



Appendix A

RF Test Data for BT (Conducted Measurement)

Product Name: carplay box

Test Model: RK0232

Environmental Conditions

Temperature:	23.7° C
Relative Humidity:	52.3%
ATM Pressure:	100.0 kPa
Test Engineer:	Monkey Li
Supervised by:	Li Huan

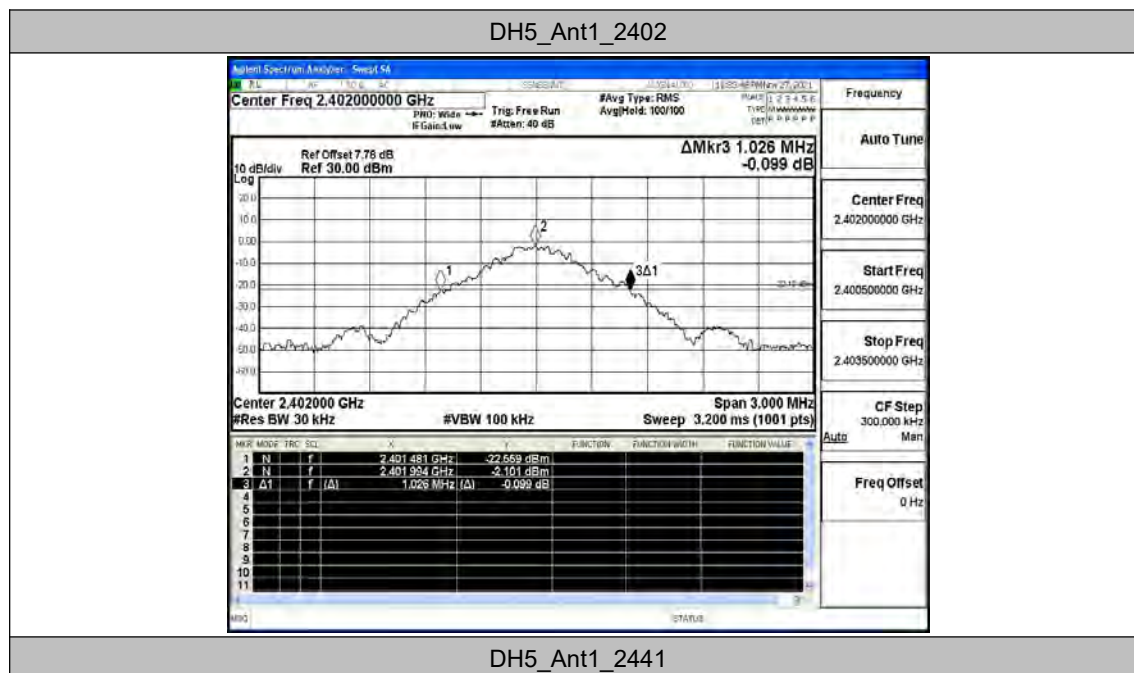


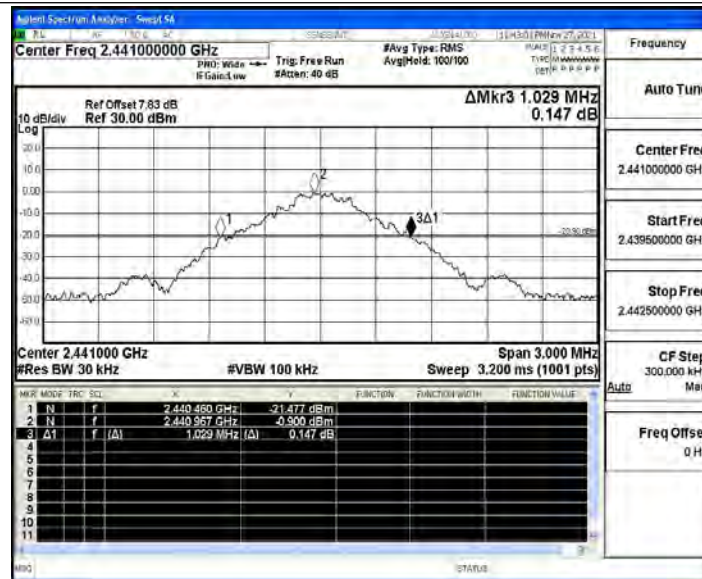
A.1 20dB Emission Bandwidth

Test Result

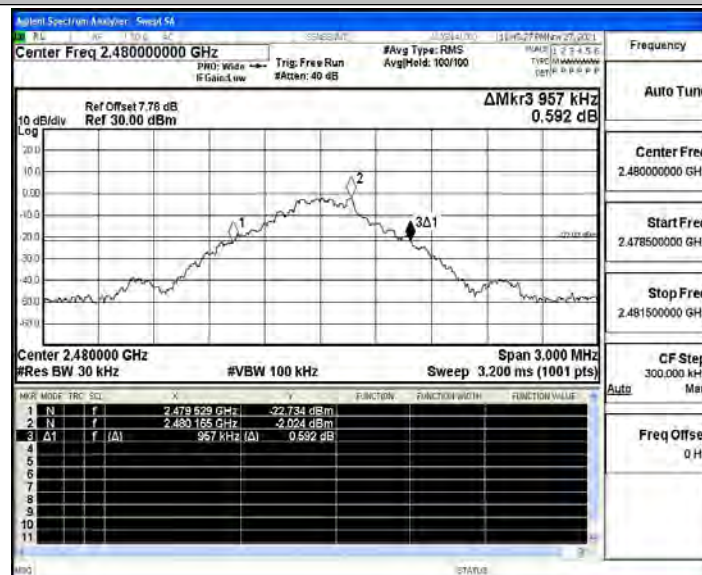
TestMode	Antenna	Channel	20db EBW[MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
DH5	Ant1	2402	1.026	2401.481	2402.507	---	PASS
		2441	1.029	2440.460	2441.489	---	PASS
		2480	0.957	2479.529	2480.486	---	PASS
2DH5	Ant1	2402	1.323	2401.337	2402.660	---	PASS
		2441	1.293	2440.361	2441.654	---	PASS
		2480	1.320	2479.337	2480.657	---	PASS
3DH5	Ant1	2402	1.290	2401.352	2402.642	---	PASS
		2441	1.314	2440.346	2441.660	---	PASS
		2480	1.338	2479.328	2480.666	---	PASS

