



Appendix A

RF Test Data for BT (Conducted Measurement)

Product Name: Multi function projector

Test Model: NeoPix Prime One

Environmental Conditions

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



A.1 20dB Emission Bandwidth

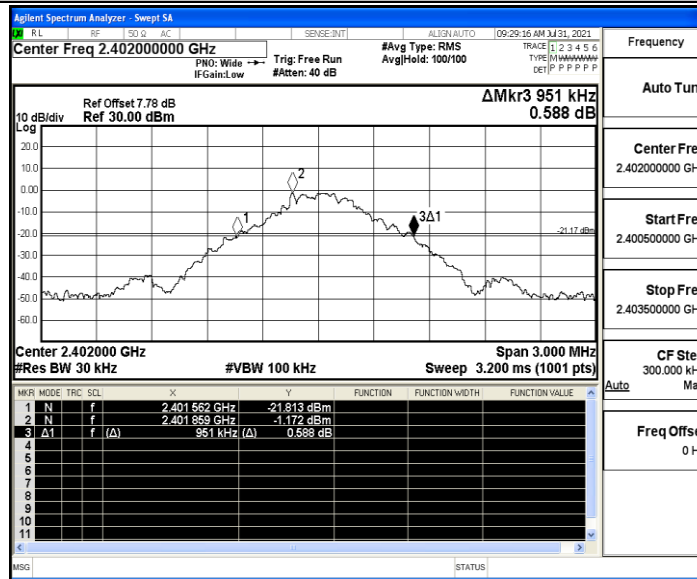
Test Result

TestMode	Antenna	Channel	20db EBW[MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
DH5	Ant1	2402	0.951	2401.562	2402.513	---	PASS
		2441	0.957	2440.553	2441.510	---	PASS
		2480	0.942	2479.559	2480.501	---	PASS
2DH5	Ant1	2402	1.311	2401.361	2402.672	---	PASS
		2441	1.290	2440.385	2441.675	---	PASS
		2480	1.377	2479.334	2480.711	---	PASS
3DH5	Ant1	2402	1.320	2401.364	2402.684	---	PASS
		2441	1.296	2440.376	2441.672	---	PASS
		2480	1.386	2479.325	2480.711	---	PASS

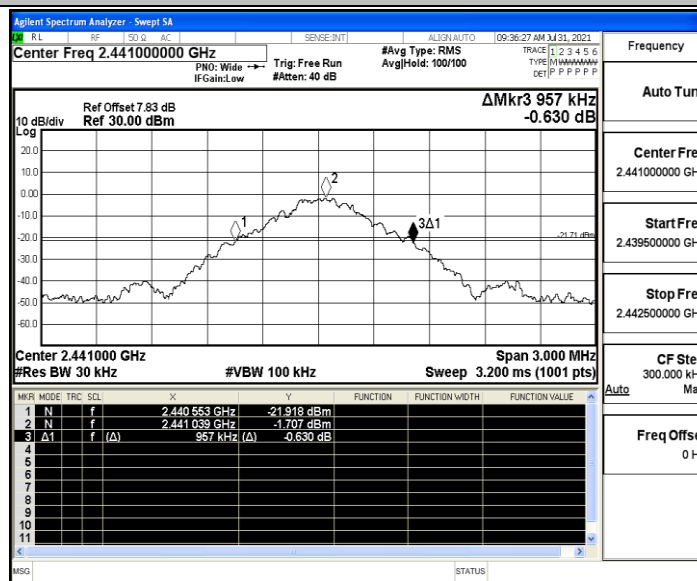


Test Graphs

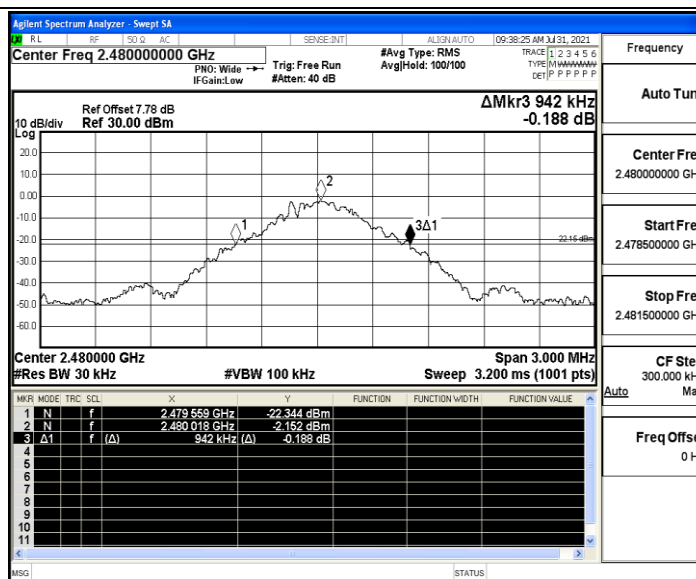
DH5_Ant1_2402



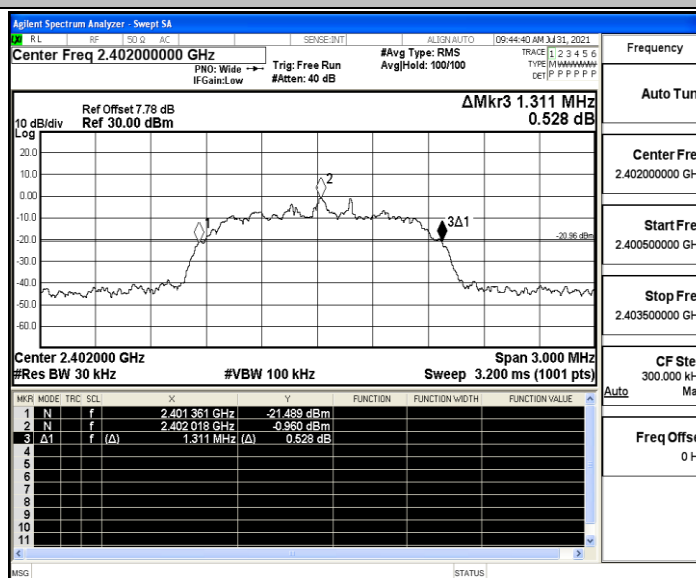
DH5_Ant1_2441



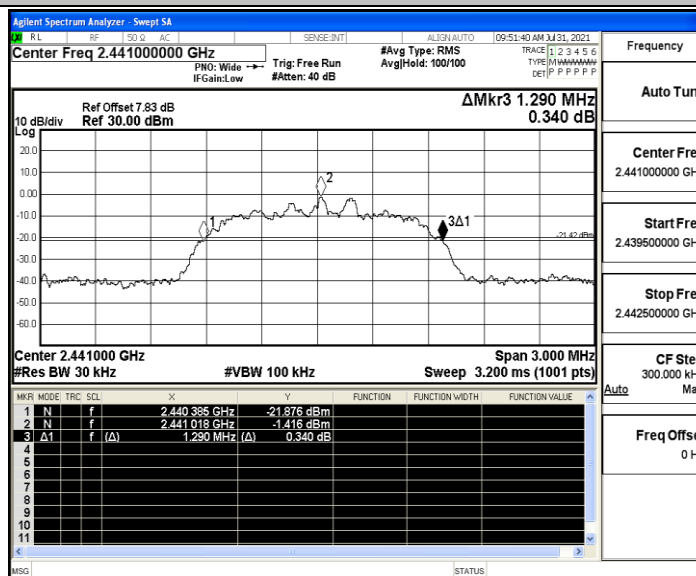
DH5_Ant1_2480



2DH5_Ant1_2402

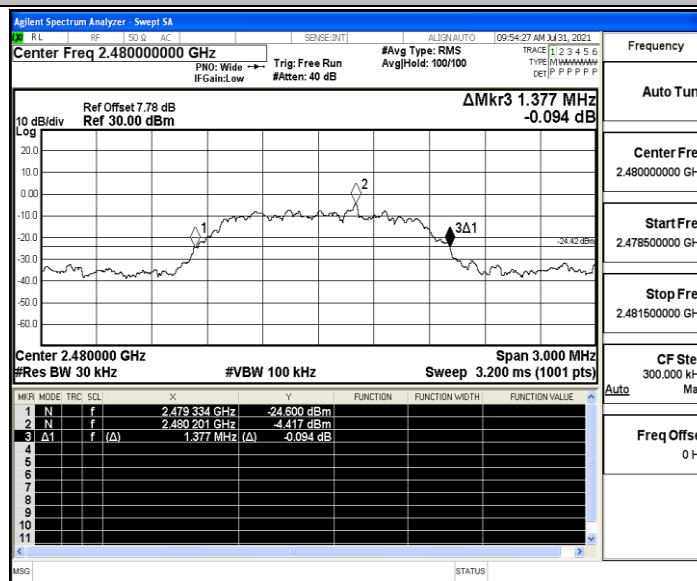


2DH5_Ant1_2441

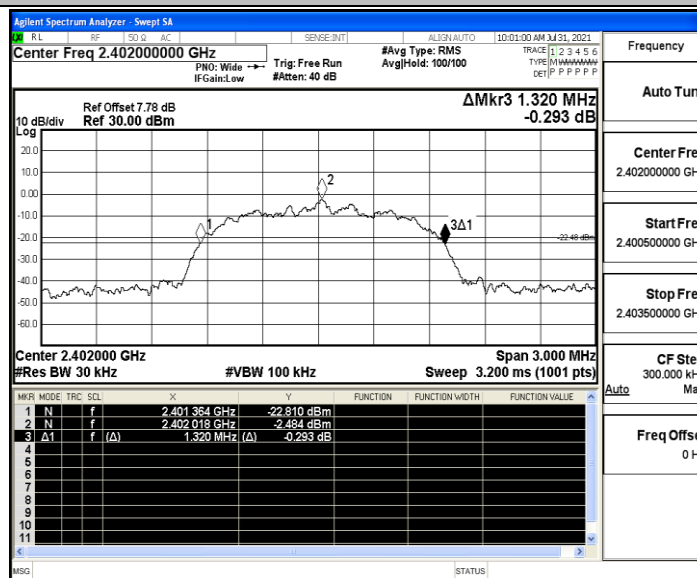




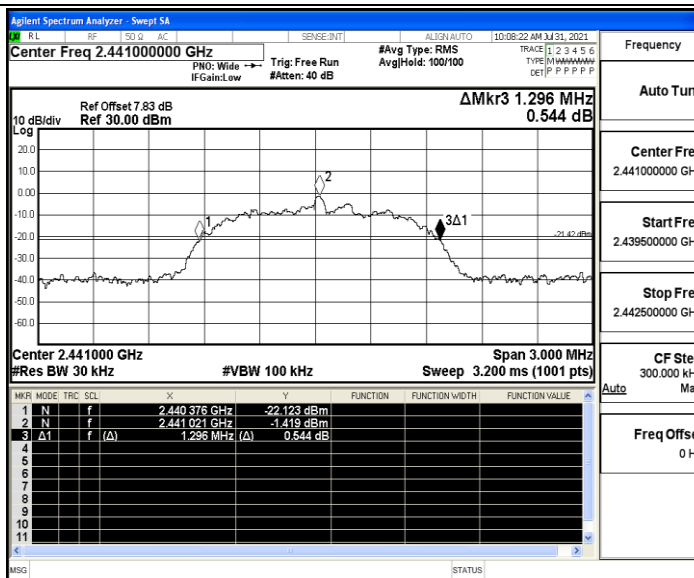
2DH5_Ant1_2480



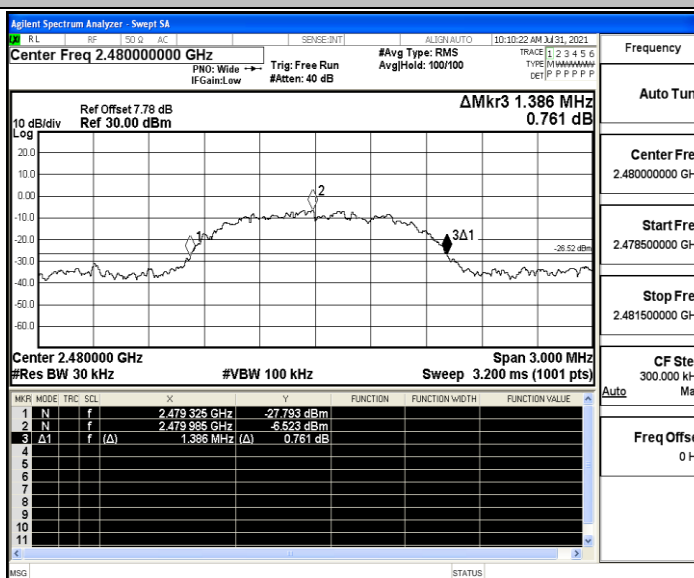
3DH5_Ant1_2402



3DH5_Ant1_2441



3DH5_Ant1_2480





A.2 Maximum peak conducted output power

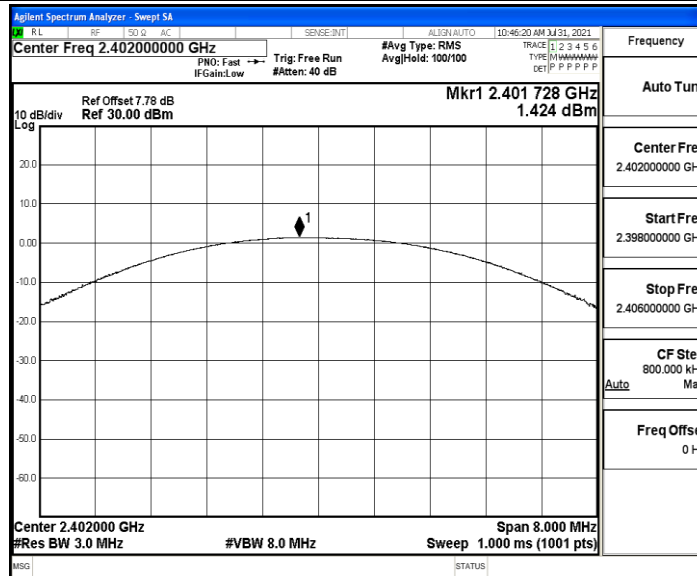
Test Result

TestMode	Antenna	Channel	Result[dBm]	Limit[dBm]	Verdict
DH5	Ant1	2402	1.42	≤30	PASS
		2441	1.13	≤30	PASS
		2480	0.31	≤30	PASS
2DH5	Ant1	2402	2.03	≤20.97	PASS
		2441	1.47	≤20.97	PASS
		2480	0.45	≤20.97	PASS
3DH5	Ant1	2402	2.31	≤20.97	PASS
		2441	1.72	≤20.97	PASS
		2480	0.58	≤20.97	PASS

