



Appendix A

RF Test Data for BT V4.0(DSS) (Conducted Measurement)

Product Name: HyTabPlus

Trade Mark: HYUNDAI

Test Model: HT10LB3MBKWW

Environmental Conditions

Temperature:	21.5 ° C
Relative Humidity:	52.8%
ATM Pressure:	100.0 kPa
Test Engineer:	Ken He
Supervised by:	Li Huan



Appendix A.1: 20dB Emission Bandwidth

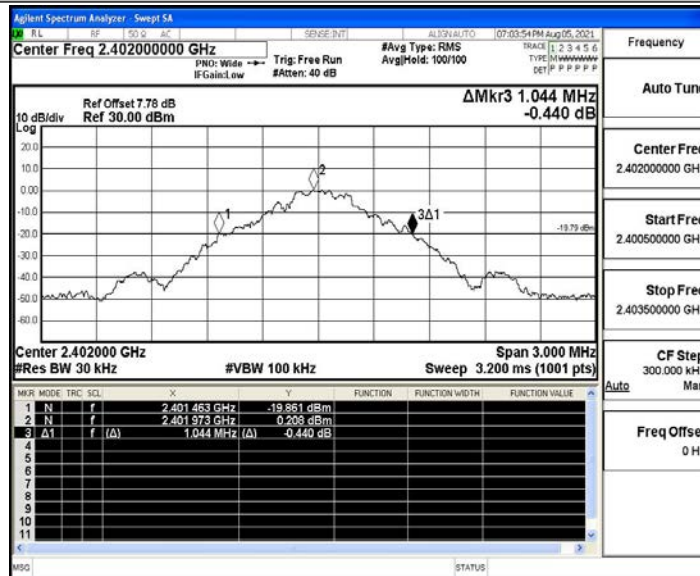
Test Result

TestMode	Antenna	Channel	20db EBW[MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
DH5	Ant1	2402	1.044	2401.463	2402.507	---	PASS
		2441	1.029	2440.460	2441.489	---	PASS
		2480	1.026	2479.463	2480.489	---	PASS
2DH5	Ant1	2402	1.326	2401.334	2402.660	---	PASS
		2441	1.314	2440.340	2441.654	---	PASS
		2480	1.329	2479.331	2480.660	---	PASS
3DH5	Ant1	2402	1.311	2401.346	2402.657	---	PASS
		2441	1.305	2440.343	2441.648	---	PASS
		2480	1.293	2479.352	2480.645	---	PASS

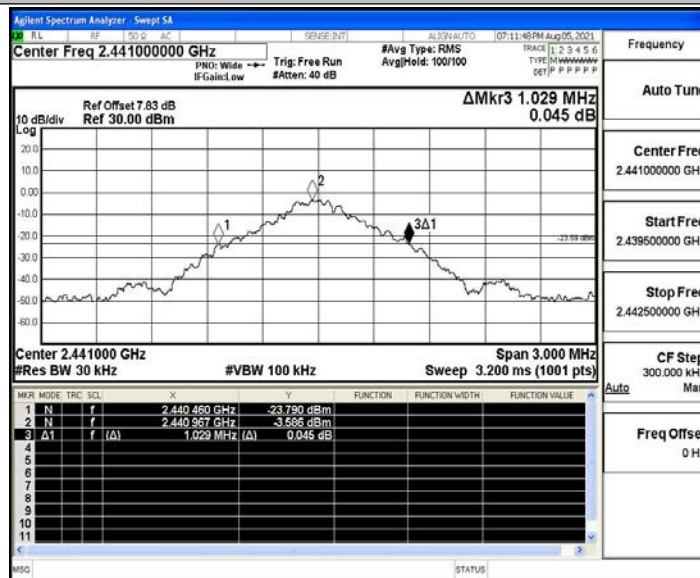


Test Graphs

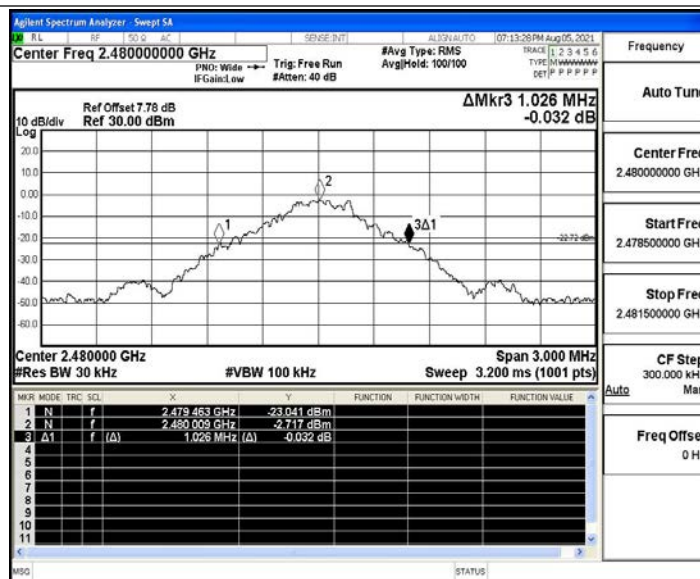
DH5_Ant1_2402



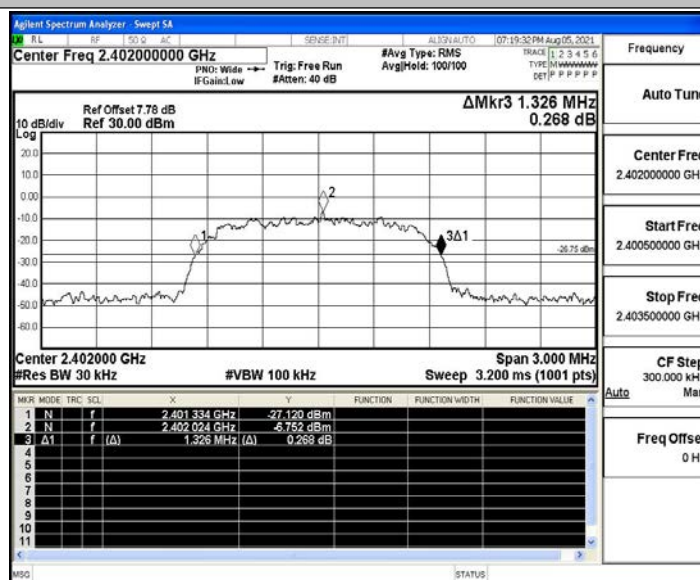
DH5_Ant1_2441



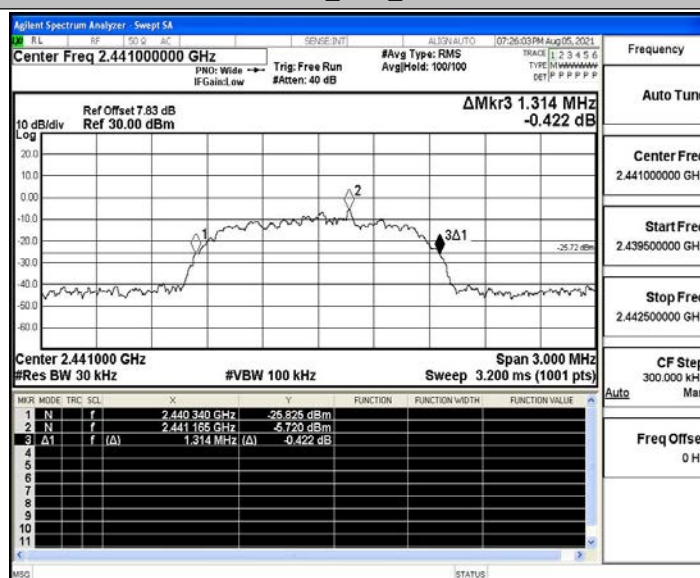
DH5_Ant1_2480



2DH5_Ant1_2402

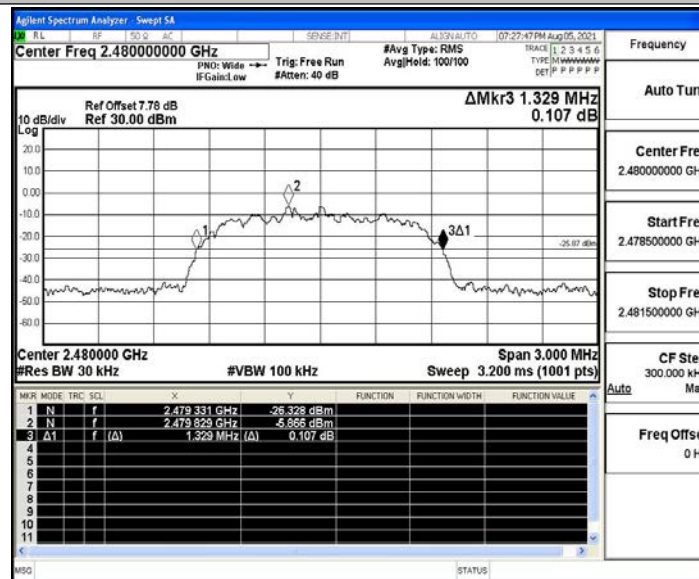


2DH5_Ant1_2441

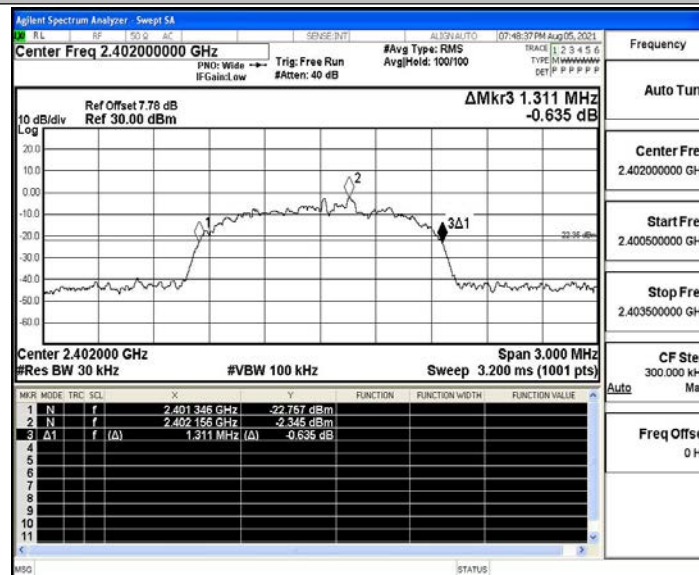




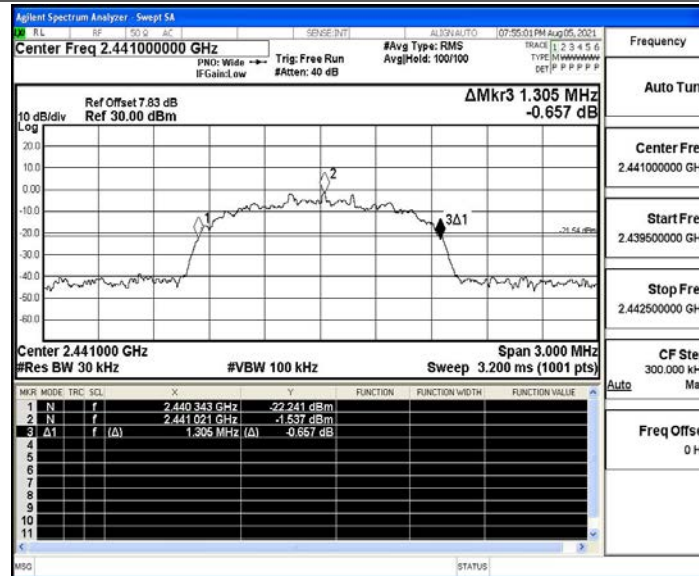
2DH5_Ant1_2480



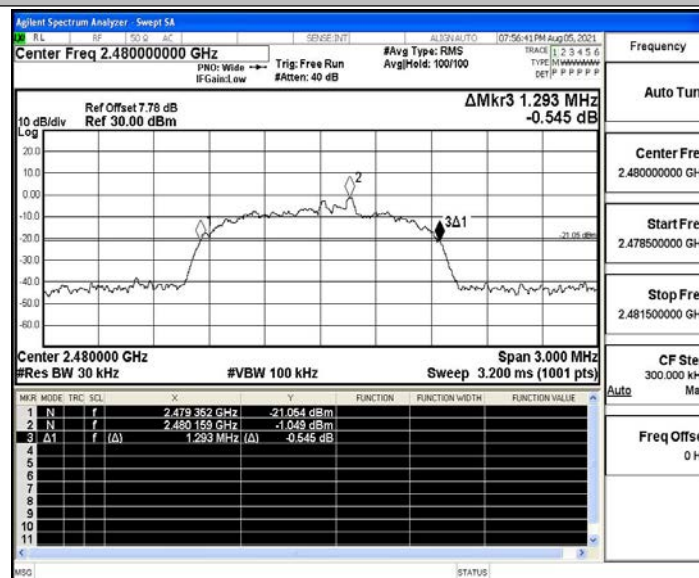
3DH5_Ant1_2402



3DH5_Ant1_2441



3DH5_Ant1_2480





Appendix A.2: Maximum peak conducted output power

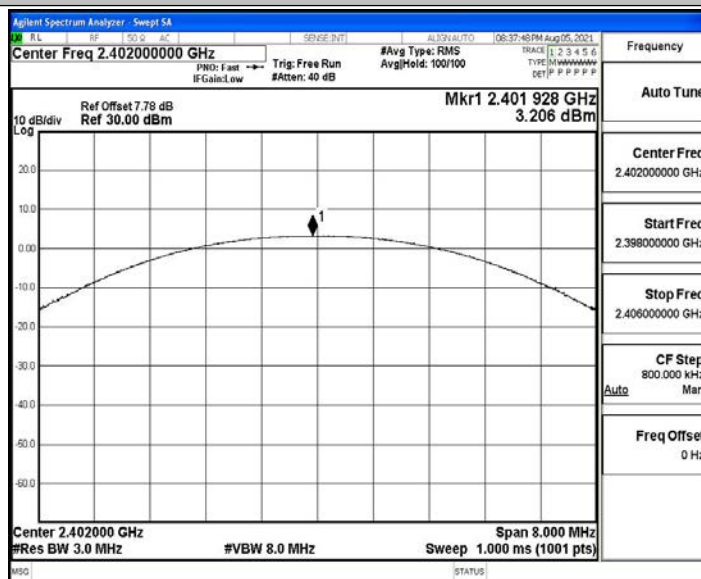
Test Result

TestMode	Antenna	Channel	Result[dBm]	Limit[dBm]	Verdict
DH5	Ant1	2402	3.21	≤ 20.97	PASS
		2441	4.46	≤ 20.97	PASS
		2480	3.09	≤ 20.97	PASS
2DH5	Ant1	2402	2.37	≤ 20.97	PASS
		2441	3.54	≤ 20.97	PASS
		2480	2.2	≤ 20.97	PASS
3DH5	Ant1	2402	2.4	≤ 20.97	PASS
		2441	3.68	≤ 20.97	PASS
		2480	2.29	≤ 20.97	PASS

