



Appendix A

RF Test Data for BT (Conducted Measurement)

Product Name: Rugged Handheld Computer

Test Model: EA520

Environmental Conditions

Temperature:	21.2° C
Relative Humidity:	52.1%
ATM Pressure:	100.0 kPa
Test Engineer:	Kay Hu
Supervised by:	Li Huan



A.1 20dB Emission Bandwidth

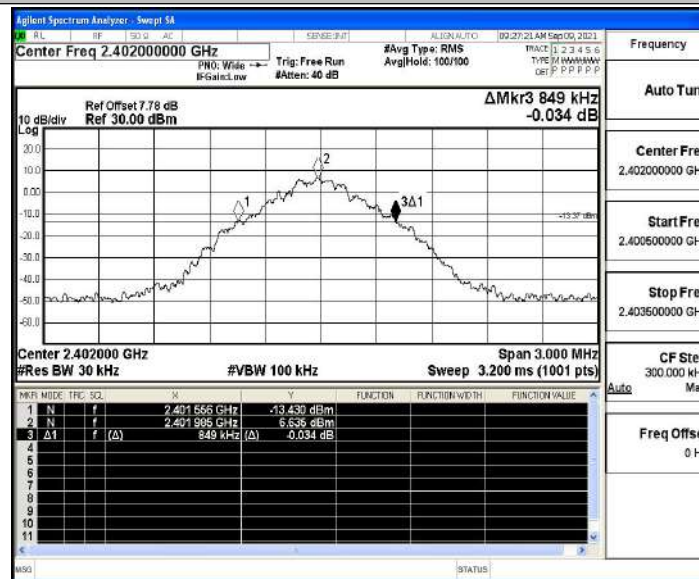
Test Result

TestMode	Antenna	Channel	20db EBW[MHz]	FL[MHz]	FH[MHz]
DH5	Ant1	2402	0.849	2401.556	2402.405
		2441	0.831	2440.574	2441.405
		2480	0.810	2479.586	2480.396
2DH5	Ant1	2402	1.329	2401.331	2402.660
		2441	1.344	2440.319	2441.663
		2480	1.272	2479.367	2480.639
3DH5	Ant1	2402	1.275	2401.343	2402.618
		2441	1.278	2440.343	2441.621
		2480	1.284	2479.343	2480.627

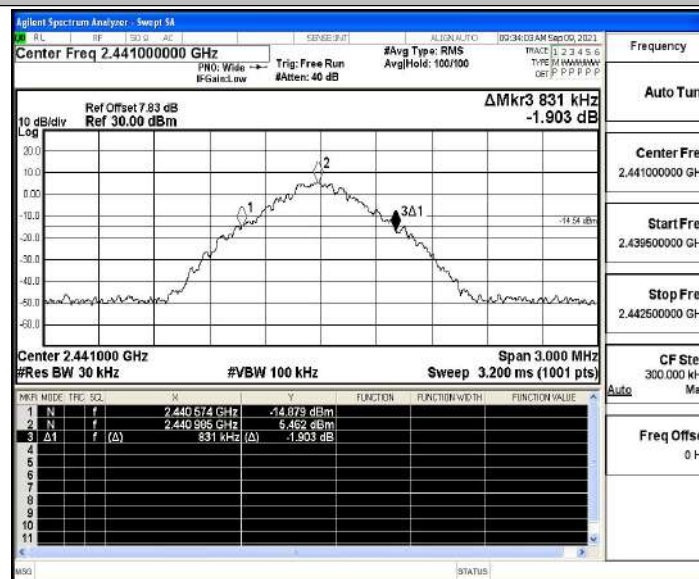


Test Graphs

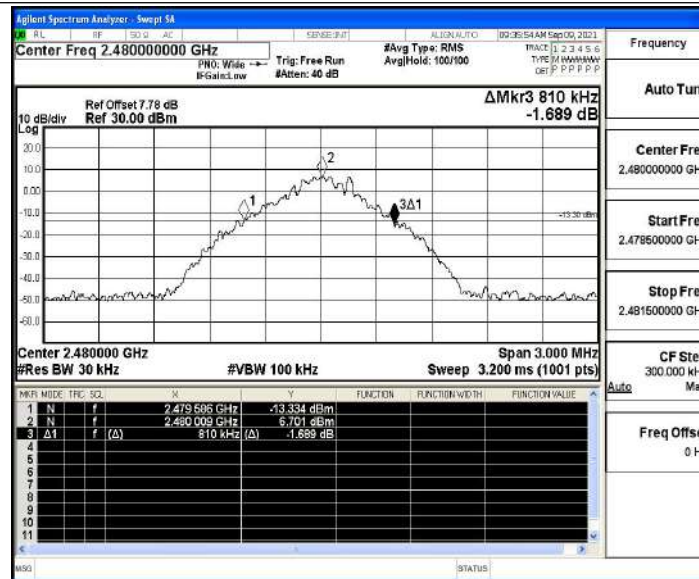
DH5_Ant1_2402



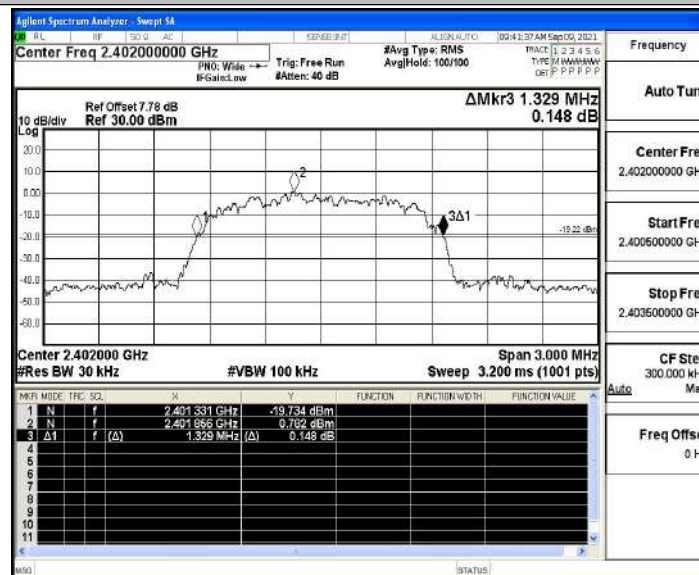
DH5_Ant1_2441



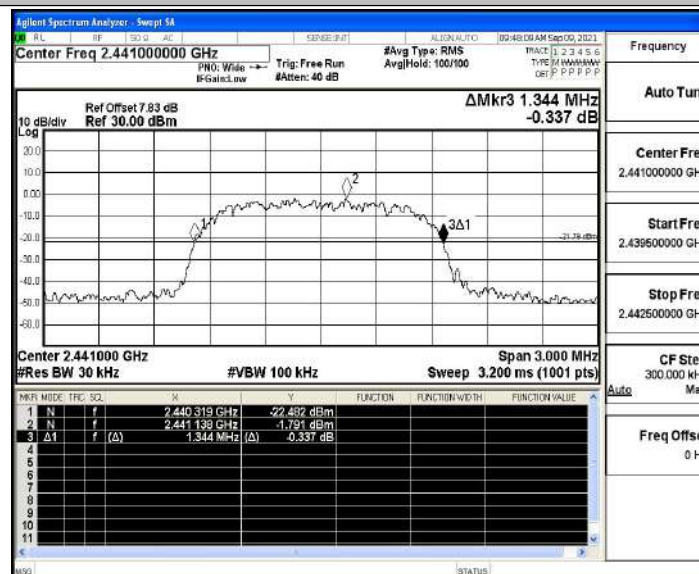
DH5_Ant1_2480

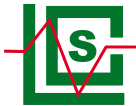


2DH5_Ant1_2402

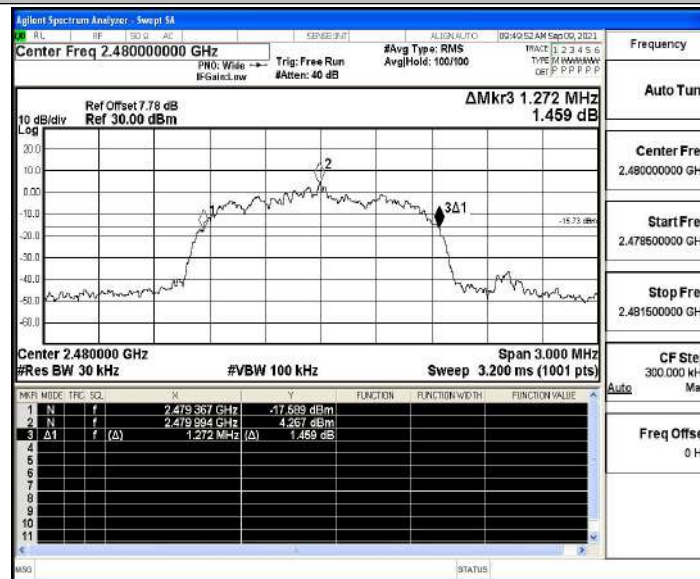


2DH5_Ant1_2441

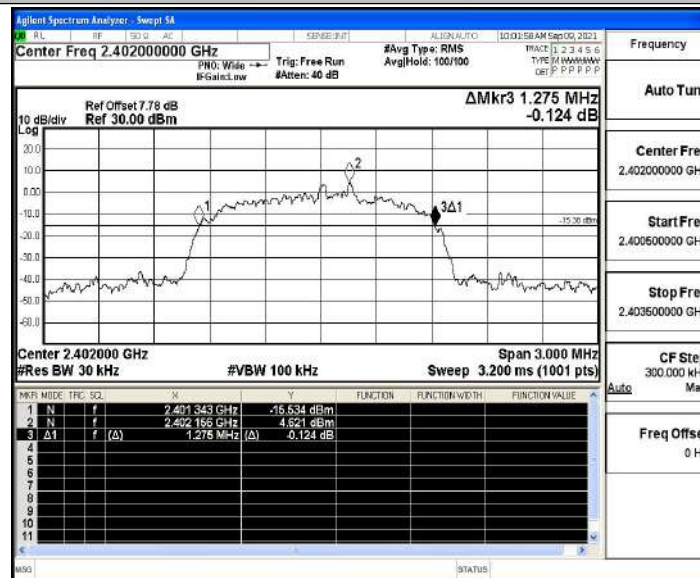




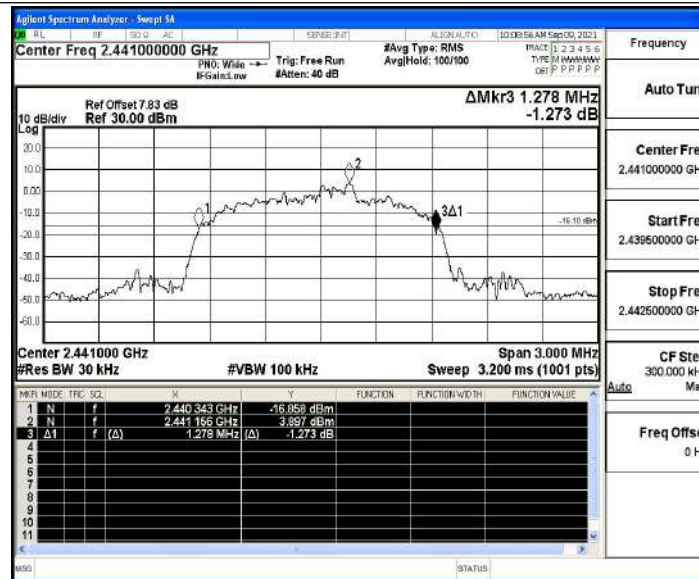
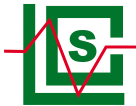
2DH5_Ant1_2480



