



Appendix A

RF Test Data for BT (Conducted Measurement)

Product Name: Bluetooth speaker

Test Model: FLS-196

Environmental Conditions

Temperature:	22.5° C
Relative Humidity:	53.5%
ATM Pressure:	100.0 kPa
Test Engineer:	Ling Zhu
Supervised by:	Li huan

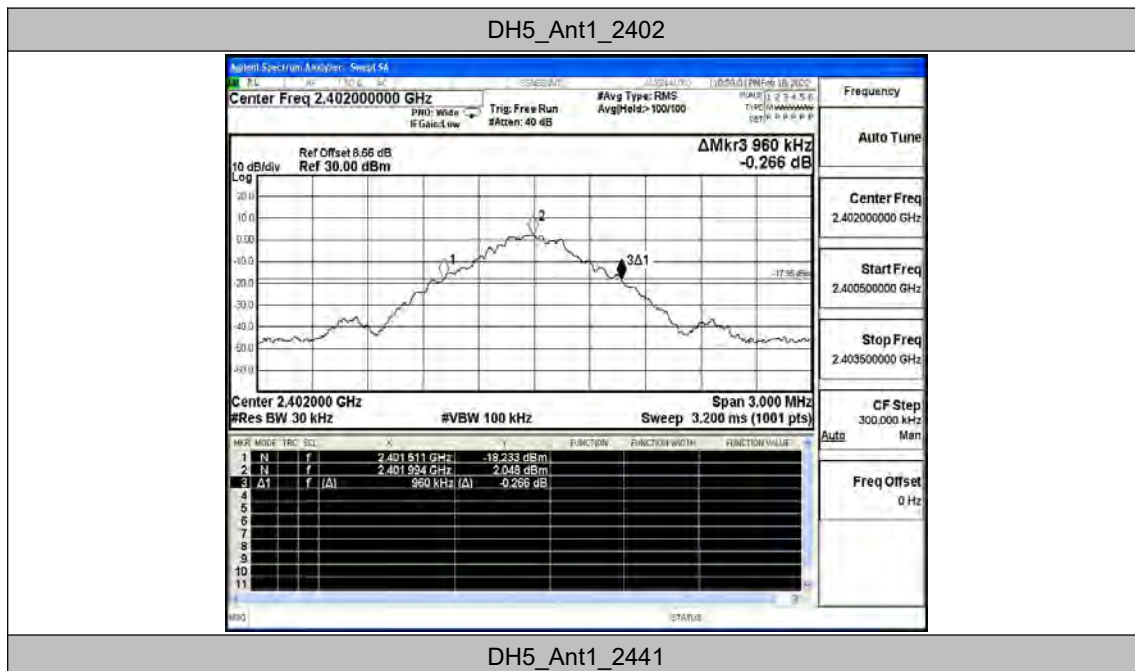


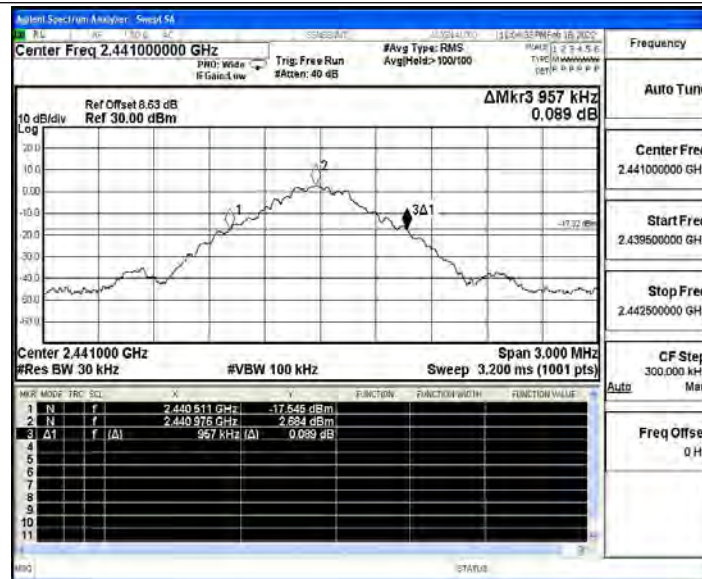
A.1 20dB Emission Bandwidth

Test Result

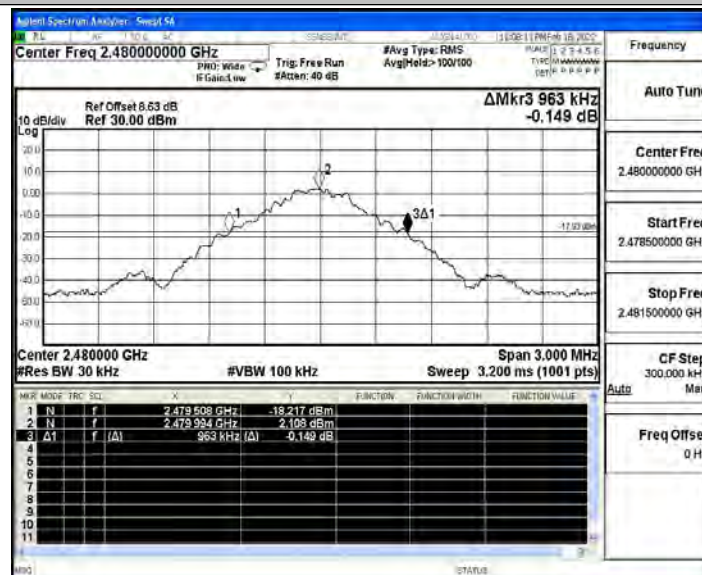
TestMode	Antenna	Channel	20db EBW[MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
DH5	Ant1	2402	0.960	2401.511	2402.471	---	---
		2441	0.957	2440.511	2441.468	---	---
		2480	0.963	2479.508	2480.471	---	---
2DH5	Ant1	2402	1.314	2401.316	2402.630	---	---
		2441	1.317	2440.316	2441.633	---	---
		2480	1.314	2479.316	2480.630	---	---

