

<b>Case No. :</b> <u>CTA24111500701</u>	
<b>Ambient Condition:</b> <u>23</u> °C, <u>54</u> %RH	
<b>According Standard:</b> ■Part15C	
<b>Test Date:</b> <u>2024.9.6</u>	<b>Test Engineer:</b> <u>Lushan Kong</u>

## Appendix A.1: 20dB Emission Bandwidth

### Test Result

TestMode	Antenna	Freq(MHz)	20dB EBW[MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
DH1	Ant1	2402	1.011	2401.490	2402.501	---	---
		2441	1.035	2440.487	2441.522	---	---
		2480	1.041	2479.484	2480.525	---	---
2DH1	Ant1	2402	1.254	2401.400	2402.654	---	---
		2441	1.284	2440.367	2441.651	---	---
		2480	1.293	2479.376	2480.669	---	---
3DH1	Ant1	2402	1.236	2401.403	2402.639	---	---
		2441	1.260	2440.361	2441.621	---	---
		2480	1.266	2479.373	2480.639	---	---

## Test Graphs

DH1\_Ant1\_2402



DH1\_Ant1\_2441



DH1\_Ant1\_2480



2D11\_Ant1\_2402



2D11\_Ant1\_2441



2DH1\_Ant1\_2480



3DH1\_Ant1\_2402



3DH1\_Ant1\_2441



3DH1\_Ant1\_2480



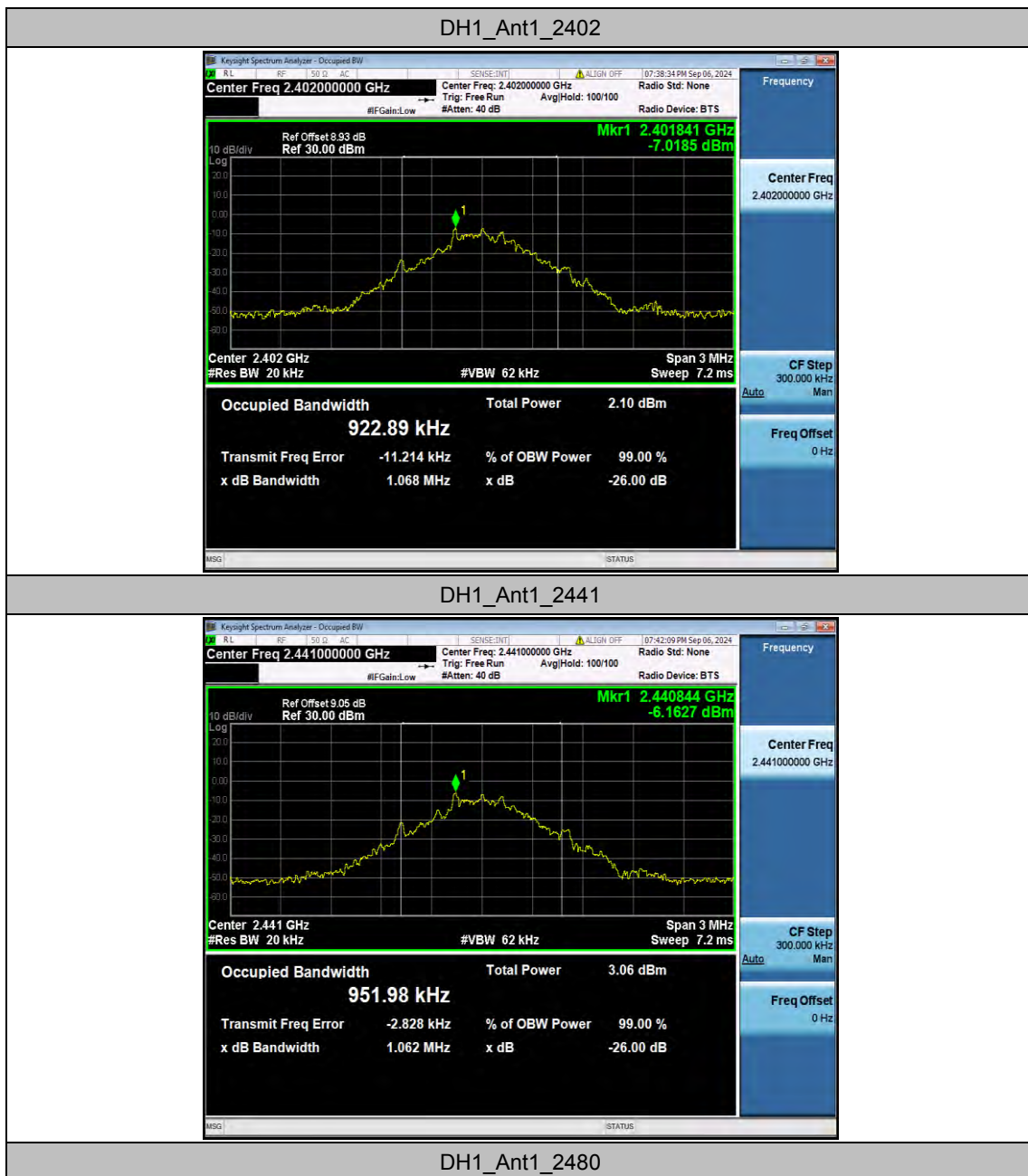
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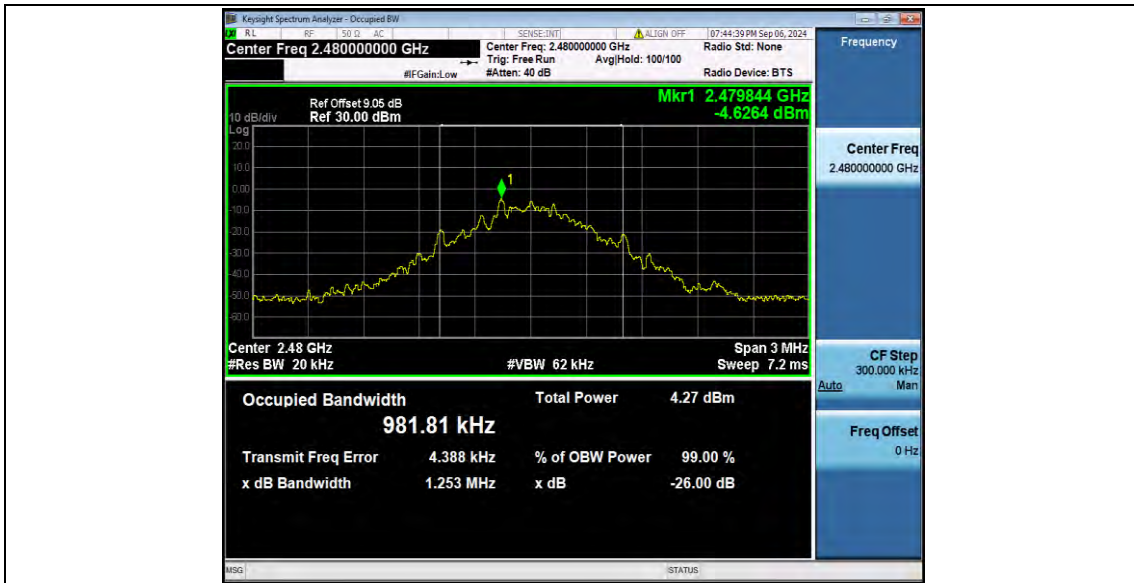
## Appendix A.2: Occupied Channel Bandwidth

### Test Result

TestMode	Antenna	Freq(MHz)	OCB [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
DH1	Ant1	2402	0.92289	2401.5273	2402.4502	---	---
		2441	0.95198	2440.5212	2441.4732	---	---
		2480	0.98181	2479.5135	2480.4953	---	---
2DH1	Ant1	2402	1.1809	2401.4125	2402.5934	---	---
		2441	1.2103	2440.4058	2441.6161	---	---
		2480	1.2159	2479.4055	2480.6214	---	---
3DH1	Ant1	2402	1.1726	2401.4322	2402.6048	---	---
		2441	1.1774	2440.4302	2441.6076	---	---
		2480	1.1876	2479.4205	2480.6081	---	---

## Test Graphs





2DH1\_Ant1\_2402



2DH1\_Ant1\_2441





2DH1\_Ant1\_2480



3DH1\_Ant1\_2402



3DH1\_Ant1\_2441



3DH1\_Ant1\_2480



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## Appendix A.3: Maximum conducted output power

### Test Result Peak

Test Mode	Antenna	Freq(MHz)	Conducted Peak Power[dBm]	Conducted Limit[dBm]	Verdict
DH1	Ant1	2402	-3.61	≤20.97	PASS
		2441	-2.73	≤20.97	PASS
		2480	-1.38	≤20.97	PASS
2DH1	Ant1	2402	-2.90	≤20.97	PASS
		2441	-1.95	≤20.97	PASS
		2480	-0.64	≤20.97	PASS
3DH1	Ant1	2402	-2.40	≤20.97	PASS
		2441	-1.41	≤20.97	PASS
		2480	-0.25	≤20.97	PASS

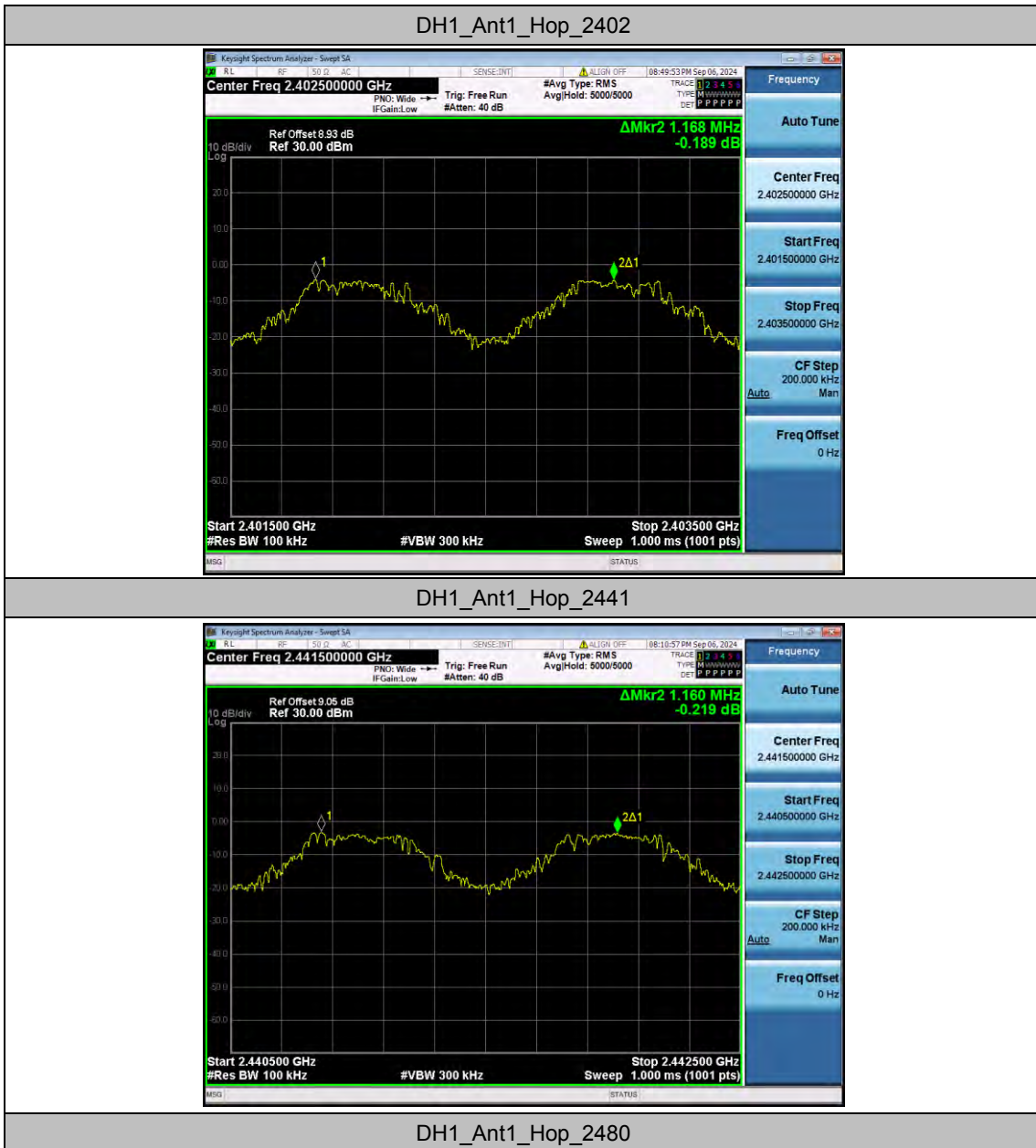
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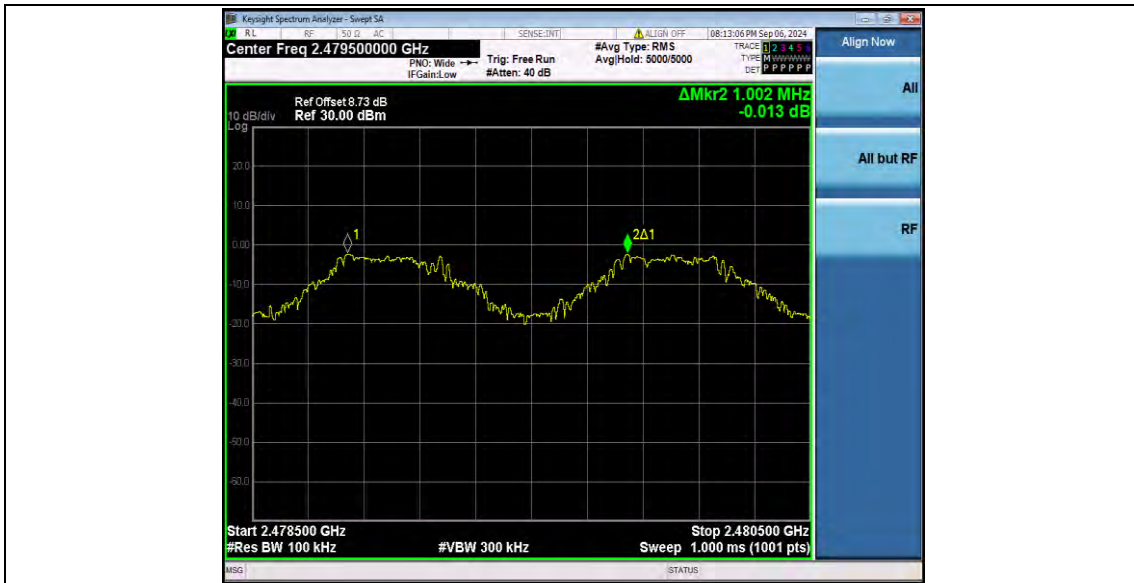
## Appendix A.4: Carrier frequency separation

### Test Result

TestMode	Antenna	Freq(MHz)	Result[MHz]	Limit[MHz]	Verdict
DH1	Ant1	Hop_2402	1.168	$\geq 0.694$	PASS
		Hop_2441	1.16	$\geq 0.694$	PASS
		Hop_2480	1.002	$\geq 0.694$	PASS
2DH1	Ant1	Hop_2402	1.17	$\geq 0.862$	PASS
		Hop_2441	0.964	$\geq 0.892$	PASS
		Hop_2480	1.13	$\geq 0.892$	PASS
3DH1	Ant1	Hop_2402	1.154	$\geq 0.844$	PASS
		Hop_2441	1.17	$\geq 0.844$	PASS
		Hop_2480	1.006	$\geq 0.844$	PASS

