

APPENDIX A RF TEST DATA

A.1 MAXIMUM CONDUCTED OUTPUT POWER AND E.I.R.P

Left earbud

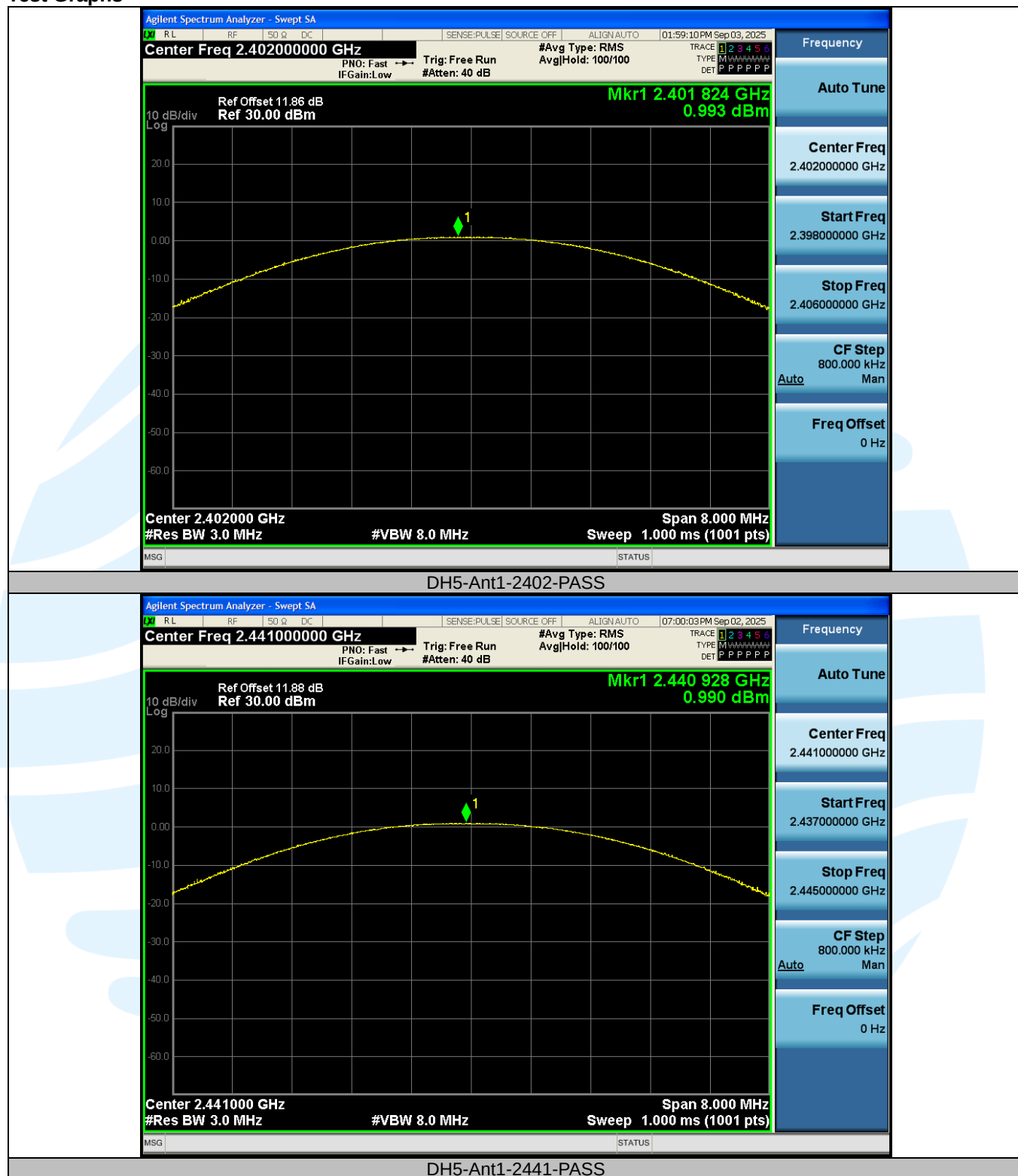
Test Result Peak

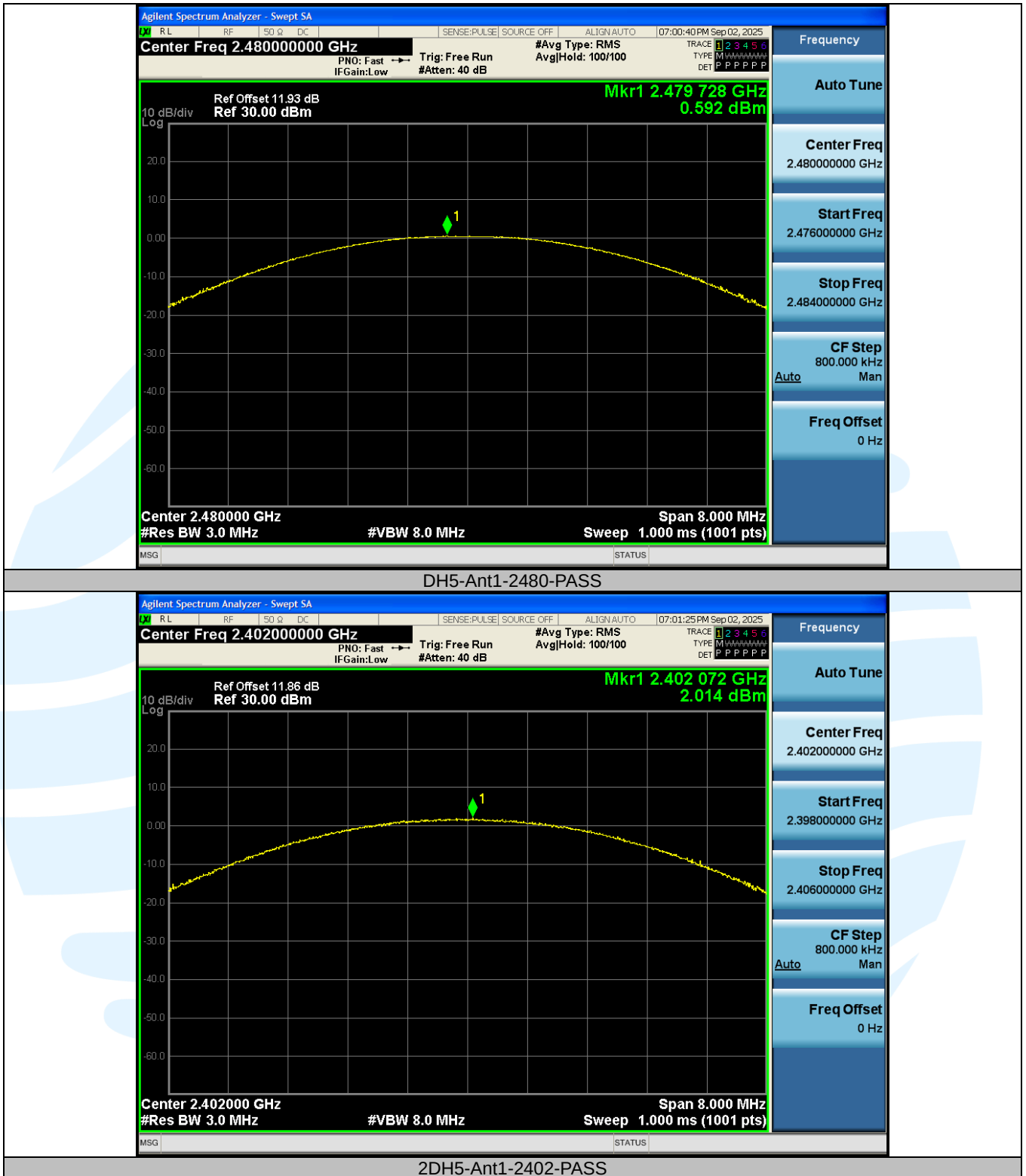
		Frequency [MHz]	Set Power	Conducted Peak Power [dBm]	Conducted Limit [dBm]	E.I.R.P [dBm]	E.I.R.P Limit [dBm]	Verdict
DH5	Ant1	2402	5	0.99	≤20.97	1.33	36	PASS
DH5	Ant1	2441	5	0.99	≤20.97	1.33	36	PASS
DH5	Ant1	2480	5	0.59	≤20.97	0.93	36	PASS
2DH5	Ant1	2402	5	2.01	≤20.97	2.35	36	PASS
2DH5	Ant1	2441	5	1.65	≤20.97	1.99	36	PASS
2DH5	Ant1	2480	5	1.38	≤20.97	1.72	36	PASS
3DH5	Ant1	2402	5	2.30	≤20.97	2.64	36	PASS
3DH5	Ant1	2441	5	2.32	≤20.97	2.66	36	PASS
3DH5	Ant1	2480	5	1.93	≤20.97	2.27	36	PASS

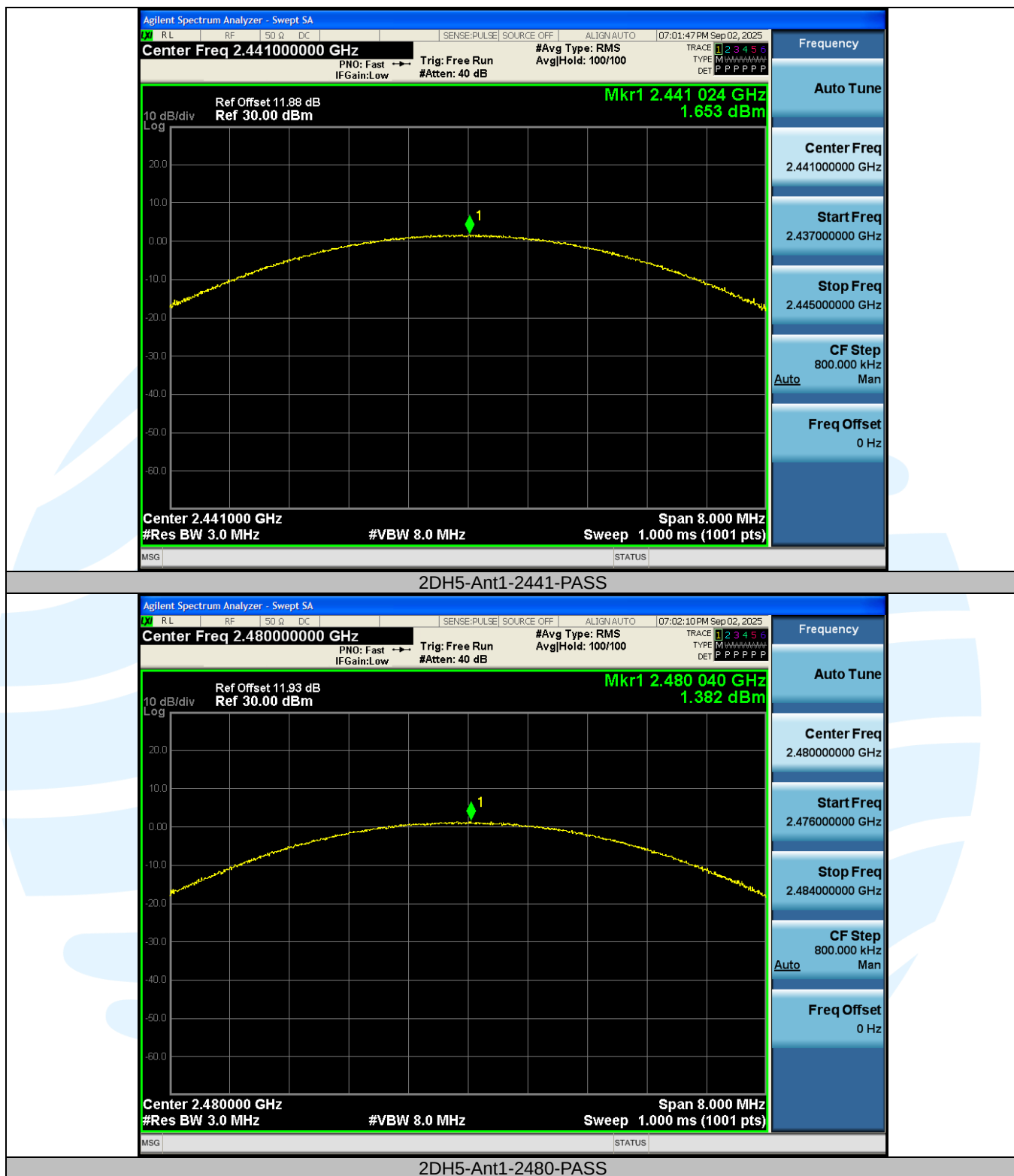
Test Result Average

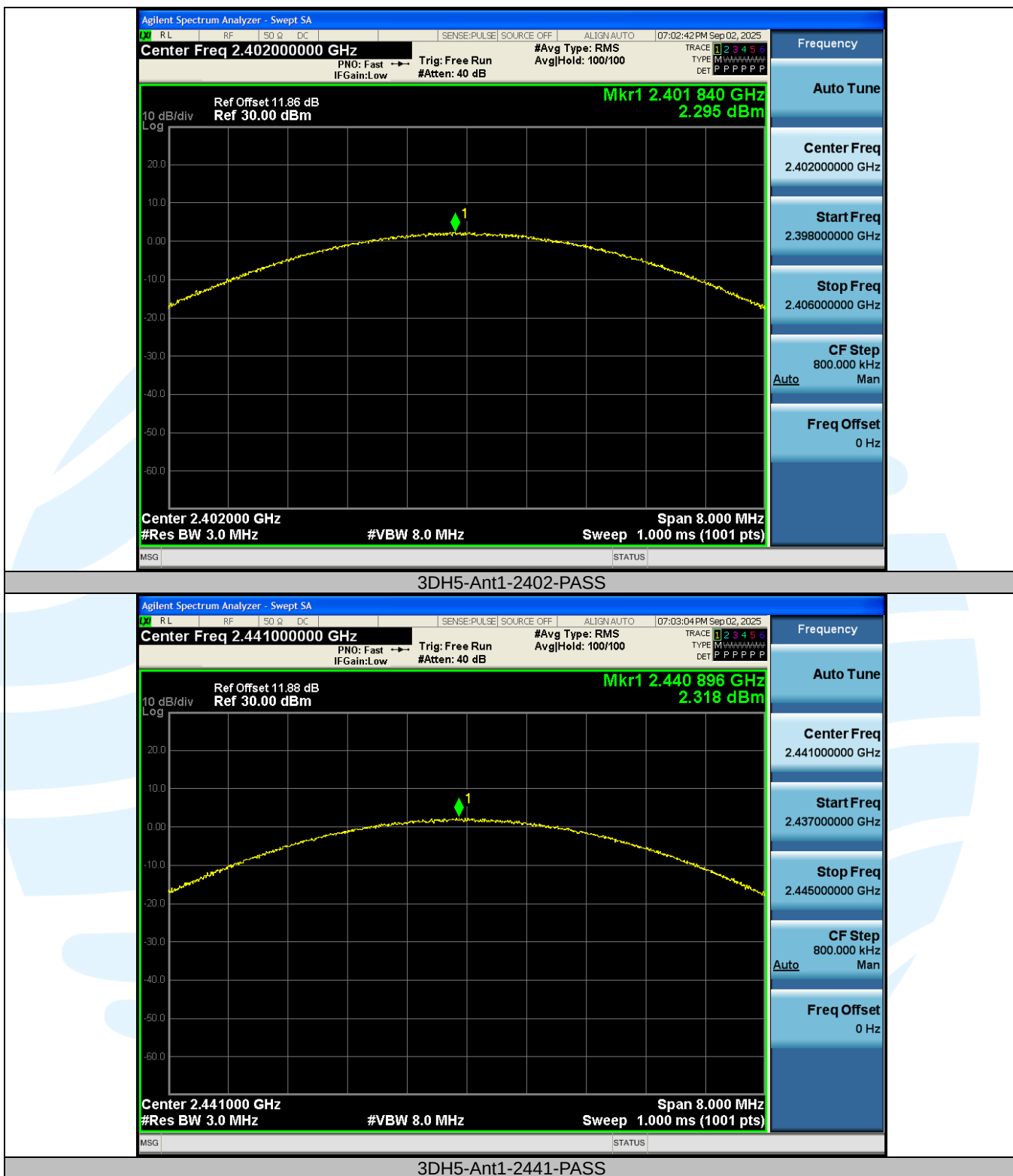
Test Mode	Ant.	Freq. [MHz]	Set Power	Result [dBm]	Limit [dBm]	E.I.R.P [dBm]	E.I.R.P Limit [dBm]	Verdict
DH5	Ant1	2402	5	0.92	≤20.97	1.26	36	PASS
DH5	Ant1	2441	5	0.95	≤20.97	1.29	36	PASS
DH5	Ant1	2480	5	0.47	≤20.97	0.81	36	PASS
2DH5	Ant1	2402	5	-0.18	≤20.97	0.16	36	PASS
2DH5	Ant1	2441	5	0.16	≤20.97	0.50	36	PASS
2DH5	Ant1	2480	5	0.24	≤20.97	0.58	36	PASS
3DH5	Ant1	2402	5	-0.18	≤20.97	0.16	36	PASS
3DH5	Ant1	2441	5	0.16	≤20.97	0.50	36	PASS
3DH5	Ant1	2480	5	0.24	≤20.97	0.58	36	PASS

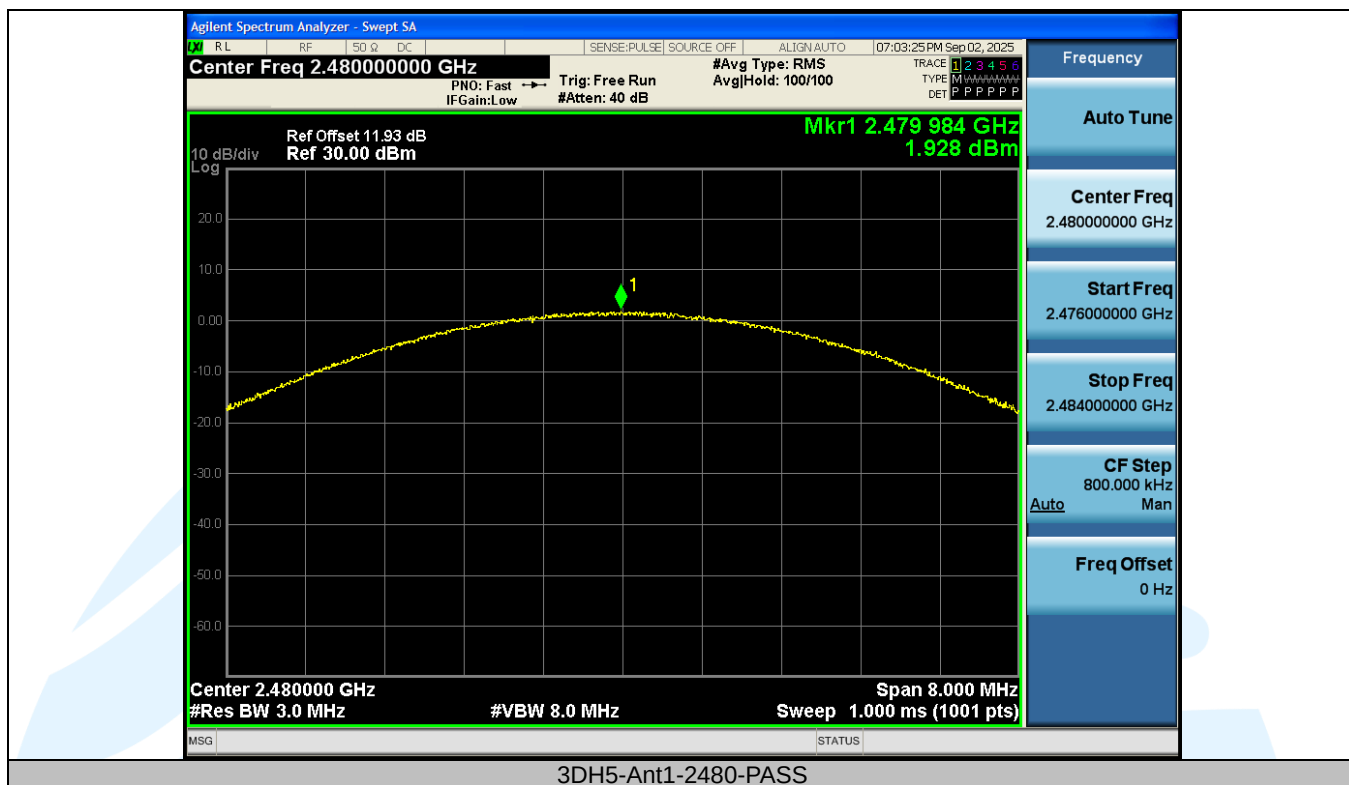
Test Graphs











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Right earbud

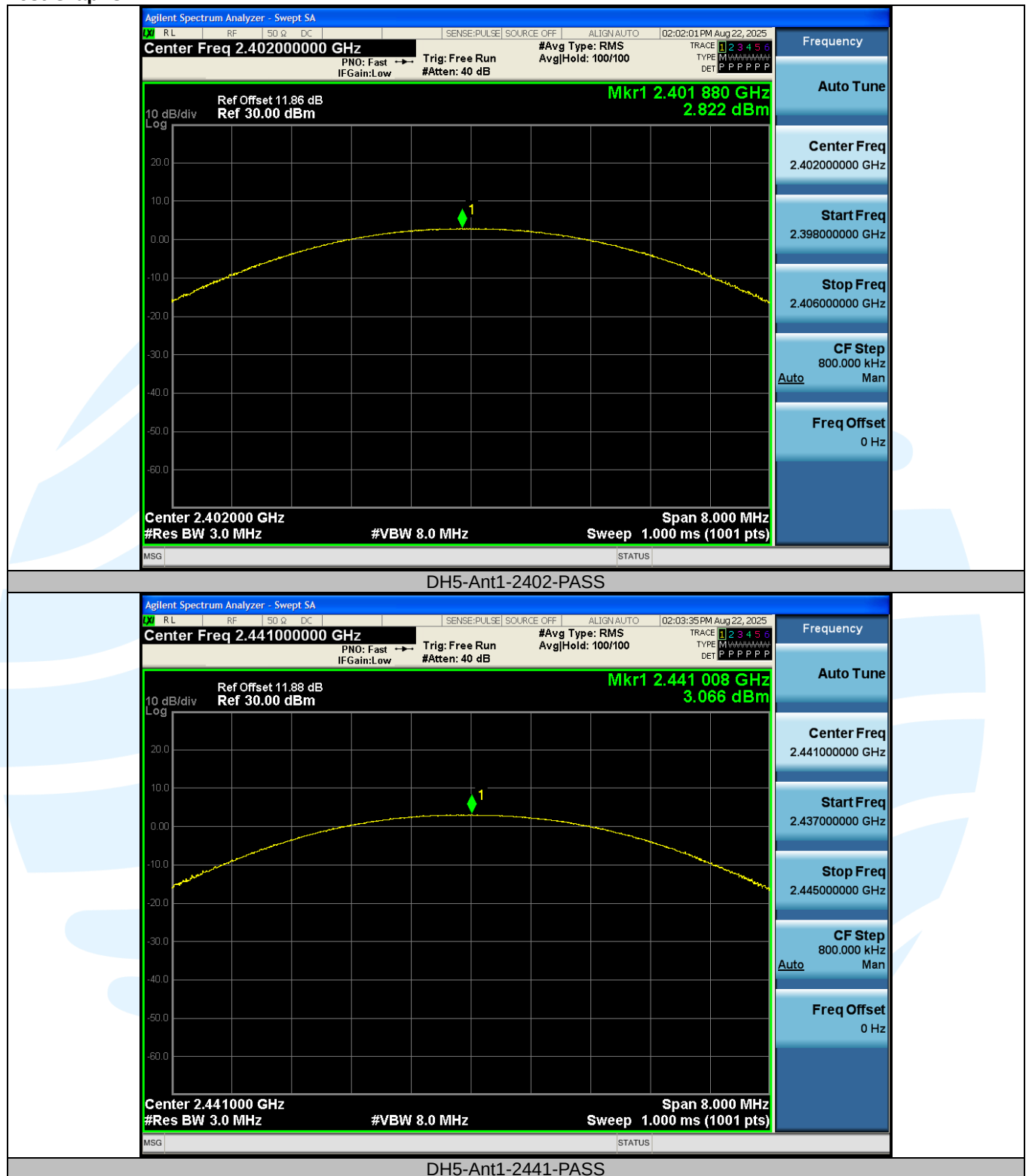
Test Result Peak

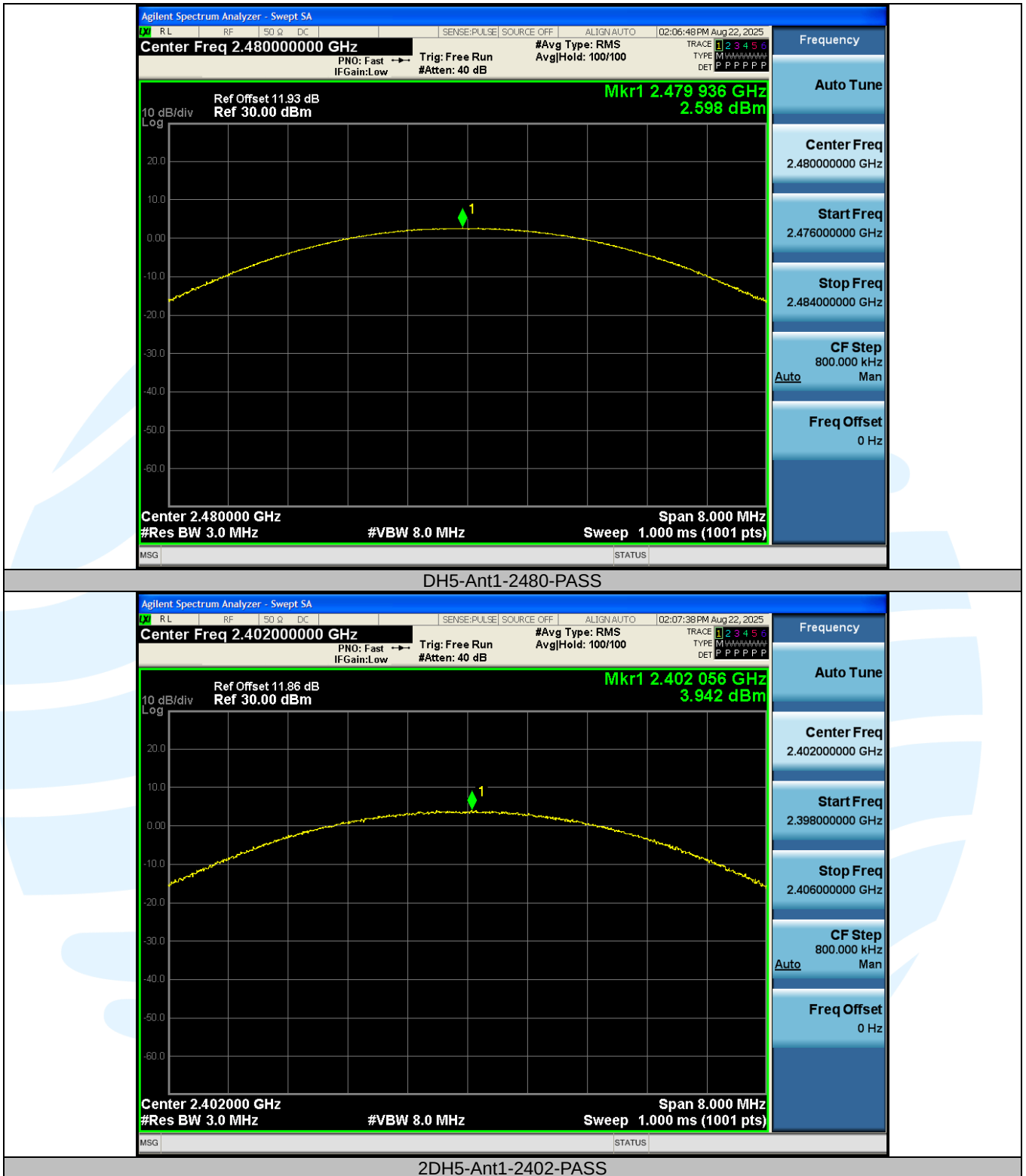
Test Mode	Antenna	Frequency [MHz]	Set Power	Conducted Peak Power [dBm]	Conducted Limit [dBm]	Verdict
DH5	Ant1	2402	6	2.82	≤20.97	PASS
DH5	Ant1	2441	6	3.07	≤20.97	PASS
DH5	Ant1	2480	6	2.60	≤20.97	PASS
2DH5	Ant1	2402	6	3.94	≤20.97	PASS
2DH5	Ant1	2441	6	4.00	≤20.97	PASS
2DH5	Ant1	2480	6	3.58	≤20.97	PASS
3DH5	Ant1	2402	6	4.45	≤20.97	PASS
3DH5	Ant1	2441	6	4.40	≤20.97	PASS
3DH5	Ant1	2480	6	3.88	≤20.97	PASS

