



## Appendix A

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

**Product Name: Portable Radio**

**Test Model: Caribou**

#### Environmental Conditions

Temperature:	23.8 ° C
Relative Humidity:	52.1%
ATM Pressure:	100.0 kPa
Test Engineer:	Paddi Chen
Supervised by:	Nick Peng





### A.1 20dB Emission Bandwidth

#### Test Result

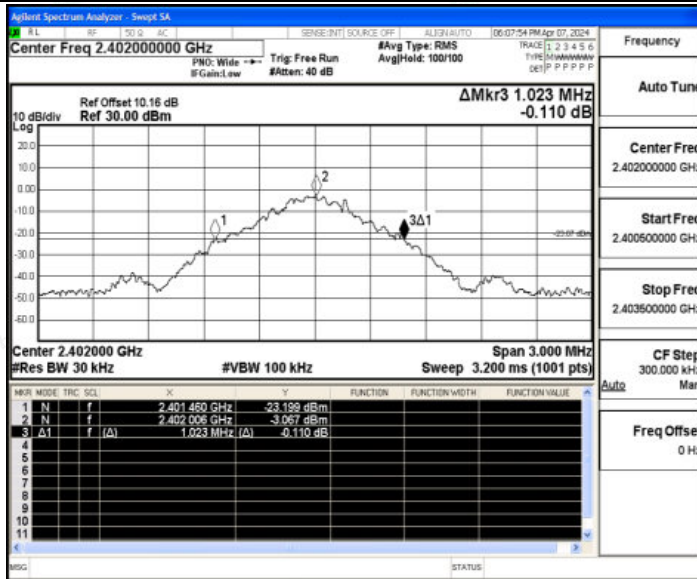
TestMode	Antenna	Frequency [MHz]	20db EBW[MHz]	FL[MHz]	FH[MHz]	Limit [MHz]	Verdict
DH5	Ant1	2402	1.023	2401.460	2402.483	---	---
		2441	1.035	2440.454	2441.489	---	---
		2480	0.999	2479.484	2480.483	---	---
2DH5	Ant1	2402	1.293	2401.352	2402.645	---	---
		2441	1.323	2440.325	2441.648	---	---
		2480	1.290	2479.355	2480.645	---	---
3DH5	Ant1	2402	1.311	2401.334	2402.645	---	---
		2441	1.317	2440.334	2441.651	---	---
		2480	1.302	2479.340	2480.642	---	---



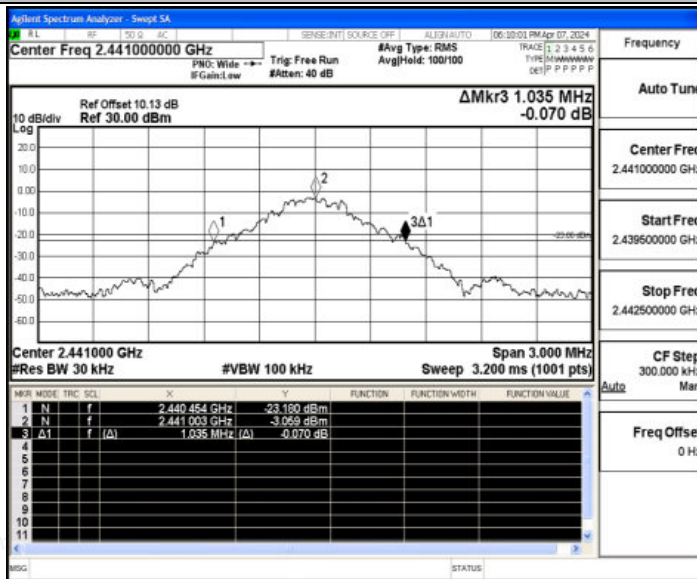


Test Graphs

DH5\_Ant1\_2402

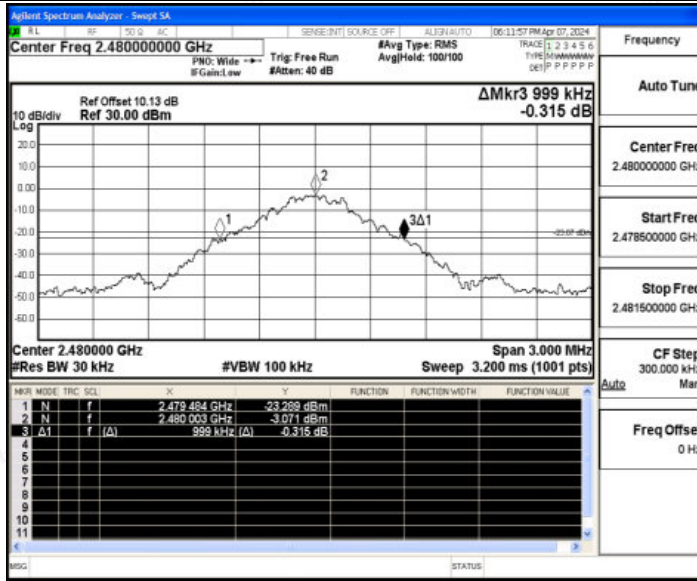


DH5\_Ant1\_2441

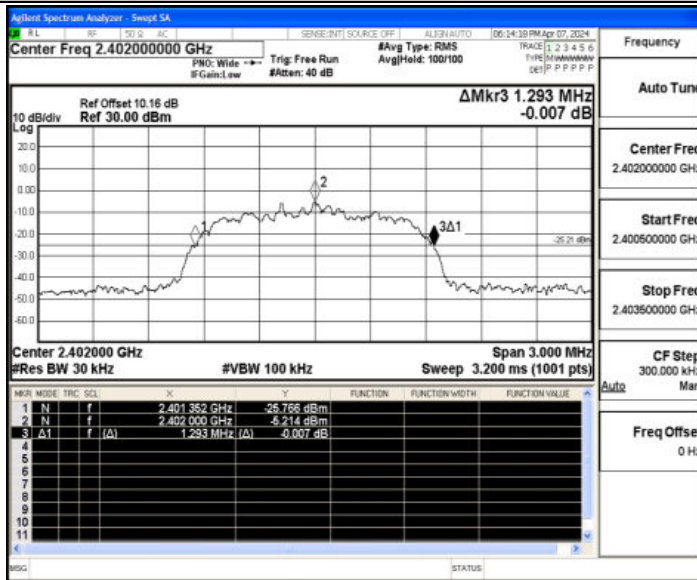


DH5\_Ant1\_2480



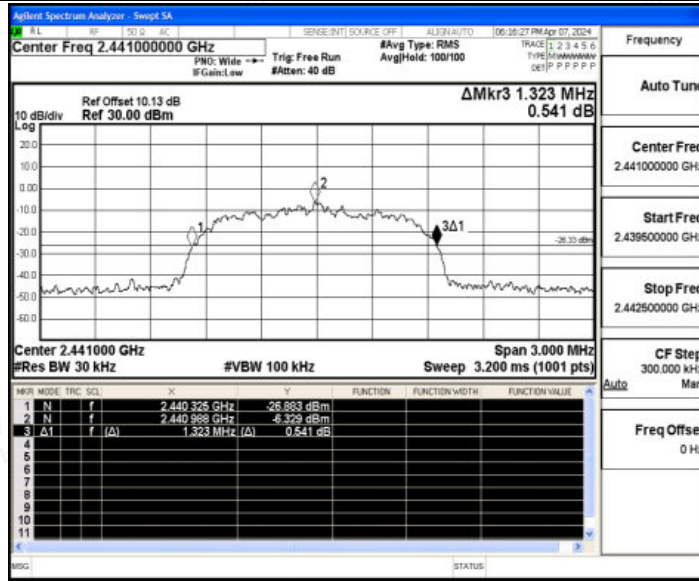


2DH5\_Ant1\_2402

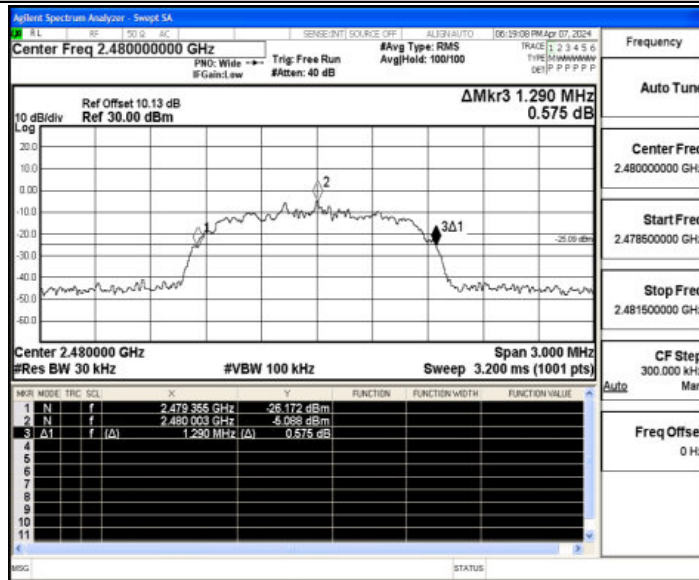


2DH5\_Ant1\_2441



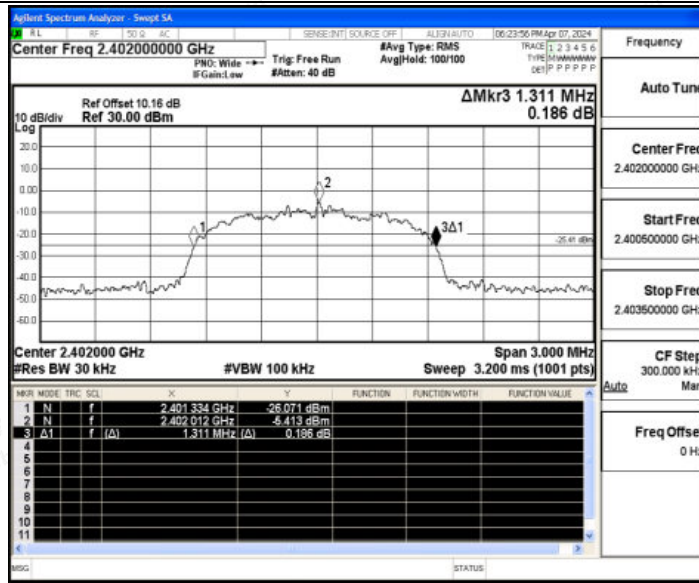


2DH5\_Ant1\_2480

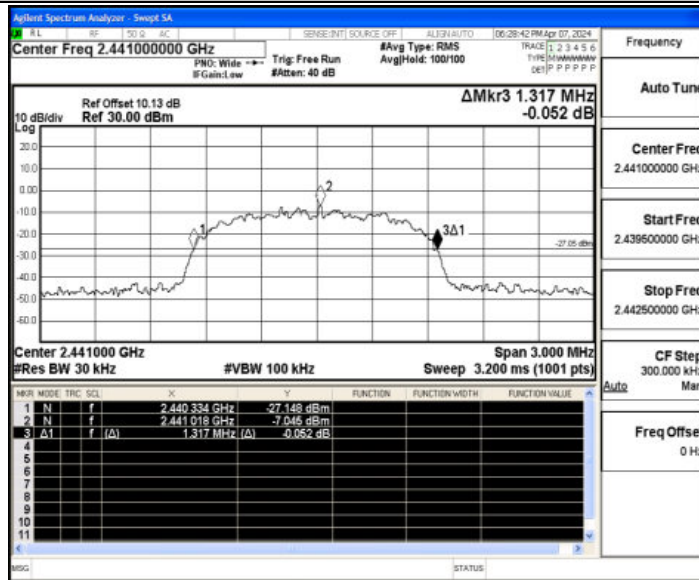


3DH5\_Ant1\_2402



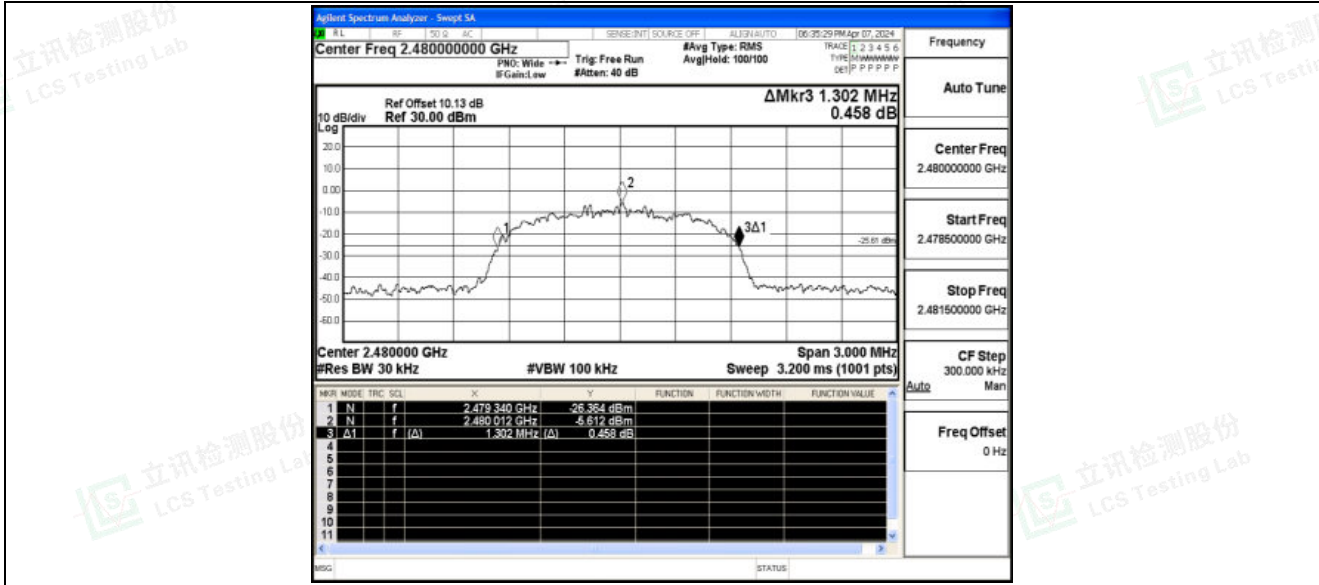


3DH5\_Ant1\_2441



3DH5\_Ant1\_2480







## A.2 Maximum conducted output power

### Test Result Peak

Test Mode	Antenna	Frequency[MHz]	Conducted Peak Power[dBm]	Conducted Limit[dBm]	Verdict
DH5	Ant1	2402	0.04	≤20.97	PASS
		2441	<b>0.15</b>	≤20.97	PASS
		2480	0.13	≤20.97	PASS
2DH5	Ant1	2402	-0.26	≤20.97	PASS
		2441	-0.28	≤20.97	PASS
		2480	-0.26	≤20.97	PASS
3DH5	Ant1	2402	-0.20	≤20.97	PASS
		2441	-0.10	≤20.97	PASS
		2480	-0.24	≤20.97	PASS

