

CFR 47 FCC PART 15 SUBPART C

TEST REPORT

For

Smart Projector

MODEL NUMBER: HY300

REPORT NUMBER: E01A23070868F00304

ISSUE DATE: August 31, 2023

FCC ID:2BCAX-T08

Prepared for

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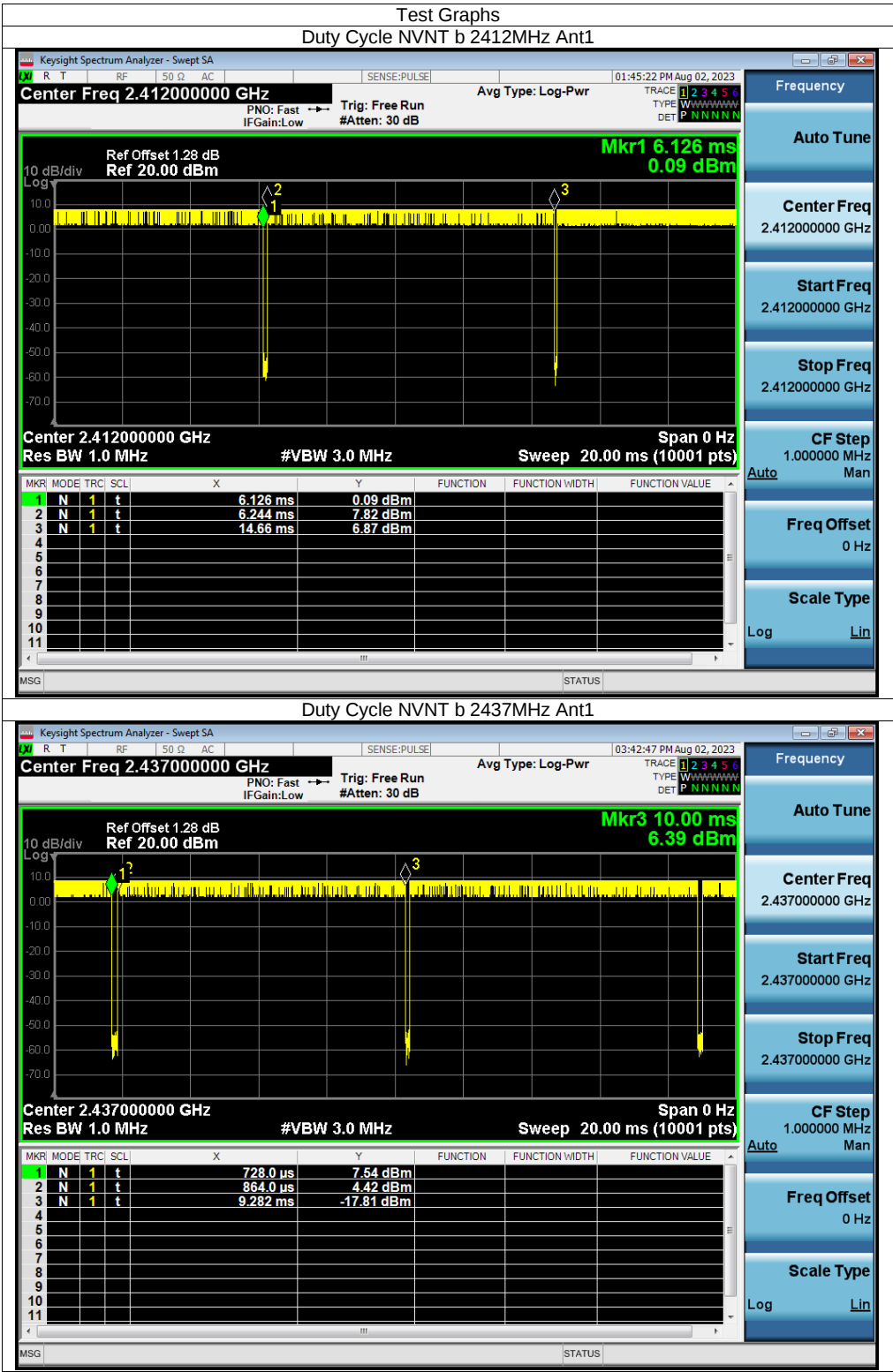
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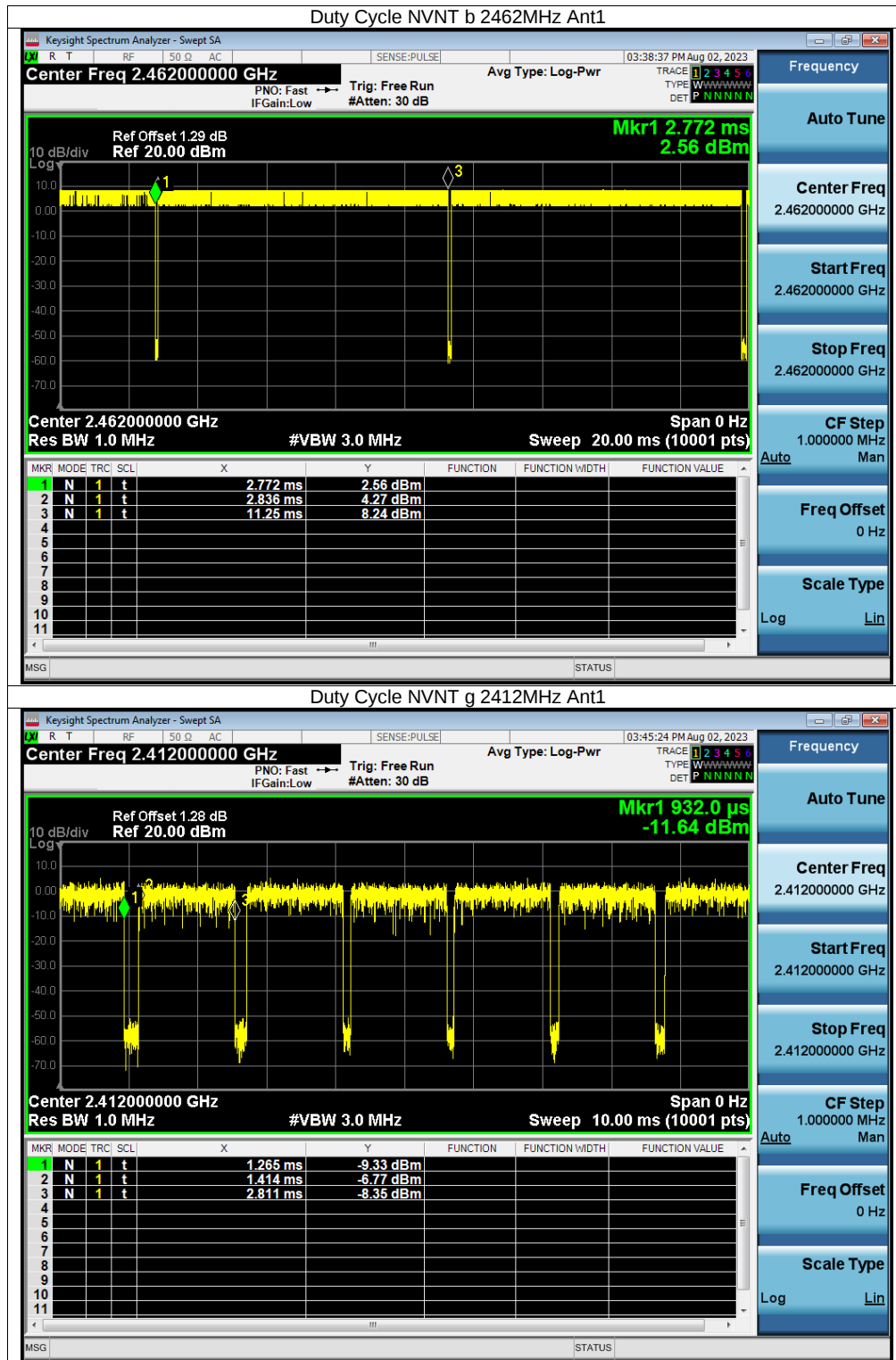
Revision History

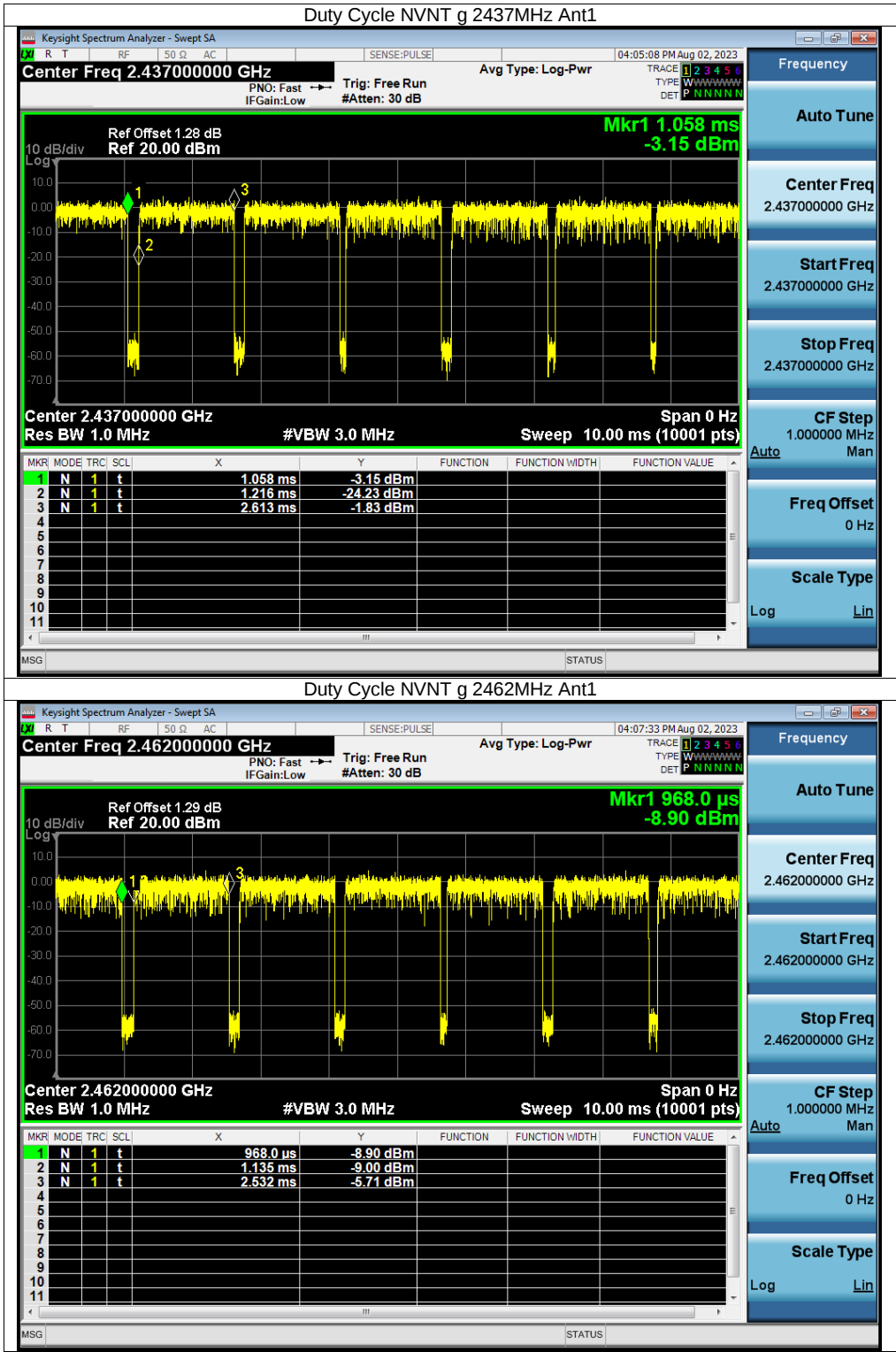
Rev.	Issue Date	Revisions	Revised By
V0	August 31, 2023	Initial Issue	Poal Chen

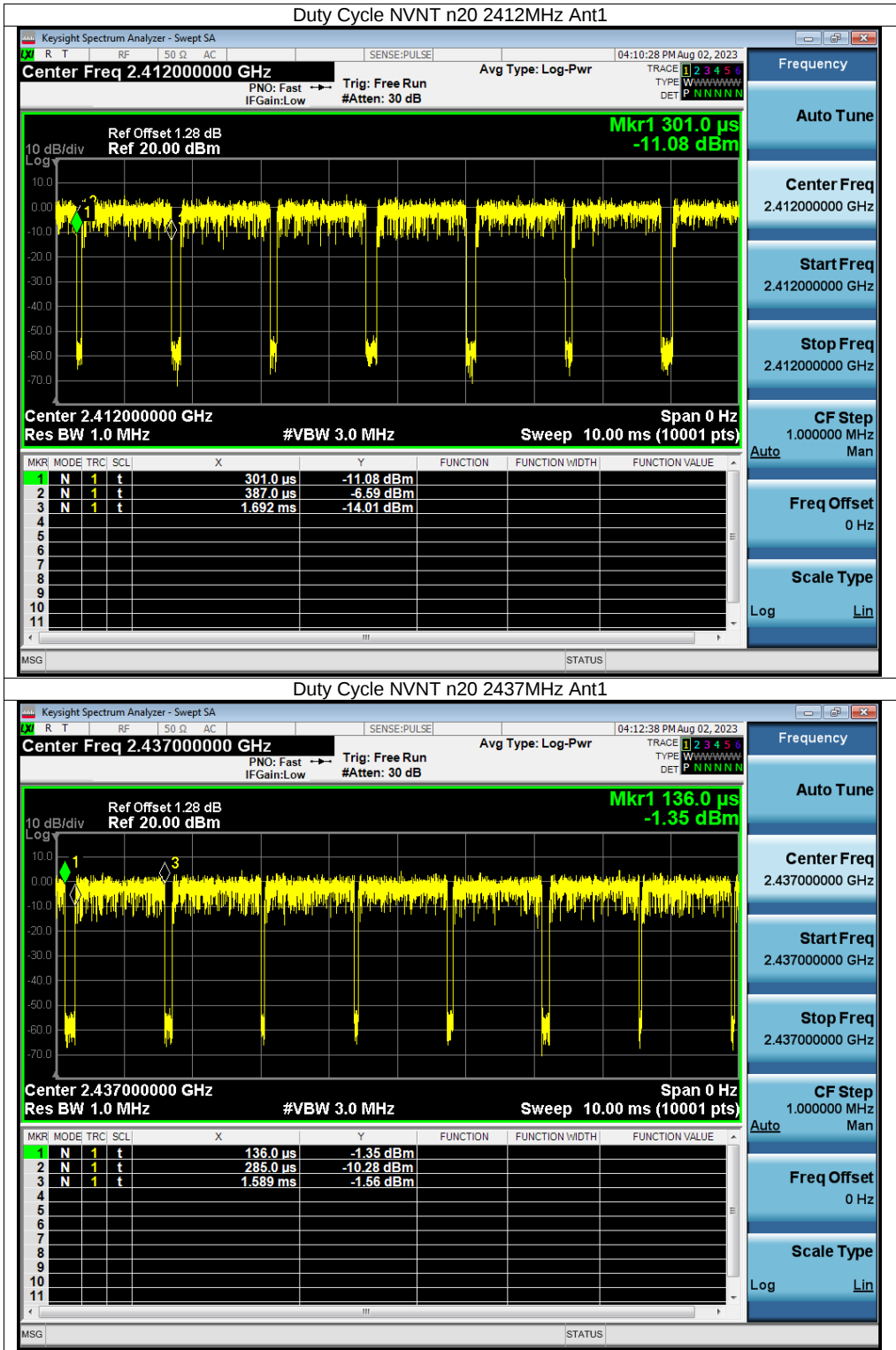
Appendix A Duty Cycle

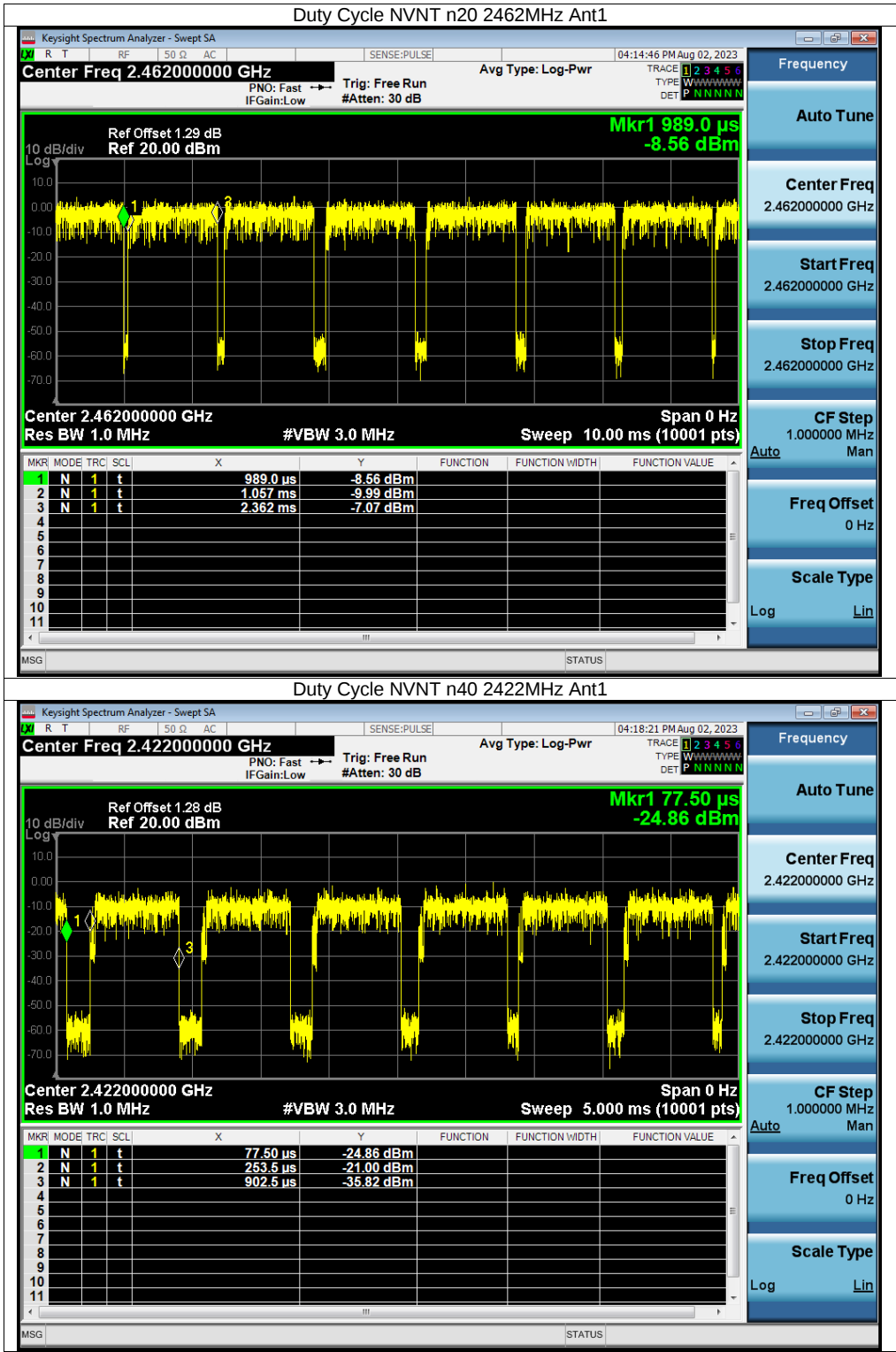
Condition	Mode	Frequency (MHz)	Antenna	Duty Cycle (%)	Correction Factor (dB)	1/T (kHz)
NVNT	b	2412	Ant1	98.62	0.07	0.12
NVNT	b	2437	Ant1	97.86	0.09	0.12
NVNT	b	2462	Ant1	99.25	0.05	0.12
NVNT	g	2412	Ant1	87.09	0.6	0.72
NVNT	g	2437	Ant1	89.84	0.47	0.72
NVNT	g	2462	Ant1	89.32	0.49	0.72
NVNT	n20	2412	Ant1	93.82	0.28	0.77
NVNT	n20	2437	Ant1	89.75	0.47	0.77
NVNT	n20	2462	Ant1	95.05	0.22	0.77
NVNT	n40	2422	Ant1	78.67	1.04	1.54
NVNT	n40	2437	Ant1	75.86	1.2	1.54
NVNT	n40	2452	Ant1	94.06	0.27	1.54
NVNT	ax20	2412	Ant1	92.89	0.32	0.99
NVNT	ax20	2437	Ant1	96.08	0.17	0.99
NVNT	ax20	2462	Ant1	84.82	0.72	0.99
NVNT	ax40	2422	Ant1	92.91	0.32	1.88
NVNT	ax40	2437	Ant1	76.07	1.19	1.88
NVNT	ax40	2452	Ant1	83.69	0.77	1.88











Duty Cycle NVNT n40 2422MHz Ant1

Keysight Spectrum Analyzer - Swept SA

Center Freq 2.422000000 GHz

Trig: Free Run

Avg Type: Log-Pwr

04:18:21 PM Aug 02, 2023

10 dB/div

Log

Ref Offset 1.28 dB

Ref 20.00 dBm

Mkr1 77.50 μ s

-24.86 dBm

Center 2.422000000 GHz

Res BW 1.0 MHz

#VBW 3.0 MHz

Sweep 5.000 ms (10001 pts)

Span 0 Hz

MKR	MODE	TRC	SCL	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE
1	N	1	t	77.50 μ s	-24.86 dBm			
2	N	1	t	253.5 μ s	-21.00 dBm			
3	N	1	t	902.5 μ s	-35.82 dBm			
4								
5								
6								
7								
8								
9								
10								
11								

MSG

STATUS

Frequency

Auto Tune

Center Freq
2.422000000 GHz

Start Freq
2.422000000 GHz

Stop Freq
2.422000000 GHz

CF Step
1.000000 MHz

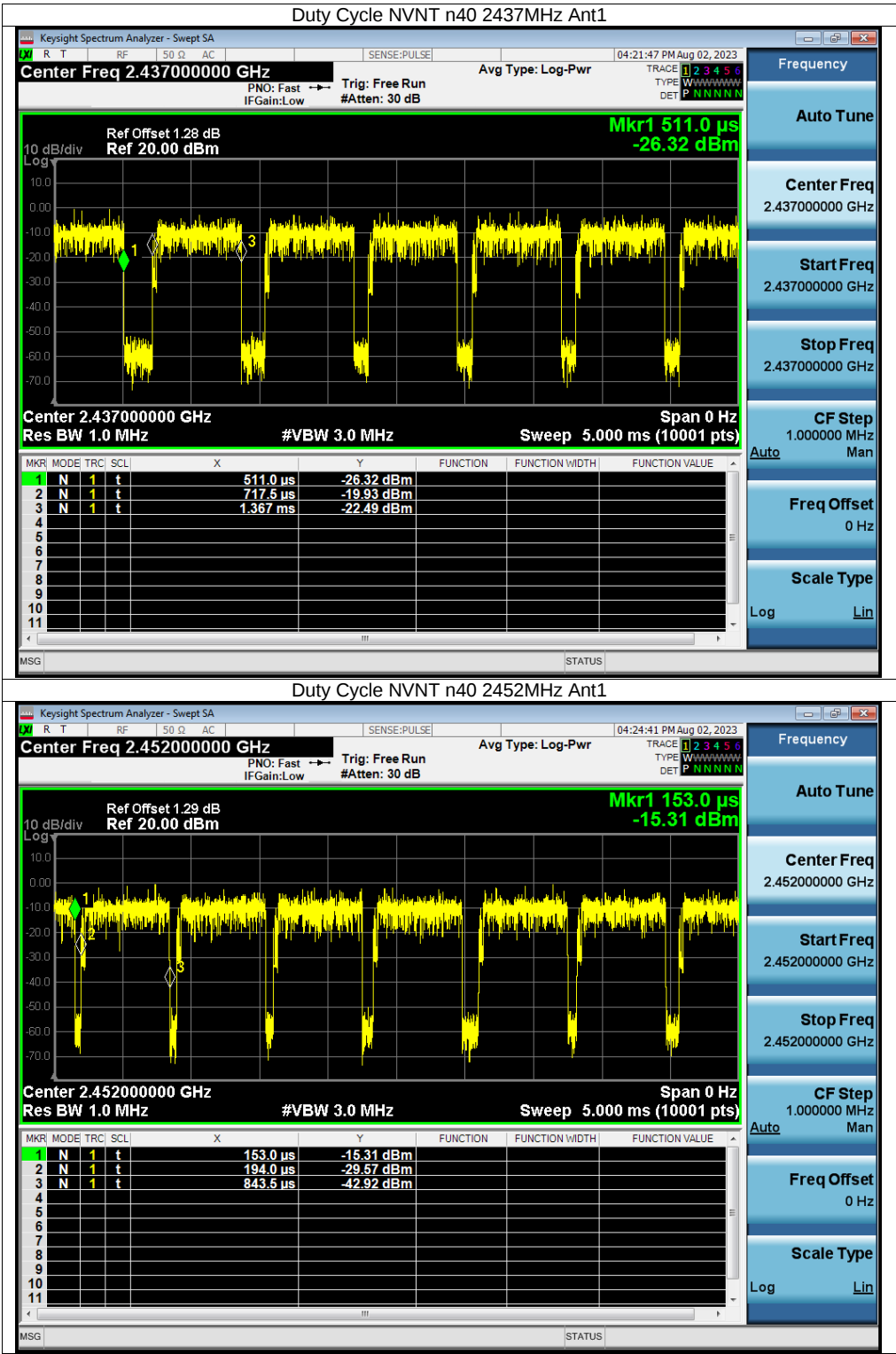
Auto

Man

Freq Offset
0 Hz

Scale Type
Log

Lin



Duty Cycle NVNT n40 2452MHz Ant1

Keysight Spectrum Analyzer - Swept SA

Center Freq 2.452000000 GHz

Trig: Free Run

Avg Type: Log-Pwr

04:24:41 PM Aug 02, 2023

10 dB/div

Log

Ref Offset 1.29 dB

Ref 20.00 dBm

Mkr1 153.0 μ s

-15.31 dBm

Center 2.452000000 GHz

Res BW 1.0 MHz

#VBW 3.0 MHz

Sweep 5.000 ms (10001 pts)

