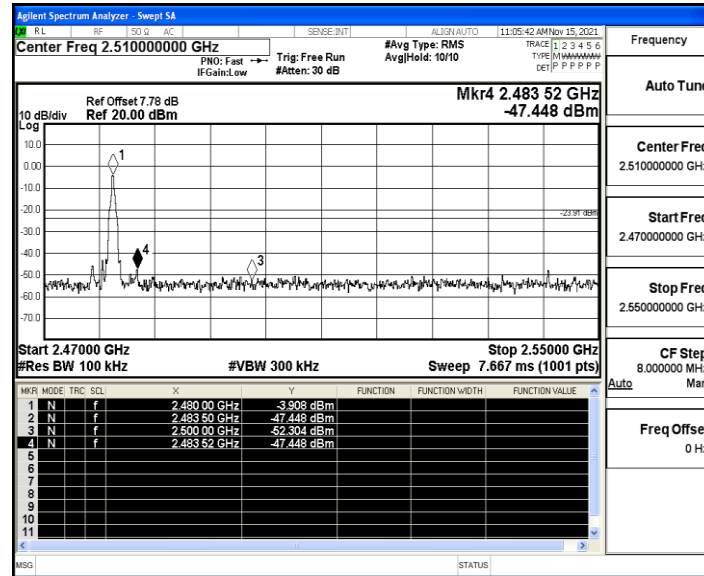
A.6 Band edge measurements

Test Result

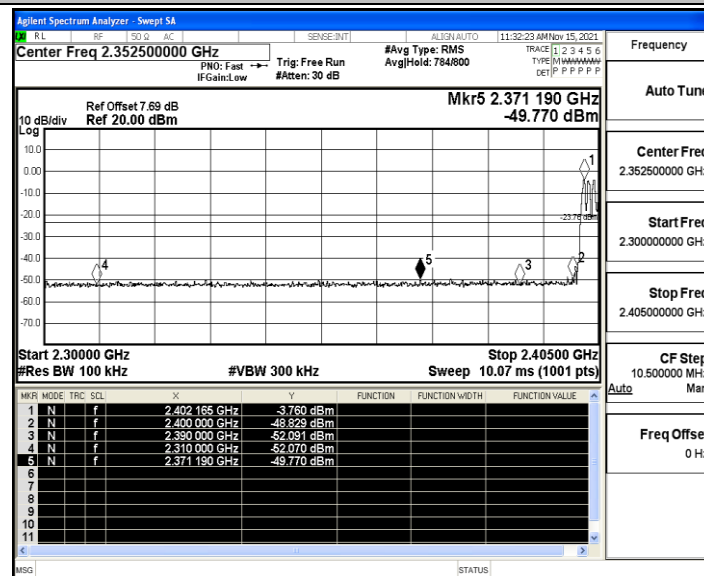
TestMode	Antenna	ChName	Channel	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
DH5	Ant1	Low	2402	-4.65	-48.02	≤-24.65	PASS
		High	2480	-3.91	-47.45	≤-23.91	PASS
		Low	Hop_2402	-3.76	-49.77	≤-23.76	PASS
		High	Hop_2480	-3.86	-47.76	≤-23.86	PASS
2DH5	Ant1	Low	2402	-8.94	-50.24	≤-28.94	PASS
		High	2480	-8.76	-49.35	≤-28.76	PASS
		Low	Hop_2402	-7.18	-49.38	≤-27.18	PASS
		High	Hop_2480	-3.87	-47.97	≤-23.87	PASS