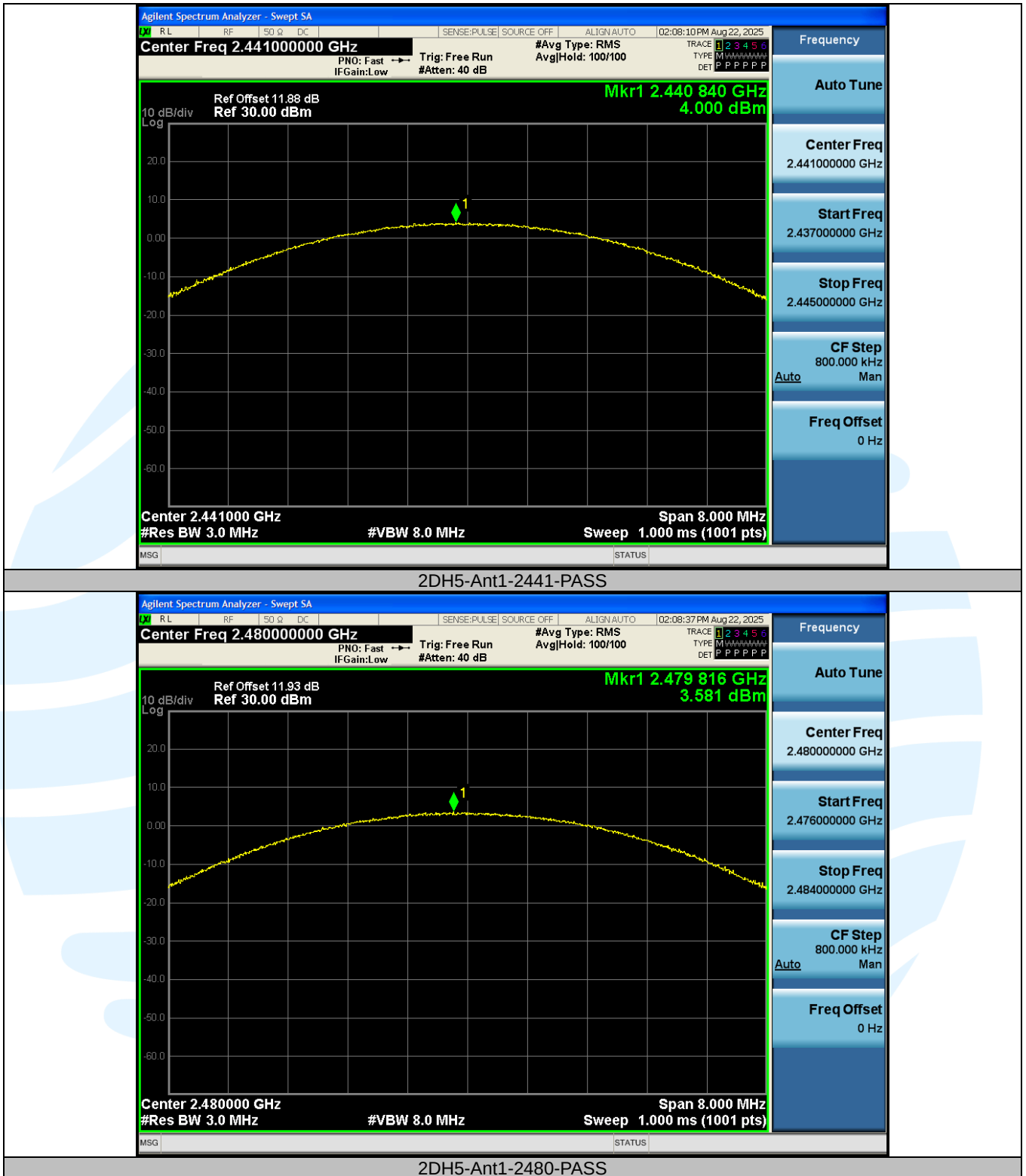
Test Result Average

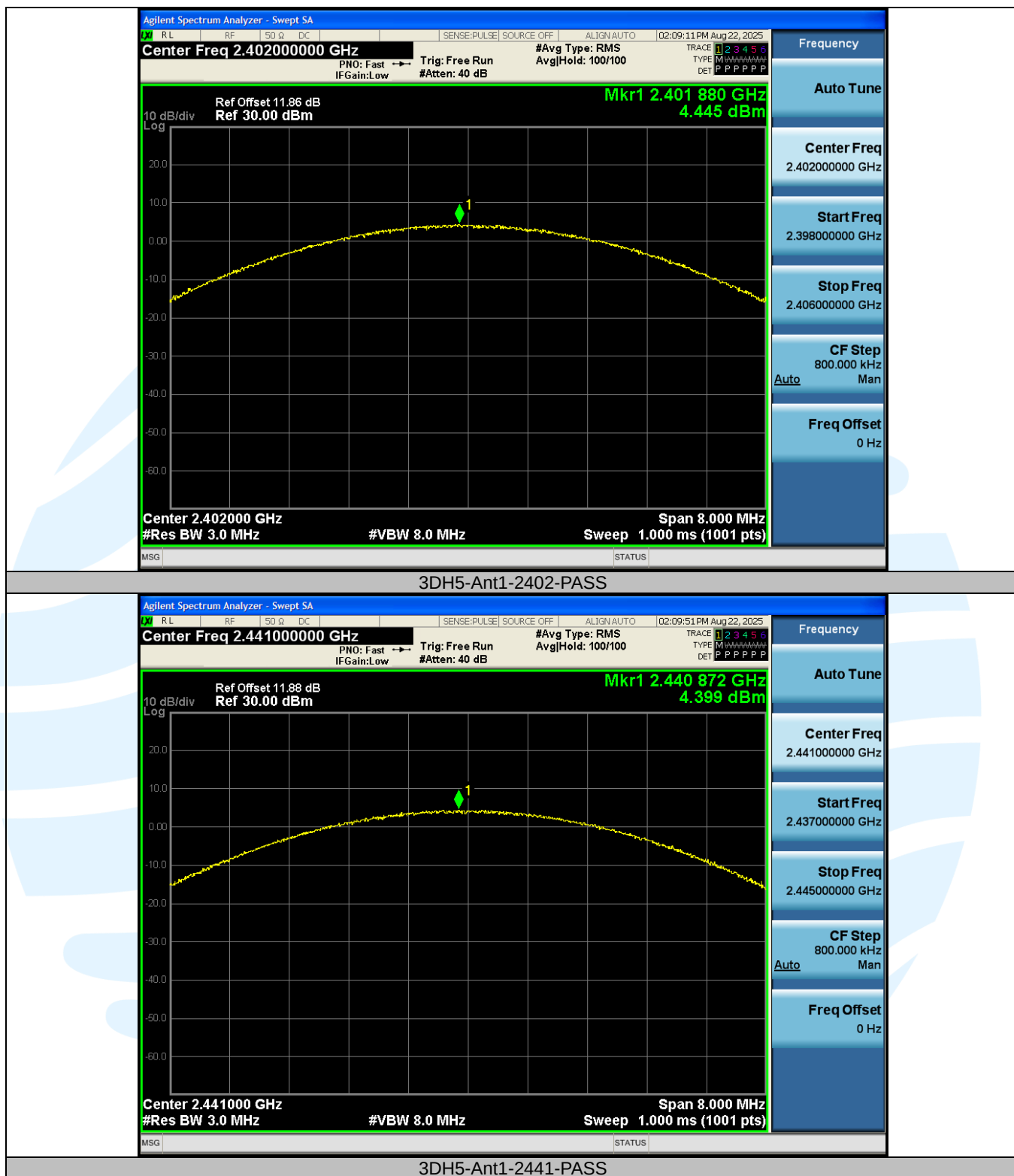
Test Mode	Ant.	Freq. [MHz]	Set Power	Result [dBm]	Limit [dBm]	Verdict
DH5	Ant1	2402	6	2.73	≤20.97	PASS
DH5	Ant1	2441	6	3.03	≤20.97	PASS
DH5	Ant1	2480	6	2.56	≤20.97	PASS
2DH5	Ant1	2402	6	1.34	≤20.97	PASS
2DH5	Ant1	2441	6	1.84	≤20.97	PASS
2DH5	Ant1	2480	6	1.92	≤20.97	PASS
3DH5	Ant1	2402	6	1.34	≤20.97	PASS
3DH5	Ant1	2441	6	1.84	≤20.97	PASS
3DH5	Ant1	2480	6	1.92	≤20.97	PASS

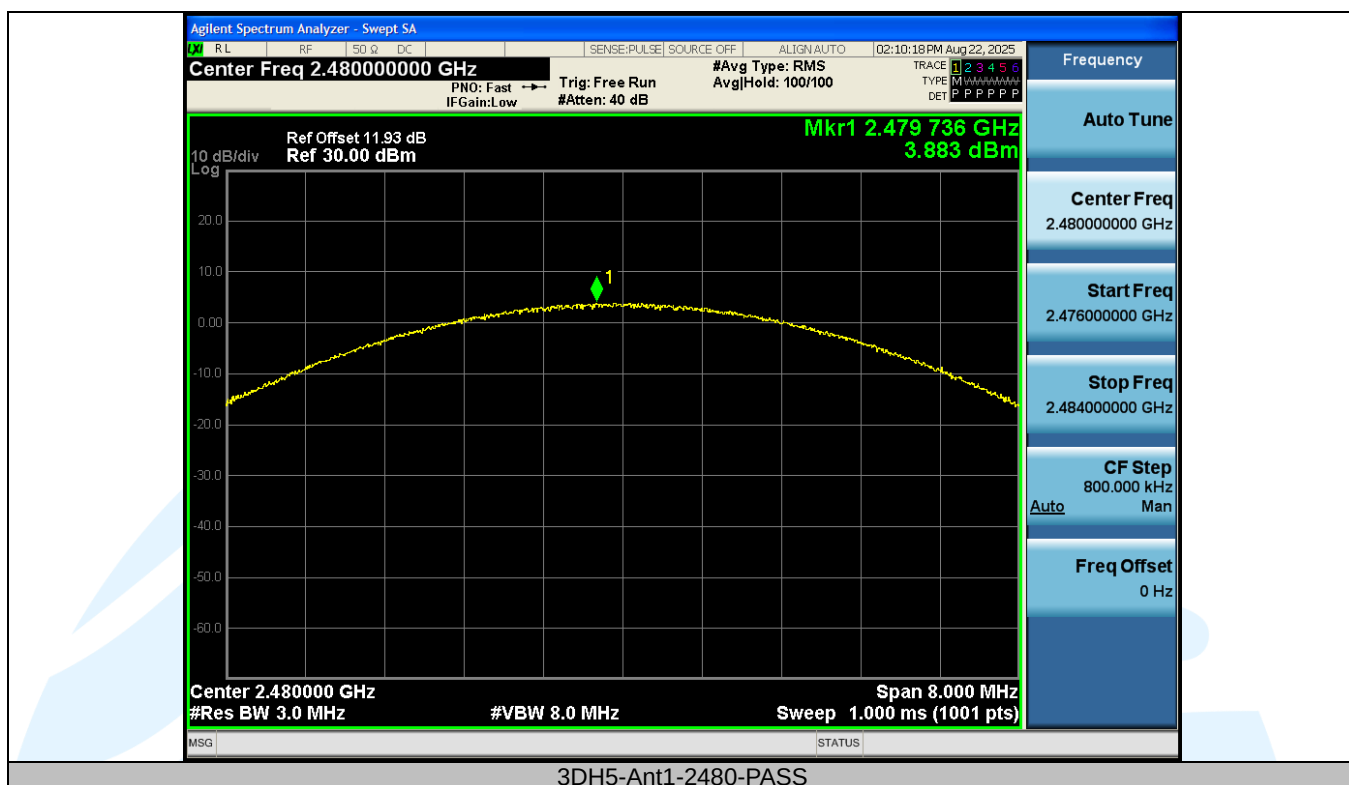
Test Graphs











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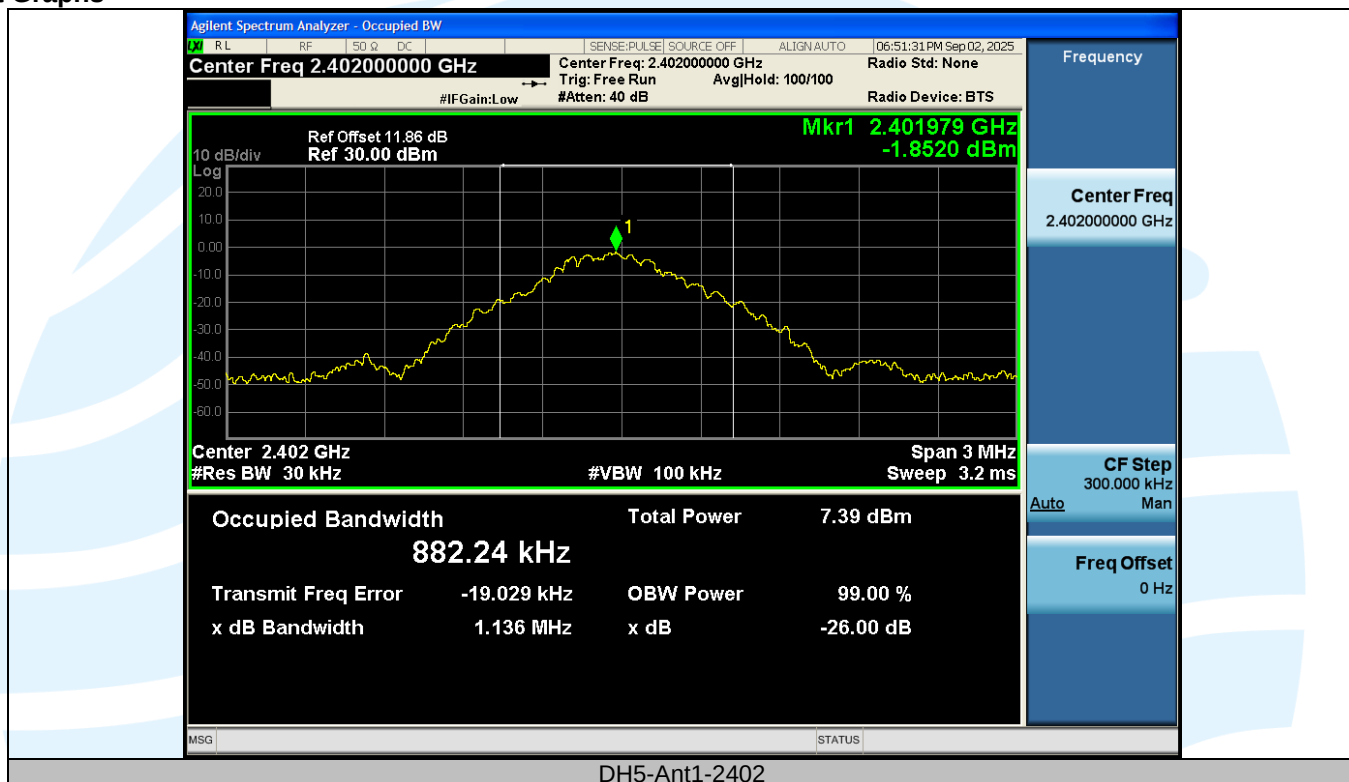
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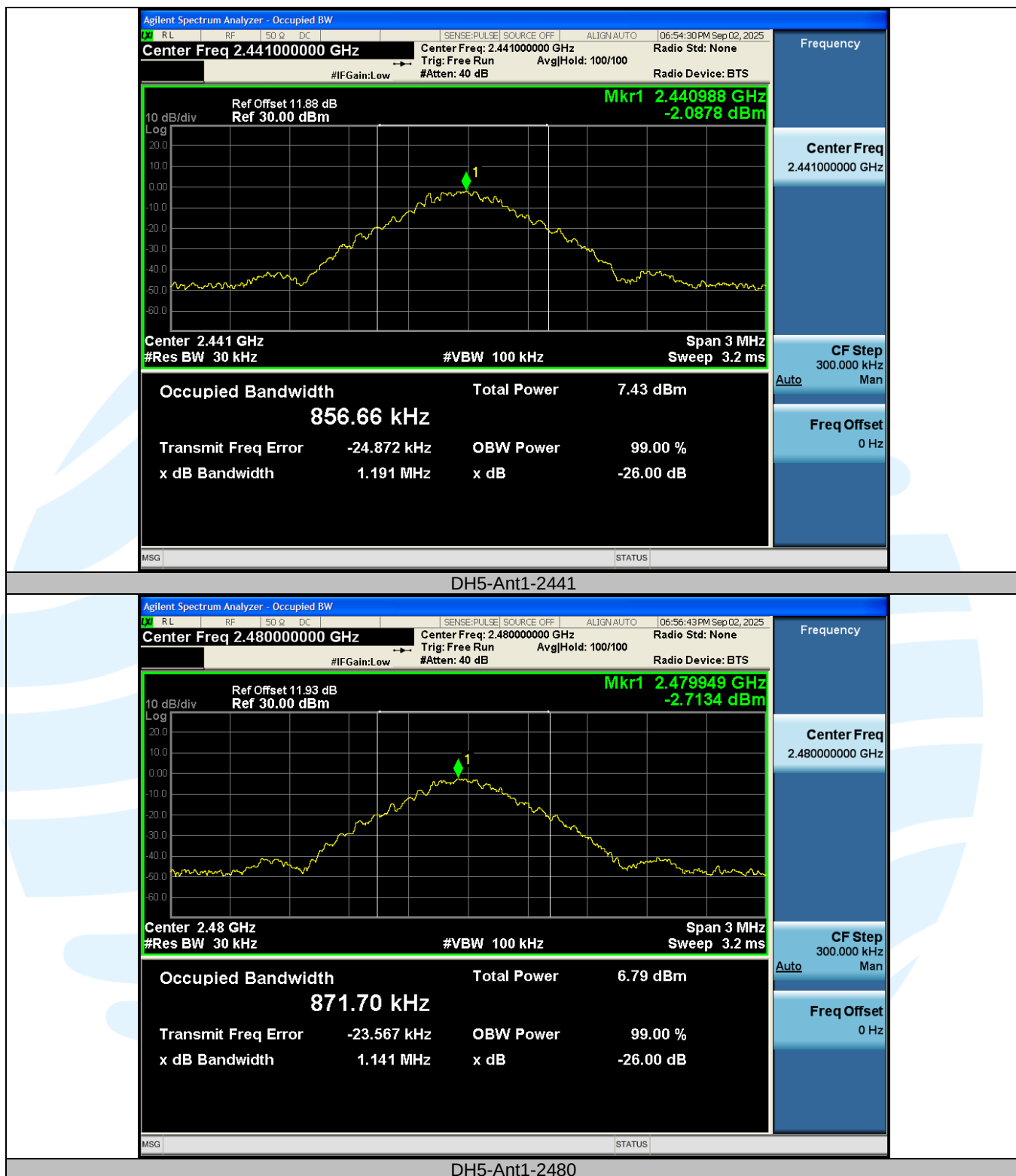
A.2 99% BANDWIDTH

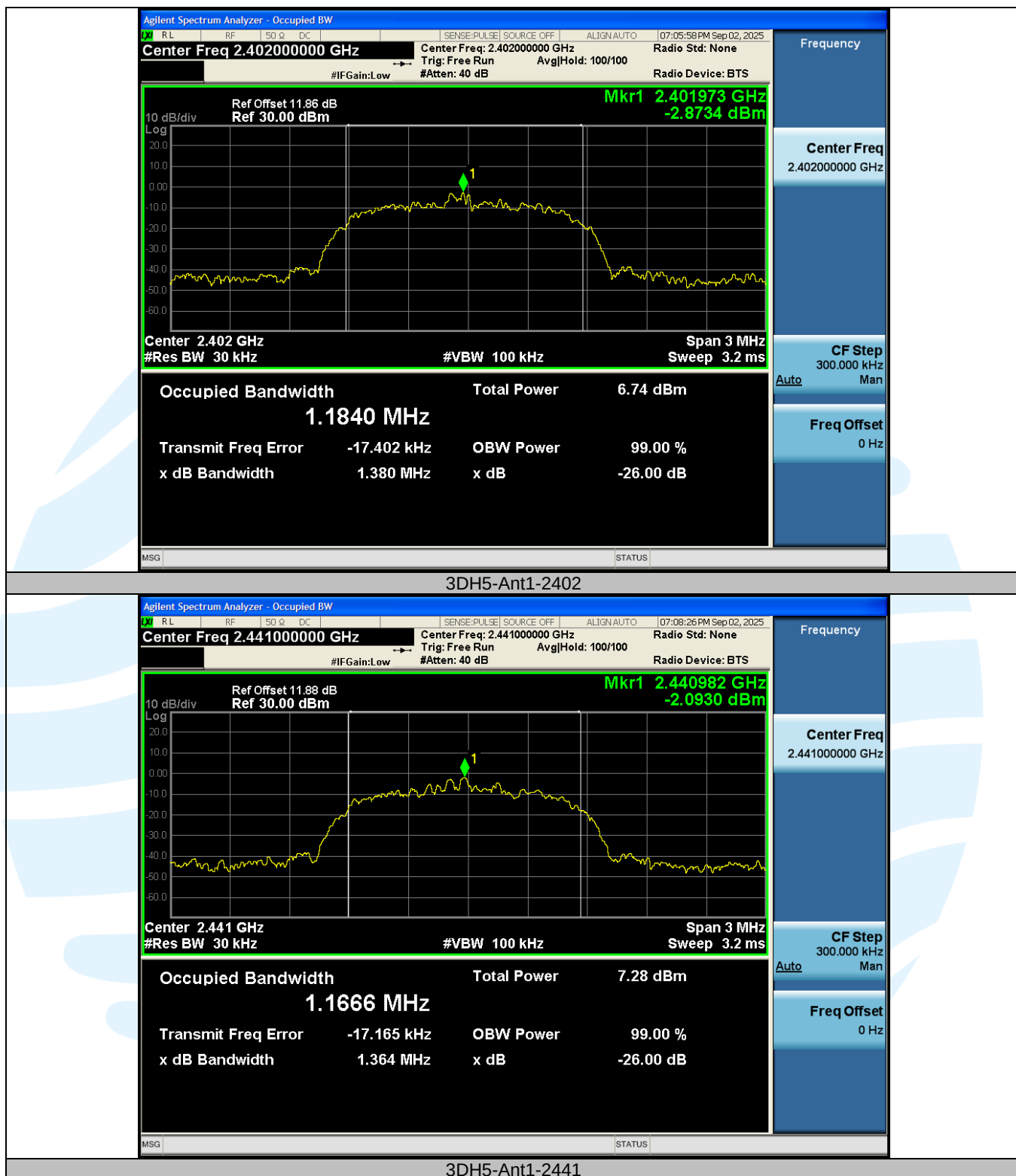
Left earbud

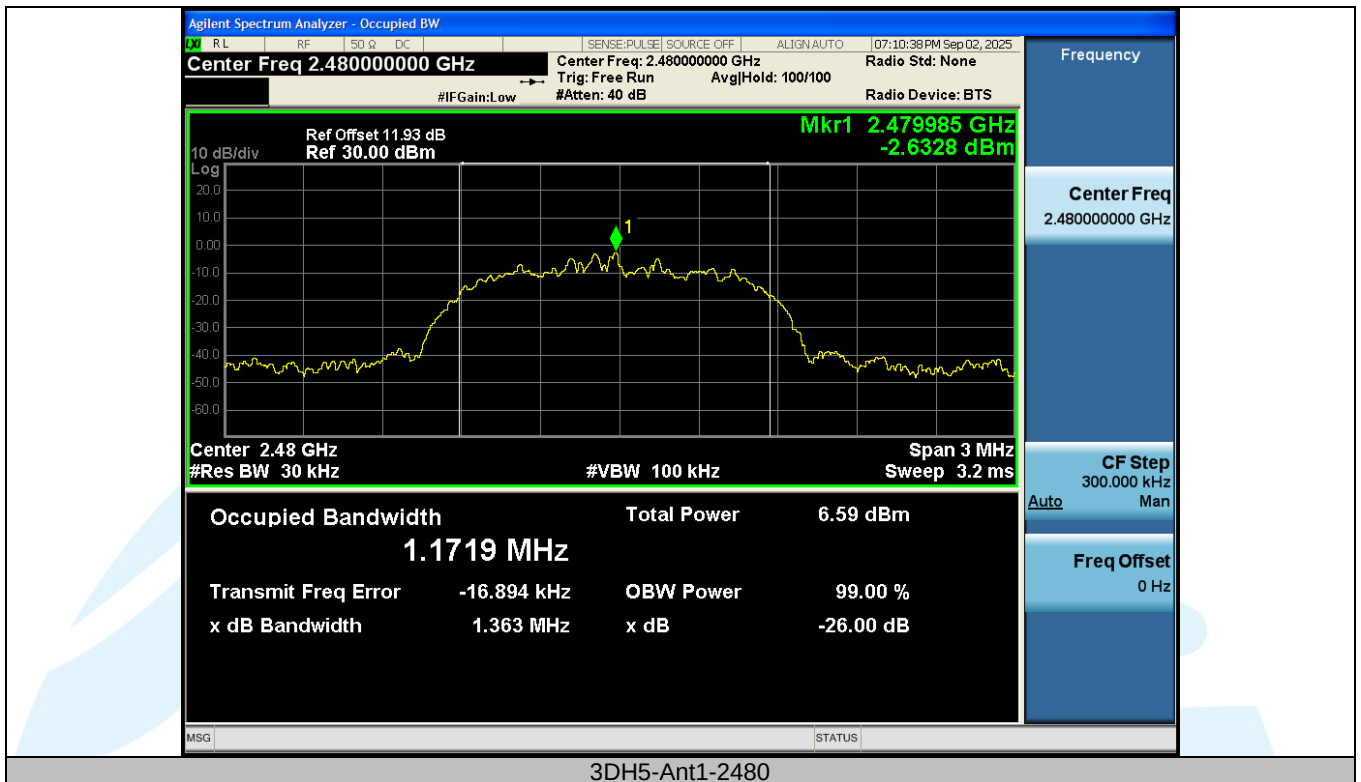
Test Mode	Antenna	Frequency [MHz]	OCB [MHz]	FL [MHz]	FH [MHz]
DH5	Ant1	2402	0.88224	2401.5399	2402.4221
DH5	Ant1	2441	0.85666	2440.5468	2441.4035
DH5	Ant1	2480	0.87170	2479.5406	2480.4123
3DH5	Ant1	2402	1.1840	2401.3906	2402.5746
3DH5	Ant1	2441	1.1666	2440.3995	2441.5661
3DH5	Ant1	2480	1.1719	2479.3972	2480.5691

Test Graphs





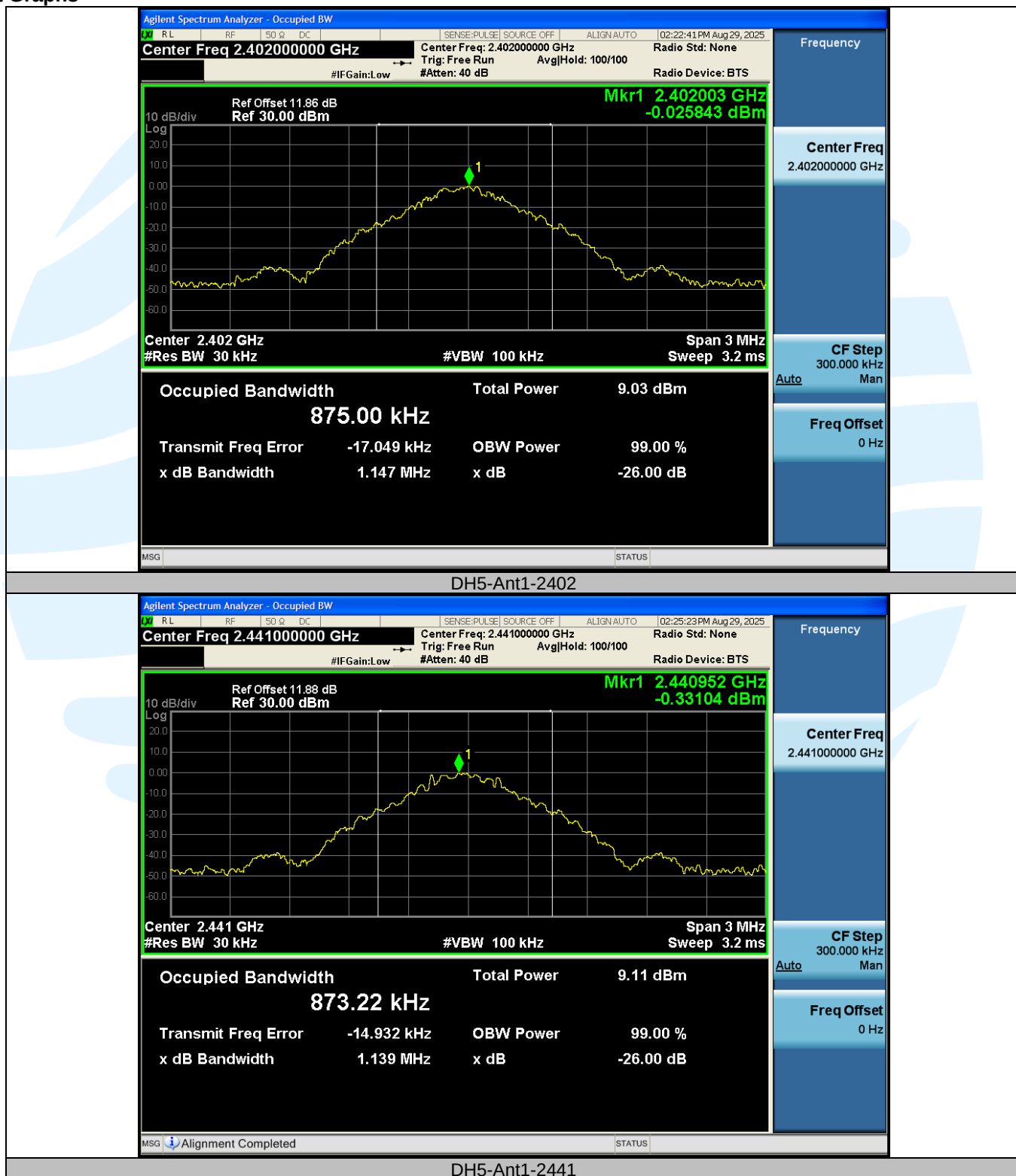




Right earbud

Test Mode	Antenna	Frequency [MHz]	OCB [MHz]	FL [MHz]	FH [MHz]
DH5	Ant1	2402	0.87500	2401.5455	2402.4205
DH5	Ant1	2441	0.87322	2440.5485	2441.4217
DH5	Ant1	2480	0.88196	2479.5459	2480.4279
3DH5	Ant1	2402	1.1829	2401.4047	2402.5876
3DH5	Ant1	2441	1.1878	2440.3982	2441.5860
3DH5	Ant1	2480	1.1908	2479.4013	2480.5921

Test Graphs



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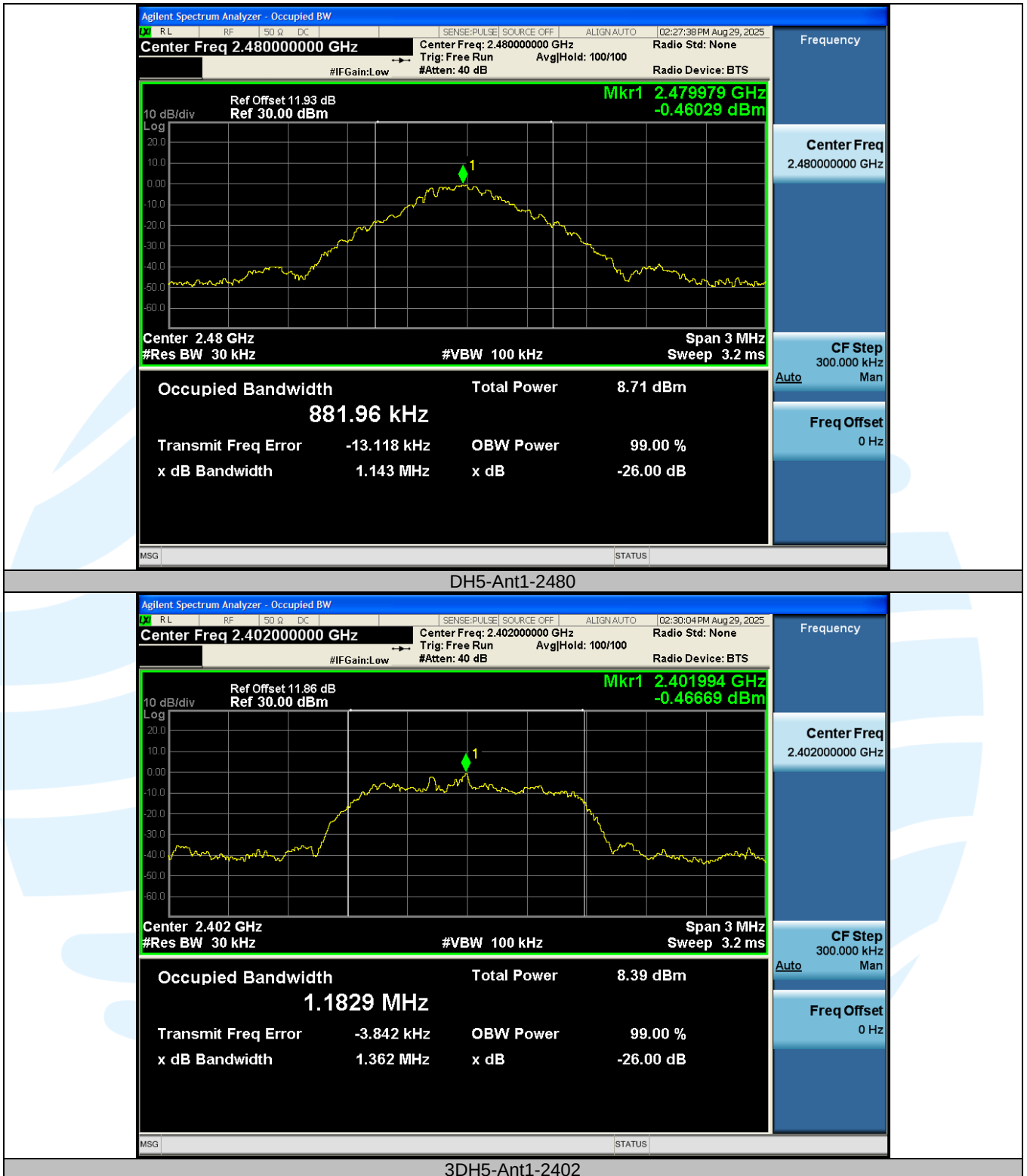
Tel: +86-755-28230888