Span 0 Hz

MKR	MODE	TRC	SCL	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE
1	N	1	t	153.0 μ s	-15.31 dBm			
2	N	1	t	194.0 μ s	-29.57 dBm			
3	N	1	t	843.5 μ s	-42.92 dBm			
4								
5								
6								
7								
8								
9								
10								
11								

MSG

STATUS

Frequency

Auto Tune

Center Freq
2.452000000 GHz

Start Freq
2.452000000 GHz

Stop Freq
2.452000000 GHz

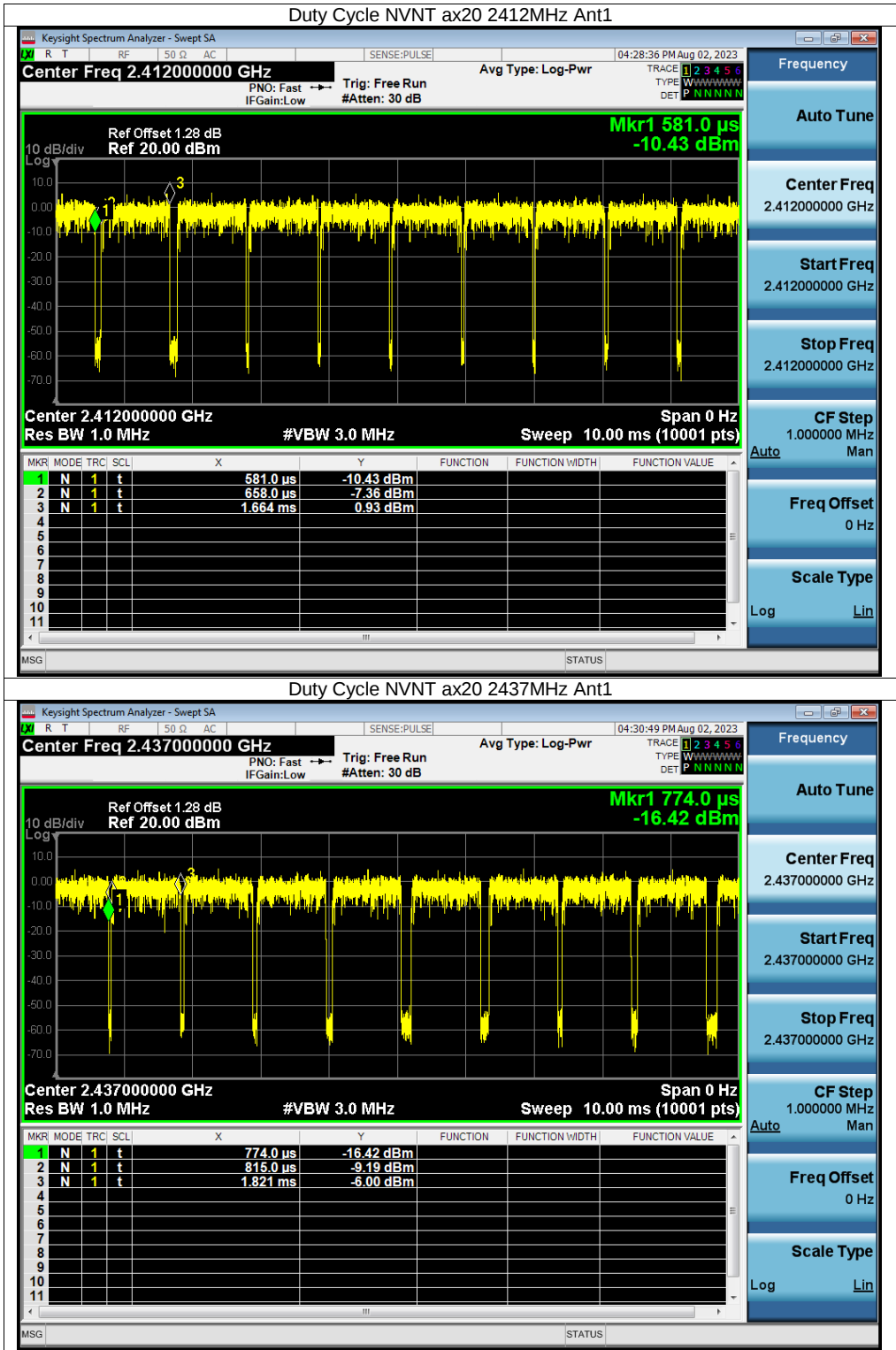
CF Step
1.000000 MHz

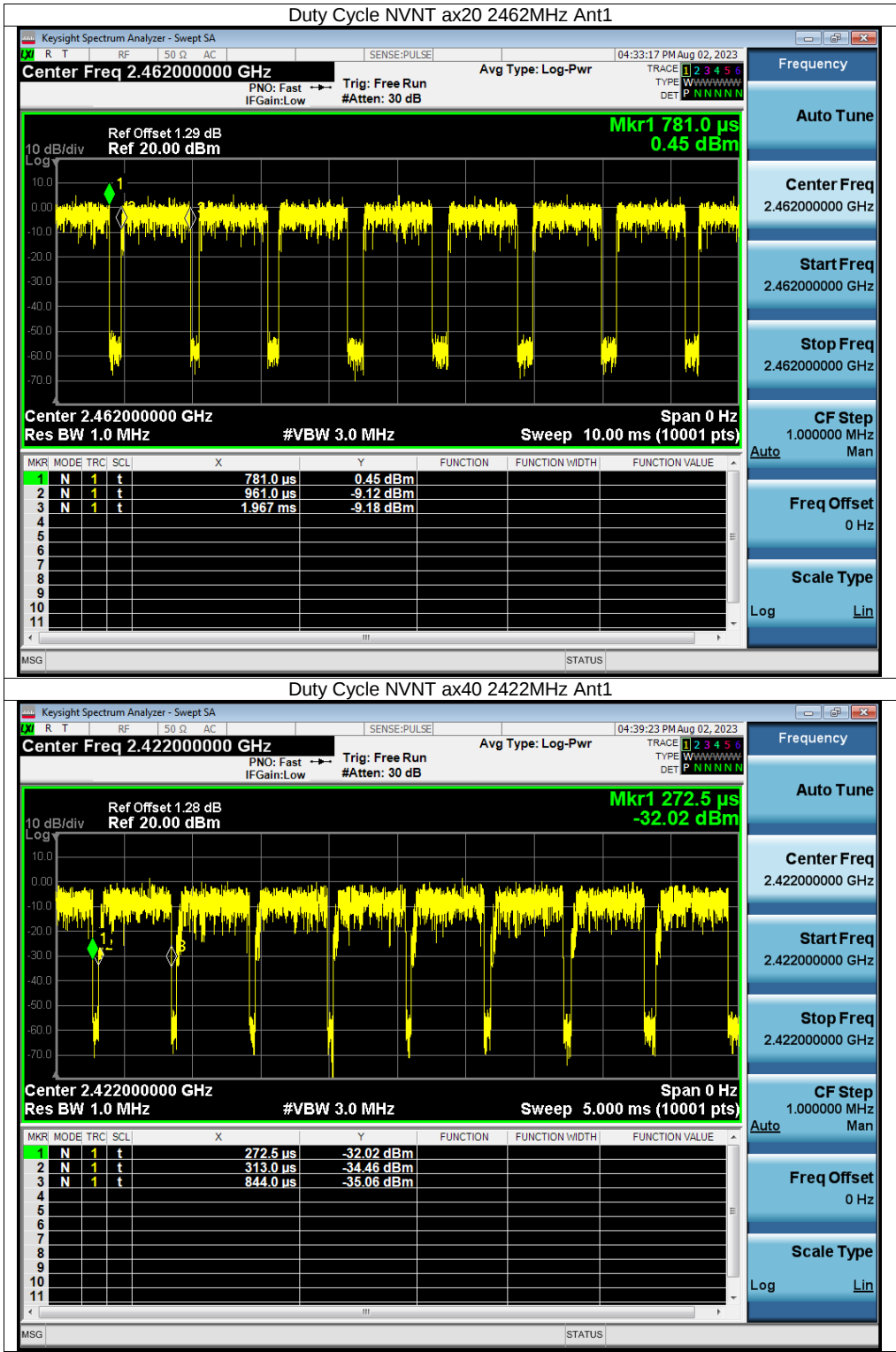
Auto

Freq Offset
0 Hz

Scale Type
Log

Lin





Duty Cycle NVNT ax40 2422MHz Ant1

Keysight Spectrum Analyzer - Swept SA

Center Freq 2.422000000 GHz

Trig: Free Run

Avg Type: Log-Pwr

04:39:23 PM Aug 02, 2023

10 dB/div

Log

Ref Offset 1.28 dB

Ref 20.00 dBm

Mkr1 272.5 μ s

-32.02 dBm

Center 2.422000000 GHz

Res BW 1.0 MHz

#VBW 3.0 MHz

Sweep 5.000 ms (10001 pts)

Span 0 Hz

MKR	MODE	TRC	SCL	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE
1	N	1	t	272.5 μ s	-32.02 dBm			
2	N	1	t	313.0 μ s	-34.46 dBm			
3	N	1	t	844.0 μ s	-35.06 dBm			
4								
5								
6								
7								
8								
9								
10								
11								

MSG

STATUS

Frequency

Auto Tune

Center Freq
2.422000000 GHz

Start Freq
2.422000000 GHz

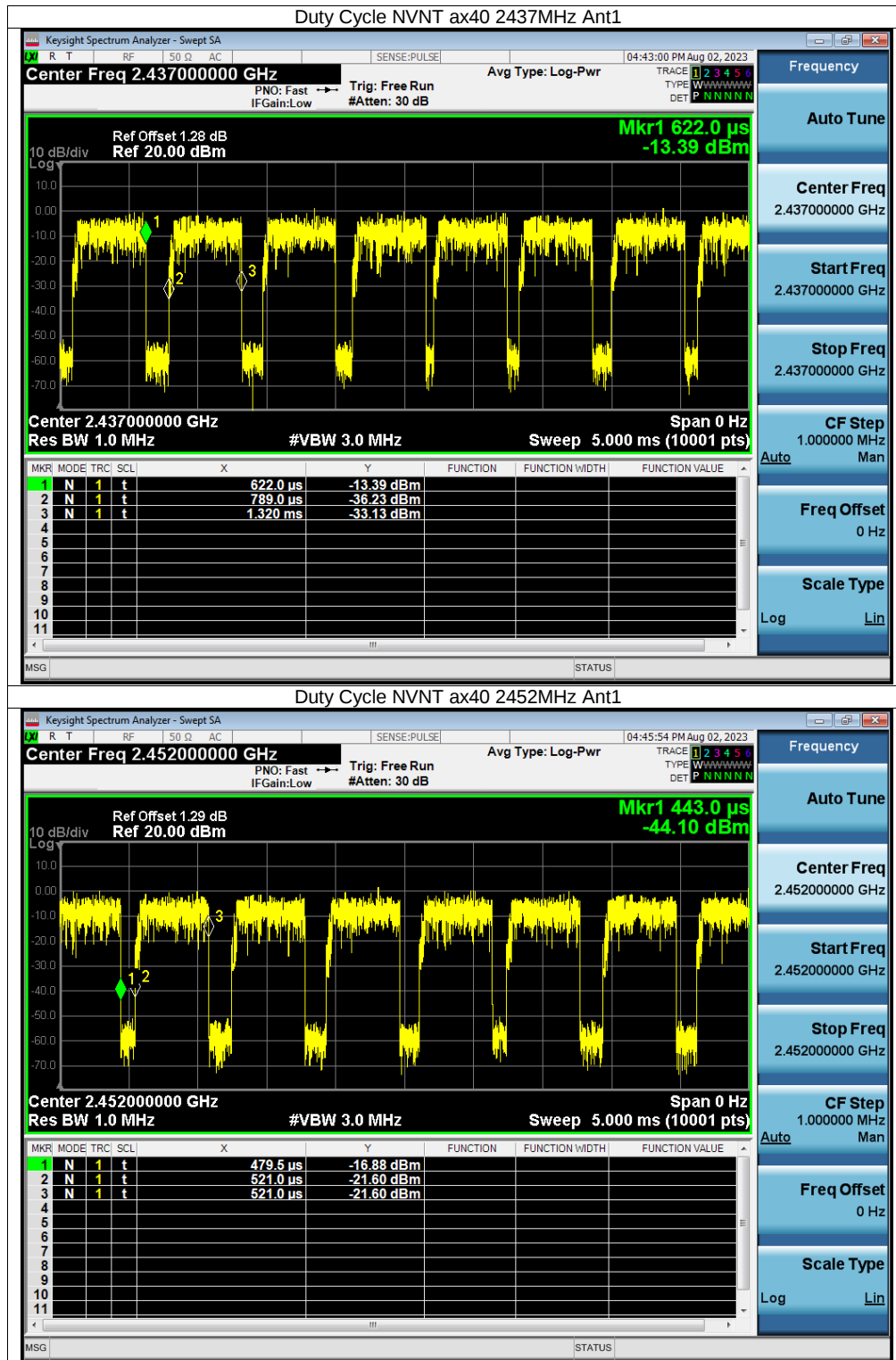
Stop Freq
2.422000000 GHz

CF Step
1.000000 MHz

Auto

Freq Offset
0 Hz

Scale Type
Log Lin



Appendix B Maximum Conducted Output Power

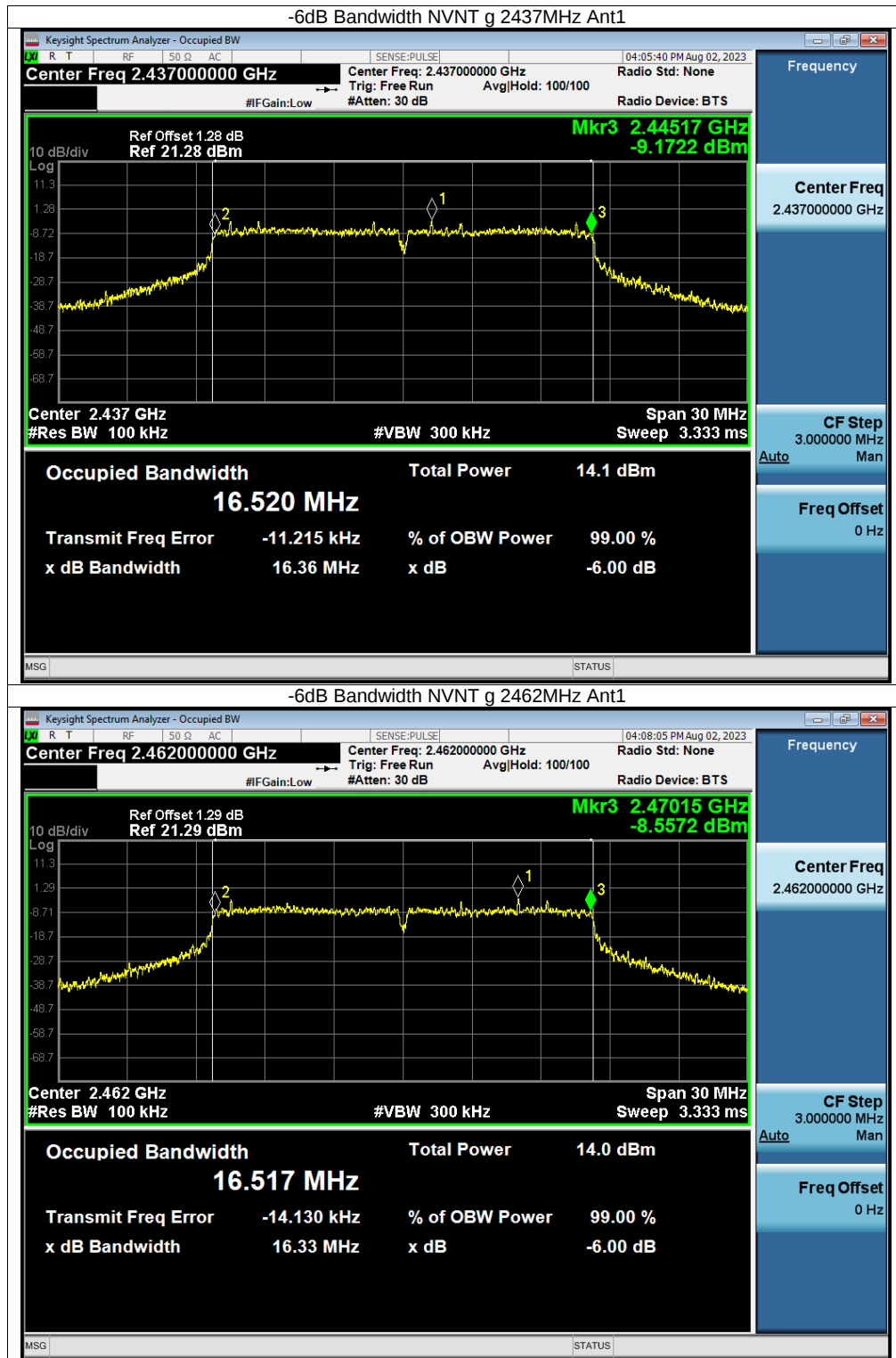
Condition	Mode	Frequency (MHz)	Antenna	Conducted Power (dBm)	Limit (dBm)	Verdict
NVNT	b	2412	Ant1	16.59	30	Pass
NVNT	b	2437	Ant1	15.88	30	Pass
NVNT	b	2462	Ant1	15.76	30	Pass
NVNT	g	2412	Ant1	16.16	30	Pass
NVNT	g	2437	Ant1	15.52	30	Pass
NVNT	g	2462	Ant1	15.47	30	Pass
NVNT	n20	2412	Ant1	16.17	30	Pass
NVNT	n20	2437	Ant1	15.55	30	Pass
NVNT	n20	2462	Ant1	15.44	30	Pass
NVNT	n40	2422	Ant1	15.83	30	Pass
NVNT	n40	2437	Ant1	15.43	30	Pass
NVNT	n40	2452	Ant1	15.62	30	Pass
NVNT	ax20	2412	Ant1	16.44	30	Pass
NVNT	ax20	2437	Ant1	15.81	30	Pass
NVNT	ax20	2462	Ant1	15.67	30	Pass
NVNT	ax40	2422	Ant1	16.02	30	Pass
NVNT	ax40	2437	Ant1	15.61	30	Pass
NVNT	ax40	2452	Ant1	15.72	30	Pass

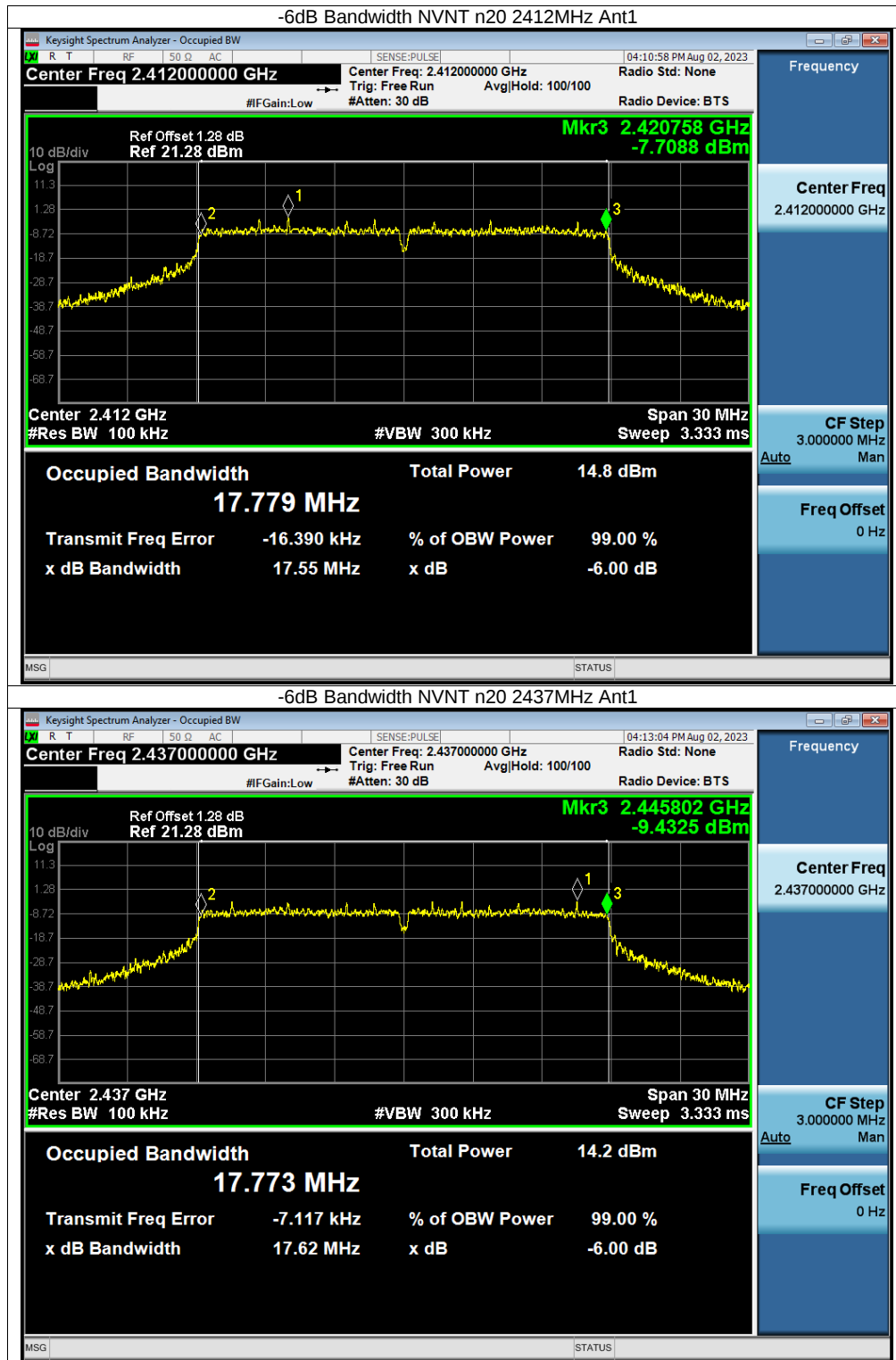
Appendix C -6dB Bandwidth

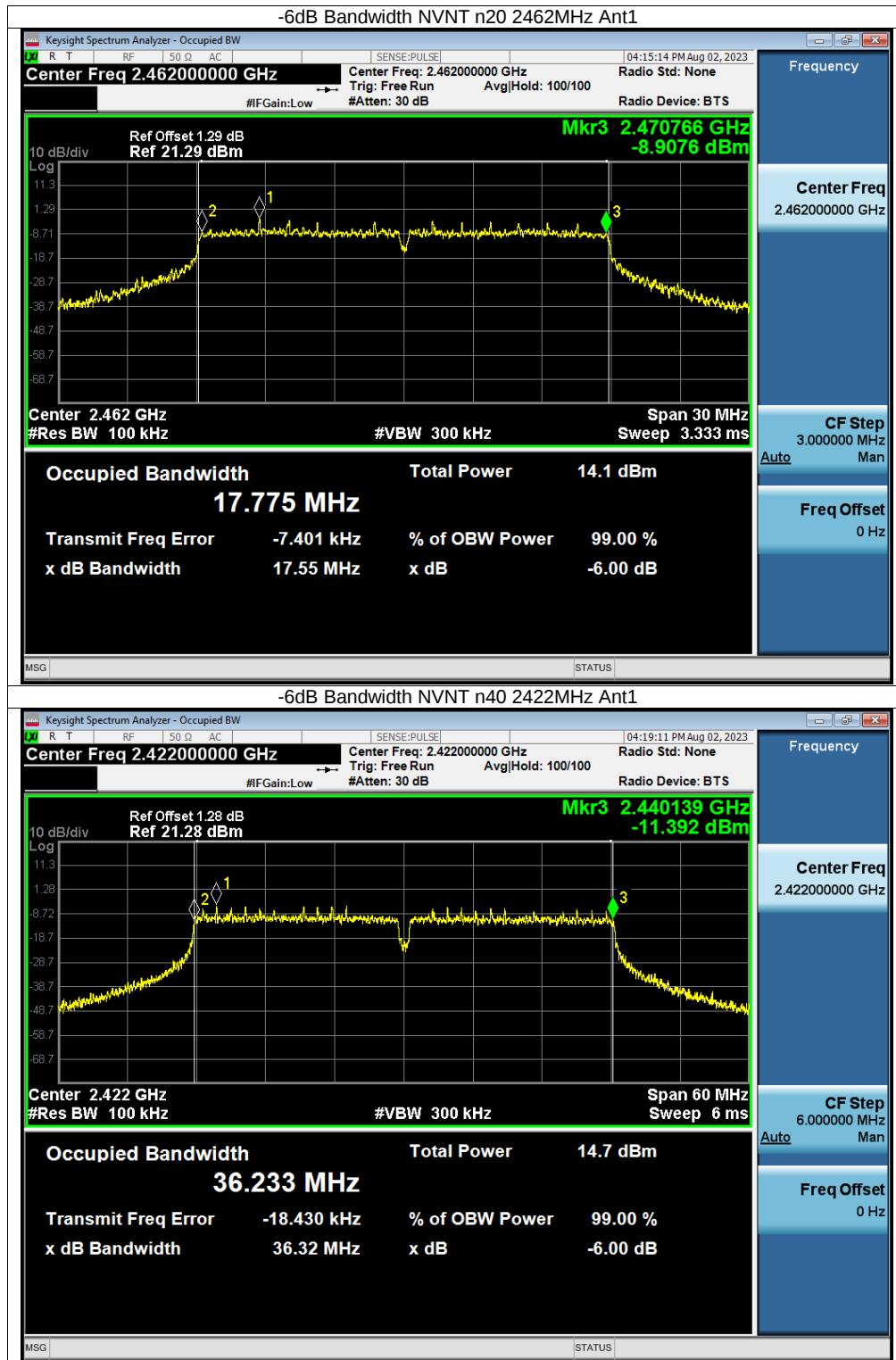
Condition	Mode	Frequency (MHz)	Antenna	-6 dB Bandwidth (MHz)	Limit -6 dB Bandwidth (MHz)	Verdict
NVNT	b	2412	Ant1	8.082	0.5	Pass
NVNT	b	2437	Ant1	8.061	0.5	Pass
NVNT	b	2462	Ant1	7.586	0.5	Pass
NVNT	g	2412	Ant1	16.347	0.5	Pass
NVNT	g	2437	Ant1	16.363	0.5	Pass
NVNT	g	2462	Ant1	16.329	0.5	Pass
NVNT	n20	2412	Ant1	17.549	0.5	Pass
NVNT	n20	2437	Ant1	17.618	0.5	Pass
NVNT	n20	2462	Ant1	17.547	0.5	Pass
NVNT	n40	2422	Ant1	36.316	0.5	Pass
NVNT	n40	2437	Ant1	36.319	0.5	Pass
NVNT	n40	2452	Ant1	36.322	0.5	Pass
NVNT	ax20	2412	Ant1	18.878	0.5	Pass
NVNT	ax20	2437	Ant1	19.005	0.5	Pass
NVNT	ax20	2462	Ant1	18.903	0.5	Pass
NVNT	ax40	2422	Ant1	37.682	0.5	Pass
NVNT	ax40	2437	Ant1	37.716	0.5	Pass
NVNT	ax40	2452	Ant1	37.929	0.5	Pass

