



Appendix A

RF Test Data for BT (Conducted Measurement)

Product Name: Bluetooth Headphone

Test Model: T103

Environmental Conditions

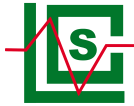
Temperature:	21.1° C
Relative Humidity:	52.2%
ATM Pressure:	100.0 kPa
Test Engineer:	Kay Hu
Supervised by:	Li Huan



A.1 20dB Emission Bandwidth

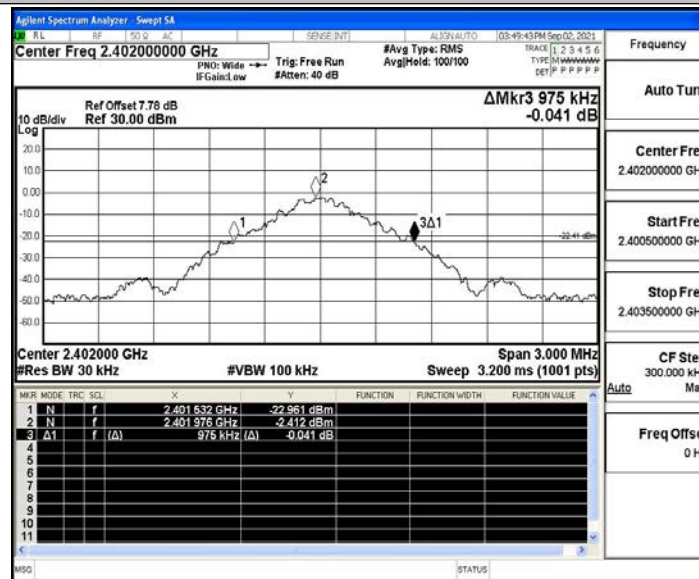
Test Result

TestMode	Antenna	Channel	20db EBW[MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
DH5	Ant1	2402	0.975	2401.532	2402.507	---	PASS
		2441	0.942	2440.532	2441.474	---	PASS
		2480	0.969	2479.529	2480.498	---	PASS
2DH5	Ant1	2402	1.317	2401.343	2402.660	---	PASS
		2441	1.356	2440.325	2441.681	---	PASS
		2480	1.320	2479.340	2480.660	---	PASS
3DH5	Ant1	2402	1.320	2401.343	2402.663	---	PASS
		2441	1.308	2440.346	2441.654	---	PASS
		2480	1.281	2479.349	2480.630	---	PASS

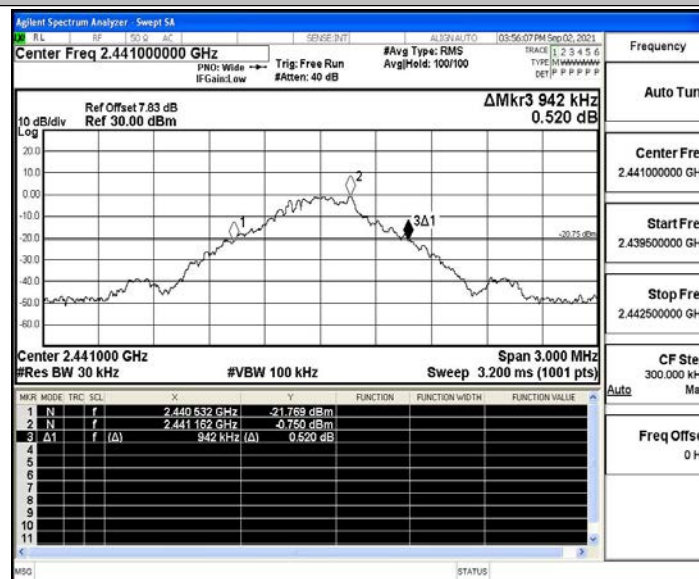


Test Graphs

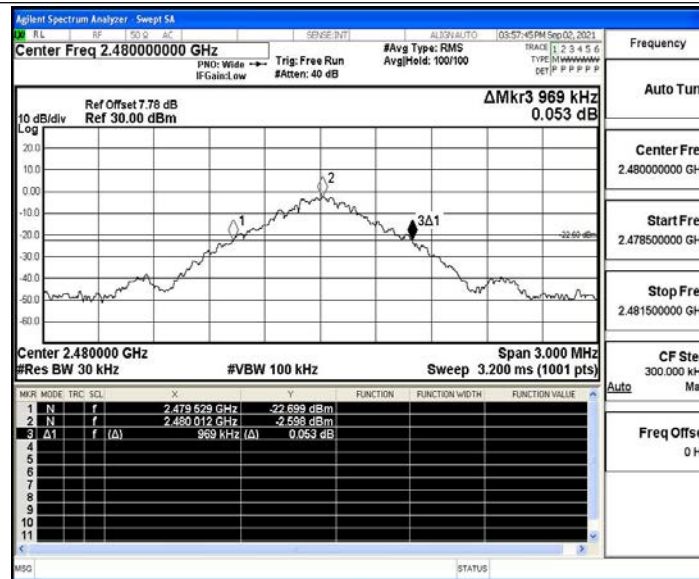
DH5_Ant1_2402



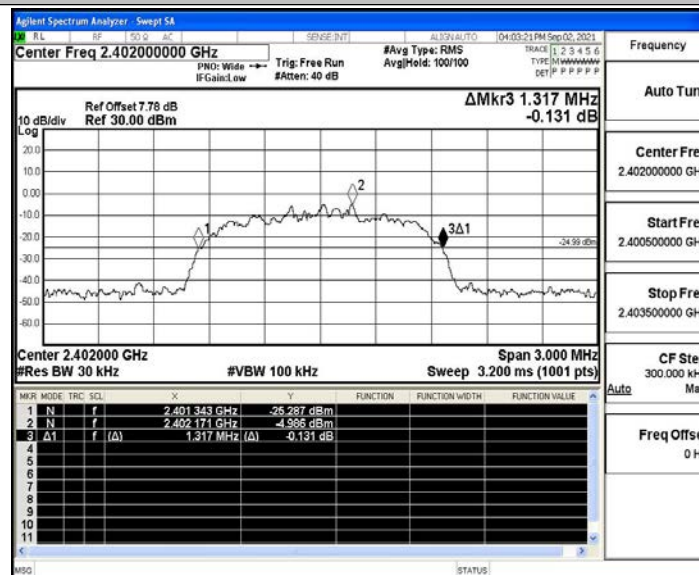
DH5_Ant1_2441



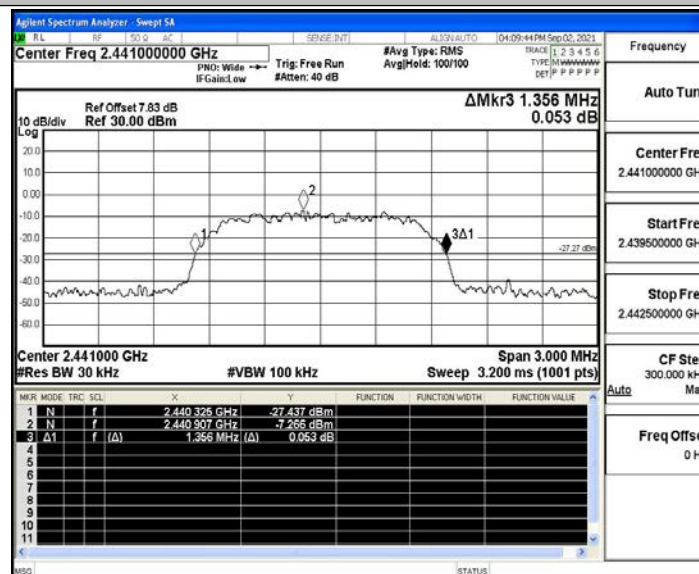
DH5_Ant1_2480



2DH5_Ant1_2402

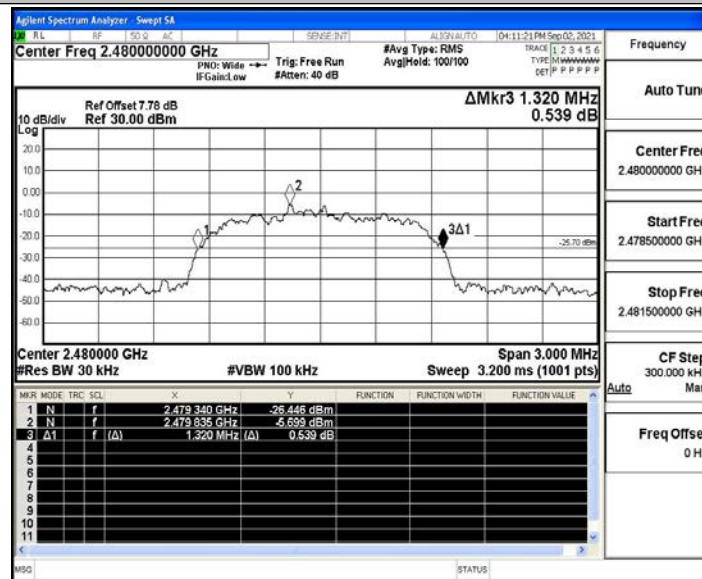


2DH5_Ant1_2441

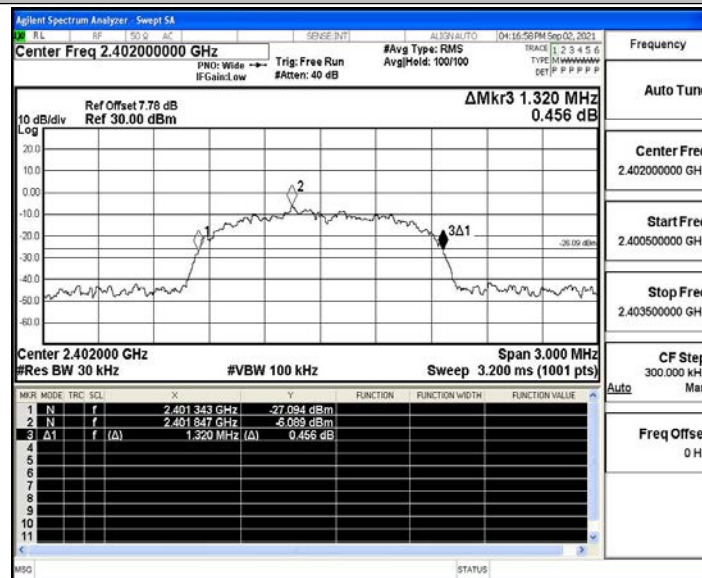




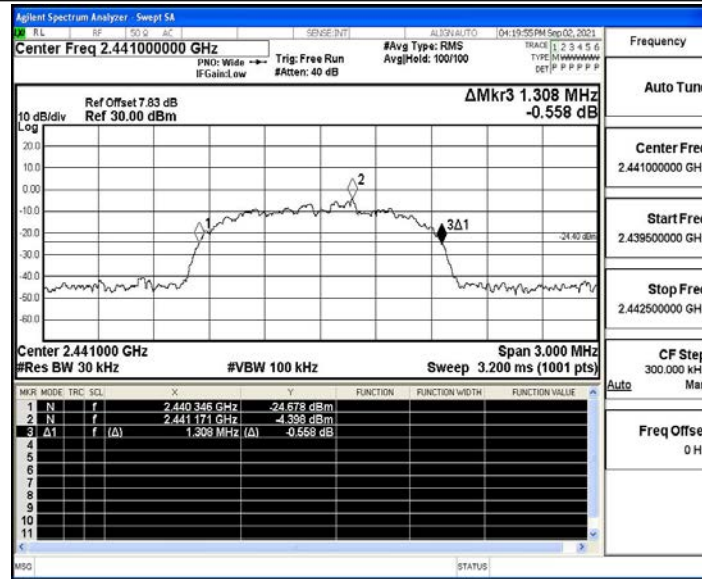
2DH5_Ant1_2480



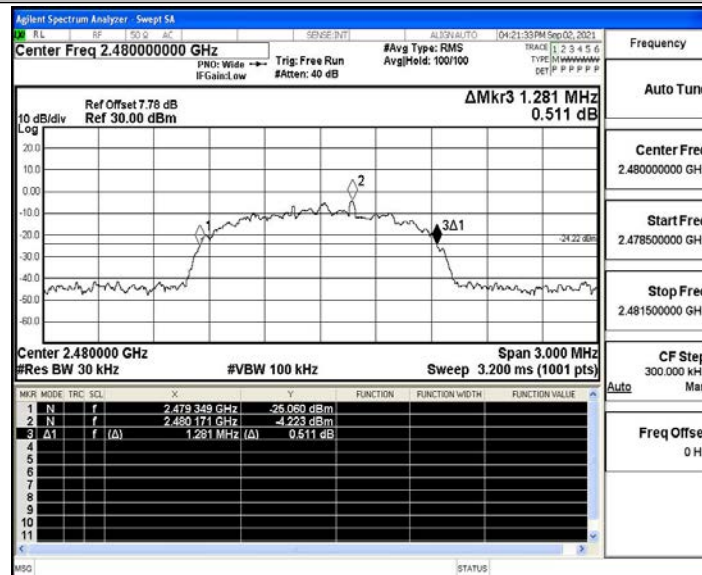
3DH5_Ant1_2402



3DH5_Ant1_2441



3DH5_Ant1_2480

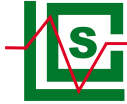




A.2 Maximum conducted output power

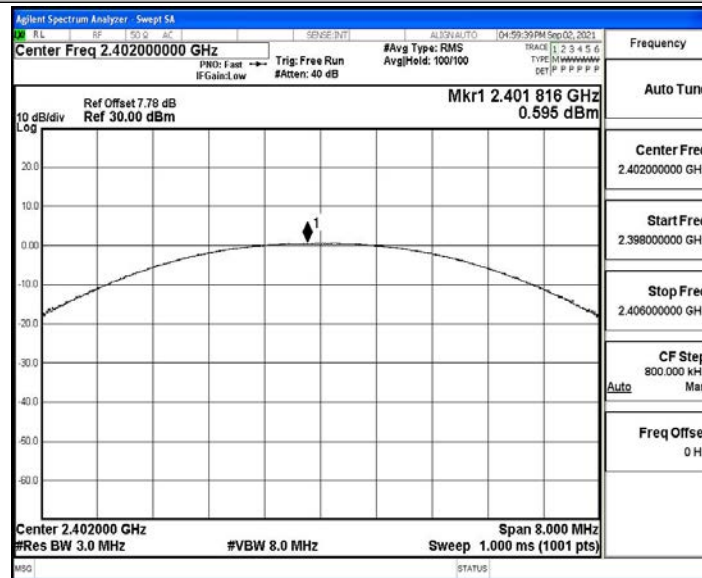
Test Result

TestMode	Antenna	Channel	Result[dBm]	Limit[dBm]	Verdict
DH5	Ant1	2402	0.6	≤ 20.97	PASS
		2441	1.76	≤ 20.97	PASS
		2480	0.32	≤ 20.97	PASS
2DH5	Ant1	2402	-0.23	≤ 20.97	PASS
		2441	0.88	≤ 20.97	PASS
		2480	-0.48	≤ 20.97	PASS
3DH5	Ant1	2402	-0.17	≤ 20.97	PASS
		2441	1.07	≤ 20.97	PASS
		2480	-0.34	≤ 20.97	PASS