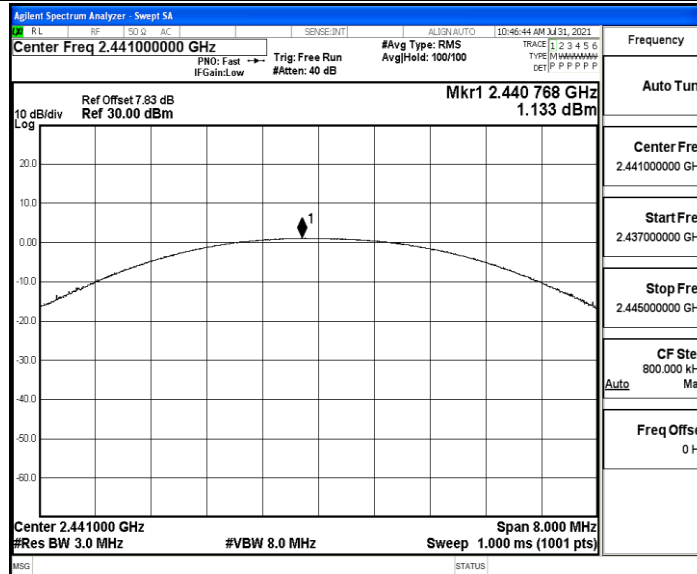


Test Graphs

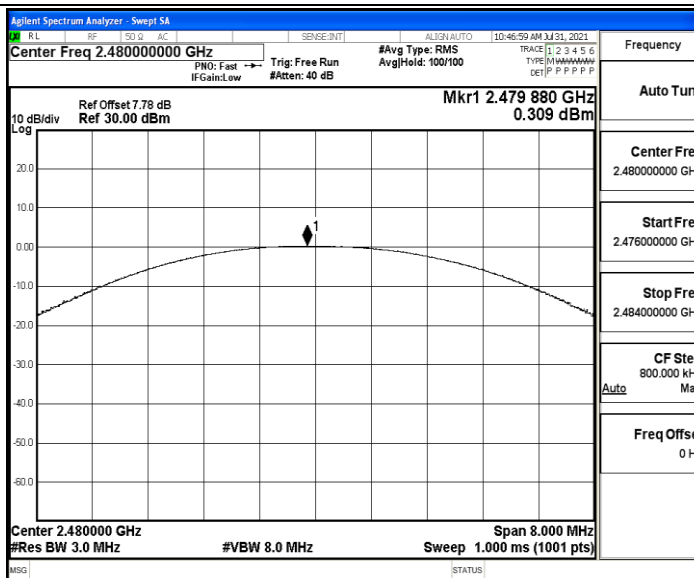
DH5_Ant1_2402



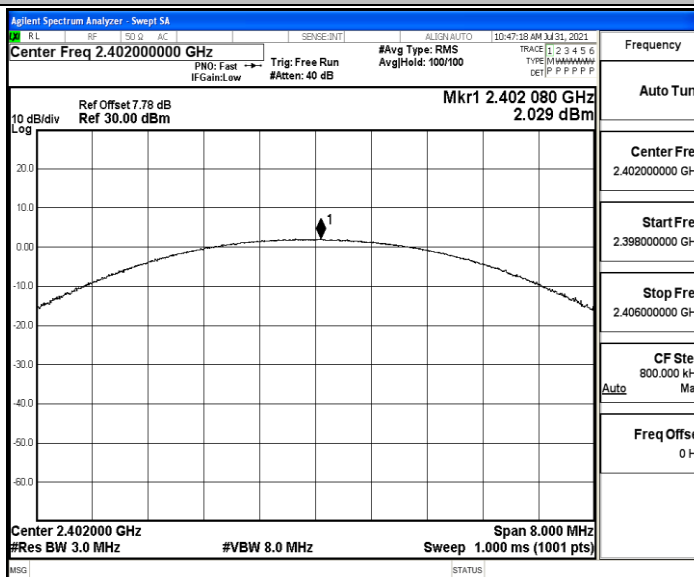
DH5_Ant1_2441



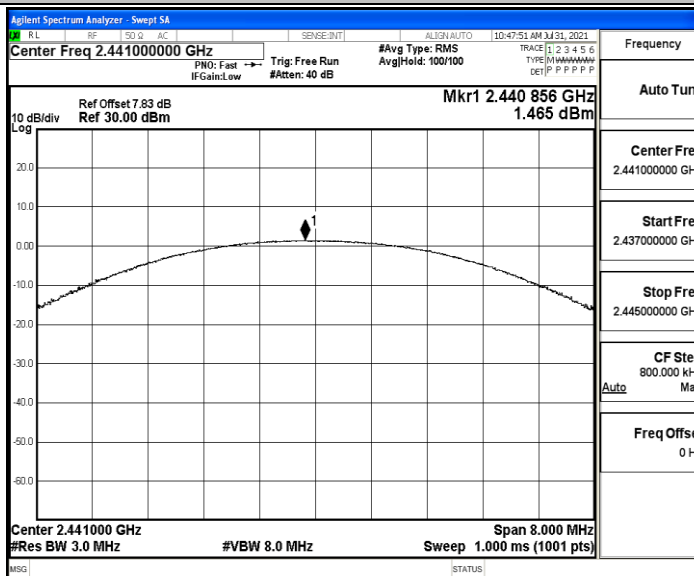
DH5_Ant1_2480



2DH5_Ant1_2402

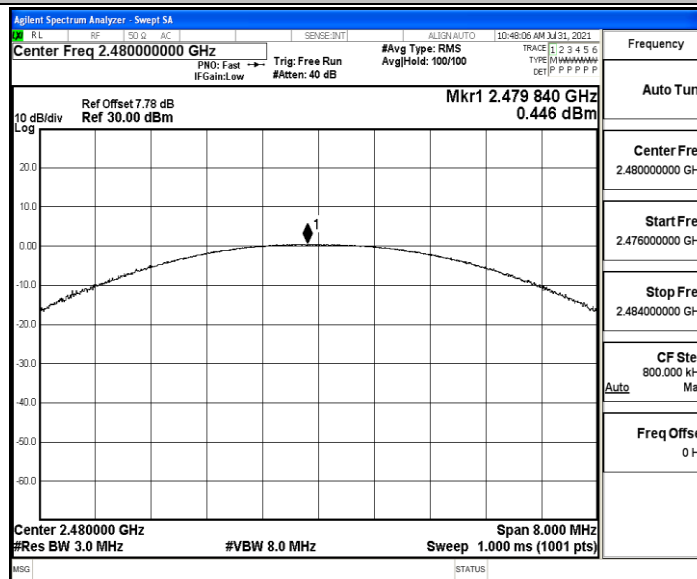


2DH5_Ant1_2441

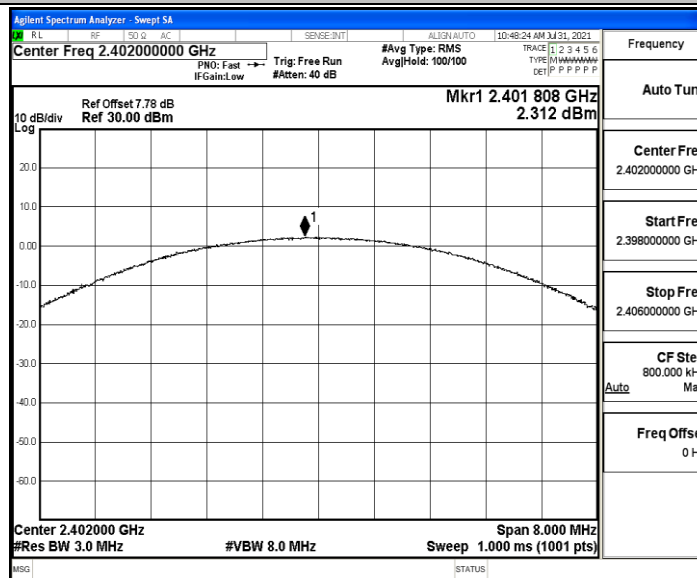




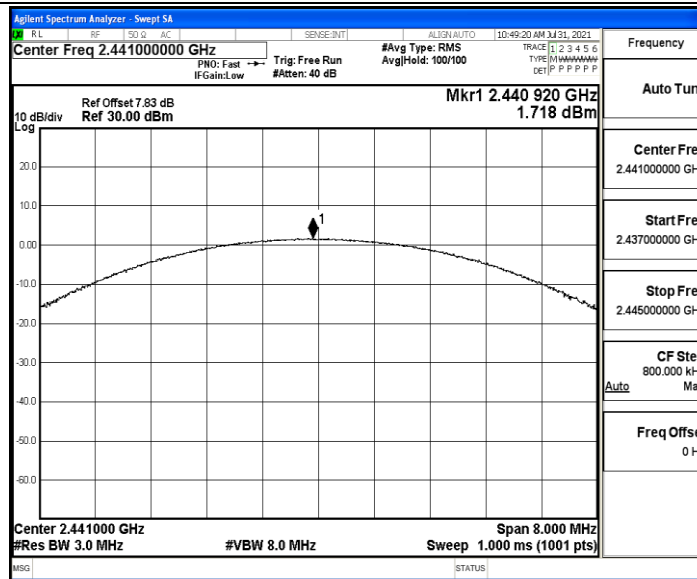
2DH5_Ant1_2480



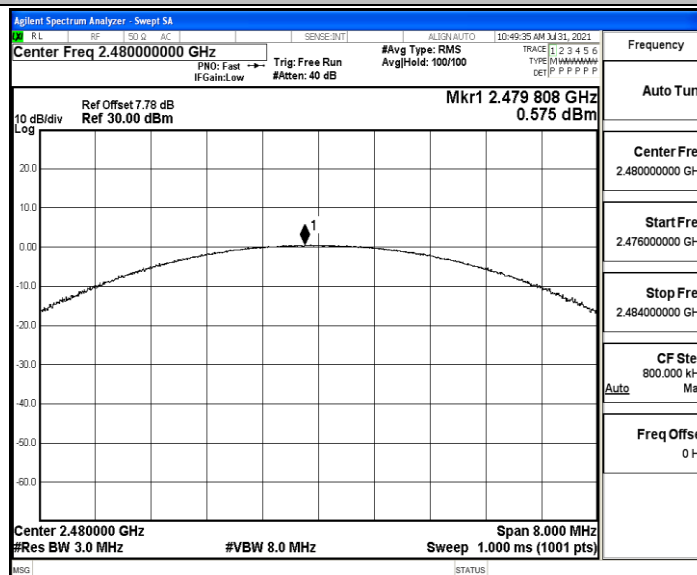
3DH5_Ant1_2402



3DH5_Ant1_2441



3DH5_Ant1_2480





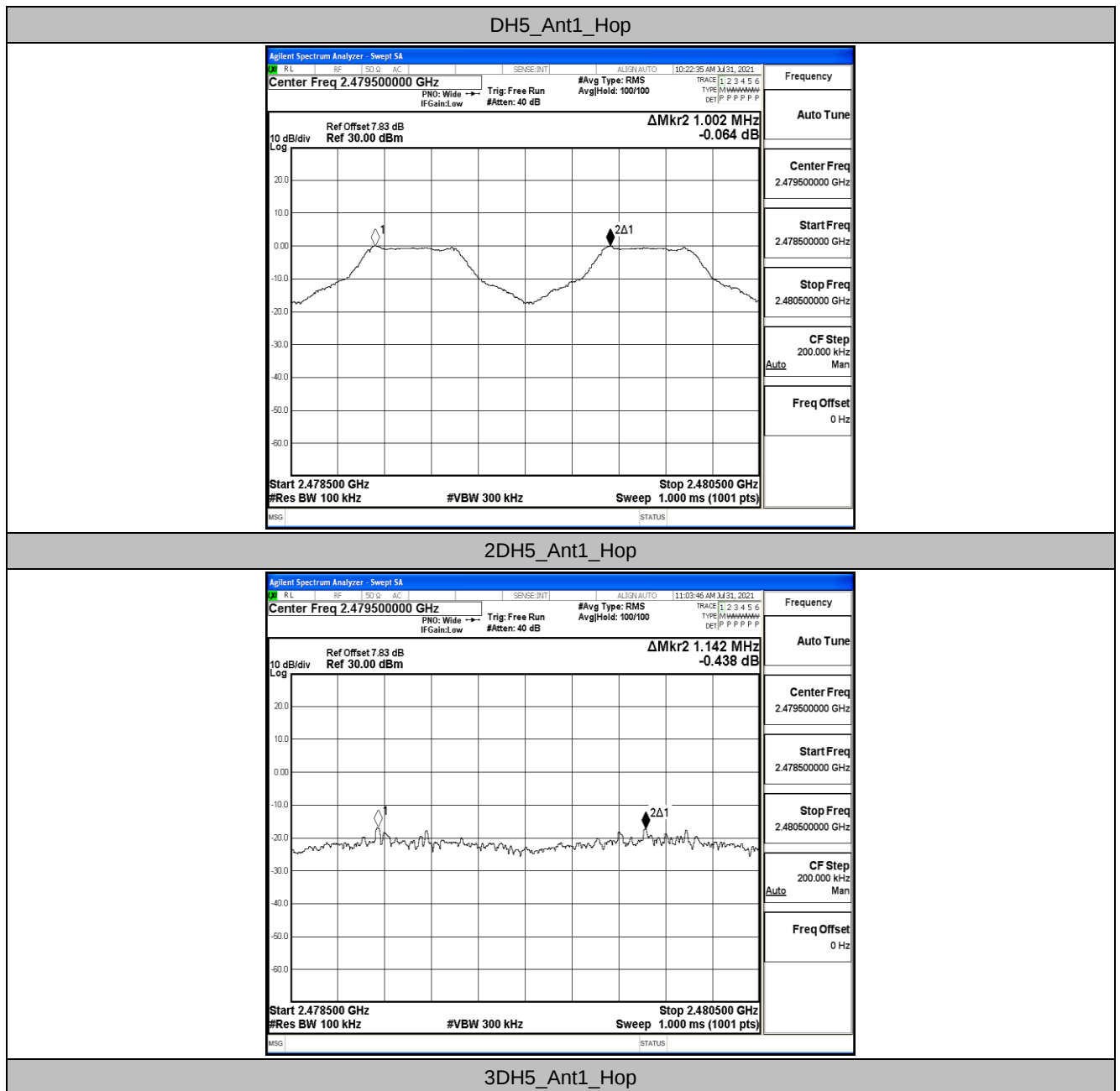
A.3 Carrier frequency separation

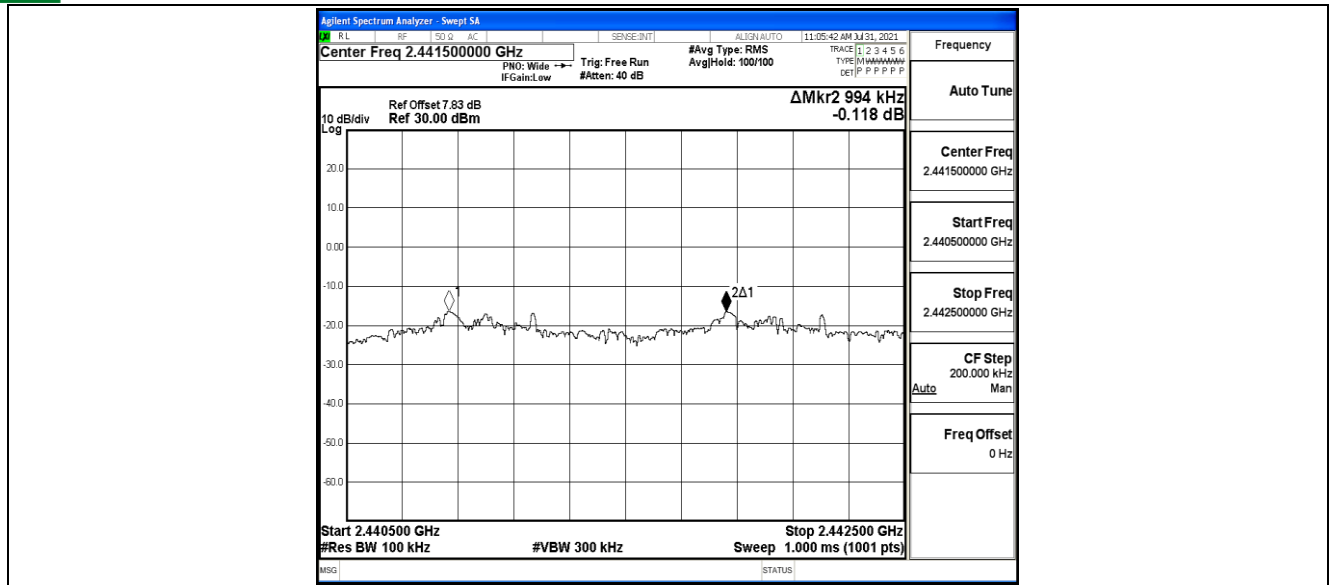
Test Result

TestMode	Antenna	Channel	Result[dBm]	Limit[dBm]	Verdict
DH5	Ant1	Hop	1.002	≥ 0.957	PASS
2DH5	Ant1	Hop	1.142	≥ 0.918	PASS
3DH5	Ant1	Hop	0.994	≥ 0.924	PASS



