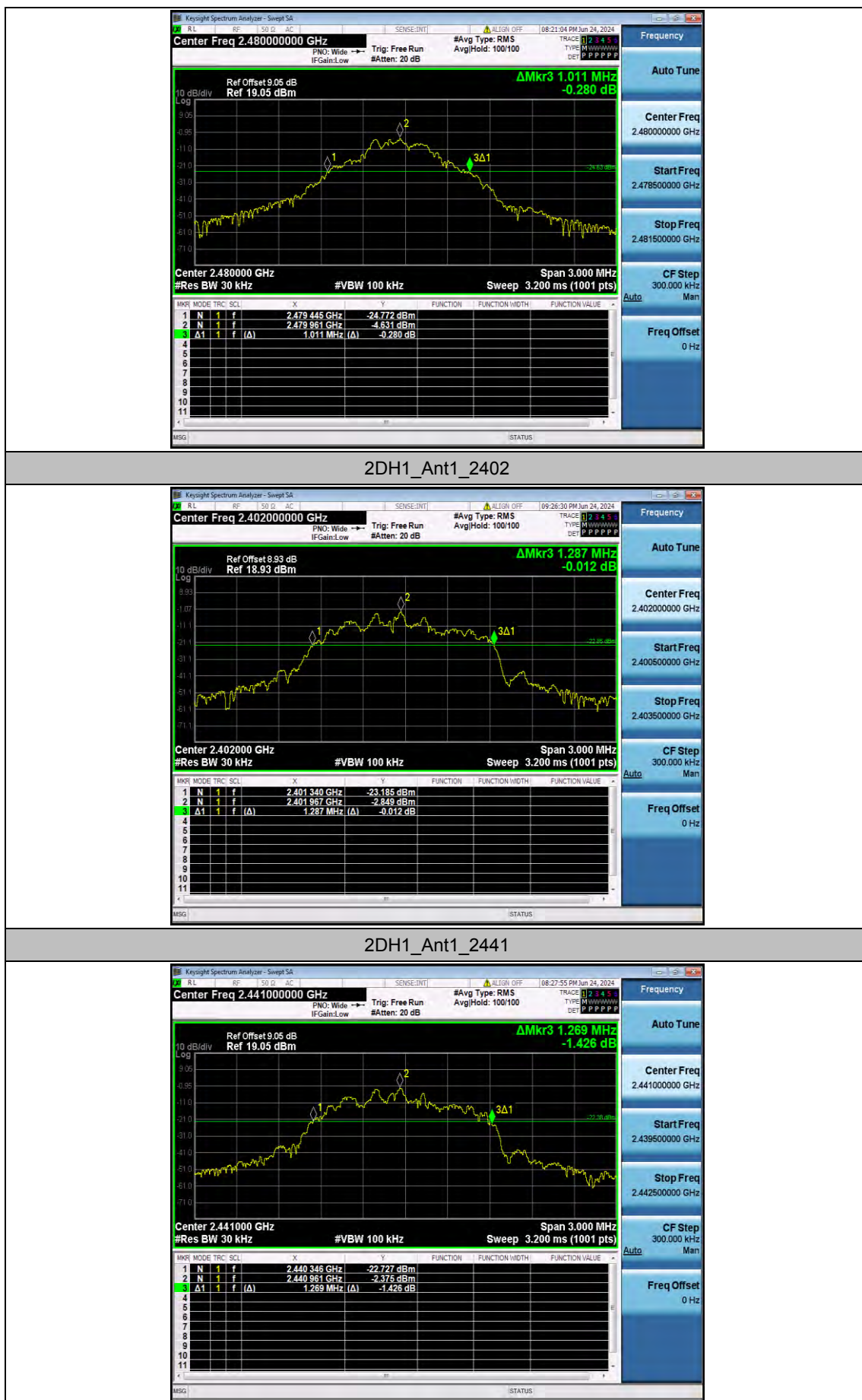


Case No. : <u>CTA24052000901</u>	
Ambient Condition: <u>23</u> °C, <u>49</u> %RH	
According Standard: ■Part15C	
Test Date: <u>2024.6.24</u>	Test Engineer: <u>Lushan Kong</u>

Appendix A.1: 20dB Emission Bandwidth

Test Result

TestMode	Antenna	Freq(MHz)	20dB EBW[MHz]	FL[MHz]	FH[MHz]
DH1	Ant1	2402	1.038	2401.460	2402.498
		2441	1.008	2440.460	2441.468
		2480	1.011	2479.445	2480.456
2DH1	Ant1	2402	1.287	2401.340	2402.627
		2441	1.269	2440.346	2441.615
		2480	1.278	2479.343	2480.621
3DH1	Ant1	2402	1.266	2401.340	2402.606
		2441	1.269	2440.337	2441.606
		2480	1.287	2479.316	2480.603



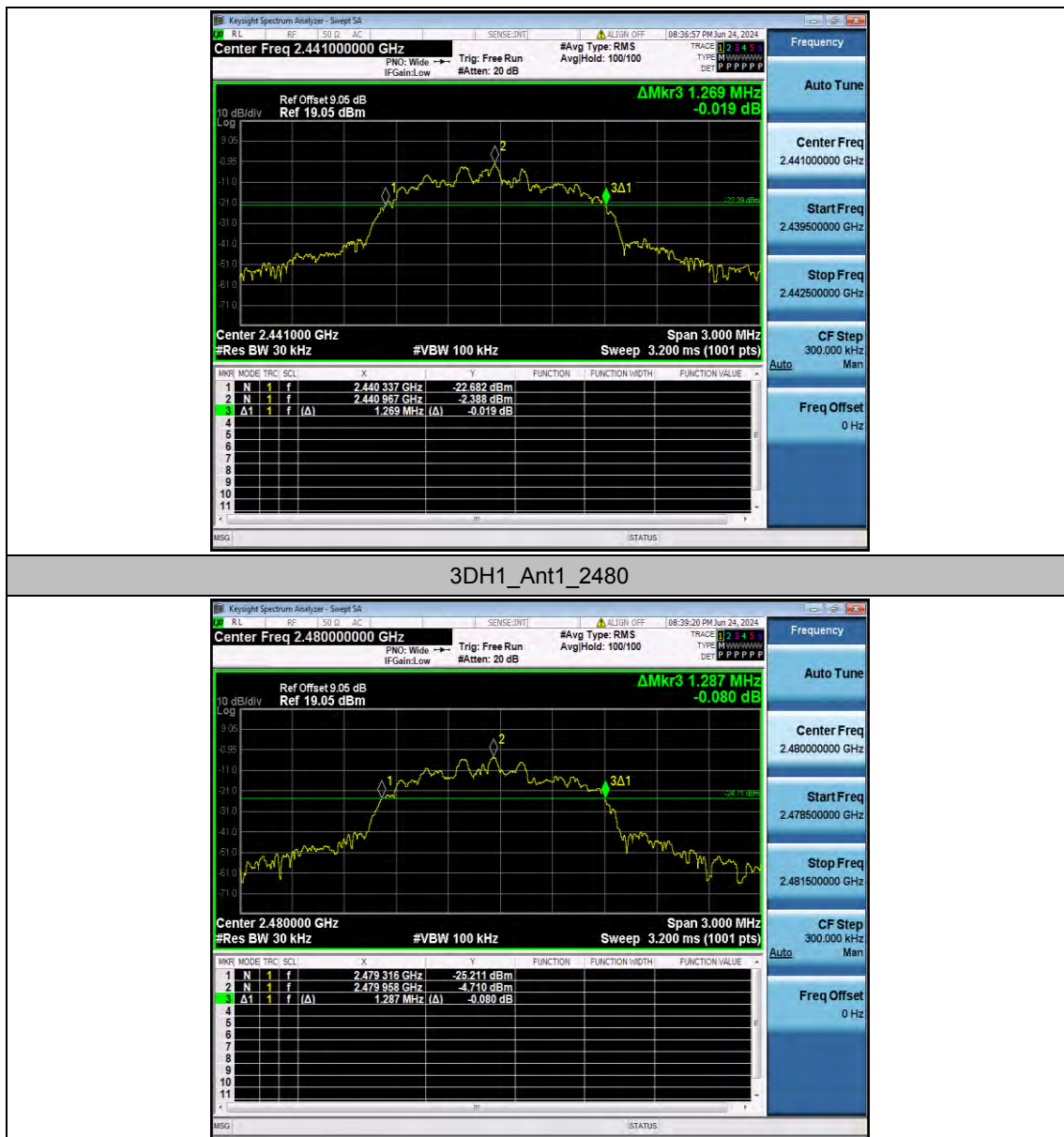
2DH1_Ant1_2480



3DH1_Ant1_2402



3DH1_Ant1_2441

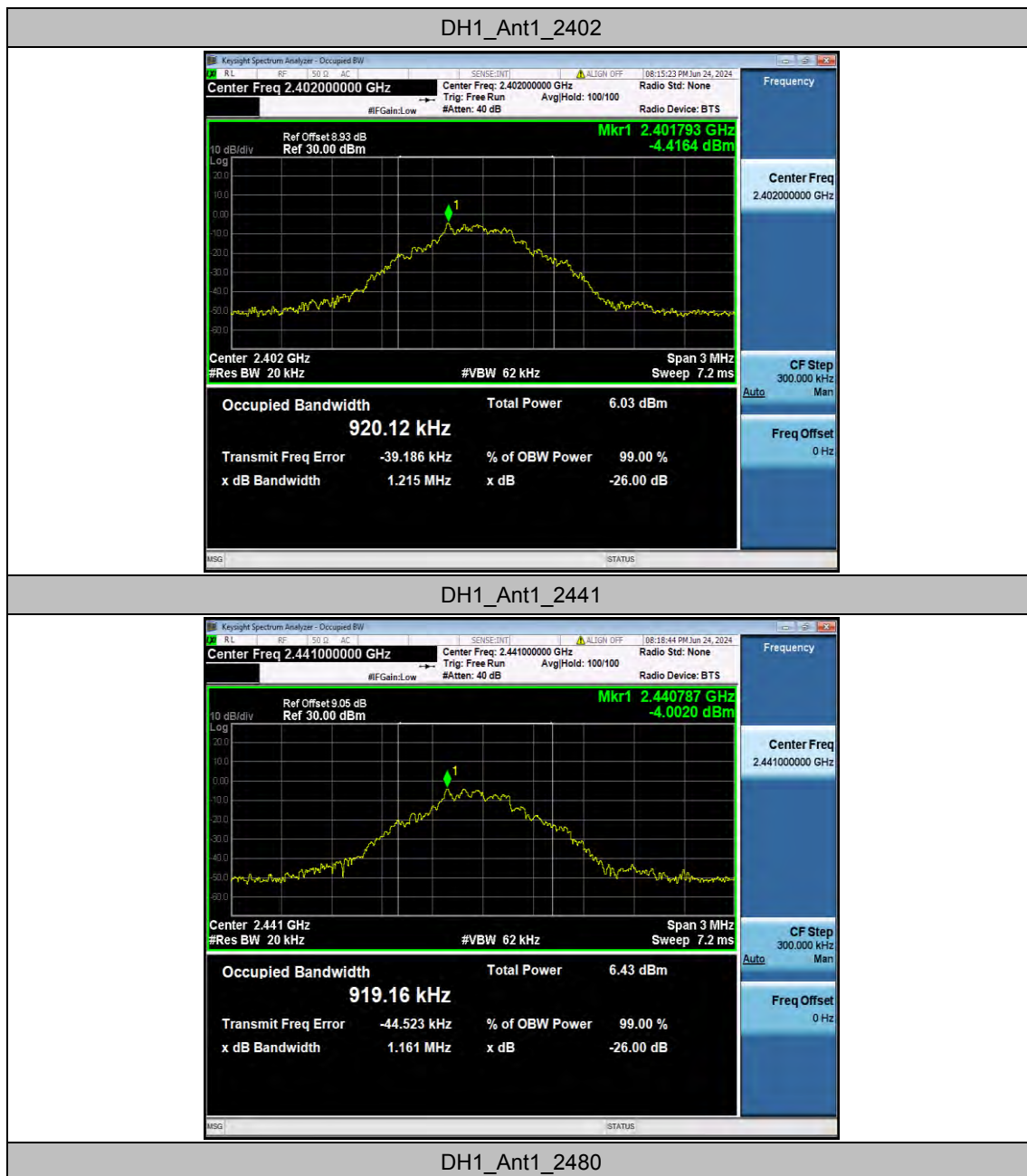


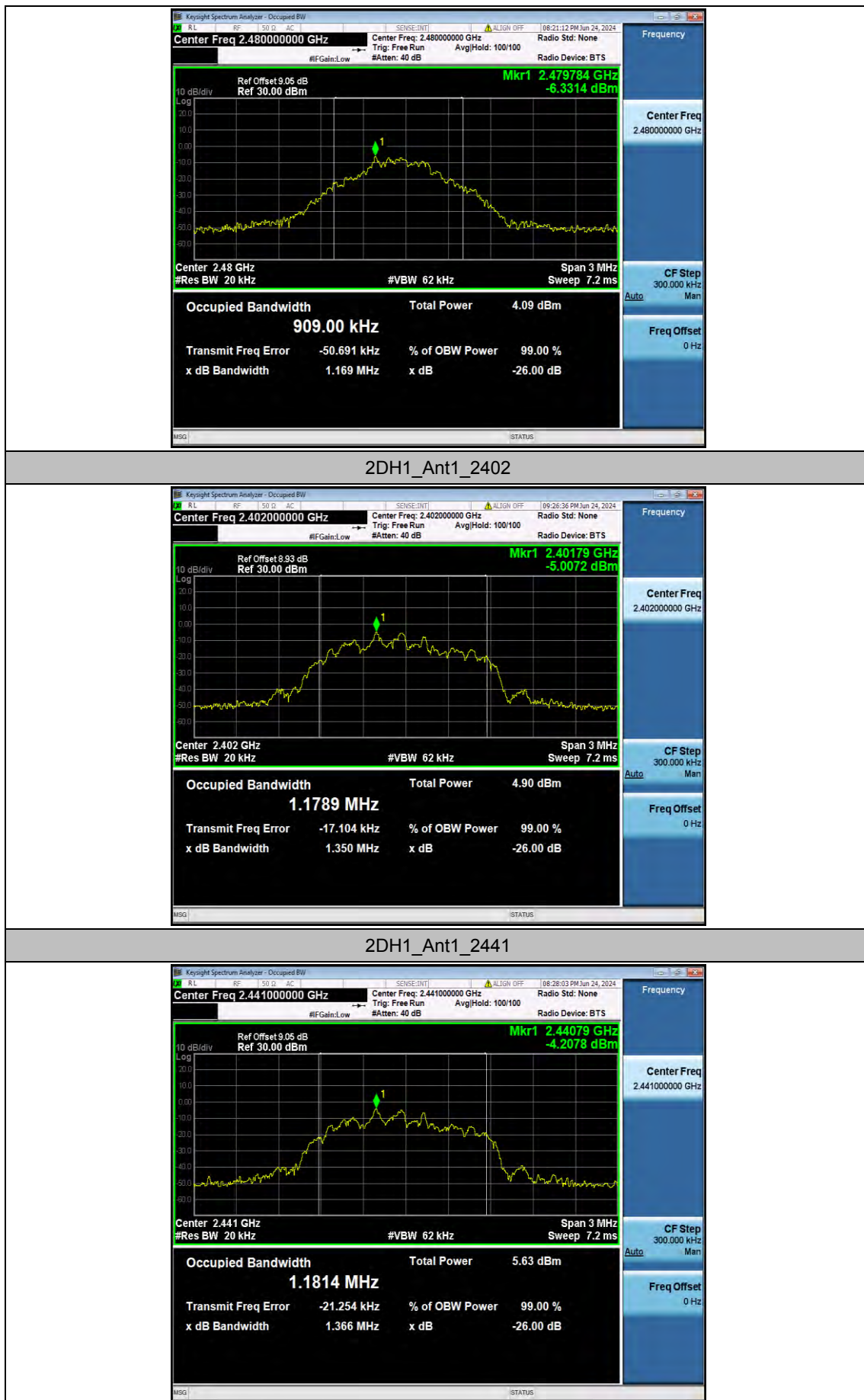
Appendix A.2: Occupied Channel Bandwidth