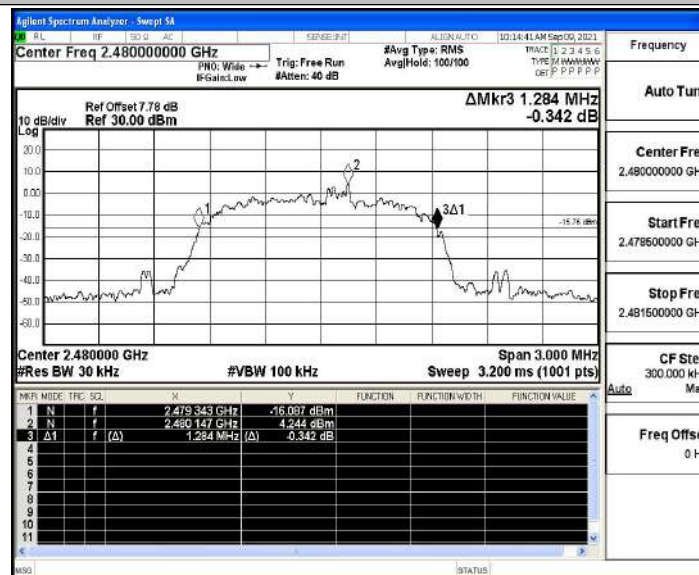
3DH5_Ant1_2402



3DH5_Ant1_2441



3DH5_Ant1_2480



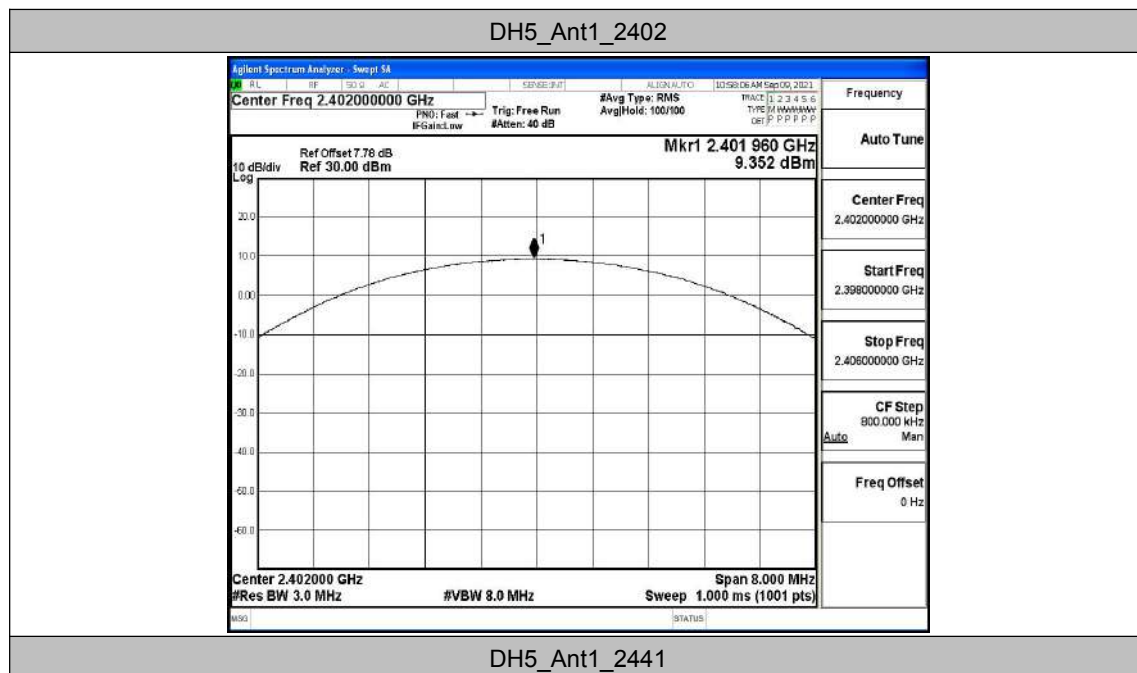


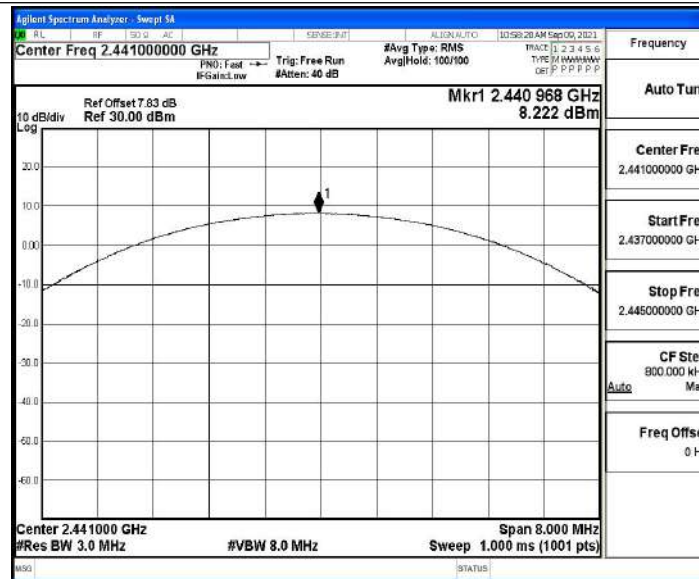
A.2 Maximum conducted output power

Test Result

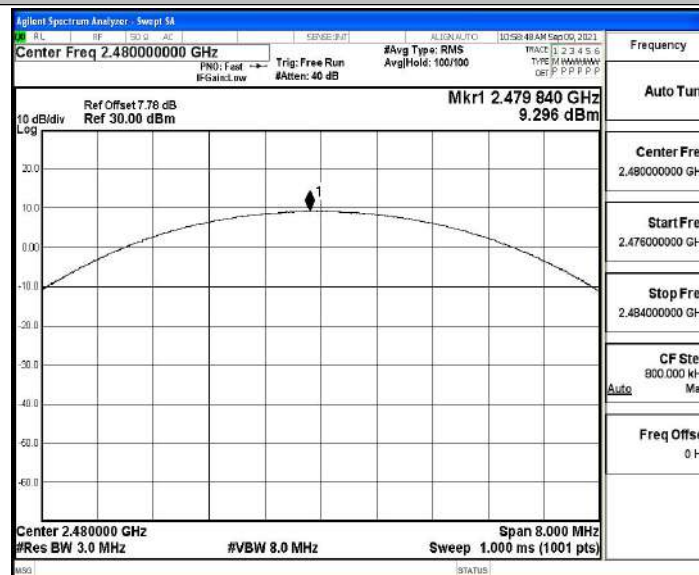
TestMode	Antenna	Channel	Result[dBm]	Limit[dBm]	Verdict
DH5	Ant1	2402	9.35	≤20.97	PASS
		2441	8.22	≤20.97	PASS
		2480	9.3	≤20.97	PASS
2DH5	Ant1	2402	8.26	≤20.97	PASS
		2441	7.69	≤20.97	PASS
		2480	8.33	≤20.97	PASS
3DH5	Ant1	2402	8.37	≤20.97	PASS
		2441	7.67	≤20.97	PASS
		2480	8.63	≤20.97	PASS

Test Graphs

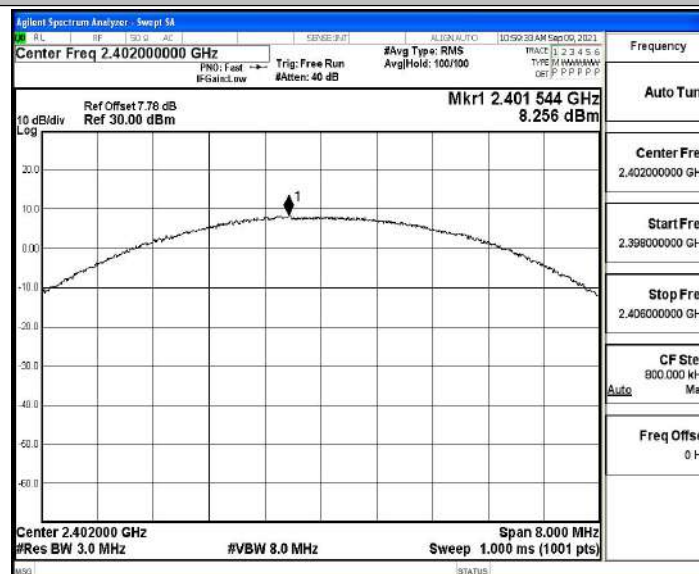


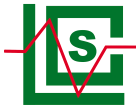


DH5_Ant1_2480

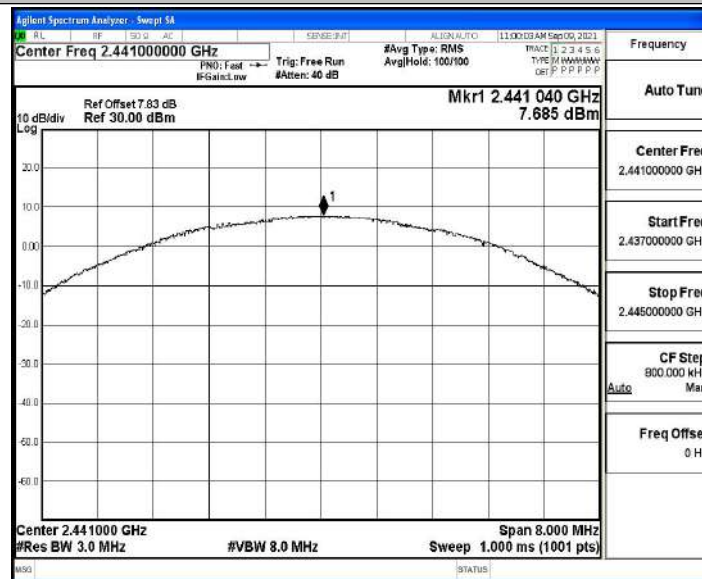


2DH5_Ant1_2402

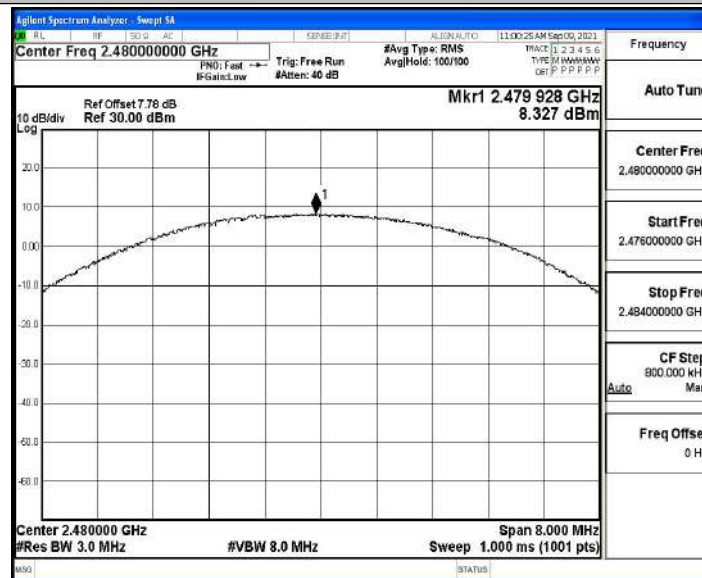




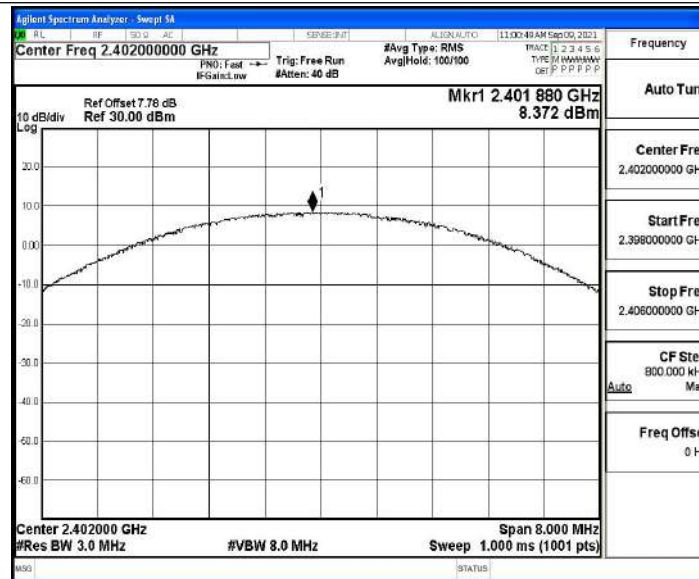
2DH5_Ant1_2441



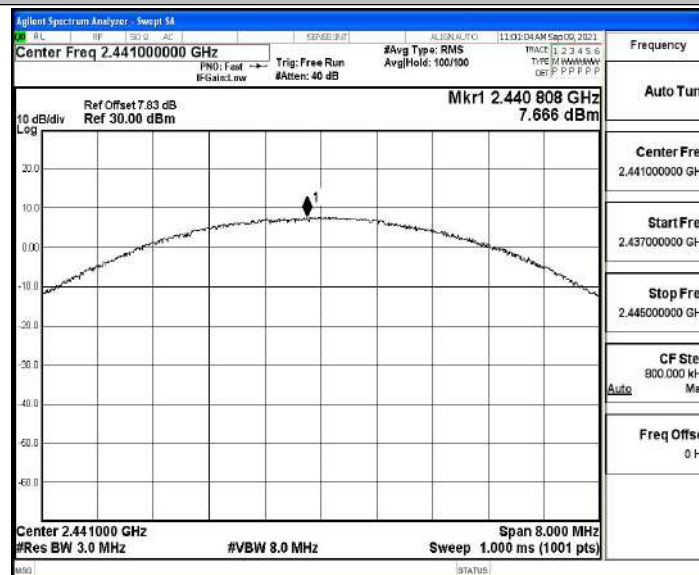
2DH5_Ant1_2480



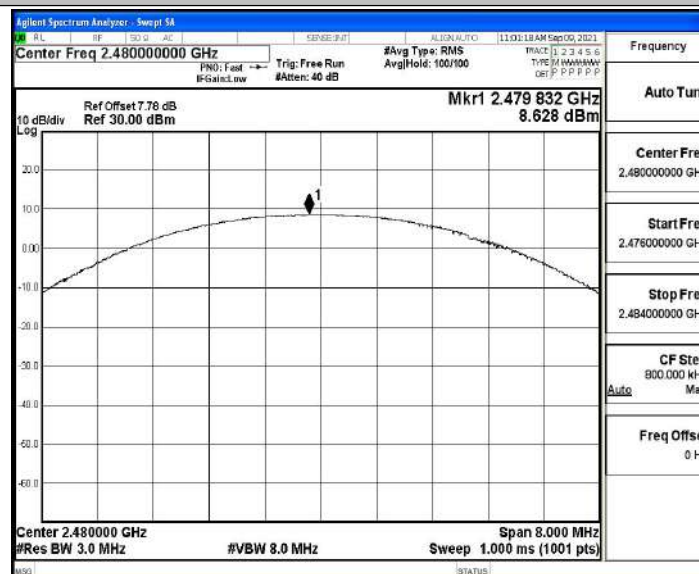
3DH5_Ant1_2402



3DH5_Ant1_2441



3DH5_Ant1_2480



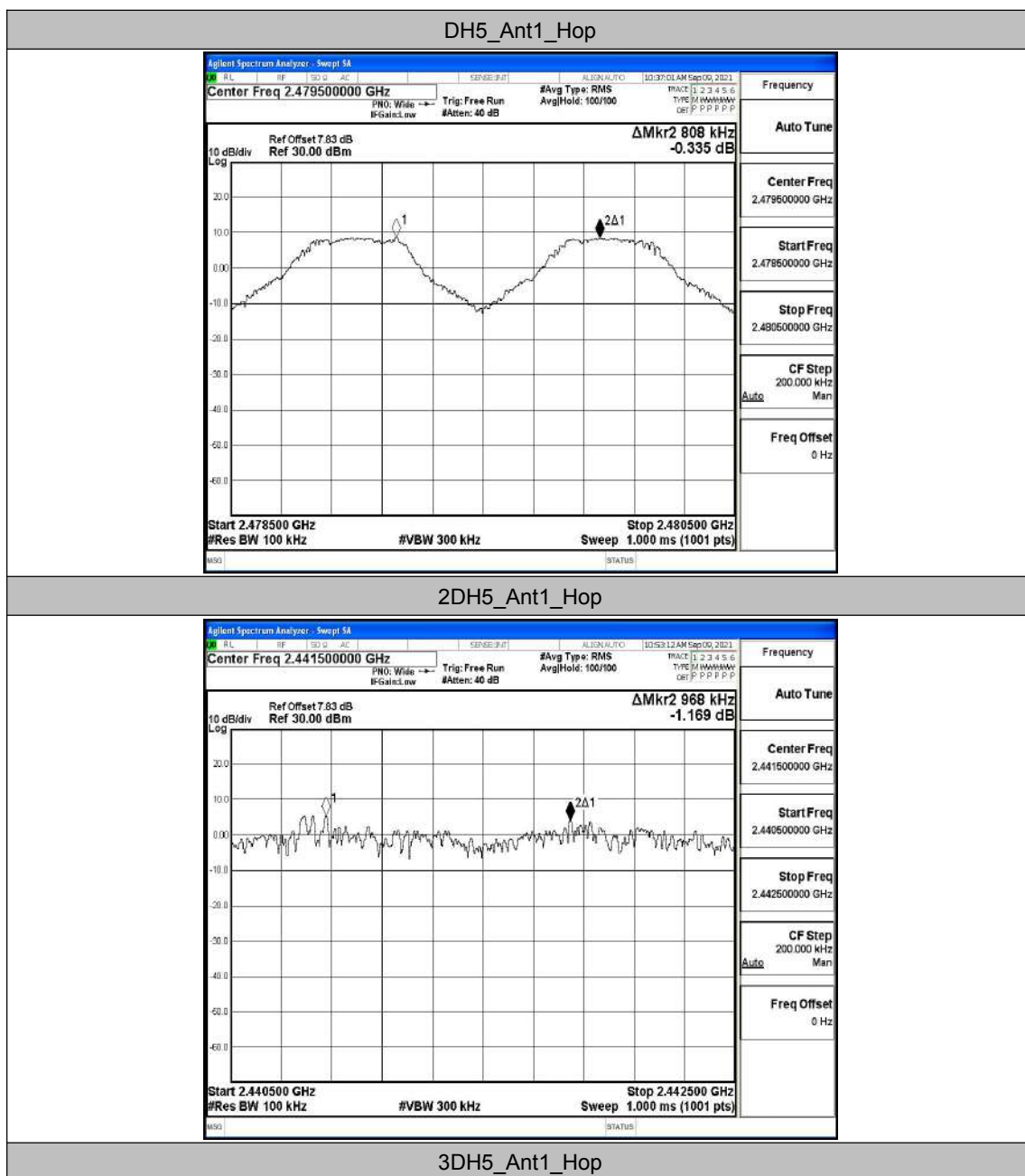


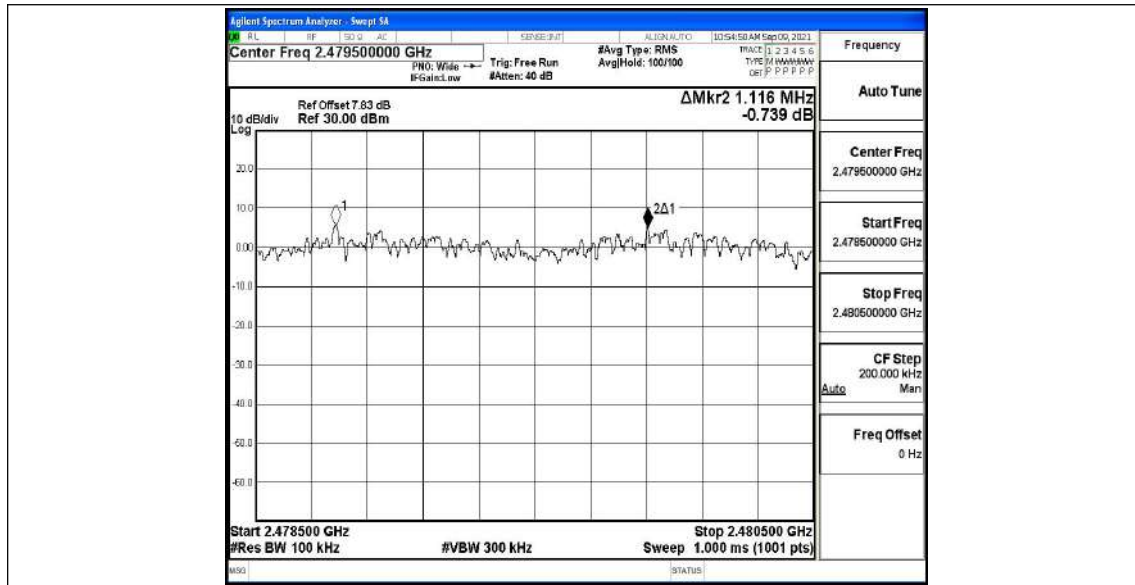
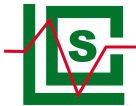
A.3 Carrier frequency separation

