

<b>Case No. :</b> <u>GTS20230105011-1-23</u>
<b>Ambient Condition:</b> <u>25</u> °C, <u>45</u> %RH, Atmos100.1Kpa,
<b>Test Date:</b> <u>2023.3.4</u> <b>Test Engineer:</b> <u>Jenny zeng</u>

## Appendix A.1: 20dB Emission Bandwidth

### Test Result

TestMode	Antenna	Frequency[MHz]	20db EBW[MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
DH1	Ant1	2402	0.948	2401.529	2402.477	---	---
		2441	0.909	2440.535	2441.444	---	---
		2480	0.927	2479.526	2480.453	---	---
2DH1	Ant1	2402	1.440	2401.250	2402.690	---	---
		2441	1.413	2440.274	2441.687	---	---
		2480	1.449	2479.244	2480.693	---	---
3DH1	Ant1	2402	1.461	2401.256	2402.717	---	---
		2441	1.437	2440.265	2441.702	---	---
		2480	1.446	2479.253	2480.699	---	---

# Test Graphs

DH1\_Ant1\_2402



DH1\_Ant1\_2441



DH1\_Ant1\_2480



2DH1\_Ant1\_2480



3DH1\_Ant1\_2402



3DH1\_Ant1\_2441



3DH1\_Ant1\_2480



## Appendix A.2: Occupied Channel Bandwidth

### Test Result

TestMode	Antenna	Frequency[MHz]	OCB [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
DH1	Ant1	2402	0.86045	2401.556	2402.417	---	---
		2441	0.85579	2440.557	2441.413	---	---
		2480	0.84599	2479.558	2480.404	---	---
2DH1	Ant1	2402	1.3401	2401.305	2402.645	---	---
		2441	1.3324	2440.315	2441.647	---	---
		2480	1.3409	2479.307	2480.647	---	---
3DH1	Ant1	2402	1.3476	2401.309	2402.657	---	---
		2441	1.3431	2440.312	2441.655	---	---
		2480	1.3375	2479.310	2480.648	---	---

# Test Graphs

DH1\_Ant1\_2402



DH1\_Ant1\_2441



DH1\_Ant1\_2480



2DH1\_Ant1\_2402



2DH1\_Ant1\_2441





2DH1\_Ant1\_2480



3DH1\_Ant1\_2402



3DH1\_Ant1\_2441



3DH1\_Ant1\_2480



## Appendix A.3: Maximum conducted output power

### Test Result Peak

Test Mode	Antenna	Frequency[MHz]	Conducted Peak Power[dBm]	Conducted Limit[dBm]	Verdict
DH1	Ant1	2402	3.28	≤30.00	PASS
		2441	4.51	≤30.00	PASS
		2480	3.92	≤30.00	PASS
2DH1	Ant1	2402	1.62	≤20.97	PASS
		2441	2.68	≤20.97	PASS
		2480	2.13	≤20.97	PASS
3DH1	Ant1	2402	1.81	≤20.97	PASS
		2441	2.94	≤20.97	PASS
		2480	2.49	≤20.97	PASS

## Appendix A.4: Carrier frequency separation

### Test Result

TestMode	Antenna	Frequency[MHz]	Result[MHz]	Limit[MHz]	Verdict
DH1	Ant1	Hop_2402	1.004	$\geq 0.948$	PASS
		Hop_2441	1.168	$\geq 0.948$	PASS
		Hop_2480	1.016	$\geq 0.948$	PASS
2DH1	Ant1	Hop_2402	1.004	$\geq 0.966$	PASS
		Hop_2441	1.172	$\geq 0.966$	PASS
		Hop_2480	0.988	$\geq 0.966$	PASS
3DH1	Ant1	Hop_2402	1.01	$\geq 0.964$	PASS
		Hop_2441	1.15	$\geq 0.964$	PASS
		Hop_2480	1.008	$\geq 0.964$	PASS

# Test Graphs

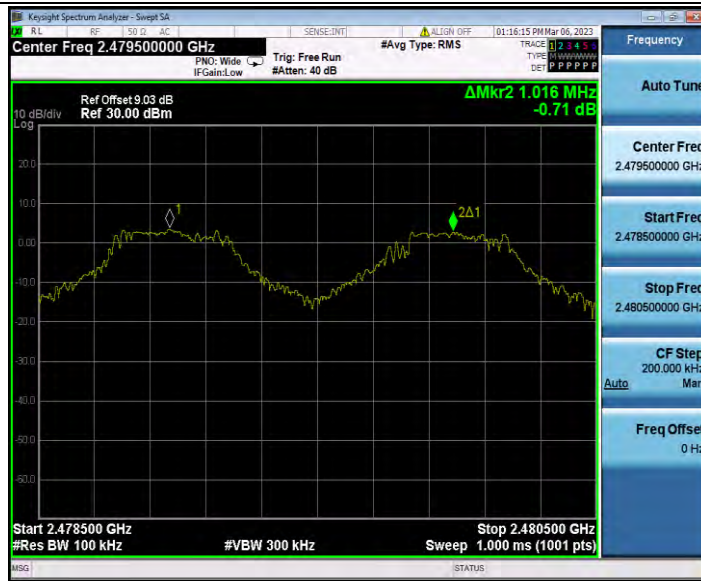
DH1\_Ant1\_Hop\_2402



DH1\_Ant1\_Hop\_2441



DH1\_Ant1\_Hop\_2480



2DH1\_Ant1\_Hop\_2402



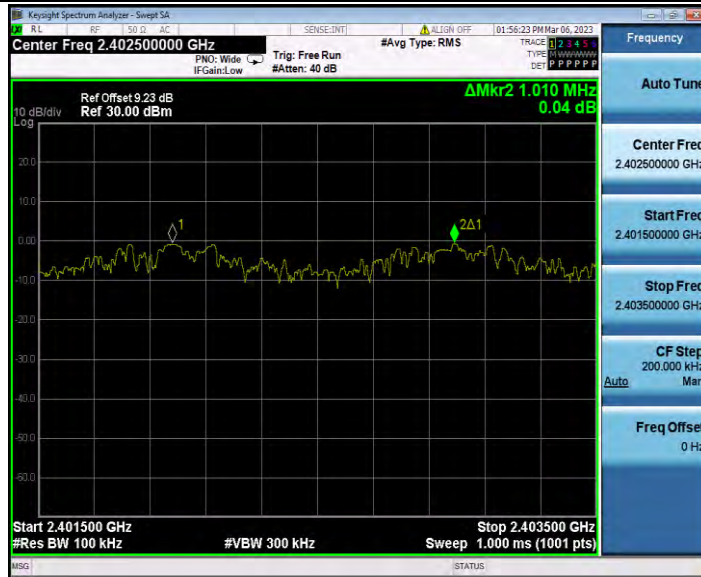
2DH1\_Ant1\_Hop\_2441



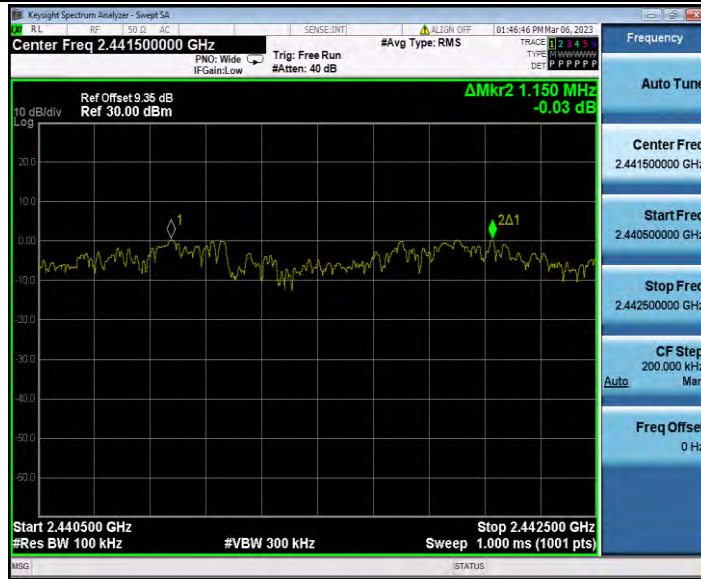
### 2DH1\_Ant1\_Hop\_2480



### 3DH1\_Ant1\_Hop\_2402



### 3DH1\_Ant1\_Hop\_2441



3DH1\_Ant1\_Hop\_2480





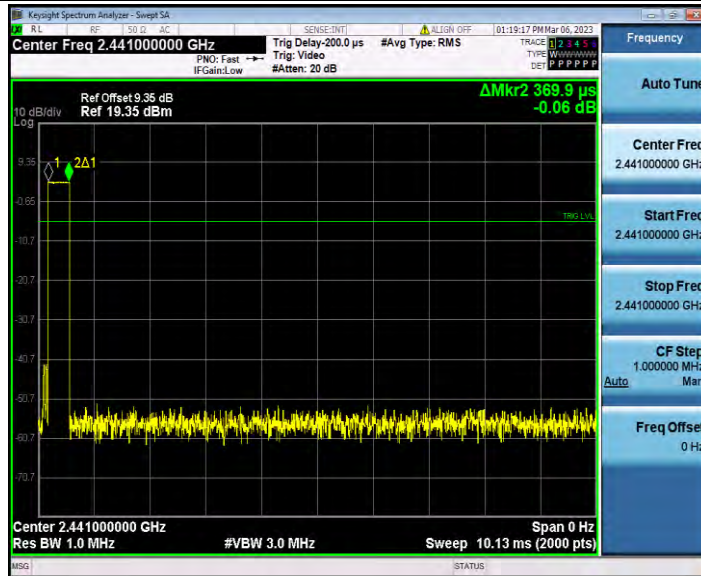
## Appendix A.5: Time of occupancy

### Test Result

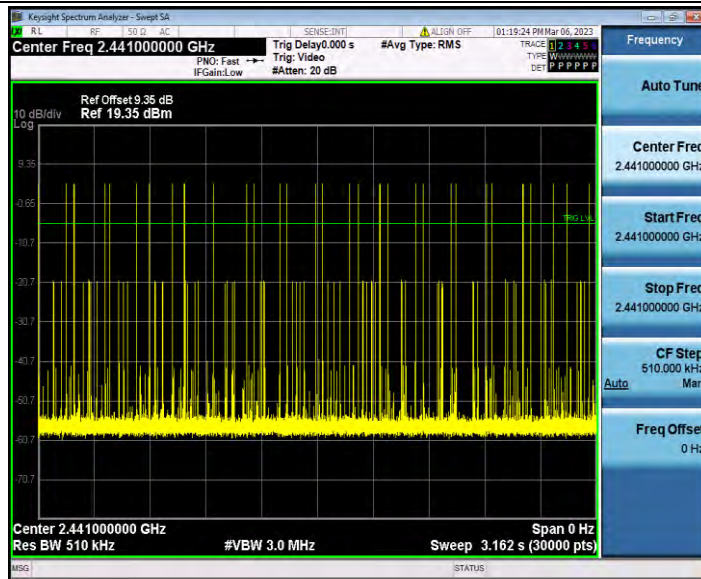
TestMode	Antenna	Frequency[MHz]	BurstWidth [ms]	TotalHops [Num]	Result[s]	Limit[s]	Verdict
DH1	Ant1	Hop	0.37	320	0.118	≤0.4	PASS
DH3	Ant1	Hop	1.63	180	0.293	≤0.4	PASS
DH5	Ant1	Hop	2.87	90	0.259	≤0.4	PASS
2DH1	Ant1	Hop	0.38	330	0.125	≤0.4	PASS
2DH3	Ant1	Hop	1.63	180	0.294	≤0.4	PASS
2DH5	Ant1	Hop	2.88	120	0.346	≤0.4	PASS
3DH1	Ant1	Hop	0.37	330	0.124	≤0.4	PASS
3DH3	Ant1	Hop	1.63	190	0.31	≤0.4	PASS
3DH5	Ant1	Hop	2.88	130	0.375	≤0.4	PASS