Test Result

TestMode	Antenna	Freq(MHz)	OCB [MHz]	FL[MHz]	FH[MHz]
DH1	Ant1	2402	0.92012	2401.5008	2402.4209
		2441	0.91916	2440.4959	2441.4151
		2480	0.90900	2479.4948	2480.4038
2DH1	Ant1	2402	1.1789	2401.3935	2402.5724
		2441	1.1814	2440.3881	2441.5695
		2480	1.1786	2479.3794	2480.5580
3DH1	Ant1	2402	1.1772	2401.4017	2402.5789
		2441	1.1894	2440.3822	2441.5716
		2480	1.1907	2479.3781	2480.5688

Test Graphs





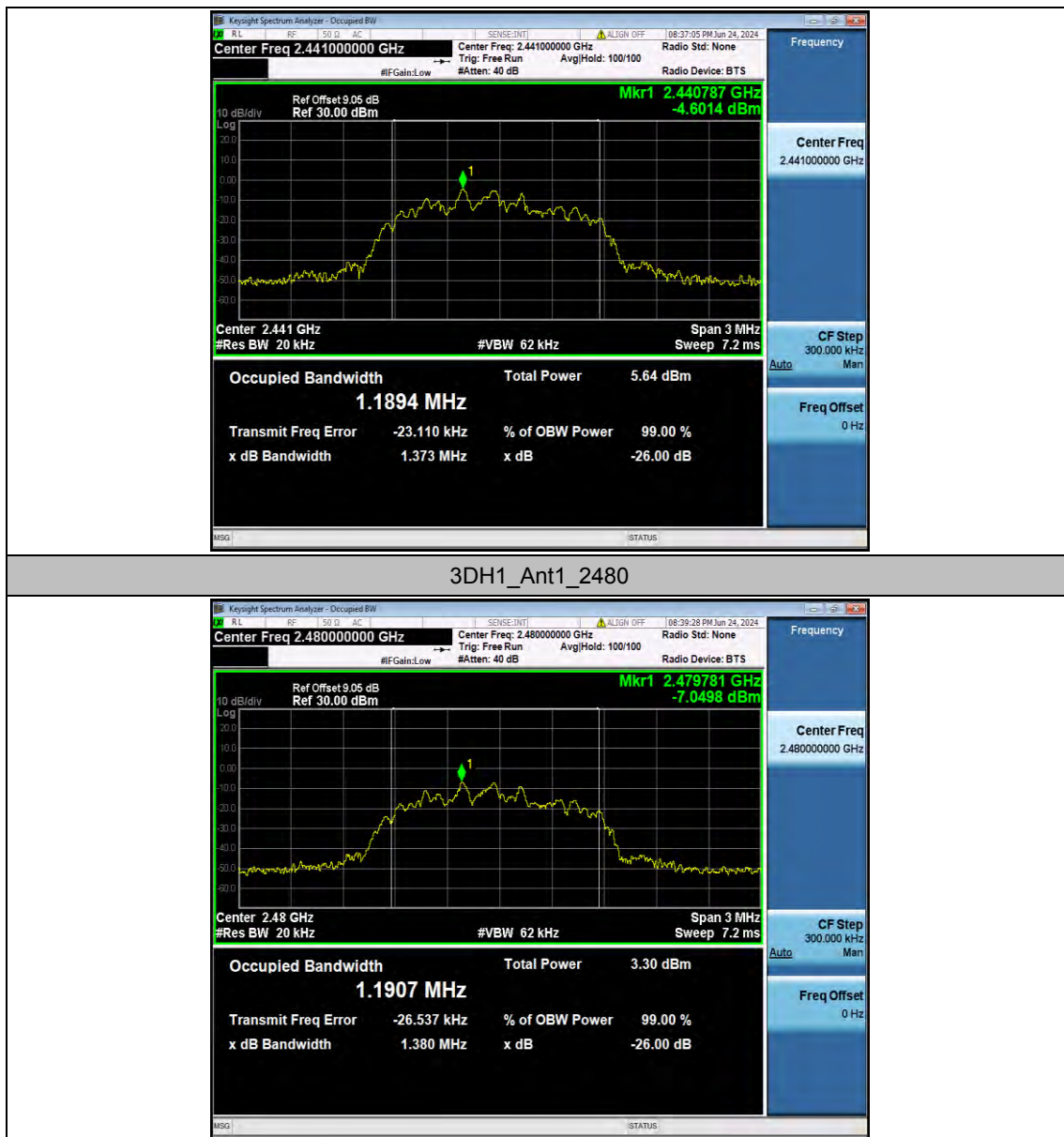
2DH1_Ant1_2480



3DH1_Ant1_2402



3DH1_Ant1_2441



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	0.59	≤ 20.97	PASS
		2441	1.02	≤ 20.97	PASS
		2480	-1.27	≤ 20.97	PASS
2DH1	Ant1	2402	0.23	≤ 20.97	PASS
		2441	0.93	≤ 20.97	PASS
		2480	-1.32	≤ 20.97	PASS
3DH1	Ant1	2402	0.42	≤ 20.97	PASS
		2441	0.87	≤ 20.97	PASS
		2480	-1.33	≤ 20.97	PASS

Appendix A.4: Carrier frequency separation

Test Result

TestMode	Antenna	Freq(MHz)	Result[MHz]	Limit[MHz]	Verdict
DH1	Ant1	Hop_2402	0.99	≥ 0.692	PASS
		Hop_2441	0.994	≥ 0.692	PASS
		Hop_2480	1.338	≥ 0.692	PASS
2DH1	Ant1	Hop_2402	1.026	≥ 0.852	PASS
		Hop_2441	0.998	≥ 0.852	PASS
		Hop_2480	1.008	≥ 0.852	PASS
3DH1	Ant1	Hop_2402	1.018	≥ 0.858	PASS
		Hop_2441	1.008	≥ 0.858	PASS
		Hop_2480	0.998	≥ 0.858	PASS

