



Appendix A

RF Test Data for BT (Conducted Measurement)

Product Name: Portable Mood Light Speaker

Test Model: OTS172

Environmental Conditions

Temperature:	23.5℃
Relative Humidity:	52.2%
ATM Pressure:	100.0 kPa
Test Engineer:	 Monkey Li
Supervised by:	 Li Huan



A.1 20dB Emission Bandwidth

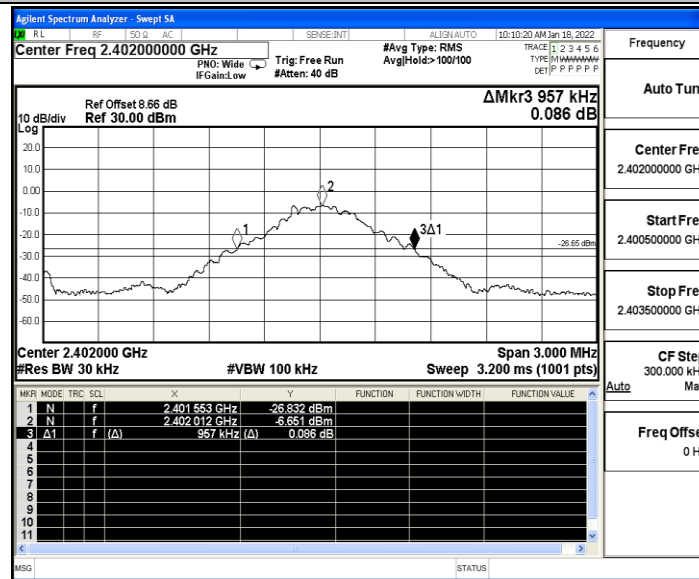
Test Result

TestMode	Antenna	Channel	20db EBW[MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
DH5	Ant1	2402	0.957	2401.553	2402.510	---	---
		2441	0.963	2440.553	2441.516	---	---
		2480	0.960	2479.556	2480.516	---	---
2DH5	Ant1	2402	1.305	2401.367	2402.672	---	---
		2441	1.290	2440.385	2441.675	---	---
		2480	1.317	2479.361	2480.678	---	---
3DH5	Ant1	2402	1.305	2401.370	2402.675	---	---
		2441	1.302	2440.370	2441.672	---	---
		2480	1.311	2479.367	2480.678	---	---

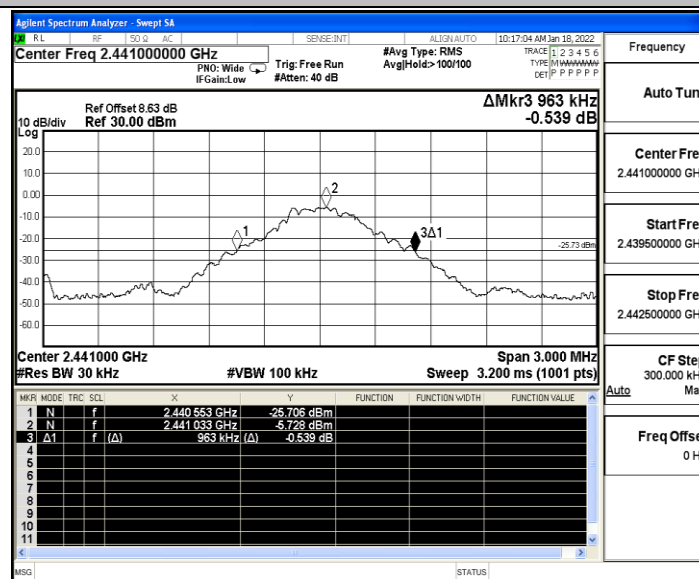


Test Graphs

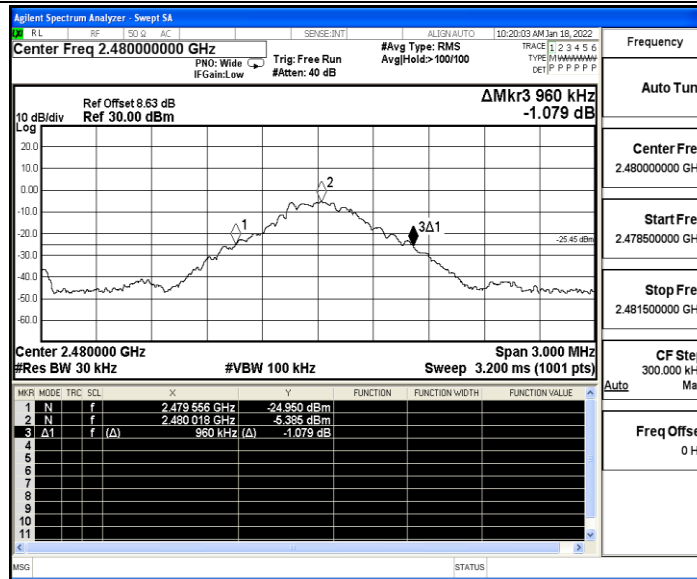
DH5_Ant1_2402



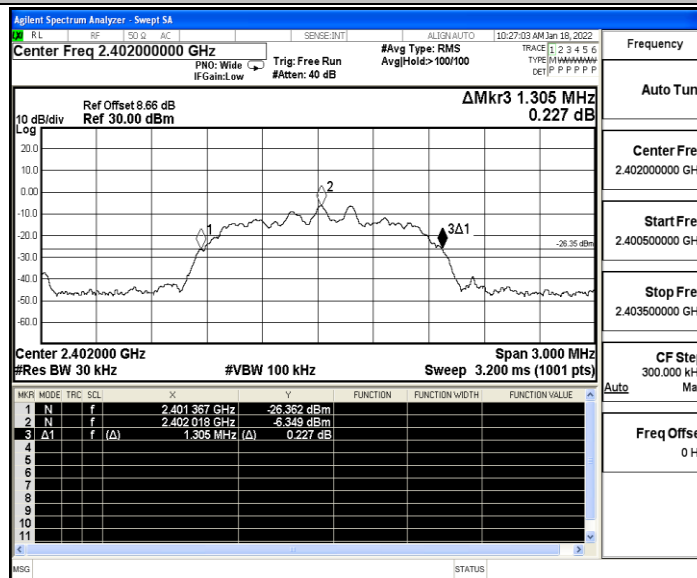
DH5_Ant1_2441



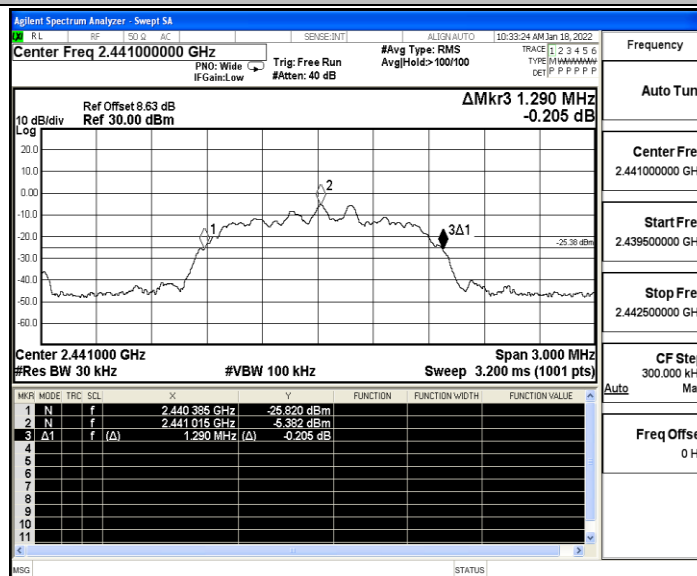
DH5_Ant1_2480



2DH5_Ant1_2402

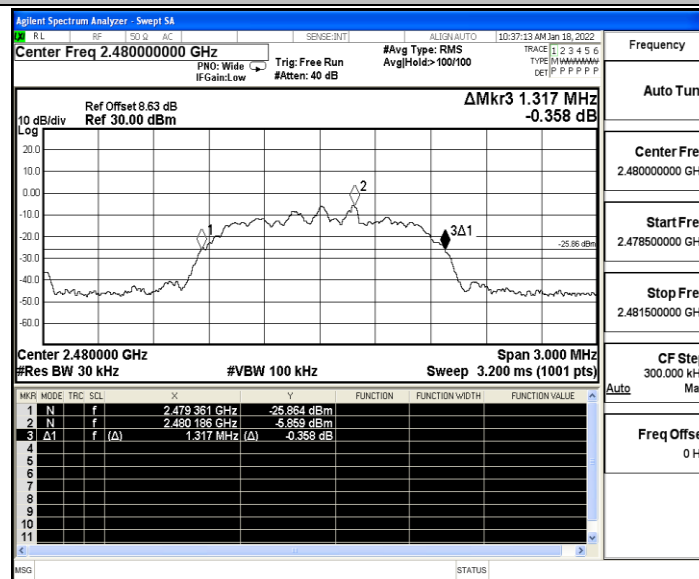


2DH5_Ant1_2441

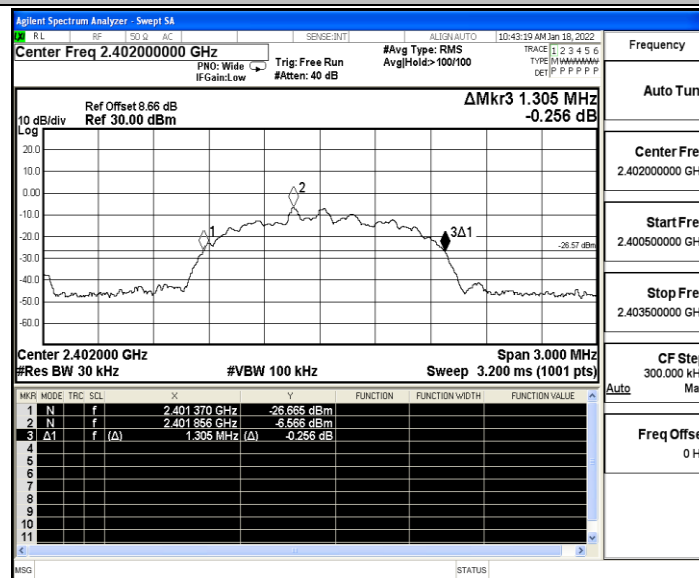




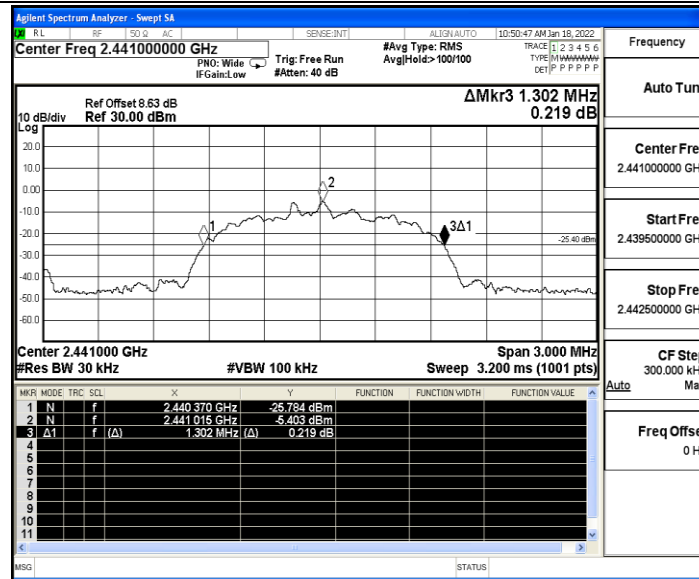
2DH5_Ant1_2480



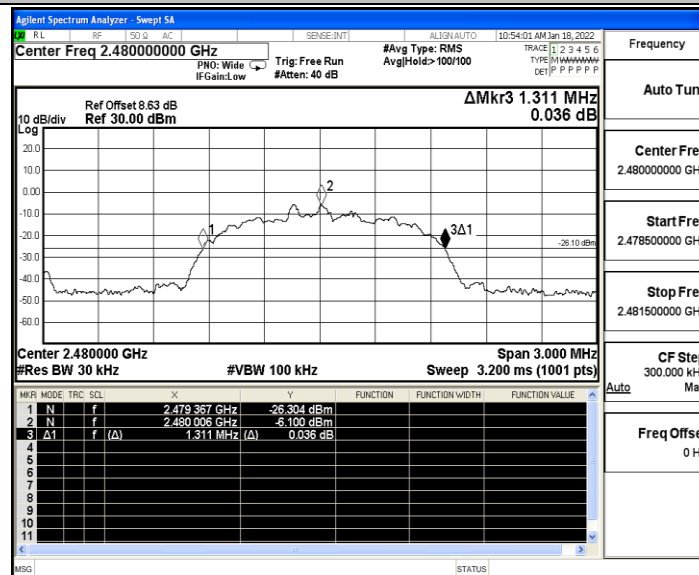
3DH5_Ant1_2402



3DH5_Ant1_2441



3DH5_Ant1_2480





A.2 Maximum peak conducted output power

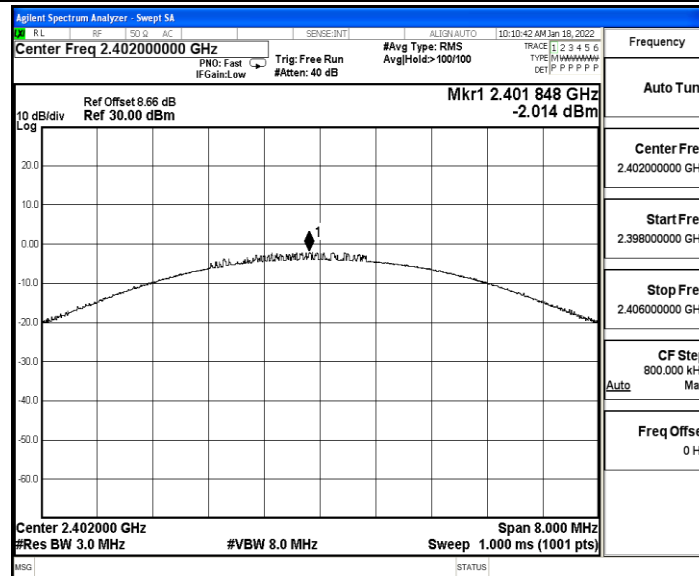
Test Result

TestMode	Antenna	Channel	Result[dBm]	Limit[dBm]	Verdict
DH5	Ant1	2402	-2.01	≤20.97	PASS
		2441	-2.59	≤20.97	PASS
		2480	-2.57	≤20.97	PASS
2DH5	Ant1	2402	-2.65	≤20.97	PASS
		2441	-1.89	≤20.97	PASS
		2480	-1.78	≤20.97	PASS
3DH5	Ant1	2402	-2.26	≤20.97	PASS
		2441	-1.44	≤20.97	PASS
		2480	-1.36	≤20.97	PASS