Test Result

TestMode	Antenna	Channel	Result[MHz]	Limit[MHz]	Verdict
DH5	Ant1	Hop	0.808	≥ 0.566	PASS
2DH5	Ant1	Hop	0.968	≥ 0.896	PASS
3DH5	Ant1	Hop	1.116	≥ 0.856	PASS

Test Graphs





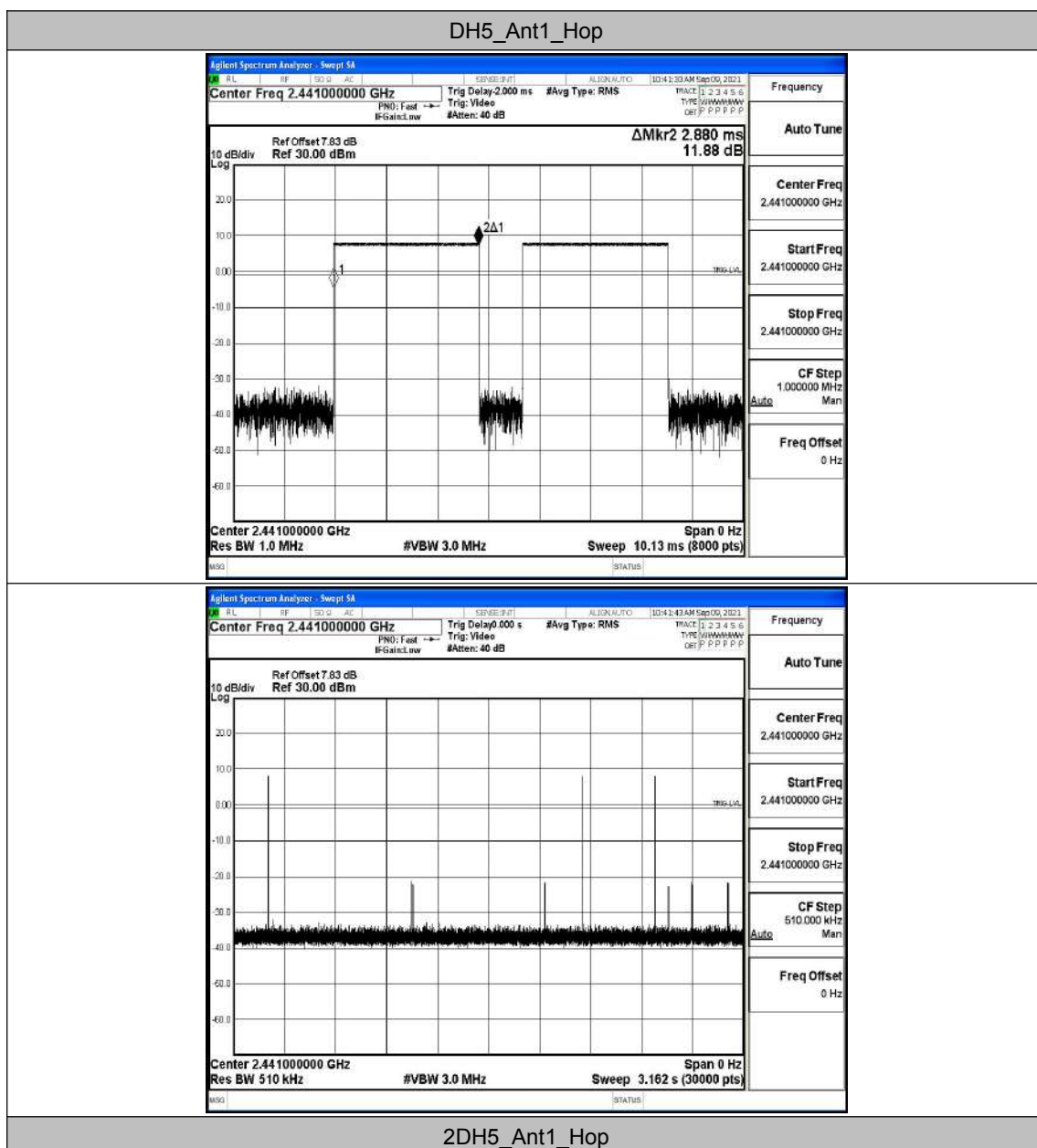


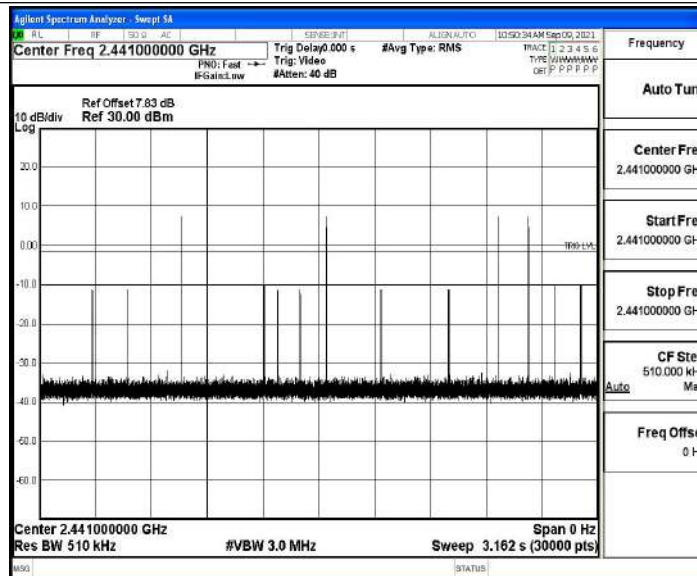
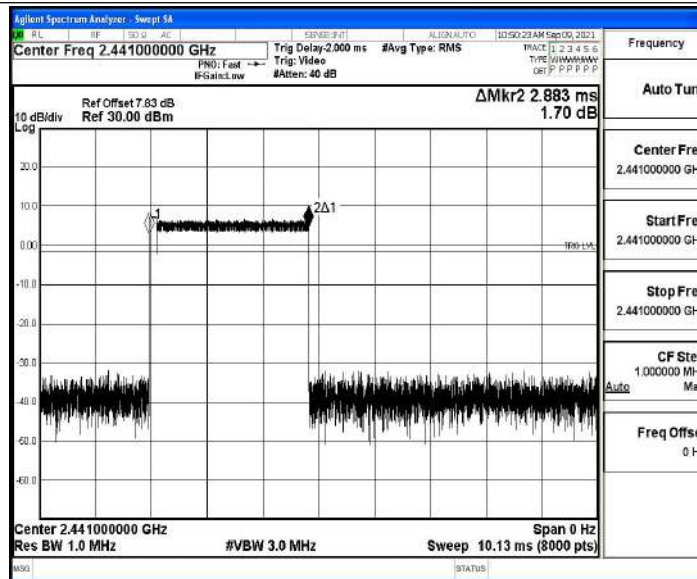
A.4 Time of occupancy

Test Result

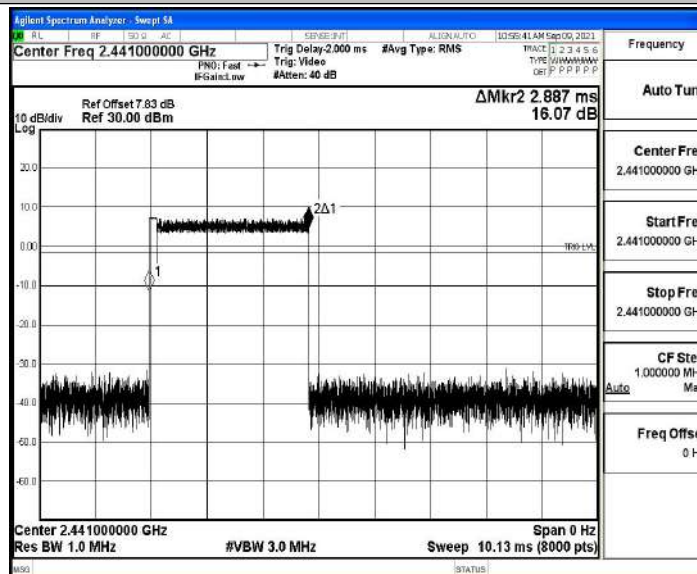
TestMode	Antenna	Channel	BurstWidth [ms]	TotalHops [Num]	Result[s]	Limit[s]	Verdict
DH5	Ant1	Hop	2.88	40	0.115	≤0.4	PASS
2DH5	Ant1	Hop	2.88	50	0.144	≤0.4	PASS
3DH5	Ant1	Hop	2.89	60	0.173	≤0.4	PASS

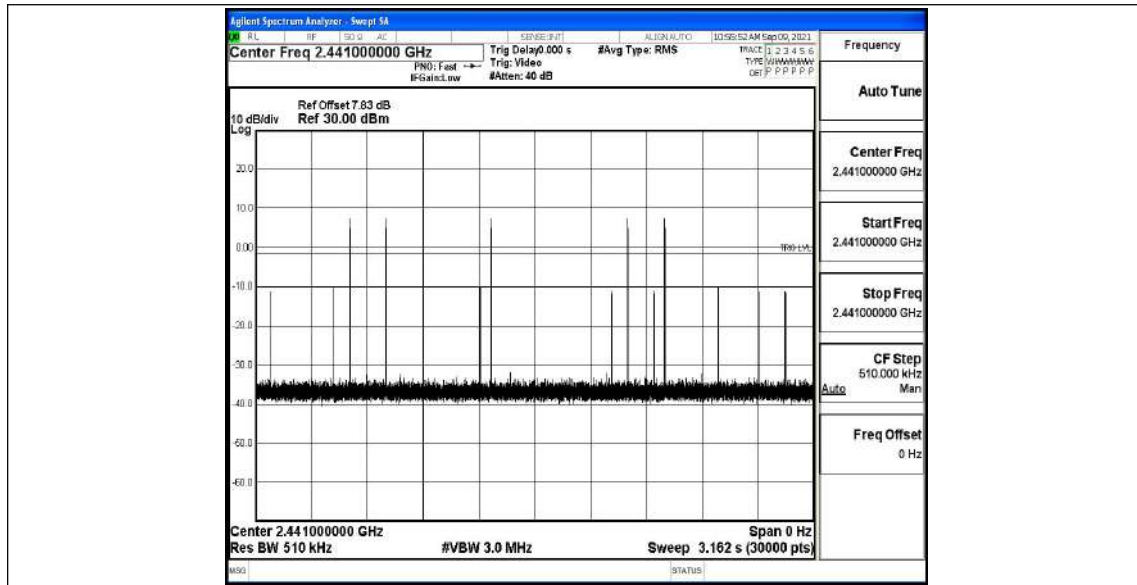
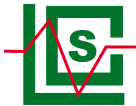
Test Graphs





