



Appendix A

RF Test Data for BT (Conducted Measurement)

Product Name: THE FITNESS EARBUDS

Trade Mark: Raycon

Test Model: RBE745

Environmental Conditions

Temperature:	25 ° C
Relative Humidity:	50%
ATM Pressure:	100.0 kPa
Test Engineer:	Jay Li
Supervised by:	Li Huan



Appendix A.1: Maximum conducted output power

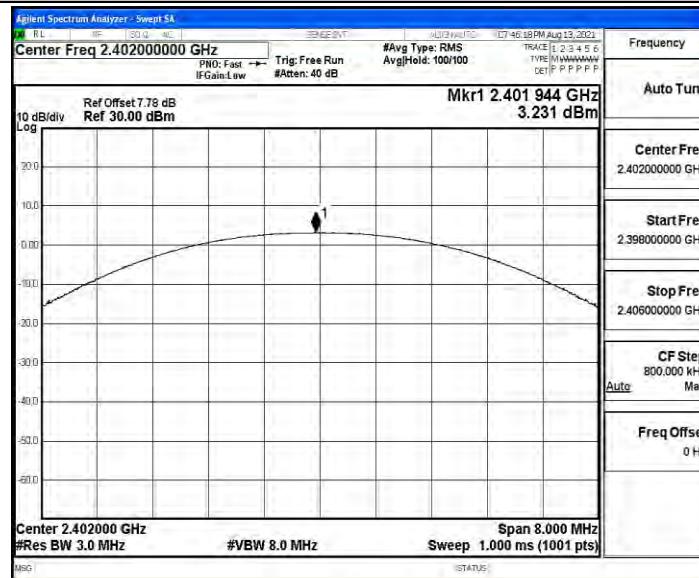
Test Result

TestMode	Antenna	Channel	Result[dBm]	Limit[dBm]	Verdict
DH5	Ant1	2402	3.23	≤20.97	PASS
		2441	2.82	≤20.97	PASS
		2480	3.11	≤20.97	PASS
2DH5	Ant1	2402	2.33	≤20.97	PASS
		2441	3.58	≤20.97	PASS
		2480	2.25	≤20.97	PASS
3DH5	Ant1	2402	2.46	≤20.97	PASS
		2441	3.75	≤20.97	PASS
		2480	2.43	≤20.97	PASS

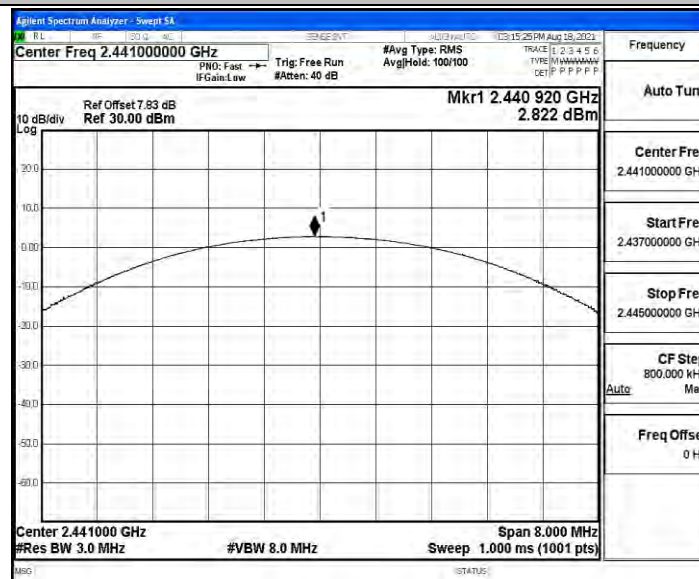


Test Graphs

DH5_Ant1_2402

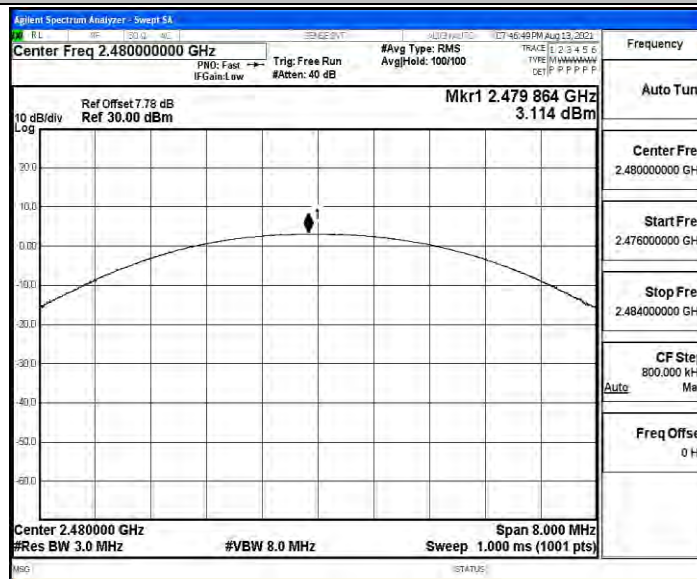


DH5_Ant1_2441

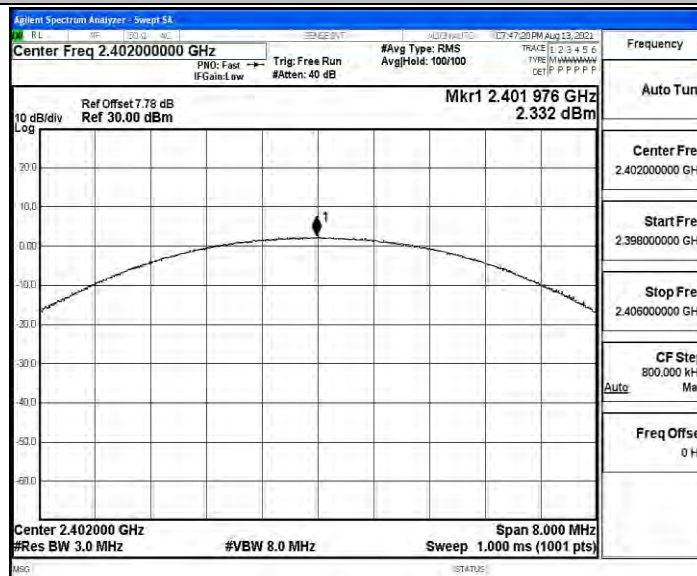




DH5_Ant1_2480

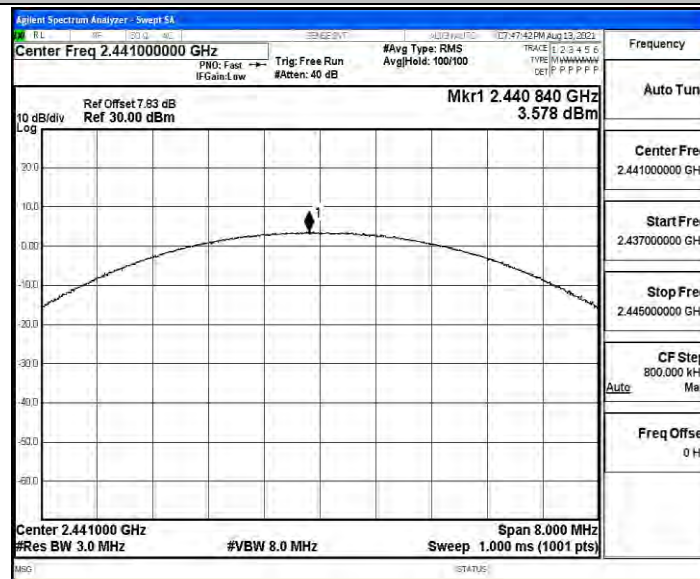


2DH5_Ant1_2402

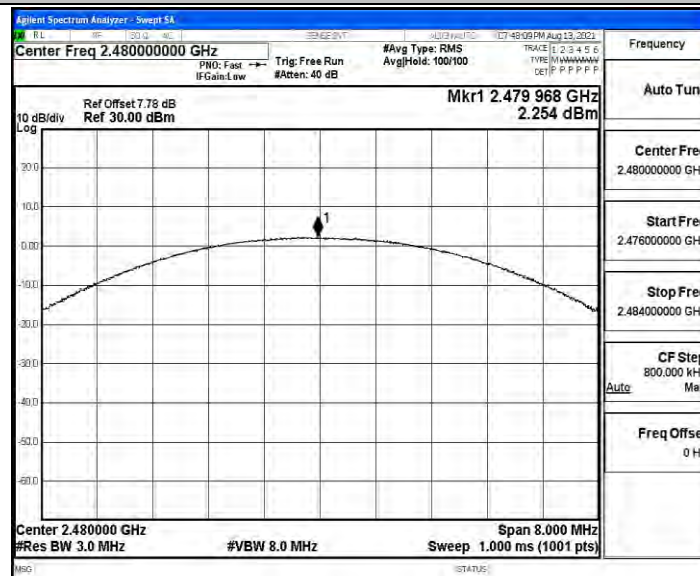




2DH5_Ant1_2441

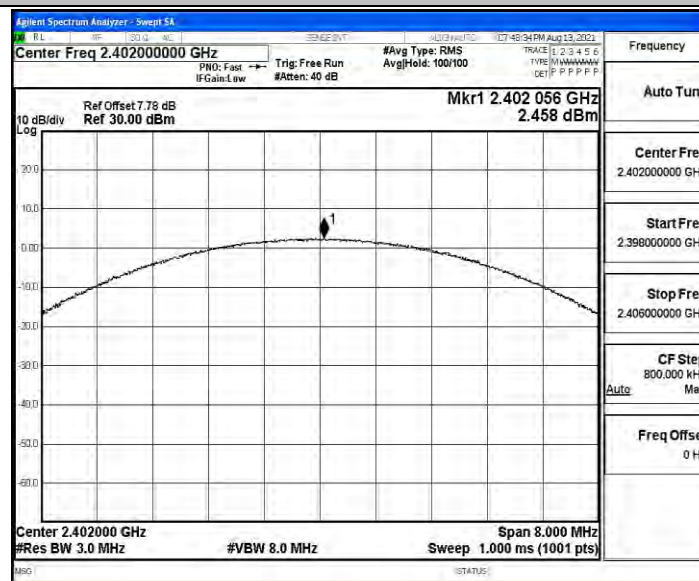


2DH5_Ant1_2480

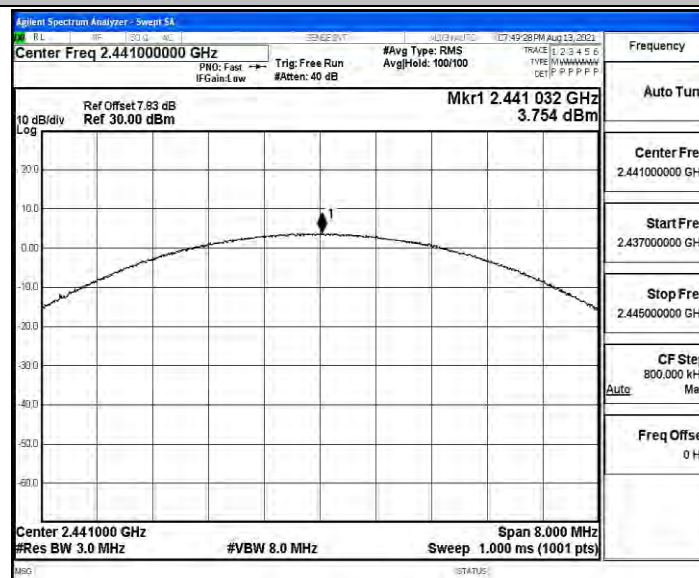




3DH5_Ant1_2402

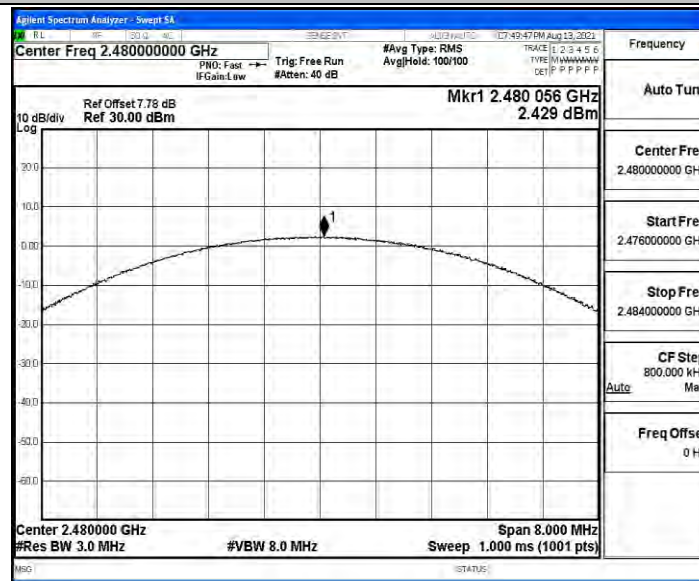


3DH5_Ant1_2441





3DH5_Ant1_2480





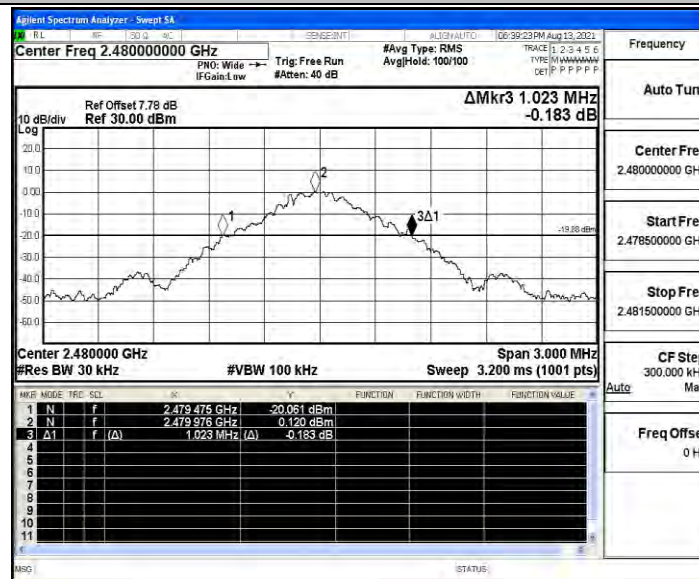
Appendix A.2.1: 20dB Emission Bandwidth

Test Result

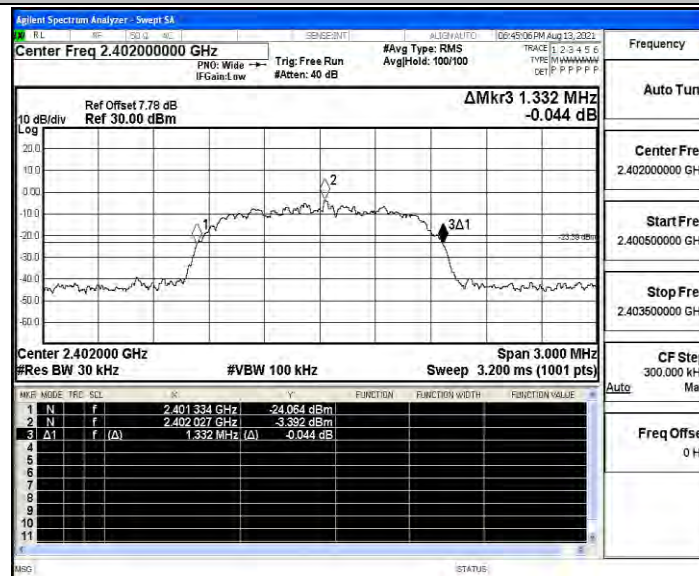
TestMode	Antenna	Channel	20db EBW[MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
DH5	Ant1	2402	1.017	2401.484	2402.501	---	PASS
		2441	0.957	2440.535	2441.492	---	PASS
		2480	1.023	2479.475	2480.498	---	PASS
2DH5	Ant1	2402	1.332	2401.334	2402.666	---	PASS
		2441	1.287	2440.367	2441.654	---	PASS
		2480	1.314	2479.343	2480.657	---	PASS
3DH5	Ant1	2402	1.323	2401.343	2402.666	---	PASS
		2441	1.293	2440.349	2441.642	---	PASS
		2480	1.296	2479.352	2480.648	---	PASS