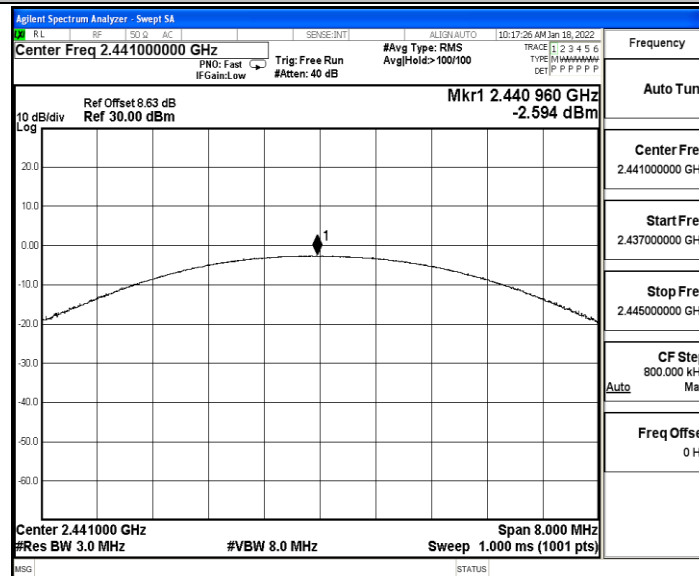


Test Graphs

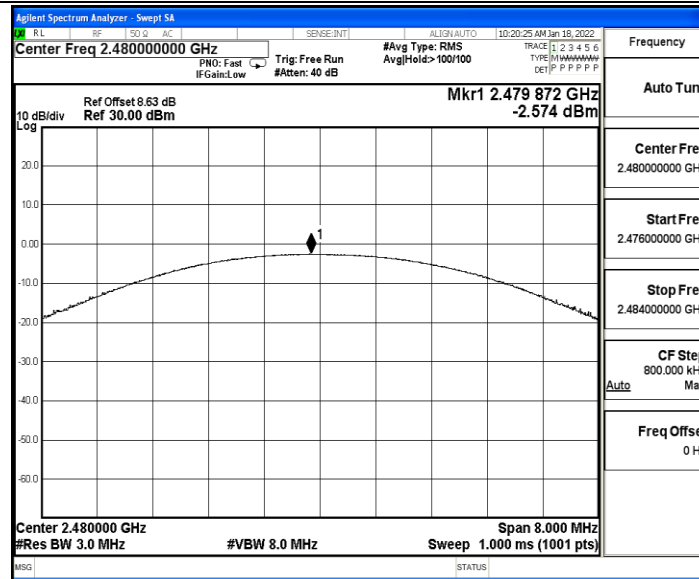
DH5_Ant1_2402



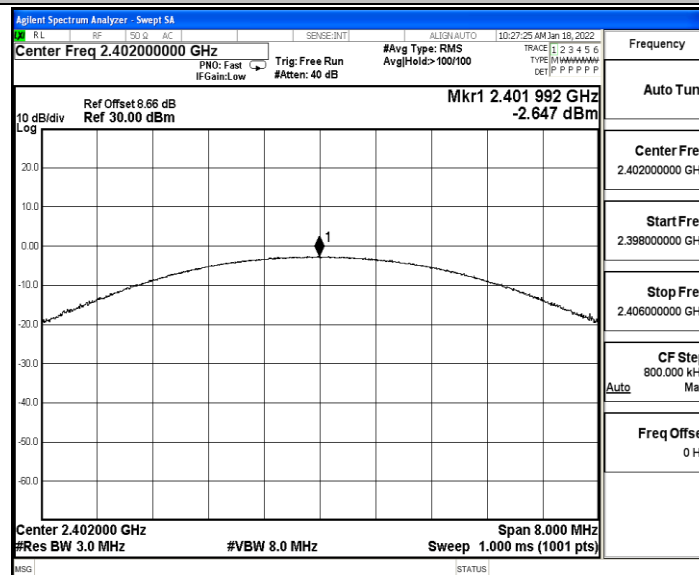
DH5_Ant1_2441



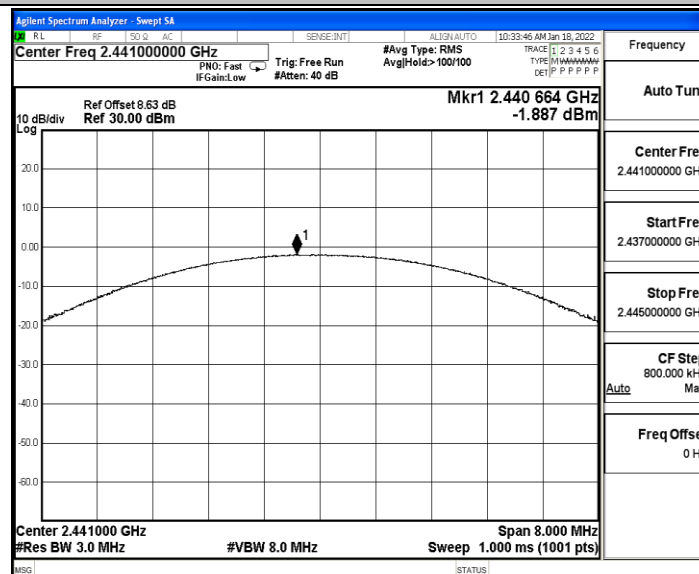
DH5_Ant1_2480



2DH5_Ant1_2402

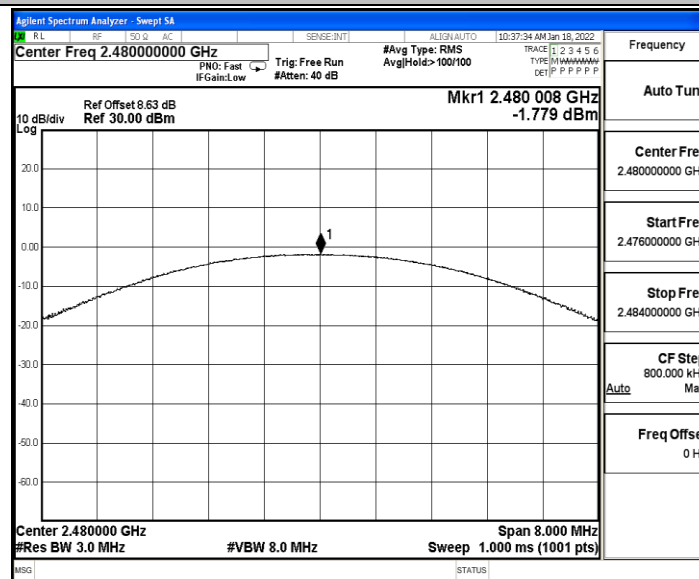


2DH5_Ant1_2441

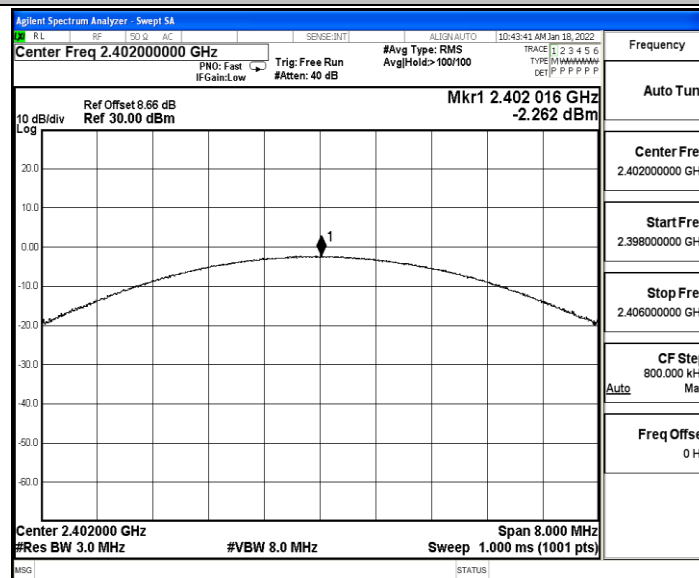




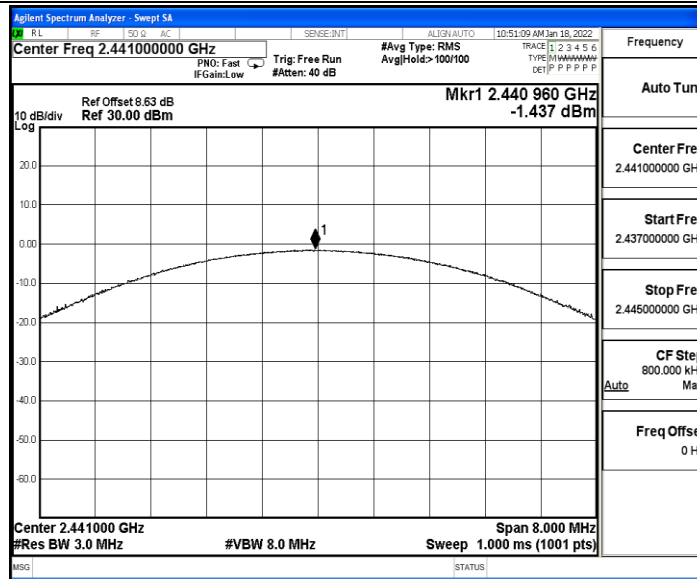
2DH5_Ant1_2480



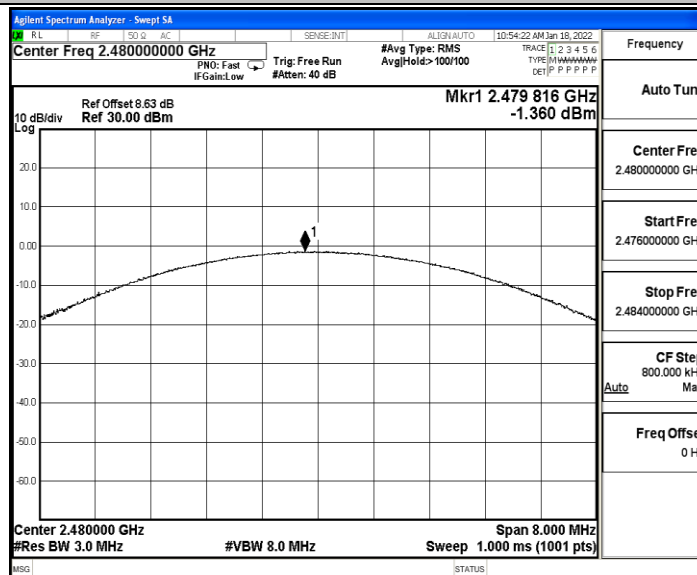
3DH5_Ant1_2402



3DH5_Ant1_2441



3DH5_Ant1_2480

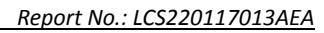


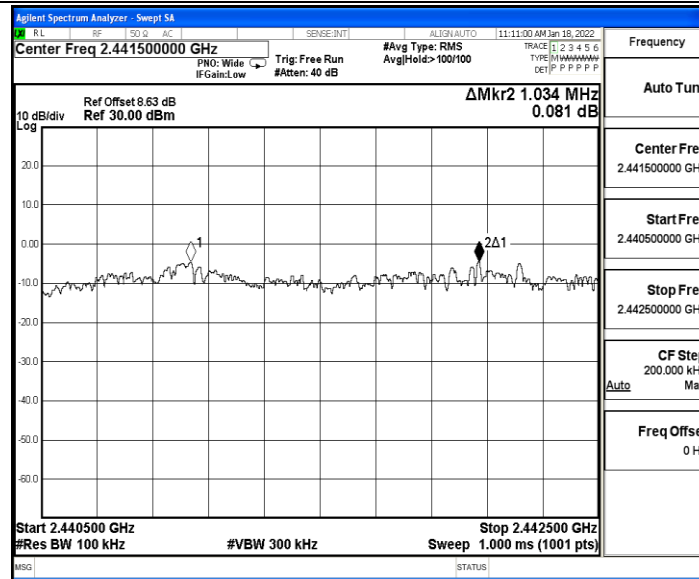


A.3 Carrier frequency separation

Test Result

TestMode	Antenna	Channel	Result[MHz]	Limit[MHz]	Verdict
DH5	Ant1	Hop	1.176	≥ 0.963	PASS
2DH5	Ant1	Hop	1.124	≥ 0.878	PASS
3DH5	Ant1	Hop	1.034	≥ 0.874	PASS







A.4 Time of occupancy

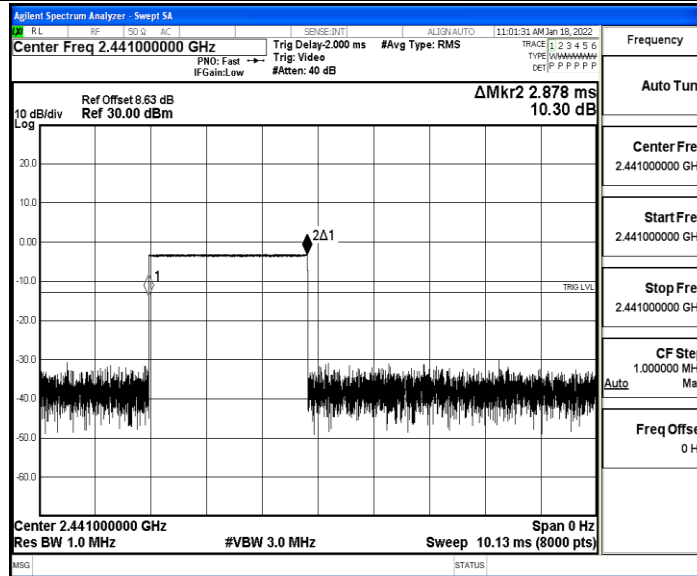
Test Result

TestMode	Antenna	Channel	BurstWidth [ms]	TotalHops [Num]	Result[s]	Limit[s]	Verdict
DH5	Ant1	Hop	2.88	106.67	0.307	≤0.4	PASS
2DH5	Ant1	Hop	2.88	106.67	0.308	≤0.4	PASS
3DH5	Ant1	Hop	2.89	106.67	0.308	≤0.4	PASS

