



Appendix A

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

Product Name: Speaker box

Test Model: PWRS1

Environmental Conditions

Temperature:	23.7°C
Relative Humidity:	52.3%
ATM Pressure:	100.0 kPa
Test Engineer:	<i>monkey.Li</i> Monkey Li
Supervised by:	<i>Li Huan</i> Li Huan



A.1 20dB Emission Bandwidth

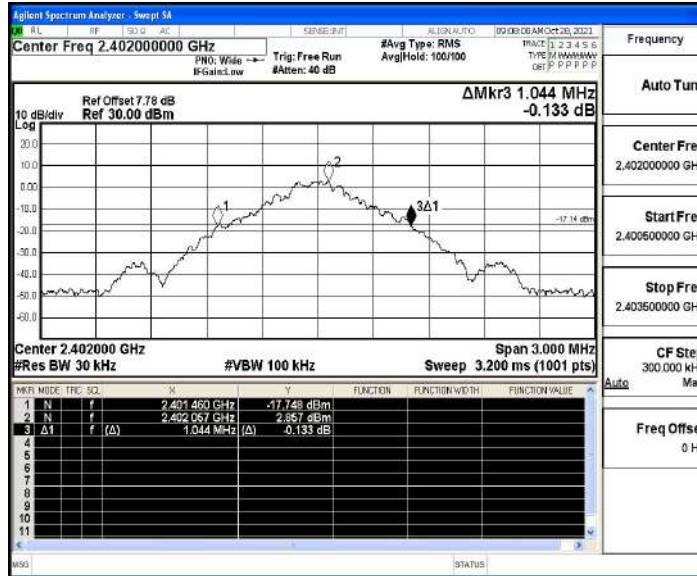
Test Result

TestMode	Antenna	Channel	20db EBW[MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
DH5	Ant1	2402	1.044	2401.460	2402.504	---	PASS
		2441	1.011	2440.484	2441.495	---	PASS
		2480	1.020	2479.469	2480.489	---	PASS
2DH5	Ant1	2402	1.290	2401.364	2402.654	---	PASS
		2441	1.326	2440.334	2441.660	---	PASS
		2480	1.290	2479.364	2480.654	---	PASS
3DH5	Ant1	2402	1.314	2401.346	2402.660	---	PASS
		2441	1.302	2440.349	2441.651	---	PASS
		2480	1.317	2479.343	2480.660	---	PASS

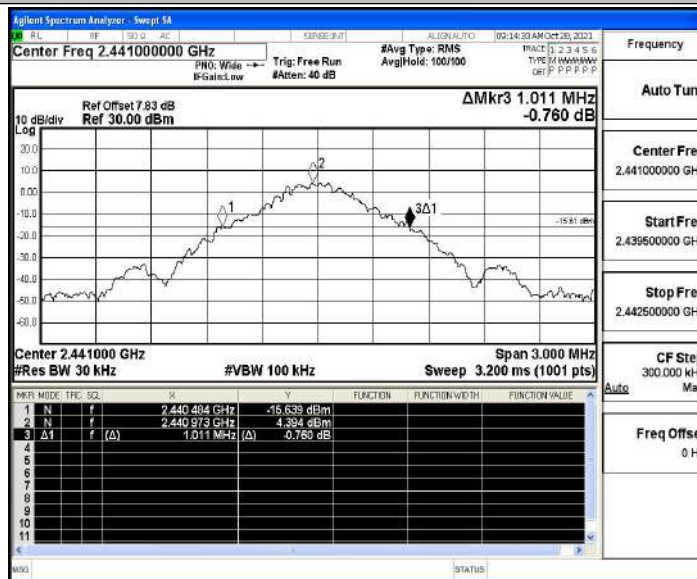


Test Graphs

DH5_Ant1_2402



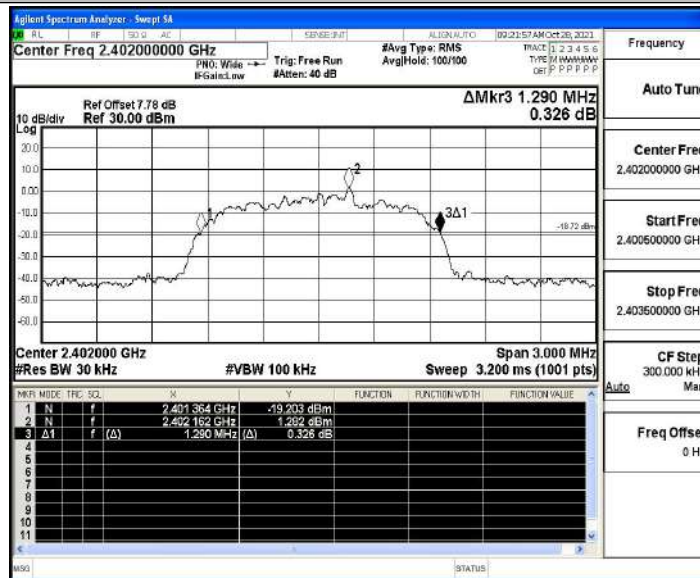
DH5_Ant1_2441



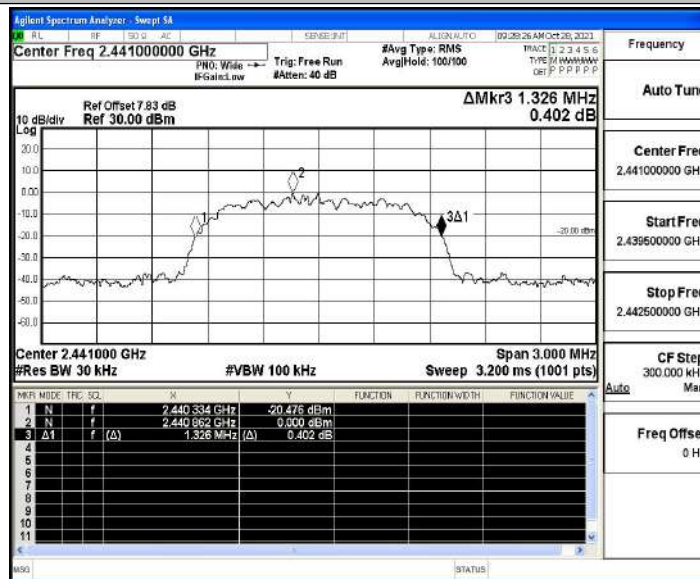
DH5_Ant1_2480

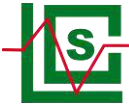


2DH5_Ant1_2402

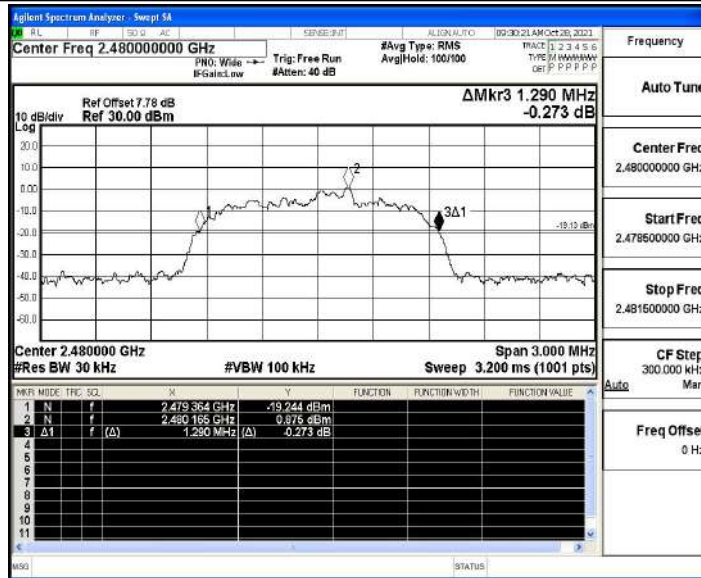


2DH5_Ant1_2441

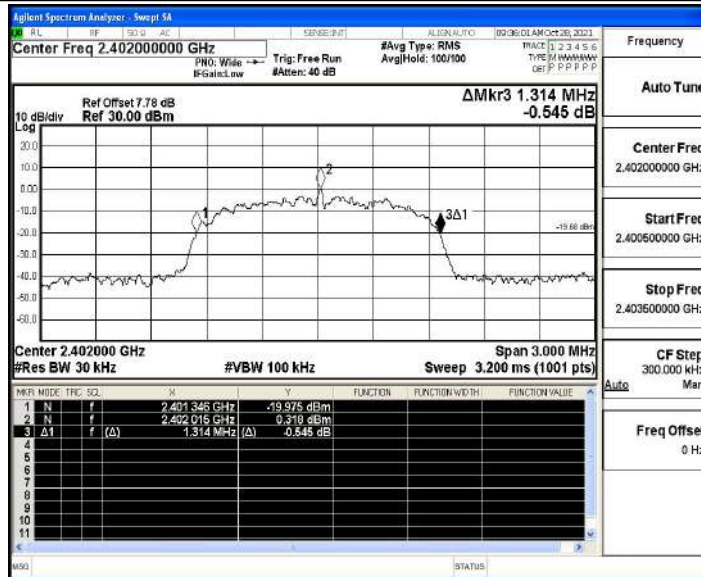




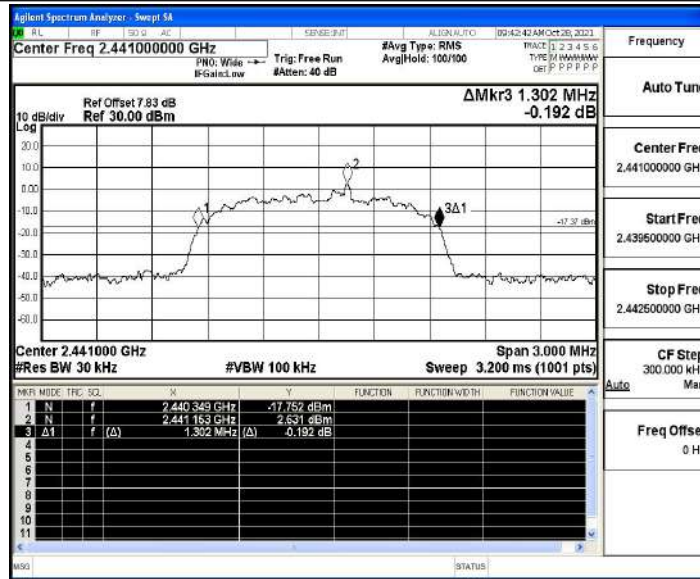
2DH5_Ant1_2480



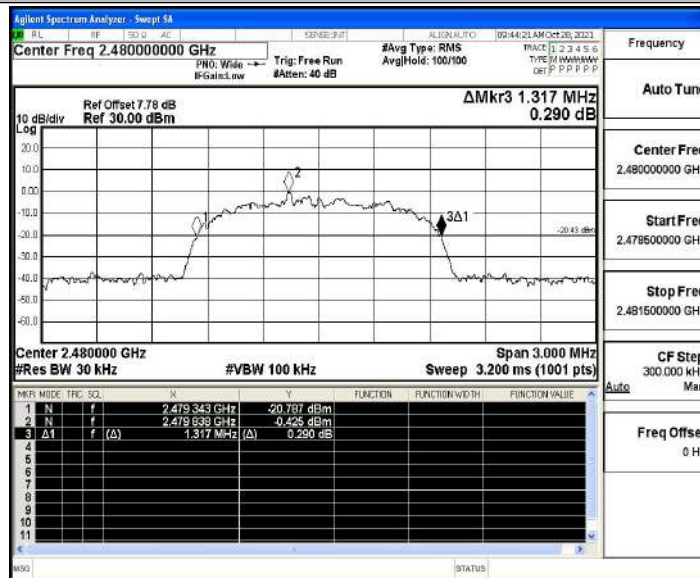
3DH5_Ant1_2402



3DH5_Ant1_2441



3DH5_Ant1_2480





A.2 Occupied Channel Bandwidth

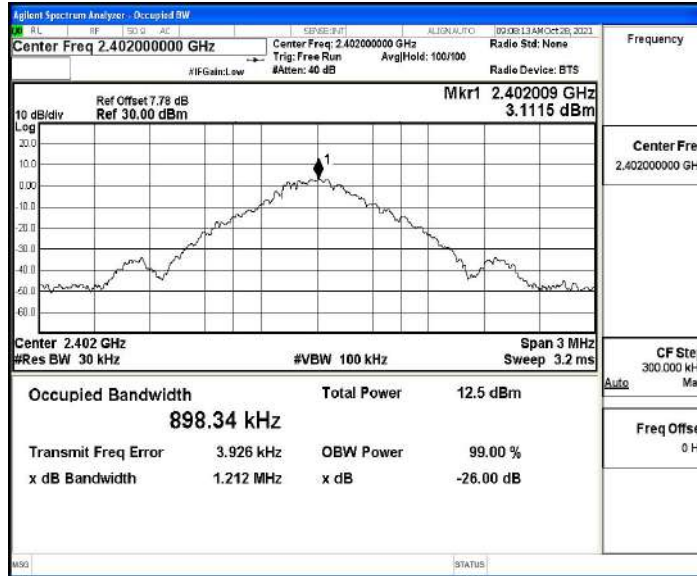
Test Result

TestMode	Antenna	Channel	OCB [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
DH5	Ant1	2402	0.89834	2401.555	2402.453	---	PASS
		2441	0.90500	2440.551	2441.456	---	PASS
		2480	0.89389	2479.555	2480.448	---	PASS
2DH5	Ant1	2402	1.1820	2401.409	2402.591	---	PASS
		2441	1.1758	2440.412	2441.587	---	PASS
		2480	1.1767	2479.409	2480.586	---	PASS
3DH5	Ant1	2402	1.1902	2401.406	2402.596	---	PASS
		2441	1.1899	2440.405	2441.595	---	PASS
		2480	1.2057	2479.393	2480.599	---	PASS

