

9.7.5.7 Radiated Emissions in 1-18 GHz range 802.11ac VHT80

RSE - 18GHz Average Data – 802.11ac VHT40 Simultaneous Transmission							
Channel No.	Carrier Frequency (MHz)	Emission Frequency (MHz)	Raw Avg. Amplitude (dBµV)	Correction Factor (dB)	Corrected Avg. Field Strength (dBµV/m)	Average Limit (dBµV/m)	Margin (dB)
42	5210	15616.14	24.05	19.9	43.95	54	-10.05
58	5290	No emissions observed above the noise floor					
106	5530	No emissions observed above the noise floor					
122	5610	No emissions observed above the noise floor					
138	5690	No emissions observed above the noise floor					
155	5755	No emissions observed above the noise floor					

RSE - 18GHz Peak Data – 802.11ac VHT40 Simultaneous Transmission							
Channel No.	Carrier Frequency (MHz)	Emission Frequency (MHz)	Raw Peak Amplitude (dBµV)	Correction Factor (dB)	Corrected Peak Field Strength (dBµV/m)	Peak Limit (dBµV/m)	Margin (dB)
42	5210	15616.20	36.36	19.9	56.26	74	-17.74
58	5290	No emissions observed above the noise floor					
106	5530	No emissions observed above the noise floor					
122	5610	No emissions observed above the noise floor					
138	5690	No emissions observed above the noise floor					
155	5755	No emissions observed above the noise floor					

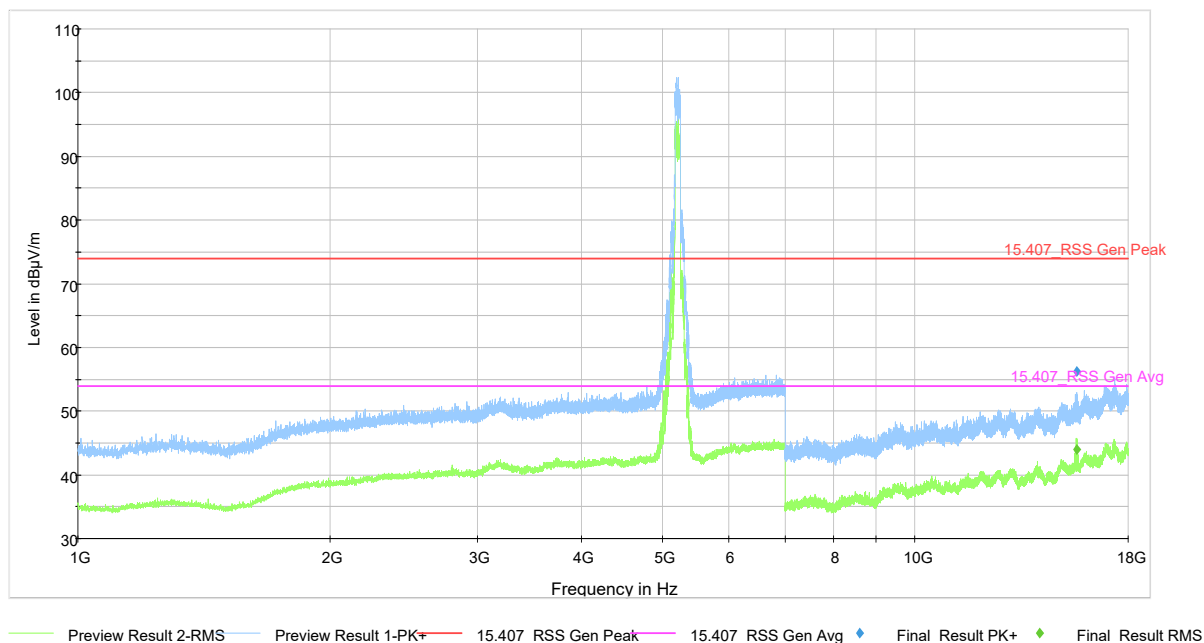


Figure 653. Radiated Spurious Emissions 1-18 GHz Tx Chains A & B 802.11ac VHT80 (Ch. 42)

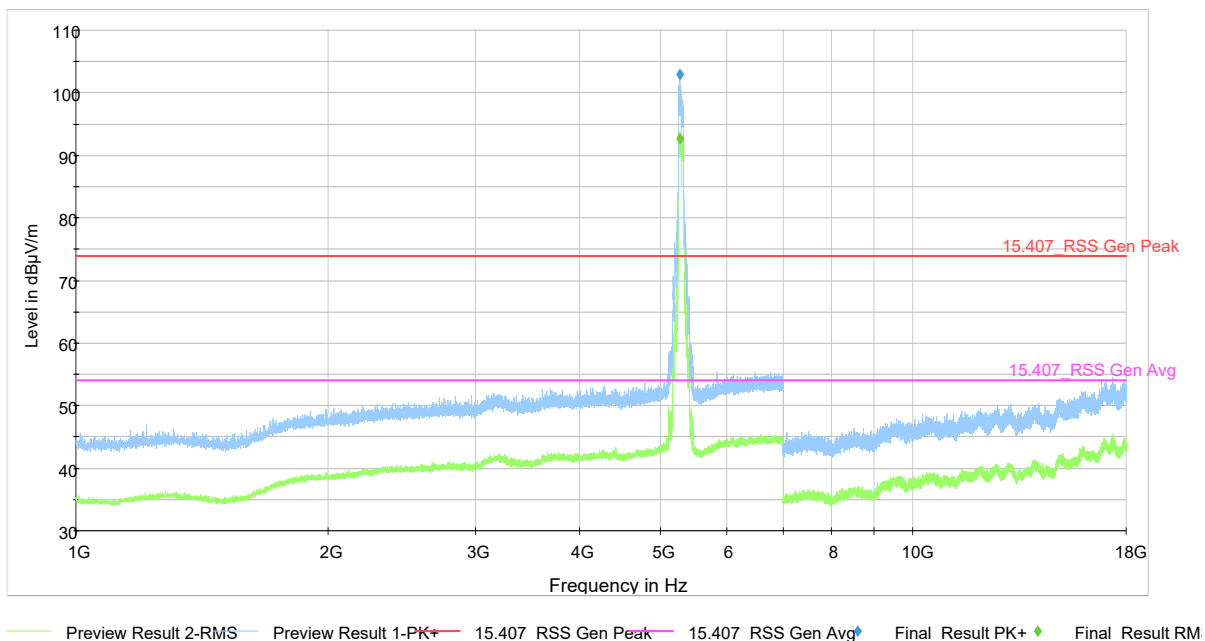


Figure 654. Radiated Spurious Emissions 1-18 GHz Tx Chains A & B 802.11ac VHT80 (Ch. 58)

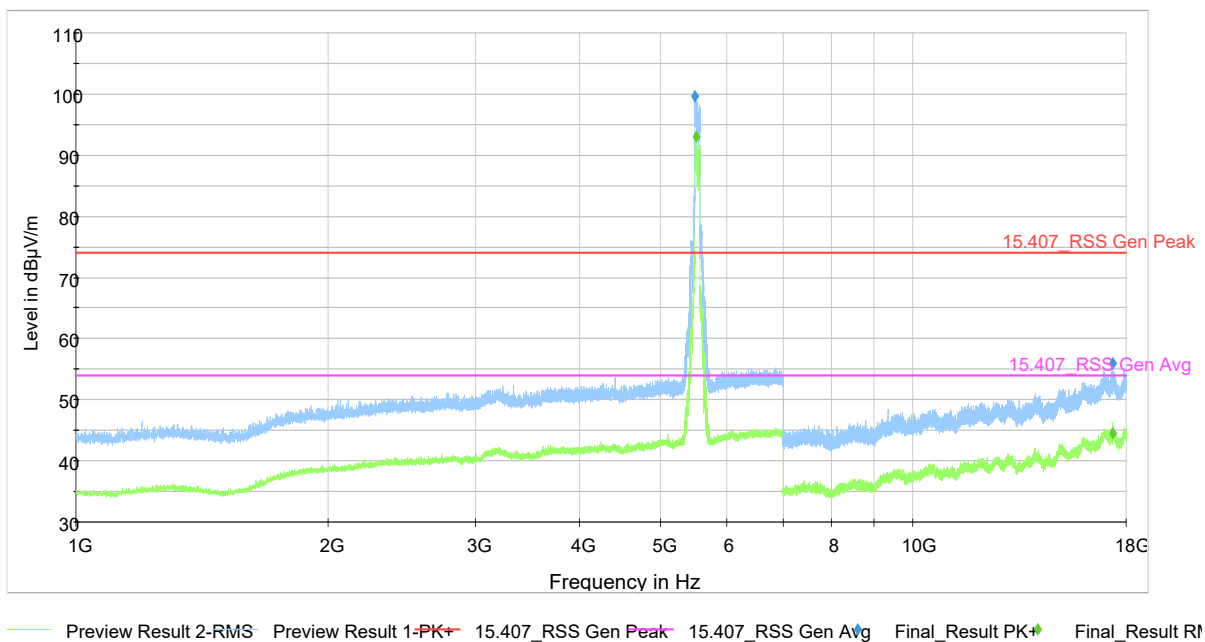


Figure 655. Radiated Spurious Emissions 1-18 GHz Tx Chains A & B 802.11ac VHT80 (Ch. 106)

