





## Appendix A

### RF Test Data for BT (Conducted Measurement)

Product Name: TWS Bluetooth Headset

Test Model: AUTREBITS CobbleBuds

#### Environmental Conditions

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



## A.1 20dB Emission Bandwidth

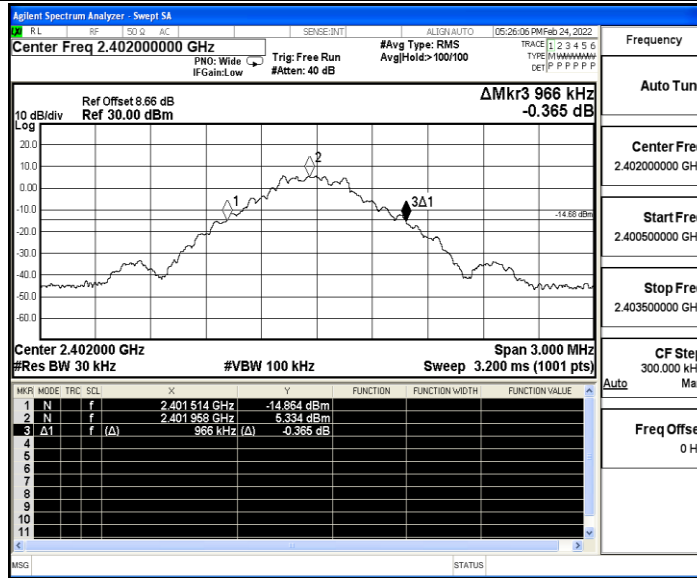
### Test Result

TestMode	Antenna	Channel	20db EBW[MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
DH5	Ant1	2402	0.966	2401.514	2402.480	---	---
		2441	0.960	2440.517	2441.477	---	---
		2480	0.960	2479.517	2480.477	---	---
2DH5	Ant1	2402	1.323	2401.319	2402.642	---	---
		2441	1.320	2440.322	2441.642	---	---
		2480	1.332	2479.313	2480.645	---	---

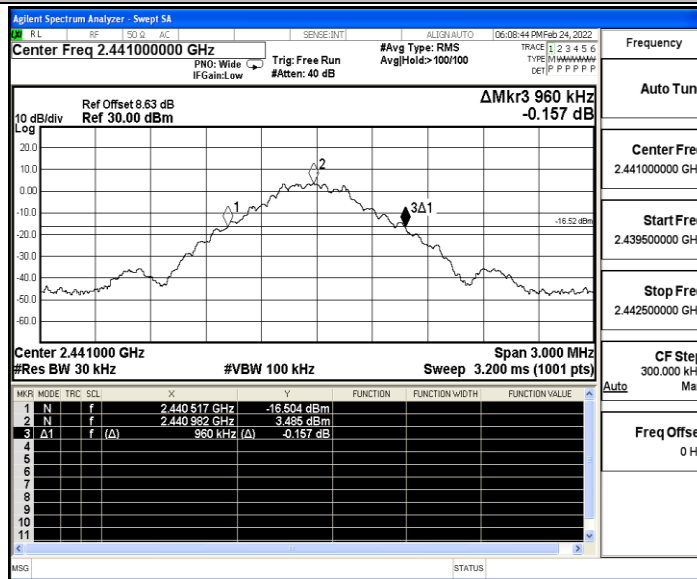


### Test Graphs

#### DH5\_Ant1\_2402

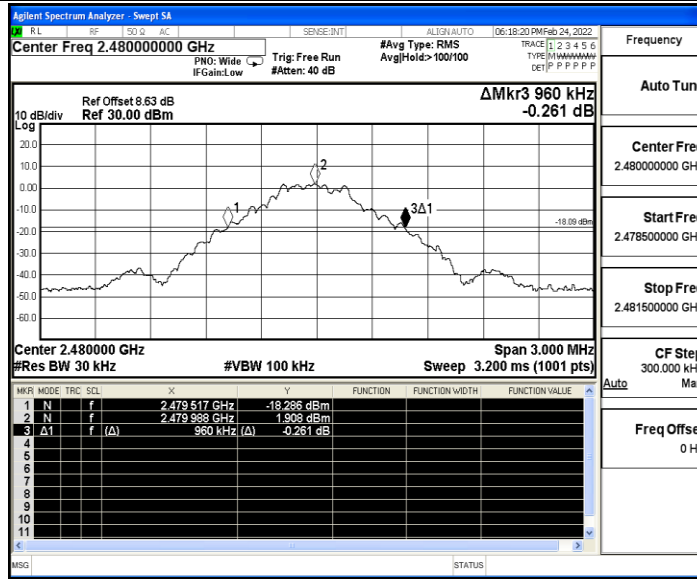


#### DH5\_Ant1\_2441

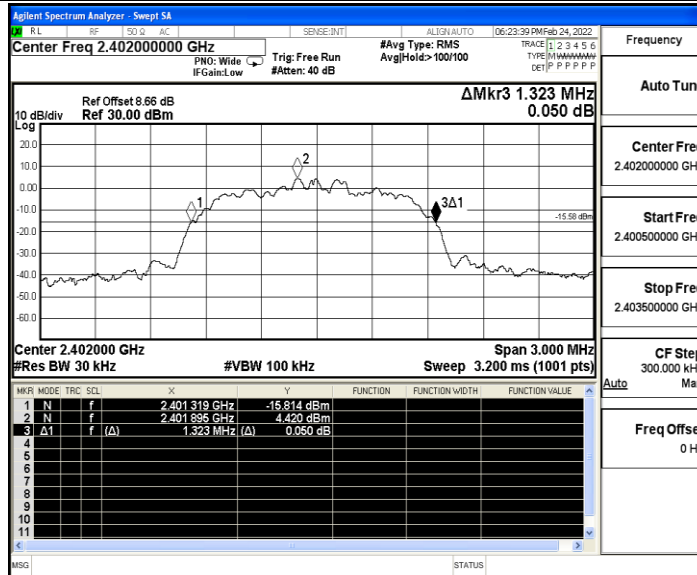




DH5\_Ant1\_2480

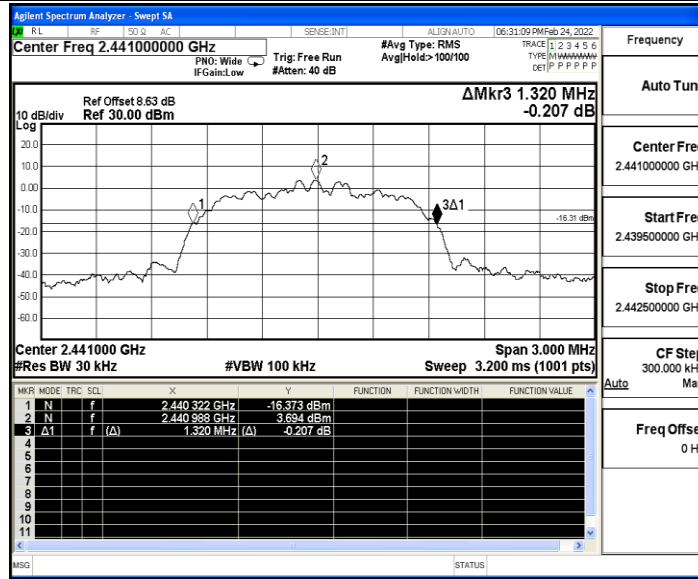


2DH5\_Ant1\_2402

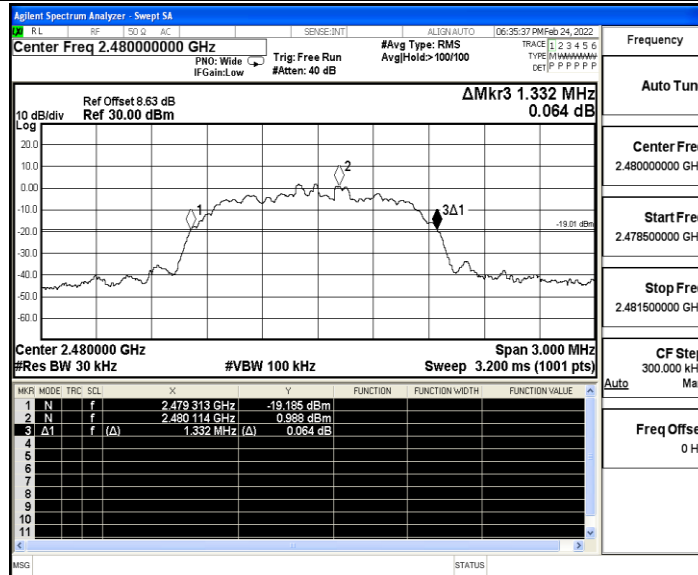




2DH5\_Ant1\_2441



2DH5\_Ant1\_2480





## A.2 Maximum peak conducted output power

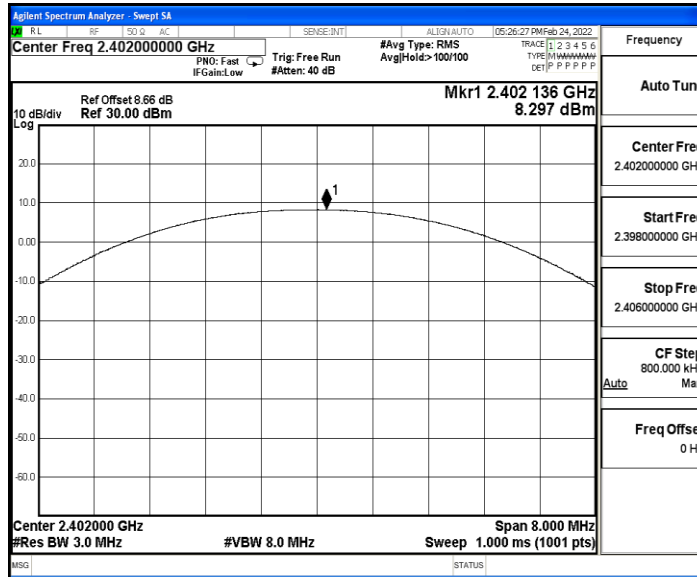
### Test Result

TestMode	Antenna	Channel	Result[dBm]	Limit[dBm]	Verdict
DH5	Ant1	2402	8.3	≤20.97	PASS
		2441	6.14	≤20.97	PASS
		2480	4.42	≤20.97	PASS
2DH5	Ant1	2402	6.65	≤20.97	PASS
		2441	8.36	≤20.97	PASS
		2480	6.56	≤20.97	PASS