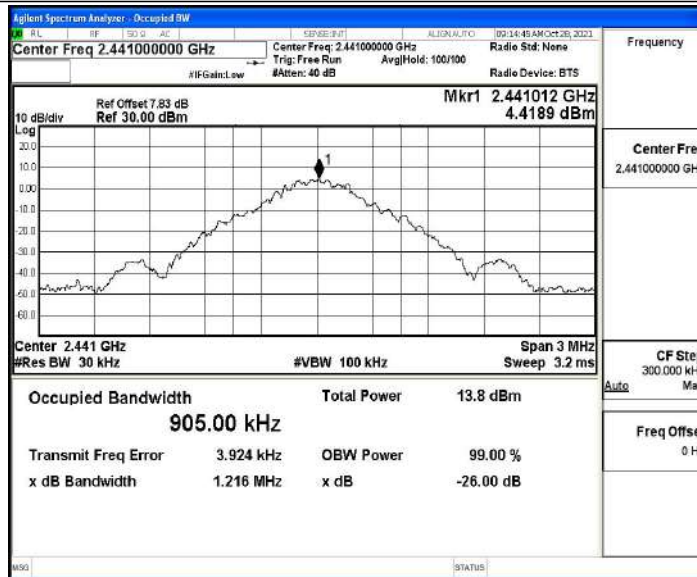


Test Graphs

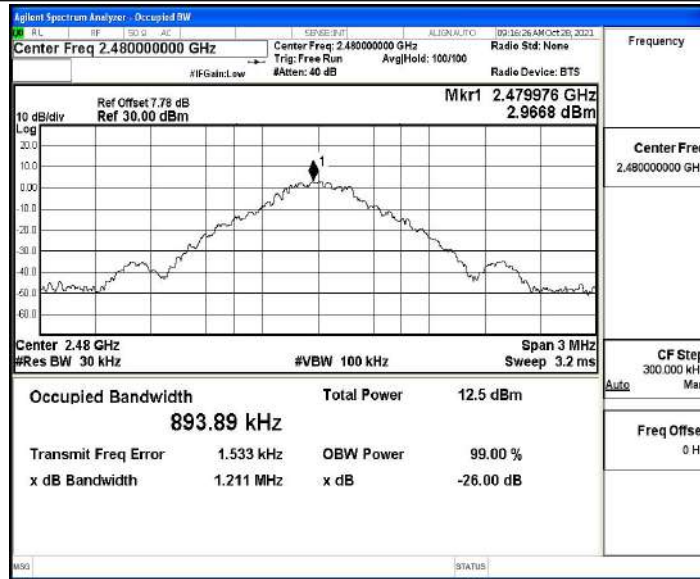
DH5_Ant1_2402



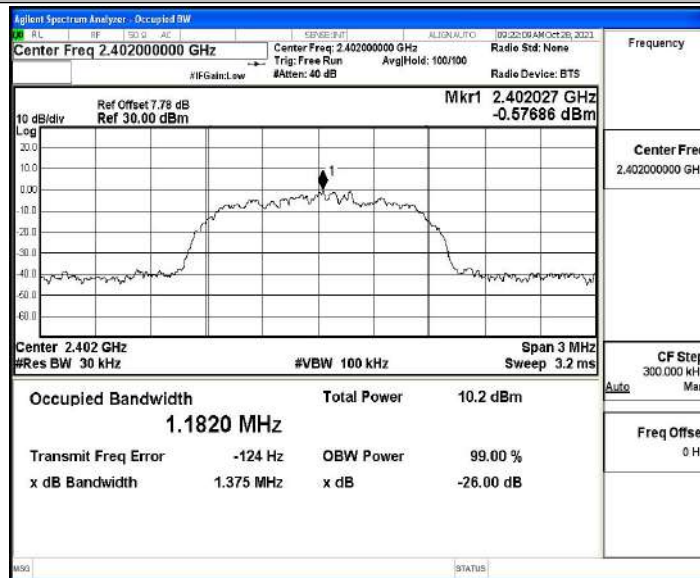
DH5_Ant1_2441



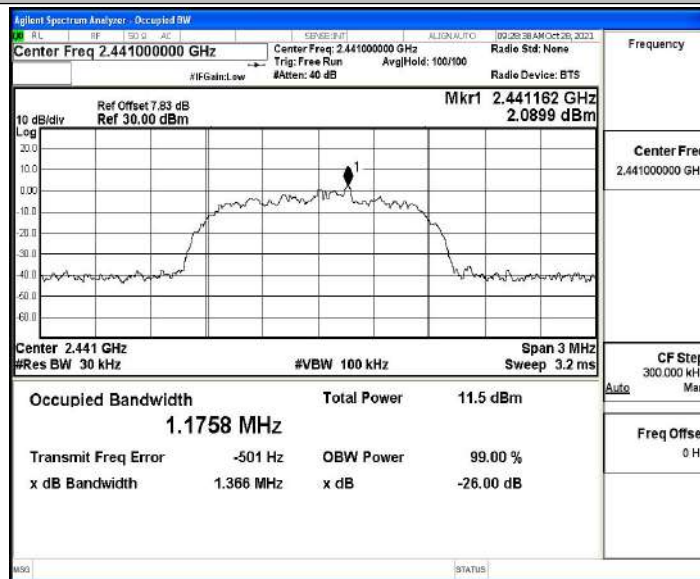
DH5_Ant1_2480



2DH5_Ant1_2402

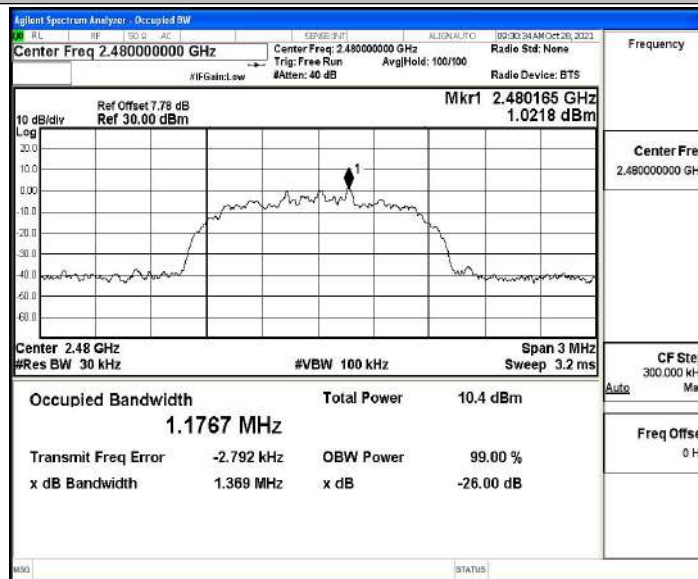


2DH5_Ant1_2441

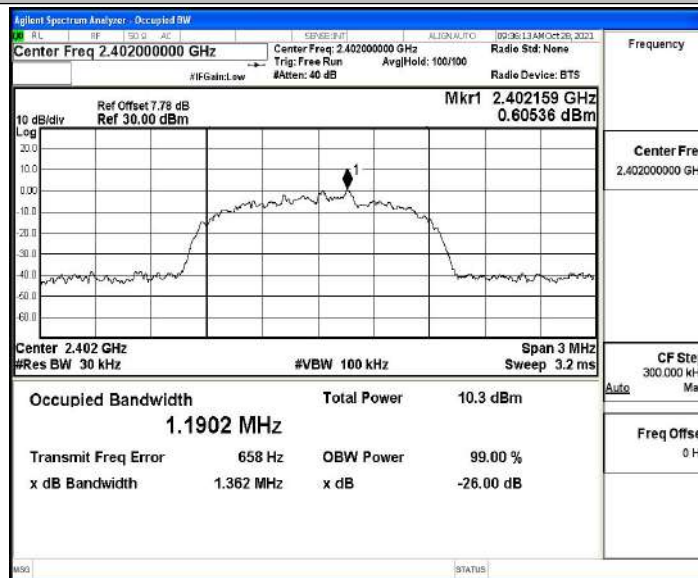




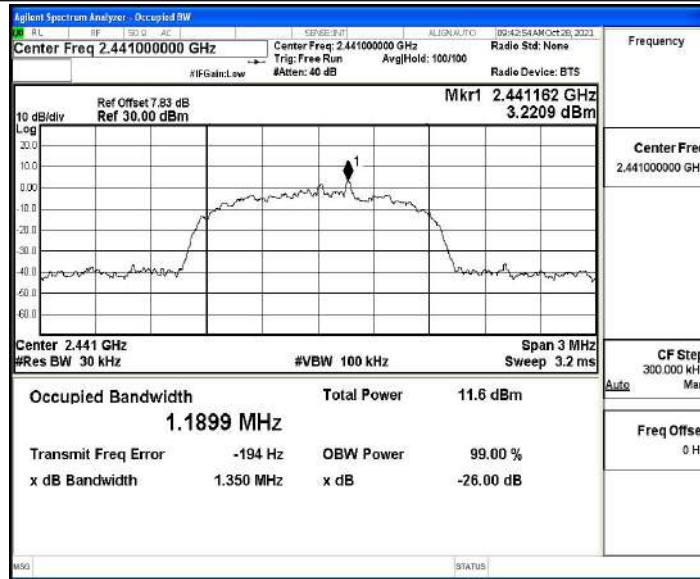
2DH5_Ant1_2480



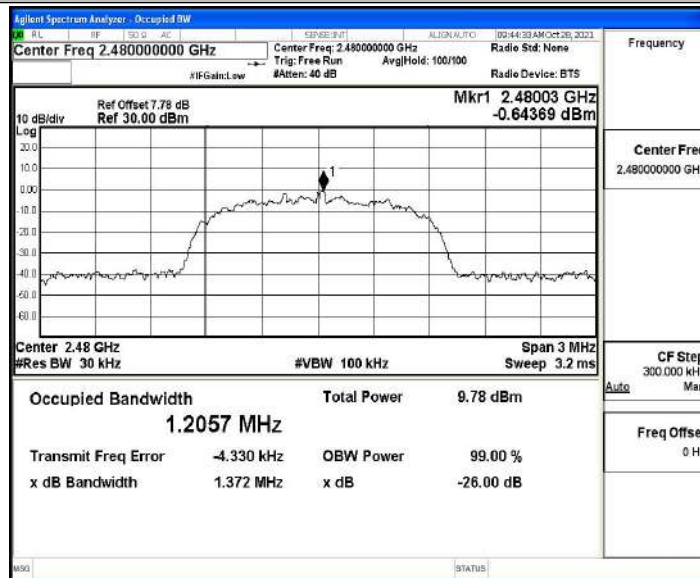
3DH5_Ant1_2402



3DH5_Ant1_2441



3DH5_Ant1_2480





A.3 Maximum peak conducted output power

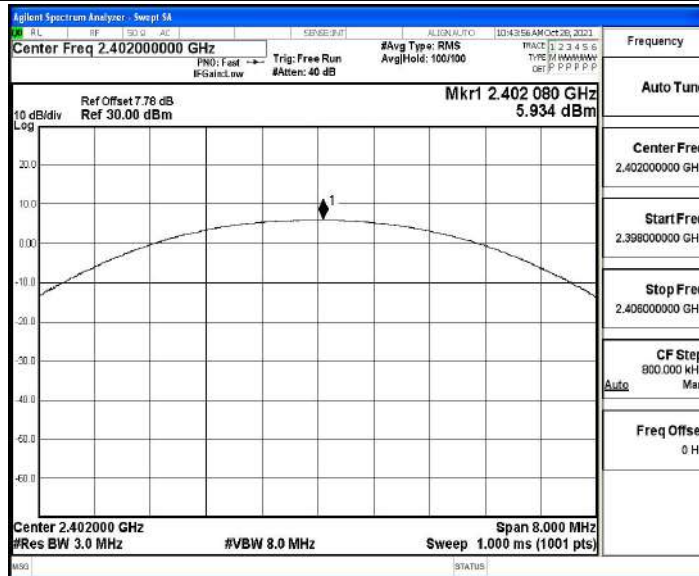
Test Result

TestMode	Antenna	Channel	Result[dBm]	Limit[dBm]	Verdict
DH5	Ant1	2402	5.93	≤20.97	PASS
		2441	7.19	≤20.97	PASS
		2480	5.76	≤20.97	PASS
2DH5	Ant1	2402	5.08	≤20.97	PASS
		2441	6.29	≤20.97	PASS
		2480	4.91	≤20.97	PASS
3DH5	Ant1	2402	5.26	≤20.97	PASS
		2441	6.34	≤20.97	PASS
		2480	5.02	≤20.97	PASS

