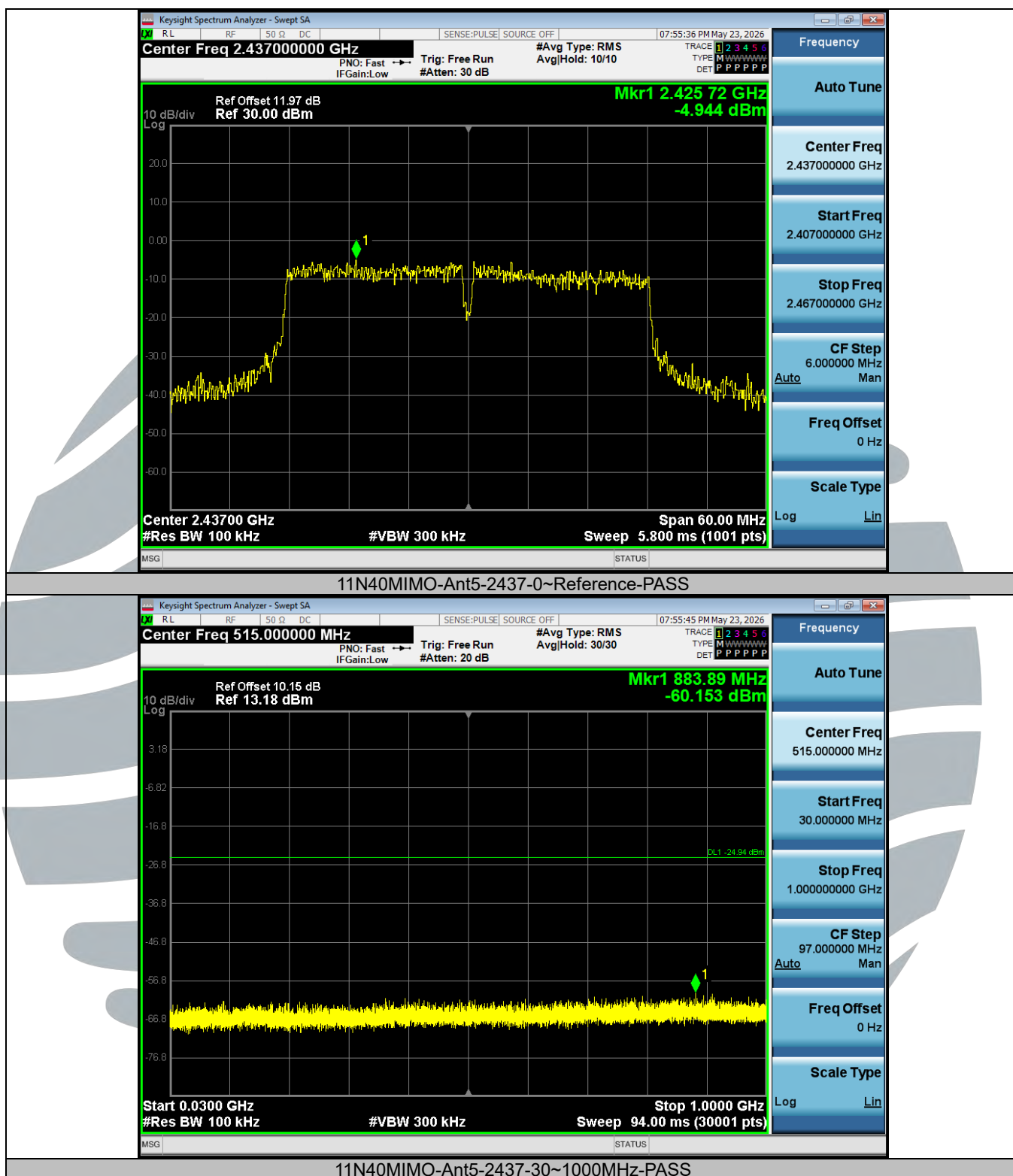




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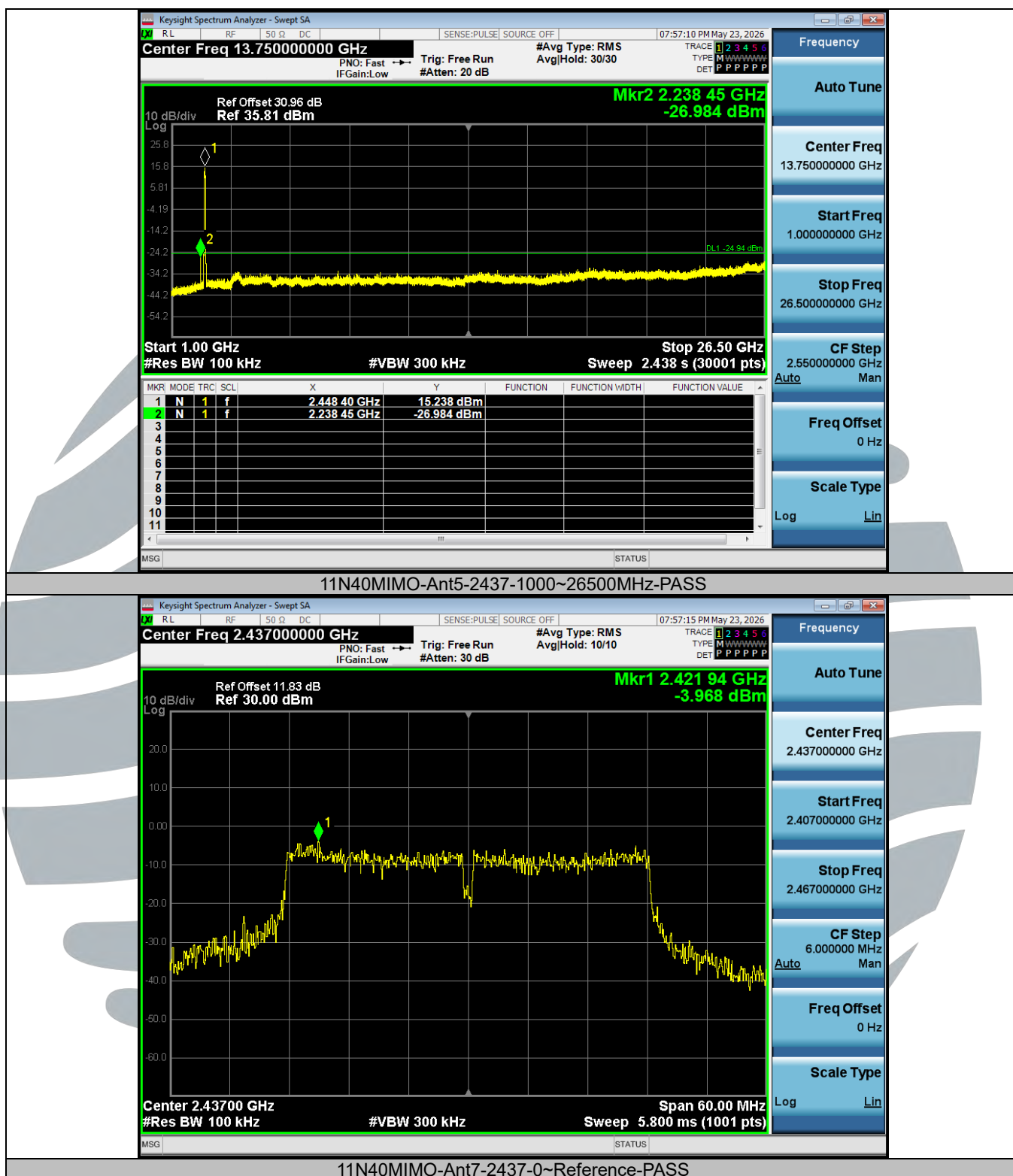
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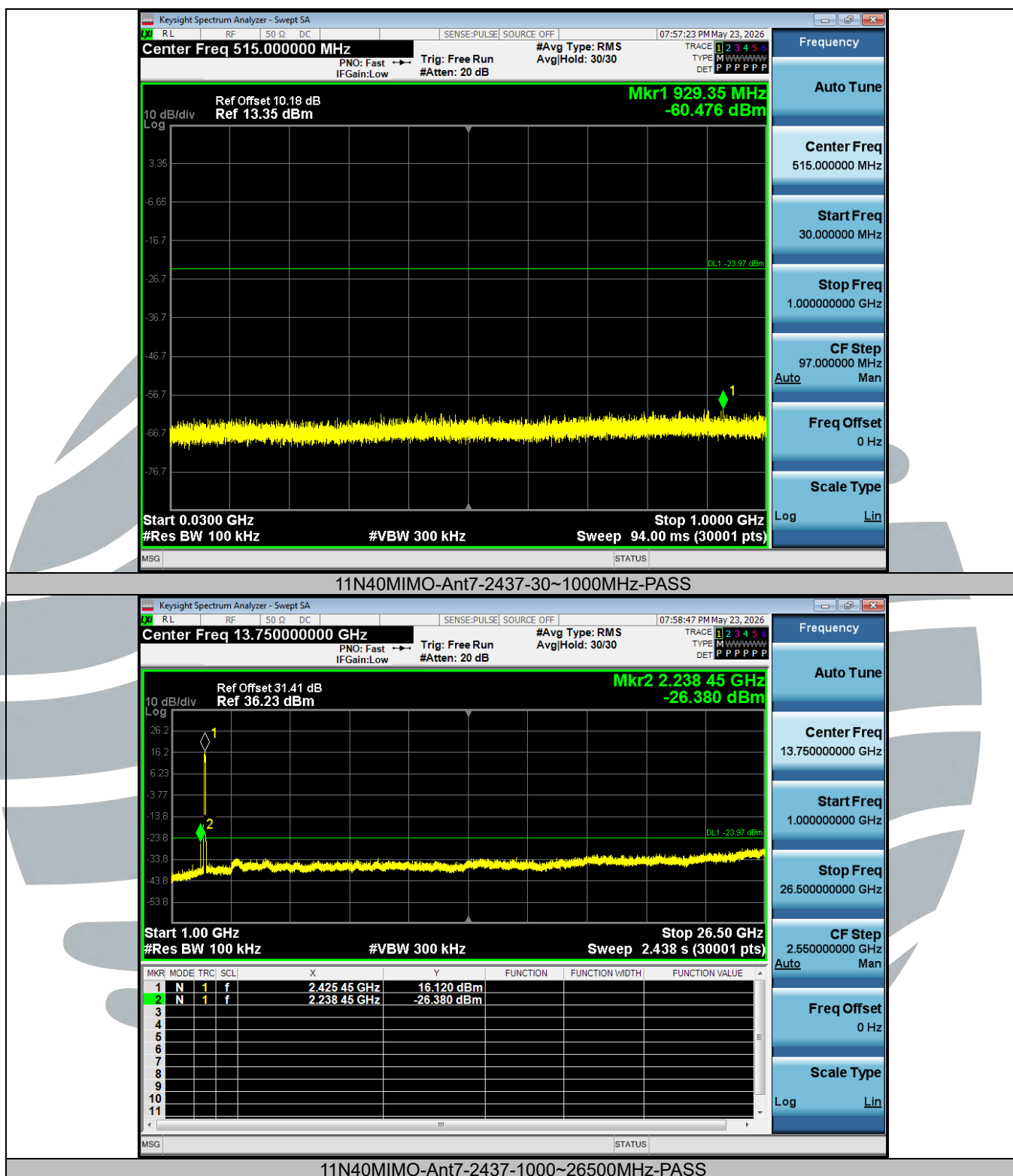
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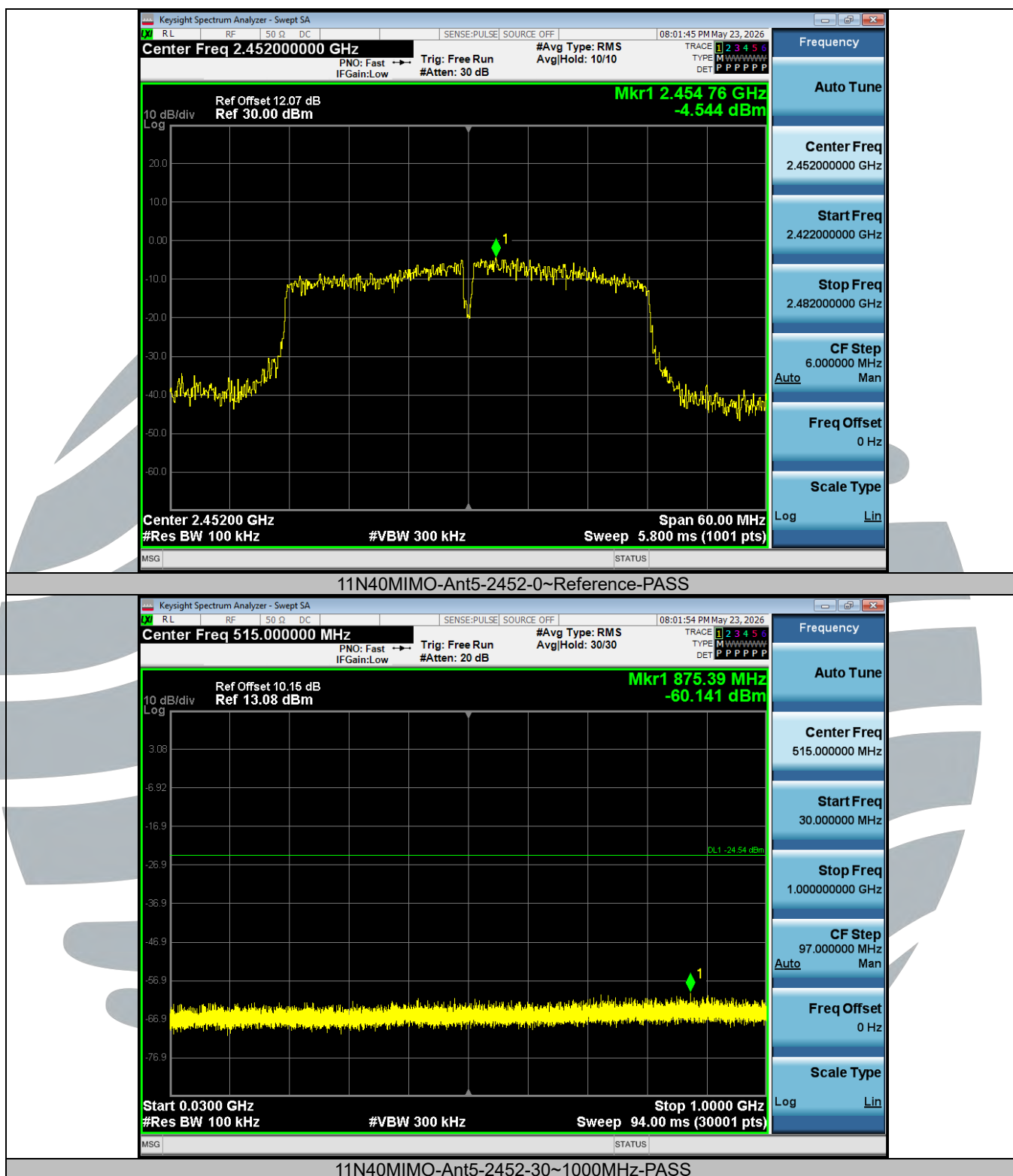
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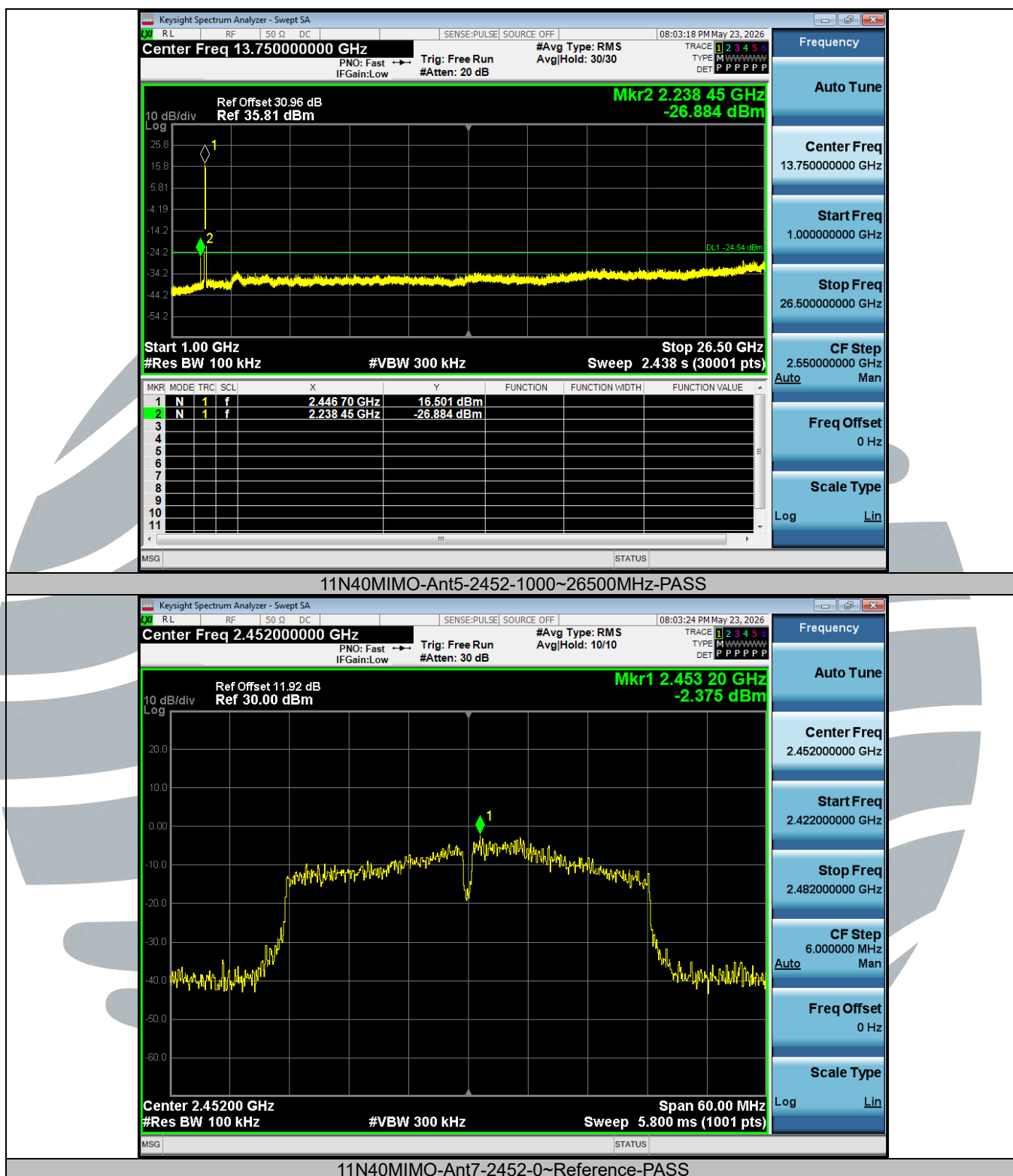
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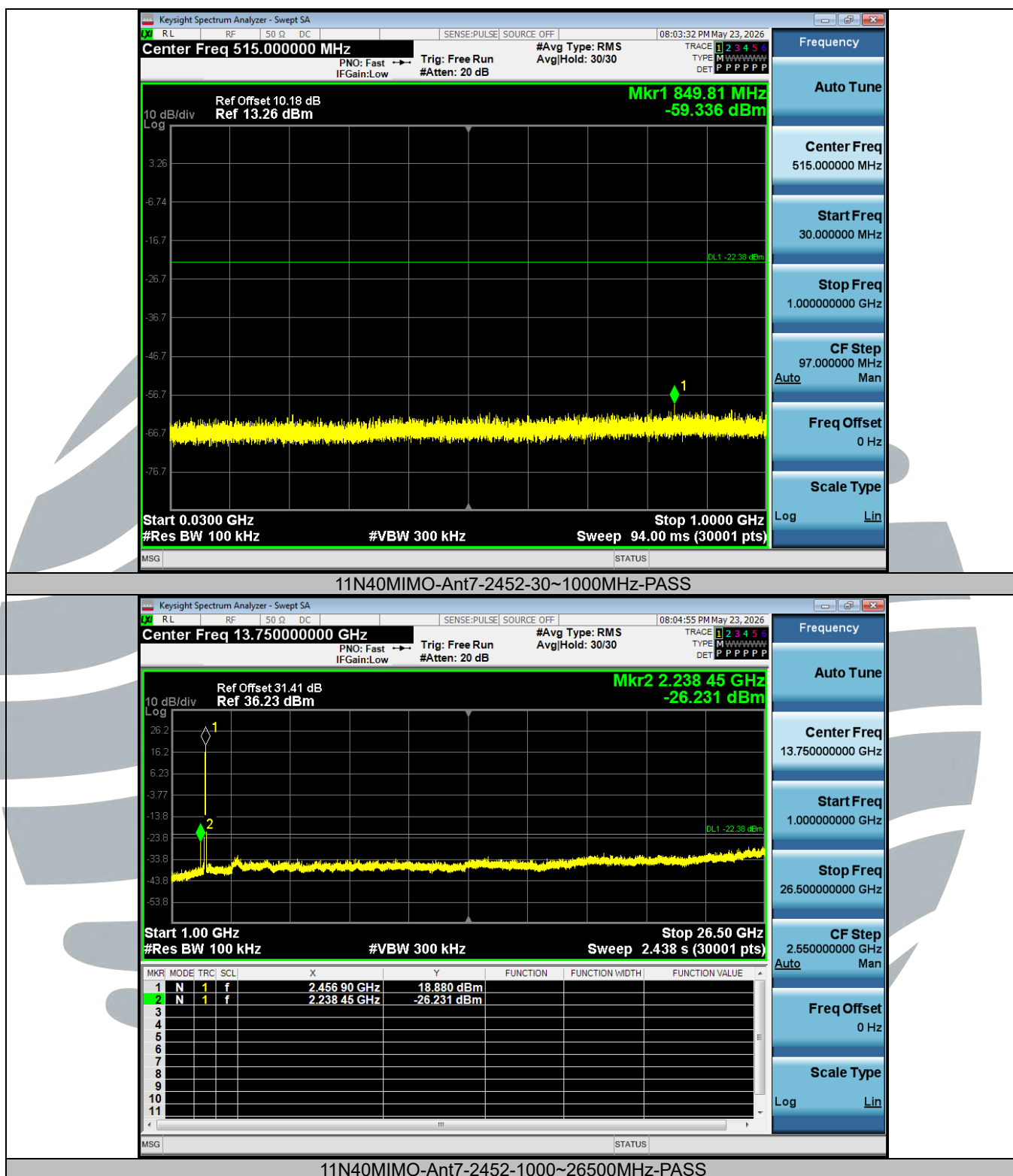
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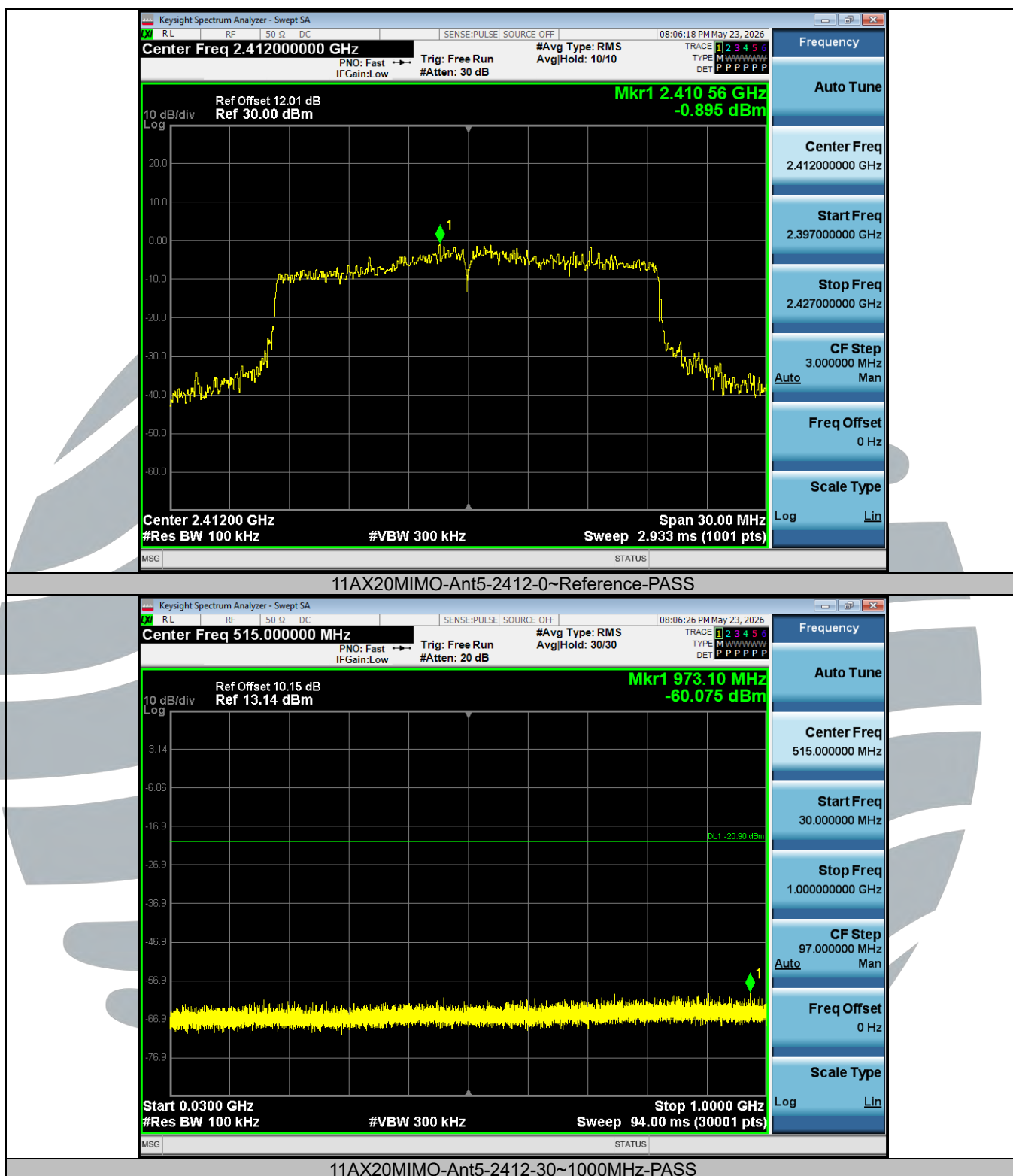
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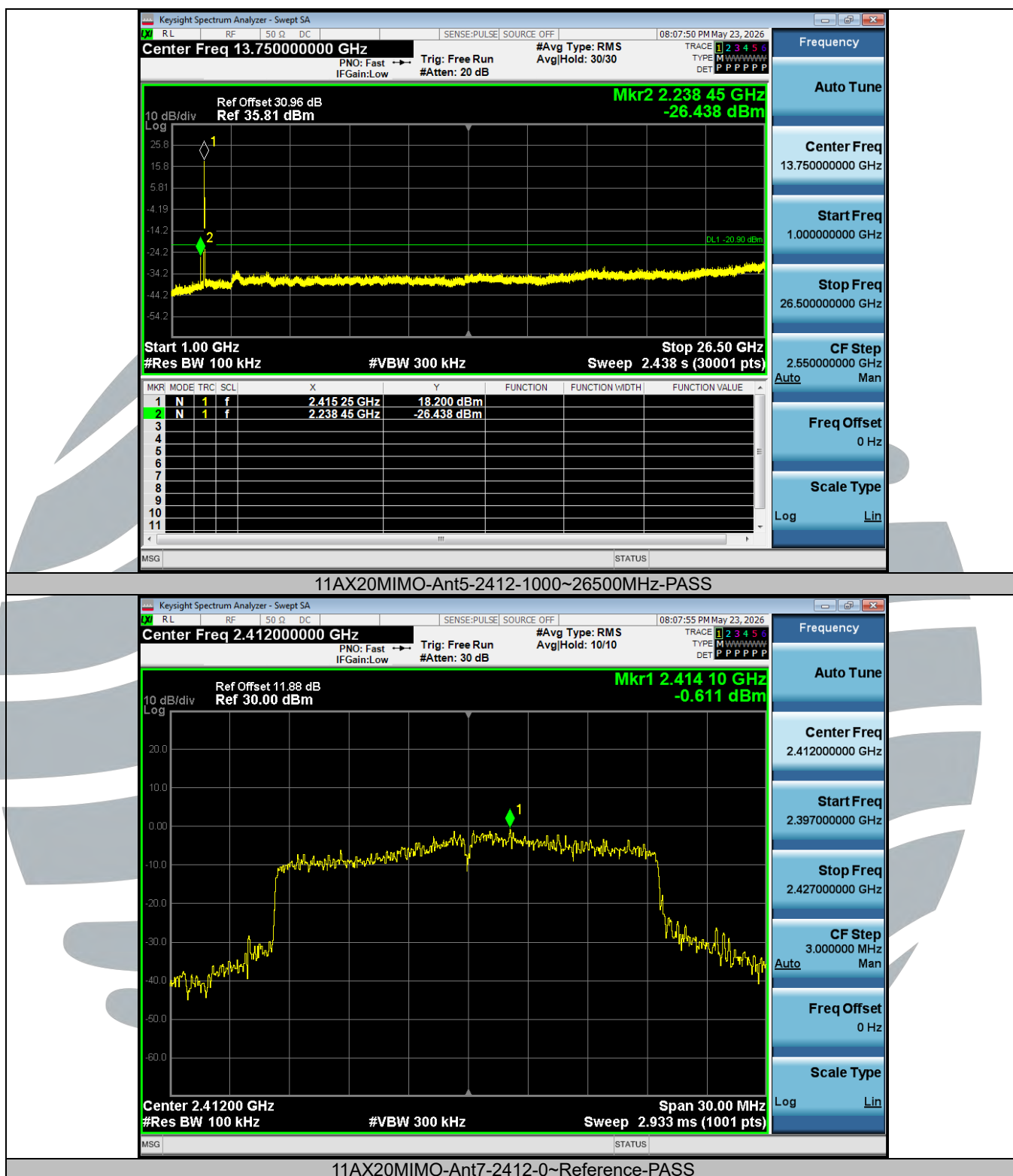
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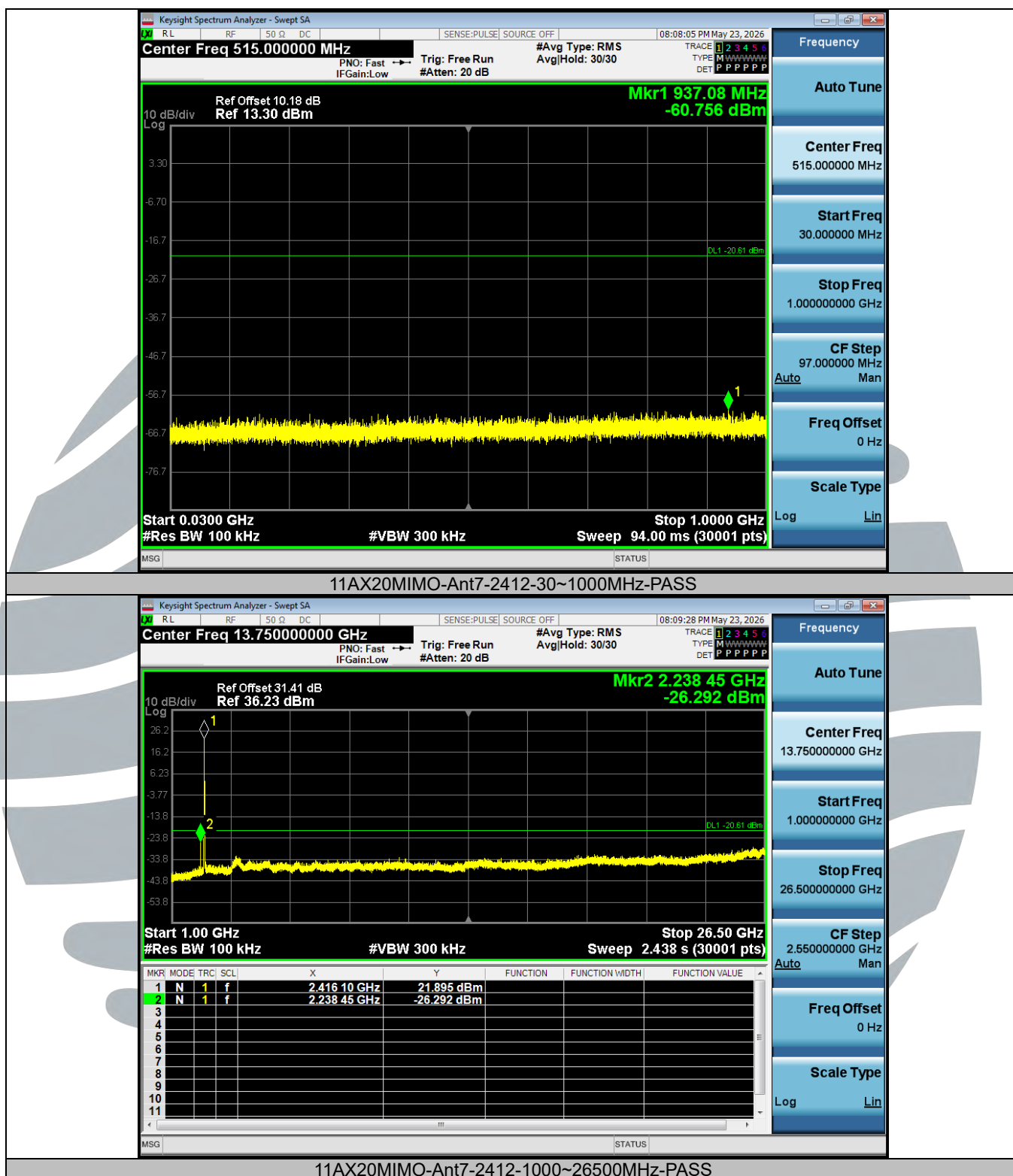
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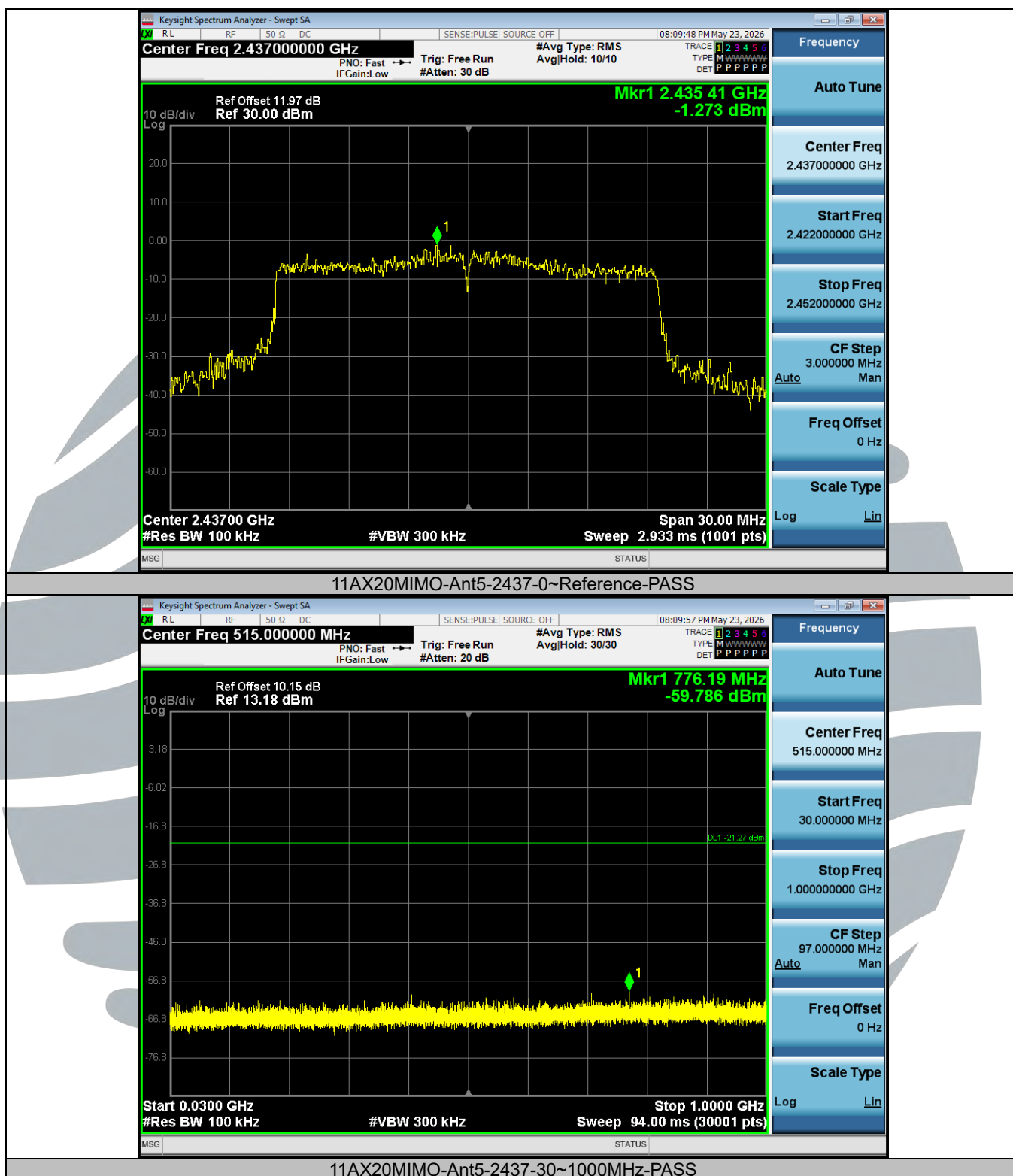
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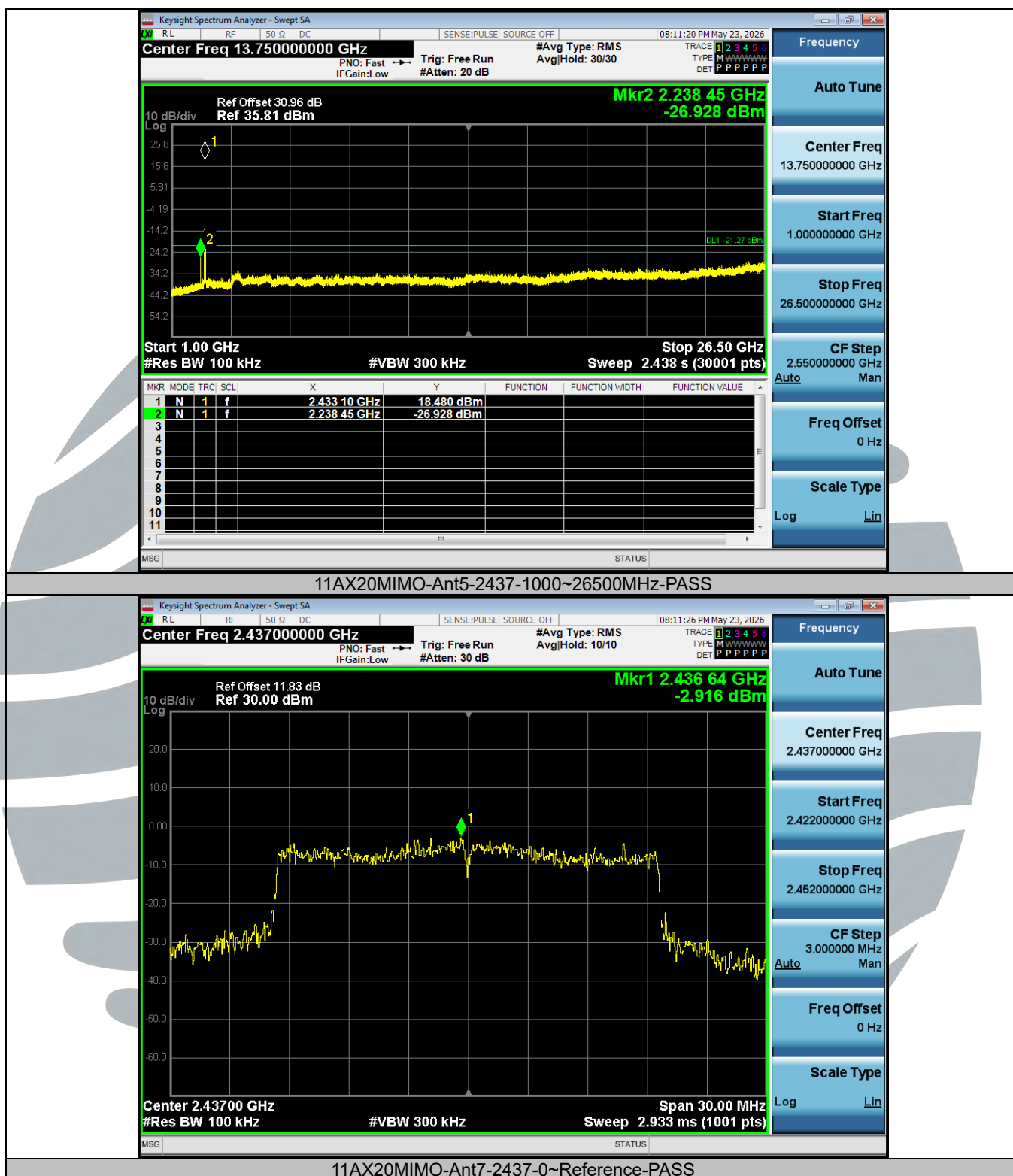
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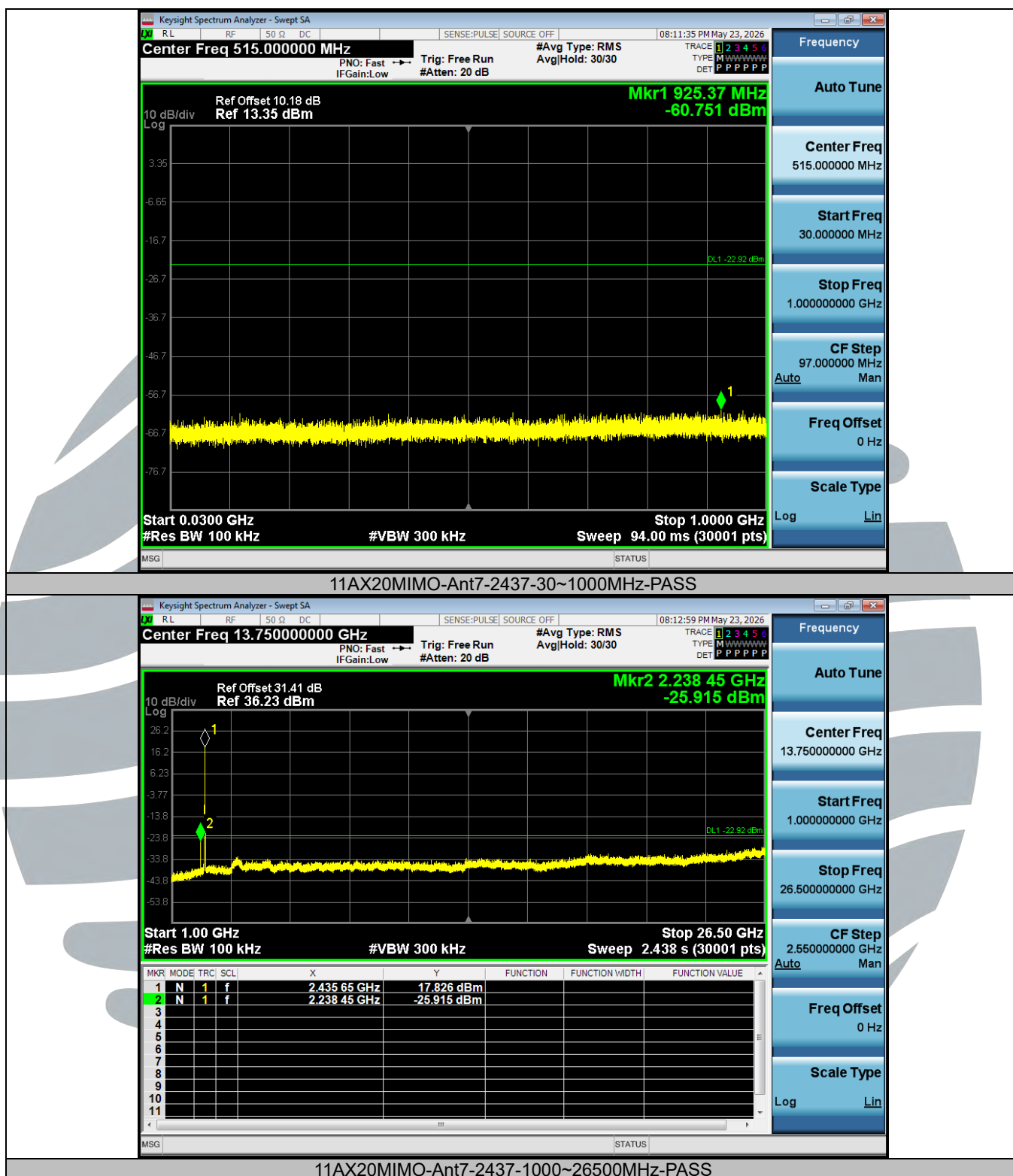
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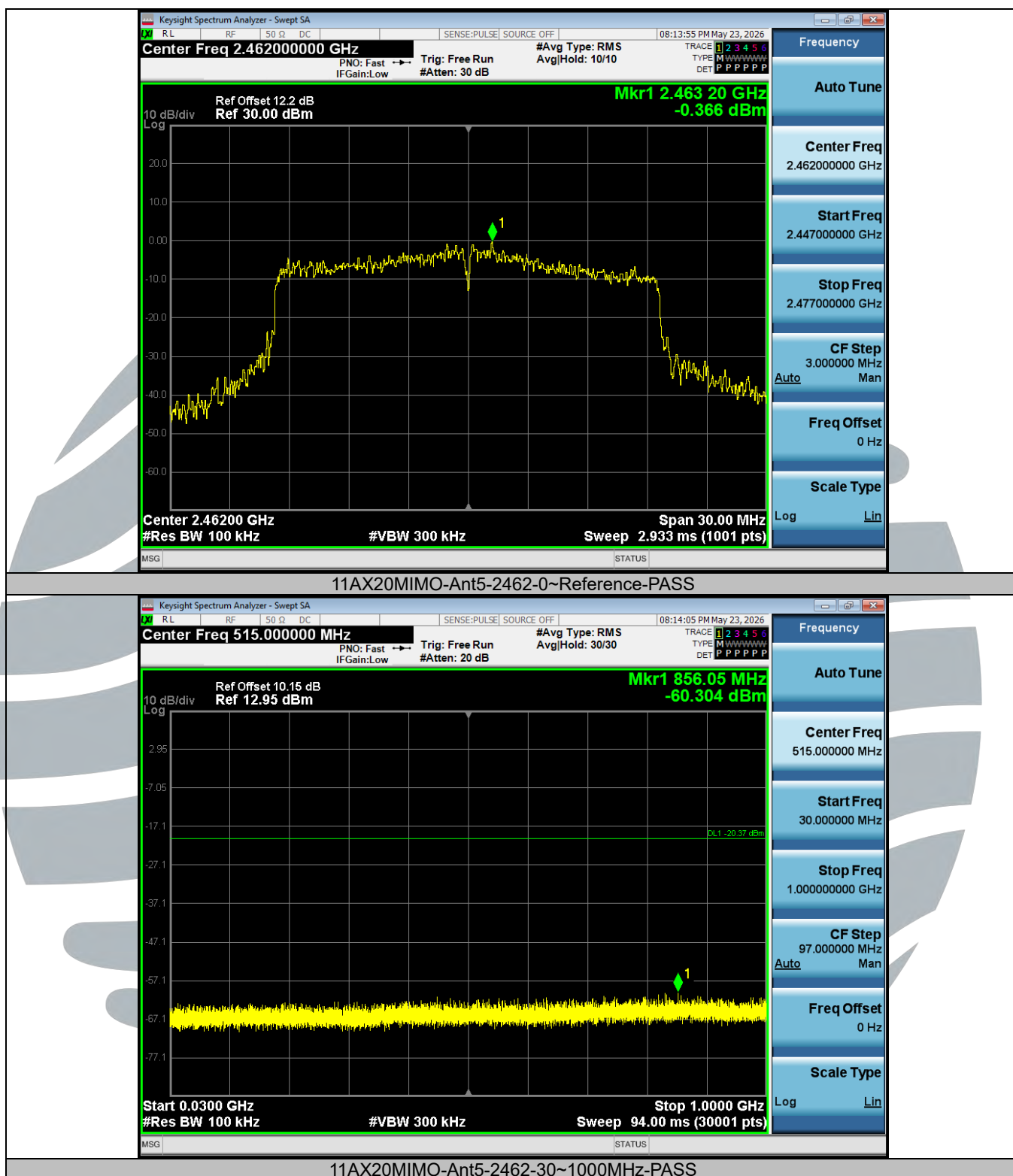
