

<b>Case No. :</b> <u>GTS20231018011-1-15</u>
<b>Ambient Condition:</b> <u>23</u> °C, <u>49</u> %RH, Atmos100.1Kpa,
<b>Test Date:</b> <u>2023.12.4</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	0.933	2401.553	2402.486	---	---
		2441	0.936	2440.550	2441.486	---	---
		2480	0.930	2479.556	2480.486	---	---
2DH1	Ant1	2402	1.236	2401.367	2402.603	---	---
		2441	1.257	2440.367	2441.624	---	---
		2480	1.254	2479.367	2480.621	---	---
3DH1	Ant1	2402	1.278	2401.361	2402.639	---	---
		2441	1.272	2440.364	2441.636	---	---
		2480	1.269	2479.361	2480.630	---	---

## Test Graphs



DH1\_Ant1\_2402



DH1\_Ant1\_2441



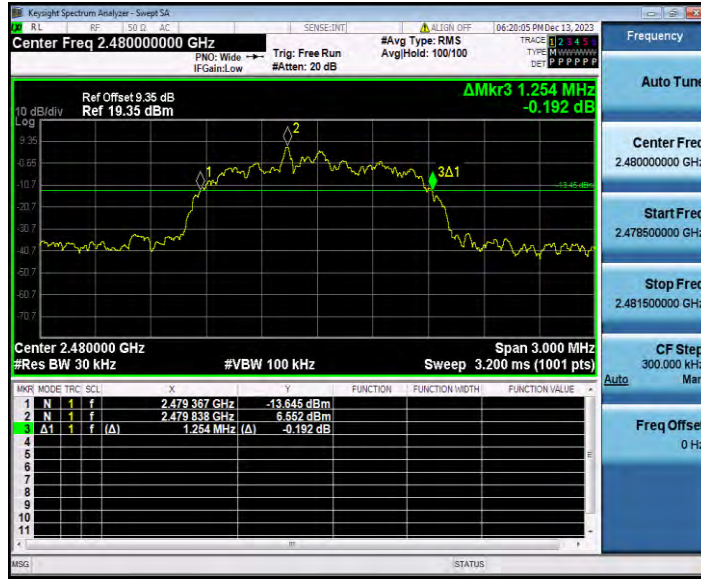
DH1\_Ant1\_2480



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	0.86762	2401.567	2402.435	---	---
		2441	0.84188	2440.574	2441.416	---	---
		2480	0.86320	2479.566	2480.429	---	---
2DH1	Ant1	2402	1.1652	2401.414	2402.580	---	---
		2441	1.1640	2440.414	2441.578	---	---
		2480	1.1628	2479.413	2480.575	---	---
3DH1	Ant1	2402	1.1681	2401.427	2402.595	---	---
		2441	1.1574	2440.431	2441.588	---	---
		2480	1.1544	2479.431	2480.586	---	---



## Test Graphs



DH1\_Ant1\_2402



DH1\_Ant1\_2441



DH1\_Ant1\_2480



2DH1\_Ant1\_2402

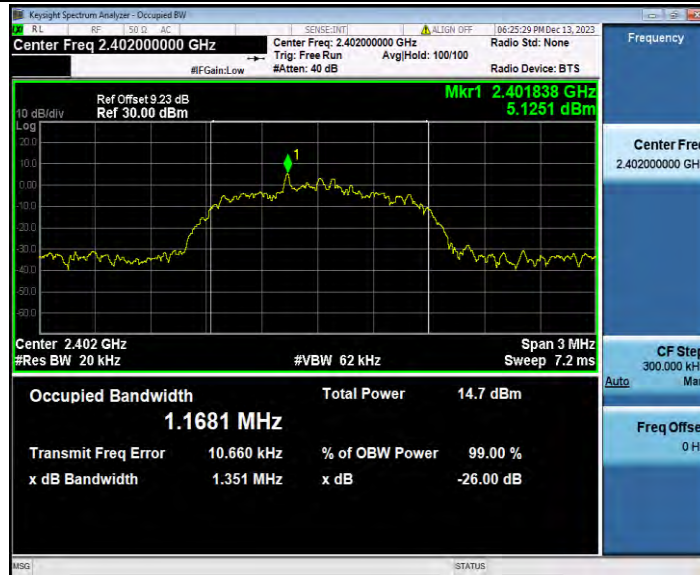




2DH1\_Ant1\_2441



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	9.8	≤20.97	PASS
		2441	10.33	≤20.97	PASS
		2480	9.93	≤20.97	PASS
2DH1	Ant1	2402	9.43	≤20.97	PASS
		2441	9.78	≤20.97	PASS
		2480	9.22	≤20.97	PASS
3DH1	Ant1	2402	9.66	≤20.97	PASS
		2441	10.06	≤20.97	PASS
		2480	9.17	≤20.97	PASS

## Appendix A.4: Carrier frequency separation

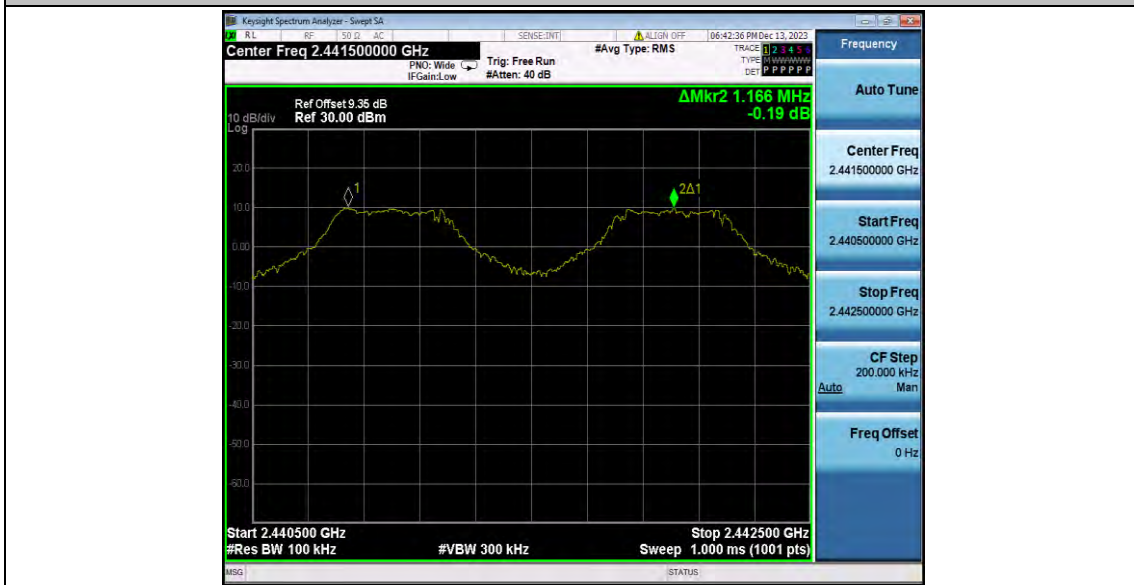
### Test Result

Test Mode	Antenna	Frequency[MHz]	Result[MHz]	Limit[MHz]	Verdict
DH1	Ant1	Hop_2402	0.68	$\geq 0.624$	PASS
		Hop_2441	1.166	$\geq 0.624$	PASS
		Hop_2480	1.002	$\geq 0.624$	PASS
2DH1	Ant1	Hop_2402	0.998	$\geq 0.838$	PASS
		Hop_2441	1	$\geq 0.838$	PASS
		Hop_2480	1.012	$\geq 0.838$	PASS
3DH1	Ant1	Hop_2402	1.154	$\geq 0.852$	PASS
		Hop_2441	1.146	$\geq 0.852$	PASS
		Hop_2480	1.134	$\geq 0.852$	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



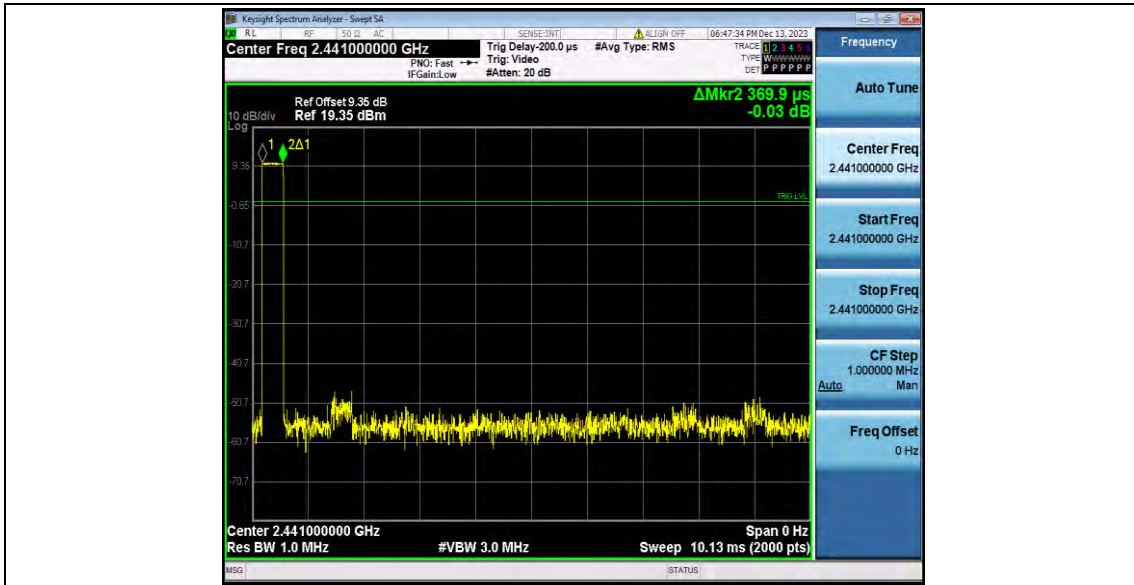
3DH1\_Ant1\_Hop\_2480

## Appendix A.5: Time of occupancy

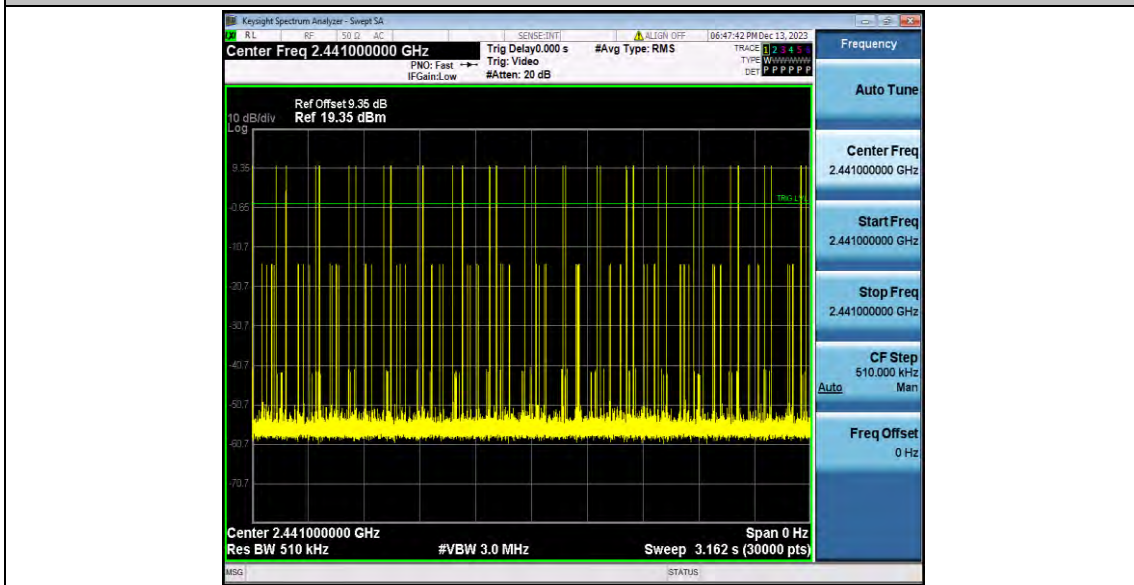
### Test Result

Test Mode	Antenna	Frequency[MHz]	BurstWidth [ms]	TotalHops [Num]	Result[s]	Limit[s]	Verdict
DH1	Ant1	Hop	0.37	330	0.122	≤0.4	PASS
DH3	Ant1	Hop	1.63	160	0.26	≤0.4	PASS
DH5	Ant1	Hop	2.87	110	0.316	≤0.4	PASS
2DH1	Ant1	Hop	0.37	320	0.12	≤0.4	PASS
2DH3	Ant1	Hop	1.63	170	0.277	≤0.4	PASS
2DH5	Ant1	Hop	2.87	110	0.316	≤0.4	PASS
3DH1	Ant1	Hop	0.37	330	0.124	≤0.4	PASS
3DH3	Ant1	Hop	1.63	160	0.261	≤0.4	PASS
3DH5	Ant1	Hop	2.88	120	0.345	≤0.4	PASS