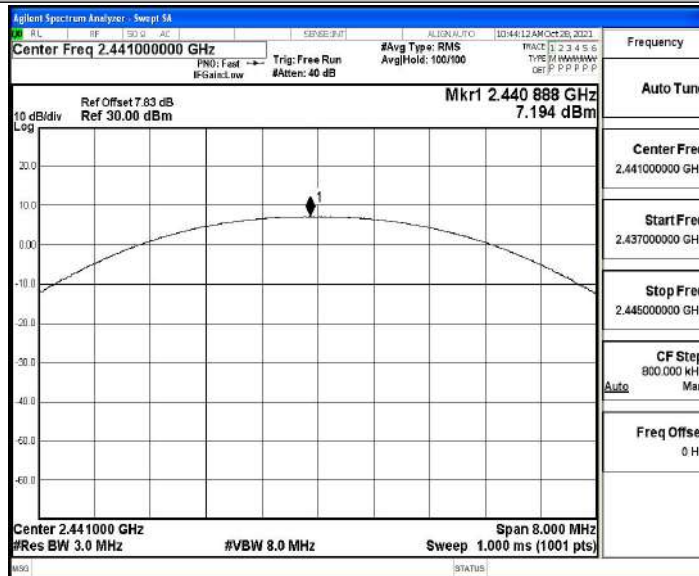


Test Graphs

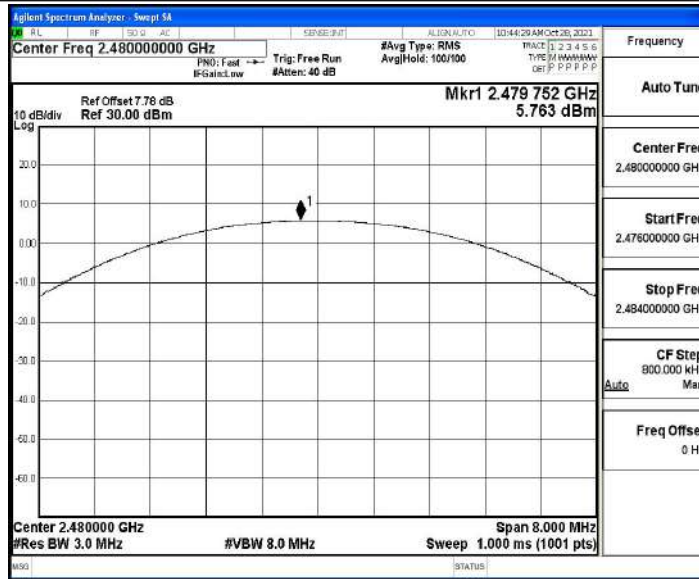
DH5_Ant1_2402



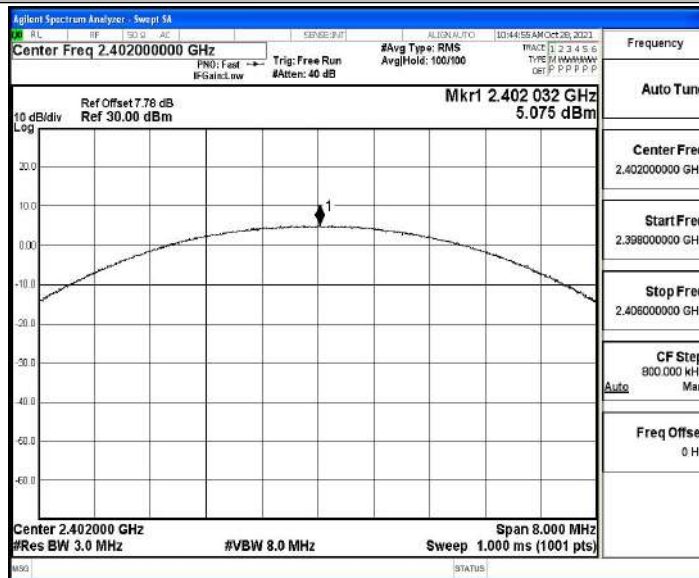
DH5_Ant1_2441



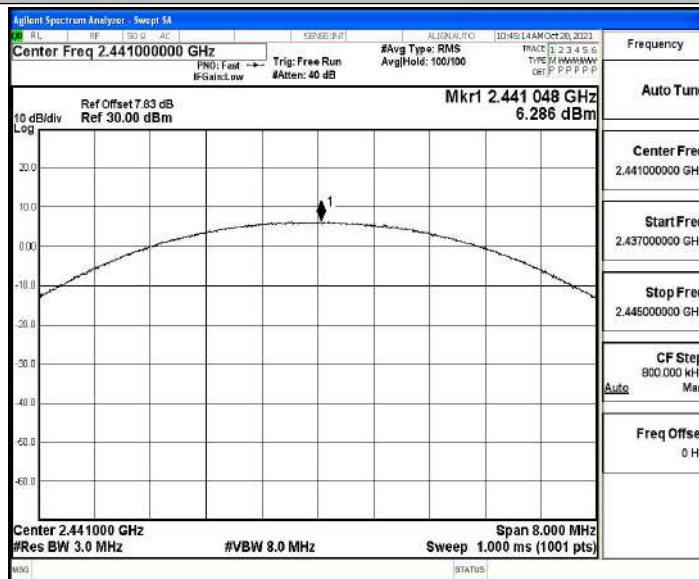
DH5_Ant1_2480



2DH5_Ant1_2402

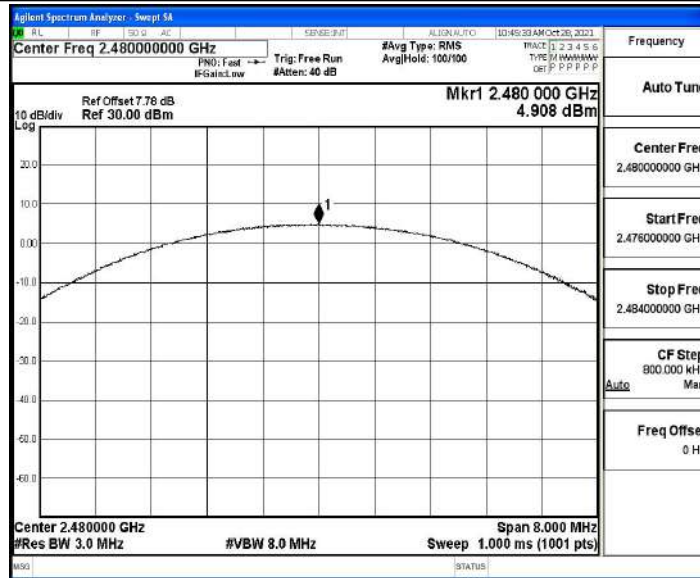


2DH5_Ant1_2441

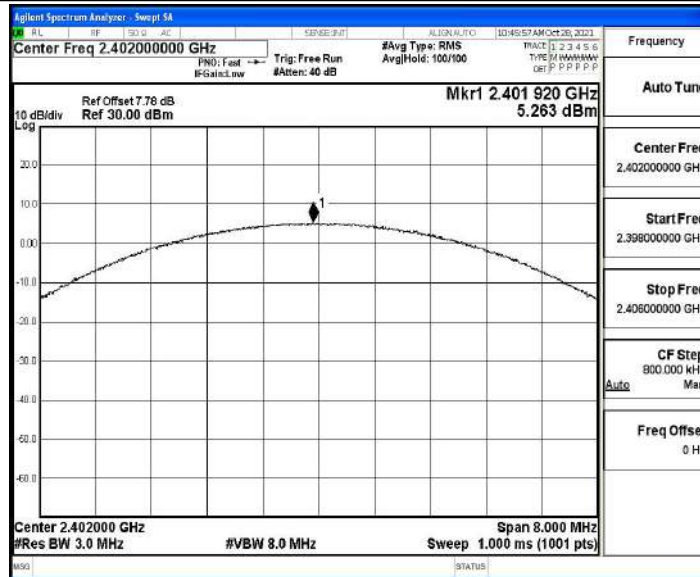




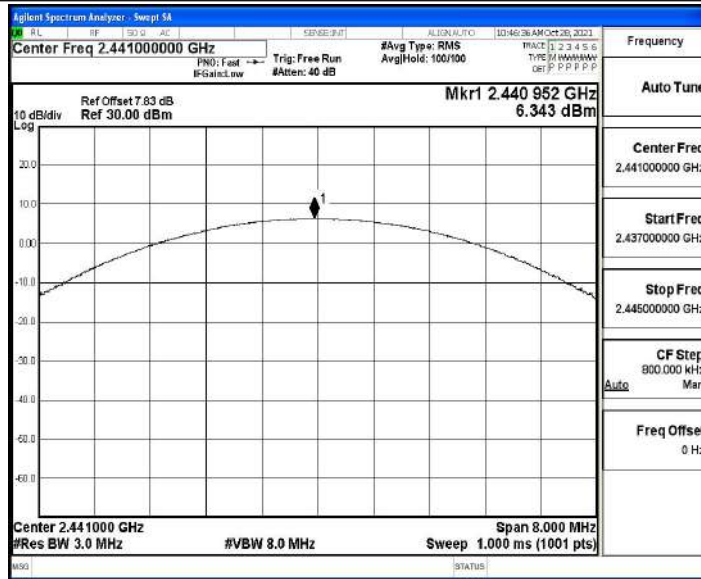
2DH5_Ant1_2480



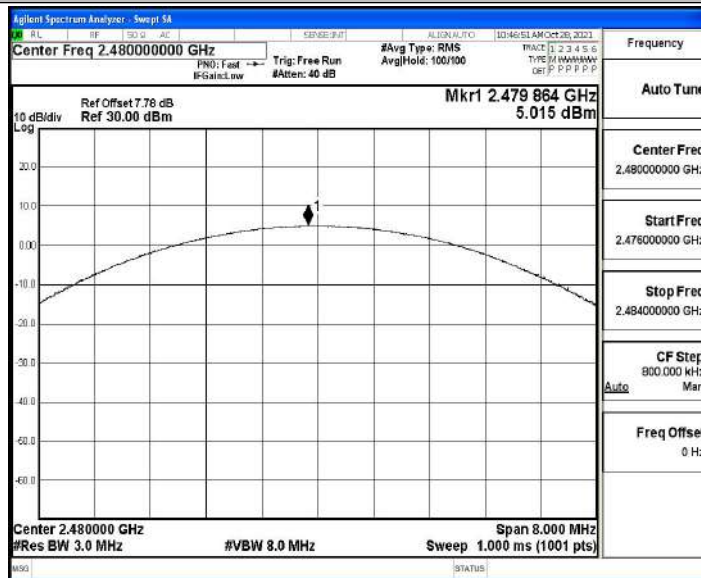
3DH5_Ant1_2402



3DH5_Ant1_2441



3DH5_Ant1_2480





A.4 Carrier frequency separation

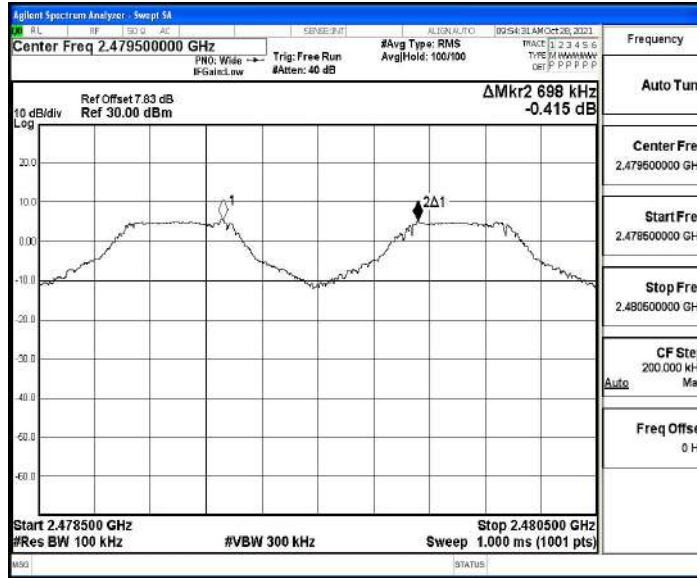
Test Result

TestMode	Antenna	Channel	Result[MHz]	Limit[MHz]	Verdict
DH5	Ant1	Hop	0.698	≥ 0.696	PASS
2DH5	Ant1	Hop	1.314	≥ 0.884	PASS
3DH5	Ant1	Hop	0.994	≥ 0.878	PASS

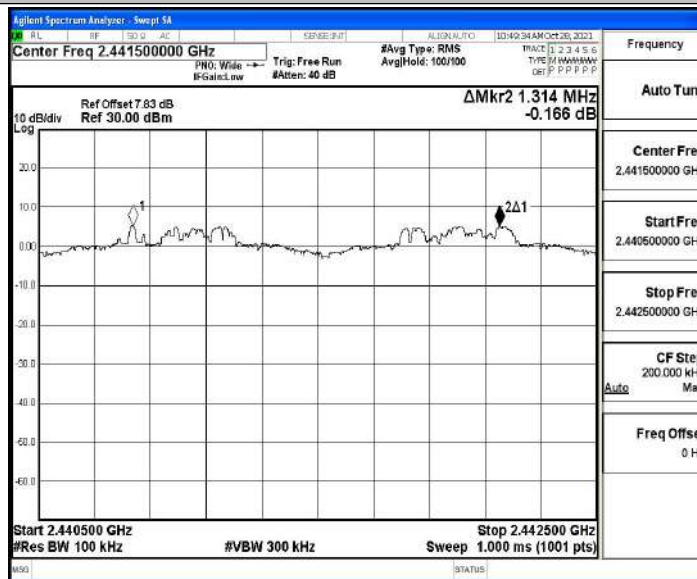


Test Graphs

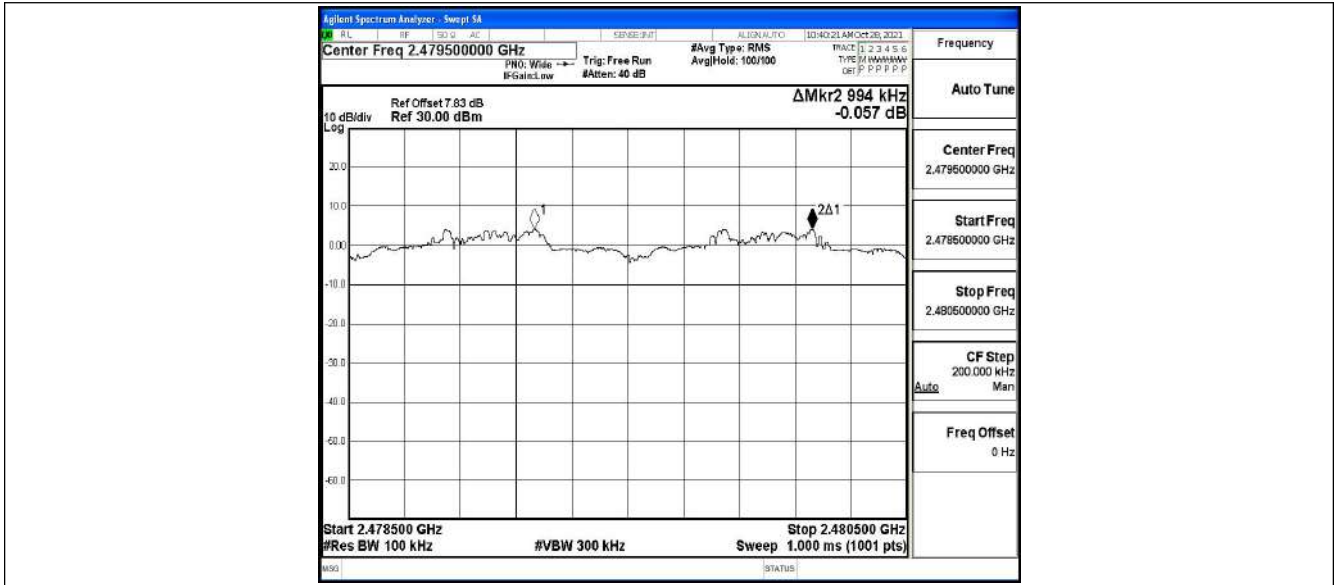
DH5_Ant1_Hop



2DH5_Ant1_Hop



3DH5_Ant1_Hop





A.5 Time of occupancy

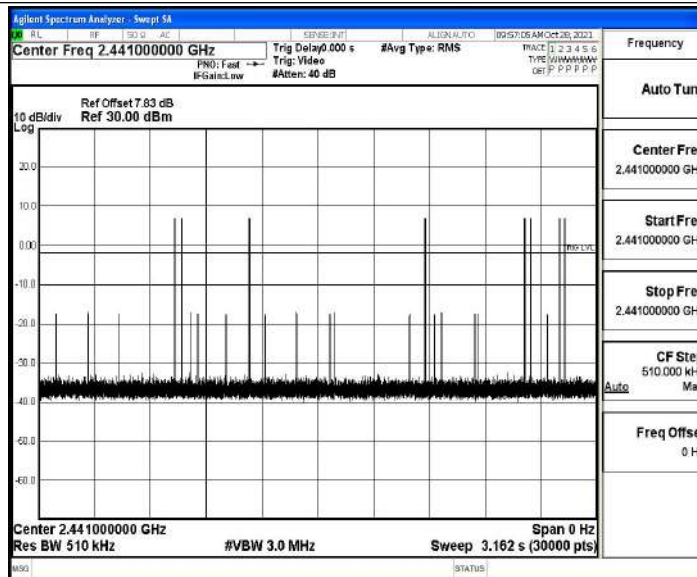
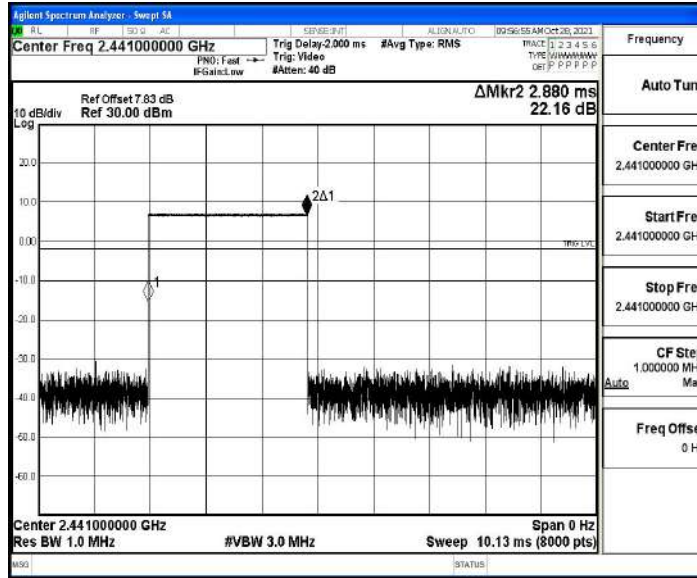
Test Result

TestMode	Antenna	Channel	BurstWidth [ms]	TotalHops [Num]	Result[s]	Limit[s]	Verdict
DH5	Ant1	Hop	2.88	90	0.259	≤0.4	PASS
2DH5	Ant1	Hop	2.88	110	0.317	≤0.4	PASS
3DH5	Ant1	Hop	2.89	110	0.317	≤0.4	PASS

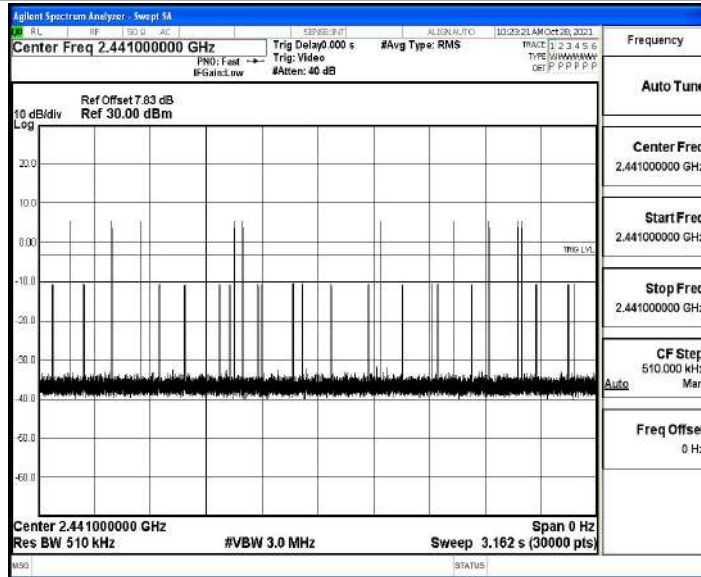
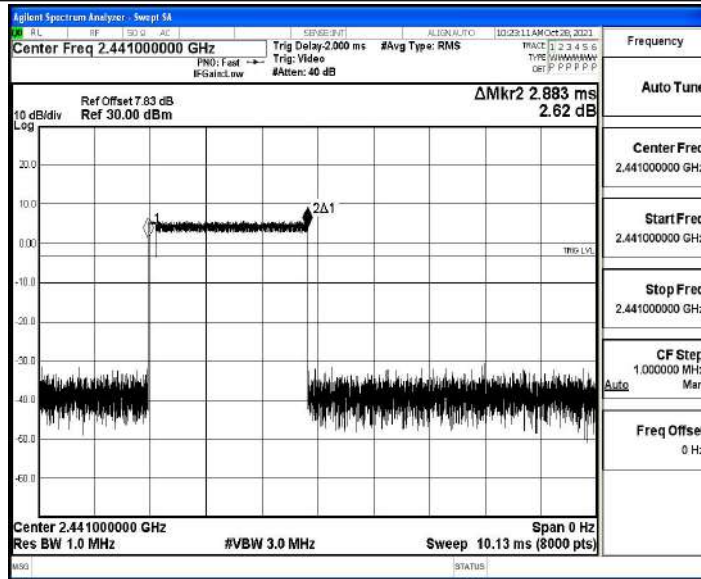


