Appendix A

RF Test Data for BT (Conducted Measurement)

Product Name: TWS Headphones

Test Model: E05

Environmental Conditions

Temperature:	23.4° C
Relative Humidity:	51.3%
ATM Pressure:	100.0 kPa
Test Engineer:	monkey.Li
Supervised by:	Lihu

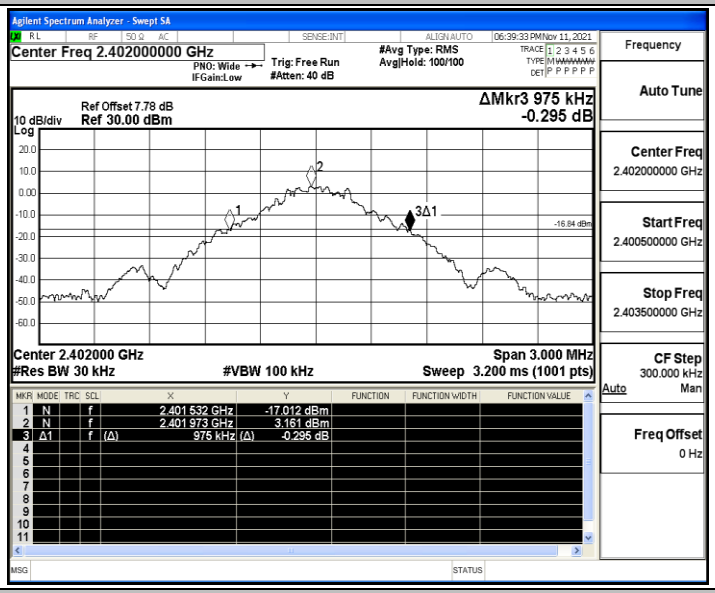
A.1 20dB Emission Bandwidth

Test Result

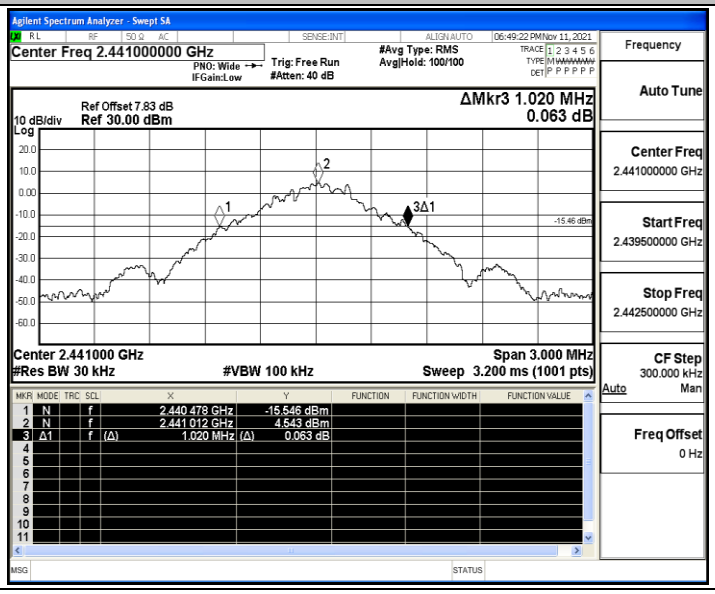
TestMode	Antenna	Channel	20db EBW[MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
DH5	Ant1	2402	0.975	2401.532	2402.507	---	PASS
		2441	1.020	2440.478	2441.498	---	PASS
		2480	1.029	2479.472	2480.501	---	PASS
2DH5	Ant1	2402	1.290	2401.364	2402.654	---	PASS
		2441	1.320	2440.337	2441.657	---	PASS
		2480	1.317	2479.343	2480.660	---	PASS
3DH5	Ant1	2402	1.314	2401.346	2402.660	---	PASS
		2441	1.311	2440.343	2441.654	---	PASS
		2480	1.341	2479.328	2480.669	---	PASS

Test Graphs

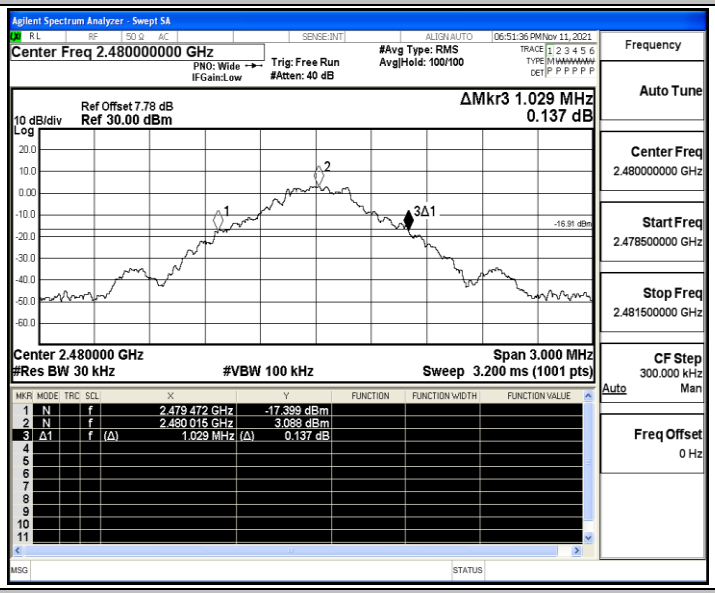
DH5_Ant1_2402



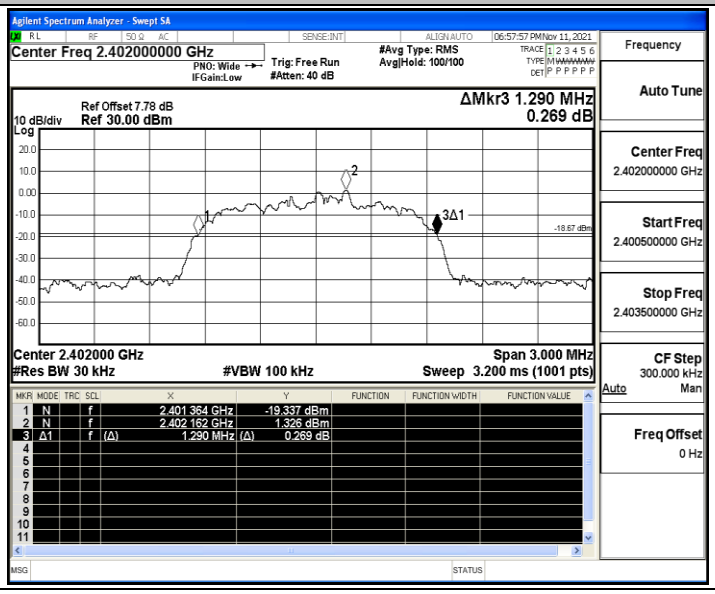
DH5_Ant1_2441



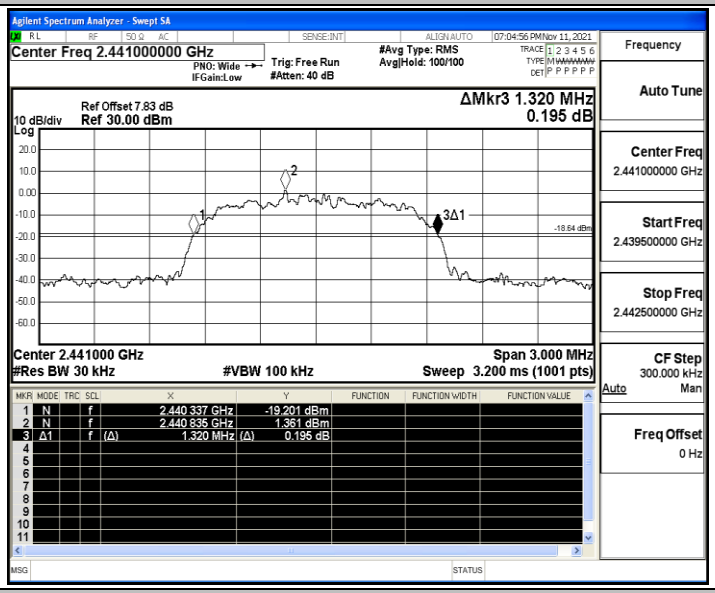
DH5_Ant1_2480



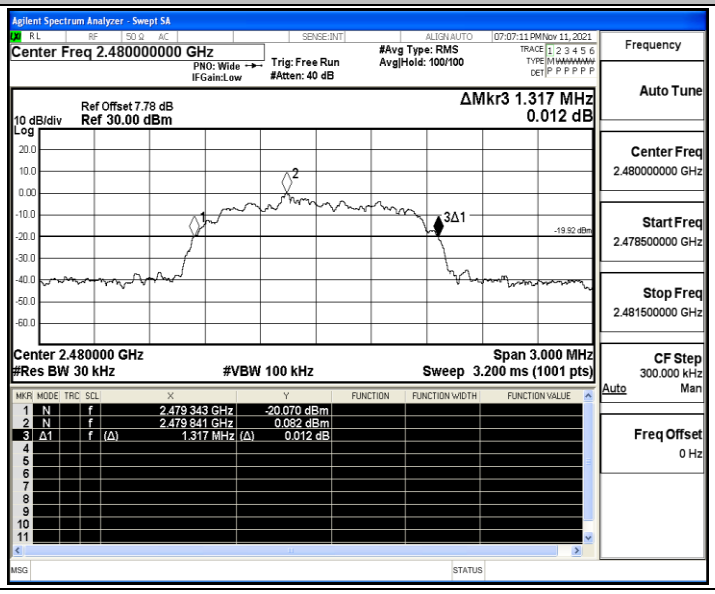
2DH5_Ant1_2402



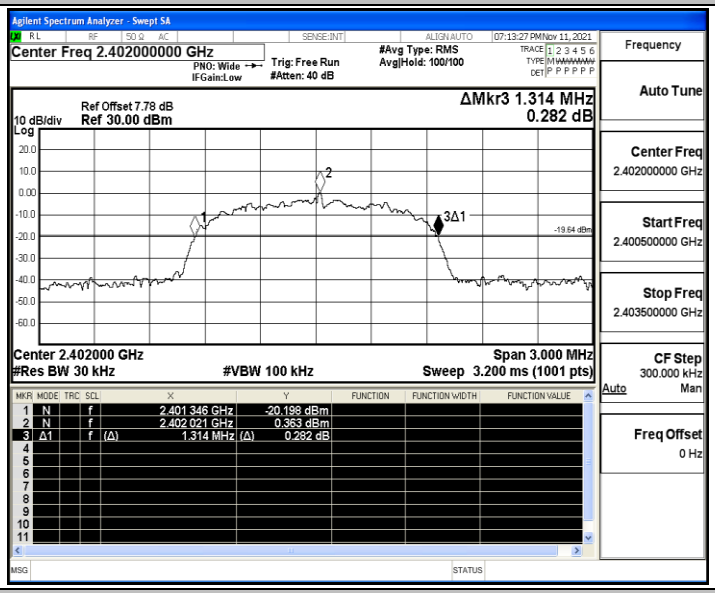
2DH5_Ant1_2441



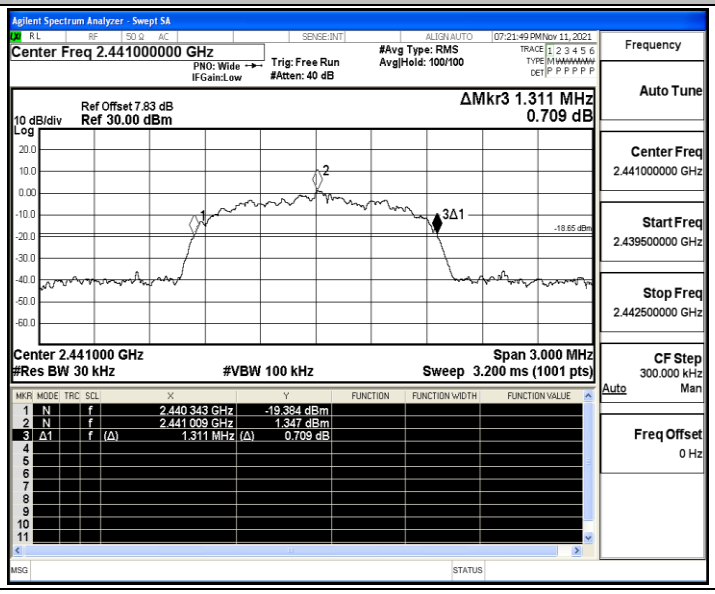
2DH5_Ant1_2480



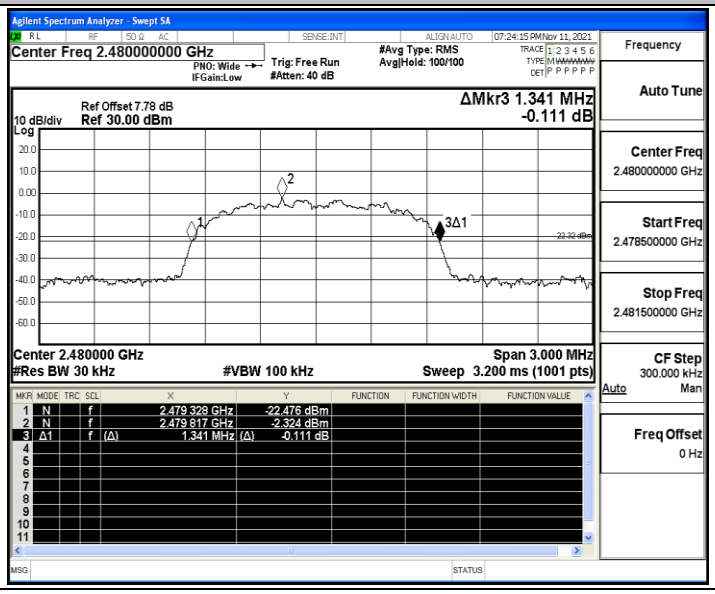
3DH5_Ant1_2402



3DH5_Ant1_2441



3DH5_Ant1_2480



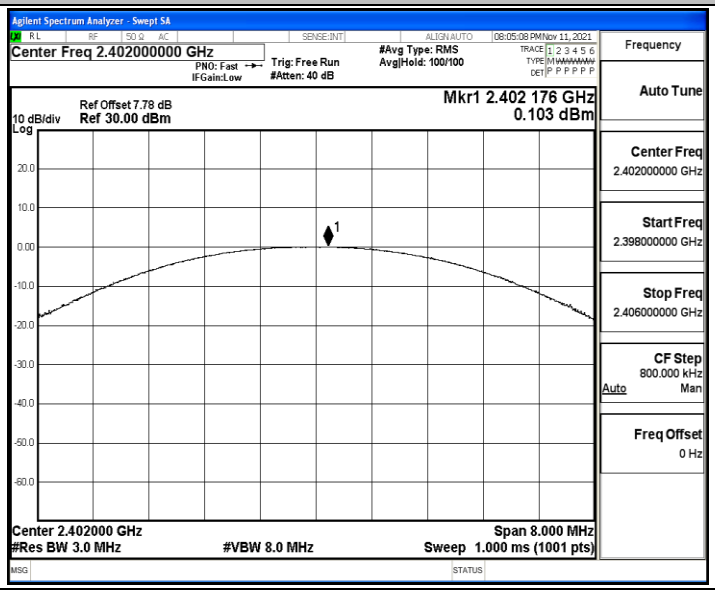
A.2 Maximum conducted output power

Test Result

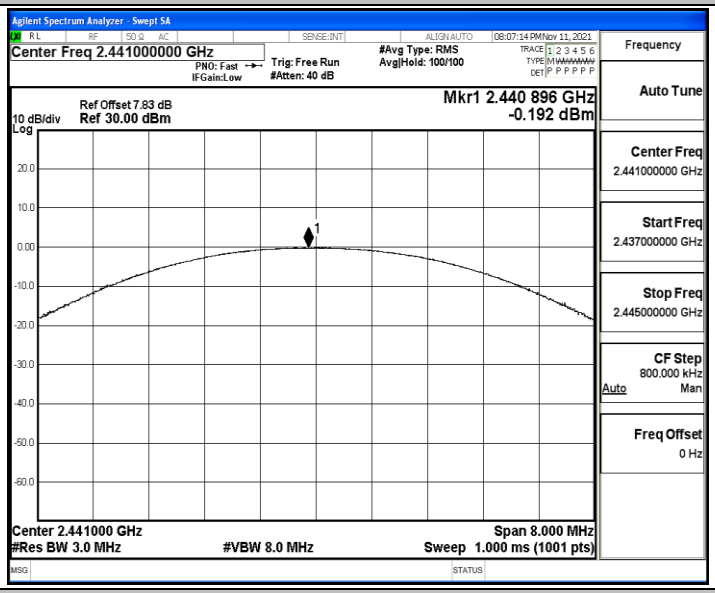
TestMode	Antenna	Channel	Result[dBm]	Limit[dBm]	Verdict
DH5	Ant1	2402	0.1	≤30	PASS
		2441	-0.19	≤30	PASS
		2480	0.72	≤30	PASS
2DH5	Ant1	2402	0.1	≤20.97	PASS
		2441	1.28	≤20.97	PASS
		2480	-0.23	≤20.97	PASS
3DH5	Ant1	2402	0.2	≤20.97	PASS
		2441	1.44	≤20.97	PASS
		2480	0.01	≤20.97	PASS