## Test Graphs





2DH1\_Ant1\_Hop\_2402



2DH1\_Ant1\_Hop\_2441



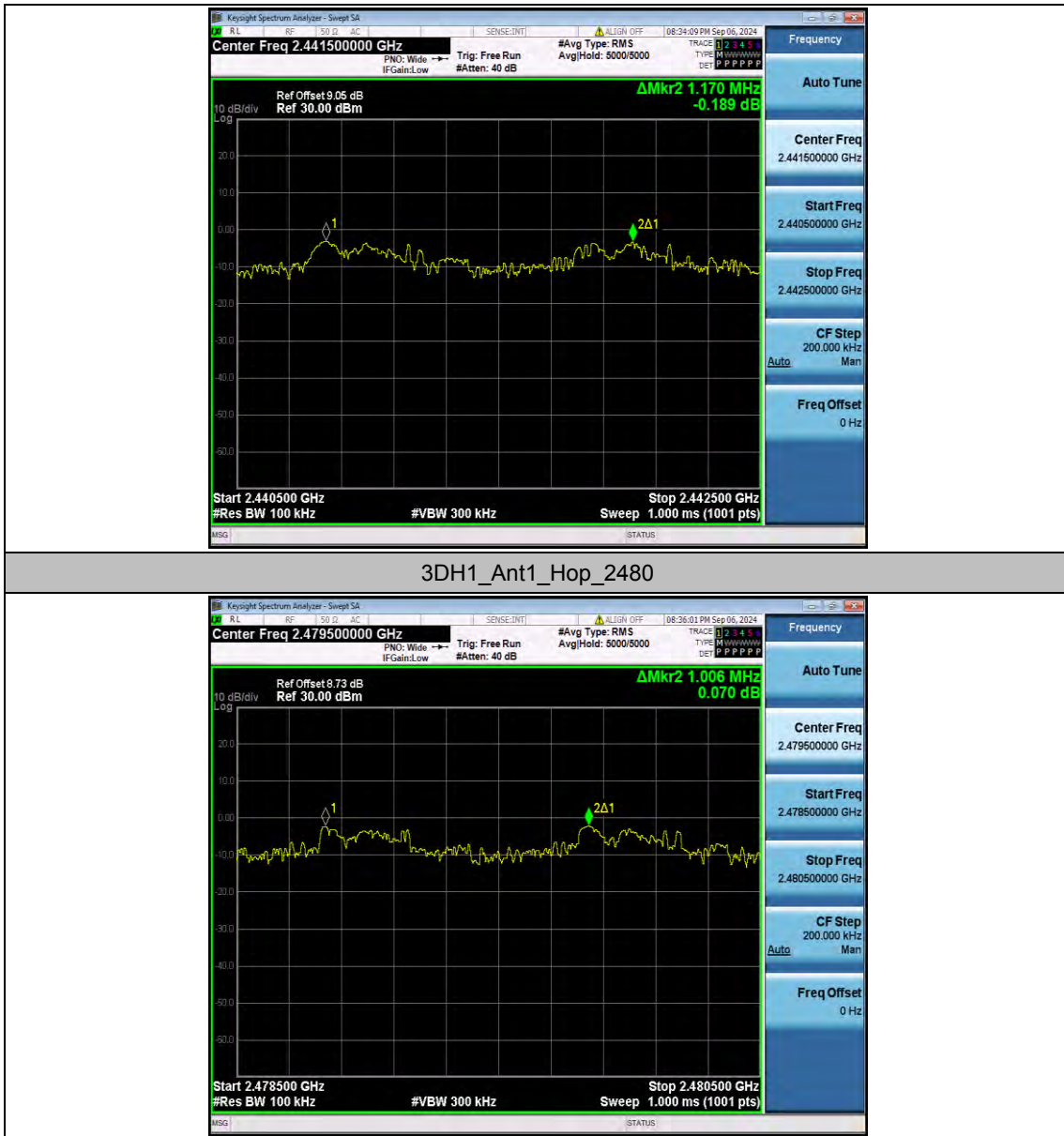
2DH1\_Ant1\_Hop\_2480



3DH1\_Ant1\_Hop\_2402



3DH1\_Ant1\_Hop\_2441



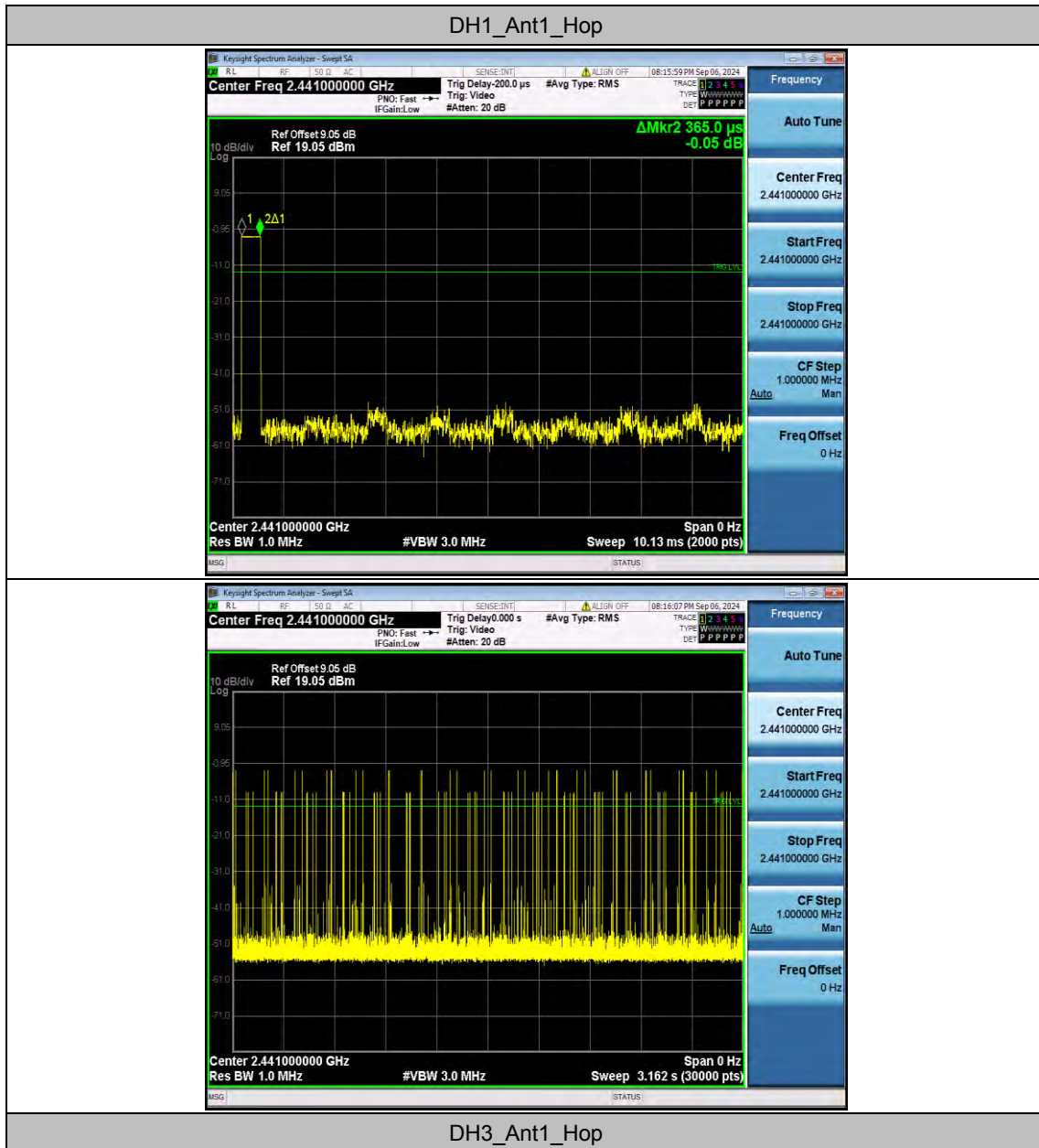


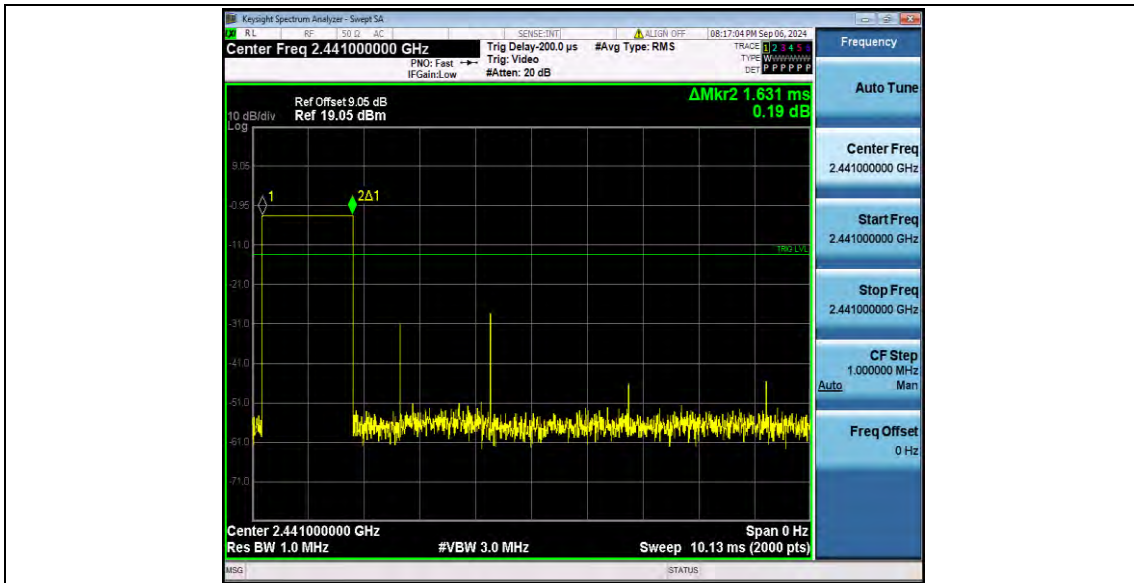
## Appendix A.5: Time of occupancy

### Test Result

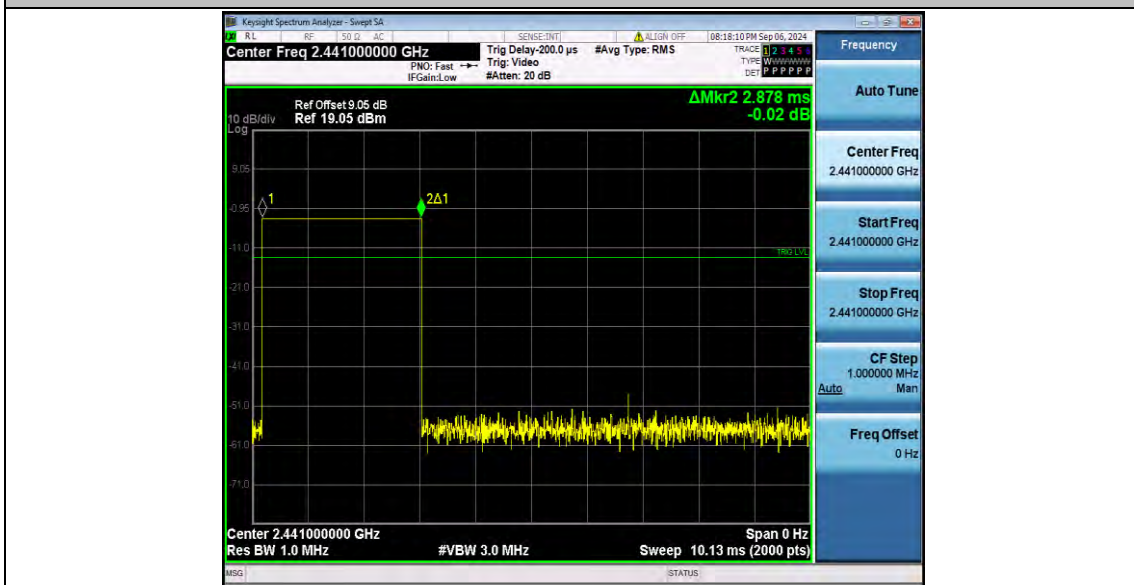
TestMode	Antenna	Freq(MHz)	BurstWidth [ms]	TotalHops [Num]	Result[s]	Limit[s]	Verdict
DH1	Ant1	Hop	0.365	440	0.161	≤0.4	PASS
DH3	Ant1	Hop	1.631	160	0.261	≤0.4	PASS
DH5	Ant1	Hop	2.878	80	0.23	≤0.4	PASS
2DH1	Ant1	Hop	0.380	950	0.361	≤0.4	PASS
2DH3	Ant1	Hop	1.626	180	0.293	≤0.4	PASS
2DH5	Ant1	Hop	2.878	80	0.23	≤0.4	PASS
3DH1	Ant1	Hop	0.375	940	0.353	≤0.4	PASS
3DH3	Ant1	Hop	1.626	180	0.293	≤0.4	PASS
3DH5	Ant1	Hop	2.878	120	0.345	≤0.4	PASS