Test Graphs

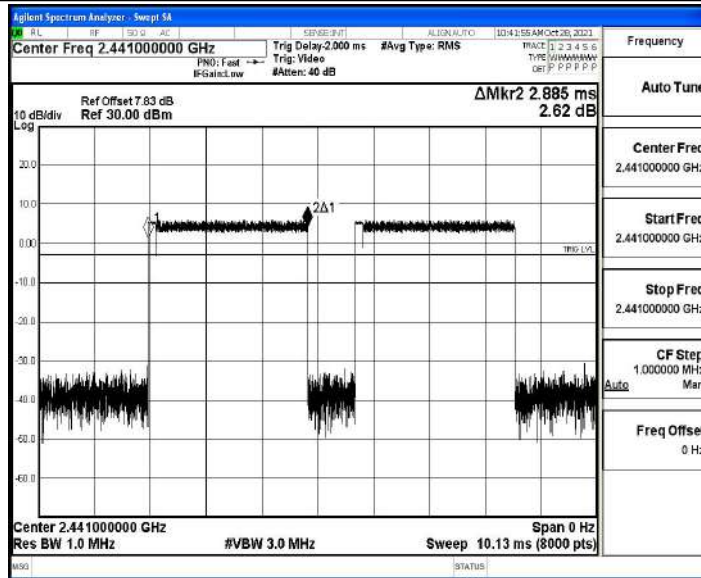
DH5_Ant1_Hop

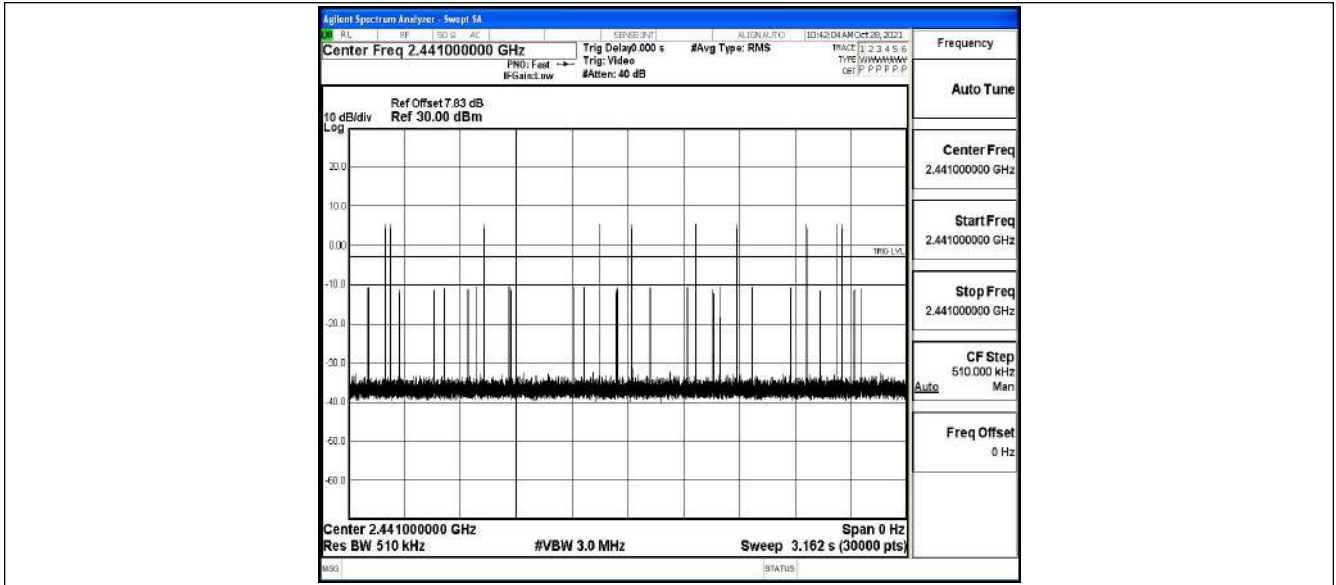


2DH5_Ant1_Hop



3DH5_Ant1_Hop







A.6 Number of hopping channels

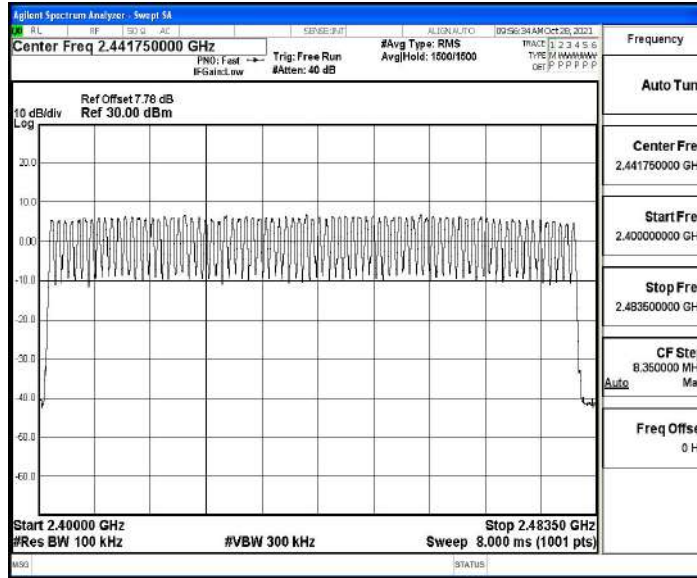
Test Result

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

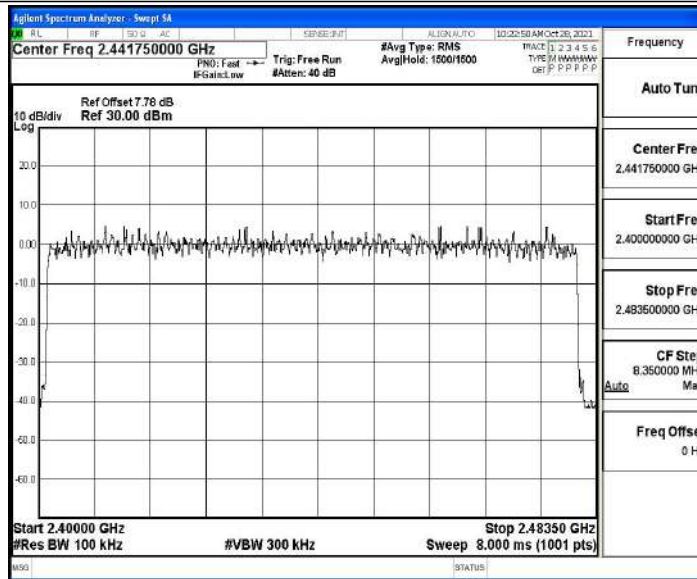


Test Graphs

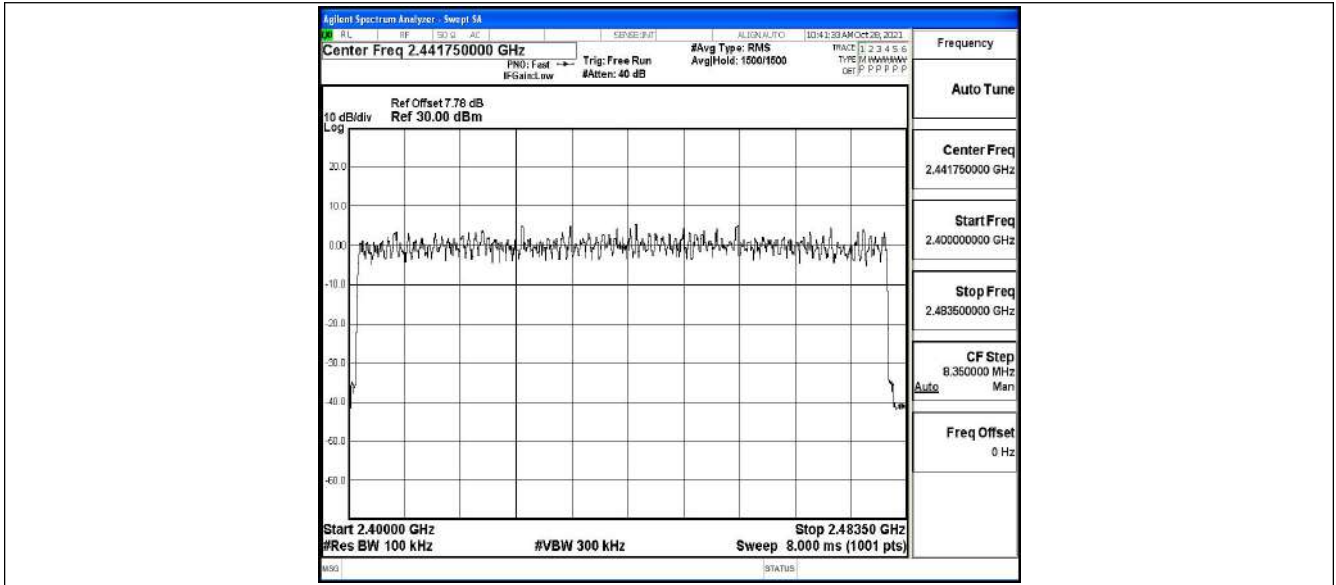
DH5_Ant1_Hop



2DH5_Ant1_Hop



3DH5_Ant1_Hop





A.7 Band edge measurements

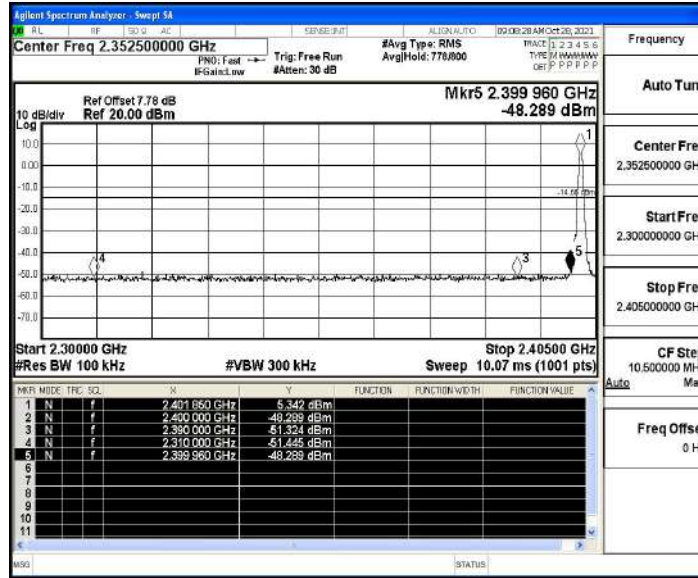
Test Result

TestMode	Antenna	ChName	Channel	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
DH5	Ant1	Low	2402	5.34	-48.29	≤-14.66	PASS
		High	2480	5.45	-48.44	≤-14.55	PASS
		Low	Hop_2402	5.55	-49.72	≤-14.45	PASS
		High	Hop_2480	5.70	-48.98	≤-14.3	PASS
2DH5	Ant1	Low	2402	3.02	-49.5	≤-16.98	PASS
		High	2480	1.80	-48.35	≤-18.2	PASS
		Low	Hop_2402	0.38	-49.93	≤-19.62	PASS
		High	Hop_2480	3.99	-47.87	≤-16.01	PASS
3DH5	Ant1	Low	2402	4.16	-46.95	≤-15.84	PASS
		High	2480	3.99	-48.47	≤-16.01	PASS
		Low	Hop_2402	0.92	-50.11	≤-19.08	PASS
		High	Hop_2480	4.86	-48.58	≤-15.14	PASS