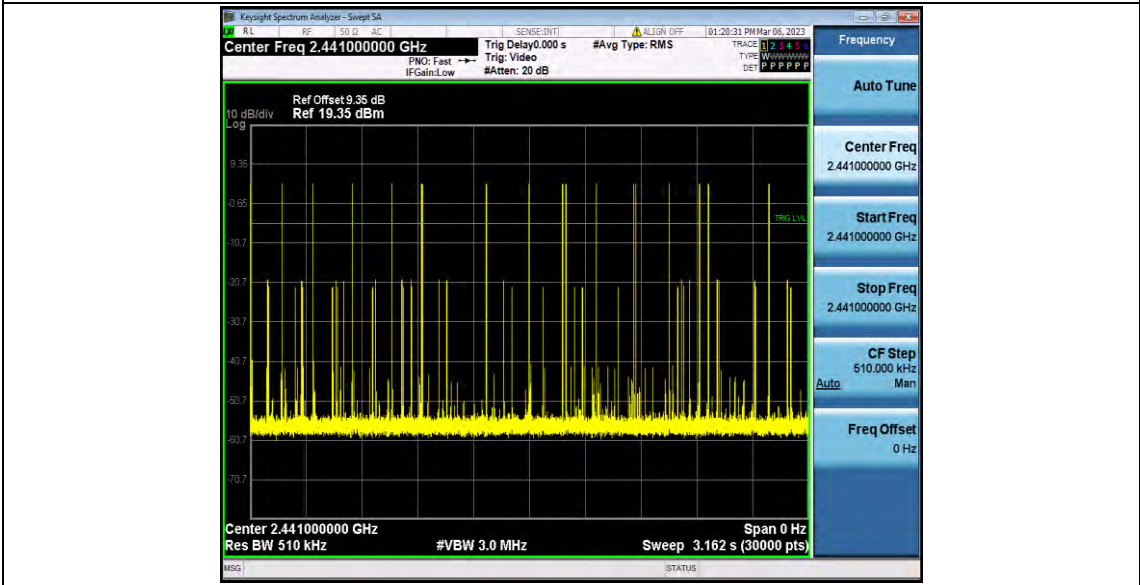
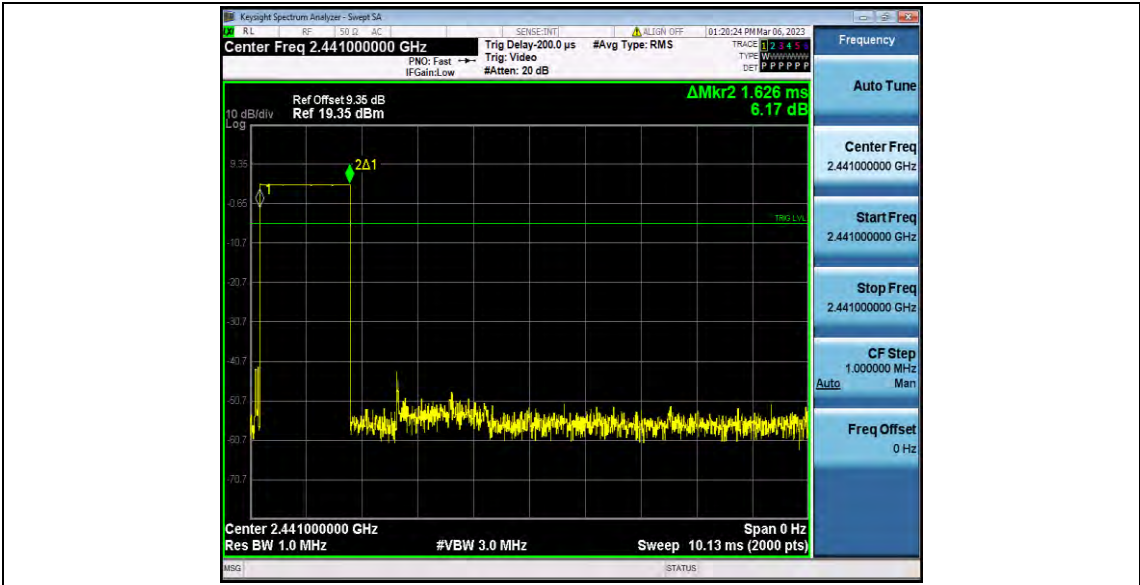
# Test Graphs

DH1\_Ant1\_Hop

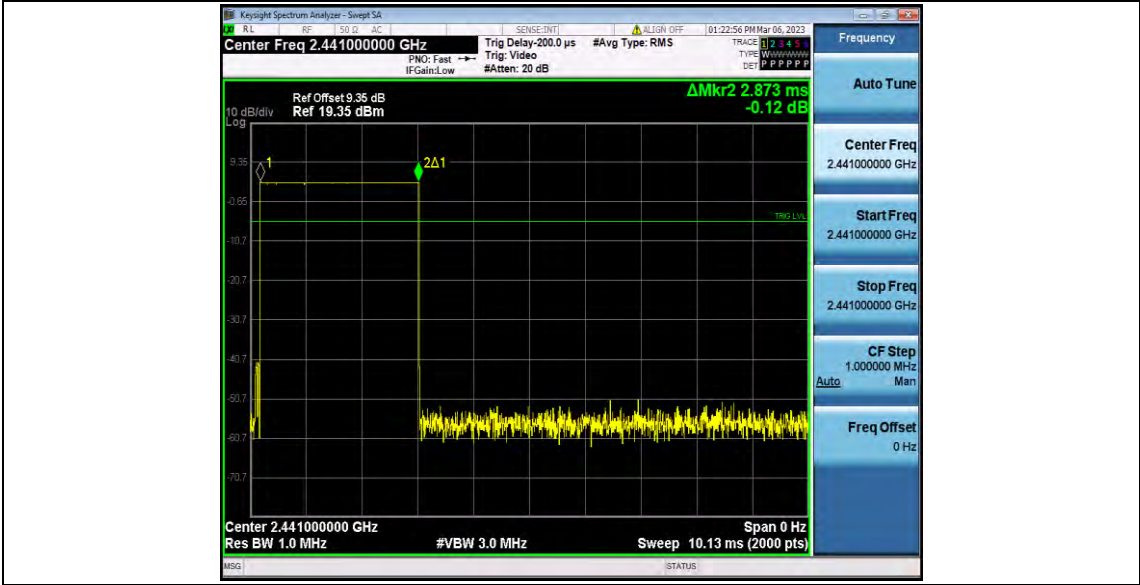


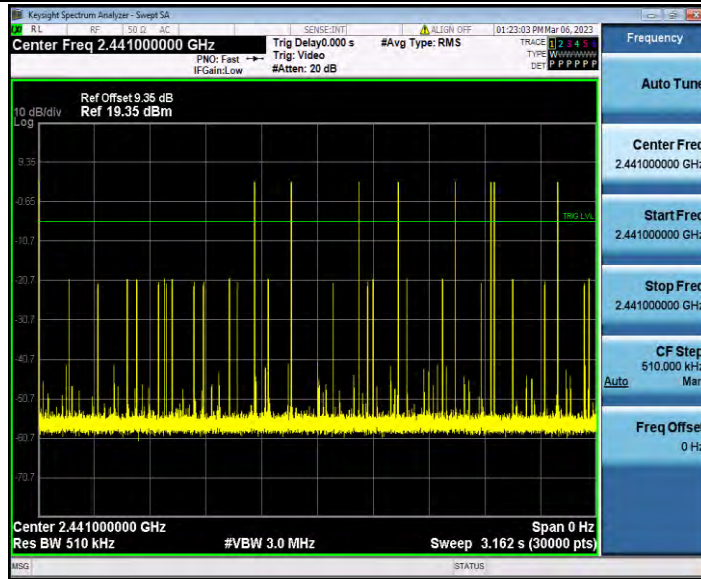
DH3\_Ant1\_Hop



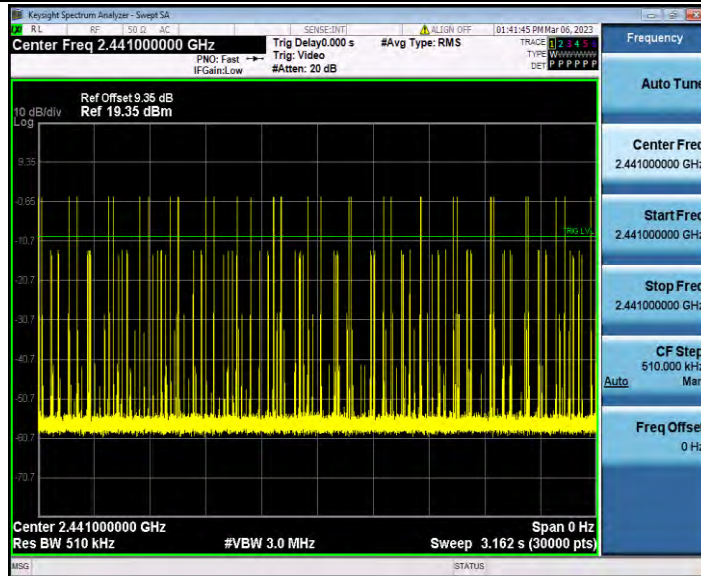
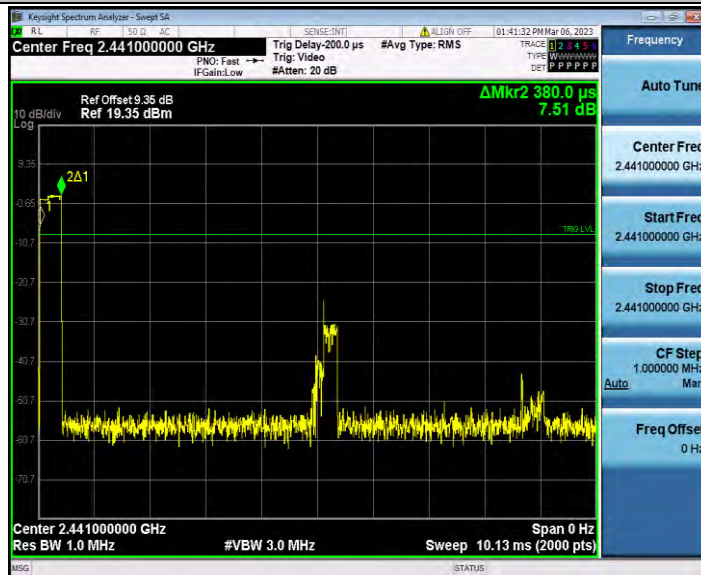