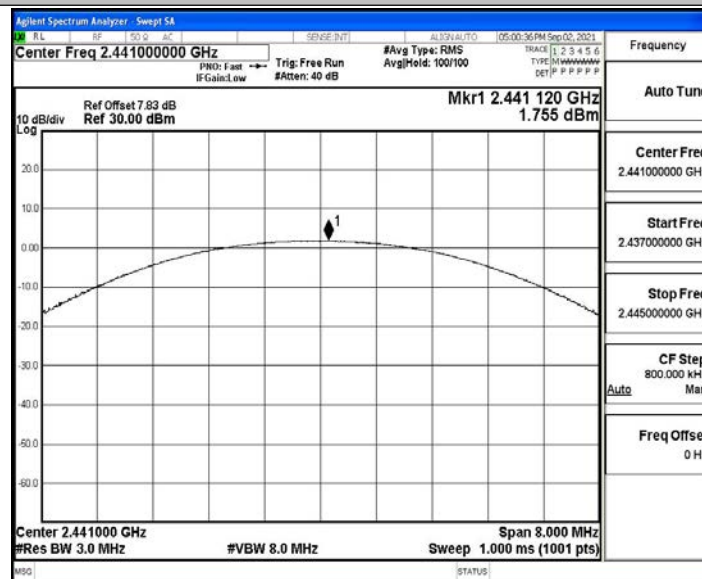


Test Graphs

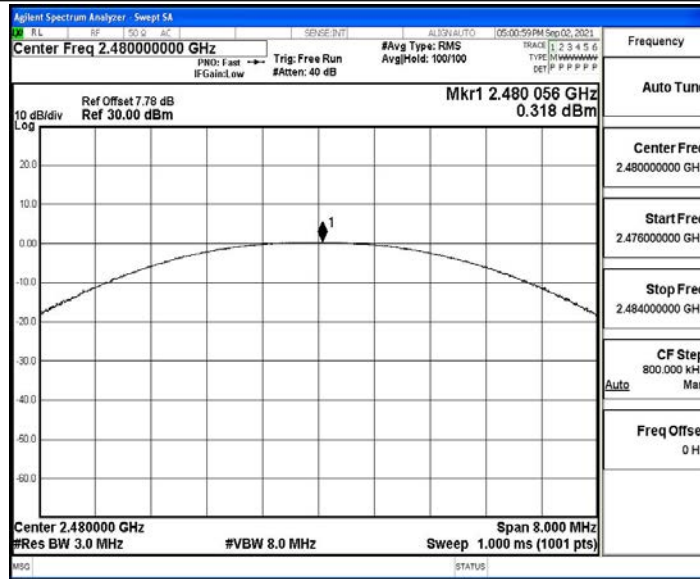
DH5_Ant1_2402



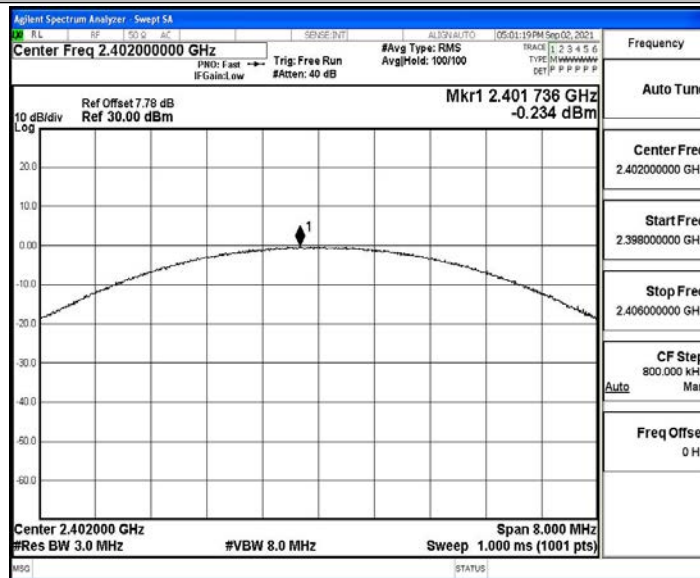
DH5_Ant1_2441



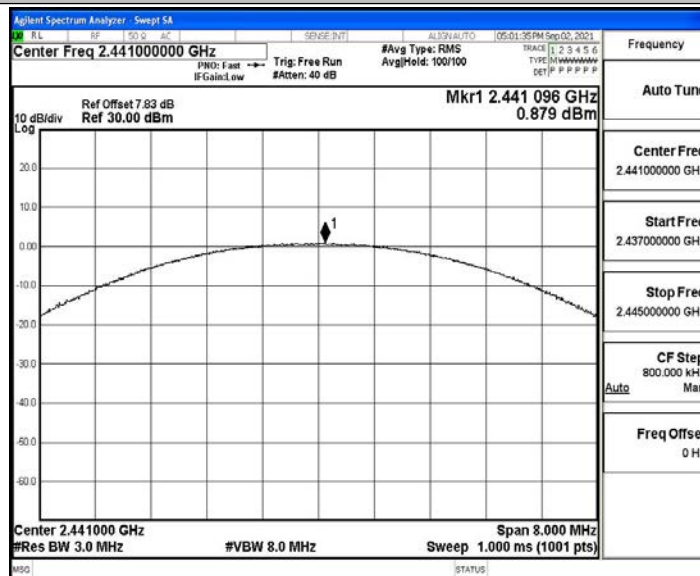
DH5_Ant1_2480



2DH5_Ant1_2402

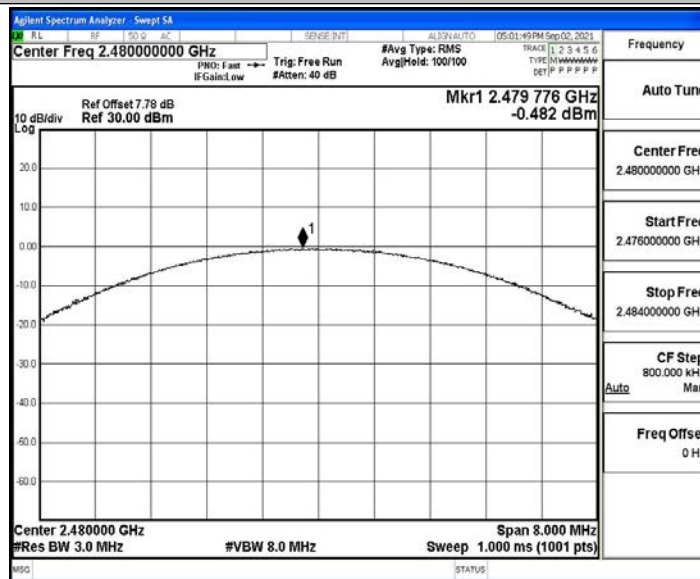


2DH5_Ant1_2441

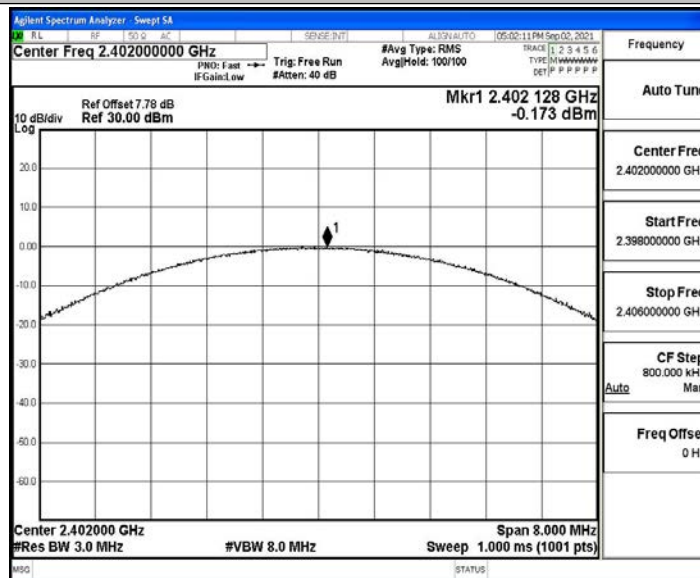




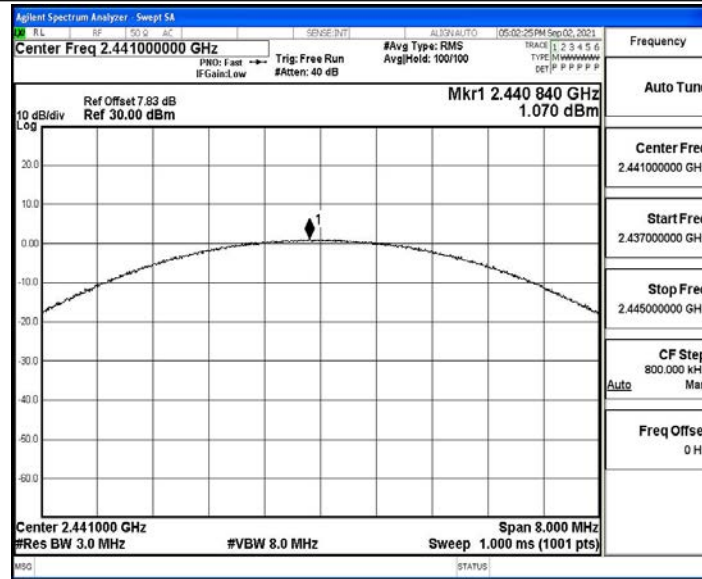
2DH5_Ant1_2480



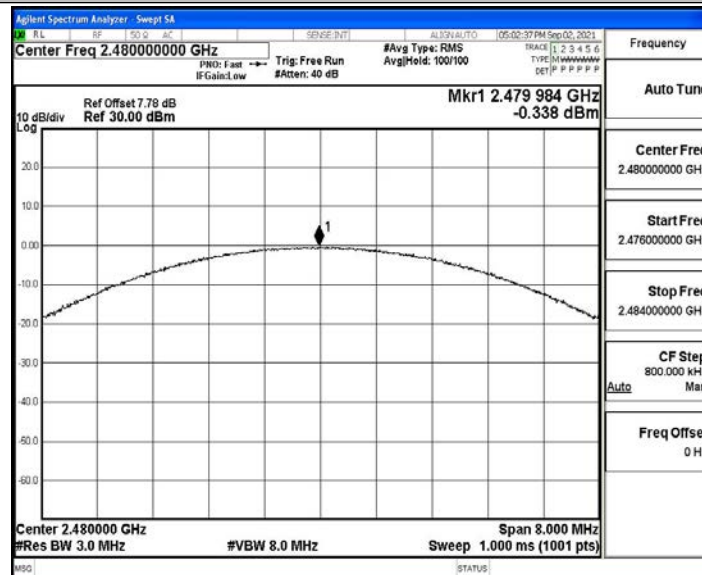
3DH5_Ant1_2402



3DH5_Ant1_2441



3DH5_Ant1_2480

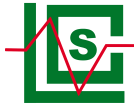




A.3 Carrier frequency separation

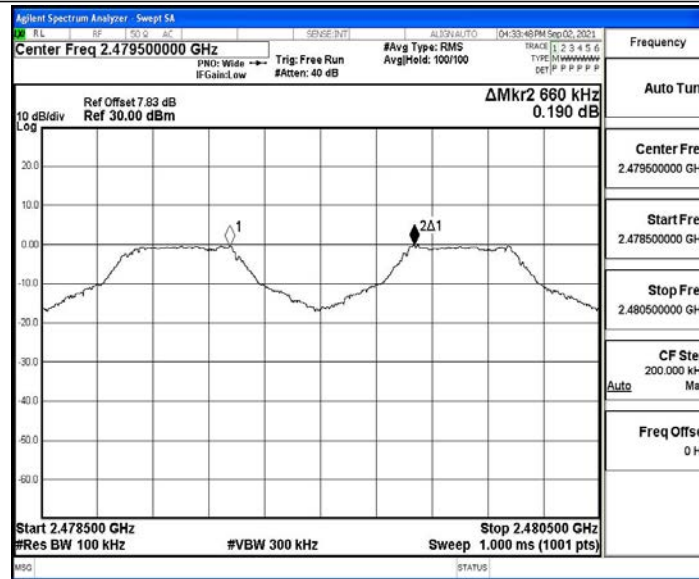
Test Result

TestMode	Antenna	Channel	Result[dBm]	Limit[dBm]	Verdict
DH5	Ant1	Hop	0.66	≥ 0.650	PASS
2DH5	Ant1	Hop	1.008	≥ 0.904	PASS
3DH5	Ant1	Hop	1.182	≥ 0.880	PASS