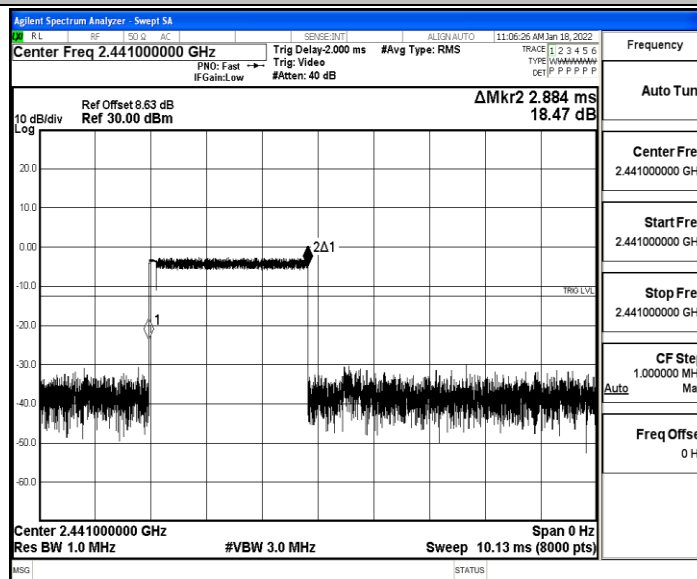


Test Graphs

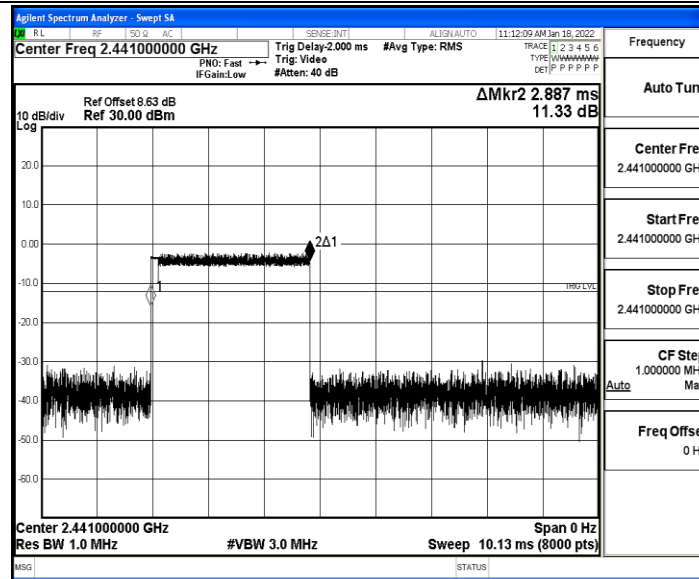
DH5_Ant1_Hop



2DH5_Ant1_Hop



3DH5_Ant1_Hop

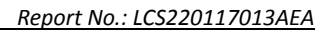


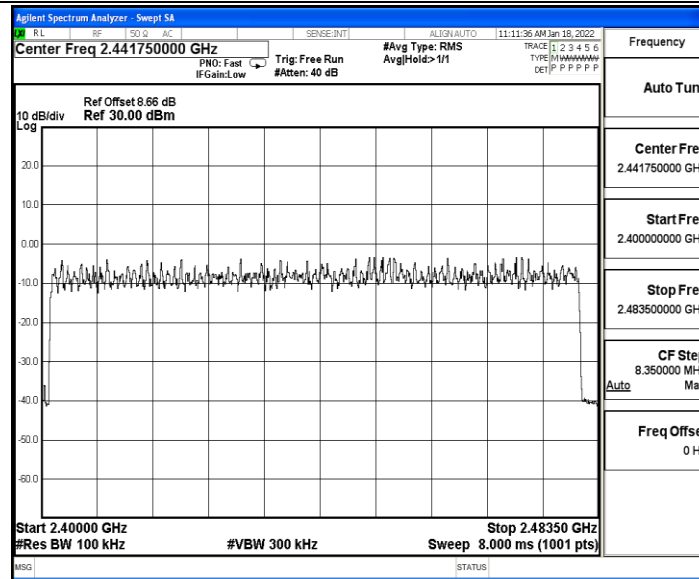


A.5 Number of hopping channels

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







A.6 Band edge measurements

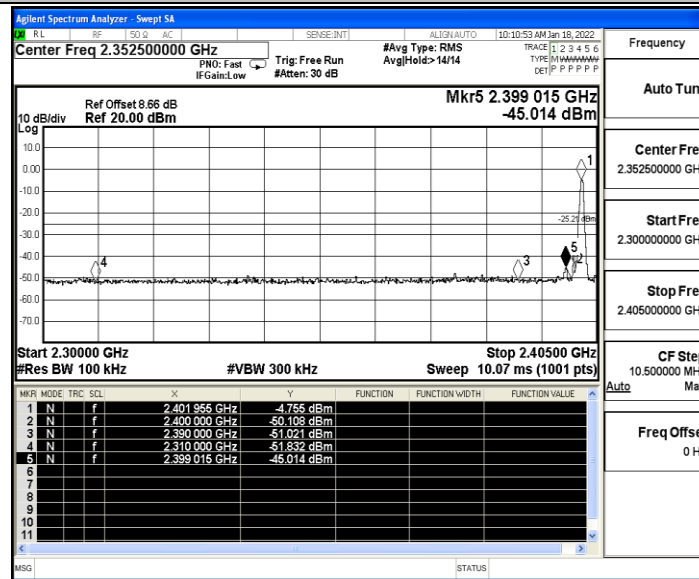
Test Result

TestMode	Antenna	ChName	Channel	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
DH5	Ant1	Low	2402	-5.21	-45.01	≤ -25.21	PASS
		High	2480	-3.22	-45.78	≤ -23.22	PASS
		Low	Hop_2402	-4.57	-48.52	≤ -24.57	PASS
		High	Hop_2480	-3.43	-46.38	≤ -23.43	PASS
2DH5	Ant1	Low	2402	-4.22	-46.96	≤ -24.22	PASS
		High	2480	-3.18	-47.07	≤ -23.18	PASS
		Low	Hop_2402	-8.32	-49.18	≤ -28.32	PASS
		High	Hop_2480	-3.87	-47.45	≤ -23.87	PASS
3DH5	Ant1	Low	2402	-4.30	-46.28	≤ -24.3	PASS
		High	2480	-3.21	-46.78	≤ -23.21	PASS
		Low	Hop_2402	-8.22	-48.78	≤ -28.22	PASS
		High	Hop_2480	-5.22	-47.68	≤ -25.22	PASS