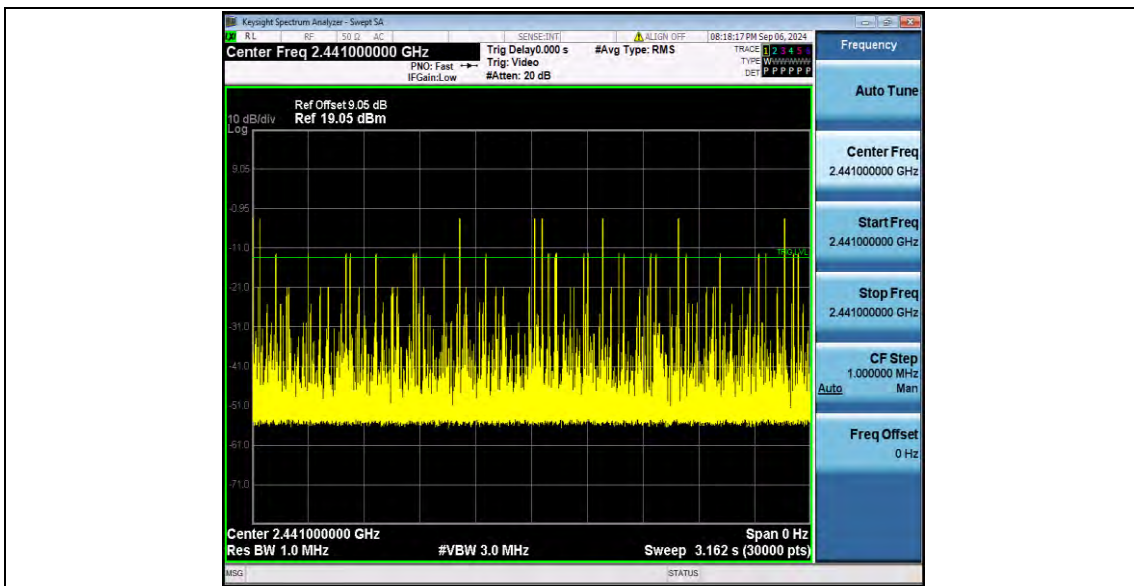
## Test Graphs



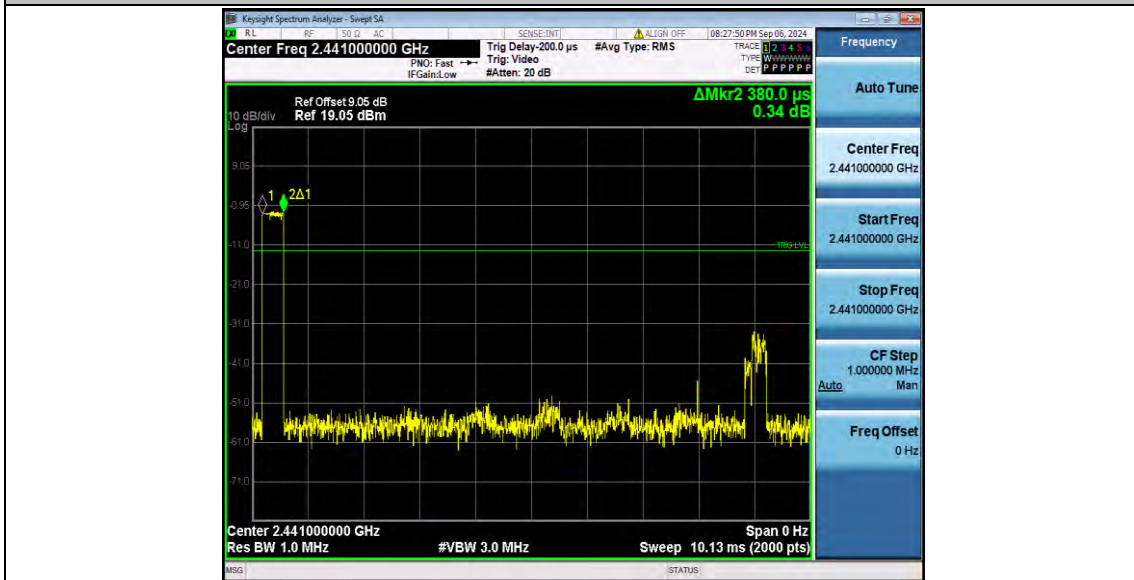


DH5\_Ant1\_Hop

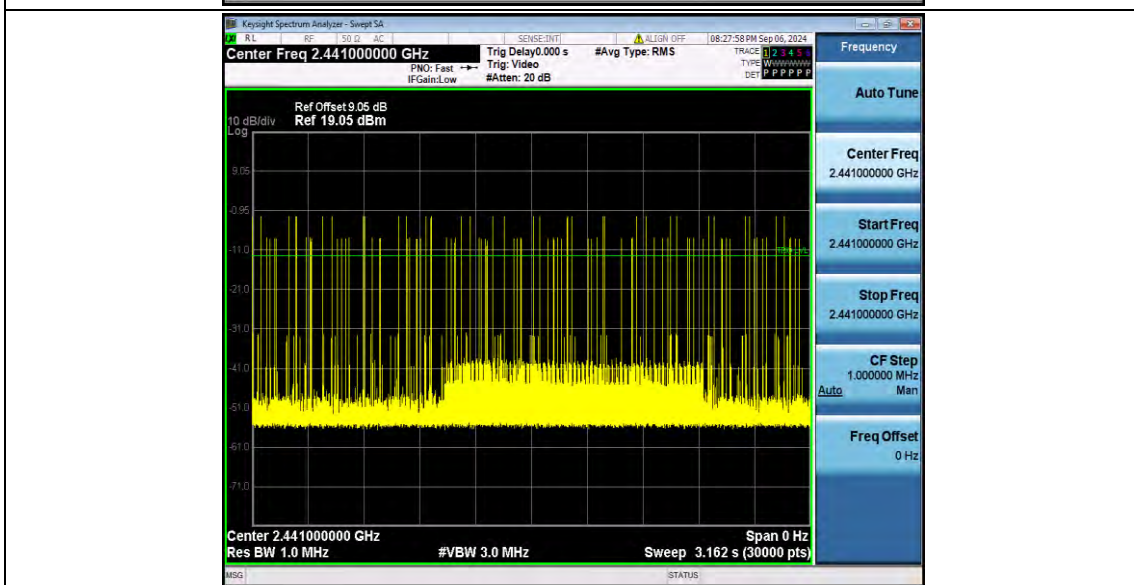


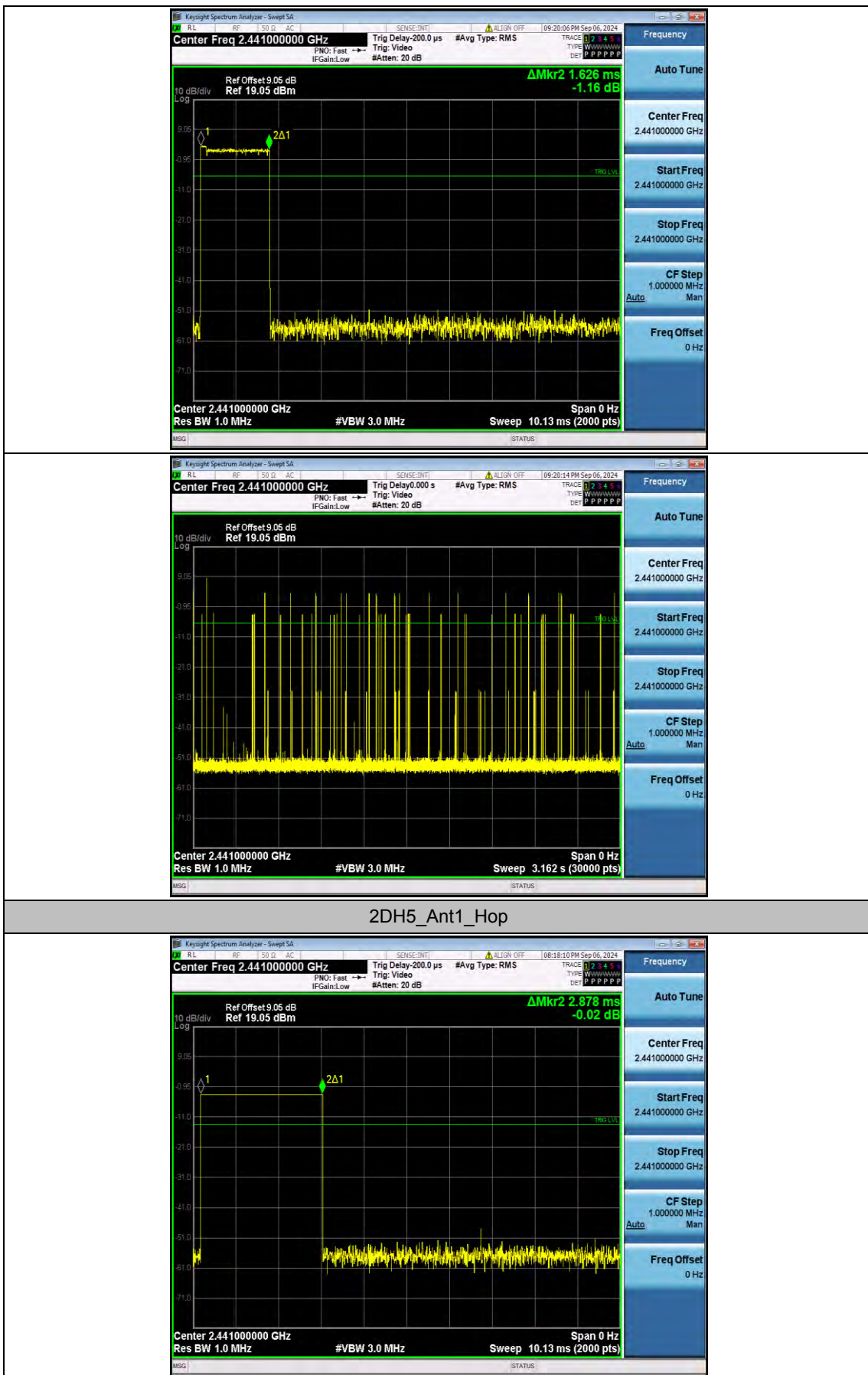


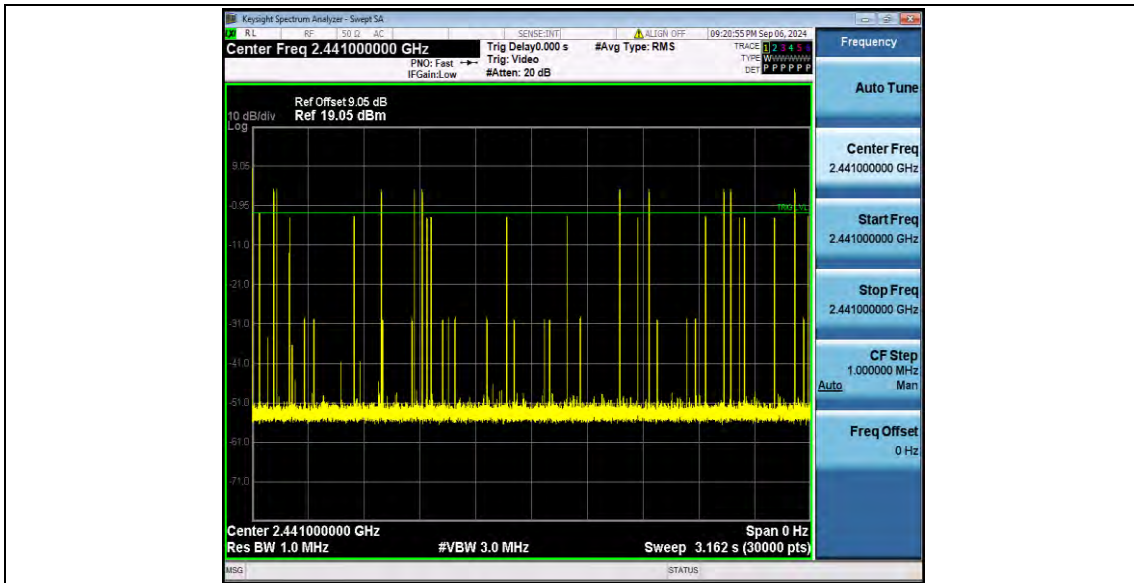
2DH1\_Ant1\_Hop



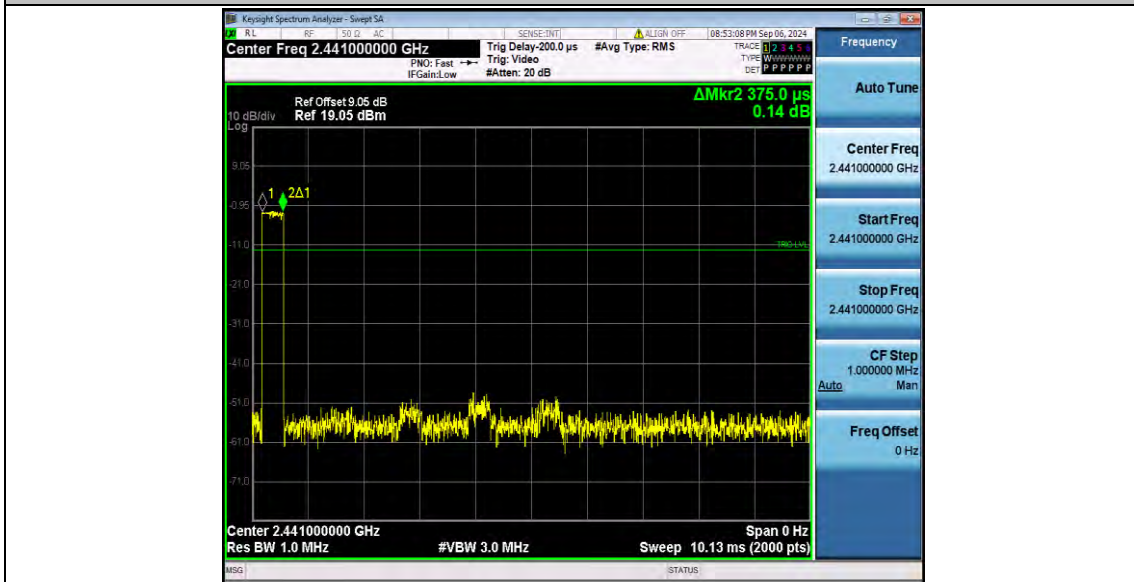
2DH3\_Ant1\_Hop



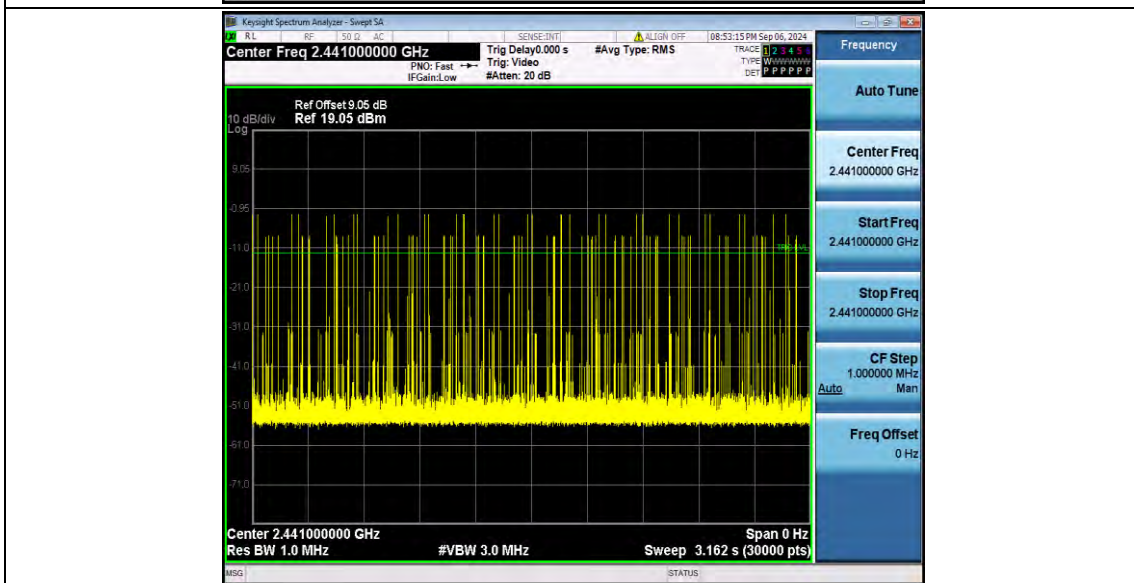


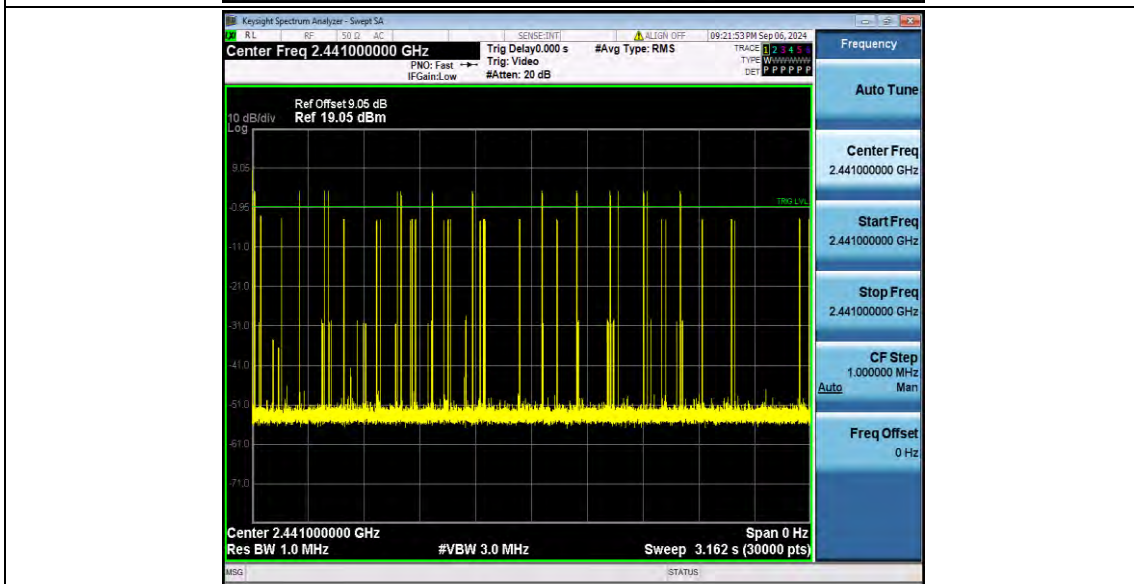
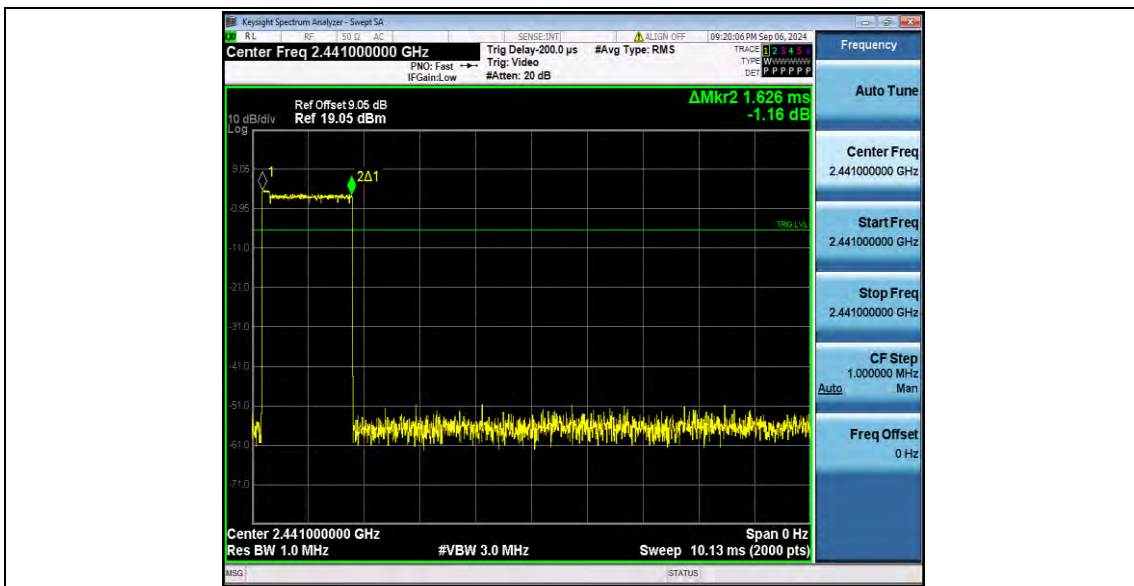


