



Appendix A

RF Test Data for BT (Conducted Measurement)

Product Name: Portable Bluetooth Speaker with Wireless Charging

Test Model: WJ-202

Environmental Conditions

Temperature:	21.1° C
Relative Humidity:	52.2%
ATM Pressure:	100.0 kPa
Test Engineer:	Jay Li
Supervised by:	Li Huan

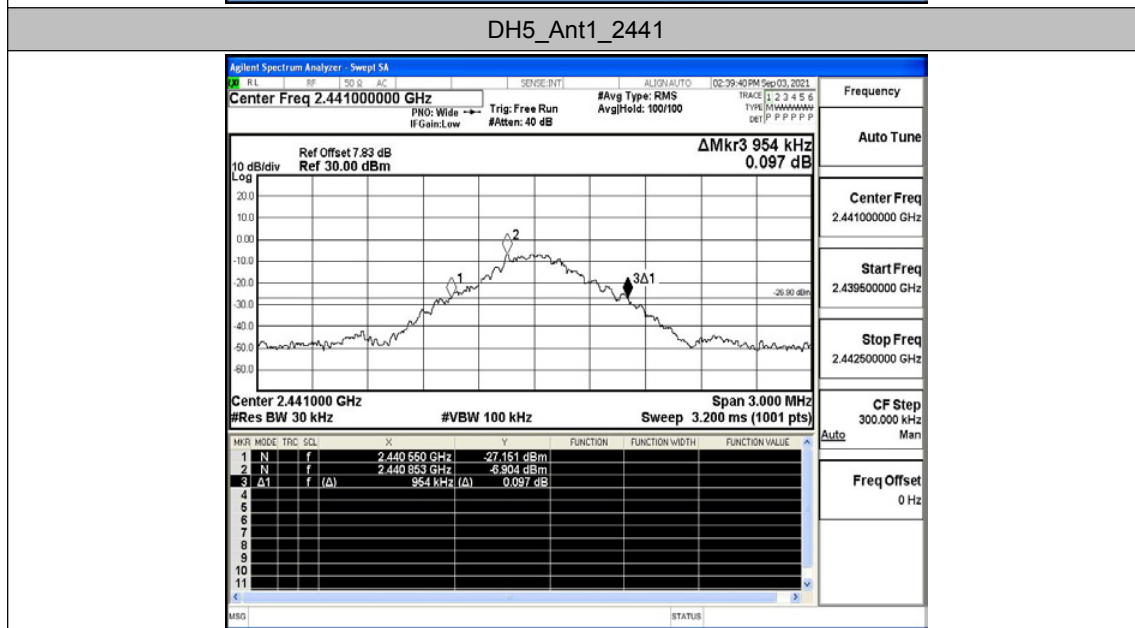
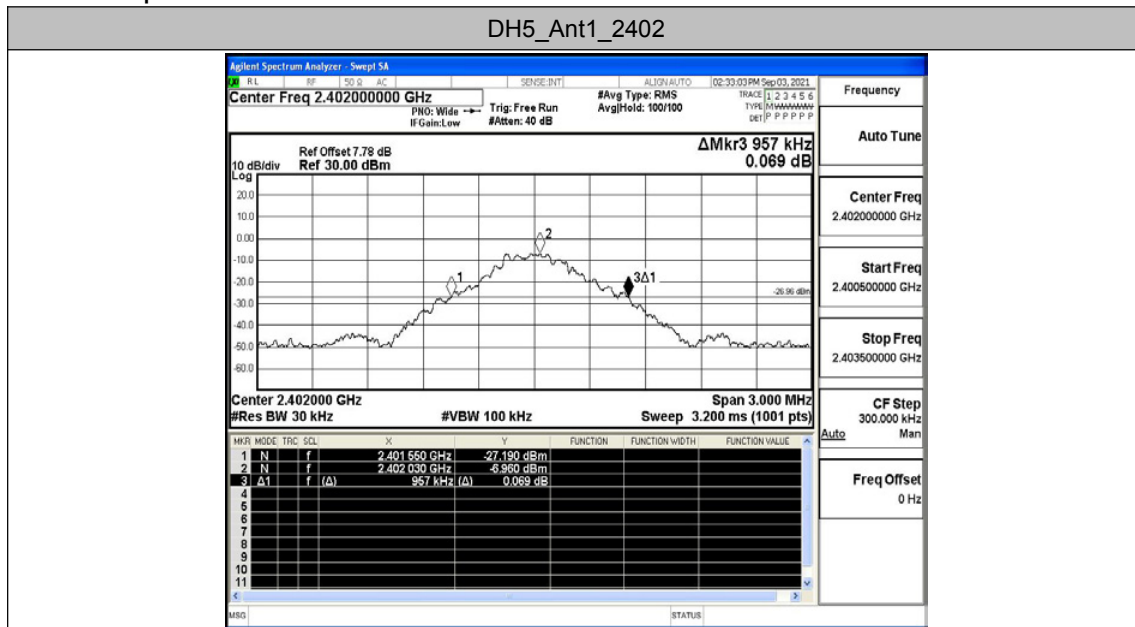


A.1 20dB Emission Bandwidth

Test Result

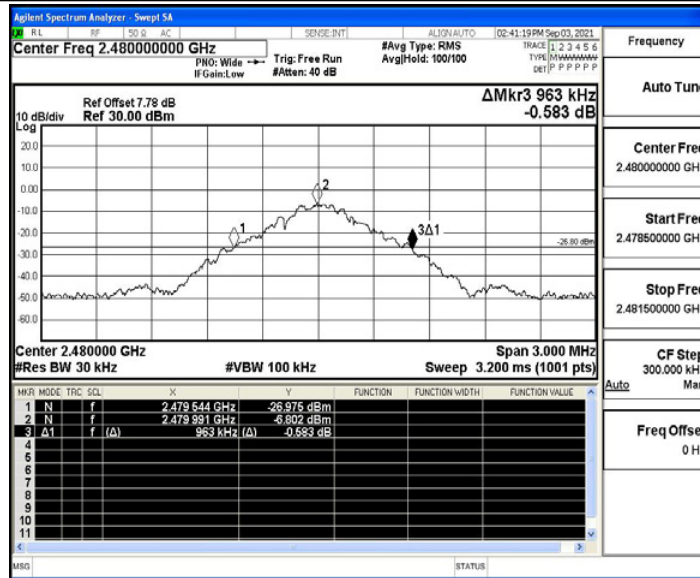
TestMode	Antenna	Channel	20db EBW[MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
DH5	Ant1	2402	0.957	2401.550	2402.507	---	PASS
		2441	0.954	2440.550	2441.504	---	PASS
		2480	0.963	2479.544	2480.507	---	PASS
2DH5	Ant1	2402	1.284	2401.382	2402.666	---	PASS
		2441	1.284	2440.382	2441.666	---	PASS
		2480	1.344	2479.337	2480.681	---	PASS

