

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..... 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..... 34

 Test Result..... 34

 Test Graphs..... 35

Appendix G: Band edge measurements..... 37

 Test Result..... 37

 Test Graphs..... 38

Appendix H: Conducted Spurious Emission..... 44

 Test Result..... 44

 Test Graphs..... 45

Appendix I: Duty Cycle..... 59

 Test Result..... 59

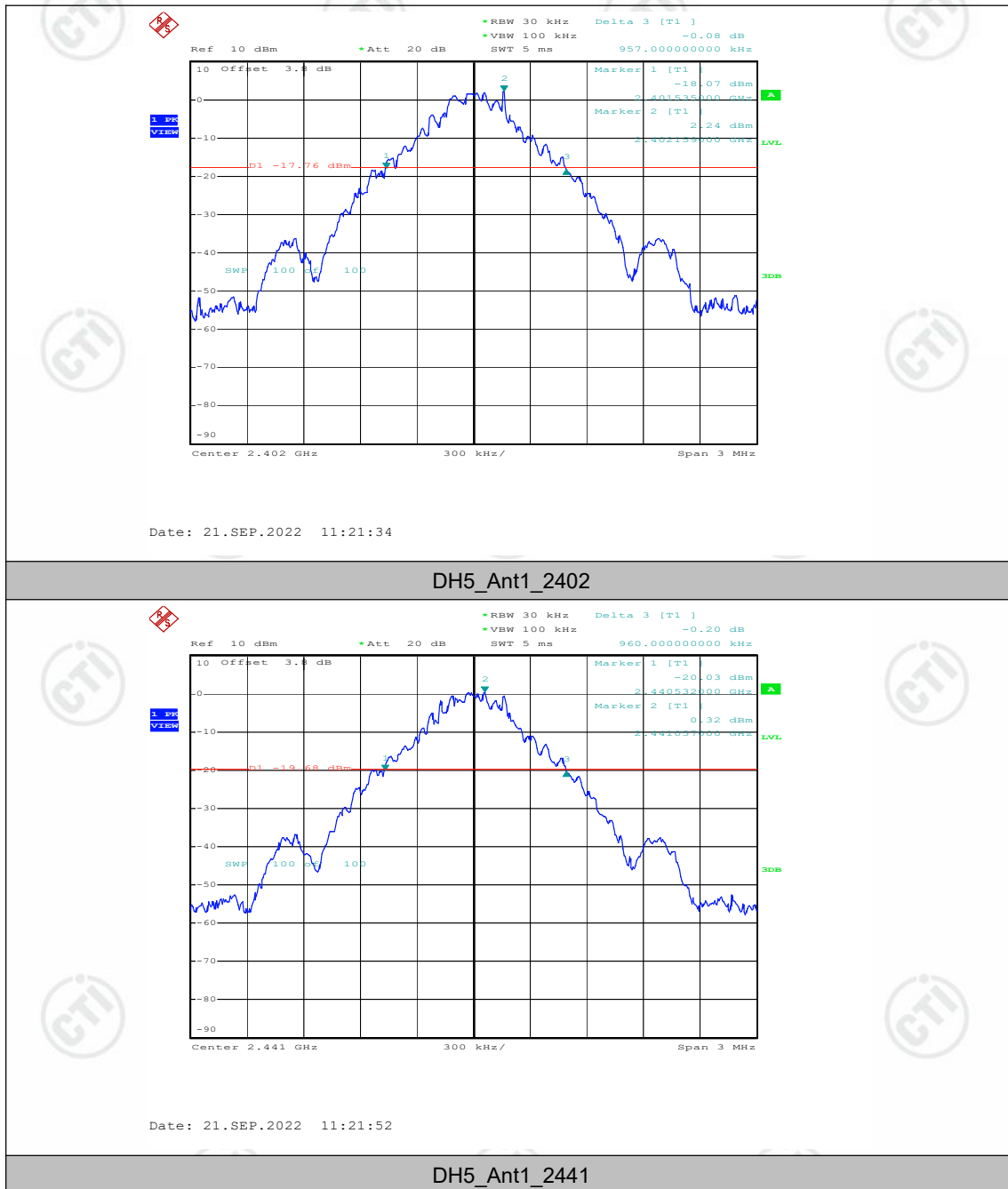
 Test Graphs..... 60

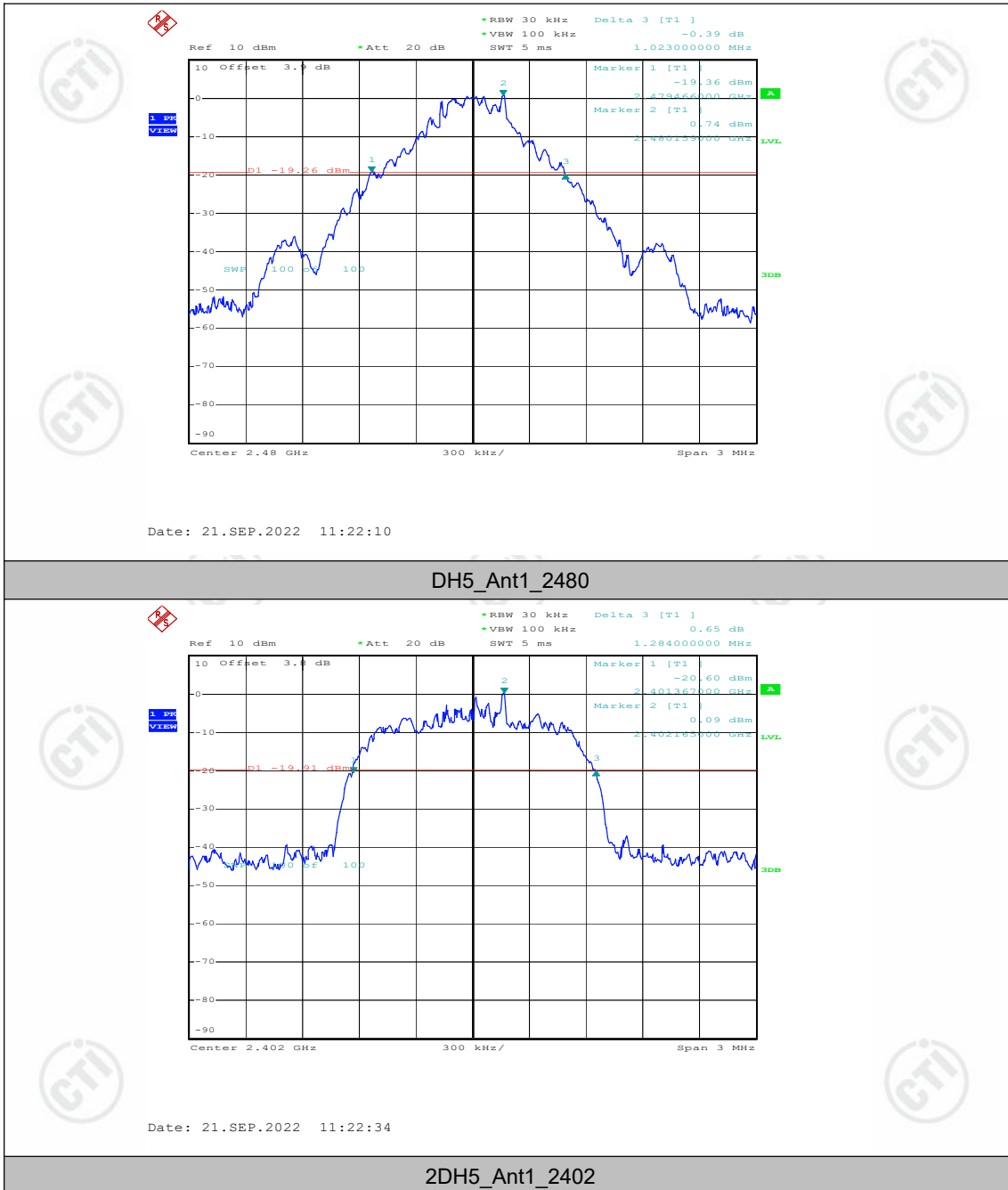
Appendix A: 20dB Emission Bandwidth

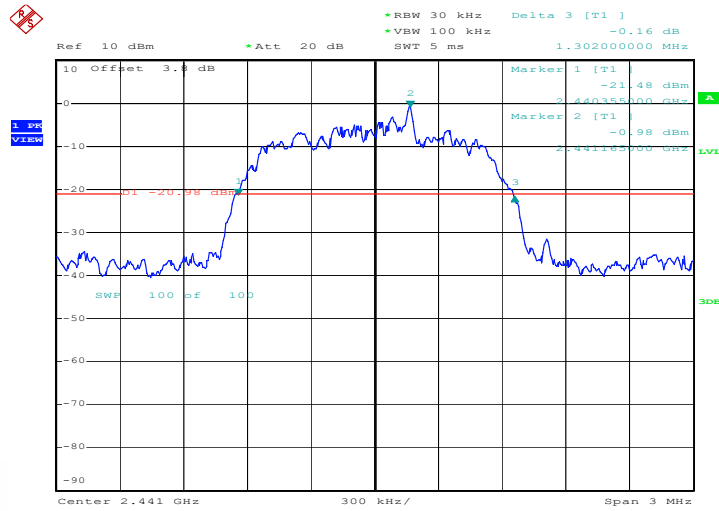
Test Result

Test Mode	Antenna	Frequency[MHz]	20db EBW[MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
DH5	Ant1	2402	0.96	2401.54	2402.49	---	---
		2441	0.96	2440.53	2441.49	---	---
		2480	1.02	2479.47	2480.49	---	---
2DH5	Ant1	2402	1.28	2401.37	2402.65	---	---
		2441	1.30	2440.36	2441.66	---	---
		2480	1.32	2479.34	2480.65	---	---
3DH5	Ant1	2402	1.31	2401.35	2402.66	---	---
		2441	1.31	2440.35	2441.66	---	---
		2480	1.30	2479.35	2480.65	---	---