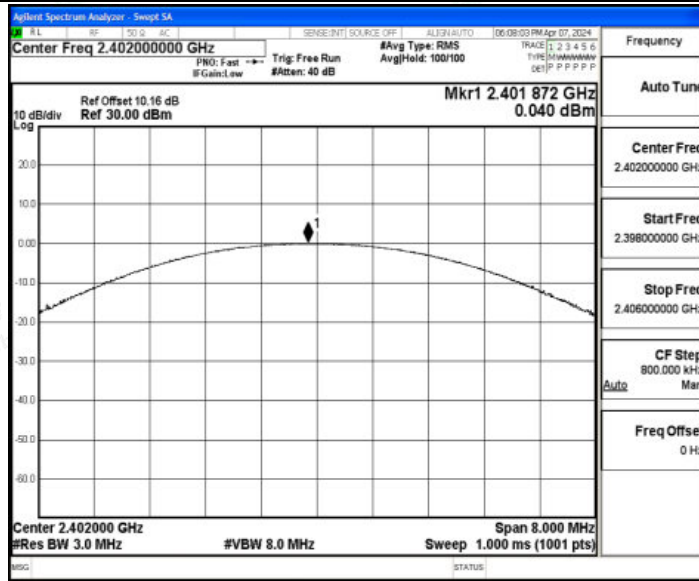




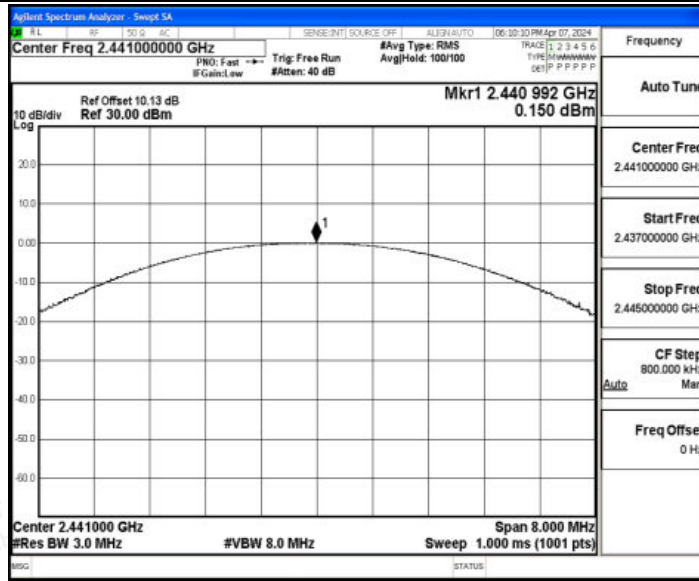


### Test Graphs

DH5\_Ant1\_2402

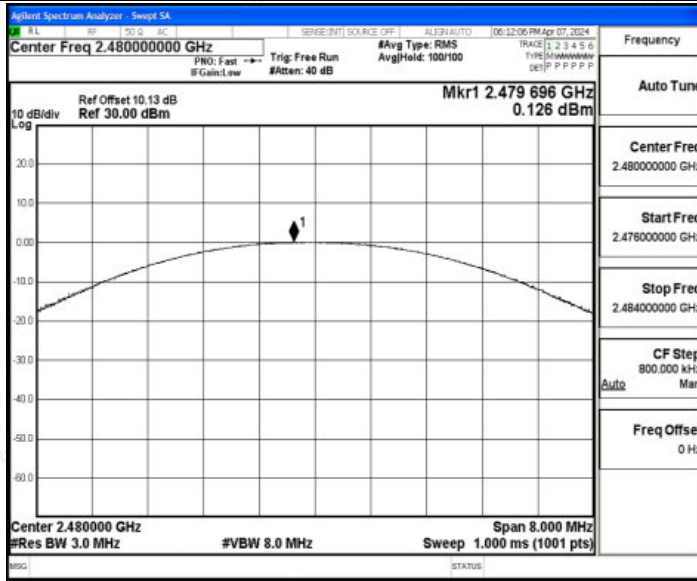


DH5\_Ant1\_2441

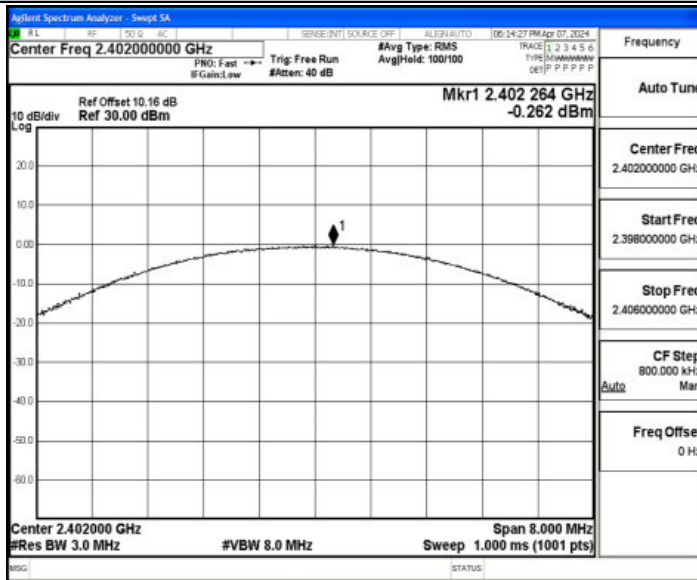


DH5\_Ant1\_2480



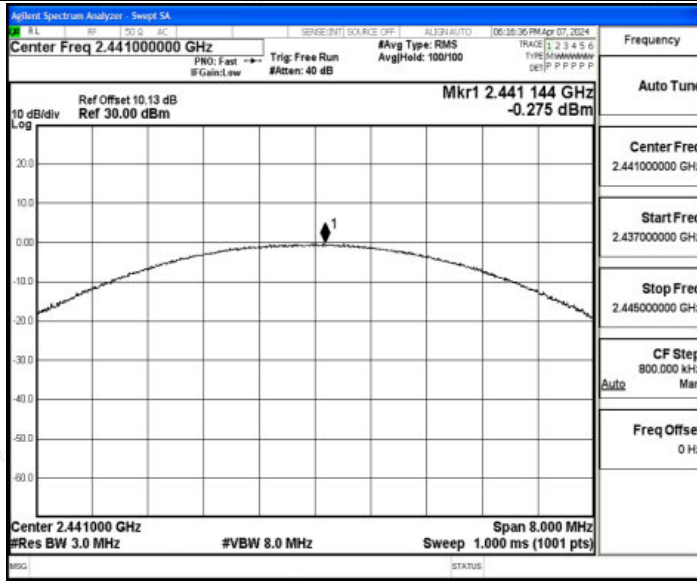


2DH5\_Ant1\_2402

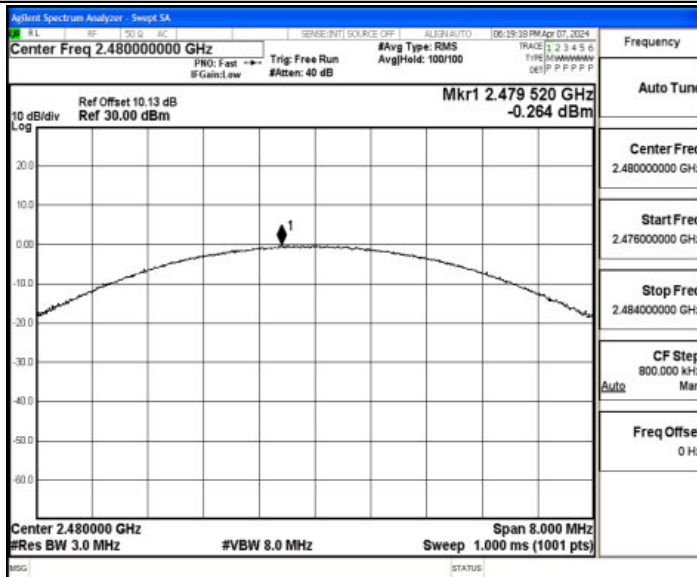


2DH5\_Ant1\_2441



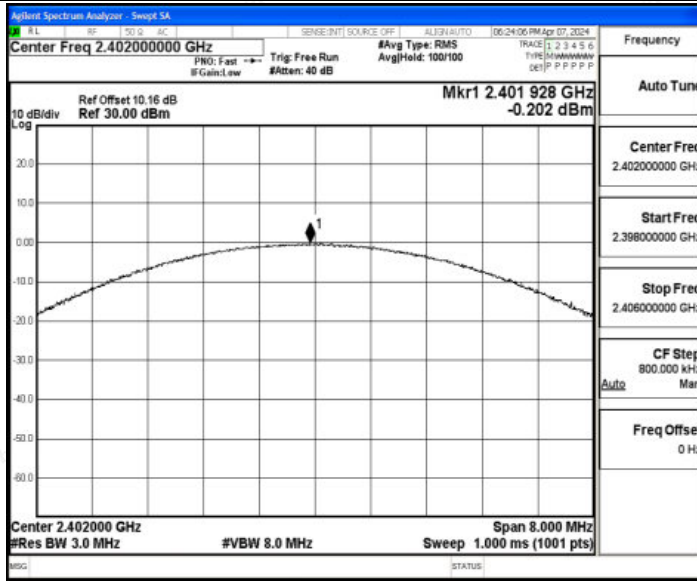


2DH5\_Ant1\_2480

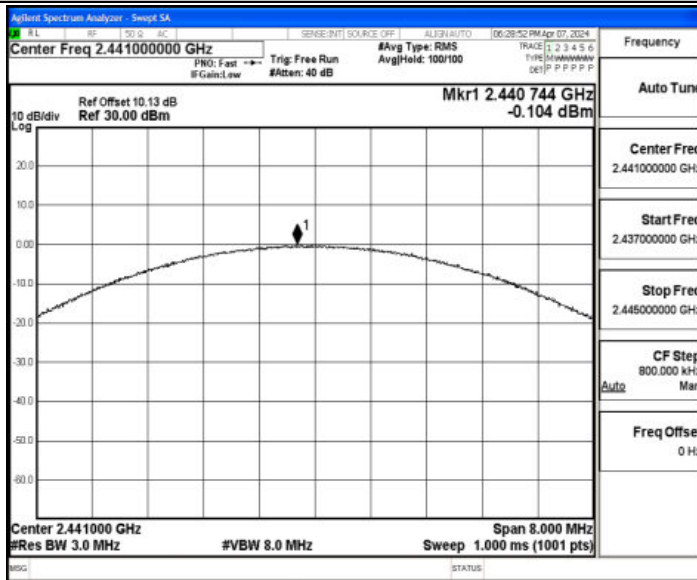


3DH5\_Ant1\_2402



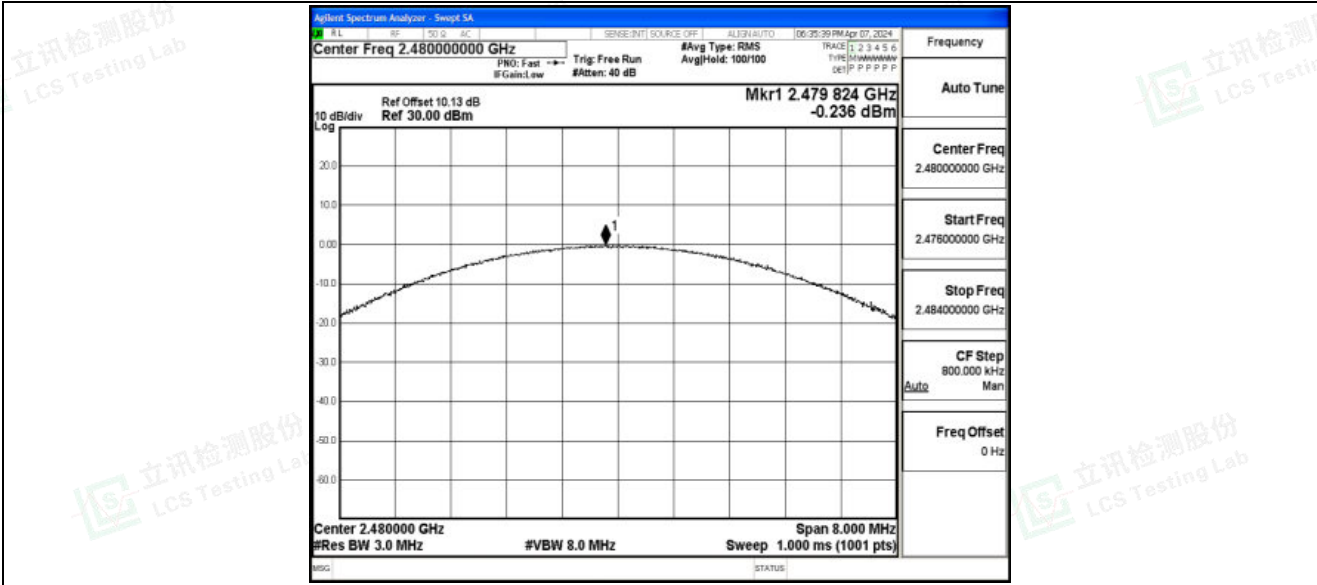


3DH5\_Ant1\_2441



3DH5\_Ant1\_2480







### A.3 Carrier frequency separation

#### Test Result

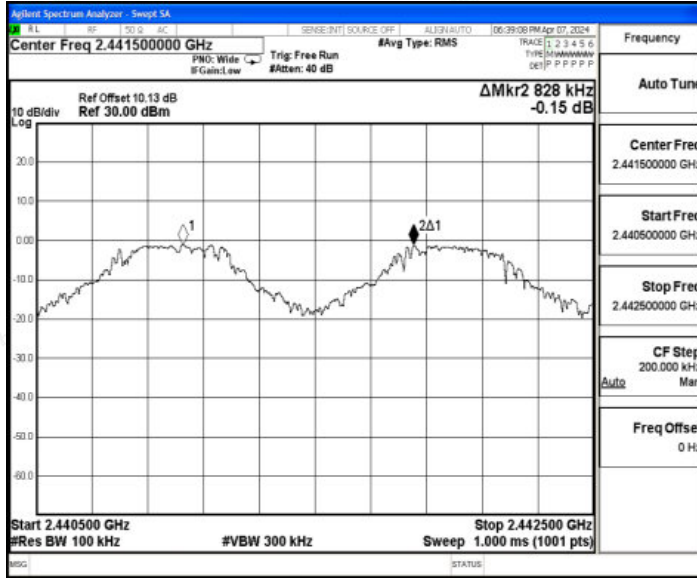
TestMode	Antenna	Frequency[MHz]	Result[MHz]	Limit[MHz]	Verdict
DH5	Ant1	Hop	0.828	≥0.690	PASS
2DH5	Ant1	Hop	1.138	≥0.882	PASS
3DH5	Ant1	Hop	1.282	≥0.878	PASS



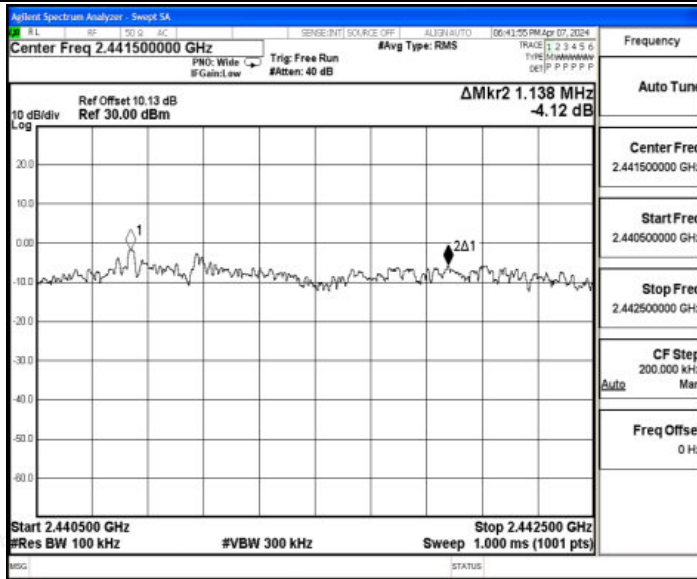


### Test Graphs

DH5\_Ant1\_Hop

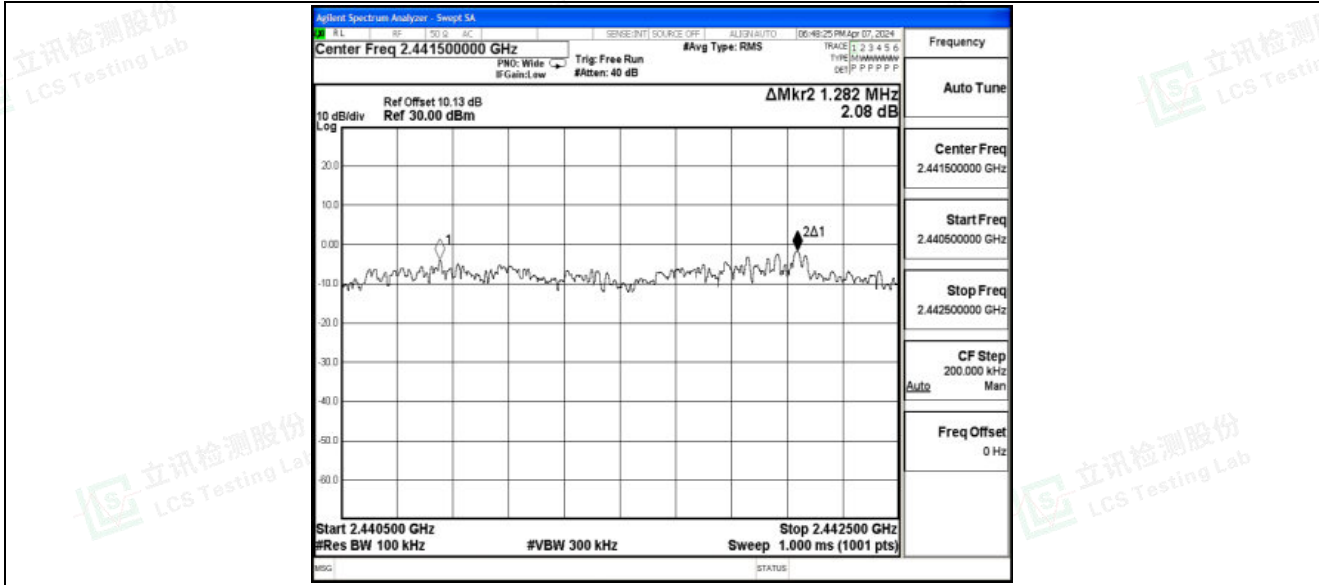


2DH5\_Ant1\_Hop



3DH5\_Ant1\_Hop









### A.4 Time of occupancy

#### Test Result

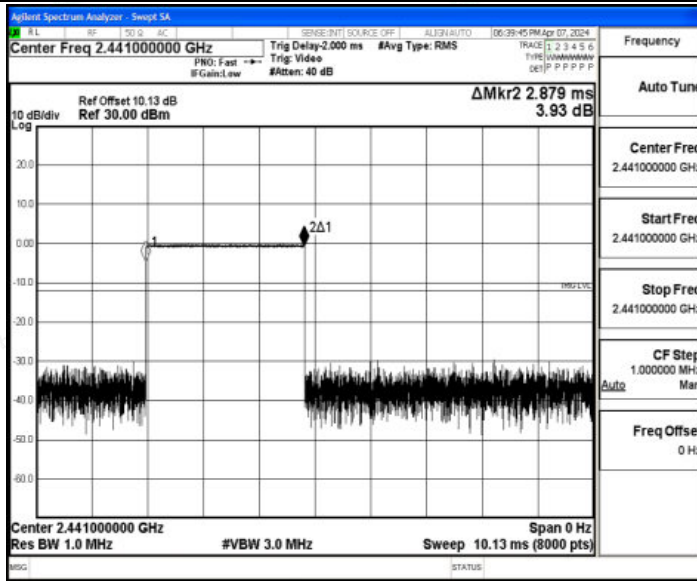
TestMode	Antenna	Frequency[MHz]	BurstWidth [ms]	TotalHops [Num]	Result[s]	Limit[s]	Verdict
DH5	Ant1	Hop	2.879	106.67	0.307	≤0.4	PASS
2DH5	Ant1	Hop	2.885	106.67	0.308	≤0.4	PASS
3DH5	Ant1	Hop	2.887	106.67	0.308	≤0.4	PASS