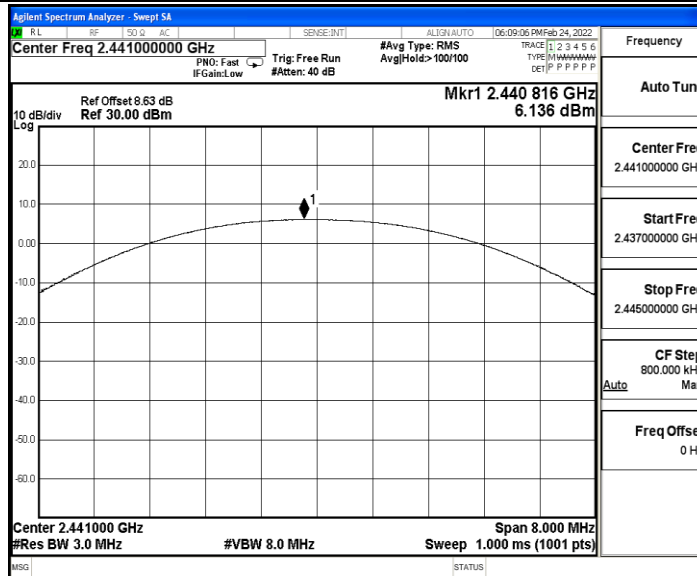


### Test Graphs

DH5\_Ant1\_2402

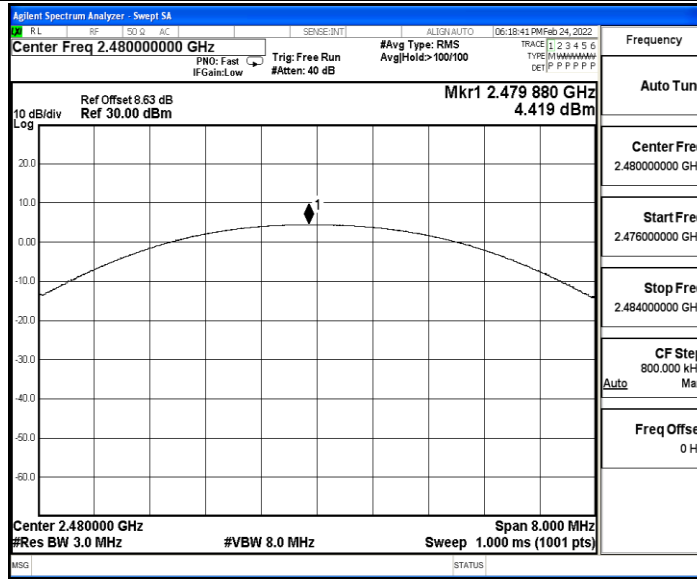


DH5\_Ant1\_2441

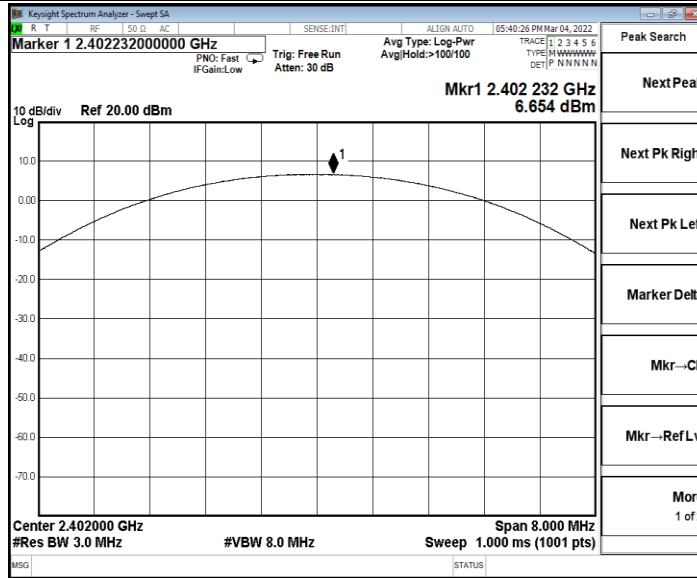




### DH5\_Ant1\_2480



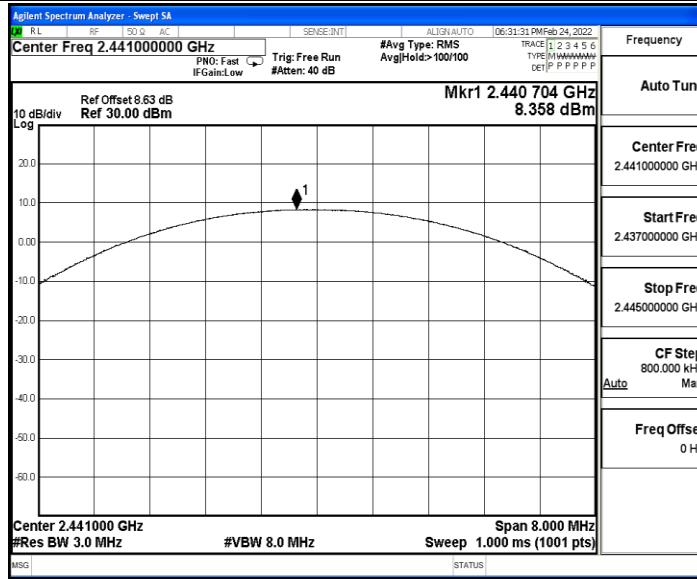
### 2DH5\_Ant1\_2402



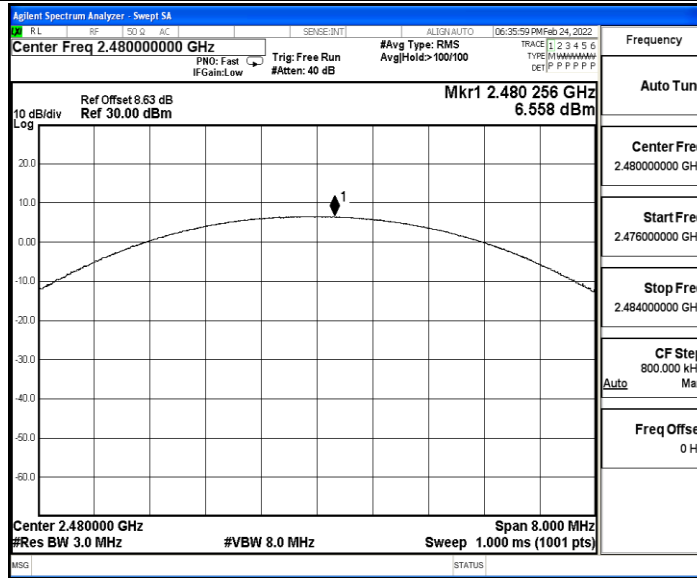




2DH5\_Ant1\_2441



2DH5\_Ant1\_2480





### A.3 Carrier frequency separation

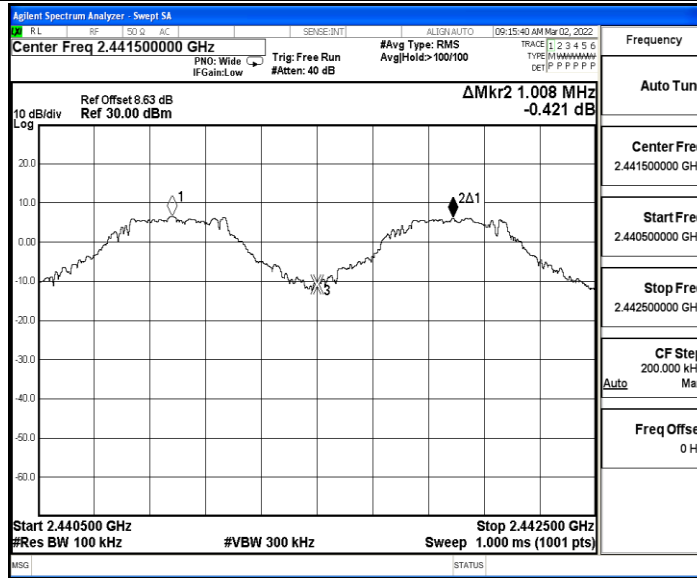
#### Test Result

TestMode	Antenna	Channel	Result[MHz]	Limit[MHz]	Verdict
DH5	Ant1	Hop	1.008	≥0.966	PASS
2DH5	Ant1	Hop	1.076	≥0.888	PASS

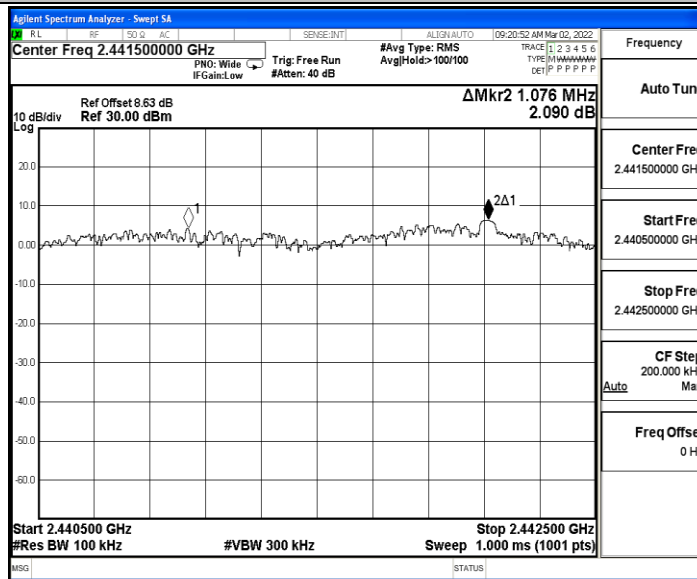


### Test Graphs

DH5\_Ant1\_Hop



2DH5\_Ant1\_Hop





## A.4 Time of occupancy

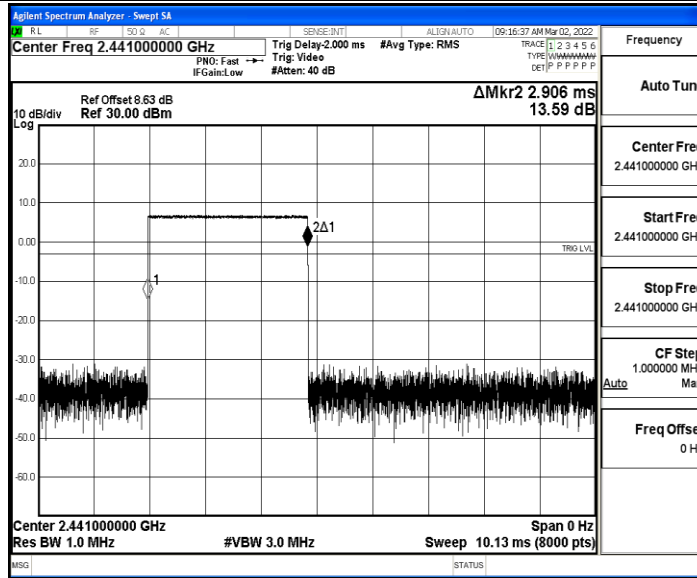
### Test Result

TestMode	Antenna	Channel	BurstWidth [ms]	TotalHops [Num]	Result[s]	Limit[s]	Verdict
DH5	Ant1	Hop	2.91	106.67	0.31	≤0.4	PASS
2DH5	Ant1	Hop	2.91	106.67	0.31	≤0.4	PASS