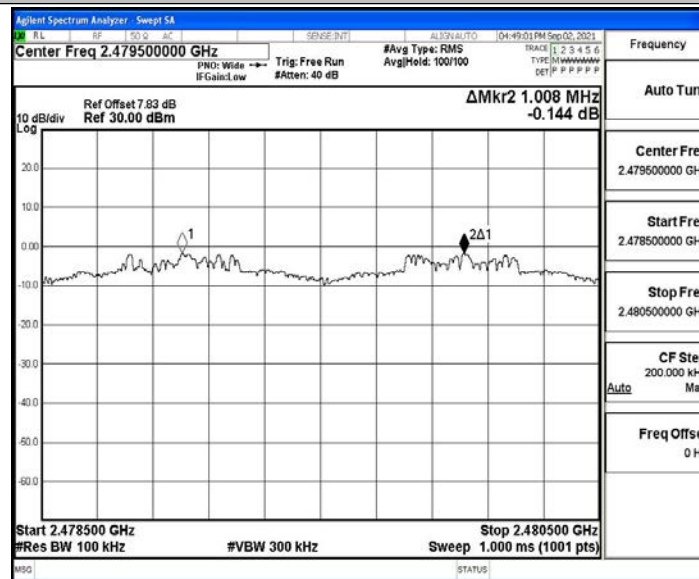


Test Graphs

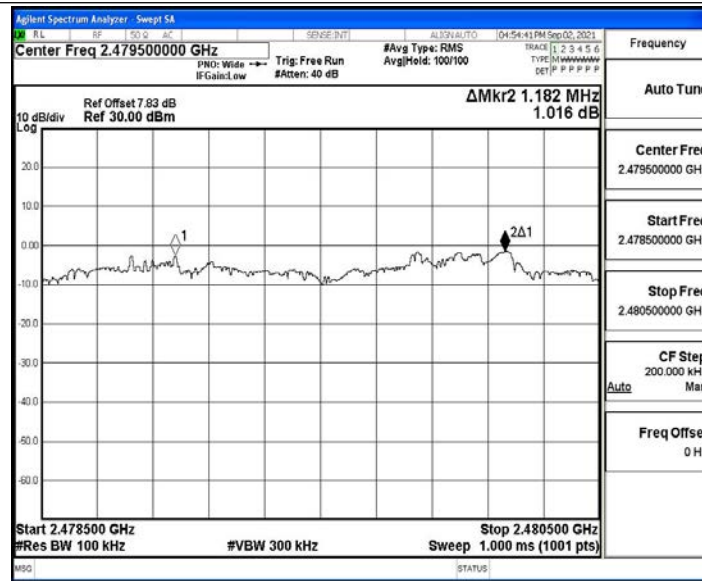
DH5_Ant1_Hop



2DH5_Ant1_Hop



3DH5_Ant1_Hop





A.4 Time of occupancy

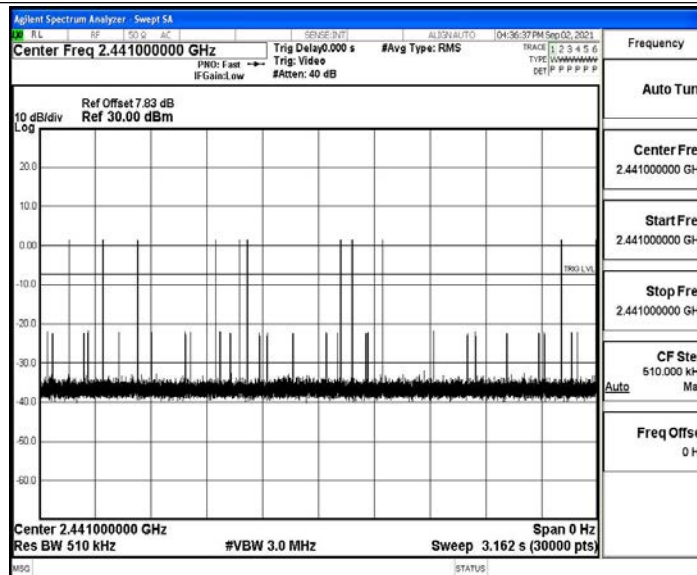
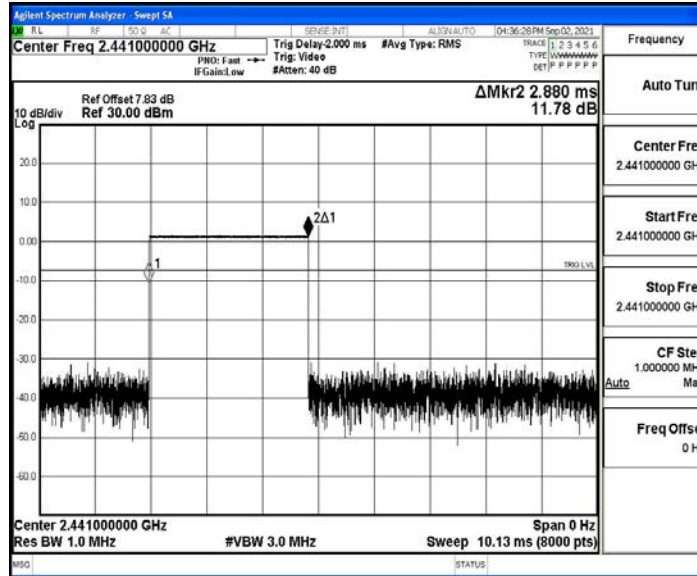
Test Result

TestMode	Antenna	Channel	BurstWidth [ms]	TotalHops [Num]	Result[s]	Limit[s]	Verdict
DH5	Ant1	Hop	2.88	120	0.346	≤0.4	PASS
2DH5	Ant1	Hop	2.88	130	0.375	≤0.4	PASS
3DH5	Ant1	Hop	2.89	120	0.346	≤0.4	PASS

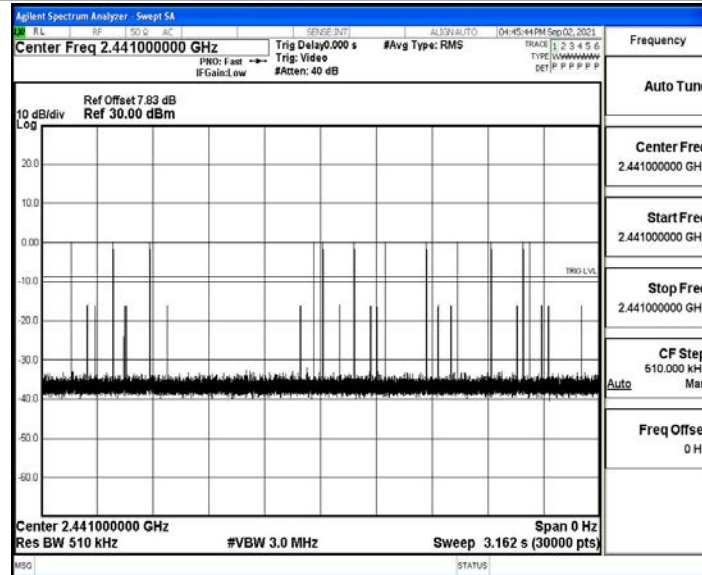
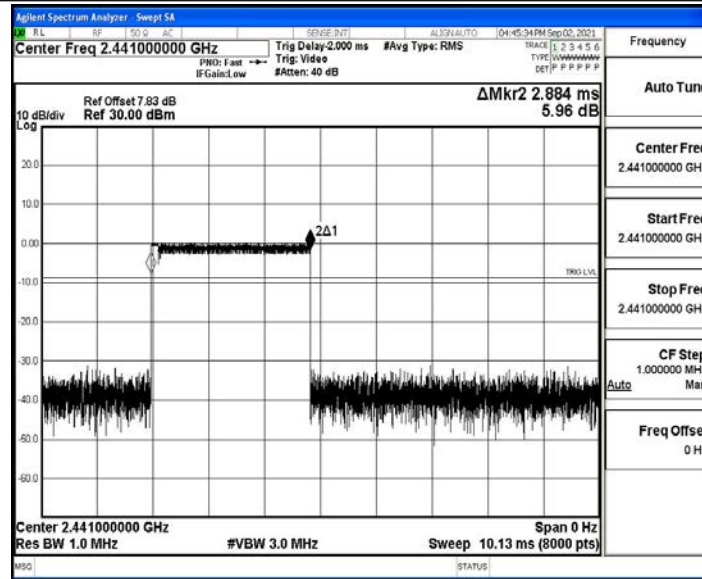


Test Graphs

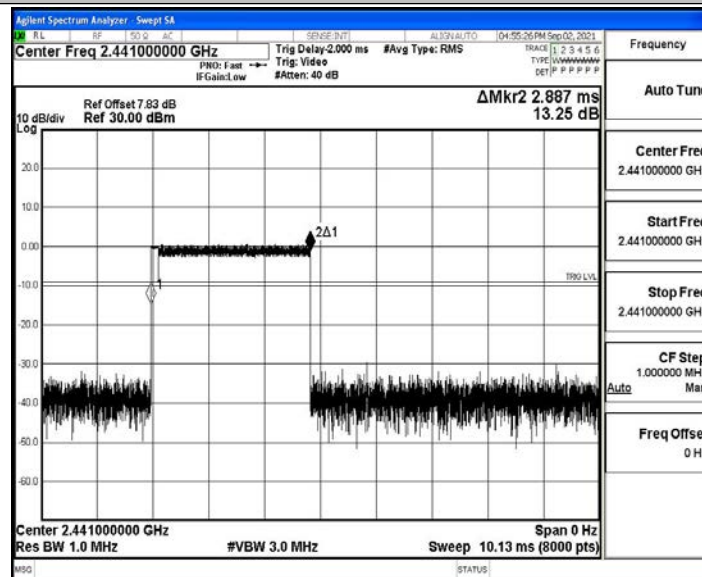
DH5_Ant1_Hop

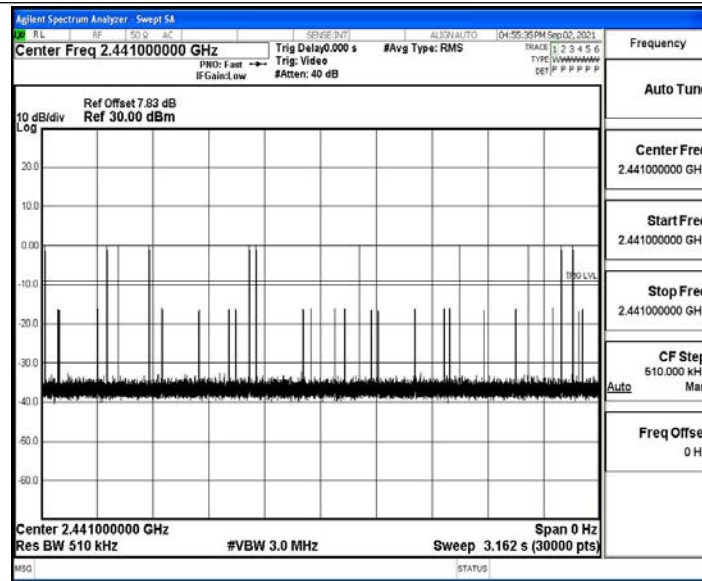


2DH5_Ant1_Hop



3DH5_Ant1_Hop







A.5 Number of hopping channels

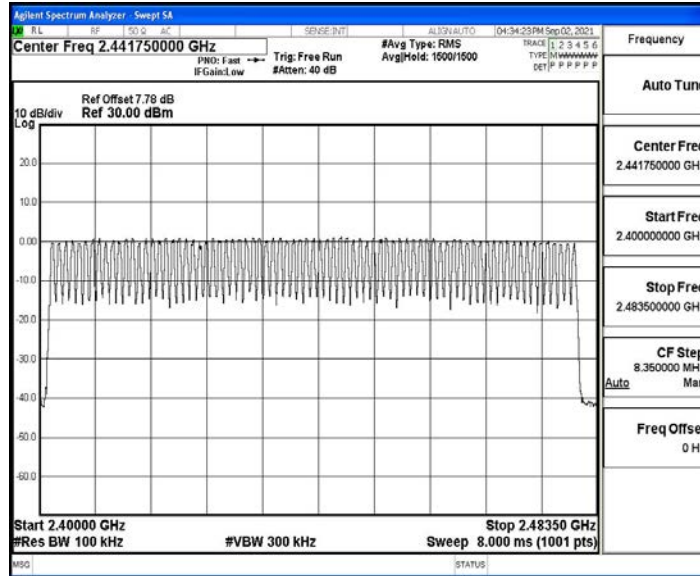
Test Result

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

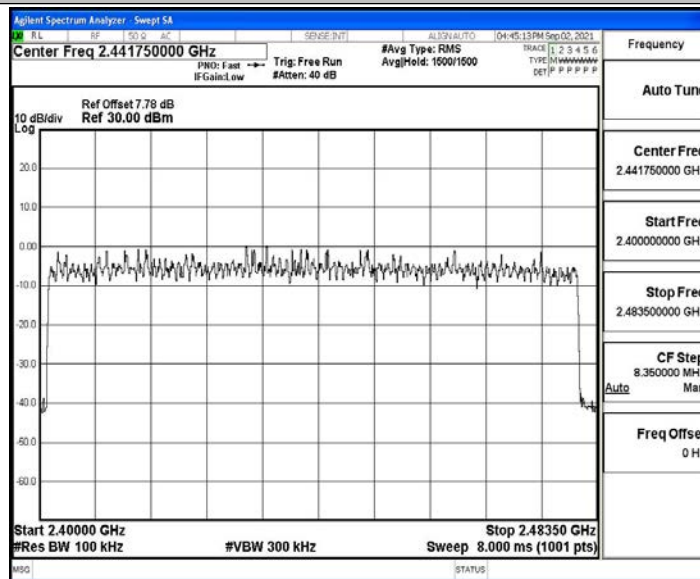


Test Graphs

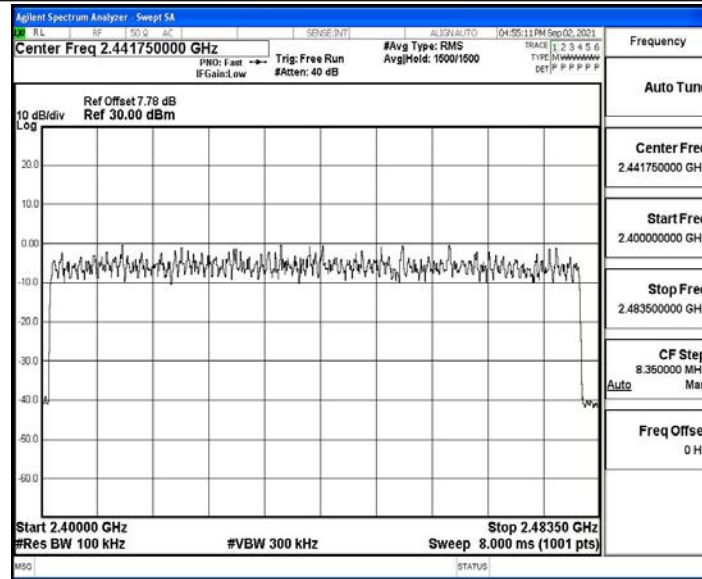
DH5_Ant1_Hop



2DH5_Ant1_Hop



3DH5_Ant1_Hop





A.6 Band edge measurements

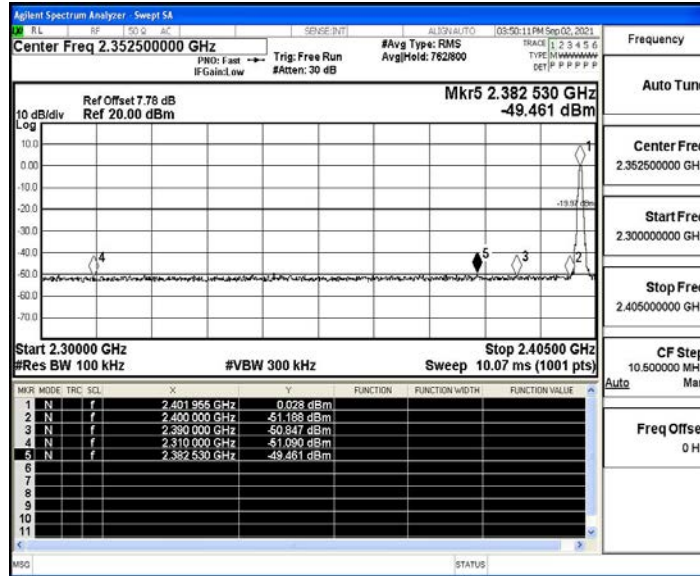
Test Result

TestMode	Antenna	ChName	Channel	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
DH5	Ant1	Low	2402	0.03	-49.46	≤ -19.97	PASS
		High	2480	-0.05	-48.06	≤ -20.05	PASS
		Low	Hop_2402	0.15	-49.41	≤ -19.85	PASS
		High	Hop_2480	-0.10	-47.96	≤ -20.1	PASS
2DH5	Ant1	Low	2402	-1.31	-49.42	≤ -21.31	PASS
		High	2480	-1.33	-48.79	≤ -21.33	PASS
		Low	Hop_2402	-4.47	-50.07	≤ -24.47	PASS
		High	Hop_2480	-2.90	-48.75	≤ -22.9	PASS
3DH5	Ant1	Low	2402	-1.69	-49.74	≤ -21.69	PASS
		High	2480	-2.71	-48.57	≤ -22.71	PASS
		Low	Hop_2402	-2.69	-50.05	≤ -22.69	PASS
		High	Hop_2480	-2.12	-48.45	≤ -22.12	PASS

