

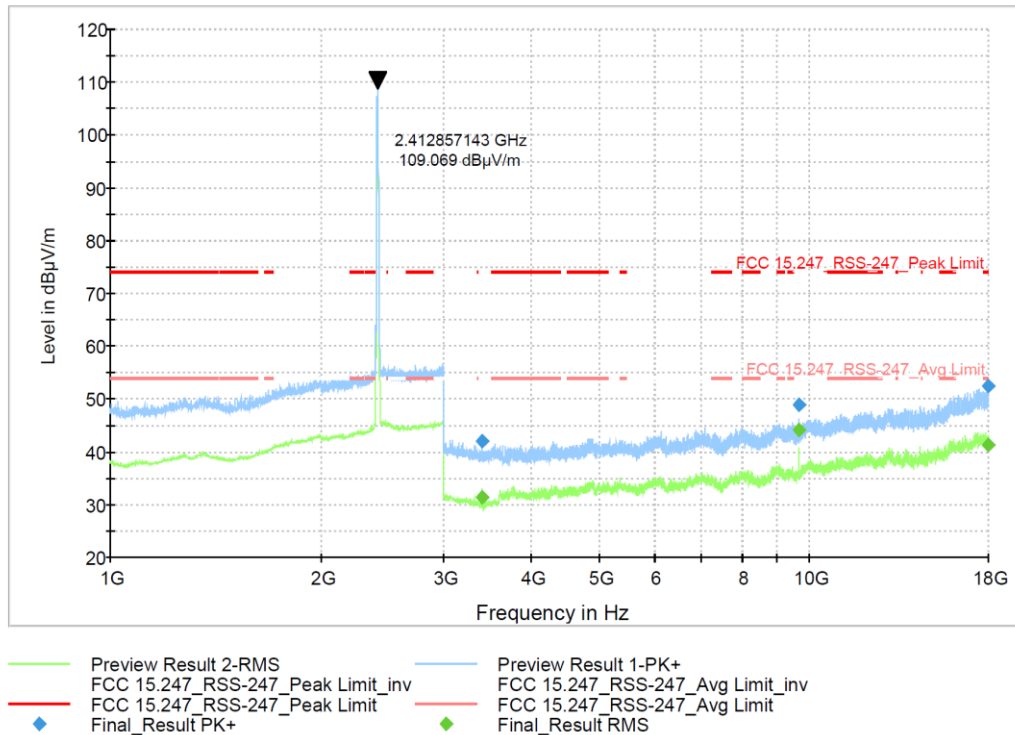


Figure 9-322 Radiated Spurious Emission 1-18GHz 802.11b - Ch.1

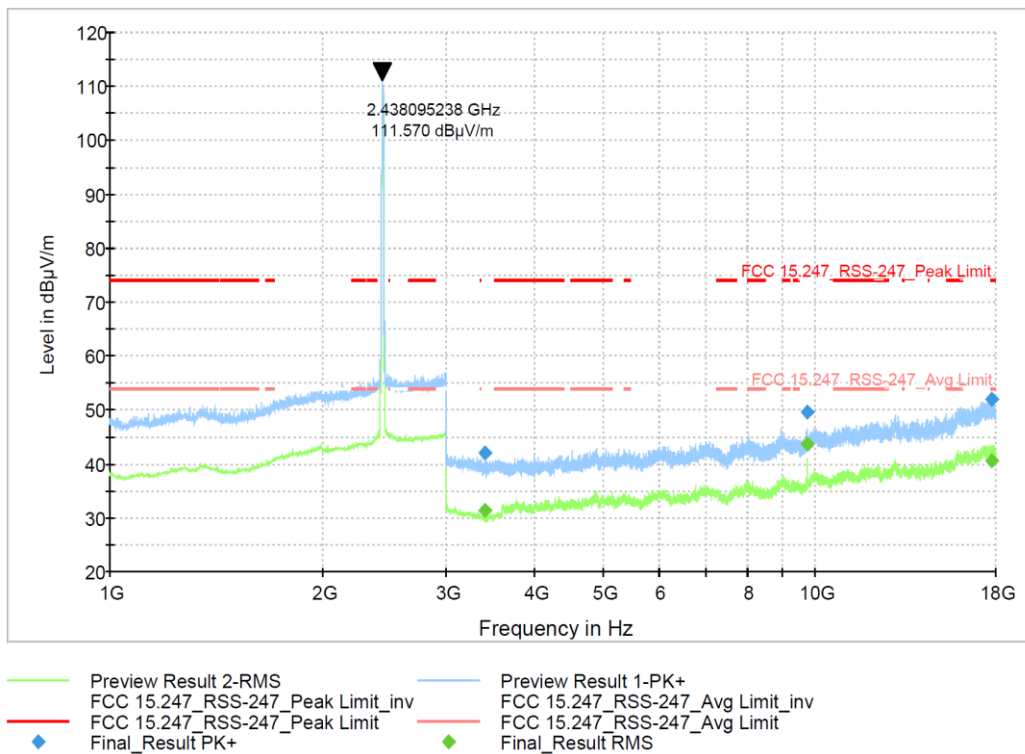


Figure 9-323 Radiated Spurious Emission 1-18GHz 802.11b - Ch.6

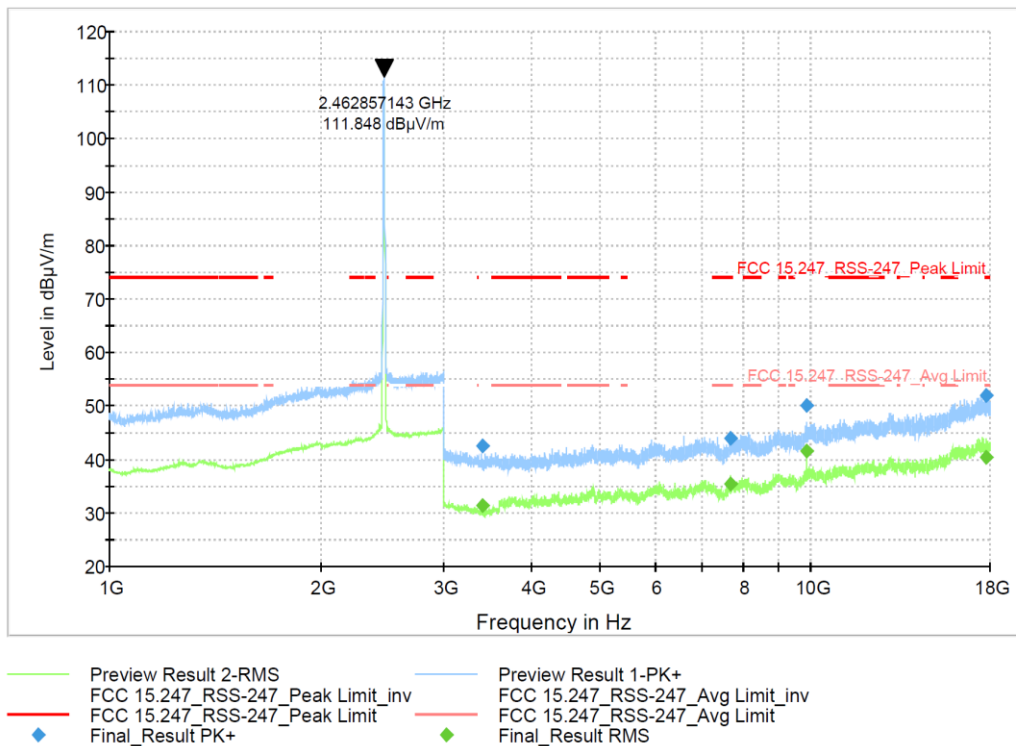


Figure 9-324 Radiated Spurious Emission 1-18GHz 802.11b - Ch.11

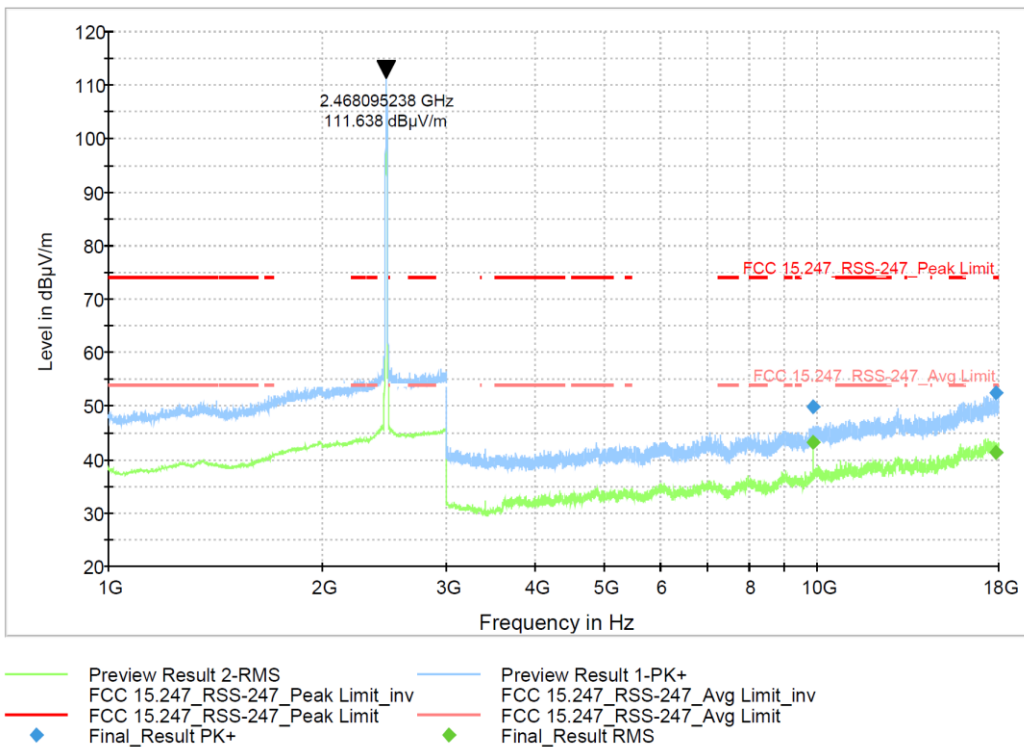


Figure 9-325 Radiated Spurious Emission 1-18GHz 802.11b - Ch.12

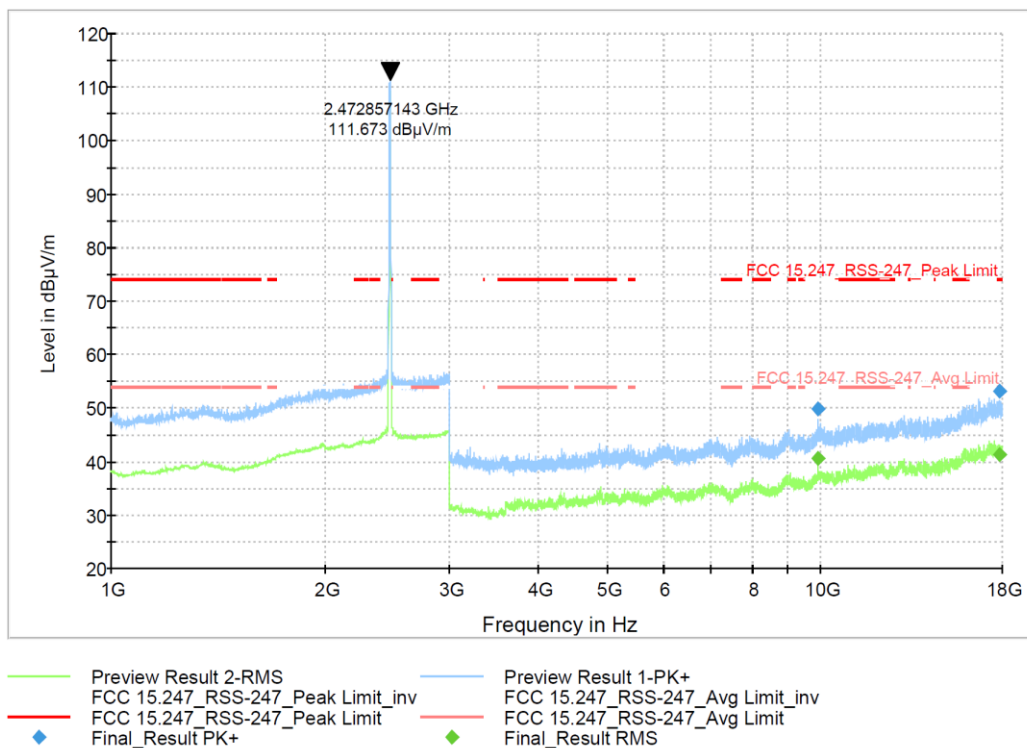


Figure 9-326 Radiated Spurious Emission 1-18GHz 802.11b - Ch.13

802.11g RSE 1 - 18GHz Average Data						
Carrier Frequency (MHz)	Frequency (MHz)	Raw Avg. Amplitude (dBμV)	Correction Factor (incl DCF=0dB) (dB)	Corrected Avg. Field Strength (dBμV/m)	Average Limit (dBμV/m)	Margin (dB)
2412	7680.0	24.56	11.1	35.66	54	-18.34
2412	9648.0	27.41	13.7	41.11	54	-13.27
2412	17801.4	20.73	20.0	40.73	54	N/A
2437	3399.8	26.28	5.0	31.28	54	N/A
2437	9748.0	29.26	13.9	43.16	54	-13.33
2437	17843.0	20.17	20.5	40.67	54	N/A
2462	3399.8	25.65	5.0	30.65	54	N/A
2462	9848.0	30.75	13.8	44.55	54	-12.99
2462	17843.0	20.51	20.5	41.01	54	N/A
2467	3399.8	26.51	5.0	31.51	54	N/A
2467	9868.1	27.51	13.9	41.41	54	-13.33
2467	17801.3	20.67	20.0	40.67	54	N/A
2472	3399.5	26.47	5.0	31.47	54	N/A
2472	9888.0	27.78	14.0	41.78	54	N/A
2472	17860.5	20.61	20.7	41.31	54	-12.69
802.11g RSE 1 - 18GHz Peak Data						
Carrier Frequency (MHz)	Frequency (MHz)	Raw Peak Amplitude (dBμV)	Correction Factor (dB)	Corrected Peak Field Strength (dBμV/m)	Peak Limit (dBμV/m)	Margin (dB)
2412	7673.6	32.44	11.1	43.54	74	N/A
2412	9648.0	35.77	13.7	49.47	74	N/A
2412	17859.1	31.68	20.7	52.38	74	N/A
2437	3401.6	38.58	5.0	43.58	74	N/A
2437	9747.6	34.71	13.9	48.61	74	N/A
2437	17884.4	31.71	21.0	52.71	74	N/A
2462	3400.1	37.14	5.0	42.14	74	N/A
2462	9848.0	36.51	13.9	50.41	74	N/A
2462	17863.1	31.71	20.7	52.41	74	N/A
2467	3401.9	36.93	5.0	41.93	74	N/A
2467	9878.0	33.14	14.1	47.24	74	N/A
2467	17791.8	31.98	19.9	51.88	74	N/A
2472	3394.2	35.49	4.9	40.39	74	N/A
2472	9888.0	35.96	14.0	49.96	74	N/A
2472	17851.1	32.04	20.7	52.74	74	N/A