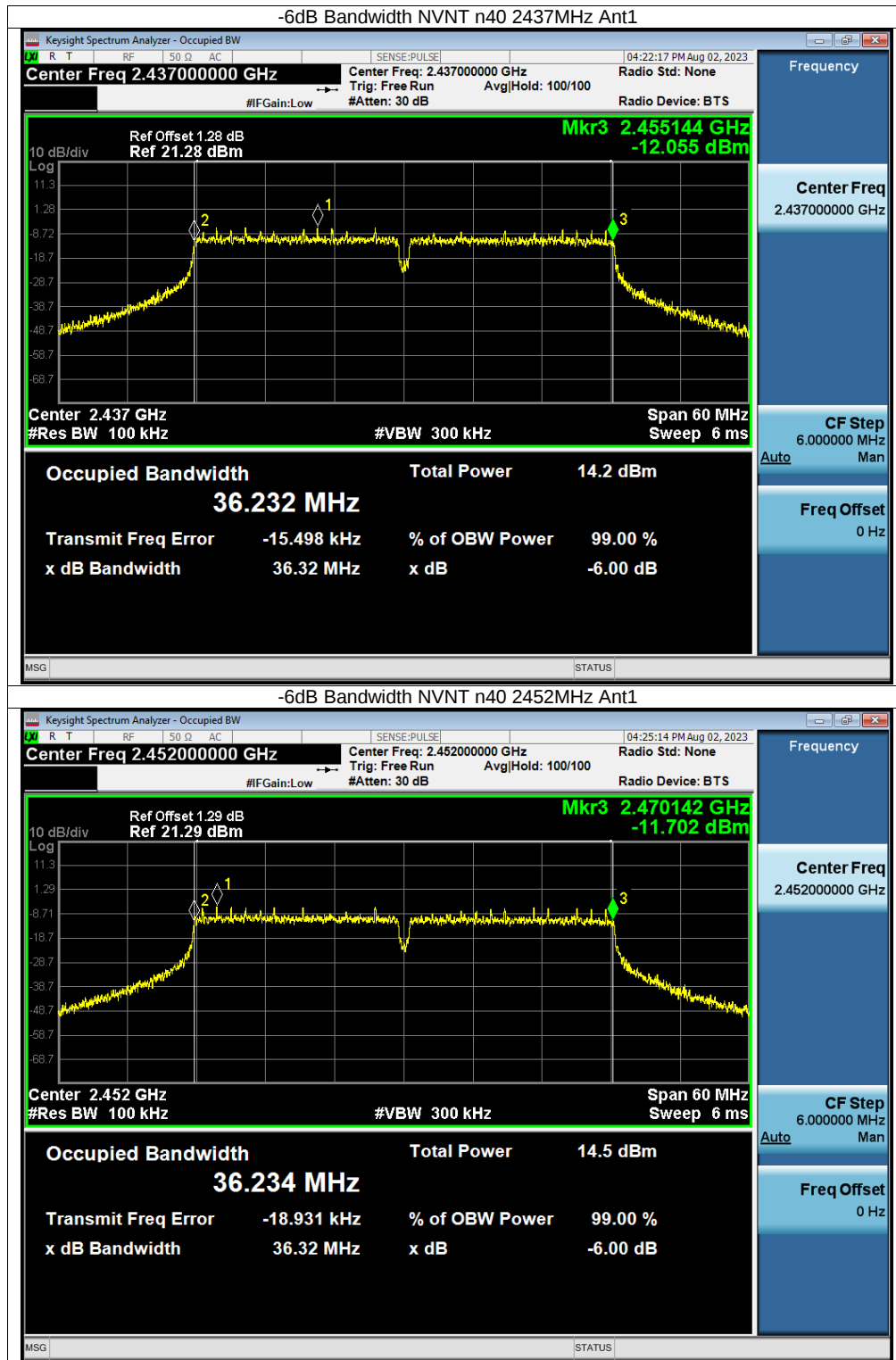


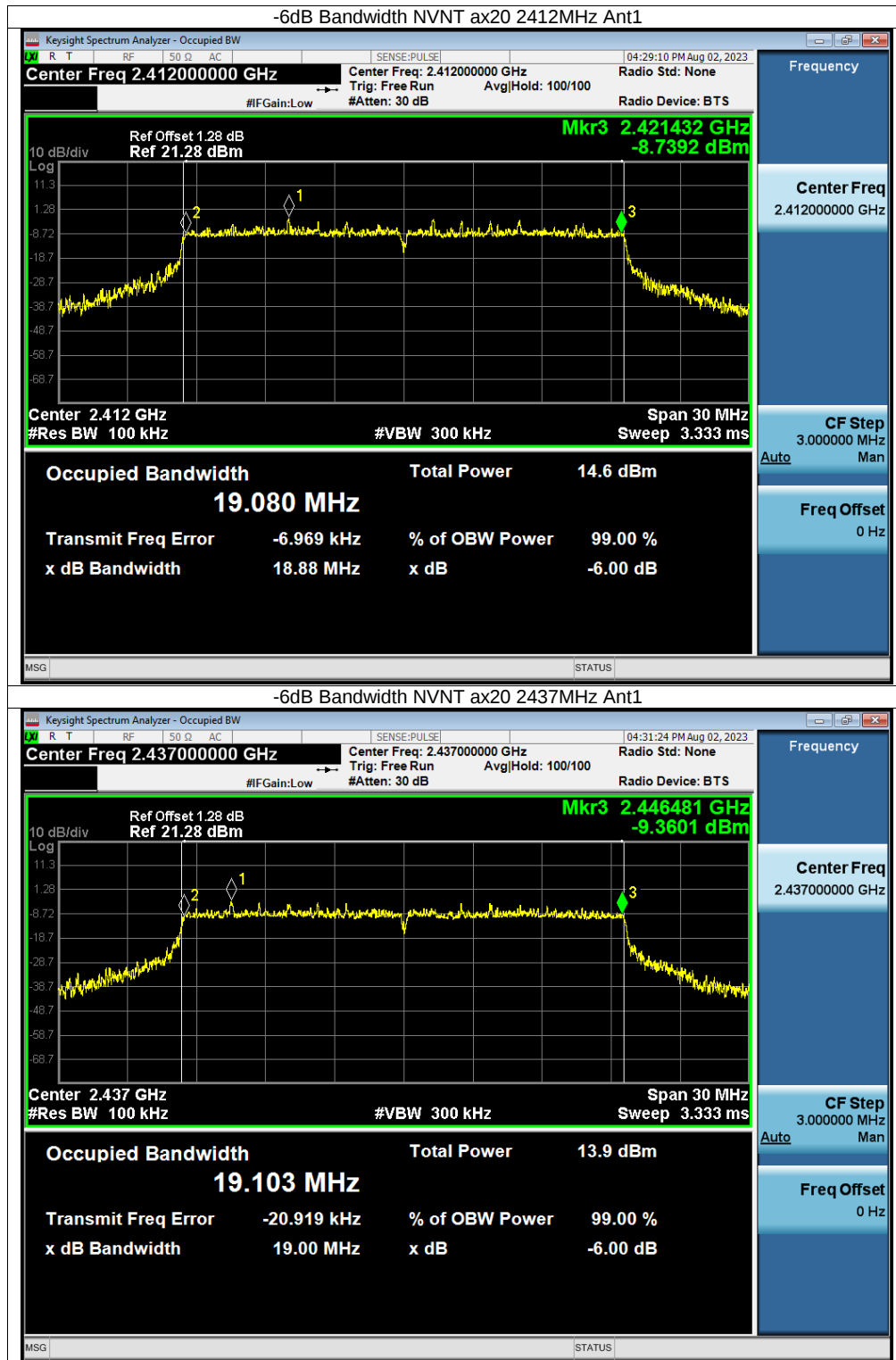


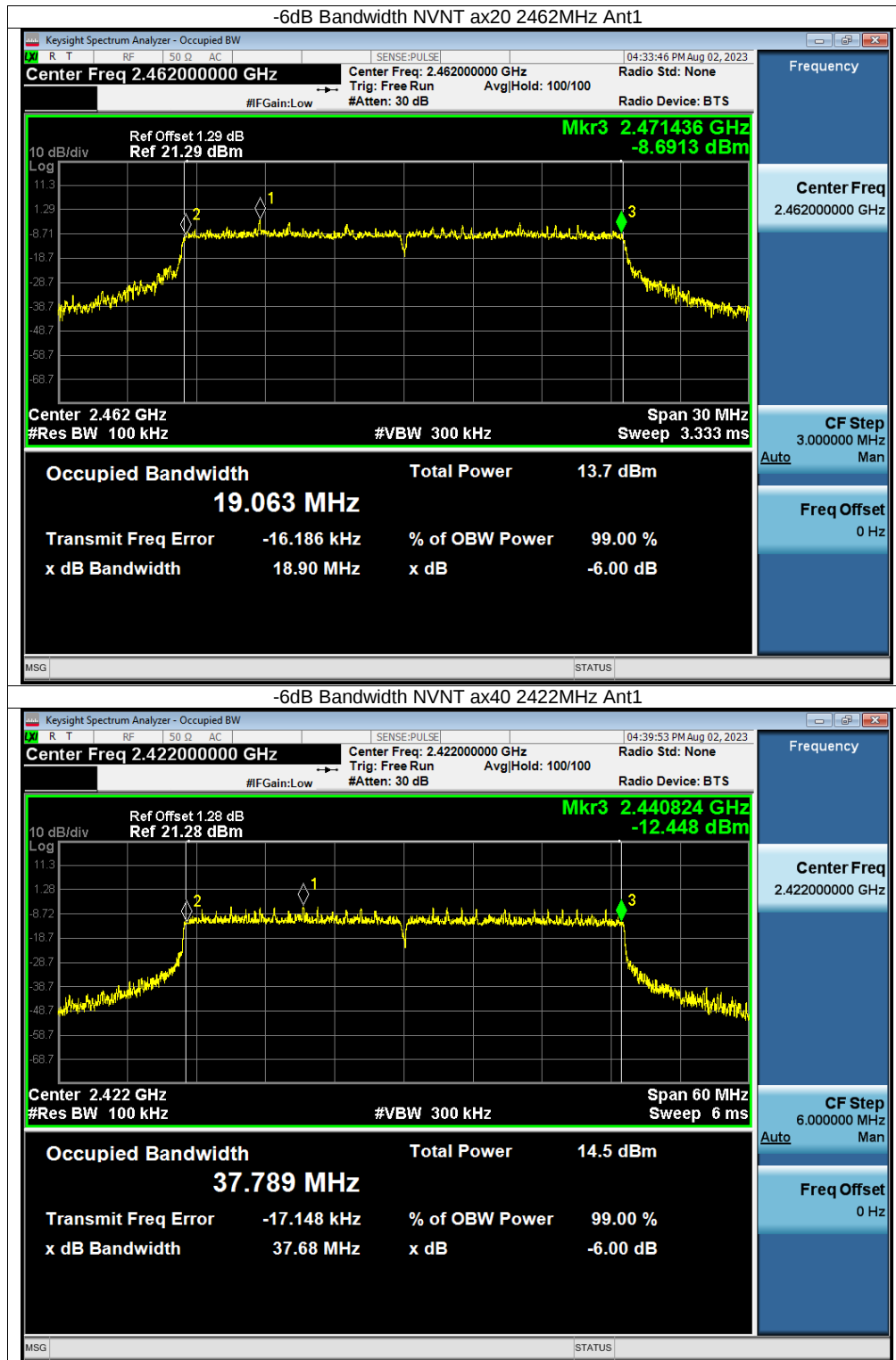


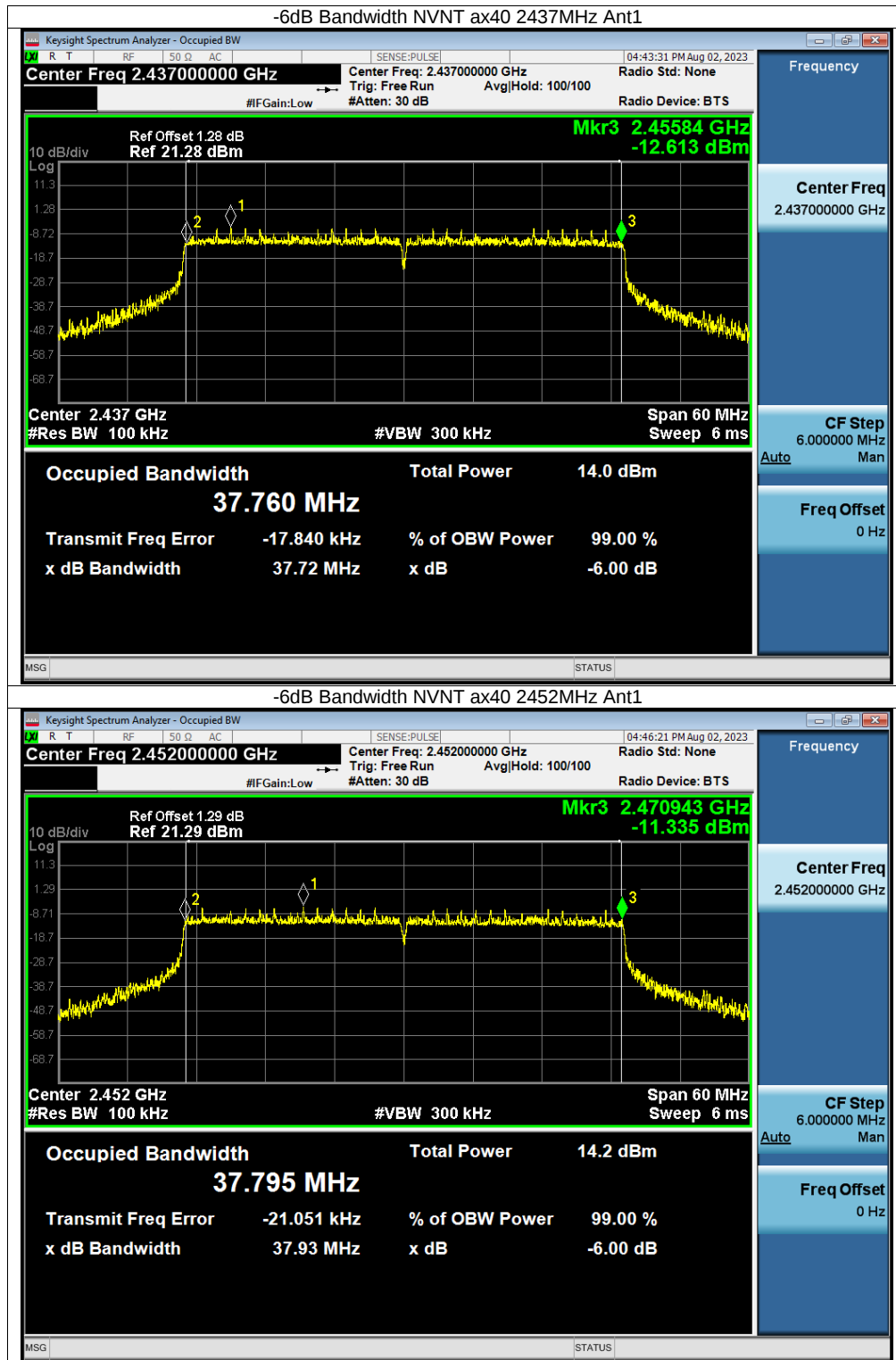








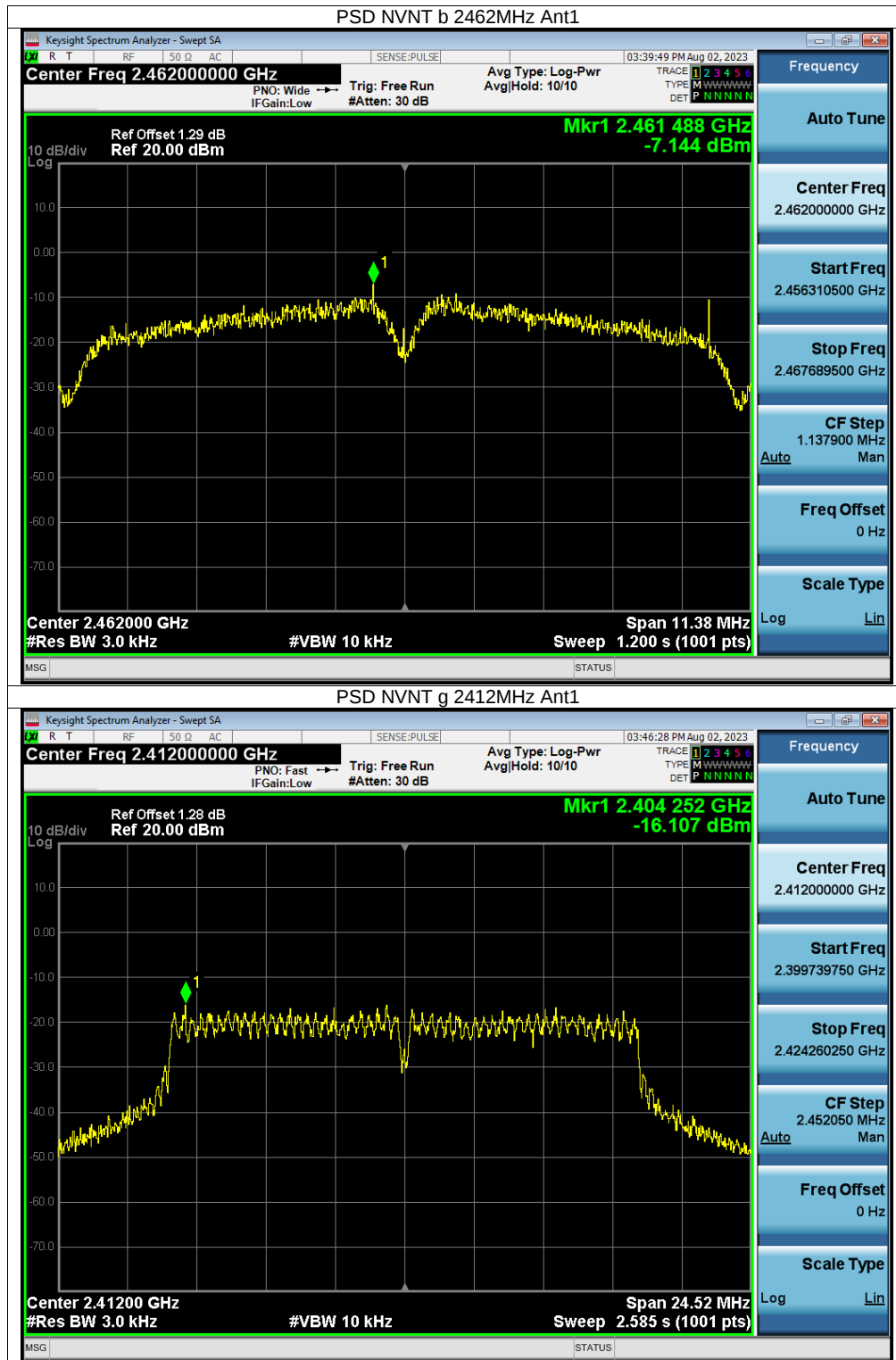


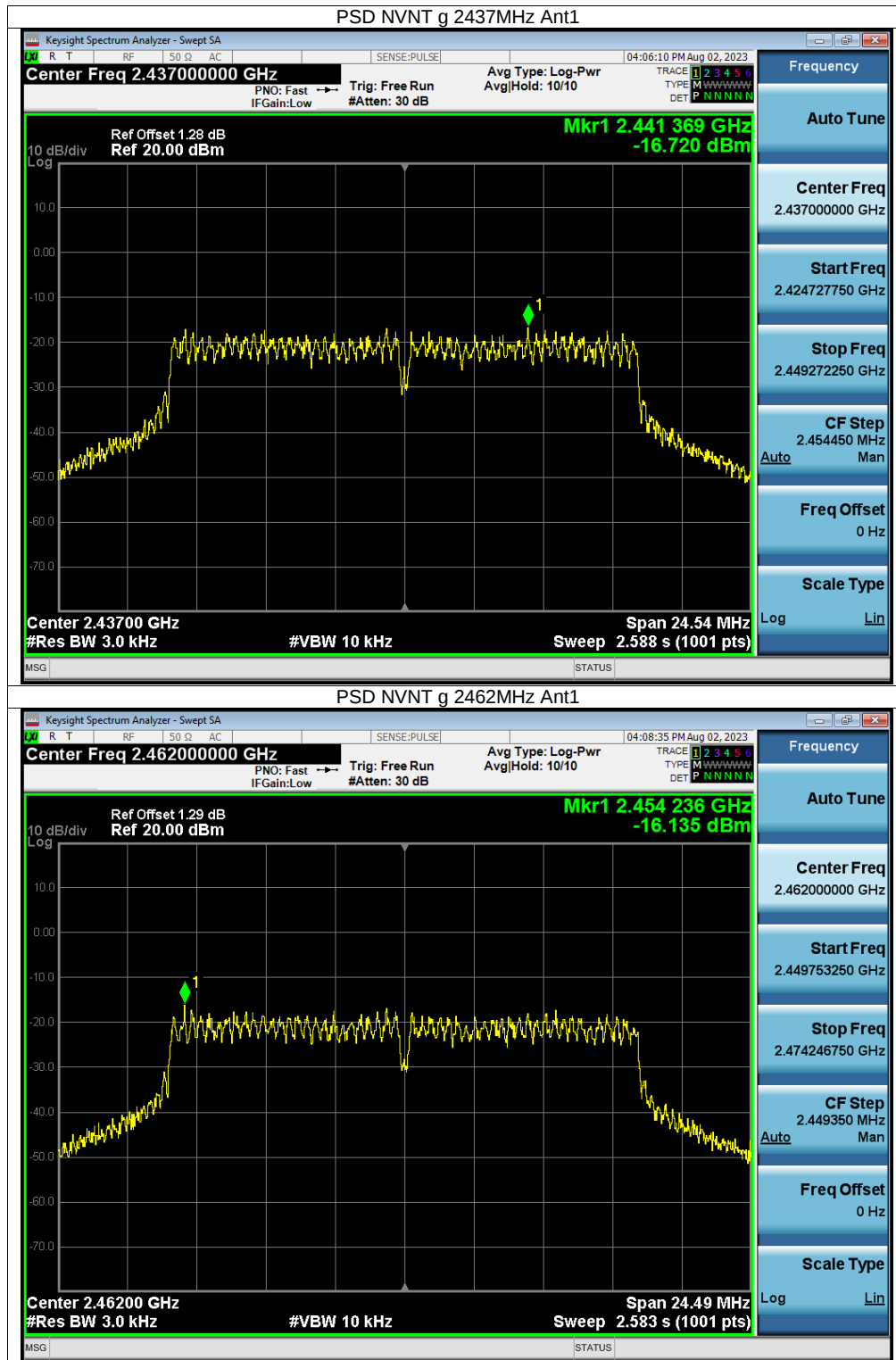


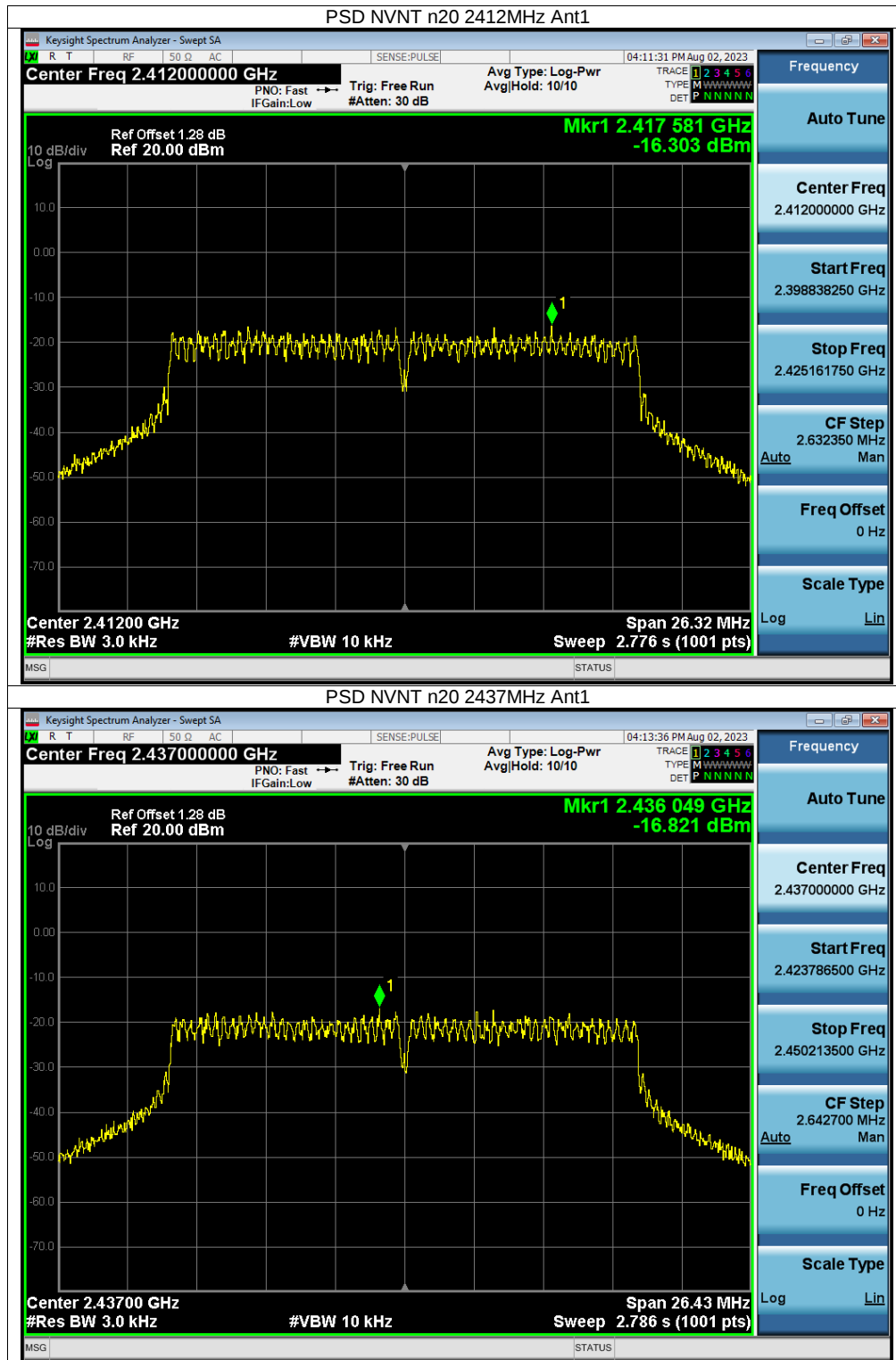
Appendix D Maximum Power Spectral Density Level