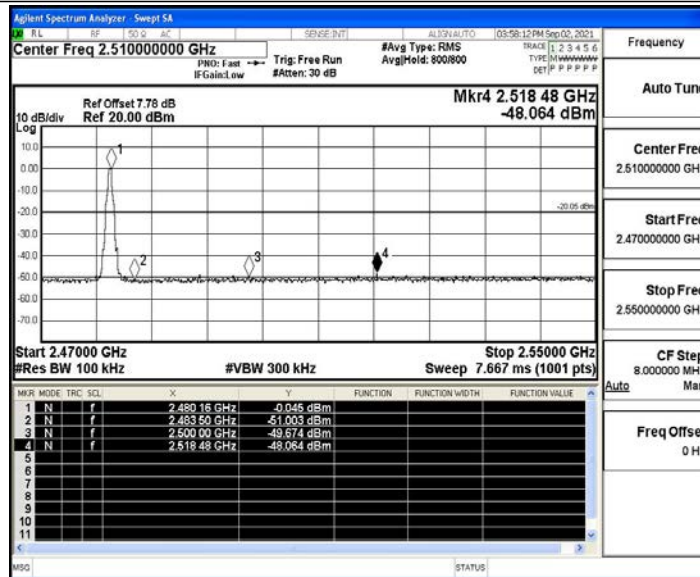


Test Graphs

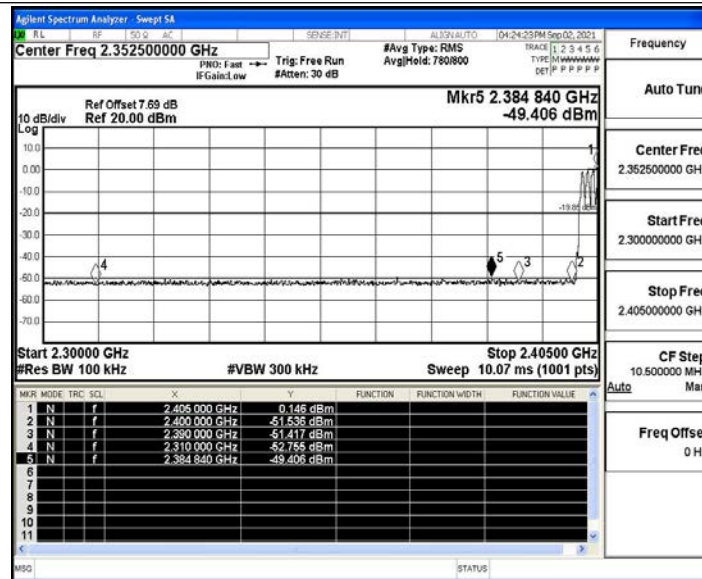
DH5_Ant1_Low_2402



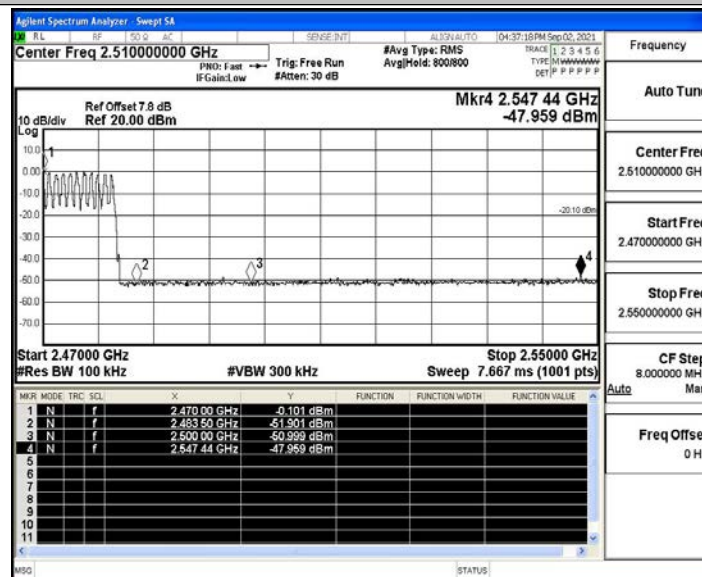
DH5_Ant1_High_2480



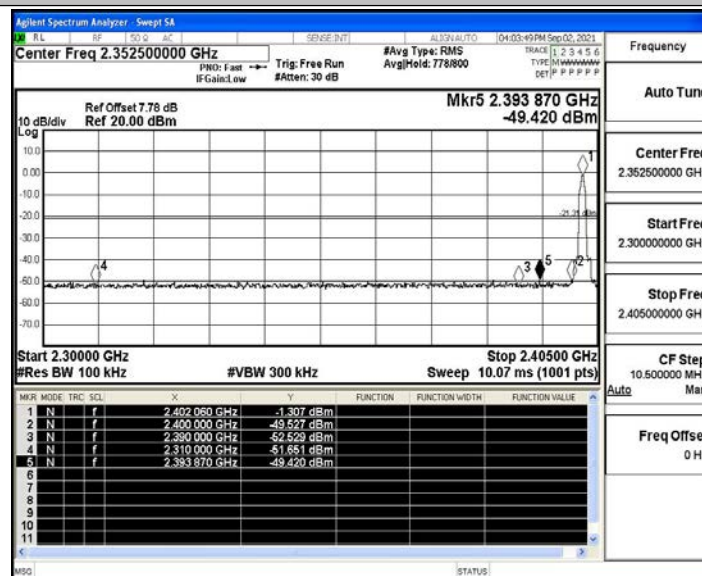
DH5_Ant1_Low_Hop_2402



DH5_Ant1_High_Hop_2480

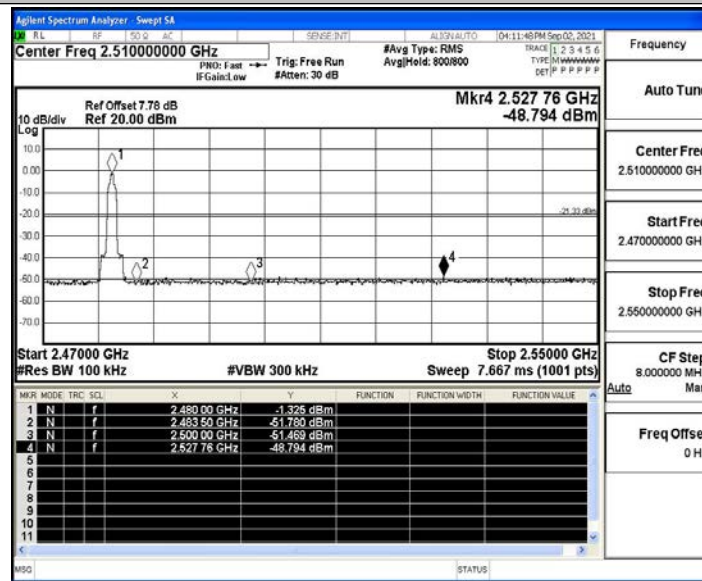


2DH5_Ant1_Low_2402

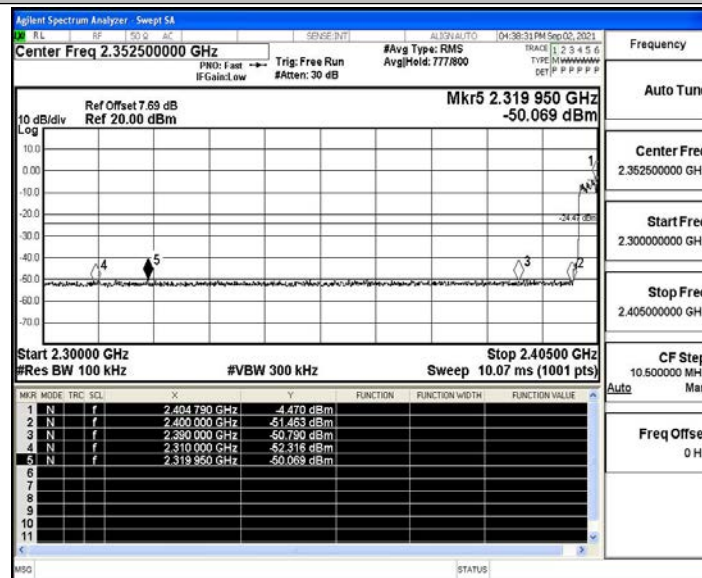




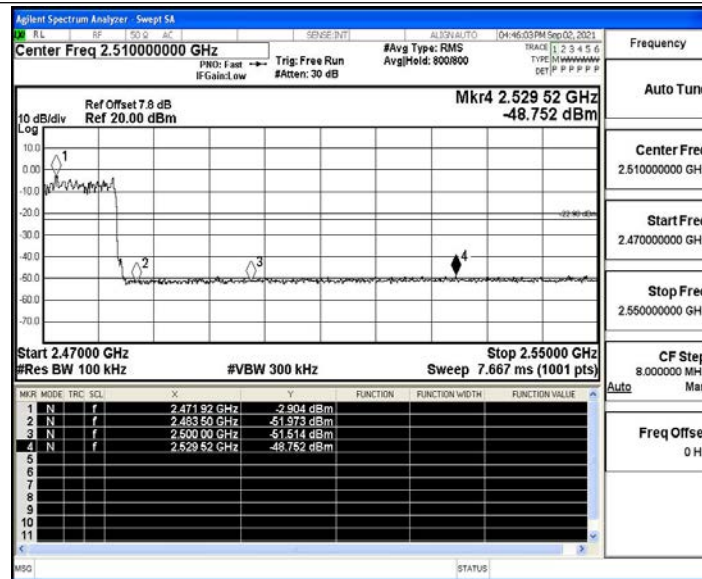
2DH5_Ant1_High_2480



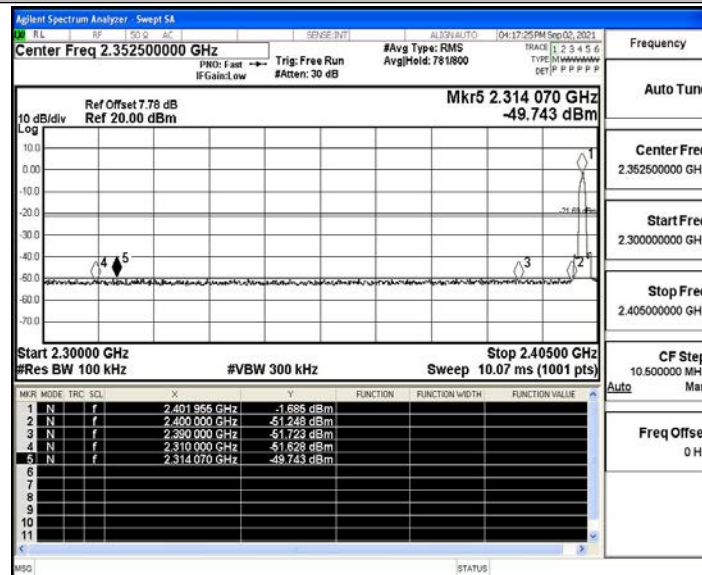
2DH5_Ant1_Low_Hop_2402



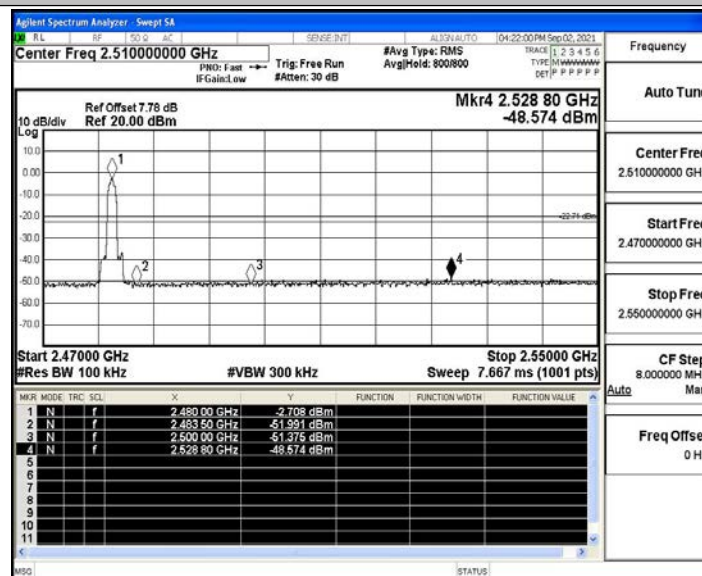
2DH5_Ant1_High_Hop_2480



3DH5_Ant1_Low_2402

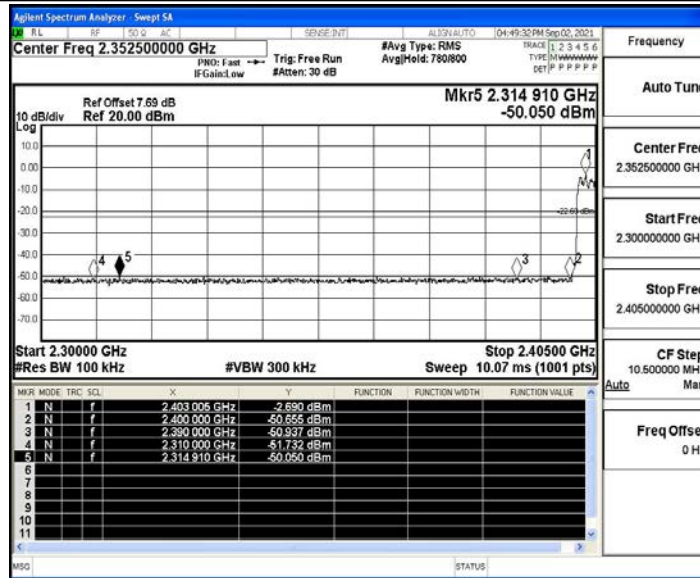


3DH5_Ant1_High_2480

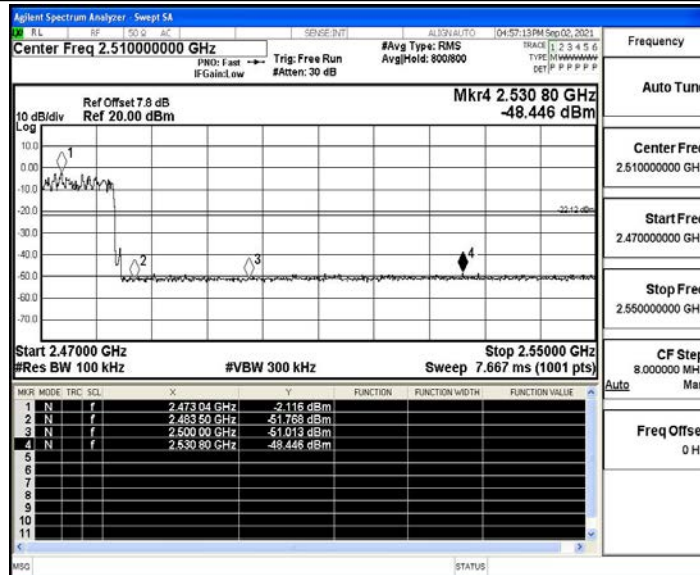




3DH5_Ant1_Low_Hop_2402



3DH5_Ant1_High_Hop_2480





A.7 Conducted Spurious Emission

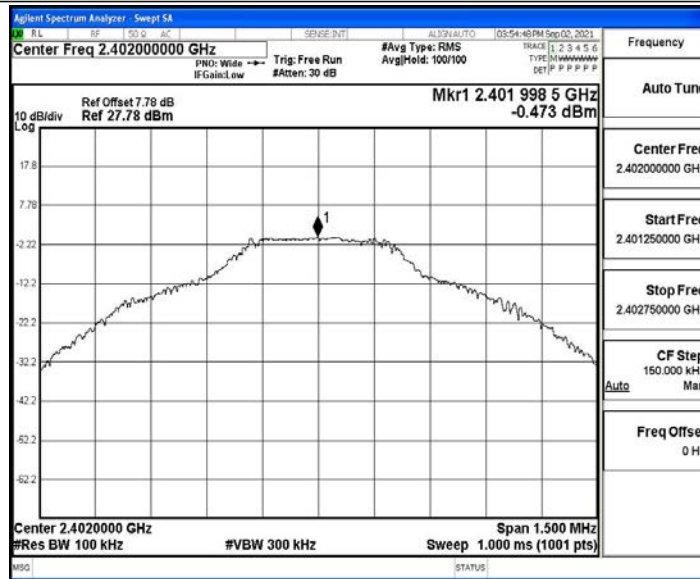
Test Result

TestMode	Antenna	Channel	FreqRange [MHz]	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
DH5	Ant1	2402	Reference	-0.47	-0.47	---	PASS
			30~1000	-0.47	-61.28	≤-20.47	PASS
			1000~26500	-0.47	-47.08	≤-20.47	PASS
		2441	Reference	1.18	1.18	---	PASS
			30~1000	1.18	-61.62	≤-18.82	PASS
			1000~26500	1.18	-47.28	≤-18.82	PASS
		2480	Reference	-0.26	-0.26	---	PASS
			30~1000	-0.26	-60.76	≤-20.26	PASS
			1000~26500	-0.26	-47.48	≤-20.26	PASS
2DH5	Ant1	2402	Reference	-1.69	-1.69	---	PASS
			30~1000	-1.69	-61.23	≤-21.69	PASS
			1000~26500	-1.69	-47.32	≤-21.69	PASS
		2441	Reference	-0.33	-0.33	---	PASS
			30~1000	-0.33	-61.83	≤-20.33	PASS
			1000~26500	-0.33	-47.24	≤-20.33	PASS
		2480	Reference	-1.73	-1.73	---	PASS
			30~1000	-1.73	-61.8	≤-21.73	PASS
			1000~26500	-1.73	-47.61	≤-21.73	PASS
3DH5	Ant1	2402	Reference	-4.37	-4.37	---	PASS
			30~1000	-4.37	-61.47	≤-24.37	PASS
			1000~26500	-4.37	-47.57	≤-24.37	PASS
		2441	Reference	-0.47	-0.47	---	PASS
			30~1000	-0.47	-61.7	≤-20.47	PASS
			1000~26500	-0.47	-46.86	≤-20.47	PASS
		2480	Reference	-1.50	-1.50	---	PASS
			30~1000	-1.50	-61.68	≤-21.5	PASS
			1000~26500	-1.50	-48.07	≤-21.5	PASS