Test Graphs

DH1_Ant1_Hop_2402



DH1_Ant1_Hop_2441



DH1_Ant1_Hop_2480



2DH1_Ant1_Hop_2402



2DH1_Ant1_Hop_2441



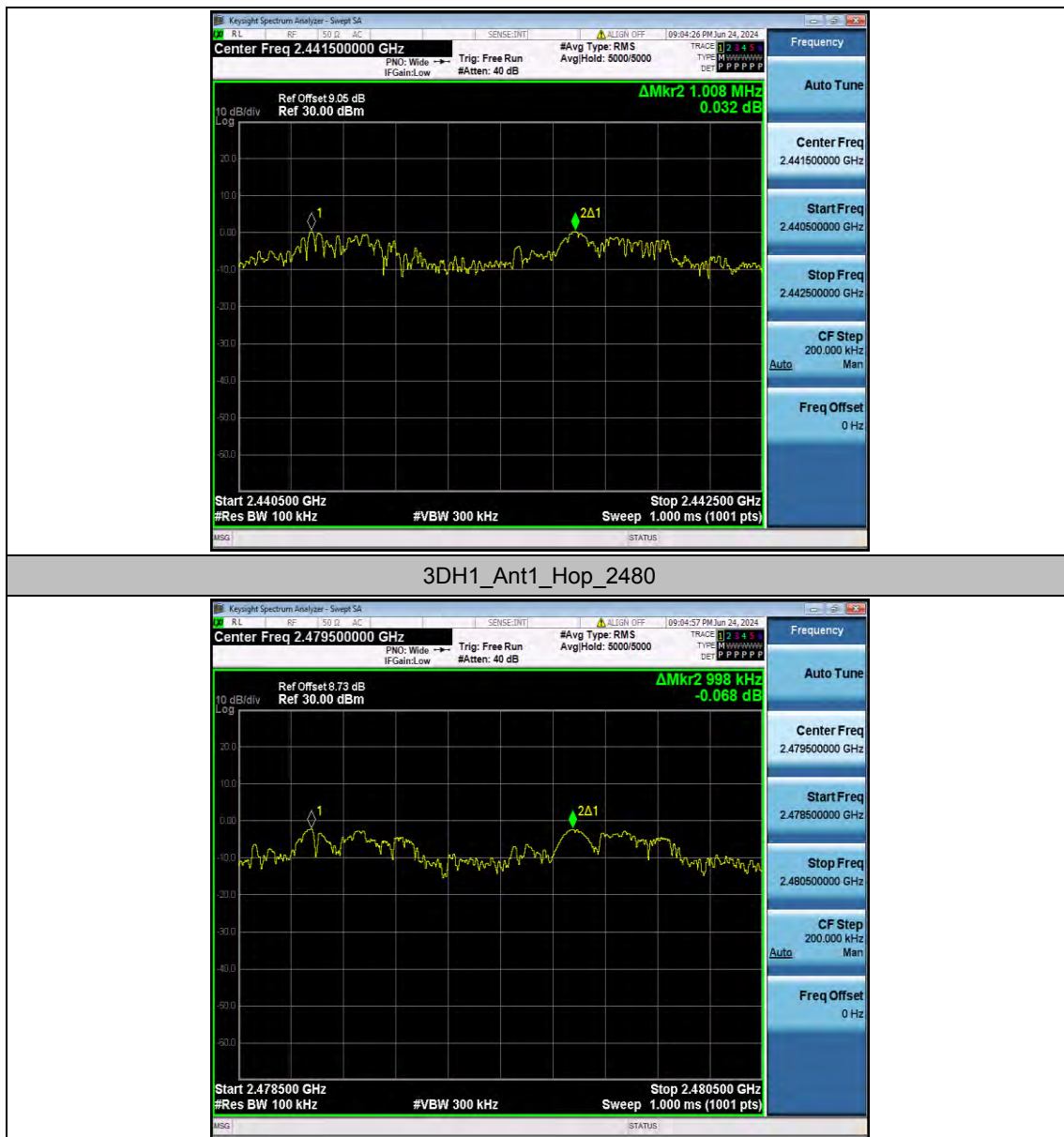
2DH1_Ant1_Hop_2480



3DH1_Ant1_Hop_2402



3DH1_Ant1_Hop_2441

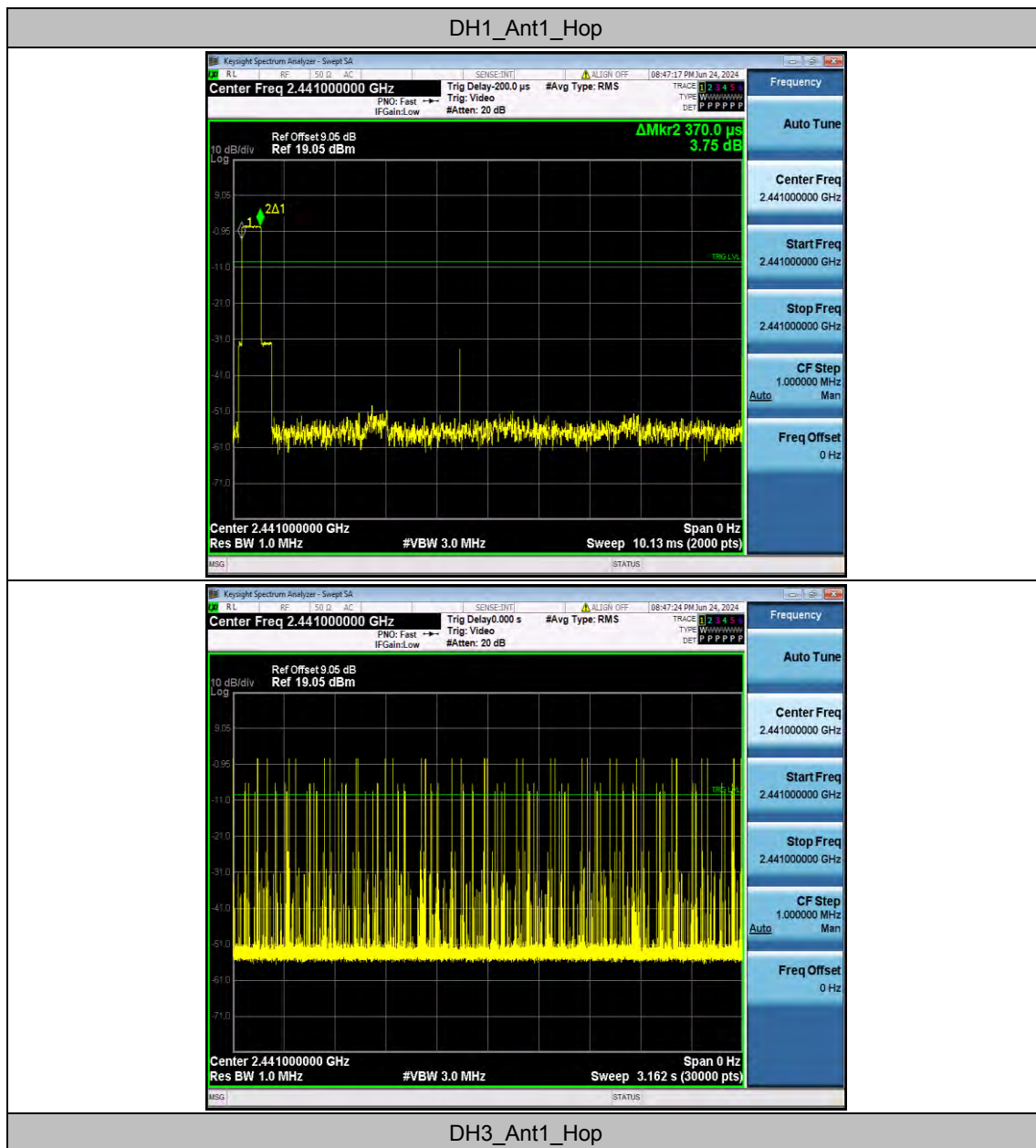


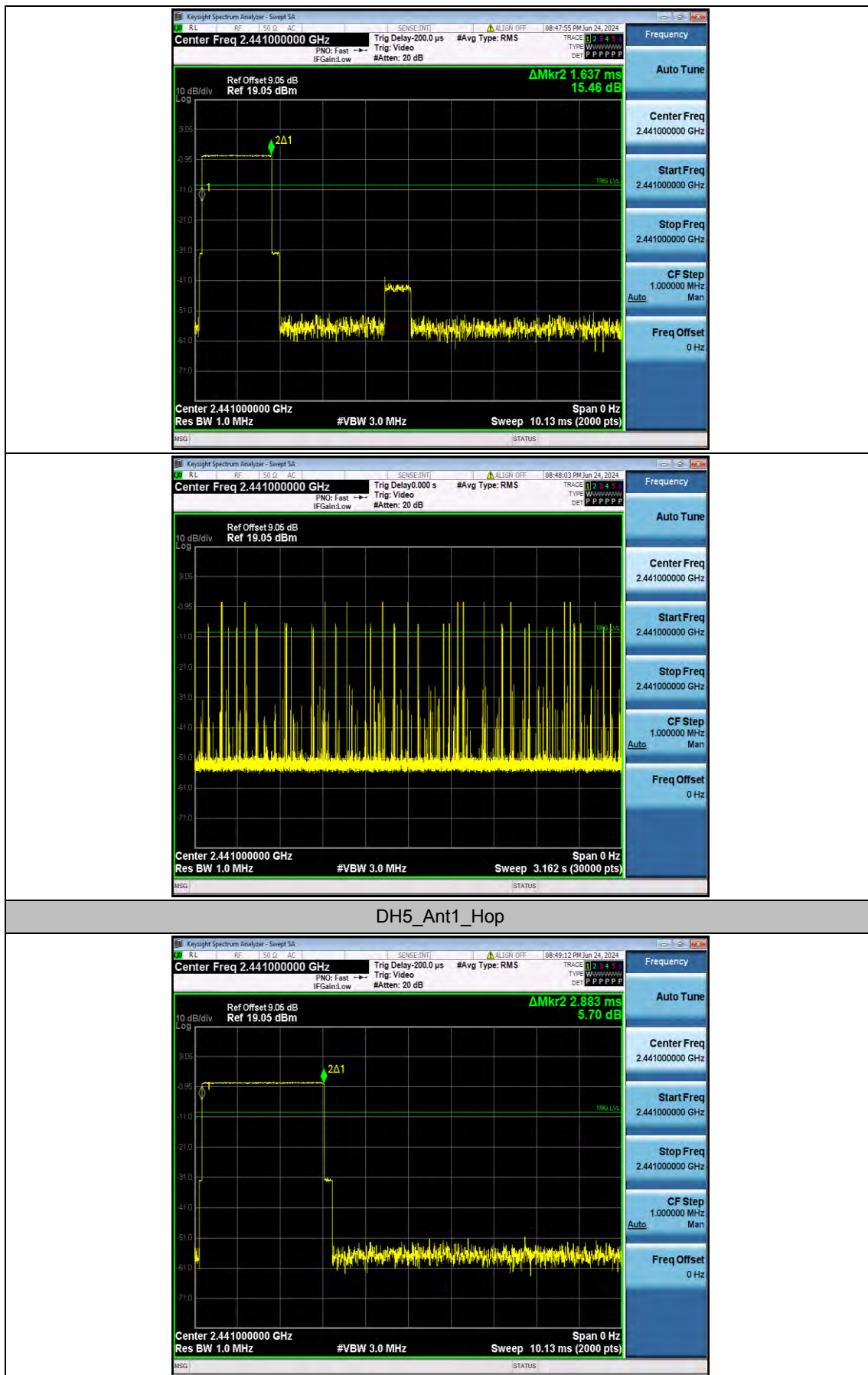
Appendix A.5: Time of occupancy

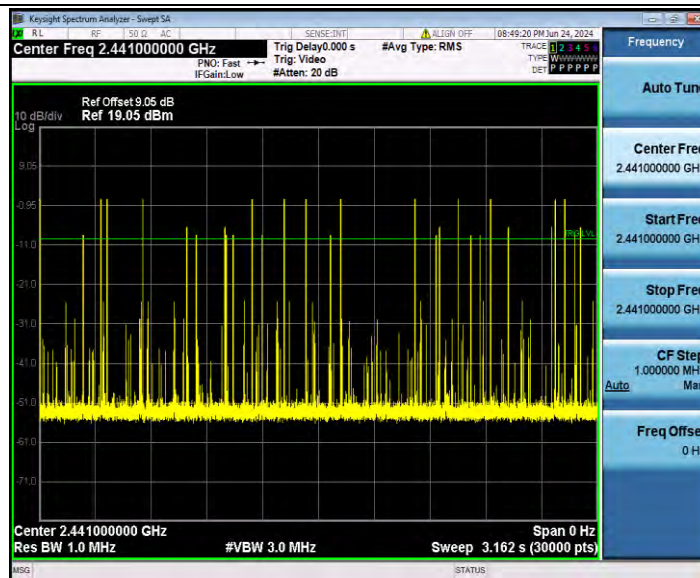
Test Result

TestMode	Antenna	Freq(MHz)	BurstWidth [ms]	TotalHops [Num]	Result[s]	Limit[s]	Verdict
DH1	Ant1	Hop	0.370	330	0.122	≤0.4	PASS
DH3	Ant1	Hop	1.637	160	0.262	≤0.4	PASS
DH5	Ant1	Hop	2.883	130	0.375	≤0.4	PASS
2DH1	Ant1	Hop	0.375	330	0.124	≤0.4	PASS
2DH3	Ant1	Hop	1.637	160	0.262	≤0.4	PASS
2DH5	Ant1	Hop	2.878	90	0.259	≤0.4	PASS
3DH1	Ant1	Hop	0.380	320	0.122	≤0.4	PASS
3DH3	Ant1	Hop	1.626	150	0.244	≤0.4	PASS
3DH5	Ant1	Hop	2.878	130	0.374	≤0.4	PASS

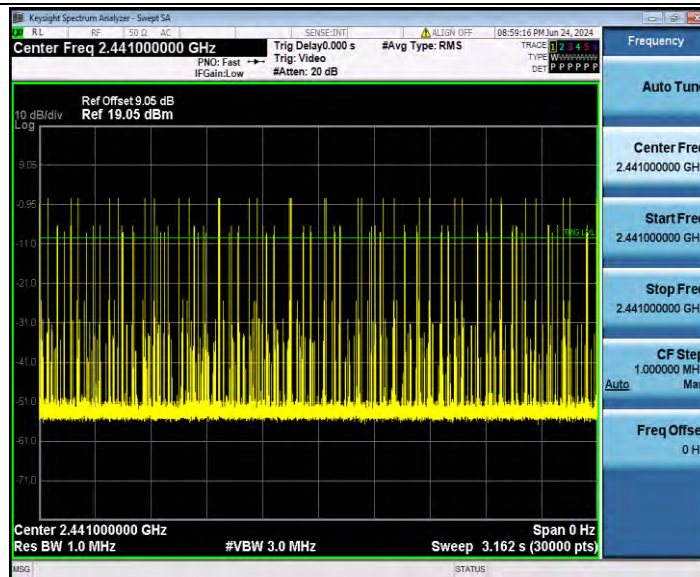
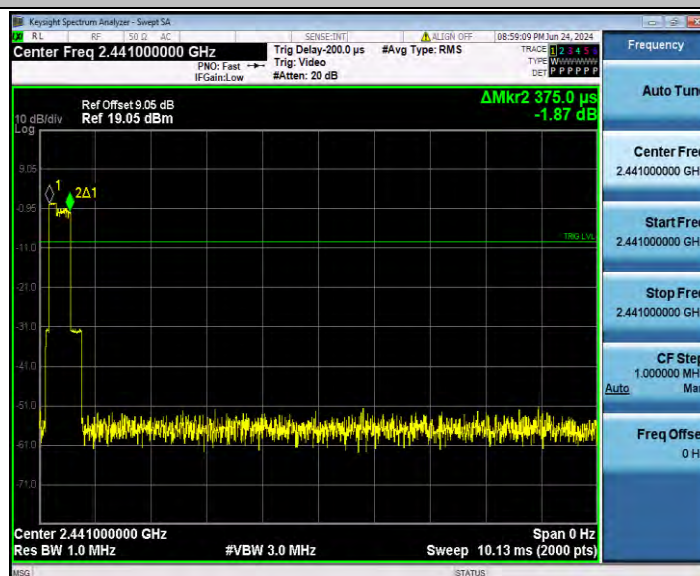
Test Graphs