3DH5_Ant1_Hop





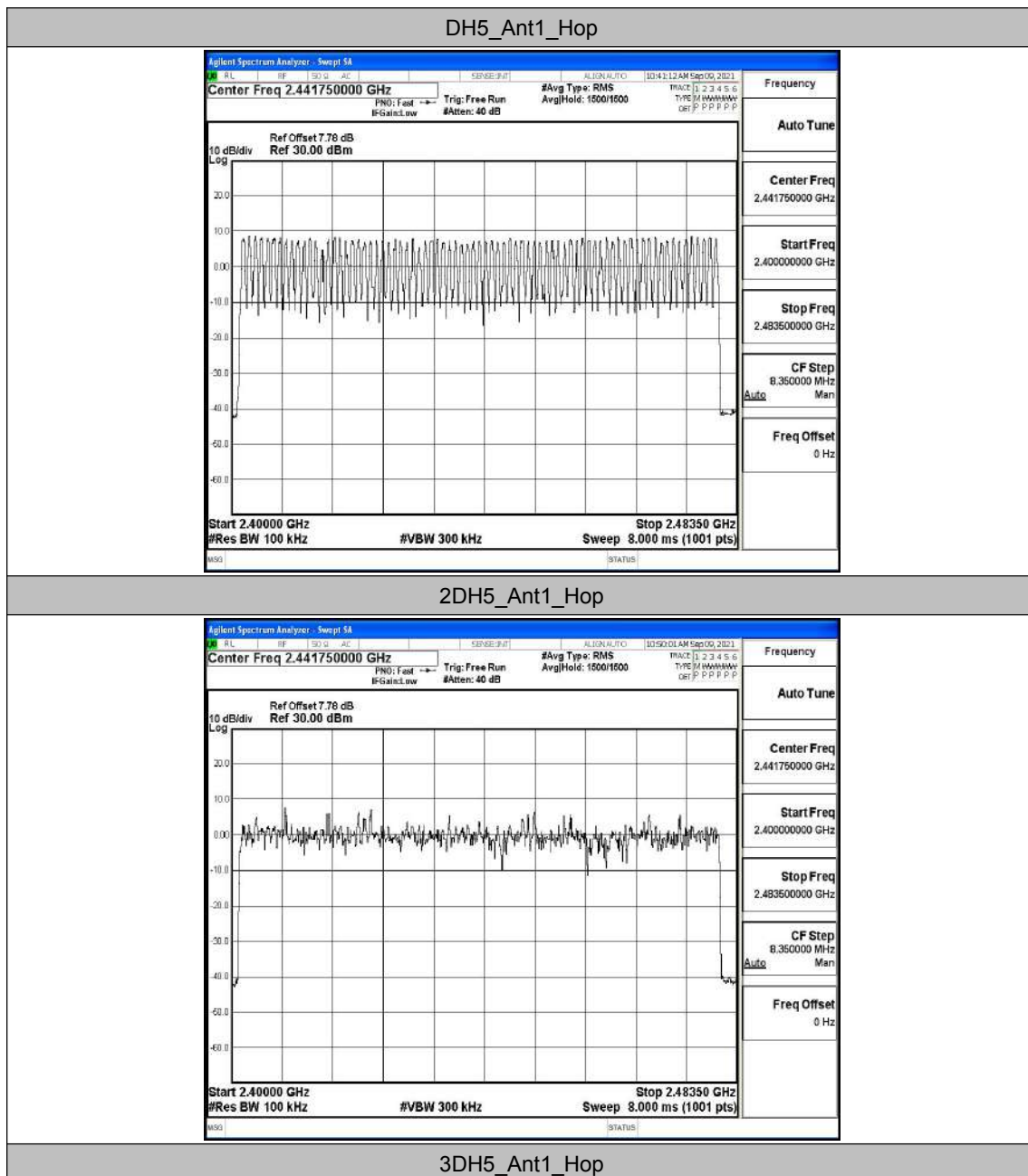


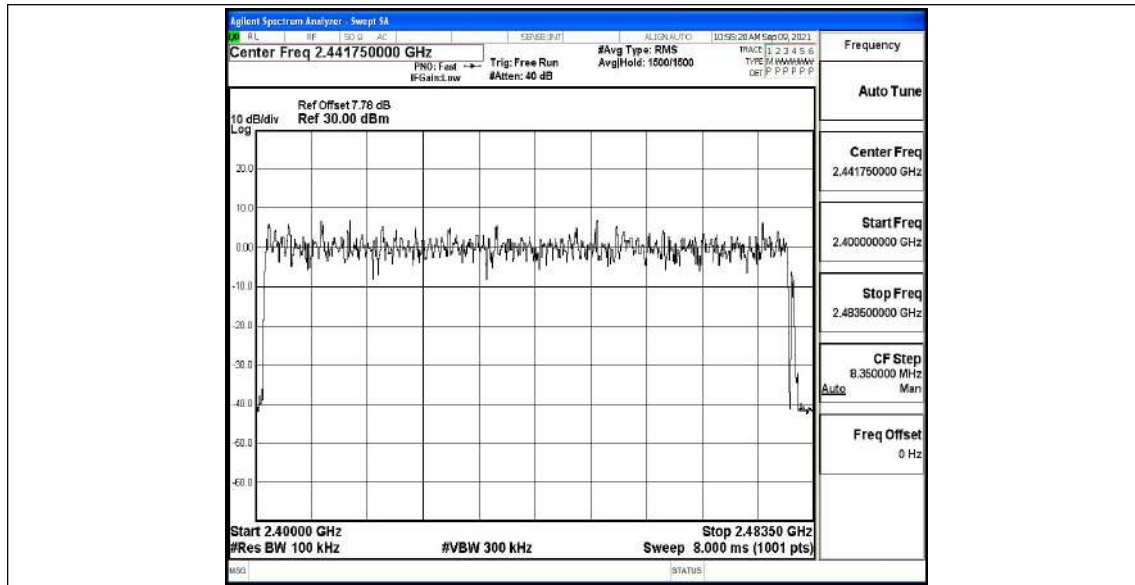
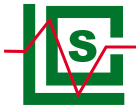
A.5 Number of hopping channels

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





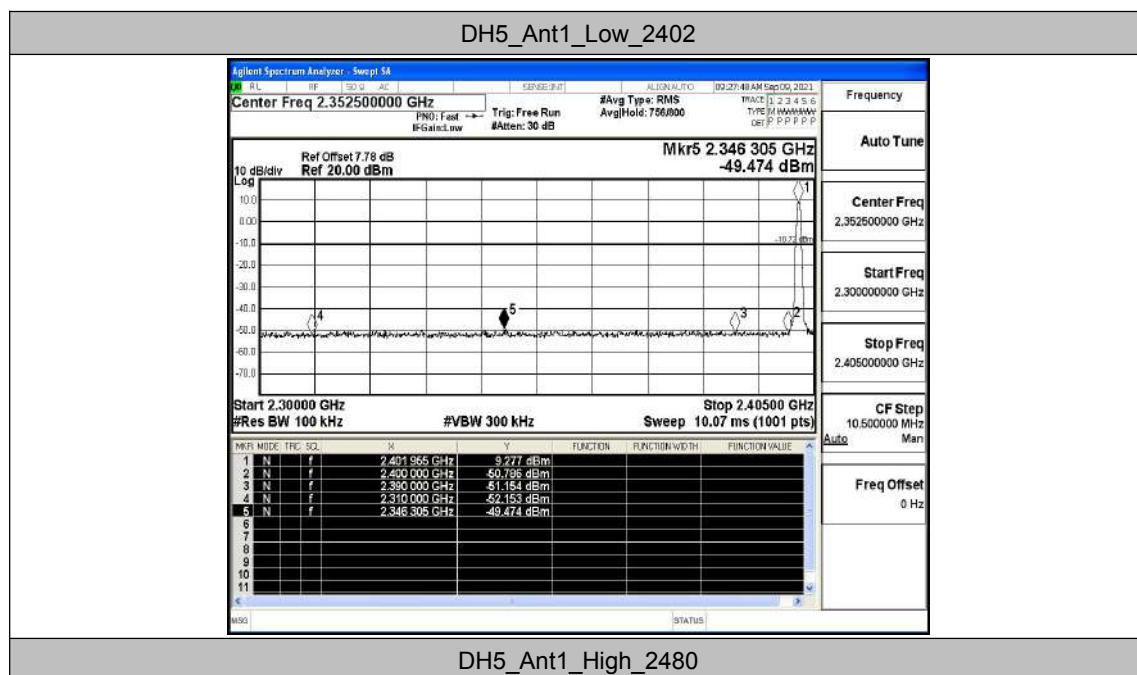


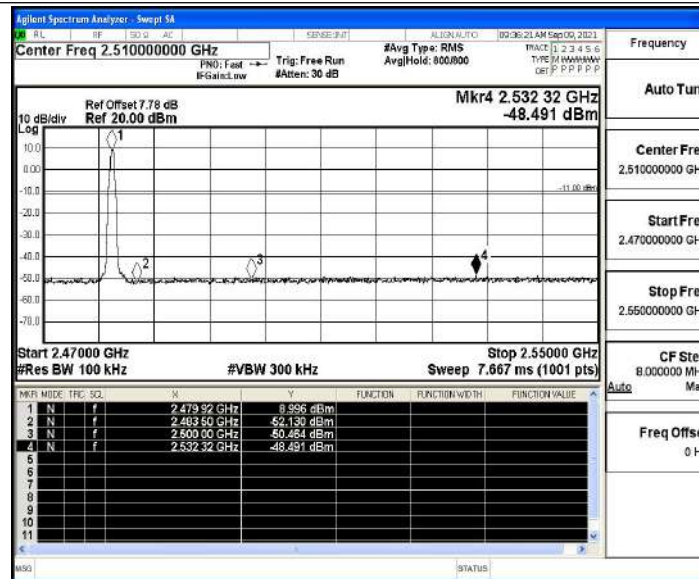
A.6 Band edge measurements

Test Result

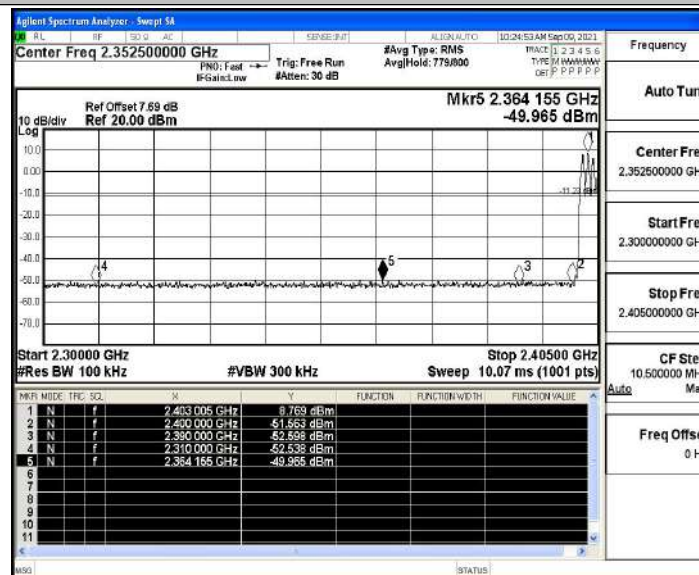
TestMode	Antenna	ChName	Channel	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
DH5	Ant1	Low	2402	9.28	-49.47	≤-10.72	PASS
		High	2480	9.00	-48.49	≤-11	PASS
		Low	Hop_2402	8.77	-49.97	≤-11.23	PASS
		High	Hop_2480	8.59	-36.1	≤-11.41	PASS
2DH5	Ant1	Low	2402	7.88	-47.2	≤-12.12	PASS
		High	2480	8.41	-48.78	≤-11.59	PASS
		Low	Hop_2402	4.01	-49.68	≤-15.99	PASS
		High	Hop_2480	7.90	-49.07	≤-12.1	PASS
3DH5	Ant1	Low	2402	8.57	-47.19	≤-11.43	PASS
		High	2480	8.30	-48	≤-11.7	PASS
			Hop_2480	6.13	-48.66	≤-13.87	PASS