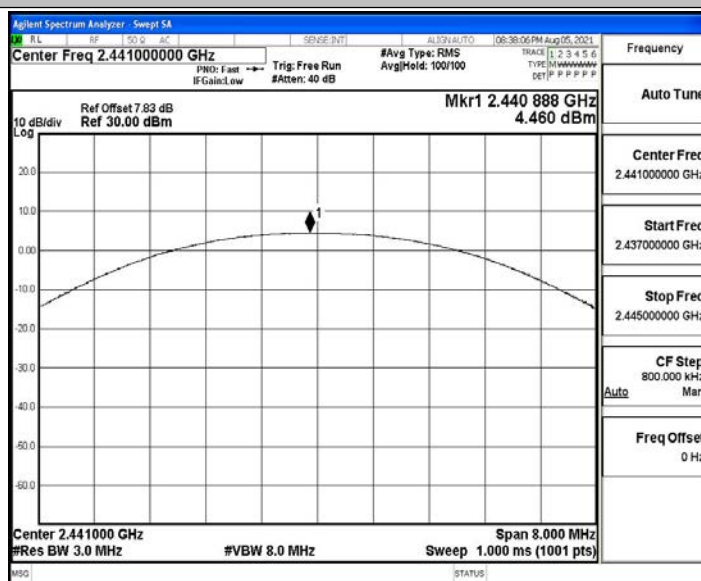


Test Graphs

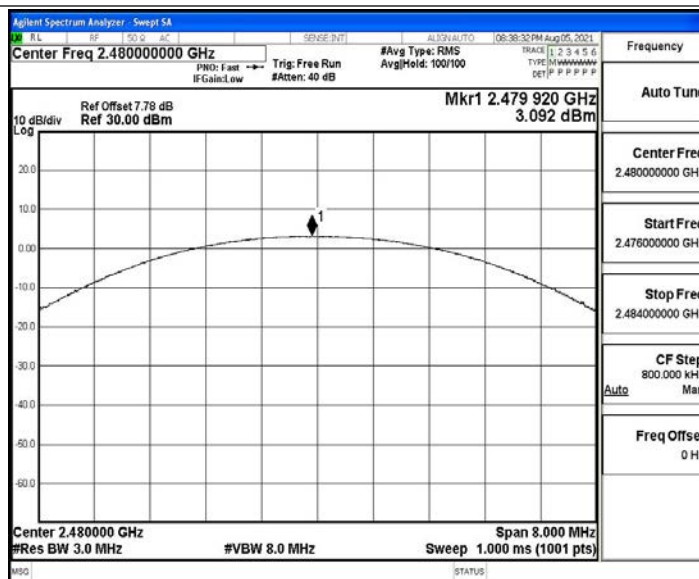
DH5_Ant1_2402



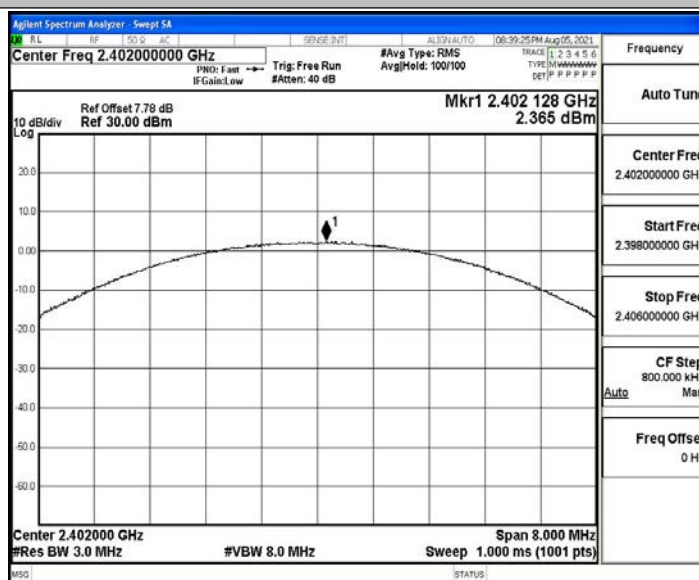
DH5_Ant1_2441



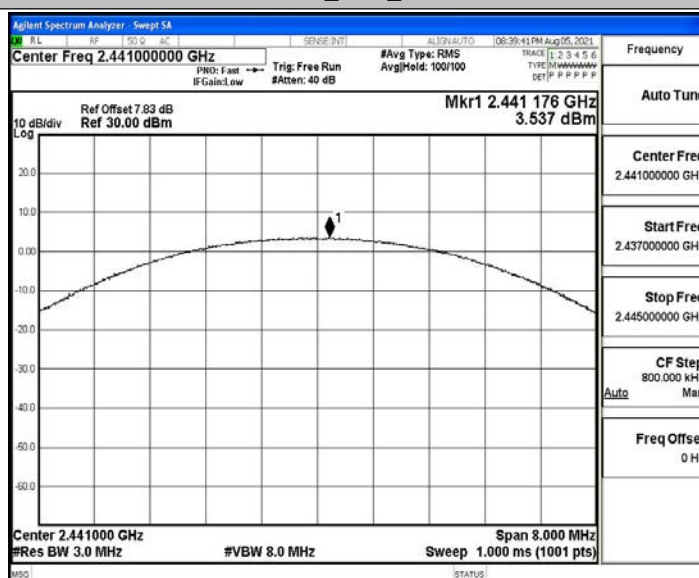
DH5_Ant1_2480



2DH5_Ant1_2402

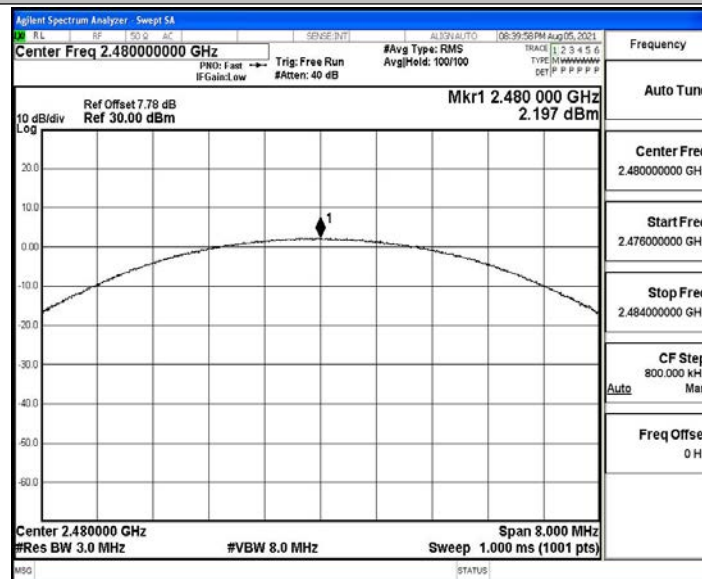


2DH5_Ant1_2441

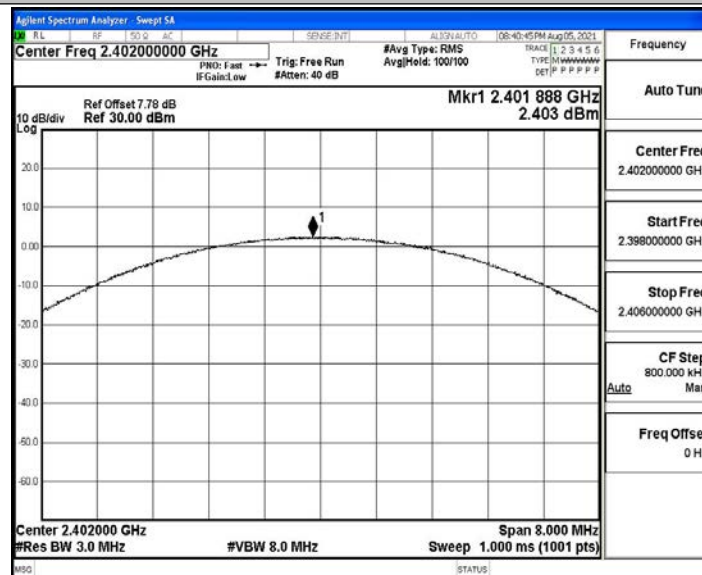




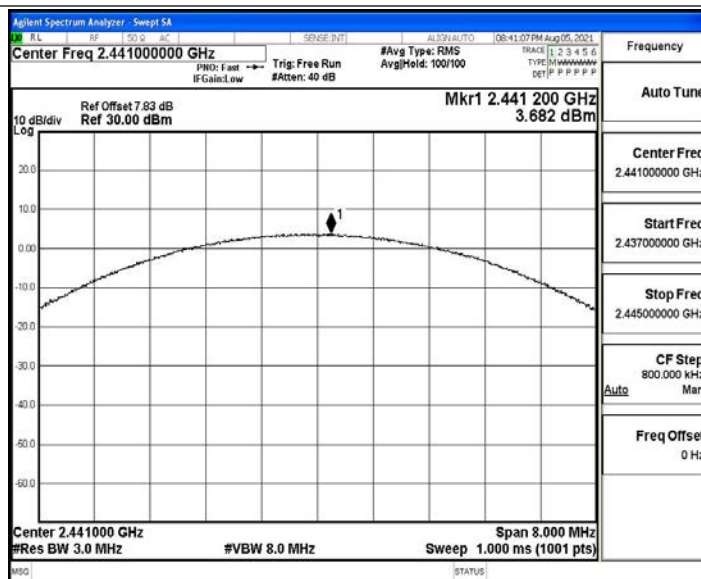
2DH5_Ant1_2480



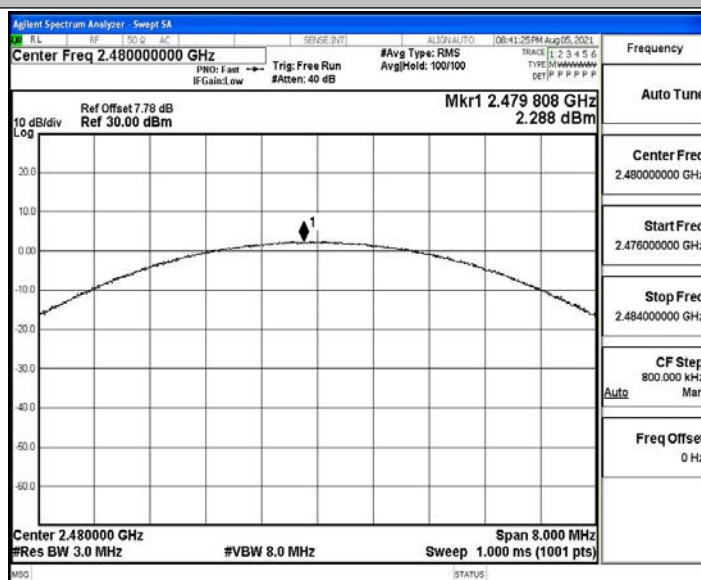
3DH5_Ant1_2402



3DH5_Ant1_2441



3DH5_Ant1_2480





Appendix A.3: Carrier frequency separation

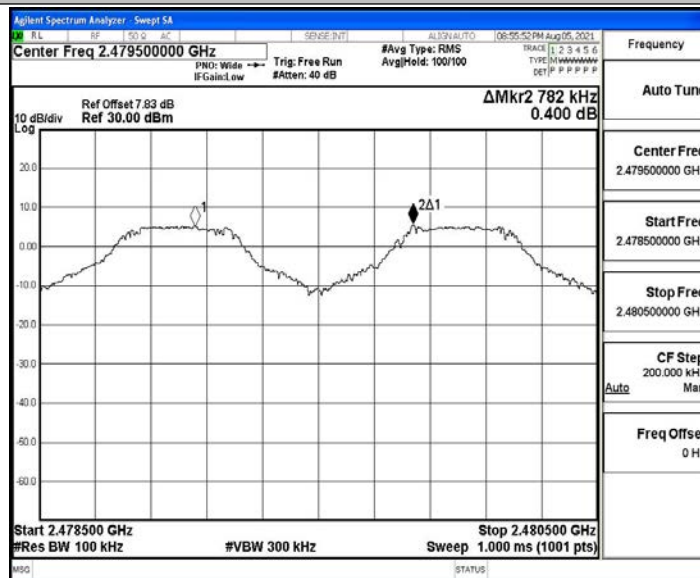
Test Result

TestMode	Antenna	Channel	Result[dBm]	Limit[dBm]	Verdict
DH5	Ant1	Hop	0.782	≥ 0.696	PASS
2DH5	Ant1	Hop	1.014	≥ 0.886	PASS
3DH5	Ant1	Hop	0.998	≥ 0.874	PASS