Test Graphs

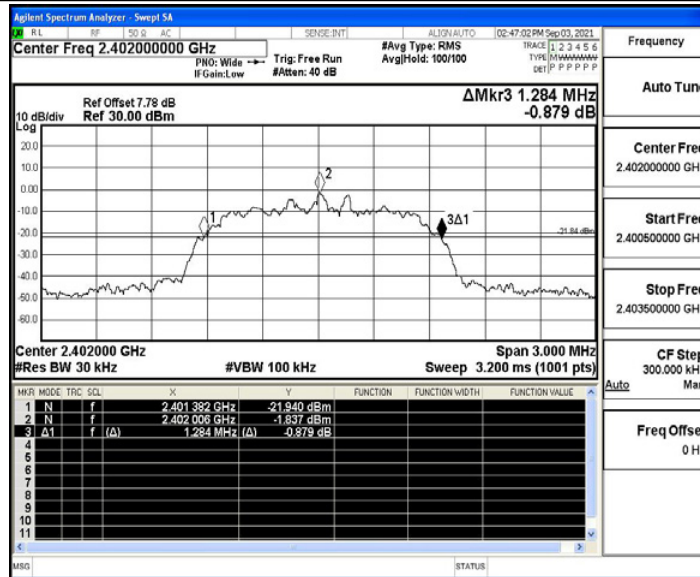




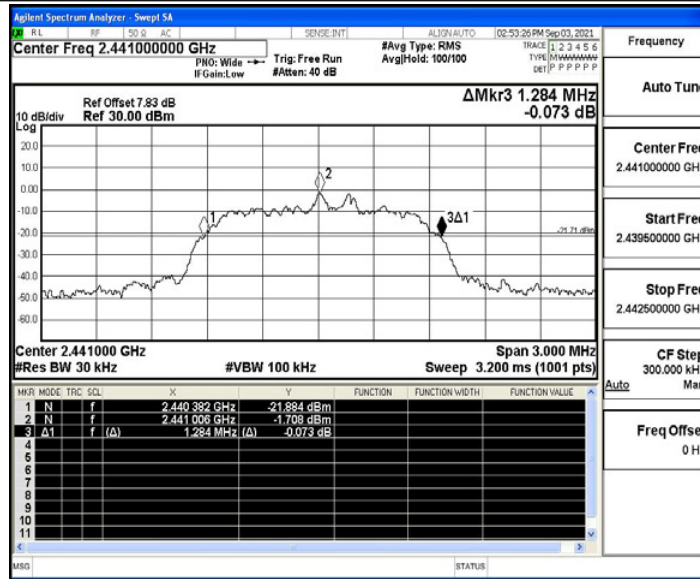
DH5_Ant1_2480



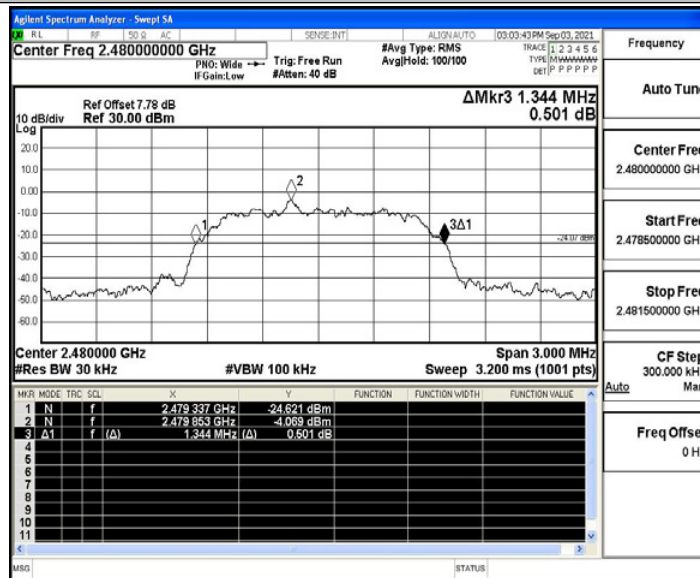
2DH5_Ant1_2402



2DH5_Ant1_2441



2DH5_Ant1_2480



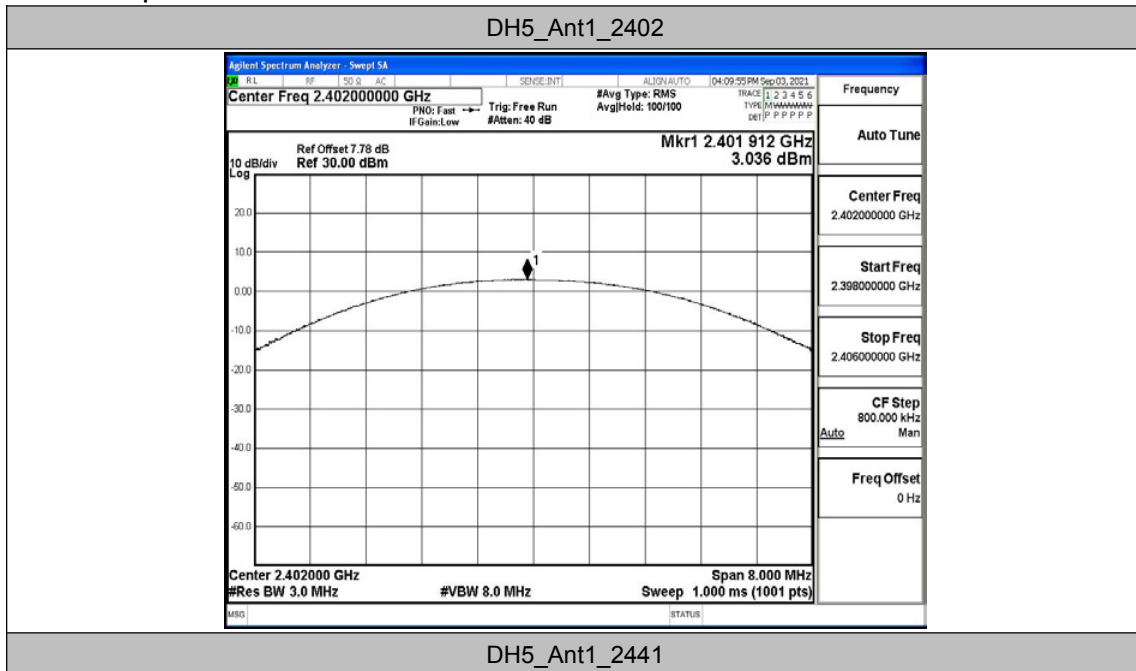


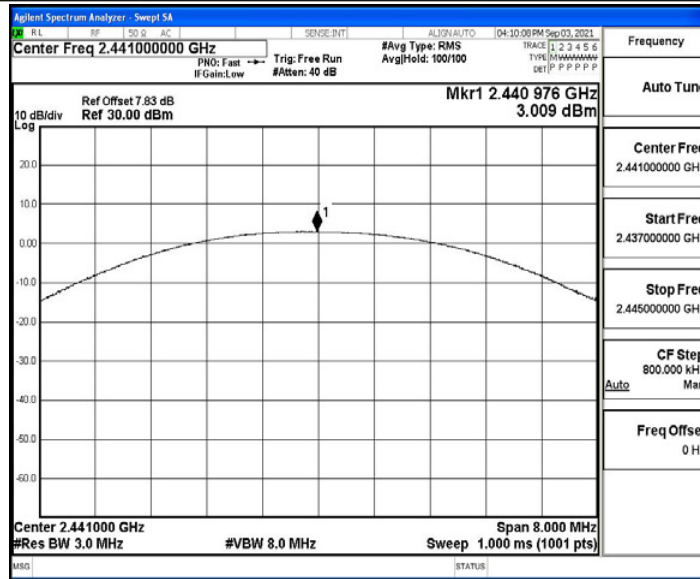
A.2 Maximum conducted output power

Test Result

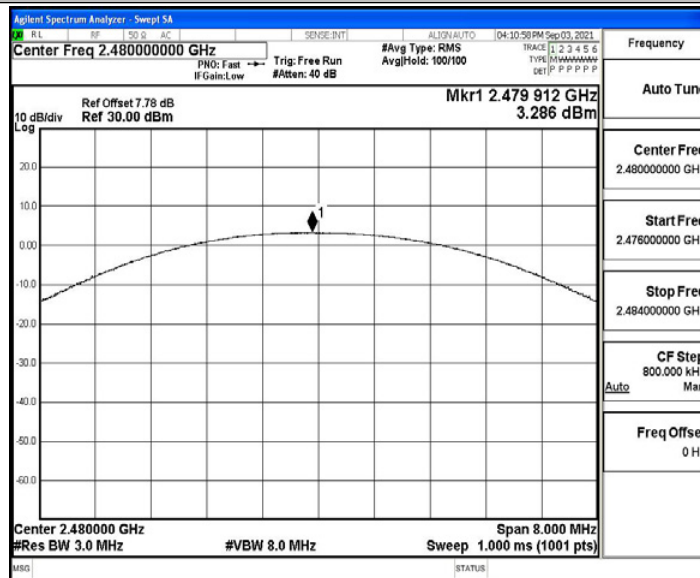
TestMode	Antenna	Channel	Result[dBm]	Limit[dBm]	Verdict
DH5	Ant1	2402	3.04	≤30	PASS
		2441	3.01	≤30	PASS
		2480	3.29	≤30	PASS
2DH5	Ant1	2402	3.77	≤30	PASS
		2441	3.68	≤30	PASS
		2480	3.99	≤30	PASS

Test Graphs

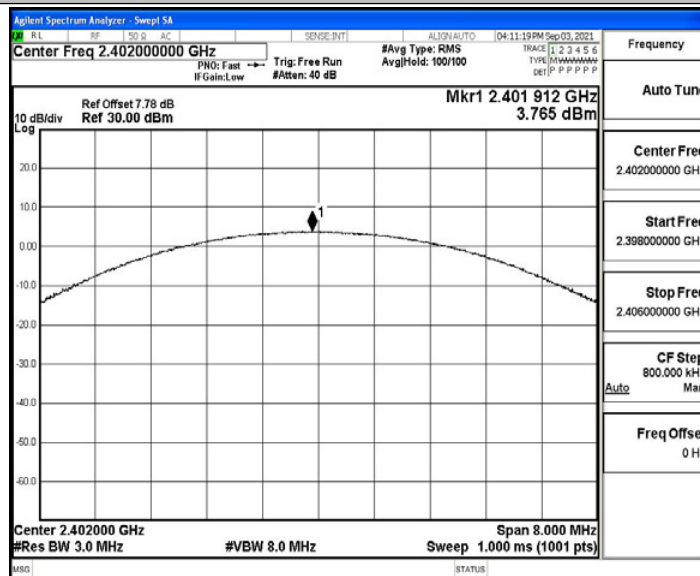




DH5_Ant1_2480

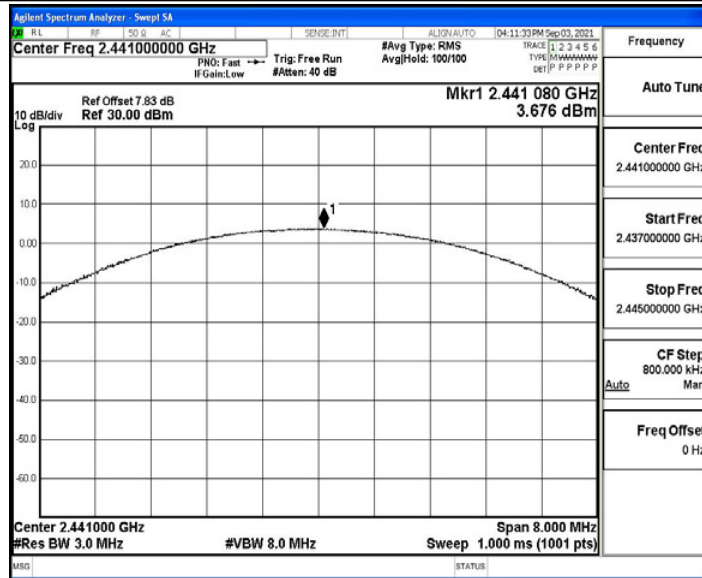


2DH5_Ant1_2402

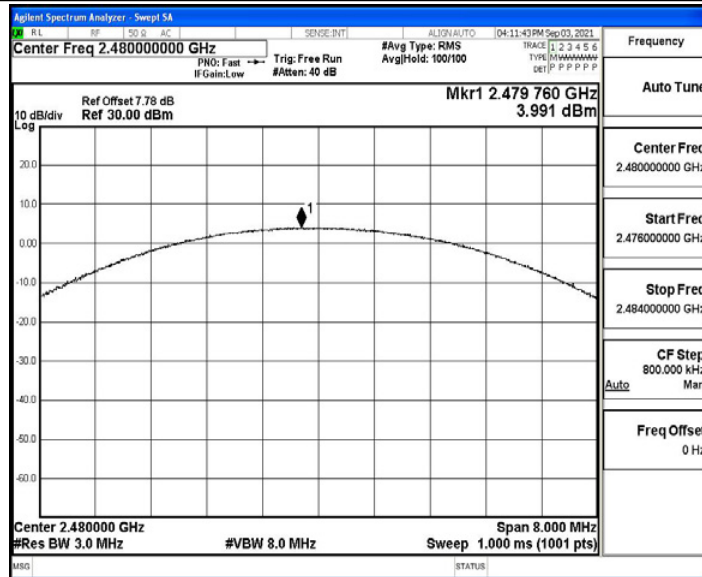




2DH5_Ant1_2441



2DH5_Ant1_2480



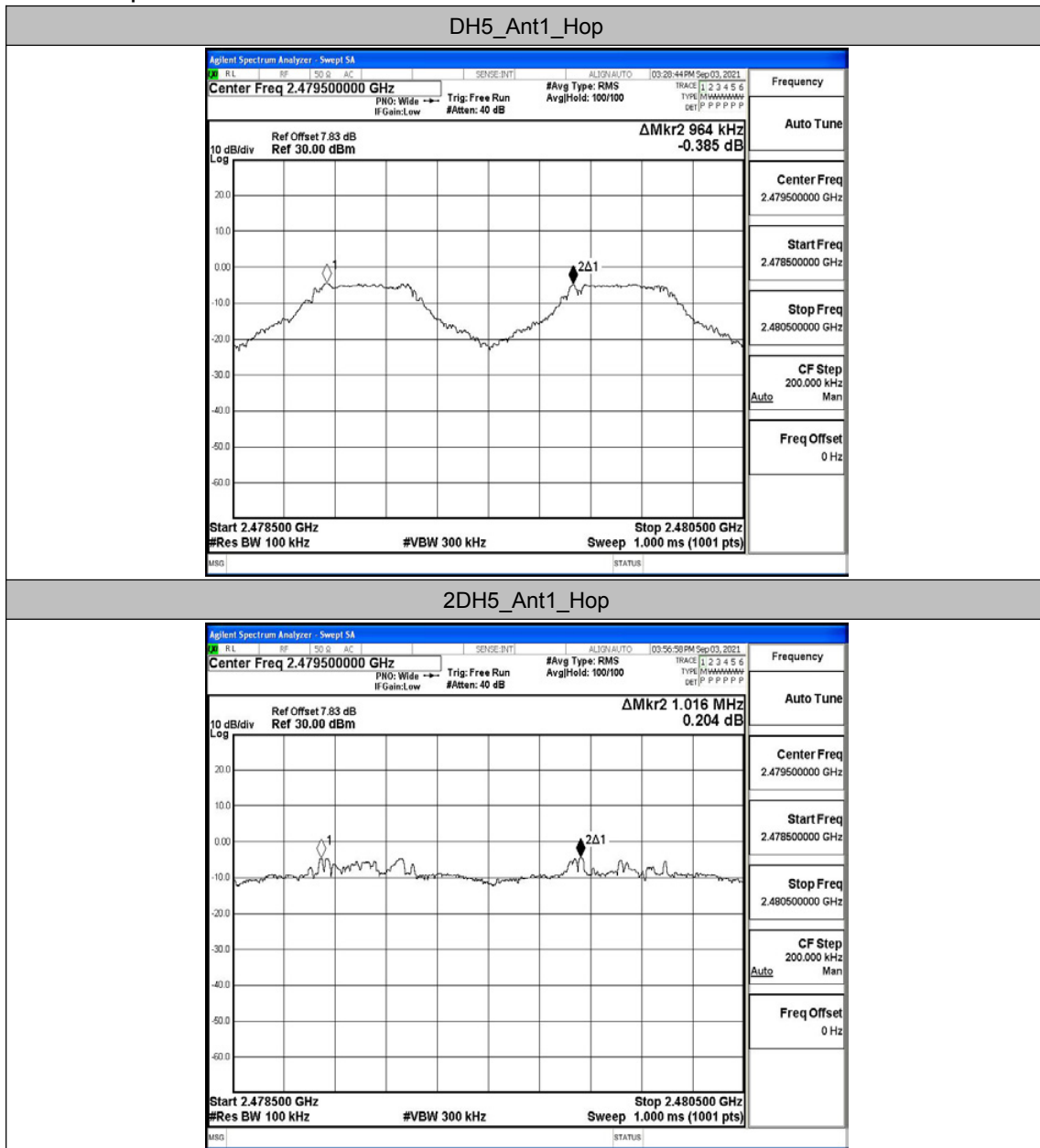


A.3 Carrier frequency separation

Test Result

TestMode	Antenna	Channel	Result[dBm]	Limit[dBm]	Verdict
DH5	Ant1	Hop	0.964	≥0.963	PASS
2DH5	Ant1	Hop	1.016	≥0.896	PASS

