



Appendix A

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

Product Name: TWS Earphones with a Comfortable Fit

Test Model: EB019

HVIN: EB019

Environmental Conditions

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



A.1 20dB Emission Bandwidth

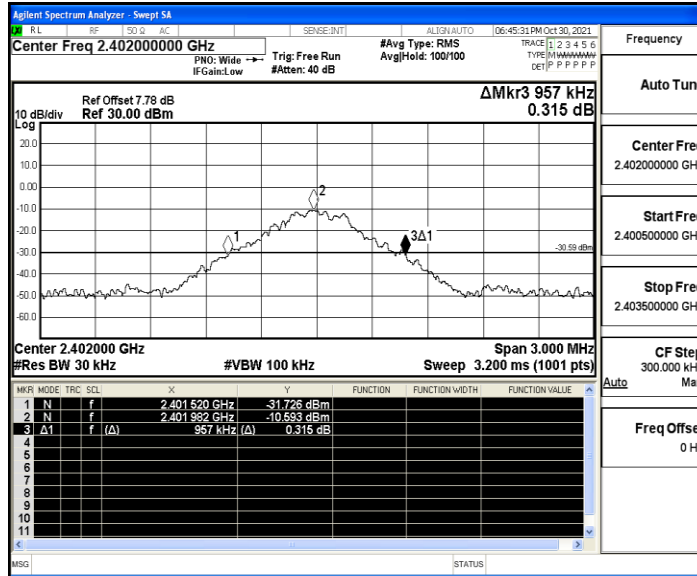
Test Result

TestMode	Antenna	Channel	20db EBW[MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
DH5	Ant1	2402	0.957	2401.520	2402.477	---	PASS
		2441	1.029	2440.454	2441.483	---	PASS
		2480	0.942	2479.526	2480.468	---	PASS
2DH5	Ant1	2402	1.344	2401.313	2402.657	---	PASS
		2441	1.317	2440.325	2441.642	---	PASS
		2480	1.311	2479.328	2480.639	---	PASS

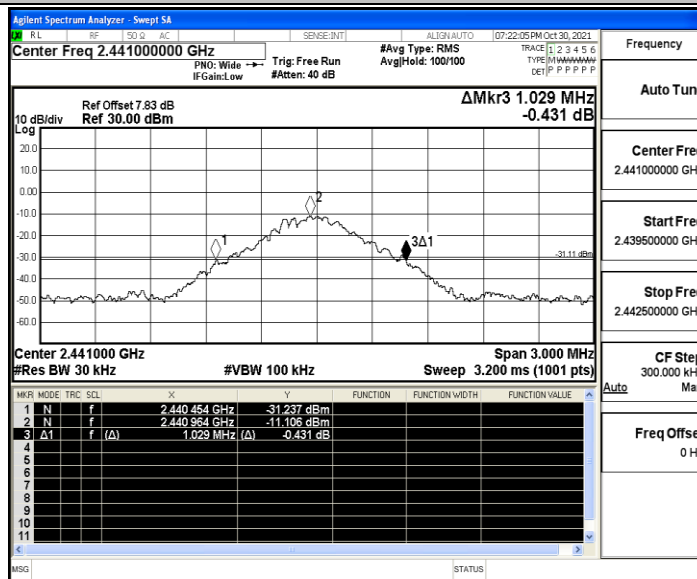


Test Graphs

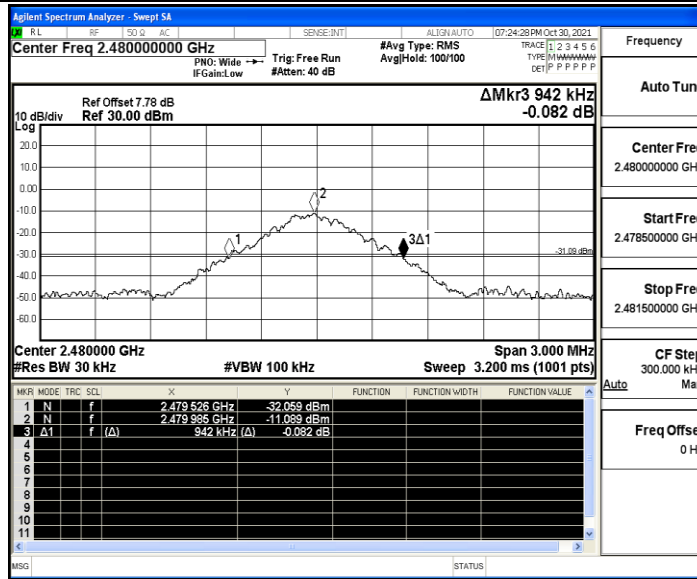
DH5_Ant1_2402



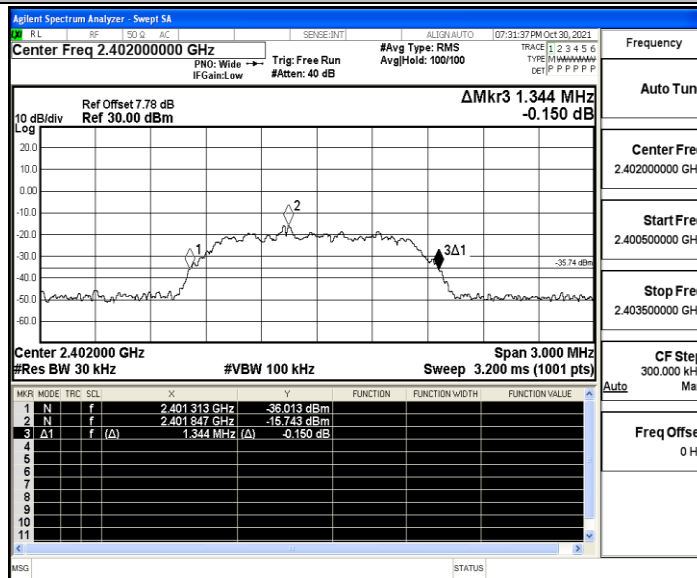
DH5_Ant1_2441



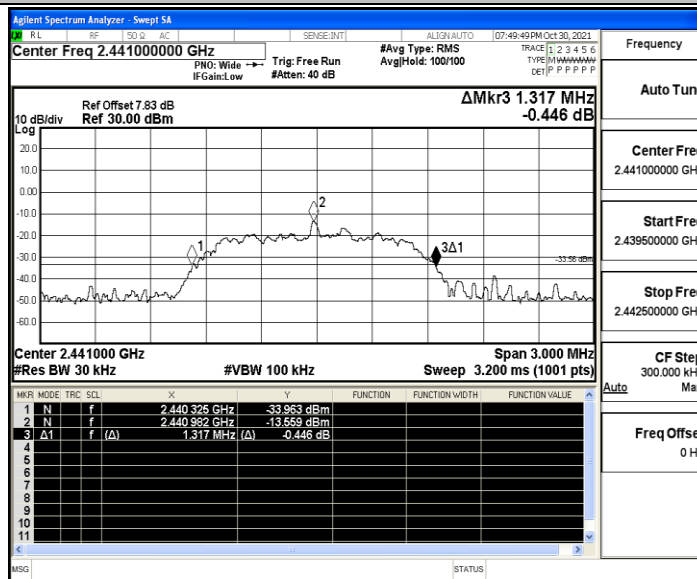
DH5_Ant1_2480



2DH5_Ant1_2402

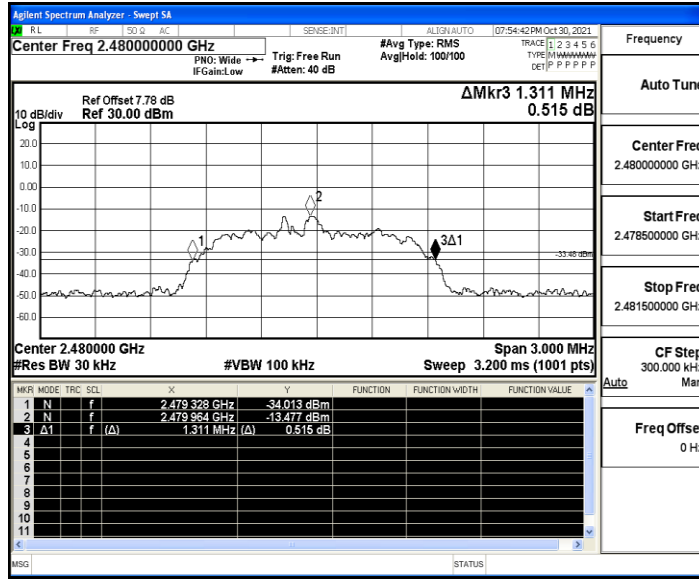


2DH5_Ant1_2441





2DH5_Ant1_2480





A.2 Occupied Channel Bandwidth

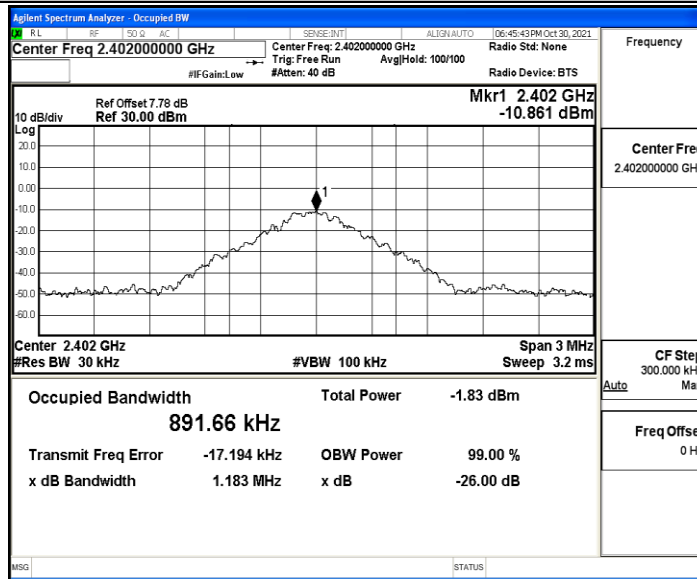
Test Result

TestMode	Antenna	Channel	OCB [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
DH5	Ant1	2402	0.89166	2401.537	2402.429	---	PASS
		2441	0.88268	2440.547	2441.429	---	PASS
		2480	0.89906	2479.540	2480.439	---	PASS
2DH5	Ant1	2402	1.1936	2401.390	2402.584	---	PASS
		2441	1.2263	2440.376	2441.602	---	PASS
		2480	1.2042	2479.388	2480.592	---	PASS