DH5\_Ant1\_Hop

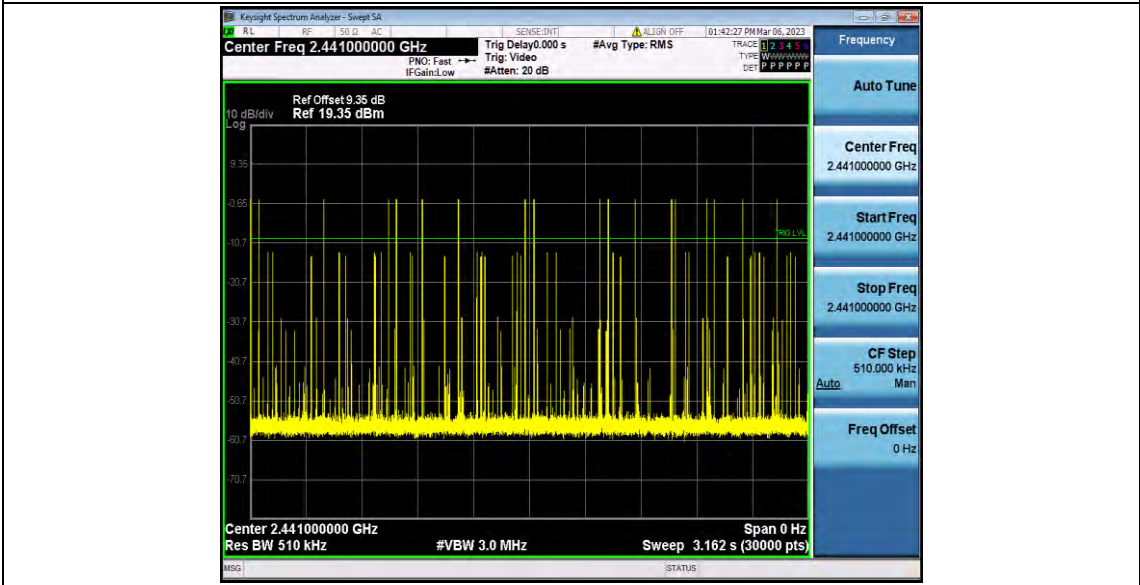
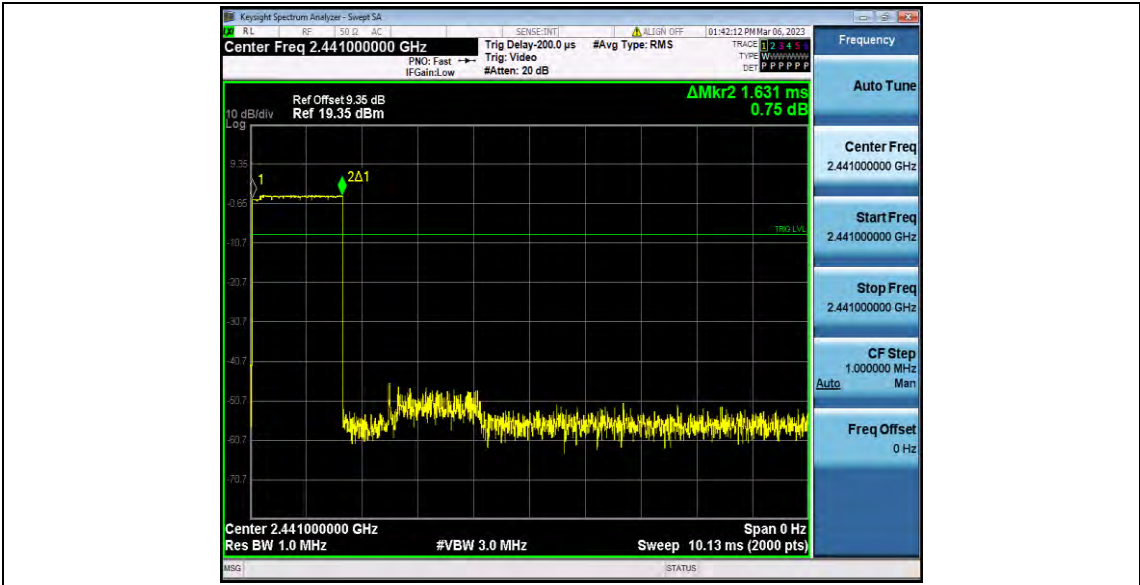




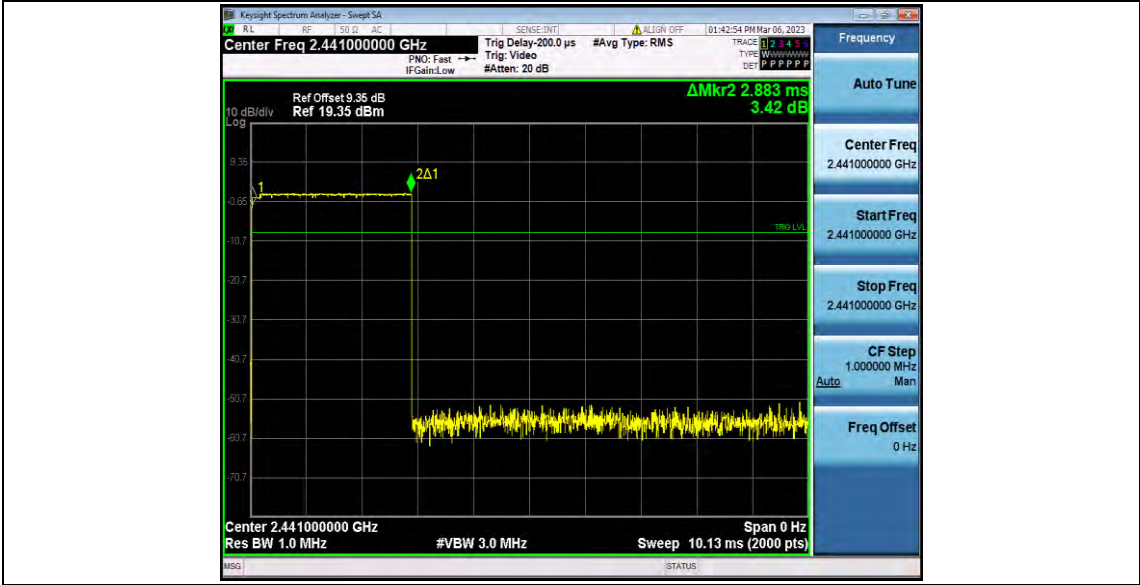
2DH1\_Ant1\_Hop

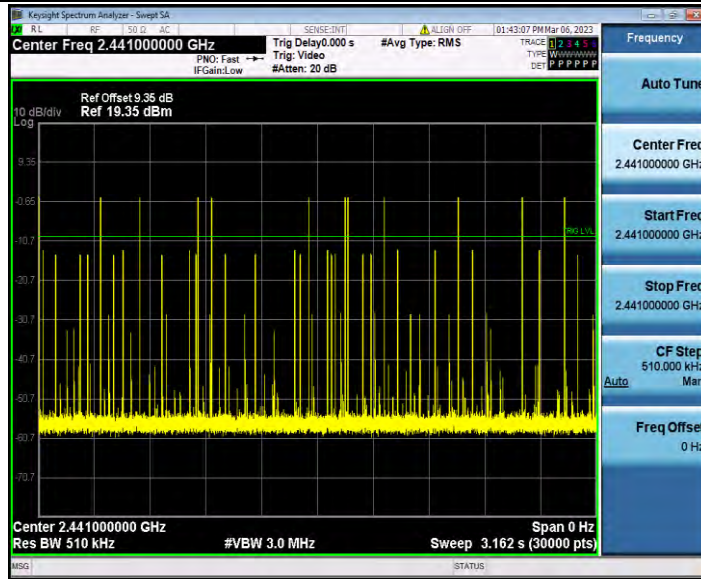


2DH3\_Ant1\_Hop

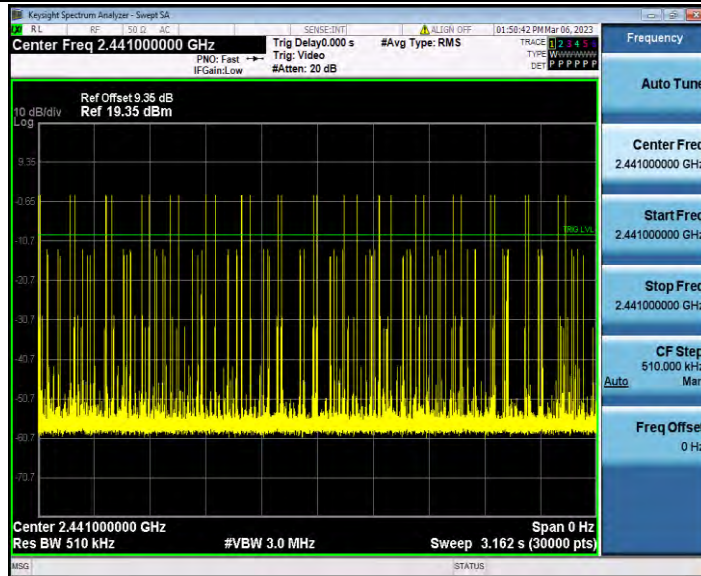
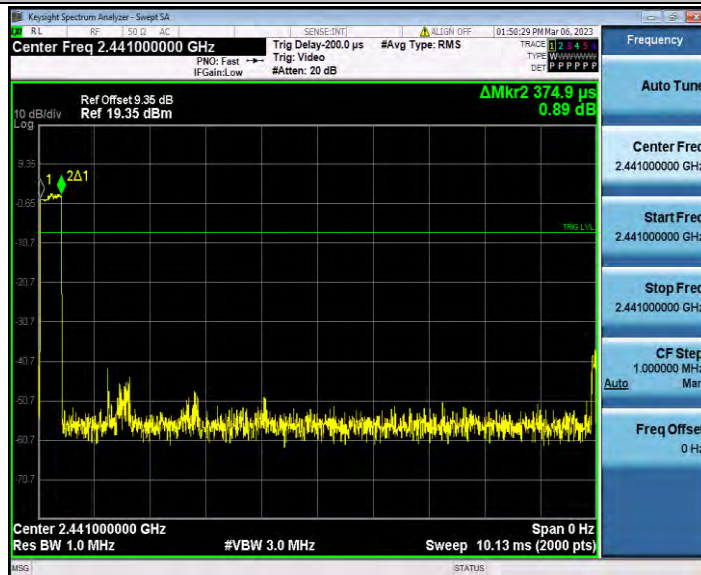


