

Appendix: Bluetooth Classic

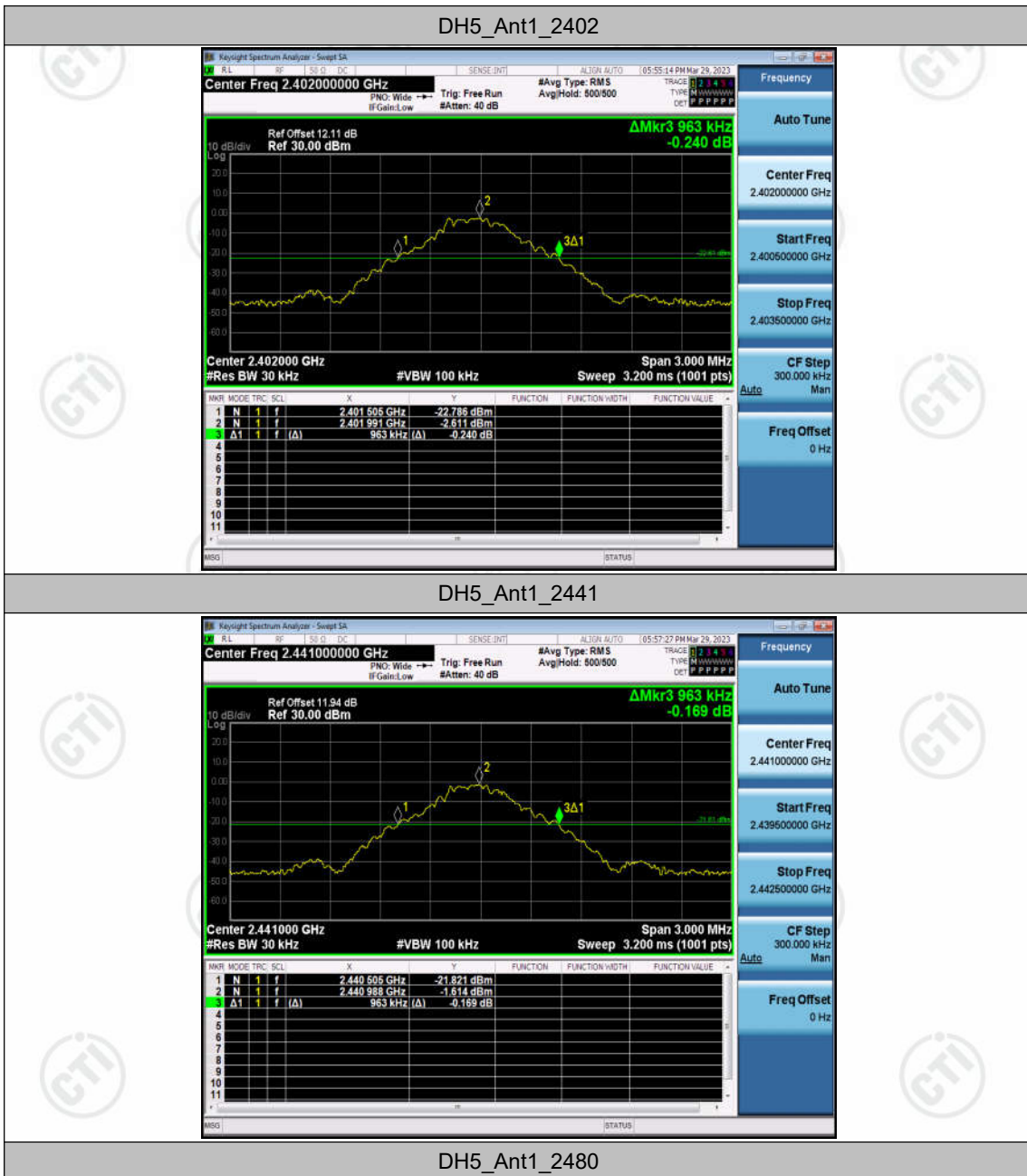
Contents

Appendix A: 20dB Emission Bandwidth	3
Test Result	3
Test Graphs	4
Appendix B: Occupied Channel Bandwidth	9
Test Result	9
Test Graphs	10
Appendix C: Maximum conducted output power	15
Test Result Peak	15
Test Graphs	16
Appendix D: Carrier frequency separation	21
Test Result	21
Test Graphs	22
Appendix E: Time of occupancy	24
Test Result	24
Test Graphs	25
Appendix F: Number of hopping channels	30
Test Result	30
Test Graphs	31
Appendix G: Band edge measurements	33
Test Result	33
Test Graphs	34
Appendix H: Conducted Spurious Emission	40
Test Result	40
Test Graphs	41
Appendix I: Duty Cycle	55
Test Result	55
Test Graphs	56

Appendix A: 20dB Emission Bandwidth**Test Result**

TestMode	Antenna	Frequency[MHz]	20db EBW[MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
DH5	Ant1	2402	0.963	2401.505	2402.468	---	---
		2441	0.963	2440.505	2441.468	---	---
		2480	0.957	2479.508	2480.465	---	---
2DH5	Ant1	2402	1.308	2401.319	2402.627	---	---
		2441	1.311	2440.316	2441.627	---	---
		2480	1.287	2479.340	2480.627	---	---
3DH5	Ant1	2402	1.299	2401.325	2402.624	---	---
		2441	1.305	2440.322	2441.627	---	---
		2480	1.302	2479.325	2480.627	---	---

Test Graphs





2DH5_Ant1_2402



2DH5_Ant1_2441



2DH5_Ant1_2480



3DH5_Ant1_2402



3DH5_Ant1_2441



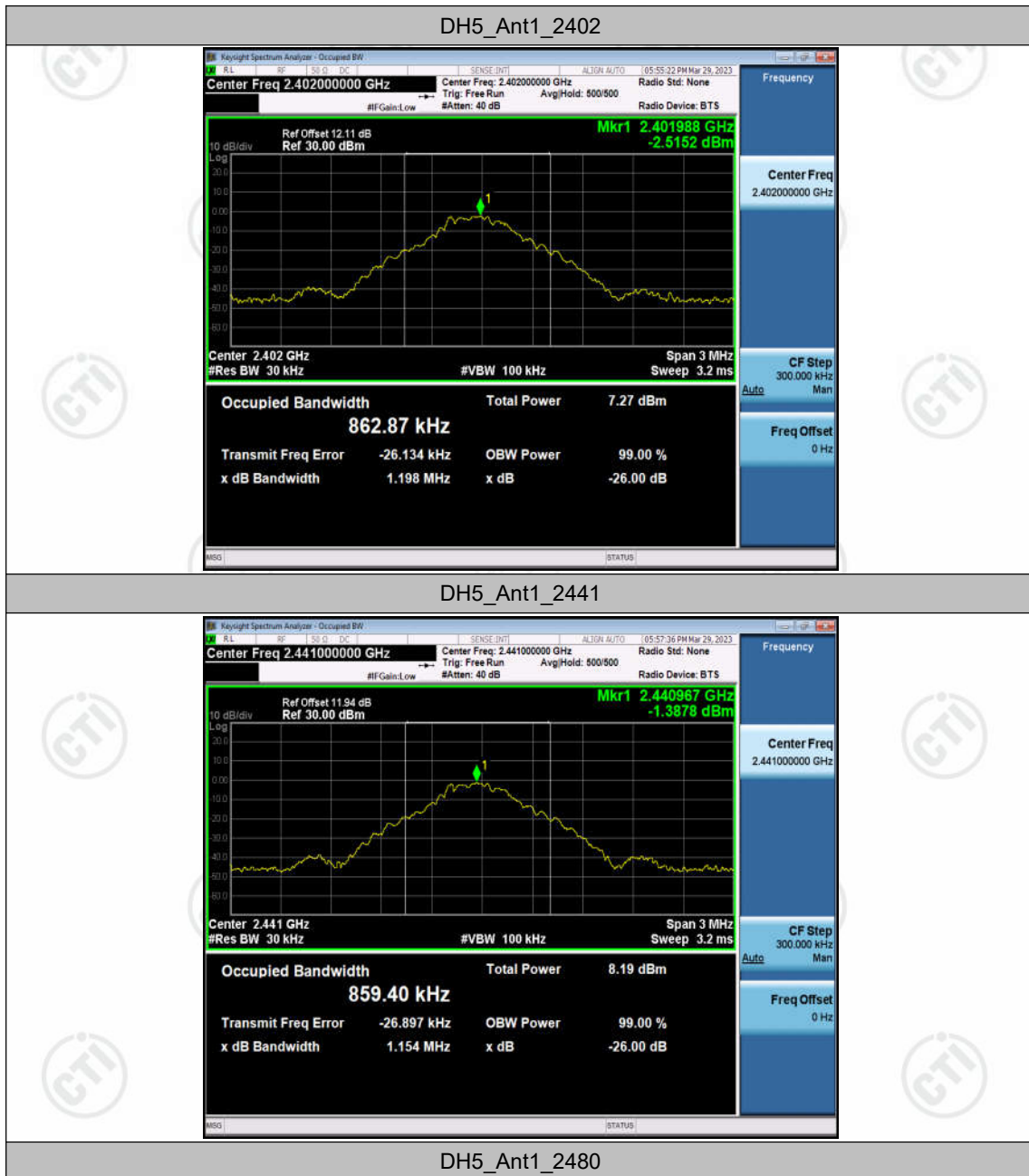
3DH5_Ant1_2480



Appendix B: Occupied Channel Bandwidth**Test Result**

TestMode	Antenna	Frequency[MHz]	OCB [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
DH5	Ant1	2402	0.86287	2401.5424	2402.4053	---	---
		2441	0.85940	2440.5434	2441.4028	---	---
		2480	0.86183	2479.5421	2480.4039	---	---
2DH5	Ant1	2402	1.1721	2401.3856	2402.5577	---	---
		2441	1.1752	2440.3847	2441.5599	---	---
		2480	1.1716	2479.3851	2480.5567	---	---
3DH5	Ant1	2402	1.1829	2401.3833	2402.5662	---	---
		2441	1.1830	2440.3829	2441.5659	---	---
		2480	1.1860	2479.3812	2480.5672	---	---

Test Graphs





2DH5_Ant1_2402



2DH5_Ant1_2441



2DH5_Ant1_2480



3DH5_Ant1_2402



3DH5_Ant1_2441



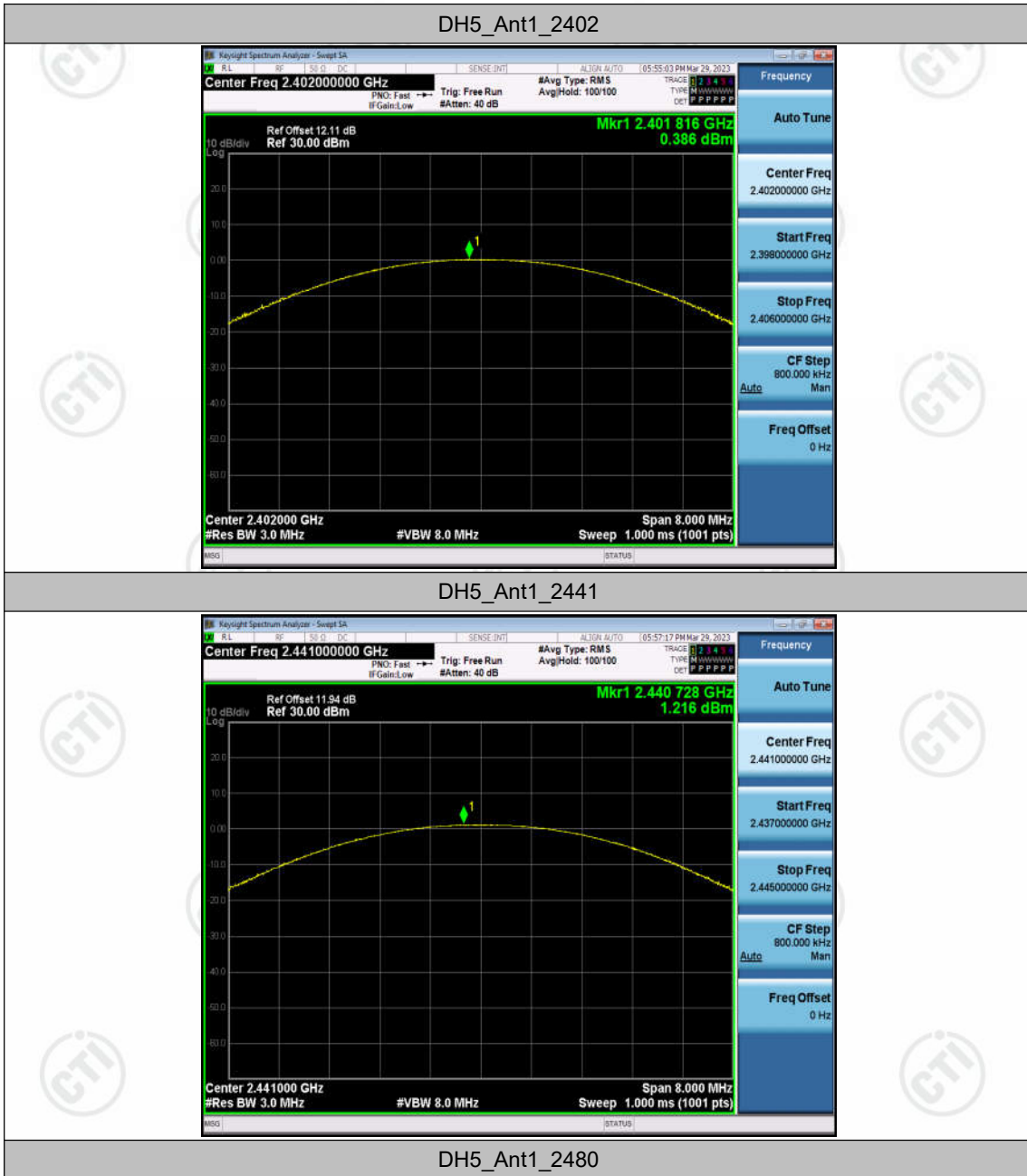
3DH5_Ant1_2480



Appendix C: Maximum conducted output power**Test Result Peak**

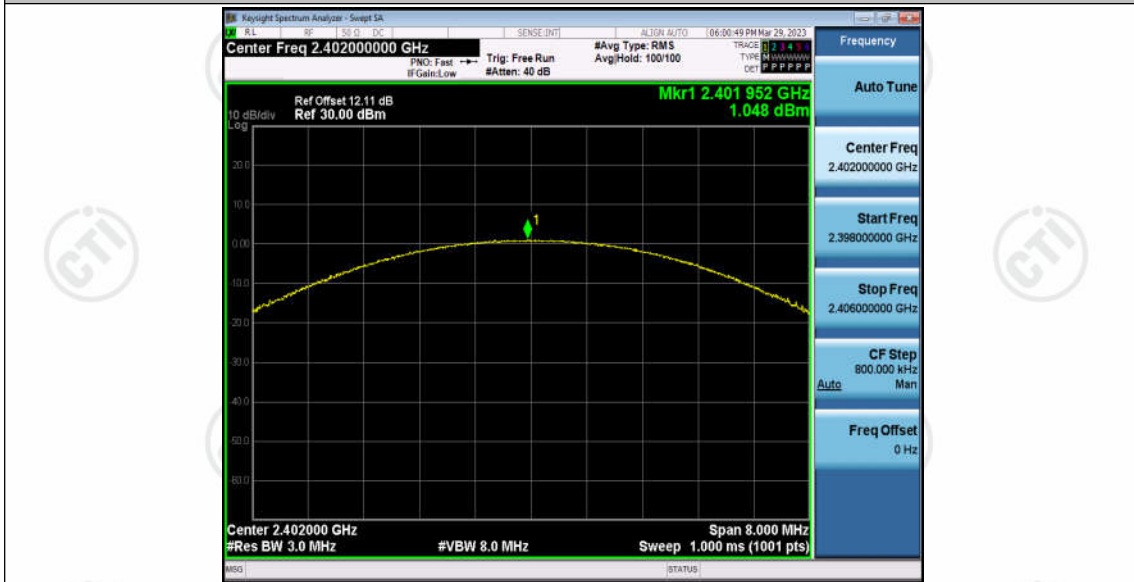
Test Mode	Antenna	Frequency[MHz]	Conducted Peak Power[dBm]	Conducted Limit[dBm]	Verdict
DH5	Ant1	2402	0.39	≤30	PASS
		2441	1.22	≤20.97	PASS
		2480	1.89	≤20.97	PASS
2DH5	Ant1	2402	1.05	≤30	PASS
		2441	1.97	≤20.97	PASS
		2480	2.69	≤20.97	PASS
3DH5	Ant1	2402	1.48	≤30	PASS
		2441	2.36	≤20.97	PASS
		2480	3.14	≤20.97	PASS