Test Graphs



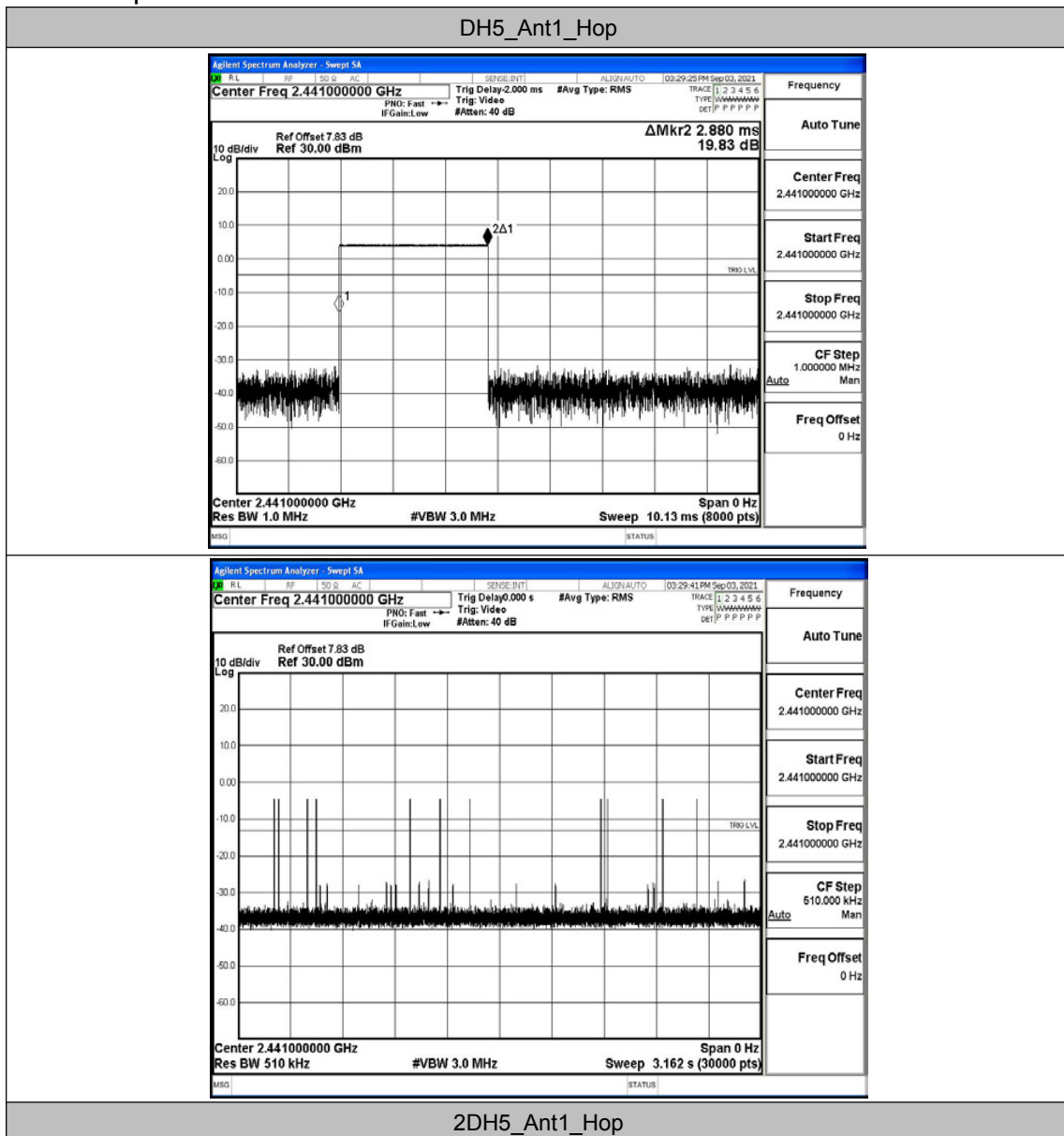


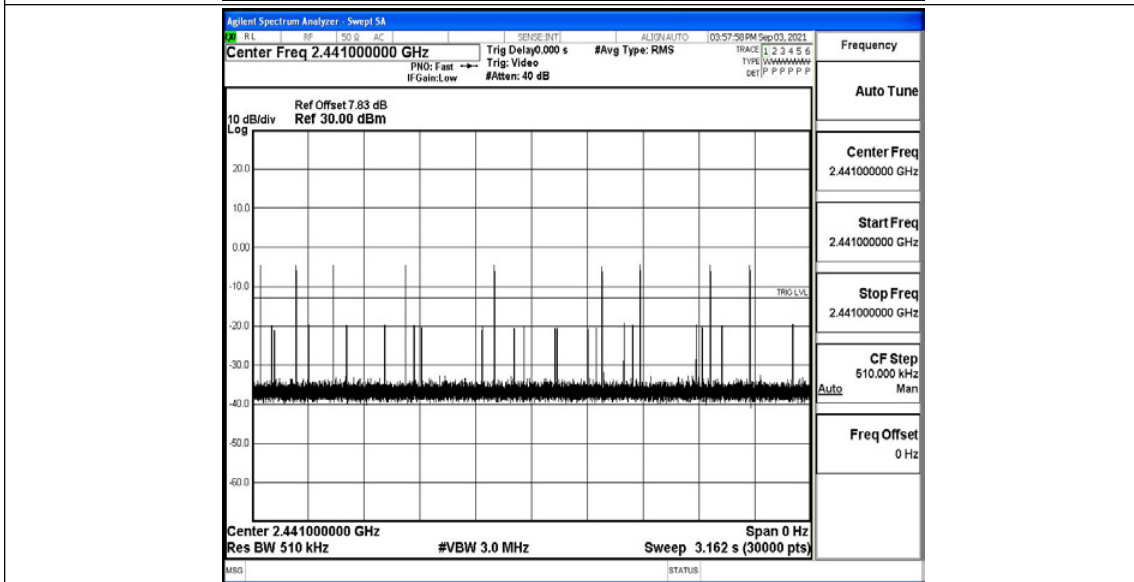
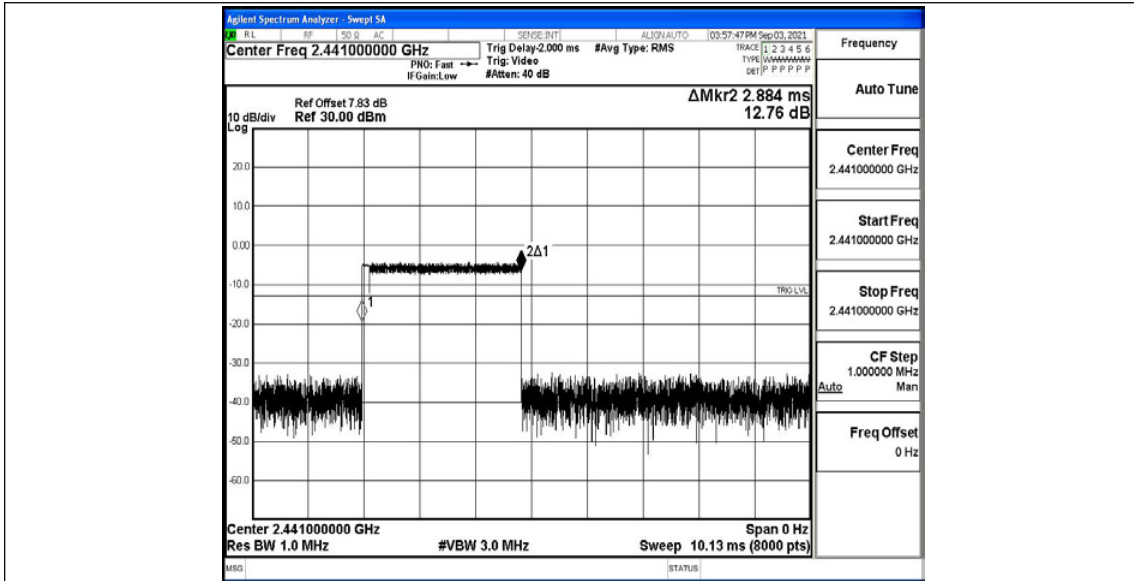
A.4 Time of occupancy

Test Result

TestMode	Antenna	Channel	BurstWidth [ms]	TotalHops [Num]	Result[s]	Limit[s]	Verdict
DH5	Ant1	Hop	-0.46	120	0.346	≤0.4	PASS
2DH5	Ant1	Hop	2.88	100	0.288	≤0.4	PASS