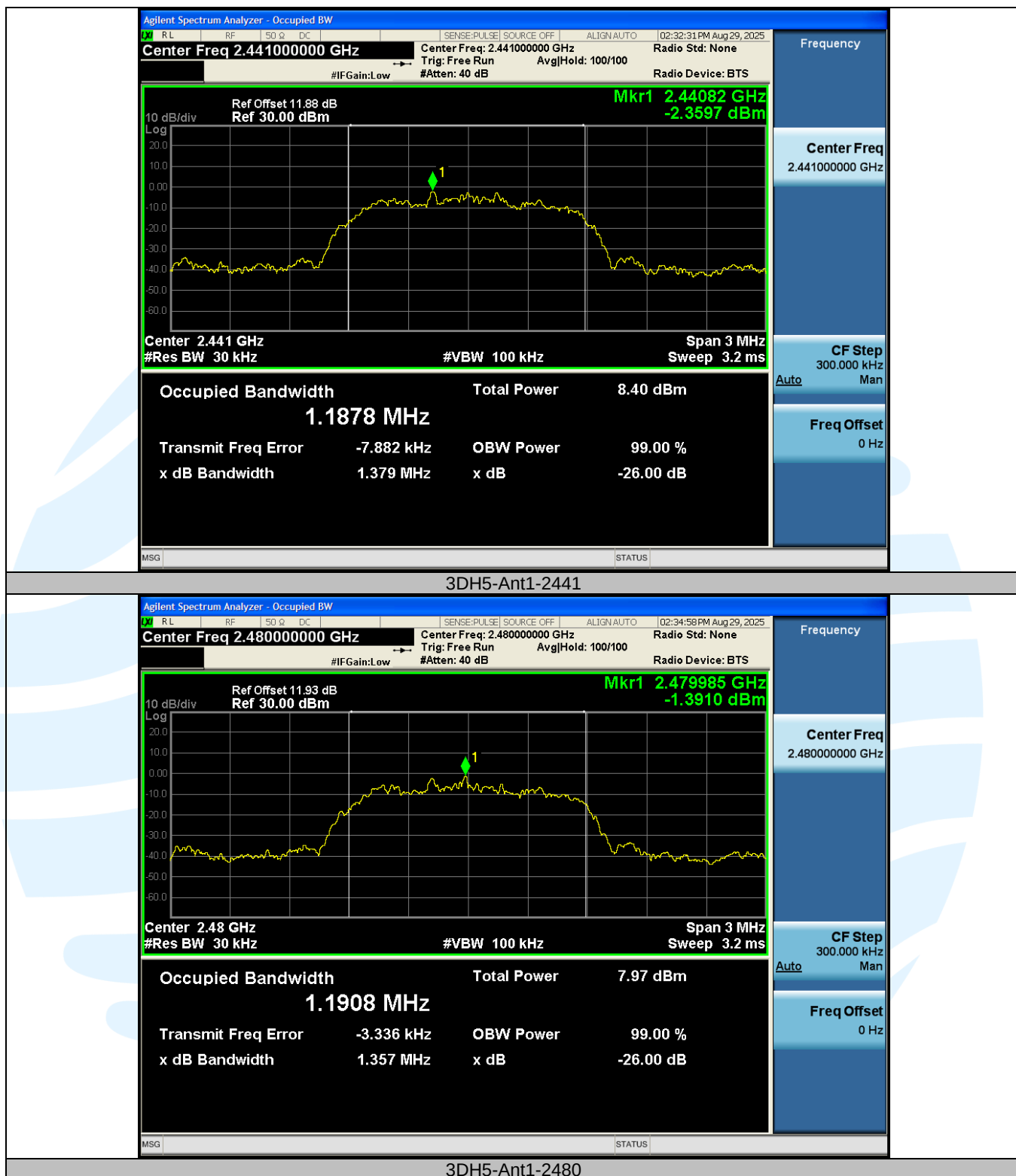
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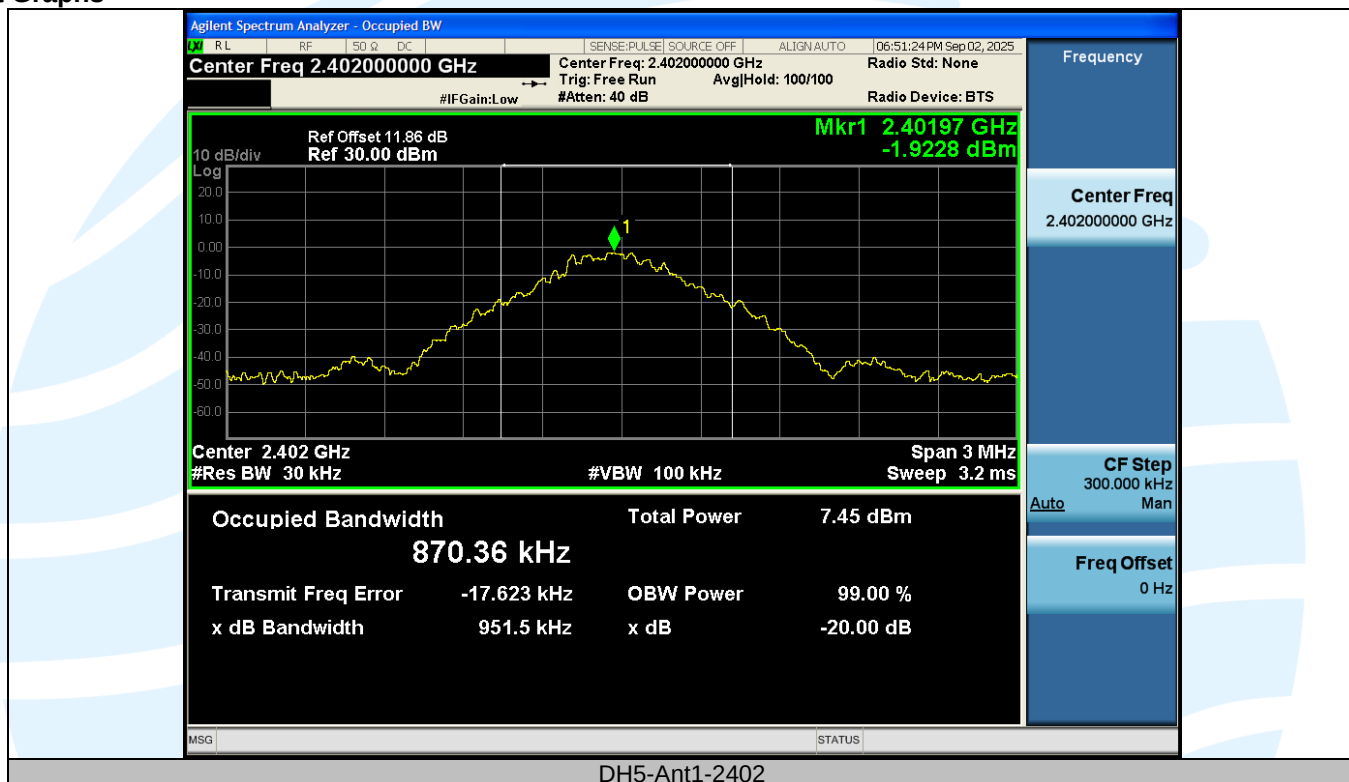
A.3 20DB BANDWIDTH

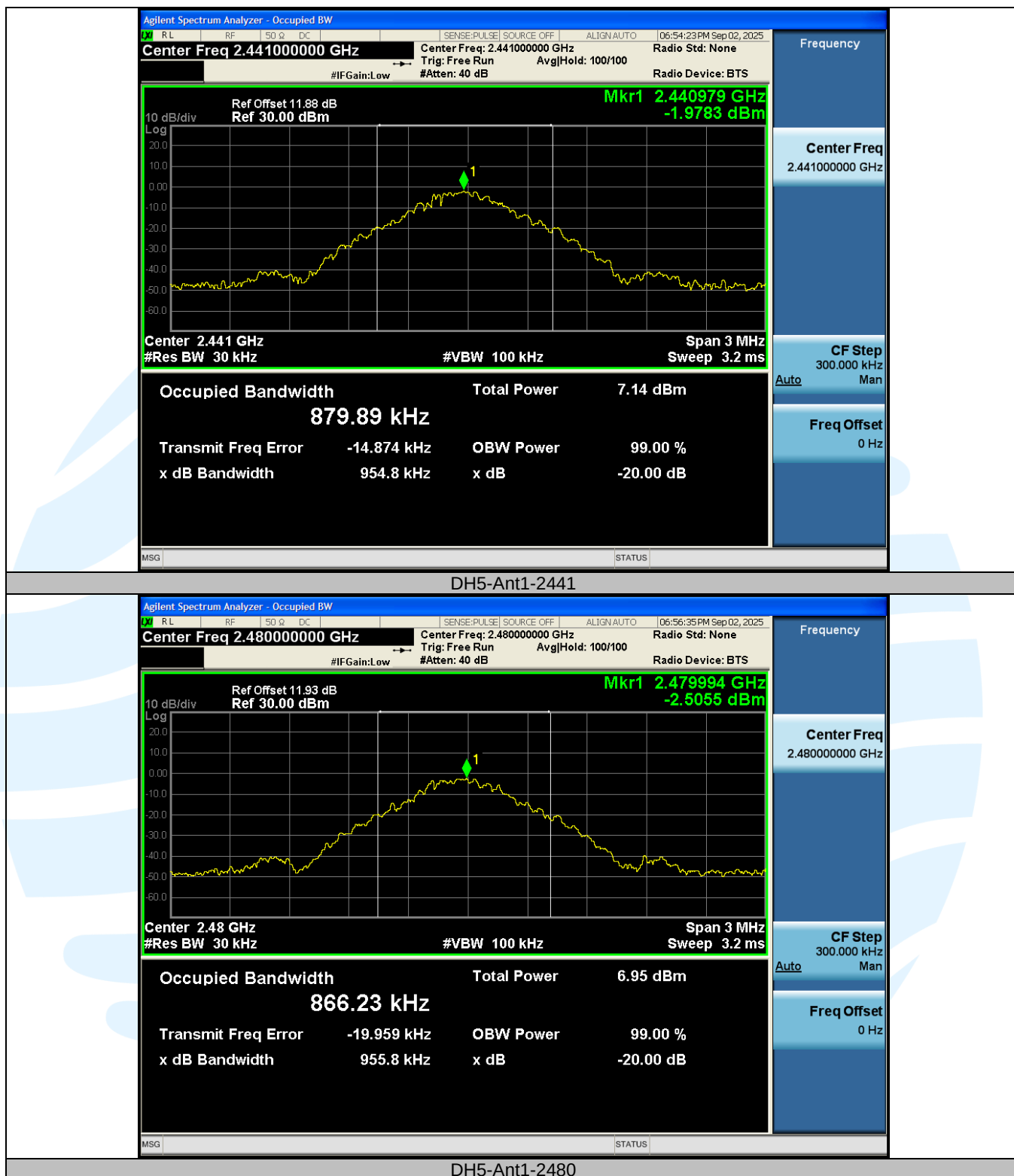
Left earbud

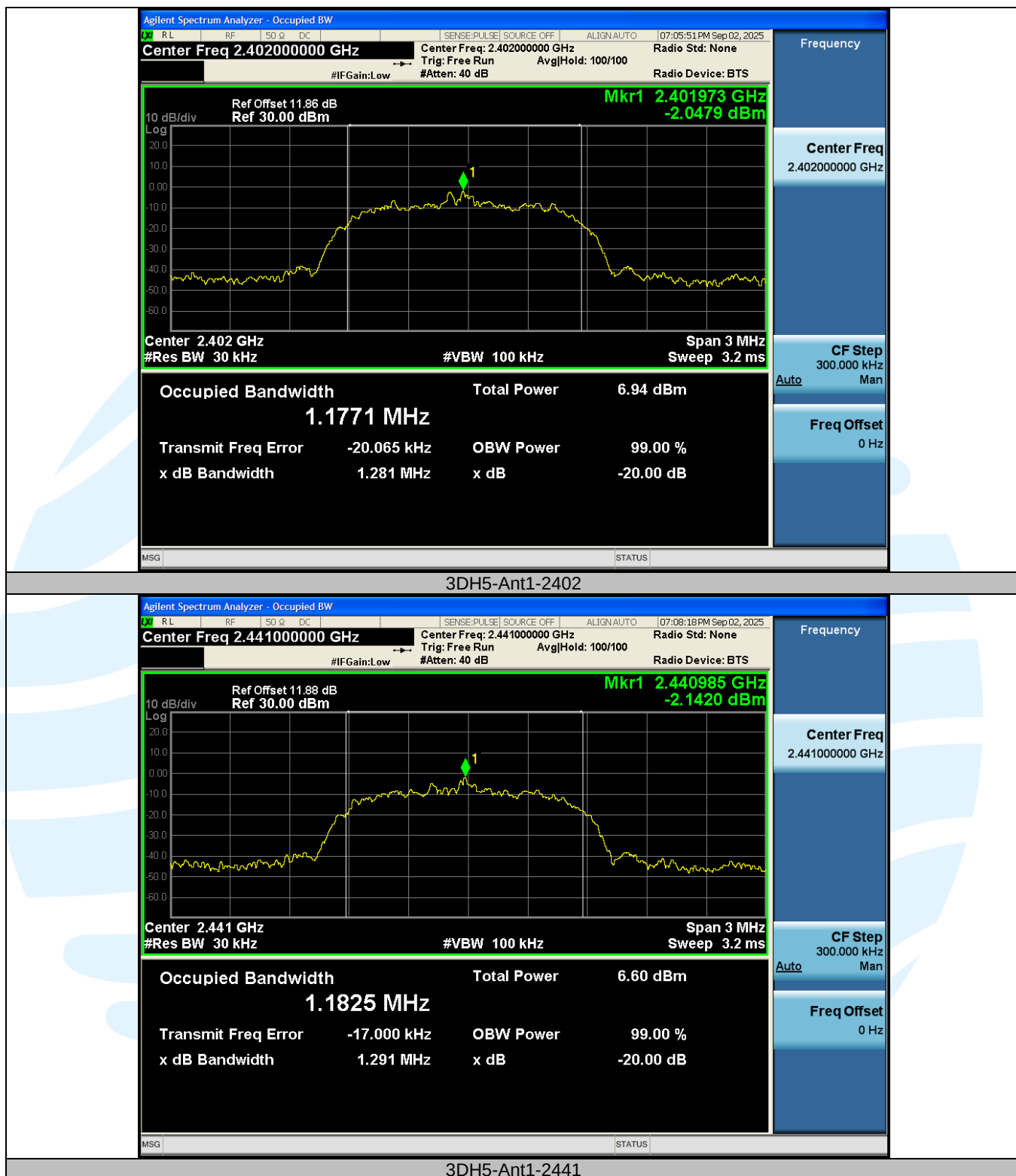
Test Result

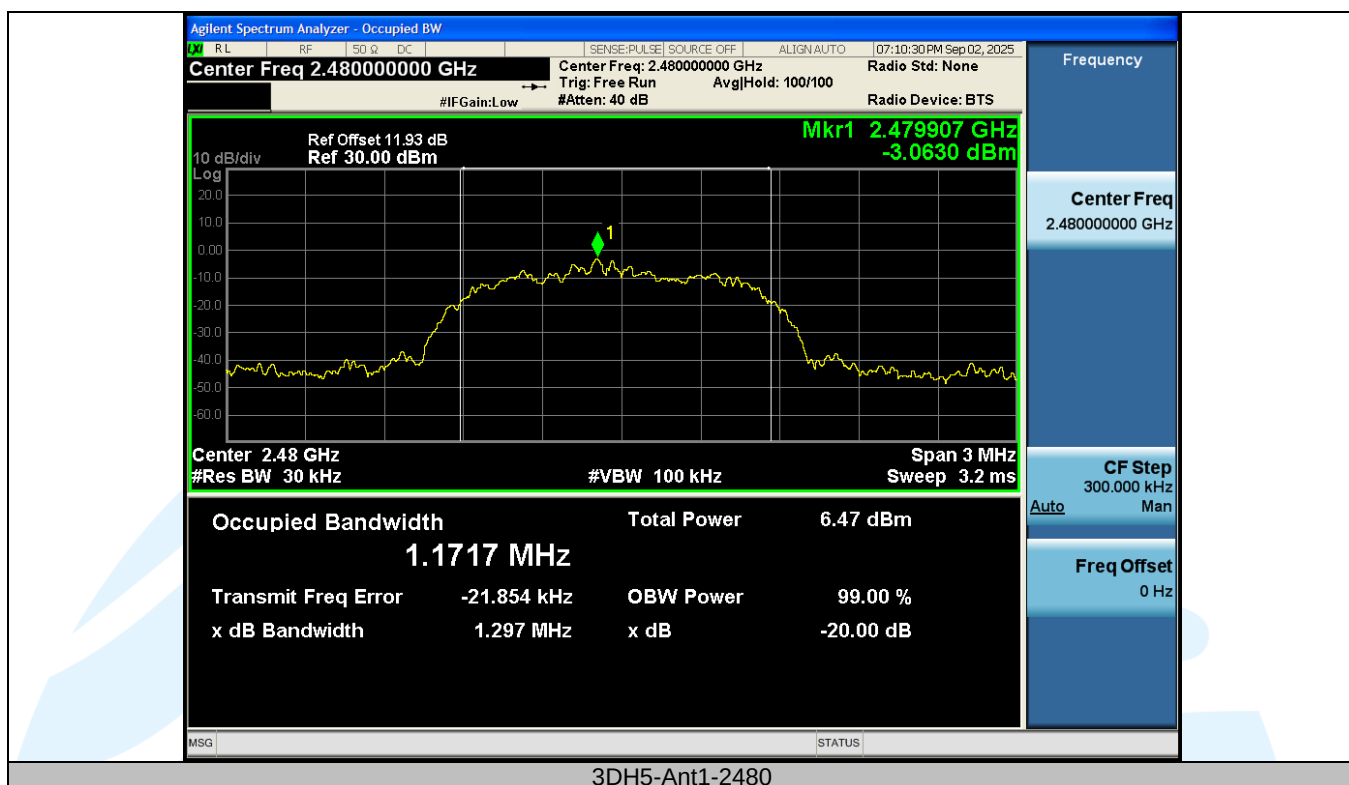
Test Mode	Antenna	Frequency [MHz]	20db EBW [MHz]
DH5	Ant1	2402	0.9515
DH5	Ant1	2441	0.9548
DH5	Ant1	2480	0.9558
3DH5	Ant1	2402	1.281
3DH5	Ant1	2441	1.291
3DH5	Ant1	2480	1.297

Test Graphs









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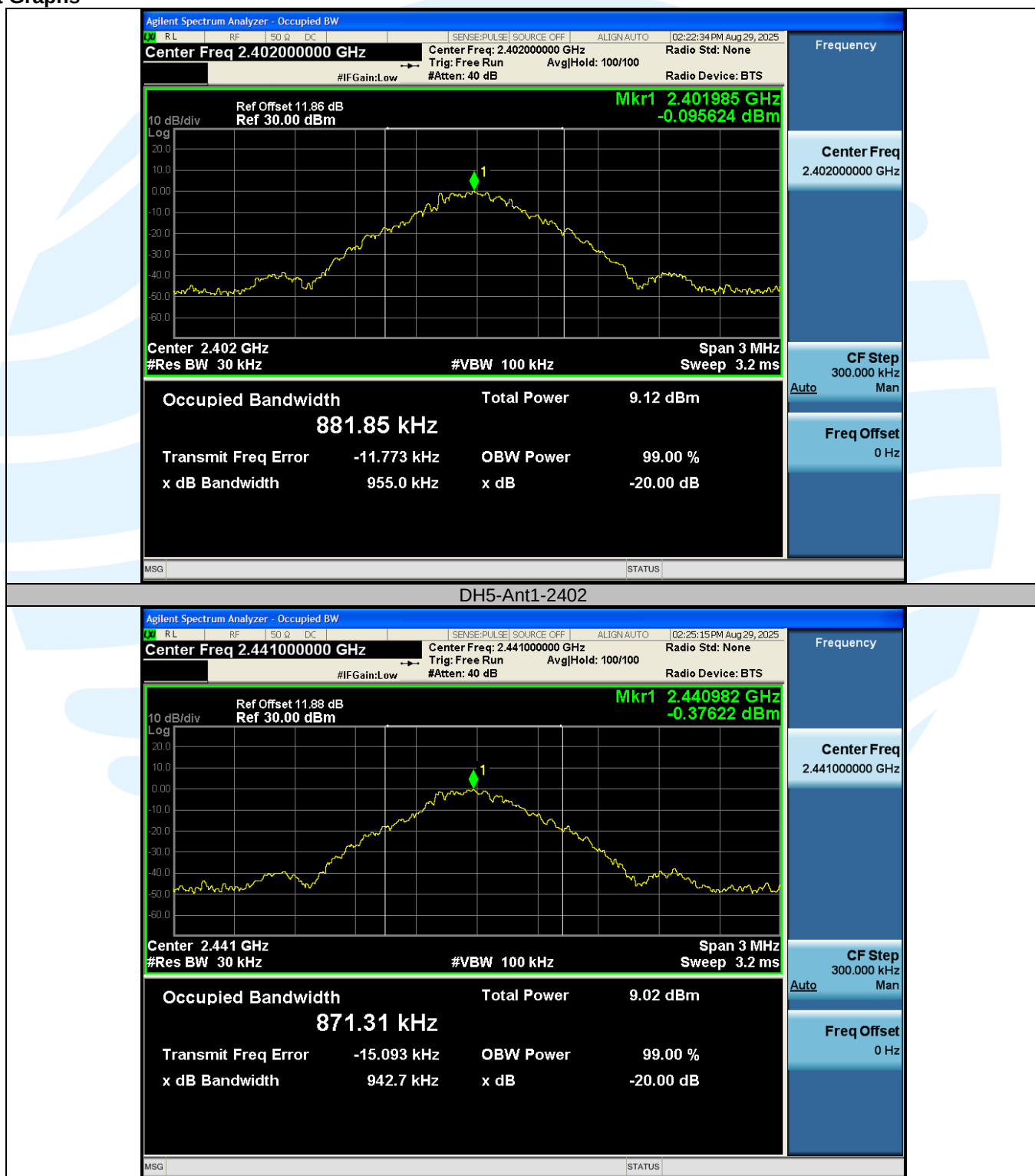
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Right earbud

Test Result

Test Mode	Antenna	Frequency [MHz]	20db EBW [MHz]
DH5	Ant1	2402	0.9550
DH5	Ant1	2441	0.9427
DH5	Ant1	2480	0.9697
3DH5	Ant1	2402	1.312
3DH5	Ant1	2441	1.304
3DH5	Ant1	2480	1.298

Test Graphs



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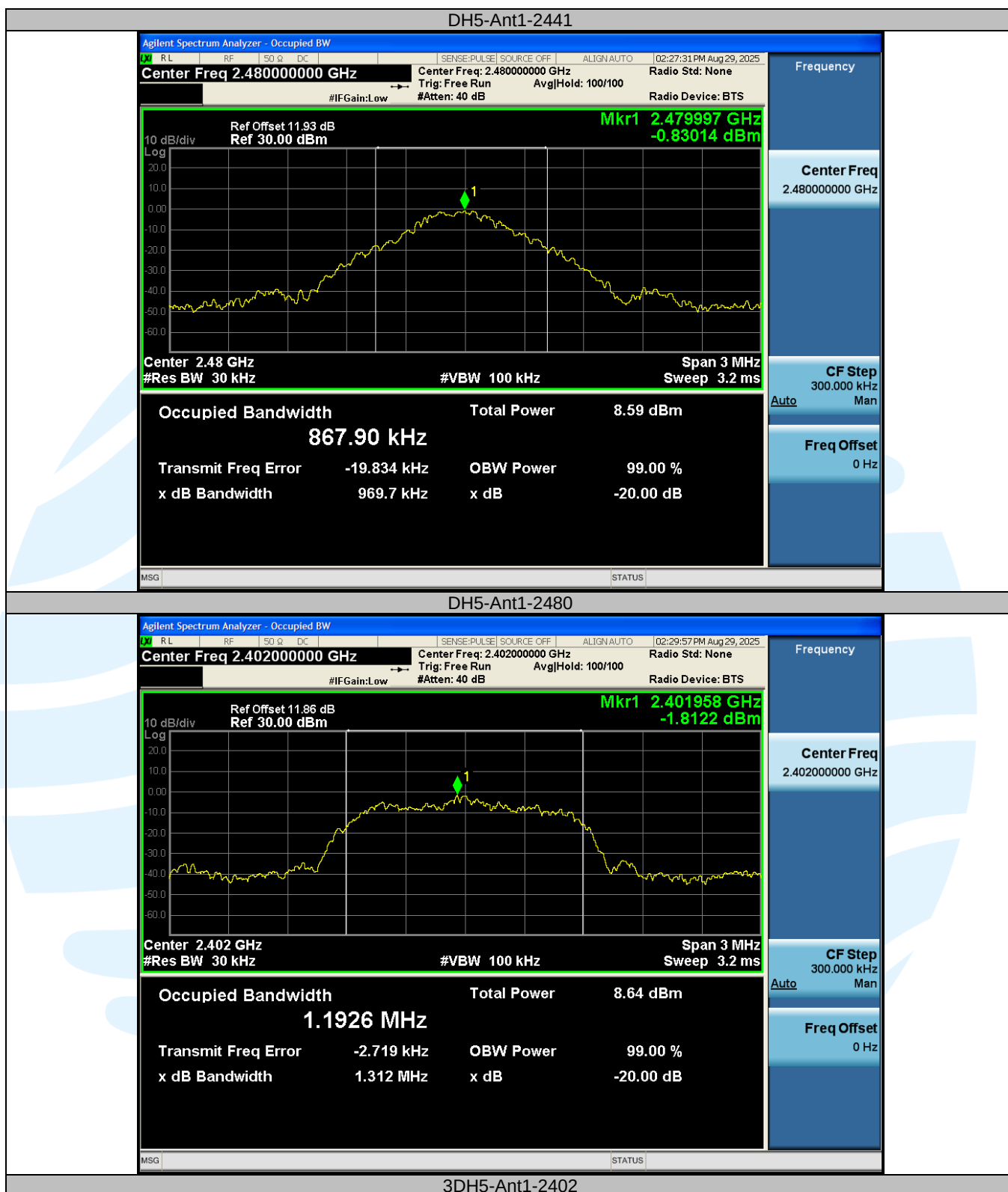
Tel: +86-755-28230888

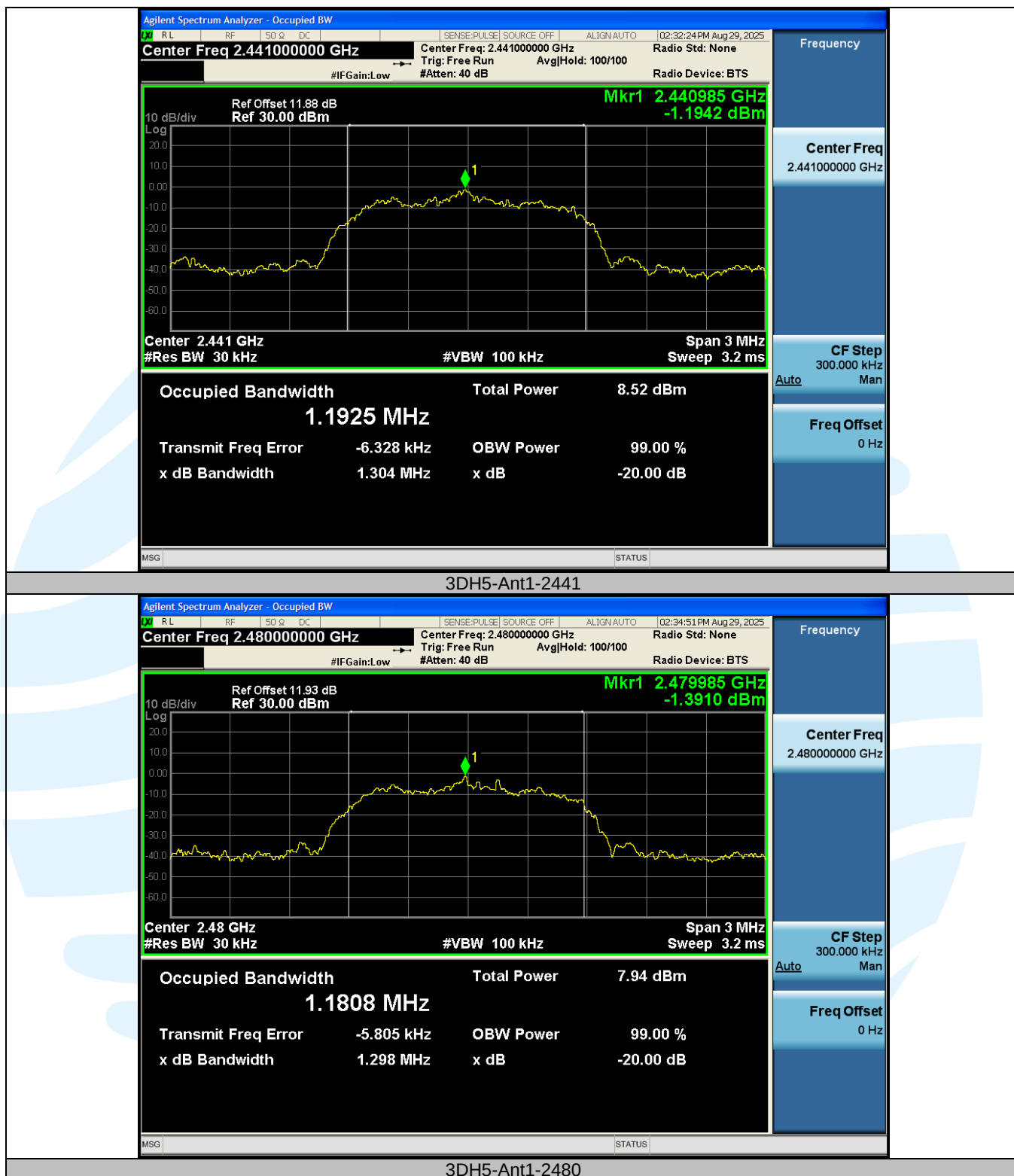
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A.4 CARRIER FREQUENCIES SEPARATION

Left earbud

Test Result

Test Mode	Antenna	Frequency [MHz]	Result [MHz]	Limit [MHz]	Verdict
DH5	Ant1	Hop_2402	1	≥ 0.956	PASS
3DH5	Ant1	Hop_2402	1.08	≥ 0.865	PASS

Test Graphs



Right earbud

Test Result

Test Mode	Antenna	Frequency [MHz]	Result [MHz]	Limit [MHz]	Verdict
DH5	Ant1	Hop_2402	1.018	≥ 0.970	PASS
3DH5	Ant1	Hop_2402	1.162	≥ 0.875	PASS

Test Graphs



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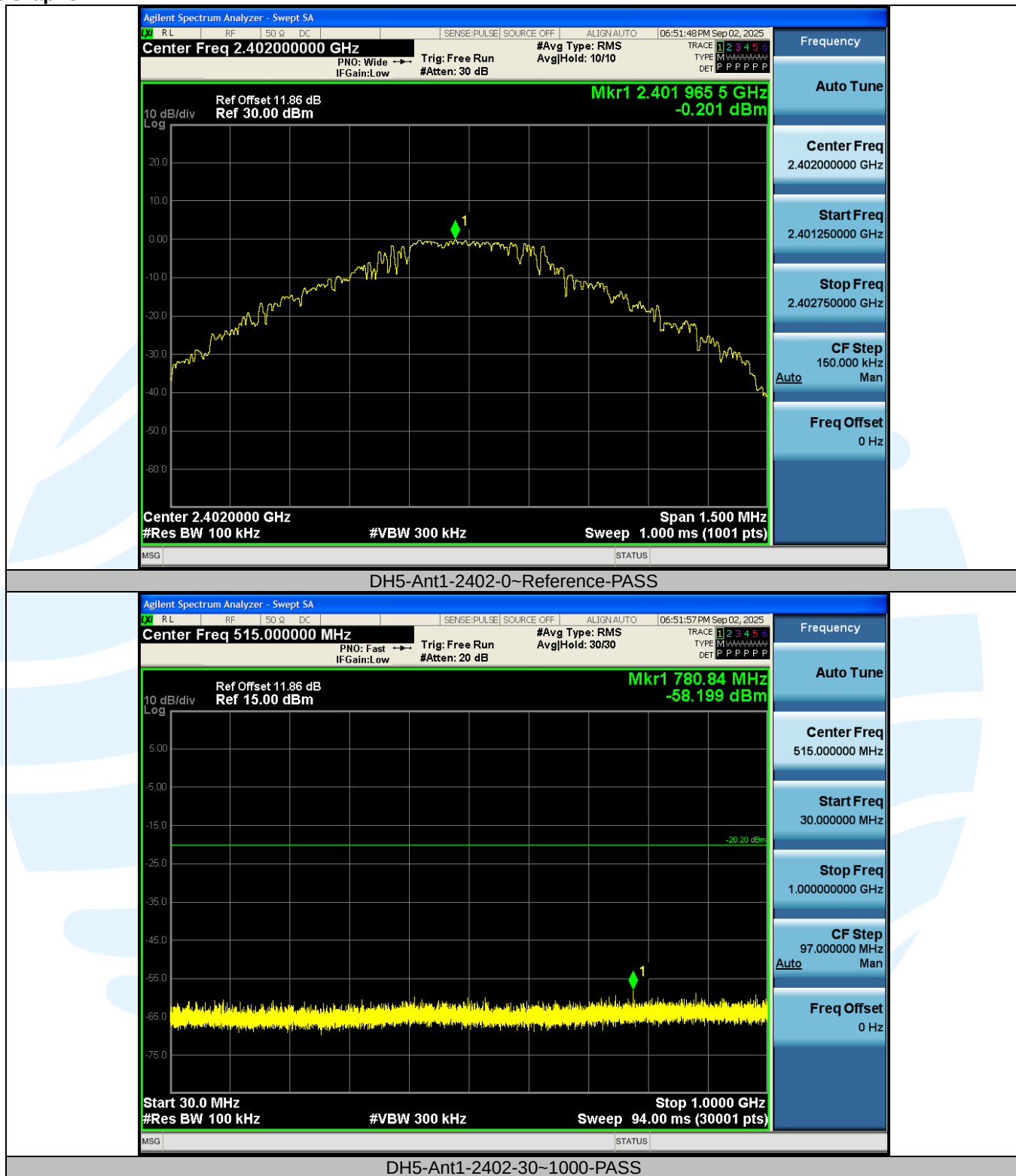
A.5 CONDUCTED OUT OF BAND EMISSION