Test Graphs

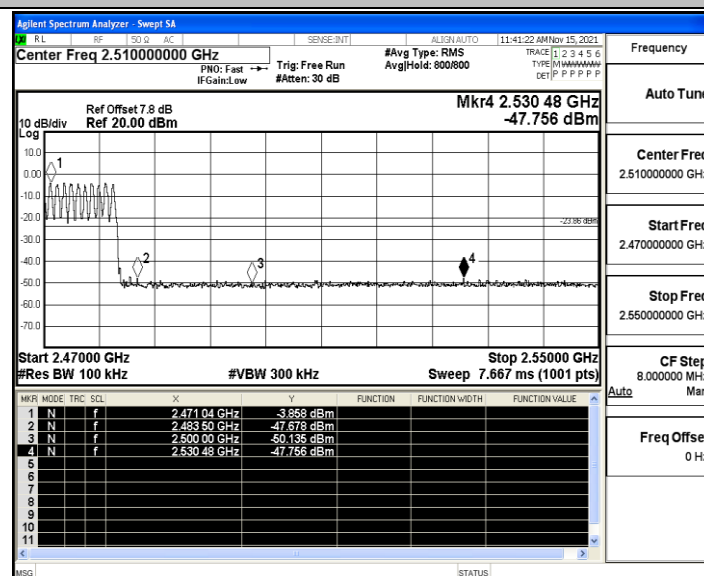




DH5_Ant1_Low_Hop_2402

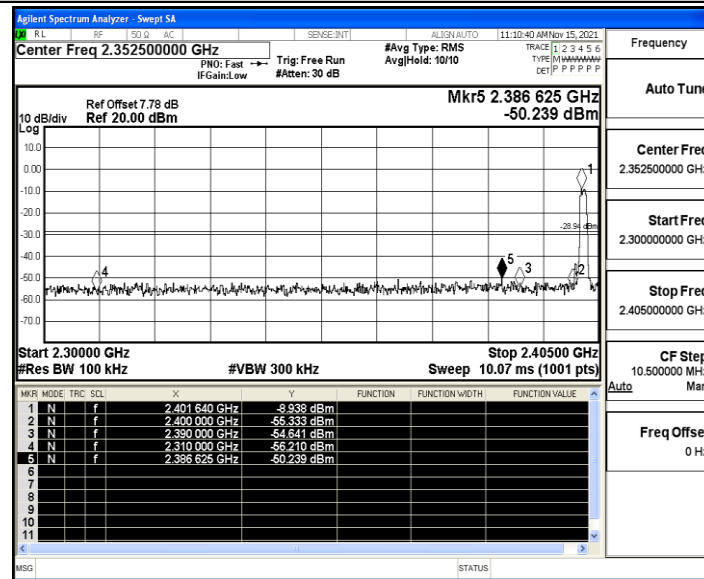


DH5_Ant1_High_Hop_2480

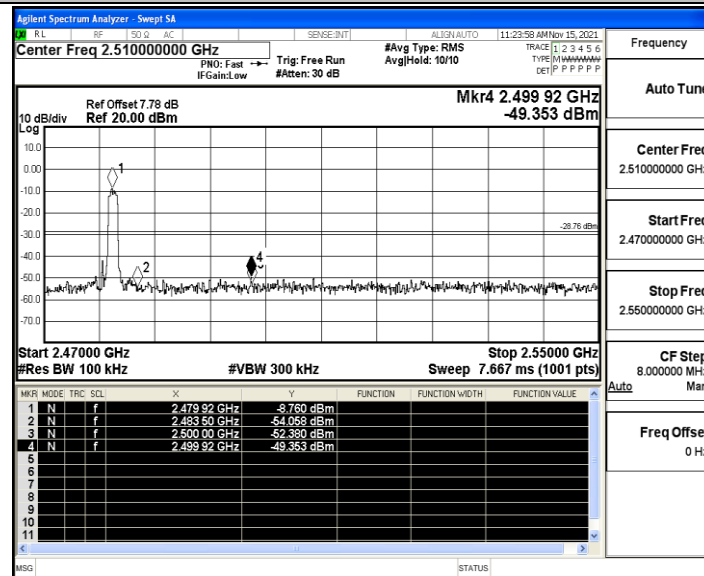




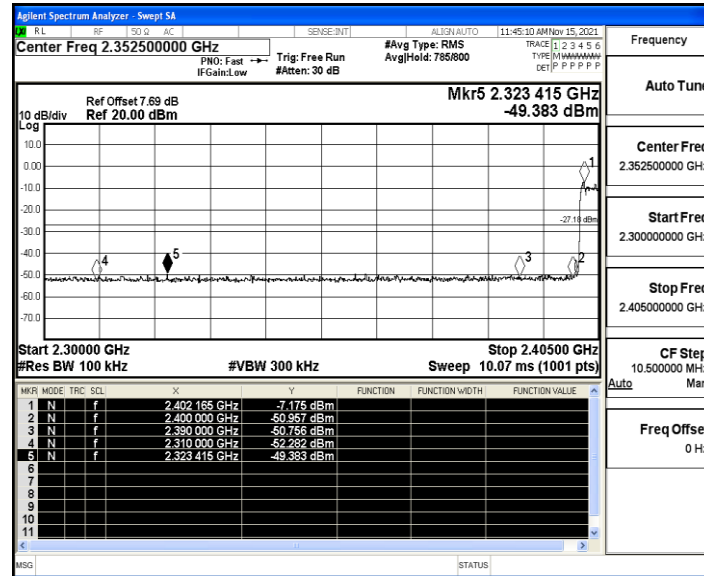
2DH5_Ant1_Low_2402



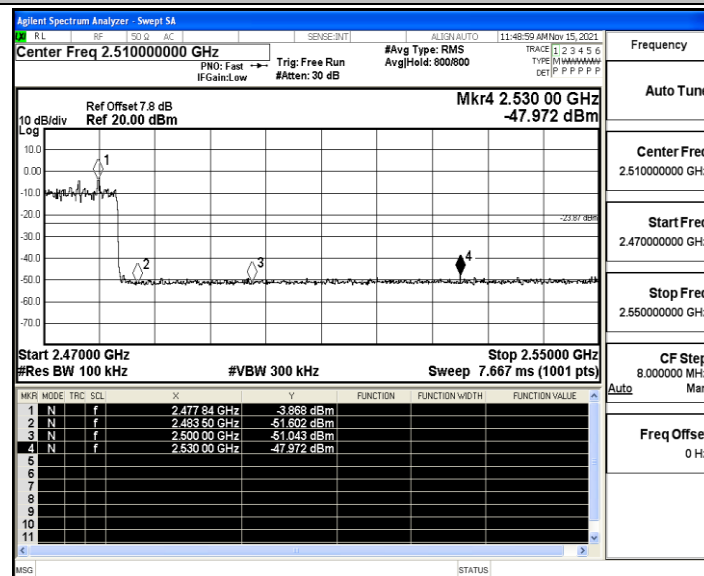
2DH5_Ant1_High_2480



2DH5_Ant1_Low_Hop_2402



2DH5_Ant1_High_Hop_2480





A.7 Conducted Spurious Emission

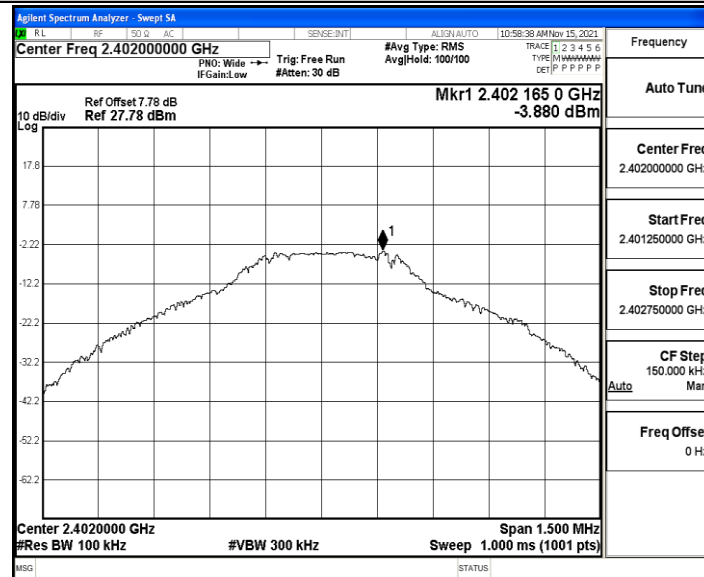
Test Result

TestMode	Channel	FreqRange [MHz]	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
DH5	2402	Reference	-3.88	-3.88	---	PASS
		30~1000	-3.88	-54.51	≤ -23.88	PASS
		1000~26500	-3.88	-46.52	≤ -23.88	PASS
	2441	Reference	-3.73	-3.73	---	PASS
		30~1000	-3.73	-53.51	≤ -23.73	PASS
		1000~26500	-3.73	-47.13	≤ -23.73	PASS
	2480	Reference	-4.21	-4.21	---	PASS
		30~1000	-4.21	-54.52	≤ -24.21	PASS
		1000~26500	-4.21	-43.86	≤ -24.21	PASS
2DH5	2402	Reference	-3.63	-3.63	---	PASS
		30~1000	-3.63	-56.14	≤ -23.63	PASS
		1000~26500	-3.63	-47.21	≤ -23.63	PASS
	2441	Reference	-3.68	-3.68	---	PASS
		30~1000	-3.68	-53.14	≤ -23.68	PASS
		1000~26500	-3.68	-46.98	≤ -23.68	PASS
	2480	Reference	-6.53	-6.53	---	PASS
		30~1000	-6.53	-55.31	≤ -26.53	PASS
		1000~26500	-6.53	-46.95	≤ -26.53	PASS