Note: N/A implies that the emission frequency lies in the non-restricted bands

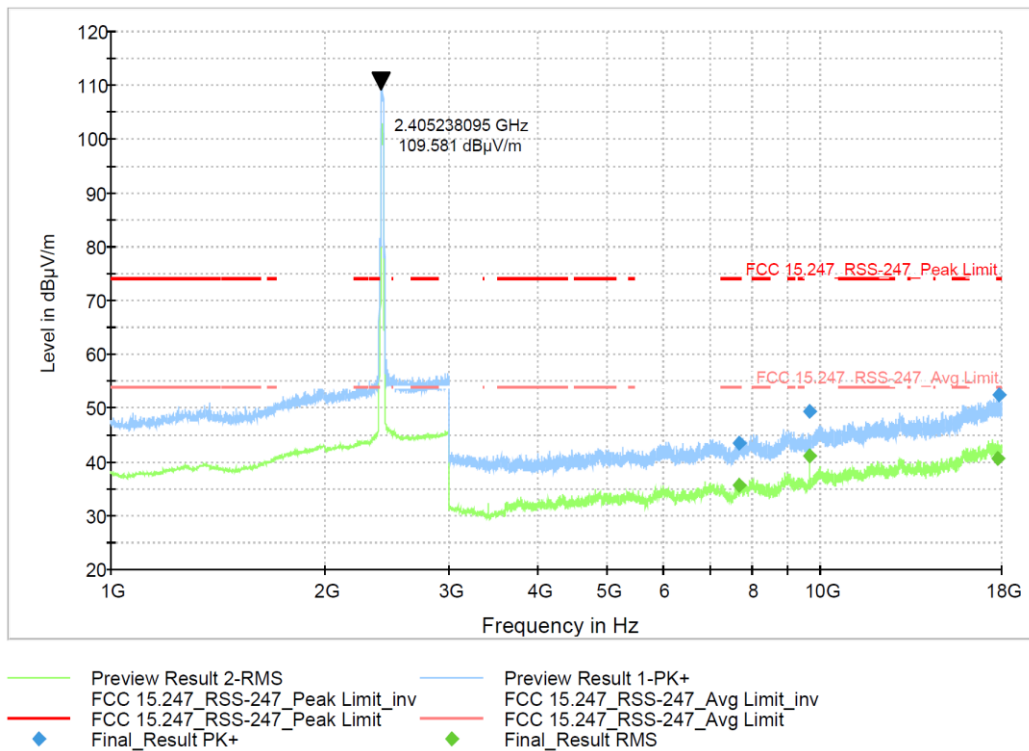


Figure 9-327 Radiated Spurious Emission 1-18GHz 802.11g - Ch.1

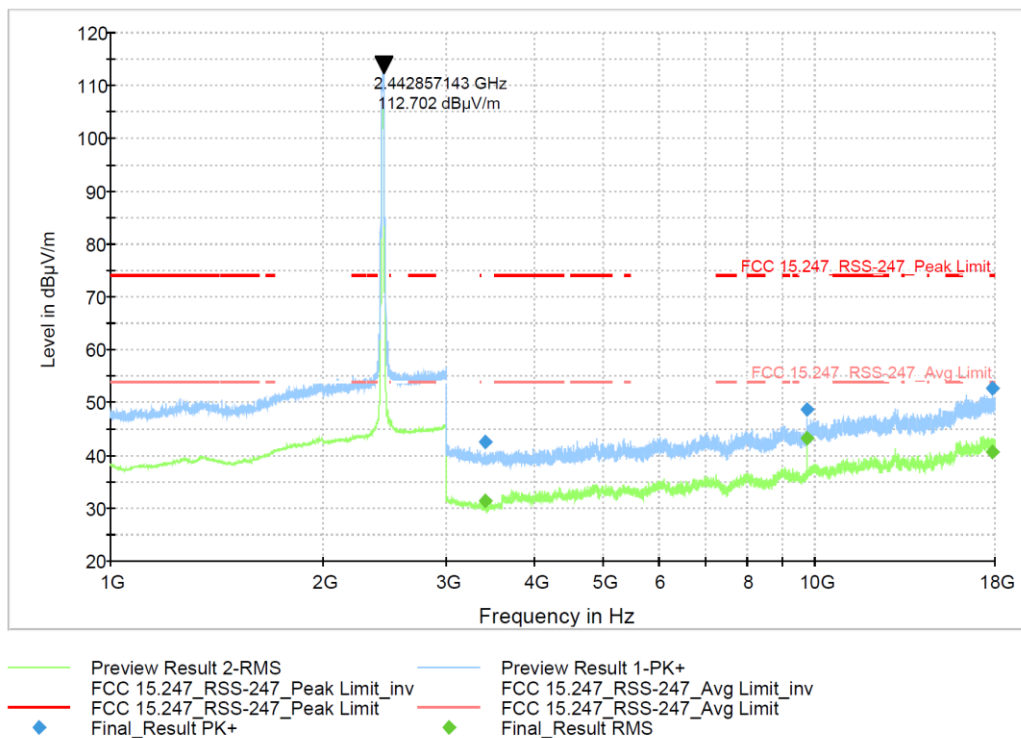


Figure 9-328 Radiated Spurious Emission 1-18GHz 802.11g - Ch.6

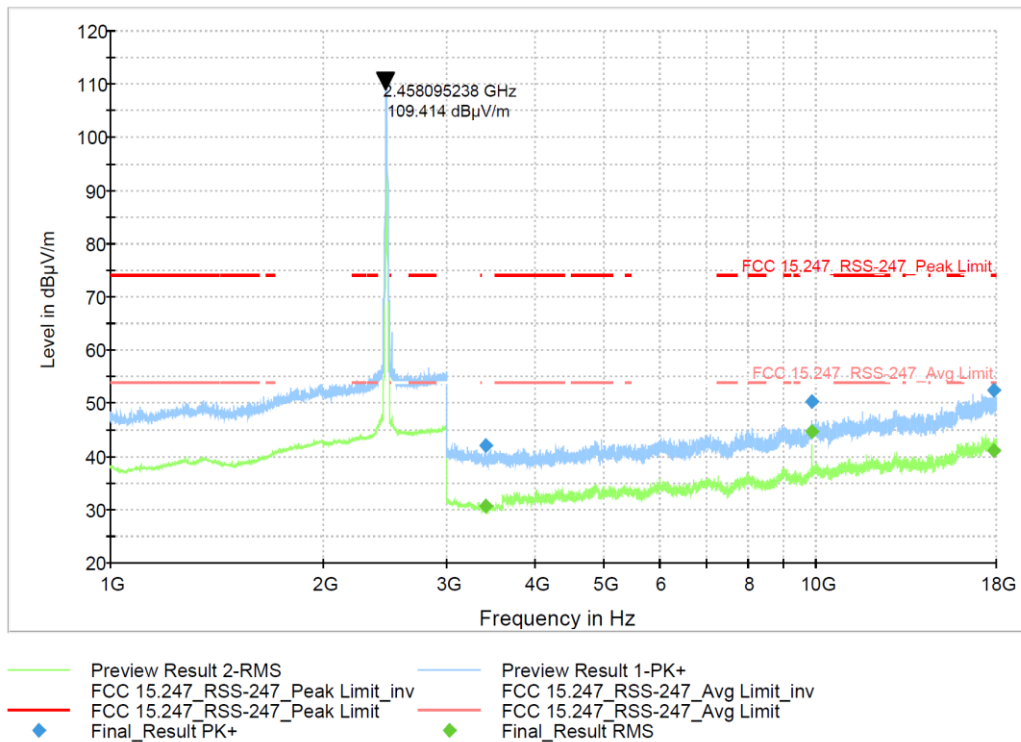


Figure 9-329 Radiated Spurious Emission 1-18GHz 802.11g - Ch.11

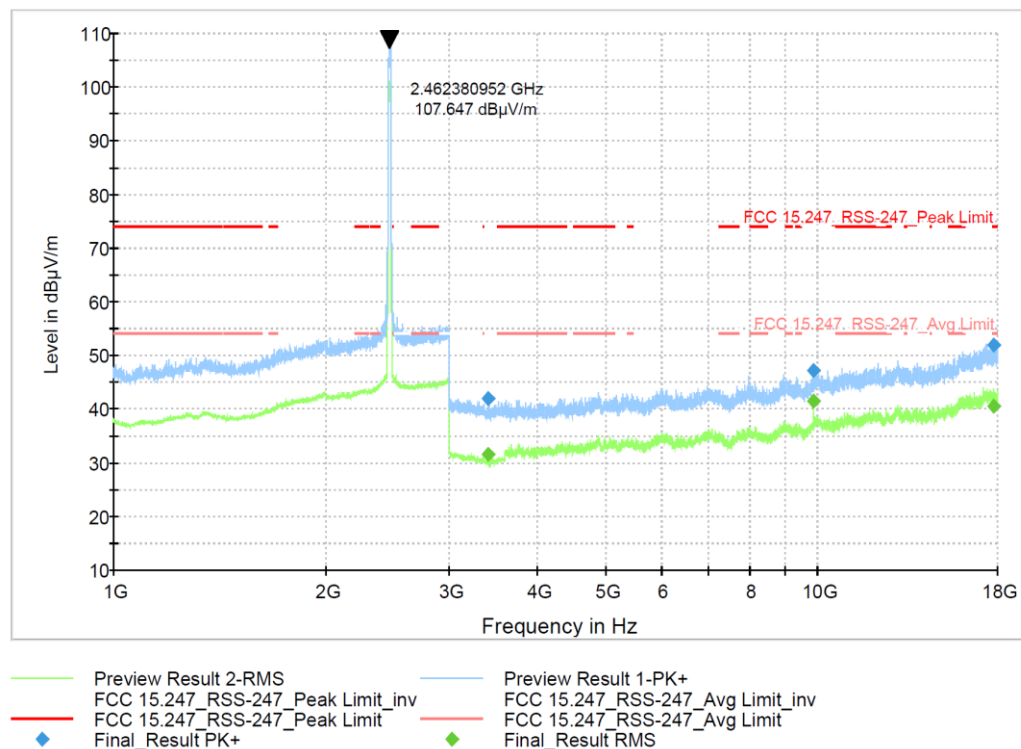


Figure 9-330 Radiated Spurious Emission 1-18GHz 802.11g - Ch.12

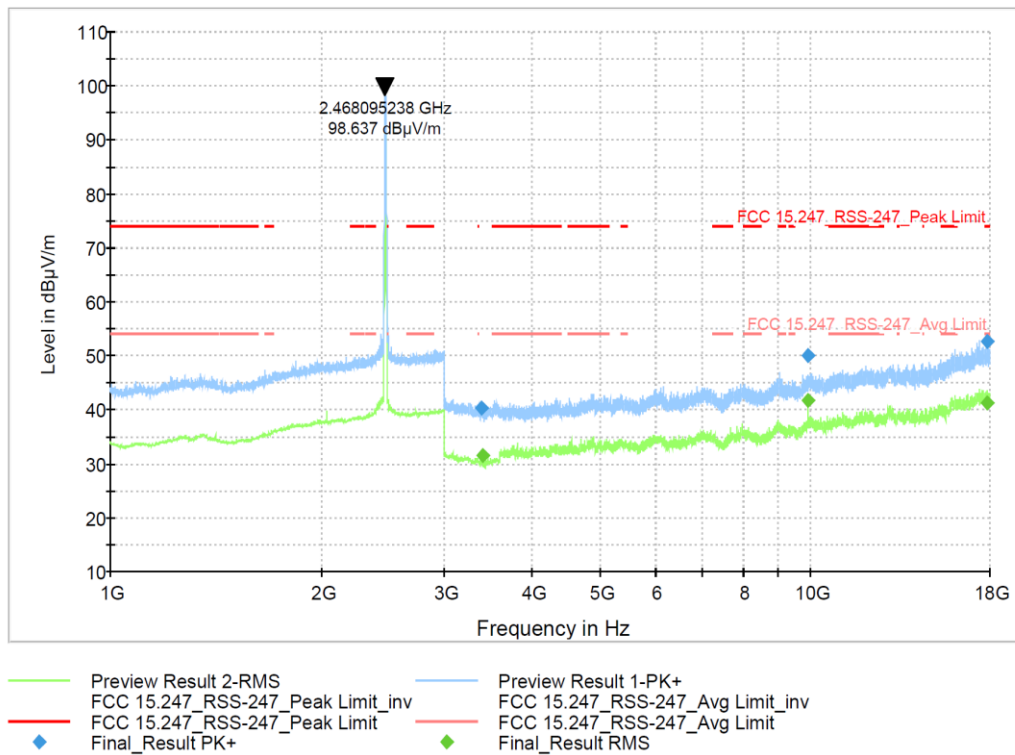


Figure 9-331 Radiated Spurious Emission 1-18GHz 802.11g - Ch.13

802.11n20 RSE 1 - 18GHz Average Data						
Carrier Frequency (MHz)	Frequency (MHz)	Raw Avg. Amplitude (dBμV)	Correction Factor (incl DCF=0dB) (dB)	Corrected Avg. Field Strength (dBμV/m)	Average Limit (dBμV/m)	Margin (dB)
2412	3400.6	25.84	5.0	30.84	54	N/A
2412	4136.5	23.70	6.0	29.7	54	-18.3
2412	9648.0	29.73	13.7	43.43	54	N/A
2437	3399.9	26.21	5.0	31.21	54	-18.33
2437	3752.1	24.67	5.5	30.17	54	N/A
2437	9748.0	29.75	13.9	43.65	54	N/A
2462	3399.6	26.49	4.9	31.39	54	N/A
2462	9848.0	26.91	13.8	40.71	54	N/A
2462	17984.2	20.09	21.3	41.39	54	-12.61
2467	3399.6	26.44	5.0	31.44	54	N/A
2467	9868.0	25.34	13.9	39.24	54	N/A
2467	17888.4	20.80	20.6	41.4	54	-12.60
2472	9888.0	24.69	14.0	38.69	54	N/A
2472	17976.6	20.24	21.1	41.34	54	-12.66
802.11n20 RSE 1 - 18GHz Peak Data						
Carrier Frequency (MHz)	Frequency (MHz)	Raw Peak Amplitude (dBμV)	Correction Factor (dB)	Corrected Peak Field Strength (dBμV/m)	Peak Limit (dBμV/m)	Margin (dB)
2412	3399.6	37.98	5.0	42.98	74	N/A
2412	4138.4	35.12	6.0	41.12	74	-32.88
2412	9648.0	35.84	13.7	49.54	74	N/A
2437	3402.4	36.35	5.0	41.35	74	N/A
2437	3752.1	36.32	5.5	41.82	74	N/A
2437	9747.9	36.65	13.9	50.55	74	N/A
2462	3397.6	36.72	4.9	41.62	74	N/A
2462	9848.0	34.83	13.8	48.63	74	N/A
2462	17974.4	31.88	21.1	52.98	74	-21.02
2467	3400.6	37.20	5.0	42.2	74	N/A
2467	9867.5	33.70	13.9	47.6	74	N/A
2467	17878.6	32.73	20.1	52.83	74	-21.17
2472	9887.9	36.23	14.0	50.23	74	N/A
2472	17961.0	31.55	20.8	52.35	74	-21.65