Test Graphs





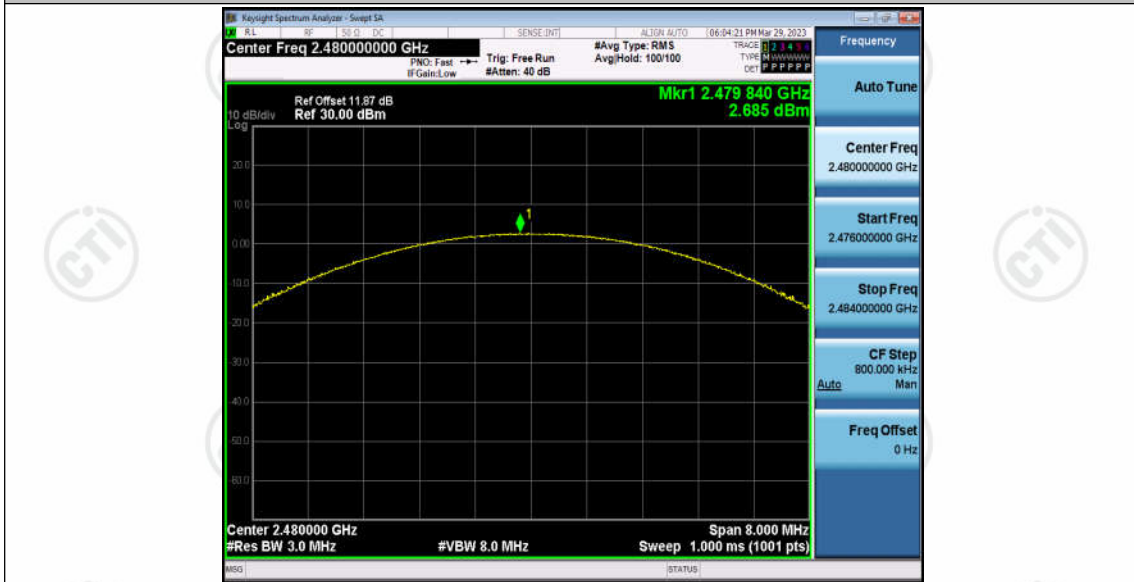
2DH5_Ant1_2402



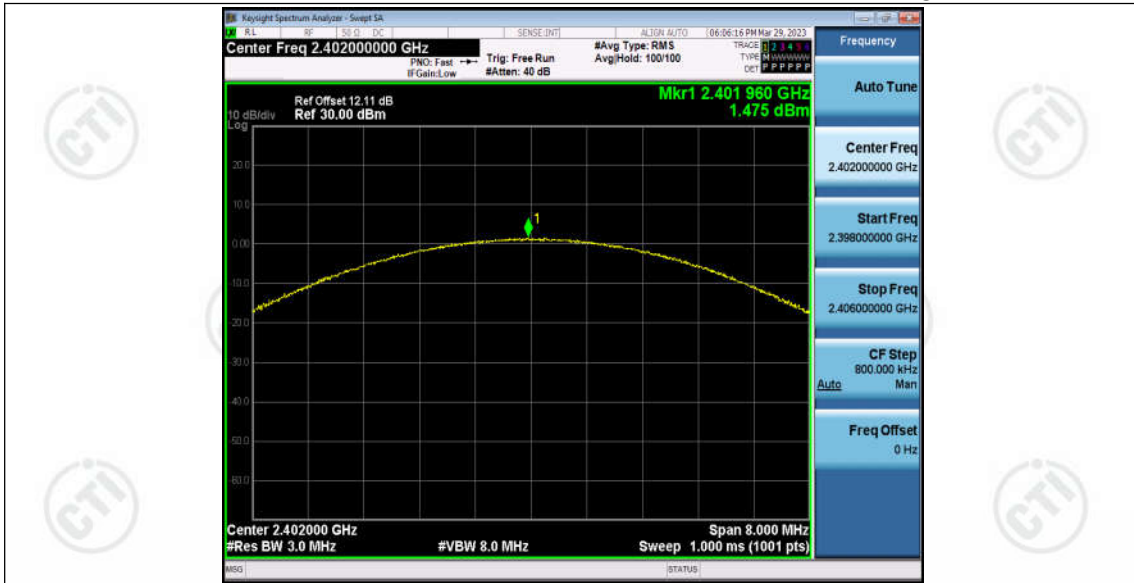
2DH5_Ant1_2441



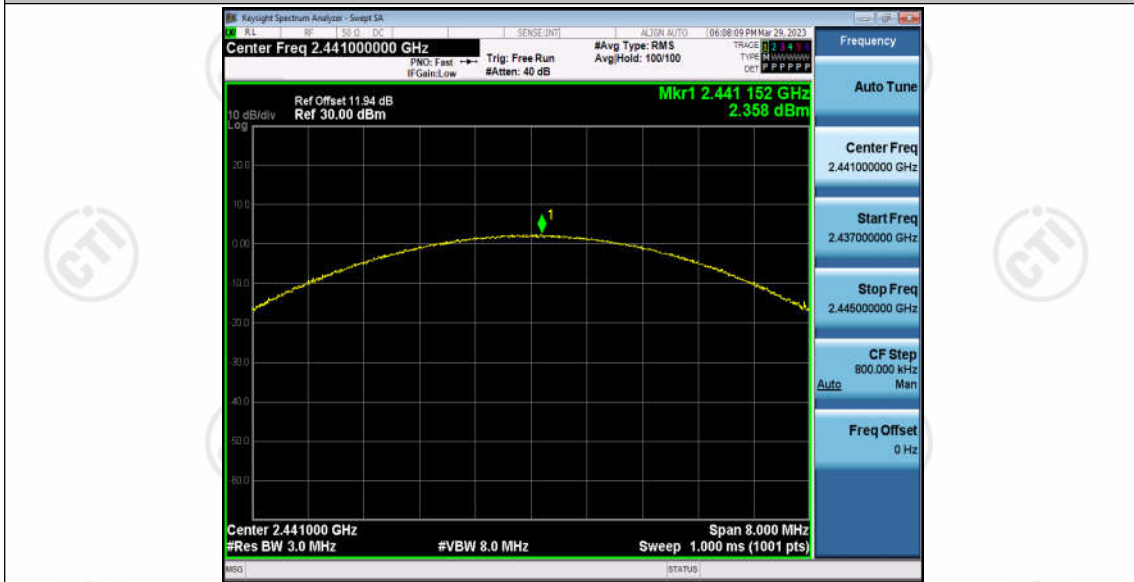
2DH5_Ant1_2480



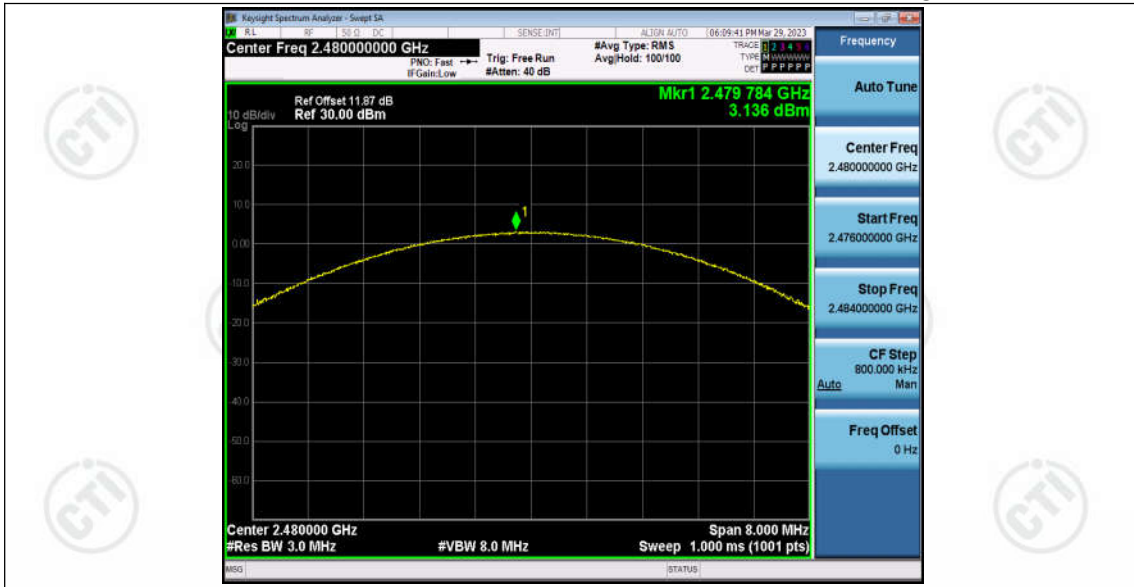
3DH5_Ant1_2402



3DH5_Ant1_2441



3DH5_Ant1_2480

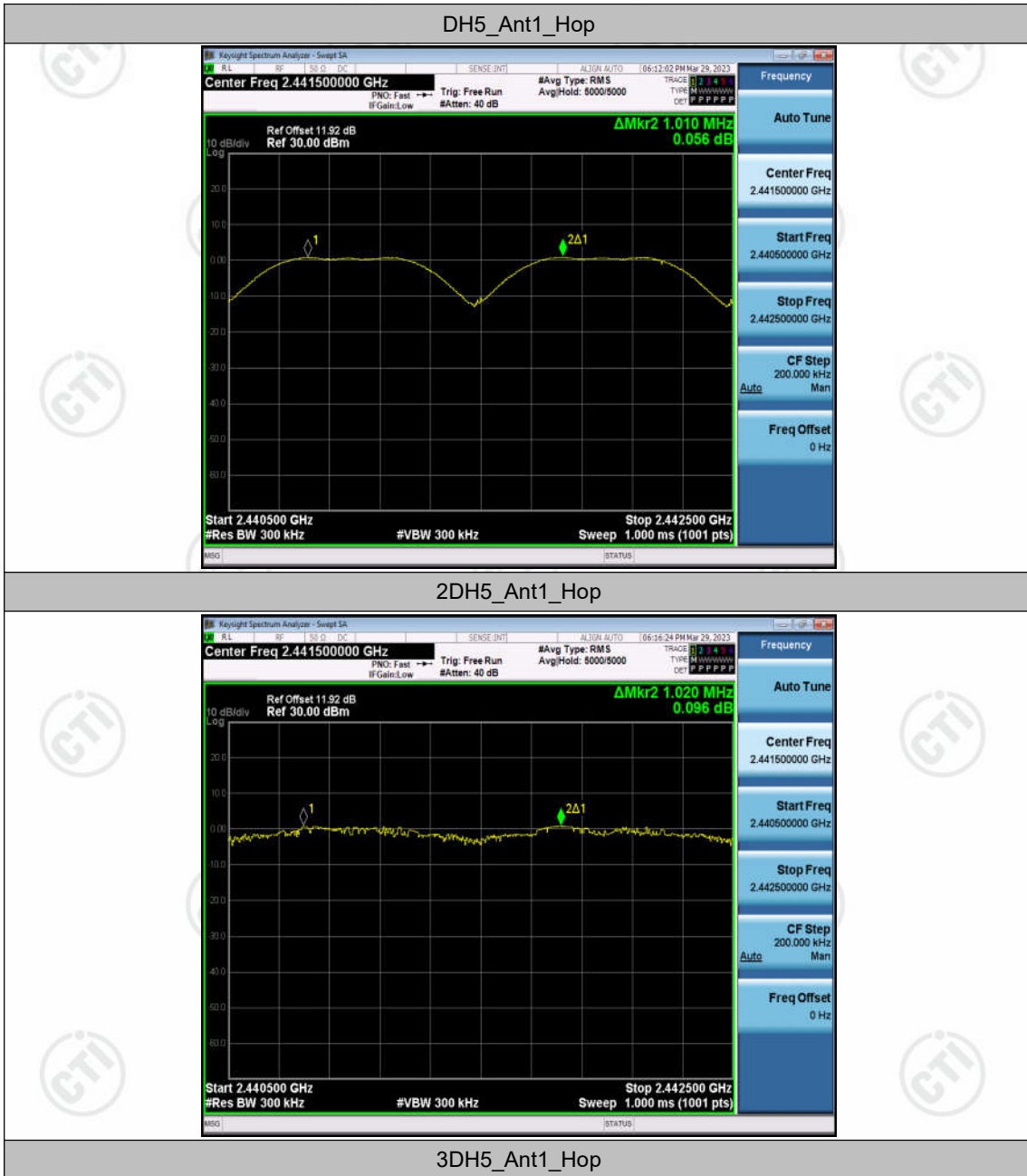


Appendix D: Carrier frequency separation

Test Result

TestMode	Antenna	Frequency[MHz]	Result[MHz]	Limit[MHz]	Verdict
DH5	Ant1	Hop	1.01	≥0.963	PASS
2DH5	Ant1	Hop	1.02	≥0.874	PASS
3DH5	Ant1	Hop	1.182	≥0.870	PASS