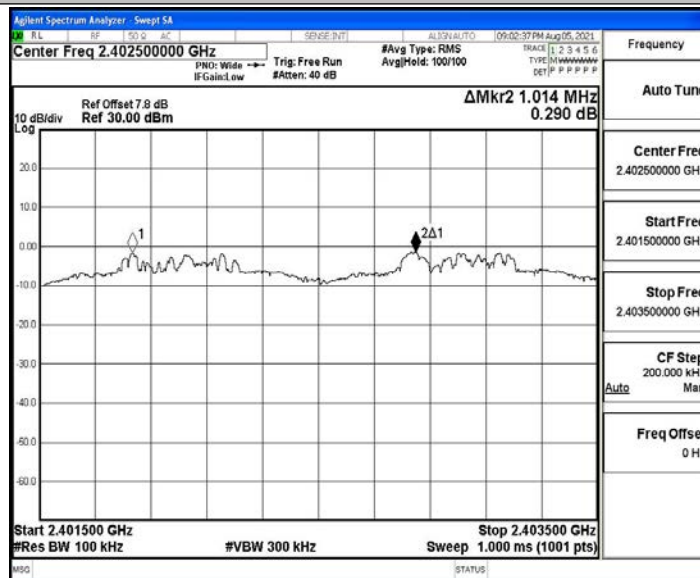


Test Graphs

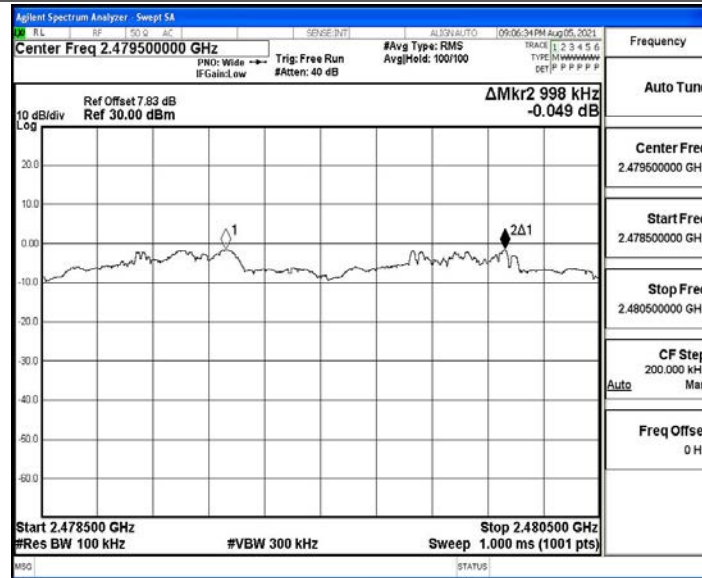
DH5_Ant1_Hop



2DH5_Ant1_Hop



3DH5_Ant1_Hop





Appendix A.4: Time of occupancy

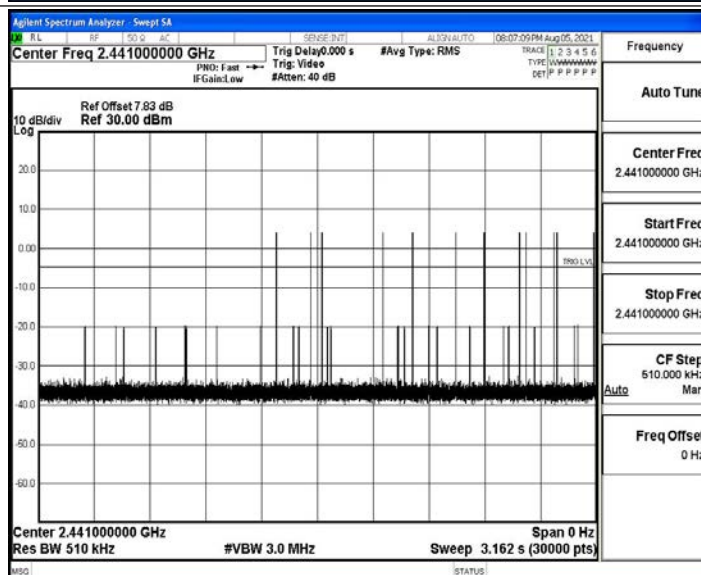
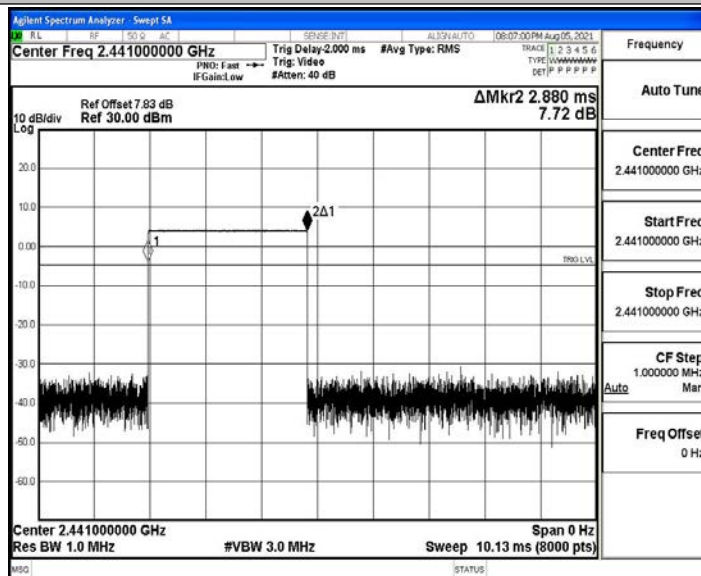
Test Result

TestMode	Antenna	Channel	BurstWidth [ms]	TotalHops [Num]	Result[s]	Limit[s]	Verdict
DH5	Ant1	Hop	2.88	130	0.374	≤0.4	PASS
2DH5	Ant1	Hop	2.88	70	0.202	≤0.4	PASS
3DH5	Ant1	Hop	2.89	120	0.346	≤0.4	PASS

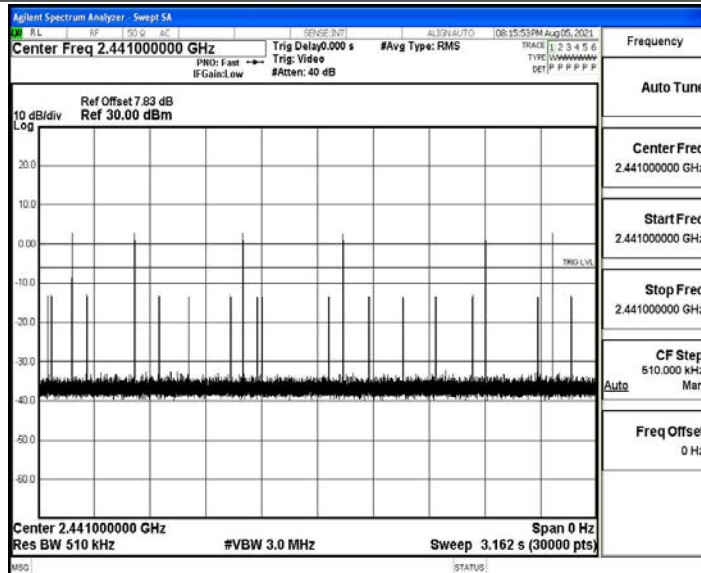
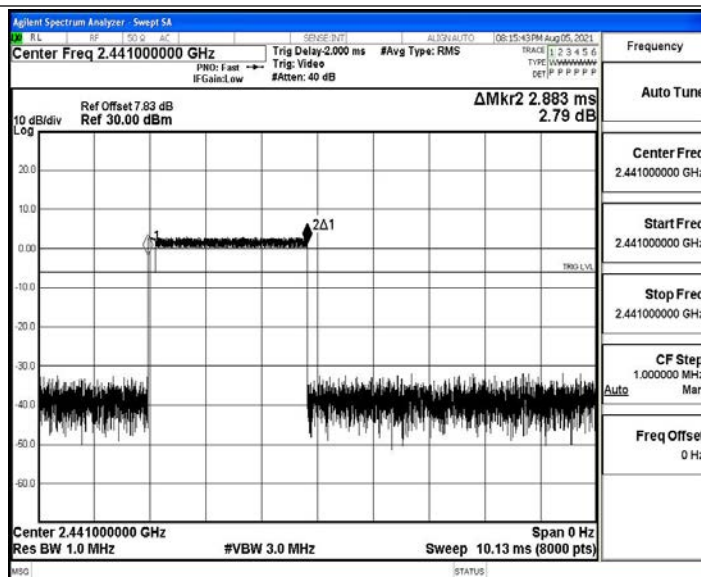


Test Graphs

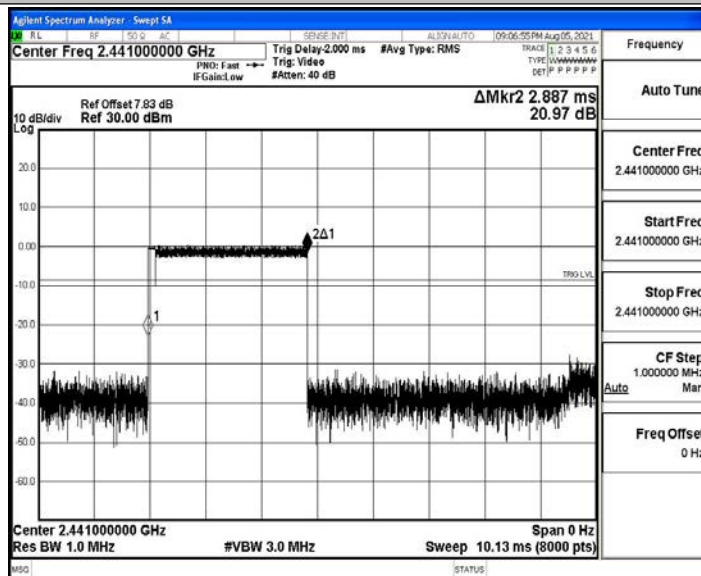
DH5_Ant1_Hop

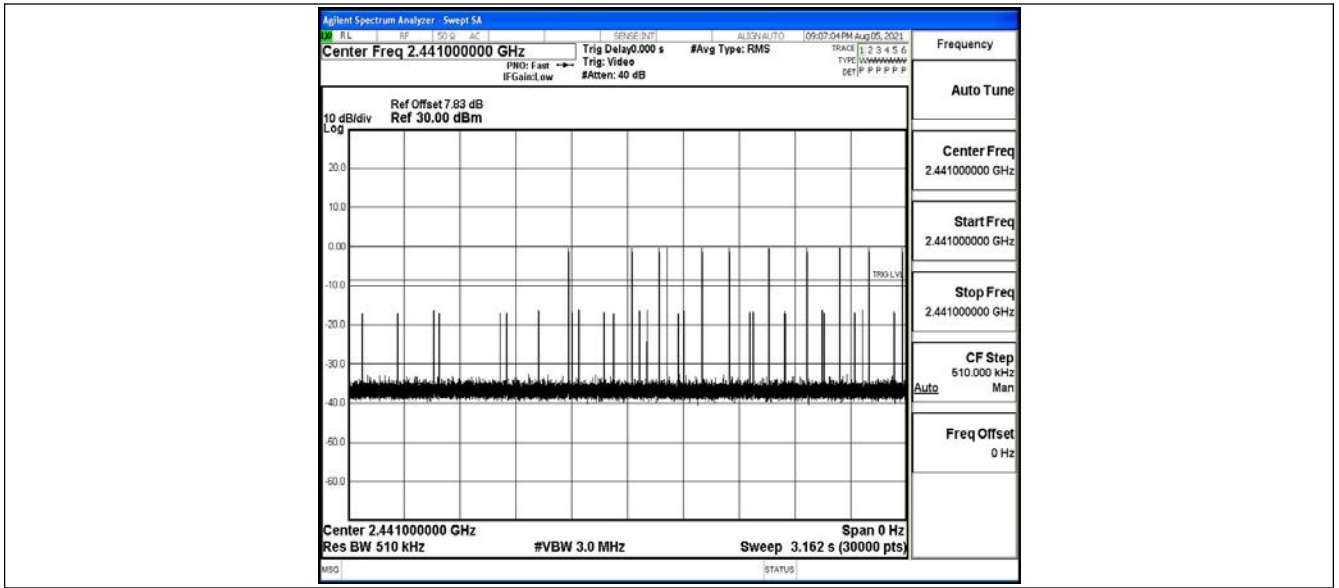


2DH5_Ant1_Hop



3DH5_Ant1_Hop







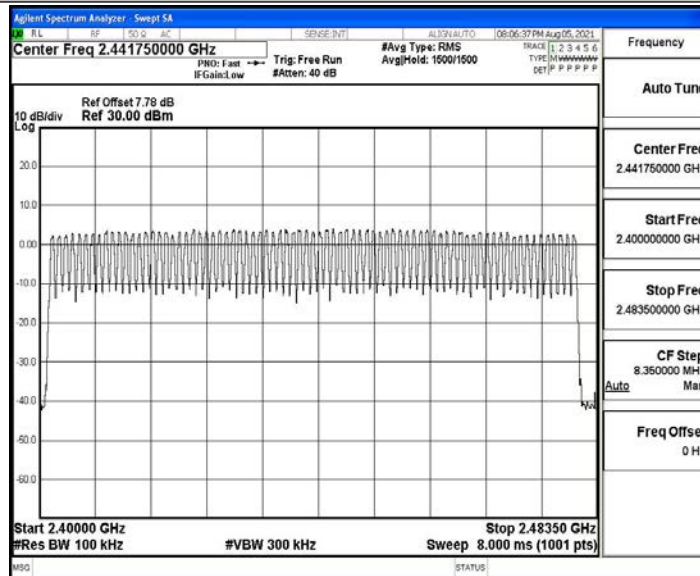
Appendix A.5: Number of hopping channels

Test Result

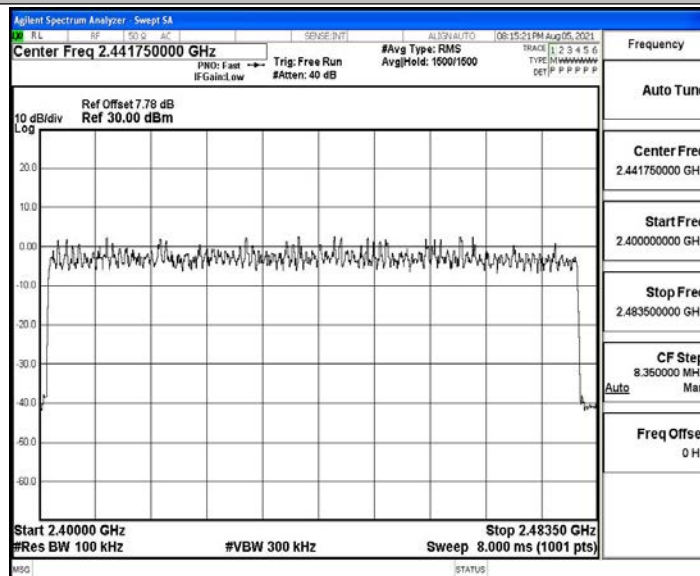
TestMode	Antenna	Channel	Result[Num]	Limit[Num]	Verdict
DH5	Ant1	Hop	79	≥ 15	PASS
2DH5	Ant1	Hop	79	≥ 15	PASS
3DH5	Ant1	Hop	79	≥ 15	PASS