Test Graphs

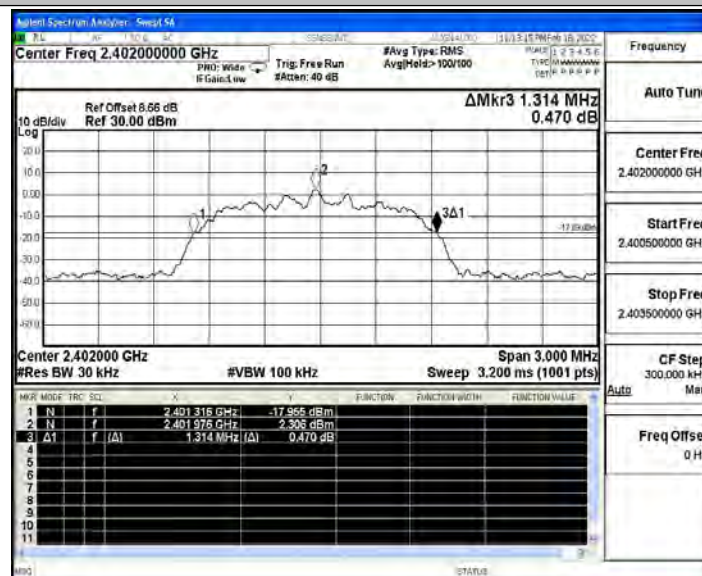




DH5_Ant1_2480

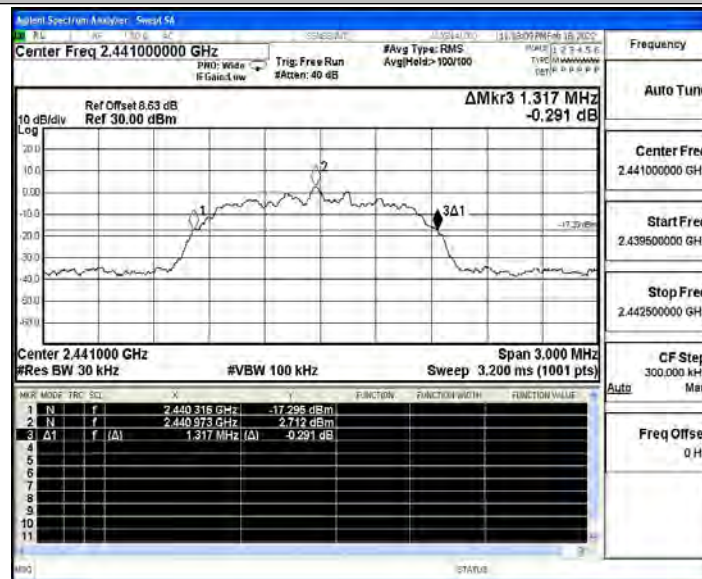


2DH5_Ant1_2402

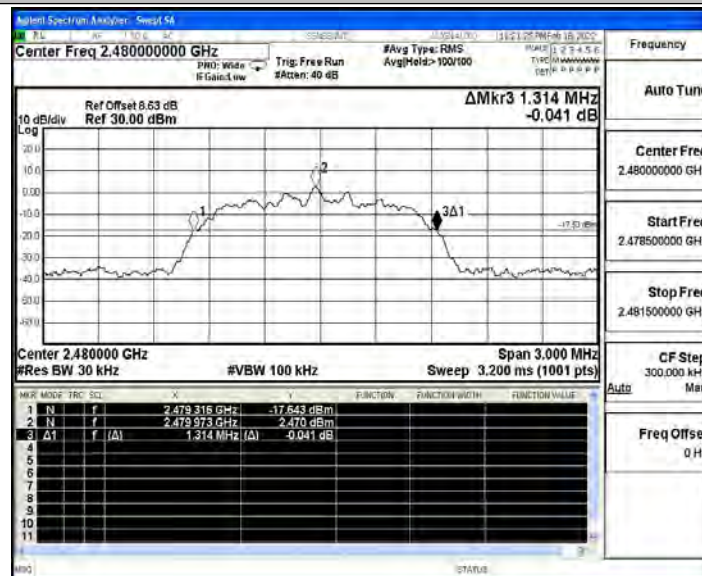




2DH5_Ant1_2441



2DH5_Ant1_2480



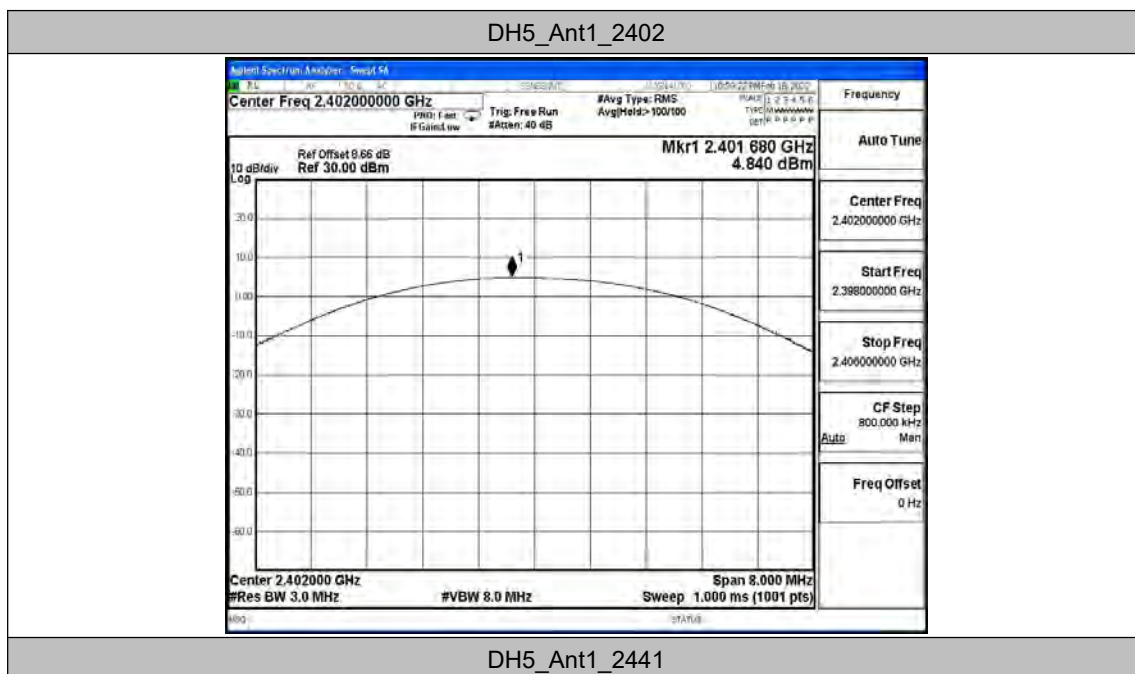


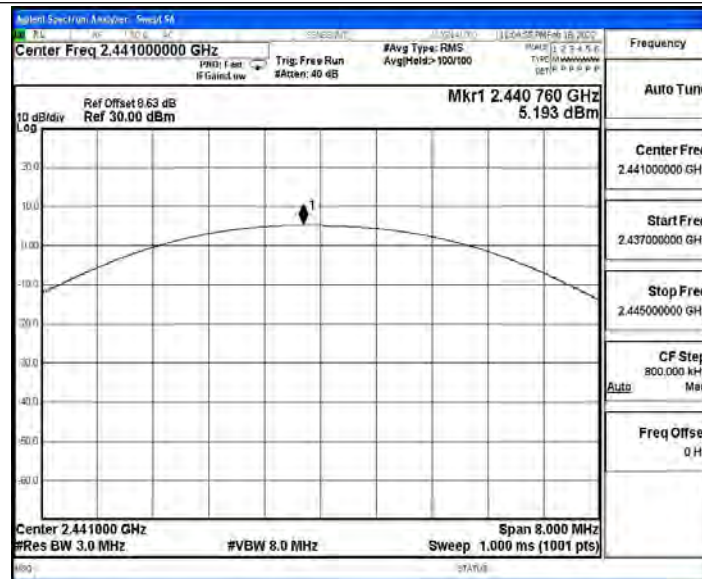
A.2 Maximum conducted output power

Test Result

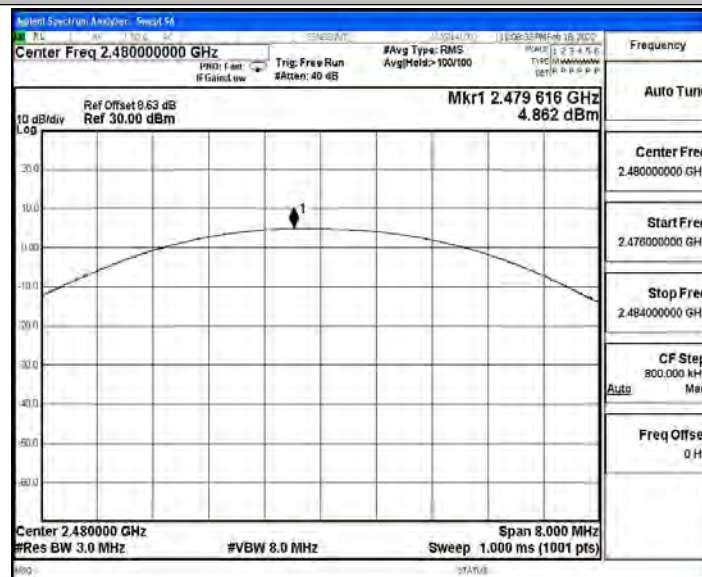
TestMode	Antenna	Channel	Result[dBm]	Limit[dBm]	Verdict
DH5	Ant1	2402	4.84	≤20.97	PASS
		2441	5.19	≤20.97	PASS
		2480	4.86	≤20.97	PASS
2DH5	Ant1	2402	5.53	≤20.97	PASS
		2441	5.88	≤20.97	PASS
		2480	5.54	≤20.97	PASS

Test Graphs

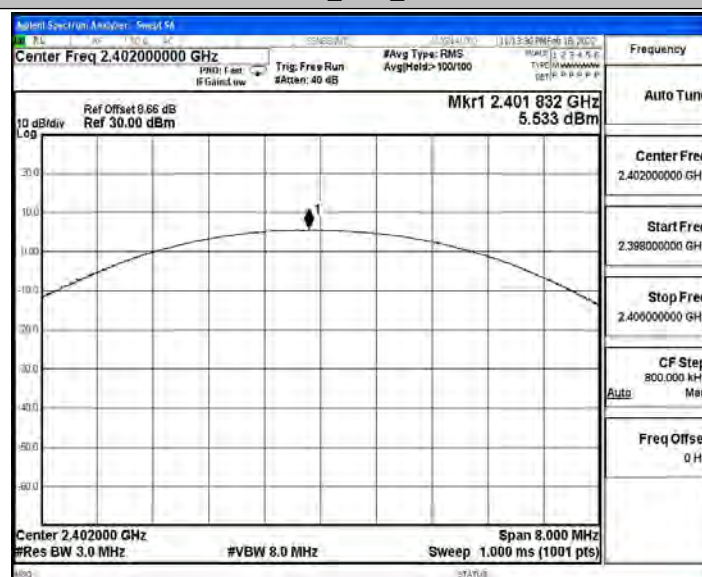




DH5_Ant1_2480

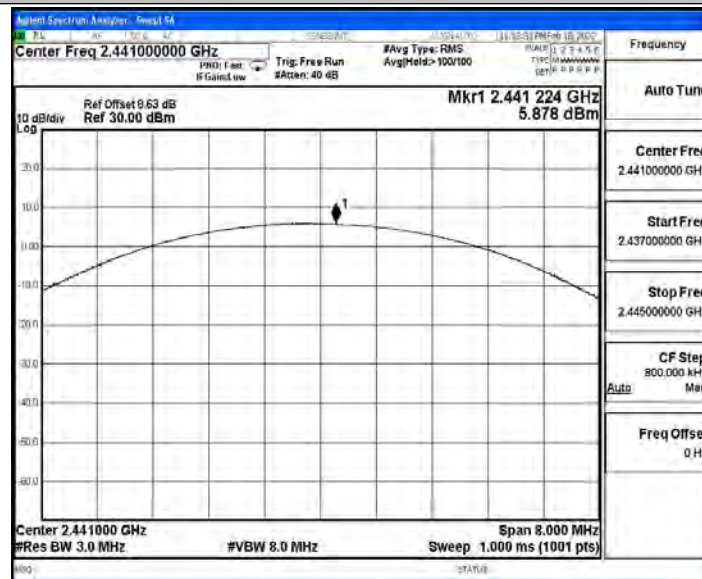


2DH5_Ant1_2402

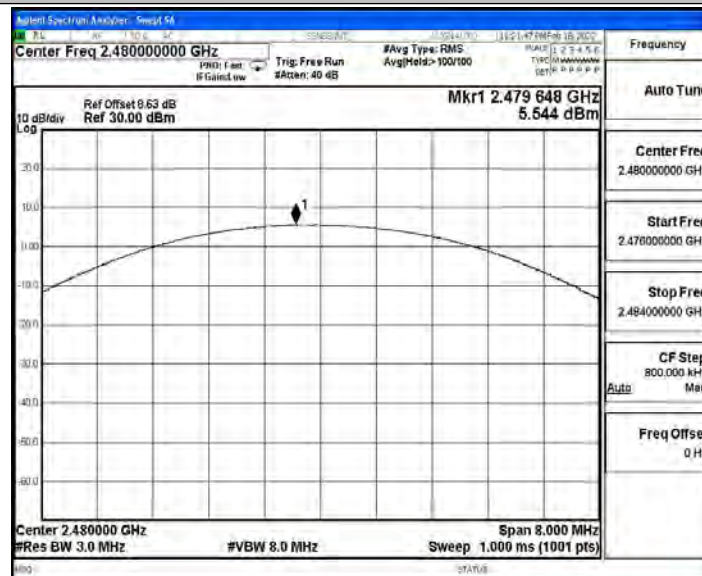




2DH5_Ant1_2441



2DH5_Ant1_2480



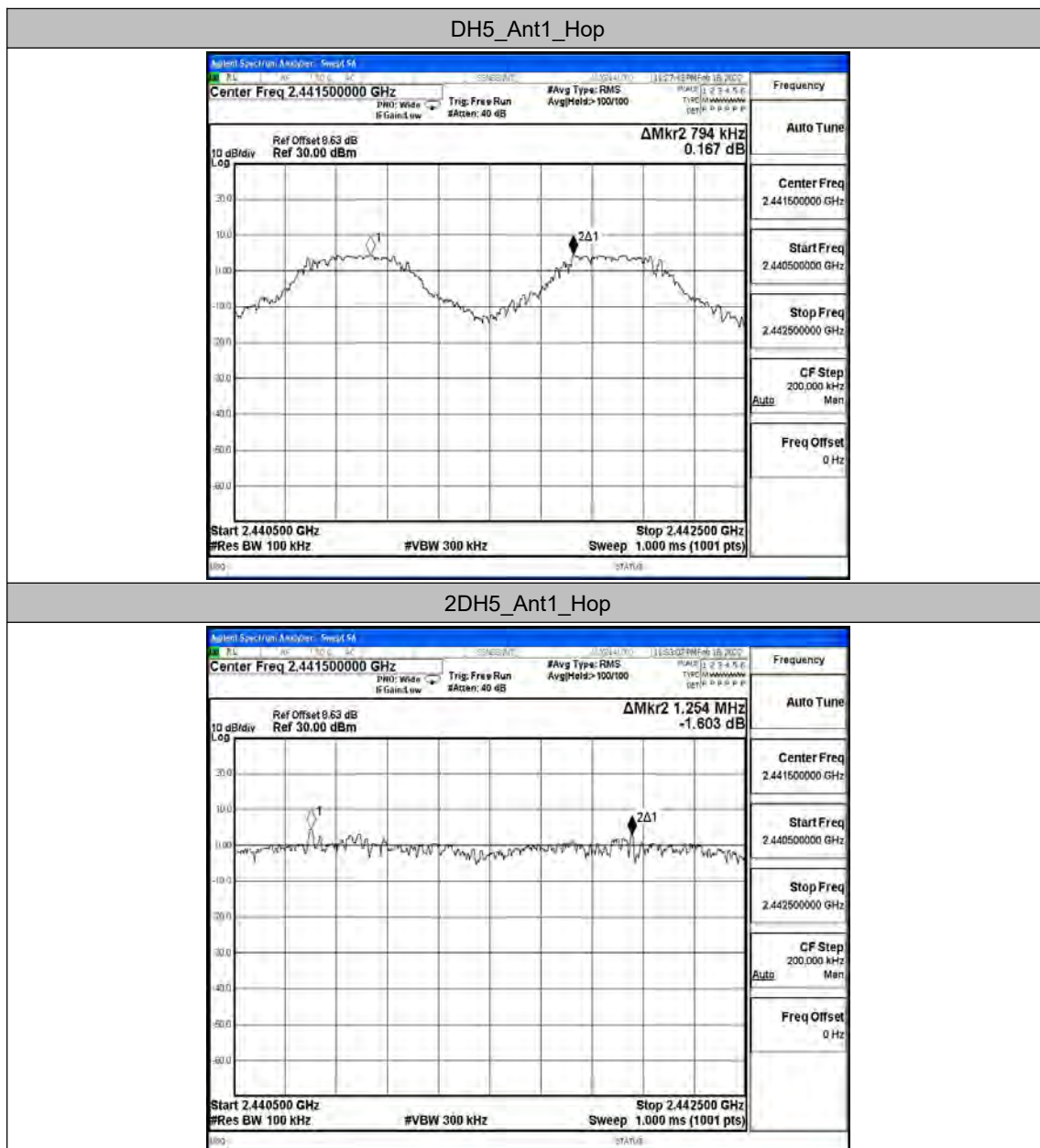


A.3 Carrier frequency separation

Test Result

TestMode	Antenna	Channel	Result[MHz]	Limit[MHz]	Verdict
DH5	Ant1	Hop	0.794	≥ 0.642	PASS
2DH5	Ant1	Hop	1.254	≥ 0.878	PASS