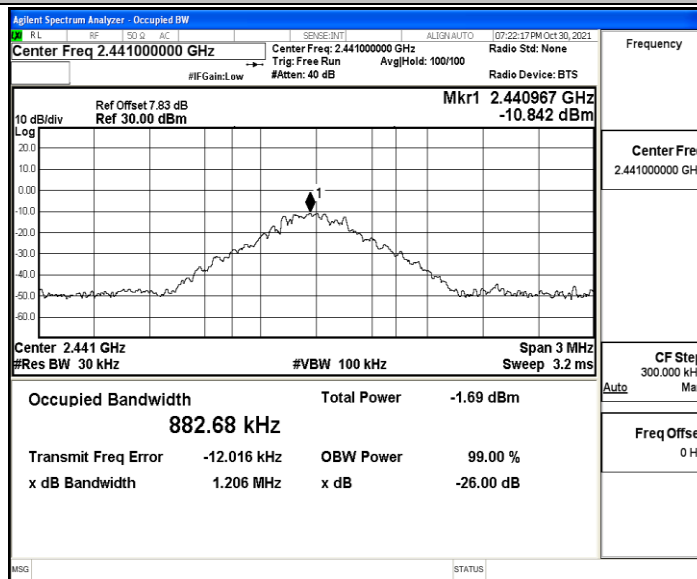


Test Graphs

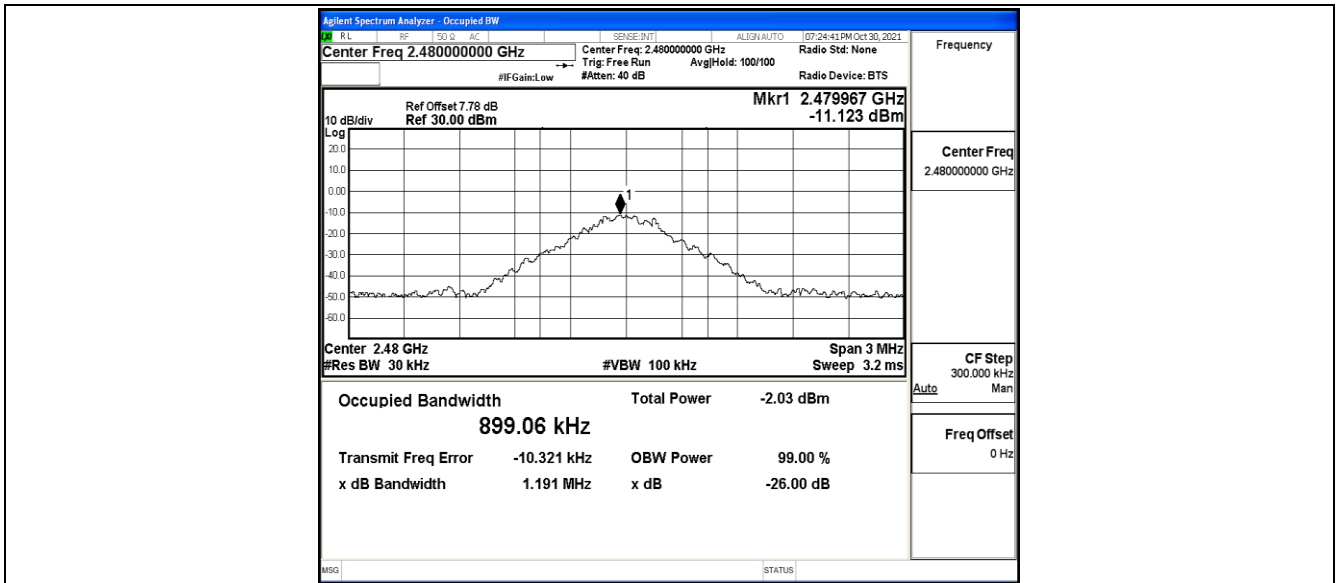
DH5_Ant1_2402



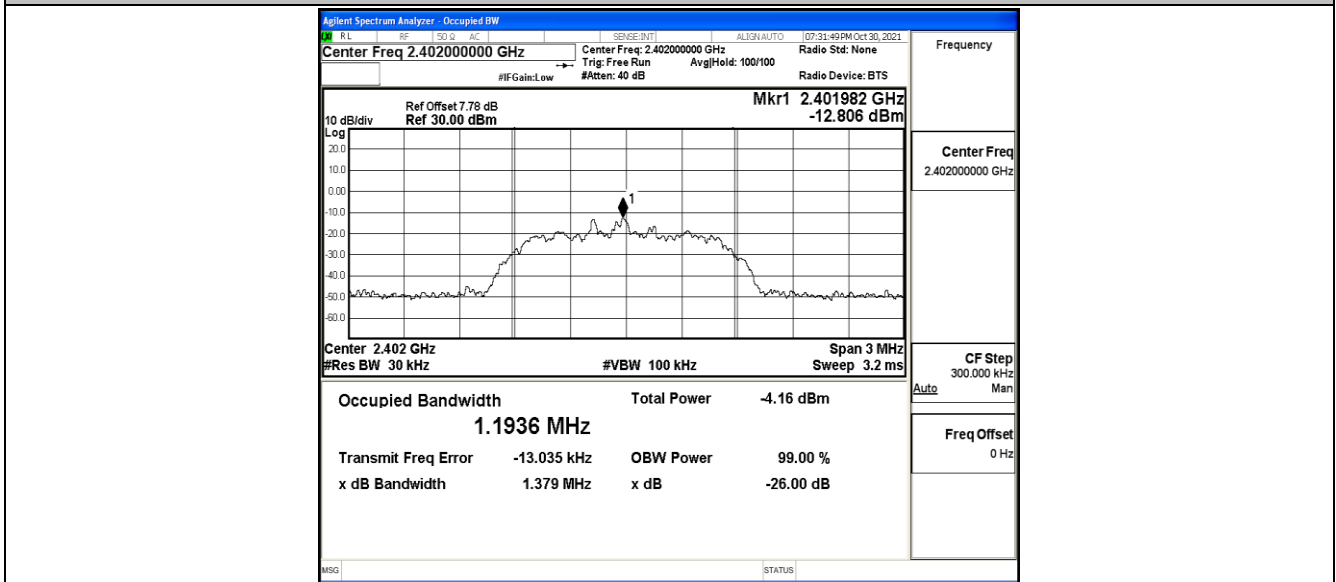
DH5_Ant1_2441



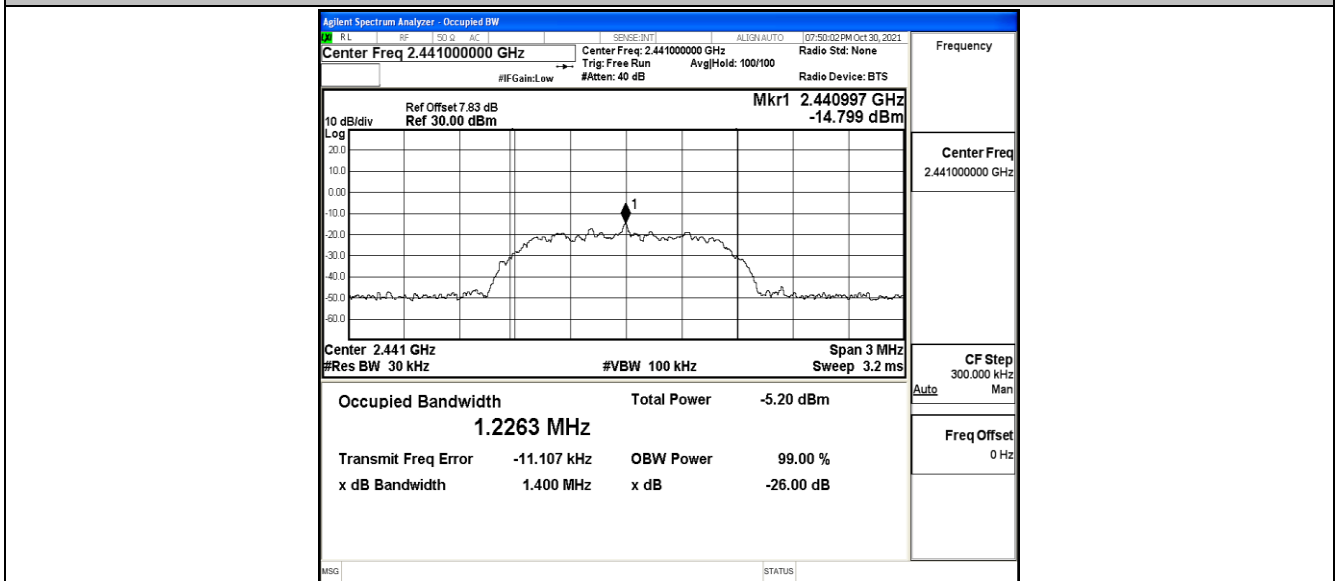
DH5_Ant1_2480



2DH5_Ant1_2402

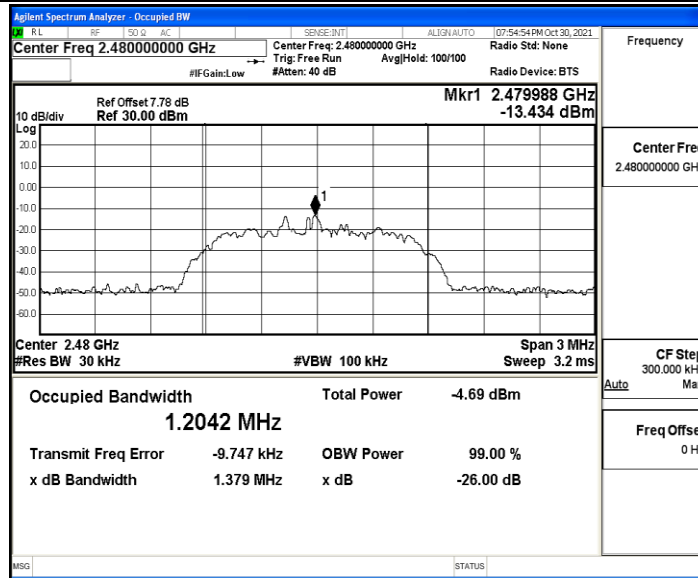


2DH5_Ant1_2441





2DH5_Ant1_2480





A.3 Maximum peak conducted output power

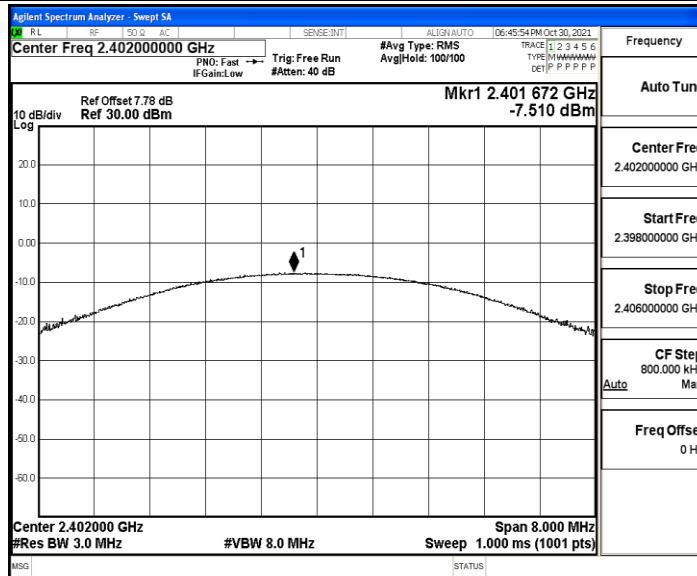
Test Result

TestMode	Antenna	Channel	Result[dBm]	Limit[dBm]	Verdict
DH5	Ant1	2402	-7.51	≤20.97	PASS
		2441	-7.54	≤20.97	PASS
		2480	-7.89	≤20.97	PASS
2DH5	Ant1	2402	-9.01	≤20.97	PASS
		2441	-6.98	≤20.97	PASS
		2480	-9.34	≤20.97	PASS