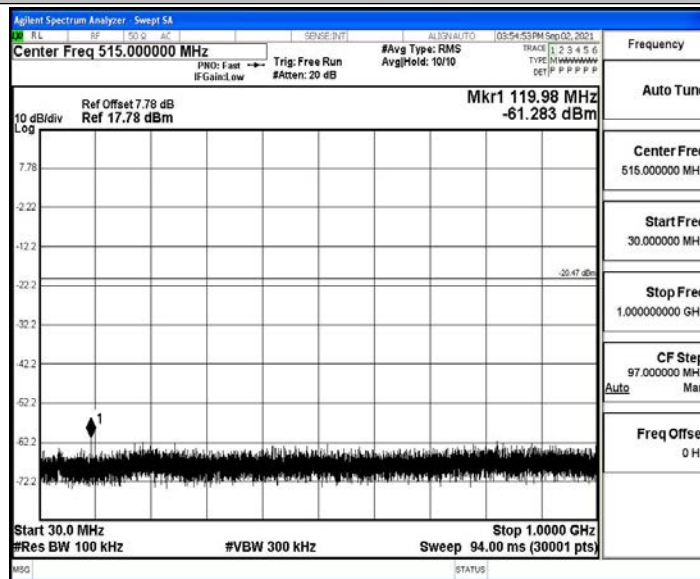


Test Graphs

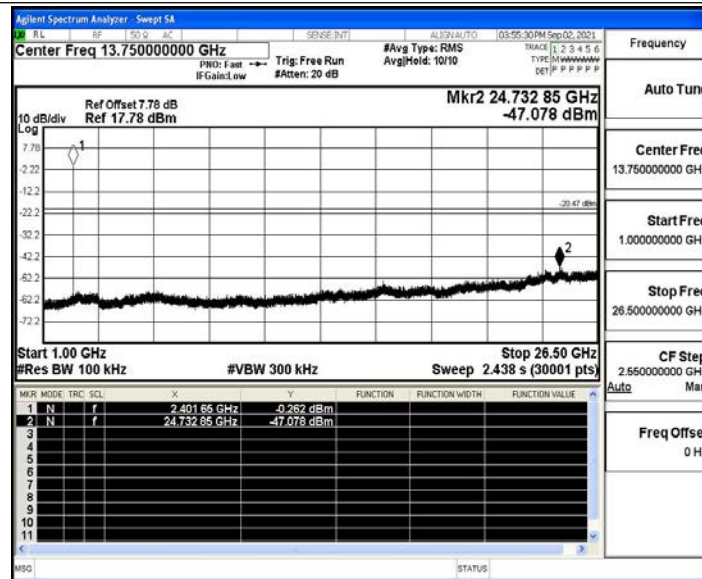
DH5_Ant1_2402_0~Reference



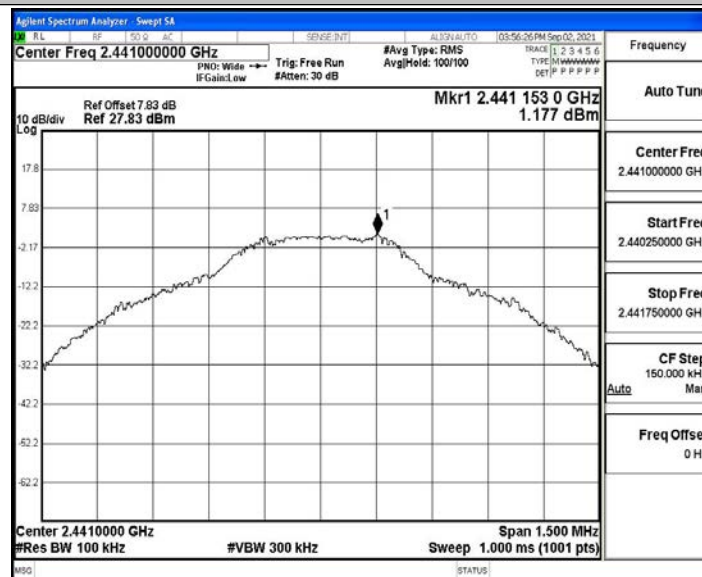
DH5_Ant1_2402_30~1000



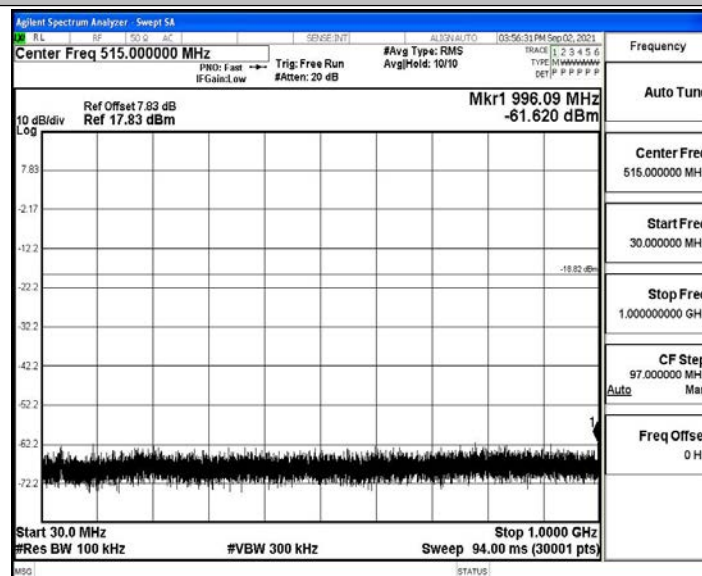
DH5_Ant1_2402_1000~26500



DH5_Ant1_2441_0~Reference

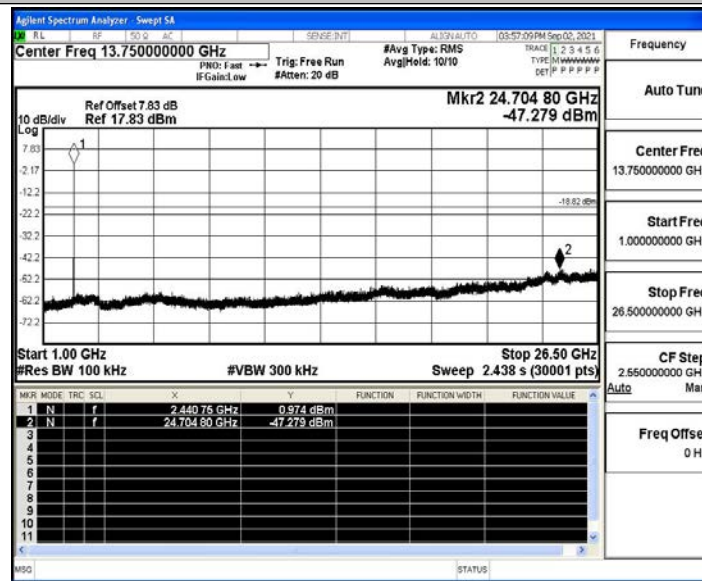


DH5_Ant1_2441_30~1000

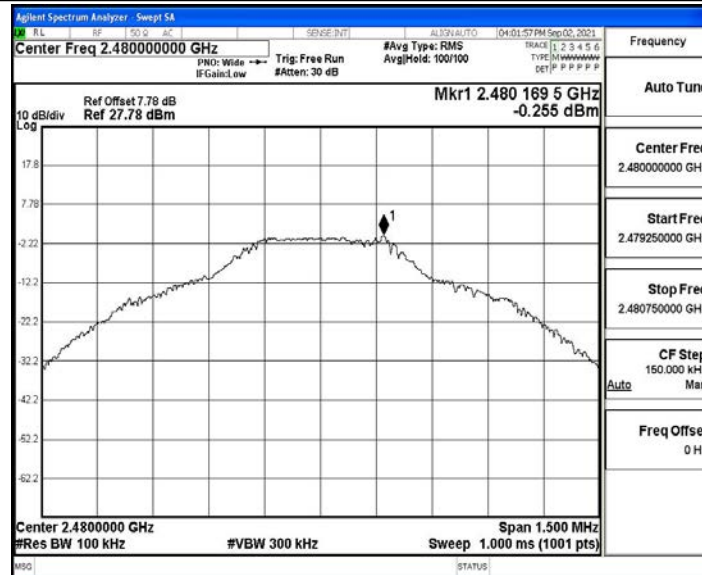




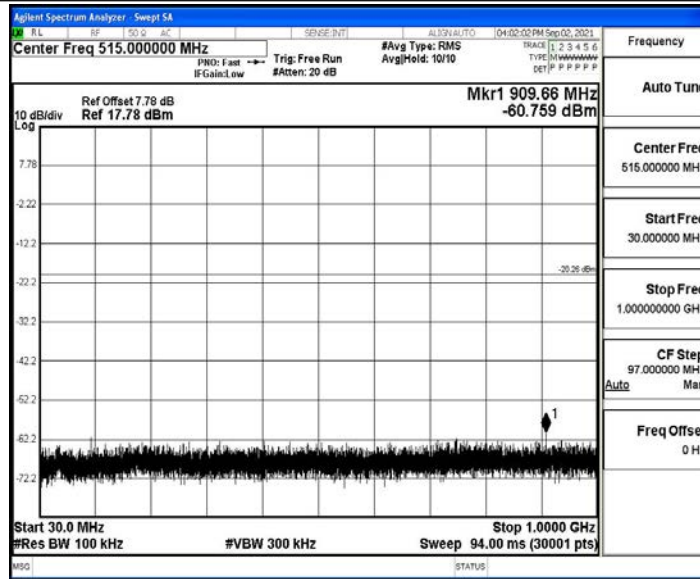
DH5_Ant1_2441_1000~26500



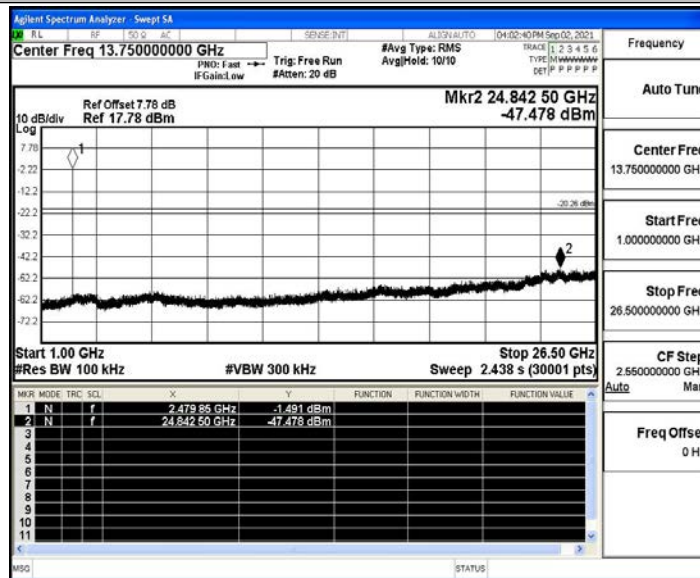
DH5_Ant1_2480_0~Reference



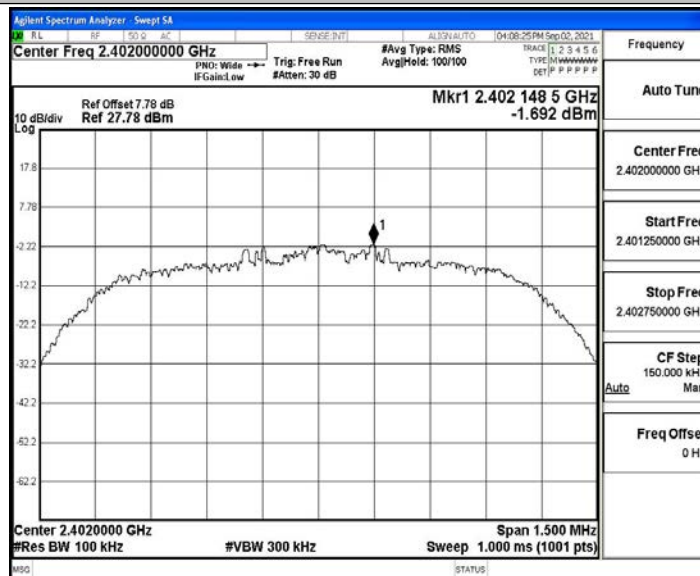
DH5_Ant1_2480_30~1000



DH5_Ant1_2480_1000~26500

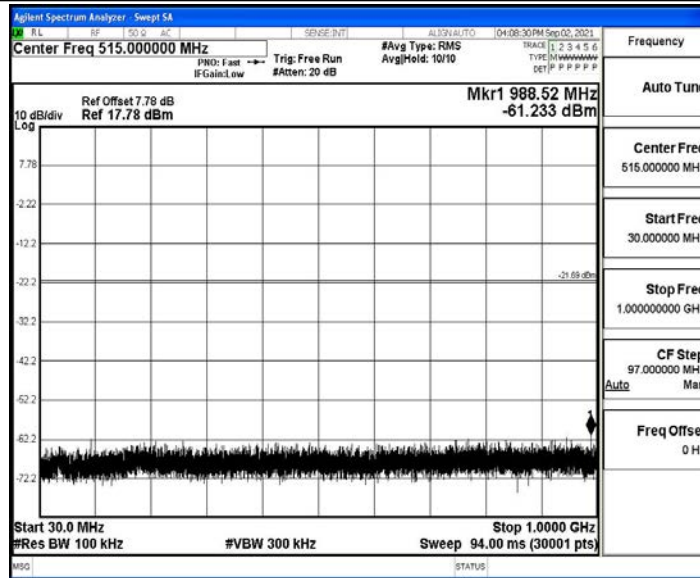


2DH5_Ant1_2402_0~Reference

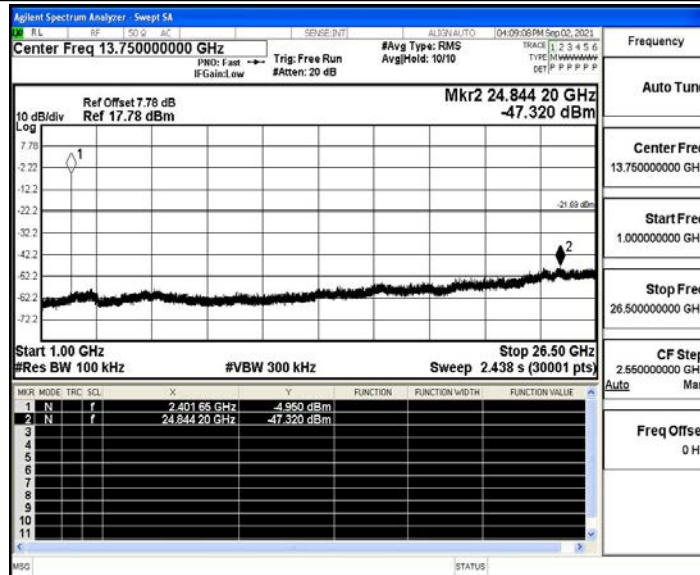




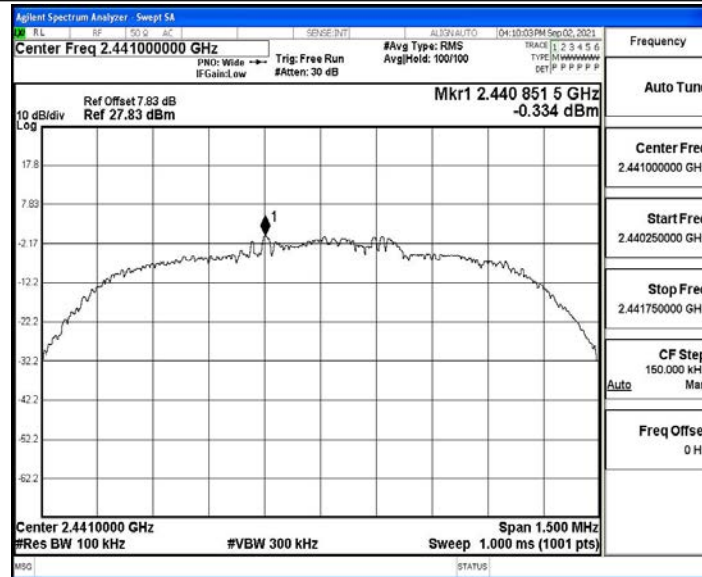
2DH5_Ant1_2402_30~1000



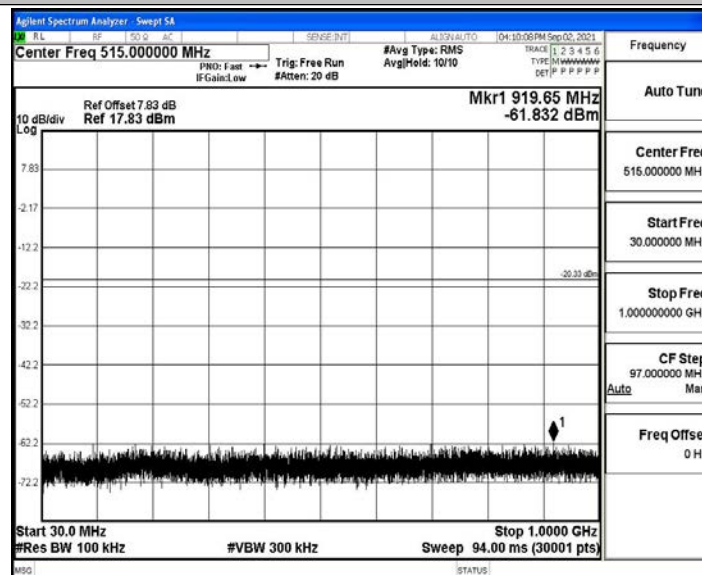
2DH5_Ant1_2402_1000~26500



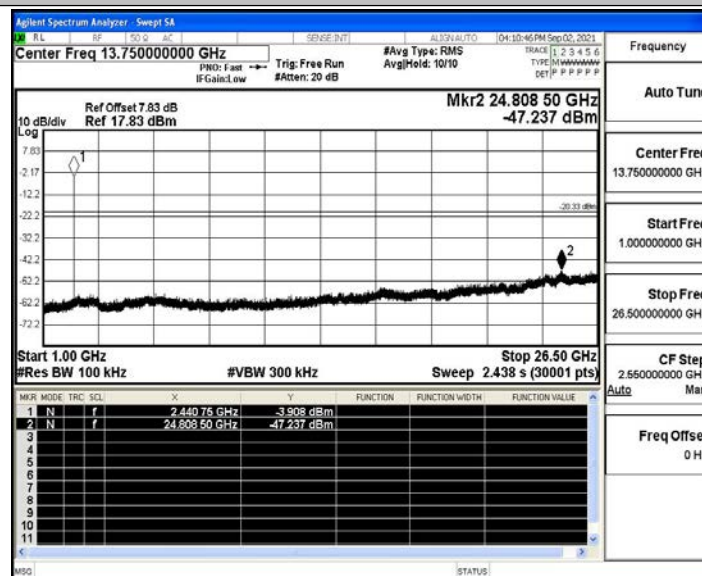
2DH5_Ant1_2441_0~Reference



2DH5_Ant1_2441_30~1000

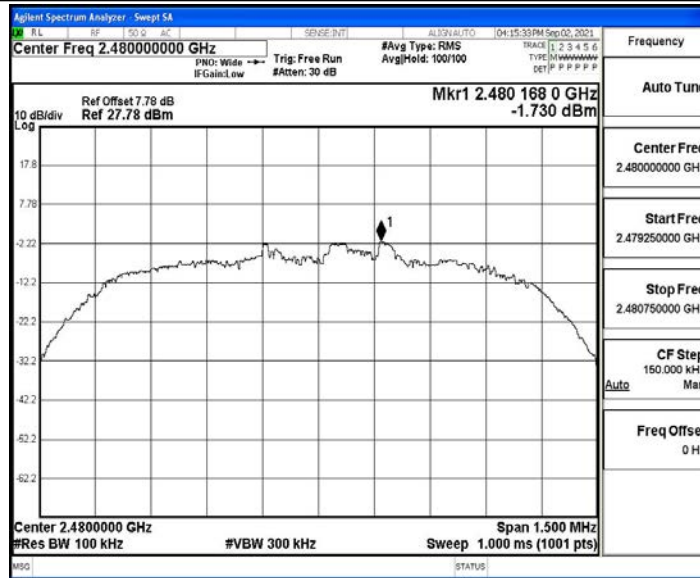


2DH5_Ant1_2441_1000~26500

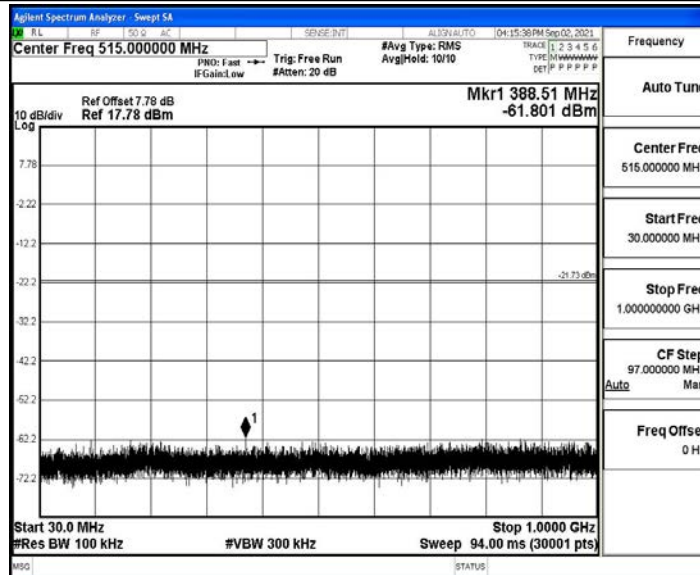




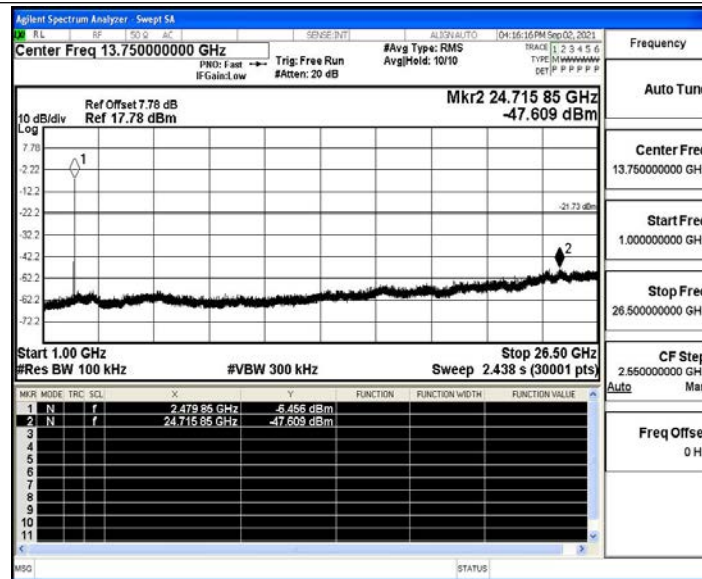
2DH5_Ant1_2480_0~Reference



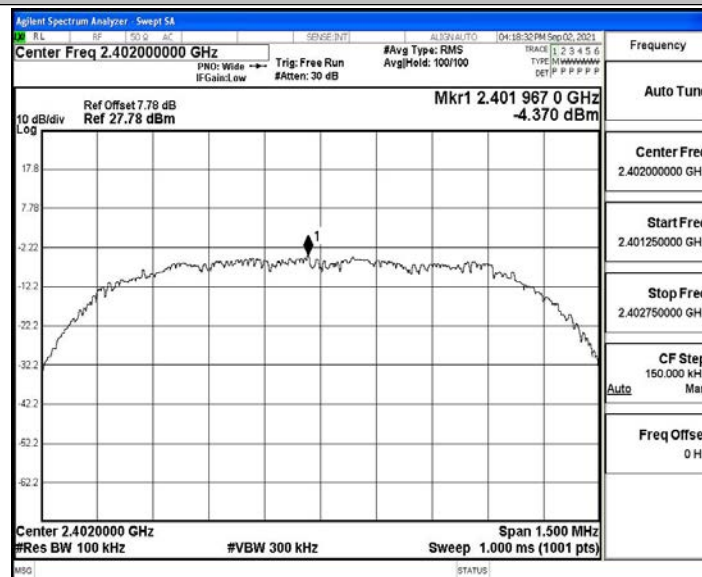
2DH5_Ant1_2480_30~1000



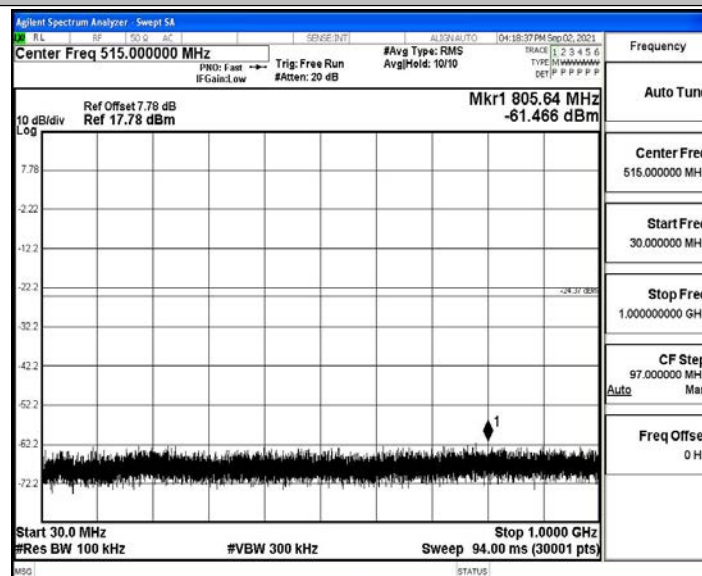
2DH5_Ant1_2480_1000~26500