Test Graphs



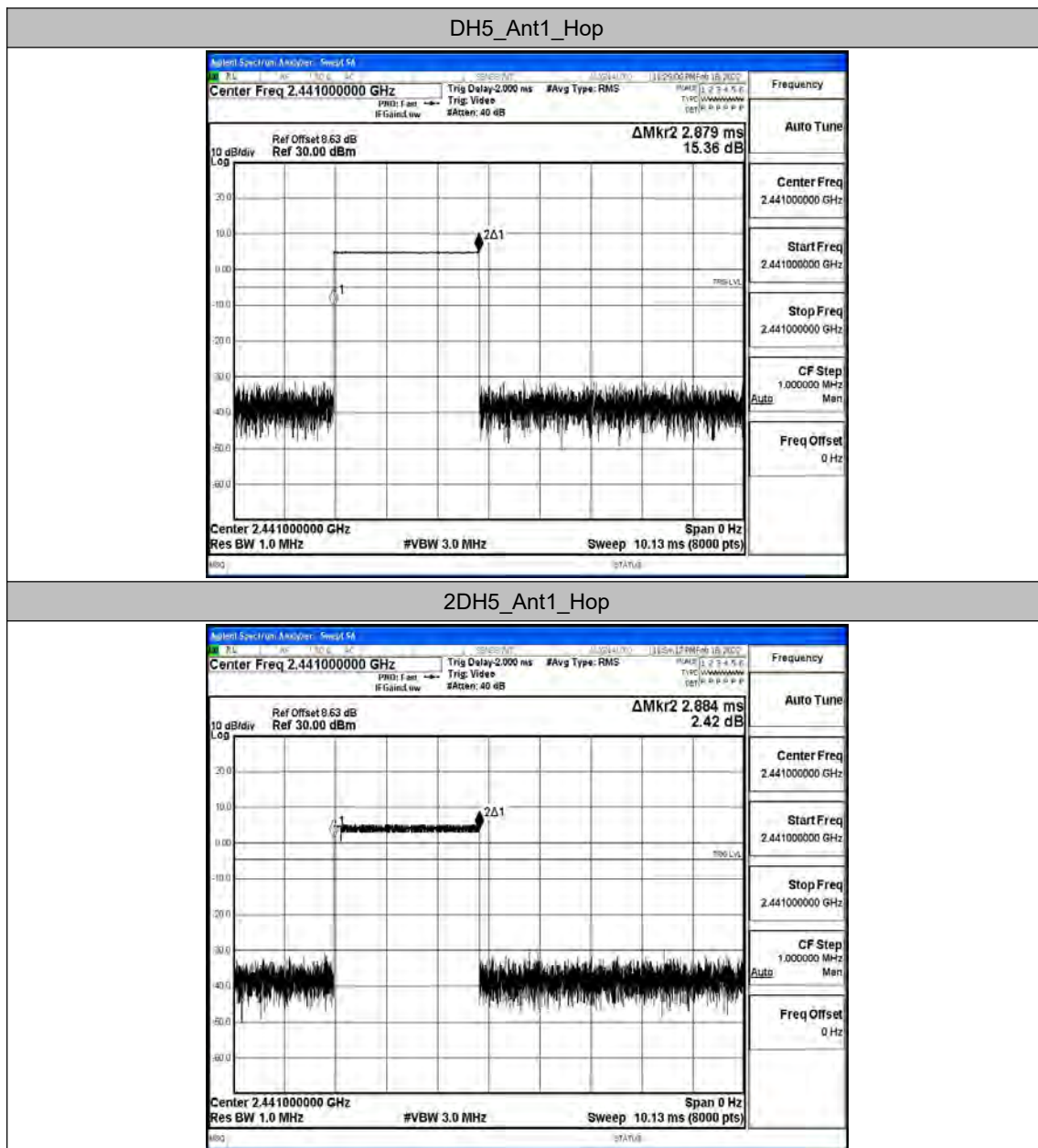


A.4 Time of occupancy

Test Result

TestMode	Antenna	Channel	BurstWidth [ms]	TotalHops [Num]	Result[s]	Limit[s]	Verdict
DH5	Ant1	Hop	2.88	106.67	0.307	≤0.4	PASS
2DH5	Ant1	Hop	2.88	106.67	0.308	≤0.4	PASS