## Test Graphs

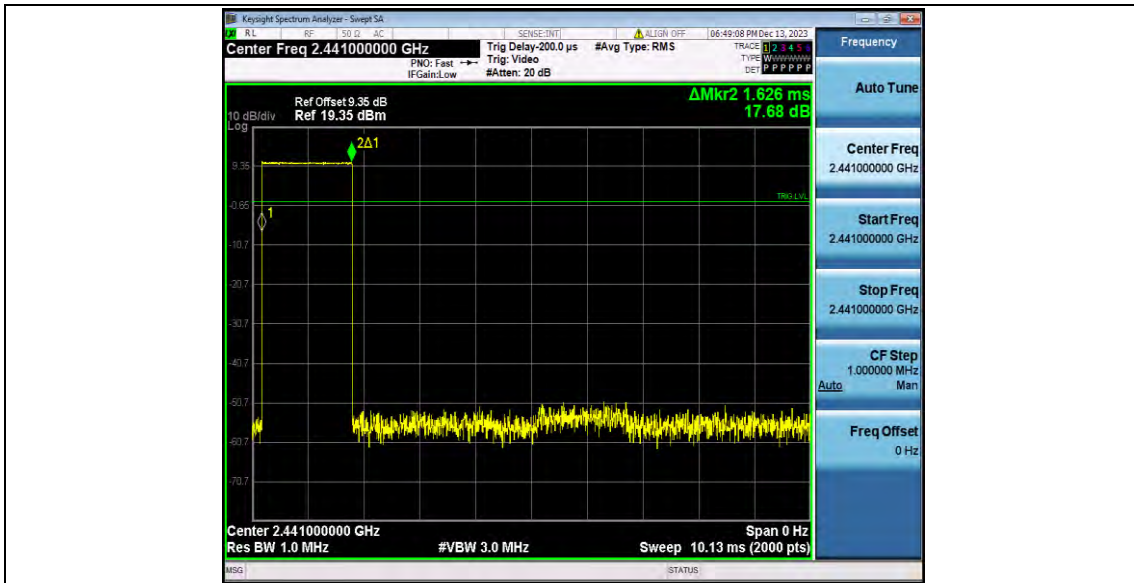


DH1\_Ant1\_Hop

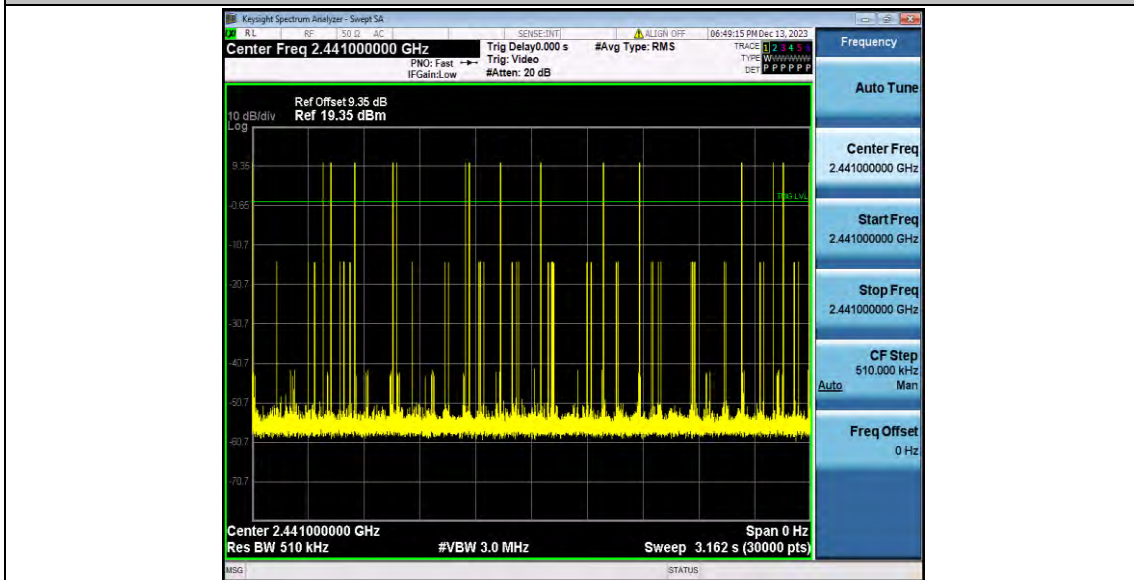


DH1\_Ant1\_Hop

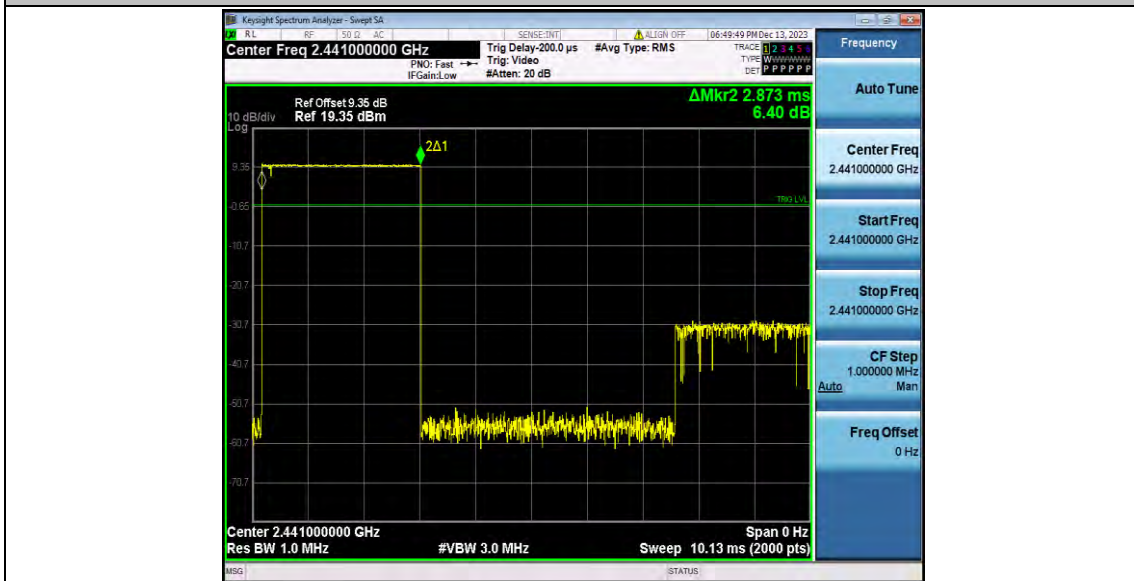




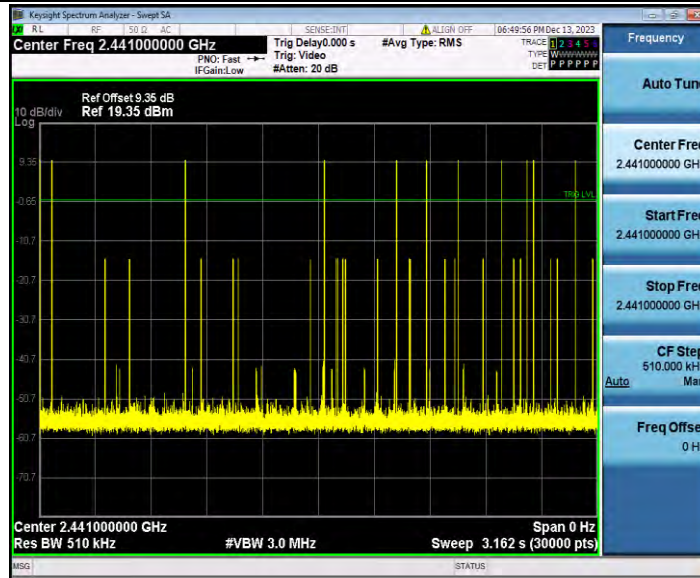
DH3\_Ant1\_Hop



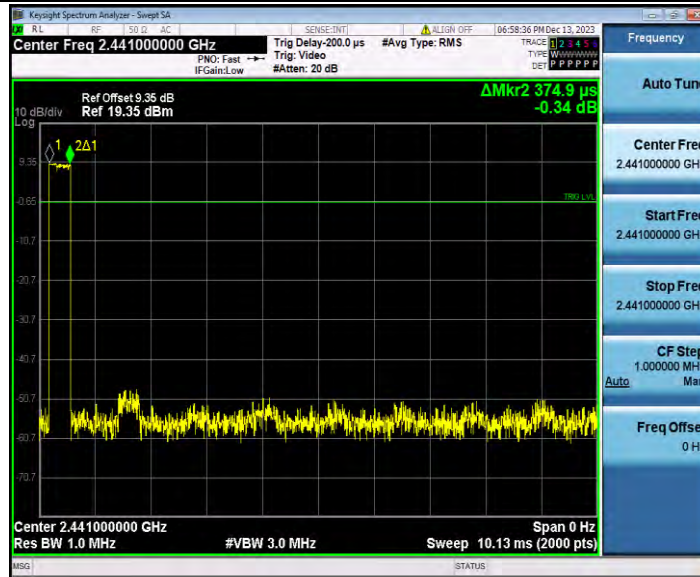
DH3\_Ant1\_Hop



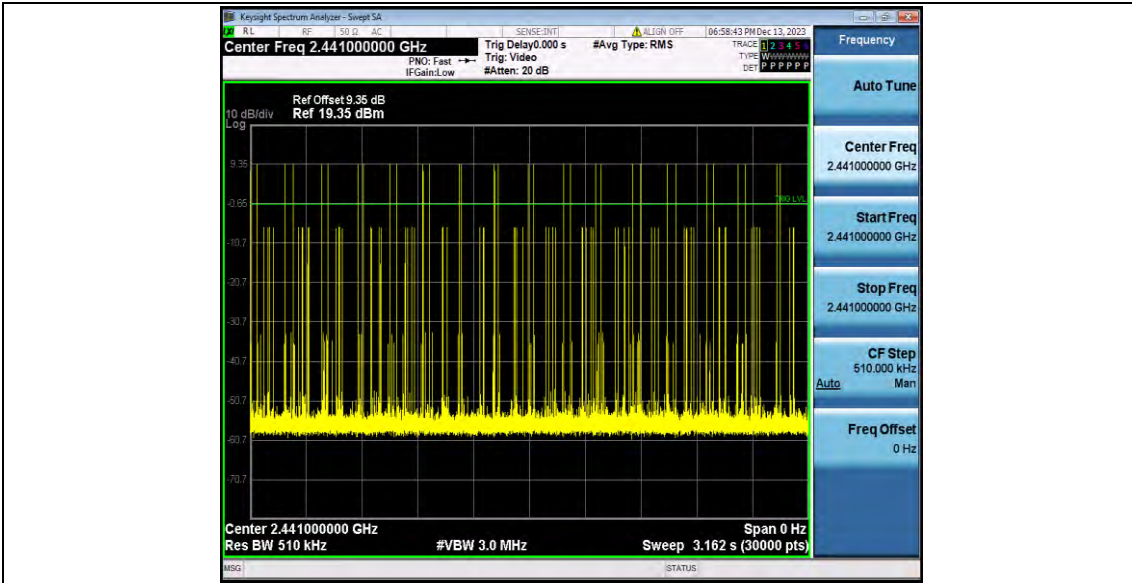
DH5\_Ant1\_Hop



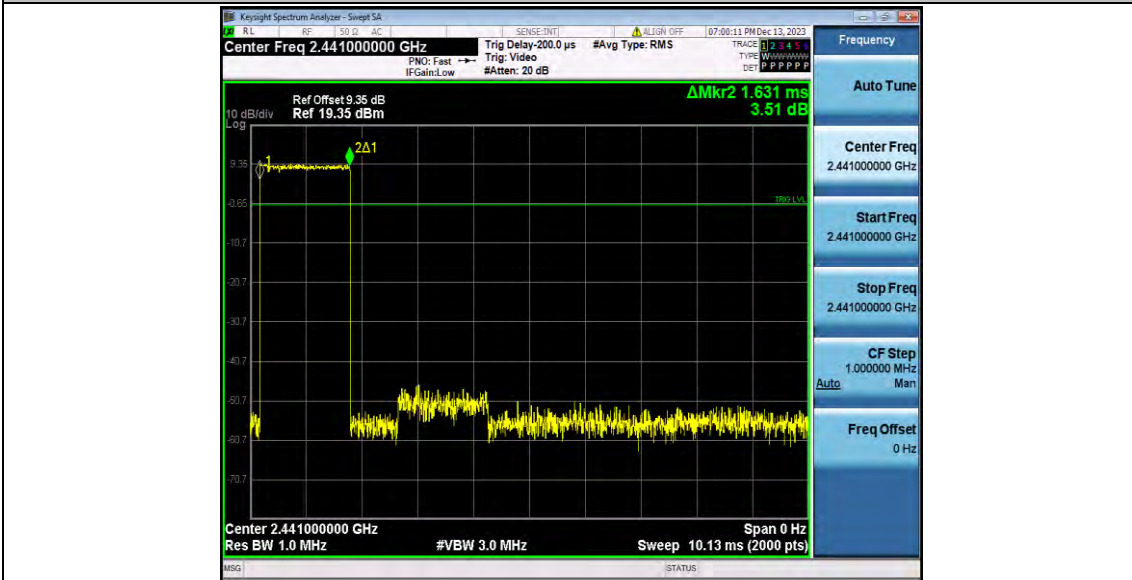
DH5\_Ant1\_Hop



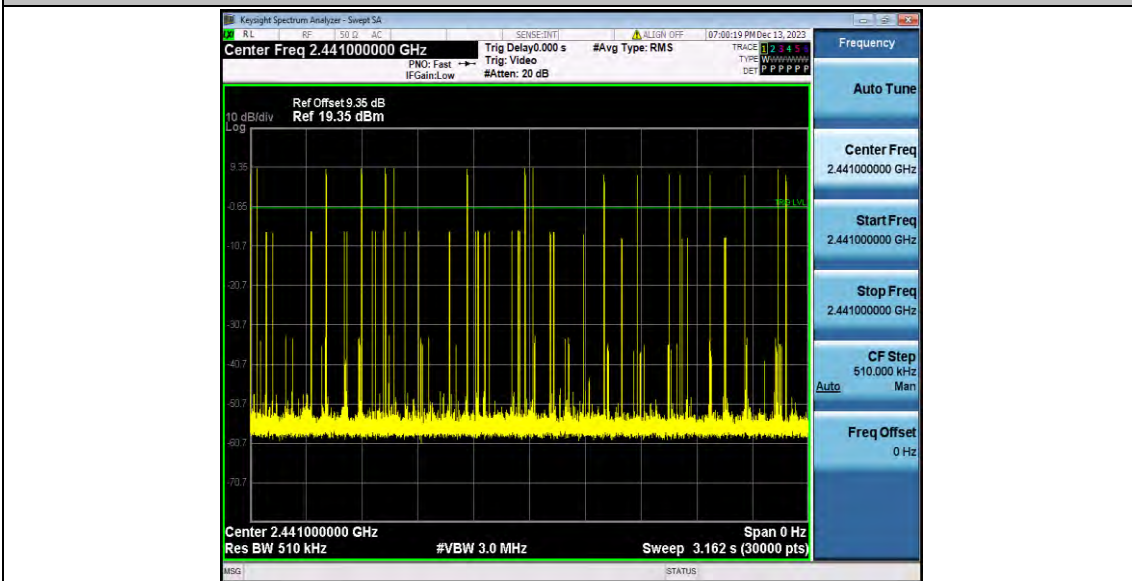
2DH1\_Ant1\_Hop



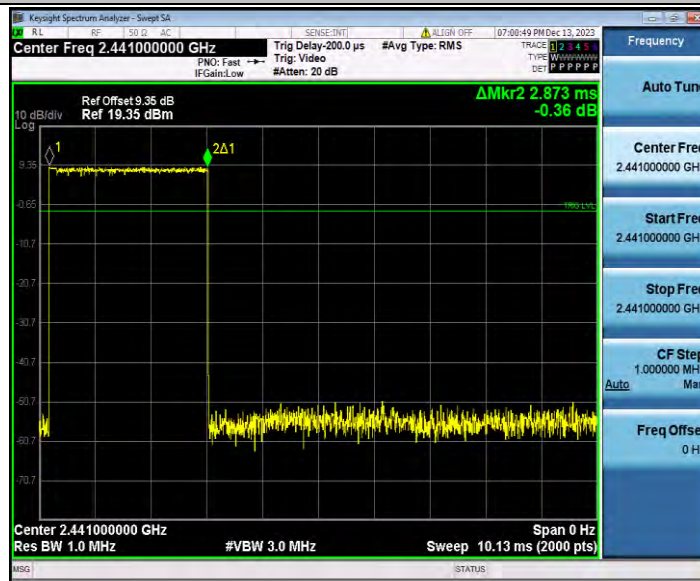
2DH1\_Ant1\_Hop



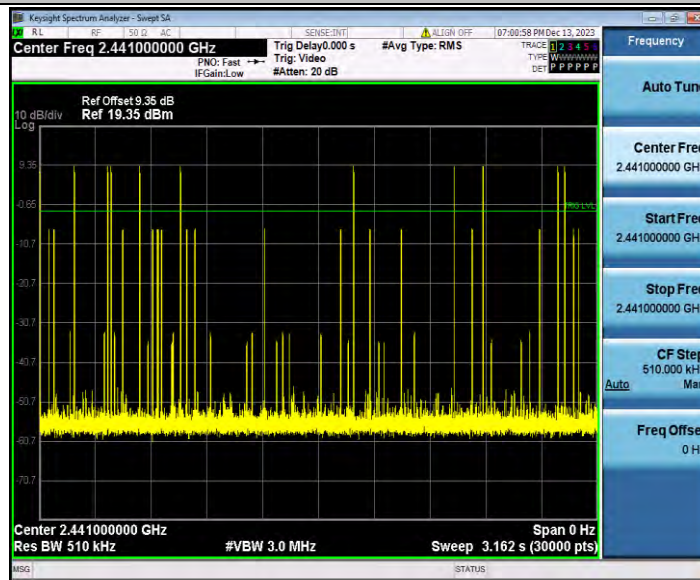
2DH3\_Ant1\_Hop