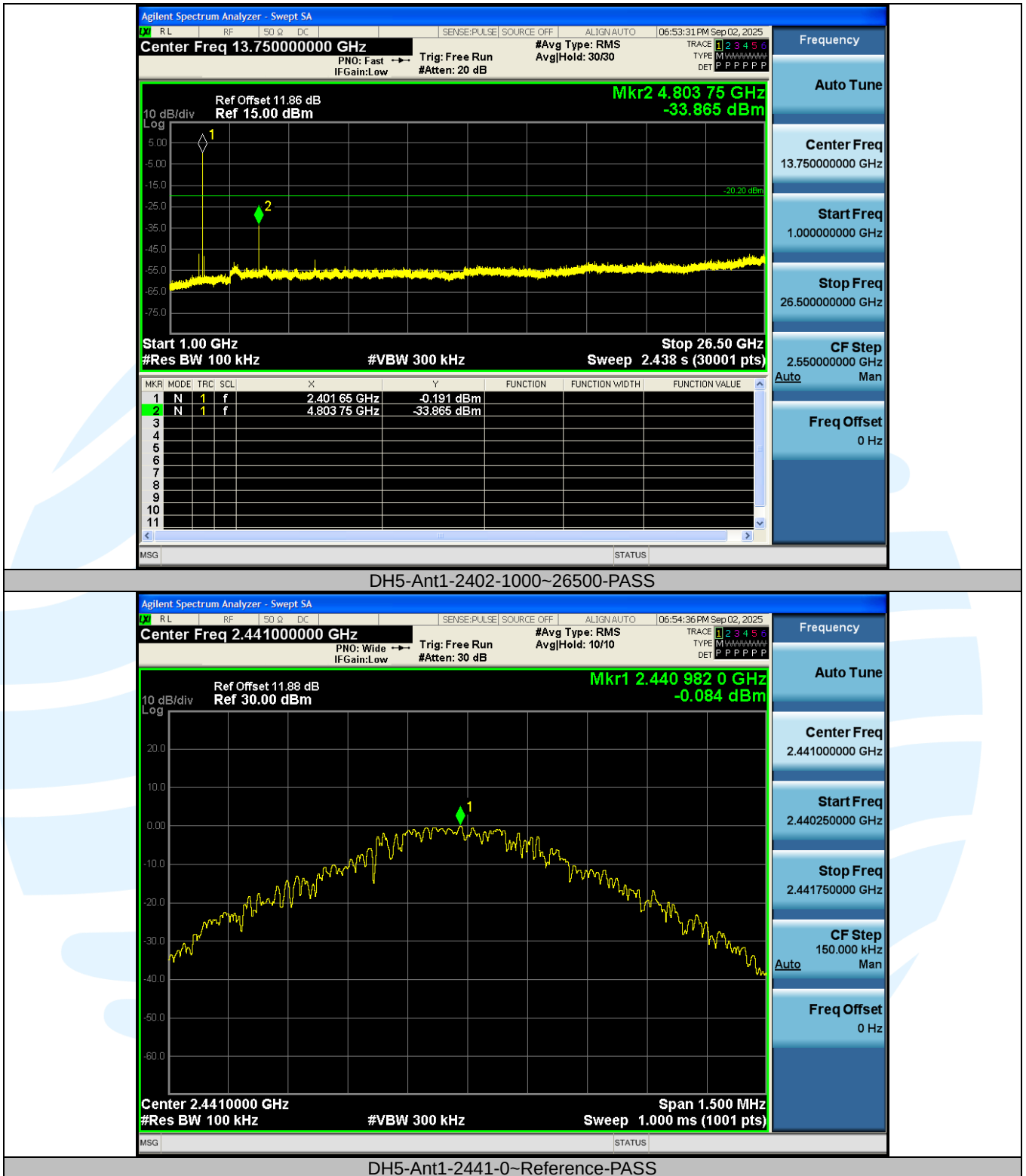
Left earbud

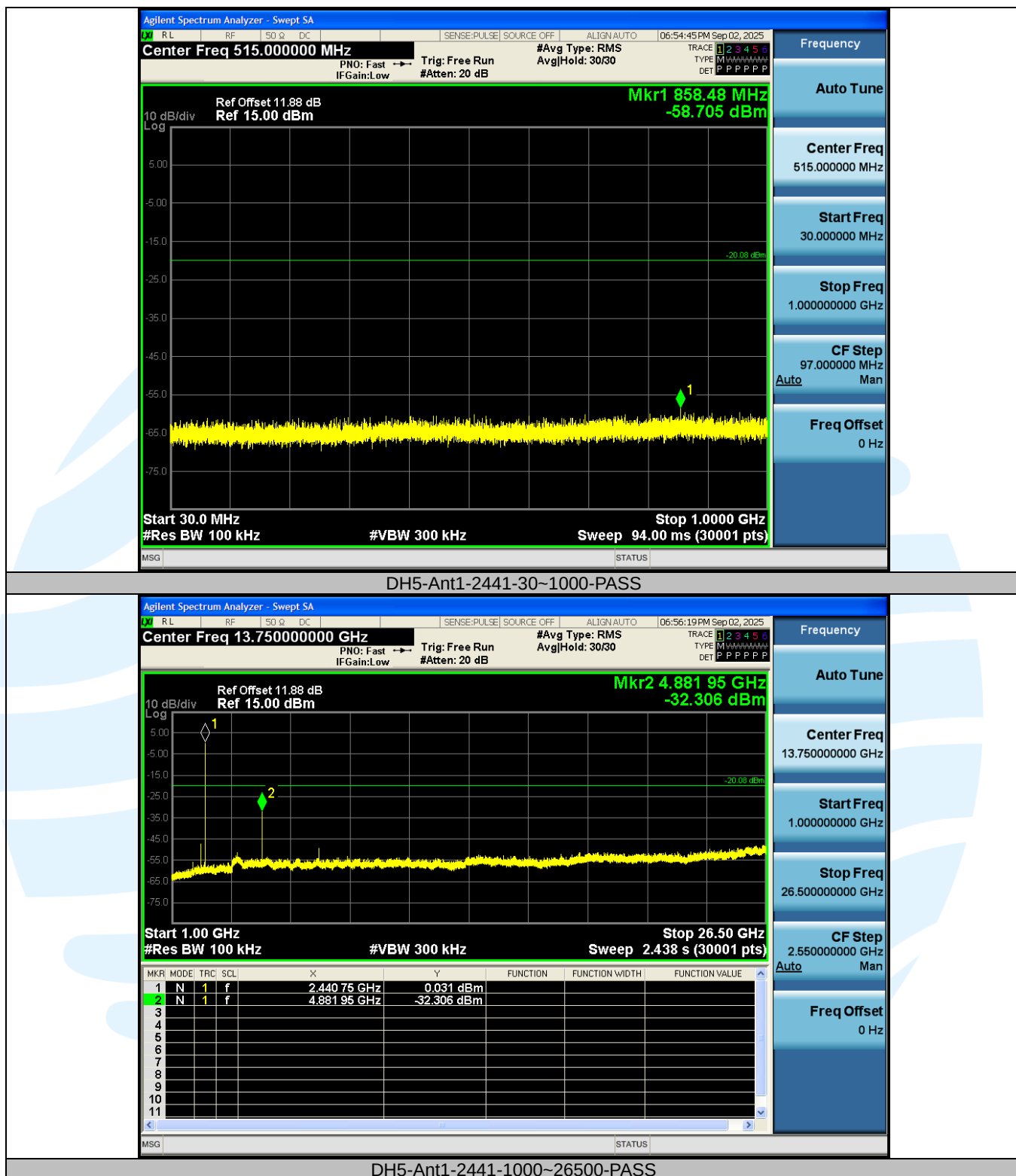
Test Result

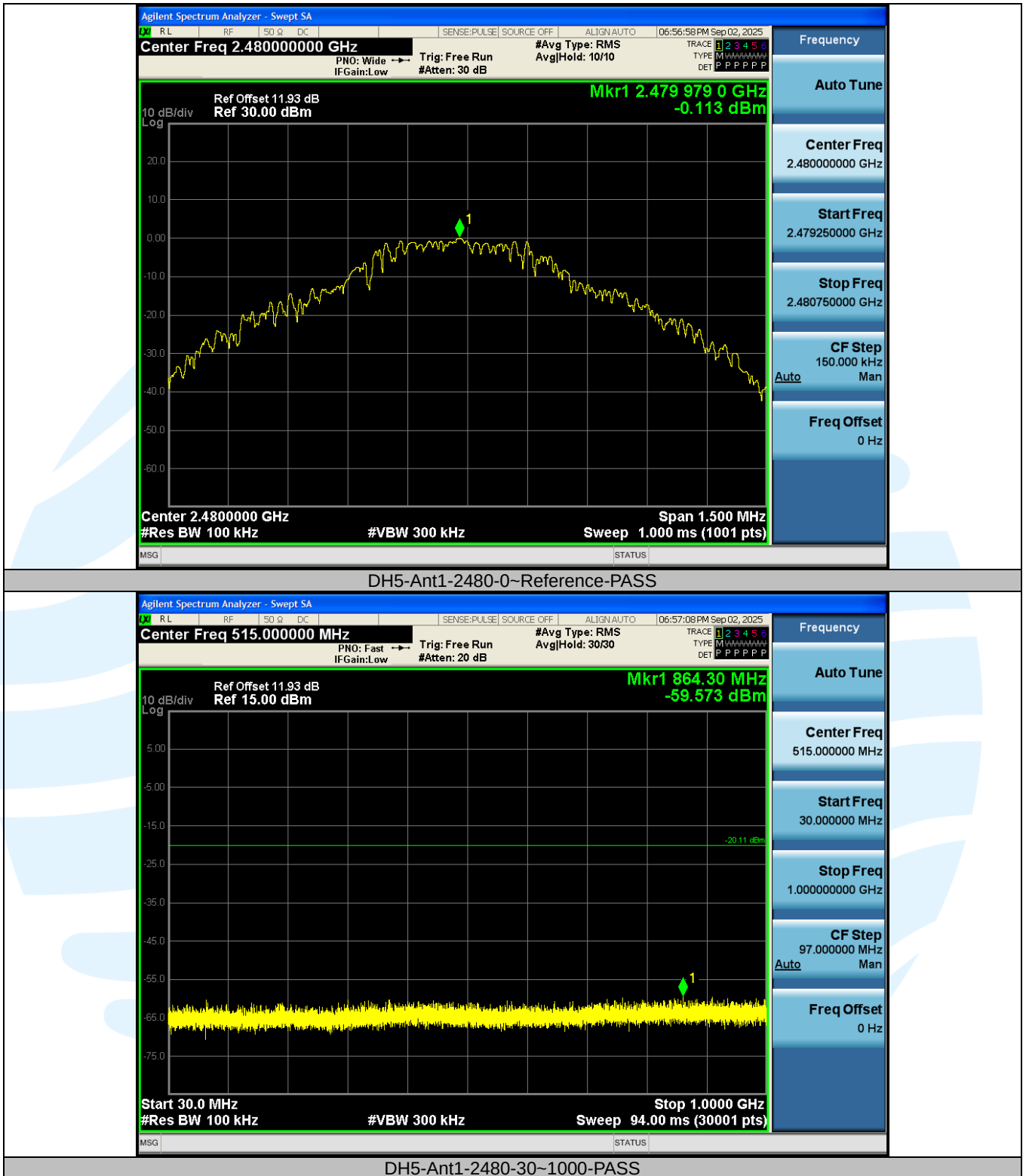
Test Mode	Antenna	Frequency [MHz]	Freq Range [MHz]	Ref Level [dBm]	Result [dBm]	Limit [dBm]	Verdict
DH5	Ant1	2402	0~Reference	-0.20	-0.20	---	PASS
DH5	Ant1	2402	30~1000	-0.20	-58.2	≤ -20.2	PASS
DH5	Ant1	2402	1000~26500	-0.20	-33.87	≤ -20.2	PASS
DH5	Ant1	2441	0~Reference	-0.08	-0.08	---	PASS
DH5	Ant1	2441	30~1000	-0.08	-58.71	≤ -20.08	PASS
DH5	Ant1	2441	1000~26500	-0.08	-32.31	≤ -20.08	PASS
DH5	Ant1	2480	0~Reference	-0.11	-0.11	---	PASS
DH5	Ant1	2480	30~1000	-0.11	-59.57	≤ -20.11	PASS
DH5	Ant1	2480	1000~26500	-0.11	-35.65	≤ -20.11	PASS
3DH5	Ant1	2402	0~Reference	0.23	0.23	---	PASS
3DH5	Ant1	2402	30~1000	0.23	-59.36	≤ -19.77	PASS
3DH5	Ant1	2402	1000~26500	0.23	-32.9	≤ -19.77	PASS
3DH5	Ant1	2441	0~Reference	-1.07	-1.07	---	PASS
3DH5	Ant1	2441	30~1000	-1.07	-58.8	≤ -21.07	PASS
3DH5	Ant1	2441	1000~26500	-1.07	-33.84	≤ -21.07	PASS
3DH5	Ant1	2480	0~Reference	-1.30	-1.30	---	PASS
3DH5	Ant1	2480	30~1000	-1.30	-59.24	≤ -21.3	PASS
3DH5	Ant1	2480	1000~26500	-1.30	-39.95	≤ -21.3	PASS