3DH1\_Ant1\_Hop

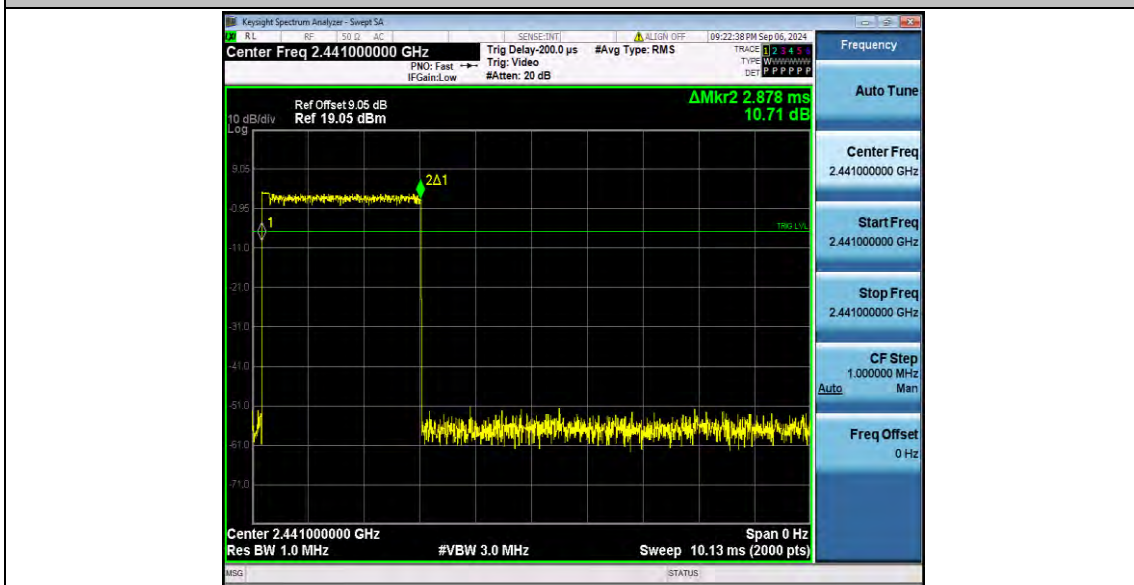


3DH3\_Ant1\_Hop





3DH5\_Ant1\_Hop





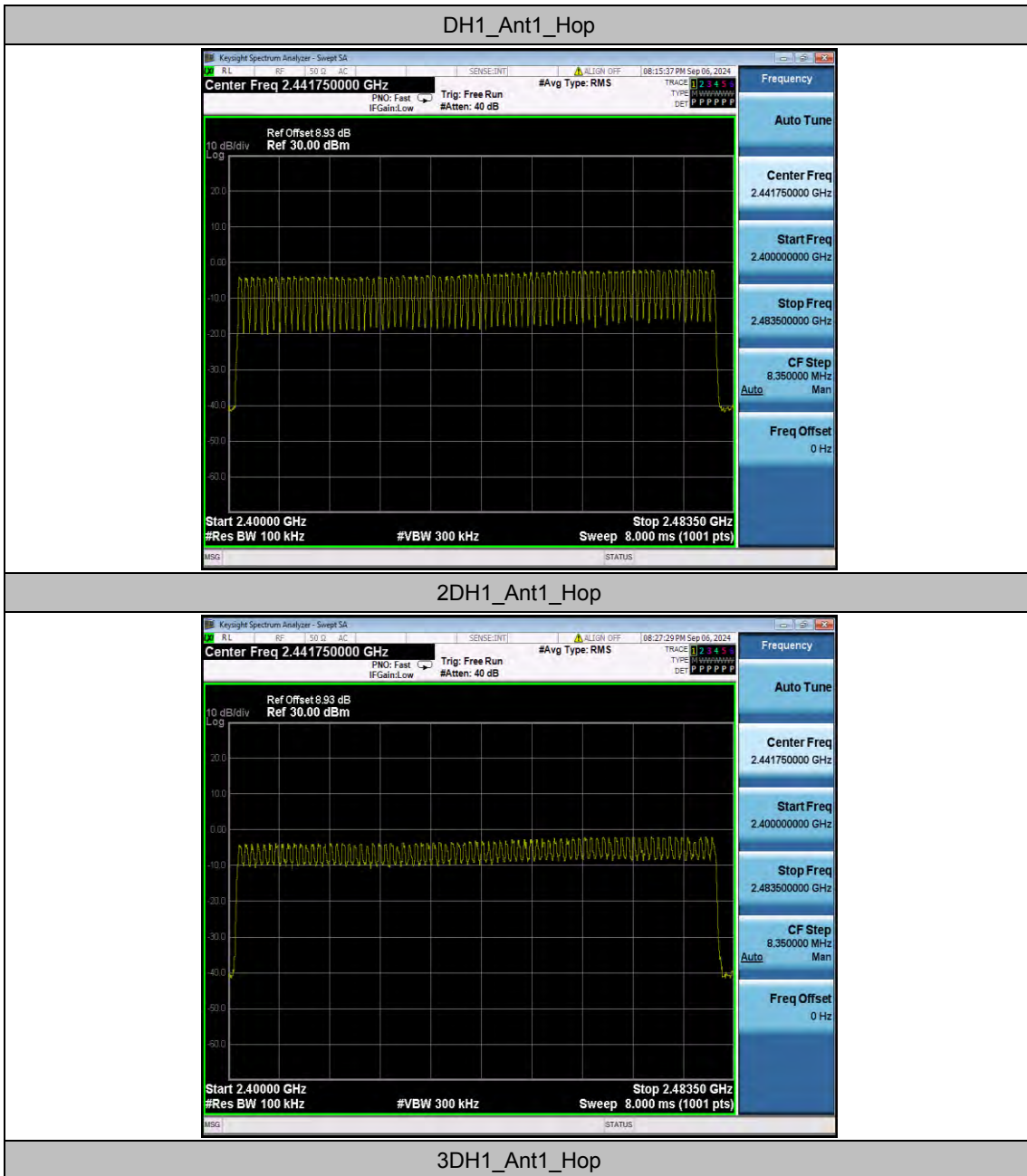


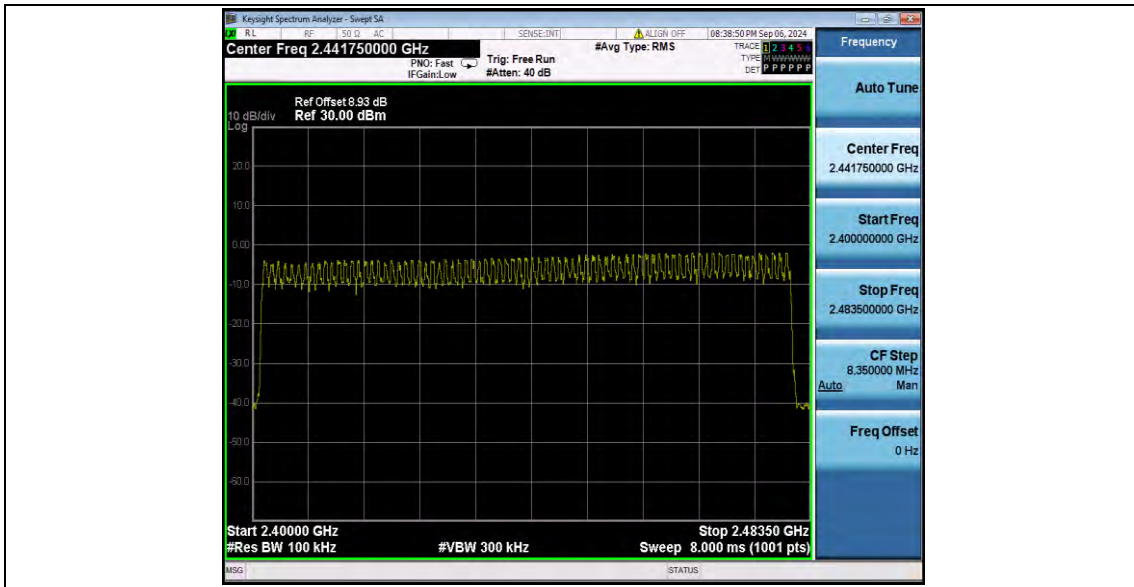
## Appendix A.6: Number of hopping channels

### Test Result

TestMode	Antenna	Freq(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



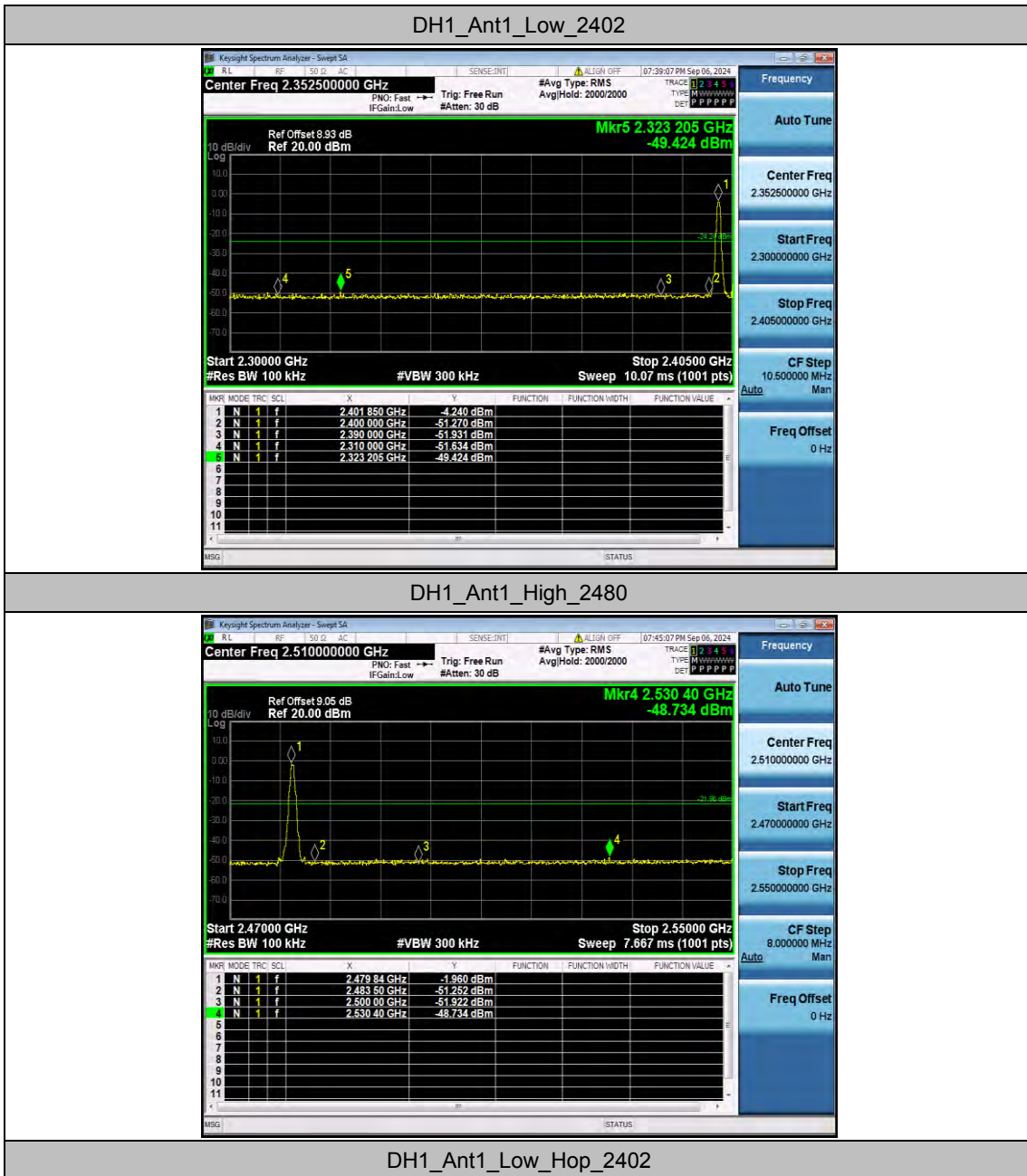


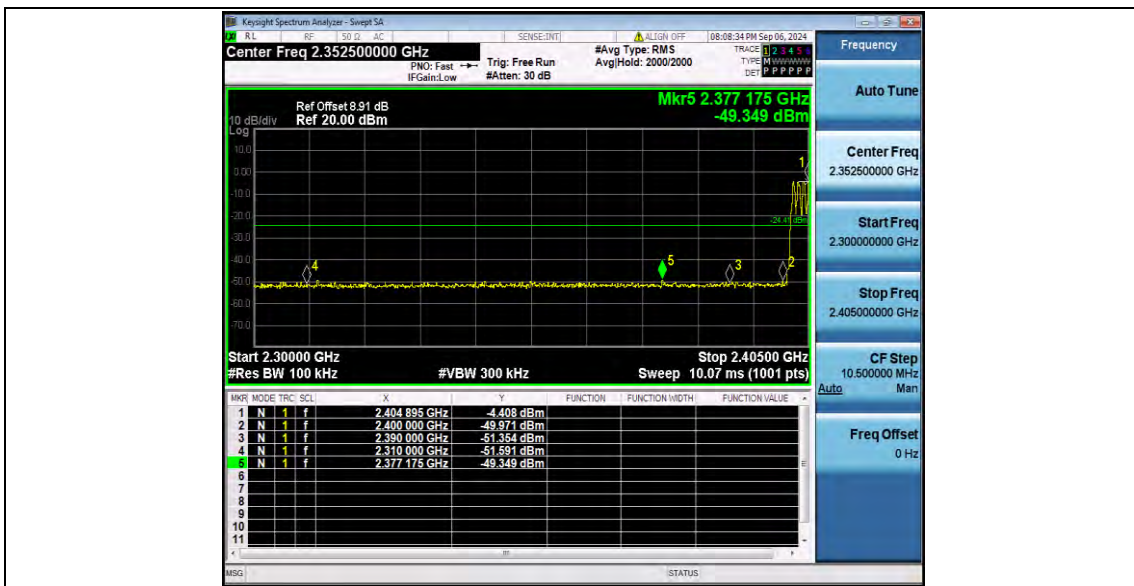
## Appendix A.7: Band edge measurements

### Test Result

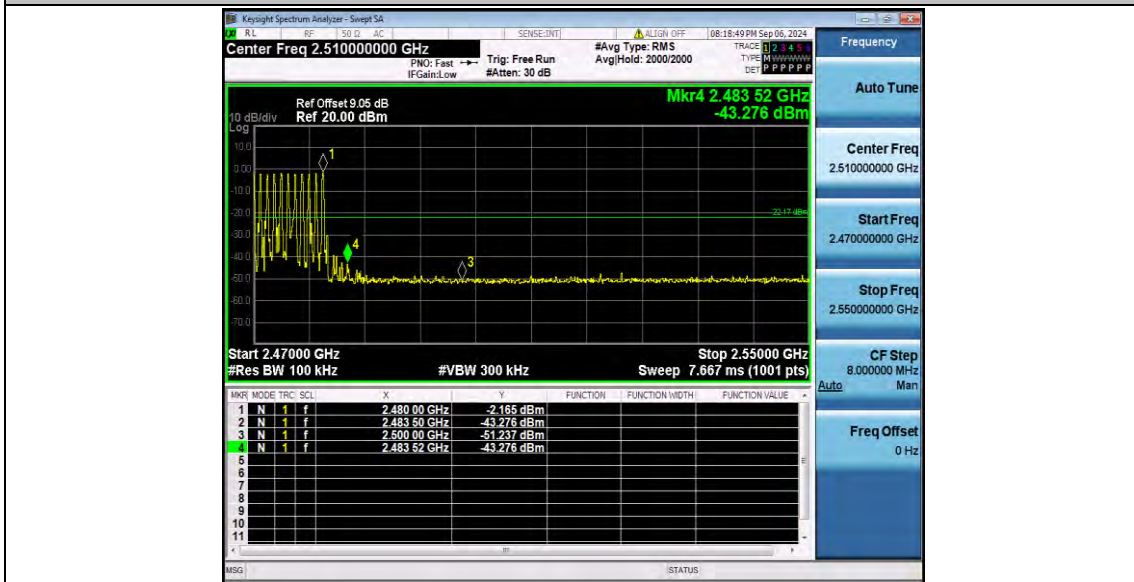
TestMode	Antenna	ChName	Freq(MHz)	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
DH1	Ant1	Low	2402	-4.24	-49.42	≤-24.24	PASS
		High	2480	-1.96	-48.73	≤-21.96	PASS
		Low	Hop_2402	-4.41	-49.35	≤-24.41	PASS
		High	Hop_2480	-2.17	-43.28	≤-22.17	PASS
2DH1	Ant1	Low	2402	-4.16	-49.81	≤-24.16	PASS
		High	2480	-1.76	-36.02	≤-21.76	PASS
		Low	Hop_2402	-4.09	-49.97	≤-24.09	PASS
		High	Hop_2480	-2.01	-36.72	≤-22.01	PASS
3DH1	Ant1	Low	2402	-4.04	-49.22	≤-24.04	PASS
		High	2480	-1.87	-48.6	≤-21.87	PASS
		Low	Hop_2402	-4.00	-49.82	≤-24	PASS
		High	Hop_2480	-1.97	-35.69	≤-21.97	PASS