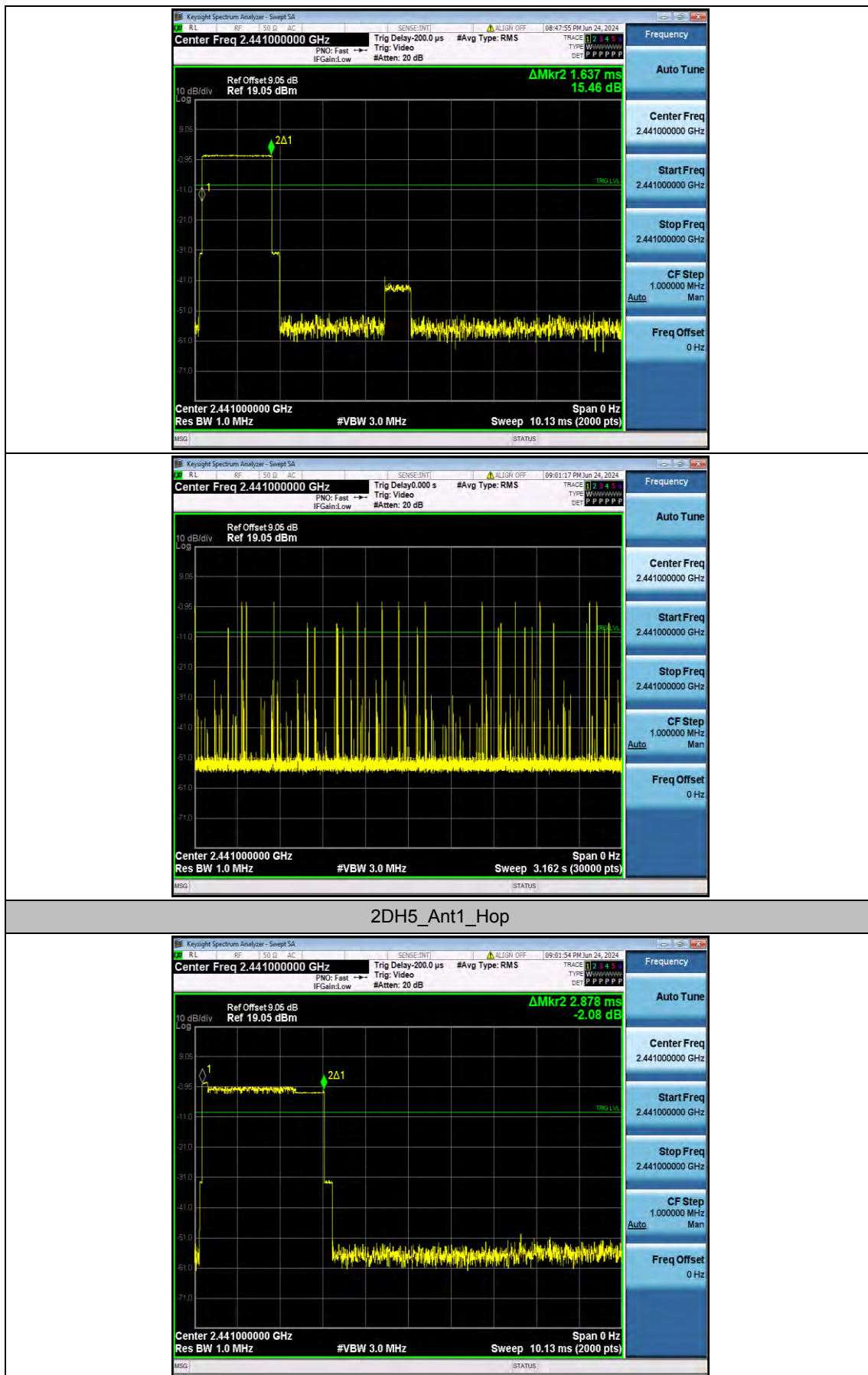


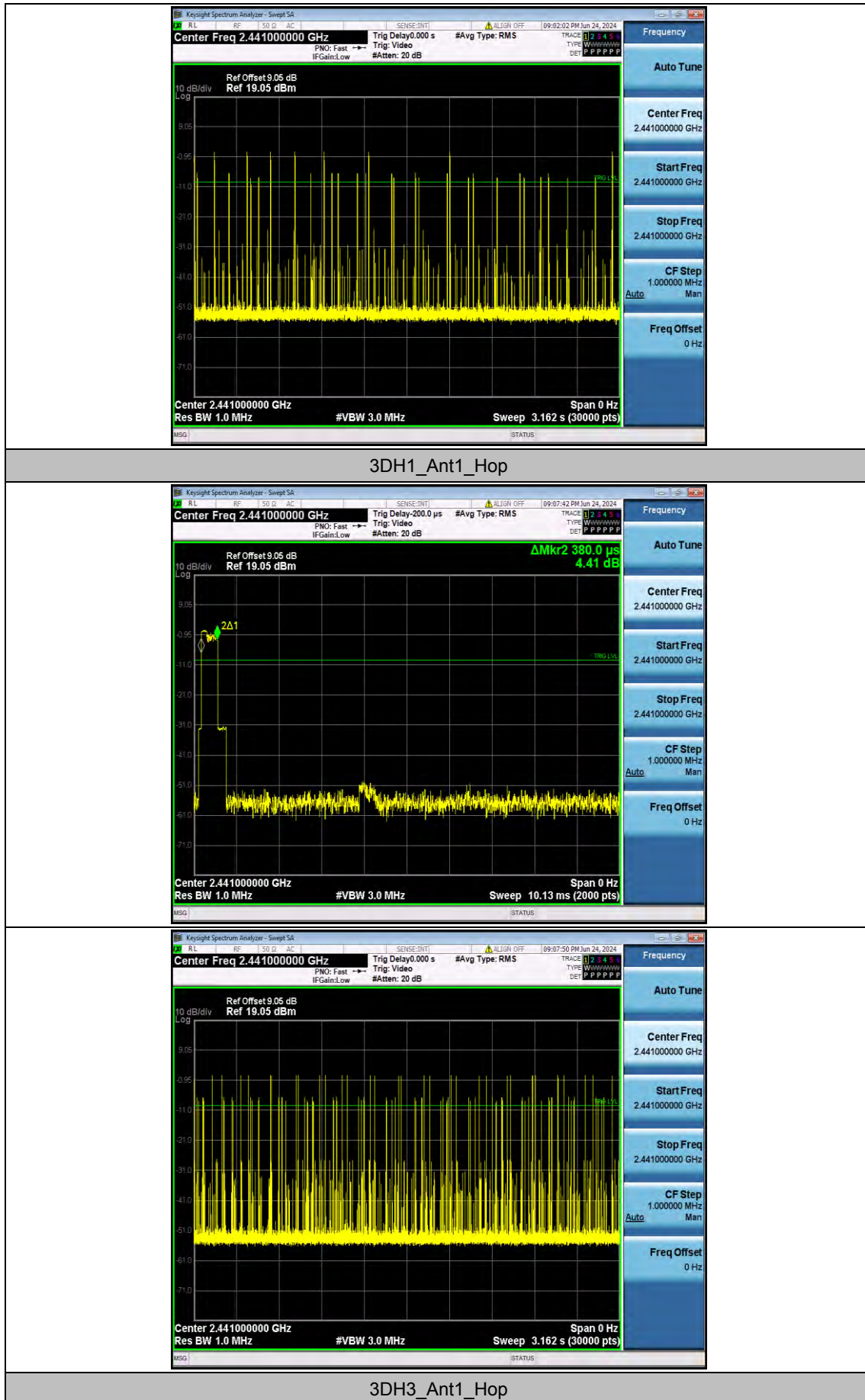


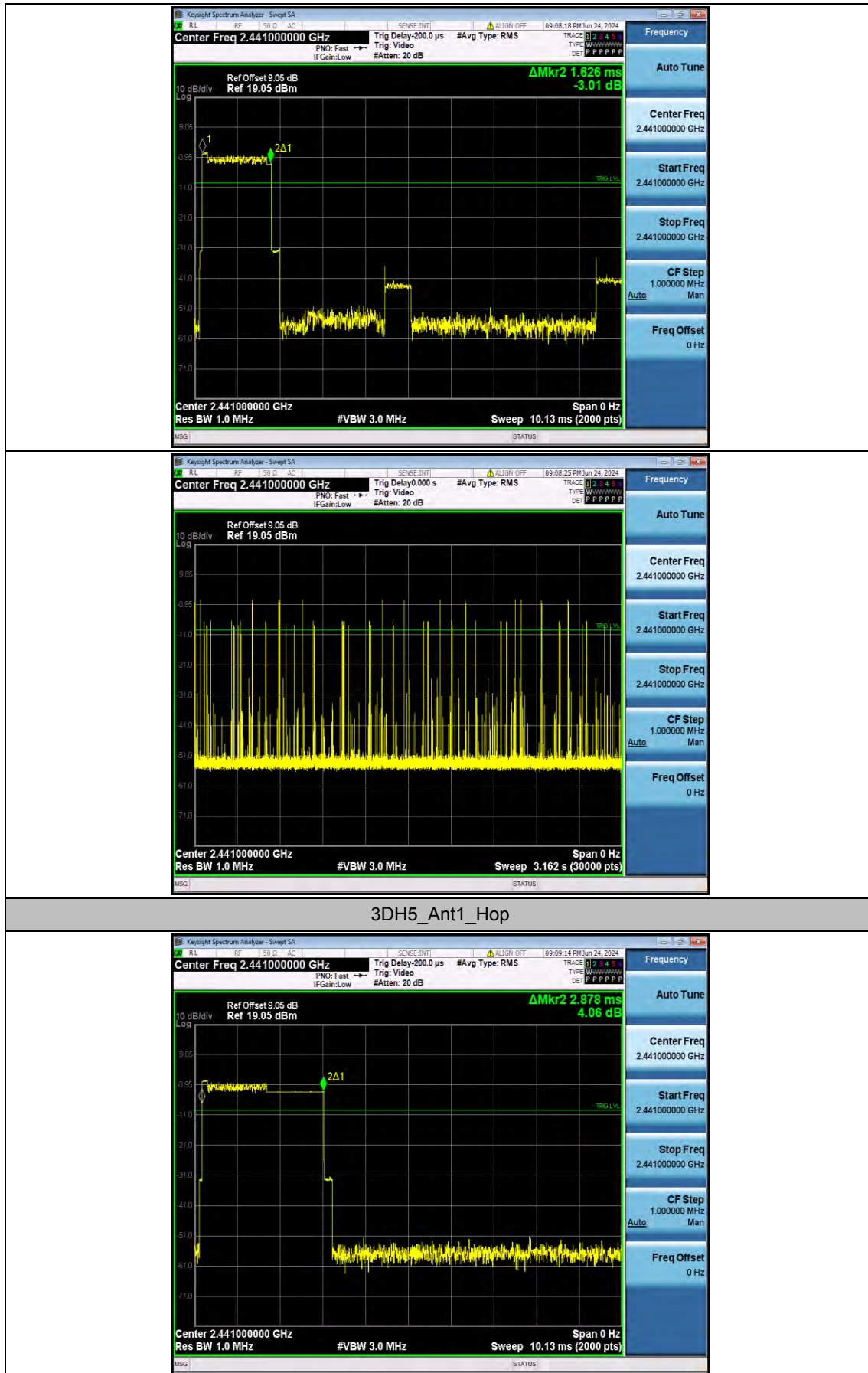
2DH1_Ant1_Hop

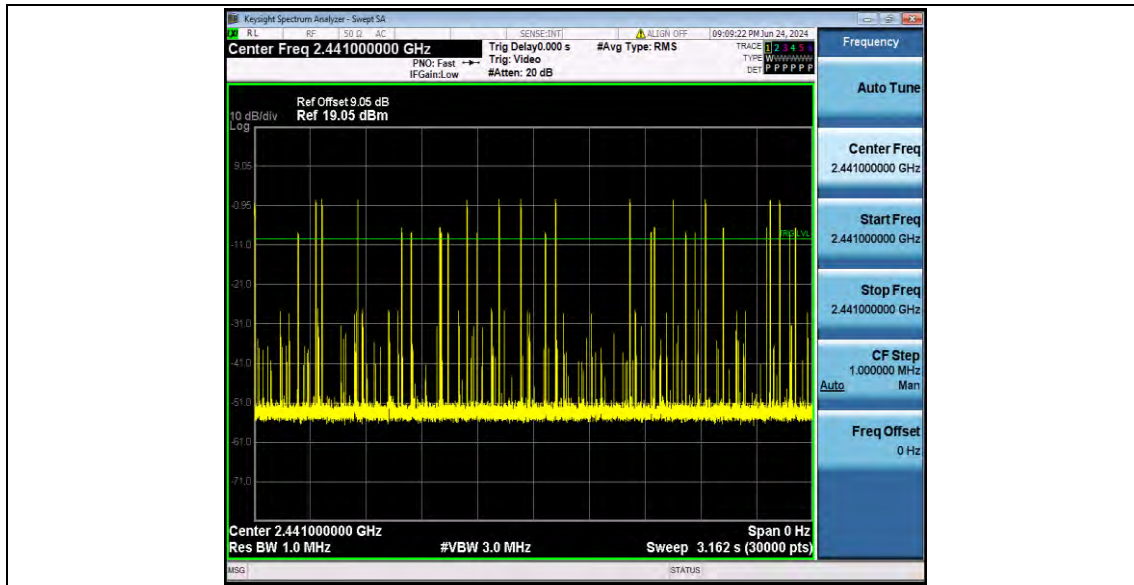


2DH3_Ant1_Hop







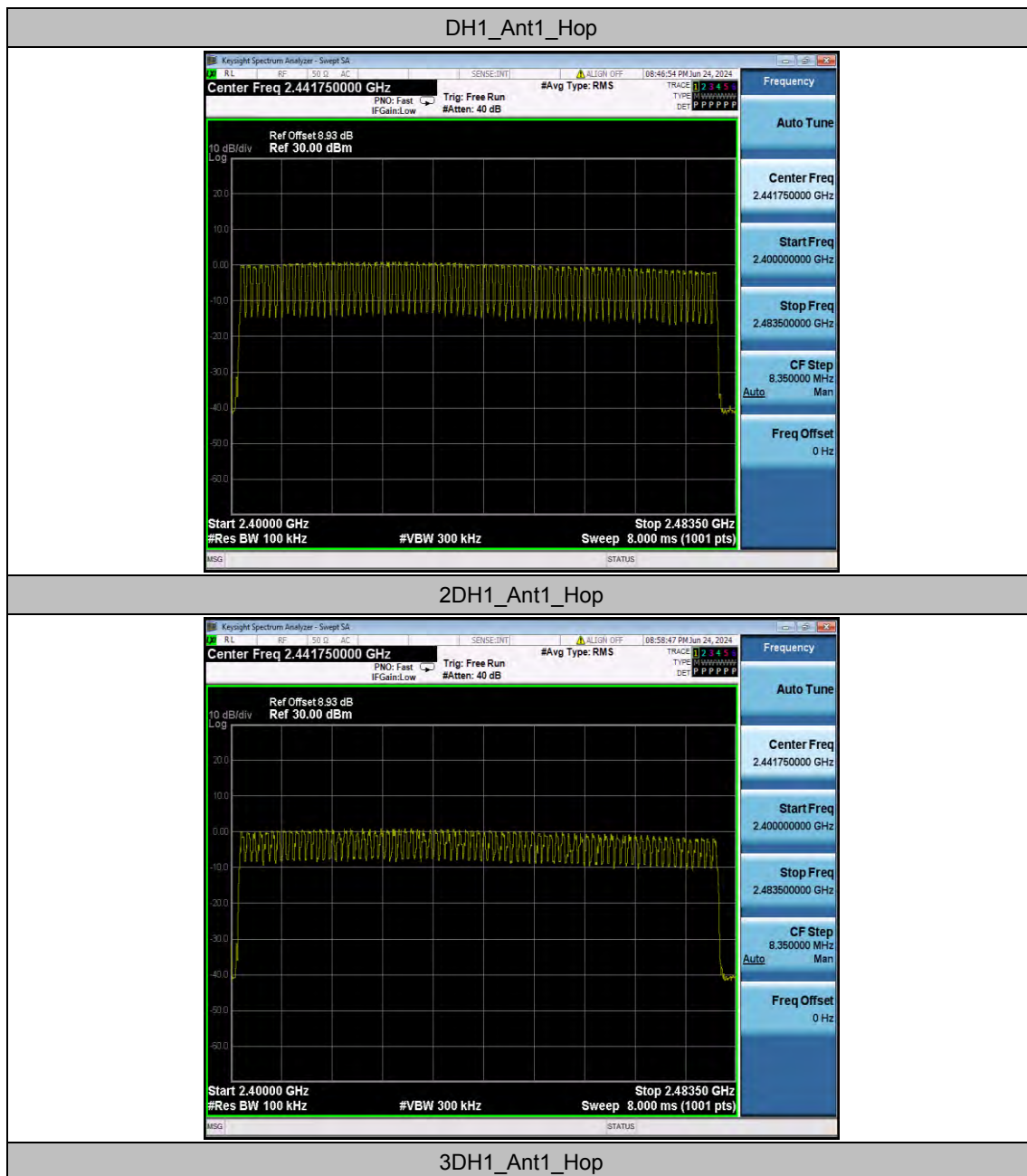


Appendix A.6: Number of hopping channels

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





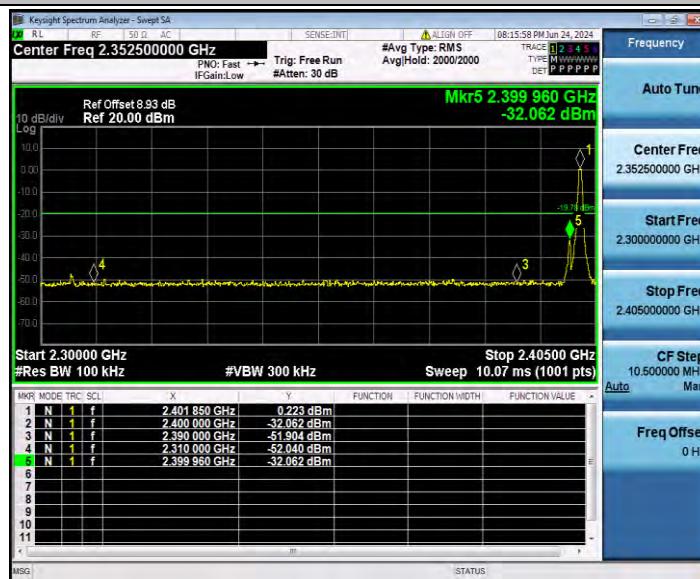
Appendix A.7: Band edge measurements

Test Result

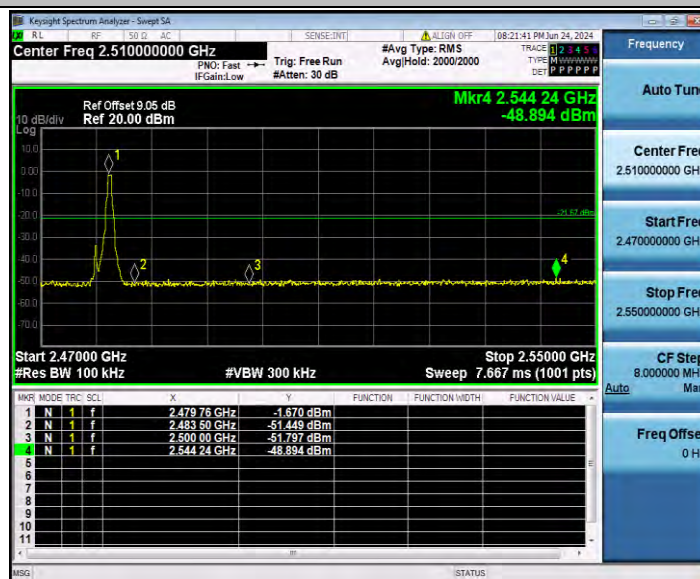
TestMode	Antenna	ChName	Freq(MHz)	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
DH1	Ant1	Low	2402	0.22	-32.06	≤ -19.78	PASS
		High	2480	-1.67	-48.89	≤ -21.67	PASS
		Low	Hop_2402	-0.16	-33.05	≤ -20.16	PASS
		High	Hop_2480	-0.99	-46.77	≤ -20.99	PASS
2DH1	Ant1	Low	2402	-0.21	-35.95	≤ -20.21	PASS
		High	2480	-1.75	-48.98	≤ -21.75	PASS
		Low	Hop_2402	-0.63	-32.8	≤ -20.63	PASS
		High	Hop_2480	-2.02	-48.1	≤ -22.02	PASS
3DH1	Ant1	Low	2402	-0.01	-32.34	≤ -20.01	PASS
		High	2480	-1.77	-47.83	≤ -21.77	PASS
		Low	Hop_2402	-0.56	-33.06	≤ -20.56	PASS
		High	Hop_2480	-1.51	-47.62	≤ -21.51	PASS

