

<b>Case No. :</b> <u>GTS20220803009-1-38</u>
<b>Ambient Condition:</b> <u>23</u> °C, <u>49</u> %RH, Atmos100.1Kpa,
<b>Test Date:</b> <u>2023.7.6</u> <b>Test Engineer:</b> <u>Evan Ouyang</u>

## Appendix A.1: 20dB Emission Bandwidth

### Test Result

Test Mode	Antenna	Frequency[MHz]	20db EBW[MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
DH1	Ant1	2402	1.032	2401.469	2402.501	---	---
		2441	0.963	2440.520	2441.483	---	---
		2480	0.939	2479.547	2480.486	---	---
2DH1	Ant1	2402	1.353	2401.328	2402.681	---	---
		2441	1.365	2440.322	2441.687	---	---
		2480	1.359	2479.334	2480.693	---	---
3DH1	Ant1	2402	1.176	2401.424	2402.600	---	---
		2441	1.143	2440.463	2441.606	---	---
		2480	1.137	2479.472	2480.609	---	---

## 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.2: Occupied Channel Bandwidth

### Test Result

Test Mode	Antenna	Frequency[MHz]	OCB [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
DH1	Ant1	2402	0.91051	2401.545	2402.456	---	---
		2441	0.89757	2440.560	2441.458	---	---
		2480	0.89926	2479.565	2480.464	---	---
2DH1	Ant1	2402	1.2324	2401.386	2402.619	---	---
		2441	1.2426	2440.387	2441.629	---	---
		2480	1.2428	2479.392	2480.635	---	---
3DH1	Ant1	2402	1.1066	2401.471	2402.577	---	---
		2441	1.0835	2440.498	2441.581	---	---
		2480	1.0812	2479.502	2480.584	---	---

## 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

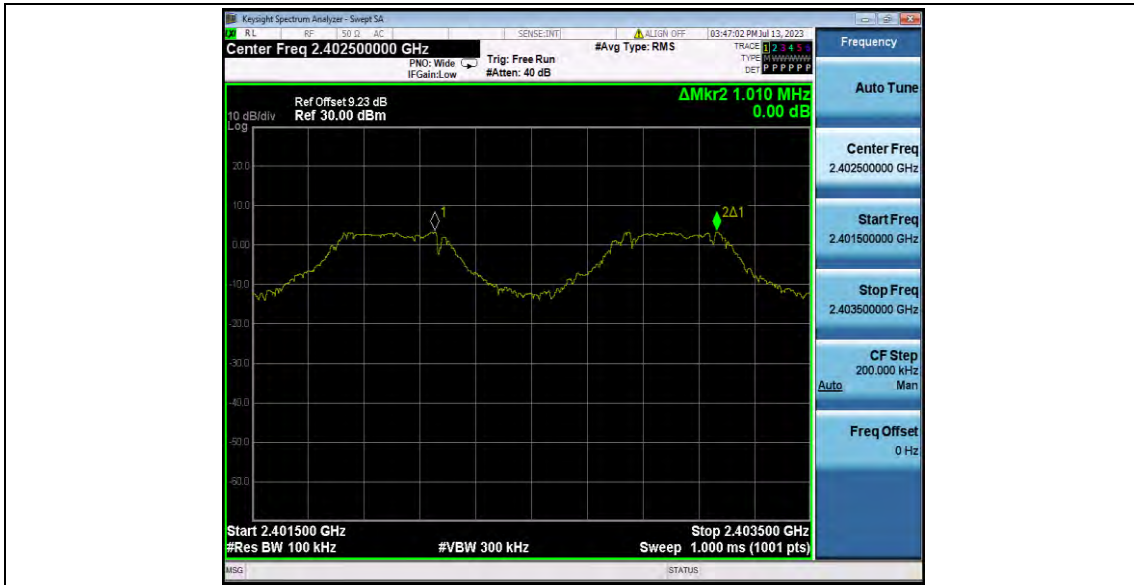
Test Mode	Antenna	Frequency[MHz]	Conducted Peak Power[dBm]	Conducted Limit[dBm]	Verdict
DH1	Ant1	2402	3.48	≤20.97	PASS
		2441	6.52	≤20.97	PASS
		2480	6.19	≤20.97	PASS
2DH1	Ant1	2402	3.41	≤20.97	PASS
		2441	5.83	≤20.97	PASS
		2480	5.52	≤20.97	PASS
3DH1	Ant1	2402	3.22	≤20.97	PASS
		2441	5.8	≤20.97	PASS
		2480	5.45	≤20.97	PASS

## Appendix A.4: Carrier frequency separation

### Test Result

Test Mode	Antenna	Frequency[MHz]	Result[MHz]	Limit[MHz]	Verdict
DH1	Ant1	Hop_2402	1.01	$\geq 0.688$	PASS
		Hop_2441	0.85	$\geq 0.688$	PASS
		Hop_2480	0.85	$\geq 0.688$	PASS
2DH1	Ant1	Hop_2402	1.144	$\geq 0.910$	PASS
		Hop_2441	1.012	$\geq 0.910$	PASS
		Hop_2480	0.998	$\geq 0.910$	PASS
3DH1	Ant1	Hop_2402	1.004	$\geq 0.784$	PASS
		Hop_2441	1.464	$\geq 1.176$	PASS
		Hop_2480	0.99	$\geq 0.784$	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

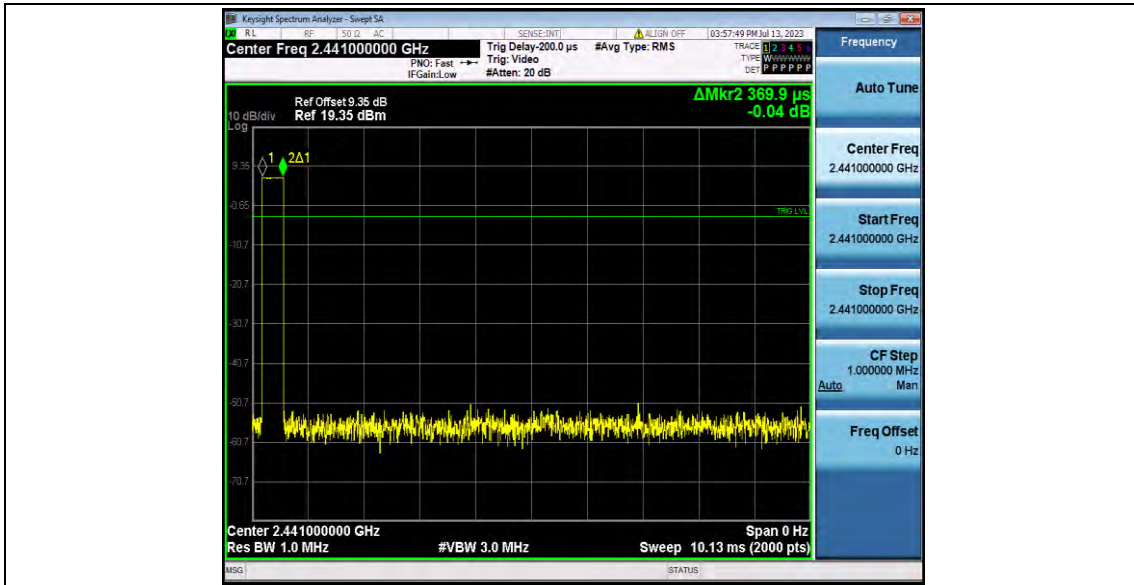


## Appendix A.5: Time of occupancy

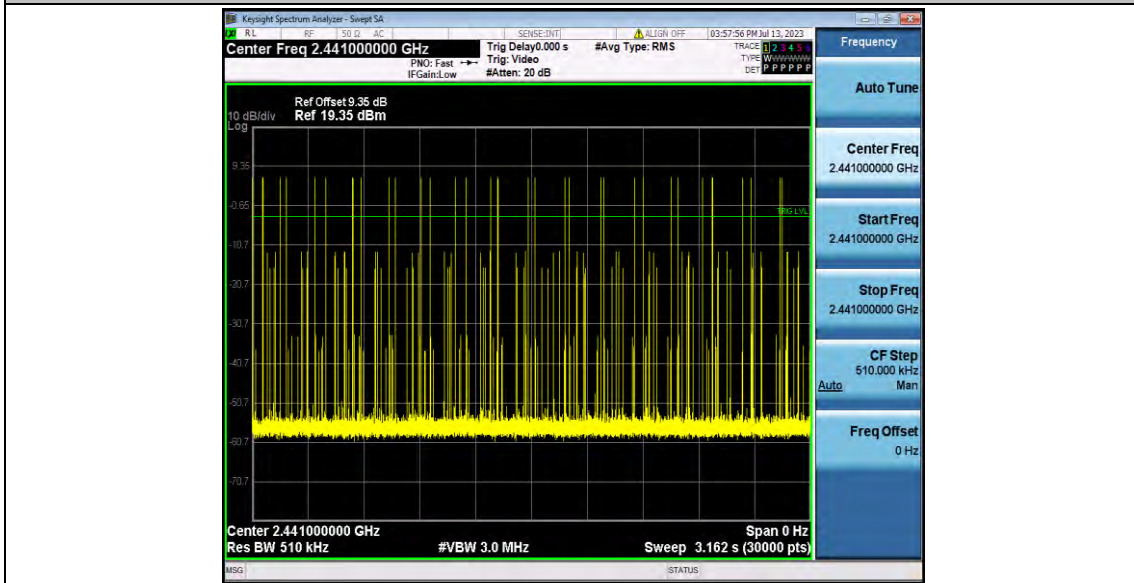
### Test Result

Test Mode	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	170	0.277	≤0.4	PASS
DH5	Ant1	Hop	2.88	100	0.288	≤0.4	PASS
2DH1	Ant1	Hop	0.38	330	0.125	≤0.4	PASS
2DH3	Ant1	Hop	1.63	140	0.228	≤0.4	PASS
2DH5	Ant1	Hop	2.88	110	0.317	≤0.4	PASS
3DH1	Ant1	Hop	0.38	310	0.118	≤0.4	PASS
3DH3	Ant1	Hop	1.63	160	0.261	≤0.4	PASS
3DH5	Ant1	Hop	2.88	110	0.317	≤0.4	PASS