Test Graphs

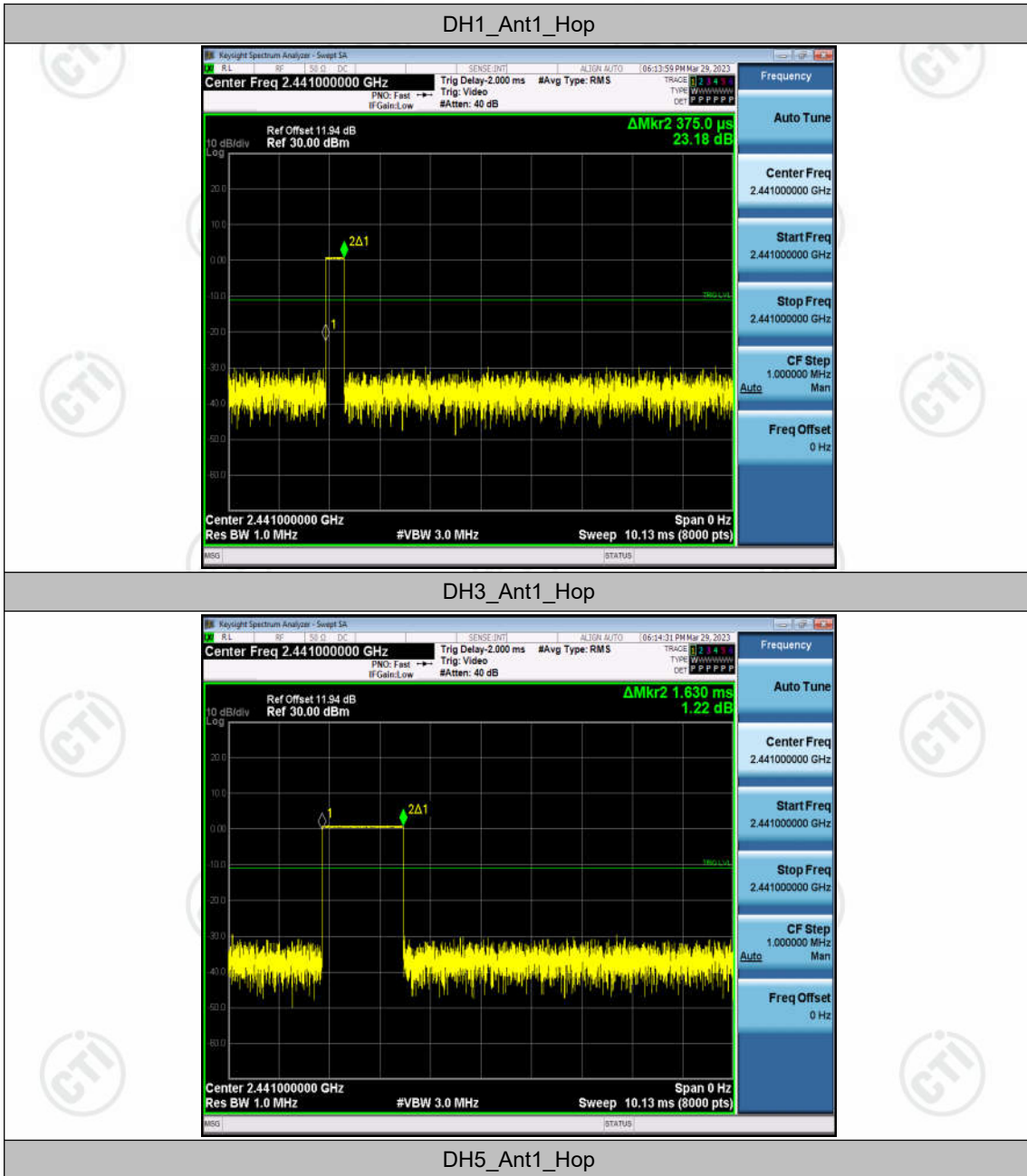


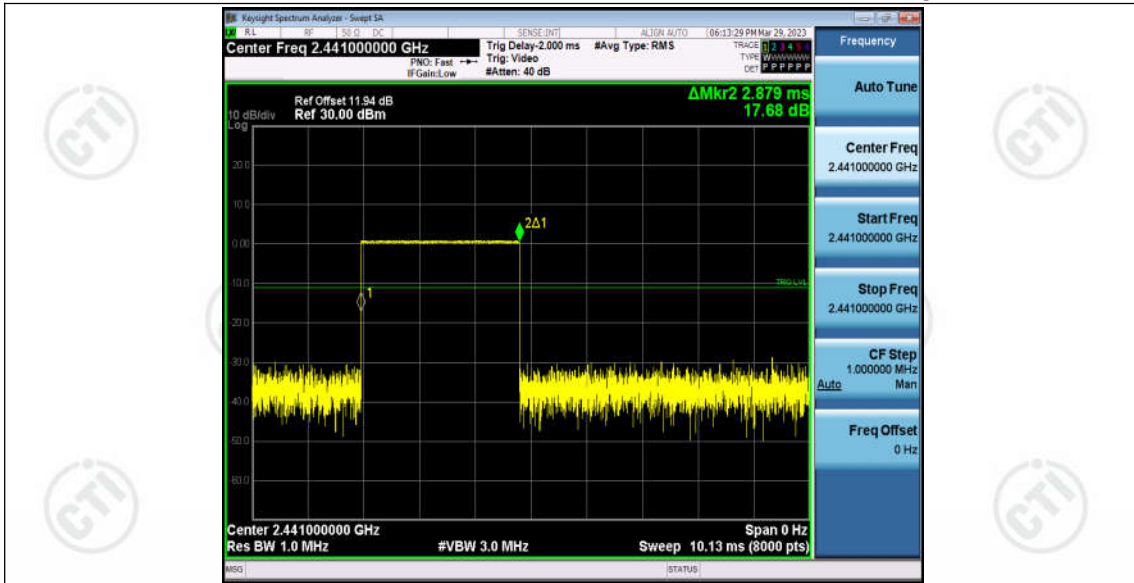


Appendix E: Time of occupancy**Test Result**

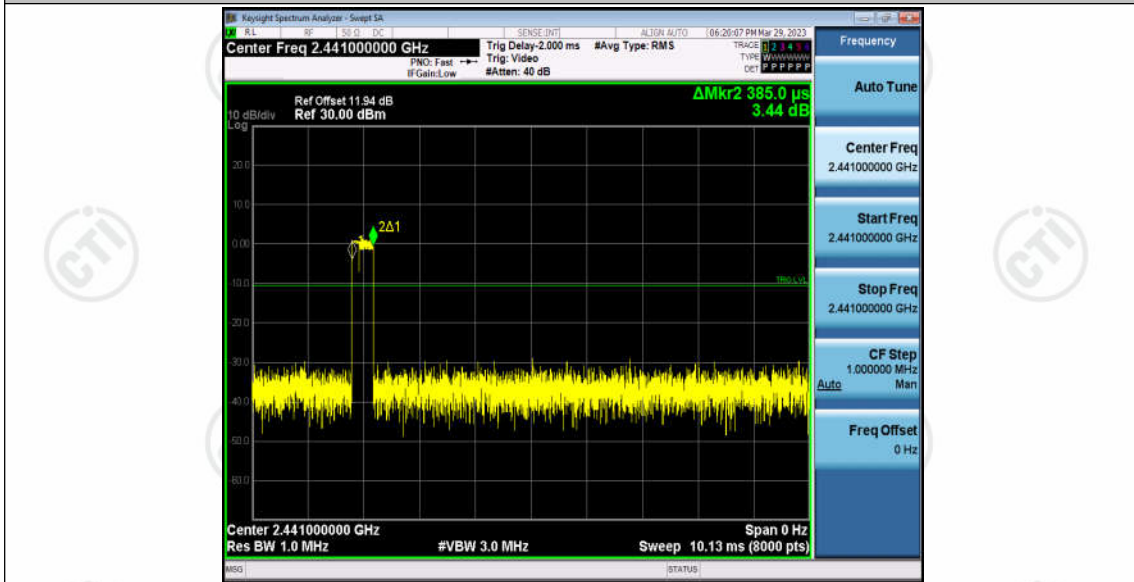
TestMode	Antenna	Frequency[MHz]	BurstWidth [ms]	TotalHops [Num]	Result[s]	Limit[s]	Verdict
DH1	Ant1	Hop	0.375	320	0.12	≤0.4	PASS
DH3	Ant1	Hop	1.630	160	0.261	≤0.4	PASS
DH5	Ant1	Hop	2.879	106.67	0.307	≤0.4	PASS
2DH1	Ant1	Hop	0.385	320	0.123	≤0.4	PASS
2DH3	Ant1	Hop	1.637	160	0.262	≤0.4	PASS
2DH5	Ant1	Hop	2.885	106.67	0.308	≤0.4	PASS
3DH1	Ant1	Hop	0.385	320	0.123	≤0.4	PASS
3DH3	Ant1	Hop	1.637	160	0.262	≤0.4	PASS
3DH5	Ant1	Hop	2.885	106.67	0.308	≤0.4	PASS