2DH3\_Ant1\_Hop

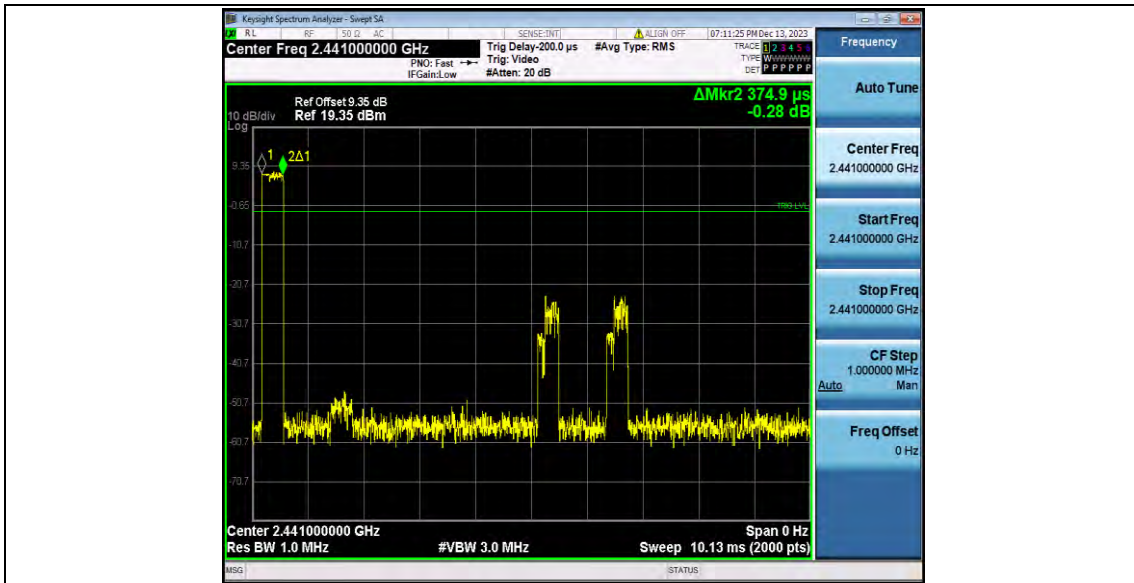


2DH5\_Ant1\_Hop

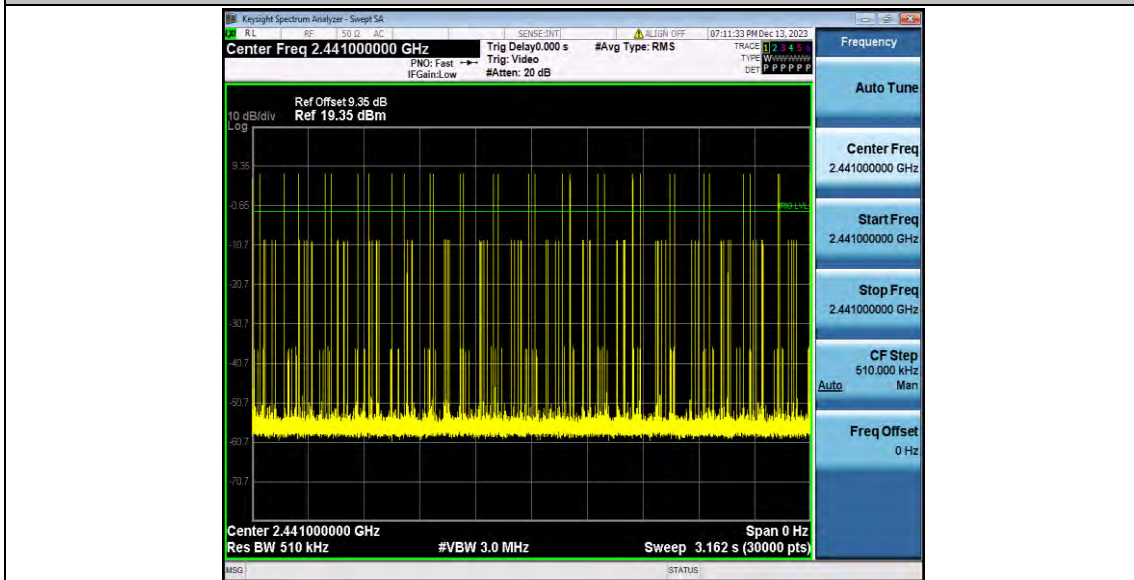


2DH5\_Ant1\_Hop

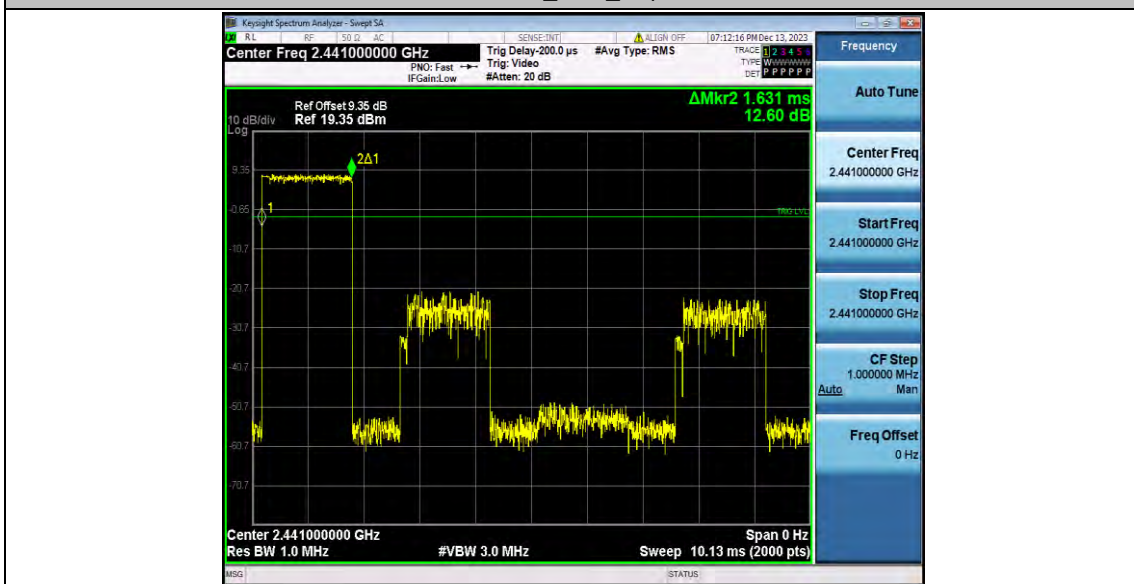




3DH1\_Ant1\_Hop

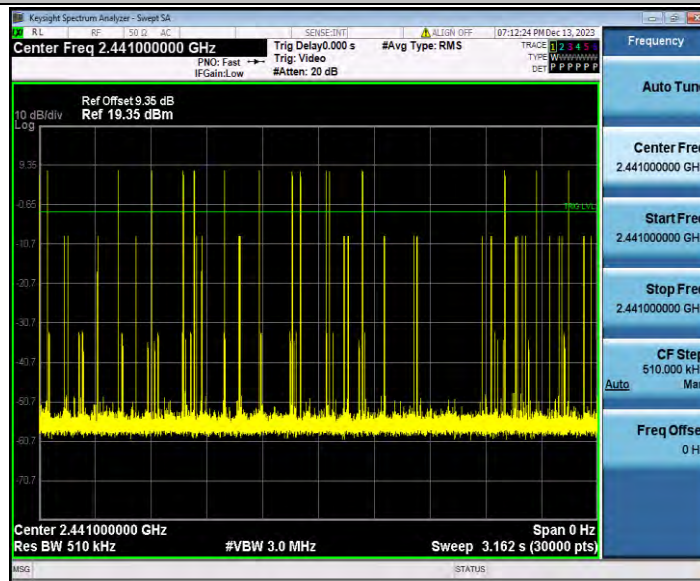


3DH1\_Ant1\_Hop

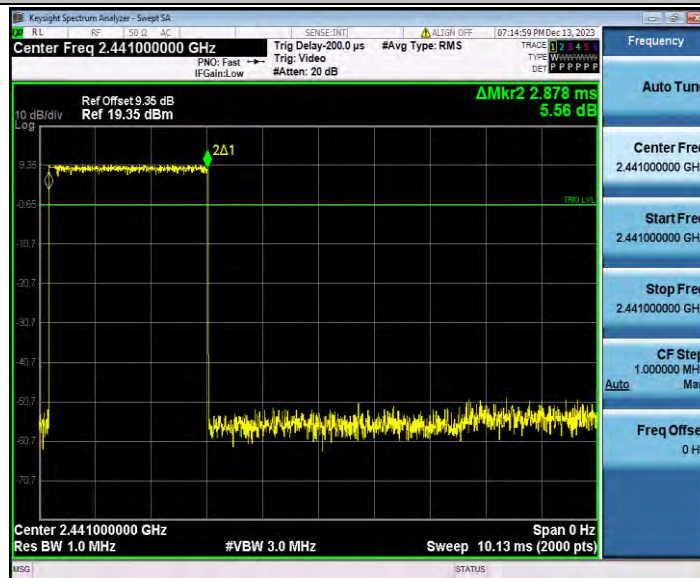




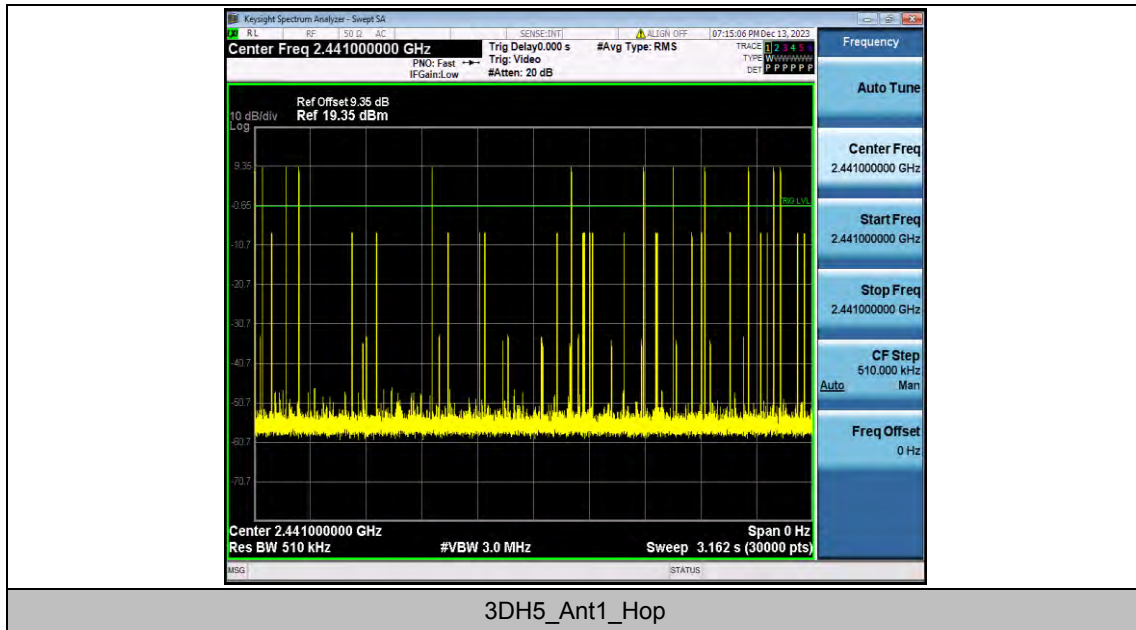
3DH3\_Ant1\_Hop



3DH3\_Ant1\_Hop



3DH5\_Ant1\_Hop



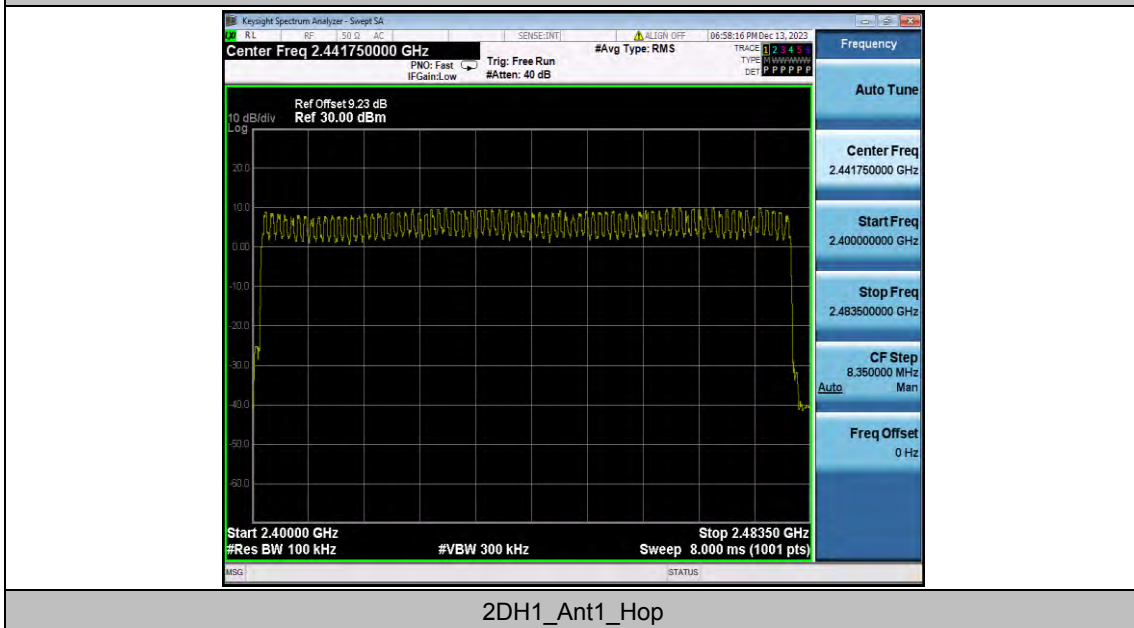
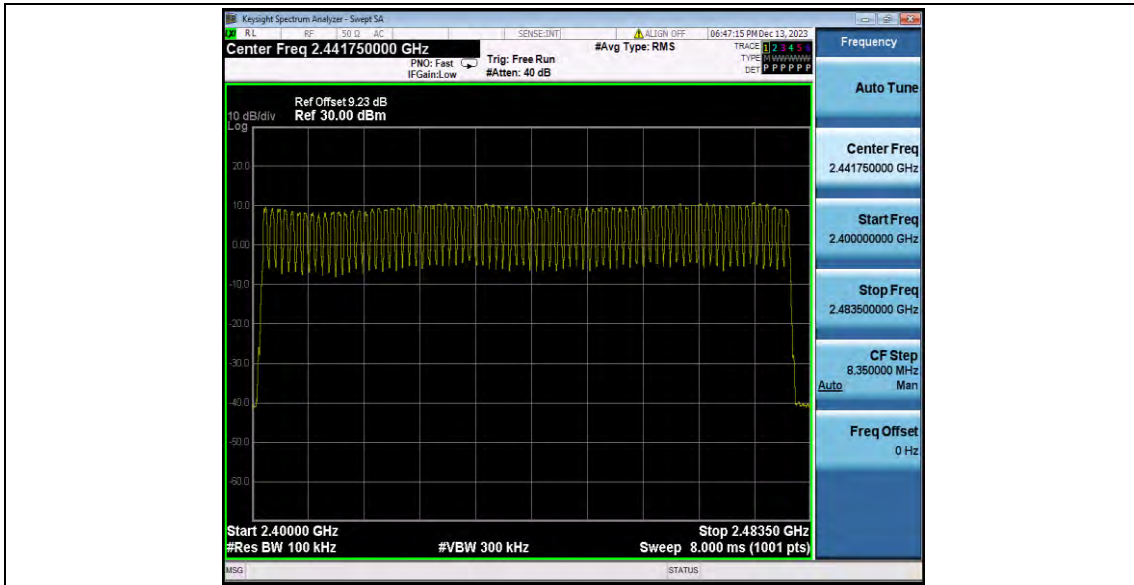
3DH5\_Ant1\_Hop

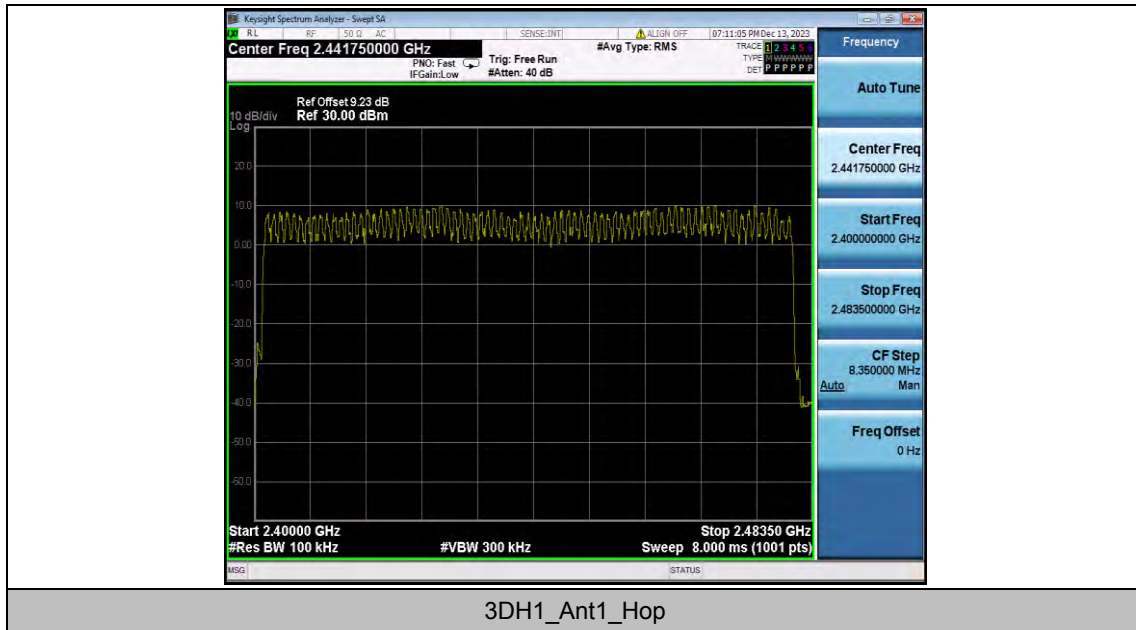
## Appendix A.6: Number of hopping channels