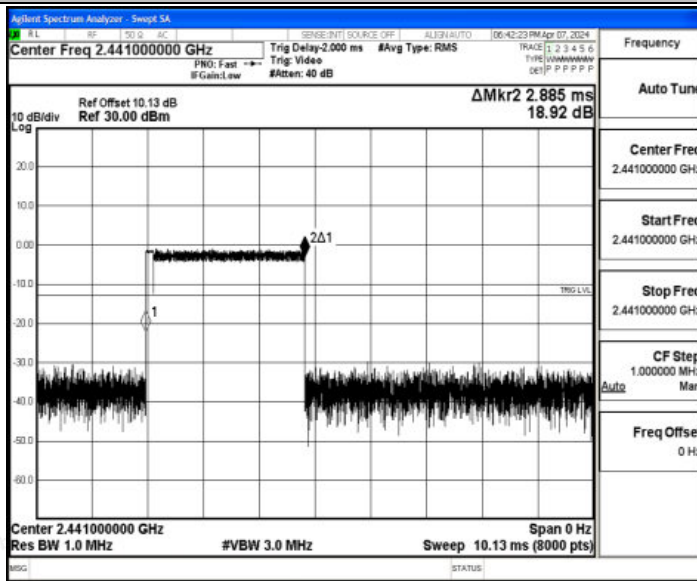


### Test Graphs

#### DH5\_Ant1\_Hop

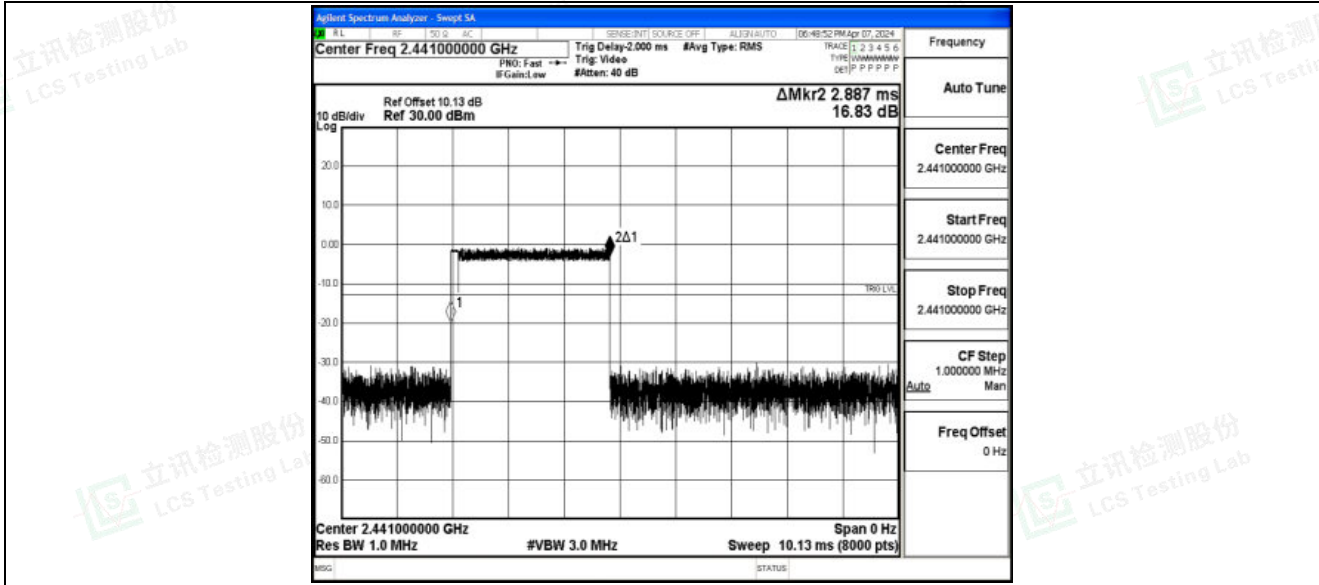


#### 2DH5\_Ant1\_Hop



#### 3DH5\_Ant1\_Hop







## A.5 Number of hopping channels

### Test Result

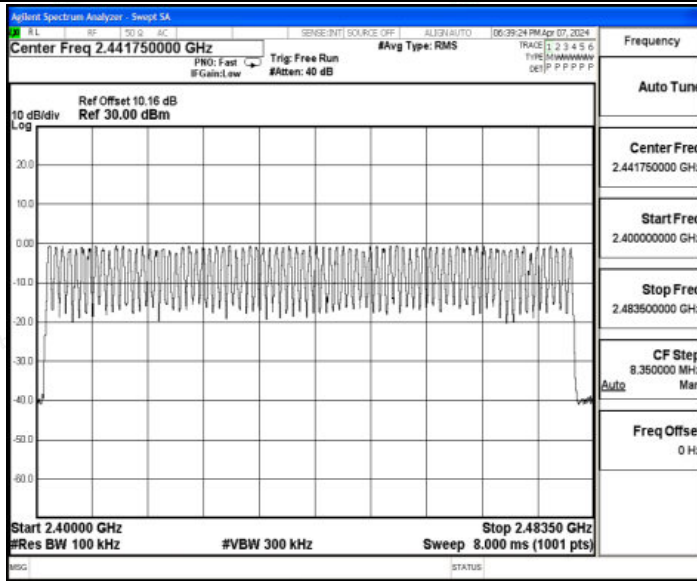
TestMode	Antenna	Frequency[MHz]	Result[Num]	Limit[Num]	Verdict
DH5	Ant1	Hop	79	≥15	PASS
2DH5	Ant1	Hop	79	≥15	PASS
3DH5	Ant1	Hop	79	≥15	PASS



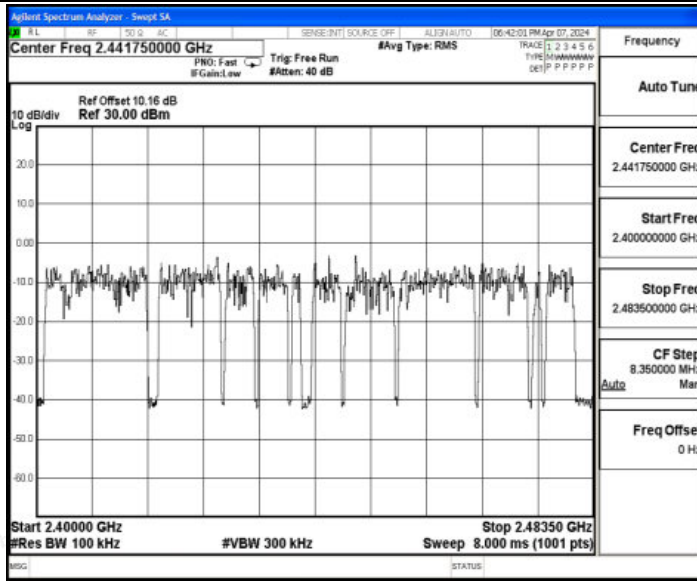


### Test Graphs

#### DH5\_Ant1\_Hop

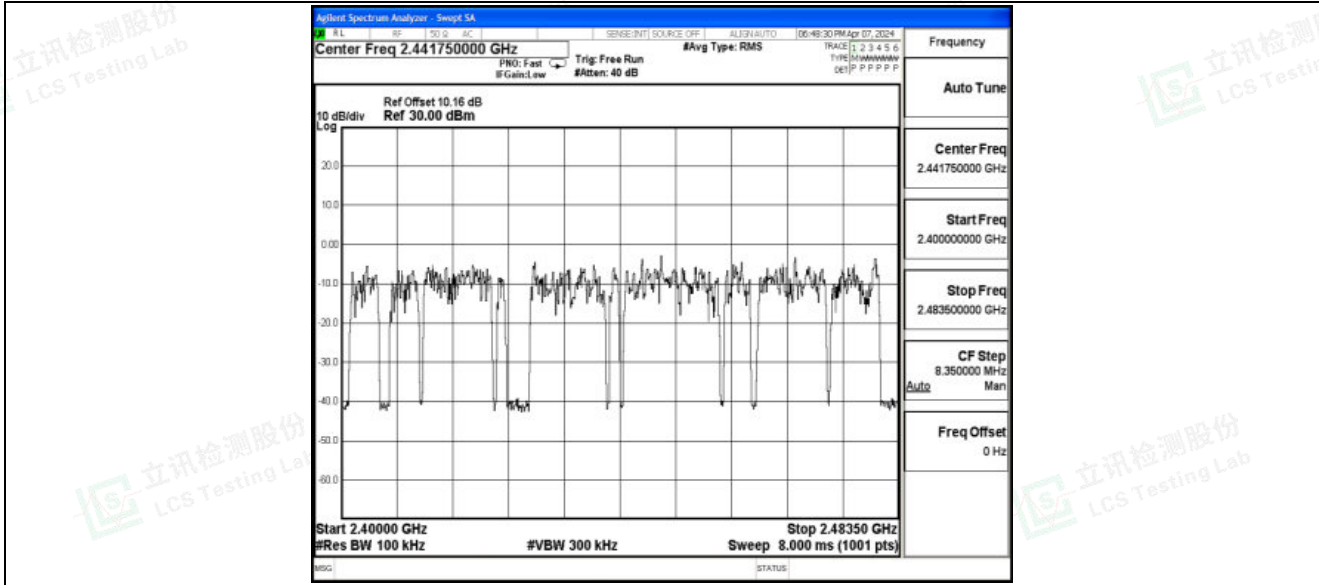


#### 2DH5\_Ant1\_Hop



#### 3DH5\_Ant1\_Hop







### A.6 Band edge measurements

#### Test Result

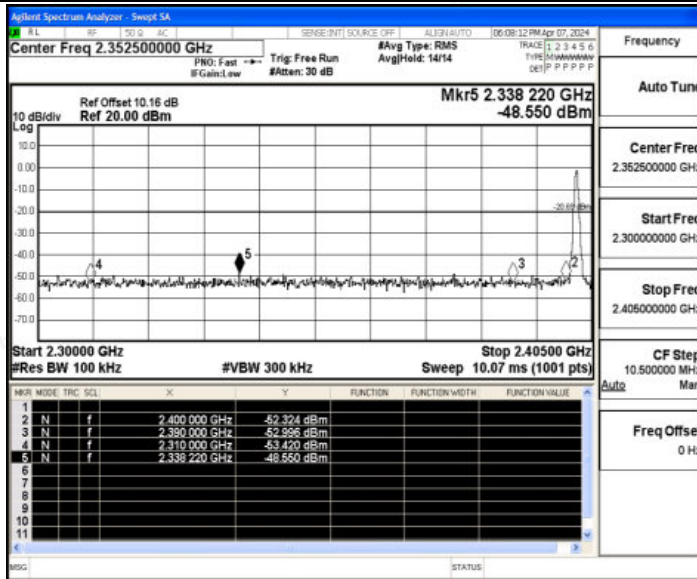
TestMode	Antenna	ChName	Frequency[MHz]	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
DH5	Ant1	Low	2402	-0.69	-48.55	≤-20.69	PASS
		High	2480	-1.09	-48.89	≤-21.09	PASS
		Low	Hop_2402	-1.52	-47.78	≤-21.52	PASS
		High	Hop_2480	-0.70	-47.55	≤-20.7	PASS
2DH5	Ant1	Low	2402	-1.95	-49.23	≤-21.95	PASS
		High	2480	-1.65	-48.64	≤-21.65	PASS
		Low	Hop_2402	-5.71	-47.74	≤-25.71	PASS
		High	Hop_2480	-2.02	-47.31	≤-22.02	PASS
3DH5	Ant1	Low	2402	-2.30	-49.22	≤-22.3	PASS
		High	2480	-1.56	-48.61	≤-21.56	PASS
		Low	Hop_2402	-5.08	-48.49	≤-25.08	PASS
		High	Hop_2480	-3.00	-47.19	≤-23	PASS