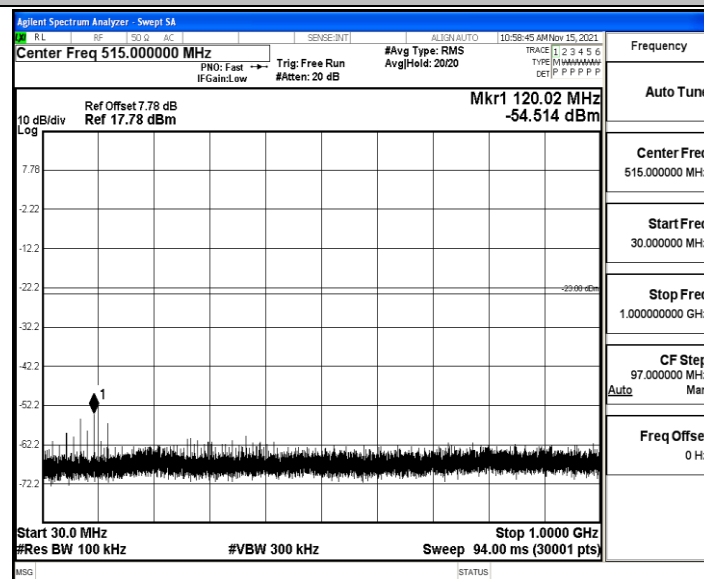


Test Graphs

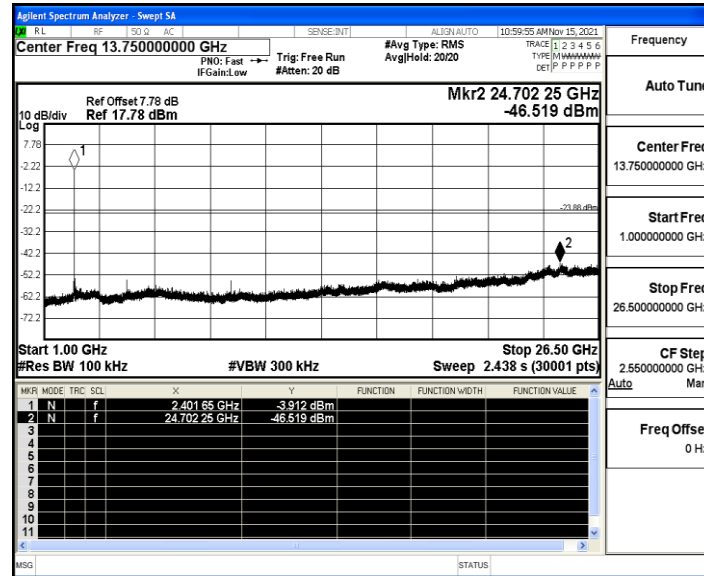
DH5_Ant1_2402_0~Reference



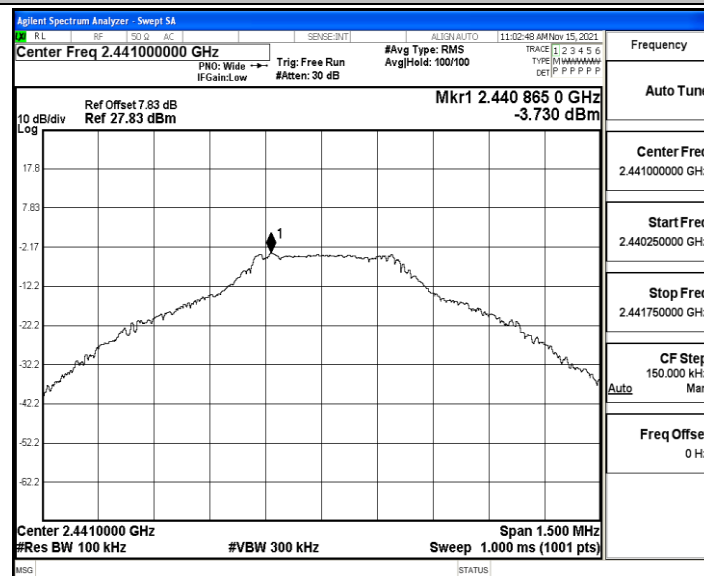
DH5_Ant1_2402_30~1000



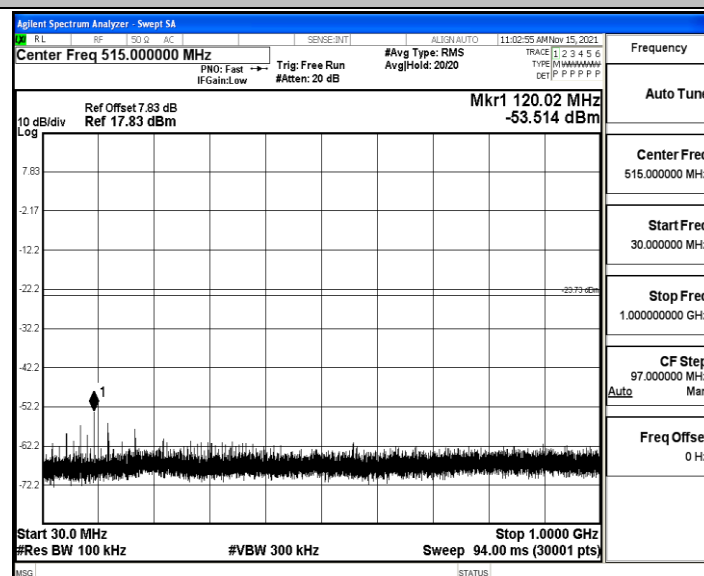
DH5_Ant1_2402_1000~26500



DH5_Ant1_2441_0~Reference

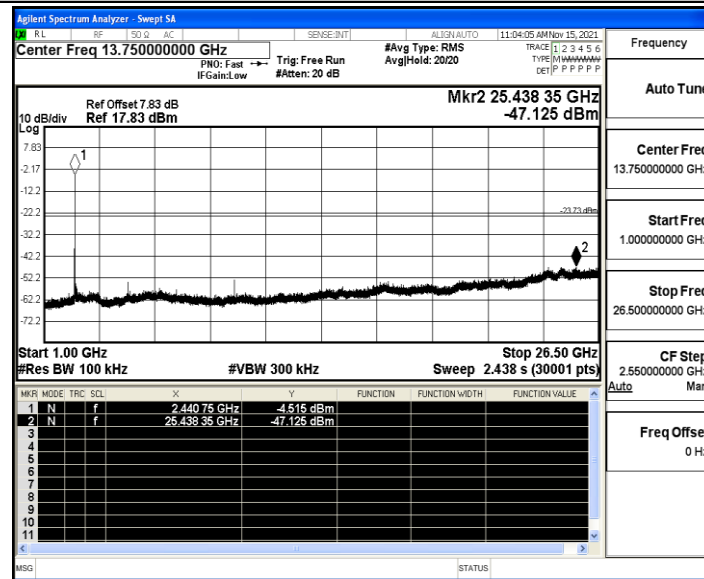


DH5_Ant1_2441_30~1000

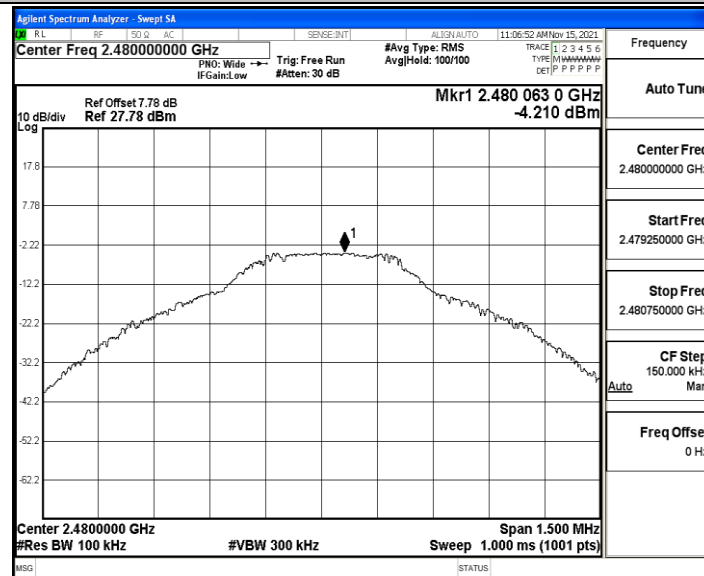




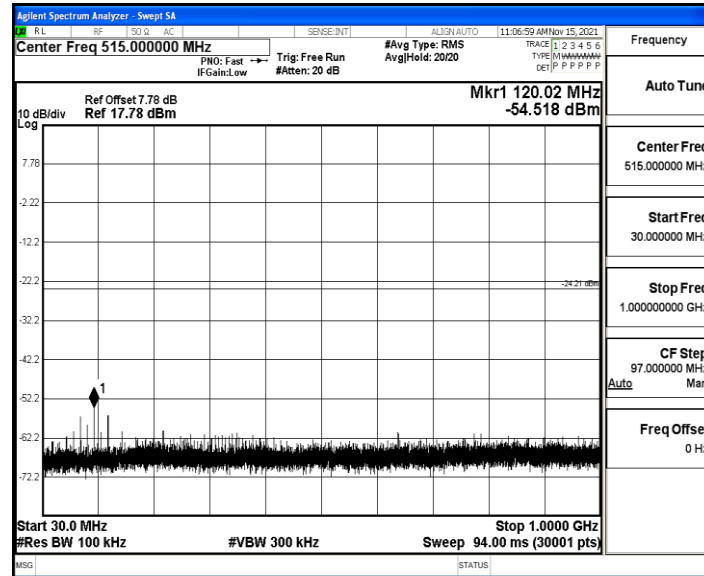
DH5_Ant1_2441_1000~26500



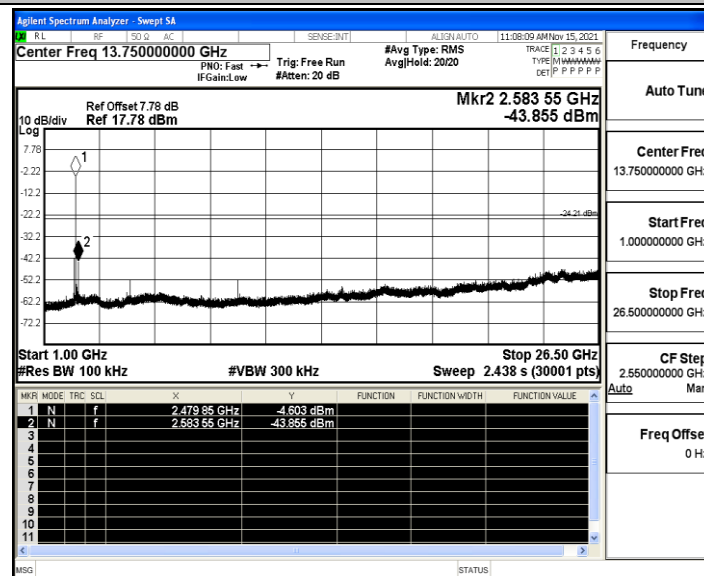
DH5_Ant1_2480_0~Reference



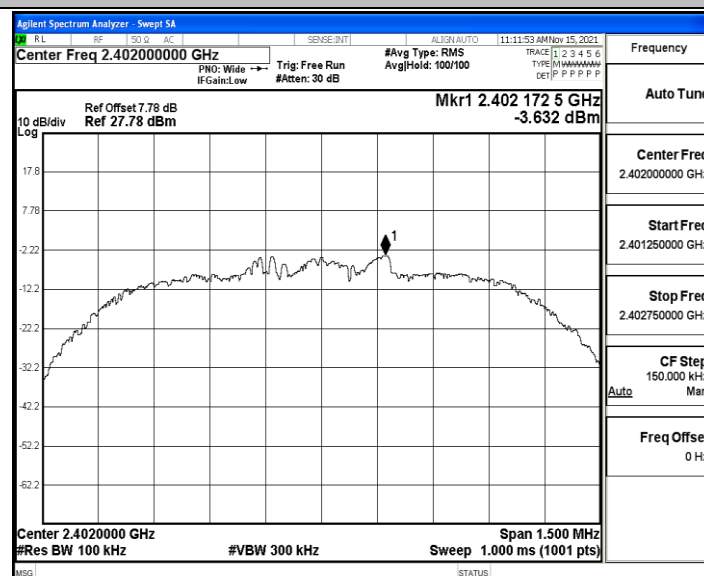
DH5_Ant1_2480_30~1000



DH5_Ant1_2480_1000~26500

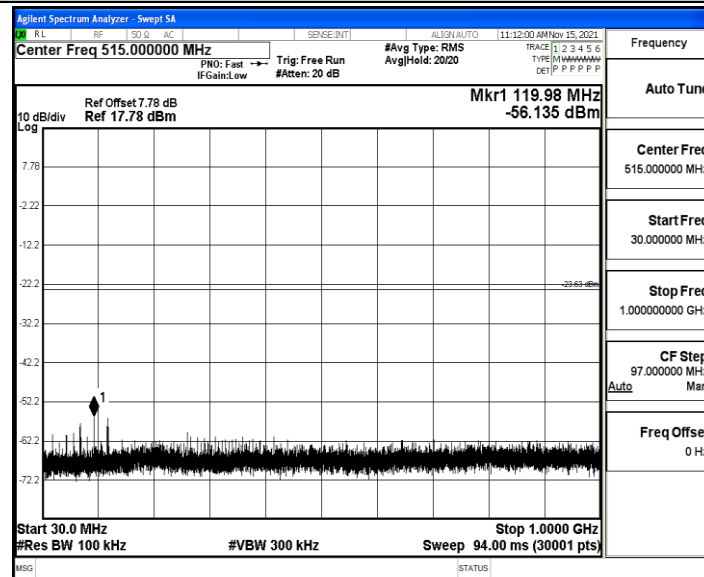


2DH5_Ant1_2402_0~Reference

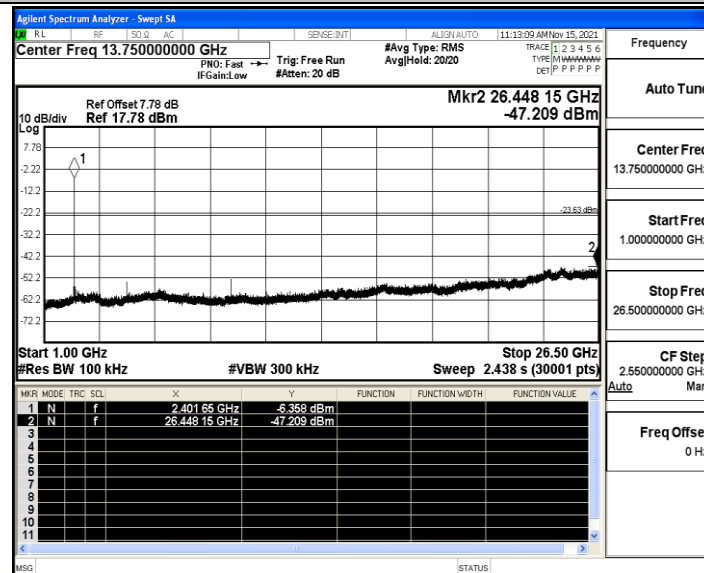