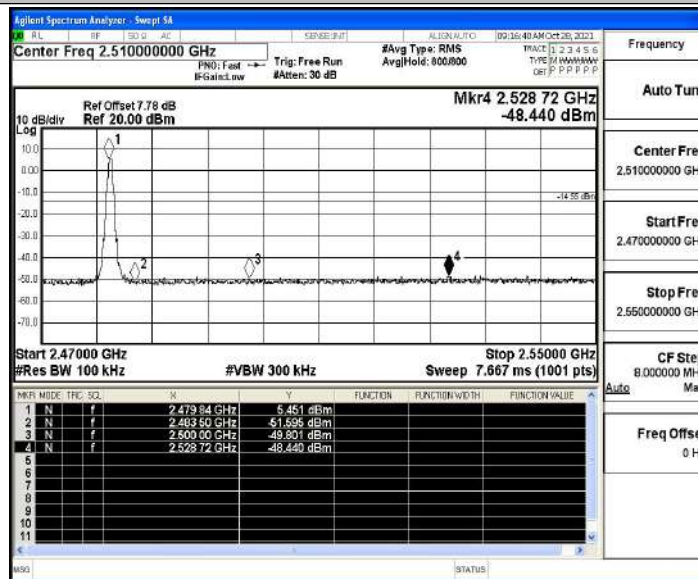


Test Graphs

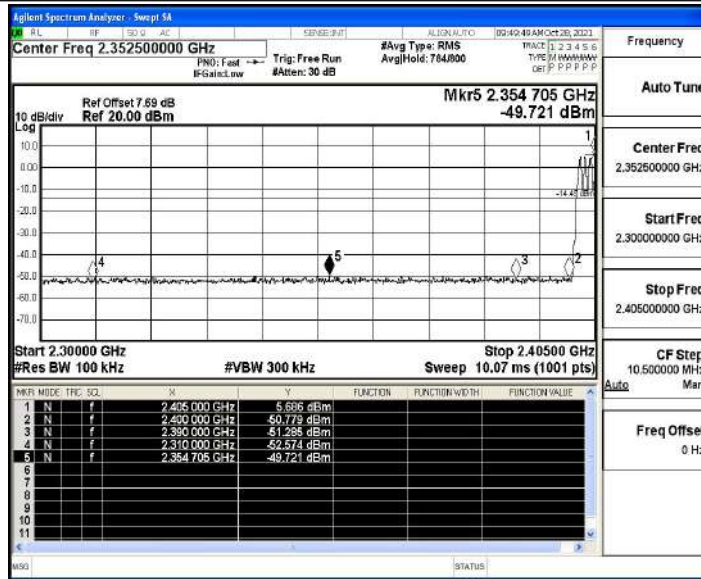
DH5_Ant1_Low_2402



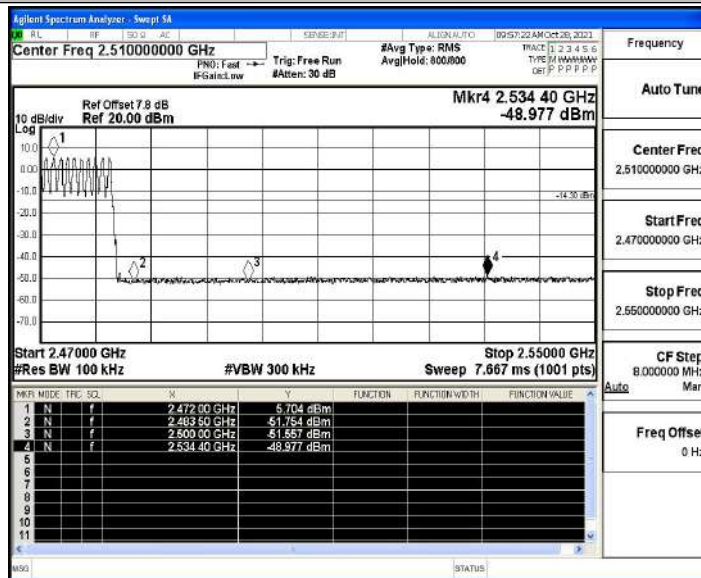
DH5_Ant1_High_2480



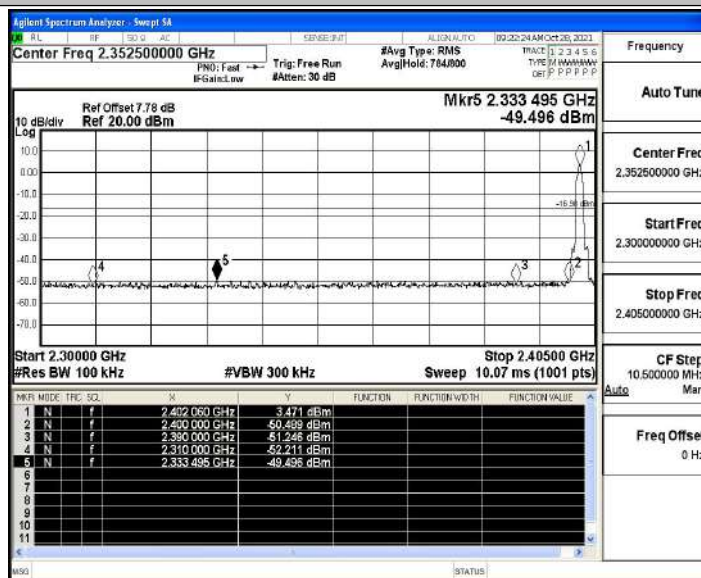
DH5_Ant1_Low_Hop_2402



DH5_Ant1_High_Hop_2480

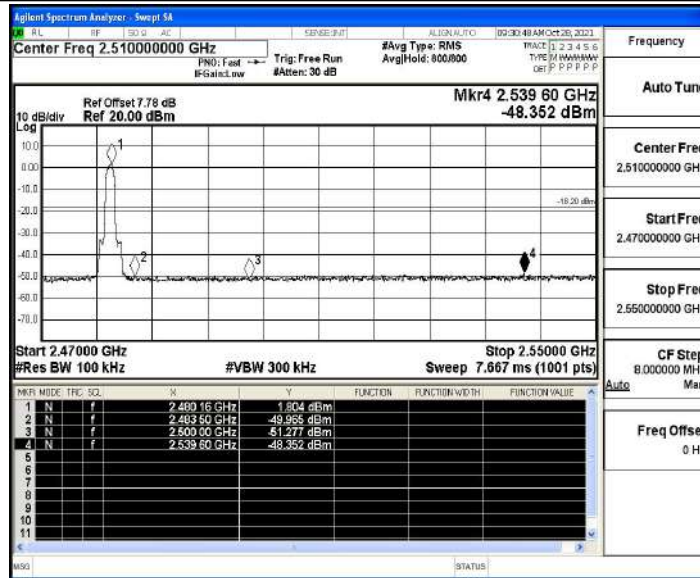


2DH5_Ant1_Low_2402

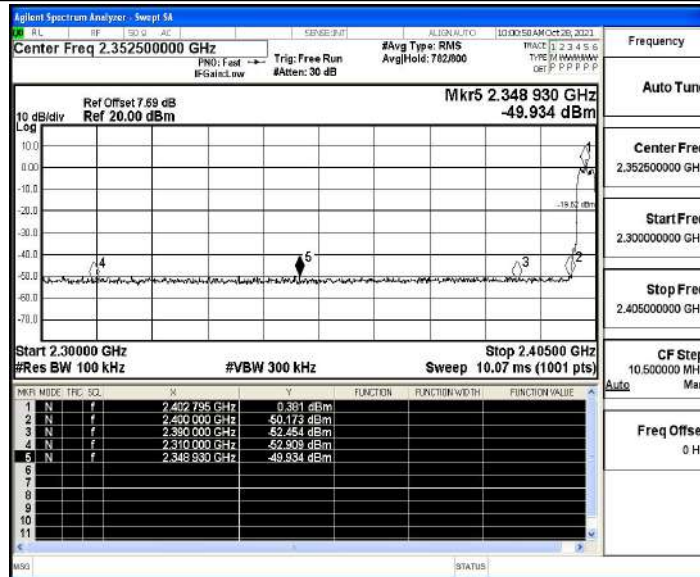




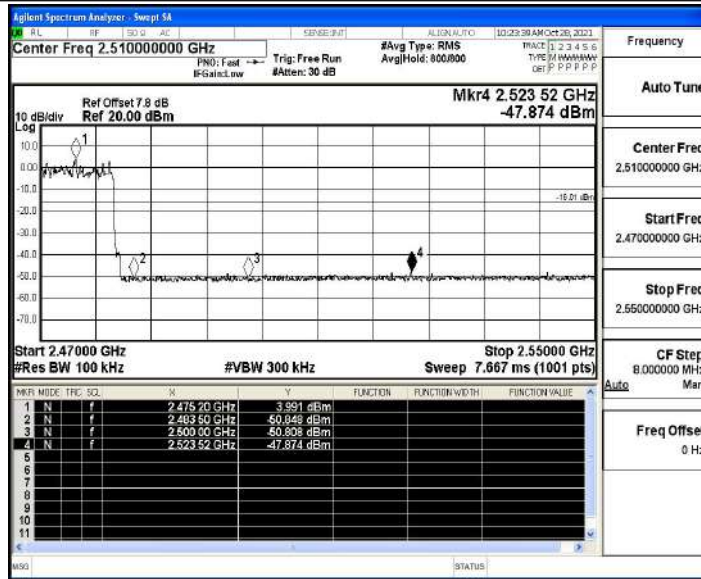
2DH5_Ant1_High_2480



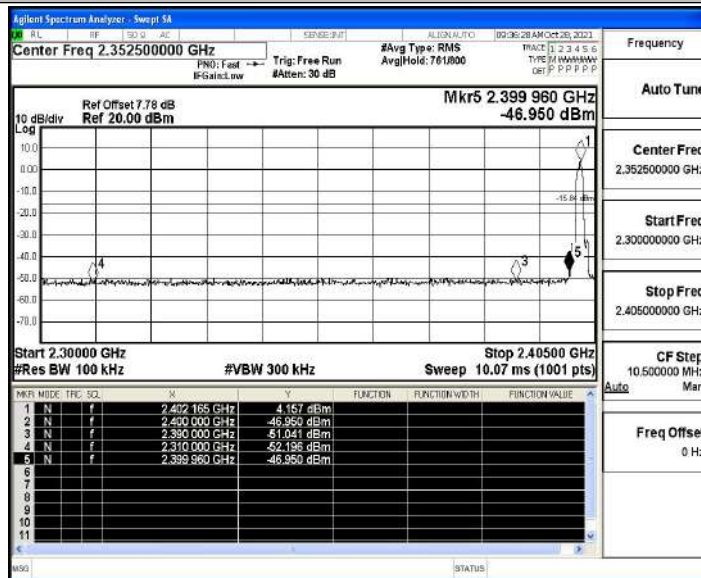
2DH5_Ant1_Low_Hop_2402



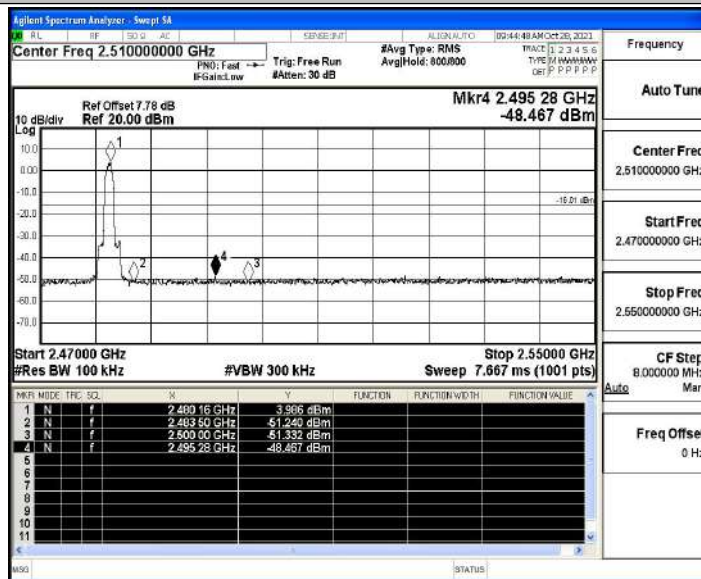
2DH5_Ant1_High_Hop_2480



3DH5_Ant1_Low_2402

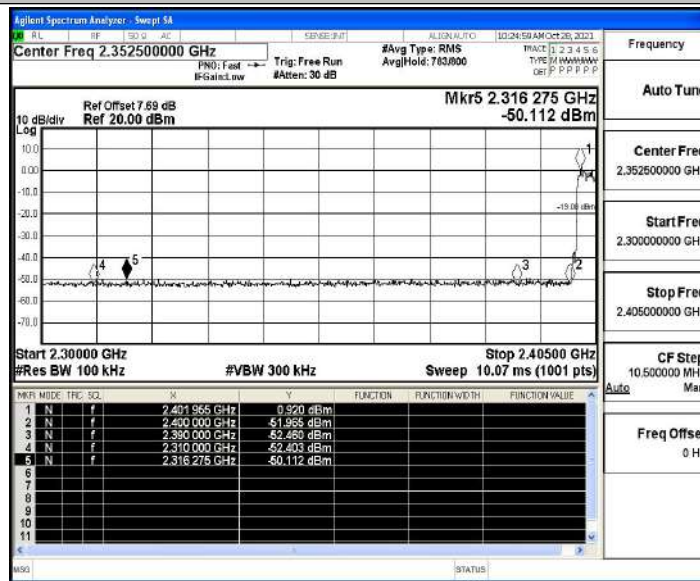


3DH5_Ant1_High_2480

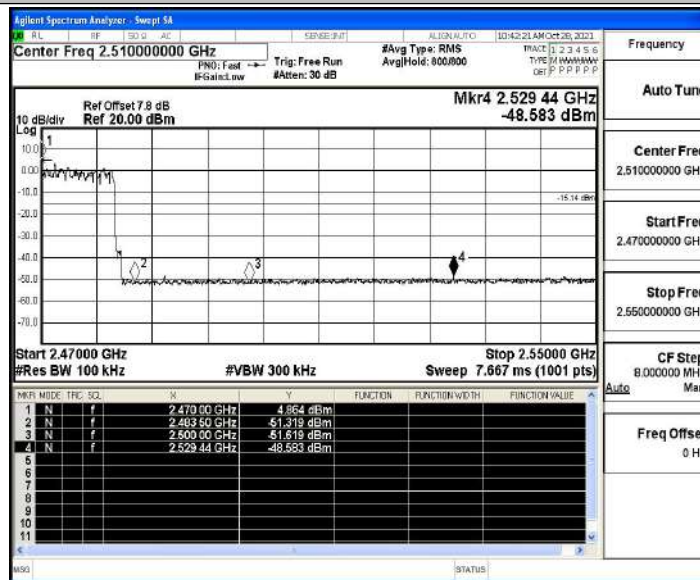




3DH5_Ant1_Low_Hop_2402



3DH5_Ant1_High_Hop_2480





A.8 Conducted Spurious Emission

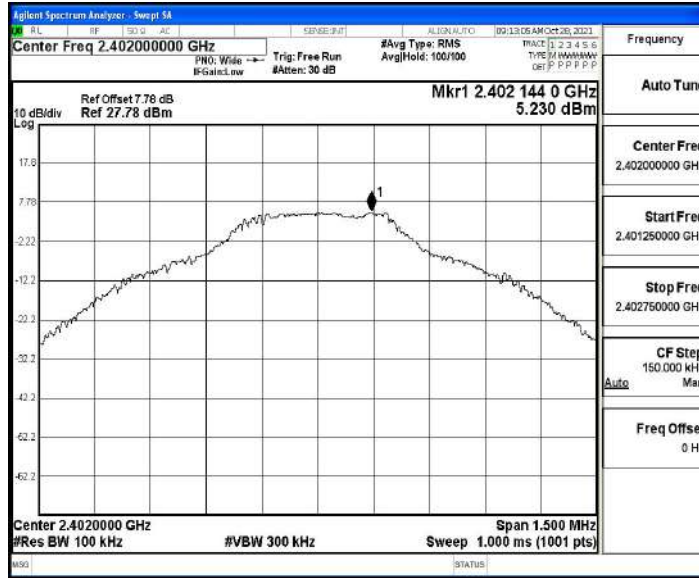
Test Result

TestMode	Antenna	Channel	FreqRange [MHz]	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
DH5	Ant1	2402	Reference	5.23	5.23	---	PASS
			30~1000	5.23	-61.91	≤-14.77	PASS
			1000~26500	5.23	-47.25	≤-14.77	PASS
		2441	Reference	6.25	6.25	---	PASS
			30~1000	6.25	-60.82	≤-13.75	PASS
			1000~26500	6.25	-47.53	≤-13.75	PASS
		2480	Reference	5.38	5.38	---	PASS
			30~1000	5.38	-62.43	≤-14.62	PASS
			1000~26500	5.38	-47.23	≤-14.62	PASS
2DH5	Ant1	2402	Reference	3.33	3.33	---	PASS
			30~1000	3.33	-60.73	≤-16.67	PASS
			1000~26500	3.33	-47.6	≤-16.67	PASS
		2441	Reference	5.25	5.25	---	PASS
			30~1000	5.25	-61.04	≤-14.75	PASS
			1000~26500	5.25	-47.64	≤-14.75	PASS
		2480	Reference	3.09	3.09	---	PASS
			30~1000	3.09	-61.76	≤-16.91	PASS
			1000~26500	3.09	-47.05	≤-16.91	PASS
3DH5	Ant1	2402	Reference	0.82	0.82	---	PASS
			30~1000	0.82	-62.17	≤-19.18	PASS
			1000~26500	0.82	-47.72	≤-19.18	PASS
		2441	Reference	5.22	5.22	---	PASS
			30~1000	5.22	-60.76	≤-14.78	PASS
			1000~26500	5.22	-46.41	≤-14.78	PASS
		2480	Reference	3.95	3.95	---	PASS
			30~1000	3.95	-61.17	≤-16.05	PASS
			1000~26500	3.95	-47.33	≤-16.05	PASS