Test Graphs

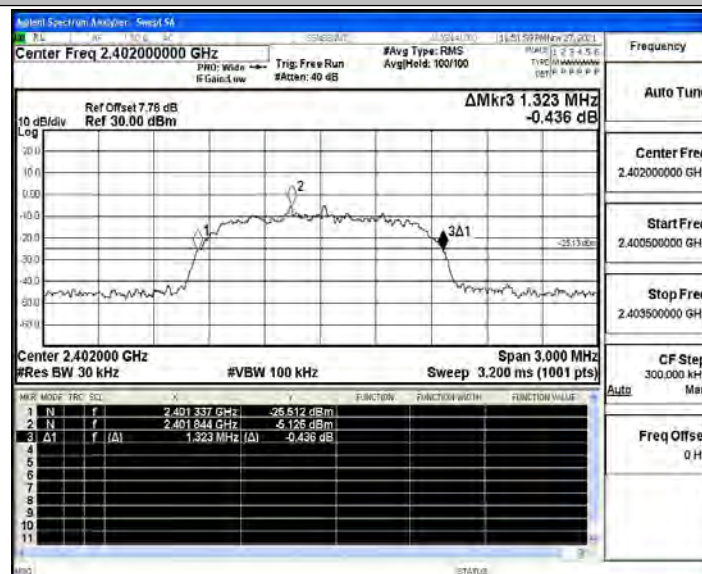




DH5_Ant1_2480

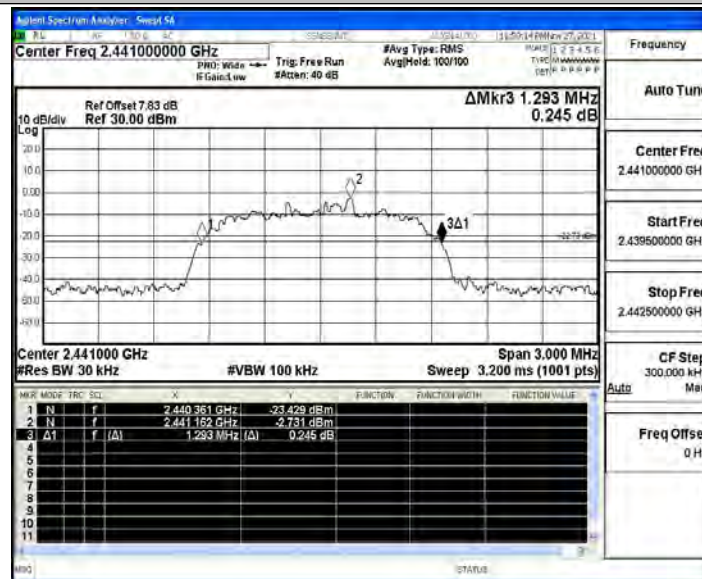


2DH5_Ant1_2402

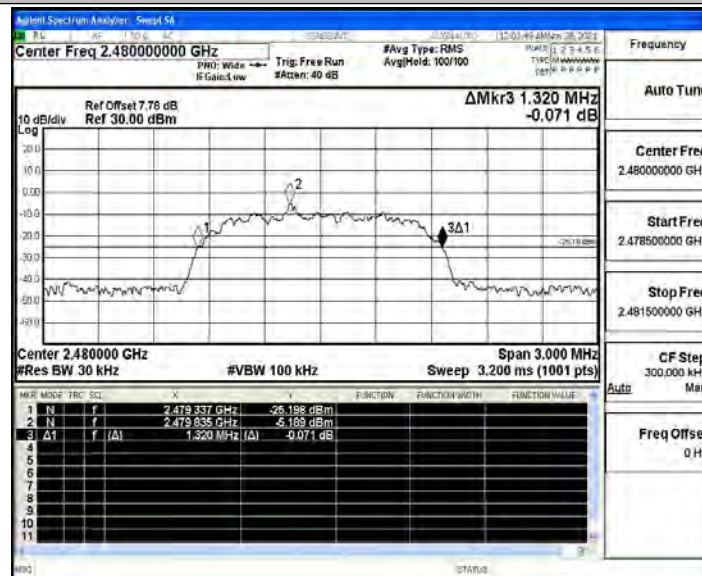




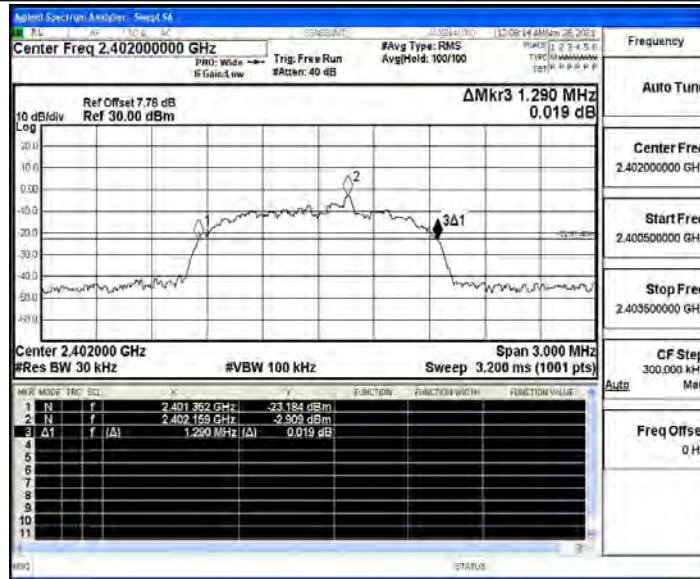
2DH5_Ant1_2441



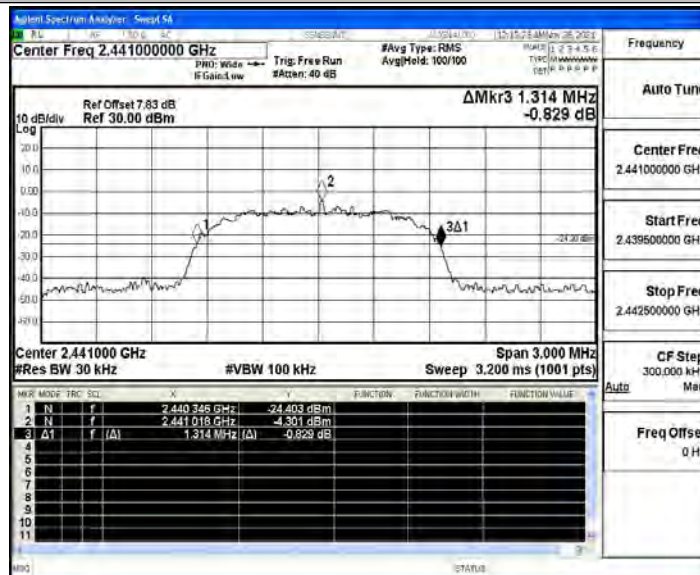
2DH5_Ant1_2480



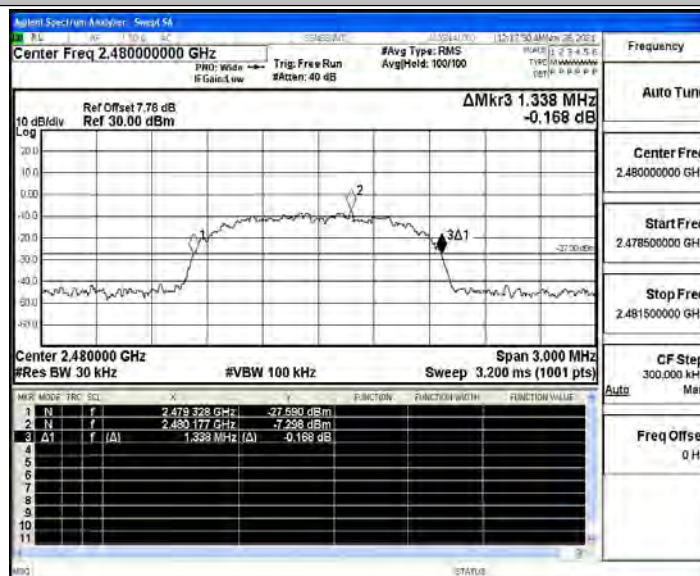
3DH5_Ant1_2402



3DH5_Ant1_2441



3DH5_Ant1_2480



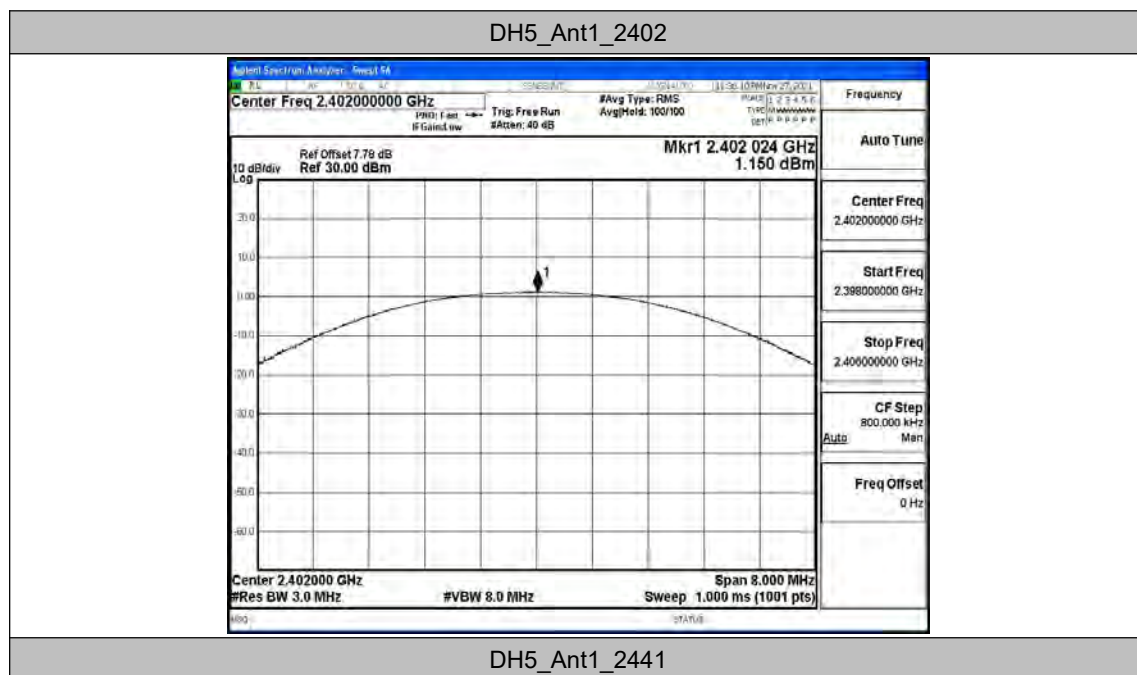


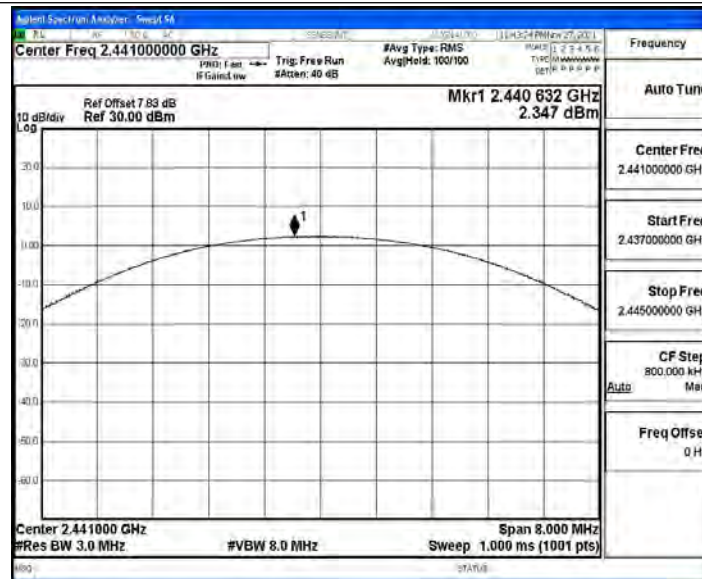
A.2 Maximum conducted output power

Test Result

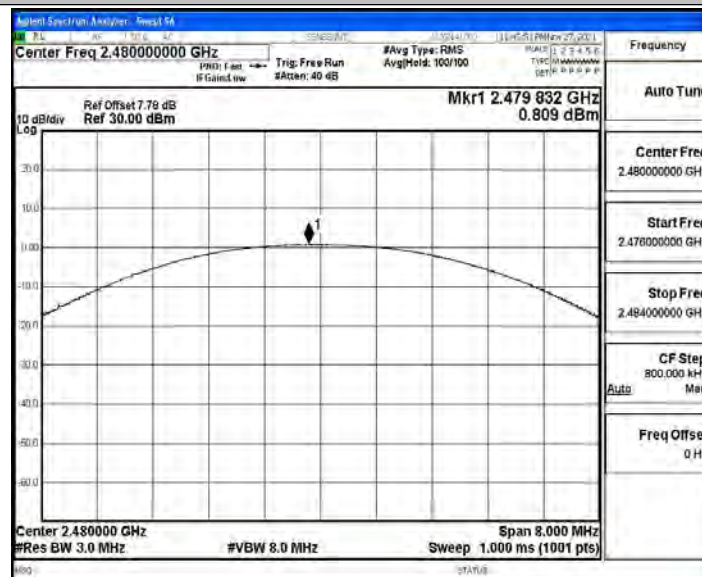
TestMode	Antenna	Channel	Result[dBm]	Limit[dBm]	Verdict
DH5	Ant1	2402	1.15	≤20.97	PASS
		2441	2.35	≤20.97	PASS
		2480	0.81	≤20.97	PASS
2DH5	Ant1	2402	0.33	≤20.97	PASS
		2441	1.25	≤20.97	PASS
		2480	-0.14	≤20.97	PASS
3DH5	Ant1	2402	0.41	≤20.97	PASS
		2441	1.49	≤20.97	PASS
		2480	-0.06	≤20.97	PASS

Test Graphs

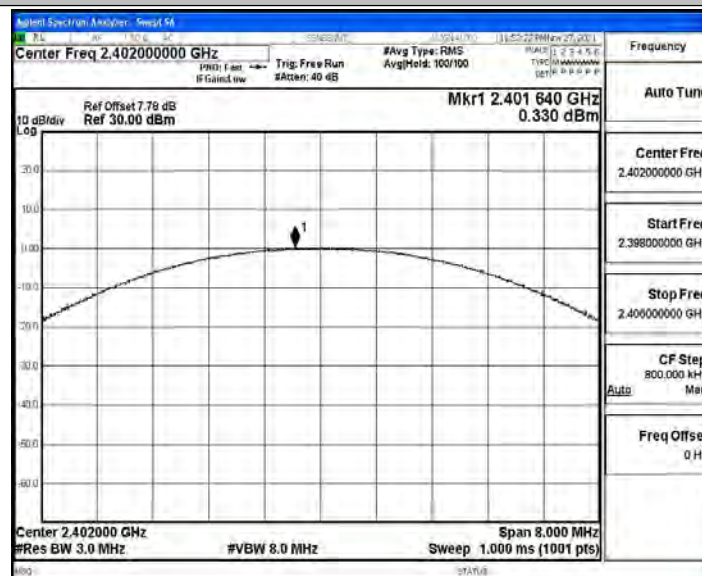




DH5_Ant1_2480

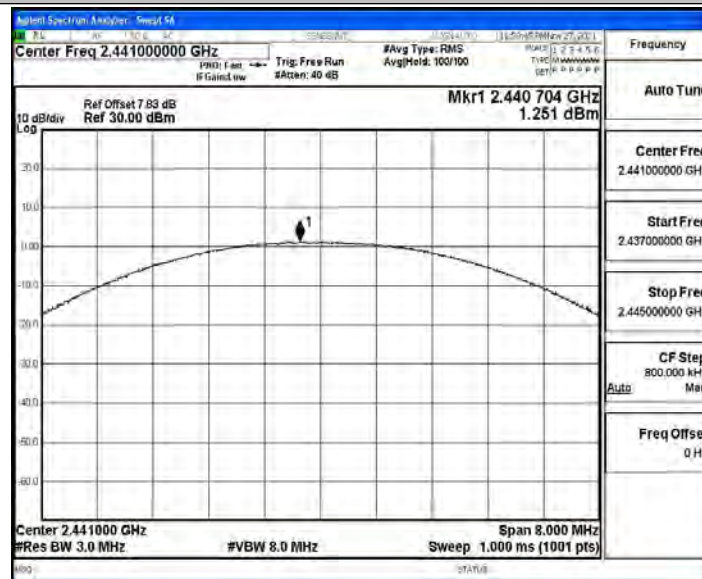


2DH5_Ant1_2402

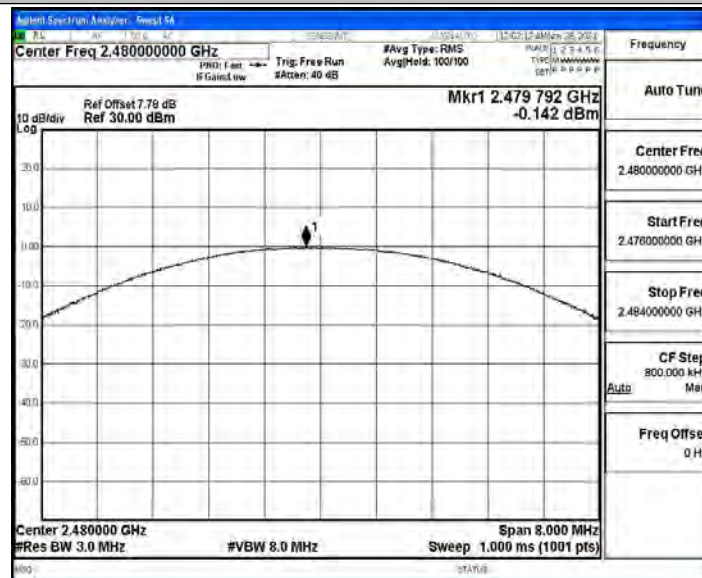




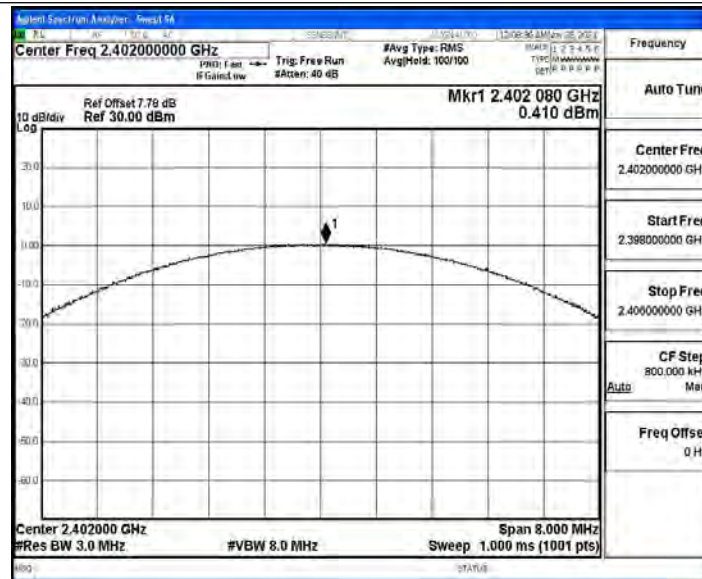
2DH5_Ant1_2441



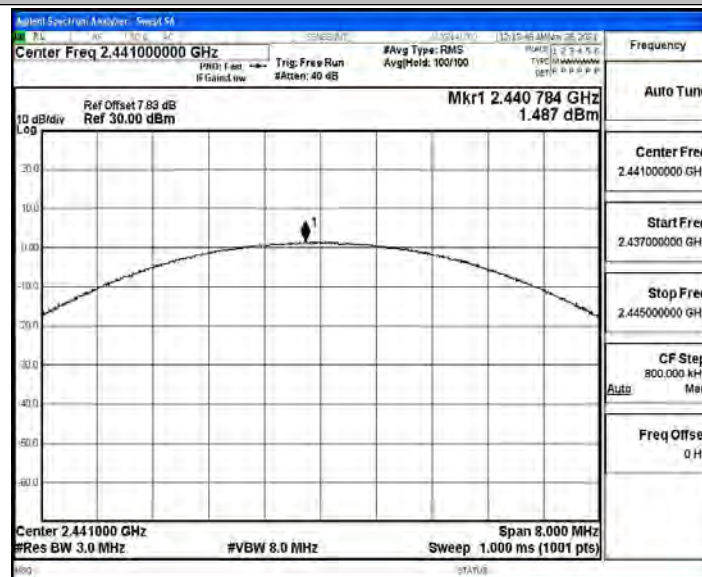
2DH5_Ant1_2480



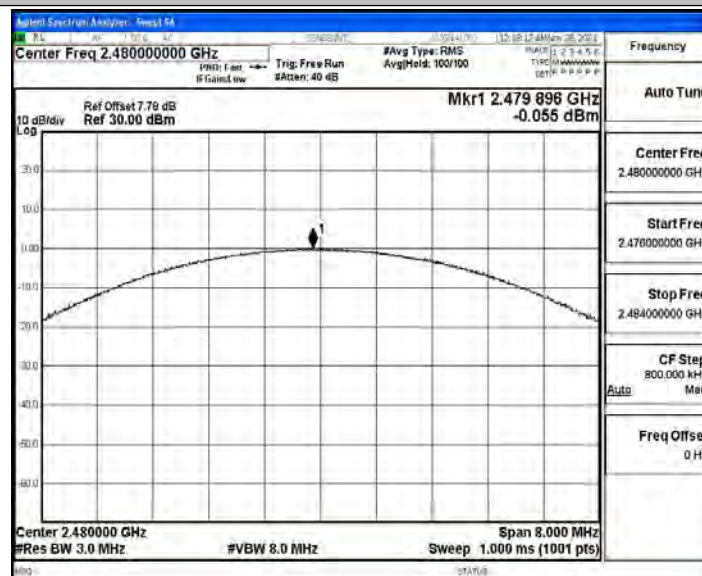
3DH5_Ant1_2402



3DH5_Ant1_2441



3DH5_Ant1_2480





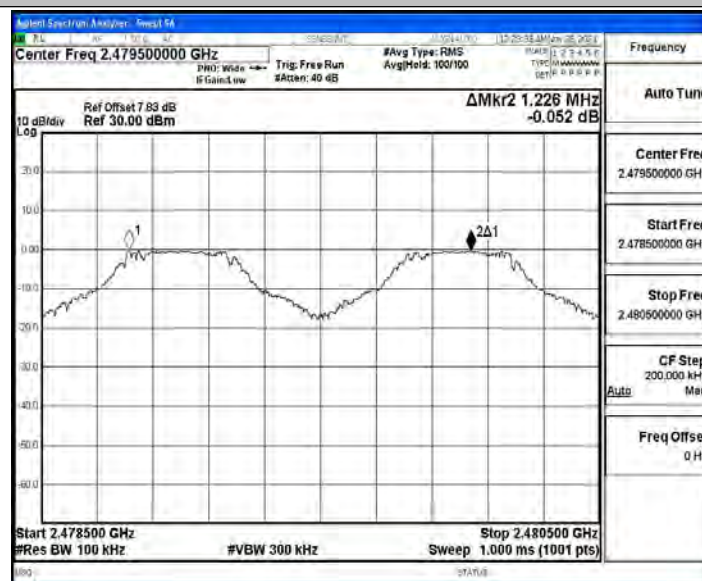
A.3 Carrier frequency separation

Test Result

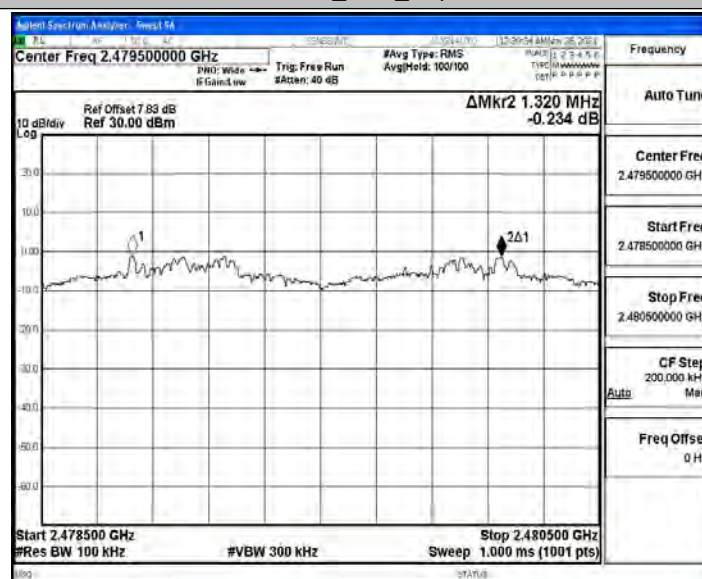
TestMode	Antenna	Channel	Result[MHz]	Limit[MHz]	Verdict
DH5	Ant1	Hop	1.226	≥ 1.029	PASS
2DH5	Ant1	Hop	1.32	≥ 0.882	PASS
3DH5	Ant1	Hop	0.99	≥ 0.892	PASS