Test Graphs

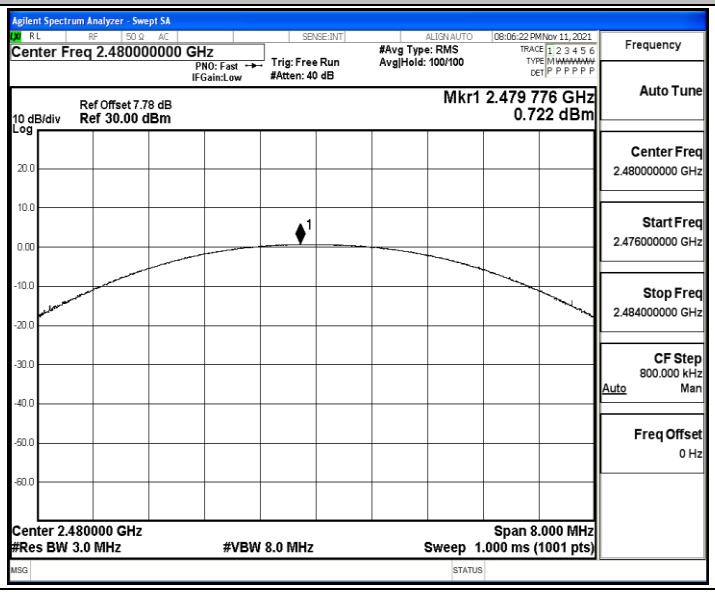
DH5_Ant1_2402



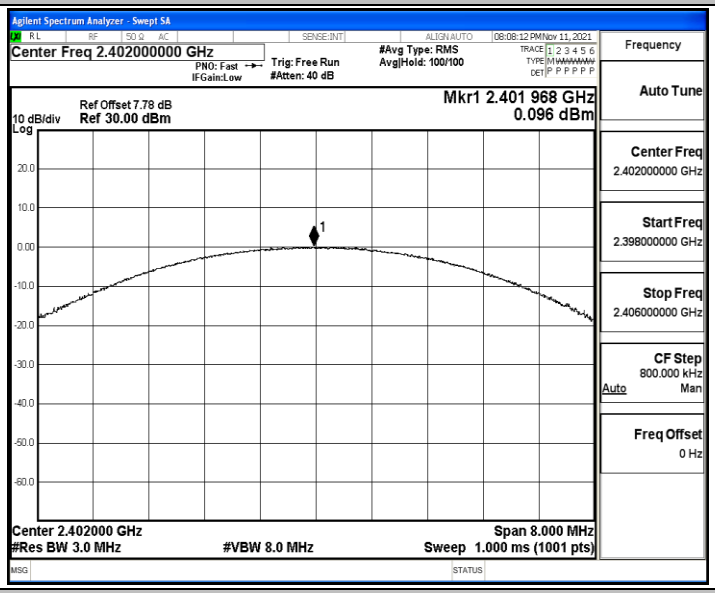
DH5_Ant1_2441



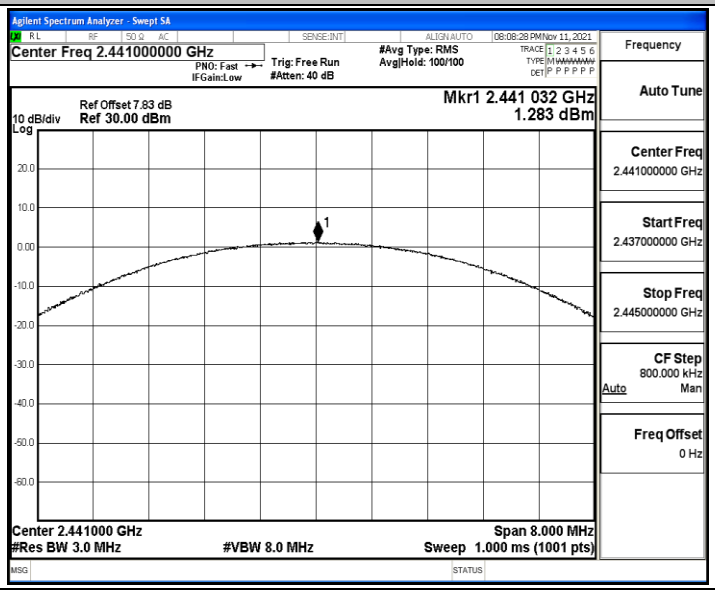
DH5_Ant1_2480



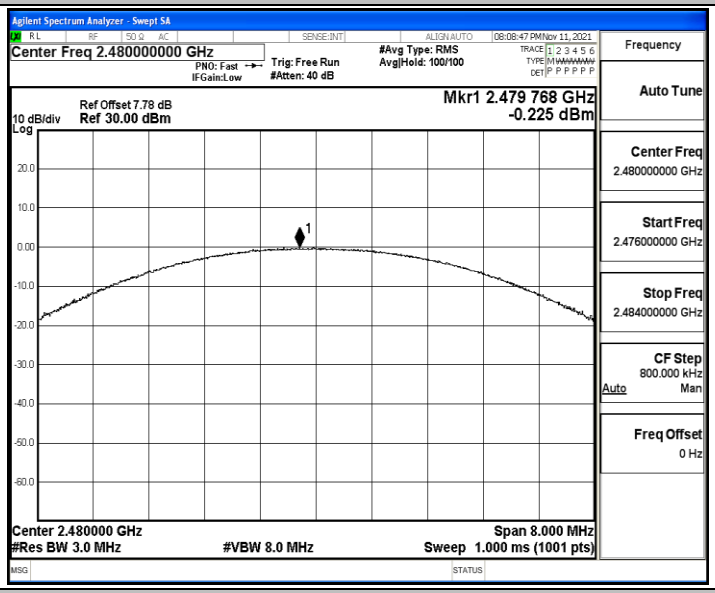
2DH5_Ant1_2402



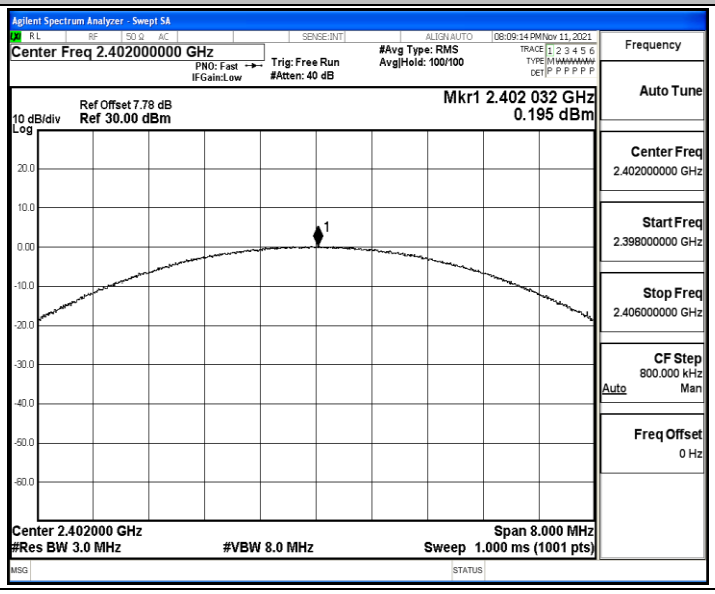
2DH5_Ant1_2441



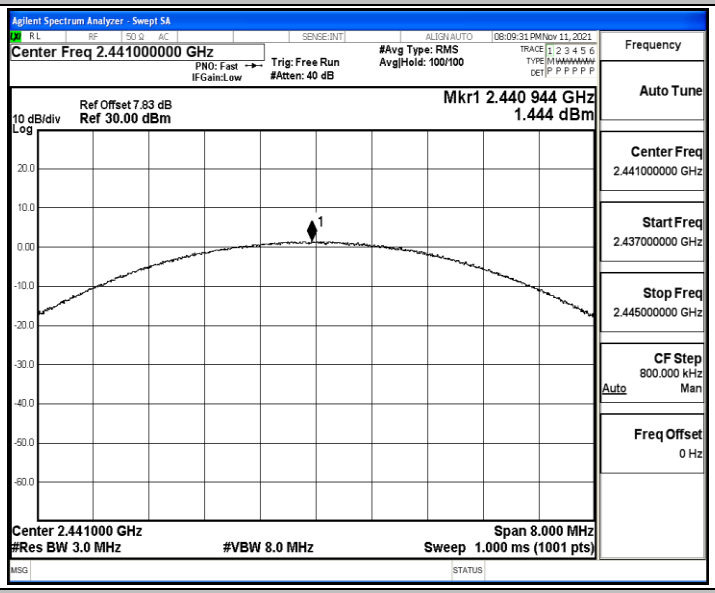
2DH5_Ant1_2480



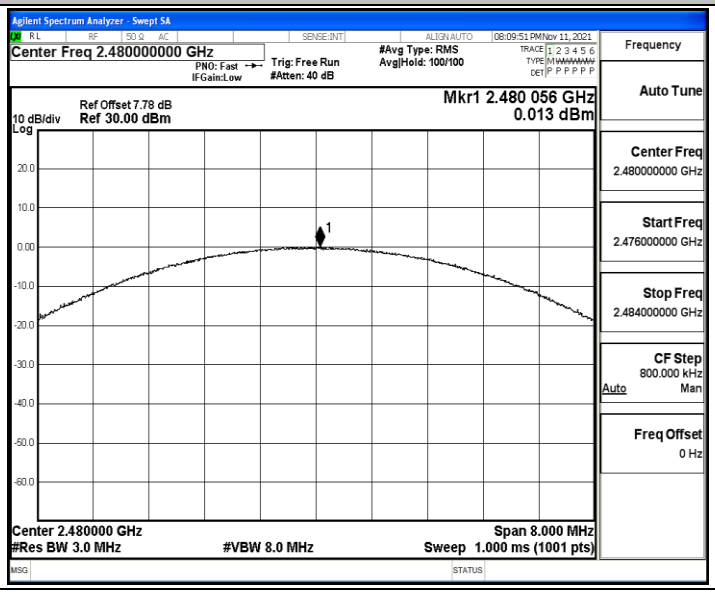
3DH5_Ant1_2402



3DH5_Ant1_2441



3DH5_Ant1_2480



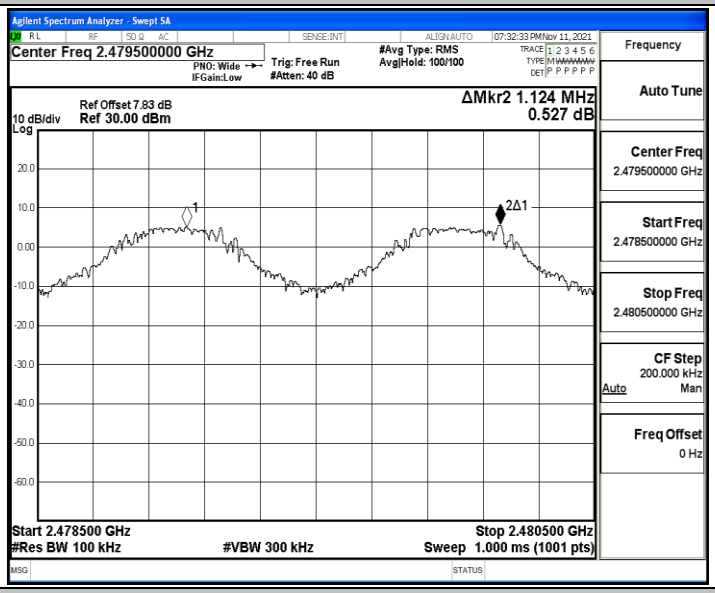
A.3 Carrier frequency separation

Test Result

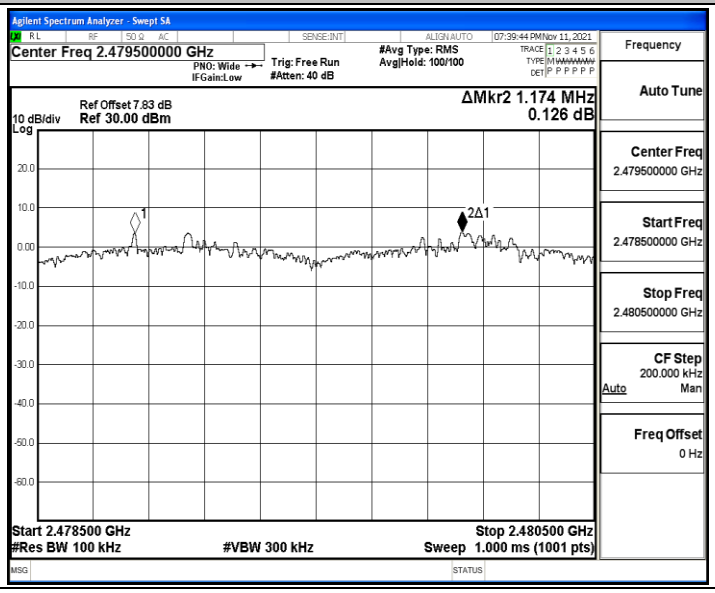
TestMode	Antenna	Channel	Result[dBm]	Limit[dBm]	Verdict
DH5	Ant1	Hop	1.124	≥1.029	PASS
2DH5	Ant1	Hop	1.174	≥0.880	PASS
3DH5	Ant1	Hop	1.168	≥0.894	PASS