### 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





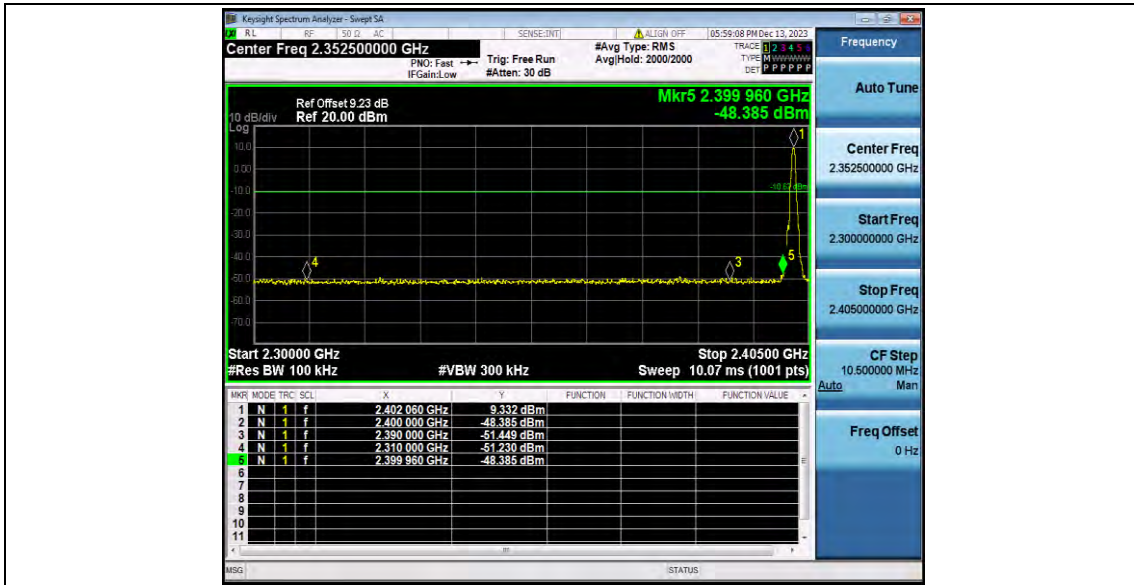


## Appendix A.7: Band edge measurements

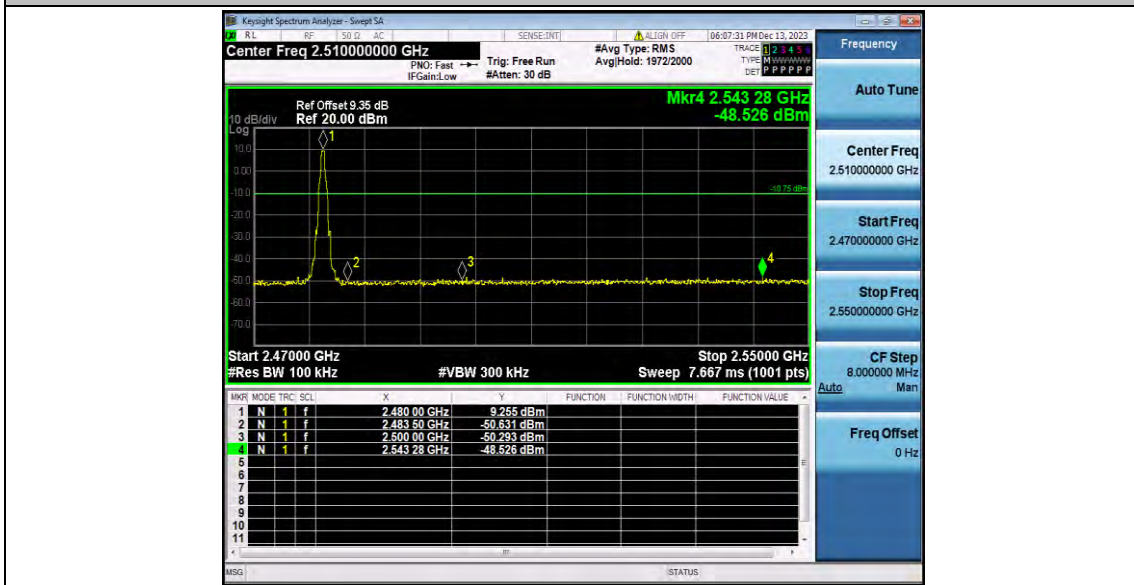
### Test Result

Test Mode	Antenna	ChName	Frequency[MHz]	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
DH1	Ant1	Low	2402	9.33	-48.39	≤-10.67	PASS
		High	2480	9.26	-48.53	≤-10.75	PASS
		Low	Hop_2402	9.02	-48.95	≤-10.98	PASS
		High	Hop_2480	10.40	-48.28	≤-9.6	PASS
2DH1	Ant1	Low	2402	8.73	-42.78	≤-11.27	PASS
		High	2480	8.61	-48.68	≤-11.39	PASS
		Low	Hop_2402	8.62	-49.13	≤-11.38	PASS
		High	Hop_2480	8.77	-48.85	≤-11.23	PASS
3DH1	Ant1	Low	2402	9.02	-42.12	≤-10.98	PASS
		High	2480	8.59	-48.63	≤-11.42	PASS
		Low	Hop_2402	6.41	-49.55	≤-13.59	PASS
		High	Hop_2480	9.18	-37.81	≤-10.82	PASS