Test Graphs

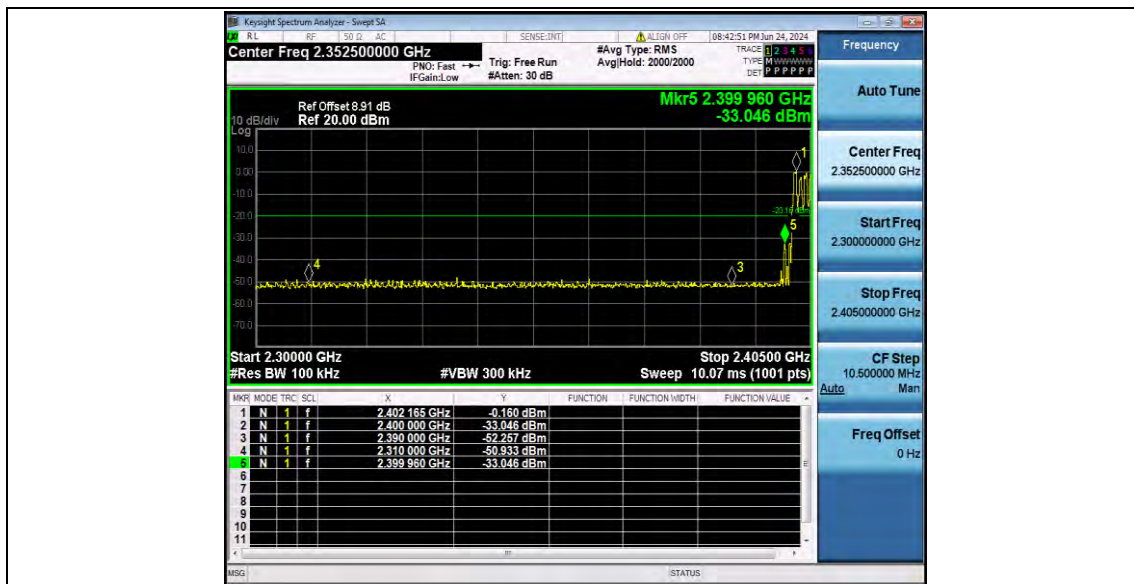
DH1_Ant1_Low_2402



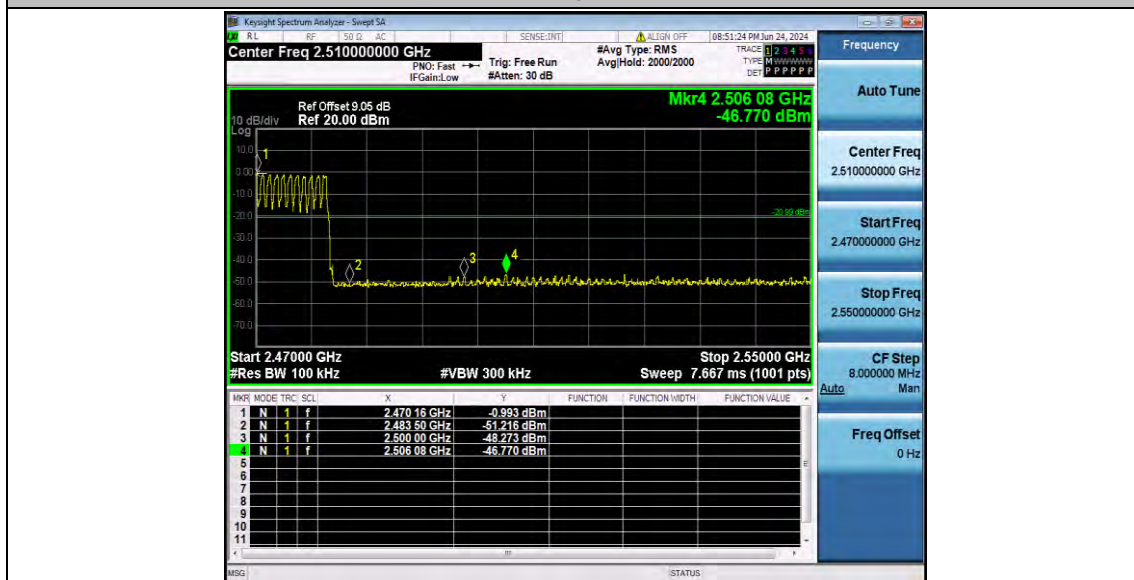
DH1_Ant1_High_2480



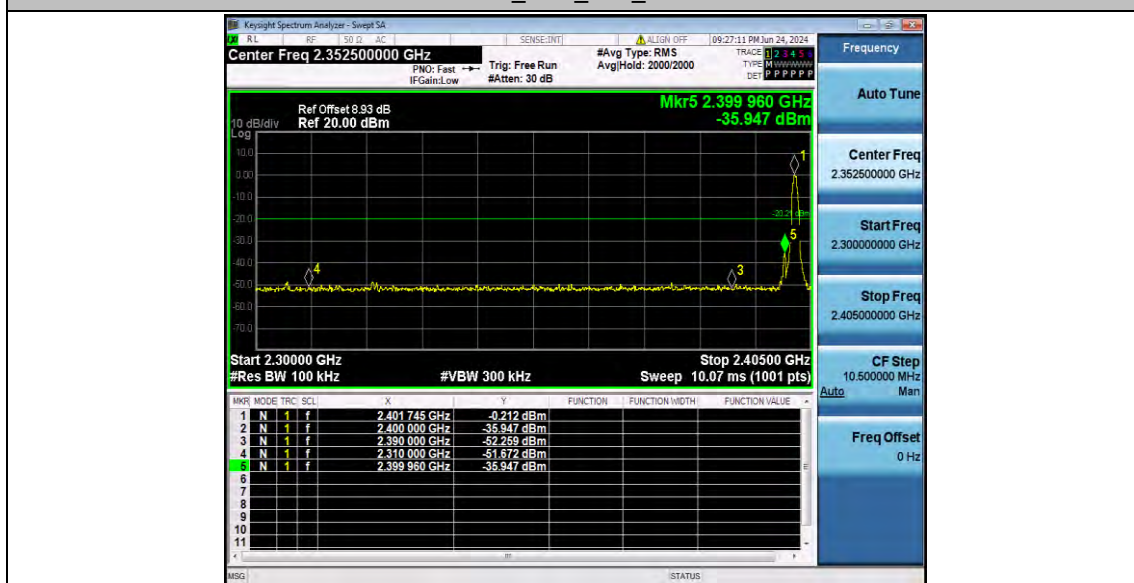
DH1_Ant1_Low_Hop_2402



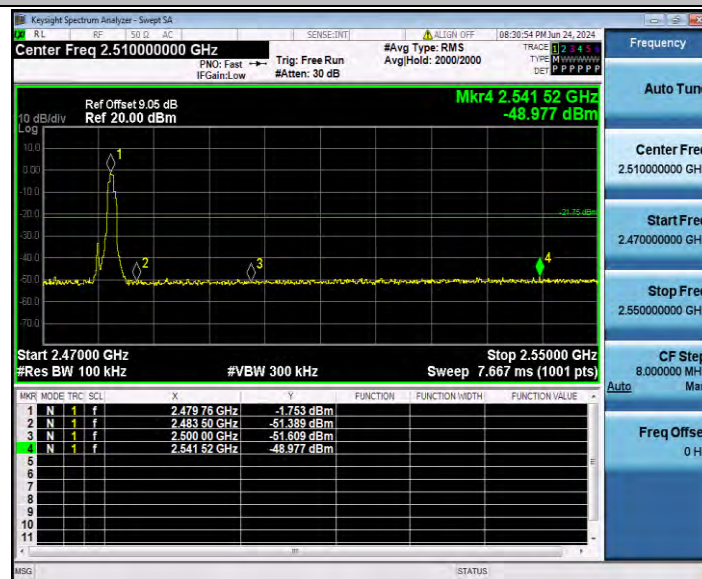
DH1_Ant1_High_Hop_2480



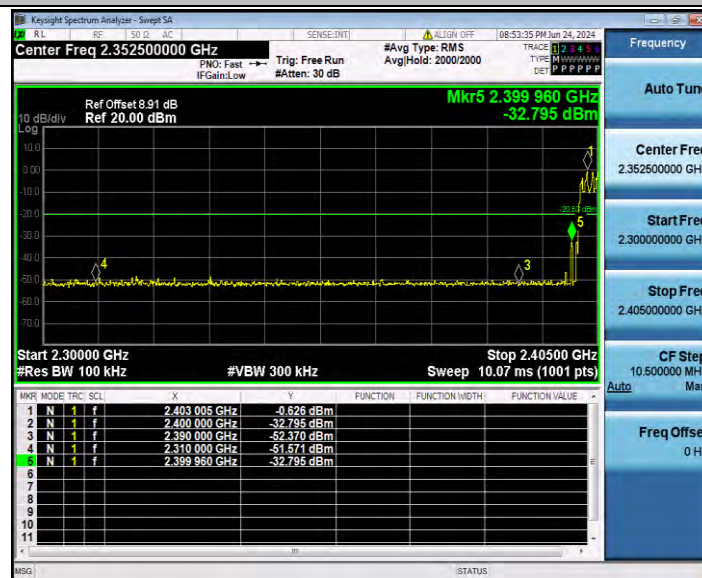
2DH1_Ant1_Low_2402



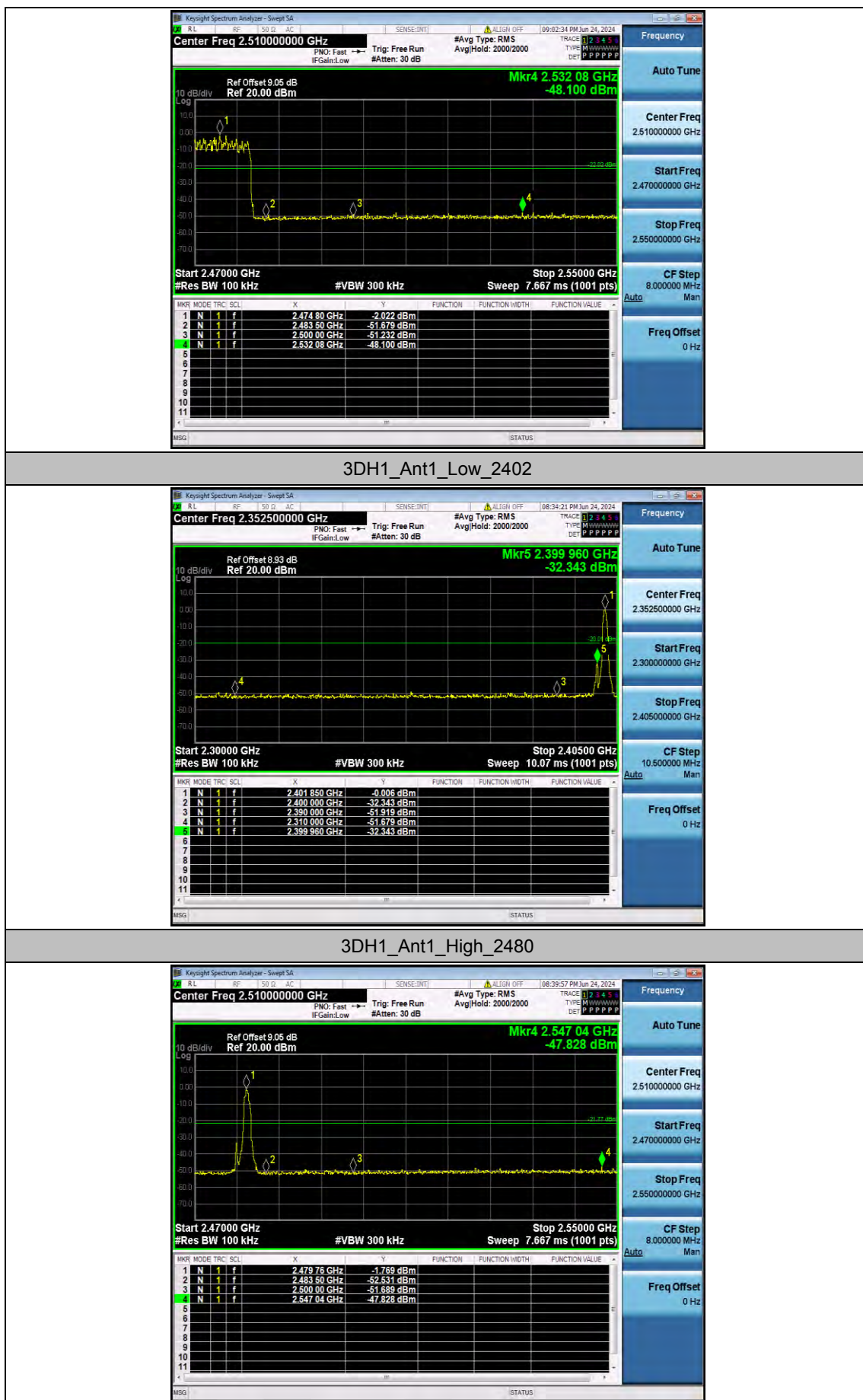
2DH1_Ant1_High_2480



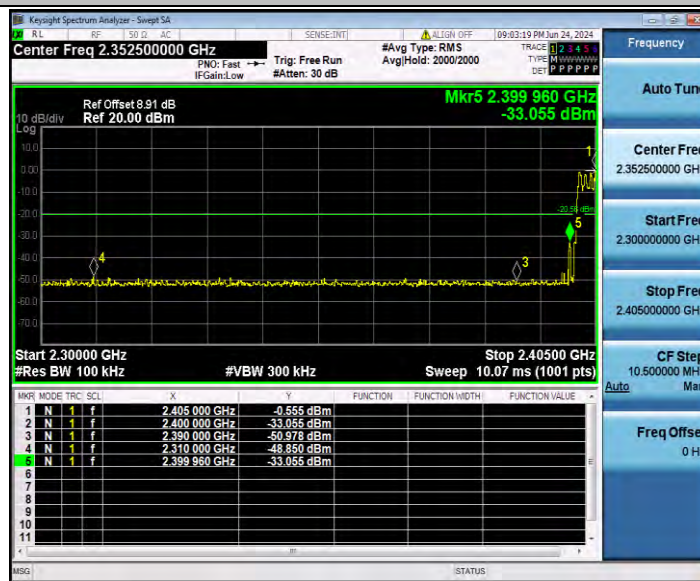
2DH1_Ant1_Low_Hop_2402



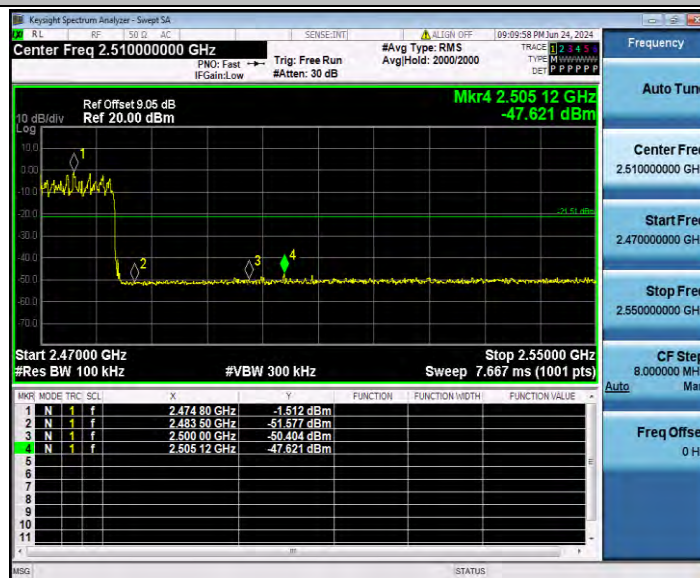
2DH1_Ant1_High_Hop_2480



3DH1_Ant1_Low_Hop_2402



3DH1_Ant1_High_Hop_2480

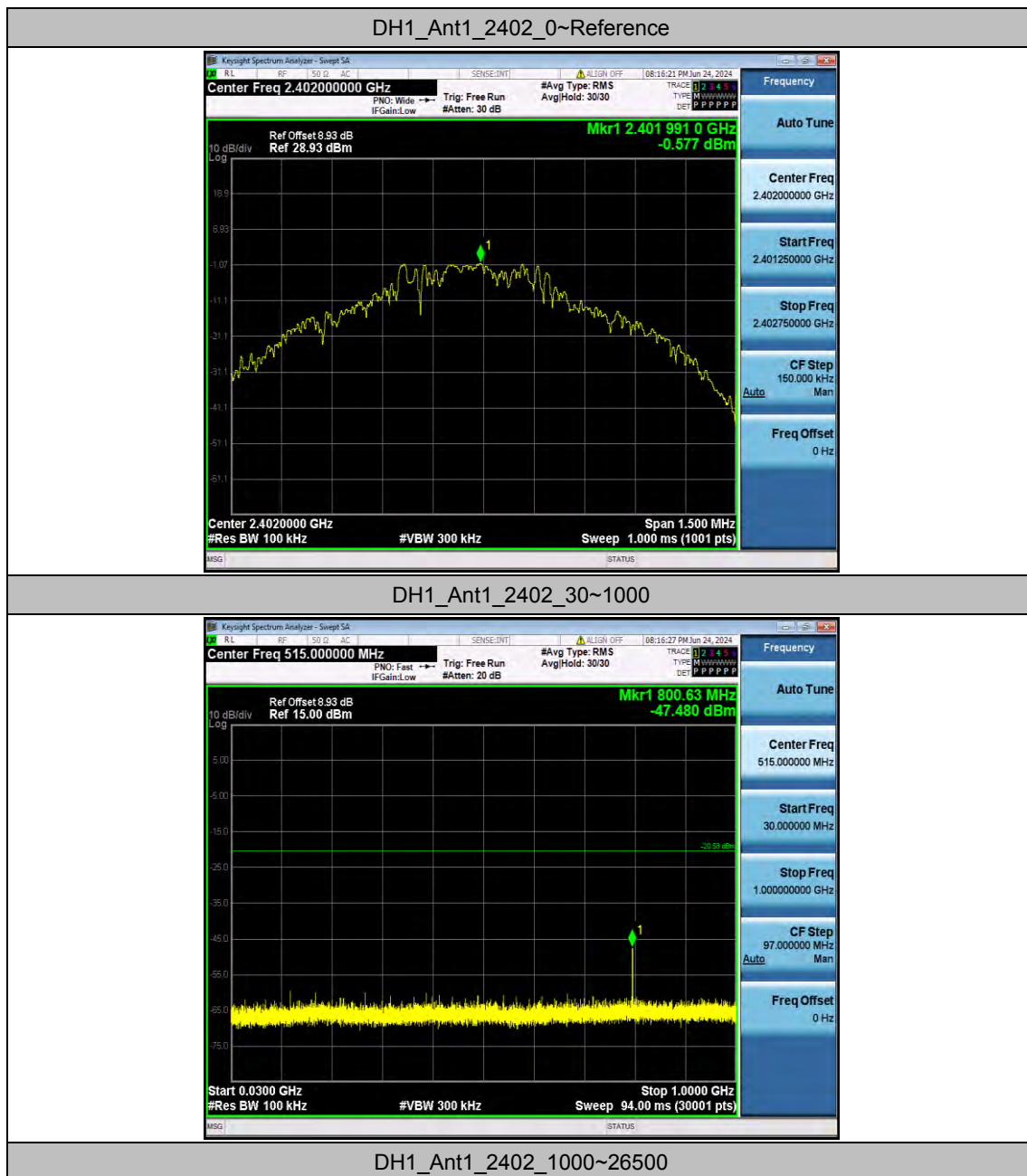


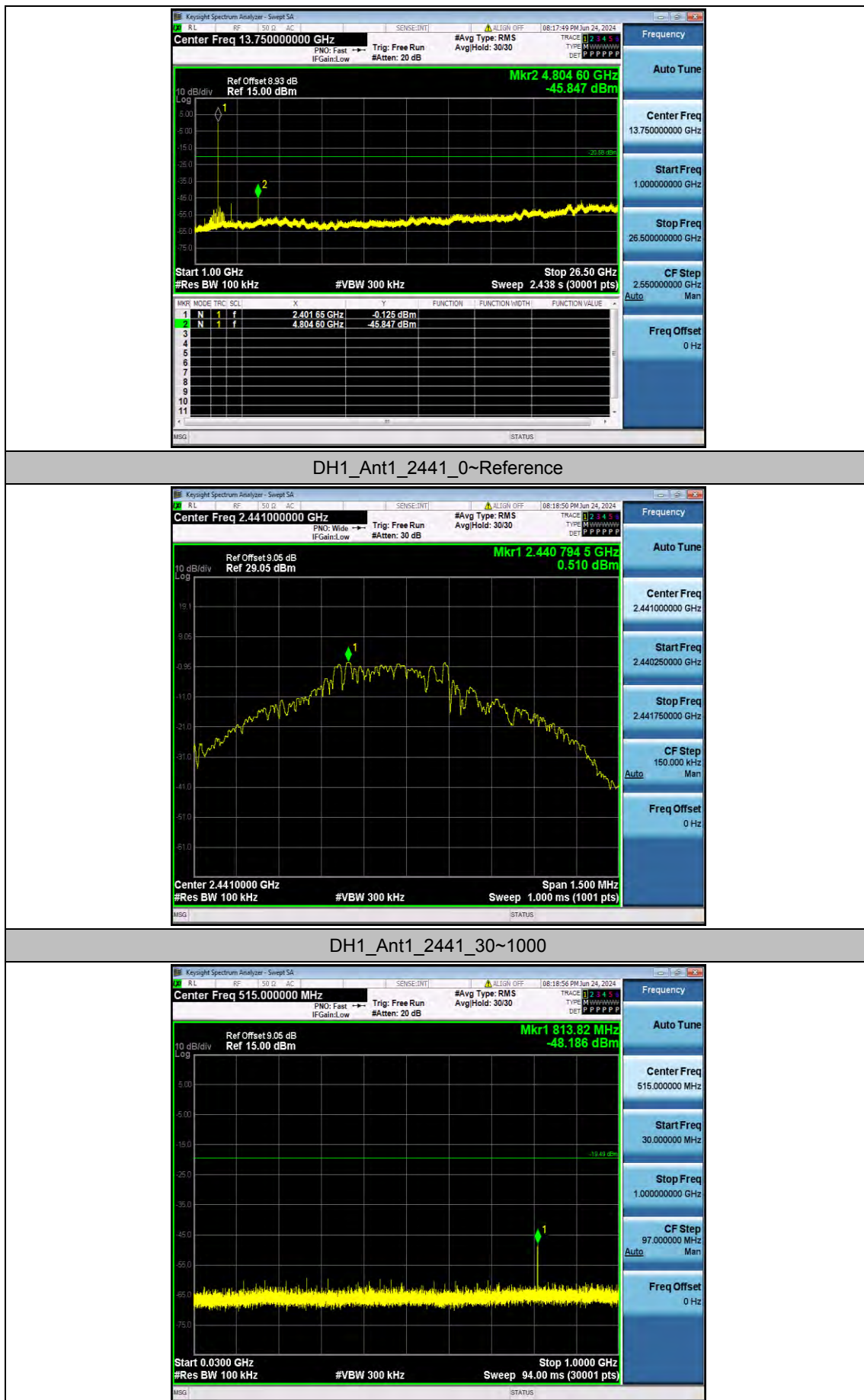
Appendix A.8: Conducted Spurious Emission

Test Result

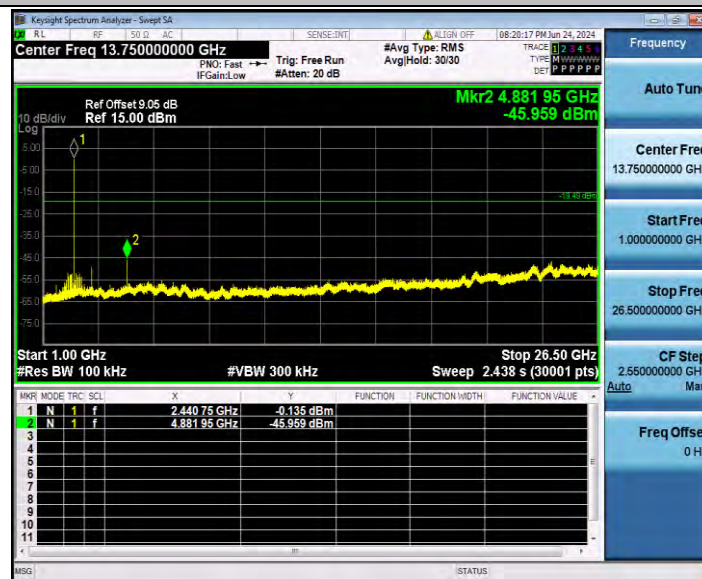
TestMode	Antenna	Freq(MHz)	FreqRange [MHz]	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
DH1	Ant1	2402	Reference	-0.58	-0.58	---	PASS
			30~1000	-0.58	-47.48	≤ -20.58	PASS