DH5_Ant1_2480

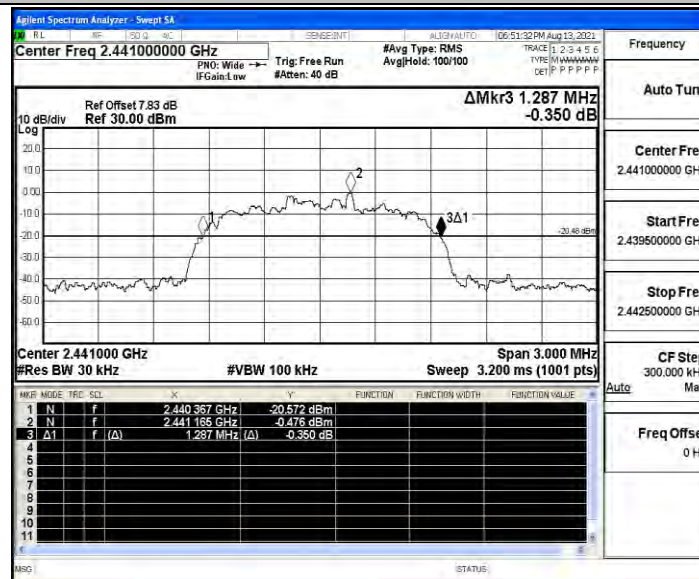


2DH5_Ant1_2402

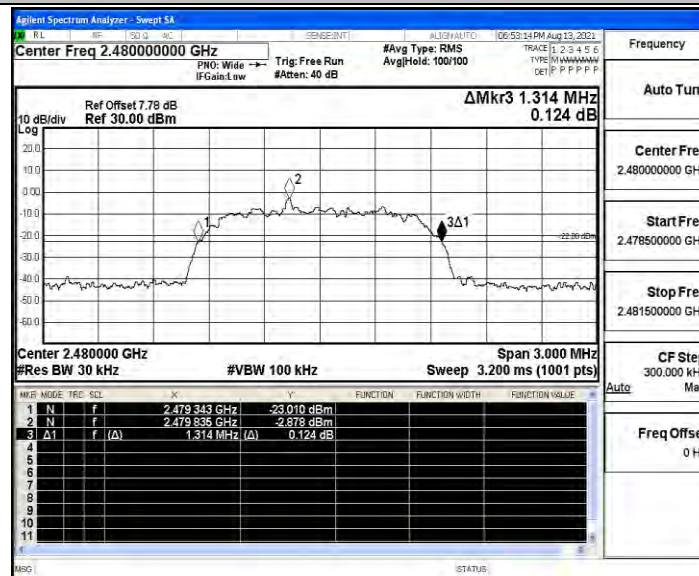




2DH5_Ant1_2441

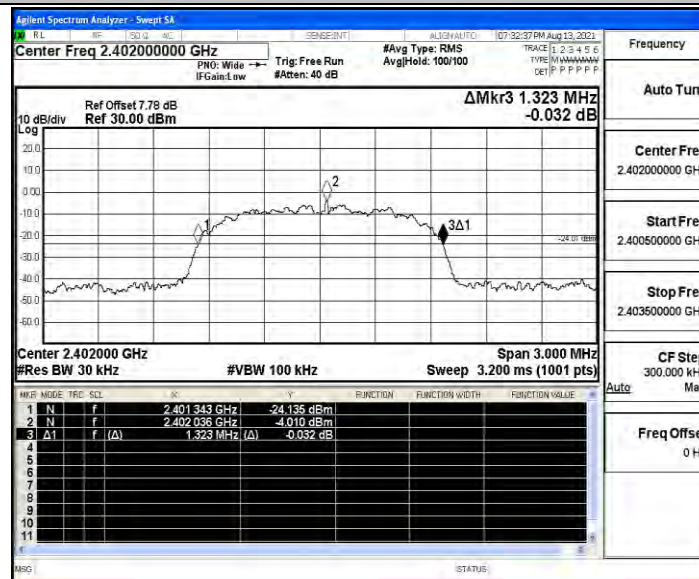


2DH5_Ant1_2480

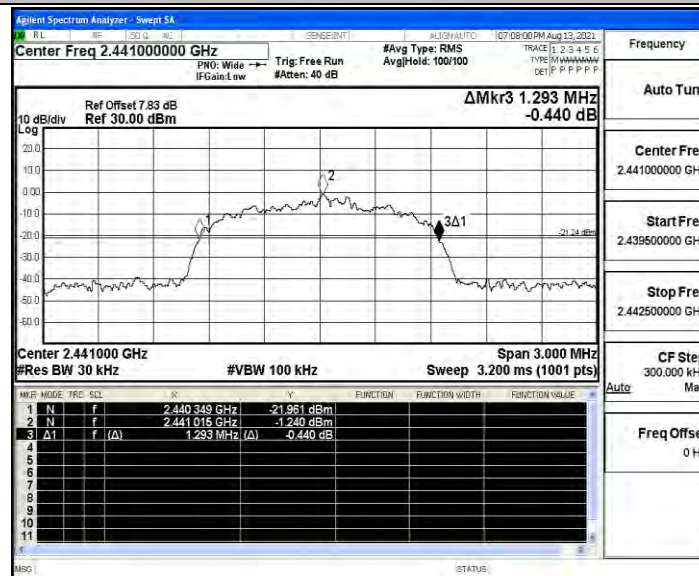




3DH5_Ant1_2402

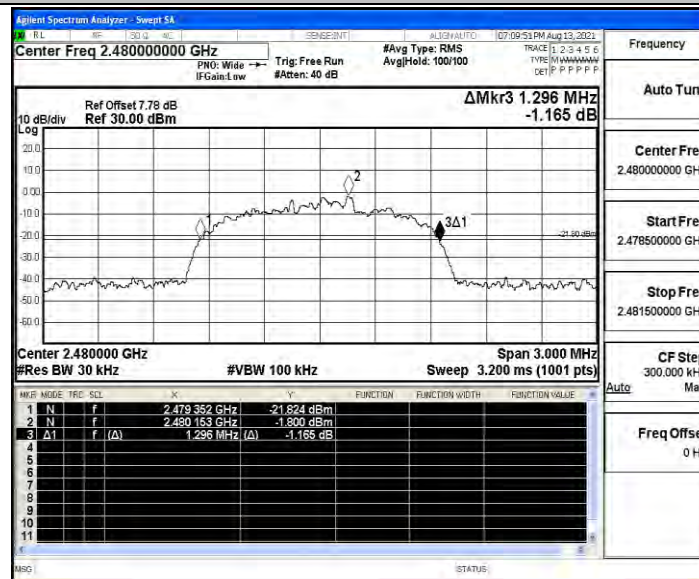


3DH5_Ant1_2441





3DH5_Ant1_2480





Appendix A.2.2: Occupied Channel Bandwidth

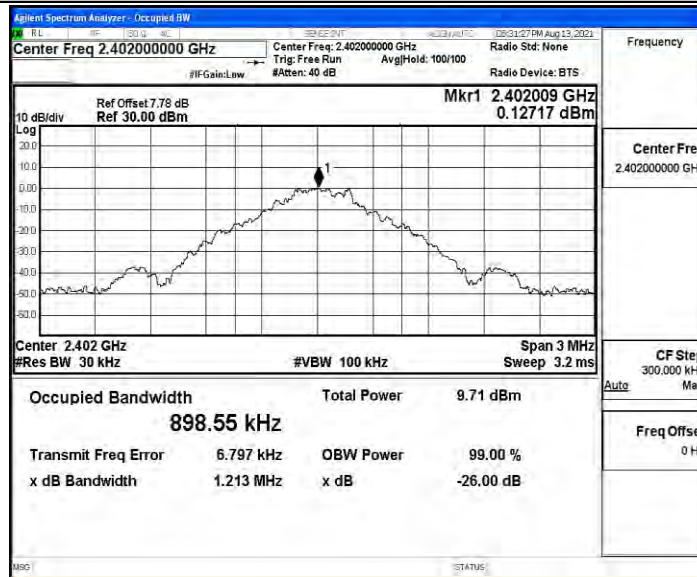
Test Result

TestMode	Antenna	Channel	OCB [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
DH5	Ant1	2402	0.89855	2401.558	2402.456	---	PASS
		2441	0.90663	2440.552	2441.458	---	PASS
		2480	0.88556	2479.560	2480.445	---	PASS
2DH5	Ant1	2402	1.1908	2401.406	2402.596	---	PASS
		2441	1.1766	2440.413	2441.590	---	PASS
		2480	1.1932	2479.402	2480.596	---	PASS
3DH5	Ant1	2402	1.1956	2401.404	2402.599	---	PASS
		2441	1.1982	2440.400	2441.598	---	PASS
		2480	1.2111	2479.391	2480.602	---	PASS

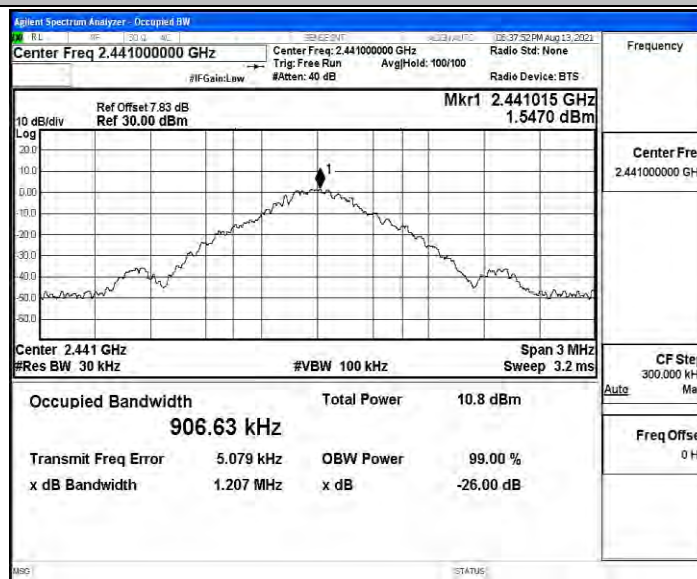


Test Graphs

DH5_Ant1_2402

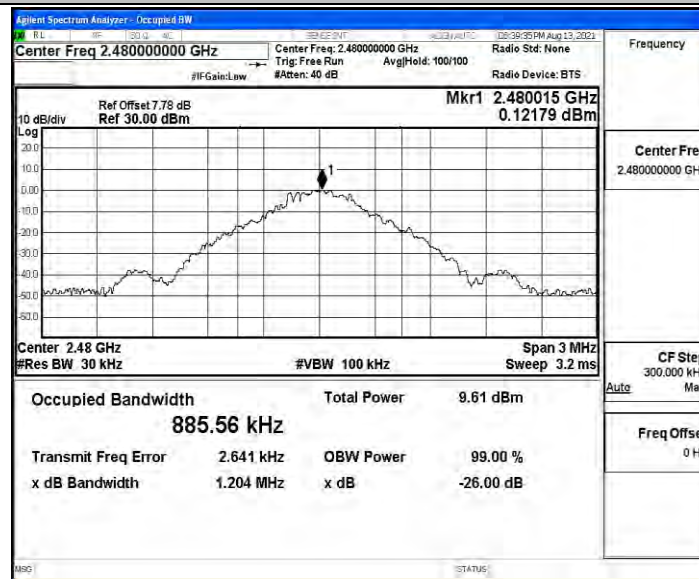


DH5_Ant1_2441

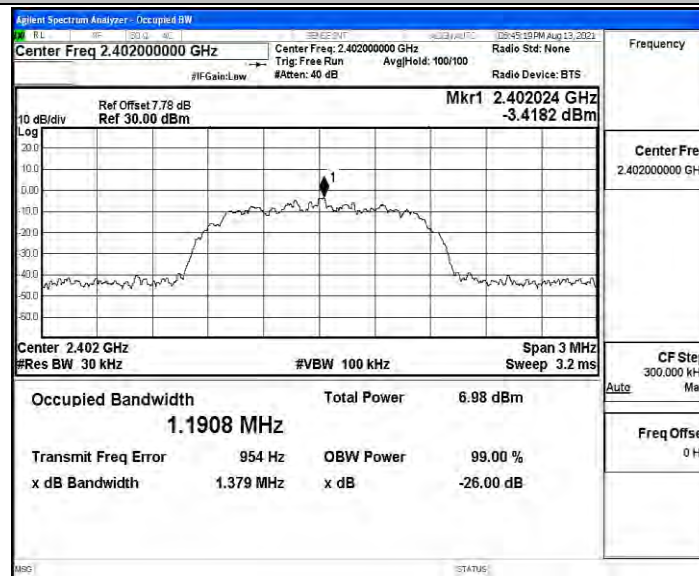




DH5_Ant1_2480



2DH5_Ant1_2402

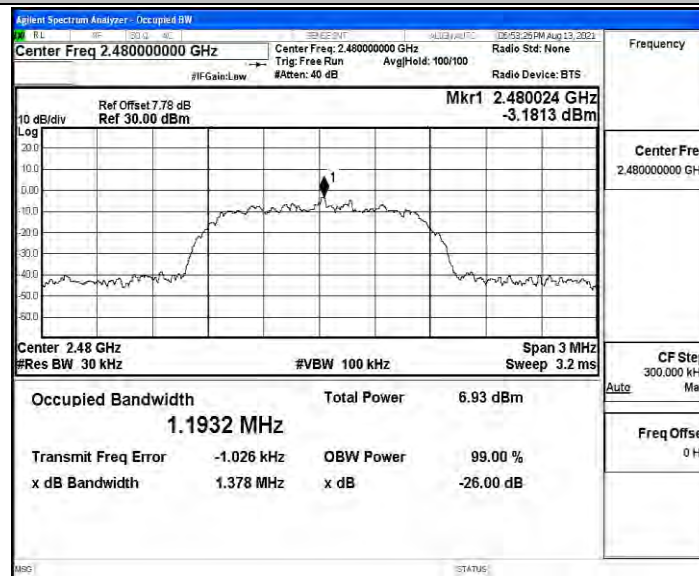




2DH5_Ant1_2441

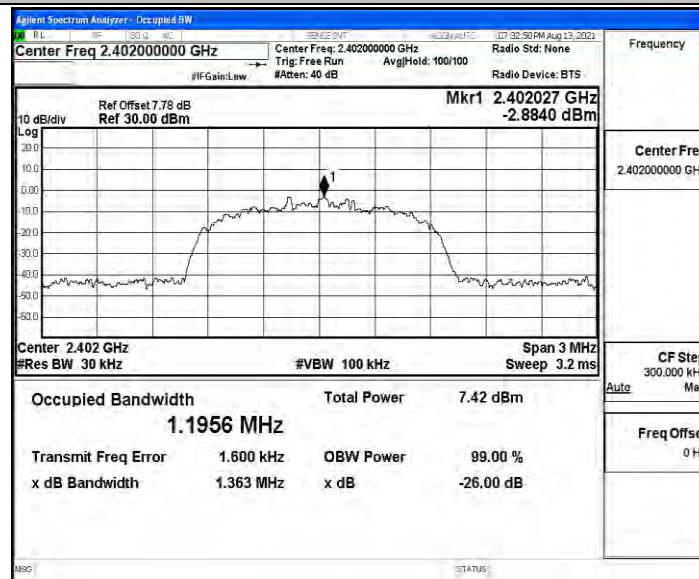


2DH5_Ant1_2480

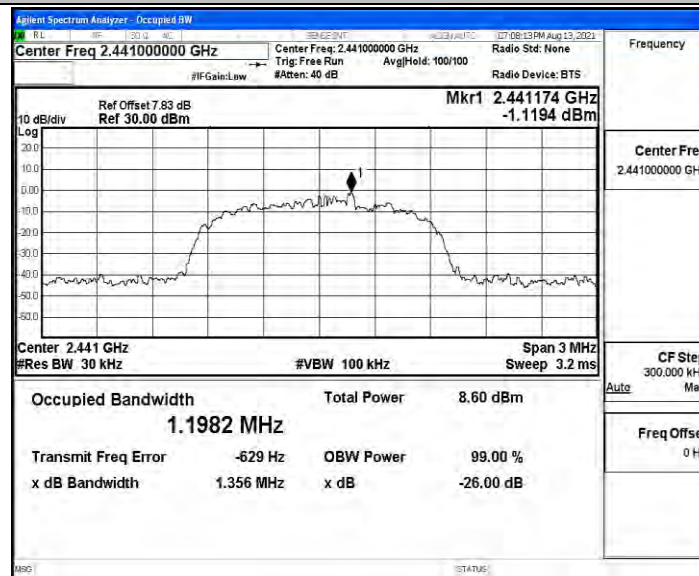




3DH5_Ant1_2402

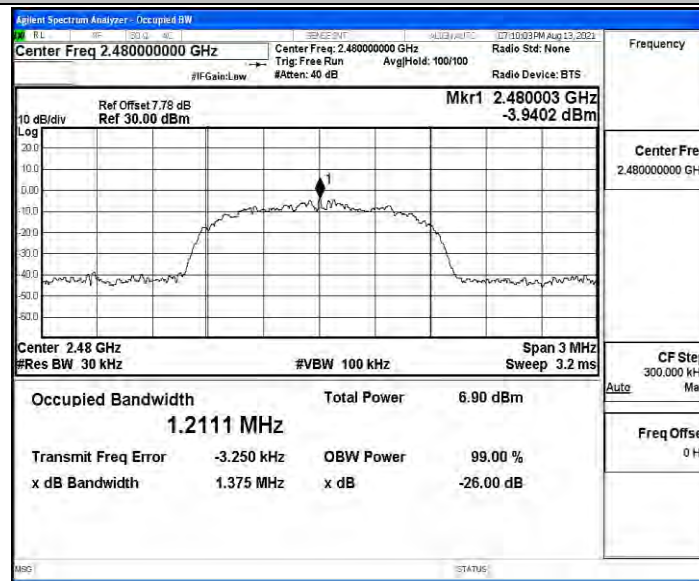


3DH5_Ant1_2441





3DH5_Ant1_2480





Appendix A.3: Carrier frequency separation

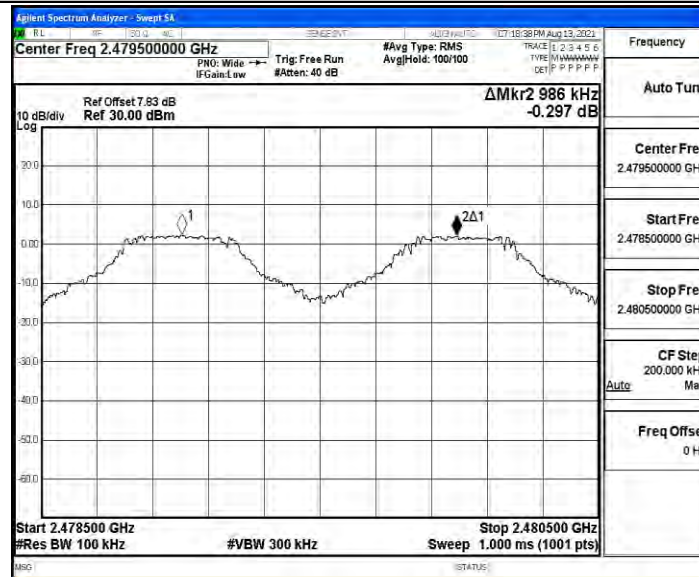
Test Result

TestMode	Antenna	Channel	Result[dBm]	Limit[dBm]	Verdict
DH5	Ant1	Hop	0.986	≥ 0.682	PASS
2DH5	Ant1	Hop	1.008	≥ 0.888	PASS
3DH5	Ant1	Hop	0.994	≥ 0.882	PASS