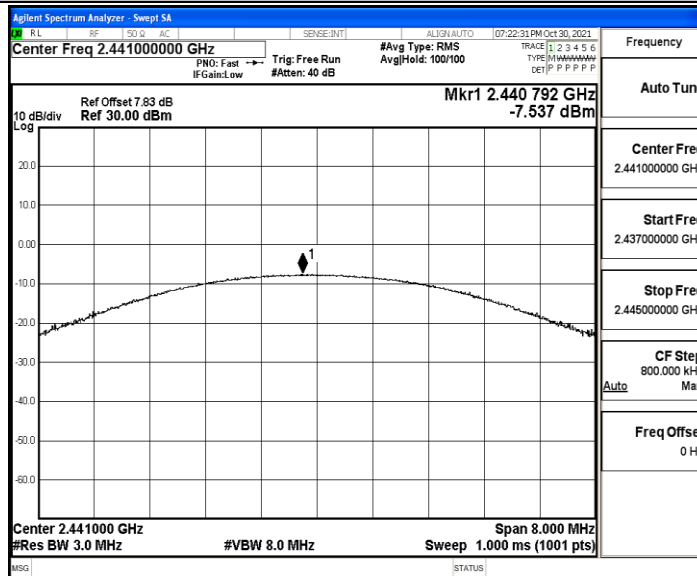


Test Graphs

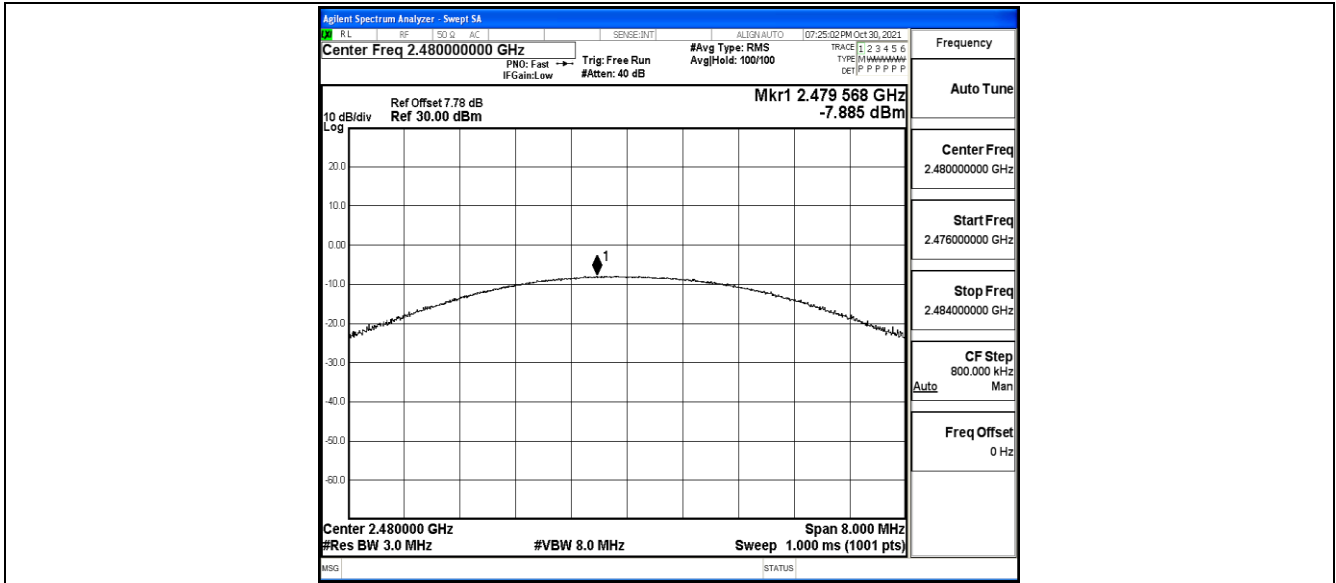
DH5_Ant1_2402



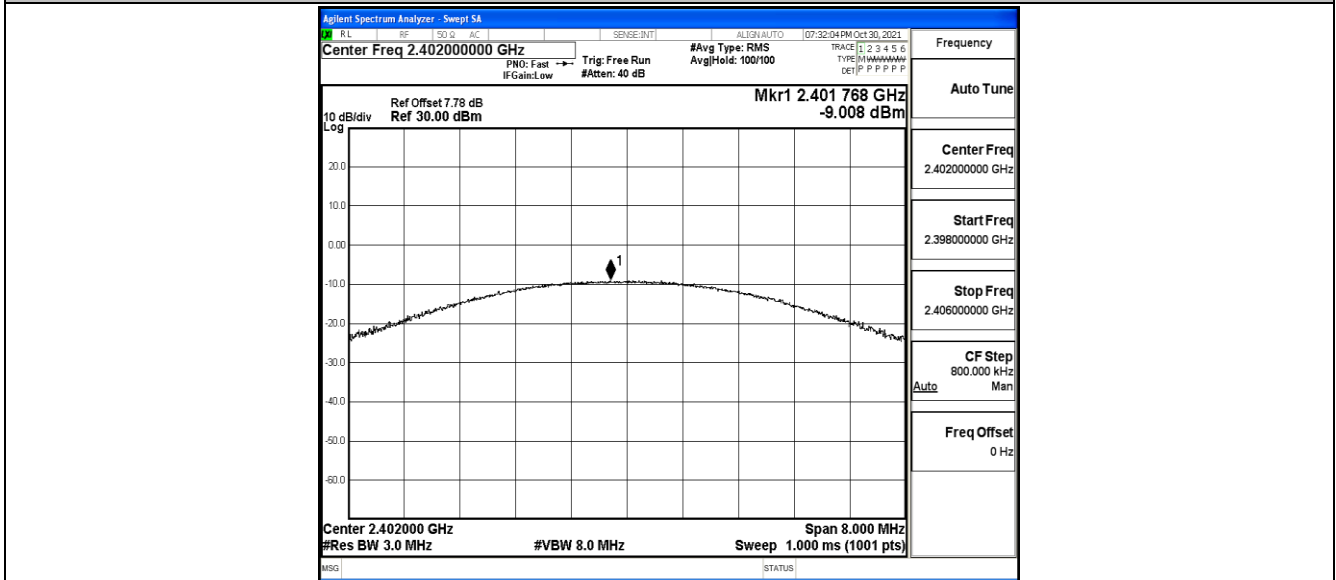
DH5_Ant1_2441



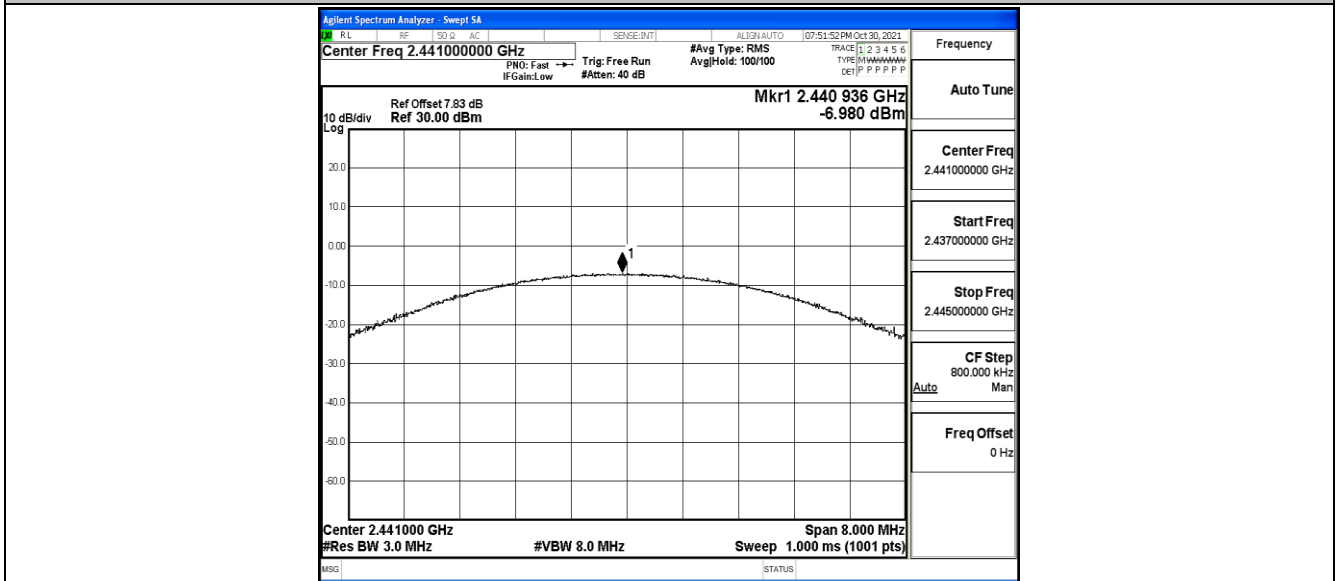
DH5_Ant1_2480



2DH5_Ant1_2402

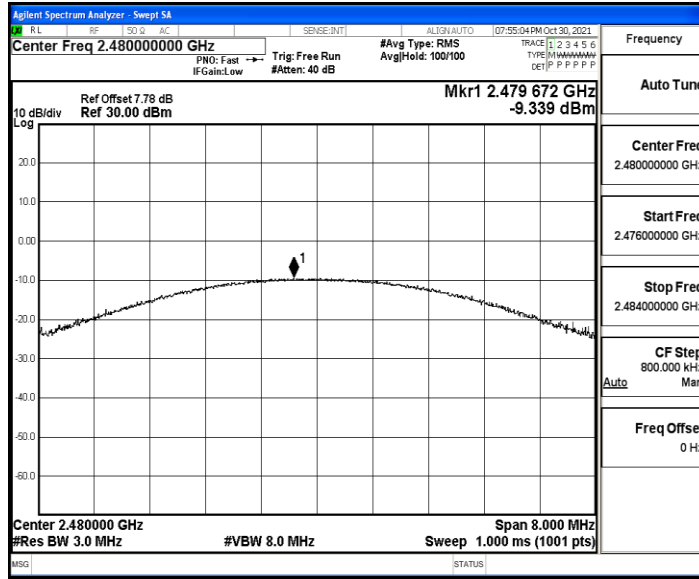


2DH5_Ant1_2441





2DH5_Ant1_2480





A.4 Carrier frequency separation

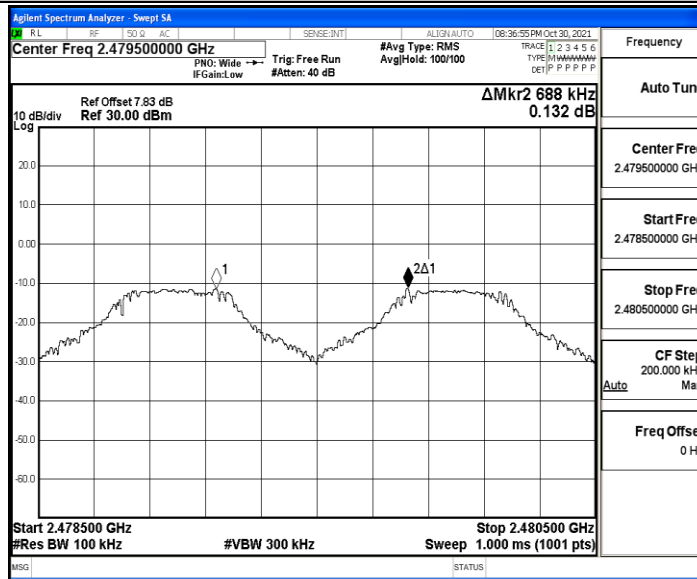
Test Result

TestMode	Antenna	Channel	Result[MHz]	Limit[MHz]	Verdict
DH5	Ant1	Hop	0.688	≥0.686	PASS
2DH5	Ant1	Hop	0.984	≥0.896	PASS

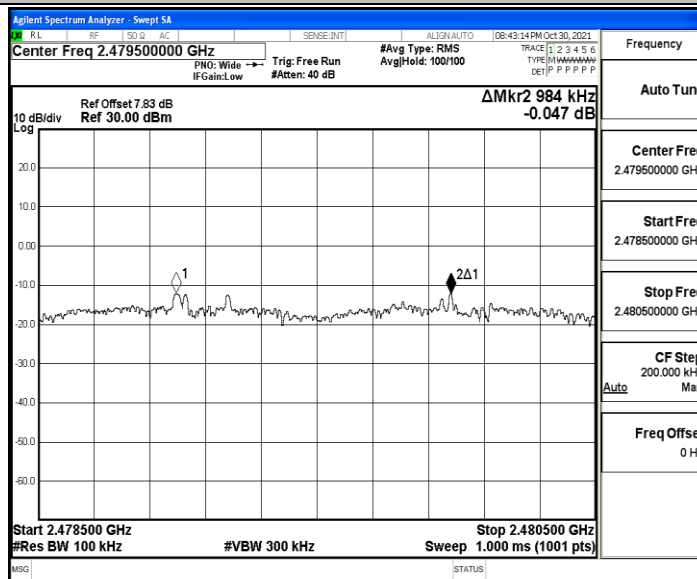


Test Graphs

DH5_Ant1_Hop



2DH5_Ant1_Hop





A.5 Time of occupancy

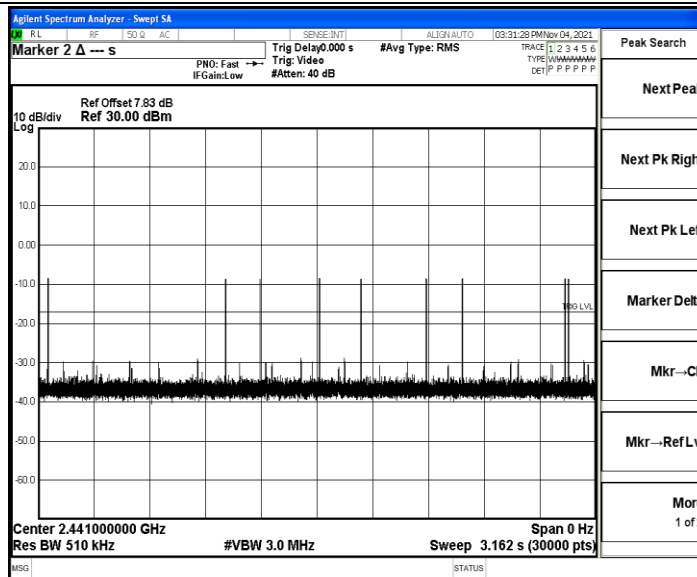
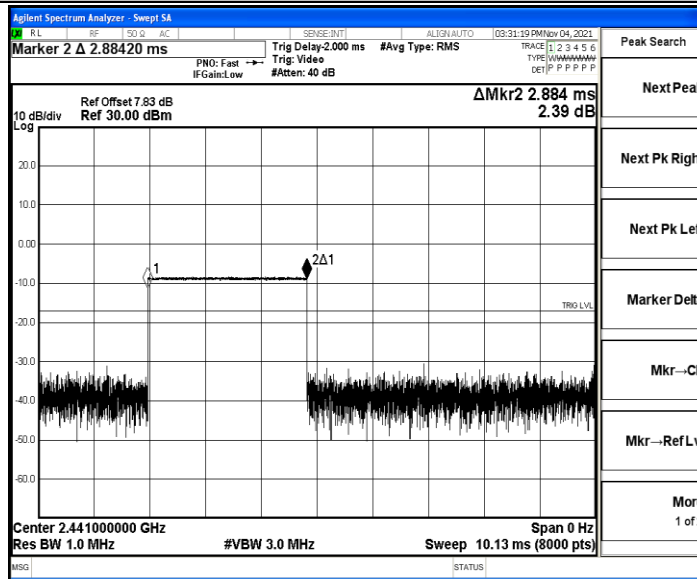
Test Result

TestMode	Antenna	Channel	BurstWidth [ms]	TotalHops [Num]	Result[s]	Limit[s]	Verdict
DH5	Ant1	Hop	2.88	100	0.288	≤0.4	PASS
2DH5	Ant1	Hop	2.89	60	0.173	≤0.4	PASS

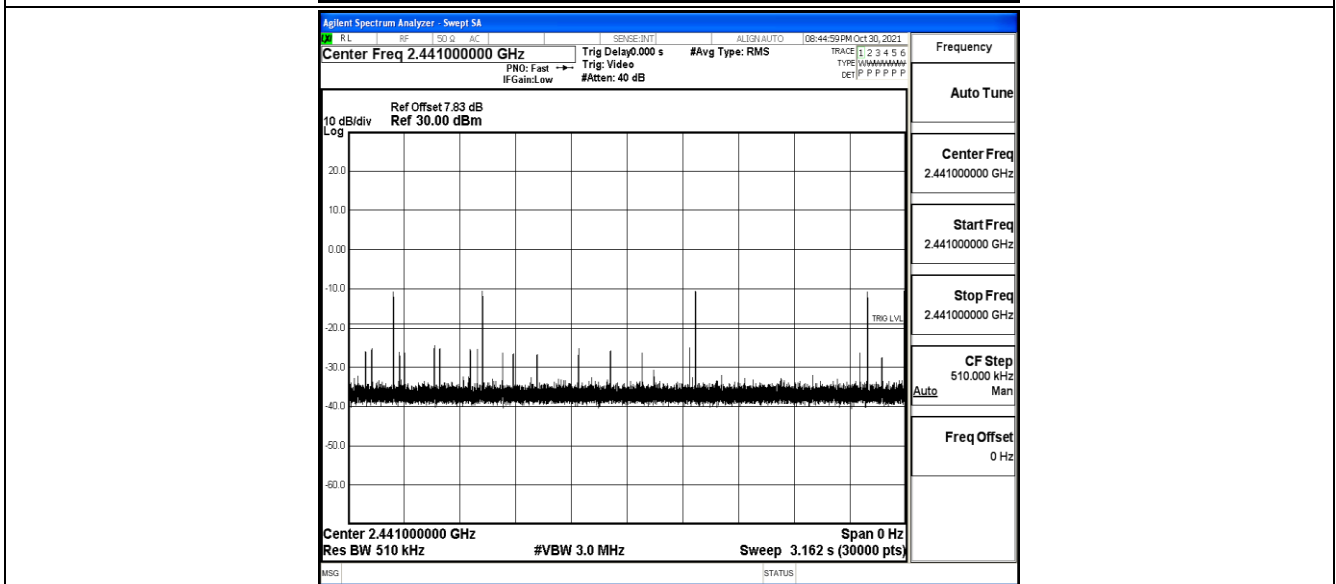
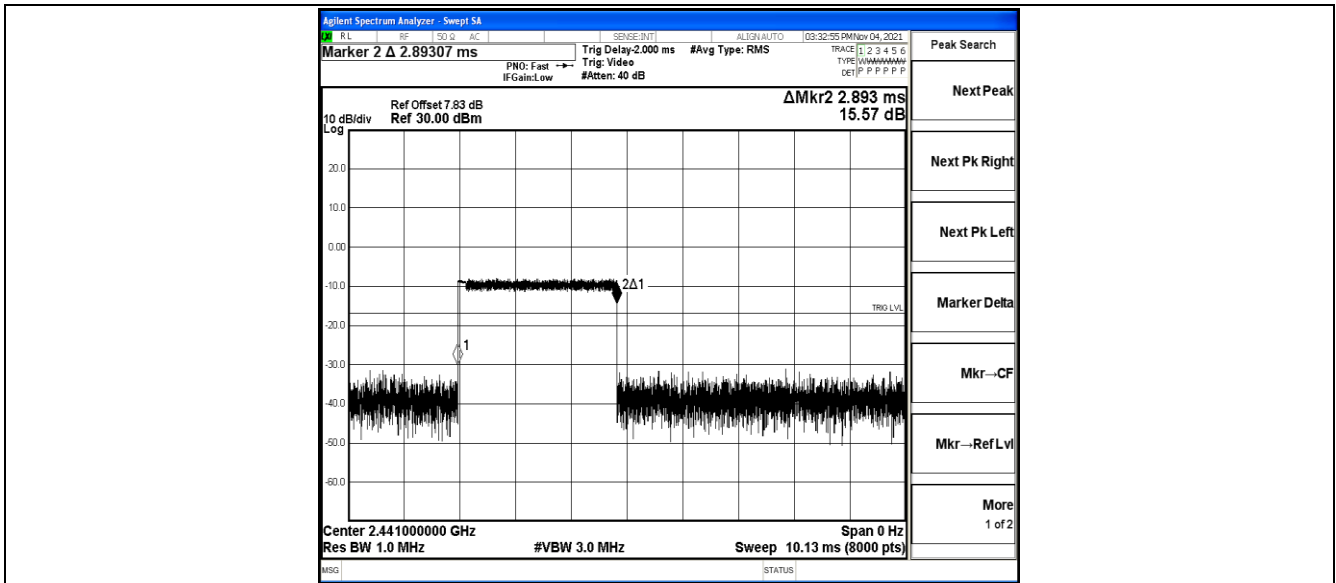