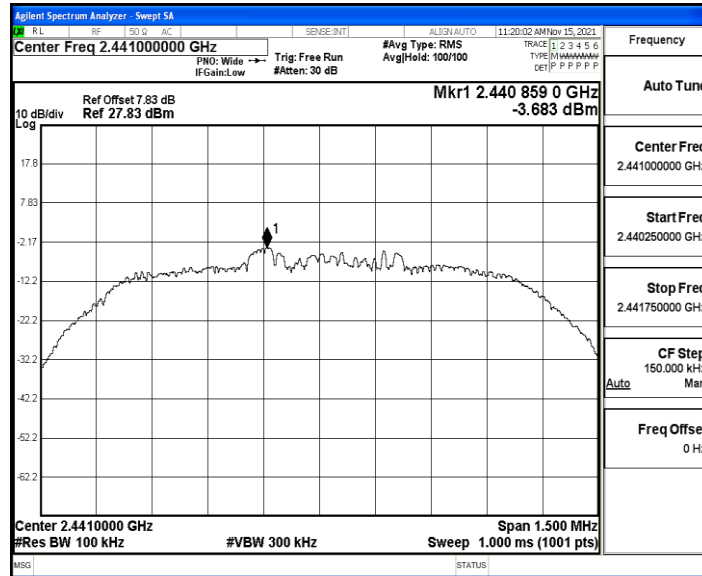
2DH5_Ant1_2402_30~1000



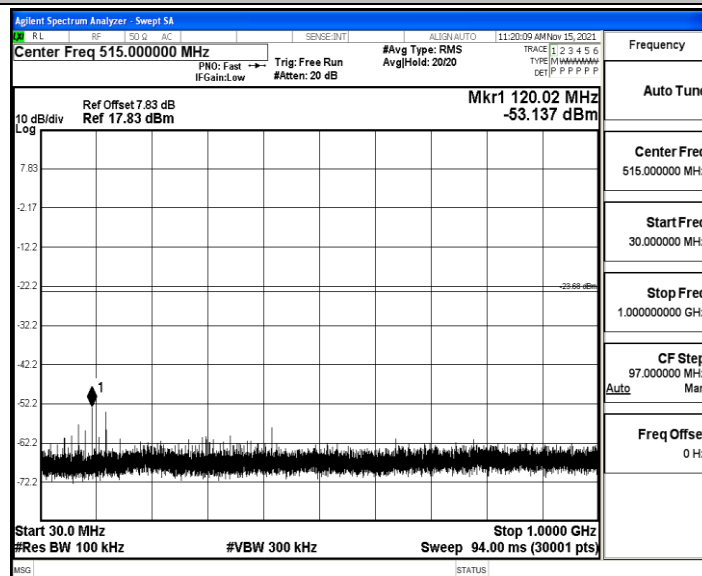
2DH5_Ant1_2402_1000~26500



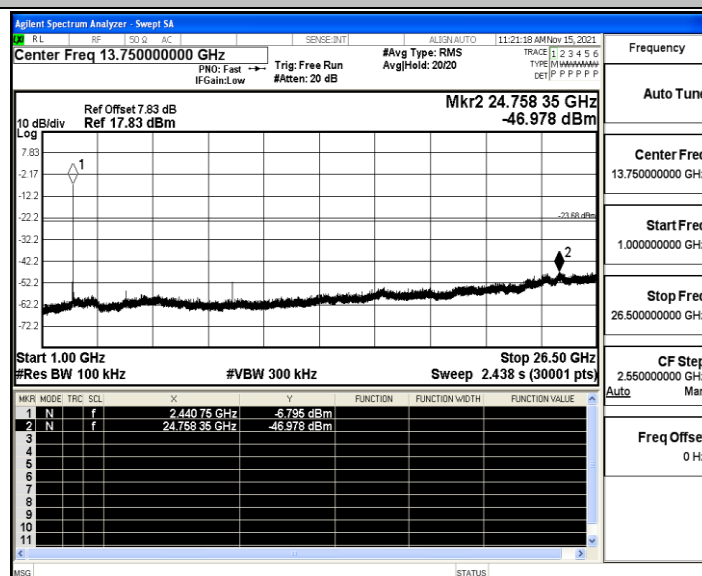
2DH5_Ant1_2441_0~Reference



2DH5_Ant1_2441_30~1000

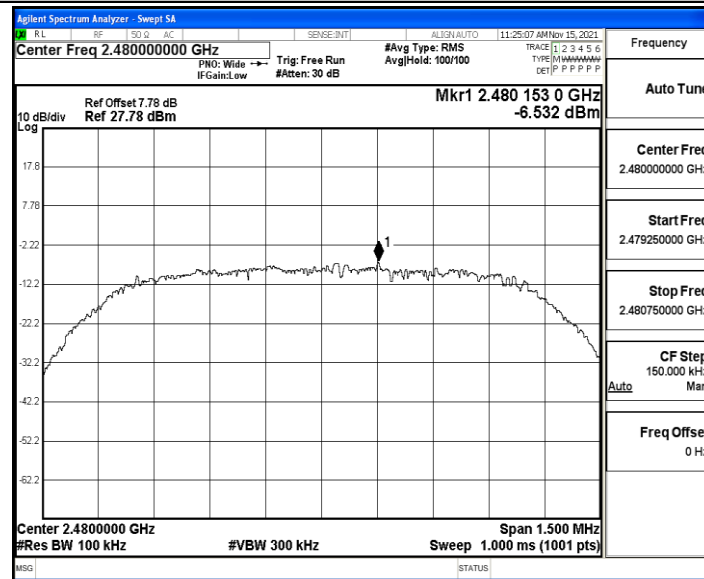


2DH5_Ant1_2441_1000~26500

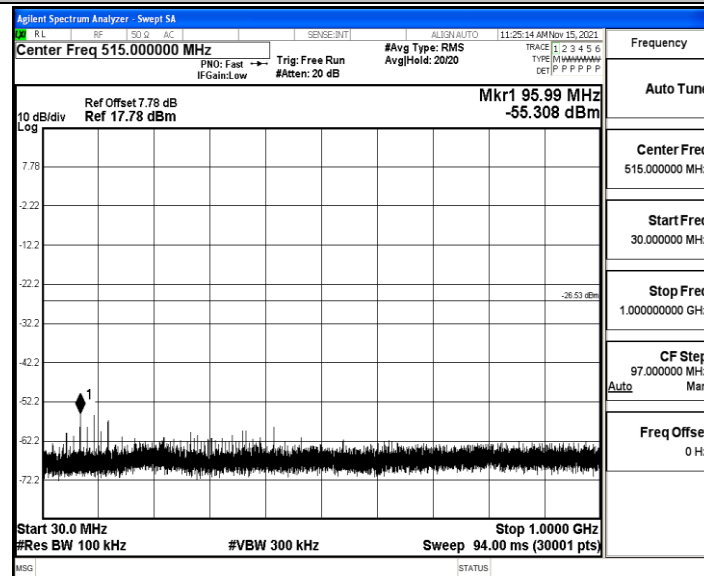




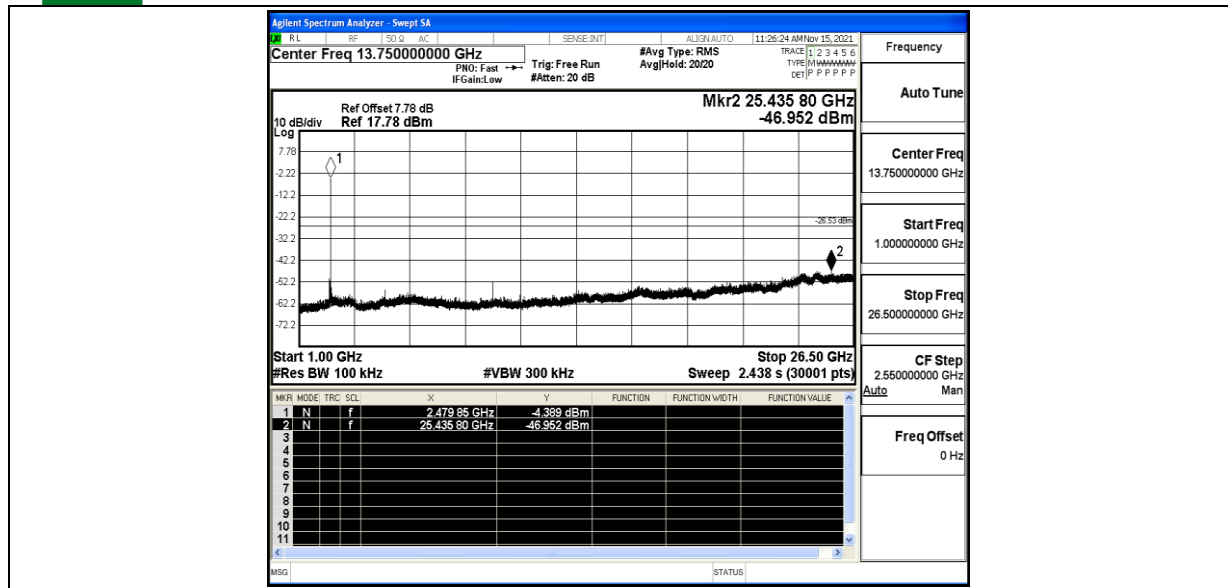
2DH5_Ant1_2480_0~Reference



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	-49.05	≤-41.20	46.15	≤54	PASS
		AV	2378.120	-47	≤-41.20	48.20	≤54	PASS
		AV	2390.000	-48.04	≤-41.20	47.16	≤54	PASS
		Peak	2310.000	-43.7	≤-21.20	51.50	≤74	PASS
		Peak	2385.575	-38.46	≤-21.20	56.74	≤74	PASS
		Peak	2390.000	-40	≤-21.20	55.20	≤74	PASS
	2480	AV	2483.500	-45.26	≤-41.20	49.94	≤54	PASS