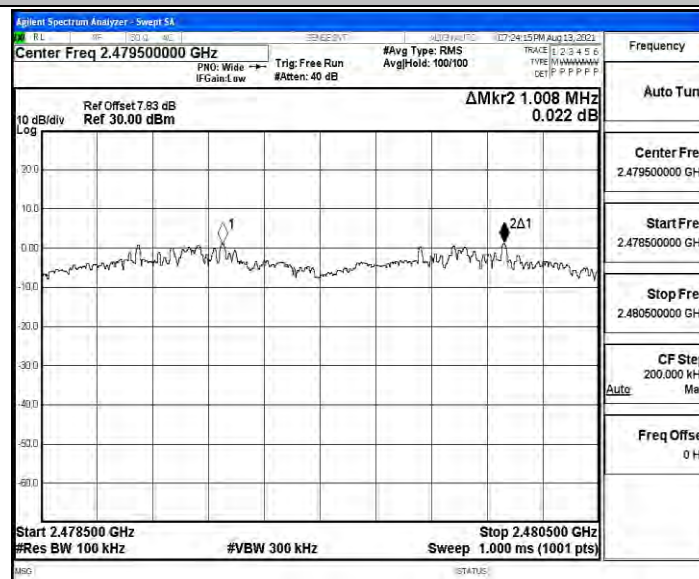


Test Graphs

DH5_Ant1_Hop

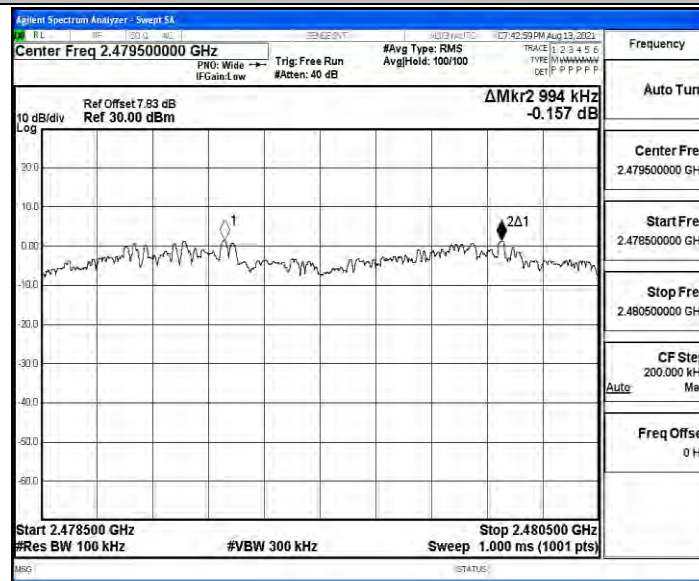


2DH5_Ant1_Hop





3DH5_Ant1_Hop





Appendix A.4: Number of hopping channels

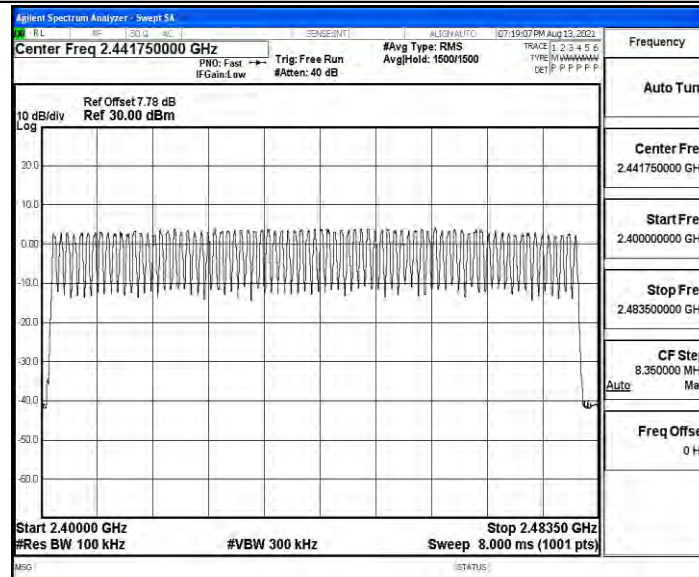
Test Result

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

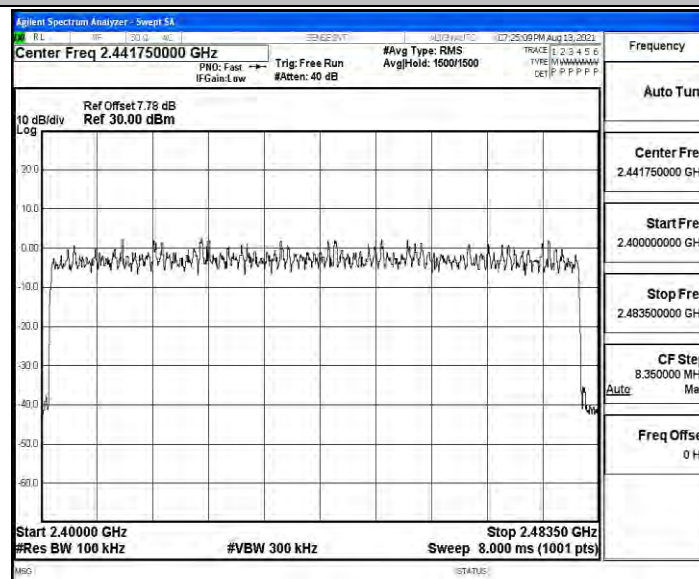


Test Graphs

DH5_Ant1_Hop

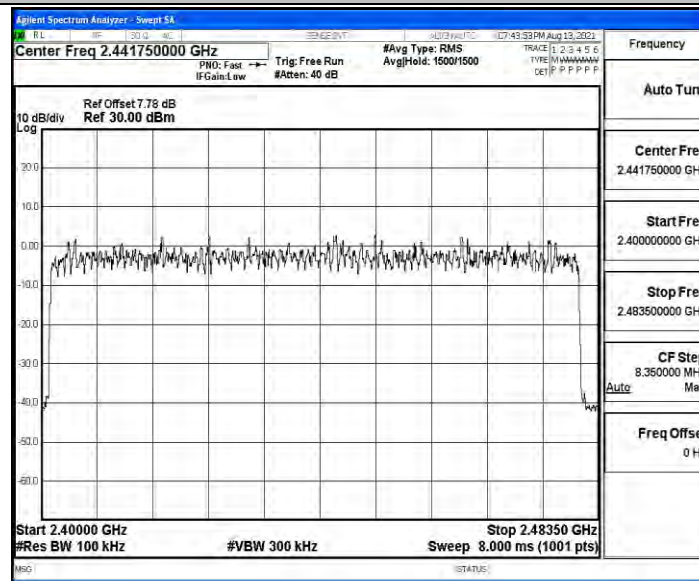


2DH5_Ant1_Hop





3DH5_Ant1_Hop





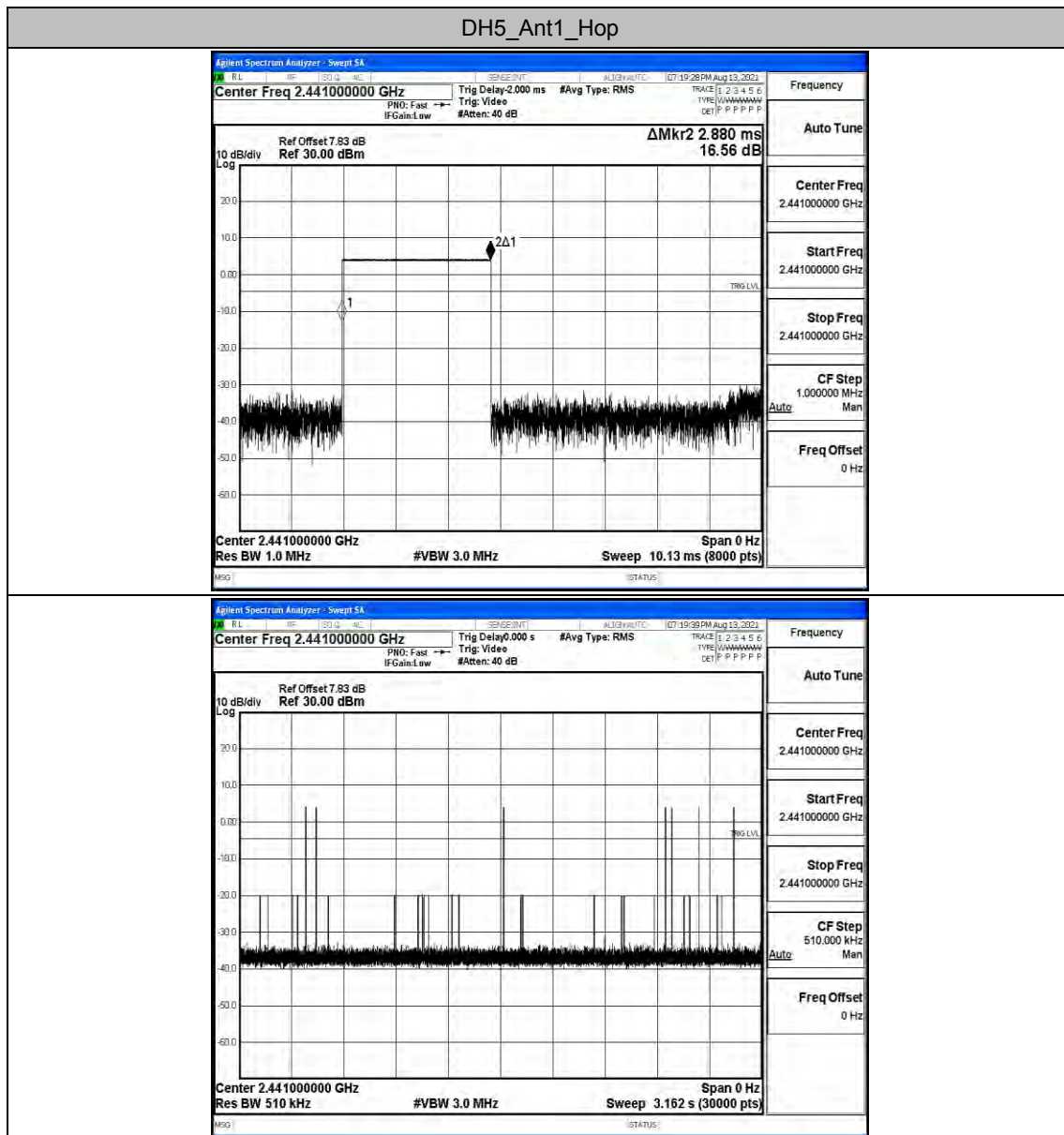
Appendix A.5.1: Time of occupancy

Test Result

TestMode	Antenna	Channel	BurstWidth [ms]	TotalHops [Num]	Result[s]	Limit[s]	Verdict
DH5	Ant1	Hop	2.88	80	0.23	≤0.4	PASS
2DH5	Ant1	Hop	2.88	80	0.231	≤0.4	PASS
3DH5	Ant1	Hop	2.89	100	0.289	≤0.4	PASS

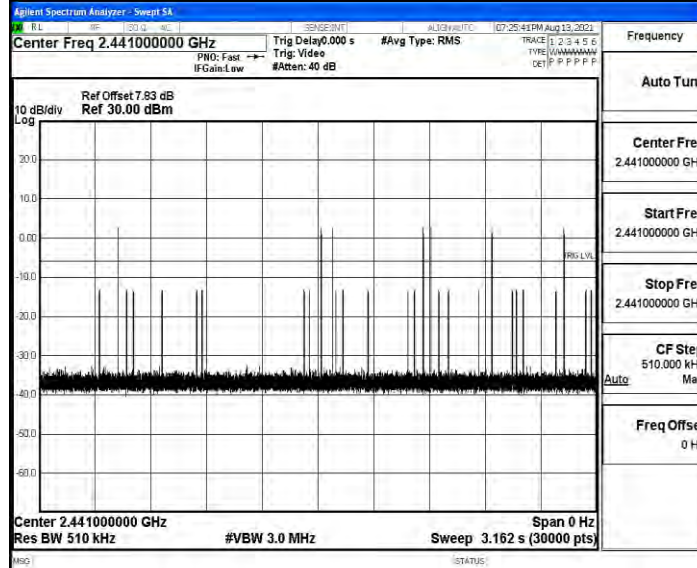
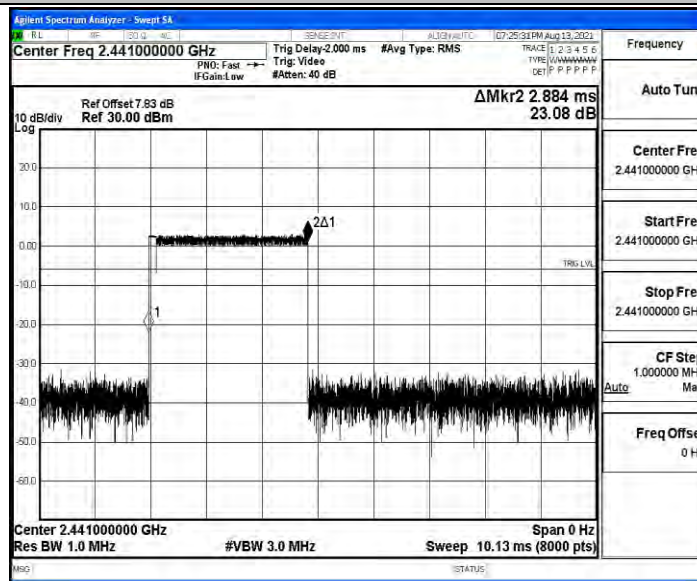