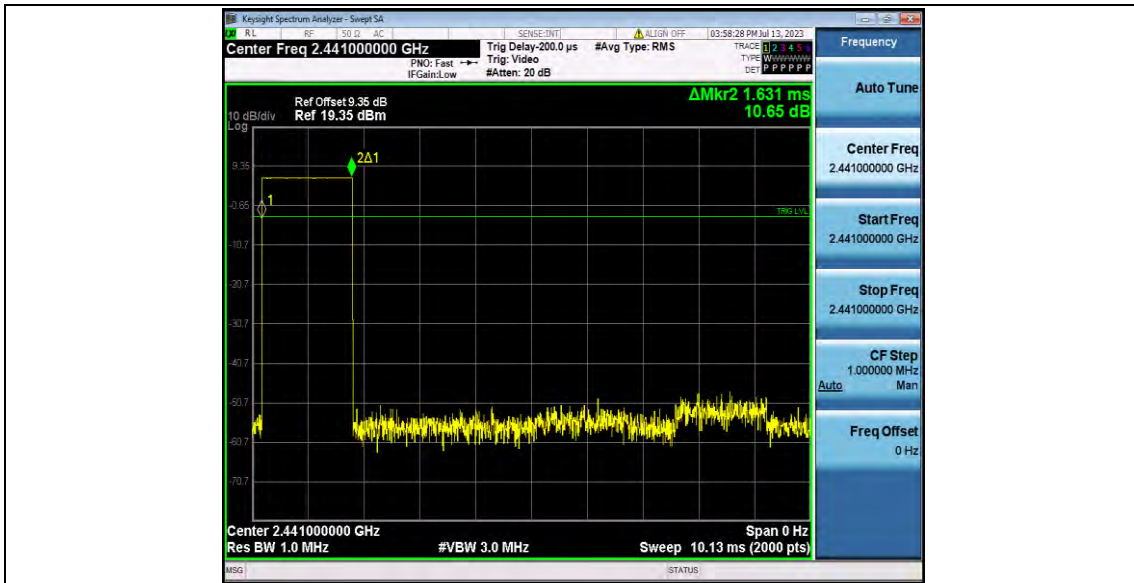
## Test Graphs



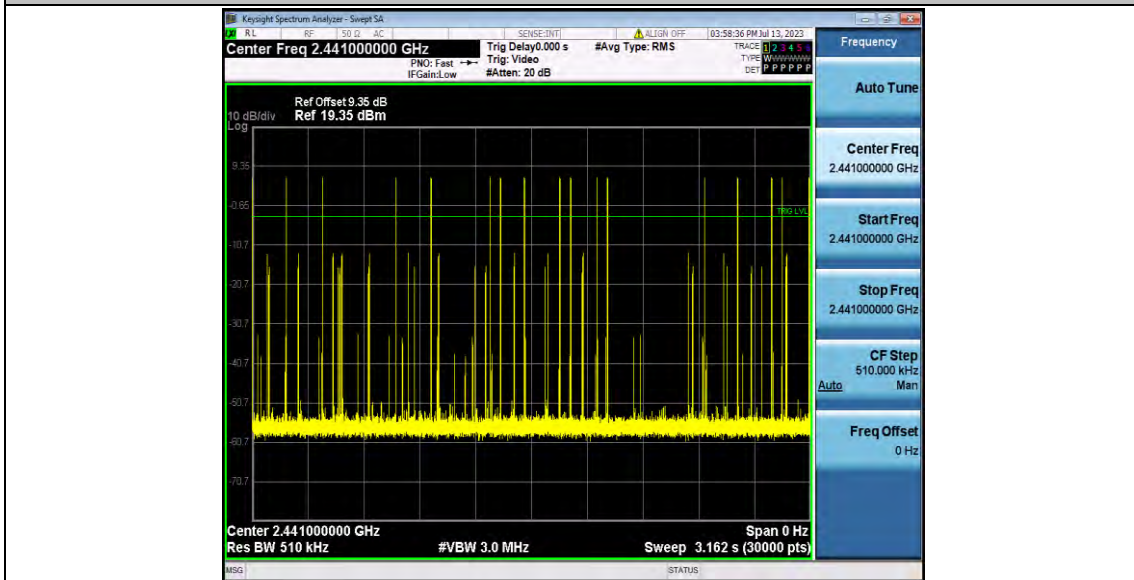
DH1\_Ant1\_Hop



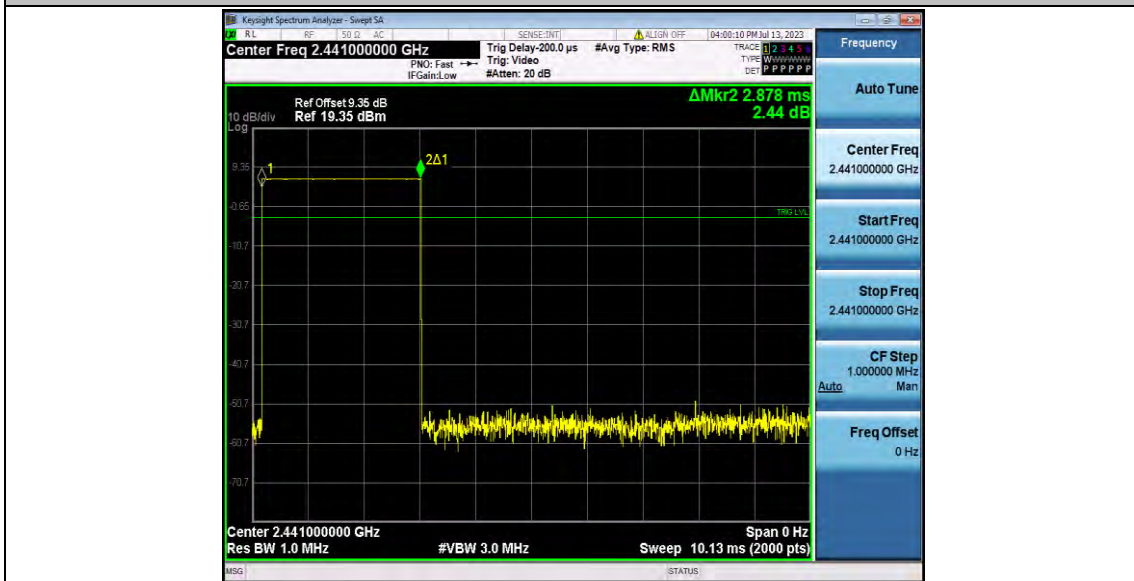
DH1\_Ant1\_Hop



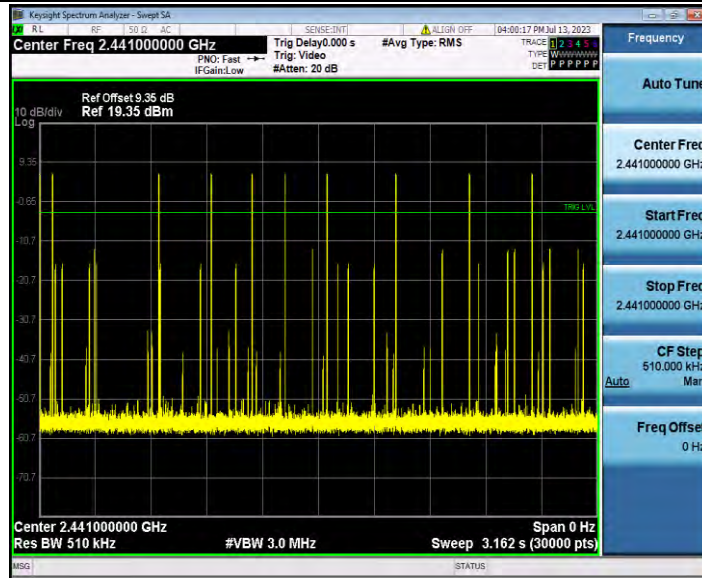
DH3\_Ant1\_Hop



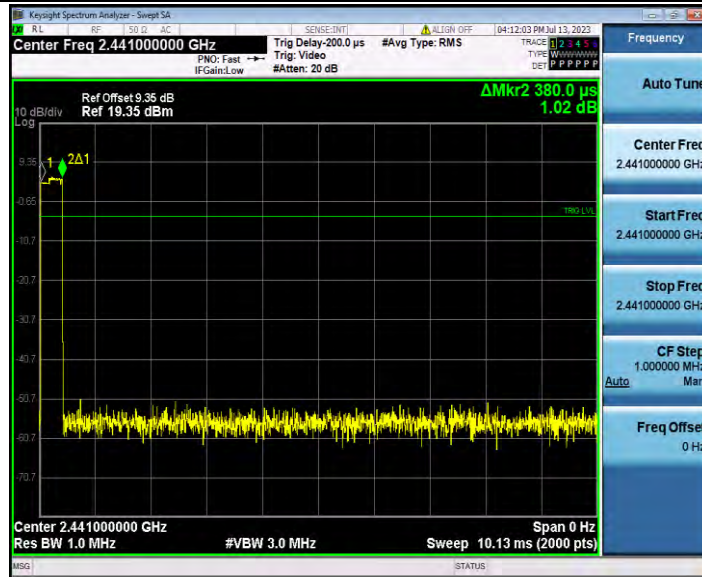
DH3\_Ant1\_Hop



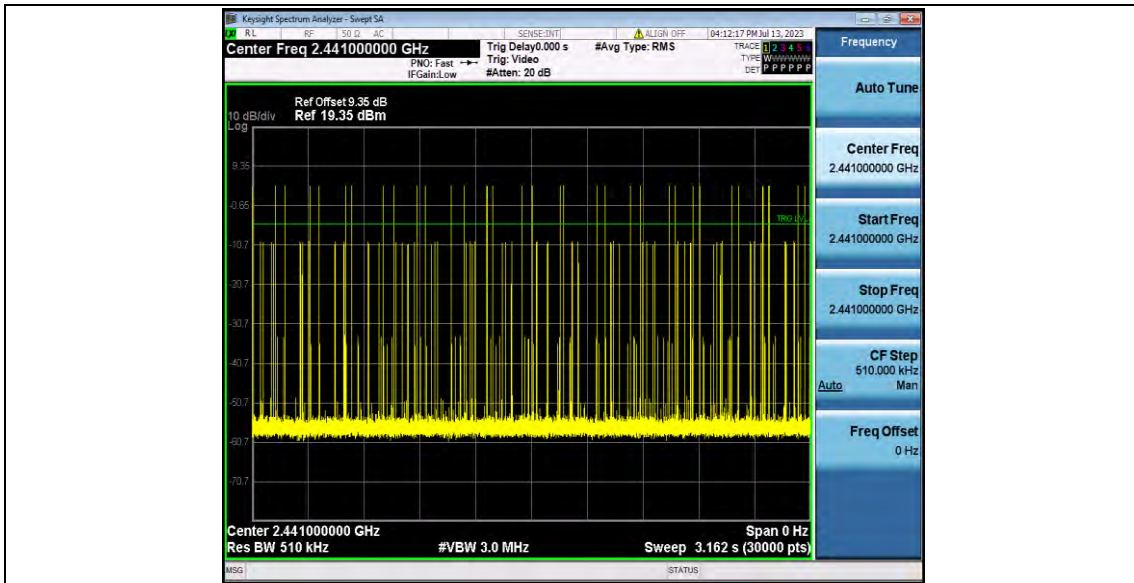
DH5\_Ant1\_Hop



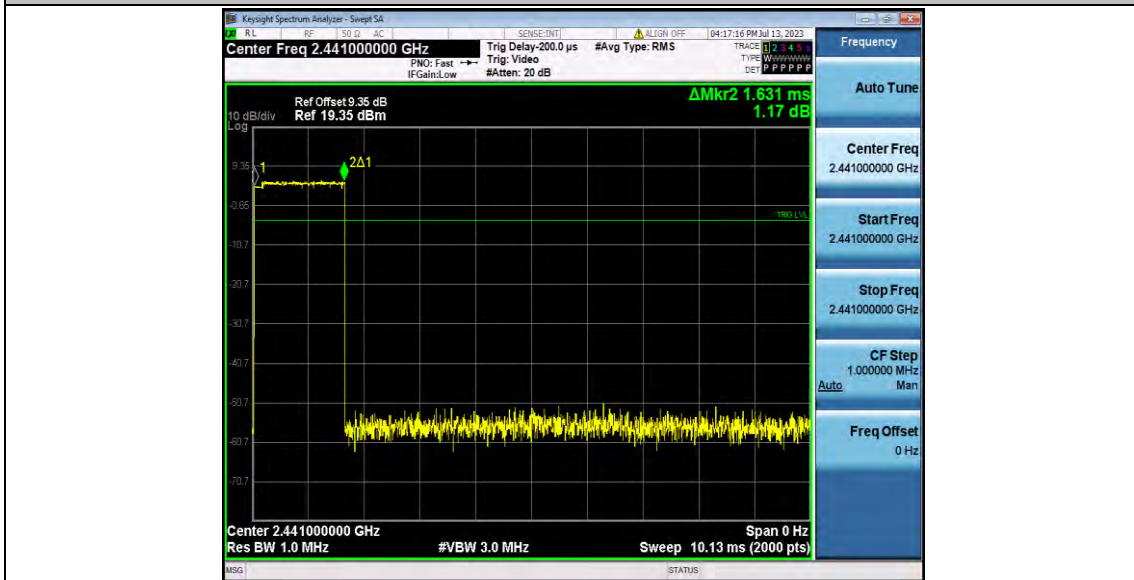
DH5\_Ant1\_Hop



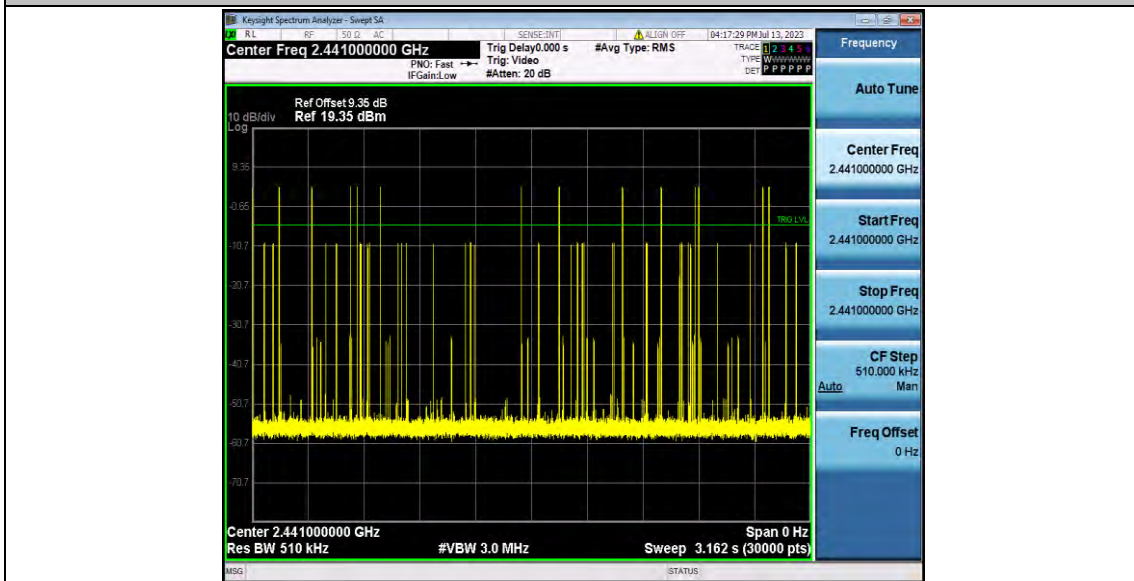
2DH1\_Ant1\_Hop



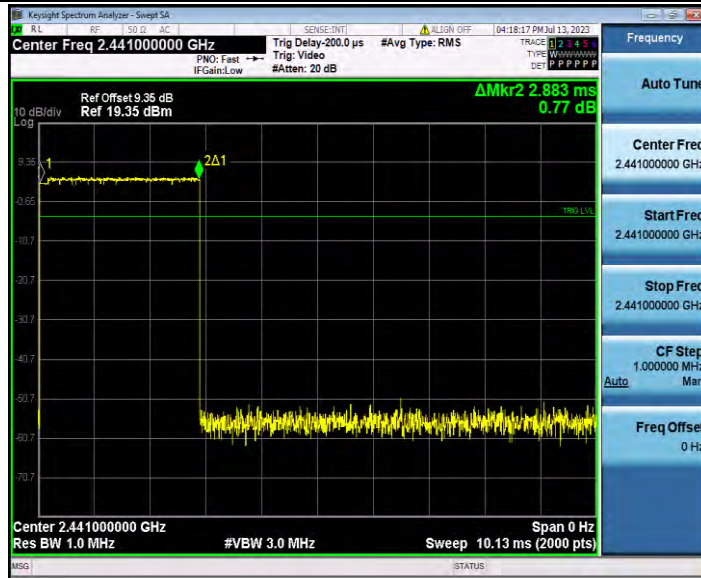
2DH1\_Ant1\_Hop



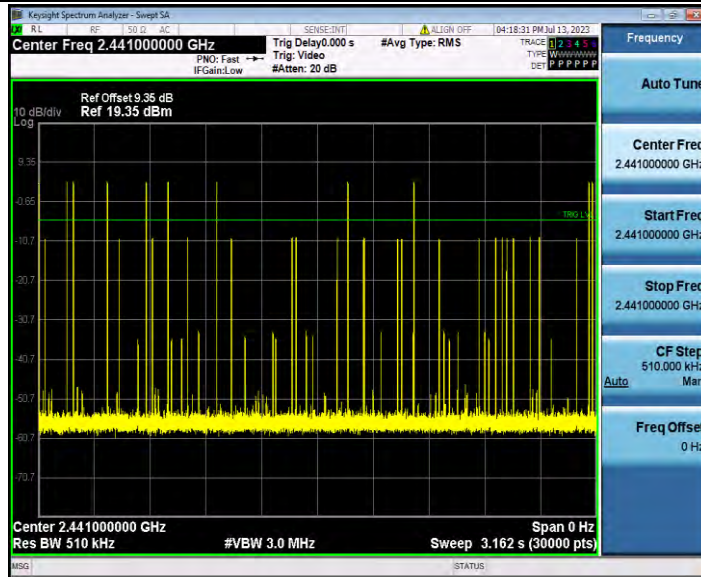
2DH3\_Ant1\_Hop



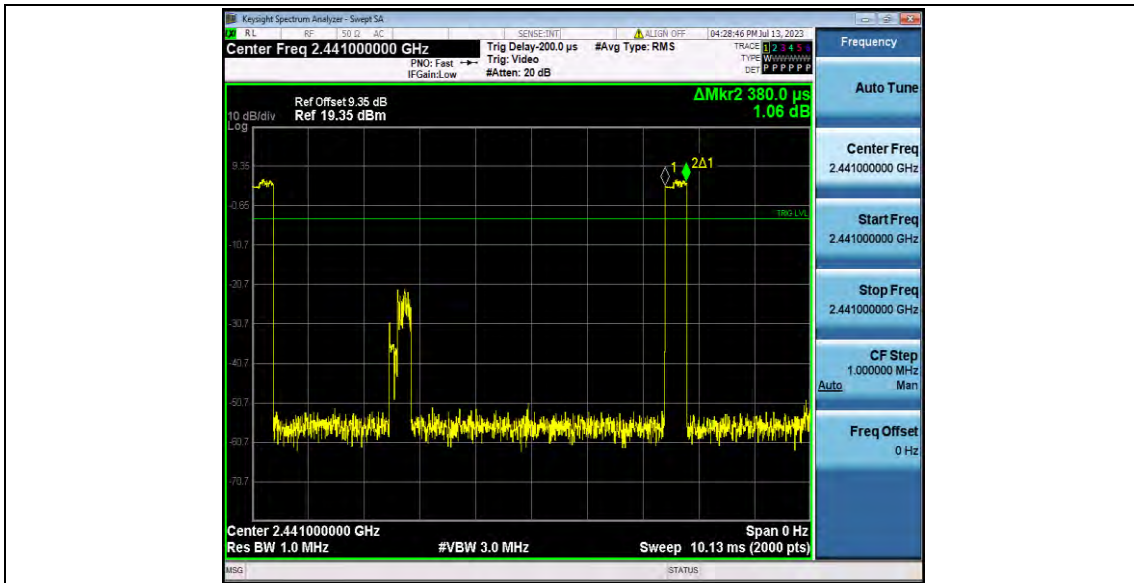
2DH3\_Ant1\_Hop