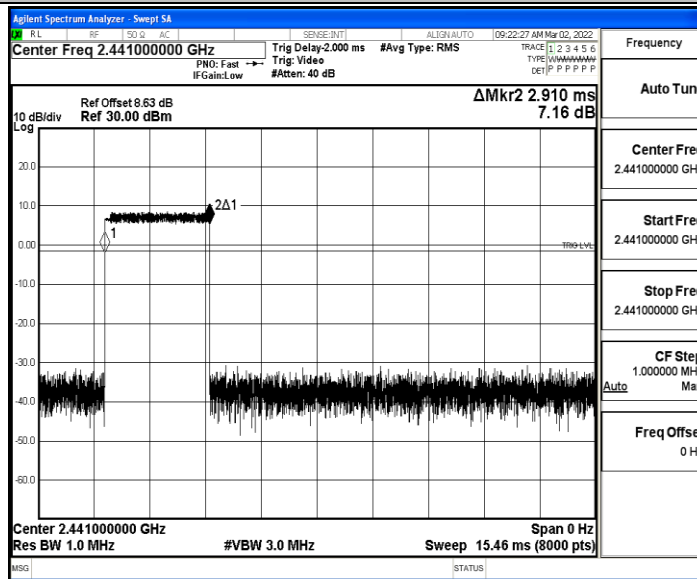


### Test Graphs

DH5\_Ant1\_Hop



2DH5\_Ant1\_Hop





## A.5 Number of hopping channels

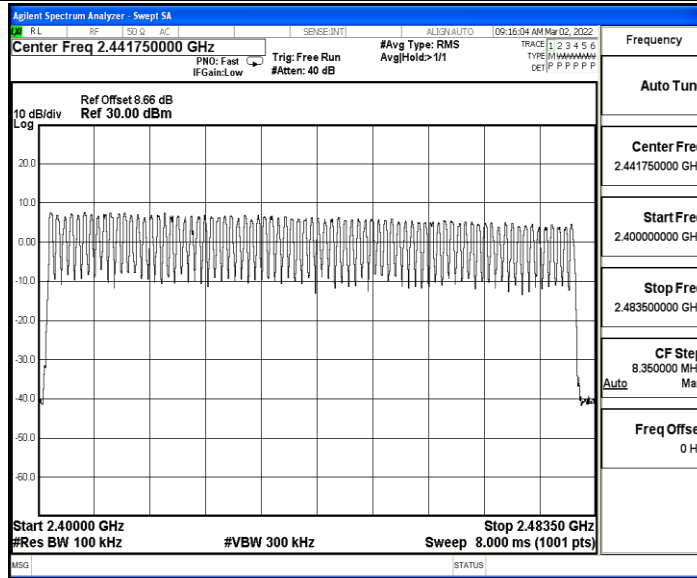
### Test Result

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

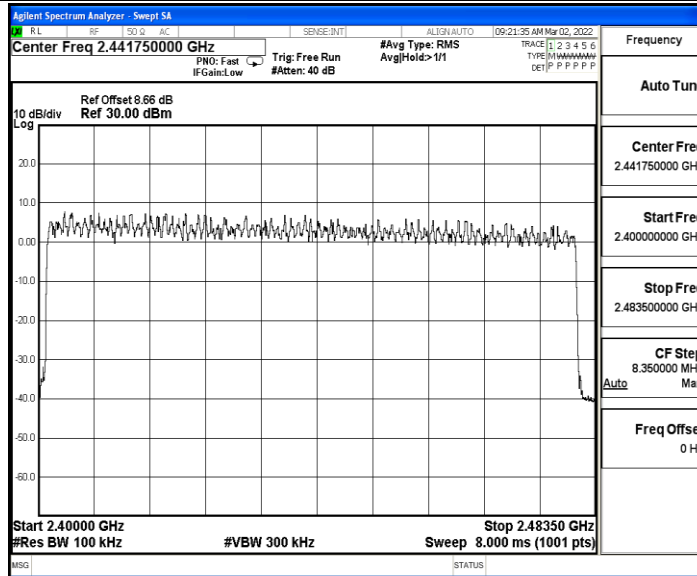


### Test Graphs

DH5\_Ant1\_Hop



2DH5\_Ant1\_Hop





## A.6 Band edge measurements

### Test Result

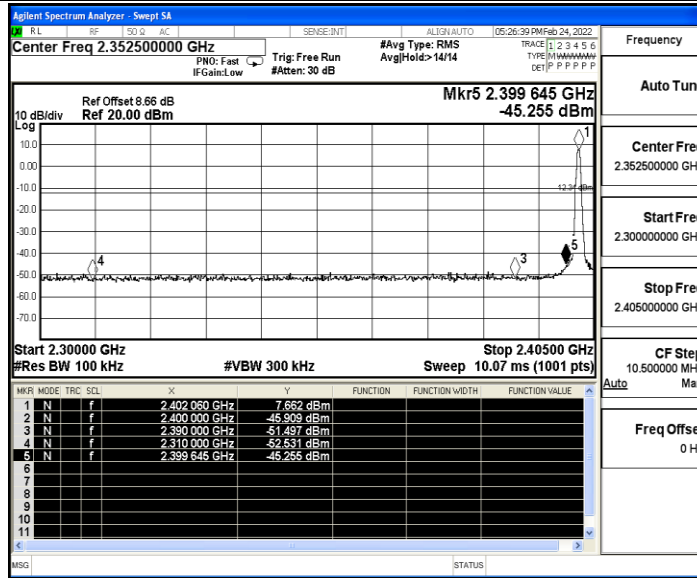
TestMode	Antenna	ChName	Channel	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
DH5	Ant1	Low	2402	7.66	-45.26	$\leq -12.34$	PASS
		High	2480	4.04	-48.17	$\leq -15.96$	PASS
		Low	Hop_2402	7.20	-49.3	$\leq -12.8$	PASS
		High	Hop_2480	4.55	-48.28	$\leq -15.46$	PASS
2DH5	Ant1	Low	2402	6.17	-46.54	$\leq -13.83$	PASS
		High	2480	3.97	-47.44	$\leq -16.04$	PASS
		Low	Hop_2402	4.64	-49.23	$\leq -15.37$	PASS
		High	Hop_2480	4.97	-47.65	$\leq -15.03$	PASS