Test Graphs







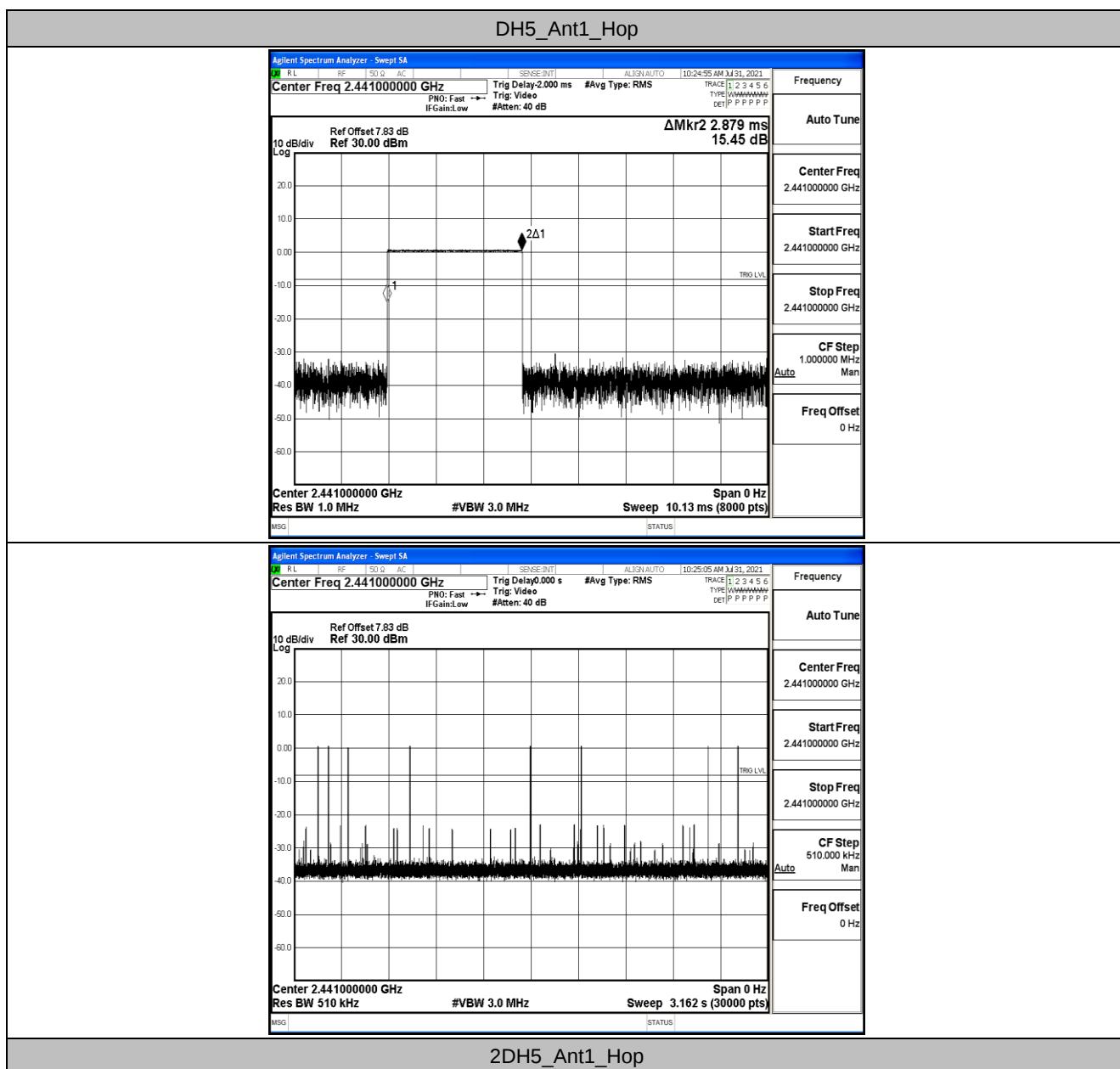
A.4 Time of occupancy

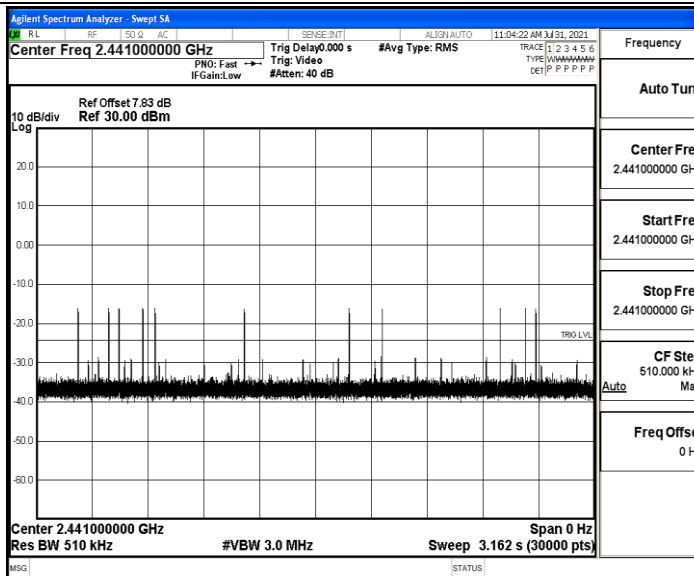
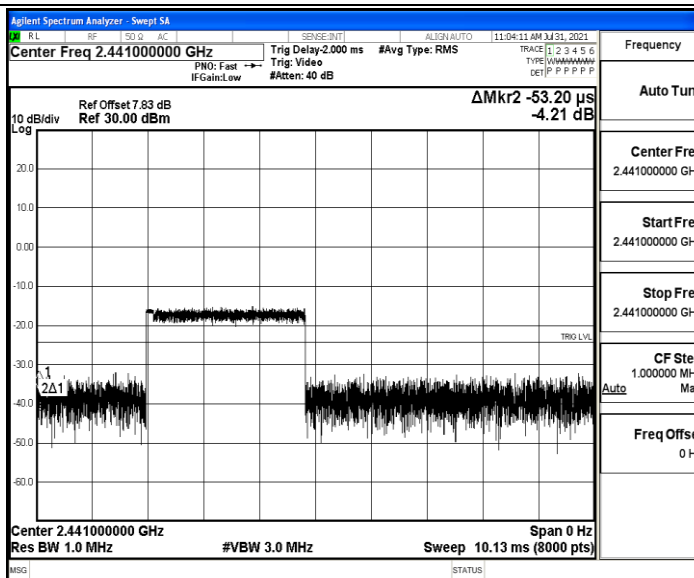
Test Result

TestMode	Antenna	Channel	BurstWidth [ms]	TotalHops [Num]	Result[s]	Limit[s]	Verdict
DH5	Ant1	Hop	2.88	90	0.259	≤0.4	PASS
2DH5	Ant1	Hop	-0.05	120	-0.006	≤0.4	PASS
3DH5	Ant1	Hop	2.89	120	0.346	≤0.4	PASS