Test Graphs

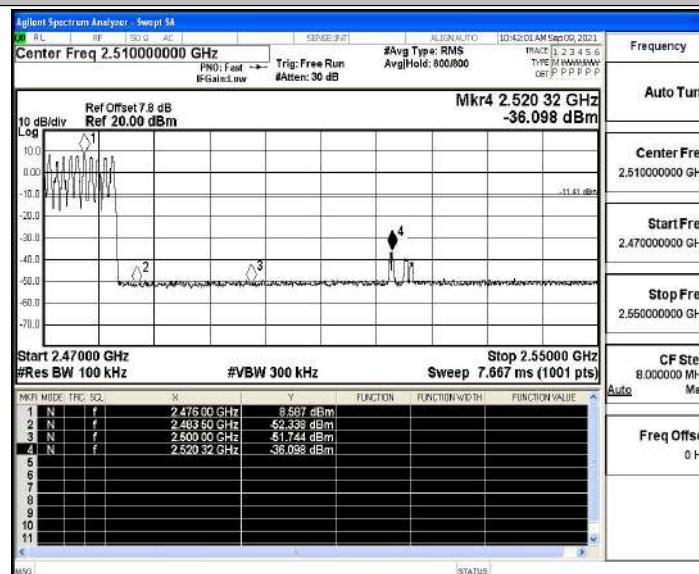


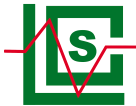


DH5_Ant1_Low_Hop_2402

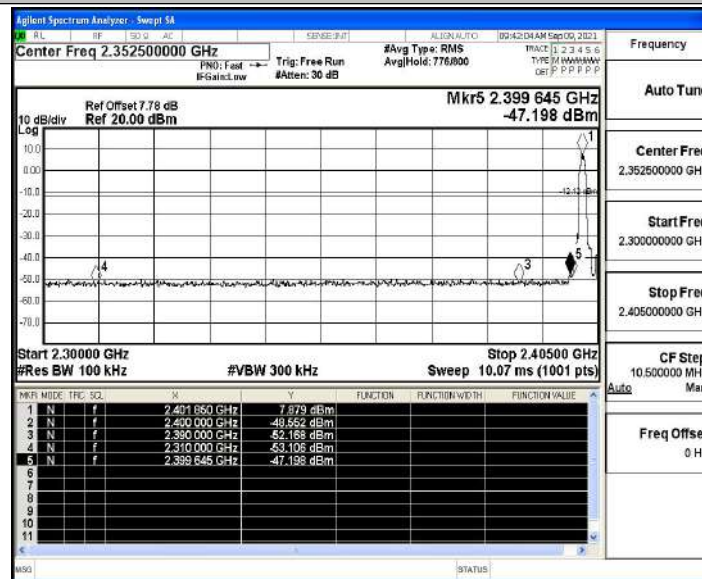


DH5_Ant1_High_Hop_2480

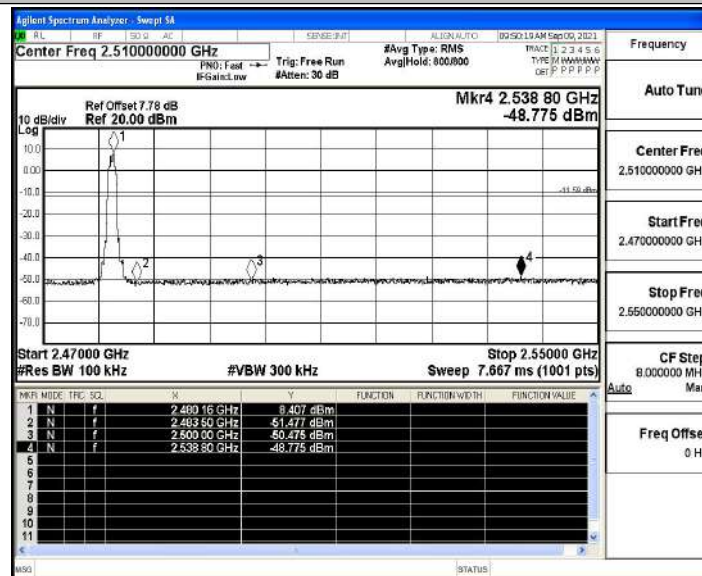




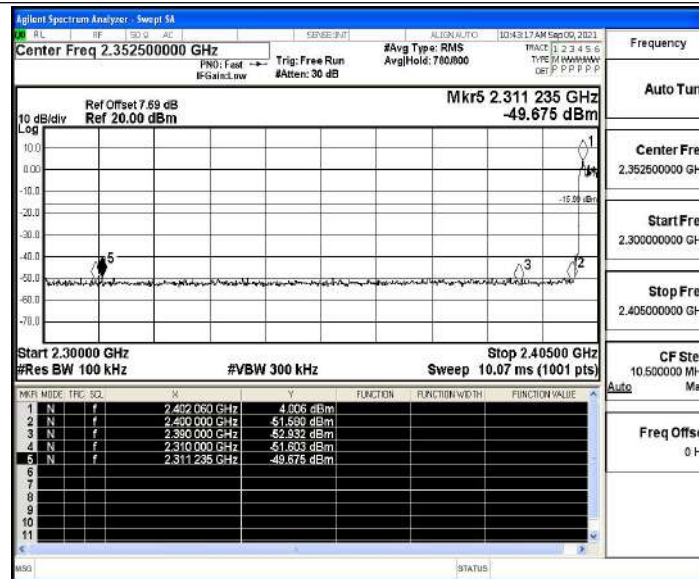
2DH5_Ant1_Low_2402



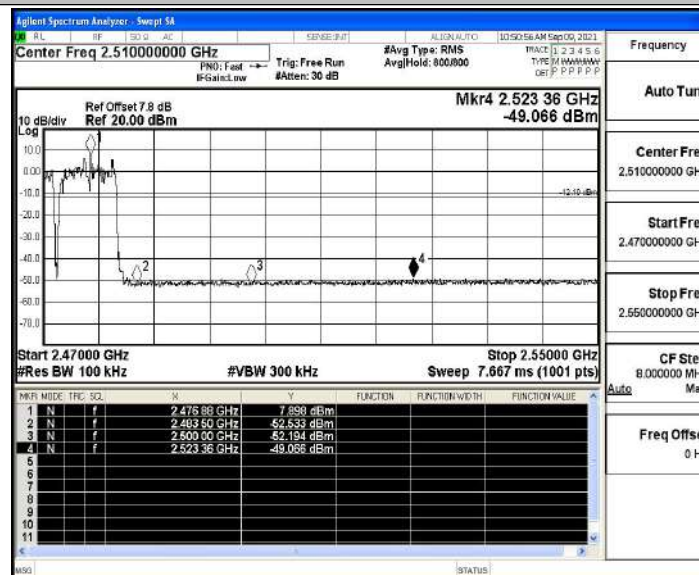
2DH5_Ant1_High_2480



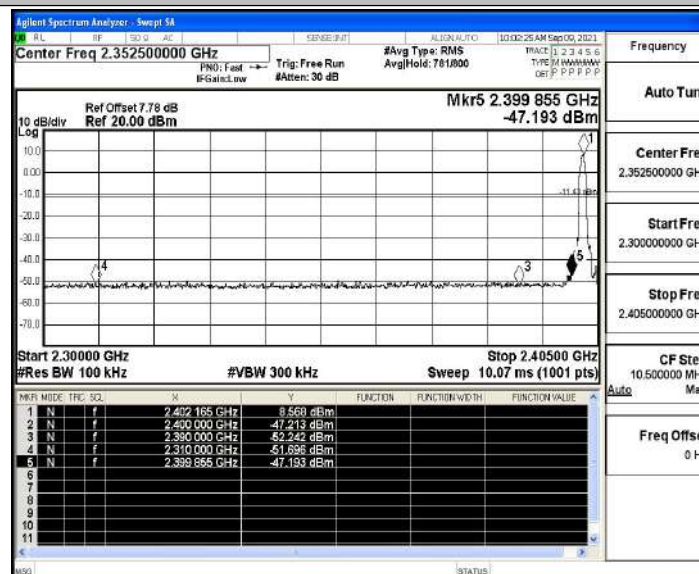
2DH5_Ant1_Low_Hop_2402



2DH5_Ant1_High_Hop_2480

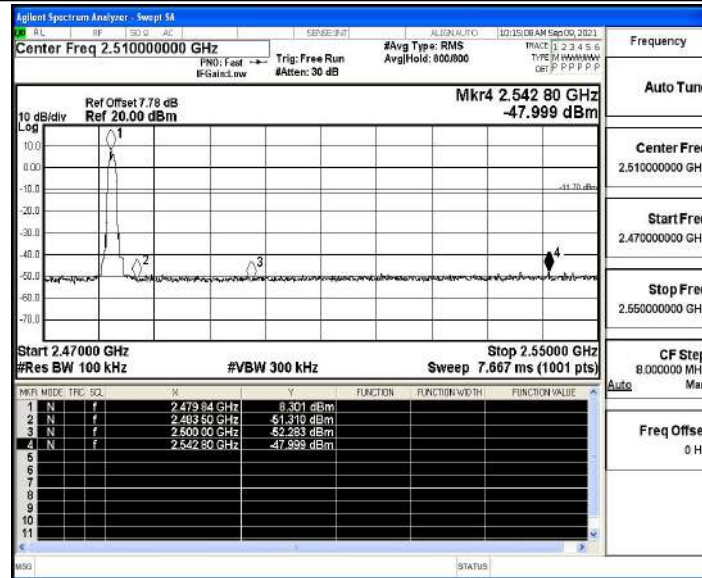


3DH5_Ant1_Low_2402

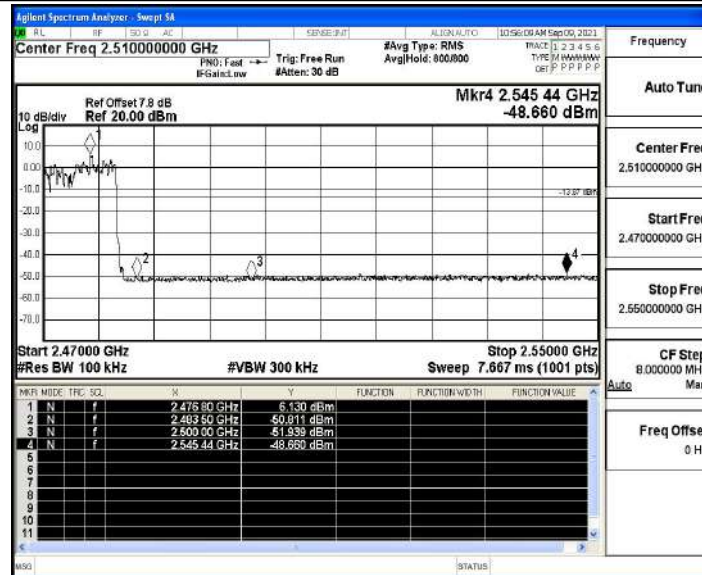




3DH5_Ant1_High_2480



3DH5_Ant1_High_Hop_2480

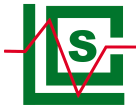




A.7 Conducted Spurious Emission

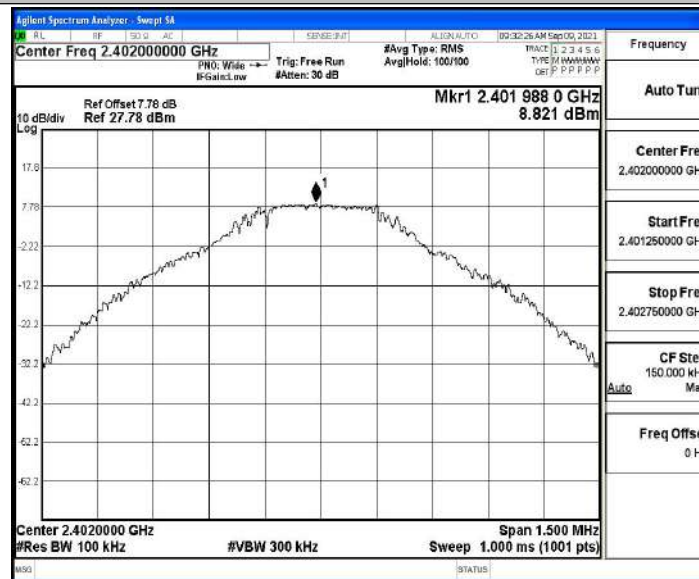
Test Result

TestMode	Antenna	Channel	FreqRange [MHz]	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
DH5	Ant1	2402	Reference	8.82	8.82	---	PASS
			30~1000	8.82	-62.14	≤-11.18	PASS
			1000~26500	8.82	-47.98	≤-11.18	PASS
		2441	Reference	7.54	7.54	---	PASS
			30~1000	7.54	-60.85	≤-12.46	PASS
			1000~26500	7.54	-47.44	≤-12.46	PASS
		2480	Reference	8.70	8.70	---	PASS
			30~1000	8.70	-61.49	≤-11.31	PASS
			1000~26500	8.70	-47.02	≤-11.31	PASS
2DH5	Ant1	2402	Reference	7.83	7.83	---	PASS
			30~1000	7.83	-61.57	≤-12.17	PASS
			1000~26500	7.83	-47.66	≤-12.17	PASS
		2441	Reference	2.80	2.80	---	PASS
			30~1000	2.80	-58.83	≤-17.2	PASS
			1000~26500	2.80	-47.5	≤-17.2	PASS
		2480	Reference	8.46	8.46	---	PASS
			30~1000	8.46	-61.91	≤-11.54	PASS
			1000~26500	8.46	-47.69	≤-11.54	PASS
3DH5	Ant1	2402	Reference	6.00	6.00	---	PASS
			30~1000	6.00	-62.42	≤-14	PASS
			1000~26500	6.00	-47.41	≤-14	PASS
		2441	Reference	7.43	7.43	---	PASS
			30~1000	7.43	-61.87	≤-12.57	PASS
			1000~26500	7.43	-46.97	≤-12.57	PASS
		2480	Reference	4.08	4.08	---	PASS
			30~1000	4.08	-61.92	≤-15.92	PASS
			1000~26500	4.08	-47.9	≤-15.92	PASS