### Test Graphs

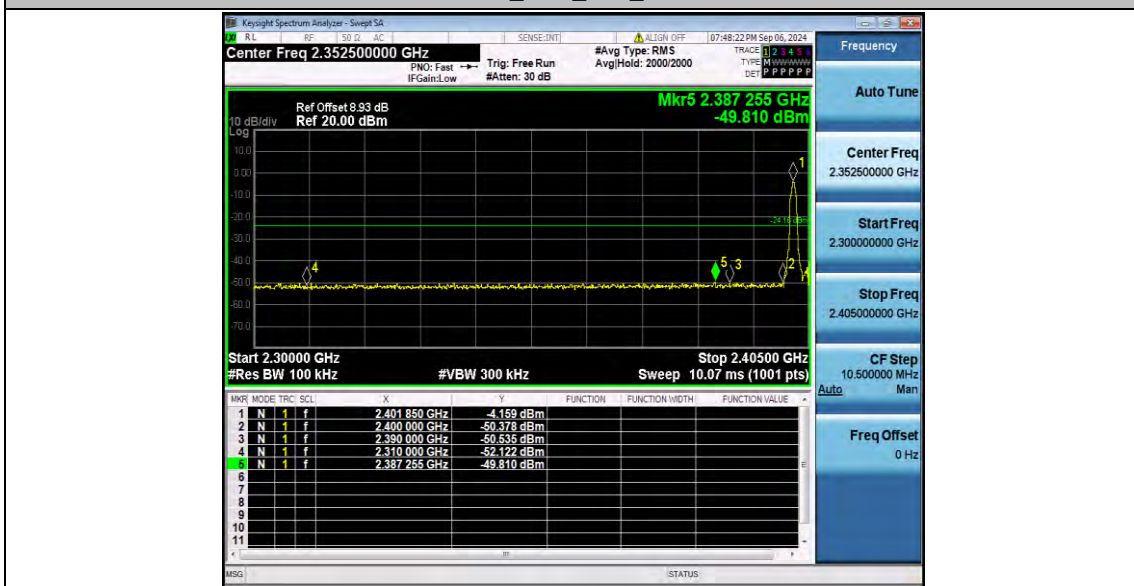




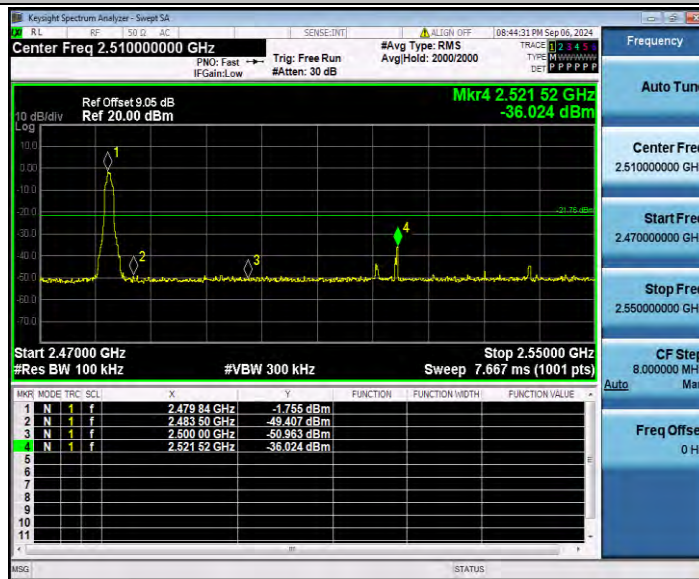
DH1\_Ant1\_High\_Hop\_2480



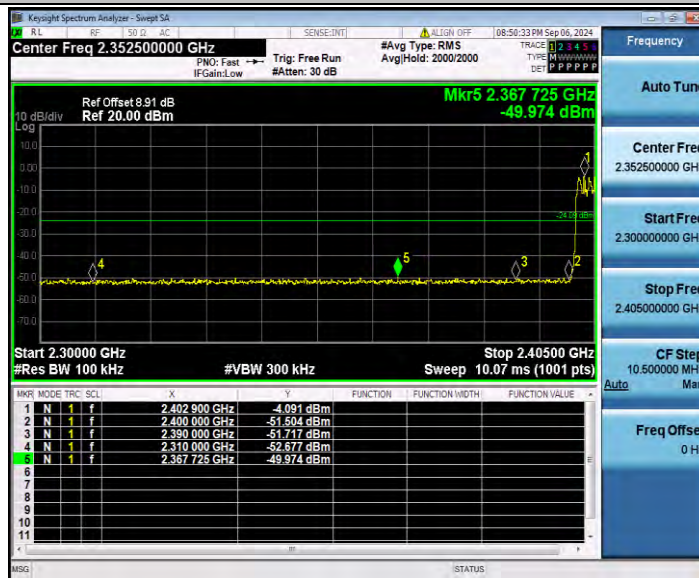
2D11\_Ant1\_Low\_2402



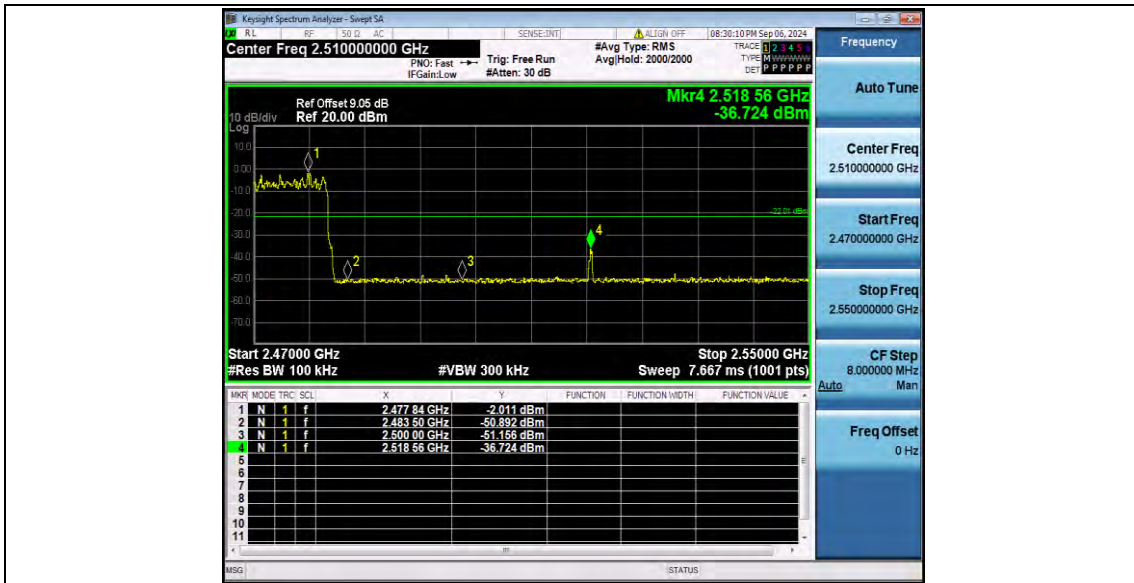
2DH1\_Ant1\_High\_2480



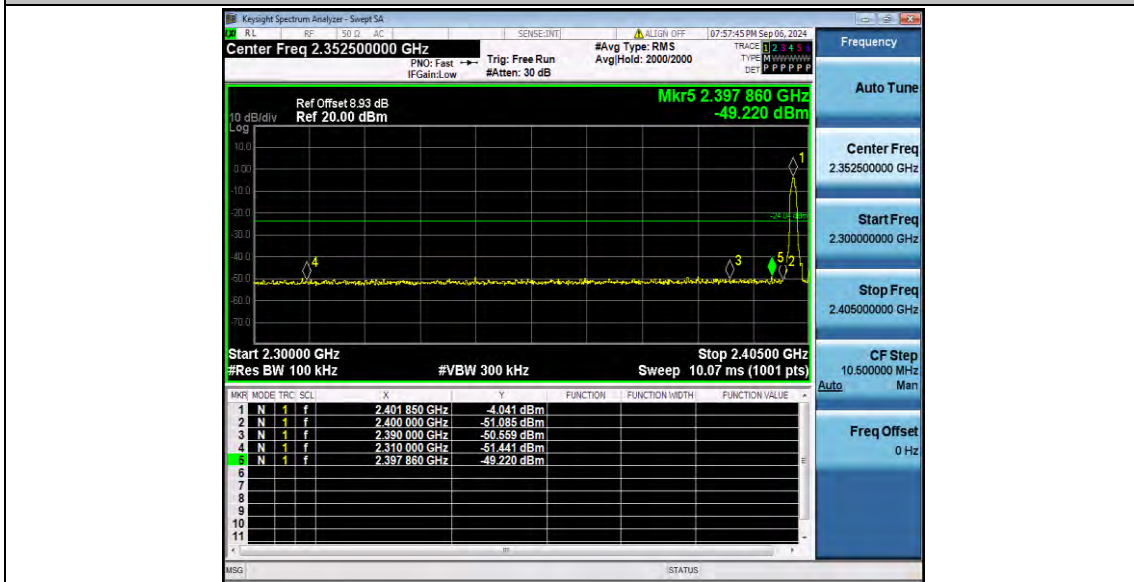
2DH1\_Ant1\_Low\_Hop\_2402



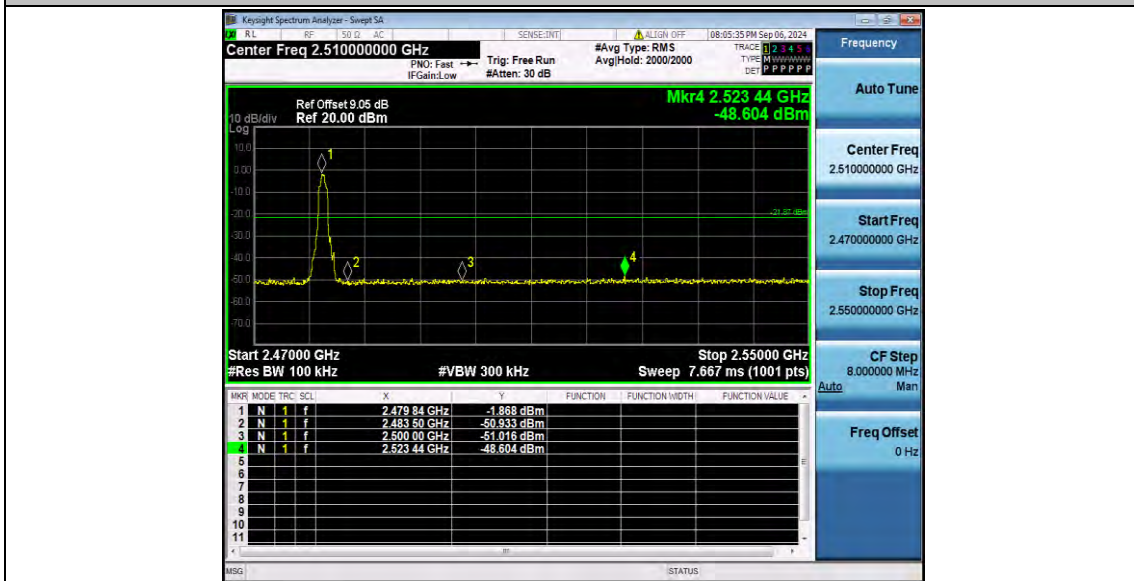
2DH1\_Ant1\_High\_Hop\_2480



3DH1\_Ant1\_Low\_2402

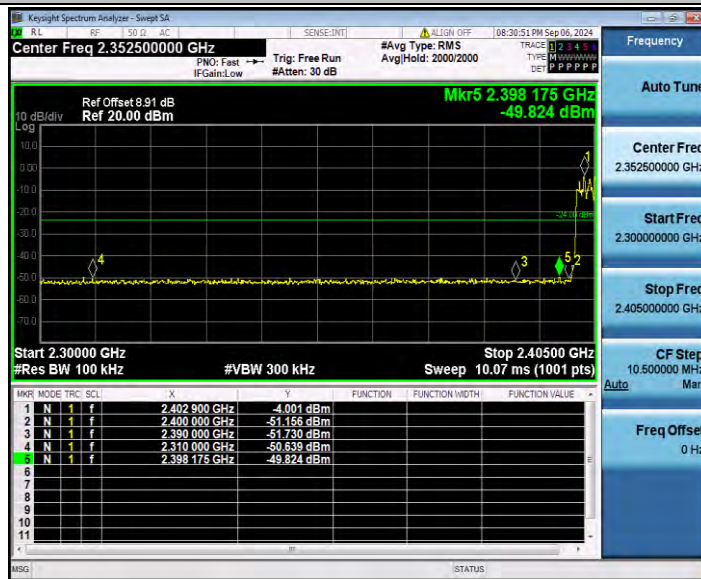


3DH1\_Ant1\_High\_2480

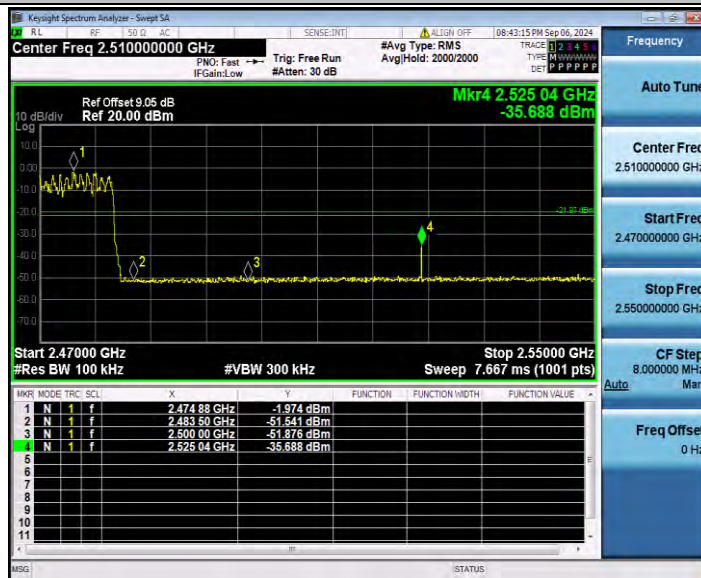




3DH1\_Ant1\_Low\_Hop\_2402



3DH1\_Ant1\_High\_Hop\_2480

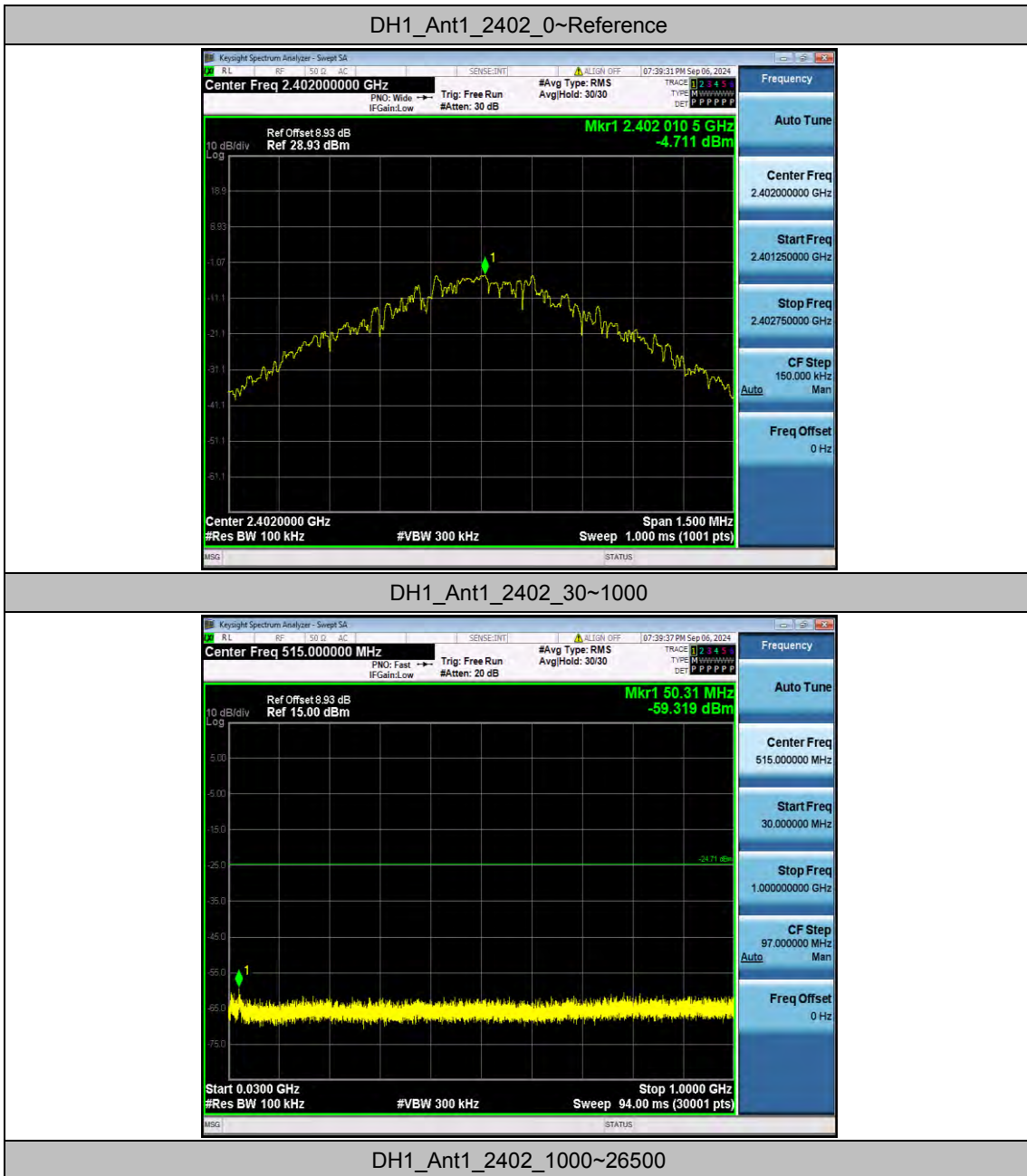


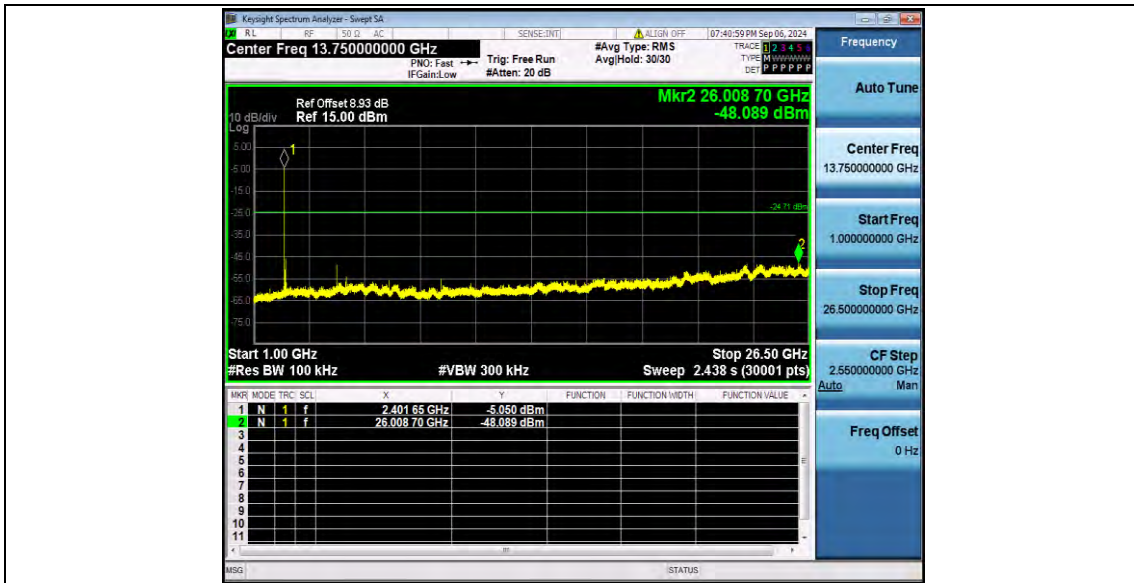
## Appendix A.8: Conducted Spurious Emission