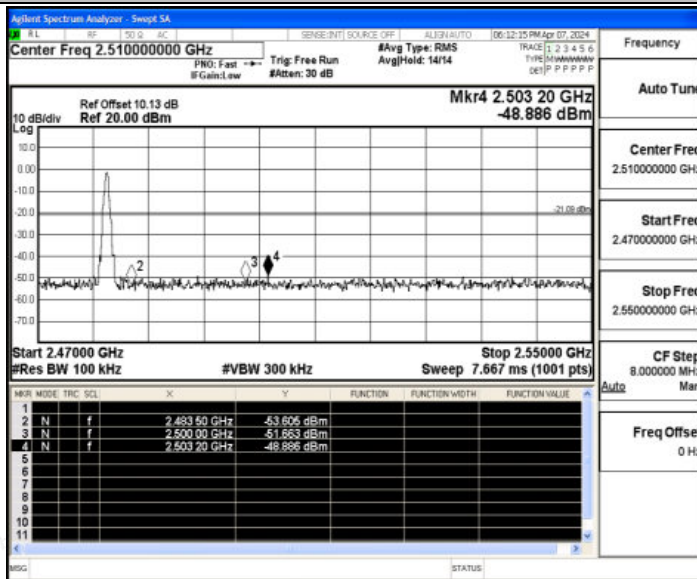


### Test Graphs

DH5\_Ant1\_Low\_2402



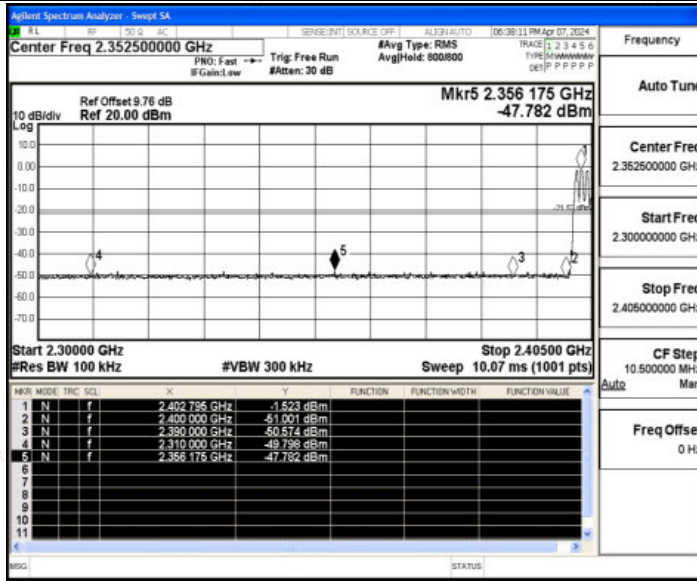
DH5\_Ant1\_High\_2480



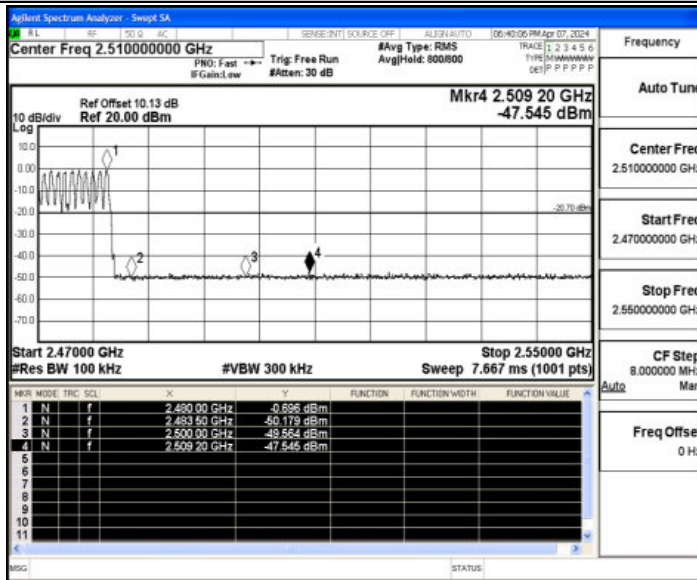
DH5\_Ant1\_Low\_Hop\_2402





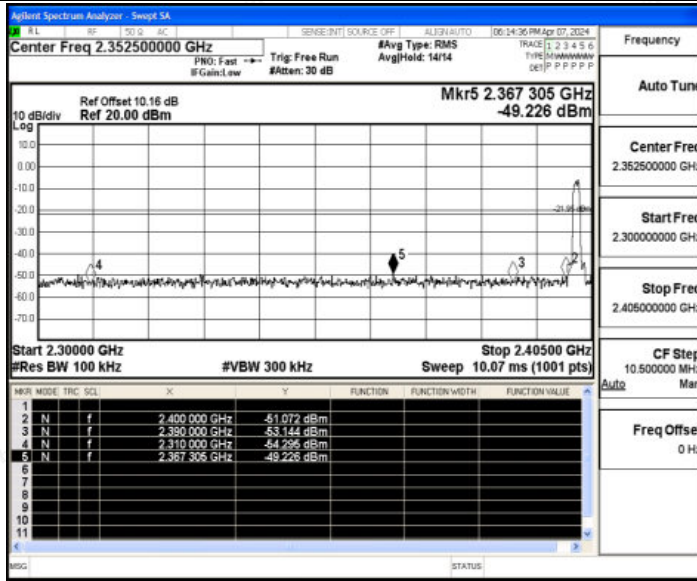


DH5\_Ant1\_High\_Hop\_2480

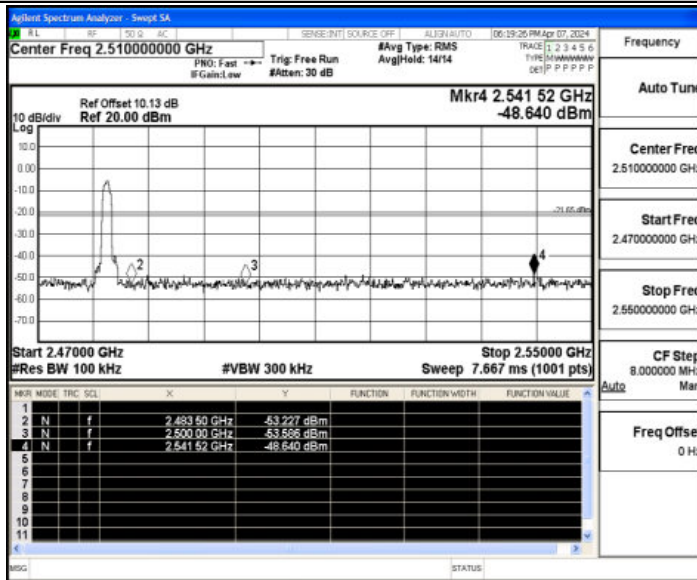


2DH5\_Ant1\_Low\_2402



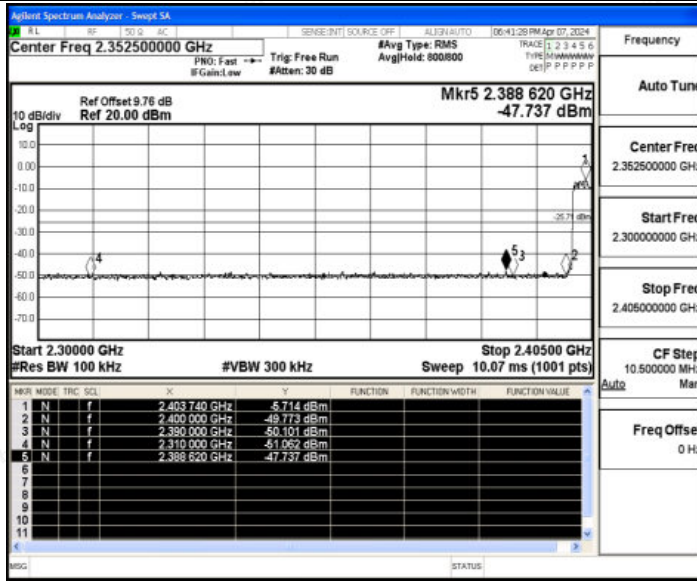


2DH5\_Ant1\_High\_2480

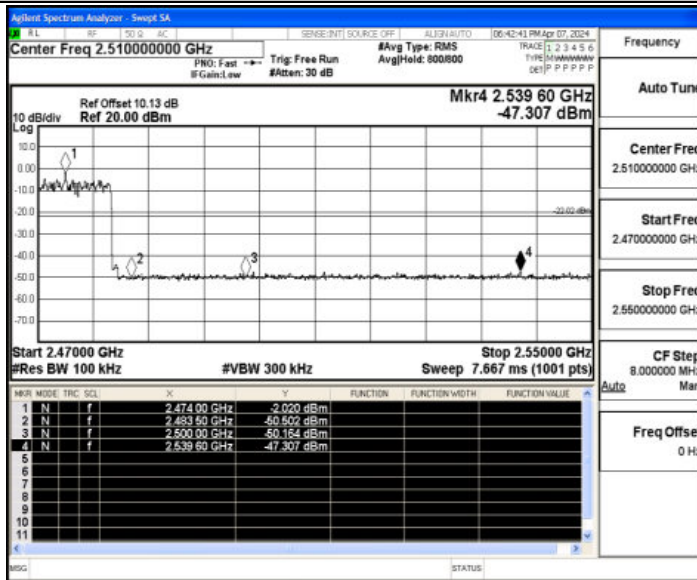


2DH5\_Ant1\_Low\_Hop\_2402



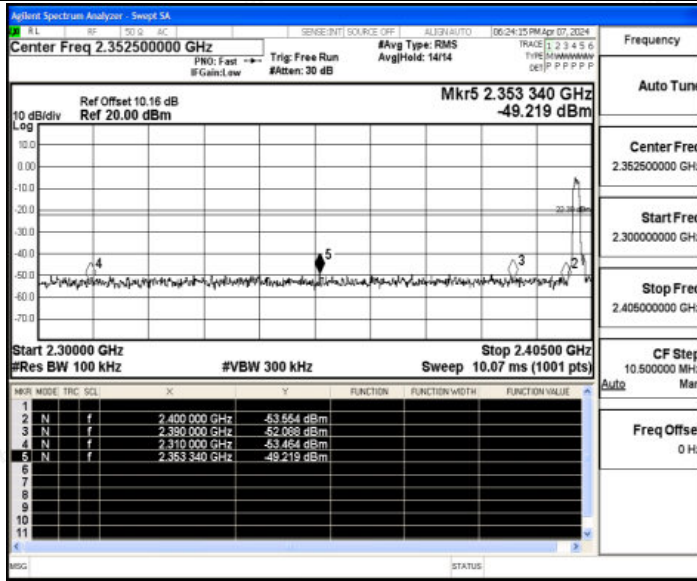


2DH5\_Ant1\_High\_Hop\_2480

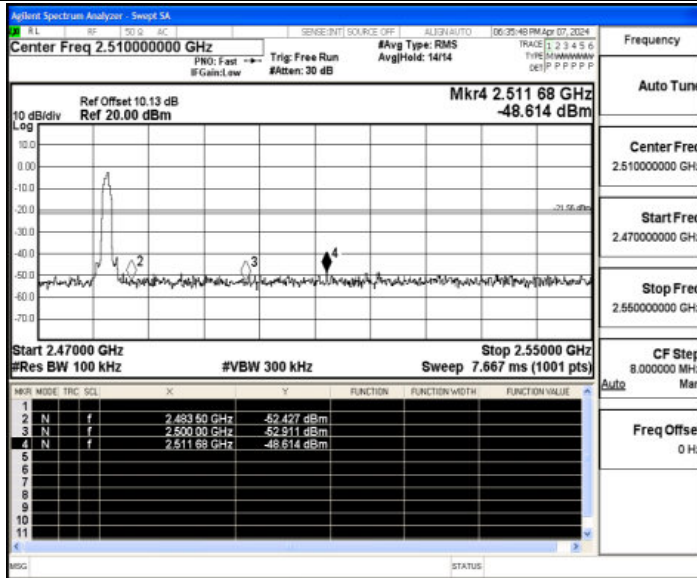


3DH5\_Ant1\_Low\_2402



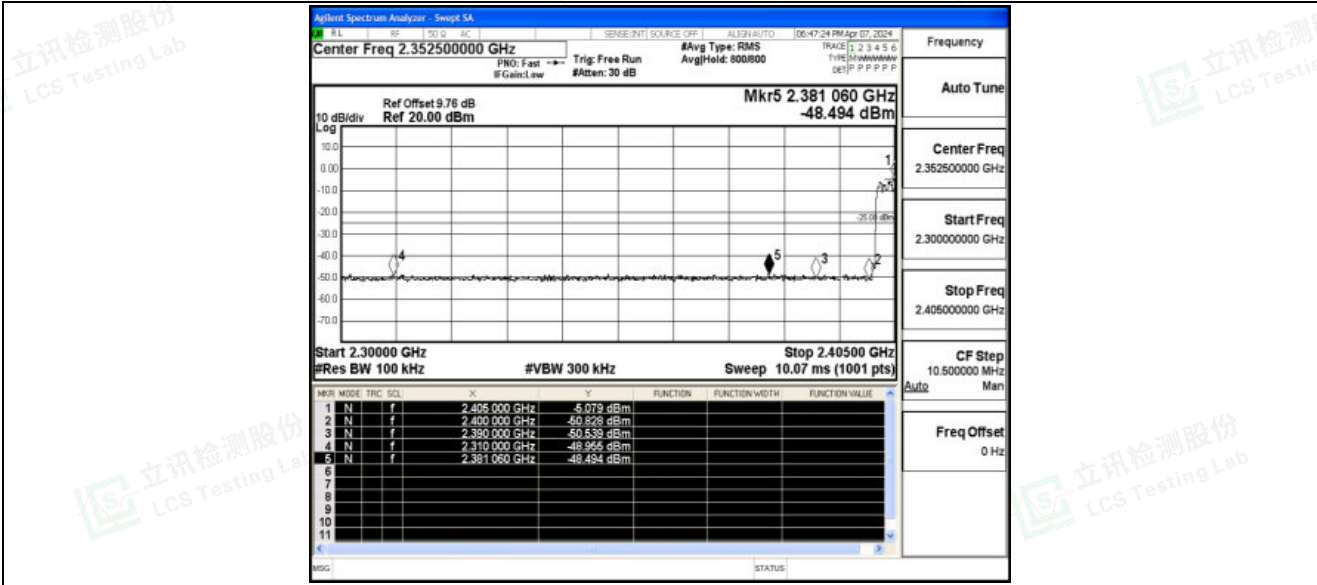


3DH5\_Ant1\_High\_2480

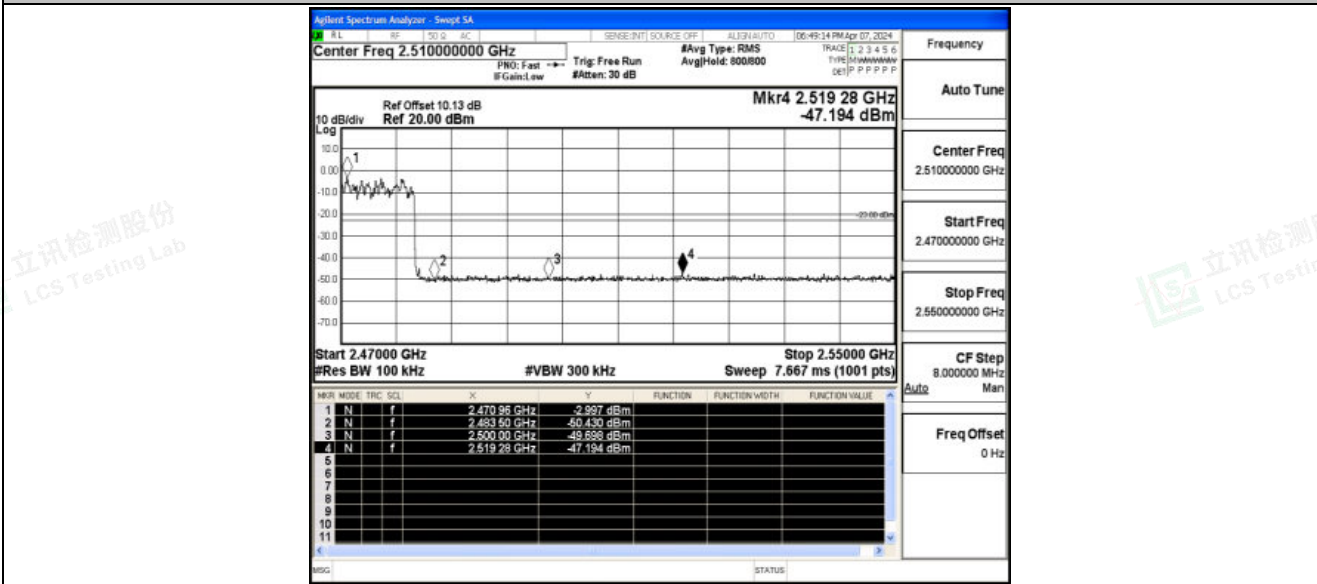


3DH5\_Ant1\_Low\_Hop\_2402





3DH5\_Ant1\_High\_Hop\_2480





### A.7 Conducted Spurious Emission

#### Test Result

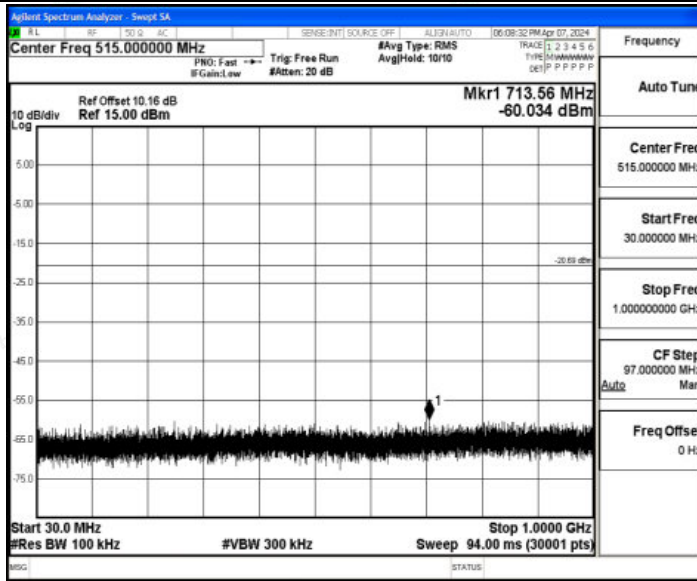
TestMode	Antenna	Frequency[MHz]	FreqRange [MHz]	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
DH5	Ant1	2402	30~1000	-0.69	-60.03	≤-20.69	PASS
			1000~26500	-0.69	-46.76	≤-20.69	PASS
		2441	30~1000	-1.24	-58.69	≤-21.24	PASS
			1000~26500	-1.24	-47.07	≤-21.24	PASS
		2480	30~1000	-1.09	-59.25	≤-21.09	PASS
			1000~26500	-1.09	-47.16	≤-21.09	PASS
2DH5	Ant1	2402	30~1000	-1.95	-51.29	≤-21.95	PASS
			1000~26500	-1.95	-47.25	≤-21.95	PASS
		2441	30~1000	-2.39	-59.97	≤-22.39	PASS
			1000~26500	-2.39	-47.06	≤-22.39	PASS
		2480	30~1000	-1.65	-60.24	≤-21.65	PASS
			1000~26500	-1.65	-47.25	≤-21.65	PASS
3DH5	Ant1	2402	30~1000	-2.30	-60.26	≤-22.3	PASS
			1000~26500	-2.30	-46.83	≤-22.3	PASS
		2441	30~1000	-2.09	-59.57	≤-22.09	PASS
			1000~26500	-2.09	-47.43	≤-22.09	PASS
		2480	30~1000	-1.56	-59.7	≤-21.56	PASS
			1000~26500	-1.56	-47.12	≤-21.56	PASS