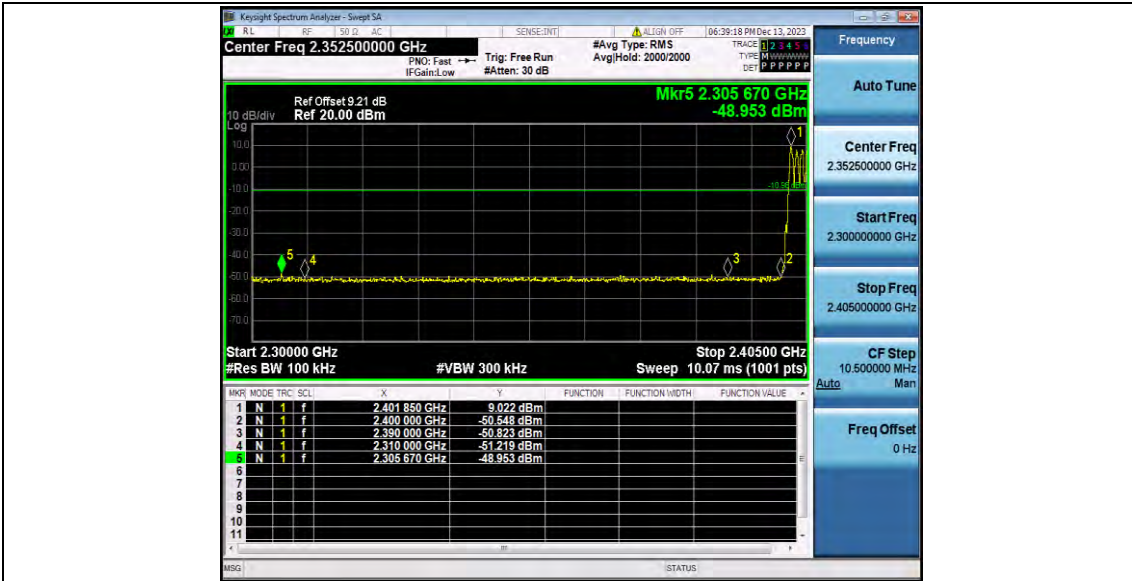
## Test Graphs



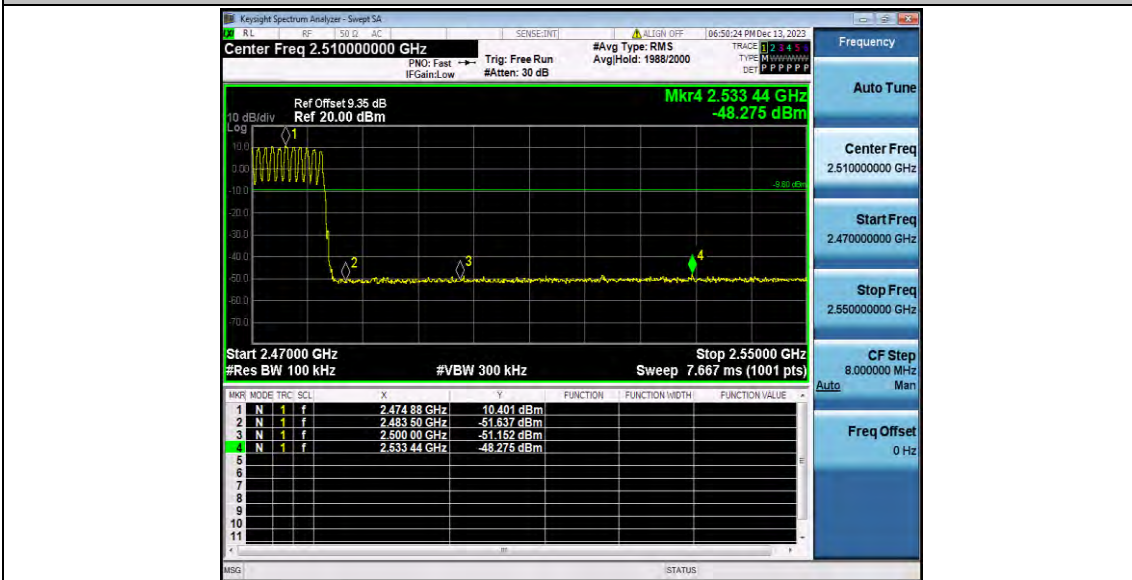
DH1\_Ant1\_Low\_2402



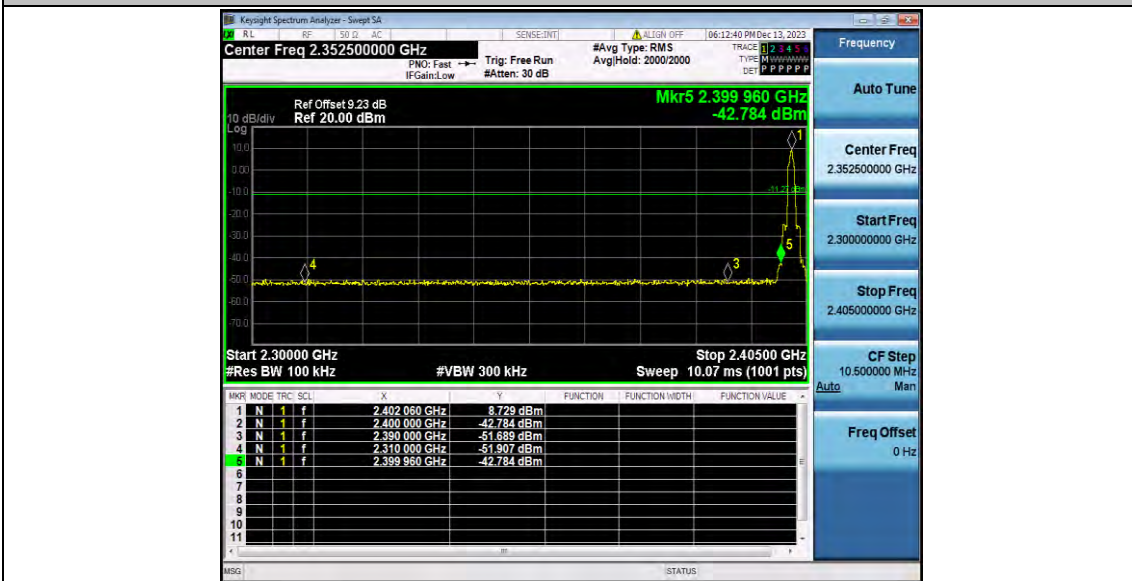
DH1\_Ant1\_High\_2480



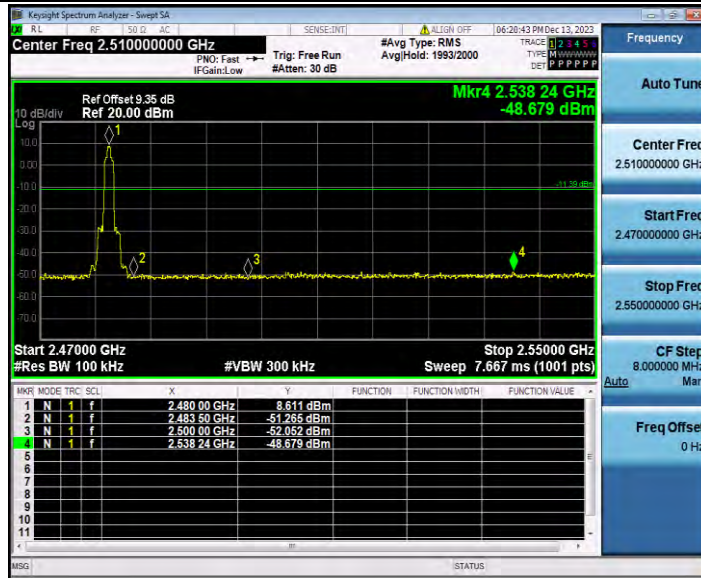
DH1\_Ant1\_Low\_Hop\_2402



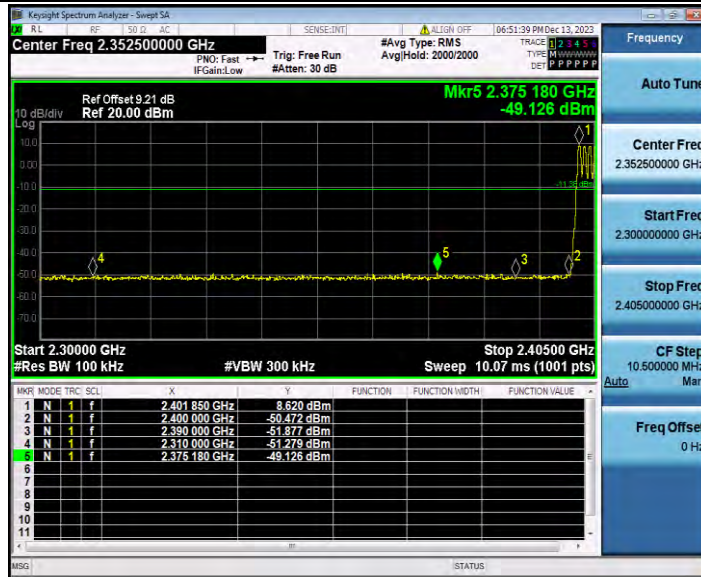
DH1\_Ant1\_High\_Hop\_2480



2DH1\_Ant1\_Low\_2402

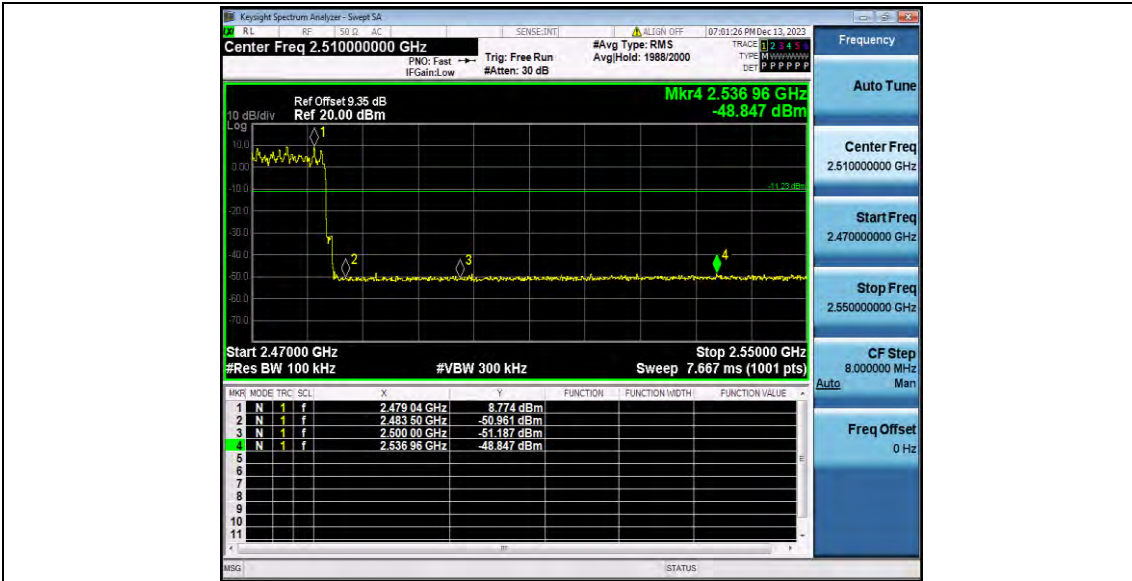


2DH1\_Ant1\_High\_2480

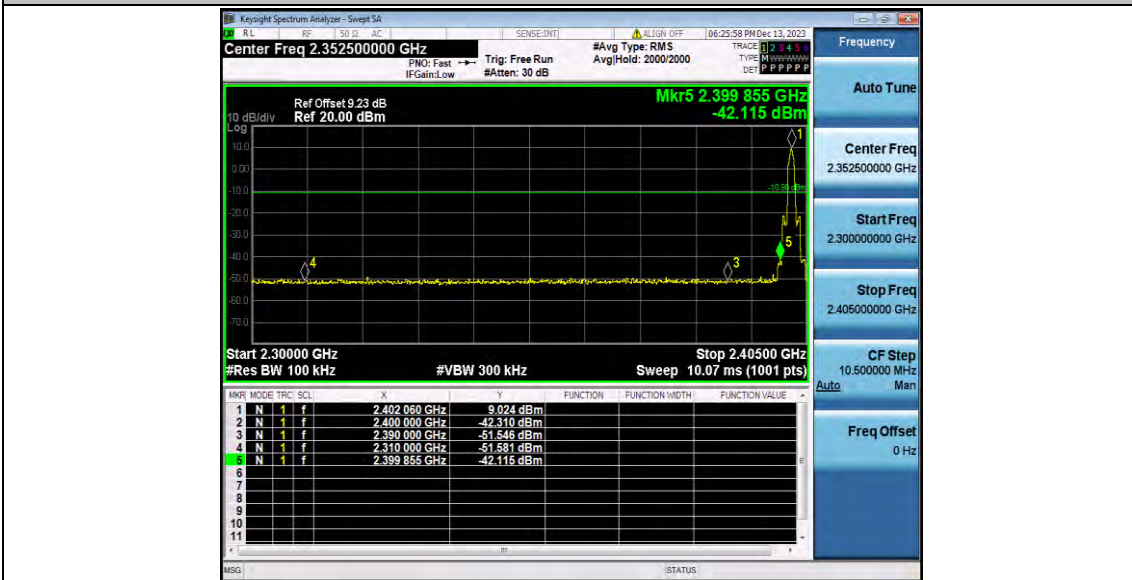


2DH1\_Ant1\_Low\_Hop\_2402

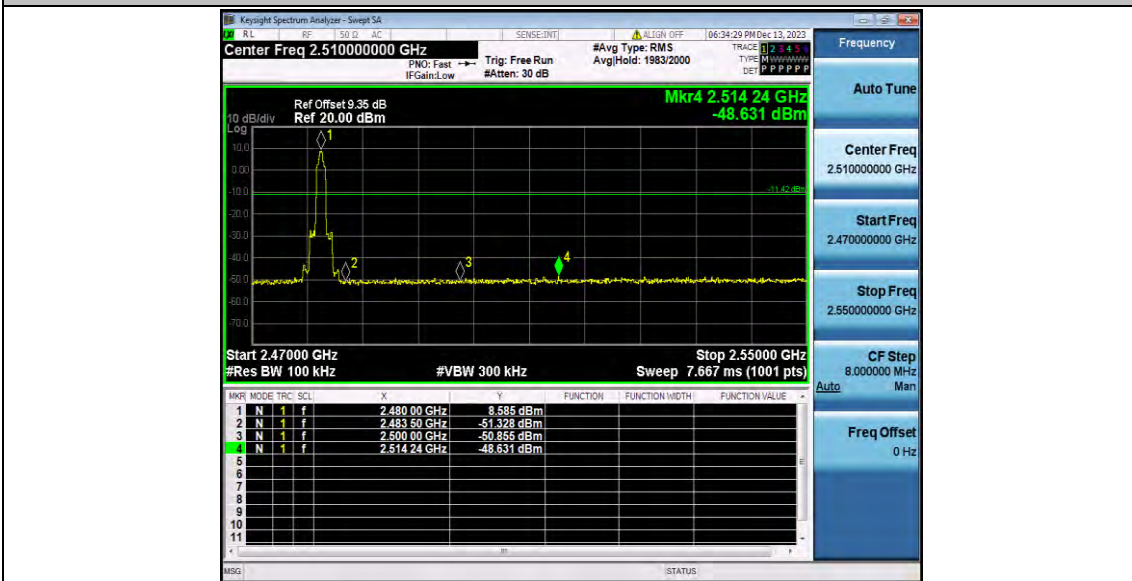




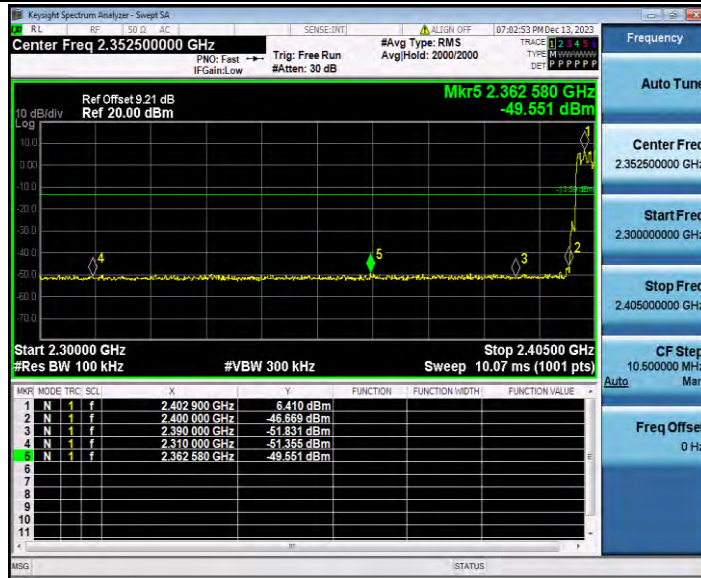
2DH1\_Ant1\_High\_Hop\_2480



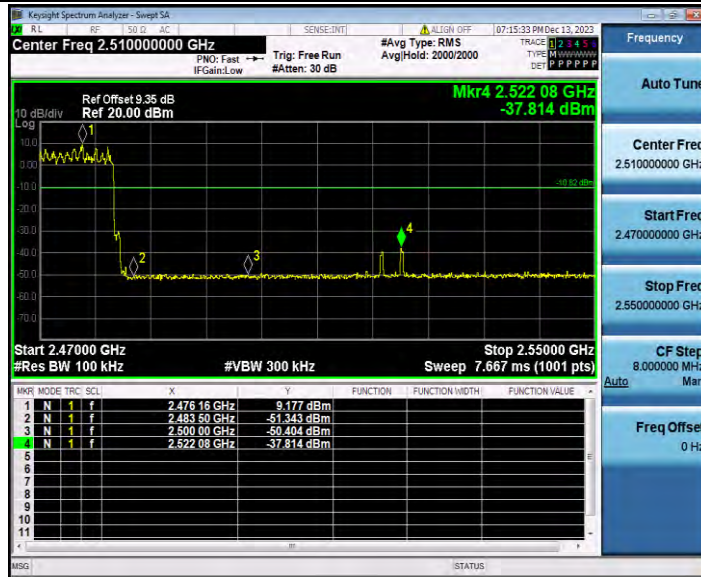
3DH1\_Ant1\_Low\_2402



3DH1\_Ant1\_High\_2480



3DH1\_Ant1\_Low\_Hop\_2402



3DH1\_Ant1\_High\_Hop\_2480



## Appendix A.8: Conducted Spurious Emission

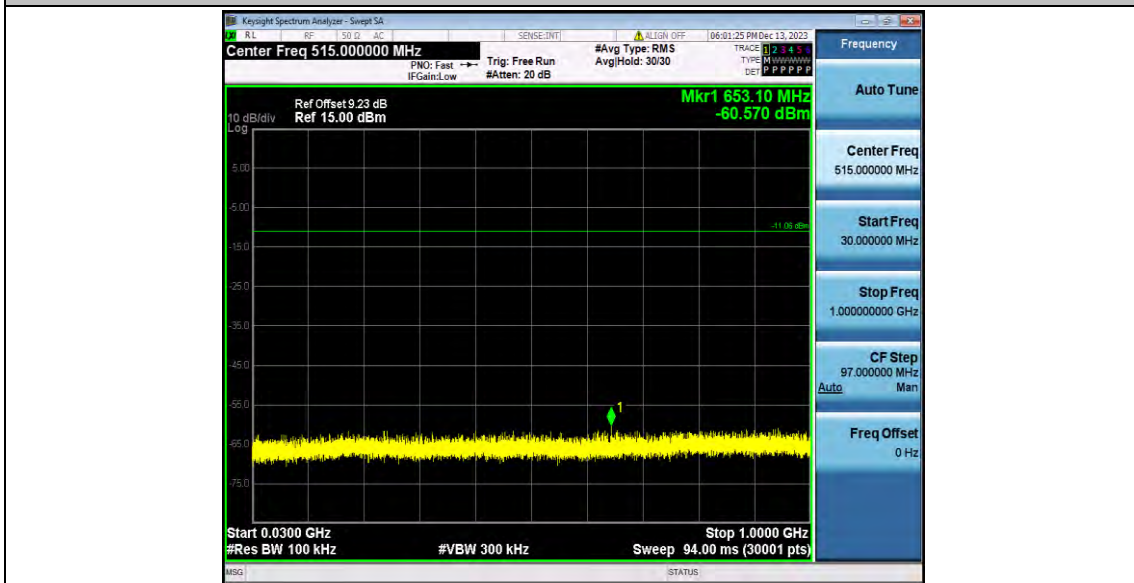
### Test Result

Test Mode	Antenna	Frequency[MHz]	FreqRange [MHz]	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
DH1	Ant1	2402	Reference	8.94	8.94	---	PASS
			30~1000	8.94	-60.57	≤-11.06	PASS
			1000~26500	8.94	-47.63	≤-11.06	PASS
		2441	Reference	9.58	9.58	---	PASS
			30~1000	9.58	-60.06	≤-10.42	PASS
			1000~26500	9.58	-46.24	≤-10.42	PASS
		2480	Reference	8.97	8.97	---	PASS
			30~1000	8.97	-60.05	≤-11.03	PASS
			1000~26500	8.97	-47.13	≤-11.03	PASS
2DH1	Ant1	2402	Reference	8.79	8.79	---	PASS
			30~1000	8.79	-60.45	≤-11.21	PASS
			1000~26500	8.79	-47.41	≤-11.21	PASS
		2441	Reference	8.78	8.78	---	PASS
			30~1000	8.78	-45.39	≤-11.22	PASS
			1000~26500	8.78	-46.89	≤-11.22	PASS
		2480	Reference	8.46	8.46	---	PASS
			30~1000	8.46	-60.24	≤-11.54	PASS
			1000~26500	8.46	-47.77	≤-11.54	PASS
3DH1	Ant1	2402	Reference	8.61	8.61	---	PASS
			30~1000	8.61	-60.49	≤-11.39	PASS
			1000~26500	8.61	-47.07	≤-11.39	PASS
		2441	Reference	8.68	8.68	---	PASS
			30~1000	8.68	-60.27	≤-11.32	PASS
			1000~26500	8.68	-47.5	≤-11.32	PASS
		2480	Reference	8.10	8.10	---	PASS
			30~1000	8.10	-60.57	≤-11.9	PASS
			1000~26500	8.10	-46.92	≤-11.9	PASS