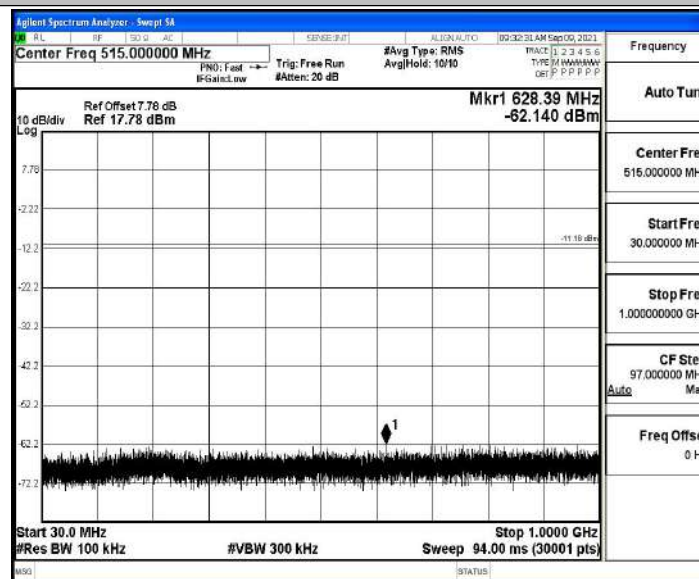


Test Graphs

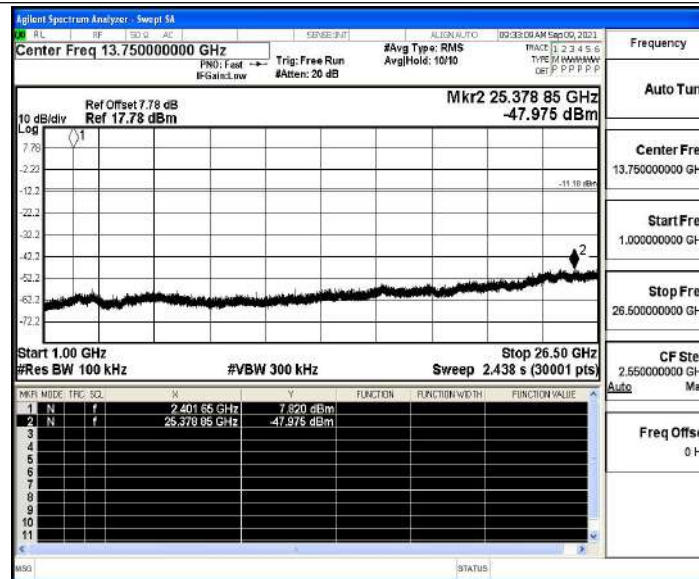
DH5_Ant1_2402_0~Reference



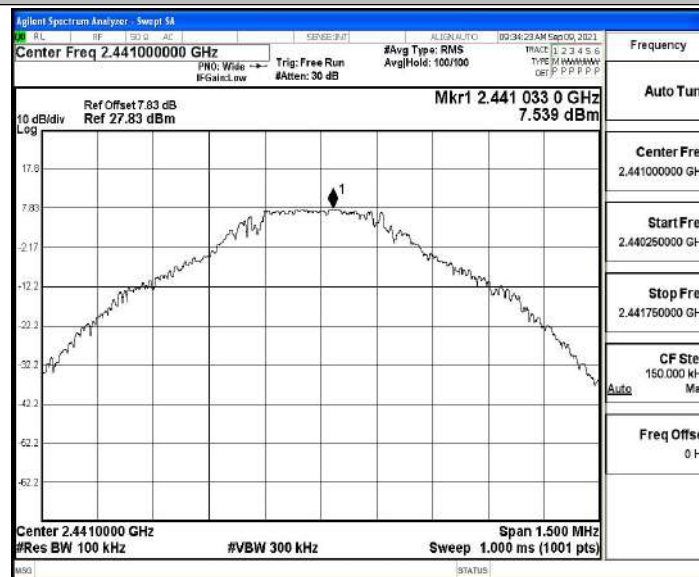
DH5_Ant1_2402_30~1000



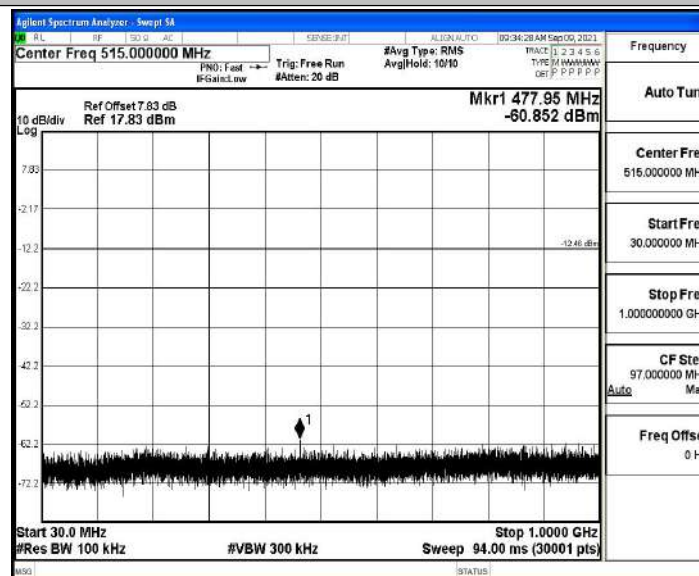
DH5_Ant1_2402_1000~26500

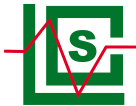


DH5_Ant1_2441_0~Reference

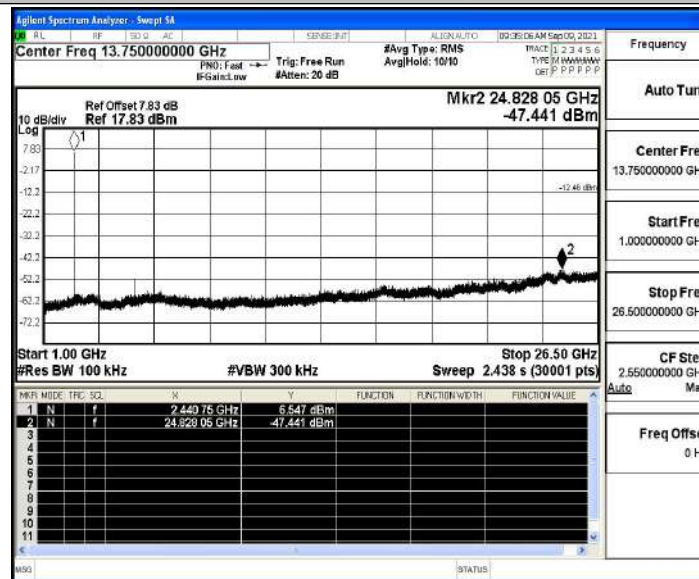


DH5_Ant1_2441_30~1000

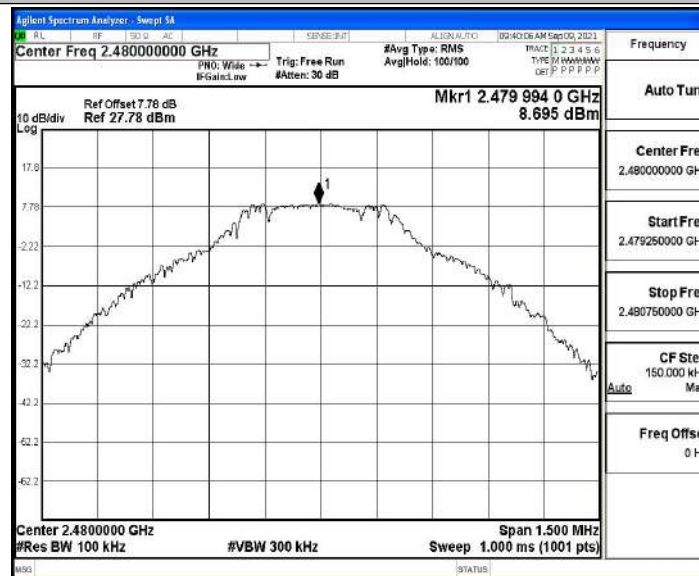




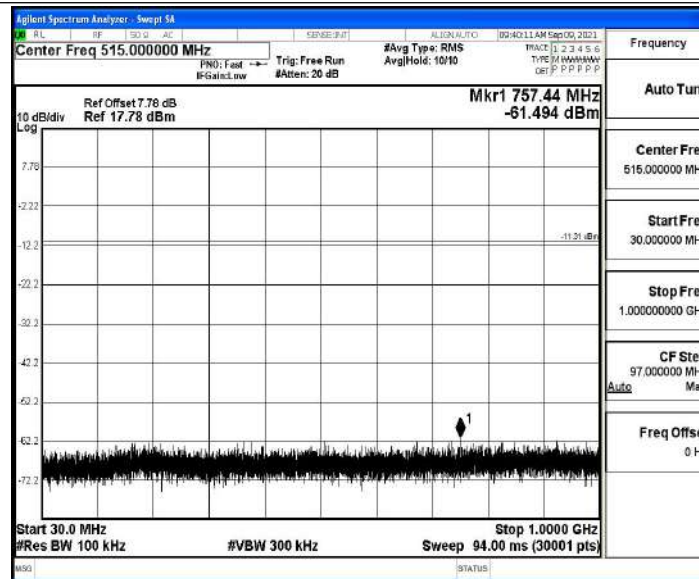
DH5_Ant1_2441_1000~26500



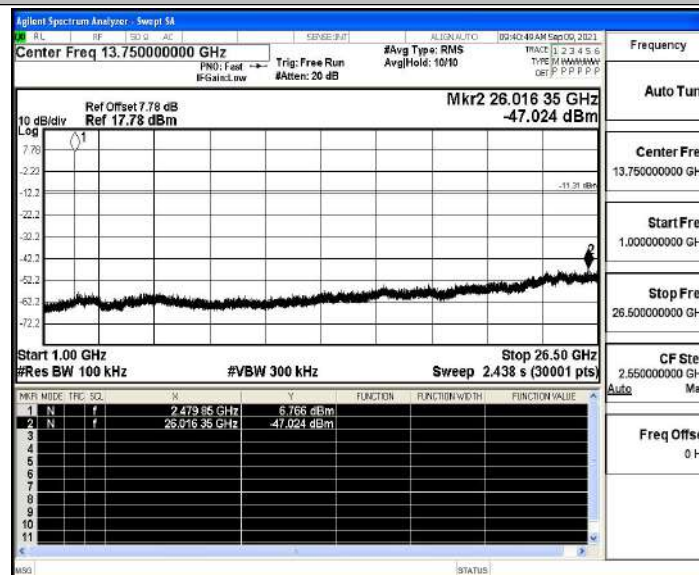
DH5_Ant1_2480_0~Reference



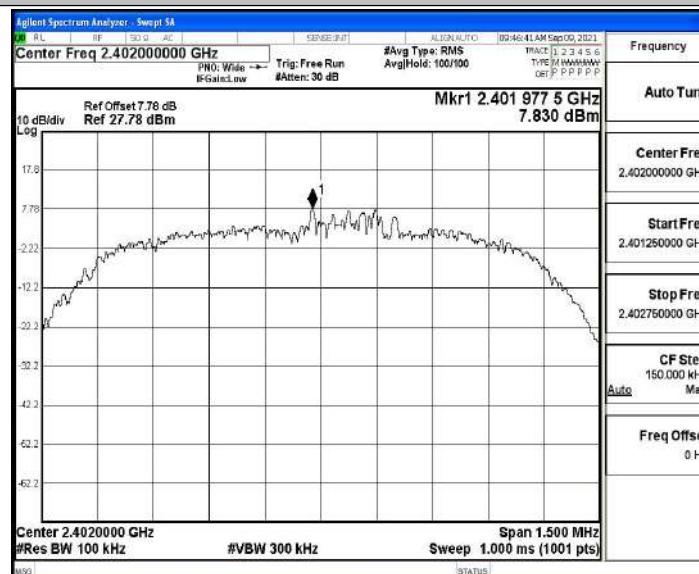
DH5_Ant1_2480_30~1000

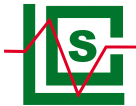


DH5_Ant1_2480_1000~26500

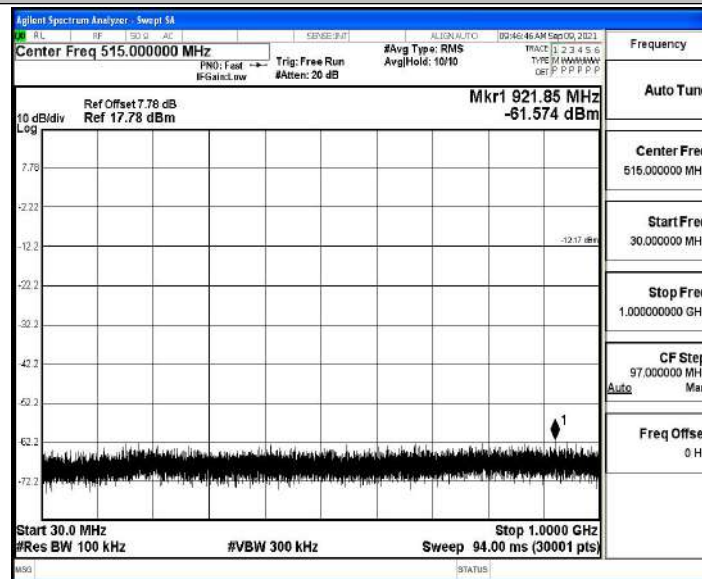


2DH5_Ant1_2402_0~Reference

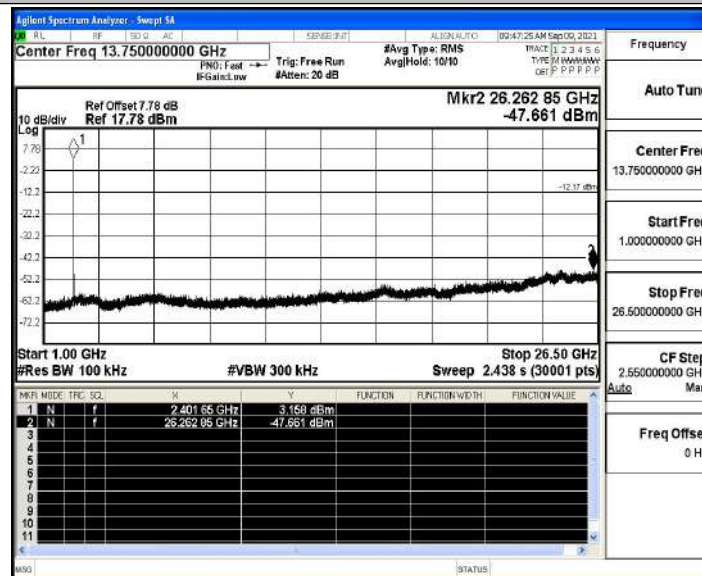




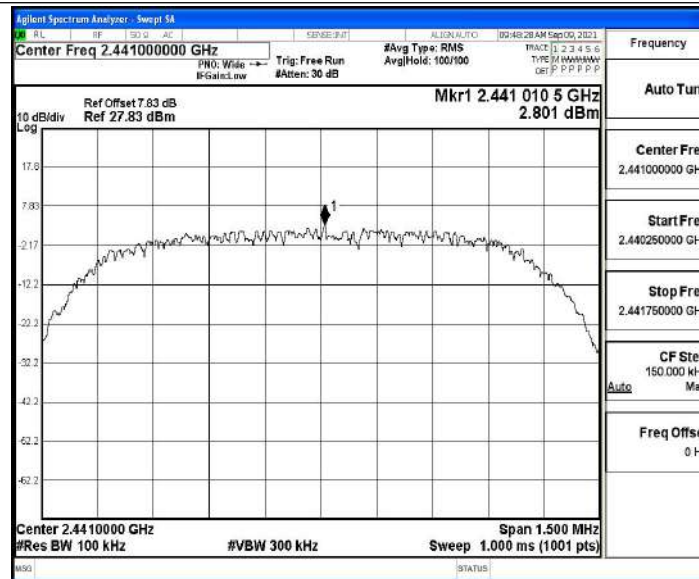
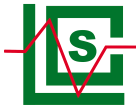
2DH5_Ant1_2402_30~1000