Test Graphs



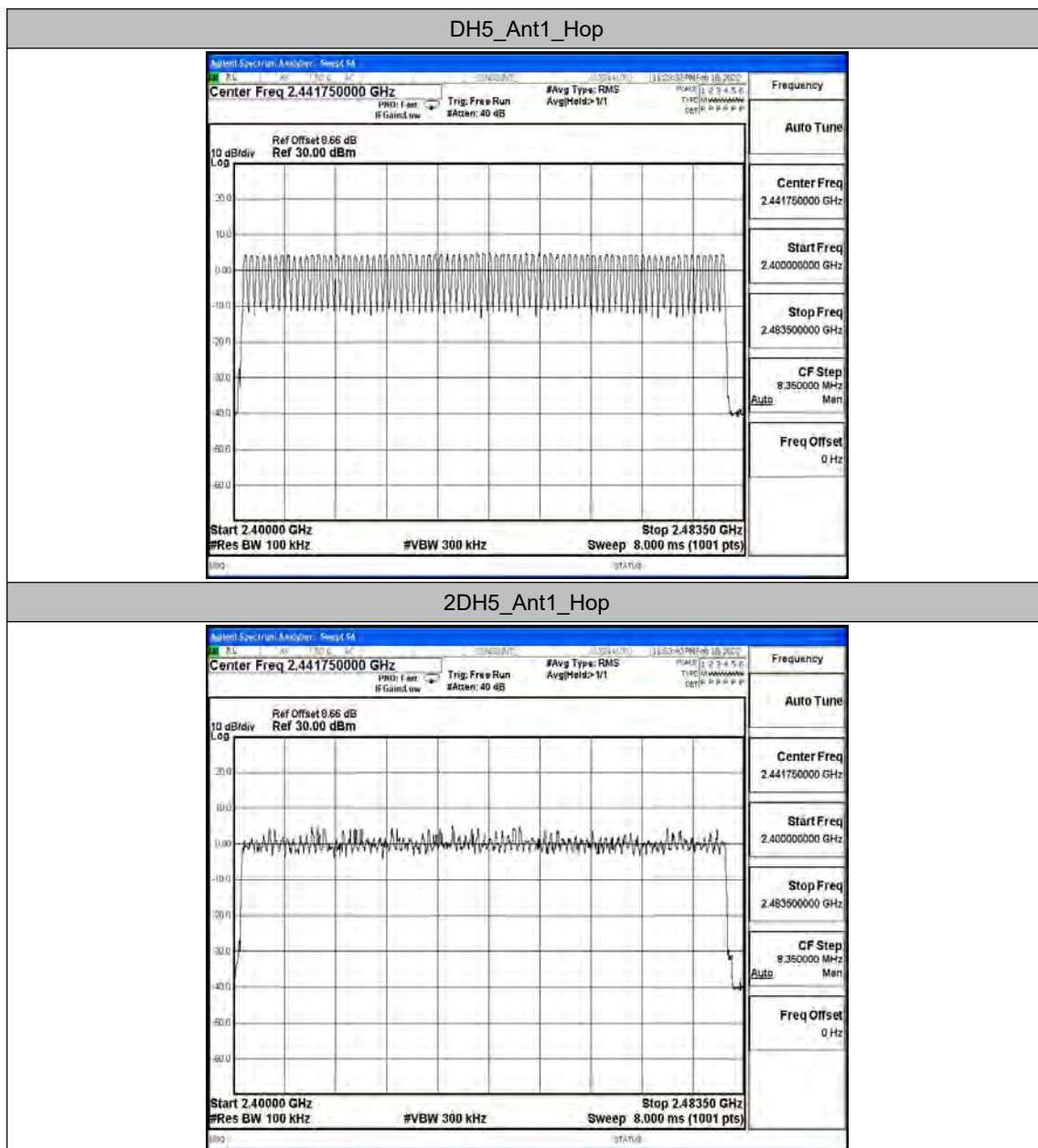


A.5 Number of hopping channels

Test Result

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

Test Graphs



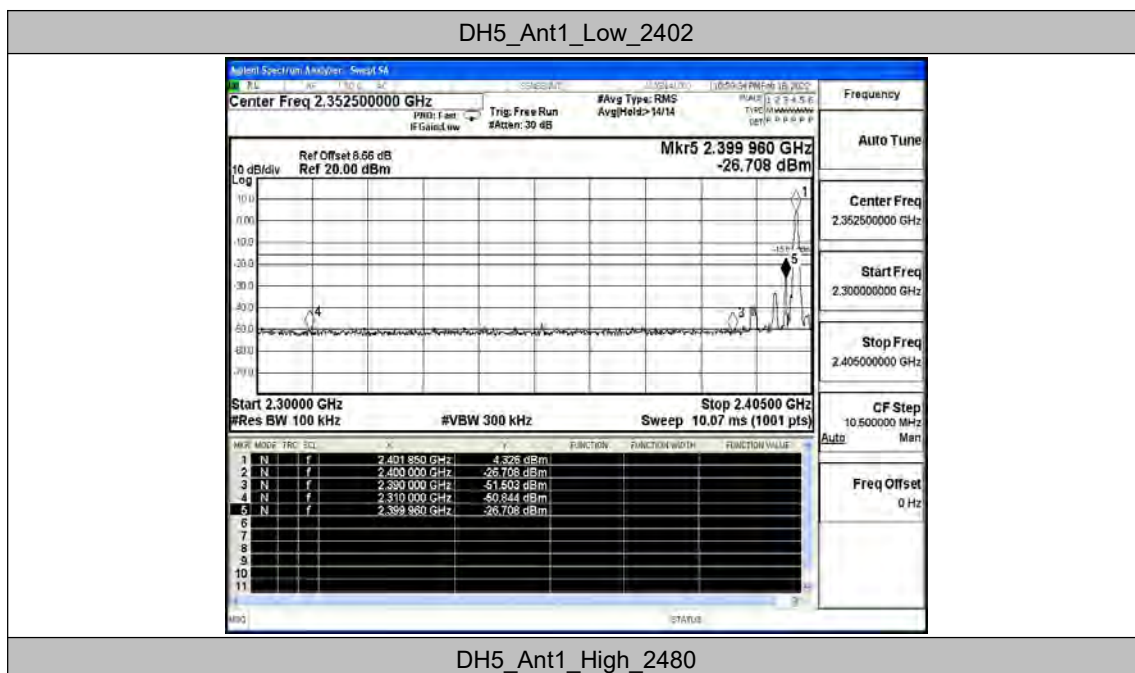


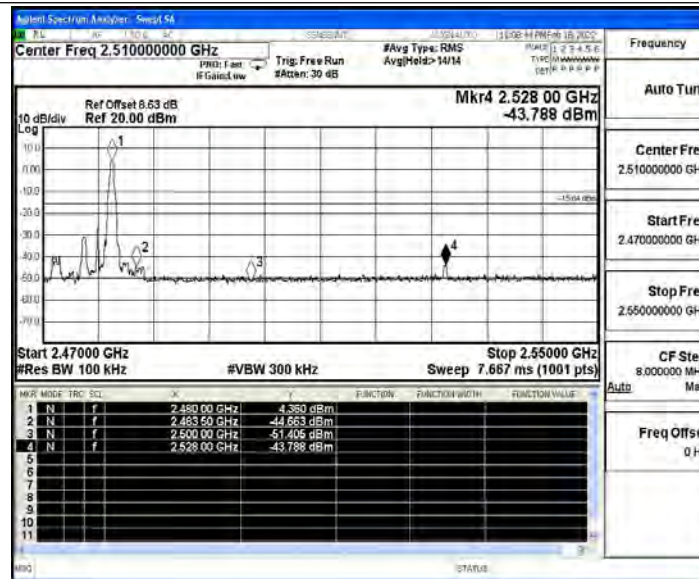
A.6 Band edge measurements

Test Result

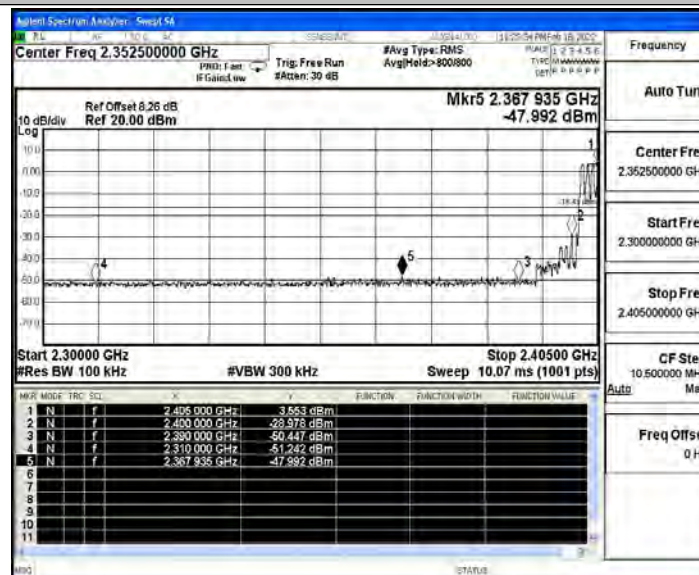
TestMode	Antenna	ChName	Channel	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
DH5	Ant1	Low	2402	4.33	-28.03	≤-15.67	PASS
		High	2480	4.36	-43.79	≤-15.64	PASS
		Low	Hop_2402	3.55	-47.99	≤-16.45	PASS
		High	Hop_2480	4.11	-44.75	≤-15.89	PASS
2DH5	Ant1	Low	2402	3.17	-26.64	≤-16.83	PASS
		High	2480	4.54	-44.13	≤-15.46	PASS
		Low	Hop_2402	0.62	-49.27	≤-19.38	PASS
		High	Hop_2480	3.26	-46.42	≤-16.74	PASS