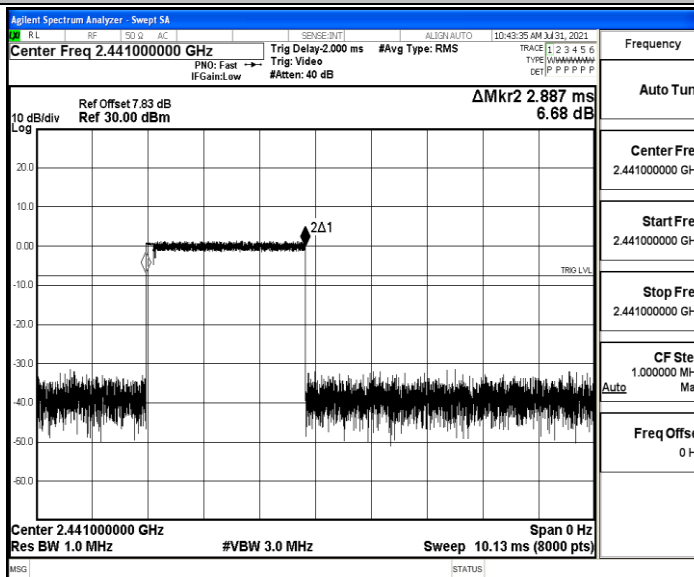


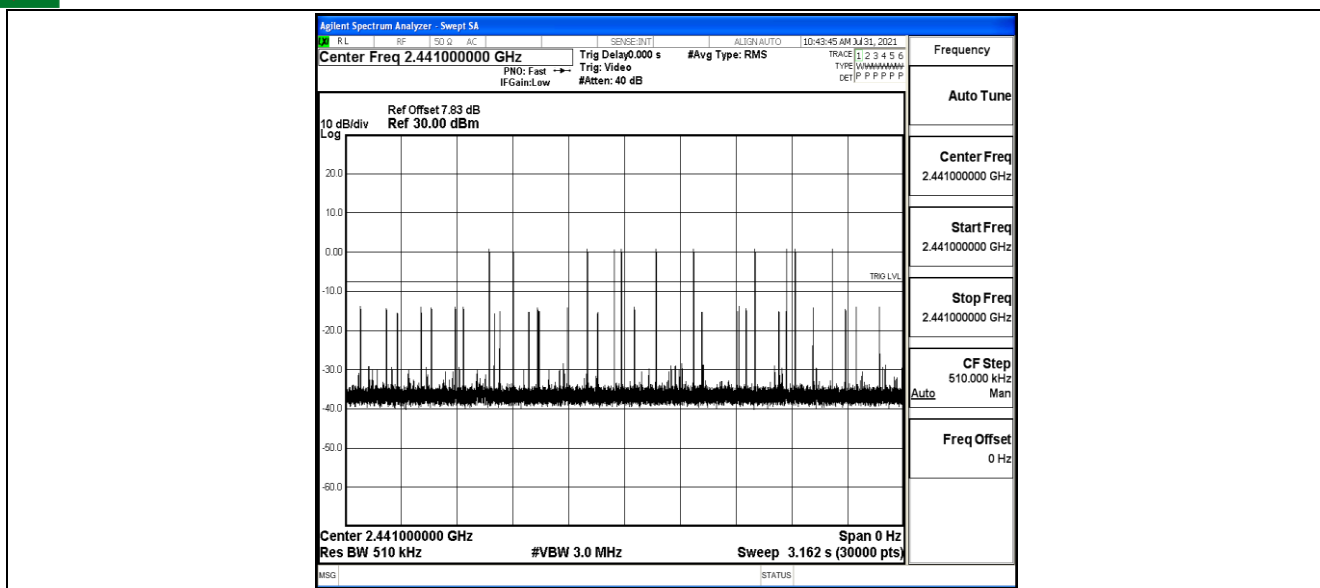
Test Graphs





3DH5_Ant1_Hop







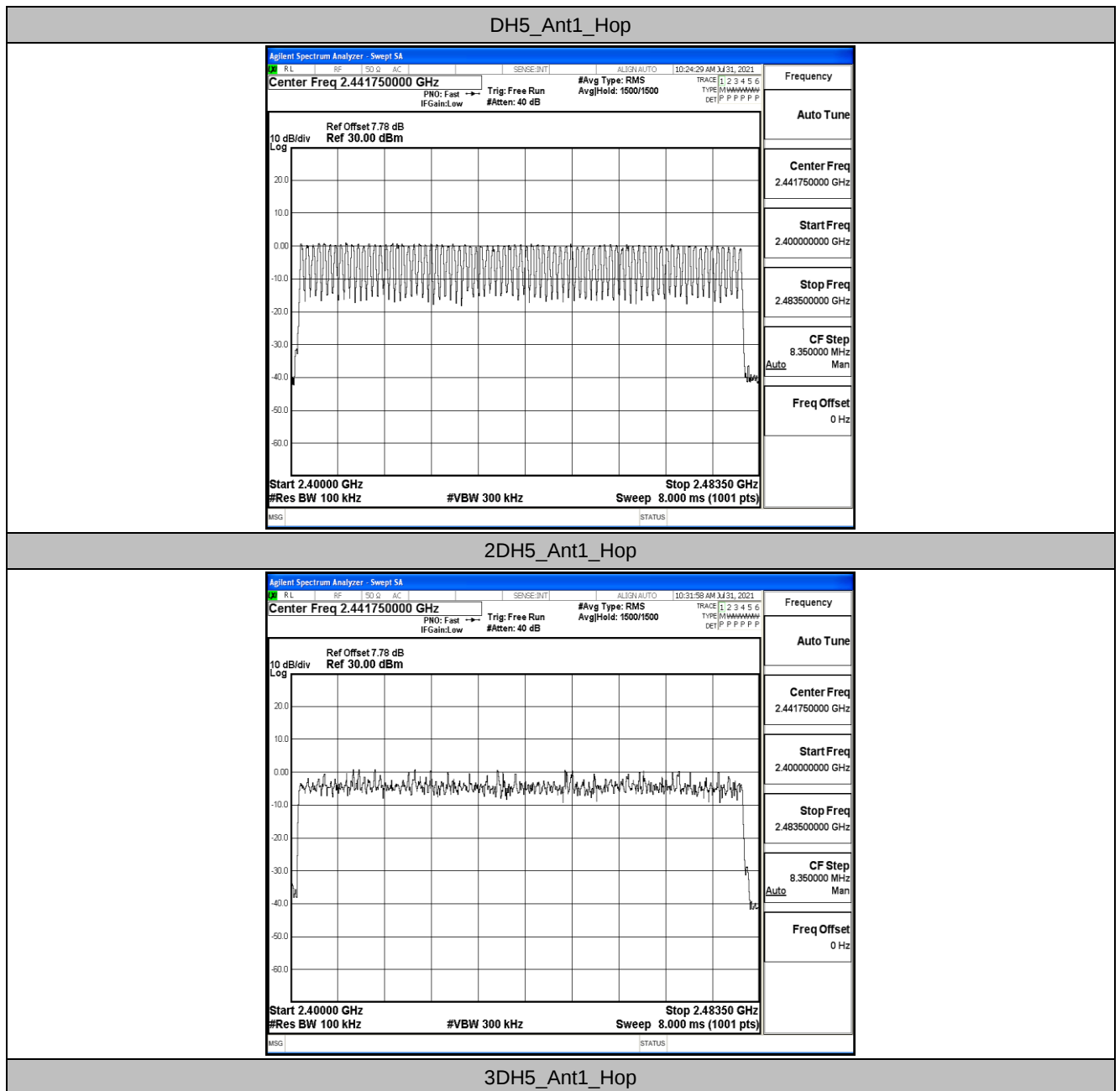
A.5 Number of hopping channels

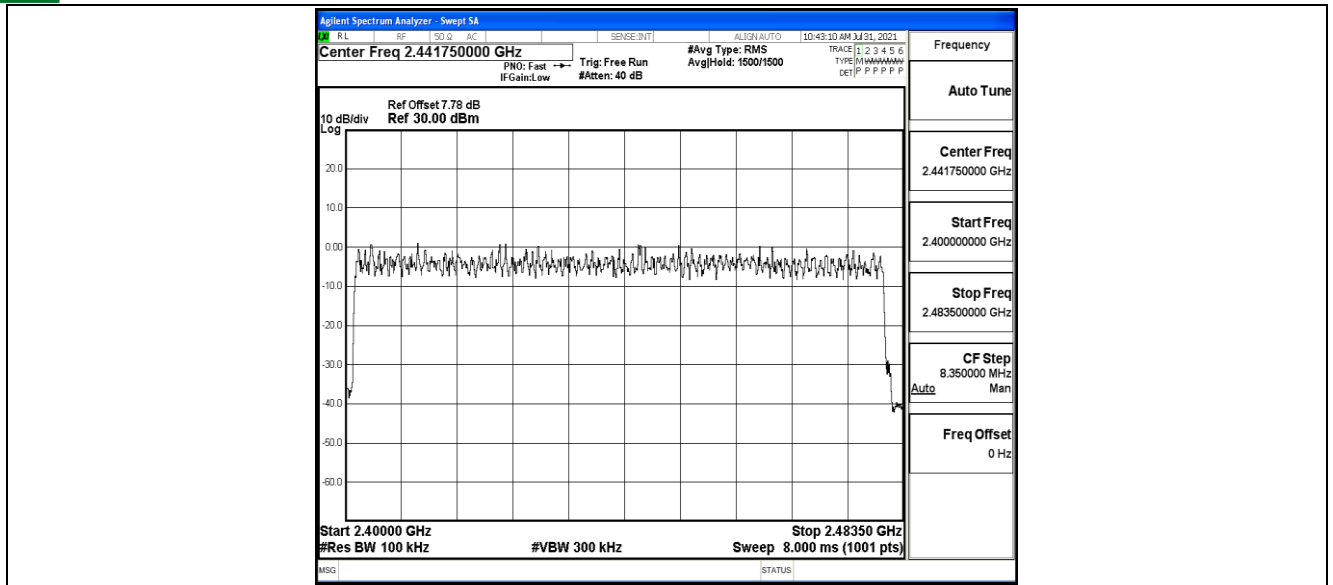
Test Result

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







A.6 Band edge measurements

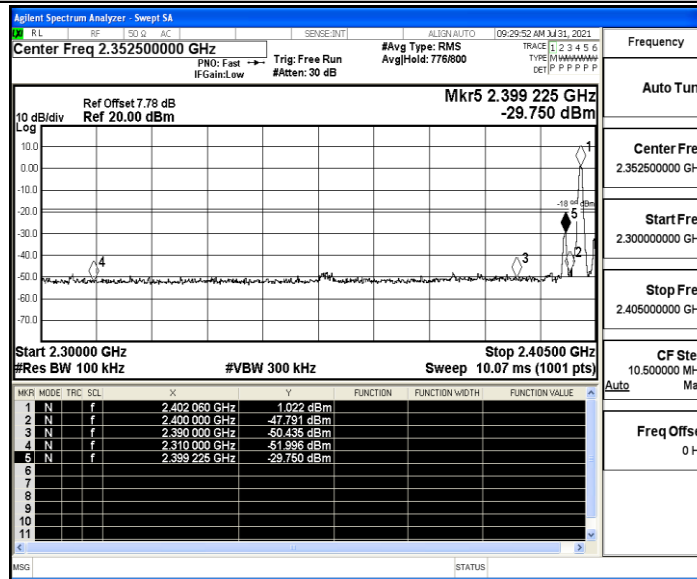
Test Result

TestMode	Antenna	ChName	Channel	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
DH5	Ant1	Low	2402	1.02	-29.75	≤ -18.98	PASS
		High	2480	0.05	-37.3	≤ -19.95	PASS
		Low	Hop_2402	0.68	-47.99	≤ -19.32	PASS
		High	Hop_2480	-0.28	-46.72	≤ -20.28	PASS
2DH5	Ant1	Low	2402	1.26	-29.57	≤ -18.75	PASS
		High	2480	-0.13	-37.37	≤ -20.13	PASS
		Low	Hop_2402	0.47	-48.63	≤ -19.53	PASS
		High	Hop_2480	-1.96	-47.65	≤ -21.96	PASS
3DH5	Ant1	Low	2402	0.70	-30.52	≤ -19.3	PASS
		High	2480	-0.09	-38.71	≤ -20.09	PASS
		Low	Hop_2402	-1.31	-48.34	≤ -21.31	PASS
		High	Hop_2480	-1.36	-47.21	≤ -21.36	PASS