Test Graphs





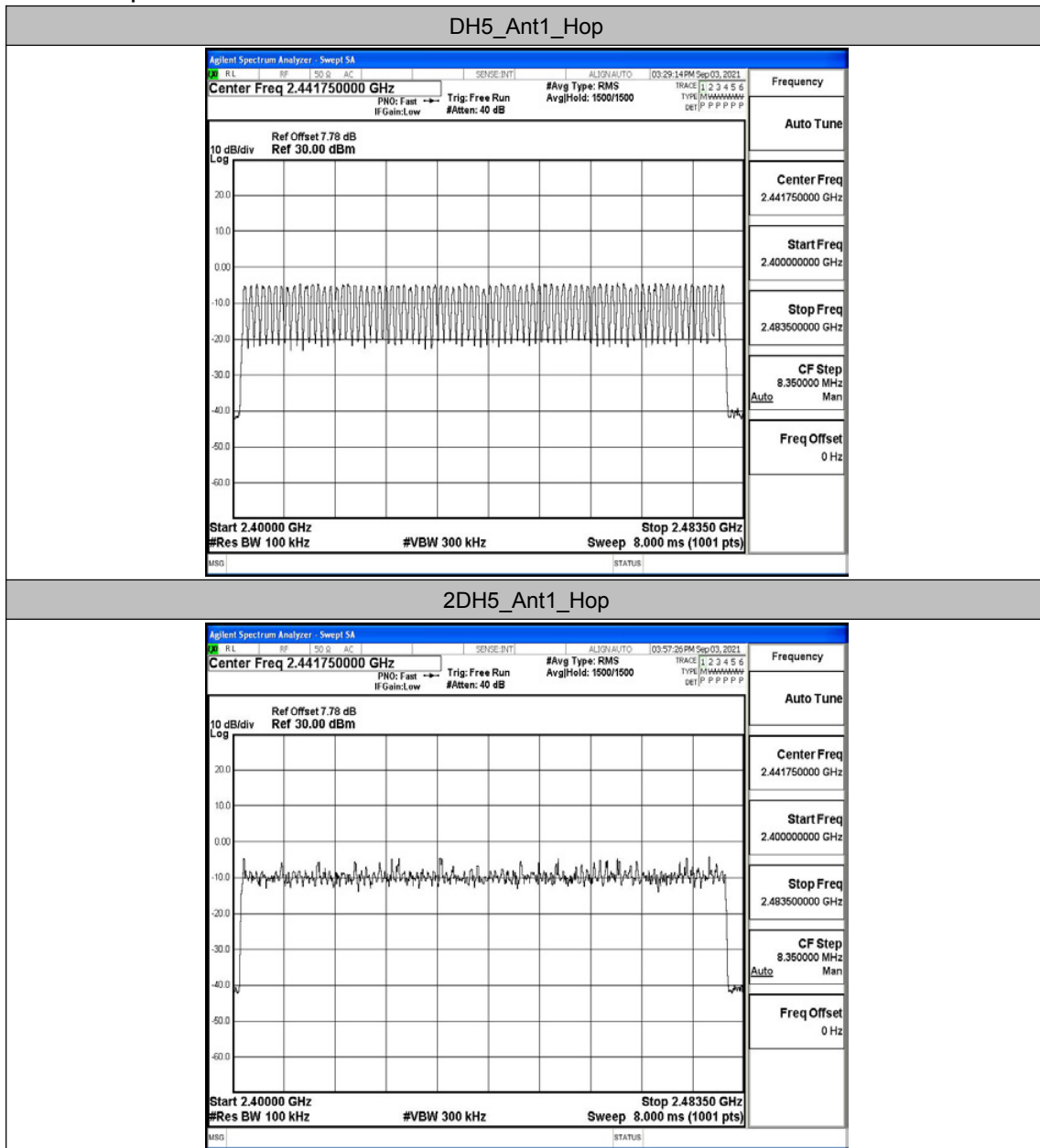


A.5 Number of hopping channels

Test Result

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

Test Graphs



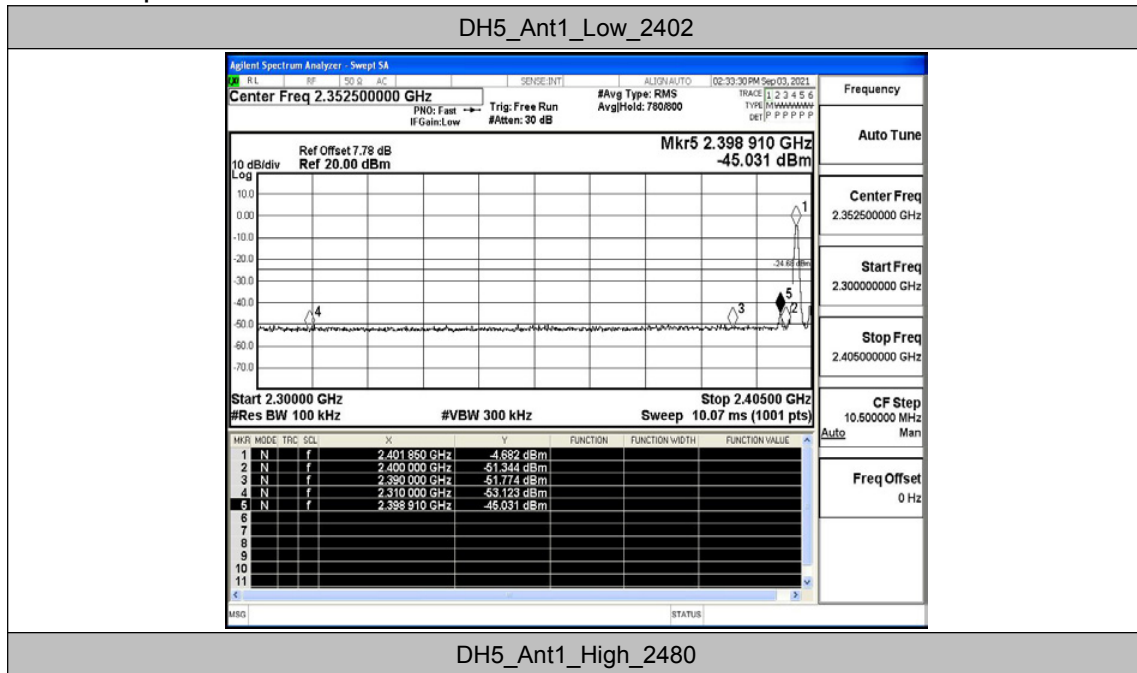


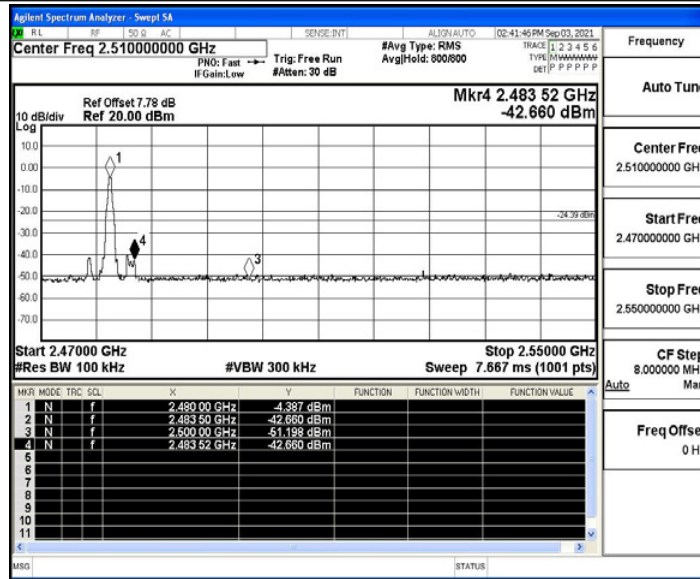
A.6 Band edge measurements

Test Result

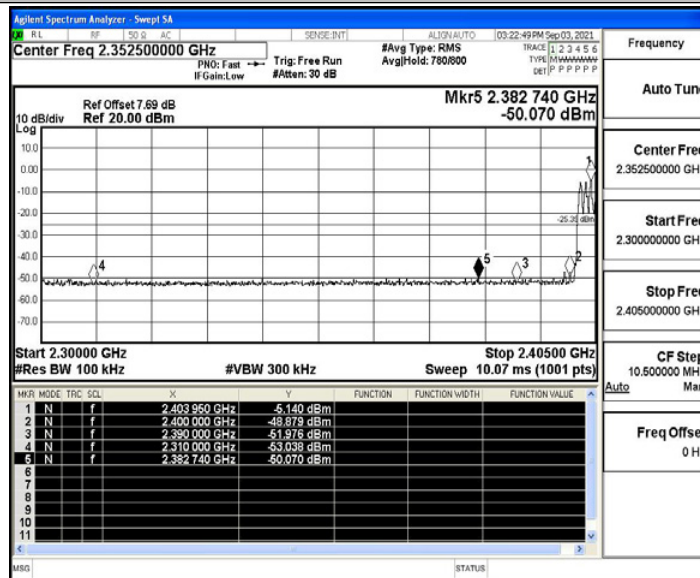
TestMode	Antenna	ChName	Channel	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
DH5	Ant1	Low	2402	-4.68	-45.03	≤-24.68	PASS
		High	2480	-4.39	-42.66	≤-24.39	PASS
		Low	Hop_2402	-5.35	-50.07	≤-25.35	PASS
		High	Hop_2480	-4.63	-48.65	≤-24.63	PASS
2DH5	Ant1	Low	2402	0.30	-38.36	≤-19.7	PASS
		High	2480	0.58	-34.39	≤-19.43	PASS
		Low	Hop_2402	-5.68	-50.2	≤-25.68	PASS
		High	Hop_2480	-4.35	-48.47	≤-24.35	PASS