Test Graphs



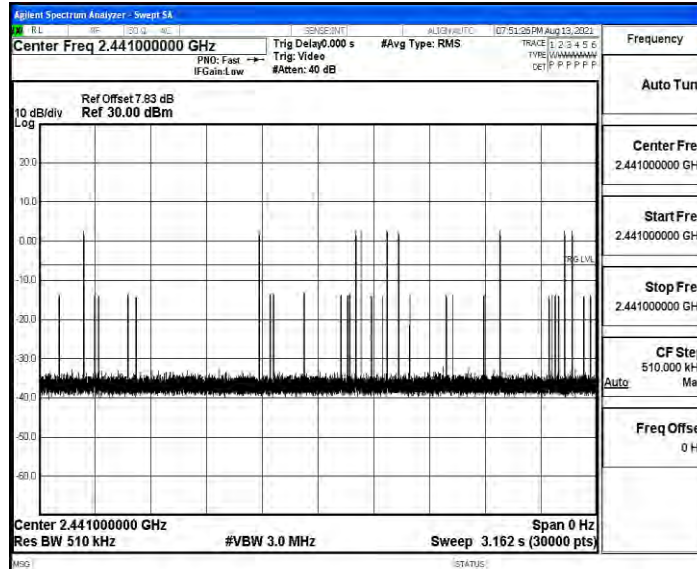
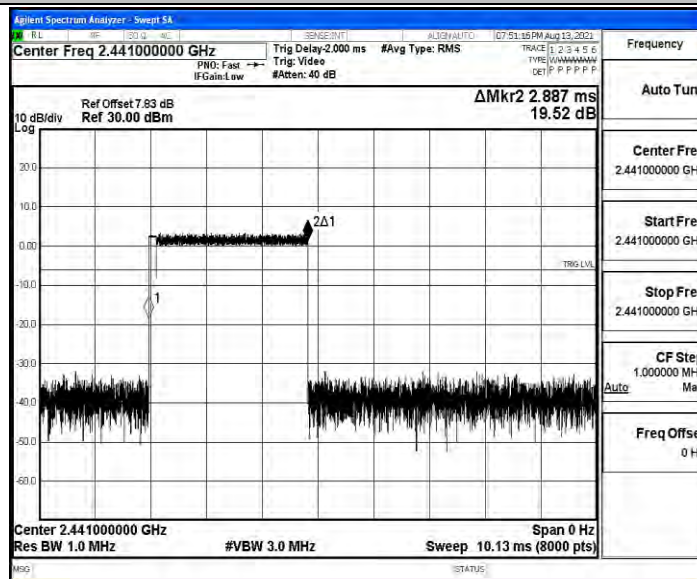


2DH5_Ant1_Hop





3DH5_Ant1_Hop





Appendix A.5.2: Duty Cycle

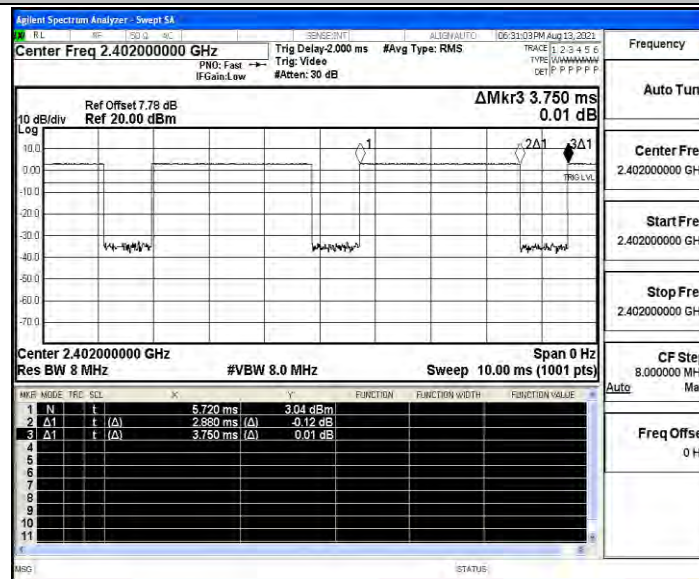
Test Result

TestMode	Antenna	Channel	ON Time [ms]	Period [ms]	X	DC [%]	xFactor	Limit	Verdict
DH5	Ant1	2402	2.88	3.75	0.7680	76.80	1.15	---	PASS
		2441	2.88	3.75	0.7680	76.80	1.15	---	PASS
		2480	2.89	3.75	0.7707	77.07	1.13	---	PASS
2DH5	Ant1	2402	2.89	3.75	0.7707	77.07	1.13	---	PASS
		2441	2.88	3.75	0.7680	76.80	1.15	---	PASS
		2480	2.88	3.75	0.7680	76.80	1.15	---	PASS
3DH5	Ant1	2402	2.88	3.75	0.7680	76.80	1.15	---	PASS
		2441	2.89	3.75	0.7707	77.07	1.13	---	PASS
		2480	2.89	3.75	0.7707	77.07	1.13	---	PASS

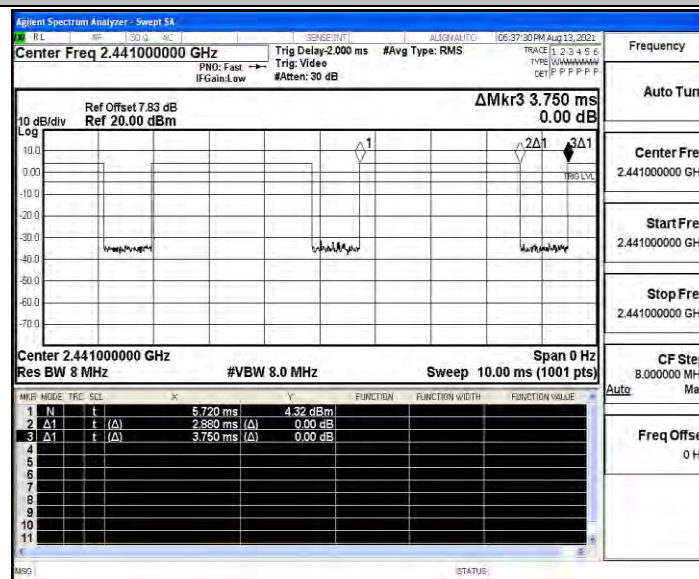


Test Graphs

DH5_Ant1_2402

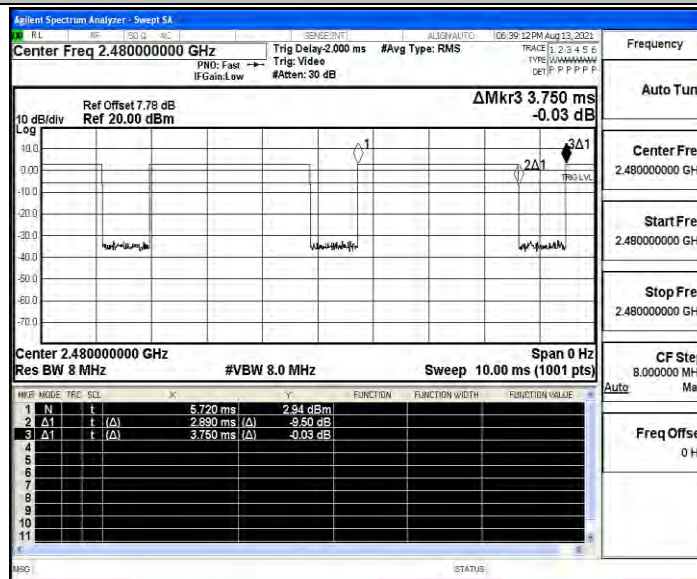


DH5_Ant1_2441

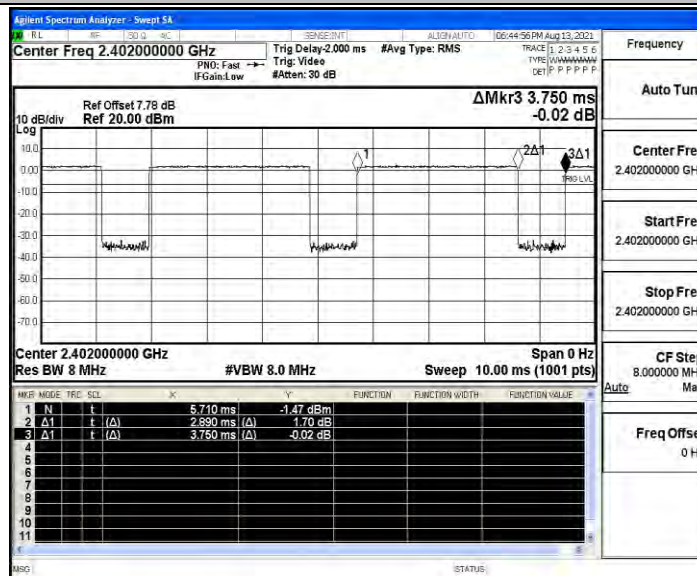




DH5_Ant1_2480

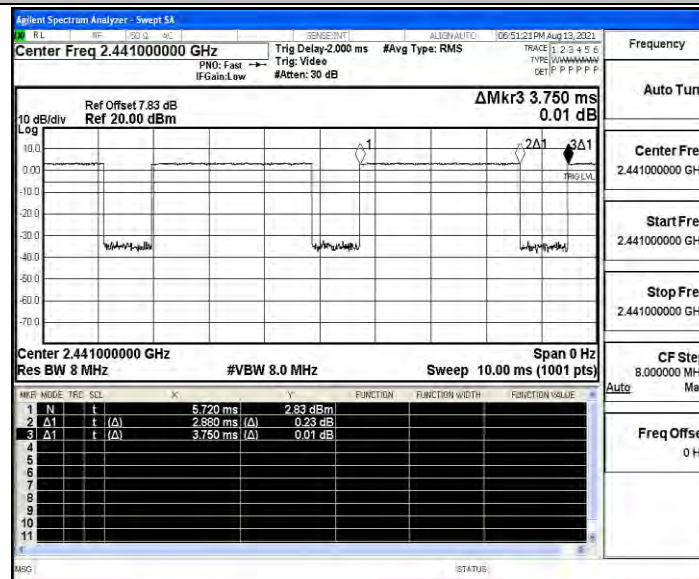


2DH5_Ant1_2402

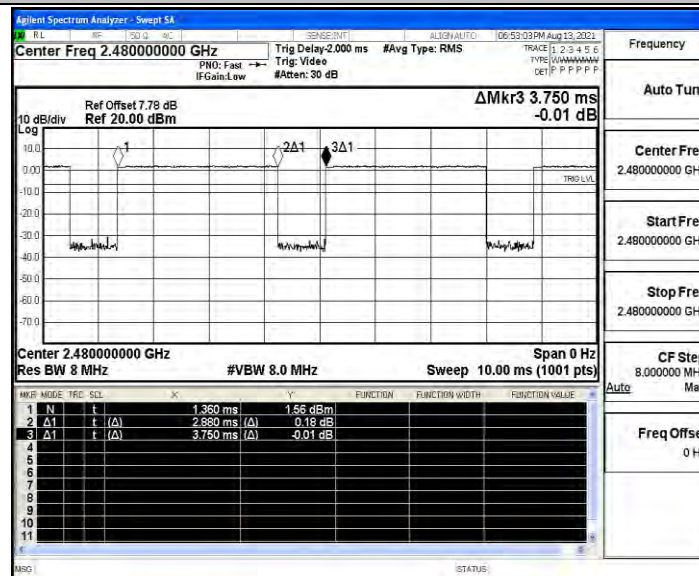


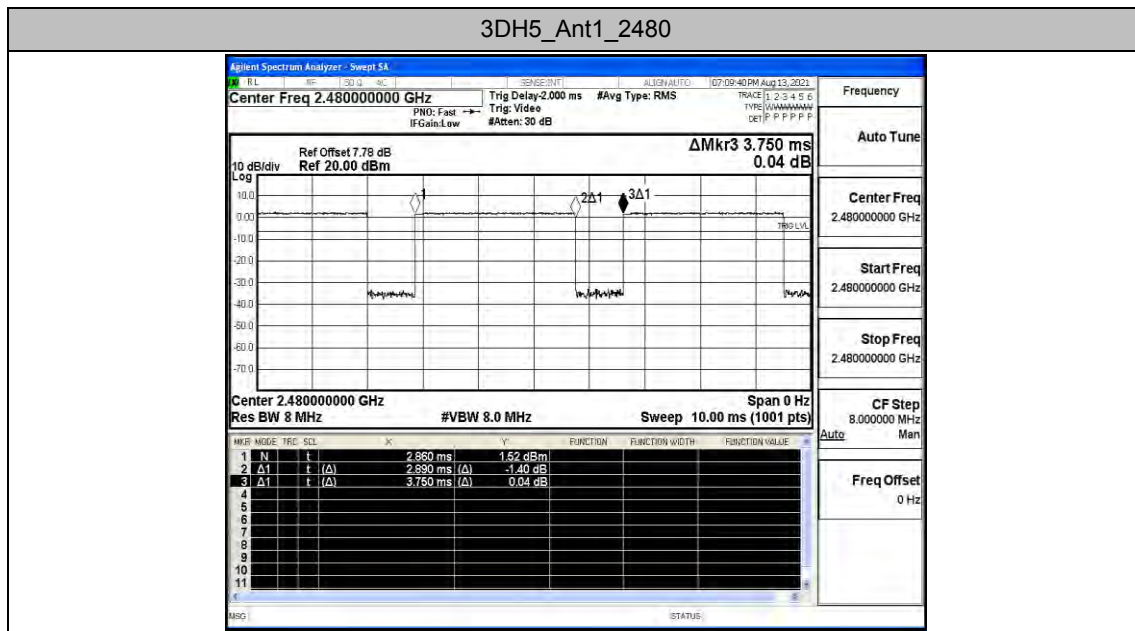
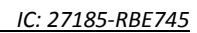


2DH5_Ant1_2441



2DH5_Ant1_2480







Appendix A.6: Conducted Spurious Emission

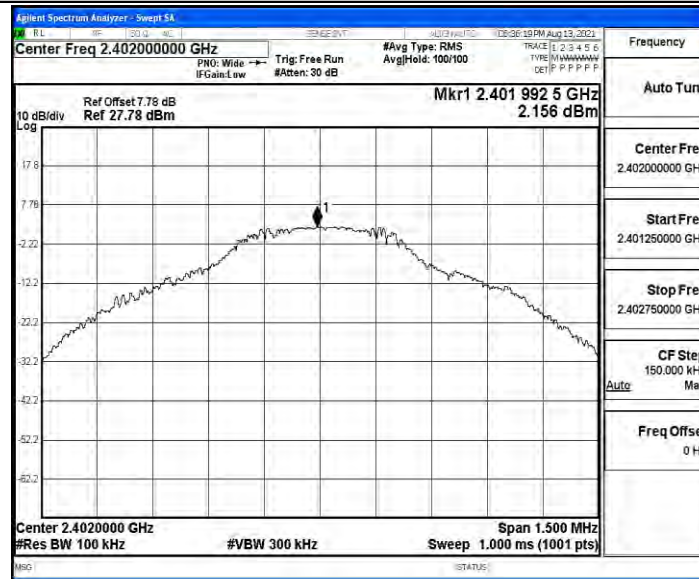
Test Result

TestMode	Antenna	Channel	FreqRange [MHz]	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
DH5	Ant1	2402	Reference	2.16	2.16	---	PASS
			30~1000	2.16	-57.45	≤ -17.84	PASS
			1000~26500	2.16	-47.63	≤ -17.84	PASS
		2441	Reference	4.04	4.04	---	PASS
			30~1000	4.04	-56.42	≤ -15.96	PASS
			1000~26500	4.04	-46.98	≤ -15.96	PASS
		2480	Reference	2.52	2.52	---	PASS
			30~1000	2.52	-59.1	≤ -17.49	PASS
			1000~26500	2.52	-47.14	≤ -17.49	PASS
2DH5	Ant1	2402	Reference	0.79	0.79	---	PASS
			30~1000	0.79	-58.47	≤ -19.21	PASS
			1000~26500	0.79	-48.14	≤ -19.21	PASS
		2441	Reference	2.23	2.23	---	PASS
			30~1000	2.23	-57.12	≤ -17.77	PASS
			1000~26500	2.23	-47.19	≤ -17.77	PASS
		2480	Reference	1.00	1.00	---	PASS
			30~1000	1.00	-56.06	≤ -19	PASS
			1000~26500	1.00	-47.95	≤ -19	PASS
3DH5	Ant1	2402	Reference	0.92	0.92	---	PASS
			30~1000	0.92	-57.7	≤ -19.08	PASS
			1000~26500	0.92	-47.61	≤ -19.08	PASS
		2441	Reference	-0.99	-0.99	---	PASS
			30~1000	-0.99	-58.15	≤ -20.99	PASS
			1000~26500	-0.99	-47.53	≤ -20.99	PASS
		2480	Reference	1.10	1.10	---	PASS
			30~1000	1.10	-58.55	≤ -18.9	PASS
			1000~26500	1.10	-47.59	≤ -18.9	PASS