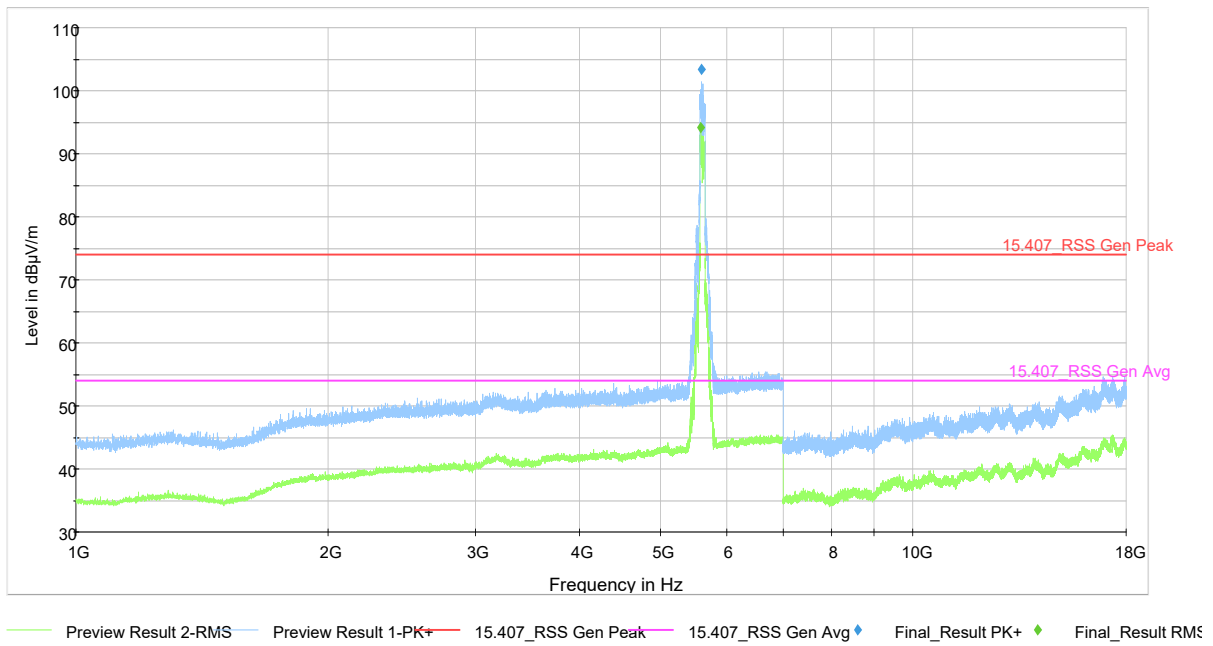


Figure 656. Radiated Spurious Emissions 1-18 GHz Tx Chains A & B 802.11ac VHT80 (Ch. 122)

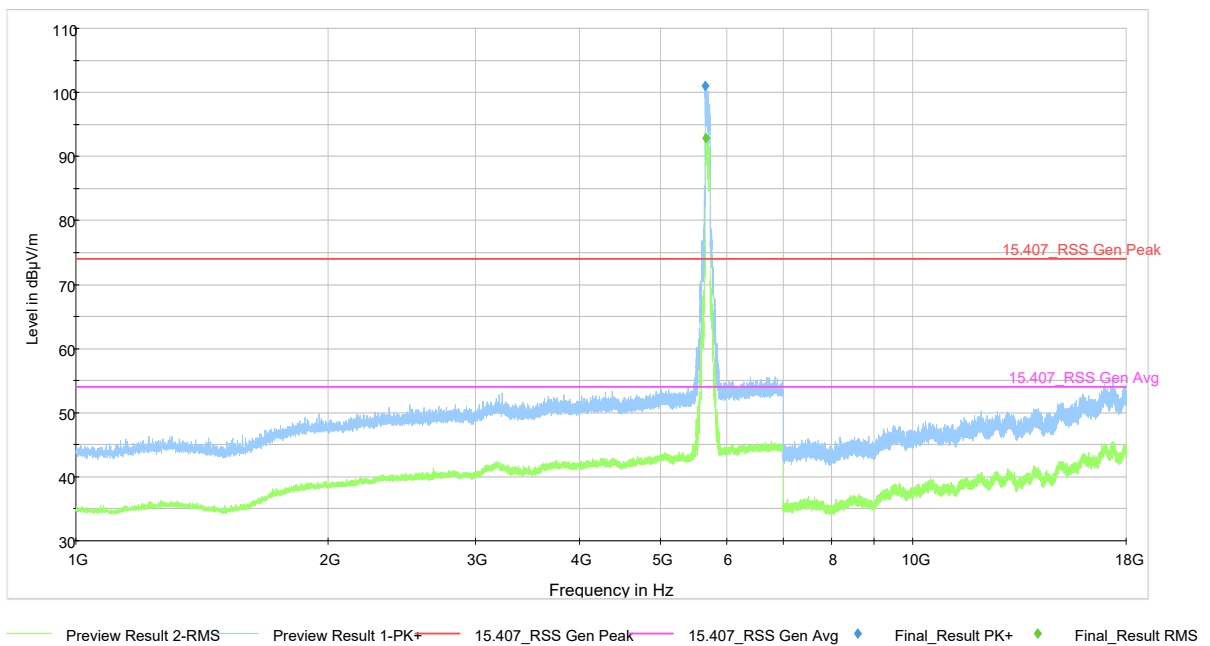


Figure 657. Radiated Spurious Emissions 1-18 GHz Tx Chains A & B 802.11ac VHT80 (Ch. 138)

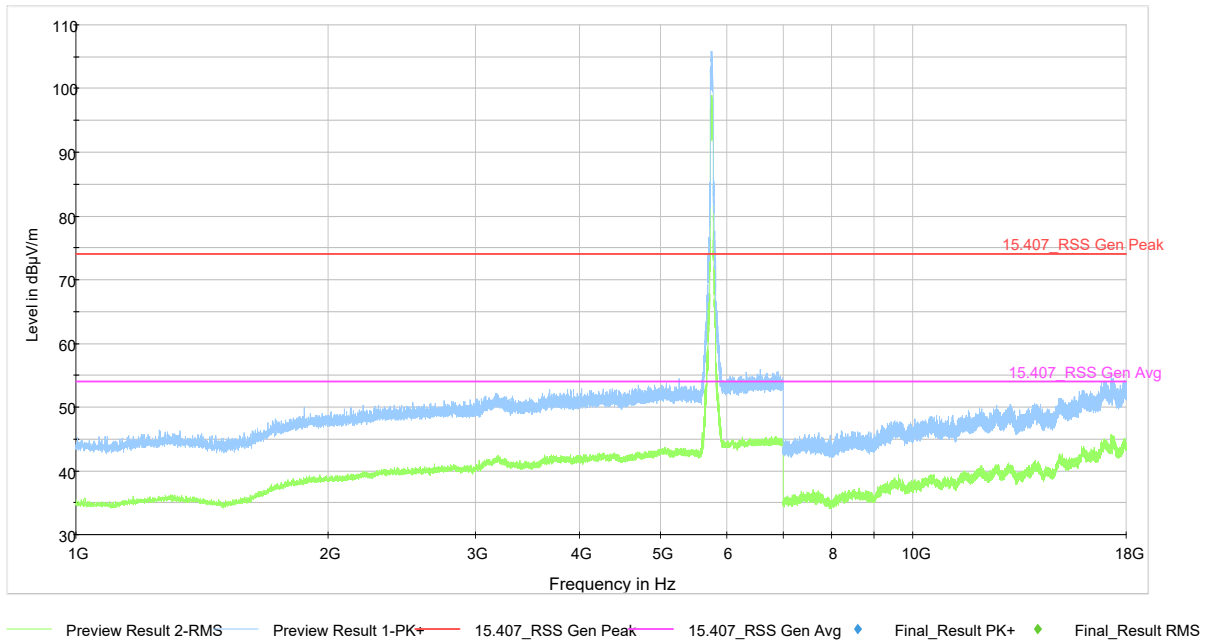
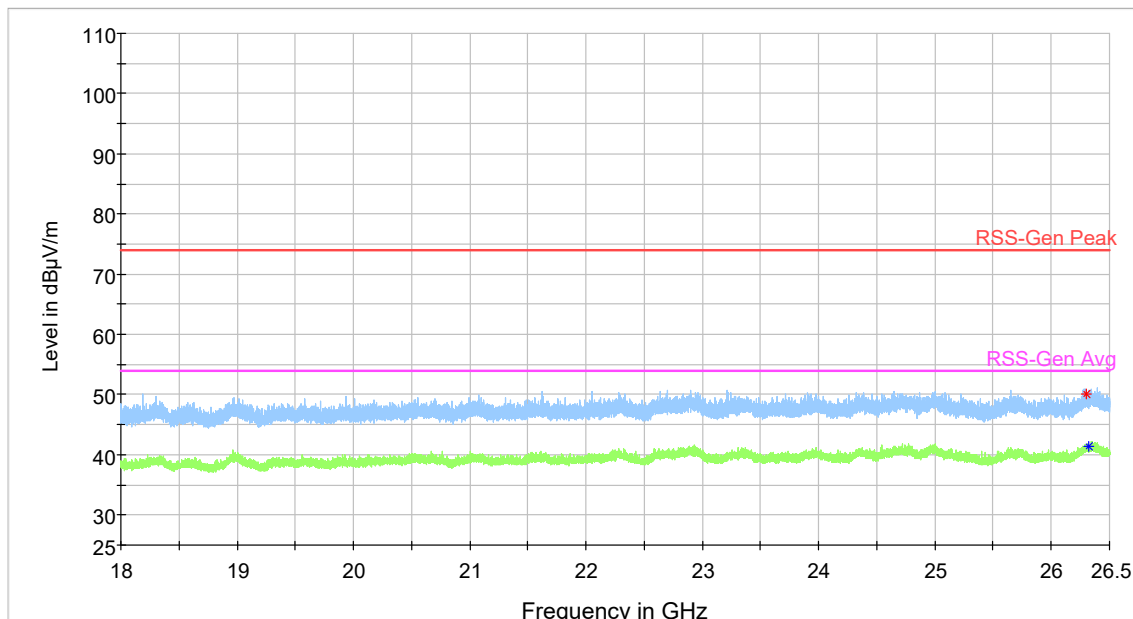


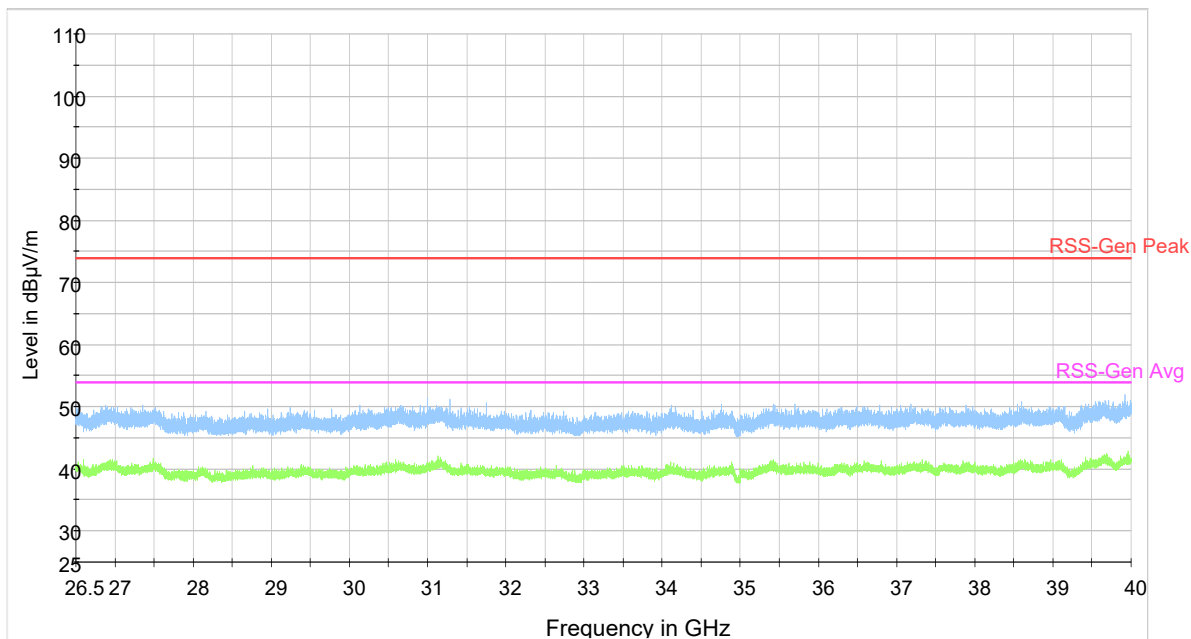
Figure 658. Radiated Spurious Emissions 1-18 GHz Tx Chains A & B 802.11ac VHT80 (Ch. 155)

9.7.5.8 Emissions in 18-40 GHz range

No significant emissions to report above noise floor.
 Worst case data representation shown here.