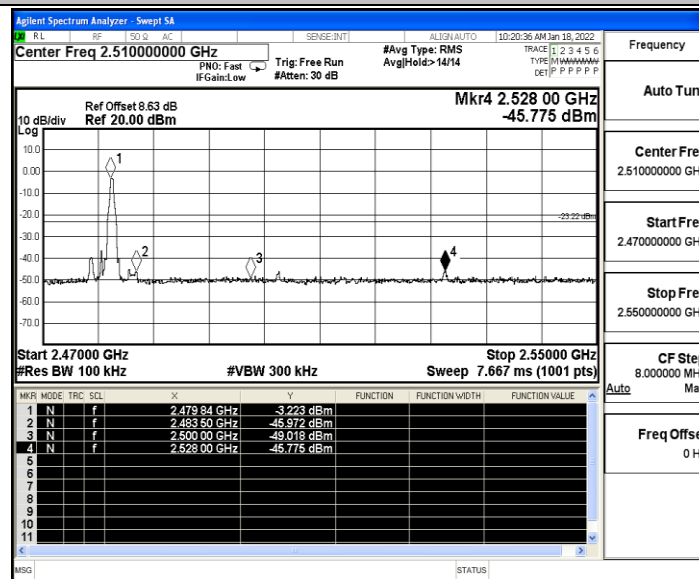


Test Graphs

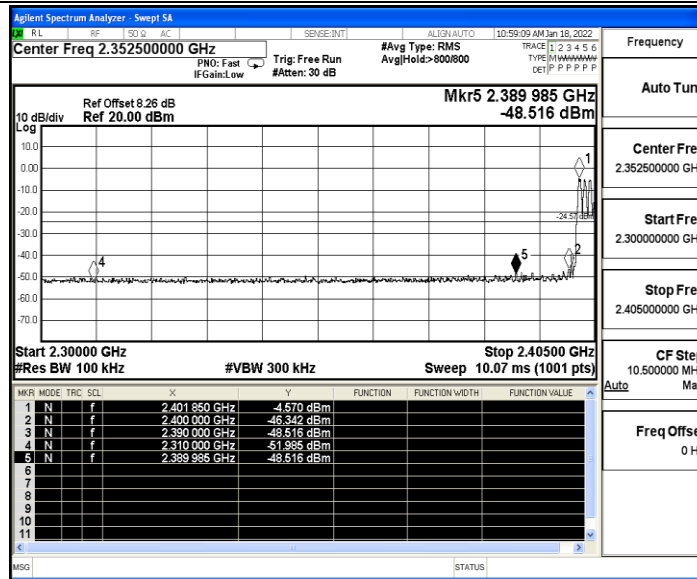
DH5_Ant1_Low_2402



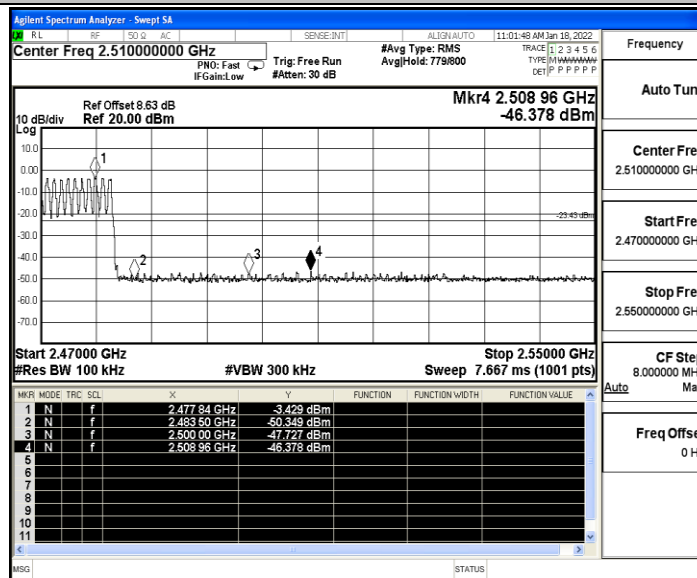
DH5_Ant1_High_2480



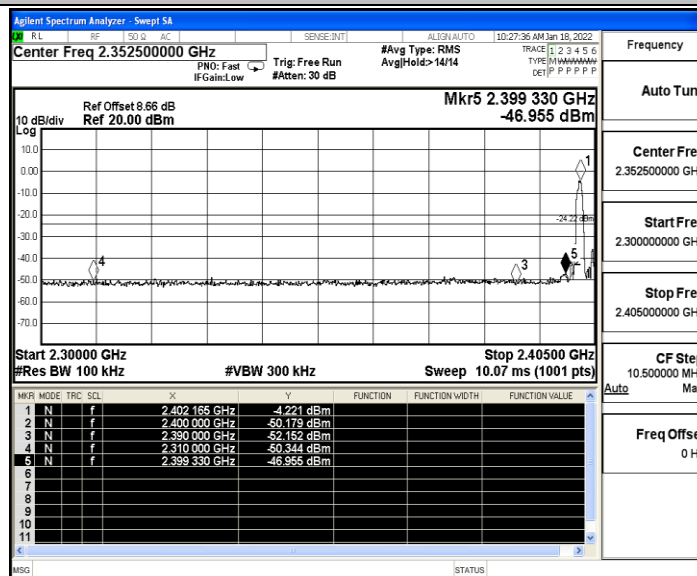
DH5_Ant1_Low_Hop_2402



DH5_Ant1_High_Hop_2480

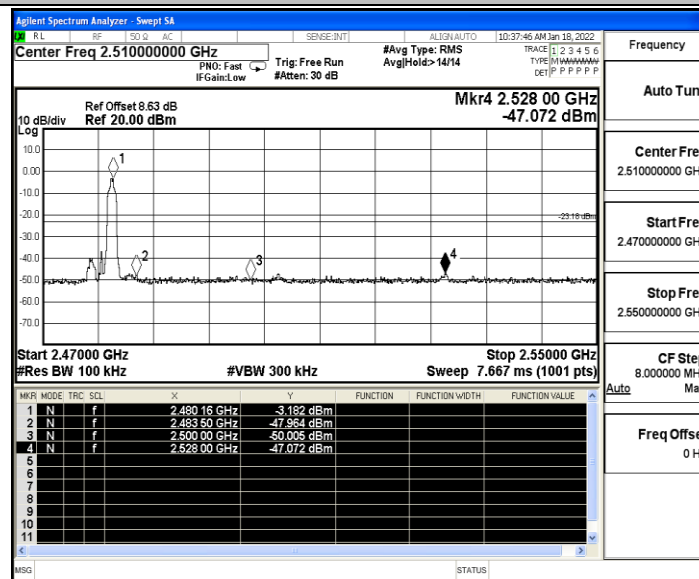


2DH5_Ant1_Low_2402

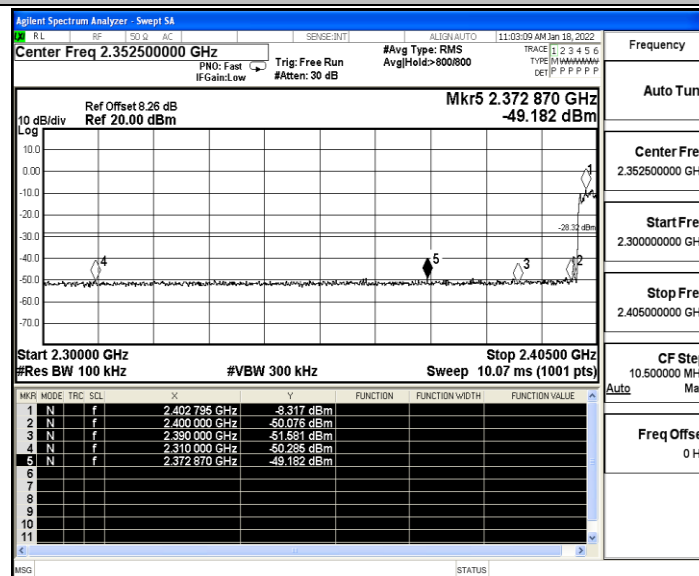




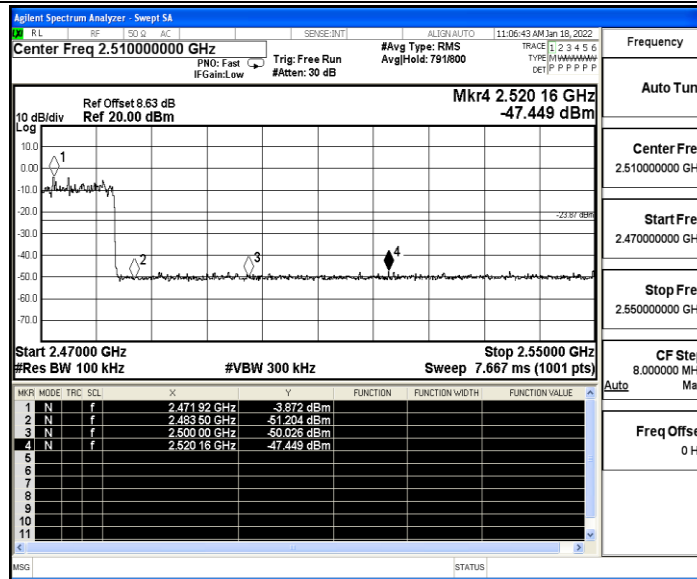
2DH5_Ant1_High_2480



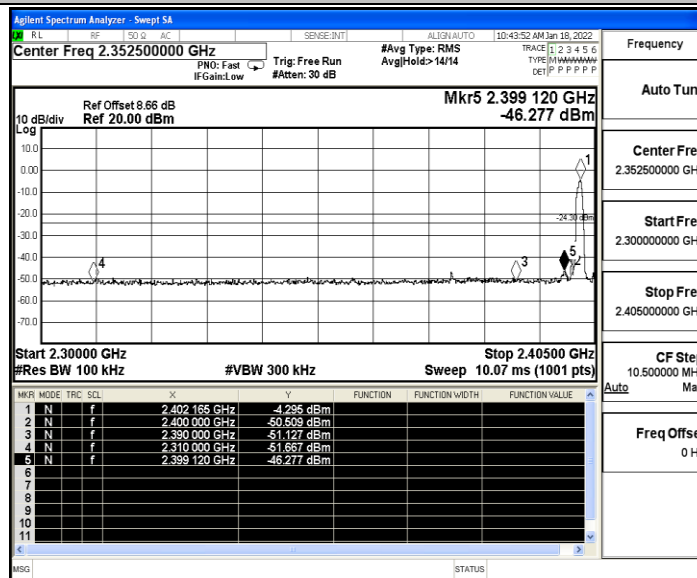
2DH5_Ant1_Low_Hop_2402



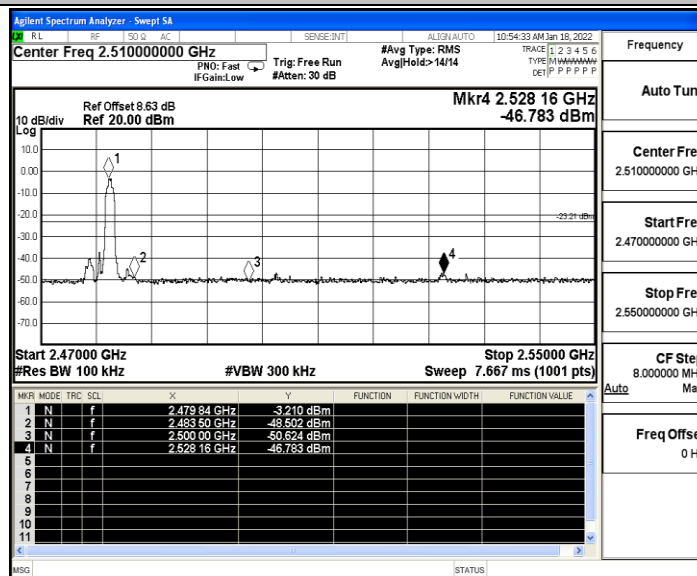
2DH5_Ant1_High_Hop_2480



3DH5_Ant1_Low_2402

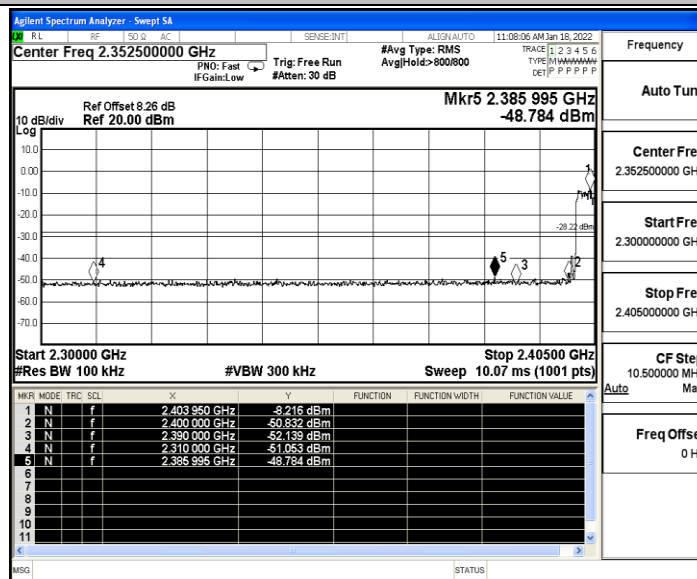


3DH5_Ant1_High_2480

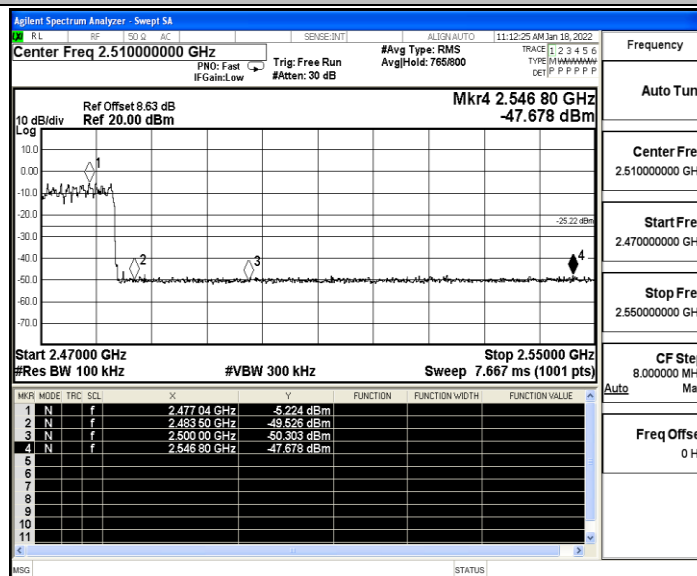




3DH5_Ant1_Low_Hop_2402



3DH5_Ant1_High_Hop_2480





A.7 Conducted Spurious Emission

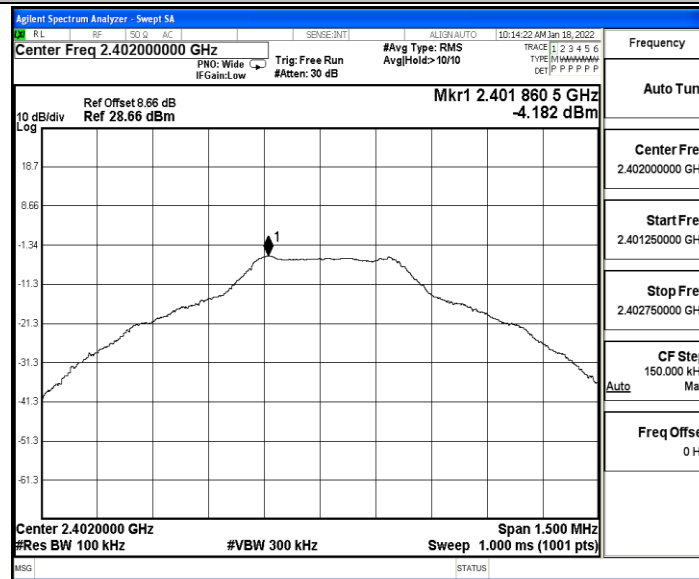
Test Result

TestMode	Antenna	Channel	FreqRange [MHz]	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
DH5	Ant1	2402	Reference	-4.18	-4.18	---	PASS
			30~1000	-4.18	-45.02	≤ -24.18	PASS
			1000~26500	-4.18	-45.8	≤ -24.18	PASS
		2441	Reference	-3.34	-3.34	---	PASS
			30~1000	-3.34	-44.8	≤ -23.34	PASS
			1000~26500	-3.34	-42.83	≤ -23.34	PASS
		2480	Reference	-3.41	-3.41	---	PASS
			30~1000	-3.41	-47.57	≤ -23.41	PASS
			1000~26500	-3.41	-46.35	≤ -23.41	PASS
2DH5	Ant1	2402	Reference	-4.19	-4.19	---	PASS
			30~1000	-4.19	-57.73	≤ -24.19	PASS
			1000~26500	-4.19	-45.83	≤ -24.19	PASS
		2441	Reference	-3.41	-3.41	---	PASS
			30~1000	-3.41	-57.1	≤ -23.41	PASS
			1000~26500	-3.41	-46.58	≤ -23.41	PASS
		2480	Reference	-3.26	-3.26	---	PASS
			30~1000	-3.26	-49.87	≤ -23.26	PASS
			1000~26500	-3.26	-45.1	≤ -23.26	PASS
3DH5	Ant1	2402	Reference	-4.15	-4.15	---	PASS
			30~1000	-4.15	-53.41	≤ -24.15	PASS
			1000~26500	-4.15	-46.55	≤ -24.15	PASS
		2441	Reference	-3.33	-3.33	---	PASS
			30~1000	-3.33	-58.01	≤ -23.33	PASS
			1000~26500	-3.33	-46.02	≤ -23.33	PASS
		2480	Reference	-3.21	-3.21	---	PASS
			30~1000	-3.21	-58.42	≤ -23.21	PASS
			1000~26500	-3.21	-46.2	≤ -23.21	PASS