Test Graphs

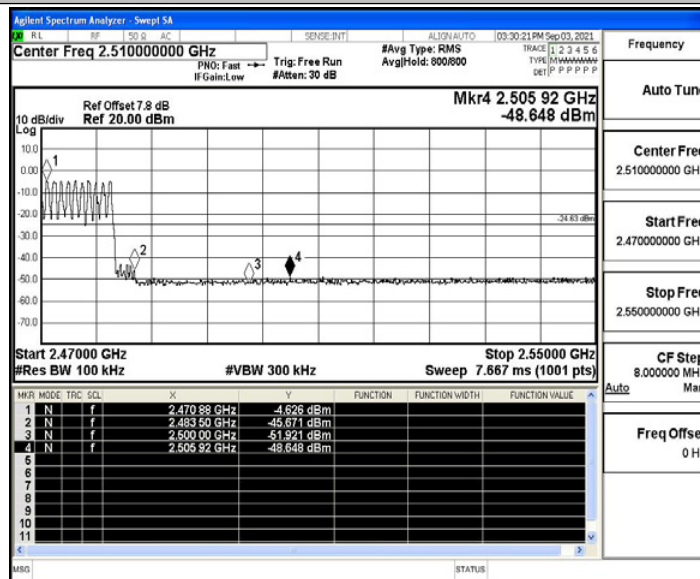




DH5_Ant1_Low_Hop_2402

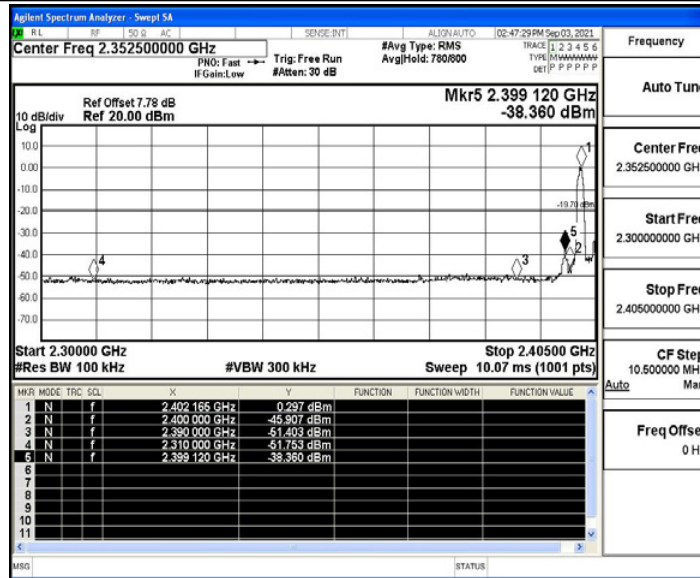


DH5_Ant1_High_Hop_2480

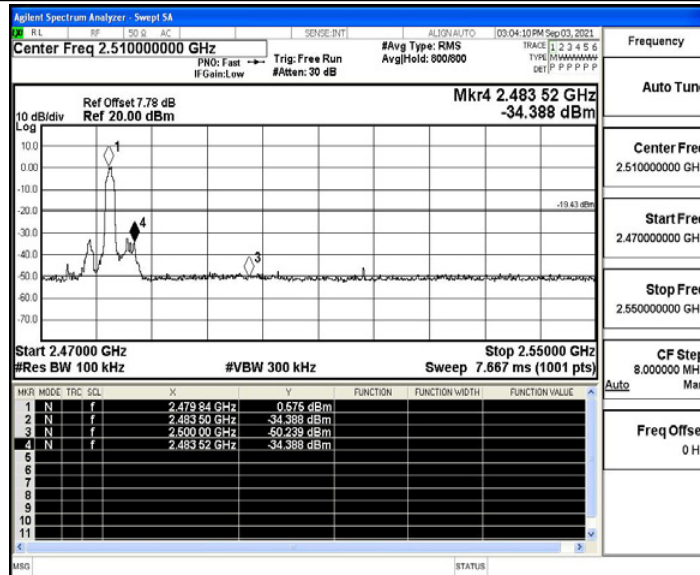




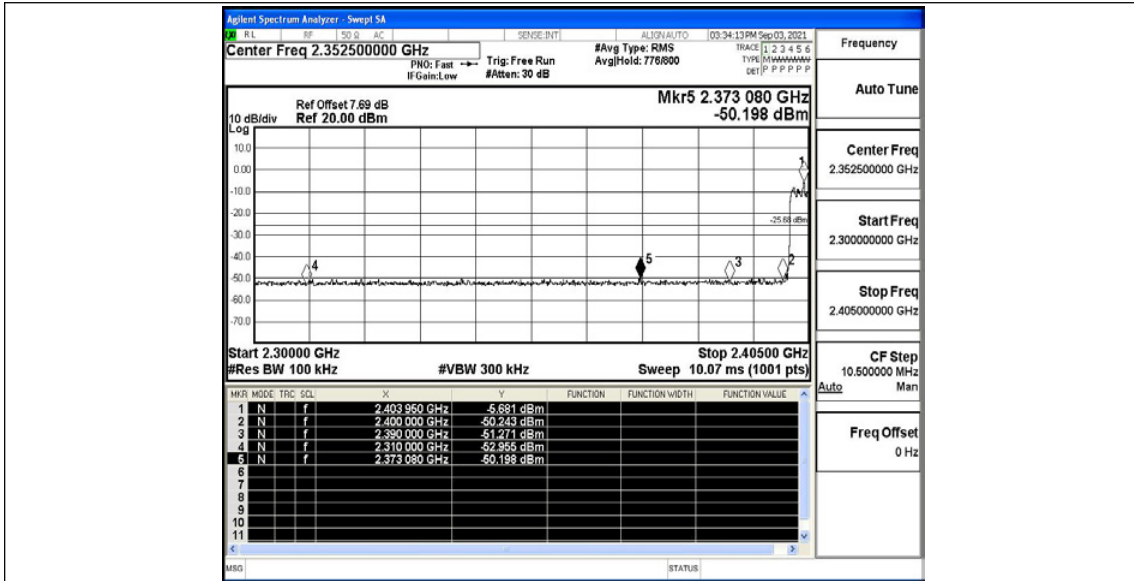
2DH5_Ant1_Low_2402



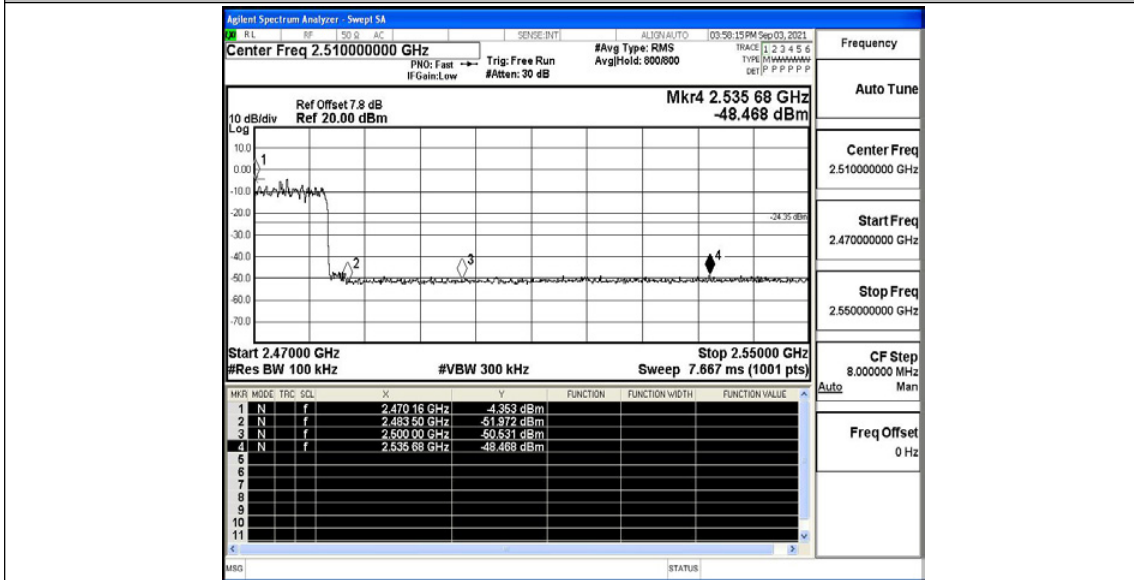
2DH5_Ant1_High_2480



2DH5_Ant1_Low_Hop_2402



2DH5_Ant1_High_Hop_2480





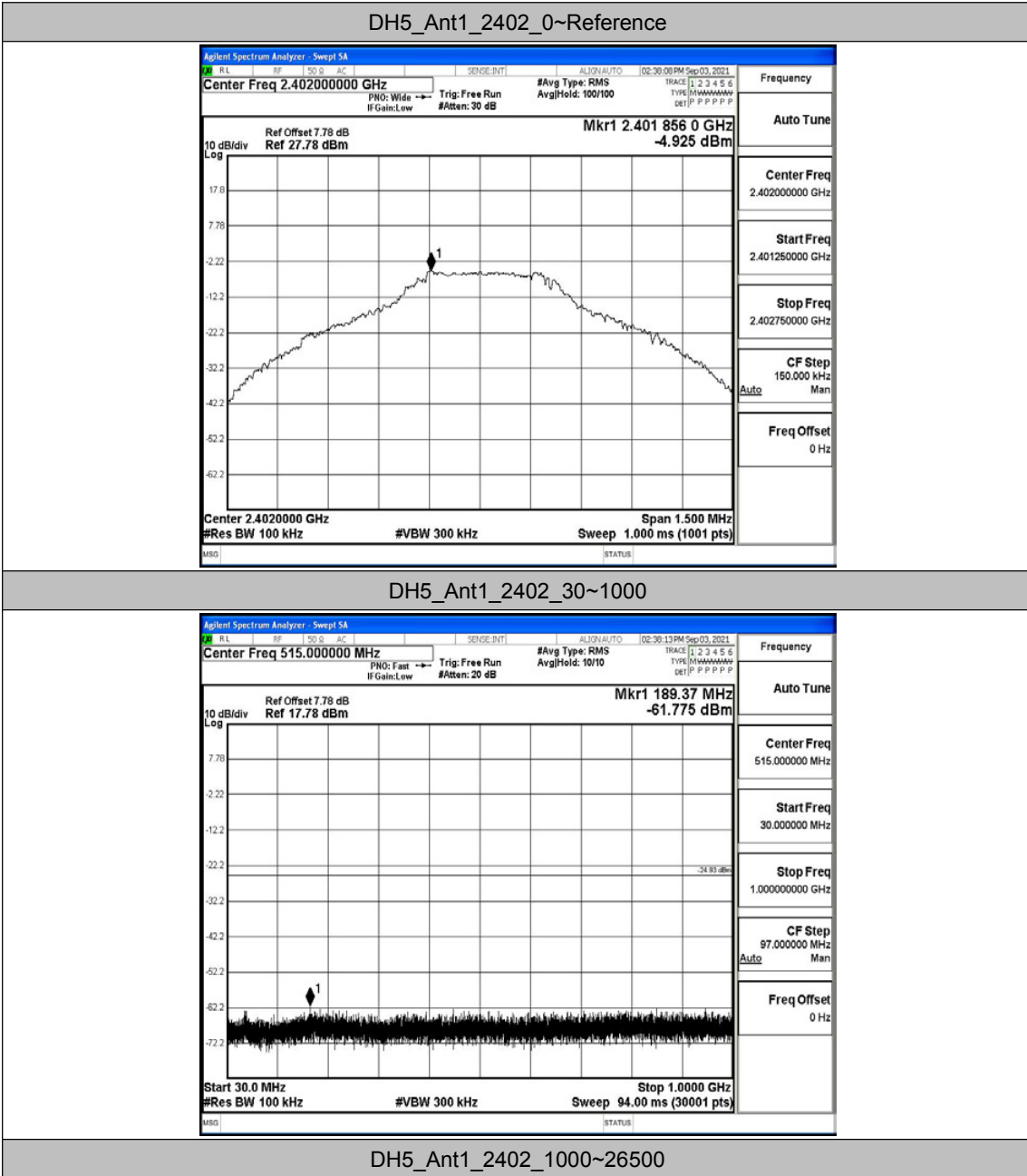
A.7 Conducted Spurious Emission

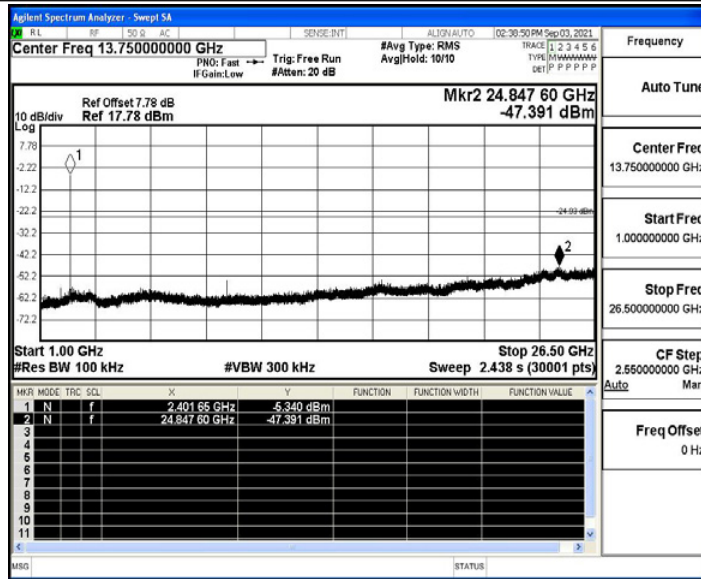
Test Result

TestMode	Antenna	Channel	FreqRange [MHz]	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
DH5	Ant1	2402	Reference	-4.93	-4.93	---	PASS
			30~1000	-4.93	-61.78	≤-24.93	PASS
			1000~26500	-4.93	-47.39	≤-24.93	PASS
		2441	Reference	-4.52	-4.52	---	PASS
			30~1000	-4.52	-61.41	≤-24.52	PASS
			1000~26500	-4.52	-47.68	≤-24.52	PASS
		2480	Reference	-4.58	-4.58	---	PASS
			30~1000	-4.58	-61.55	≤-24.58	PASS
			1000~26500	-4.58	-47.48	≤-24.58	PASS
2DH5	Ant1	2402	Reference	0.24	0.24	---	PASS
			30~1000	0.24	-62.37	≤-19.76	PASS
			1000~26500	0.24	-34.85	≤-19.76	PASS
		2441	Reference	-0.66	-0.66	---	PASS
			30~1000	-0.66	-60.18	≤-20.66	PASS
			1000~26500	-0.66	-47.27	≤-20.66	PASS
		2480	Reference	-4.47	-4.47	---	PASS
			30~1000	-4.47	-61.98	≤-24.47	PASS
			1000~26500	-4.47	-47.09	≤-24.47	PASS