Test Graphs

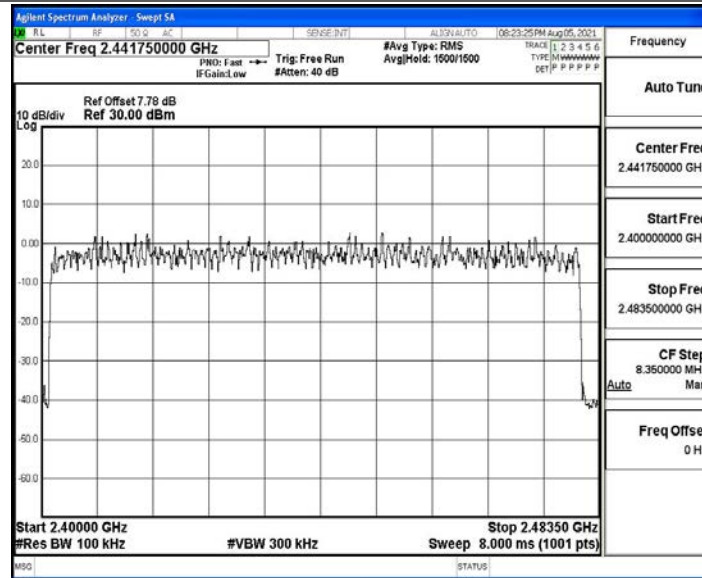
DH5_Ant1_Hop



2DH5_Ant1_Hop



3DH5_Ant1_Hop





Appendix A.6: Band edge measurements

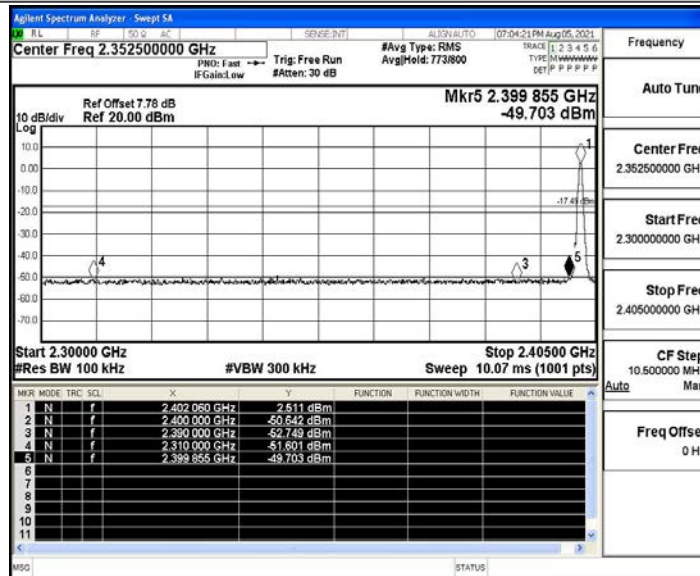
Test Result

TestMode	Antenna	ChName	Channel	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
DH5	Ant1	Low	2402	2.51	-49.7	≤ -17.49	PASS
		High	2480	-0.29	-47.59	≤ -20.29	PASS
		Low	Hop_2402	2.35	-49.89	≤ -17.65	PASS
		High	Hop_2480	2.72	-48.51	≤ -17.28	PASS
2DH5	Ant1	Low	2402	-1.96	-49.71	≤ -21.96	PASS
		High	2480	-1.44	-48.03	≤ -21.44	PASS
		Low	Hop_2402	-1.38	-49.77	≤ -21.38	PASS
		High	Hop_2480	0.13	-48.69	≤ -19.87	PASS
3DH5	Ant1	Low	2402	1.27	-48.99	≤ -18.73	PASS
		High	2480	1.24	-48.34	≤ -18.76	PASS
		Low	Hop_2402	-1.10	-49.32	≤ -21.1	PASS
		High	Hop_2480	1.58	-48.36	≤ -18.42	PASS