Test Graphs

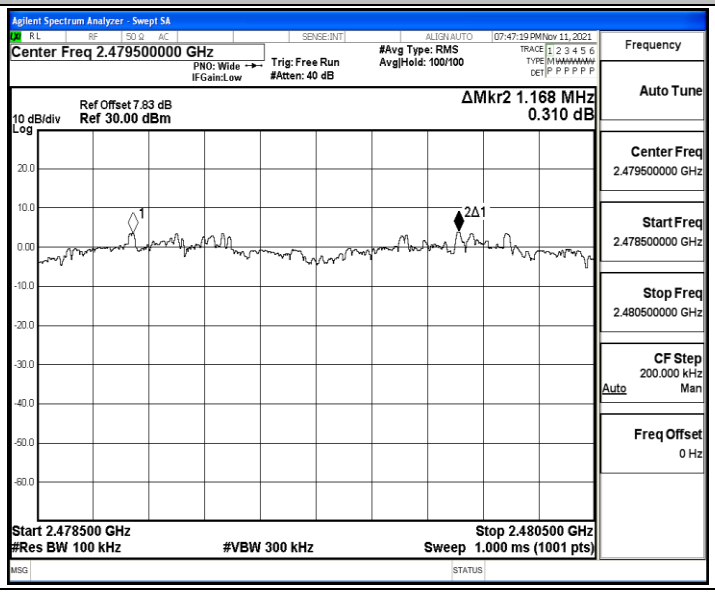
DH5_Ant1_Hop



2DH5_Ant1_Hop



3DH5_Ant1_Hop



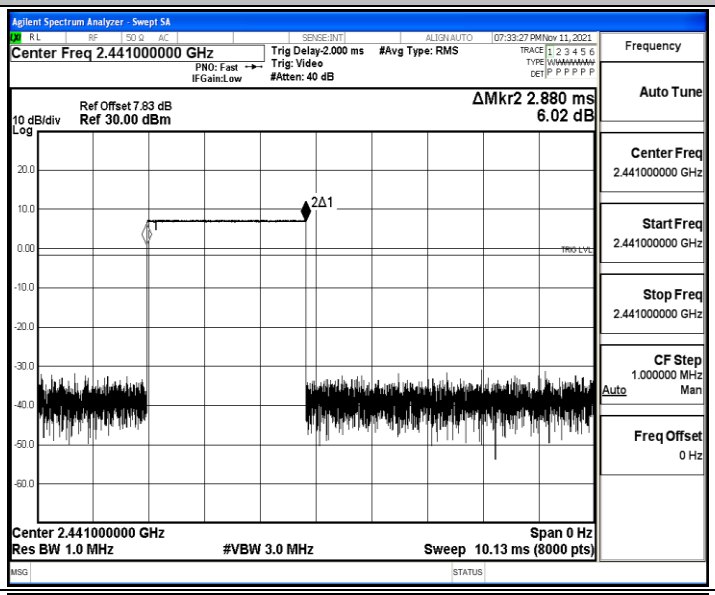
A.4 Time of occupancy

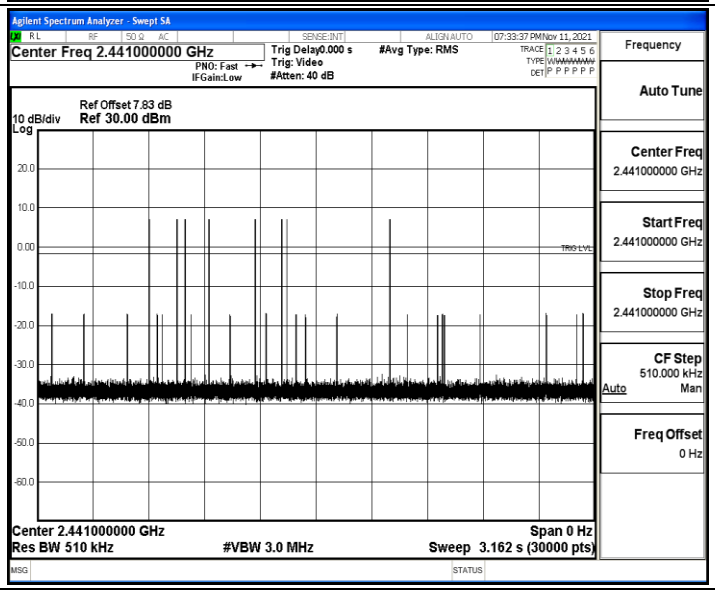
Test Result

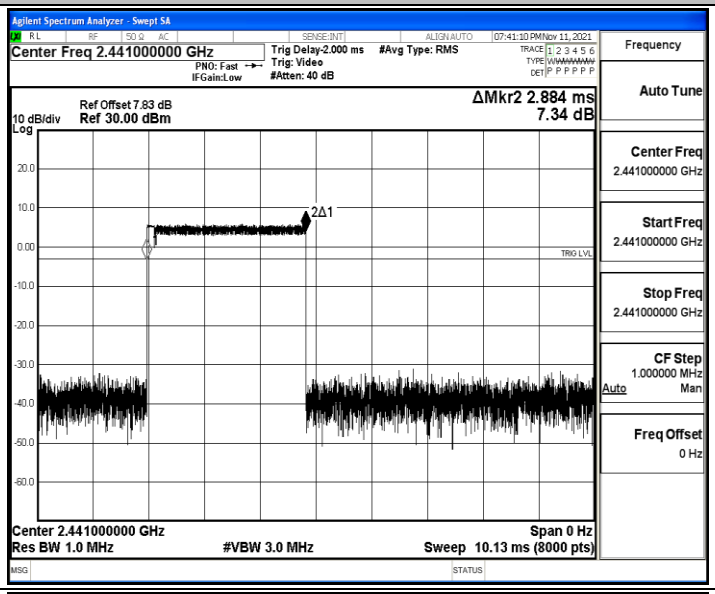
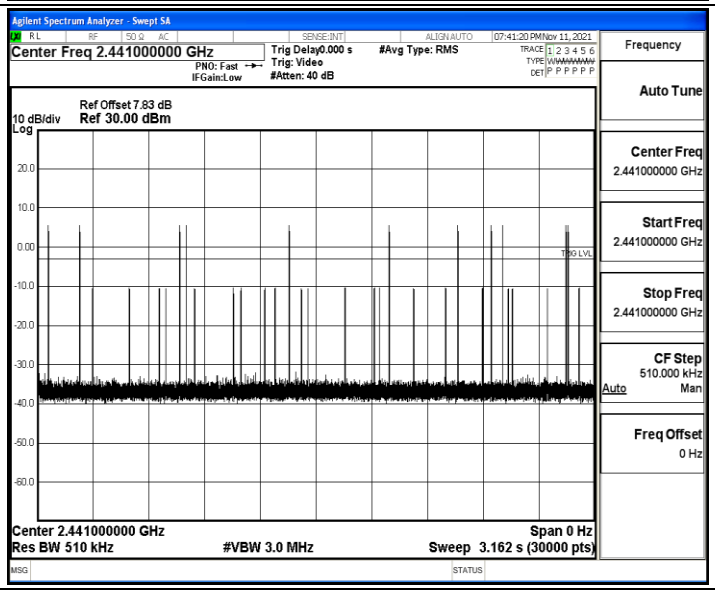
TestMode	Antenna	Channel	BurstWidth [ms]	TotalHops [Num]	Result[s]	Limit[s]	Verdict
DH5	Ant1	Hop	2.88	90	0.259	≤0.4	PASS
2DH5	Ant1	Hop	2.88	120	0.346	≤0.4	PASS
3DH5	Ant1	Hop	2.89	100	0.289	≤0.4	PASS

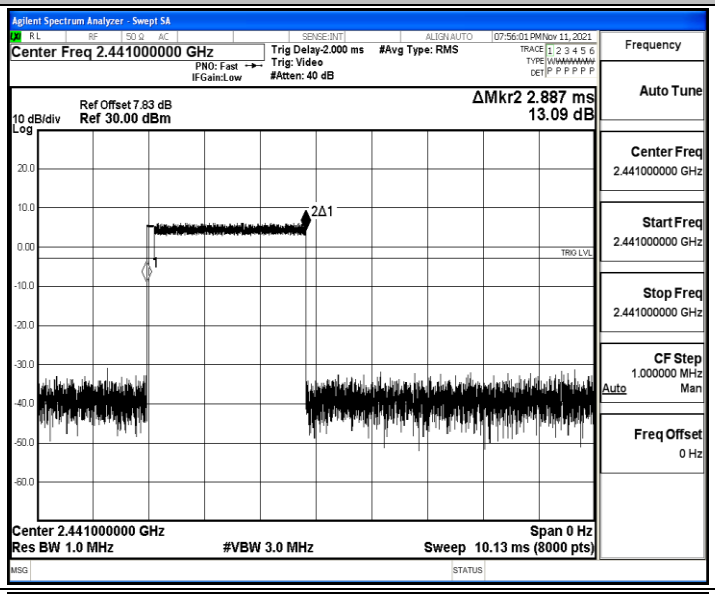
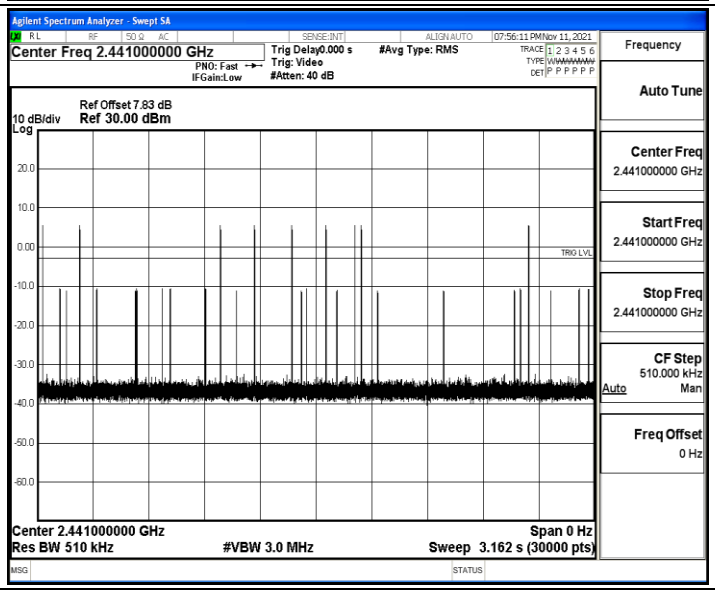
Test Graphs

DH5_Ant1_Hop





2DH5_Ant1_Hop



3DH5_Ant1_Hop



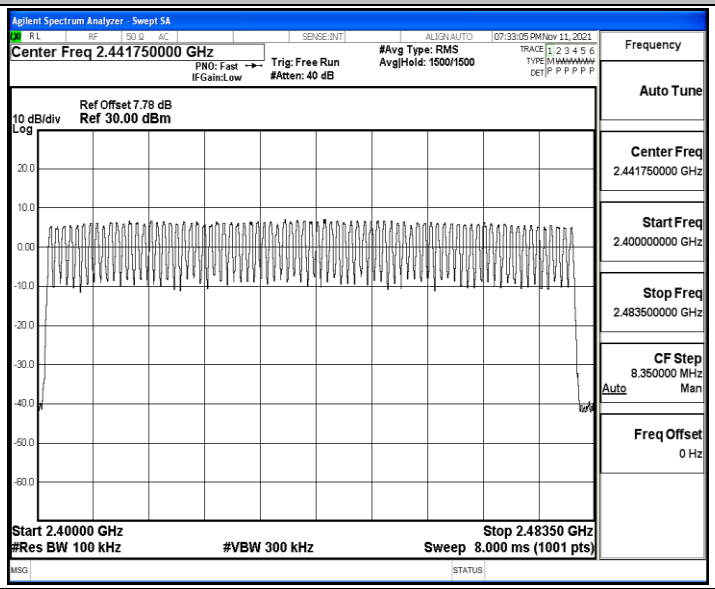
A.5 Number of hopping channels

Test Result

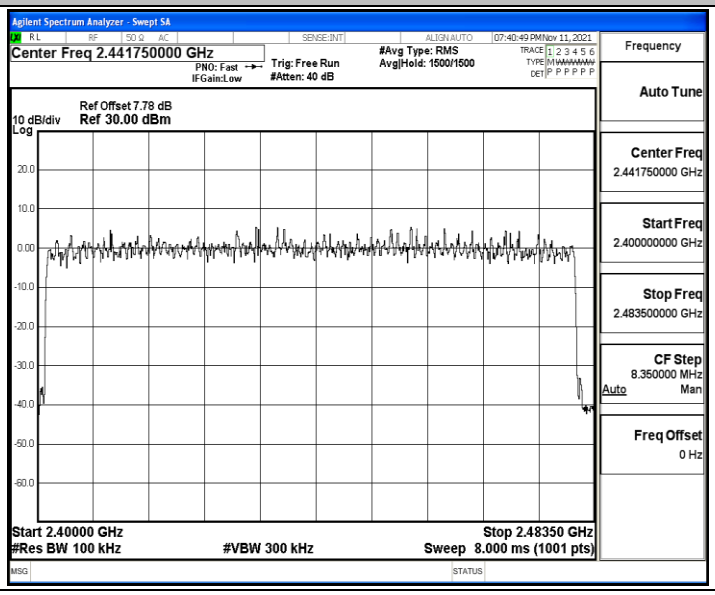
TestMode	Antenna	Channel	Result[Num]	Limit[Num]	Verdict
DH5	Ant1	Hop	79	≥15	PASS
2DH5	Ant1	Hop	79	≥15	PASS
3DH5	Ant1	Hop	79	≥15	PASS

Test Graphs

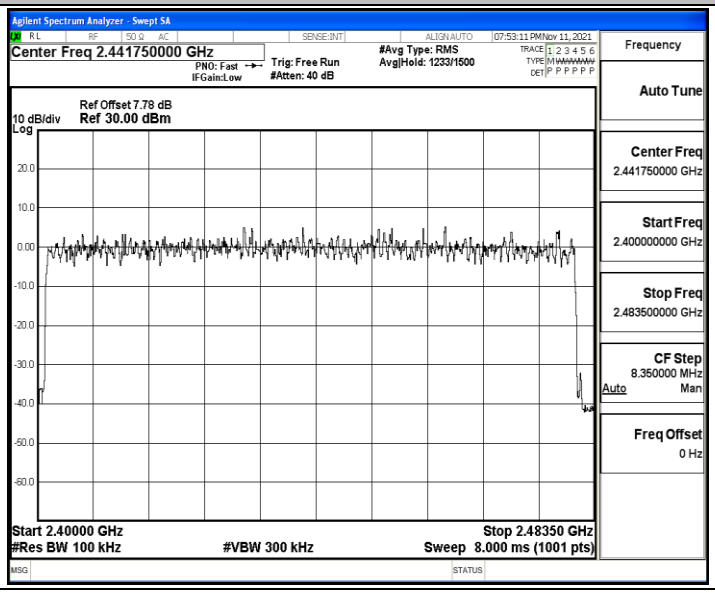
DH5_Ant1_Hop



2DH5_Ant1_Hop



3DH5_Ant1_Hop



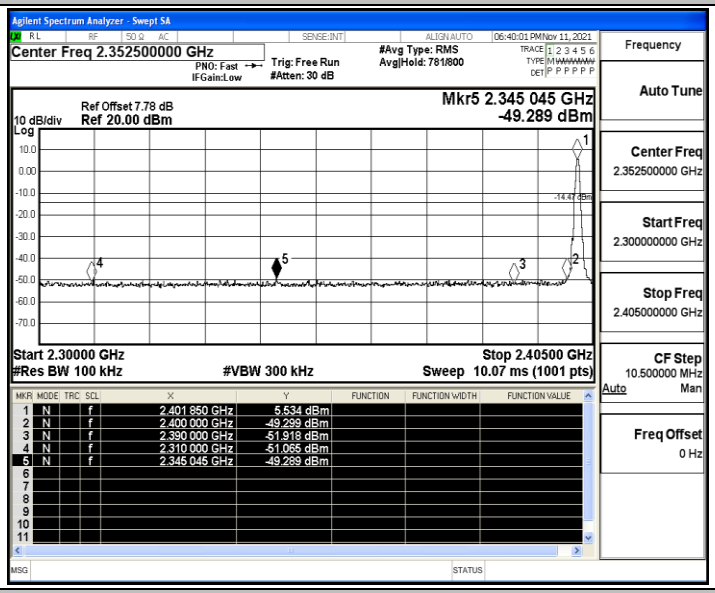
A.6 Band edge measurements

Test Result

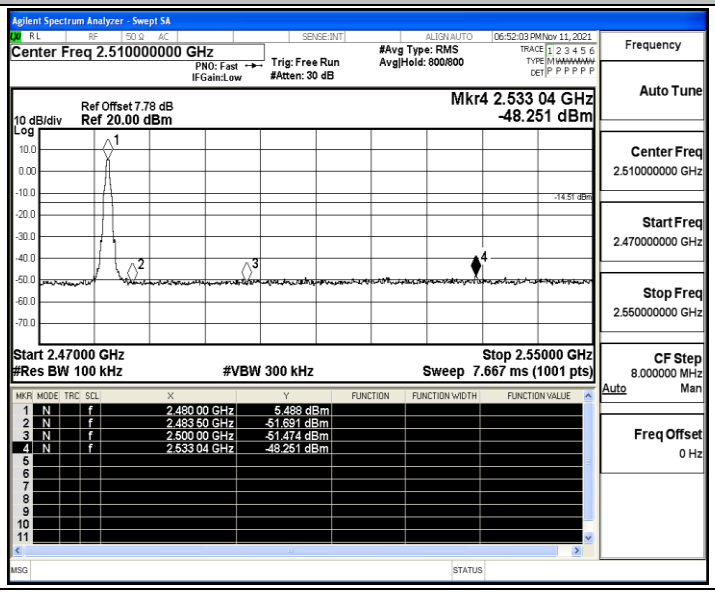
TestMode	Antenna	ChName	Channel	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
DH5	Ant1	Low	2402	5.53	-49.29	≤-14.47	PASS
		High	2480	5.49	-48.25	≤-14.51	PASS
		Low	Hop_2402	5.47	-49.8	≤-14.53	PASS
		High	Hop_2480	5.69	-48.39	≤-14.31	PASS
2DH5	Ant1	Low	2402	4.25	-48.89	≤-15.75	PASS
		High	2480	4.25	-48.46	≤-15.76	PASS
		Low	Hop_2402	1.92	-50.09	≤-18.08	PASS
		High	Hop_2480	2.85	-48.76	≤-17.16	PASS
3DH5	Ant1	Low	2402	3.94	-49.21	≤-16.06	PASS
		High	2480	3.87	-48.7	≤-16.14	PASS
		Low	Hop_2402	1.53	-49.5	≤-18.48	PASS
		High	Hop_2480	3.23	-49.35	≤-16.77	PASS