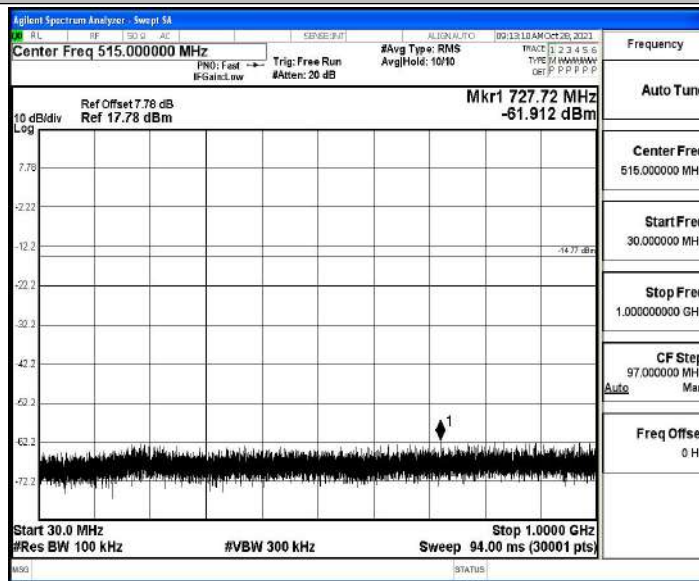


Test Graphs

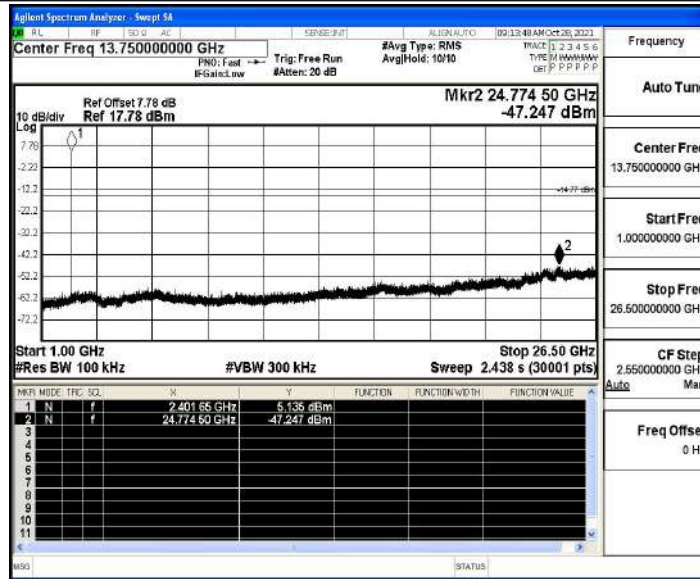
DH5_Ant1_2402_0~Reference



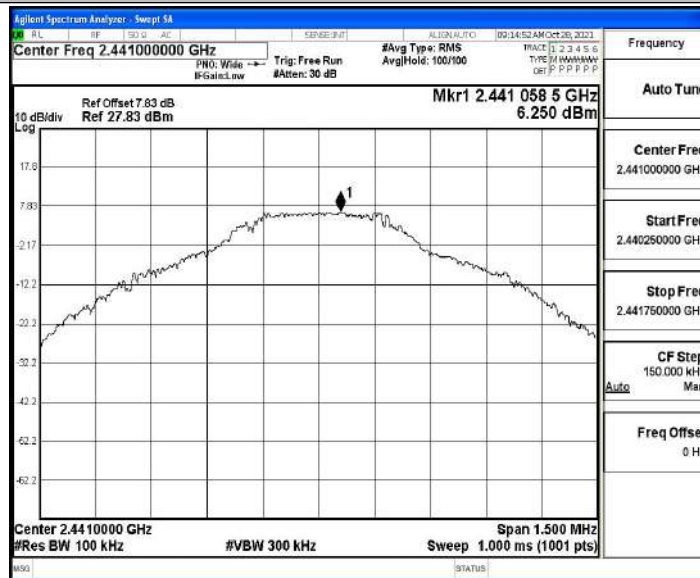
DH5_Ant1_2402_30~1000



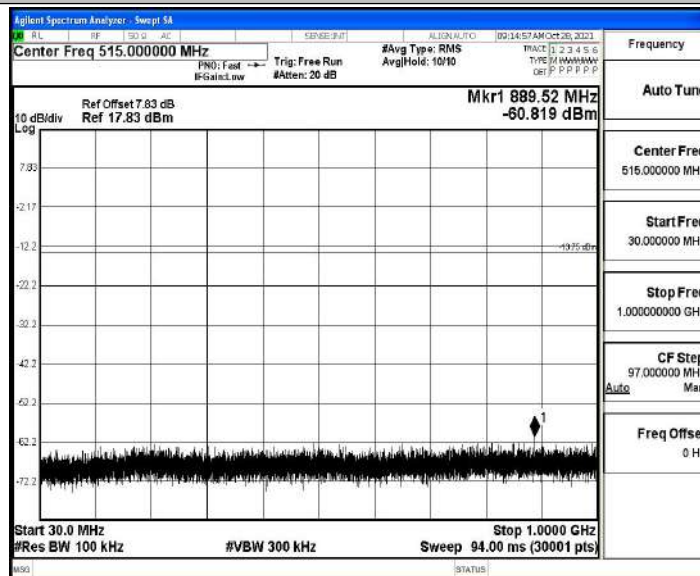
DH5_Ant1_2402_1000~26500



DH5_Ant1_2441_0~Reference

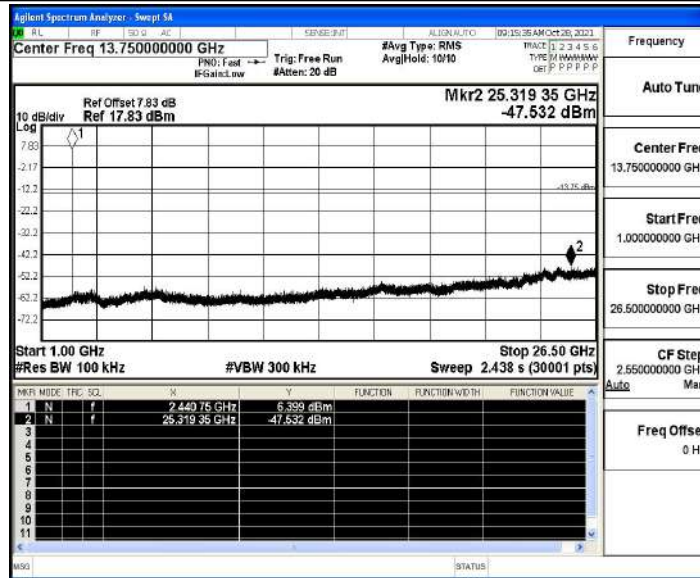


DH5_Ant1_2441_30~1000

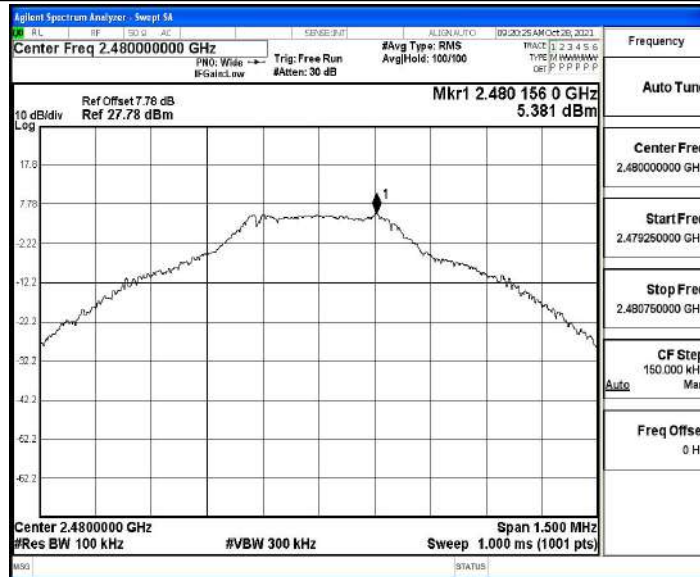




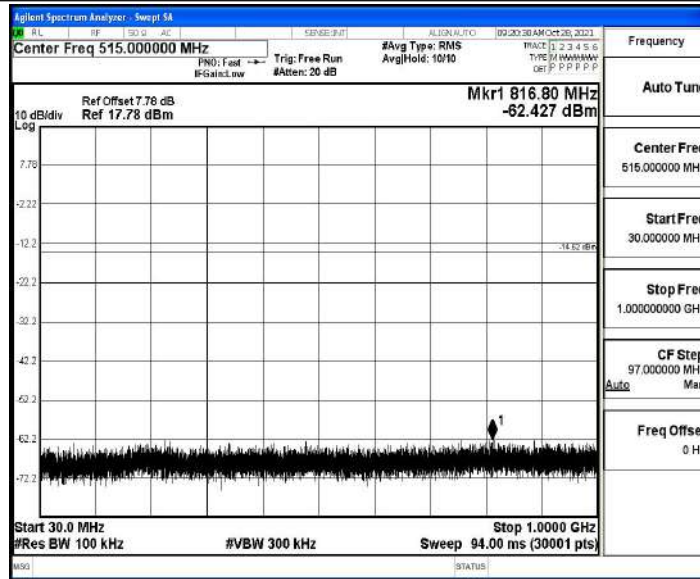
DH5_Ant1_2441_1000~26500



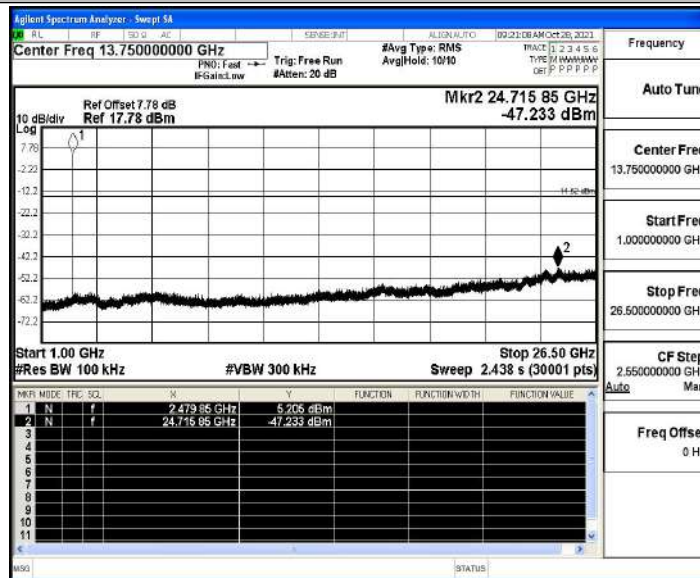
DH5_Ant1_2480_0~Reference



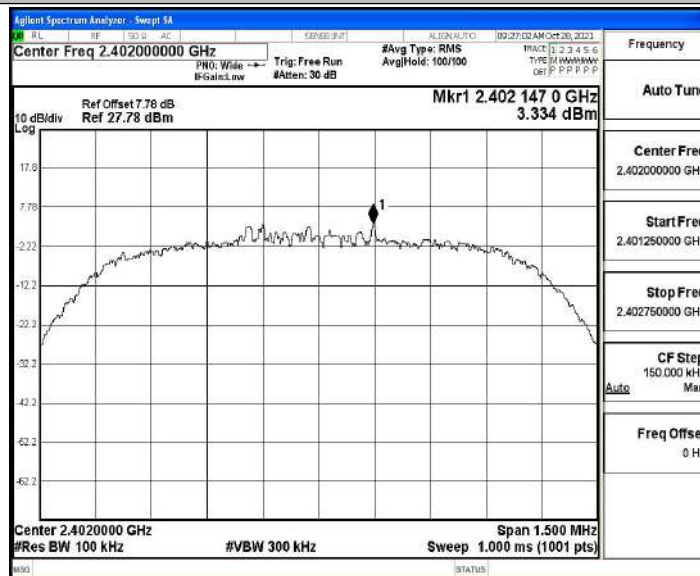
DH5_Ant1_2480_30~1000



DH5_Ant1_2480_1000~26500

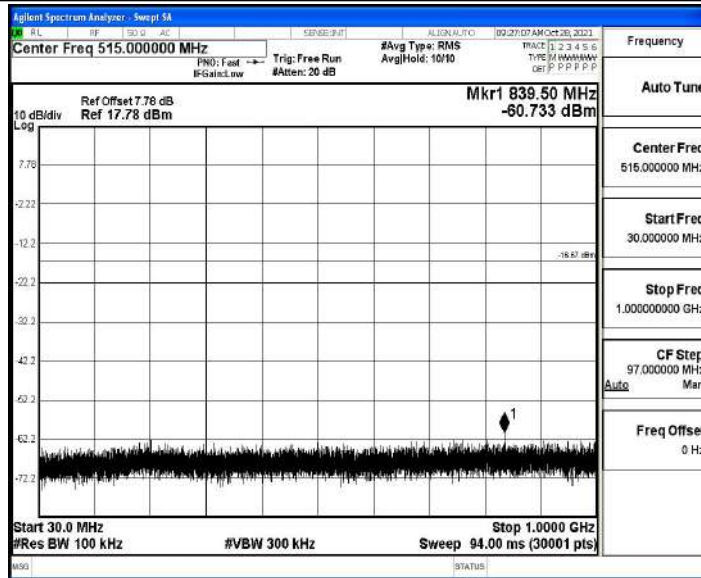


2DH5_Ant1_2402_0~Reference

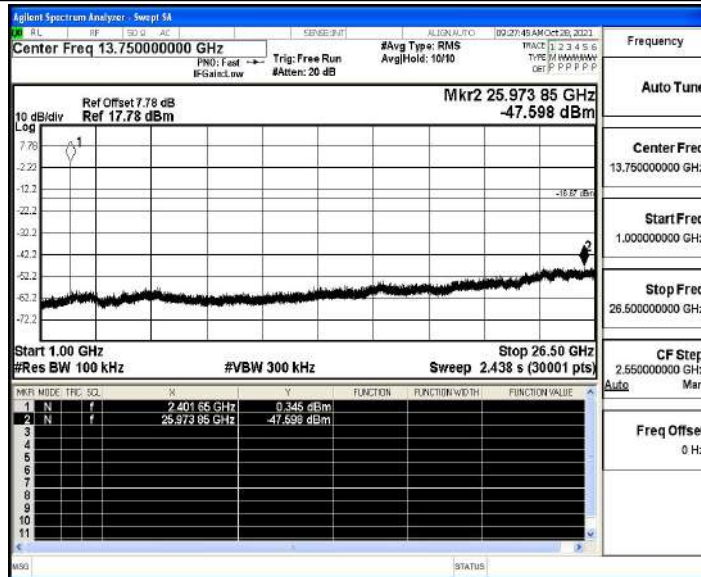




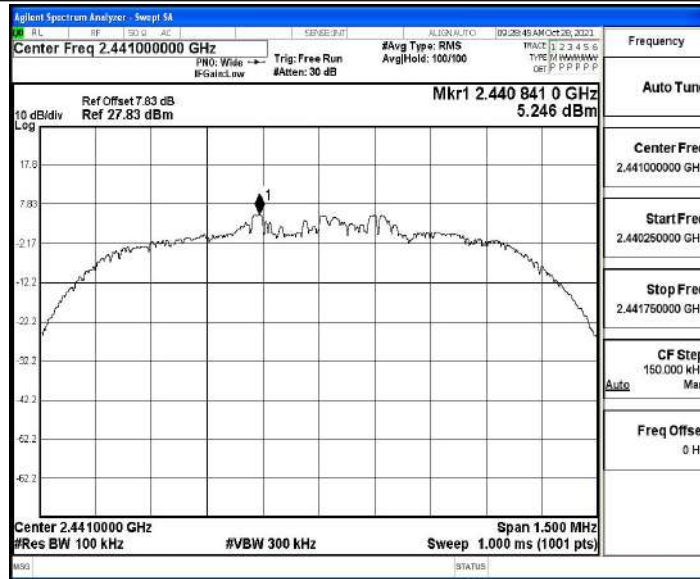
2DH5_Ant1_2402_30~1000



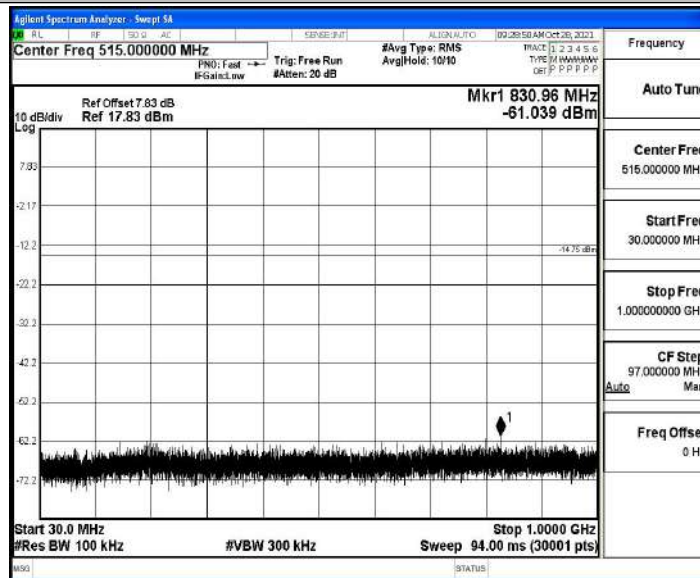
2DH5_Ant1_2402_1000~26500



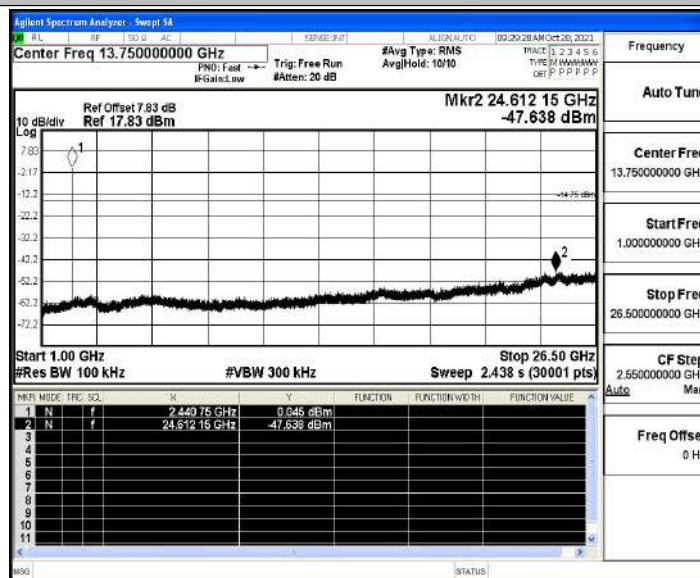
2DH5_Ant1_2441_0~Reference



2DH5_Ant1_2441_30~1000

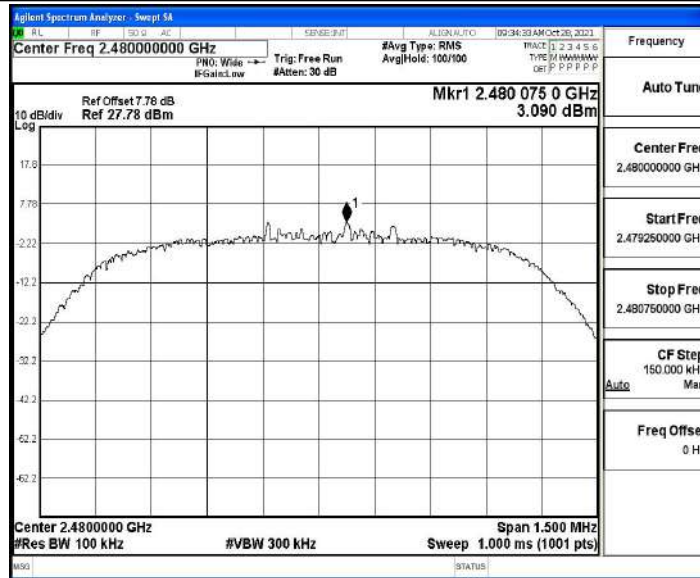


2DH5_Ant1_2441_1000~26500

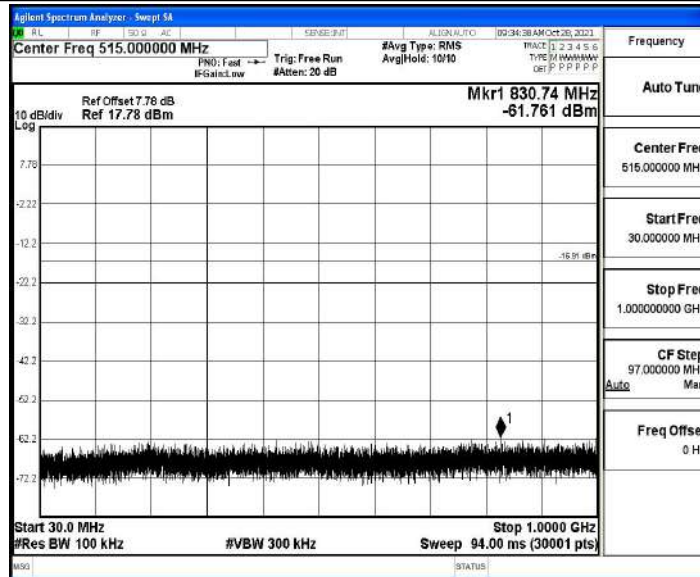




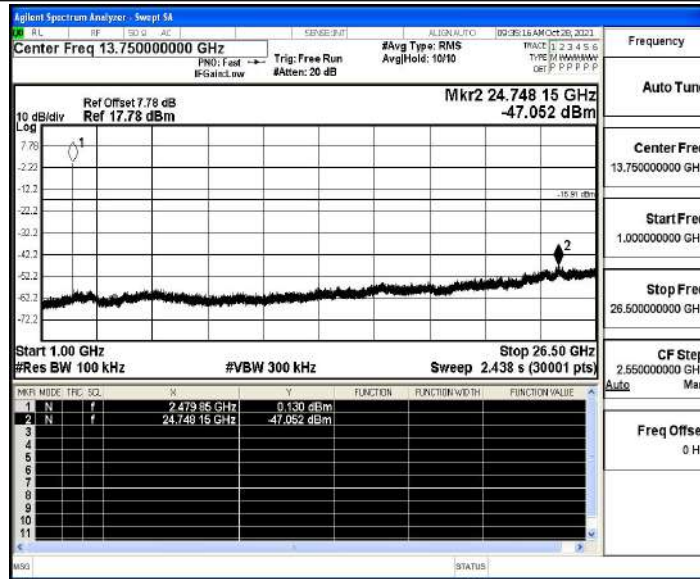
2DH5_Ant1_2480_0~Reference



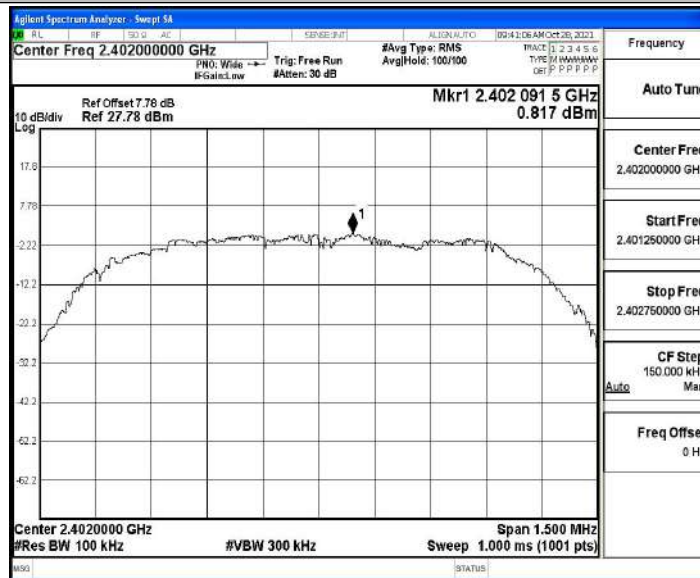
2DH5_Ant1_2480_30~1000



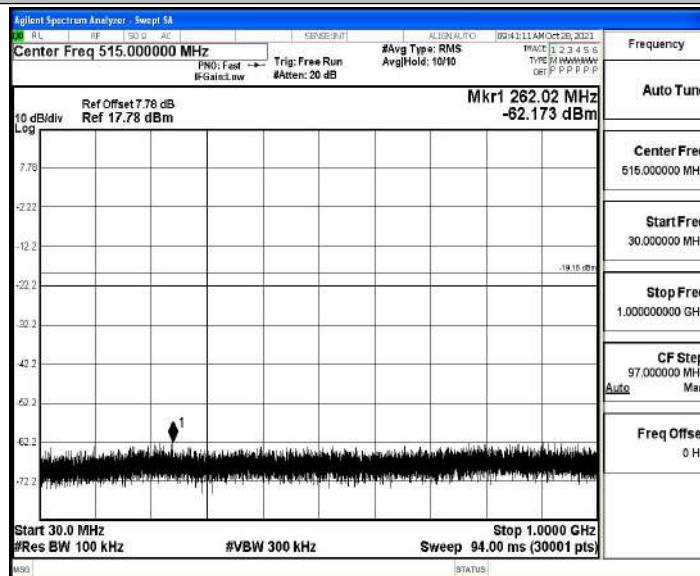
2DH5_Ant1_2480_1000~26500



3DH5_Ant1_2402_0~Reference

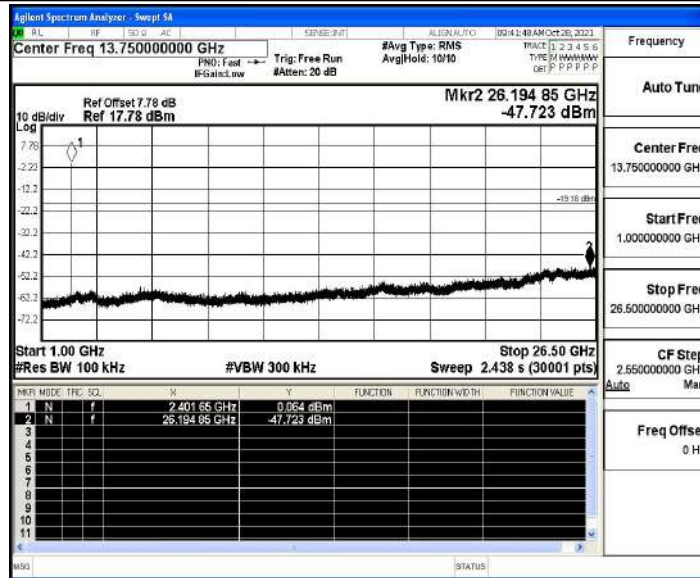


3DH5_Ant1_2402_30~1000

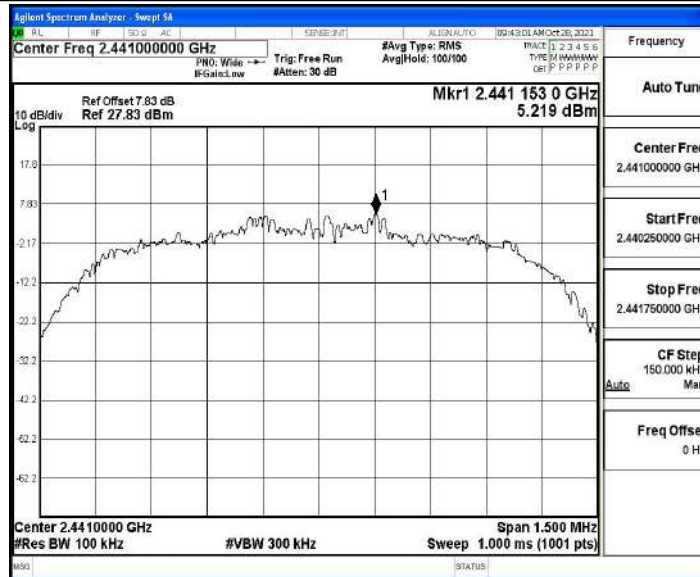




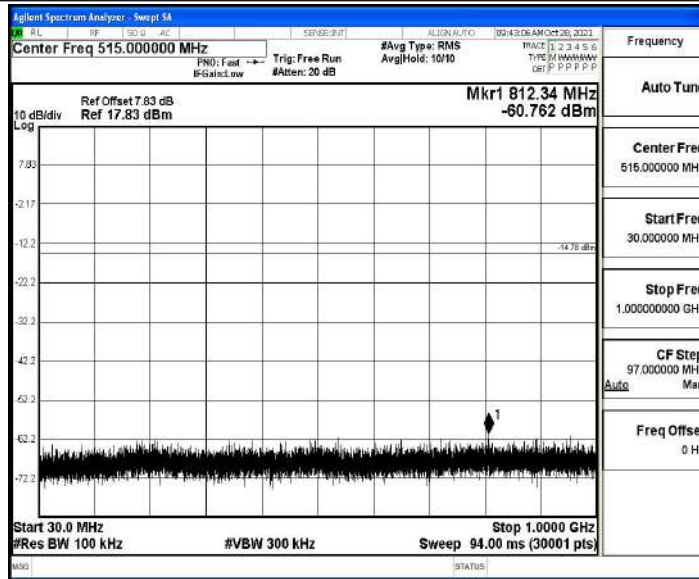
3DH5_Ant1_2402_1000~26500



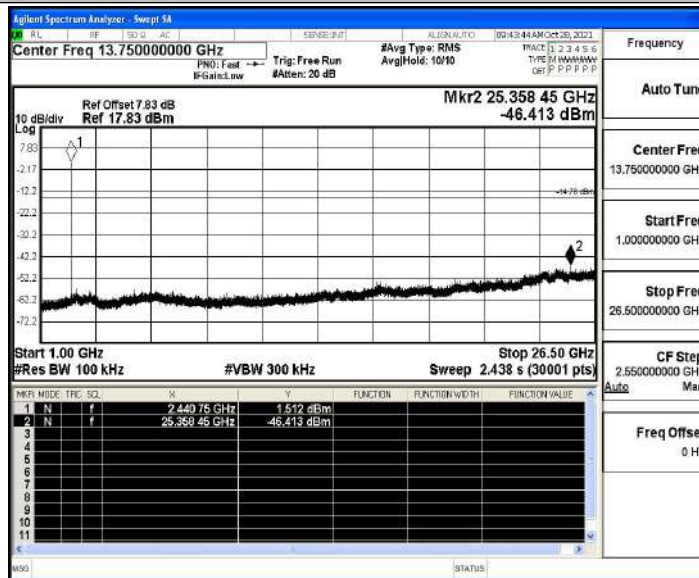
3DH5_Ant1_2441_0~Reference



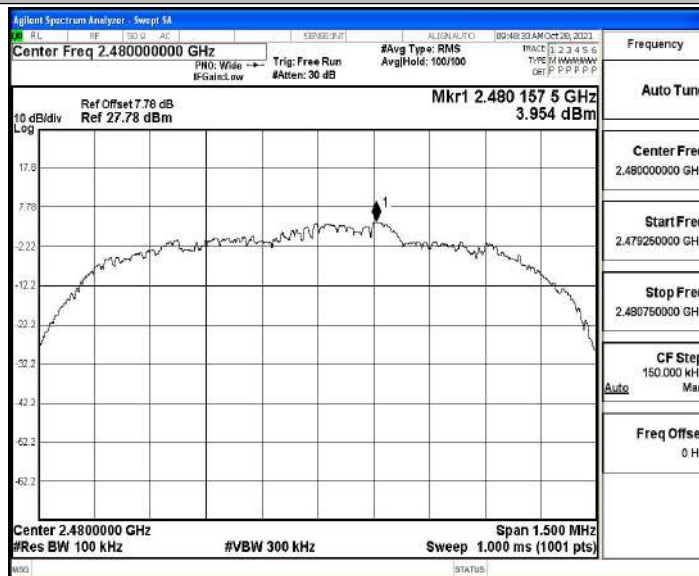
3DH5_Ant1_2441_30~1000



3DH5_Ant1_2441_1000~26500

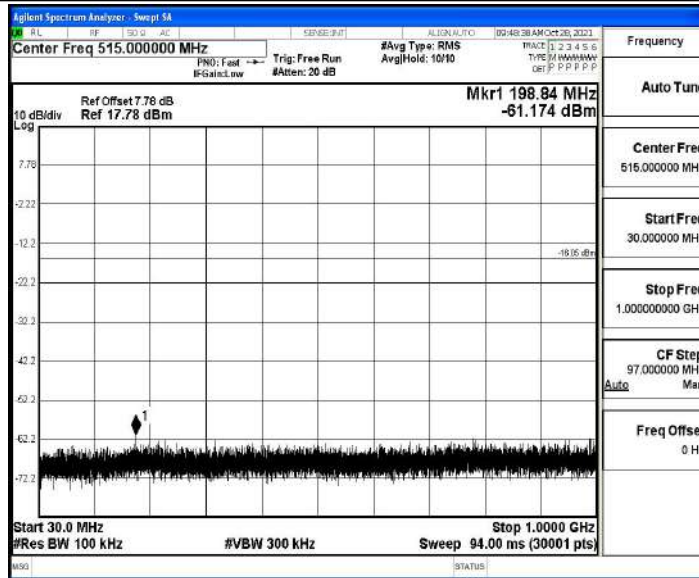


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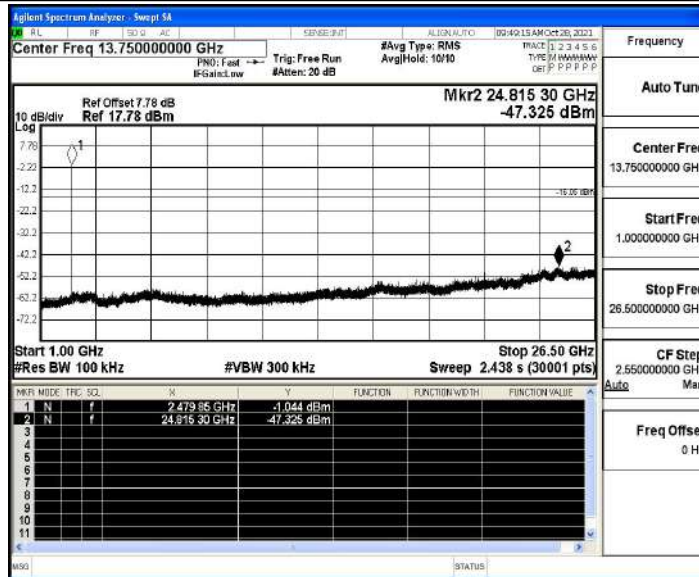




3DH5_Ant1_2480_30~1000



3DH5_Ant1_2480_1000~26500





A.9 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	-48.96	≤-41.20	46.24	≤54	PASS
				AV	2380.010	-48.48	≤-41.20	46.72	≤54	PASS
				AV	2390.000	-48.59	≤-41.20	46.61	≤54	PASS
				Peak	2310.000	-40.95	≤-21.20	54.25	≤74	PASS
				Peak	2313.545	-38.01	≤-21.20	57.19	≤74	PASS
				Peak	2390.000	-41.02	≤-21.20	54.18	≤74	PASS
		High	2480	AV	2483.500	-47.22	≤-41.20	47.98	≤54	PASS
				AV	2483.520	-47.22	≤-41.20	47.98	≤54	PASS
				AV	2500.000	-47.96	≤-41.20	47.24	≤54	PASS