## Test Graphs



DH1\_Ant1\_2402\_0~Reference



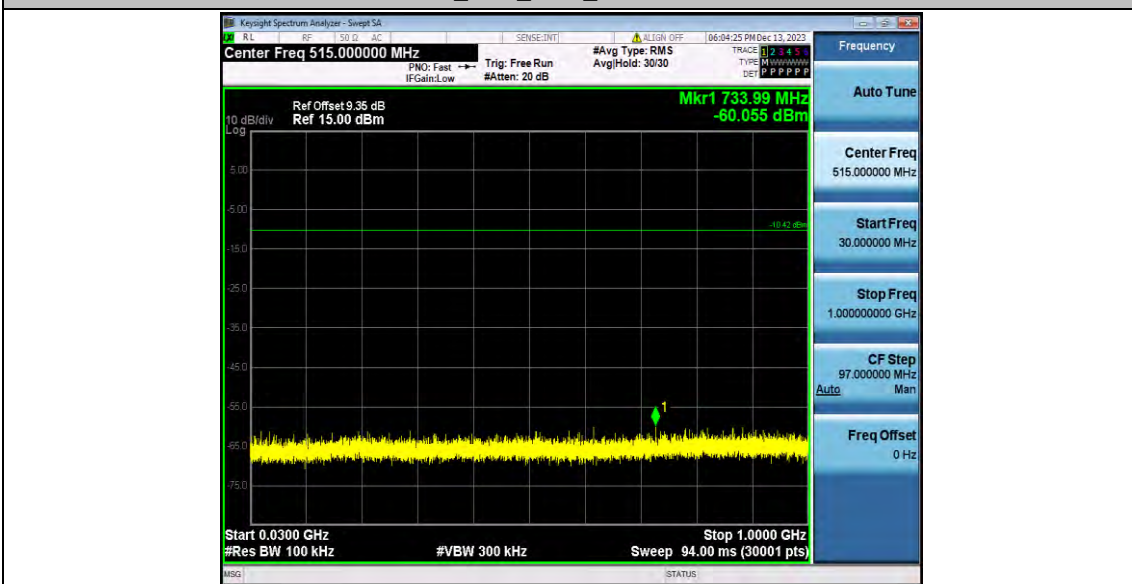
DH1\_Ant1\_2402\_30~1000



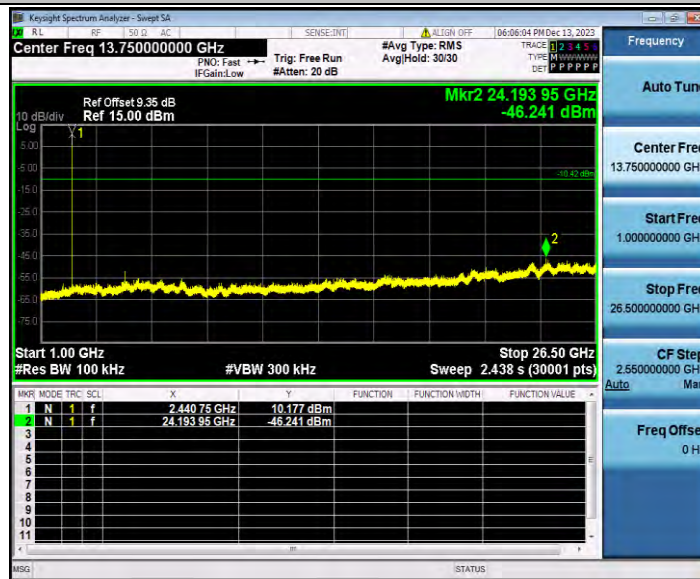
DH1\_Ant1\_2402\_1000~26500



DH1\_Ant1\_2441\_0~Reference



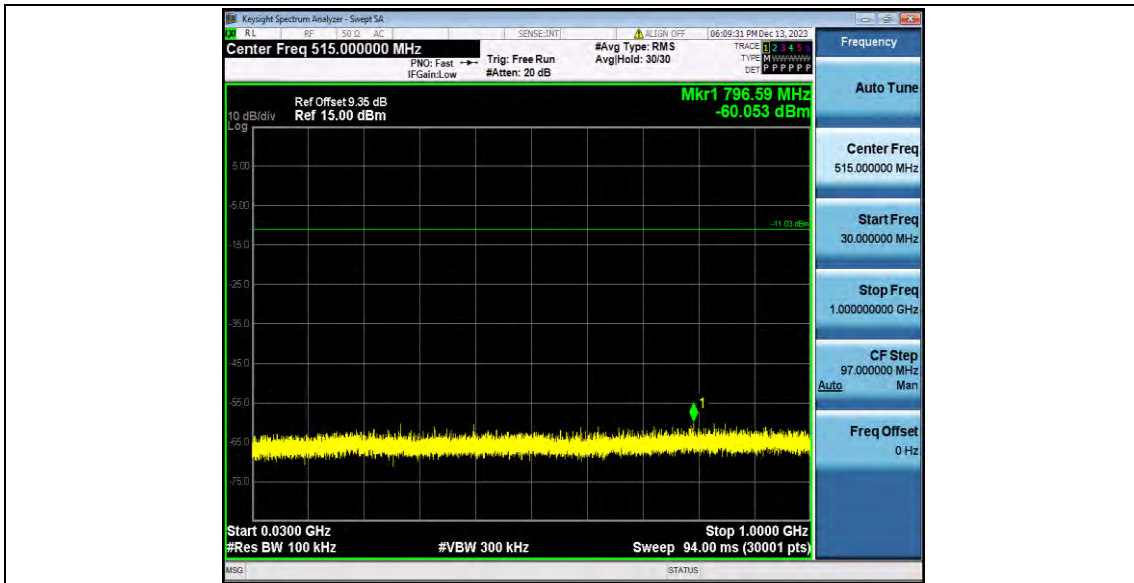
DH1\_Ant1\_2441\_30~1000



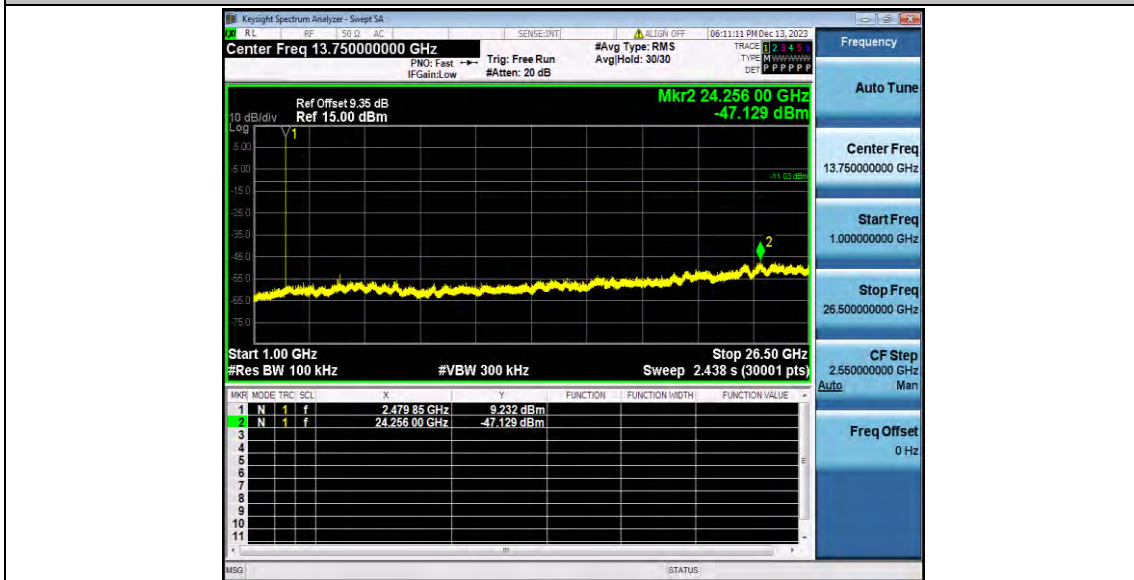
DH1\_Ant1\_2441\_1000~26500



DH1\_Ant1\_2480\_0~Reference



DH1\_Ant1\_2480\_30~1000

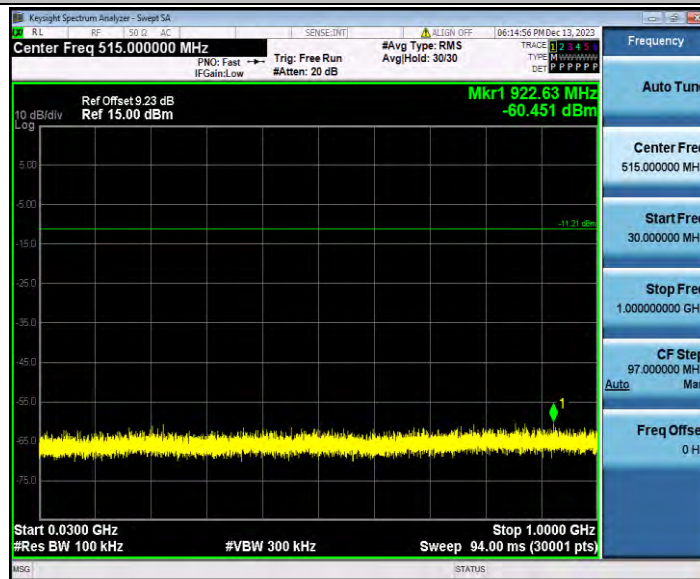


DH1\_Ant1\_2480\_1000~26500





2DH1\_Ant1\_2402\_0~Reference



2DH1\_Ant1\_2402\_30~1000

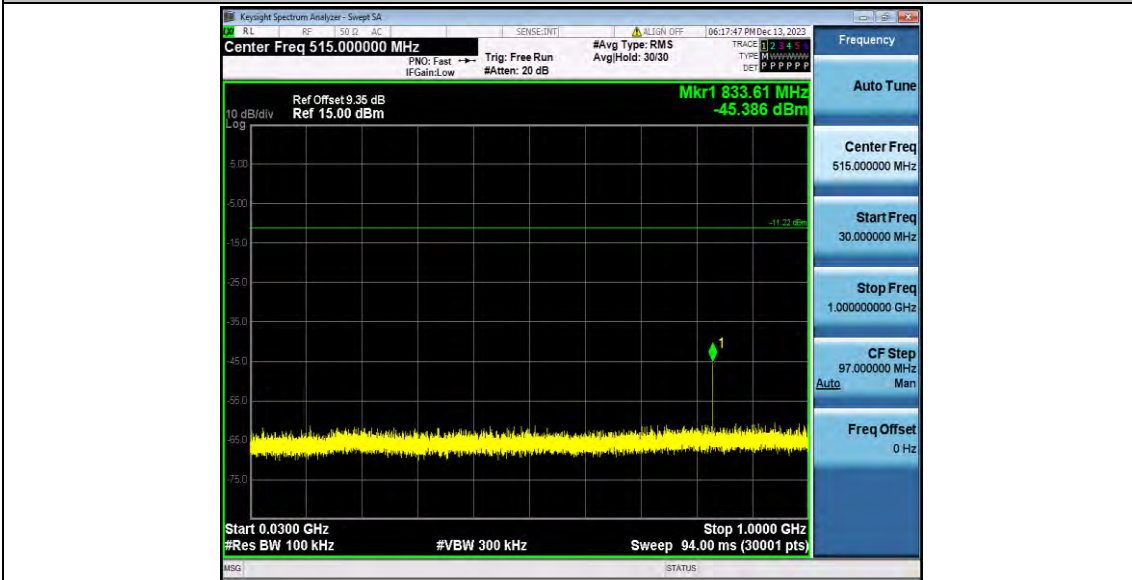


2DH1\_Ant1\_2402\_1000~26500

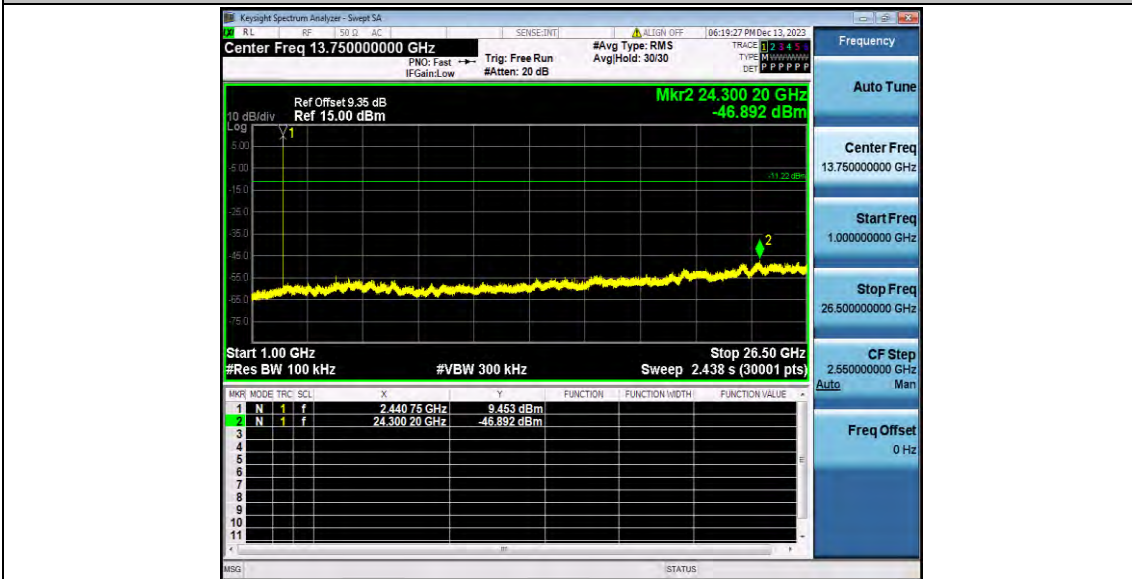




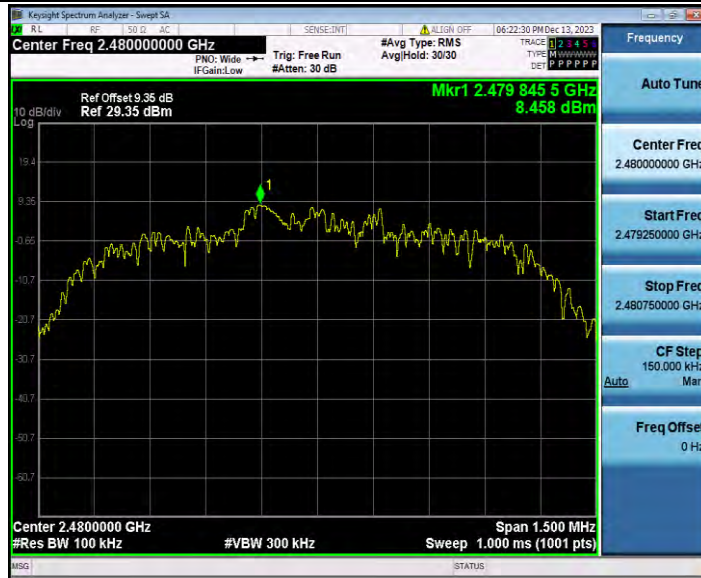
2DH1\_Ant1\_2441\_0~Reference



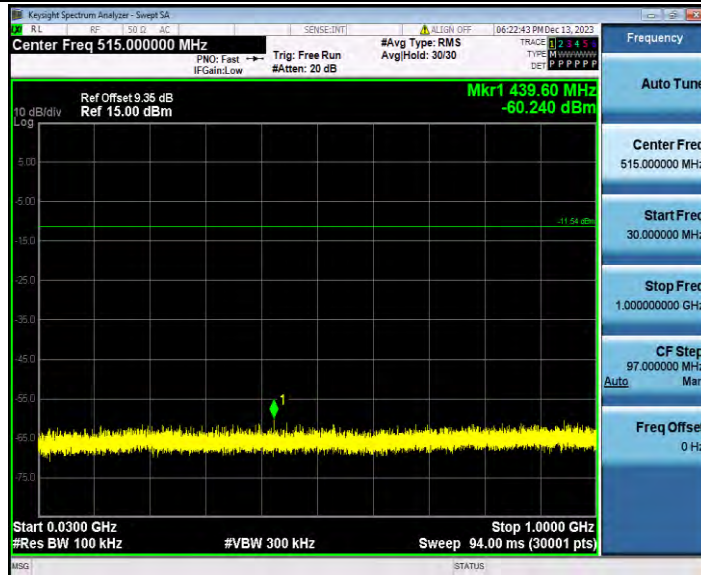
2DH1\_Ant1\_2441\_30~1000



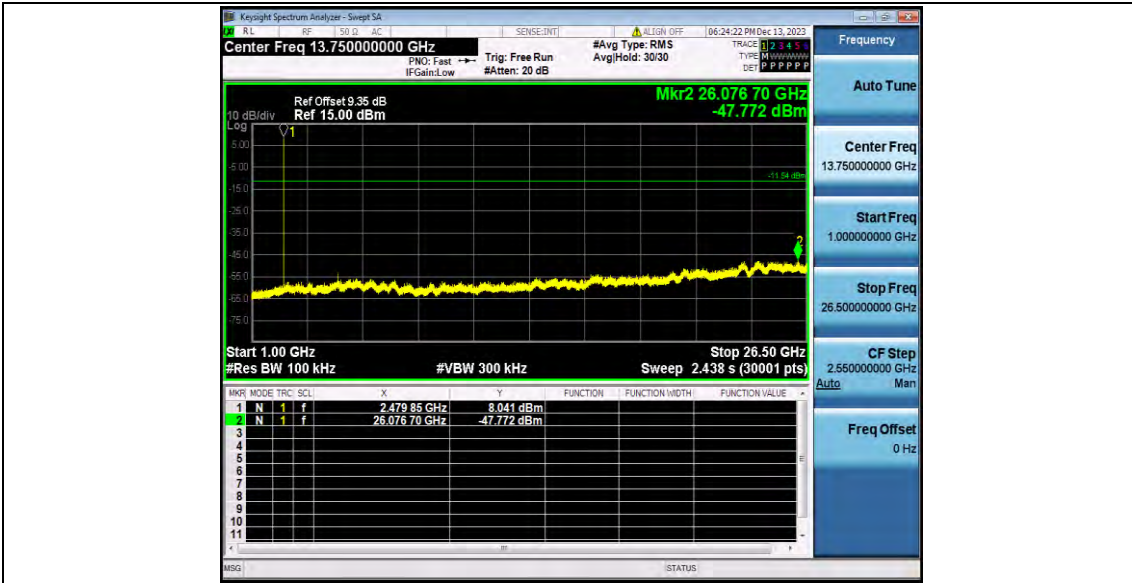
2DH1\_Ant1\_2441\_1000~26500



2DH1\_Ant1\_2480\_0~Reference



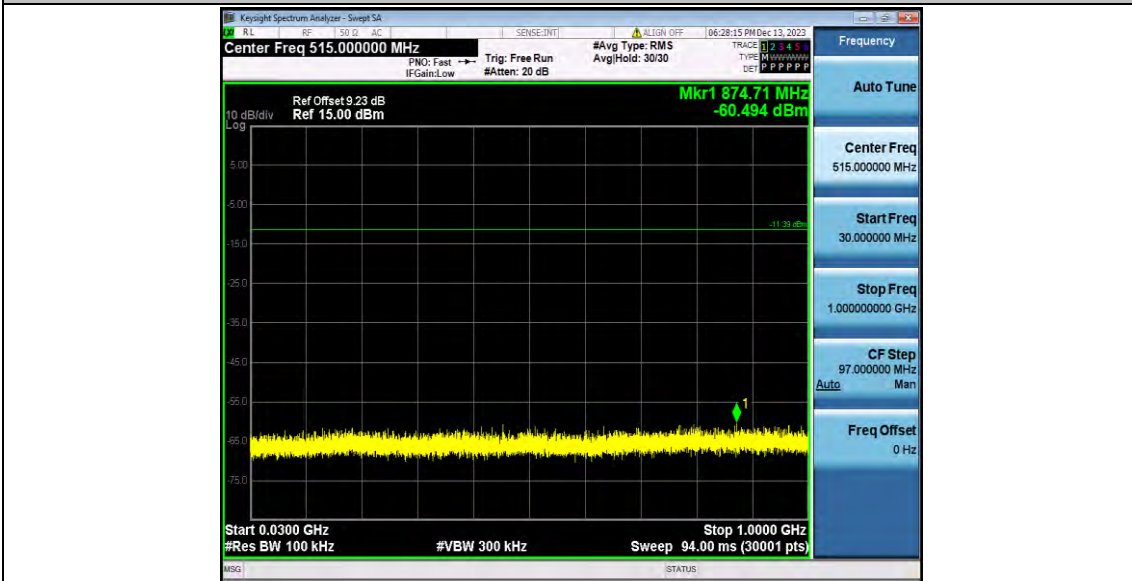
2DH1\_Ant1\_2480\_30~1000



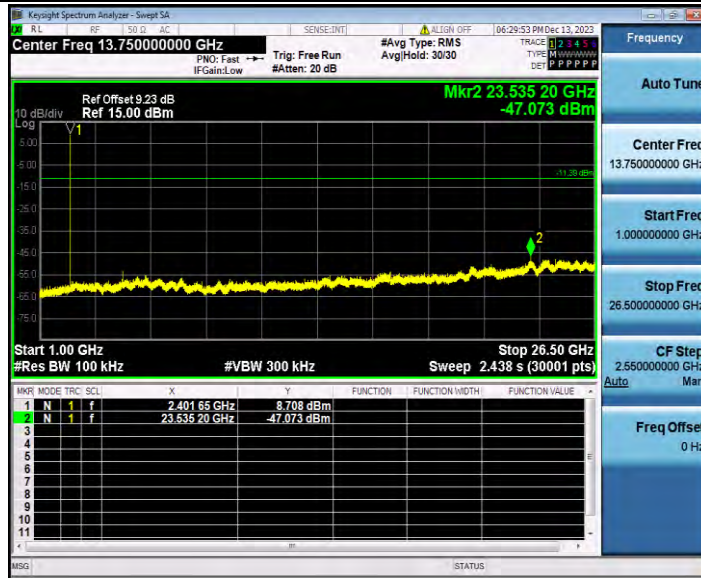
2DH1\_Ant1\_2480\_1000~26500



3DH1\_Ant1\_2402\_0~Reference



3DH1\_Ant1\_2402\_30~1000

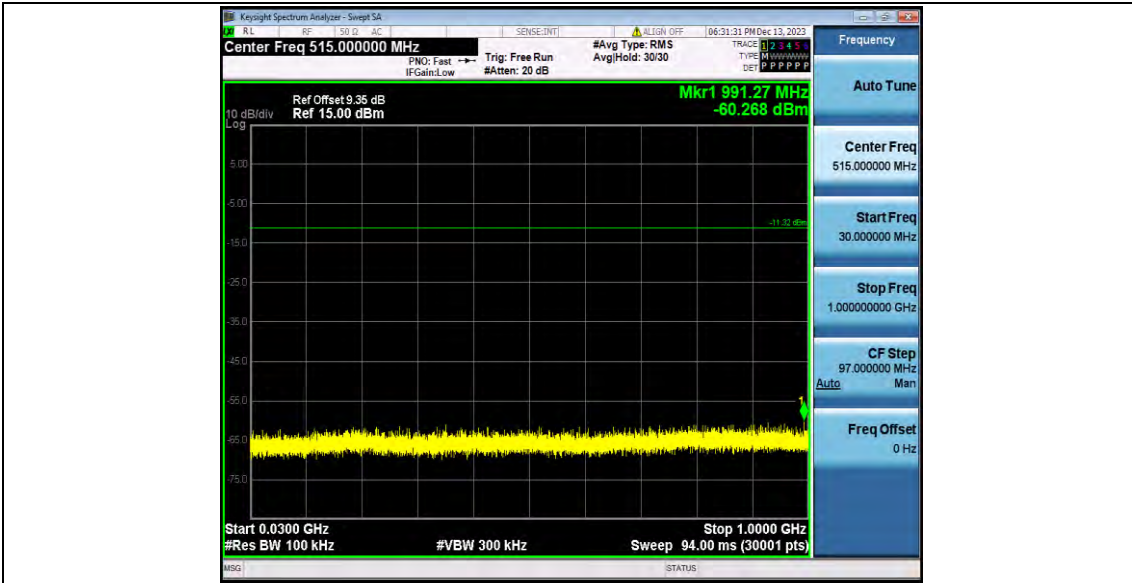


3DH1\_Ant1\_2402\_1000~26500

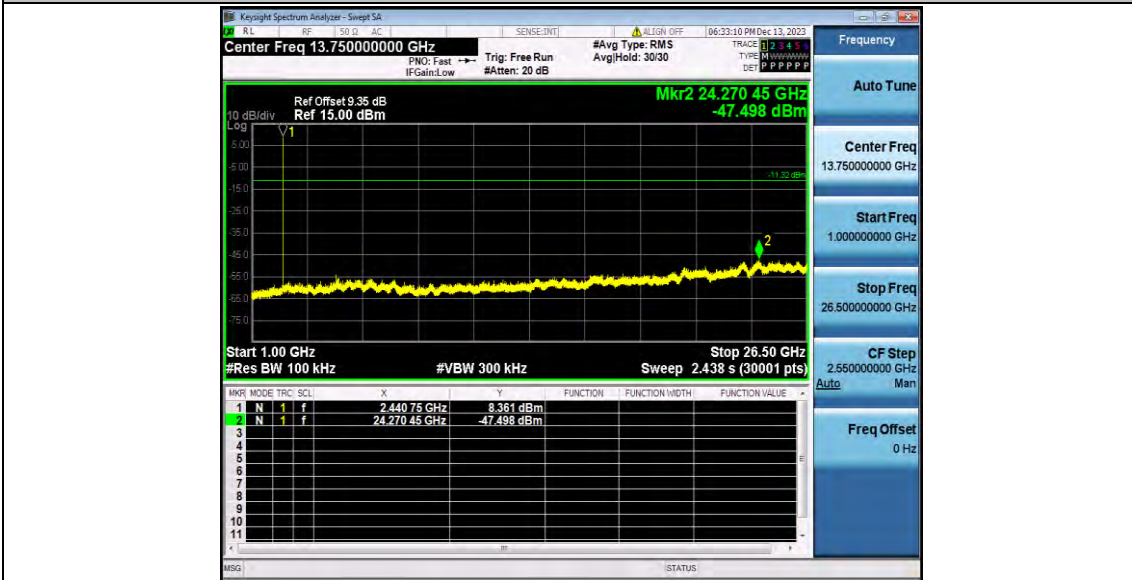


3DH1\_Ant1\_2441\_0~Reference





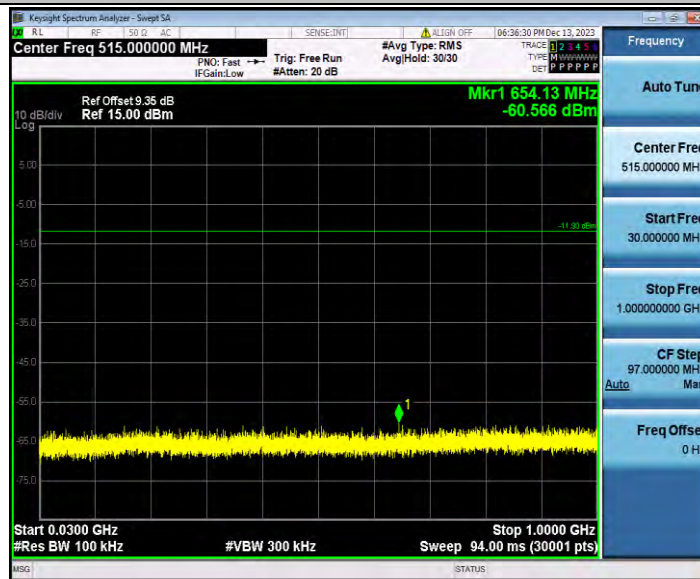
3DH1\_Ant1\_2441\_30~100



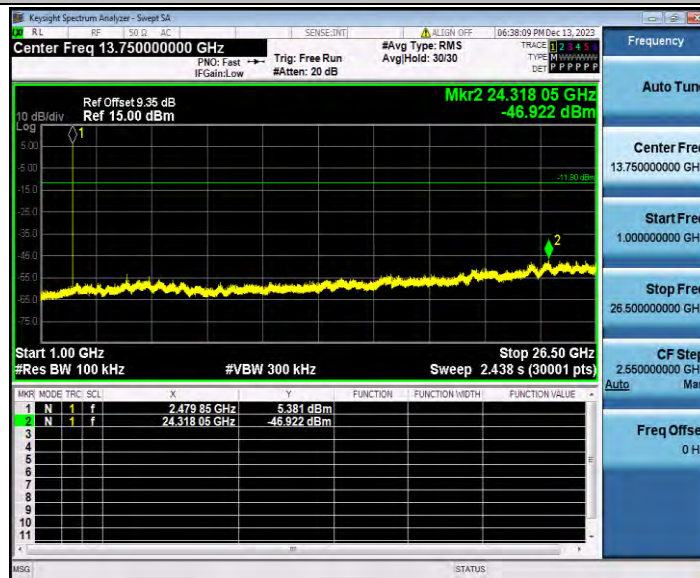
3DH1\_Ant1\_2441\_1000~26500



3DH1\_Ant1\_2480\_0~Reference



3DH1\_Ant1\_2480\_30~1000



3DH1\_Ant1\_2480\_1000~26500



## Appendix A.9: Emissions in Restricted Bands

### Test Result

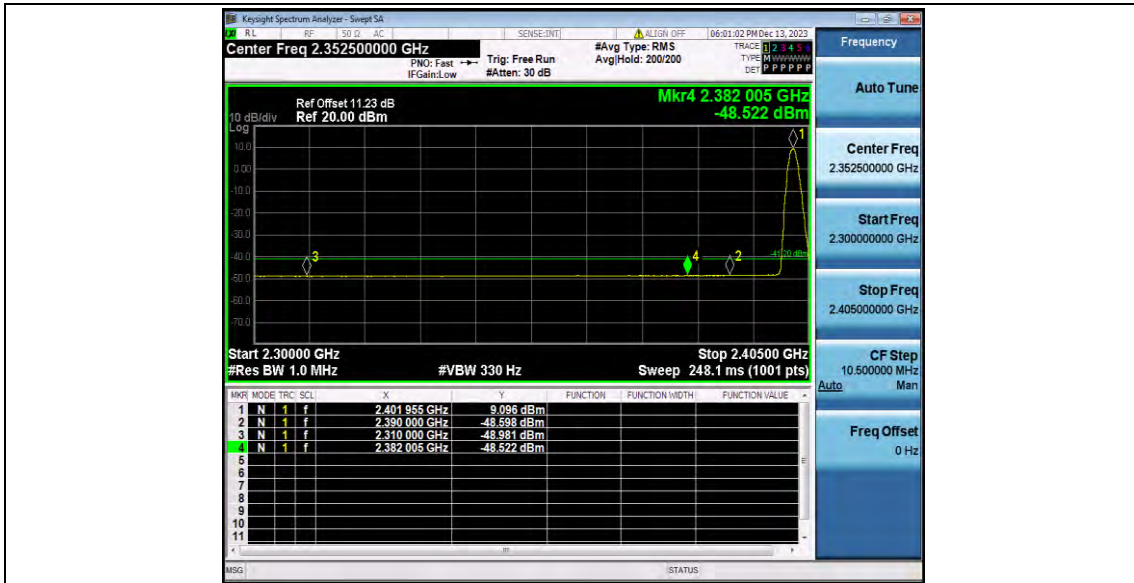
TestMode	Antenna	ChName	Frequency [MHz]	Detector	Freq [MHz]	Result [dBm]	Limit [dBm]	Result [dBuV/m]	Limit [dBuV/m]	Verdict
DH1	Ant1	Low	2402	AV	2310.000	-48.98	≤-41.20	46.22	≤54	PASS