Test Graphs

DH5_Ant1_Hop



2DH5_Ant1_Hop





A.6 Number of hopping channels

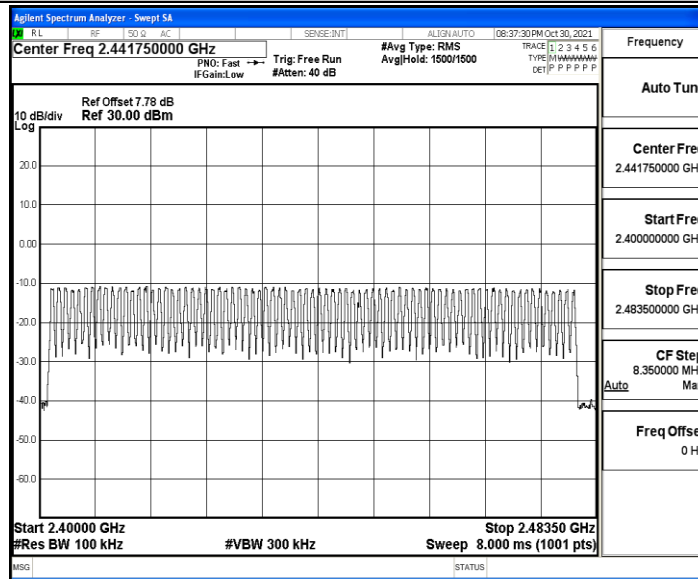
Test Result

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

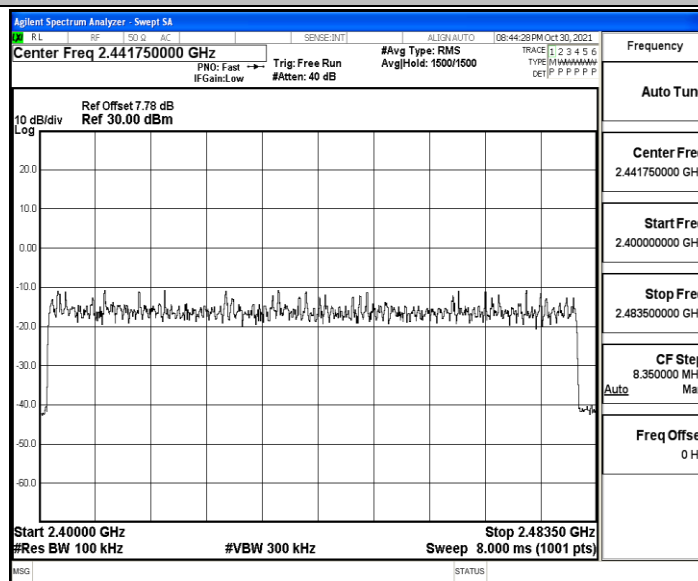


Test Graphs

DH5_Ant1_Hop



2DH5_Ant1_Hop





A.7 Band edge measurements

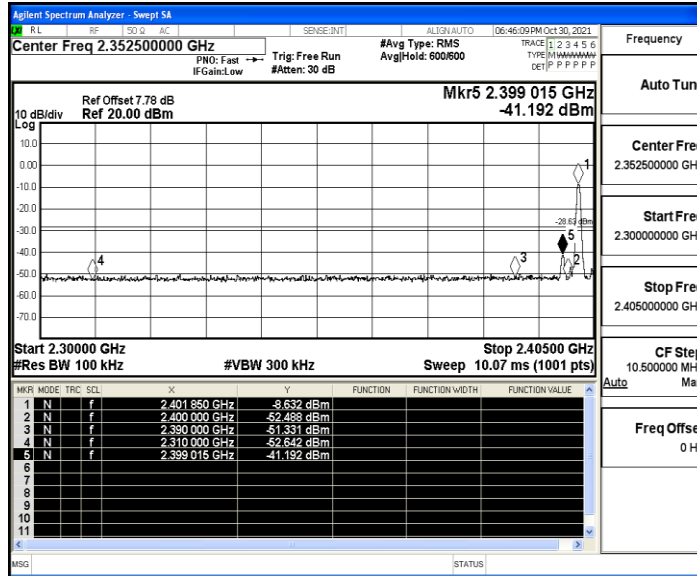
Test Result

TestMode	Antenna	ChName	Channel	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
DH5	Ant1	Low	2402	-8.63	-41.19	≤ -28.63	PASS
		High	2480	-8.65	-31.87	≤ -28.65	PASS
		Low	Hop_2402	-11.18	-50	≤ -31.18	PASS
		High	Hop_2480	-11.41	-39.31	≤ -31.41	PASS
2DH5	Ant1	Low	2402	-11.39	-43.45	≤ -31.39	PASS
		High	2480	-10.99	-31.69	≤ -30.99	PASS
		Low	Hop_2402	-14.94	-50.07	≤ -34.94	PASS
		High	Hop_2480	-11.03	-33.42	≤ -31.03	PASS