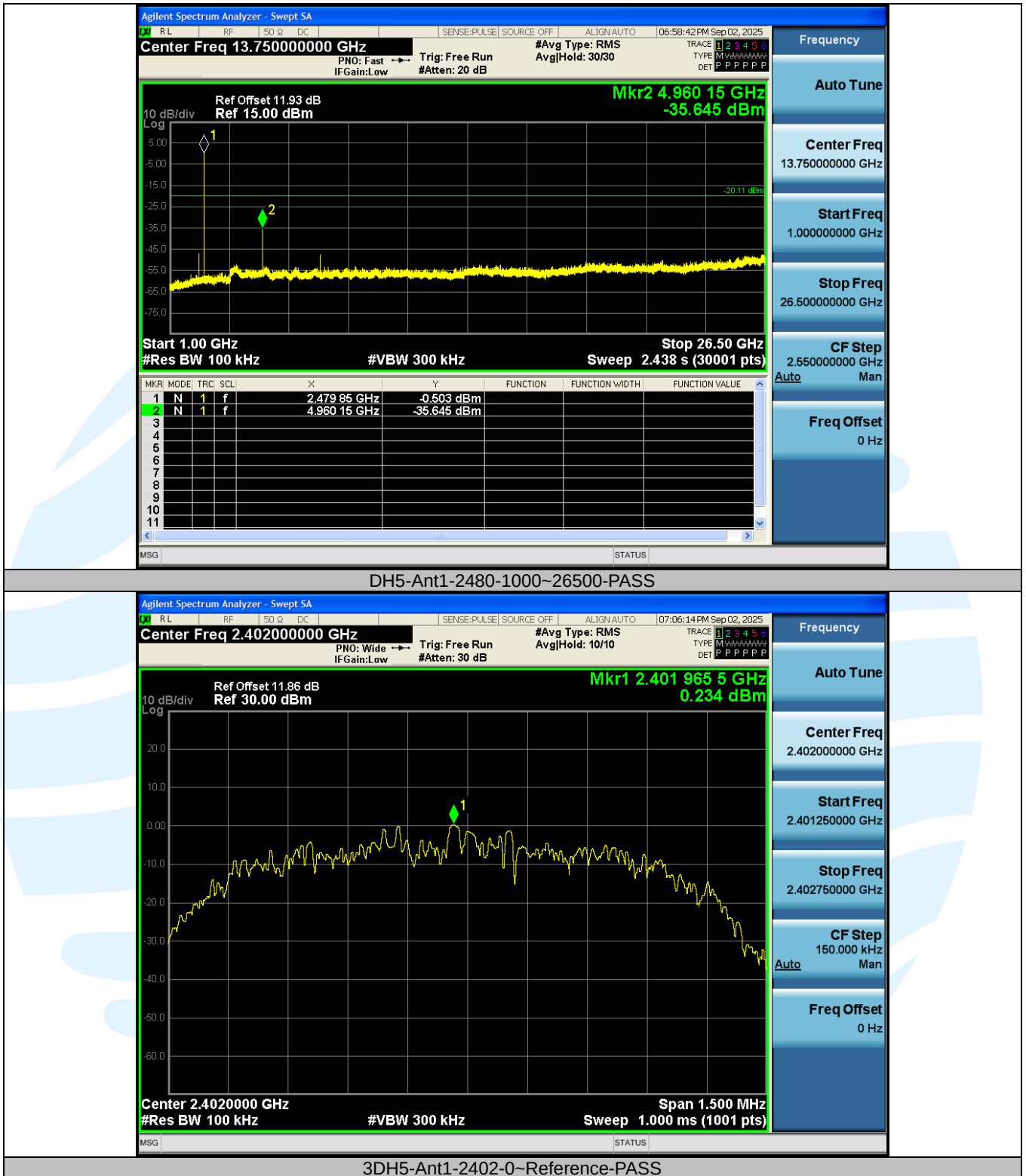
Test Graphs

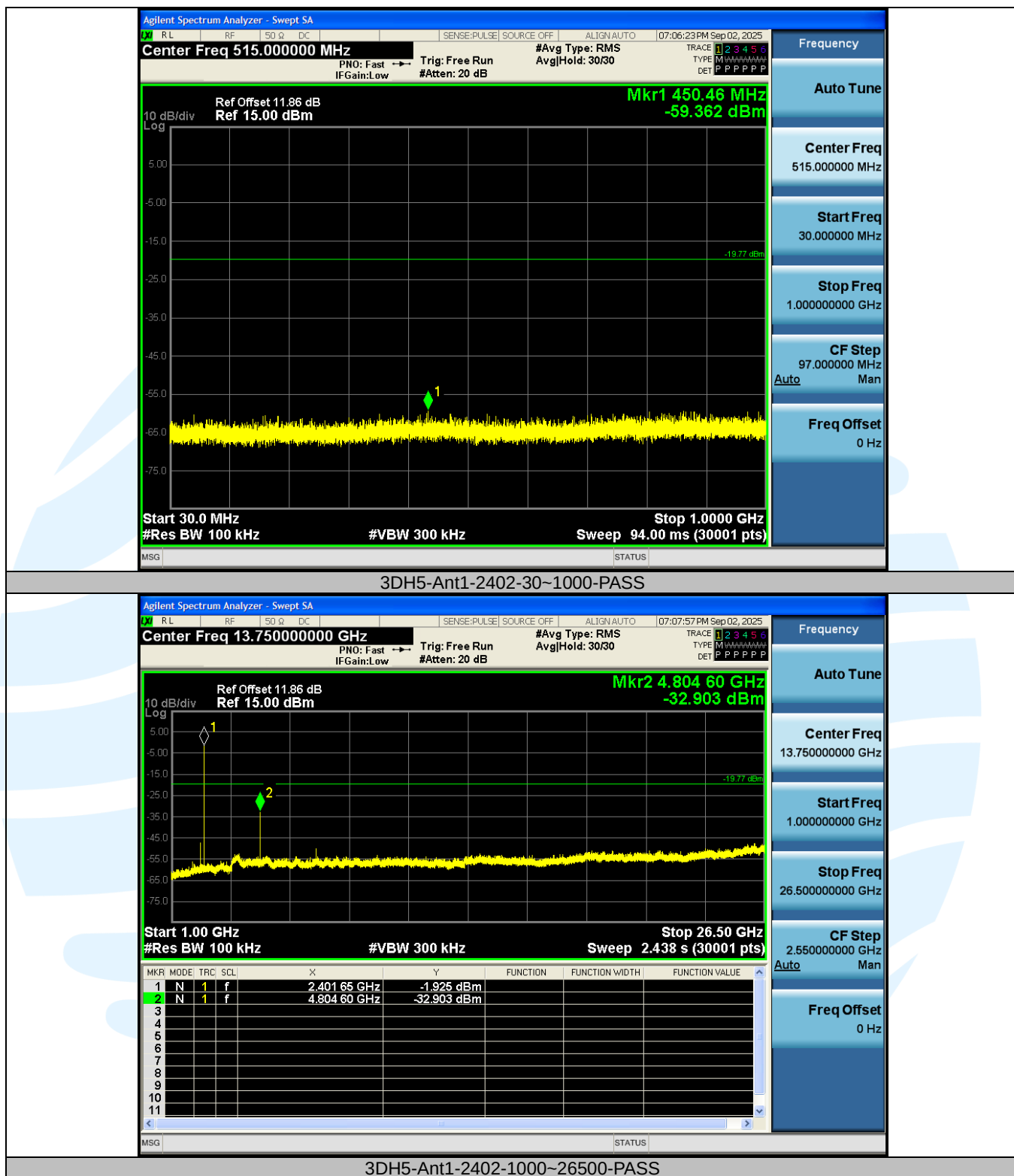


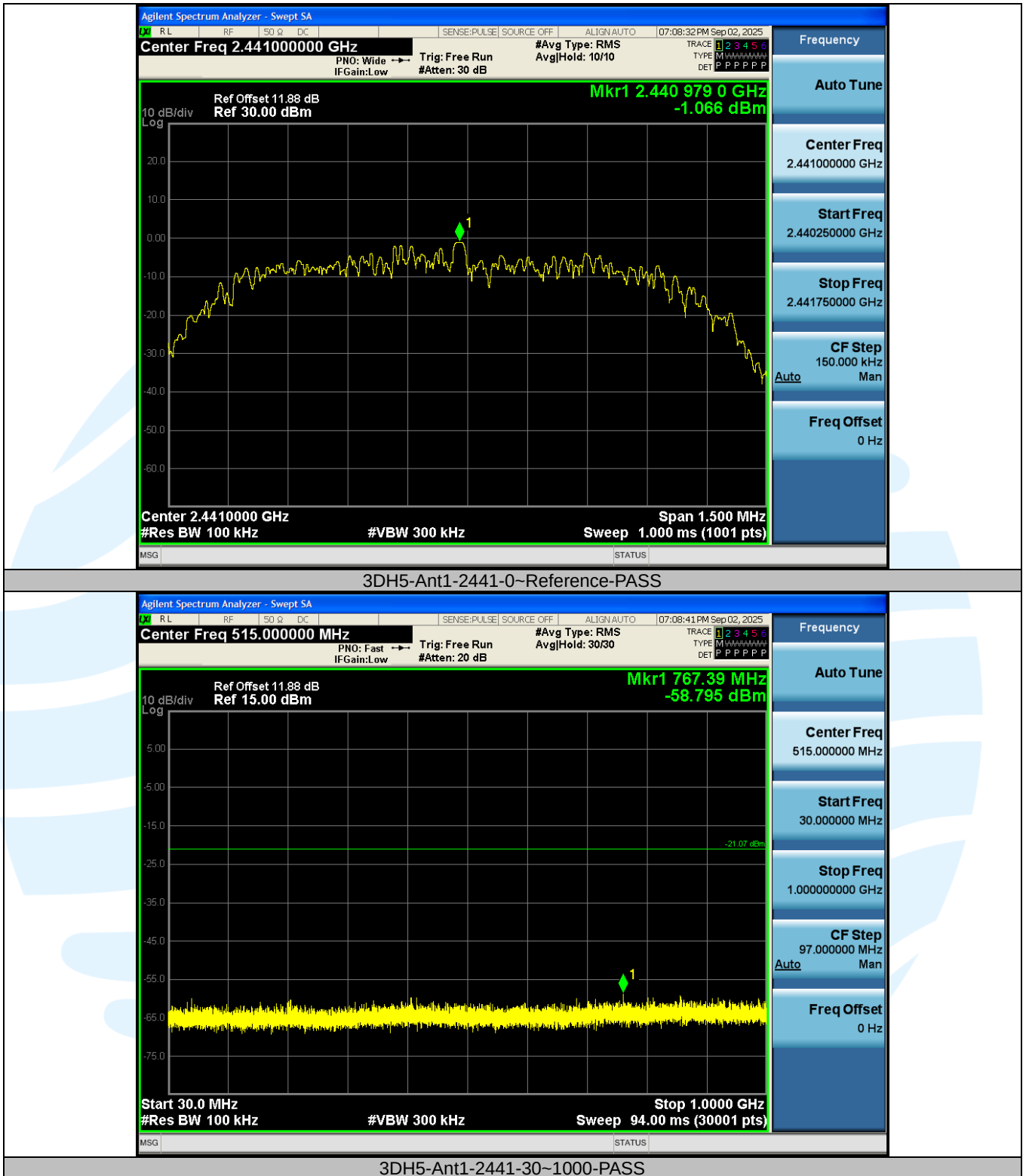


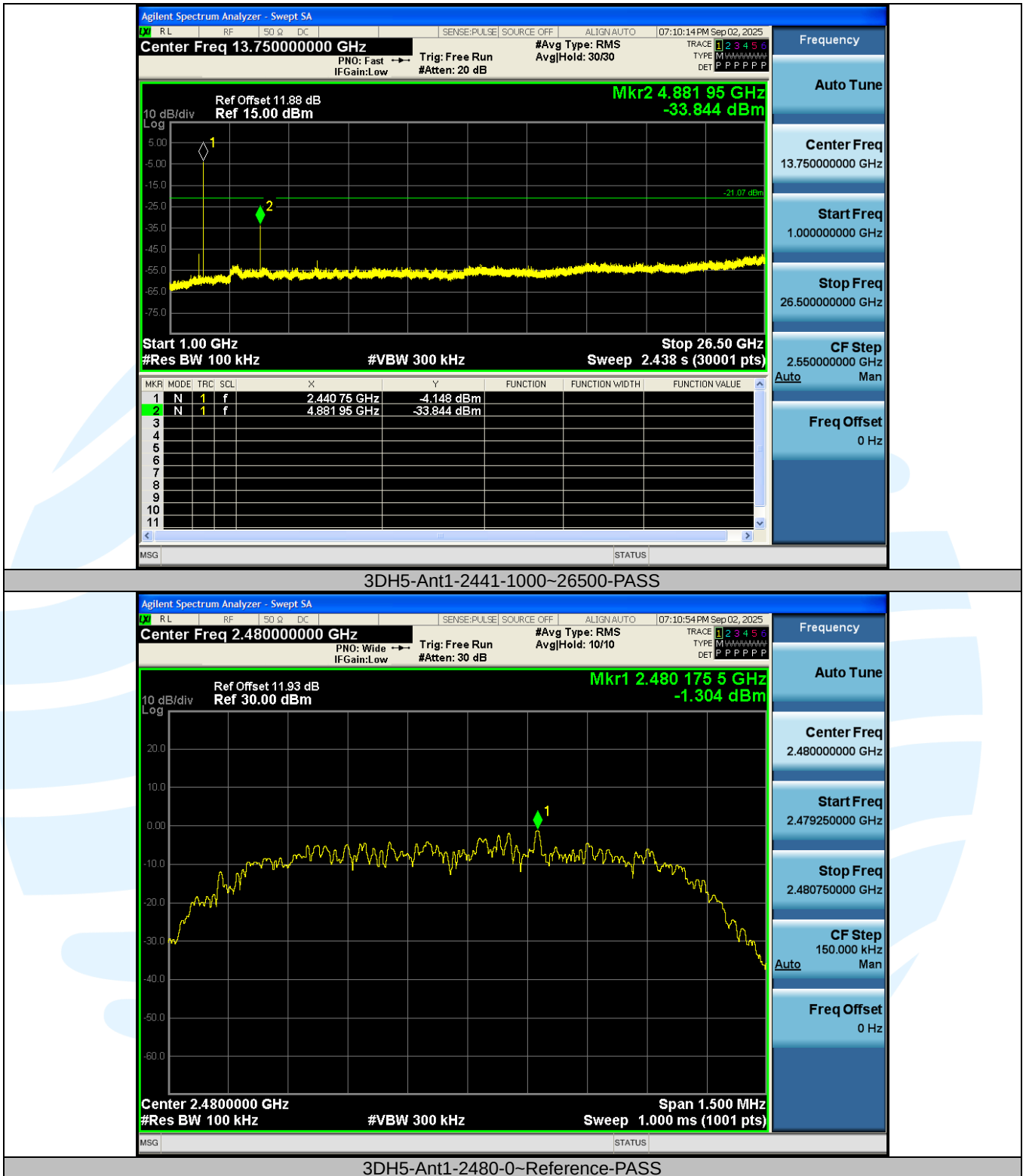


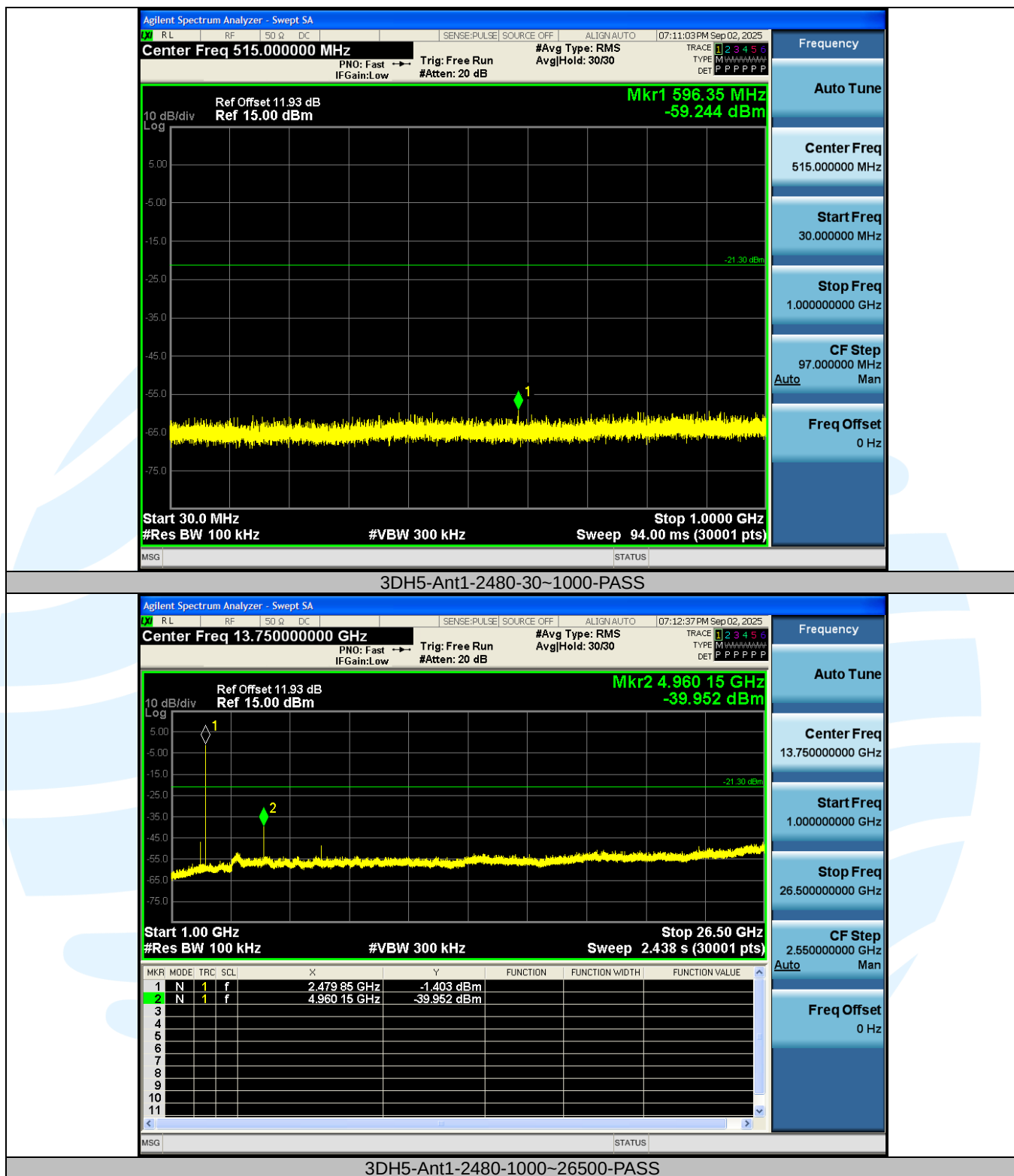










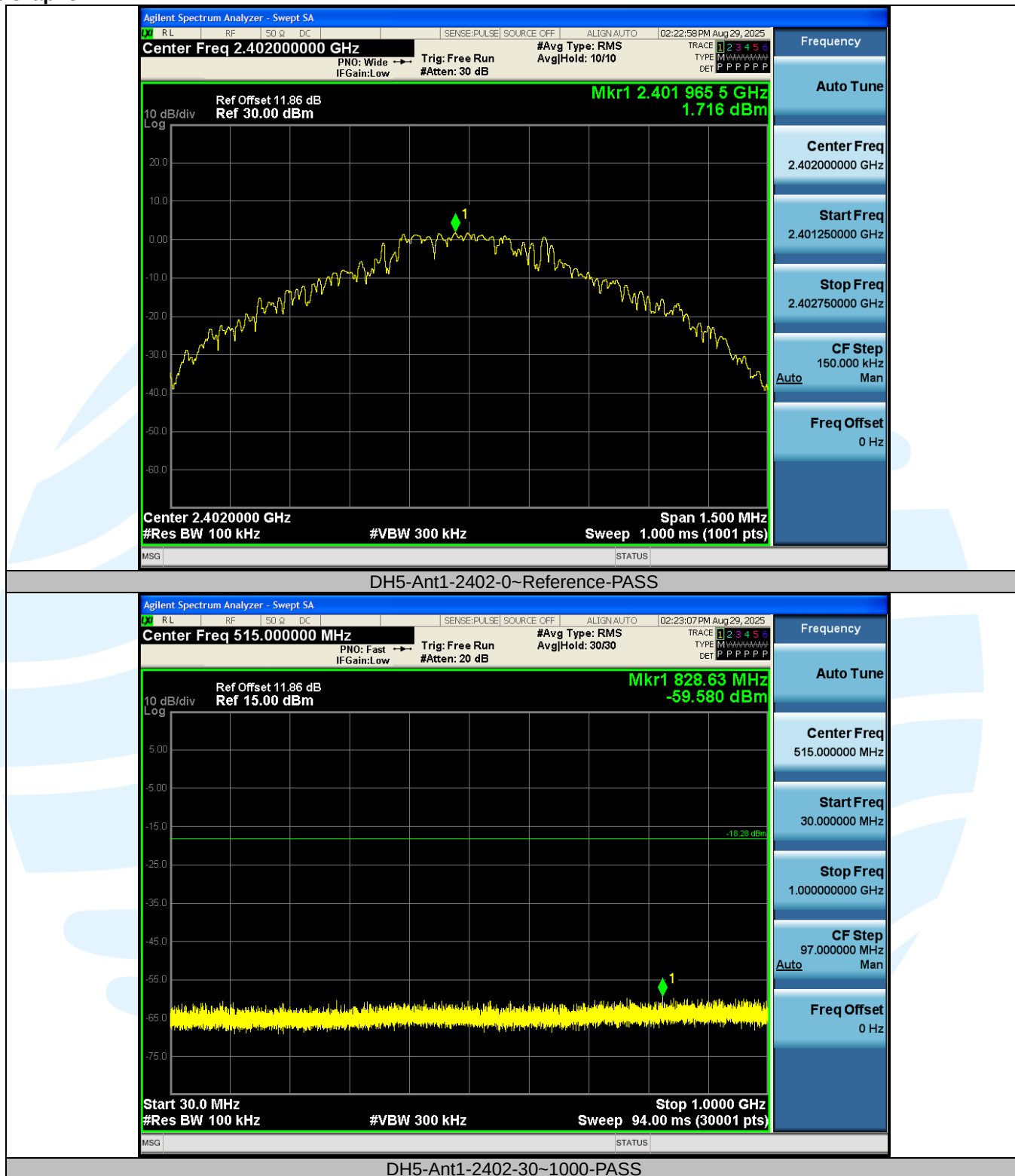


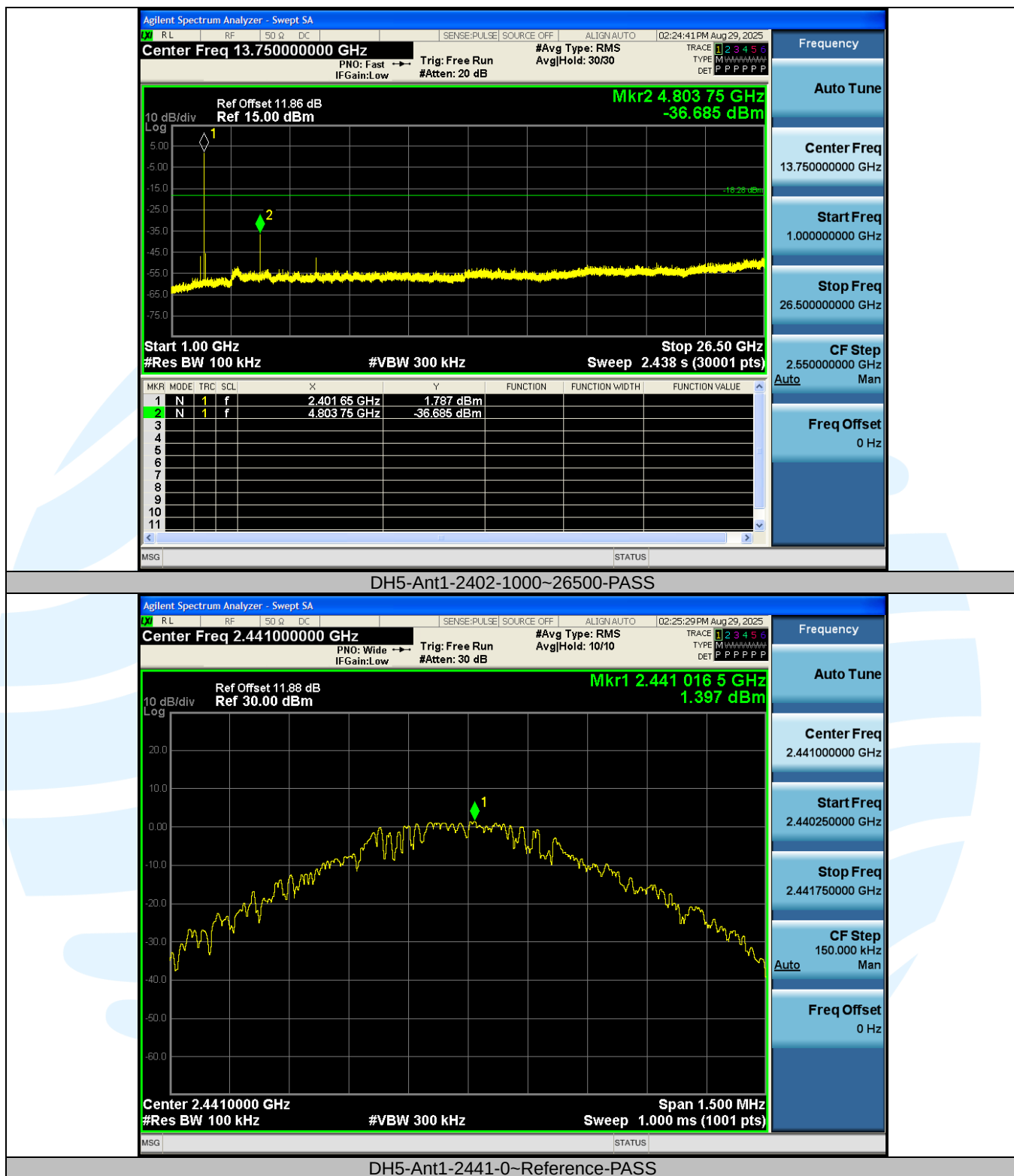
Right earbud

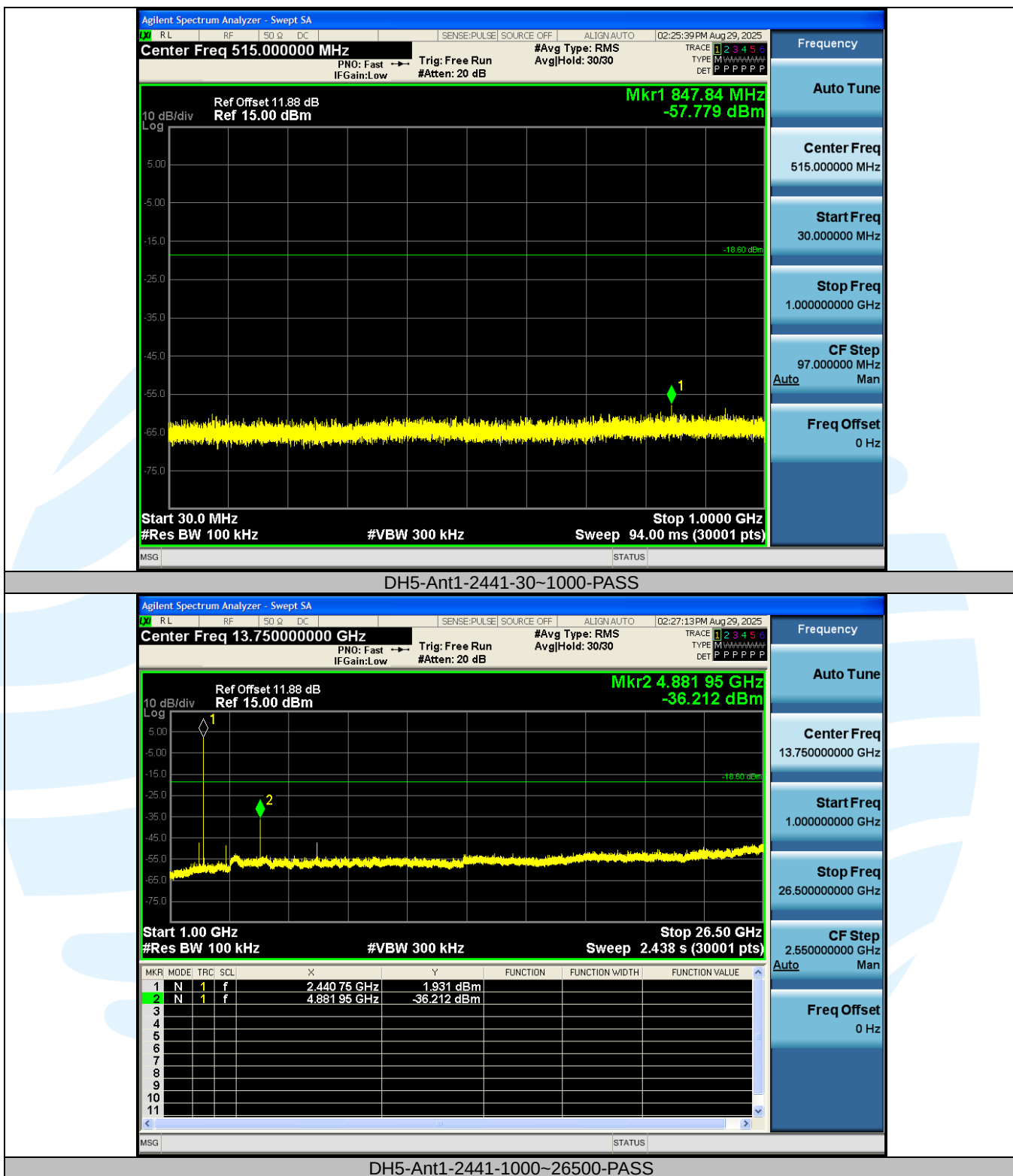
Test Result

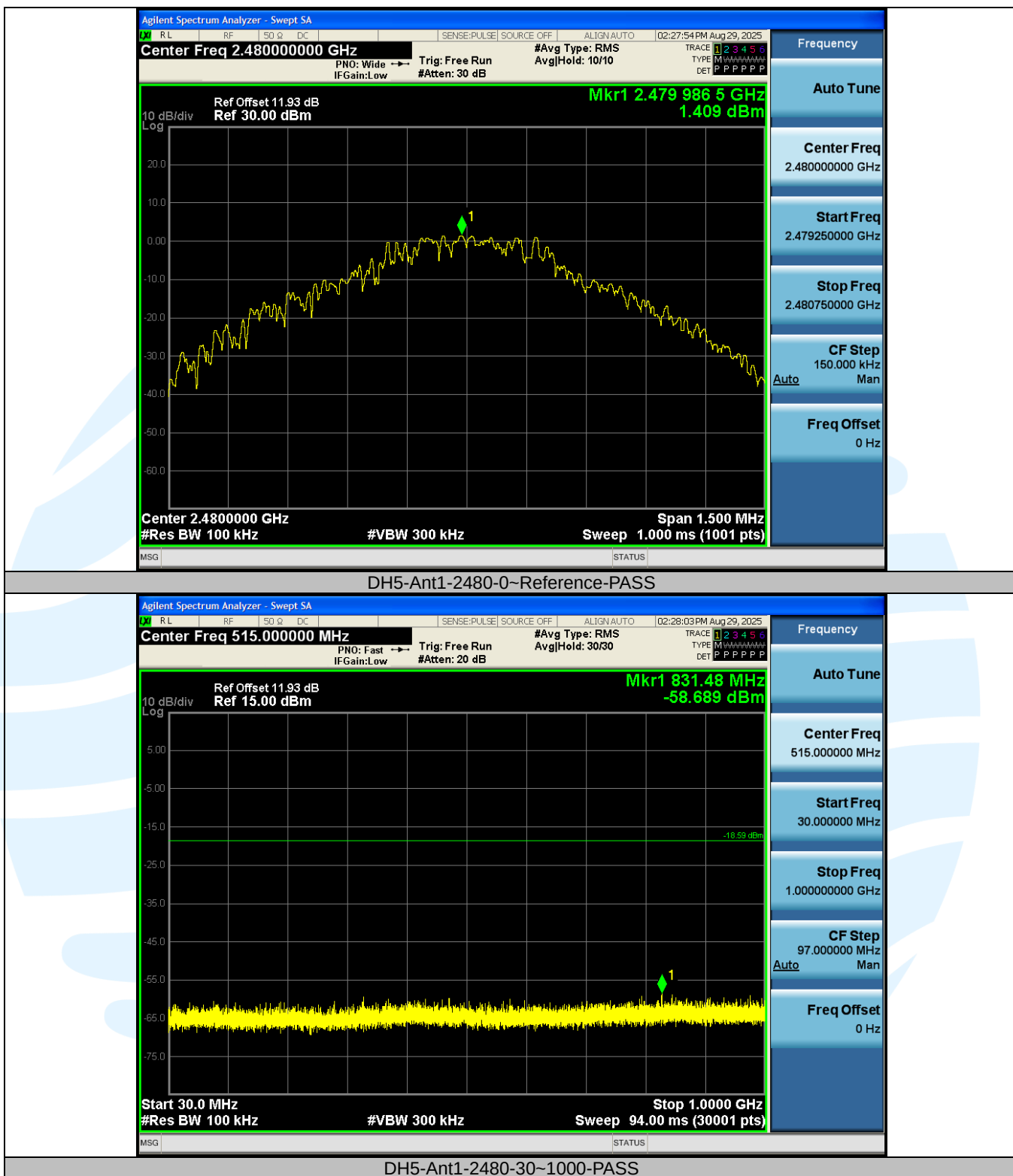
Test Mode	Antenna	Frequency [MHz]	Freq Range [MHz]	Ref Level [dBm]	Result [dBm]	Limit [dBm]	Verdict
DH5	Ant1	2402	0~Reference	1.72	1.72	---	PASS
DH5	Ant1	2402	30~1000	1.72	-59.58	≤-18.28	PASS
DH5	Ant1	2402	1000~26500	1.72	-36.69	≤-18.28	PASS
DH5	Ant1	2441	0~Reference	1.40	1.40	---	PASS
DH5	Ant1	2441	30~1000	1.40	-57.78	≤-18.6	PASS
DH5	Ant1	2441	1000~26500	1.40	-36.21	≤-18.6	PASS
DH5	Ant1	2480	0~Reference	1.41	1.41	---	PASS
DH5	Ant1	2480	30~1000	1.41	-58.69	≤-18.59	PASS
DH5	Ant1	2480	1000~26500	1.41	-36.99	≤-18.59	PASS
3DH5	Ant1	2402	0~Reference	1.06	1.06	---	PASS
3DH5	Ant1	2402	30~1000	1.06	-58.98	≤-18.94	PASS
3DH5	Ant1	2402	1000~26500	1.06	-38.65	≤-18.94	PASS
3DH5	Ant1	2441	0~Reference	1.13	1.13	---	PASS
3DH5	Ant1	2441	30~1000	1.13	-58.2	≤-18.87	PASS
3DH5	Ant1	2441	1000~26500	1.13	-40.02	≤-18.87	PASS
3DH5	Ant1	2480	0~Reference	-1.49	-1.49	---	PASS
3DH5	Ant1	2480	30~1000	-1.49	-59.15	≤-21.49	PASS
3DH5	Ant1	2480	1000~26500	-1.49	-40.56	≤-21.49	PASS