Test Graphs

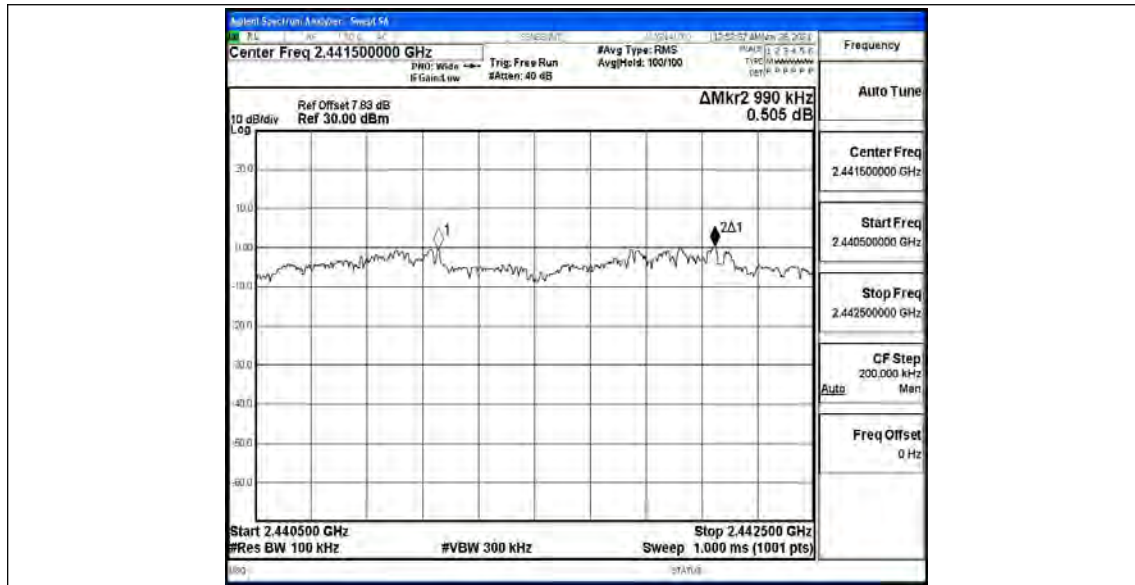
DH5_Ant1_Hop



2DH5_Ant1_Hop



3DH5_Ant1_Hop



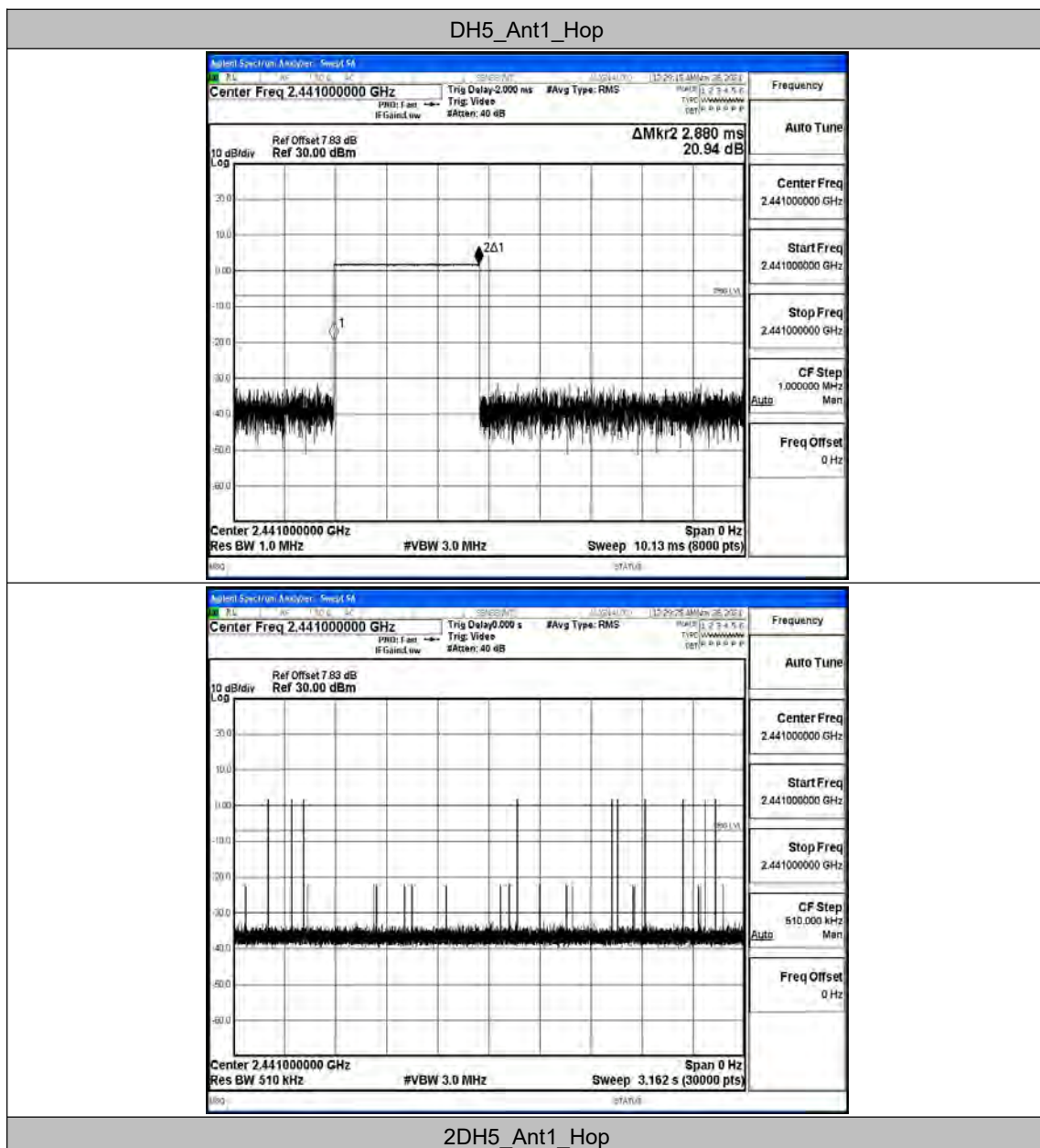


A.4 Time of occupancy

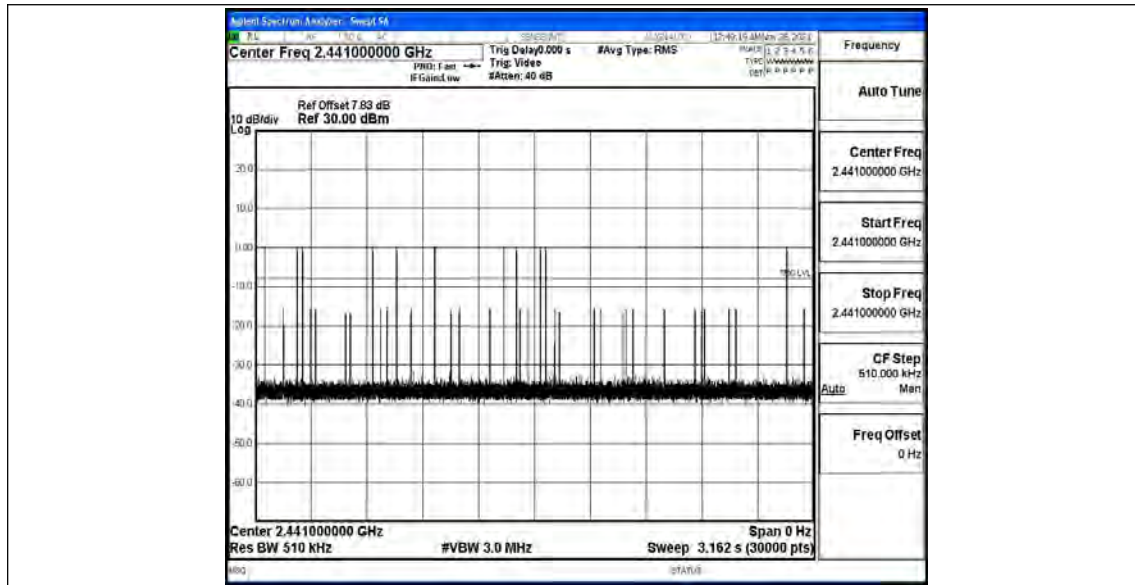
Test Result

TestMode	Antenna	Channel	BurstWidth [ms]	TotalHops [Num]	Result[s]	Limit[s]	Verdict
DH5	Ant1	Hop	2.88	110	0.317	≤0.4	PASS
2DH5	Ant1	Hop	2.88	100	0.288	≤0.4	PASS
3DH5	Ant1	Hop	2.89	120	0.346	≤0.4	PASS

Test Graphs









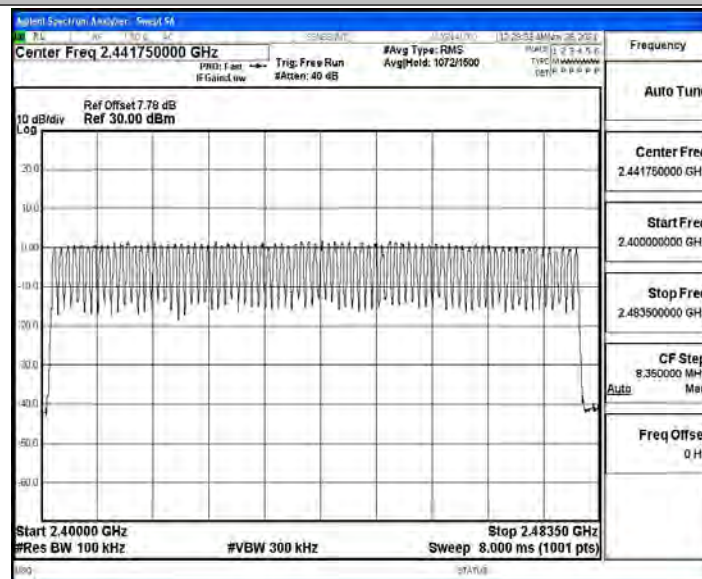
A.5 Number of hopping channels

Test Result

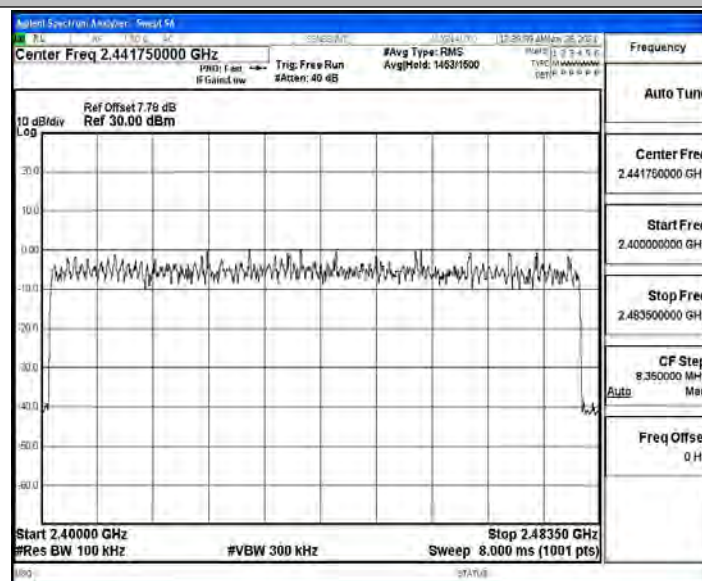
TestMode	Antenna	Channel	Result[Num]	Limit[Num]	Verdict
DH5	Ant1	Hop	79	≥15	PASS
2DH5	Ant1	Hop	79	≥15	PASS
3DH5	Ant1	Hop	79	≥15	PASS

Test Graphs

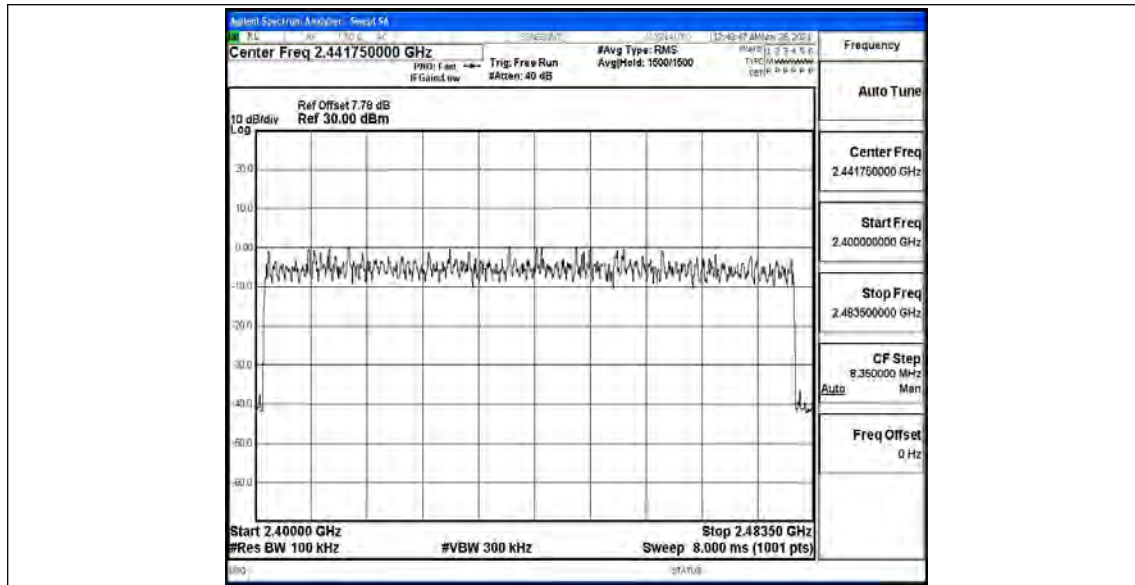
DH5_Ant1_Hop



2DH5_Ant1_Hop



3DH5_Ant1_Hop





A.6 Band edge measurements

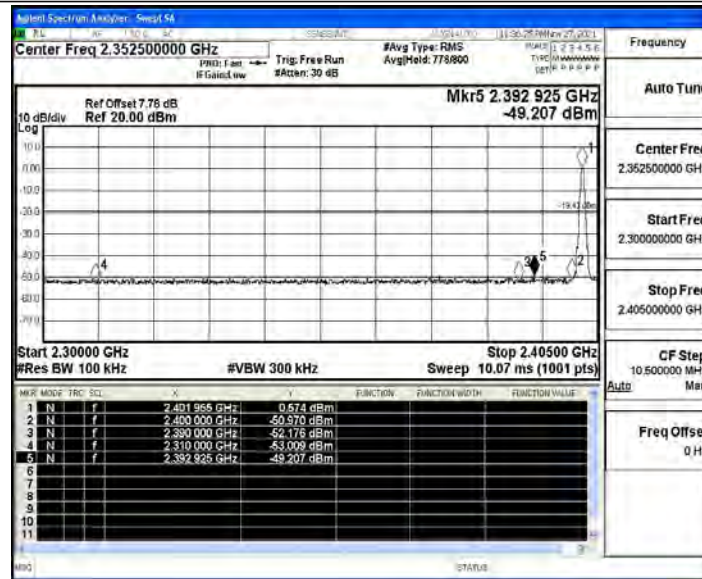
Test Result

TestMode	Antenna	ChName	Channel	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
DH5	Ant1	Low	2402	0.57	-49.21	≤ -19.43	PASS
		High	2480	0.23	-48.38	≤ -19.77	PASS
		Low	Hop_2402	0.46	-49.52	≤ -19.54	PASS
		High	Hop_2480	0.17	-48.63	≤ -19.83	PASS
2DH5	Ant1	Low	2402	-1.51	-49.27	≤ -21.51	PASS
		High	2480	-1.16	-48.39	≤ -21.16	PASS
		Low	Hop_2402	-3.72	-49.53	≤ -23.72	PASS
		High	Hop_2480	-3.41	-48.69	≤ -23.41	PASS
3DH5	Ant1	Low	2402	-0.71	-49.5	≤ -20.71	PASS
		High	2480	-1.15	-48.43	≤ -21.15	PASS
		Low	Hop_2402	-4.96	-49.86	≤ -24.96	PASS
		High	Hop_2480	-1.15	-48.17	≤ -21.15	PASS