		AV	2483.520	-45.26	≤-41.20	49.94	≤54	PASS
		AV	2500.000	-47.5	≤-41.20	47.70	≤54	PASS
		Peak	2483.500	-39.49	≤-21.20	55.71	≤74	PASS
		Peak	2483.760	-36.71	≤-21.20	58.49	≤74	PASS
		Peak	2500.000	-40.15	≤-21.20	55.05	≤74	PASS
	Hop_24 02	Peak	2310.000	-40.5	≤-21.20	54.70	≤74	PASS
		Peak	2382.530	-37.16	≤-21.20	58.04	≤74	PASS
		Peak	2390.000	-39.94	≤-21.20	55.26	≤74	PASS
	Hop_24 80	Peak	2483.500	-39.79	≤-21.20	55.41	≤74	PASS
		Peak	2494.320	-37.18	≤-21.20	58.02	≤74	PASS
		Peak	2500.000	-39.55	≤-21.20	55.65	≤74	PASS
2DH5	2402	AV	2310.000	-49.05	≤-41.20	46.15	≤54	PASS
		AV	2377.805	-47.48	≤-41.20	47.72	≤54	PASS
		AV	2390.000	-48.11	≤-41.20	47.09	≤54	PASS
		Peak	2310.000	-42.52	≤-21.20	52.68	≤74	PASS
		Peak	2387.360	-38.24	≤-21.20	56.96	≤74	PASS