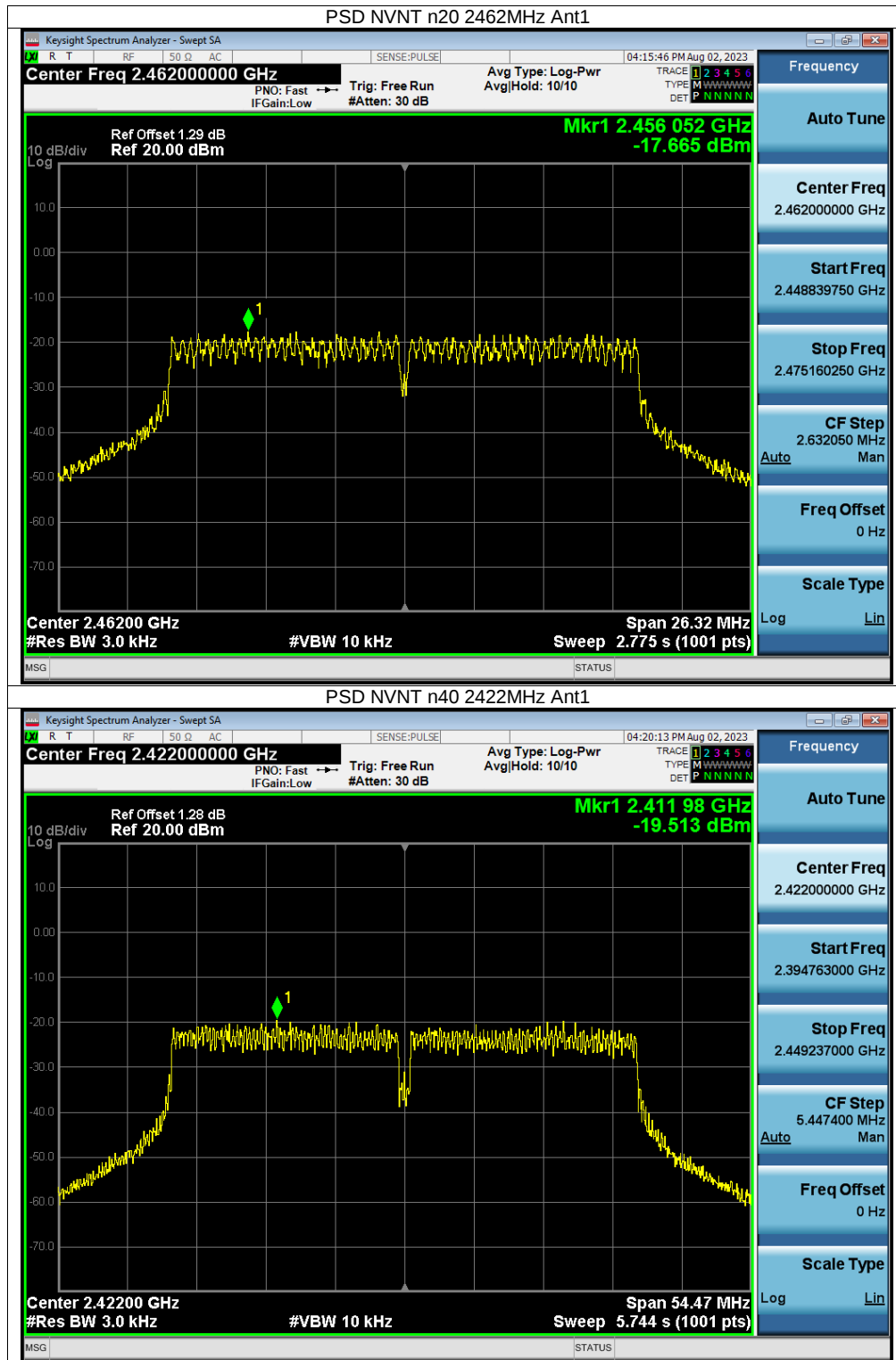
Condition	Mode	Frequency (MHz)	Antenna	Conducted PSD (dBm/3kHz)	Duty Factor (dB)	Total PSD (dBm/3kHz)	Limit (dBm/3kHz)	Verdict
NVNT	b	2412	Ant1	0.86	0	0.86	8	Pass
NVNT	b	2437	Ant1	-9.1	0	-9.1	8	Pass
NVNT	b	2462	Ant1	-7.14	0	-7.14	8	Pass
NVNT	g	2412	Ant1	-16.11	0	-16.11	8	Pass
NVNT	g	2437	Ant1	-16.72	0	-16.72	8	Pass
NVNT	g	2462	Ant1	-16.14	0	-16.14	8	Pass
NVNT	n20	2412	Ant1	-16.3	0	-16.3	8	Pass
NVNT	n20	2437	Ant1	-16.82	0	-16.82	8	Pass
NVNT	n20	2462	Ant1	-17.67	0	-17.67	8	Pass
NVNT	n40	2422	Ant1	-19.51	0	-19.51	8	Pass
NVNT	n40	2437	Ant1	-19.71	0	-19.71	8	Pass
NVNT	n40	2452	Ant1	-19.22	0	-19.22	8	Pass
NVNT	ax20	2412	Ant1	-17.81	0	-17.81	8	Pass
NVNT	ax20	2437	Ant1	-18.28	0	-18.28	8	Pass
NVNT	ax20	2462	Ant1	-18.27	0	-18.27	8	Pass
NVNT	ax40	2422	Ant1	-20.55	0	-20.55	8	Pass
NVNT	ax40	2437	Ant1	-21.3	0	-21.3	8	Pass
NVNT	ax40	2452	Ant1	-19.39	0	-19.39	8	Pass