Note: N/A implies that the emission frequency lies in the non-restricted bands

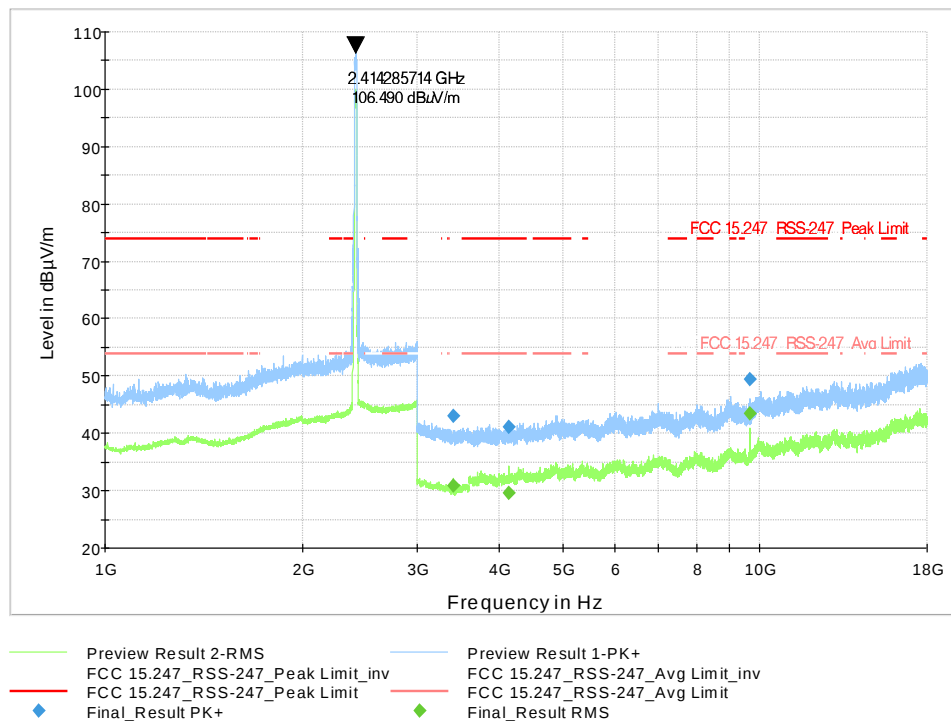


Figure 9-332 Radiated Spurious Emission 1-18GHz 802.11n20 - Ch.1

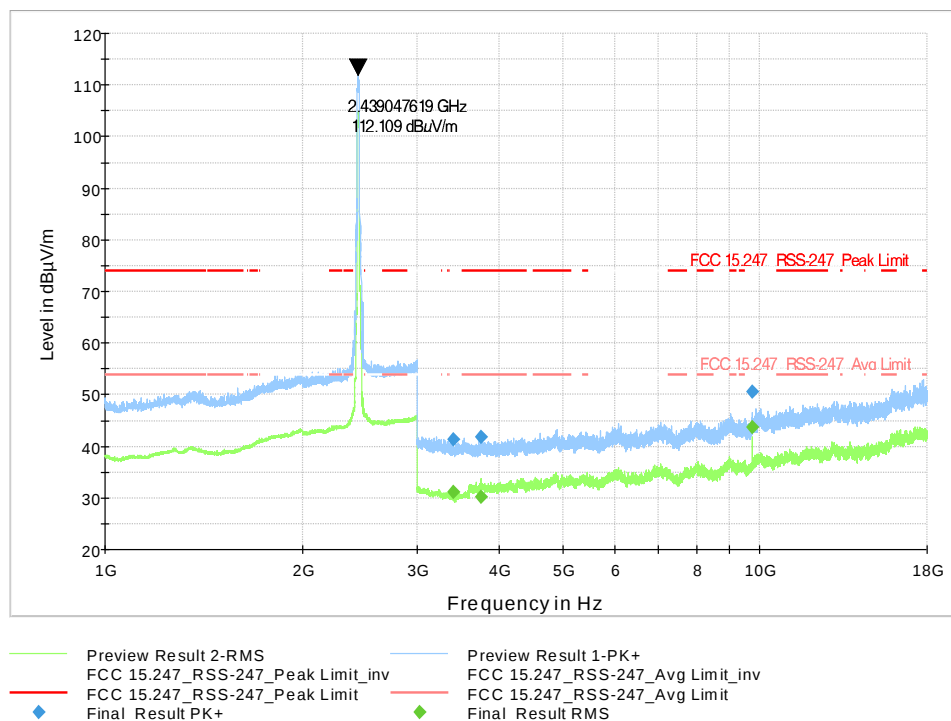


Figure 9-333 Radiated Spurious Emission 1-18GHz 802.11n20- Ch.6

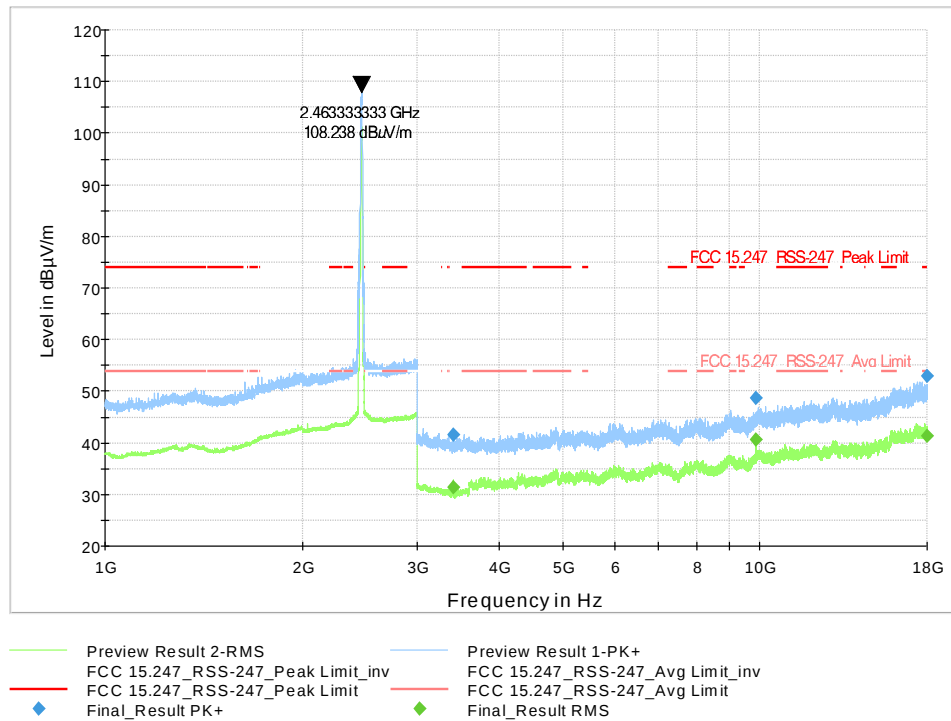


Figure 9-334 Radiated Spurious Emission 1-18GHz 802.11n20- Ch.11

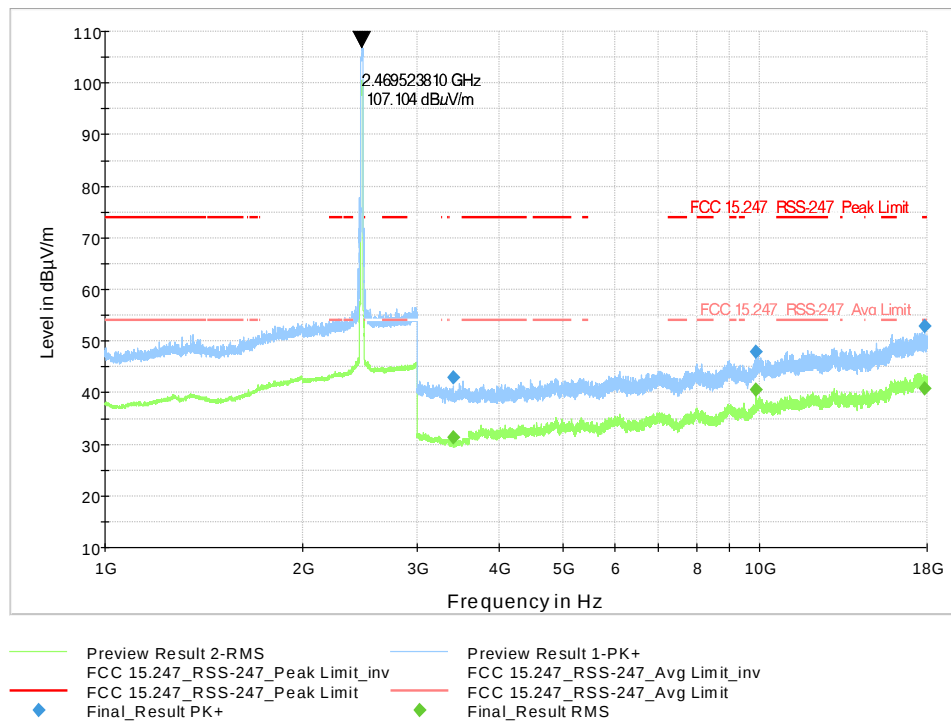


Figure 9-335 Radiated Spurious Emission 1-18GHz 802.11n20- Ch.12

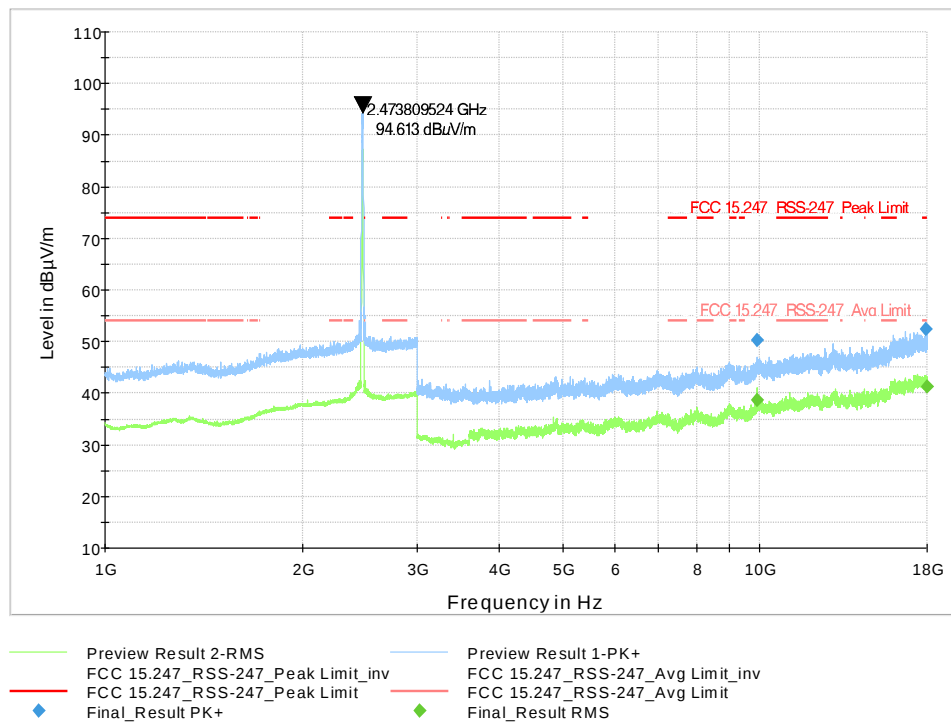


Figure 9-336 Radiated Spurious Emission 1-18GHz 802.11n20- Ch.13

802.11n40 RSE 1 - 18GHz Average Data						
Carrier Frequency (MHz)	Frequency (MHz)	Raw Avg. Amplitude (dBμV)	Correction Factor (incl DCF=0dB) (dB)	Corrected Avg. Field Strength (dBμV/m)	Average Limit (dBμV/m)	Margin (dB)
2422	3399.8	26.32	5.0	31.32	54	N/A
2422	9688.0	29.15	13.5	42.65	54	N/A
2422	17797.9	20.66	20.0	40.66	54	-13.34
2442	3399.1	26.23	5.0	31.23	54	N/A
2442	9768.0	29.46	14.2	43.66	54	N/A
2442	17769.1	20.39	19.7	40.09	54	-13.91
2462	3399.8	26.22	5.0	31.22	54	N/A
2462	9848.0	25.88	13.8	39.68	54	N/A
2462	17856.5	10.37	20.7	31.07	54	-12.93
802.11n40 RSE 1 - 18GHz Peak Data						
Carrier Frequency (MHz)	Frequency (MHz)	Raw Peak Amplitude (dBμV)	Correction Factor (dB)	Corrected Peak Field Strength (dBμV/m)	Peak Limit (dBμV/m)	Margin (dB)
2422	3402.7	35.12	5.0	40.12	74	N/A
2422	9687.9	36.52	13.5	50.02	74	N/A
2422	17815.8	32.22	20.0	52.22	74	-21.78
2442	3399.1	38.03	5.0	43.03	74	N/A
2442	9768.0	35.65	14.2	49.85	74	N/A
2442	17769.1	32.45	19.7	52.15	74	-21.85
2462	3400.2	36.87	5.0	41.87	74	N/A
2462	9848.0	35.09	13.8	48.89	74	N/A
2462	17842.8	31.58	20.7	52.28	74	-21.72

Note: N/A implies that the emission frequency lies in the non-restricted bands

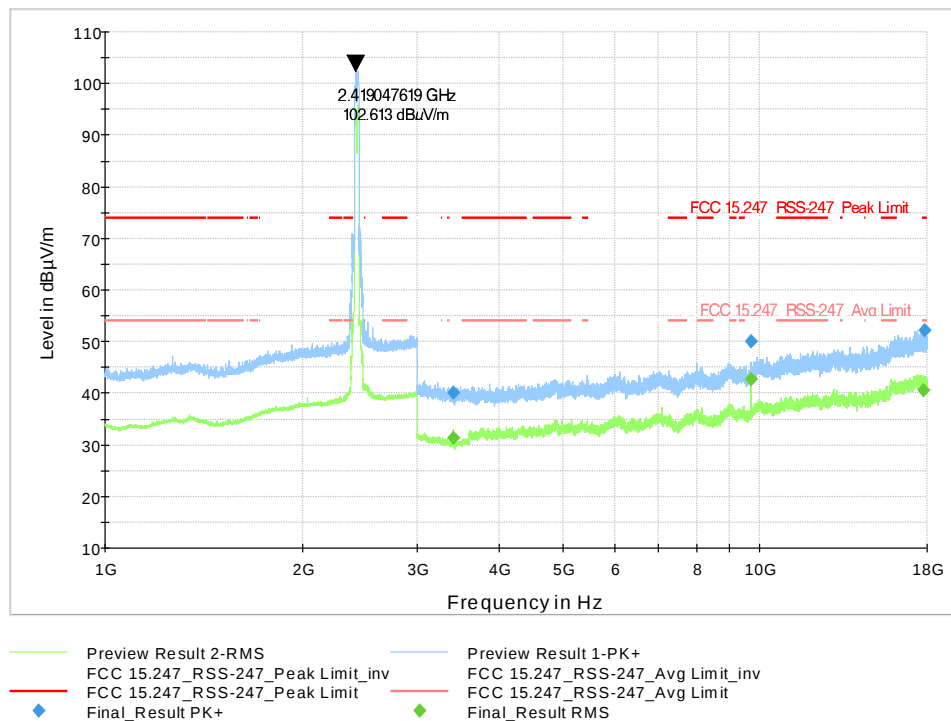


Figure 9-337 Radiated Spurious Emission 1-18GHz 802.11n40- Ch.2

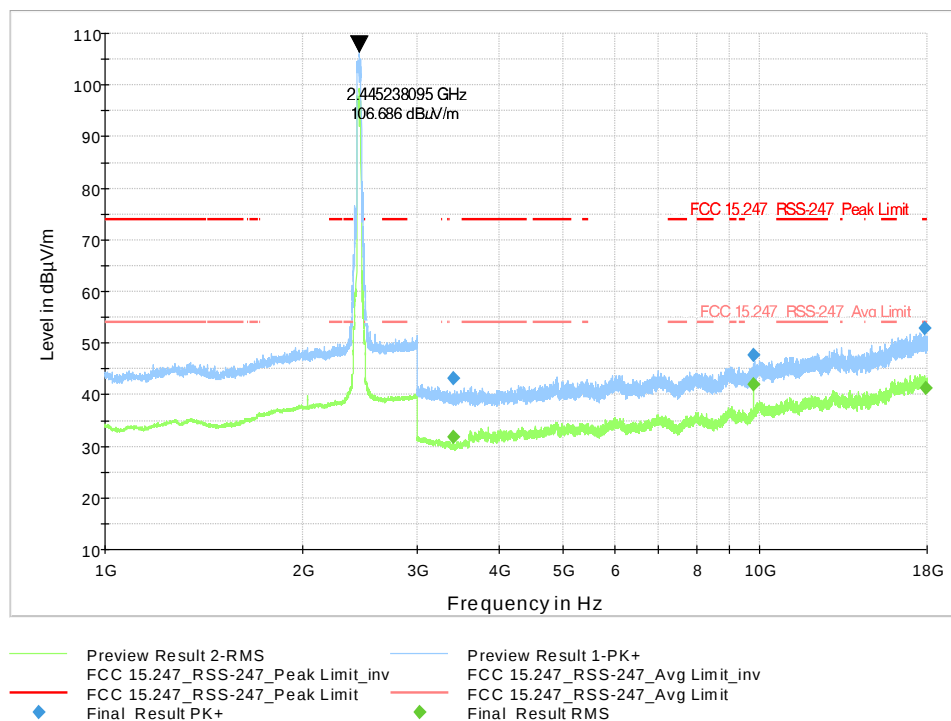


Figure 9-338 Radiated Spurious Emission 1-18GHz 802.11n40- Ch.7

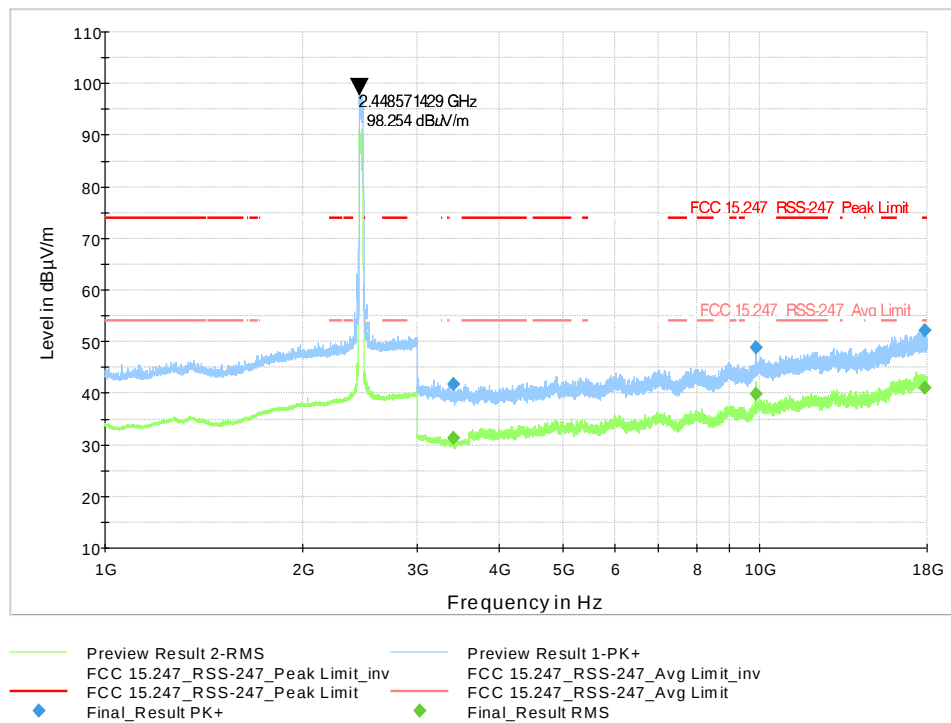


Figure 9-339 Radiated Spurious Emission 1-18GHz 802.11n40- Ch.11

9.8.5.3 Emissions in 18-26.5 GHz range

All modes and channels were tested, and worst-case data is shown here. No significant emissions to report above noise floor.