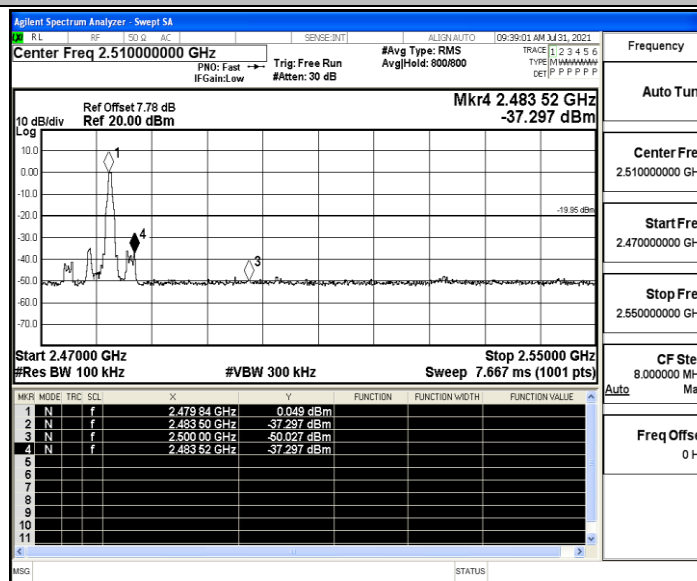


Test Graphs

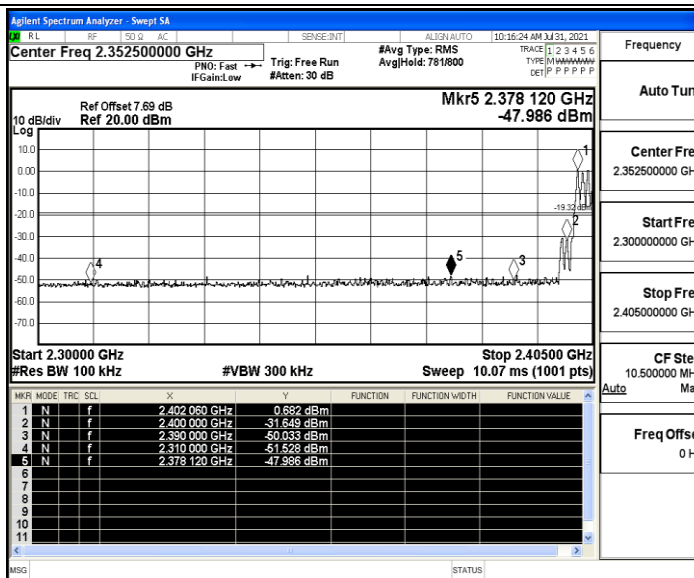
DH5_Ant1_Low_2402



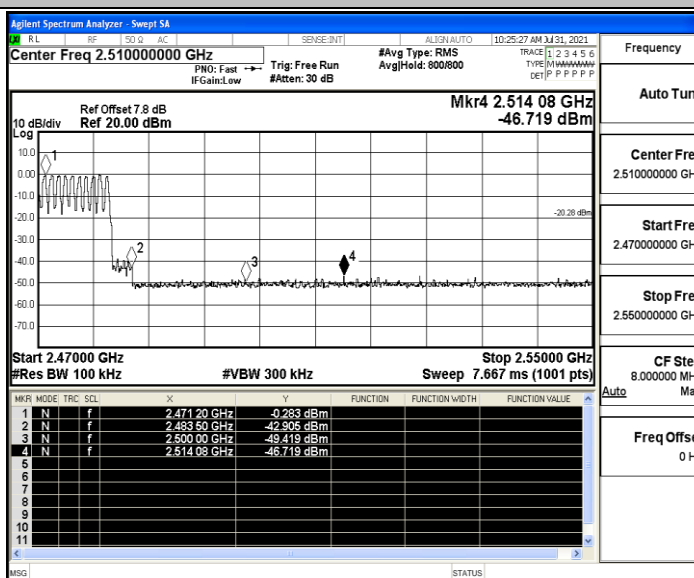
DH5_Ant1_High_2480



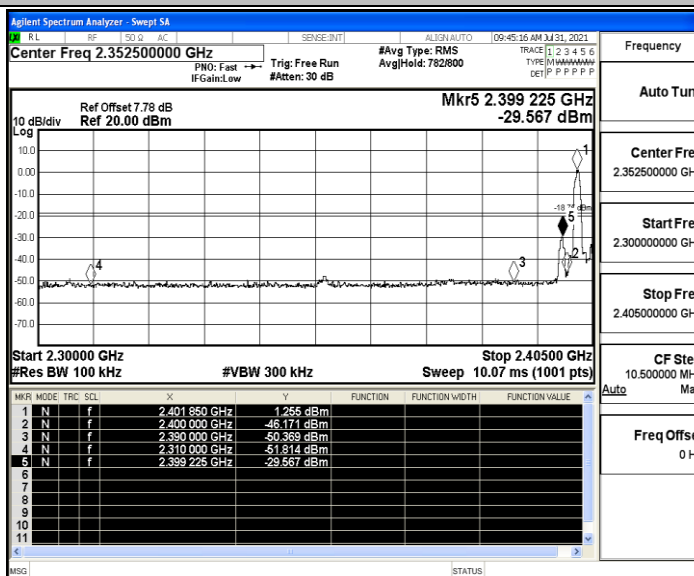
DH5_Ant1_Low_Hop_2402



DH5_Ant1_High_Hop_2480

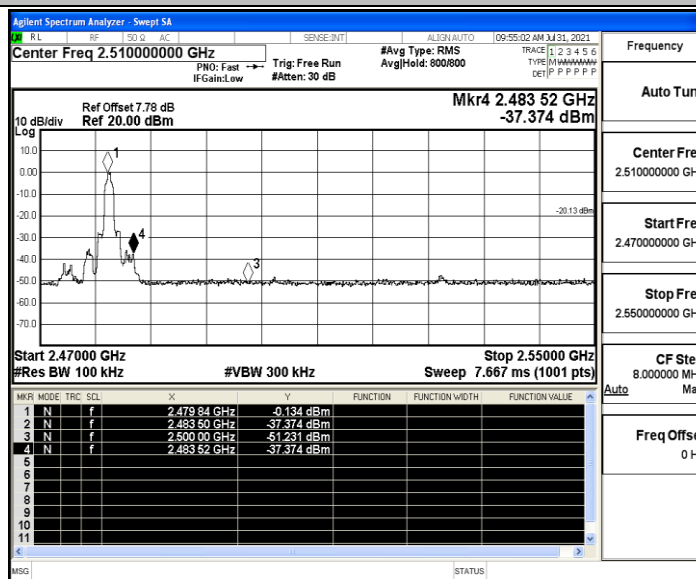


2DH5_Ant1_Low_2402

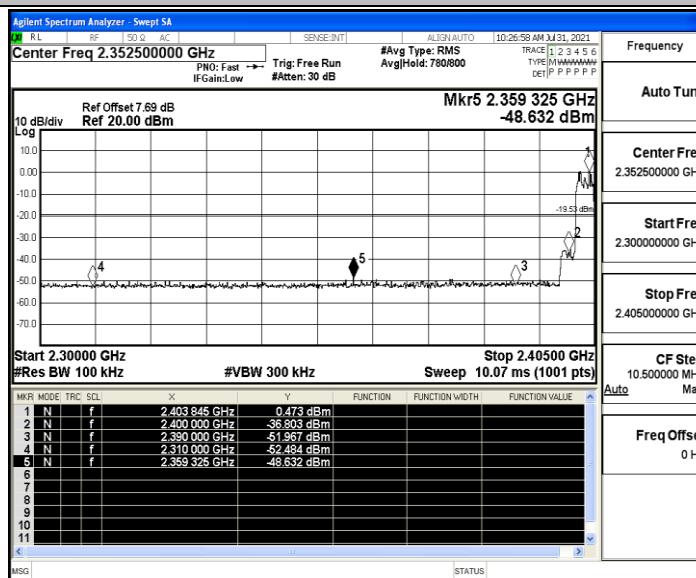




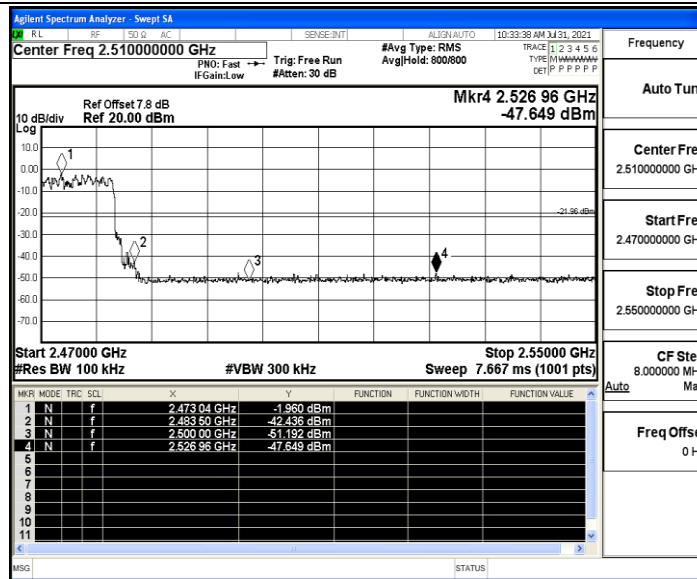
2DH5_Ant1_High_2480



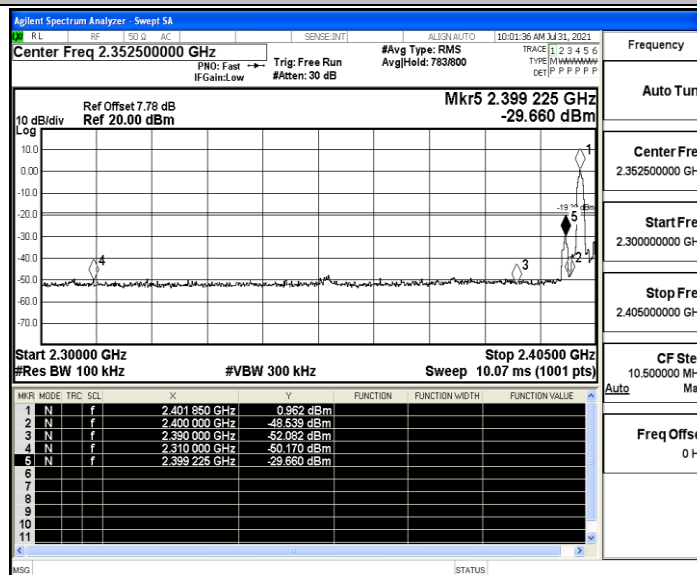
2DH5_Ant1_Low_Hop_2402



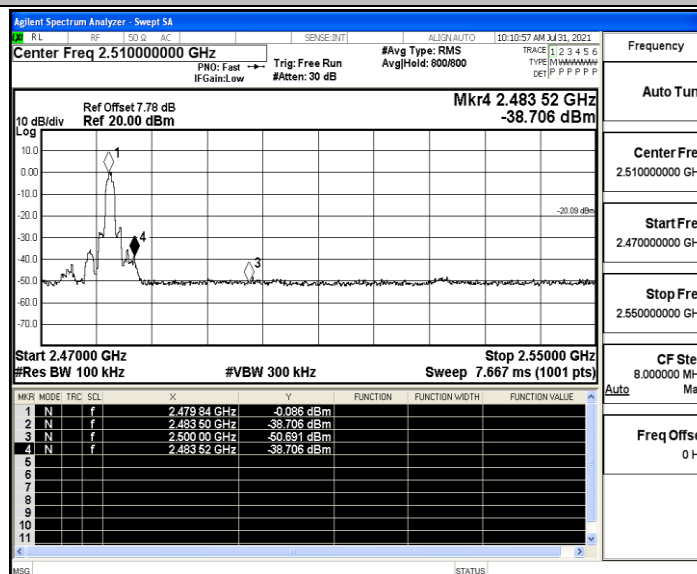
2DH5_Ant1_High_Hop_2480



3DH5_Ant1_Low_2402

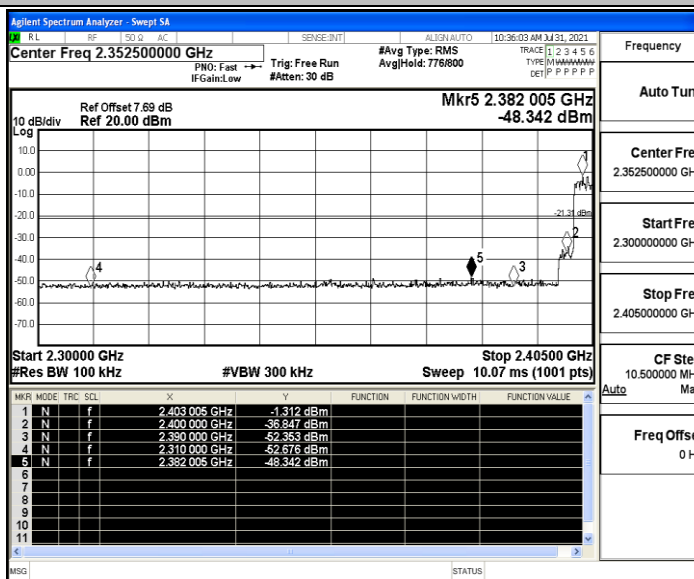


3DH5_Ant1_High_2480

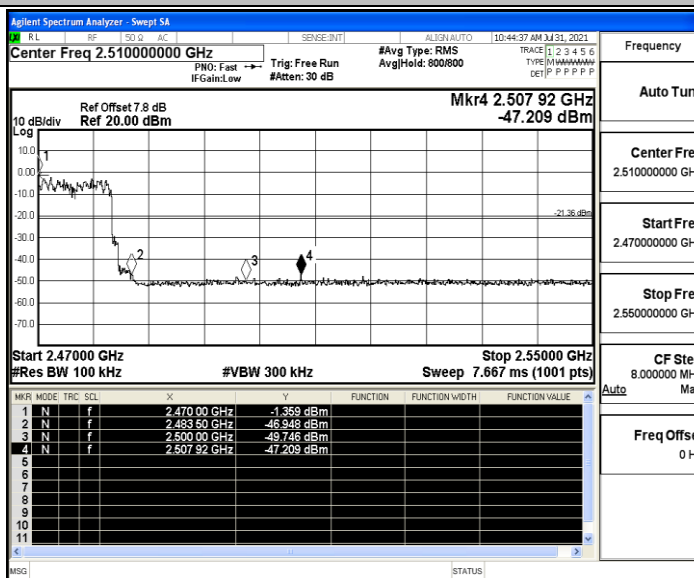




3DH5_Ant1_Low_Hop_2402



3DH5_Ant1_High_Hop_2480





A.7 Conducted Spurious Emission

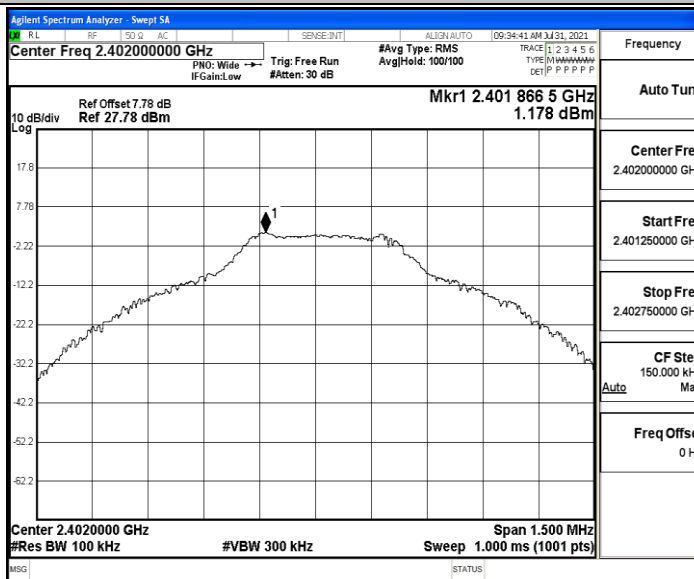
Test Result

TestMode	Antenna	Channel	FreqRange [MHz]	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
DH5	Ant1	2402	Reference	1.18	1.18	---	PASS
			30~1000	1.18	-50.4	≤ -18.82	PASS
			1000~26500	1.18	-46.99	≤ -18.82	PASS
		2441	Reference	0.76	0.76	---	PASS
			30~1000	0.76	-51.5	≤ -19.24	PASS
			1000~26500	0.76	-44.83	≤ -19.24	PASS
		2480	Reference	-0.54	-0.54	---	PASS
			30~1000	-0.54	-51.94	≤ -20.54	PASS
			1000~26500	-0.54	-46.61	≤ -20.54	PASS
2DH5	Ant1	2402	Reference	0.46	0.46	---	PASS
			30~1000	0.46	-52.17	≤ -19.54	PASS
			1000~26500	0.46	-47.3	≤ -19.54	PASS
		2441	Reference	-2.40	-2.40	---	PASS
			30~1000	-2.40	-51.4	≤ -22.4	PASS
			1000~26500	-2.40	-47.14	≤ -22.4	PASS
		2480	Reference	-2.78	-2.78	---	PASS
			30~1000	-2.78	-49.28	≤ -22.78	PASS
			1000~26500	-2.78	-47.86	≤ -22.78	PASS
3DH5	Ant1	2402	Reference	-2.22	-2.22	---	PASS
			30~1000	-2.22	-50.37	≤ -22.22	PASS
			1000~26500	-2.22	-42.54	≤ -22.22	PASS
		2441	Reference	-0.37	-0.37	---	PASS
			30~1000	-0.37	-50.56	≤ -20.37	PASS
			1000~26500	-0.37	-47.81	≤ -20.37	PASS
		2480	Reference	-0.59	-0.59	---	PASS
			30~1000	-0.59	-50.63	≤ -20.59	PASS
			1000~26500	-0.59	-47.43	≤ -20.59	PASS