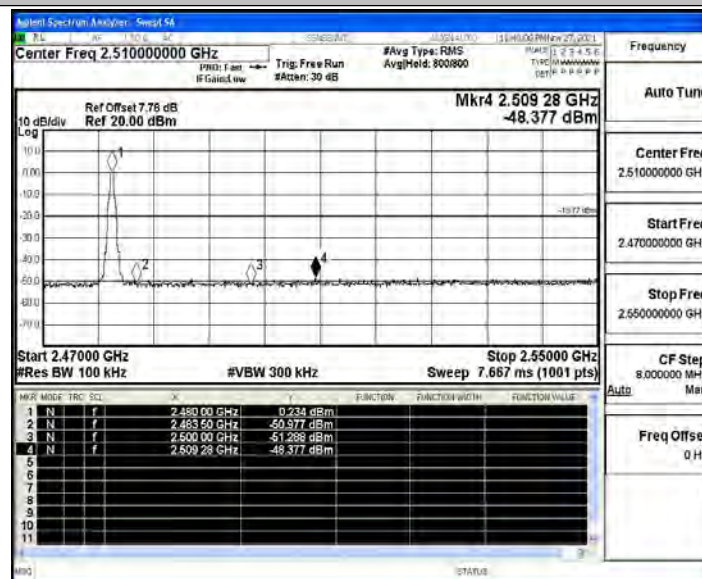


Test Graphs

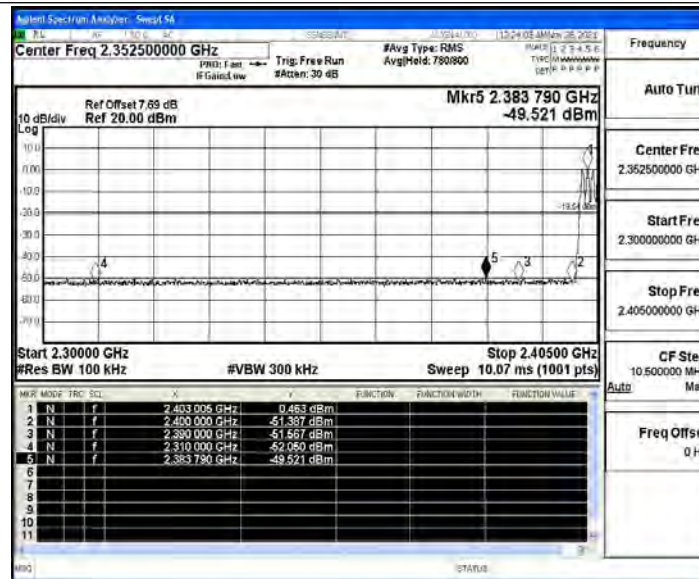
DH5_Ant1_Low_2402



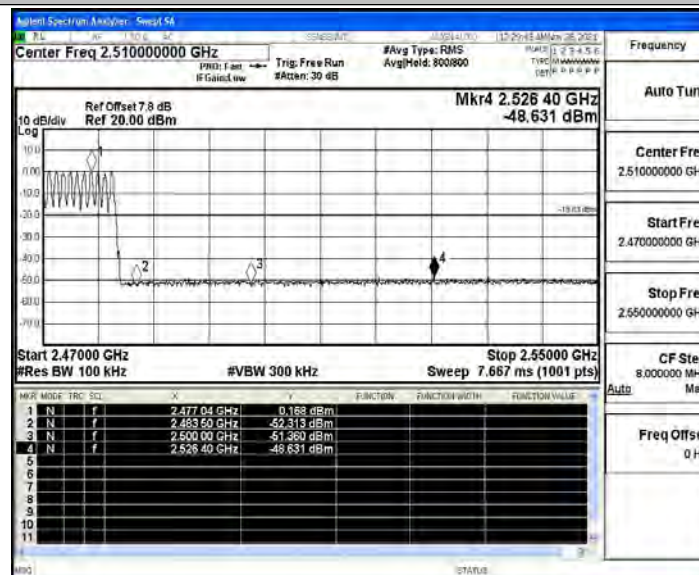
DH5_Ant1_High_2480



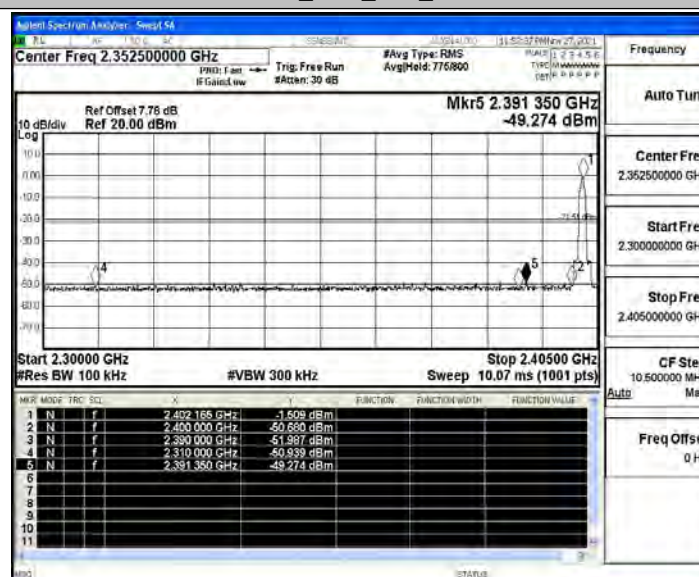
DH5_Ant1_Low_Hop_2402



DH5_Ant1_High_Hop_2480

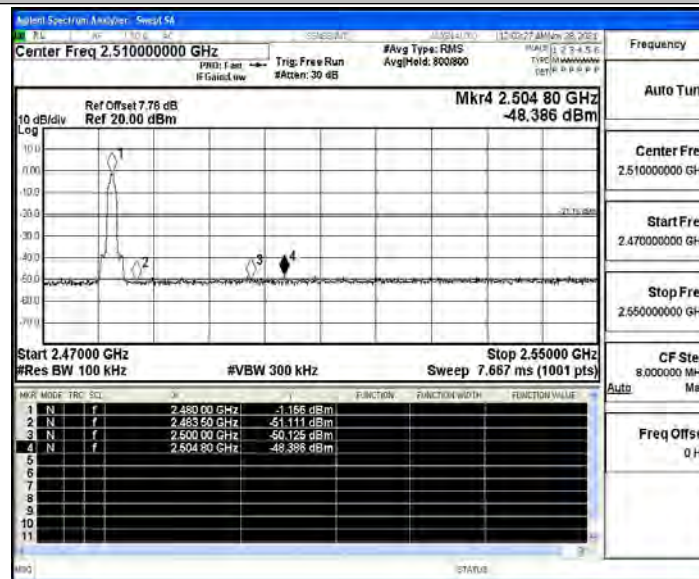


2DH5_Ant1_Low_2402

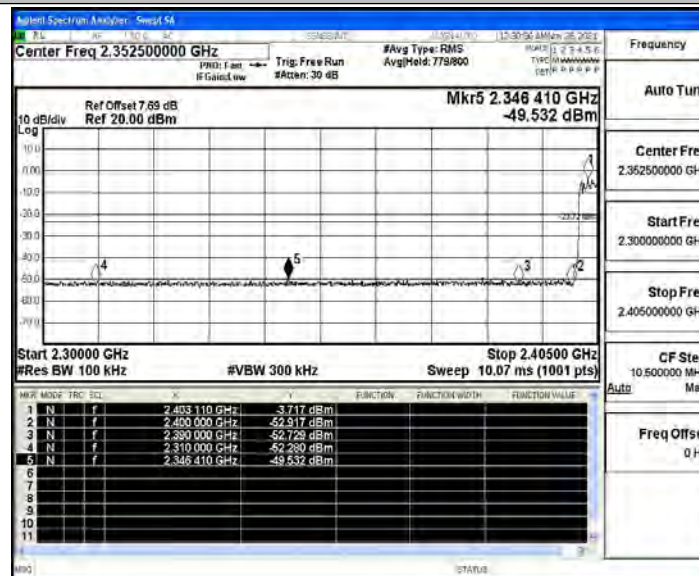




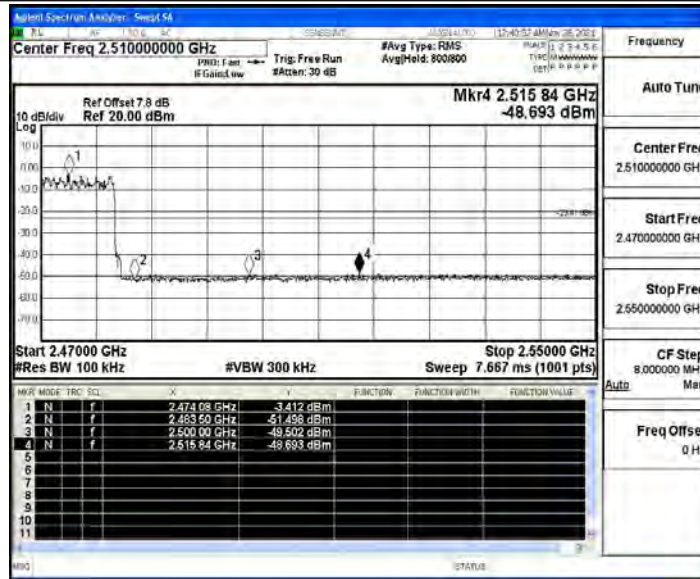
2DH5_Ant1_High_2480



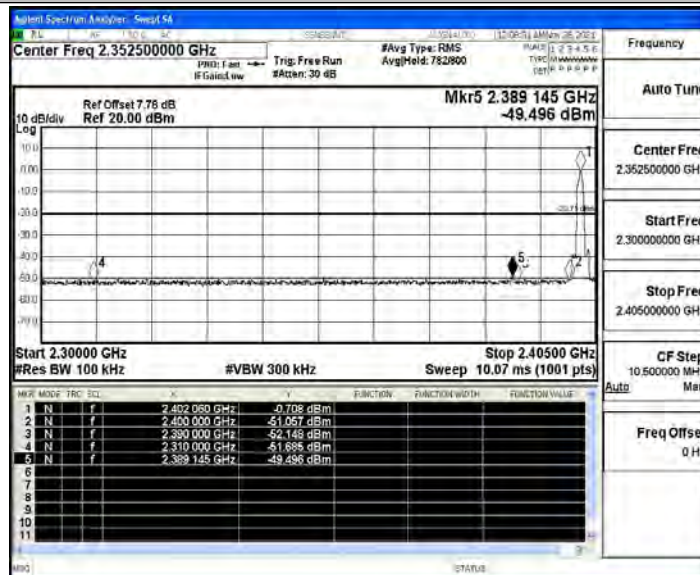
2DH5_Ant1_Low_Hop_2402



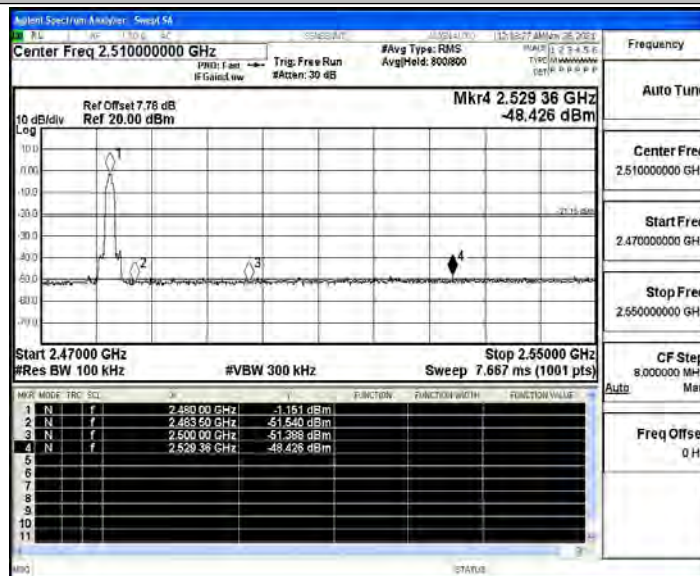
2DH5_Ant1_High_Hop_2480



3DH5_Ant1_Low_2402

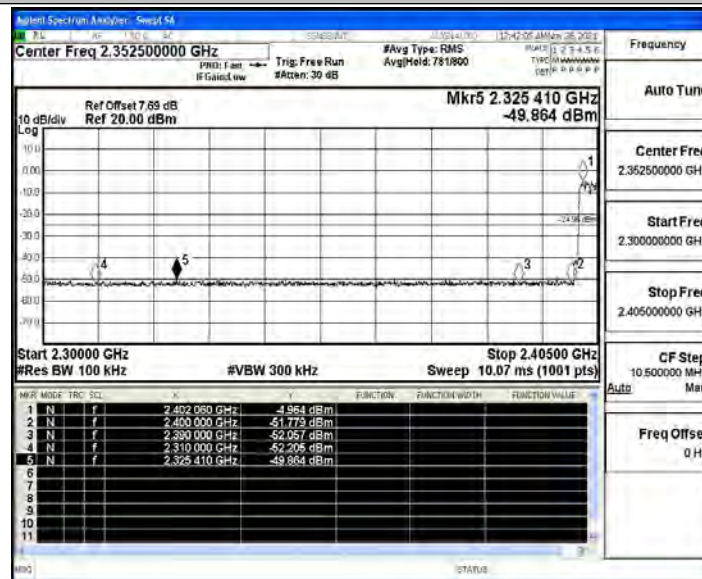


3DH5_Ant1_High_2480

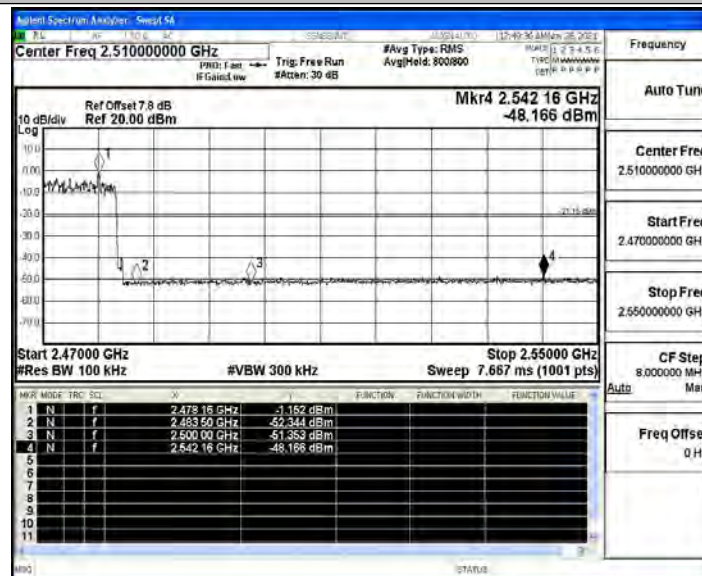




3DH5_Ant1_Low_Hop_2402



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	0.60	0.60	---	PASS
			30~1000	0.60	-49.84	≤-19.4	PASS
			1000~26500	0.60	-47.01	≤-19.4	PASS
		2441	Reference	1.75	1.75	---	PASS
			30~1000	1.75	-50.85	≤-18.26	PASS
			1000~26500	1.75	-46.66	≤-18.26	PASS
		2480	Reference	-0.33	-0.33	---	PASS
			30~1000	-0.33	-61.34	≤-20.33	PASS
			1000~26500	-0.33	-46.62	≤-20.33	PASS
2DH5	Ant1	2402	Reference	-1.22	-1.22	---	PASS
			30~1000	-1.22	-61.3	≤-21.22	PASS
			1000~26500	-1.22	-46.48	≤-21.22	PASS
		2441	Reference	-2.93	-2.93	---	PASS
			30~1000	-2.93	-61.21	≤-22.93	PASS
			1000~26500	-2.93	-46.77	≤-22.93	PASS
		2480	Reference	-1.14	-1.14	---	PASS
			30~1000	-1.14	-60.77	≤-21.14	PASS
			1000~26500	-1.14	-46.73	≤-21.14	PASS
3DH5	Ant1	2402	Reference	-3.13	-3.13	---	PASS
			30~1000	-3.13	-61.15	≤-23.13	PASS
			1000~26500	-3.13	-47.05	≤-23.13	PASS
		2441	Reference	-0.16	-0.16	---	PASS
			30~1000	-0.16	-61.31	≤-20.16	PASS
			1000~26500	-0.16	-46.62	≤-20.16	PASS
		2480	Reference	-1.63	-1.63	---	PASS
			30~1000	-1.63	-61.52	≤-21.63	PASS
			1000~26500	-1.63	-46.59	≤-21.63	PASS