Test Graphs

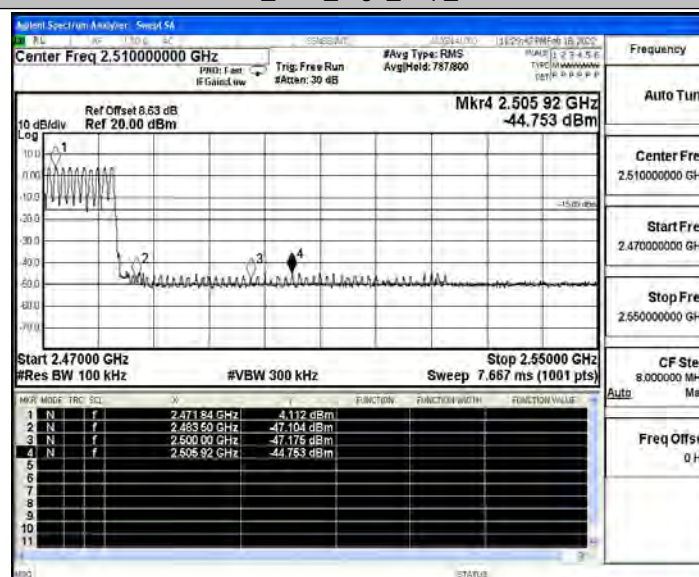




DH5_Ant1_Low_Hop_2402

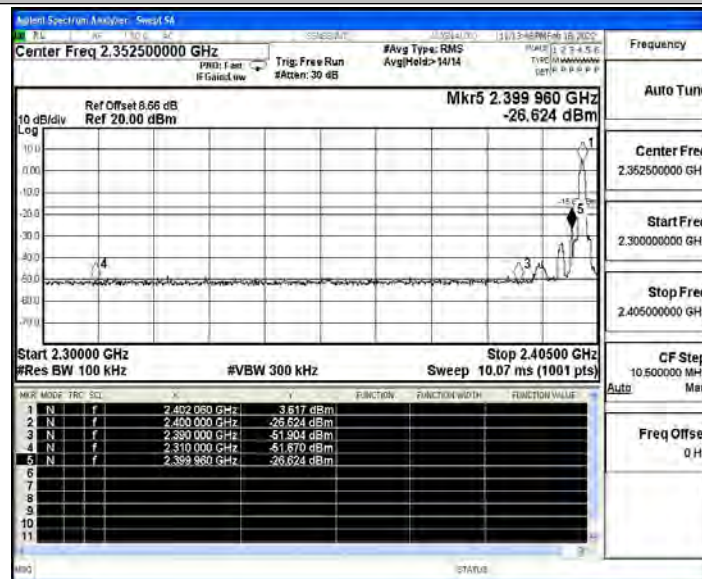


DH5_Ant1_High_Hop_2480

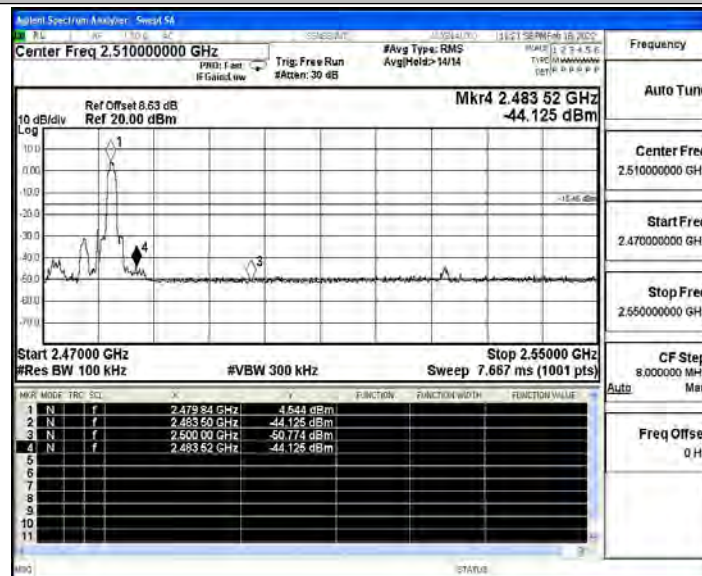




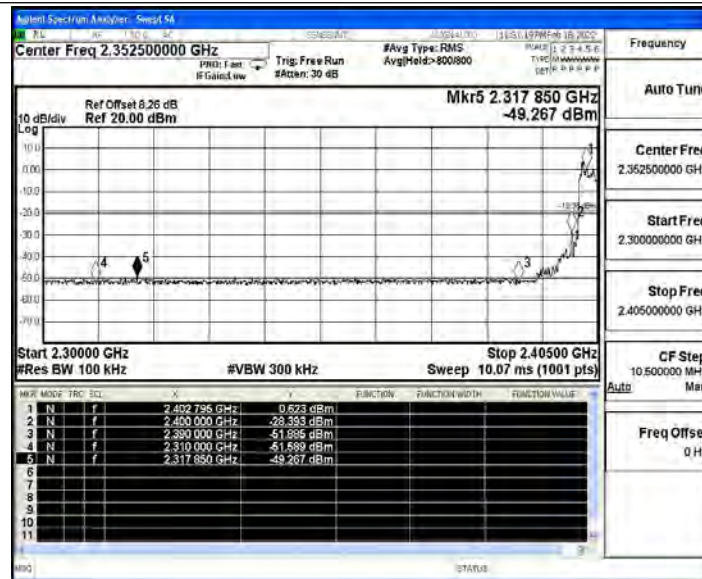
2DH5_Ant1_Low_2402



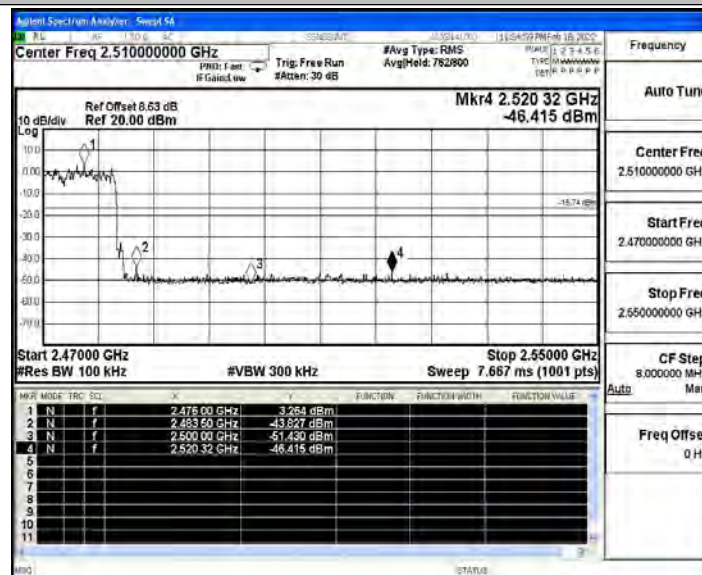
2DH5_Ant1_High_2480



2DH5_Ant1_Low_Hop_2402



2DH5_Ant1_High_Hop_2480



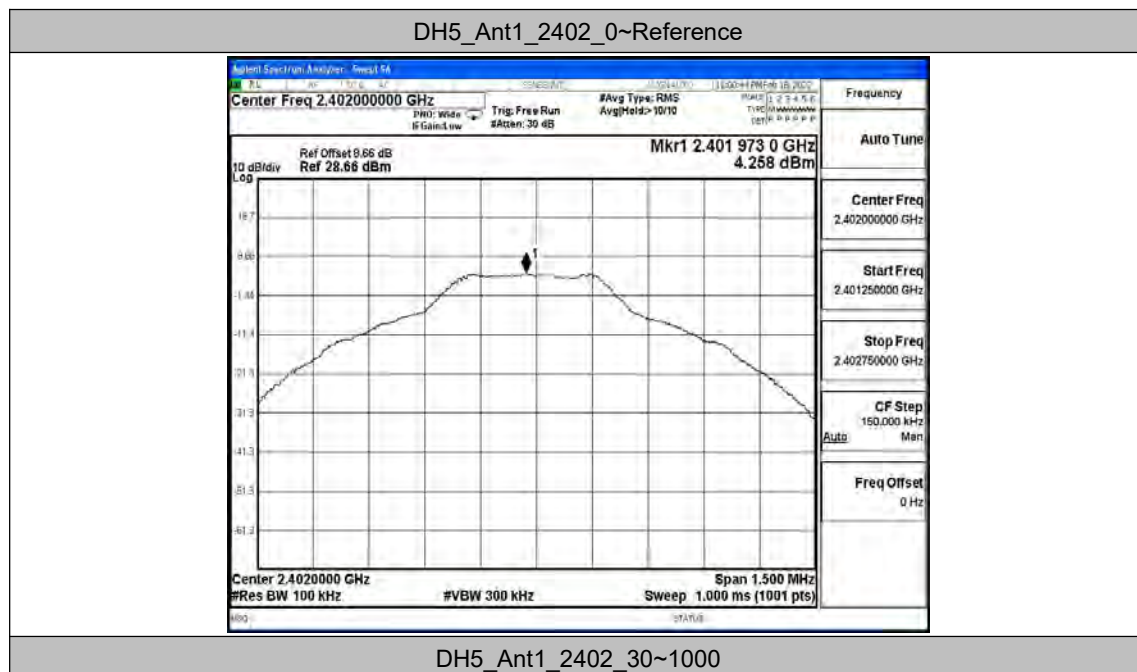


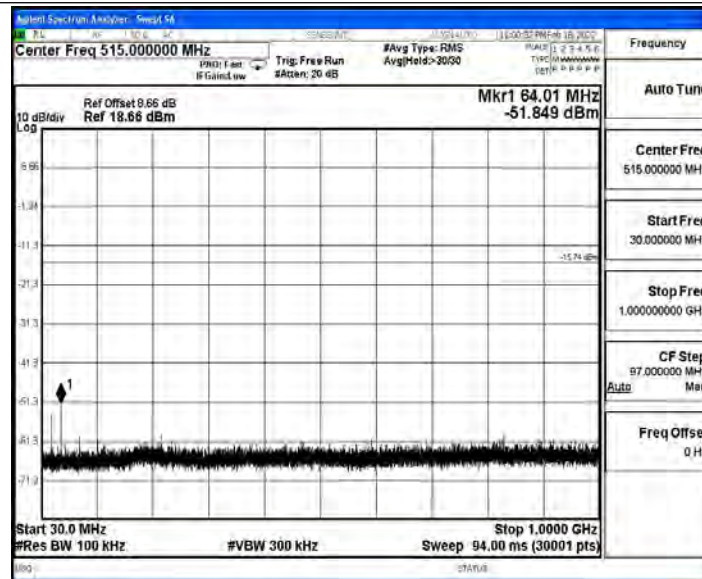
A.7 Conducted Spurious Emission

Test Result

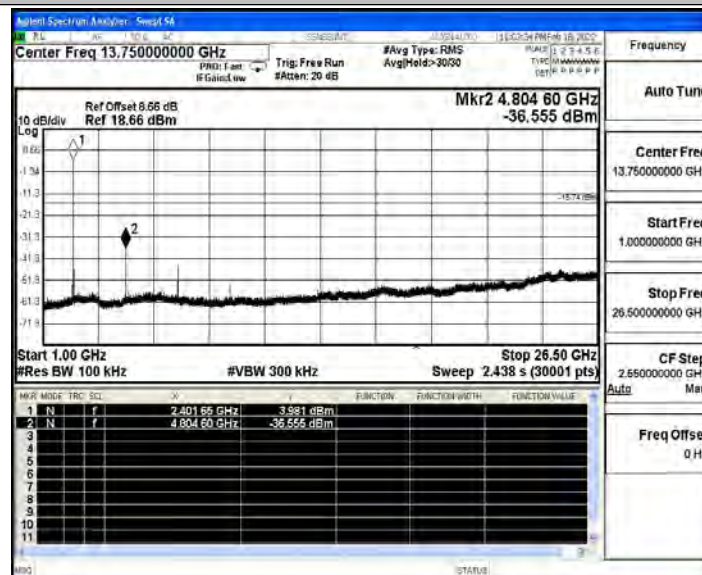
TestMode	Antenna	Channel	FreqRange [MHz]	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
DH5	Ant1	2402	Reference	4.26	4.26	---	PASS
			30~1000	4.26	-51.85	≤-15.74	PASS
			1000~26500	4.26	-36.56	≤-15.74	PASS
		2441	Reference	4.59	4.59	---	PASS
			30~1000	4.59	-54.37	≤-15.41	PASS
			1000~26500	4.59	-35.34	≤-15.41	PASS
		2480	Reference	4.15	4.15	---	PASS
			30~1000	4.15	-53.28	≤-15.85	PASS
			1000~26500	4.15	-36.14	≤-15.85	PASS
2DH5	Ant1	2402	Reference	4.18	4.18	---	PASS
			30~1000	4.18	-52.46	≤-15.82	PASS
			1000~26500	4.18	-36.29	≤-15.82	PASS
		2441	Reference	4.81	4.81	---	PASS
			30~1000	4.81	-52.37	≤-15.19	PASS
			1000~26500	4.81	-36.36	≤-15.19	PASS
		2480	Reference	4.51	4.51	---	PASS
			30~1000	4.51	-53.47	≤-15.49	PASS
			1000~26500	4.51	-35.57	≤-15.49	PASS