— Preview Result 2-RMS — Preview Result 1-PK+ * Critical_Freqs RMS
* Critical_Freqs PK+ — RSS-Gen Peak — RSS-Gen Avg
◆ Final_Result PK+ ◆ Final_Result RMS



— Preview Result 2-RMS — Preview Result 1-PK+ * Critical_Freqs RMS * Critical_Freqs PK+
— RSS-Gen Peak — RSS-Gen Avg ◆ Final_Result PK+ ◆ Final_Result RMS

Figure 659. Radiated Spurious Emissions 18-40 GHz Tx Chains A & B 802.11a (Ch. 165)

9.7.5.9 Radiated Restricted Band-edge emissions 802.11a

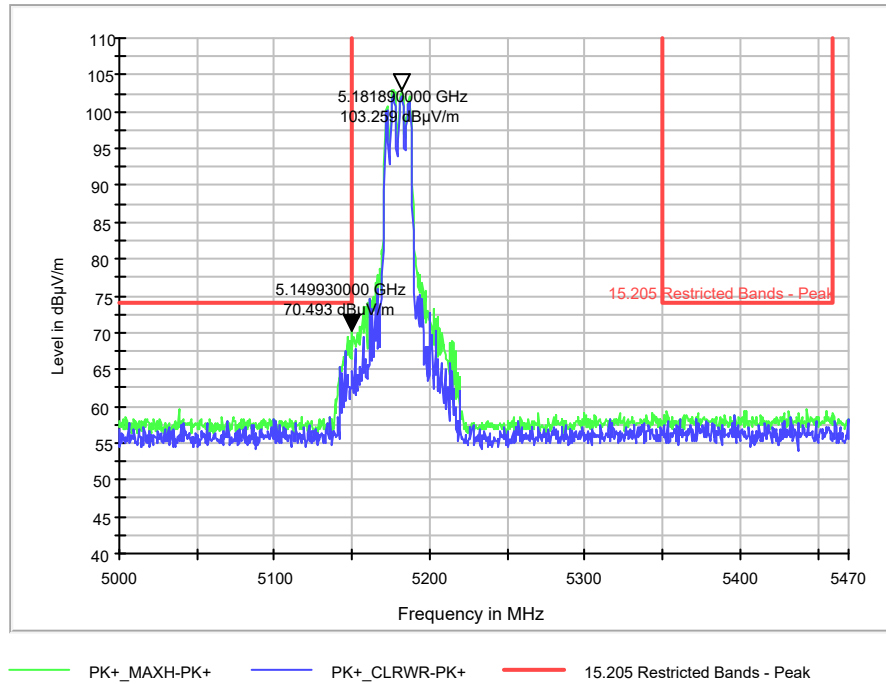


Figure 660. Peak Radiated Band Edge Emissions Tx Chains A & B 802.11a (Ch. 36)

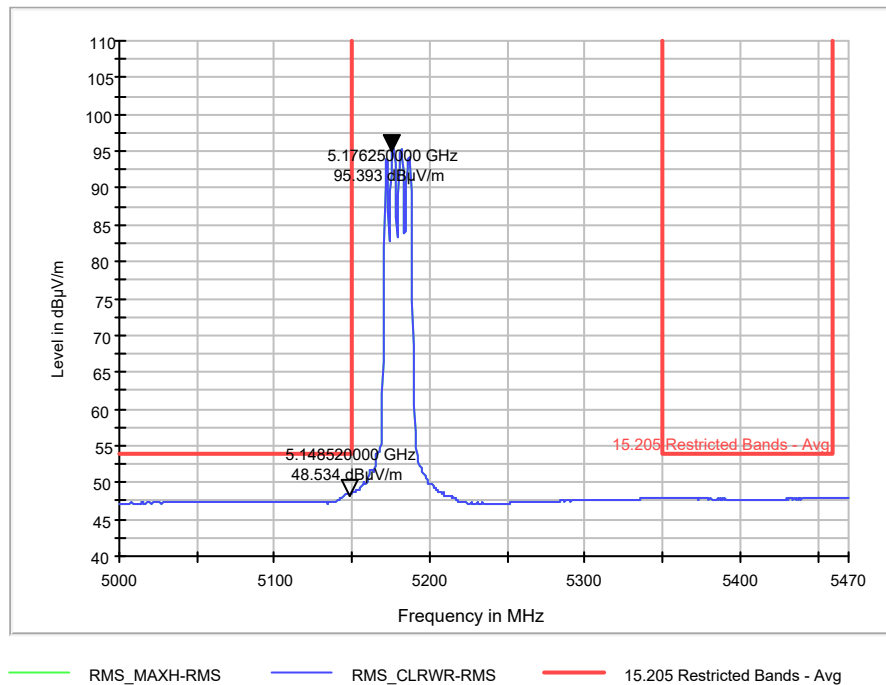


Figure 661. Average Radiated Band Edge Emissions Tx Chains A & B 802.11a (Ch. 36)

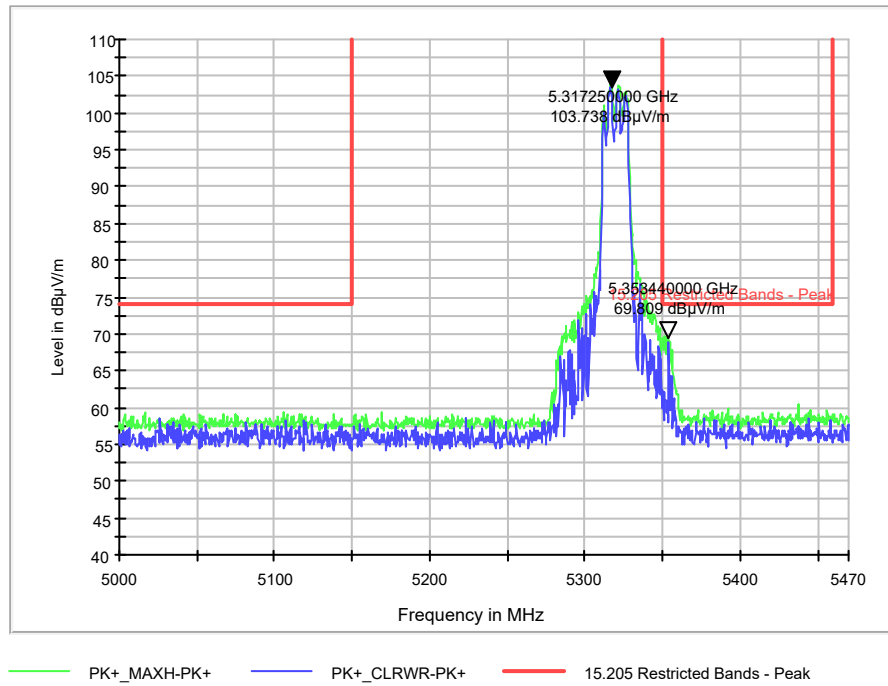


Figure 662. Peak Radiated Band Edge Emissions Tx Chains A & B 802.11a (Ch. 64)

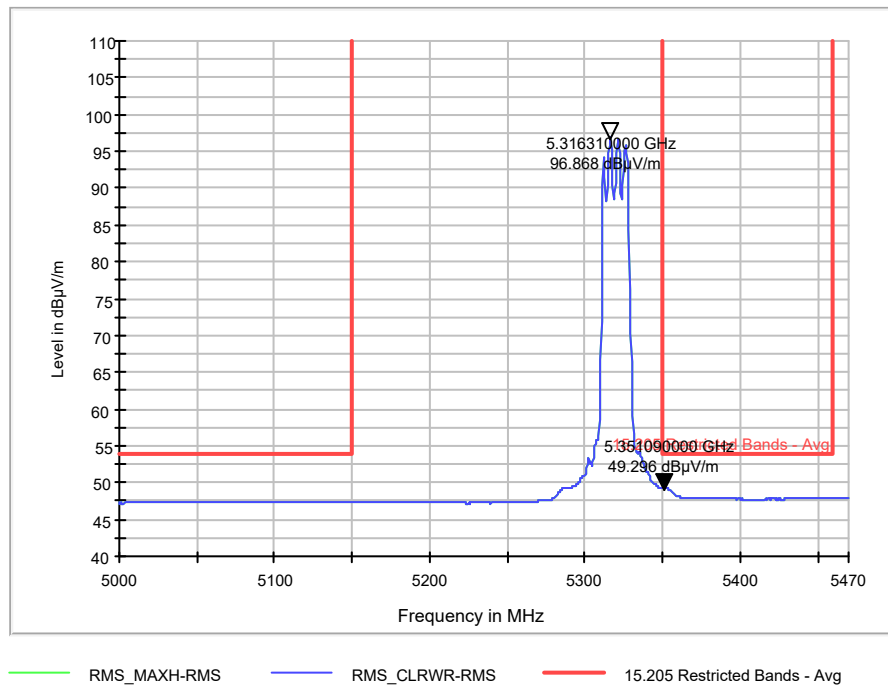


Figure 663. Average Radiated Band Edge Emissions Tx Chains A & B 802.11a (Ch. 64)