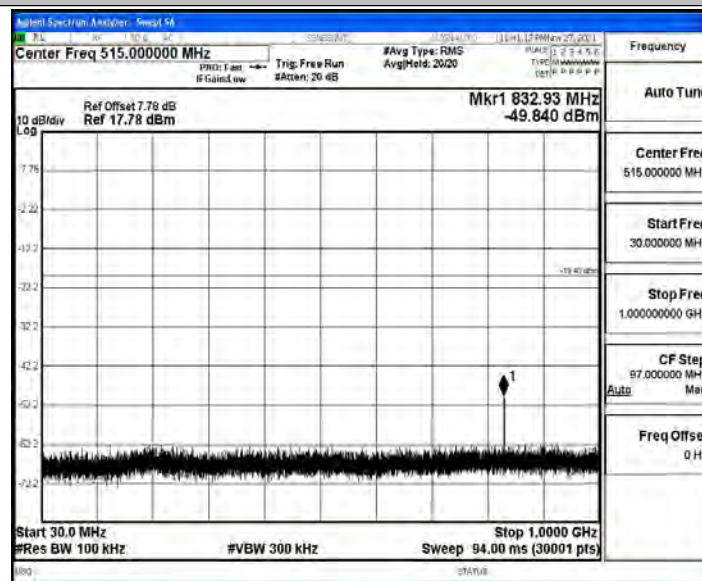


Test Graphs

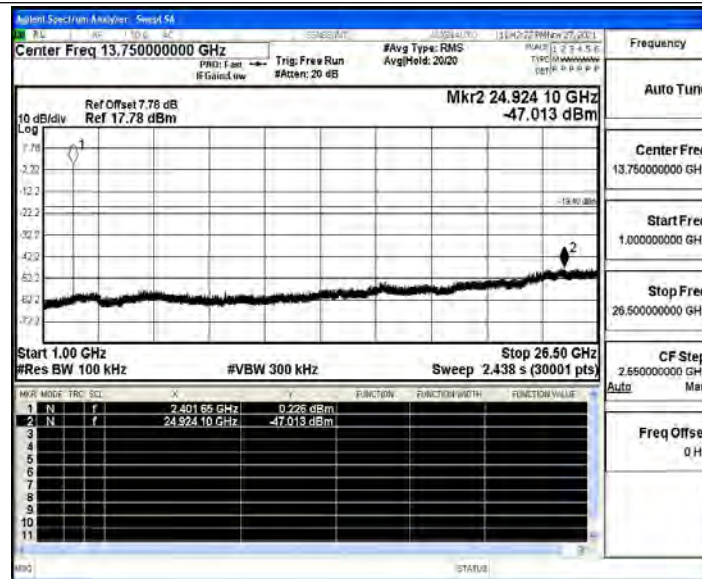
DH5_Ant1_2402_0~Reference



DH5_Ant1_2402_30~1000



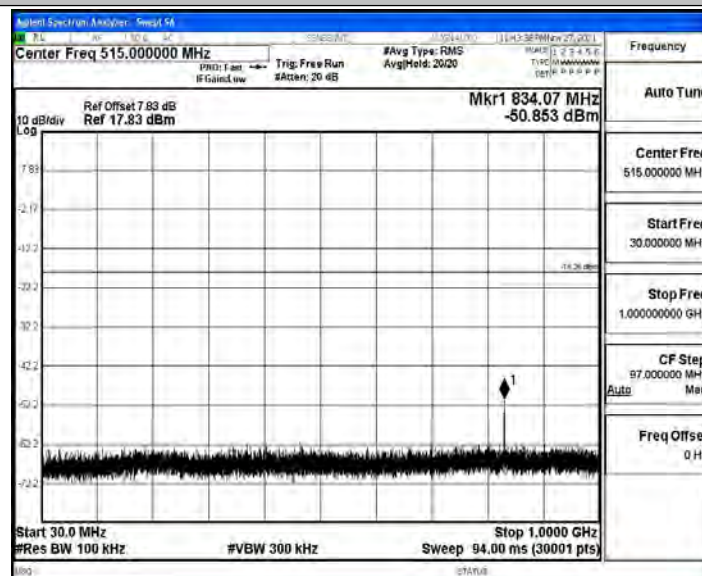
DH5_Ant1_2402_1000~26500



DH5_Ant1_2441_0~Reference

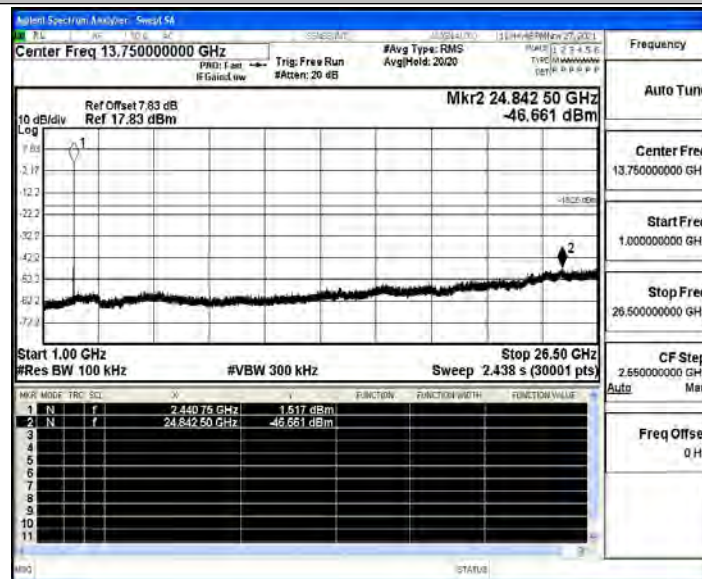


DH5_Ant1_2441_30~1000

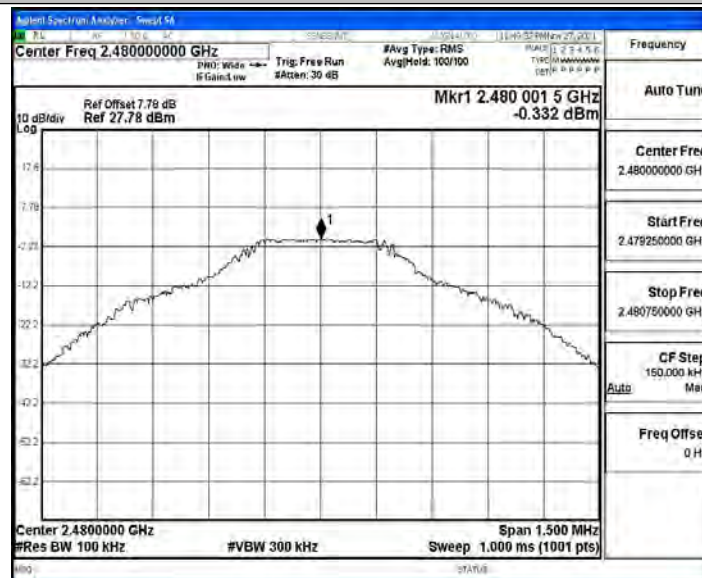




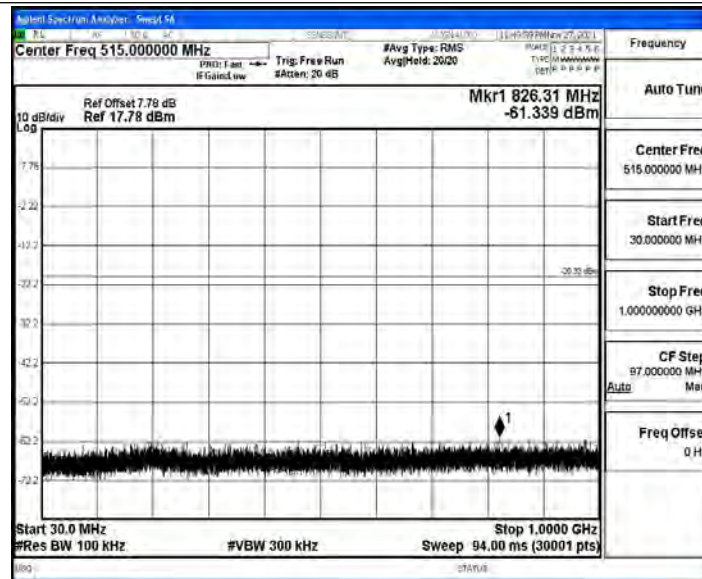
DH5_Ant1_2441_1000~26500



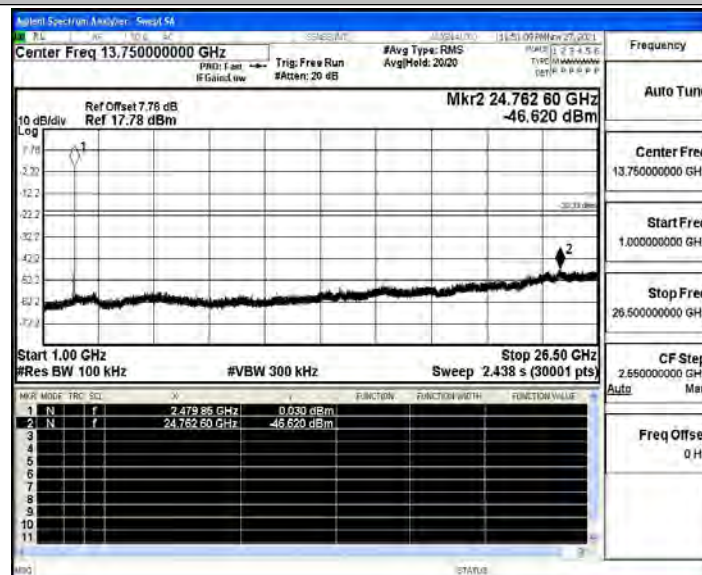
DH5_Ant1_2480_0~Reference



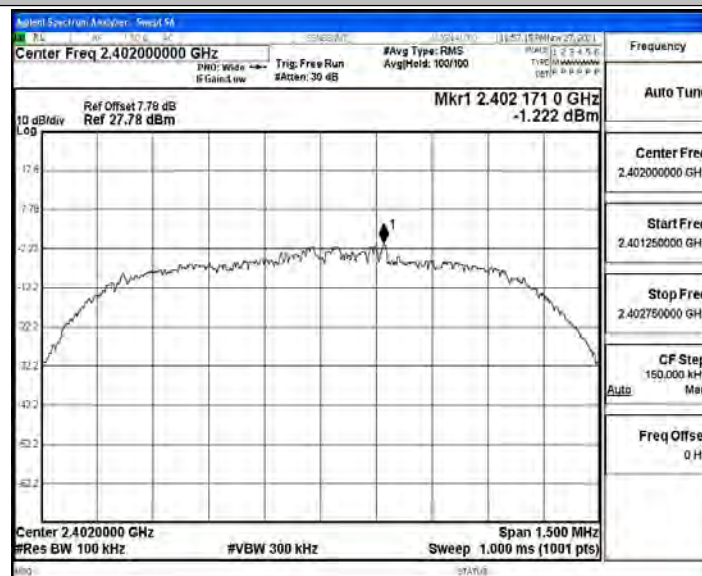
DH5_Ant1_2480_30~1000



DH5_Ant1_2480_1000~26500

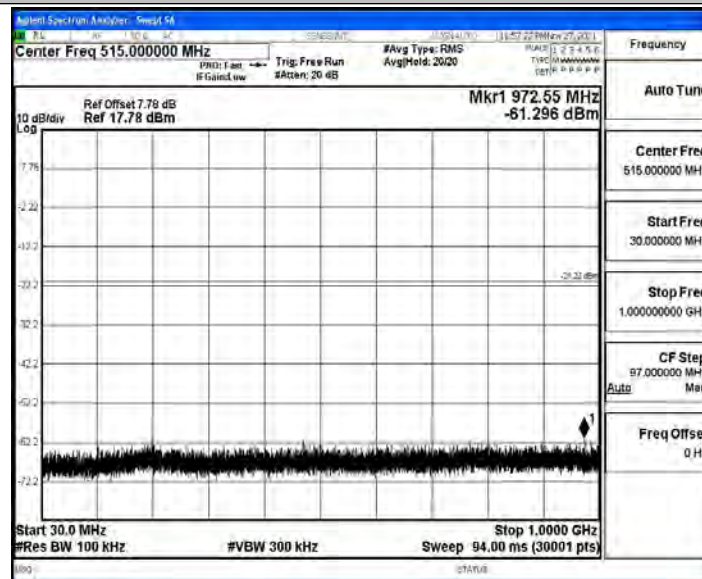


2DH5_Ant1_2402_0~Reference

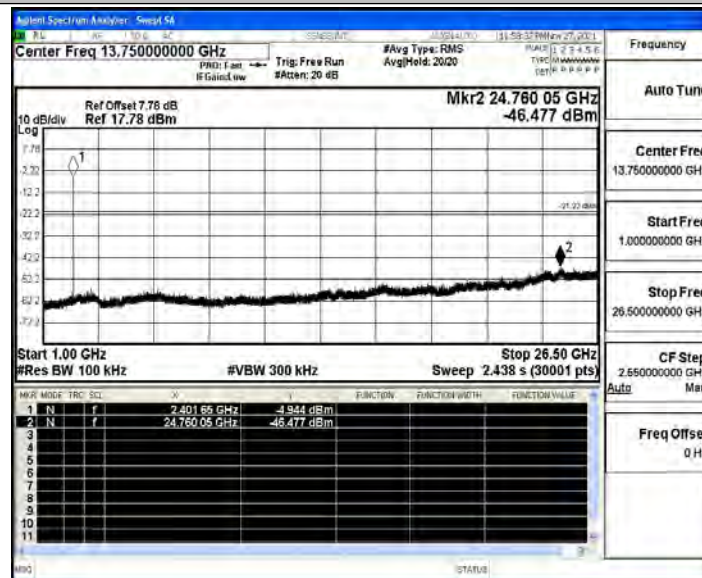




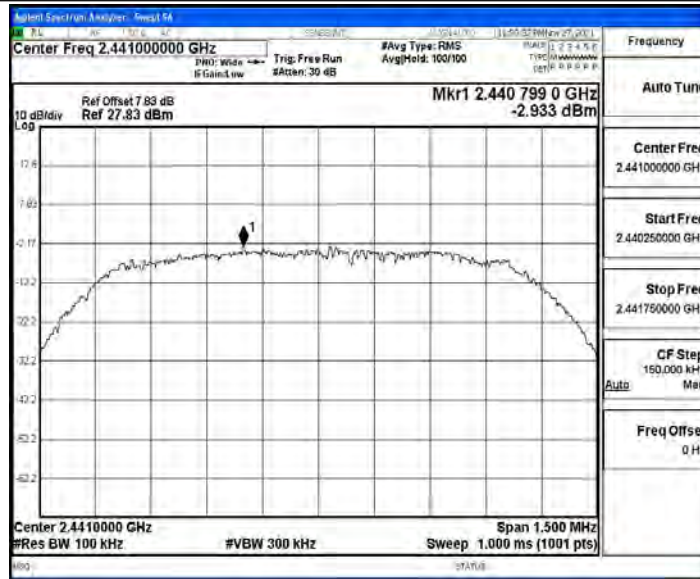
2DH5_Ant1_2402_30~1000



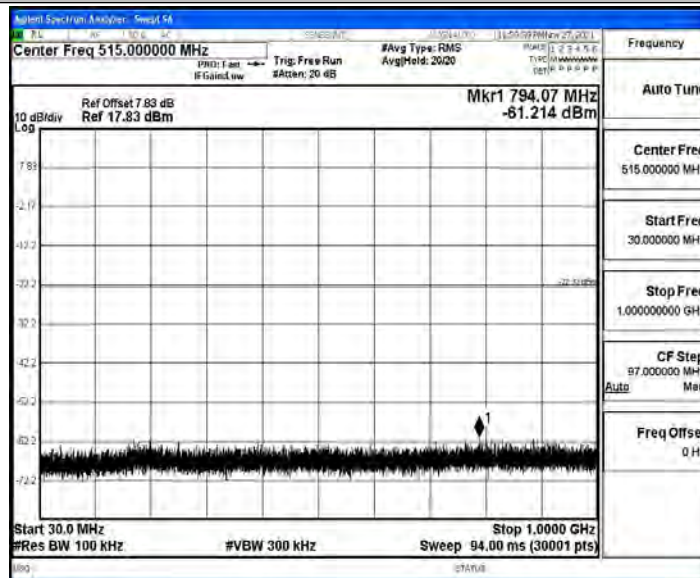
2DH5_Ant1_2402_1000~26500



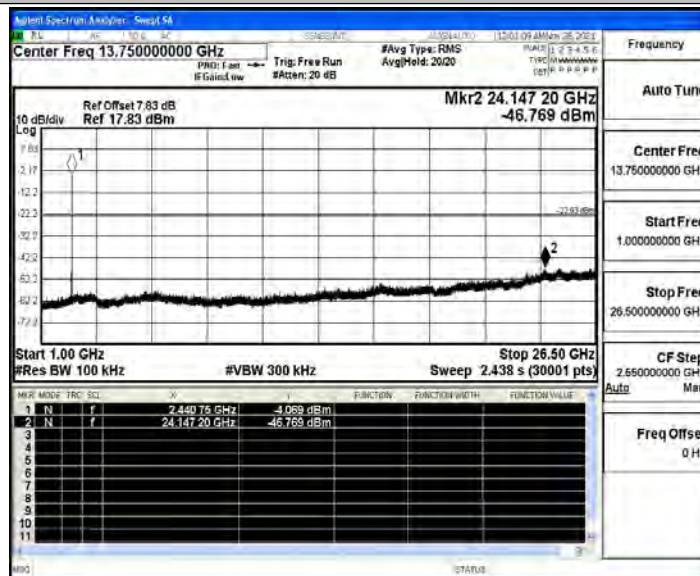
2DH5_Ant1_2441_0~Reference



2DH5_Ant1_2441_30~1000

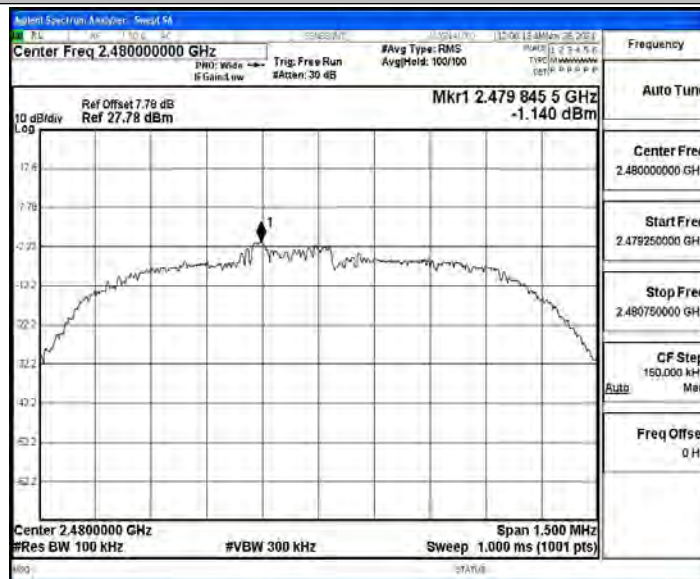


2DH5_Ant1_2441_1000~26500

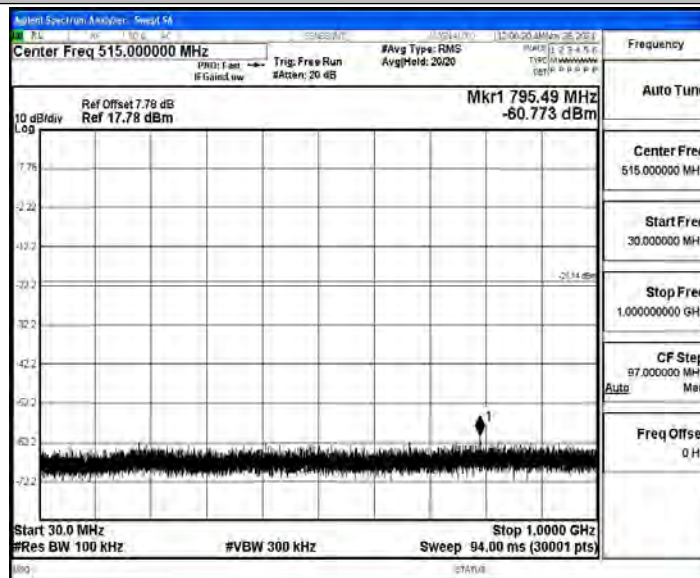




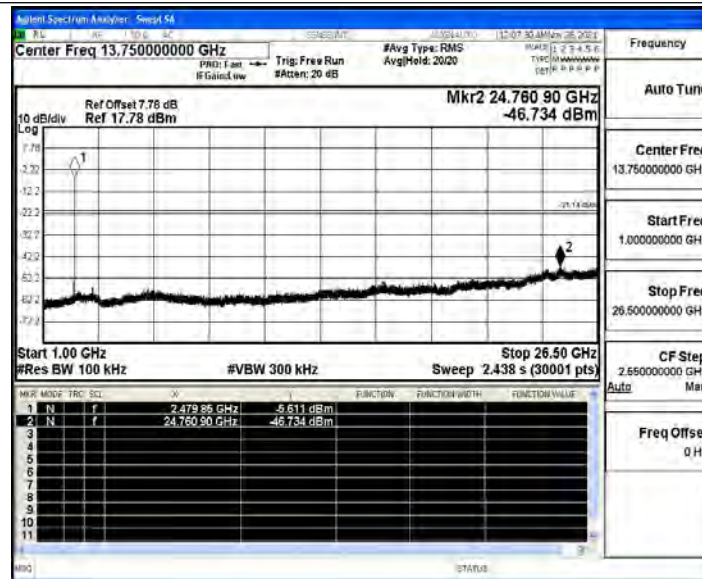
2DH5_Ant1_2480_0~Reference



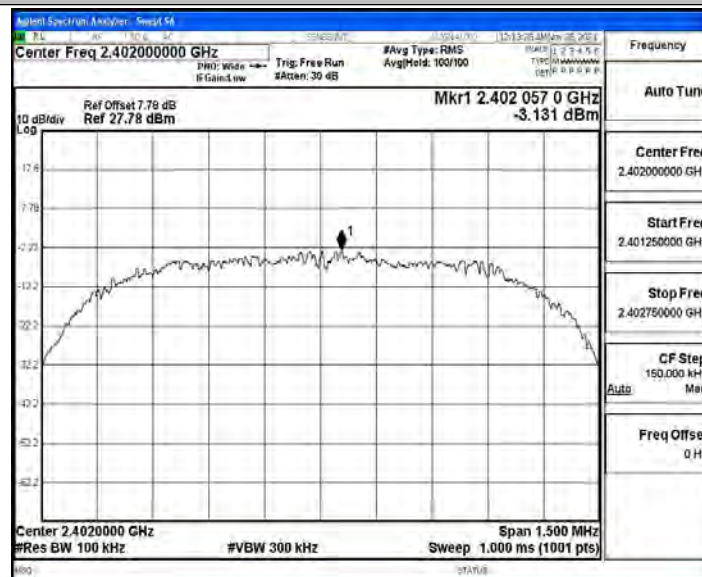
2DH5_Ant1_2480_30~1000



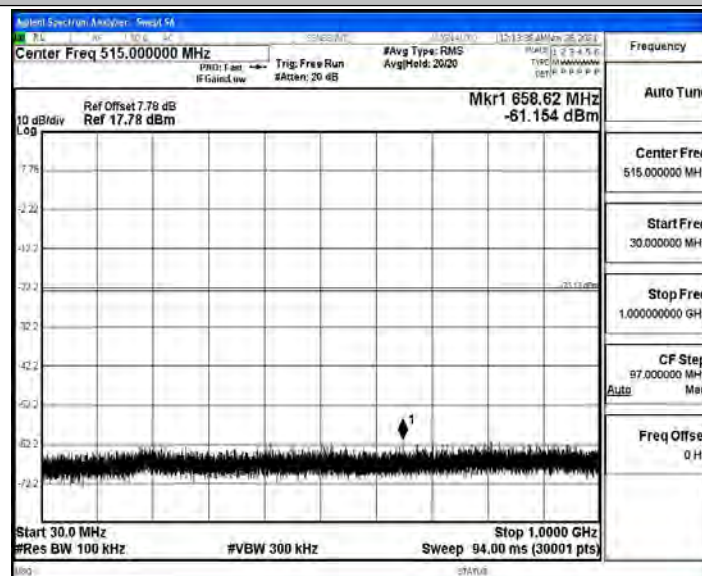
2DH5_Ant1_2480_1000~26500



3DH5_Ant1_2402_0~Reference

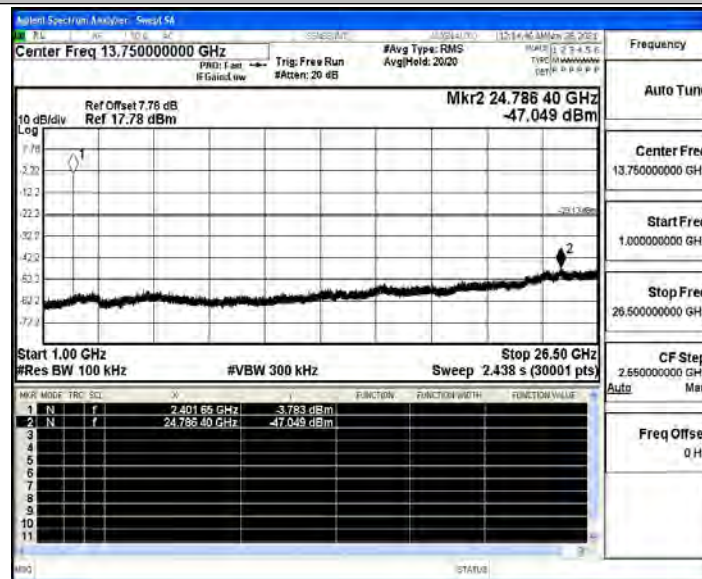


3DH5_Ant1_2402_30~1000

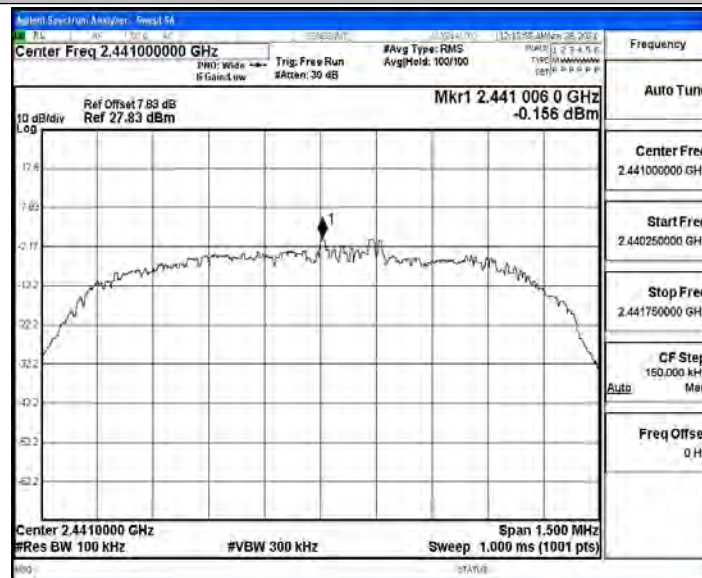




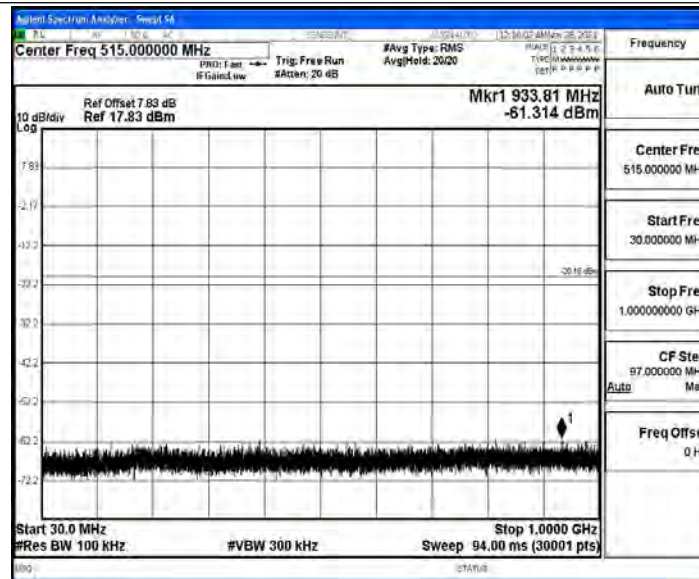
3DH5_Ant1_2402_1000~26500



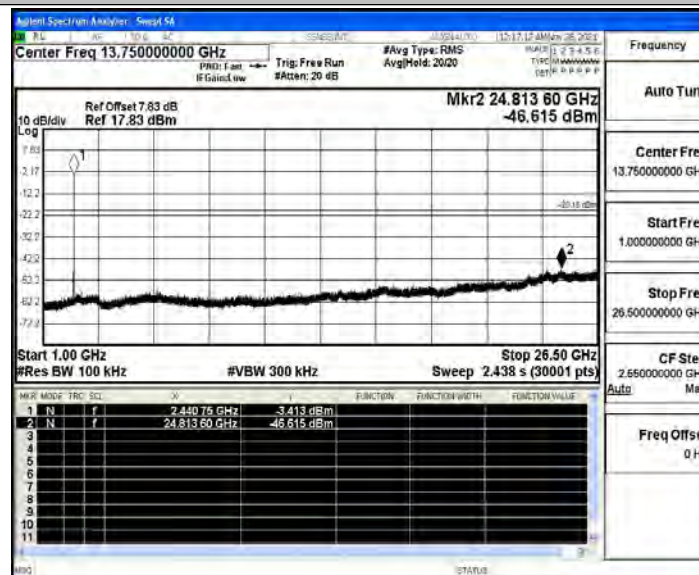
3DH5_Ant1_2441_0~Reference



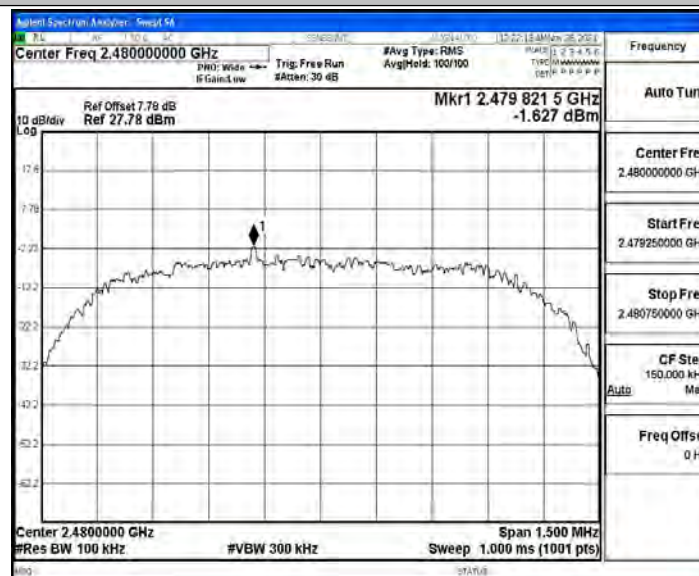
3DH5_Ant1_2441_30~1000