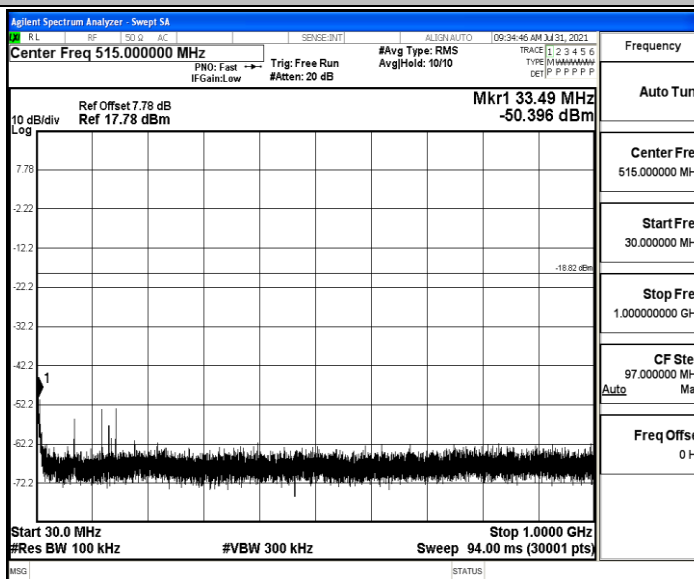


Test Graphs

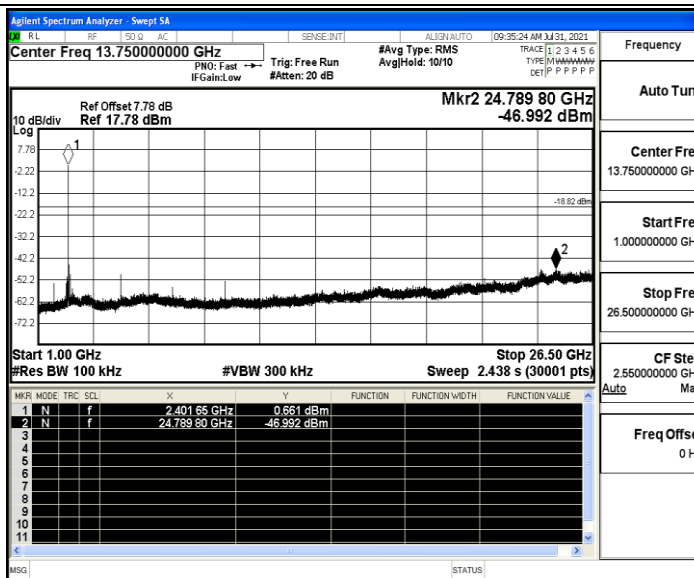
DH5_Ant1_2402_0~Reference



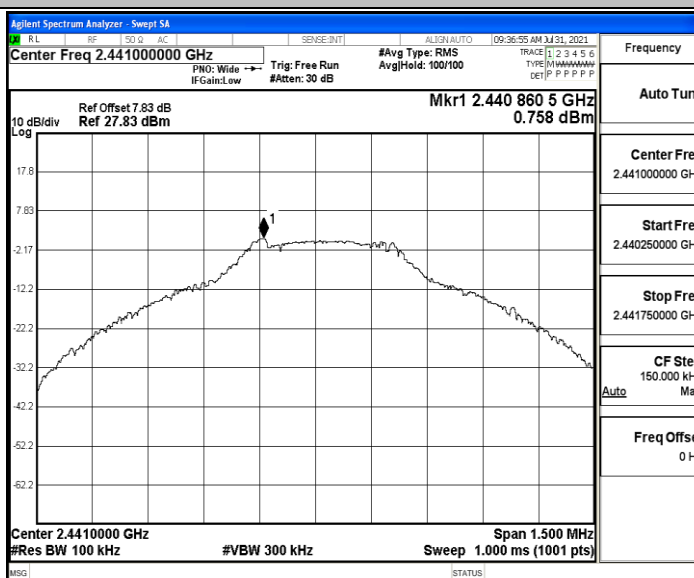
DH5_Ant1_2402_30~1000



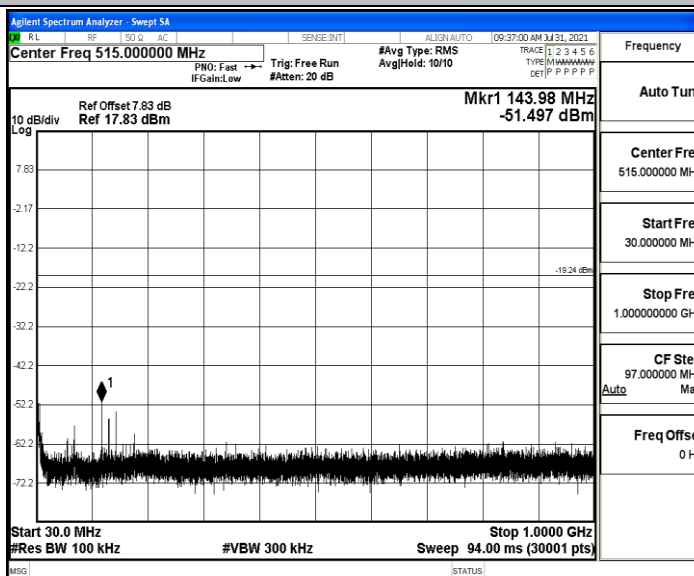
DH5_Ant1_2402_1000~26500



DH5_Ant1_2441_0~Reference

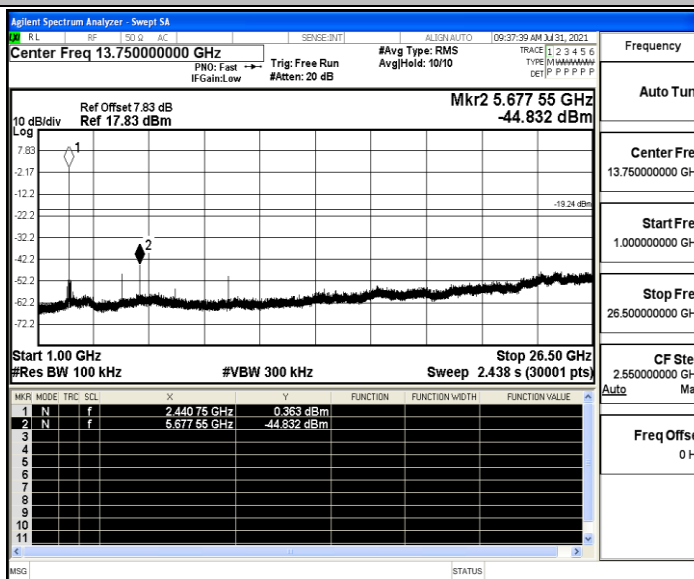


DH5_Ant1_2441_30~1000

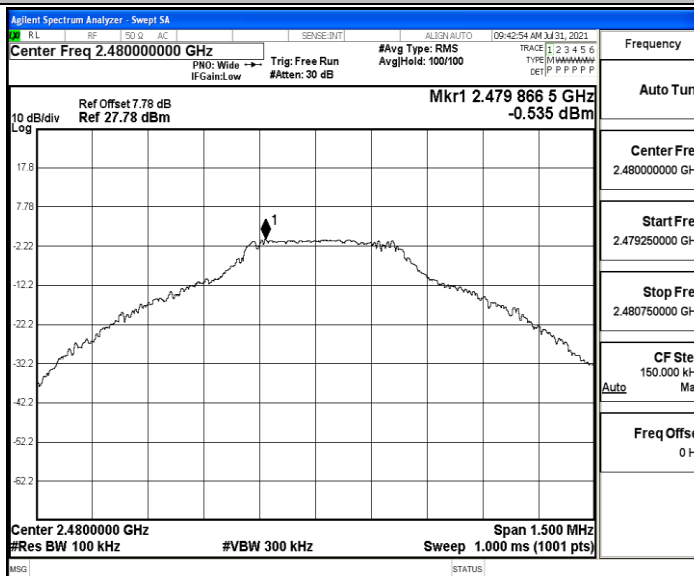




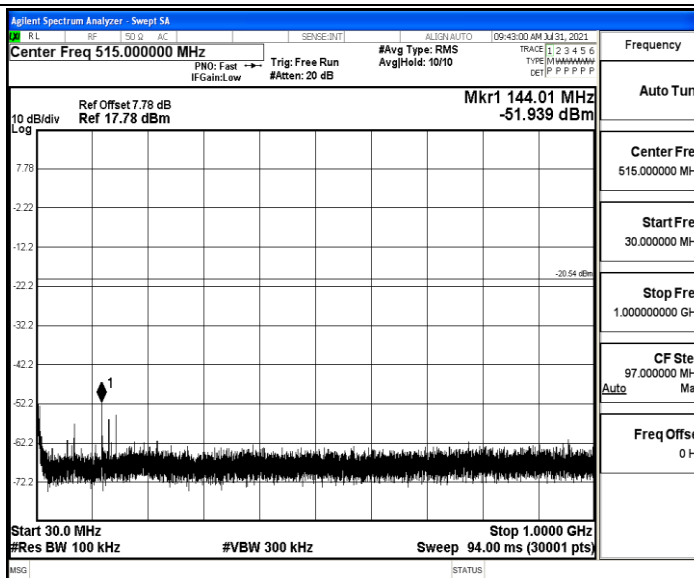
DH5_Ant1_2441_1000~26500



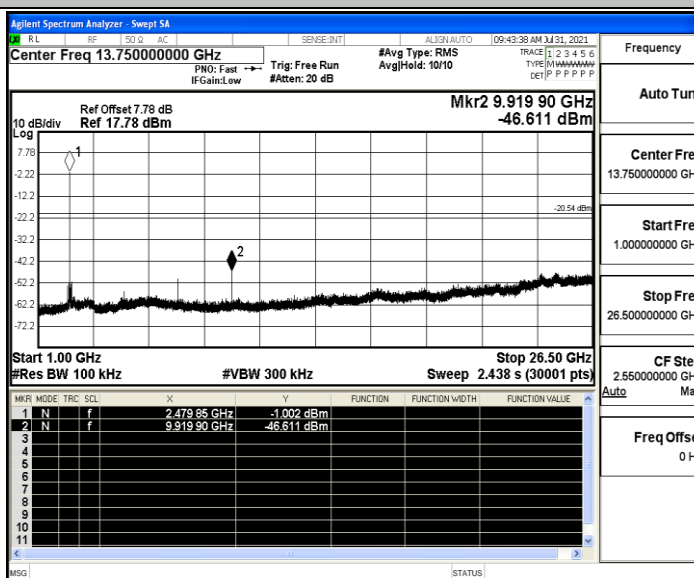
DH5_Ant1_2480_0~Reference



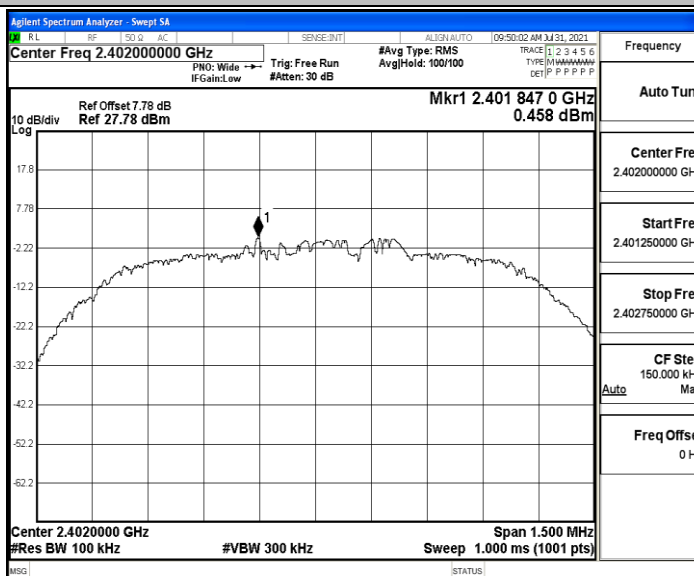
DH5_Ant1_2480_30~1000



DH5_Ant1_2480_1000~26500

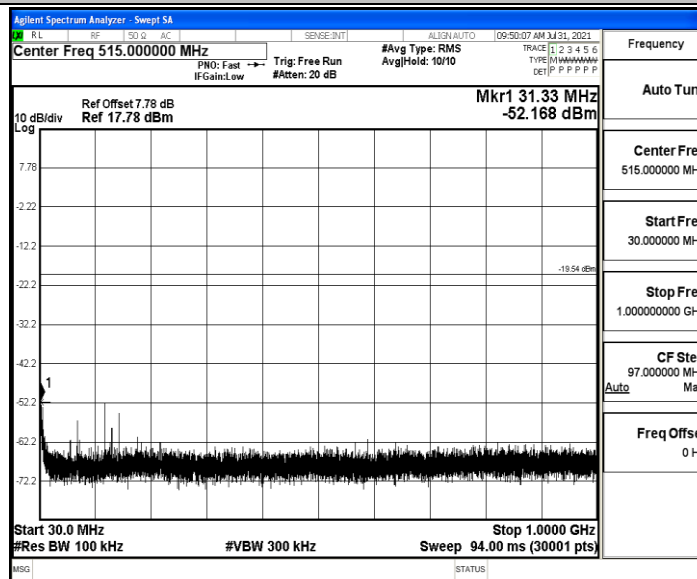


2DH5_Ant1_2402_0~Reference

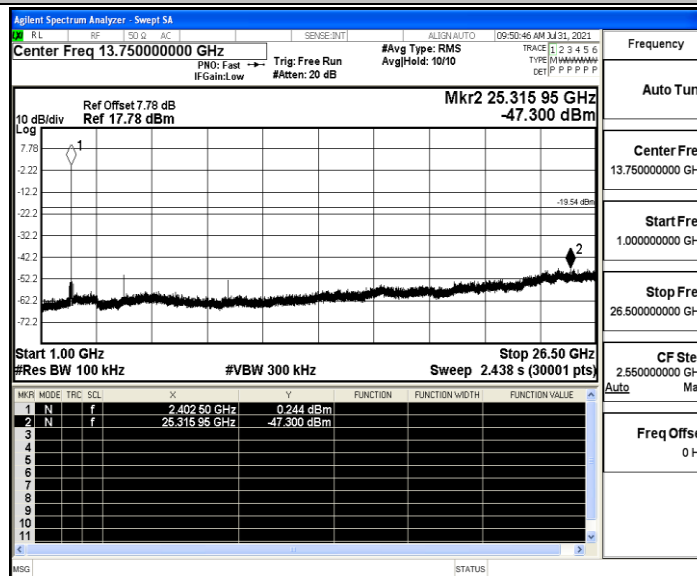




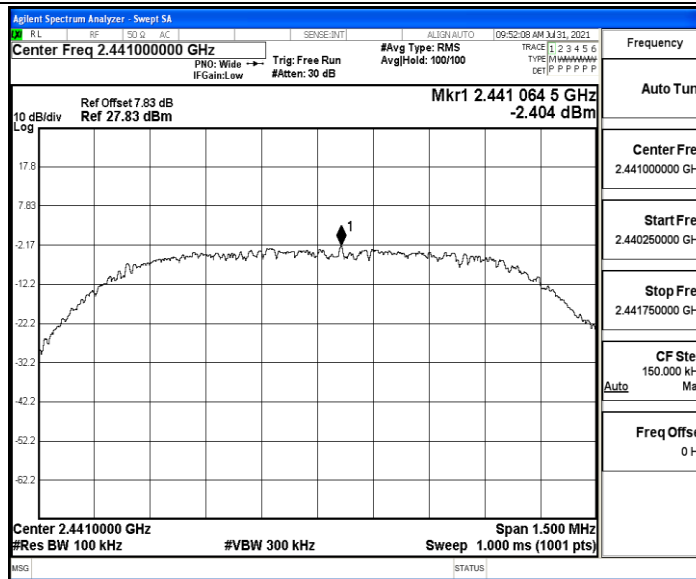
2DH5_Ant1_2402_30~1000



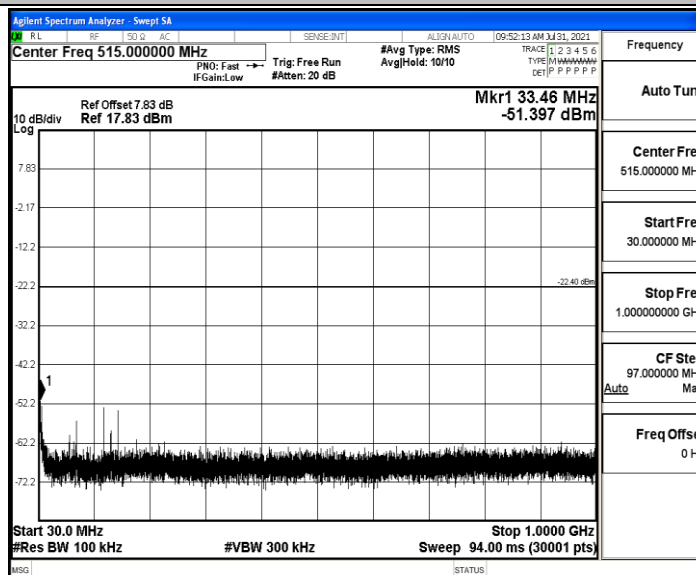
2DH5_Ant1_2402_1000~26500



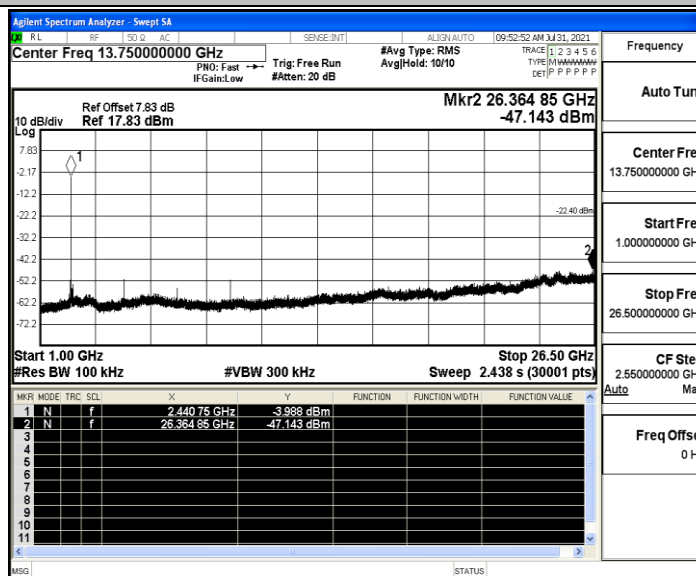
2DH5_Ant1_2441_0~Reference



2DH5_Ant1_2441_30~1000

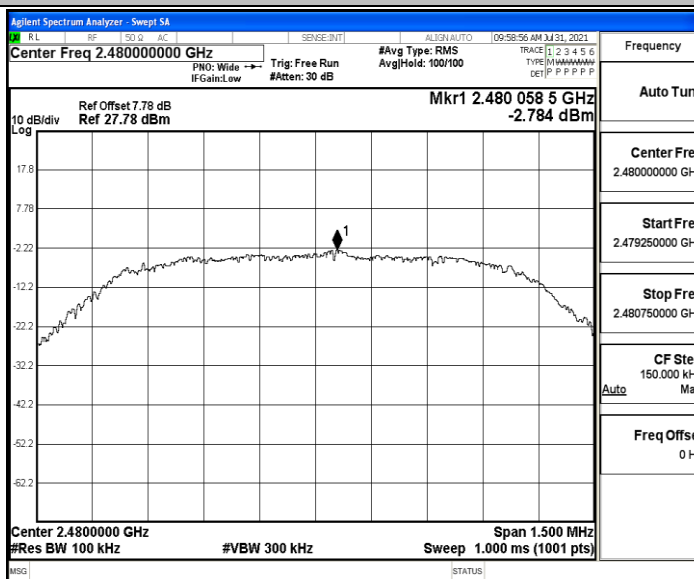


2DH5_Ant1_2441_1000~26500

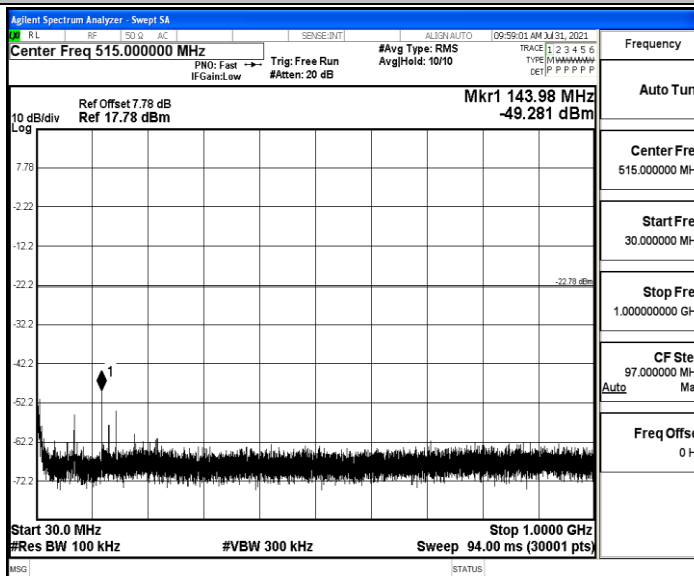




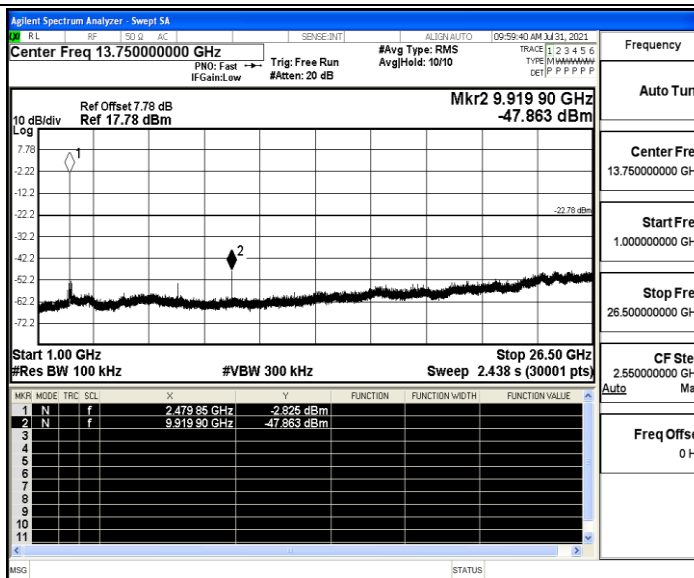
2DH5_Ant1_2480_0-Reference



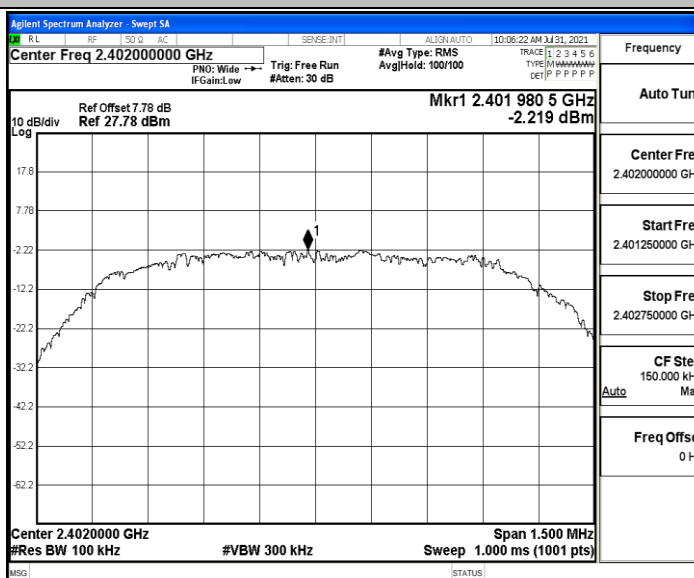
2DH5_Ant1_2480_30-1000



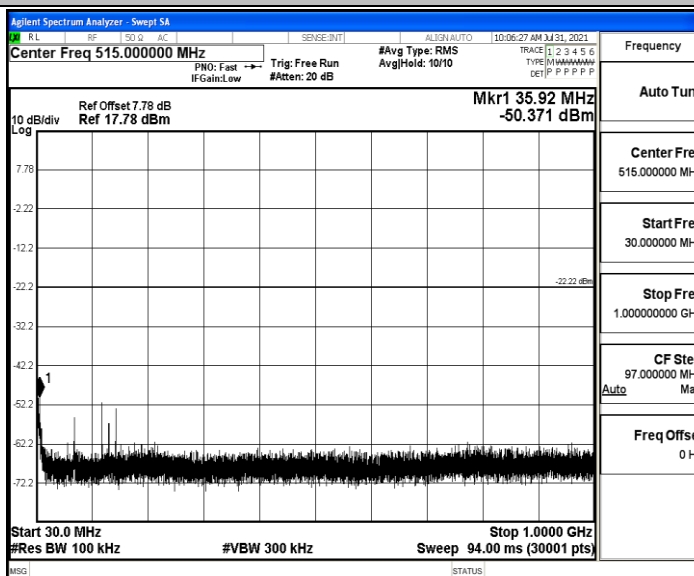
2DH5_Ant1_2480_1000-26500



3DH5_Ant1_2402_0~Reference

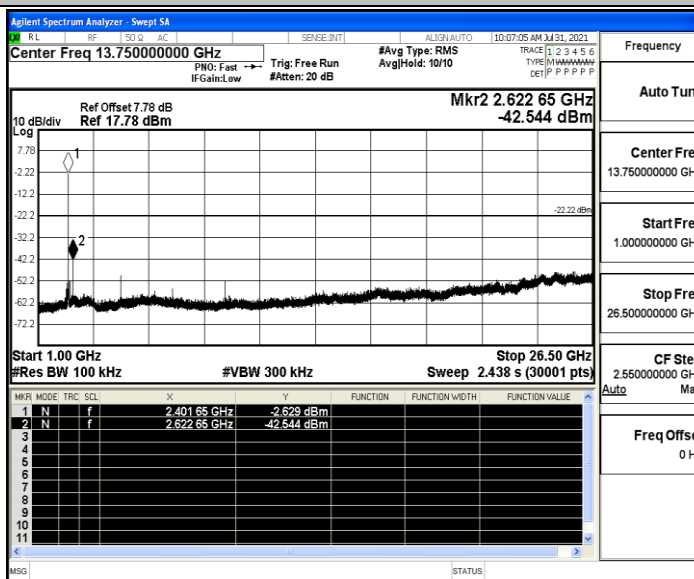


3DH5_Ant1_2402_30~1000

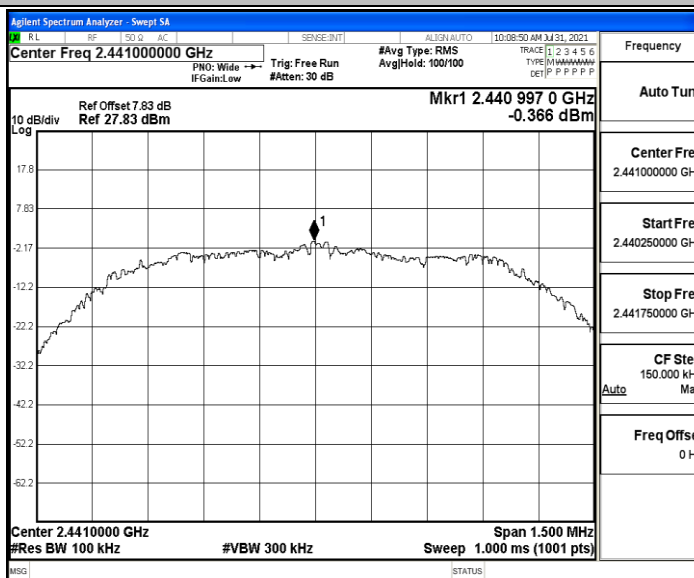




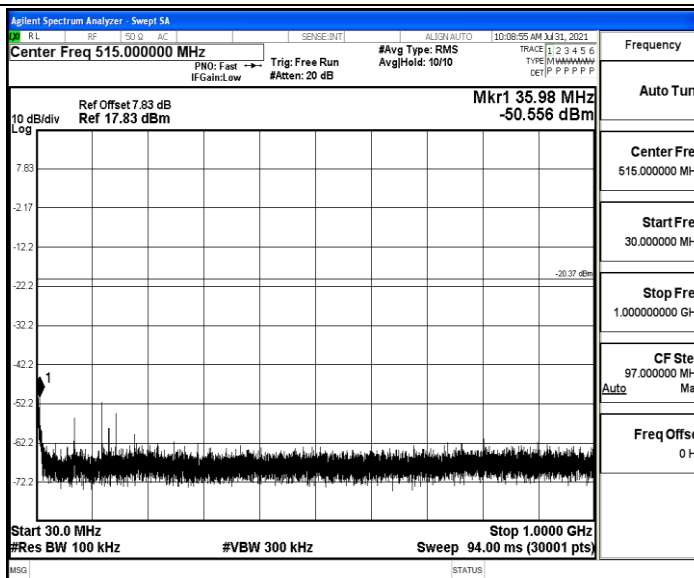
3DH5_Ant1_2402_1000~26500



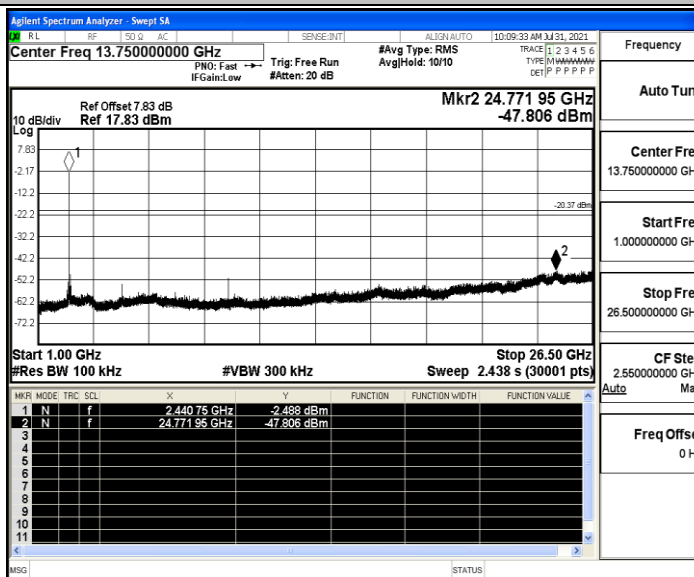
3DH5_Ant1_2441_0~Reference



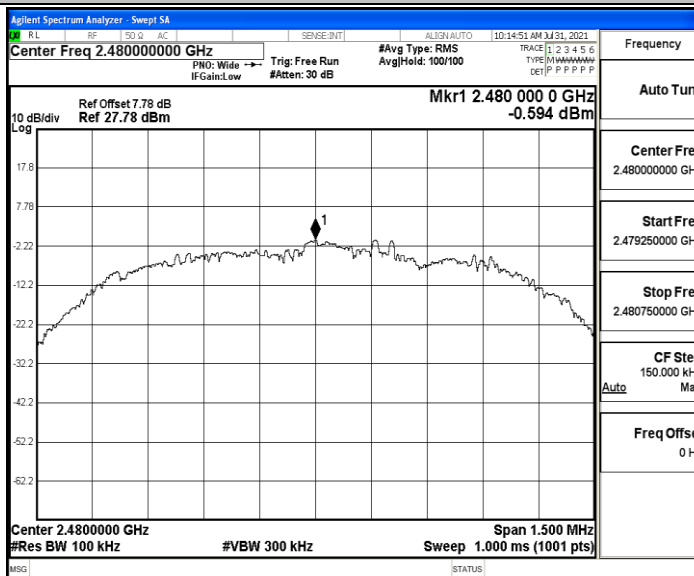
3DH5_Ant1_2441_30~1000



3DH5_Ant1_2441_1000~26500

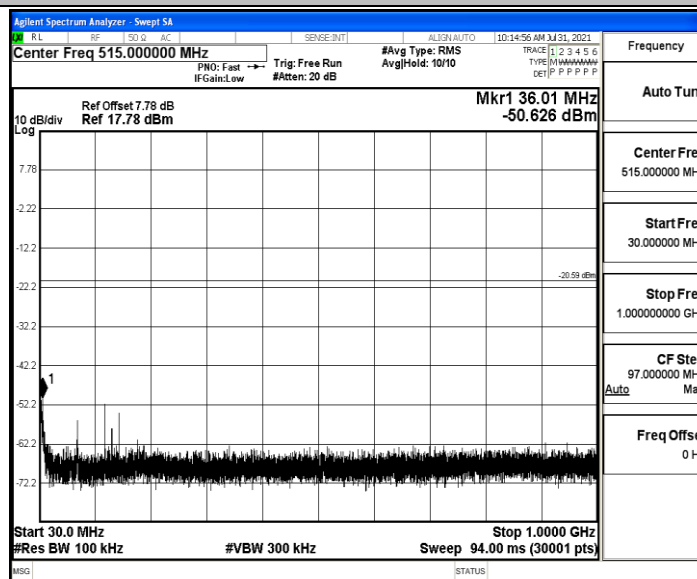


3DH5_Ant1_2480_0~Reference

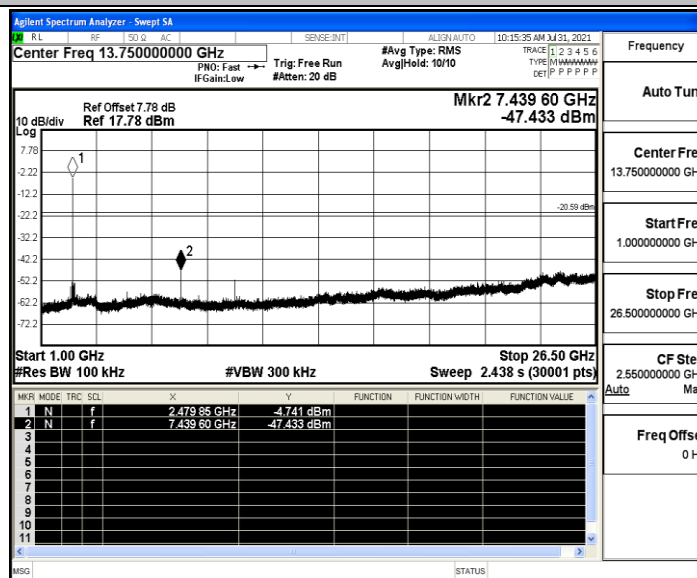




3DH5_Ant1_2480_30~1000



3DH5_Ant1_2480_1000~26500





A.8 Emissions in Restricted Bands

Test Result

Test Mode	Antenna	ChName	Channel	Detector	Freq. [MHz]	Result [dBm]	Limit [dBm]	Result [dBuV/m]	Limit [dBuV/m]	Verdict
DH5	Ant1	Low	2402	AV	2310.000	-48.92	≤-41.20	46.28	≤54	PASS
				AV	2353.970	-46.12	≤-41.20	49.08	≤54	PASS
				AV	2390.000	-47.71	≤-41.20	47.49	≤54	PASS
				Peak	2310.000	-41.33	≤-21.20	53.87	≤74	PASS
				Peak	2354.285	-33.64	≤-21.20	61.56	≤74	PASS
				Peak	2390.000	-39.7	≤-21.20	55.50	≤74	PASS
		High	2480	AV	2483.500	-48.15	≤-41.20	47.05	≤54	PASS
				AV	2496.720	-47.91	≤-41.20	47.29	≤54	PASS