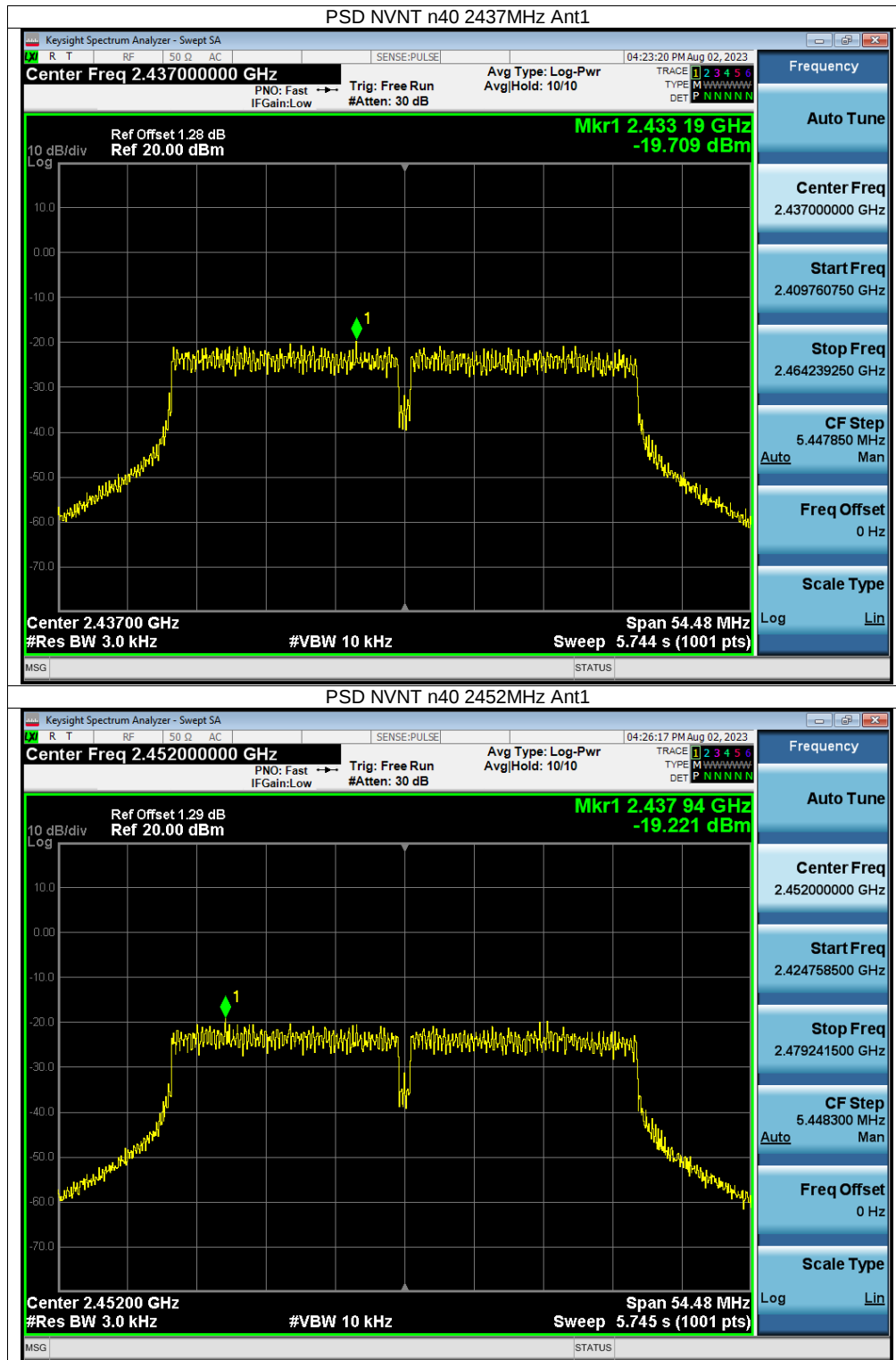












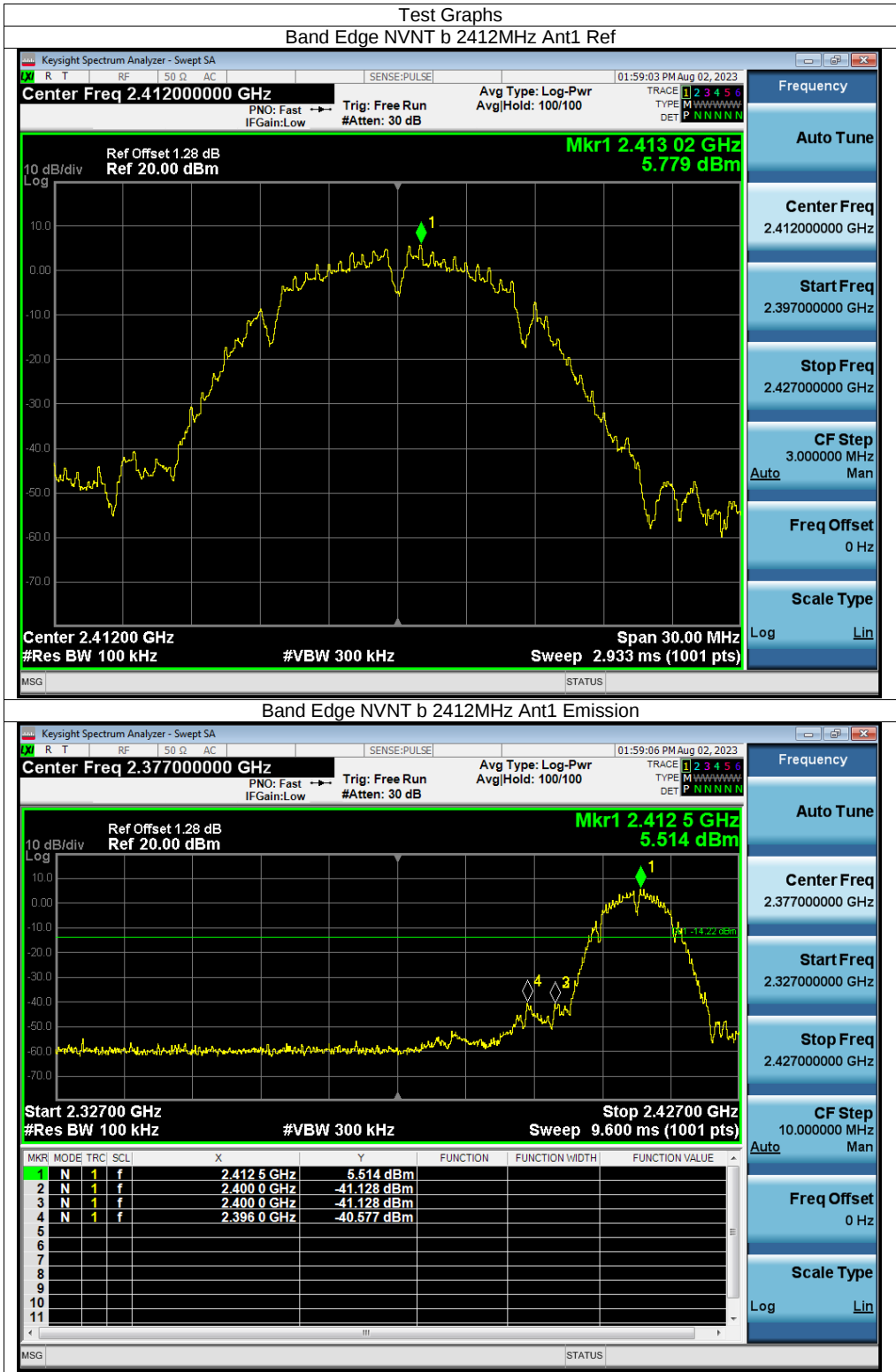


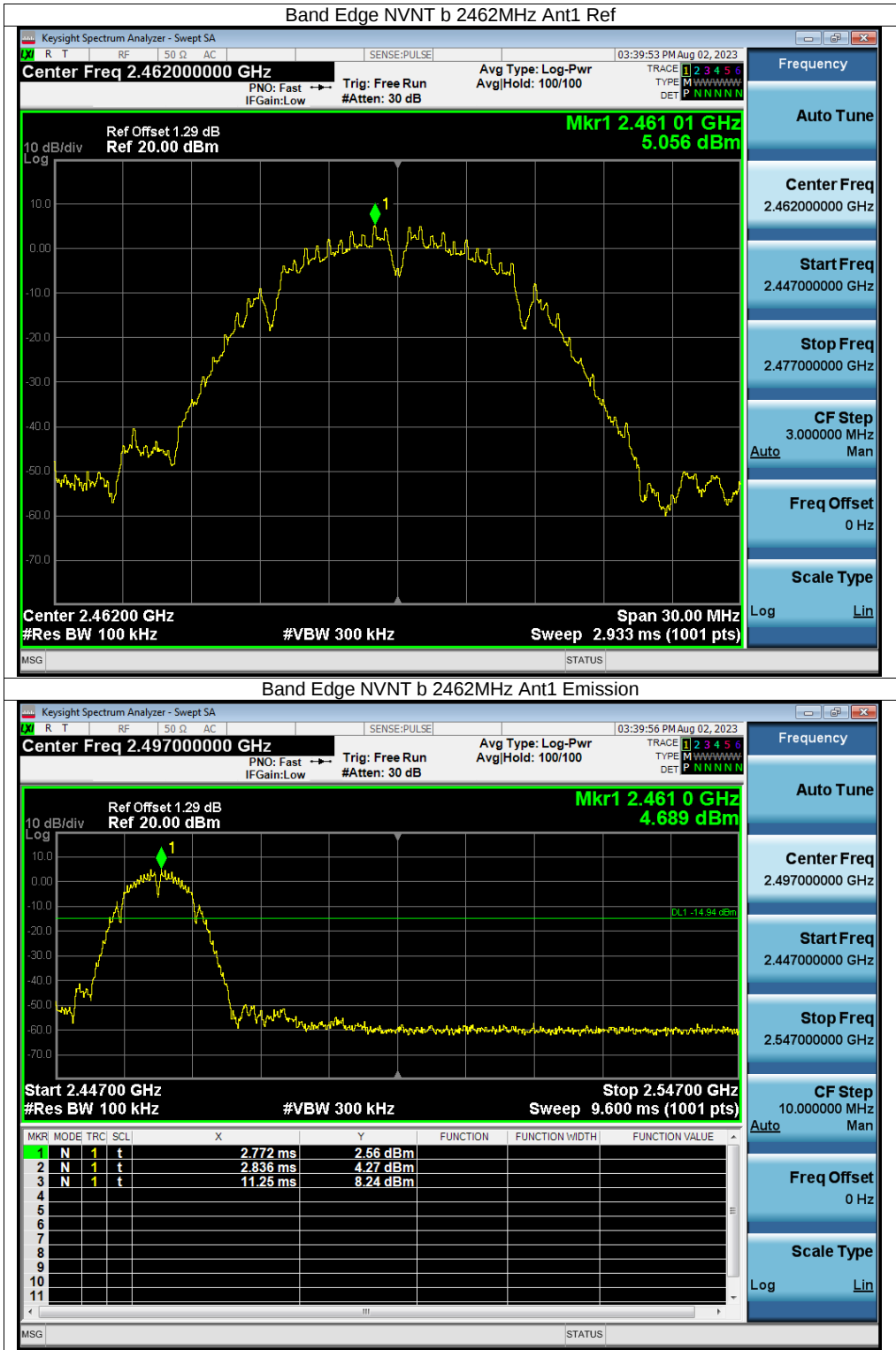


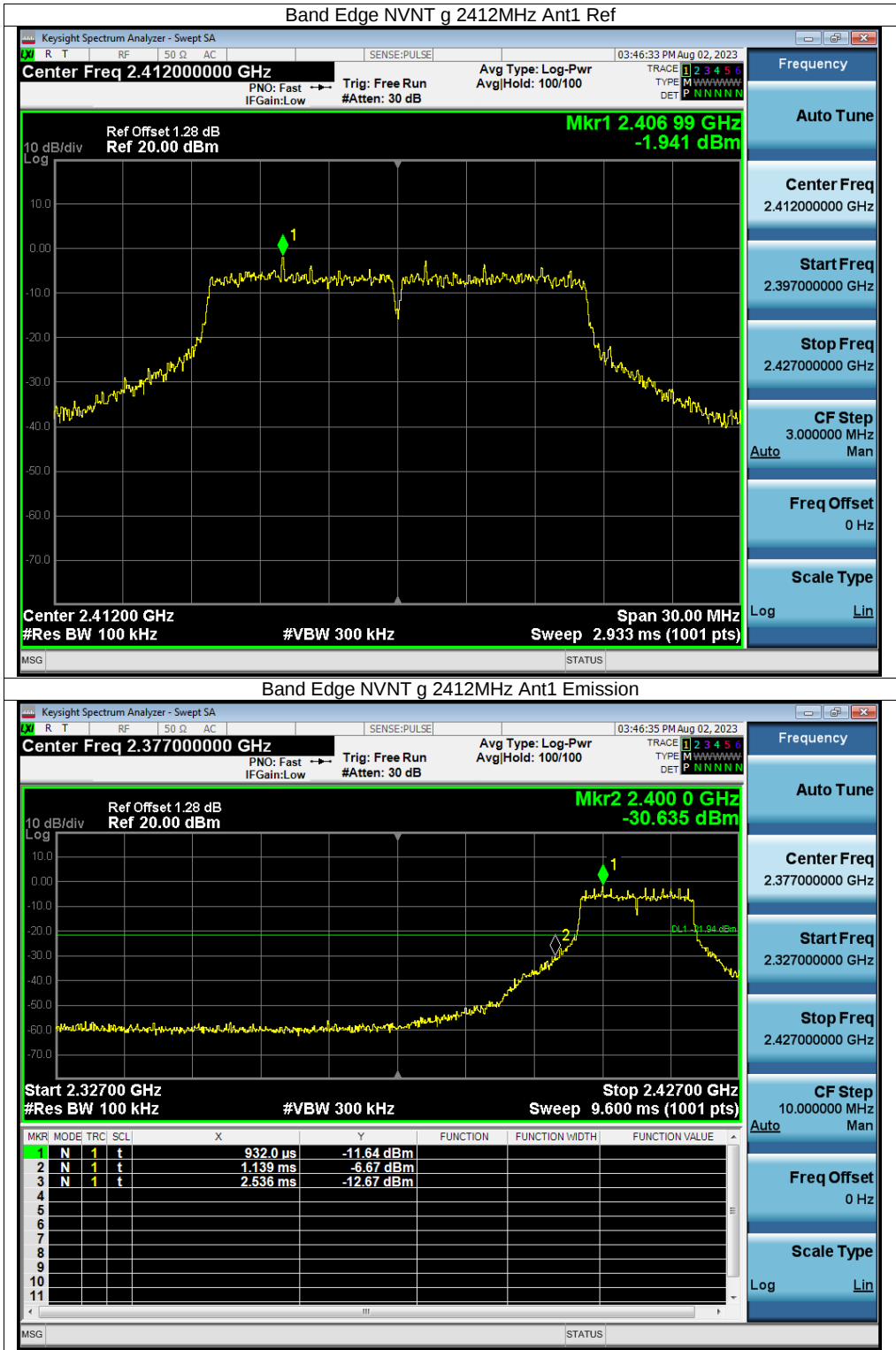


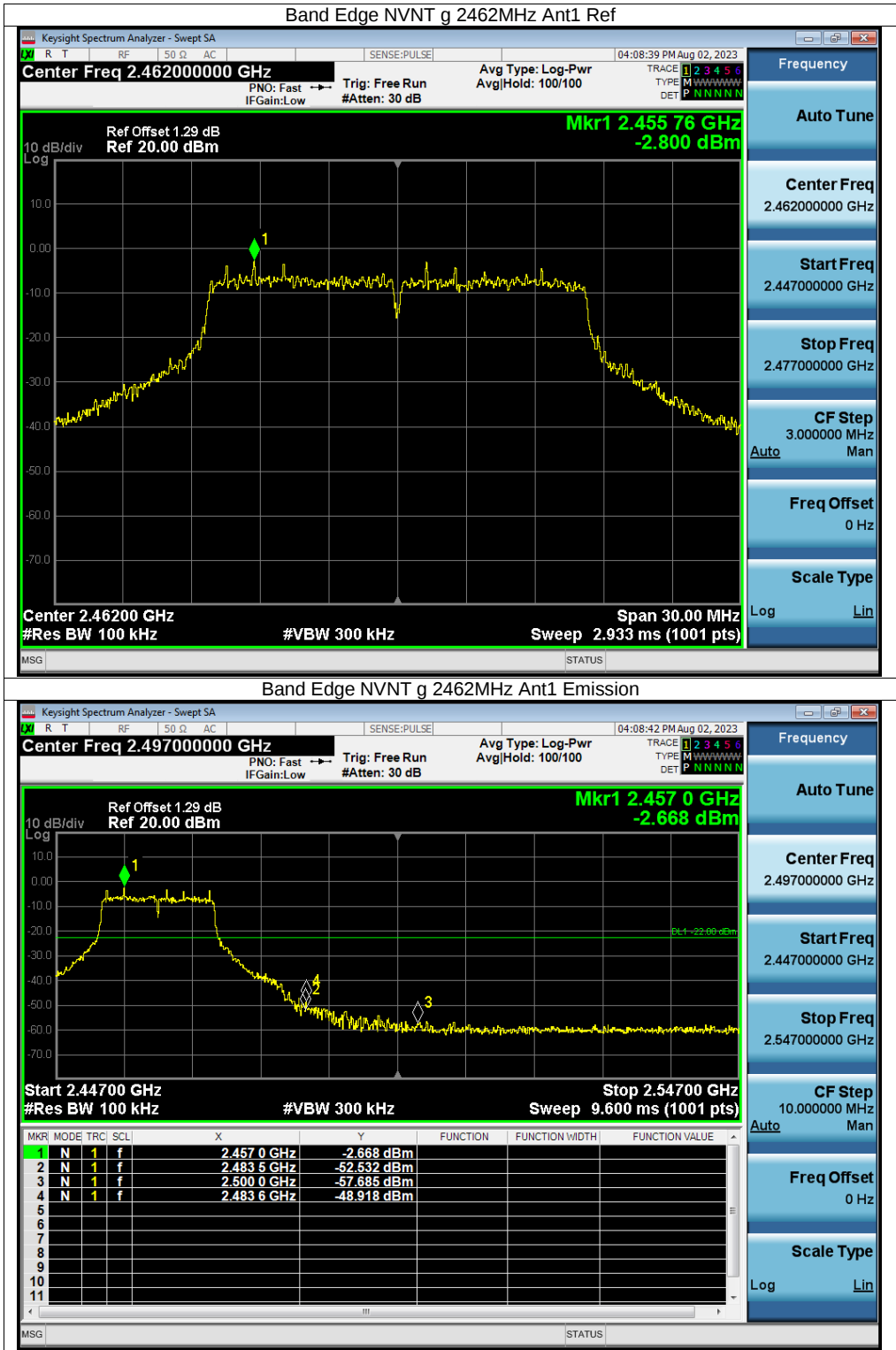
Appendix E Band Edge

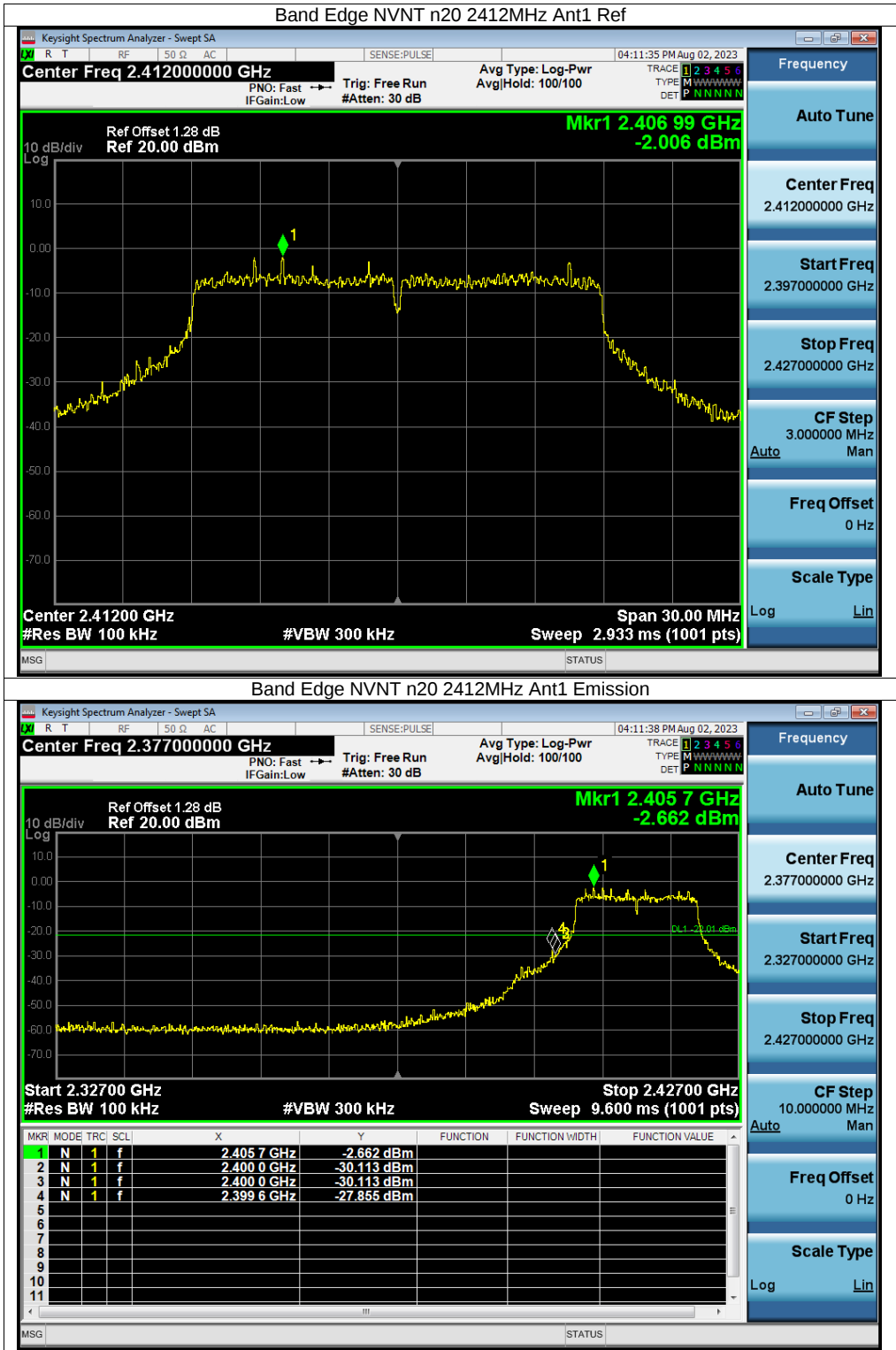
Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	b	2412	Ant1	-46.35	-20	Pass
NVNT	b	2462	Ant1	-59.85	-20	Pass
NVNT	g	2412	Ant1	-28.53	-20	Pass
NVNT	g	2462	Ant1	-46.11	-20	Pass
NVNT	n20	2412	Ant1	-25.84	-20	Pass
NVNT	n20	2462	Ant1	-46.15	-20	Pass
NVNT	n40	2422	Ant1	-29.62	-20	Pass
NVNT	n40	2452	Ant1	-40.46	-20	Pass
NVNT	ax20	2412	Ant1	-27.55	-20	Pass
NVNT	ax20	2462	Ant1	-46.15	-20	Pass
NVNT	ax40	2422	Ant1	-27.04	-20	Pass
NVNT	ax40	2452	Ant1	-38.01	-20	Pass