		Peak	2390.000	-40.54	≤-21.20	54.66	≤74	PASS
	2480	AV	2483.500	-46.39	≤-41.20	48.81	≤54	PASS
		AV	2483.520	-46.39	≤-41.20	48.81	≤54	PASS
		AV	2500.000	-47.42	≤-41.20	47.78	≤54	PASS
		Peak	2483.500	-40.3	≤-21.20	54.90	≤74	PASS
		Peak	2489.920	-38.54	≤-21.20	56.66	≤74	PASS
		Peak	2500.000	-40.71	≤-21.20	54.49	≤74	PASS
	Hop_24 02	Peak	2310.000	-40.95	≤-21.20	54.25	≤74	PASS
		Peak	2388.305	-37.76	≤-21.20	57.44	≤74	PASS
		Peak	2390.000	-41.05	≤-21.20	54.15	≤74	PASS



	Hop_24 80	Peak	2483.500	-38.4	≤ -21.20	56.80	≤ 74	PASS
		Peak	2498.320	-37.57	≤ -21.20	57.63	≤ 74	PASS
		Peak	2500.000	-40.23	≤ -21.20	54.97	≤ 74	PASS

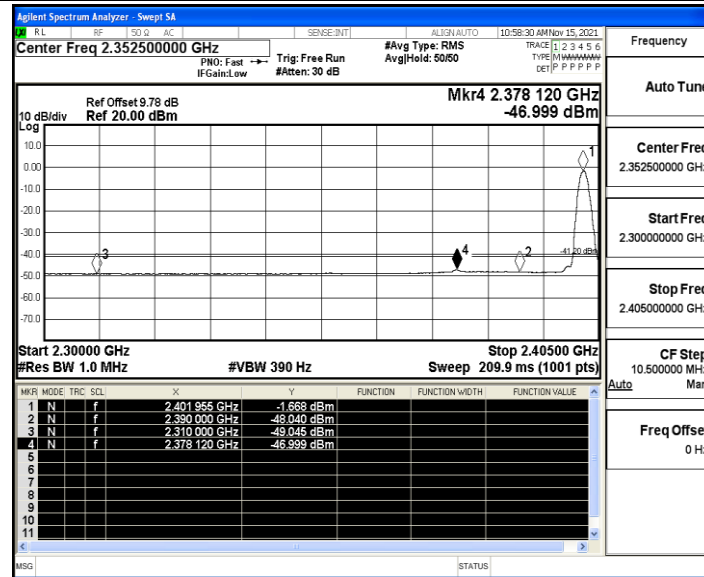
Note:

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.