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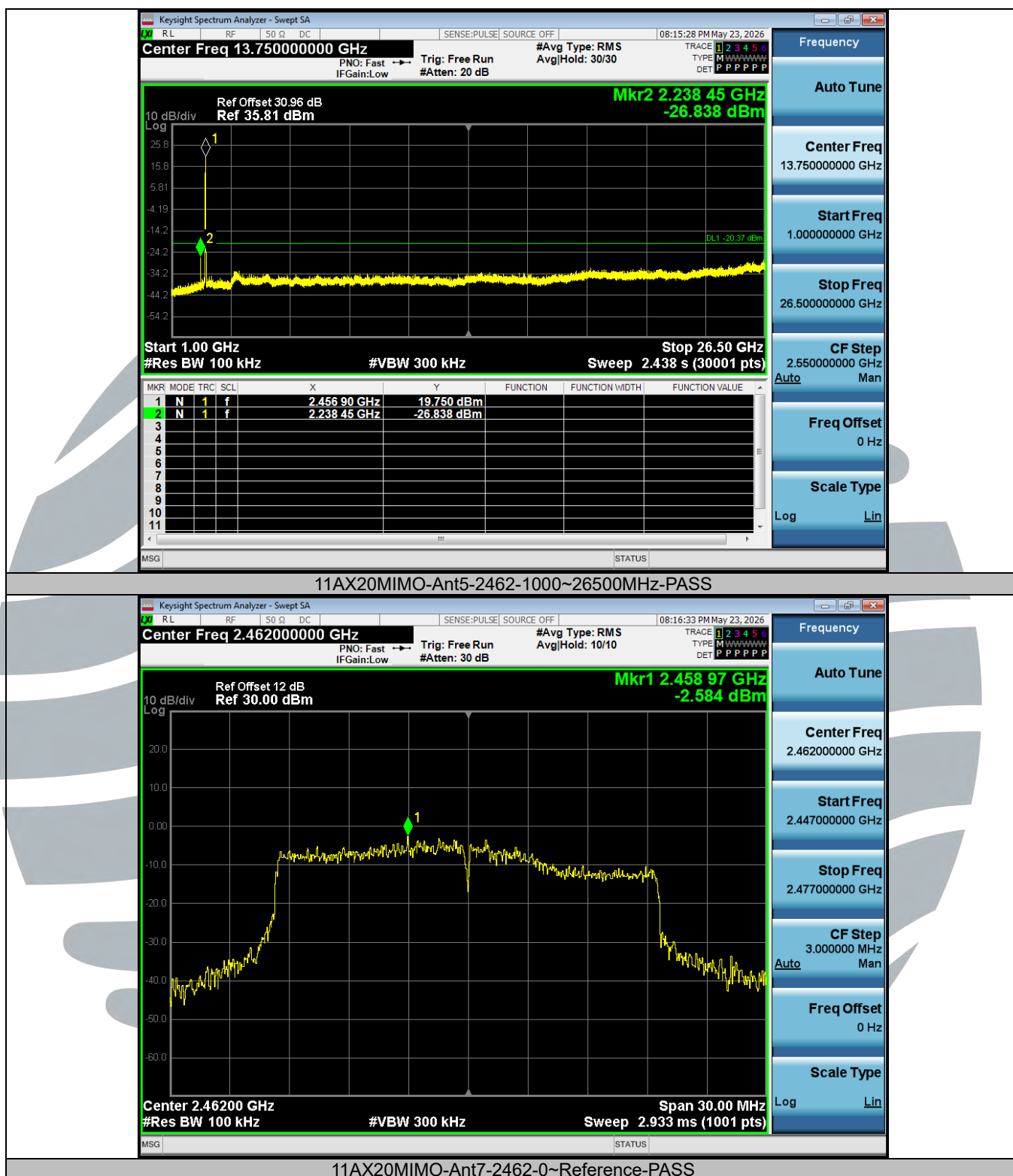
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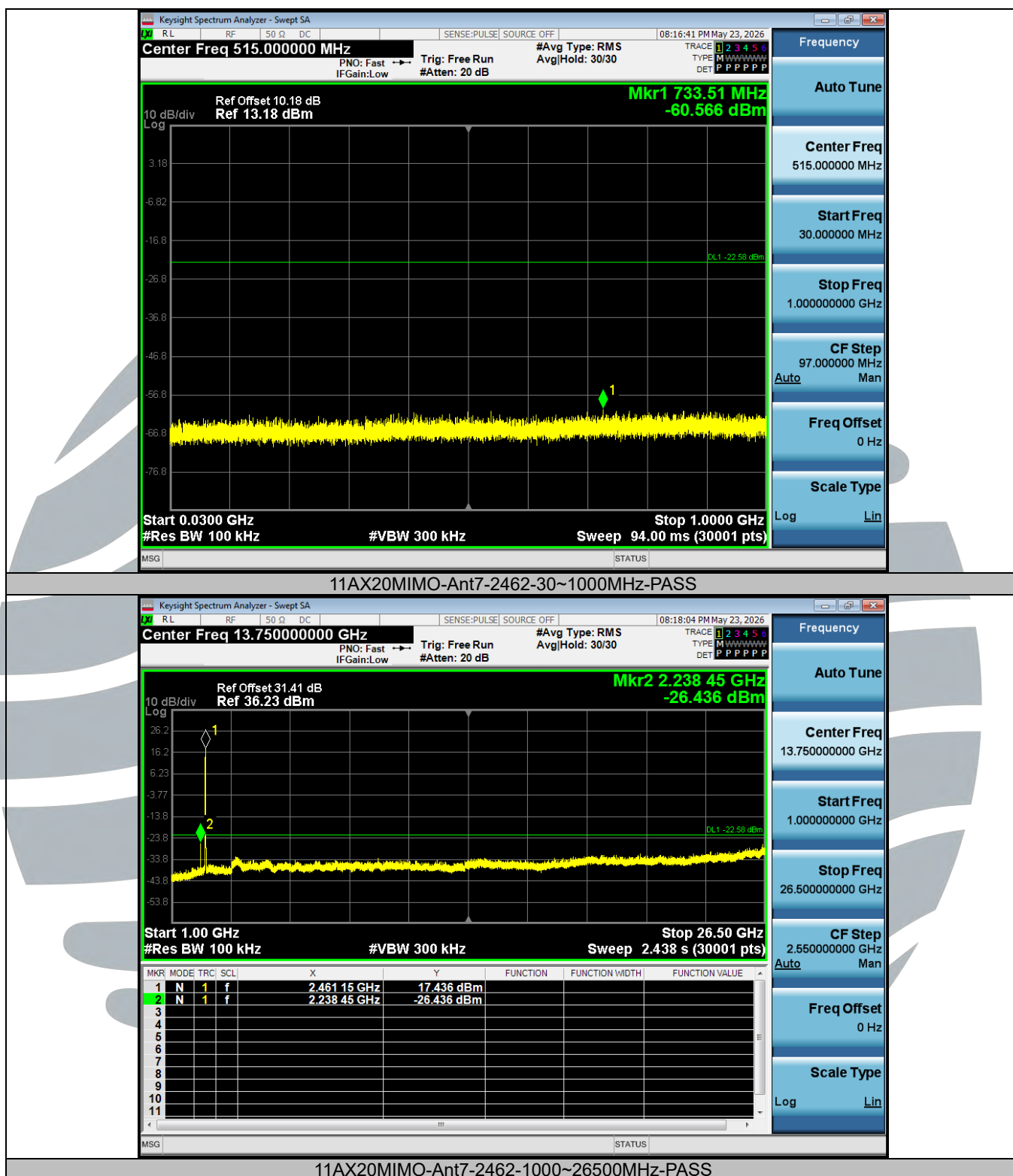
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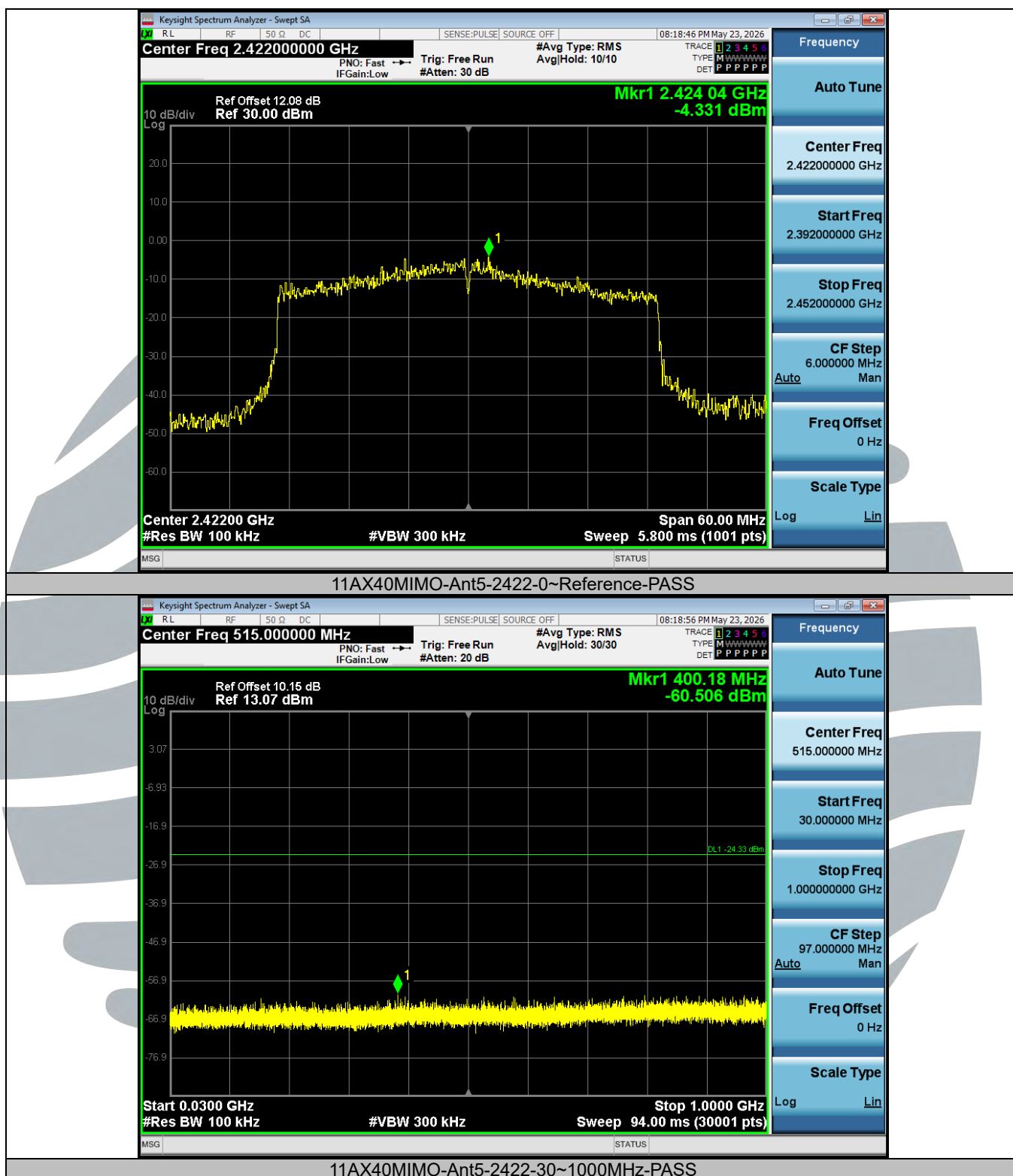
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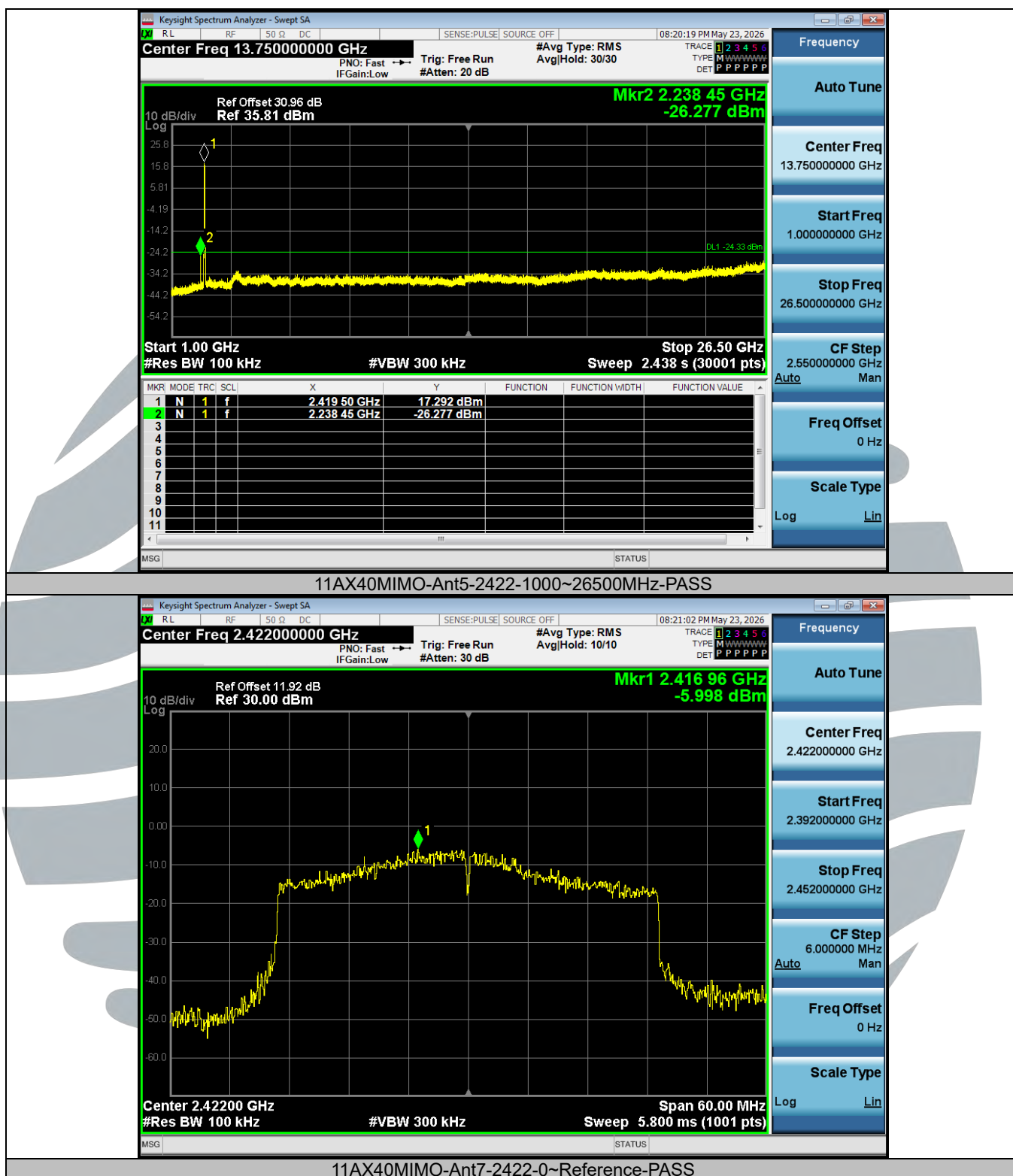
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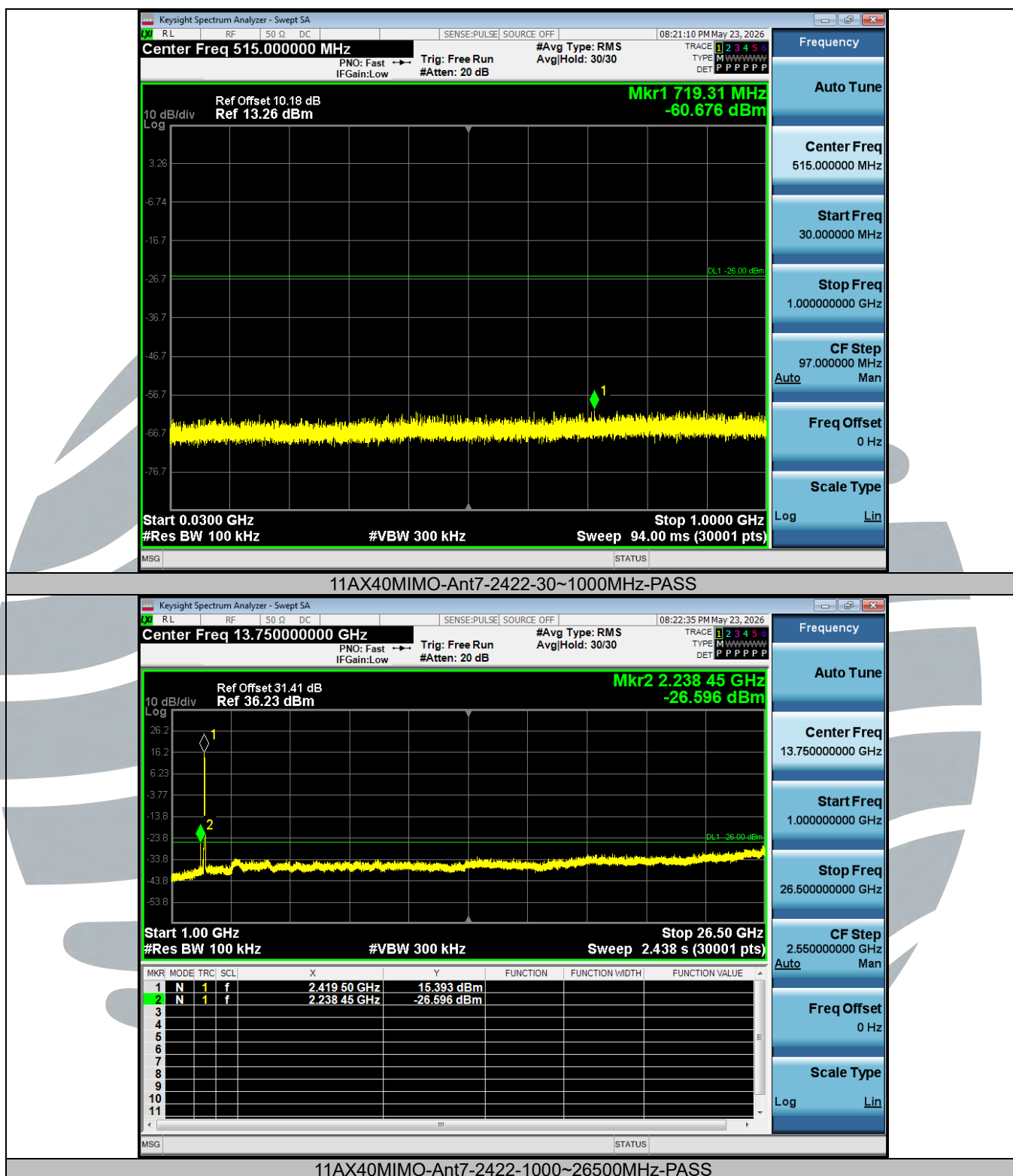
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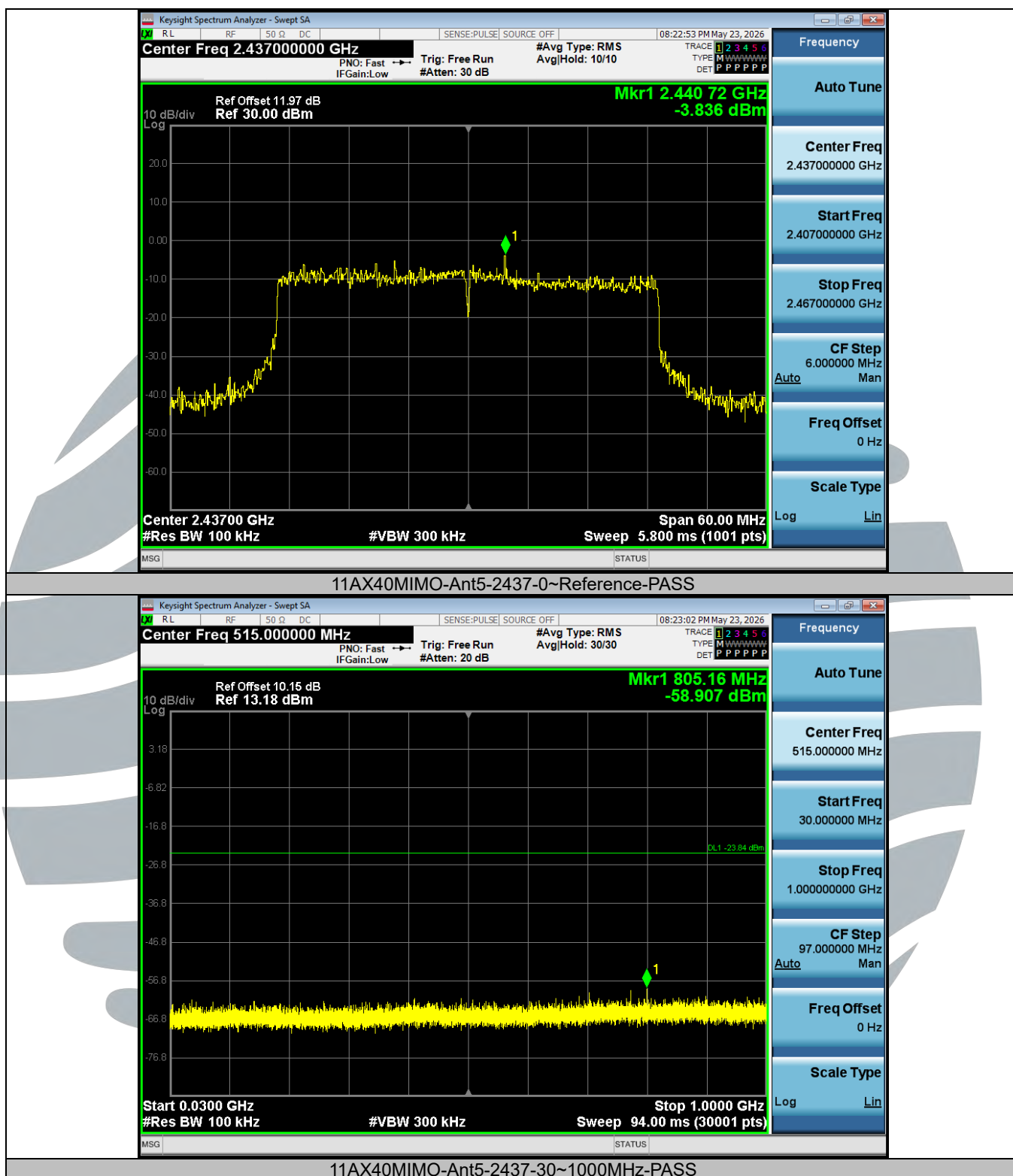
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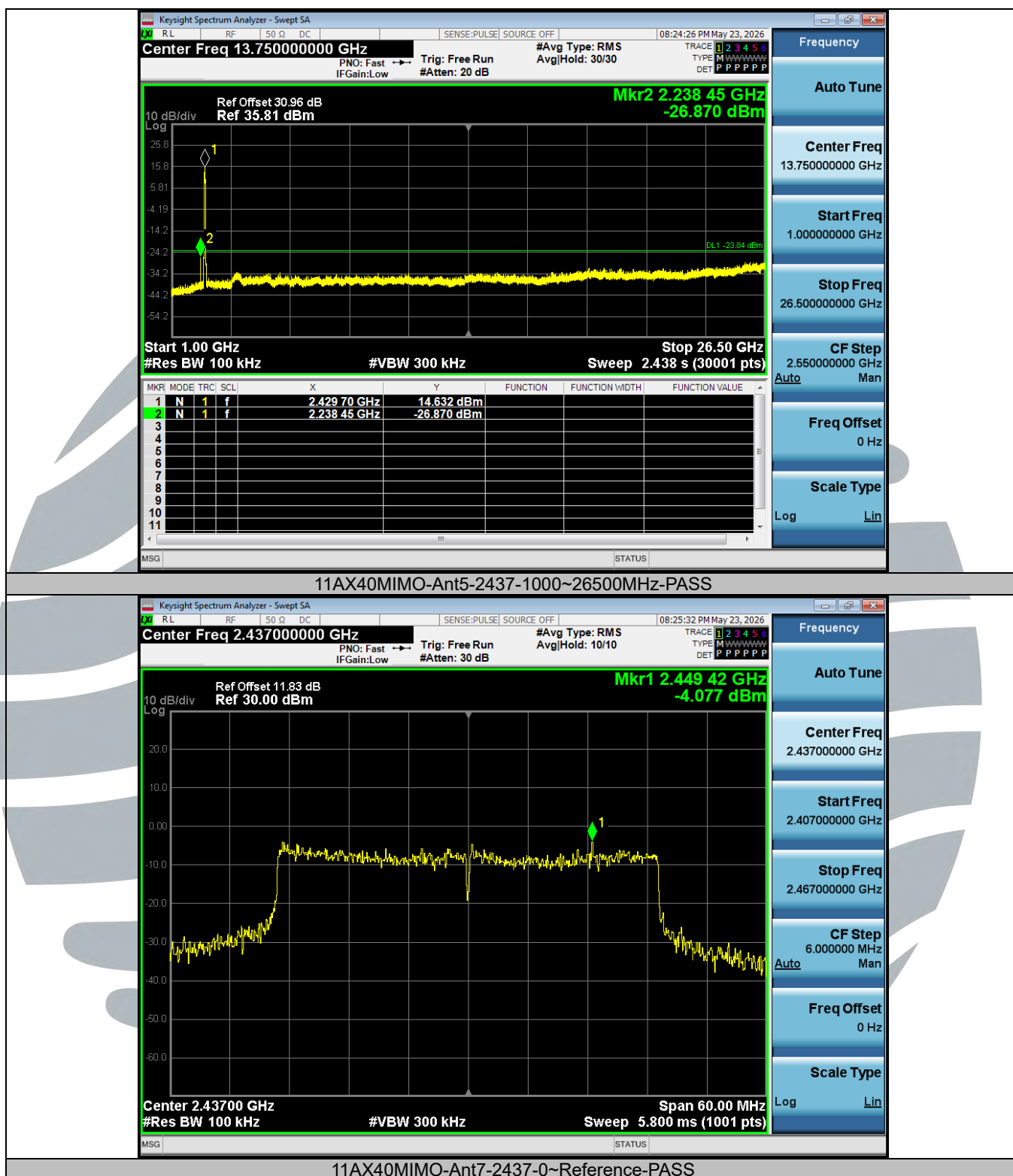
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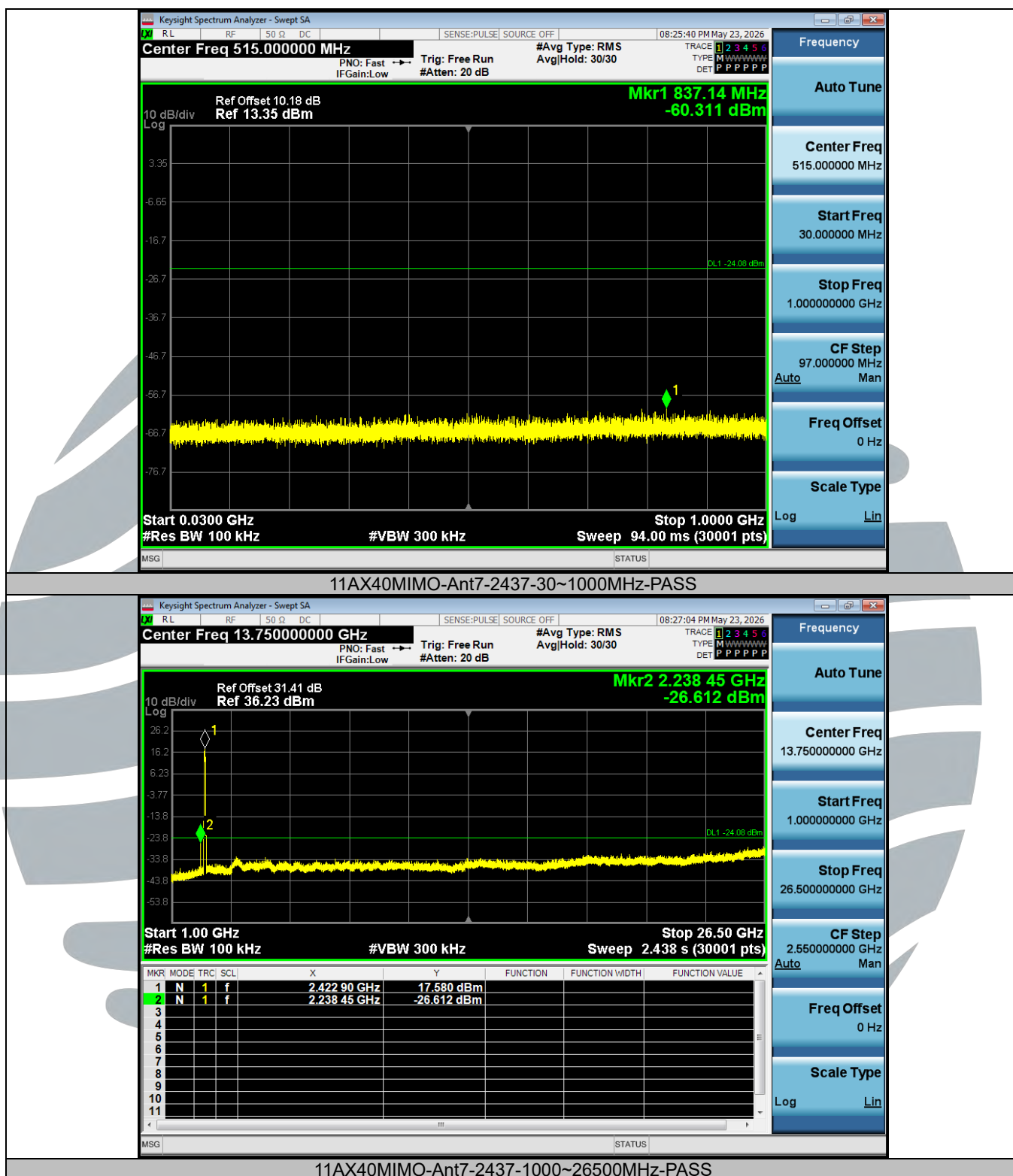
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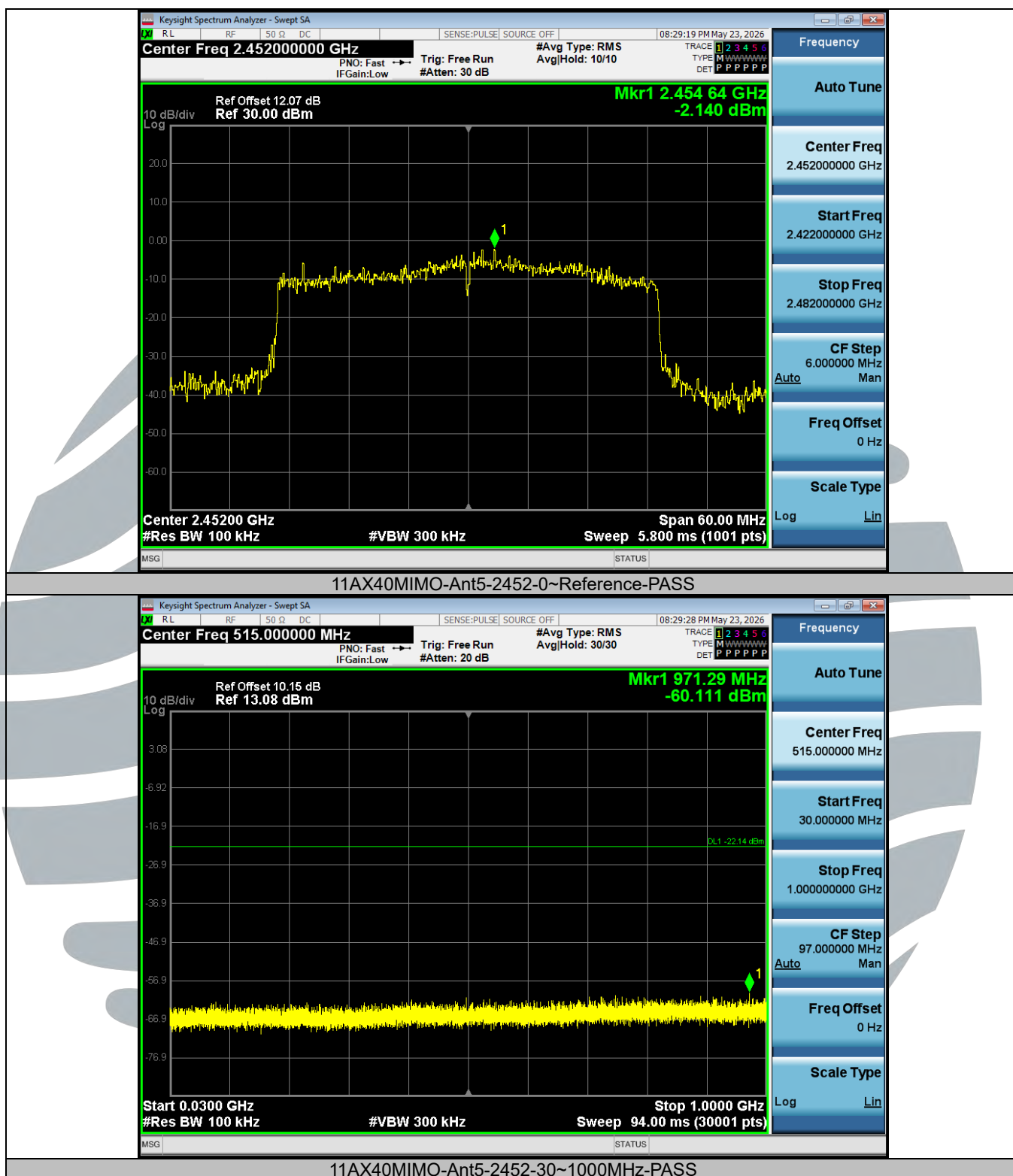
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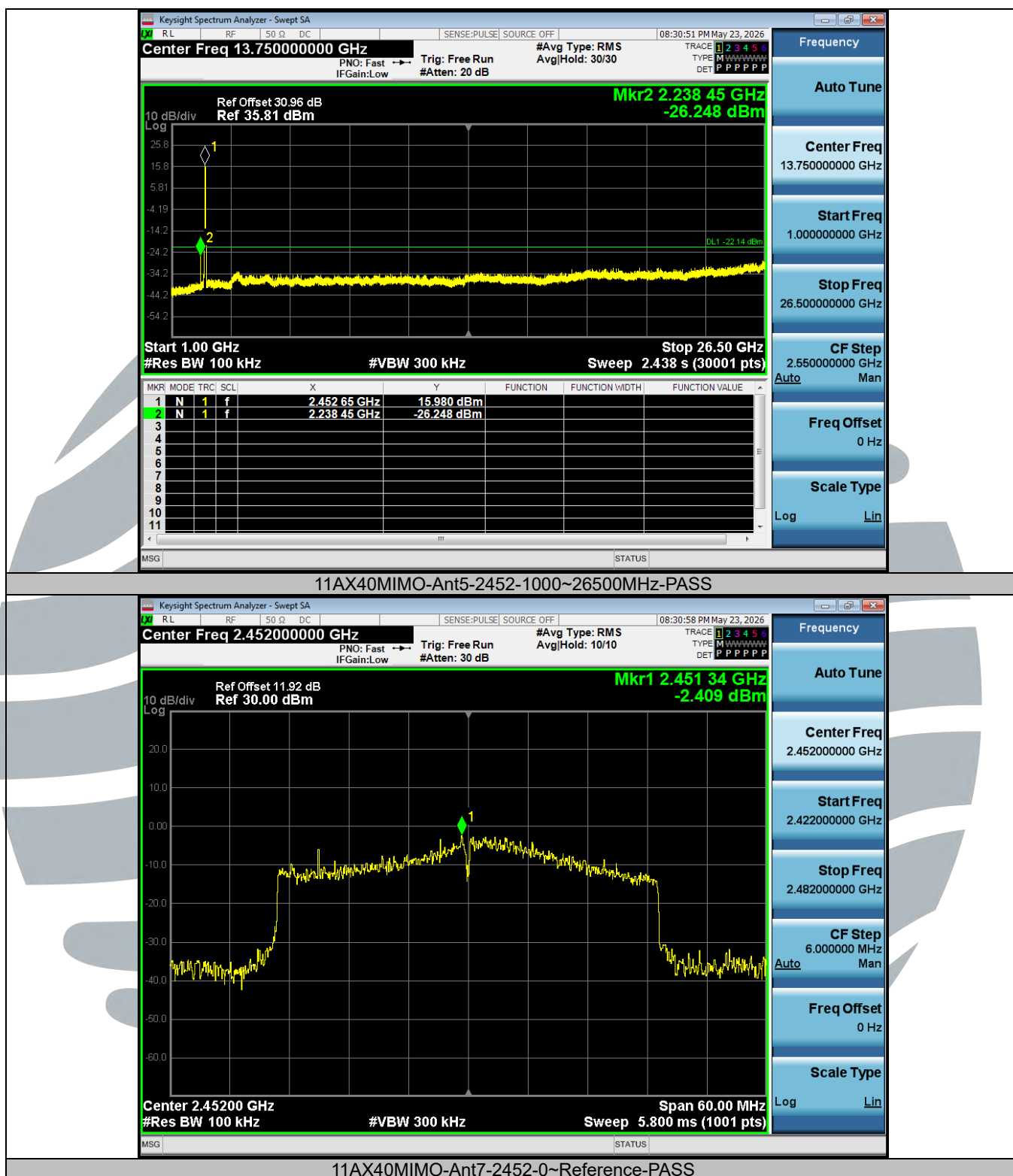
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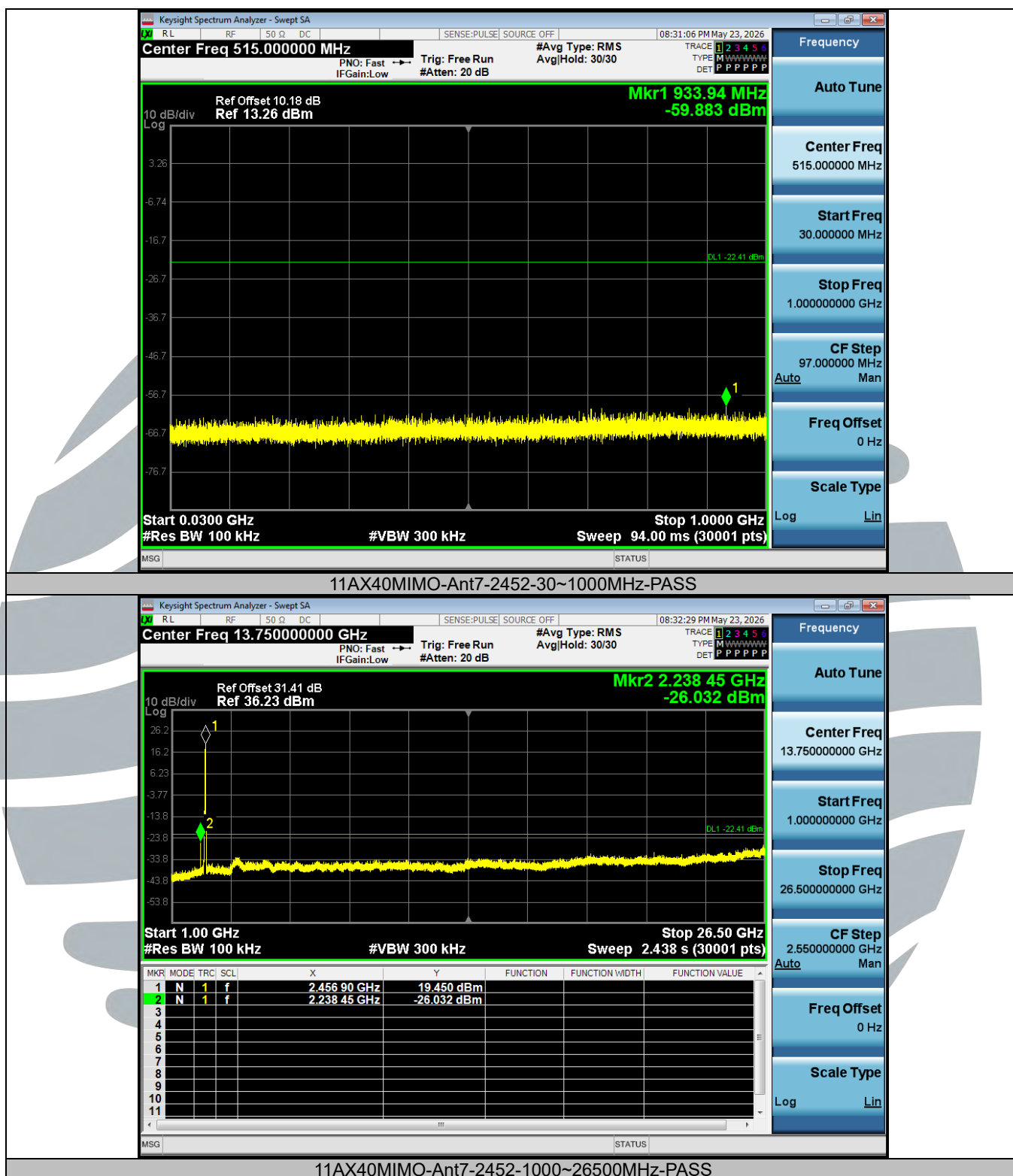
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5.8 RADIATED SPURIOUS EMISSIONS