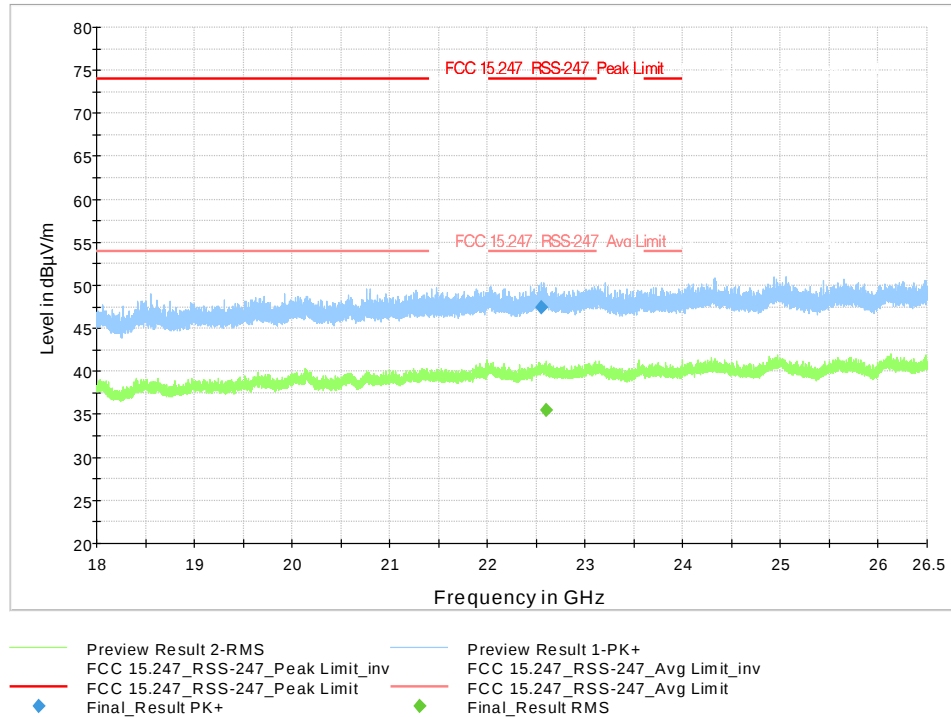


Figure 9-340 Radiated Spurious Emissions 18-26.5GHz 802.11b - Ch.1

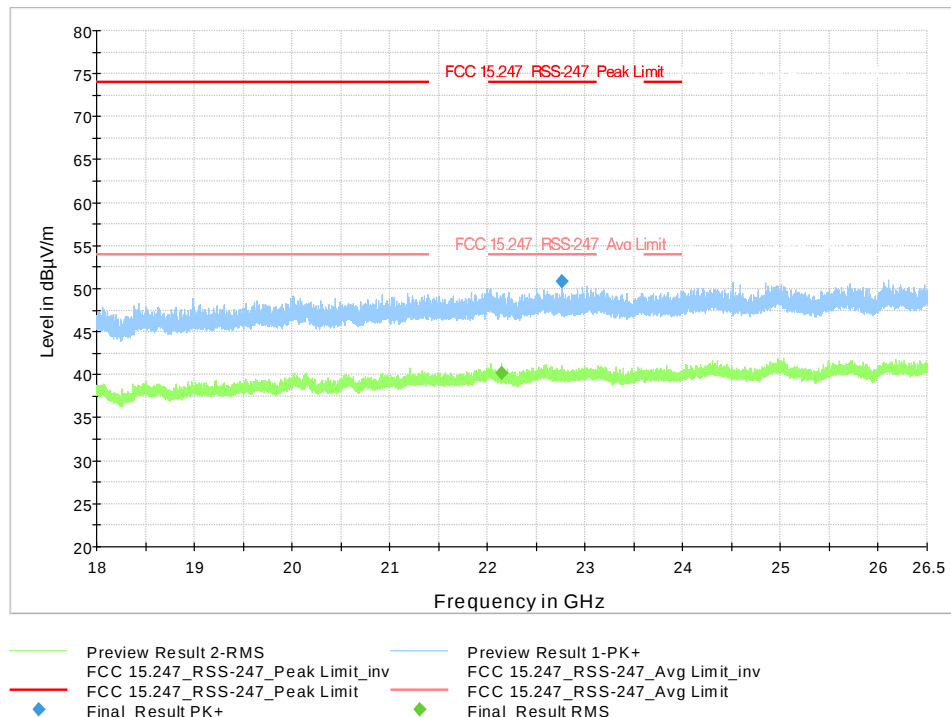


Figure 9-341 Radiated Spurious Emissions 18-26.5GHz 802.11g - Ch.6

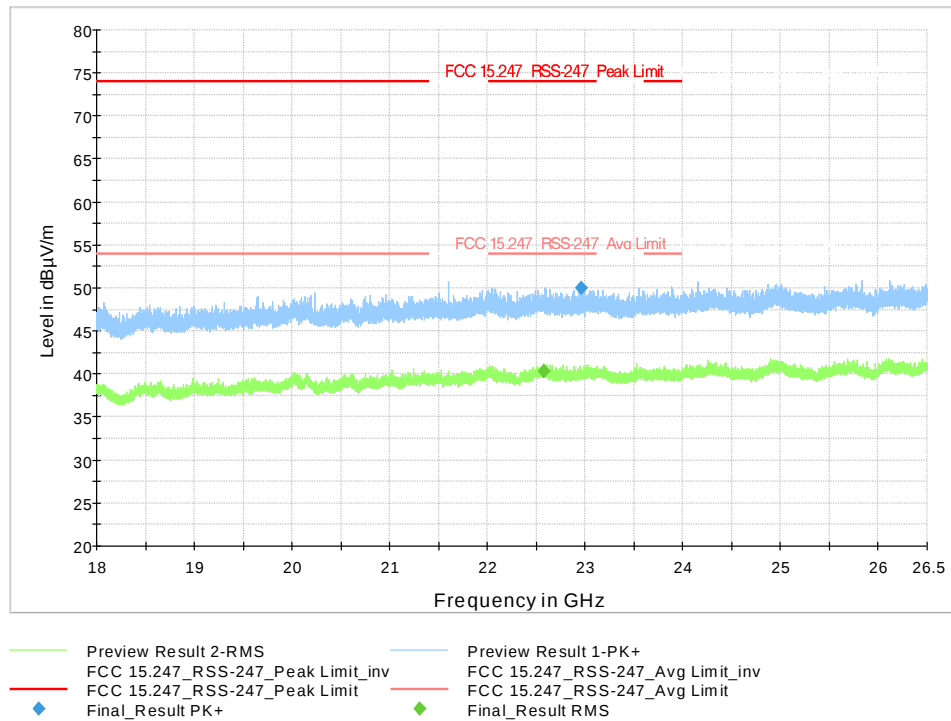


Figure 9-342 Radiated Spurious Emissions 18-26.5GHz 802.11n20 - Ch.11

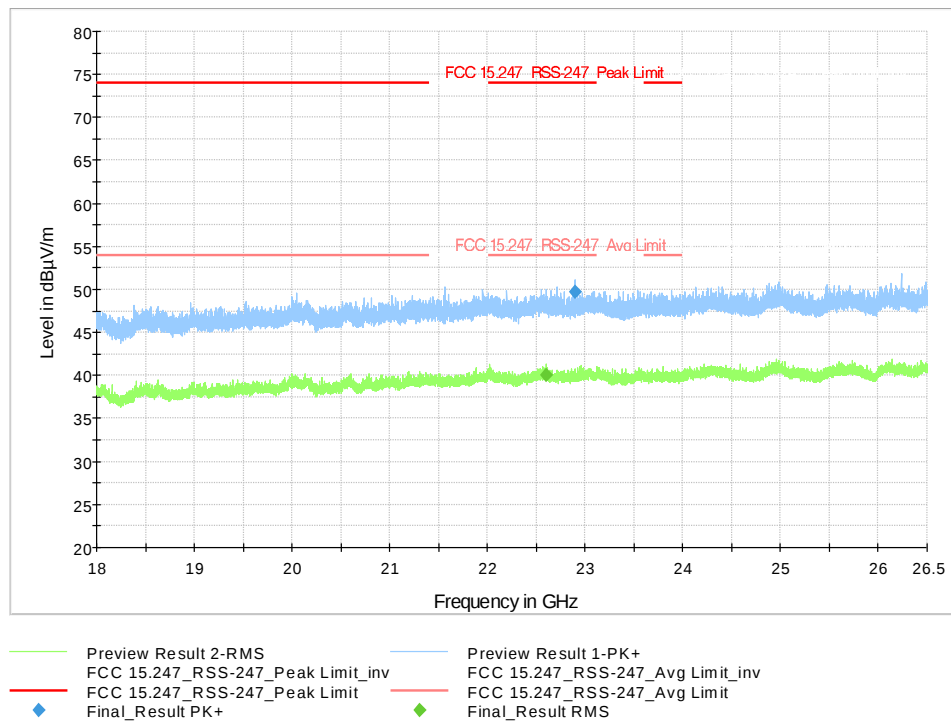


Figure 9-343 Radiated Spurious Emissions 18-26.5GHz 802.11n40 - Ch.3

9.8.5.4 Radiated restricted Band-edge emissions

802.11b Band Edge Average Data						
Carrier Frequency (MHz)	Frequency (MHz)	Raw Avg. Amplitude (dBμV)	Correction Factor (incl DCF=0dB) (dB)	Corrected Avg. Field Strength (dBμV/m)	Average Limit (dBμV/m)	Margin (dB)
2412	2389.70	30.69	12.8	43.49	54	-10.51
2462	2483.70	30.93	12.8	43.73	54	-10.27
2467	2485.63	32.75	13.2	45.95	54	-8.05
2472	2483.70	40.16	12.8	52.96	54	-1.04
802.11g Band Edge Average Data						
Carrier Frequency (MHz)	Frequency (MHz)	Raw Avg. Amplitude (dBμV)	Correction Factor (dB)	Corrected Peak Field Strength (dBμV/m)	Peak Limit (dBμV/m)	Margin (dB)
2412	2389.40	39.9	12.7	52.79	54	-1.21
2462	2483.80	40.03	12.7	52.92	54	-1.08
2467	2483.80	37.58	12.7	50.28	54	-3.72
2472	2483.70	38.80	12.8	51.79	54	-2.21
802.11n20 Band Edge Average Data						
Carrier Frequency (MHz)	Frequency (MHz)	Raw Avg. Amplitude (dBμV)	Correction Factor (incl DCF=0dB) (dB)	Corrected Avg. Field Strength (dBμV/m)	Average Limit (dBμV/m)	Margin (dB)
2412	2390.00	39.76	12.7	52.46	54	-1.54
2462	2483.80	39.03	12.7	52.35	54	-1.65
2467	2483.80	39.73	12.7	53.05	54	-0.95
2472	2483.80	39.21	13.2	53.03	54	-0.97
802.11n40 Band Edge Average Data						
Carrier Frequency (MHz)	Frequency (MHz)	Raw Avg. Amplitude (dBμV)	Correction Factor (dB)	Corrected Peak Field Strength (dBμV/m)	Peak Limit (dBμV/m)	Margin (dB)
2412	2389.70	39.01	12.8	52.29	54	-1.71
2452	2483.50	38.79	12.2	51.47	54	-2.53
2457	2487.76	40.19	12.2	52.87	54	-1.13
2462	2483.80	40.61	12.7	53.31	54	-0.69

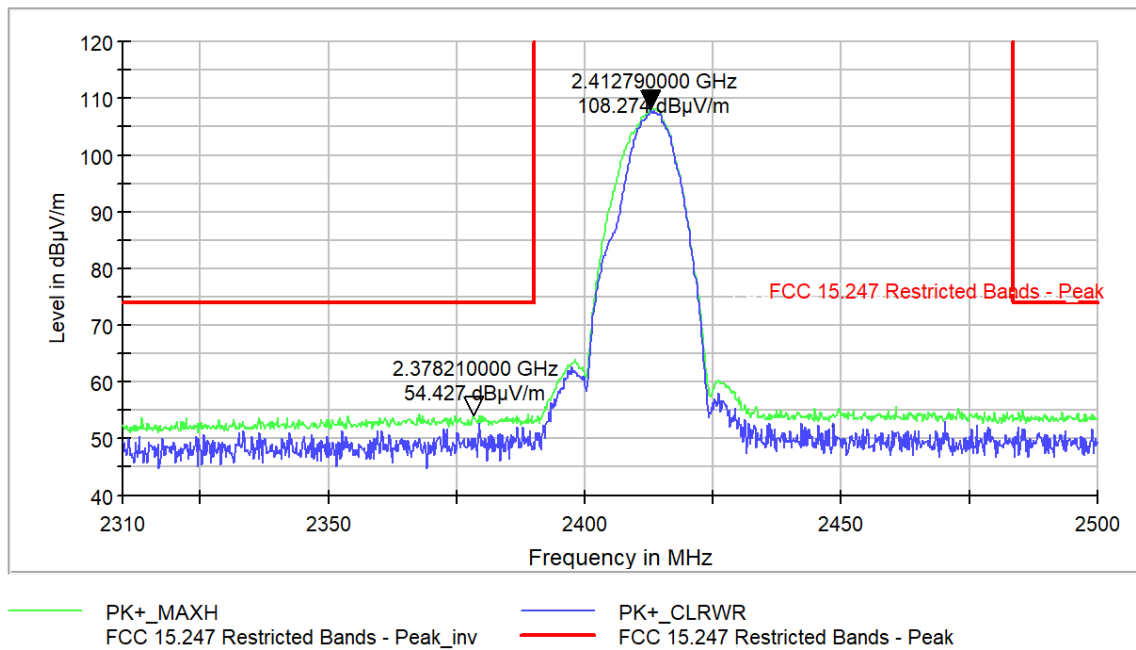


Figure 9-344 Radiated Band Edge Peak 802.11b - Ch.1

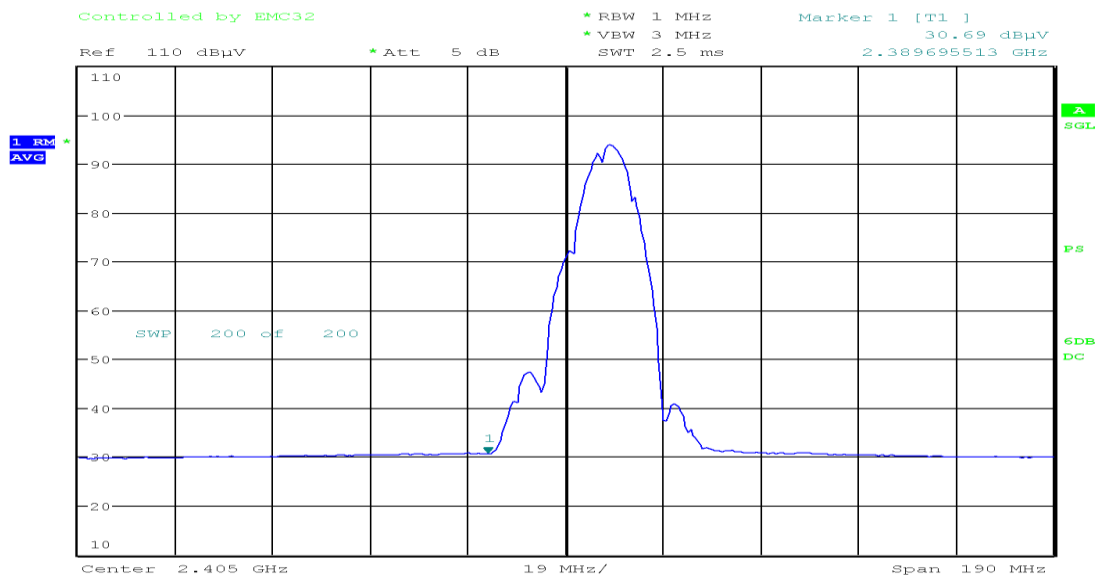
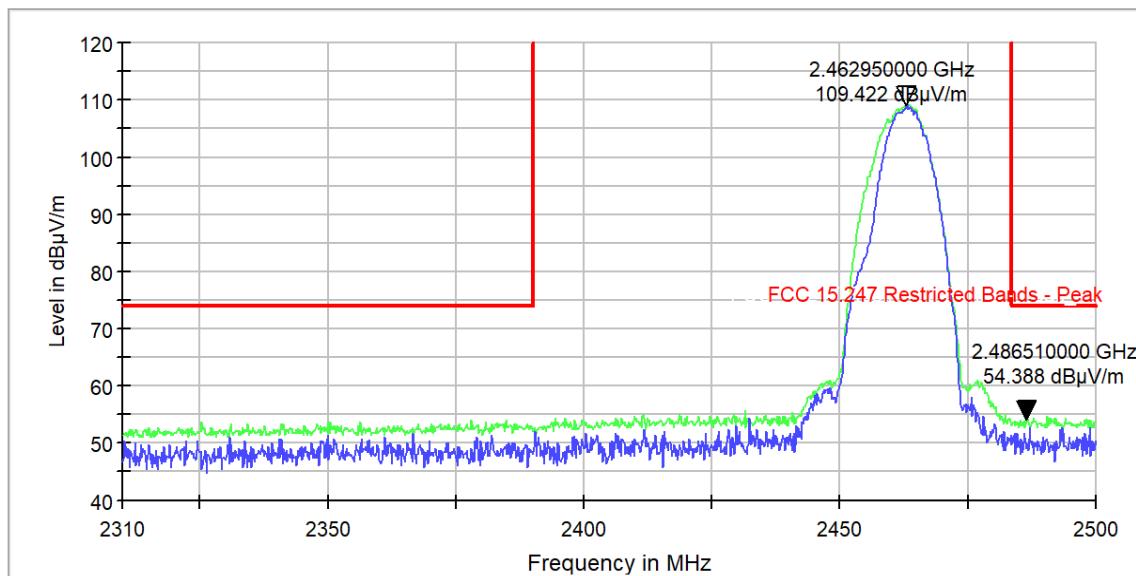