Test Graphs

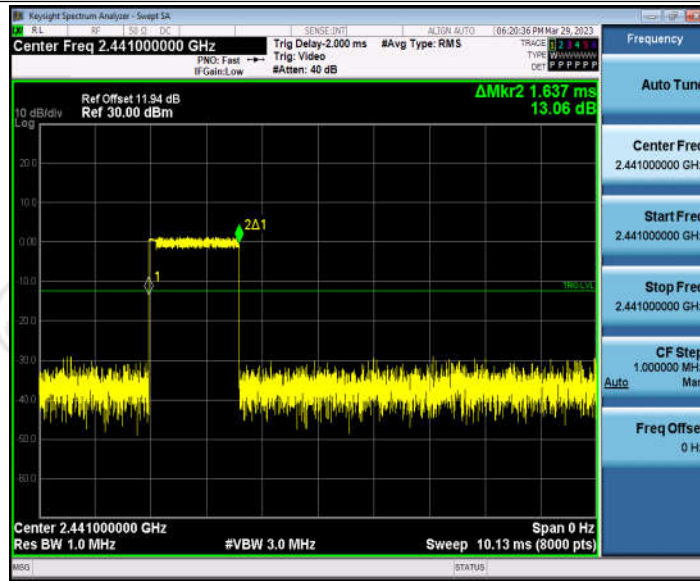




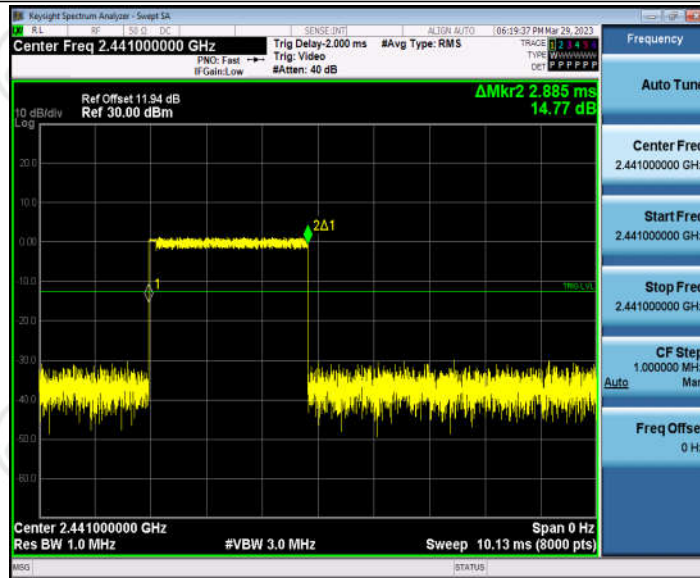
2DH1_Ant1_Hop



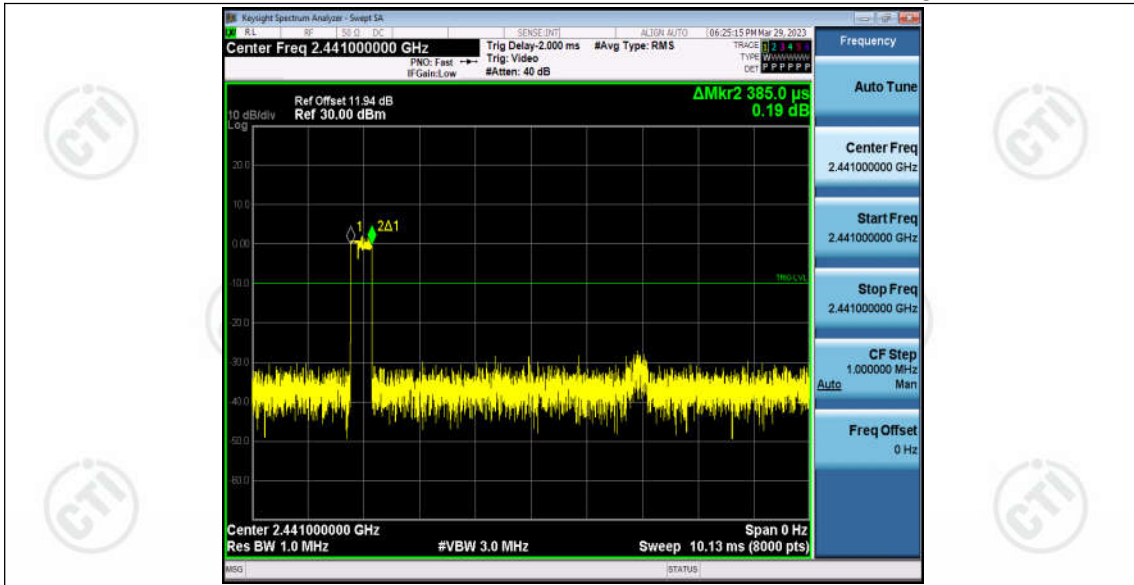
2DH3_Ant1_Hop



2DH5_Ant1_Hop



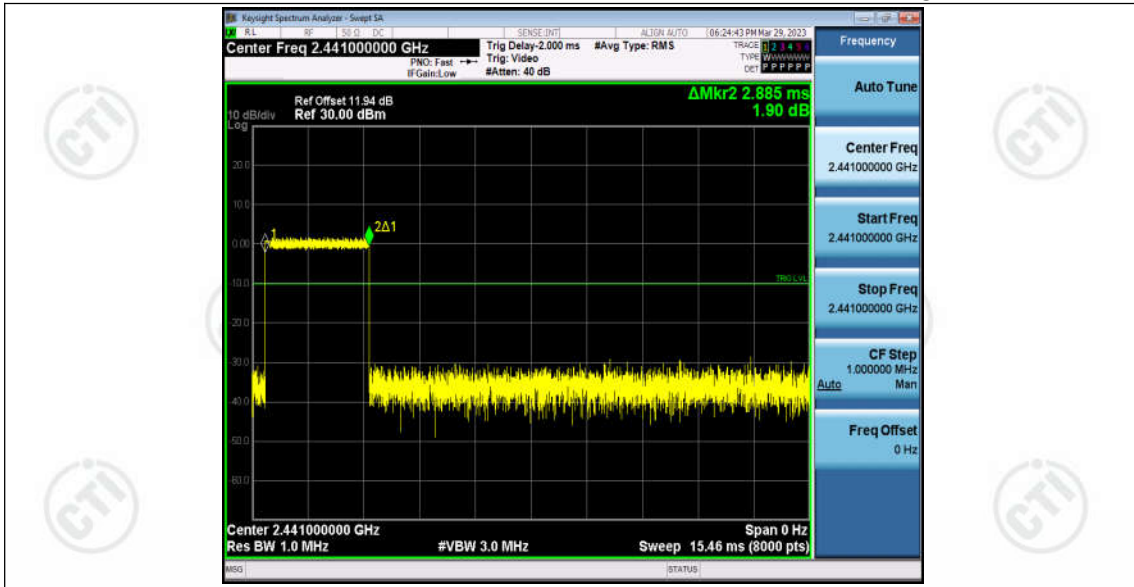
3DH1_Ant1_Hop



3DH3_Ant1_Hop



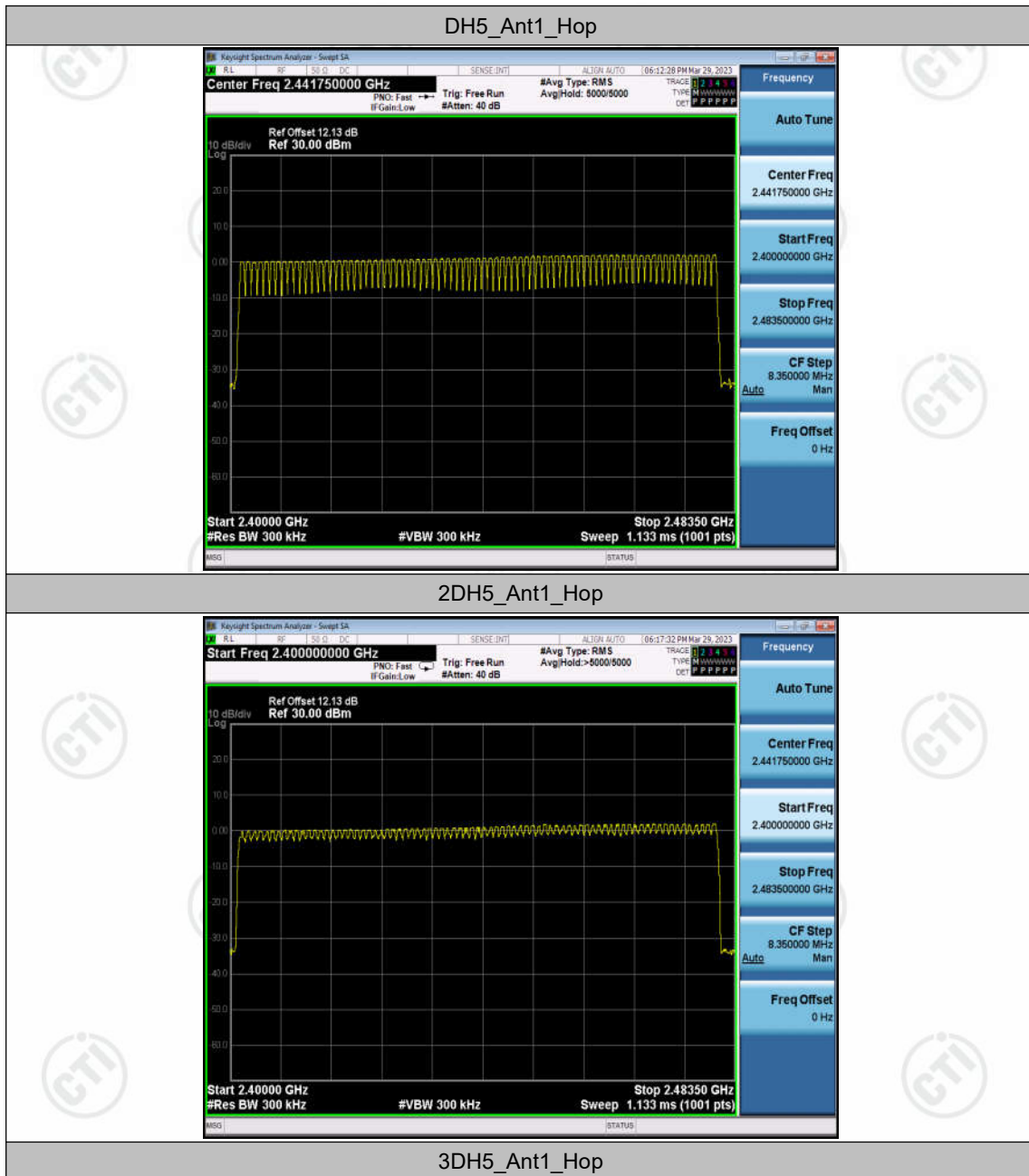
3DH5_Ant1_Hop

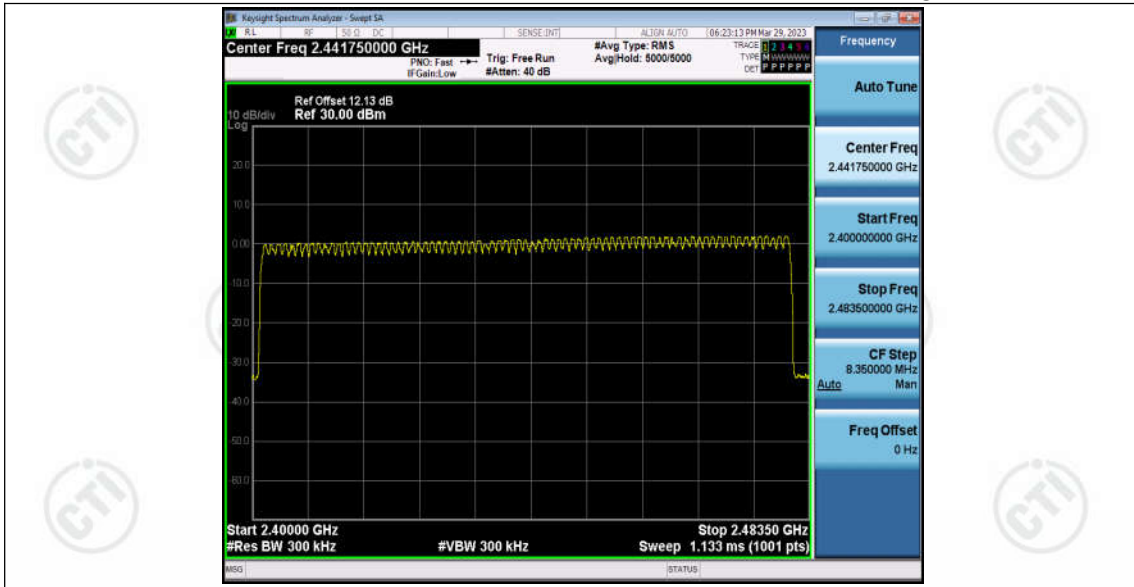


Appendix F: Number of hopping channels**Test Result**

TestMode	Antenna	Frequency[MHz]	Result[Num]	Limit[Num]	Verdict
DH5	Ant1	Hop	79	≥15	PASS
2DH5	Ant1	Hop	79	≥15	PASS
3DH5	Ant1	Hop	79	≥15	PASS

Test Graphs



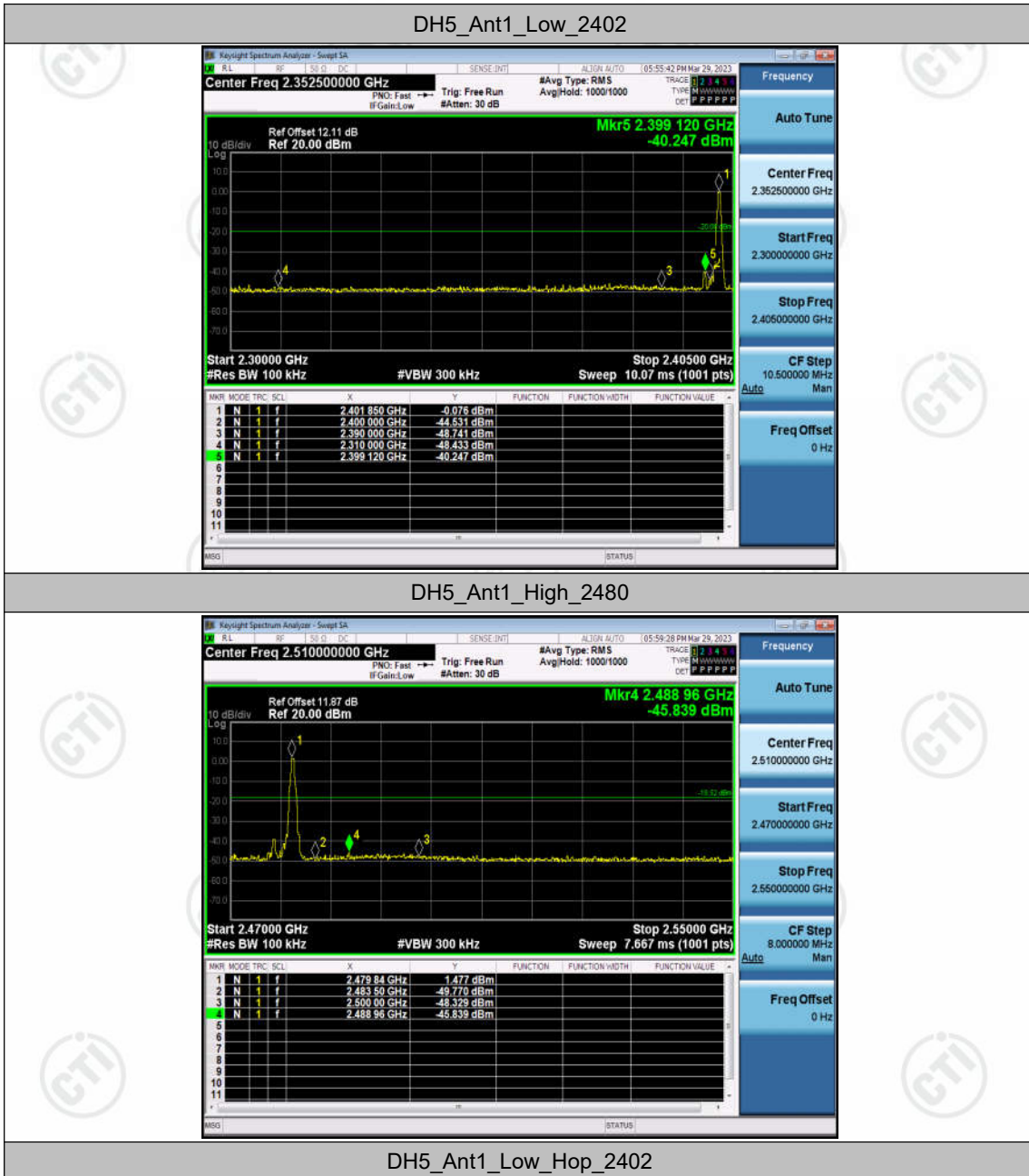


Appendix G: Band edge measurements

Test Result

TestMode	Antenna	ChName	Frequency[MHz]	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
DH5	Ant1	Low	2402	-0.08	-40.25	≤-20.08	PASS
		High	2480	1.48	-45.84	≤-18.52	PASS
		Low	Hop_2402	-0.63	-46.42	≤-20.63	PASS
		High	Hop_2480	1.46	-46.45	≤-18.54	PASS
2DH5	Ant1	Low	2402	-0.16	-39.95	≤-20.16	PASS
		High	2480	1.53	-45.95	≤-18.48	PASS
		Low	Hop_2402	-0.31	-46.26	≤-20.31	PASS
		High	Hop_2480	-0.40	-47.47	≤-20.4	PASS
3DH5	Ant1	Low	2402	-0.16	-40.55	≤-20.16	PASS
		High	2480	1.38	-45.98	≤-18.62	PASS
		Low	Hop_2402	-1.28	-45.38	≤-21.28	PASS
		High	Hop_2480	1.47	-46.83	≤-18.53	PASS