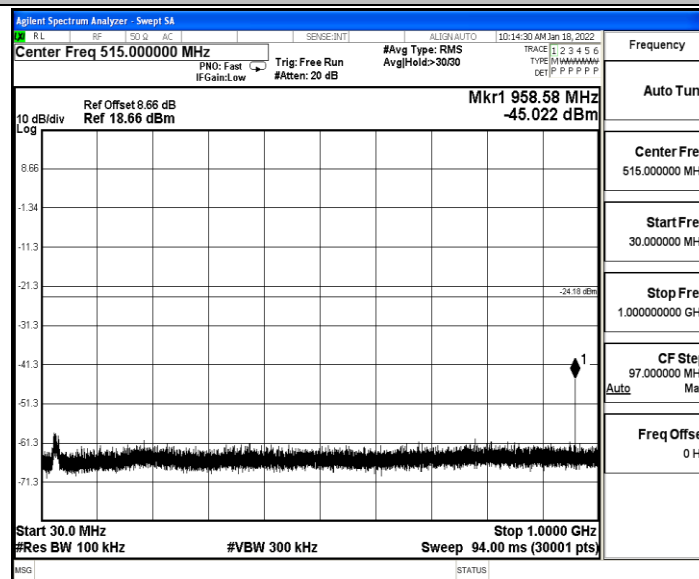


Test Graphs

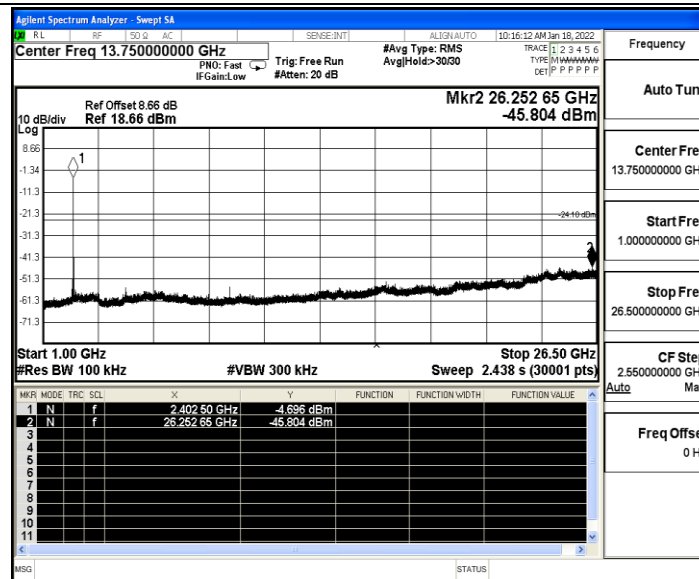
DH5_Ant1_2402_0-Reference



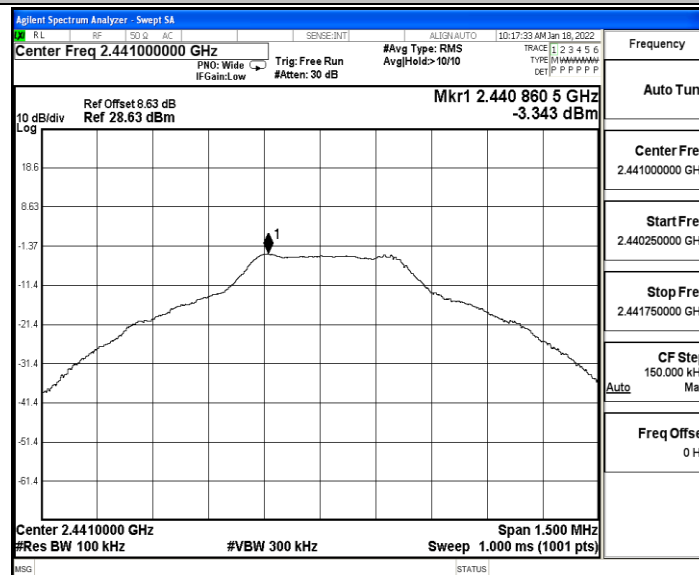
DH5_Ant1_2402_30-1000



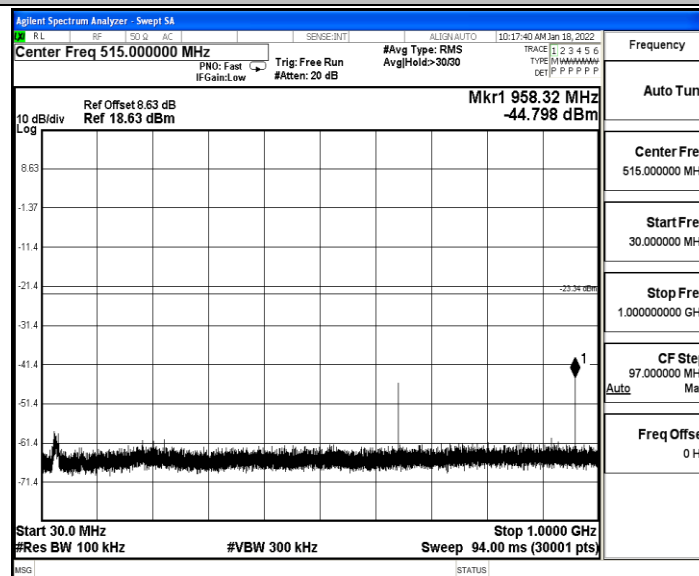
DH5_Ant1_2402_1000-26500



DH5_Ant1_2441_0-Reference

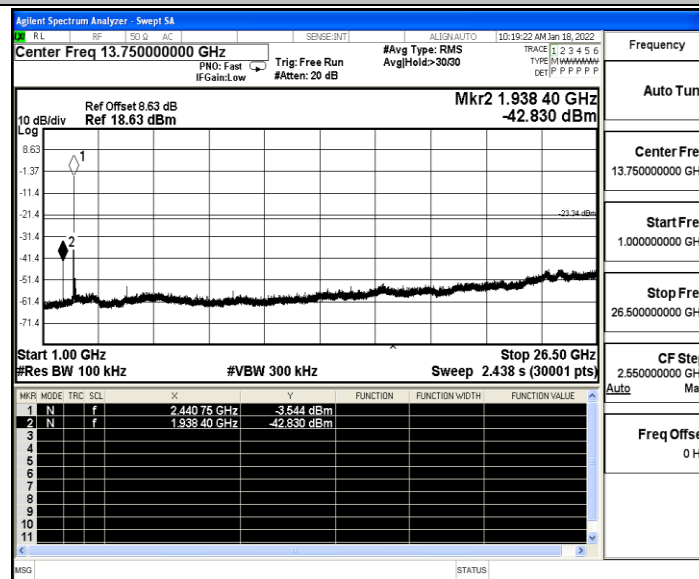


DH5_Ant1_2441_30~1000

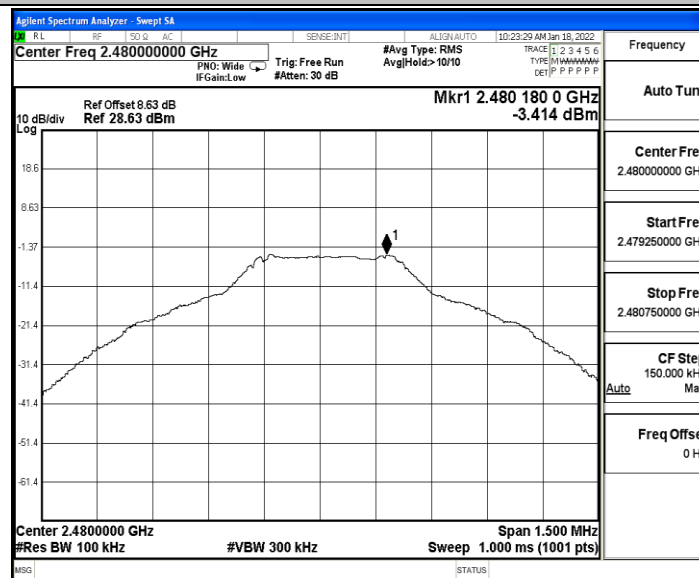




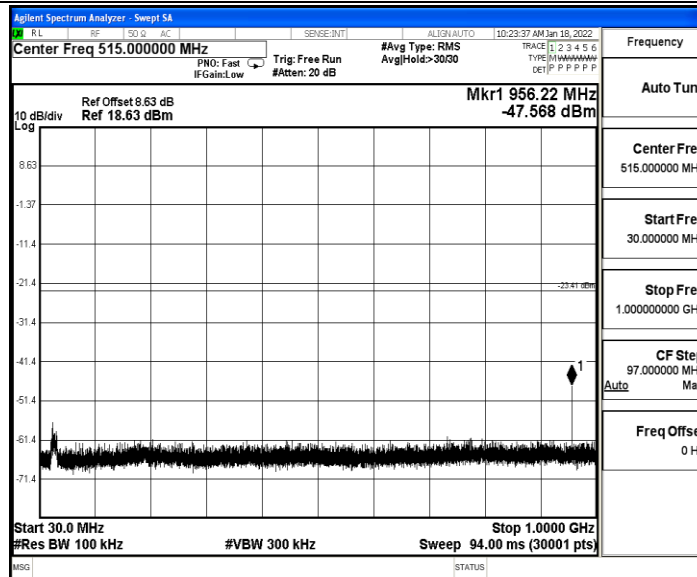
DH5_Ant1_2441_1000~26500



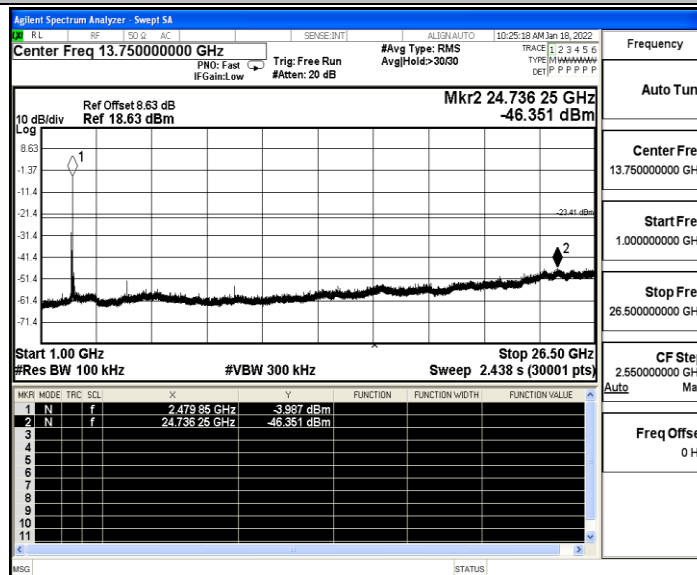
DH5_Ant1_2480_0~Reference



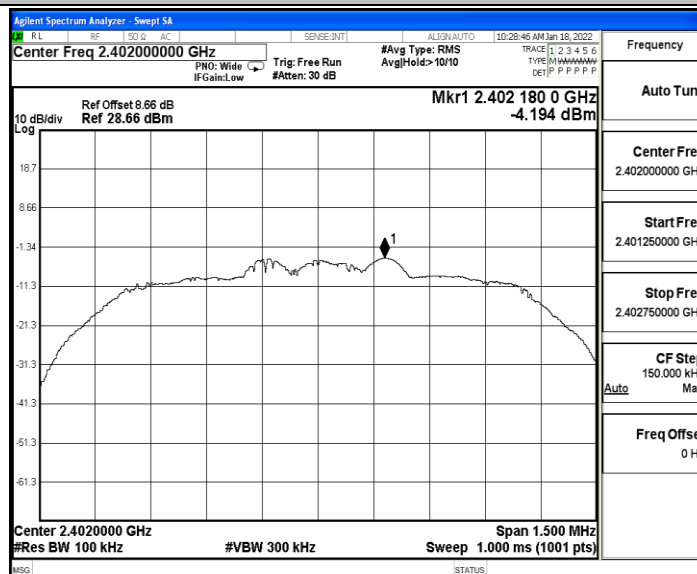
DH5_Ant1_2480_30~1000



DH5_Ant1_2480_1000~26500

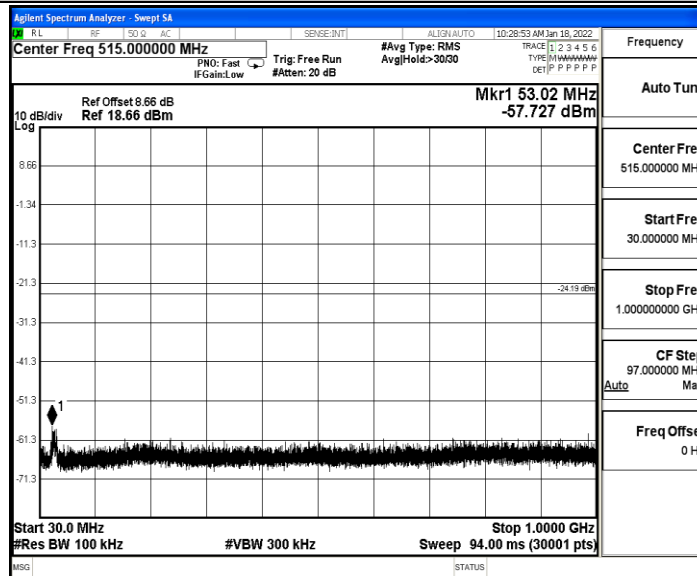


2DH5_Ant1_2402_0~Reference

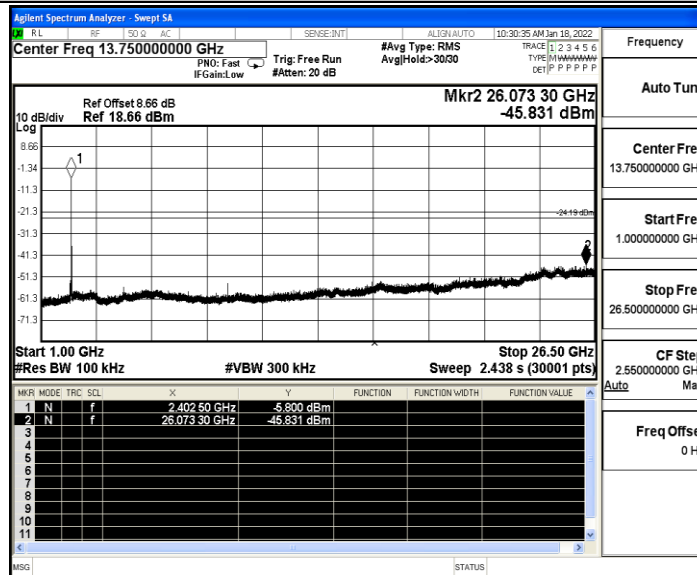




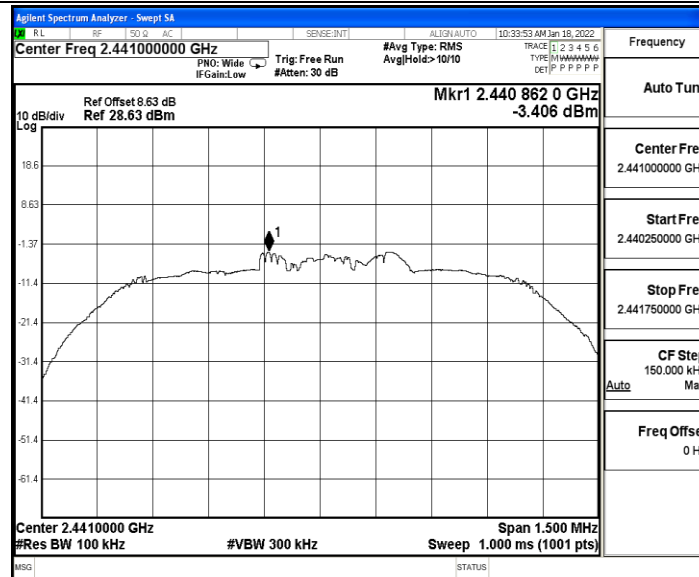
2DH5_Ant1_2402_30~1000



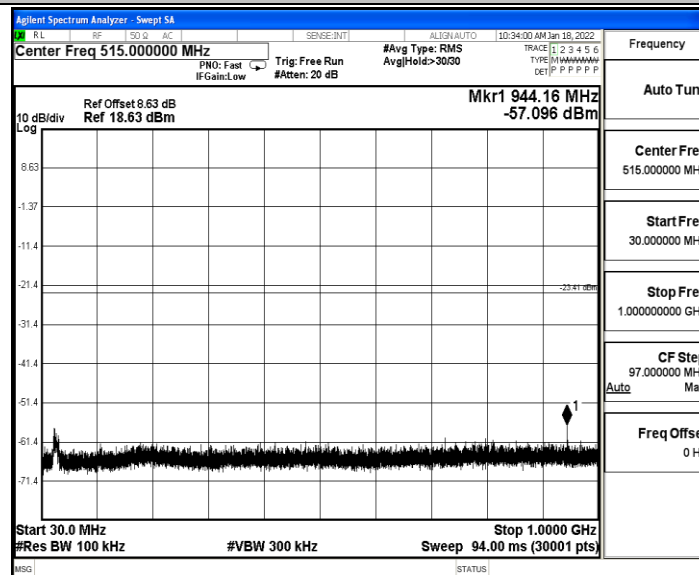
2DH5_Ant1_2402_1000~26500



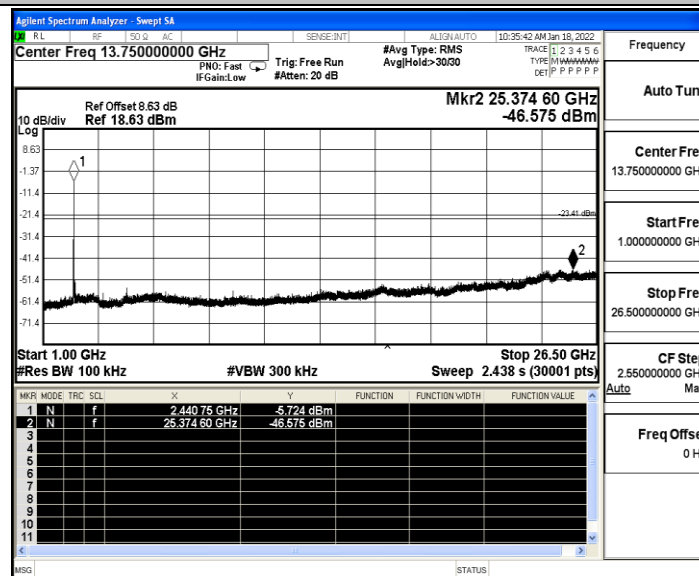
2DH5_Ant1_2441_0~Reference



2DH5_Ant1_2441_30~1000

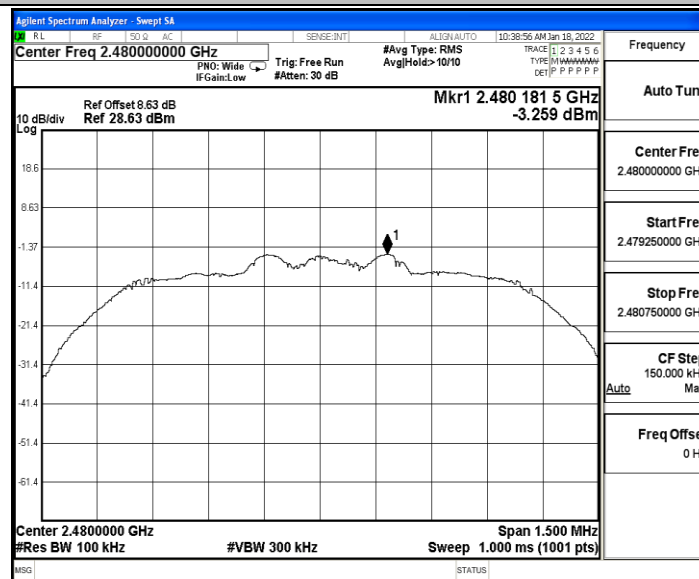


2DH5_Ant1_2441_1000~26500

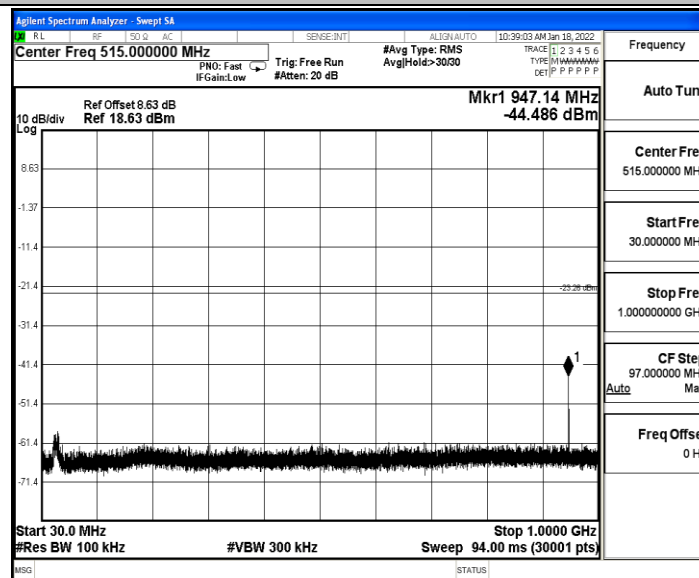




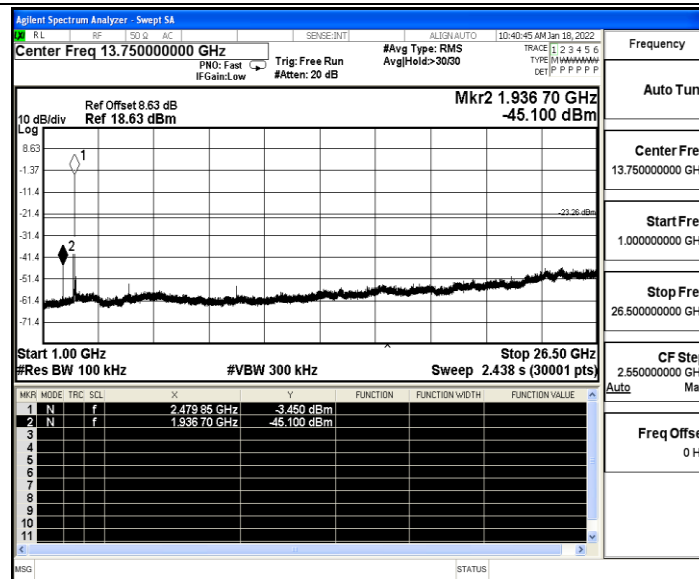
2DH5_Ant1_2480_0~Reference



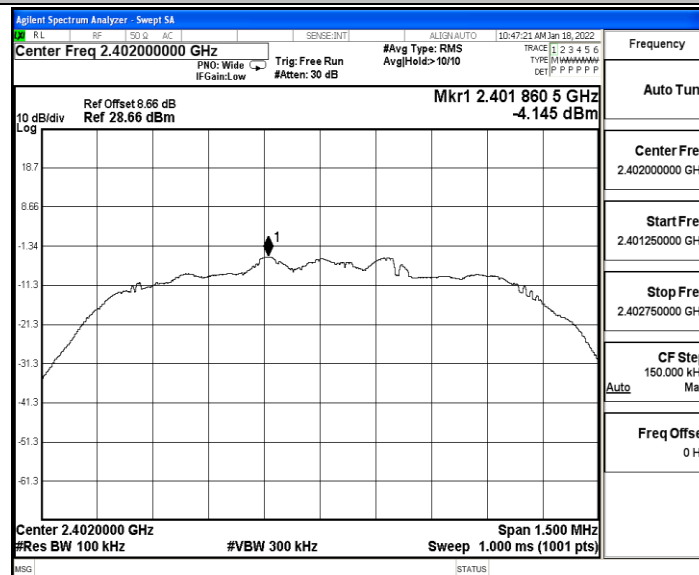
2DH5_Ant1_2480_30~1000



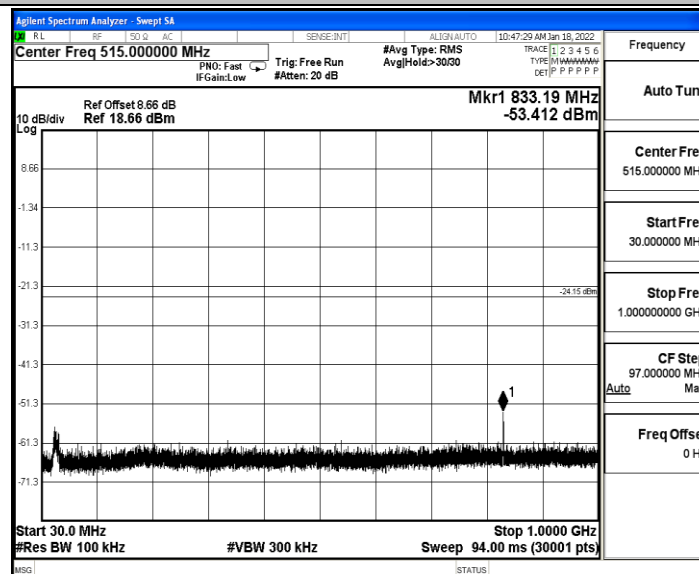
2DH5_Ant1_2480_1000~26500



3DH5_Ant1_2402_0~Reference

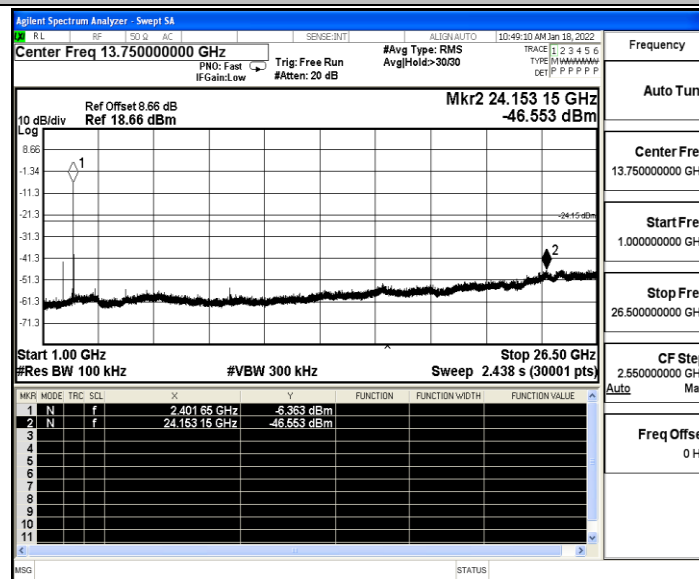


3DH5_Ant1_2402_30~1000

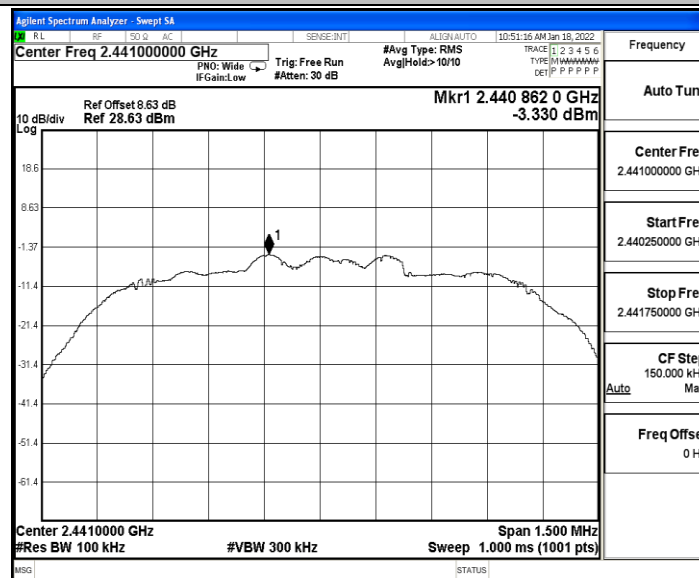




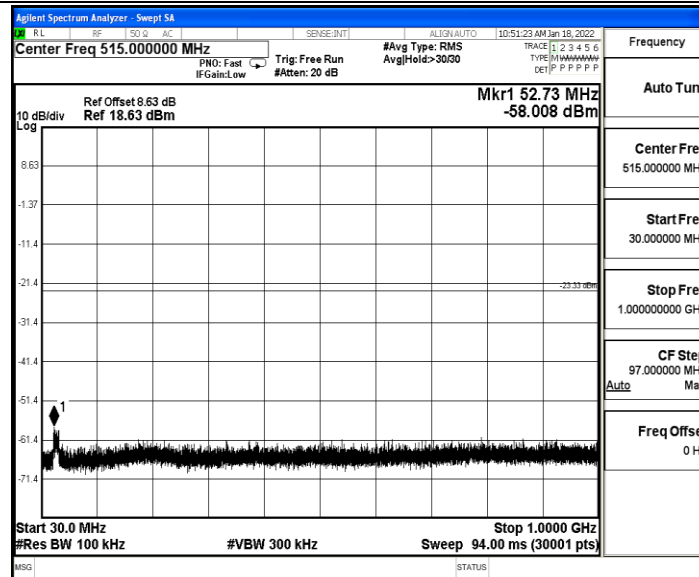
3DH5_Ant1_2402_1000~26500



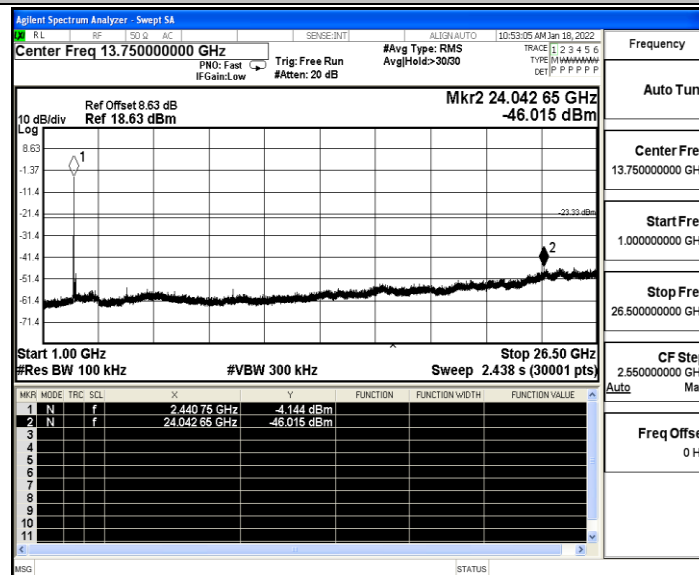