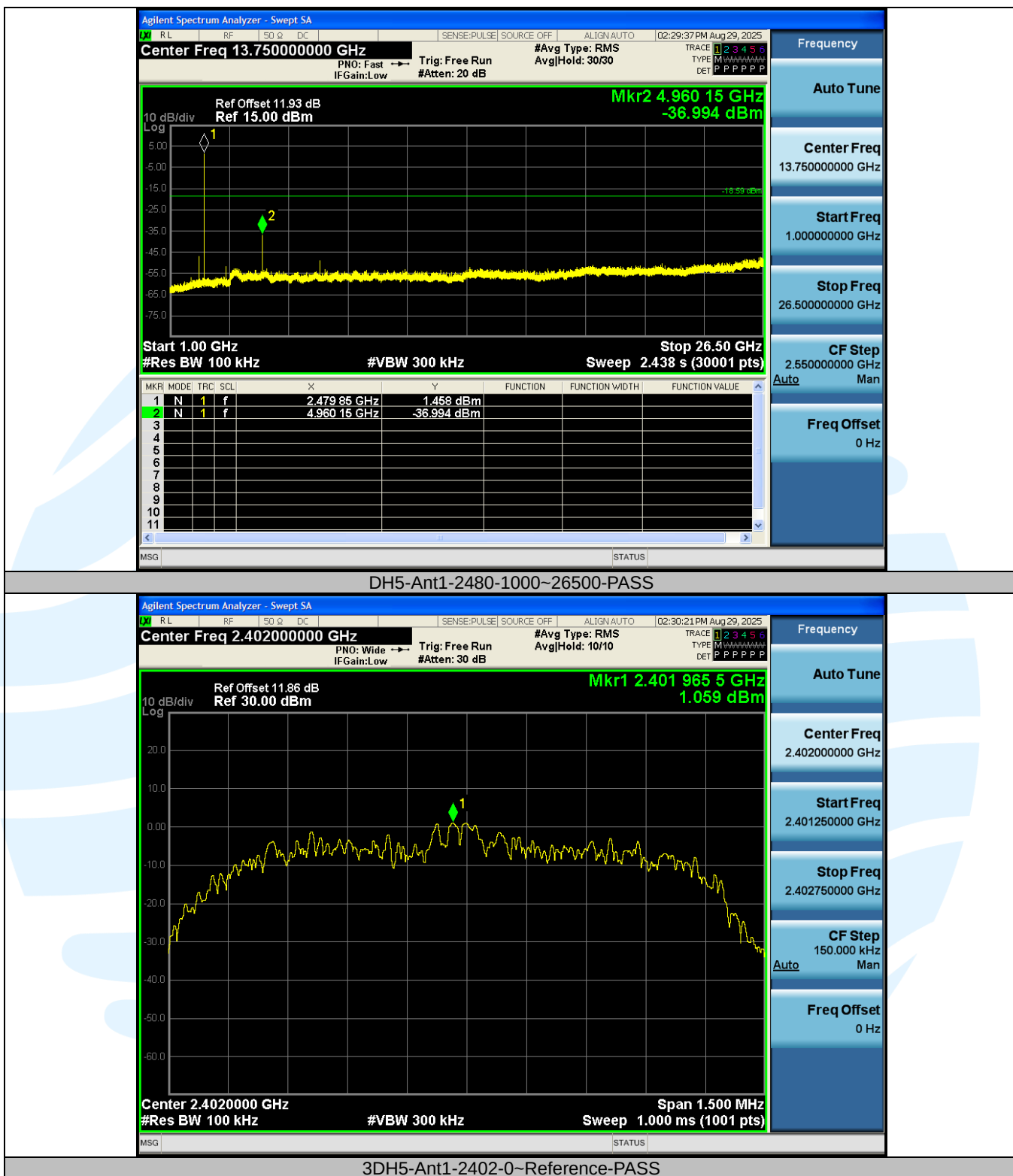
Test Graphs

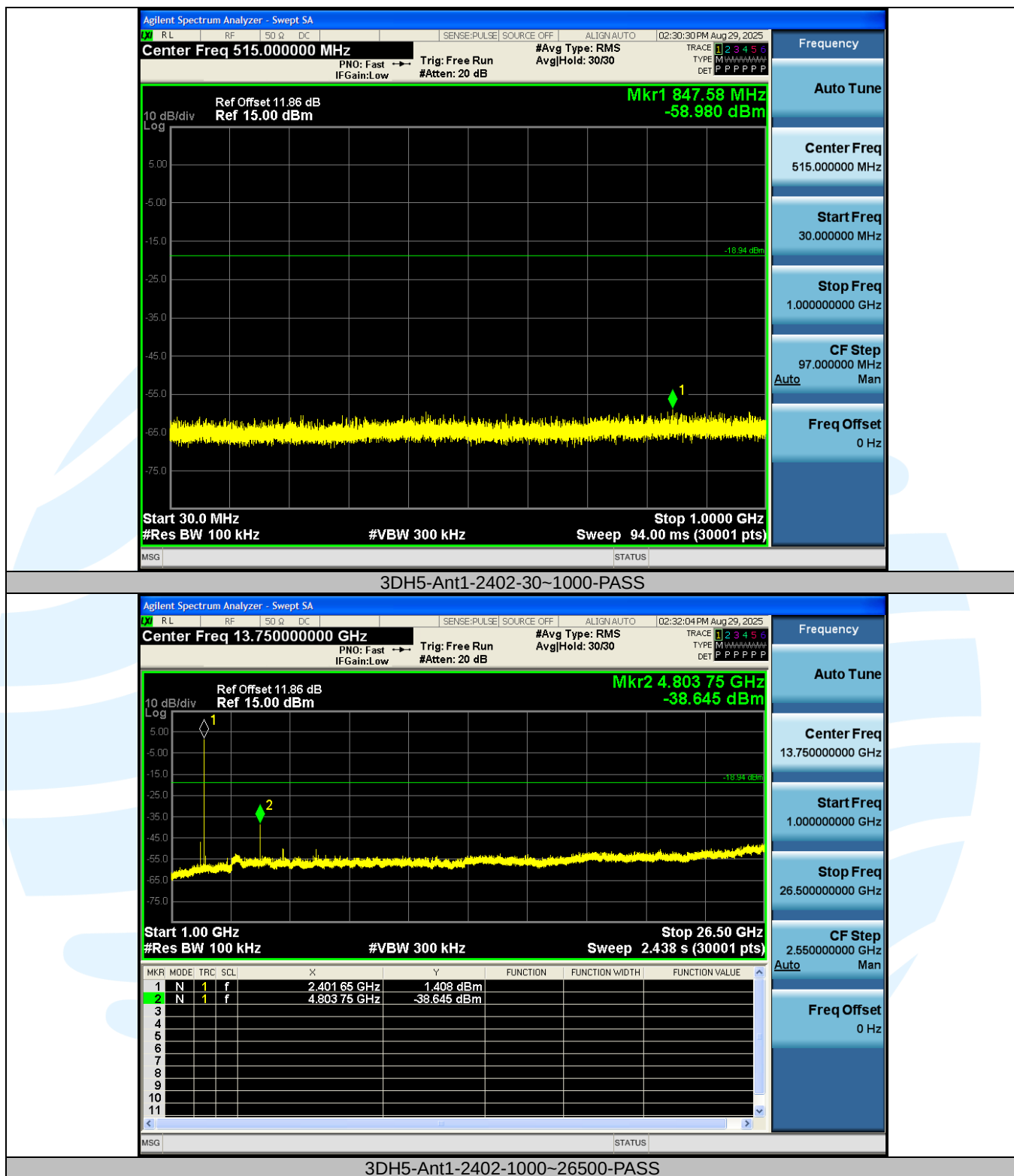


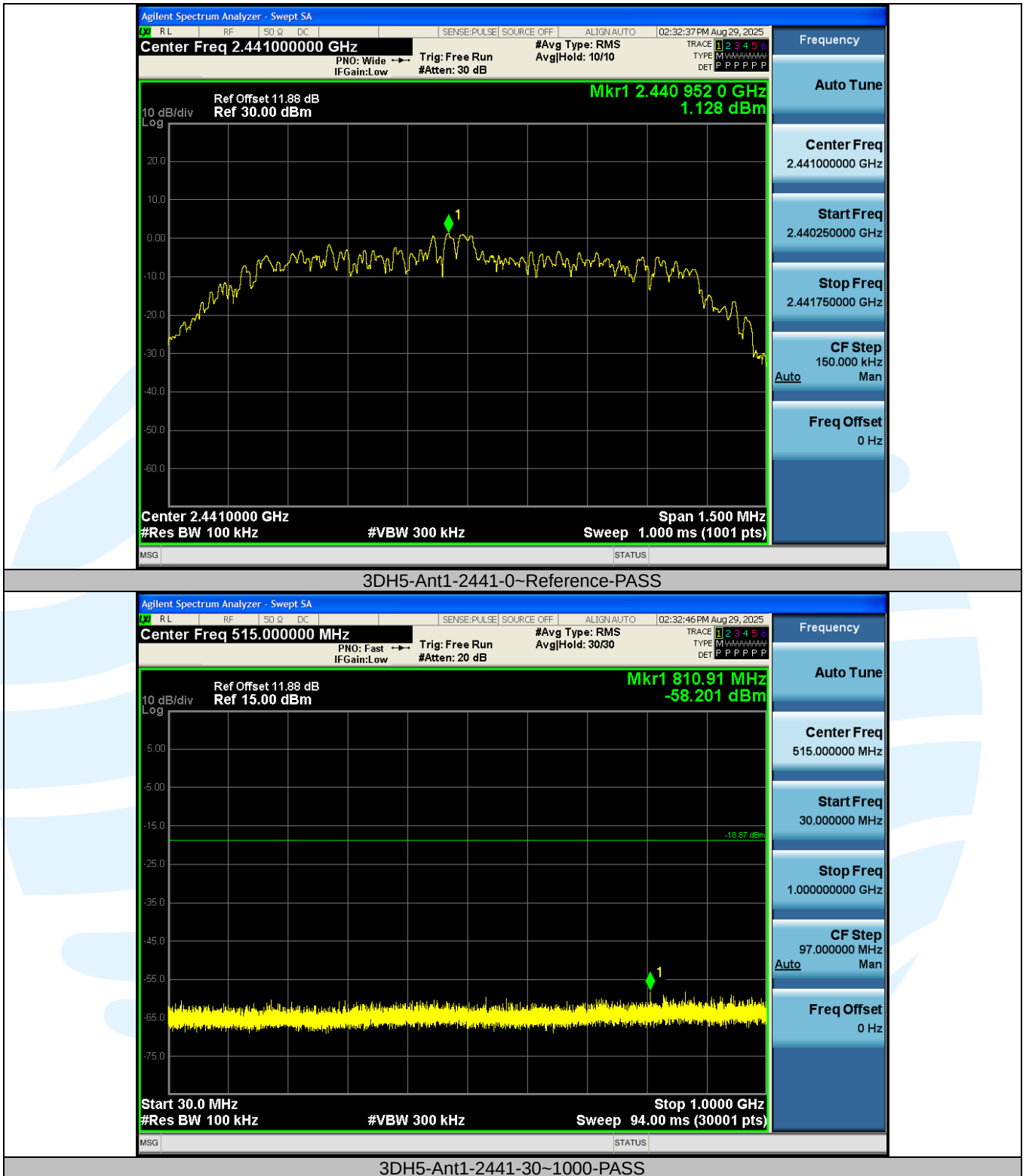


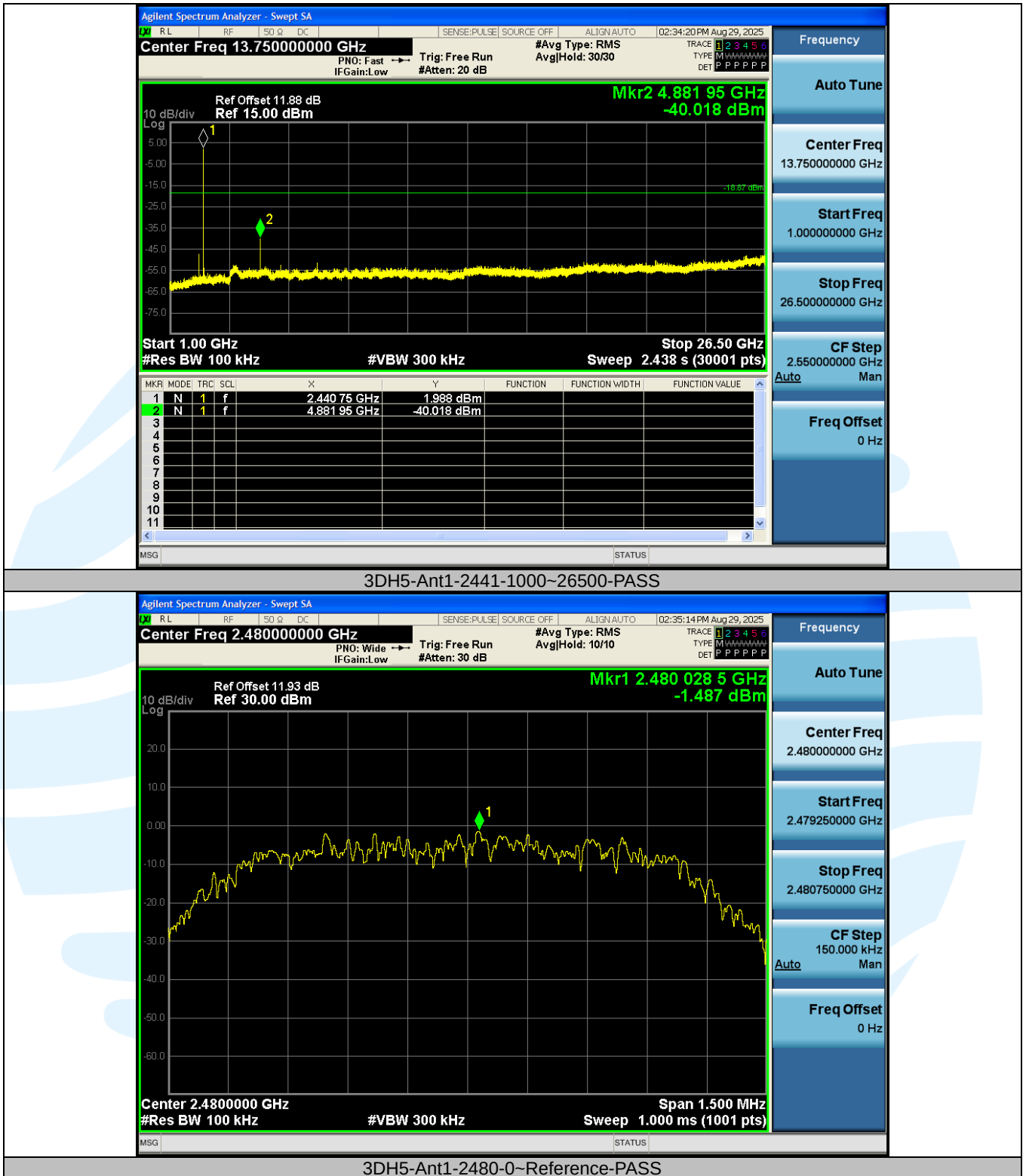


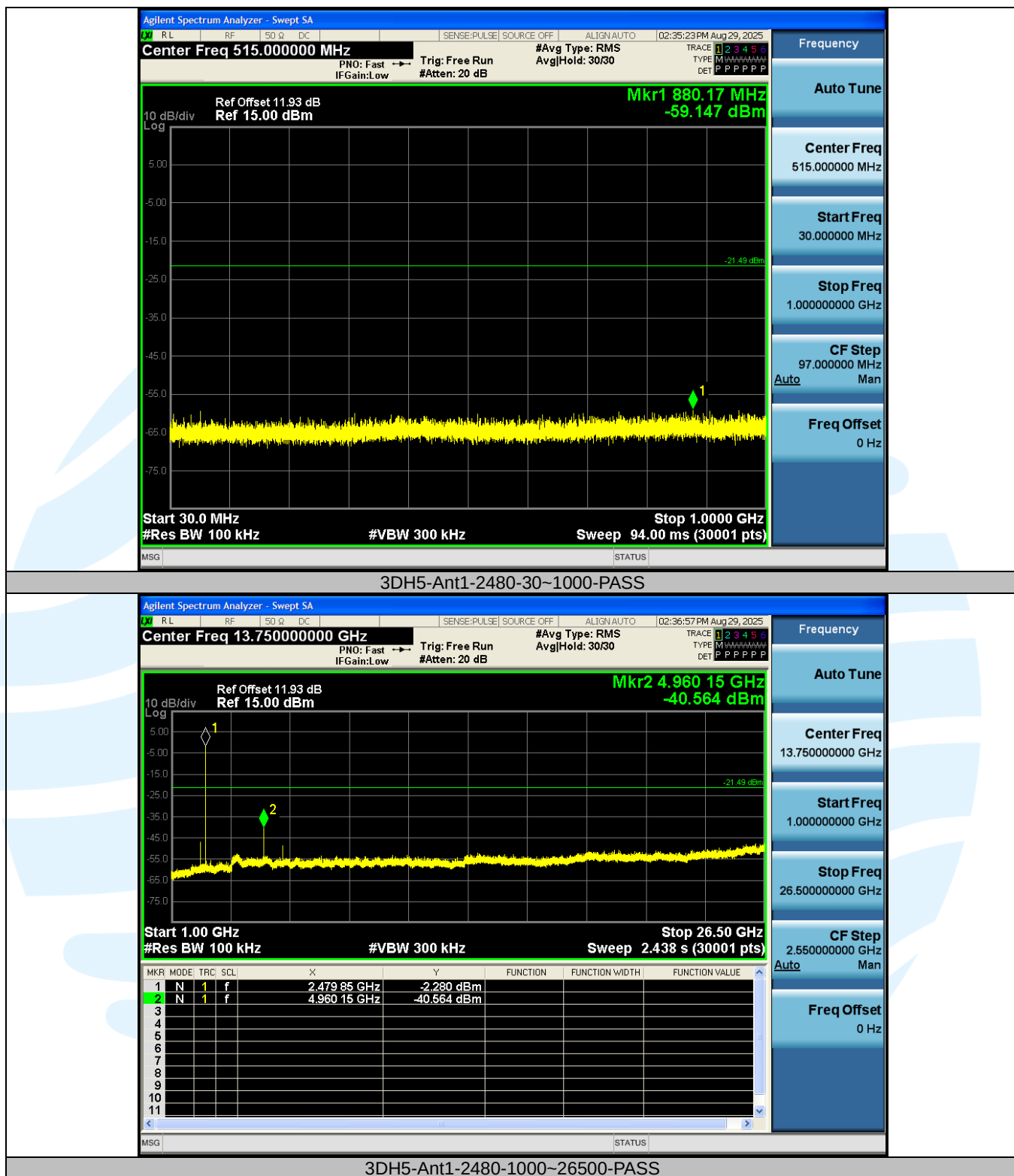












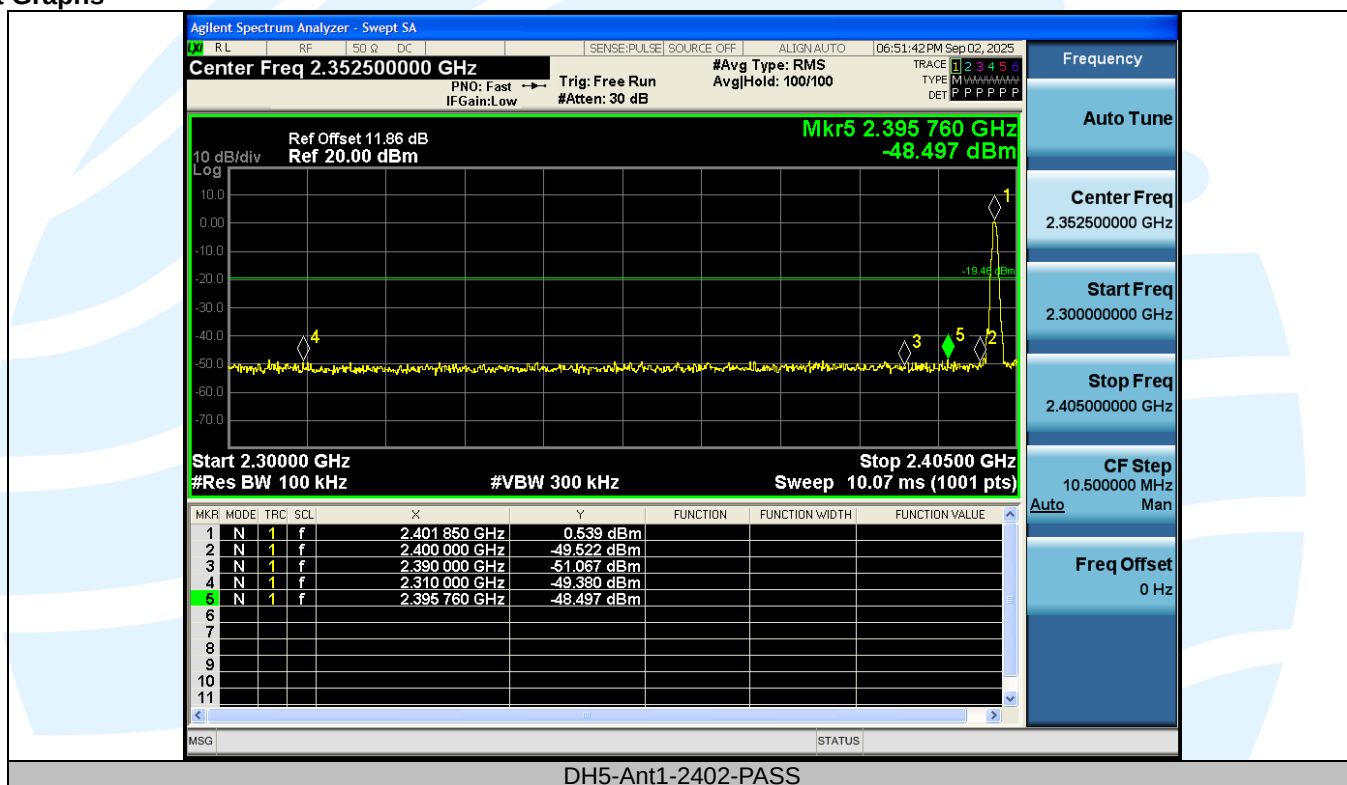
A.6 BAND EDGE MEASUREMENTS

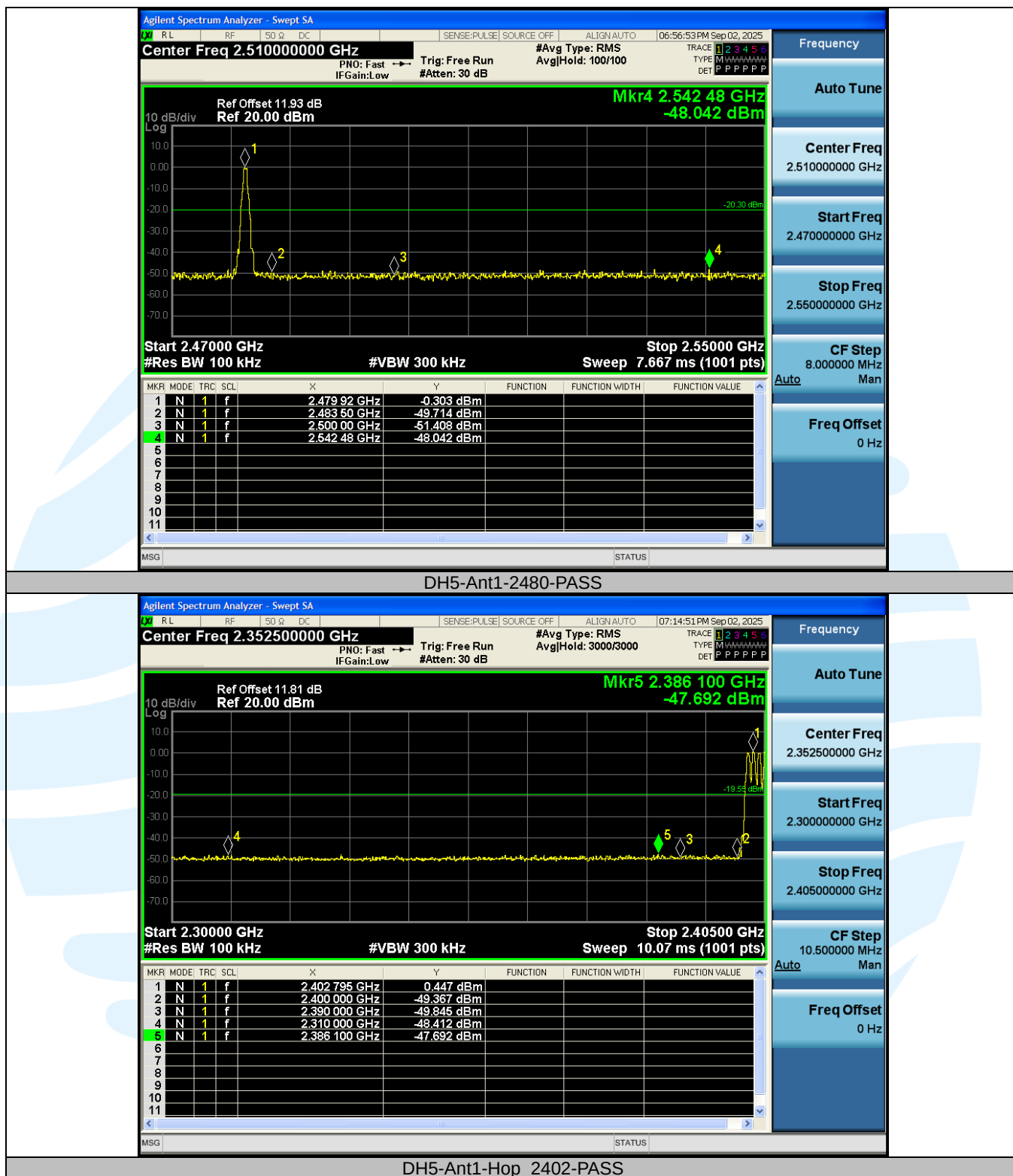
Left earbud

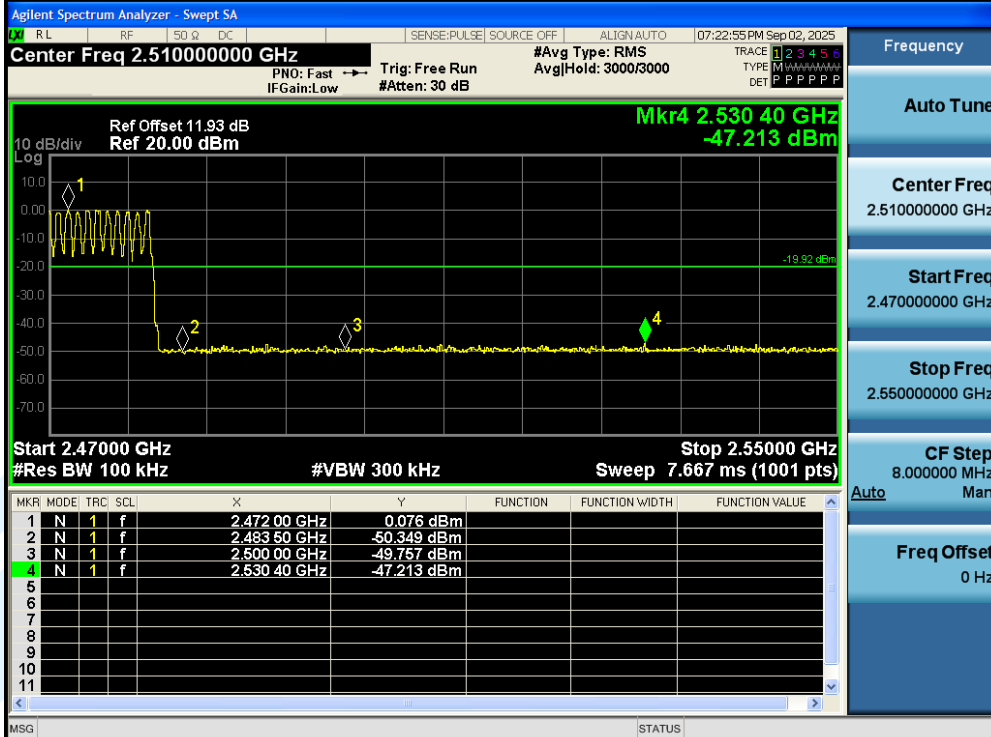
Test Result

Test Mode	Antenna	Ch Name	Frequency [MHz]	Ref Level [dBm]	Result [dBm]	Limit [dBm]	Verdict
DH5	Ant1	Low	2402	0.54	-48.5	≤-19.46	PASS
DH5	Ant1	High	2480	-0.30	-48.04	≤-20.3	PASS
DH5	Ant1	Low	Hop_2402	0.45	-47.69	≤-19.55	PASS
DH5	Ant1	High	Hop_2480	0.08	-47.21	≤-19.92	PASS
3DH5	Ant1	Low	2402	0.62	-47.64	≤-19.38	PASS
3DH5	Ant1	High	2480	-1.53	-48.73	≤-21.53	PASS
3DH5	Ant1	Low	Hop_2402	0.35	-47.23	≤-19.65	PASS
3DH5	Ant1	High	Hop_2480	0.03	-46.94	≤-19.97	PASS

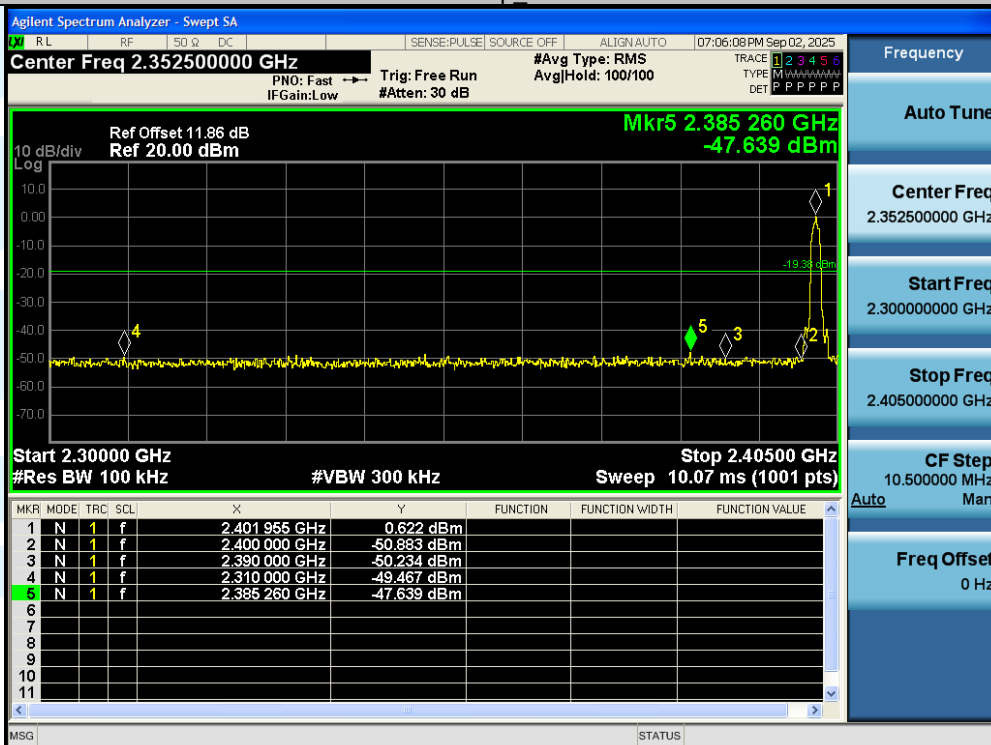
Test Graphs



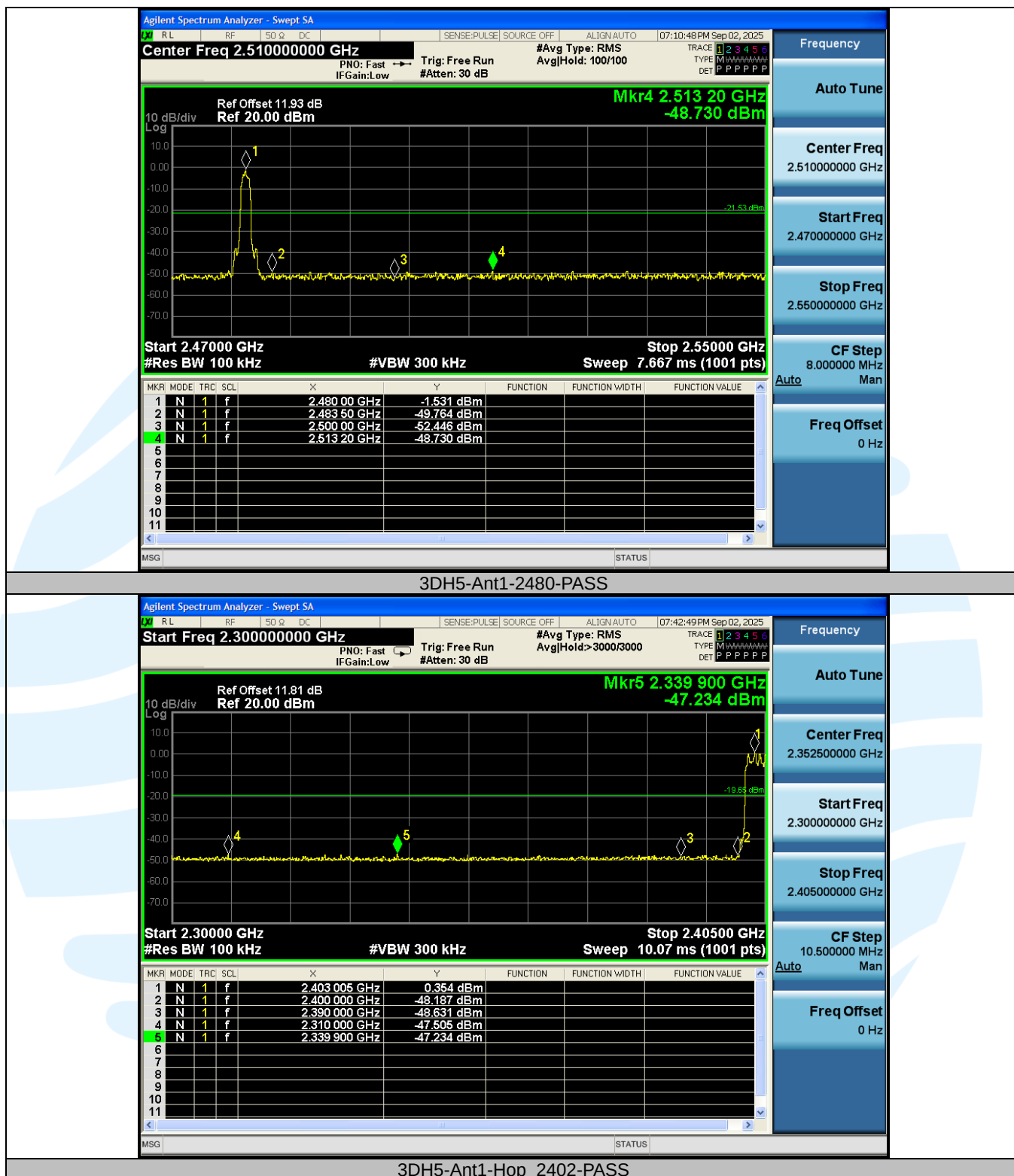


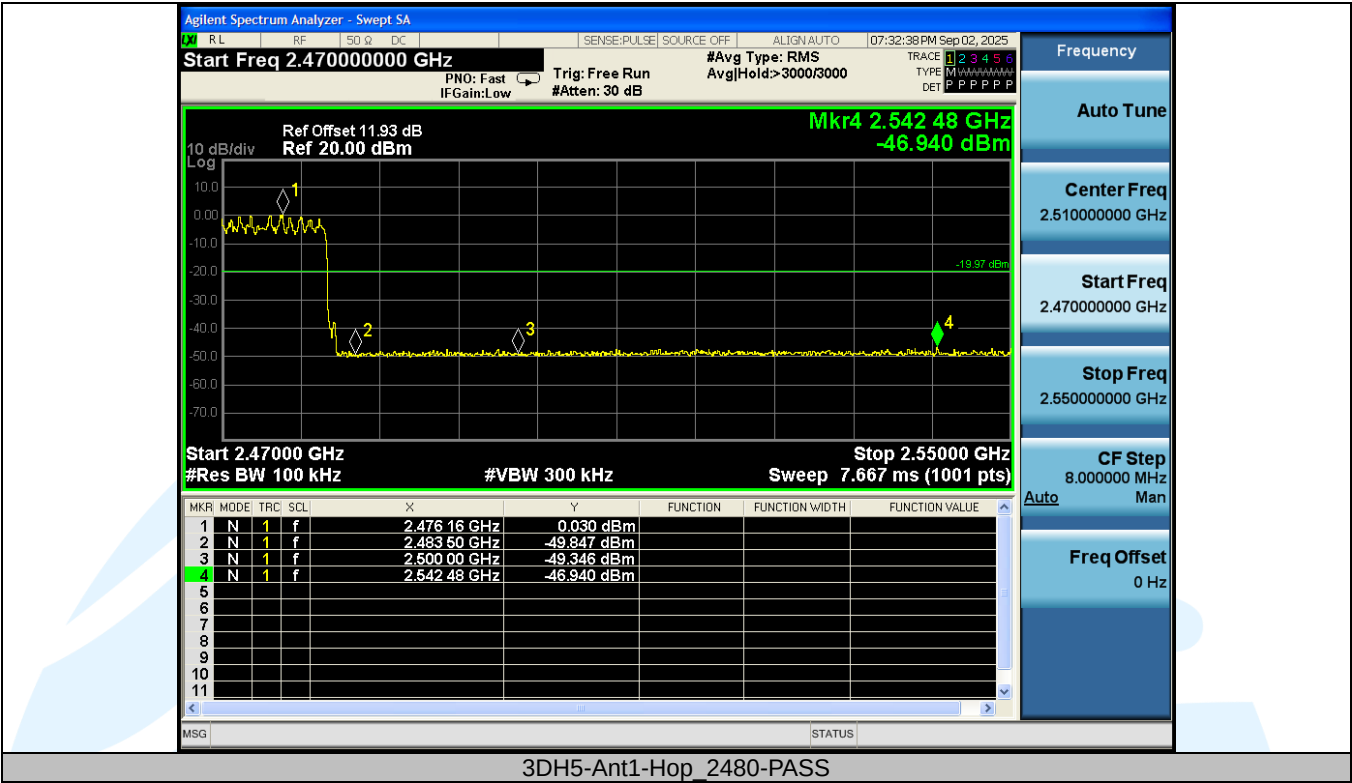


DH5-Ant1-Hop_2480-PASS



3DH5-Ant1-2402-PASS



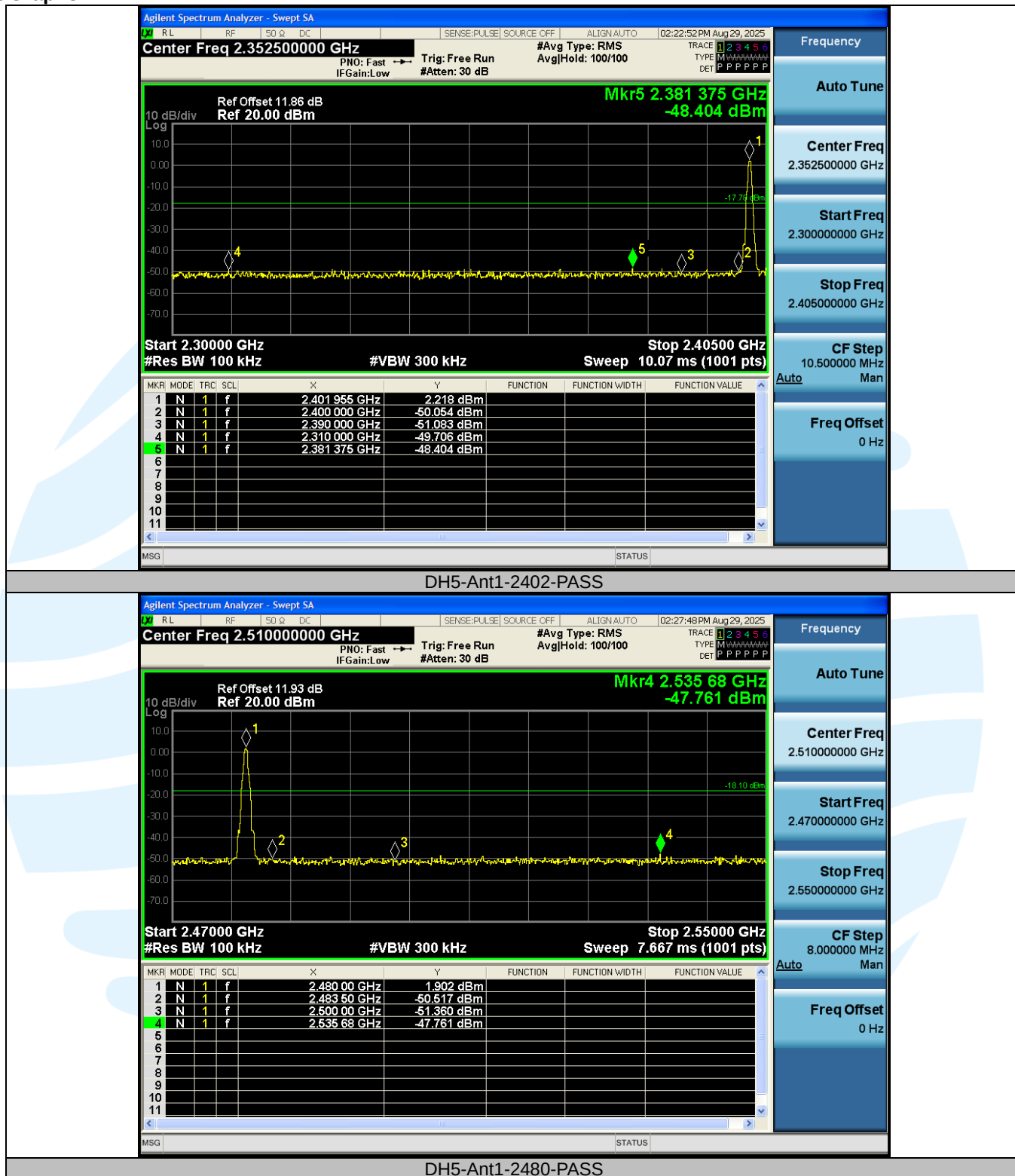


Right earbud

Test Result

Test Mode	Antenna	Ch Name	Frequency [MHz]	Ref Level [dBm]	Result [dBm]	Limit [dBm]	Verdict
DH5	Ant1	Low	2402	2.22	-48.4	≤-17.78	PASS
DH5	Ant1	High	2480	1.90	-47.76	≤-18.1	PASS
DH5	Ant1	Low	Hop_2402	2.25	-47.29	≤-17.75	PASS
DH5	Ant1	High	Hop_2480	1.75	-46.76	≤-18.25	PASS
3DH5	Ant1	Low	2402	1.79	-48.36	≤-18.21	PASS
3DH5	Ant1	High	2480	1.64	-41.77	≤-18.36	PASS
3DH5	Ant1	Low	Hop_2402	1.76	-46.88	≤-18.24	PASS
3DH5	Ant1	High	Hop_2480	1.62	-46.77	≤-18.38	PASS

Test Graphs



Shenzhen UnionTrust Quality and Technology Co., Ltd.