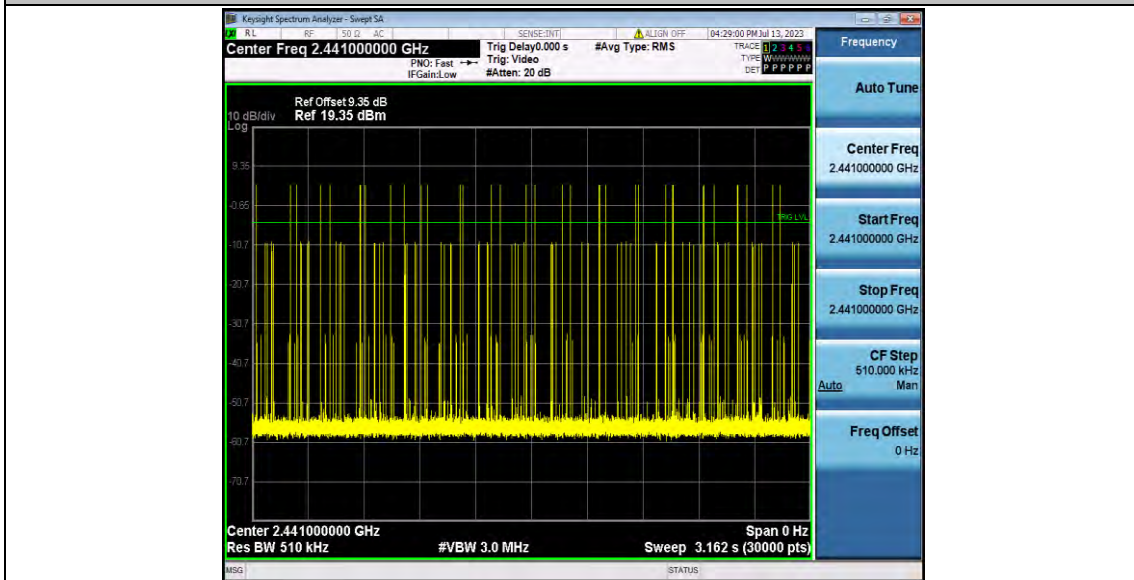
2DH5\_Ant1\_Hop



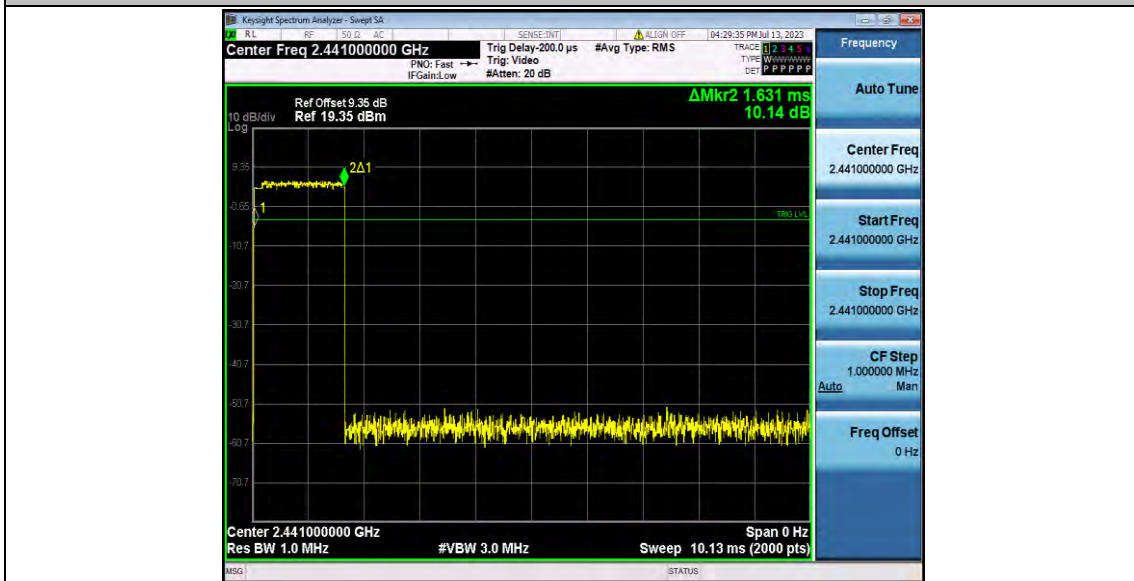
2DH5\_Ant1\_Hop



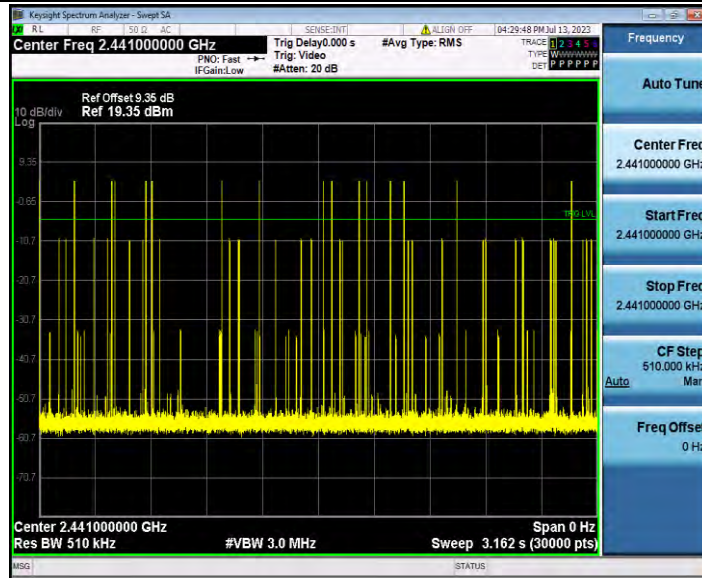
3DH1\_Ant1\_Hop



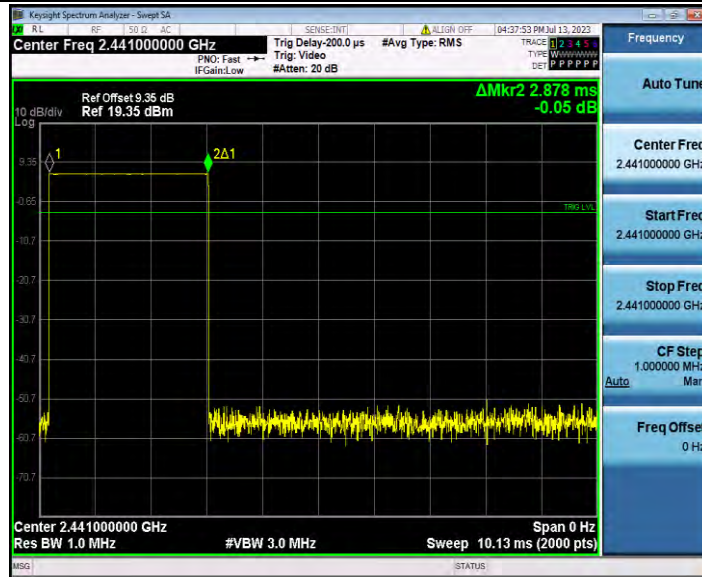
3DH1\_Ant1\_Hop



3DH3\_Ant1\_Hop

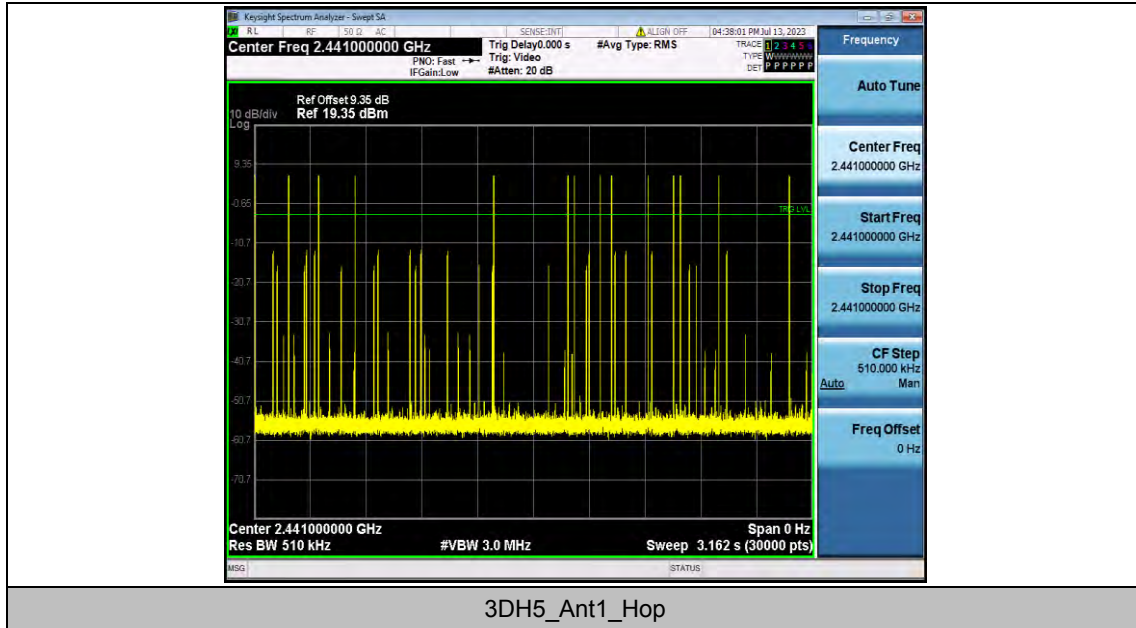


3DH3\_Ant1\_Hop



3DH5\_Ant1\_Hop





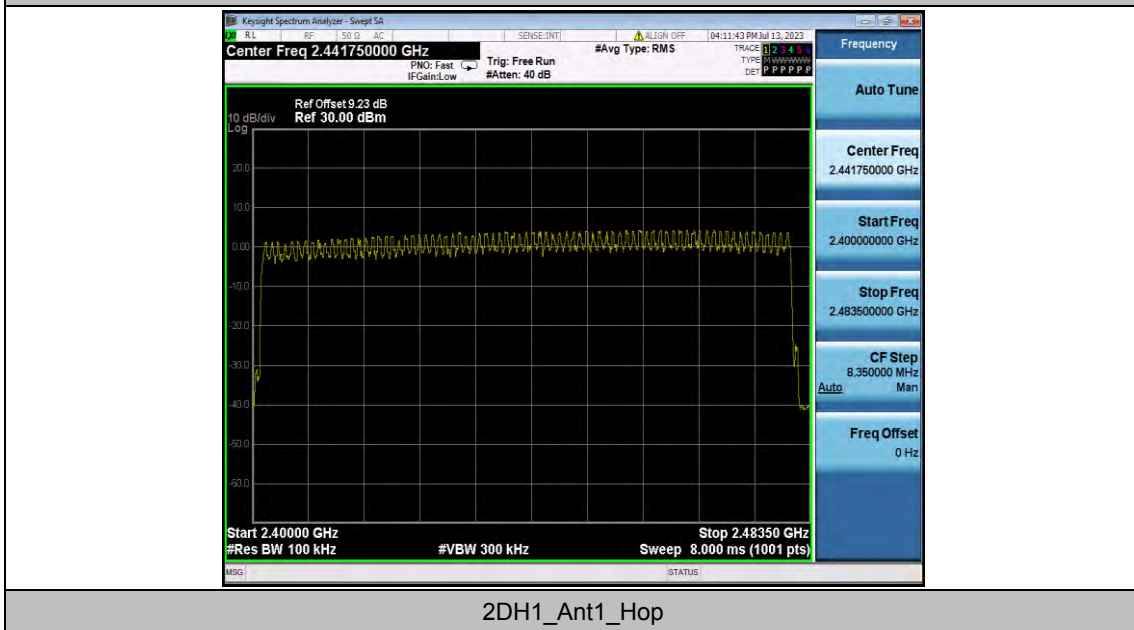
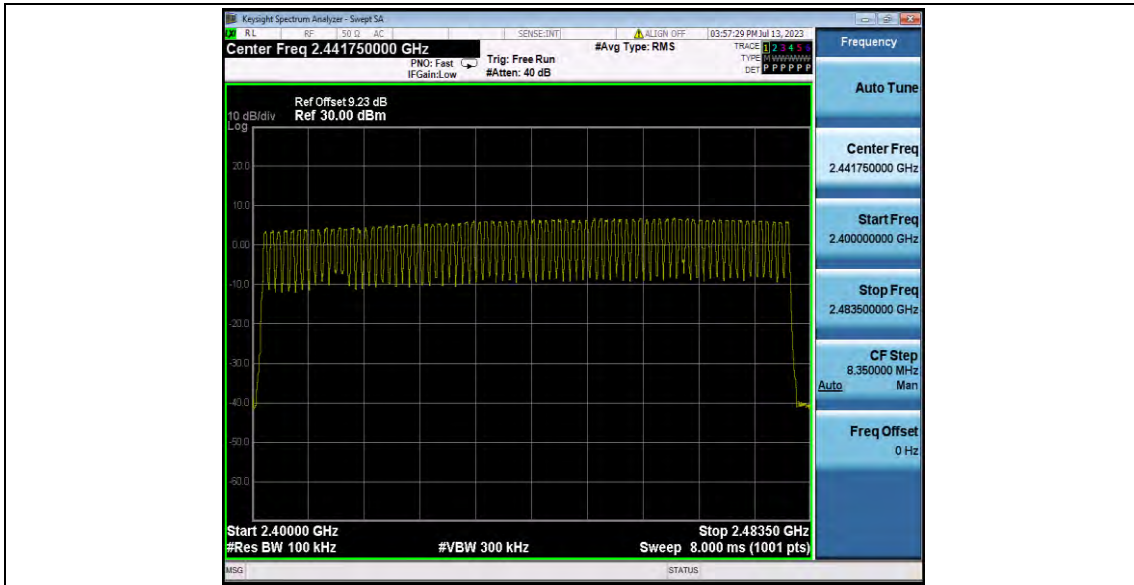
3DH5\_Ant1\_Hop

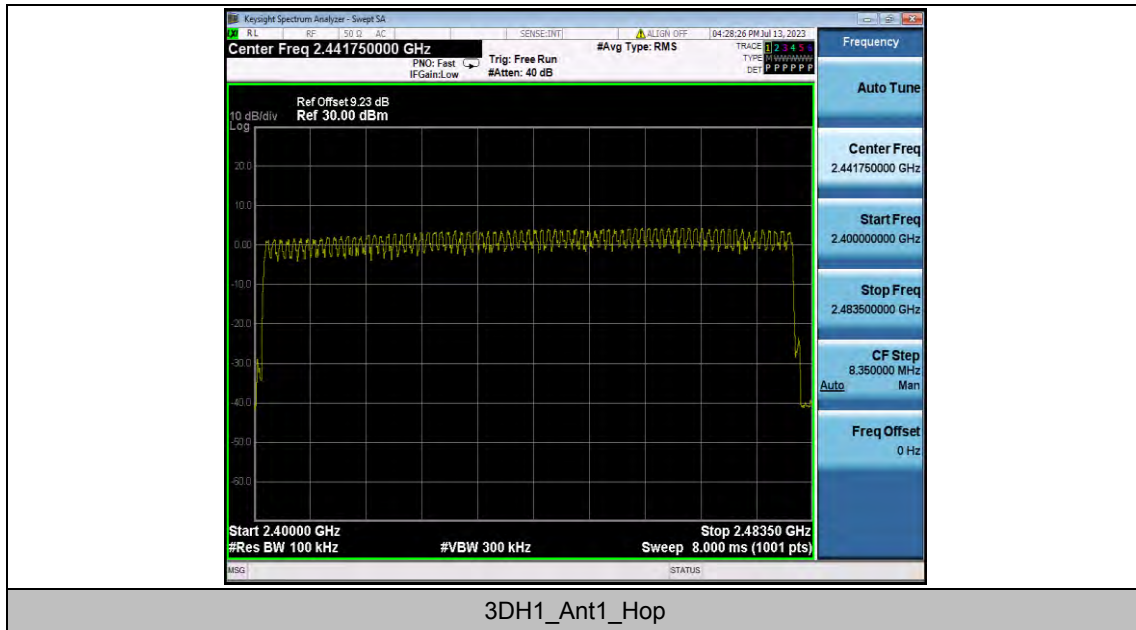
## Appendix A.6: Number of hopping channels

### Test Result

Test Mode	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



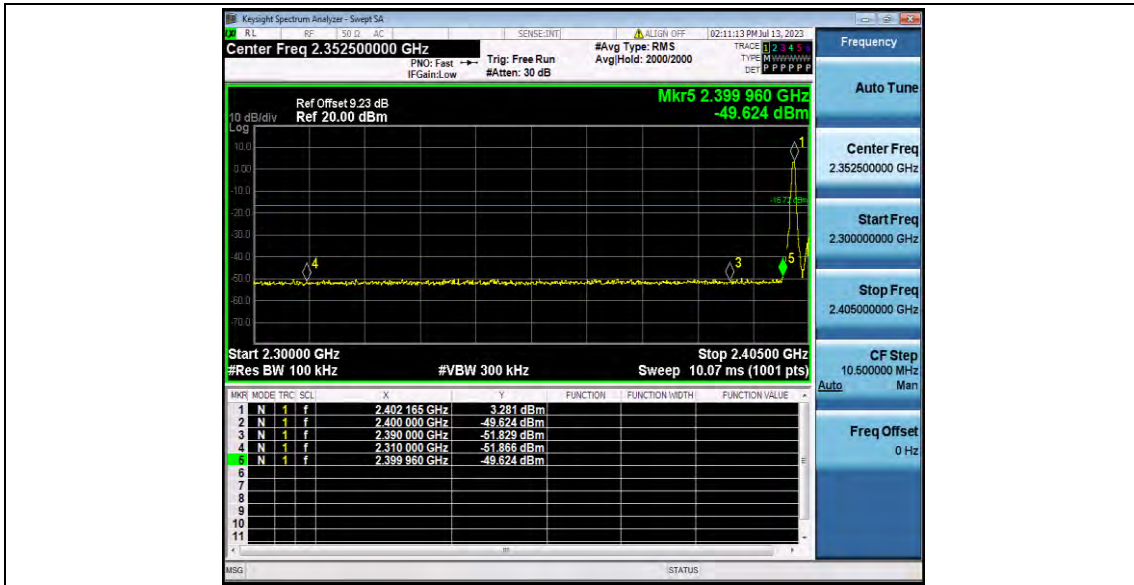