				Peak	2483.500	-40.1	≤-21.20	55.10	≤74	PASS
				Peak	2499.760	-38.1	≤-21.20	57.10	≤74	PASS
				Peak	2500.000	-38.61	≤-21.20	56.59	≤74	PASS
		Low	Hop_2402	Peak	2310.000	-40.19	≤-21.20	55.01	≤74	PASS
				Peak	2310.920	-37.87	≤-21.20	57.33	≤74	PASS
				Peak	2390.000	-40.21	≤-21.20	54.99	≤74	PASS
		High	Hop_2480	Peak	2483.500	-40.59	≤-21.20	54.61	≤74	PASS
				Peak	2485.120	-37.93	≤-21.20	57.27	≤74	PASS
				Peak	2500.000	-38.18	≤-21.20	57.02	≤74	PASS
2DH5	Ant1	Low	2402	AV	2310.000	-48.98	≤-41.20	46.22	≤54	PASS
				AV	2386.730	-48.45	≤-41.20	46.75	≤54	PASS
				AV	2390.000	-48.61	≤-41.20	46.59	≤54	PASS
				Peak	2310.000	-41	≤-21.20	54.20	≤74	PASS
				Peak	2381.585	-37.61	≤-21.20	57.59	≤74	PASS
				Peak	2390.000	-40.14	≤-21.20	55.06	≤74	PASS
		High	2480	AV	2483.500	-47.13	≤-41.20	48.07	≤54	PASS
				AV	2483.520	-47.13	≤-41.20	48.07	≤54	PASS
				AV	2500.000	-47.97	≤-41.20	47.23	≤54	PASS
				Peak	2483.500	-39.85	≤-21.20	55.35	≤74	PASS
				Peak	2499.120	-37.76	≤-21.20	57.44	≤74	PASS
				Peak	2500.000	-38.96	≤-21.20	56.24	≤74	PASS
		Low	Hop_2402	Peak	2310.000	-40.51	≤-21.20	54.69	≤74	PASS
				Peak	2371.925	-38.09	≤-21.20	57.11	≤74	PASS
				Peak	2390.000	-39.4	≤-21.20	55.80	≤74	PASS
		High	Hop_2480	Peak	2483.500	-40.75	≤-21.20	54.45	≤74	PASS
				Peak	2484.080	-37.57	≤-21.20	57.63	≤74	PASS
				Peak	2500.000	-39.2	≤-21.20	56.00	≤74	PASS
3DH5	Ant1	Low	2402	AV	2310.000	-48.99	≤-41.20	46.21	≤54	PASS



				AV	2389.250	-48.47	≤-41.20	46.73	≤54	PASS
				AV	2390.000	-48.51	≤-41.20	46.69	≤54	PASS
				Peak	2310.000	-40.83	≤-21.20	54.37	≤74	PASS
				Peak	2354.600	-38.21	≤-21.20	56.99	≤74	PASS
				Peak	2390.000	-40.17	≤-21.20	55.03	≤74	PASS
		High	2480	AV	2483.500	-47.08	≤-41.20	48.12	≤54	PASS
				AV	2483.520	-47.08	≤-41.20	48.12	≤54	PASS
				AV	2500.000	-47.93	≤-41.20	47.27	≤54	PASS
				Peak	2483.500	-39.18	≤-21.20	56.02	≤74	PASS
				Peak	2487.040	-37.91	≤-21.20	57.29	≤74	PASS
				Peak	2500.000	-39.11	≤-21.20	56.09	≤74	PASS
		Low	Hop_24 02	Peak	2310.000	-41.01	≤-21.20	54.19	≤74	PASS
				Peak	2323.835	-37.84	≤-21.20	57.36	≤74	PASS
				Peak	2390.000	-41.03	≤-21.20	54.17	≤74	PASS
		High	Hop_24 80	Peak	2483.500	-40.38	≤-21.20	54.82	≤74	PASS
				Peak	2498.000	-37.88	≤-21.20	57.32	≤74	PASS
				Peak	2500.000	-39.21	≤-21.20	55.99	≤74	PASS

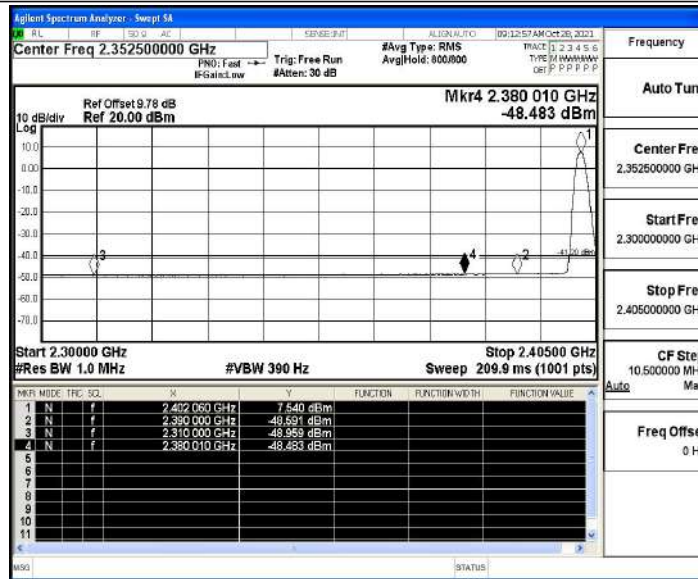
Note:

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.