				AV	2382.005	-48.52	≤-41.20	46.68	≤54	PASS
				AV	2390.000	-48.6	≤-41.20	46.60	≤54	PASS
				Peak	2310.000	-41.55	≤-21.20	53.65	≤74	PASS
				Peak	2332.550	-38.95	≤-21.20	56.25	≤74	PASS
				Peak	2390.000	-41.25	≤-21.20	53.95	≤74	PASS
		High	2480	AV	2483.500	-47.33	≤-41.20	47.87	≤54	PASS
				AV	2483.520	-47.33	≤-41.20	47.87	≤54	PASS
				AV	2500.000	-48.22	≤-41.20	46.98	≤54	PASS
				Peak	2483.500	-40.72	≤-21.20	54.48	≤74	PASS
				Peak	2487.920	-38.97	≤-21.20	56.23	≤74	PASS
				Peak	2500.000	-41.2	≤-21.20	54.00	≤74	PASS
2DH1	Ant1	Low	2402	AV	2310.000	-48.91	≤-41.20	46.29	≤54	PASS
				AV	2385.155	-48.48	≤-41.20	46.72	≤54	PASS
				AV	2390.000	-48.49	≤-41.20	46.71	≤54	PASS
				Peak	2310.000	-41.28	≤-21.20	53.92	≤74	PASS
				Peak	2358.695	-38.22	≤-21.20	56.98	≤74	PASS
				Peak	2390.000	-40.43	≤-21.20	54.77	≤74	PASS
		High	2480	AV	2483.500	-47.06	≤-41.20	48.14	≤54	PASS
				AV	2483.520	-47.06	≤-41.20	48.14	≤54	PASS
				AV	2500.000	-48.21	≤-41.20	46.99	≤54	PASS
				Peak	2483.500	-41.08	≤-21.20	54.12	≤74	PASS
				Peak	2497.280	-37.81	≤-21.20	57.39	≤74	PASS
				Peak	2500.000	-40.41	≤-21.20	54.79	≤74	PASS
3DH1	Ant1	Low	2402	AV	2310.000	-48.9	≤-41.20	46.30	≤54	PASS
				AV	2377.700	-48.52	≤-41.20	46.68	≤54	PASS
				AV	2390.000	-48.59	≤-41.20	46.61	≤54	PASS
				Peak	2310.000	-40.98	≤-21.20	54.22	≤74	PASS
				Peak	2313.860	-38.39	≤-21.20	56.81	≤74	PASS
				Peak	2390.000	-40.67	≤-21.20	54.53	≤74	PASS
		High	2480	AV	2483.500	-47.16	≤-41.20	48.04	≤54	PASS
				AV	2483.520	-47.16	≤-41.20	48.04	≤54	PASS
				AV	2500.000	-48.25	≤-41.20	46.95	≤54	PASS
				Peak	2483.500	-40.44	≤-21.20	54.76	≤74	PASS

				Peak	2489.600	-37.97	≤-21.20	57.23	≤74	PASS
				Peak	2500.000	-40.43	≤-21.20	54.77	≤74	PASS

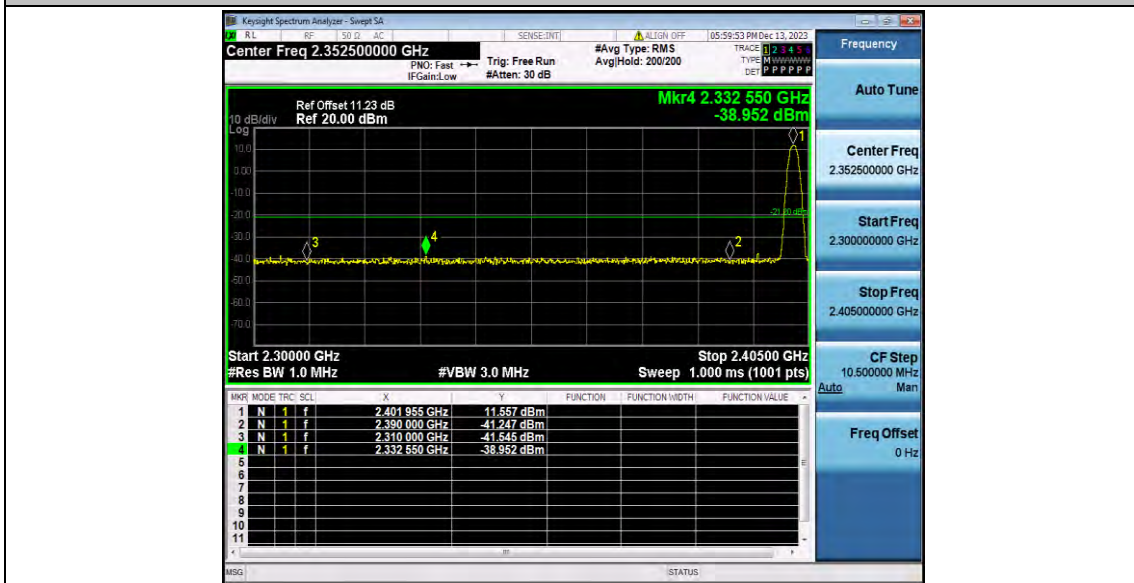
Note:

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.