Test Graphs

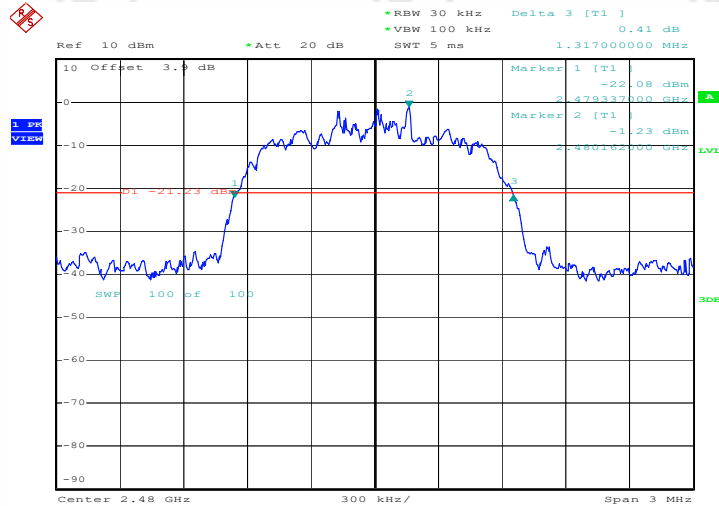






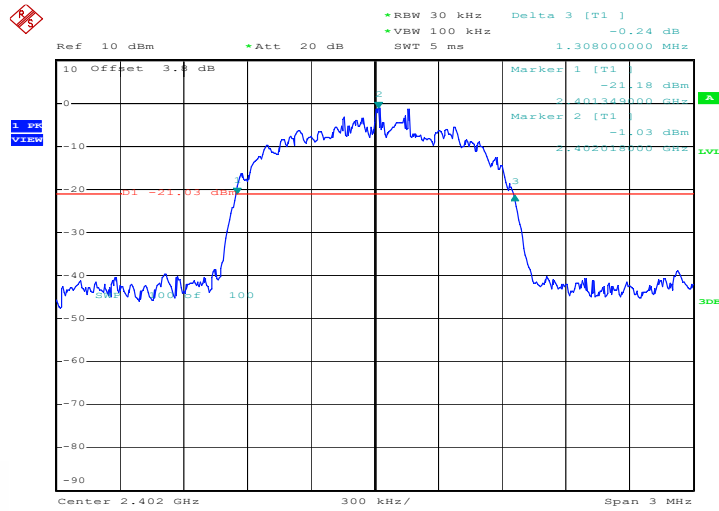
Date: 21.SEP.2022 11:24:14

2DH5_Ant1_2441



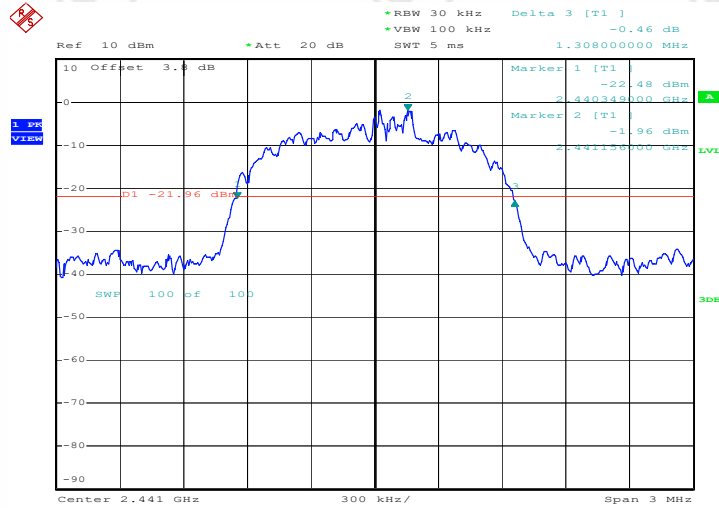
Date: 21.SEP.2022 11:23:07

2DH5_Ant1_2480



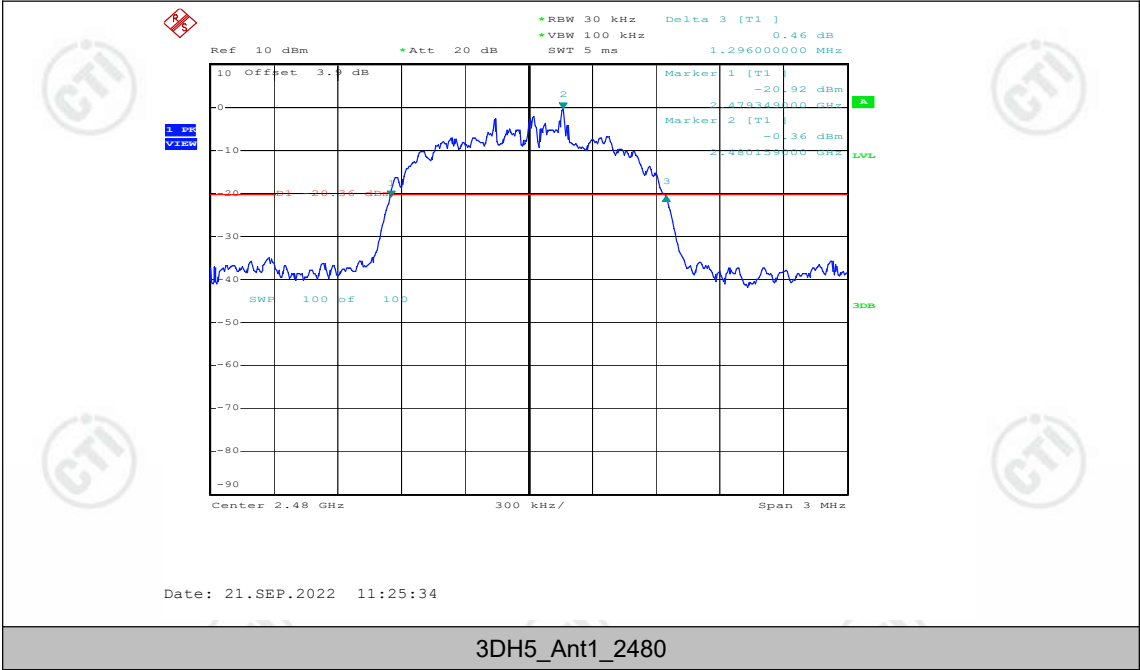
Date: 21.SEP.2022 11:24:39

3DH5_Ant1_2402



Date: 21.SEP.2022 11:25:16

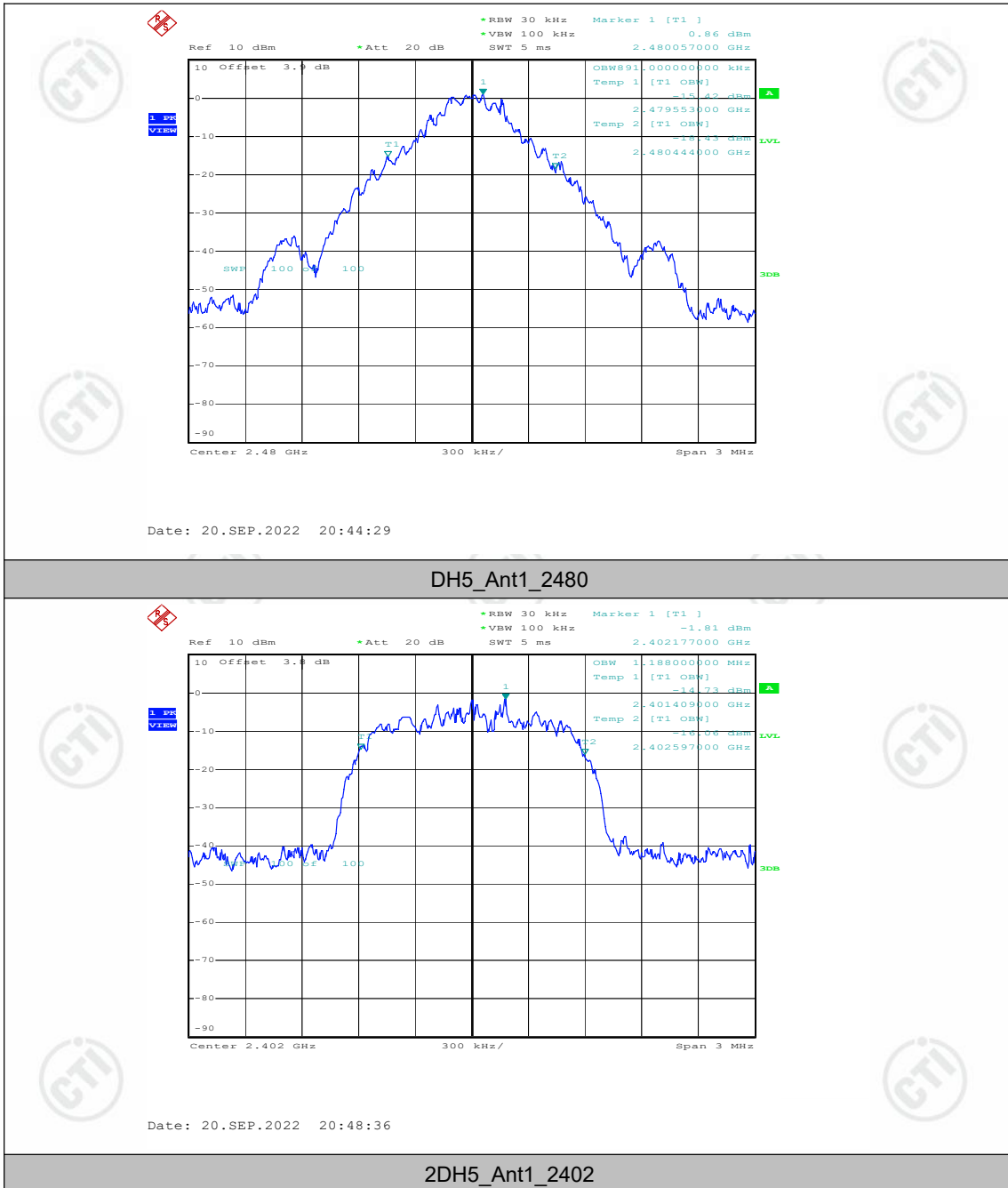
3DH5_Ant1_2441

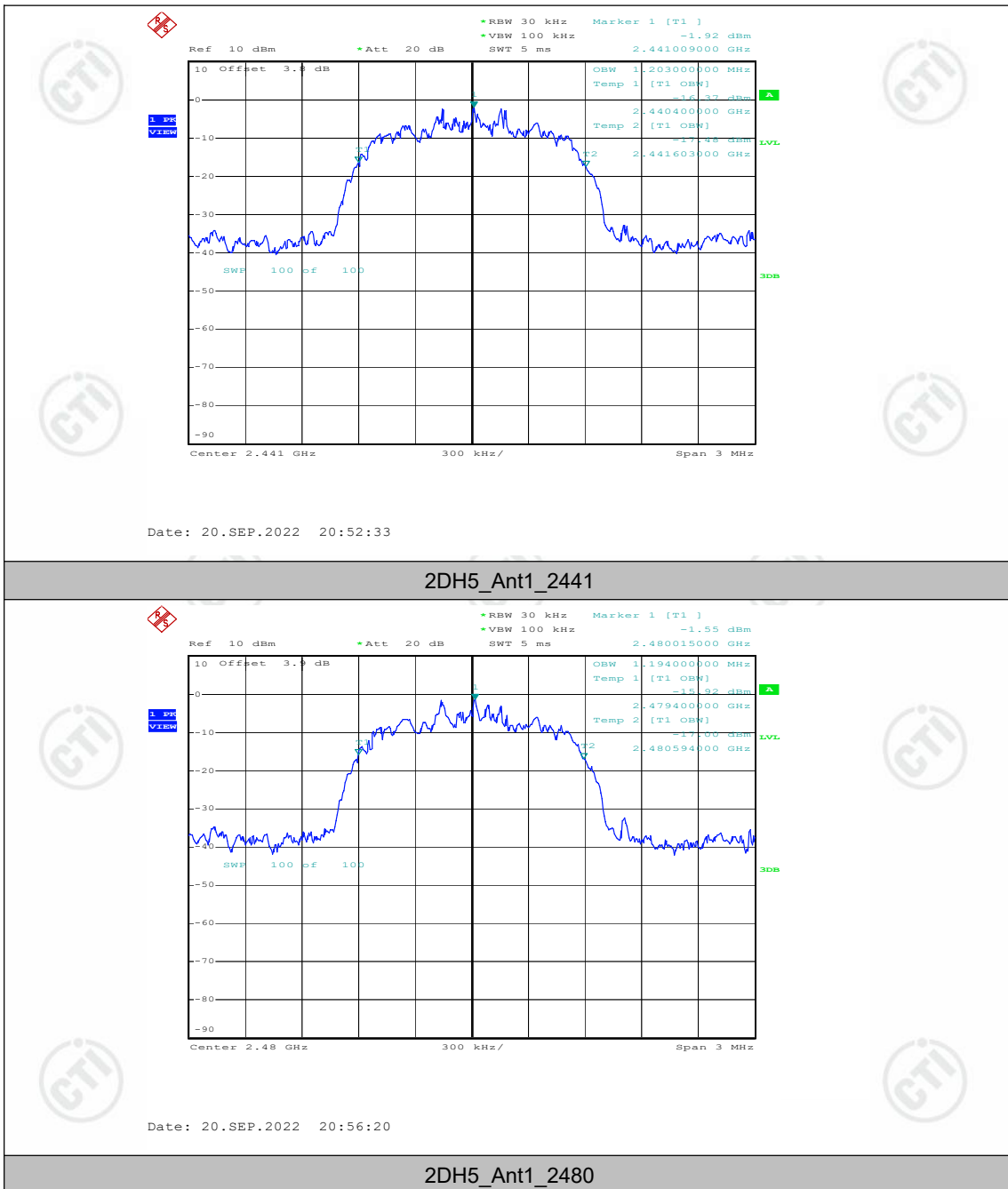


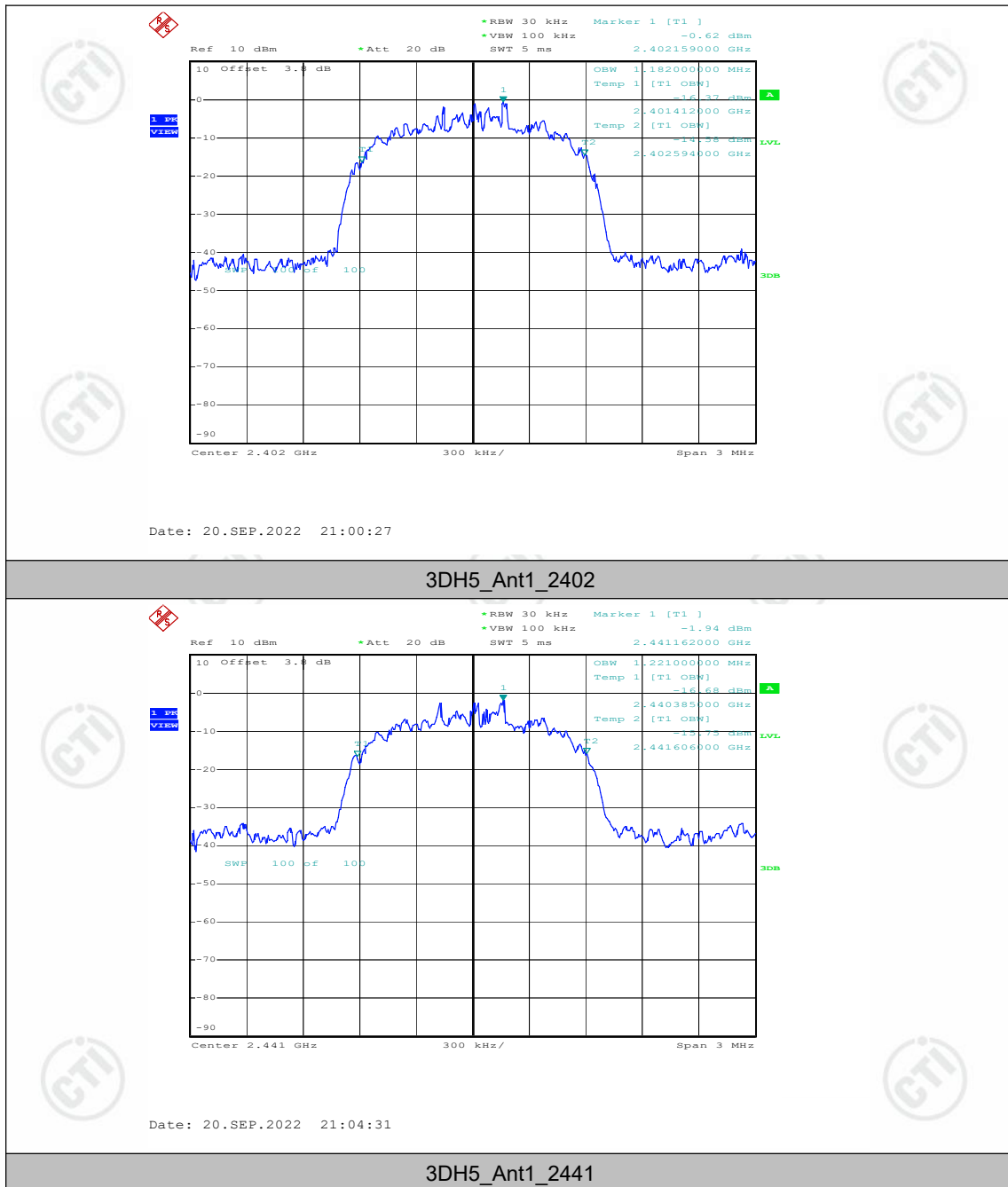
Appendix B: Occupied Channel Bandwidth

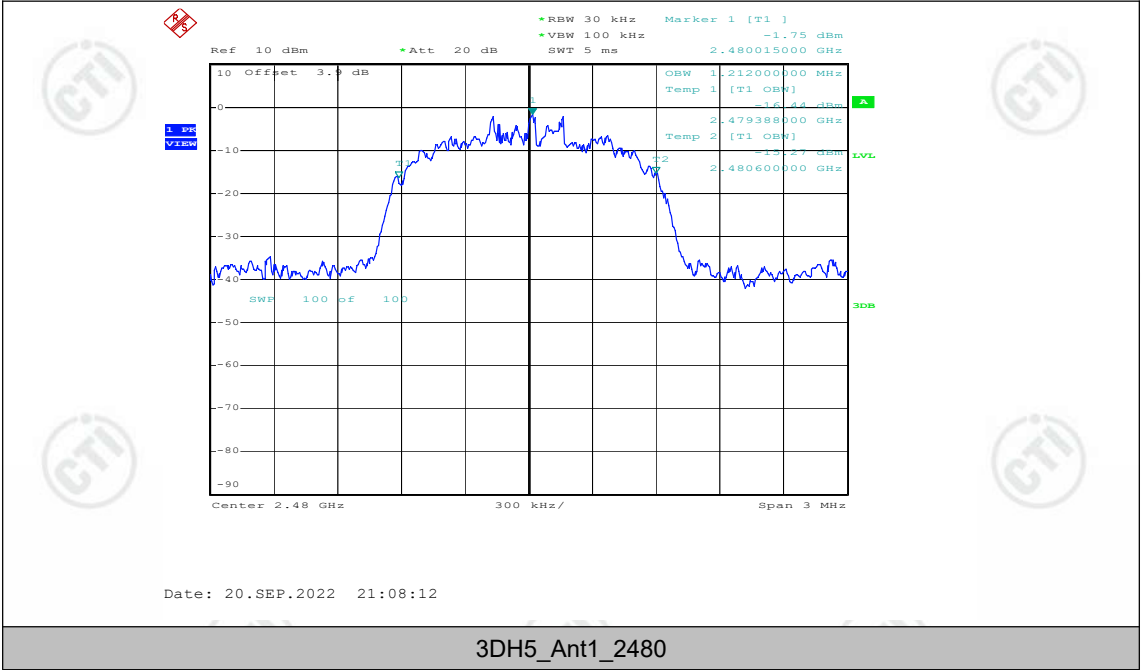
Test Result

Test Mode	Antenna	Frequency[MHz]	OCB [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
DH5	Ant1	2402	0.9	0.000	0.000	---	---
		2441	0.9	0.000	0.000	---	---
		2480	0.891	0.000	0.000	---	---
2DH5	Ant1	2402	1.188	0.000	0.000	---	---
		2441	1.203	0.000	0.000	---	---
		2480	1.194	0.000	0.000	---	---
3DH5	Ant1	2402	1.182	0.000	0.000	---	---
		2441	1.221	0.000	0.000	---	---
		2480	1.212	0.000	0.000	---	---







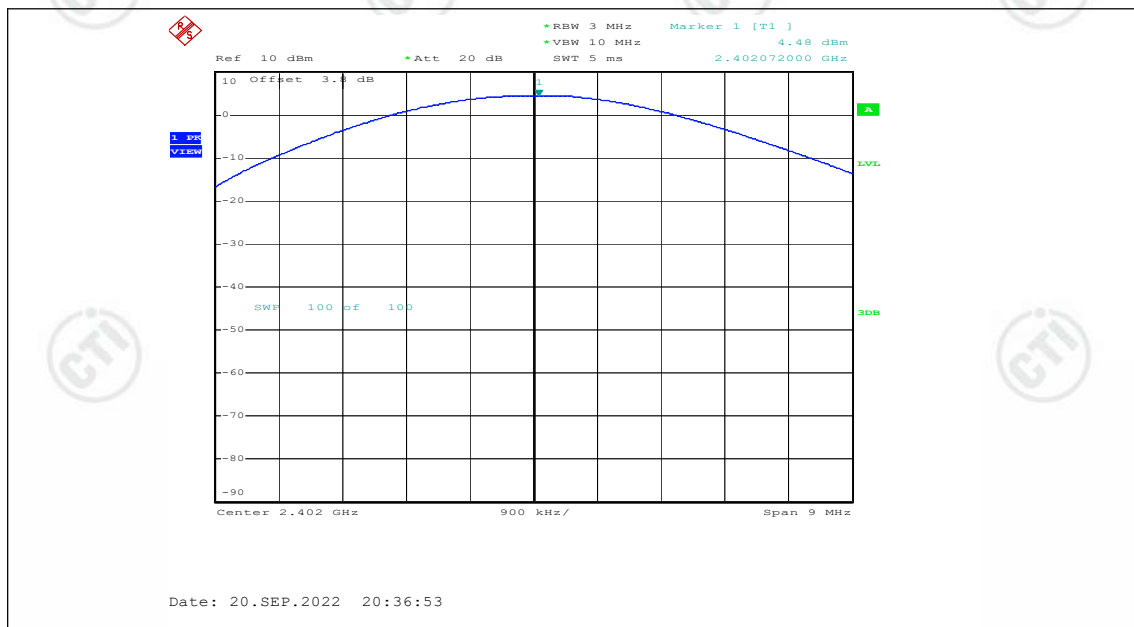


Appendix C: Maximum conducted output power

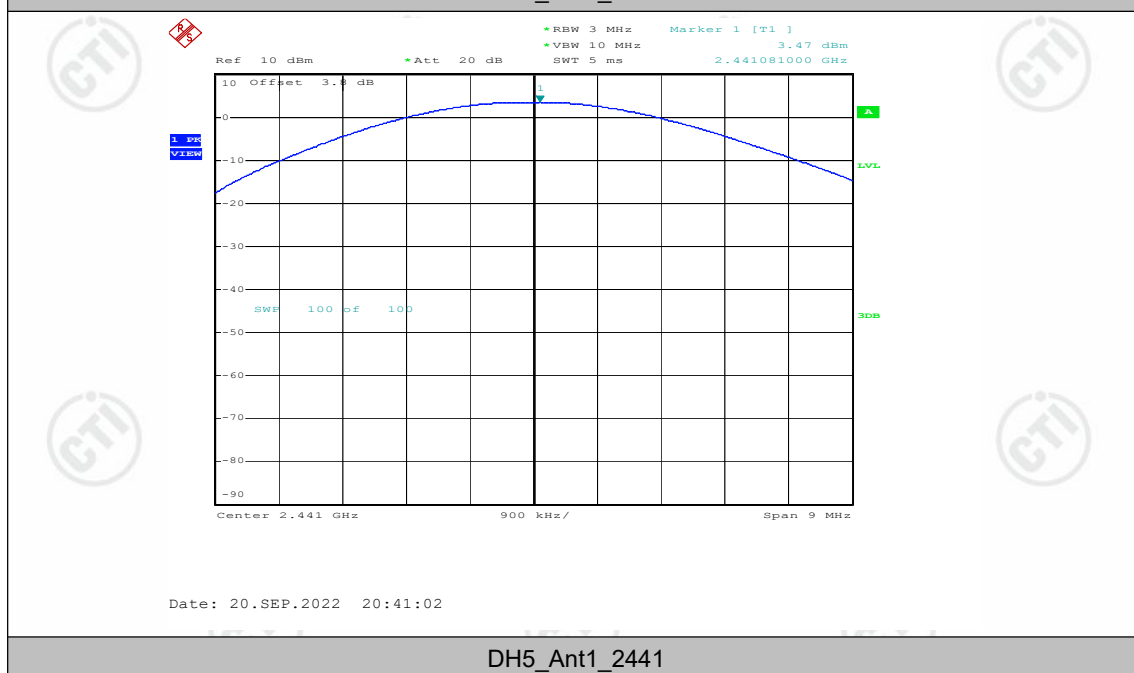
Test Result

Test Mode	Antenna	Frequency[MHz]	Conducted Peak Power[dBm]	Conducted Limit[dBm]	Verdict
DH5	Ant1	2402	4.48	≤20.97	PASS
		2441	3.47	≤20.97	PASS
		2480	3.80	≤20.97	PASS
2DH5	Ant1	2402	4.02	≤20.97	PASS
		2441	2.71	≤20.97	PASS
		2480	2.98	≤20.97	PASS
3DH5	Ant1	2402	4.23	≤20.97	PASS
		2441	2.86	≤20.97	PASS
		2480	3.10	≤20.97	PASS