				AV	2500.000	-48.09	≤-41.20	47.11	≤54	PASS
				Peak	2483.500	-39.97	≤-21.20	55.23	≤74	PASS
				Peak	2486.960	-38.3	≤-21.20	56.90	≤74	PASS
				Peak	2500.000	-38.85	≤-21.20	56.35	≤74	PASS
		Low	Hop_2402	Peak	2310.000	-40.78	≤-21.20	54.42	≤74	PASS
				Peak	2354.600	-35.1	≤-21.20	60.10	≤74	PASS
				Peak	2390.000	-40.01	≤-21.20	55.19	≤74	PASS
		High	Hop_2480	Peak	2483.500	-34.41	≤-21.20	60.79	≤74	PASS
				Peak	2483.760	-33.79	≤-21.20	61.41	≤74	PASS
				Peak	2500.000	-40.11	≤-21.20	55.09	≤74	PASS
2DH5	Ant1	Low	2402	AV	2310.000	-49.01	≤-41.20	46.19	≤54	PASS
				AV	2377.805	-46.89	≤-41.20	48.31	≤54	PASS
				AV	2390.000	-47.81	≤-41.20	47.39	≤54	PASS
				Peak	2310.000	-40.64	≤-21.20	54.56	≤74	PASS
				Peak	2353.340	-35.98	≤-21.20	59.22	≤74	PASS
				Peak	2390.000	-39.6	≤-21.20	55.60	≤74	PASS
		High	2480	AV	2483.500	-48.16	≤-41.20	47.04	≤54	PASS
				AV	2494.880	-47.9	≤-41.20	47.30	≤54	PASS
				AV	2500.000	-48.04	≤-41.20	47.16	≤54	PASS
				Peak	2483.500	-39.56	≤-21.20	55.64	≤74	PASS
				Peak	2496.720	-37.96	≤-21.20	57.24	≤74	PASS
				Peak	2500.000	-39.18	≤-21.20	56.02	≤74	PASS
		Low	Hop_2402	Peak	2310.000	-41.76	≤-21.20	53.44	≤74	PASS
				Peak	2368.250	-35.55	≤-21.20	59.65	≤74	PASS
				Peak	2390.000	-40.29	≤-21.20	54.91	≤74	PASS
		High	Hop_2480	Peak	2483.500	-36.63	≤-21.20	58.57	≤74	PASS
				Peak	2489.760	-35.97	≤-21.20	59.23	≤74	PASS
				Peak	2500.000	-40.54	≤-21.20	54.66	≤74	PASS
3DH5	Ant1	Low	2402	AV	2310.000	-49.02	≤-41.20	46.18	≤54	PASS



				AV	2378.120	-46.87	≤ -41.20	48.33	≤ 54	PASS
				AV	2390.000	-47.82	≤ -41.20	47.38	≤ 54	PASS
				Peak	2310.000	-41.23	≤ -21.20	53.97	≤ 74	PASS
				Peak	2354.705	-34.84	≤ -21.20	60.36	≤ 74	PASS
				Peak	2390.000	-39.58	≤ -21.20	55.62	≤ 74	PASS
		High	2480	AV	2483.500	-48.26	≤ -41.20	46.94	≤ 54	PASS
				AV	2499.280	-47.98	≤ -41.20	47.22	≤ 54	PASS
				AV	2500.000	-48.02	≤ -41.20	47.18	≤ 54	PASS
				Peak	2483.500	-39.62	≤ -21.20	55.58	≤ 74	PASS
				Peak	2483.840	-38.24	≤ -21.20	56.96	≤ 74	PASS
				Peak	2500.000	-40.44	≤ -21.20	54.76	≤ 74	PASS
		Low	Hop_2402	Peak	2310.000	-40.71	≤ -21.20	54.49	≤ 74	PASS
				Peak	2373.710	-35.79	≤ -21.20	59.41	≤ 74	PASS
				Peak	2390.000	-41.03	≤ -21.20	54.17	≤ 74	PASS
		High	Hop_2480	Peak	2483.500	-34.2	≤ -21.20	61.00	≤ 74	PASS
				Peak	2500.000	-39.27	≤ -21.20	55.93	≤ 74	PASS

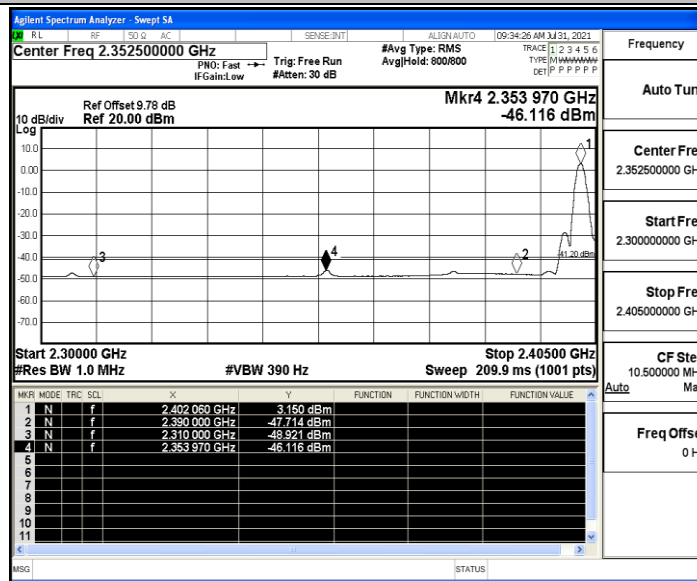
Note:

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.