### Test Result

TestMode	Antenna	Freq(MHz)	FreqRange [MHz]	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
DH1	Ant1	2402	Reference	-4.71	-4.71	---	PASS
			30~1000	-4.71	-59.32	≤-24.71	PASS
			1000~26500	-4.71	-48.09	≤-24.71	PASS
		2441	Reference	-3.99	-3.99	---	PASS
			30~1000	-3.99	-50.55	≤-23.99	PASS
			1000~26500	-3.99	-44.5	≤-23.99	PASS
		2480	Reference	-2.35	-2.35	---	PASS
			30~1000	-2.35	-59.29	≤-22.35	PASS
			1000~26500	-2.35	-45.25	≤-22.35	PASS
2DH1	Ant1	2402	Reference	-4.60	-4.60	---	PASS
			30~1000	-4.60	-60.16	≤-24.6	PASS
			1000~26500	-4.60	-47.01	≤-24.6	PASS
		2441	Reference	-3.44	-3.44	---	PASS
			30~1000	-3.44	-58.88	≤-23.44	PASS
			1000~26500	-3.44	-47.82	≤-23.44	PASS
		2480	Reference	-2.58	-2.58	---	PASS
			30~1000	-2.58	-60.17	≤-22.58	PASS
			1000~26500	-2.58	-46.92	≤-22.58	PASS
3DH1	Ant1	2402	Reference	-4.48	-4.48	---	PASS
			30~1000	-4.48	-59.71	≤-24.48	PASS
			1000~26500	-4.48	-33.36	≤-24.48	PASS
		2441	Reference	-4.38	-4.38	---	PASS
			30~1000	-4.38	-60.37	≤-24.38	PASS
			1000~26500	-4.38	-47.81	≤-24.38	PASS
		2480	Reference	-2.02	-2.02	---	PASS
			30~1000	-2.02	-59.84	≤-22.02	PASS
			1000~26500	-2.02	-47.32	≤-22.02	PASS