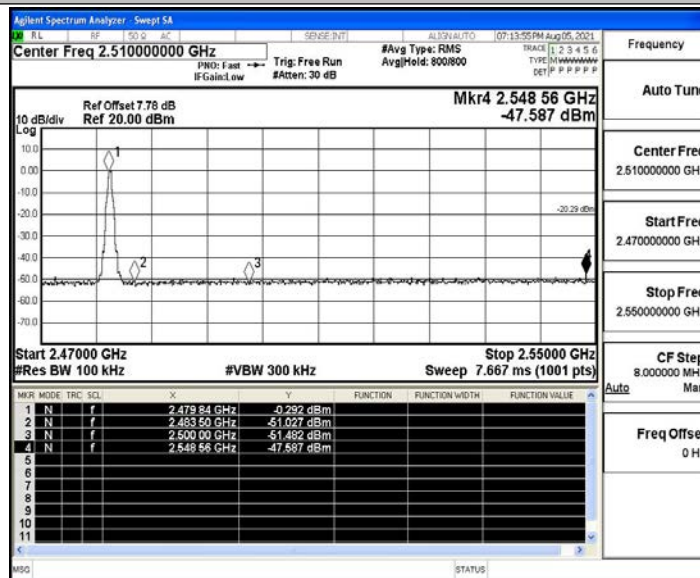


Test Graphs

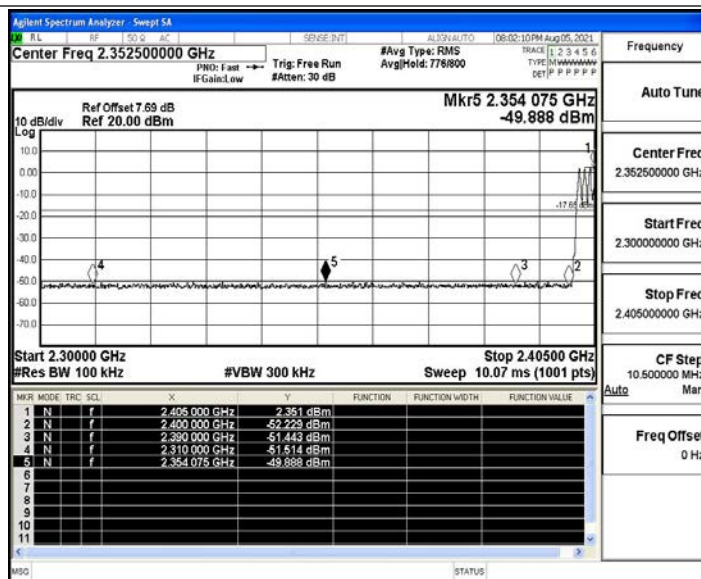
DH5_Ant1_Low_2402



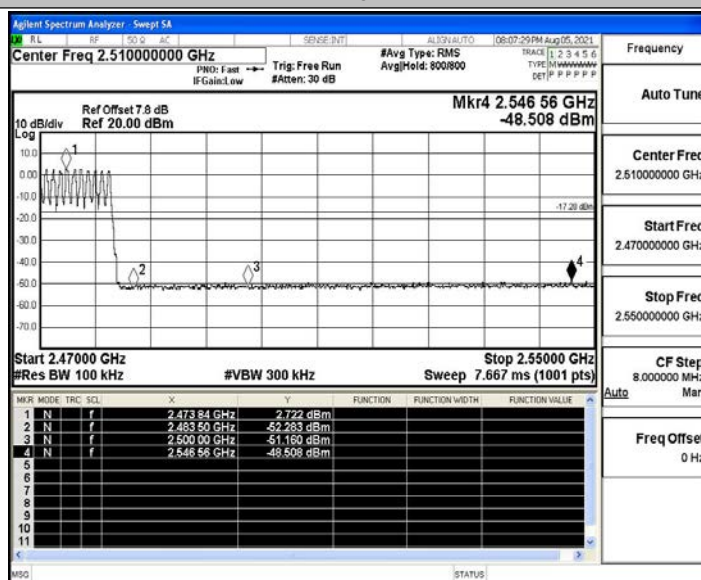
DH5_Ant1_High_2480



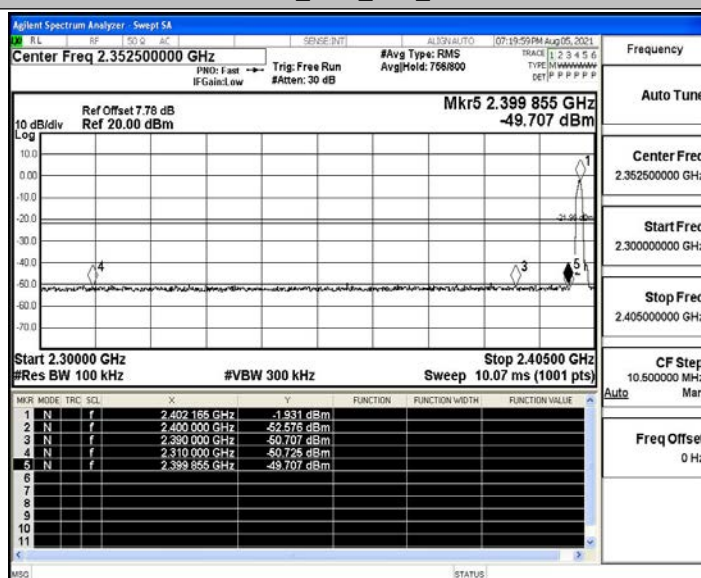
DH5_Ant1_Low_Hop_2402



DH5_Ant1_High_Hop_2480

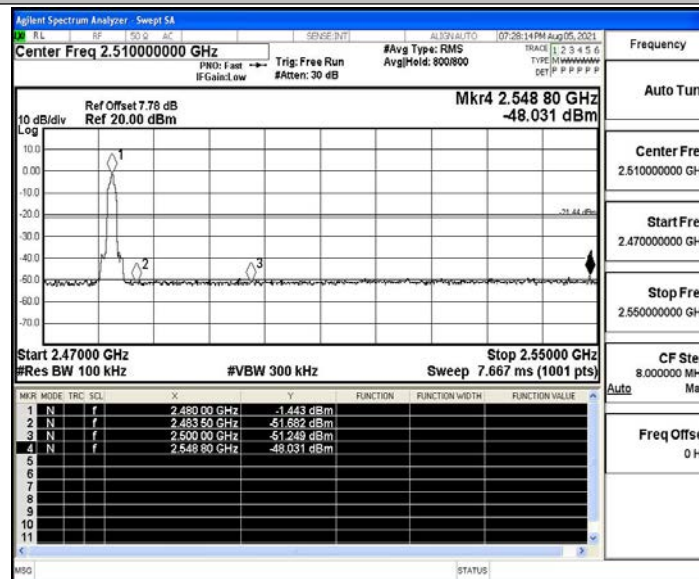


2DH5_Ant1_Low_2402

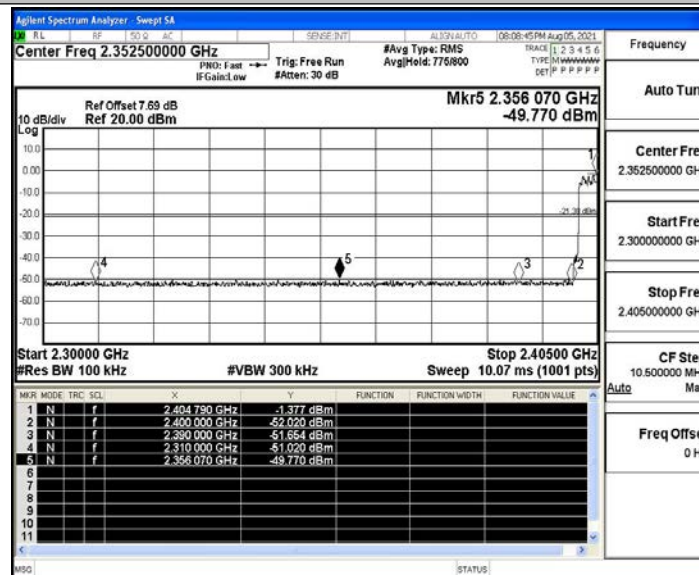




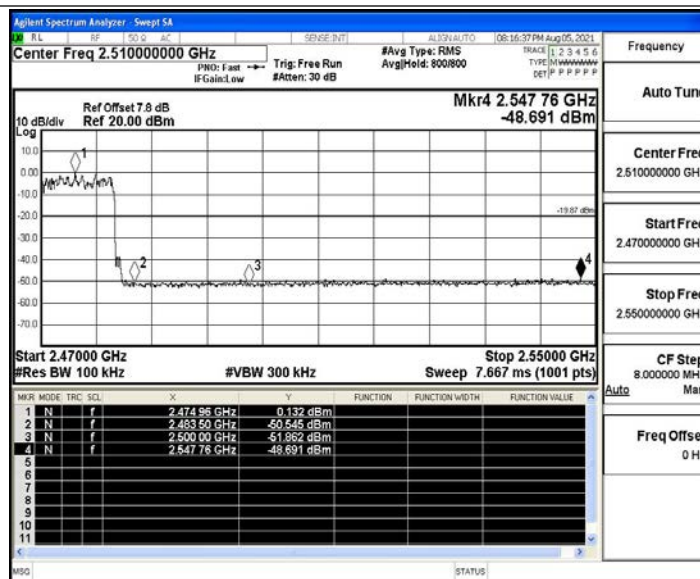
2DH5_Ant1_High_2480



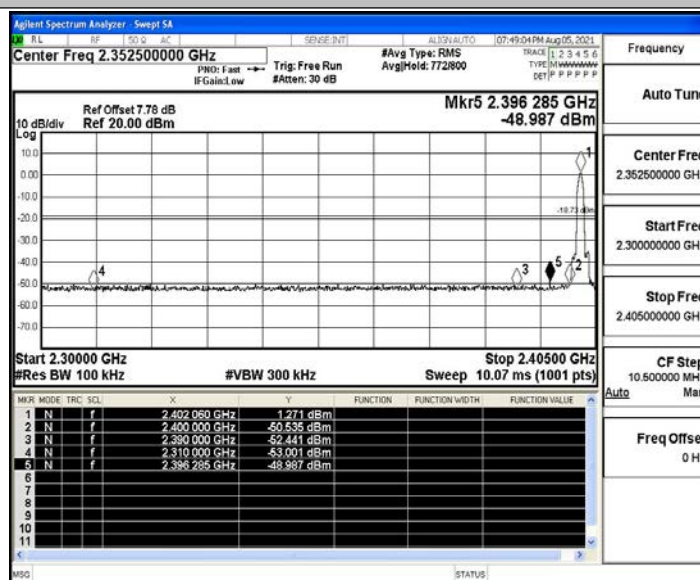
2DH5_Ant1_Low_Hop_2402



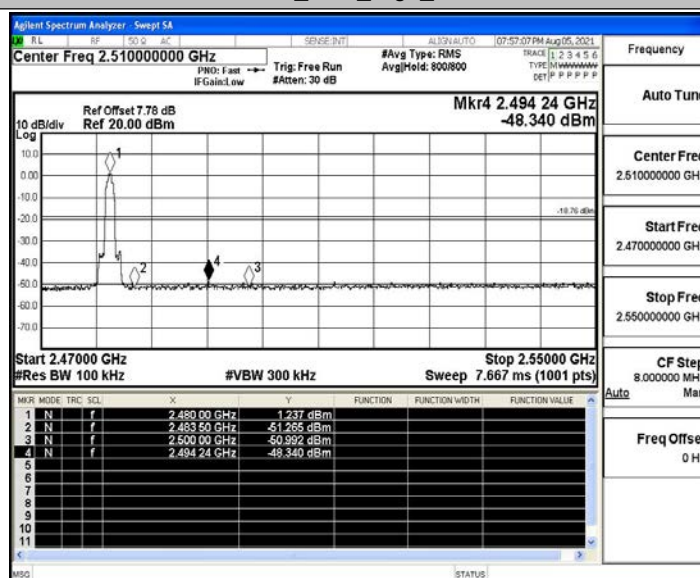
2DH5_Ant1_High_Hop_2480



3DH5_Ant1_Low_2402

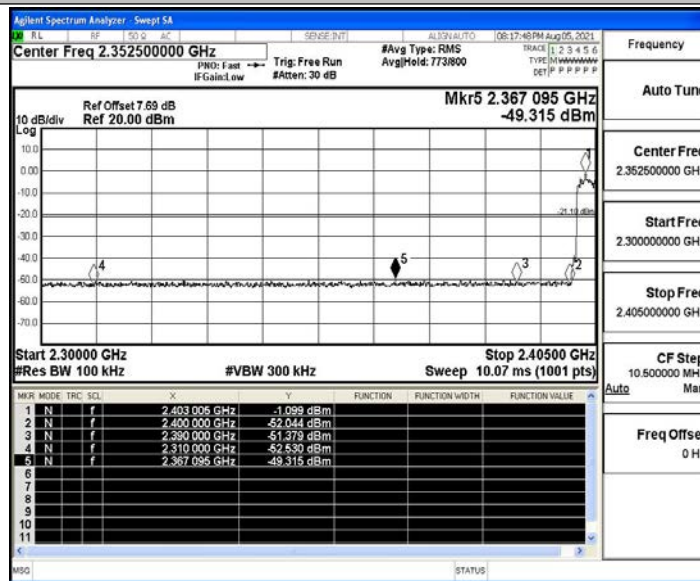


3DH5_Ant1_High_2480

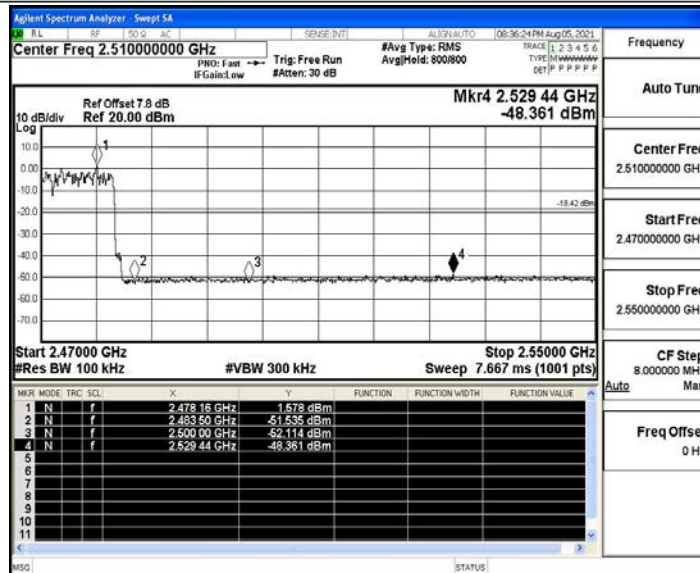




3DH5_Ant1_Low_Hop_2402



3DH5_Ant1_High_Hop_2480





Appendix A.7: Conducted Spurious Emission

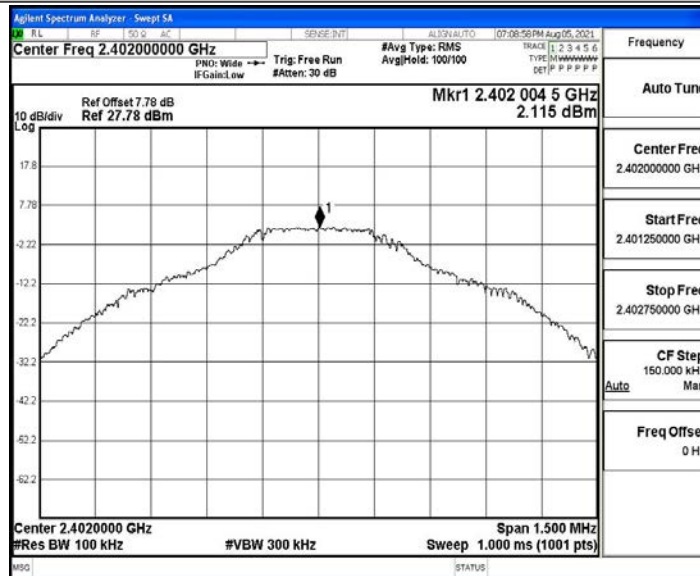
Test Result

TestMode	Antenna	Channel	FreqRange [MHz]	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
DH5	Ant1	2402	Reference	2.12	2.12	---	PASS
			30~1000	2.12	-61.72	≤ -17.89	PASS
			1000~26500	2.12	-47.17	≤ -17.89	PASS
		2441	Reference	-1.77	-1.77	---	PASS
			30~1000	-1.77	-60.38	≤ -21.77	PASS
			1000~26500	-1.77	-46.99	≤ -21.77	PASS
		2480	Reference	-0.28	-0.28	---	PASS
			30~1000	-0.28	-59.54	≤ -20.28	PASS
			1000~26500	-0.28	-47.12	≤ -20.28	PASS
2DH5	Ant1	2402	Reference	-2.13	-2.13	---	PASS
			30~1000	-2.13	-58.14	≤ -22.13	PASS
			1000~26500	-2.13	-47.98	≤ -22.13	PASS
		2441	Reference	-3.04	-3.04	---	PASS
			30~1000	-3.04	-59.24	≤ -23.04	PASS
			1000~26500	-3.04	-47.13	≤ -23.04	PASS
		2480	Reference	-4.72	-4.72	---	PASS
			30~1000	-4.72	-60.71	≤ -24.72	PASS
			1000~26500	-4.72	-47.19	≤ -24.72	PASS
3DH5	Ant1	2402	Reference	1.16	1.16	---	PASS
			30~1000	1.16	-60.12	≤ -18.85	PASS
			1000~26500	1.16	-47.5	≤ -18.85	PASS
		2441	Reference	1.46	1.46	---	PASS
			30~1000	1.46	-61.75	≤ -18.55	PASS
			1000~26500	1.46	-47.53	≤ -18.55	PASS
		2480	Reference	1.07	1.07	---	PASS
			30~1000	1.07	-60.31	≤ -18.93	PASS
			1000~26500	1.07	-47.37	≤ -18.93	PASS