Test Graphs



DH5_Ant1_High_2480

Frequency

Auto Tune

Center Freq 2.510000000 GHz

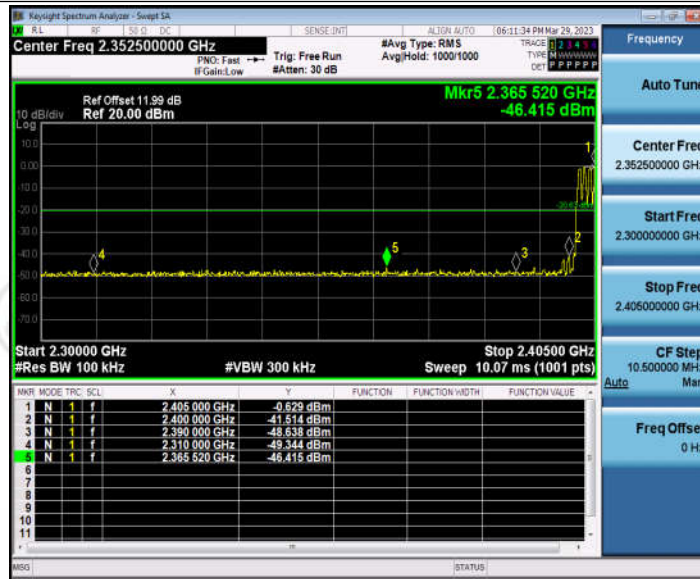
Start Freq 2.470000000 GHz

Stop Freq 2.550000000 GHz

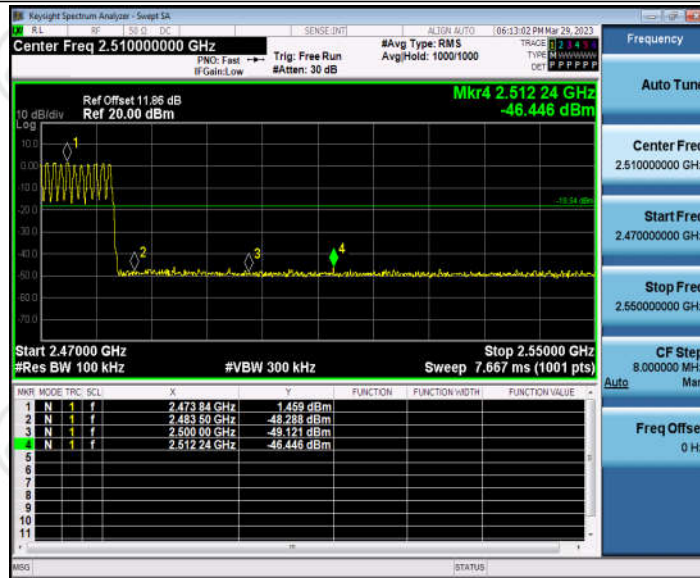
CF Step 8.000000 MHz

Freq Offset 0 Hz

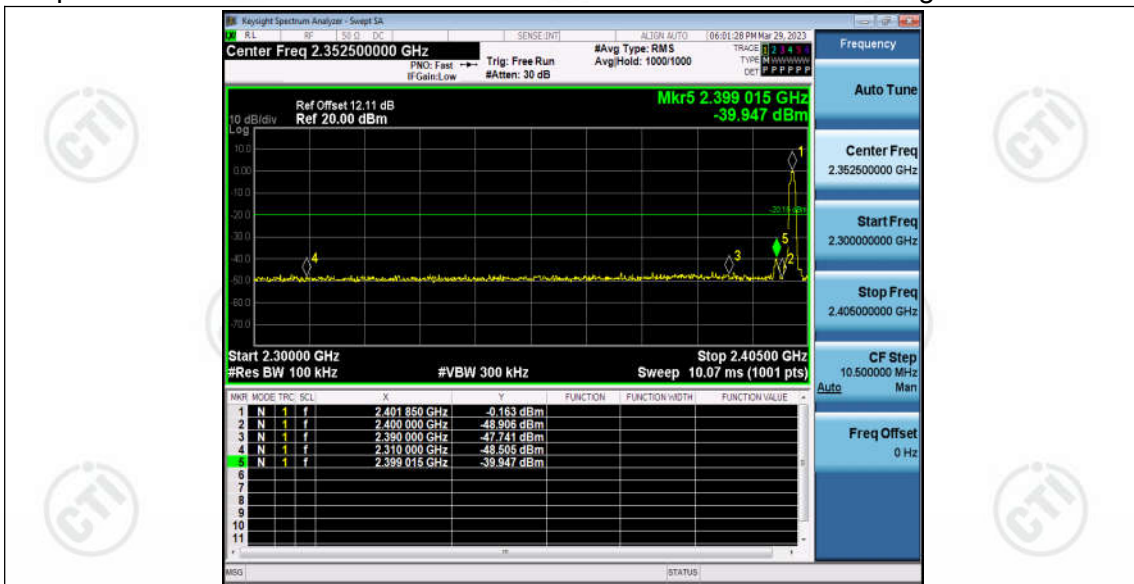
DH5_Ant1_Low_Hop_2402



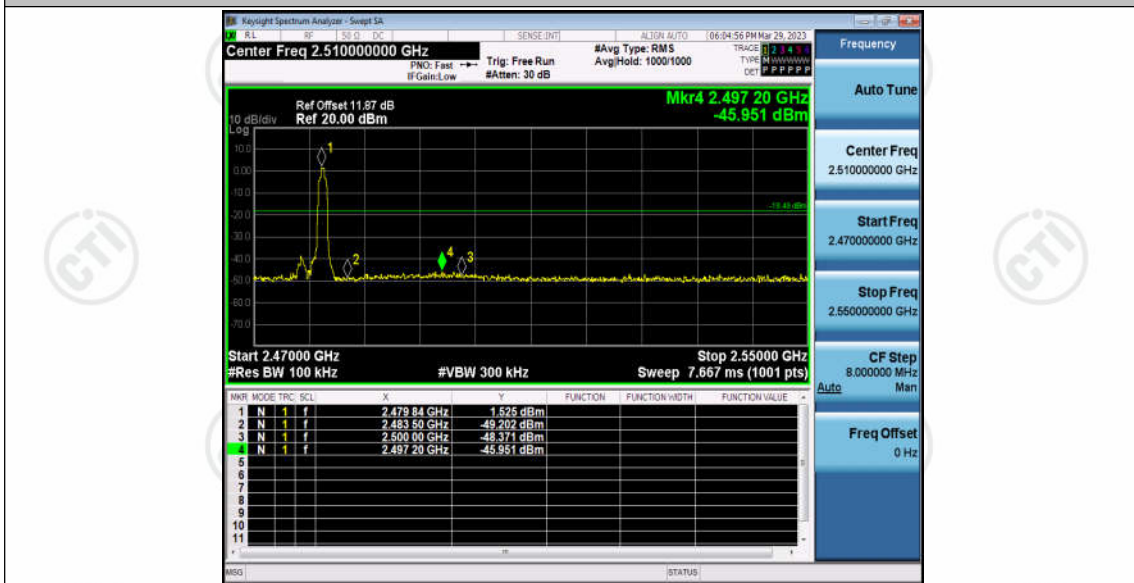
DH5_Ant1_High_Hop_2480



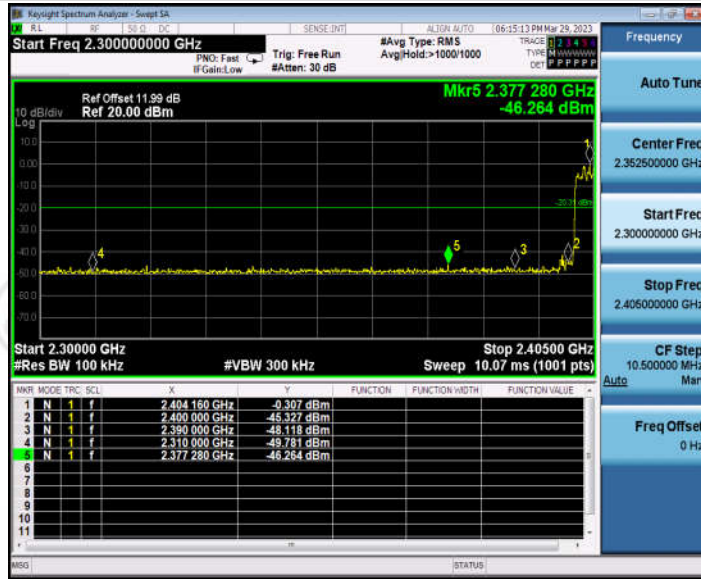
2DH5_Ant1_Low_2402



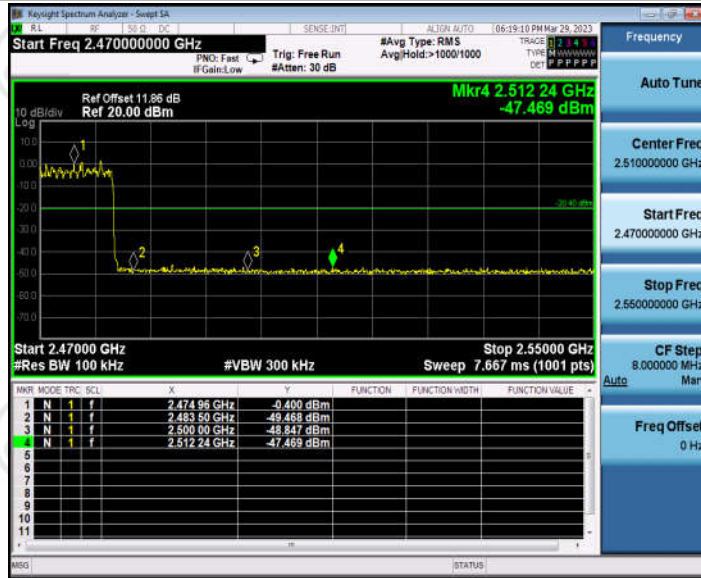
2DH5_Ant1_High_2480



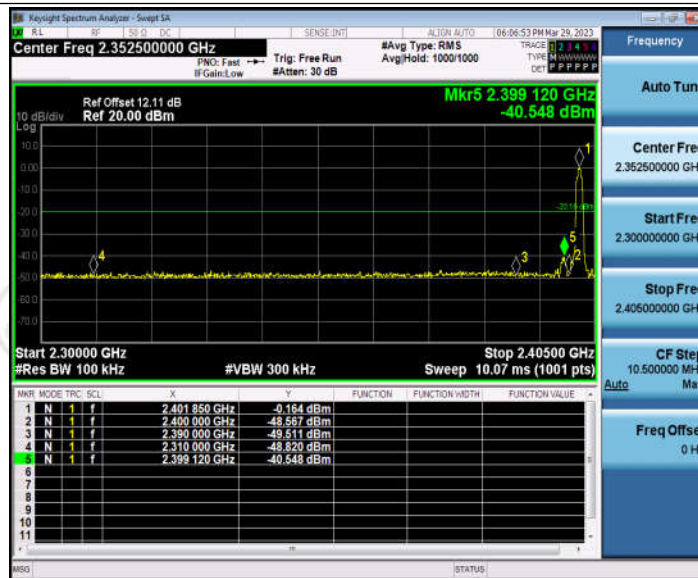
2DH5_Ant1_Low_Hop_2402



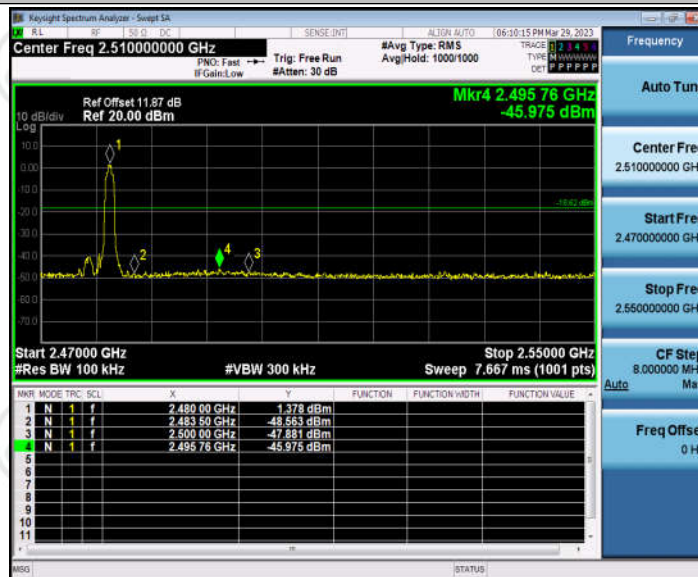
2DH5_Ant1_High_Hop_2480



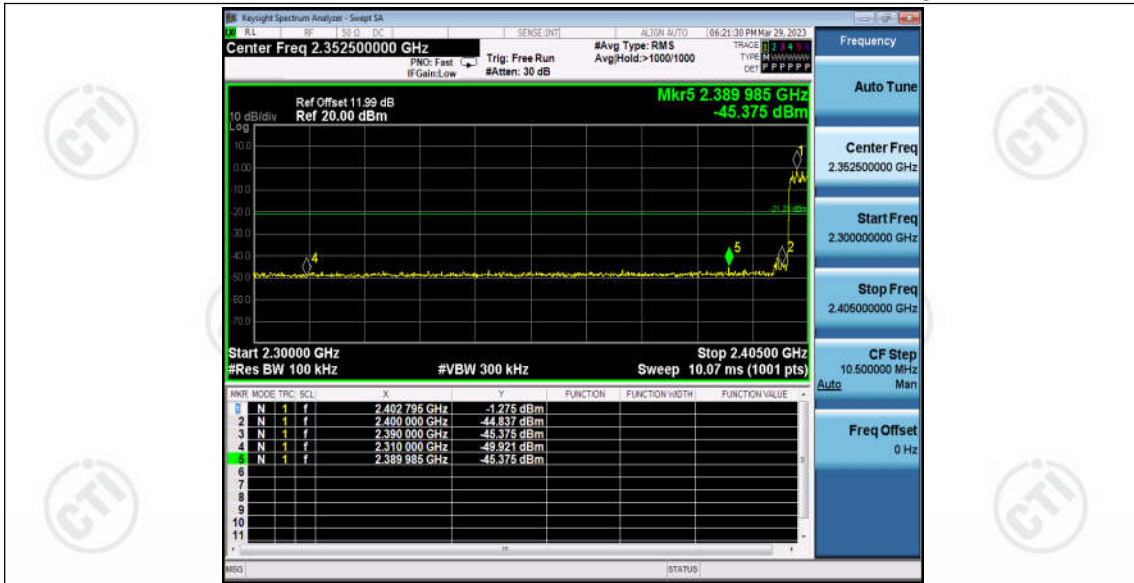
3DH5_Ant1_Low_2402



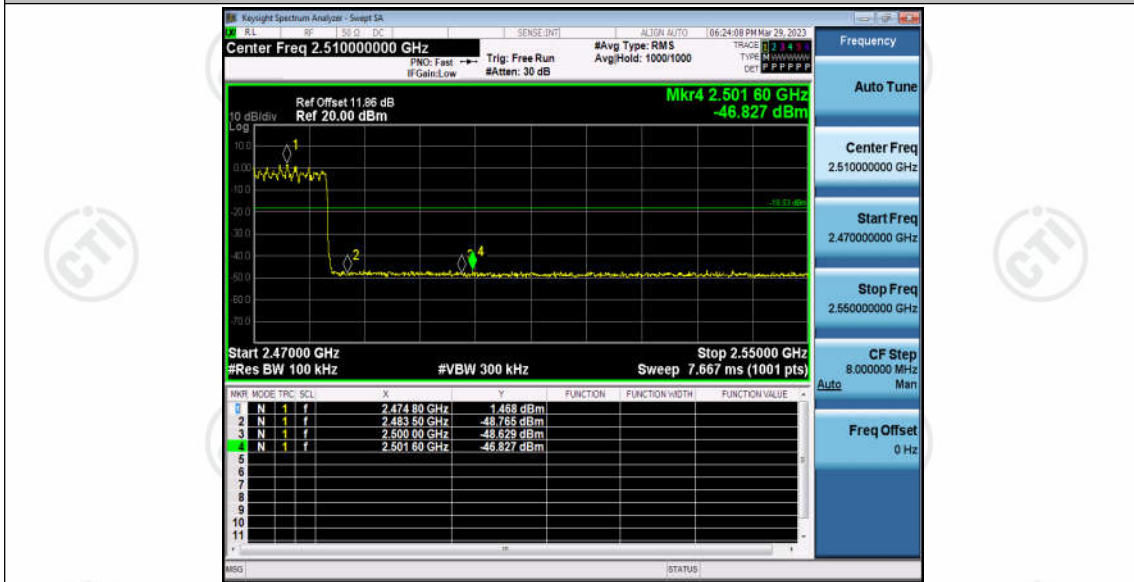
3DH5_Ant1_High_2480



3DH5_Ant1_Low_Hop_2402



3DH5_Ant1_High_Hop_2480

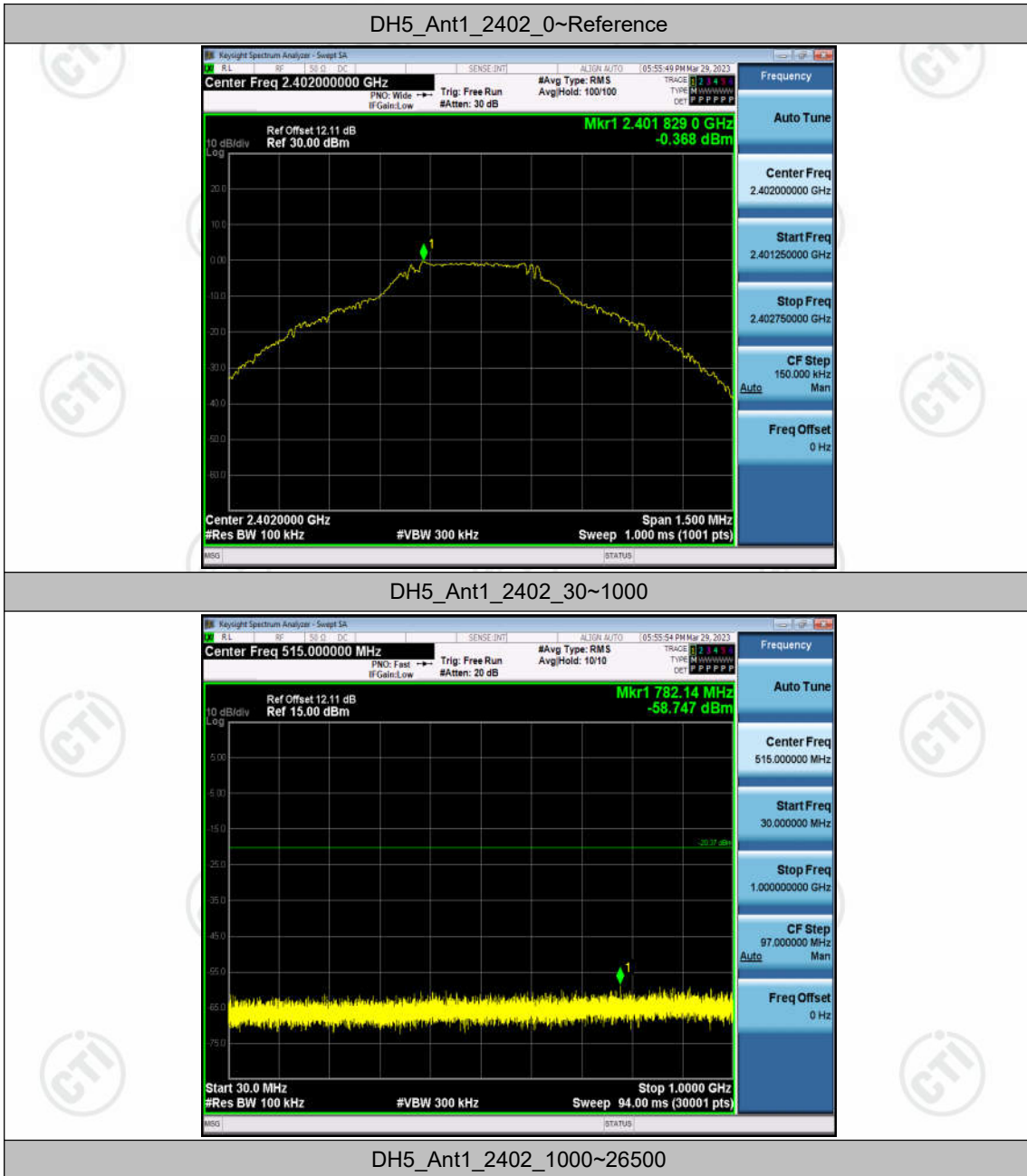


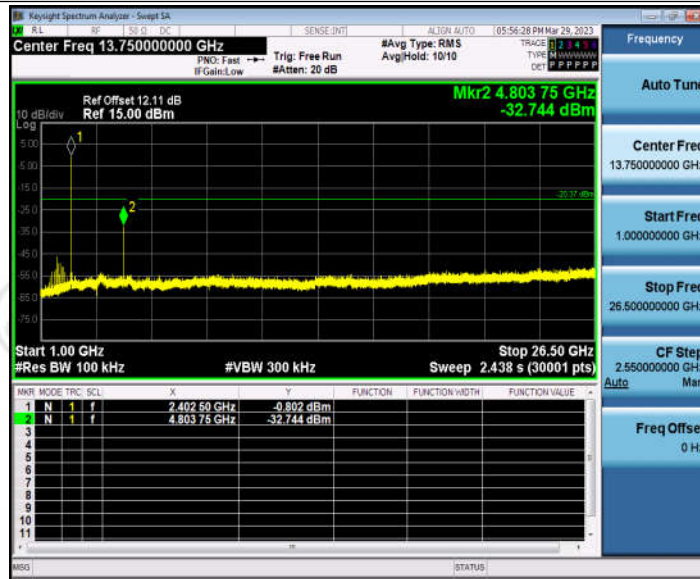
Appendix H: Conducted Spurious Emission

Test Result

TestMode	Antenna	Frequency[MHz]	FreqRange [MHz]	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
DH5	Ant1	2402	Reference	-0.37	-0.37	---	PASS
			30~1000	-0.37	-58.75	≤-20.37	PASS
			1000~26500	-0.37	-32.74	≤-20.37	PASS
		2441	Reference	0.59	0.59	---	PASS
			30~1000	0.59	-58.72	≤-19.41	PASS
			1000~26500	0.59	-33.54	≤-19.41	PASS
		2480	Reference	1.47	1.47	---	PASS
			30~1000	1.47	-58.57	≤-18.53	PASS
			1000~26500	1.47	-34.48	≤-18.53	PASS
2DH5	Ant1	2402	Reference	-0.48	-0.48	---	PASS
			30~1000	-0.48	-58.56	≤-20.48	PASS
			1000~26500	-0.48	-38.43	≤-20.48	PASS
		2441	Reference	0.64	0.64	---	PASS
			30~1000	0.64	-58.89	≤-19.36	PASS
			1000~26500	0.64	-32.04	≤-19.36	PASS
		2480	Reference	1.37	1.37	---	PASS
			30~1000	1.37	-59.34	≤-18.63	PASS
			1000~26500	1.37	-35.85	≤-18.63	PASS
3DH5	Ant1	2402	Reference	-0.37	-0.37	---	PASS
			30~1000	-0.37	-59.96	≤-20.37	PASS
			1000~26500	-0.37	-33.12	≤-20.37	PASS
		2441	Reference	0.49	0.49	---	PASS
			30~1000	0.49	-58.2	≤-19.51	PASS
			1000~26500	0.49	-37.26	≤-19.51	PASS
		2480	Reference	1.32	1.32	---	PASS
			30~1000	1.32	-57.73	≤-18.68	PASS
			1000~26500	1.32	-37.56	≤-18.68	PASS