3DH5_Ant1_2402_0~Reference

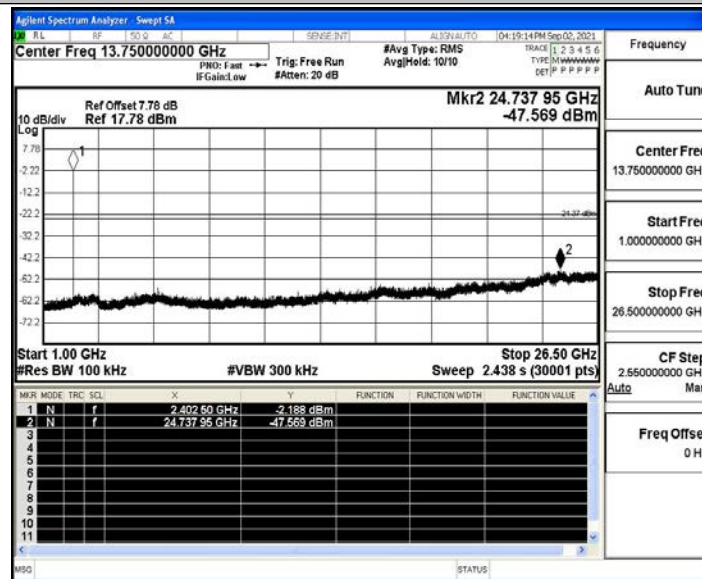


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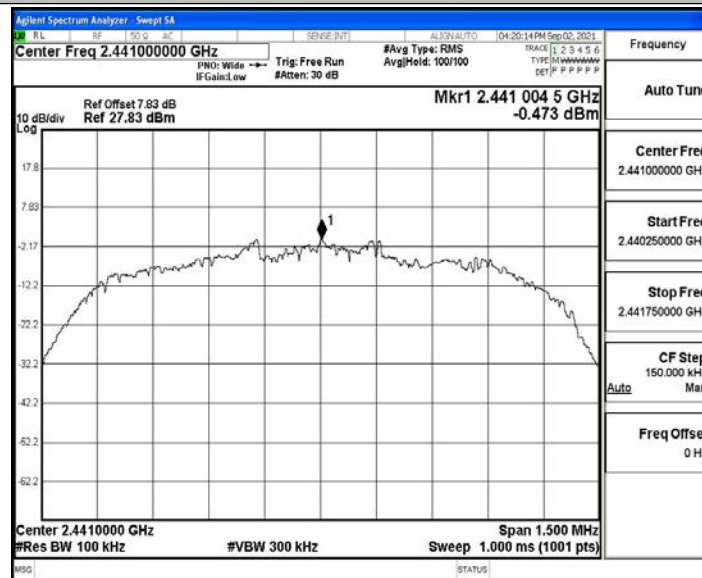




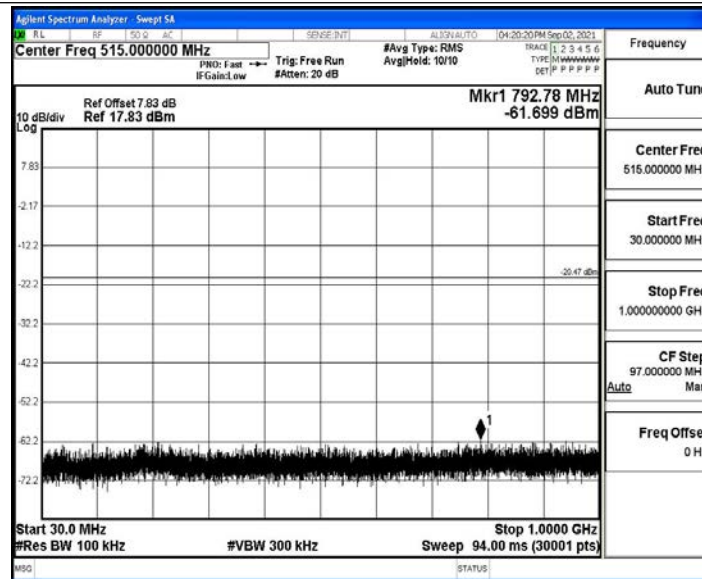
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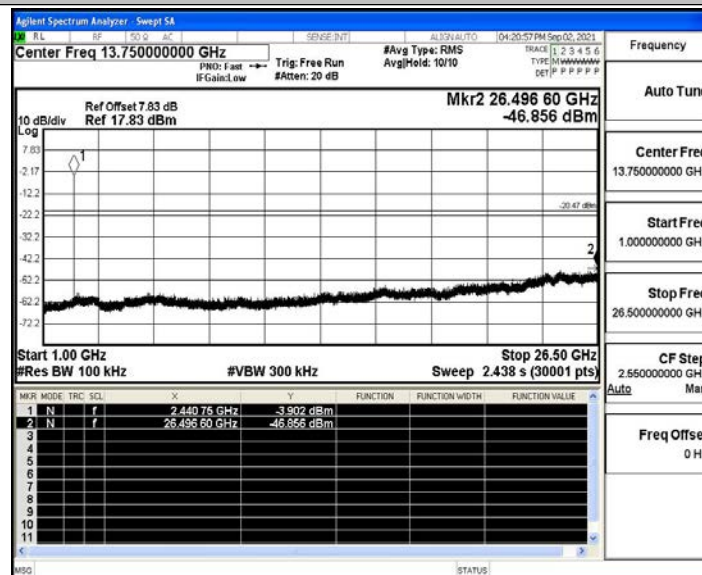
3DH5_Ant1_2441_0~Reference



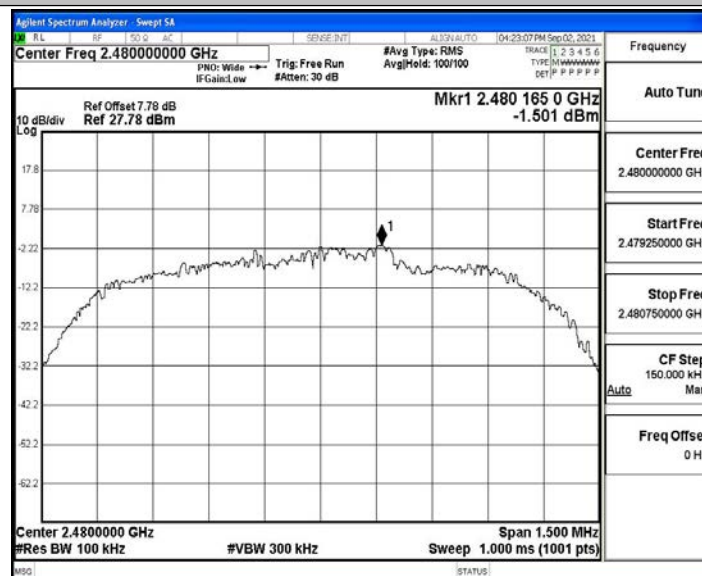
3DH5_Ant1_2441_30~1000



3DH5_Ant1_2441_1000~26500

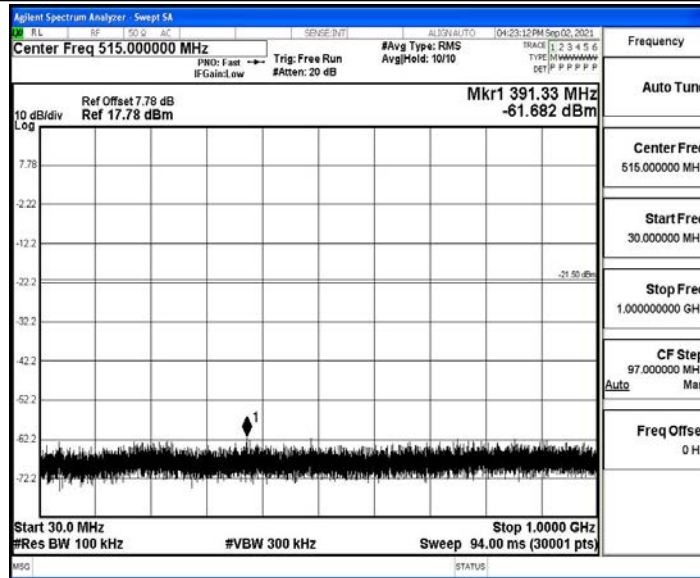


3DH5_Ant1_2480_0~Reference

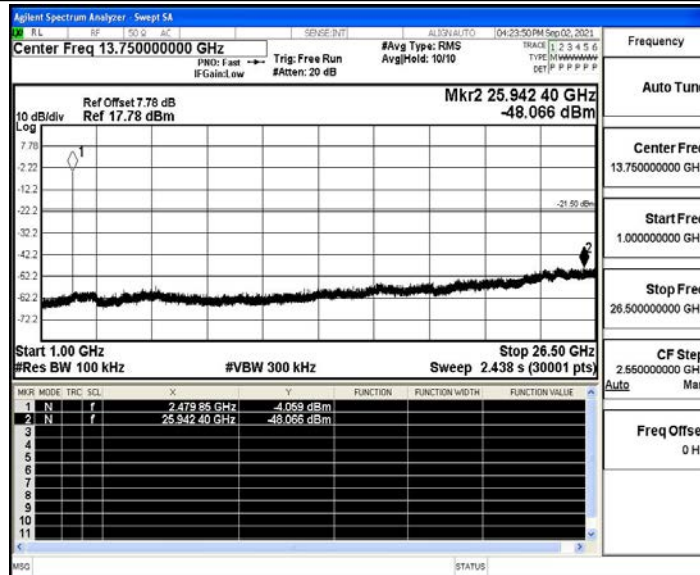


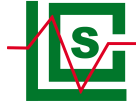


3DH5_Ant1_2480_30~1000



3DH5_Ant1_2480_1000~26500





A.8 Emissions in Restricted Bands

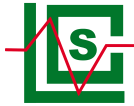
Test Result

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	-48.84	≤-41.20	46.36	≤54	PASS
				AV	2388.830	-48.48	≤-41.20	46.72	≤54	PASS
				AV	2390.000	-48.55	≤-41.20	46.65	≤54	PASS
				Peak	2310.000	-40.73	≤-21.20	54.47	≤74	PASS
				Peak	2383.160	-38.19	≤-21.20	57.01	≤74	PASS
				Peak	2390.000	-40.31	≤-21.20	54.89	≤74	PASS
		High	2480	AV	2483.500	-47.82	≤-41.20	47.38	≤54	PASS
				AV	2483.520	-47.81	≤-41.20	47.39	≤54	PASS
				AV	2500.000	-48	≤-41.20	47.20	≤54	PASS
				Peak	2483.500	-40.29	≤-21.20	54.91	≤74	PASS
				Peak	2494.240	-37.09	≤-21.20	58.11	≤74	PASS