Test Graphs

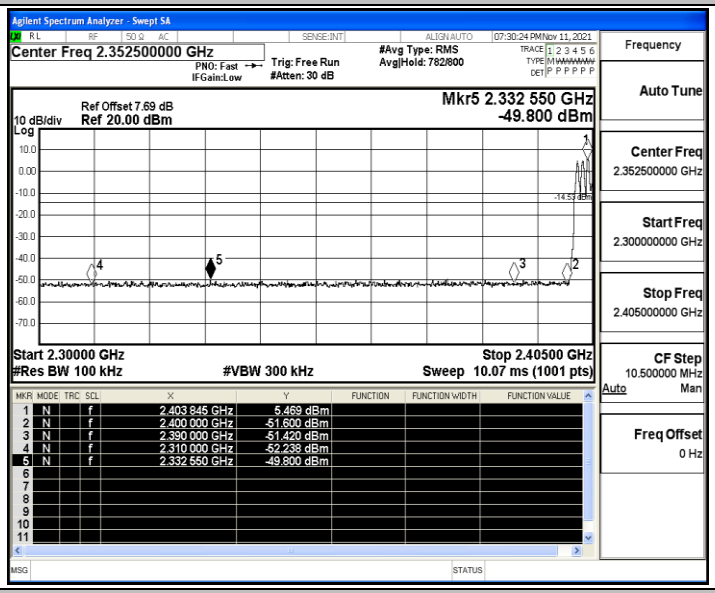
DH5_Ant1_Low_2402



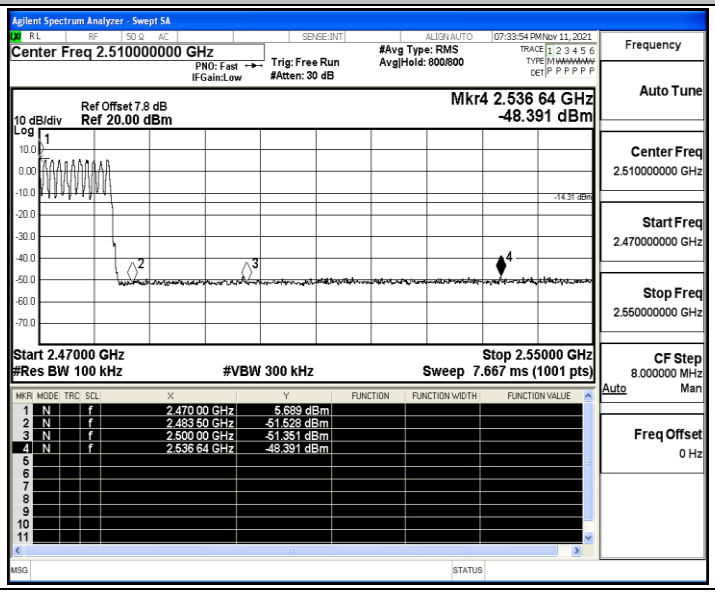
DH5_Ant1_High_2480



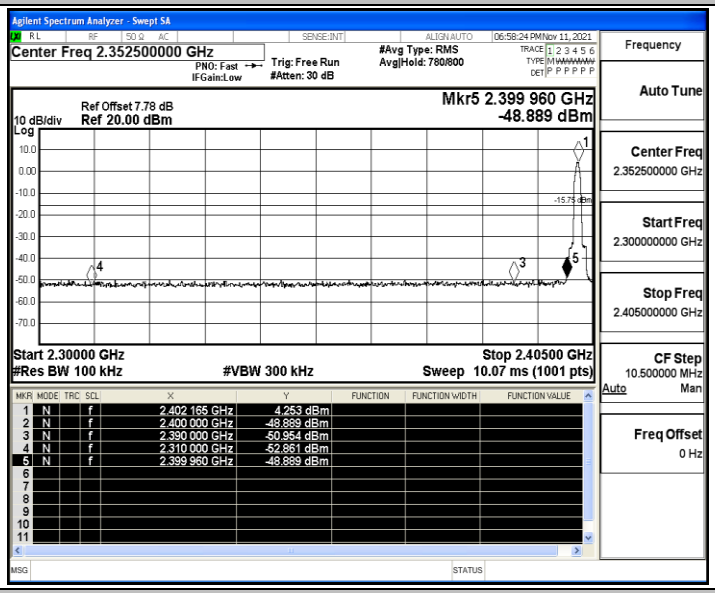
DH5_Ant1_Low_Hop_2402



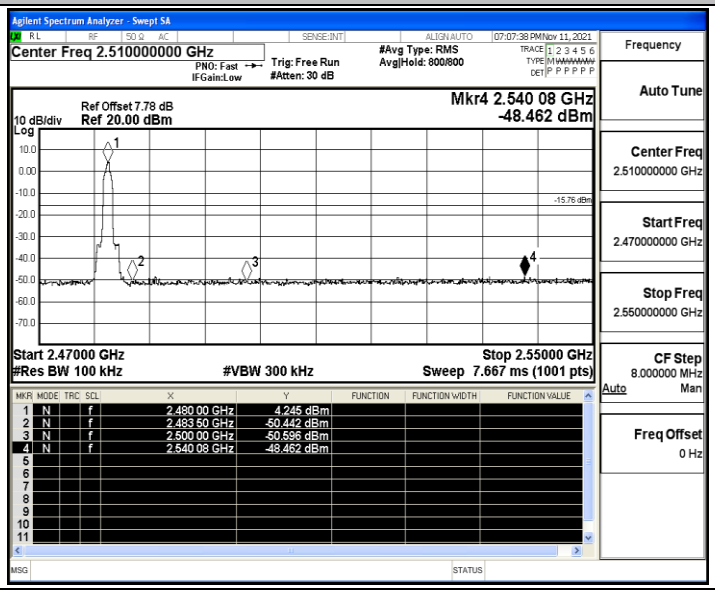
DH5_Ant1_High_Hop_2480



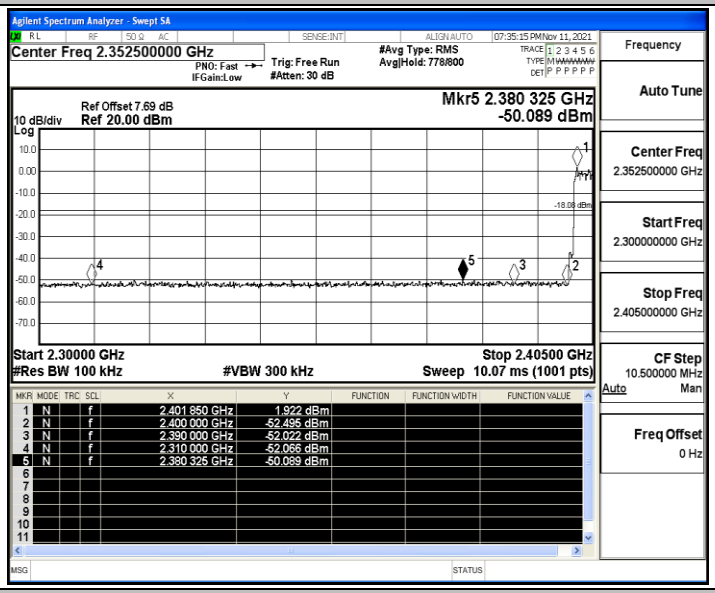
2DH5_Ant1_Low_2402



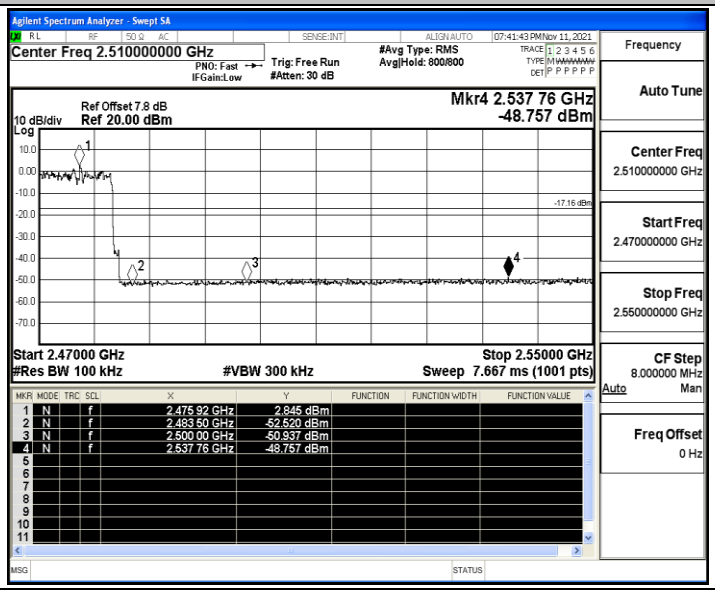
2DH5_Ant1_High_2480



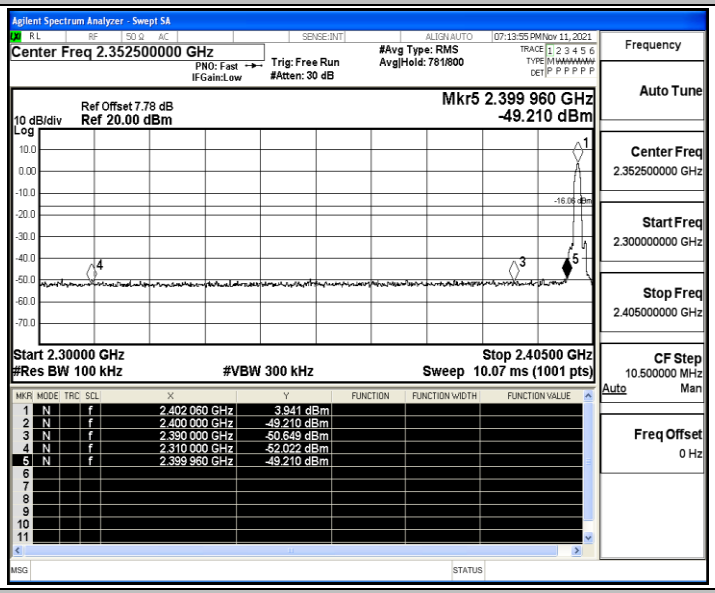
2DH5_Ant1_Low_Hop_2402



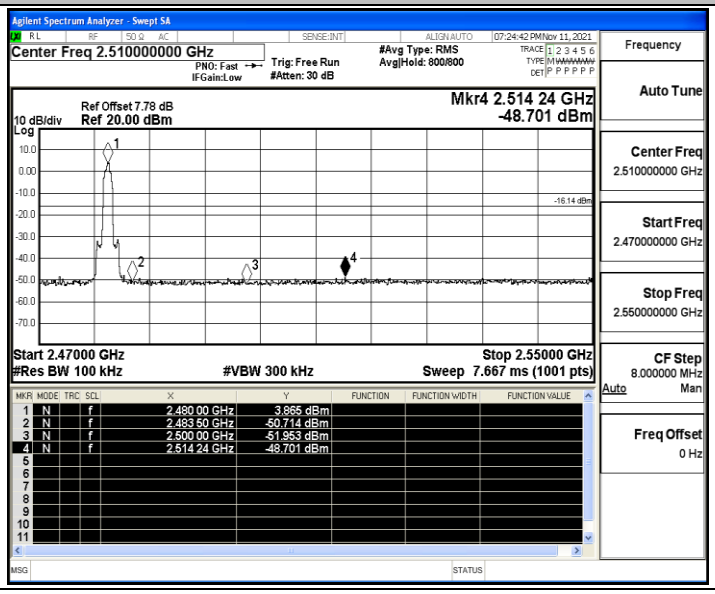
2DH5_Ant1_High_Hop_2480



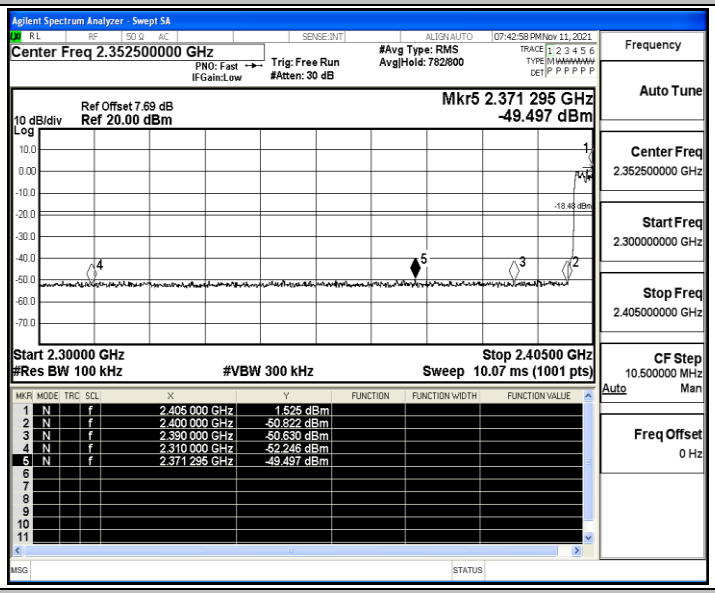
3DH5_Ant1_Low_2402



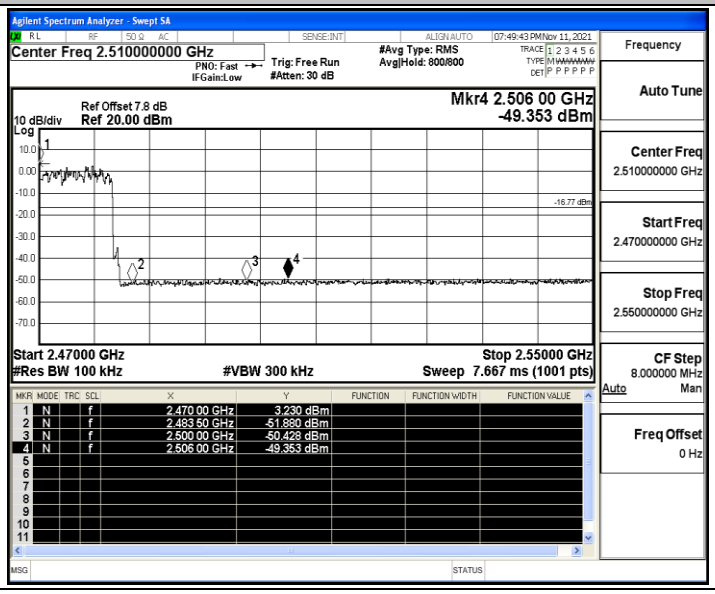
3DH5_Ant1_High_2480



3DH5_Ant1_Low_Hop_2402



3DH5_Ant1_High_Hop_2480



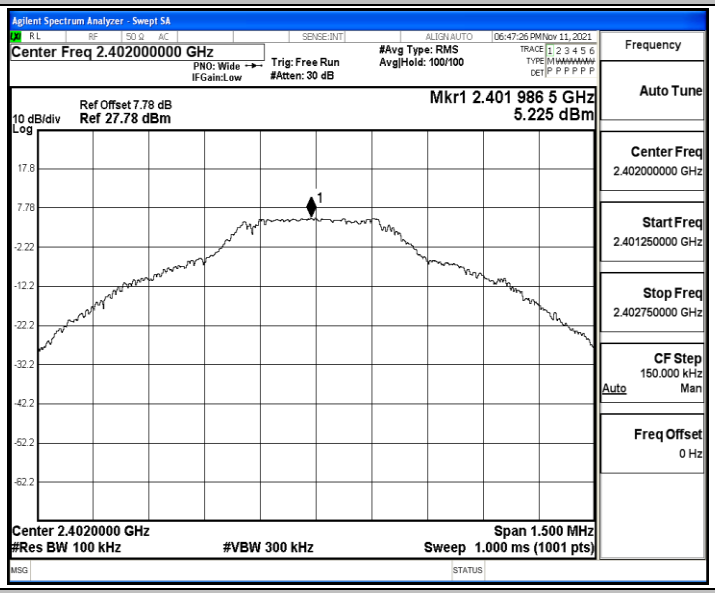
A.7 Conducted Spurious Emission

Test Result

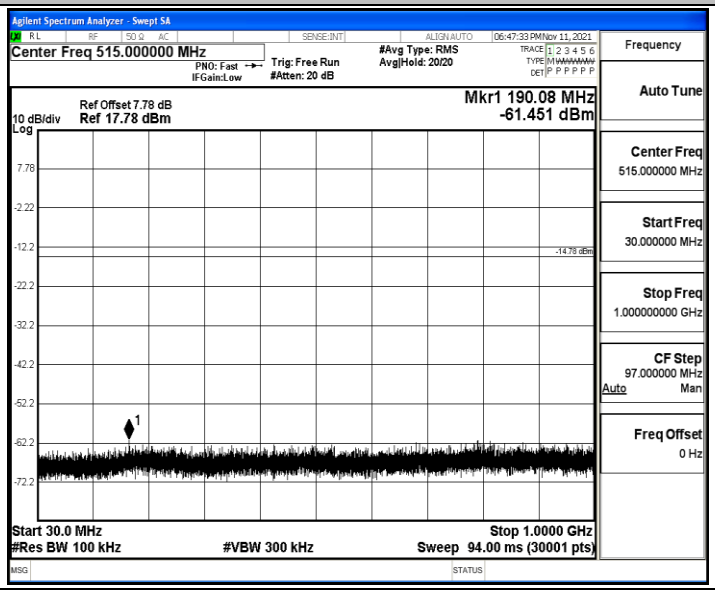
TestMode	Antenna	Channel	FreqRange [MHz]	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
DH5	Ant1	2402	Reference	5.23	5.23	---	PASS
			30~1000	5.23	-61.45	≤-14.78	PASS
			1000~26500	5.23	-47.31	≤-14.78	PASS
		2441	Reference	7.01	7.01	---	PASS
			30~1000	7.01	-60.43	≤-12.99	PASS
			1000~26500	7.01	-47.07	≤-12.99	PASS
		2480	Reference	5.36	5.36	---	PASS
			30~1000	5.36	-61.38	≤-14.64	PASS
			1000~26500	5.36	-47.36	≤-14.64	PASS
2DH5	Ant1	2402	Reference	3.84	3.84	---	PASS
			30~1000	3.84	-61.36	≤-16.16	PASS
			1000~26500	3.84	-47.13	≤-16.16	PASS
		2441	Reference	5.35	5.35	---	PASS
			30~1000	5.35	-61.7	≤-14.65	PASS
			1000~26500	5.35	-46.71	≤-14.65	PASS
		2480	Reference	3.92	3.92	---	PASS
			30~1000	3.92	-61.64	≤-16.08	PASS
			1000~26500	3.92	-47.02	≤-16.08	PASS
3DH5	Ant1	2402	Reference	3.58	3.58	---	PASS
			30~1000	3.58	-61.69	≤-16.42	PASS
			1000~26500	3.58	-47.03	≤-16.42	PASS
		2441	Reference	5.47	5.47	---	PASS
			30~1000	5.47	-61.93	≤-14.53	PASS
			1000~26500	5.47	-47.19	≤-14.53	PASS
		2480	Reference	3.29	3.29	---	PASS
			30~1000	3.29	-48.17	≤-16.71	PASS
			1000~26500	3.29	-47.35	≤-16.71	PASS