Figure 9-345 Radiated Band Edge Average 802.11b - Ch.1



PK+_MAXH
FCC 15.247 Restricted Bands - Peak_inv

PK+_CLRWR
FCC 15.247 Restricted Bands - Peak

Figure 9-346 Radiated Band Edge Peak 802.11b - Ch.11

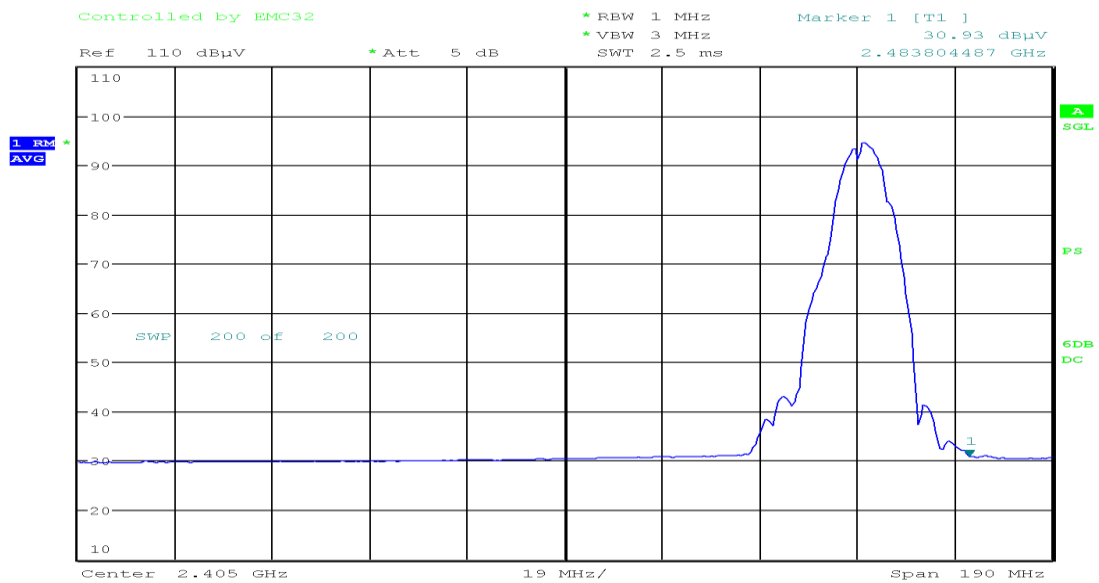


Figure 9-347 Radiated Band Edge Average 802.11b - Ch.11

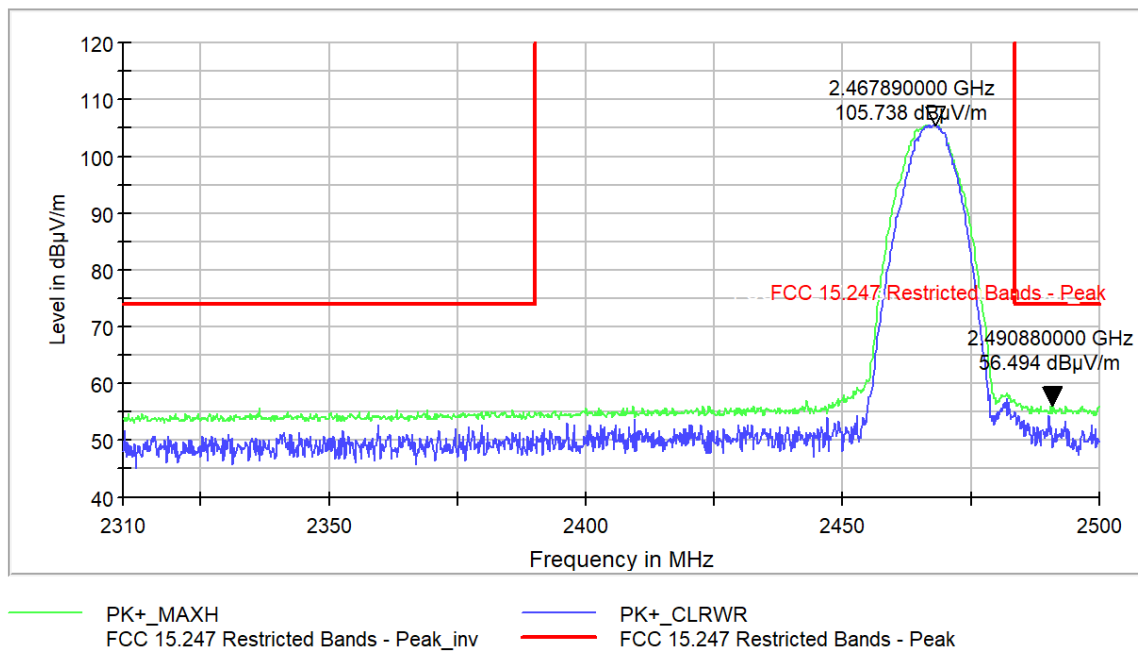


Figure 9-348 Radiated Band Edge Peak 802.11b - Ch.12

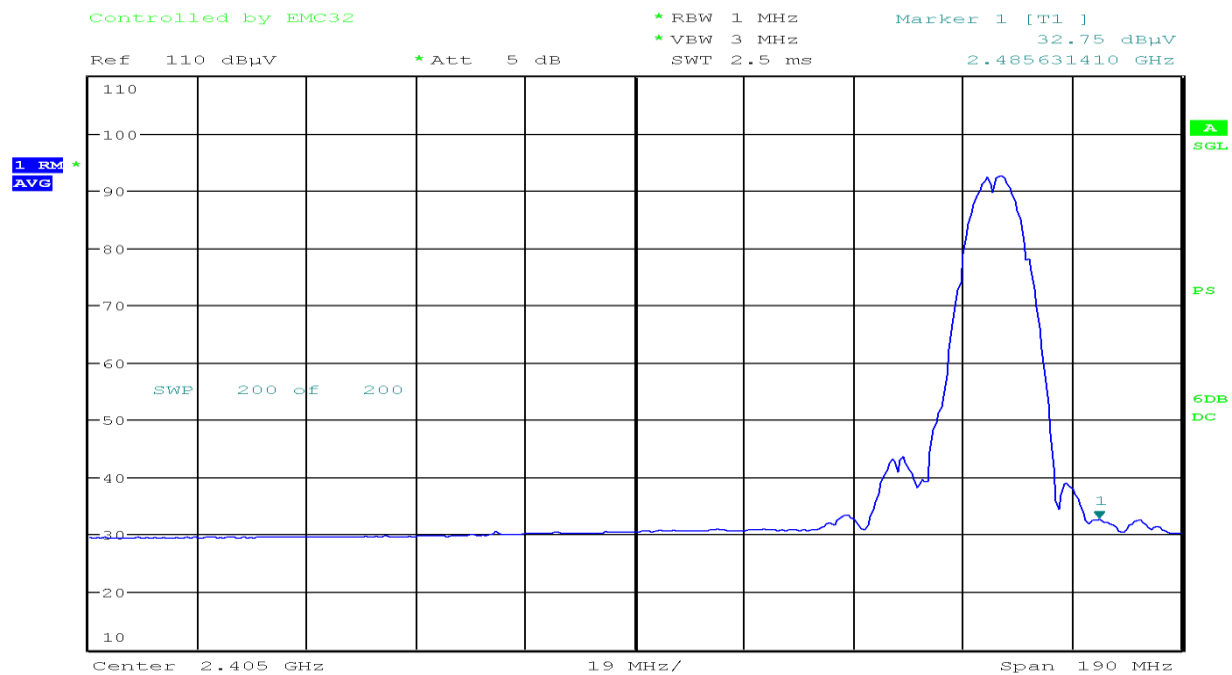


Figure 9-349 Radiated Band Edge Average 802.11b - Ch.12

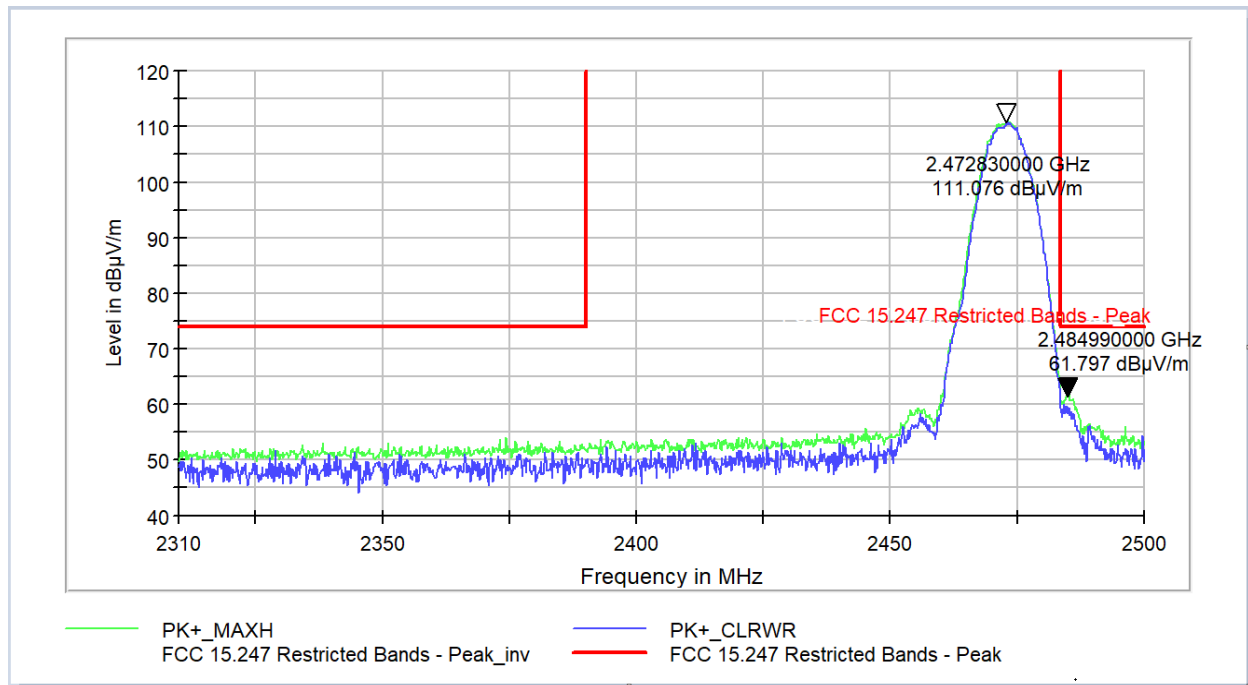


Figure 9-350 Radiated Band Edge Peak 802.11b - Ch.13

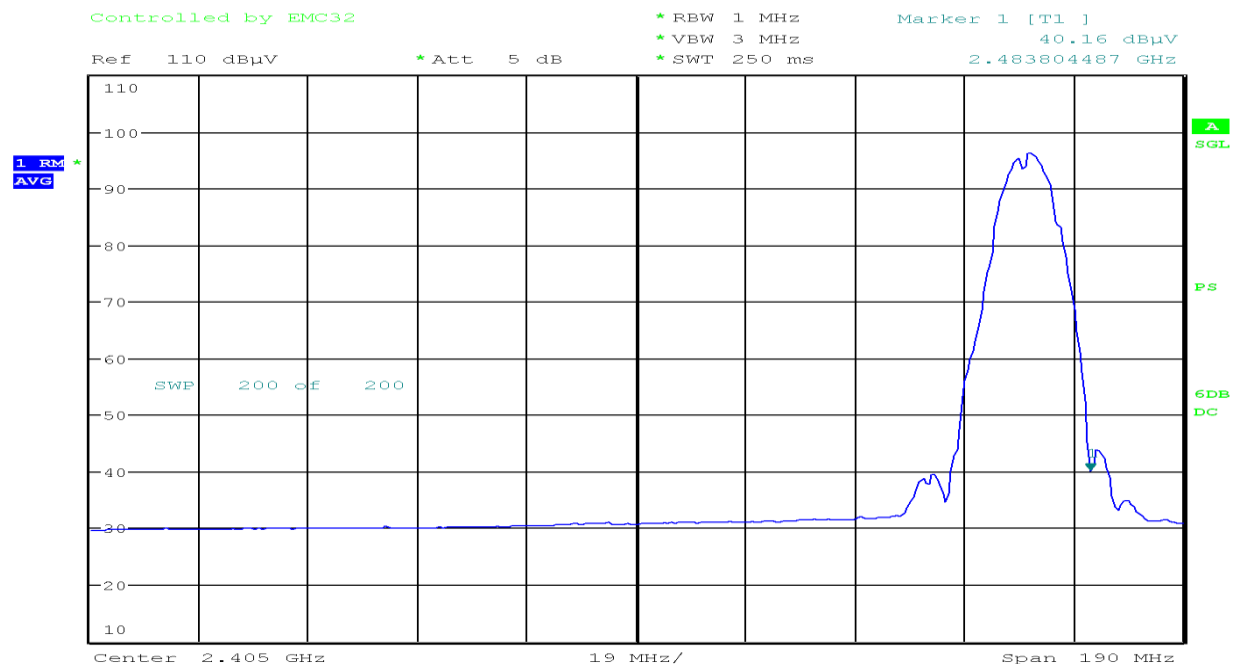


Figure 9-351 Radiated Band Edge Average 802.11b - Ch.13

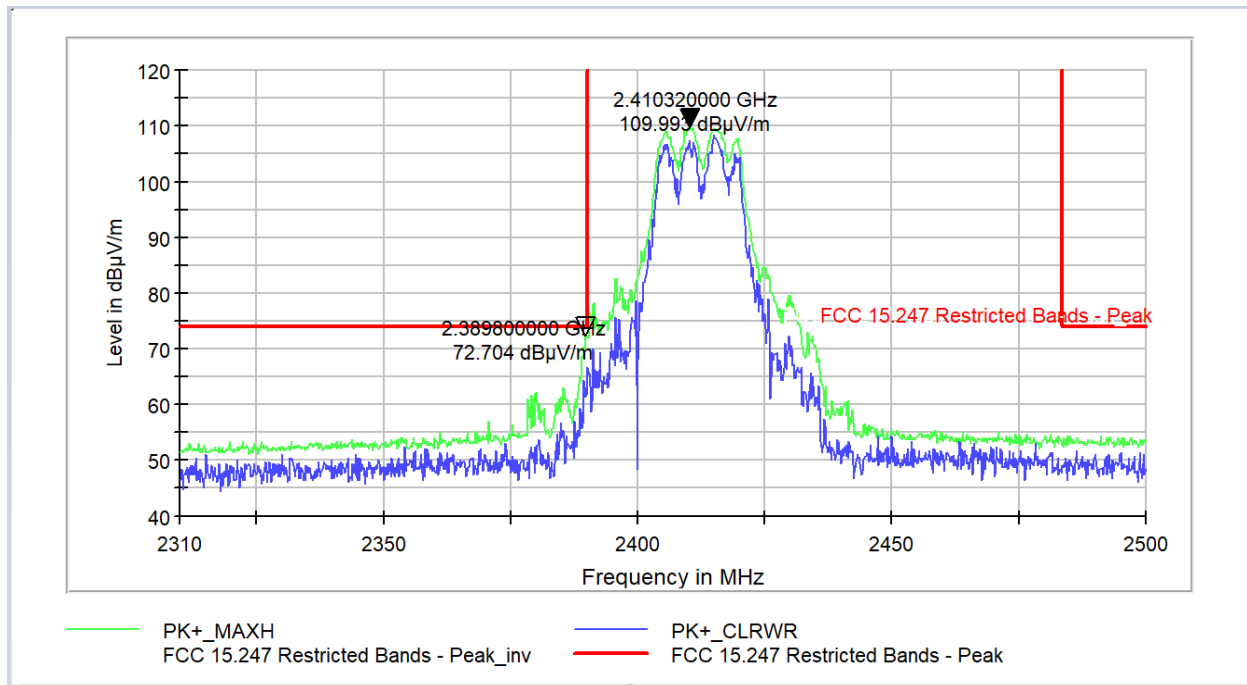


Figure 9-352 Radiated Band Edge Peak 802.11g - Ch.1

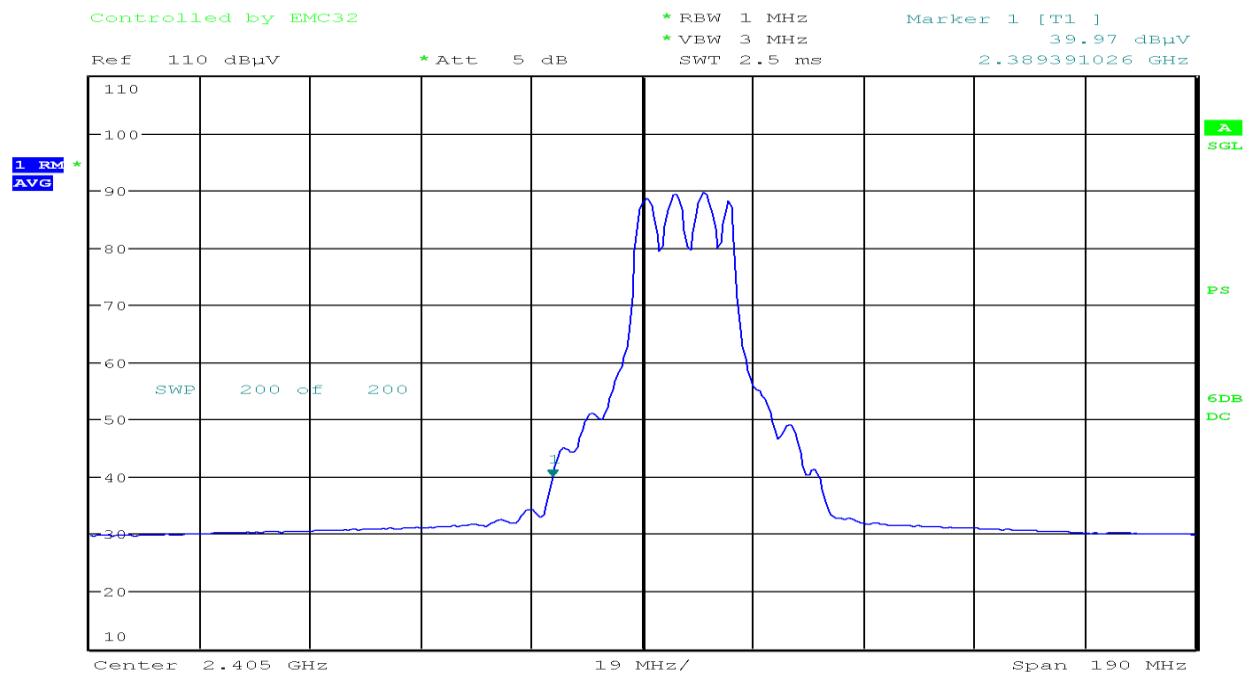


Figure 9-353 Radiated Band Edge Average 802.11g - Ch.1

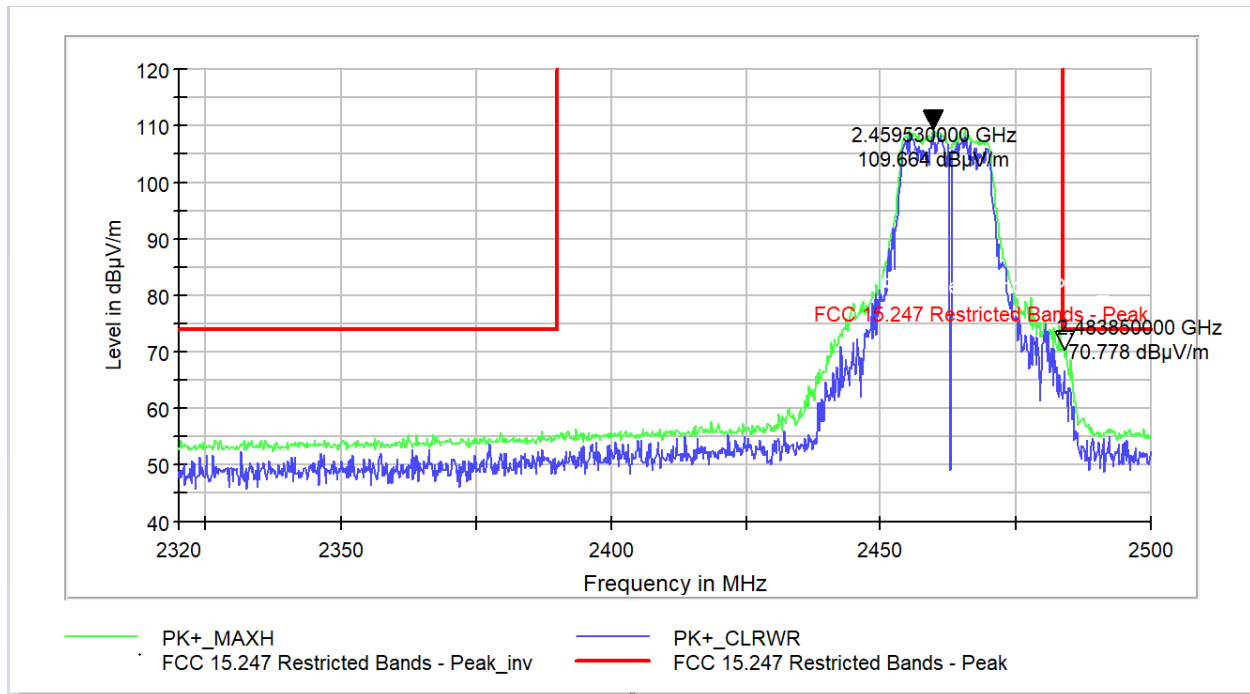


Figure 9-354 Radiated Band Edge Peak 802.11g- Ch.11

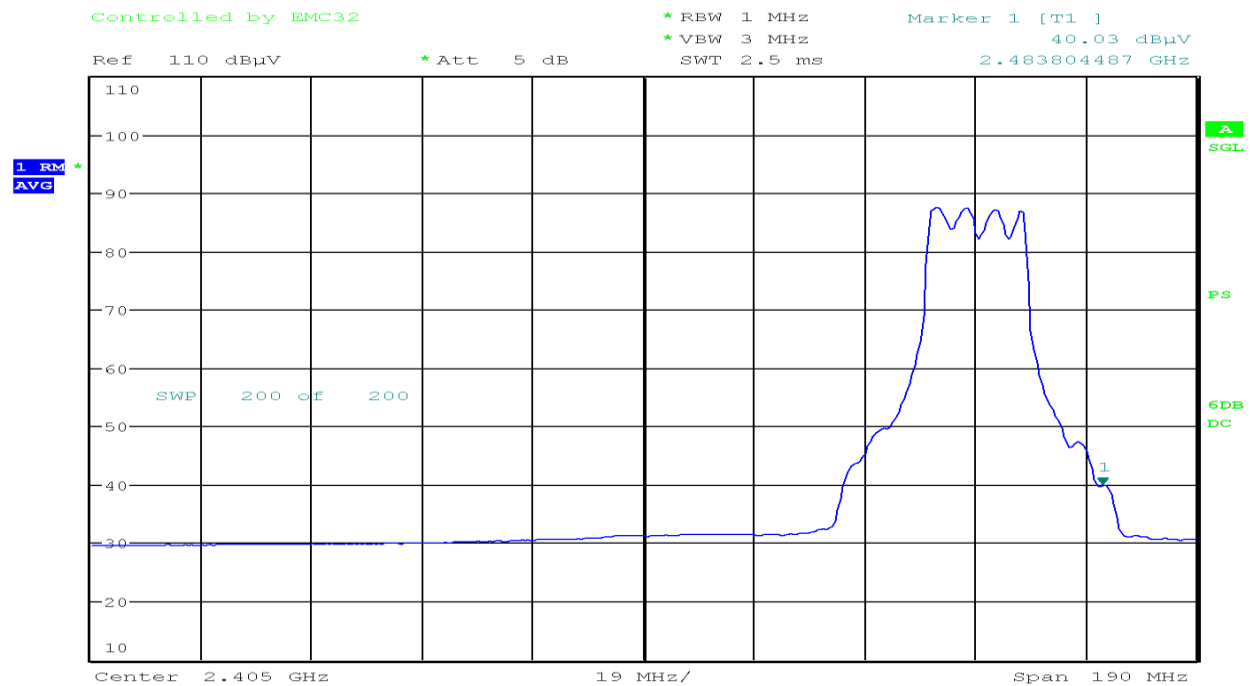


Figure 9-355 Radiated Band Edge Average 802.11g - Ch.11

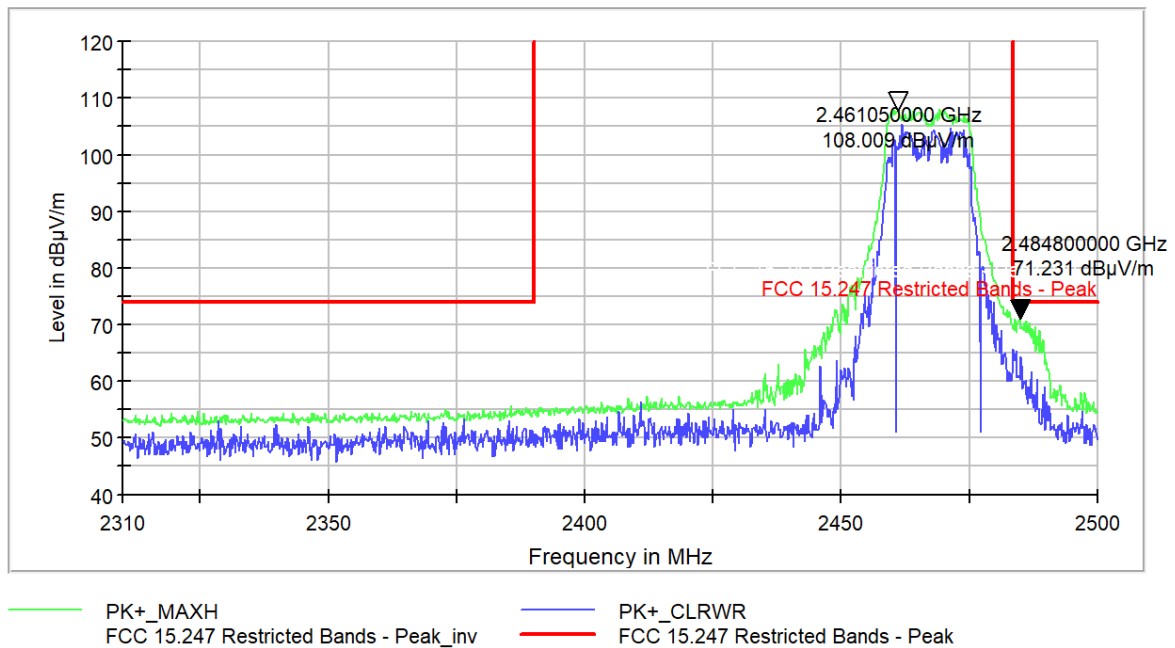


Figure 9-356 Radiated Band Edge Peak 802.11g- Ch.12

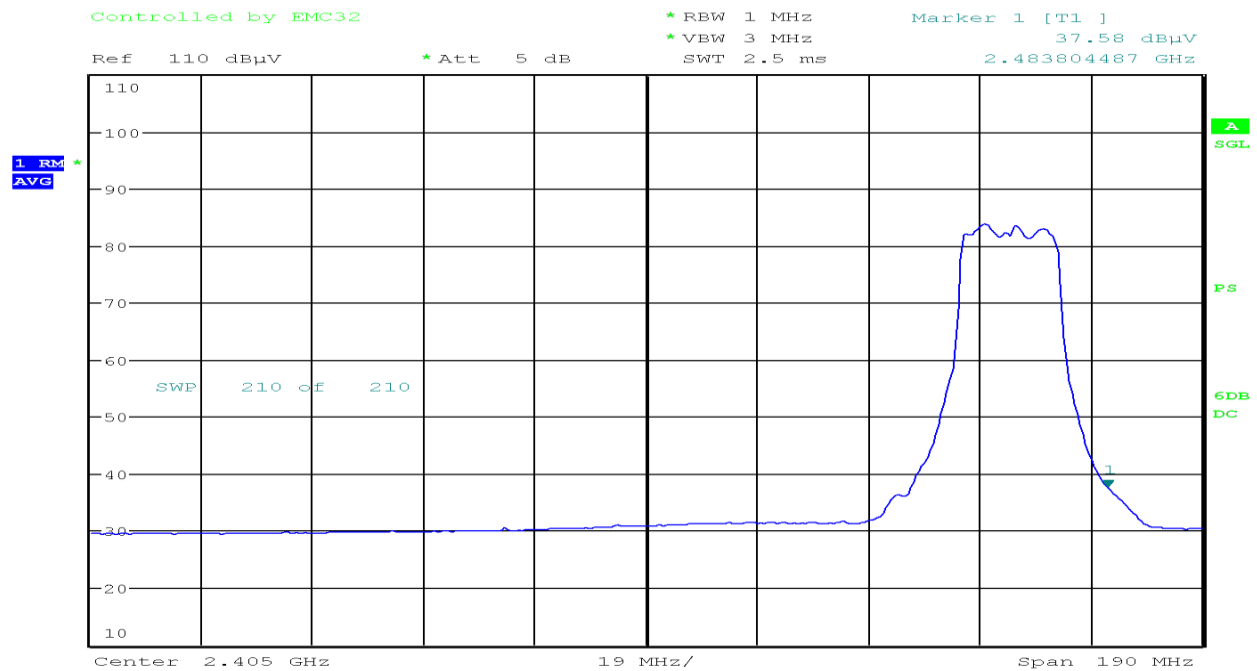


Figure 9-357 Radiated Band Edge Average 802.11g - Ch.12