Test Graphs

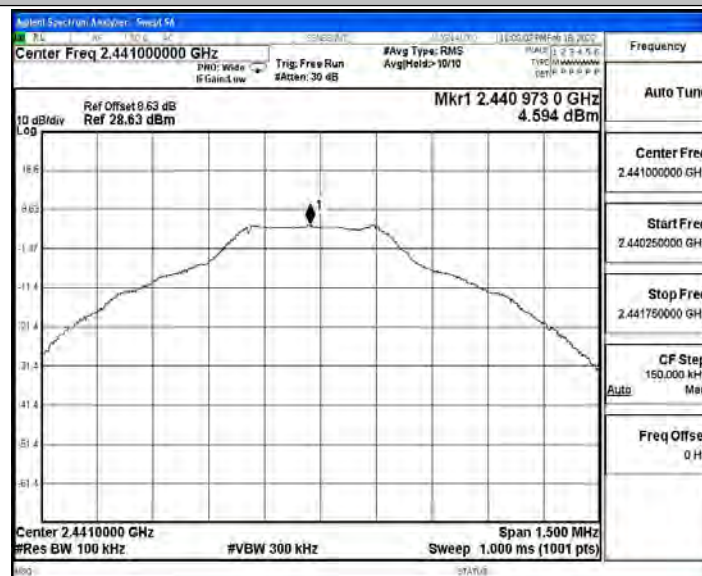




DH5_Ant1_2402_1000~26500

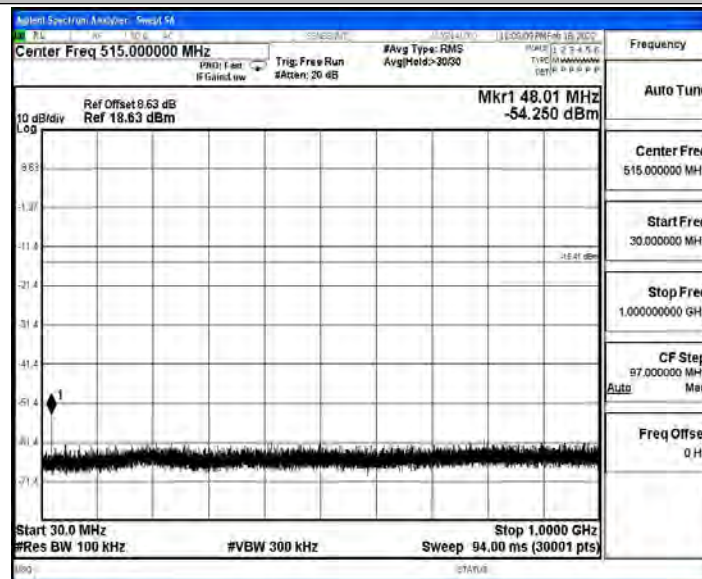


DH5_Ant1_2441_0~Reference

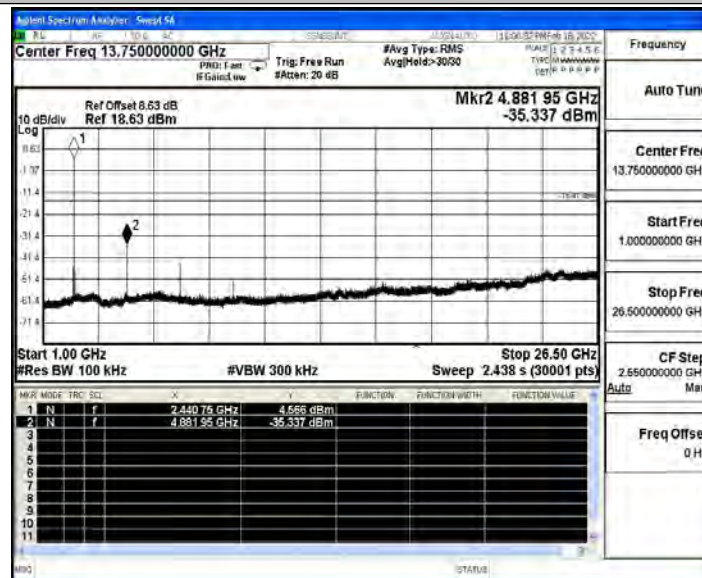




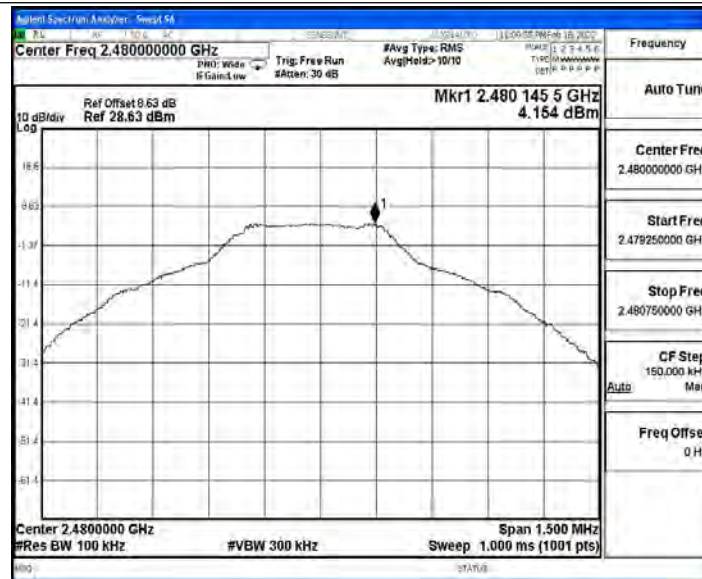
DH5_Ant1_2441_30~1000



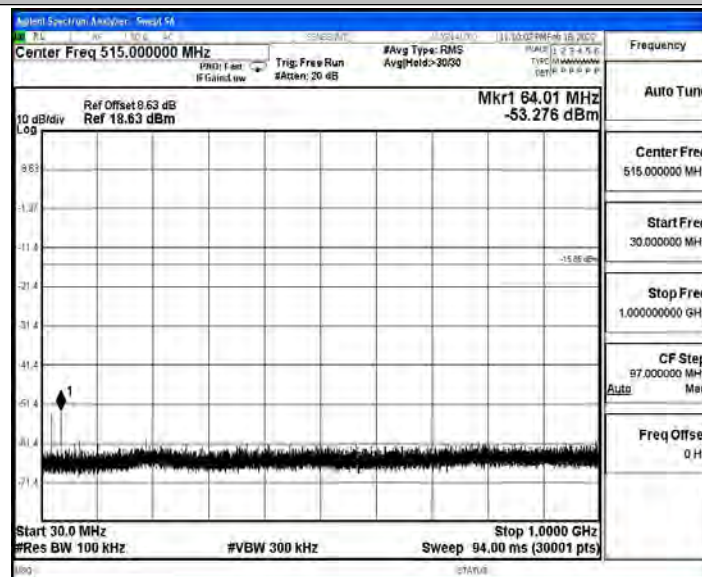
DH5_Ant1_2441_1000~26500



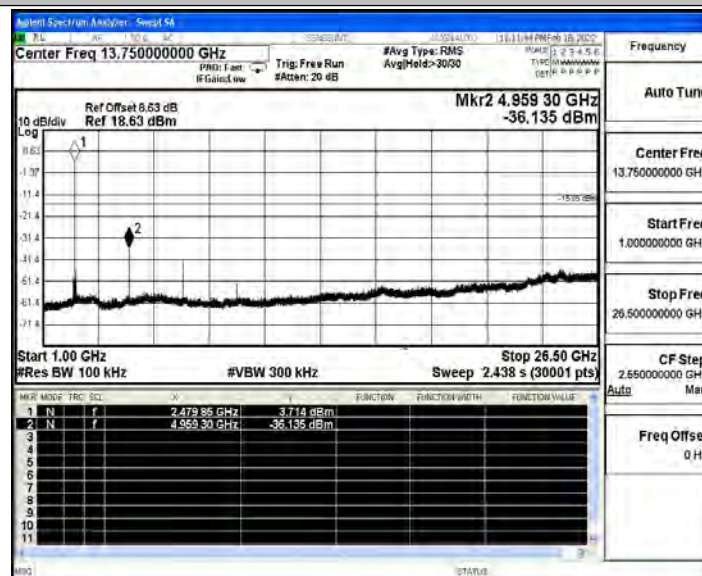
DH5_Ant1_2480_0~Reference



DH5_Ant1_2480_30~1000

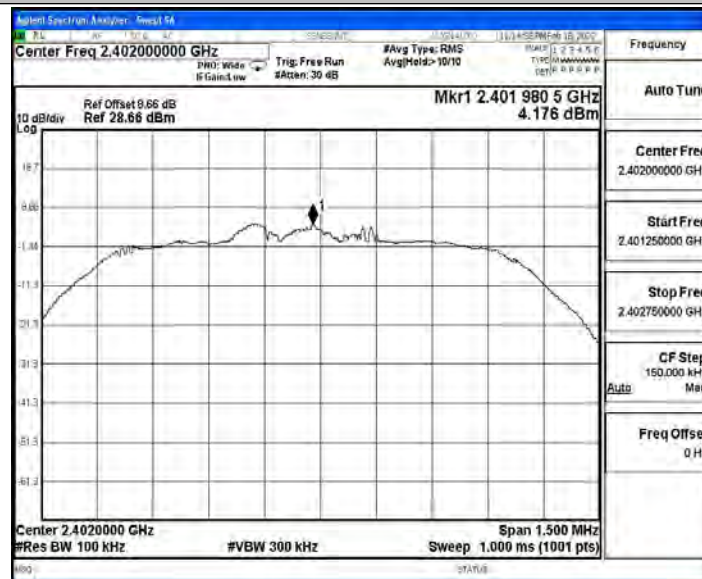


DH5_Ant1_2480_1000~26500

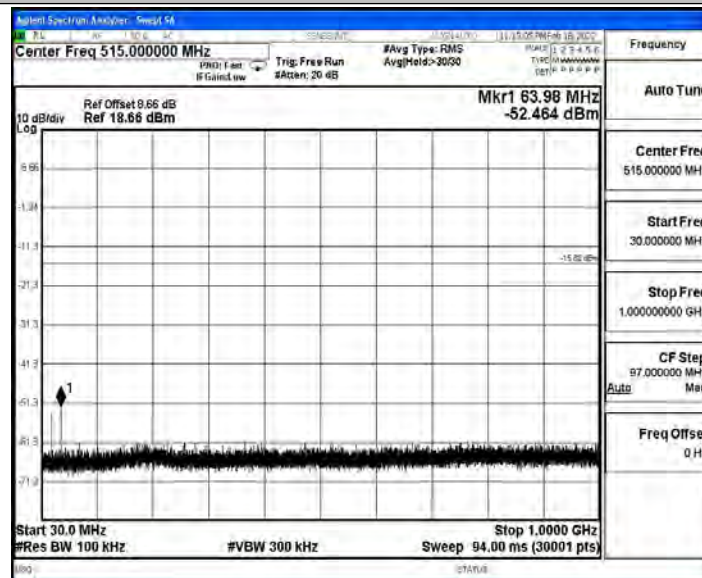




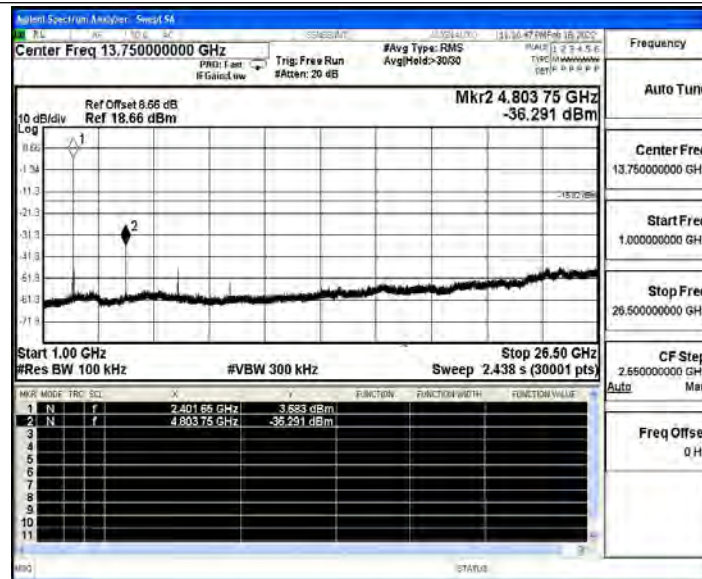
2DH5_Ant1_2402_0~Reference



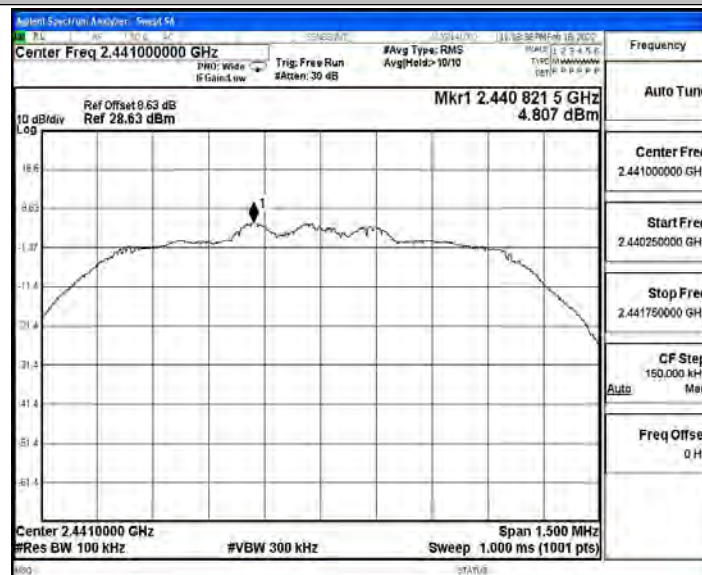
2DH5_Ant1_2402_30~1000



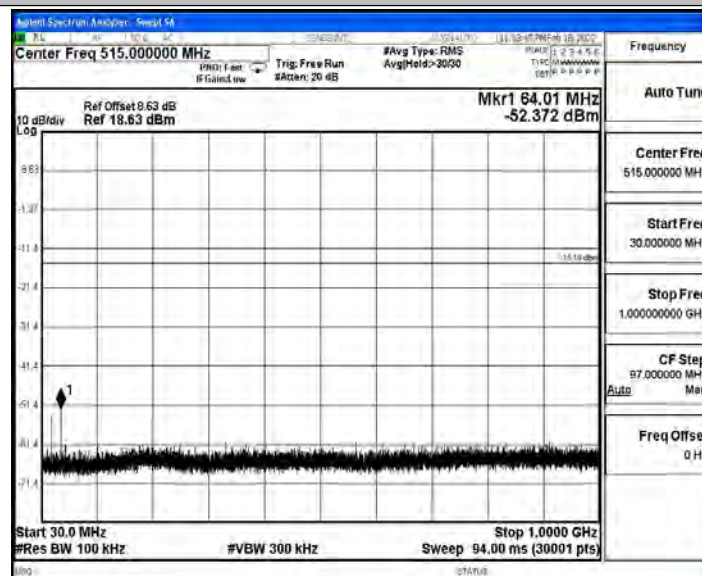
2DH5_Ant1_2402_1000~26500



2DH5_Ant1_2441_0~Reference

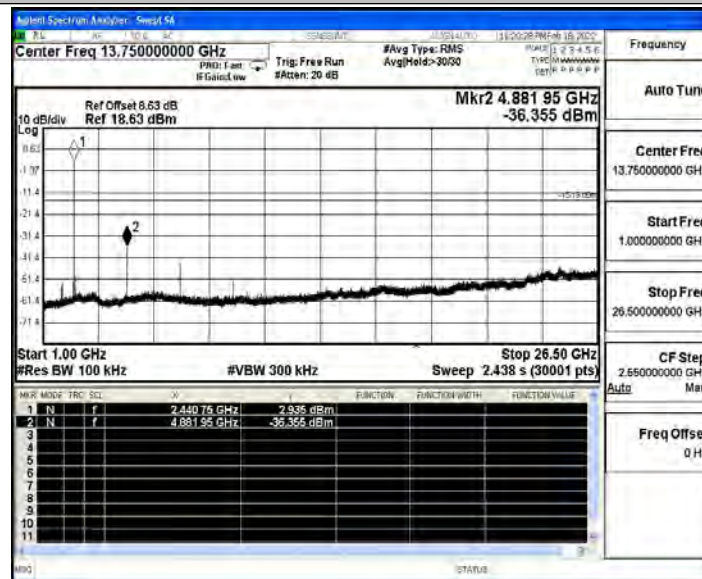


2DH5_Ant1_2441_30~1000

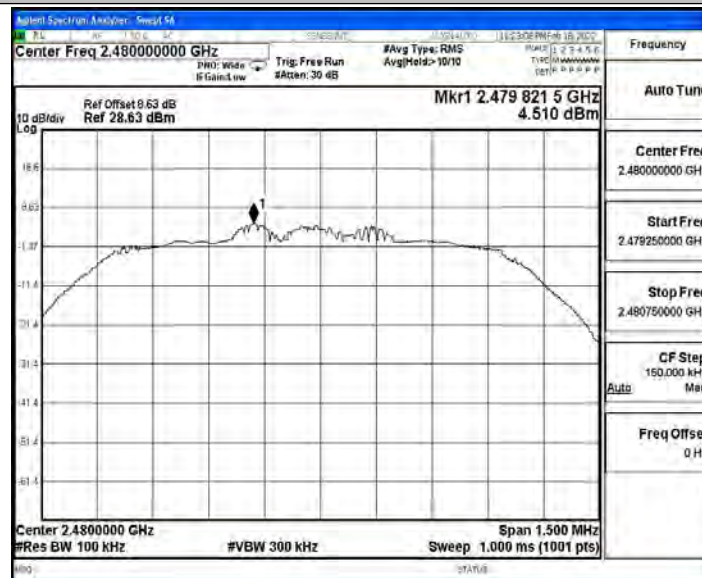




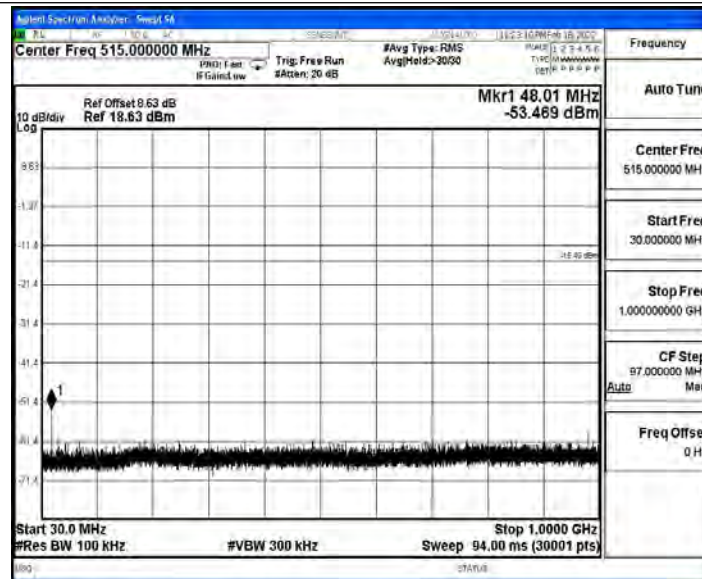
2DH5_Ant1_2441_1000~26500



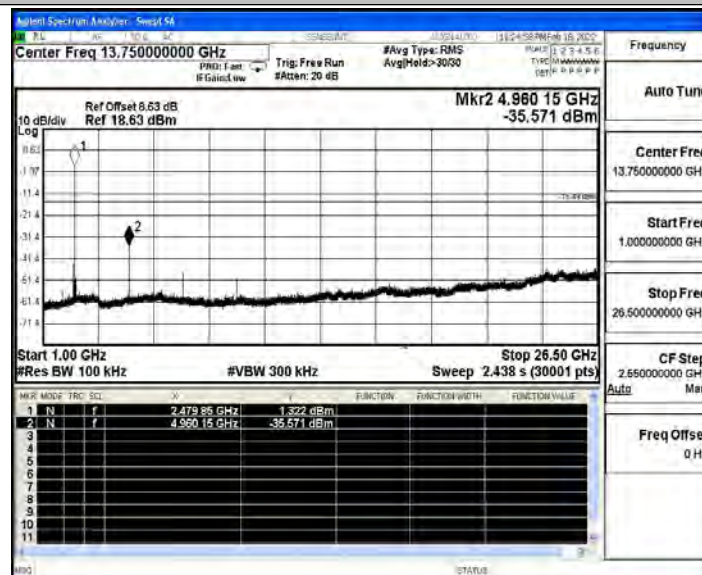
2DH5_Ant1_2480_0~Reference



2DH5_Ant1_2480_30~1000



2DH5_Ant1_2480_1000~26500





A.8 Emissions in Restricted Bands

Test Result

TestMode	Antenna	ChName	Channel	Detector	Freq. [MHz]	Result [dBm]	Limit [dBm]	Result [dBuV/m]	Limit [dBuV/m]	Verdict
DH5	Ant1	Low	2402	AV	2310.000	-48.33	≤-41.20	46.87	≤54	PASS
				AV	2354.075	-46.26	≤-41.20	48.94	≤54	PASS
				AV	2390.000	-47.88	≤-41.20	47.32	≤54	PASS
				Peak	2310.000	-38.95	≤-21.20	56.25	≤74	PASS
				Peak	2342.210	-34.26	≤-21.20	60.94	≤74	PASS
				Peak	2390.000	-38.9	≤-21.20	56.30	≤74	PASS
		High	2480	AV	2483.500	-42.27	≤-41.20	52.93	≤54	PASS
				AV	2483.600	-42.24	≤-41.20	52.96	≤54	PASS
				AV	2500.000	-47.28	≤-41.20	47.92	≤54	PASS