			1000~26500	-0.58	-45.85	≤ -20.58	PASS
		2441	Reference	0.51	0.51	---	PASS
			30~1000	0.51	-48.19	≤ -19.49	PASS
			1000~26500	0.51	-45.96	≤ -19.49	PASS
		2480	Reference	-1.84	-1.84	---	PASS
			30~1000	-1.84	-50.21	≤ -21.84	PASS
			1000~26500	-1.84	-47.92	≤ -21.84	PASS
2DH1	Ant1	2402	Reference	-0.32	-0.32	---	PASS
			30~1000	-0.32	-49.64	≤ -20.32	PASS
			1000~26500	-0.32	-45.76	≤ -20.32	PASS
		2441	Reference	-0.24	-0.24	---	PASS
			30~1000	-0.24	-49.81	≤ -20.24	PASS
			1000~26500	-0.24	-47.47	≤ -20.24	PASS
		2480	Reference	-2.04	-2.04	---	PASS
			30~1000	-2.04	-50.95	≤ -22.04	PASS
			1000~26500	-2.04	-48.13	≤ -22.04	PASS
3DH1	Ant1	2402	Reference	-0.29	-0.29	---	PASS
			30~1000	-0.29	-48.87	≤ -20.29	PASS
			1000~26500	-0.29	-45.16	≤ -20.29	PASS
		2441	Reference	0.44	0.44	---	PASS
			30~1000	0.44	-48.8	≤ -19.56	PASS
			1000~26500	0.44	-46.58	≤ -19.56	PASS
		2480	Reference	-1.88	-1.88	---	PASS
			30~1000	-1.88	-50.04	≤ -21.88	PASS
			1000~26500	-1.88	-47.72	≤ -21.88	PASS