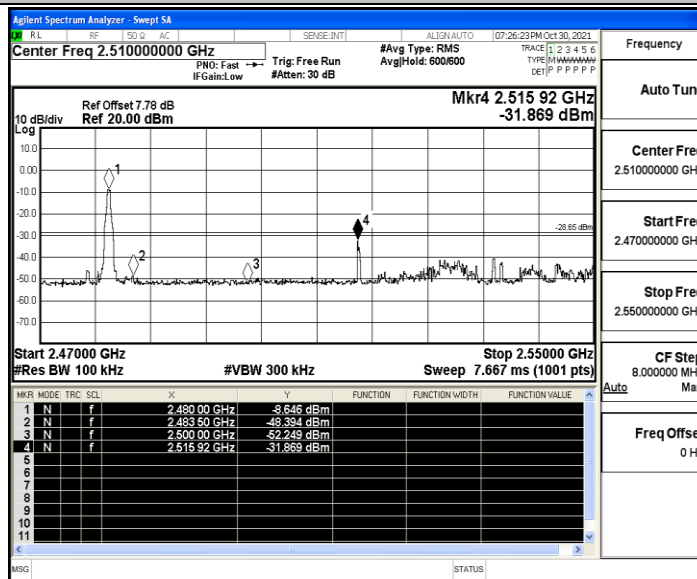


Test Graphs

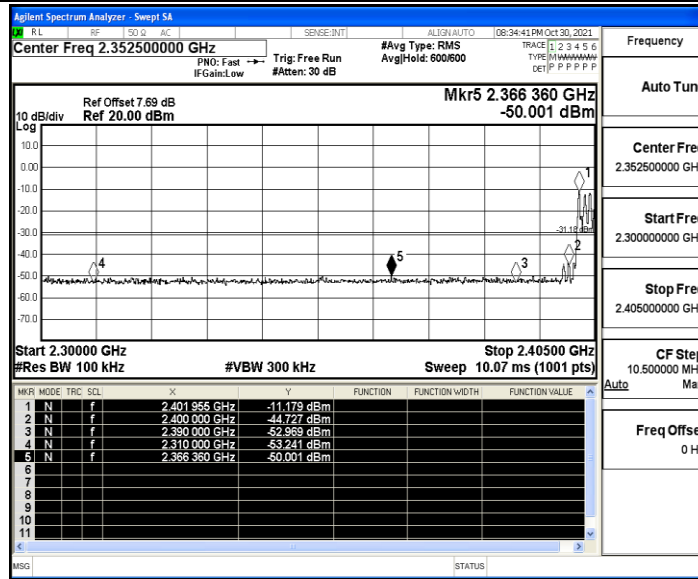
DH5_Ant1_Low_2402



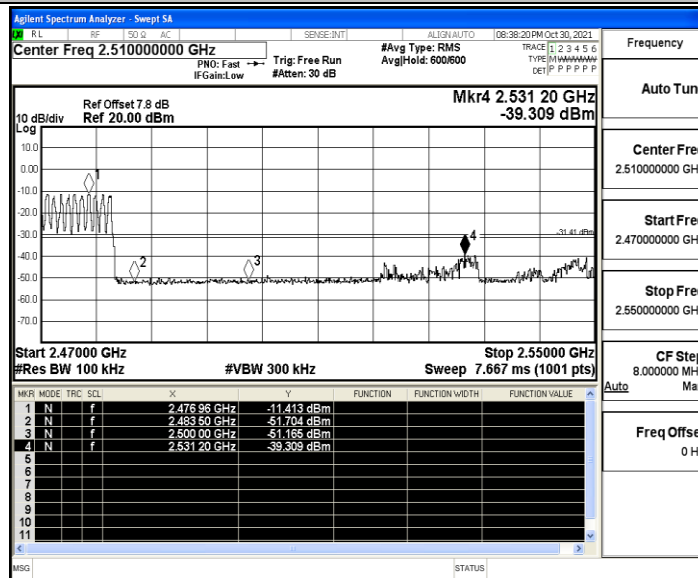
DH5_Ant1_High_2480



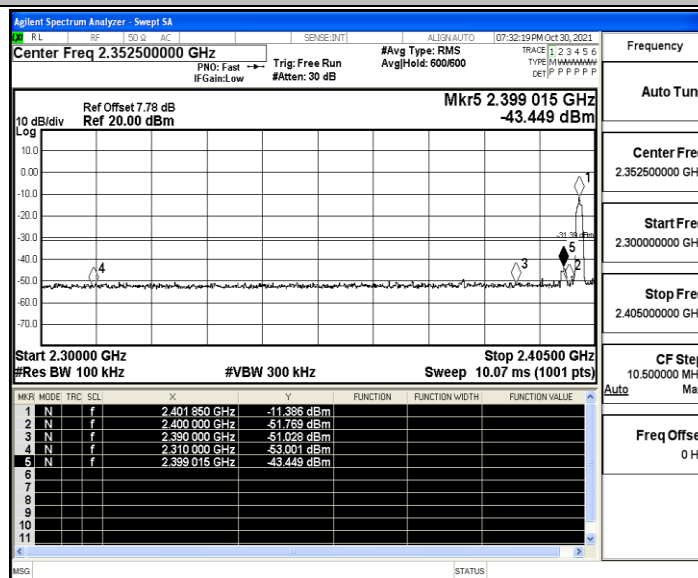
DH5_Ant1_Low_Hop_2402



DH5_Ant1_High_Hop_2480

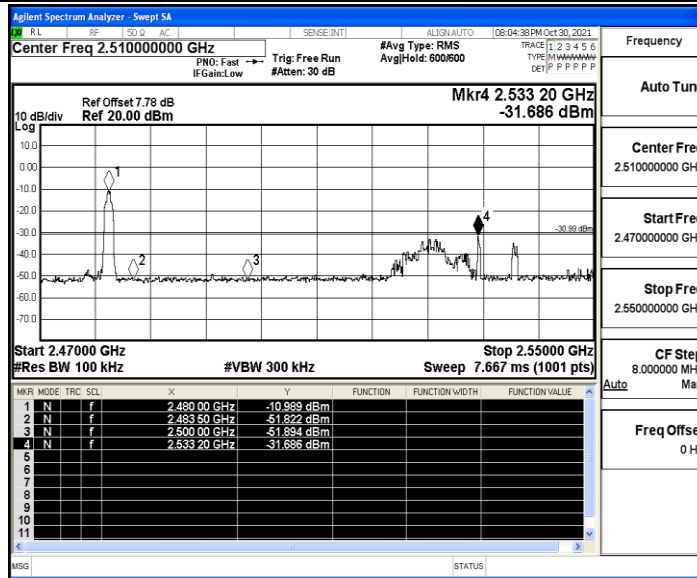


2DH5_Ant1_Low_2402

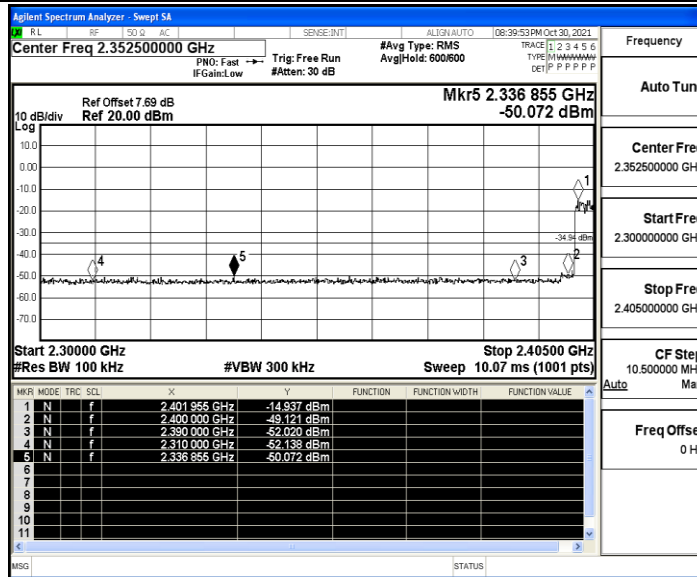




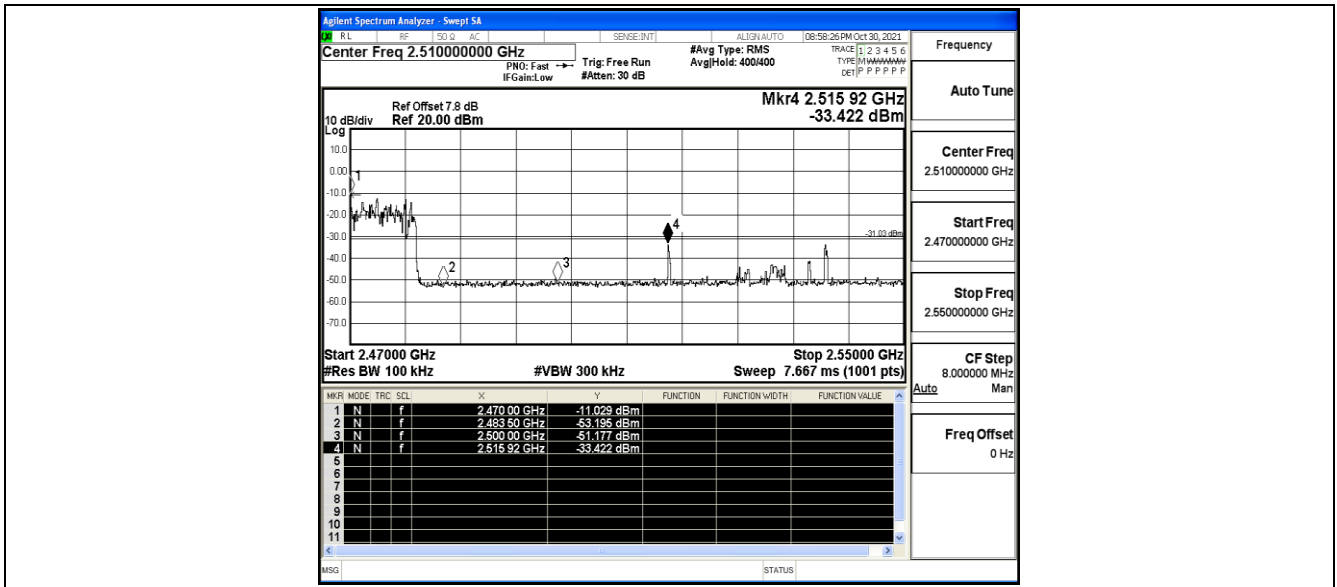
2DH5_Ant1_High_2480



2DH5_Ant1_Low_Hop_2402



2DH5_Ant1_High_Hop_2480





A.8 Conducted Spurious Emission

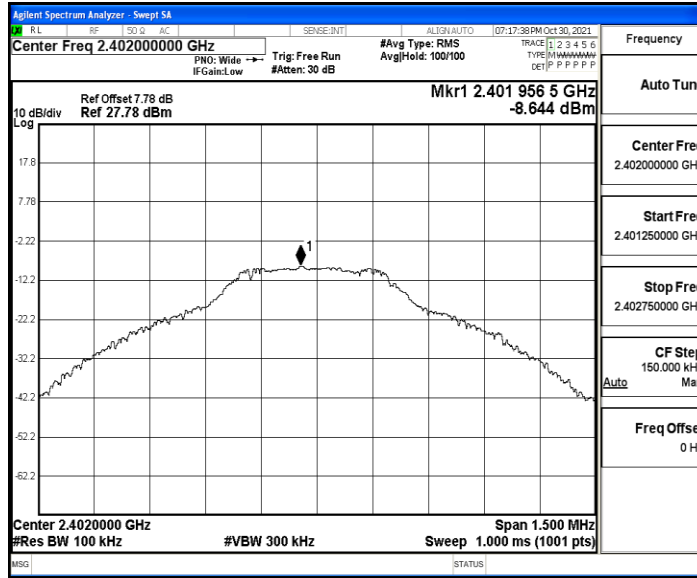
Test Result

TestMode	Antenna	Channel	FreqRange [MHz]	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
DH5	Ant1	2402	Reference	-8.64	-8.64	---	PASS
			30~1000	-8.64	-62.11	≤-28.64	PASS
			1000~26500	-8.64	-40.67	≤-28.64	PASS
		2441	Reference	-9.24	-9.24	---	PASS
			30~1000	-9.24	-61.93	≤-29.24	PASS
			1000~26500	-9.24	-44	≤-29.24	PASS
		2480	Reference	-9.20	-9.20	---	PASS
			30~1000	-9.20	-62.43	≤-29.2	PASS
			1000~26500	-9.20	-43.74	≤-29.2	PASS
2DH5	Ant1	2402	Reference	-11.40	-11.40	---	PASS
			30~1000	-11.40	-61.77	≤-31.4	PASS
			1000~26500	-11.40	-40.23	≤-31.4	PASS
		2441	Reference	-9.36	-9.36	---	PASS
			30~1000	-9.36	-61.86	≤-29.36	PASS
			1000~26500	-9.36	-43.96	≤-29.36	PASS
		2480	Reference	-12.88	-12.88	---	PASS
			30~1000	-12.88	-61.85	≤-32.88	PASS
			1000~26500	-12.88	-44.35	≤-32.88	PASS