## Test Graphs

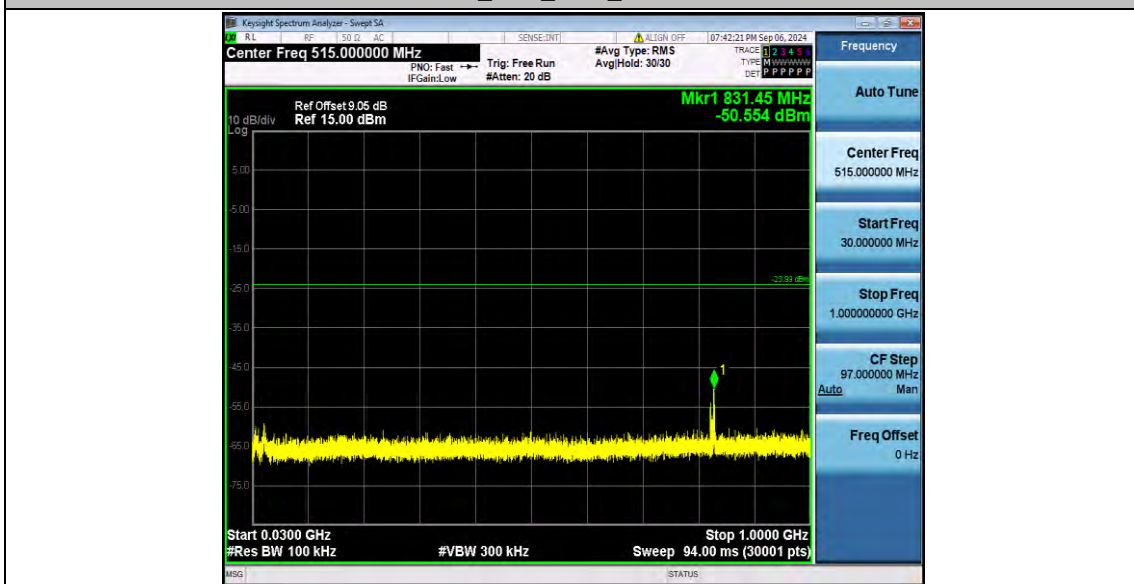




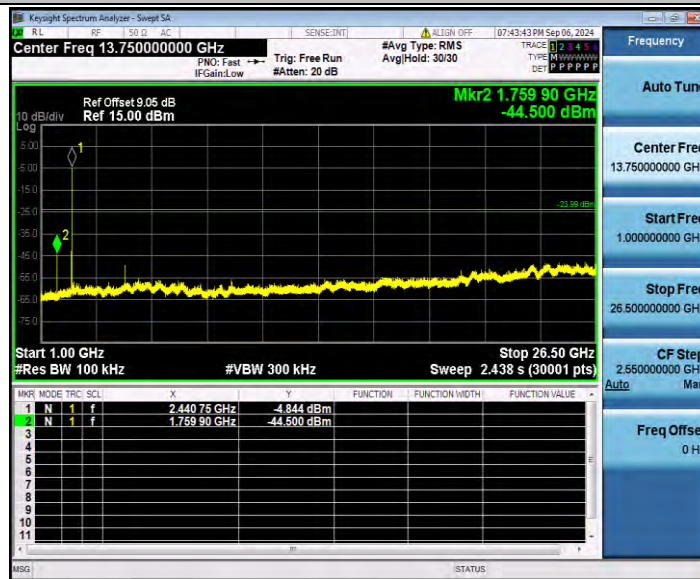
DH1\_Ant1\_2441\_0~Reference



DH1\_Ant1\_2441\_30~1000



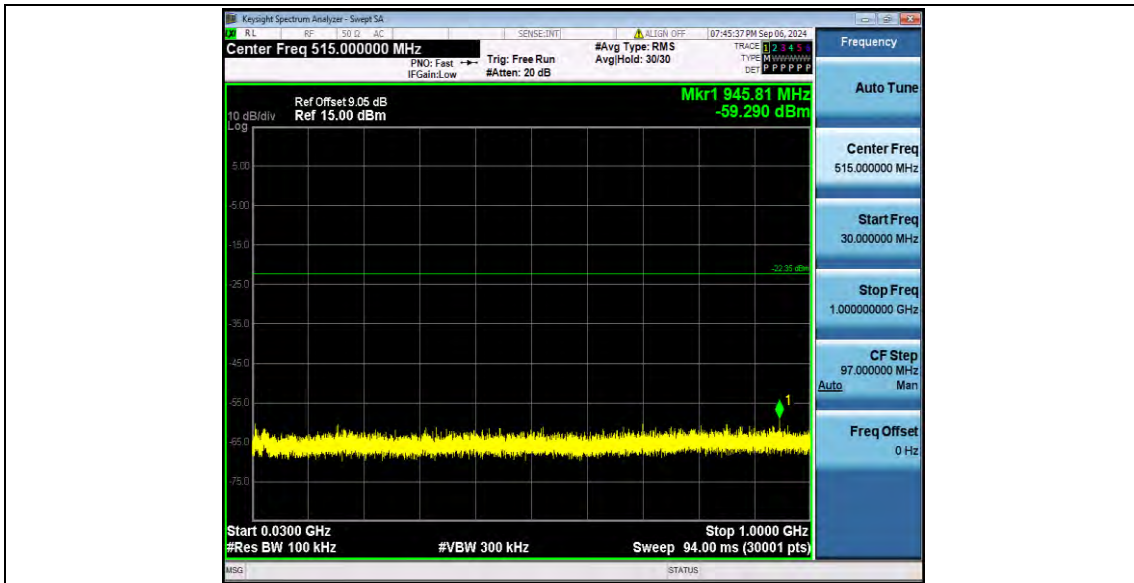
DH1\_Ant1\_2441\_1000~26500



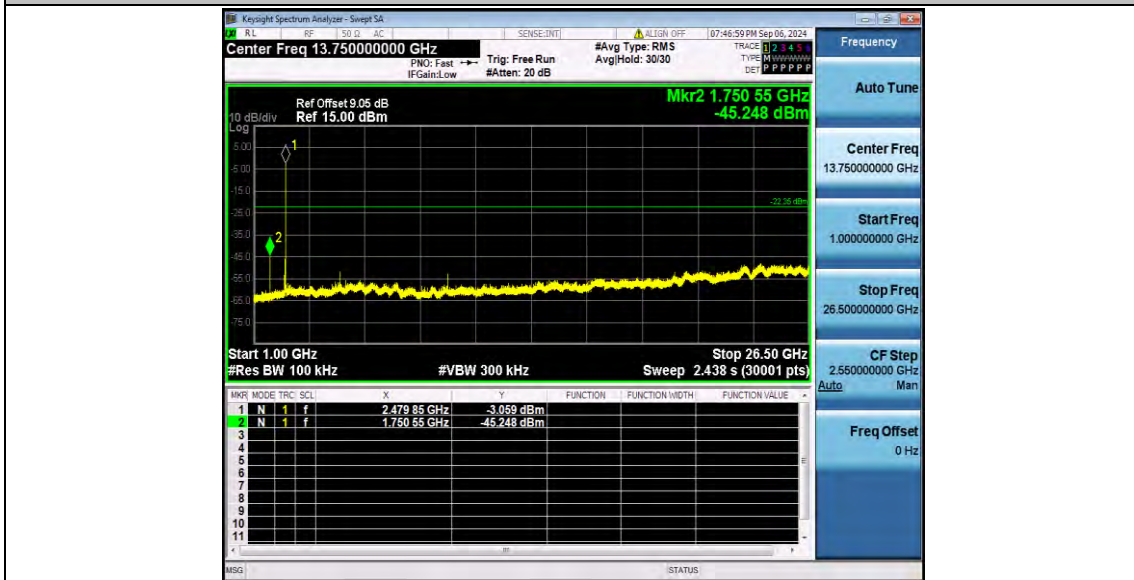
DH1\_Ant1\_2480\_0~Reference



DH1\_Ant1\_2480\_30~1000



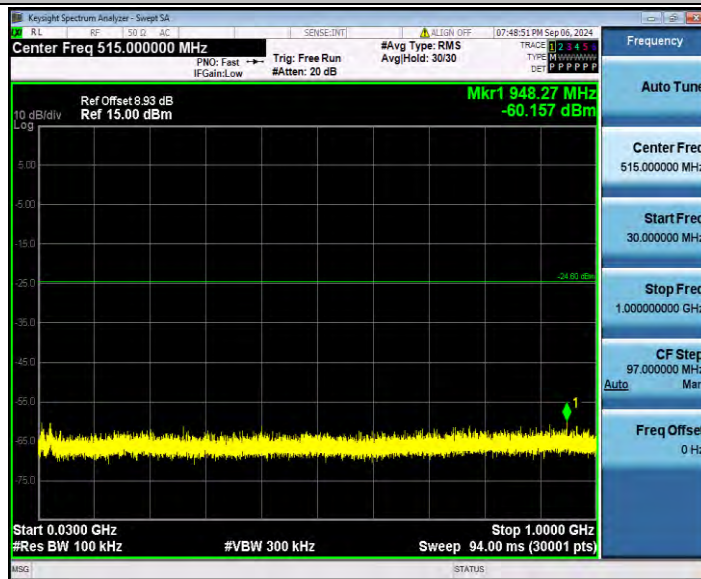
DH1\_Ant1\_2480\_1000~26500



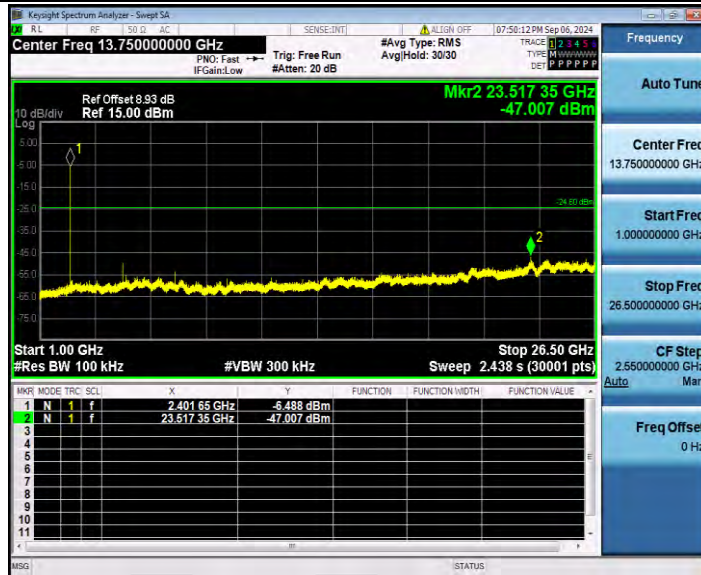
2DH1\_Ant1\_2402\_0~Reference



2DH1\_Ant1\_2402\_30~1000



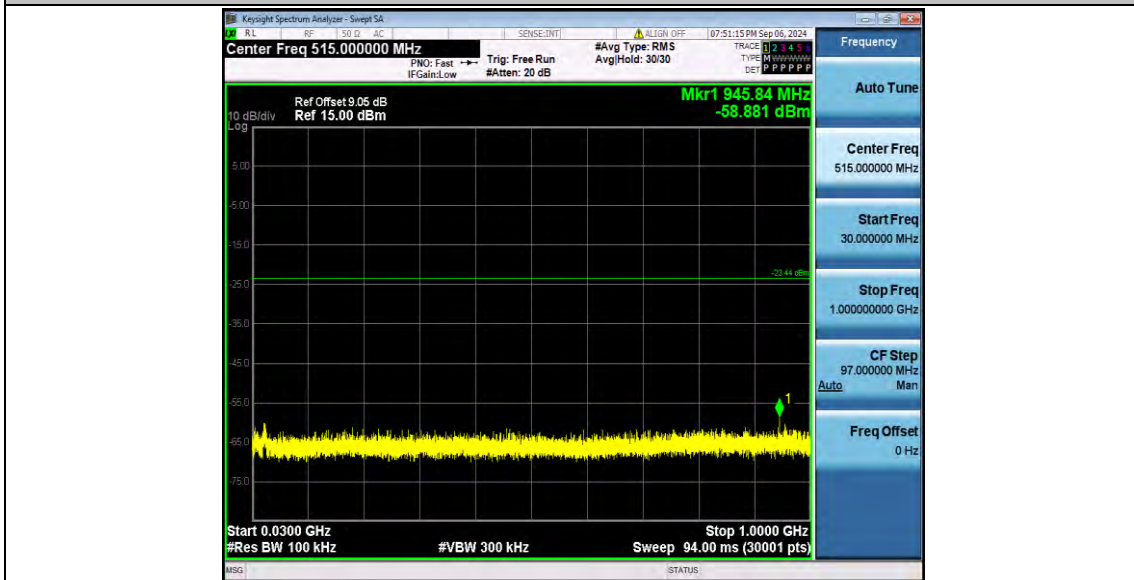
2DH1\_Ant1\_2402\_1000~26500



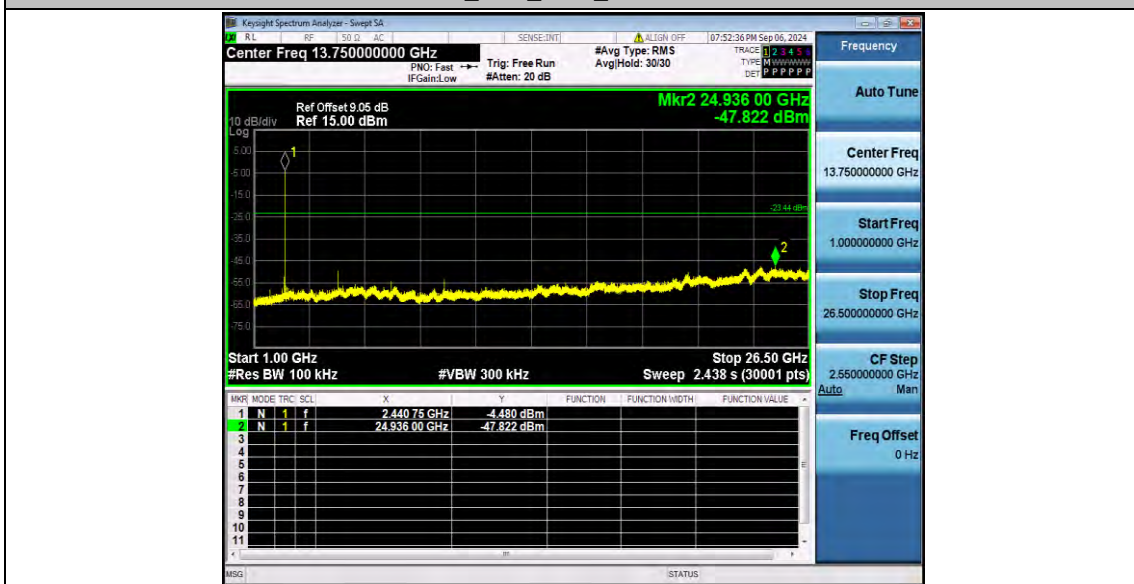
2DH1\_Ant1\_2441\_0~Reference



2DH1\_Ant1\_2441\_30~100



2DH1\_Ant1\_2441\_1000~26500

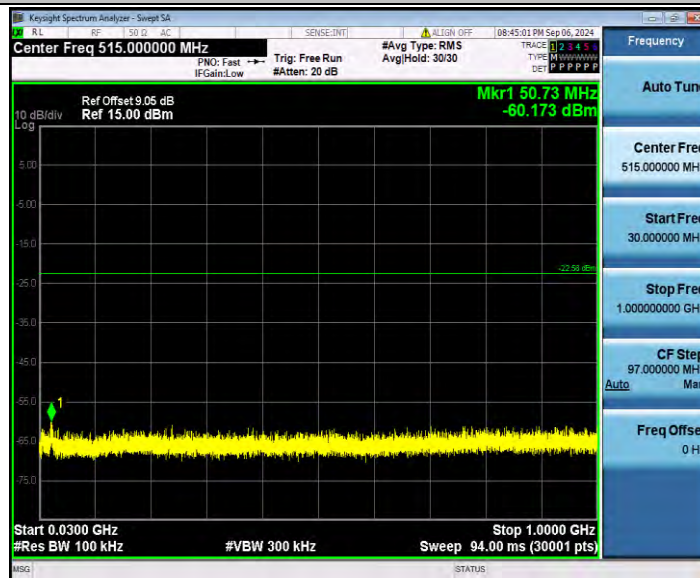




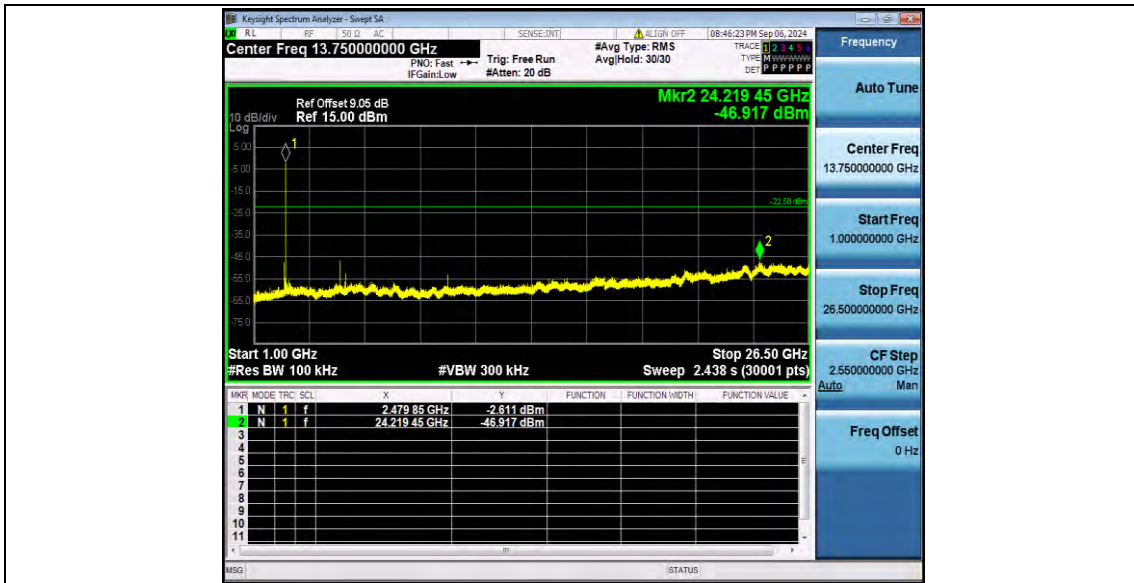
2DH1\_Ant1\_2480\_0~Reference



2DH1\_Ant1\_2480\_30~1000



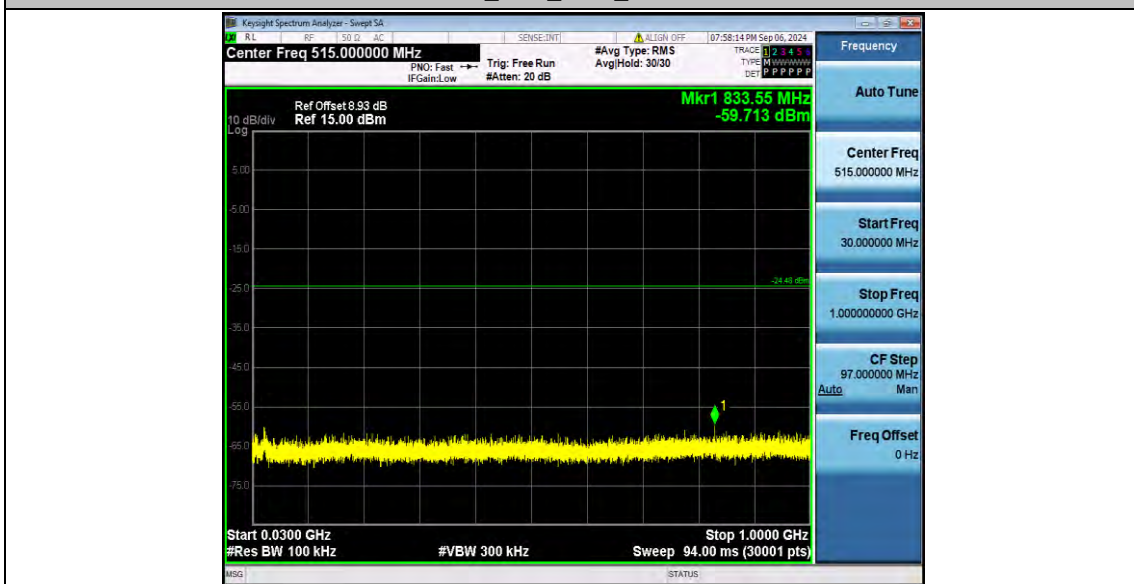
2DH1\_Ant1\_2480\_1000~26500



3DH1\_Ant1\_2402\_0~Reference



3DH1\_Ant1\_2402\_30~1000



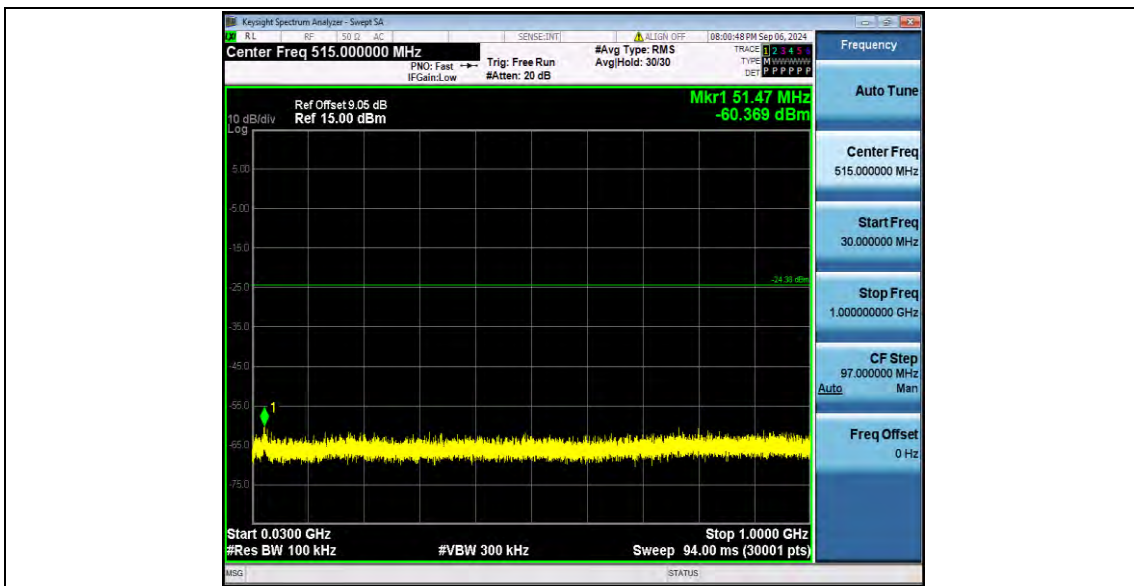
3DH1\_Ant1\_2402\_1000~26500



3DH1\_Ant1\_2441\_0~Reference



3DH1\_Ant1\_2441\_30~1000



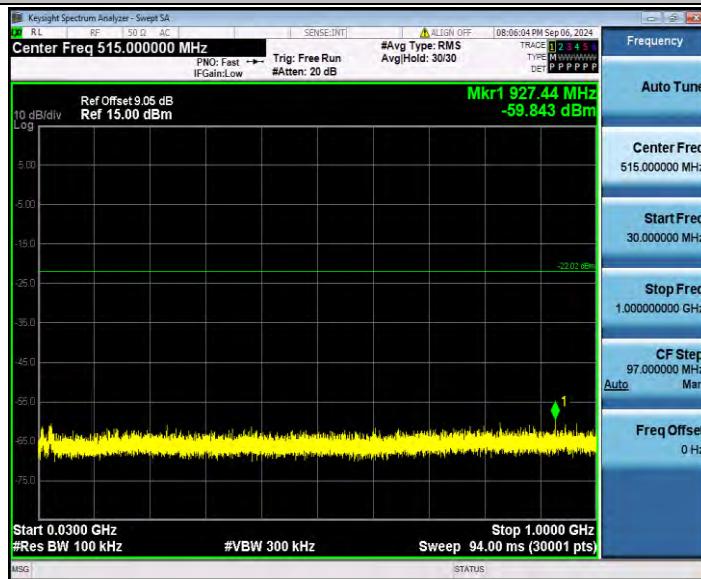
3DH1\_Ant1\_2441\_1000~26500



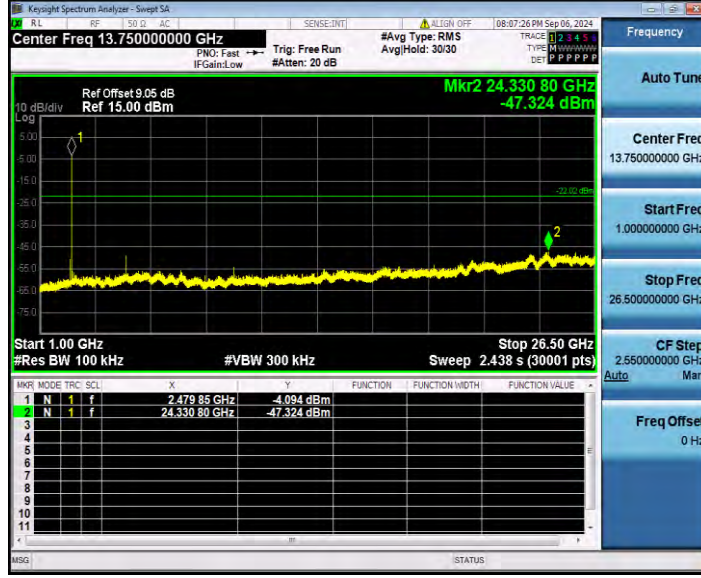
3DH1\_Ant1\_2480\_0~Reference



3DH1\_Ant1\_2480\_30~1000



3DH1\_Ant1\_2480\_1000~26500



## Appendix A.9: Emissions in Restricted Bands

### Test Result

TestMode	Antenna	ChName	Freq(MHz )	Detector	Freq [MHz]	Result [dBm]	Limit [dBm]	Result [dBuV/m]	Limit [dBuV/m]	Verdict
DH1	Ant1	Low	2402	AV	2310.000	-49.52	≤-41.20	45.68	≤54	PASS
				AV	2383.790	-48.99	≤-41.20	46.21	≤54	PASS
				AV	2390.000	-49.08	≤-41.20	46.12	≤54	PASS
				Peak	2310.000	-42.42	≤-21.20	52.78	≤74	PASS
				Peak	2384.840	-38.94	≤-21.20	56.26	≤74	PASS
				Peak	2390.000	-41.61	≤-21.20	53.59	≤74	PASS
		High	2480	AV	2483.500	-48.83	≤-41.20	46.37	≤54	PASS
				AV	2499.360	-48.38	≤-41.20	46.82	≤54	PASS
				AV	2500.000	-48.53	≤-41.20	46.67	≤54	PASS
				Peak	2483.500	-40.9	≤-21.20	54.30	≤74	PASS
				Peak	2498.160	-38.14	≤-21.20	57.06	≤74	PASS
				Peak	2500.000	-41.52	≤-21.20	53.68	≤74	PASS
2DH1	Ant1	Low	2402	AV	2310.000	-49.58	≤-41.20	45.62	≤54	PASS
				AV	2382.950	-48.84	≤-41.20	46.36	≤54	PASS
				AV	2390.000	-49.04	≤-41.20	46.16	≤54	PASS
				Peak	2310.000	-40.68	≤-21.20	54.52	≤74	PASS
				Peak	2389.565	-38.85	≤-21.20	56.35	≤74	PASS
				Peak	2390.000	-41.87	≤-21.20	53.33	≤74	PASS
		High	2480	AV	2483.500	-48.57	≤-41.20	46.63	≤54	PASS
				AV	2499.840	-48.14	≤-41.20	47.06	≤54	PASS
				AV	2500.000	-48.36	≤-41.20	46.84	≤54	PASS
				Peak	2483.500	-41.37	≤-21.20	53.83	≤74	PASS
				Peak	2497.440	-37.81	≤-21.20	57.39	≤74	PASS
				Peak	2500.000	-40.91	≤-21.20	54.29	≤74	PASS
3DH1	Ant1	Low	2402	AV	2310.000	-49.38	≤-41.20	45.82	≤54	PASS
				AV	2386.940	-48.73	≤-41.20	46.47	≤54	PASS
				AV	2390.000	-48.84	≤-41.20	46.36	≤54	PASS
				Peak	2310.000	-41.66	≤-21.20	53.54	≤74	PASS
				Peak	2377.490	-38.3	≤-21.20	56.90	≤74	PASS
				Peak	2390.000	-40.41	≤-21.20	54.79	≤74	PASS
		High	2480	AV	2483.500	-48.75	≤-41.20	46.45	≤54	PASS
				AV	2499.040	-48.19	≤-41.20	47.01	≤54	PASS
				AV	2500.000	-48.17	≤-41.20	47.03	≤54	PASS
				Peak	2483.500	-40.88	≤-21.20	54.32	≤74	PASS
Peak	2495.360	-38.59	≤-21.20	56.61	≤74	PASS				

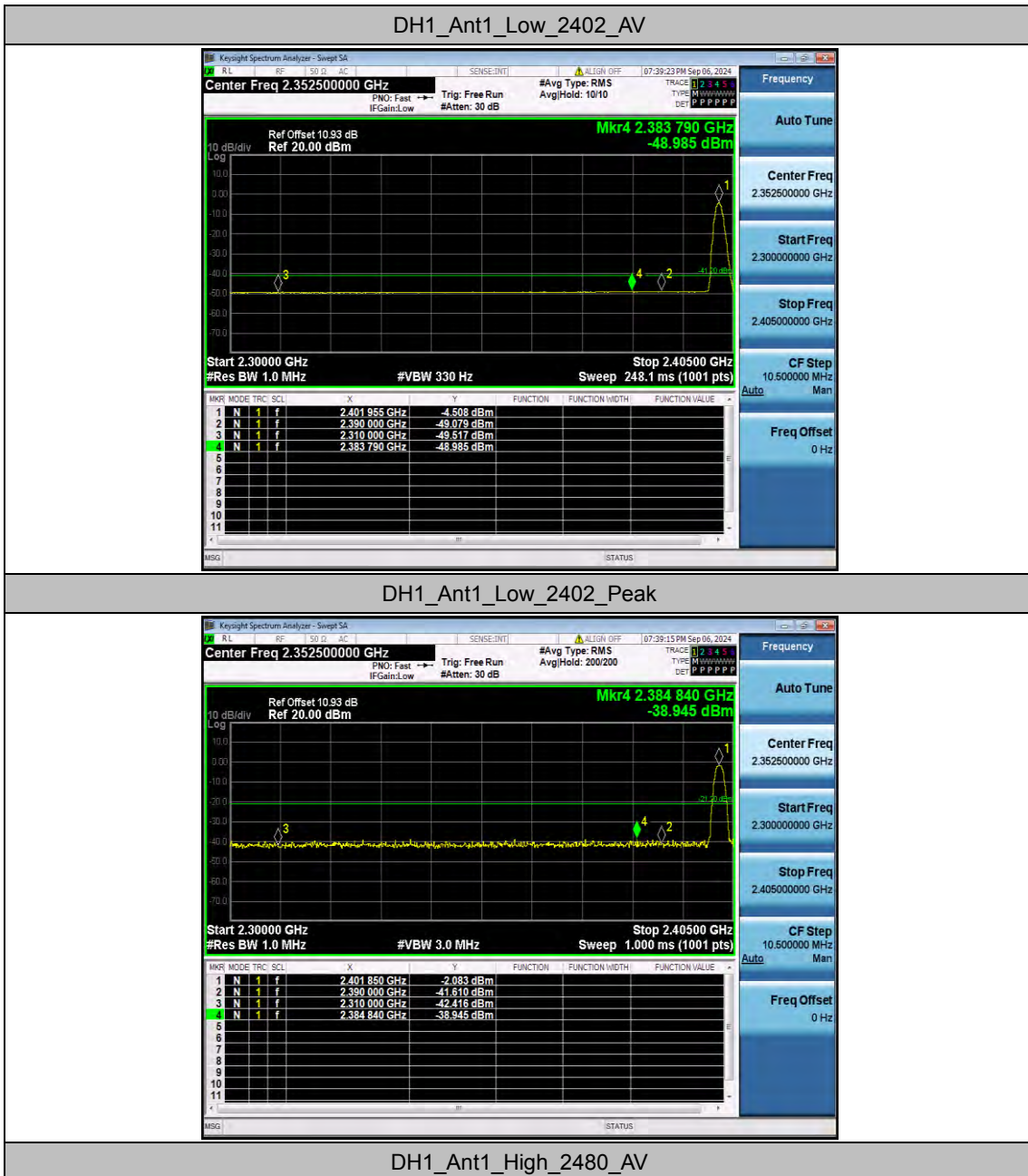
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				Peak	2500.000	-40.26	≤-21.20	54.94	≤74	PASS
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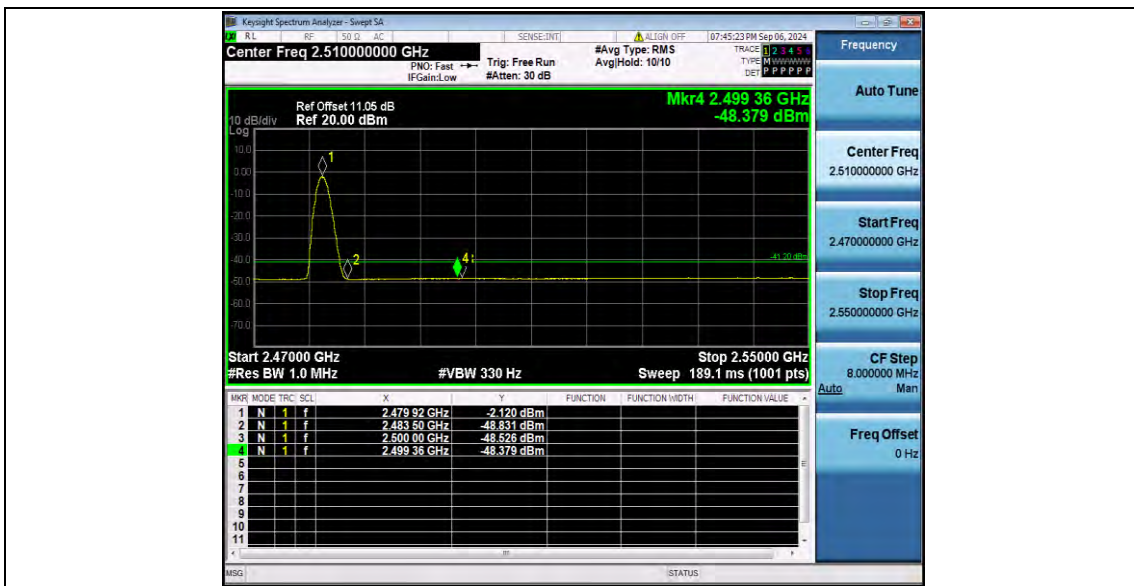
Note:

1. The Antenna Gain is compensated in the graph.
2. The Duty Cycle Factor and RBW Factor is compensated in the graph.
3. 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.