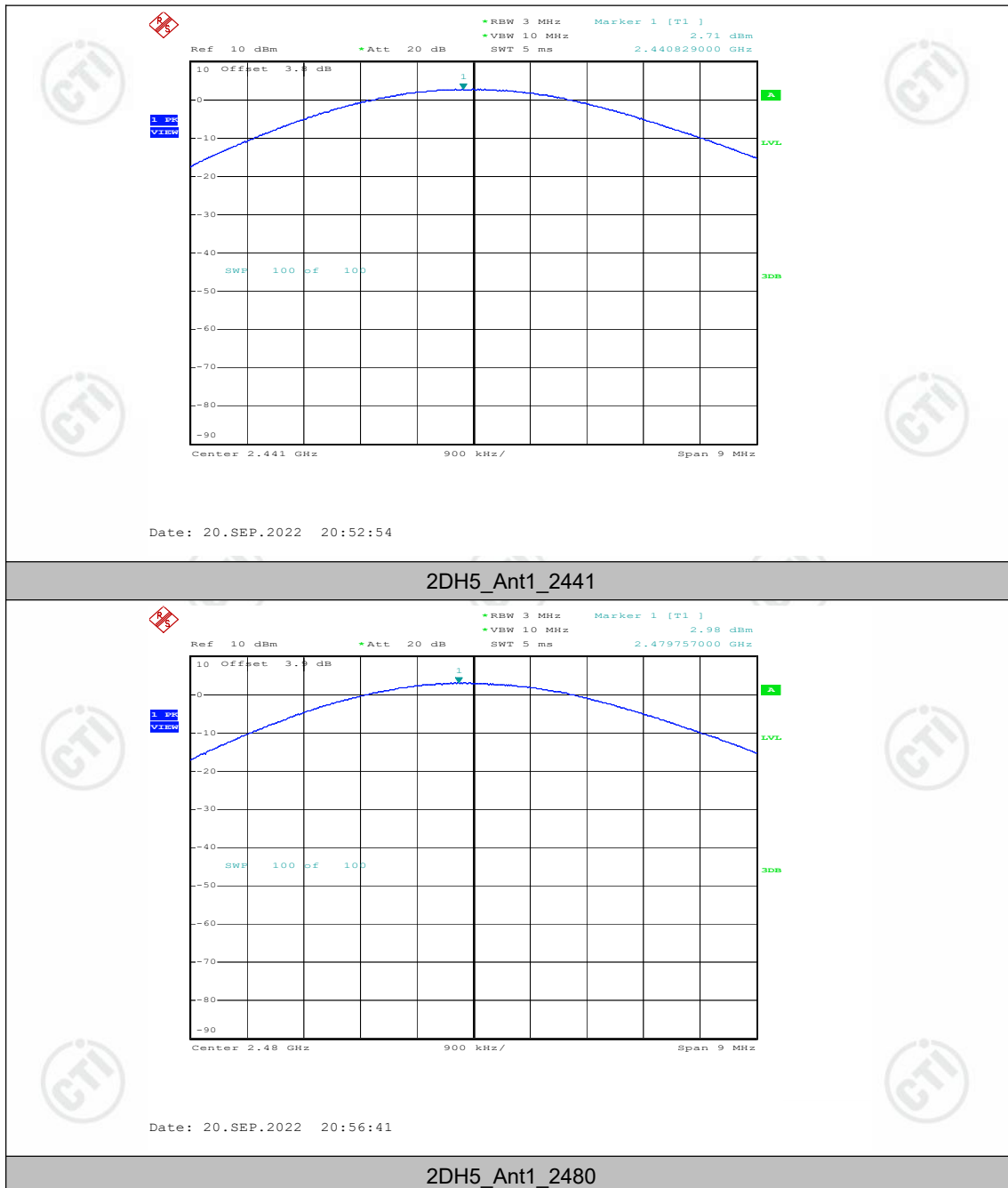
Test Graphs

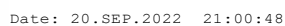


DH5_Ant1_2402

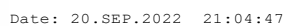


DH5_Ant1_2441

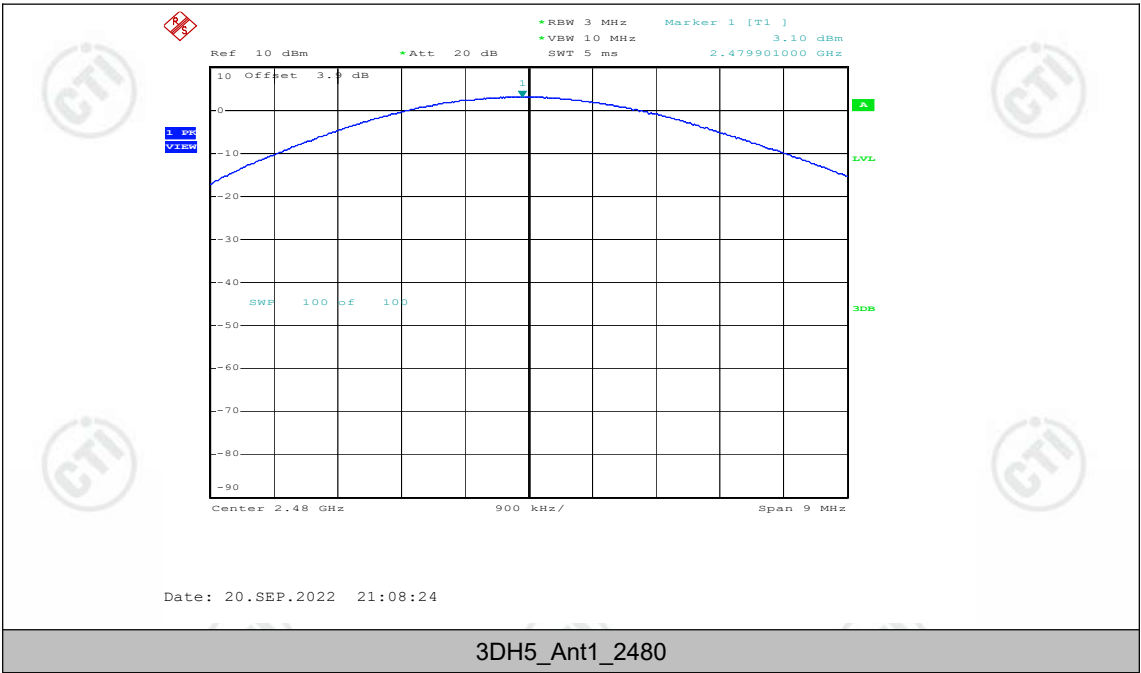




3DH5_Ant1_2402



3DH5_Ant1_2441

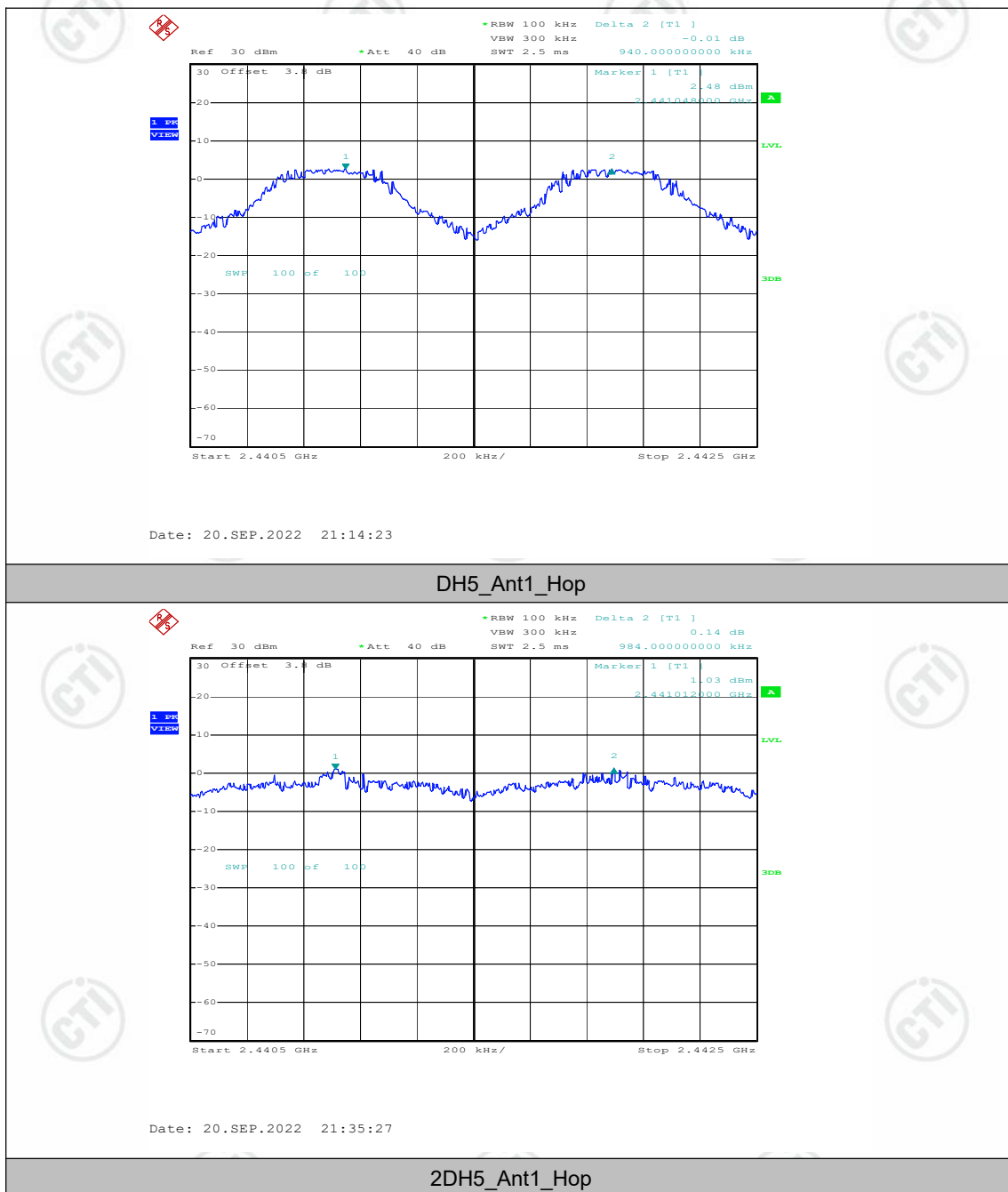


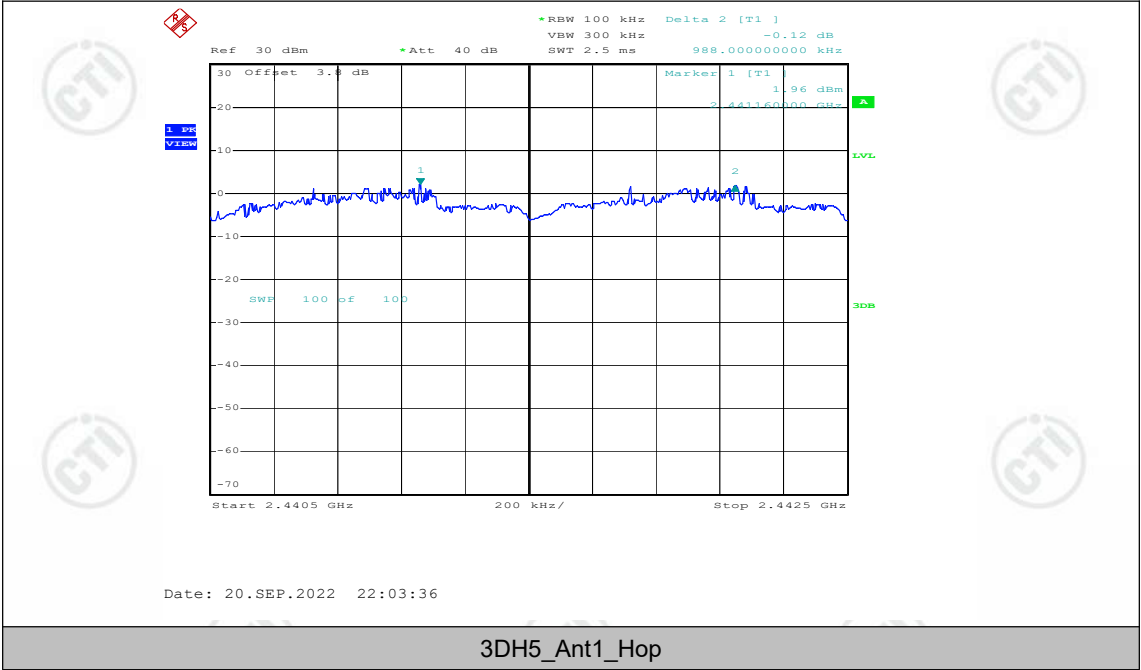
Appendix D: Carrier frequency separation

Test Result

Test Mode	Antenna	Frequency[MHz]	Result[MHz]	Limit[MHz]	Verdict
DH5	Ant1	Hop	0.94	≥0.680	PASS
2DH5	Ant1	Hop	0.984	≥0.880	PASS
3DH5	Ant1	Hop	0.988	≥0.880	PASS