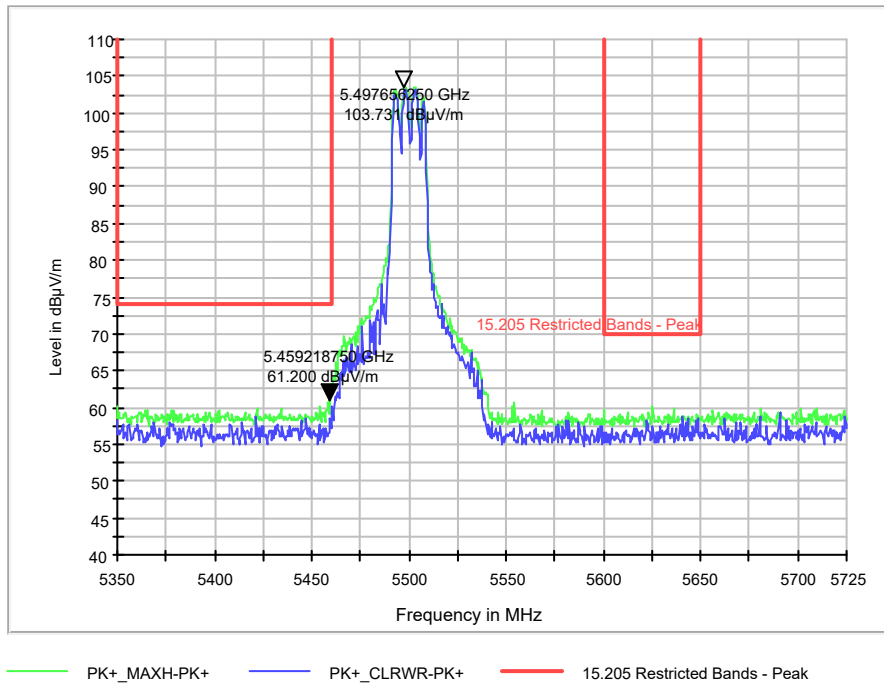


Figure 664. Peak Radiated Band Edge Emissions Tx Chains A & B 802.11a (Ch. 100)

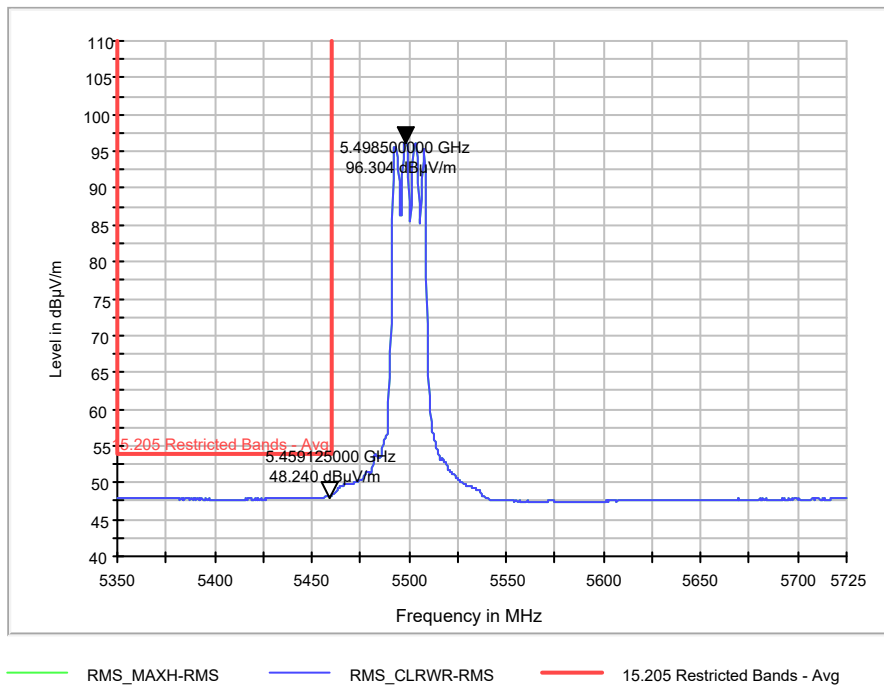


Figure 665. Average Radiated Band Edge Emissions Tx Chains A & B 802.11a (Ch. 100)

9.7.5.10 Radiated Restricted Band-edge emissions 802.11n HT20

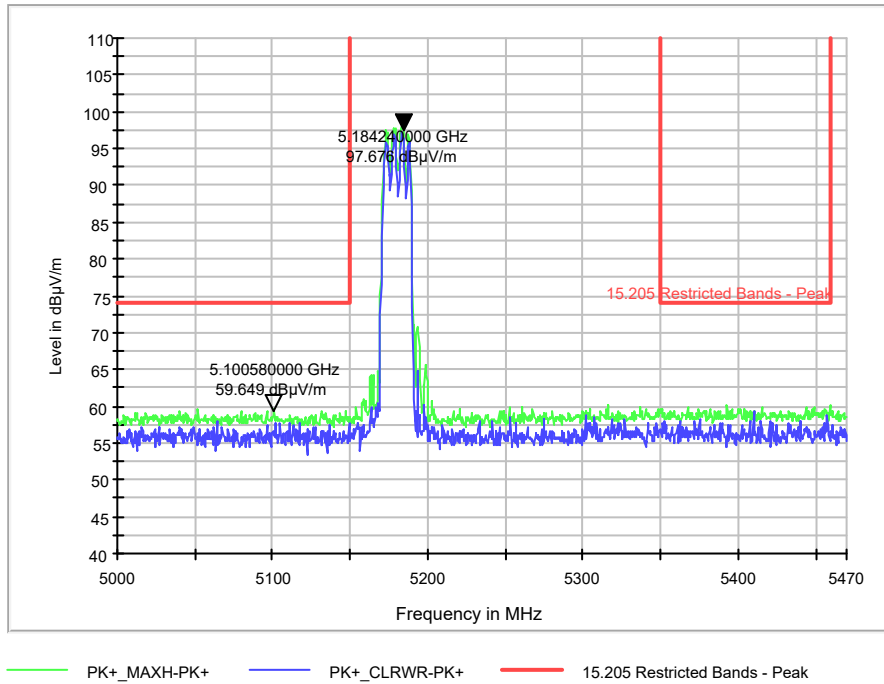


Figure 666. Peak Radiated Band Edge Emissions Tx Chains A & B 802.11n HT20 (Ch. 36)

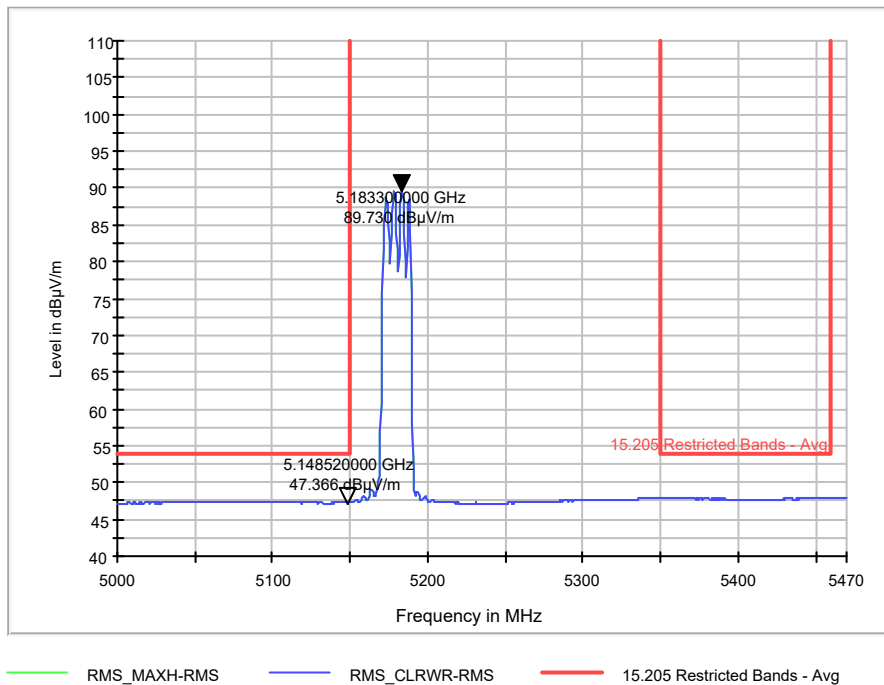


Figure 667. Average Radiated Band Edge Emissions Tx Chains A & B 802.11n HT20 (Ch. 36)

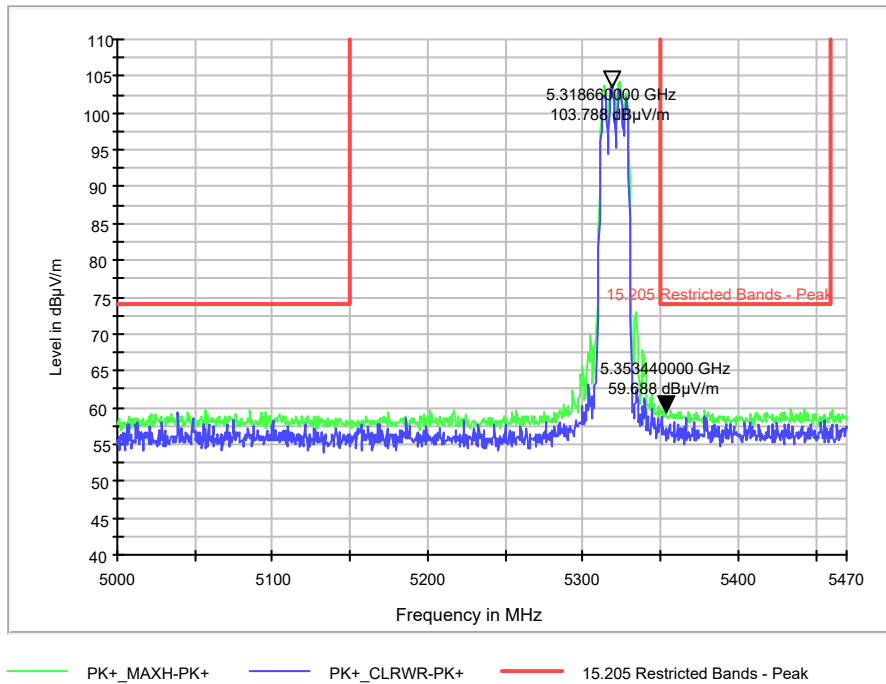


Figure 668. Peak Radiated Band Edge Emissions Tx Chains A & B 802.11n HT20 (Ch. 64)