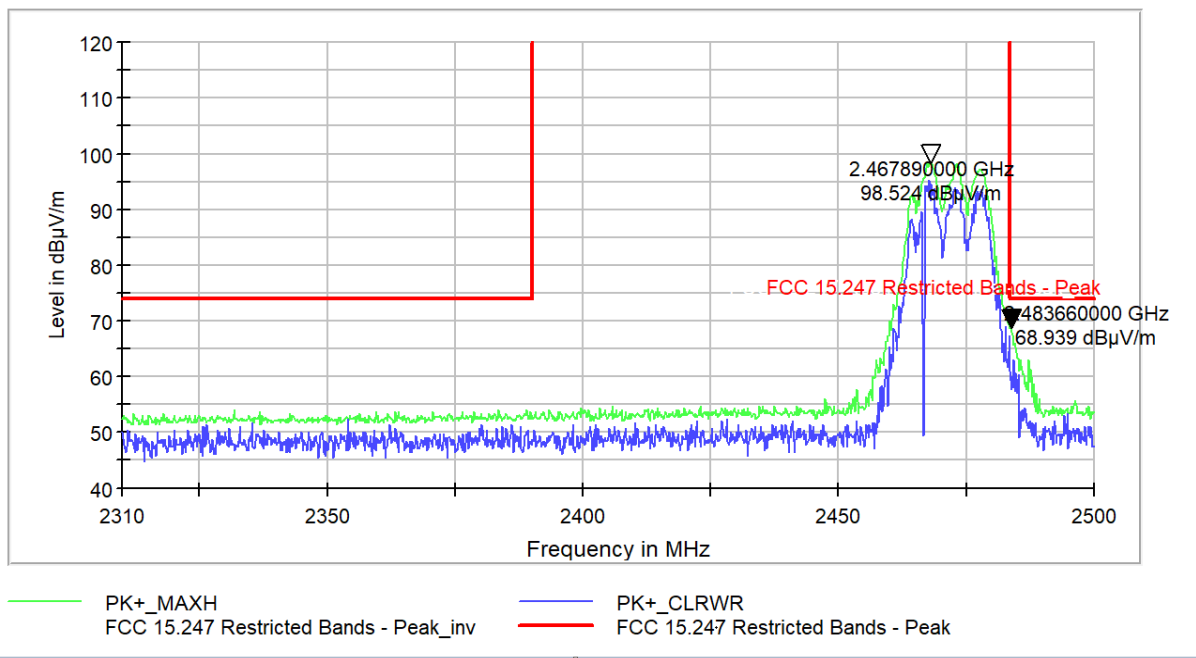


Figure 9-358 Radiated Band Edge Peak 802.11g- Ch.13

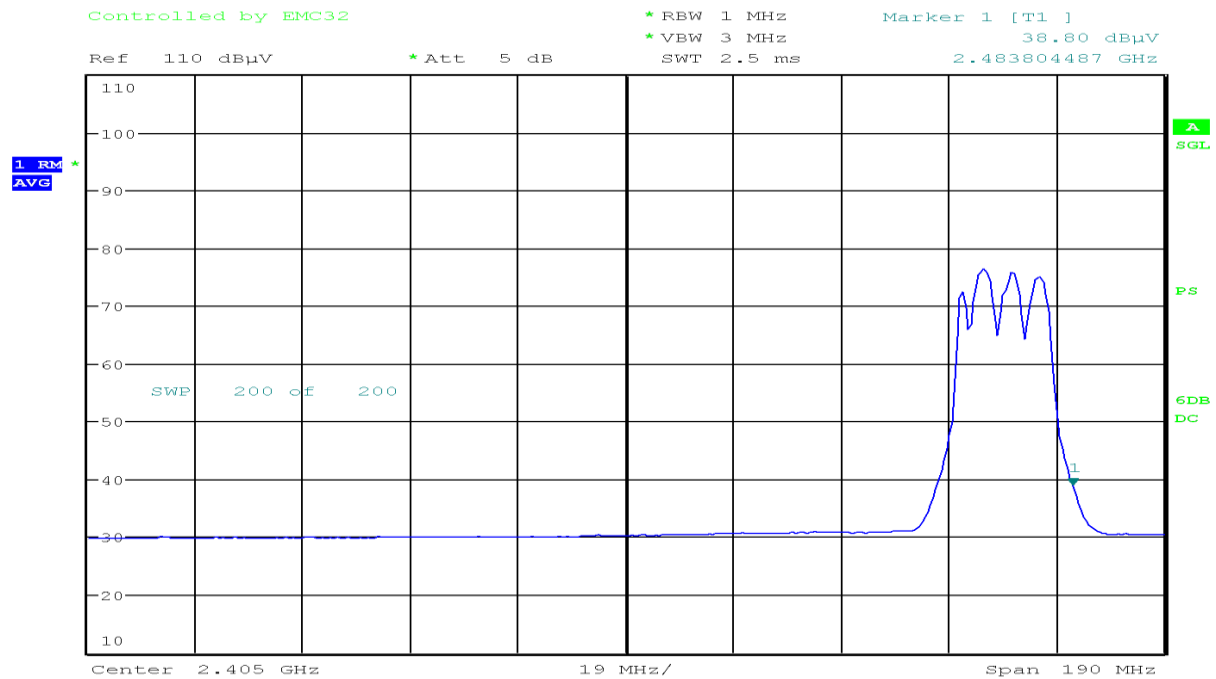


Figure 9-359 Radiated Band Edge Average 802.11g - Ch.13

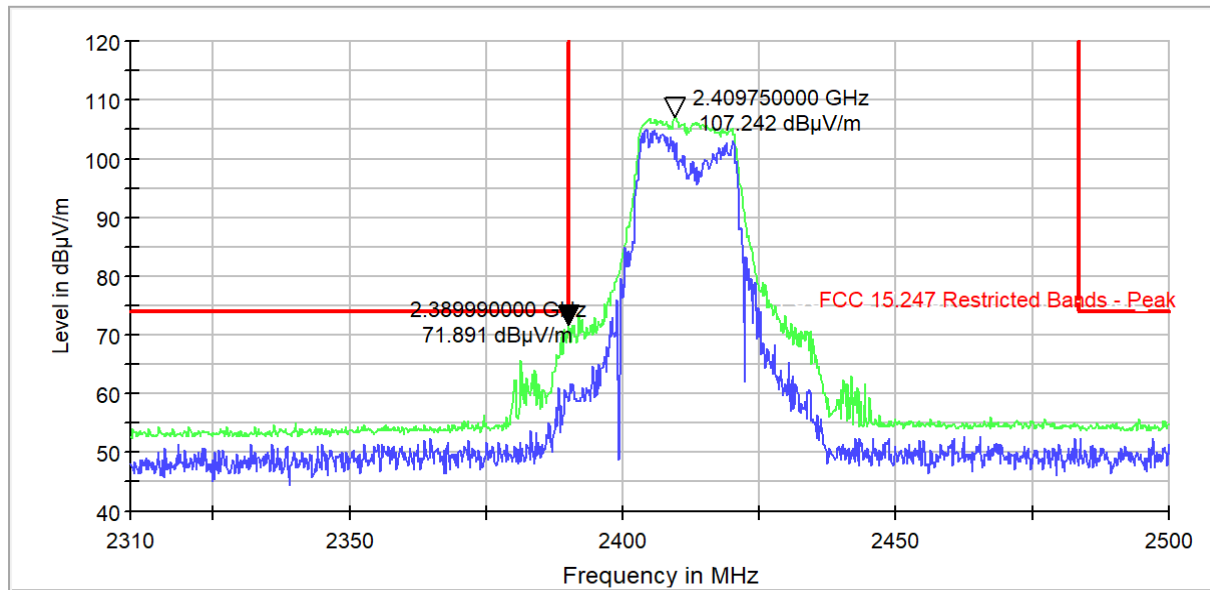


Figure 9-360 Radiated Band Edge Peak 802.11n20 - Ch.1

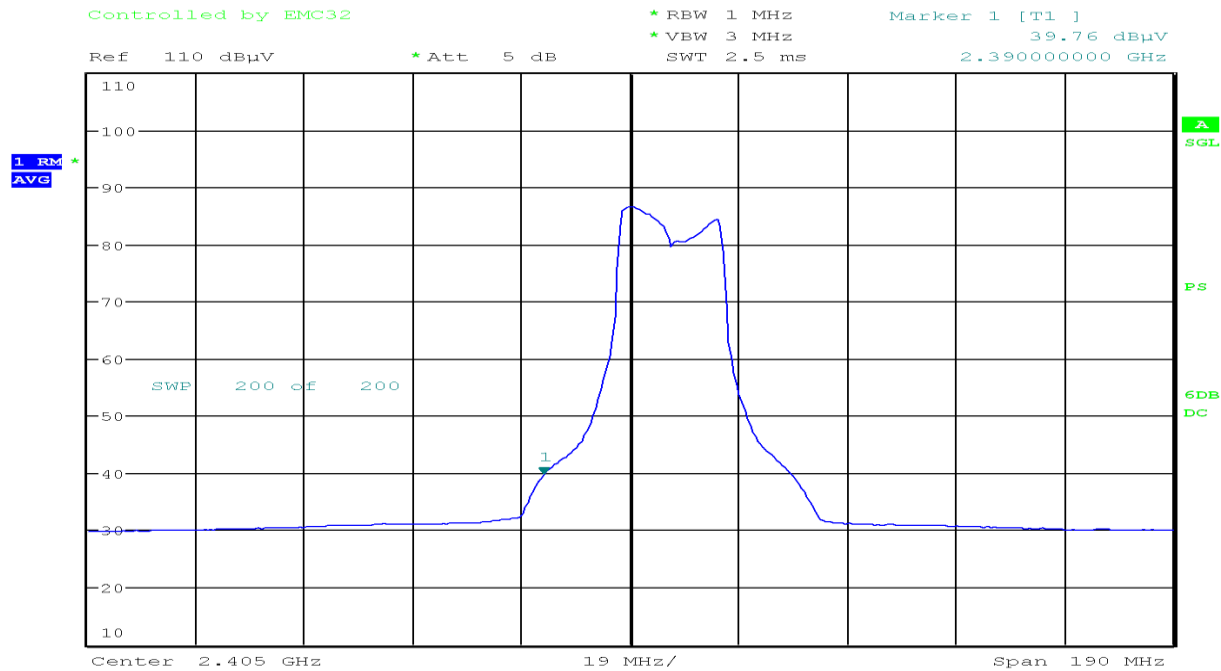


Figure 9-361 Radiated Band Edge Average 802.11n20 - Ch.1

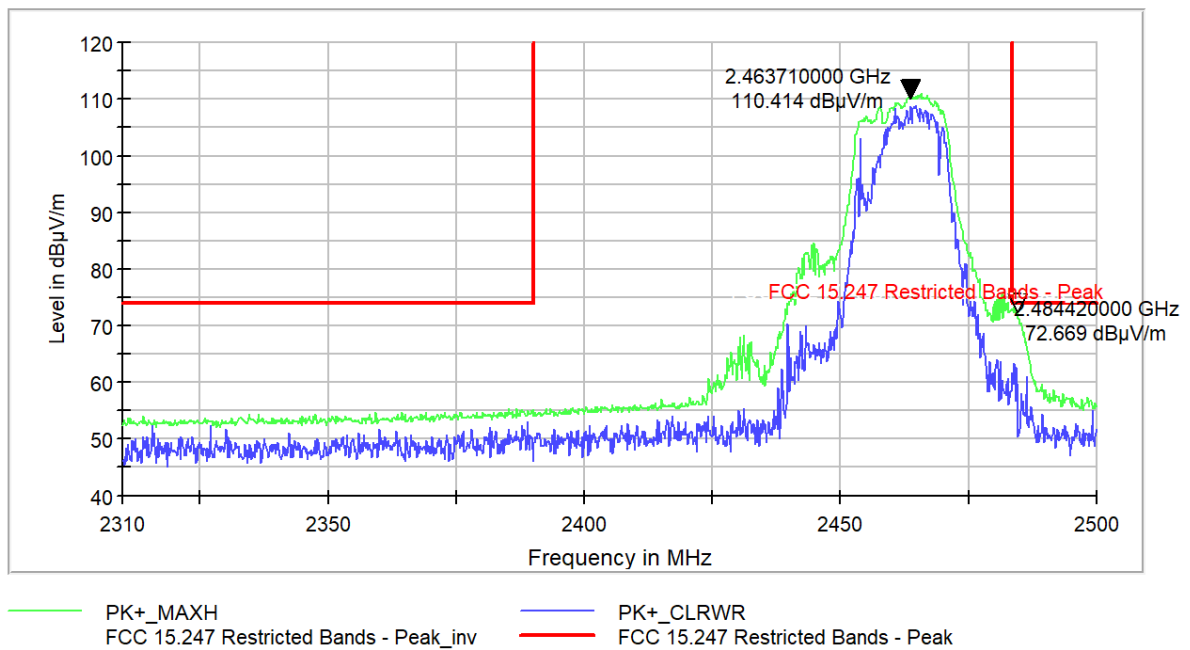


Figure 9-362 Radiated Band Edge Peak 802.11n20- Ch.11

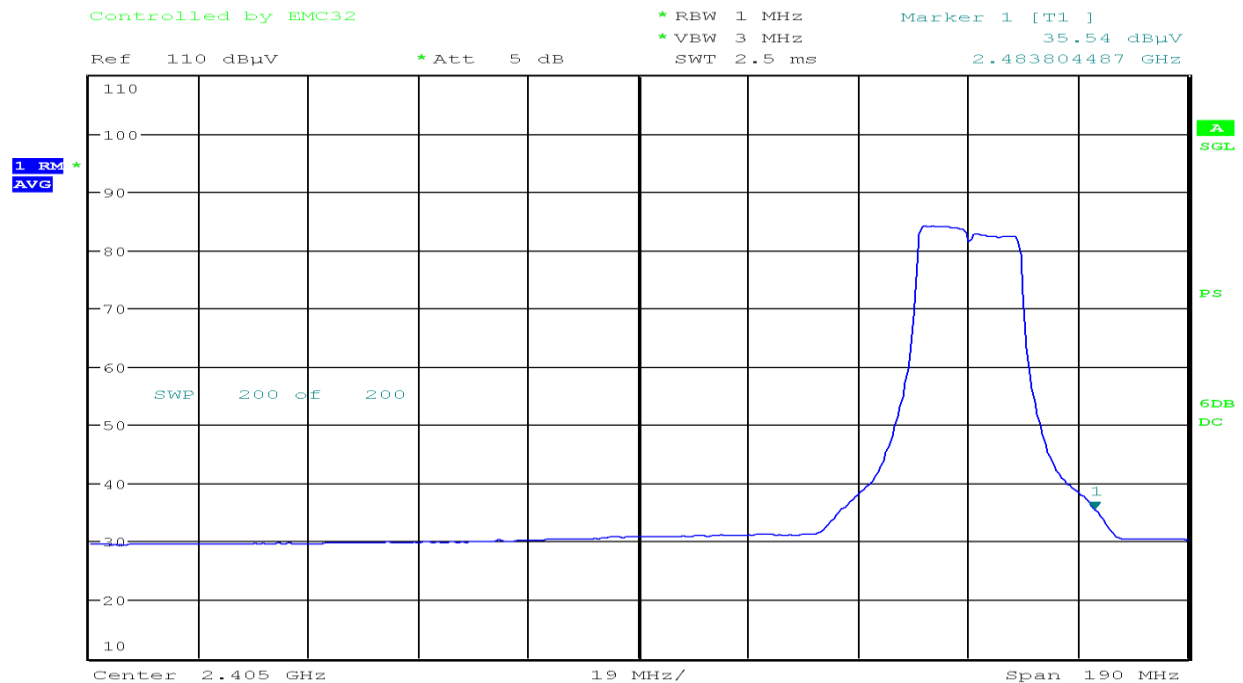


Figure 9-363 Radiated Band Edge Average 802.11n20 - Ch.11

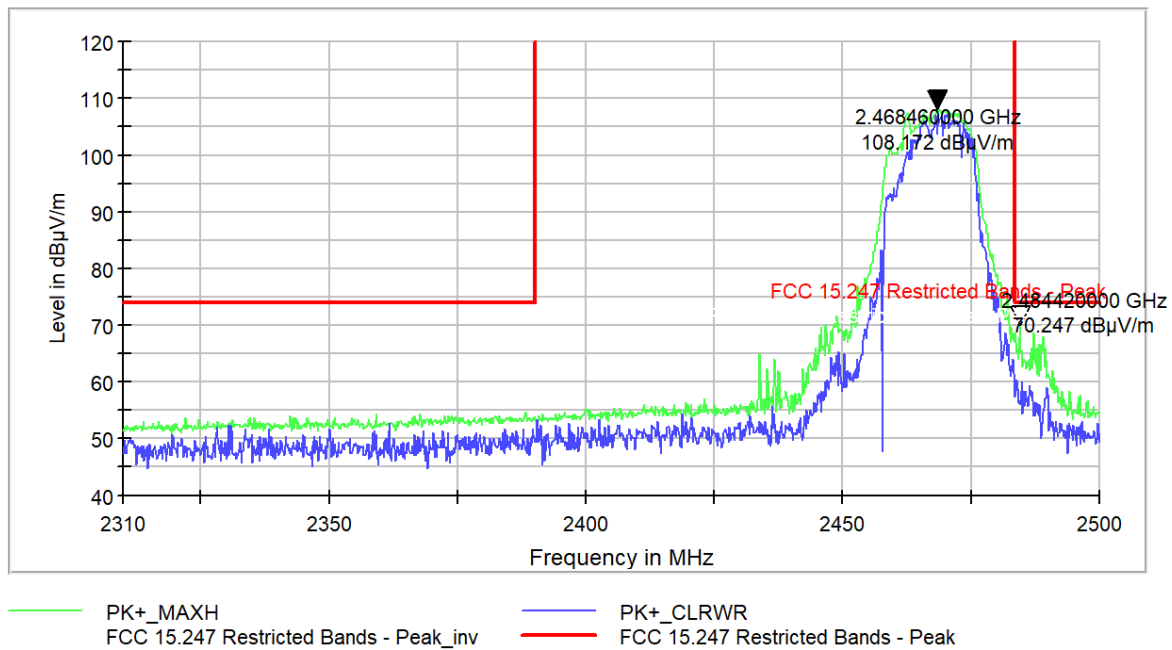


Figure 9-364 Radiated Band Edge Peak 802.11n20- Ch.12

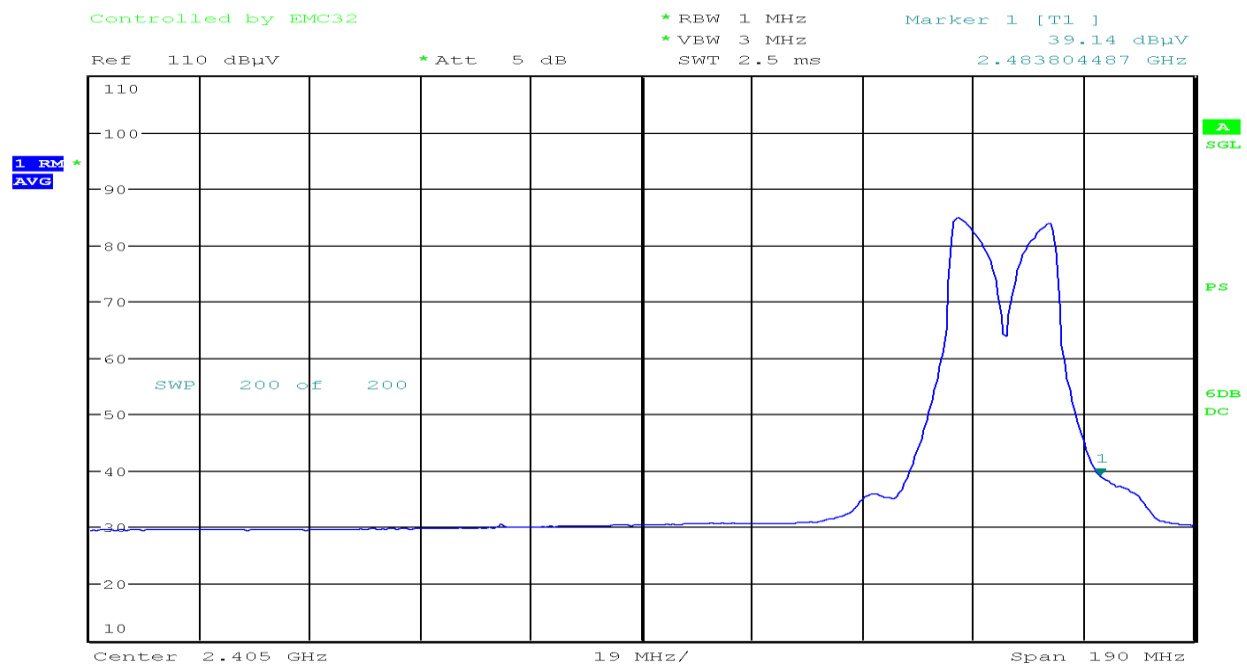


Figure 9-365 Radiated Band Edge Average 802.11n20 - Ch.12

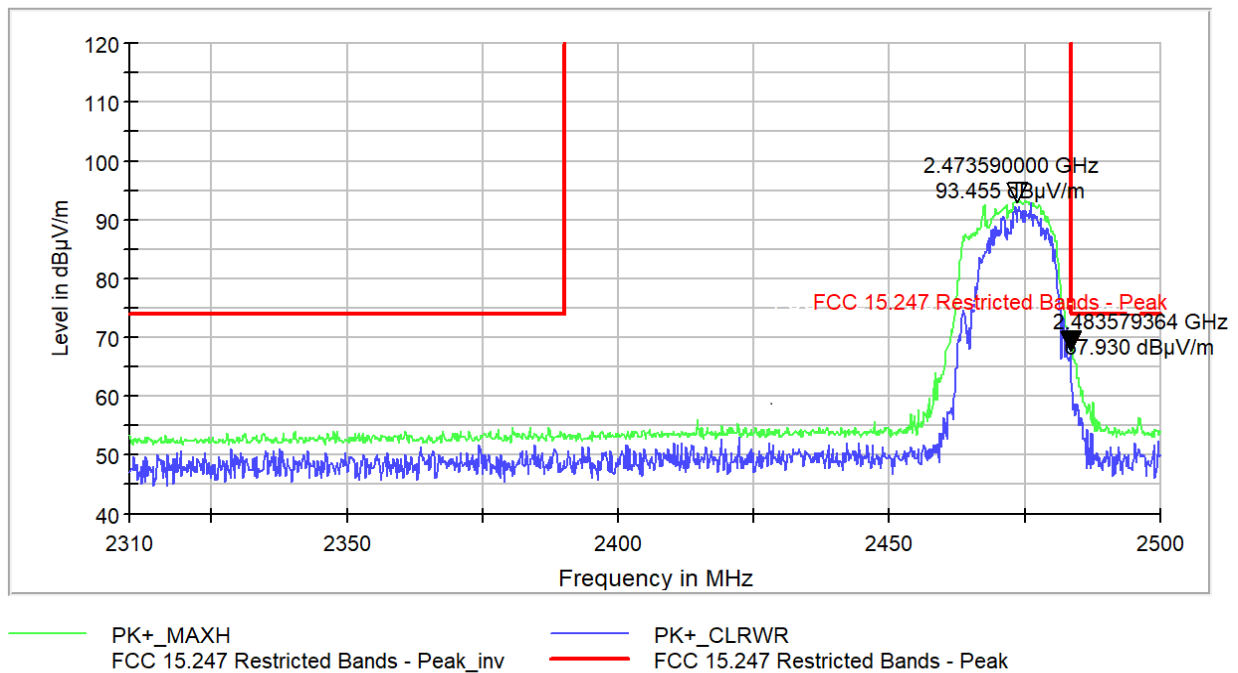


Figure 9-366 Radiated Band Edge Peak 802.11n20- Ch.13

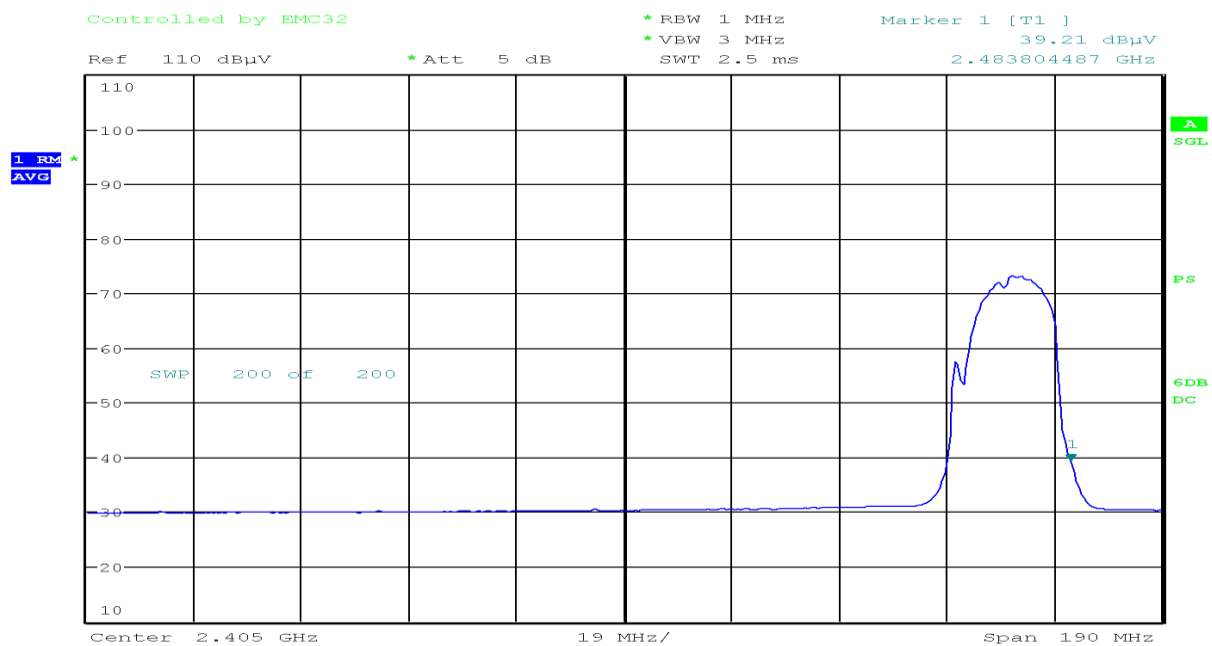


Figure 9-367 Radiated Band Edge Average 802.11n20 - Ch.13

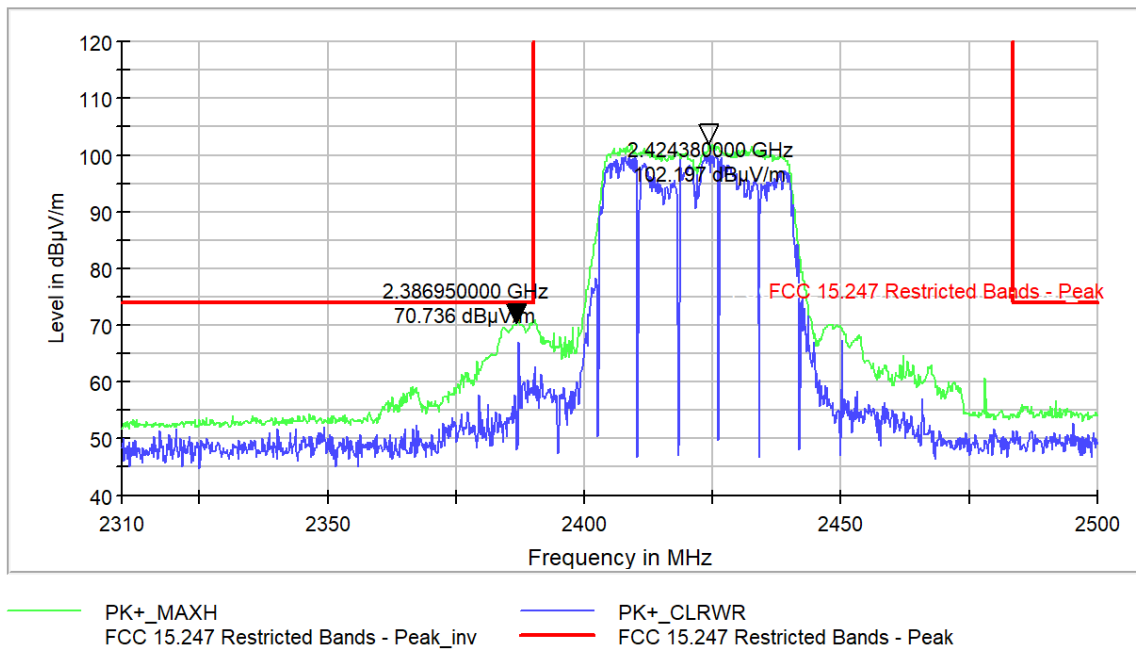


Figure 9-368 Radiated Band Edge Peak 802.11n40 – Ch3

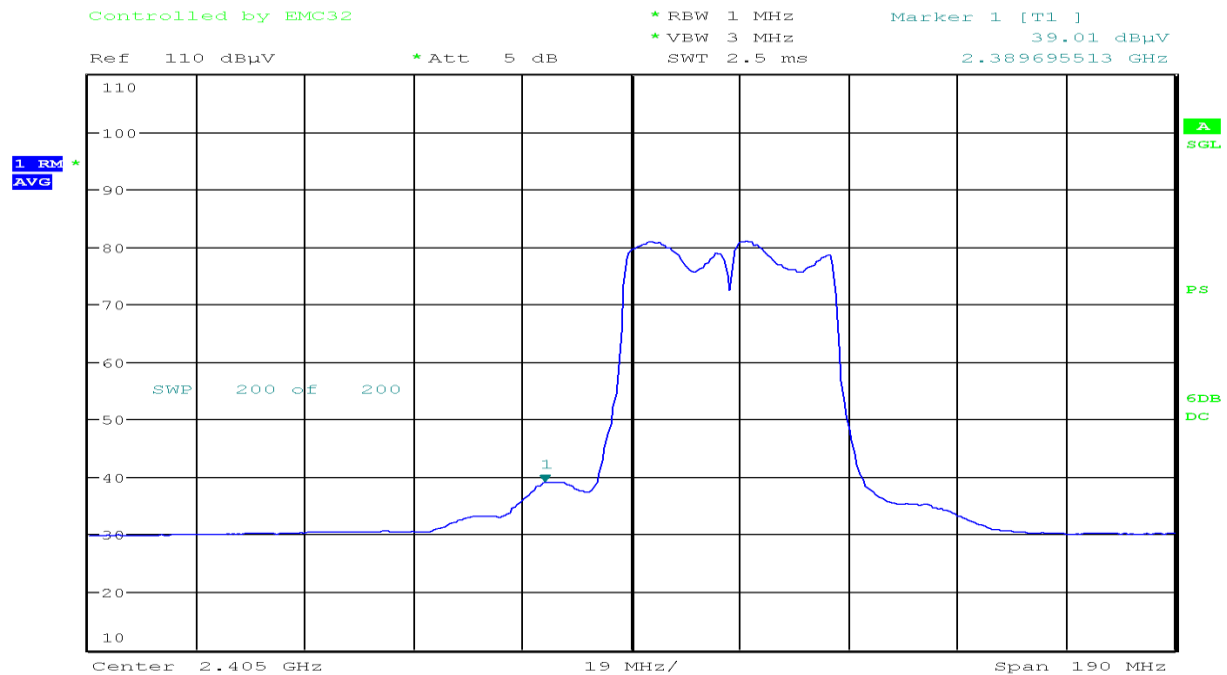


Figure 9-369 Radiated Band Edge Average 802.11n40 - Ch.3



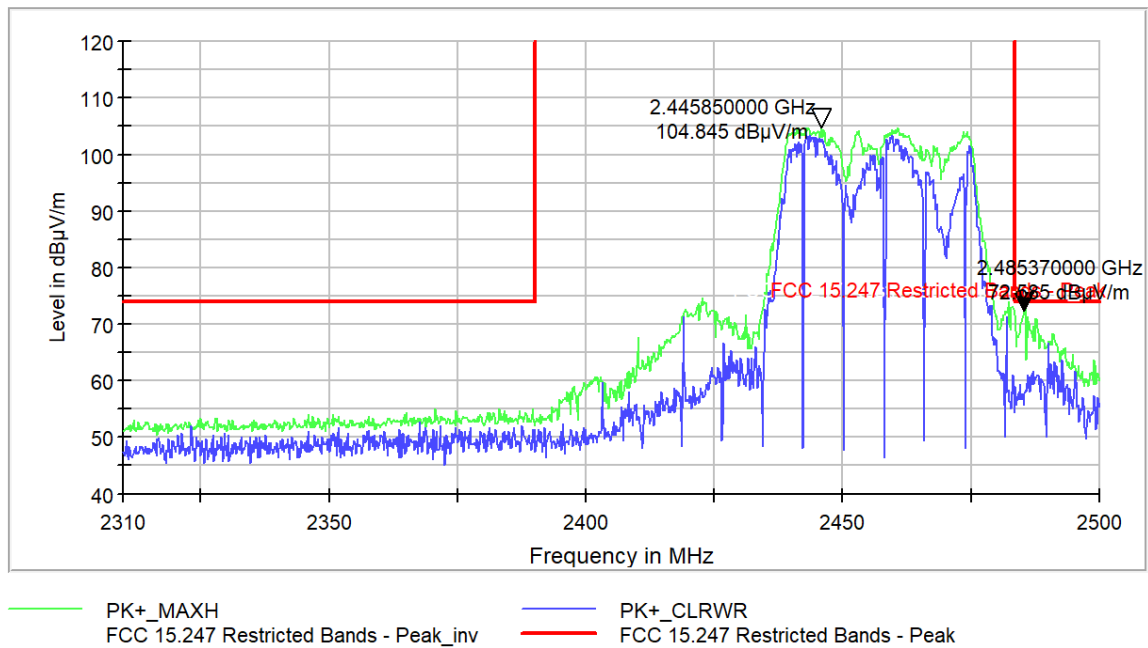