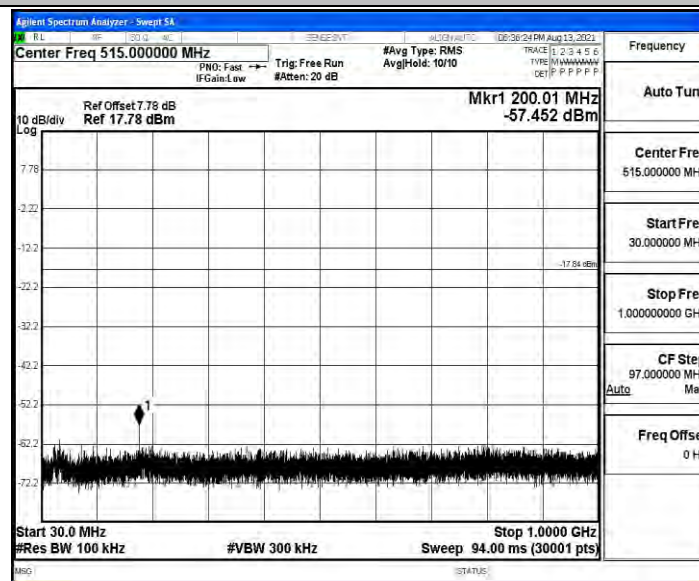


Test Graphs

DH5_Ant1_2402_0~Reference

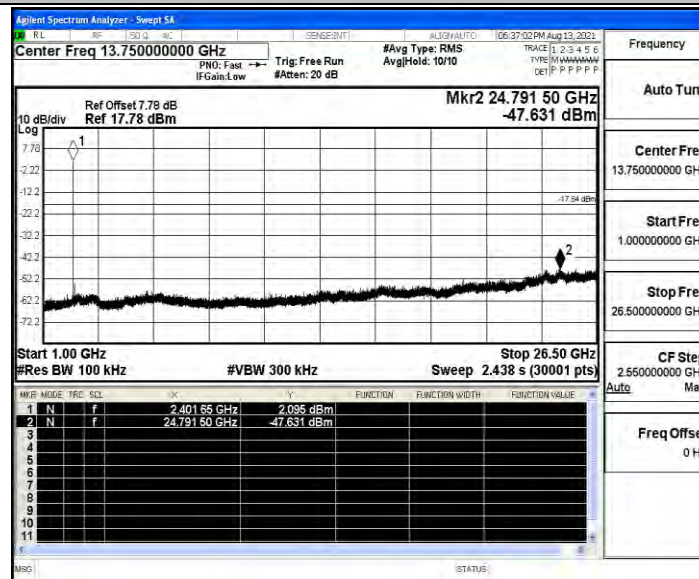


DH5_Ant1_2402_30~1000

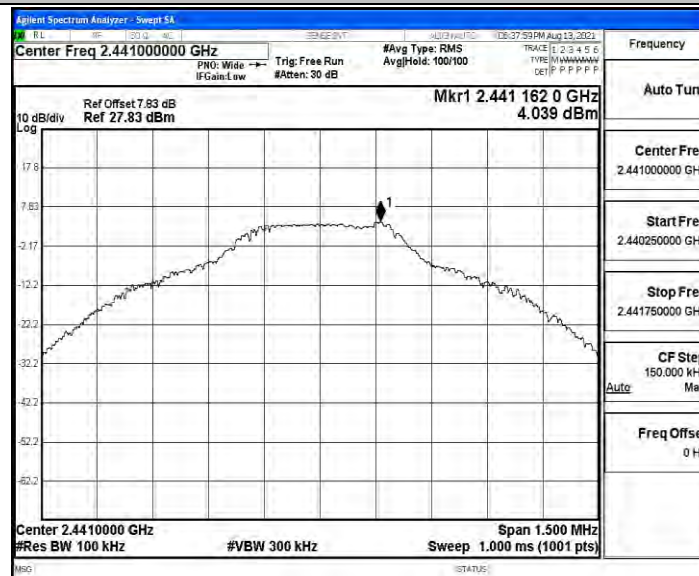




DH5_Ant1_2402_1000~26500

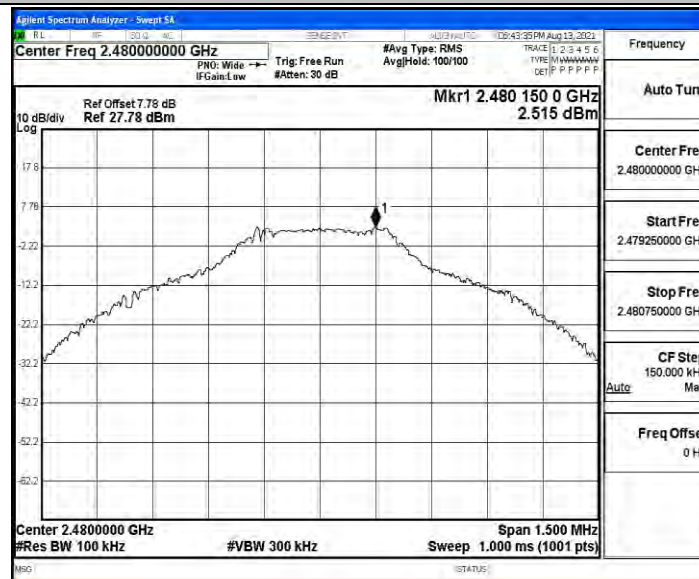


DH5_Ant1_2441_0~Reference

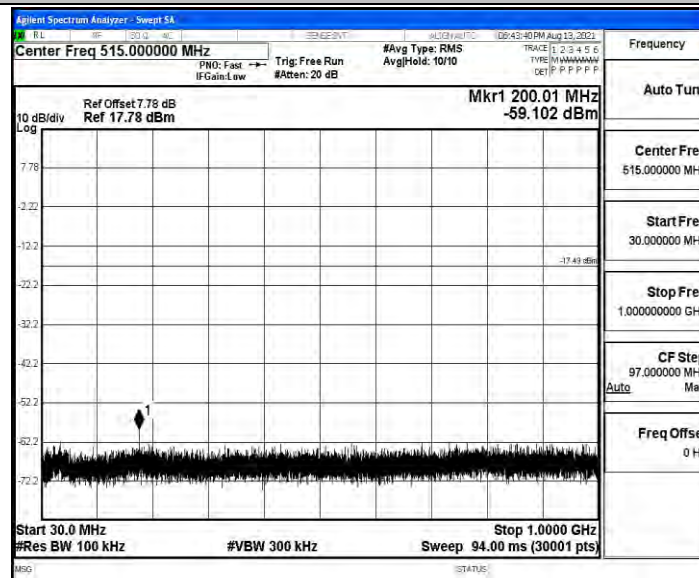




DH5_Ant1_2480_0~Reference

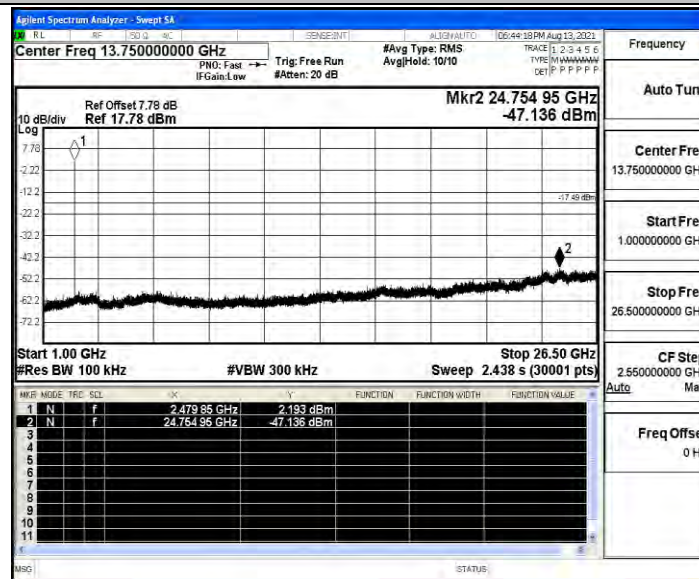


DH5_Ant1_2480_30~1000

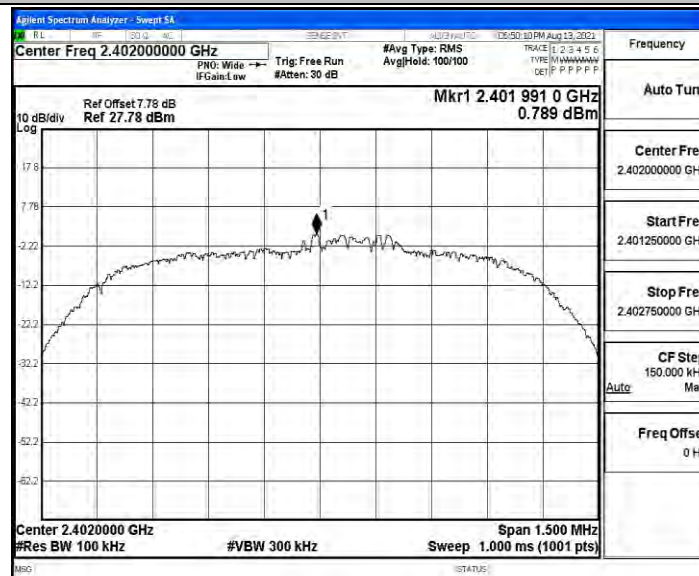




DH5_Ant1_2480_1000~26500

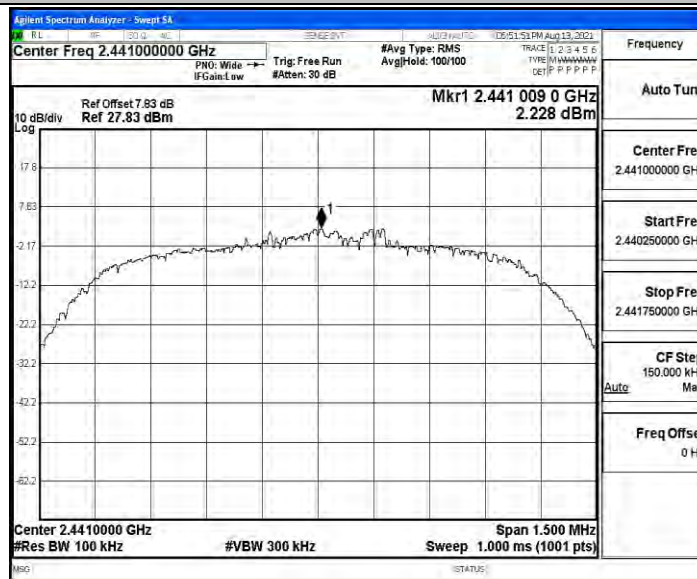


2DH5_Ant1_2402_0~Reference

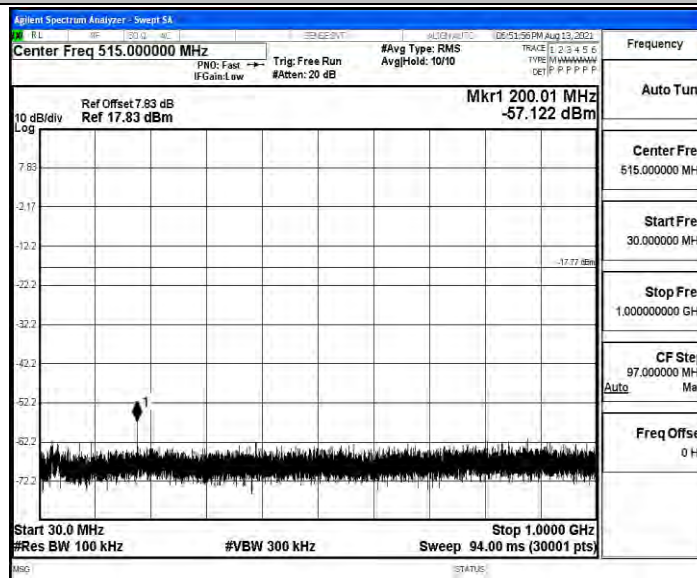




2DH5_Ant1_2441_0~Reference

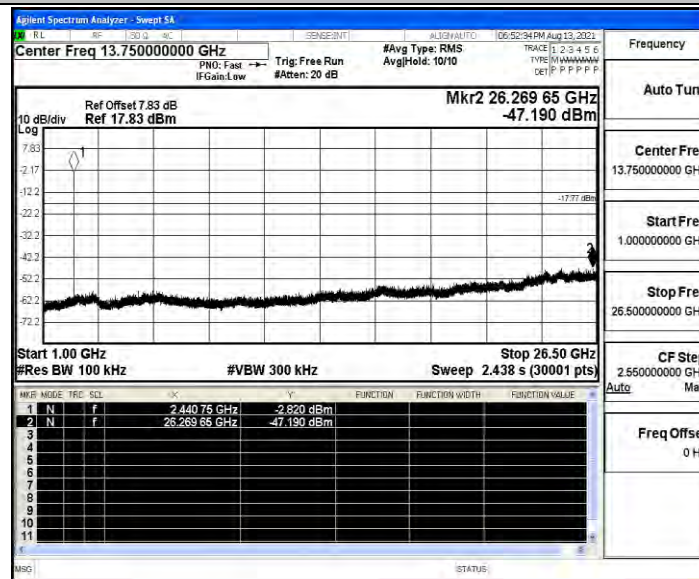


2DH5_Ant1_2441_30~1000

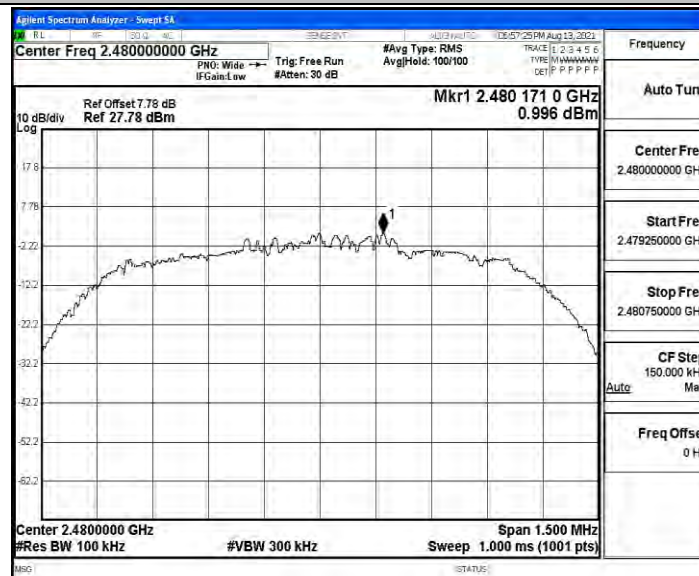




2DH5_Ant1_2441_1000~26500

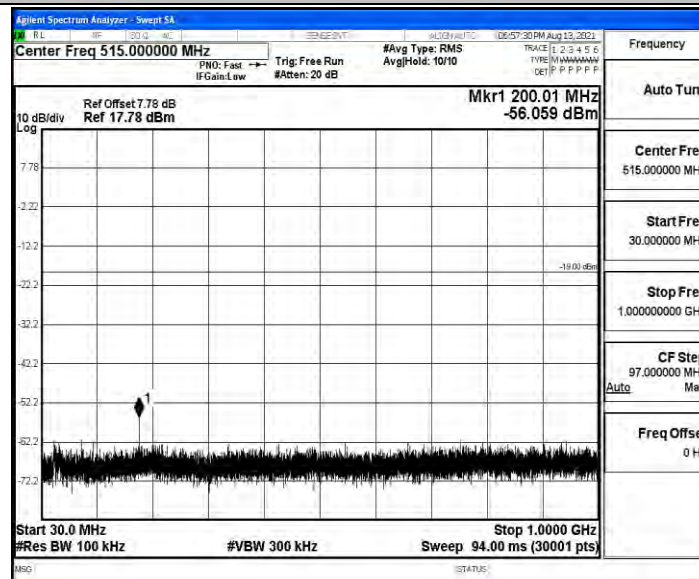


2DH5_Ant1_2480_0~Reference

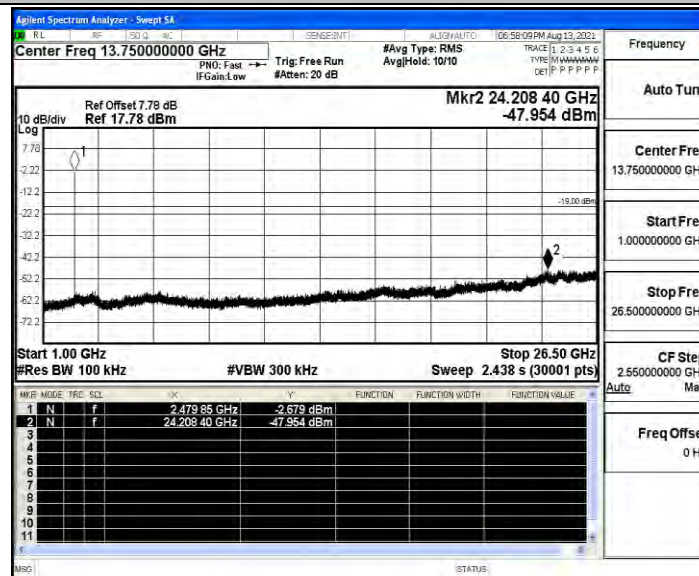




2DH5_Ant1_2480_30~1000

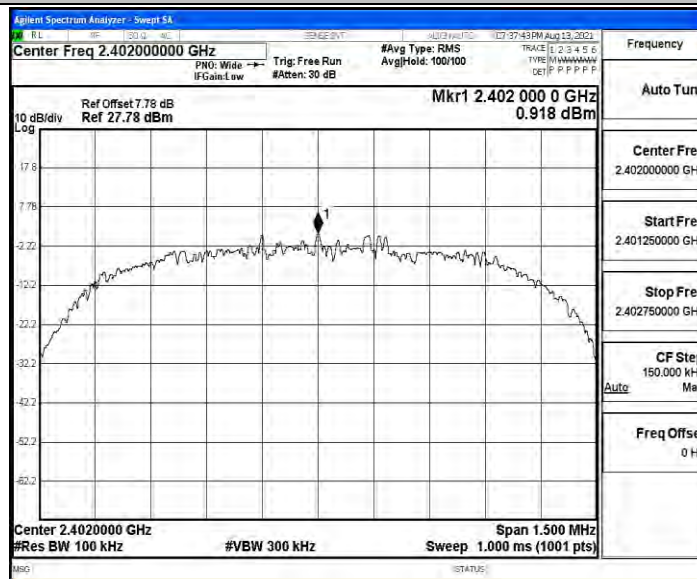


2DH5_Ant1_2480_1000~26500

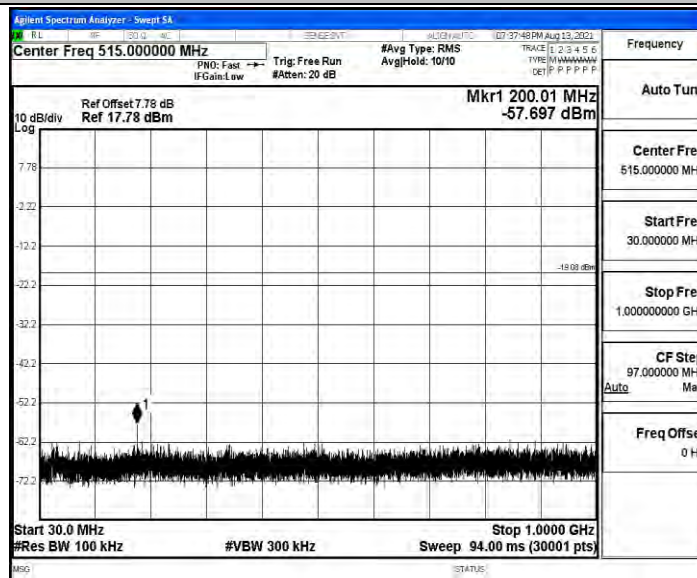




3DH5_Ant1_2402_0~Reference