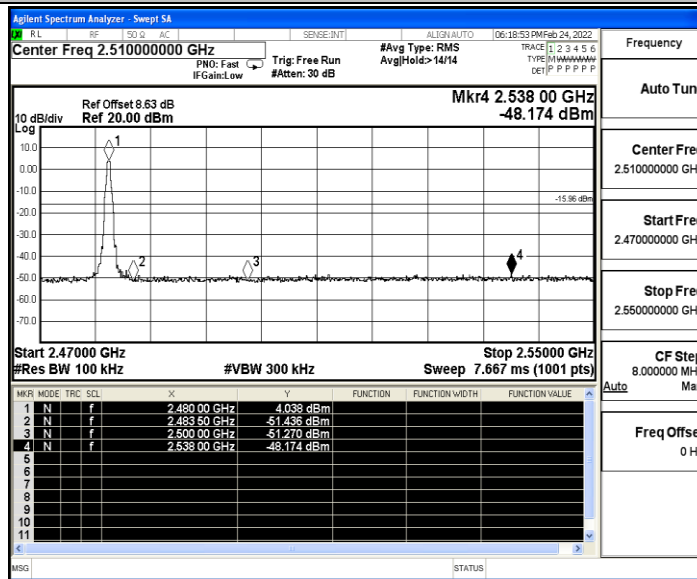


### Test Graphs

DH5\_Ant1\_Low\_2402

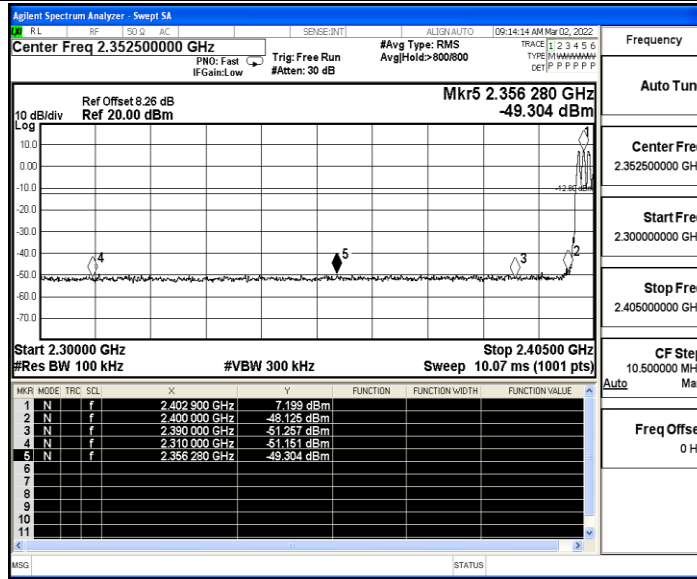


DH5\_Ant1\_High\_2480

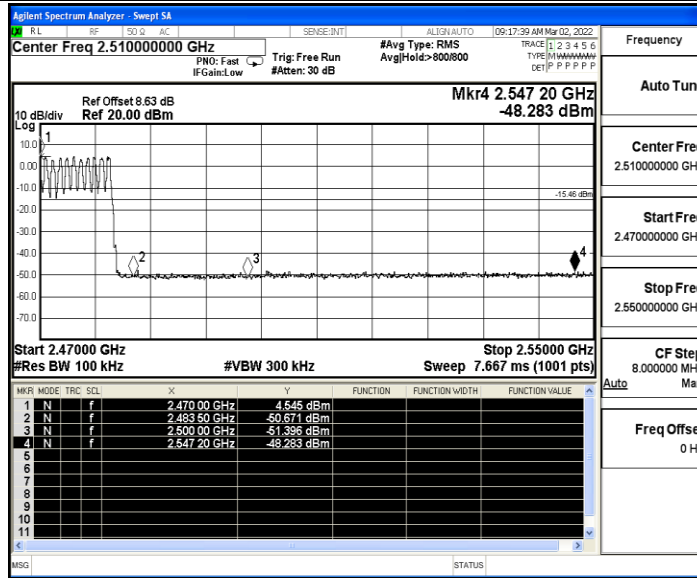




DH5\_Ant1\_Low\_Hop\_2402

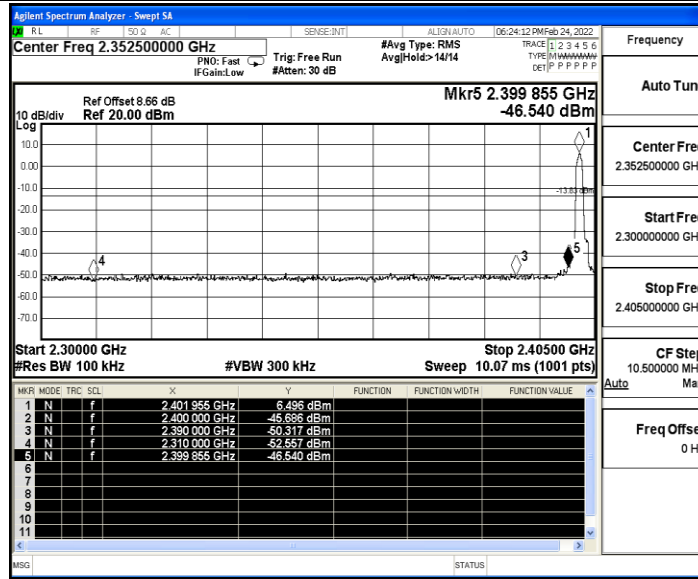


DH5\_Ant1\_High\_Hop\_2480

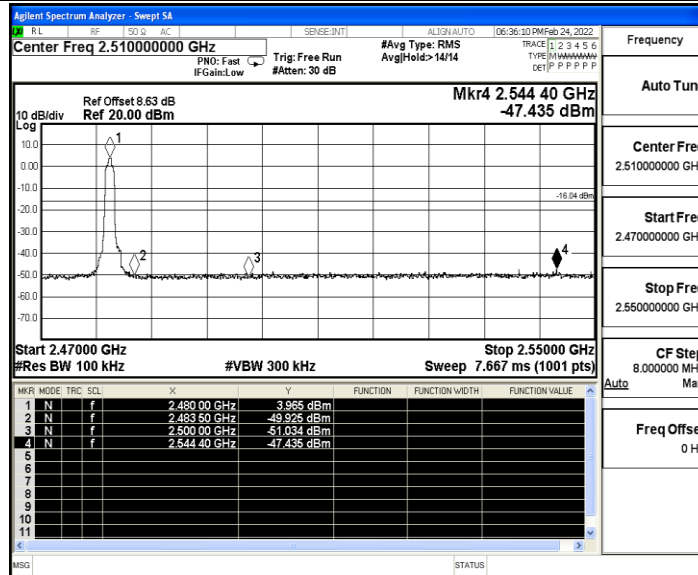




2DH5\_Ant1\_Low\_2402

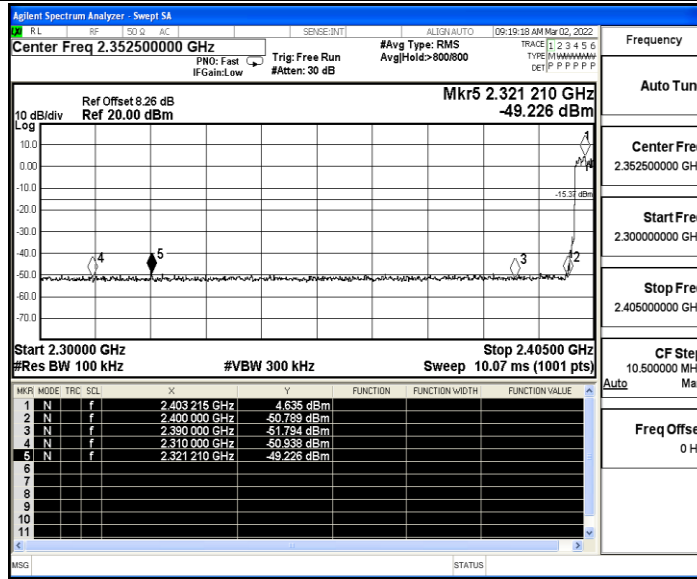


2DH5\_Ant1\_High\_2480

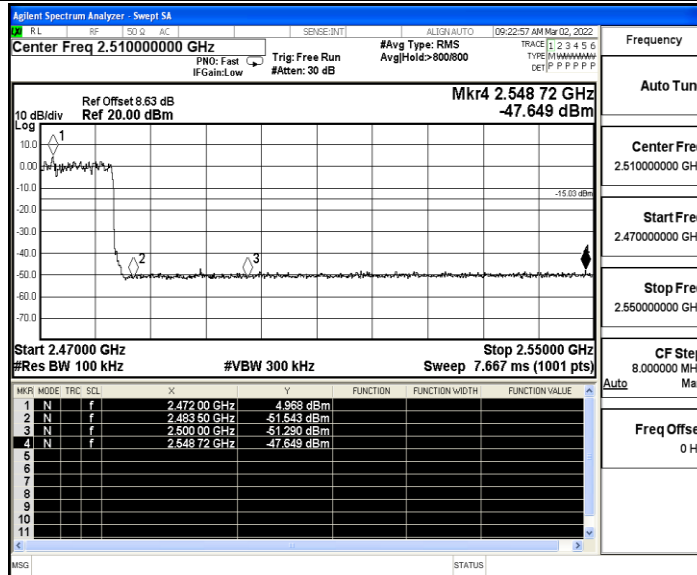




### 2DH5\_Ant1\_Low\_Hop\_2402



### 2DH5\_Ant1\_High\_Hop\_2480





## A.7 Conducted Spurious Emission

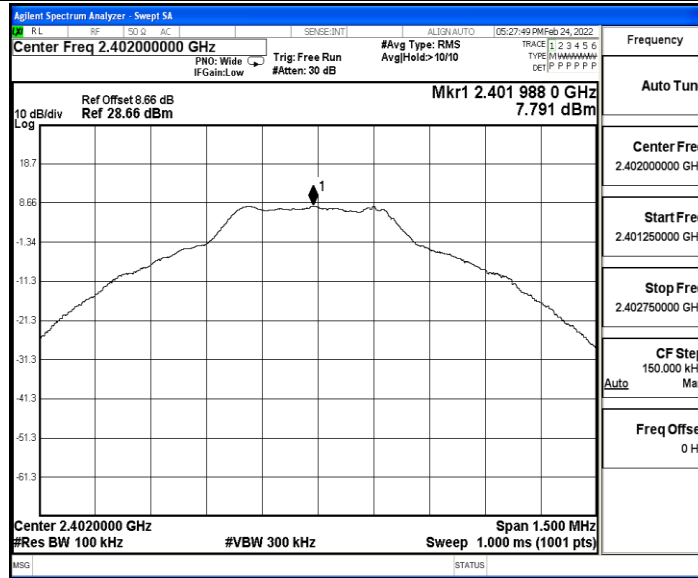
### Test Result

TestMode	Antenna	Channel	FreqRange [MHz]	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
DH5	Ant1	2402	Reference	7.79	7.79	---	PASS
			30~1000	7.79	-61.01	≤-12.21	PASS
			1000~26500	7.79	-22.05	≤-12.21	PASS
		2441	Reference	5.65	5.65	---	PASS
			30~1000	5.65	-60.41	≤-14.35	PASS
			1000~26500	5.65	-23.85	≤-14.35	PASS
		2480	Reference	3.91	3.91	---	PASS
			30~1000	3.91	-60.48	≤-16.09	PASS
			1000~26500	3.91	-30.13	≤-16.09	PASS
2DH5	Ant1	2402	Reference	6.45	6.45	---	PASS
			30~1000	6.45	-60.69	≤-13.55	PASS
			1000~26500	6.45	-24.31	≤-13.55	PASS
		2441	Reference	5.65	5.65	---	PASS
			30~1000	5.65	-43.23	≤-14.35	PASS
			1000~26500	5.65	-28.51	≤-14.35	PASS
		2480	Reference	3.90	3.90	---	PASS
			30~1000	3.90	-60.51	≤-16.1	PASS
			1000~26500	3.90	-31.27	≤-16.1	PASS