## Appendix A.7: Band edge measurements

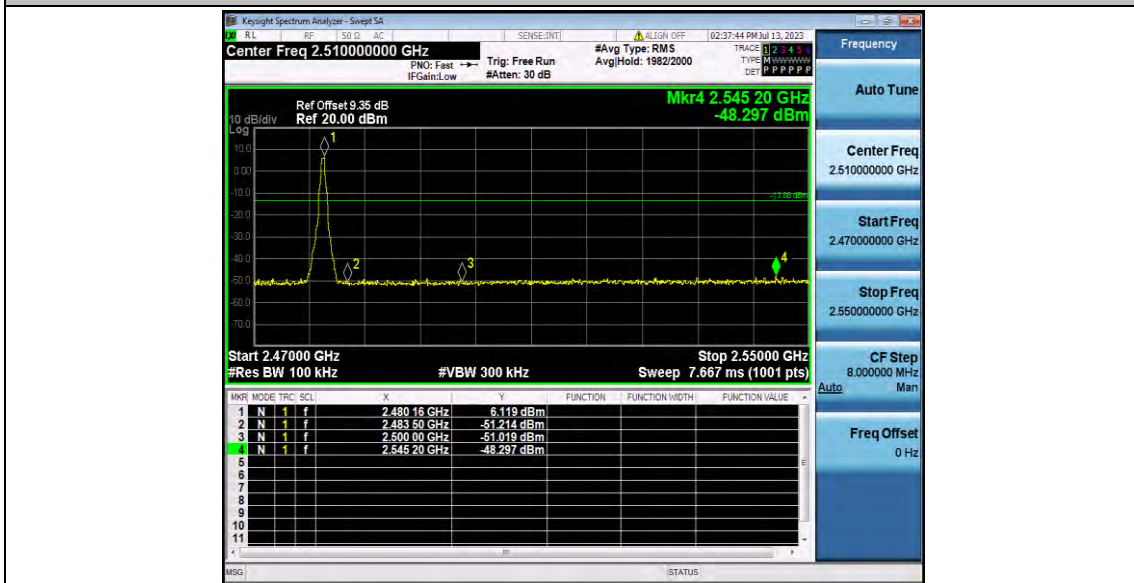
### Test Result

Test Mode	Antenna	ChName	Frequency[MHz]	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
DH1	Ant1	Low	2402	3.28	-49.62	≤-16.72	PASS
		High	2480	6.12	-48.3	≤-13.88	PASS
		Low	Hop_2402	3.41	-49.12	≤-16.59	PASS
		High	Hop_2480	6.26	-40.64	≤-13.74	PASS
2DH1	Ant1	Low	2402	1.27	-48.82	≤-18.73	PASS
		High	2480	3.73	-48.48	≤-16.28	PASS
		Low	Hop_2402	0.53	-49.27	≤-19.47	PASS
		High	Hop_2480	3.70	-48.53	≤-16.3	PASS
3DH1	Ant1	Low	2402	1.34	-39.58	≤-18.66	PASS
		High	2480	3.81	-49.11	≤-16.19	PASS
		Low	Hop_2402	0.99	-49.51	≤-19.01	PASS
		High	Hop_2480	4.18	-48.26	≤-15.82	PASS