Test Graphs

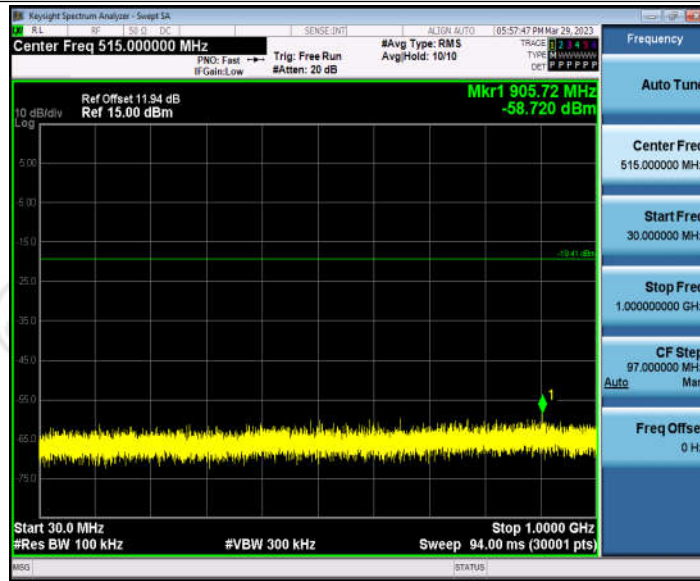




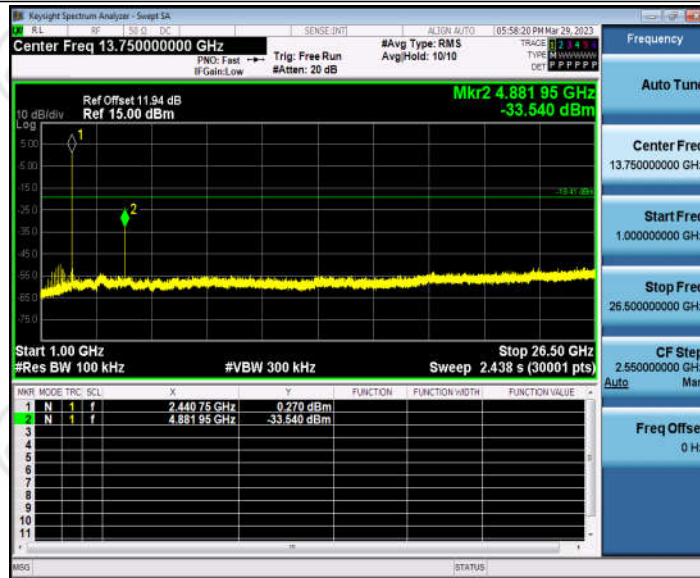
DH5_Ant1_2441_0~Reference



DH5_Ant1_2441_30~1000



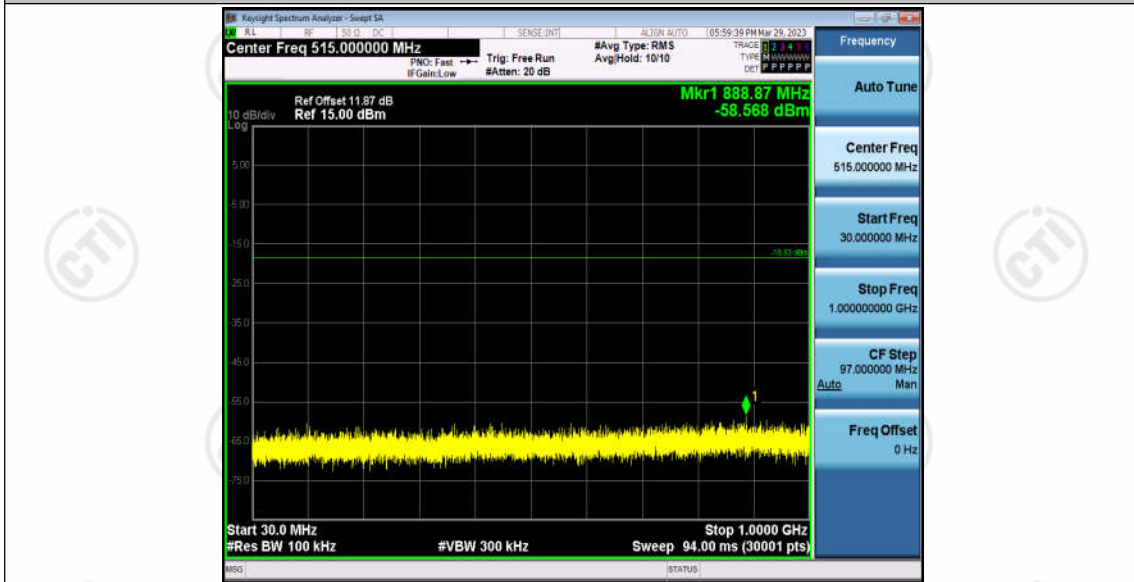
DH5_Ant1_2441_1000~26500



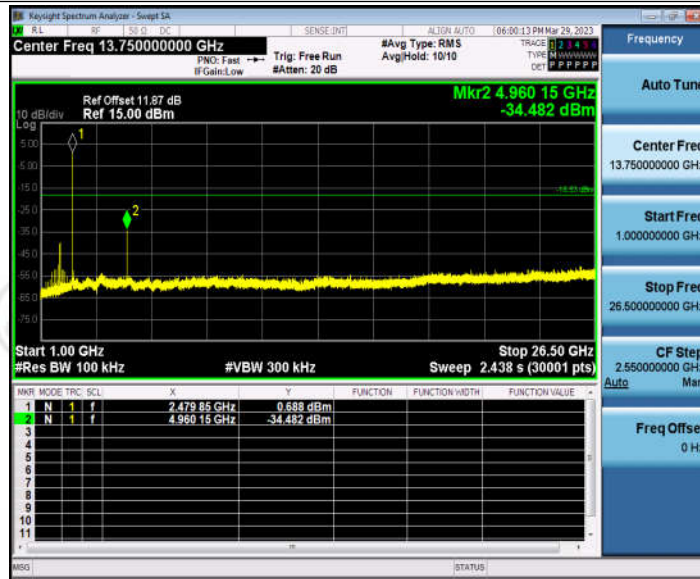
DH5_Ant1_2480_0~Reference



DH5_Ant1_2480_30~1000



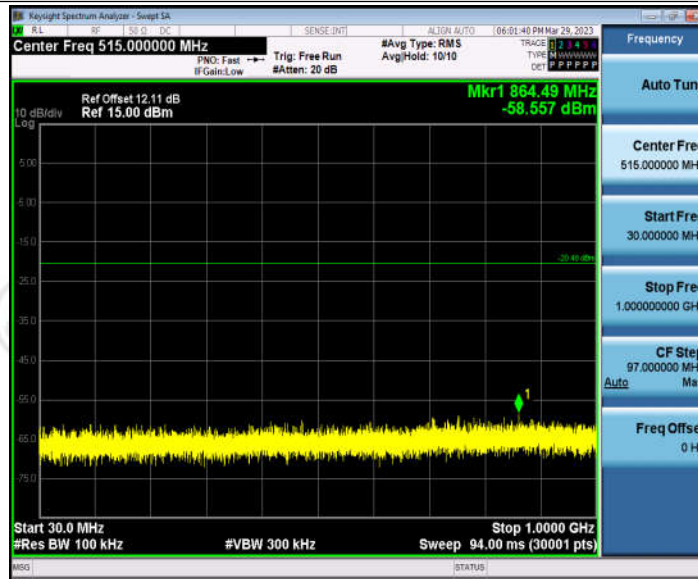
DH5_Ant1_2480_1000~26500



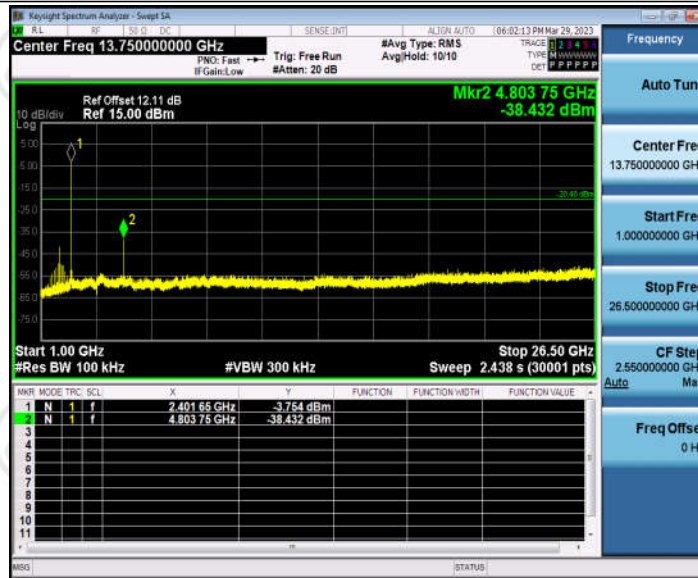
2DH5_Ant1_2402_0~Reference



2DH5_Ant1_2402_30~1000



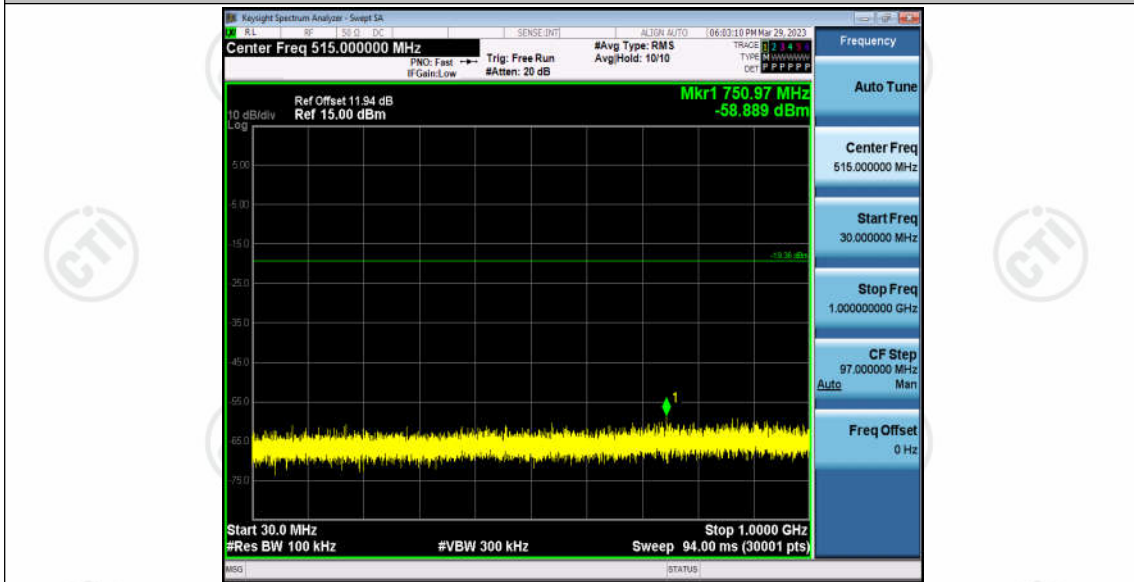
2DH5_Ant1_2402_1000~26500



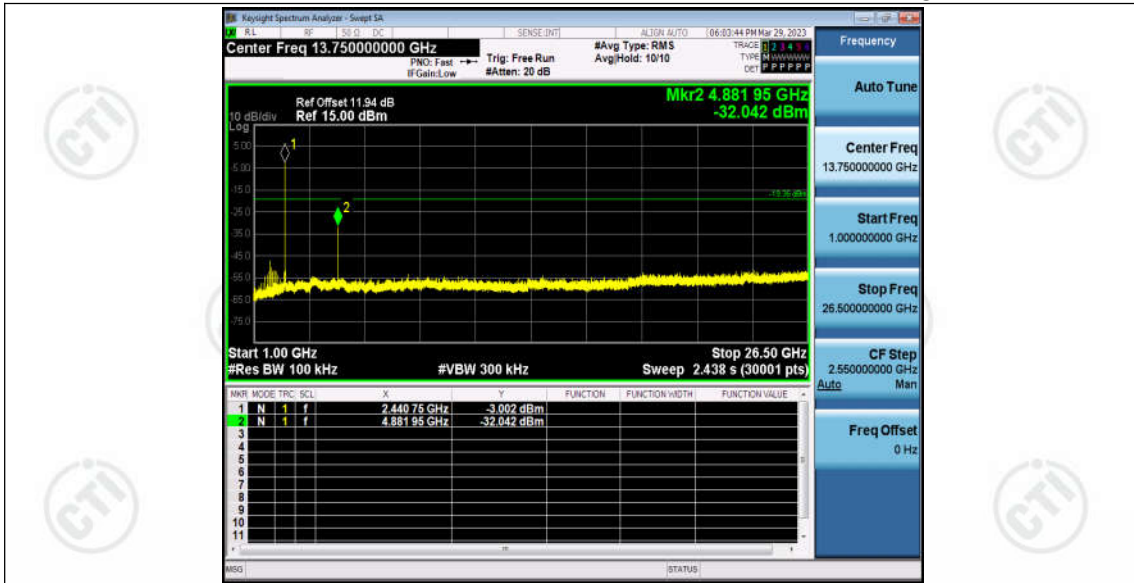
2DH5_Ant1_2441_0~Reference



2DH5_Ant1_2441_30~1000



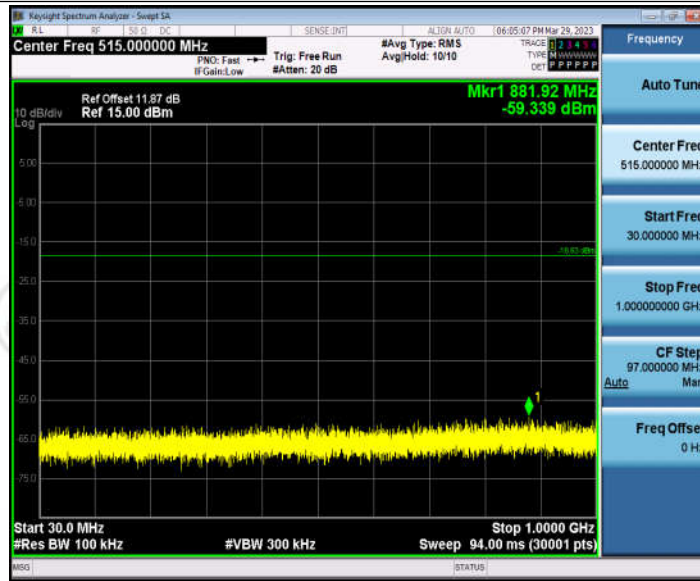
2DH5_Ant1_2441_1000~26500



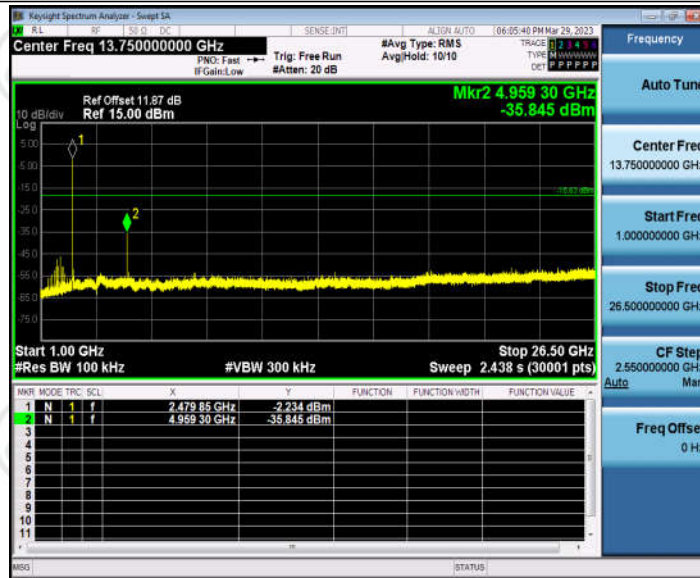