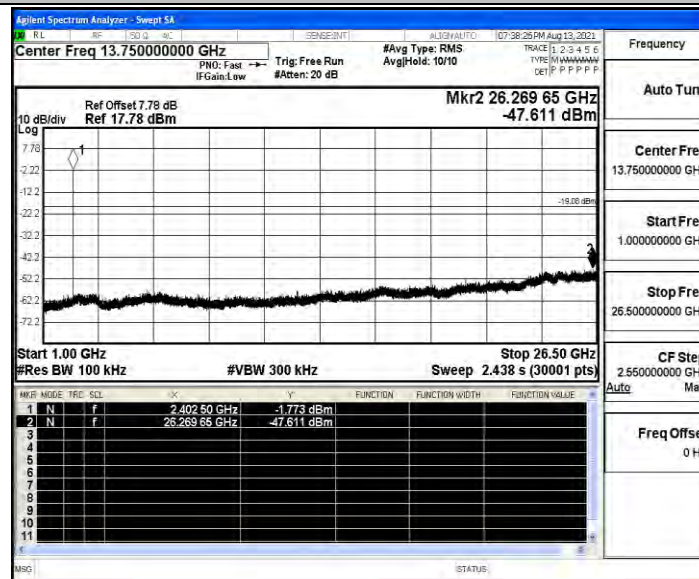


3DH5_Ant1_2402_30~1000

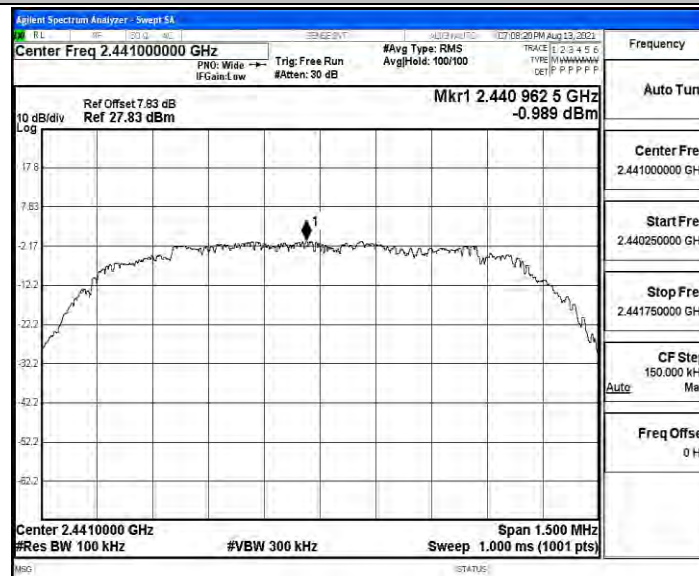




3DH5_Ant1_2402_1000~26500

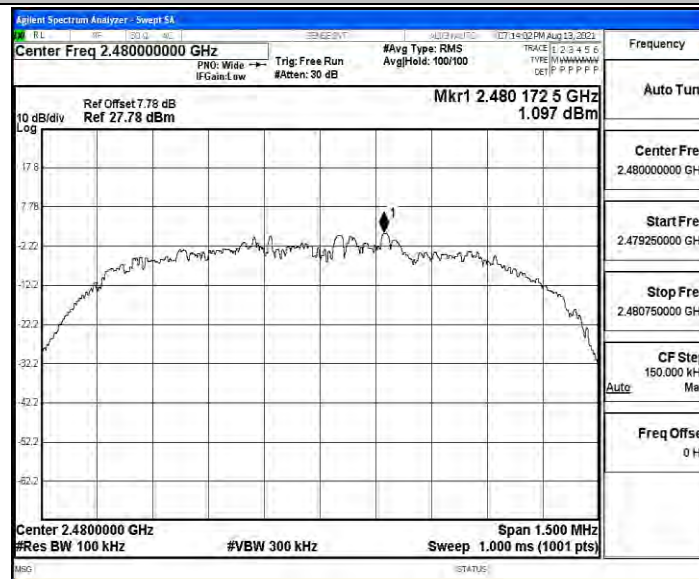


3DH5_Ant1_2441_0~Reference

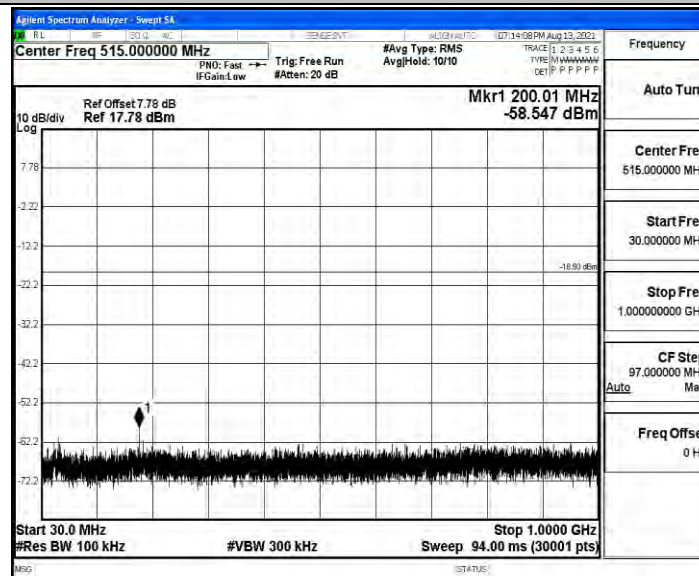




3DH5_Ant1_2480_0~Reference

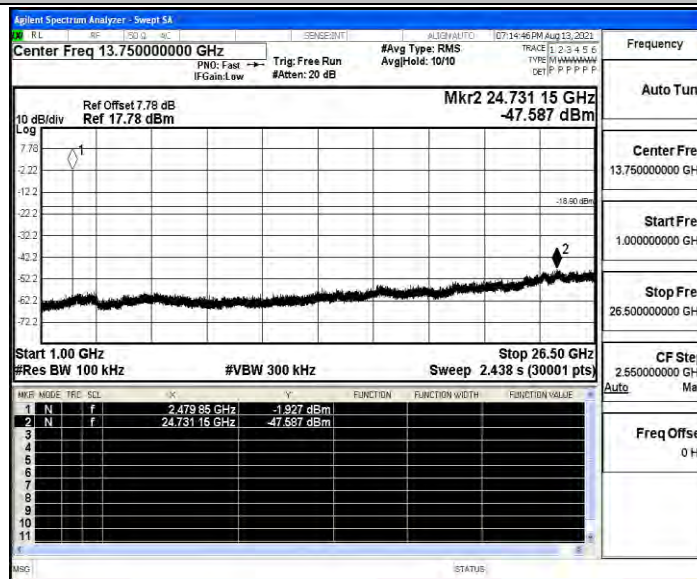


3DH5_Ant1_2480_30~1000





3DH5_Ant1_2480_1000~26500





Appendix A.7: Band edge measurements

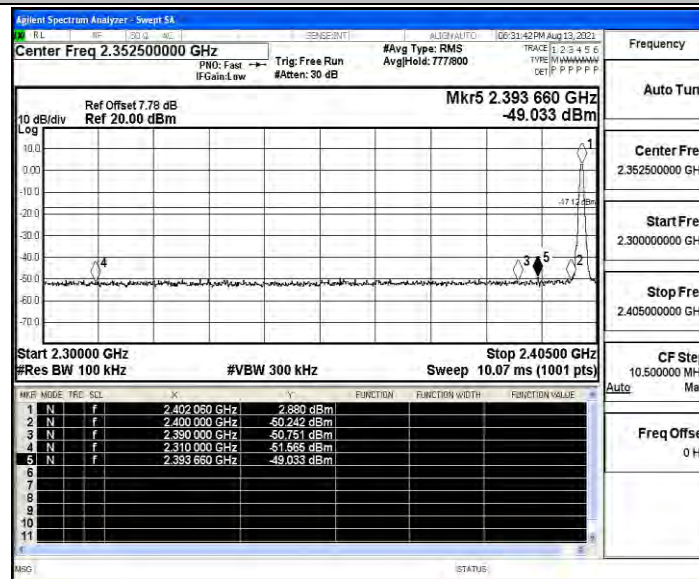
Test Result

TestMode	Antenna	ChName	Channel	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
DH5	Ant1	Low	2402	2.88	-49.03	≤ -17.12	PASS
		High	2480	2.70	-48.97	≤ -17.3	PASS
		Low	Hop_2402	2.22	-49.75	≤ -17.78	PASS
		High	Hop_2480	2.94	-49.27	≤ -17.07	PASS
2DH5	Ant1	Low	2402	-2.34	-49.55	≤ -22.34	PASS
		High	2480	1.45	-48.29	≤ -18.55	PASS
		Low	Hop_2402	-3.05	-49.87	≤ -23.05	PASS
		High	Hop_2480	-0.05	-48.45	≤ -20.05	PASS
3DH5	Ant1	Low	2402	0.84	-49.6	≤ -19.16	PASS
		High	2480	1.28	-49.13	≤ -18.72	PASS
		Low	Hop_2402	0.99	-49.68	≤ -19.01	PASS
		High	Hop_2480	0.17	-48.64	≤ -19.83	PASS