Test Graphs





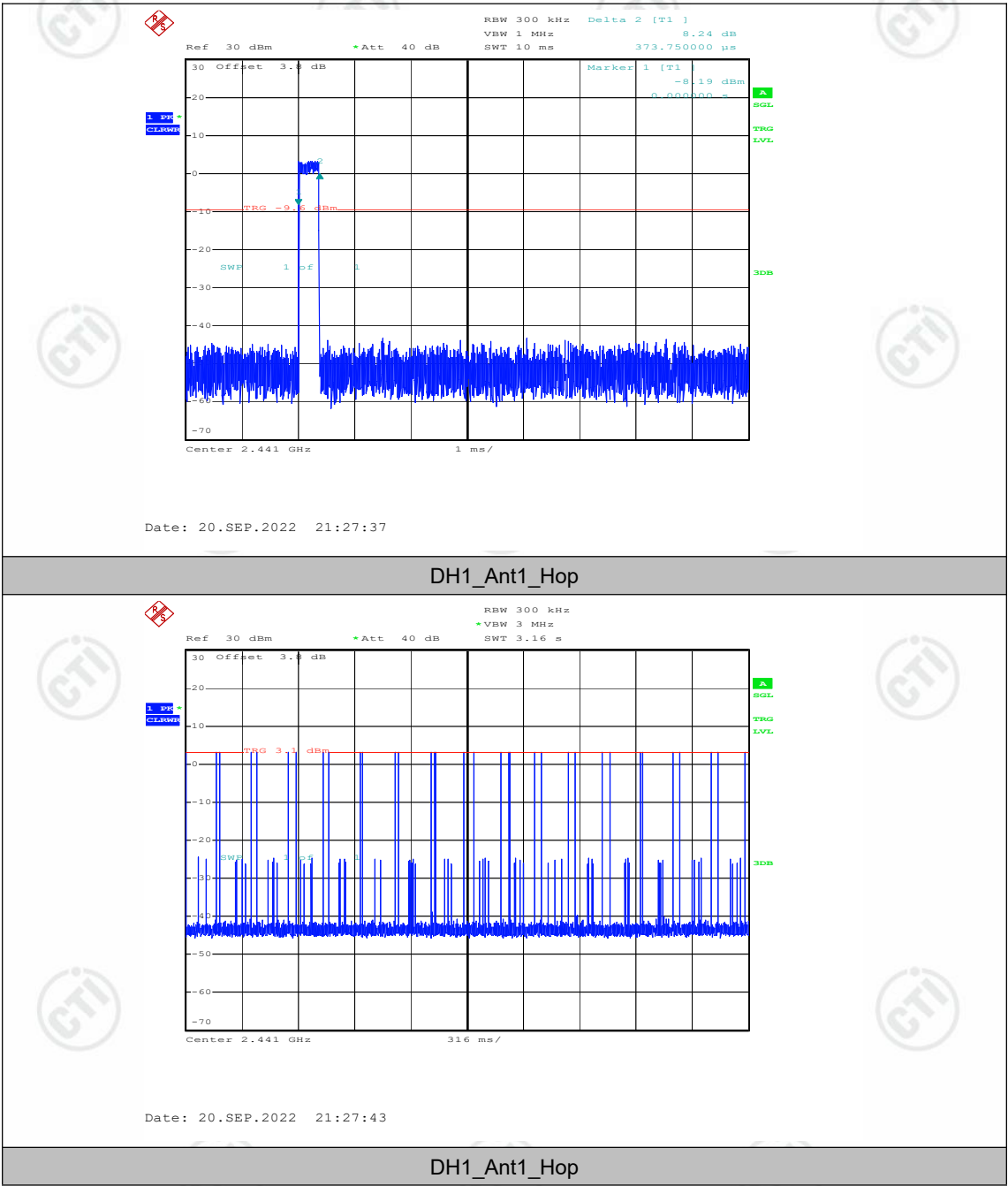
3DH5_Ant1_Hop

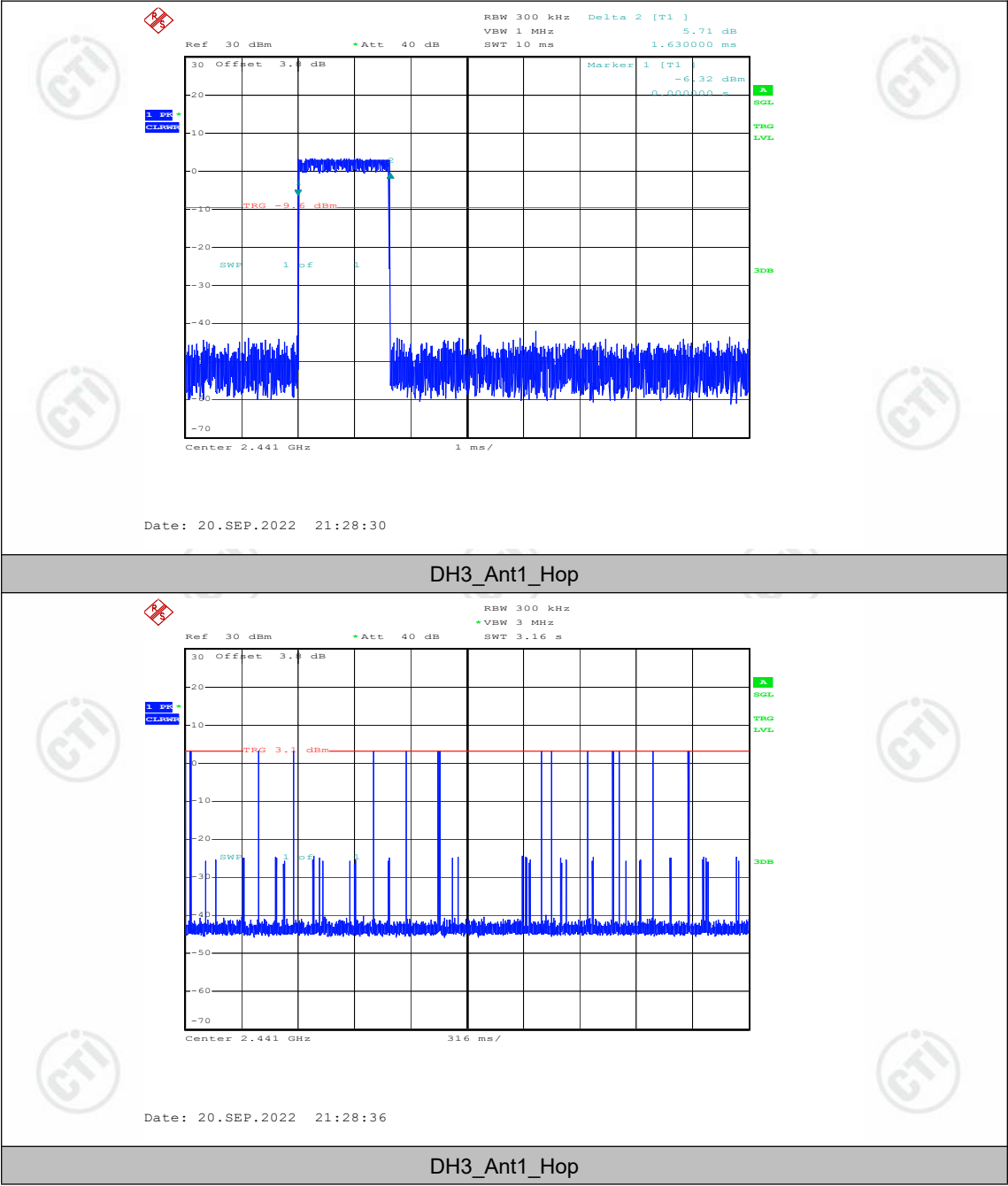
Appendix E: Time of occupancy

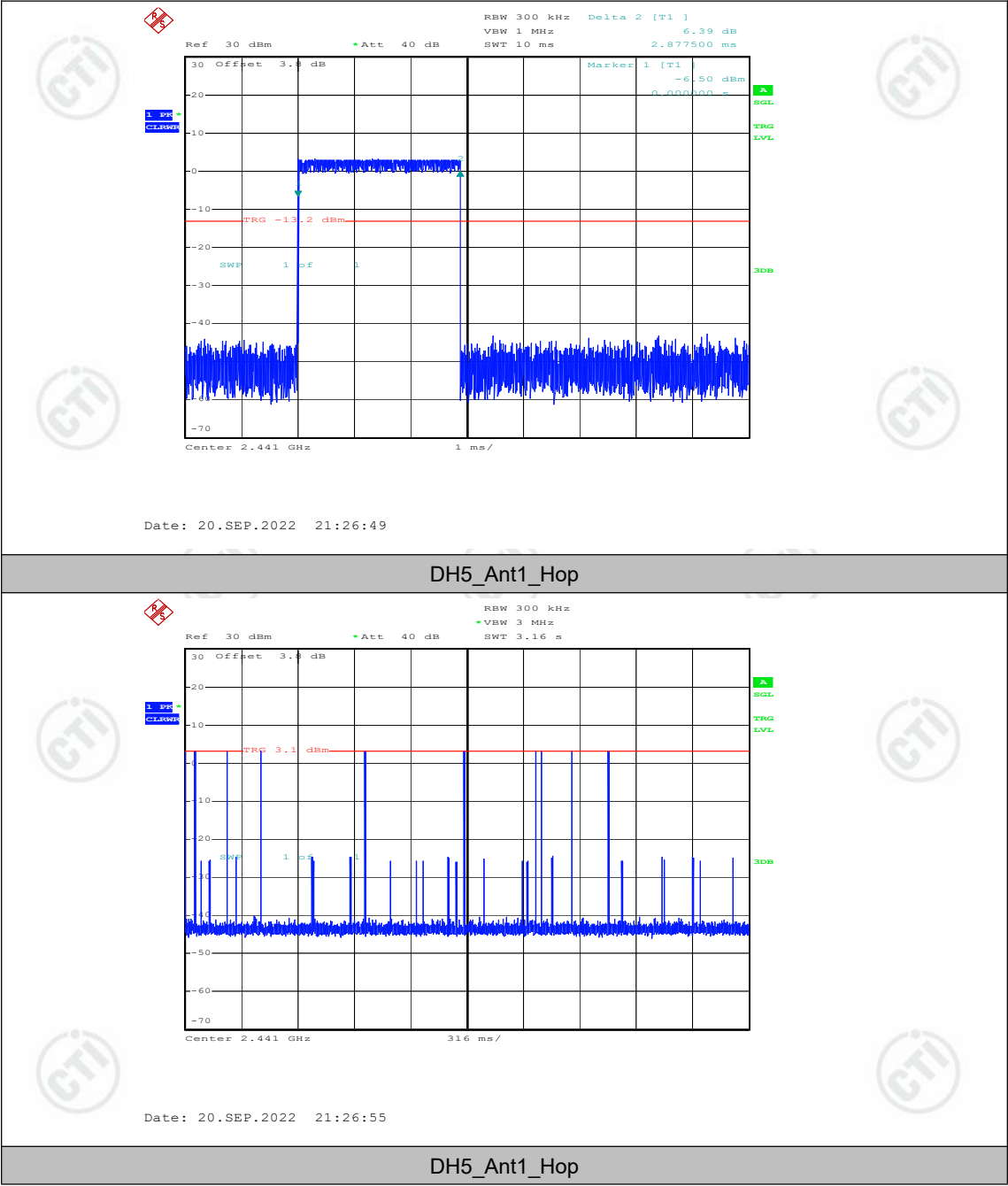
Test Result

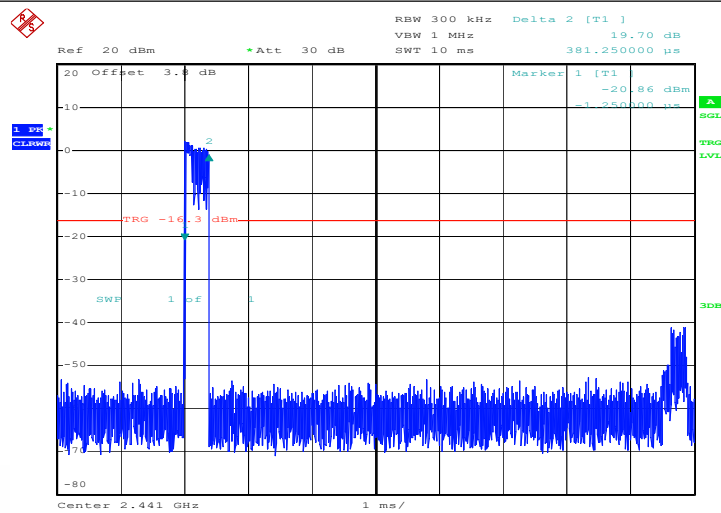
Test Mode	Antenna	Frequency[MHz]	BurstWidth [ms]	TotalHops [Num]	Result[s]	Limit[s]	Verdict
DH1	Ant1	Hop	0.37	320	0.12	≤0.4	PASS
DH3	Ant1	Hop	1.63	150	0.245	≤0.4	PASS
DH5	Ant1	Hop	2.88	100	0.288	≤0.4	PASS
2DH1	Ant1	Hop	0.38	330	0.126	≤0.4	PASS
2DH3	Ant1	Hop	1.14	160	0.182	≤0.4	PASS
2DH5	Ant1	Hop	2.88	120	0.346	≤0.4	PASS
3DH1	Ant1	Hop	0.38	330	0.126	≤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