3DH5_Ant1_2441_1000~26500

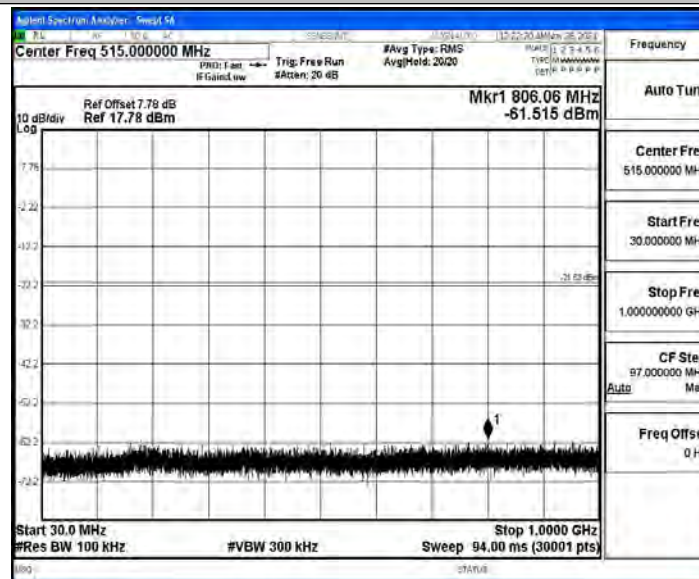


3DH5_Ant1_2480_0~Reference

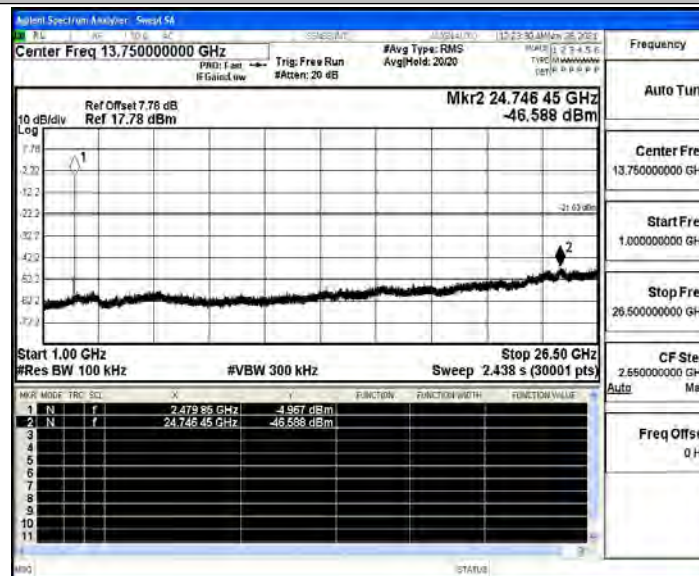




3DH5_Ant1_2480_30~1000



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	-48.87	≤-41.20	46.33	≤54	PASS
				AV	2389.880	-48.38	≤-41.20	46.82	≤54	PASS
				AV	2390.000	-48.54	≤-41.20	46.66	≤54	PASS
				Peak	2310.000	-40.45	≤-21.20	54.75	≤74	PASS
				Peak	2383.475	-38.15	≤-21.20	57.05	≤74	PASS
				Peak	2390.000	-40.79	≤-21.20	54.41	≤74	PASS
		High	2480	AV	2483.500	-47.84	≤-41.20	47.36	≤54	PASS
				AV	2492.560	-47.78	≤-41.20	47.42	≤54	PASS
				AV	2500.000	-47.91	≤-41.20	47.29	≤54	PASS
				Peak	2483.500	-39.76	≤-21.20	55.44	≤74	PASS
				Peak	2493.440	-37.42	≤-21.20	57.78	≤74	PASS
				Peak	2500.000	-39.36	≤-21.20	55.84	≤74	PASS
		Low	Hop_24 02	Peak	2310.000	-37.88	≤-21.20	57.32	≤74	PASS
				Peak	2385.470	-37.84	≤-21.20	57.36	≤74	PASS
				Peak	2390.000	-41.11	≤-21.20	54.09	≤74	PASS
		High	Hop_24 80	Peak	2483.500	-40.46	≤-21.20	54.74	≤74	PASS
				Peak	2496.320	-38.13	≤-21.20	57.07	≤74	PASS
				Peak	2500.000	-39.35	≤-21.20	55.85	≤74	PASS
2DH5	Ant1	Low	2402	AV	2310.000	-48.88	≤-41.20	46.32	≤54	PASS
				AV	2388.305	-48.42	≤-41.20	46.78	≤54	PASS
				AV	2390.000	-48.54	≤-41.20	46.66	≤54	PASS
				Peak	2310.000	-40.45	≤-21.20	54.75	≤74	PASS
				Peak	2387.255	-37.74	≤-21.20	57.46	≤74	PASS
				Peak	2390.000	-38.72	≤-21.20	56.48	≤74	PASS
		High	2480	AV	2483.500	-47.76	≤-41.20	47.44	≤54	PASS
				AV	2483.520	-47.76	≤-41.20	47.44	≤54	PASS
				AV	2500.000	-47.88	≤-41.20	47.32	≤54	PASS
				Peak	2483.500	-40.4	≤-21.20	54.80	≤74	PASS
				Peak	2491.440	-37.76	≤-21.20	57.44	≤74	PASS