				Peak	2500.000	-40.29	≤-21.20	54.91	≤74	PASS
2DH5	Ant1	Low	2402	AV	2310.000	-48.96	≤-41.20	46.24	≤54	PASS
				AV	2389.565	-48.41	≤-41.20	46.79	≤54	PASS
				AV	2390.000	-48.53	≤-41.20	46.67	≤54	PASS
				Peak	2310.000	-39.01	≤-21.20	56.19	≤74	PASS
				Peak	2385.680	-37.37	≤-21.20	57.83	≤74	PASS
				Peak	2390.000	-39.35	≤-21.20	55.85	≤74	PASS
		High	2480	AV	2483.500	-47.89	≤-41.20	47.31	≤54	PASS
				AV	2496.240	-47.79	≤-41.20	47.41	≤54	PASS
				AV	2500.000	-47.99	≤-41.20	47.21	≤54	PASS
				Peak	2483.500	-39.18	≤-21.20	56.02	≤74	PASS
				Peak	2495.600	-37.79	≤-21.20	57.41	≤74	PASS
				Peak	2500.000	-39.42	≤-21.20	55.78	≤74	PASS
3DH5	Ant1	Low	2402	AV	2310.000	-48.99	≤-41.20	46.21	≤54	PASS
				AV	2385.995	-48.54	≤-41.20	46.66	≤54	PASS
				AV	2390.000	-48.63	≤-41.20	46.57	≤54	PASS
				Peak	2310.000	-42.89	≤-21.20	52.31	≤74	PASS
				Peak	2385.155	-38.33	≤-21.20	56.87	≤74	PASS
				Peak	2390.000	-44.7	≤-21.20	50.50	≤74	PASS
		High	2480	AV	2483.500	-47.92	≤-41.20	47.28	≤54	PASS
				AV	2483.520	-47.92	≤-41.20	47.28	≤54	PASS
				AV	2500.000	-48.11	≤-41.20	47.09	≤54	PASS
				Peak	2483.500	-41	≤-21.20	54.20	≤74	PASS
				Peak	2499.600	-38.93	≤-21.20	56.27	≤74	PASS
				Peak	2500.000	-42.92	≤-21.20	52.28	≤74	PASS



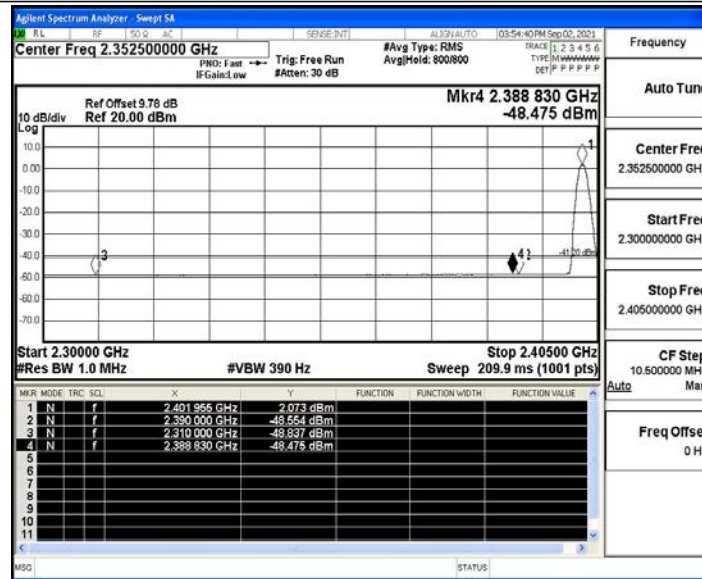
Note:

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.