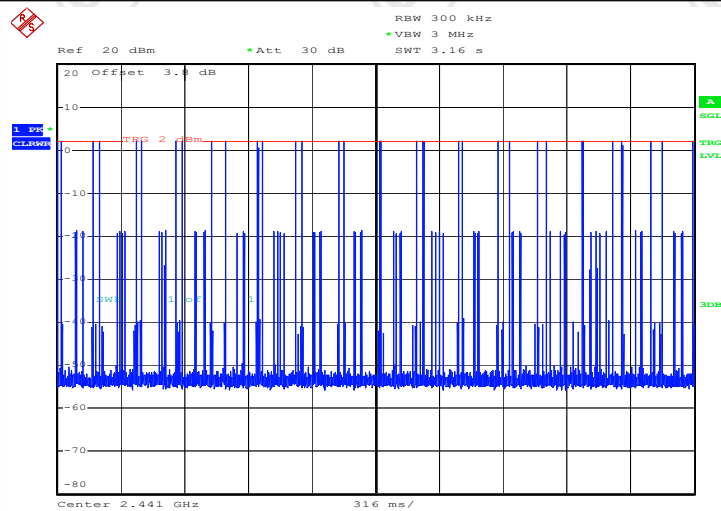






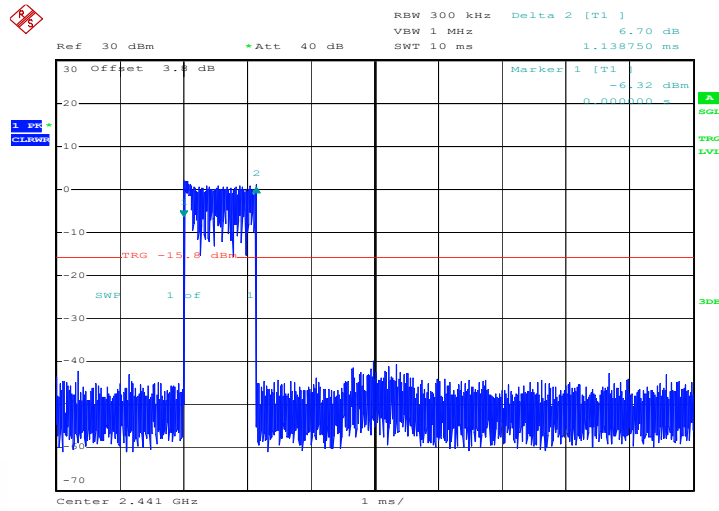
Date: 20.SEP.2022 21:52:48

2DH1_Ant1_Hop



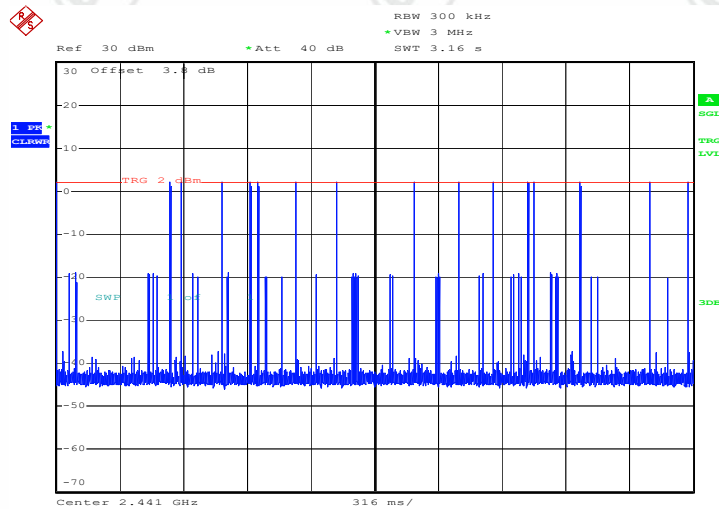
Date: 20.SEP.2022 21:52:54

2DH1_Ant1_Hop



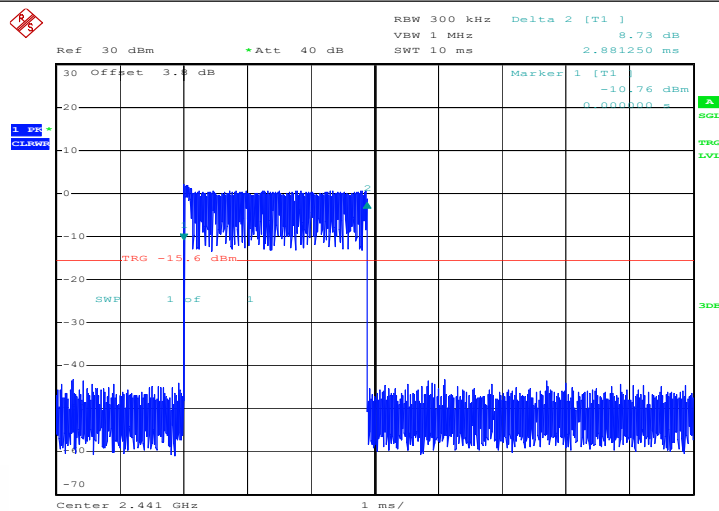
Date: 20.SEP.2022 21:53:40

2DH3_Ant1_Hop



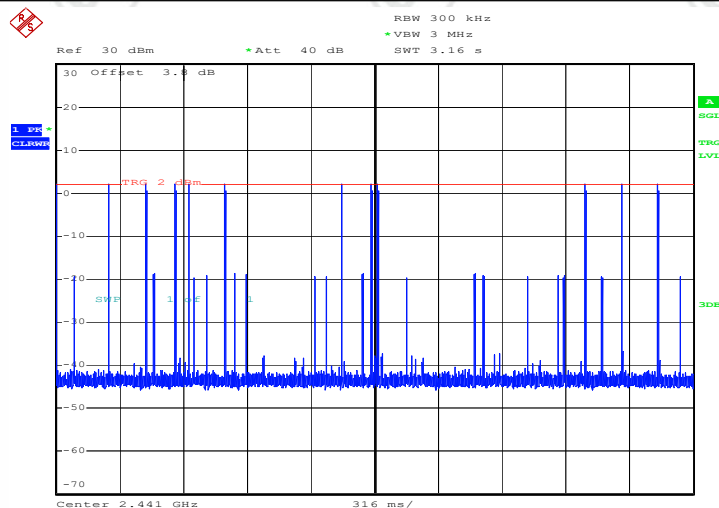
Date: 20.SEP.2022 21:53:46

2DH3_Ant1_Hop



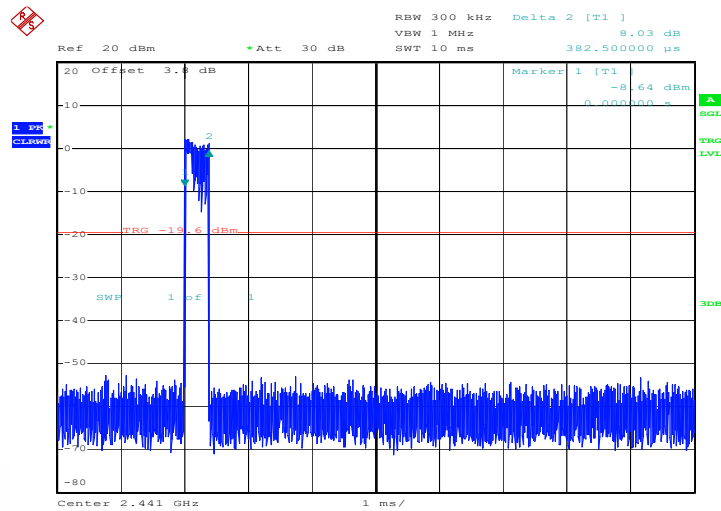
Date: 20.SEP.2022 21:54:37

2DH5_Ant1_Hop



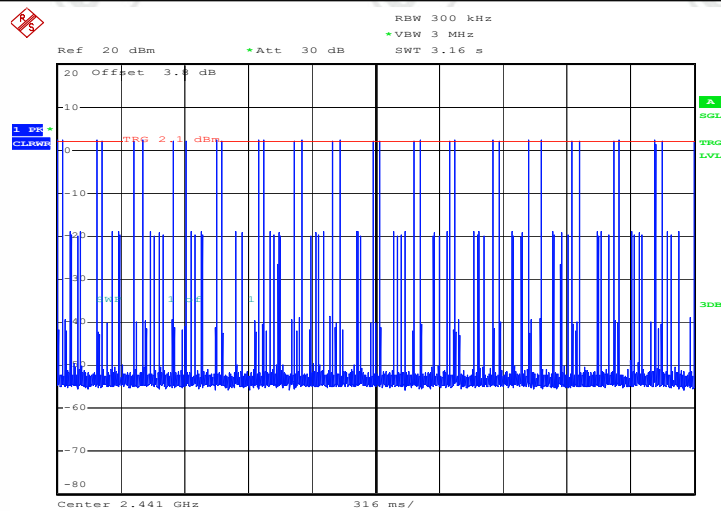
Date: 20.SEP.2022 21:54:43

2DH5_Ant1_Hop



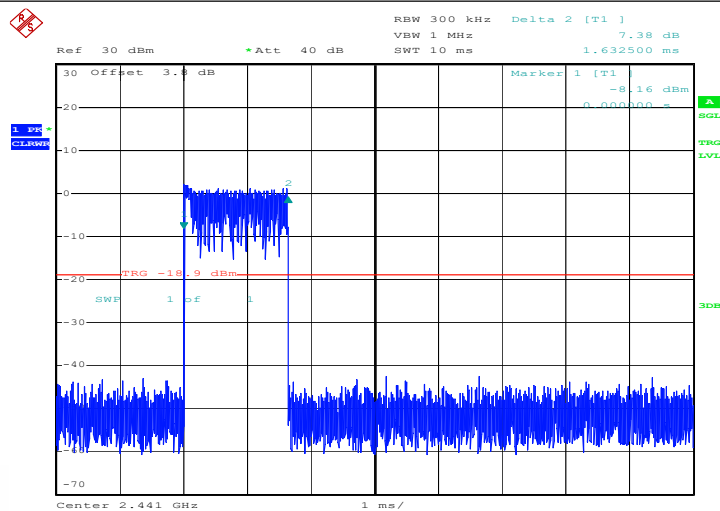
Date: 20.SEP.2022 22:32:11

3DH1_Ant1_Hop



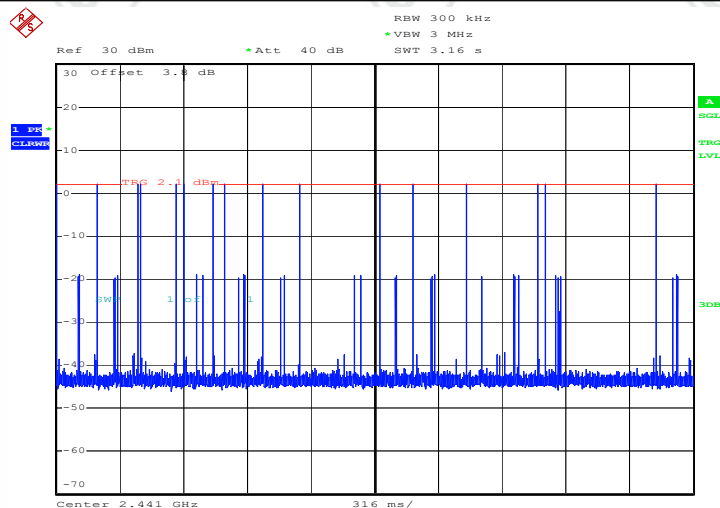
Date: 20.SEP.2022 22:32:17

3DH1_Ant1_Hop



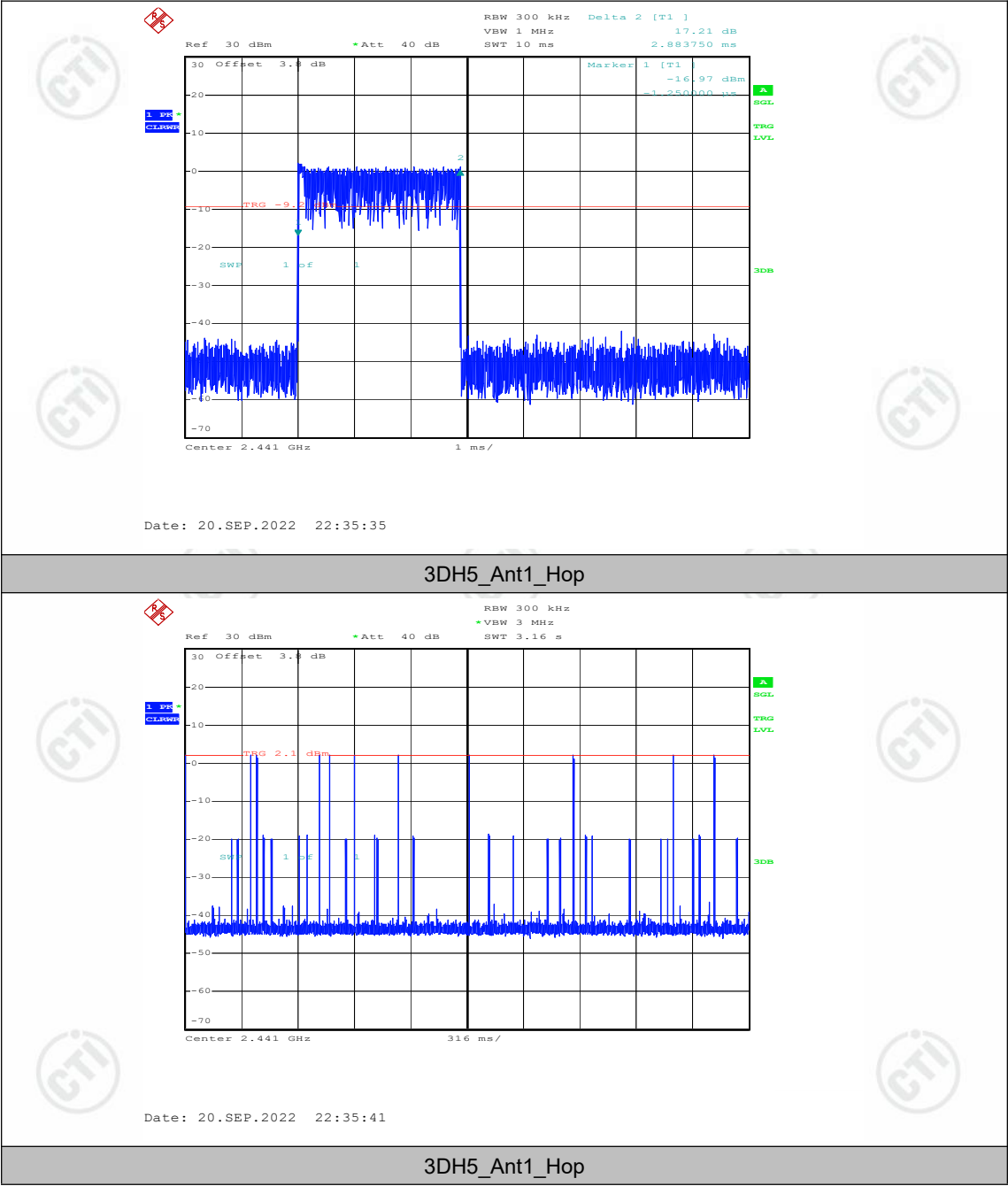
Date: 20.SEP.2022 22:33:28

3DH3_Ant1_Hop



Date: 20.SEP.2022 22:33:34

3DH3_Ant1_Hop

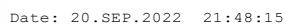


Appendix F: Number of hopping channels

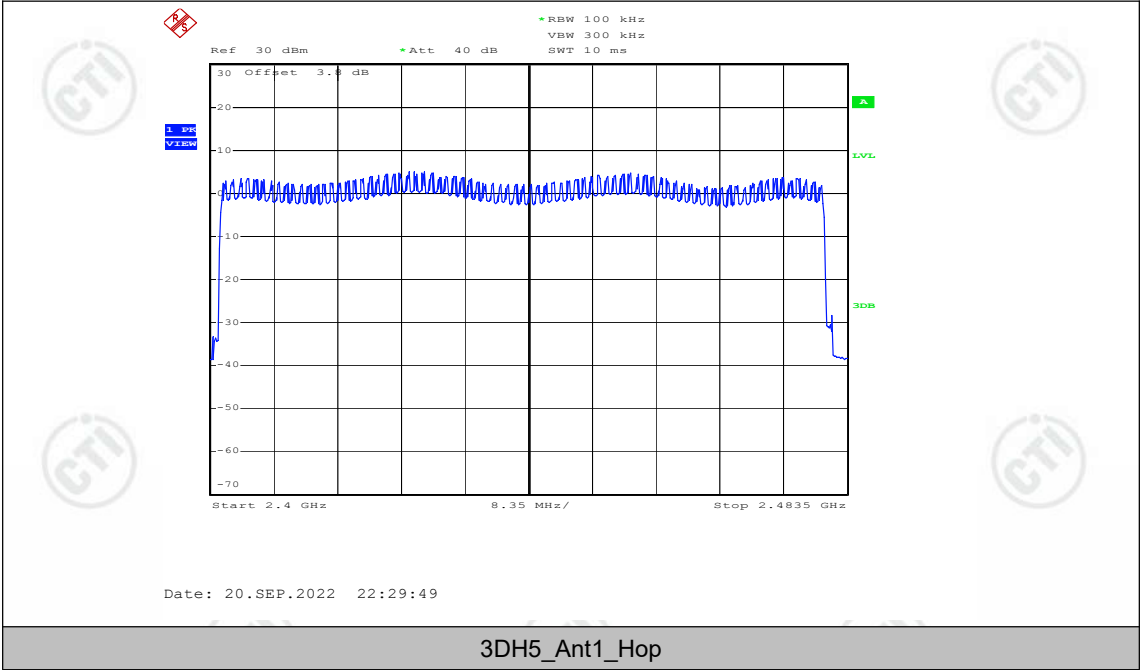
Test Result

Test Mode	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

DH5_Ant1_Hop



2DH5_Ant1_Hop

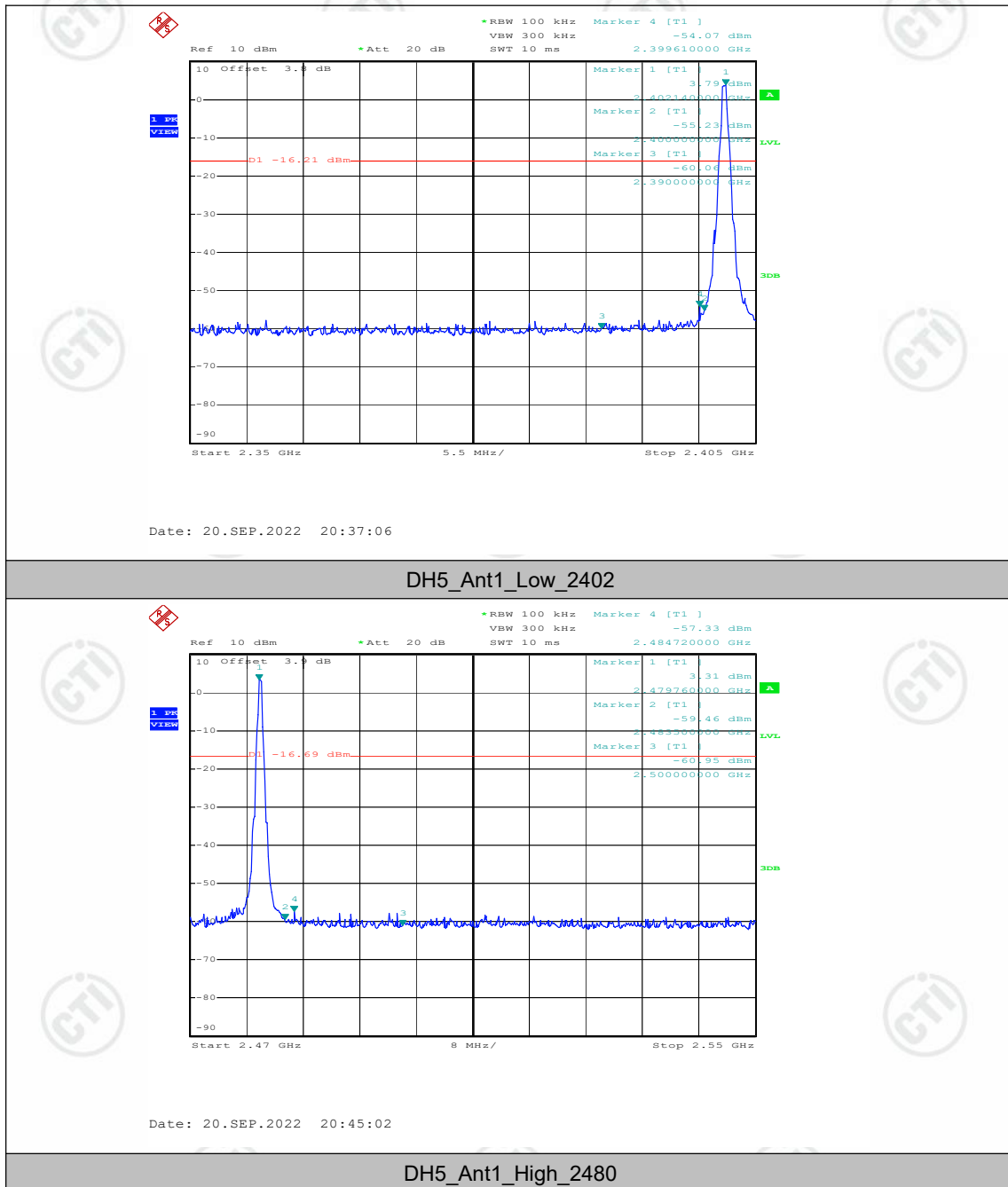


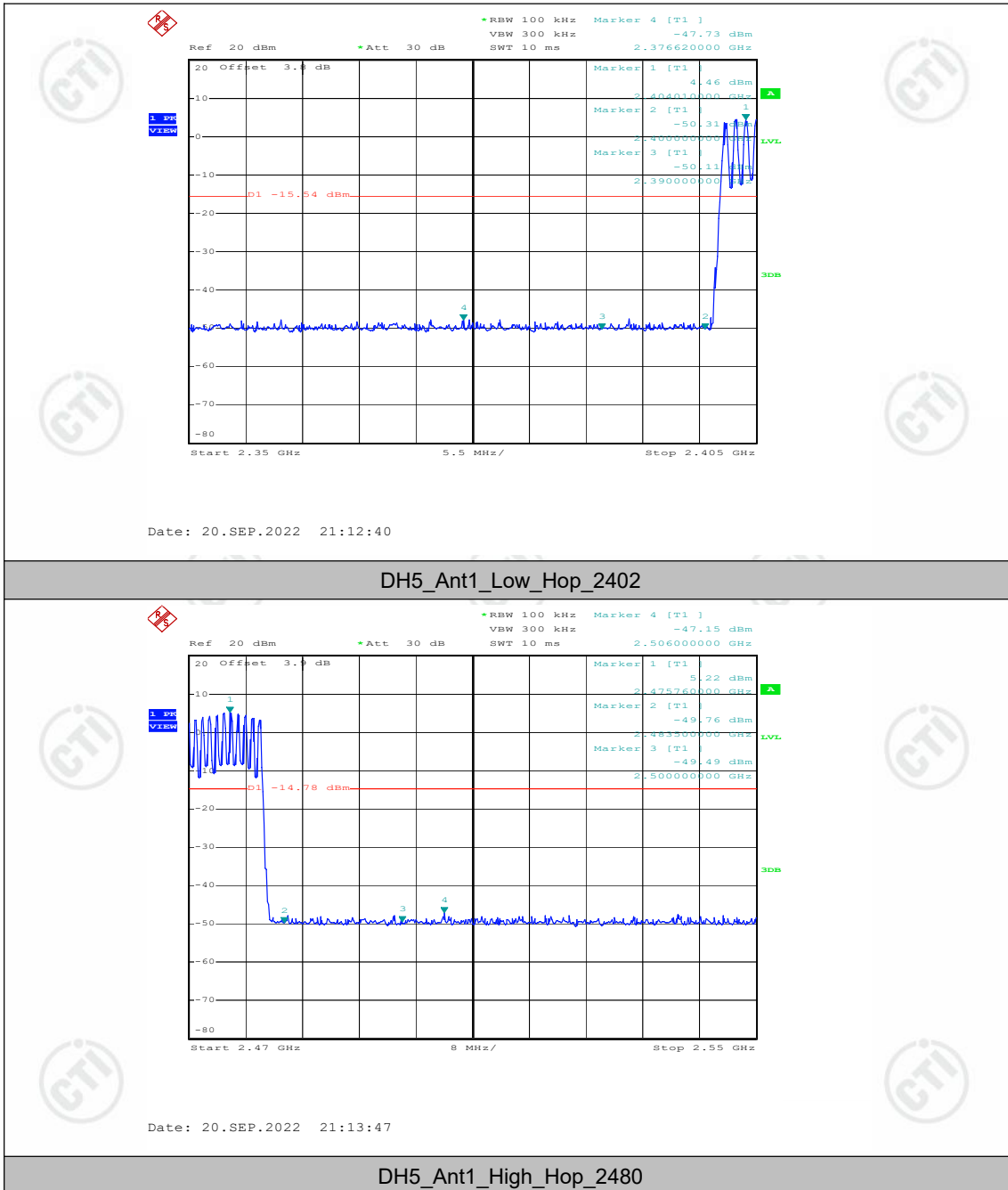
Appendix G: Band edge measurements

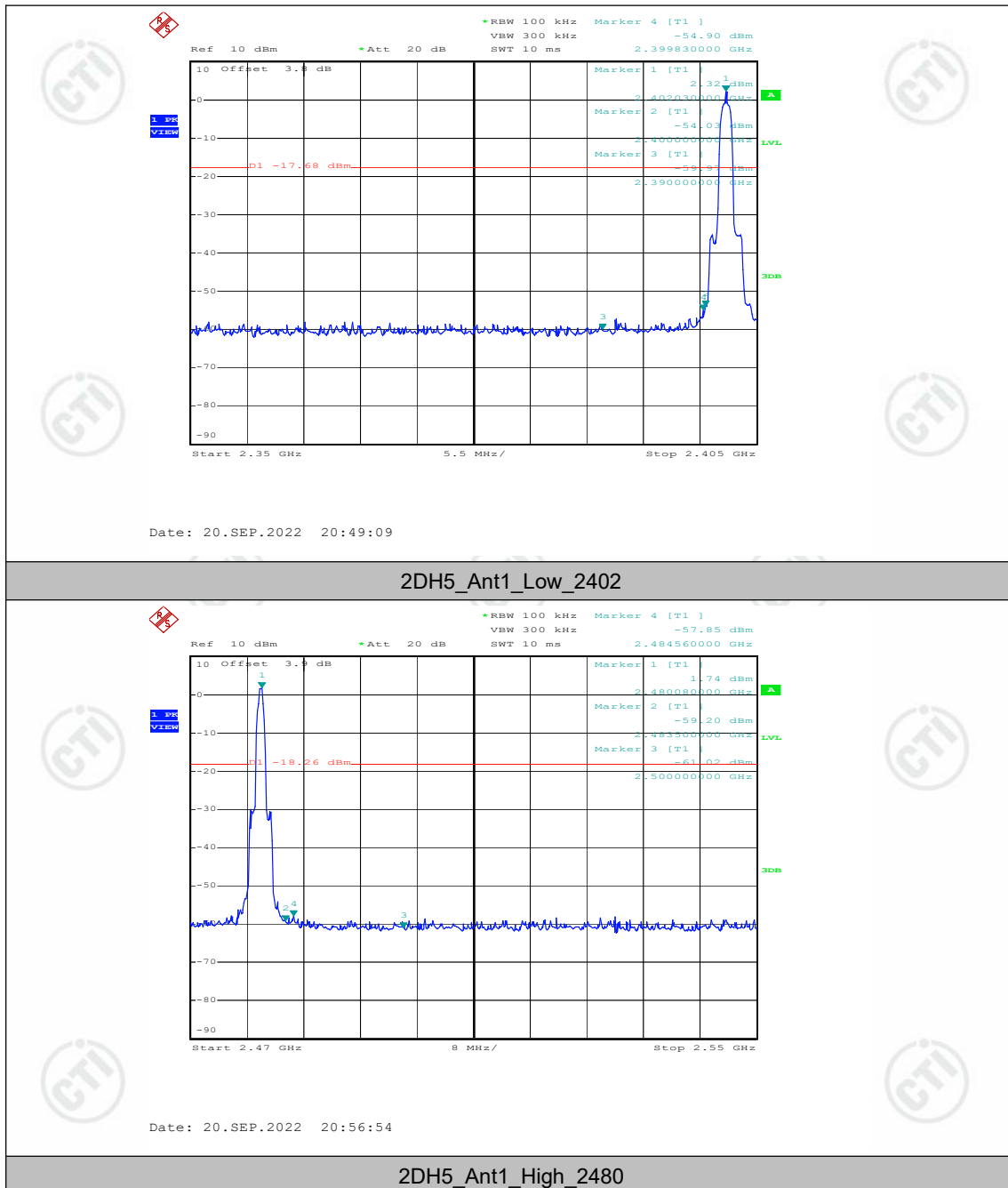
Test Result

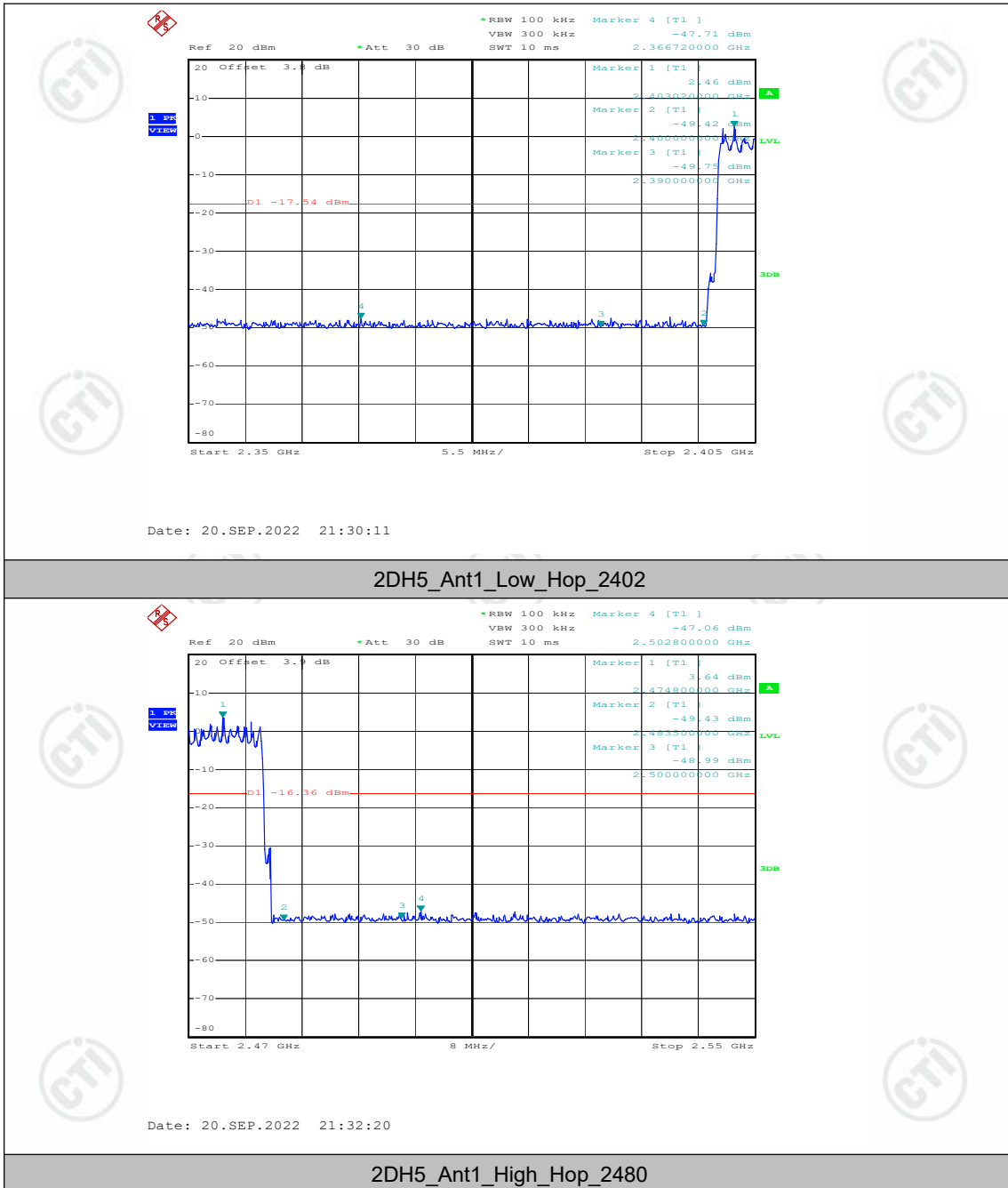
Test Mode	Antenna	ChName	Frequency[MHz]	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
DH5	Ant1	Low	2402	3.79	-54.07	≤-16.21	PASS
		High	2480	3.31	-57.33	≤-16.69	PASS
		Low	Hop_2402	4.46	-47.73	≤-15.54	PASS
		High	Hop_2480	5.22	-47.15	≤-14.78	PASS
2DH5	Ant1	Low	2402	2.32	-54.9	≤-17.68	PASS