2DH5\_Ant1\_Hop

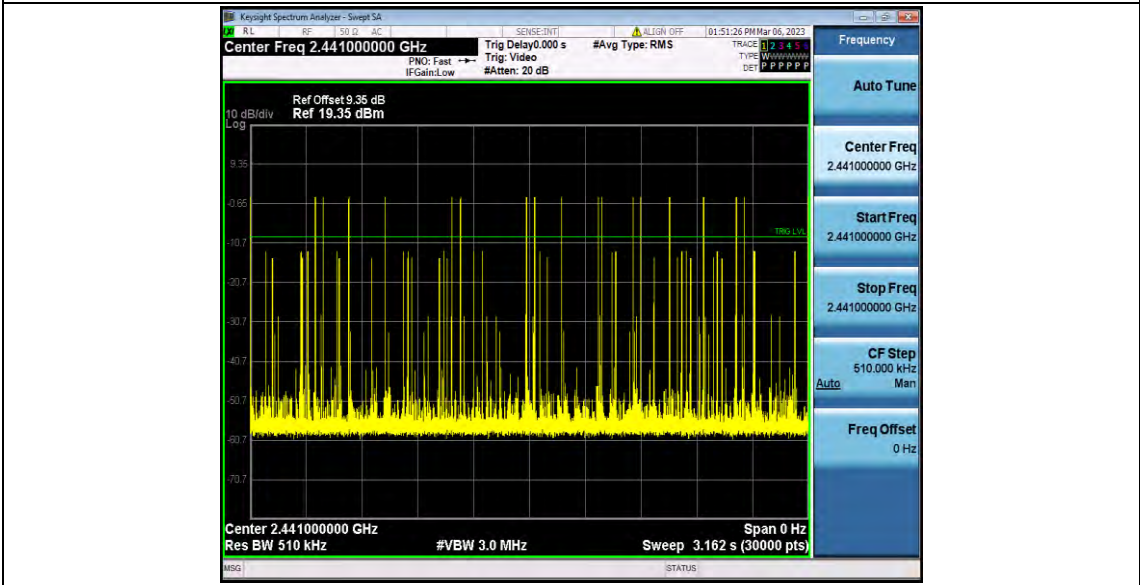
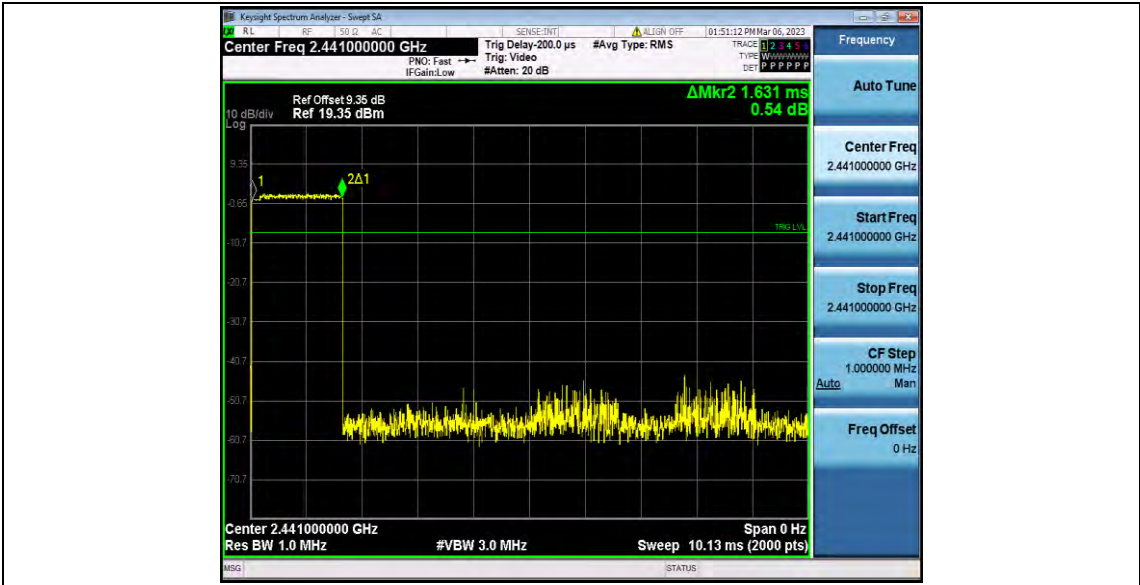




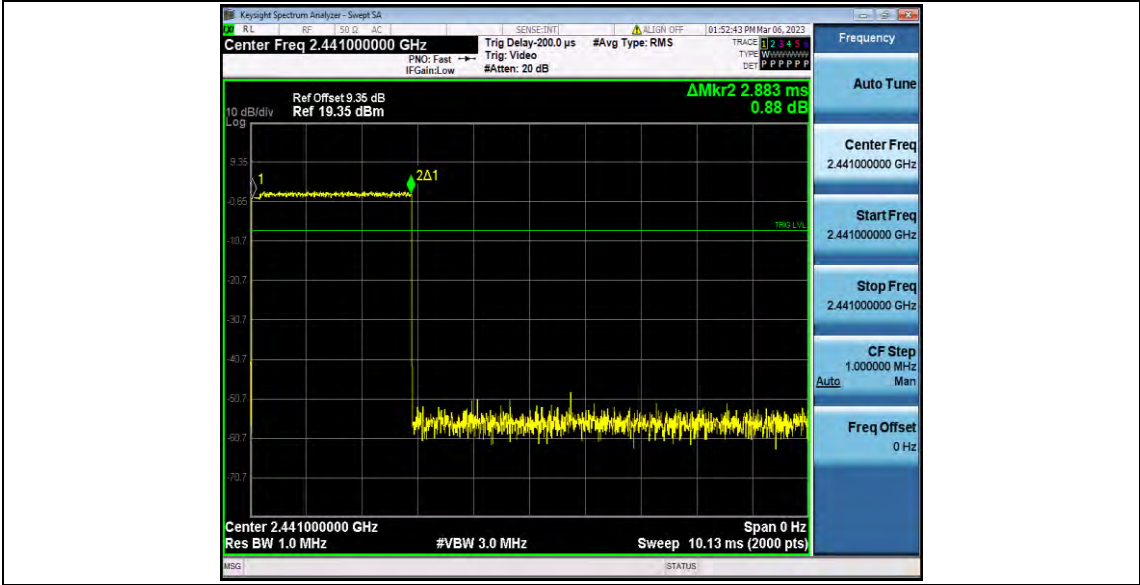
3DH1\_Ant1\_Hop

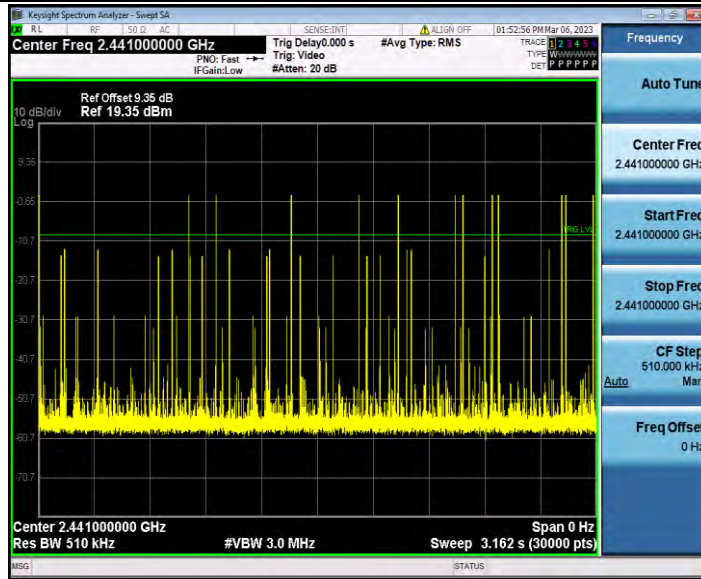


3DH3\_Ant1\_Hop



3DH5\_Ant1\_Hop







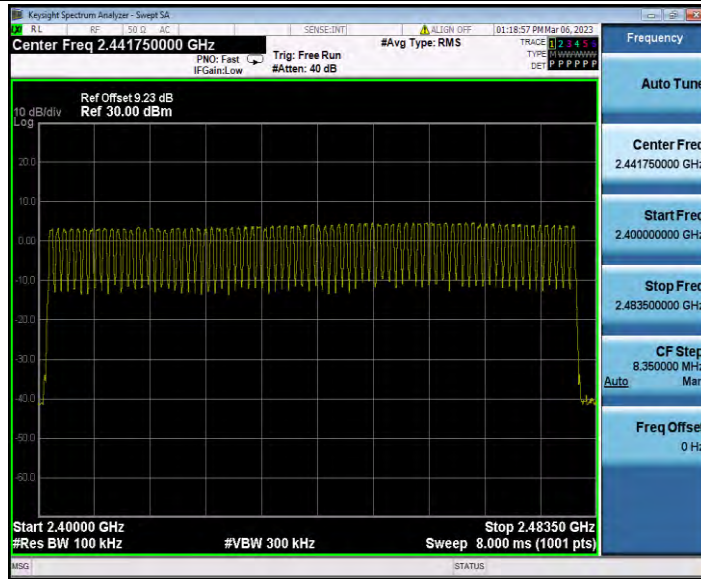
## Appendix A.6: Number of hopping channels

### Test Result

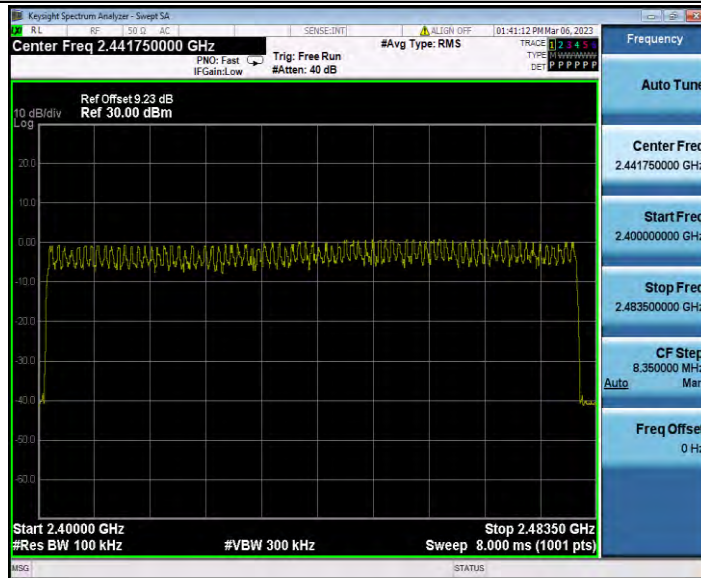
TestMode	Antenna	Frequency[MHz]	Result[Num]	Limit[Num]	Verdict
DH1	Ant1	Hop	79	≥15	PASS
2DH1	Ant1	Hop	79	≥15	PASS
3DH1	Ant1	Hop	79	≥15	PASS