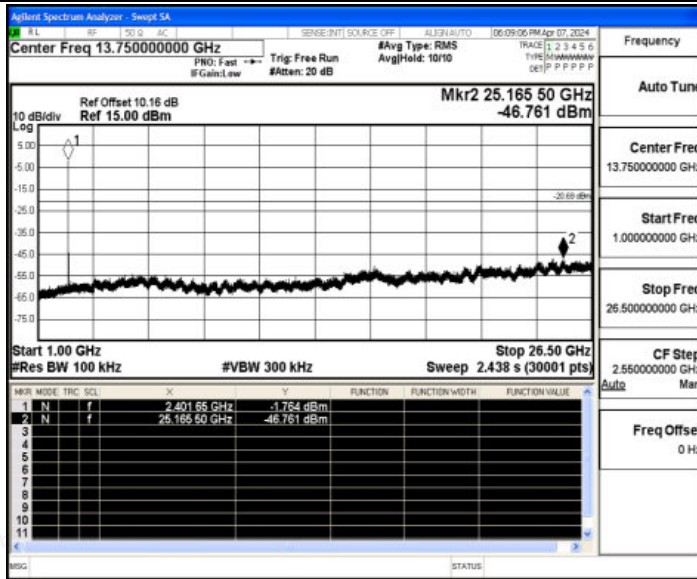


### Test Graphs

DH5\_Ant1\_2402\_30~1000

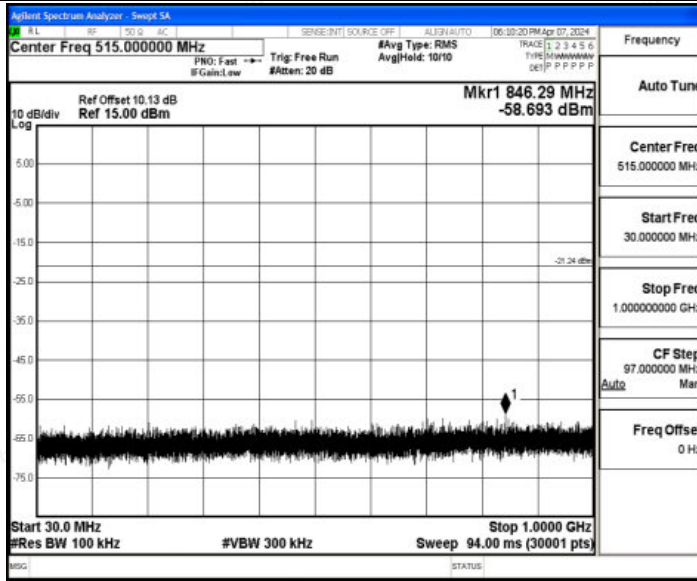


DH5\_Ant1\_2402\_1000~26500

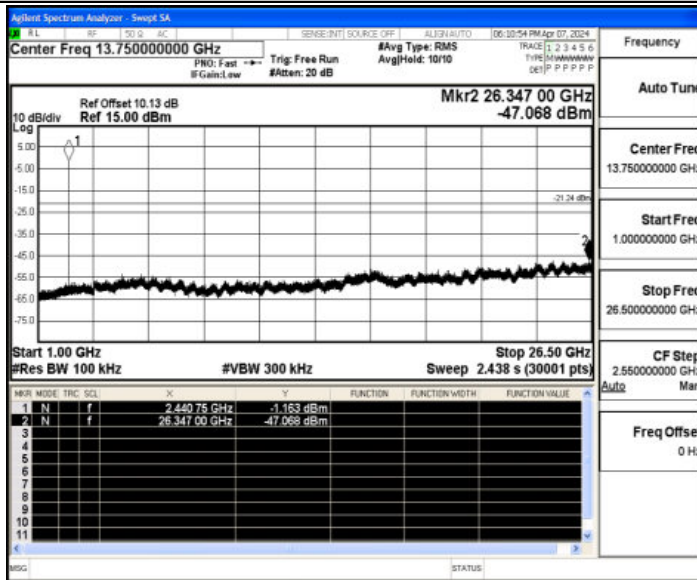


DH5\_Ant1\_2441\_30~1000





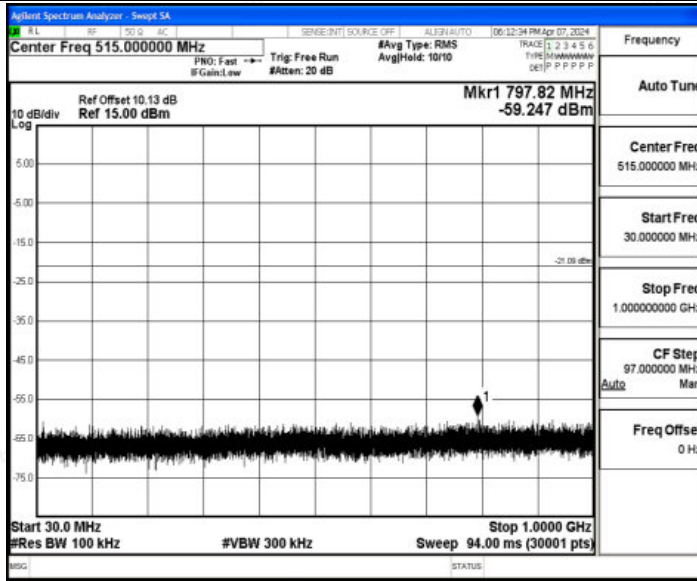
DH5\_Ant1\_2441\_1000~26500



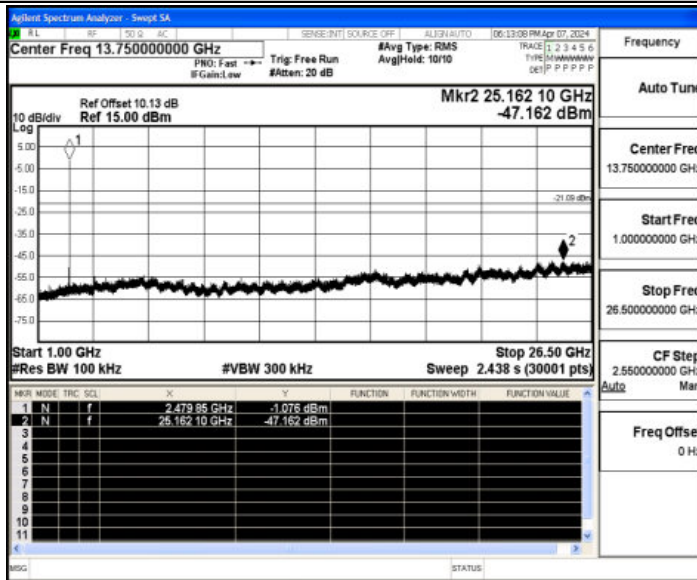
DH5\_Ant1\_2480\_30~1000





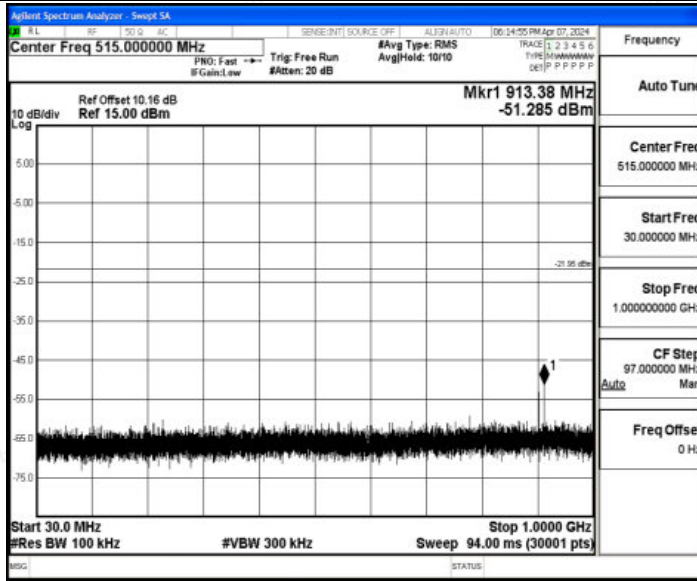


DH5\_Ant1\_2480\_1000~26500

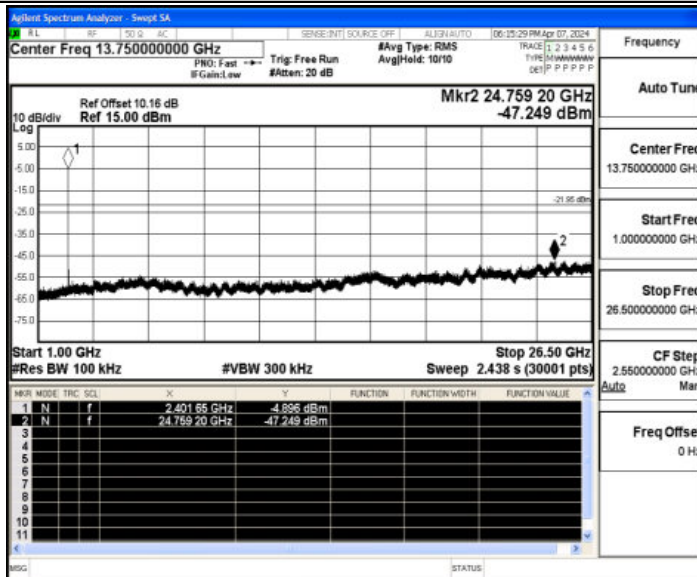


2DH5\_Ant1\_2402\_30~1000



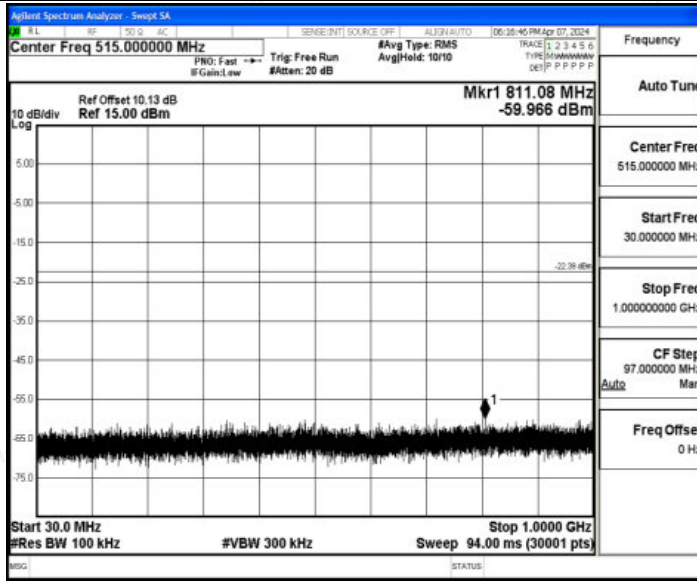


2DH5\_Ant1\_2402\_1000~26500

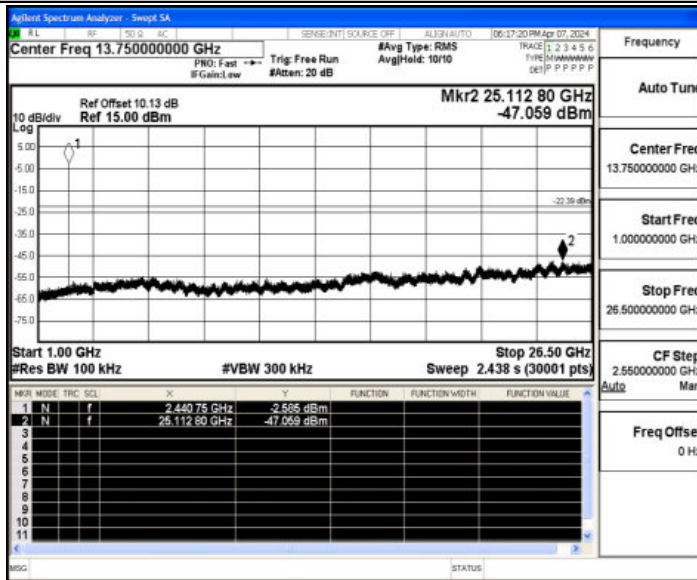


2DH5\_Ant1\_2441\_30~1000



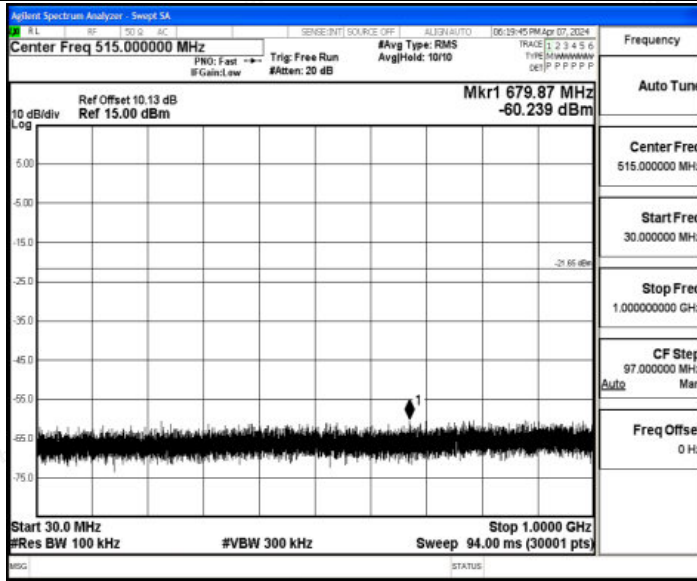


2DH5\_Ant1\_2441\_1000~26500

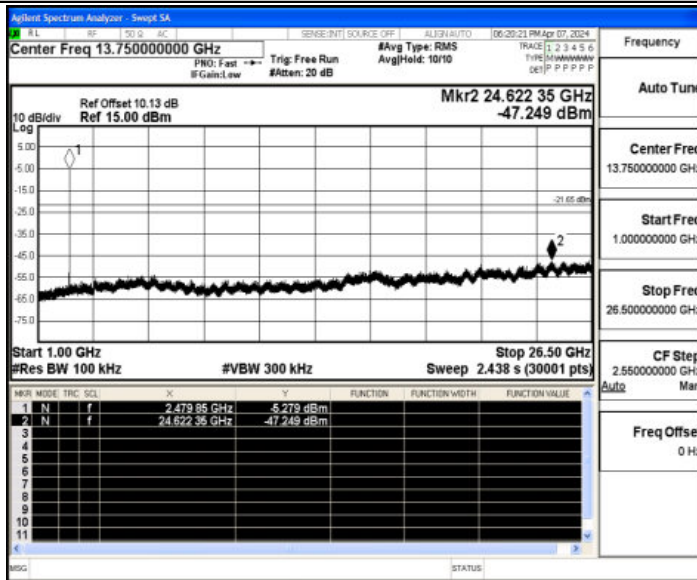


2DH5\_Ant1\_2480\_30~1000



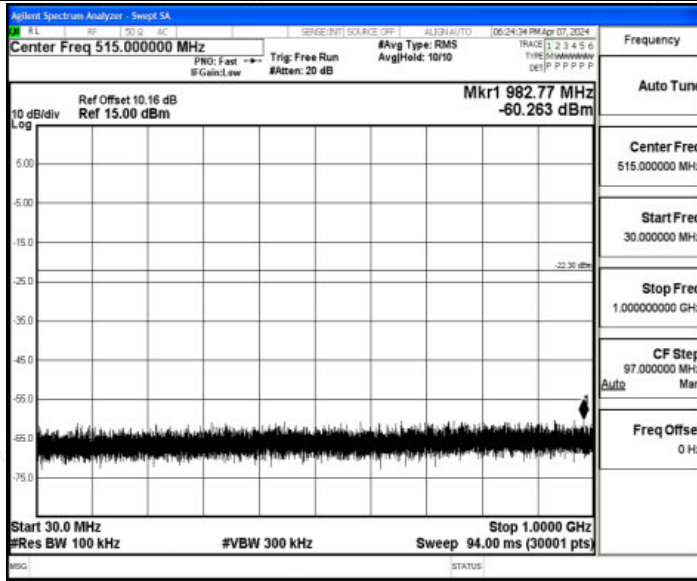


2DH5\_Ant1\_2480\_1000~26500

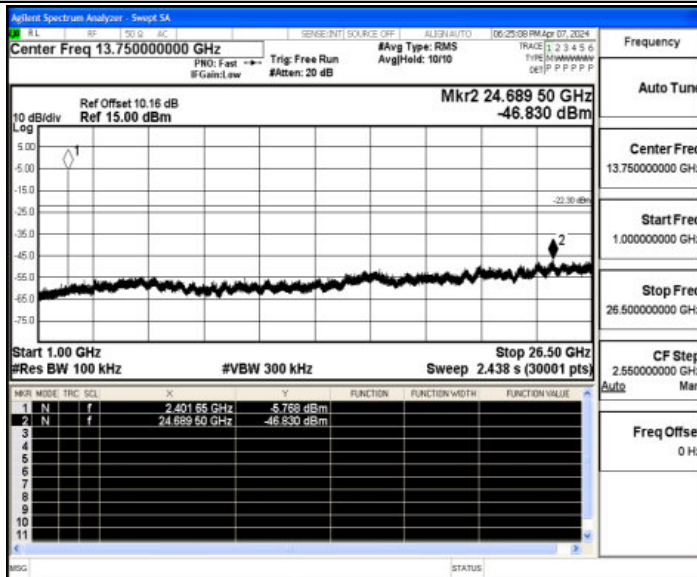


3DH5\_Ant1\_2402\_30~1000



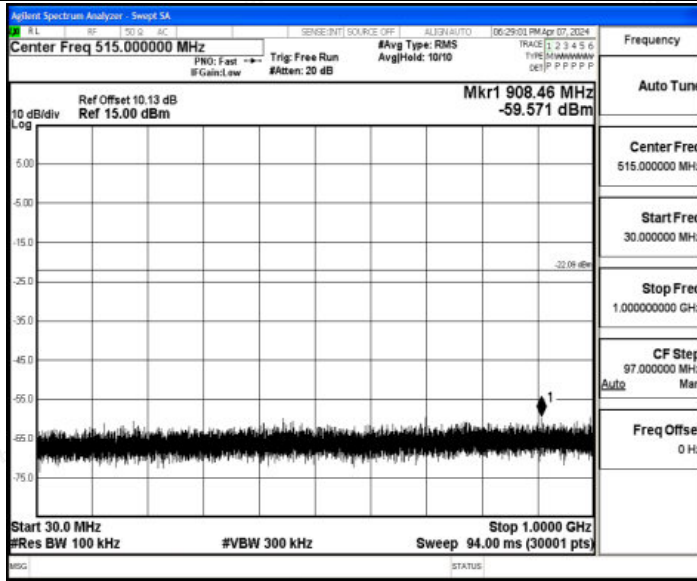


3DH5\_Ant1\_2402\_1000~26500

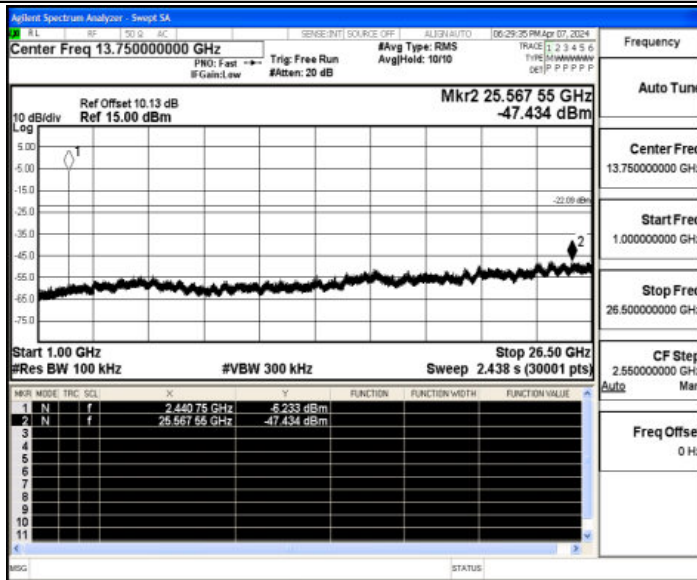


3DH5\_Ant1\_2441\_30~1000



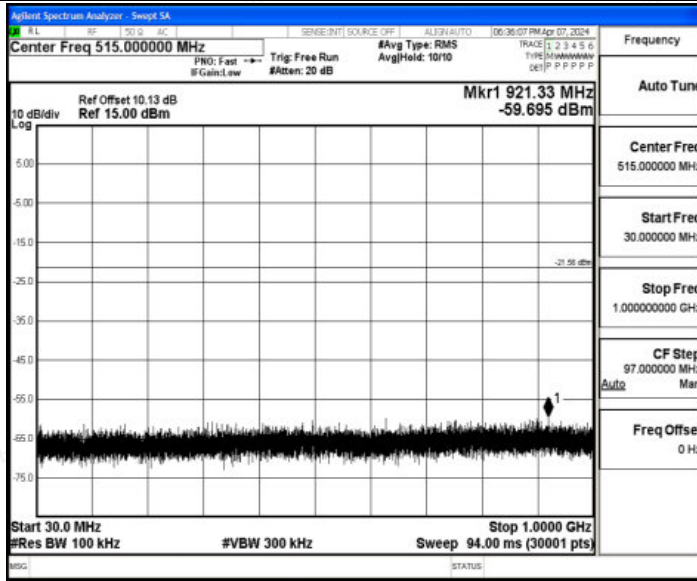


3DH5\_Ant1\_2441\_1000~26500

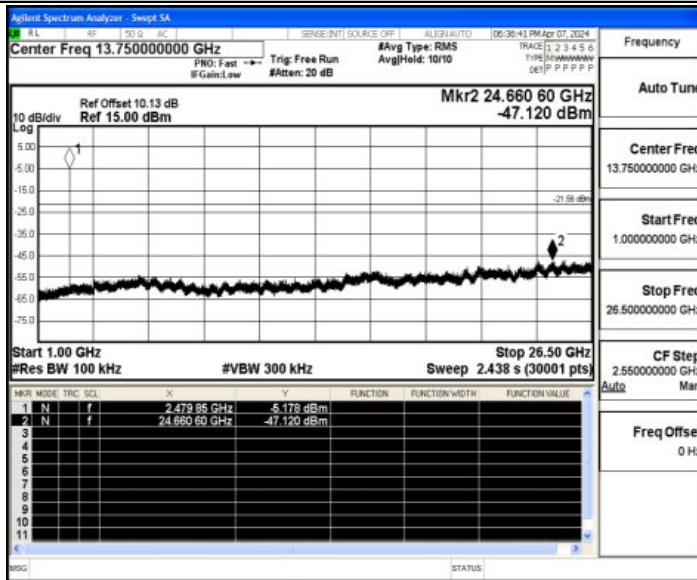


3DH5\_Ant1\_2480\_30~1000





3DH5\_Ant1\_2480\_1000~26500





### Reference Level

### Test Result

TestMode	Antenna	ChName	Frequency[MHz]	Result [dBm]	Limit [dBm]	Verdict
DH5	Ant1	2402	2402.15	-0.69	---	PASS
		2441	2441.00	-1.24	---	PASS
		2480	2480.00	-1.09	---	PASS
2DH5	Ant1	2402	2402.14	-1.95	---	PASS
		2441	2441.15	-2.39	---	PASS
		2480	2480.15	-1.65	---	PASS
3DH5	Ant1	2402	2402.15	-2.30	---	PASS
		2441	2440.85	-2.09	---	PASS
		2480	2480.15	-1.56	---	PASS