Test Graphs





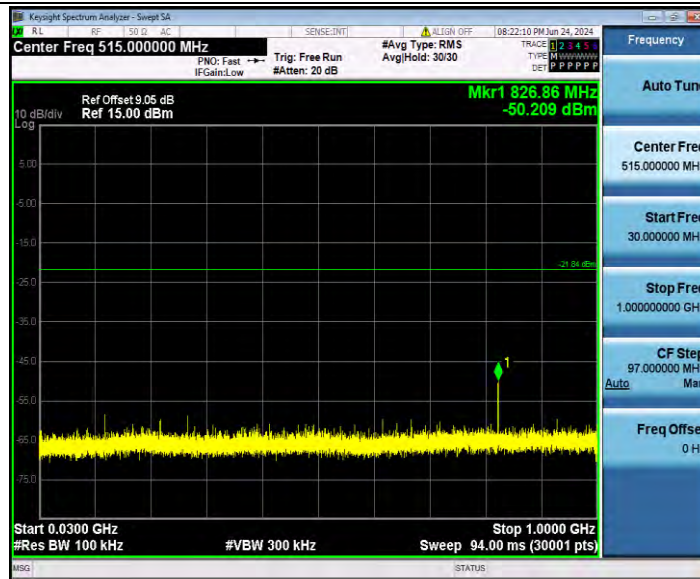
DH1_Ant1_2441_1000~26500



DH1_Ant1_2480_0~Reference



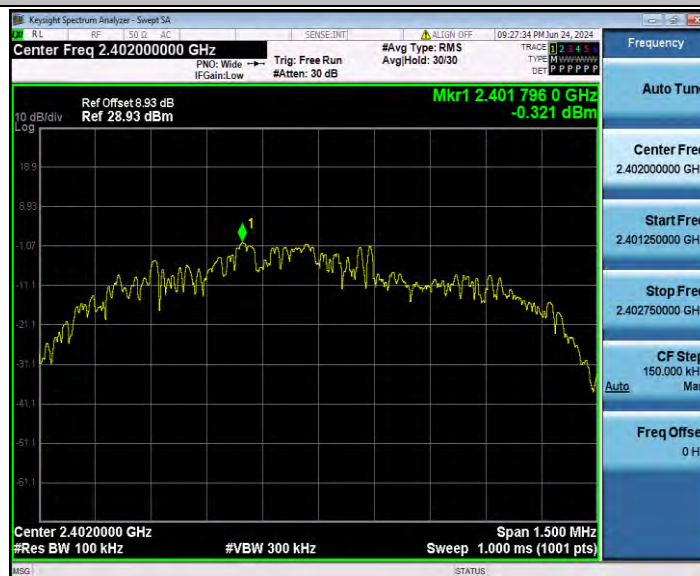
DH1_Ant1_2480_30~1000



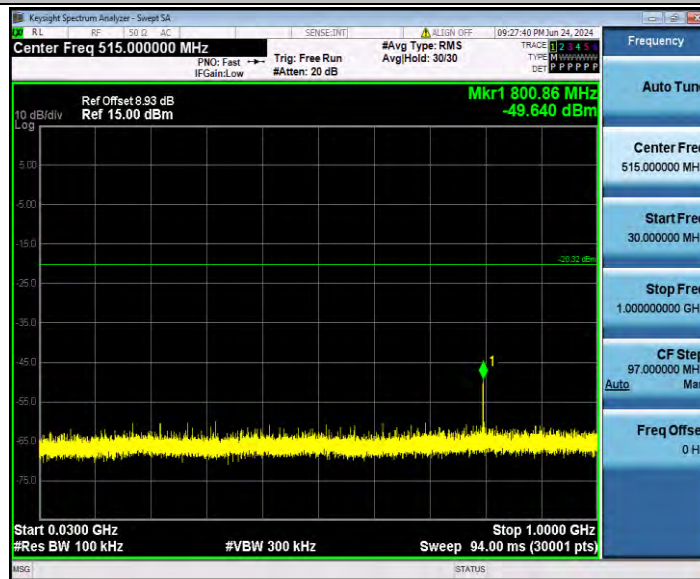
DH1_Ant1_2480_1000~26500



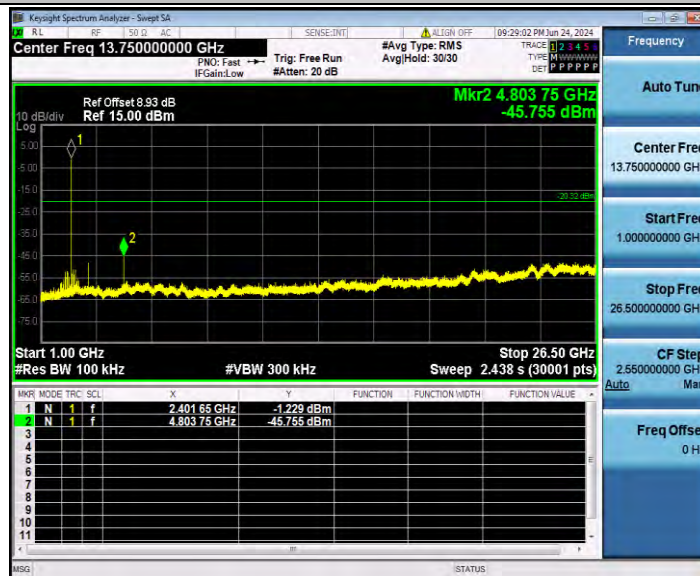
2DH1_Ant1_2402_0~Reference



2DH1_Ant1_2402_30~1000



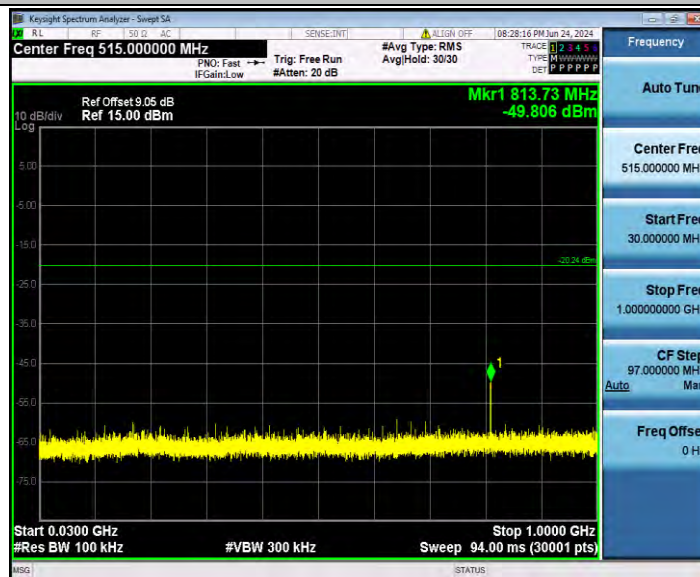
2DH1_Ant1_2402_1000~26500



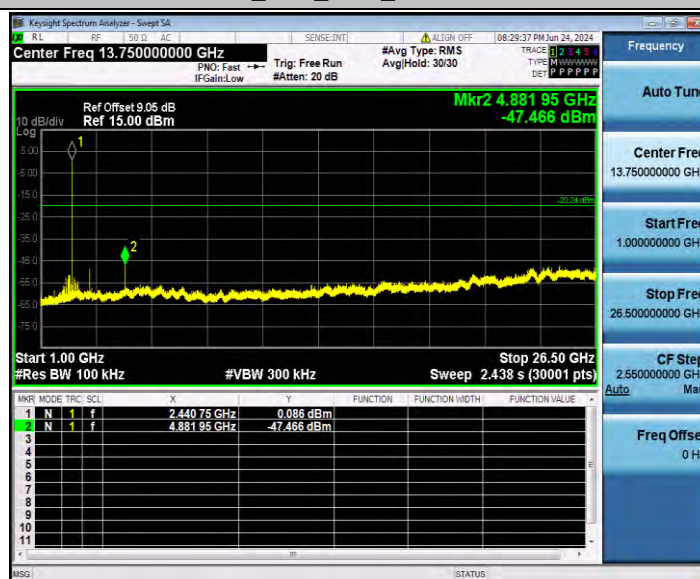
2DH1_Ant1_2441_0~Reference



2DH1_Ant1_2441_30~1000



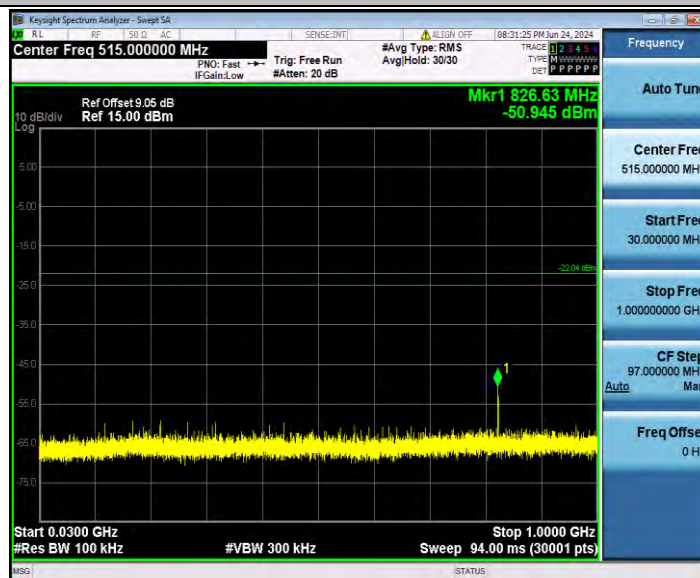
2DH1_Ant1_2441_1000~26500



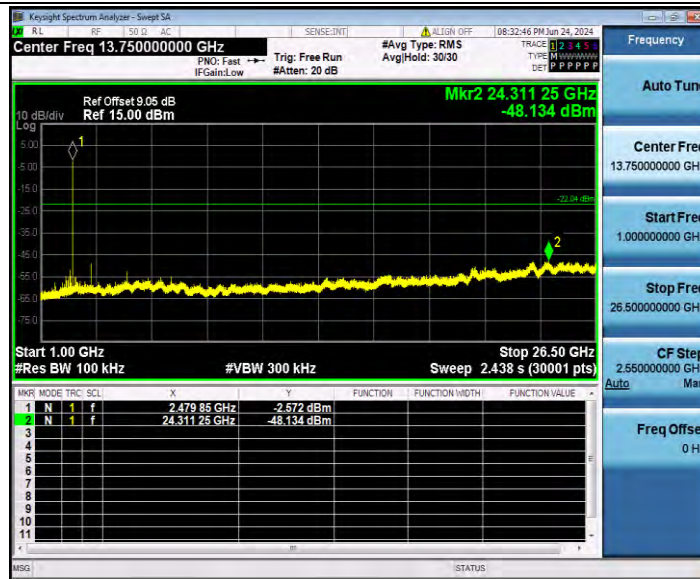
2DH1_Ant1_2480_0~Reference



2DH1_Ant1_2480_30~1000



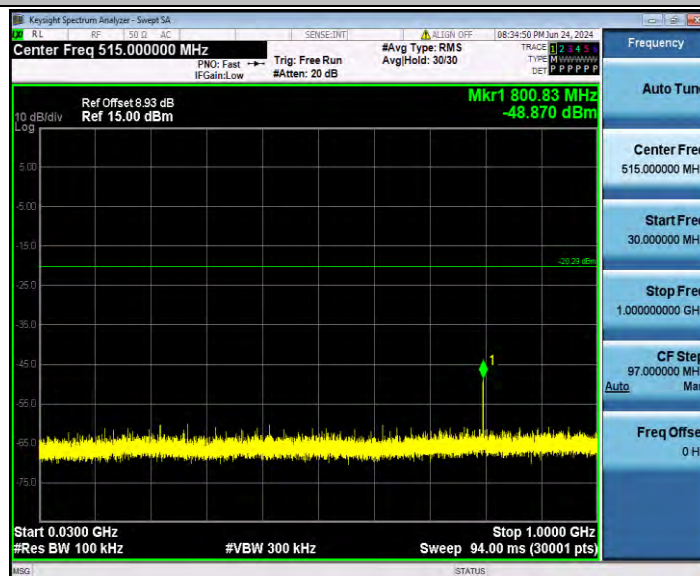
2DH1_Ant1_2480_1000~26500



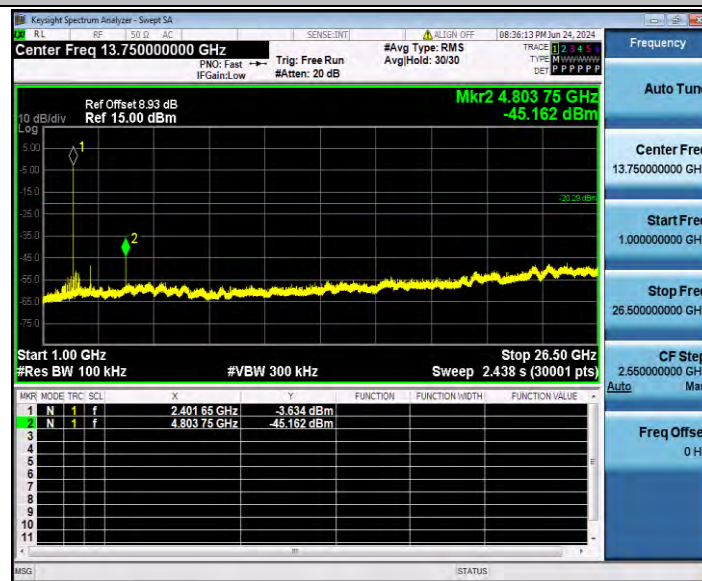
3DH1_Ant1_2402_0~Reference



3DH1_Ant1_2402_30~1000



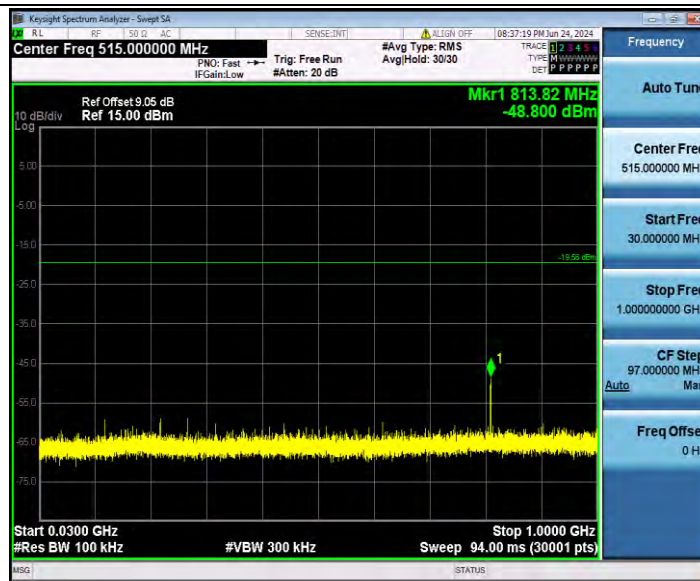
3DH1_Ant1_2402_1000~26500



3DH1_Ant1_2441_0~Reference



3DH1_Ant1_2441_30~1000

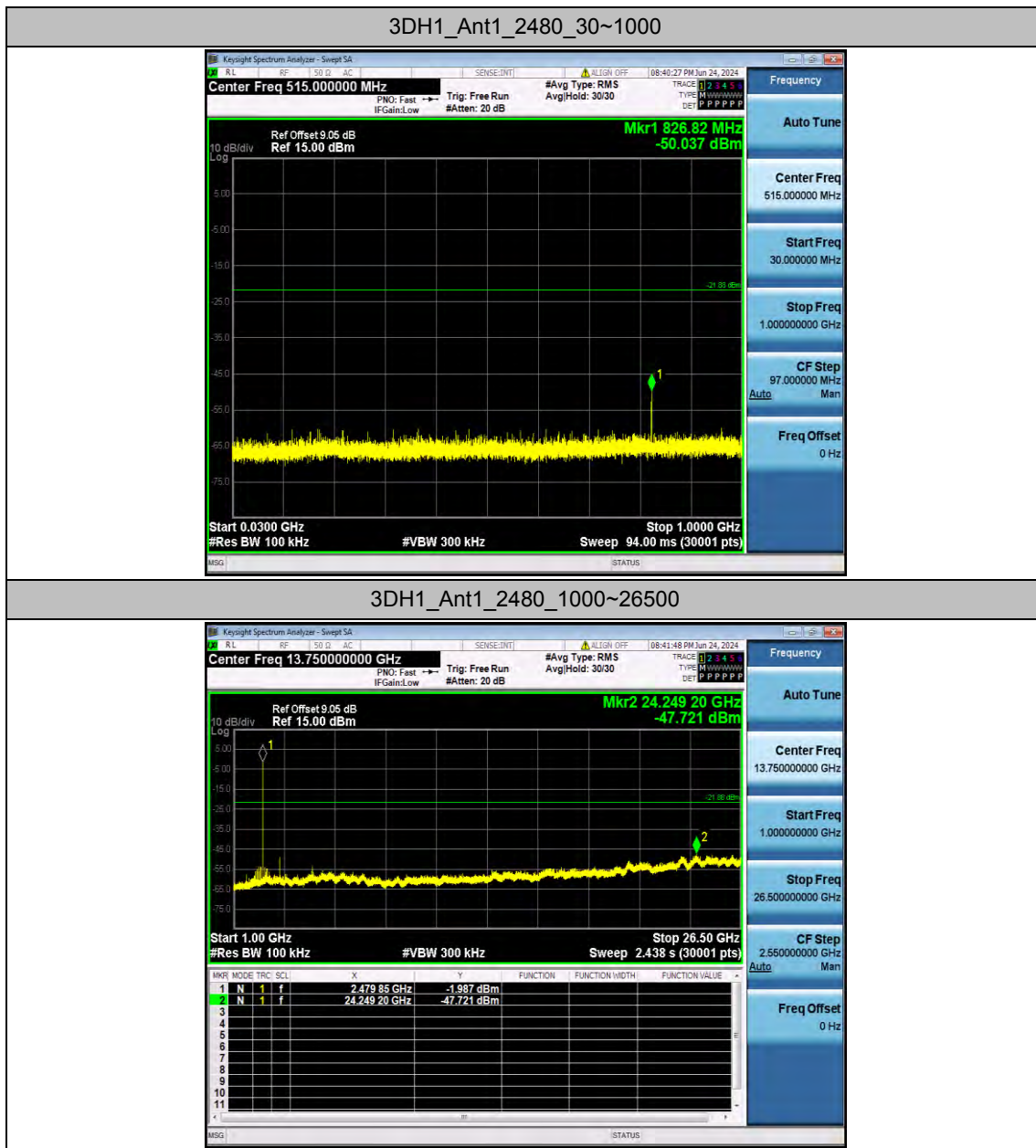


3DH1_Ant1_2441_1000~26500



3DH1_Ant1_2480_0~Reference





Appendix A.9: Emissions in Restricted Bands

Test Result

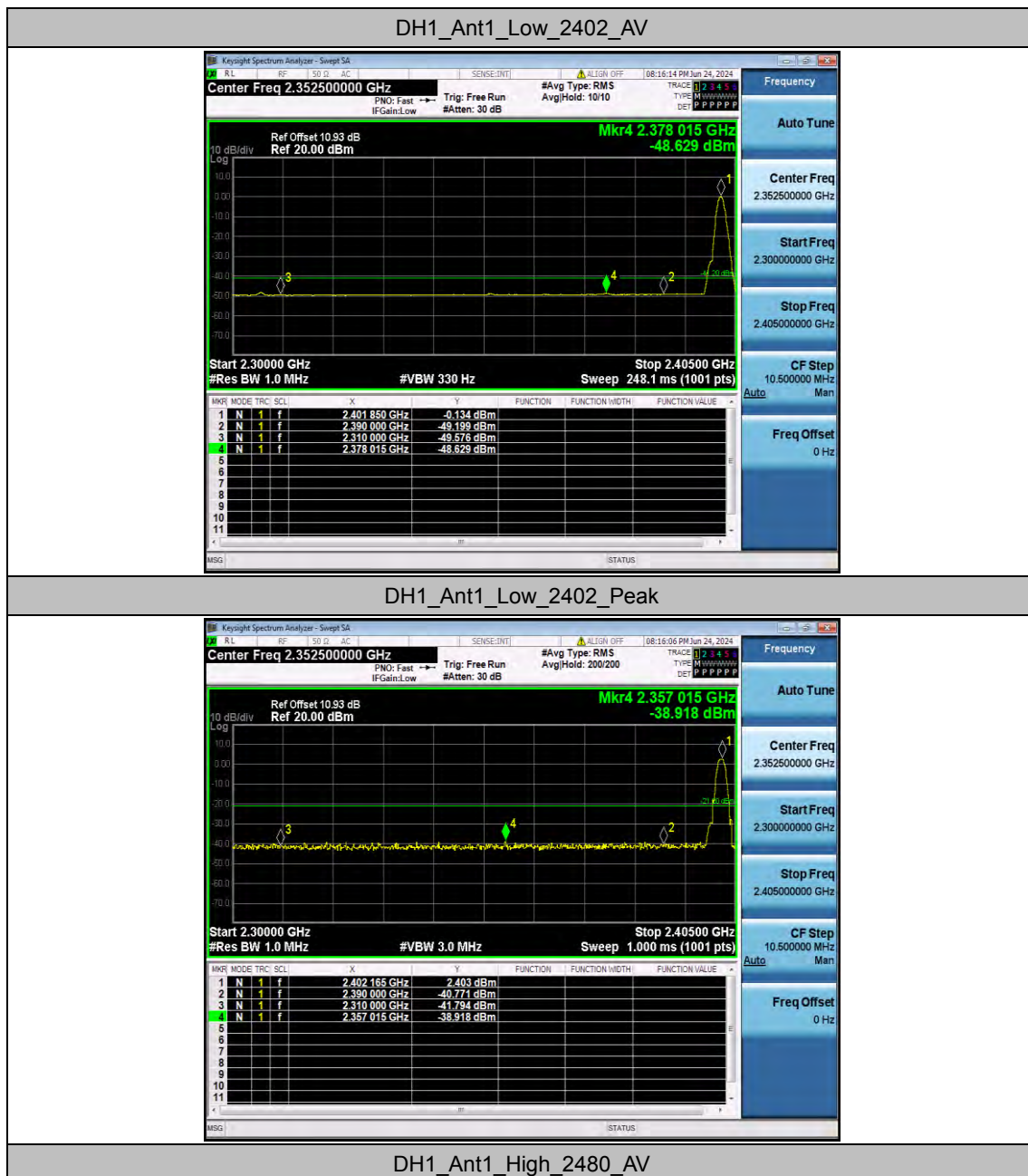
TestMode	Antenna	ChName	Freq(MHz)	Detector	Freq [MHz]	Result [dBm]	Limit [dBm]	Result [dBuV/m]	Limit [dBuV/m]	Verdict
DH1	Ant1	Low	2402	AV	2310.000	-49.58	≤-41.20	45.62	≤54	PASS
				AV	2378.015	-48.63	≤-41.20	46.57	≤54	PASS
				AV	2390.000	-49.2	≤-41.20	46.00	≤54	PASS
				Peak	2310.000	-41.79	≤-21.20	53.41	≤74	PASS
				Peak	2357.015	-38.92	≤-21.20	56.28	≤74	PASS
				Peak	2390.000	-40.77	≤-21.20	54.43	≤74	PASS
		High	2480	AV	2483.500	-48.74	≤-41.20	46.46	≤54	PASS
				AV	2498.640	-48.46	≤-41.20	46.74	≤54	PASS
				AV	2500.000	-48.65	≤-41.20	46.55	≤54	PASS
				Peak	2483.500	-40.64	≤-21.20	54.56	≤74	PASS
				Peak	2484.640	-39.18	≤-21.20	56.02	≤74	PASS
				Peak	2500.000	-39.64	≤-21.20	55.56	≤74	PASS
2DH1	Ant1	Low	2402	AV	2310.000	-49.63	≤-41.20	45.57	≤54	PASS
				AV	2377.490	-48.98	≤-41.20	46.22	≤54	PASS
				AV	2390.000	-49.26	≤-41.20	45.94	≤54	PASS
				Peak	2310.000	-39.52	≤-21.20	55.68	≤74	PASS
				Peak	2312.810	-39.27	≤-21.20	55.93	≤74	PASS
				Peak	2390.000	-41.86	≤-21.20	53.34	≤74	PASS
		High	2480	AV	2483.500	-48.7	≤-41.20	46.50	≤54	PASS
				AV	2499.120	-48.6	≤-41.20	46.60	≤54	PASS
				AV	2500.000	-48.64	≤-41.20	46.56	≤54	PASS
				Peak	2483.500	-41.38	≤-21.20	53.82	≤74	PASS
				Peak	2484.640	-38.89	≤-21.20	56.31	≤74	PASS
				Peak	2500.000	-40.66	≤-21.20	54.54	≤74	PASS
3DH1	Ant1	Low	2402	AV	2310.000	-49.47	≤-41.20	45.73	≤54	PASS
				AV	2377.700	-48.76	≤-41.20	46.44	≤54	PASS
				AV	2390.000	-49.25	≤-41.20	45.95	≤54	PASS
				Peak	2310.000	-42	≤-21.20	53.20	≤74	PASS
				Peak	2363.315	-38	≤-21.20	57.20	≤74	PASS
				Peak	2390.000	-41.05	≤-21.20	54.15	≤74	PASS
		High	2480	AV	2483.500	-48.89	≤-41.20	46.31	≤54	PASS
				AV	2488.720	-48.55	≤-41.20	46.65	≤54	PASS
				AV	2500.000	-48.67	≤-41.20	46.53	≤54	PASS
				Peak	2483.500	-41.17	≤-21.20	54.03	≤74	PASS