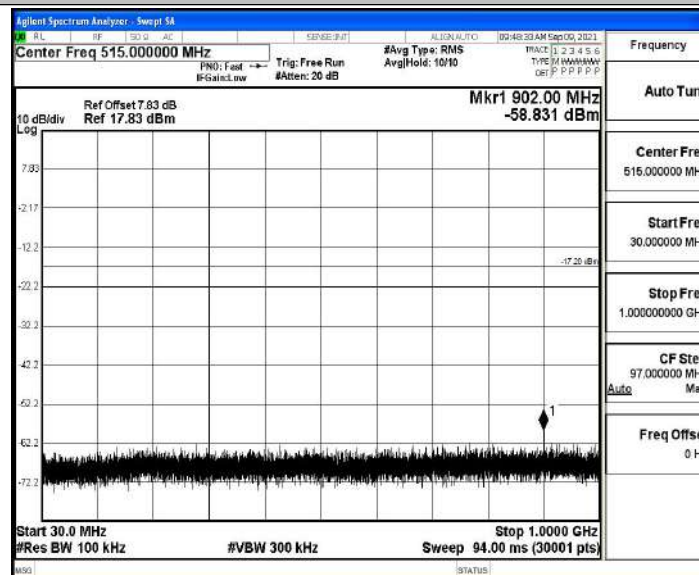
2DH5_Ant1_2402_1000~26500



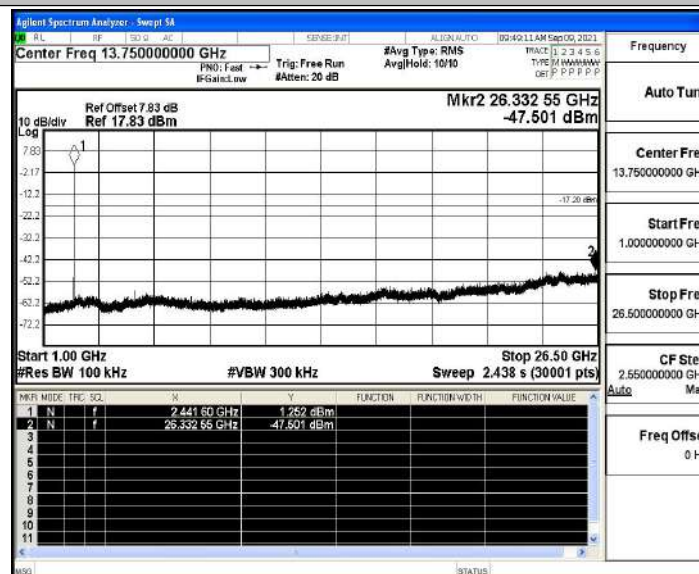
2DH5_Ant1_2441_0~Reference



2DH5_Ant1_2441_30~1000

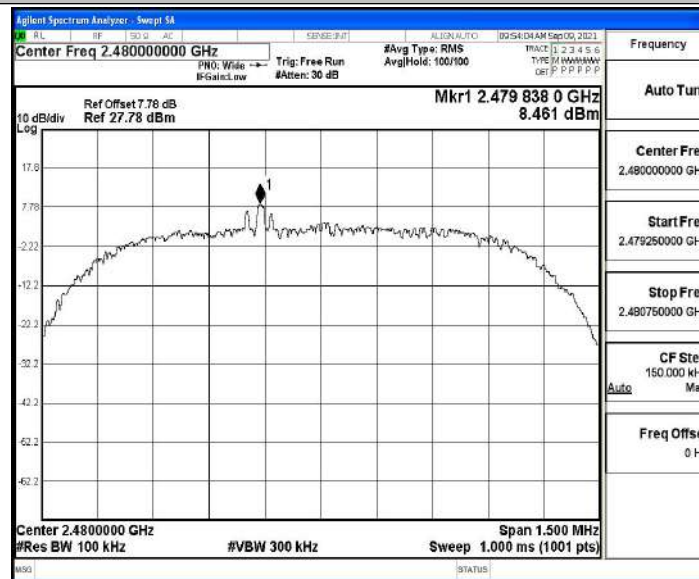


2DH5_Ant1_2441_1000~26500

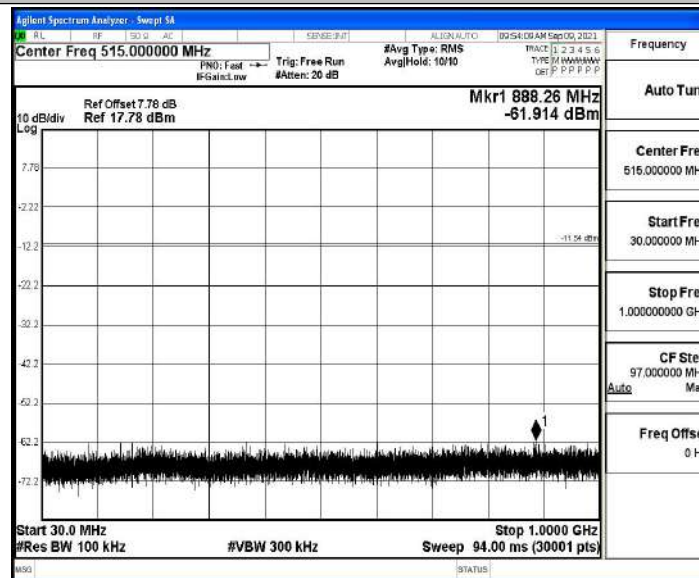




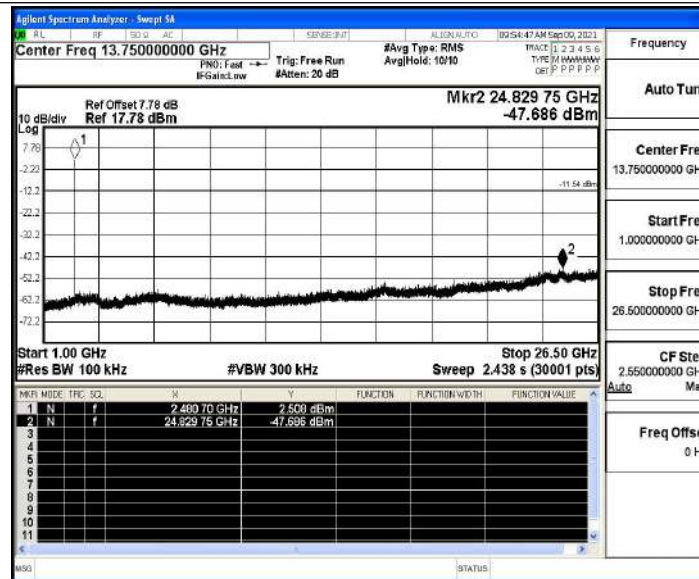
2DH5_Ant1_2480_0~Reference



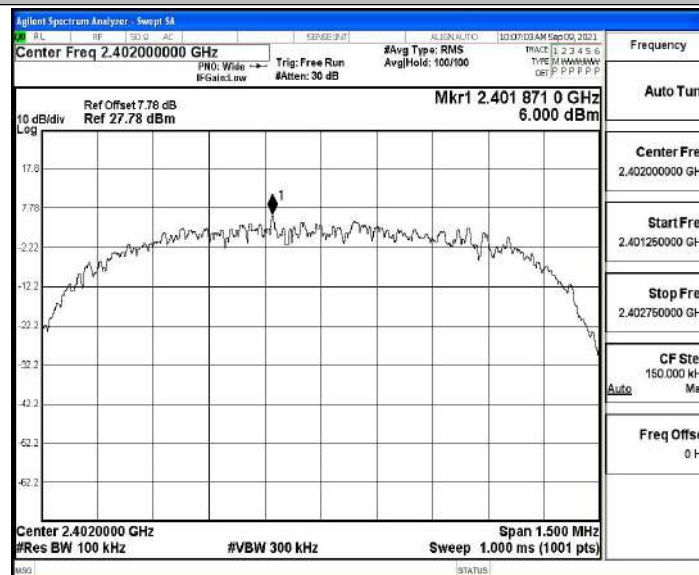
2DH5_Ant1_2480_30~1000



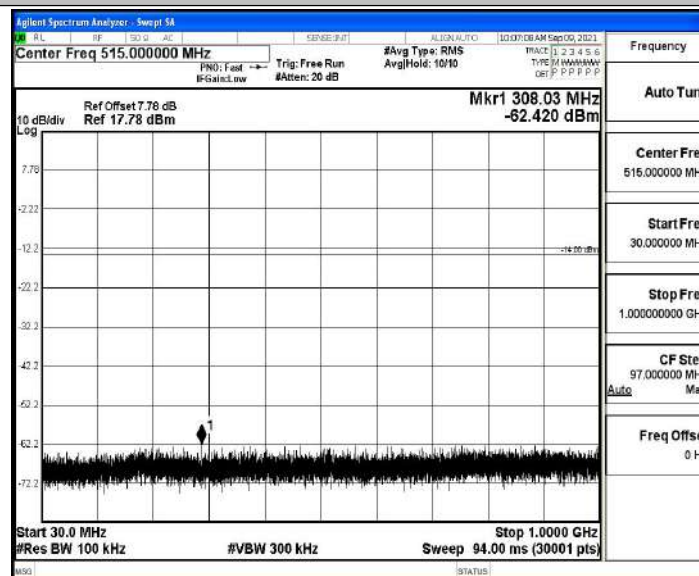
2DH5_Ant1_2480_1000~26500

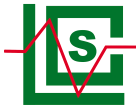


3DH5_Ant1_2402_0~Reference

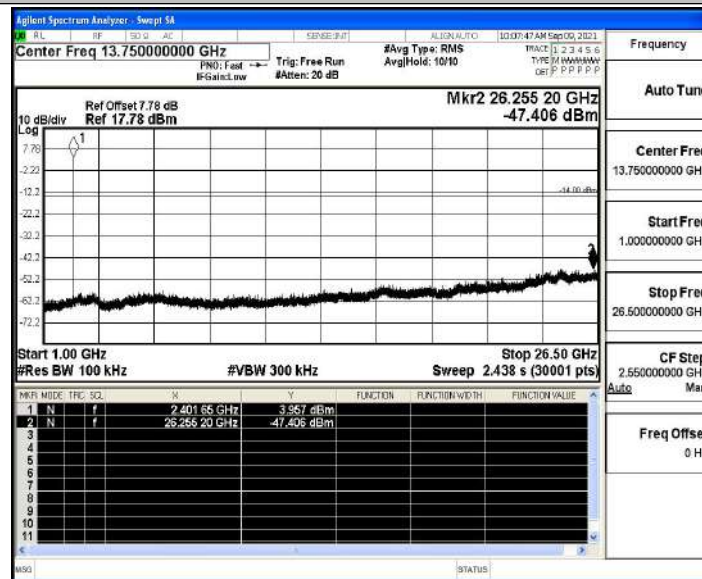


3DH5_Ant1_2402_30~1000

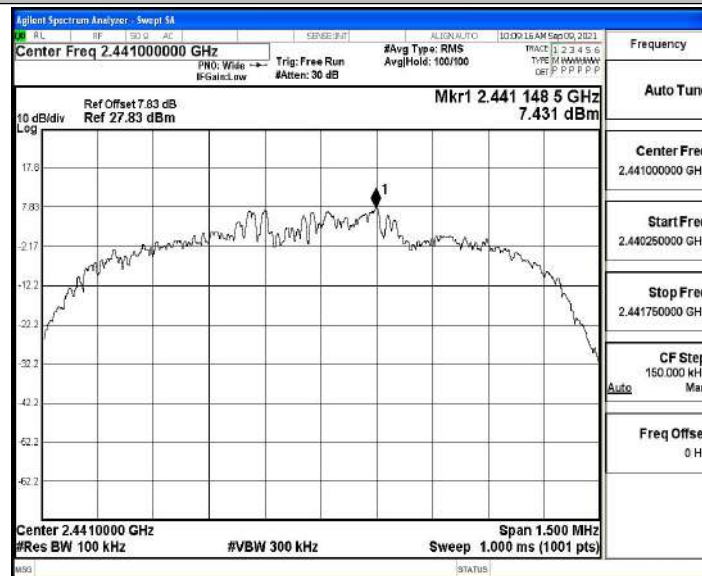




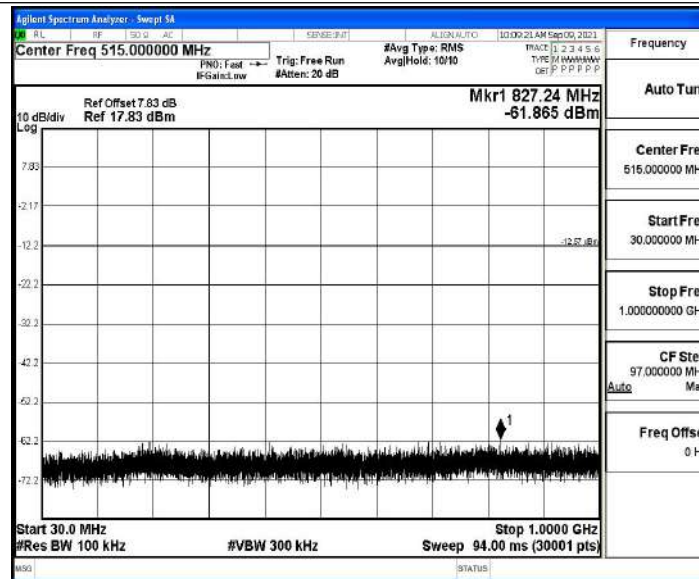
3DH5_Ant1_2402_1000~26500



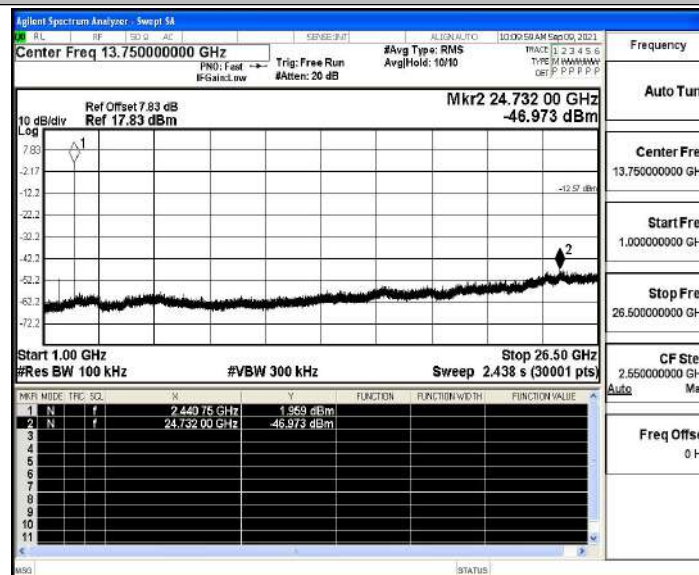
3DH5_Ant1_2441_0~Reference



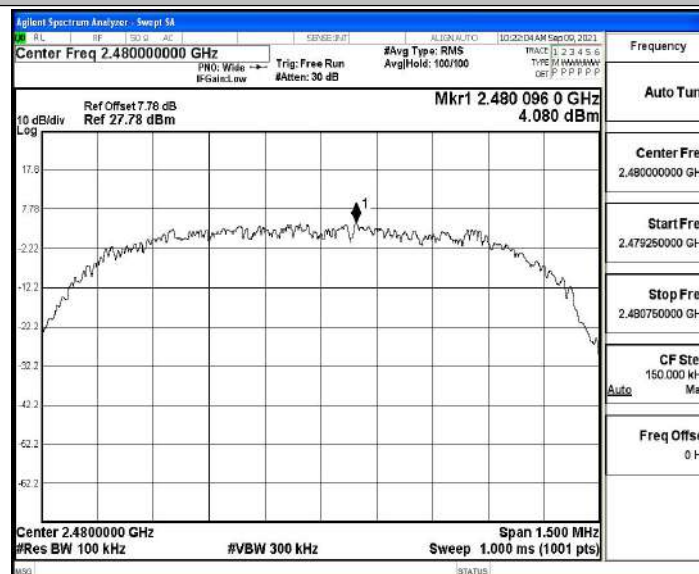
3DH5_Ant1_2441_30~1000

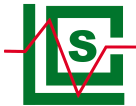


3DH5_Ant1_2441_1000~26500

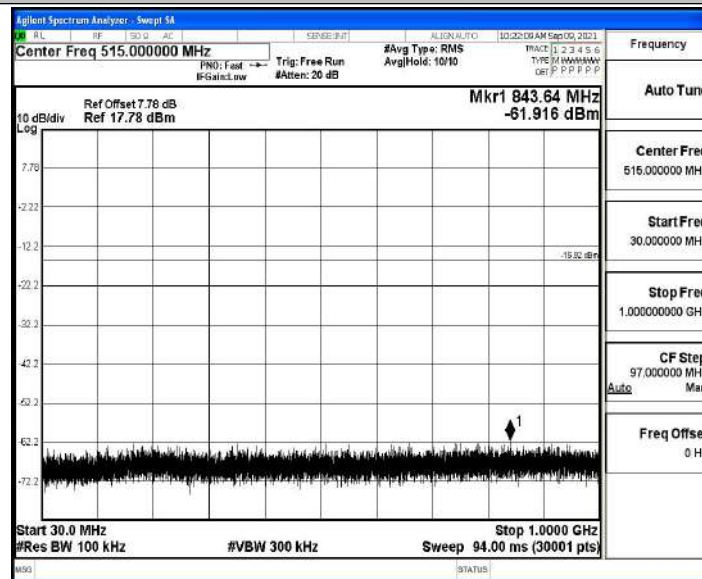


3DH5_Ant1_2480_0~Reference

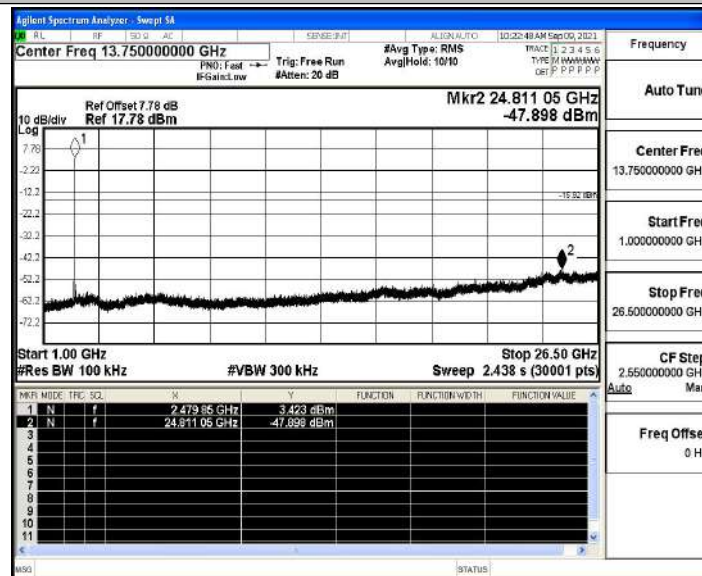




3DH5_Ant1_2480_30~1000



3DH5_Ant1_2480_1000~26500





A.8 Emissions in Restricted Bands

Test Result

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	-48.88	≤-41.20	46.32	≤54	PASS
				AV	2379.905	-48.34	≤-41.20	46.86	≤54	PASS
				AV	2390.000	-48.46	≤-41.20	46.74	≤54	PASS
				Peak	2310.000	-41.56	≤-21.20	53.64	≤74	PASS
				Peak	2372.660	-38.07	≤-21.20	57.13	≤74	PASS
				Peak	2390.000	-40.22	≤-21.20	54.98	≤74	PASS
		High	2480	AV	2483.500	-46.22	≤-41.20	48.98	≤54	PASS
				AV	2483.680	-46.16	≤-41.20	49.04	≤54	PASS
				AV	2500.000	-47.91	≤-41.20	47.29	≤54	PASS
				Peak	2483.500	-38.72	≤-21.20	56.48	≤74	PASS
				Peak	2497.520	-37.88	≤-21.20	57.32	≤74	PASS
				Peak	2500.000	-40.32	≤-21.20	54.88	≤74	PASS
2DH5	Ant1	Low	2402	AV	2310.000	-49.02	≤-41.20	46.18	≤54	PASS
				AV	2385.365	-48.49	≤-41.20	46.71	≤54	PASS
				AV	2390.000	-48.66	≤-41.20	46.54	≤54	PASS
				Peak	2310.000	-40.81	≤-21.20	54.39	≤74	PASS
				Peak	2326.775	-37.9	≤-21.20	57.30	≤74	PASS
				Peak	2390.000	-40.94	≤-21.20	54.26	≤74	PASS
		High	2480	AV	2483.500	-46.76	≤-41.20	48.44	≤54	PASS
				AV	2483.520	-46.76	≤-41.20	48.44	≤54	PASS
				AV	2500.000	-48.17	≤-41.20	47.03	≤54	PASS
				Peak	2483.500	-41.8	≤-21.20	53.40	≤74	PASS
				Peak	2497.360	-37.43	≤-21.20	57.77	≤74	PASS
				Peak	2500.000	-41.49	≤-21.20	53.71	≤74	PASS
3DH5	Ant1	Low	2402	AV	2310.000	-49.06	≤-41.20	46.14	≤54	PASS
				AV	2385.995	-48.19	≤-41.20	47.01	≤54	PASS
				AV	2390.000	-48.56	≤-41.20	46.64	≤54	PASS
				Peak	2310.000	-41.49	≤-21.20	53.71	≤74	PASS
				Peak	2361.110	-37.88	≤-21.20	57.32	≤74	PASS
				Peak	2390.000	-41.01	≤-21.20	54.19	≤74	PASS
		High	2480	AV	2483.500	-46.4	≤-41.20	48.80	≤54	PASS
				AV	2483.520	-46.4	≤-41.20	48.80	≤54	PASS
				AV	2500.000	-48.11	≤-41.20	47.09	≤54	PASS
				Peak	2483.500	-39.02	≤-21.20	56.18	≤74	PASS
				Peak	2483.920	-38.92	≤-21.20	56.28	≤74	PASS
				Peak	2500.000	-41.84	≤-21.20	53.36	≤74	PASS



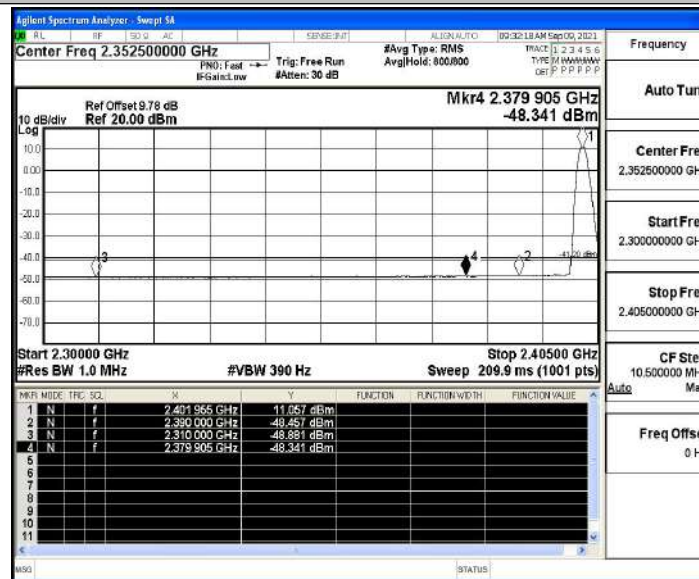
Note:

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.