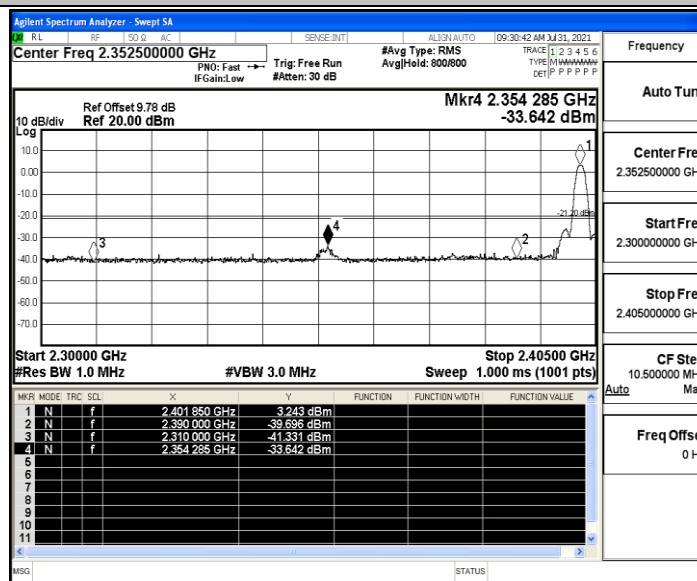


Test Graphs

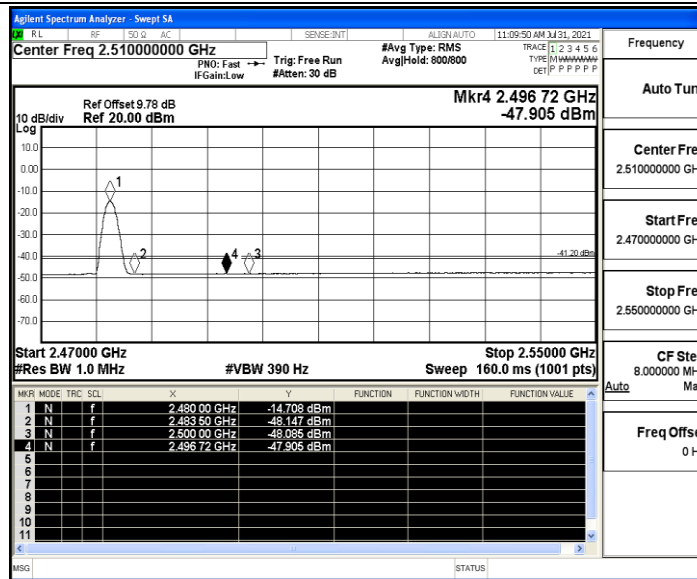
DH5_Ant1_Low_2402_AV



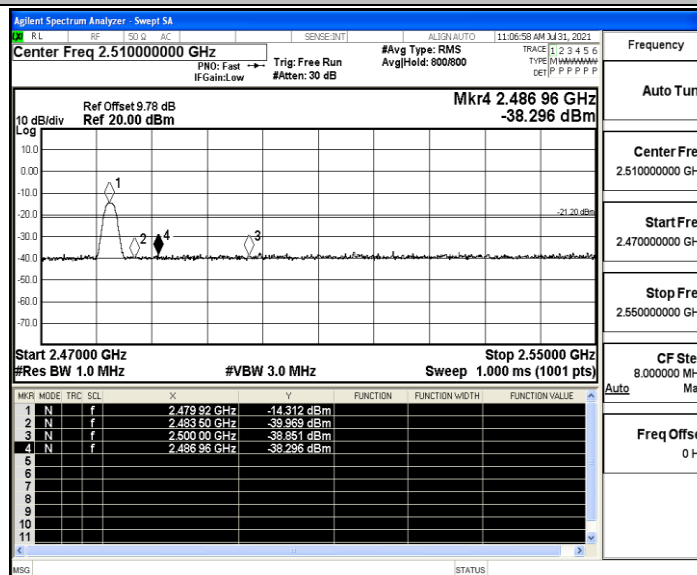
DH5_Ant1_Low_2402_Peak



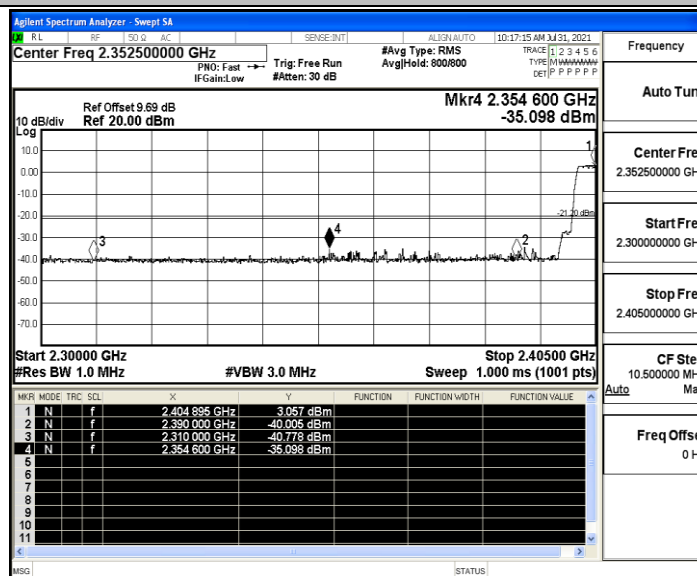
DH5_Ant1_High_2480_AV

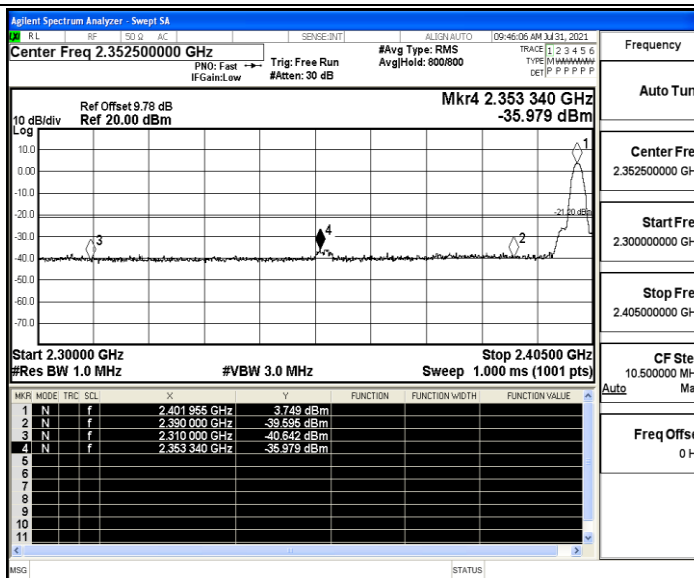


DH5_Ant1_High_2480_Peak

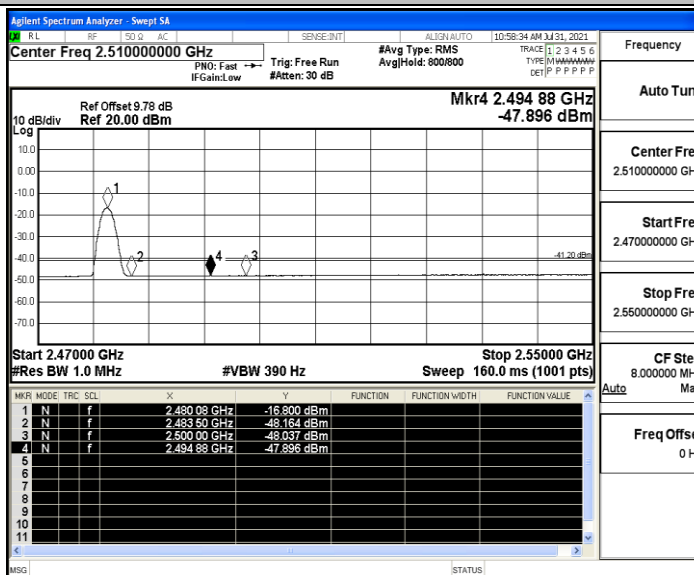


DH5_Ant1_Low_Hop_2402_Peak

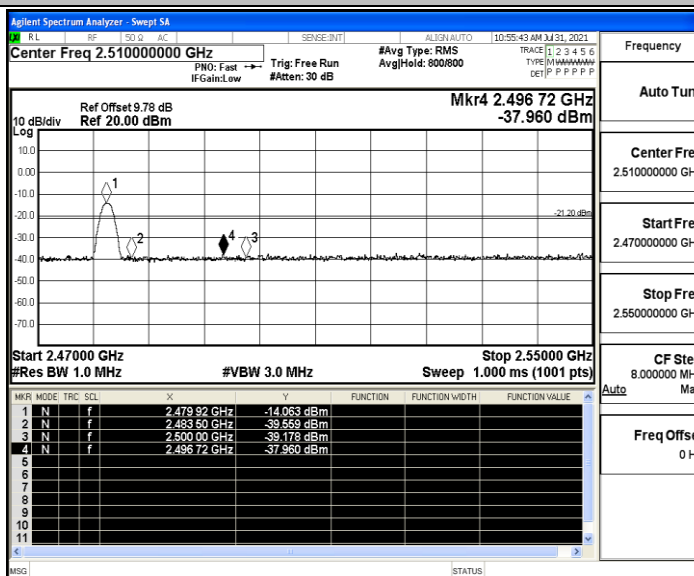




2DH5_Ant1_High_2480_AV

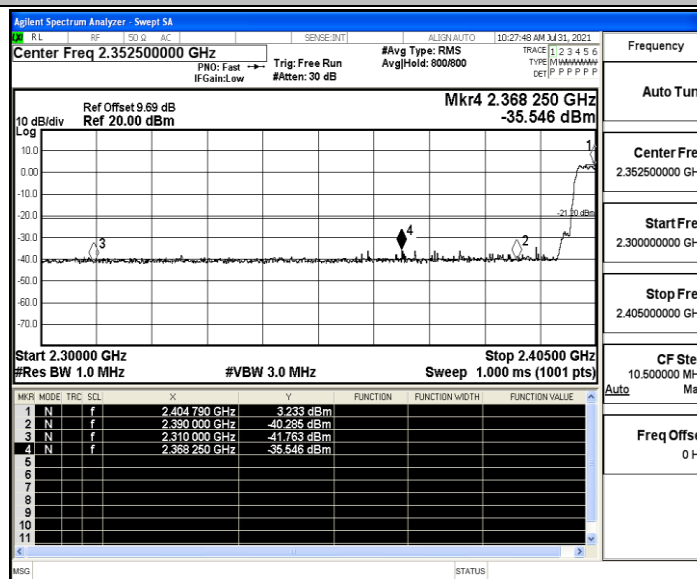


2DH5_Ant1_High_2480_Peak

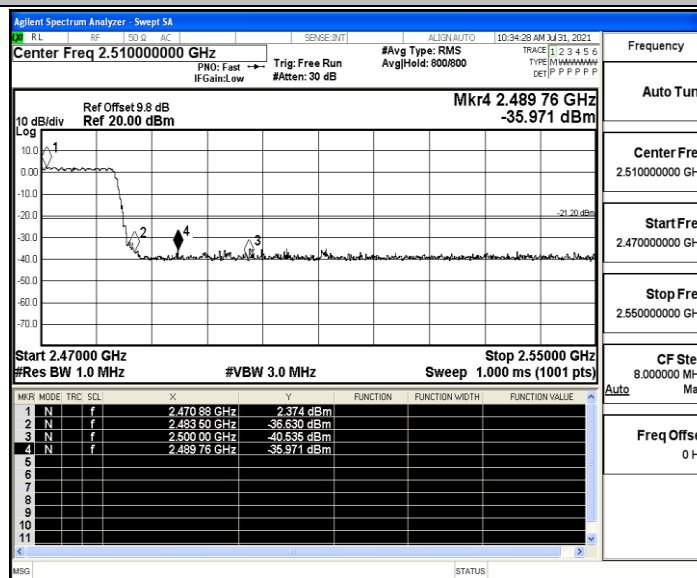




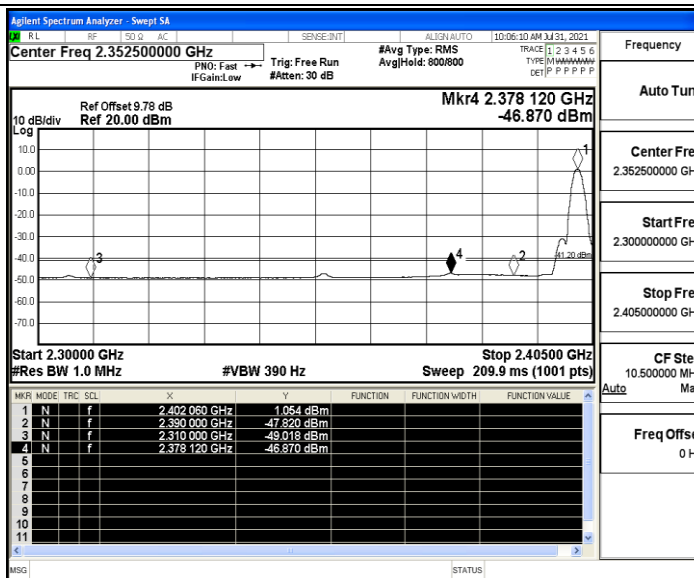
2DH5_Ant1_Low_Hop_2402_Peak



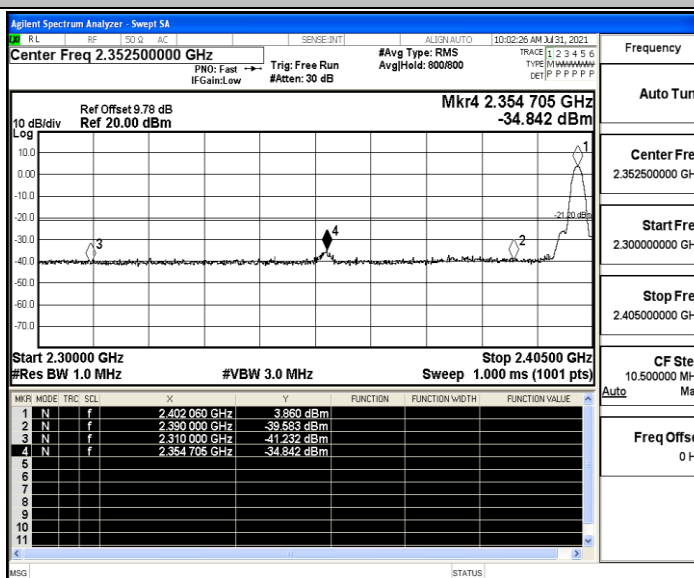
2DH5_Ant1_High_Hop_2480_Peak



3DH5_Ant1_Low_2402_AV



3DH5_Ant1_Low_2402_Peak



3DH5_Ant1_High_2480_AV