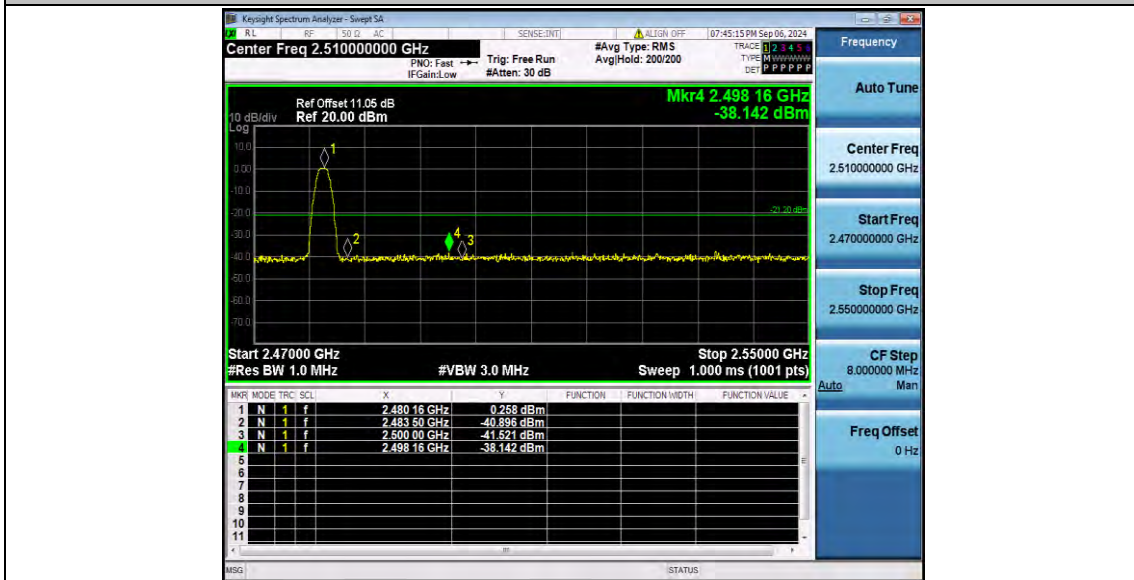
## Test Graphs



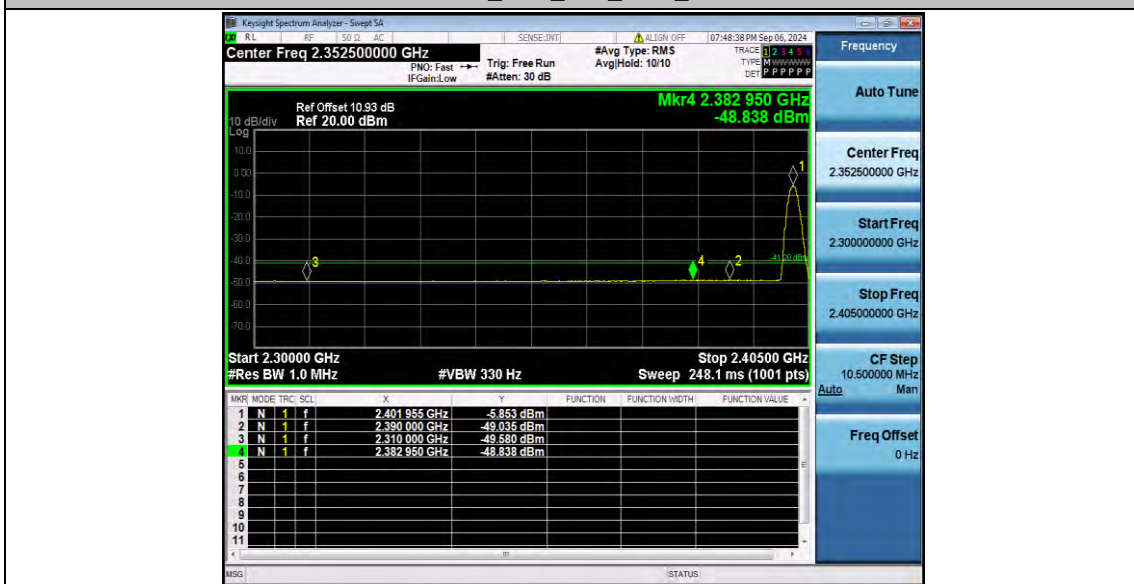




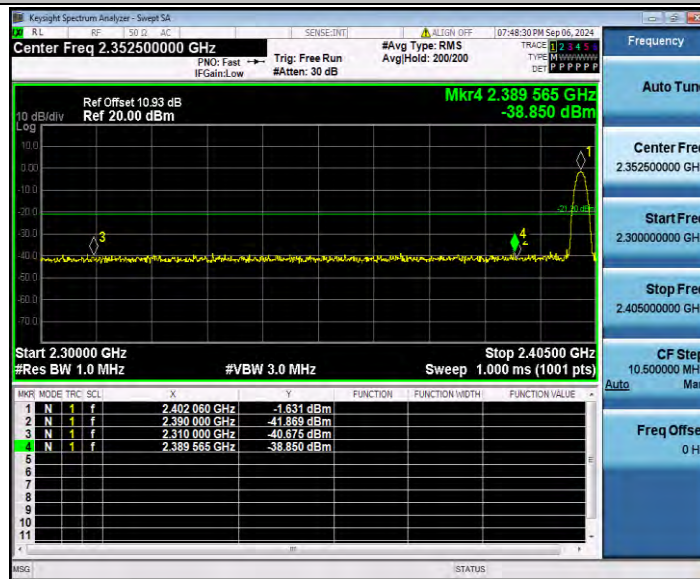
DH1\_Ant1\_High\_2480\_Peak



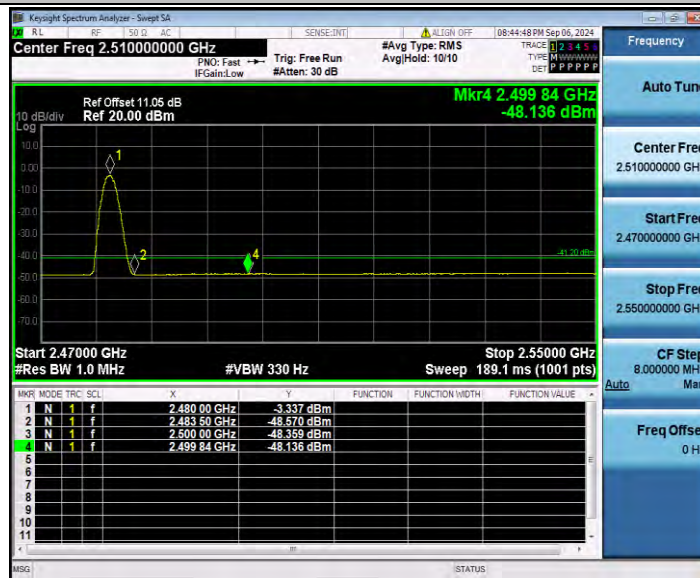
2DH1\_Ant1\_Low\_2402\_AV



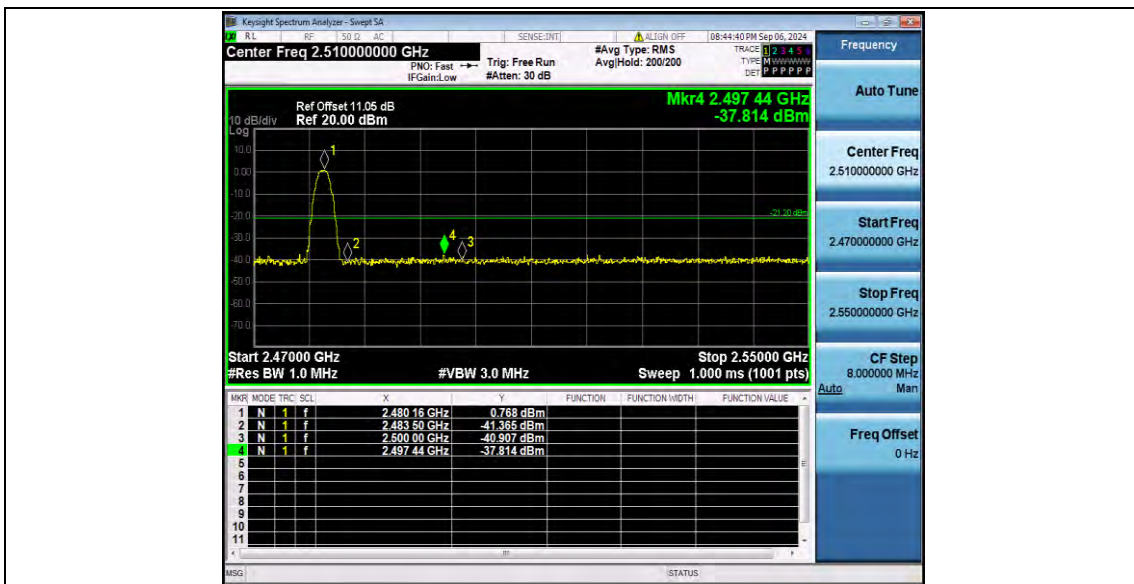
2DH1\_Ant1\_Low\_2402\_Peak



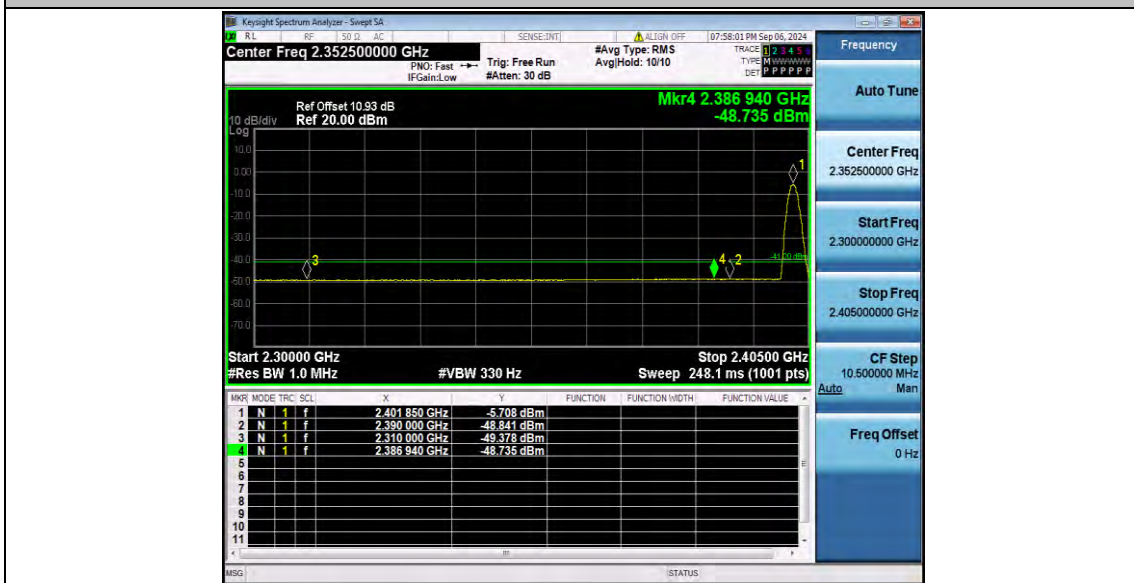
2DH1\_Ant1\_High\_2480\_AV



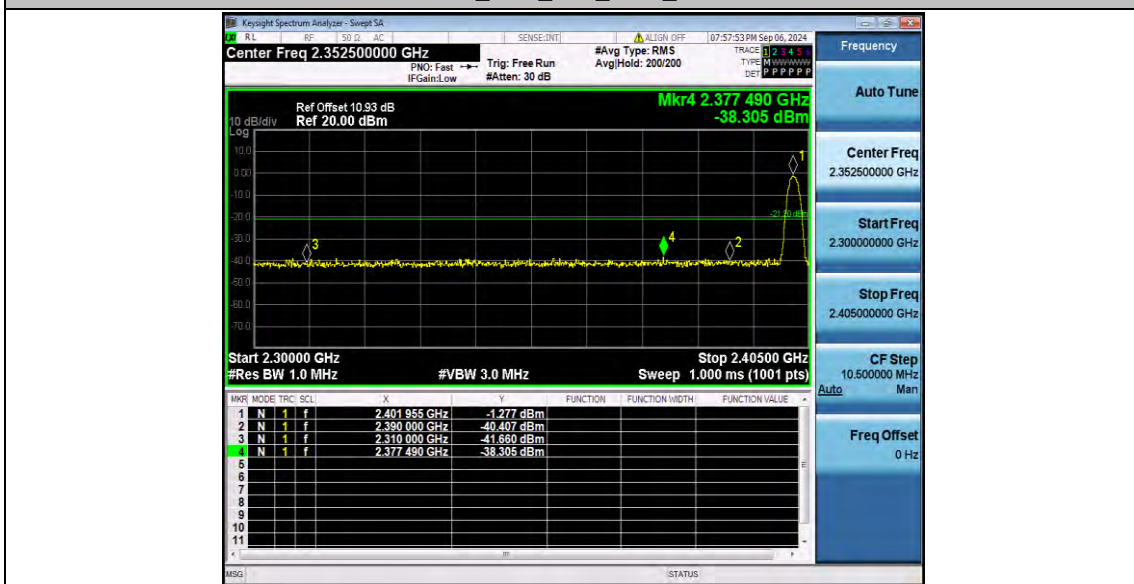
2DH1\_Ant1\_High\_2480\_Peak



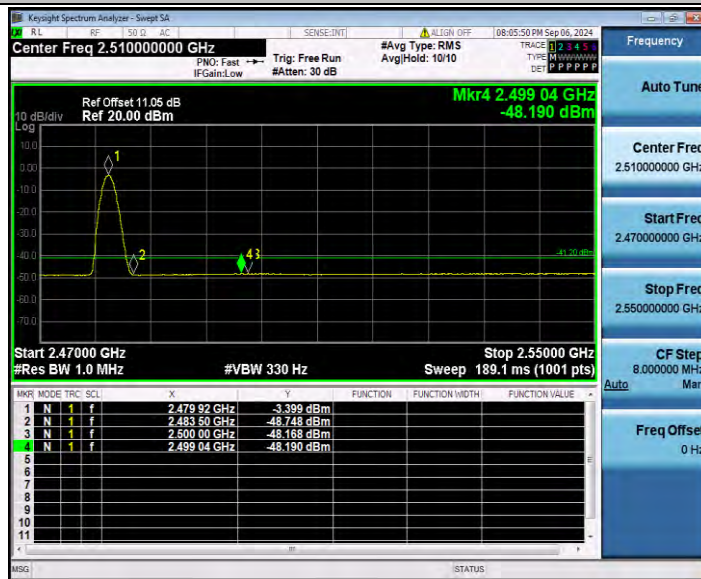
3DH1\_Ant1\_Low\_2402\_AV



3DH1\_Ant1\_Low\_2402\_Peak



3DH1\_Ant1\_High\_2480\_AV



3DH1\_Ant1\_High\_2480\_Peak