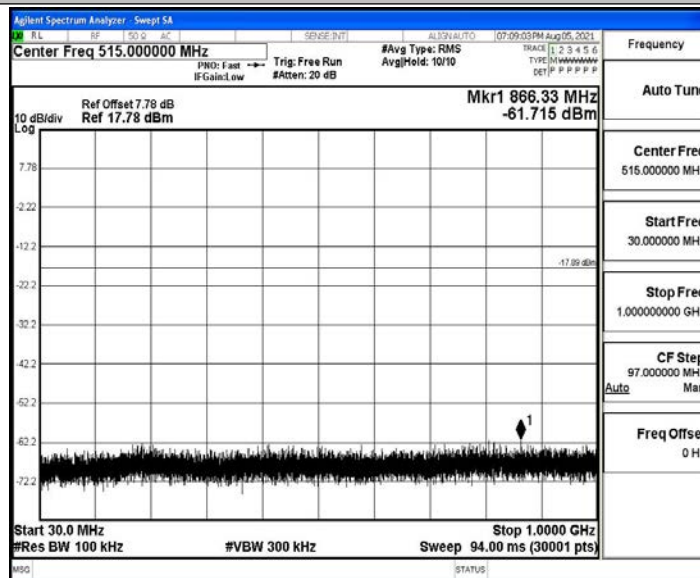


Test Graphs

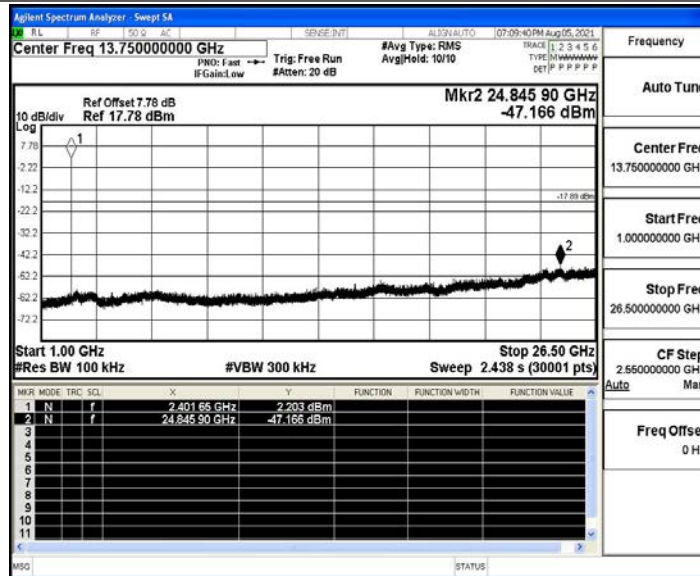
DH5_Ant1_2402_0~Reference



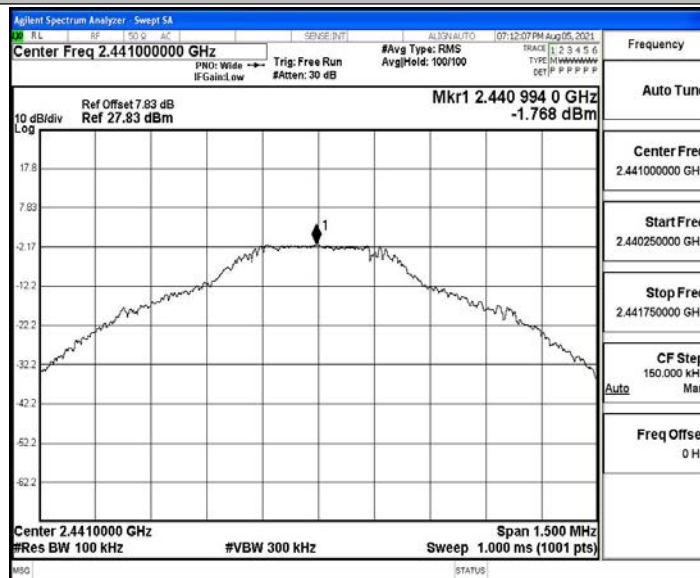
DH5_Ant1_2402_30~1000



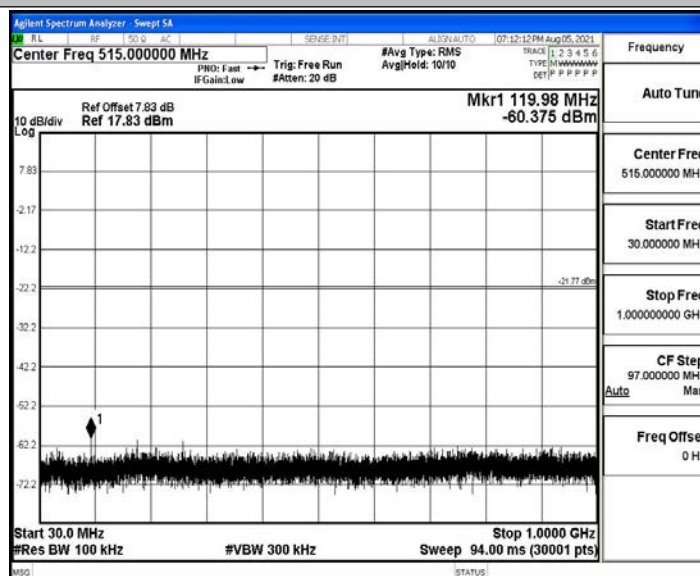
DH5_Ant1_2402_1000~26500



DH5_Ant1_2441_0~Reference

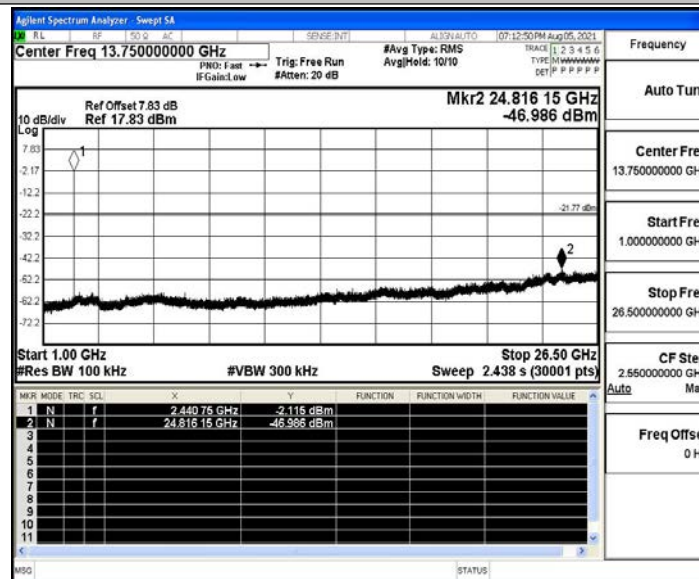


DH5_Ant1_2441_30~1000

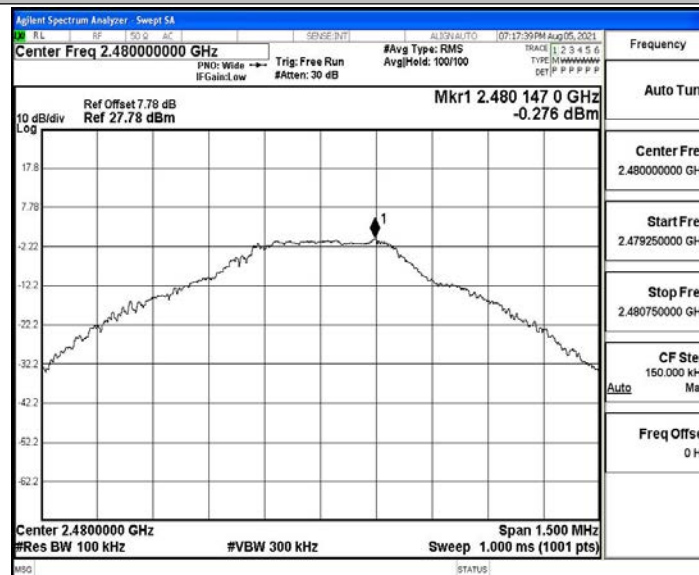




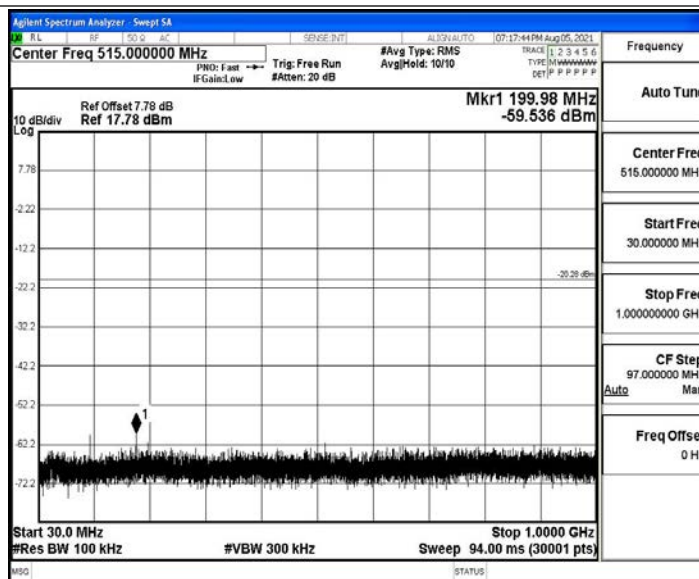
DH5_Ant1_2441_1000~26500



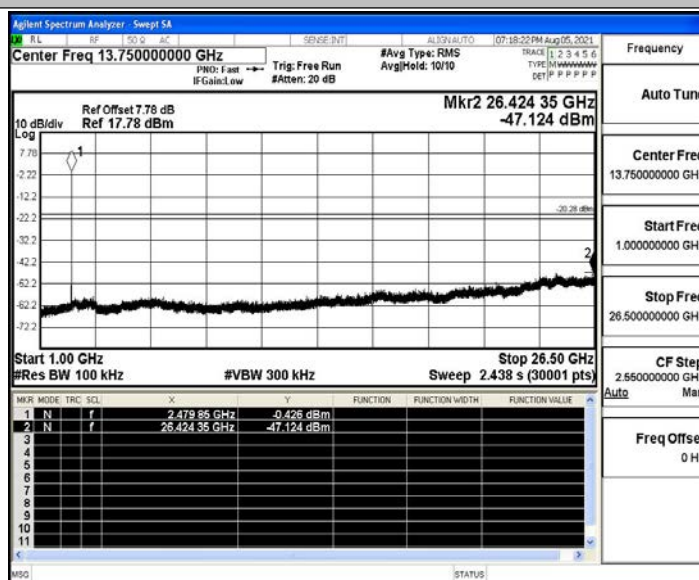
DH5_Ant1_2480_0~Reference



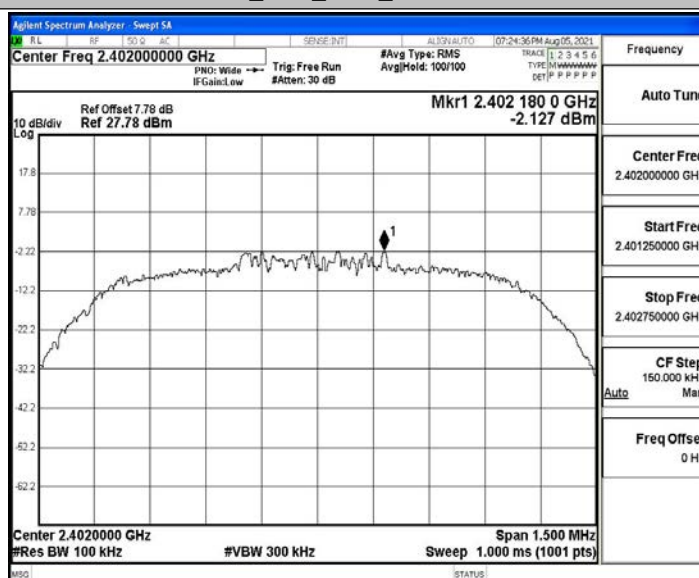
DH5_Ant1_2480_30~1000



DH5_Ant1_2480_1000~26500

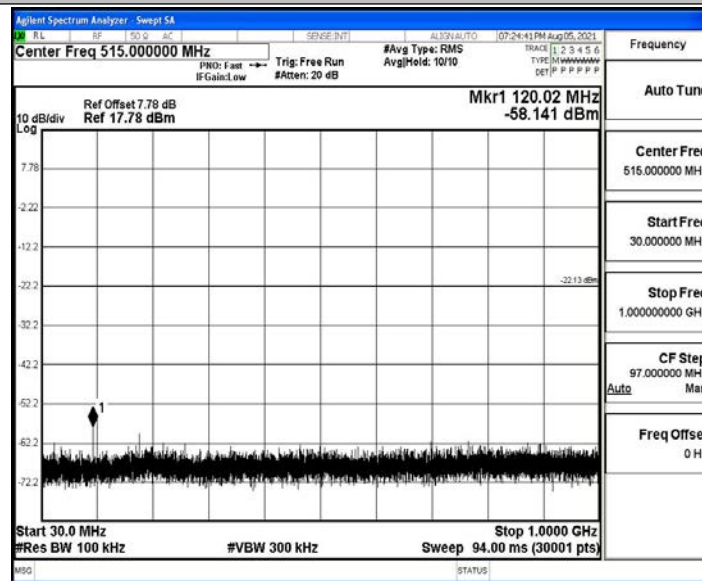


2DH5_Ant1_2402_0~Reference

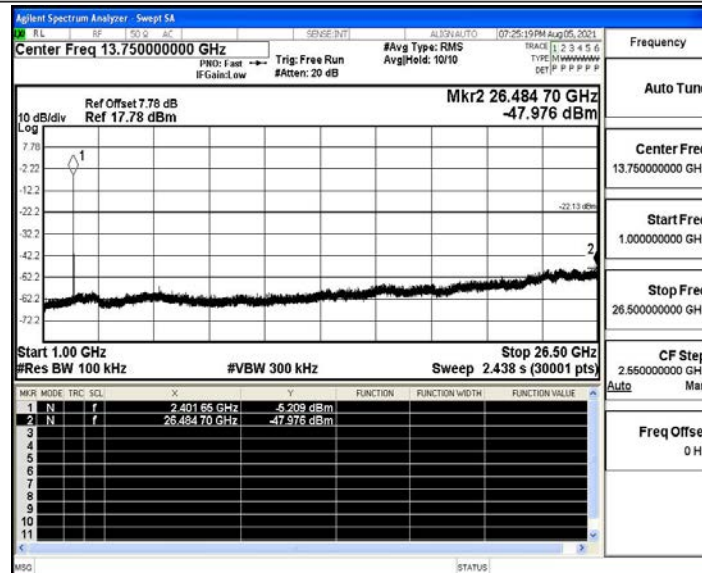




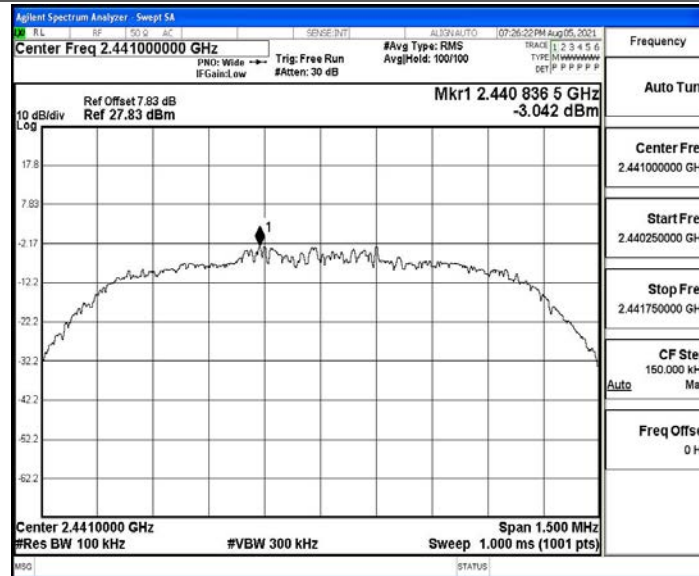
2DH5_Ant1_2402_30~1000



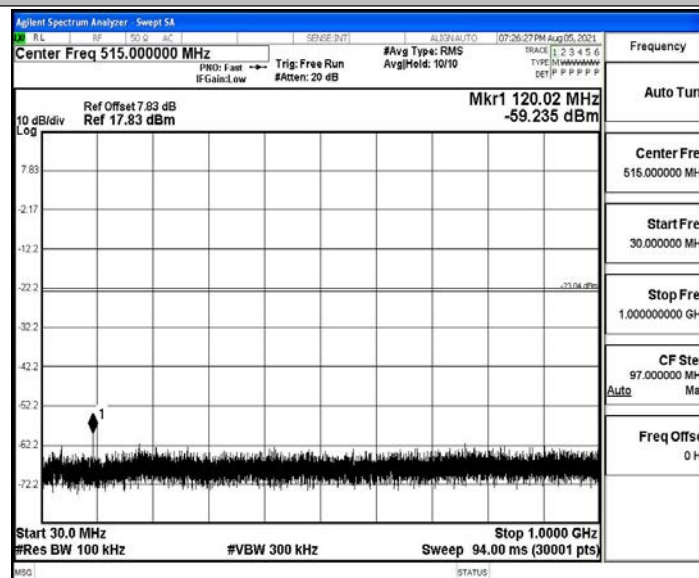
2DH5_Ant1_2402_1000~26500



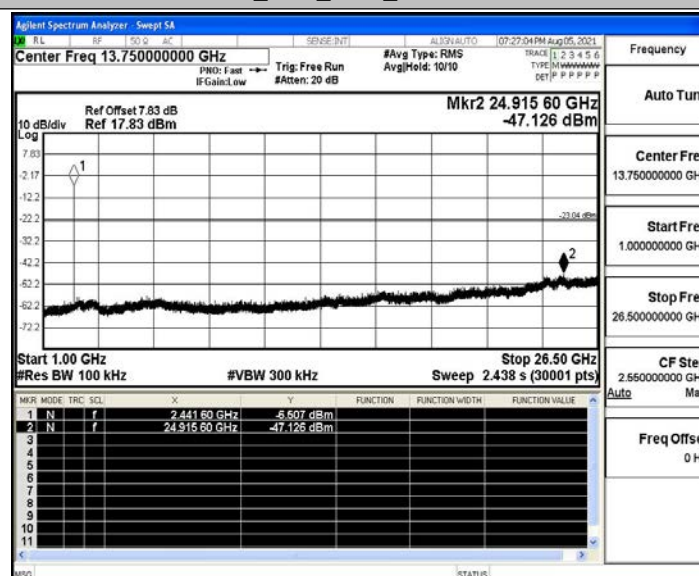
2DH5_Ant1_2441_0~Reference



2DH5_Ant1_2441_30~1000

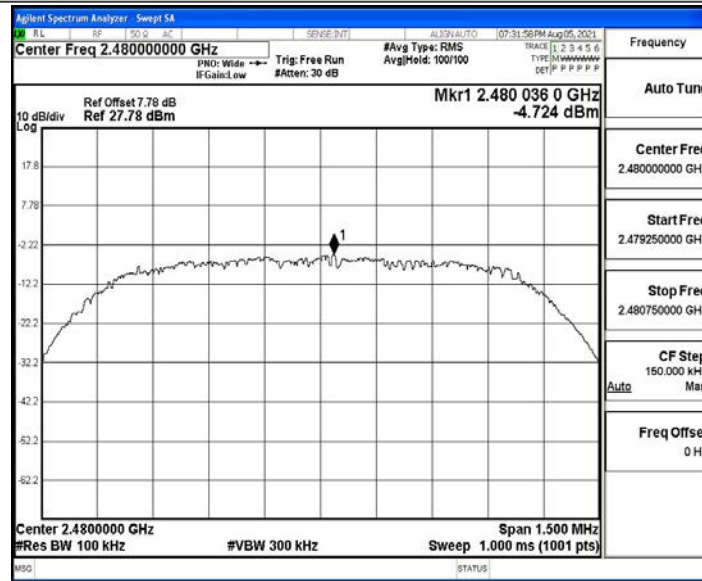


2DH5_Ant1_2441_1000~26500

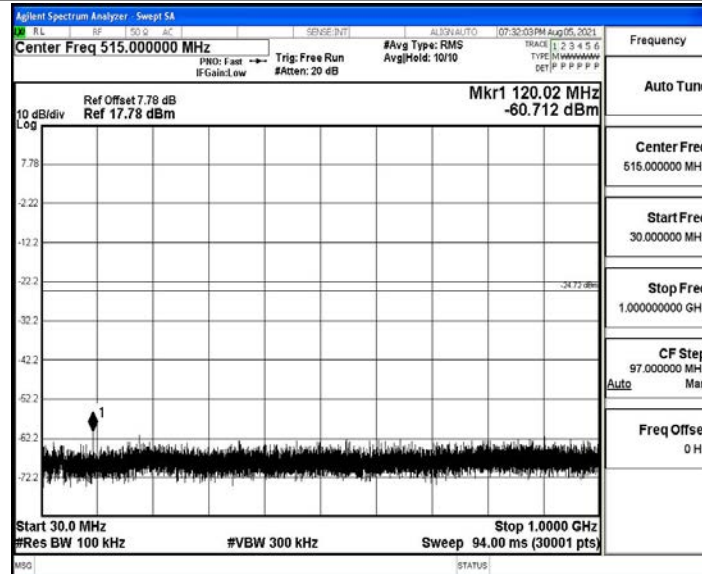




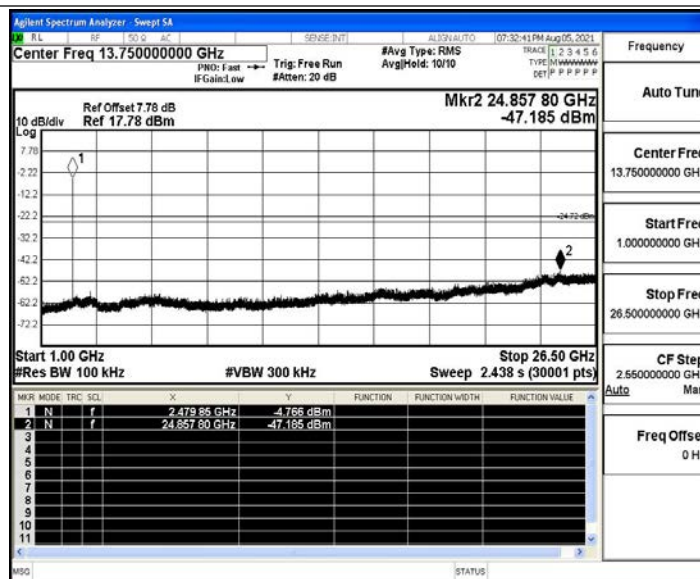
2DH5_Ant1_2480_0~Reference



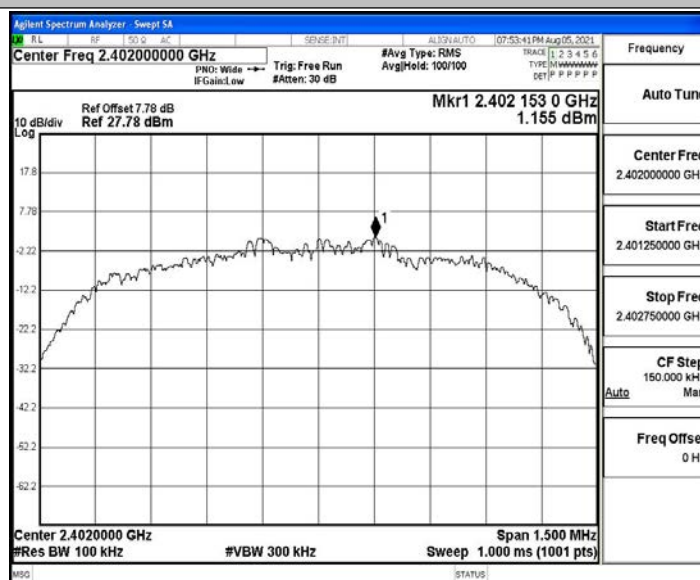
2DH5_Ant1_2480_30~1000



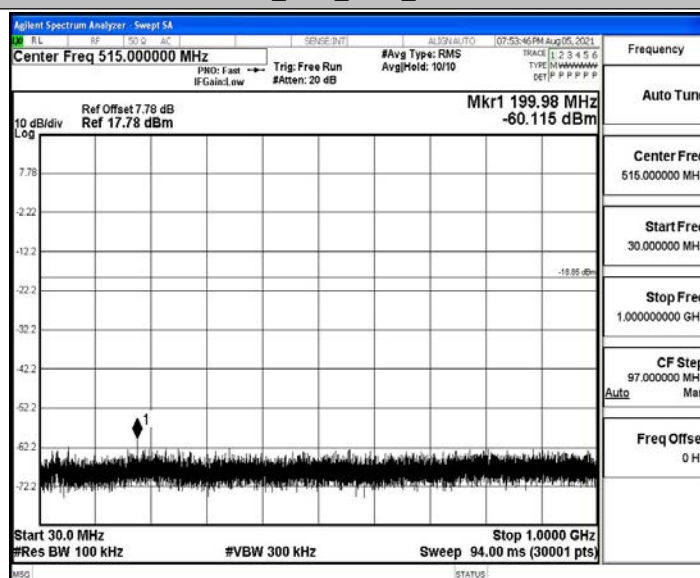
2DH5_Ant1_2480_1000~26500



3DH5_Ant1_2402_0~Reference

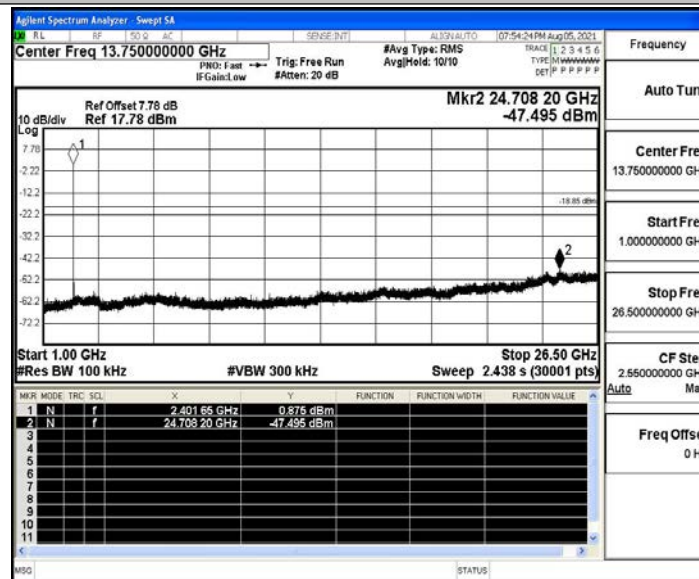


3DH5_Ant1_2402_30~1000

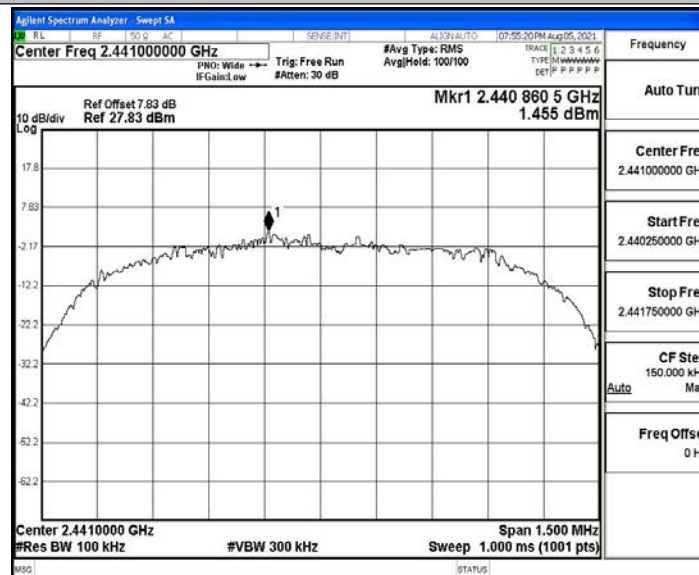




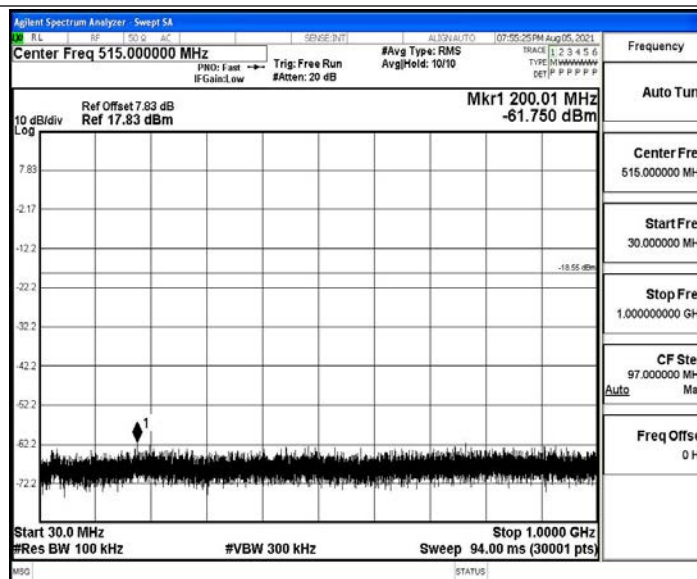
3DH5_Ant1_2402_1000~26500