Figure 9-372 Radiated Band Edge Peak 802.11n40- Ch.10

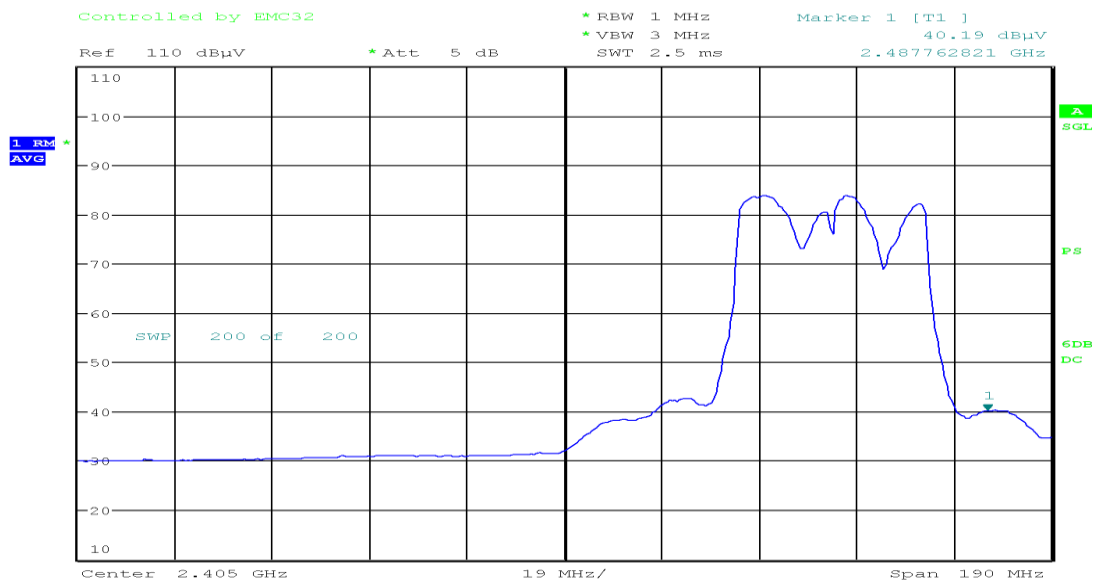


Figure 9-373 Radiated Band Edge Average 802.11n40 - Ch.10

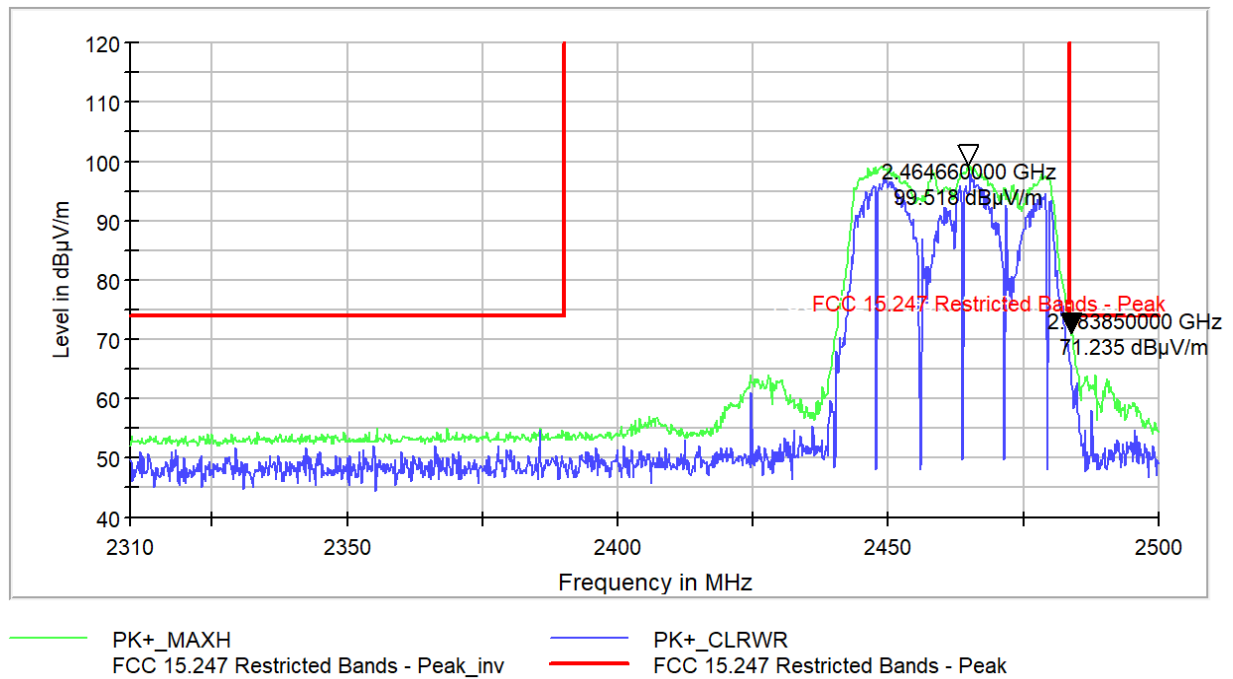


Figure 9-374 Radiated Band Edge Peak 802.11n40- Ch.11

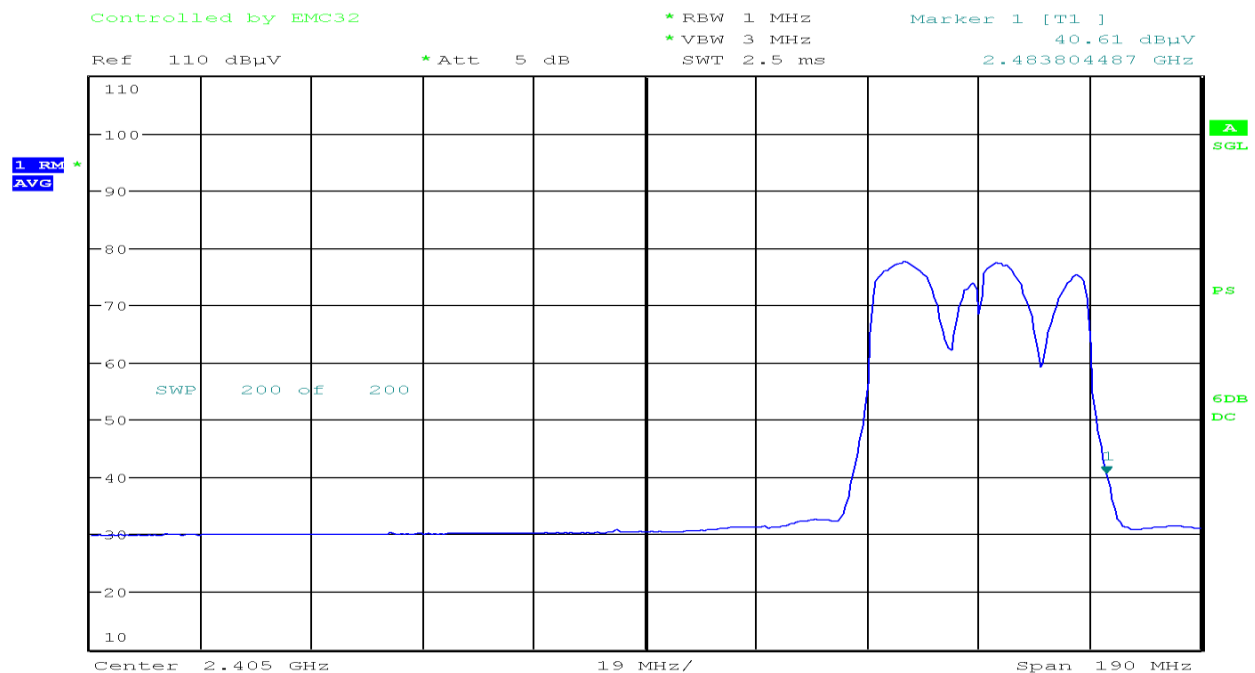


Figure 9-375 Radiated Band Edge Average 802.11n40 - Ch.11

9.9 AC Line Conducted Emissions

9.9.1 Test Requirements

FCC CFR 47 Rule Part 15.207 (a)

Innovation Science and Economic Development Canada RSS-Gen [8.8]

9.9.2 Test Method

Conducted power line measurements are made, unless otherwise specified, over the frequency range from 150 kHz to 30 MHz to determine the unsymmetrical radio-noise voltage that is conducted from the EUT power-input terminals that are directly (or indirectly via separate transformer or power supplies) connected to a public power network. Equipment is tested with the power cords that are used under normal operating conditions. These measurements are made using a LISN (Line Impedance Stabilization Network). AC powered peripherals are attached to a second LISN with the 50ohm measuring port terminated by a 50ohm resistive load.

The EUT is set to continuously transmit on Ch.6, 802.11n MIMO mode

EMI Receiver Settings:

150 kHz – 30 MHz:

RBW= 9 kHz