Address: 16/F, Block A, Building 6th, Baoneng Science and Technology Park, Longhua Street, Longhua District, Shenzhen, China

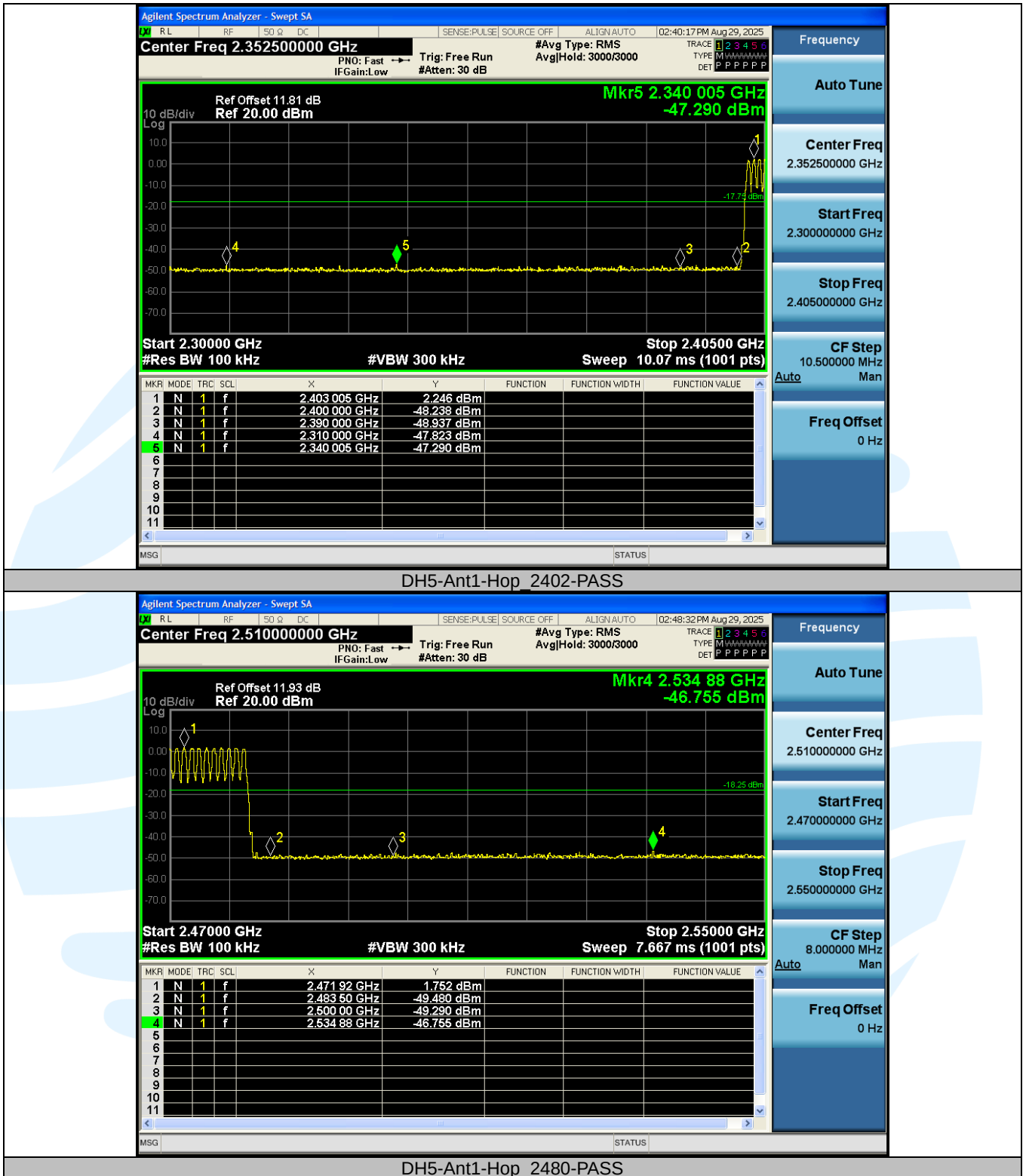
Tel: +86-755-28230888

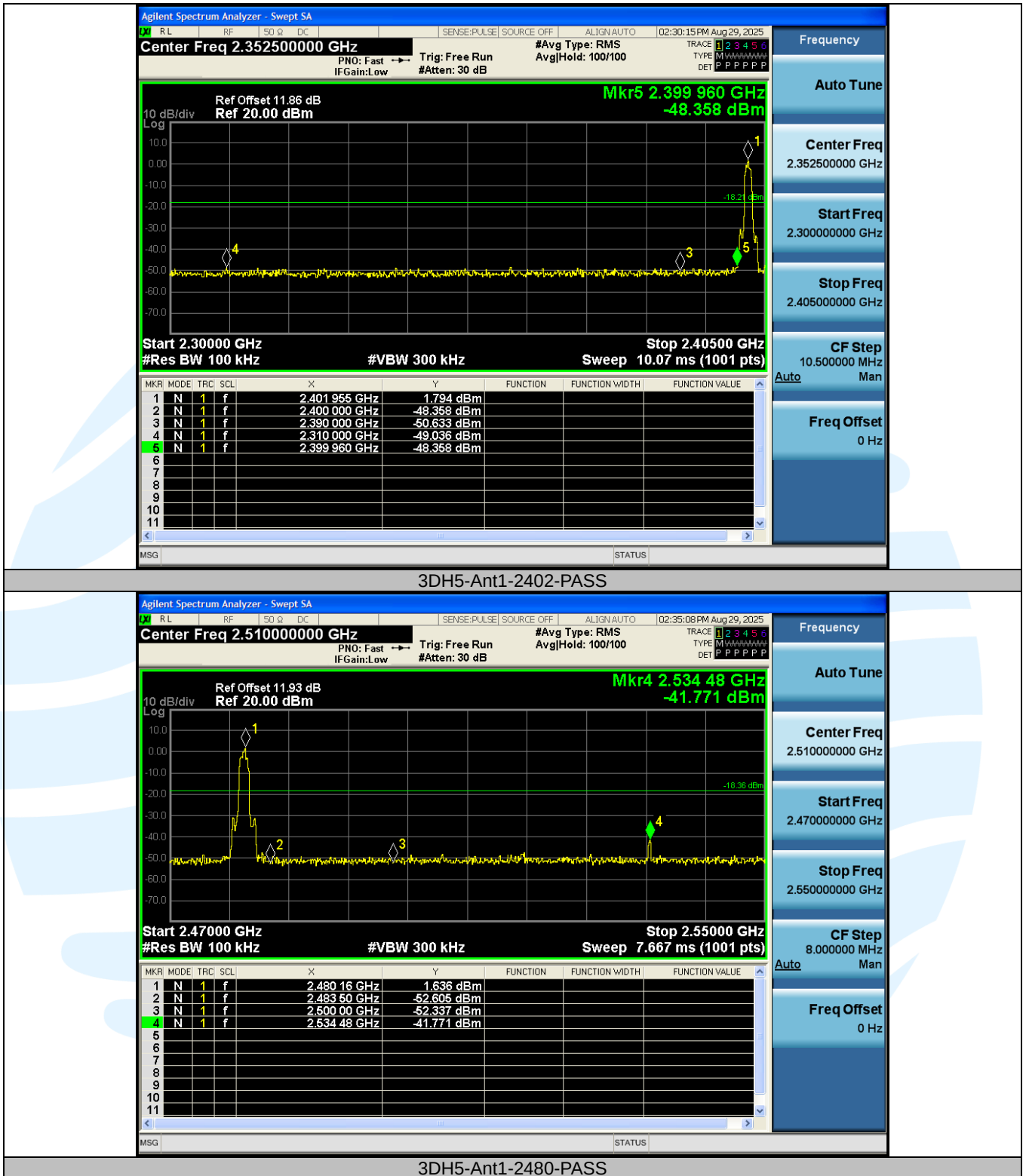
Fax: +86-755-28230886

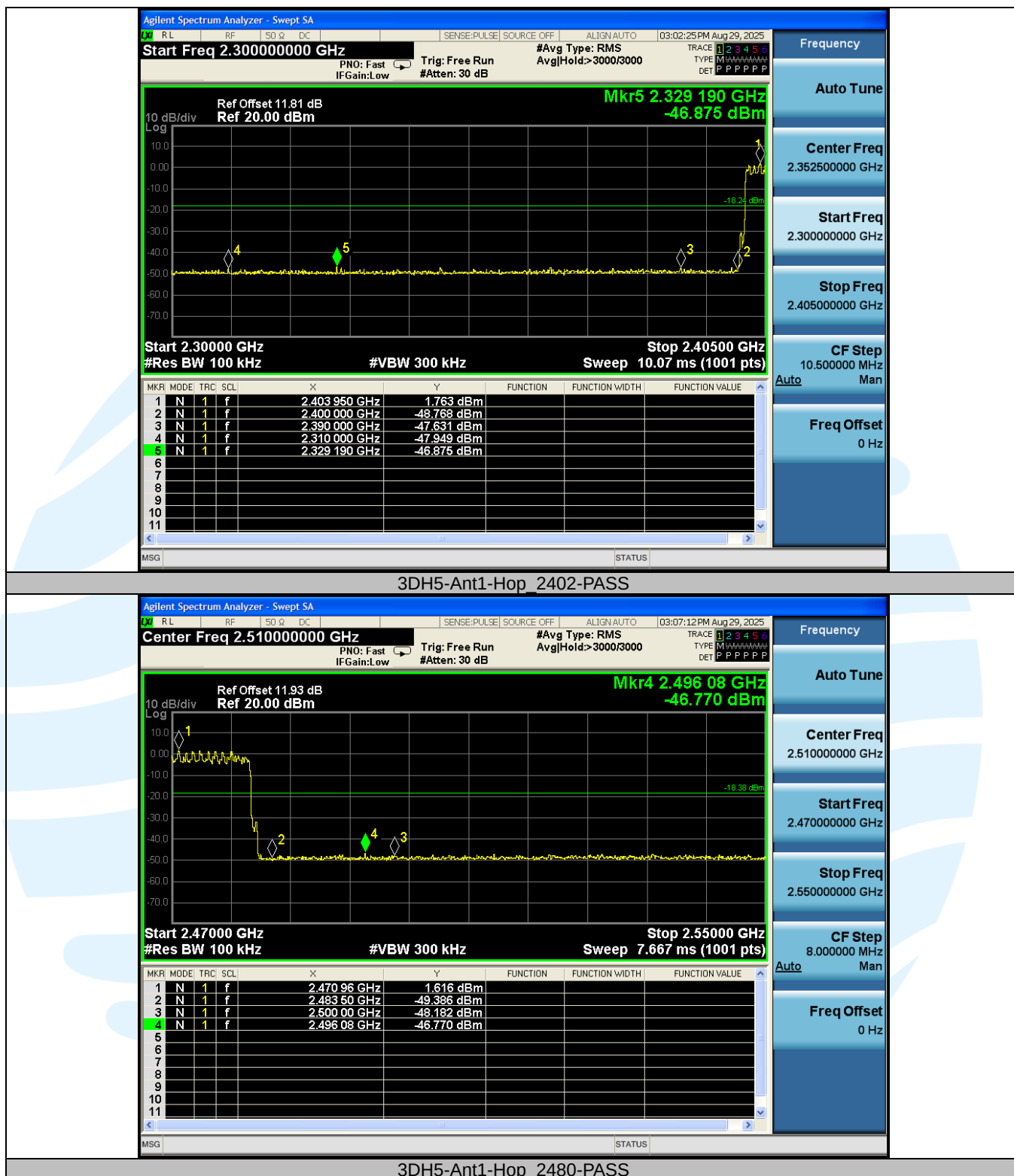
E-mail: info@uttlab.com

<http://www.uttlab.com>

UTTR-RF-RSS247-V1.1







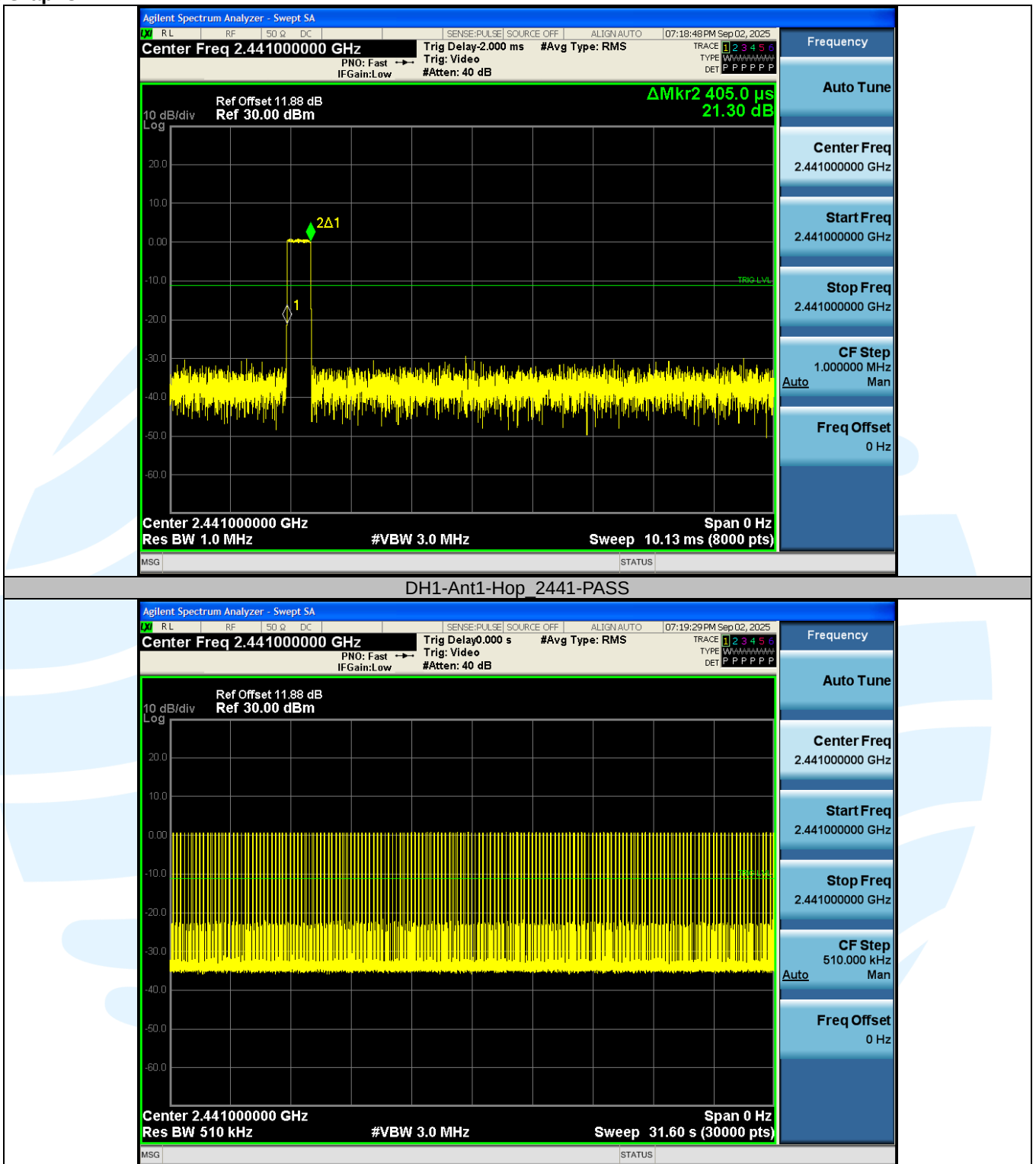
A.7 DWELL TIME

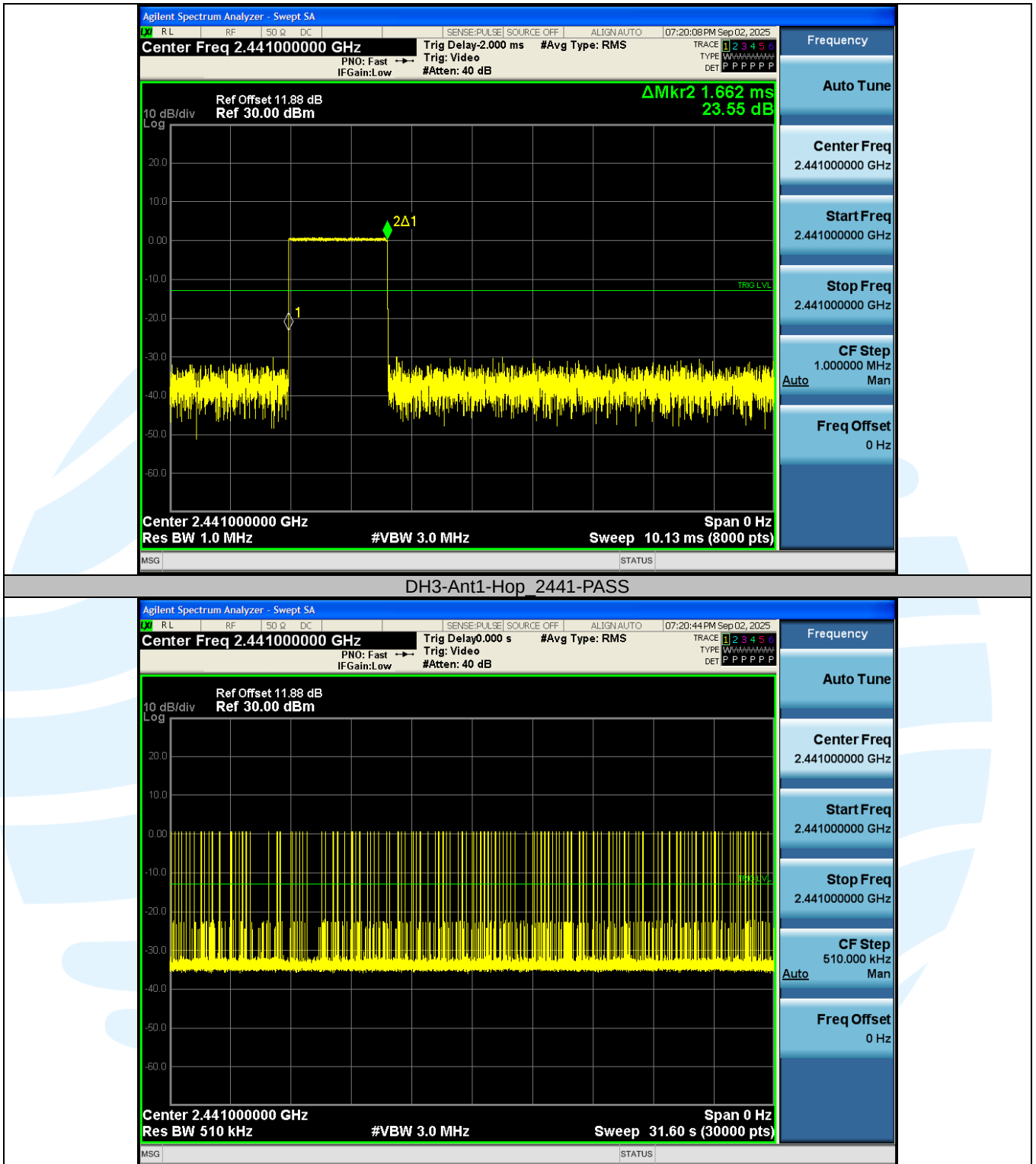
Left earbud

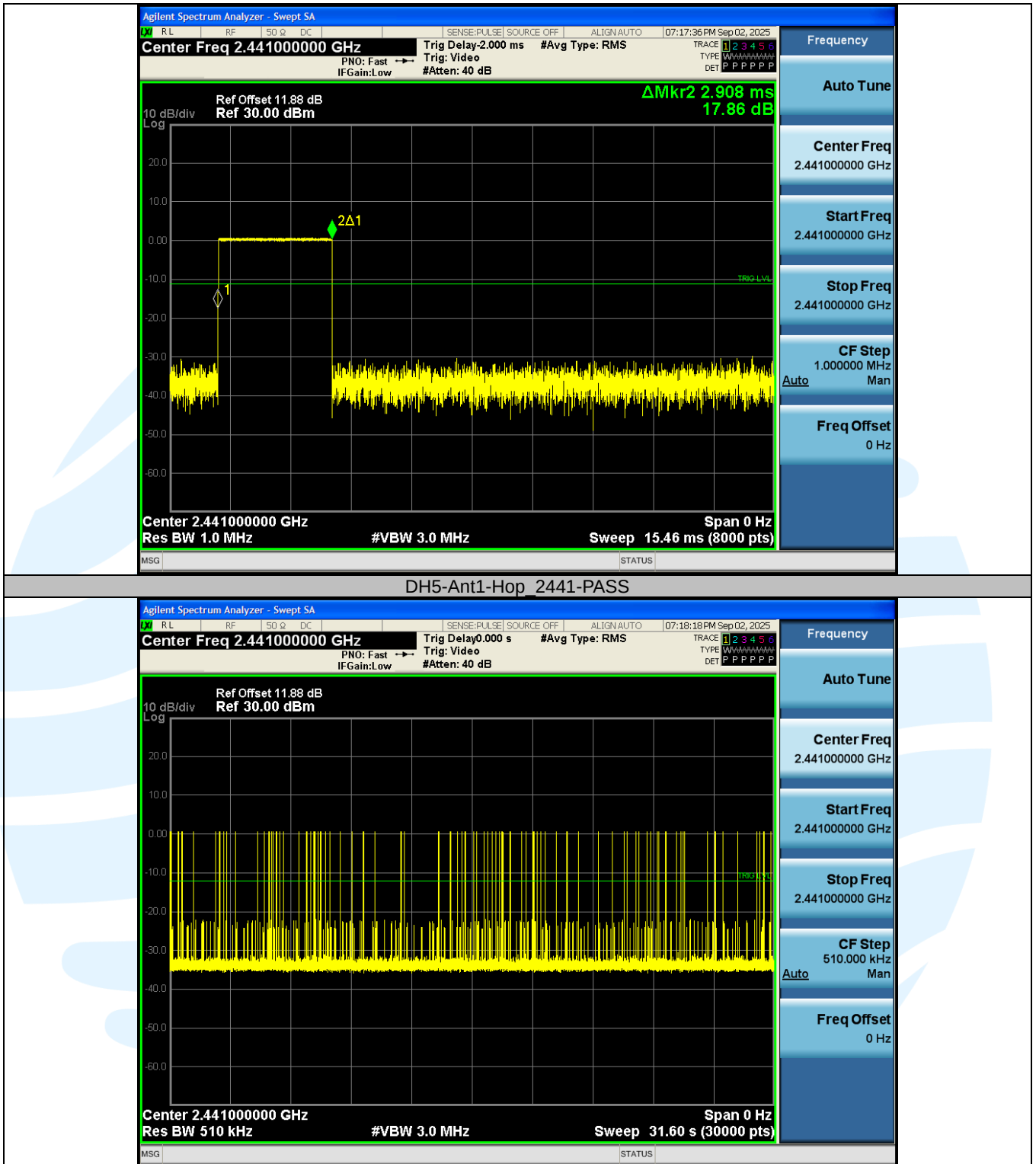
Test Result

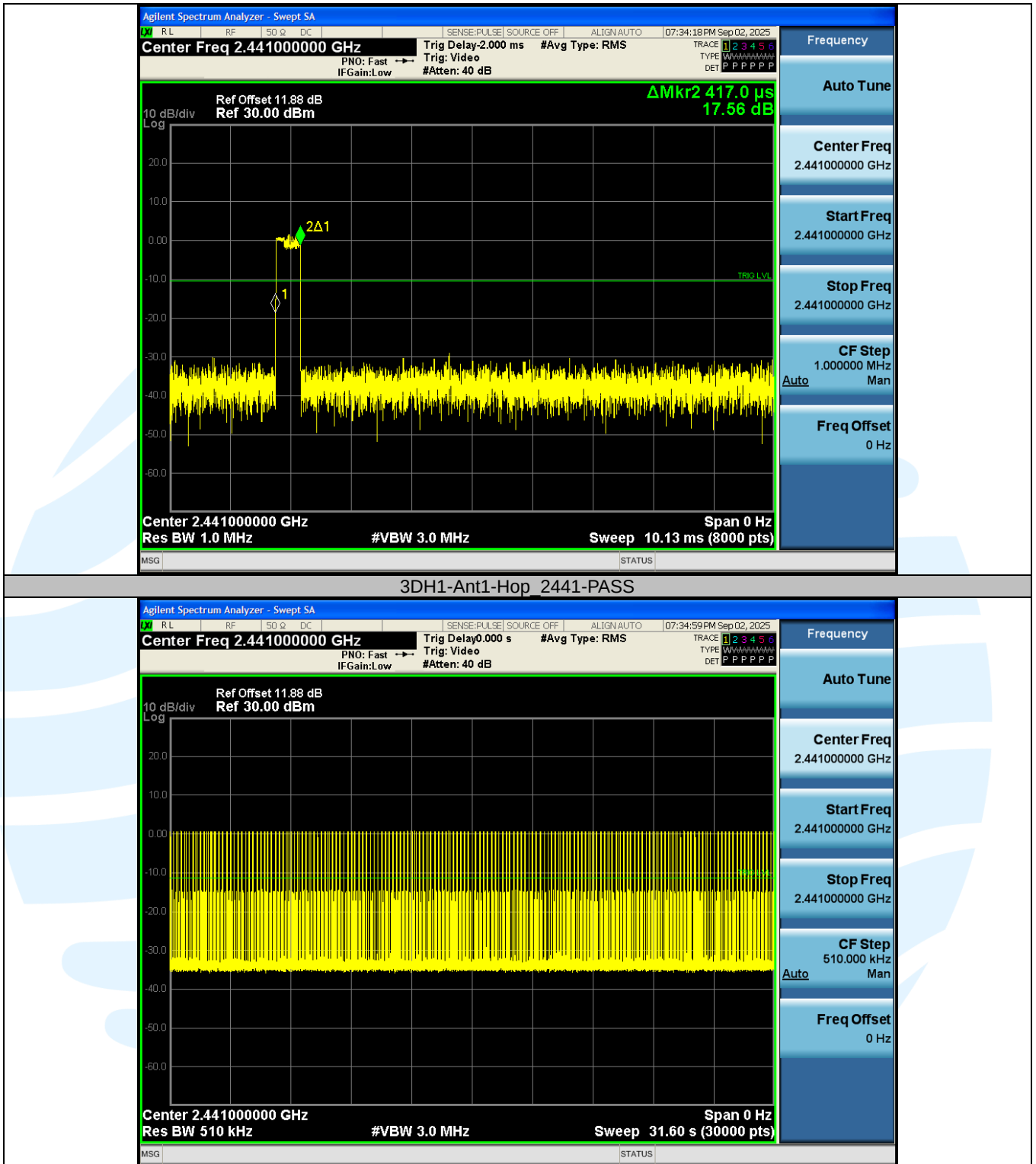
Test Mode	Antenna	Frequency [MHz]	Burst Width [ms]	Total Hops [Num]	Result [s]	Limit [s]	Verdict
DH1	Ant1	Hop 2441	0.405	318	0.129	≤0.4	PASS
DH3	Ant1	Hop 2441	1.662	163	0.271	≤0.4	PASS
DH5	Ant1	Hop 2441	2.908	95	0.276	≤0.4	PASS
3DH1	Ant1	Hop 2441	0.417	319	0.133	≤0.4	PASS
3DH3	Ant1	Hop 2441	1.667	162	0.27	≤0.4	PASS
3DH5	Ant1	Hop 2441	2.918	101	0.295	≤0.4	PASS