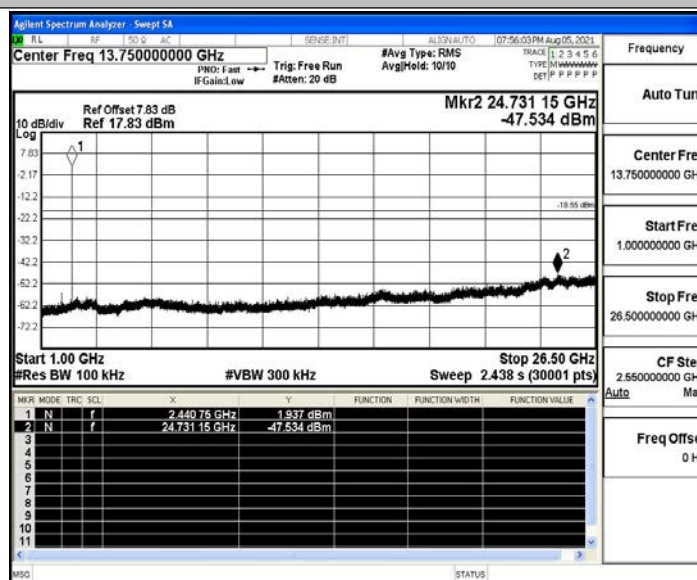
3DH5_Ant1_2441_0~Reference



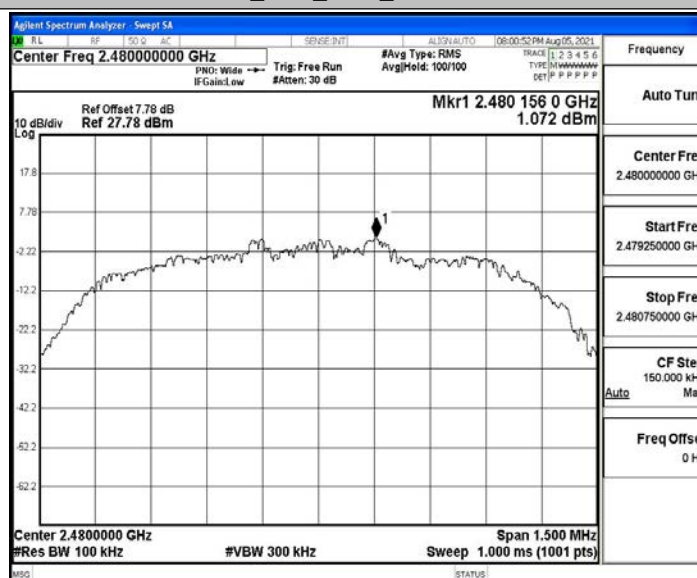
3DH5_Ant1_2441_30~1000



3DH5_Ant1_2441_1000~26500

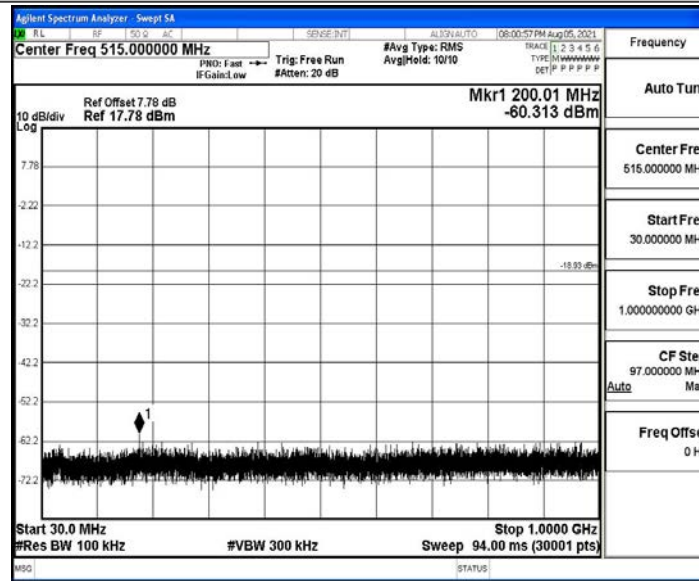


3DH5_Ant1_2480_0~Reference

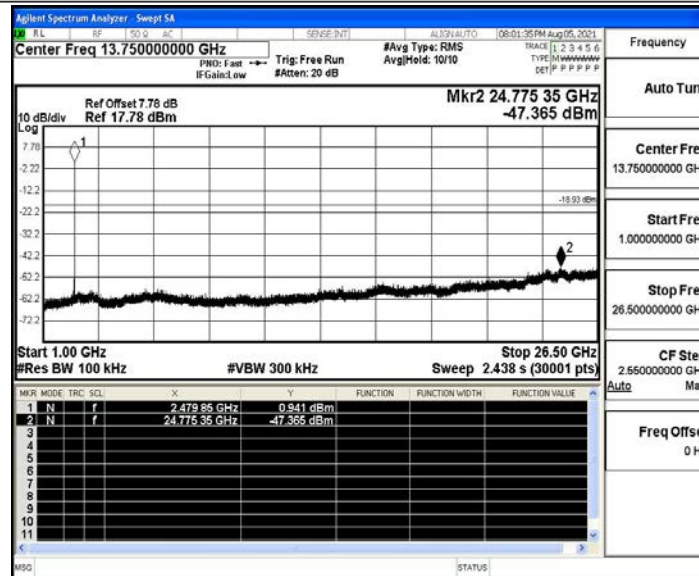




3DH5_Ant1_2480_30~1000



3DH5_Ant1_2480_1000~26500





Appendix A.8: Emissions in Restricted Bands

Test Result

TestMod e	Antenn a	ChNam e	Chann el	Detector	Freq. [MHz]	Result [dBm]	Limit [dBm]	Result [dBuV/ m]	Limit [dBuV/ m]	Verdict
DH5	Ant1	Low	2402	AV	2310.000	-49.1	≤-41.20	48.13	≤54	PASS
				AV	2386.520	-48.56	≤-41.20	48.67	≤54	PASS
				AV	2390.000	-48.68	≤-41.20	48.55	≤54	PASS
				Peak	2310.000	-41.05	≤-21.20	56.18	≤74	PASS
				Peak	2325.620	-37.63	≤-21.20	59.60	≤74	PASS
				Peak	2390.000	-40.2	≤-21.20	57.03	≤74	PASS
		High	2480	AV	2483.500	-47.96	≤-41.20	49.27	≤54	PASS
				AV	2492.480	-47.92	≤-41.20	49.31	≤54	PASS
				AV	2500.000	-47.99	≤-41.20	49.24	≤54	PASS
				Peak	2483.500	-39.49	≤-21.20	57.74	≤74	PASS
				Peak	2489.760	-37.98	≤-21.20	59.25	≤74	PASS
				Peak	2500.000	-40.18	≤-21.20	57.05	≤74	PASS
2DH5	Ant1	Low	2402	AV	2310.000	-49	≤-41.20	48.23	≤54	PASS
				AV	2387.990	-48.42	≤-41.20	48.81	≤54	PASS
				AV	2390.000	-48.66	≤-41.20	48.57	≤54	PASS
				Peak	2310.000	-40.49	≤-21.20	56.74	≤74	PASS
				Peak	2385.890	-37.87	≤-21.20	59.36	≤74	PASS
				Peak	2390.000	-39.99	≤-21.20	57.24	≤74	PASS
		High	2480	AV	2483.500	-47.95	≤-41.20	49.28	≤54	PASS
				AV	2483.520	-47.95	≤-41.20	49.28	≤54	PASS
				AV	2500.000	-48.12	≤-41.20	49.11	≤54	PASS