				Peak	2500.000	-40.08	≤-21.20	55.12	≤74	PASS
		Low	Hop_24 02	Peak	2310.000	-40.39	≤-21.20	54.81	≤74	PASS
				Peak	2322.050	-38.33	≤-21.20	56.87	≤74	PASS
				Peak	2390.000	-39.57	≤-21.20	55.63	≤74	PASS
		High	Hop_24 80	Peak	2483.500	-39.84	≤-21.20	55.36	≤74	PASS
				Peak	2486.560	-37.75	≤-21.20	57.45	≤74	PASS
				Peak	2500.000	-39.92	≤-21.20	55.28	≤74	PASS
3DH5	Ant1	Low	2402	AV	2310.000	-48.85	≤-41.20	46.35	≤54	PASS



				AV	2389.040	-48.38	≤-41.20	46.82	≤54	PASS
				AV	2390.000	-48.51	≤-41.20	46.69	≤54	PASS
				Peak	2310.000	-40.97	≤-21.20	54.23	≤74	PASS
				Peak	2326.355	-38.06	≤-21.20	57.14	≤74	PASS
				Peak	2390.000	-39.96	≤-21.20	55.24	≤74	PASS
		High	2480	AV	2483.500	-47.84	≤-41.20	47.36	≤54	PASS
				AV	2496.720	-47.8	≤-41.20	47.40	≤54	PASS
				AV	2500.000	-47.96	≤-41.20	47.24	≤54	PASS
				Peak	2483.500	-37.57	≤-21.20	57.63	≤74	PASS
				Peak	2488.960	-36.94	≤-21.20	58.26	≤74	PASS
				Peak	2500.000	-39.09	≤-21.20	56.11	≤74	PASS
		Low	Hop_24 02	Peak	2310.000	-40.37	≤-21.20	54.83	≤74	PASS
				Peak	2390.000	-38.21	≤-21.20	56.99	≤74	PASS
		High	Hop_24 80	Peak	2483.500	-40.84	≤-21.20	54.36	≤74	PASS
				Peak	2494.880	-36.94	≤-21.20	58.26	≤74	PASS
				Peak	2500.000	-40.28	≤-21.20	54.92	≤74	PASS

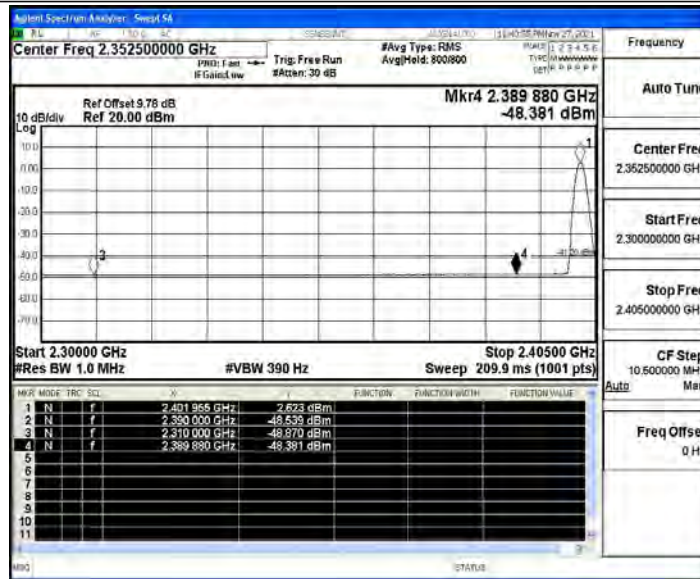
Note:

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.

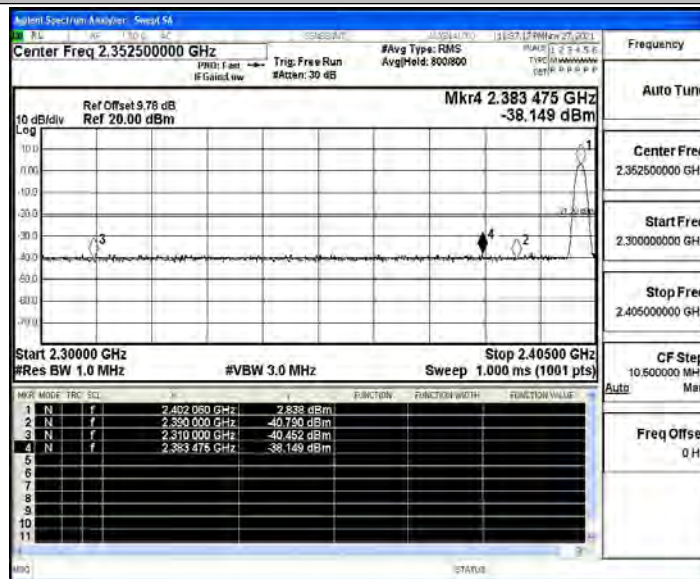


Test Graphs

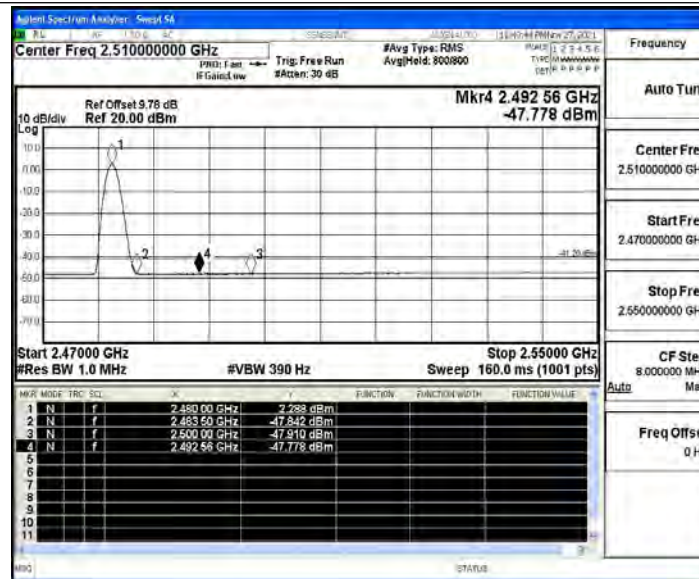
DH5_Ant1_Low_2402_AV



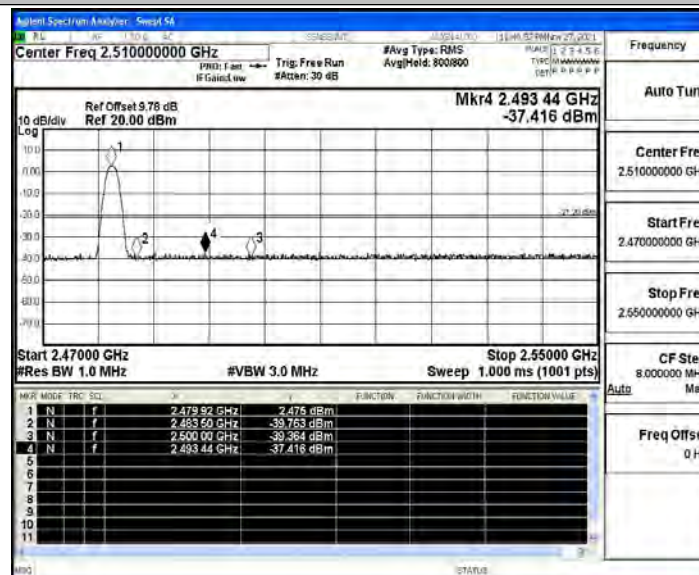
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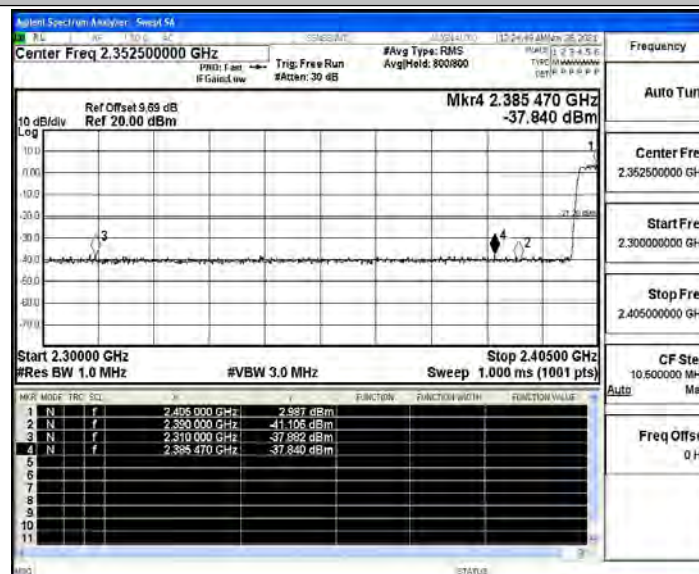
DH5_Ant1_High_2480_AV