		High	2480	1.74	-57.85	≤-18.26	PASS
		Low	Hop_2402	2.46	-47.71	≤-17.54	PASS
		High	Hop_2480	3.64	-47.06	≤-16.36	PASS
3DH5	Ant1	Low	2402	2.93	-54.54	≤-17.07	PASS
		High	2480	2.12	-57.86	≤-17.88	PASS
		Low	Hop_2402	3.15	-46.6	≤-16.85	PASS
		High	Hop_2480	3.48	-46.78	≤-16.52	PASS

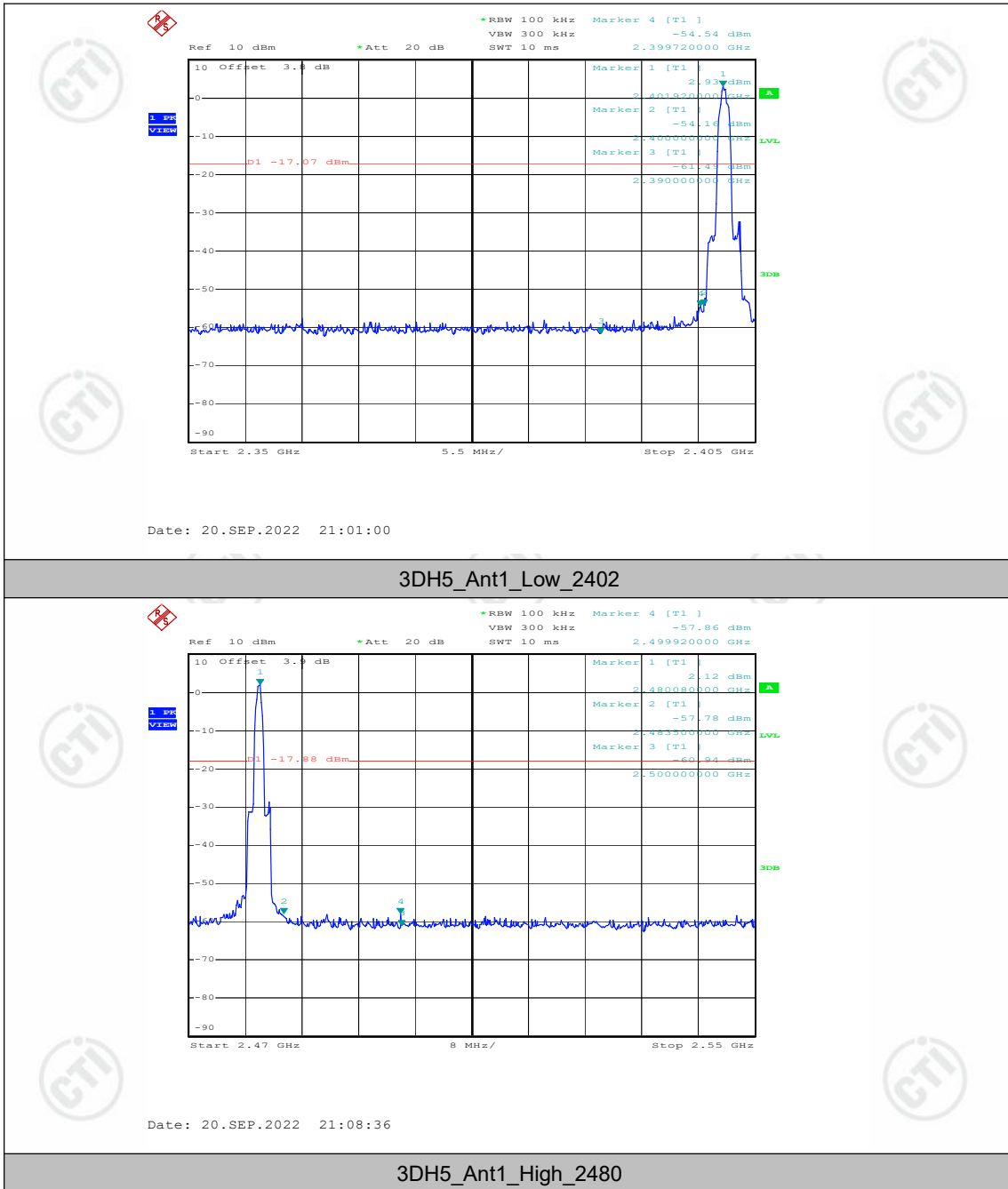
Test Graphs

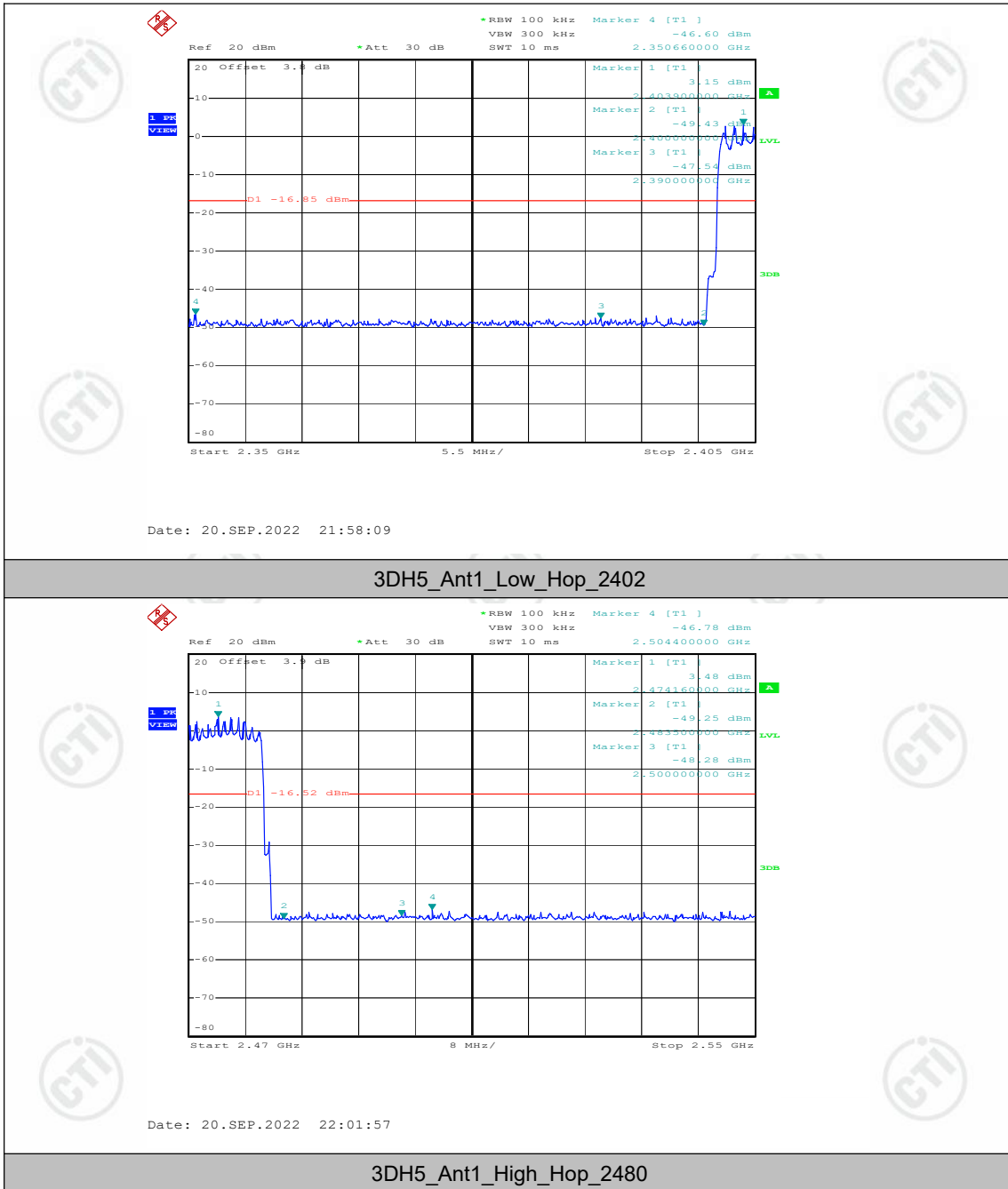








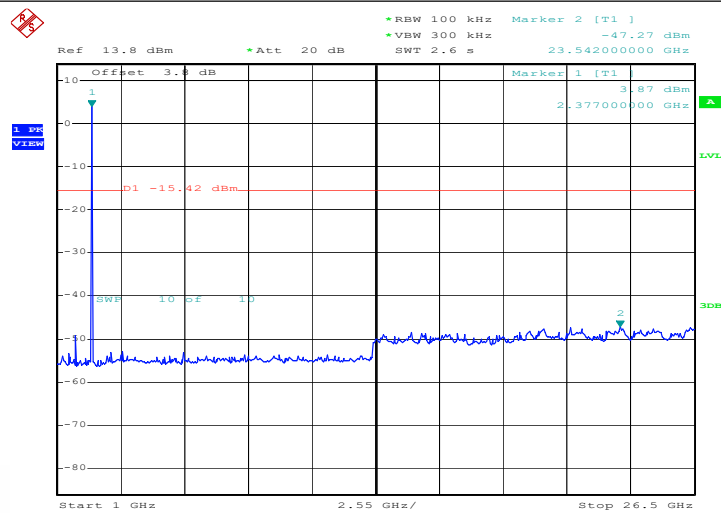




Appendix H: Conducted Spurious Emission

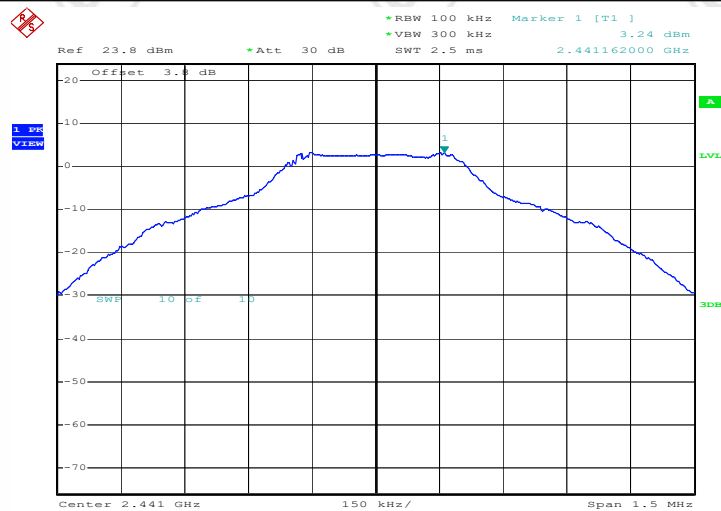
Test Result

Test Mode	Antenna	Frequency[MHz]	FreqRange [MHz]	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
DH5	Ant1	2402	Reference	4.58	4.58	---	PASS
			30~1000	---	-54.32	≤-15.42	PASS
			1000~26500	---	-47.27	≤-15.42	PASS
		2441	Reference	3.24	3.24	---	PASS
			30~1000	---	-54.25	≤-16.76	PASS
			1000~26500	---	-46.66	≤-16.76	PASS
		2480	Reference	3.56	3.56	---	PASS
			30~1000	---	-54.36	≤-16.44	PASS
			1000~26500	---	-46.64	≤-16.44	PASS
2DH5	Ant1	2402	Reference	2.95	2.95	---	PASS
			30~1000	---	-54.27	≤-17.05	PASS
			1000~26500	---	-42.13	≤-17.05	PASS
		2441	Reference	1.73	1.73	---	PASS
			30~1000	---	-54.27	≤-18.27	PASS
			1000~26500	---	-46.9	≤-18.27	PASS
		2480	Reference	2.33	2.33	---	PASS
			30~1000	---	-54.12	≤-17.67	PASS
			1000~26500	---	-46.73	≤-17.67	PASS
3DH5	Ant1	2402	Reference	2.96	2.96	---	PASS
			30~1000	---	-53.13	≤-17.04	PASS
			1000~26500	---	-46.82	≤-17.04	PASS
		2441	Reference	2.08	2.08	---	PASS
			30~1000	---	-54.25	≤-17.92	PASS
			1000~26500	---	-47.05	≤-17.92	PASS
		2480	Reference	2.16	2.16	---	PASS
			30~1000	---	-52.84	≤-17.84	PASS
			1000~26500	---	-46.63	≤-17.84	PASS