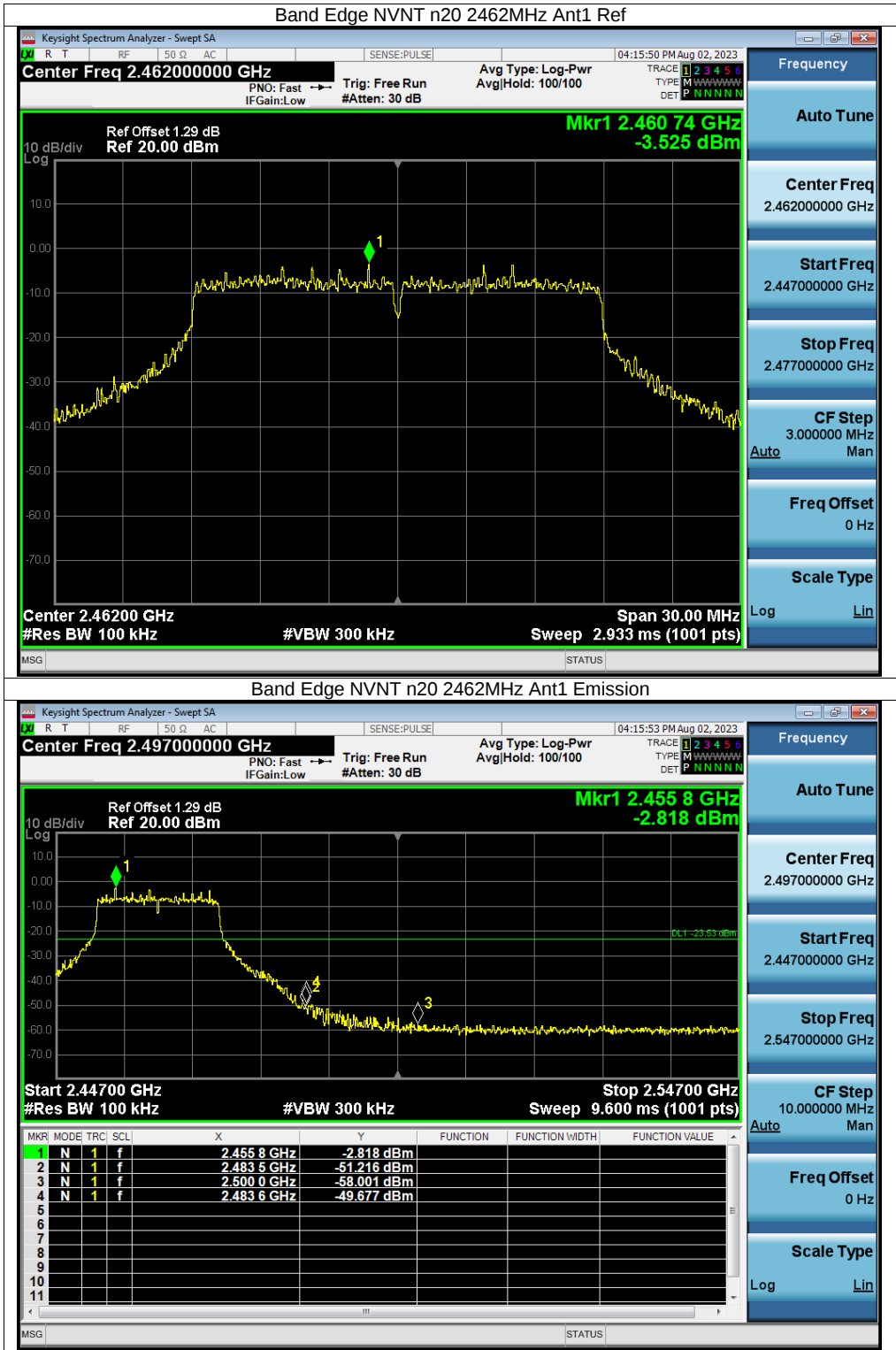


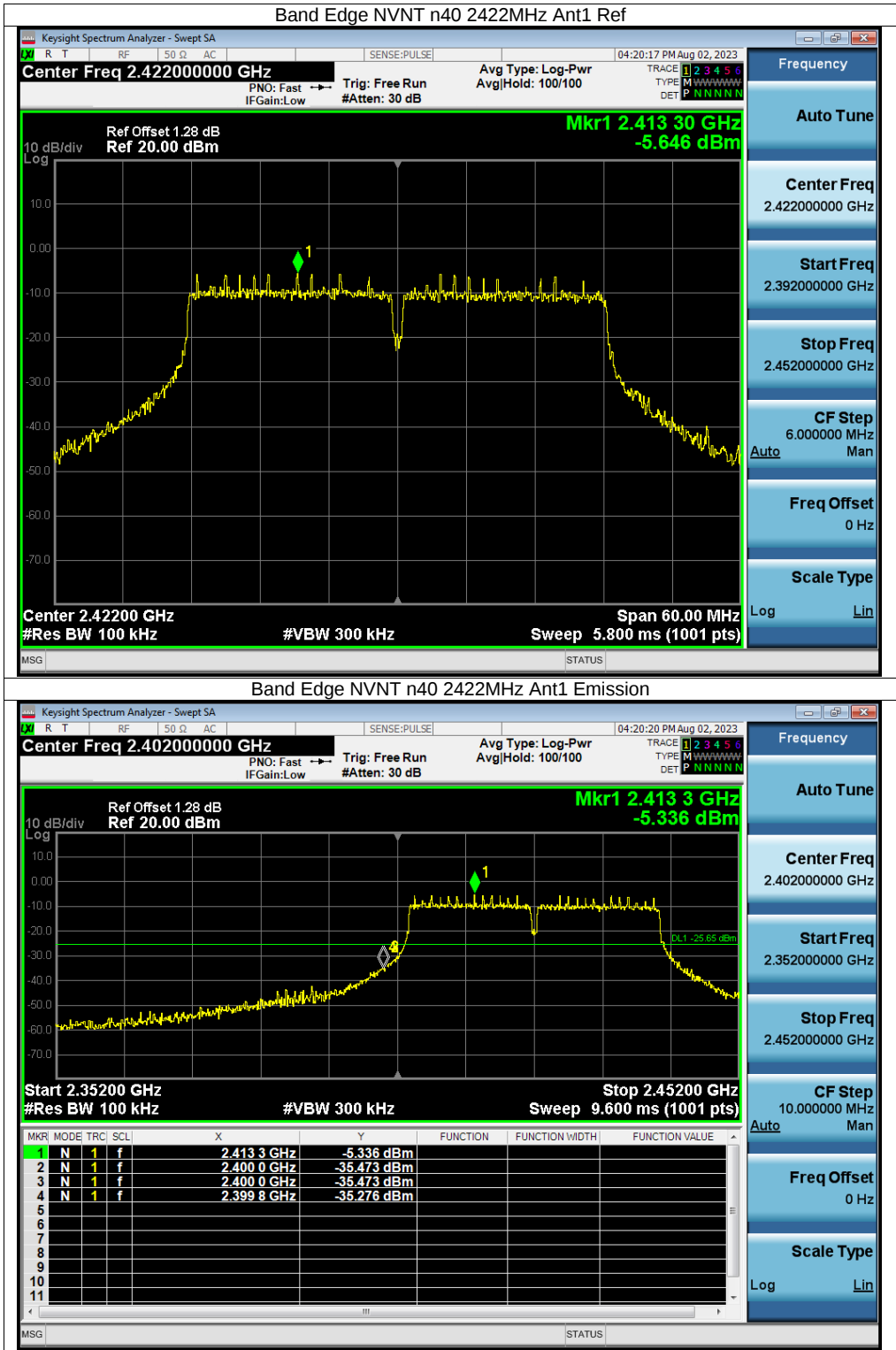


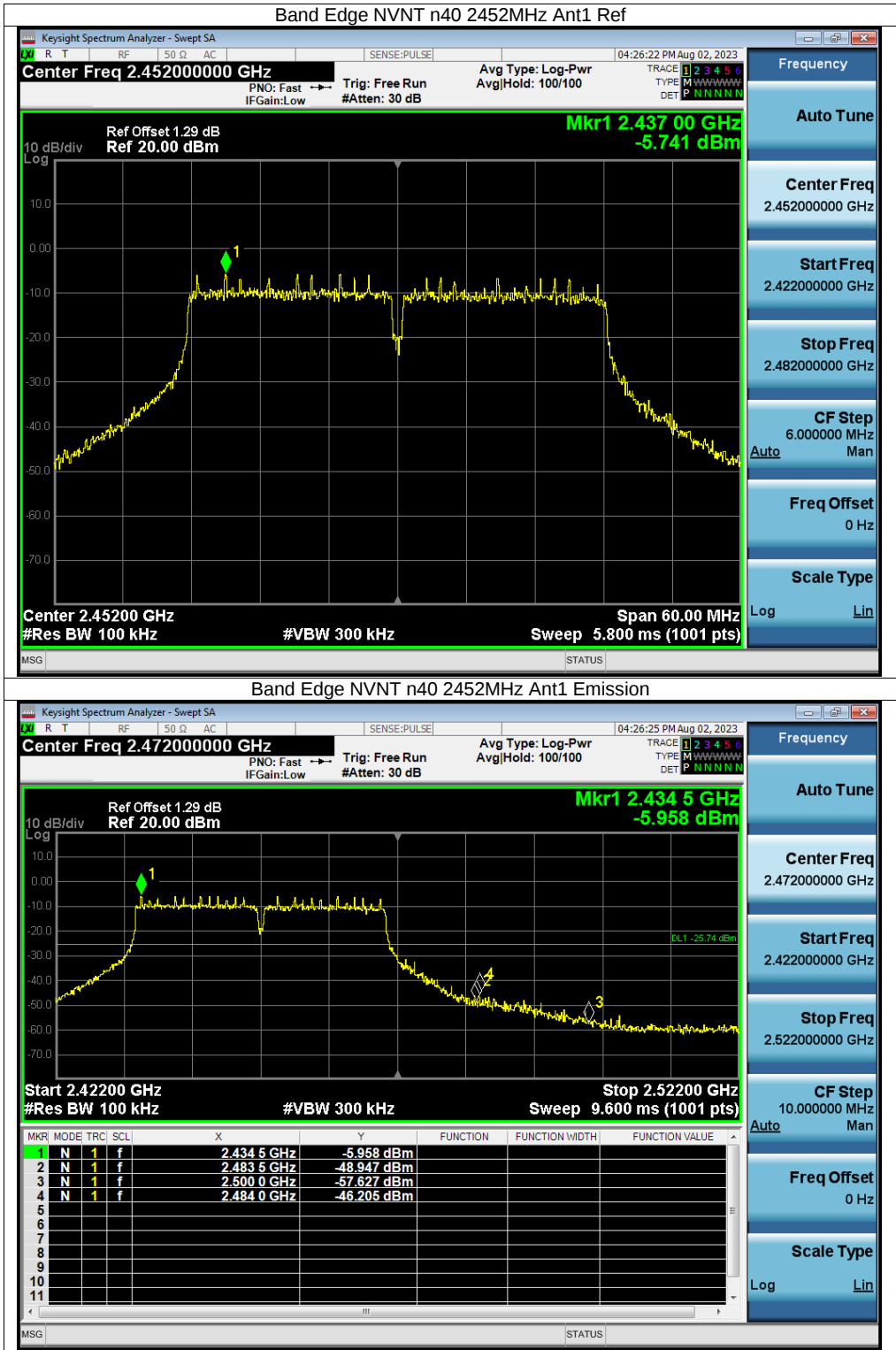


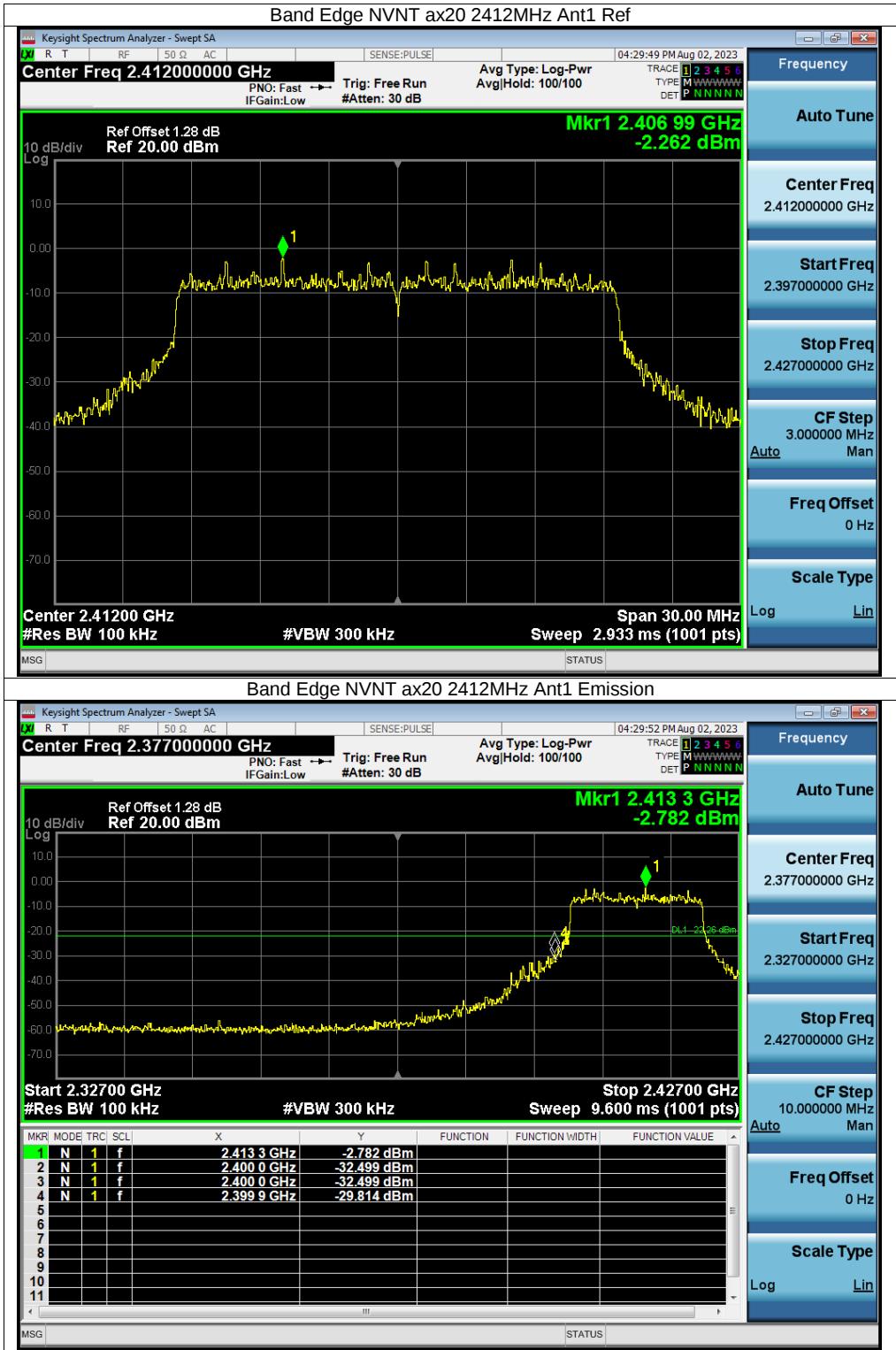


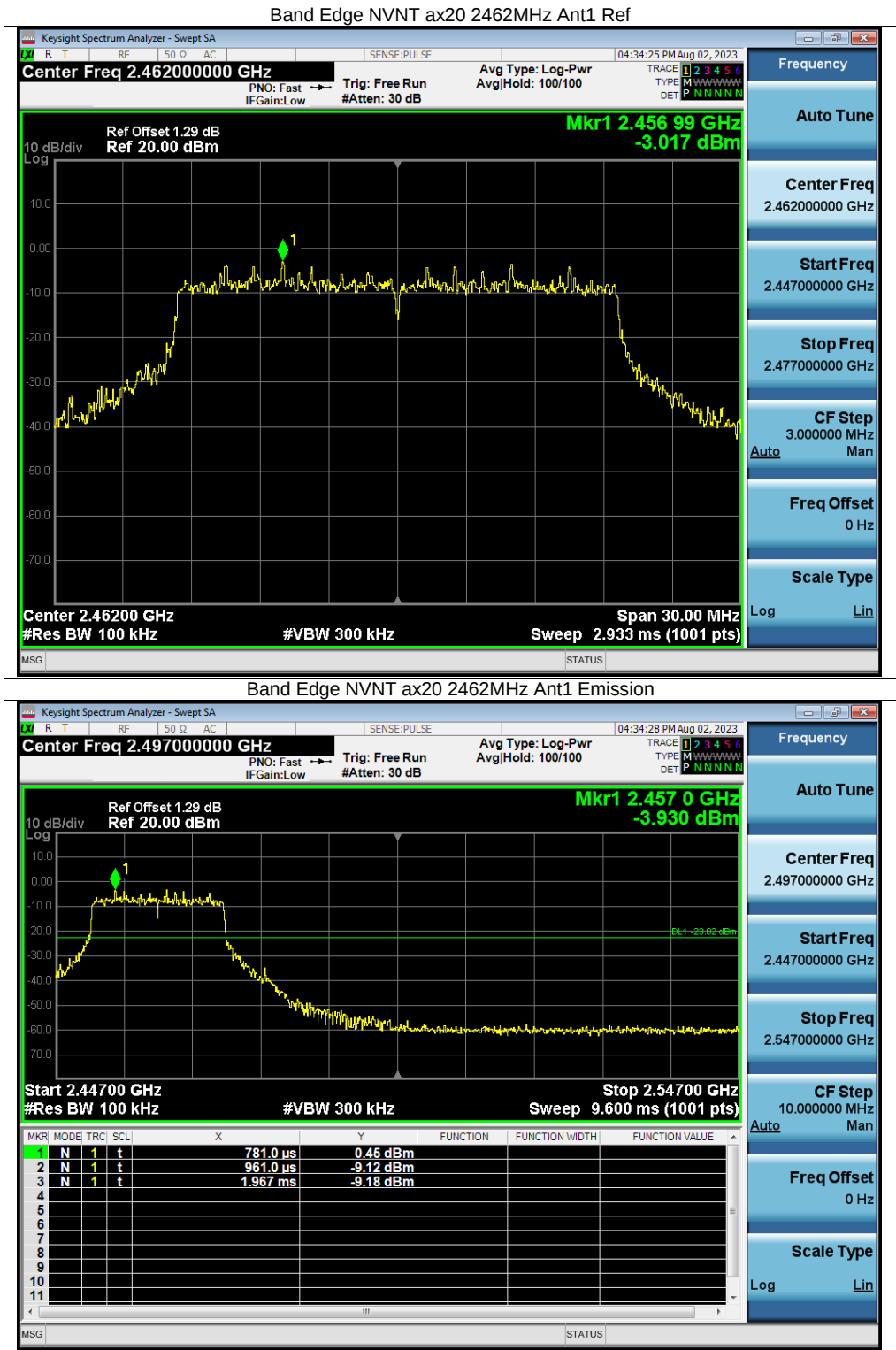


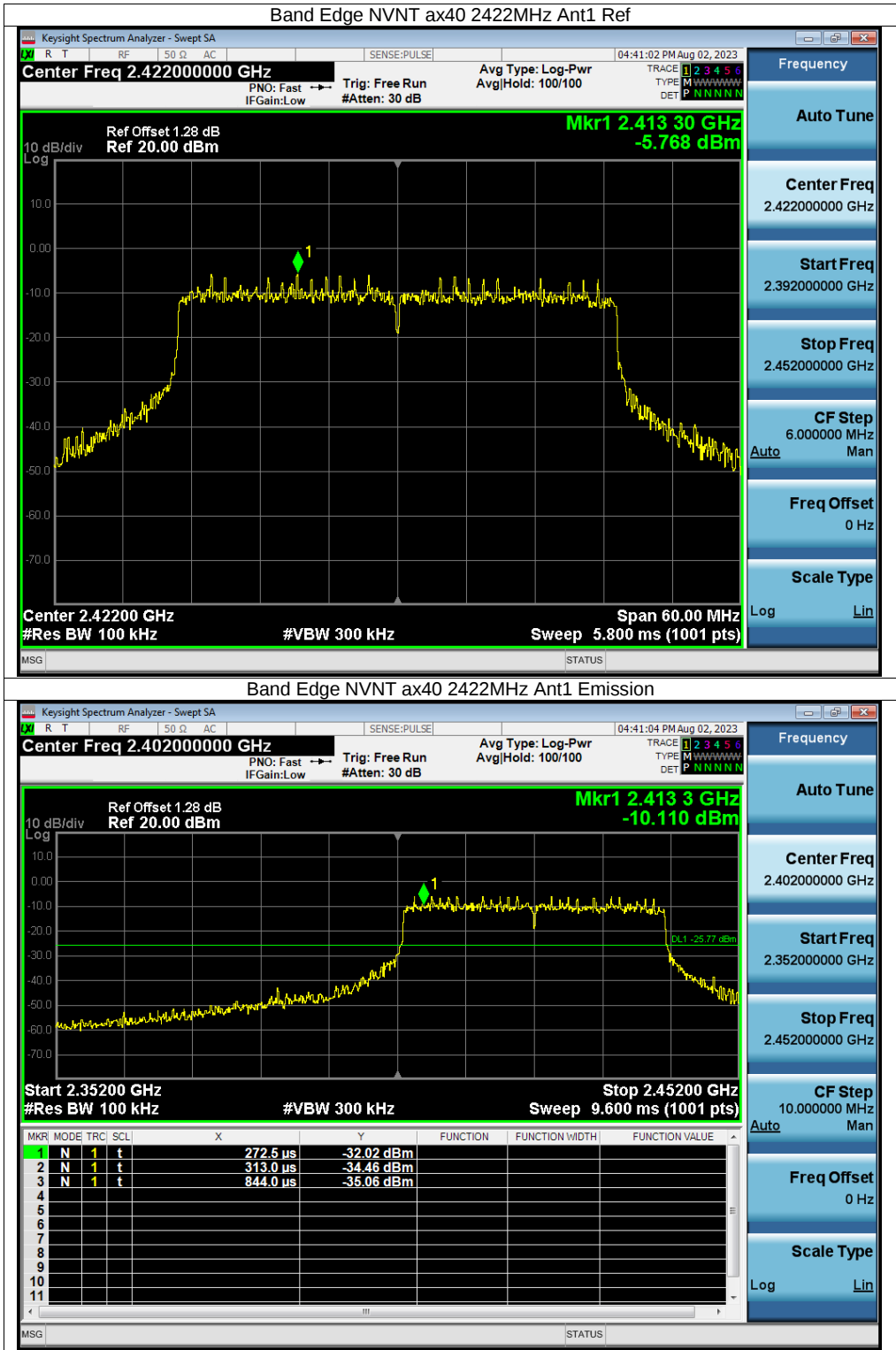


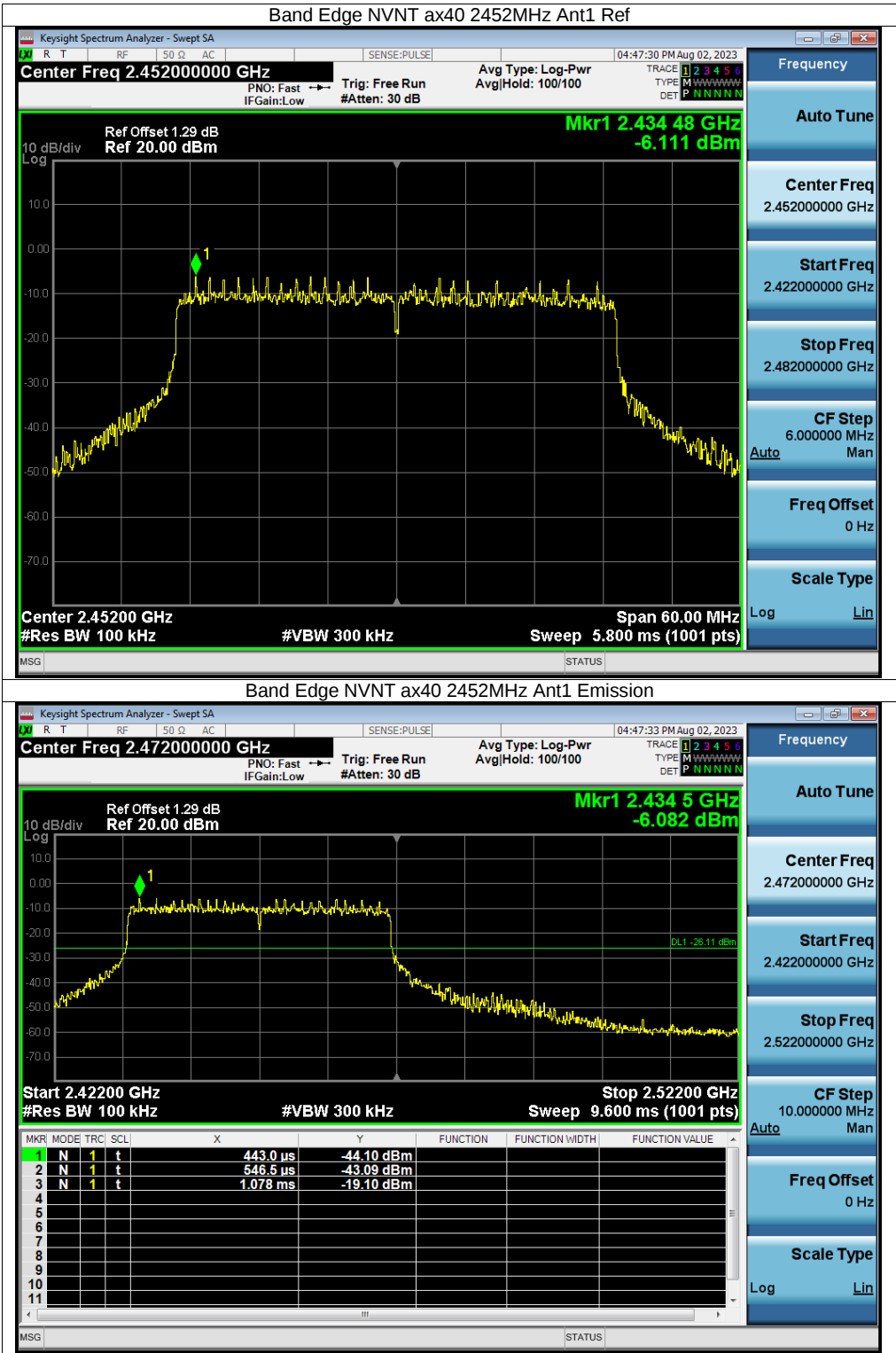






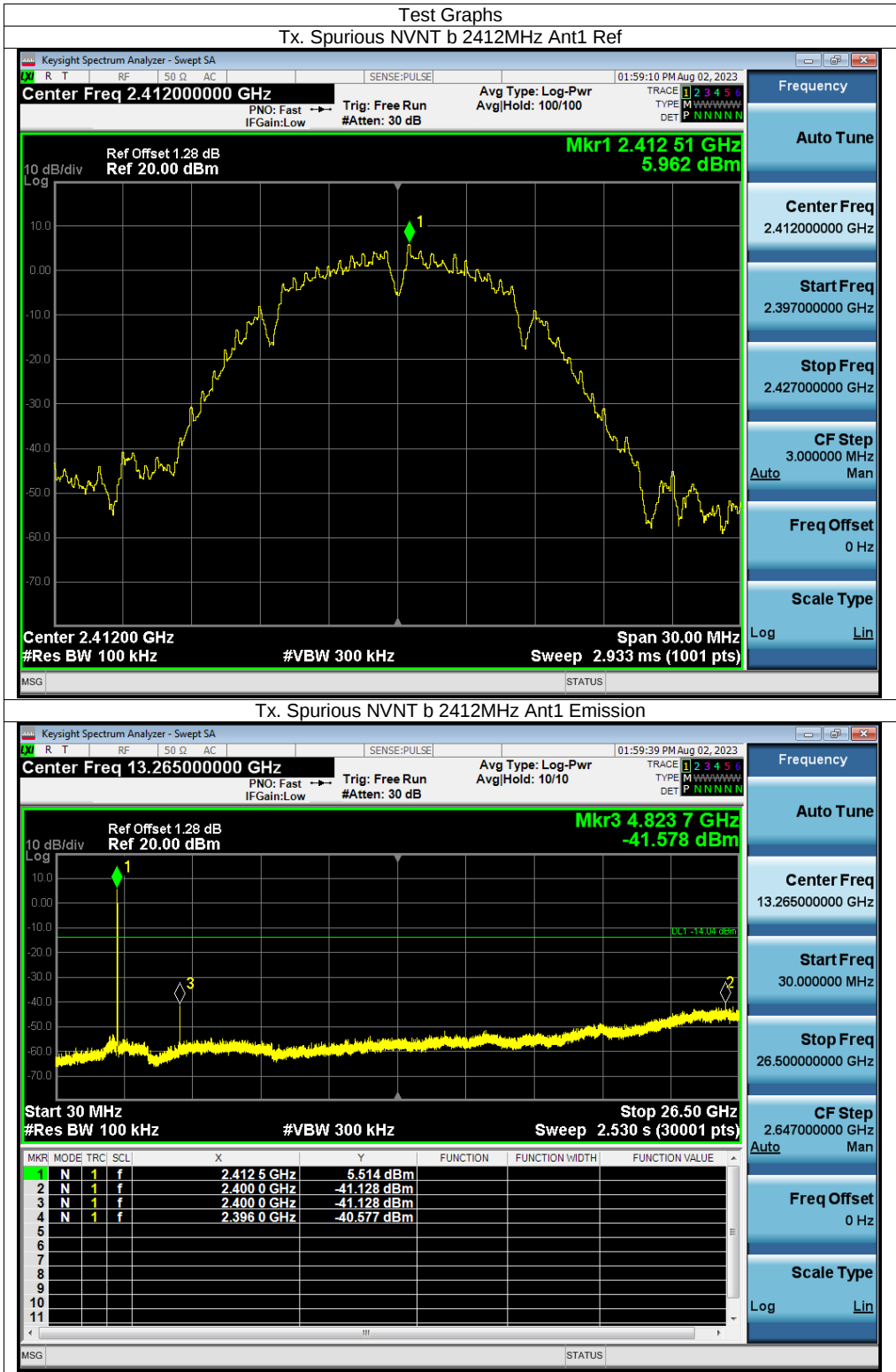


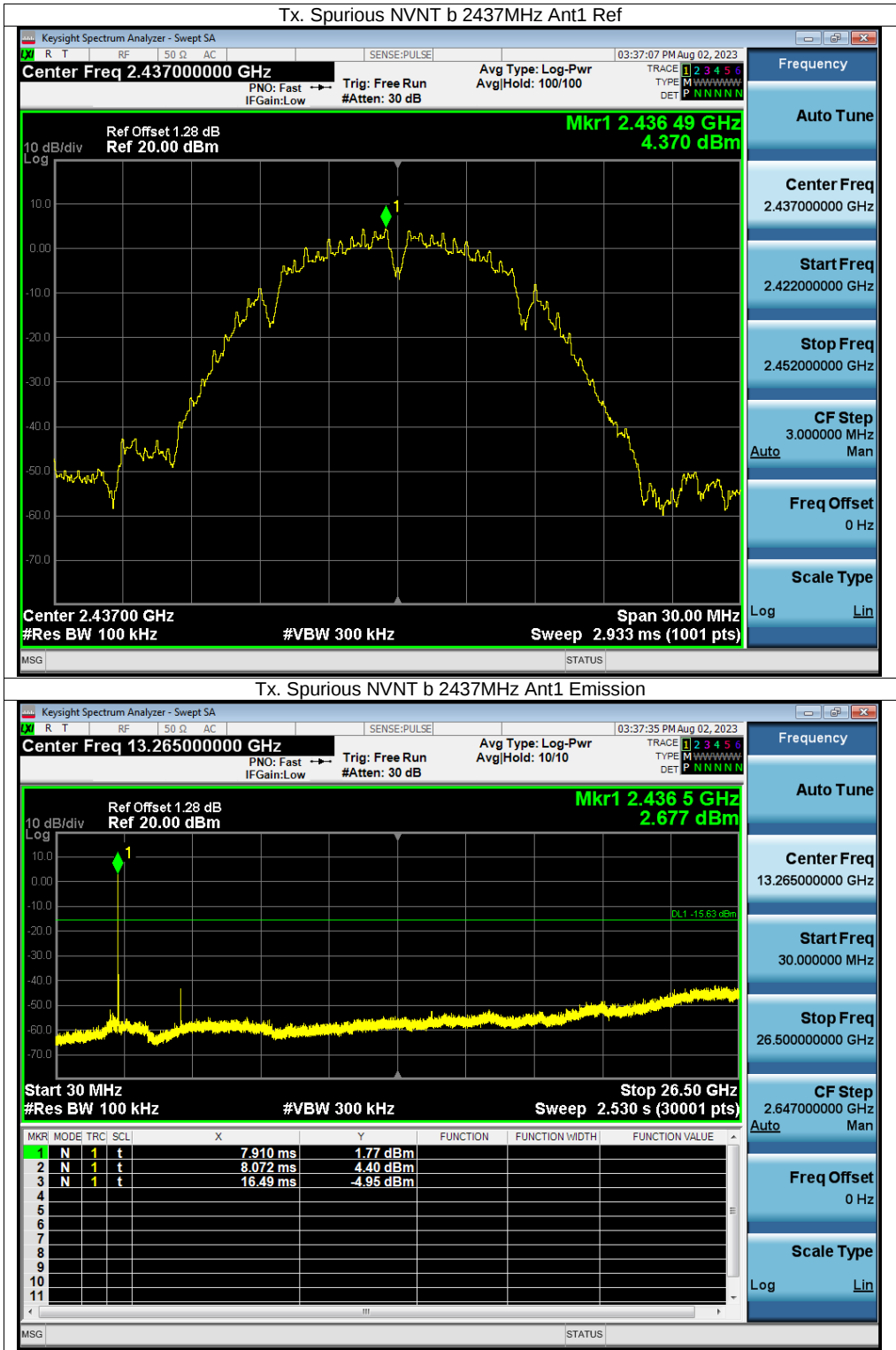


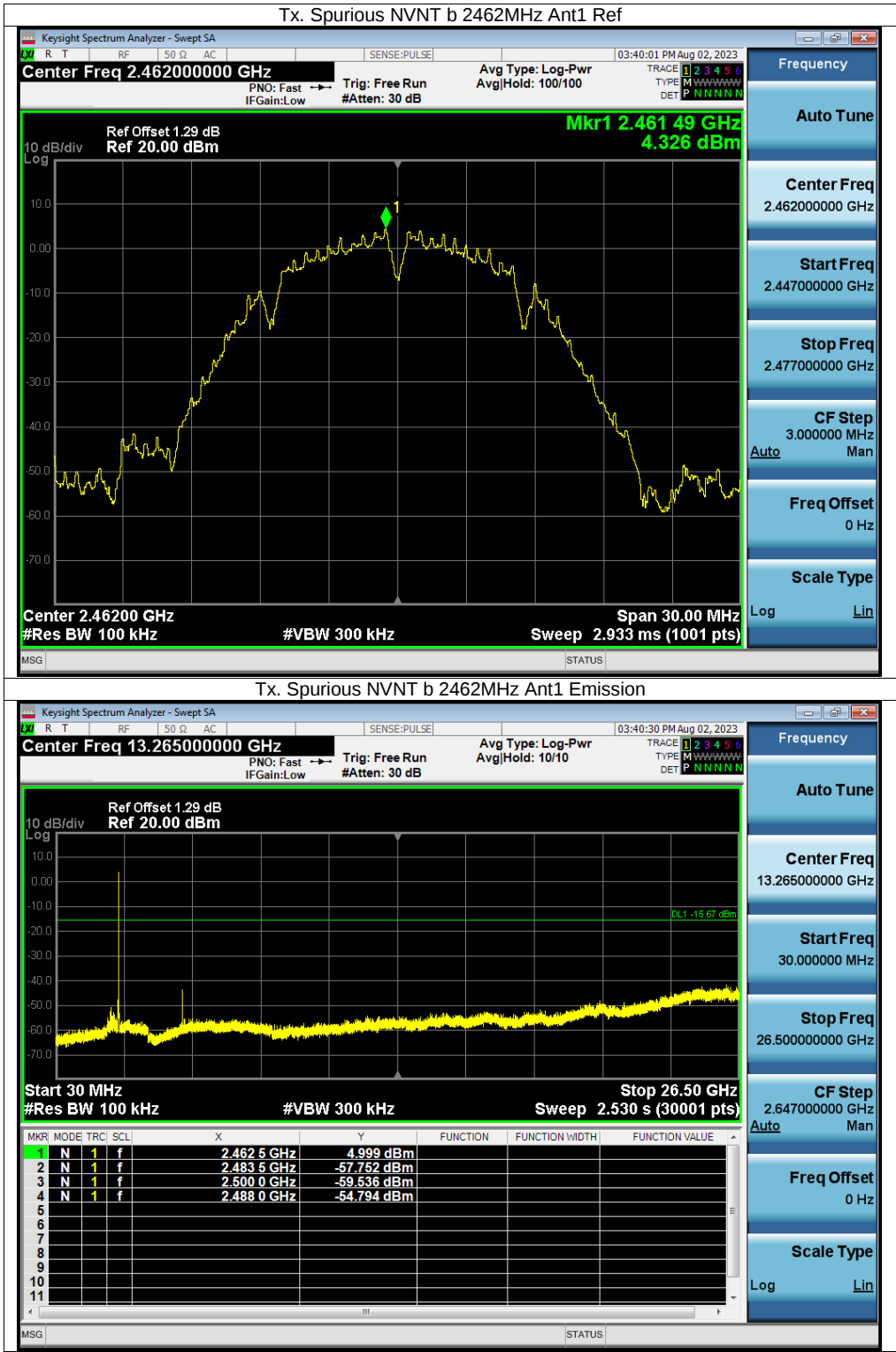


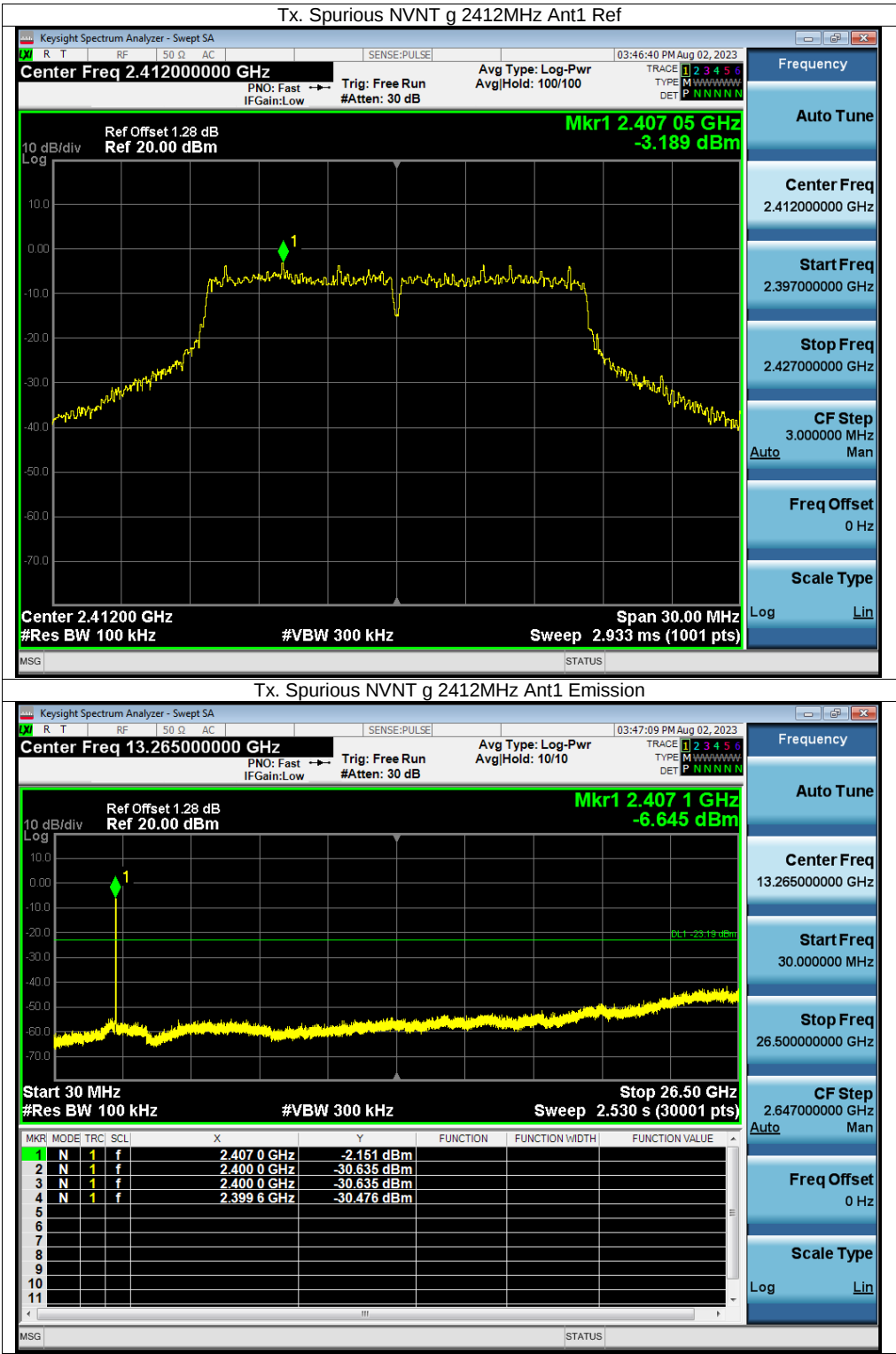
Appendix F Conducted RF Spurious Emission

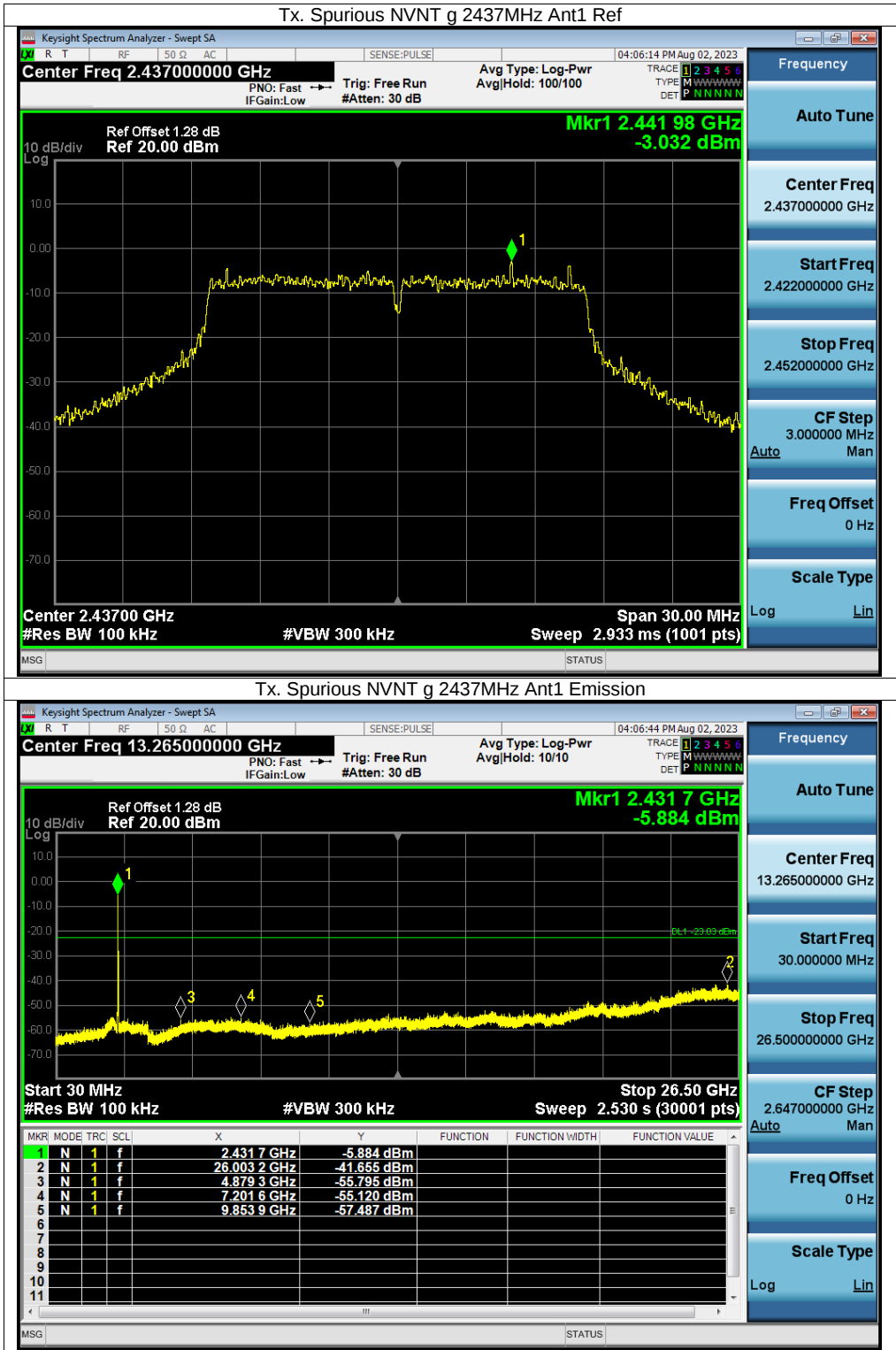
Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	b	2412	Ant1	-47.05	-20	Pass
NVNT	b	2437	Ant1	-46.39	-20	Pass
NVNT	b	2462	Ant1	-46.12	-20	Pass
NVNT	g	2412	Ant1	-38.63	-20	Pass
NVNT	g	2437	Ant1	-38.62	-20	Pass
NVNT	g	2462	Ant1	-39.37	-20	Pass
NVNT	n20	2412	Ant1	-40.26	-20	Pass
NVNT	n20	2437	Ant1	-38.72	-20	Pass
NVNT	n20	2462	Ant1	-38.08	-20	Pass
NVNT	n40	2422	Ant1	-36.81	-20	Pass
NVNT	n40	2437	Ant1	-36.16	-20	Pass
NVNT	n40	2452	Ant1	-35.66	-20	Pass
NVNT	ax20	2412	Ant1	-39.41	-20	Pass
NVNT	ax20	2437	Ant1	-38.94	-20	Pass
NVNT	ax20	2462	Ant1	-38.1	-20	Pass
NVNT	ax40	2422	Ant1	-35.88	-20	Pass
NVNT	ax40	2437	Ant1	-35.8	-20	Pass
NVNT	ax40	2452	Ant1	-36.5	-20	Pass