DH5_Ant1_High_2480_Peak

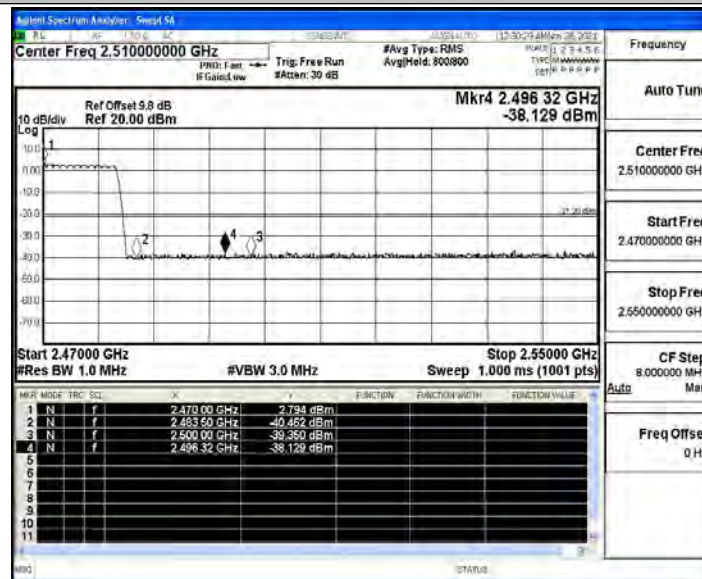


DH5_Ant1_Low_Hop_2402_Peak

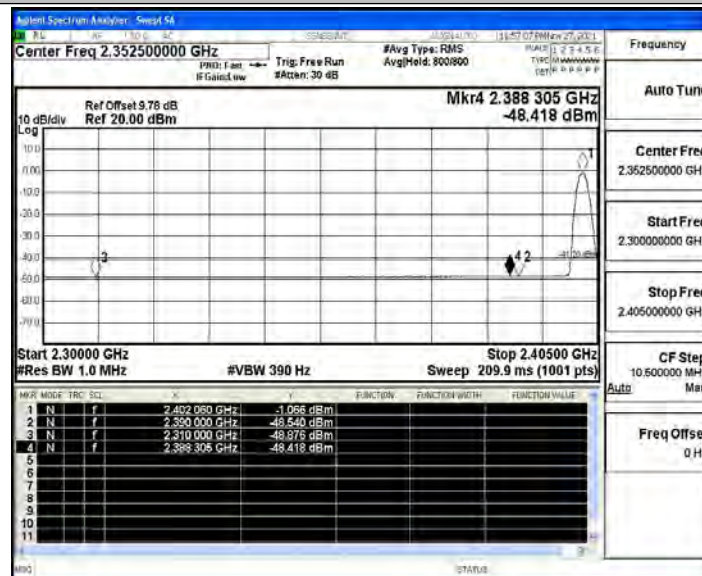




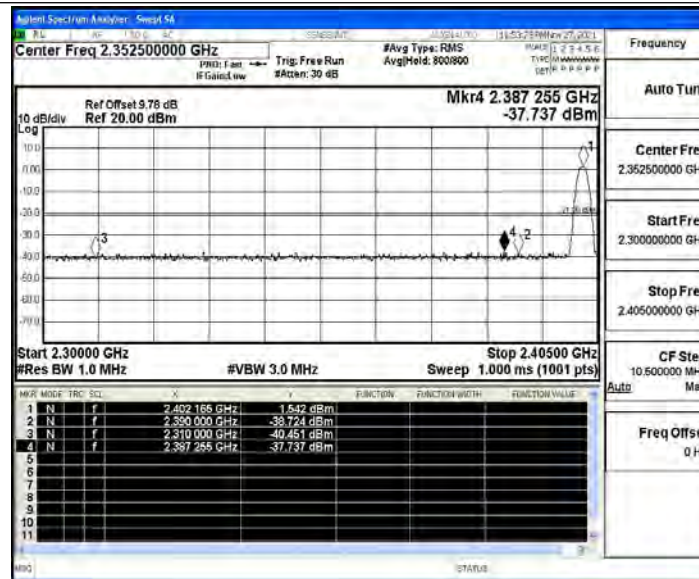
DH5_Ant1_High_Hop_2480_Peak



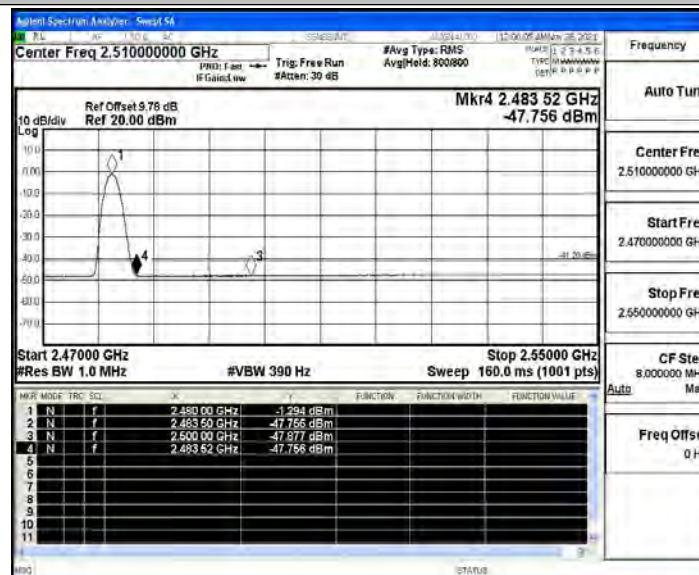
2DH5_Ant1_Low_2402_AV



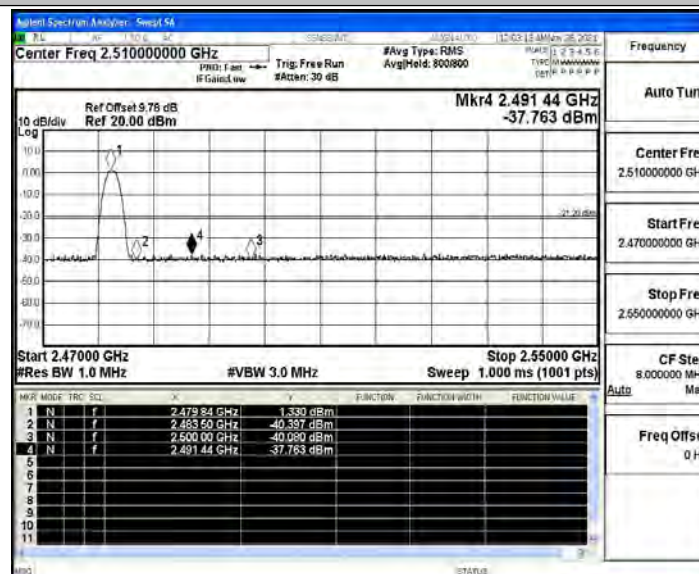
2DH5_Ant1_Low_2402_Peak



2DH5_Ant1_High_2480_AV

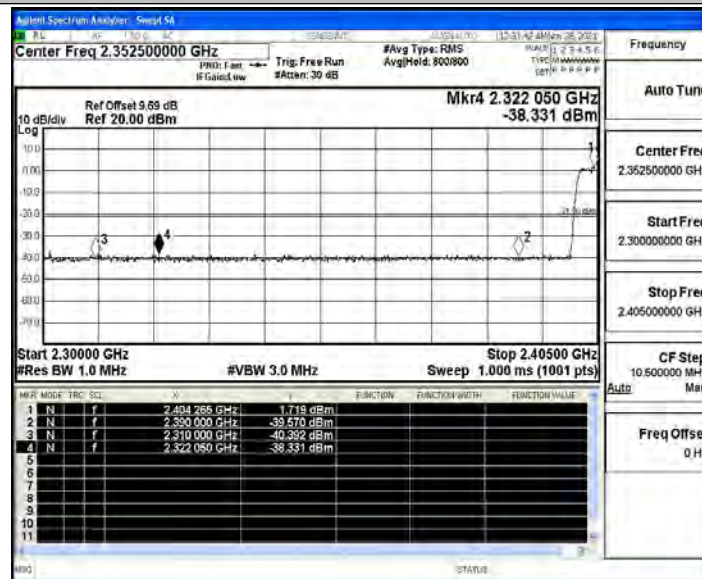


2DH5_Ant1_High_2480_Peak

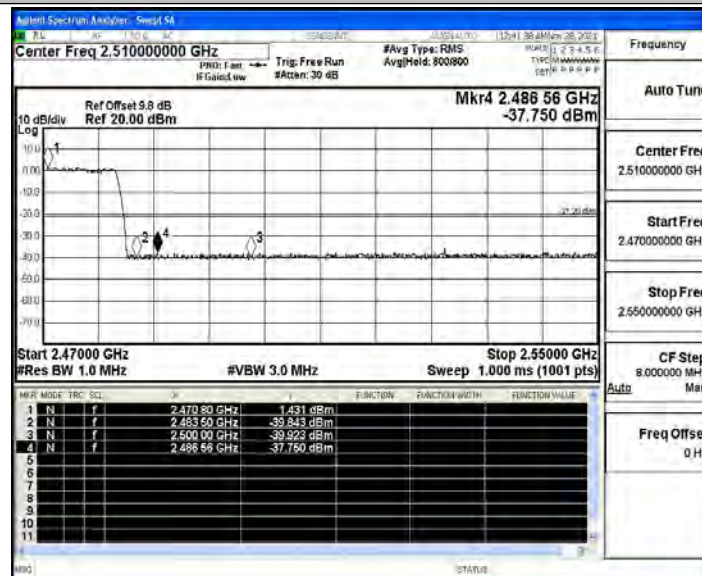




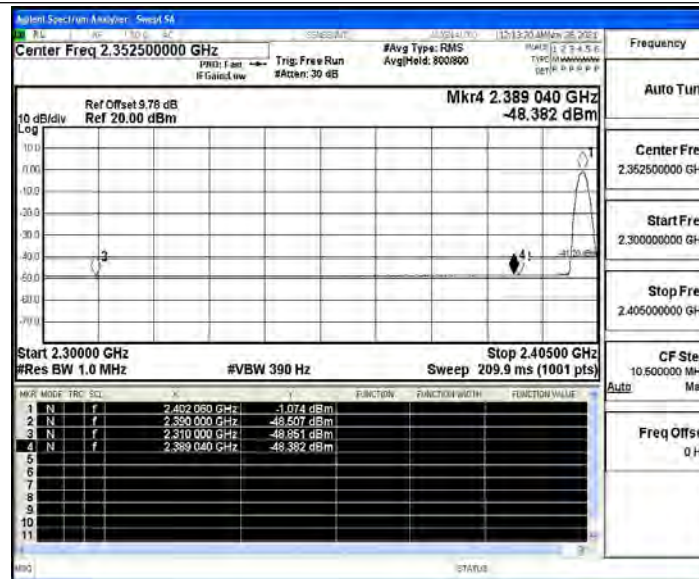
2DH5_Ant1_Low_Hop_2402_Peak



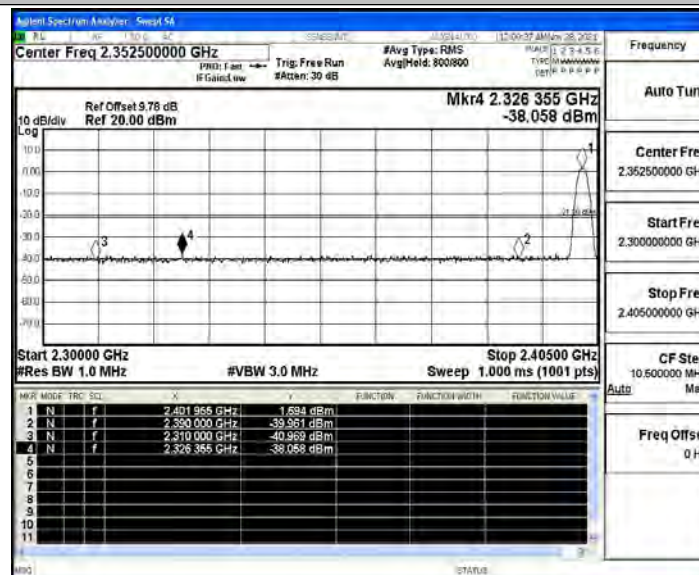
2DH5_Ant1_High_Hop_2480_Peak



3DH5_Ant1_Low_2402_AV



3DH5_Ant1_Low_2402_Peak

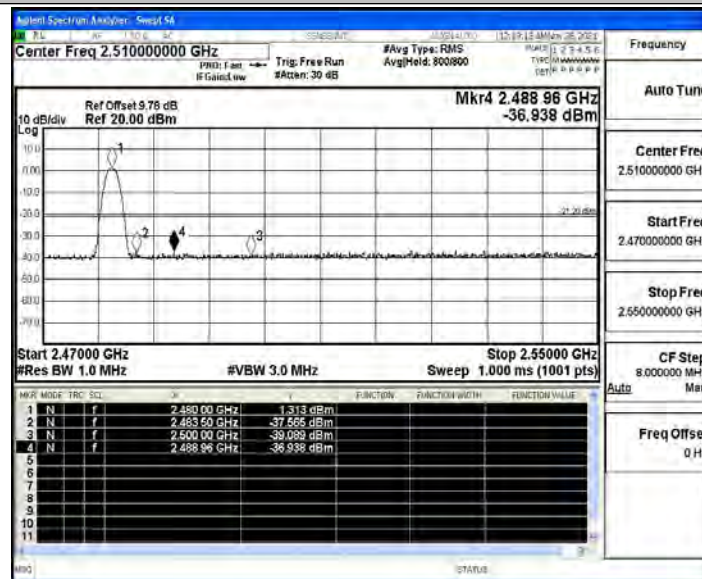


3DH5_Ant1_High_2480_AV

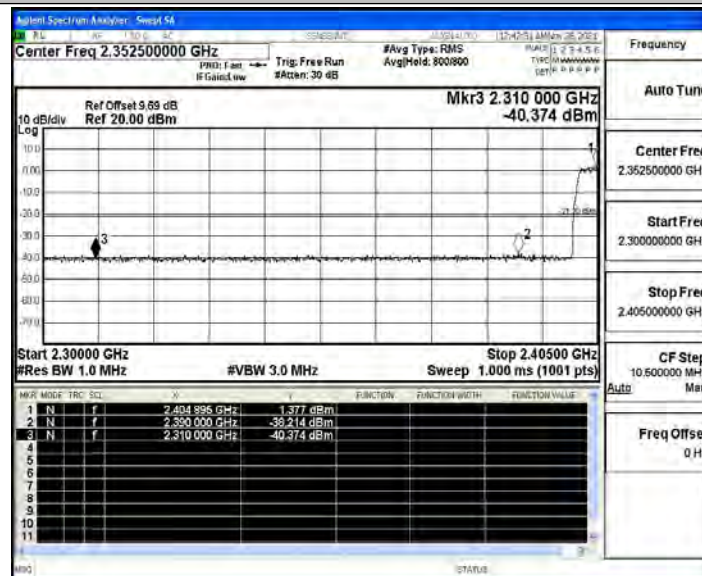




3DH5_Ant1_High_2480_Peak



3DH5_Ant1_Low_Hop_2402_Peak



3DH5_Ant1_High_Hop_2480_Peak