Test Requirement: FCC 47 CFR Part 15 Subpart C Section 15.205/15.209

Test Method: ANSI C63.10-2020 Clause 11.11 & Clause 11.12

Receiver Setup:

Frequency	RBW
0.009 MHz-0.150 MHz	200/300 kHz
0.150 MHz -30 MHz	9/10 kHz
30 MHz-1 GHz	100/120 kHz
Above 1 GHz	1 MHz

Limits:

Spurious Emissions

Frequency	Field strength (microvolt/meter)	Limit (dB μ V/m)	Remark	Measurement distance (m)
0.009 MHz-0.490 MHz	2400/F(kHz)	--	--	300
0.490 MHz-1.705 MHz	24000/F(kHz)	--	--	30
1.705 MHz-30 MHz	30	--	--	30
30 MHz-88 MHz	100	40.0	Quasi-peak	3
88 MHz-216 MHz	150	43.5	Quasi-peak	3
216 MHz-960 MHz	200	46.0	Quasi-peak	3
960MHz-1GHz	500	54.0	Quasi-peak	3
Above 1 GHz	500	54.0	Average	3

Remark:

1. The lower limit shall apply at the transition frequencies.
2. Emission level (dB μ V/m) = 20 log Emission level (uV/m).
3. For frequencies above 1000 MHz, the field strength limits are based on average detector, however, the peak field strength of any emission shall not exceed the maximum permitted average limits, specified above by more than 20 dB under any condition of modulation.

Test Setup: Refer to section 4.4.1 for details.

Test Procedures:

1. From 30 MHz to 1GHz test procedure as below:
 - 1) The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.
 - 2) The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
 - 3) The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
 - 4) For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters (for the test frequency of below 30MHz, the antenna was tuned to heights 1 meter) and the rota table table was turned from 0 degrees to 360 degrees to find the maximum reading.
 - 5) The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.
 - 6) If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.
2. Above 1GHz test procedure as below:
 - 1) Different between above is the test site, change from Semi- Anechoic Chamber to fully Anechoic Chamber and change form table 0.8 meter to 1.5 meter (Above 18GHz the distance is 1 meter and table is 1.5 meter).
 - 2) Test the EUT in the lowest channel, middle channel, the Highest channel

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- 3) The radiation measurements are performed in X, Y, Z axis positioning for Transmitting mode, and found the Y positioning which it is worse case.
- 4) Repeat above procedures until all frequencies measured was complete.

Equipment Used: Refer to section 3 for details.

Test Result: Pass

The worst measurement data as follows:

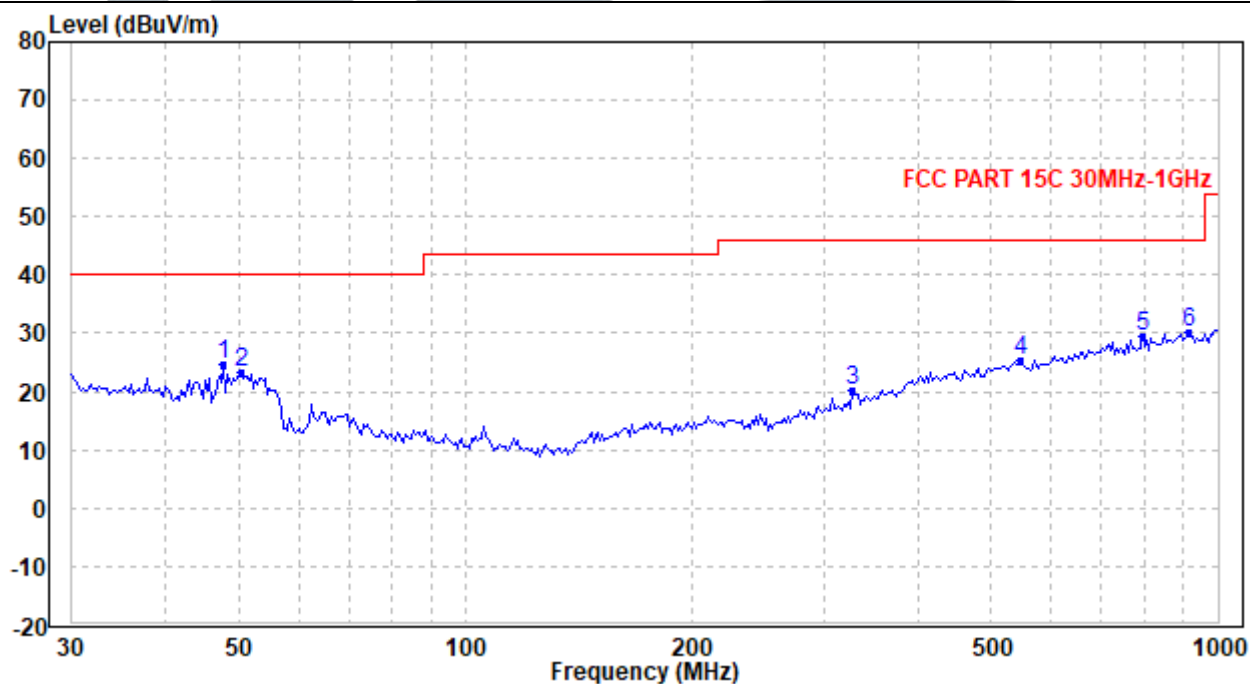
Radiated Emission Test Data (9 kHz ~ 30 MHz):

The amplitude of spurious emissions attenuated more than 20 dB below the permissible value is not required to be report.

Radiated Emission Test Data (30 MHz ~ 1 GHz):

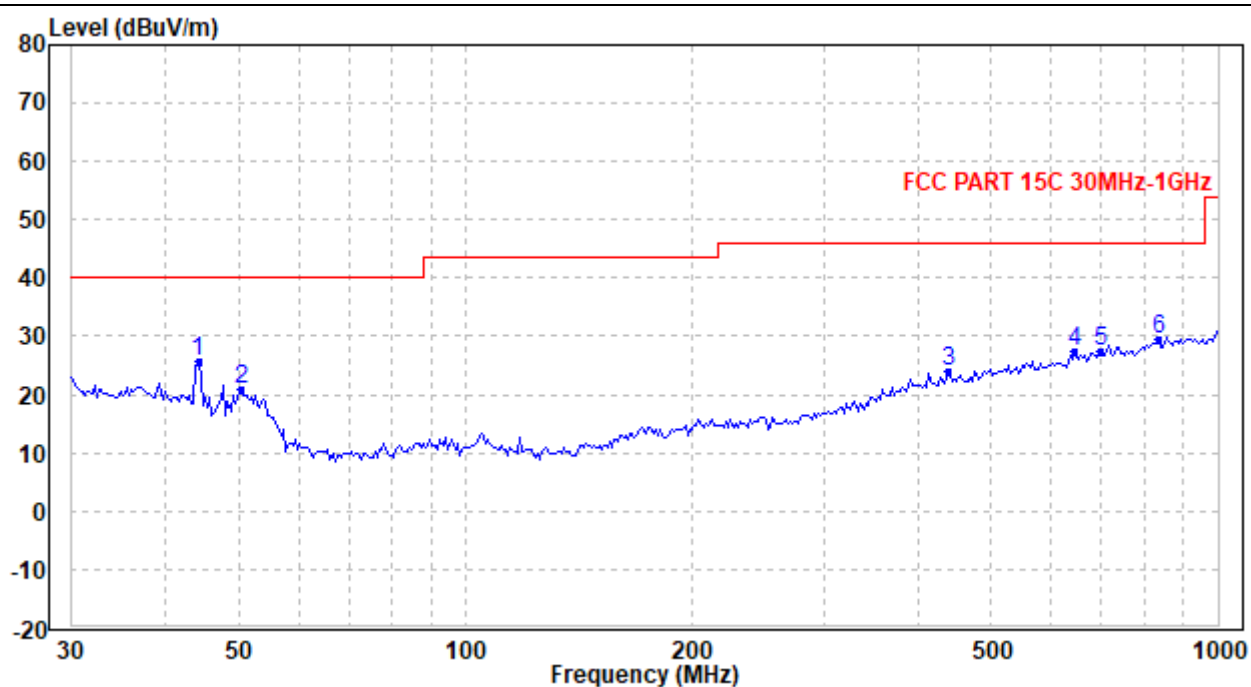
Worst-Case Configuration

Horizontal



No.	Frequency (MHz)	Reading (dBuV)	Correction factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	47.703	38.33	-13.58	24.75	40.00	-15.25	Peak
2	50.461	37.63	-14.19	23.44	40.00	-16.56	Peak
3	327.155	27.65	-7.41	20.24	46.00	-25.76	Peak
4	546.437	27.17	-1.75	25.42	46.00	-20.58	Peak
5	793.028	27.21	2.36	29.57	46.00	-16.43	Peak
6	912.695	25.72	4.51	30.23	46.00	-15.77	Peak

Vertical



No.	Frequency (MHz)	Reading (dBuV)	Correction factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	44.154	38.69	-12.84	25.85	40.00	-14.15	Peak
2	50.461	35.06	-14.19	20.87	40.00	-19.13	Peak
3	439.473	27.54	-3.56	23.98	46.00	-22.02	Peak
4	646.822	27.48	-0.16	27.32	46.00	-18.68	Peak
5	698.804	26.04	1.42	27.46	46.00	-18.54	Peak
6	833.013	26.46	3.12	29.58	46.00	-16.42	Peak

Radiated Emission Test Data (1-18 GHz):								
No.	Frequency (MHz)	Reading (dBμV)	Correction factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector	Antenna Polaxis
11B_CHAIN 0_2412 MHz								
1	4824	35.26	-0.11	35.15	54.00	-18.85	Average	Horizontal
2	4824	47.73	-0.11	47.62	74.00	-26.38	Peak	Horizontal
3	7236	34.93	2.46	37.39	54.00	-16.61	Average	Horizontal
4	7236	46.95	2.46	49.41	74.00	-24.59	Peak	Horizontal
5	16884	32.07	8.00	40.07	54.00	-13.93	Average	Horizontal
6	16884	44.88	8.00	52.88	74.00	-21.12	Peak	Horizontal
7	4824	35.28	-0.11	35.17	54.00	-18.83	Average	Vertical
8	4824	46.58	-0.11	46.47	74.00	-27.53	Peak	Vertical
9	7236	34.98	2.46	37.44	54.00	-16.56	Average	Vertical
10	7236	46.65	2.46	49.11	74.00	-24.89	Peak	Vertical
11	16884	32.11	8.00	40.11	54.00	-13.89	Average	Vertical
12	16884	44.81	8.00	52.81	74.00	-21.19	Peak	Vertical
11B_CHAIN 0_2437 MHz								
1	4874	33.25	-0.20	33.05	54.00	-20.95	Average	Horizontal
2	4874	46.18	-0.20	45.98	74.00	-28.02	Peak	Horizontal
3	7311	34.06	2.46	36.52	54.00	-17.48	Average	Horizontal
4	7311	46.49	2.46	48.95	74.00	-25.05	Peak	Horizontal
5	17059	32.30	8.14	40.44	54.00	-13.56	Average	Horizontal
6	17059	45.50	8.14	53.64	74.00	-20.36	Peak	Horizontal
7	4874	33.47	-0.20	33.27	54.00	-20.73	Average	Vertical
8	4874	46.95	-0.20	46.75	74.00	-27.25	Peak	Vertical
9	7311	34.03	2.46	36.49	54.00	-17.51	Average	Vertical
10	7311	46.77	2.46	49.23	74.00	-24.77	Peak	Vertical
11	17059	32.23	8.14	40.37	54.00	-13.63	Average	Vertical
12	17059	44.79	8.14	52.93	74.00	-21.07	Peak	Vertical
11B_CHAIN 0_2462 MHz								
1	4924	32.65	-0.29	32.36	54.00	-21.64	Average	Horizontal
2	4924	44.30	-0.29	44.01	74.00	-29.99	Peak	Horizontal
3	7386	33.50	2.46	35.96	54.00	-18.04	Average	Horizontal
4	7386	45.72	2.46	48.18	74.00	-25.82	Peak	Horizontal
5	17234	32.02	8.48	40.50	54.00	-13.50	Average	Horizontal
6	17234	44.92	8.48	53.40	74.00	-20.60	Peak	Horizontal
7	4924	32.71	-0.29	32.42	54.00	-21.58	Average	Vertical
8	4924	44.50	-0.29	44.21	74.00	-29.79	Peak	Vertical
9	7386	33.50	2.46	35.96	54.00	-18.04	Average	Vertical
10	7386	45.14	2.46	47.60	74.00	-26.40	Peak	Vertical
11	17234	32.02	8.48	40.50	54.00	-13.50	Average	Vertical
12	17234	44.28	8.48	52.76	74.00	-21.24	Peak	Vertical
11B_CHAIN 1_2412 MHz								
1	4824	35.26	-0.11	35.15	54.00	-18.85	Average	Horizontal
2	4824	47.31	-0.11	47.20	74.00	-26.80	Peak	Horizontal
3	7236	34.93	2.46	37.39	54.00	-16.61	Average	Horizontal
4	7236	47.00	2.46	49.46	74.00	-24.54	Peak	Horizontal
5	16884	32.18	8.00	40.18	54.00	-13.82	Average	Horizontal
6	16884	44.49	8.00	52.49	74.00	-21.51	Peak	Horizontal
7	4824	35.26	-0.11	35.15	54.00	-18.85	Average	Vertical
8	4824	46.43	-0.11	46.32	74.00	-27.68	Peak	Vertical
9	7236	34.96	2.46	37.42	54.00	-16.58	Average	Vertical
10	7236	46.70	2.46	49.16	74.00	-24.84	Peak	Vertical
11	16884	32.14	8.00	40.14	54.00	-13.86	Average	Vertical
12	16884	44.70	8.00	52.70	74.00	-21.30	Peak	Vertical
11B_CHAIN 1_2437 MHz								

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1	4874	33.28	-0.20	33.08	54.00	-20.92	Average	Horizontal
2	4874	47.03	-0.20	46.83	74.00	-27.17	Peak	Horizontal
3	7311	34.06	2.46	36.52	54.00	-17.48	Average	Horizontal
4	7311	46.21	2.46	48.67	74.00	-25.33	Peak	Horizontal
5	17059	32.27	8.14	40.41	54.00	-13.59	Average	Horizontal
6	17059	44.69	8.14	52.83	74.00	-21.17	Peak	Horizontal
7	4874	33.44	-0.20	33.24	54.00	-20.76	Average	Vertical
8	4874	47.10	-0.20	46.90	74.00	-27.10	Peak	Vertical
9	7311	34.00	2.46	36.46	54.00	-17.54	Average	Vertical
10	7311	46.19	2.46	48.65	74.00	-25.35	Peak	Vertical
11	17059	32.27	8.14	40.41	54.00	-13.59	Average	Vertical
12	17059	44.83	8.14	52.97	74.00	-21.03	Peak	Vertical
11B_CHAIN 1_2462 MHz								
1	4924	32.68	-0.29	32.39	54.00	-21.61	Average	Horizontal
2	4924	44.27	-0.29	43.98	74.00	-30.02	Peak	Horizontal
3	7386	33.62	2.46	36.08	54.00	-17.92	Average	Horizontal
4	7386	45.88	2.46	48.34	74.00	-25.66	Peak	Horizontal
5	17234	32.09	8.48	40.57	54.00	-13.43	Average	Horizontal
6	17234	45.18	8.48	53.66	74.00	-20.34	Peak	Horizontal
7	4924	32.75	-0.29	32.46	54.00	-21.54	Average	Vertical
8	4924	44.58	-0.29	44.29	74.00	-29.71	Peak	Vertical
9	7386	33.47	2.46	35.93	54.00	-18.07	Average	Vertical
10	7386	45.69	2.46	48.15	74.00	-25.85	Peak	Vertical
11	17234	32.05	8.48	40.53	54.00	-13.47	Average	Vertical
12	17234	44.77	8.48	53.25	74.00	-20.75	Peak	Vertical
11G_CHAIN 0_2412 MHz								
1	4824	35.41	-0.11	35.30	54.00	-18.70	Average	Horizontal
2	4824	46.41	-0.11	46.30	74.00	-27.70	Peak	Horizontal
3	7236	35.03	2.46	37.49	54.00	-16.51	Average	Horizontal
4	7236	47.40	2.46	49.86	74.00	-24.14	Peak	Horizontal
5	16884	32.07	8.00	40.07	54.00	-13.93	Average	Horizontal
6	16884	44.99	8.00	52.99	74.00	-21.01	Peak	Horizontal
7	4824	35.23	-0.11	35.12	54.00	-18.88	Average	Vertical
8	4824	46.65	-0.11	46.54	74.00	-27.46	Peak	Vertical
9	7236	34.90	2.46	37.36	54.00	-16.64	Average	Vertical
10	7236	47.16	2.46	49.62	74.00	-24.38	Peak	Vertical
11	16884	32.18	8.00	40.18	54.00	-13.82	Average	Vertical
12	16884	45.13	8.00	53.13	74.00	-20.87	Peak	Vertical
11G_CHAIN 0_2437 MHz								
1	4874	33.50	-0.20	33.30	54.00	-20.70	Average	Horizontal
2	4874	45.99	-0.20	45.79	74.00	-28.21	Peak	Horizontal
3	7311	34.00	2.46	36.46	54.00	-17.54	Average	Horizontal
4	7311	47.07	2.46	49.53	74.00	-24.47	Peak	Horizontal
5	17059	32.34	8.14	40.48	54.00	-13.52	Average	Horizontal
6	17059	44.44	8.14	52.58	74.00	-21.42	Peak	Horizontal
7	4874	33.28	-0.20	33.08	54.00	-20.92	Average	Vertical
8	4874	46.80	-0.20	46.60	74.00	-27.40	Peak	Vertical
9	7311	33.97	2.46	36.43	54.00	-17.57	Average	Vertical
10	7311	46.72	2.46	49.18	74.00	-24.82	Peak	Vertical
11	17059	32.30	8.14	40.44	54.00	-13.56	Average	Vertical
12	17059	44.82	8.14	52.96	74.00	-21.04	Peak	Vertical
11G_CHAIN 0_2462 MHz								
1	4924	32.78	-0.29	32.49	54.00	-21.51	Average	Horizontal
2	4924	43.88	-0.29	43.59	74.00	-30.41	Peak	Horizontal
3	7386	33.53	2.46	35.99	54.00	-18.01	Average	Horizontal
4	7386	45.49	2.46	47.95	74.00	-26.05	Peak	Horizontal
5	17234	32.09	8.48	40.57	54.00	-13.43	Average	Horizontal

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6	17234	44.37	8.48	52.85	74.00	-21.15	Peak	Horizontal
7	4924	32.54	-0.29	32.25	54.00	-21.75	Average	Vertical
8	4924	44.49	-0.29	44.20	74.00	-29.80	Peak	Vertical
9	7386	33.56	2.46	36.02	54.00	-17.98	Average	Vertical
10	7386	45.30	2.46	47.76	74.00	-26.24	Peak	Vertical
11	17234	32.02	8.48	40.50	54.00	-13.50	Average	Vertical
12	17234	44.66	8.48	53.14	74.00	-20.86	Peak	Vertical
11G_CHAIN 1_2412 MHz								
1	4824	35.41	-0.11	35.30	54.00	-18.70	Average	Horizontal
2	4824	47.47	-0.11	47.36	74.00	-26.64	Peak	Horizontal
3	7236	35.03	2.46	37.49	54.00	-16.51	Average	Horizontal
4	7236	46.80	2.46	49.26	74.00	-24.74	Peak	Horizontal
5	16884	32.18	8.00	40.18	54.00	-13.82	Average	Horizontal
6	16884	44.31	8.00	52.31	74.00	-21.69	Peak	Horizontal
7	4824	35.33	-0.11	35.22	54.00	-18.78	Average	Vertical
8	4824	47.18	-0.11	47.07	74.00	-26.93	Peak	Vertical
9	7236	34.93	2.46	37.39	54.00	-16.61	Average	Vertical
10	7236	47.53	2.46	49.99	74.00	-24.01	Peak	Vertical
11	16884	32.14	8.00	40.14	54.00	-13.86	Average	Vertical
12	16884	44.49	8.00	52.49	74.00	-21.51	Peak	Vertical
11G_CHAIN 1_2437 MHz								
1	4874	33.22	-0.20	33.02	54.00	-20.98	Average	Horizontal
2	4874	46.72	-0.20	46.52	74.00	-27.48	Peak	Horizontal
3	7311	34.00	2.46	36.46	54.00	-17.54	Average	Horizontal
4	7311	45.86	2.46	48.32	74.00	-25.68	Peak	Horizontal
5	17059	32.41	8.14	40.55	54.00	-13.45	Average	Horizontal
6	17059	44.44	8.14	52.58	74.00	-21.42	Peak	Horizontal
7	4874	33.28	-0.20	33.08	54.00	-20.92	Average	Vertical
8	4874	46.01	-0.20	45.81	74.00	-28.19	Peak	Vertical
9	7311	34.03	2.46	36.49	54.00	-17.51	Average	Vertical
10	7311	47.07	2.46	49.53	74.00	-24.47	Peak	Vertical
11	17059	32.27	8.14	40.41	54.00	-13.59	Average	Vertical
12	17059	44.53	8.14	52.67	74.00	-21.33	Peak	Vertical
11G_CHAIN 1_2462 MHz								
1	4924	32.65	-0.29	32.36	54.00	-21.64	Average	Horizontal
2	4924	44.17	-0.29	43.88	74.00	-30.12	Peak	Horizontal
3	7386	33.53	2.46	35.99	54.00	-18.01	Average	Horizontal
4	7386	44.81	2.46	47.27	74.00	-26.73	Peak	Horizontal
5	17234	32.09	8.48	40.57	54.00	-13.43	Average	Horizontal
6	17234	44.63	8.48	53.11	74.00	-20.89	Peak	Horizontal
7	4924	32.51	-0.29	32.22	54.00	-21.78	Average	Vertical
8	4924	44.33	-0.29	44.04	74.00	-29.96	Peak	Vertical
9	7386	33.53	2.46	35.99	54.00	-18.01	Average	Vertical
10	7386	45.28	2.46	47.74	74.00	-26.26	Peak	Vertical
11	17234	32.05	8.48	40.53	54.00	-13.47	Average	Vertical
12	17234	44.77	8.48	53.25	74.00	-20.75	Peak	Vertical
11N20_CHAIN 0+1_2412 MHz								
1	4824	35.33	-0.11	35.22	54.00	-18.78	Average	Horizontal
2	4824	48.04	-0.11	47.93	74.00	-26.07	Peak	Horizontal
3	7236	34.96	2.46	37.42	54.00	-16.58	Average	Horizontal
4	7236	46.75	2.46	49.21	74.00	-24.79	Peak	Horizontal
5	16884	32.07	8.00	40.07	54.00	-13.93	Average	Horizontal
6	16884	44.37	8.00	52.37	74.00	-21.63	Peak	Horizontal
7	4824	35.26	-0.11	35.15	54.00	-18.85	Average	Vertical
8	4824	46.84	-0.11	46.73	74.00	-27.27	Peak	Vertical
9	7236	34.98	2.46	37.44	54.00	-16.56	Average	Vertical
10	7236	47.23	2.46	49.69	74.00	-24.31	Peak	Vertical