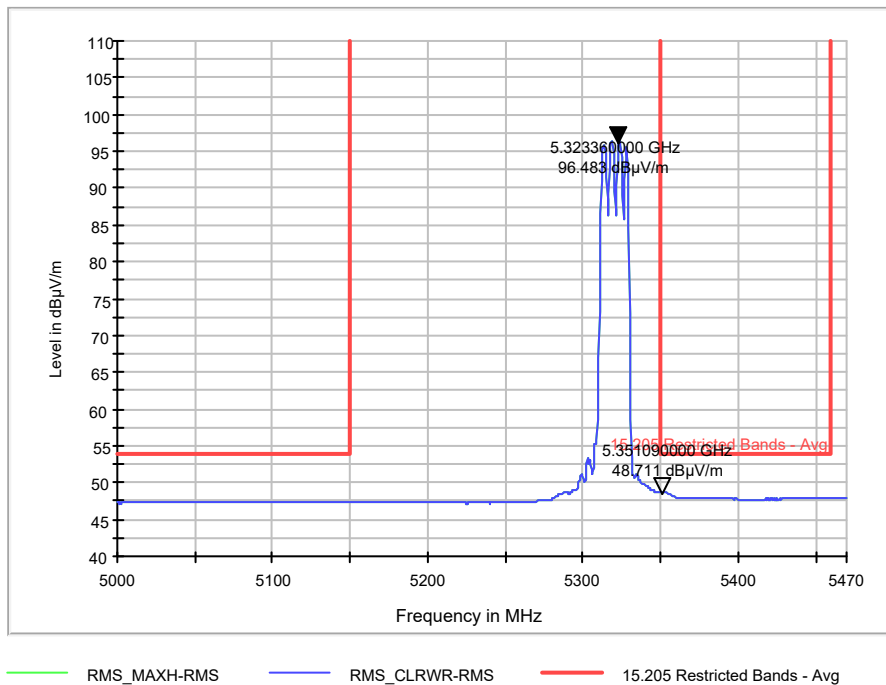


Figure 669. Average Radiated Band Edge Emissions Tx Chains A & B 802.11n HT20 (Ch. 64)

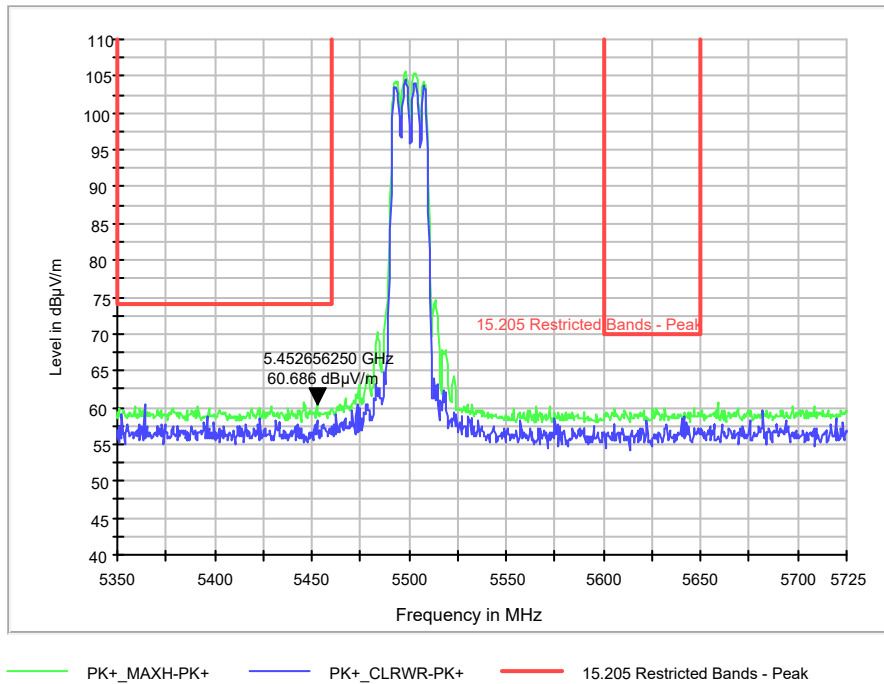


Figure 670. Peak Radiated Band Edge Emissions Tx Chains A & B 802.11n HT20 (Ch. 100)

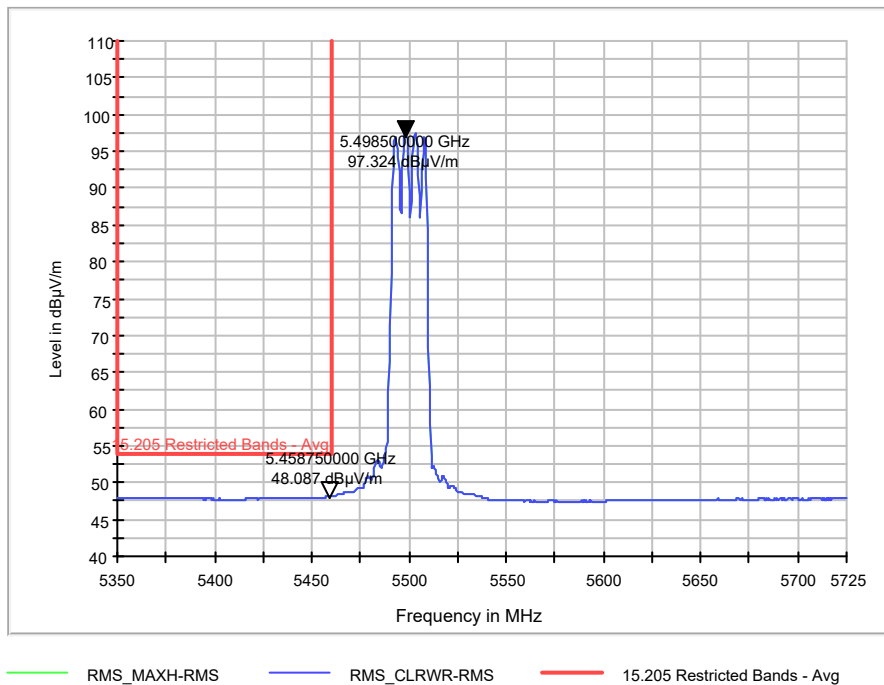


Figure 671. Average Radiated Band Edge Emissions Tx Chains A & B 802.11n HT20 (Ch. 100)

9.7.5.11 Radiated Restricted Band-edge emissions 802.11ac VHT20

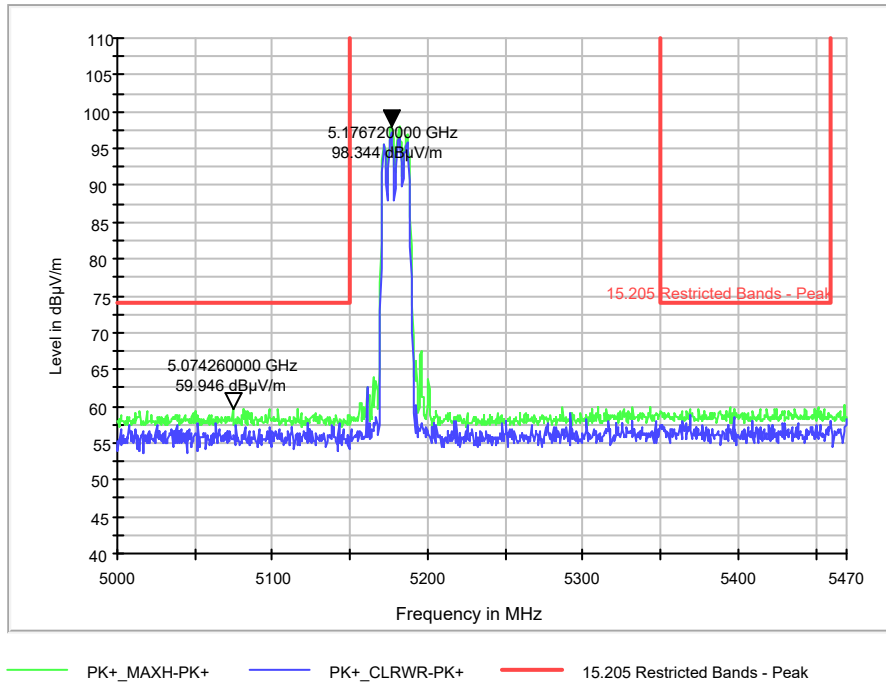


Figure 672. Peak Radiated Band Edge Emissions Tx Chains A & B 802.11ac VHT20 (Ch. 36)

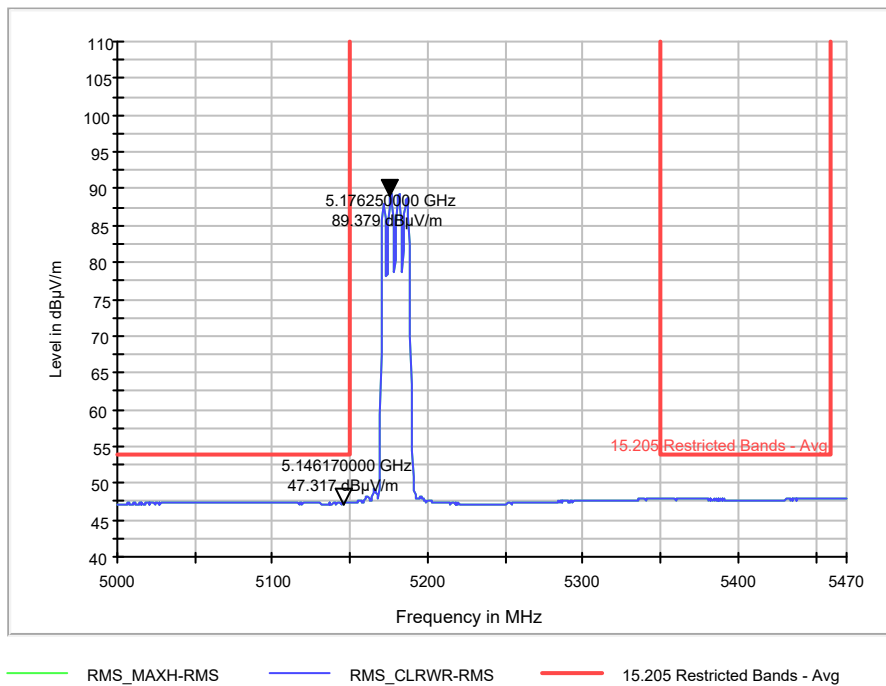


Figure 673. Average Radiated Band Edge Emissions Tx Chains A & B 802.11ac VHT20 (Ch. 36)