				Peak	2483.500	-33.5	≤-21.20	61.70	≤74	PASS
				Peak	2483.920	-33.35	≤-21.20	61.85	≤74	PASS
				Peak	2500.000	-37.71	≤-21.20	57.49	≤74	PASS
		Low	Hop_24 02	Peak	2310.000	-39.12	≤-21.20	56.08	≤74	PASS
				Peak	2360.270	-36.19	≤-21.20	59.01	≤74	PASS
				Peak	2390.000	-39.19	≤-21.20	56.01	≤74	PASS
		High	Hop_24 80	Peak	2483.500	-35.63	≤-21.20	59.57	≤74	PASS
				Peak	2498.160	-34.57	≤-21.20	60.63	≤74	PASS
				Peak	2500.000	-36.74	≤-21.20	58.46	≤74	PASS
2DH5	Ant1	Low	2402	AV	2310.000	-48.21	≤-41.20	46.99	≤54	PASS
				AV	2354.180	-46.82	≤-41.20	48.38	≤54	PASS
				AV	2390.000	-47.83	≤-41.20	47.37	≤54	PASS
				Peak	2310.000	-38.76	≤-21.20	56.44	≤74	PASS
				Peak	2342.630	-35.38	≤-21.20	59.82	≤74	PASS
				Peak	2390.000	-38.38	≤-21.20	56.82	≤74	PASS
		High	2480	AV	2483.500	-43.39	≤-41.20	51.81	≤54	PASS
				AV	2483.520	-43.5	≤-41.20	51.70	≤54	PASS
				AV	2500.000	-47.32	≤-41.20	47.88	≤54	PASS
				Peak	2483.500	-34.6	≤-21.20	60.60	≤74	PASS
				Peak	2483.680	-34.1	≤-21.20	61.10	≤74	PASS
				Peak	2500.000	-37.65	≤-21.20	57.55	≤74	PASS
		Low	Hop_24 02	Peak	2310.000	-39.6	≤-21.20	55.60	≤74	PASS
				Peak	2389.880	-36.71	≤-21.20	58.49	≤74	PASS
				Peak	2390.000	-38.87	≤-21.20	56.33	≤74	PASS
		High	Hop_24 80	Peak	2483.500	-35.73	≤-21.20	59.47	≤74	PASS
				Peak	2483.920	-35.5	≤-21.20	59.70	≤74	PASS
				Peak	2500.000	-37.72	≤-21.20	57.48	≤74	PASS

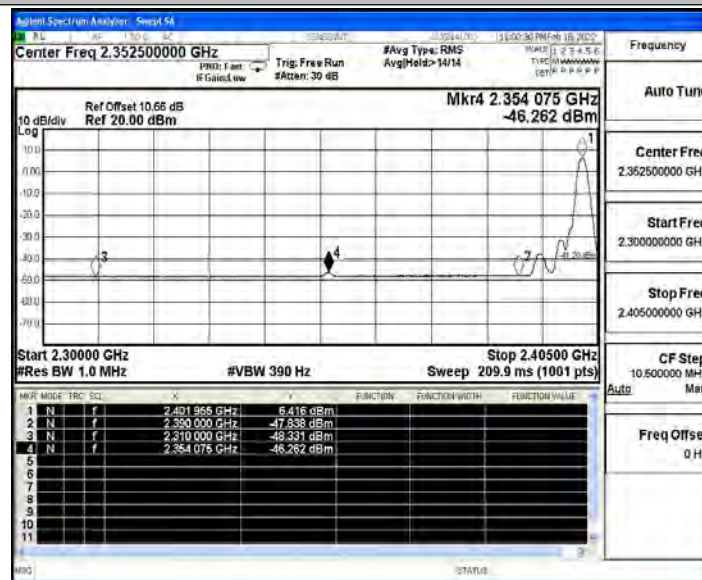


Note:

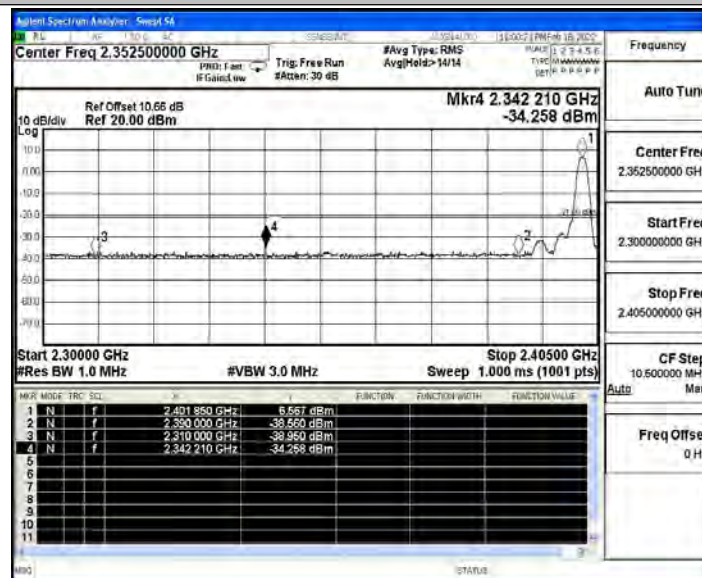
1. The Antenna Gain is compensated in the graph.
2. The limit in dBm for average detector is conversion from 54dBuV/m, according to 15.209(a). The limit in dBm for peak detector is 20dB above the limit of average detector in dBm.