# Test Graphs

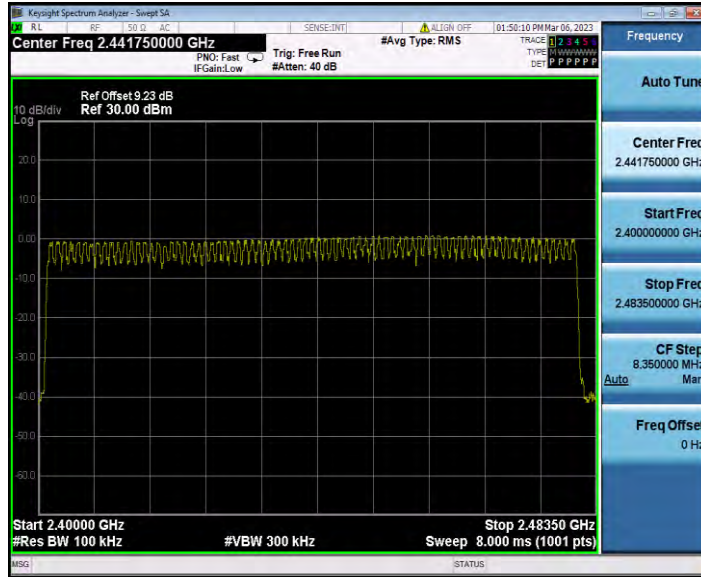
## DH1\_Ant1\_Hop



## 2DH1\_Ant1\_Hop



## 3DH1\_Ant1\_Hop



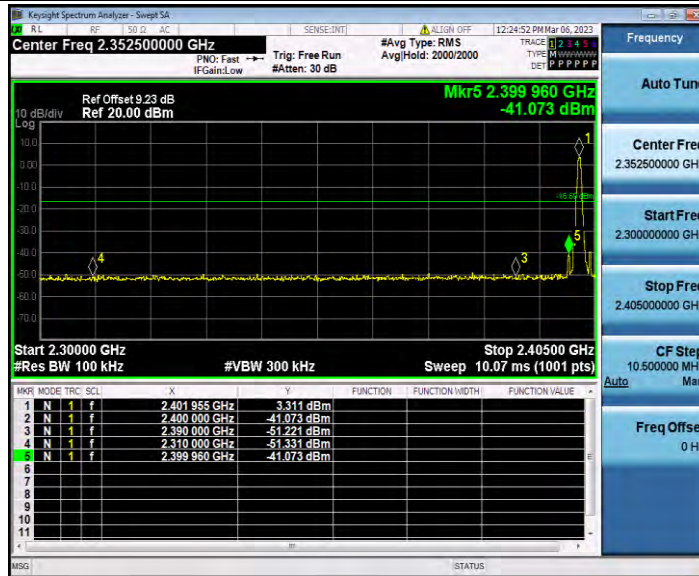
## Appendix A.7: Band edge measurements

### Test Result

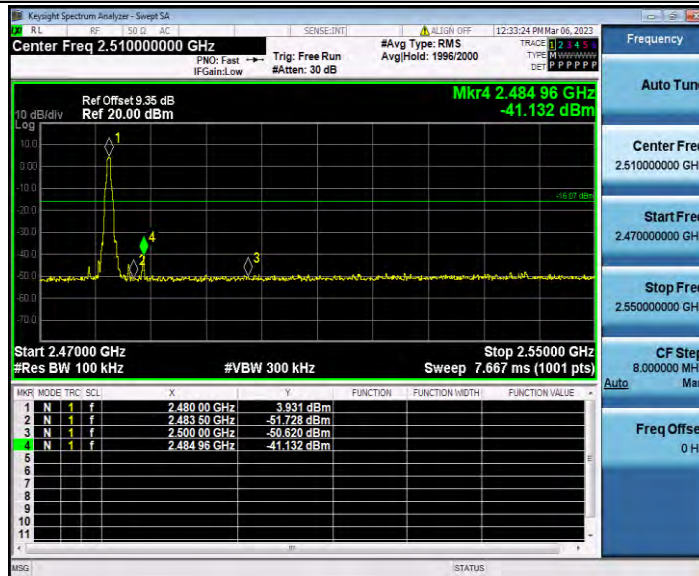
TestMode	Antenna	ChName	Frequency[MHz]	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
DH1	Ant1	Low	2402	3.31	-41.07	≤-16.69	PASS
		High	2480	3.93	-41.13	≤-16.07	PASS
		Low	Hop_2402	2.88	-48.65	≤-17.12	PASS
		High	Hop_2480	3.94	-46.03	≤-16.06	PASS
2DH1	Ant1	Low	2402	-0.76	-43.53	≤-20.76	PASS
		High	2480	0.11	-40.75	≤-19.89	PASS
		Low	Hop_2402	-1.02	-49.31	≤-21.02	PASS
		High	Hop_2480	0.22	-48.38	≤-19.78	PASS
3DH1	Ant1	Low	2402	-0.78	-45.8	≤-20.78	PASS
		High	2480	0.19	-41.34	≤-19.81	PASS
		Low	Hop_2402	-1.91	-49.55	≤-21.91	PASS
		High	Hop_2480	-1.08	-47.97	≤-21.08	PASS