3DH5_Ant1_2441_0~Reference



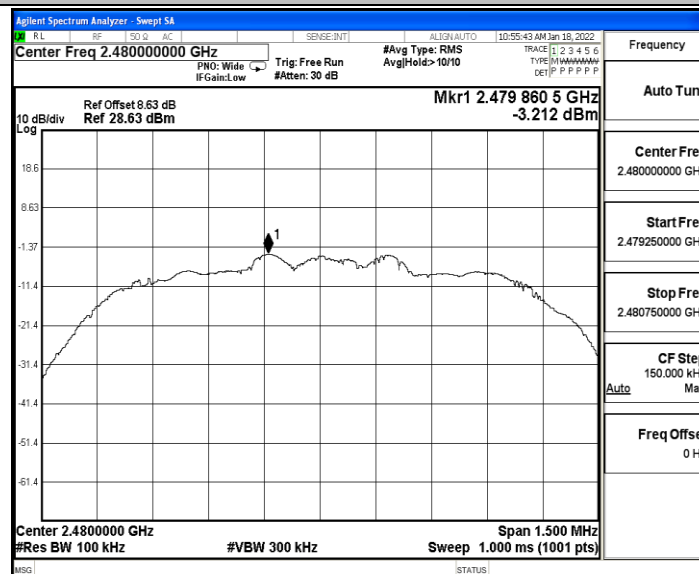
3DH5_Ant1_2441_30~1000



3DH5_Ant1_2441_1000~26500

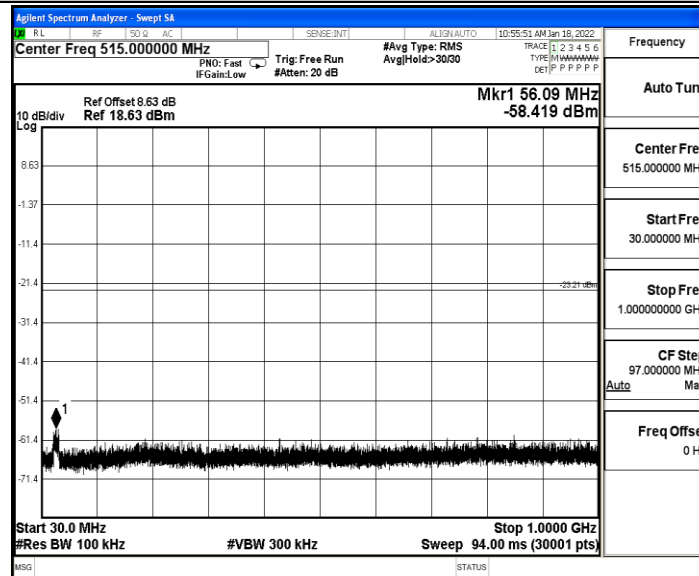


3DH5_Ant1_2480_0~Reference

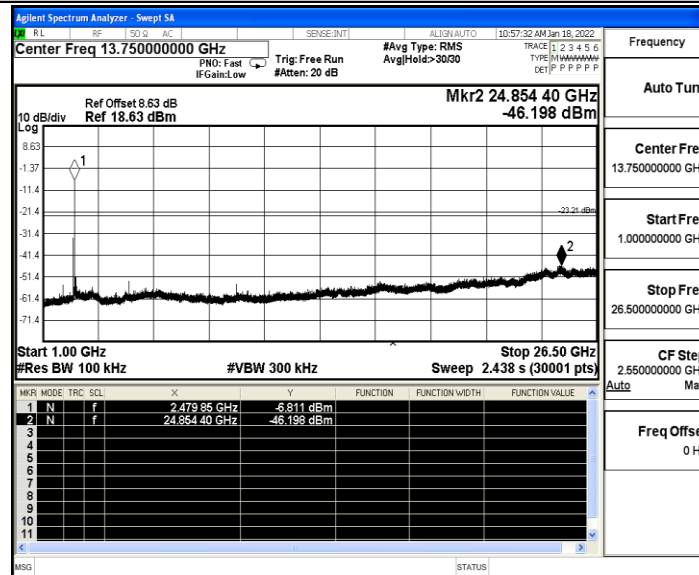




3DH5_Ant1_2480_30~1000



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	-48.69	≤-41.20	46.51	≤54	PASS
				AV	2378.120	-46.5	≤-41.20	48.70	≤54	PASS
				AV	2390.000	-48.05	≤-41.20	47.15	≤54	PASS
				Peak	2310.000	-38.58	≤-21.20	56.62	≤74	PASS
				Peak	2342.525	-36.2	≤-21.20	59.00	≤74	PASS
				Peak	2390.000	-37.97	≤-21.20	57.23	≤74	PASS
		High	2480	AV	2483.500	-45.35	≤-41.20	49.85	≤54	PASS
				AV	2483.520	-45.35	≤-41.20	49.85	≤54	PASS
				AV	2500.000	-47.19	≤-41.20	48.01	≤54	PASS
				Peak	2483.500	-36.04	≤-21.20	59.16	≤74	PASS
				Peak	2496.080	-35.1	≤-21.20	60.10	≤74	PASS
				Peak	2500.000	-36.41	≤-21.20	58.79	≤74	PASS
		Low	Hop_2402	Peak	2310.000	-39.57	≤-21.20	55.63	≤74	PASS
				Peak	2319.950	-36.92	≤-21.20	58.28	≤74	PASS
				Peak	2390.000	-38.6	≤-21.20	56.60	≤74	PASS
		High	Hop_2480	Peak	2483.500	-37.85	≤-21.20	57.35	≤74	PASS
				Peak	2491.280	-35.58	≤-21.20	59.62	≤74	PASS
				Peak	2500.000	-37.37	≤-21.20	57.83	≤74	PASS
2DH5	Ant1	Low	2402	AV	2310.000	-48.27	≤-41.20	46.93	≤54	PASS
				AV	2378.015	-46.47	≤-41.20	48.73	≤54	PASS
				AV	2390.000	-47.65	≤-41.20	47.55	≤54	PASS
				Peak	2310.000	-38.26	≤-21.20	56.94	≤74	PASS
				Peak	2378.750	-36.48	≤-21.20	58.72	≤74	PASS
				Peak	2390.000	-38.71	≤-21.20	56.49	≤74	PASS
		High	2480	AV	2483.500	-45.98	≤-41.20	49.22	≤54	PASS
				AV	2483.520	-46.06	≤-41.20	49.14	≤54	PASS