Test Graphs

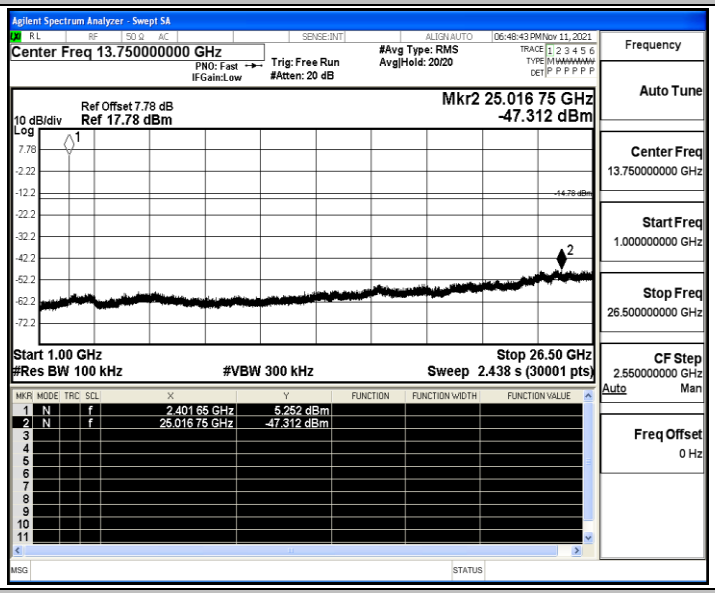
DH5_Ant1_2402_0~Reference



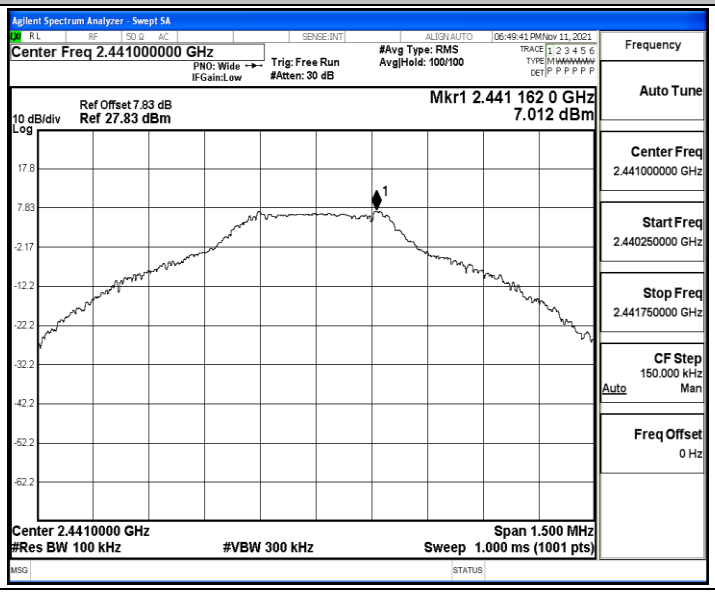
DH5_Ant1_2402_30~1000



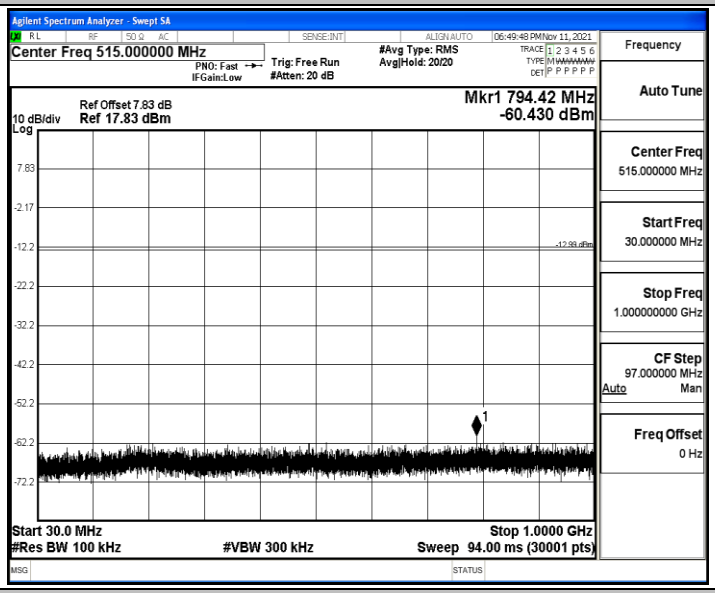
DH5_Ant1_2402_1000~26500



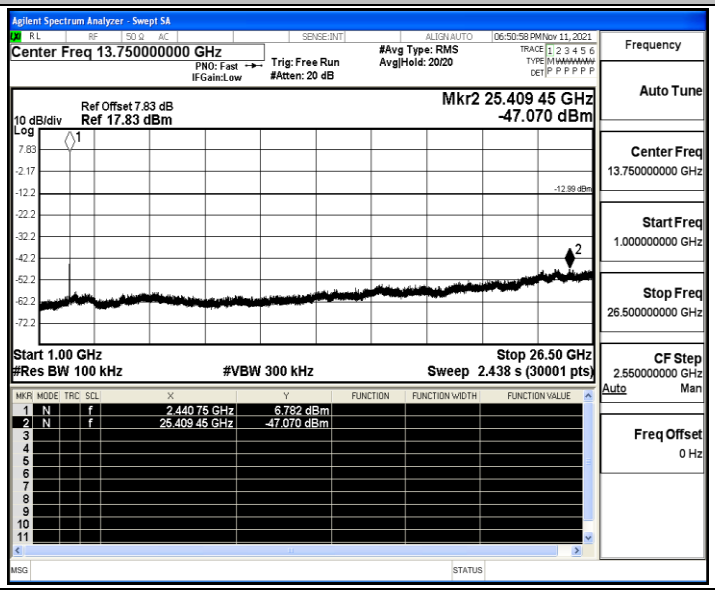
DH5_Ant1_2441_0~Reference



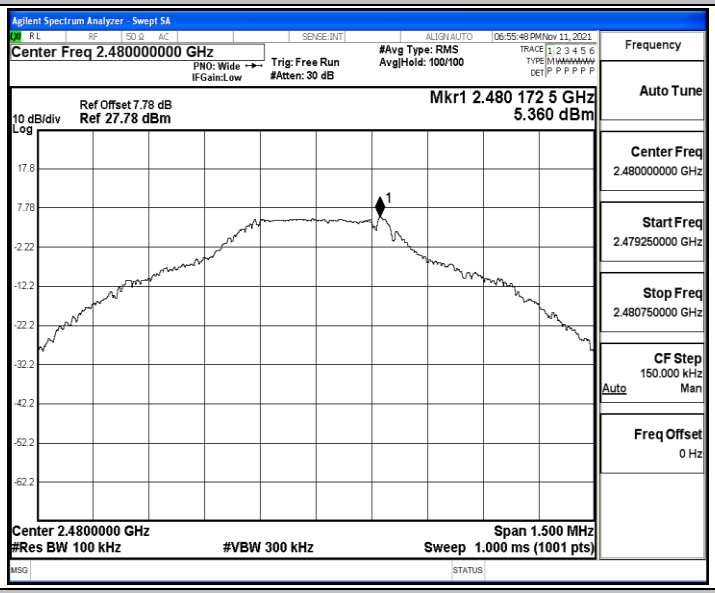
DH5_Ant1_2441_30~1000



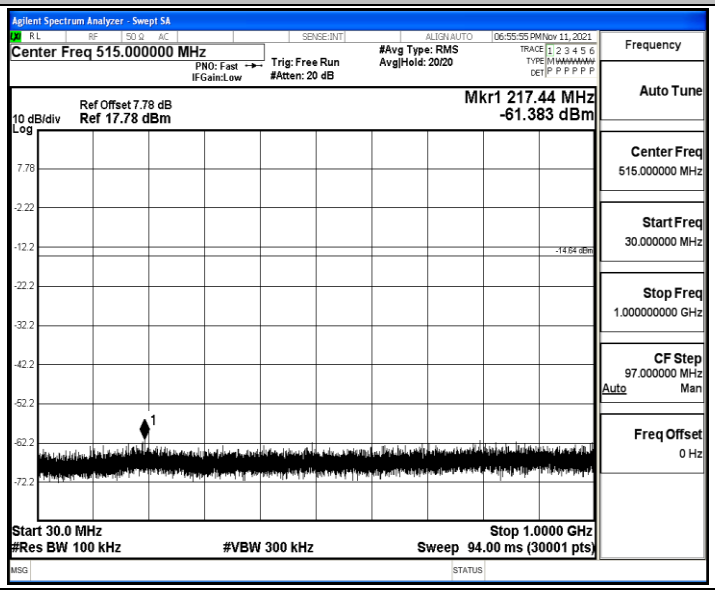
DH5_Ant1_2441_1000~26500



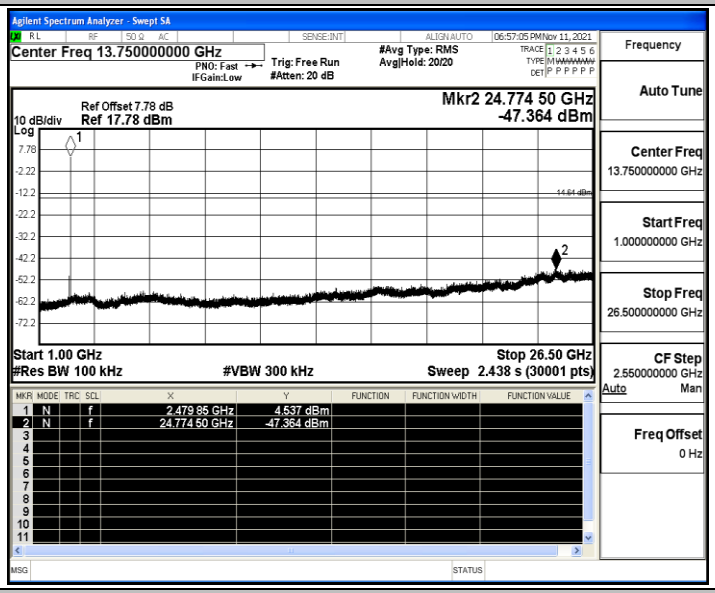
DH5_Ant1_2480_0~Reference



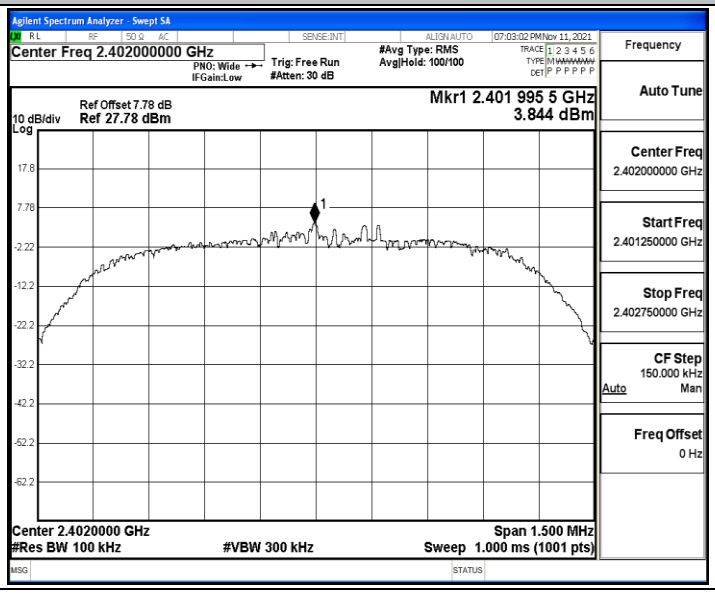
DH5_Ant1_2480_30~1000



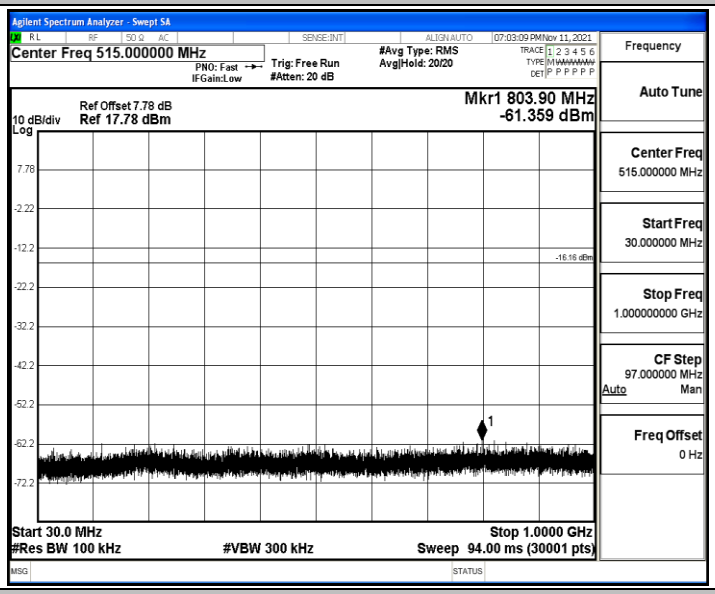
DH5_Ant1_2480_1000~26500



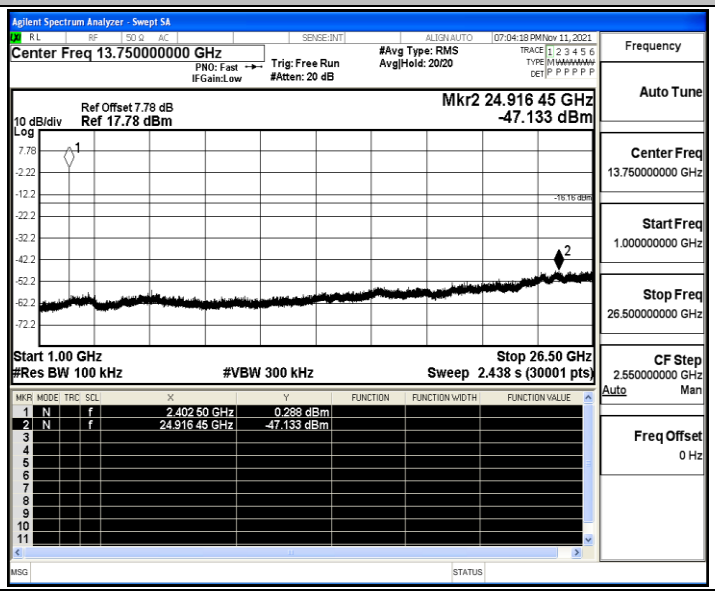
2DH5_Ant1_2402_0~Reference



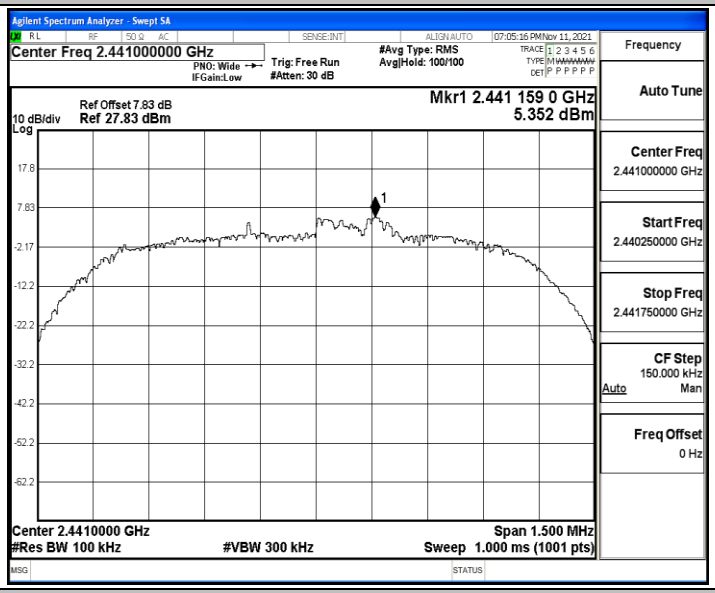
2DH5_Ant1_2402_30~1000



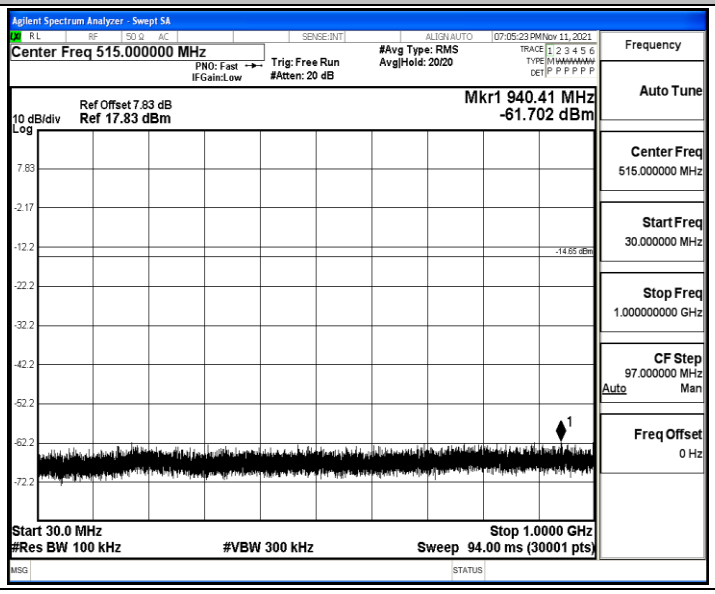
2DH5_Ant1_2402_1000~26500



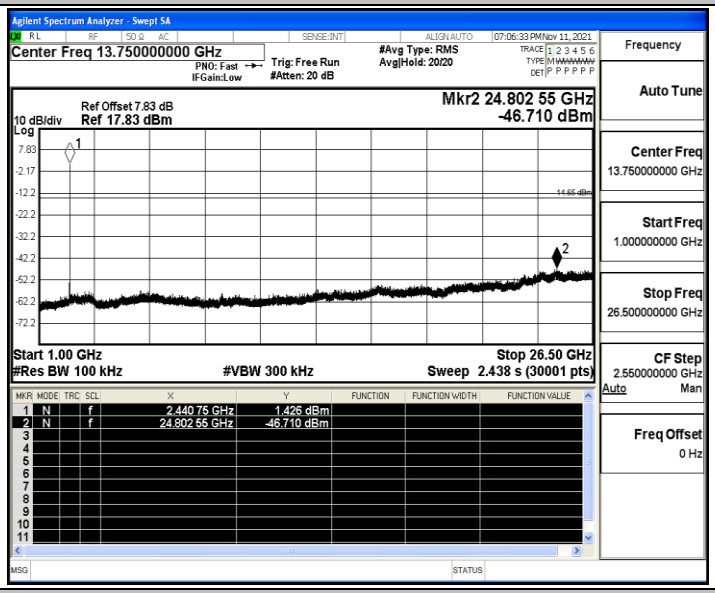
2DH5_Ant1_2441_0~Reference



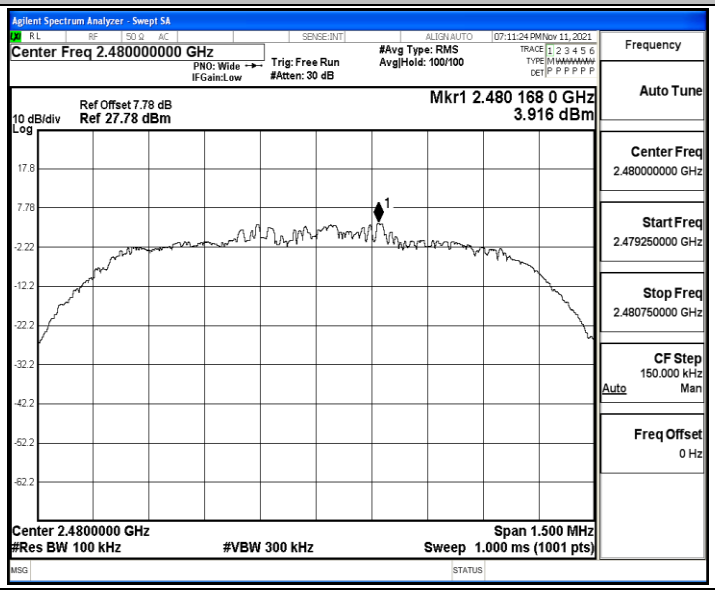
2DH5_Ant1_2441_30~1000



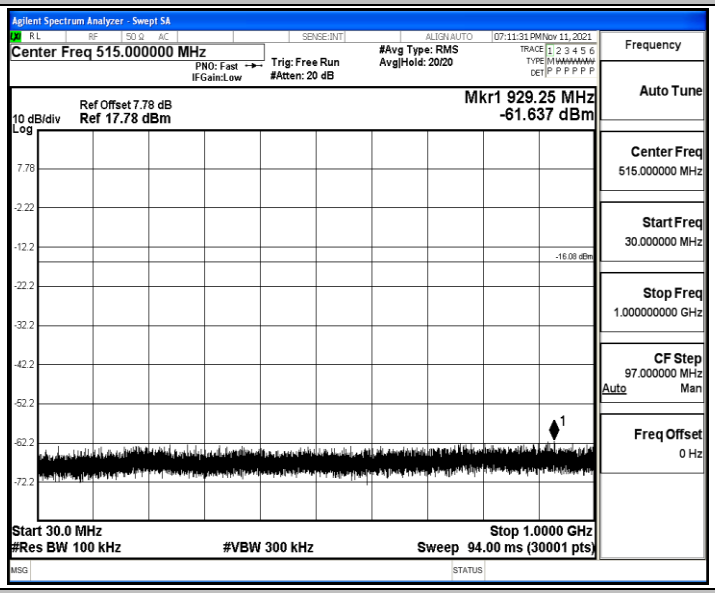
2DH5_Ant1_2441_1000~26500



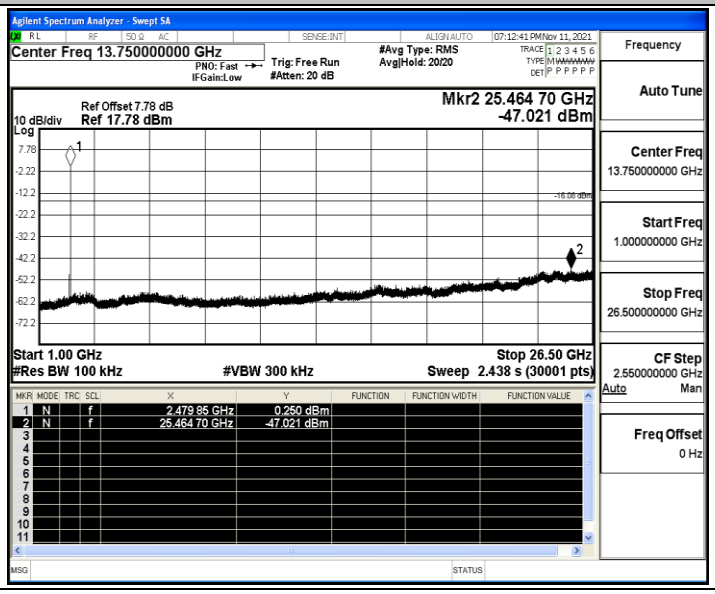
2DH5_Ant1_2480_0~Reference



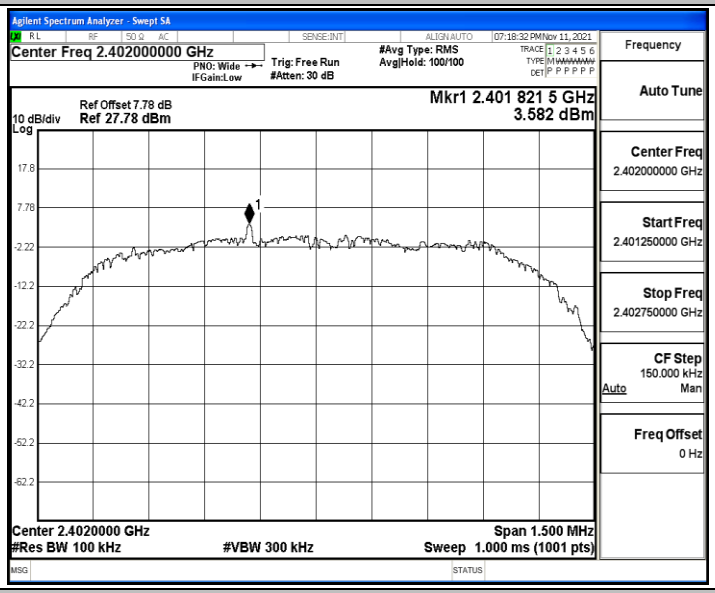
2DH5_Ant1_2480_30~1000



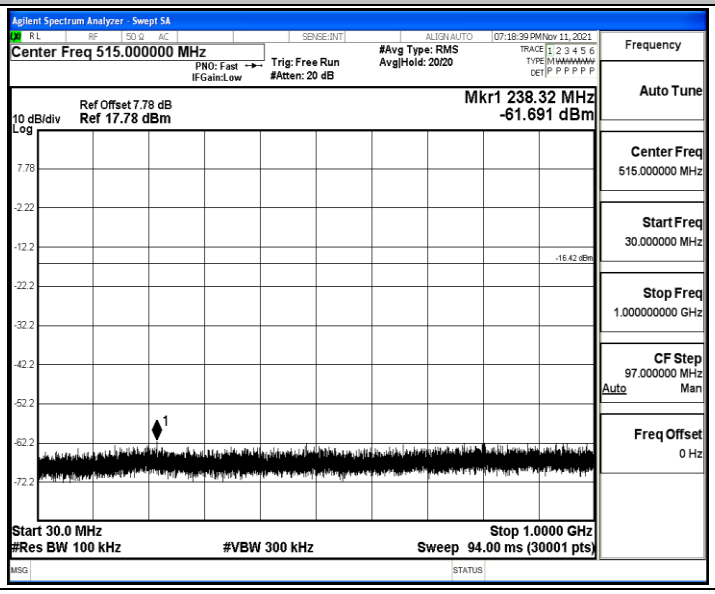
2DH5_Ant1_2480_1000~26500



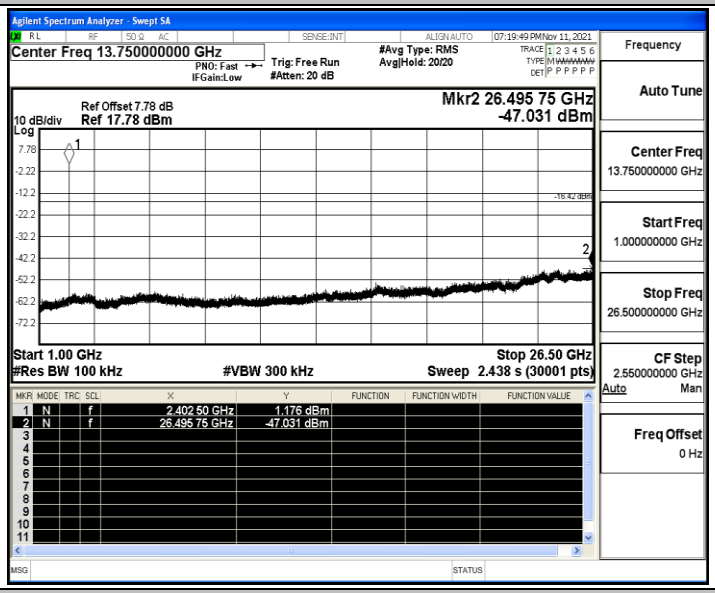
3DH5_Ant1_2402_0~Reference



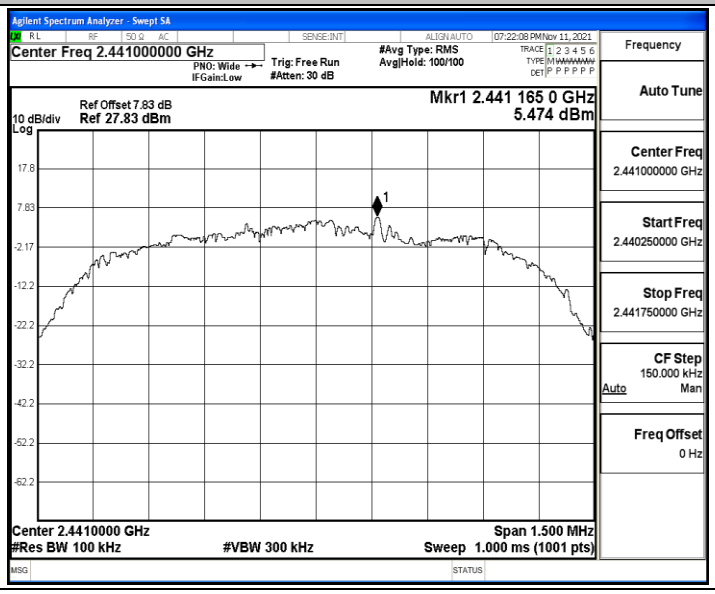
3DH5_Ant1_2402_30~1000



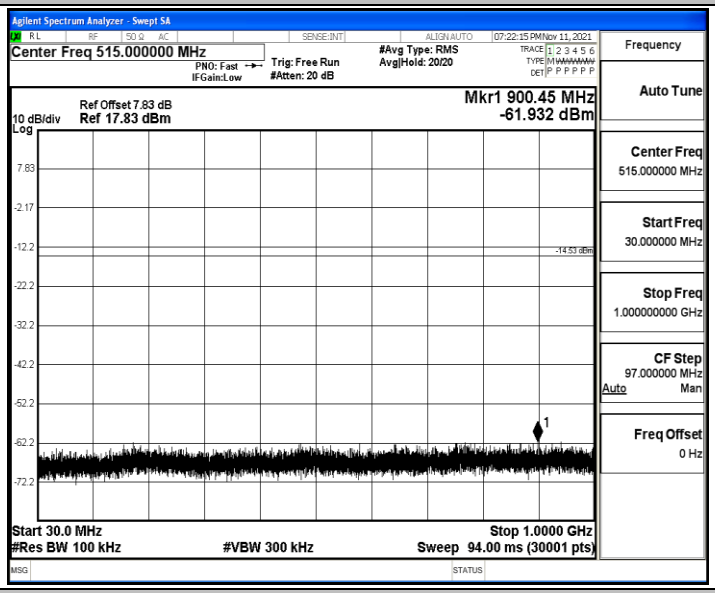
3DH5_Ant1_2402_1000~26500



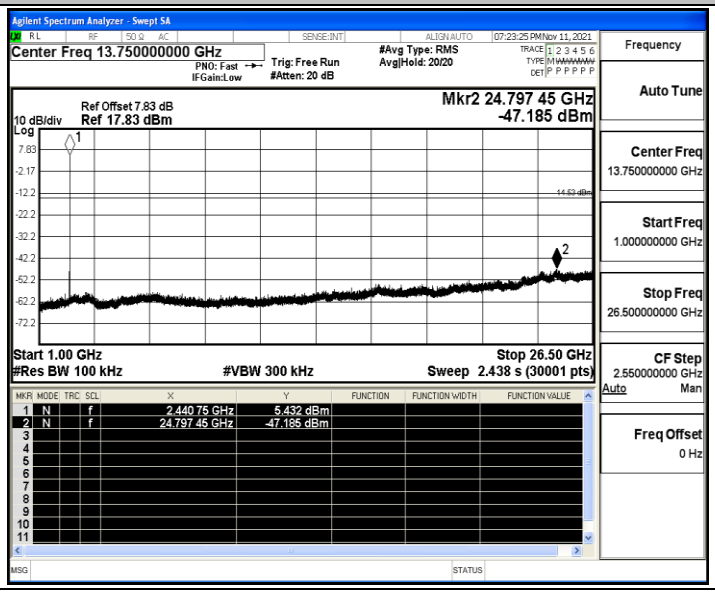
3DH5_Ant1_2441_0~Reference



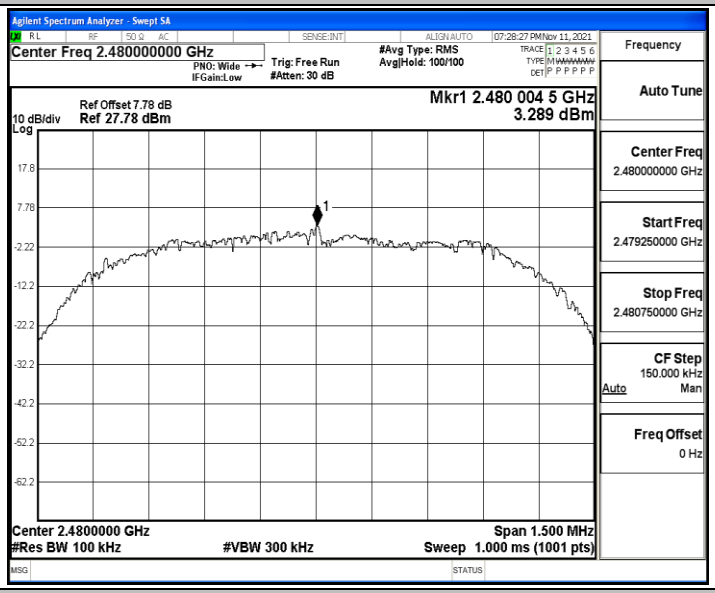
3DH5_Ant1_2441_30~1000