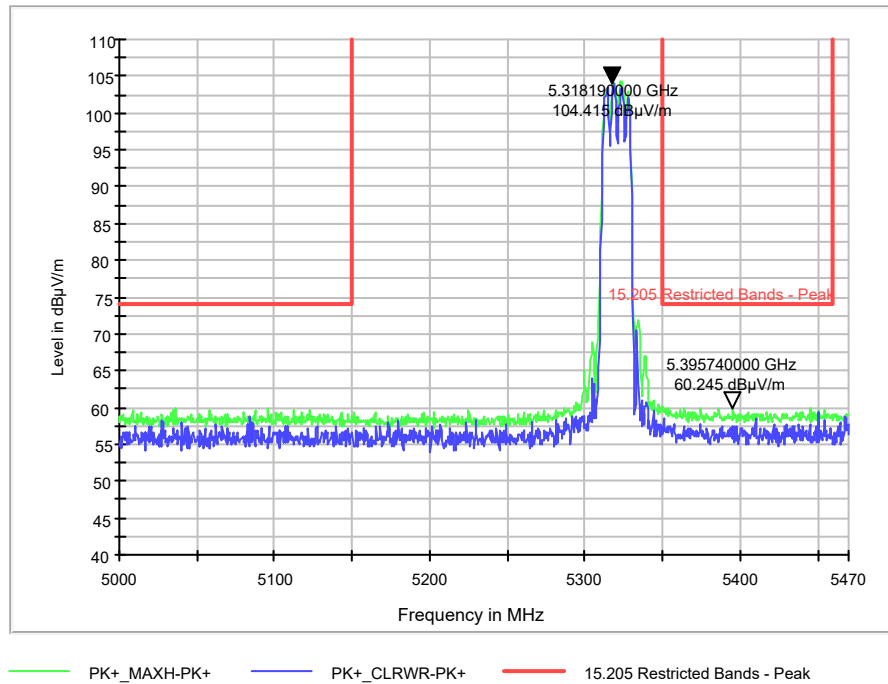


Figure 674. Peak Radiated Band Edge Emissions Tx Chains A & B 802.11ac VHT20 (Ch. 64)

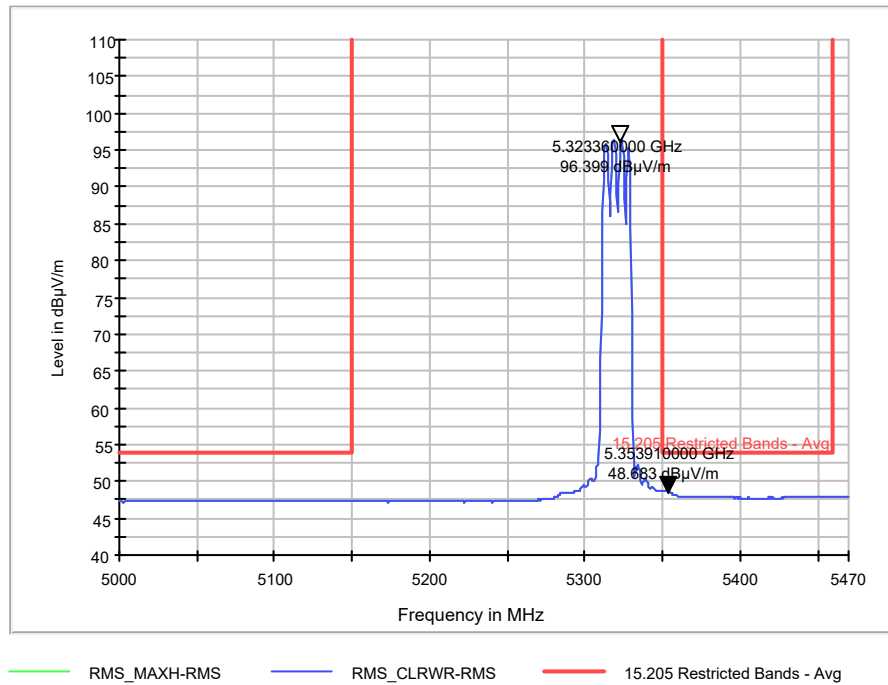


Figure 675. Average Radiated Band Edge Emissions Tx Chains A & B 802.11ac VHT20 (Ch. 64)

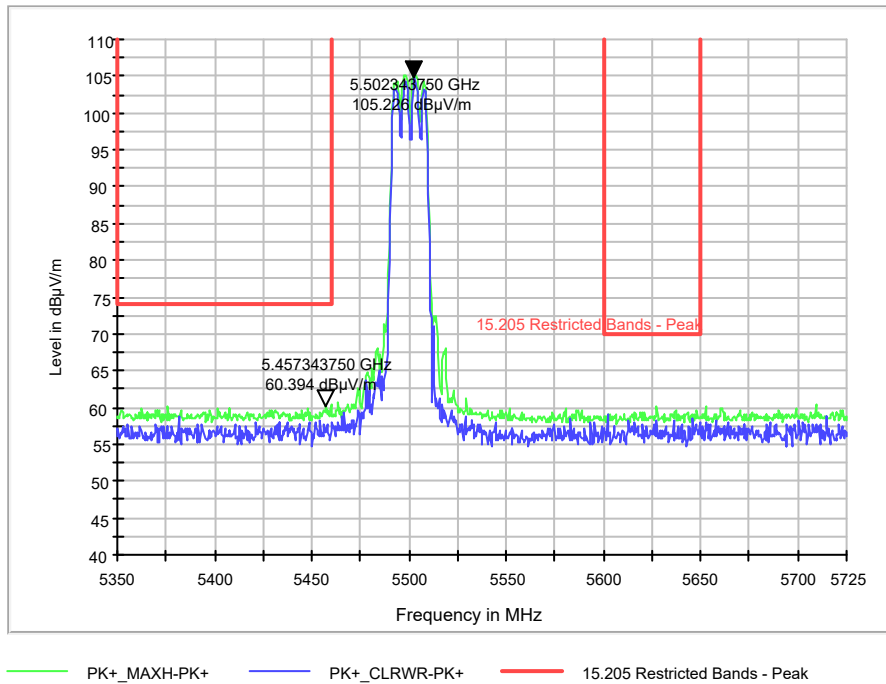


Figure 676. Peak Radiated Band Edge Emissions Tx Chains A & B 802.11ac VHT20 (Ch. 100)

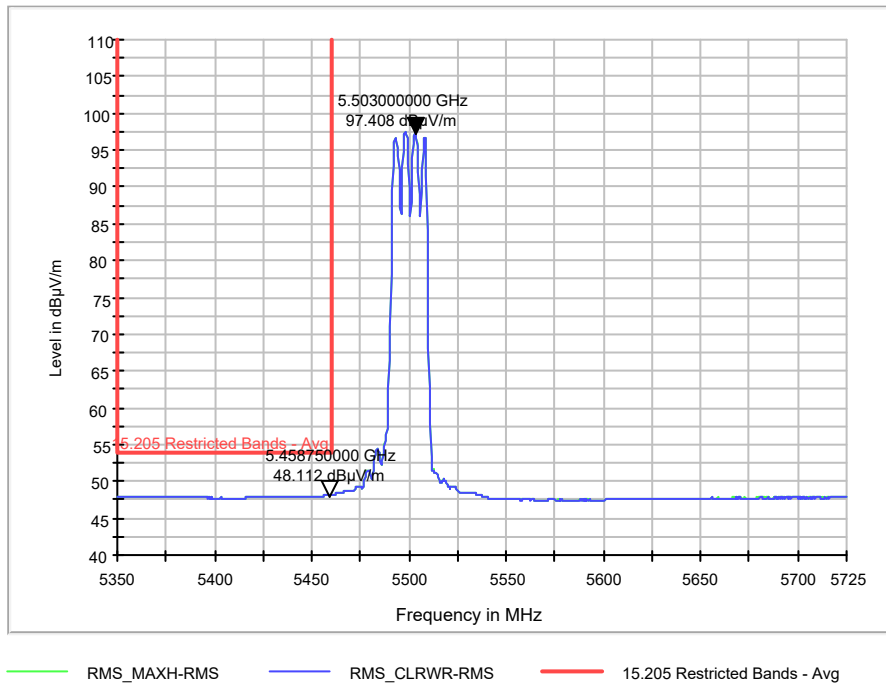


Figure 677. Average Radiated Band Edge Emissions Tx Chains A & B 802.11ac VHT20 (Ch. 100)

9.7.5.12 Radiated Restricted Band-edge emissions 802.11n HT40

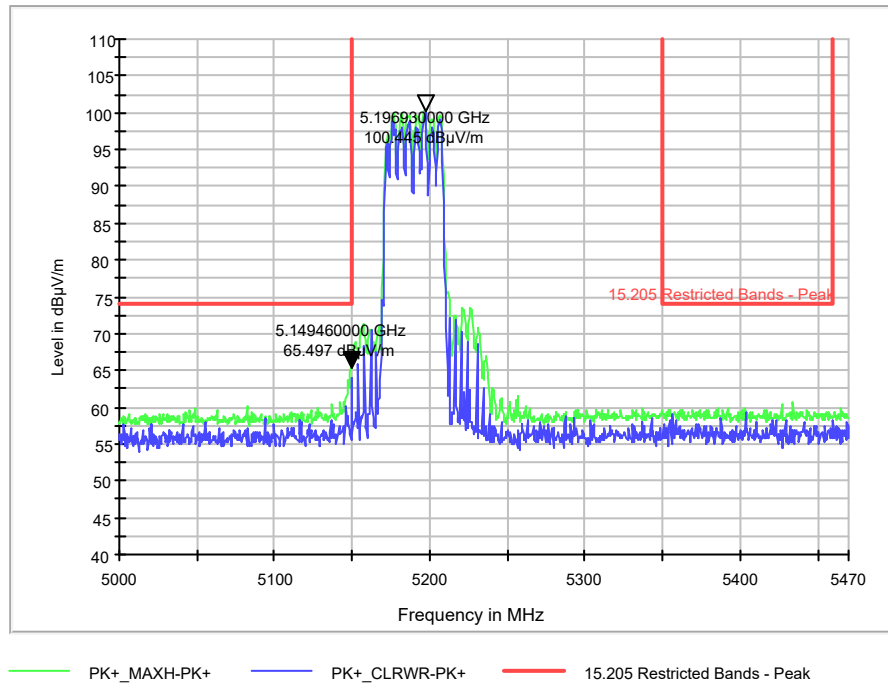


Figure 678. Peak Radiated Band Edge Emissions Tx Chains A & B 802.11n HT40 (Ch. 38)