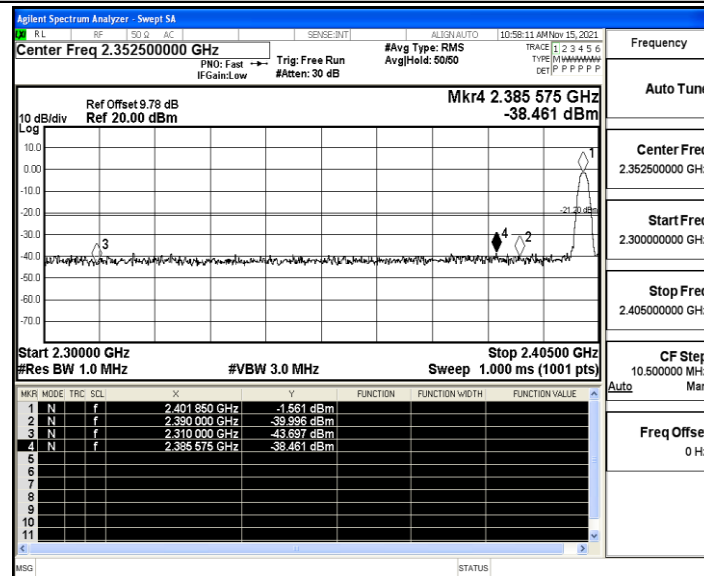


Test Graphs

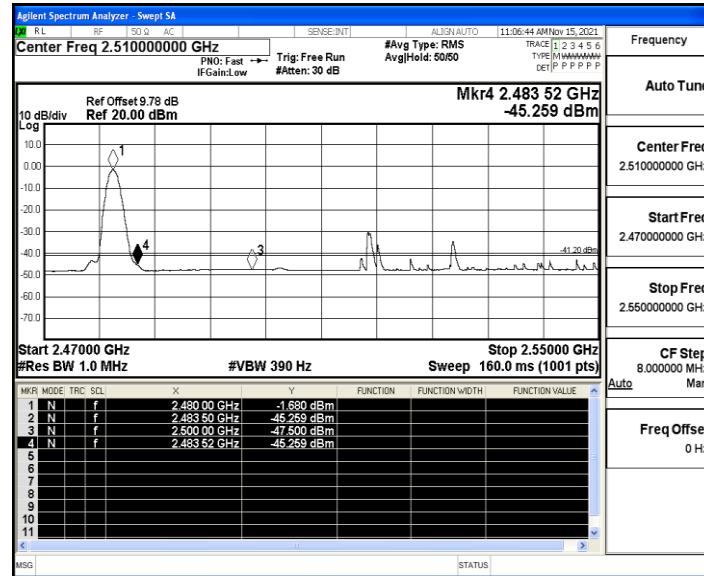
DH5_Ant1_Low_2402_AV



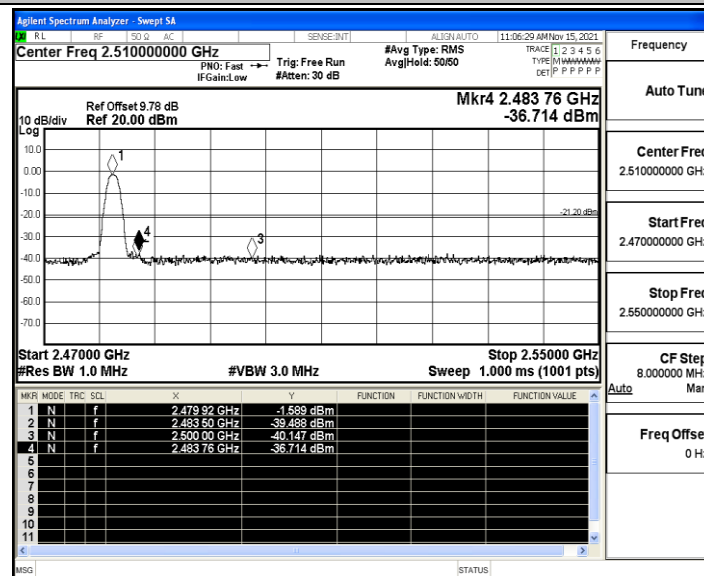
DH5_Ant1_Low_2402_Peak



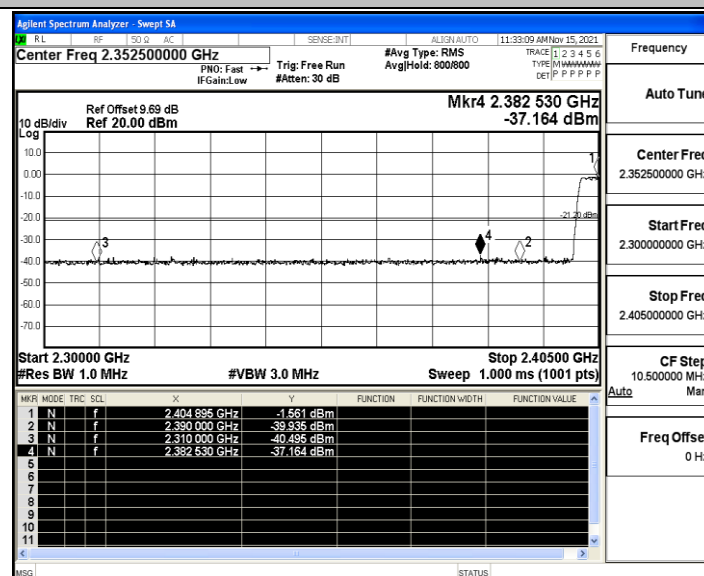
DH5_Ant1_High_2480_AV



DH5_Ant1_High_2480_Peak

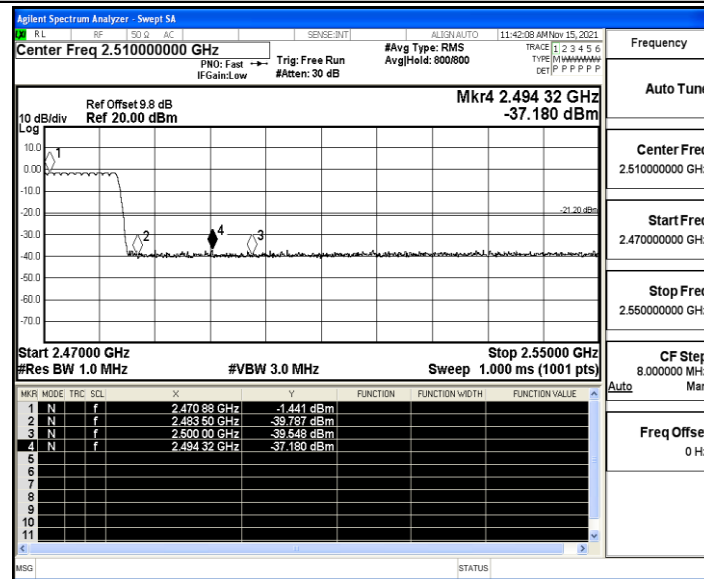


DH5_Ant1_Low_Hop_2402_Peak

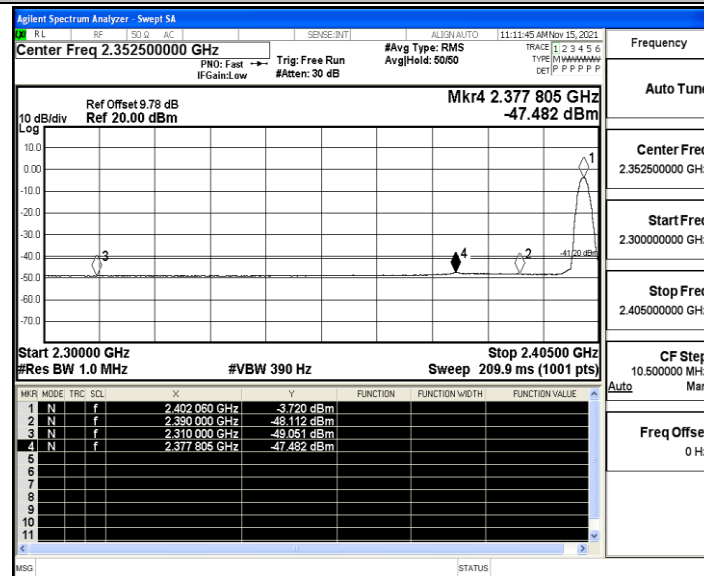