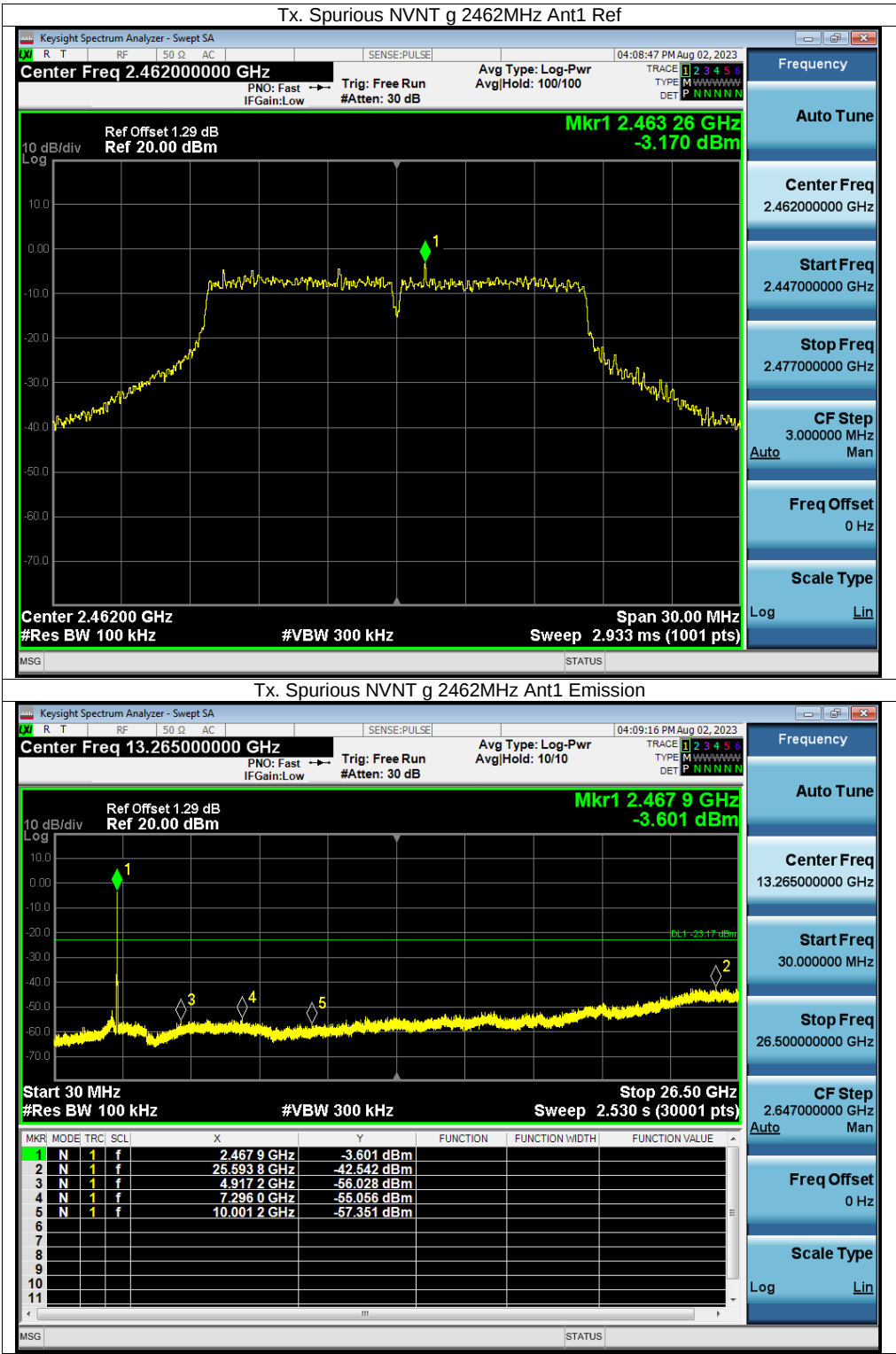


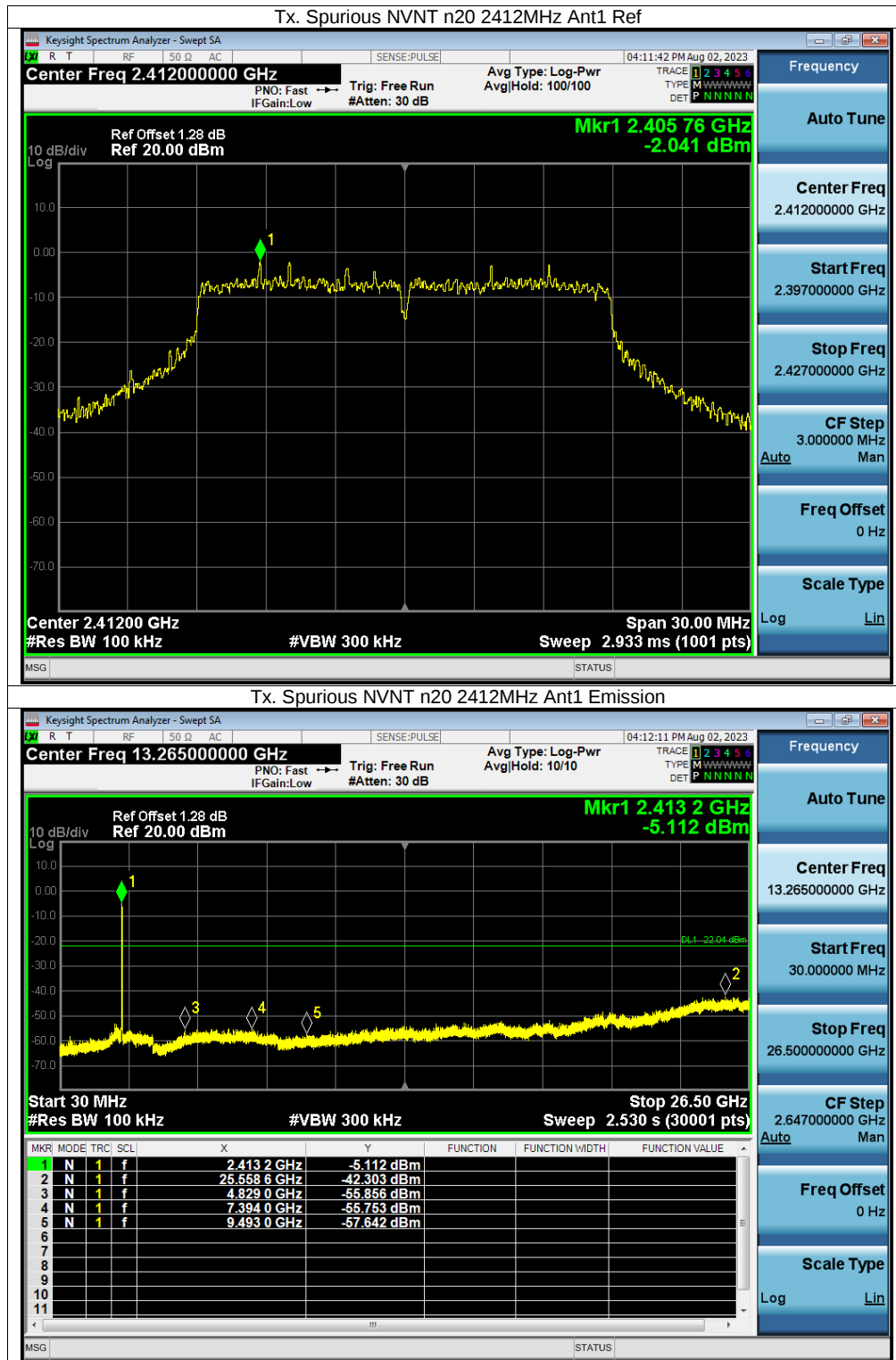


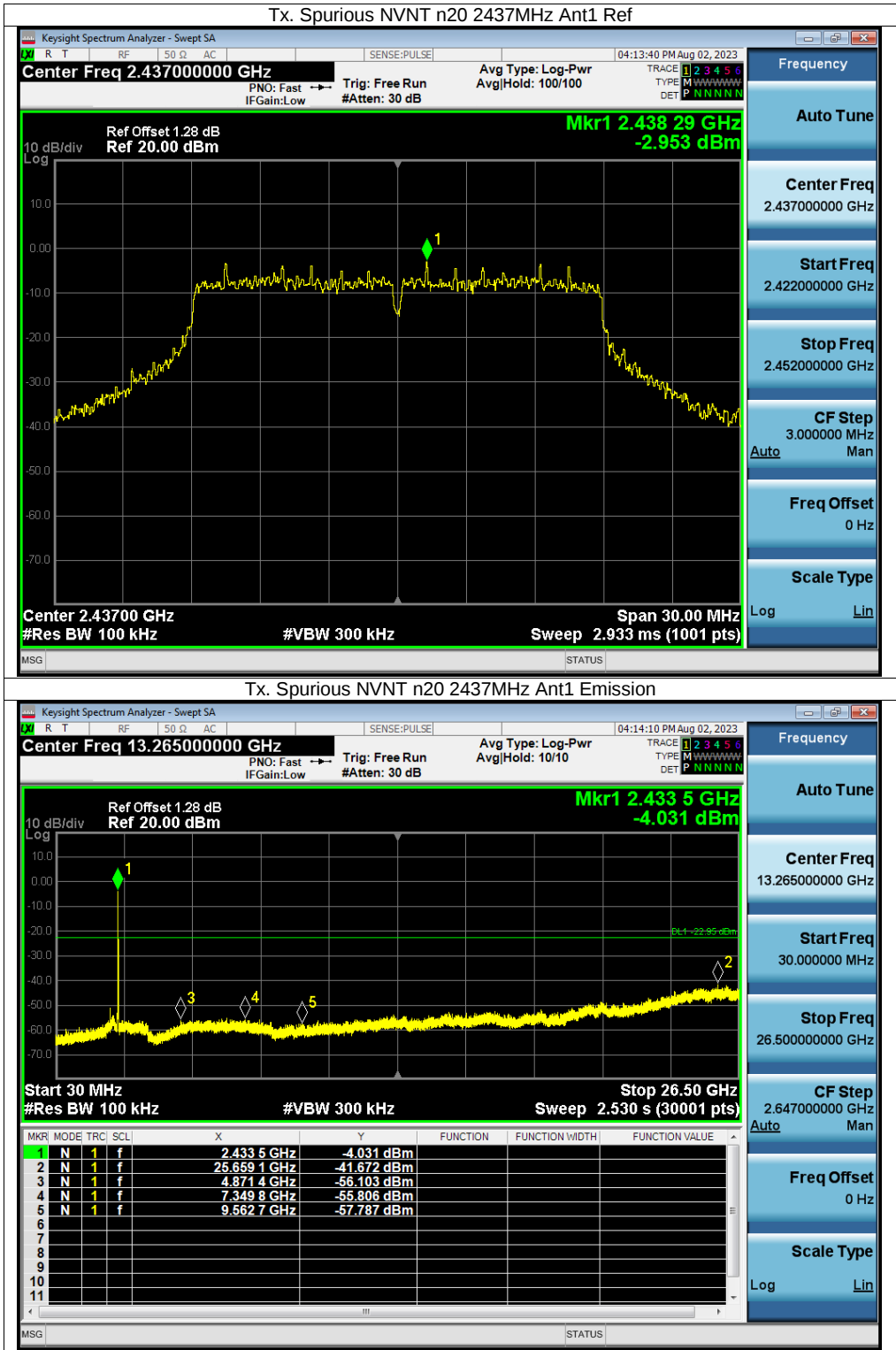


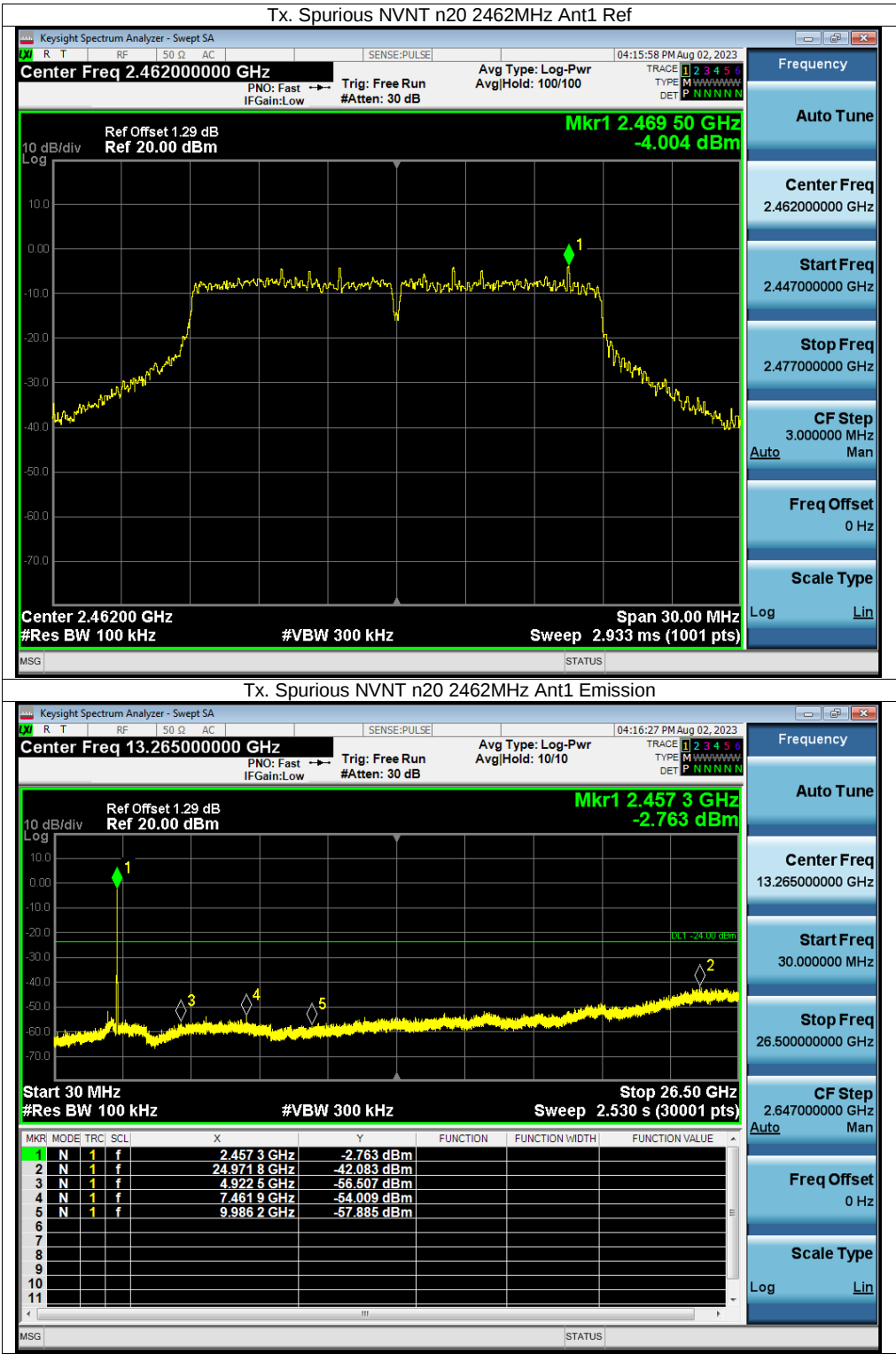


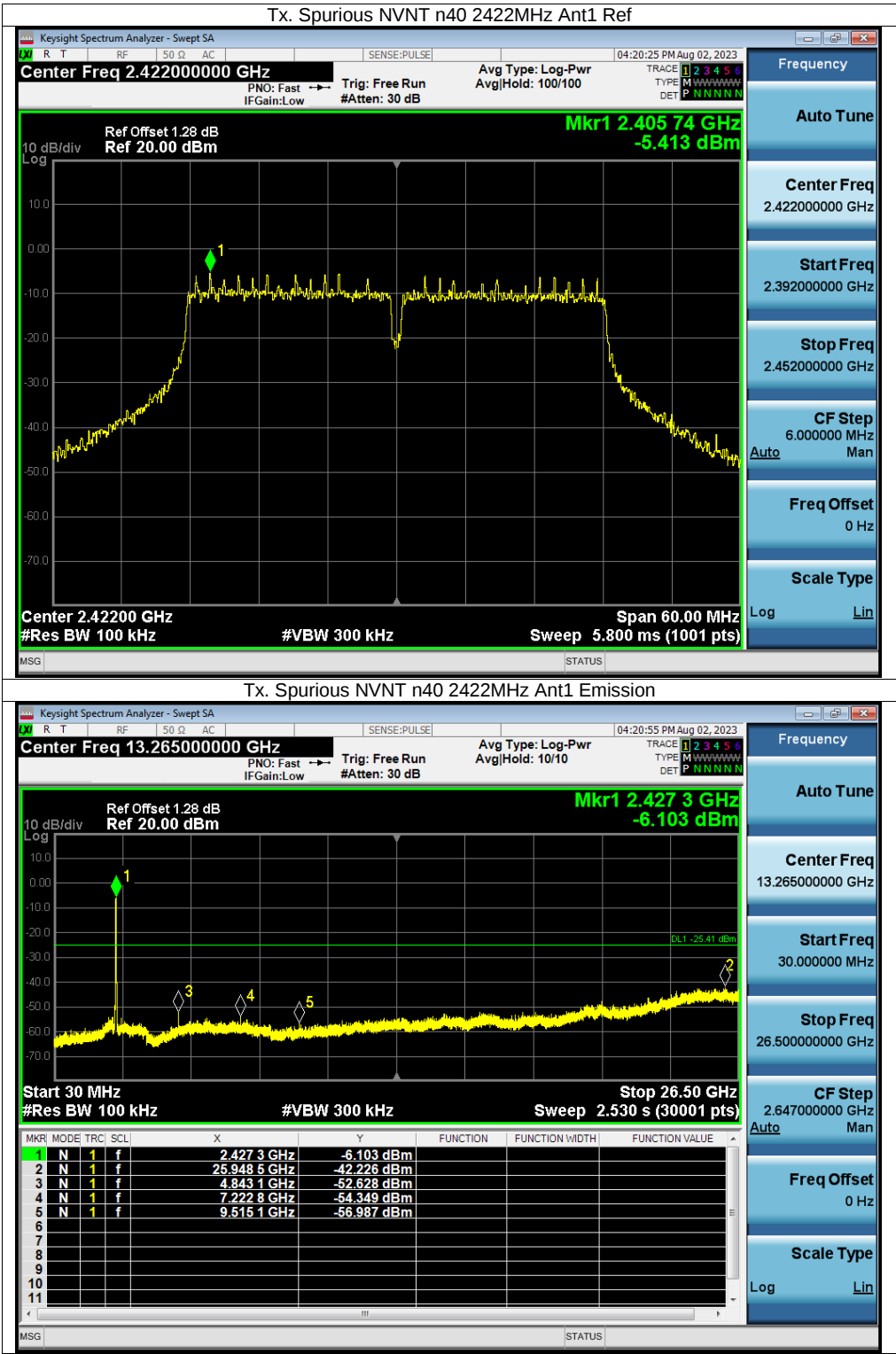


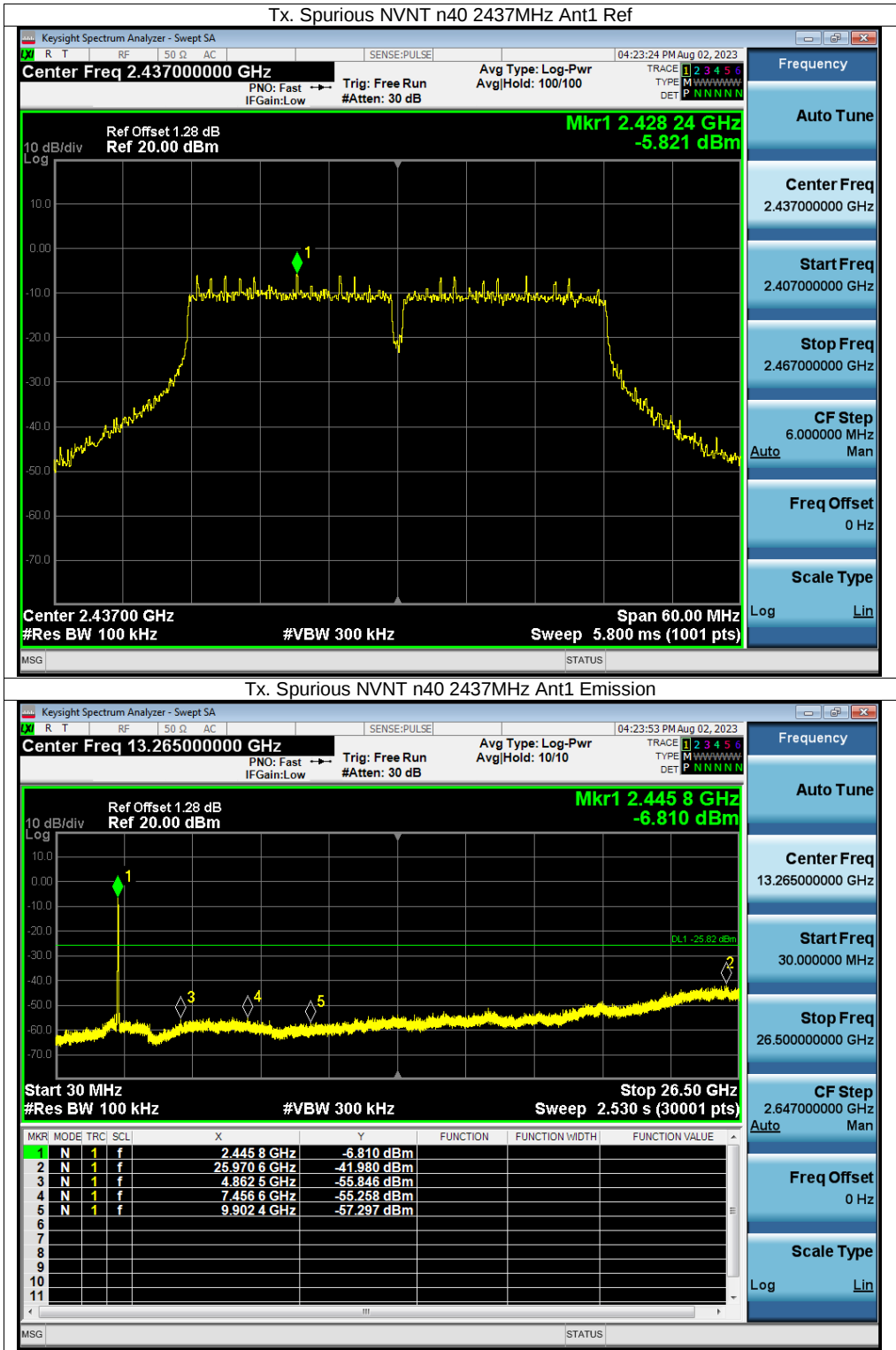


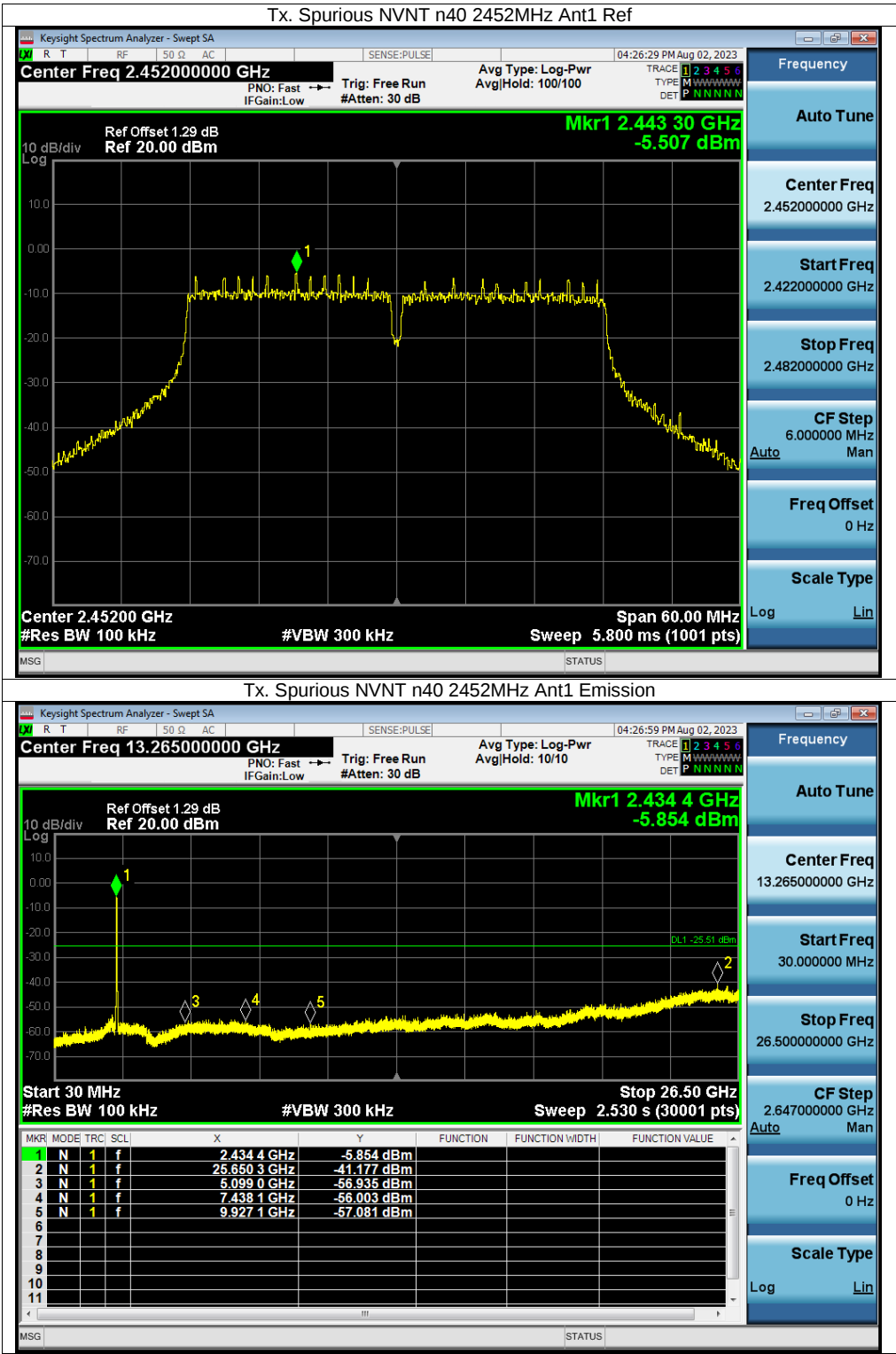