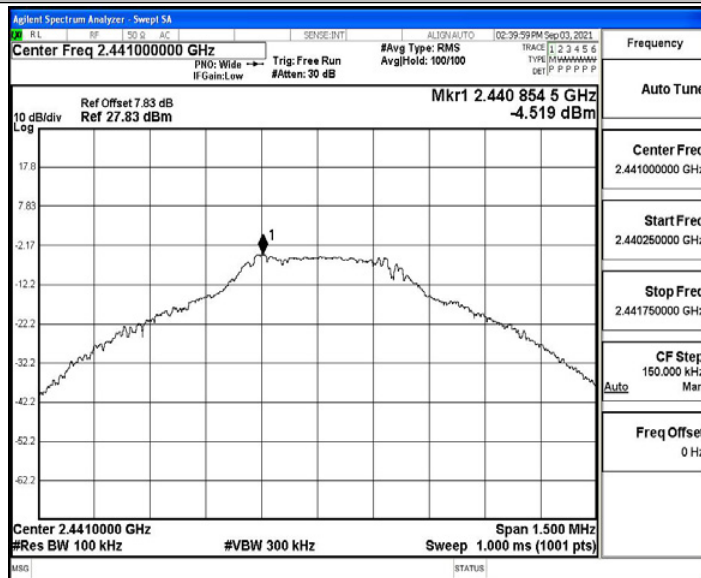


Test Graphs

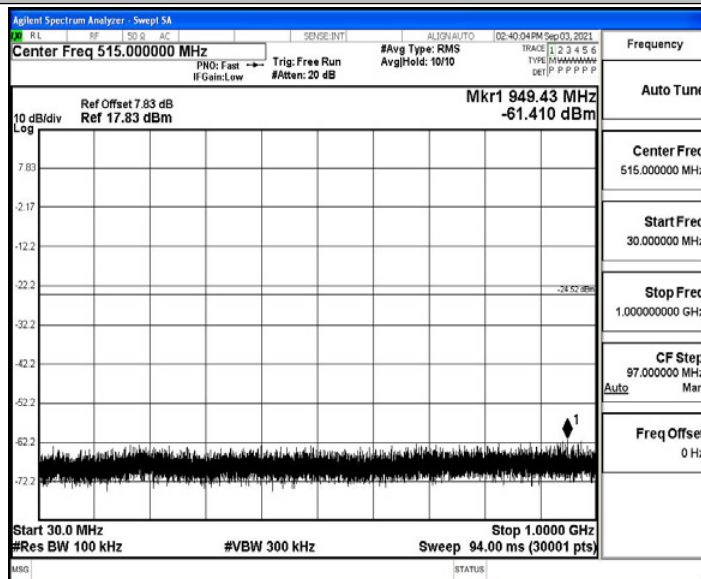




DH5_Ant1_2441_0~Reference

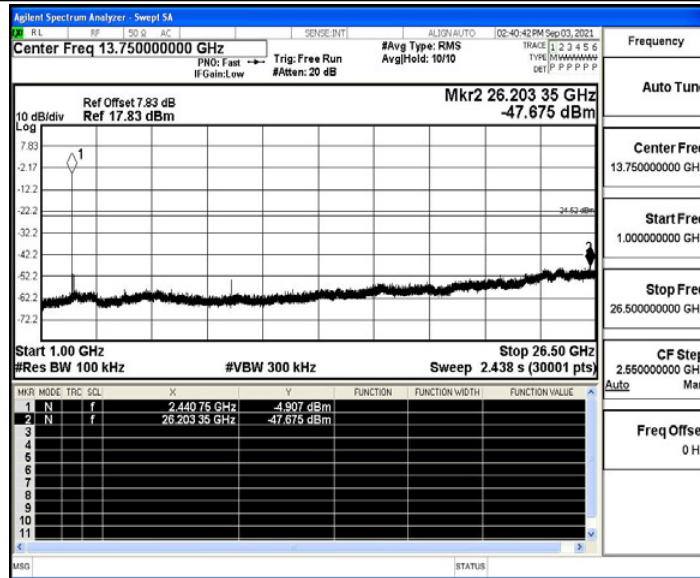


DH5_Ant1_2441_30~1000

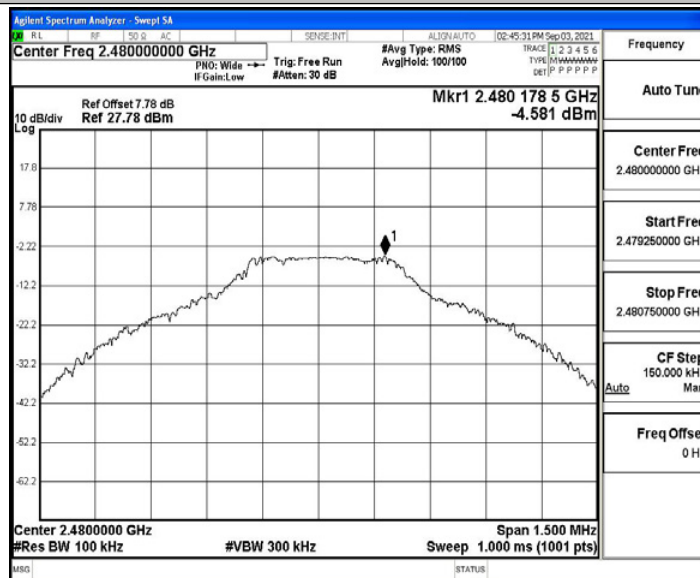




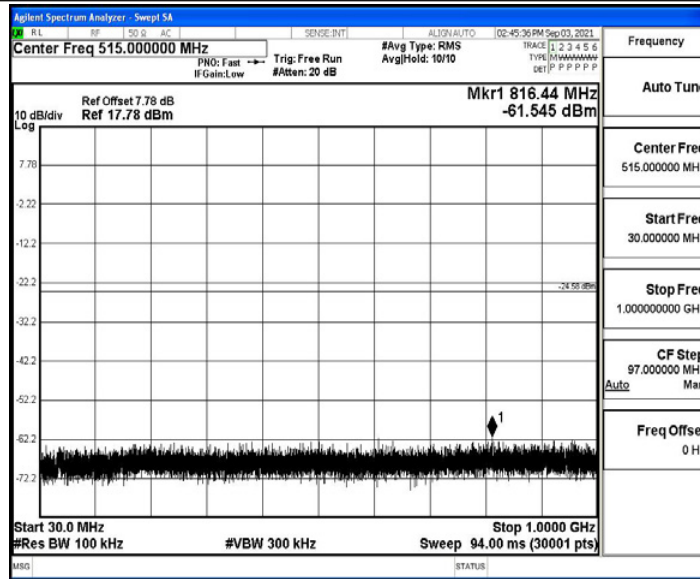
DH5_Ant1_2441_1000~26500



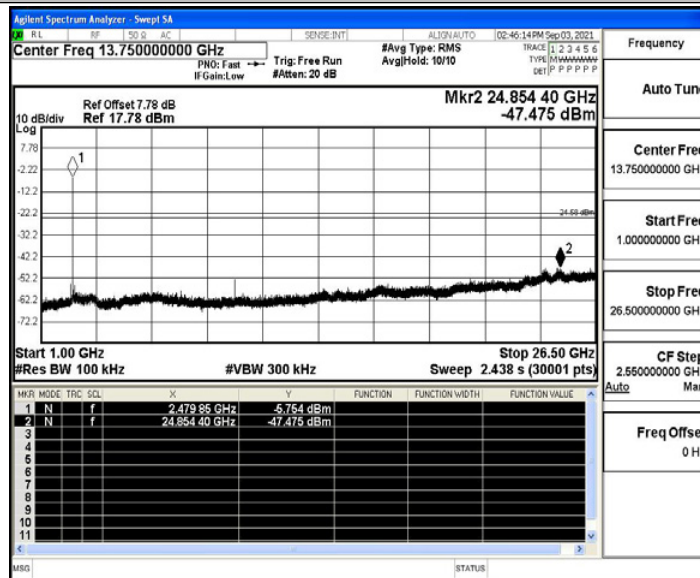
DH5_Ant1_2480_0~Reference



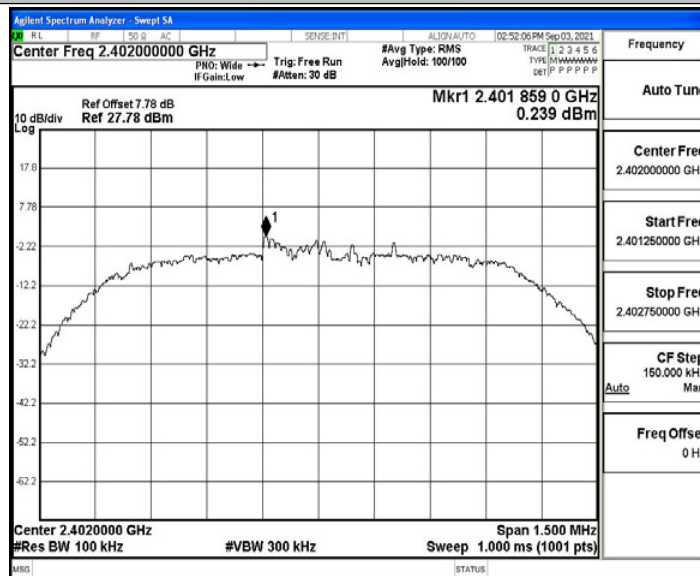
DH5_Ant1_2480_30~1000



DH5_Ant1_2480_1000~26500

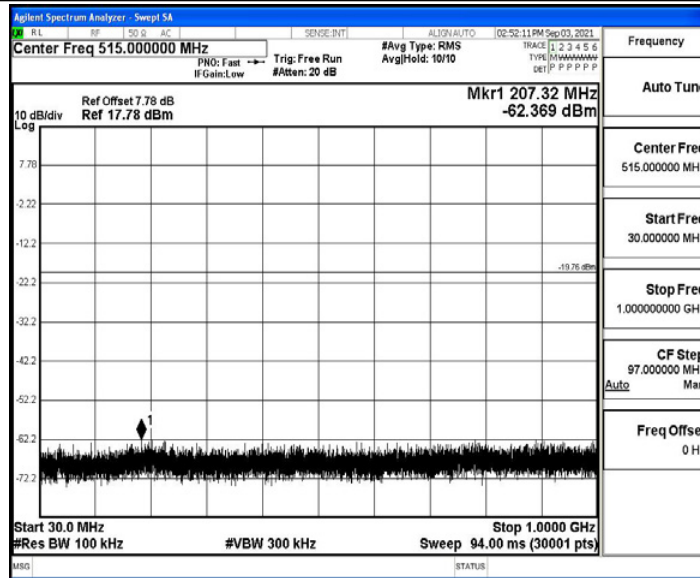


2DH5_Ant1_2402_0~Reference

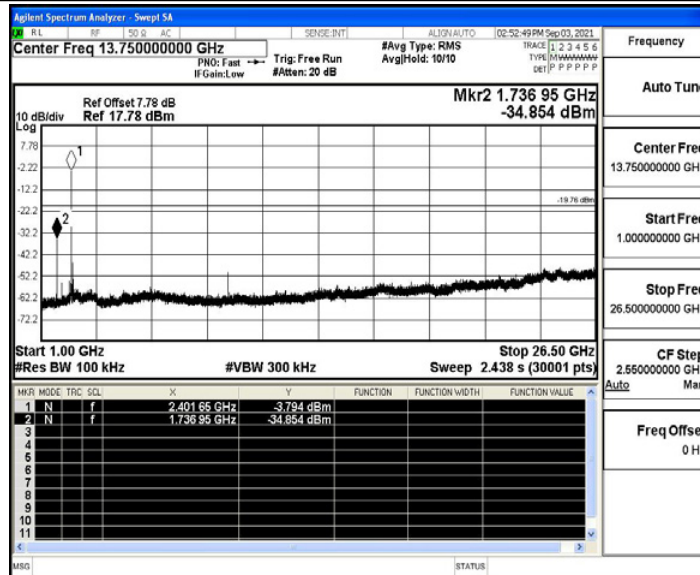




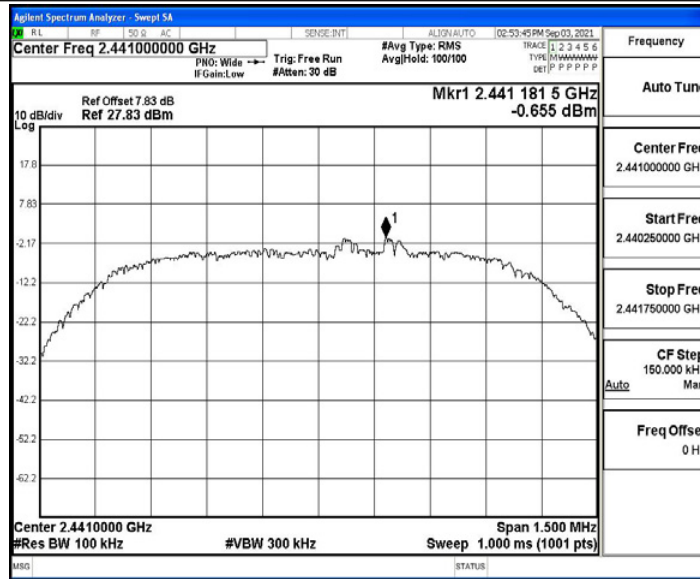
2DH5_Ant1_2402_30~1000



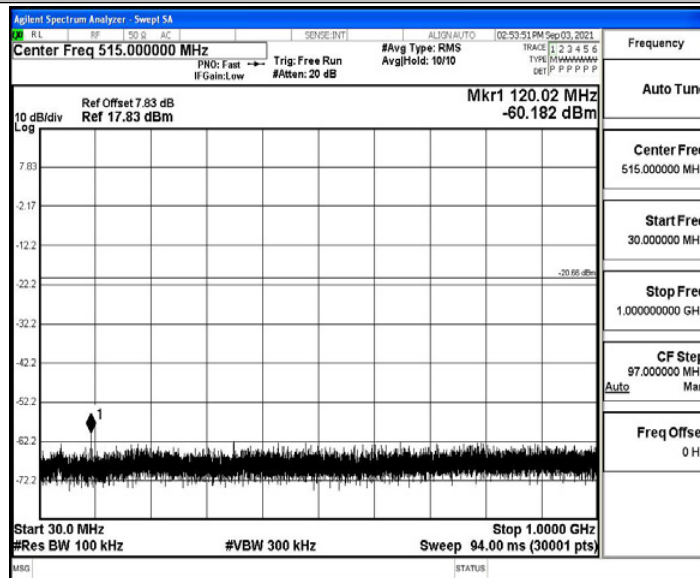
2DH5_Ant1_2402_1000~26500



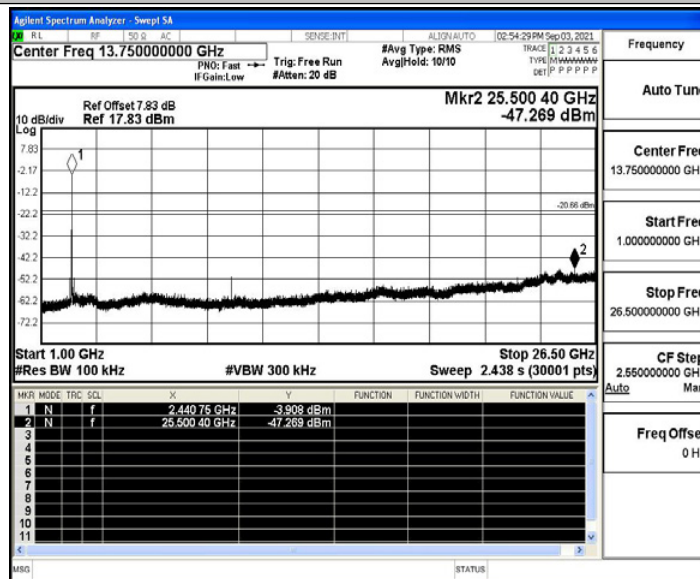
2DH5_Ant1_2441_0~Reference



2DH5_Ant1_2441_30~1000

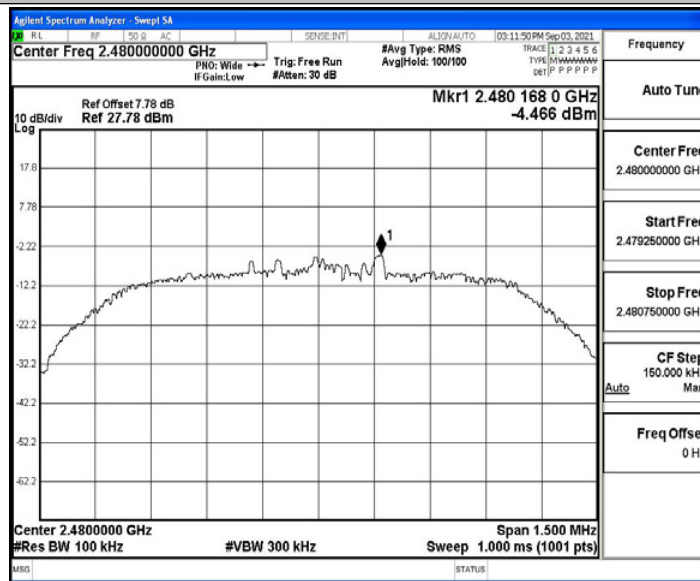


2DH5_Ant1_2441_1000~26500

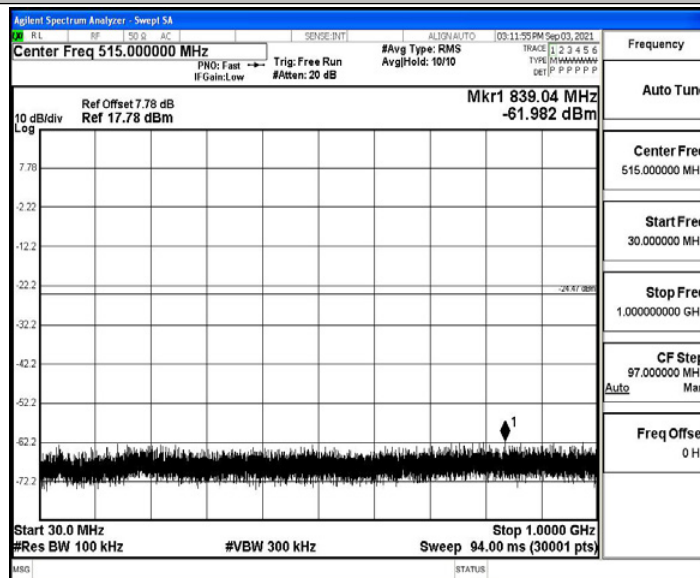