Date: 20.SEP.2022 20:39:15

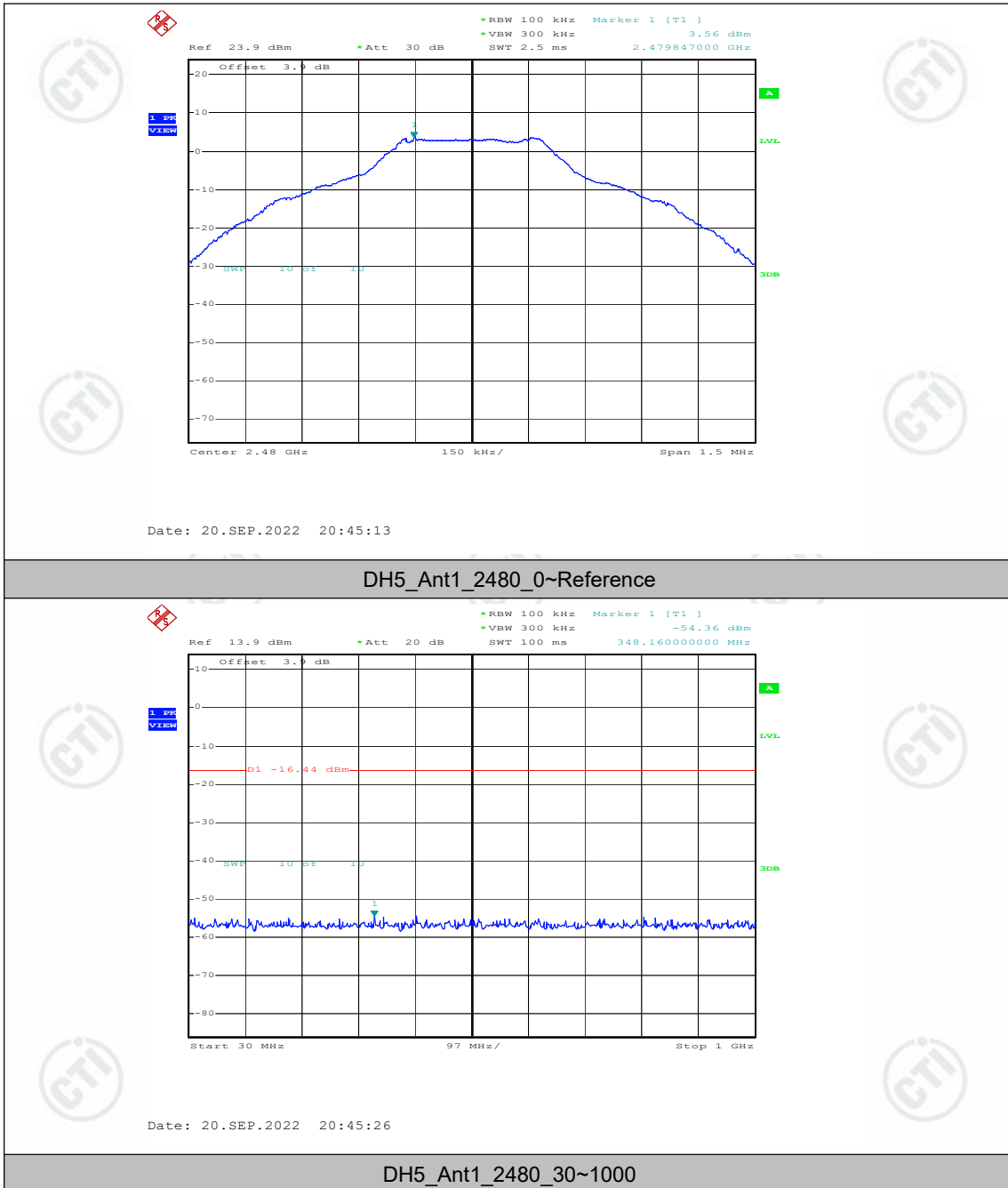
DH5_Ant1_2402_1000~26500

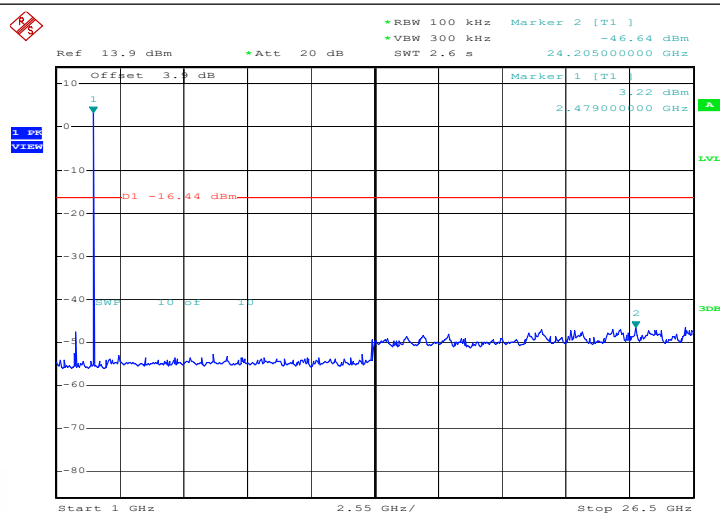


Date: 20.SEP.2022 20:41:12

DH5_Ant1_2441_0~Reference

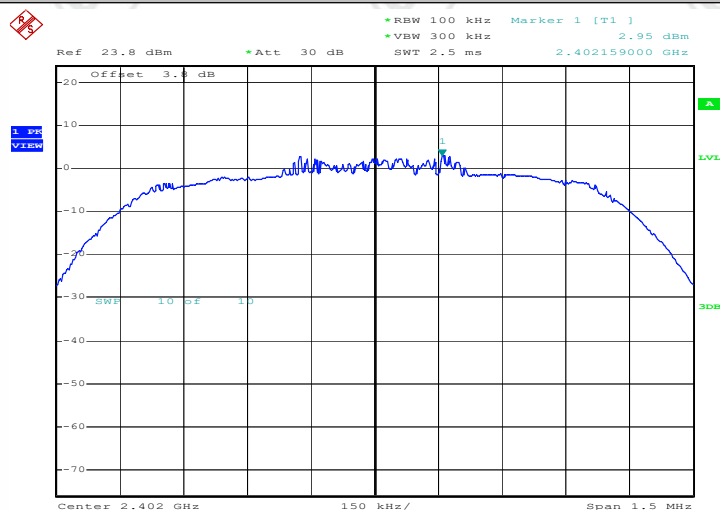






Date: 20.SEP.2022 20:47:11

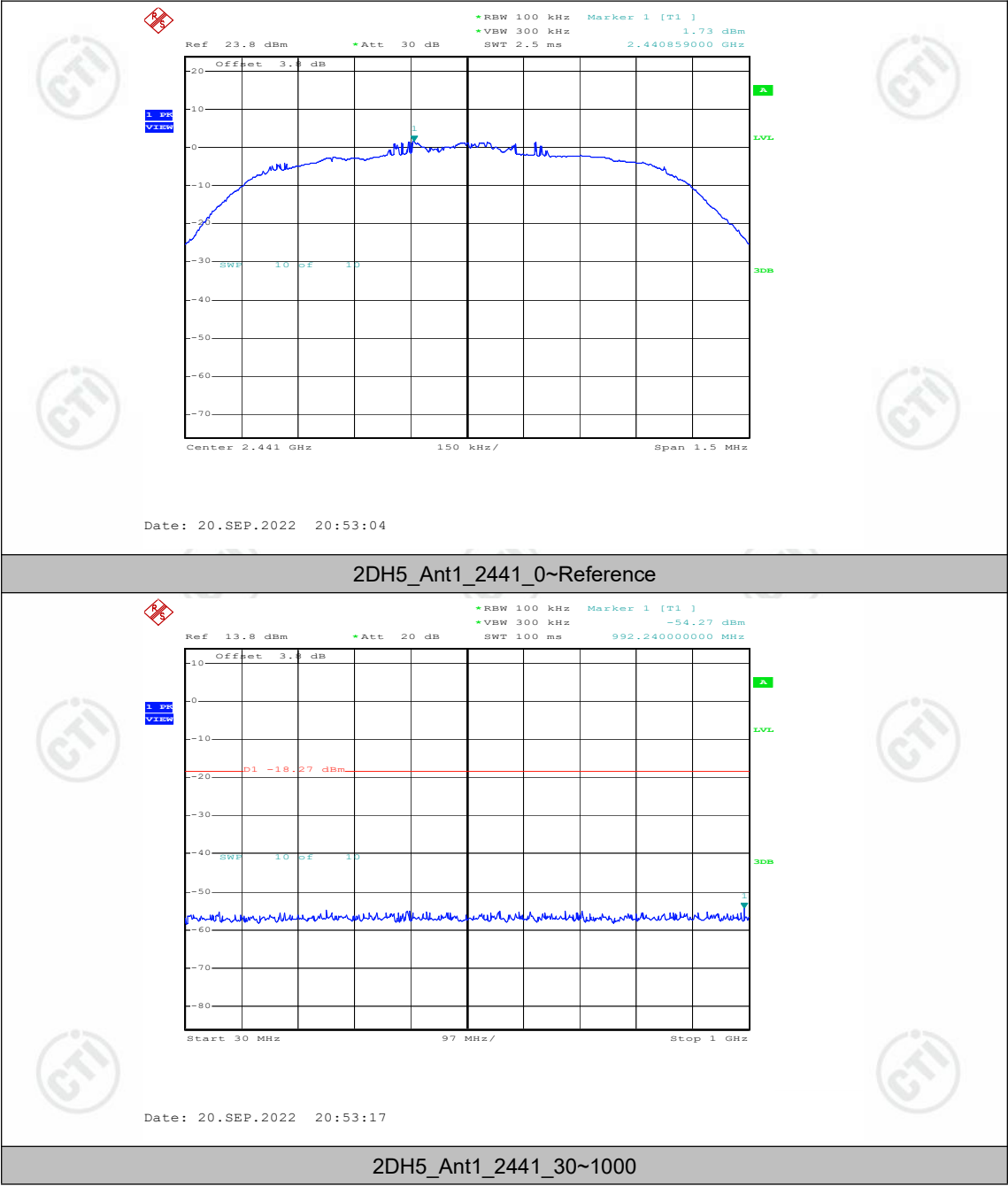
DH5 Ant1 2480 1000~26500

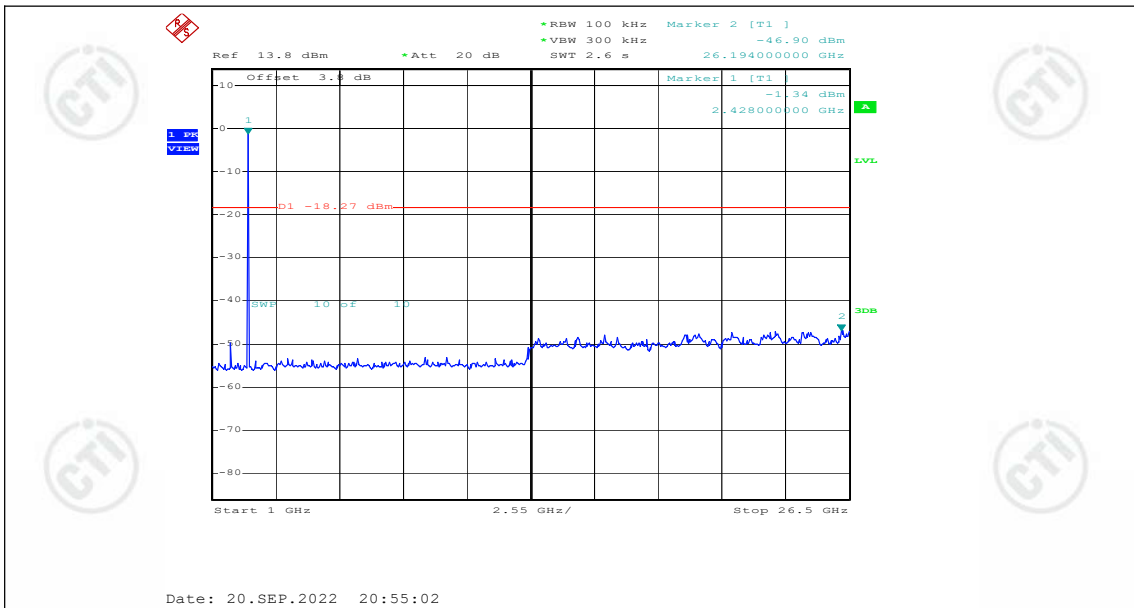


Date: 20.SEP.2022 20:49:20

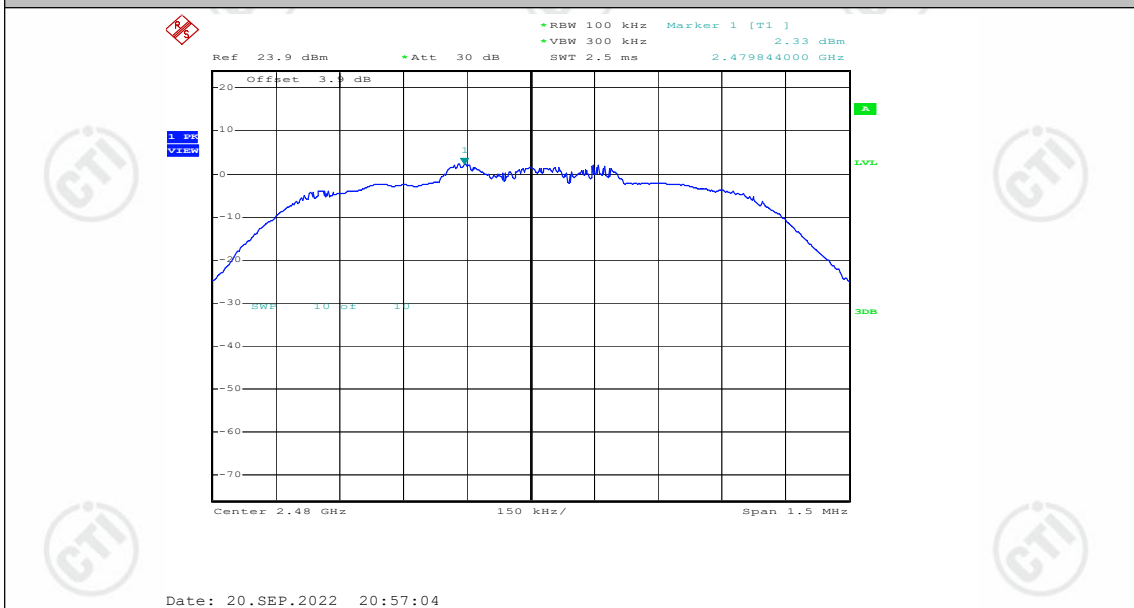
2DH5_Ant1_2402_0~Reference



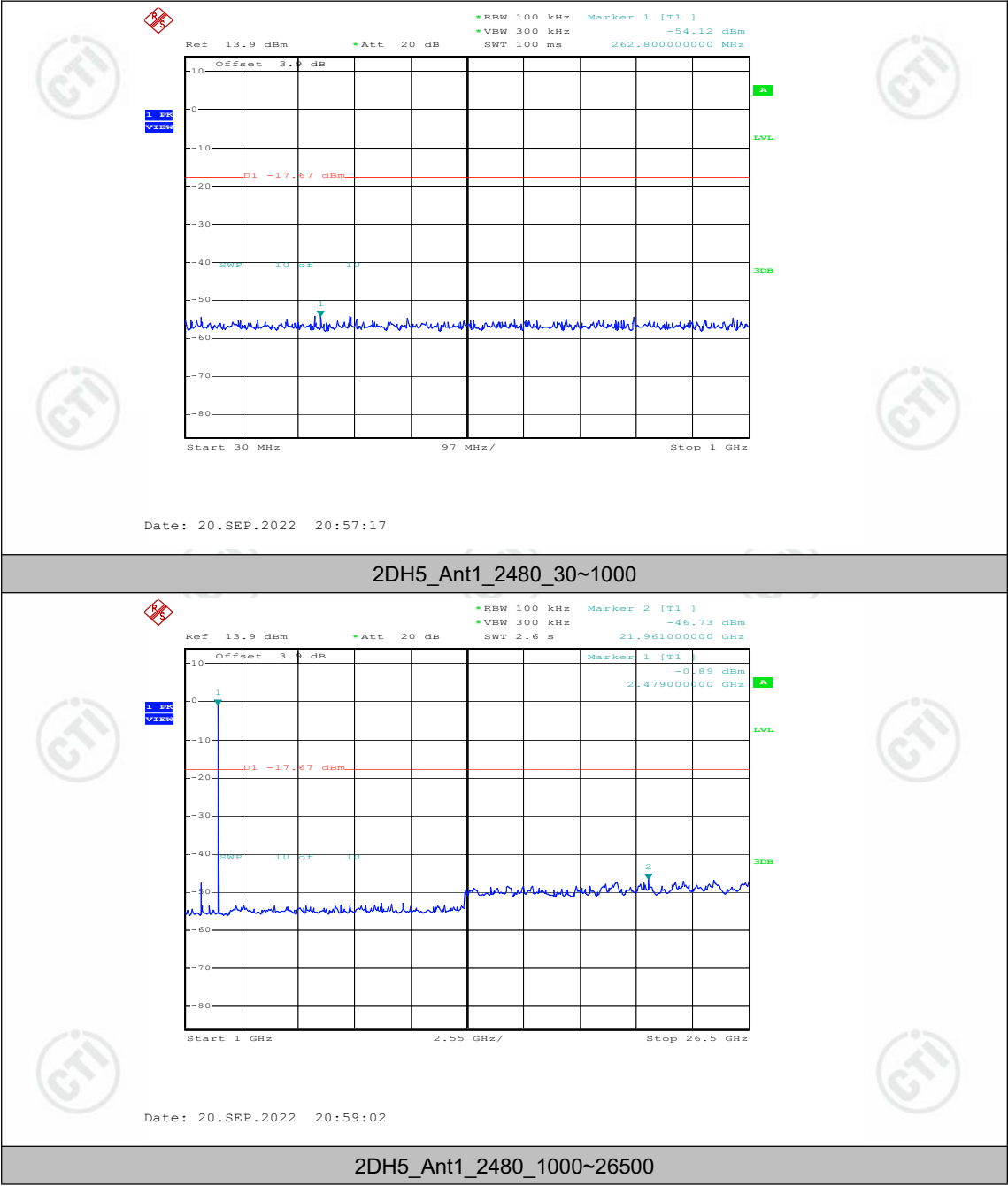


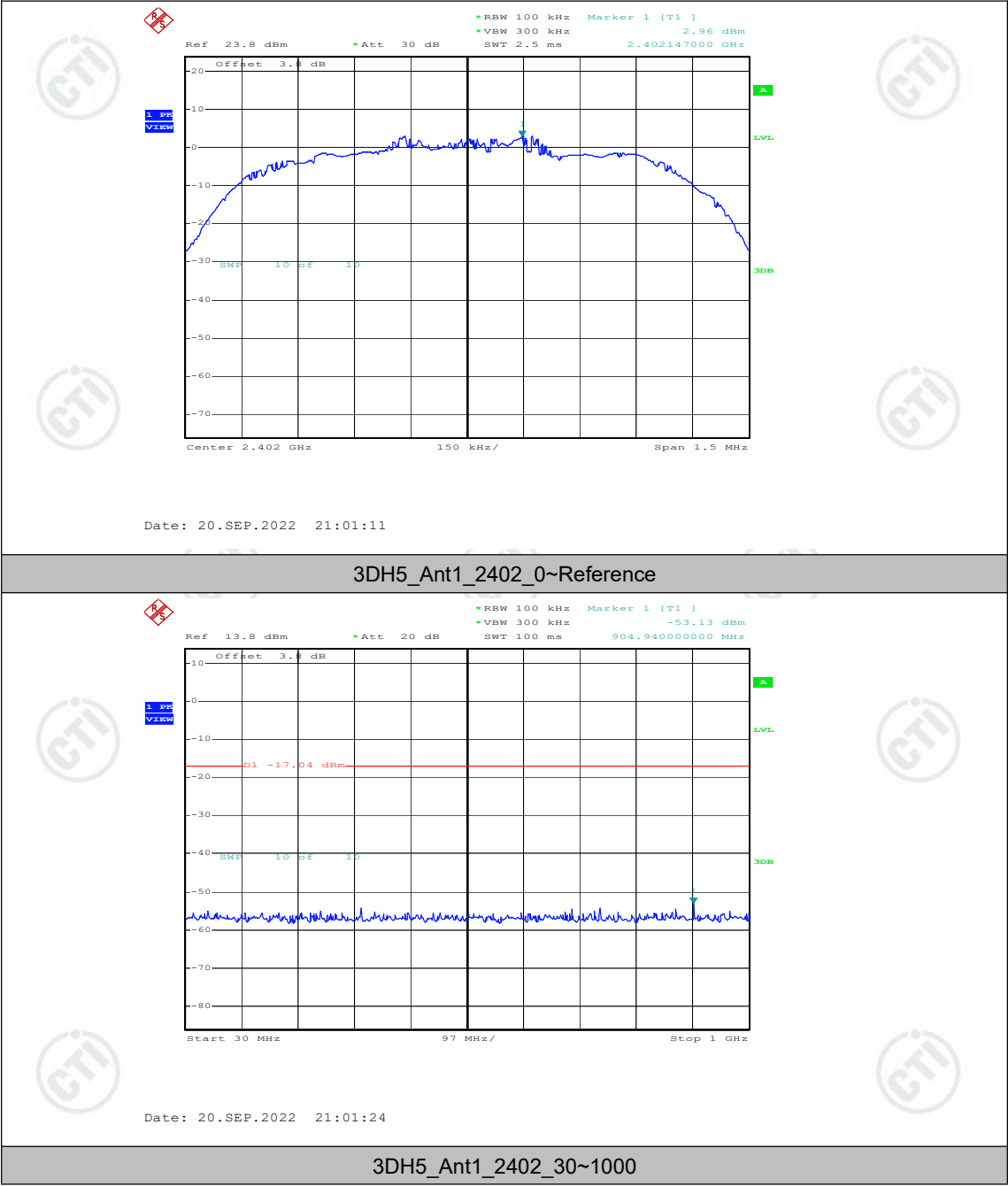


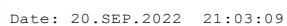
2DH5_Ant1_2441_1000~26500



2DH5_Ant1_2480_0~Reference







Ref 23.8 dBm Att 30 dB RBW 100 kHz VBW 300 kHz SWT 2.5 ms

Marker 1 [T1] 2.08 dBm 2.441162000 GHz

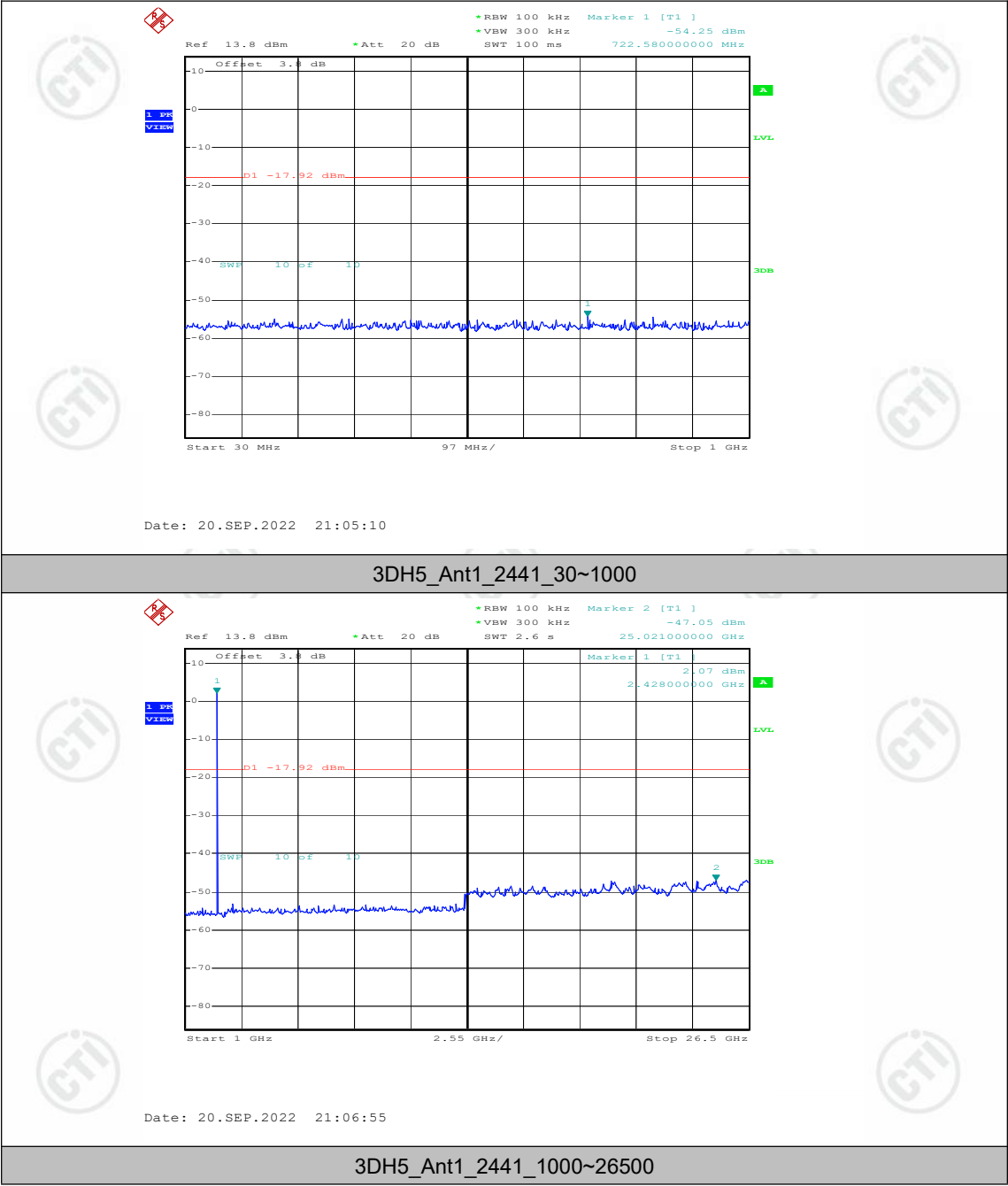
Offset 3.0 dB

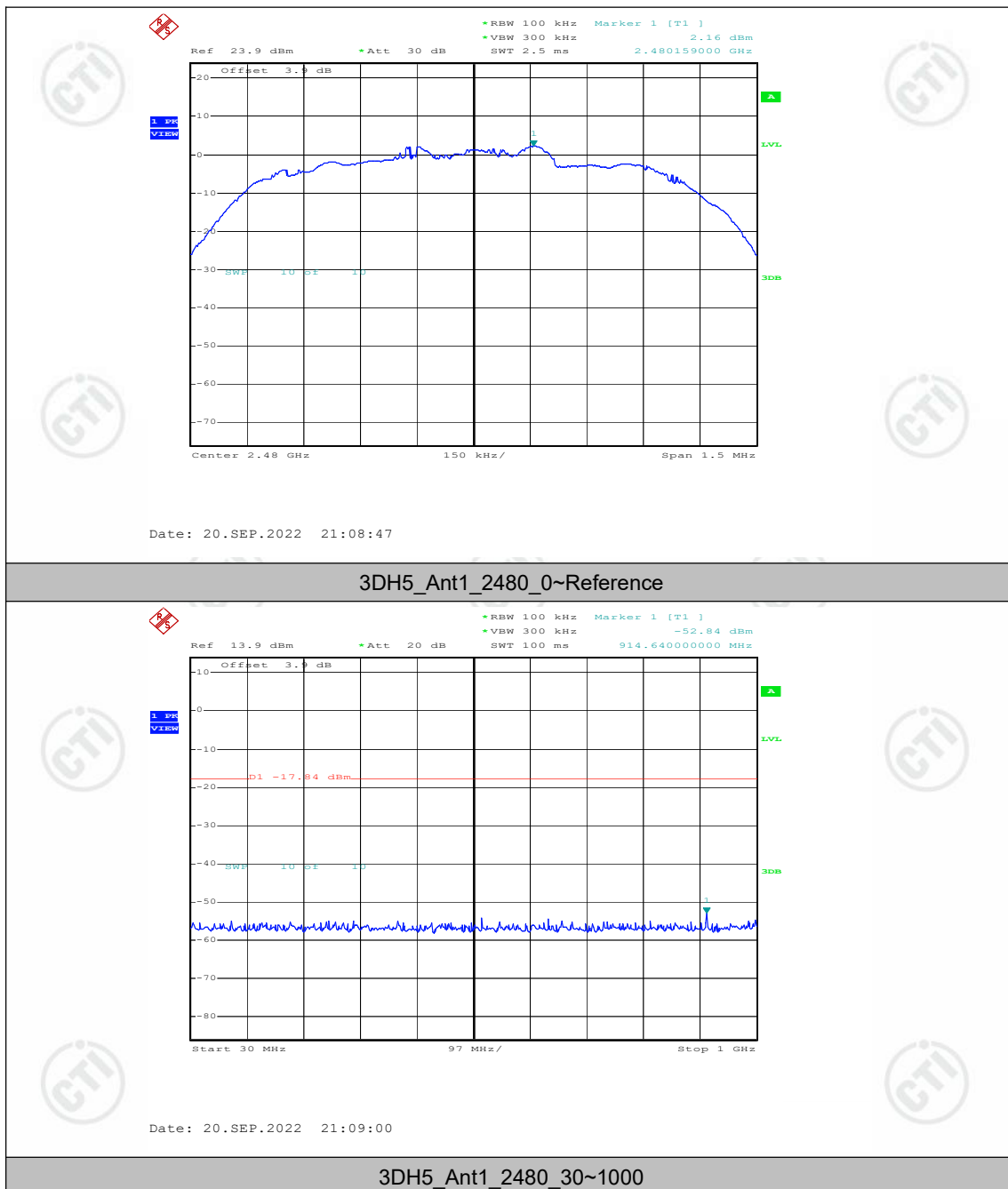