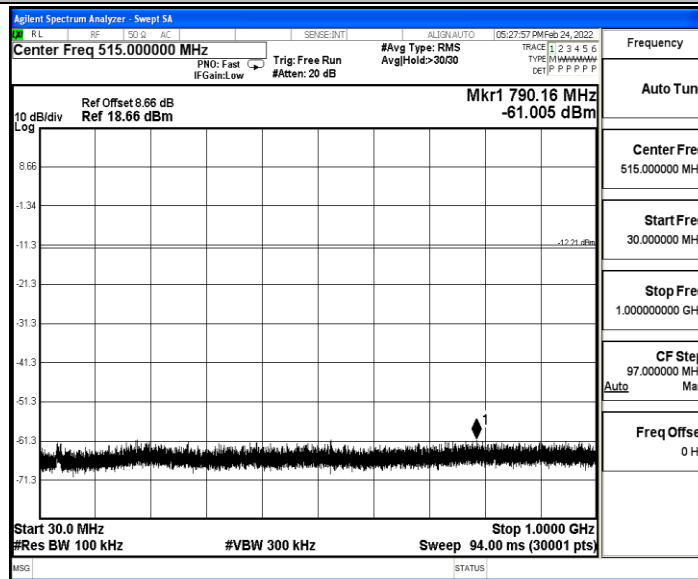


### Test Graphs

DH5\_Ant1\_2402\_0~Reference

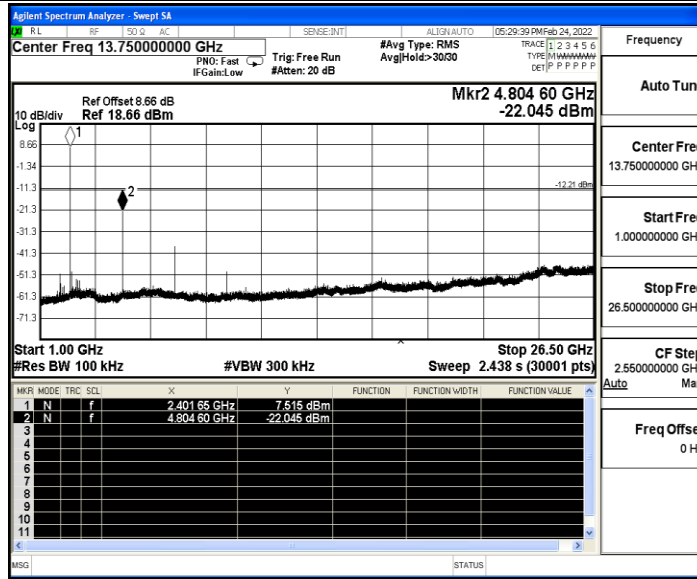


DH5\_Ant1\_2402\_30~1000

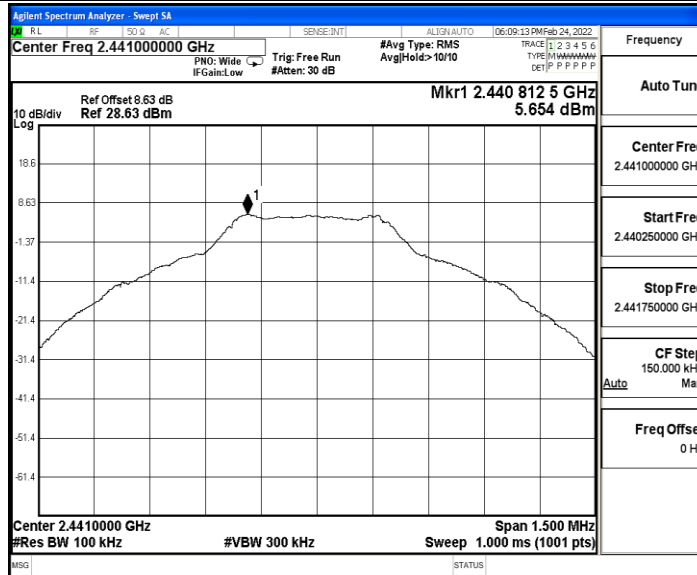




### DH5\_Ant1\_2402\_1000~26500

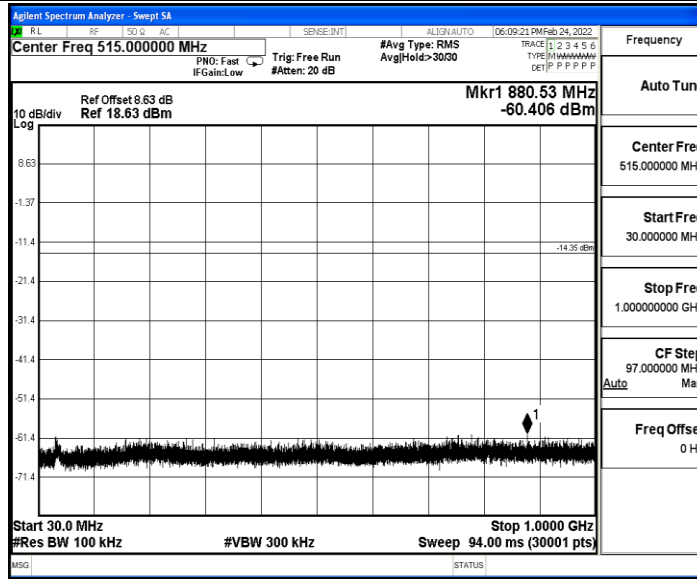


### DH5\_Ant1\_2441\_0~Reference

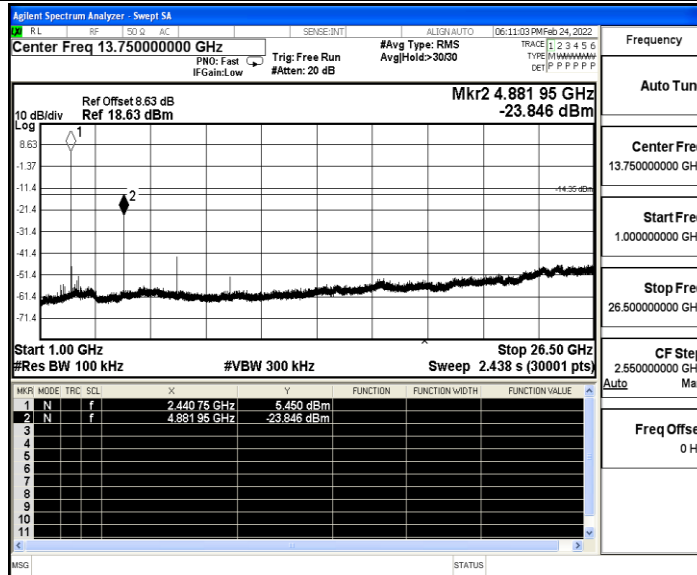




DH5\_Ant1\_2441\_30~1000



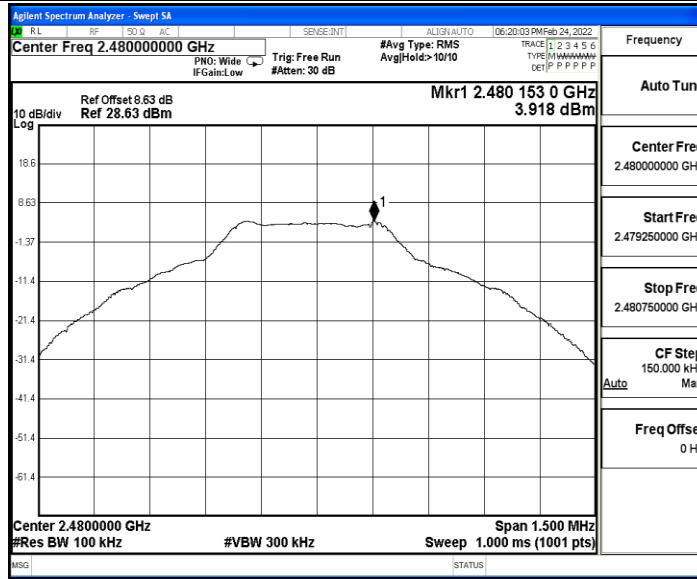
DH5\_Ant1\_2441\_1000~26500



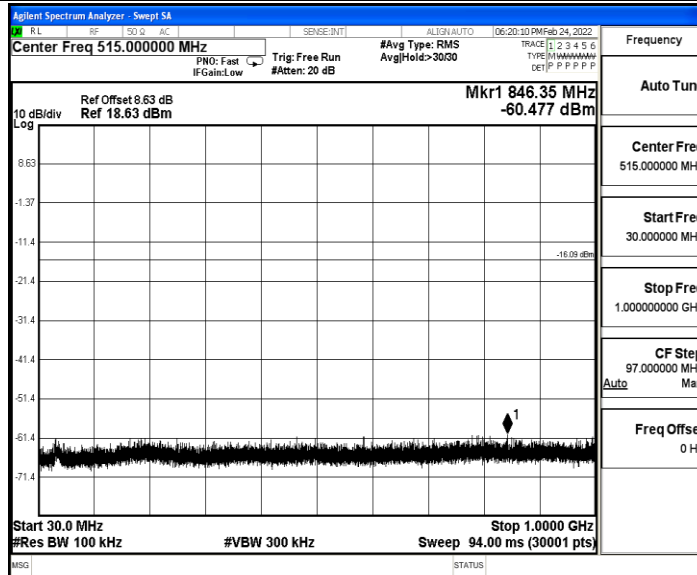




DH5\_Ant1\_2480\_0~Reference

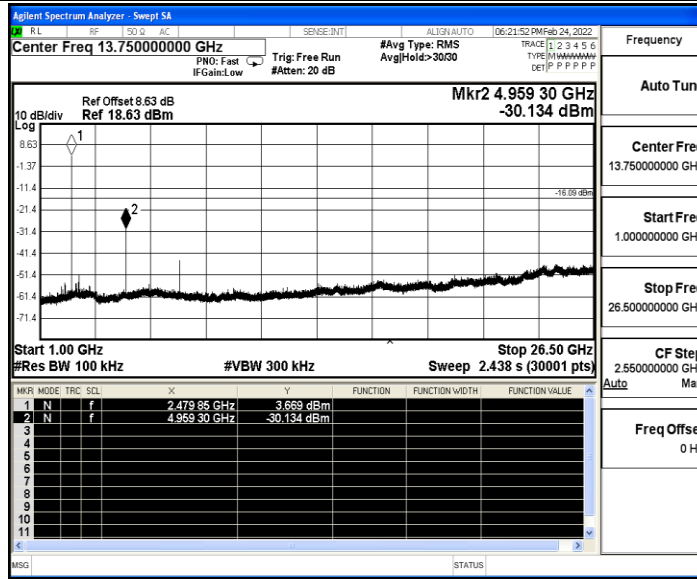


DH5\_Ant1\_2480\_30~1000

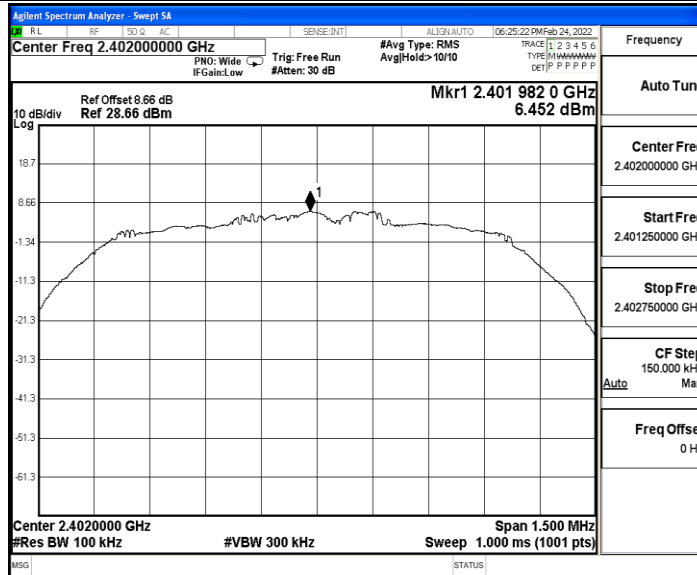




### DH5\_Ant1\_2480\_1000~26500

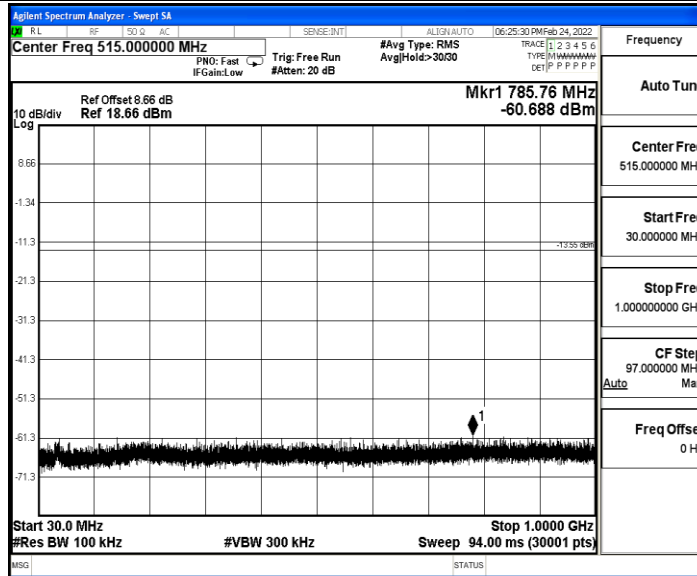


### 2DH5\_Ant1\_2402\_0~Reference

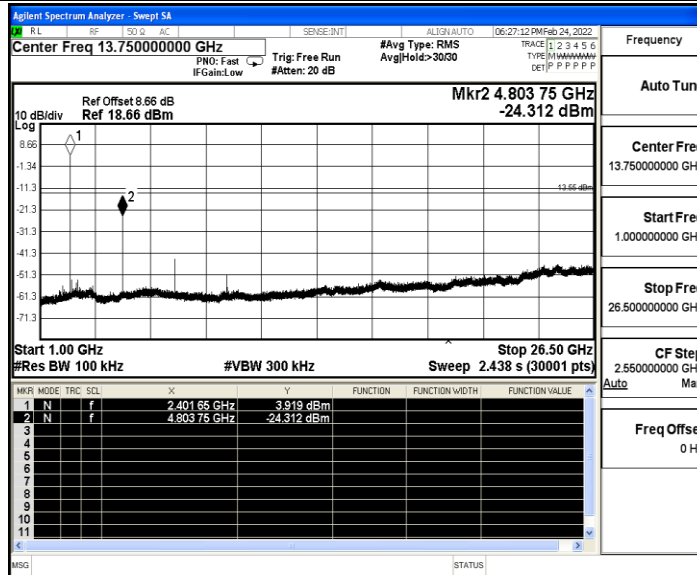




2DH5\_Ant1\_2402\_30~1000

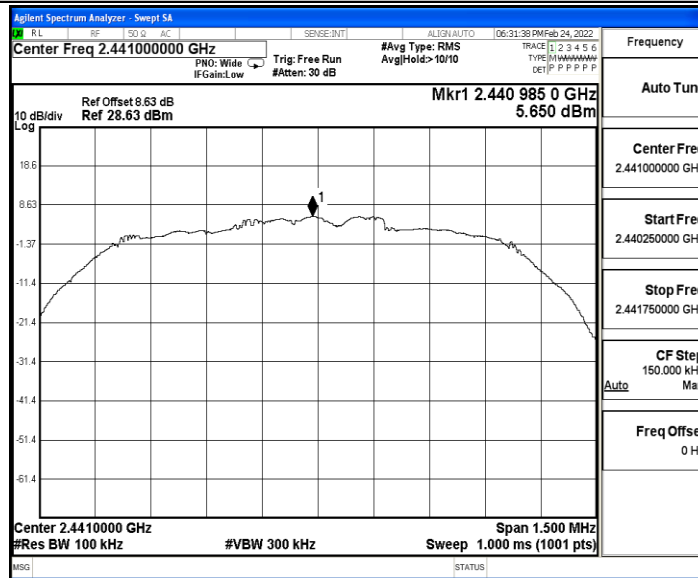


2DH5\_Ant1\_2402\_1000~26500

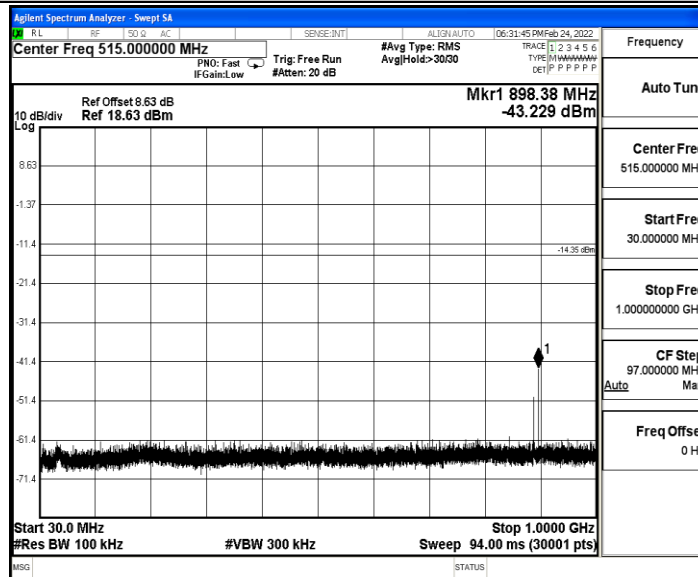




2DH5\_Ant1\_2441\_0~Reference

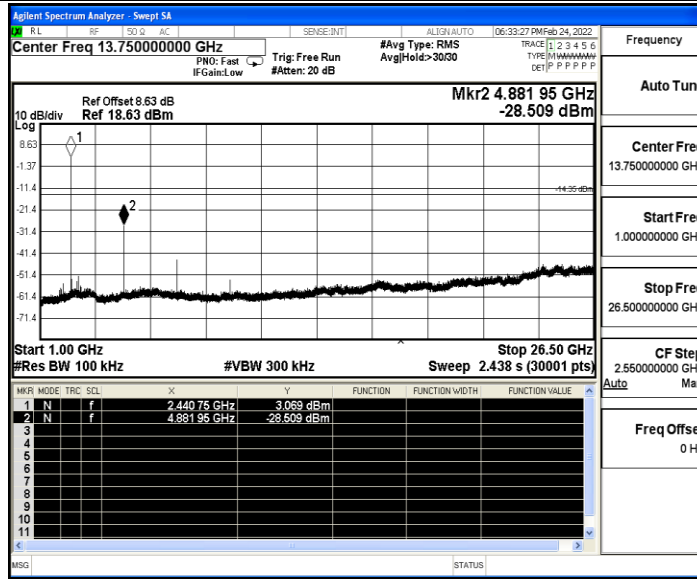


2DH5\_Ant1\_2441\_30~1000

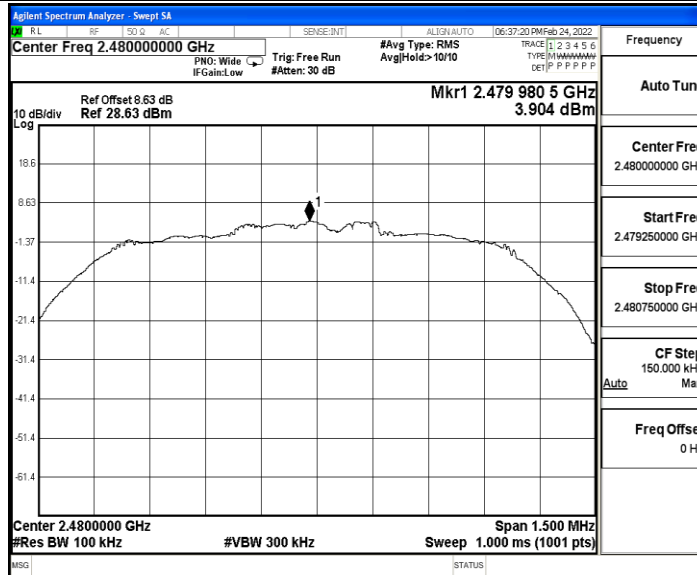




2DH5\_Ant1\_2441\_1000~26500