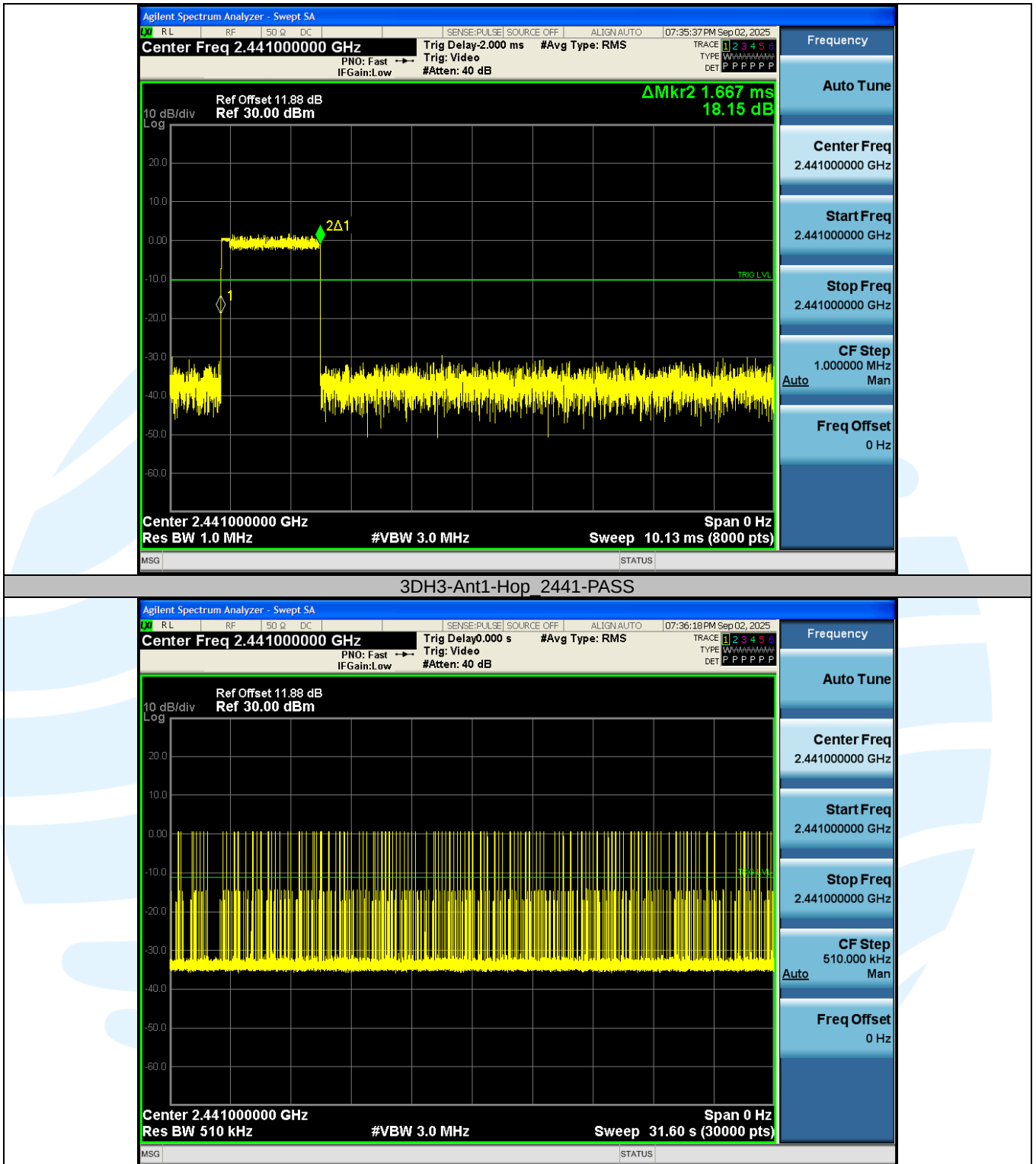
Test Graphs

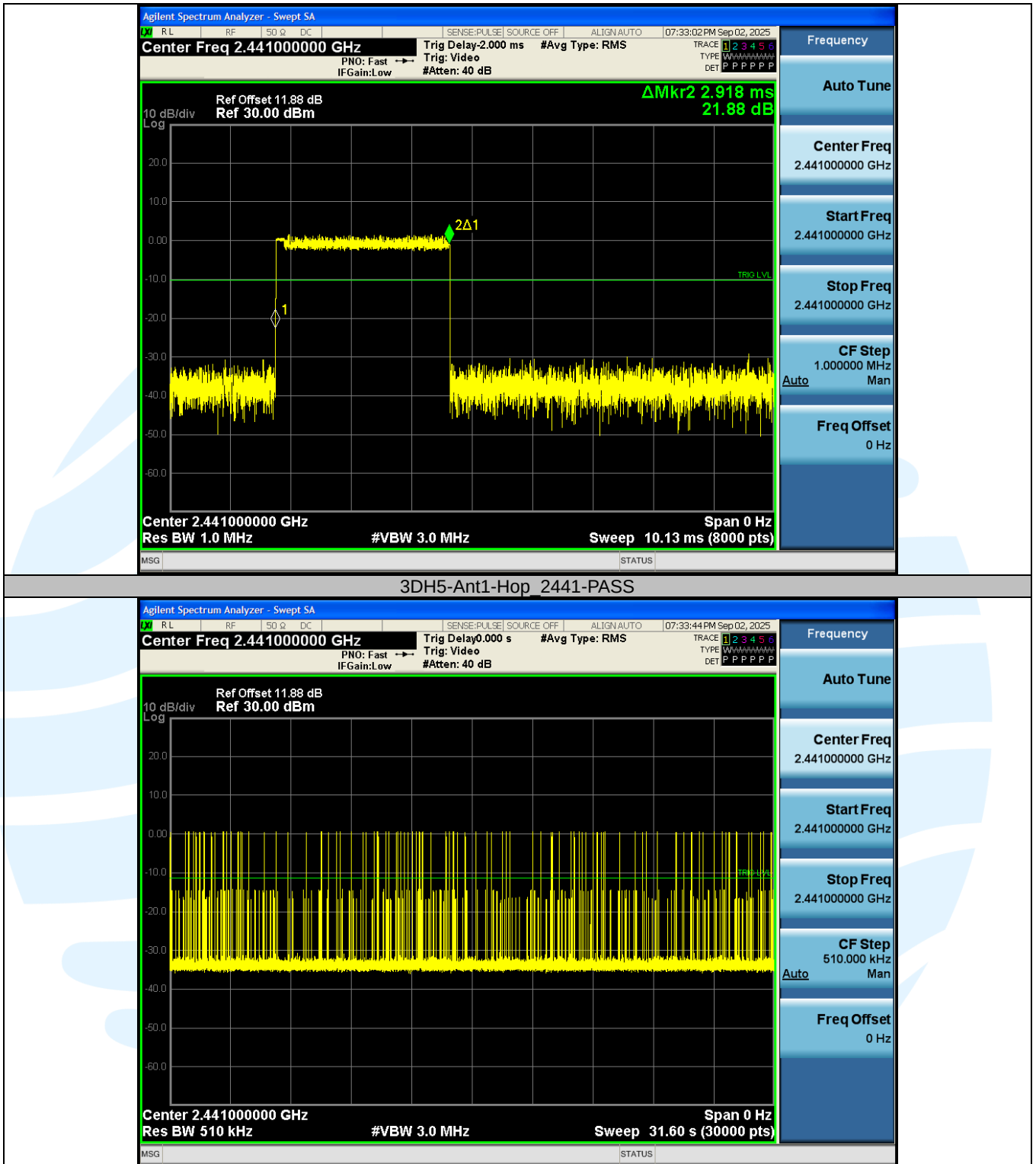










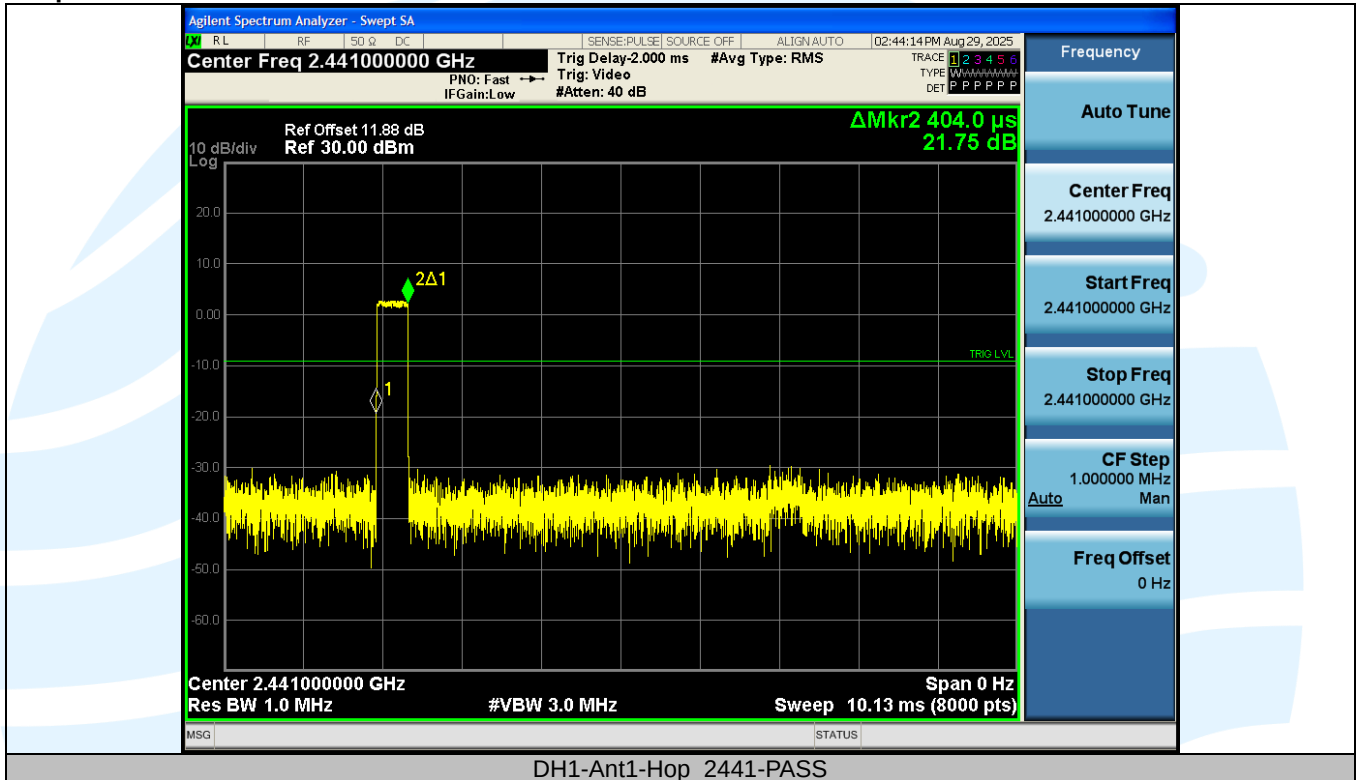


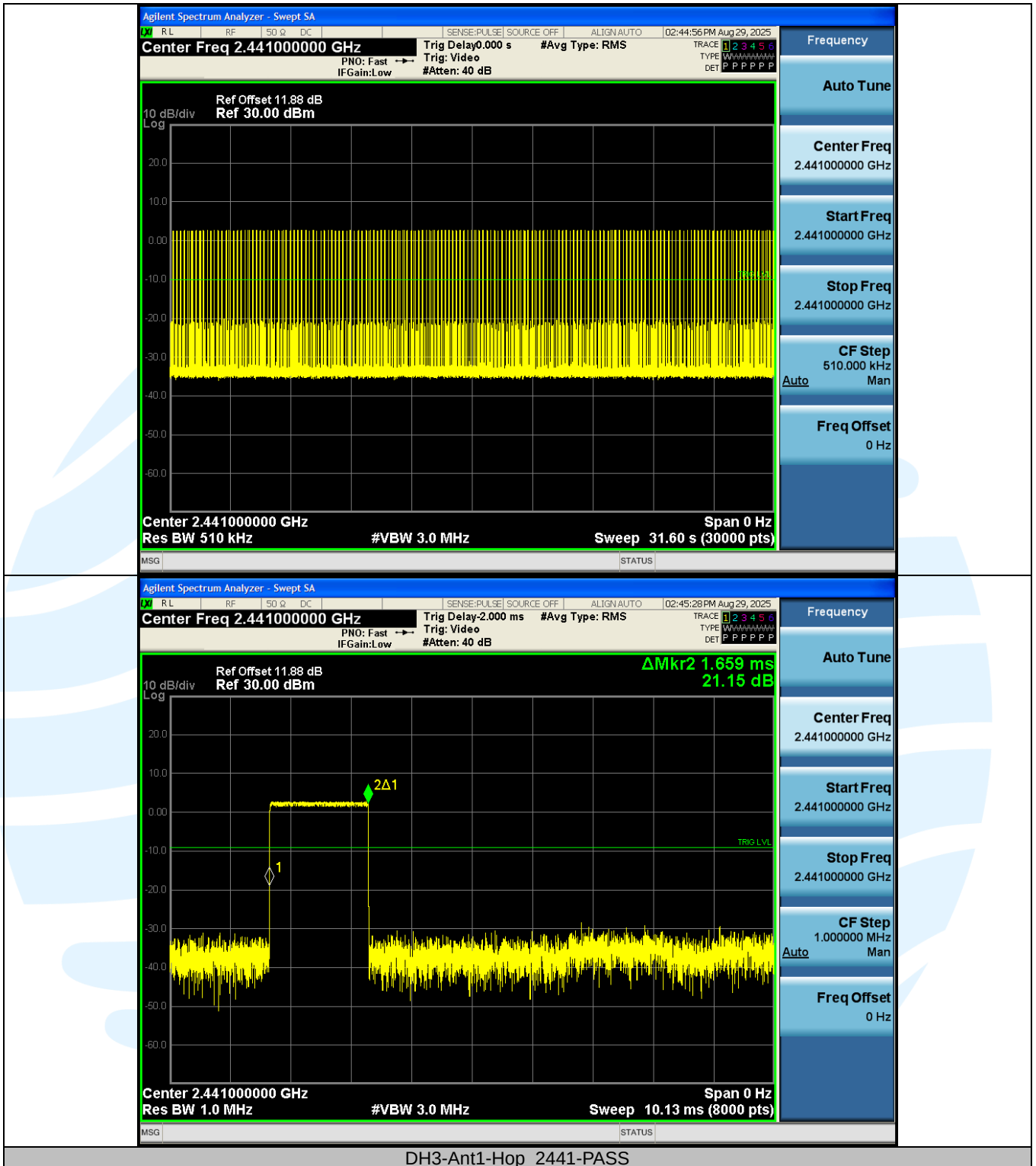
Right earbud

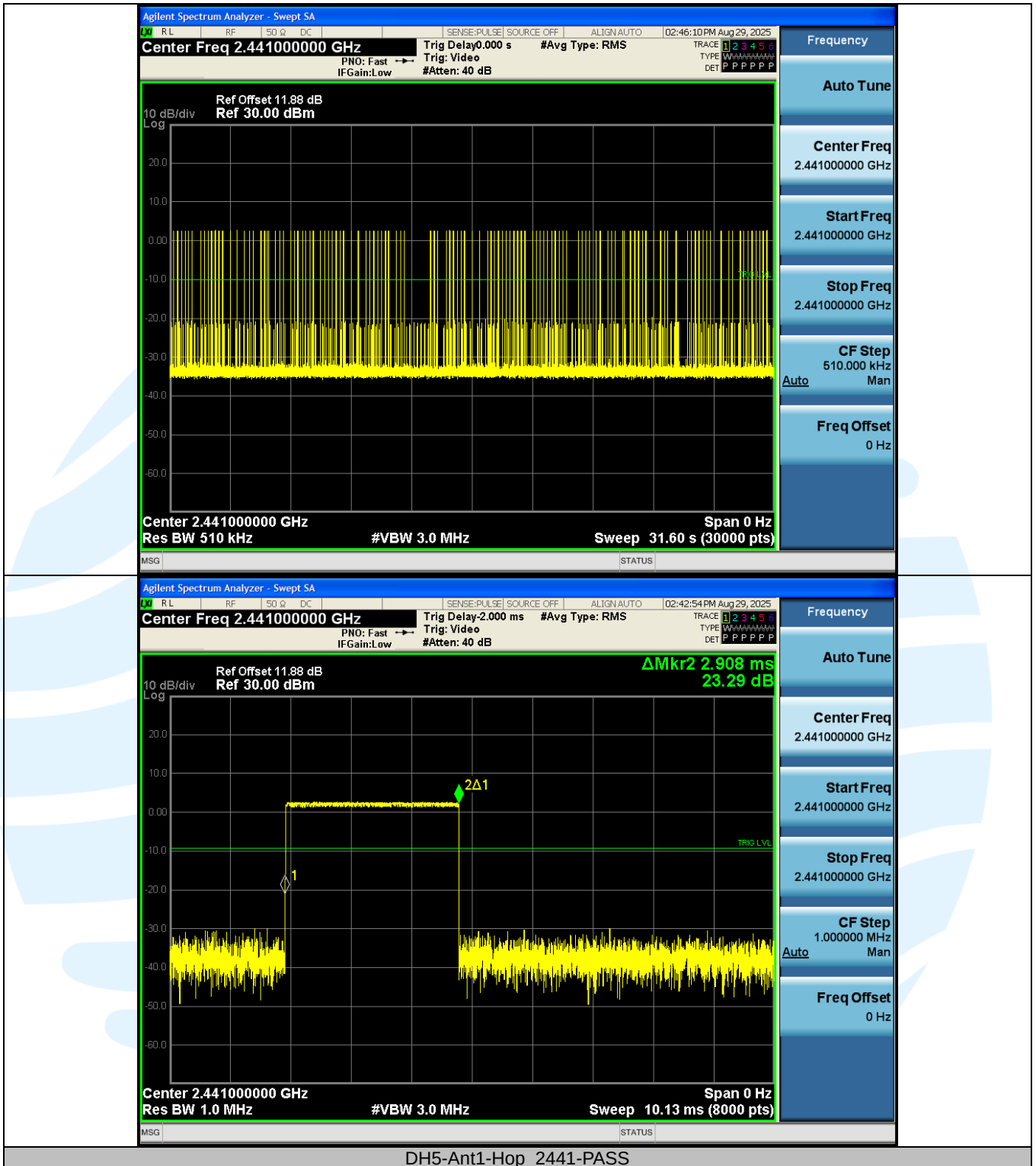
Test Result

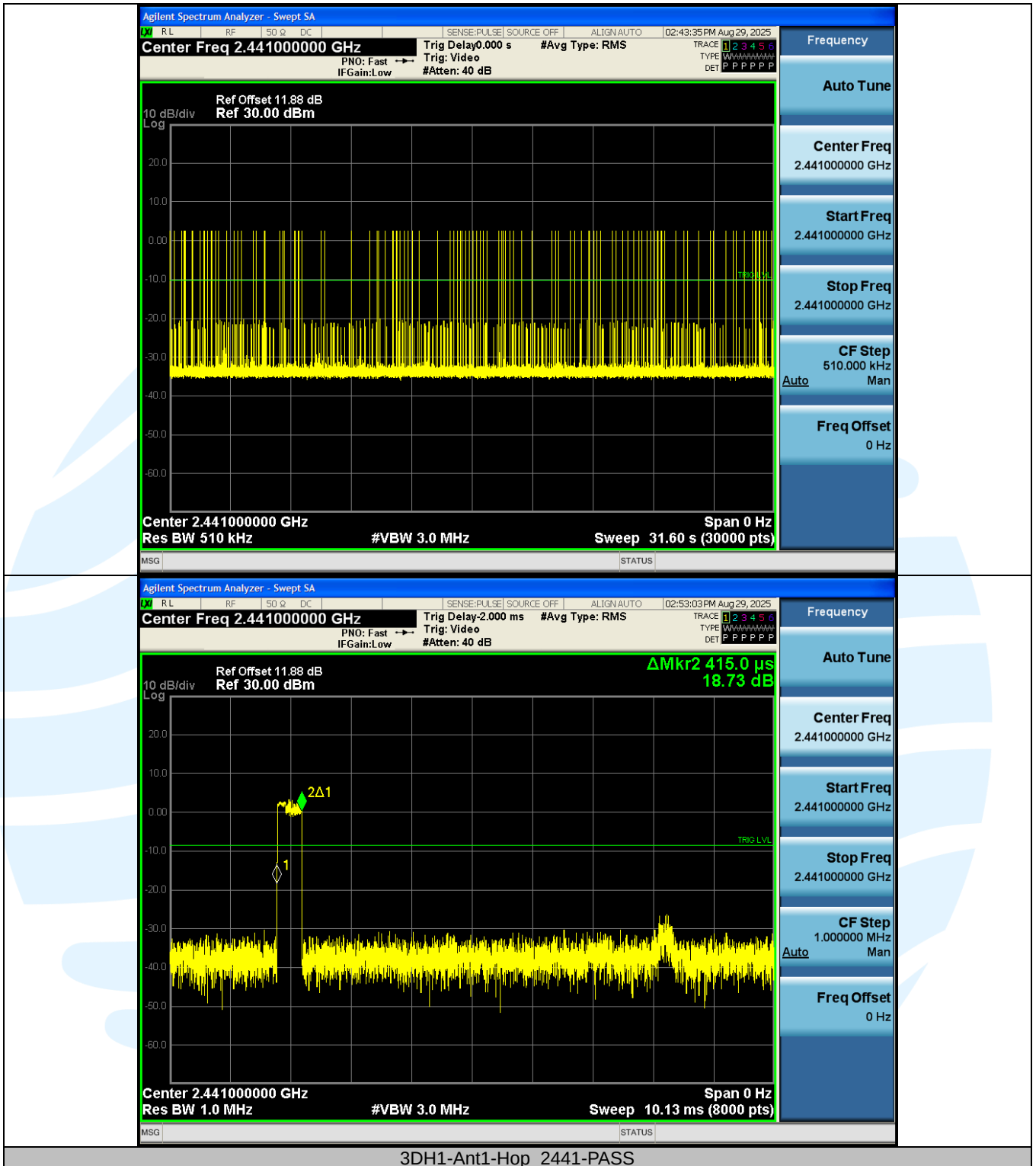
Test Mode	Antenna	Frequency [MHz]	Burst Width [ms]	Total IHops [Num]	Result [s]	Limit [s]	Verdict
DH1	Ant1	Hop_2441	0.404	316	0.128	≤0.4	PASS
DH3	Ant1	Hop_2441	1.659	163	0.27	≤0.4	PASS
DH5	Ant1	Hop_2441	2.908	111	0.323	≤0.4	PASS
3DH1	Ant1	Hop_2441	0.415	315	0.131	≤0.4	PASS
3DH3	Ant1	Hop_2441	1.667	151	0.252	≤0.4	PASS
3DH5	Ant1	Hop_2441	2.917	101	0.295	≤0.4	PASS

Test Graphs

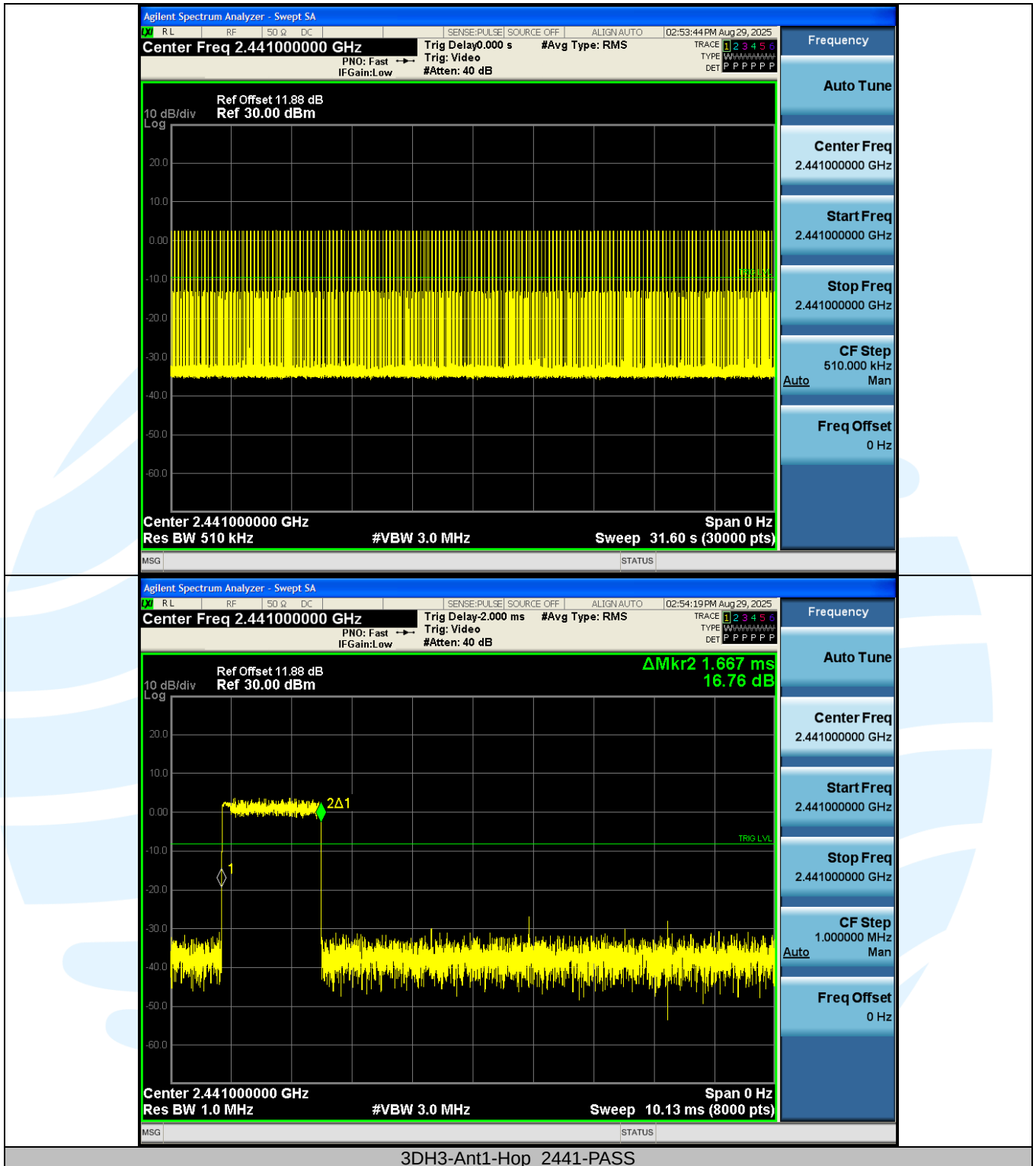


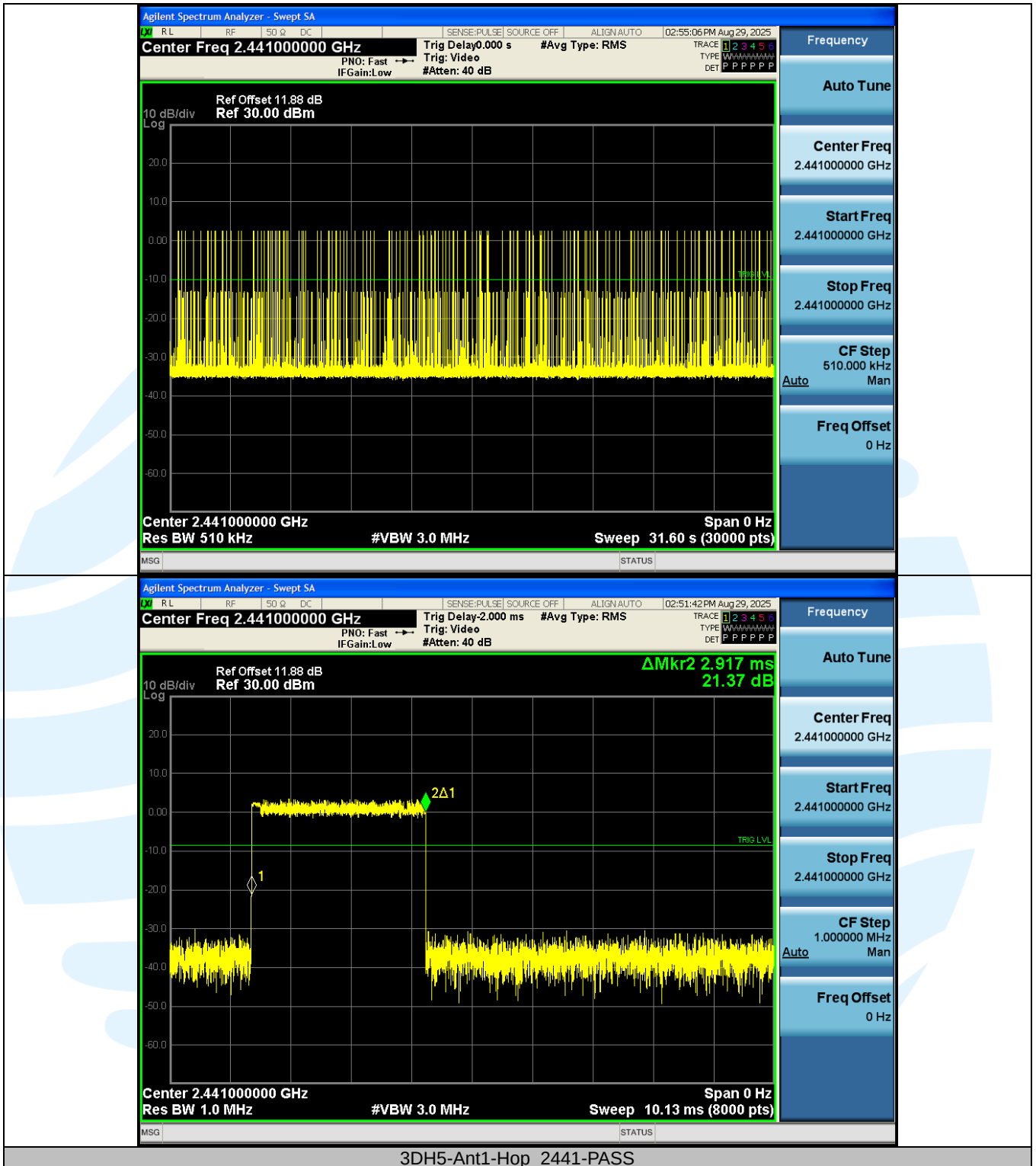


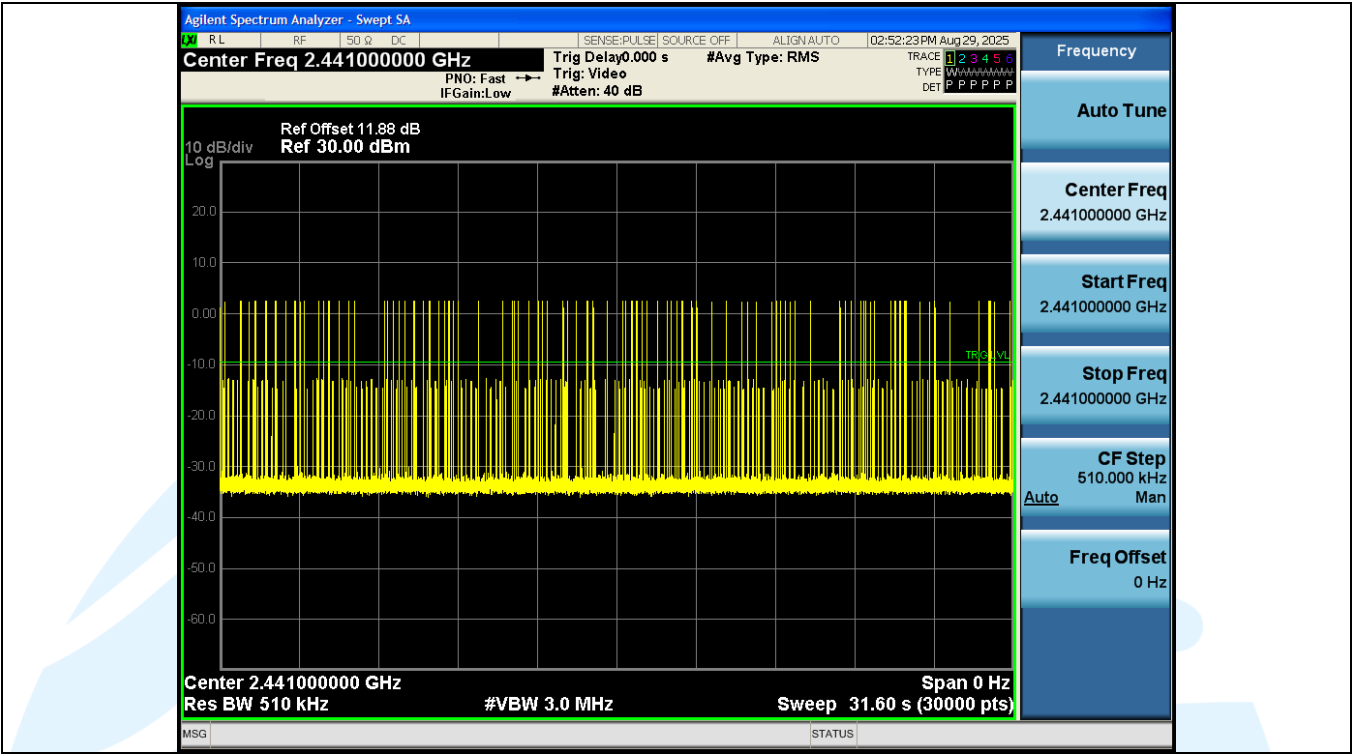




3DH1-Ant1-Hop_2441-PASS







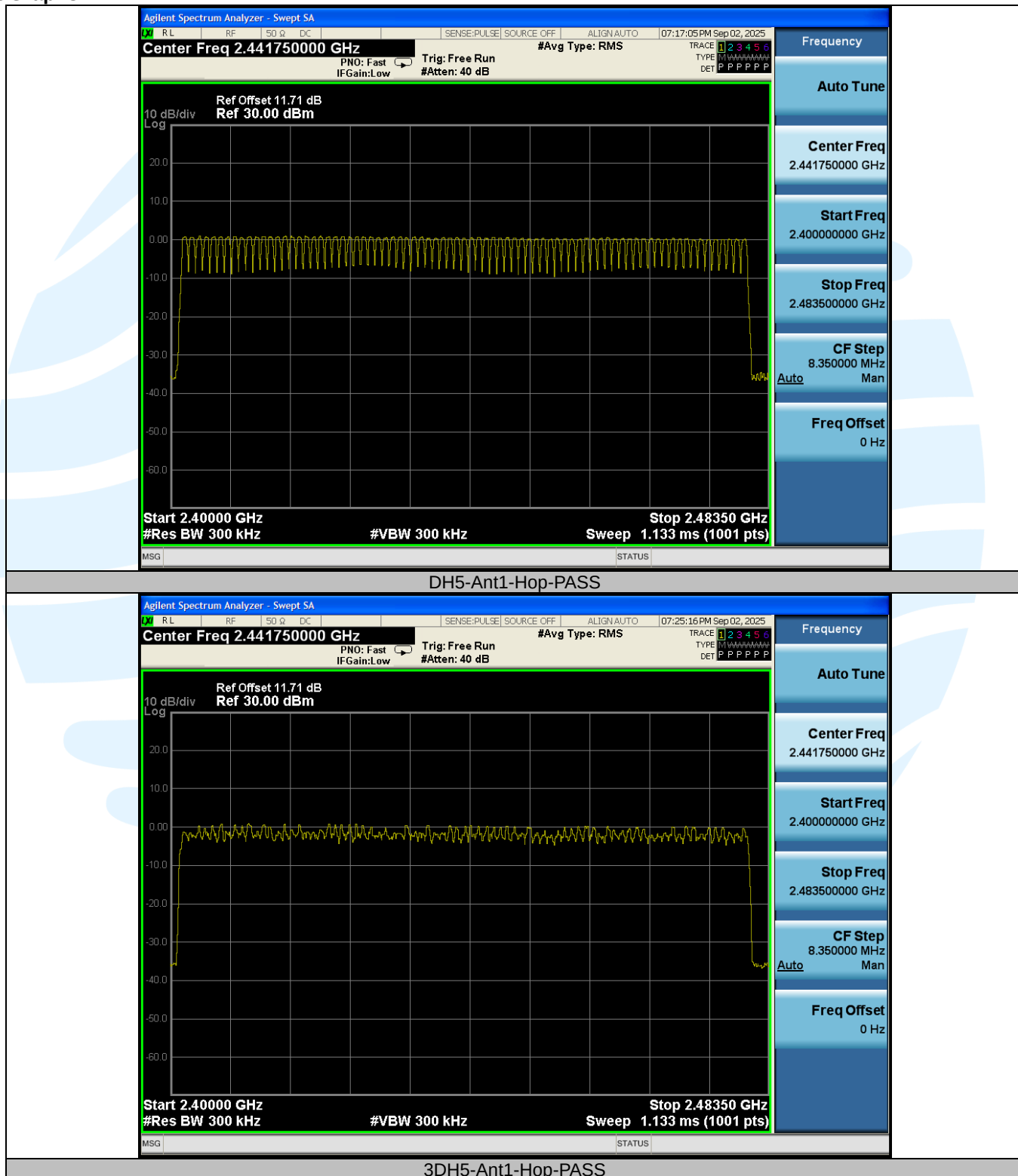
A.8 NUMBER OF HOPPING CHANNEL

Left earbud

Test Result

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

Test Graphs

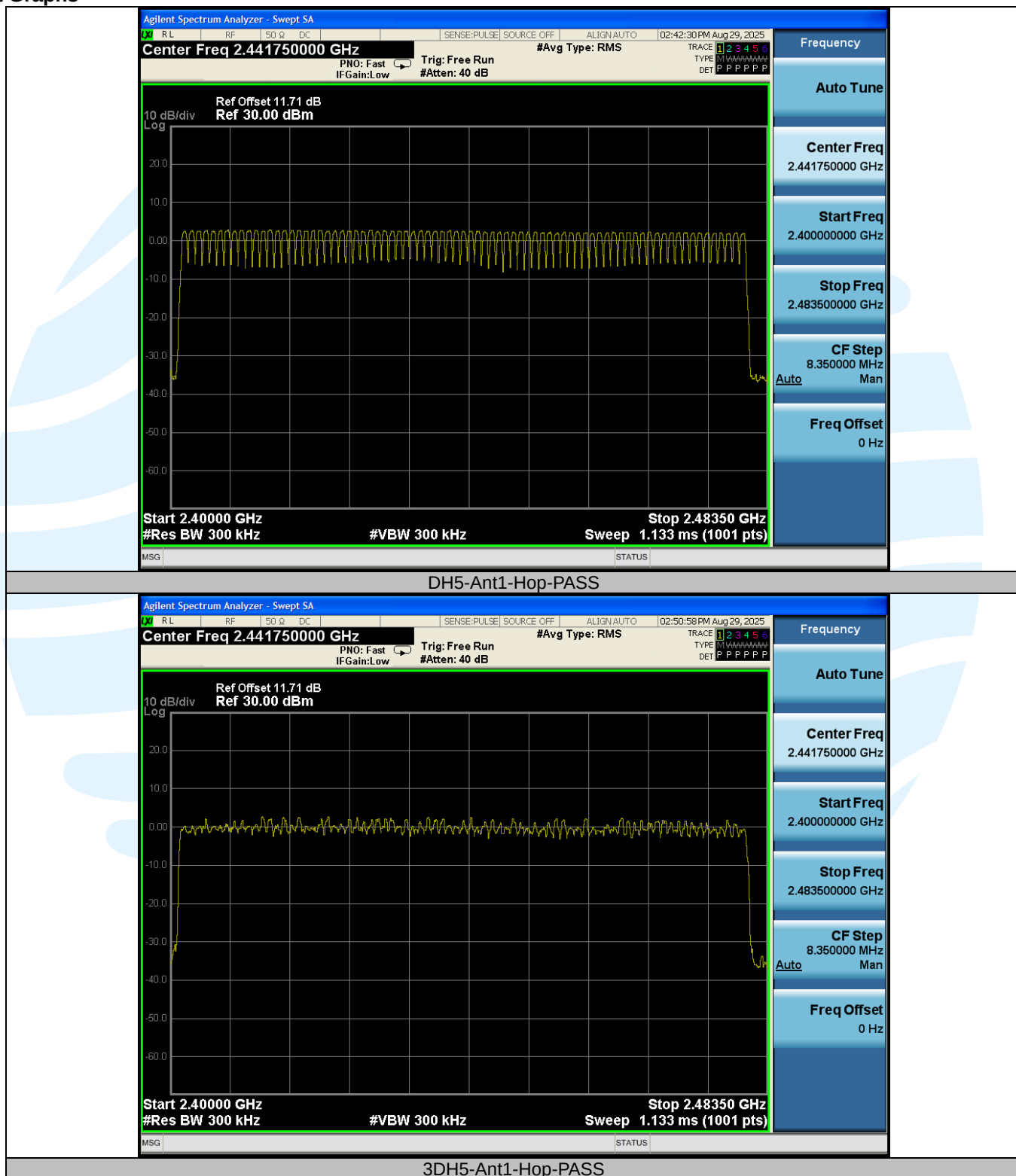


Right earbud

Test Result

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

Test Graphs



APPENDIX 1 PHOTOS OF TEST SETUP

See test photos attached in Appendix 1 for the actual connections between Product and support equipment.

APPENDIX 2 PHOTOS OF EUT CONSTRUCTIONAL DETAILS

Refer to Appendix 2 for EUT external and internal photos.

*** End of Report ***

The test report is effective only with both signature and specialized stamp. The result(s) shown in this report refer only to the sample(s) tested. Without written approval of UnionTrust, this report can't be reproduced except in full.