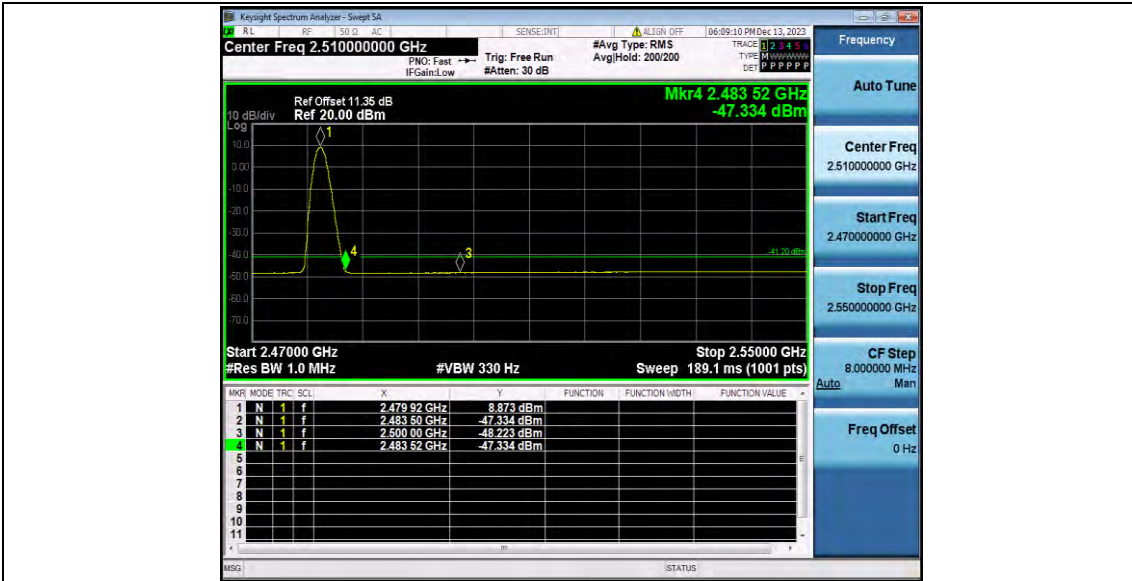
## Test Graphs



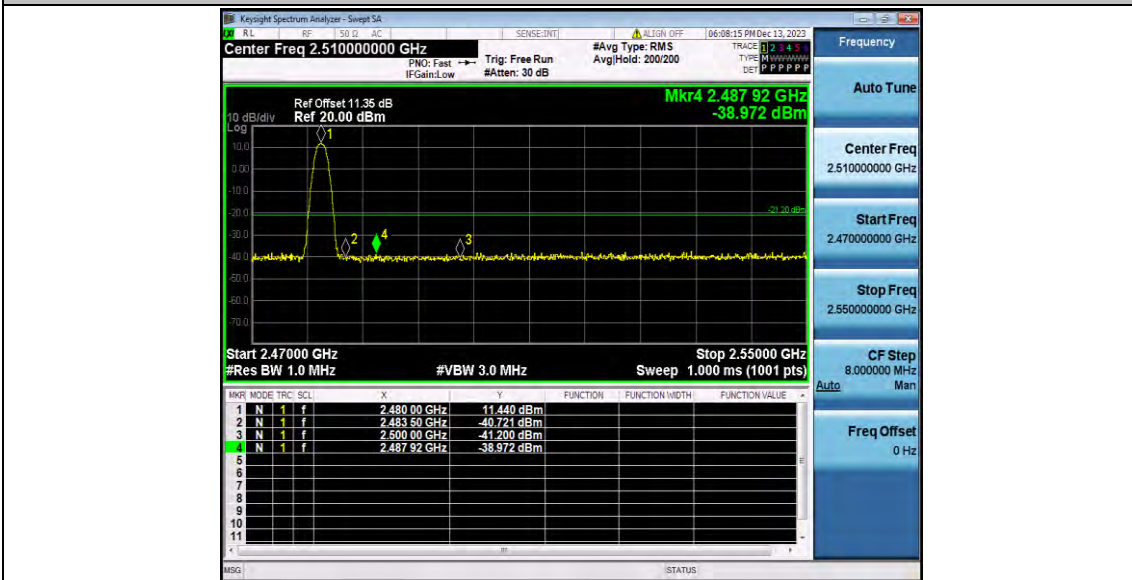
DH1\_Ant1\_Low\_2402\_AV



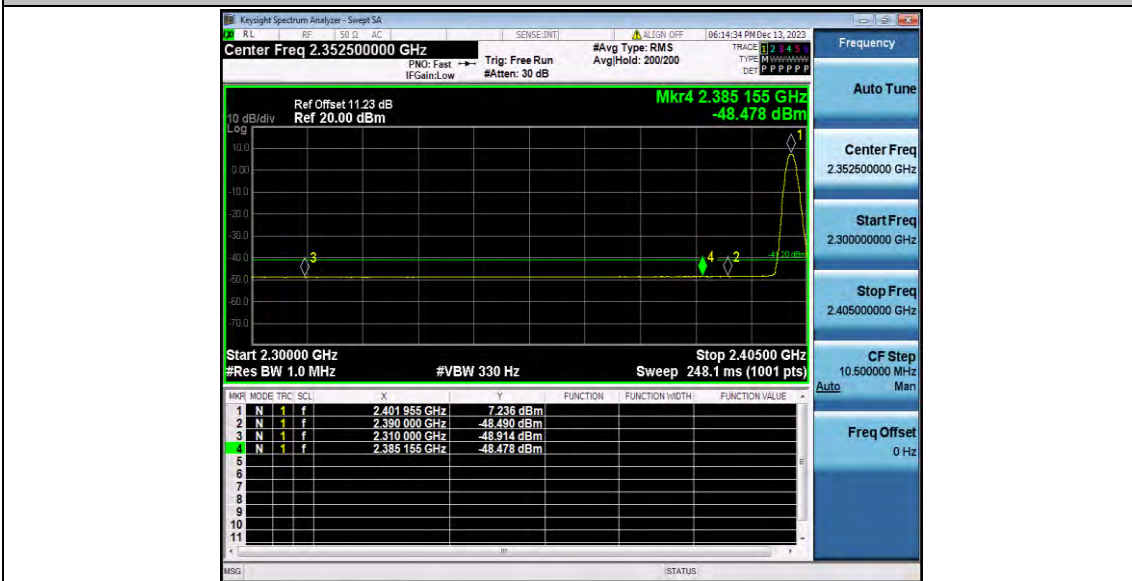
DH1\_Ant1\_Low\_2402\_Peak



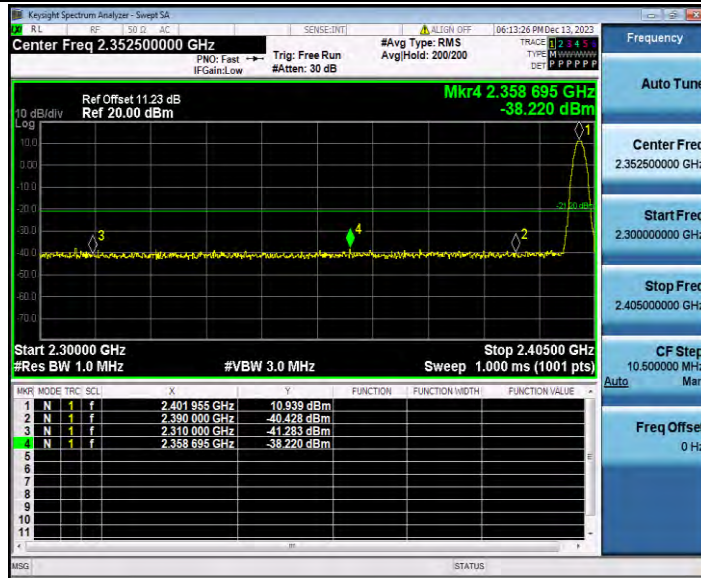
DH1\_Ant1\_High\_2480\_AV



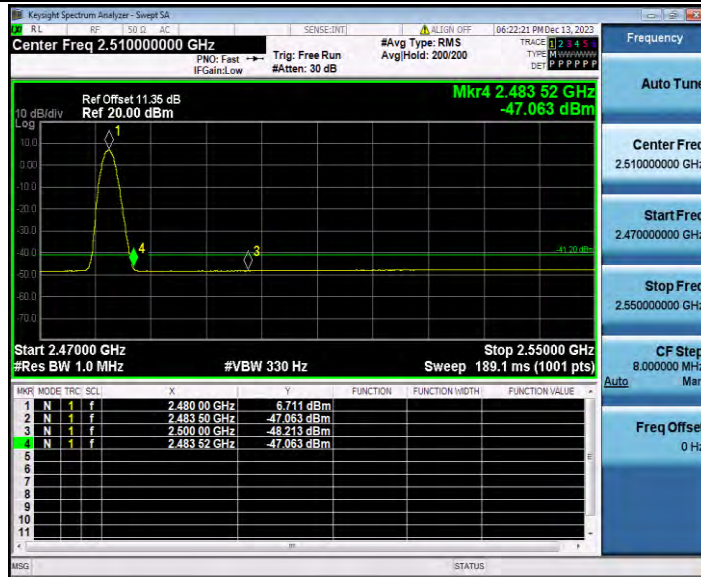
DH1\_Ant1\_High\_2480\_Peak



2DH1\_Ant1\_Low\_2402\_AV

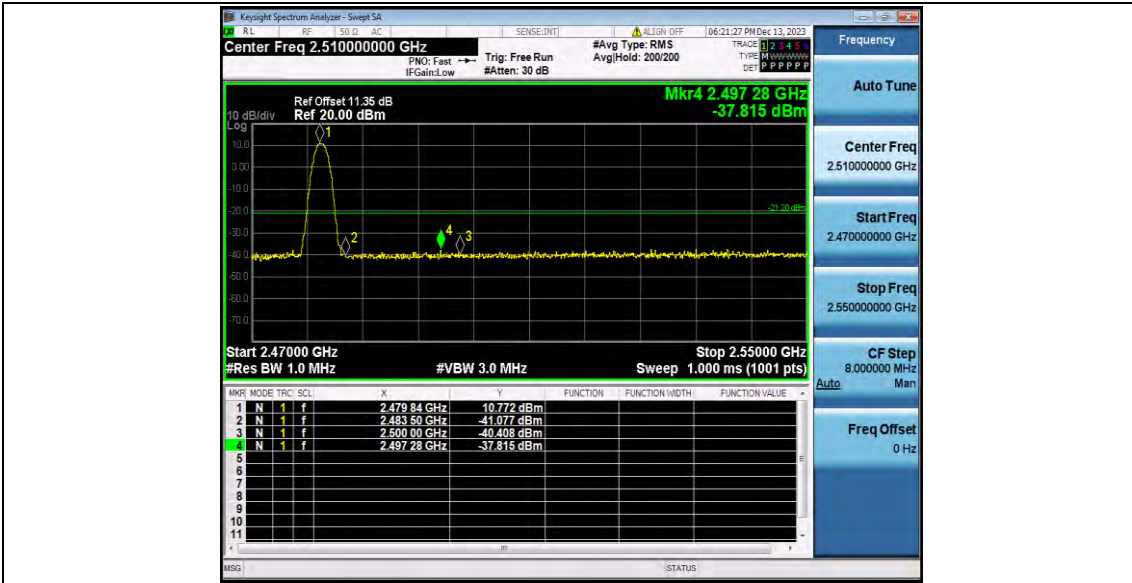


2DH1\_Ant1\_Low\_2402\_Peak

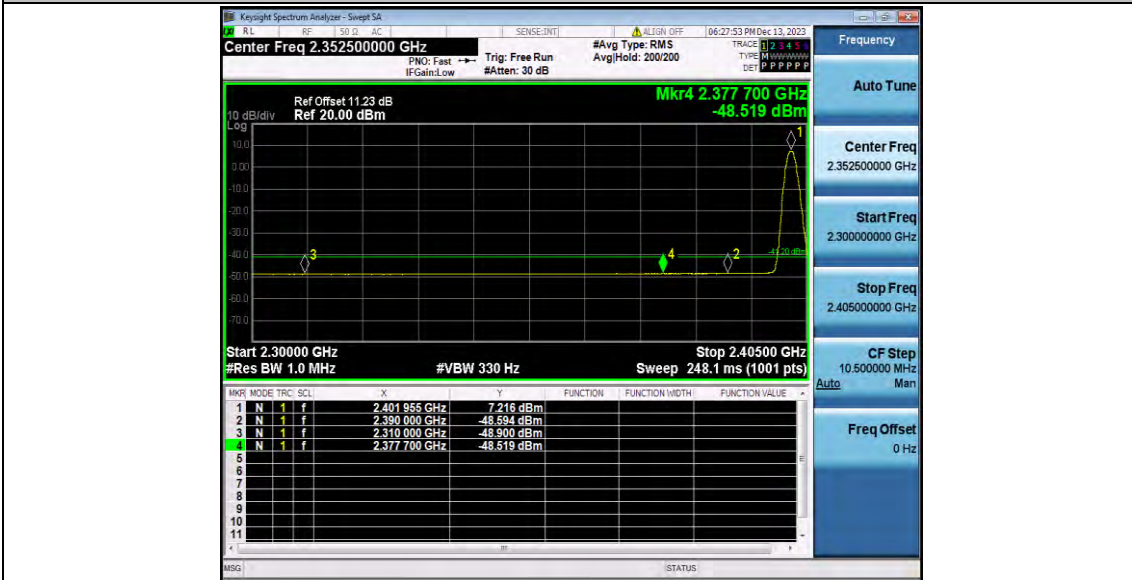


2DH1\_Ant1\_High\_2480\_AV

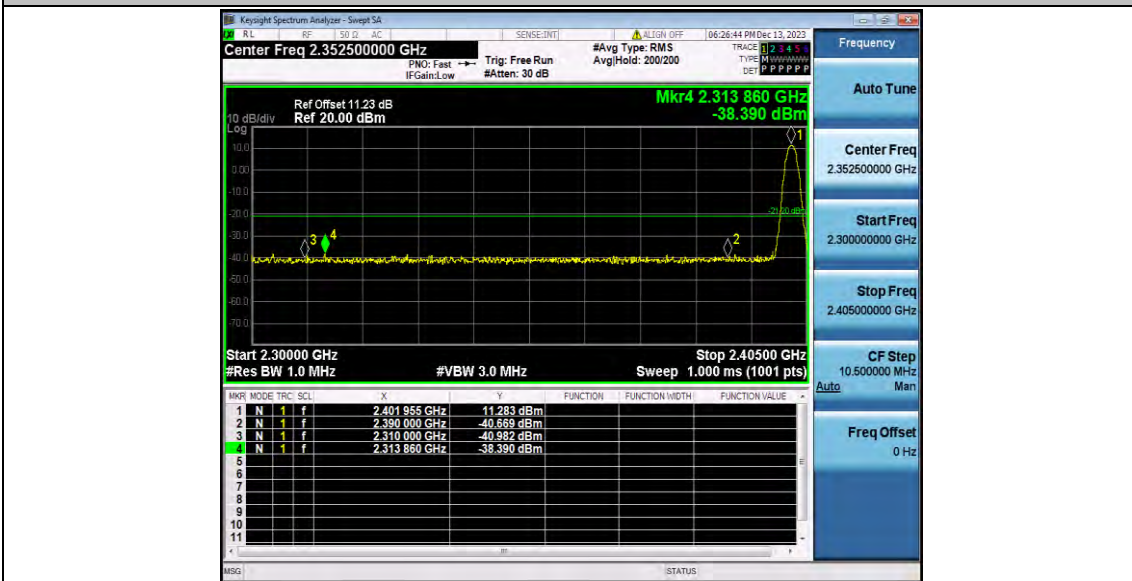




2DH1\_Ant1\_High\_2480\_Peak

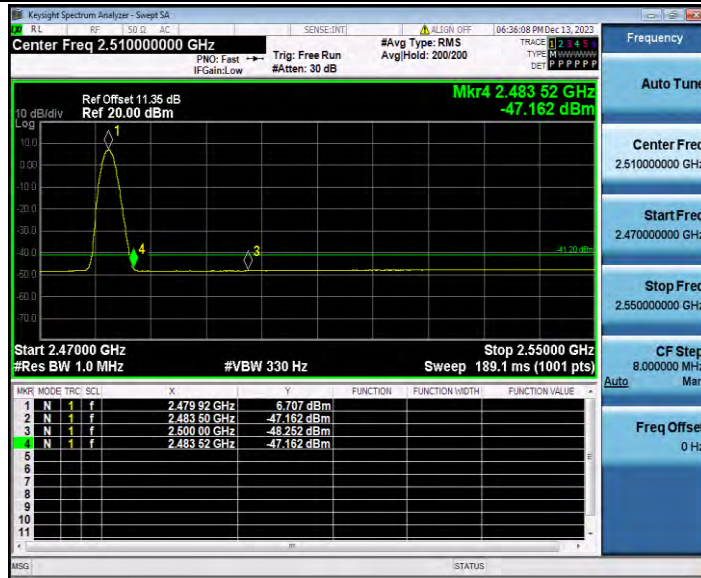


3DH1\_Ant1\_Low\_2402\_AV

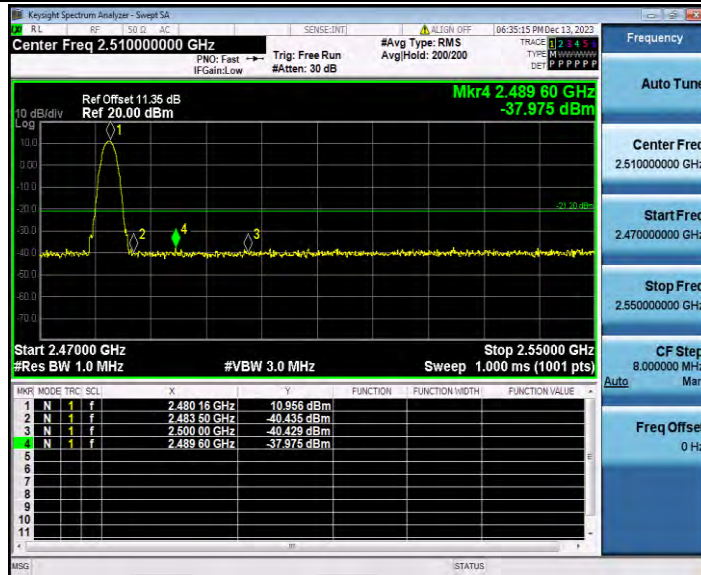




3DH1\_Ant1\_Low\_2402\_Peak



3DH1\_Ant1\_High\_2480\_AV



3DH1\_Ant1\_High\_2480\_Peak