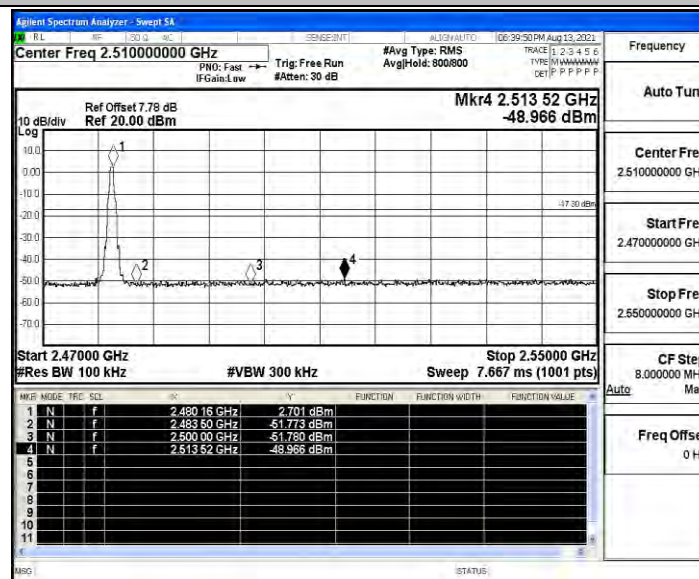


Test Graphs

DH5_Ant1_Low_2402

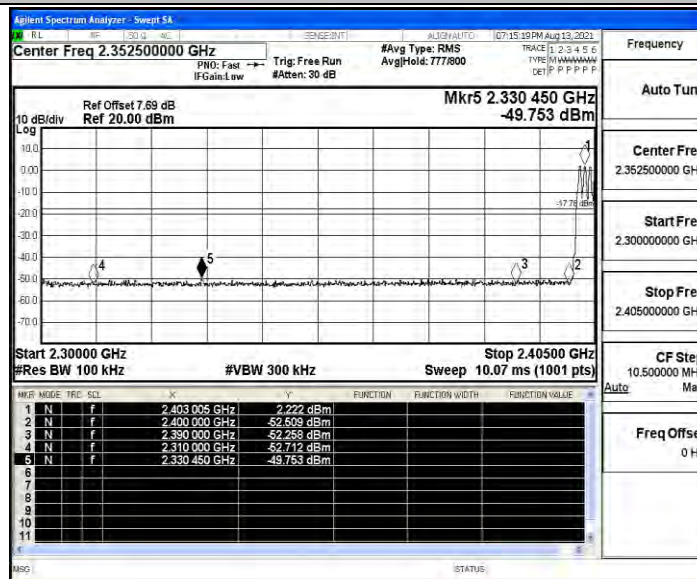


DH5_Ant1_High_2480

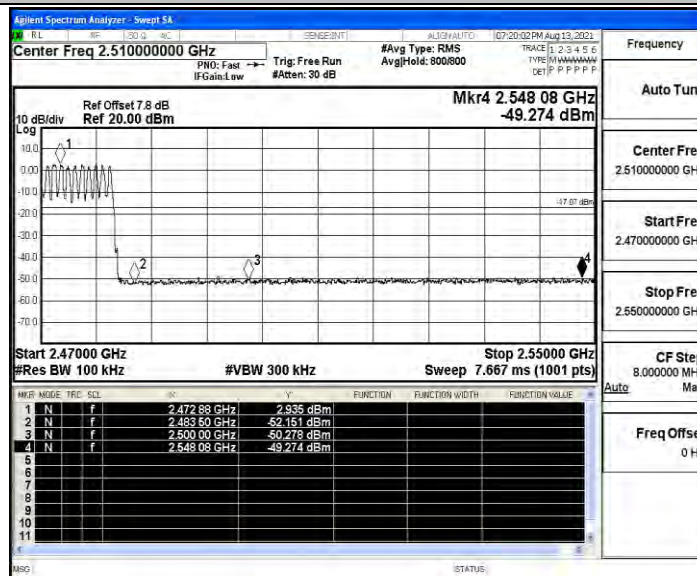




DH5_Ant1_Low_Hop_2402

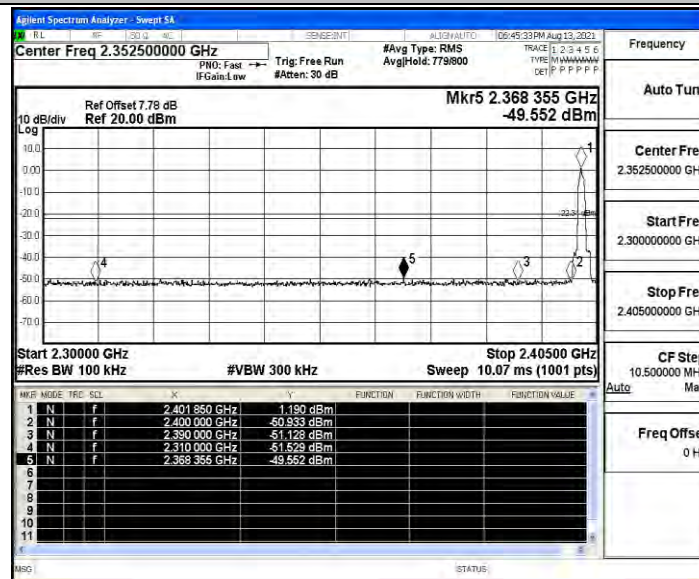


DH5_Ant1_High_Hop_2480

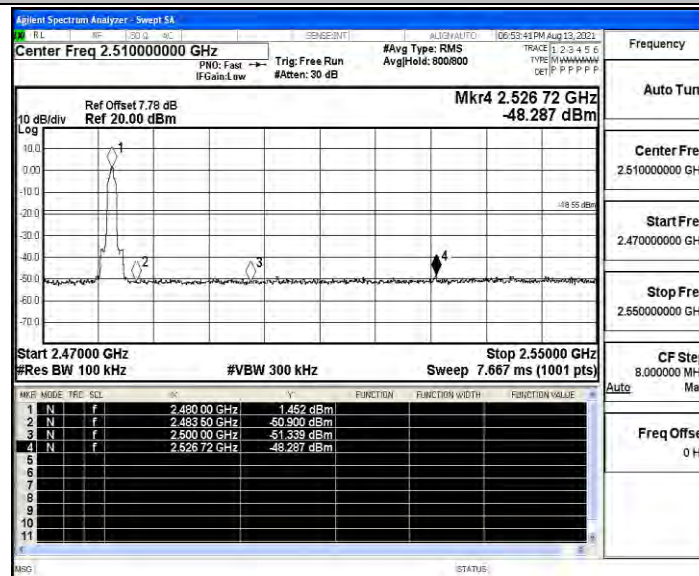




2DH5_Ant1_Low_2402

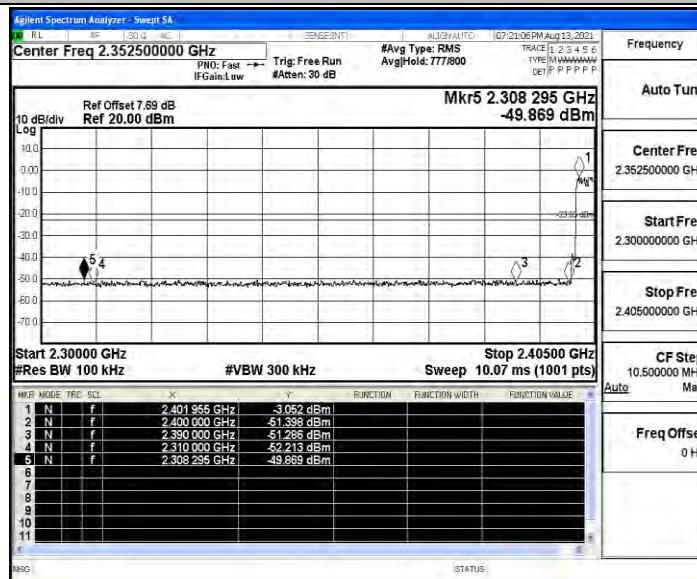


2DH5_Ant1_High_2480

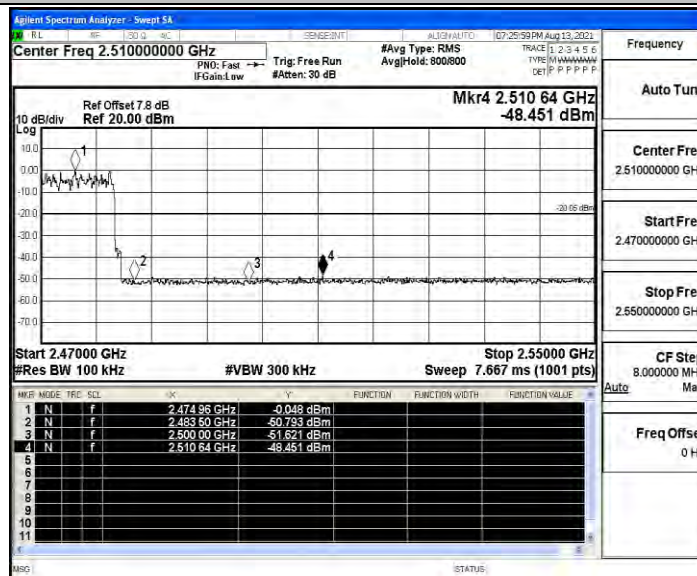




2DH5_Ant1_Low_Hop_2402

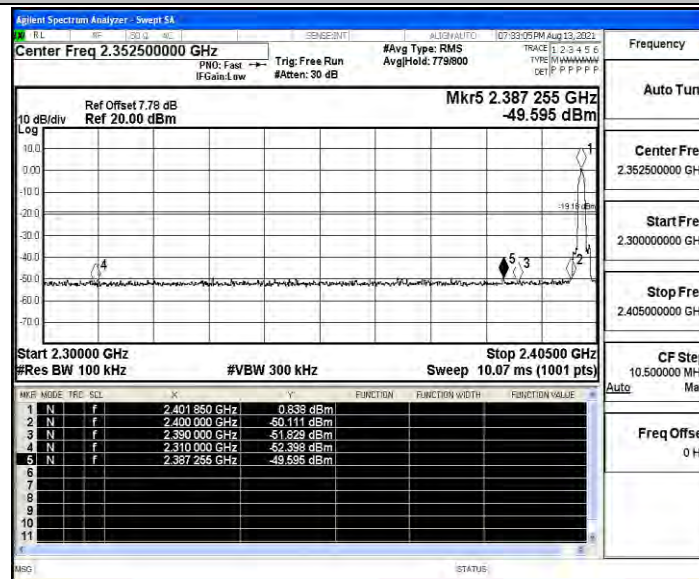


2DH5_Ant1_High_Hop_2480

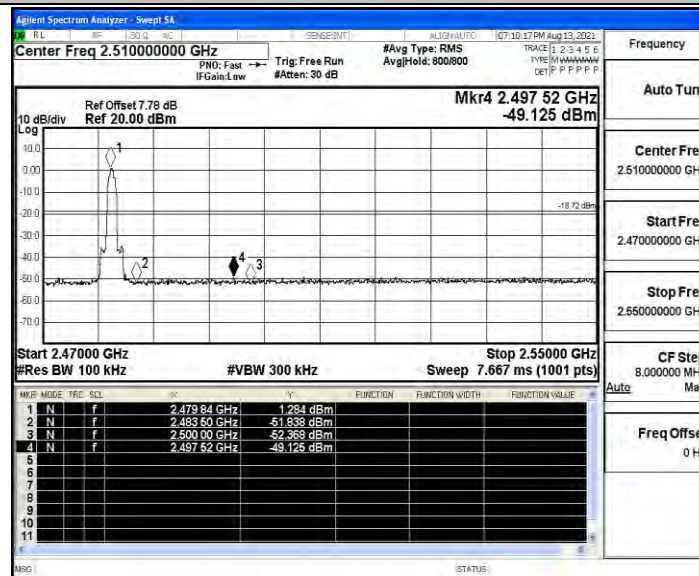




3DH5_Ant1_Low_2402

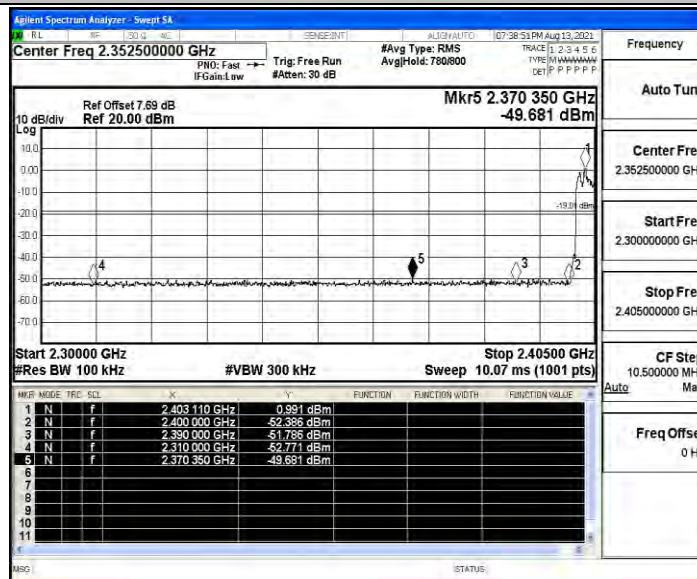


3DH5_Ant1_High_2480

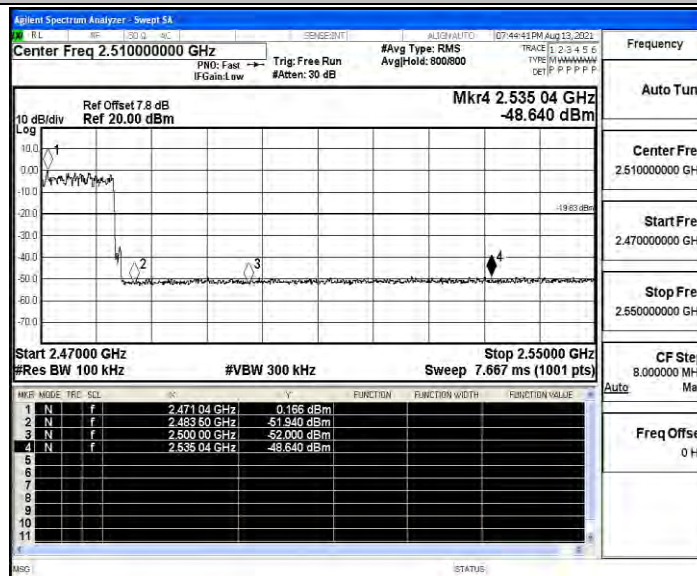




3DH5_Ant1_Low_Hop_2402



3DH5_Ant1_High_Hop_2480





Appendix A.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	-48.8	≤-41.20	46.40	≤54	PASS
				AV	2389.460	-48.49	≤-41.20	46.71	≤54	PASS
				AV	2390.000	-48.63	≤-41.20	46.57	≤54	PASS
				Peak	2310.000	-40.39	≤-21.20	54.81	≤74	PASS
				Peak	2317.010	-38.11	≤-21.20	57.09	≤74	PASS
				Peak	2390.000	-40.78	≤-21.20	54.42	≤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	-48.01	≤-41.20	47.19	≤54	PASS
				Peak	2483.500	-39.7	≤-21.20	55.50	≤74	PASS
				Peak	2485.520	-37.36	≤-21.20	57.84	≤74	PASS
				Peak	2500.000	-39.15	≤-21.20	56.05	≤74	PASS
		Low	Hop_24 02	Peak	2310.000	-40.84	≤-21.20	54.36	≤74	PASS
				Peak	2387.360	-38.62	≤-21.20	56.58	≤74	PASS
				Peak	2390.000	-39.88	≤-21.20	55.32	≤74	PASS
		High	Hop_24 80	Peak	2483.500	-39.84	≤-21.20	55.36	≤74	PASS
				Peak	2498.160	-37.25	≤-21.20	57.95	≤74	PASS
				Peak	2500.000	-40.2	≤-21.20	55.00	≤74	PASS
2DH5	Ant1	Low	2402	AV	2310.000	-49.05	≤-41.20	46.15	≤54	PASS
				AV	2388.725	-48.48	≤-41.20	46.72	≤54	PASS
				AV	2390.000	-48.6	≤-41.20	46.60	≤54	PASS
				Peak	2310.000	-41.04	≤-21.20	54.16	≤74	PASS
				Peak	2333.915	-37.75	≤-21.20	57.45	≤74	PASS
				Peak	2390.000	-40.14	≤-21.20	55.06	≤74	PASS
		High	2480	AV	2483.500	-47.72	≤-41.20	47.48	≤54	PASS
				AV	2483.520	-47.72	≤-41.20	47.48	≤54	PASS
				AV	2500.000	-48.02	≤-41.20	47.18	≤54	PASS
				Peak	2483.500	-39.8	≤-21.20	55.40	≤74	PASS
				Peak	2486.480	-37.17	≤-21.20	58.03	≤74	PASS
				Peak	2500.000	-39.63	≤-21.20	55.57	≤74	PASS
		Low	Hop_24 02	Peak	2310.000	-40.64	≤-21.20	54.56	≤74	PASS
				Peak	2384.630	-36.8	≤-21.20	58.40	≤74	PASS
				Peak	2390.000	-40.64	≤-21.20	54.56	≤74	PASS
		High	Hop_24 80	Peak	2483.500	-38.79	≤-21.20	56.41	≤74	PASS
				Peak	2491.360	-37.92	≤-21.20	57.28	≤74	PASS
				Peak	2500.000	-39.93	≤-21.20	55.27	≤74	PASS
3DH5	Ant1	Low	2402	AV	2310.000	-49.04	≤-41.20	46.16	≤54	PASS



				AV	2381.690	-48.54	≤ -41.20	46.66	≤ 54	PASS
				AV	2390.000	-48.66	≤ -41.20	46.54	≤ 54	PASS
				Peak	2310.000	-39.8	≤ -21.20	55.40	≤ 74	PASS
				Peak	2378.015	-37.94	≤ -21.20	57.26	≤ 74	PASS
				Peak	2390.000	-40.34	≤ -21.20	54.86	≤ 74	PASS
		High	2480	AV	2483.500	-47.6	≤ -41.20	47.60	≤ 54	PASS
				AV	2483.520	-47.6	≤ -41.20	47.60	≤ 54	PASS
				AV	2500.000	-47.99	≤ -41.20	47.21	≤ 54	PASS
				Peak	2483.500	-39.04	≤ -21.20	56.16	≤ 74	PASS
				Peak	2490.000	-37.84	≤ -21.20	57.36	≤ 74	PASS
				Peak	2500.000	-39.54	≤ -21.20	55.66	≤ 74	PASS
		Low	Hop_24 02	Peak	2310.000	-40.72	≤ -21.20	54.48	≤ 74	PASS
				Peak	2345.885	-38.44	≤ -21.20	56.76	≤ 74	PASS
				Peak	2390.000	-41.08	≤ -21.20	54.12	≤ 74	PASS
		High	Hop_24 80	Peak	2483.500	-39.64	≤ -21.20	55.56	≤ 74	PASS
				Peak	2493.120	-37.88	≤ -21.20	57.32	≤ 74	PASS
				Peak	2500.000	-39.82	≤ -21.20	55.38	≤ 74	PASS

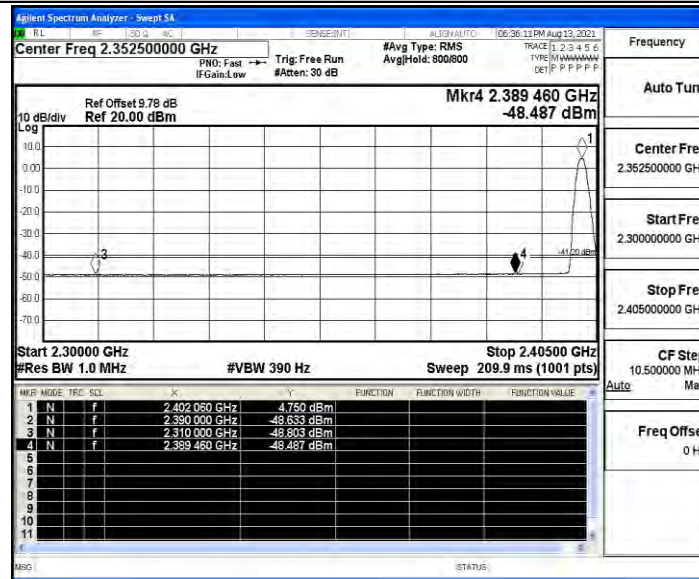
Note:

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.