# Test Graphs

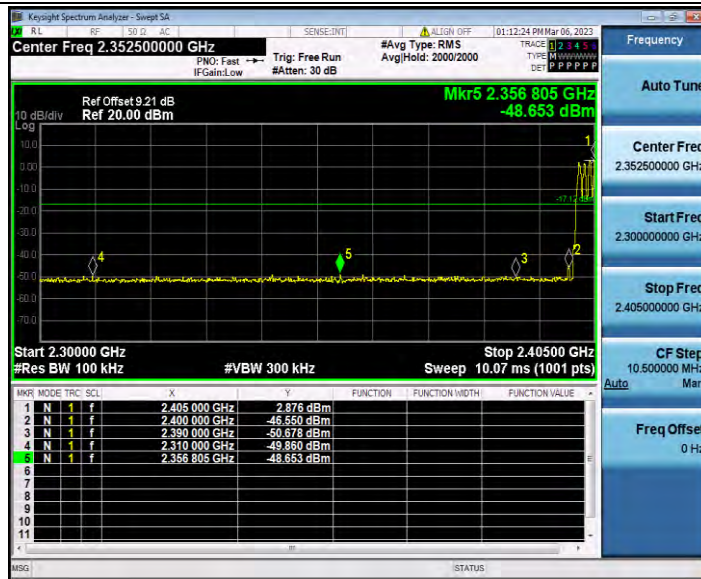
DH1\_Ant1\_Low\_2402



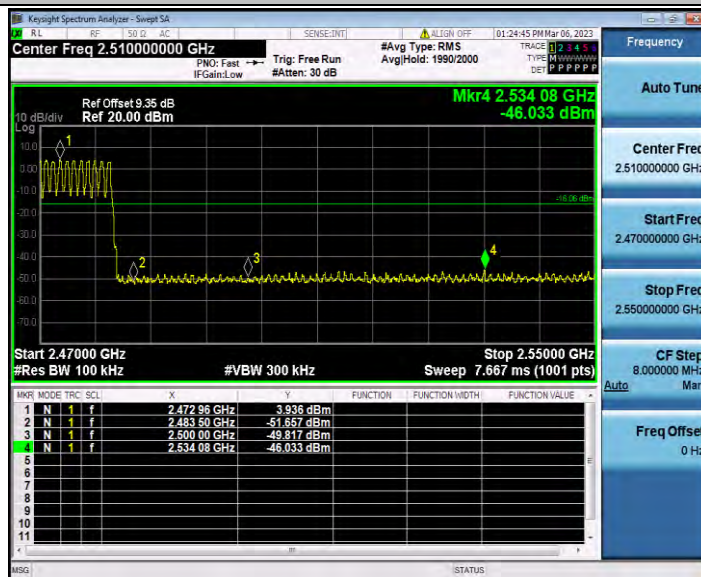
DH1\_Ant1\_High\_2480



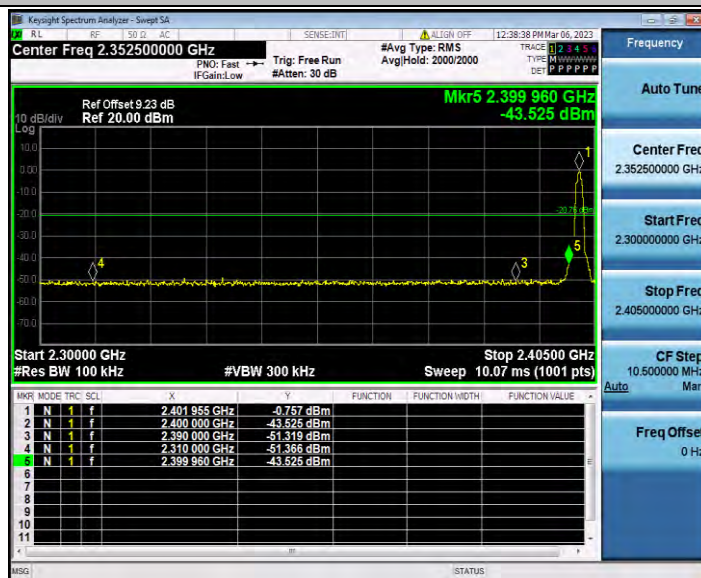
DH1\_Ant1\_Low\_Hop\_2402



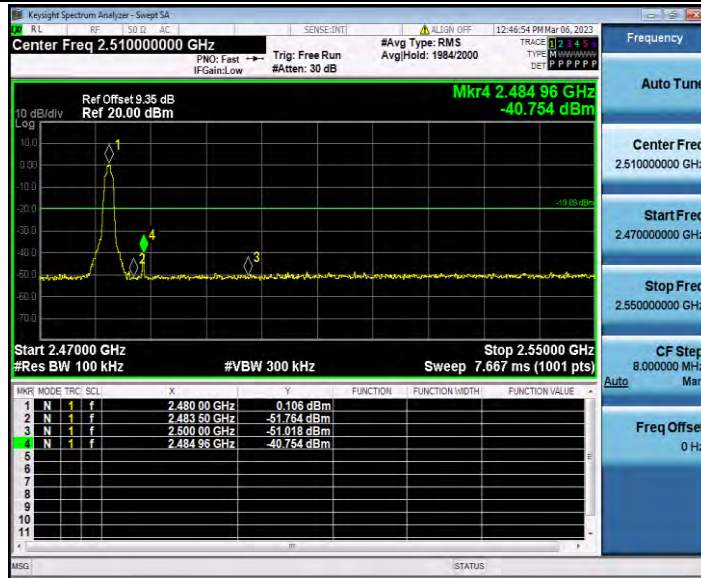
DH1\_Ant1\_High\_Hop\_2480



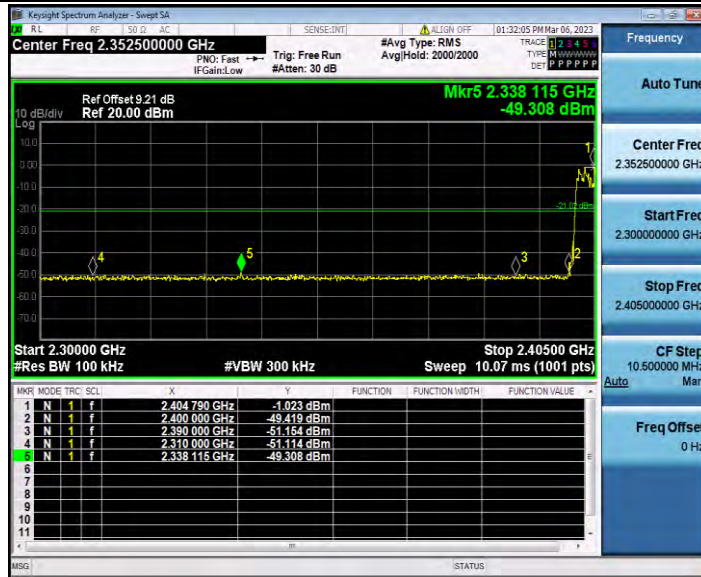
2DH1\_Ant1\_Low\_2402



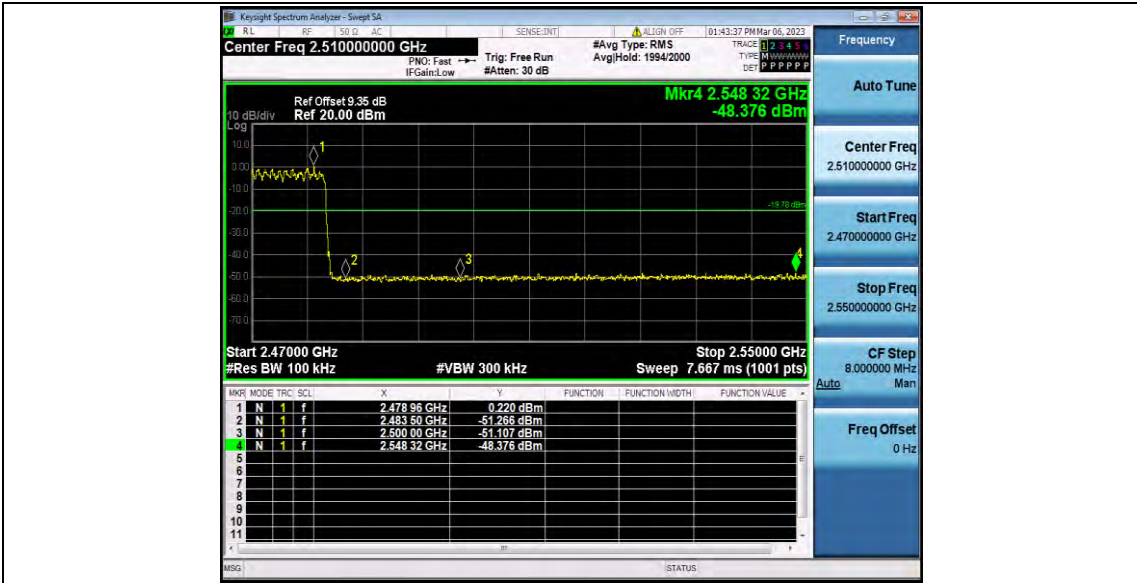
2DH1\_Ant1\_High\_2480



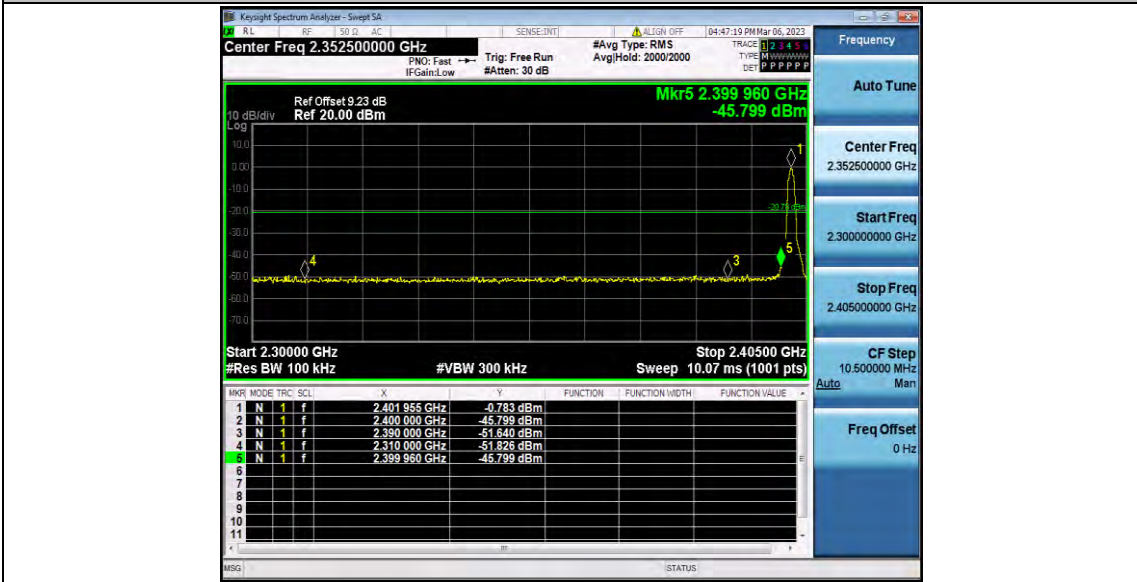
2DH1\_Ant1\_Low\_Hop\_2402



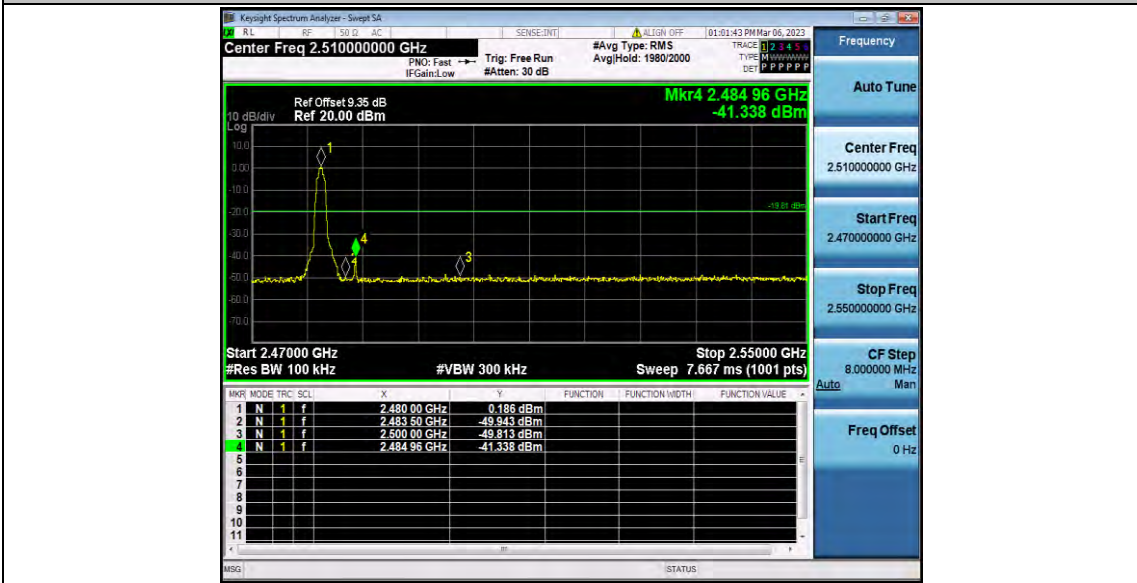
2DH1\_Ant1\_High\_Hop\_2480



3D H1\_Ant1\_Low\_2402

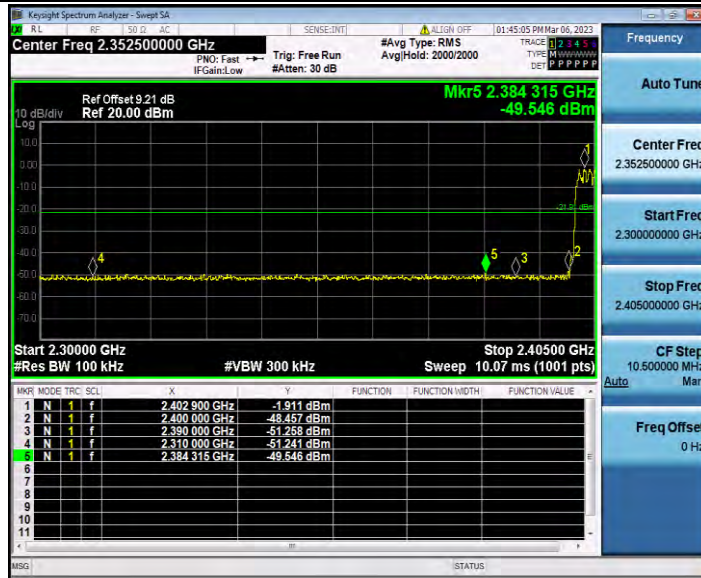


3D H1\_Ant1\_High\_2480

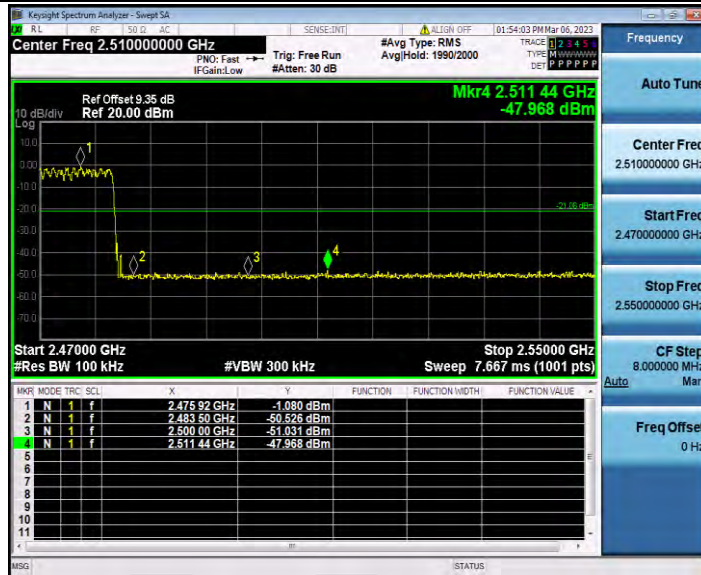




### 3DH1\_Ant1\_Low\_Hop\_2402



### 3DH1\_Ant1\_High\_Hop\_2480



## Appendix A.8: Conducted Spurious Emission

### Test Result

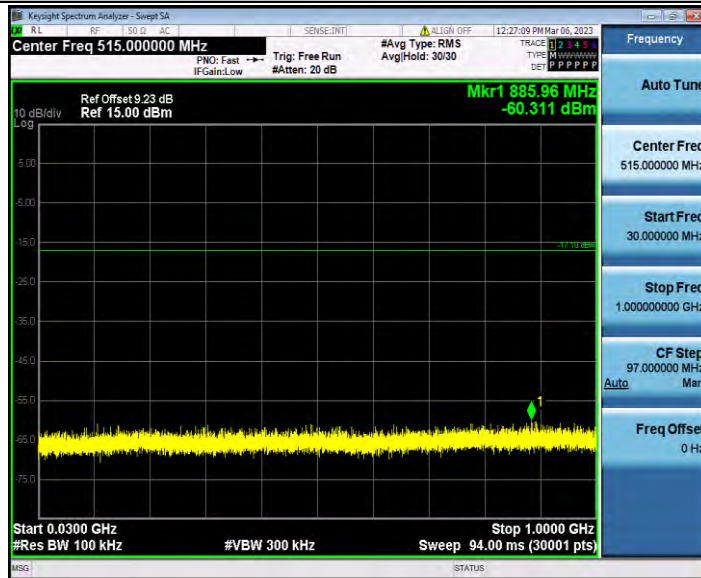
TestMode	Antenna	Frequency[MHz]	FreqRange [MHz]	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
DH1	Ant1	2402	Reference	2.90	2.90	---	PASS
			30~1000	2.90	-60.31	$\leq -17.1$	PASS
			1000~26500	2.90	-47.51	$\leq -17.1$	PASS
		2441	Reference	4.00	4.00	---	PASS
			30~1000	4.00	-60.35	$\leq -16$	PASS
			1000~26500	4.00	-47.28	$\leq -16$	PASS
		2480	Reference	3.58	3.58	---	PASS
			30~1000	3.58	-59.44	$\leq -16.42$	PASS
			1000~26500	3.58	-47.9	$\leq -16.42$	PASS
2DH1	Ant1	2402	Reference	-1.51	-1.51	---	PASS
			30~1000	-1.51	-59.51	$\leq -21.51$	PASS
			1000~26500	-1.51	-47.78	$\leq -21.51$	PASS
		2441	Reference	0.26	0.26	---	PASS
			30~1000	0.26	-60.08	$\leq -19.74$	PASS
			1000~26500	0.26	-47.17	$\leq -19.74$	PASS
		2480	Reference	-0.35	-0.35	---	PASS
			30~1000	-0.35	-59.65	$\leq -20.35$	PASS
			1000~26500	-0.35	-47.46	$\leq -20.35$	PASS
3DH1	Ant1	2402	Reference	-0.87	-0.87	---	PASS
			30~1000	-0.87	-60.11	$\leq -20.87$	PASS
			1000~26500	-0.87	-47.95	$\leq -20.87$	PASS
		2441	Reference	0.06	0.06	---	PASS
			30~1000	0.06	-44.41	$\leq -19.94$	PASS
			1000~26500	0.06	-47.77	$\leq -19.94$	PASS
		2480	Reference	-0.20	-0.20	---	PASS
			30~1000	-0.20	-59.6	$\leq -20.2$	PASS
			1000~26500	-0.20	-47.8	$\leq -20.2$	PASS