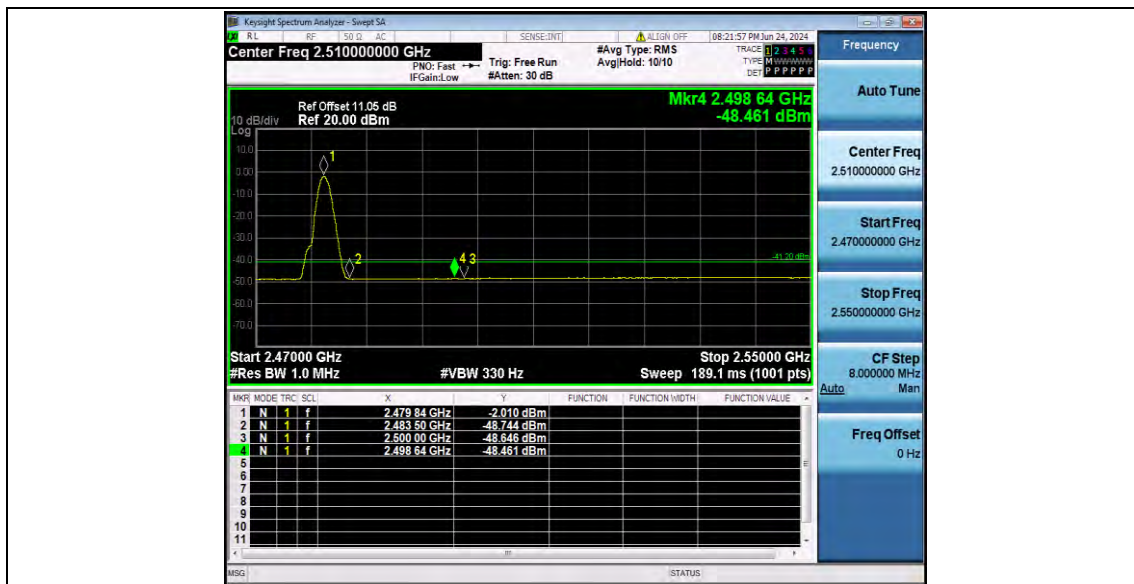
				Peak	2497.760	-38.1	≤ -21.20	57.10	≤ 74	PASS
				Peak	2500.000	-39.54	≤ -21.20	55.66	≤ 74	PASS

Note:

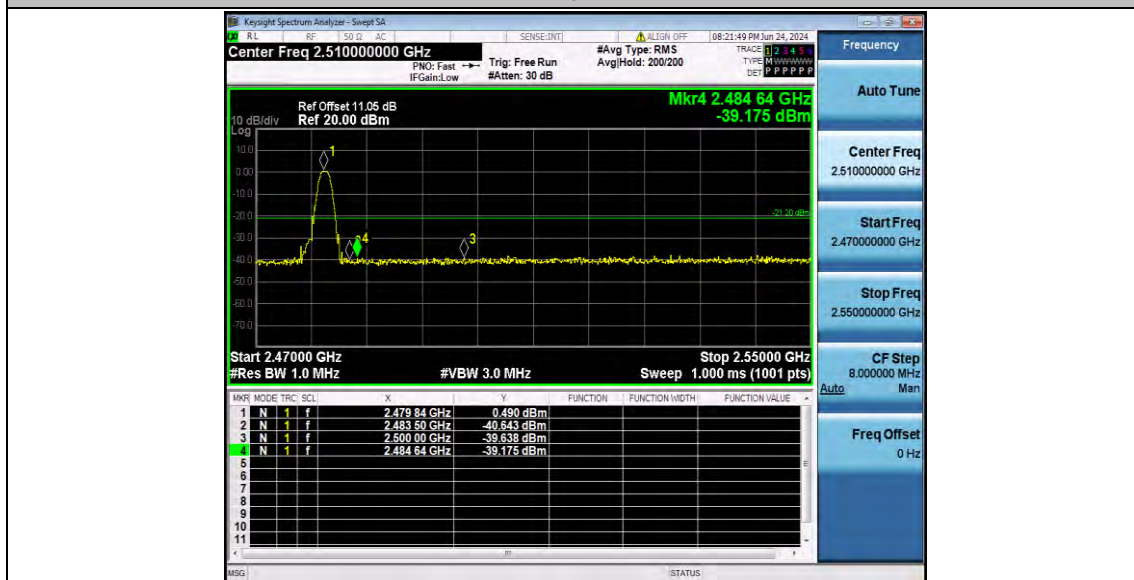
1. The Antenna Gain is compensated in the graph.
2. The Duty Cycle Factor and RBW Factor is compensated in the graph.
3. The limit in dBm for average detector is conversion from 54dBuV/m, according to 15.209(a). The limit in dBm for peak detector is 20dB above the limit of average detector in dBm.

Test Graphs

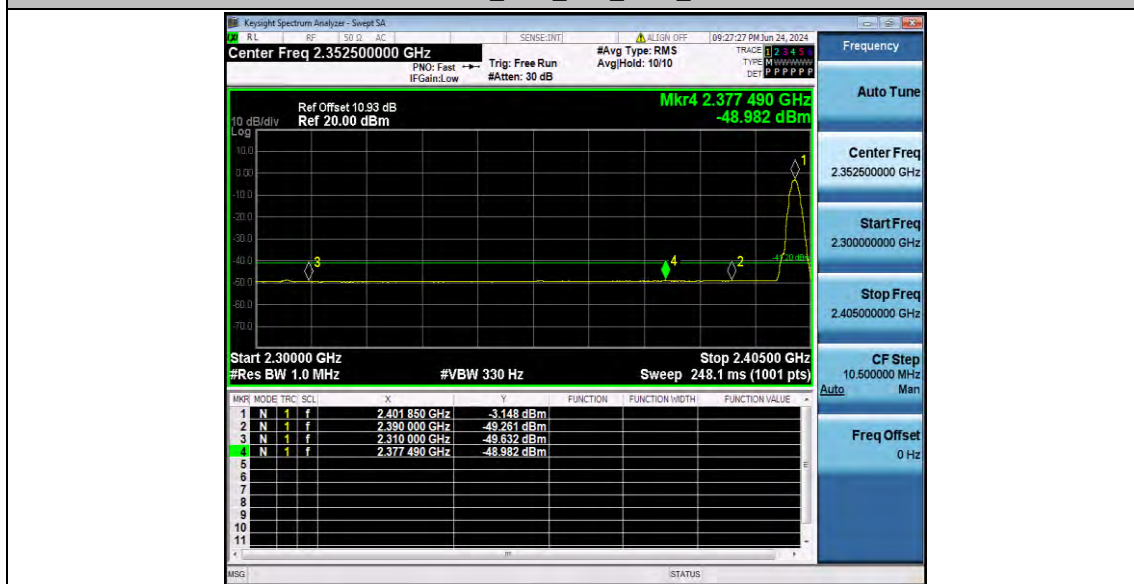




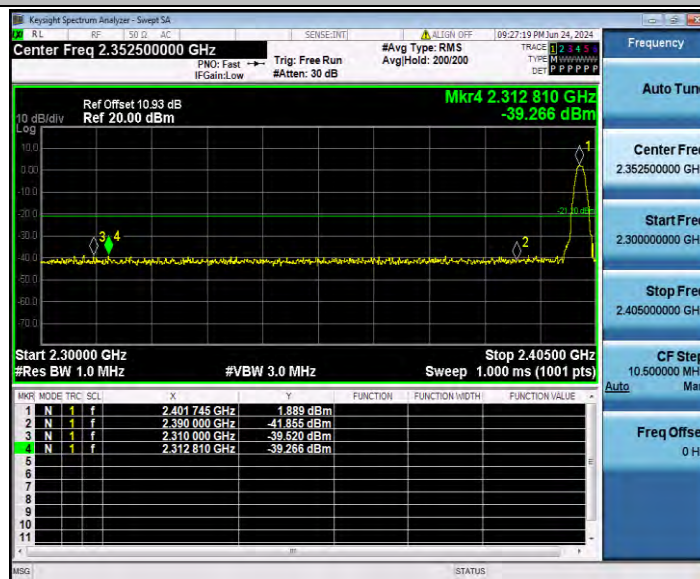
DH1_Ant1_High_2480_Peak



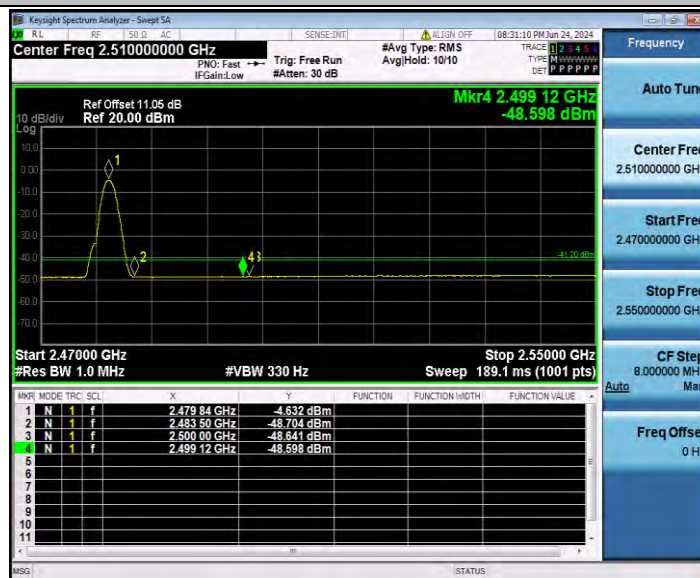
2DH1_Ant1_Low_2402_AV



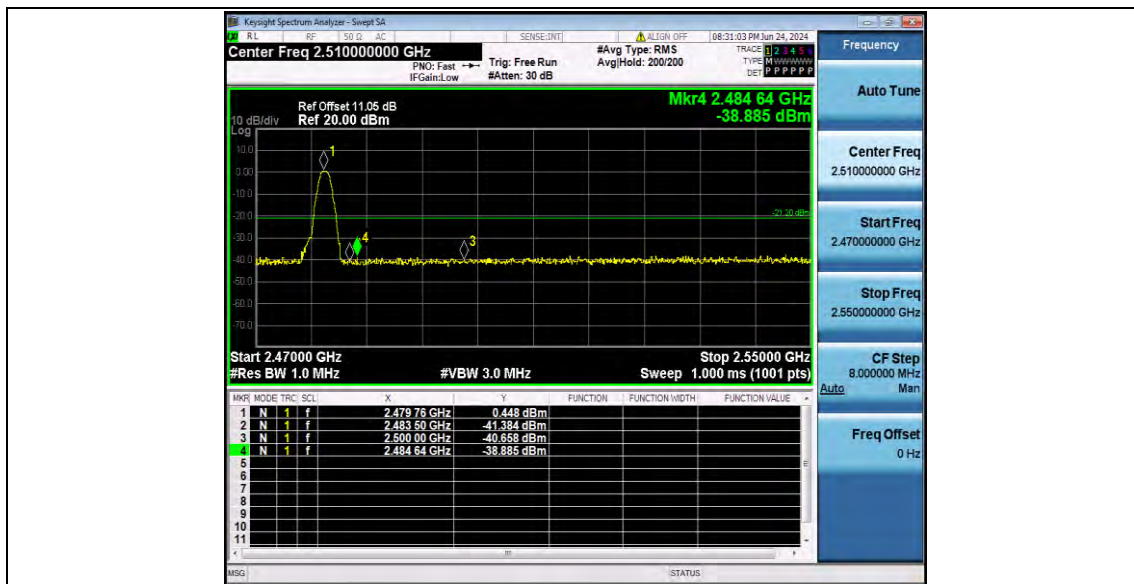
2DH1_Ant1_Low_2402_Peak



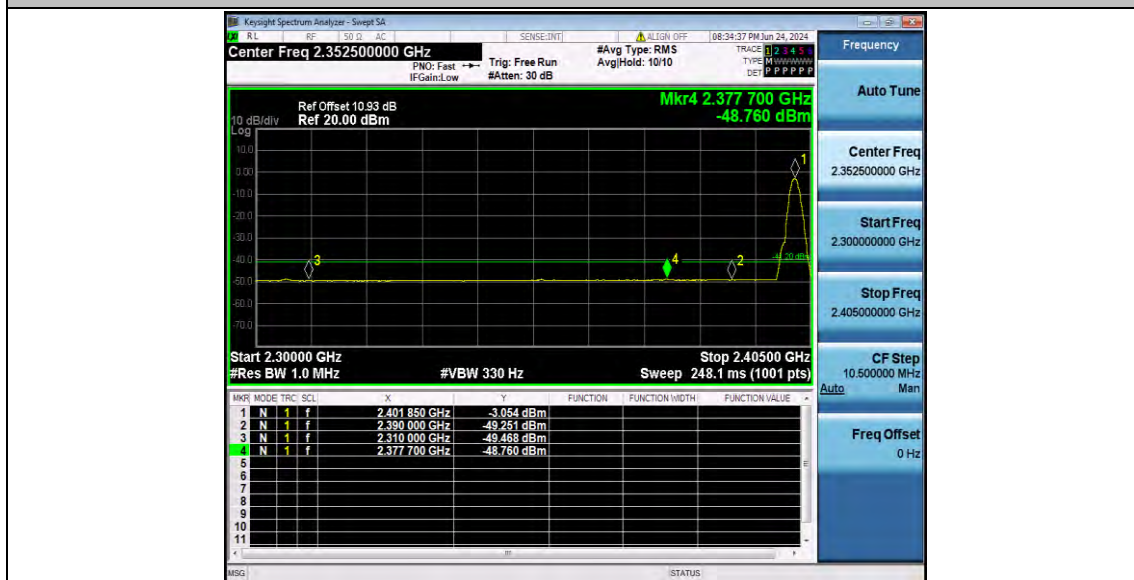
2DH1_Ant1_High_2480_AV



2DH1_Ant1_High_2480_Peak



3DH1_Ant1_Low_2402_AV



3DH1_Ant1_Low_2402_Peak