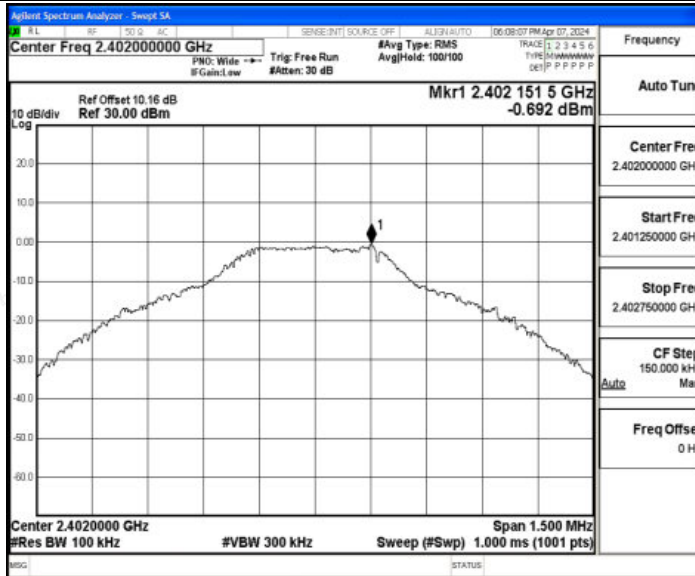




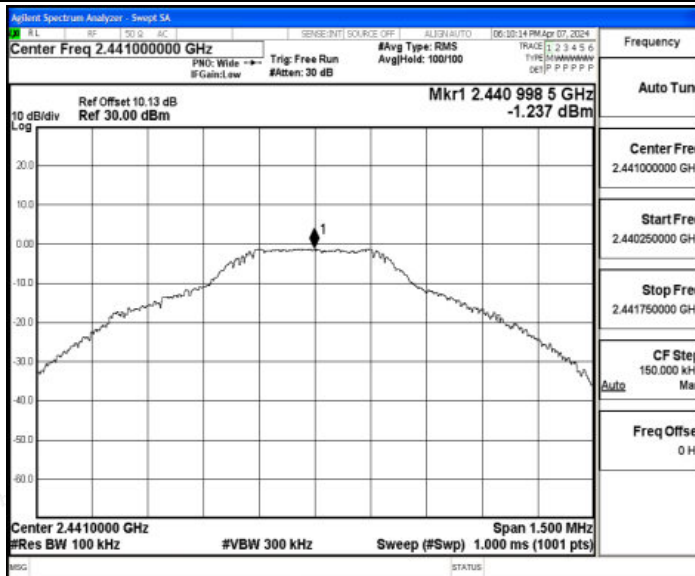


### Test Graphs

DH5\_Ant1\_2402

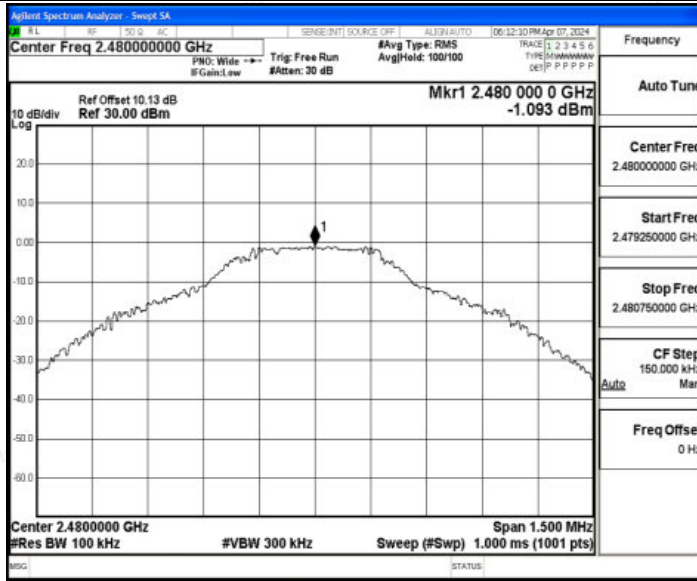


DH5\_Ant1\_2441

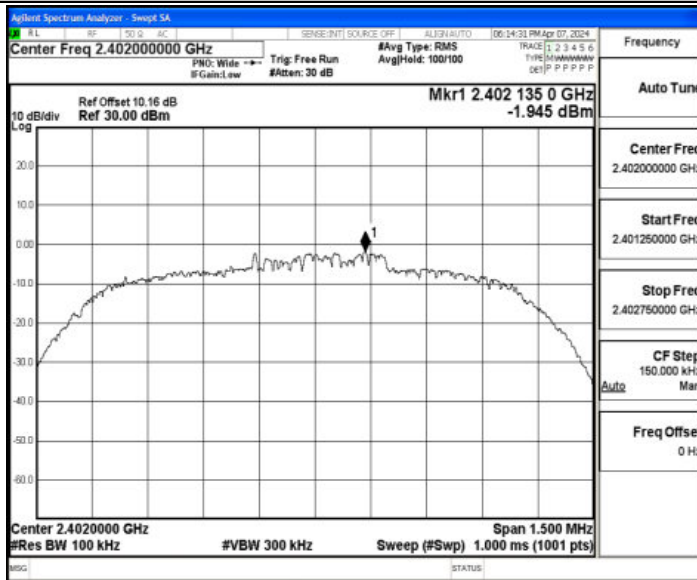


DH5\_Ant1\_2480



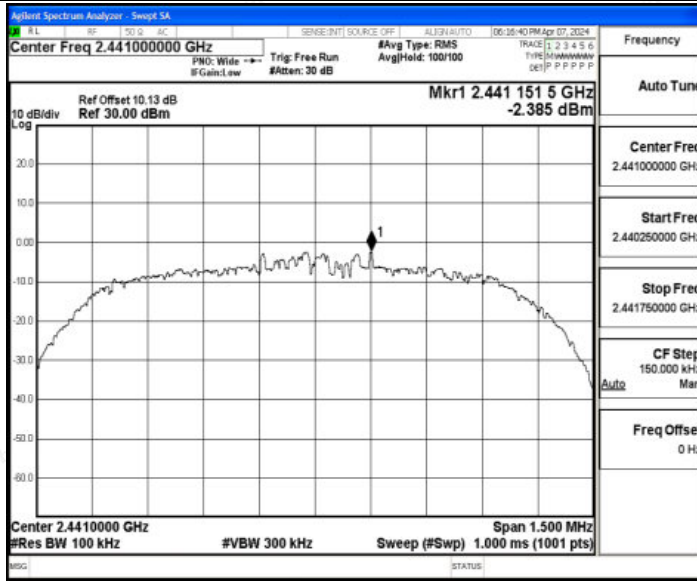


2DH5\_Ant1\_2402

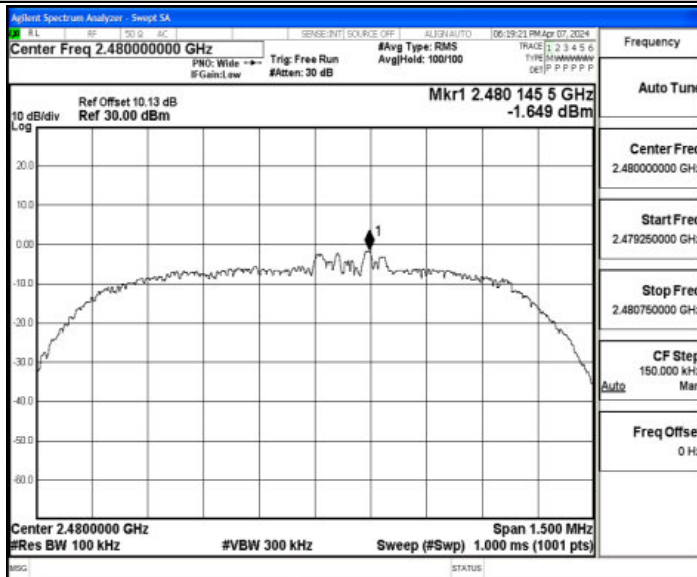


2DH5\_Ant1\_2441



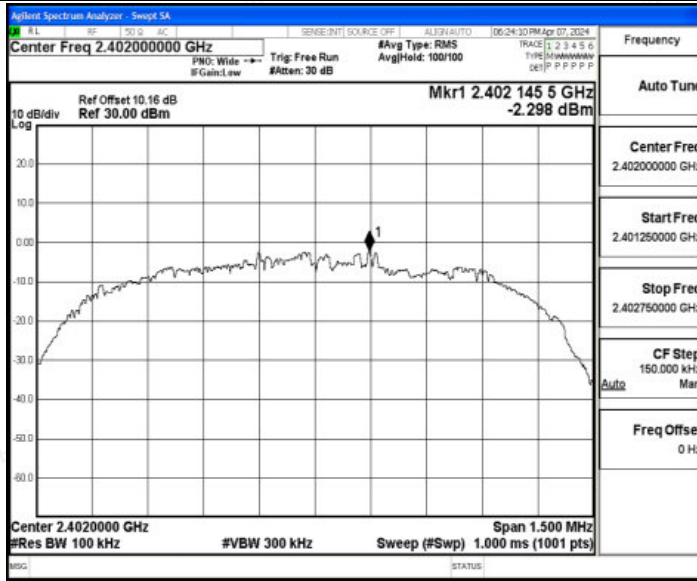


2DH5\_Ant1\_2480

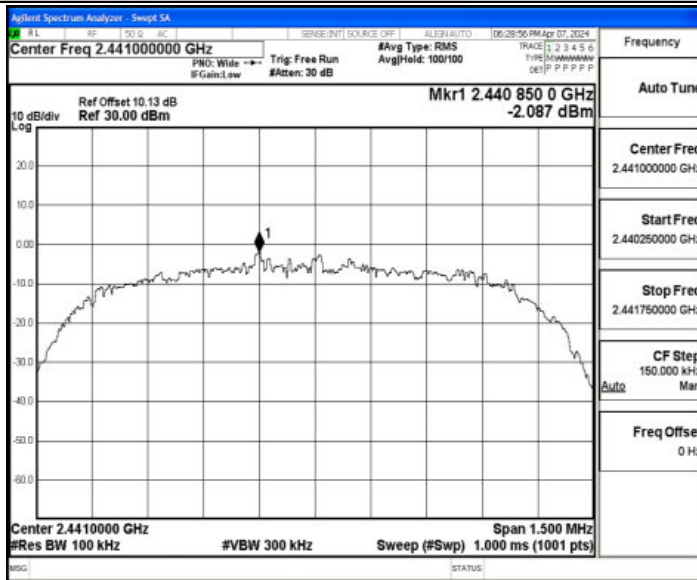


3DH5\_Ant1\_2402



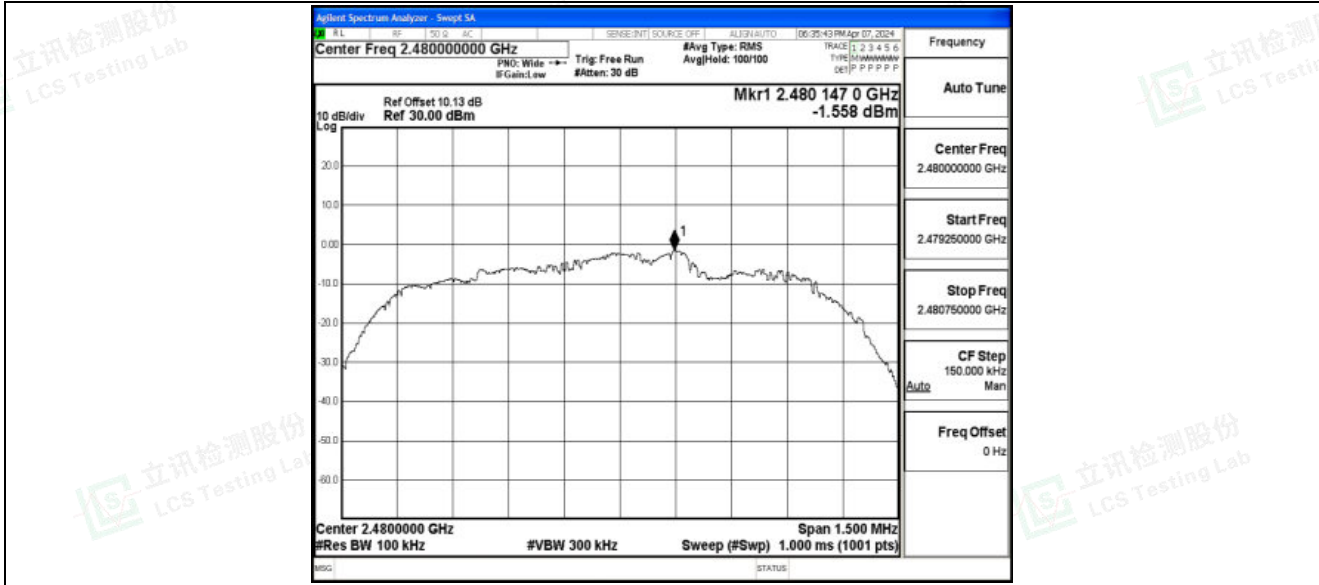


3DH5\_Ant1\_2441



3DH5\_Ant1\_2480







### A.8 Duty Cycle

#### Test Result

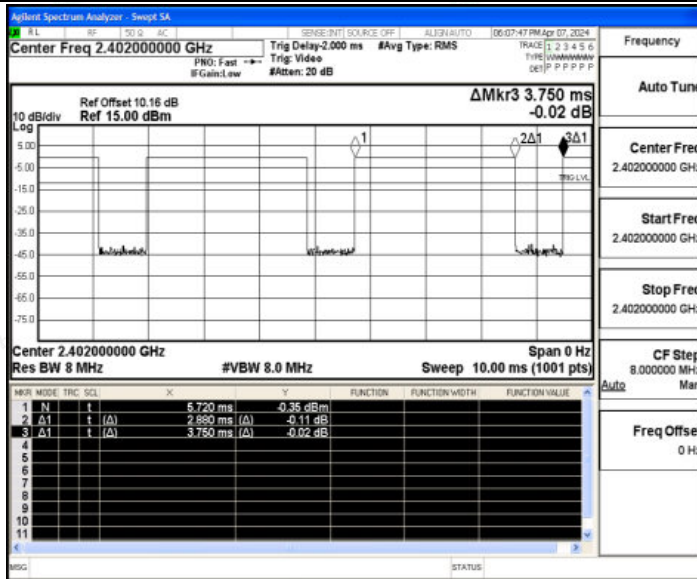
TestMode	Antenna	Frequency[M Hz]	ON Time [ms]	Period [ms]	Duty Cycle [%]	Duty Cycle Factor[dB]	1/T Factor[kHz]
DH5	Ant1	2402	2.88	3.75	76.80	1.15	0.35
		2441	2.88	3.75	76.80	1.15	0.35
		2480	2.89	3.75	77.07	1.13	0.35
2DH5	Ant1	2402	2.89	3.75	77.07	1.13	0.35
		2441	2.89	3.75	77.07	1.13	0.35
		2480	2.89	3.75	77.07	1.13	0.35
3DH5	Ant1	2402	2.89	3.75	77.07	1.13	0.35
		2441	2.89	3.75	77.07	1.13	0.35
		2480	2.89	3.75	77.07	1.13	0.35