				Peak	2483.500	-39.6	≤-21.20	57.63	≤74	PASS
				Peak	2486.640	-38.05	≤-21.20	59.18	≤74	PASS
				Peak	2500.000	-40.1	≤-21.20	57.13	≤74	PASS
3DH5	Ant1	Low	2402	AV	2310.000	-49.07	≤-41.20	48.16	≤54	PASS
				AV	2377.595	-48.56	≤-41.20	48.67	≤54	PASS
				AV	2390.000	-48.62	≤-41.20	48.61	≤54	PASS
				Peak	2310.000	-40.36	≤-21.20	56.87	≤74	PASS
				Peak	2335.910	-37.86	≤-21.20	59.37	≤74	PASS
				Peak	2390.000	-40.58	≤-21.20	56.65	≤74	PASS
		High	2480	AV	2483.500	-47.69	≤-41.20	49.54	≤54	PASS
				AV	2483.520	-47.69	≤-41.20	49.54	≤54	PASS
				AV	2500.000	-48.15	≤-41.20	49.08	≤54	PASS
				Peak	2483.500	-38.59	≤-21.20	58.64	≤74	PASS
				Peak	2497.920	-38.16	≤-21.20	59.07	≤74	PASS
				Peak	2500.000	-41.06	≤-21.20	56.17	≤74	PASS



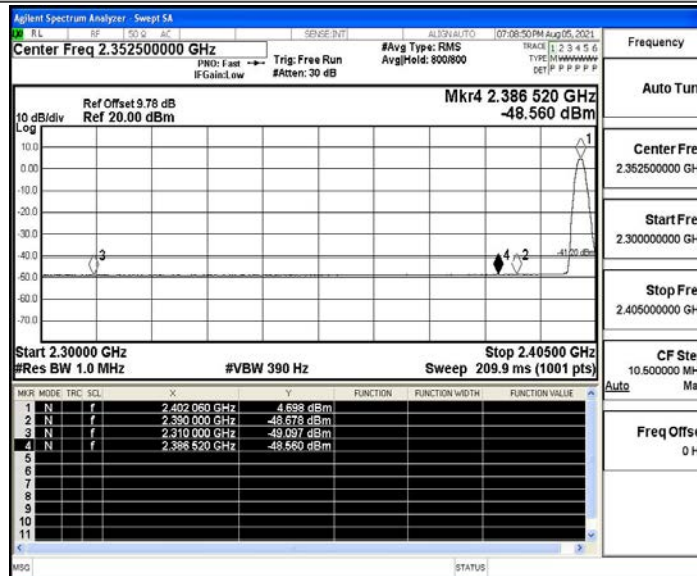
Note:

1. 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.

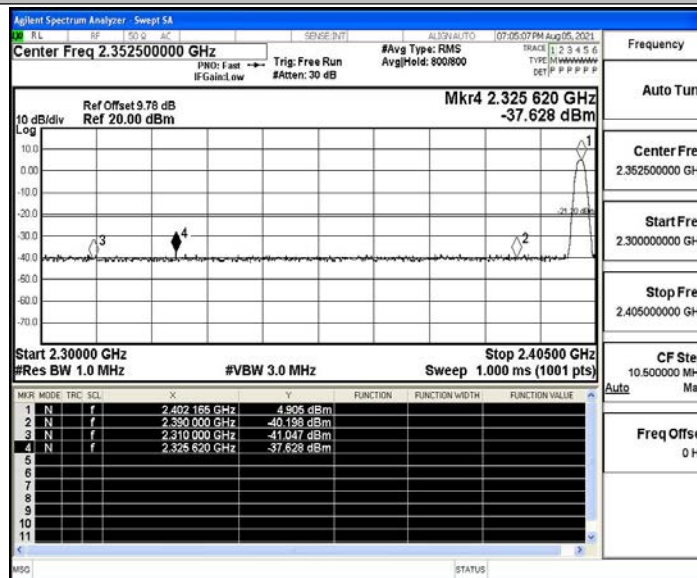


Test Graphs

DH5_Ant1_Low_2402_AV



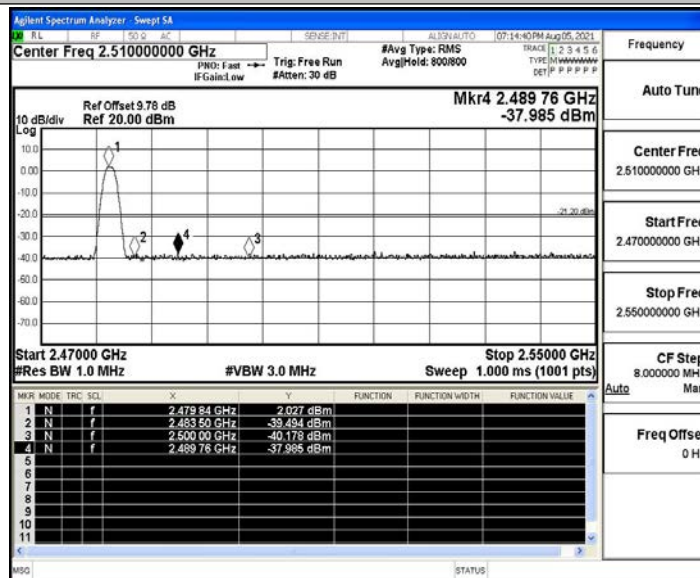
DH5_Ant1_Low_2402_Peak



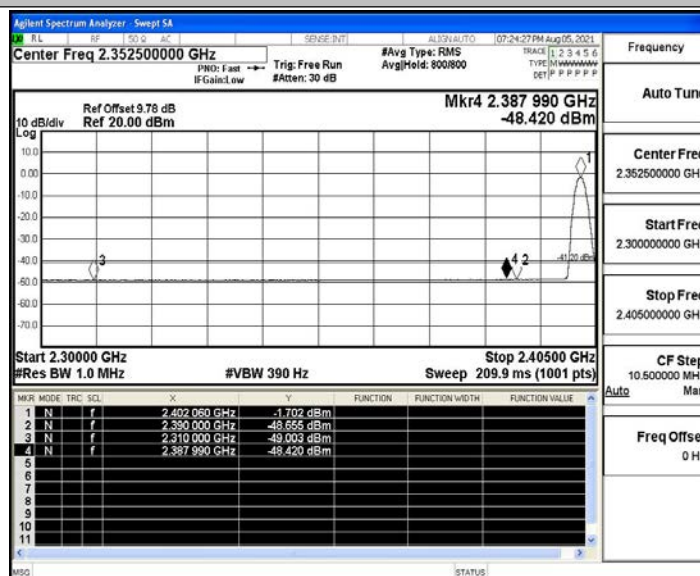
DH5_Ant1_High_2480_AV



DH5_Ant1_High_2480_Peak

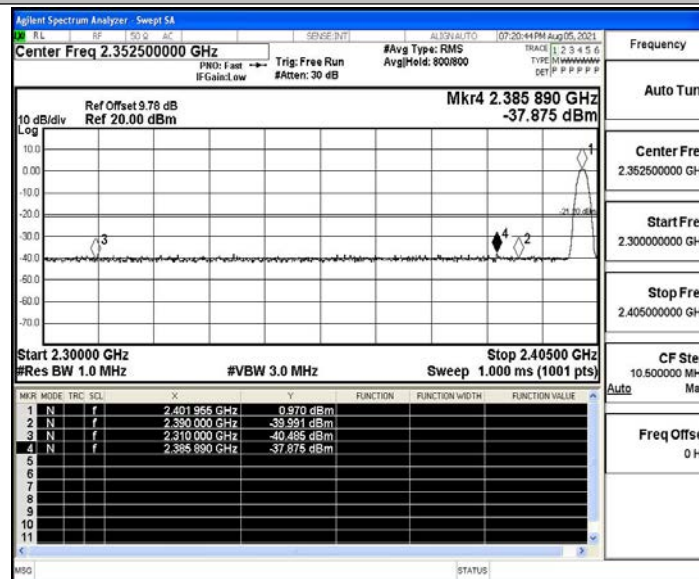


2DH5_Ant1_Low_2402_AV

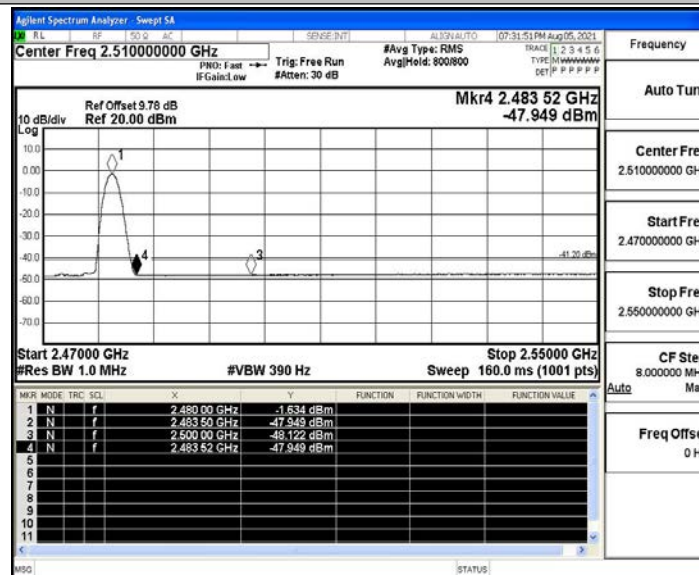




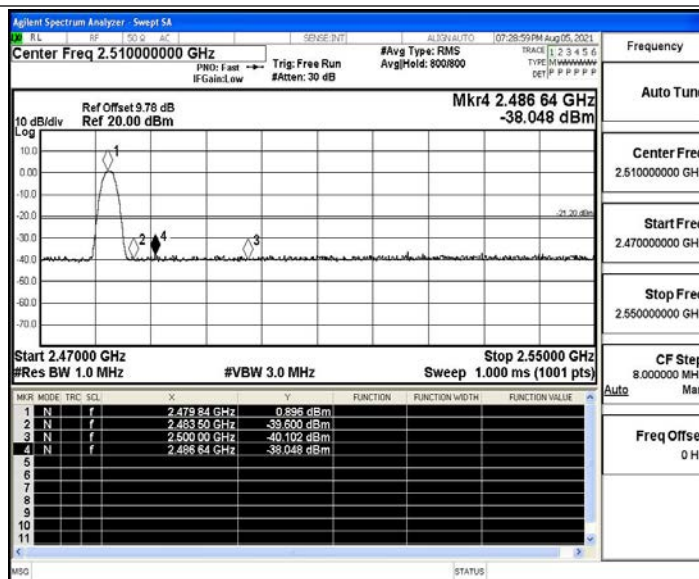
2DH5_Ant1_Low_2402_Peak



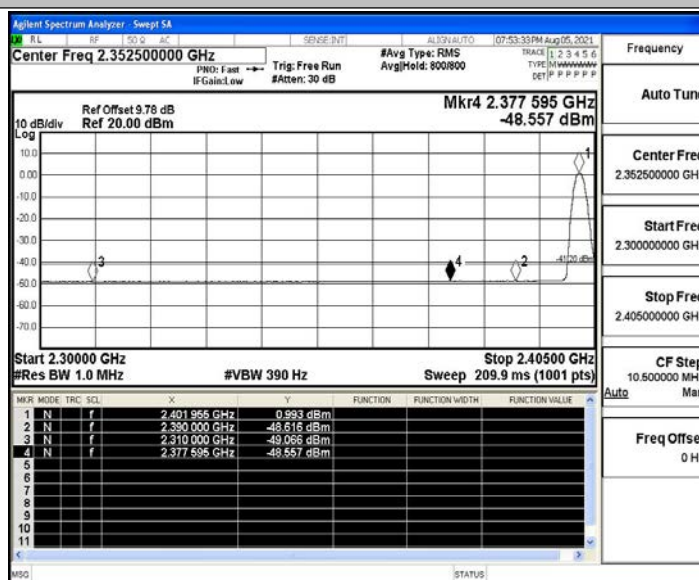
2DH5_Ant1_High_2480_AV



2DH5_Ant1_High_2480_Peak



3DH5_Ant1_Low_2402_AV

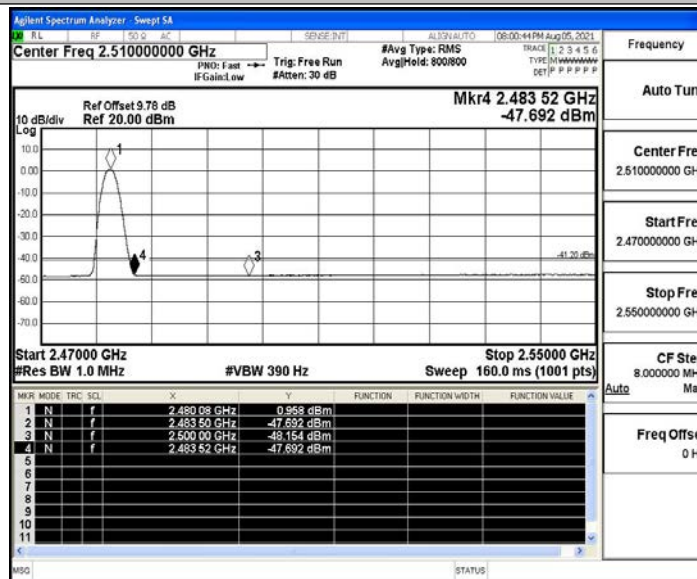


3DH5_Ant1_Low_2402_Peak





3DH5_Ant1_High_2480_AV



3DH5_Ant1_High_2480_Peak