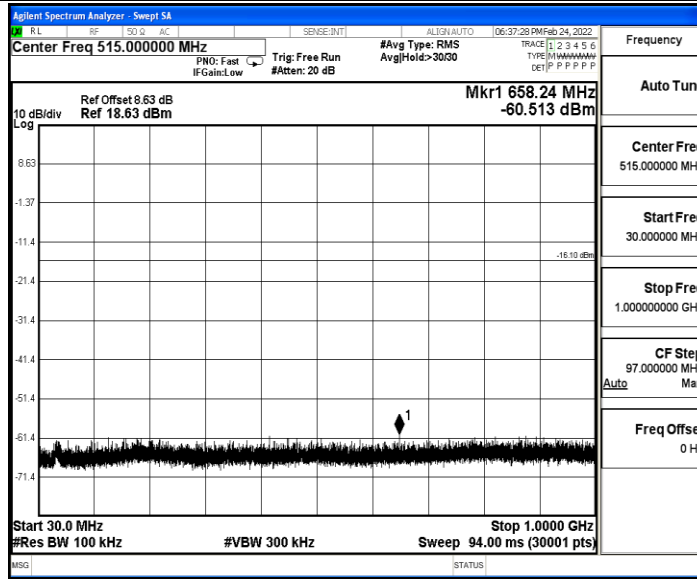


2DH5\_Ant1\_2480\_0~Reference

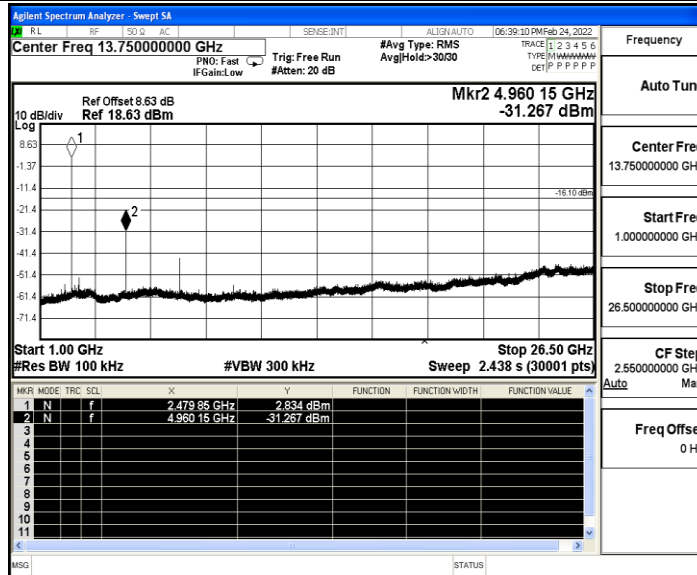




2DH5\_Ant1\_2480\_30~1000



2DH5\_Ant1\_2480\_1000~26500





## 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	-48.37	≤-41.20	46.83	≤54	PASS
				AV	2386.940	-47.77	≤-41.20	47.43	≤54	PASS
				AV	2390.000	-47.93	≤-41.20	47.27	≤54	PASS
				Peak	2310.000	-38.83	≤-21.20	56.37	≤74	PASS
				Peak	2322.470	-35.74	≤-21.20	59.46	≤74	PASS
				Peak	2390.000	-38.65	≤-21.20	56.55	≤74	PASS
		High	2480	AV	2483.500	-46.86	≤-41.20	48.34	≤54	PASS
				AV	2483.520	-46.86	≤-41.20	48.34	≤54	PASS
				AV	2500.000	-47.36	≤-41.20	47.84	≤54	PASS
				Peak	2483.500	-32.7	≤-21.20	62.50	≤74	PASS
				Peak	2483.520	-32.7	≤-21.20	62.50	≤74	PASS
				Peak	2500.000	-37.46	≤-21.20	57.74	≤74	PASS
		Low	Hop_2402	Peak	2310.000	-38.88	≤-21.20	56.32	≤74	PASS
				Peak	2384.000	-36.95	≤-21.20	58.25	≤74	PASS
				Peak	2390.000	-39.54	≤-21.20	55.66	≤74	PASS
		High	Hop_2480	Peak	2483.500	-38.38	≤-21.20	56.82	≤74	PASS
				Peak	2485.680	-34.71	≤-21.20	60.49	≤74	PASS
				Peak	2500.000	-38.36	≤-21.20	56.84	≤74	PASS
2DH5	Ant1	Low	2402	AV	2310.000	-48.5	≤-41.20	46.70	≤54	PASS