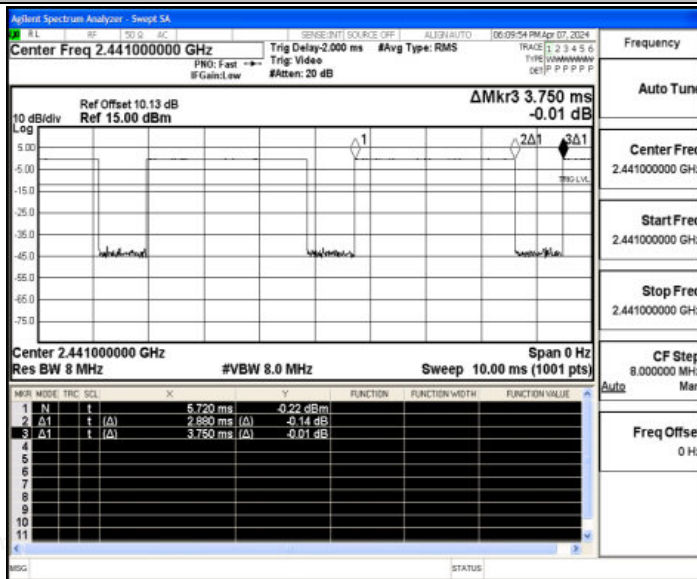


Test Graphs

DH5\_Ant1\_2402

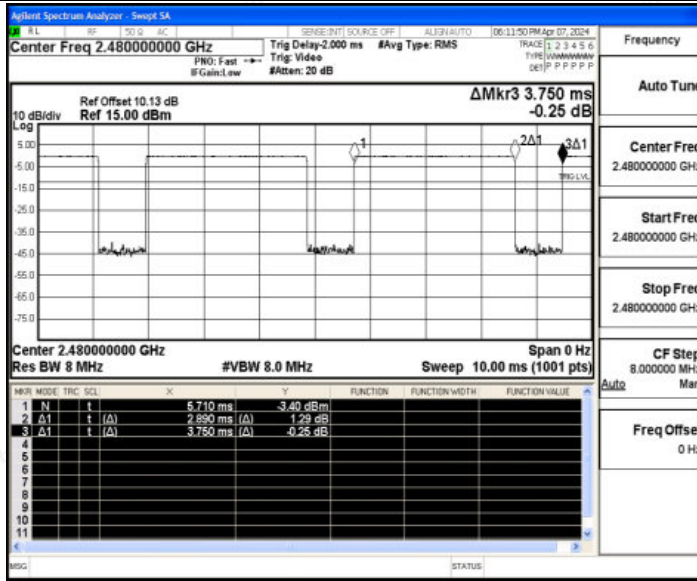


DH5\_Ant1\_2441

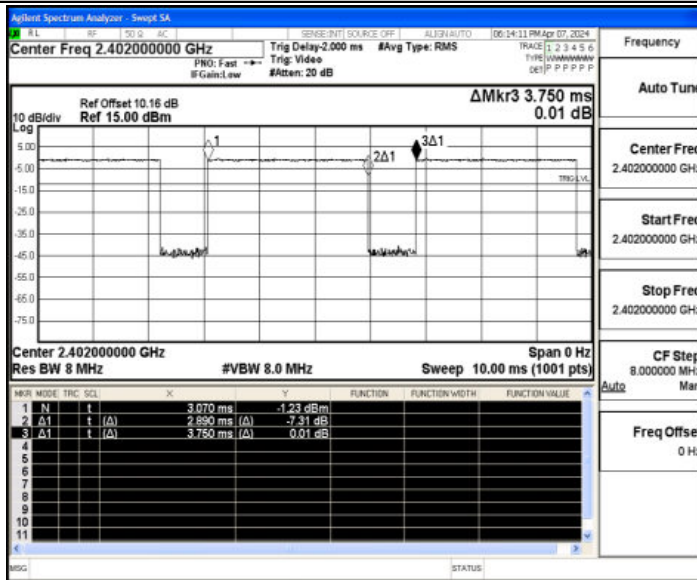


DH5\_Ant1\_2480





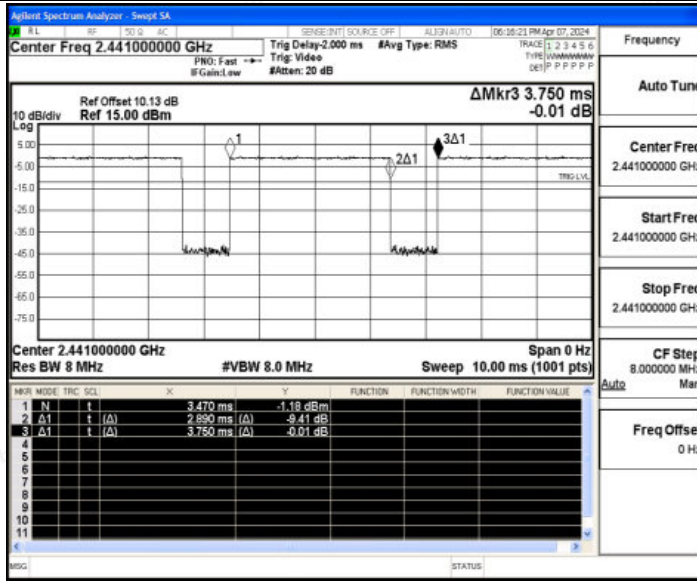
2DH5\_Ant1\_2402



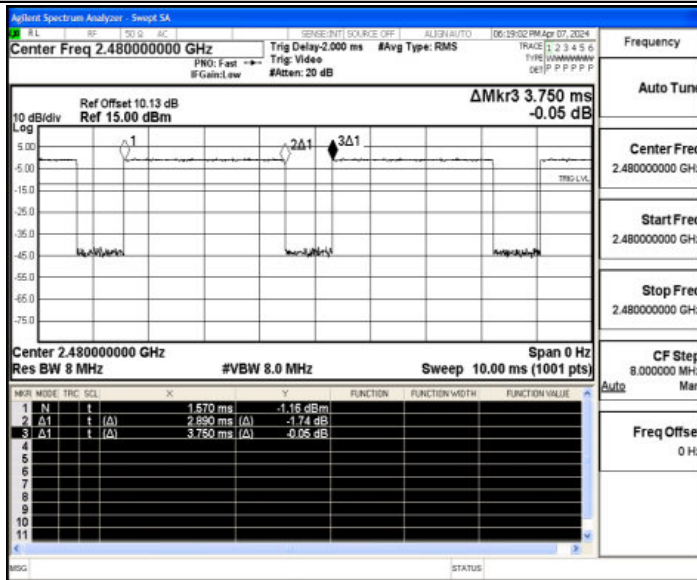
2DH5\_Ant1\_2441





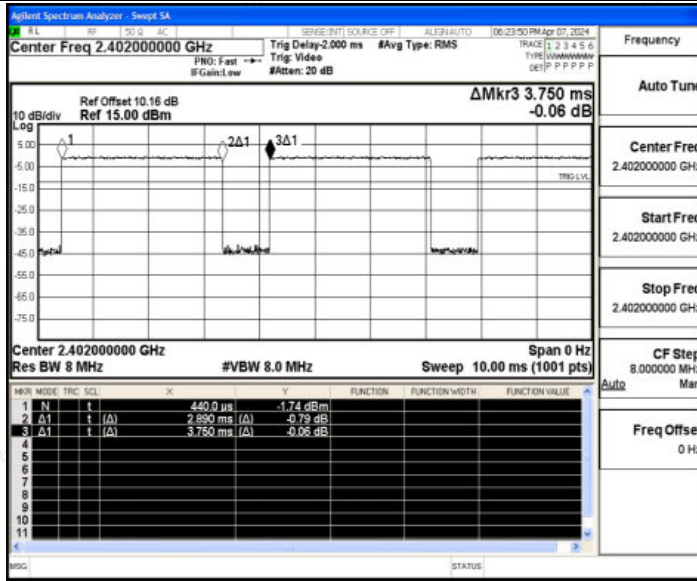


2DH5\_Ant1\_2480

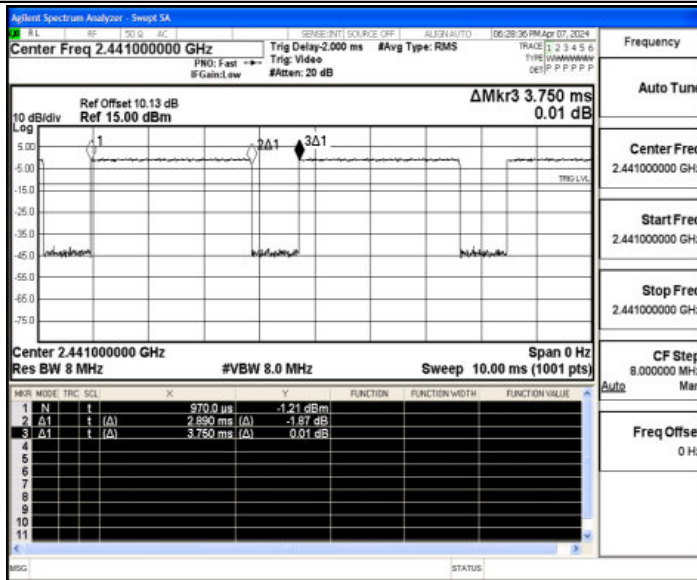


3DH5\_Ant1\_2402



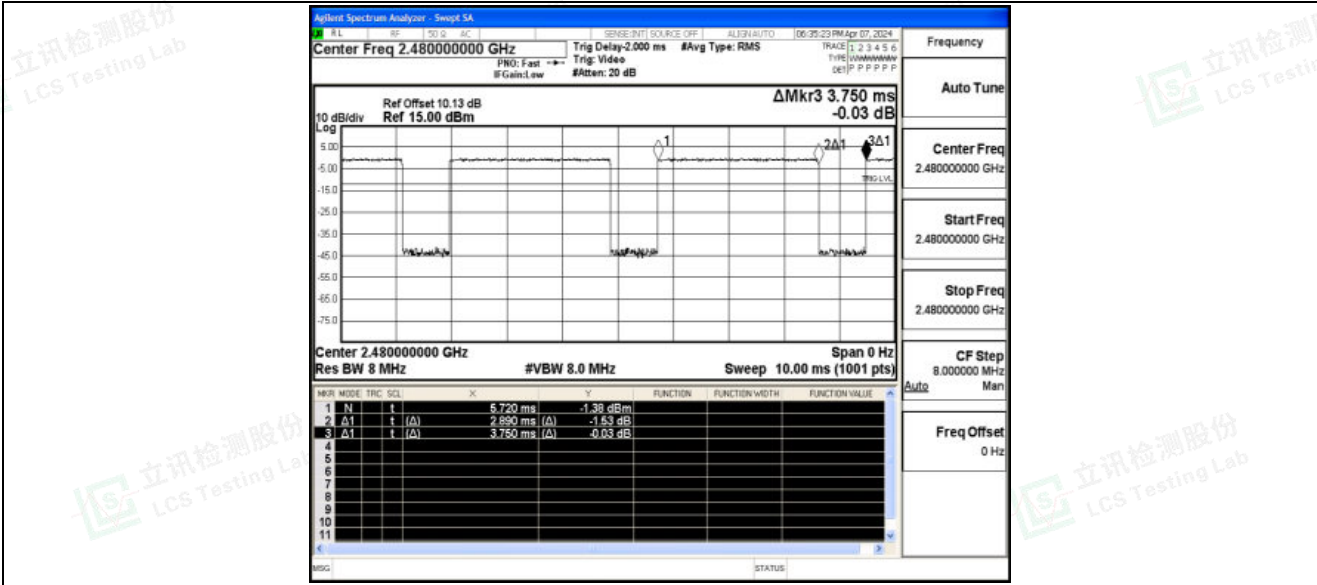


3DH5\_Ant1\_2441



3DH5\_Ant1\_2480







### A.9 Emissions in Restricted Bands

#### Test Result

TestMode	Antenna	ChName	Frequency [MHz]	Detector	Freq [MHz]	Result [dBm]	Limit [dBm]	Result [dBuV/m]	Limit [dBuV/m]	Verdict
DH5	Ant1	Low	2402	AV	2310.000	-47.36	≤-41.20	47.84	≤54	PASS
				AV	2378.960	-45.88	≤-41.20	49.32	≤54	PASS
				AV	2390.000	-46.75	≤-41.20	48.45	≤54	PASS
				Peak	2310.000	-41.13	≤-21.20	54.07	≤74	PASS
				Peak	2325.305	-37.09	≤-21.20	58.11	≤74	PASS
				Peak	2390.000	-41.17	≤-21.20	54.03	≤74	PASS
		High	2480	AV	2483.500	-46.67	≤-41.20	48.53	≤54	PASS
				AV	2498.320	-45.73	≤-41.20	49.47	≤54	PASS
				AV	2500.000	-46.69	≤-41.20	48.51	≤54	PASS
				Peak	2483.500	-38.75	≤-21.20	56.45	≤74	PASS
				Peak	2488.800	-36.07	≤-21.20	59.13	≤74	PASS
				Peak	2500.000	-38.79	≤-21.20	56.41	≤74	PASS
		Low	Hop_2402	Peak	2310.000	-40.8	≤-21.20	54.40	≤74	PASS
				Peak	2371.925	-36.4	≤-21.20	58.80	≤74	PASS
				Peak	2390.000	-40.71	≤-21.20	54.49	≤74	PASS
		High	Hop_2480	Peak	2483.500	-40.15	≤-21.20	55.05	≤74	PASS
				Peak	2496.080	-37.32	≤-21.20	57.88	≤74	PASS
				Peak	2500.000	-38.27	≤-21.20	56.93	≤74	PASS
2DH5	Ant1	Low	2402	AV	2310.000	-47.23	≤-41.20	47.97	≤54	PASS
				AV	2382.740	-45.91	≤-41.20	49.29	≤54	PASS
				AV	2390.000	-46.84	≤-41.20	48.36	≤54	PASS
				Peak	2310.000	-39.12	≤-21.20	56.08	≤74	PASS
				Peak	2362.790	-36.99	≤-21.20	58.21	≤74	PASS
				Peak	2390.000	-39.99	≤-21.20	55.21	≤74	PASS
		High	2480	AV	2483.500	-46.54	≤-41.20	48.66	≤54	PASS
				AV	2496.640	-45.68	≤-41.20	49.52	≤54	PASS
				AV	2500.000	-46.25	≤-41.20	48.95	≤54	PASS
				Peak	2483.500	-37.89	≤-21.20	57.31	≤74	PASS
				Peak	2495.440	-37.47	≤-21.20	57.73	≤74	PASS
				Peak	2500.000	-39.96	≤-21.20	55.24	≤74	PASS
		Low	Hop_2402	Peak	2310.000	-39.86	≤-21.20	55.34	≤74	PASS
				Peak	2389.250	-36.89	≤-21.20	58.31	≤74	PASS
				Peak	2390.000	-41.31	≤-21.20	53.89	≤74	PASS
		High	Hop_2480	Peak	2483.500	-38.21	≤-21.20	56.99	≤74	PASS
				Peak	2495.920	-37.16	≤-21.20	58.04	≤74	PASS





3DH5	Ant1	Low	2402	Peak	2500.000	-40.04	≤-21.20	55.16	≤74	PASS
				AV	2310.000	-47.19	≤-41.20	48.01	≤54	PASS
				AV	2382.425	-45.77	≤-41.20	49.43	≤54	PASS
				AV	2390.000	-46.87	≤-41.20	48.33	≤54	PASS
				Peak	2310.000	-39.67	≤-21.20	55.53	≤74	PASS
				Peak	2351.975	-37.16	≤-21.20	58.04	≤74	PASS
		High	2480	AV	2483.500	-46.53	≤-41.20	48.67	≤54	PASS
				AV	2493.920	-45.79	≤-41.20	49.41	≤54	PASS
				AV	2500.000	-46.17	≤-41.20	49.03	≤54	PASS
				Peak	2483.500	-40.04	≤-21.20	55.16	≤74	PASS
				Peak	2498.800	-37.09	≤-21.20	58.11	≤74	PASS
				Peak	2500.000	-39.37	≤-21.20	55.83	≤74	PASS
		Low	Hop_2402	Peak	2310.000	-41.41	≤-21.20	53.79	≤74	PASS
				Peak	2367.095	-37.54	≤-21.20	57.66	≤74	PASS
				Peak	2390.000	-39.87	≤-21.20	55.33	≤74	PASS
		High	Hop_2480	Peak	2483.500	-39.27	≤-21.20	55.93	≤74	PASS
				Peak	2492.720	-37.26	≤-21.20	57.94	≤74	PASS
				Peak	2500.000	-40.25	≤-21.20	54.95	≤74	PASS

Note:

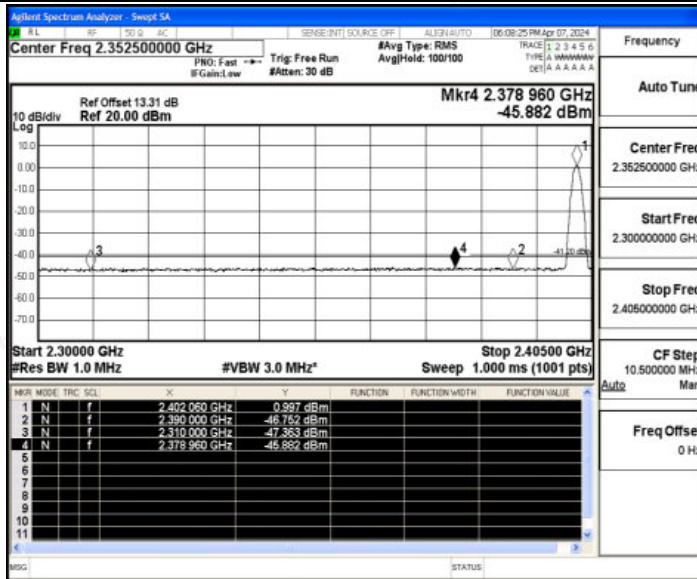
1. The Antenna Gain is compensated in the graph. The Correction Factor is compensated in the graph.
2. The limit in dBm for average detector is conversion from 54dBuV/m, according to 15.209(a). The limit in dBm for peak detector is 20dB above the limit of average detector in dBm.