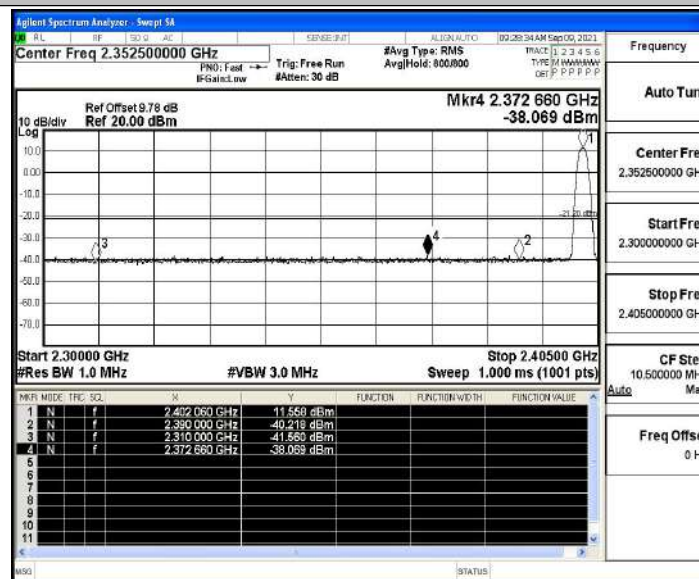


Test Graphs

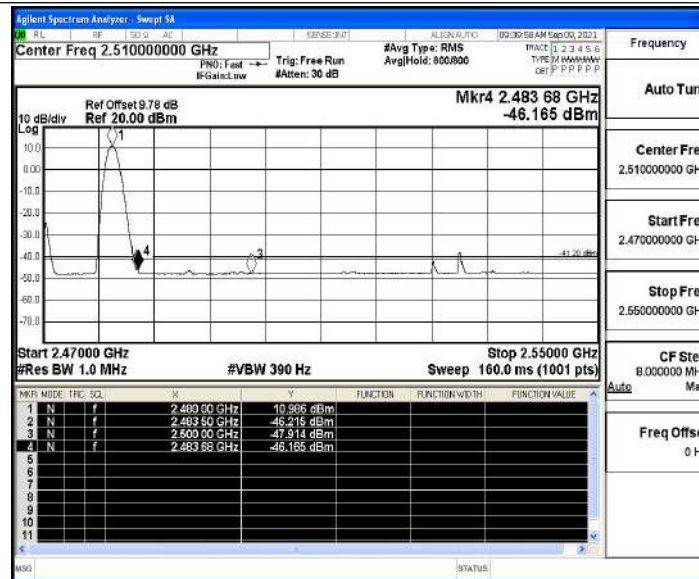
DH5_Ant1_Low_2402_AV



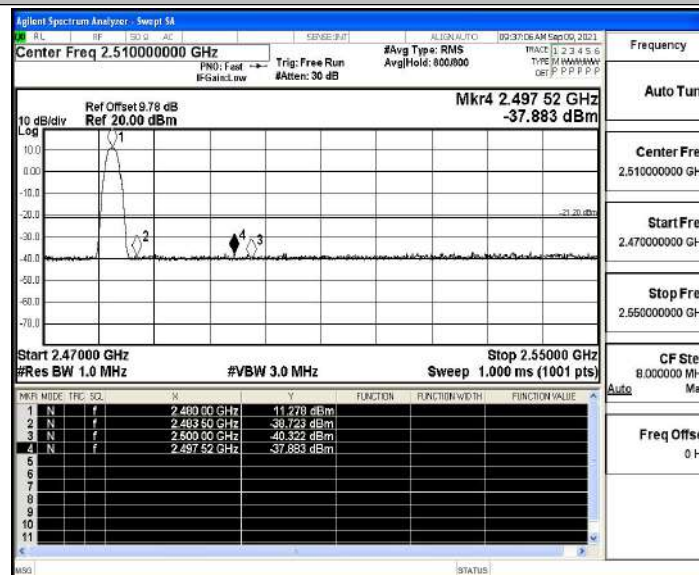
DH5_Ant1_Low_2402_Peak



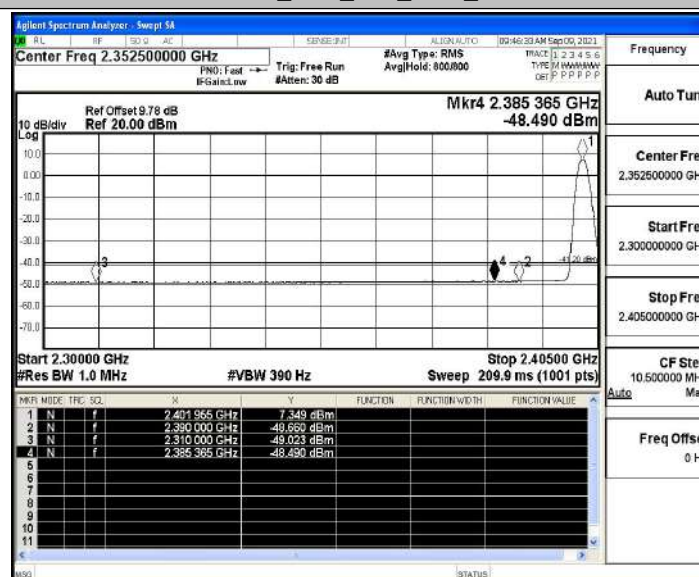
DH5_Ant1_High_2480_AV

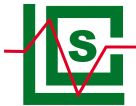


DH5_Ant1_High_2480_Peak

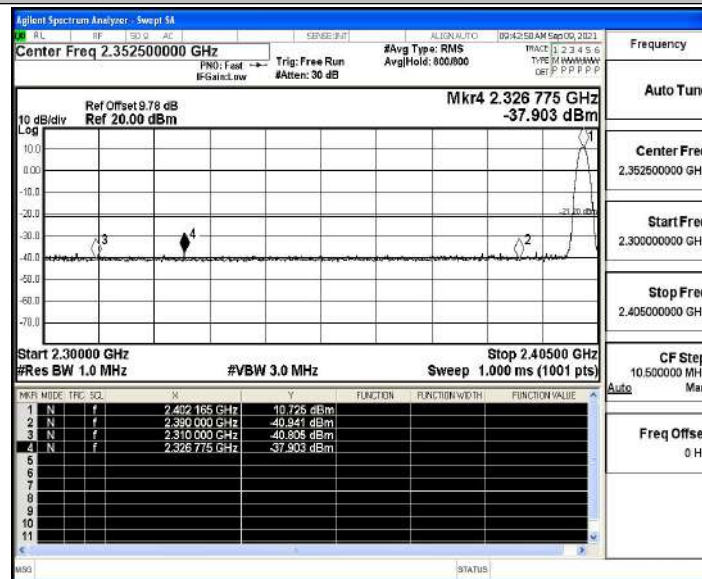


2DH5_Ant1_Low_2402_AV

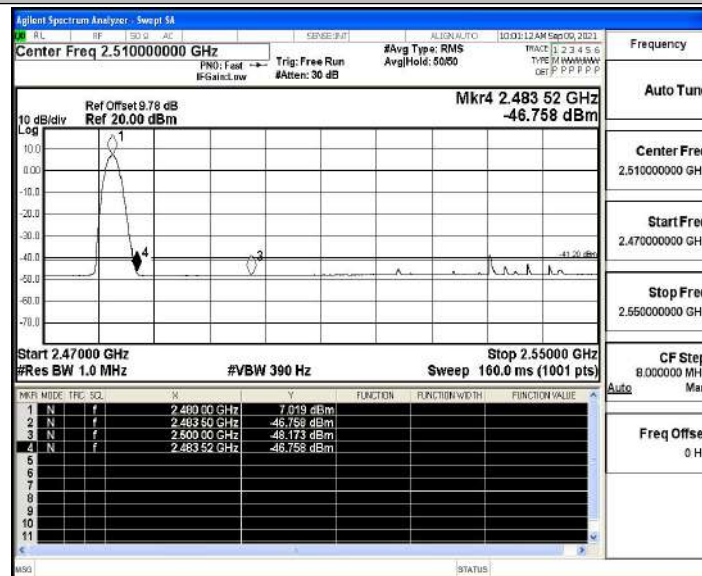




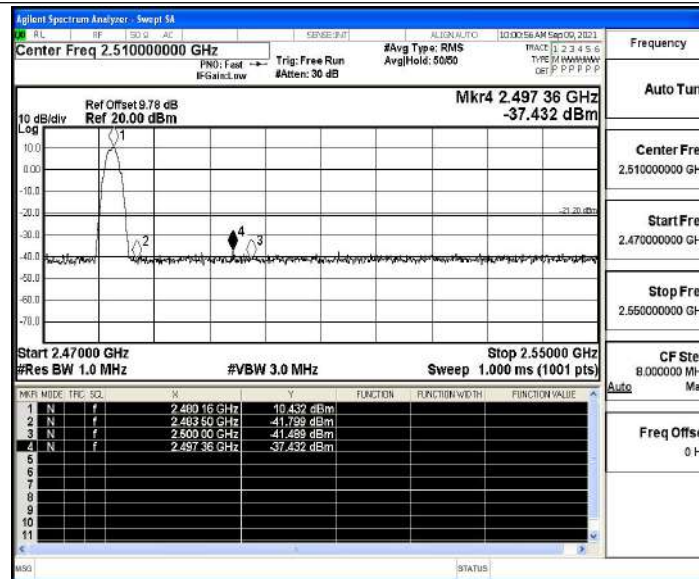
2DH5_Ant1_Low_2402_Peak



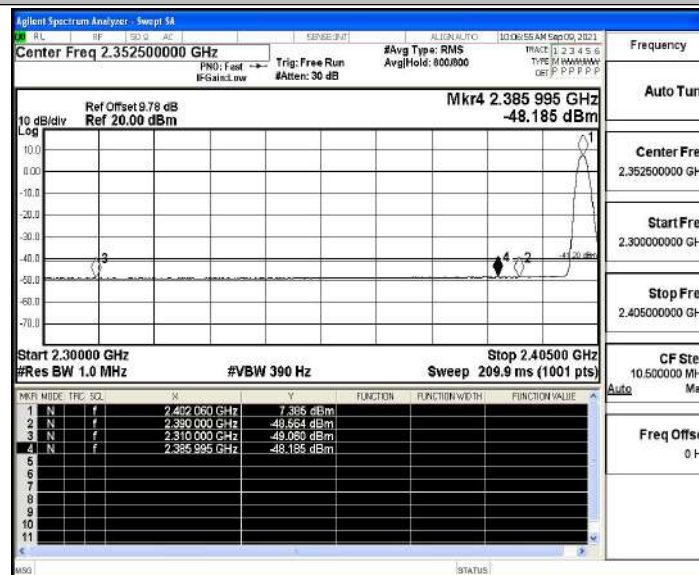
2DH5_Ant1_High_2480_AV



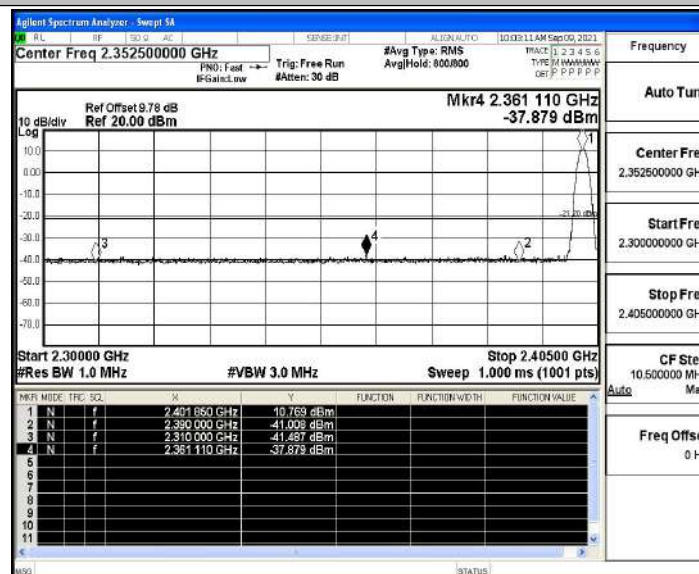
2DH5_Ant1_High_2480_Peak

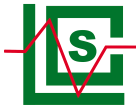


3DH5_Ant1_Low_2402_AV

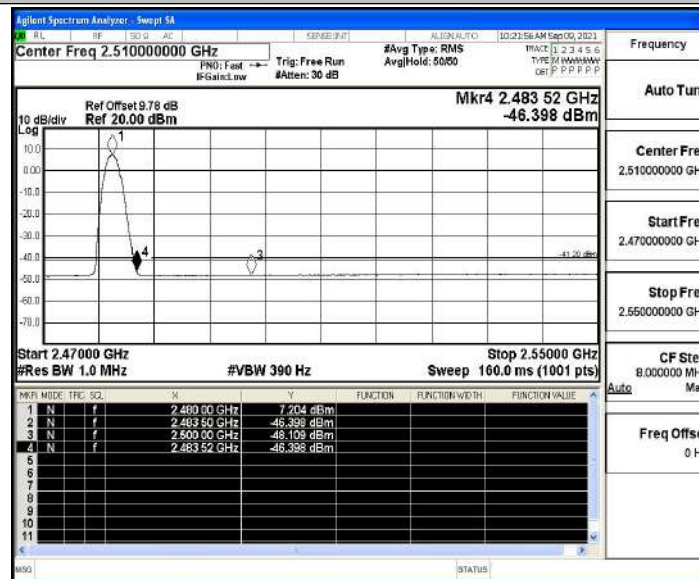


3DH5_Ant1_Low_2402_Peak





3DH5_Ant1_High_2480_AV



3DH5_Ant1_High_2480_Peak