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11	16884	32.07	8.00	40.07	54.00	-13.93	Average	Vertical
12	16884	44.72	8.00	52.72	74.00	-21.28	Peak	Vertical
11N20_CHAIN 0+1_2437 MHz								
1	4874	33.31	-0.20	33.11	54.00	-20.89	Average	Horizontal
2	4874	46.33	-0.20	46.13	74.00	-27.87	Peak	Horizontal
3	7311	34.14	2.46	36.60	54.00	-17.40	Average	Horizontal
4	7311	46.90	2.46	49.36	74.00	-24.64	Peak	Horizontal
5	17059	32.27	8.14	40.41	54.00	-13.59	Average	Horizontal
6	17059	44.86	8.14	53.00	74.00	-21.00	Peak	Horizontal
7	4874	33.31	-0.20	33.11	54.00	-20.89	Average	Horizontal
8	4874	46.70	-0.20	46.50	74.00	-27.50	Peak	Vertical
9	7311	34.14	2.46	36.60	54.00	-17.40	Average	Horizontal
10	7311	46.35	2.46	48.81	74.00	-25.19	Peak	Vertical
11	17059	32.27	8.14	40.41	54.00	-13.59	Average	Horizontal
12	17059	45.11	8.14	53.25	74.00	-20.75	Peak	Vertical
11N20_CHAIN 0+1_2462 MHz								
1	4924	32.61	-0.29	32.32	54.00	-21.68	Average	Horizontal
2	4924	44.36	-0.29	44.07	74.00	-29.93	Peak	Horizontal
3	7386	33.50	2.46	35.96	54.00	-18.04	Average	Horizontal
4	7386	45.44	2.46	47.90	74.00	-26.10	Peak	Horizontal
5	17234	32.02	8.48	40.50	54.00	-13.50	Average	Horizontal
6	17234	44.90	8.48	53.38	74.00	-20.62	Peak	Horizontal
7	4924	32.58	-0.29	32.29	54.00	-21.71	Average	Vertical
8	4924	43.98	-0.29	43.69	74.00	-30.31	Peak	Vertical
9	7386	33.50	2.46	35.96	54.00	-18.04	Average	Vertical
10	7386	45.14	2.46	47.60	74.00	-26.40	Peak	Vertical
11	17234	32.05	8.48	40.53	54.00	-13.47	Average	Vertical
12	17234	45.36	8.48	53.84	74.00	-20.16	Peak	Vertical
11N40_CHAIN 0+1_2422 MHz								
1	4844	35.26	-0.14	35.12	54.00	-18.88	Average	Horizontal
2	4844	47.19	-0.14	47.05	74.00	-26.95	Peak	Horizontal
3	7266	35.02	2.45	37.47	54.00	-16.53	Average	Horizontal
4	7266	46.79	2.45	49.24	74.00	-24.76	Peak	Horizontal
5	16954	31.90	8.01	39.91	54.00	-14.09	Average	Horizontal
6	16954	44.39	8.01	52.40	74.00	-21.60	Peak	Horizontal
7	4844	35.26	-0.14	35.12	54.00	-18.88	Average	Vertical
8	4844	47.10	-0.14	46.96	74.00	-27.04	Peak	Vertical
9	7266	34.91	2.45	37.36	54.00	-16.64	Average	Vertical
10	7266	47.76	2.45	50.21	74.00	-23.79	Peak	Vertical
11	16954	31.86	8.01	39.87	54.00	-14.13	Average	Vertical
12	16954	44.36	8.01	52.37	74.00	-21.63	Peak	Vertical
11N40_CHAIN 0+1_2437 MHz								
1	4874	33.28	-0.20	33.08	54.00	-20.92	Average	Horizontal
2	4874	46.98	-0.20	46.78	74.00	-27.22	Peak	Horizontal
3	7311	34.06	2.46	36.52	54.00	-17.48	Average	Horizontal
4	7311	45.99	2.46	48.45	74.00	-25.55	Peak	Horizontal
5	17059	32.37	8.14	40.51	54.00	-13.49	Average	Horizontal
6	17059	45.04	8.14	53.18	74.00	-20.82	Peak	Horizontal
7	4874	33.28	-0.20	33.08	54.00	-20.92	Average	Horizontal
8	4874	46.75	-0.20	46.55	74.00	-27.45	Peak	Vertical
9	7311	34.06	2.46	36.52	54.00	-17.48	Average	Horizontal
10	7311	46.56	2.46	49.02	74.00	-24.98	Peak	Vertical
11	17059	32.37	8.14	40.51	54.00	-13.49	Average	Horizontal
12	17059	45.02	8.14	53.16	74.00	-20.84	Peak	Vertical
11N40_CHAIN 0+1_2452 MHz								
1	4904	32.54	-0.25	32.29	54.00	-21.71	Average	Horizontal
2	4904	44.86	-0.25	44.61	74.00	-29.39	Peak	Horizontal

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3	7356	33.54	2.45	35.99	54.00	-18.01	Average	Horizontal
4	7356	44.81	2.45	47.26	74.00	-26.74	Peak	Horizontal
5	17164	32.26	8.34	40.60	54.00	-13.40	Average	Horizontal
6	17164	44.82	8.34	53.16	74.00	-20.84	Peak	Horizontal
7	4904	32.61	-0.25	32.36	54.00	-21.64	Average	Vertical
8	4904	45.42	-0.25	45.17	74.00	-28.83	Peak	Vertical
9	7356	33.60	2.45	36.05	54.00	-17.95	Average	Vertical
10	7356	46.75	2.45	49.20	74.00	-24.80	Peak	Vertical
11	17164	32.16	8.34	40.50	54.00	-13.50	Average	Vertical
12	17164	44.73	8.34	53.07	74.00	-20.93	Peak	Vertical
11AX20_SU_CHAIN 0+1_2412 MHz								
1	4824	35.28	-0.11	35.17	54.00	-18.83	Average	Horizontal
2	4824	46.99	-0.11	46.88	74.00	-27.12	Peak	Horizontal
3	7236	34.90	2.46	37.36	54.00	-16.64	Average	Horizontal
4	7236	47.41	2.46	49.87	74.00	-24.13	Peak	Horizontal
5	16884	32.11	8.00	40.11	54.00	-13.89	Average	Horizontal
6	16884	44.55	8.00	52.55	74.00	-21.45	Peak	Horizontal
7	4824	35.26	-0.11	35.15	54.00	-18.85	Average	Vertical
8	4824	46.84	-0.11	46.73	74.00	-27.27	Peak	Vertical
9	7236	34.96	2.46	37.42	54.00	-16.58	Average	Vertical
10	7236	47.12	2.46	49.58	74.00	-24.42	Peak	Vertical
11	16884	32.14	8.00	40.14	54.00	-13.86	Average	Vertical
12	16884	44.34	8.00	52.34	74.00	-21.66	Peak	Vertical
11AX20_SU_CHAIN 0+1_2437 MHz								
1	4874	33.25	-0.20	33.05	54.00	-20.95	Average	Horizontal
2	4874	46.91	-0.20	46.71	74.00	-27.29	Peak	Horizontal
3	7311	34.12	2.46	36.58	54.00	-17.42	Average	Horizontal
4	7311	46.86	2.46	49.32	74.00	-24.68	Peak	Horizontal
5	17059	32.30	8.14	40.44	54.00	-13.56	Average	Horizontal
6	17059	45.10	8.14	53.24	74.00	-20.76	Peak	Horizontal
7	4874	33.25	-0.20	33.05	54.00	-20.95	Average	Vertical
8	4874	46.56	-0.20	46.36	74.00	-27.64	Peak	Vertical
9	7311	34.03	2.46	36.49	54.00	-17.51	Average	Vertical
10	7311	45.97	2.46	48.43	74.00	-25.57	Peak	Vertical
11	17059	32.30	8.14	40.44	54.00	-13.56	Average	Vertical
12	17059	45.18	8.14	53.32	74.00	-20.68	Peak	Vertical
11AX20_SU_CHAIN 0+1_2462 MHz1								
1	4924	32.54	-0.29	32.25	54.00	-21.75	Average	Horizontal
2	4924	45.56	-0.29	45.27	74.00	-28.73	Peak	Horizontal
3	7386	33.59	2.46	36.05	54.00	-17.95	Average	Horizontal
4	7386	45.14	2.46	47.60	74.00	-26.40	Peak	Horizontal
5	17234	32.12	8.48	40.60	54.00	-13.40	Average	Horizontal
6	17234	44.96	8.48	53.44	74.00	-20.56	Peak	Horizontal
7	4924	32.68	-0.29	32.39	54.00	-21.61	Average	Vertical
8	4924	43.97	-0.29	43.68	74.00	-30.32	Peak	Vertical
9	7386	33.59	2.46	36.05	54.00	-17.95	Average	Vertical
10	7386	44.83	2.46	47.29	74.00	-26.71	Peak	Vertical
11	17234	32.09	8.48	40.57	54.00	-13.43	Average	Vertical
12	17234	44.39	8.48	52.87	74.00	-21.13	Peak	Vertical
11AX40_SU_CHAIN 0+1_2422 MHz								
1	4844	35.36	-0.14	35.22	54.00	-18.78	Average	Horizontal
2	4844	47.43	-0.14	47.29	74.00	-26.71	Peak	Horizontal
3	7266	34.94	2.45	37.39	54.00	-16.61	Average	Horizontal
4	7266	46.77	2.45	49.22	74.00	-24.78	Peak	Horizontal
5	16954	31.83	8.01	39.84	54.00	-14.16	Average	Horizontal
6	16954	45.05	8.01	53.06	74.00	-20.94	Peak	Horizontal
7	4844	35.31	-0.14	35.17	54.00	-18.83	Average	Vertical

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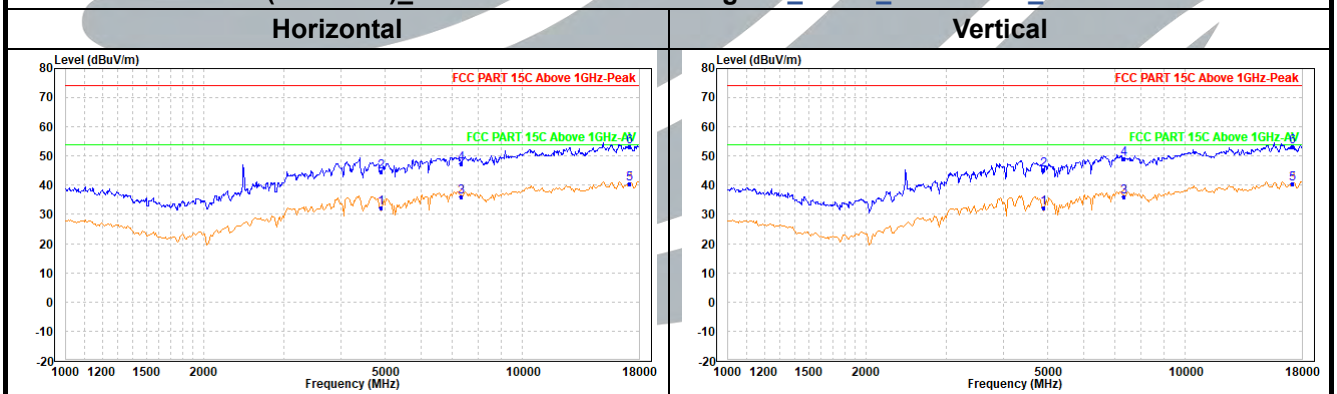
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8	4844	46.85	-0.14	46.71	74.00	-27.29	Peak	Vertical
9	7266	34.94	2.45	37.39	54.00	-16.61	Average	Vertical
10	7266	47.31	2.45	49.76	74.00	-24.24	Peak	Vertical
11	16954	31.86	8.01	39.87	54.00	-14.13	Average	Vertical
12	16954	45.36	8.01	53.37	74.00	-20.63	Peak	Vertical
11AX40 SU_CHAIN 0+1 2437 MHz								
1	4874	33.25	-0.20	33.05	54.00	-20.95	Average	Horizontal
2	4874	46.36	-0.20	46.16	74.00	-27.84	Peak	Horizontal
3	7311	34.14	2.46	36.60	54.00	-17.40	Average	Horizontal
4	7311	46.22	2.46	48.68	74.00	-25.32	Peak	Horizontal
5	17059	32.34	8.14	40.48	54.00	-13.52	Average	Horizontal
6	17059	45.14	8.14	53.28	74.00	-20.72	Peak	Horizontal
7	4874	33.28	-0.20	33.08	54.00	-20.92	Average	Vertical
8	4874	46.93	-0.20	46.73	74.00	-27.27	Peak	Vertical
9	7311	34.09	2.46	36.55	54.00	-17.45	Average	Vertical
10	7311	45.43	2.46	47.89	74.00	-26.11	Peak	Vertical
11	17059	32.27	8.14	40.41	54.00	-13.59	Average	Vertical
12	17059	44.51	8.14	52.65	74.00	-21.35	Peak	Vertical
11 AX40 SU_CHAIN 0+1 2452 MHz								
1	4904	32.57	-0.25	32.32	54.00	-21.68	Average	Horizontal
2	4904	44.77	-0.25	44.52	74.00	-29.48	Peak	Horizontal
3	7356	33.66	2.45	36.11	54.00	-17.89	Average	Horizontal
4	7356	45.26	2.45	47.71	74.00	-26.29	Peak	Horizontal
5	17164	32.19	8.34	40.53	54.00	-13.47	Average	Horizontal
6	17164	44.37	8.34	52.71	74.00	-21.29	Peak	Horizontal
7	4904	32.57	-0.25	32.32	54.00	-21.68	Average	Vertical
8	4904	44.30	-0.25	44.05	74.00	-29.95	Peak	Vertical
9	7356	33.57	2.45	36.02	54.00	-17.98	Average	Vertical
10	7356	44.84	2.45	47.29	74.00	-26.71	Peak	Vertical
11	17164	32.26	8.34	40.60	54.00	-13.40	Average	Vertical
12	17164	44.66	8.34	53.00	74.00	-21.00	Peak	Vertical

Remark:

1. Correct Factor = Antenna Factor + Cable Loss - Amplifier Gain, the value was added to Original Receiver Reading by the software automatically.
2. Result = Reading + Correct Factor.
3. Margin = Result – Limit.

Radiated Emission (1-18 GHz)_Worst test mode test diagram_11n40_CHAIN 0+1_2452 MHz



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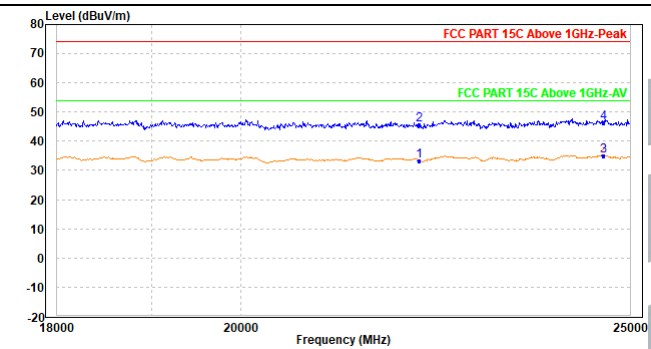
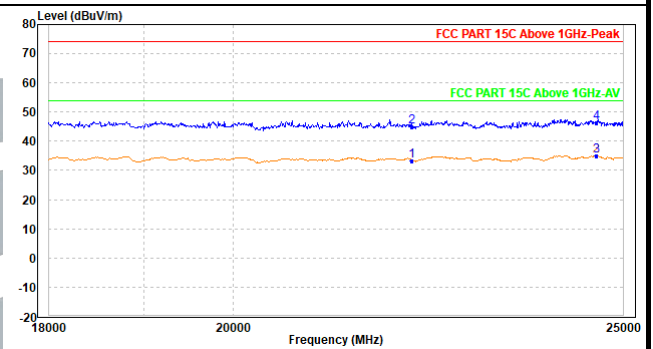
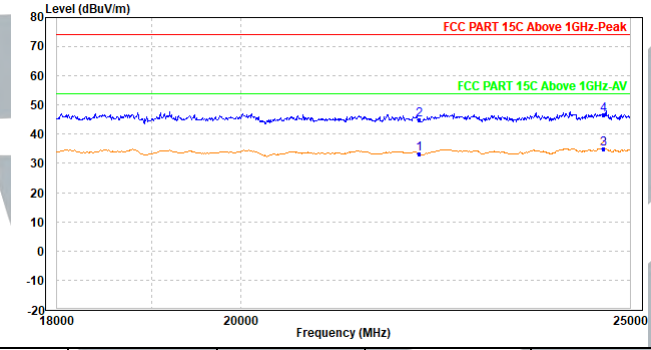
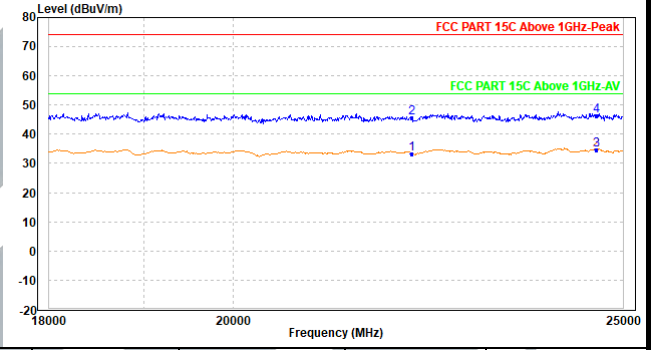
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Radiated Emission Worst Test Data (Above 18GHz):								
No.	Freq. (MHz)	Reading (dBμV)	Correction factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector	Antenna Polaxis
802.11b_CHAIN 0_2462 MHz								
Horizontal					Vertical			
								
1	22158	32.28	0.91	33.19	54.00	-20.81	Average	Horizontal
2	22158	44.57	0.91	45.48	74.00	-28.52	Peak	Horizontal
3	24620	33.46	1.59	35.05	54.00	-18.95	Average	Horizontal
4	24620	44.62	1.59	46.21	74.00	-27.79	Peak	Horizontal
5	22158	32.31	1.04	33.35	54.00	-20.65	Average	Vertical
6	22158	43.94	1.04	44.98	74.00	-29.02	Peak	Vertical
7	24620	33.46	1.49	34.95	54.00	-19.05	Average	Vertical
8	24620	44.91	1.49	46.40	74.00	-27.60	Peak	Vertical
802.11b_CHAIN 1_2462 MHz								
Horizontal					Vertical			
								
1	22158	32.26	0.91	33.17	54.00	-20.83	Average	Horizontal
2	22158	44.01	0.91	44.92	74.00	-29.08	Peak	Horizontal
3	24620	33.33	1.59	34.92	54.00	-19.08	Average	Horizontal
4	24620	45.10	1.59	46.69	74.00	-27.31	Peak	Horizontal
5	22158	32.20	1.04	33.24	54.00	-20.76	Average	Vertical
6	22158	44.54	1.04	45.58	74.00	-28.42	Peak	Vertical
7	24620	33.31	1.49	34.80	54.00	-19.20	Average	Vertical
8	24620	44.91	1.49	46.40	74.00	-27.60	Peak	Vertical

Remark:

1. Correct Factor = Antenna Factor + Cable Loss - Amplifier Gain, the value was added to Original Receiver Reading by the software automatically.
2. Result = Reading + Correct Factor.
3. Margin = Result – Limit

5.9 BAND EDGE MEASUREMENTS (RADIATED)

Test Requirement: FCC 47 CFR Part 15 Subpart C Section 15.205/15.209

Test Method: ANSI C63.10-2020 Clause 11.12

Limits:

Radiated emissions which fall in the restricted bands, as defined in section 15.205(a), must also comply with the radiated emission limits specified in section 15.209(a).

Frequency	Limit (dB μ V/m @3m)	Remark
30 MHz-88 MHz	40.0	Quasi-peak Value
88 MHz-216 MHz	43.5	Quasi-peak Value
216 MHz-960 MHz	46.0	Quasi-peak Value
960 MHz-1 GHz	54.0	Quasi-peak Value
Above 1 GHz	54.0	Average Value
	74.0	Peak Value

Test Setup: Refer to section 4.4.1 for details.

Test Procedures:

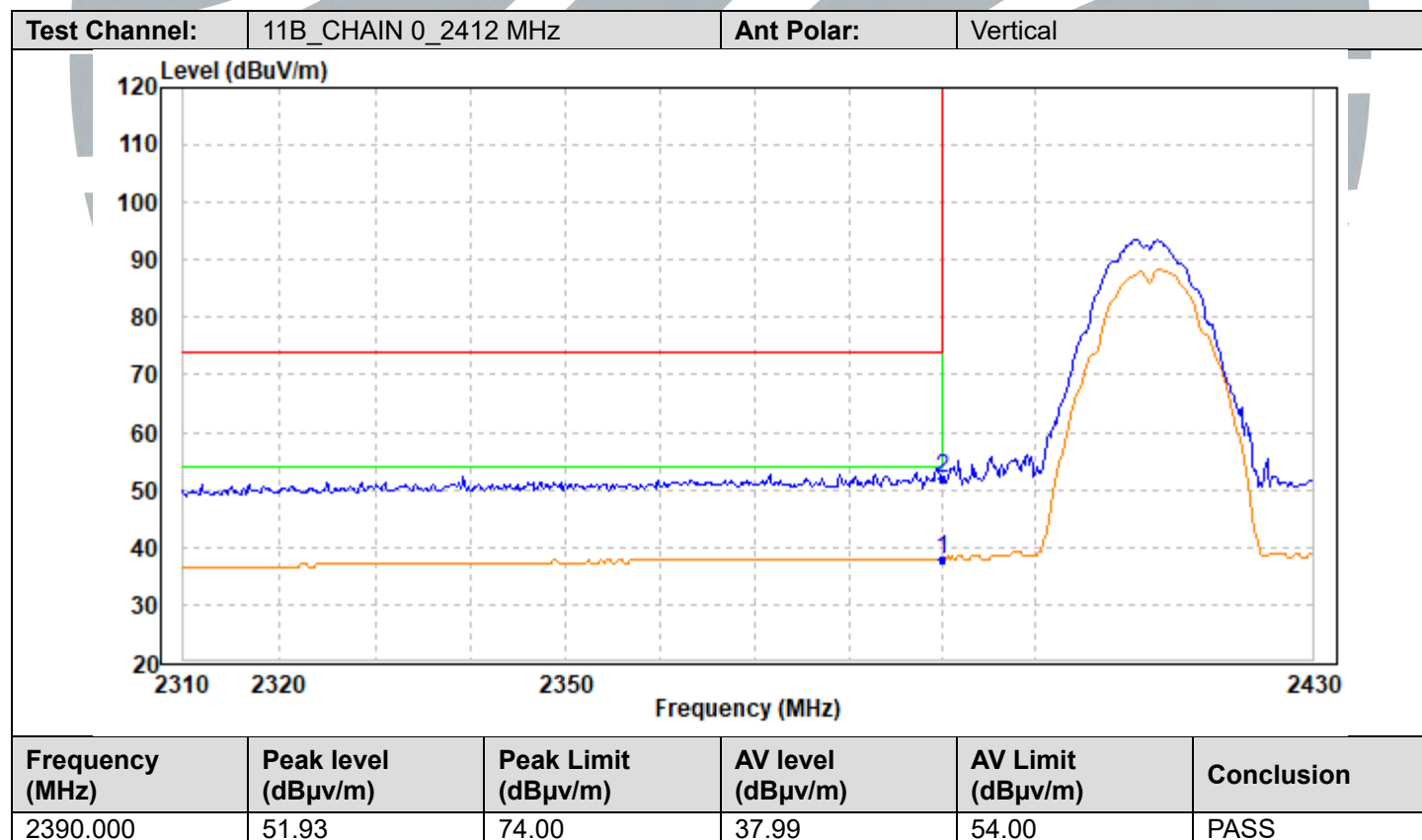
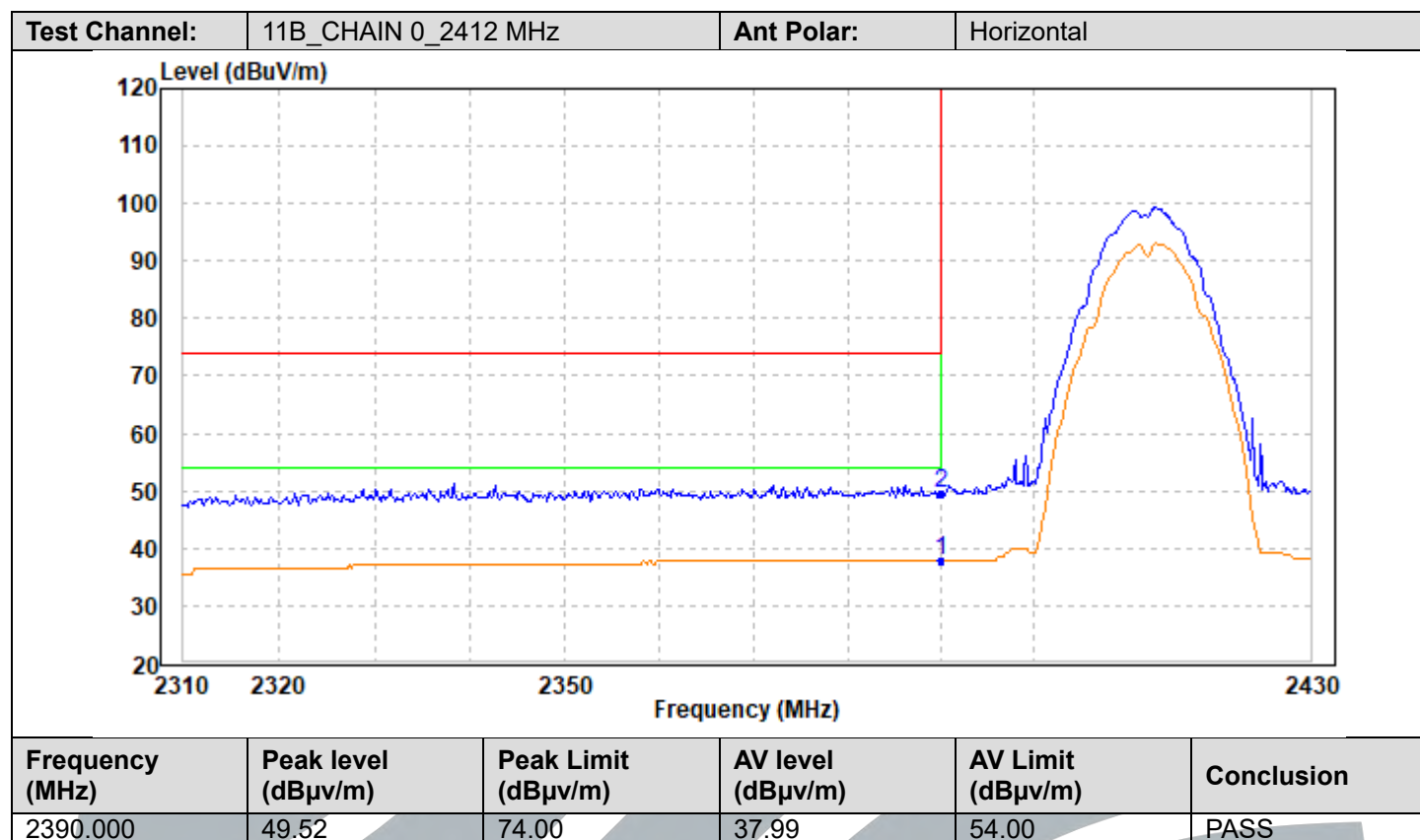
Radiated band edge measurements at 2390 MHz and 2483.5 MHz were made with the unit transmitting in the low end of the channel range and the high end closest to the restricted bands respectively. The emissions were made on the 966 Semi-Chamber. Use (resolution bandwidth (RBW) = 1 MHz, video bandwidth (VBW) = 3 MHz for peak levels and RBW = 1 MHz and VBW = 10 Hz or 1/T for average levels).

1. Use radiated spurious emission test procedure described in clause 5.10. The transmitter output (antenna port) was connected to the test receiver.
2. Set the PK and AV limit line.
3. Record the fundamental emission and emissions out of the band-edge.
4. Determine band-edge compliance as required.

Equipment Used: Refer to section 3 for details.

Test Result: Pass

The measurement data as follows:



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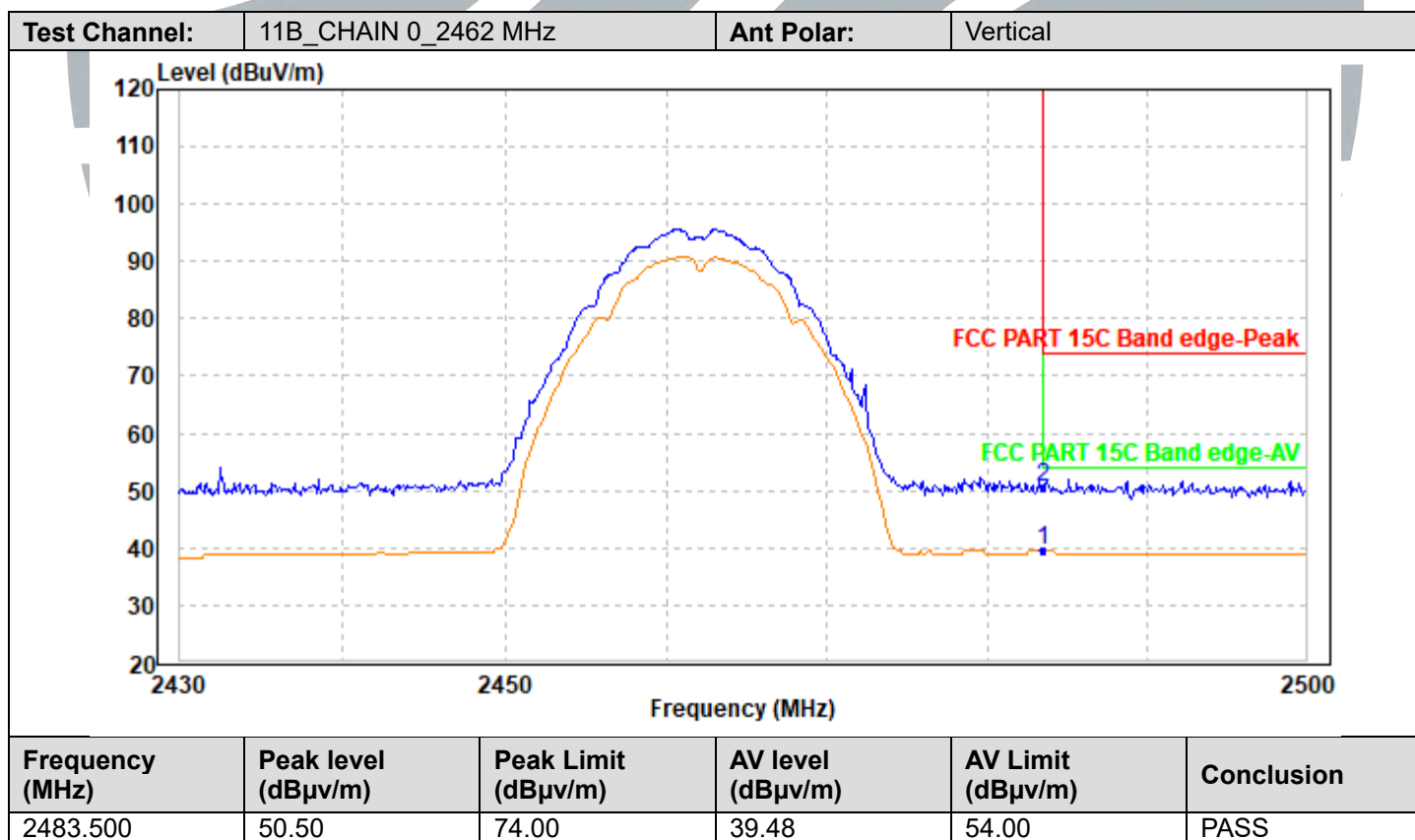
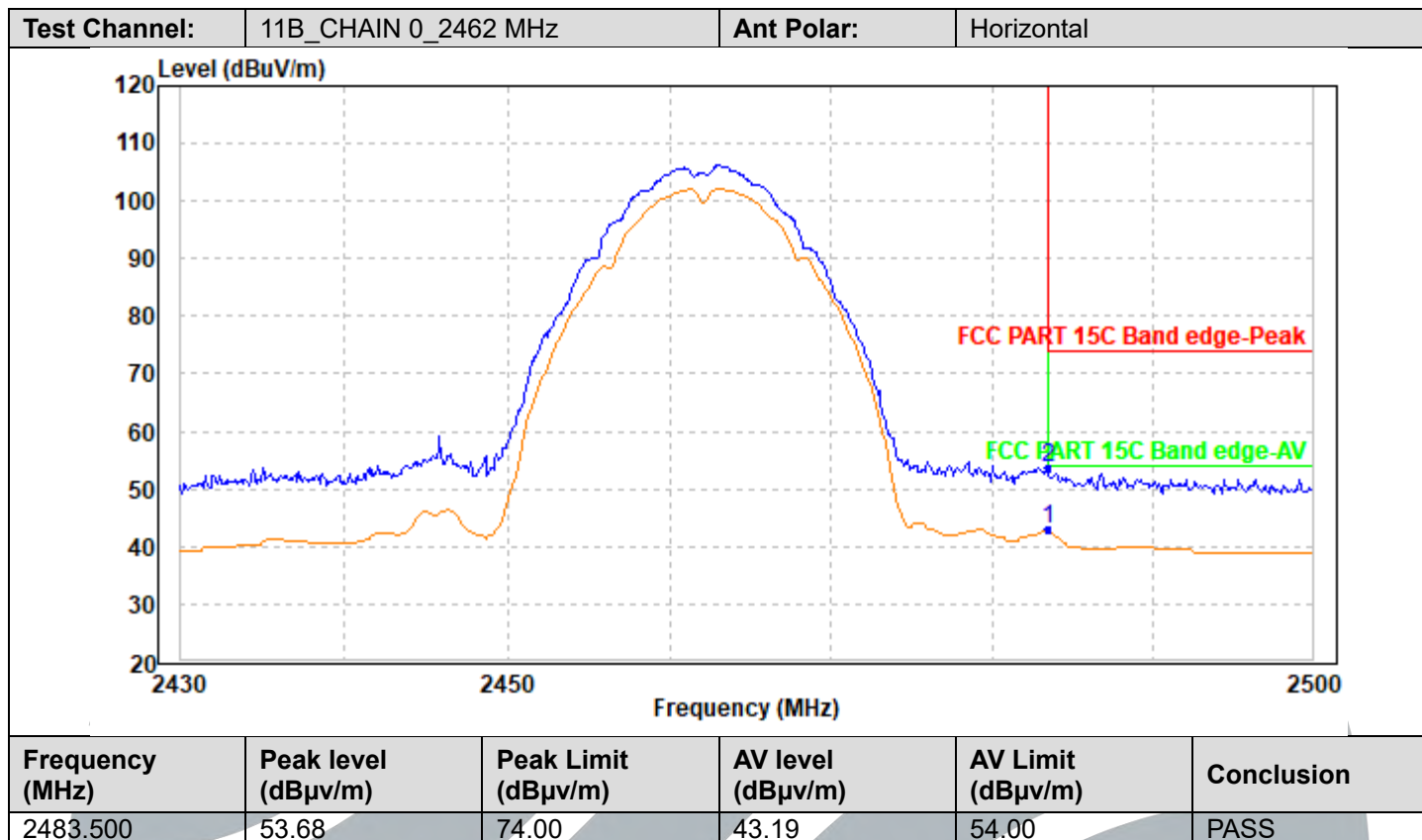
Tel: +86-755-28230888