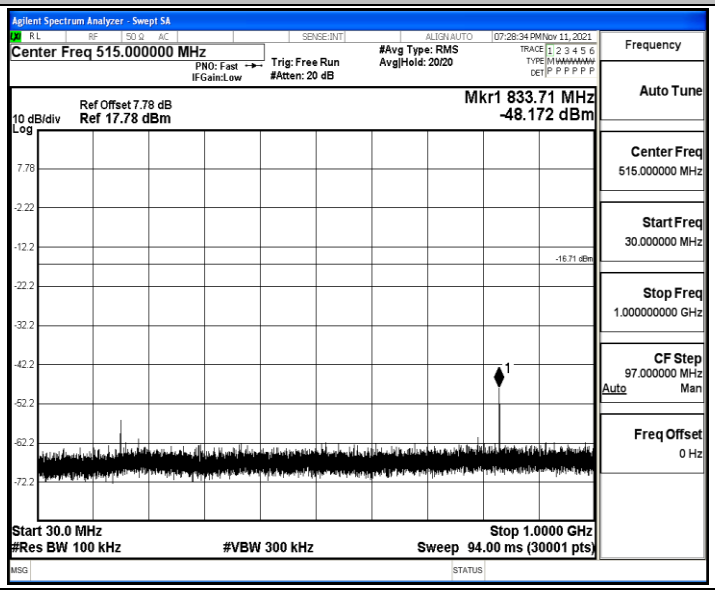
3DH5_Ant1_2441_1000~26500



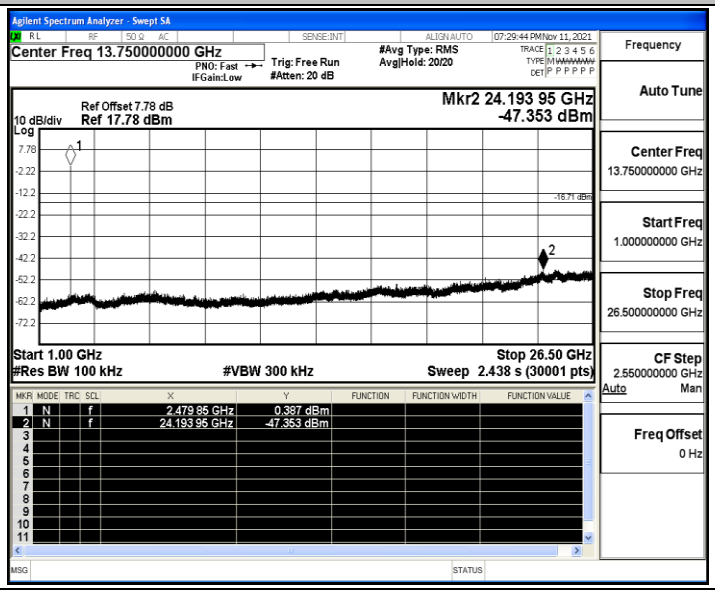
3DH5_Ant1_2480_0~Reference



3DH5_Ant1_2480_30~1000



3DH5_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	-48.85	≤-41.20	46.35	≤54	PASS
				AV	2389.880	-48.29	≤-41.20	46.91	≤54	PASS
				AV	2390.000	-48.34	≤-41.20	46.86	≤54	PASS
				Peak	2310.000	-40.37	≤-21.20	54.83	≤74	PASS
				Peak	2376.650	-37.42	≤-21.20	57.78	≤74	PASS
				Peak	2390.000	-40.35	≤-21.20	54.85	≤74	PASS
		High	2480	AV	2483.500	-47.19	≤-41.20	48.01	≤54	PASS
				AV	2483.520	-47.19	≤-41.20	48.01	≤54	PASS
				AV	2500.000	-47.98	≤-41.20	47.22	≤54	PASS
				Peak	2483.500	-40.24	≤-21.20	54.96	≤74	PASS
				Peak	2484.160	-37.24	≤-21.20	57.96	≤74	PASS
				Peak	2500.000	-39.28	≤-21.20	55.92	≤74	PASS
		Low	Hop_2402	Peak	2310.000	-40.29	≤-21.20	54.91	≤74	PASS
				Peak	2384.315	-37.29	≤-21.20	57.91	≤74	PASS
				Peak	2390.000	-39.93	≤-21.20	55.27	≤74	PASS
		High	Hop_2480	Peak	2483.500	-40.06	≤-21.20	55.14	≤74	PASS
				Peak	2485.520	-37.14	≤-21.20	58.06	≤74	PASS
				Peak	2500.000	-39.46	≤-21.20	55.74	≤74	PASS
2DH5	Ant1	Low	2402	AV	2310.000	-48.98	≤-41.20	46.22	≤54	PASS
				AV	2388.935	-48.45	≤-41.20	46.75	≤54	PASS
				AV	2390.000	-48.59	≤-41.20	46.61	≤54	PASS
				Peak	2310.000	-41.17	≤-21.20	54.03	≤74	PASS
				Peak	2357.540	-37.51	≤-21.20	57.69	≤74	PASS
				Peak	2390.000	-40.63	≤-21.20	54.57	≤74	PASS
		High	2480	AV	2483.500	-47.14	≤-41.20	48.06	≤54	PASS
				AV	2483.520	-47.14	≤-41.20	48.06	≤54	PASS
				AV	2500.000	-48.07	≤-41.20	47.13	≤54	PASS
				Peak	2483.500	-38.92	≤-21.20	56.28	≤74	PASS