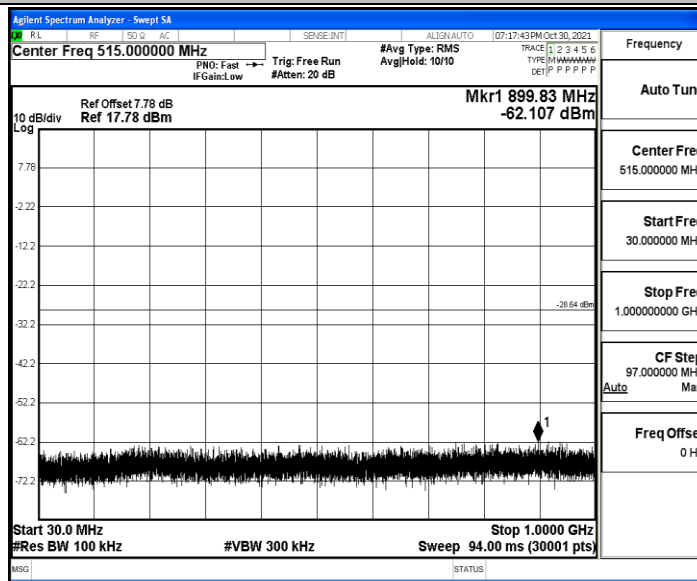


Test Graphs

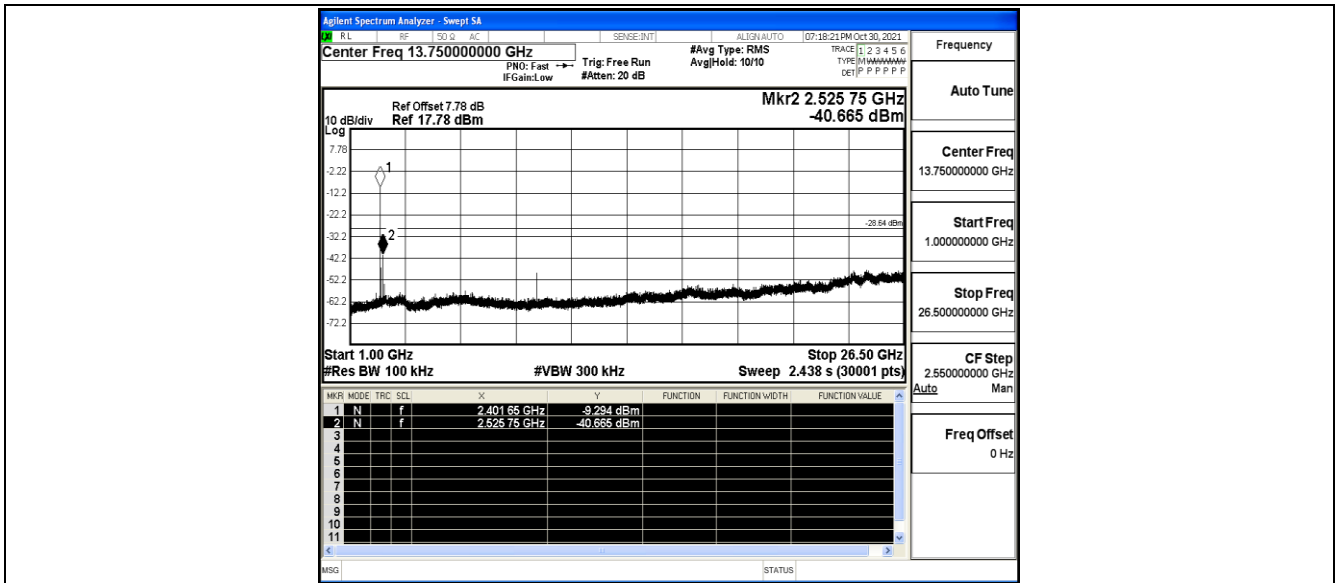
DH5_Ant1_2402_0-Reference



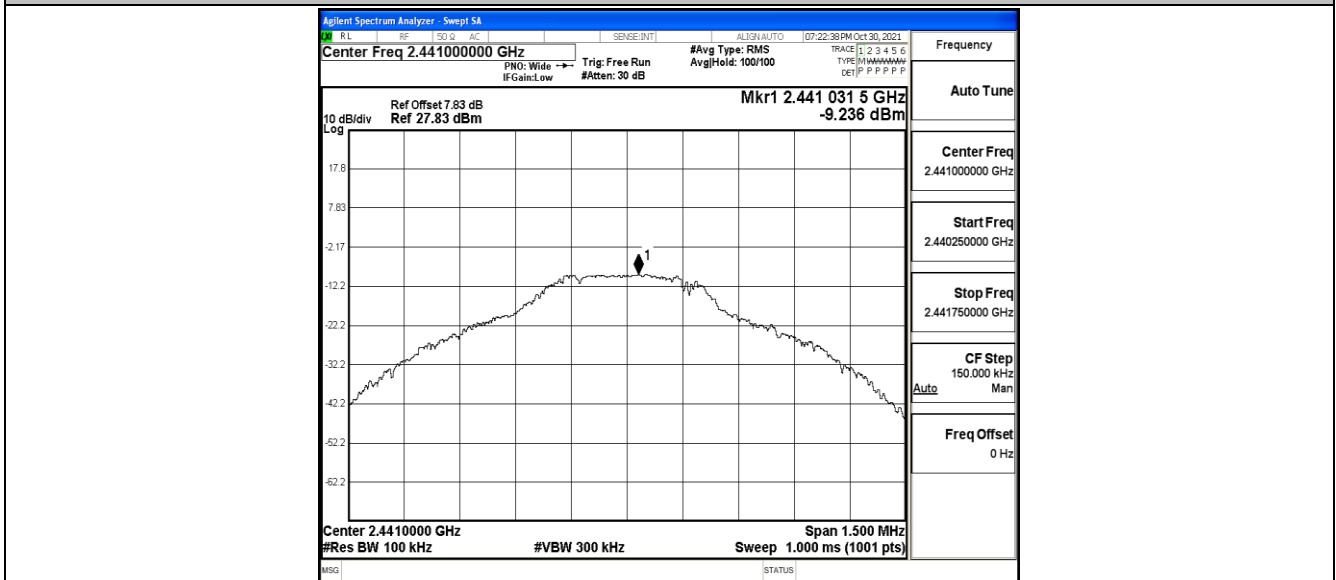
DH5_Ant1_2402_30~1000



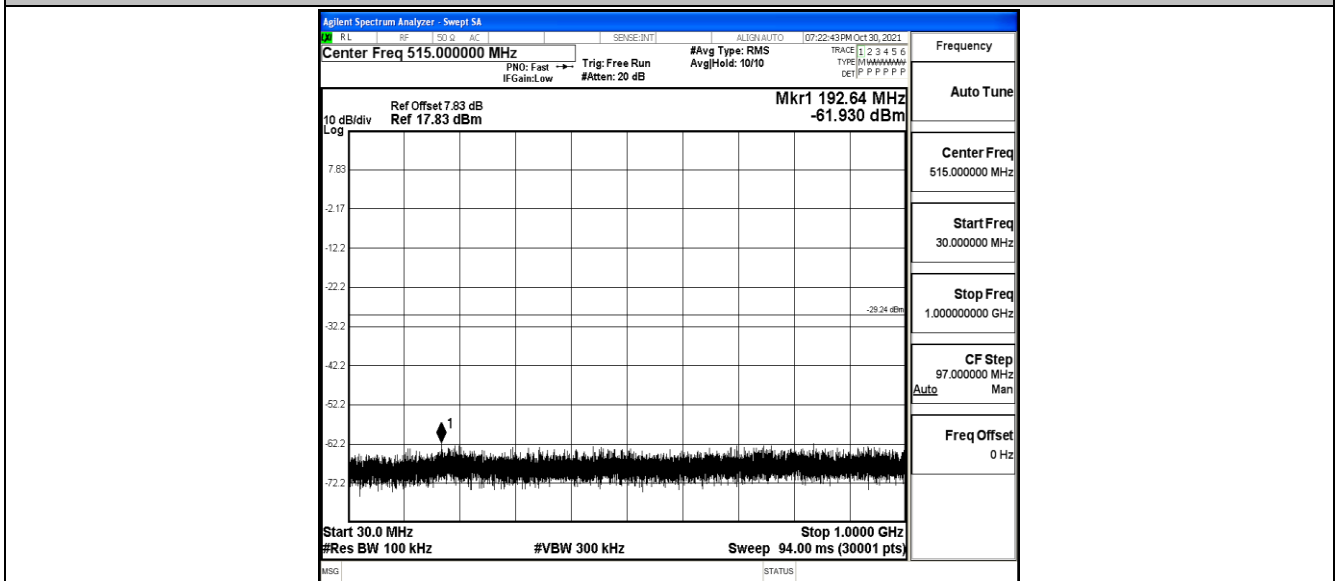
DH5_Ant1_2402_1000~26500



DH5_Ant1_2441_0-Reference

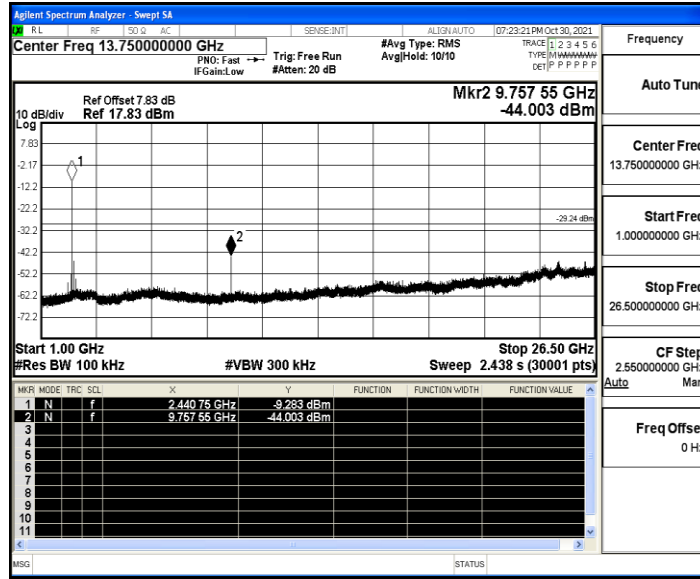


DH5_Ant1_2441_30~1000

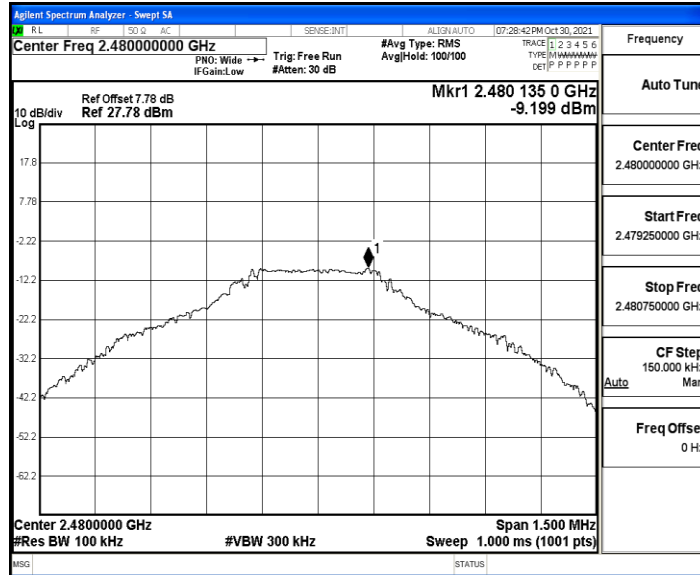




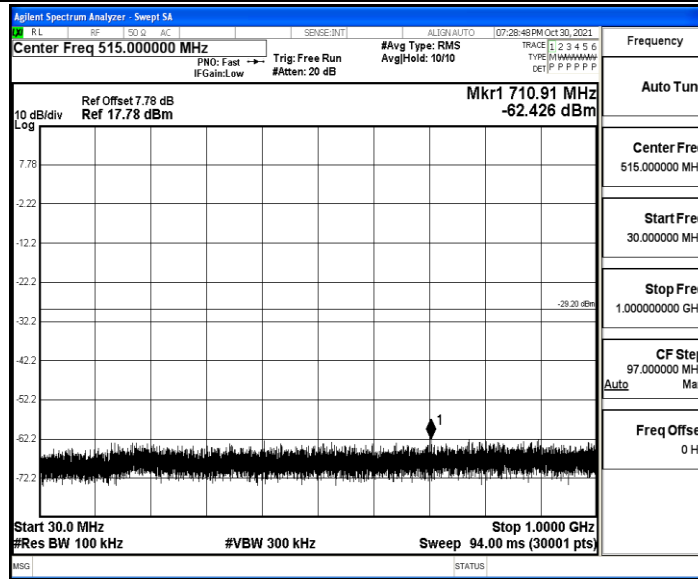
DH5_Ant1_2441_1000~26500



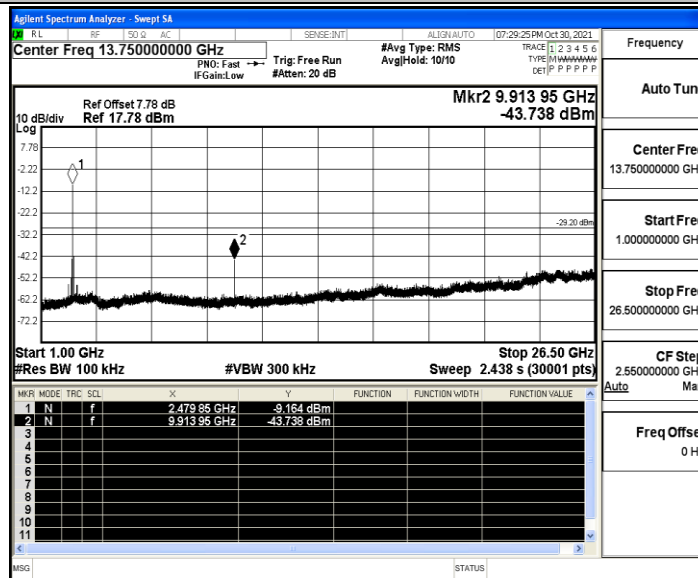
DH5_Ant1_2480_0~Reference



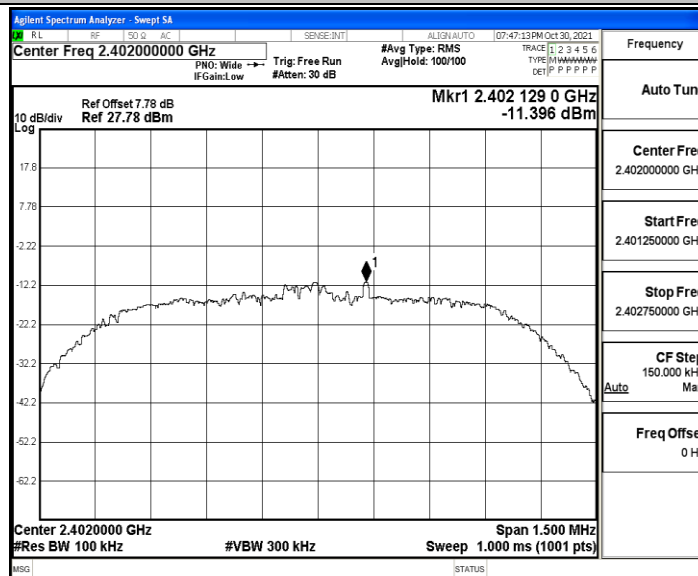
DH5_Ant1_2480_30~1000



DH5_Ant1_2480_1000~26500

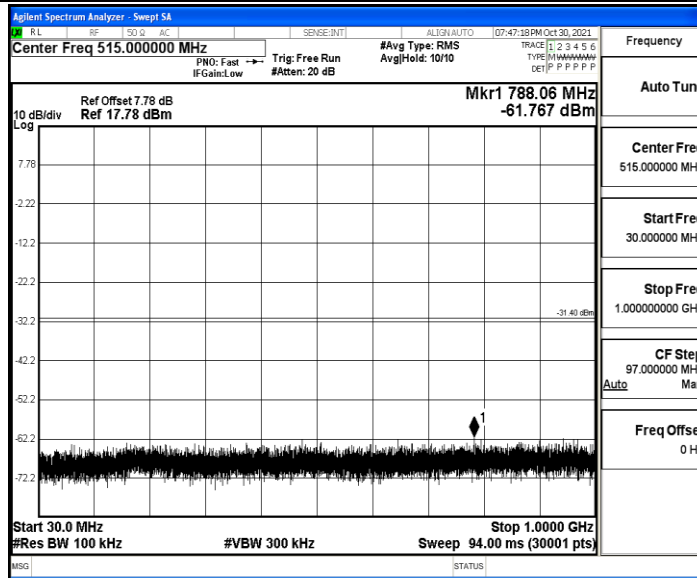


2DH5_Ant1_2402_0~Reference

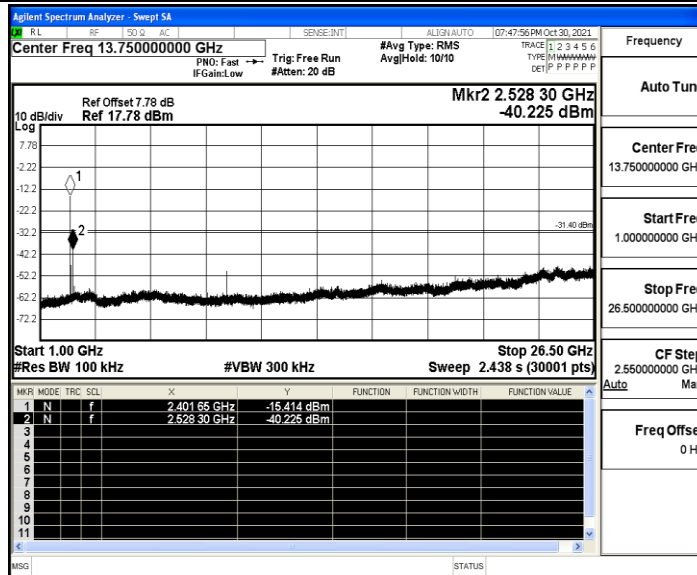




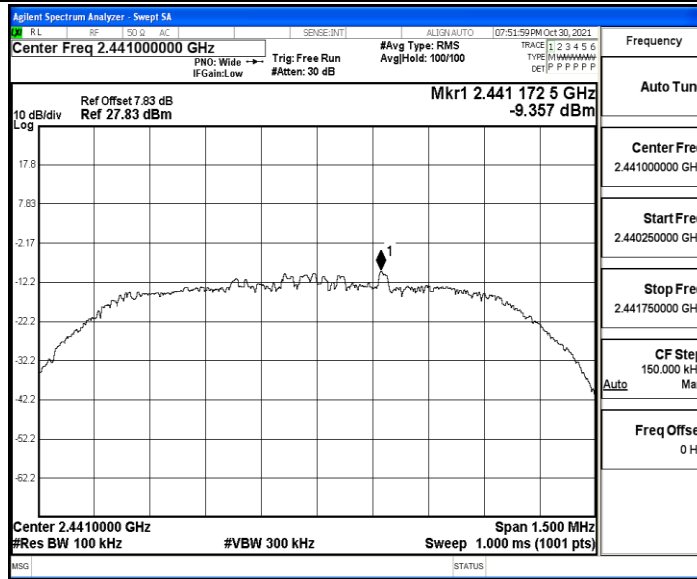
2DH5_Ant1_2402_30~1000



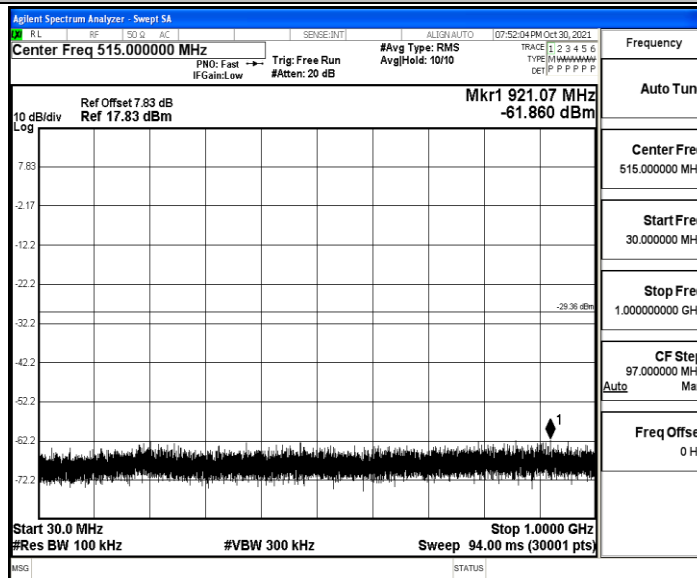
2DH5_Ant1_2402_1000~26500



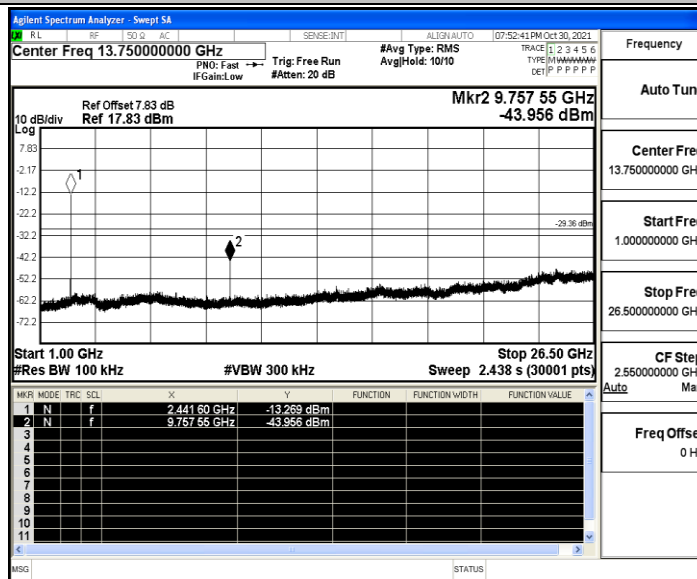
2DH5_Ant1_2441_0~Reference



2DH5_Ant1_2441_30~1000

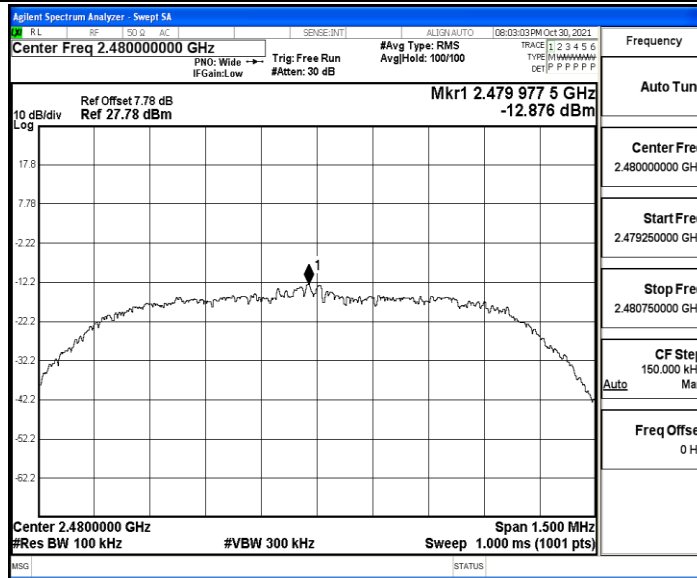


2DH5_Ant1_2441_1000~26500

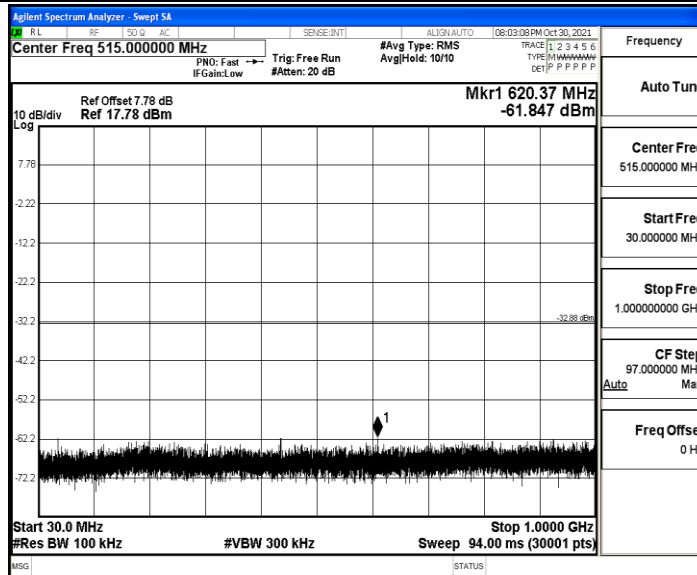




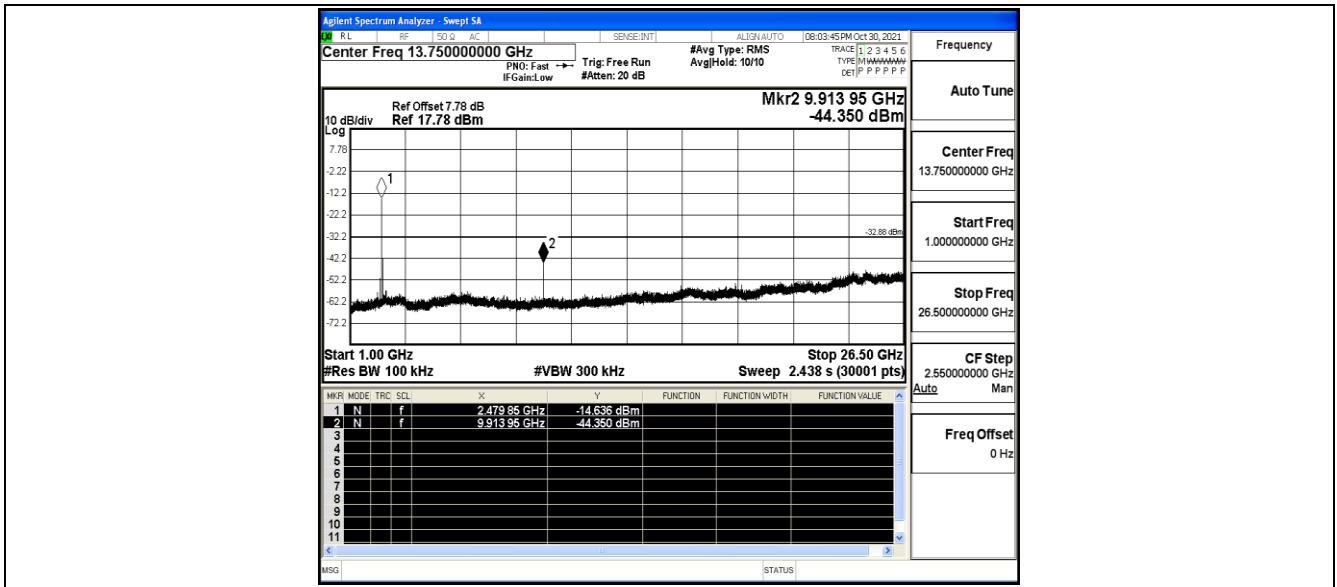
2DH5_Ant1_2480_0~Reference



2DH5_Ant1_2480_30~1000



2DH5_Ant1_2480_1000~26500





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	-49.54	≤-41.20	45.66	≤54	PASS
				AV	2389.880	-49.16	≤-41.20	46.04	≤54	PASS
				AV	2390.000	-49.16	≤-41.20	46.04	≤54	PASS
				Peak	2310.000	-43.28	≤-21.20	51.92	≤74	PASS
				Peak	2322.995	-40.13	≤-21.20	55.07	≤74	PASS
				Peak	2390.000	-44.77	≤-21.20	50.43	≤74	PASS
		High	2480	AV	2483.500	-47.64	≤-41.20	47.56	≤54	PASS