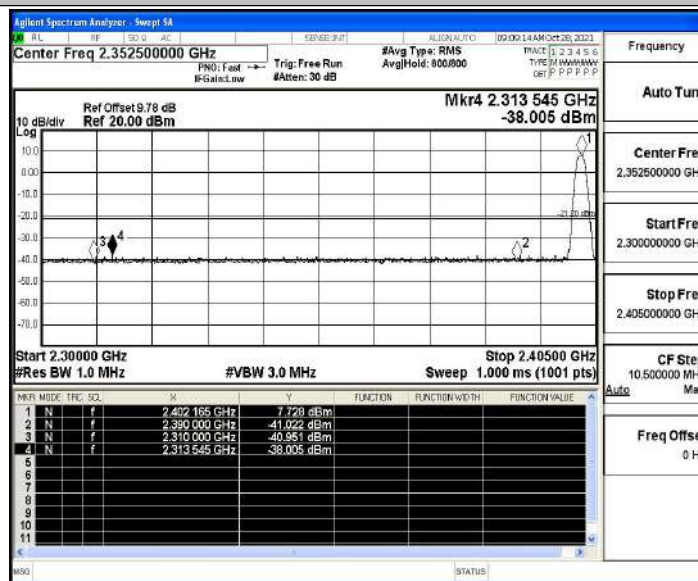


Test Graphs

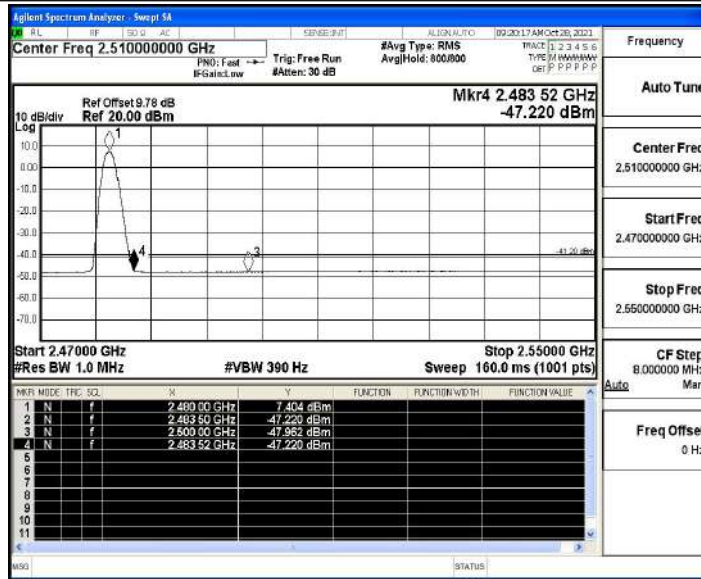
DH5_Ant1_Low_2402_AV



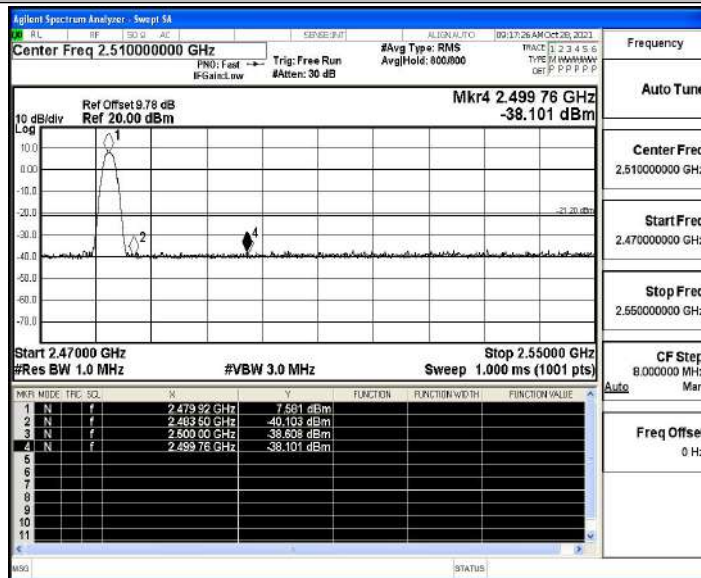
DH5_Ant1_Low_2402_Peak



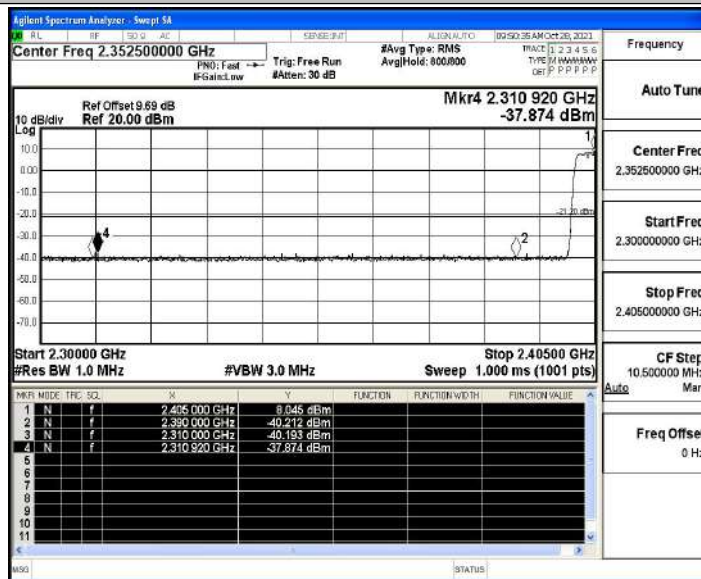
DH5_Ant1_High_2480_AV



DH5_Ant1_High_2480_Peak

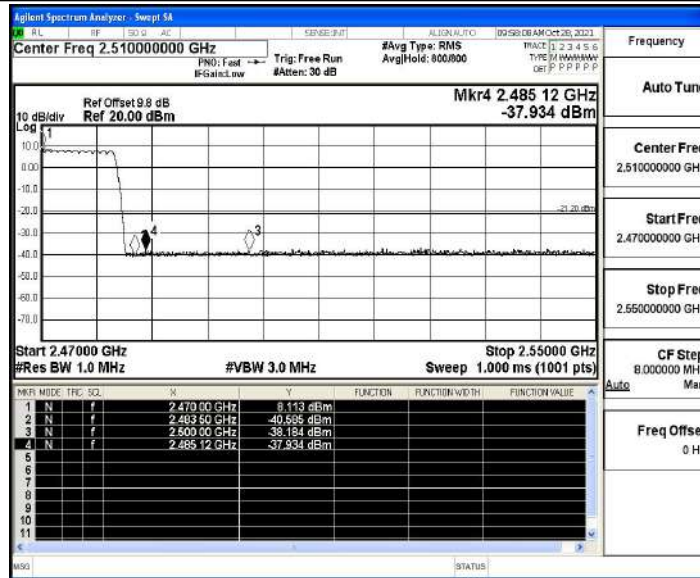


DH5_Ant1_Low_Hop_2402_Peak

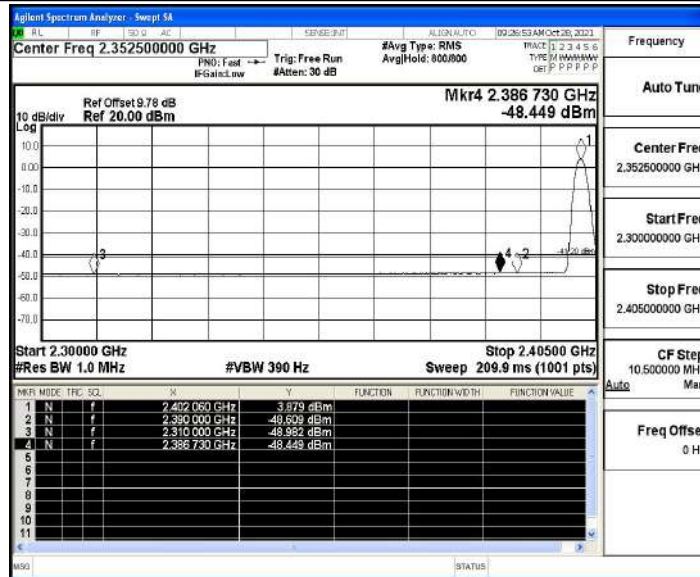




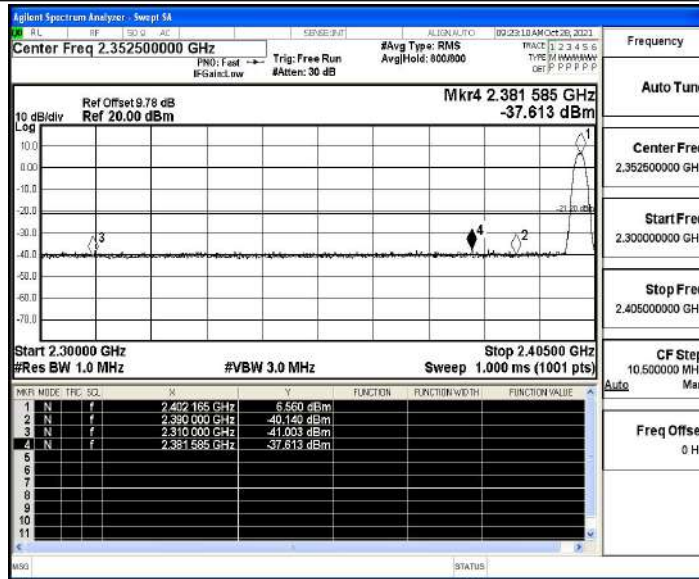
DH5_Ant1_High_Hop_2480_Peak



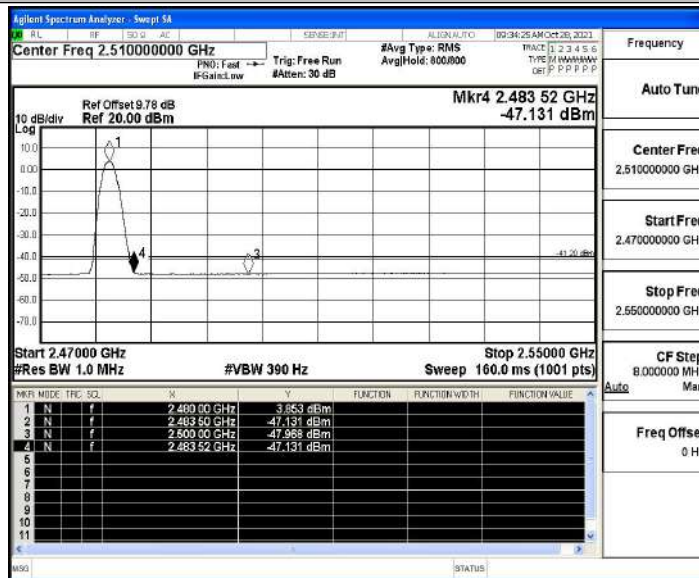
2DH5_Ant1_Low_2402_AV



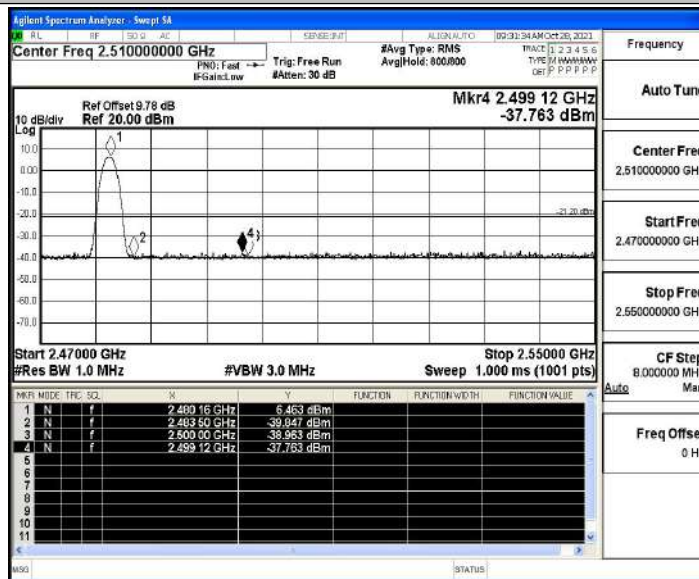
2DH5_Ant1_Low_2402_Peak



2DH5_Ant1_High_2480_AV

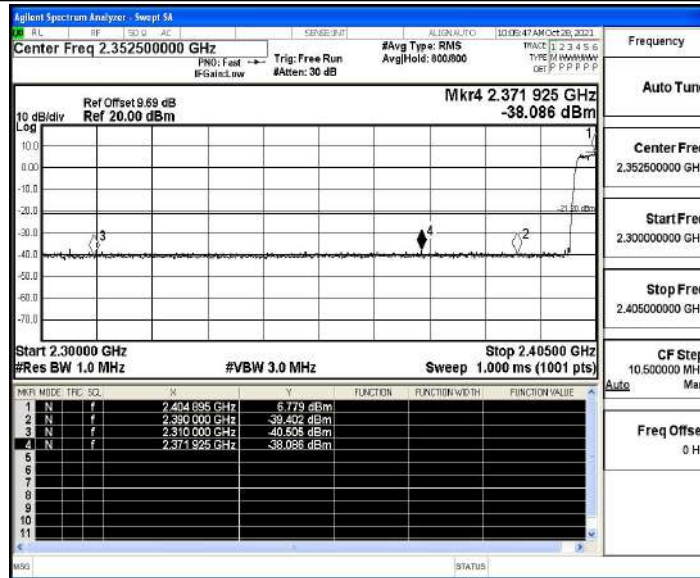


2DH5_Ant1_High_2480_Peak

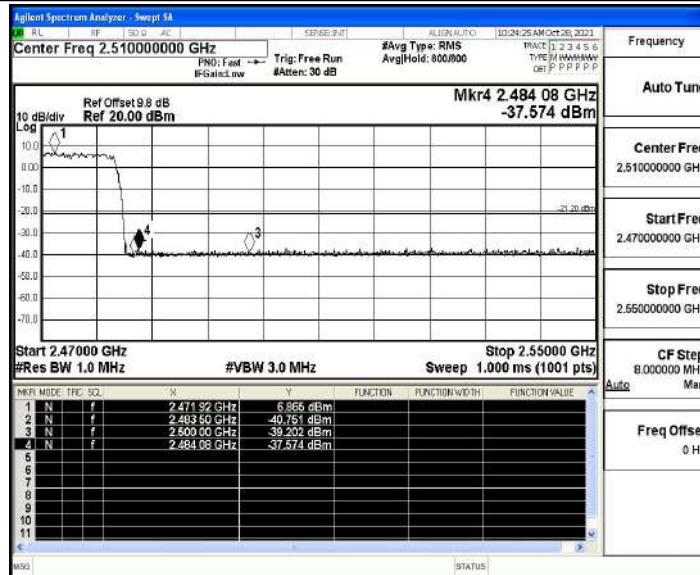




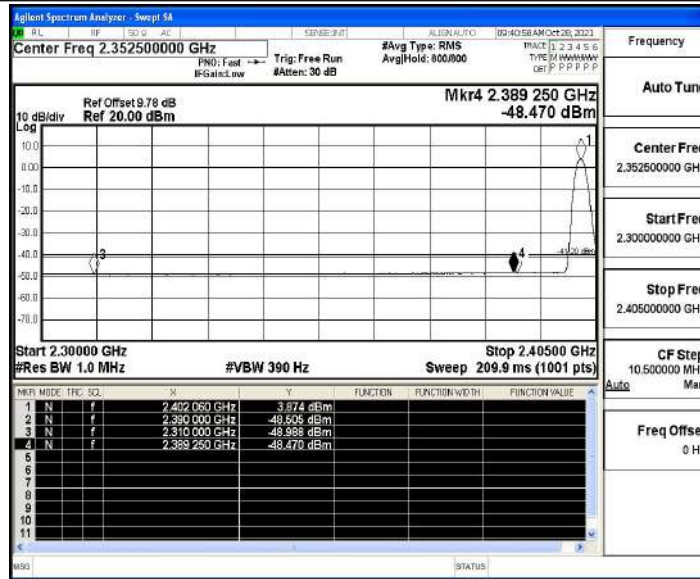
2DH5_Ant1_Low_Hop_2402_Peak



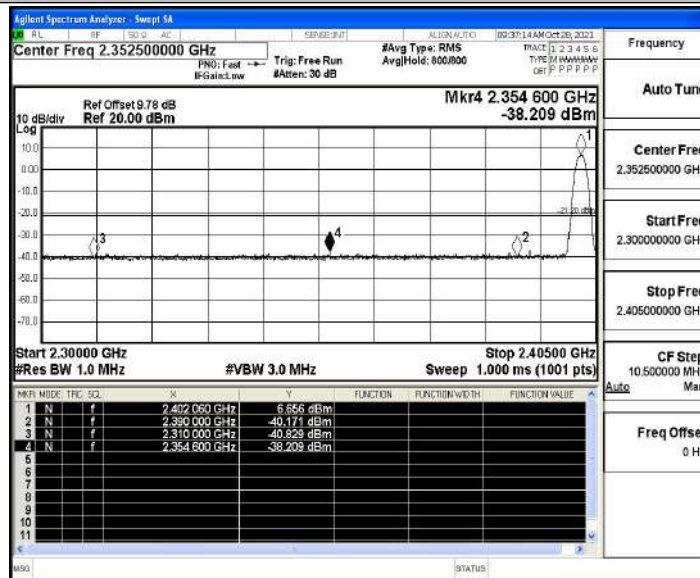
2DH5_Ant1_High_Hop_2480_Peak



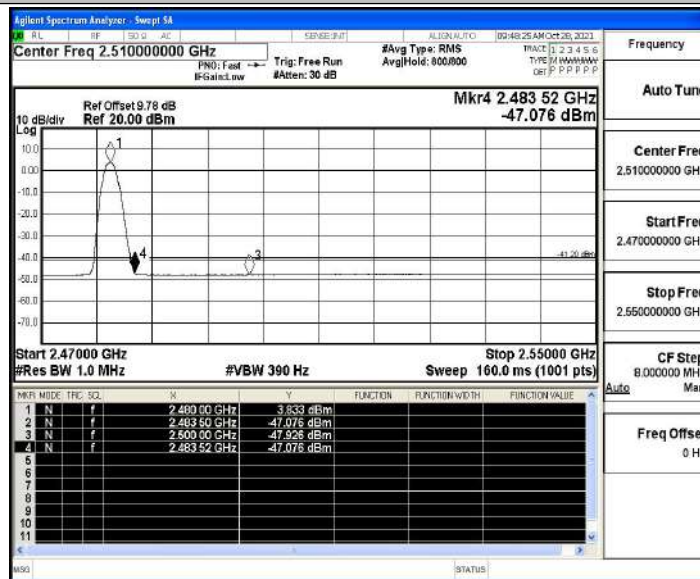
3DH5_Ant1_Low_2402_AV



3DH5_Ant1_Low_2402_Peak

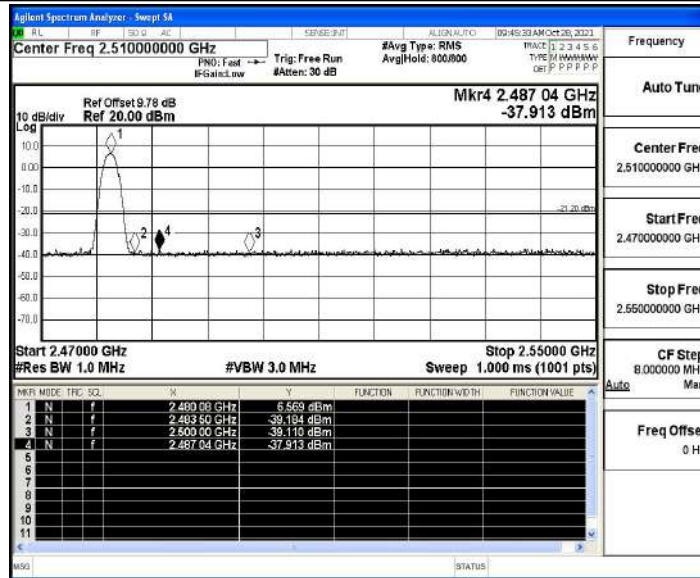


3DH5_Ant1_High_2480_AV

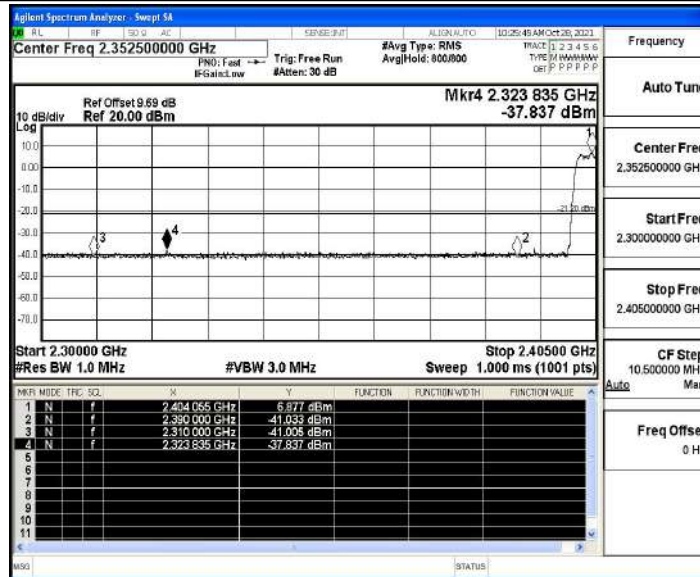




3DH5_Ant1_High_2480_Peak



3DH5_Ant1_Low_Hop_2402_Peak



3DH5_Ant1_High_Hop_2480_Peak