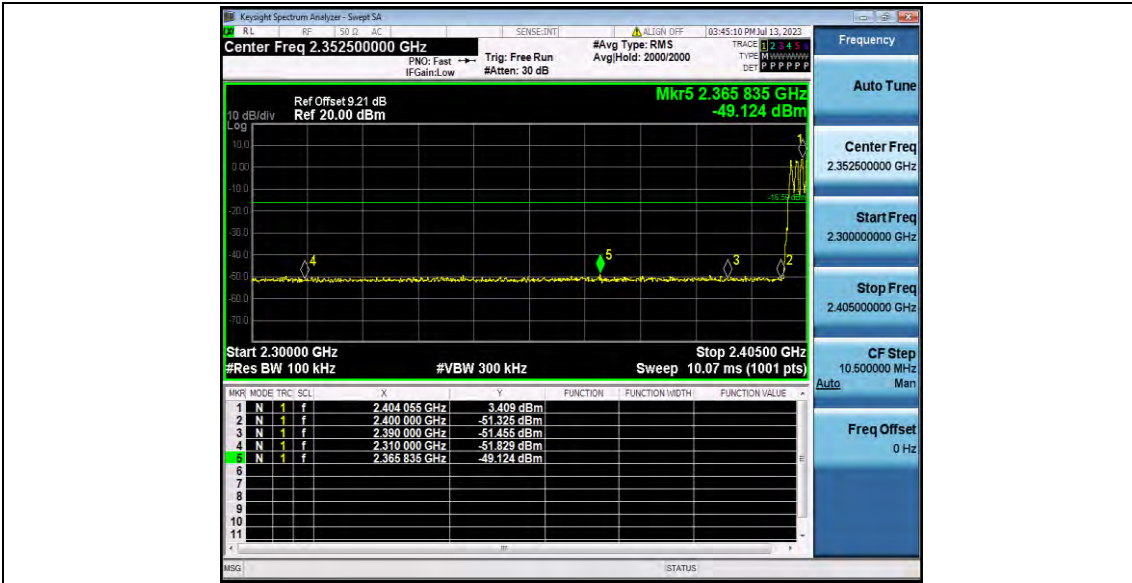
## Test Graphs



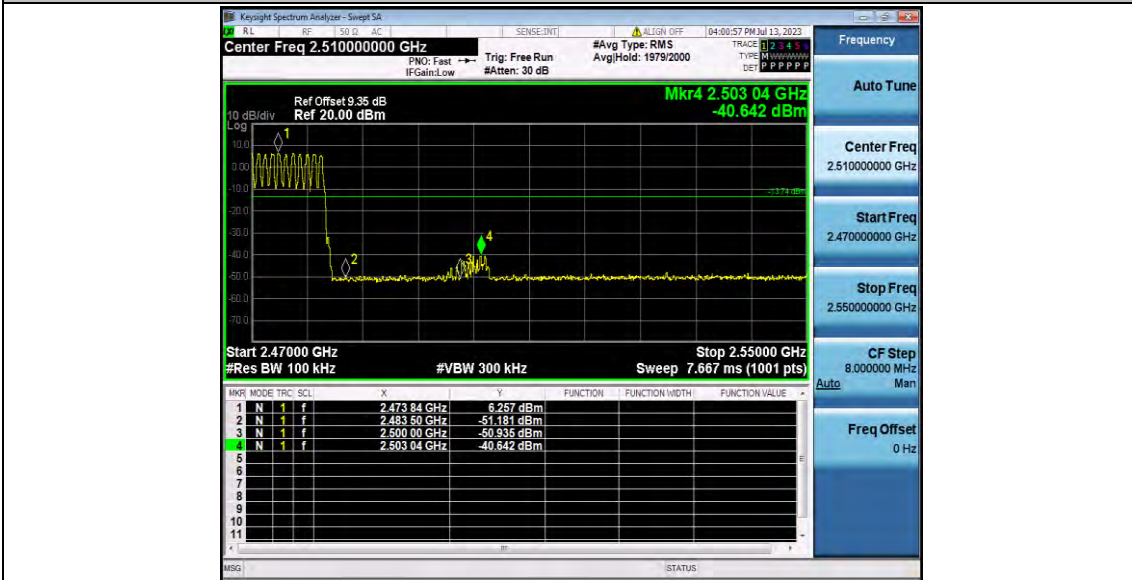
DH1\_Ant1\_Low\_2402



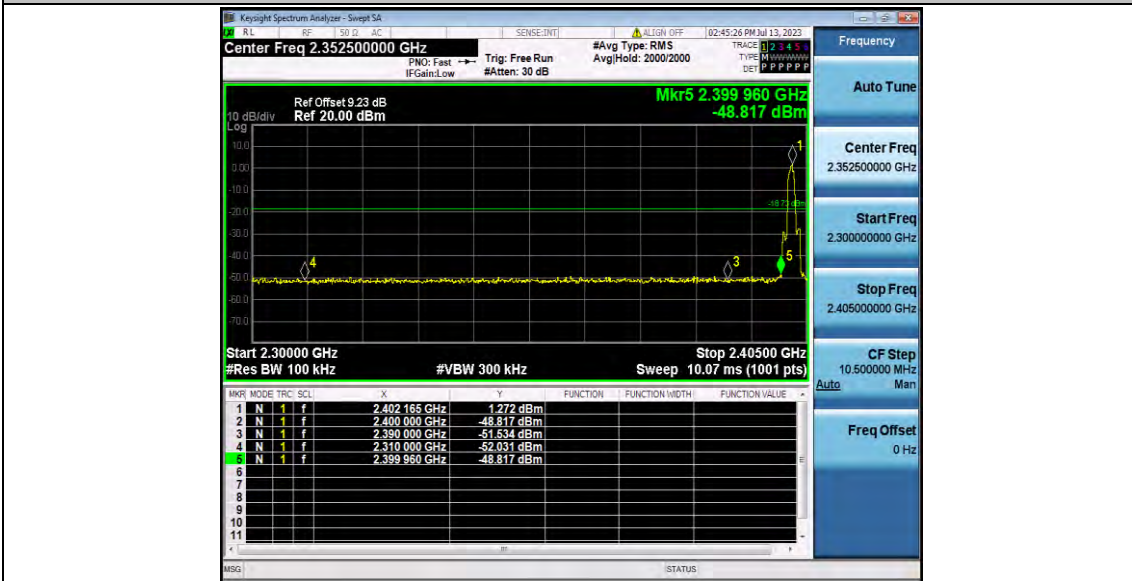
DH1\_Ant1\_High\_2480



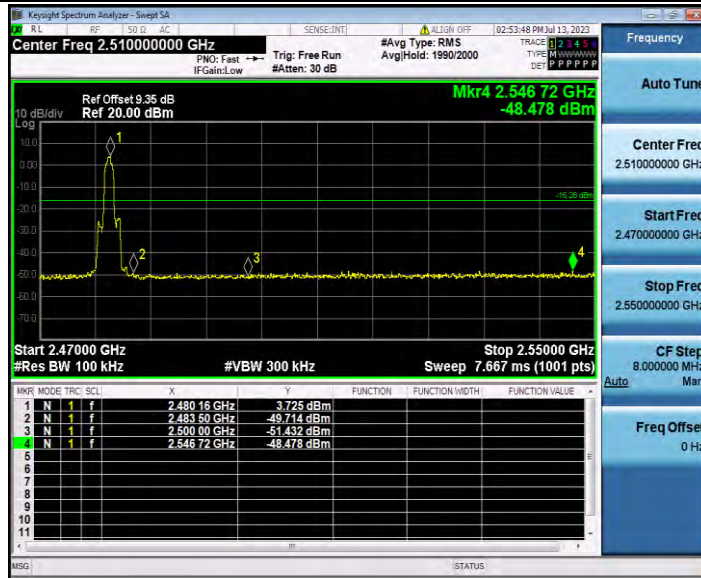
DH1\_Ant1\_Low\_Hop\_2402



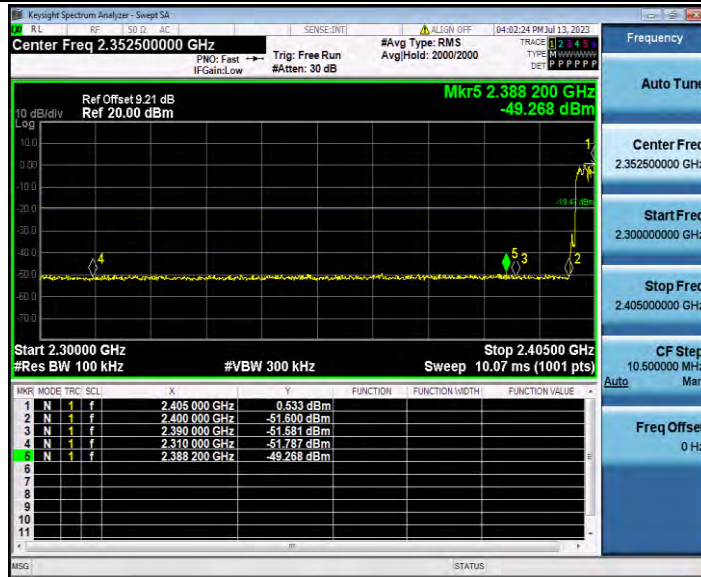
DH1\_Ant1\_High\_Hop\_2480



2DH1\_Ant1\_Low\_2402

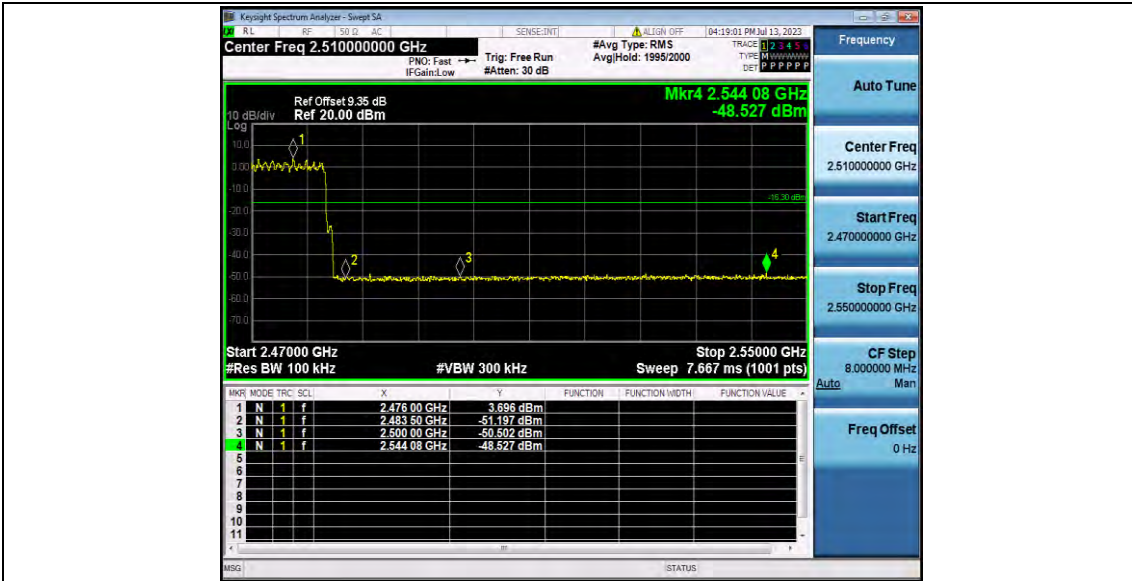


2DH1\_Ant1\_High\_2480

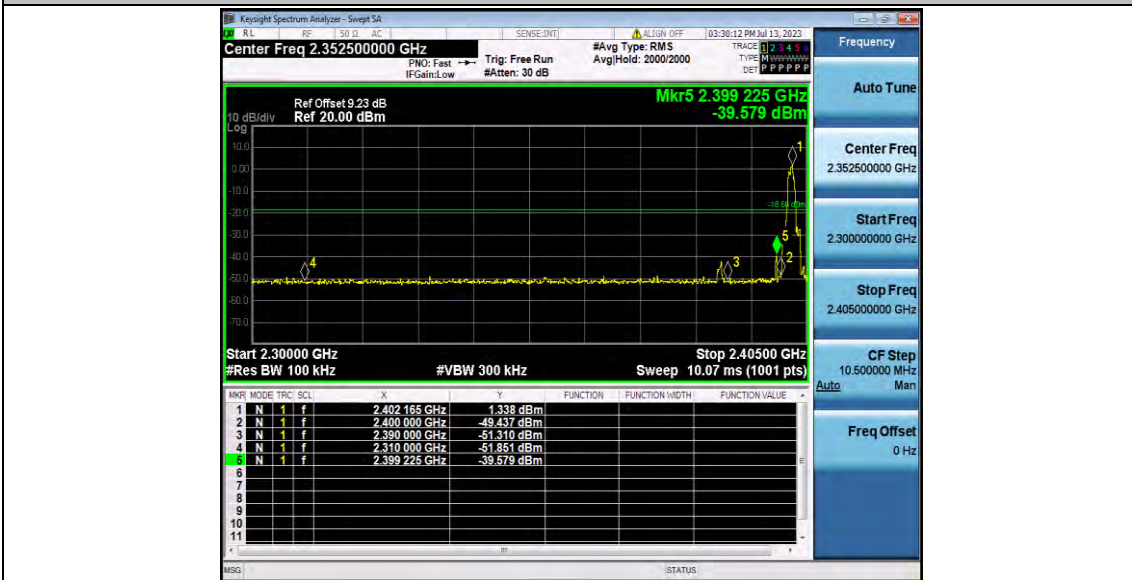


2DH1\_Ant1\_Low\_Hop\_2402

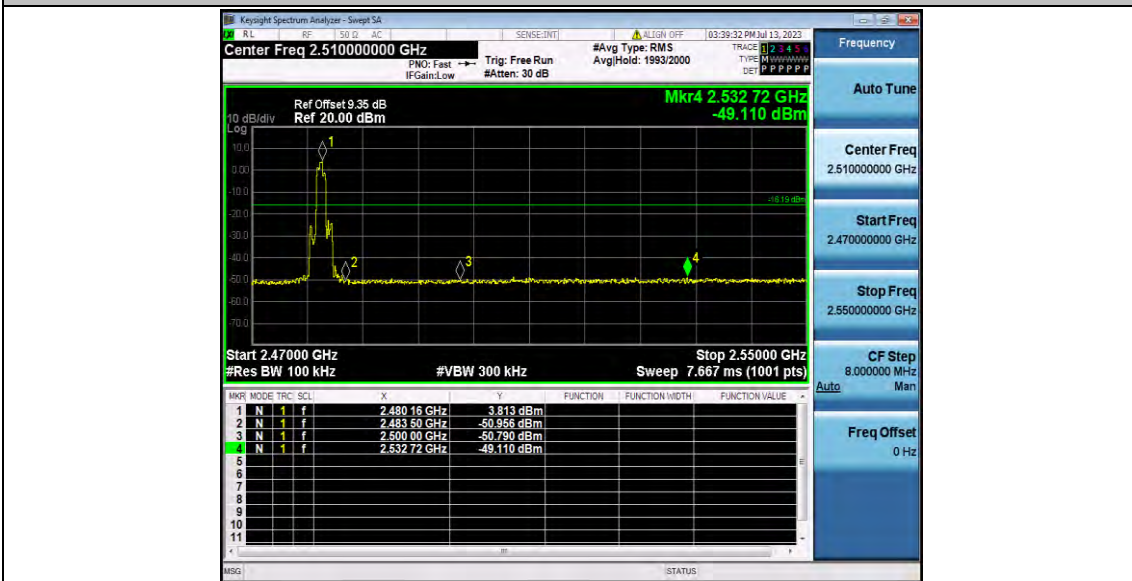




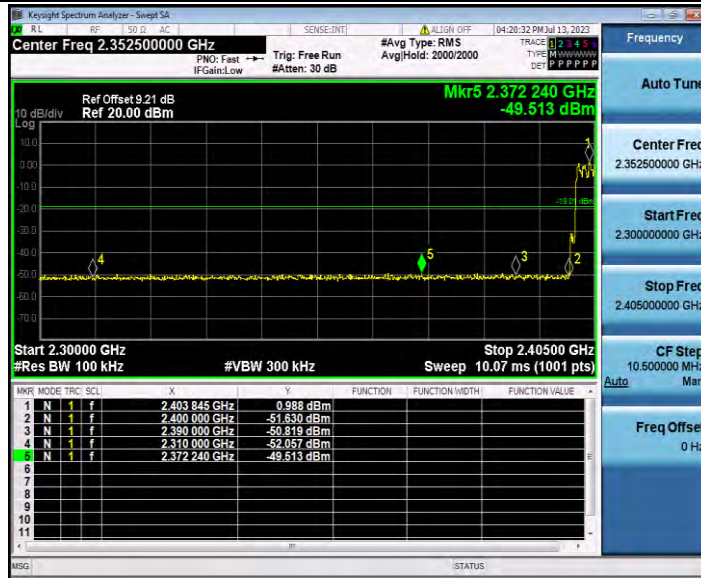
2D11\_Ant1\_High\_Hop\_2480



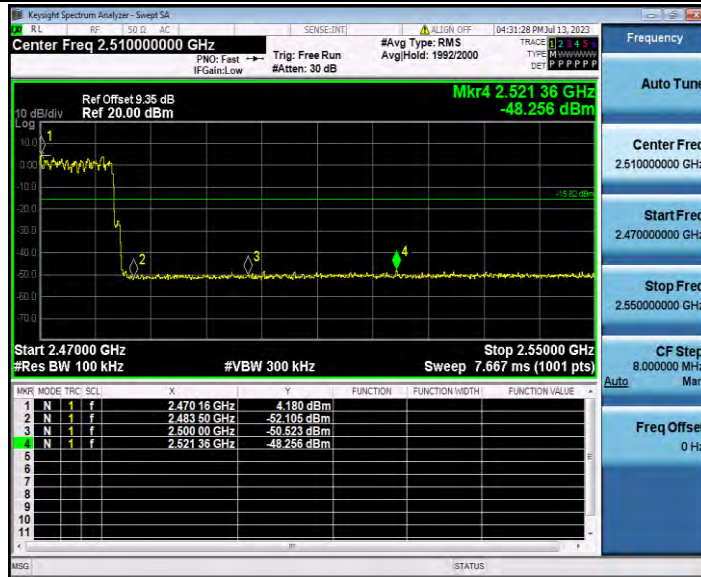
3D11\_Ant1\_Low\_2402



3DH1\_Ant1\_High\_2480



3DH1\_Ant1\_Low\_Hop\_2402



3DH1\_Ant1\_High\_Hop\_2480

## Appendix A.8: Conducted Spurious Emission

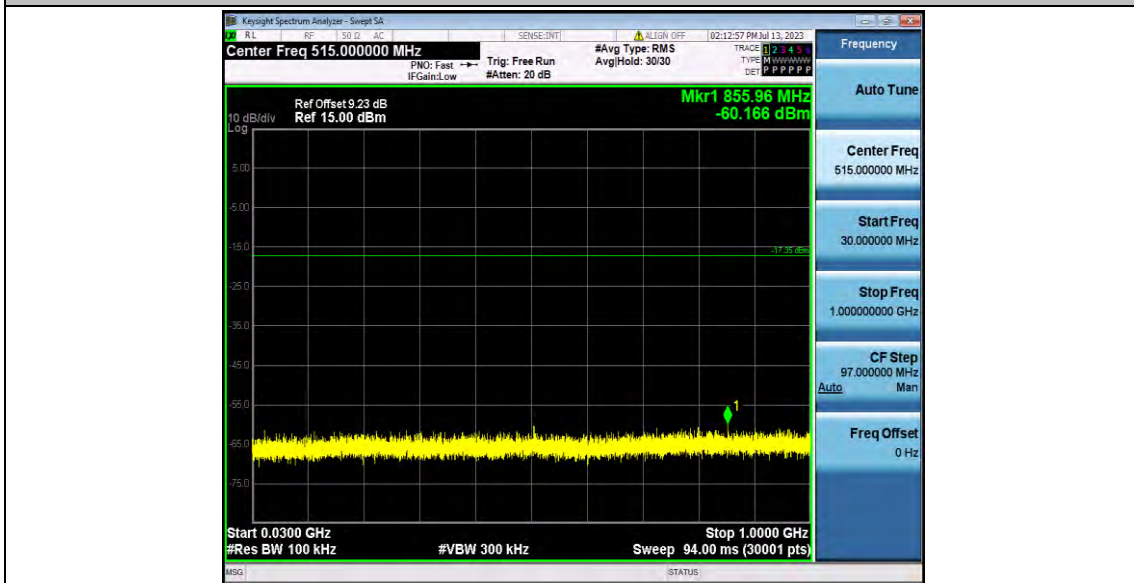
### Test Result

Test Mode	Antenna	Frequency[MHz]	FreqRange [MHz]	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
DH1	Ant1	2402	Reference	2.65	2.65	---	PASS
			30~1000	2.65	-60.17	≤-17.35	PASS
			1000~26500	2.65	-48.54	≤-17.35	PASS
		2441	Reference	6.35	6.35	---	PASS
			30~1000	6.35	-60.18	≤-13.65	PASS
			1000~26500	6.35	-47.22	≤-13.65	PASS
		2480	Reference	6.04	6.04	---	PASS
			30~1000	6.04	-59.77	≤-13.96	PASS
			1000~26500	6.04	-47.7	≤-13.96	PASS
2DH1	Ant1	2402	Reference	1.05	1.05	---	PASS
			30~1000	1.05	-56.4	≤-18.95	PASS
			1000~26500	1.05	-47.71	≤-18.95	PASS
		2441	Reference	3.07	3.07	---	PASS
			30~1000	3.07	-60.36	≤-16.93	PASS
			1000~26500	3.07	-47.97	≤-16.93	PASS
		2480	Reference	2.04	2.04	---	PASS
			30~1000	2.04	-59.37	≤-17.96	PASS
			1000~26500	2.04	-47.44	≤-17.96	PASS
3DH1	Ant1	2402	Reference	-0.09	-0.09	---	PASS
			30~1000	-0.09	-59.71	≤-20.09	PASS
			1000~26500	-0.09	-47.68	≤-20.09	PASS
		2441	Reference	0.39	0.39	---	PASS
			30~1000	0.39	-60.59	≤-19.61	PASS
			1000~26500	0.39	-47.37	≤-19.61	PASS
		2480	Reference	0.62	0.62	---	PASS
			30~1000	0.62	-59.96	≤-19.38	PASS
			1000~26500	0.62	-47.23	≤-19.38	PASS