				AV	2500.000	-46.72	≤-41.20	48.48	≤54	PASS
				Peak	2483.500	-36.2	≤-21.20	59.00	≤74	PASS
				Peak	2483.760	-35.57	≤-21.20	59.63	≤74	PASS
				Peak	2500.000	-36.75	≤-21.20	58.45	≤74	PASS
		Low	Hop_2402	Peak	2310.000	-39.04	≤-21.20	56.16	≤74	PASS
				Peak	2383.055	-36.1	≤-21.20	59.10	≤74	PASS
				Peak	2390.000	-38.76	≤-21.20	56.44	≤74	PASS
		High	Hop_2480	Peak	2483.500	-37.67	≤-21.20	57.53	≤74	PASS
				Peak	2499.520	-35.94	≤-21.20	59.26	≤74	PASS
				Peak	2500.000	-38.16	≤-21.20	57.04	≤74	PASS
3DH5	Ant1	Low	2402	AV	2310.000	-48.67	≤-41.20	46.53	≤54	PASS



				AV	2378.015	-46.97	≤ -41.20	48.23	≤ 54	PASS
				AV	2390.000	-48.01	≤ -41.20	47.19	≤ 54	PASS
				Peak	2310.000	-39.08	≤ -21.20	56.12	≤ 74	PASS
				Peak	2377.280	-36.19	≤ -21.20	59.01	≤ 74	PASS
				Peak	2390.000	-38.08	≤ -21.20	57.12	≤ 74	PASS
		High	2480	AV	2483.500	-45.79	≤ -41.20	49.41	≤ 54	PASS
				AV	2483.520	-45.79	≤ -41.20	49.41	≤ 54	PASS
				AV	2500.000	-46.68	≤ -41.20	48.52	≤ 54	PASS
				Peak	2483.500	-35.74	≤ -21.20	59.46	≤ 74	PASS
				Peak	2483.600	-35.27	≤ -21.20	59.93	≤ 74	PASS
				Peak	2500.000	-36.61	≤ -21.20	58.59	≤ 74	PASS
		Low	Hop_24 02	Peak	2310.000	-38.49	≤ -21.20	56.71	≤ 74	PASS
				Peak	2364.890	-37.18	≤ -21.20	58.02	≤ 74	PASS
				Peak	2390.000	-38.98	≤ -21.20	56.22	≤ 74	PASS
		High	Hop_24 80	Peak	2483.500	-37.42	≤ -21.20	57.78	≤ 74	PASS
				Peak	2496.320	-35.93	≤ -21.20	59.27	≤ 74	PASS
				Peak	2500.000	-37.61	≤ -21.20	57.59	≤ 74	PASS

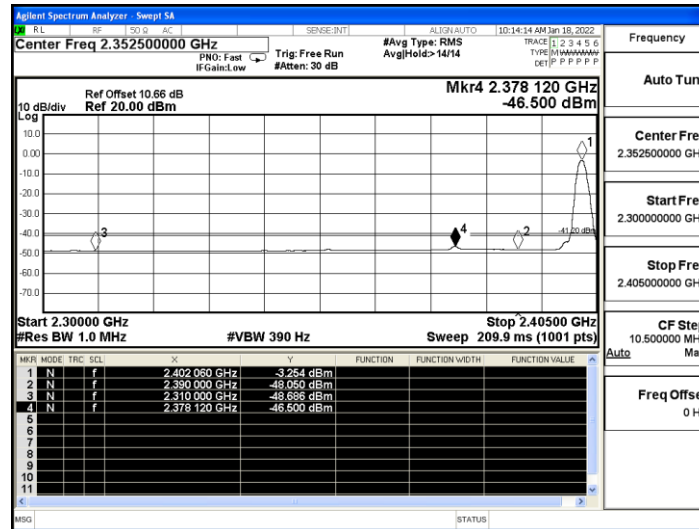
Note:

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.