				AV	2387.780	-47.76	≤-41.20	47.44	≤54	PASS
				AV	2390.000	-47.98	≤-41.20	47.22	≤54	PASS
				Peak	2310.000	-38.82	≤-21.20	56.38	≤74	PASS
				Peak	2362.895	-36.53	≤-21.20	58.67	≤74	PASS
				Peak	2390.000	-38.72	≤-21.20	56.48	≤74	PASS
		High	2480	AV	2483.500	-46.39	≤-41.20	48.81	≤54	PASS
				AV	2483.520	-46.39	≤-41.20	48.81	≤54	PASS
				AV	2500.000	-47.41	≤-41.20	47.79	≤54	PASS
				Peak	2483.500	-33.47	≤-21.20	61.73	≤74	PASS
				Peak	2483.680	-32.11	≤-21.20	63.09	≤74	PASS
				Peak	2500.000	-38.12	≤-21.20	57.08	≤74	PASS
		Low	Hop_2402	Peak	2310.000	-39.25	≤-21.20	55.95	≤74	PASS
				Peak	2352.710	-37.1	≤-21.20	58.10	≤74	PASS
				Peak	2390.000	-38.69	≤-21.20	56.51	≤74	PASS
		High	Hop_2480	Peak	2483.500	-37.71	≤-21.20	57.49	≤74	PASS
				Peak	2484.080	-32.16	≤-21.20	63.04	≤74	PASS
				Peak	2500.000	-38.28	≤-21.20	56.92	≤74	PASS



Note:

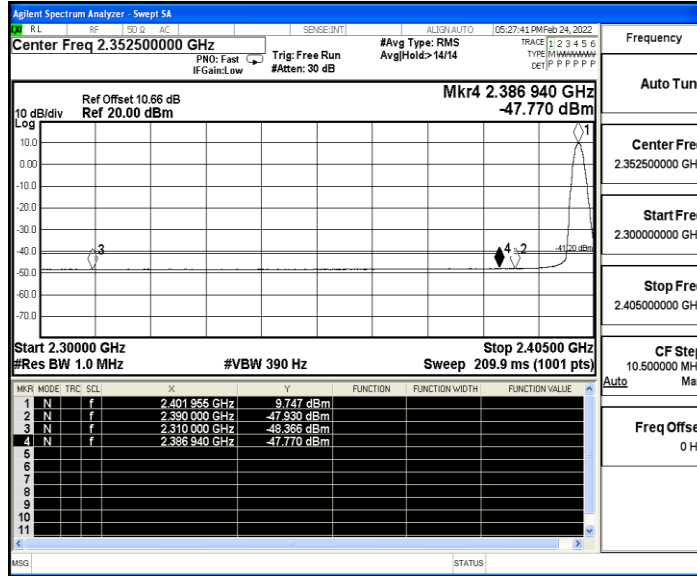
1. The Antenna Gain is compensated in the graph.
2. The limit in dBm for average detector is conversion from 54dBuV/m, according to 15.209(a). The limit in dBm for peak detector is 20dB above the limit of average detector in dBm.