				AV	2483.520	-47.64	≤-41.20	47.56	≤54	PASS
				AV	2500.000	-48.44	≤-41.20	46.76	≤54	PASS
				Peak	2483.500	-42.13	≤-21.20	53.07	≤74	PASS
				Peak	2494.320	-39.02	≤-21.20	56.18	≤74	PASS
				Peak	2500.000	-44.55	≤-21.20	50.65	≤74	PASS
		Low	Hop_2402	Peak	2310.000	-41.23	≤-21.20	53.97	≤74	PASS
				Peak	2389.460	-38.01	≤-21.20	57.19	≤74	PASS
				Peak	2390.000	-40.42	≤-21.20	54.78	≤74	PASS
		High	Hop_2480	Peak	2483.500	-39.1	≤-21.20	56.10	≤74	PASS
				Peak	2498.800	-37.85	≤-21.20	57.35	≤74	PASS
				Peak	2500.000	-39.67	≤-21.20	55.53	≤74	PASS
2DH5	Ant1	Low	2402	AV	2310.000	-49.52	≤-41.20	45.68	≤54	PASS
				AV	2389.670	-49.12	≤-41.20	46.08	≤54	PASS
				AV	2390.000	-49.15	≤-41.20	46.05	≤54	PASS
				Peak	2310.000	-43.23	≤-21.20	51.97	≤74	PASS
				Peak	2355.965	-39.55	≤-21.20	55.65	≤74	PASS
				Peak	2390.000	-41.19	≤-21.20	54.01	≤74	PASS
		High	2480	AV	2483.500	-48.05	≤-41.20	47.15	≤54	PASS
				AV	2483.520	-48.05	≤-41.20	47.15	≤54	PASS
				AV	2500.000	-48.46	≤-41.20	46.74	≤54	PASS
				Peak	2483.500	-41.18	≤-21.20	54.02	≤74	PASS
				Peak	2499.120	-38.39	≤-21.20	56.81	≤74	PASS
				Peak	2500.000	-40.05	≤-21.20	55.05	≤74	PASS
		Low	Hop_2402	Peak	2310.000	-40.65	≤-21.20	54.55	≤74	PASS
				Peak	2383.895	-38.29	≤-21.20	56.91	≤74	PASS
				Peak	2390.000	-40.51	≤-21.20	54.69	≤74	PASS
		High	Hop_2480	Peak	2483.500	-40.82	≤-21.20	54.38	≤74	PASS
				Peak	2498.800	-37.86	≤-21.20	57.34	≤74	PASS
				Peak	2500.000	-38.38	≤-21.20	56.82	≤74	PASS



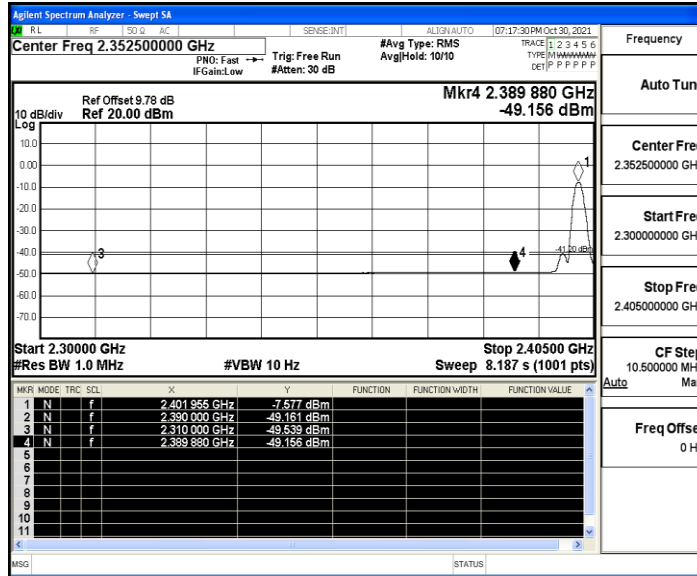
Note:

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.