2DH5_Ant1_2480_0~Reference



2DH5_Ant1_2480_30~1000



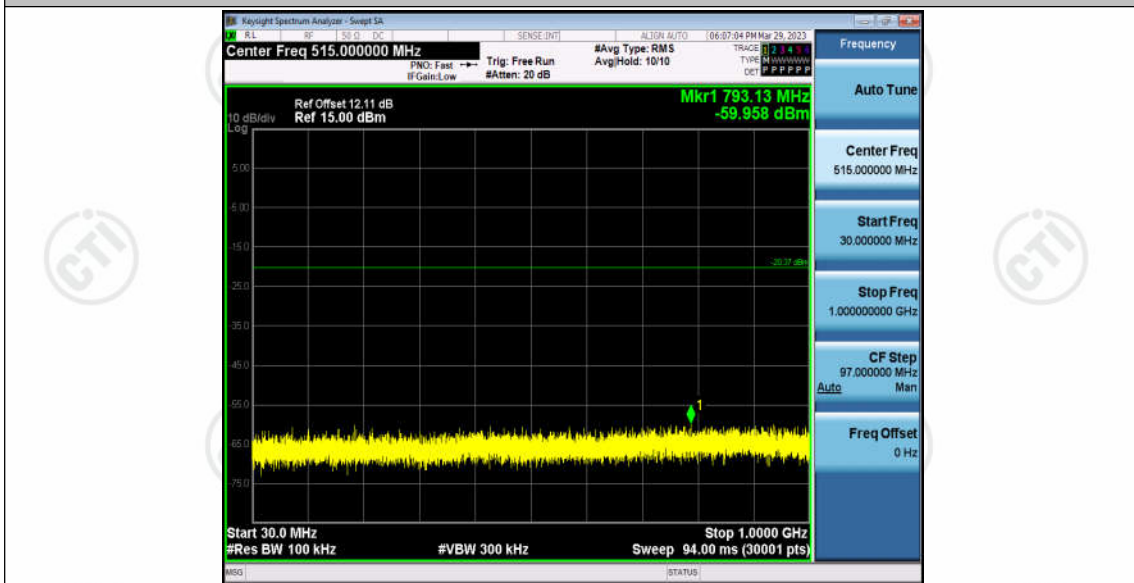
2DH5_Ant1_2480_1000~26500



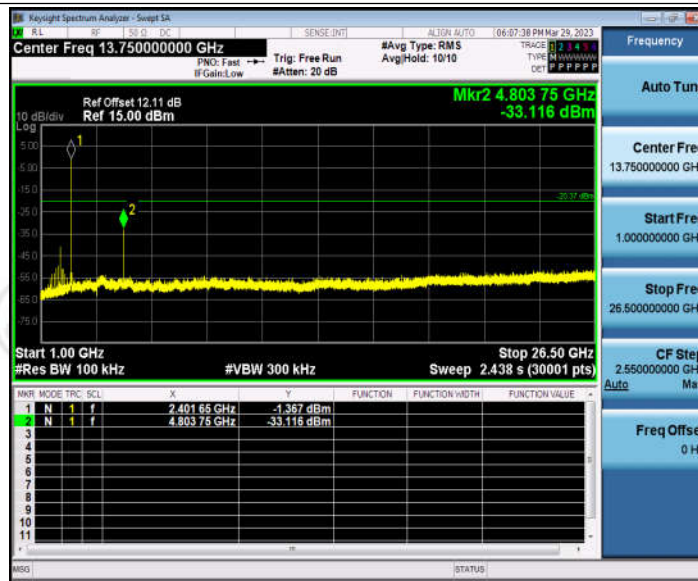
3DH5_Ant1_2402_0~Reference



3DH5_Ant1_2402_30~1000



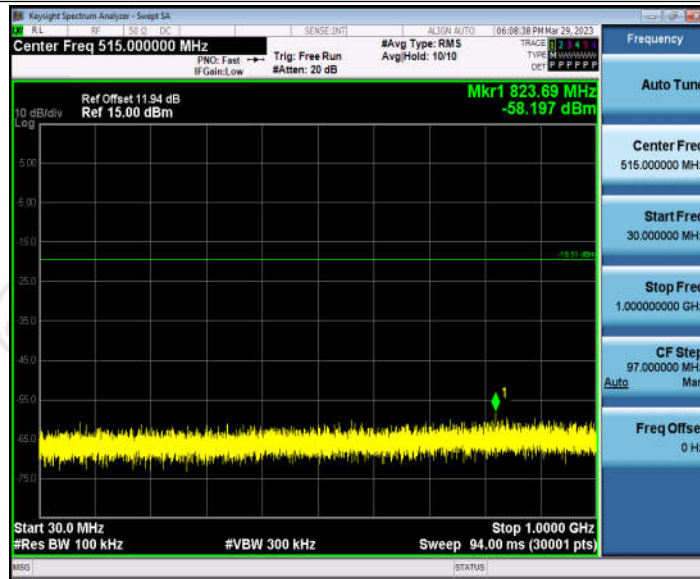
3DH5_Ant1_2402_1000~26500



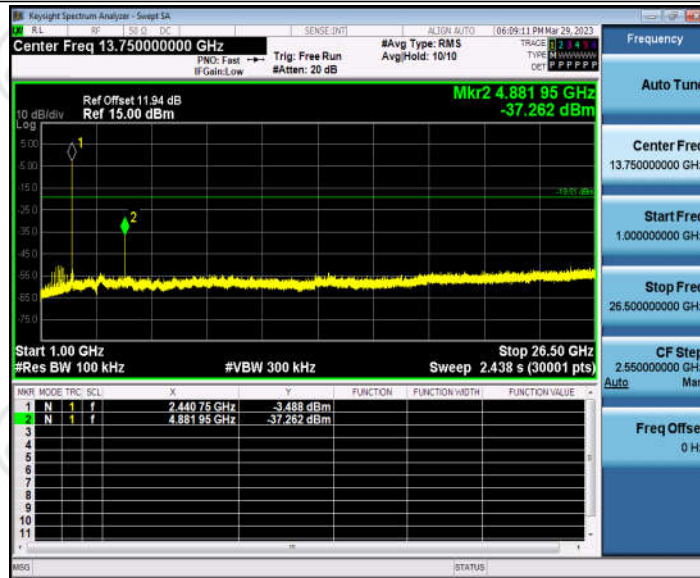
3DH5_Ant1_2441_0~Reference



3DH5_Ant1_2441_30~1000



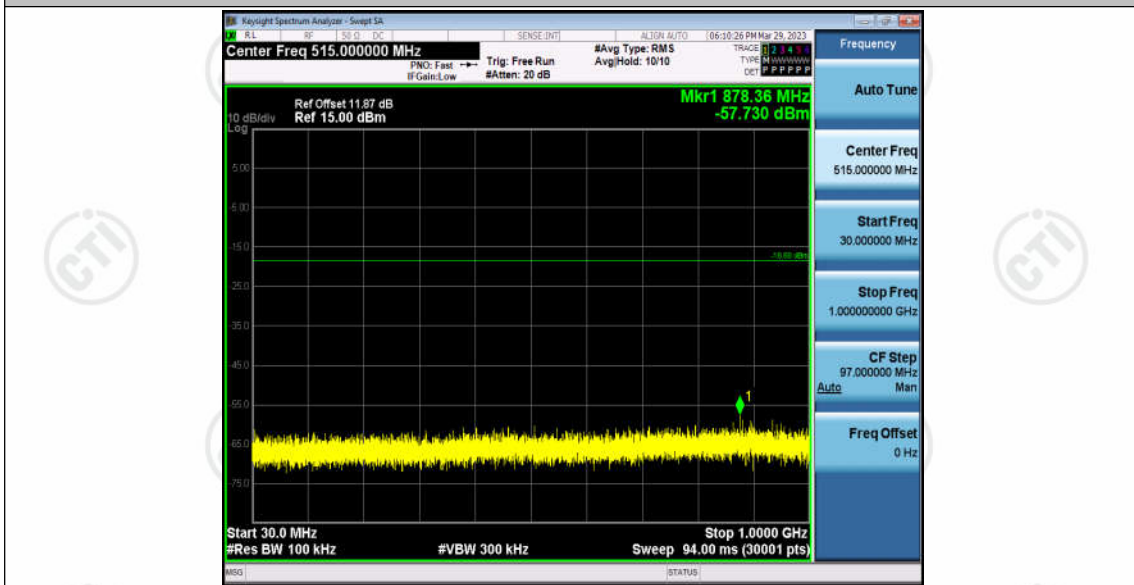
3DH5_Ant1_2441_1000~26500



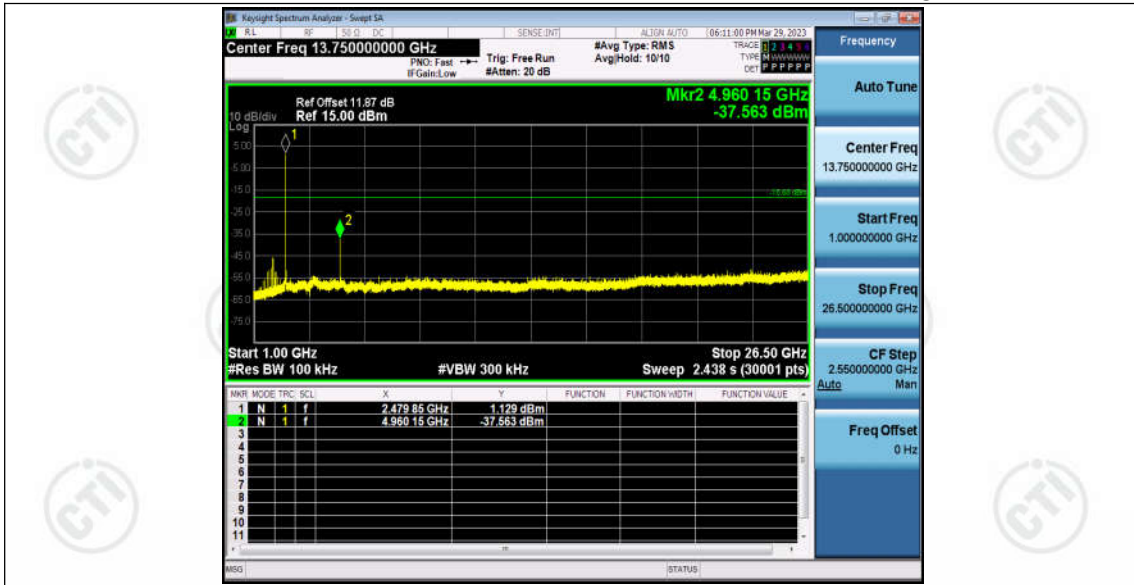
3DH5_Ant1_2480_0~Reference



3DH5_Ant1_2480_30~1000



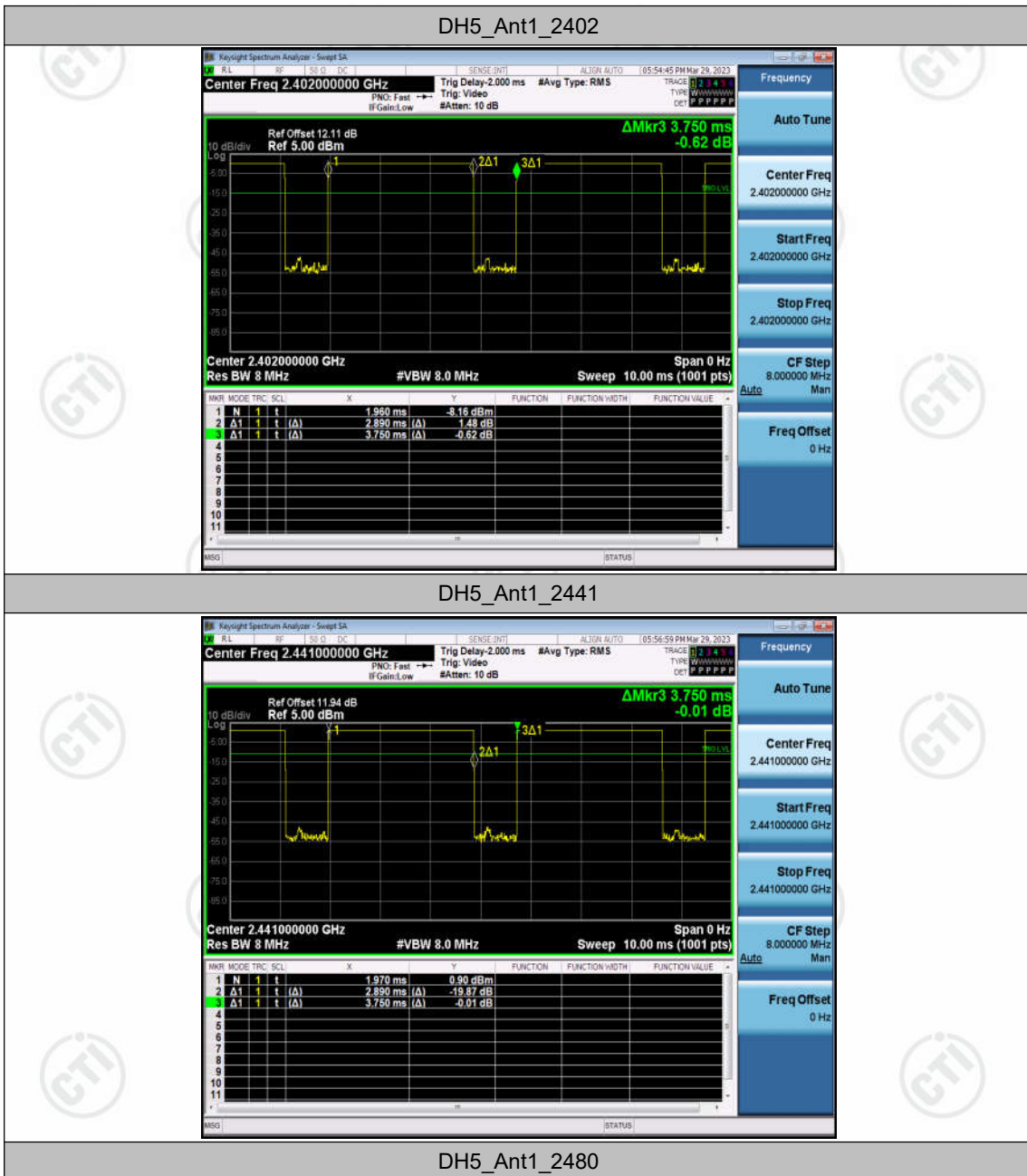
3DH5_Ant1_2480_1000~26500

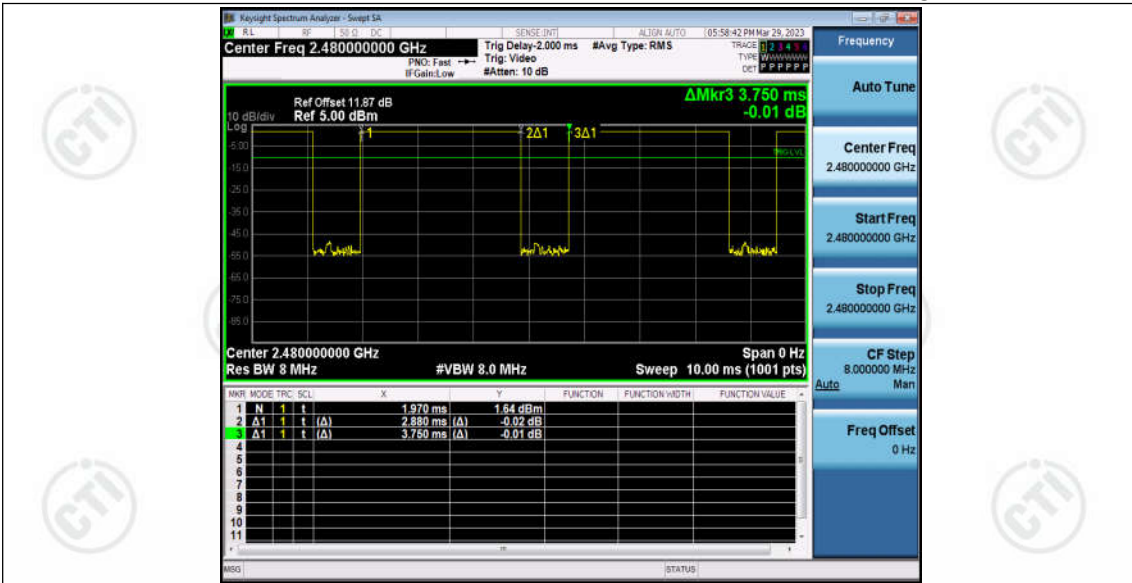


Appendix I: Duty Cycle**Test Result**