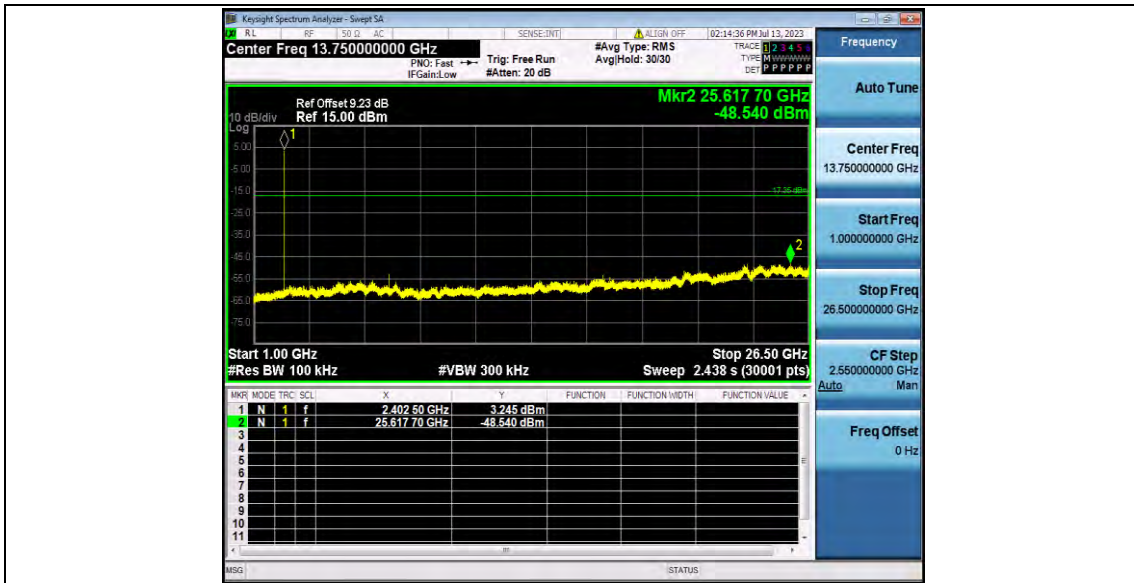
## Test Graphs



DH1\_Ant1\_2402\_0~Reference



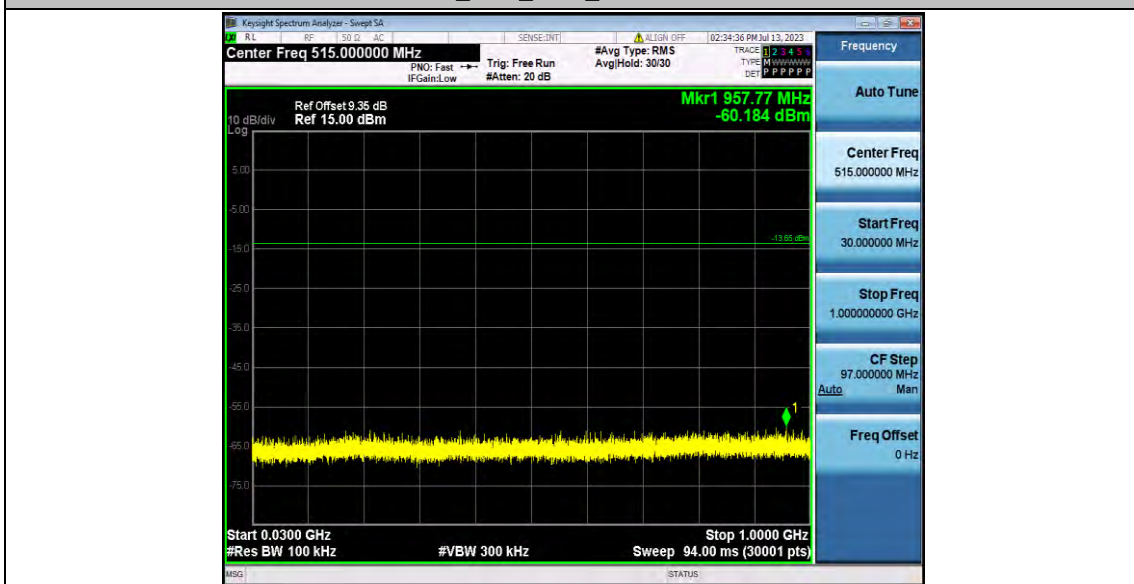
DH1\_Ant1\_2402\_30~1000



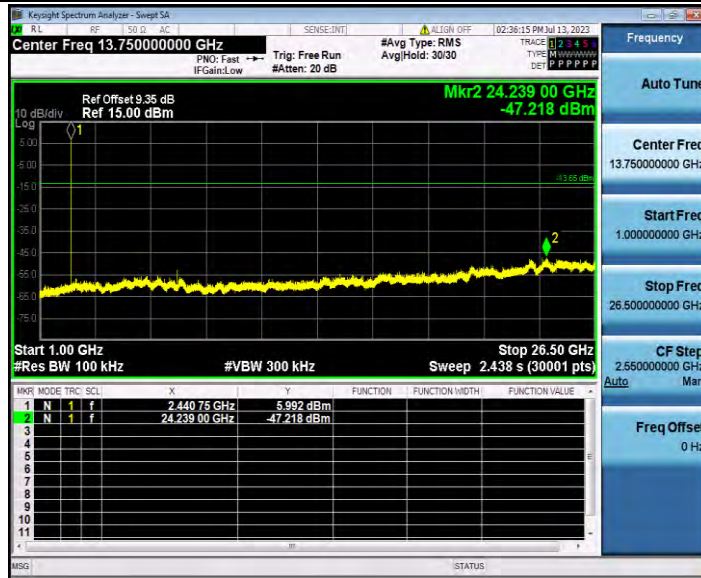
DH1\_Ant1\_2402\_1000~26500



DH1\_Ant1\_2441\_0~Reference



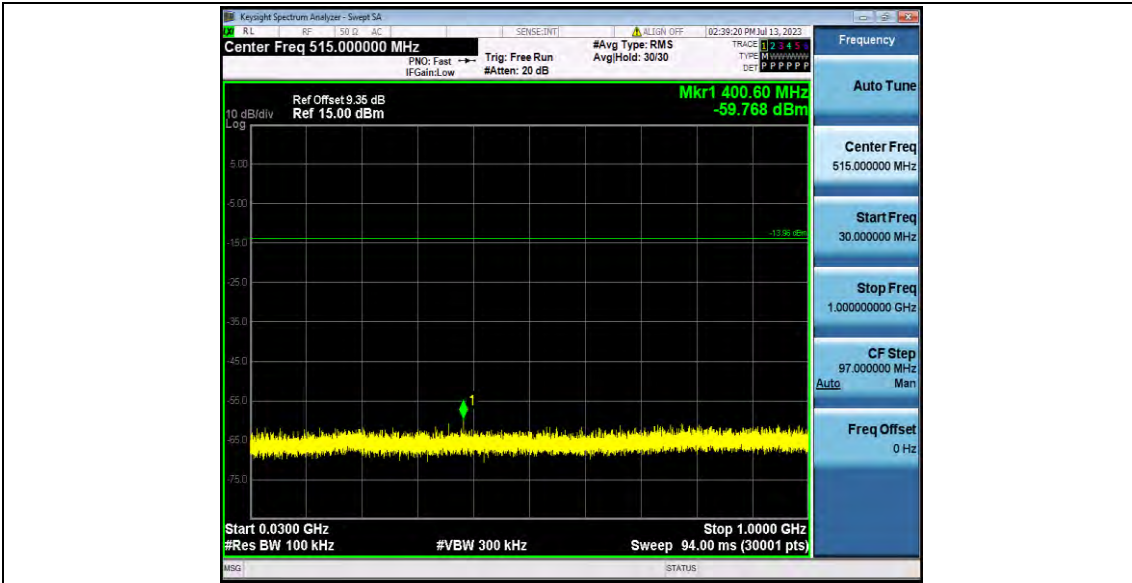
DH1\_Ant1\_2441\_30~1000



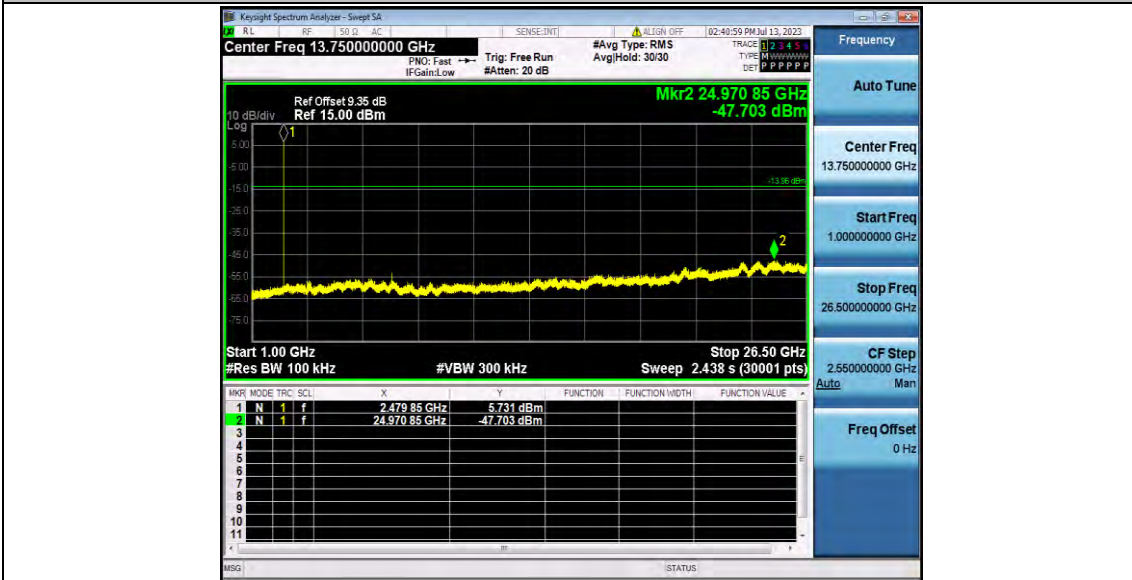
DH1\_Ant1\_2441\_1000~26500



DH1\_Ant1\_2480\_0~Reference



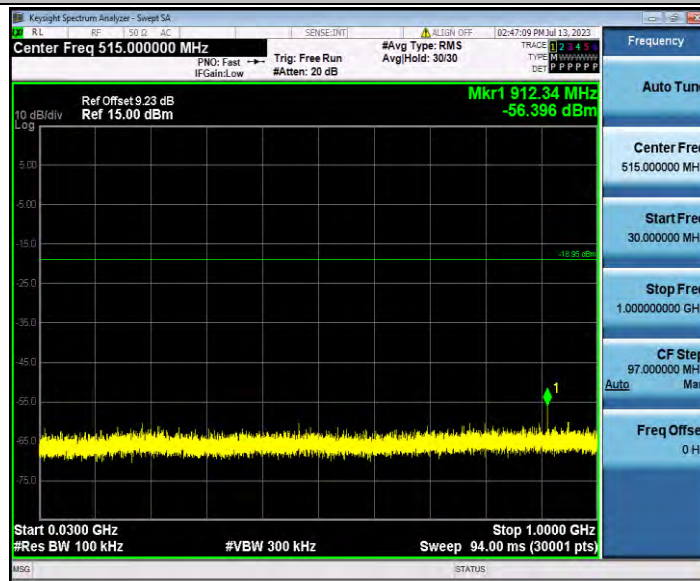
DH1\_Ant1\_2480\_30~1000



DH1\_Ant1\_2480\_1000~26500



2DH1\_Ant1\_2402\_0~Reference



2DH1\_Ant1\_2402\_30~1000

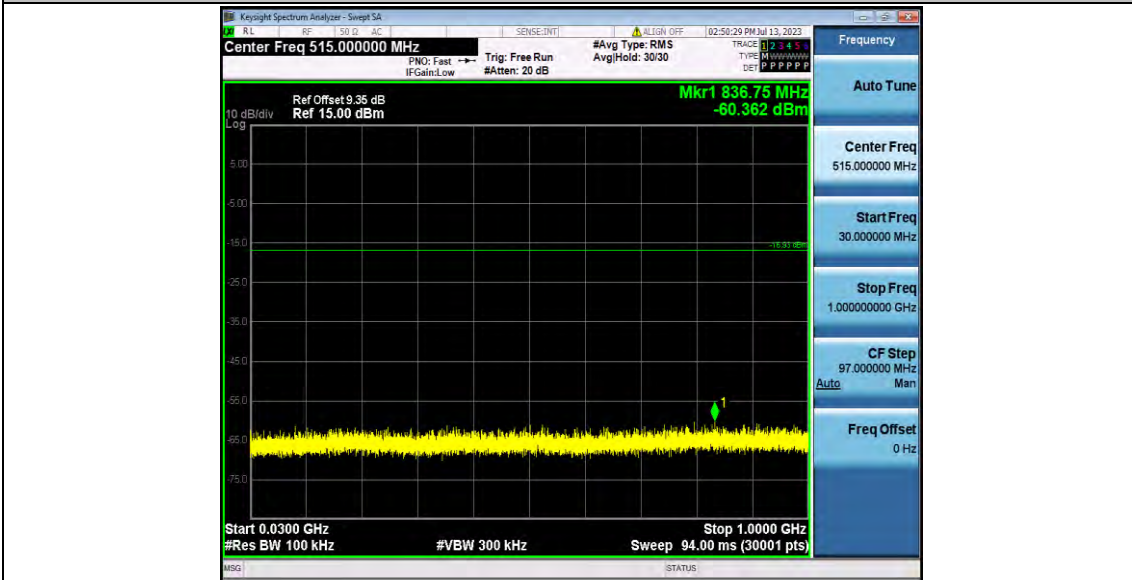


2DH1\_Ant1\_2402\_1000~26500

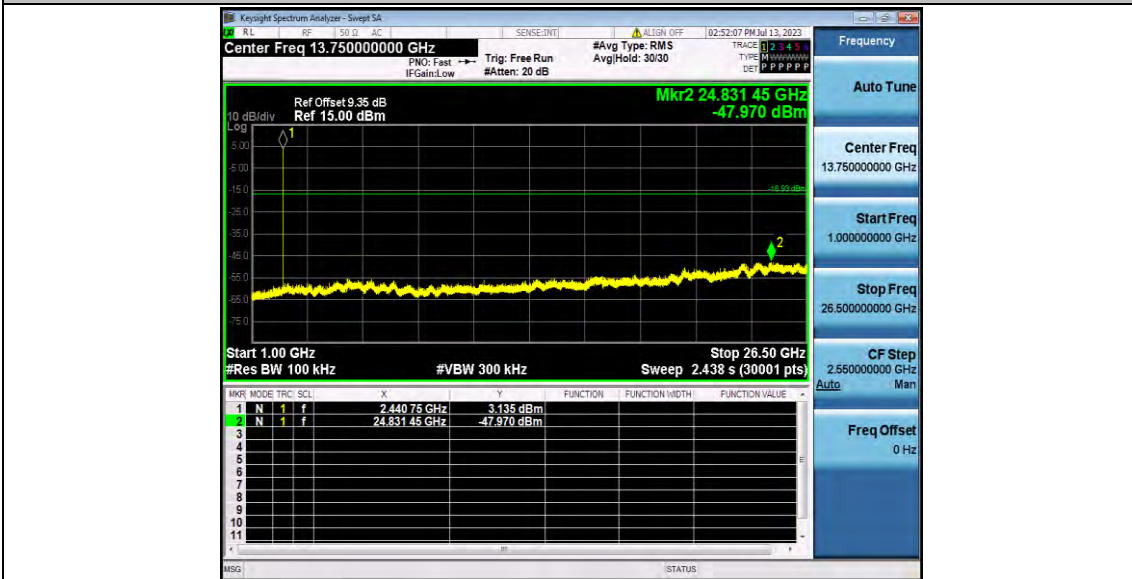




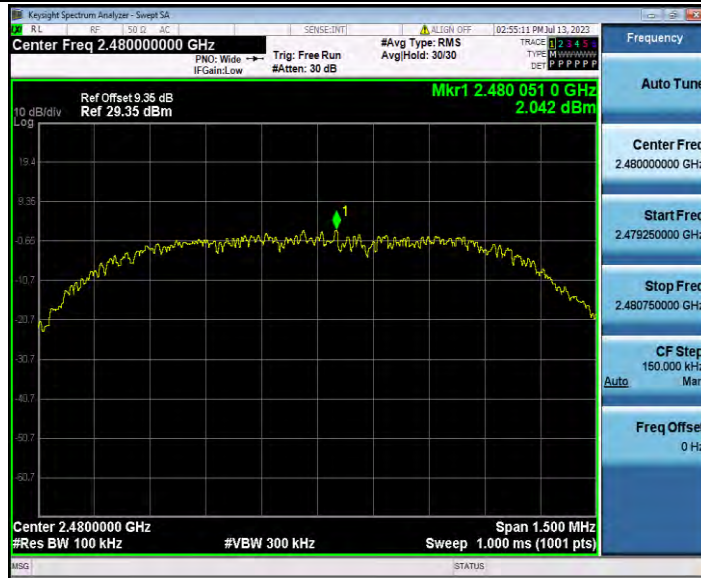
2DH1\_Ant1\_2441\_0~Reference



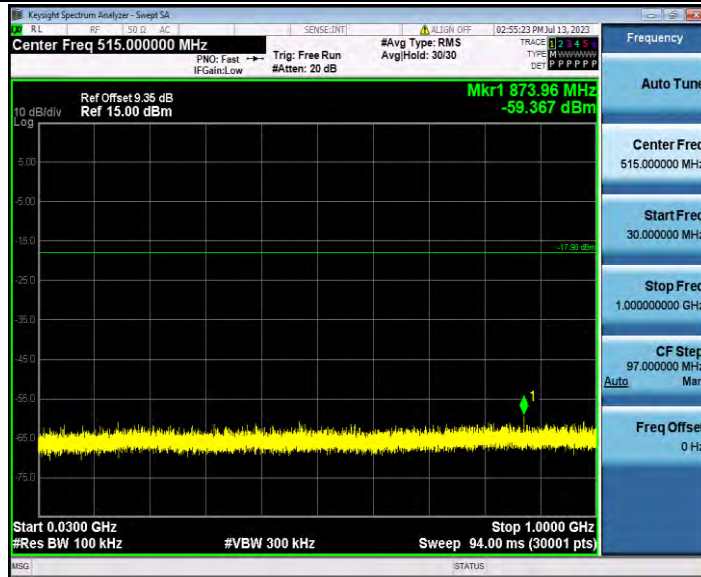
2DH1\_Ant1\_2441\_30~1000



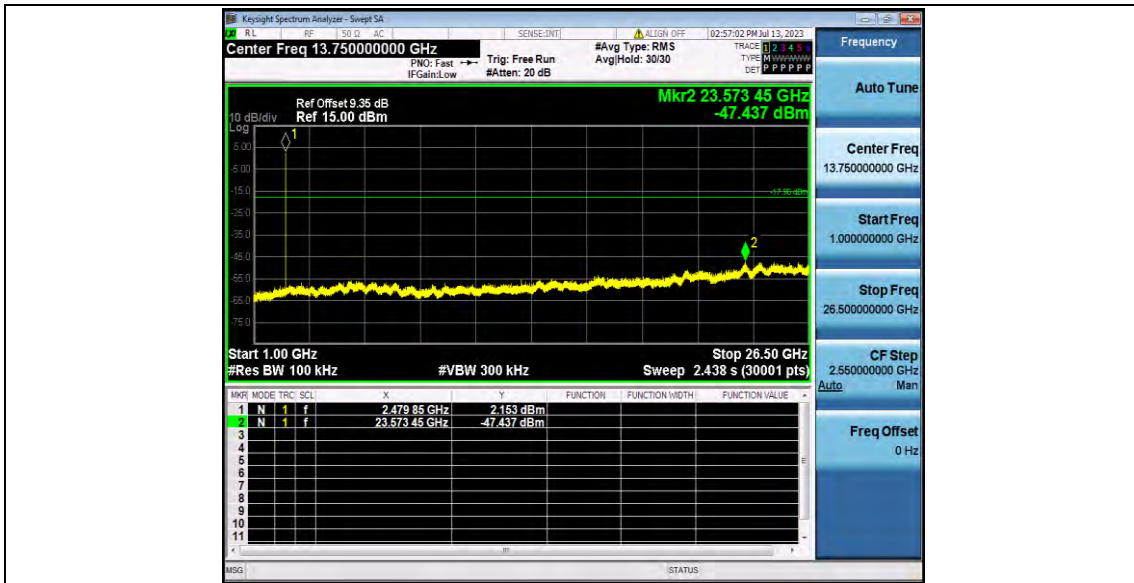
2DH1\_Ant1\_2441\_1000~26500



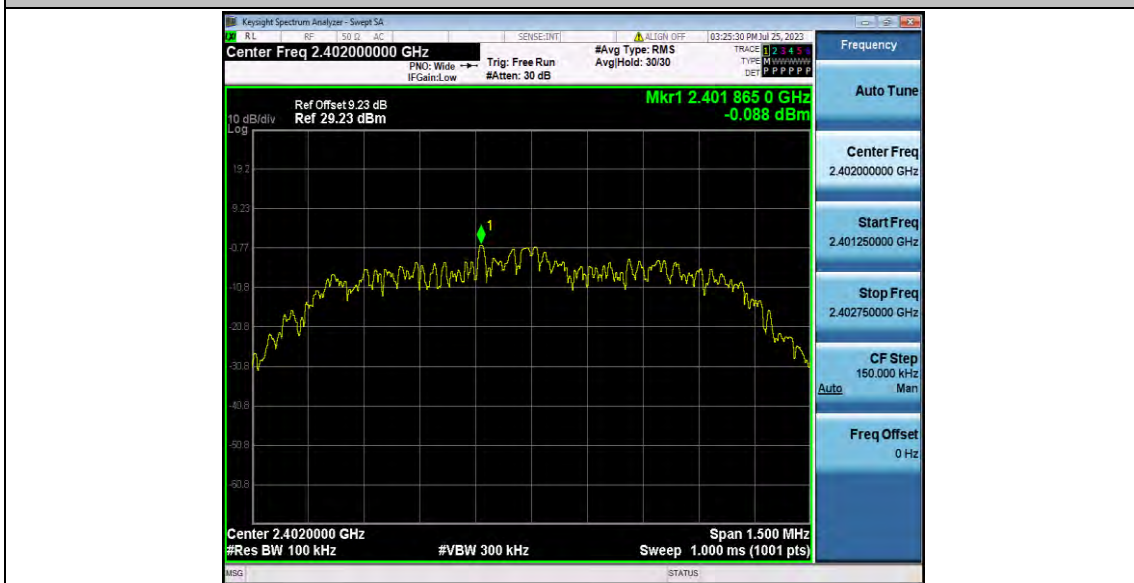
2DH1\_Ant1\_2480\_0~Reference



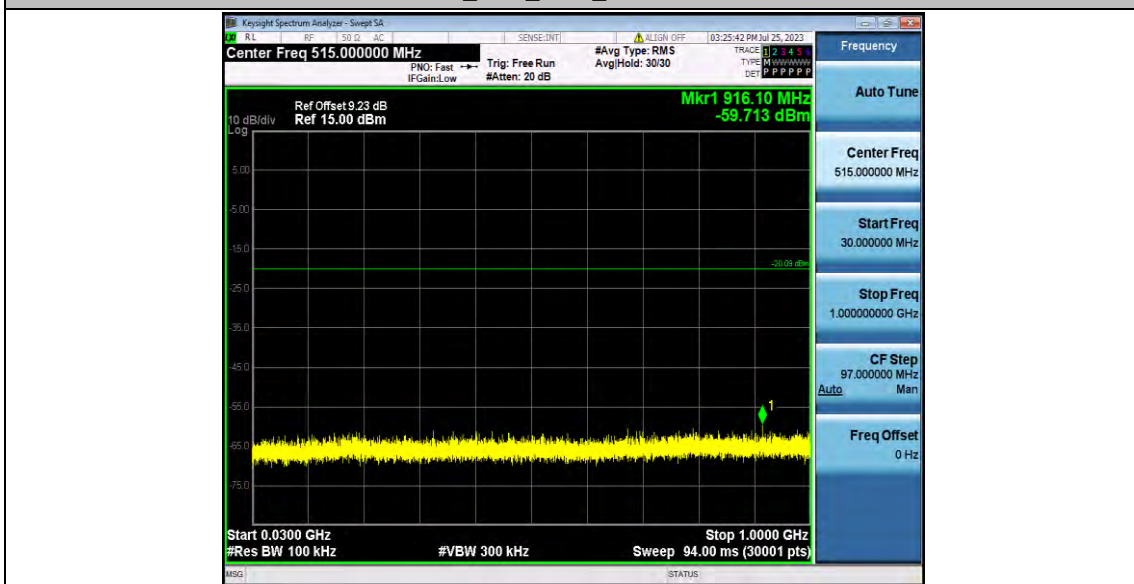
2DH1\_Ant1\_2480\_30~1000



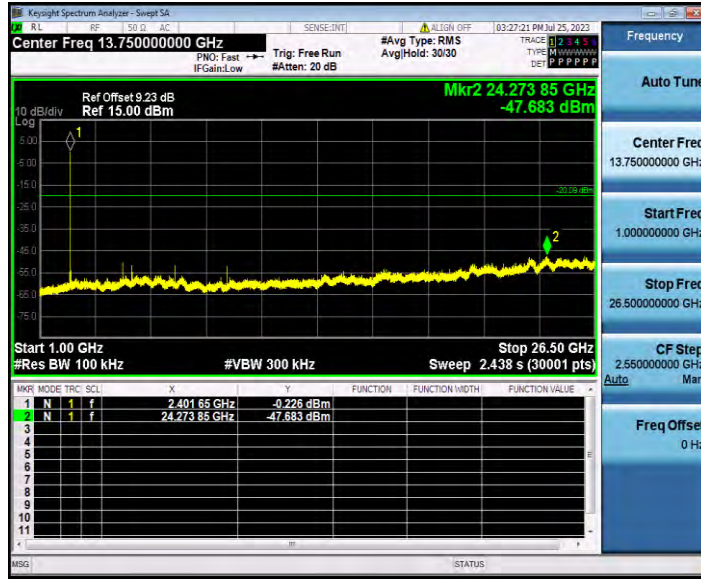
2DH1\_Ant1\_2480\_1000~26500



3DH1\_Ant1\_2402\_0~Reference



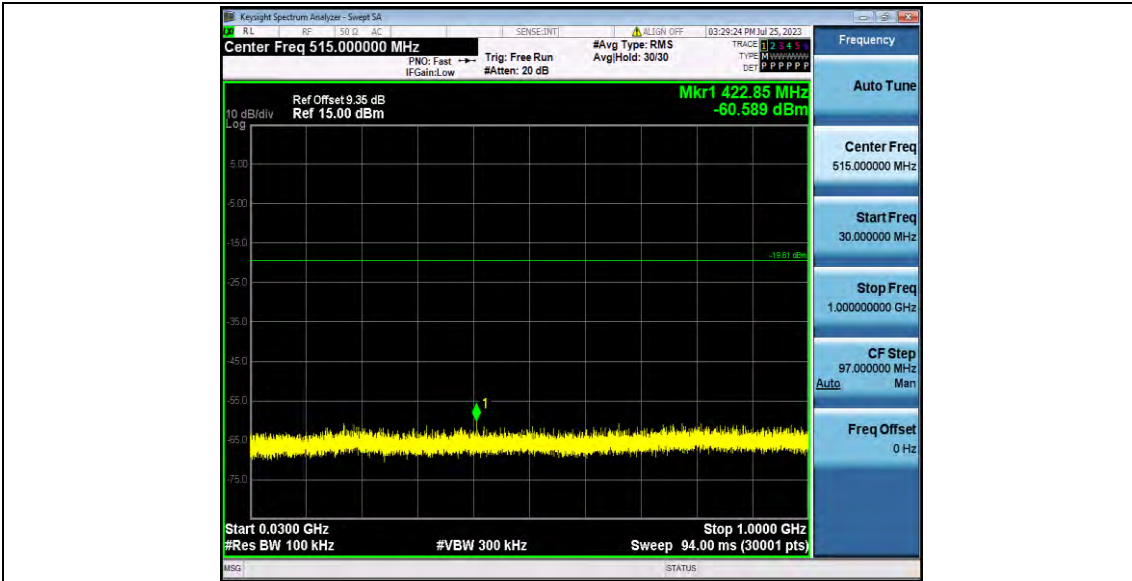
3DH1\_Ant1\_2402\_30~1000



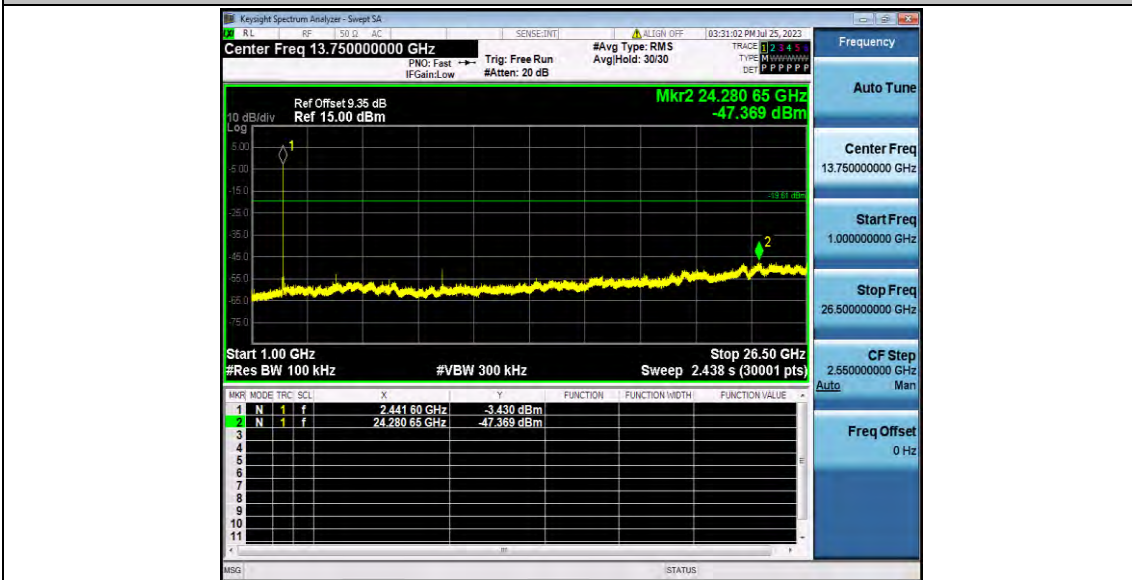
3DH1\_Ant1\_2402\_1000~26500



3DH1\_Ant1\_2441\_0~Reference



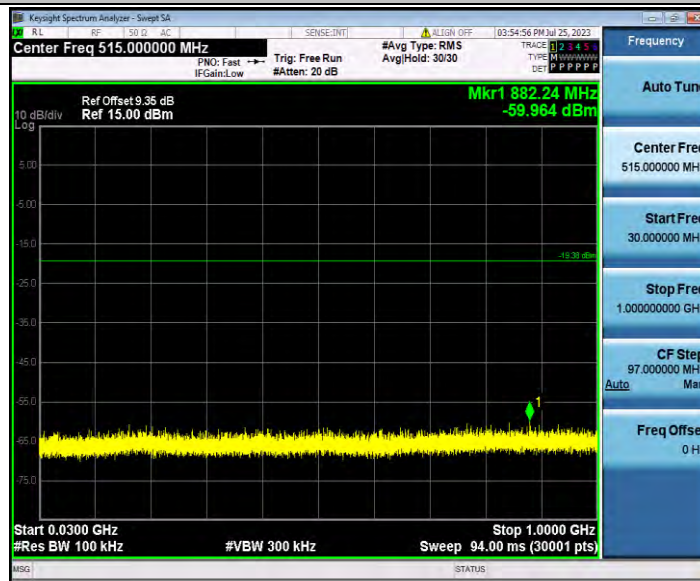
3DH1\_Ant1\_2441\_30~100



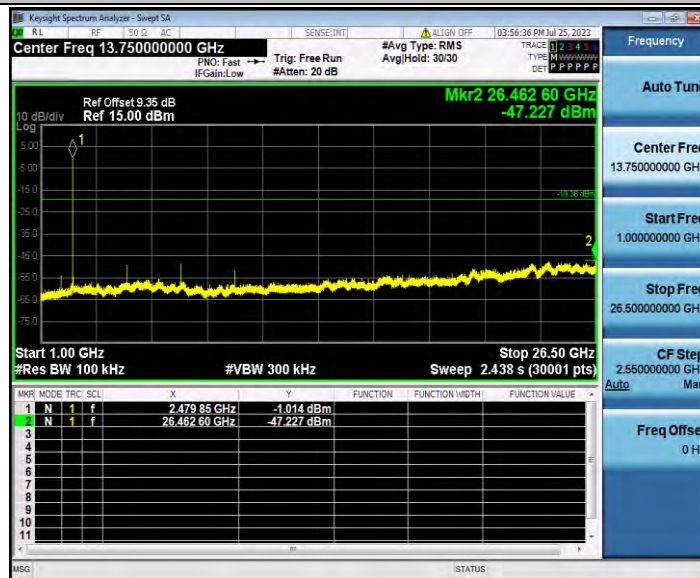
3DH1\_Ant1\_2441\_1000~26500



3DH1\_Ant1\_2480\_0~Reference



3DH1\_Ant1\_2480\_30~1000



3DH1\_Ant1\_2480\_1000~26500

## Appendix 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
DH1	Ant1	Low	2402	AV	2310.000	-49.38	≤-41.20	45.82	≤54	PASS
				AV	2386.415	-48.93	≤-41.20	46.27	≤54	PASS
				AV	2390.000	-49.03	≤-41.20	46.17	≤54	PASS
				Peak	2310.000	-42.72	≤-21.20	52.48	≤74	PASS