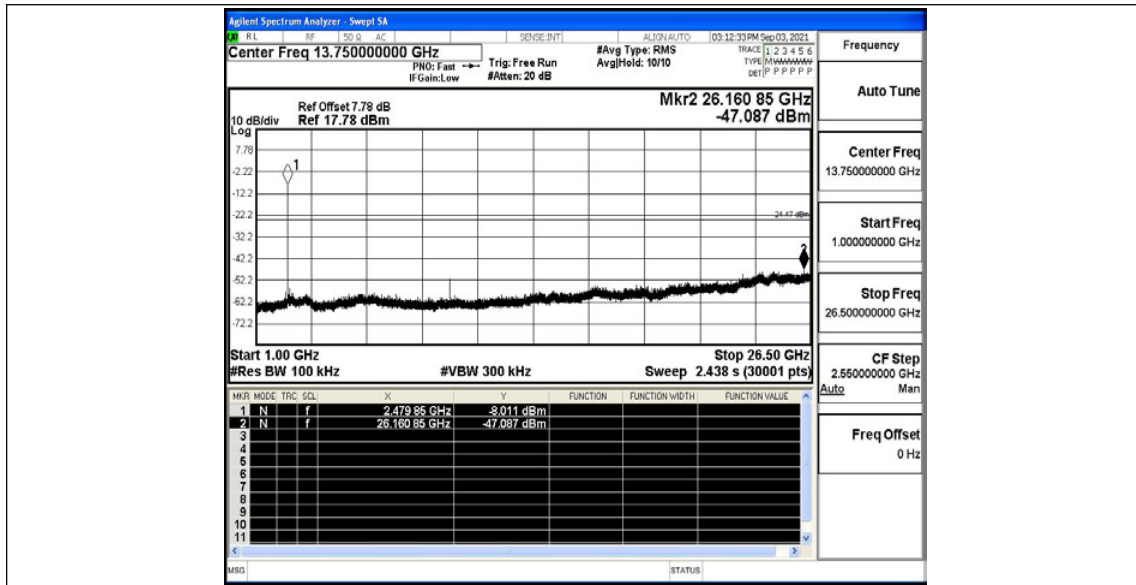
2DH5_Ant1_2480_0~Reference



2DH5_Ant1_2480_30~1000



2DH5_Ant1_2480_1000~26500





A.8 Emissions in Restricted Bands

Test Result

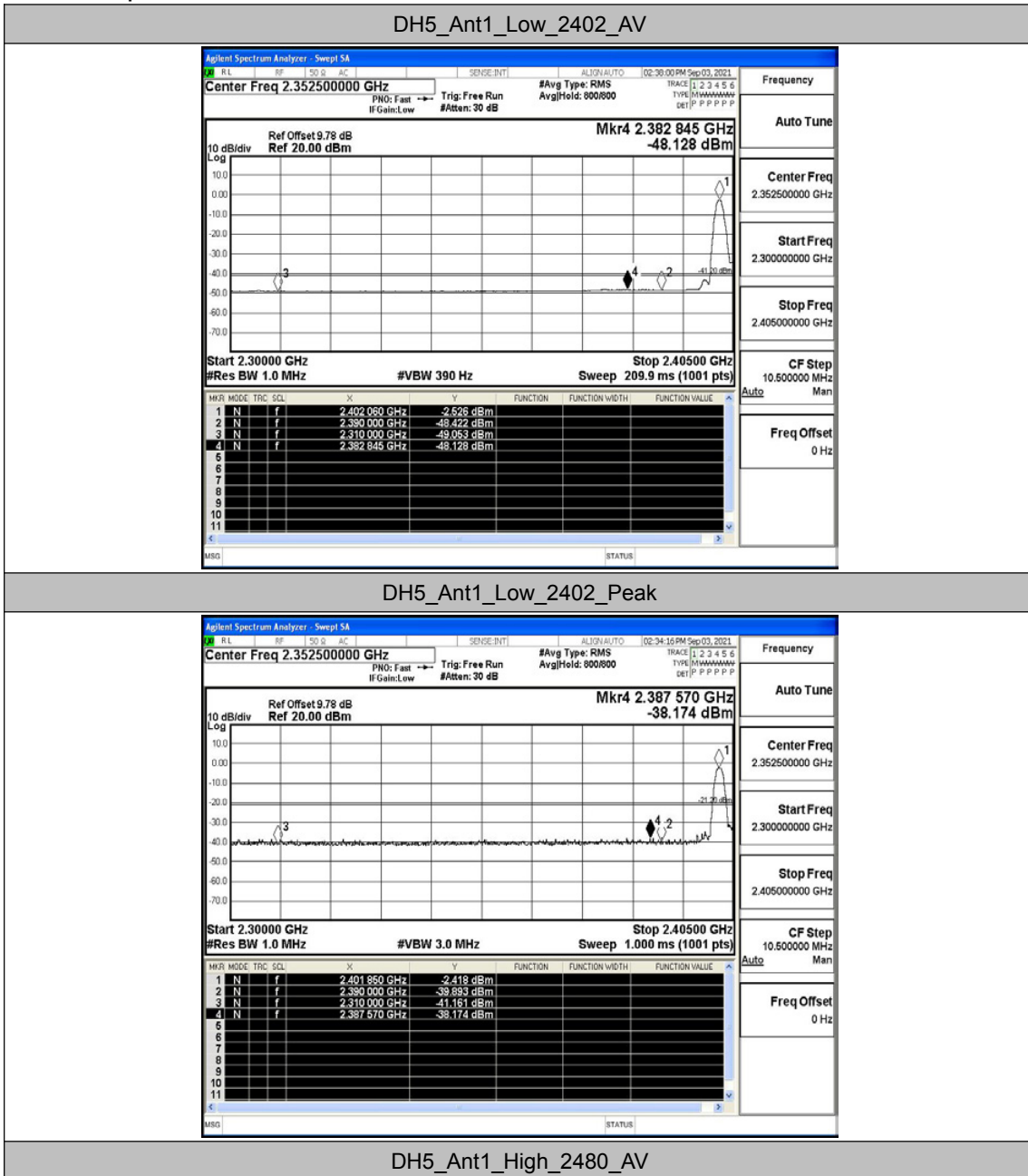
TestMode	Antenna	ChName	Channel	Detector	Freq. [MHz]	Result [dBm]	Limit [dBm]	Result [dBUV/m]	Limit [dBUV/m]	Verdict
DH5	Ant1	Low	2402	AV	2310.000	-49.05	≤-41.20	46.15	≤54	PASS
				AV	2382.845	-48.13	≤-41.20	47.07	≤54	PASS
				AV	2390.000	-48.42	≤-41.20	46.78	≤54	PASS
				Peak	2310.000	-41.16	≤-21.20	54.04	≤74	PASS
				Peak	2387.570	-38.17	≤-21.20	57.03	≤74	PASS
				Peak	2390.000	-39.89	≤-21.20	55.31	≤74	PASS
		High	2480	AV	2483.500	-45.83	≤-41.20	49.37	≤54	PASS
				AV	2483.520	-45.83	≤-41.20	49.37	≤54	PASS
				AV	2500.000	-47.44	≤-41.20	47.76	≤54	PASS
				Peak	2483.500	-37.59	≤-21.20	57.61	≤74	PASS
				Peak	2483.680	-36.26	≤-21.20	58.94	≤74	PASS
				Peak	2500.000	-39.73	≤-21.20	55.47	≤74	PASS
2DH5	Ant1	Low	2402	AV	2310.000	-49.08	≤-41.20	46.12	≤54	PASS