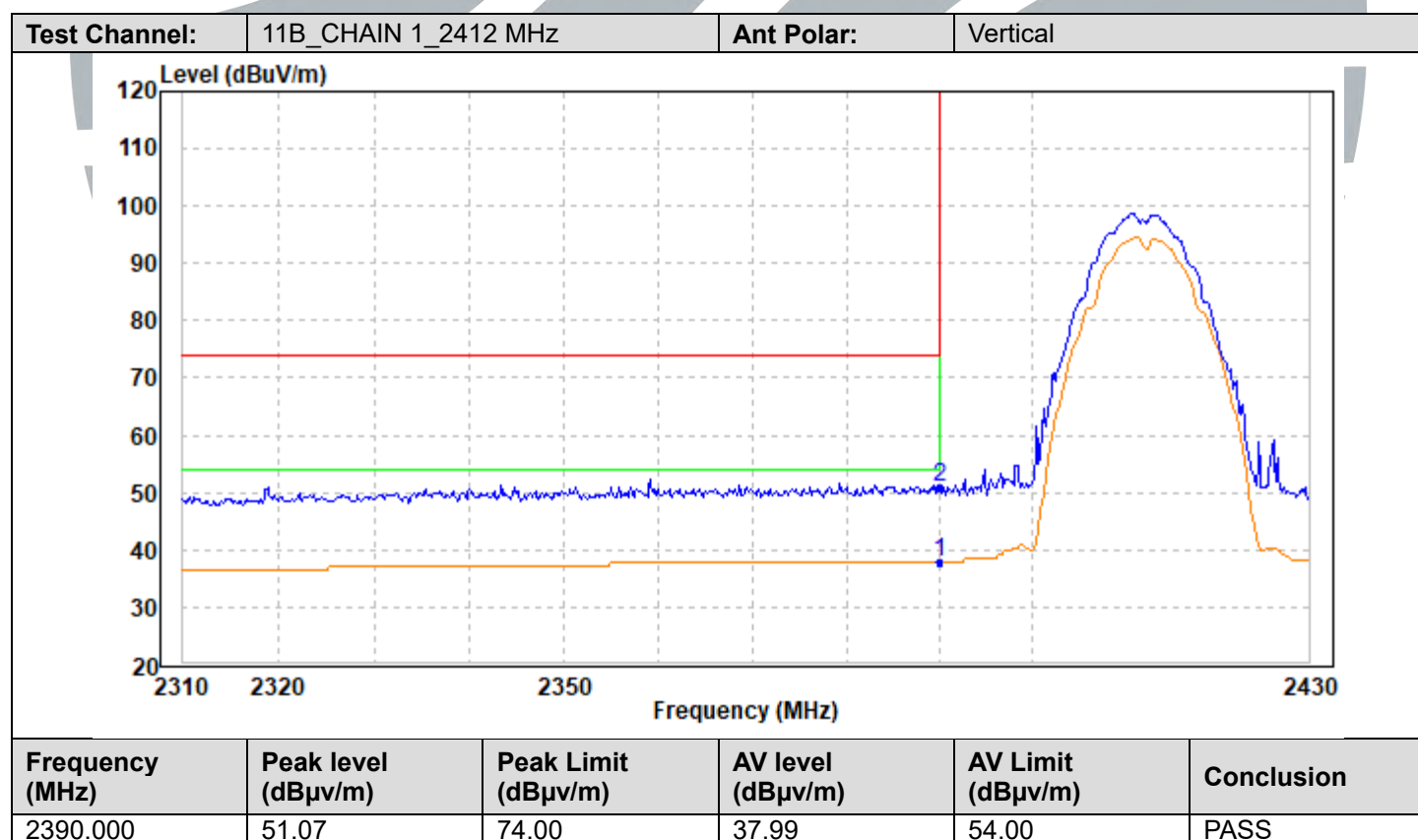
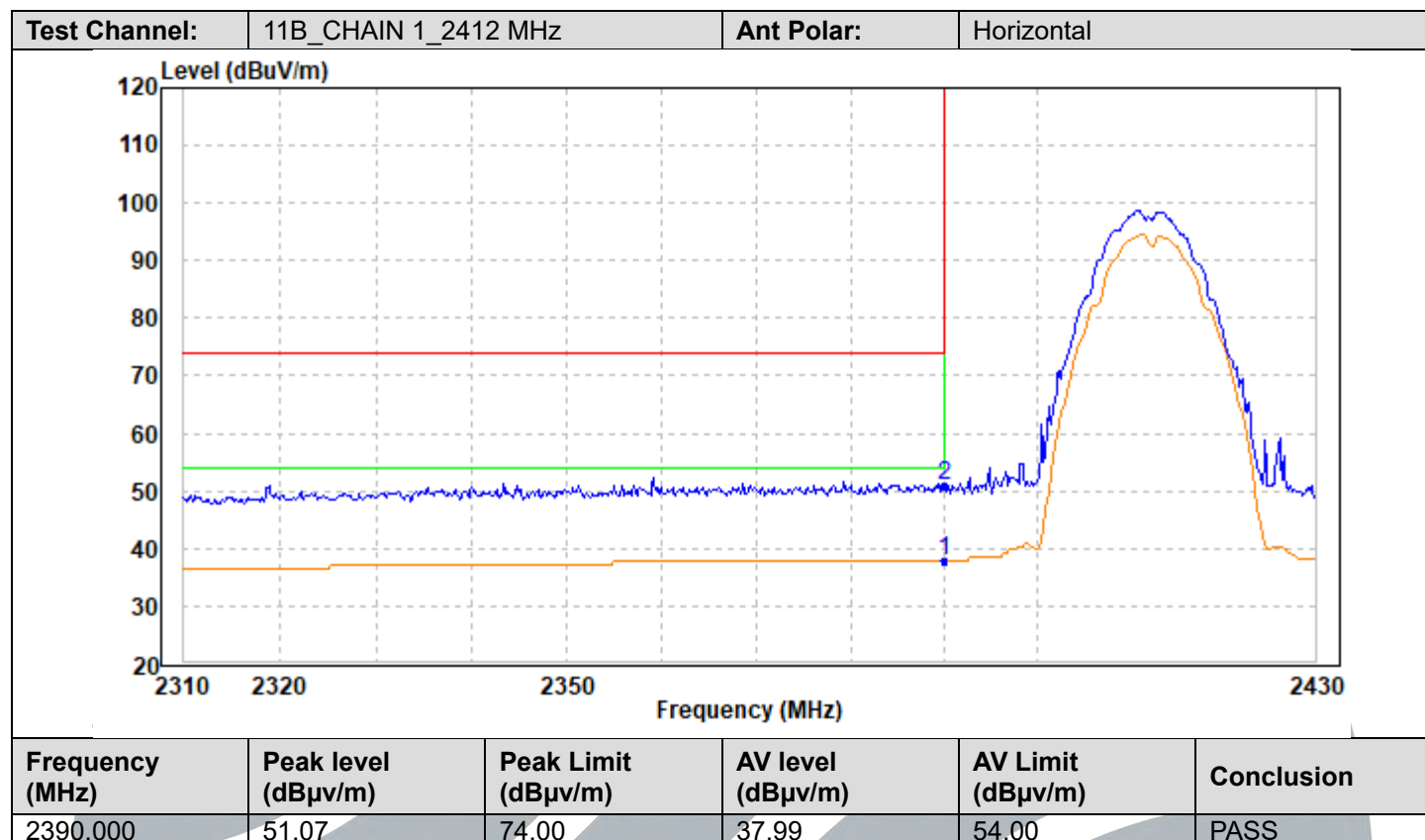
Fax: +86-755-28230886

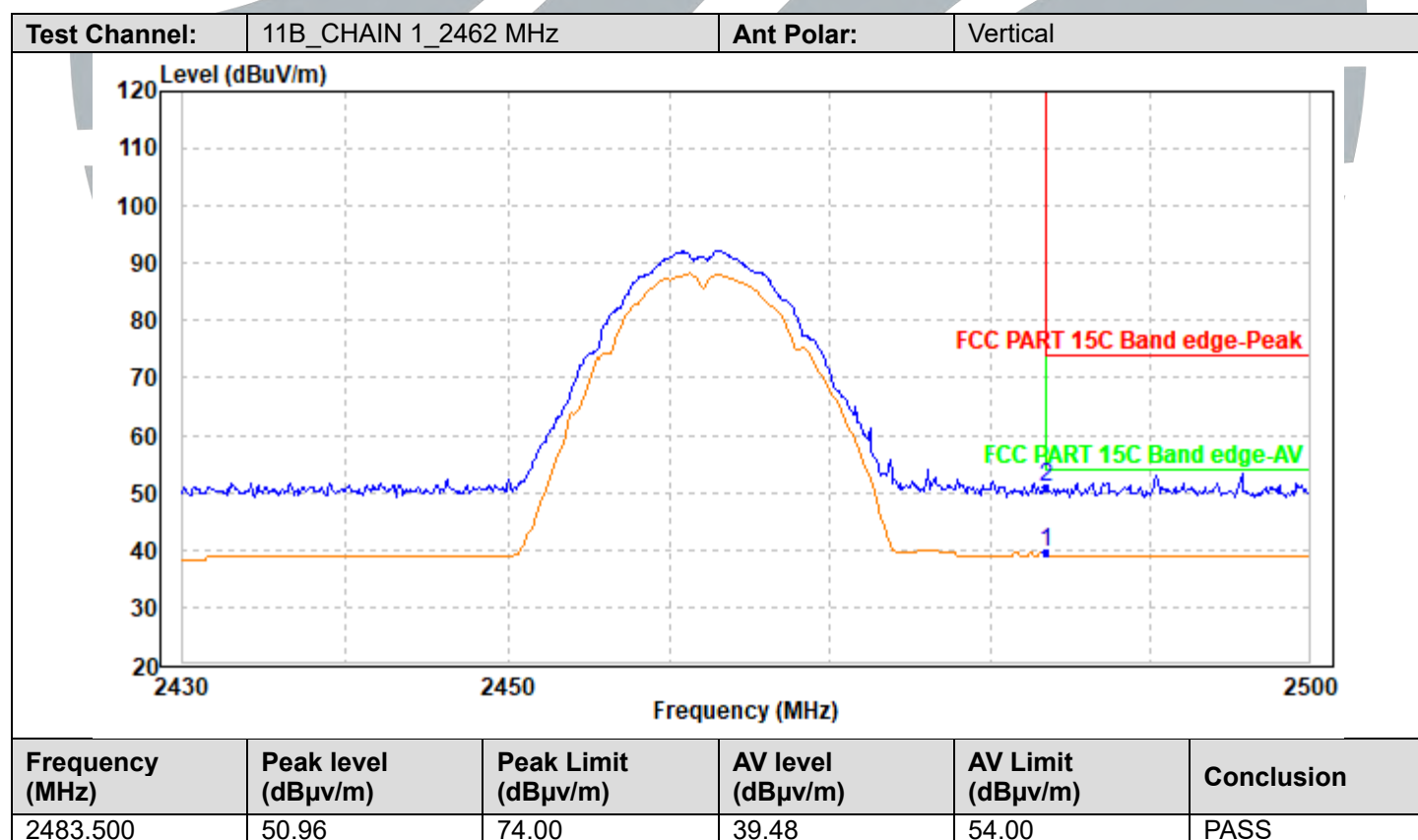
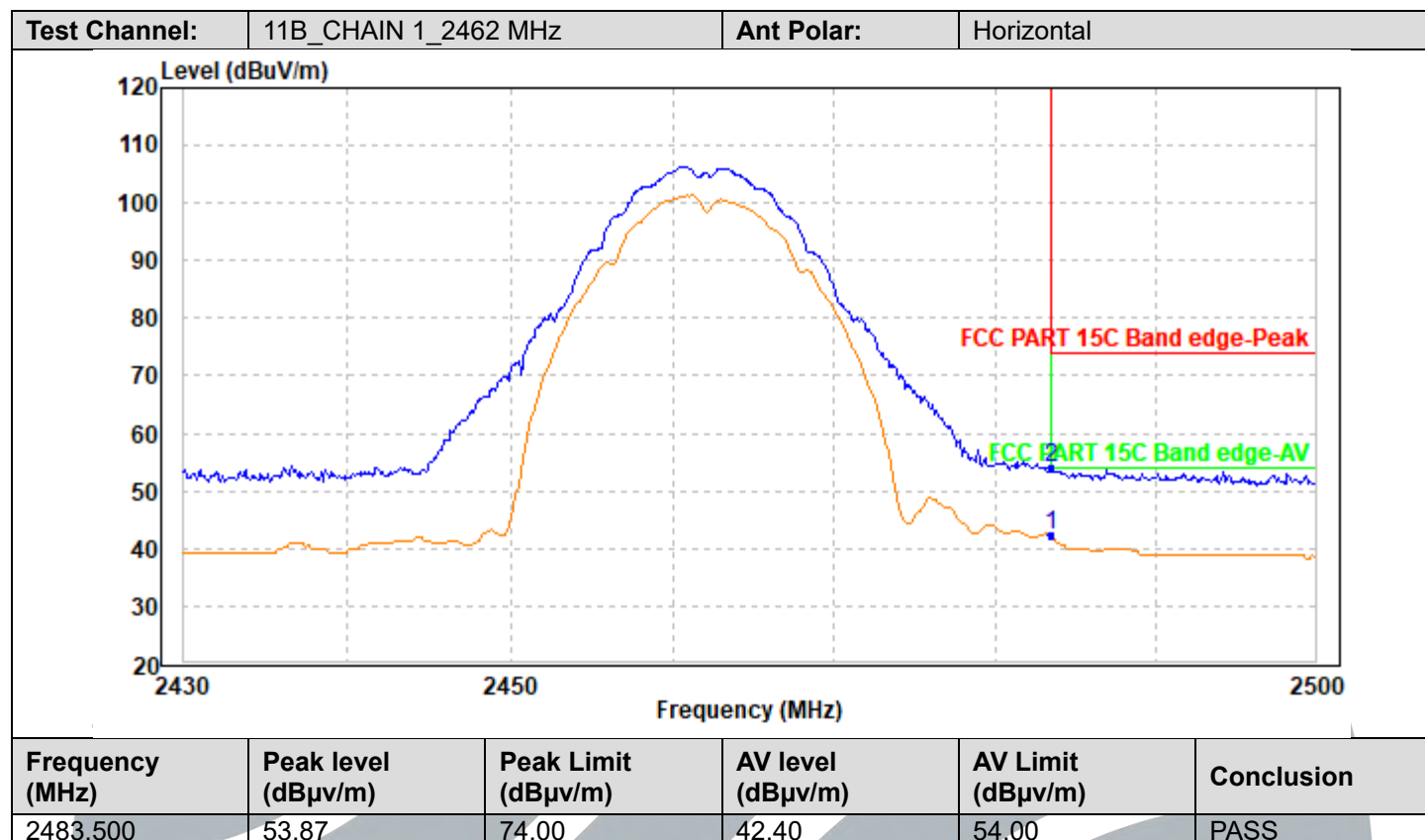
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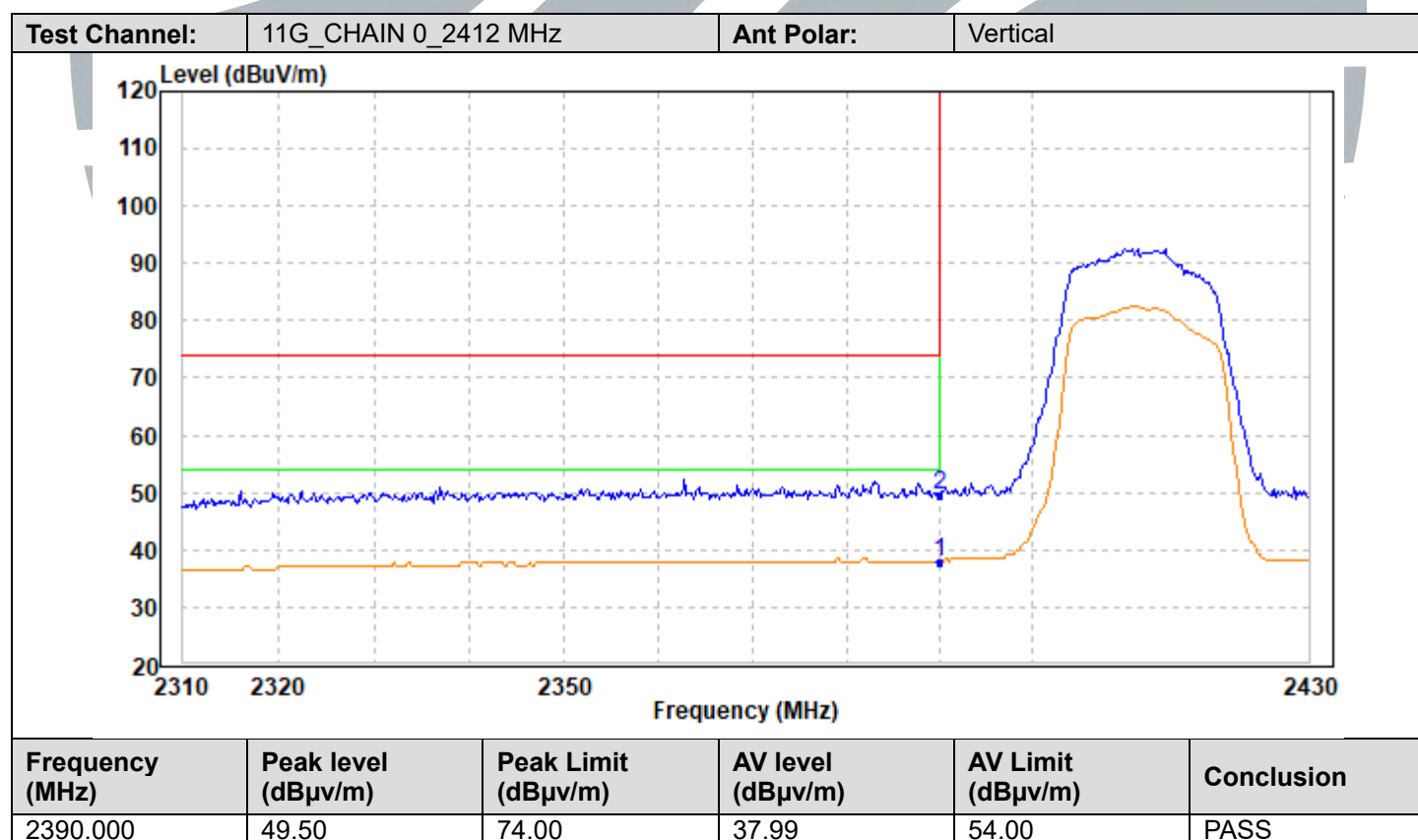
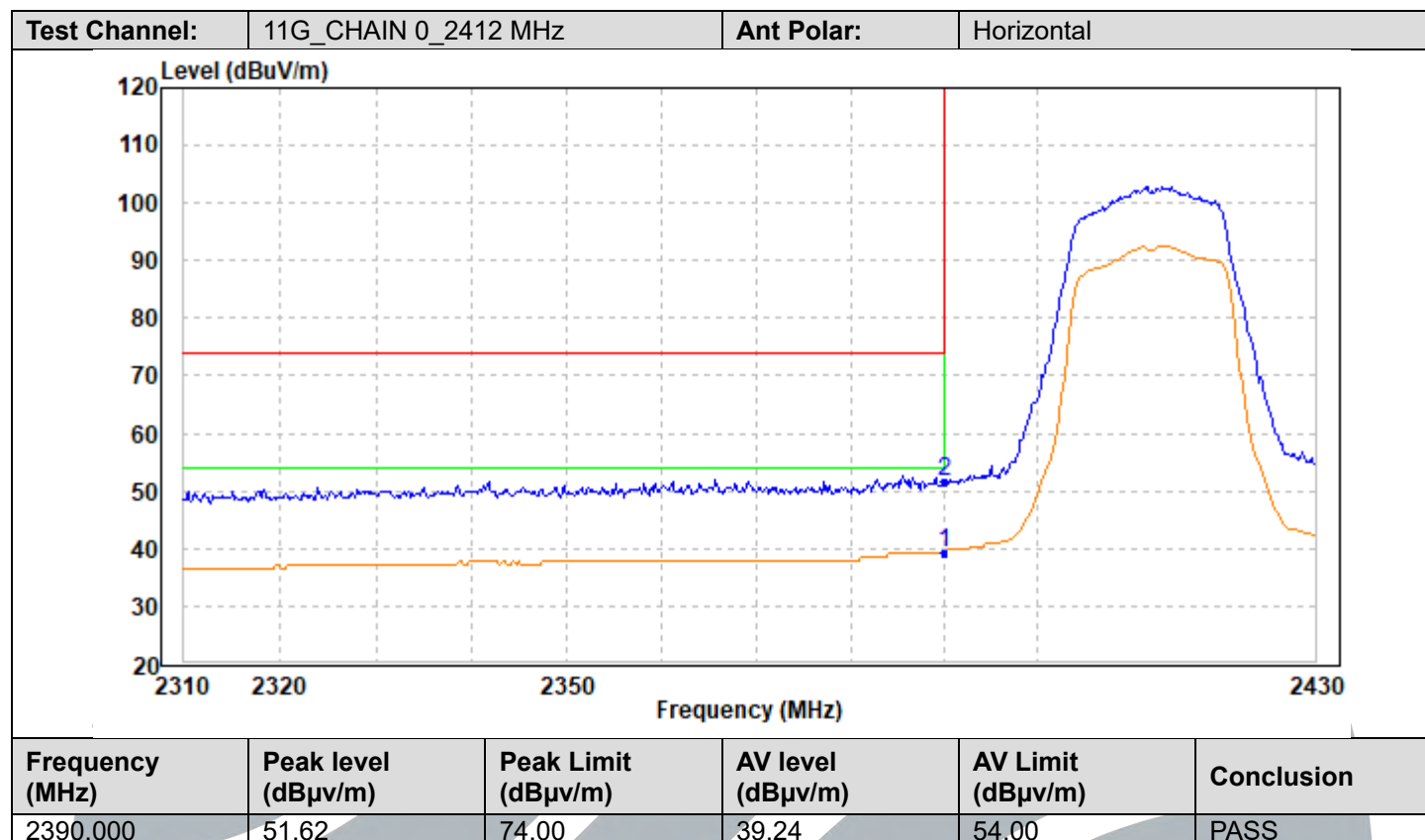
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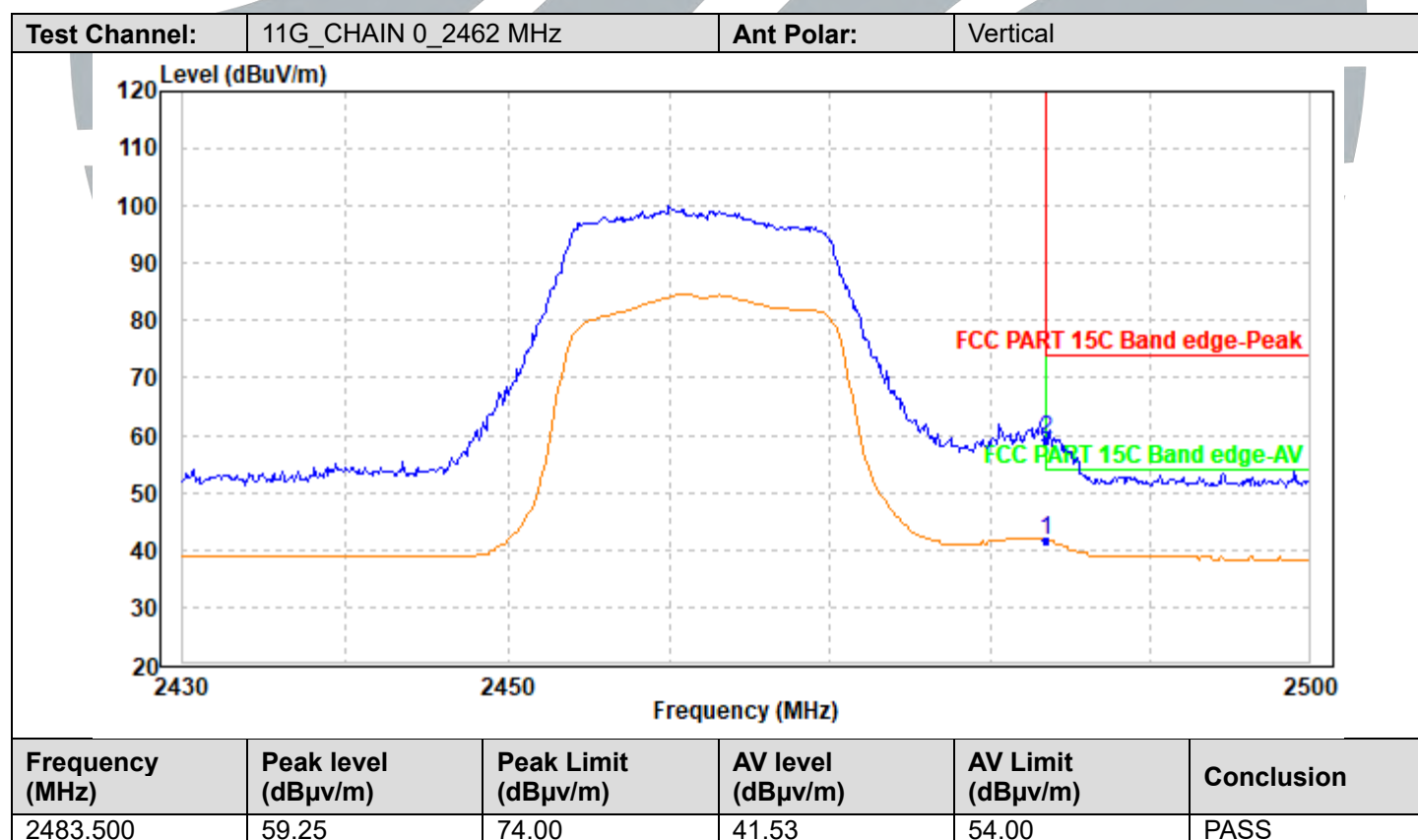
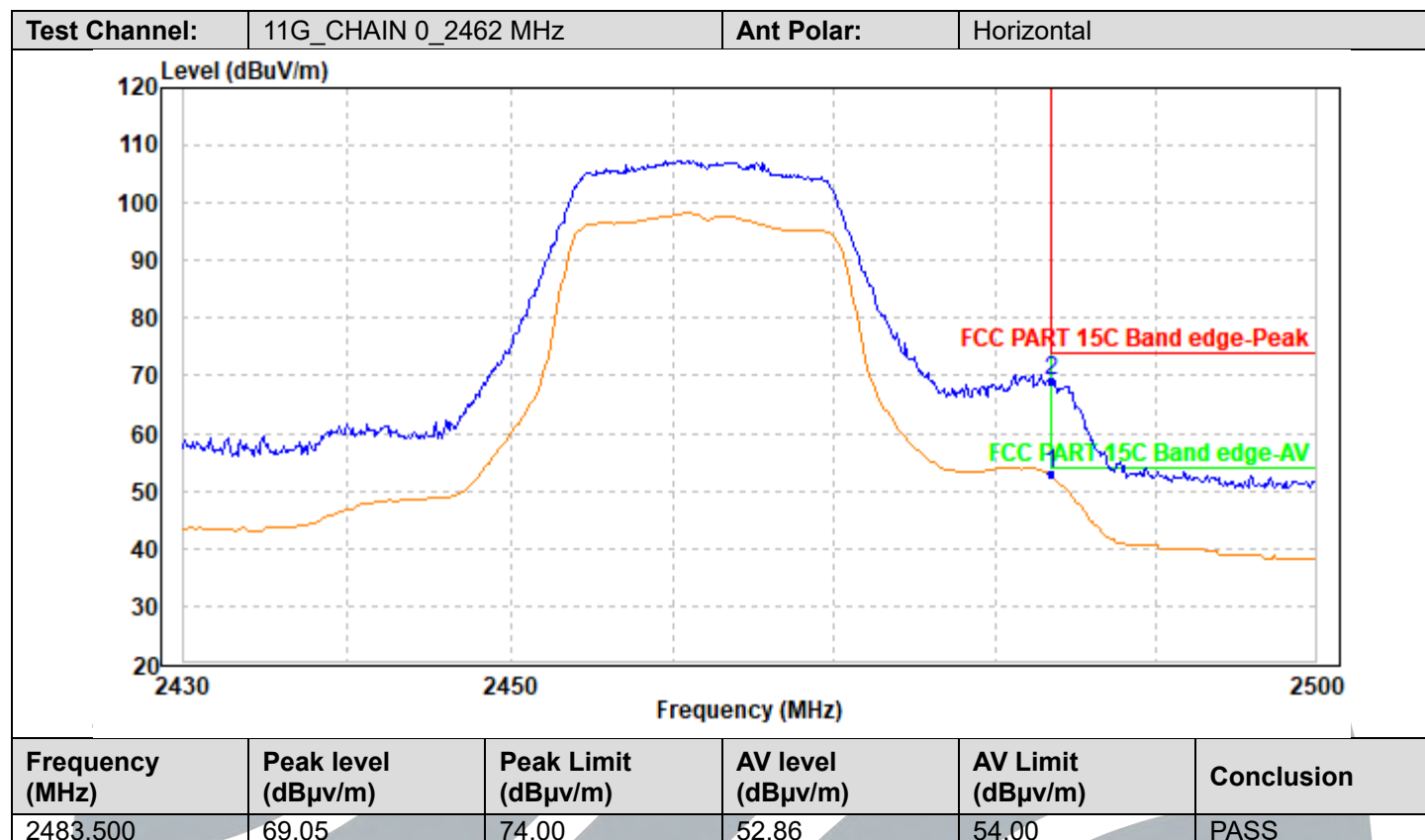
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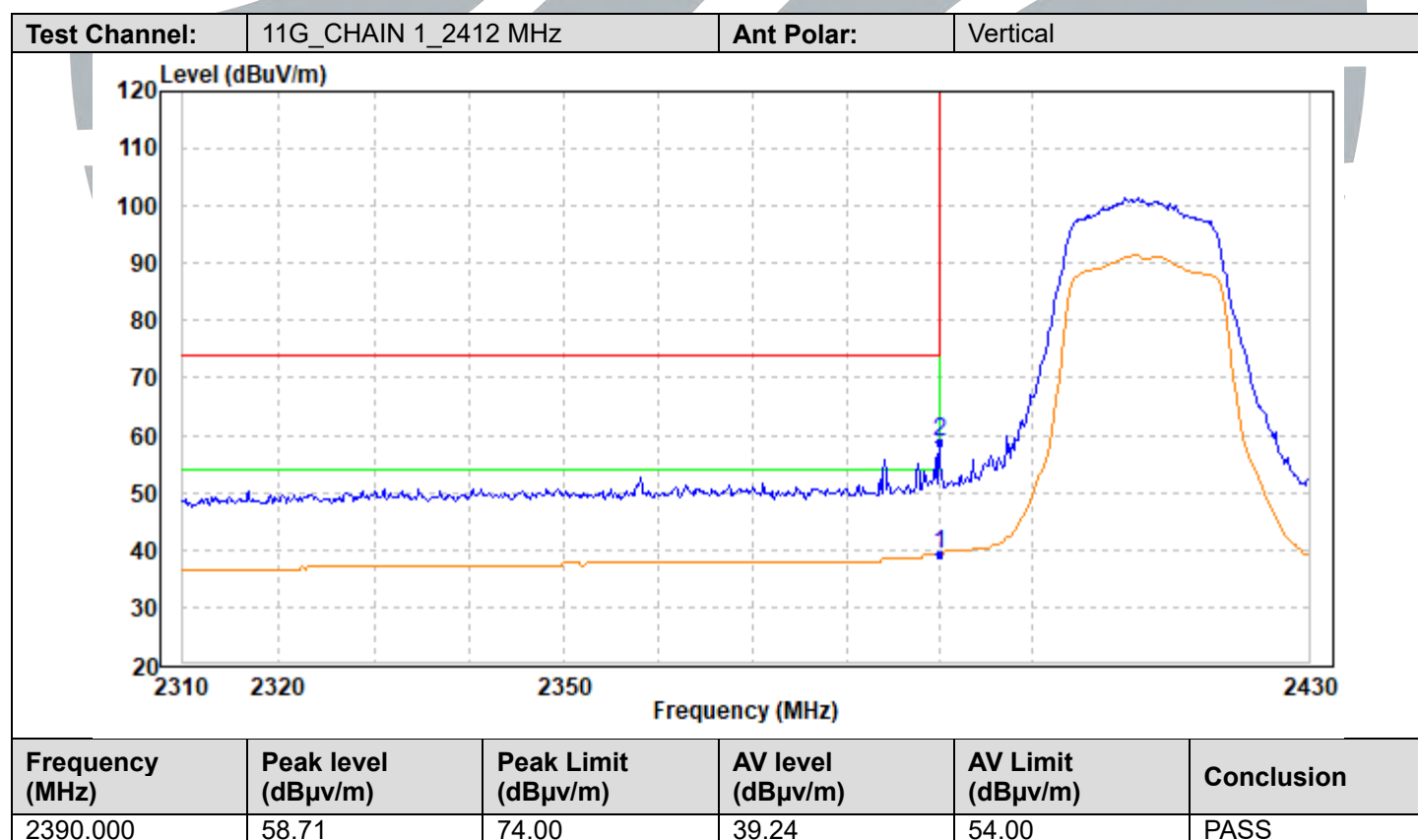