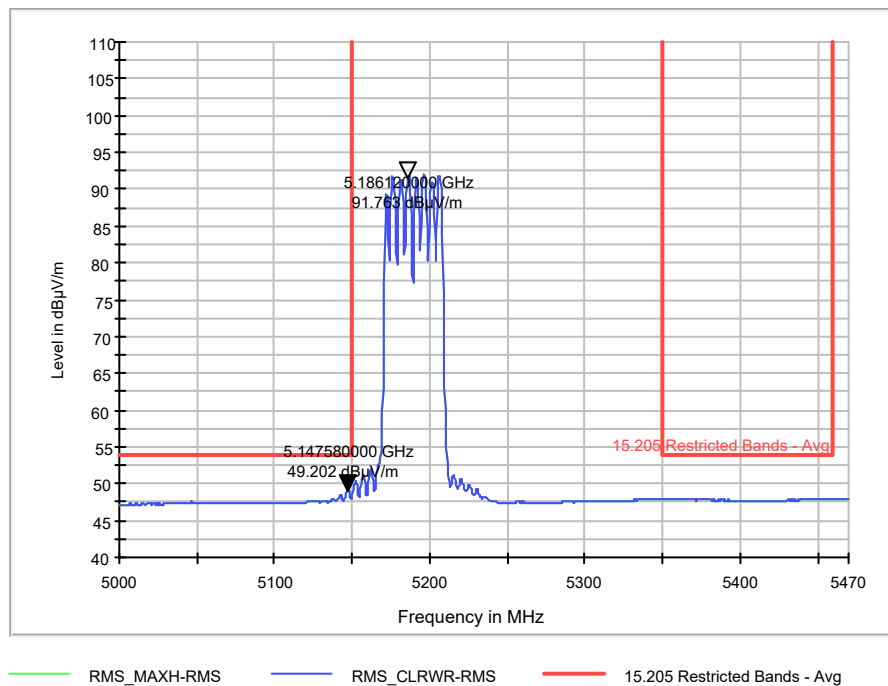


Figure 679. Average Radiated Band Edge Emissions Tx Chains A & B 802.11n HT40 (Ch. 38)

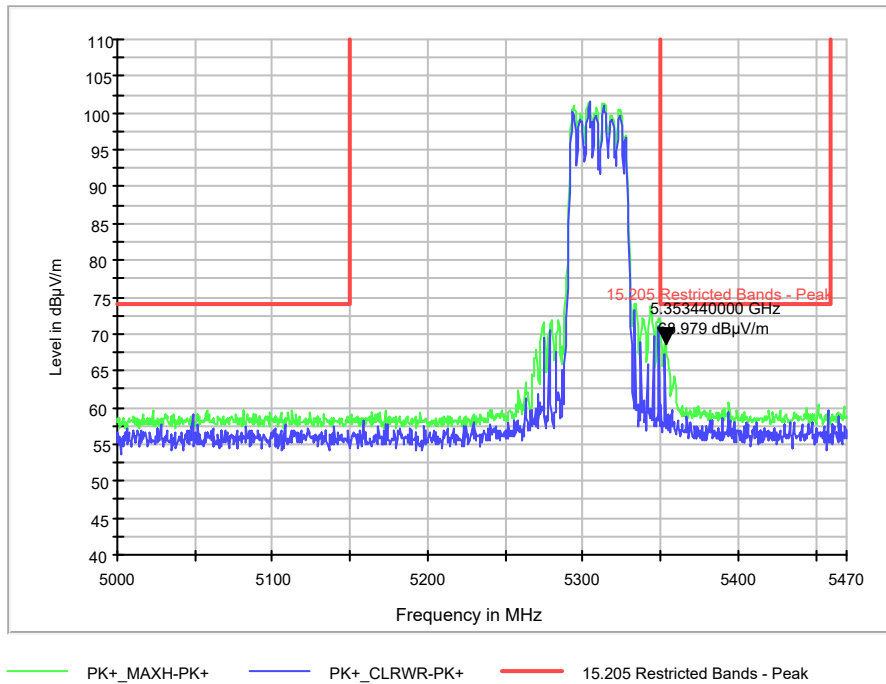


Figure 680. Peak Radiated Band Edge Emissions Tx Chains A & B 802.11n HT40 (Ch. 62)

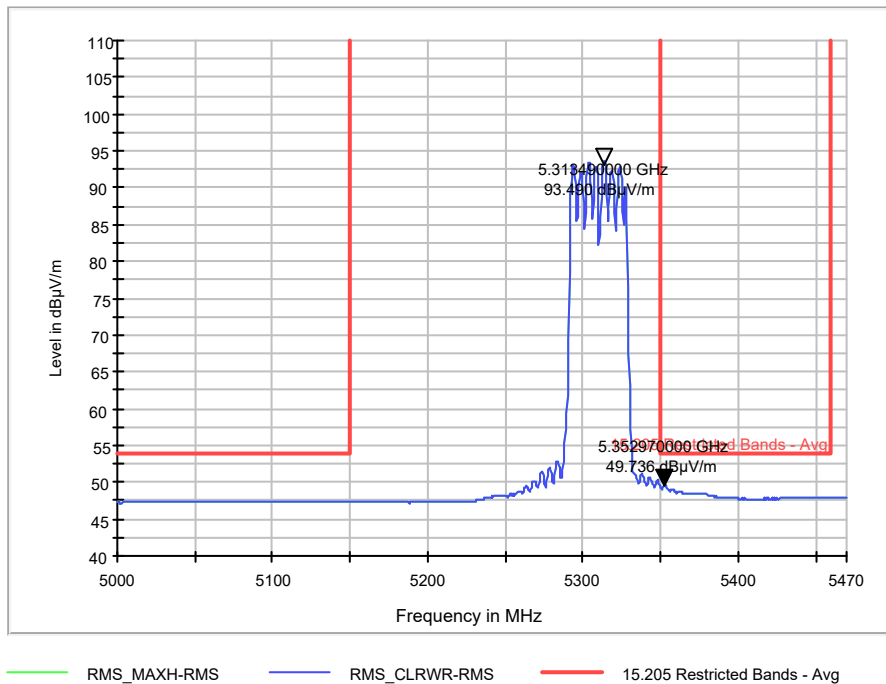


Figure 681. Average Radiated Band Edge Emissions Tx Chains A & B 802.11n HT40 (Ch. 62)

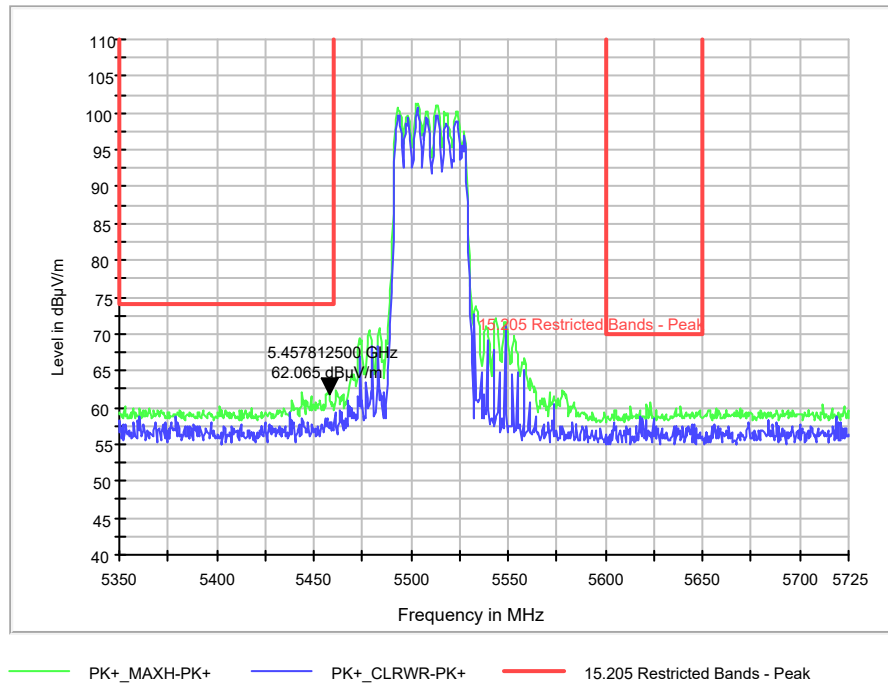


Figure 682. Peak Radiated Band Edge Emissions Tx Chains A & B 802.11n HT40 (Ch. 102)

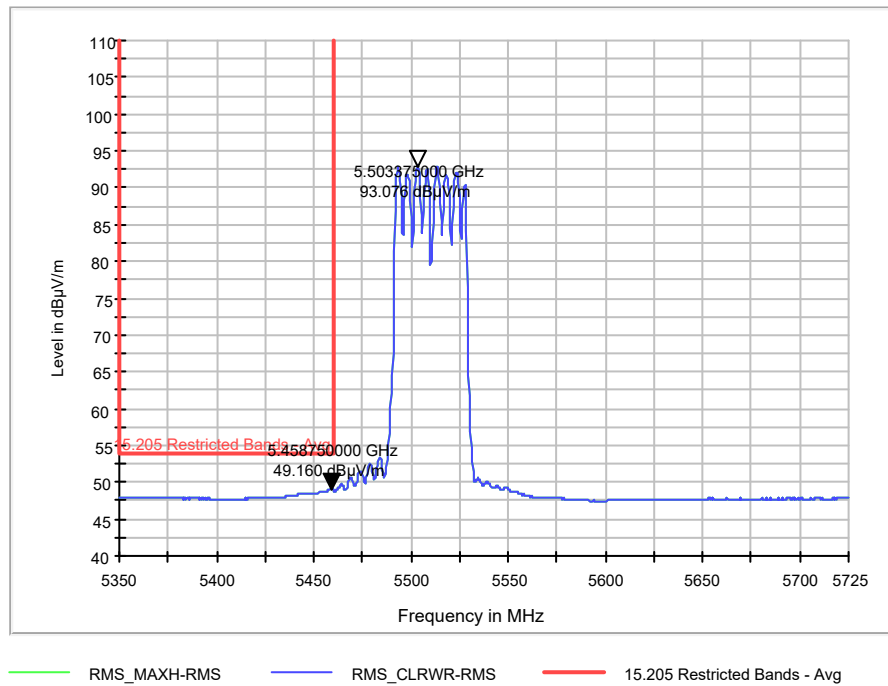


Figure 683. Average Radiated Band Edge Emissions Tx Chains A & B 802.11n HT40 (Ch. 102)