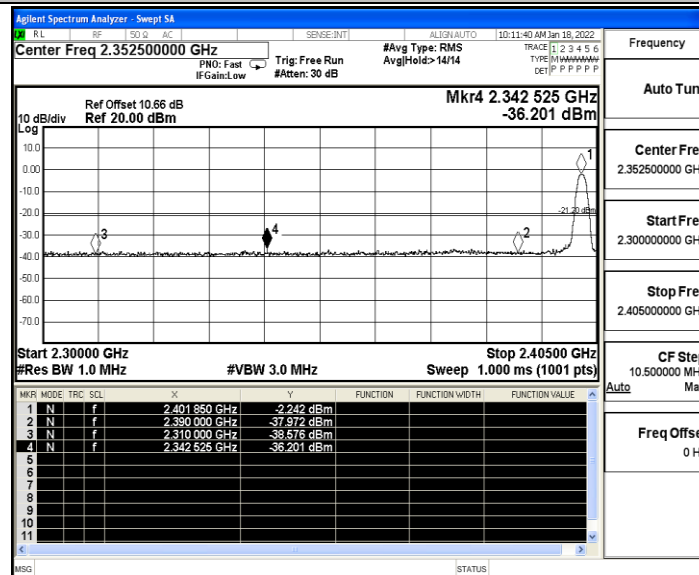


Test Graphs

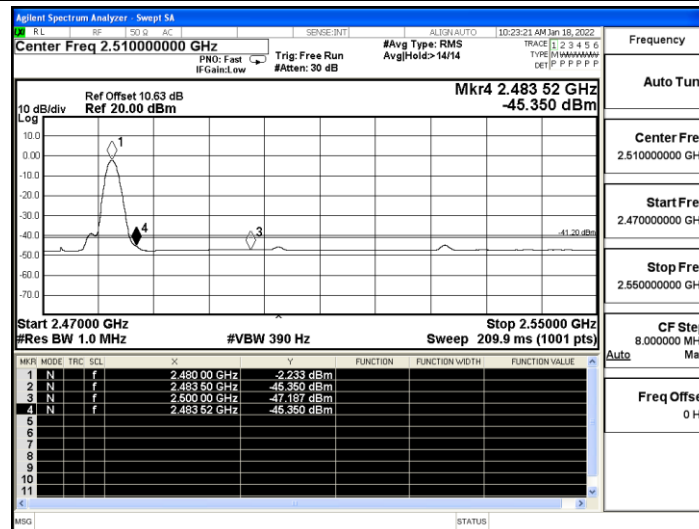
DH5_Ant1_Low_2402_AV



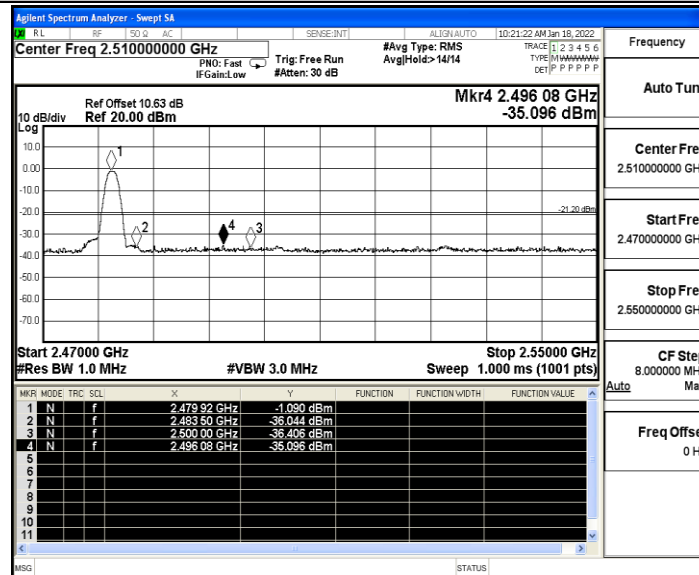
DH5_Ant1_Low_2402_Peak



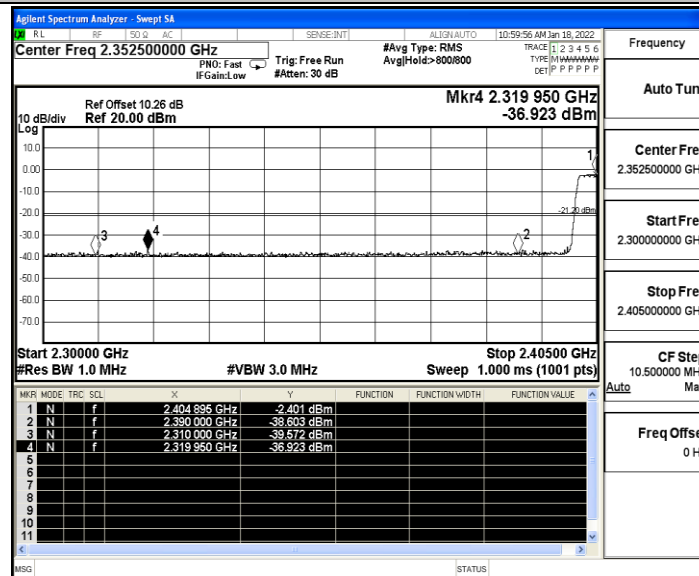
DH5_Ant1_High_2480_AV



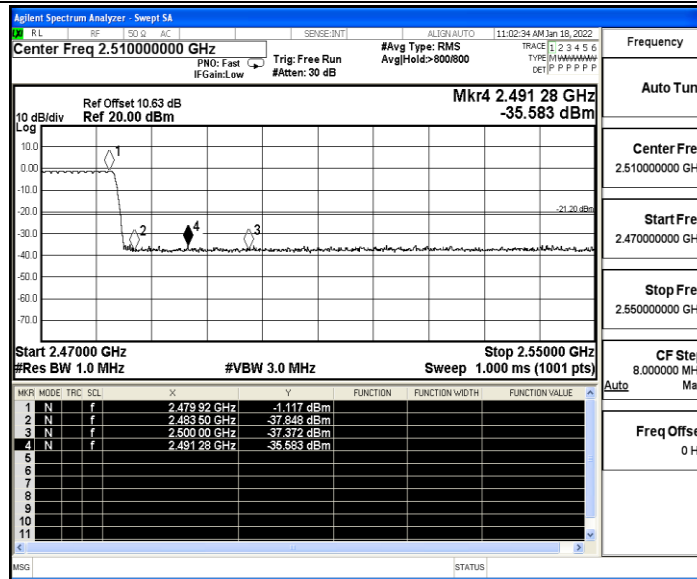
DH5_Ant1_High_2480_Peak



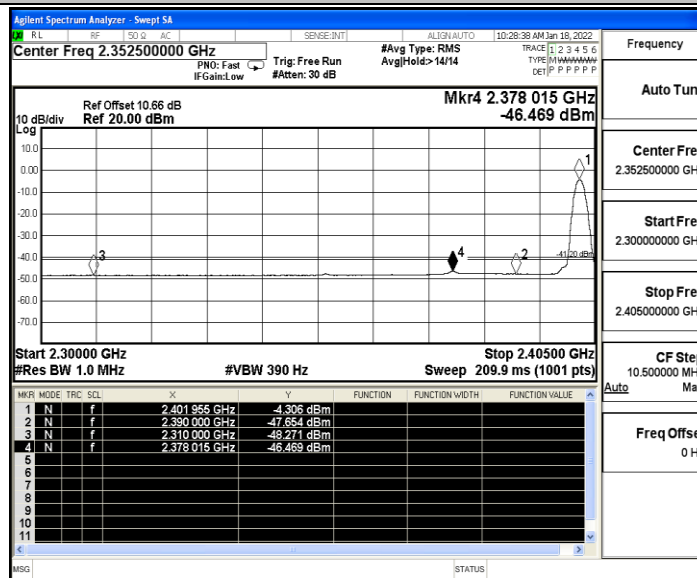
DH5_Ant1_Low_Hop_2402_Peak



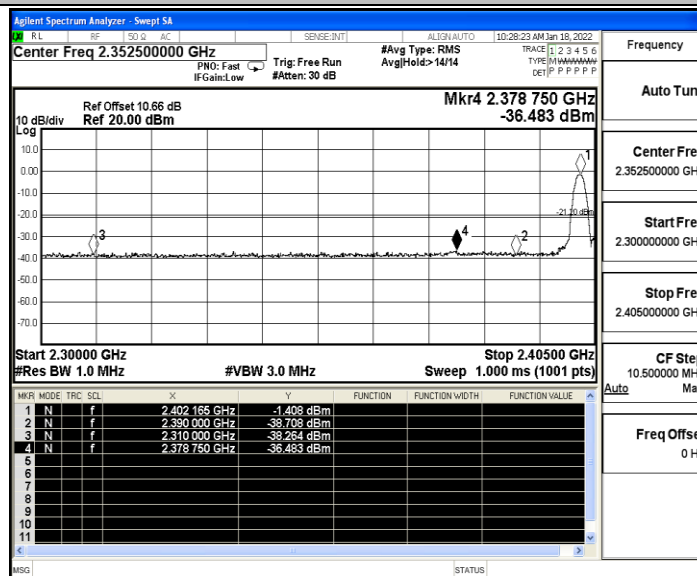
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2DH5_Ant1_Low_2402_AV

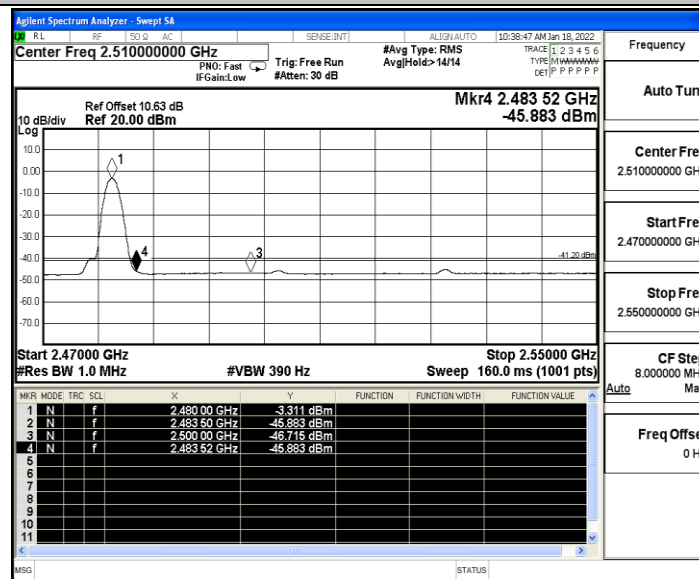


2DH5_Ant1_Low_2402_Peak

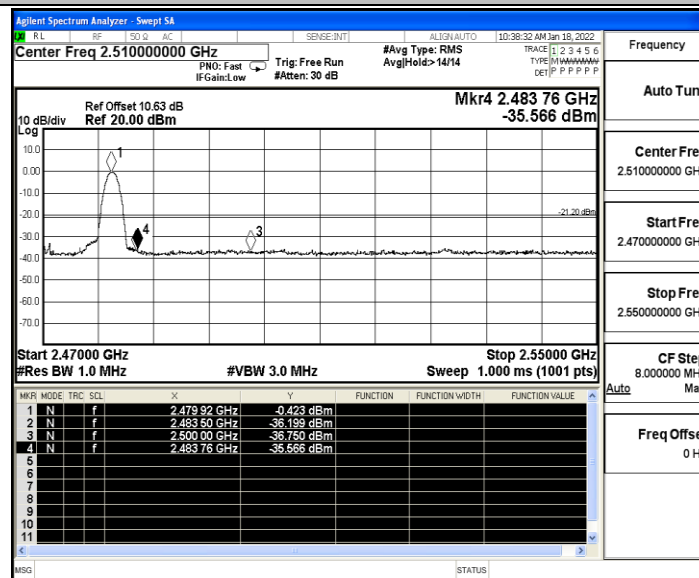




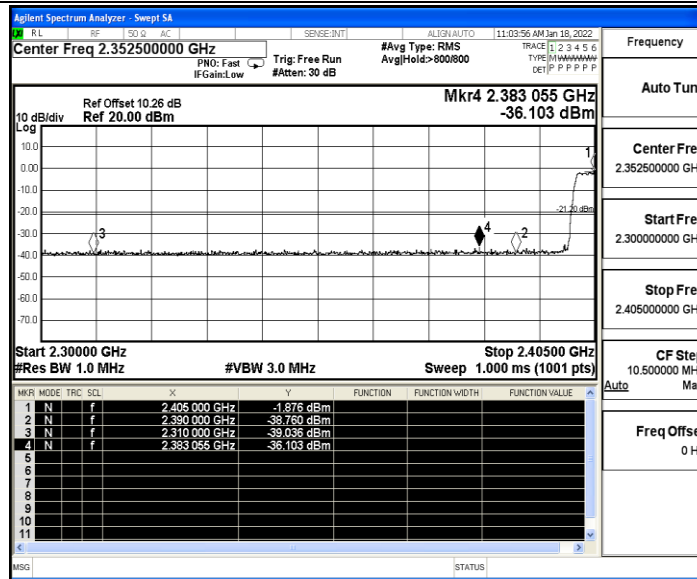
2DH5_Ant1_High_2480_AV



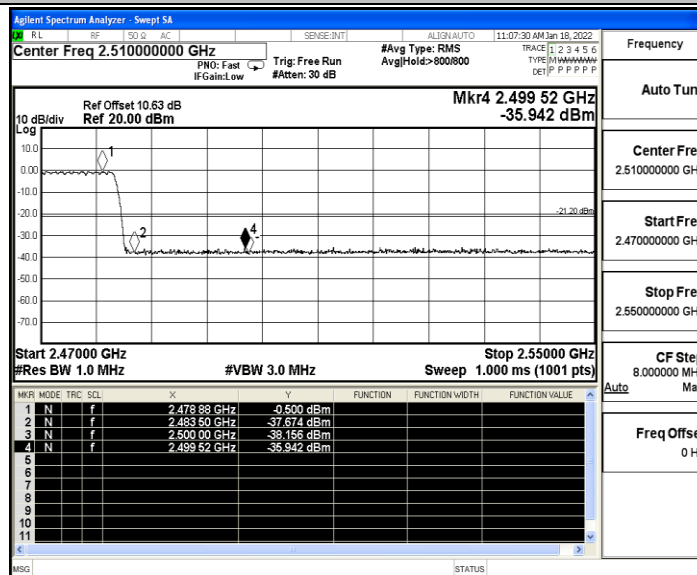
2DH5_Ant1_High_2480_Peak



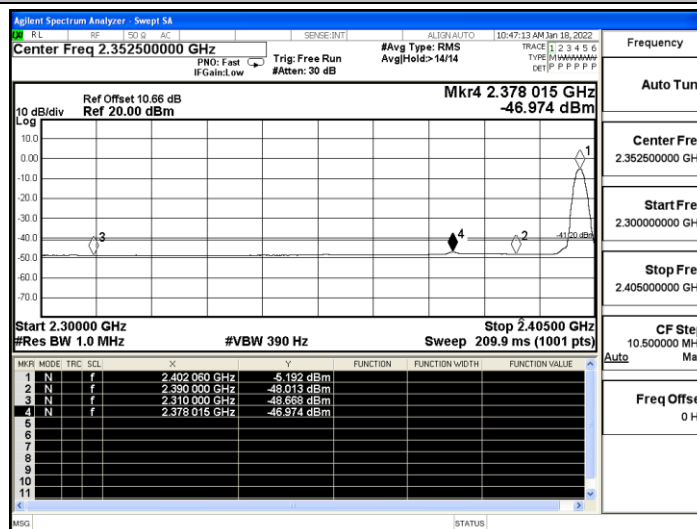
2DH5_Ant1_Low_Hop_2402_Peak



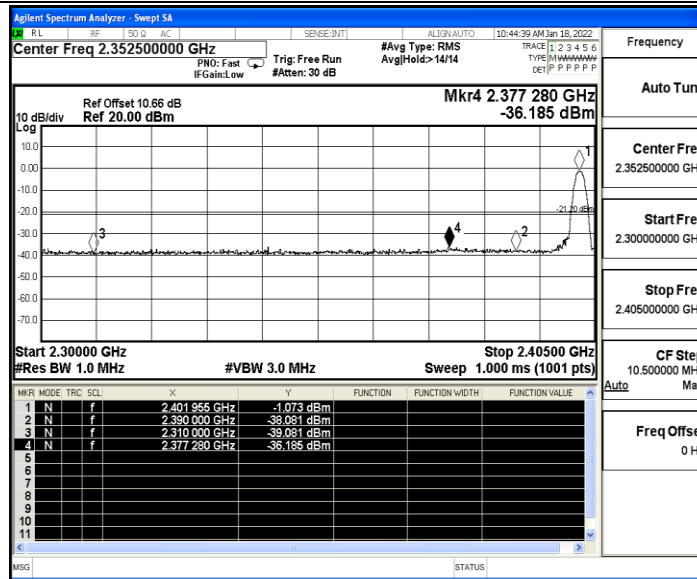
2DH5_Ant1_High_Hop_2480_Peak



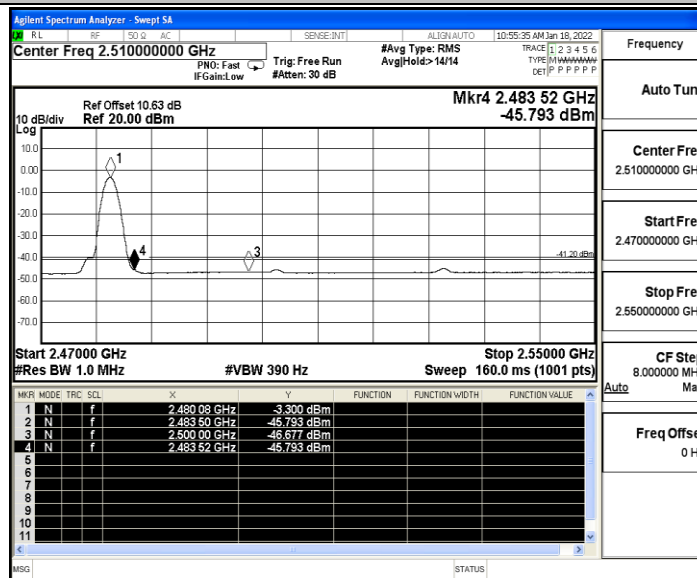
3DH5_Ant1_Low_2402_AV



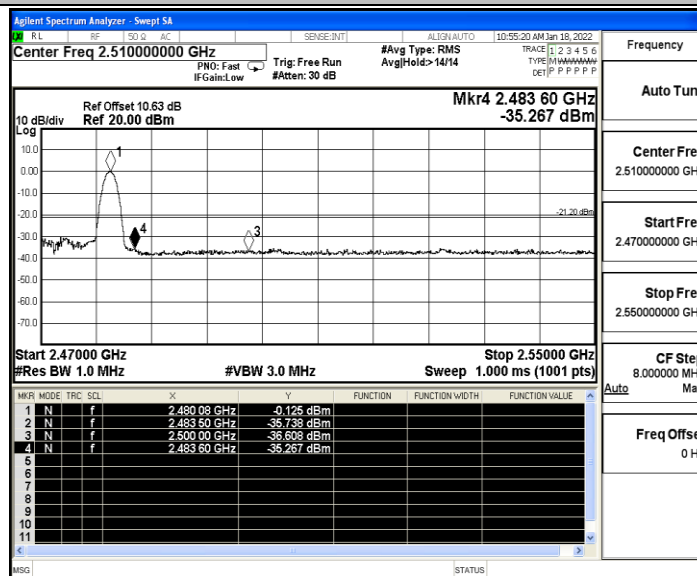
3DH5_Ant1_Low_2402_Peak



3DH5_Ant1_High_2480_AV

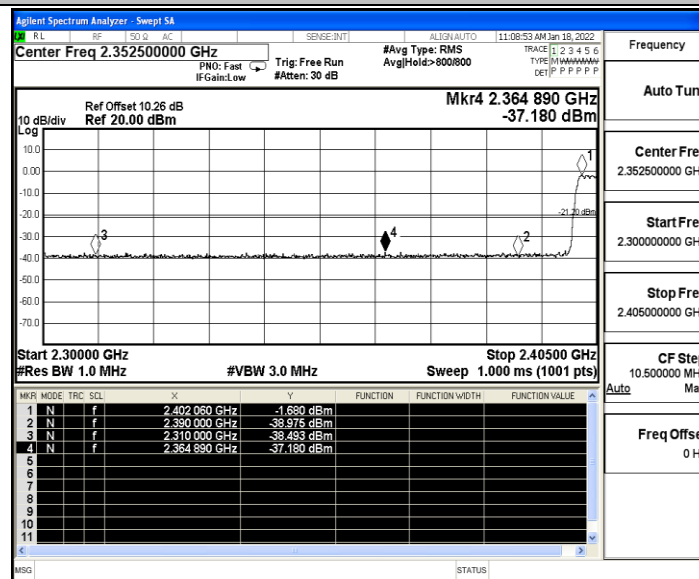


3DH5_Ant1_High_2480_Peak





3DH5_Ant1_Low_Hop_2402_Peak



3DH5_Ant1_High_Hop_2480_Peak