VBW $\geq 3 \times$ RBW

Trace Mode: Peak Detector (Max Hold).

Final measurements performed using Quasi-Peak and Average Detectors.

Span= 150 kHz – 30 MHz

Sweep time= Auto

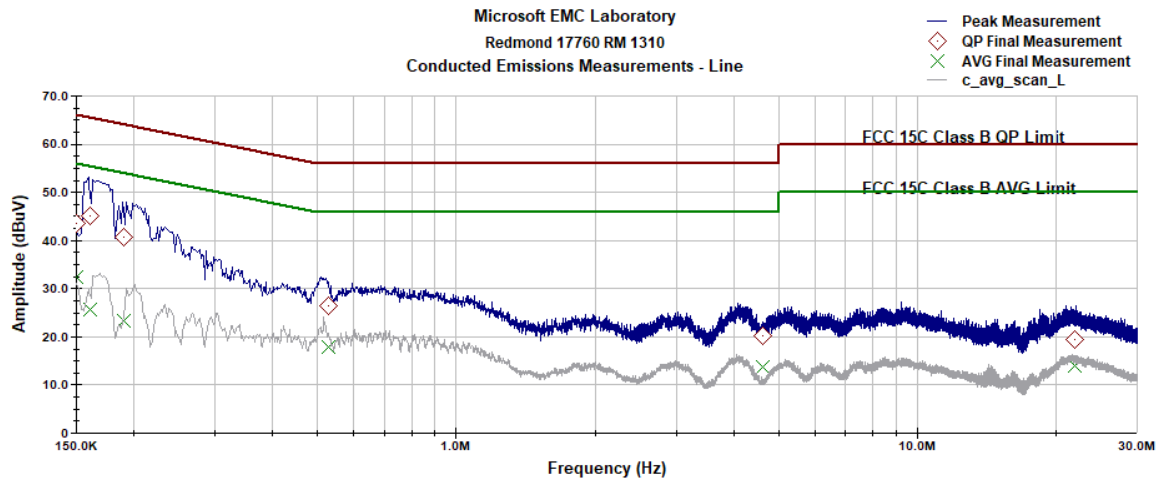
9.9.3 Limit

Frequency of emission (MHz)	Conducted limit (dB μ V)	
	Quasi-peak	Average
0.15-0.5	66 to 56*	56 to 46*
0.5-5	56	46
5-30	60	50

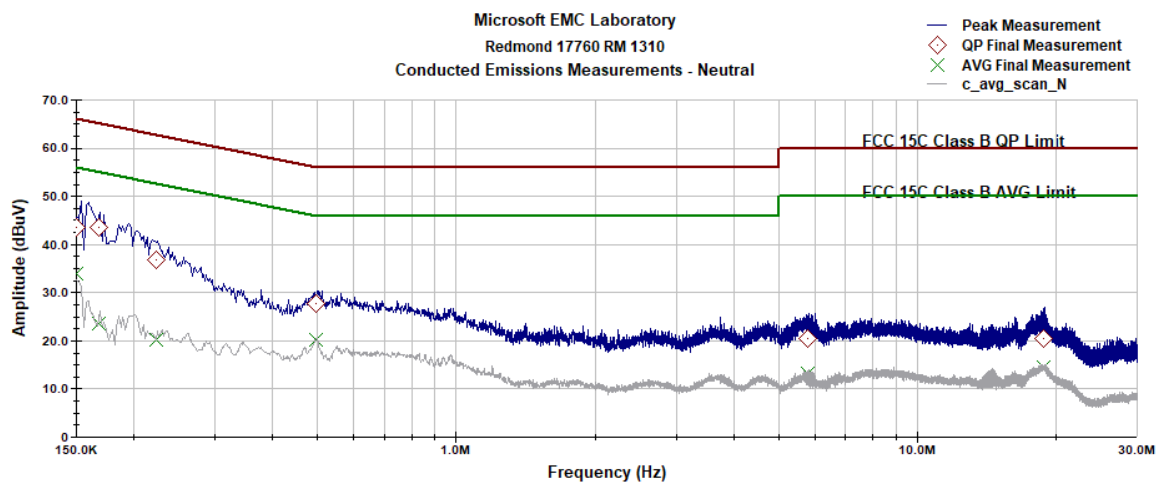
9.9.4 Test Result:

Pass

9.9.5 Test Data:



Plot 9-284 Conducted Emissions Measurements-Line



Plot 9-285 Conducted Emissions Measurements- Neutral

Frequency (MHz)	QP Net Reading (dBμV)	AVG Net Reading (dBμV)	Quasi-Peak Limit (dBμV)	Average Limit (dBμV)	Line Tested (L or N)	Quasi-Peak Margin (dB)	Average Margin (dB)
0.158	45.22	24.76	65.59	55.59	N	-20.37	-30.82
0.20	39.56	25.43	63.59	53.59	N	-24.03	-28.16
0.219	37.40	20.75	62.85	52.85	N	-25.46	-32.10
0.503	27.82	19.30	56.00	46.00	N	-28.18	-26.70
18.533	20.17	14.26	60.00	50.00	N	-39.83	-35.75
5.77	19.90	12.04	60.00	50.00	N	-40.10	-37.96
0.172	43.31	23.68	64.85	54.85	L	-21.54	-31.18
0.153	41.66	30.32	65.84	55.84	L	-24.18	-25.53
0.203	39.22	24.15	63.49	53.49	L	-24.28	-29.35
0.235	36.78	21.67	62.28	52.28	L	-25.50	-30.61
0.501	28.39	19.58	56.00	46.00	L	-27.61	-26.42
4.01	17.40	11.69	56.00	46.00	L	-38.60	-34.31

End of Report