				Peak	2359.430	-38.97	≤-21.20	56.23	≤74	PASS
				Peak	2390.000	-42.09	≤-21.20	53.11	≤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	-48.34	≤-41.20	46.86	≤54	PASS
				Peak	2483.500	-40.94	≤-21.20	54.26	≤74	PASS
				Peak	2489.600	-38.59	≤-21.20	56.61	≤74	PASS
				Peak	2500.000	-40.23	≤-21.20	54.97	≤74	PASS
2DH1	Ant1	Low	2402	AV	2310.000	-48.99	≤-41.20	46.21	≤54	PASS
				AV	2389.565	-48.59	≤-41.20	46.61	≤54	PASS
				AV	2390.000	-48.71	≤-41.20	46.49	≤54	PASS
				Peak	2310.000	-42.14	≤-21.20	53.06	≤74	PASS
				Peak	2364.995	-38.61	≤-21.20	56.59	≤74	PASS
				Peak	2390.000	-40.93	≤-21.20	54.27	≤74	PASS
		High	2480	AV	2483.500	-46.21	≤-41.20	48.99	≤54	PASS
				AV	2483.520	-46.21	≤-41.20	48.99	≤54	PASS
				AV	2500.000	-48.32	≤-41.20	46.88	≤54	PASS
				Peak	2483.500	-40.9	≤-21.20	54.30	≤74	PASS
				Peak	2492.960	-38.88	≤-21.20	56.32	≤74	PASS
				Peak	2500.000	-41.05	≤-21.20	54.15	≤74	PASS
3DH1	Ant1	Low	2402	AV	2310.000	-48.91	≤-41.20	46.29	≤54	PASS
				AV	2388.935	-48.59	≤-41.20	46.61	≤54	PASS
				AV	2390.000	-48.65	≤-41.20	46.55	≤54	PASS
				Peak	2310.000	-42.15	≤-21.20	53.05	≤74	PASS
				Peak	2351.240	-38.84	≤-21.20	56.36	≤74	PASS
				Peak	2390.000	-41.27	≤-21.20	53.93	≤74	PASS
		High	2480	AV	2483.500	-45.21	≤-41.20	49.99	≤54	PASS
				AV	2483.520	-45.21	≤-41.20	49.99	≤54	PASS
				AV	2500.000	-48.34	≤-41.20	46.86	≤54	PASS
				Peak	2483.500	-41.35	≤-21.20	53.85	≤74	PASS
Peak	2483.680	-38.56	≤-21.20	56.64	≤74	PASS				

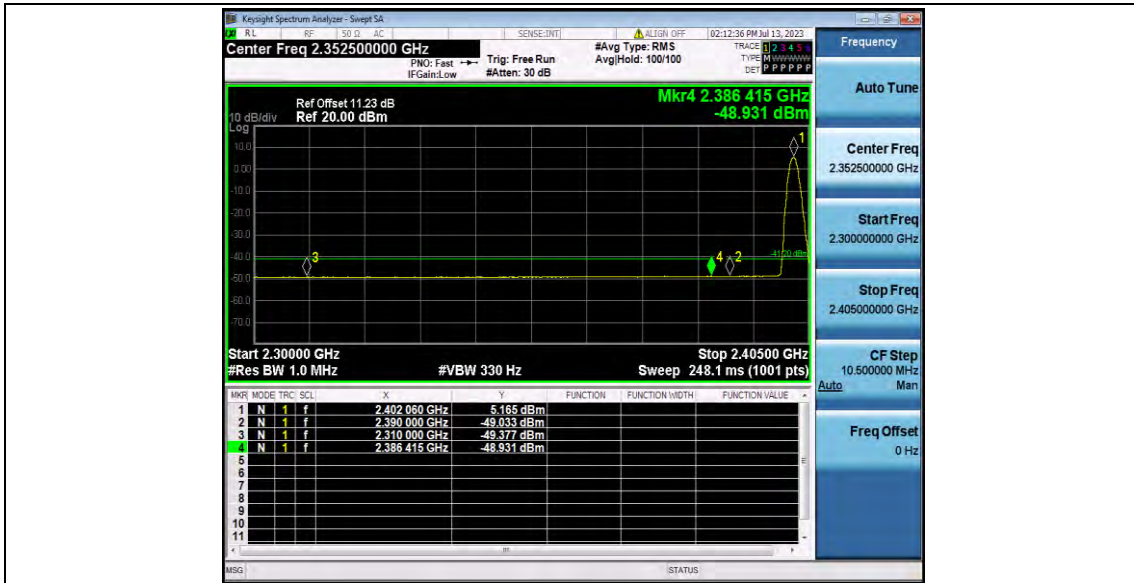
				Peak	2500.000	-41.78	≤-21.20	53.42	≤74	PASS
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Note:

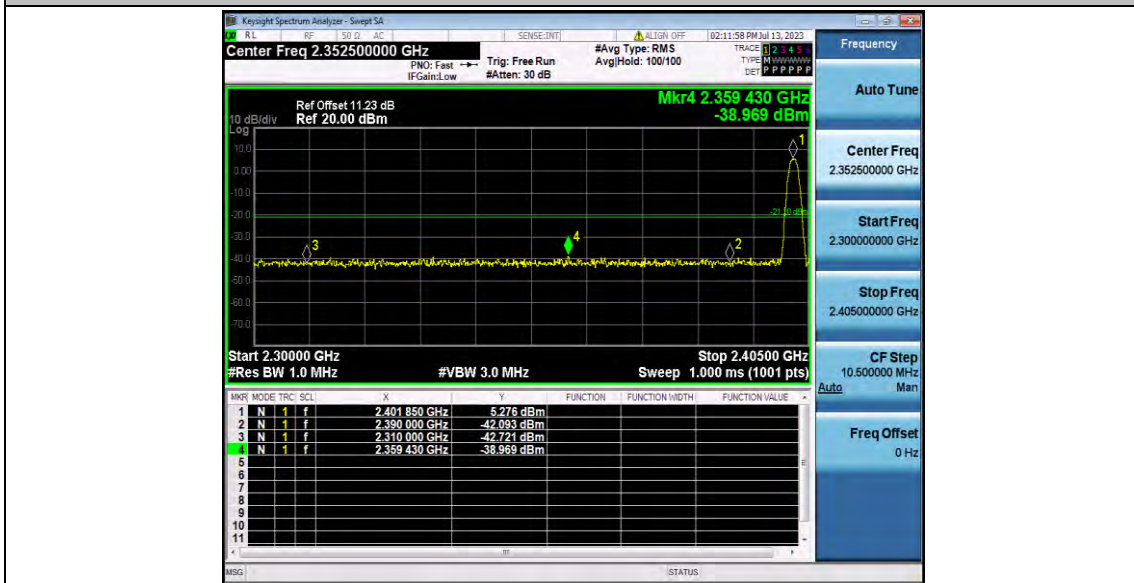
1. The Antenna Gain is compensated in the graph.
2. The limit in dBm for average detector is conversion from 54dBuV/m, according to 15.209(a). The limit in dBm for peak detector is 20dB above the limit of average detector in dBm.