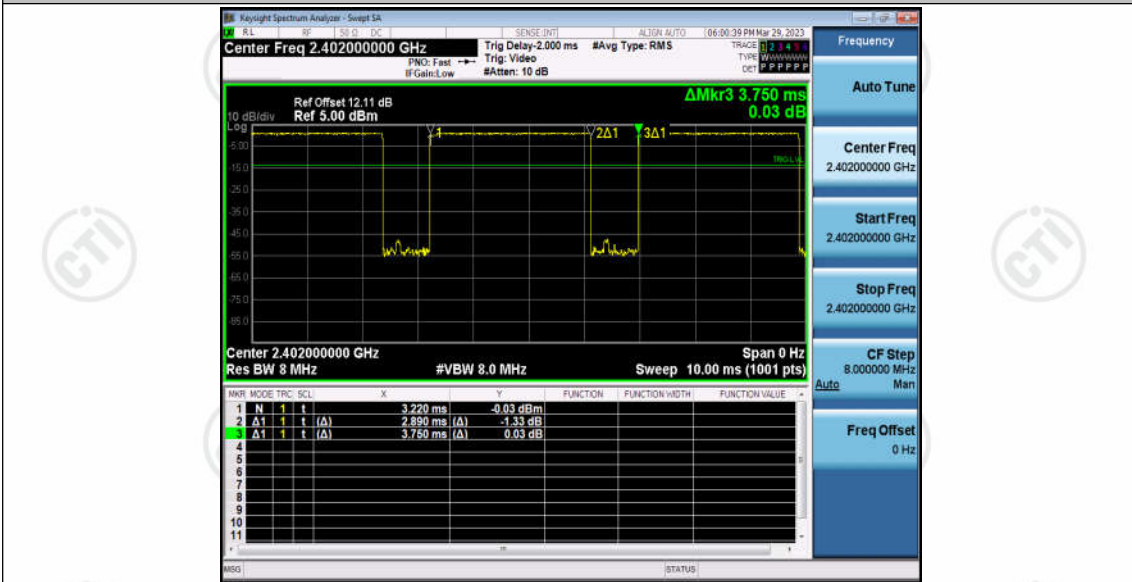
TestMode	Antenna	Frequency[MHz]	ON Time [ms]	Period [ms]	Duty Cycle [%]	Duty Cycle Factor[dB]
DH5	Ant1	2402	2.89	3.75	77.07	1.13
		2441	2.89	3.75	77.07	1.13
		2480	2.88	3.75	76.80	1.15
2DH5	Ant1	2402	2.89	3.75	77.07	1.13
		2441	2.89	3.75	77.07	1.13
		2480	2.89	3.75	77.07	1.13
3DH5	Ant1	2402	2.89	3.75	77.07	1.13
		2441	2.89	3.75	77.07	1.13
		2480	2.89	3.75	77.07	1.13

Test Graphs

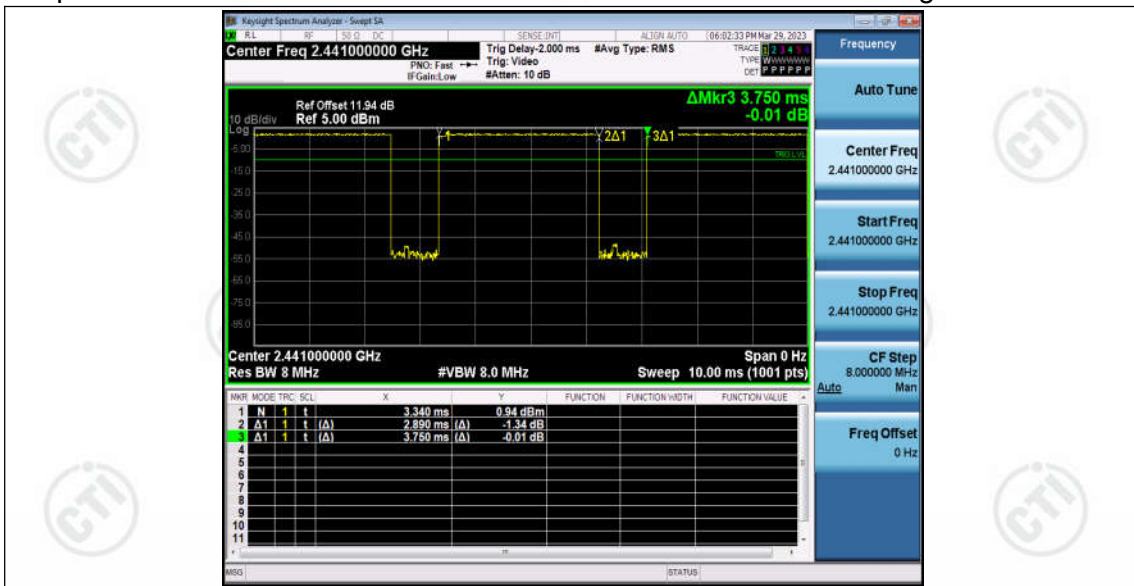




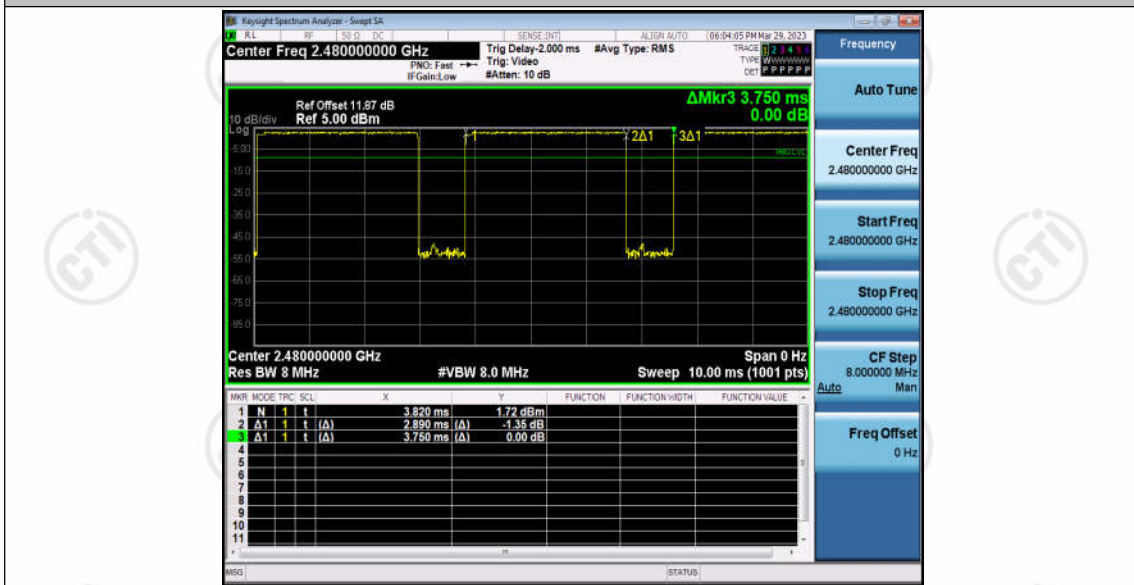
2DH5_Ant1_2402



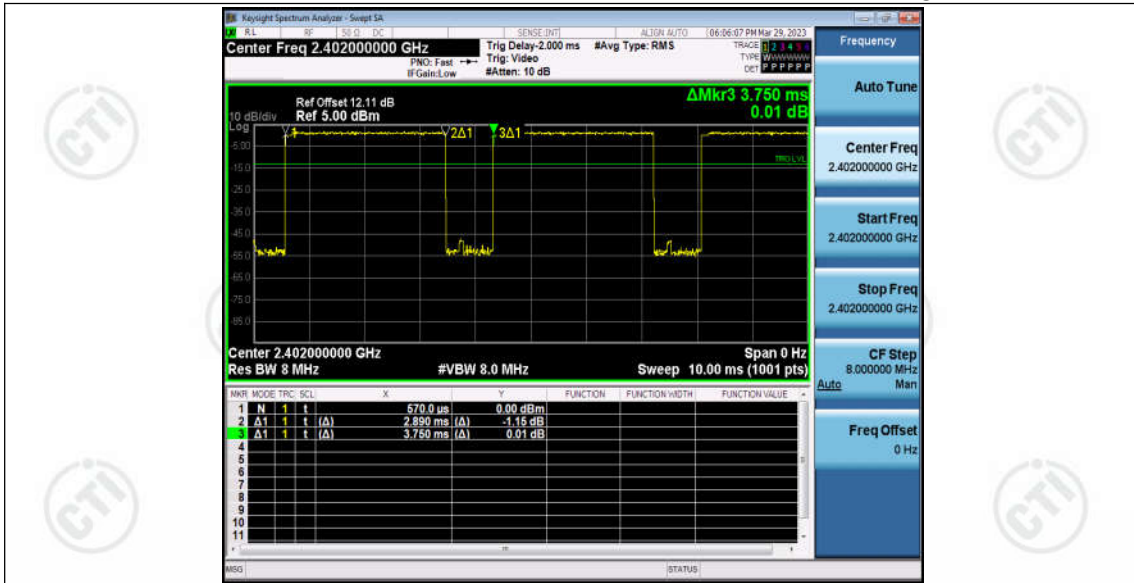
2DH5_Ant1_2441



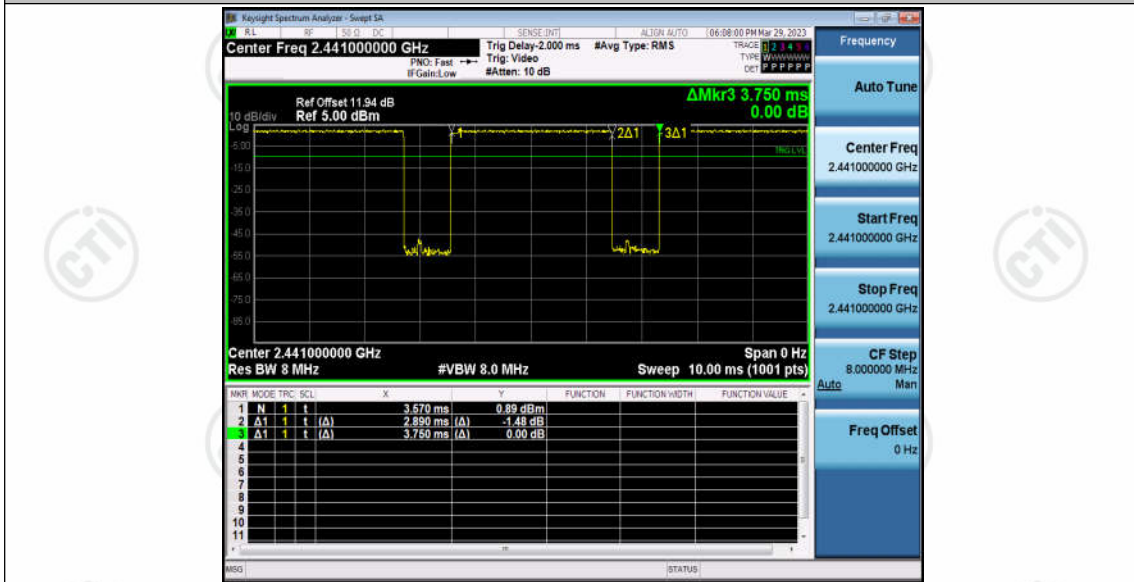
2DH5_Ant1_2480



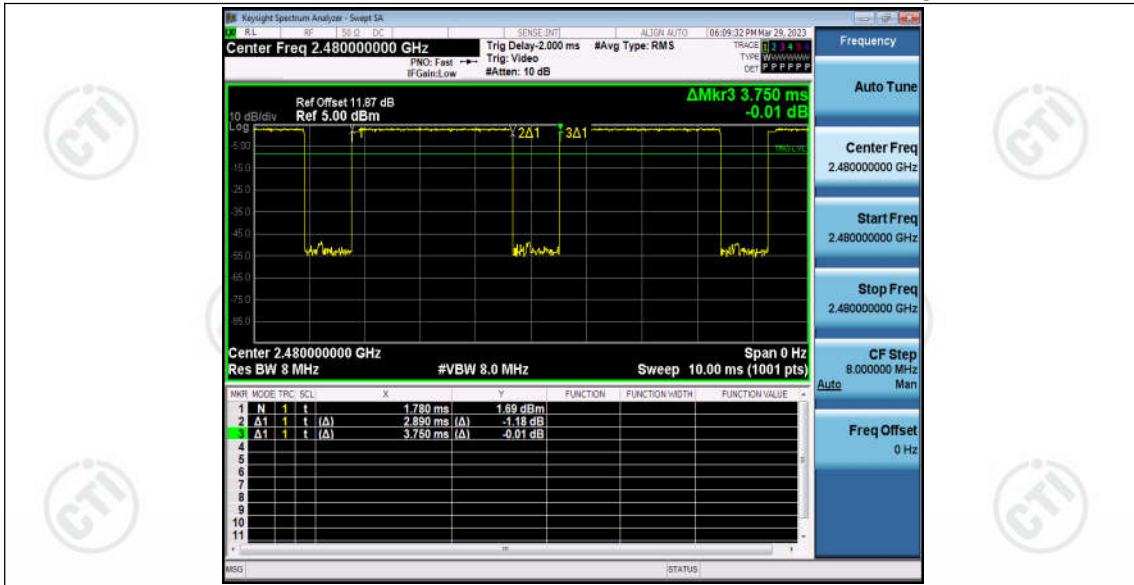
3DH5_Ant1_2402



3DH5_Ant1_2441



3DH5_Ant1_2480



*** End of Report ***