				AV	2378.540	-47.38	≤-41.20	47.82	≤54	PASS
				AV	2390.000	-47.79	≤-41.20	47.41	≤54	PASS
				Peak	2310.000	-40.86	≤-21.20	54.34	≤74	PASS
				Peak	2386.730	-37.81	≤-21.20	57.39	≤74	PASS
				Peak	2390.000	-38.19	≤-21.20	57.01	≤74	PASS
		High	2480	AV	2483.500	-43.52	≤-41.20	51.68	≤54	PASS
				AV	2483.520	-43.52	≤-41.20	51.68	≤54	PASS
				AV	2500.000	-47.74	≤-41.20	47.46	≤54	PASS
				Peak	2483.500	-35.47	≤-21.20	59.73	≤74	PASS
				Peak	2483.520	-35.47	≤-21.20	59.73	≤74	PASS
				Peak	2500.000	-39	≤-21.20	56.20	≤74	PASS

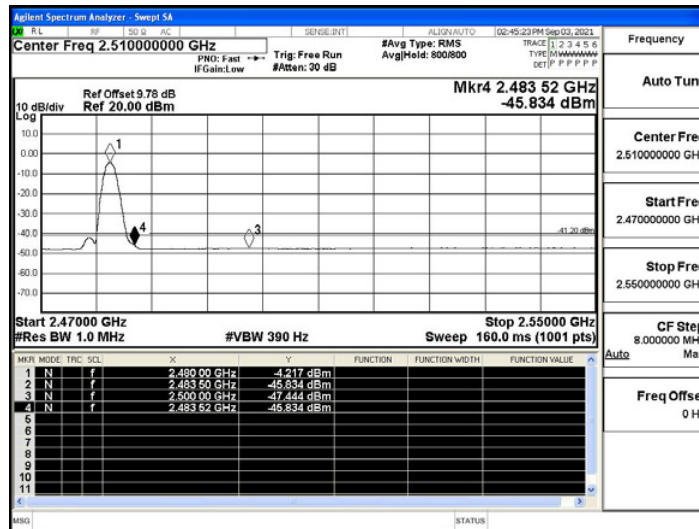
Note:

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.

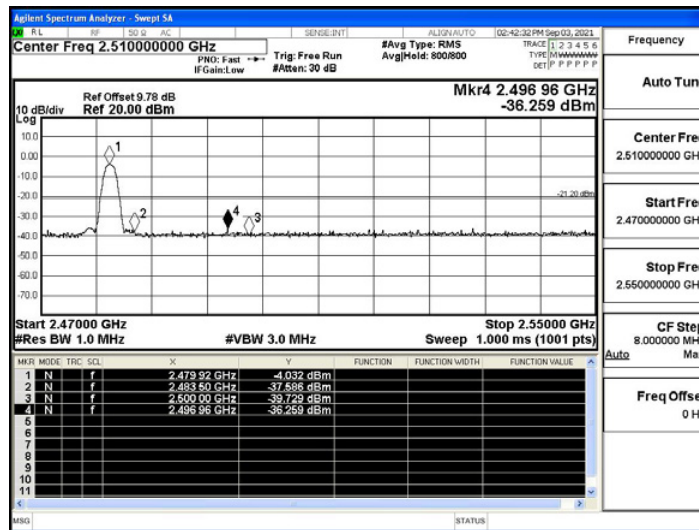


Test Graphs

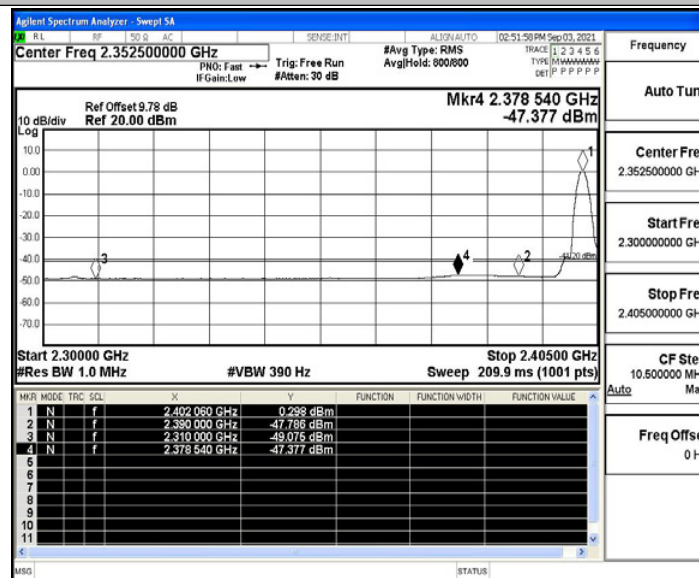




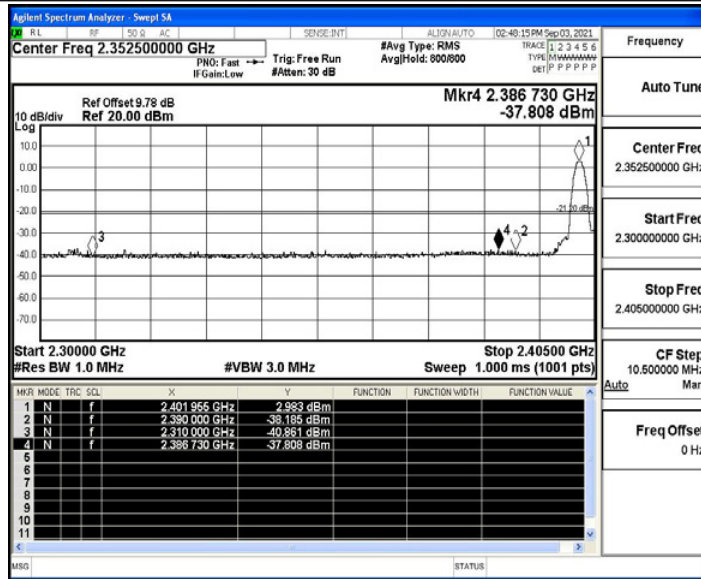
DH5_Ant1_High_2480_Peak



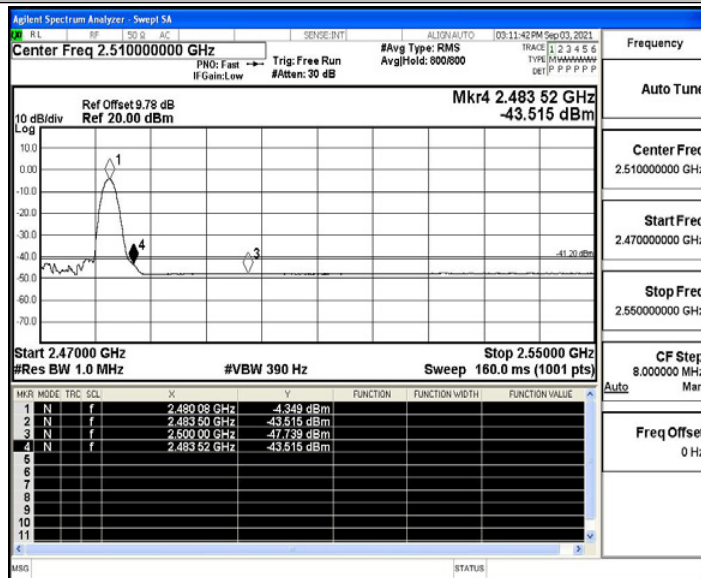
2DH5_Ant1_Low_2402_AV



2DH5_Ant1_Low_2402_Peak



2DH5_Ant1_High_2480_AV



2DH5_Ant1_High_2480_Peak