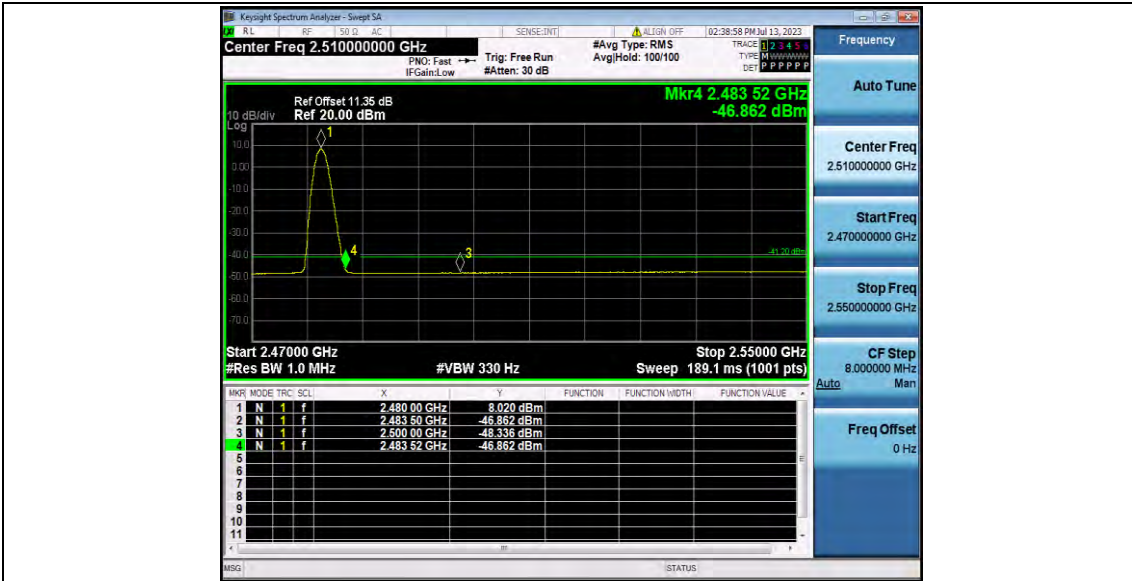
## Test Graphs



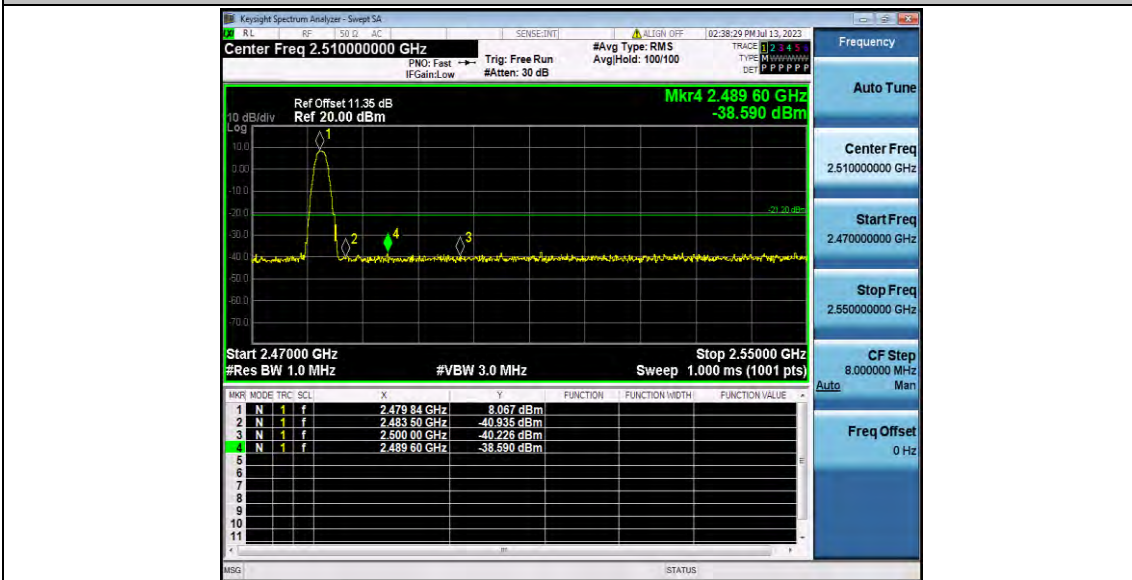
DH1\_Ant1\_Low\_2402\_AV



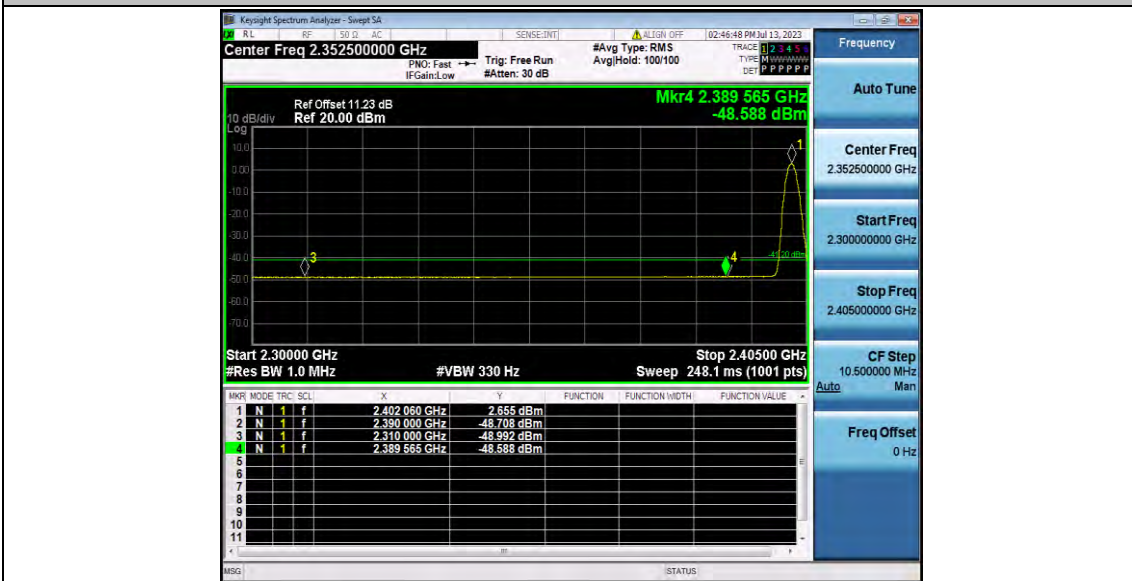
DH1\_Ant1\_Low\_2402\_Peak



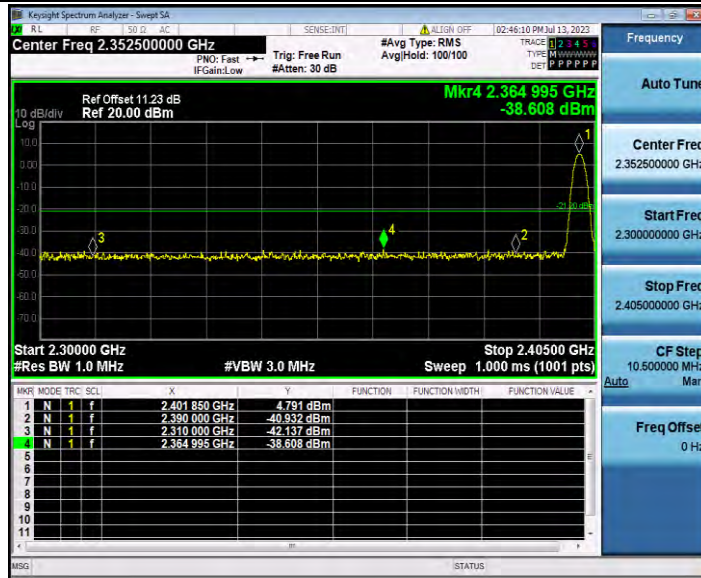
DH1\_Ant1\_High\_2480\_AV



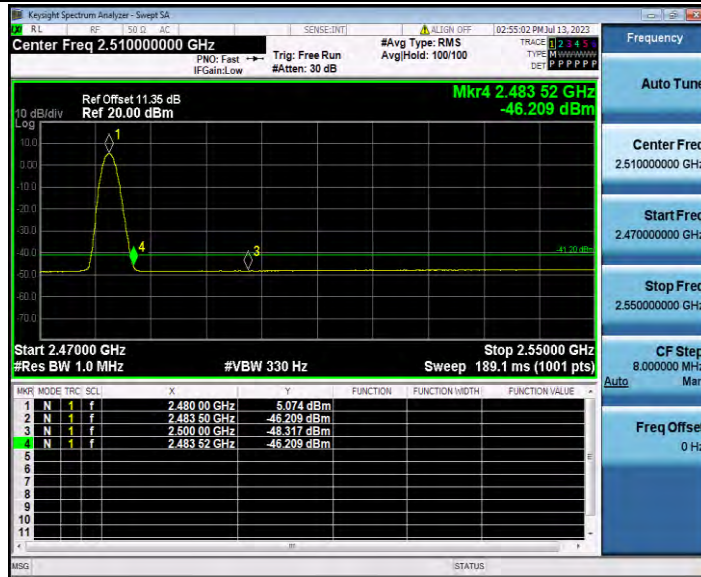
DH1\_Ant1\_High\_2480\_Peak



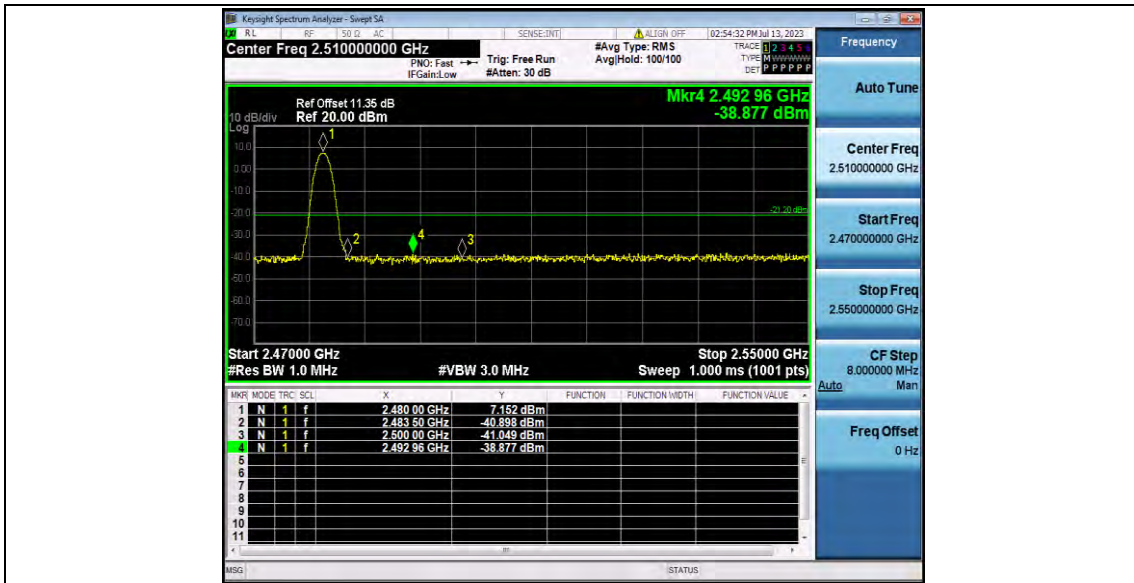
2DH1\_Ant1\_Low\_2402\_AV



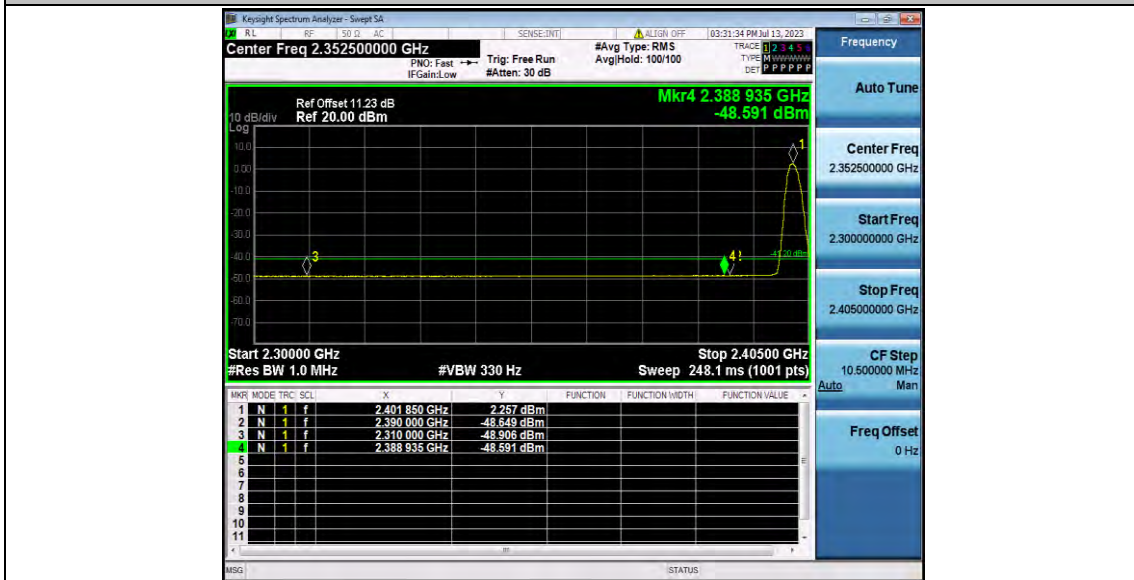
2DH1\_Ant1\_Low\_2402\_Peak



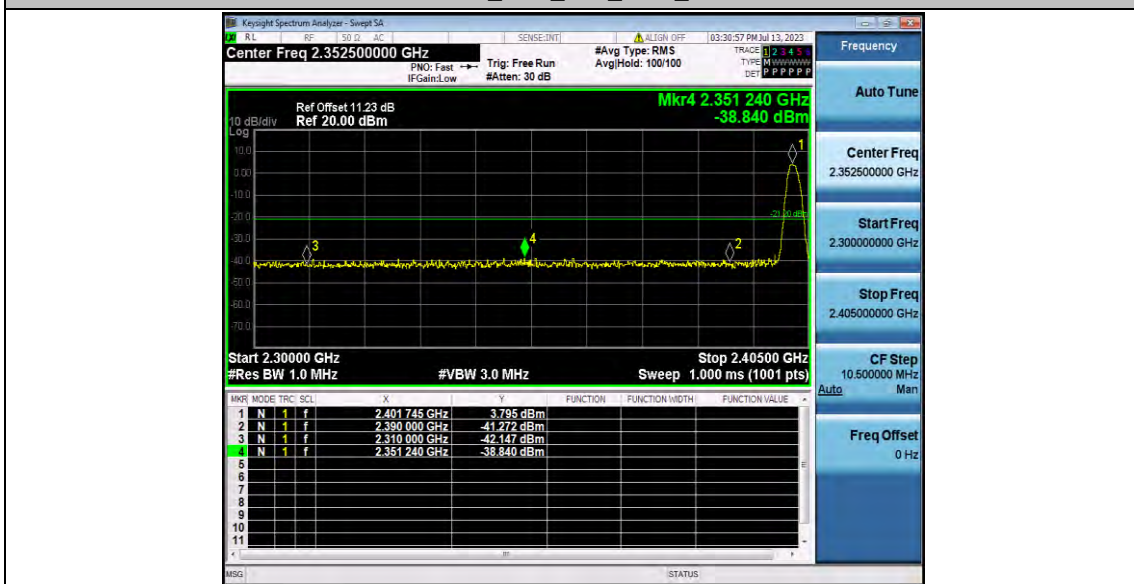
2DH1\_Ant1\_High\_2480\_AV



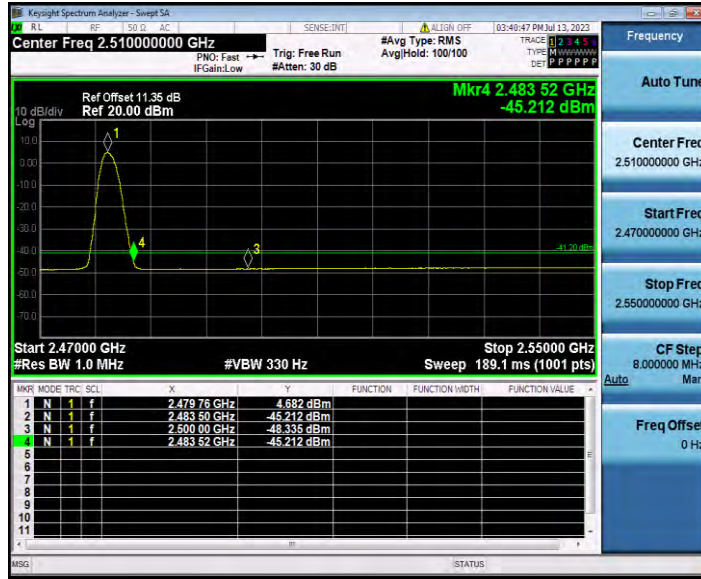
2D11\_Ant1\_High\_2480\_Peak



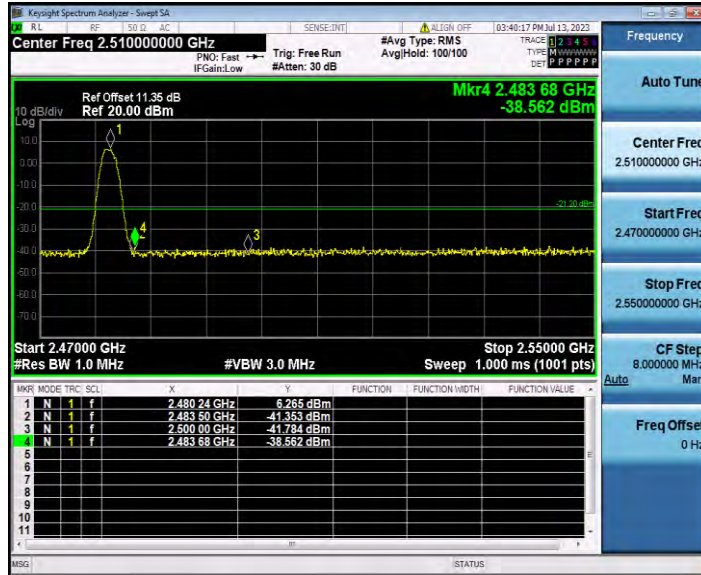
3D11\_Ant1\_Low\_2402\_AV



3DH1\_Ant1\_Low\_2402\_Peak



3DH1\_Ant1\_High\_2480\_AV



3DH1\_Ant1\_High\_2480\_Peak