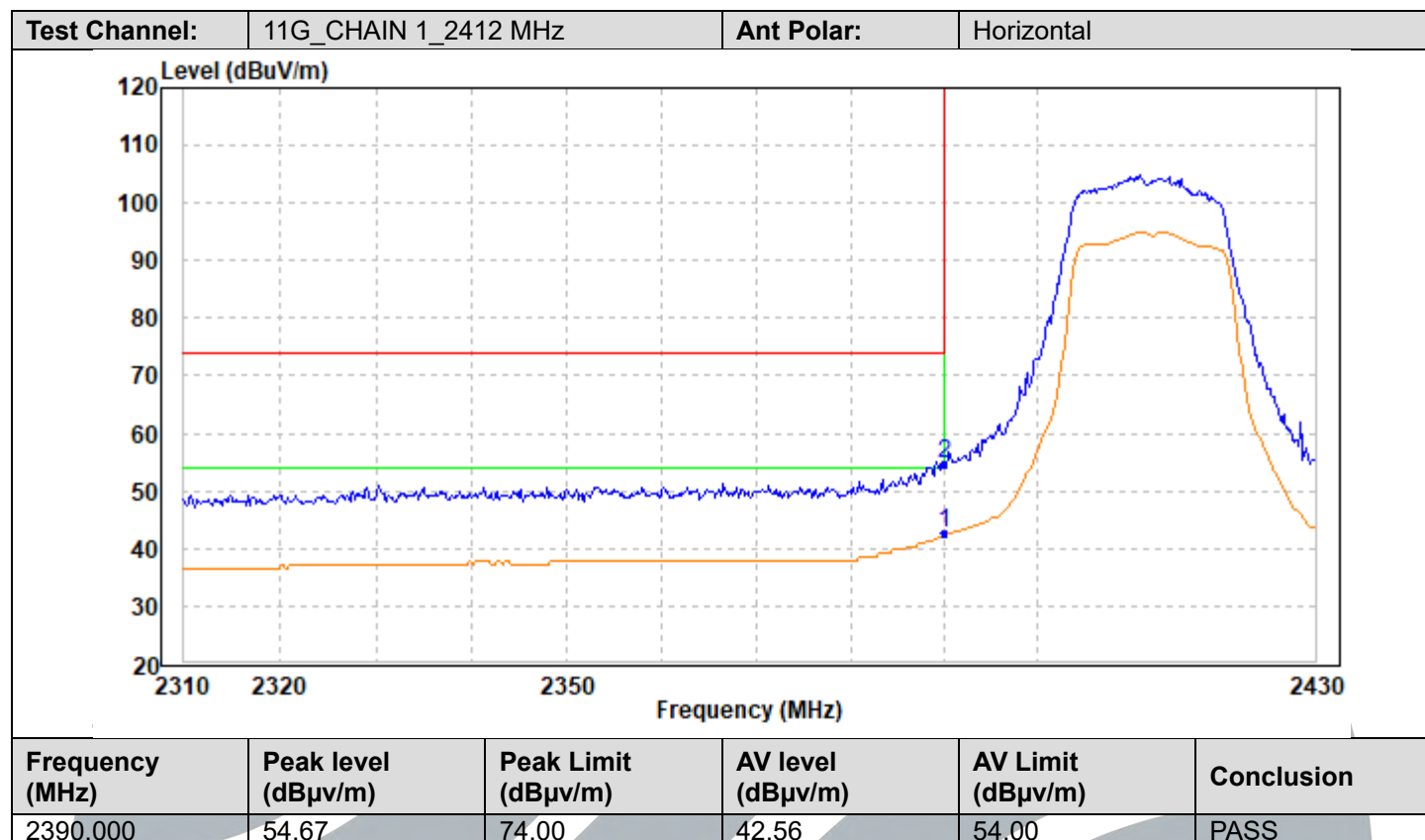
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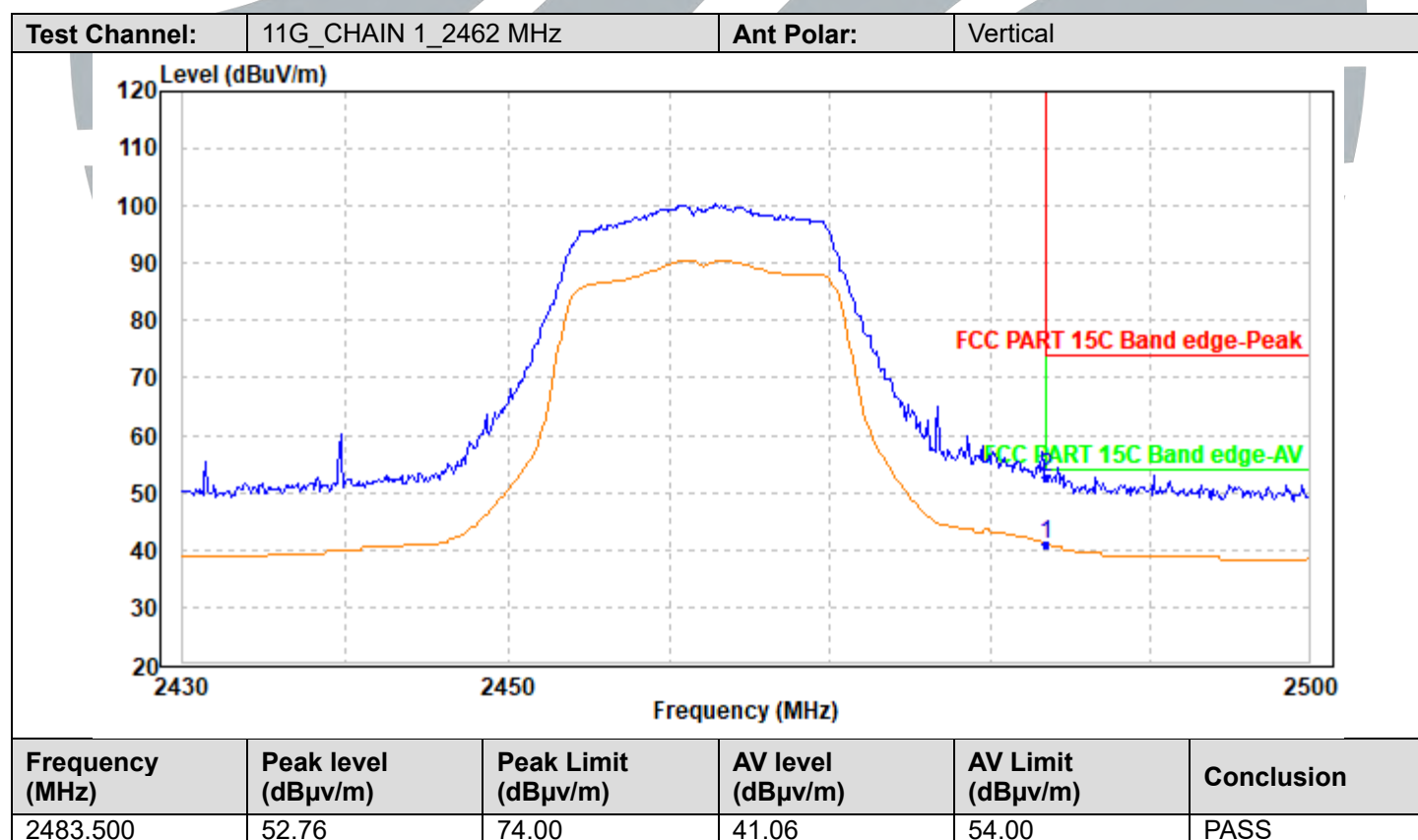
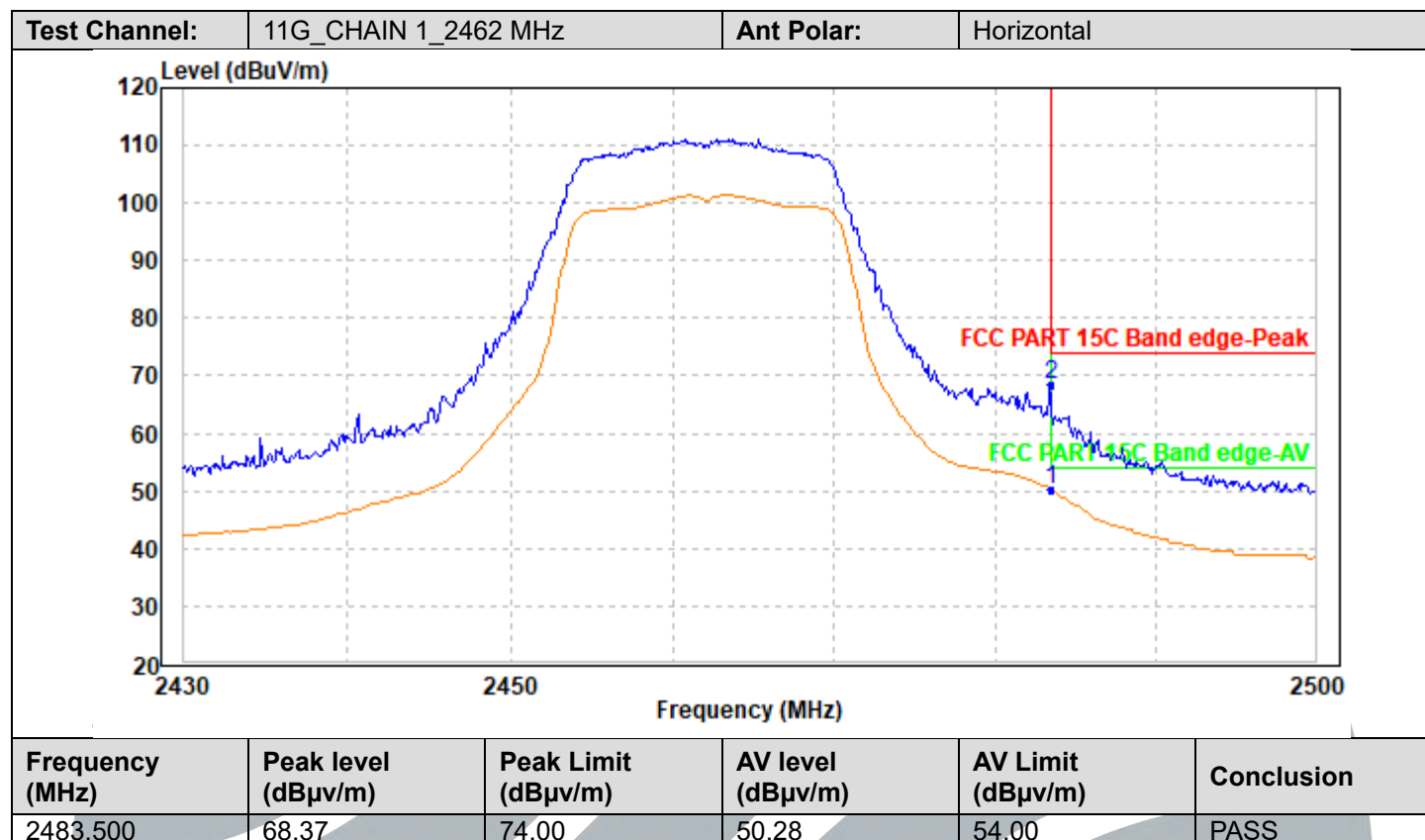
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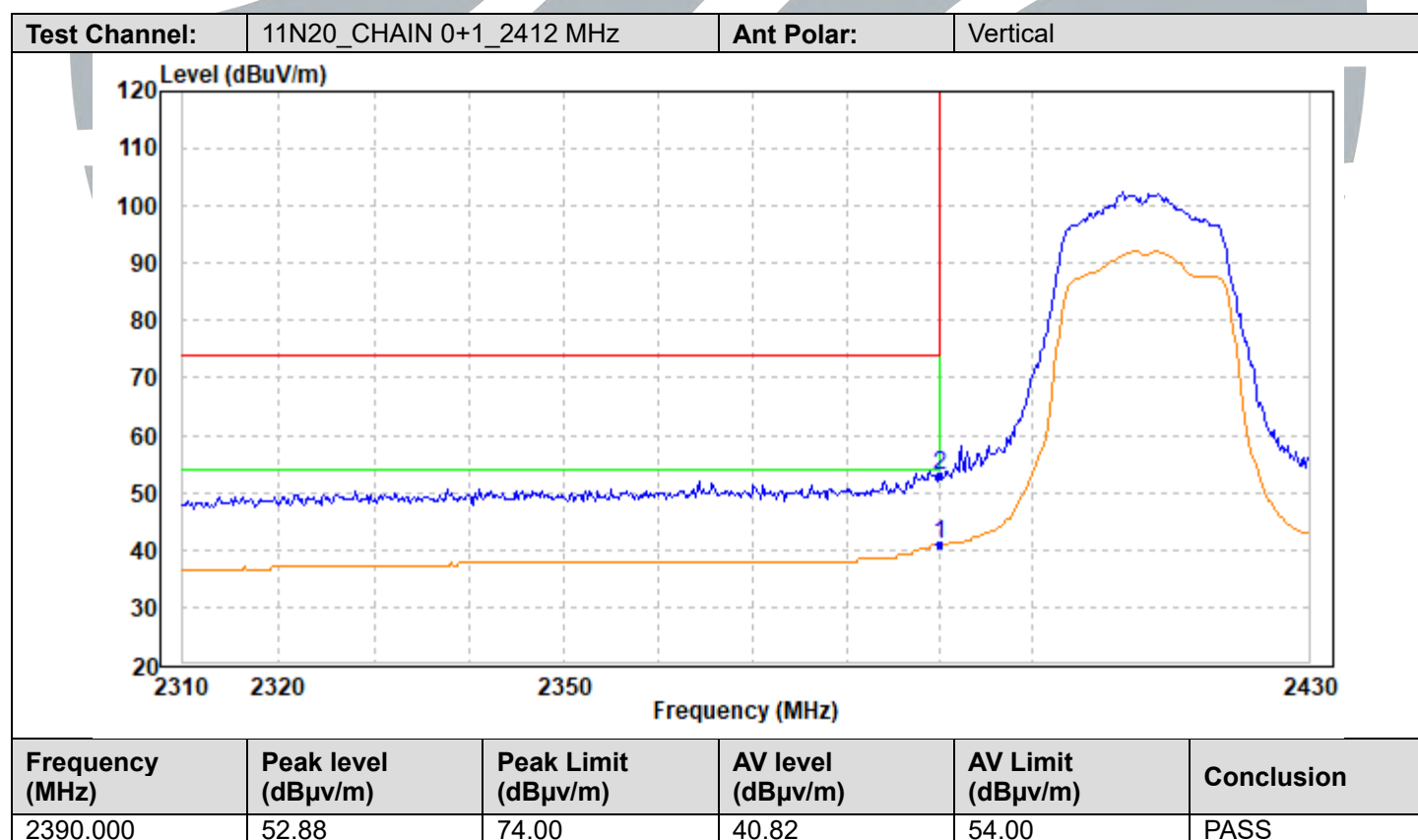
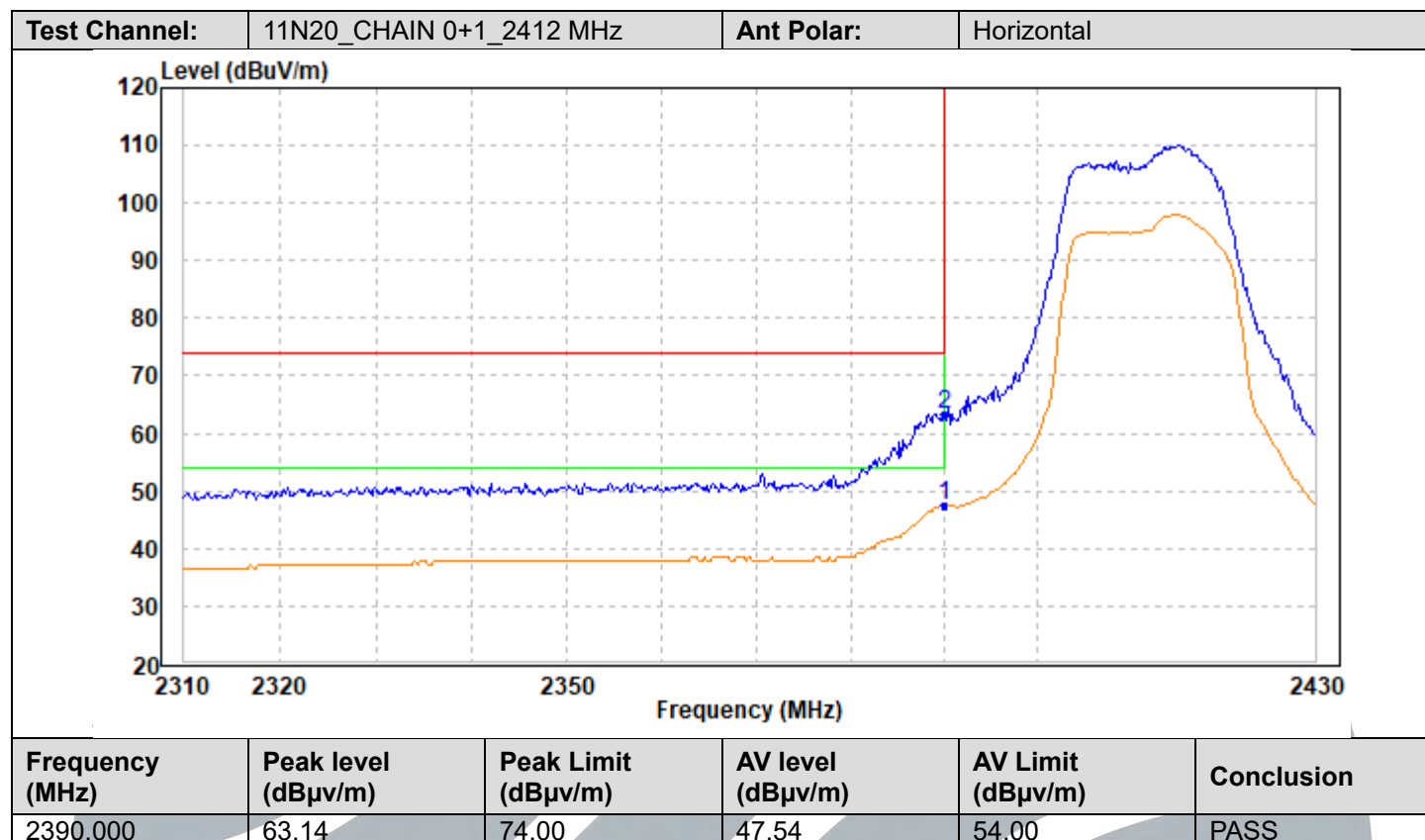
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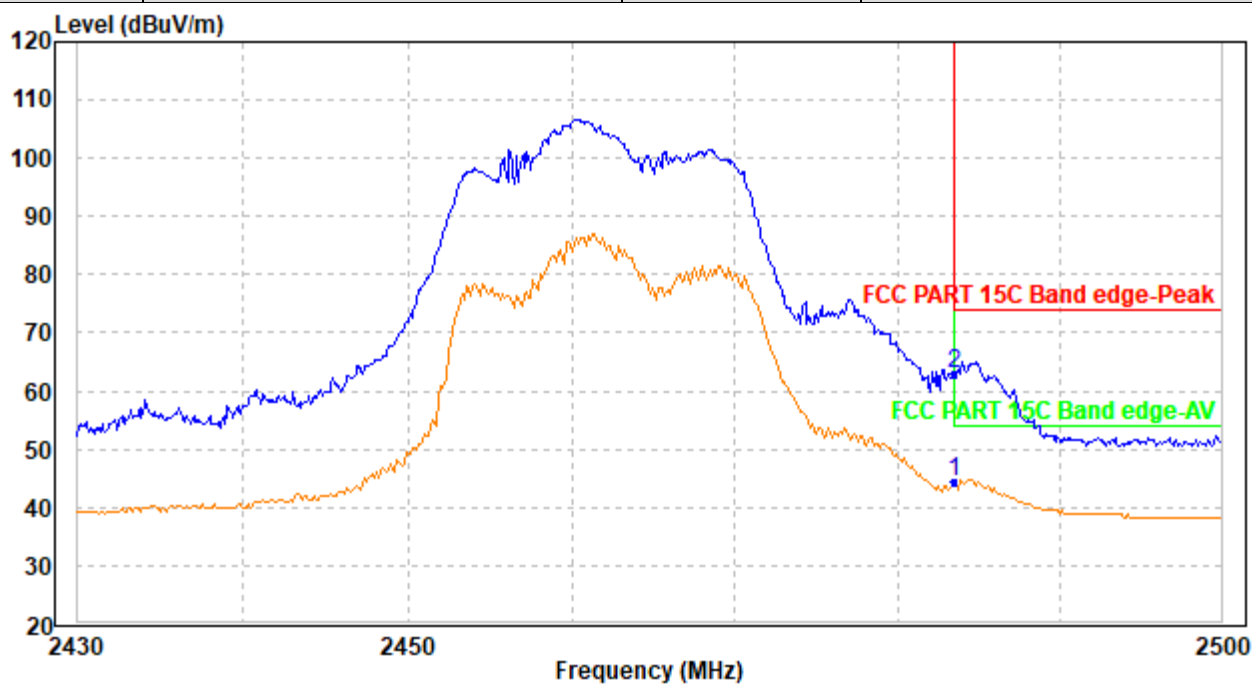
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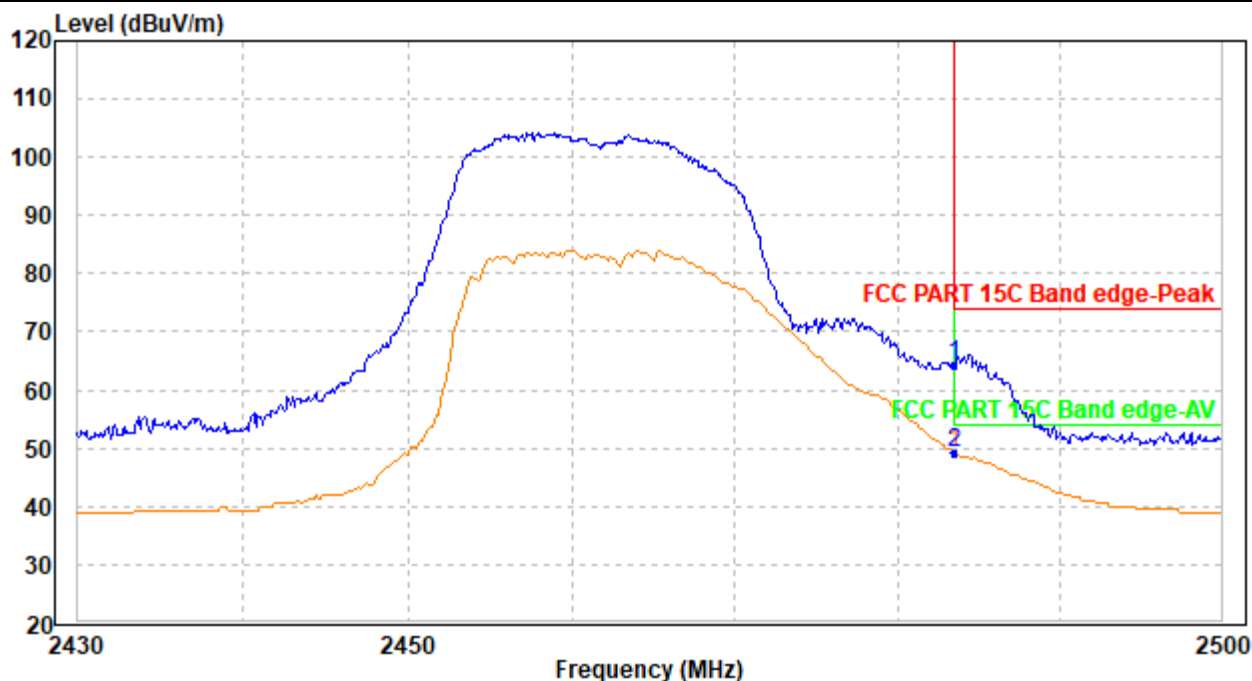