				Peak	2498.560	-37.95	≤-21.20	57.25	≤74	PASS
				Peak	2500.000	-38.86	≤-21.20	56.34	≤74	PASS
		Low	Hop_2402	Peak	2310.000	-41.51	≤-21.20	53.69	≤74	PASS
				Peak	2332.340	-38.38	≤-21.20	56.82	≤74	PASS
				Peak	2390.000	-40.47	≤-21.20	54.73	≤74	PASS
		High	Hop_2480	Peak	2483.500	-40.07	≤-21.20	55.13	≤74	PASS
				Peak	2486.880	-38.15	≤-21.20	57.05	≤74	PASS
				Peak	2500.000	-40.57	≤-21.20	54.63	≤74	PASS
3DH5	Ant1	Low	2402	AV	2310.000	-48.94	≤-41.20	46.26	≤54	PASS

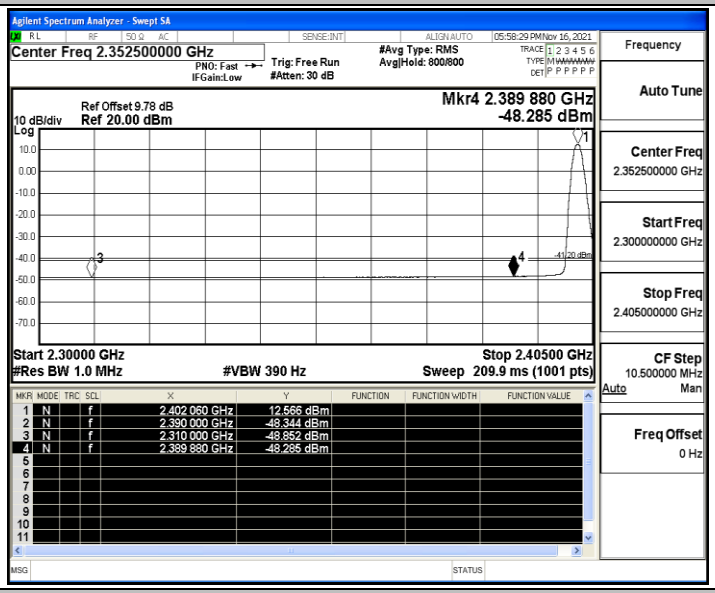
				AV	2386.520	-48.47	≤-41.20	46.73	≤54	PASS
				AV	2390.000	-48.55	≤-41.20	46.65	≤54	PASS
				Peak	2310.000	-40.59	≤-21.20	54.61	≤74	PASS
				Peak	2369.720	-37.18	≤-21.20	58.02	≤74	PASS
				Peak	2390.000	-39.2	≤-21.20	56.00	≤74	PASS
		High	2480	AV	2483.500	-46.99	≤-41.20	48.21	≤54	PASS
				AV	2483.520	-46.99	≤-41.20	48.21	≤54	PASS
				AV	2500.000	-47.98	≤-41.20	47.22	≤54	PASS
				Peak	2483.500	-40.83	≤-21.20	54.37	≤74	PASS
				Peak	2494.320	-38.33	≤-21.20	56.87	≤74	PASS
				Peak	2500.000	-41.02	≤-21.20	54.18	≤74	PASS
		Low	Hop_2402	Peak	2310.000	-41.35	≤-21.20	53.85	≤74	PASS
				Peak	2384.000	-38.24	≤-21.20	56.96	≤74	PASS
				Peak	2390.000	-41.1	≤-21.20	54.10	≤74	PASS
		High	Hop_2480	Peak	2483.500	-38.8	≤-21.20	56.40	≤74	PASS
				Peak	2486.400	-37.27	≤-21.20	57.93	≤74	PASS
				Peak	2500.000	-40.11	≤-21.20	55.09	≤74	PASS

Note：

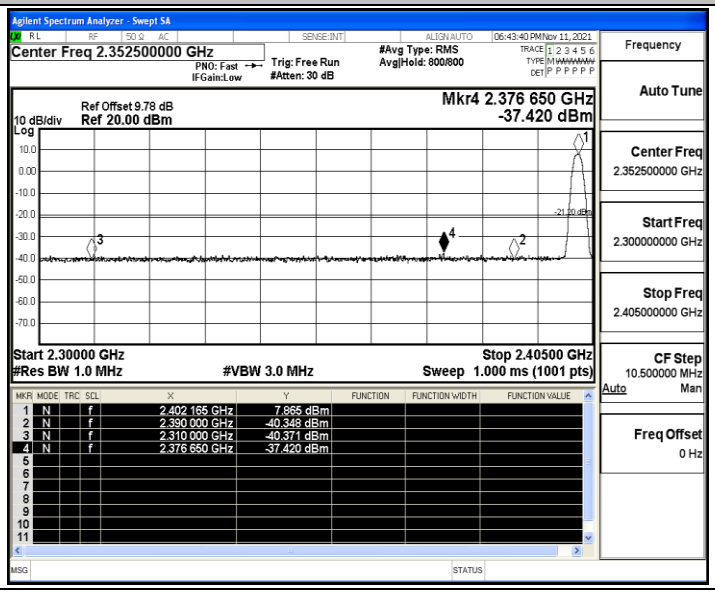
1. The Antenna Gain is compensated in the graph.
2. The limit in dBm for average detector is conversion from 54dBuV/m, according to 15.209(a). The limit in dBm for peak detector is 20dB above the limit of average detector in dBm.