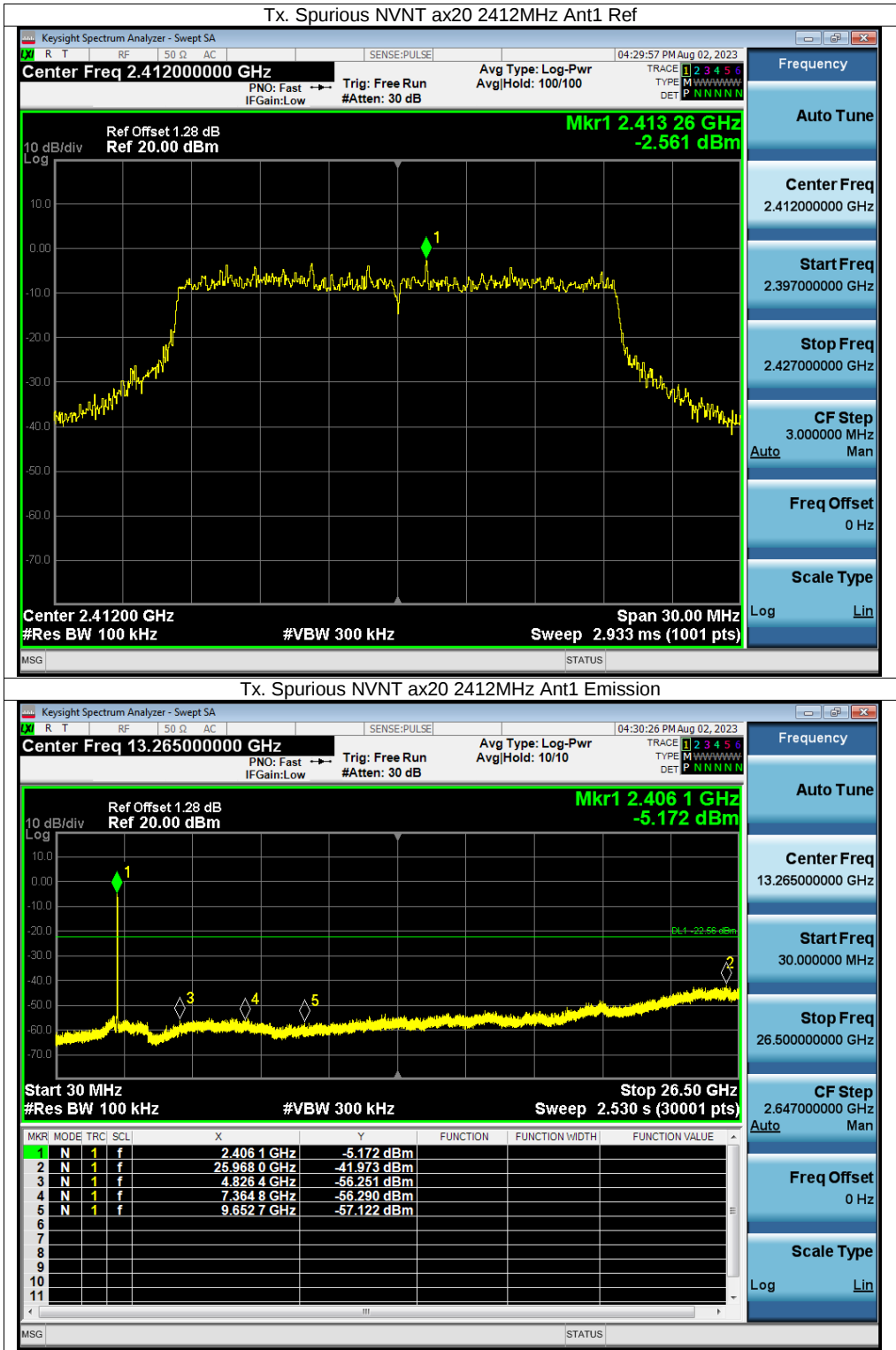


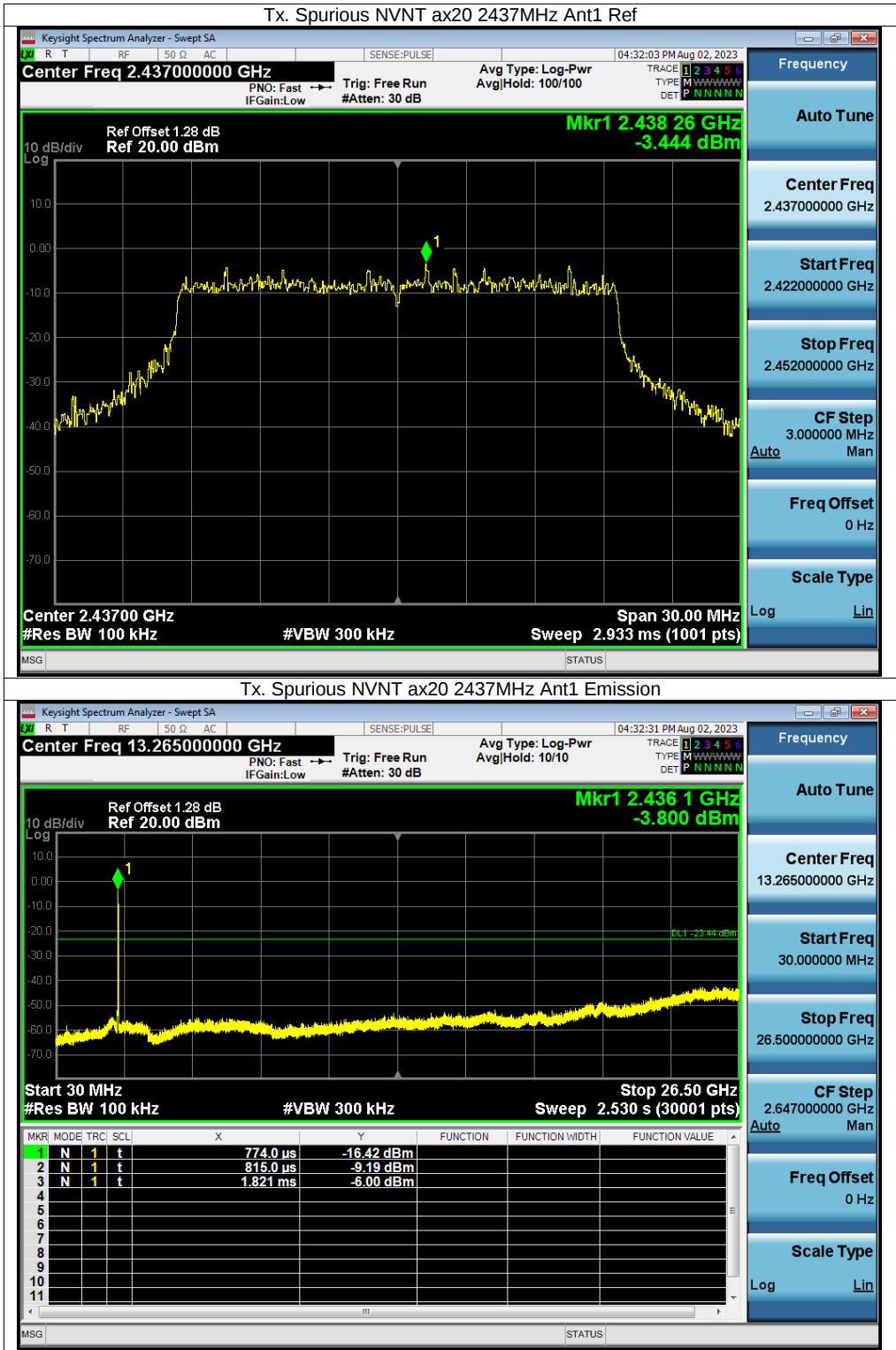


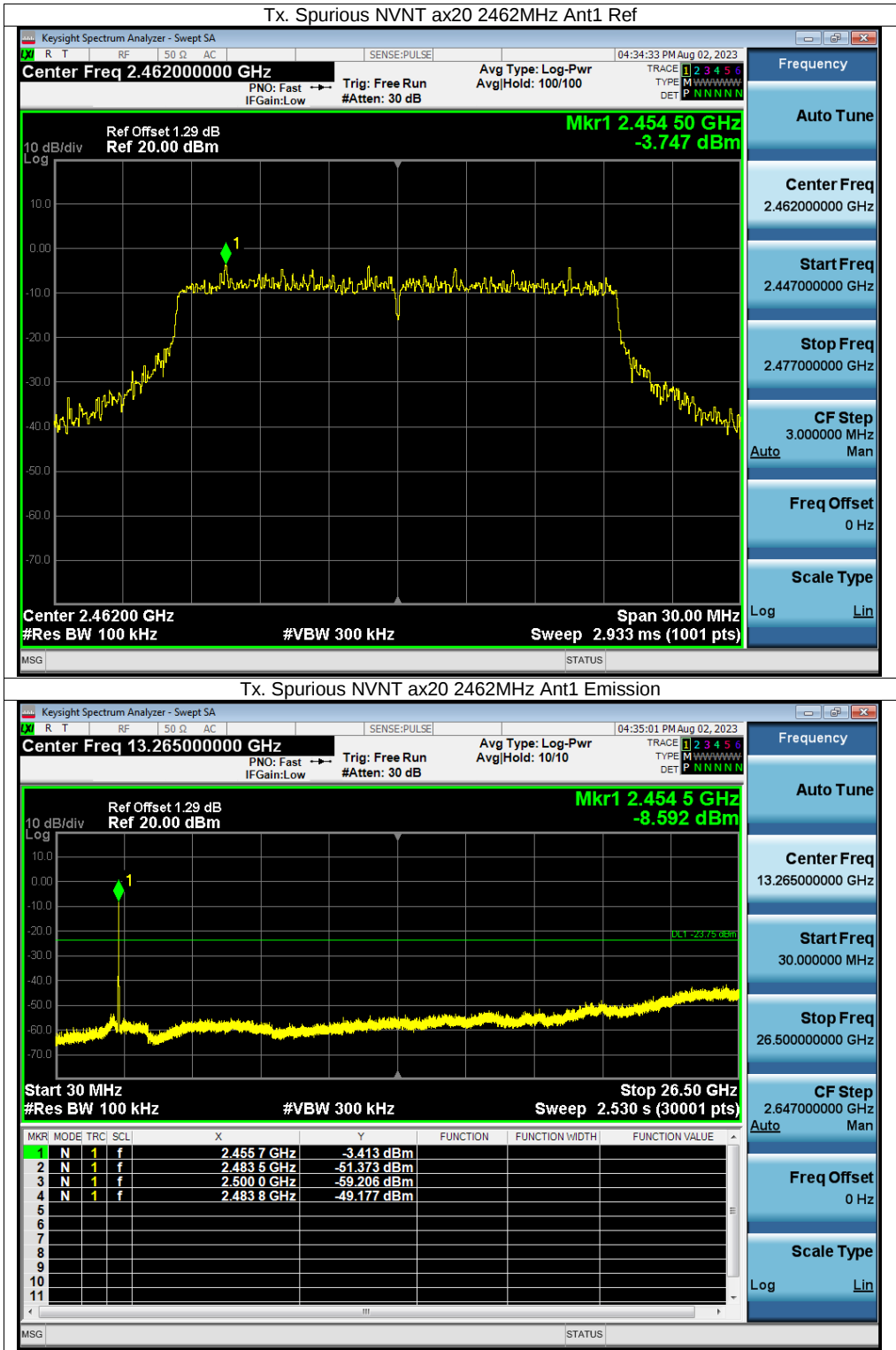


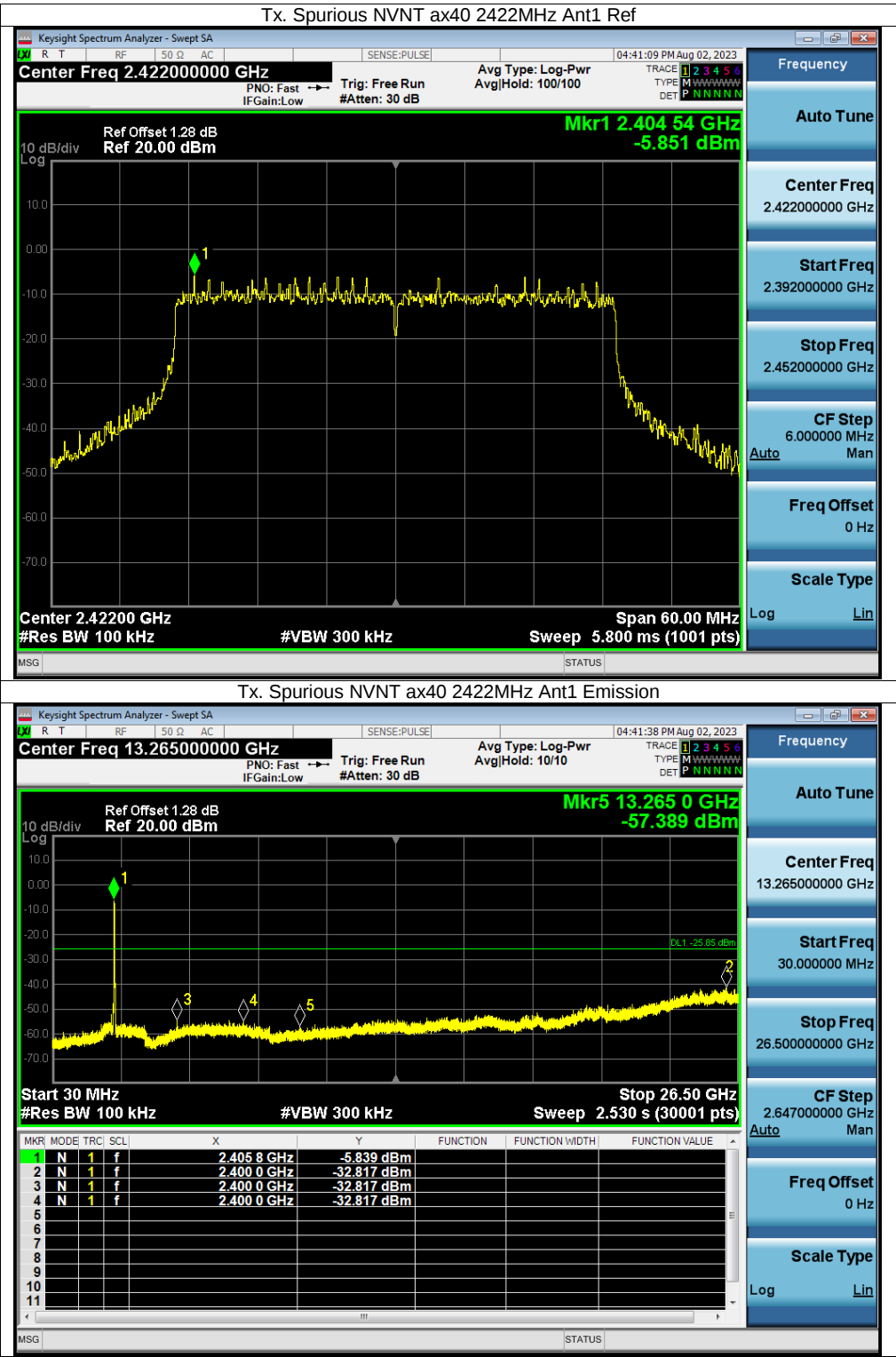


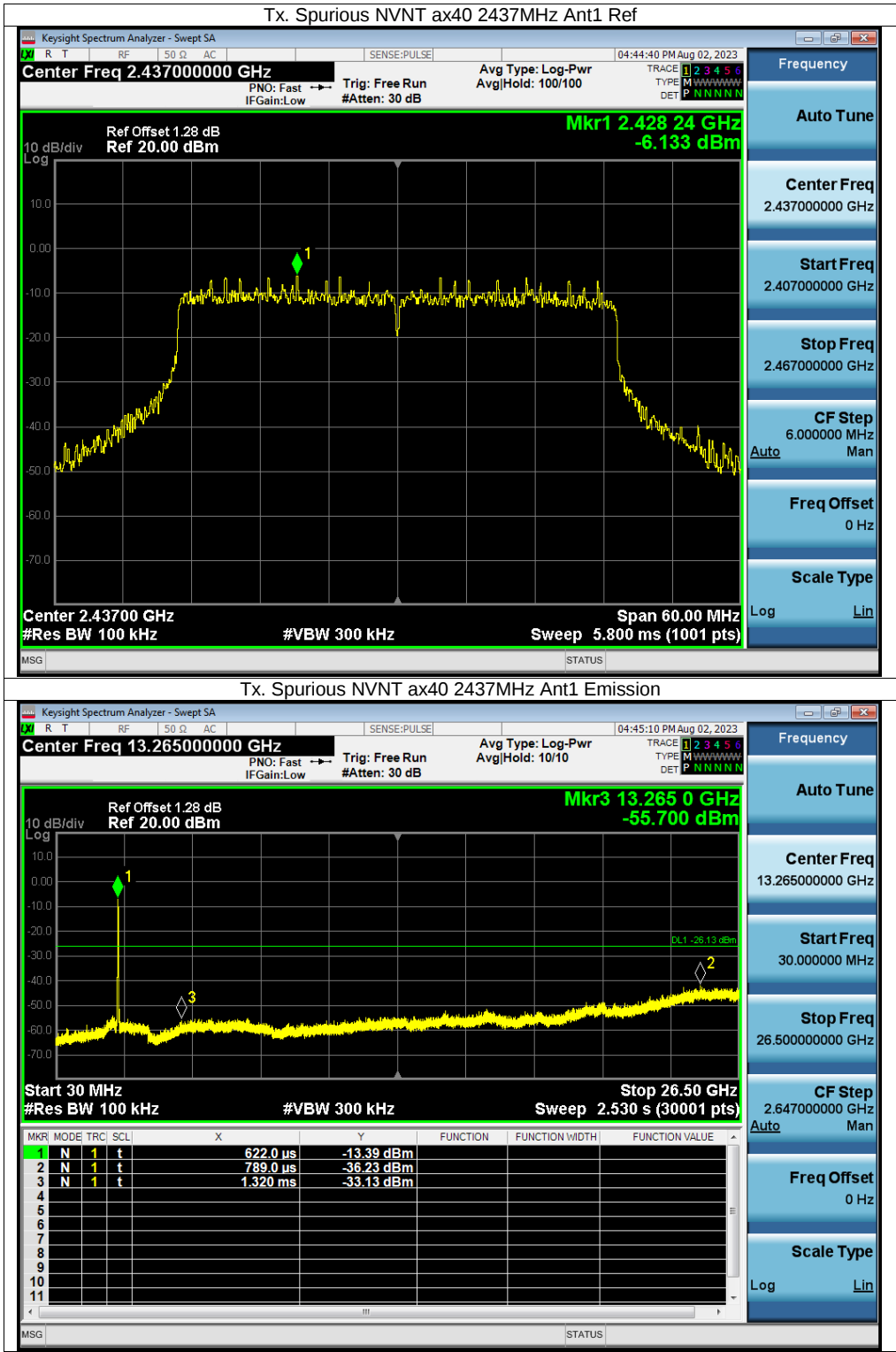


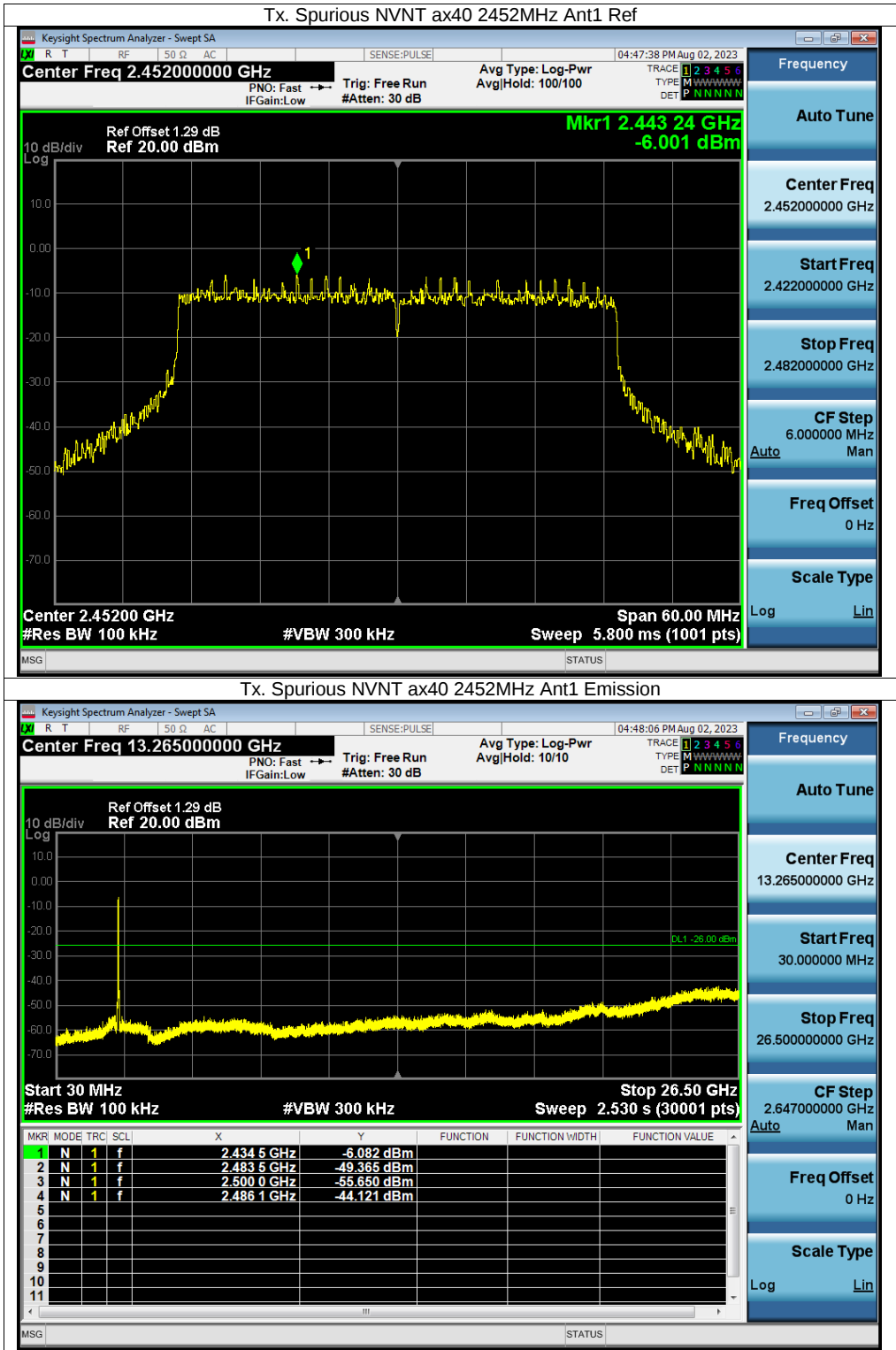












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