Test Channel:	11N20_CHAIN 0+1_2462 MHz	Ant Polar:	Horizontal
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Frequency (MHz)	Peak level (dB μ v/m)	Peak Limit (dB μ v/m)	AV level (dB μ v/m)	AV Limit (dB μ v/m)	Conclusion
2483.500	63.00	74.00	44.26	54.00	PASS

Test Channel:	11N20_CHAIN 0+1_2462 MHz	Ant Polar:	Vertical
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Frequency (MHz)	Peak level (dB μ v/m)	Peak Limit (dB μ v/m)	AV level (dB μ v/m)	AV Limit (dB μ v/m)	Conclusion
2483.500	--	--	49.21	54.00	PASS

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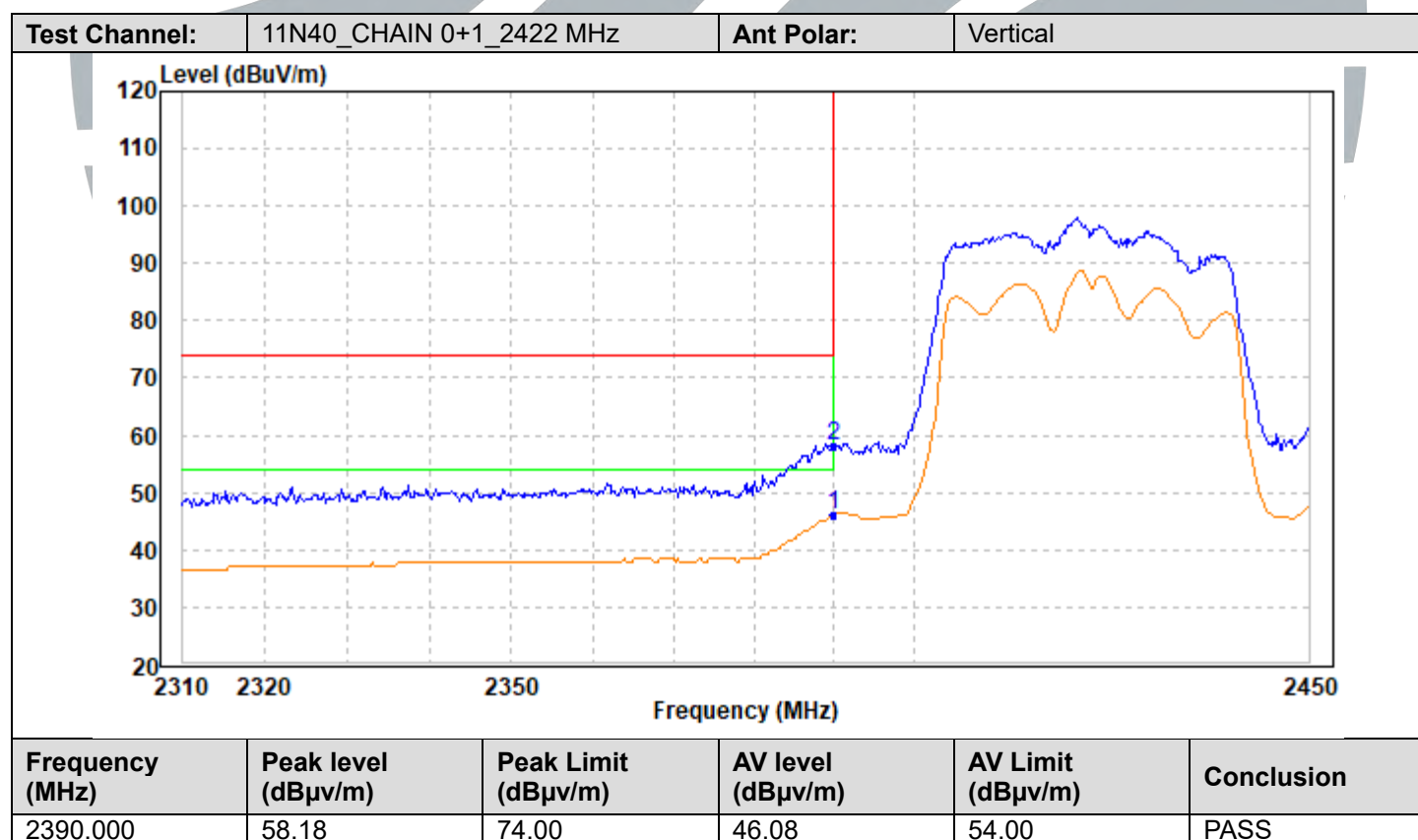
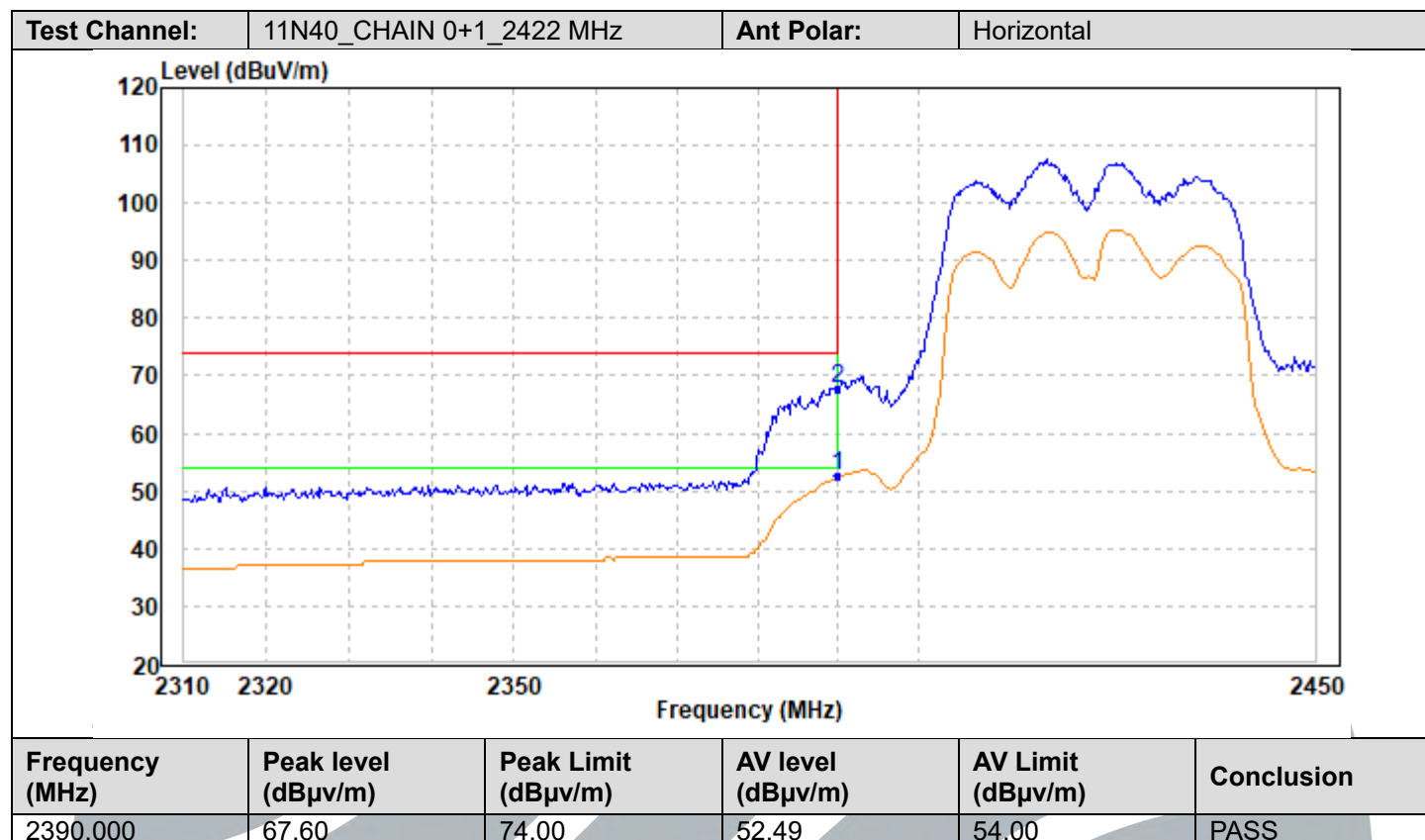
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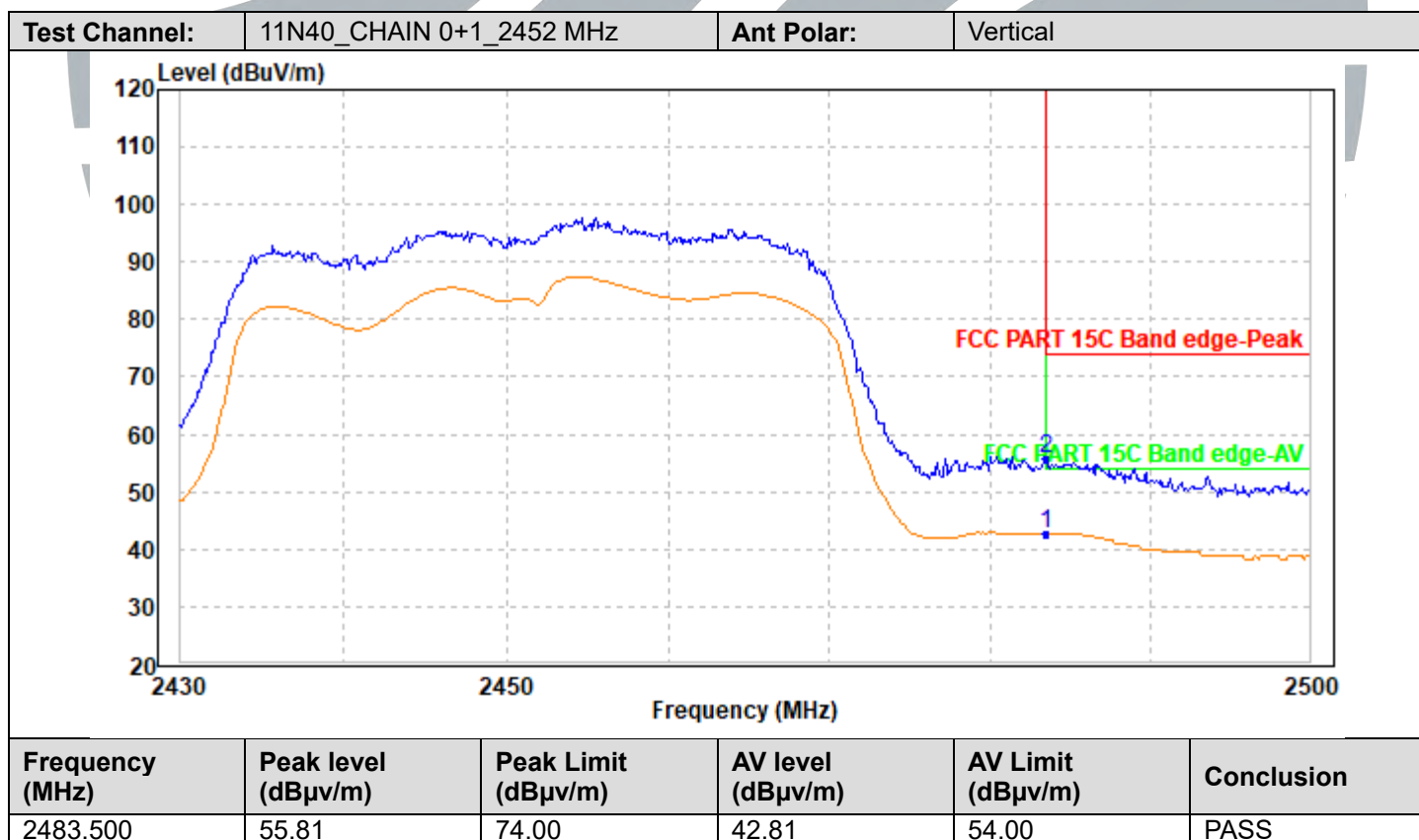
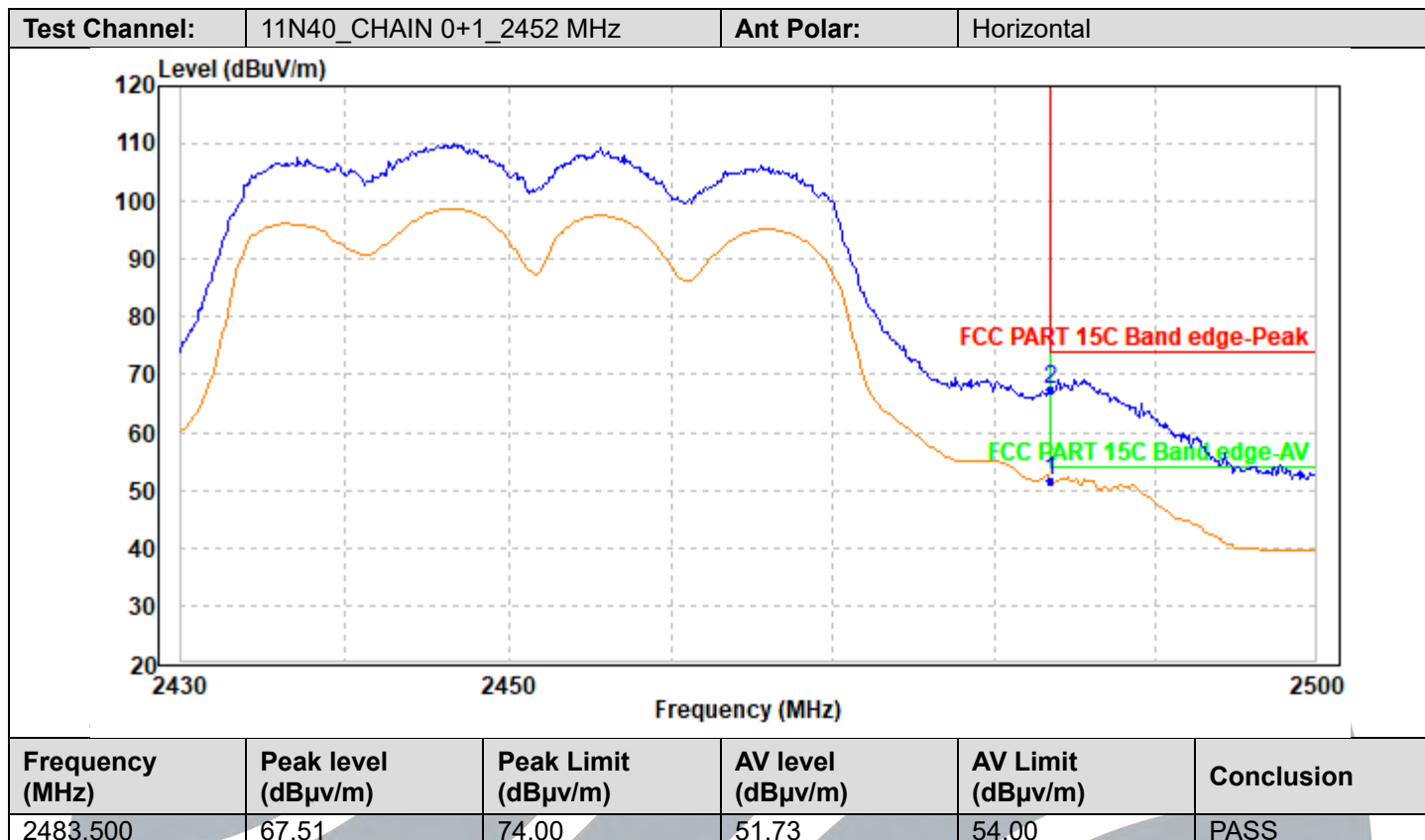
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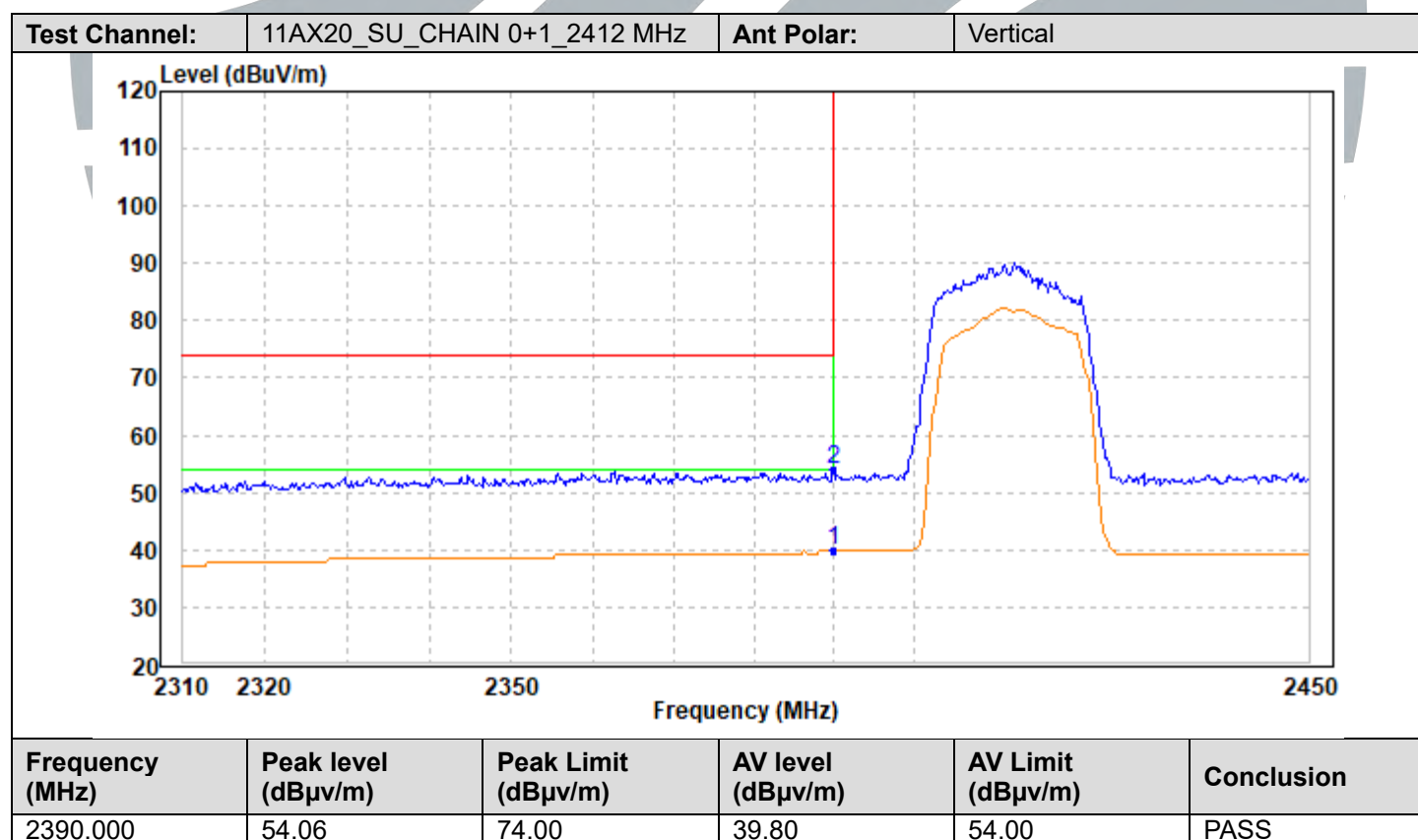
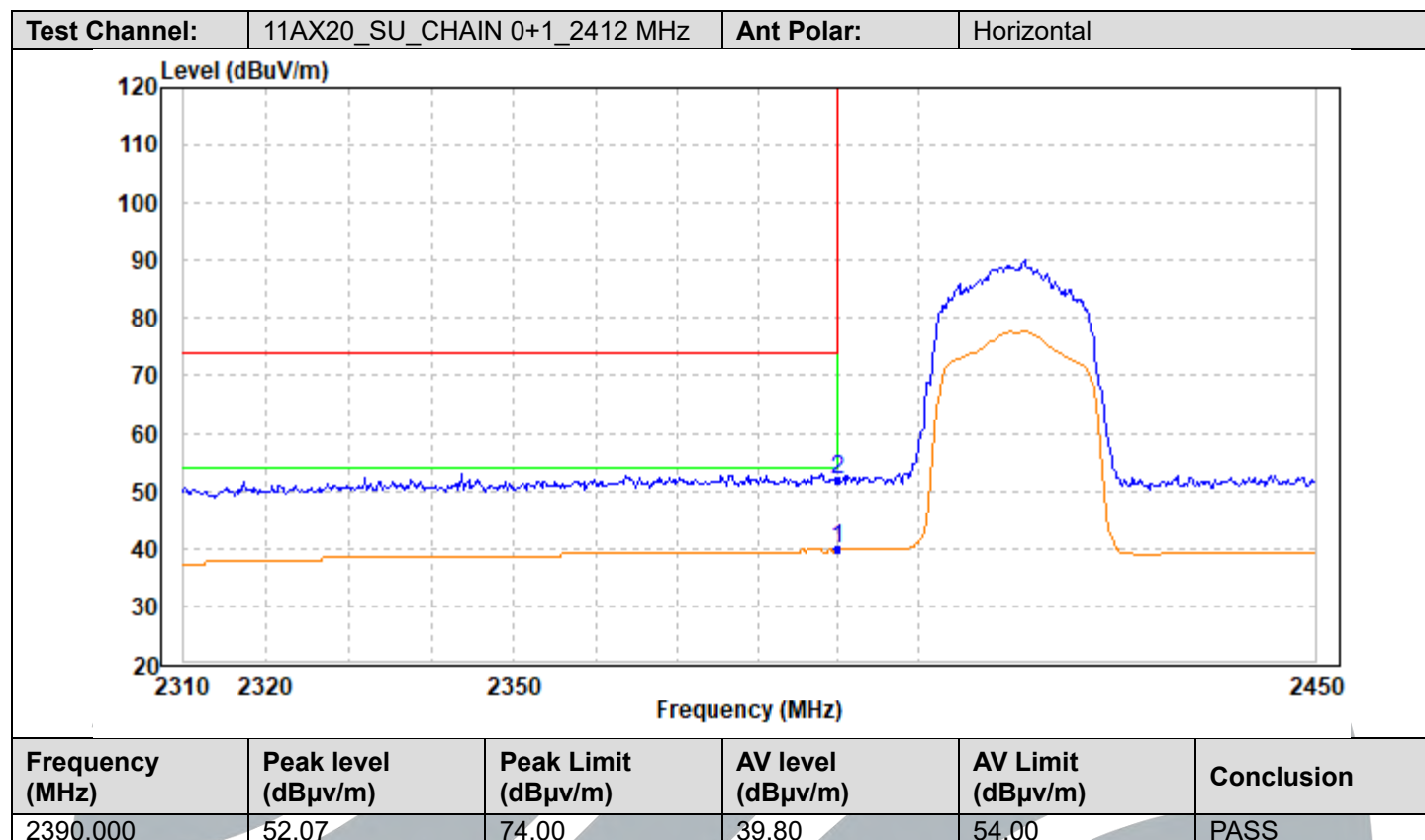
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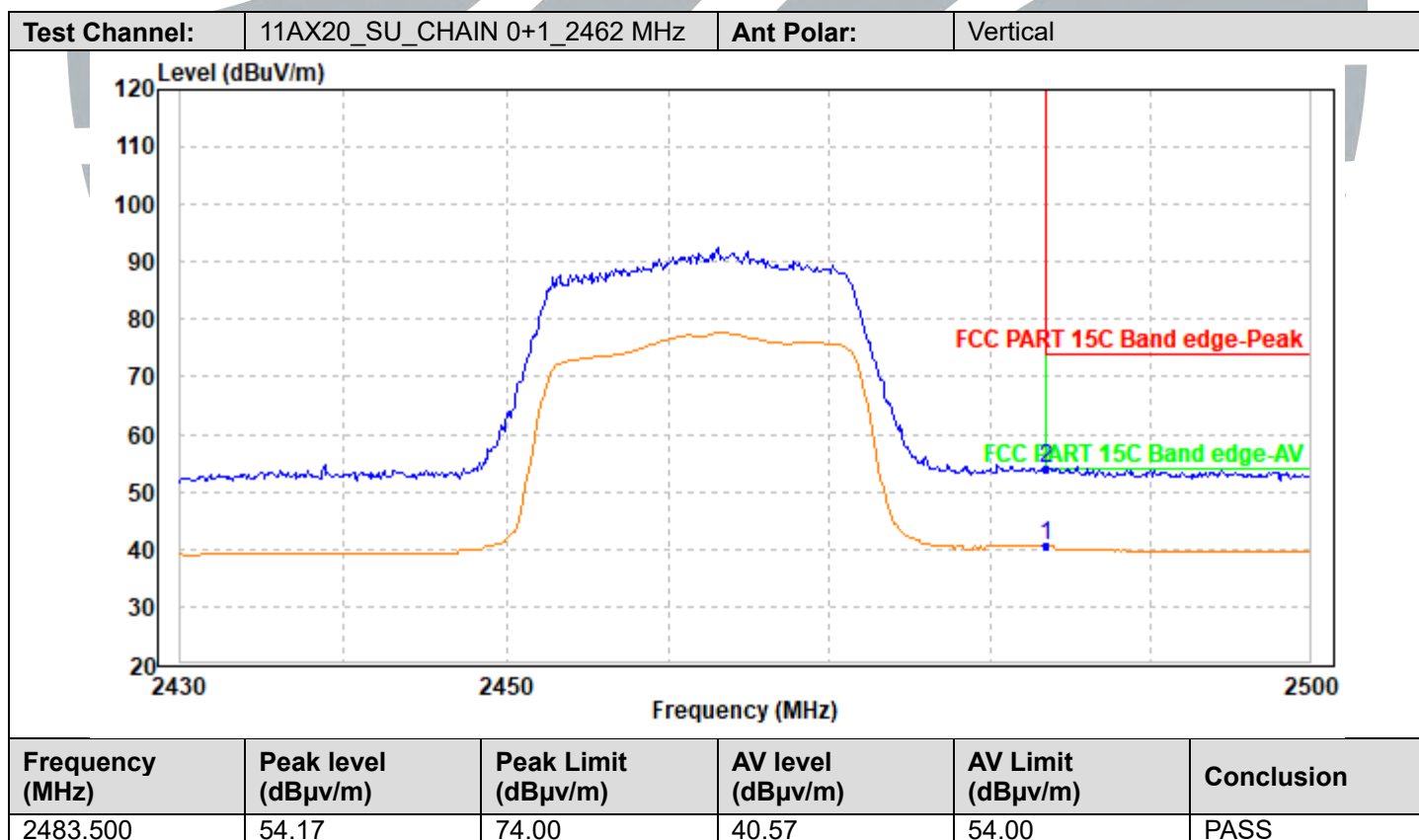
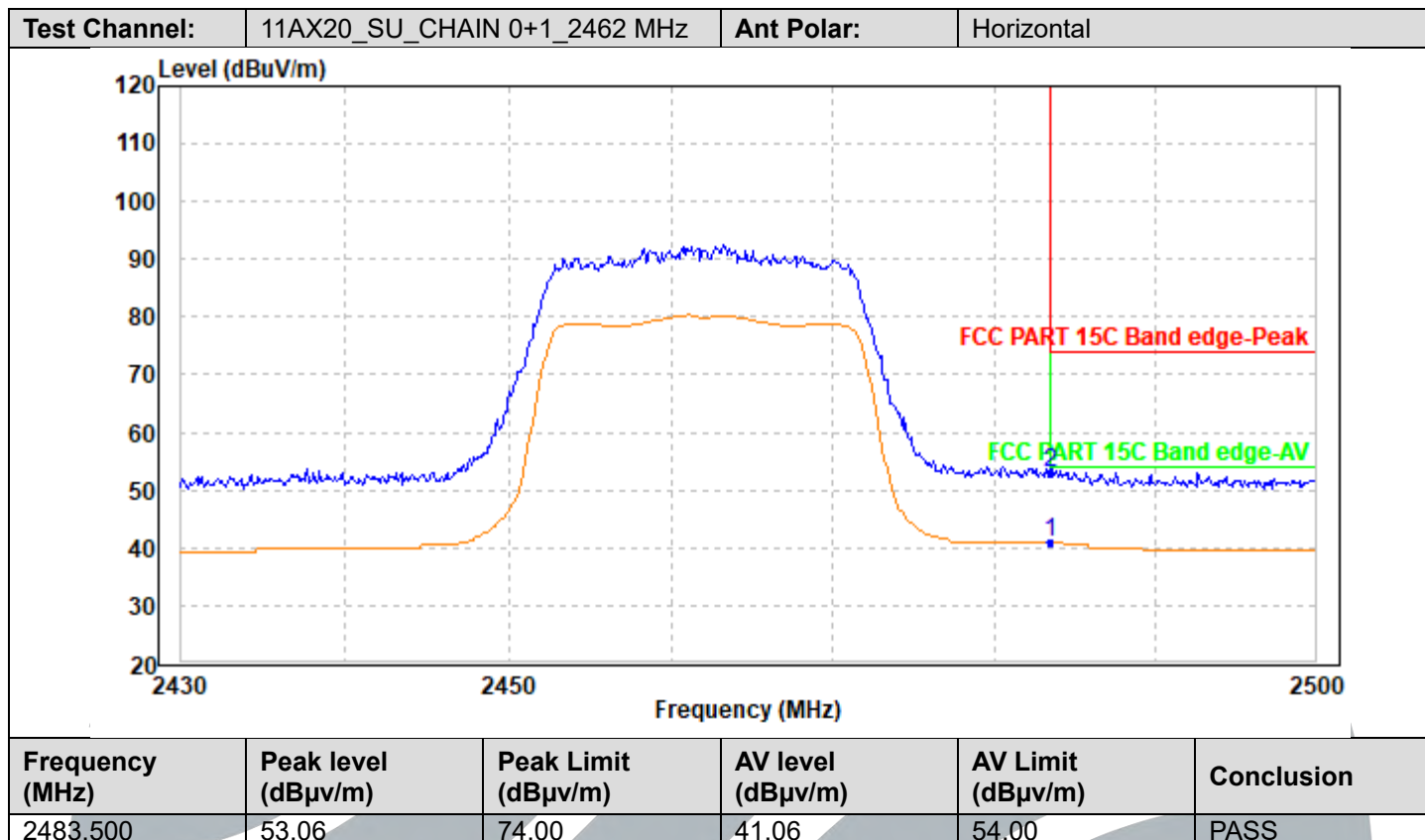
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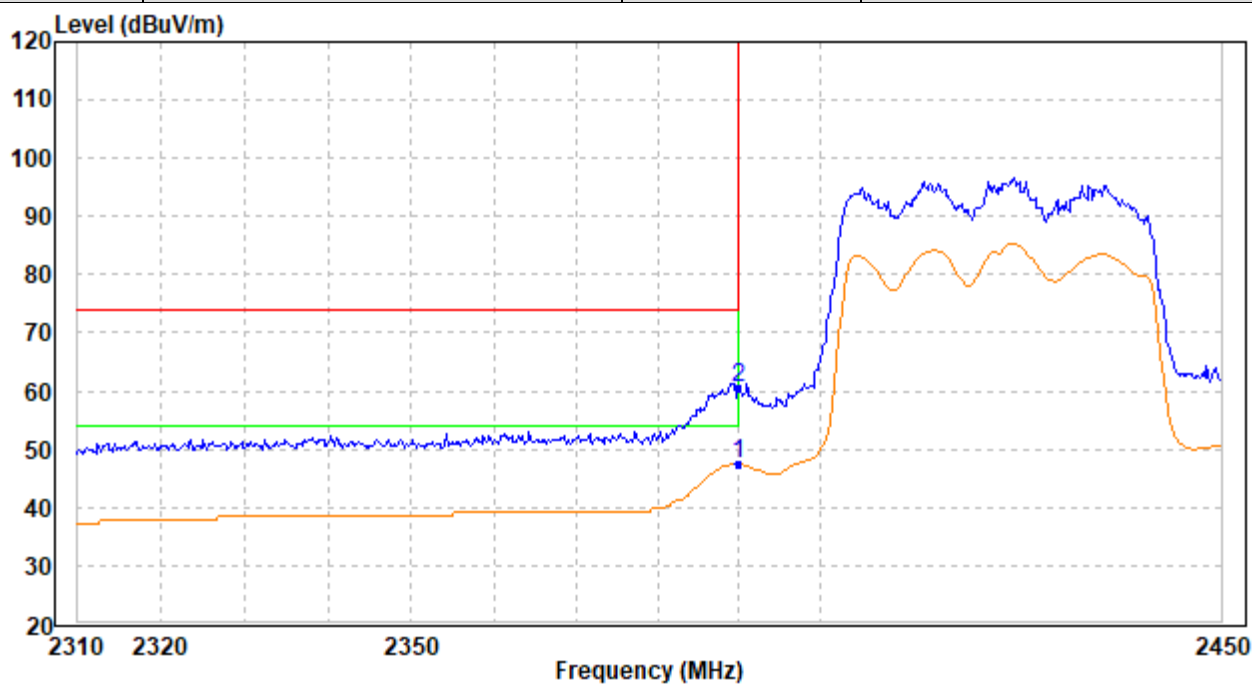
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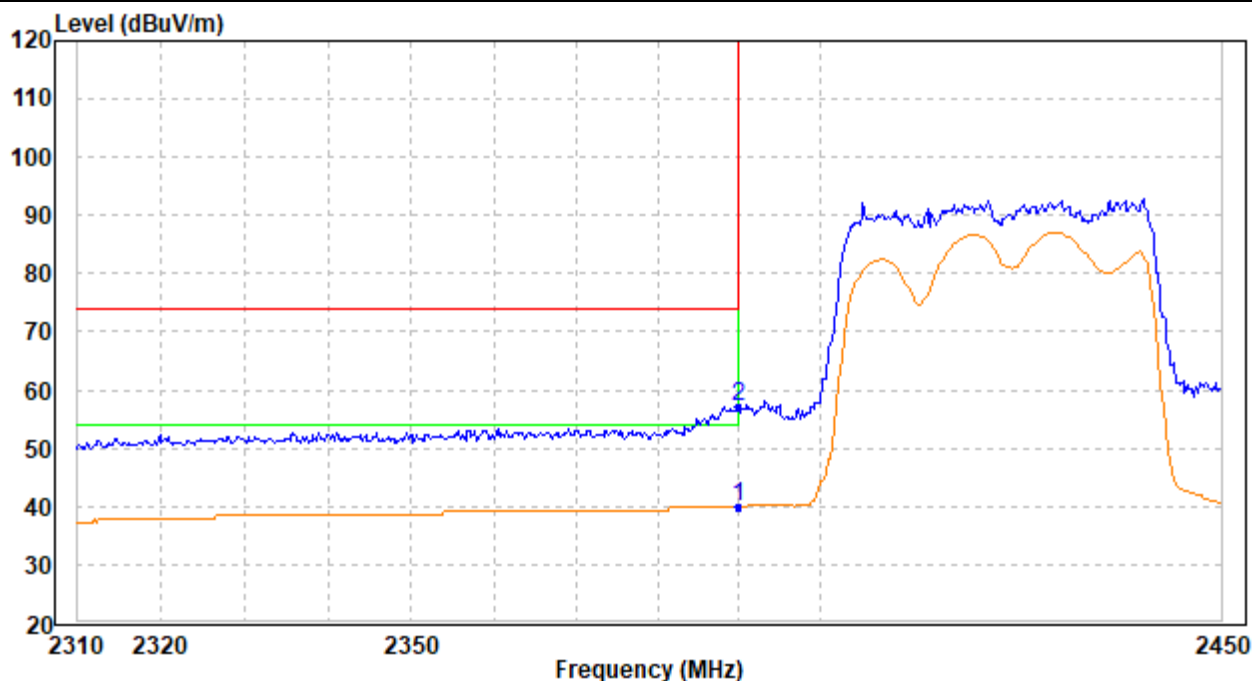


Test Channel:	11AX40_SU_CHAIN 0+1_2422 MHz	Ant Polar:	Horizontal
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Frequency (MHz)	Peak level (dB μ V/m)	Peak Limit (dB μ V/m)	AV level (dB μ V/m)	AV Limit (dB μ V/m)	Conclusion
2390.000	60.55	74.00	47.54	54.00	PASS

Test Channel:	11AX40_SU_CHAIN 0+1_2422 MHz	Ant Polar:	Vertical
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Frequency (MHz)	Peak level (dB μ V/m)	Peak Limit (dB μ V/m)	AV level (dB μ V/m)	AV Limit (dB μ V/m)	Conclusion
2390.000	57.03	74.00	39.80	54.00	PASS

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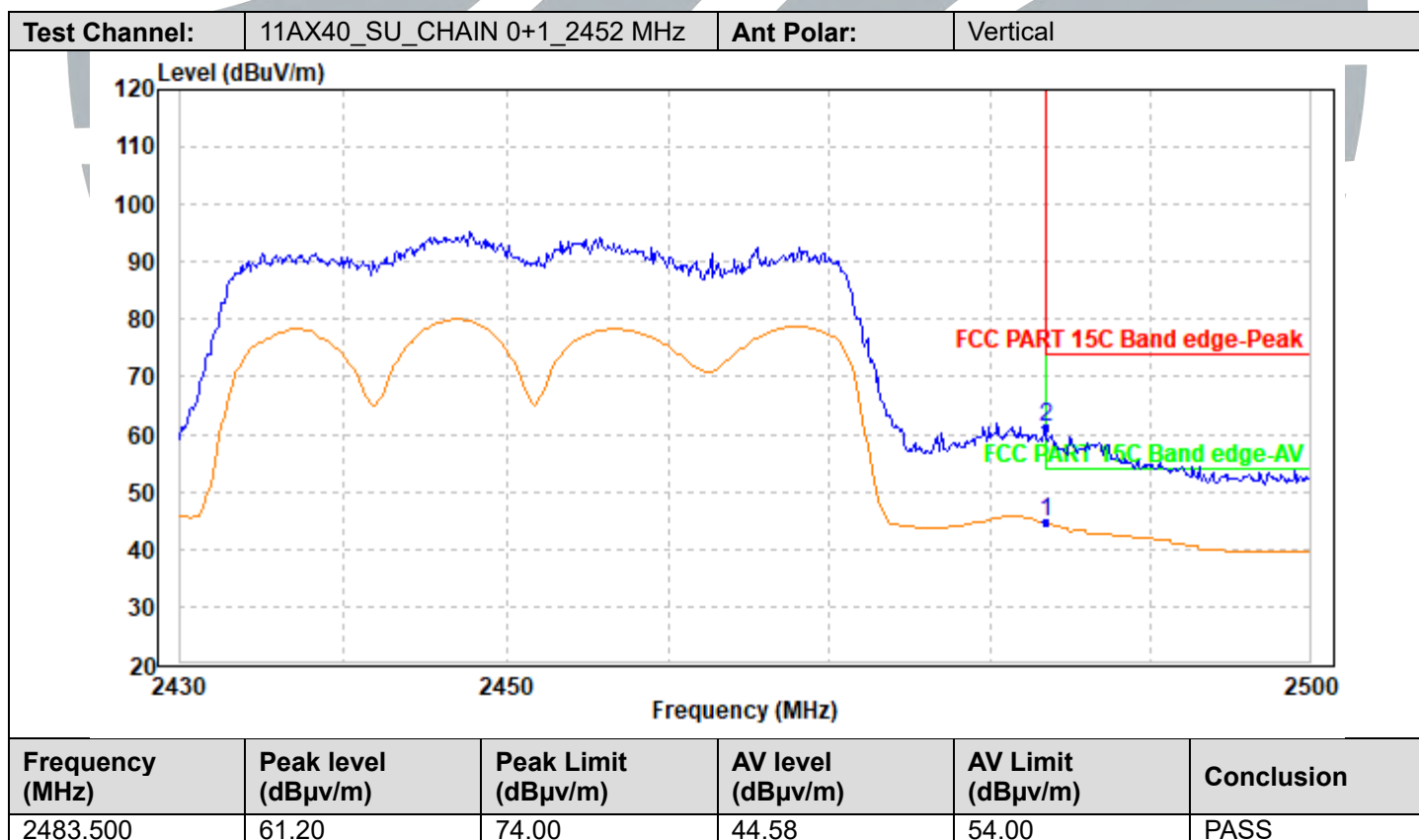
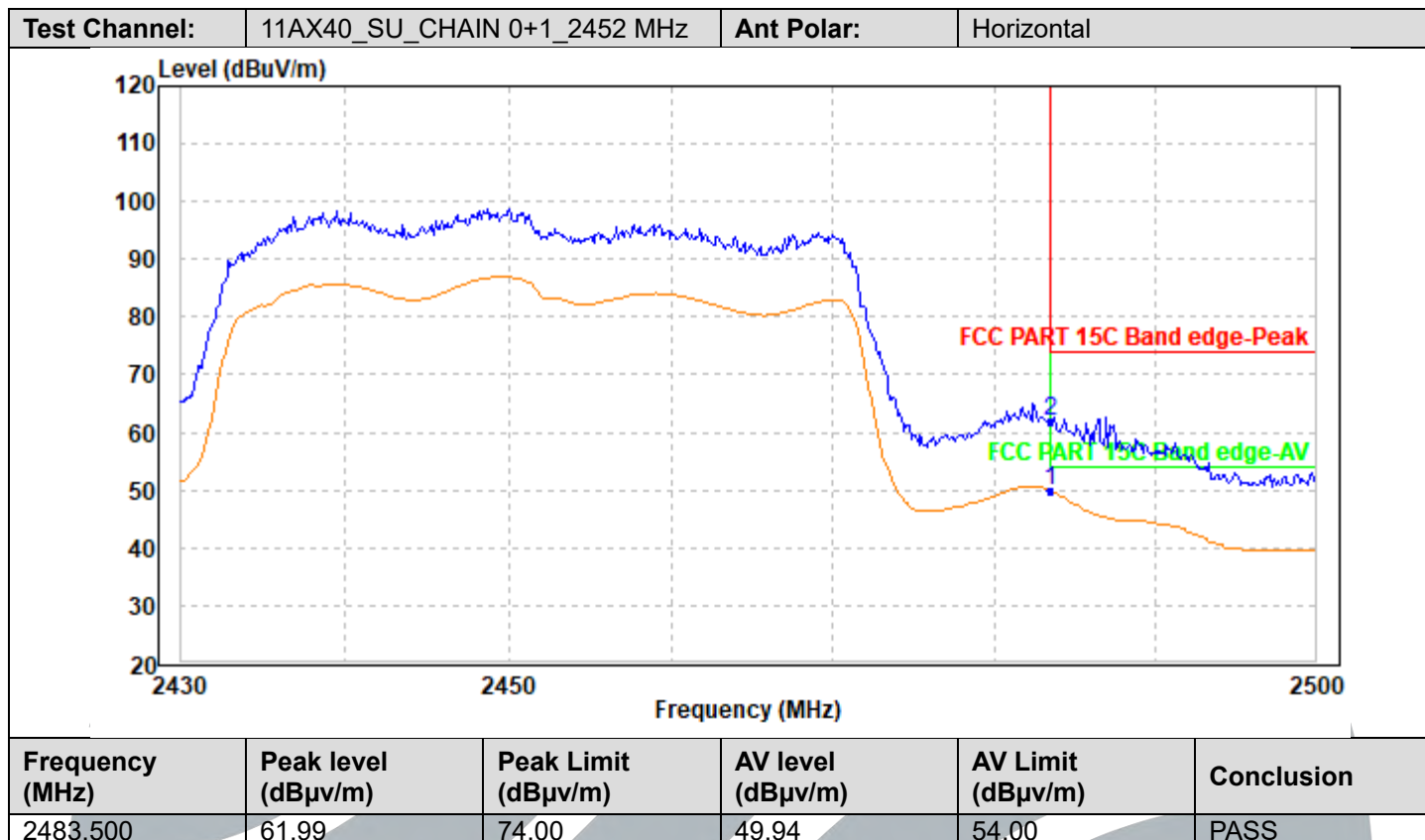
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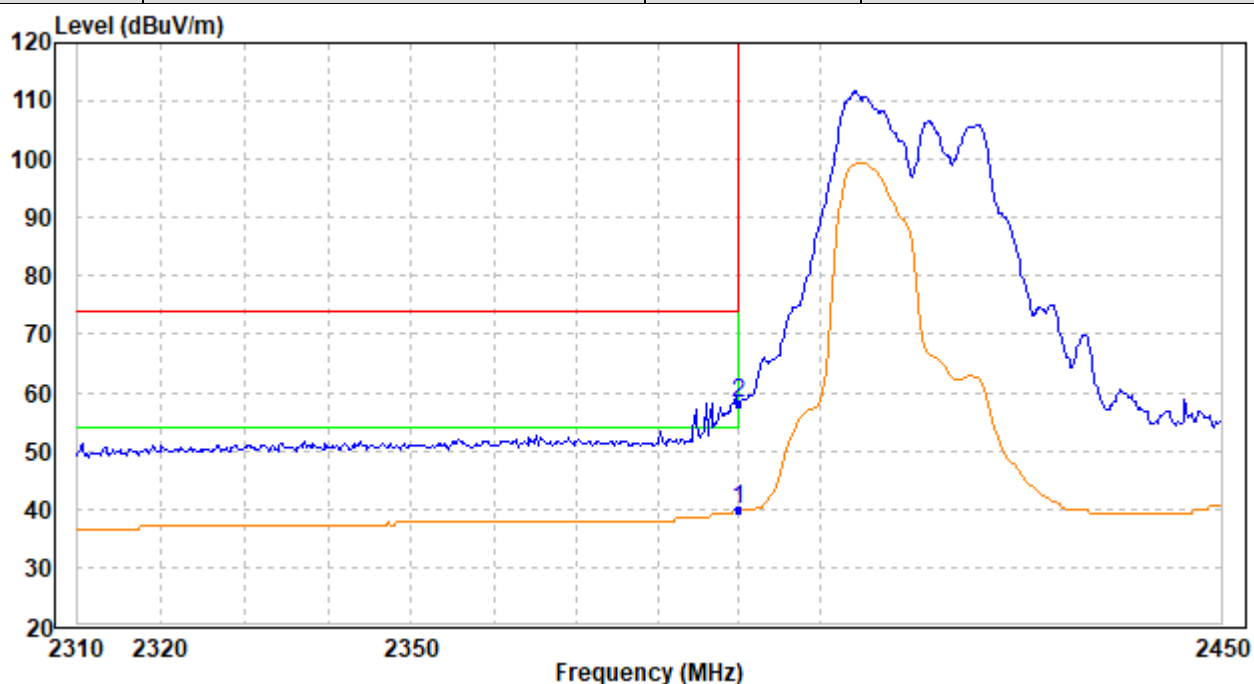
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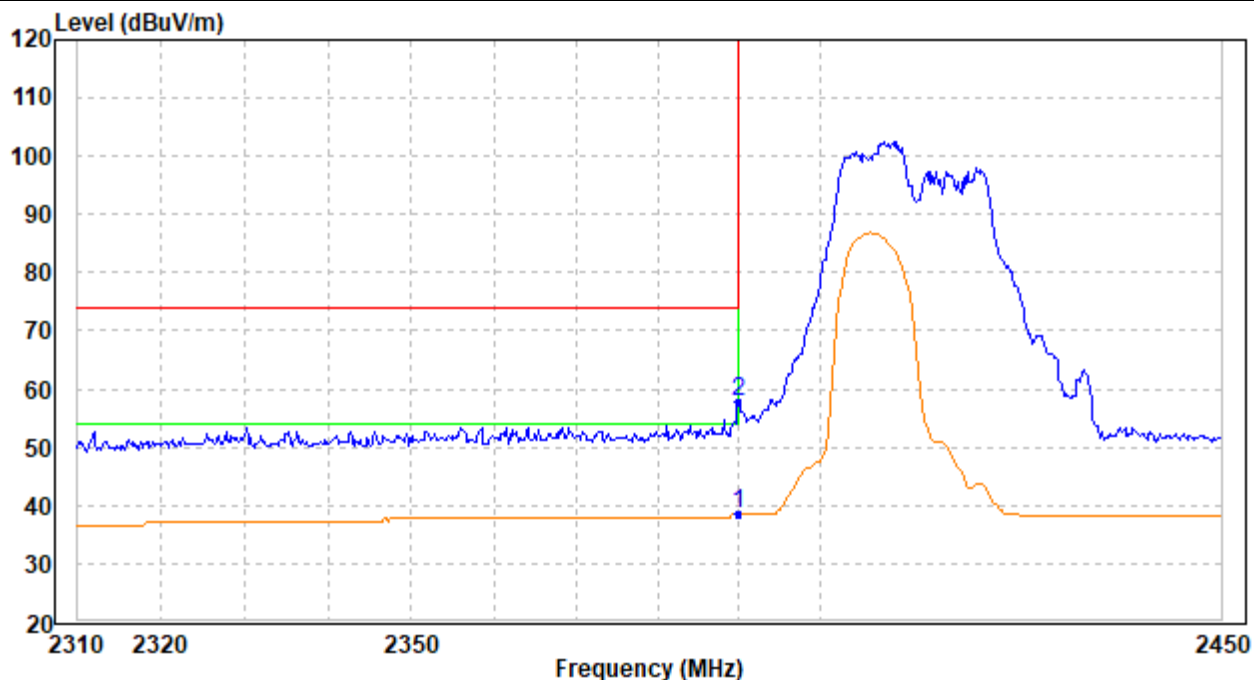
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Test Channel:	11AX20_106RU_Chain 0+1_2412 MHz	Ant Polar:	Horizontal
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Frequency (MHz)	Peak level (dBμv/m)	Peak Limit (dBμv/m)	AV level (dBμv/m)	AV Limit (dBμv/m)	Conclusion
2390.000	58.09	74.00	39.80	54.00	PASS

Test Channel:	11AX20_106RU_Chain 0+1_2412 MHz	Ant Polar:	Vertical
---------------	---------------------------------	------------	----------



Frequency (MHz)	Peak level (dBμv/m)	Peak Limit (dBμv/m)	AV level (dBμv/m)	AV Limit (dBμv/m)	Conclusion
2390.000	57.97	74.00	38.64	54.00	PASS

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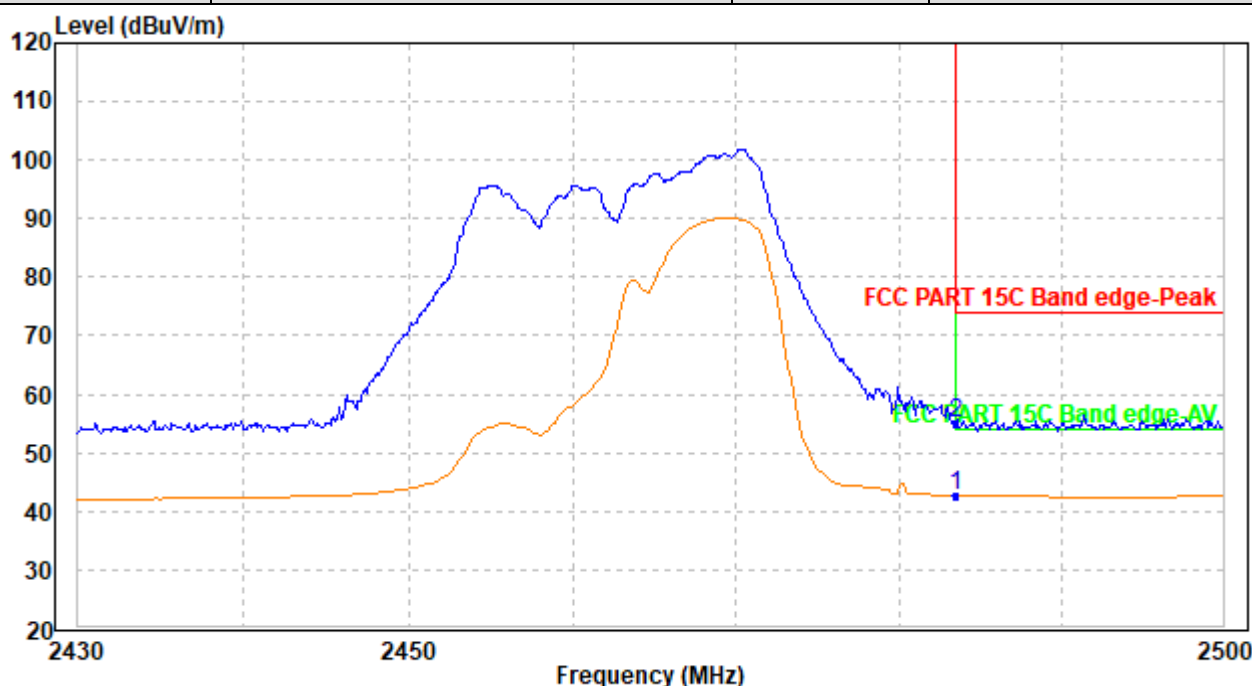
Fax: +86-755-28230886

E-mail: info@uttlab.com

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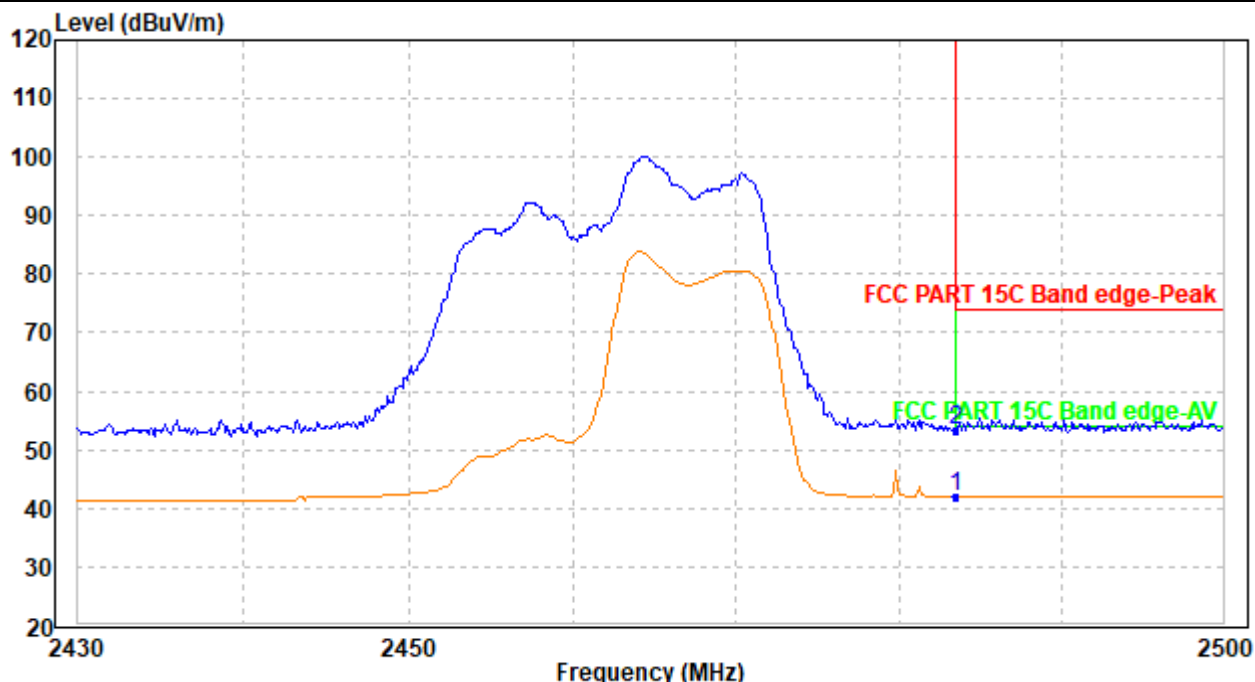
UTTR-RF-FCCPART15.247-V1.1