Test Graphs

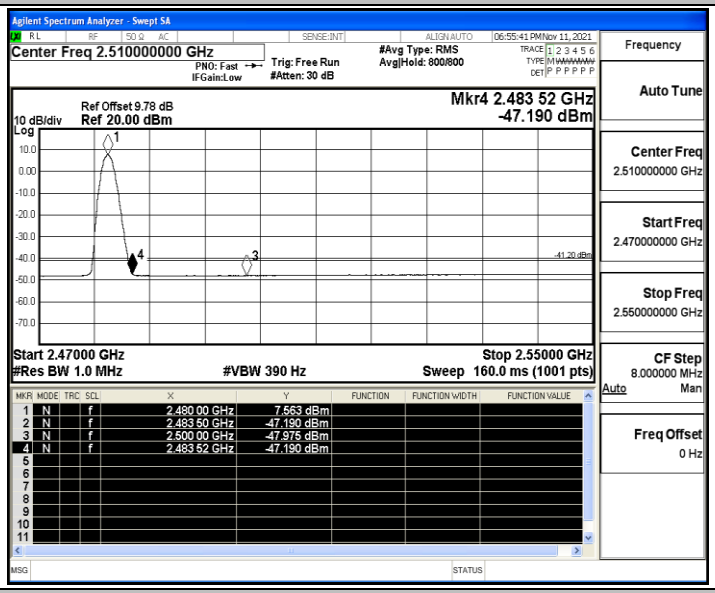
DH5_Ant1_Low_2402_AVG



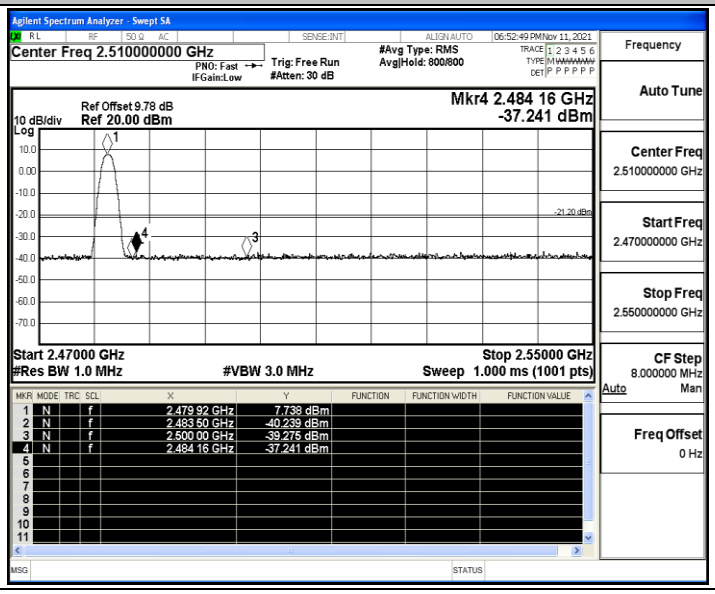
DH5_Ant1_Low_2402_Peak



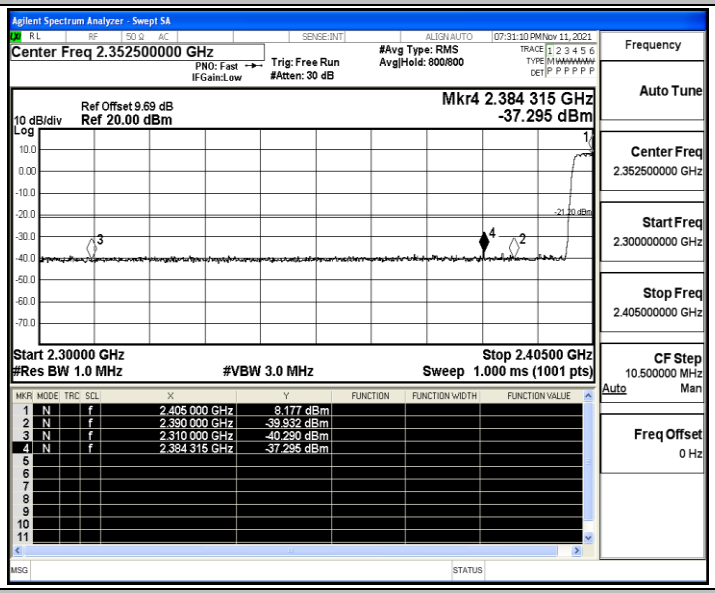
DH5_Ant1_High_2480_AV



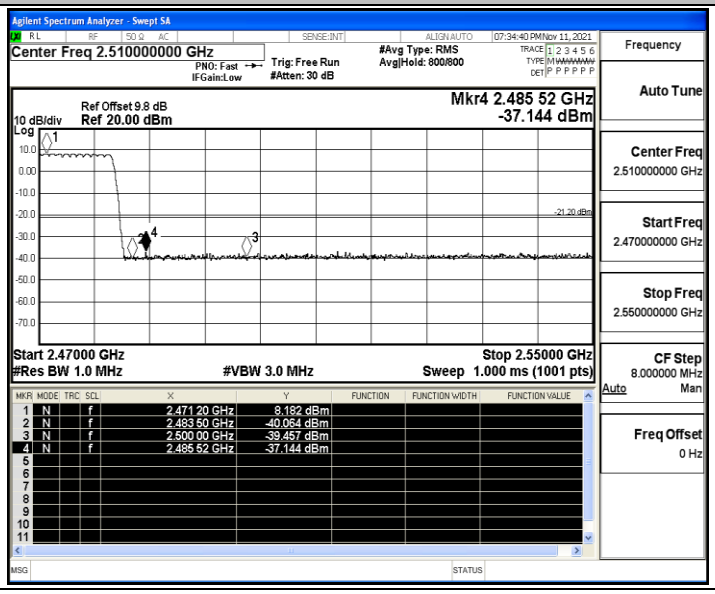
DH5_Ant1_High_2480_Peak



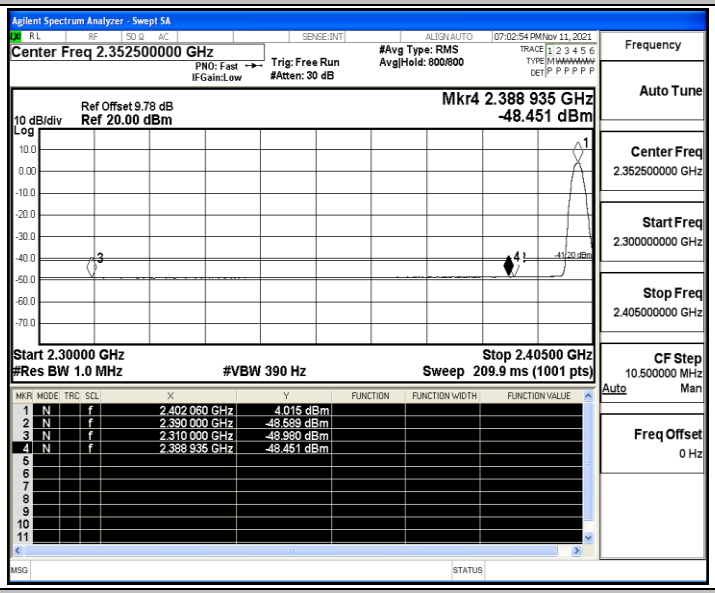
DH5_Ant1_Low_Hop_2402_Peak



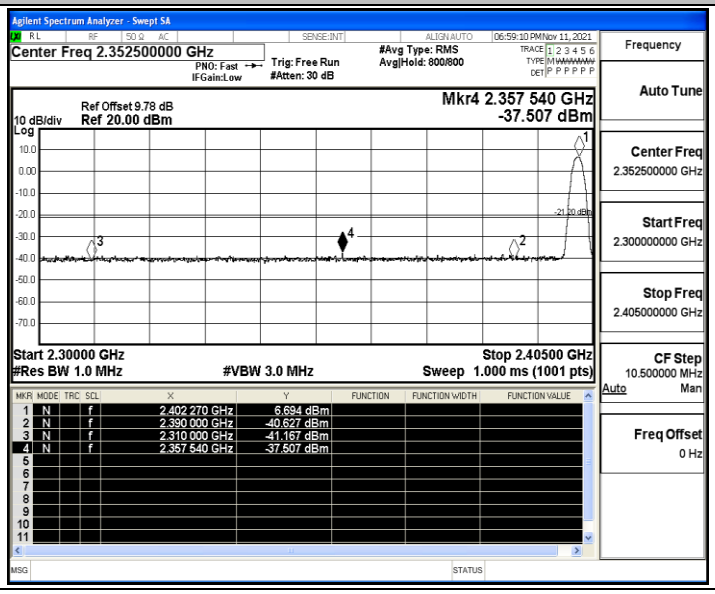
DH5_Ant1_High_Hop_2480_Peak



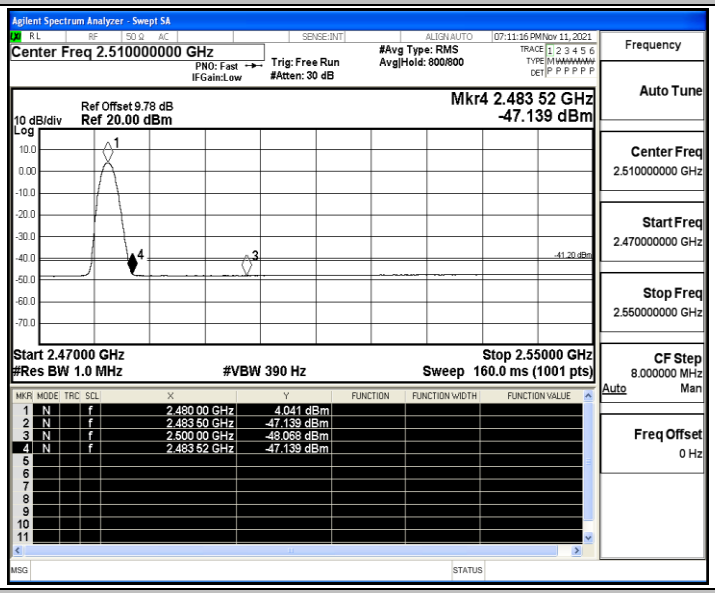
2DH5_Ant1_Low_2402_AV



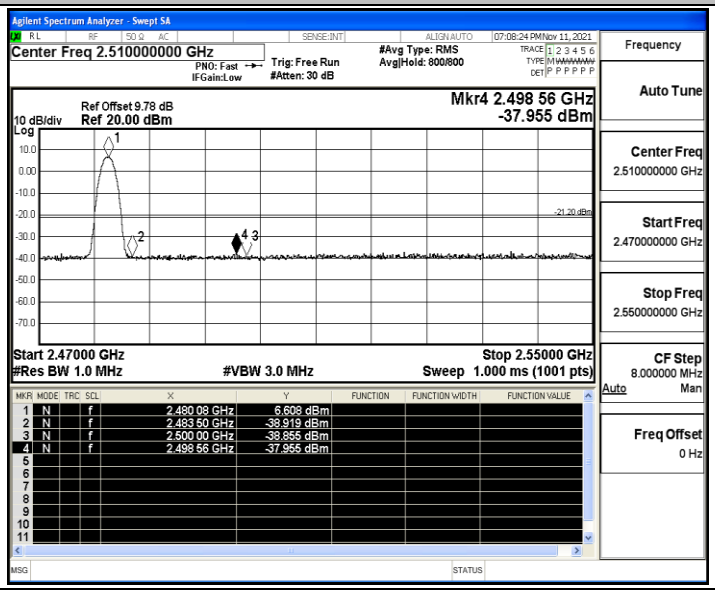
2DH5_Ant1_Low_2402_Peak



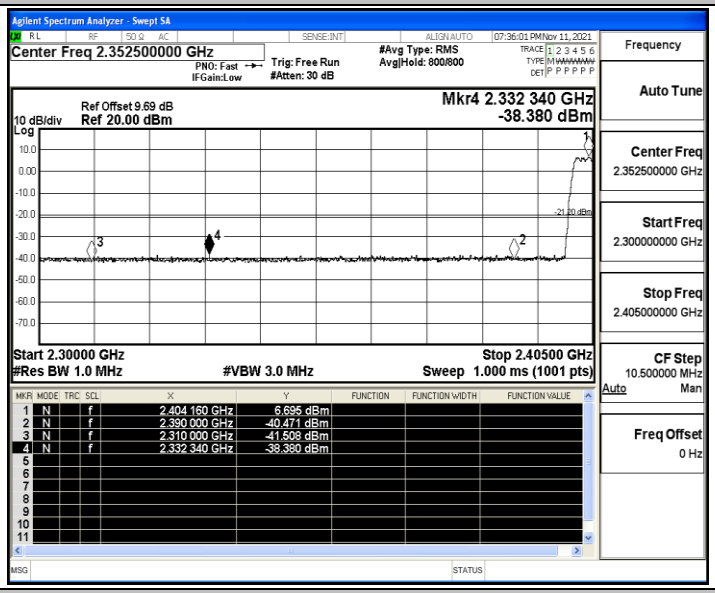
2DH5_Ant1_High_2480_AV



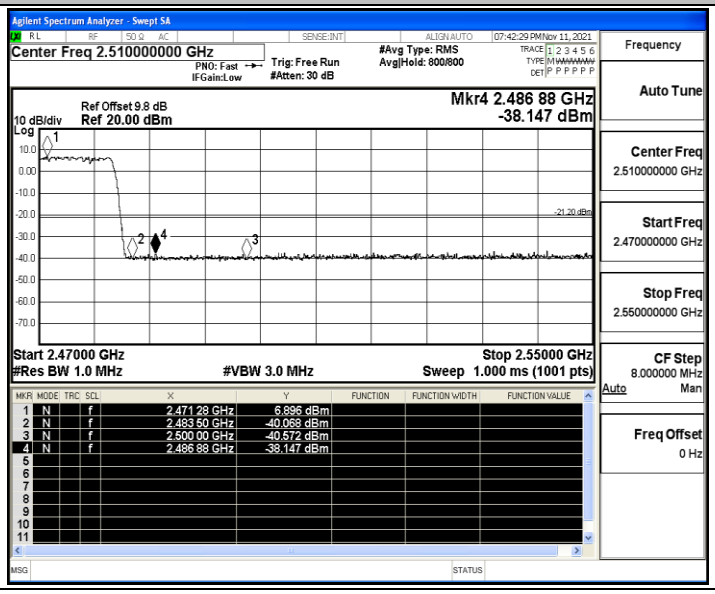
2DH5_Ant1_High_2480_Peak



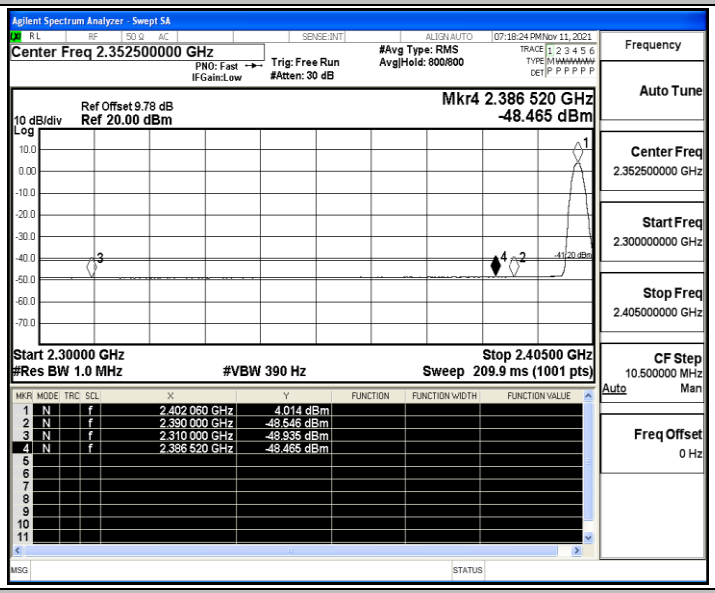
2DH5_Ant1_Low_Hop_2402_Peak



2DH5_Ant1_High_Hop_2480_Peak



3DH5_Ant1_Low_2402_AV



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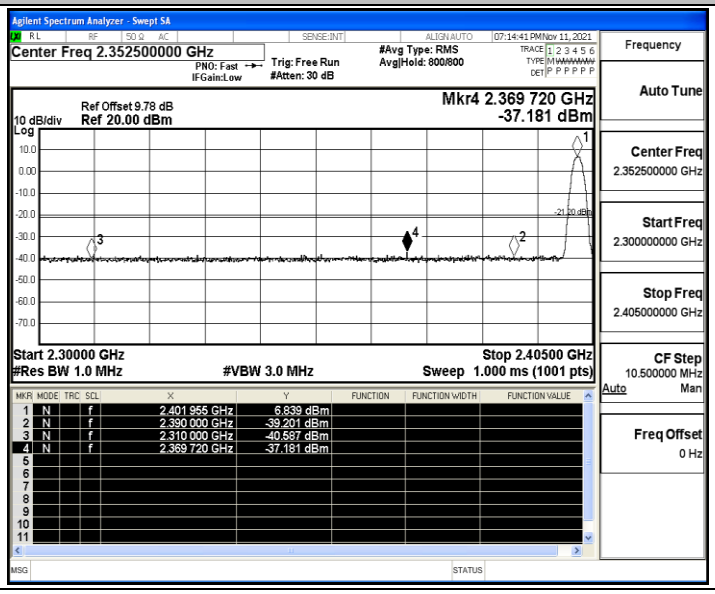

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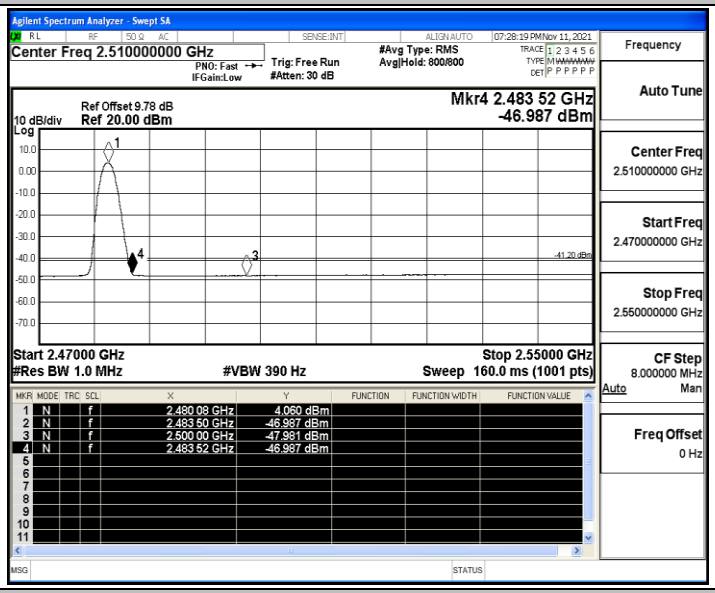

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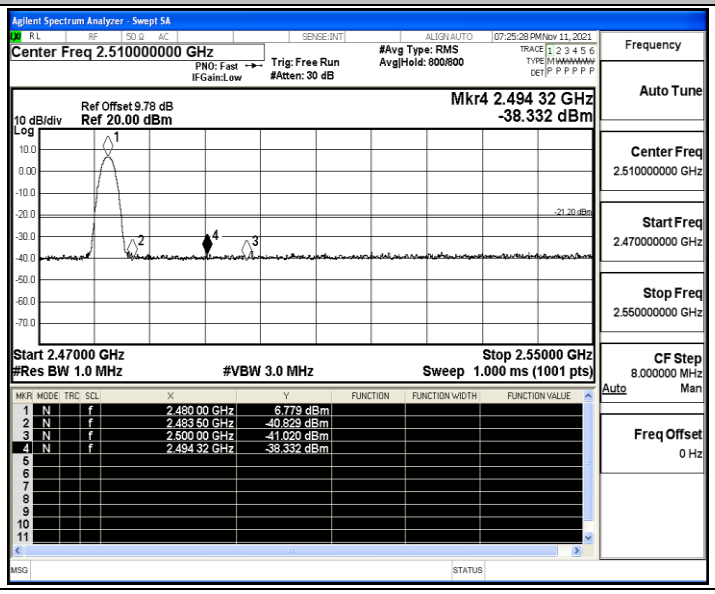

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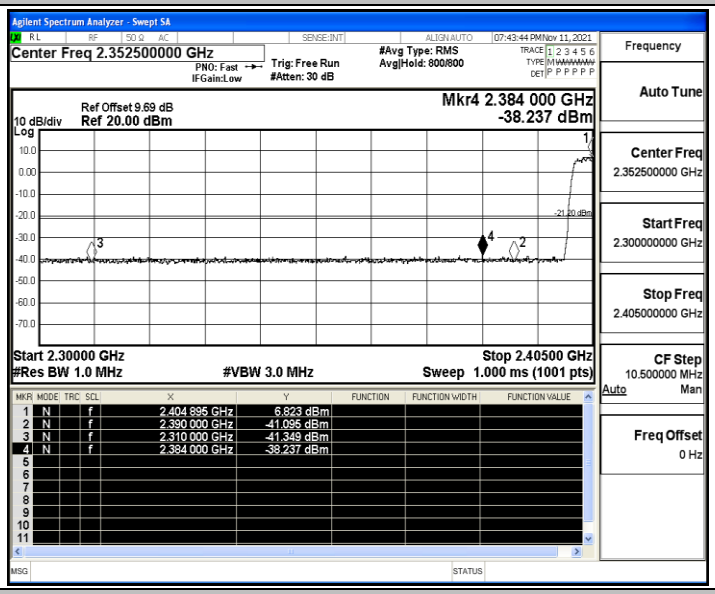
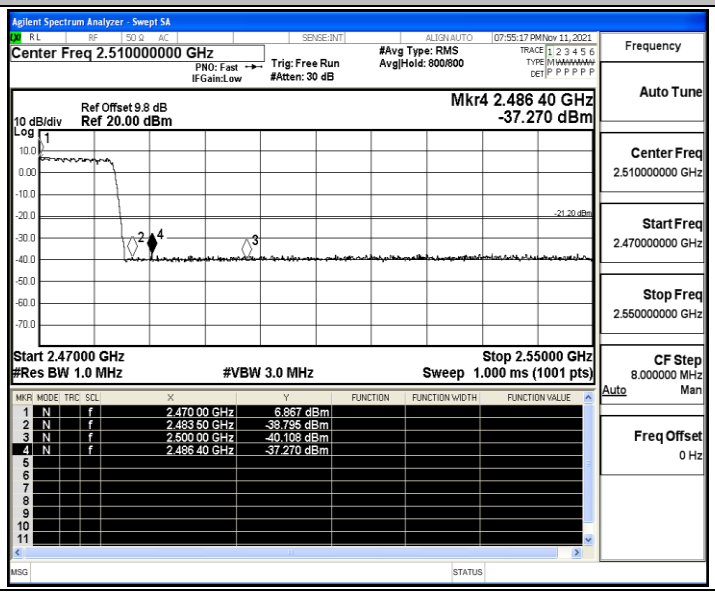
3DH5_Ant1_High_Hop_2480_Peak