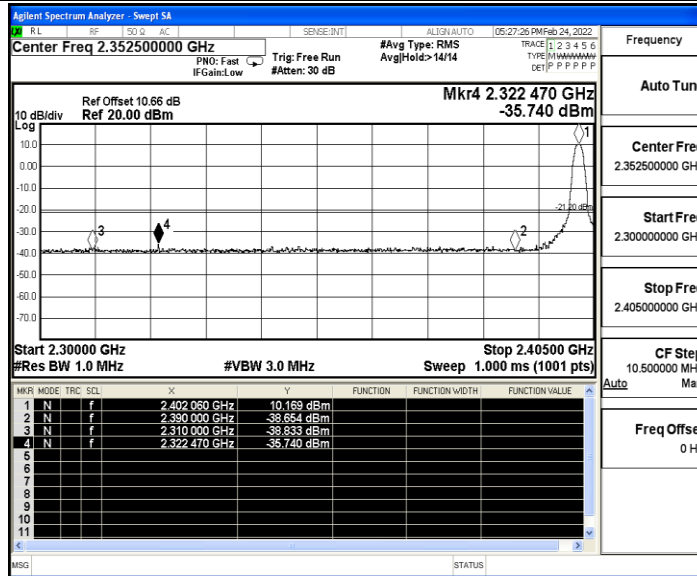


### Test Graphs

#### DH5\_Ant1\_Low\_2402\_AV

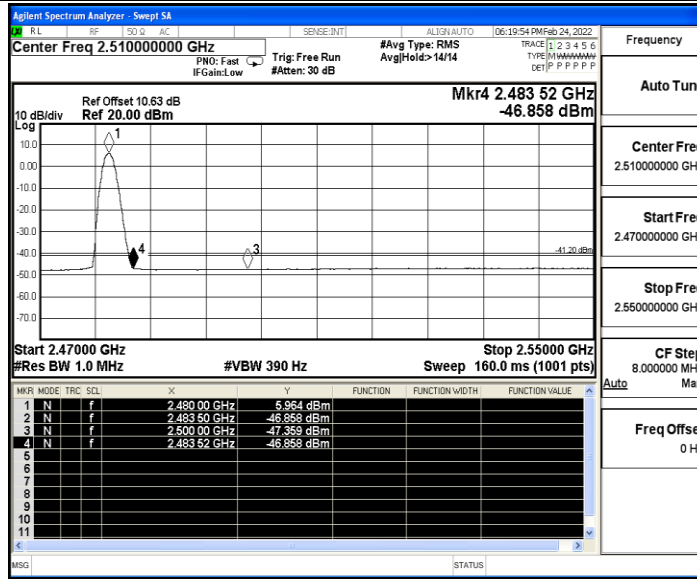


#### DH5\_Ant1\_Low\_2402\_Peak

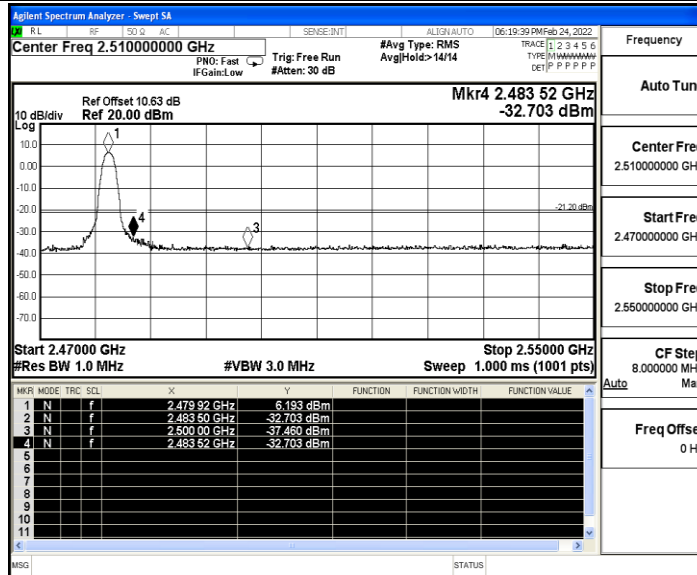




DH5\_Ant1\_High\_2480\_AV

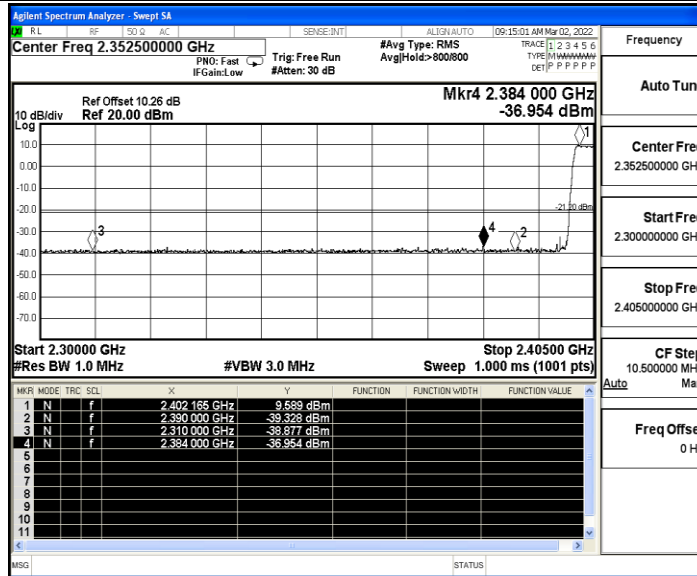


DH5\_Ant1\_High\_2480\_Peak

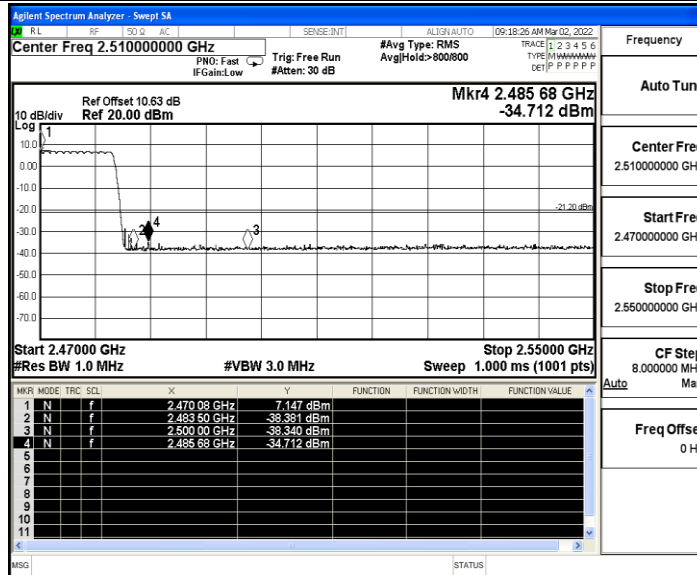




### DH5\_Ant1\_Low\_Hop\_2402\_Peak

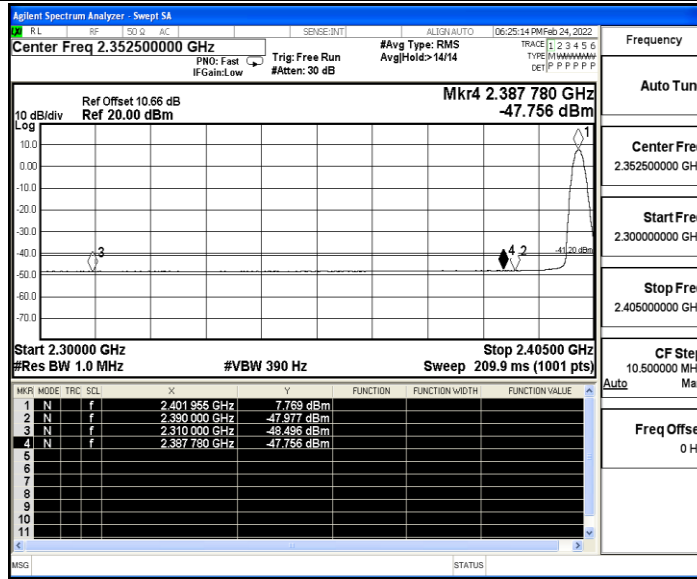


### DH5\_Ant1\_High\_Hop\_2480\_Peak

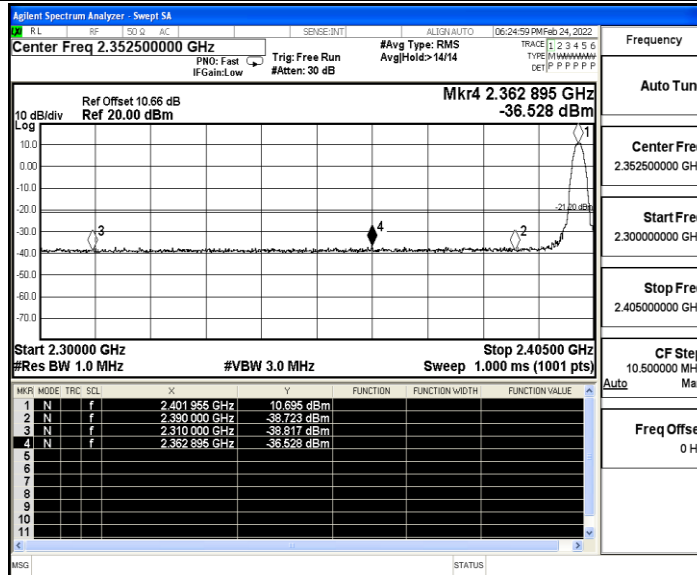




### 2DH5\_Ant1\_Low\_2402\_AV

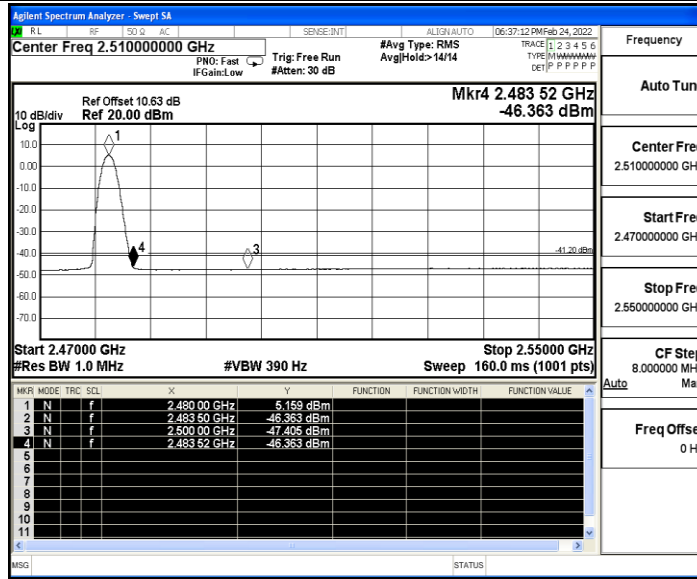


### 2DH5\_Ant1\_Low\_2402\_Peak

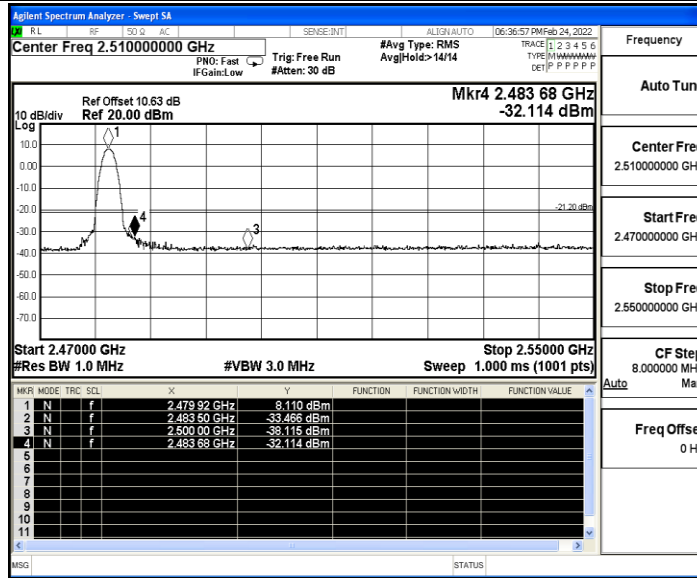




### 2DH5\_Ant1\_High\_2480\_AV

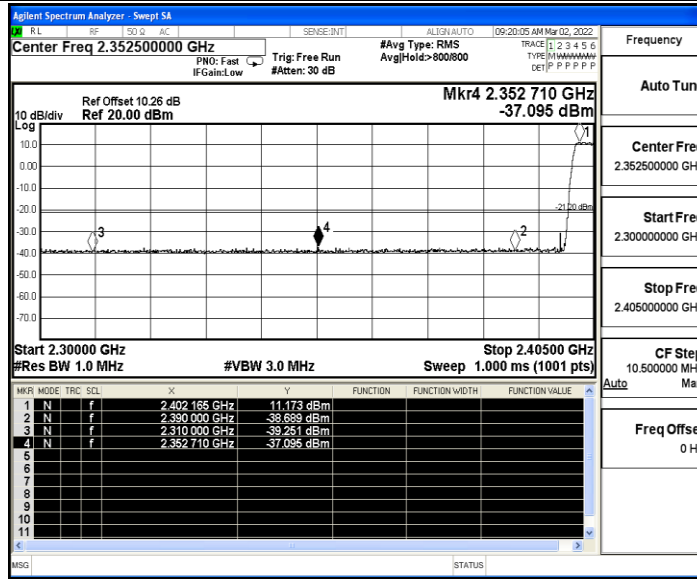


### 2DH5\_Ant1\_High\_2480\_Peak





2DH5\_Ant1\_Low\_Hop\_2402\_Peak



2DH5\_Ant1\_High\_Hop\_2480\_Peak