Test Graphs

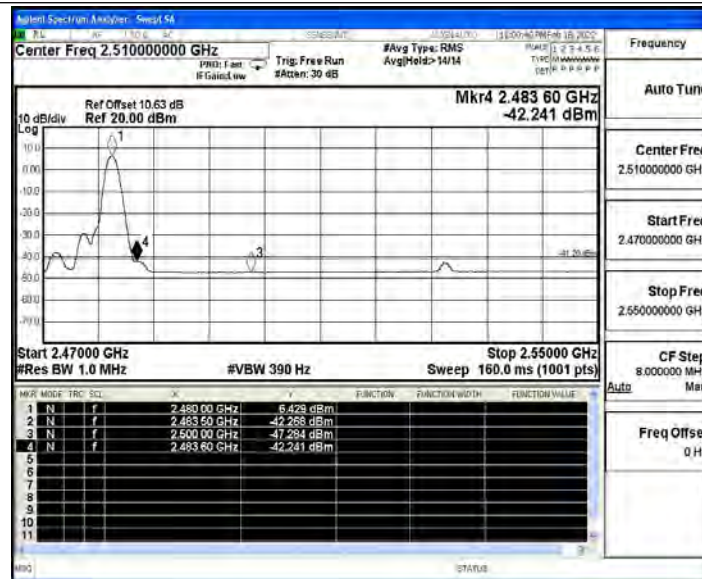
DH5_Ant1_Low_2402_AV



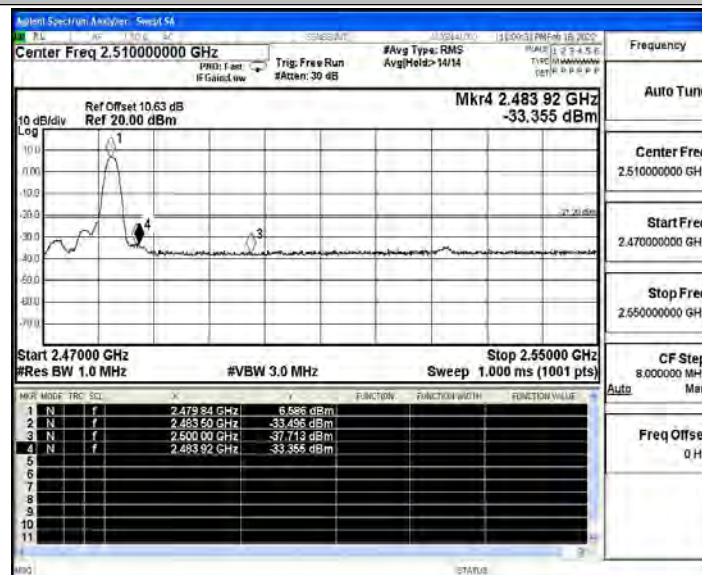
DH5_Ant1_Low_2402_Peak



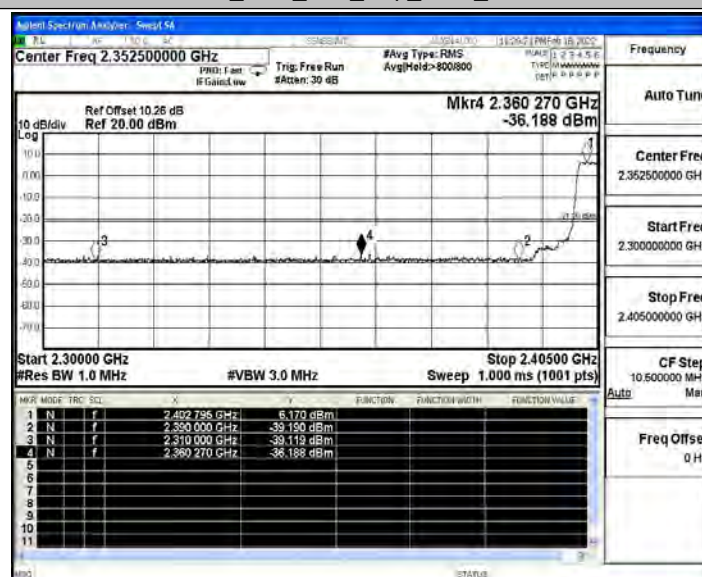
DH5_Ant1_High_2480_AV



DH5_Ant1_High_2480_Peak

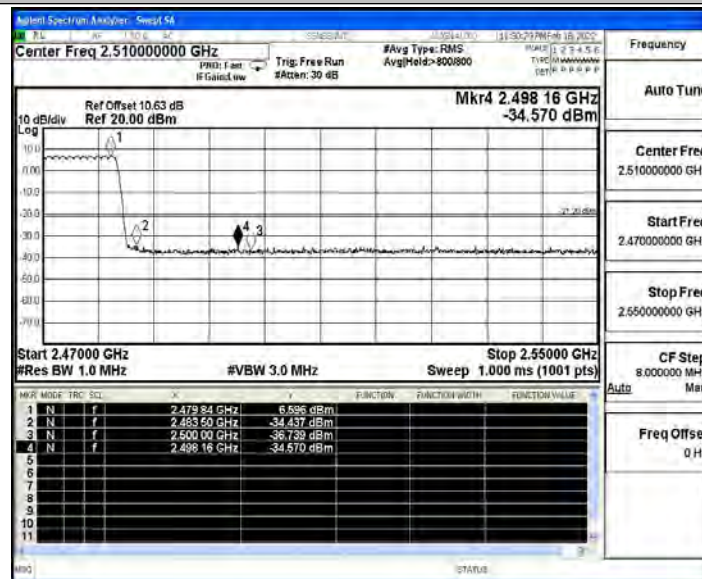


DH5_Ant1_Low_Hop_2402_Peak

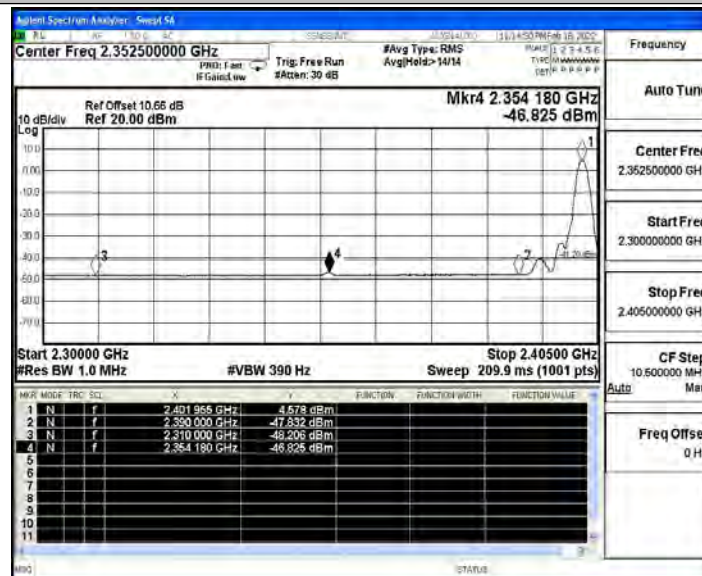




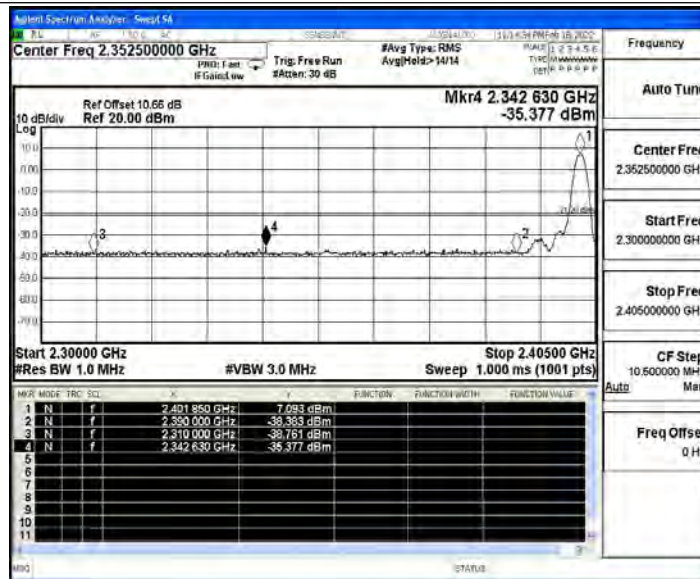
DH5_Ant1_High_Hop_2480_Peak



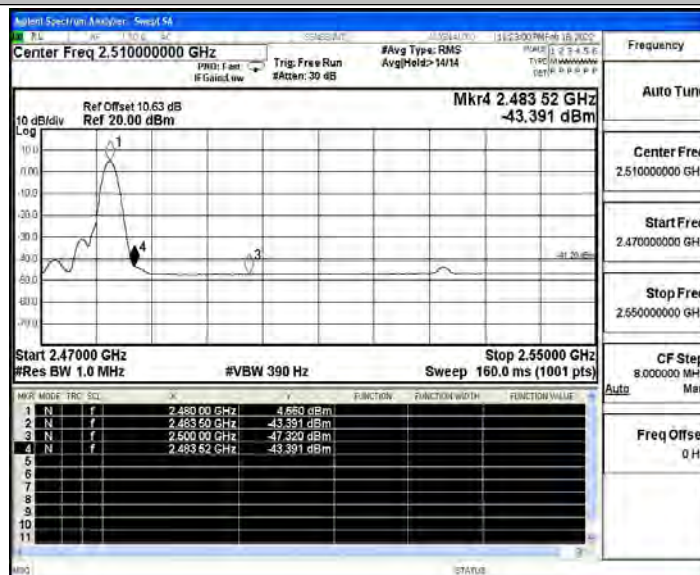
2DH5_Ant1_Low_2402_AV



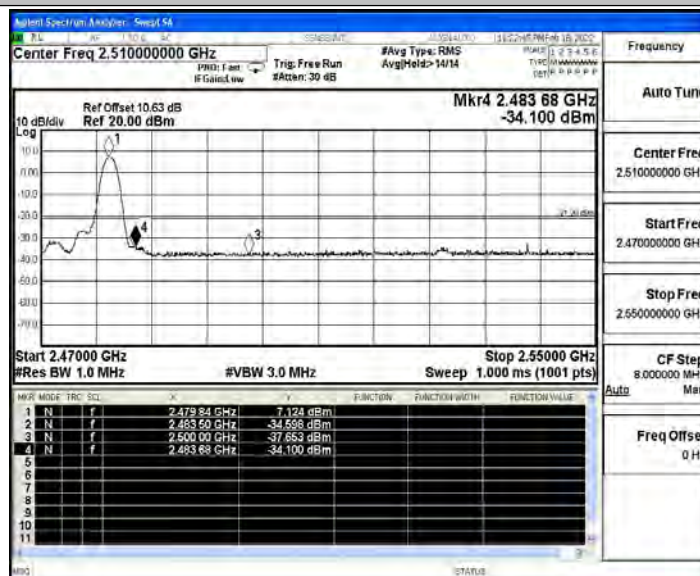
2DH5_Ant1_Low_2402_Peak



2DH5_Ant1_High_2480_AV

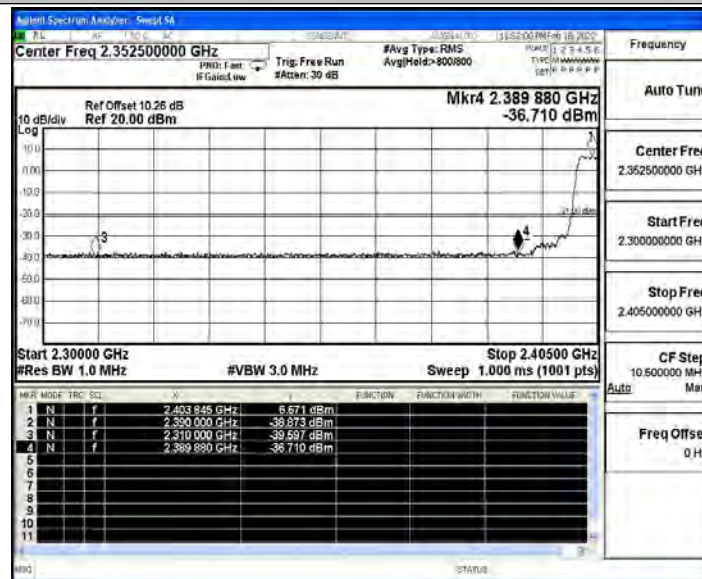


2DH5_Ant1_High_2480_Peak





2DH5_Ant1_Low_Hop_2402_Peak



2DH5_Ant1_High_Hop_2480_Peak