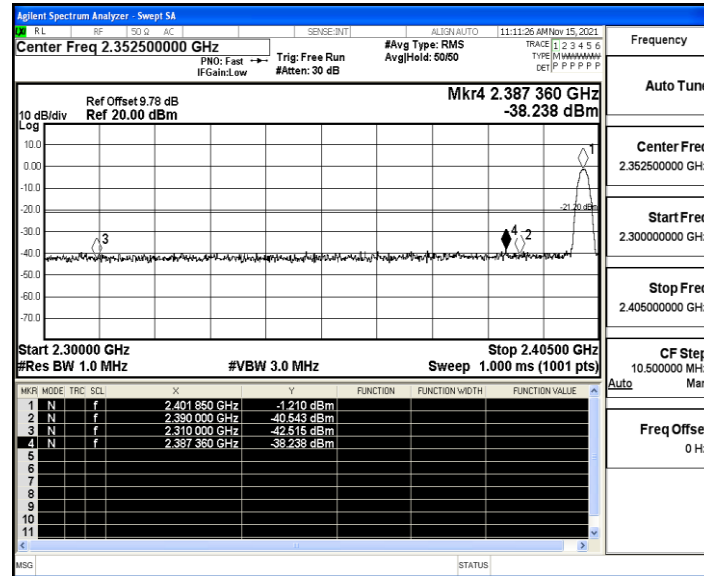
DH5_Ant1_High_Hop_2480_Peak



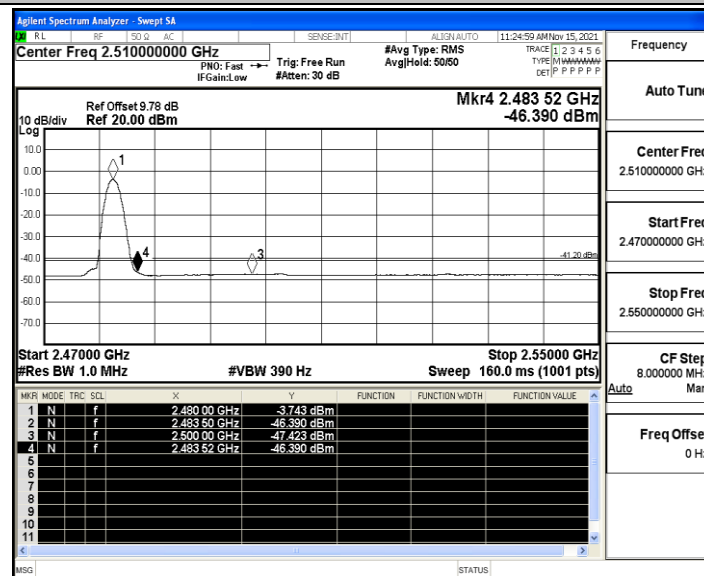
2DH5_Ant1_Low_2402_AV



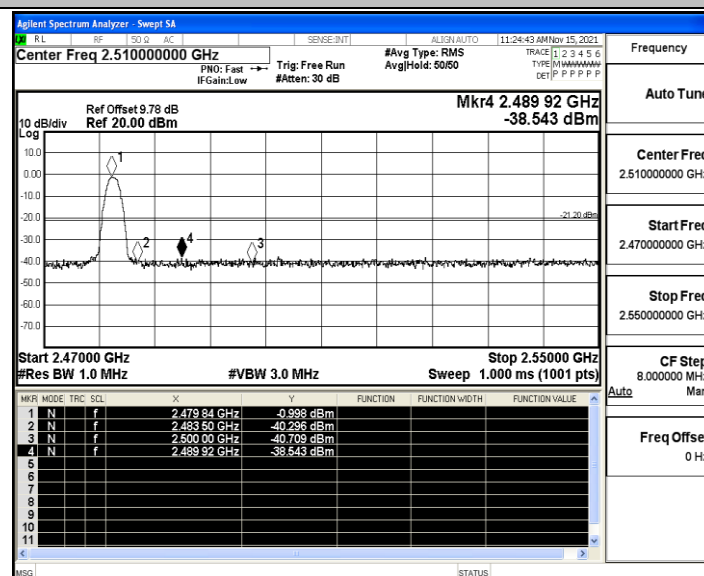
2DH5_Ant1_Low_2402_Peak



2DH5_Ant1_High_2480_AV

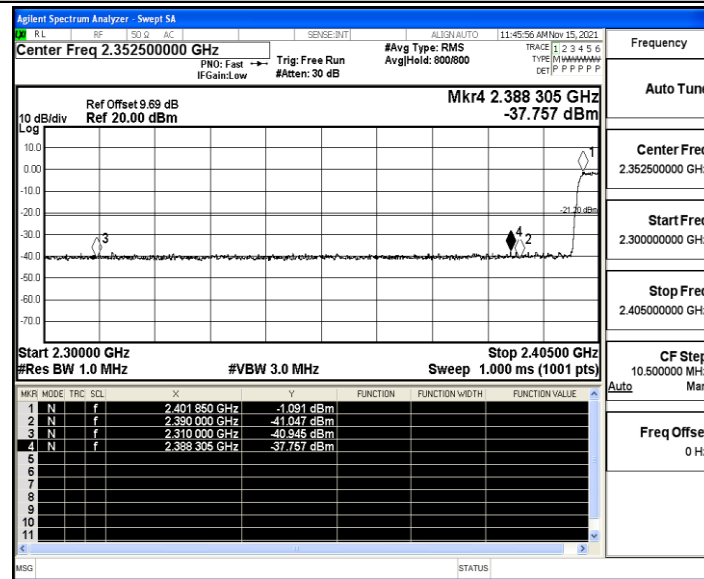


2DH5_Ant1_High_2480_Peak





2DH5_Ant1_Low_Hop_2402_Peak



2DH5_Ant1_High_Hop_2480_Peak