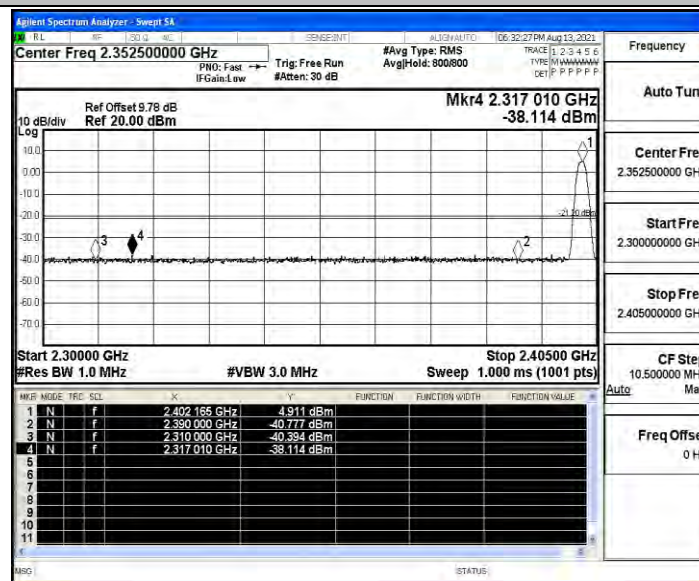


Test Graphs

DH5_Ant1_Low_2402_AV

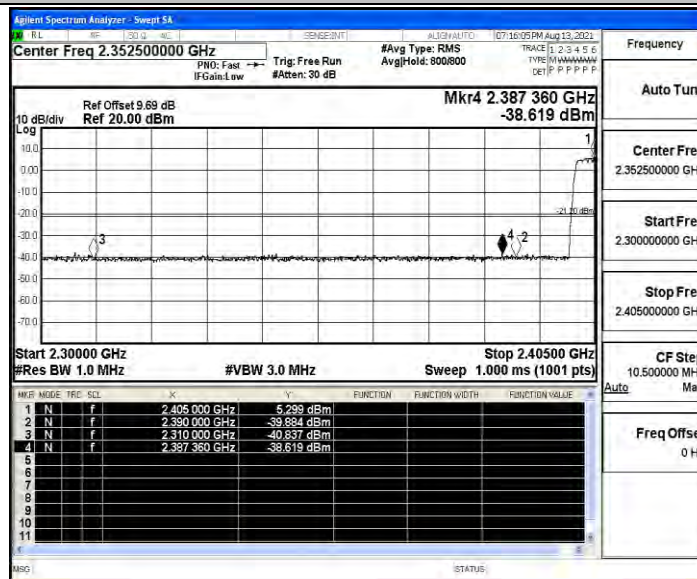


DH5_Ant1_Low_2402_Peak

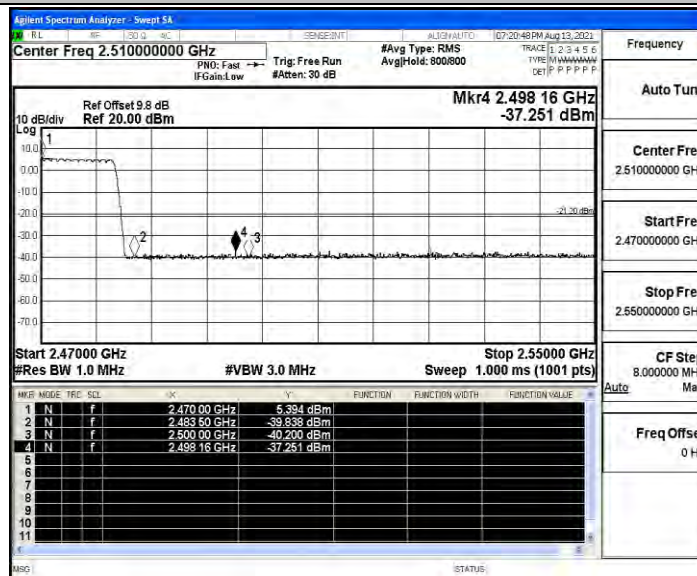




DH5_Ant1_Low_Hop_2402_Peak

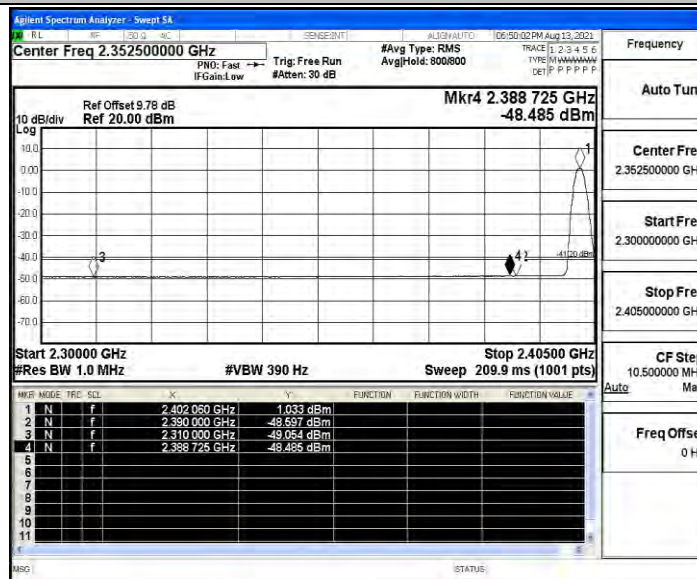


DH5_Ant1_High_Hop_2480_Peak

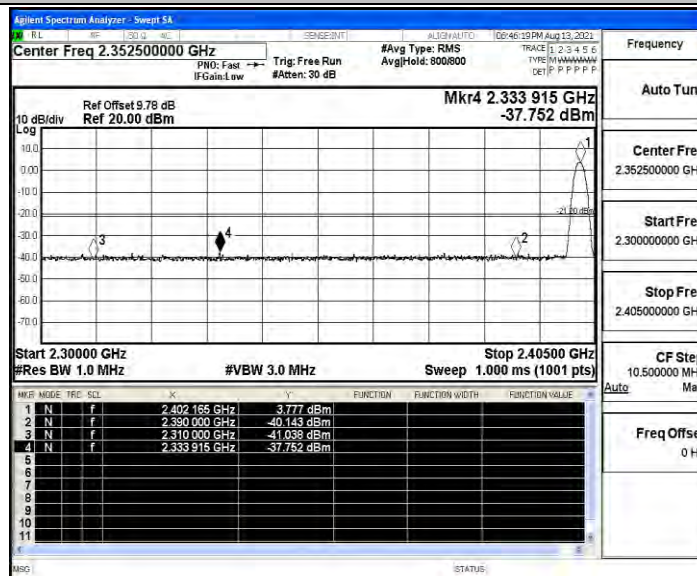




2DH5_Ant1_Low_2402_AV

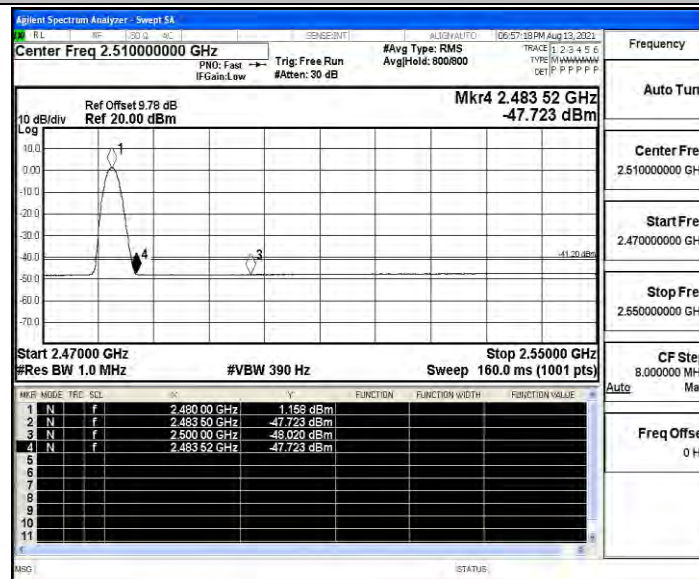


2DH5_Ant1_Low_2402_Peak

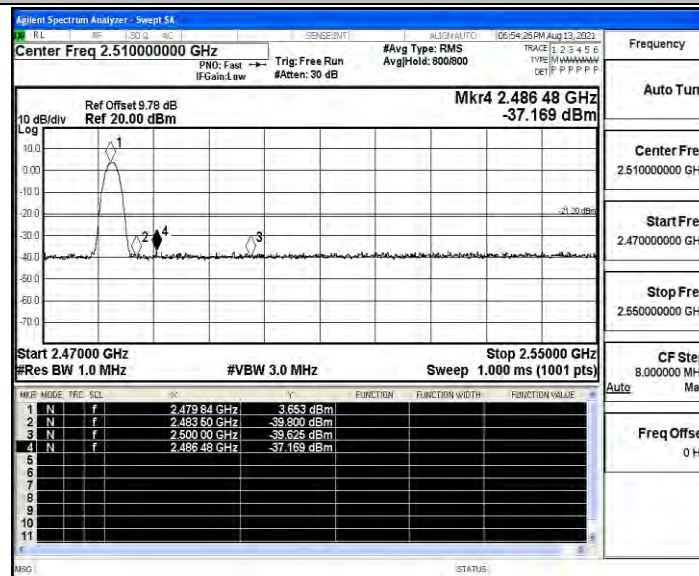




2DH5_Ant1_High_2480_AV

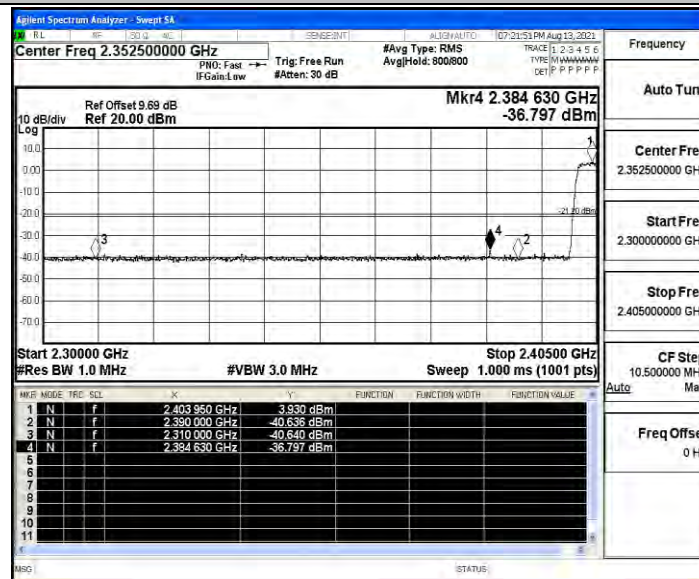


2DH5_Ant1_High_2480_Peak

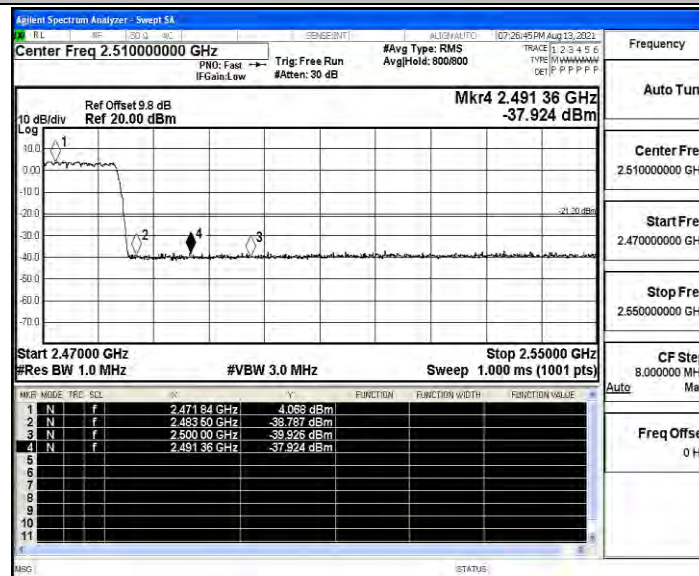




2DH5_Ant1_Low_Hop_2402_Peak

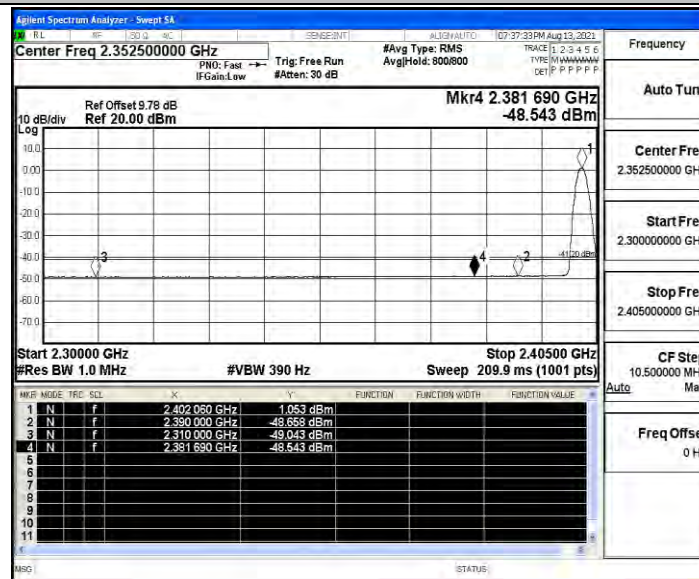


2DH5_Ant1_High_Hop_2480_Peak

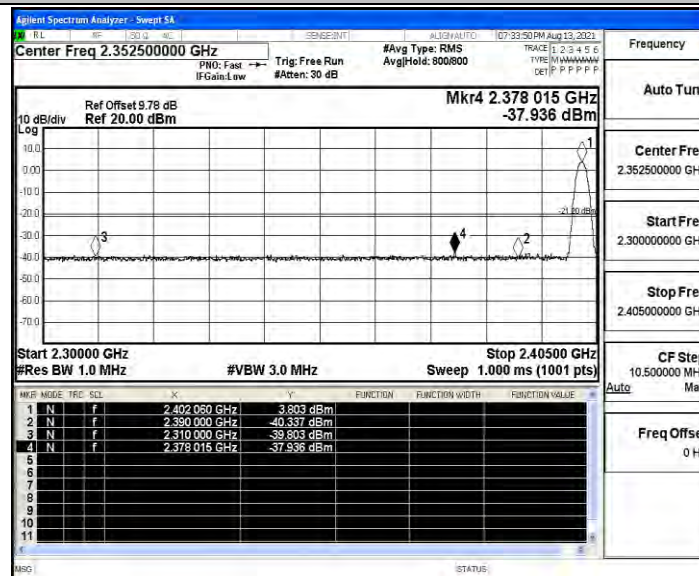




3DH5_Ant1_Low_2402_AV

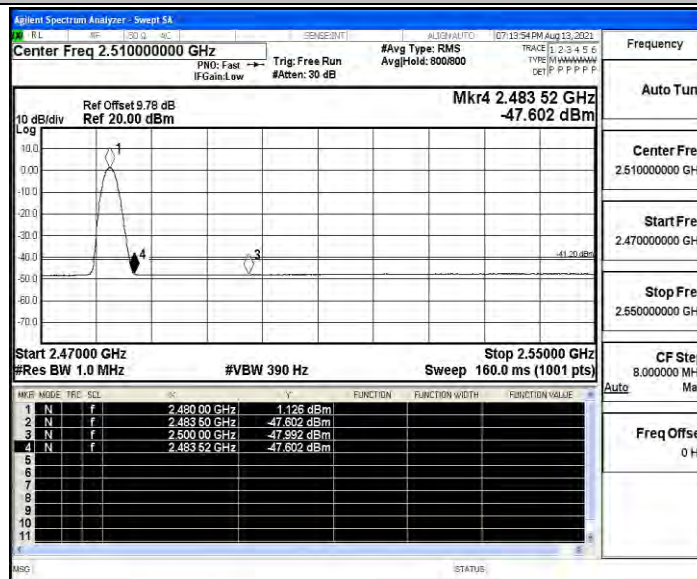


3DH5_Ant1_Low_2402_Peak

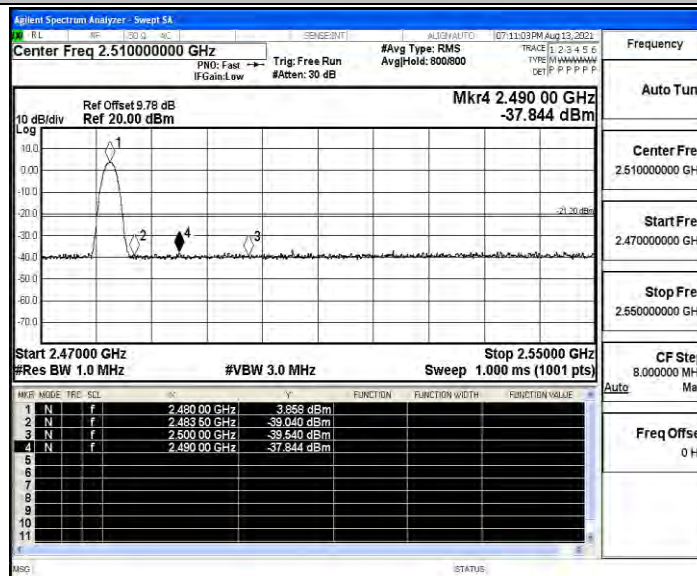




3DH5_Ant1_High_2480_AV

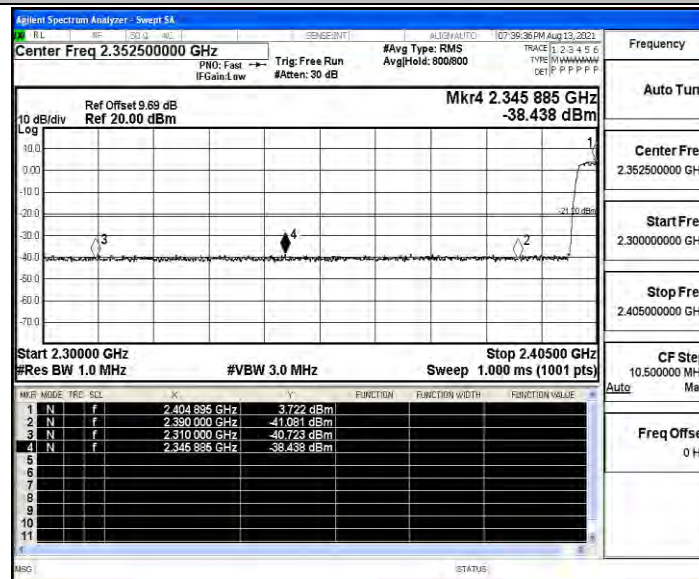


3DH5_Ant1_High_2480_Peak





3DH5_Ant1_Low_Hop_2402_Peak



3DH5_Ant1_High_Hop_2480_Peak