Test Channel:	11AX20_106RU_Chain 0+1_2462 MHz	Ant Polar:	Horizontal
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Frequency (MHz)	Peak level (dBμv/m)	Peak Limit (dBμv/m)	AV level (dBμv/m)	AV Limit (dBμv/m)	Conclusion
2483.500	55.16	74.00	42.81	54.00	PASS

Test Channel:	11AX20_106RU_Chain 0+1_2462 MHz	Ant Polar:	Vertical
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Frequency (MHz)	Peak level (dBμv/m)	Peak Limit (dBμv/m)	AV level (dBμv/m)	AV Limit (dBμv/m)	Conclusion
2483.500	53.45	74.00	41.98	54.00	PASS

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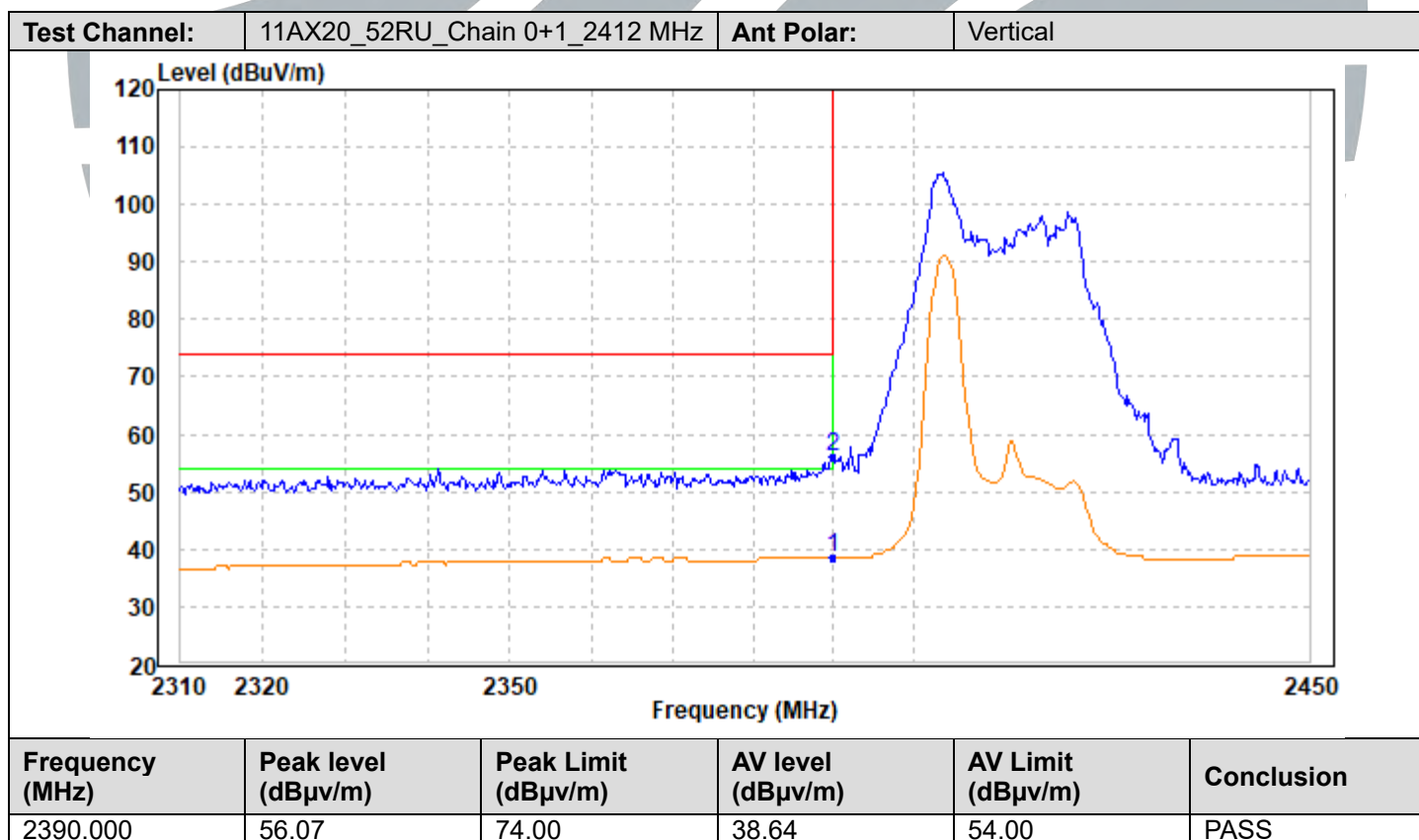
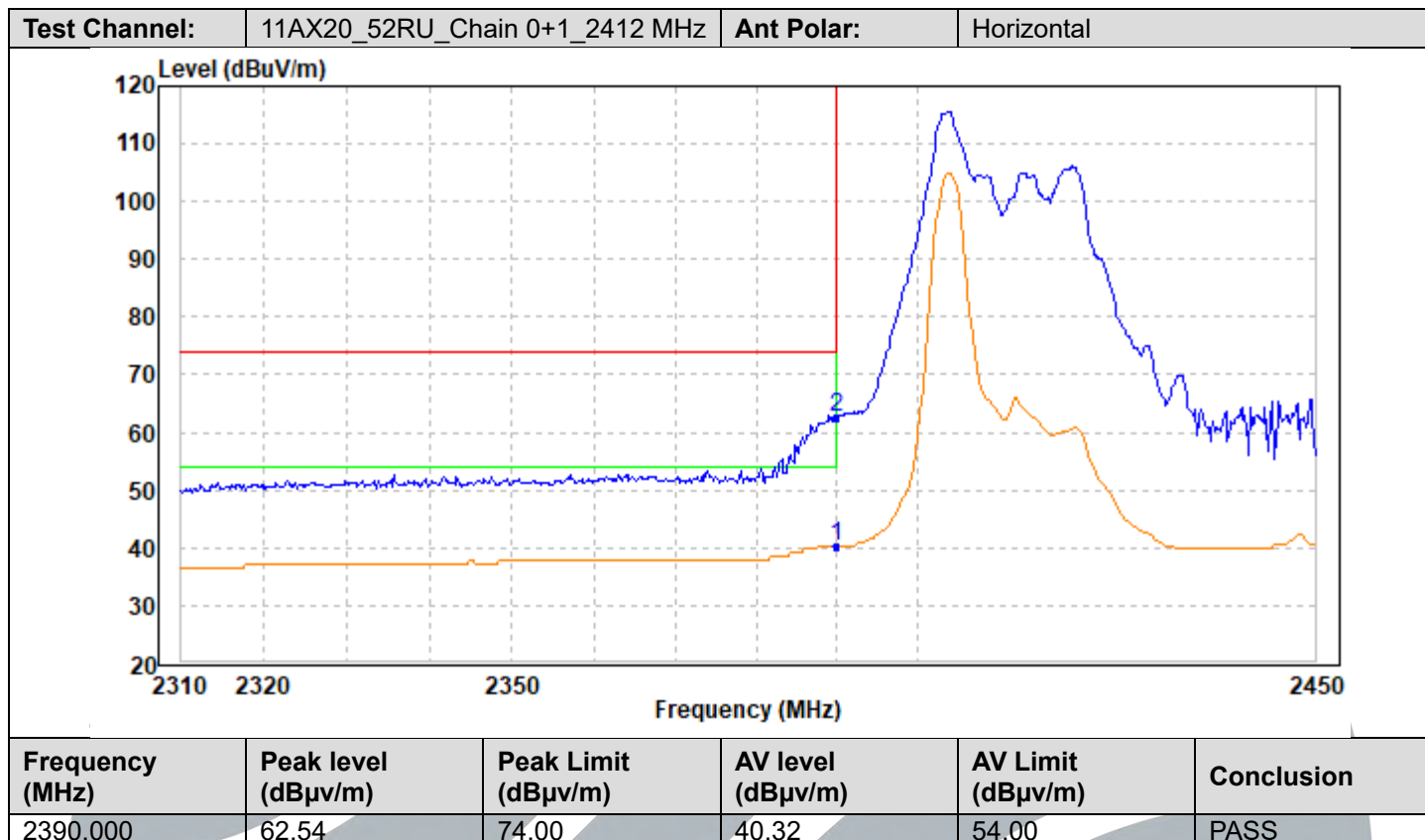
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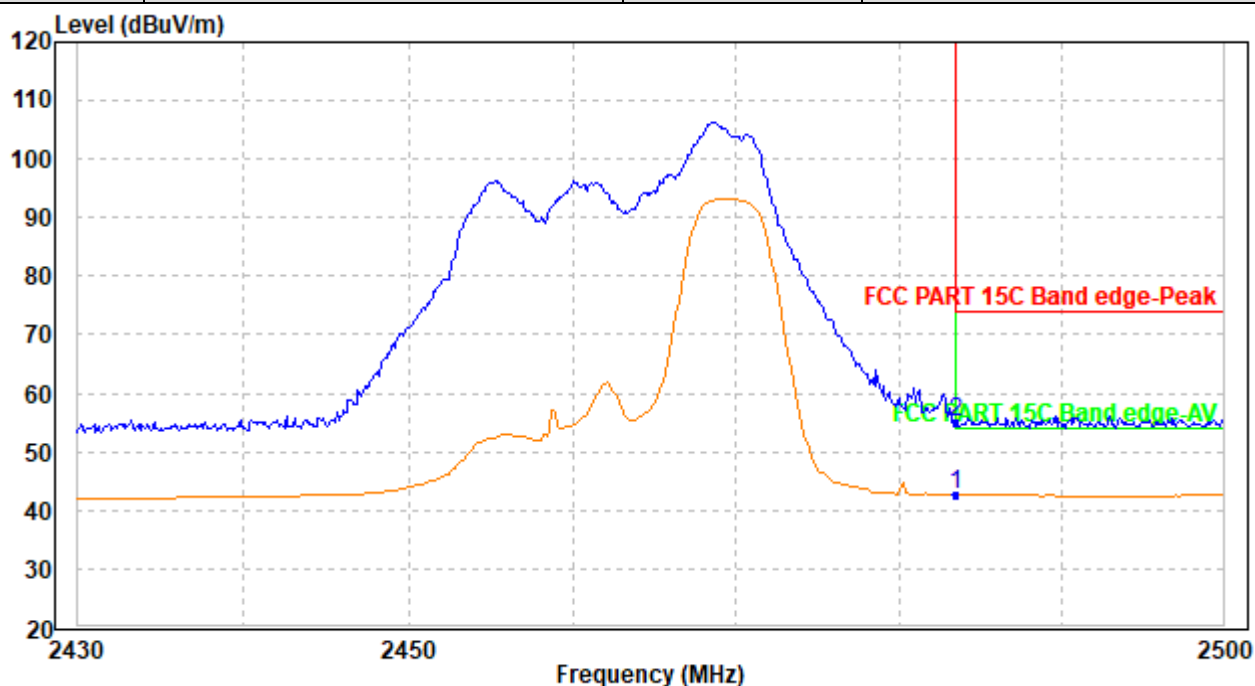
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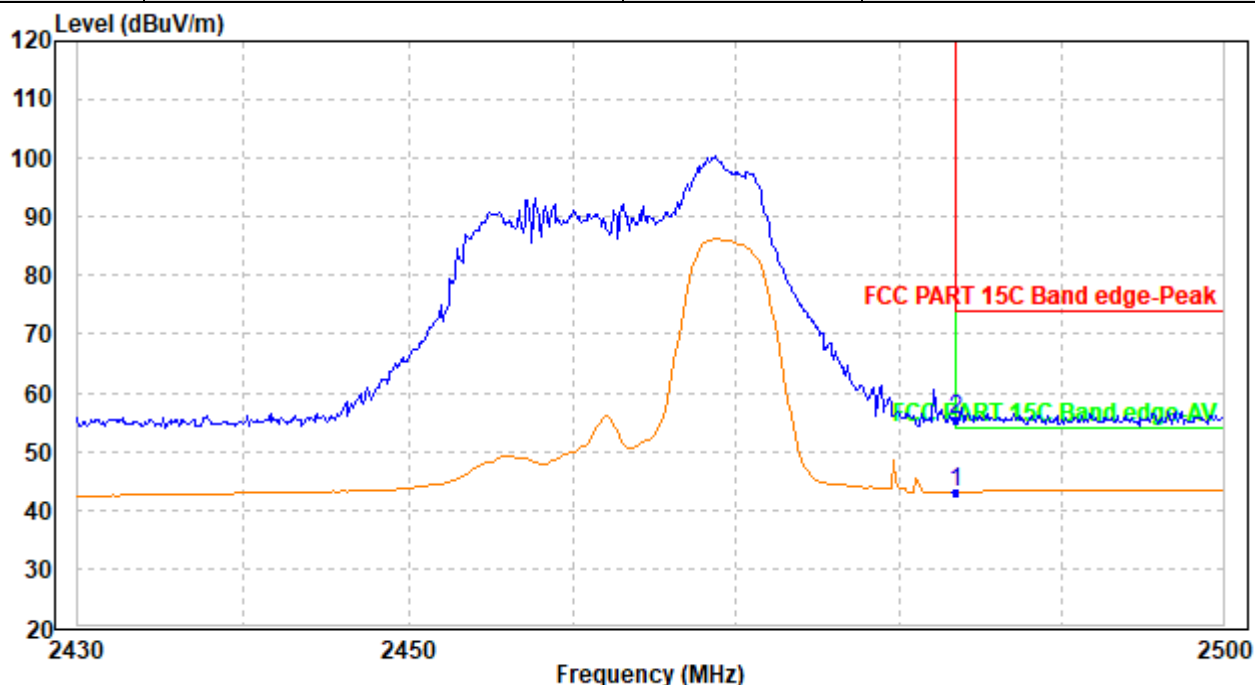


Test Channel:	11AX20_52RU_Chain 0+1_2462 MHz	Ant Polar:	Horizontal
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Frequency (MHz)	Peak level (dBμV/m)	Peak Limit (dBμV/m)	AV level (dBμV/m)	AV Limit (dBμV/m)	Conclusion
2483.500	55.22	74.00	42.81	54.00	PASS

Test Channel:	11AX20_52RU_Chain 0+1_2462 MHz	Ant Polar:	Vertical
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Frequency (MHz)	Peak level (dBμV/m)	Peak Limit (dBμV/m)	AV level (dBμV/m)	AV Limit (dBμV/m)	Conclusion
2483.500	55.52	74.00	43.19	54.00	PASS

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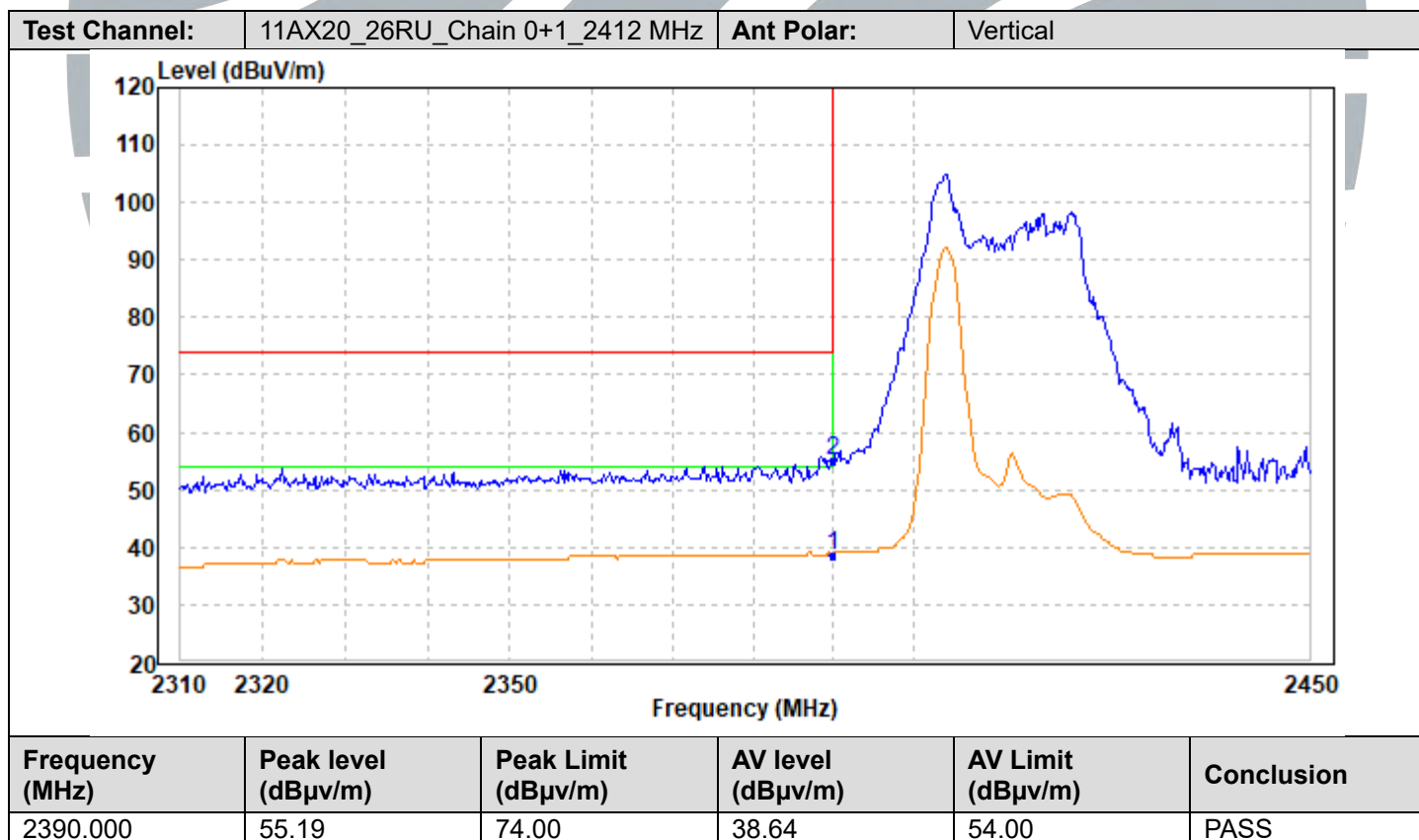
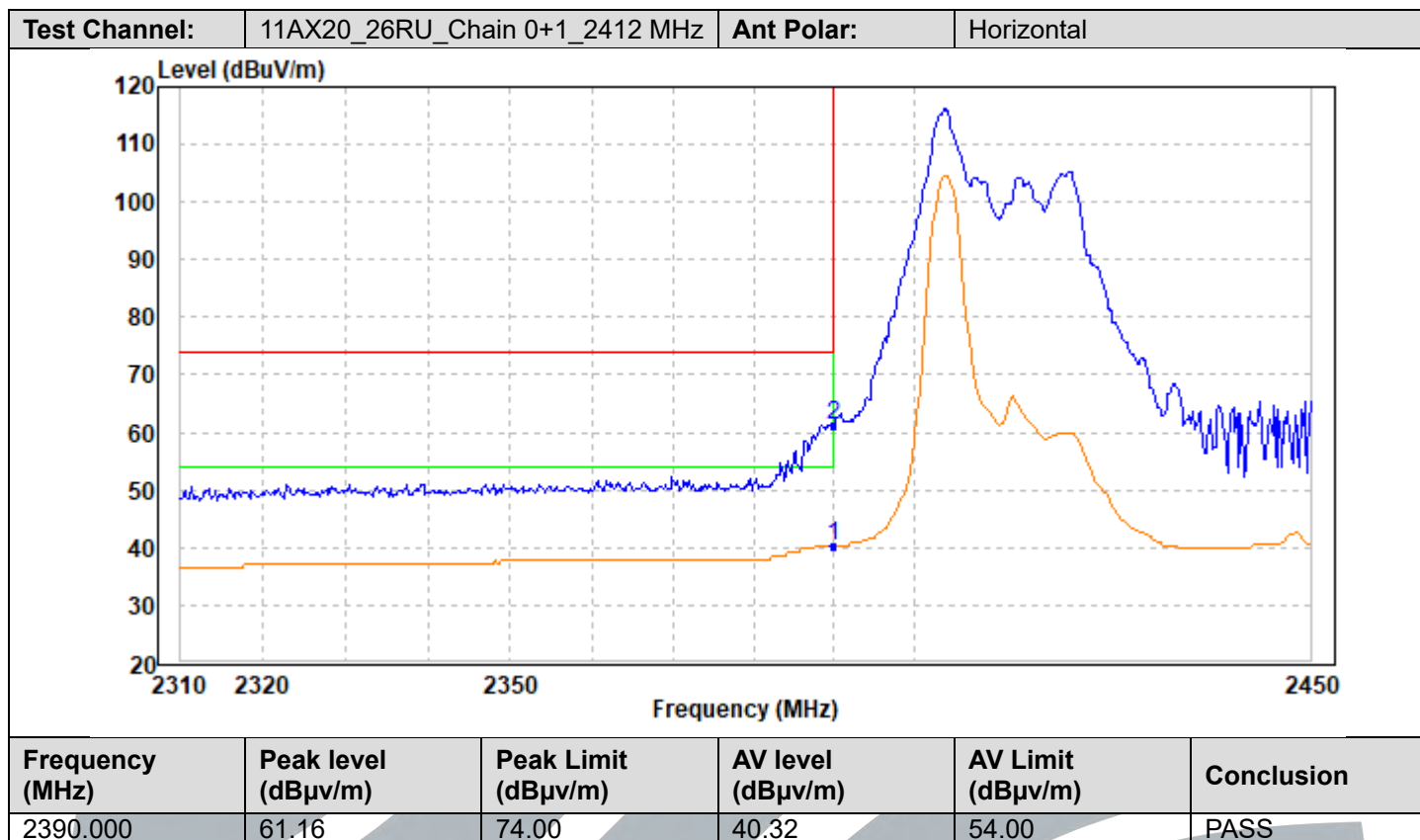
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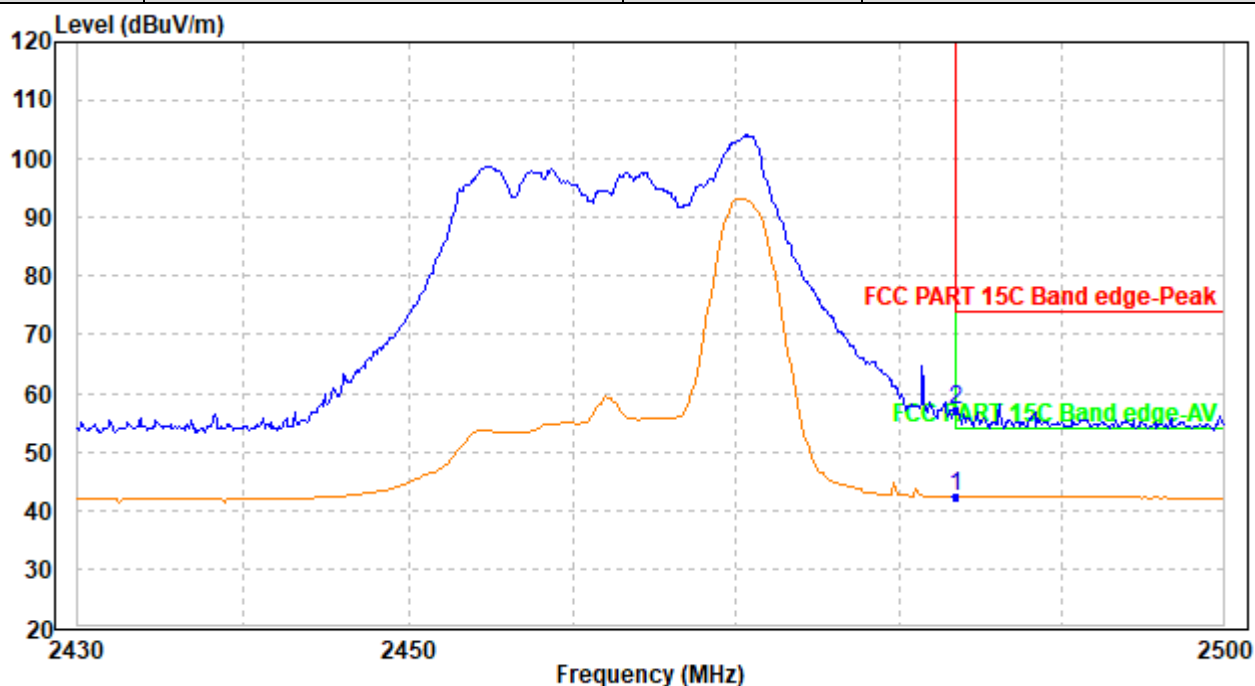
E-mail: info@uttlab.com

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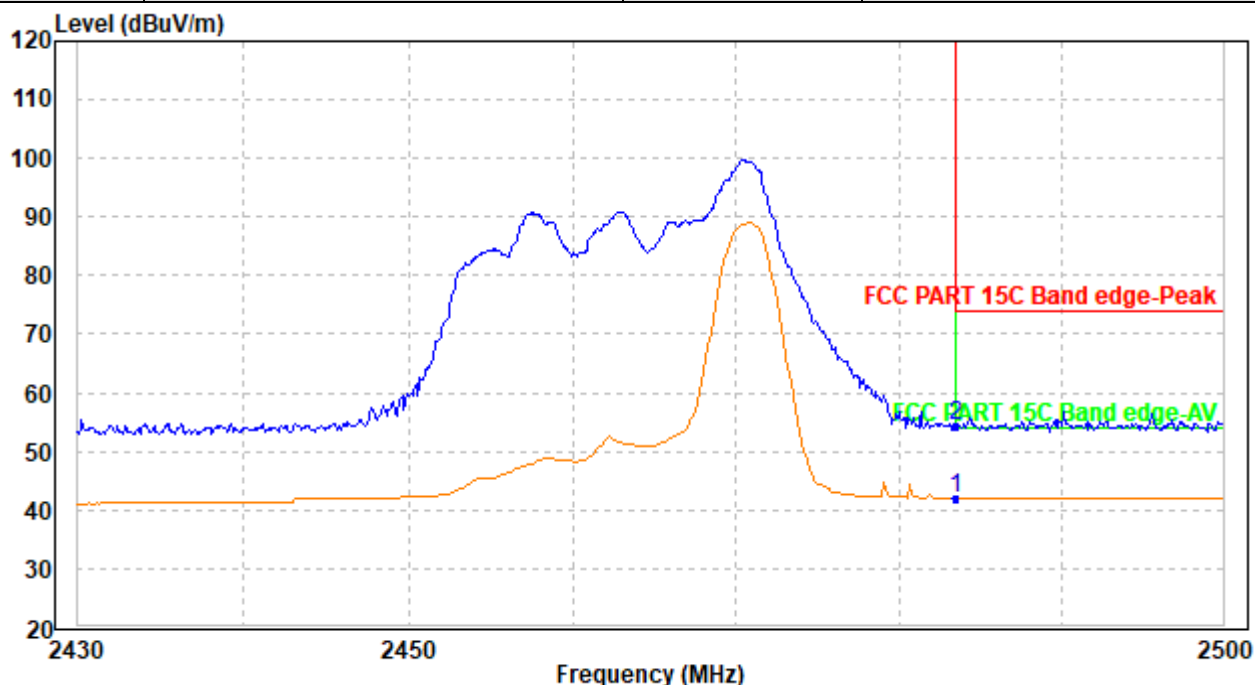


Test Channel:	11AX20_26RU_Chain 0+1_2462 MHz	Ant Polar:	Horizontal
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Frequency (MHz)	Peak level (dBμv/m)	Peak Limit (dBμv/m)	AV level (dBμv/m)	AV Limit (dBμv/m)	Conclusion
2483.500	57.02	74.00	42.40	54.00	PASS

Test Channel:	11AX20_26RU_Chain 0+1_2462 MHz	Ant Polar:	Vertical
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Frequency (MHz)	Peak level (dBμv/m)	Peak Limit (dBμv/m)	AV level (dBμv/m)	AV Limit (dBμv/m)	Conclusion
2483.500	54.22	74.00	41.98	54.00	PASS

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5.10 CONDUCTED EMISSION

Test Requirement: 47 CFR Part 15C Section 15.207

Test Method: ANSI C63.10-2020 Clause 6.2

Limits:

Frequency range (MHz)	Limits (dB(μV))	
	Quasi-peak	Average
0,15 to 0,50	66 to 56	56 to 46
0,50 to 5	56	46
5 to 30	60	50

Remark:

1. The lower limit shall apply at the transition frequencies.
2. The limit decreases linearly with the logarithm of the frequency in the range 0.15 to 0.50 MHz.

Test Setup: Refer to section 4.4.2 for details.

Test Procedures:

Test frequency range :150KHz-30MHz

- 1) The mains terminal disturbance voltage test was conducted in a shielded room.
- 2) The EUT was connected to AC power source through a LISN 1 (Line Impedance Stabilization Network) which provides a 50Ω/50μH + 5Ω linear impedance. The power cables of all other units of the EUT were connected to a second LISN 2, which was bonded to the ground reference plane in the same way as the LISN 1 for the unit being measured. A multiple socket outlet strip was used to connect multiple power cables to a single LISN provided the rating of the LISN was not exceeded.
- 3) The tabletop EUT was placed upon a non-metallic table 0.8m above the ground reference plane. And for floor-standing arrangement, the EUT was placed on the horizontal ground reference plane.
- 4) The test was performed with a vertical ground reference plane. The rear of the EUT shall be 0.4 m from the vertical ground reference plane. The vertical ground reference plane was bonded to the horizontal ground reference plane. The LISN 1 was placed 0.8 m from the boundary of the unit under test and bonded to a ground reference plane for LISNs mounted on top of the ground reference plane. This distance was between the closest points of the LISN 1 and the EUT. All other units of the EUT and associated equipment was at least 0.8 m from the LISN 2.
- 5) In order to find the maximum emission, the relative positions of equipment and all of the interface cables must be changed according to ANSI C63.10 on conducted measurement.

Equipment Used: Refer to section 3 for details.

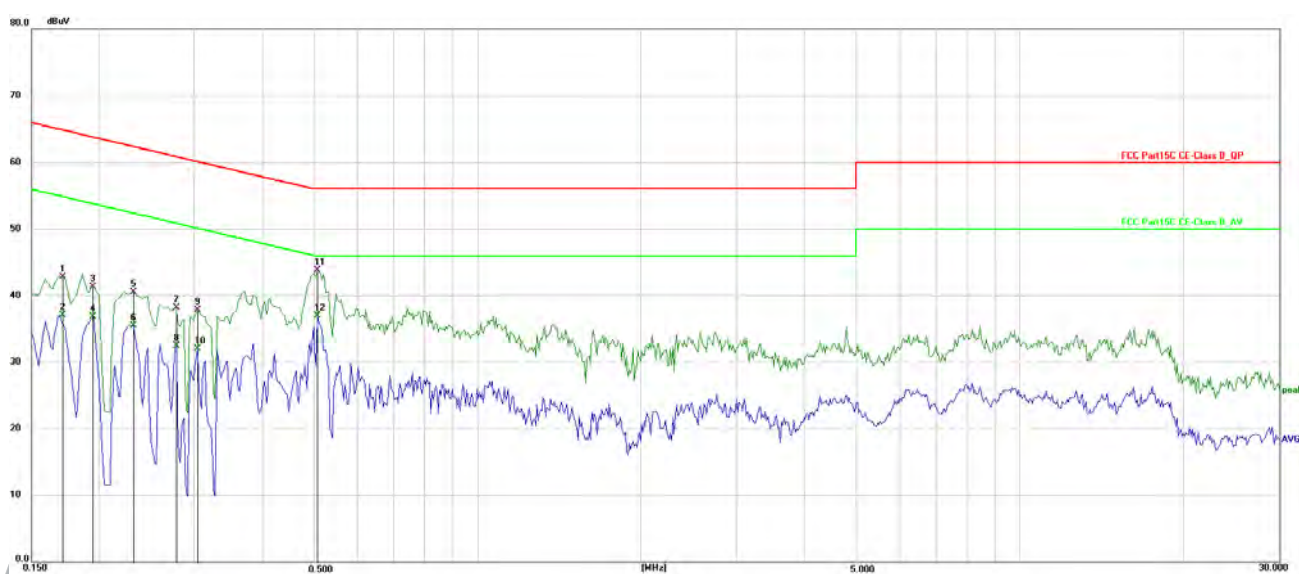
Test Result: Pass

The worst measurement data as follows:

Quasi Peak and Average:

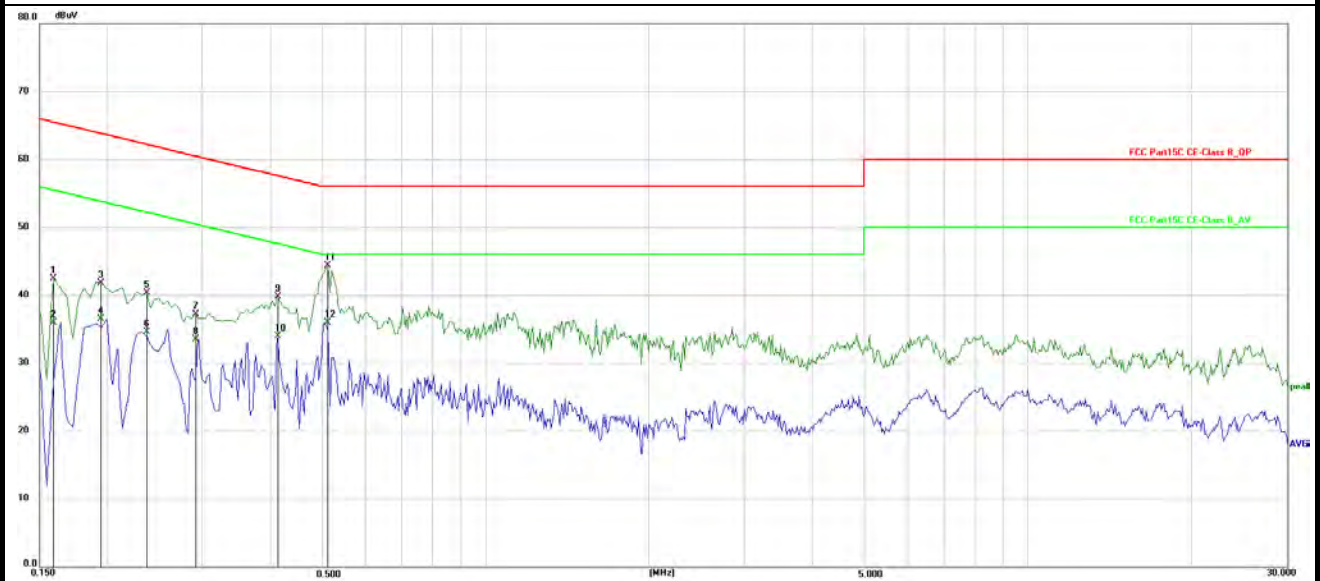
Mode: WIFI Link

Live Line



No.	Frequency (MHz)	Reading (dBuV)	Correction factor (dB)	Result (dBuV)	Limit (dBuV)	Margin (dB)	Detector
1	0.1712	32.55	10.28	42.83	64.90	-22.07	QP
2	0.1712	26.85	10.28	37.13	54.90	-17.77	AVG
3	0.1949	31.12	10.28	41.40	63.83	-22.43	QP
4	0.1949	26.61	10.28	36.89	53.83	-16.94	AVG
5	0.2310	30.27	10.26	40.53	62.41	-21.88	QP
6	0.2310	25.22	10.26	35.48	52.41	-16.93	AVG
7	0.2760	27.98	10.25	38.23	60.94	-22.71	QP
8	0.2760	22.26	10.25	32.51	50.94	-18.43	AVG
9	0.3030	27.61	10.25	37.86	60.16	-22.30	QP
10	0.3030	21.75	10.25	32.00	50.16	-18.16	AVG
11	0.5054	33.65	10.20	43.85	56.00	-12.15	QP
12	0.5054	26.74	10.20	36.94	46.00	-9.06	AVG

Neutral Line



No.	Frequency (MHz)	Reading (dBuV)	Correction factor (dB)	Result (dBuV)	Limit (dBuV)	Margin (dB)	Detector
1	0.1590	32.17	10.29	42.46	65.52	-23.06	QP
2	0.1590	25.66	10.29	35.95	55.52	-19.57	AVG
3	0.1949	31.56	10.28	41.84	63.83	-21.99	QP
4	0.1949	26.20	10.28	36.48	53.83	-17.35	AVG
5	0.2354	30.08	10.25	40.33	62.26	-21.93	QP
6	0.2354	24.32	10.25	34.57	52.26	-17.69	AVG
7	0.2894	27.00	10.24	37.24	60.54	-23.30	QP
8	0.2894	23.26	10.24	33.50	50.54	-17.04	AVG
9	0.4110	29.56	10.23	39.79	57.63	-17.84	QP
10	0.4110	23.66	10.23	33.89	47.63	-13.74	AVG
11	0.5100	34.17	10.19	44.36	56.00	-11.64	QP
12	0.5100	25.80	10.19	35.99	46.00	-10.01	AVG

Remark:

1. Correct Factor = LISN Factor + Cable Loss + Pulse Limiter Factor, the value was added to Original Receiver Reading by the software automatically.
2. Result = Reading + Correct Factor.
3. Margin = Result - Limit
4. An initial pre-scan was performed on the Phase and neutral lines with peak detector. Quasi-Peak and Average measurement were performed at the frequencies with maximized peak emission were detected.
5. All possible modes of operation were investigated, and testing at two nominal voltages of 240V~50Hz and 120V~60Hz, only the worst case emissions reported.

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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 ***

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