# Test Graphs

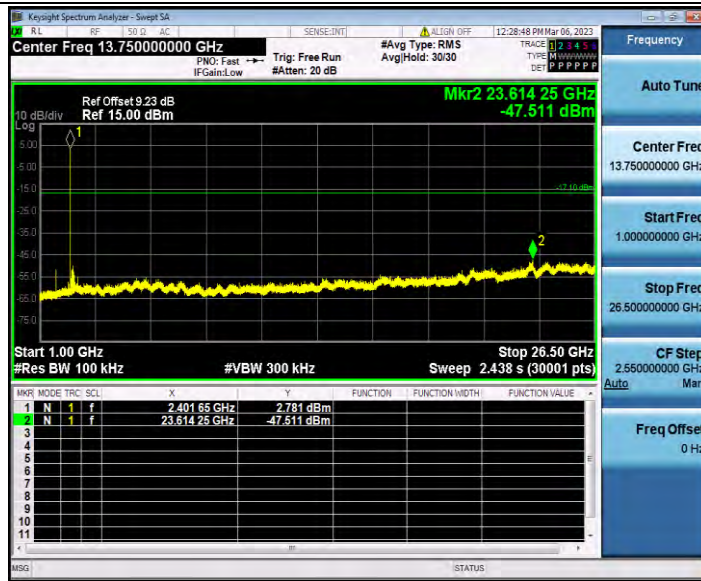
DH1\_Ant1\_2402\_0~Reference



DH1\_Ant1\_2402\_30~1000



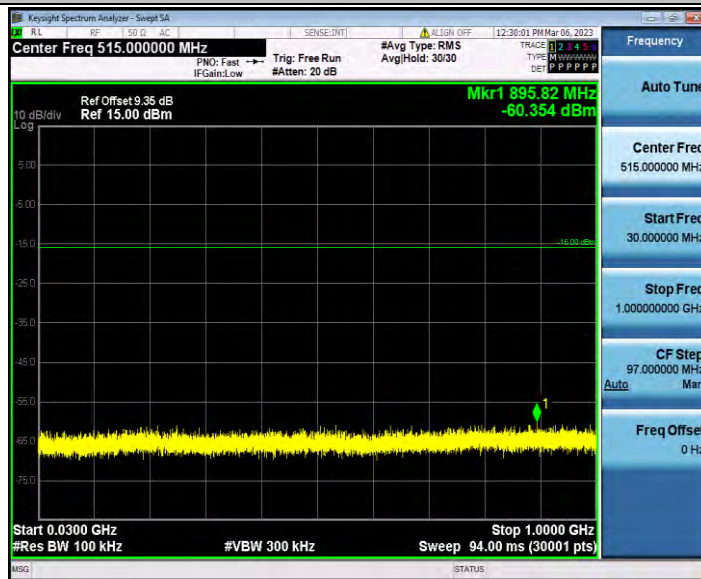
DH1\_Ant1\_2402\_1000~26500



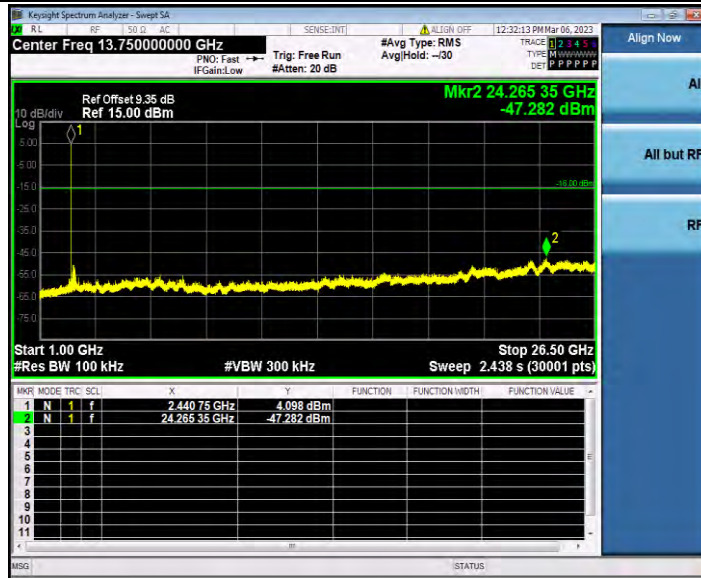
DH1\_Ant1\_2441\_0~Reference



DH1\_Ant1\_2441\_30~1000



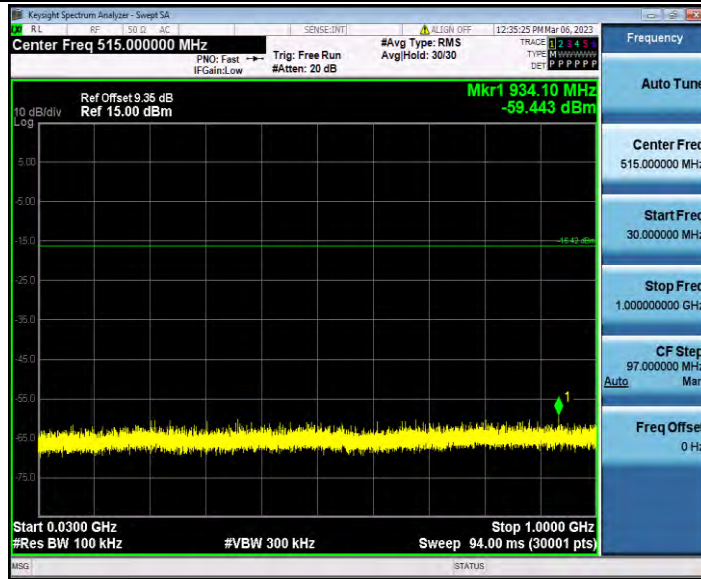
DH1\_Ant1\_2441\_1000~26500



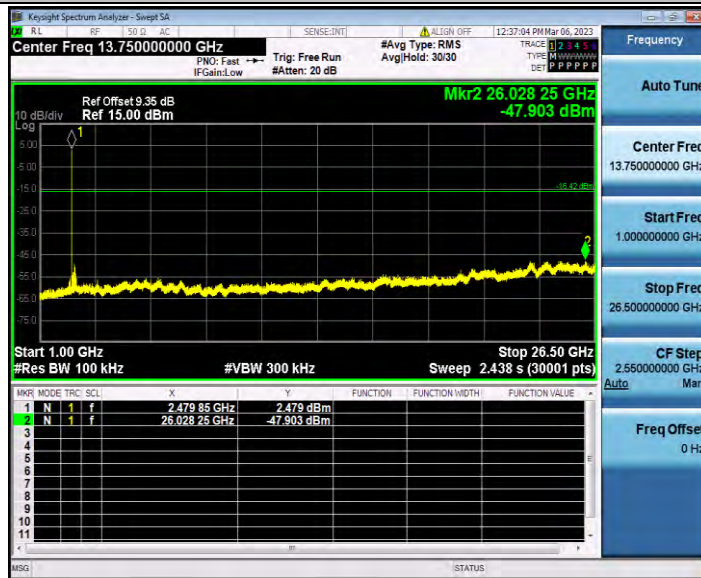
DH1\_Ant1\_2480\_0~Reference



DH1\_Ant1\_2480\_30~1000



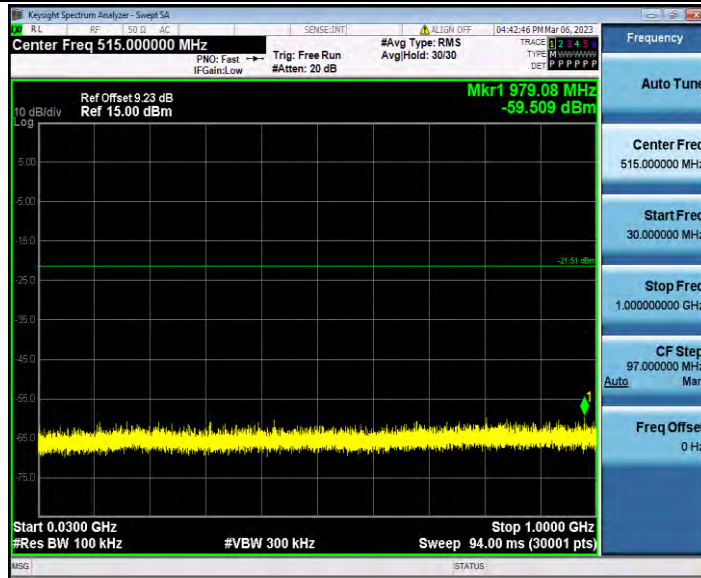
DH1\_Ant1\_2480\_1000~26500



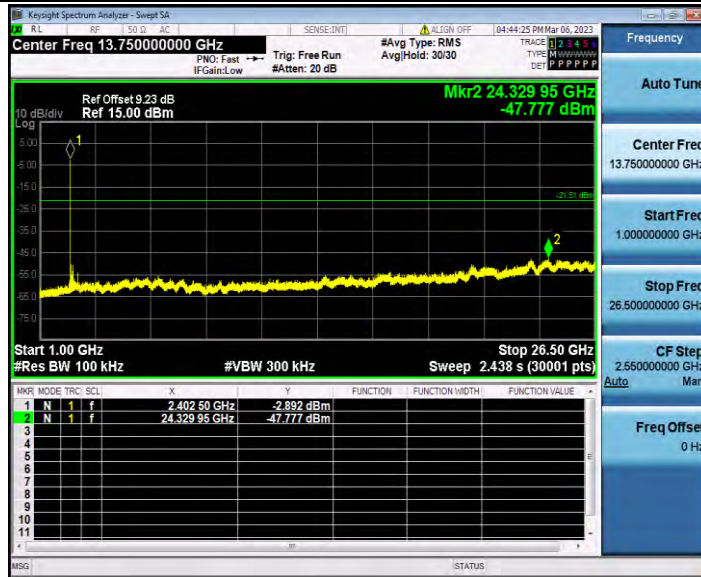
2DH1\_Ant1\_2402\_0~Reference



2DH1\_Ant1\_2402\_30~1000



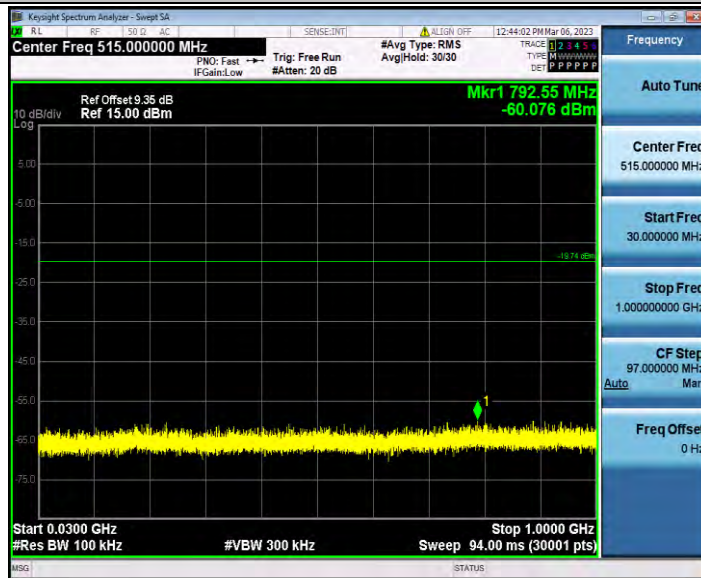
2DH1\_Ant1\_2402\_1000~26500



2DH1\_Ant1\_2441\_0~Reference