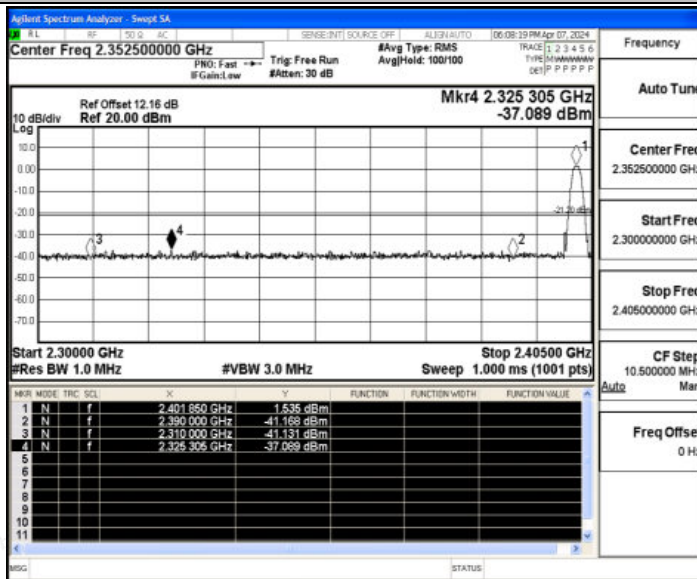


Test Graphs

DH5\_Ant1\_Low\_2402\_AV

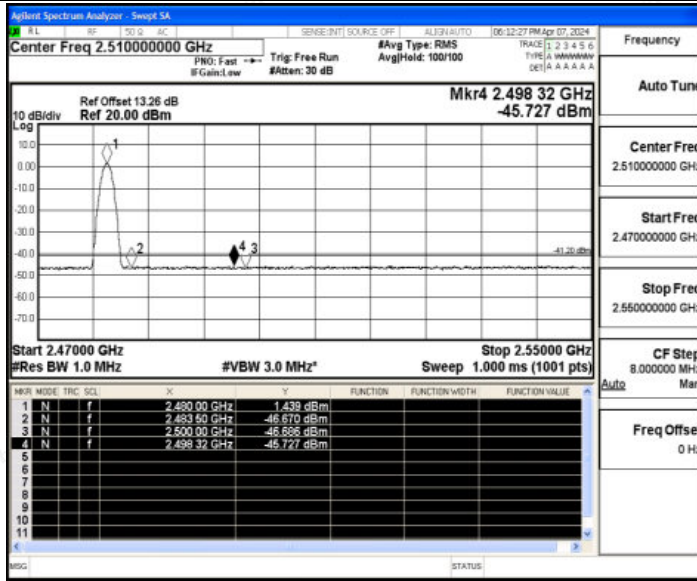


DH5\_Ant1\_Low\_2402\_Peak

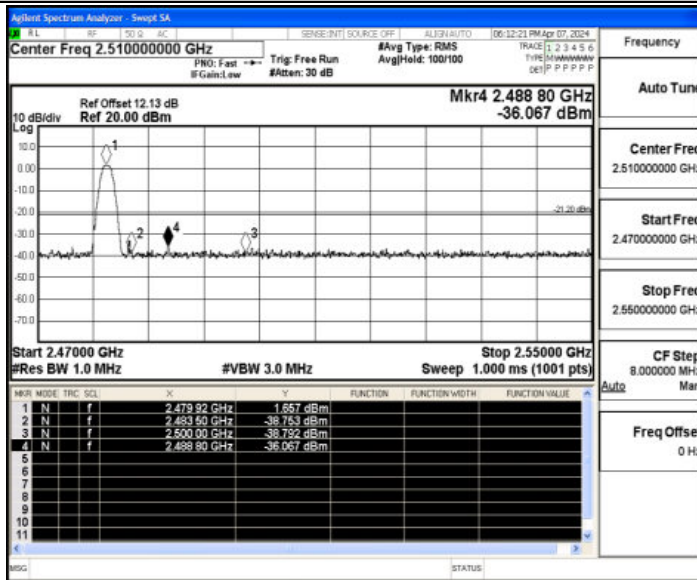


DH5\_Ant1\_High\_2480\_AV



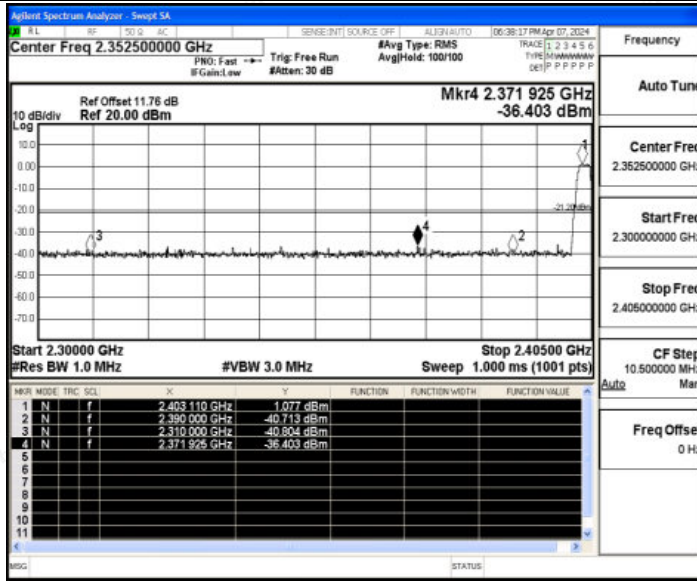


DH5\_Ant1\_High\_2480\_Peak

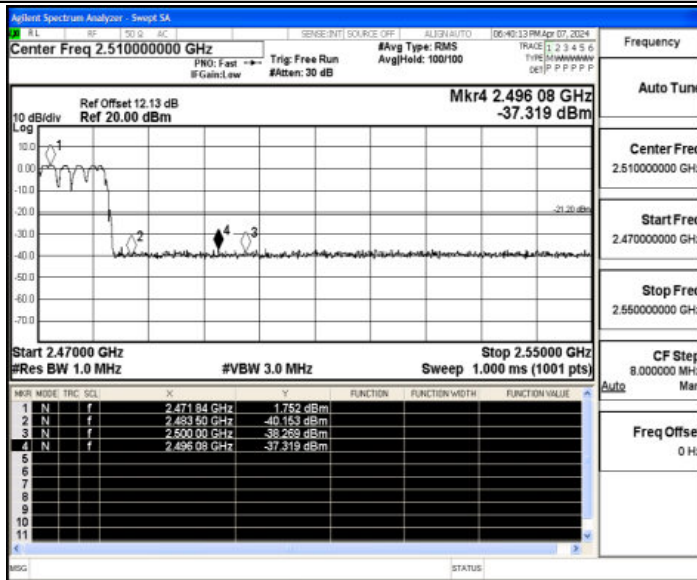


DH5\_Ant1\_Low\_Hop\_2402\_Peak





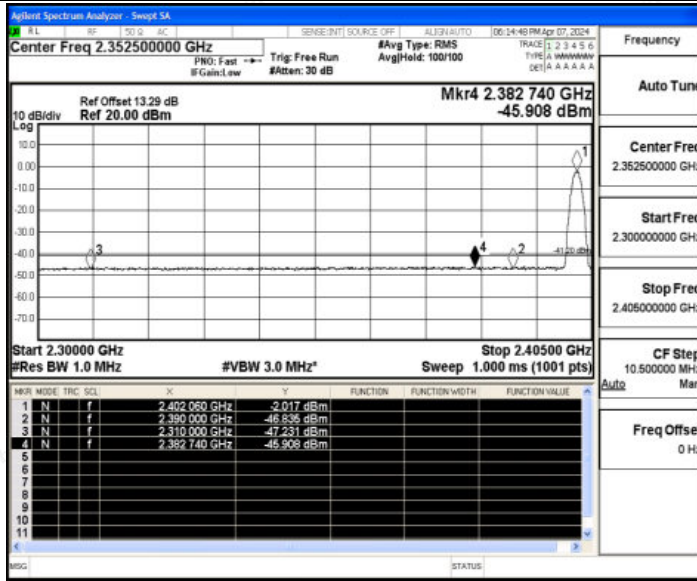
DH5\_Ant1\_High\_Hop\_2480\_Peak



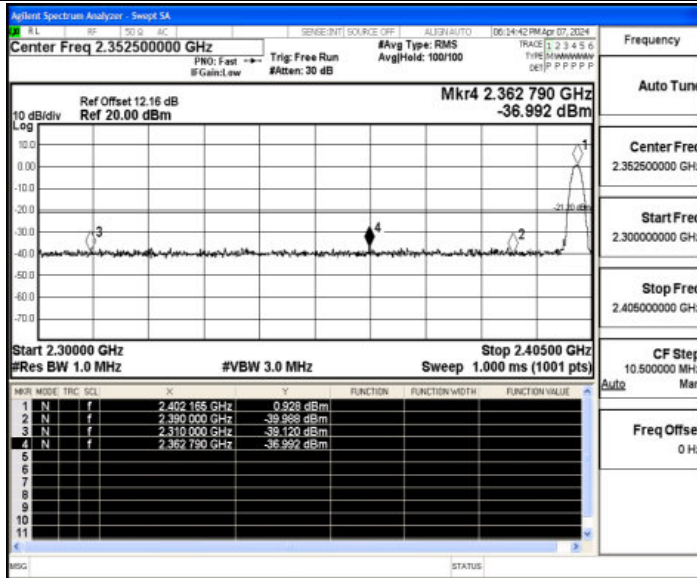
2DH5\_Ant1\_Low\_2402\_AV





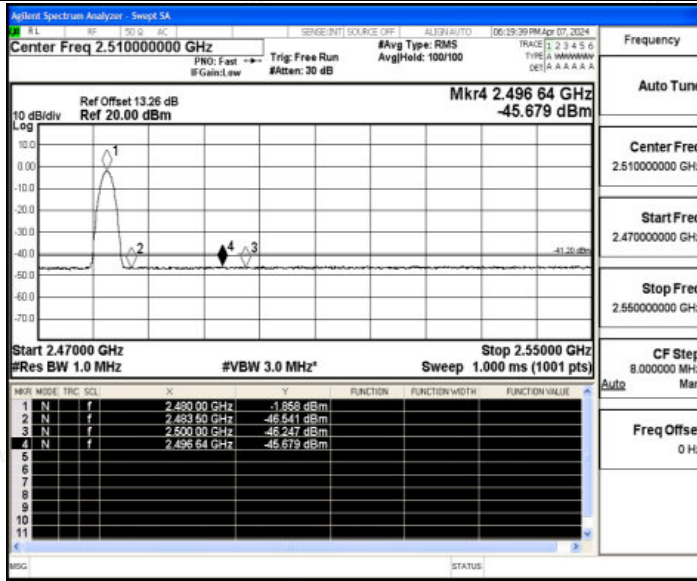


2DH5\_Ant1\_Low\_2402\_Peak

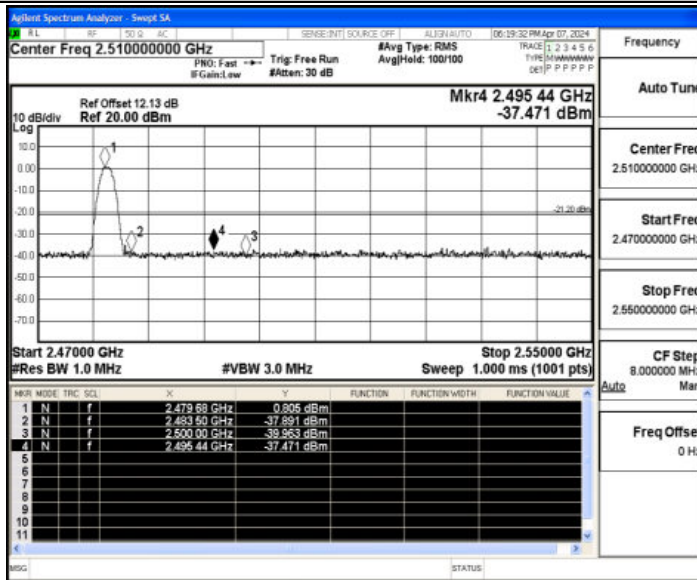


2DH5\_Ant1\_High\_2480\_AV



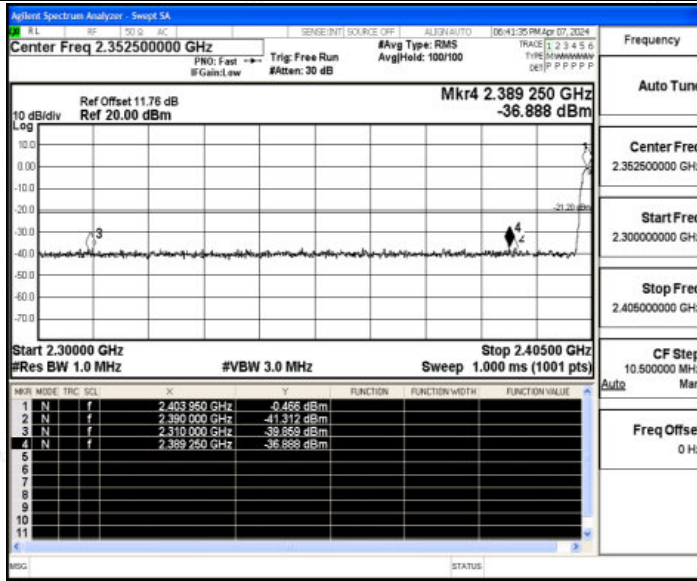


2DH5\_Ant1\_High\_2480\_Peak

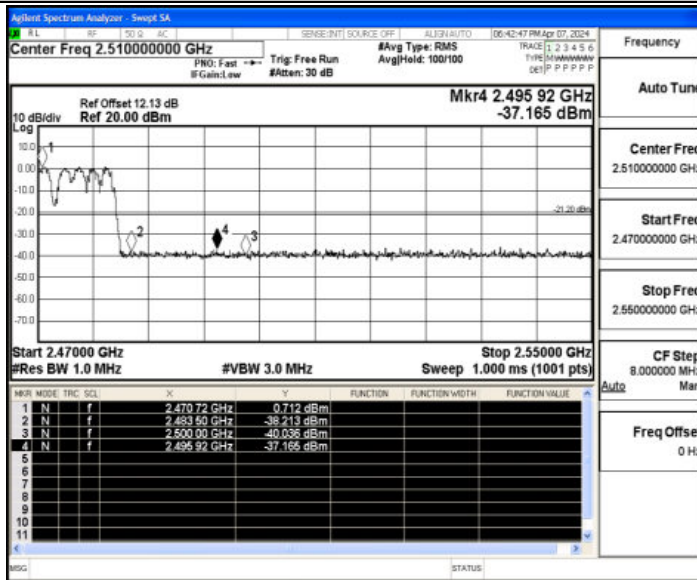


2DH5\_Ant1\_Low\_Hop\_2402\_Peak



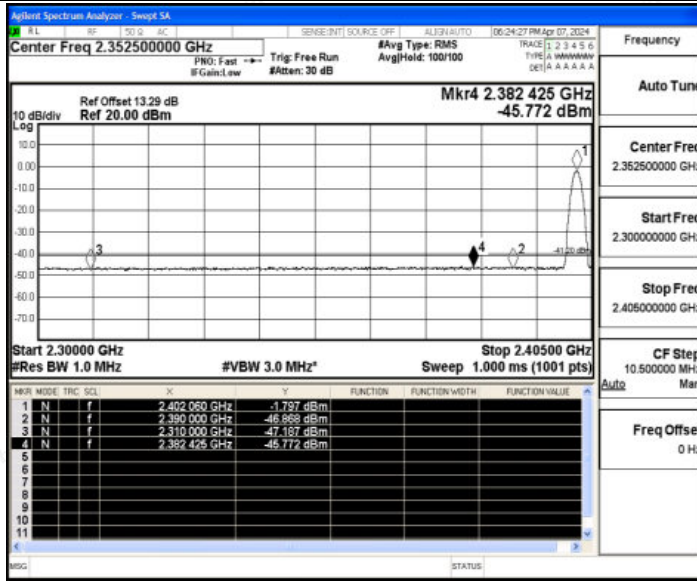


2DH5\_Ant1\_High\_Hop\_2480\_Peak

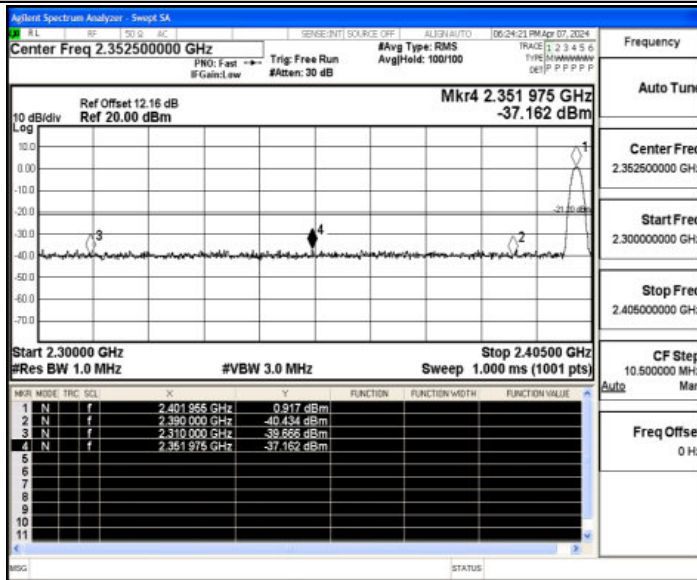


3DH5\_Ant1\_Low\_2402\_AV



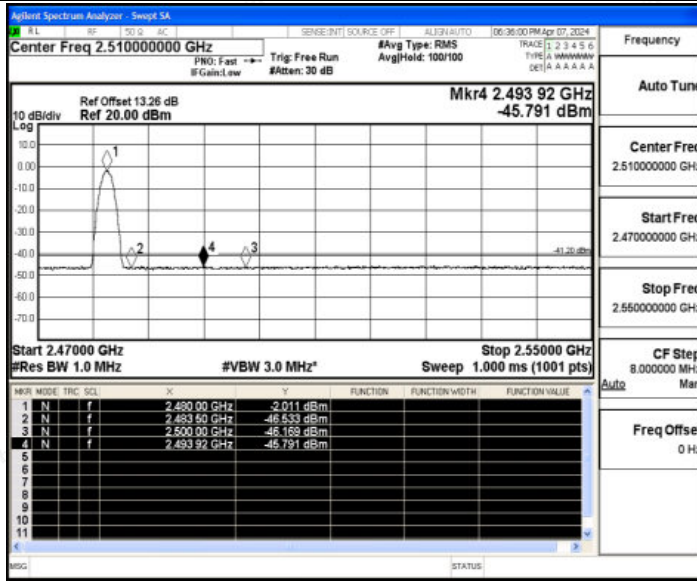


3DH5\_Ant1\_Low\_2402\_Peak

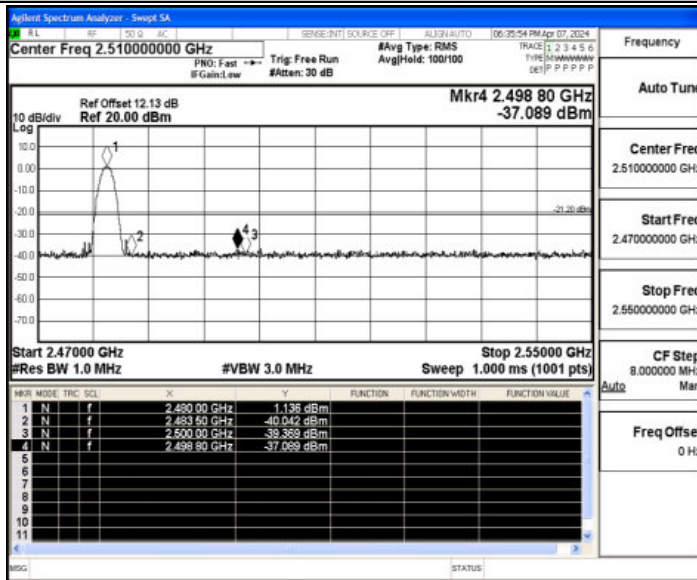


3DH5\_Ant1\_High\_2480\_AV



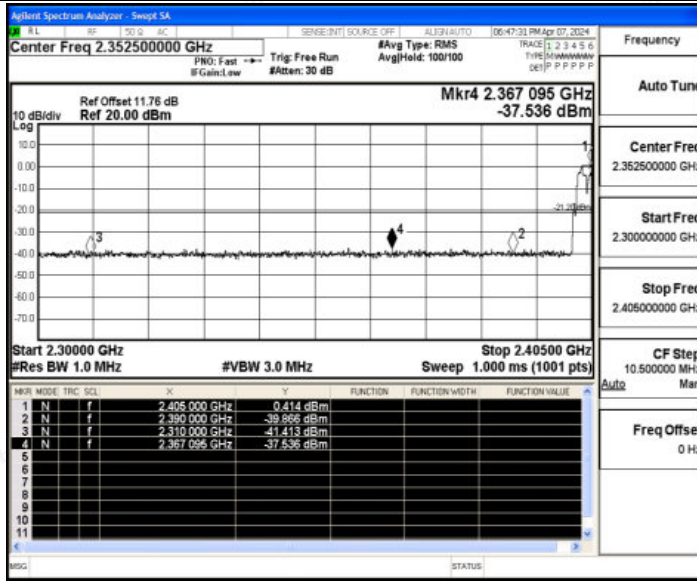


3DH5\_Ant1\_High\_2480\_Peak



3DH5\_Ant1\_Low\_Hop\_2402\_Peak





3DH5\_Ant1\_High\_Hop\_2480\_Peak