1 dB View

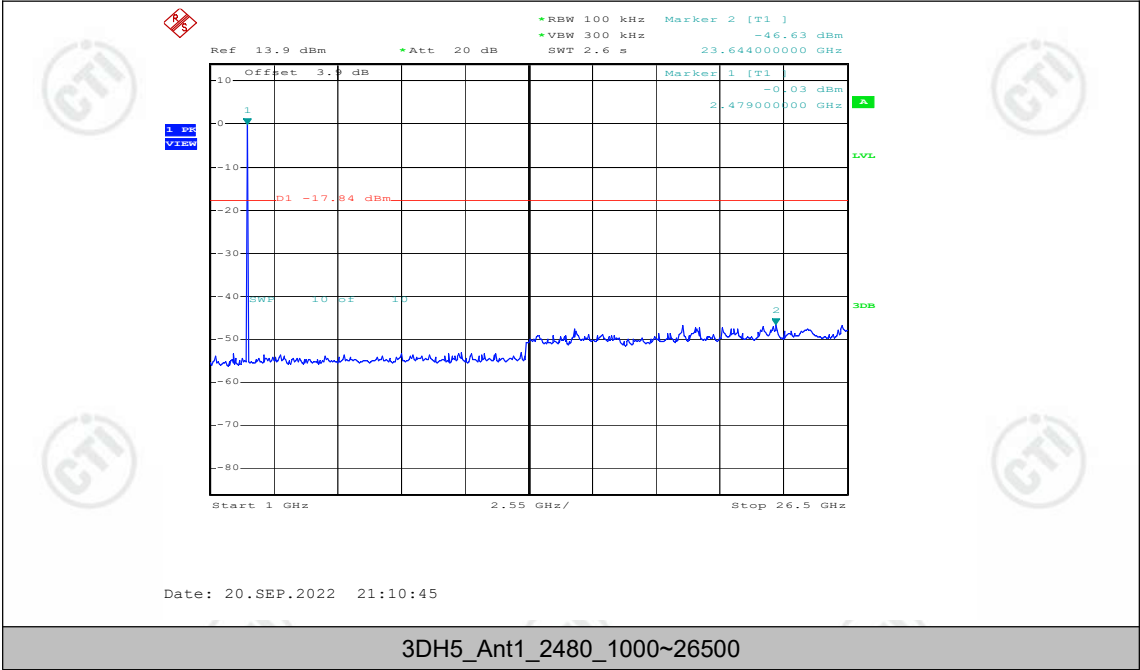
Center 2.441 GHz Span 1.5 MHz

Date: 20.SEP.2022 21:04:57

Hotline:400-6788-333 www.cti-cert.com E-mail:info@cti-cert.com Complaint call:0755-33681700 Complaint E-mail:complaint@cti-cert.com



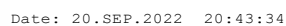




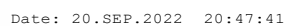
Appendix I: Duty Cycle

Test Result

Test Mode	Antenna	Frequency[MHz]	ON Time [ms]	Period [ms]	Duty Cycle [%]	Duty Cycle Factor[dB]
DH5	Ant1	2402	2.88	3.78	76.19	1.18
		2441	2.88	3.78	76.19	1.18
		2480	2.88	3.78	76.19	1.18
2DH5	Ant1	2402	2.88	3.78	76.19	1.18
		2441	2.88	3.78	76.19	1.18
		2480	2.88	3.78	76.19	1.18
3DH5	Ant1	2402	2.88	3.78	76.19	1.18
		2441	2.88	3.78	76.19	1.18
		2480	2.88	3.78	76.19	1.18



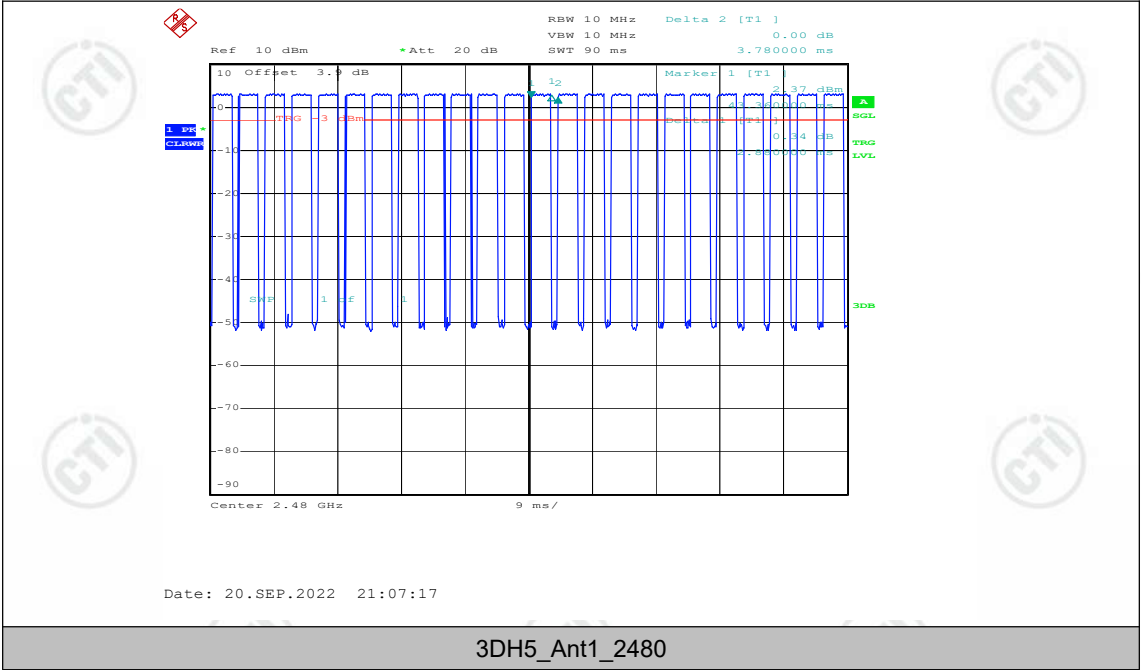
DH5_Ant1_2480



2DH5_Ant1_2402







*** End of Report ***