2DH1\_Ant1\_2441\_30~100

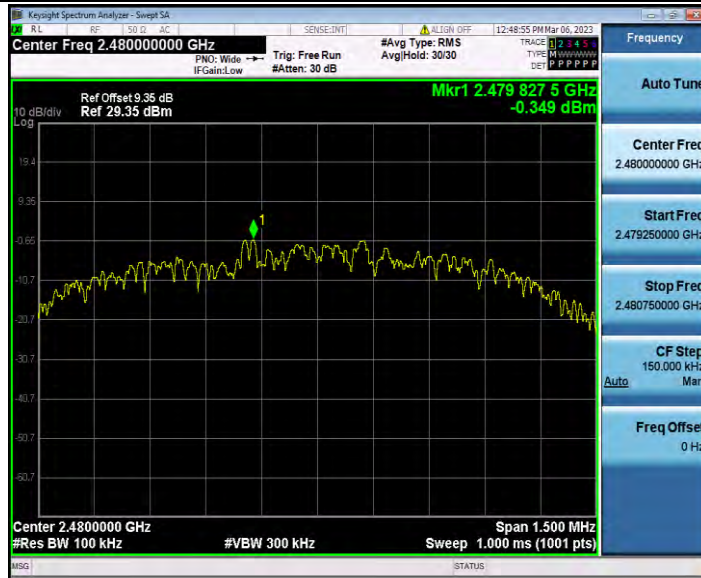


2DH1\_Ant1\_2441\_1000~26500

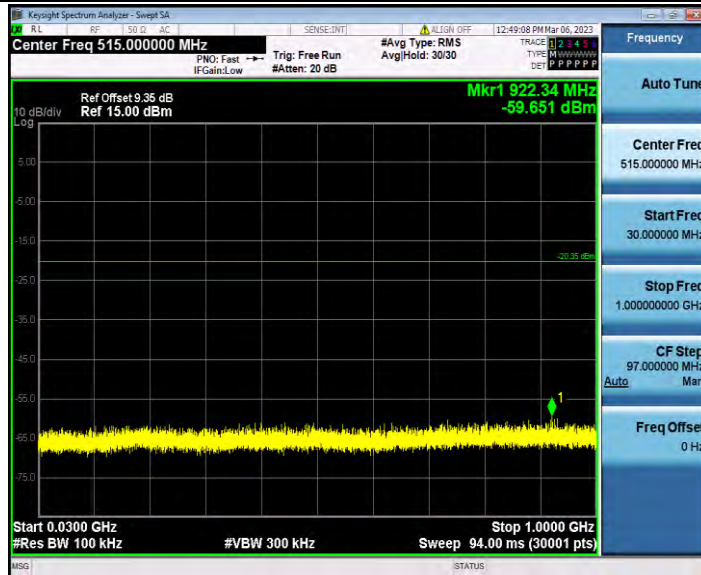




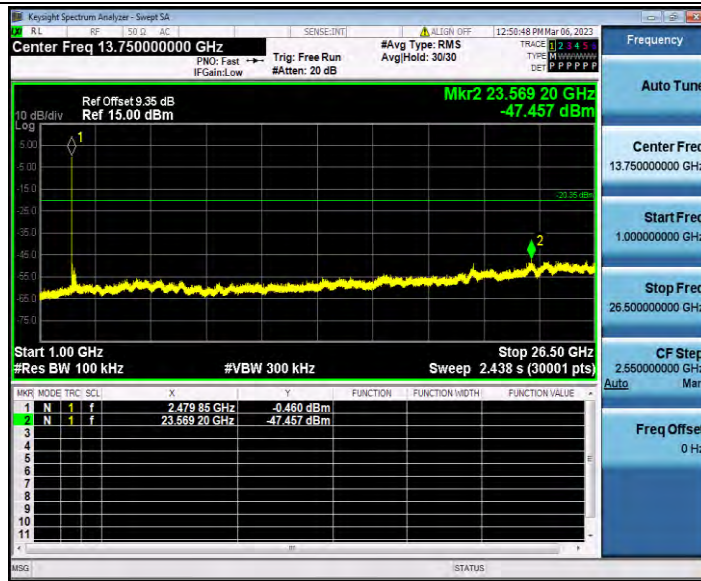
2DH1\_Ant1\_2480\_0~Reference



2DH1\_Ant1\_2480\_30~1000



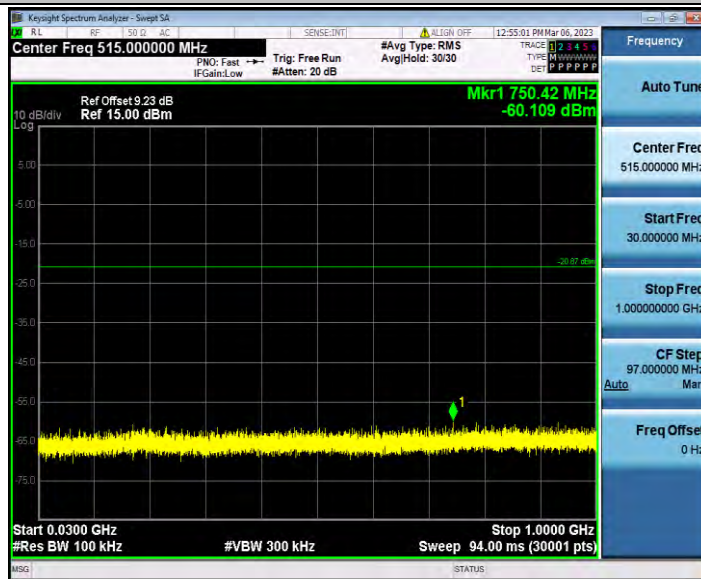
2DH1\_Ant1\_2480\_1000~26500



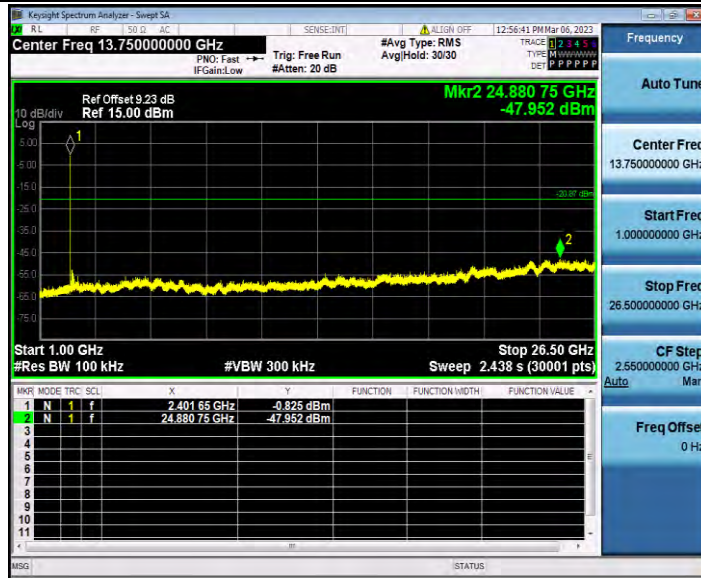
3DH1\_Ant1\_2402\_0~Reference



3DH1\_Ant1\_2402\_30~1000



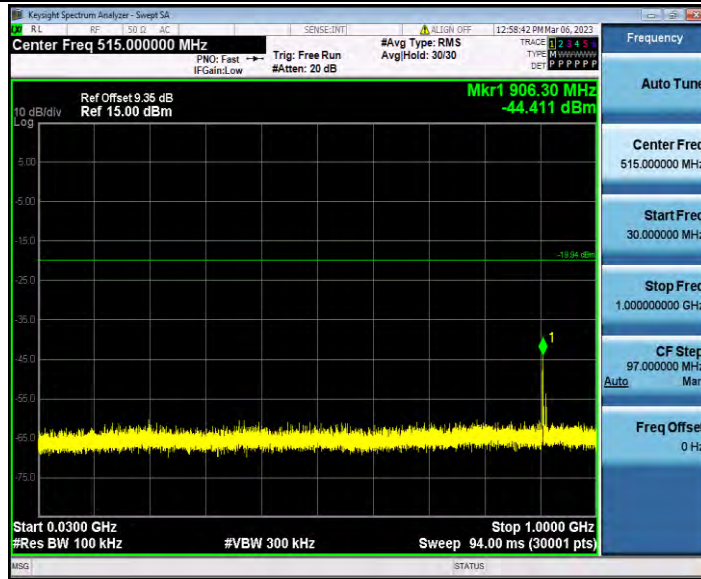
3DH1\_Ant1\_2402\_1000~26500



3DH1\_Ant1\_2441\_0~Reference



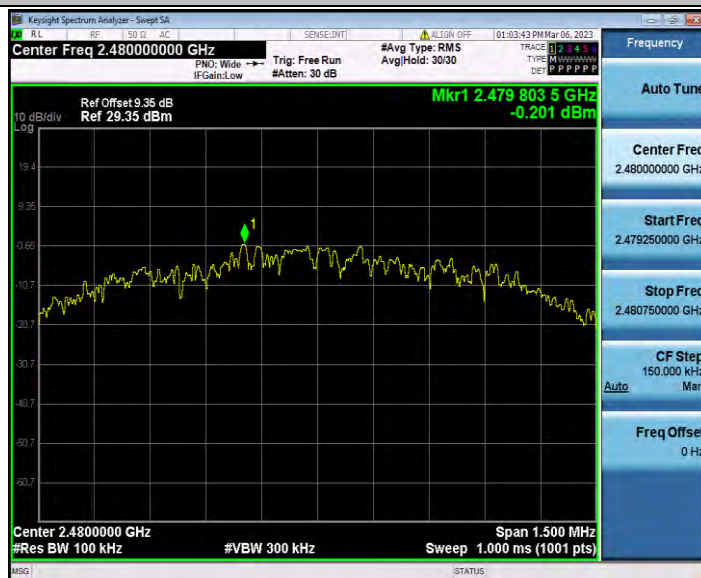
3DH1\_Ant1\_2441\_30~1000



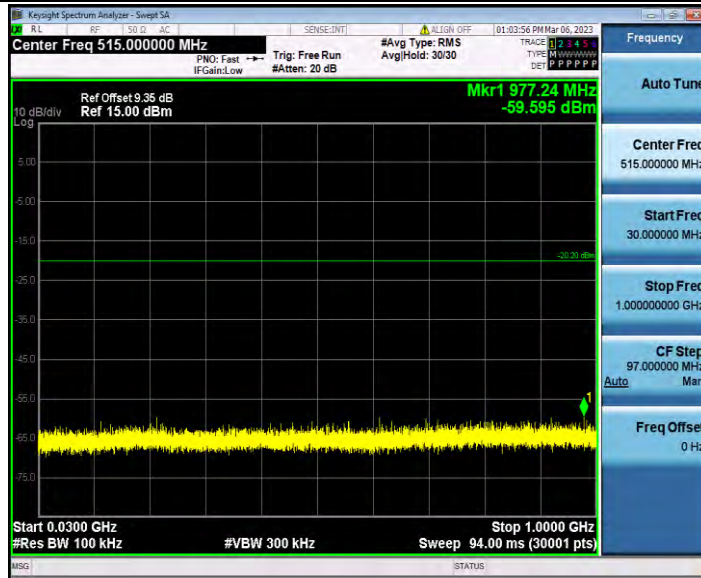
3DH1\_Ant1\_2441\_1000~26500



3DH1\_Ant1\_2480\_0~Reference



3DH1\_Ant1\_2480\_30~1000



3DH1\_Ant1\_2480\_1000~26500