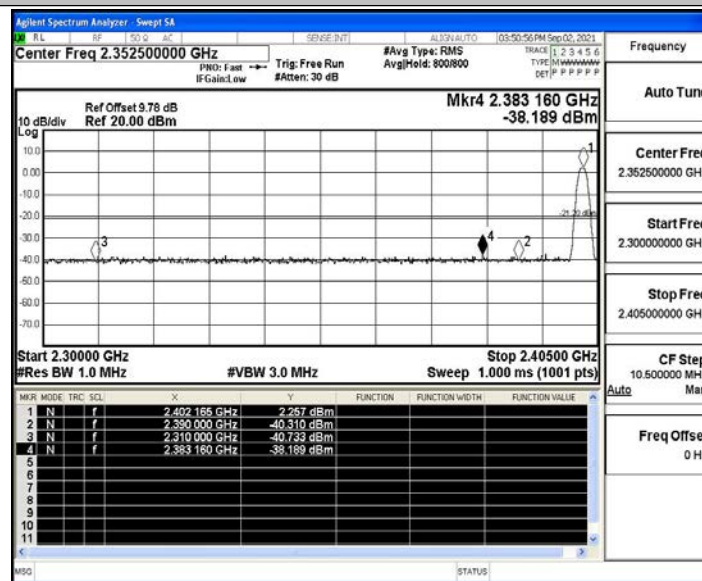


Test Graphs

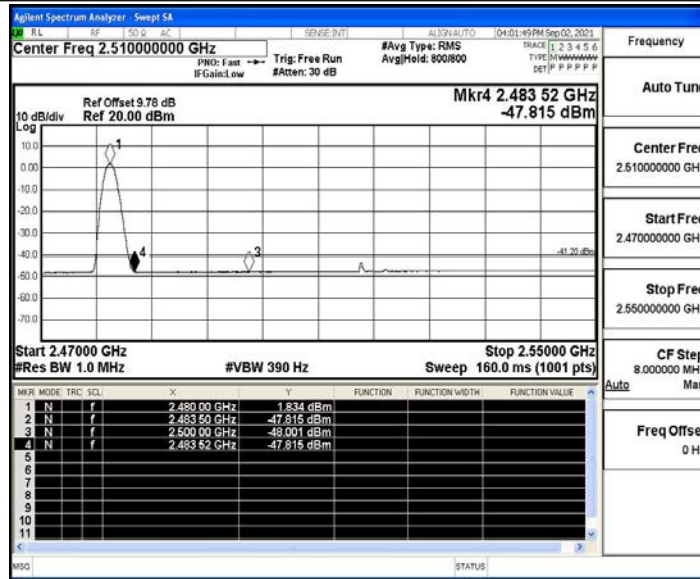
DH5_Ant1_Low_2402_AV



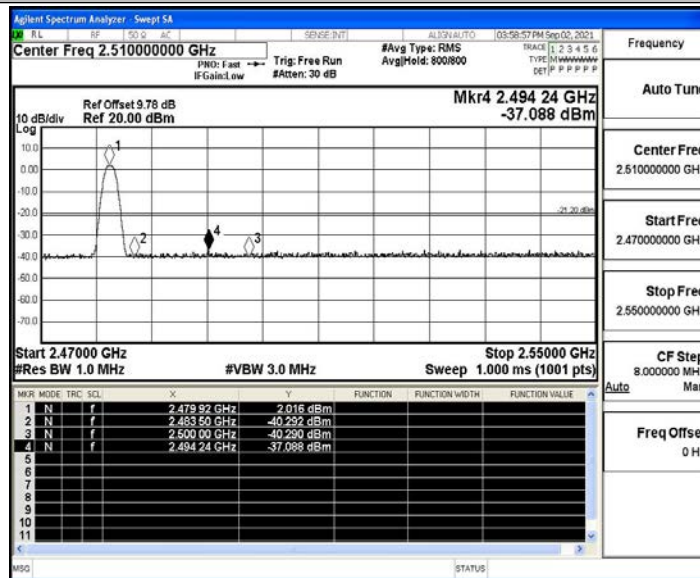
DH5_Ant1_Low_2402_Peak



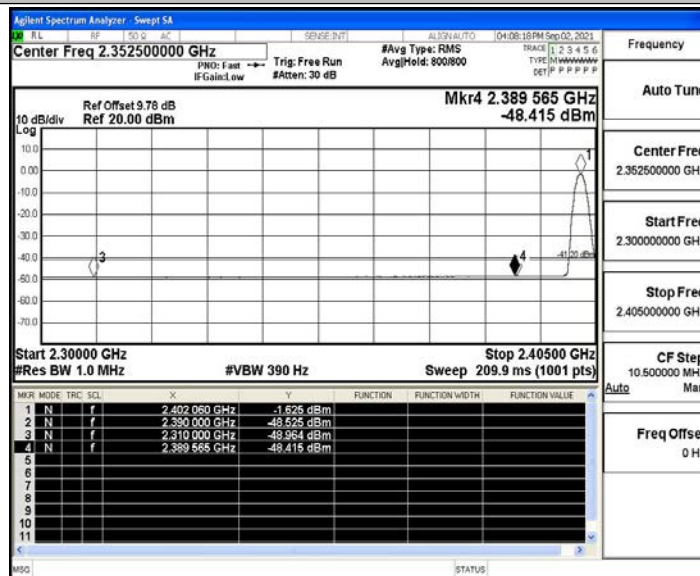
DH5_Ant1_High_2480_AV



DH5_Ant1_High_2480_Peak

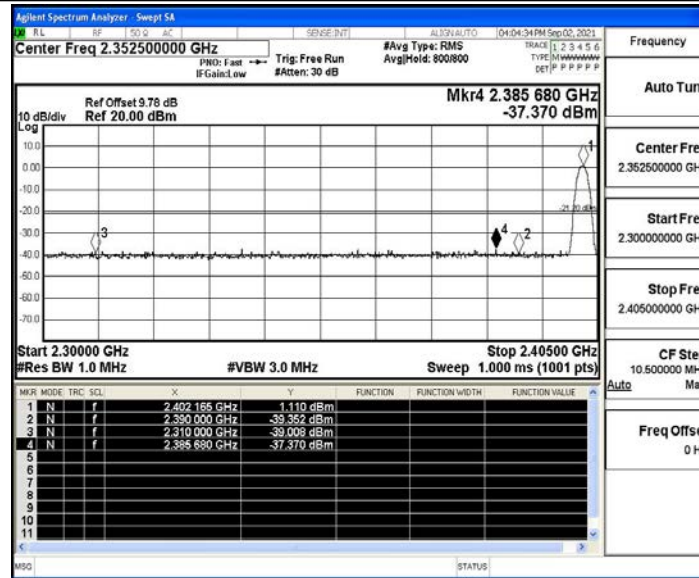


2DH5_Ant1_Low_2402_AV

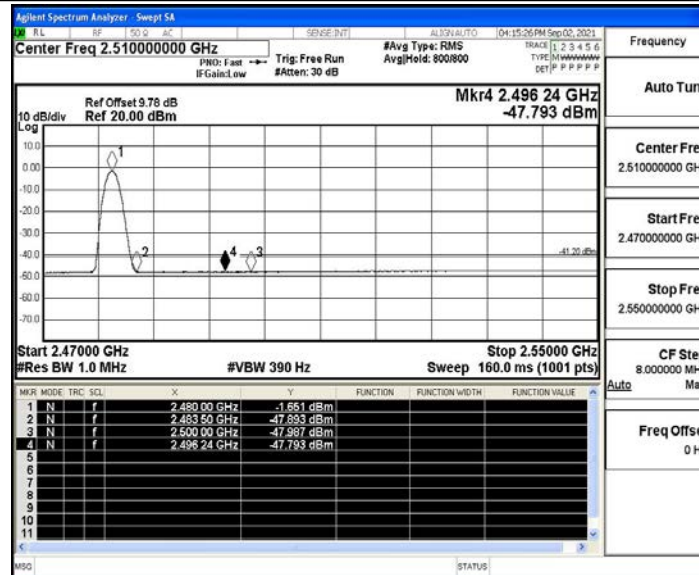




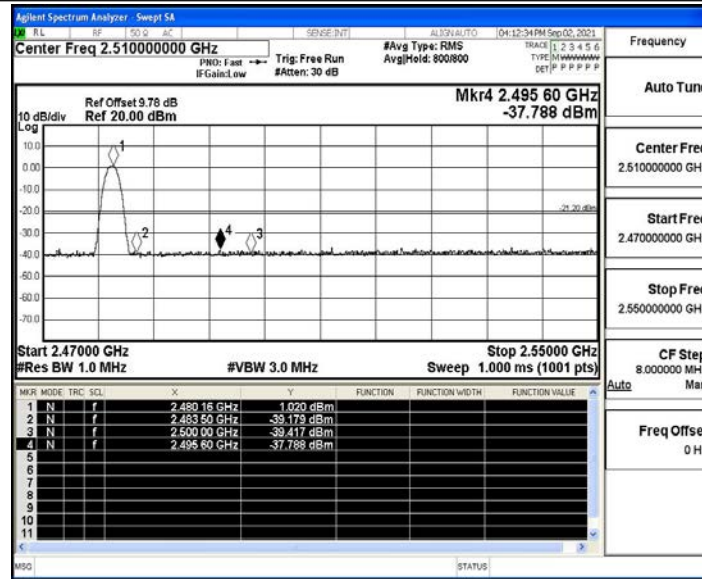
2DH5_Ant1_Low_2402_Peak



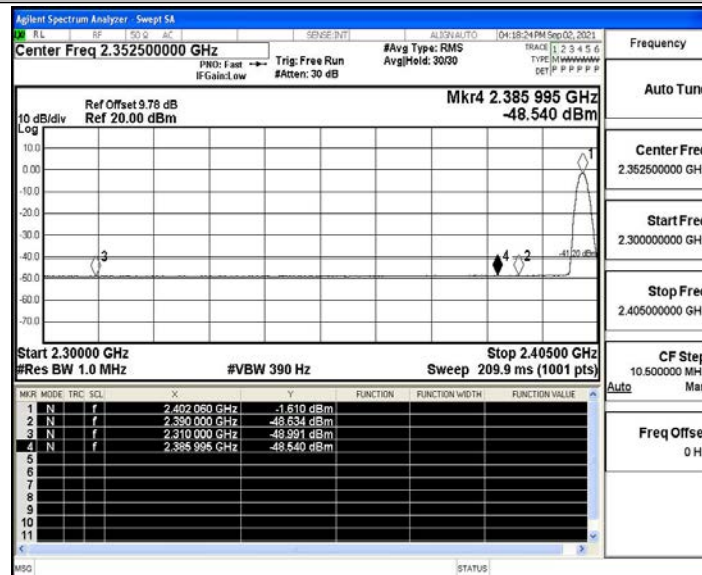
2DH5_Ant1_High_2480_AV



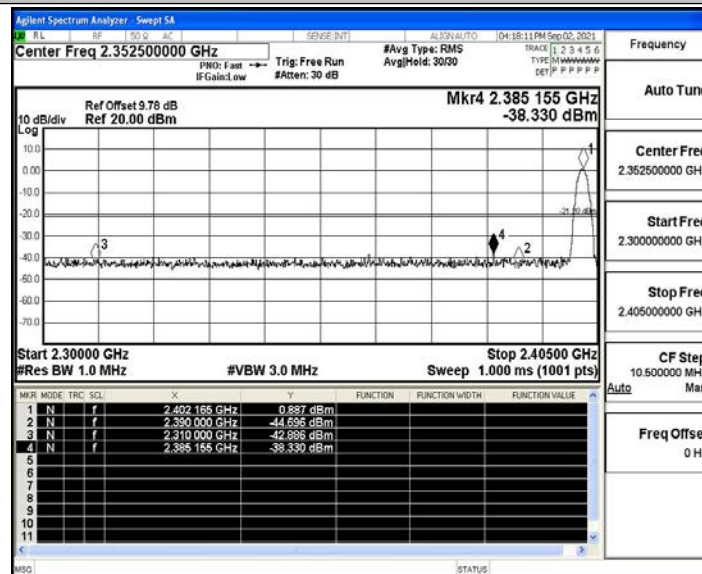
2DH5_Ant1_High_2480_Peak



3DH5_Ant1_Low_2402_AV

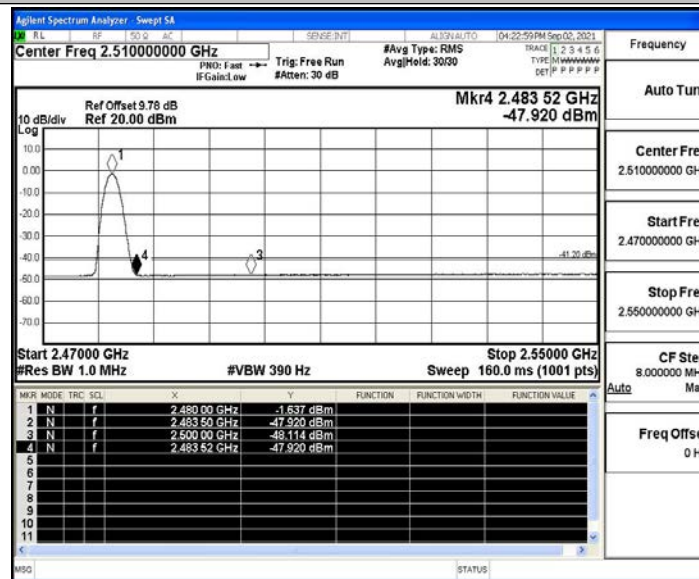


3DH5_Ant1_Low_2402_Peak





3DH5_Ant1_High_2480_AV



3DH5_Ant1_High_2480_Peak