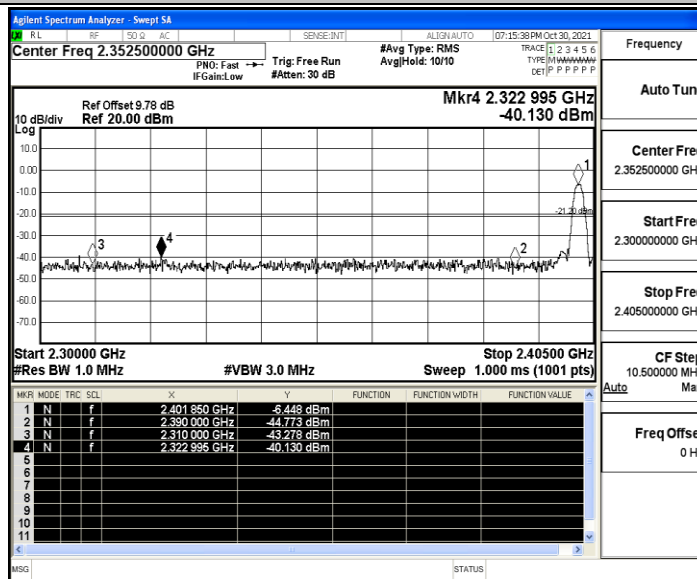


Test Graphs

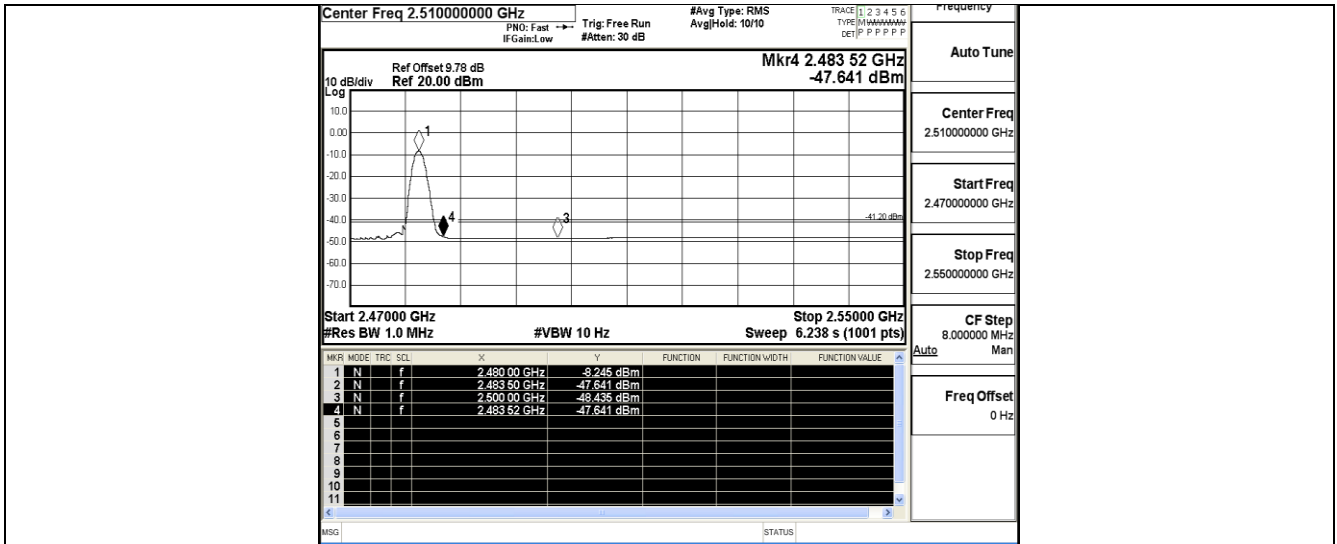
DH5_Ant1_Low_2402_AV



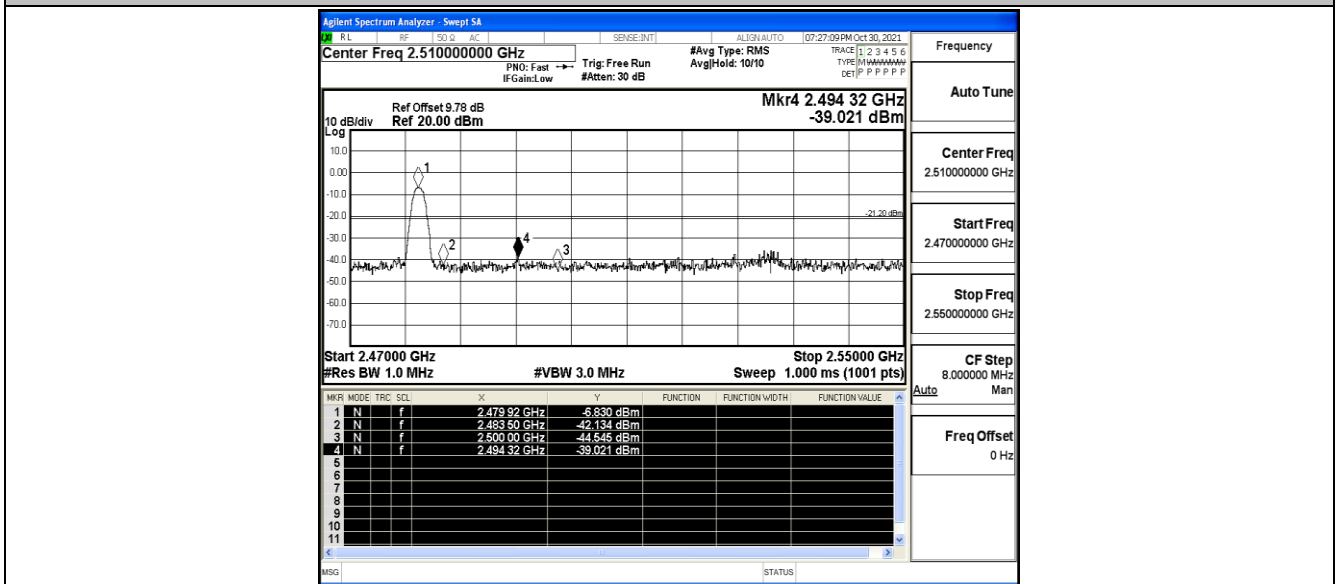
DH5_Ant1_Low_2402_Peak



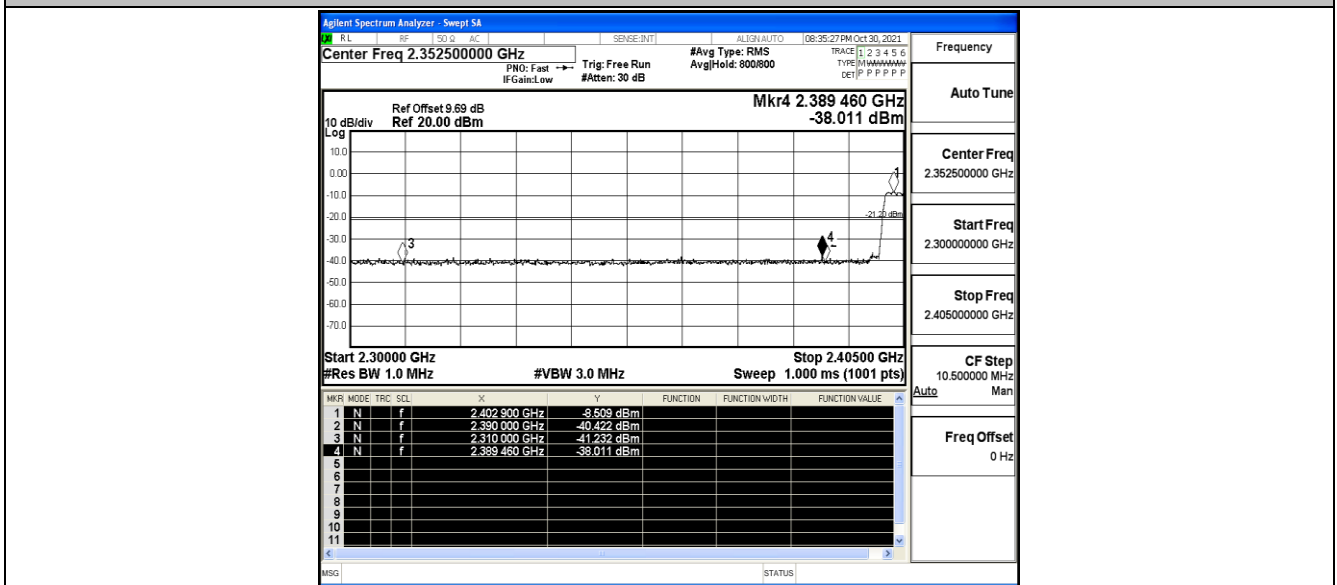
DH5_Ant1_High_2480_AV



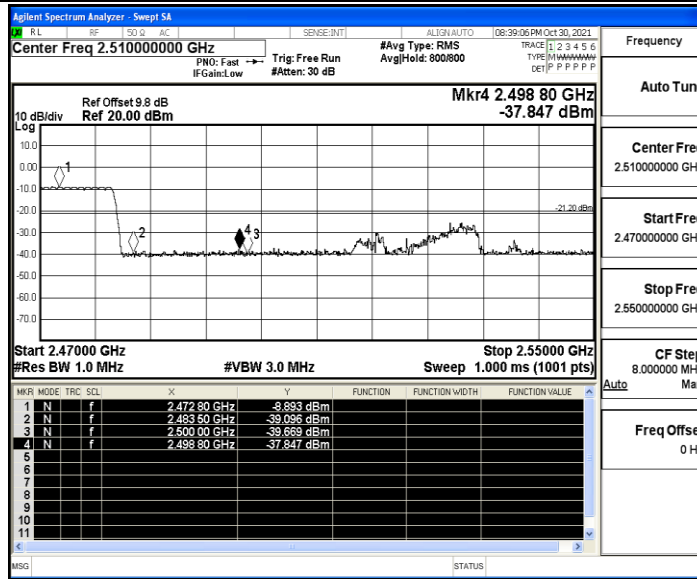
DH5_Ant1_High_2480_Peak



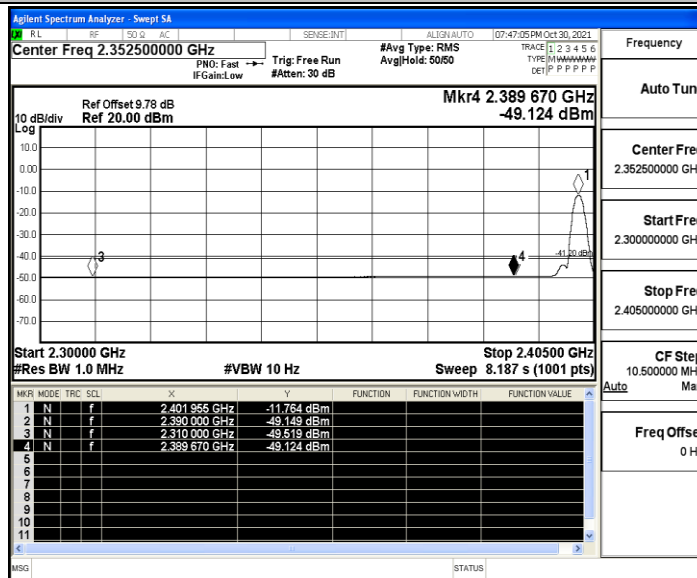
DH5_Ant1_Low_Hop_2402_Peak



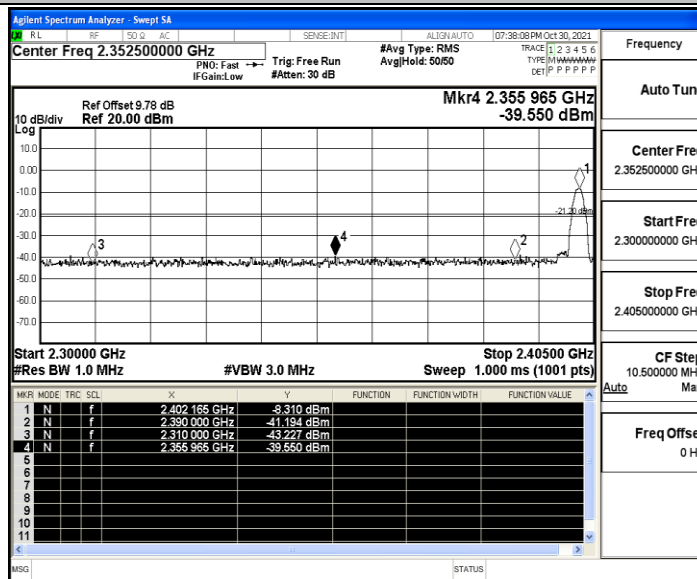
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2DH5_Ant1_Low_2402_AV

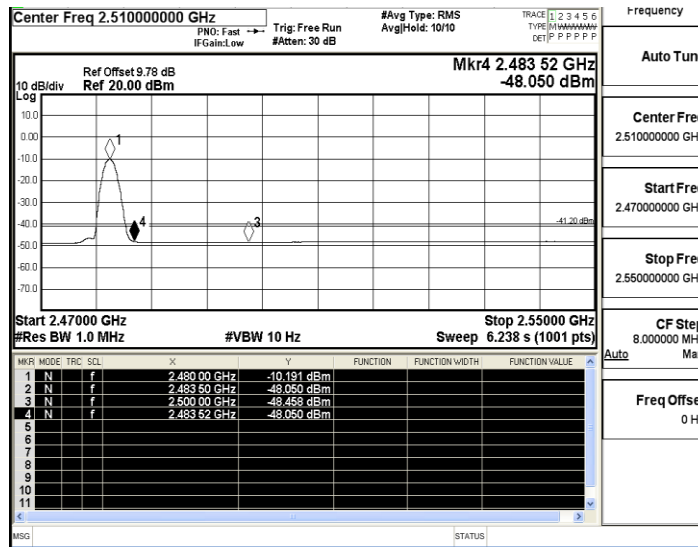


2DH5_Ant1_Low_2402_Peak

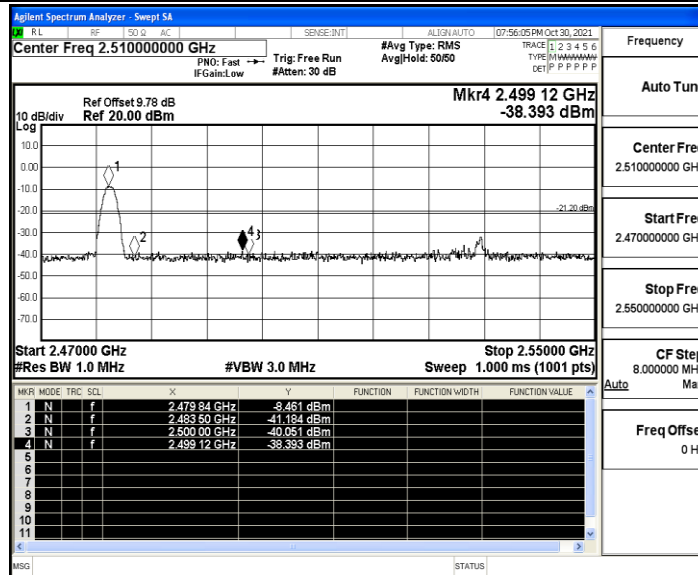




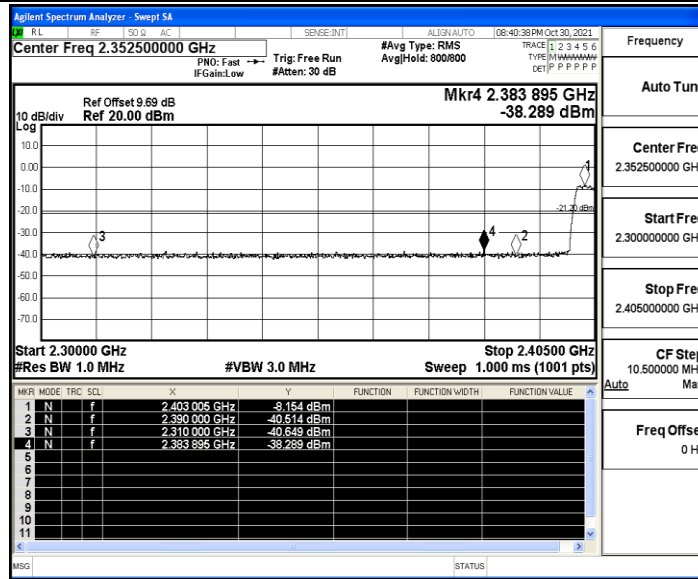
2DH5_Ant1_High_2480_AV



2DH5_Ant1_High_2480_Peak



2DH5_Ant1_Low_Hop_2402_Peak



2DH5_Ant1_High_Hop_2480_Peak