9.7.5.13 Radiated Restricted Band-edge emissions 802.11ac VHT40

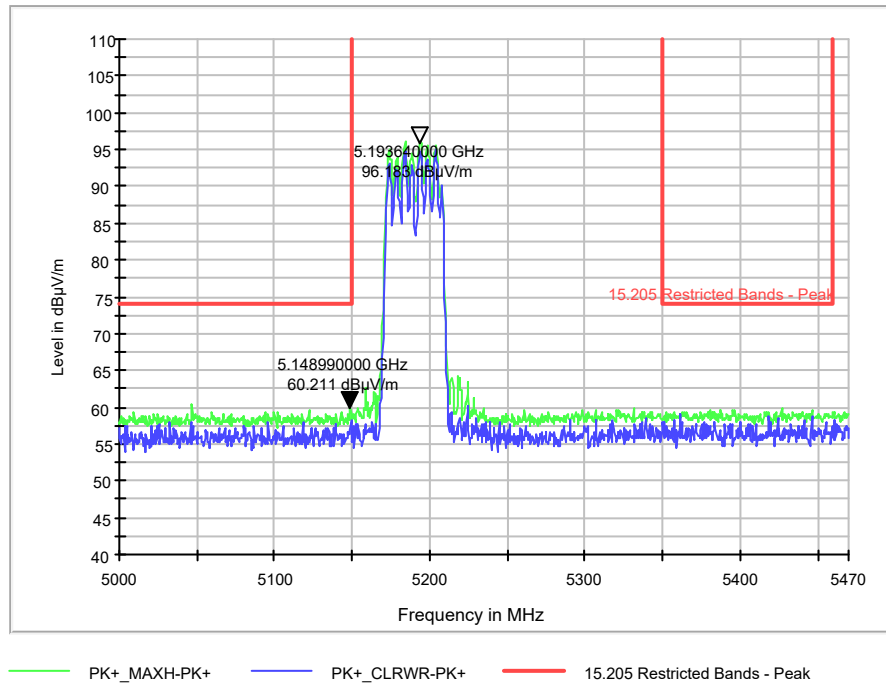


Figure 684. Peak Radiated Band Edge Emissions Tx Chains A & B 802.11ac VHT40 (Ch. 38)

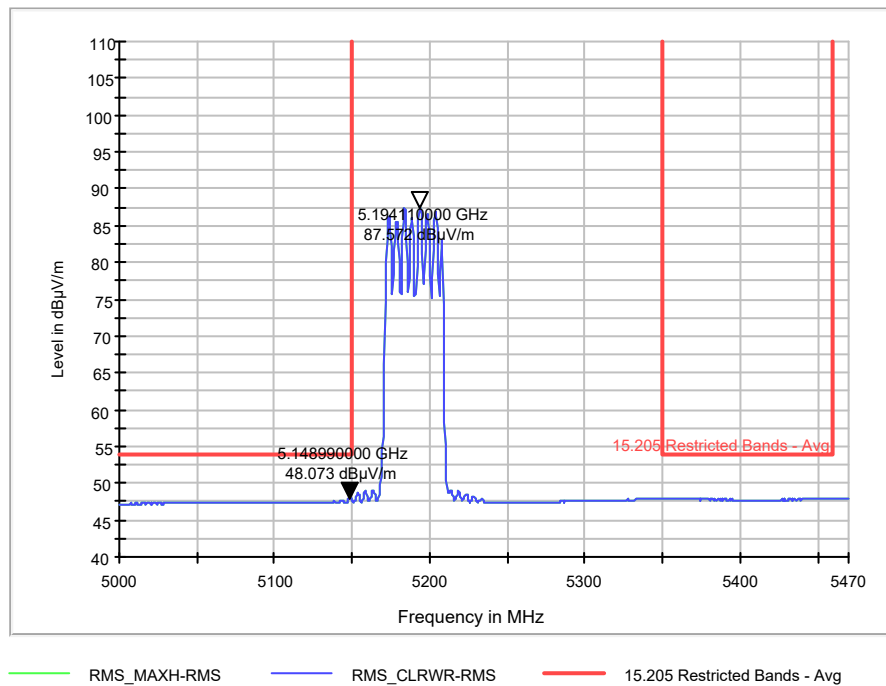


Figure 685. Average Radiated Band Edge Emissions Tx Chains A & B 802.11ac VHT40 (Ch. 38)

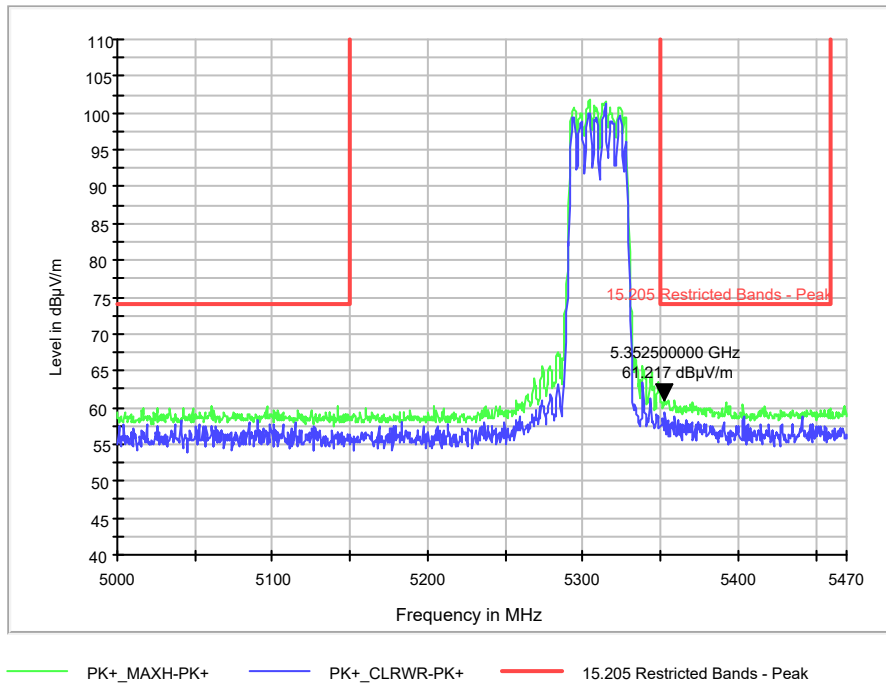


Figure 686. Peak Radiated Band Edge Emissions Tx Chains A & B 802.11ac VHT40 (Ch. 62)

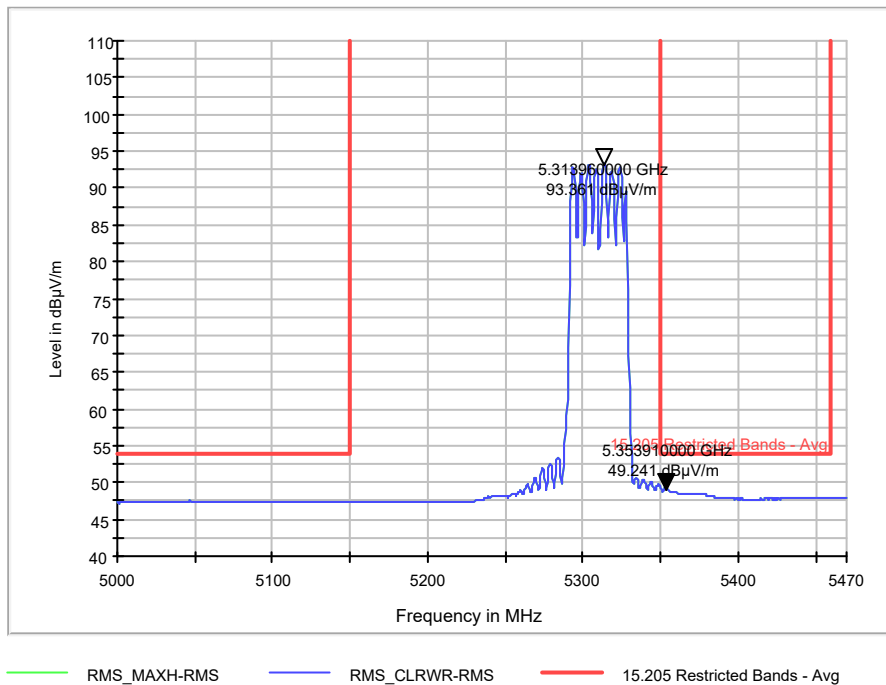


Figure 687. Average Radiated Band Edge Emissions Tx Chains A & B 802.11ac VHT40 (Ch. 62)

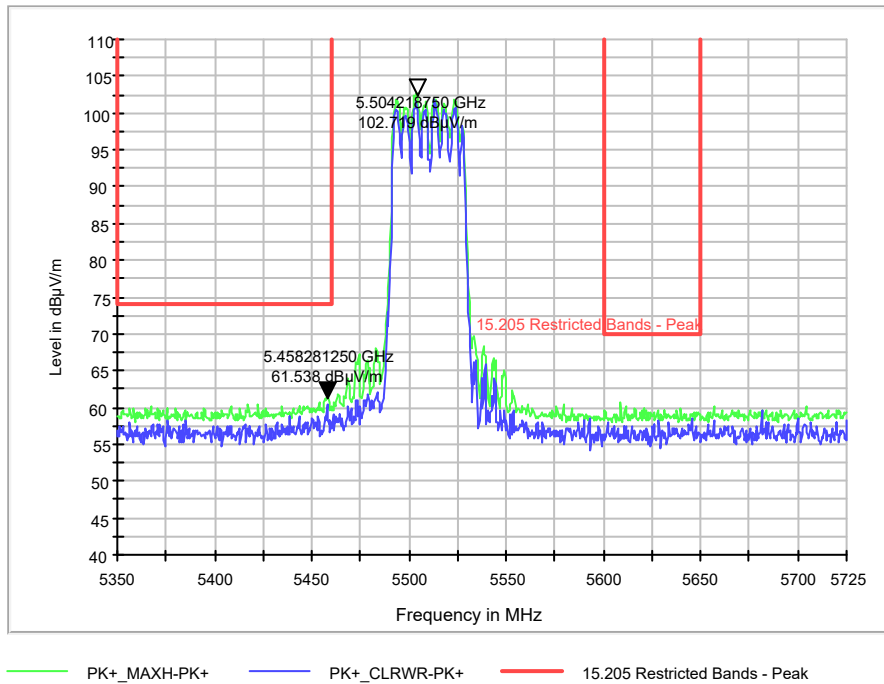


Figure 688. Peak Radiated Band Edge Emissions Tx Chains A & B 802.11ac VHT40 (Ch. 102)

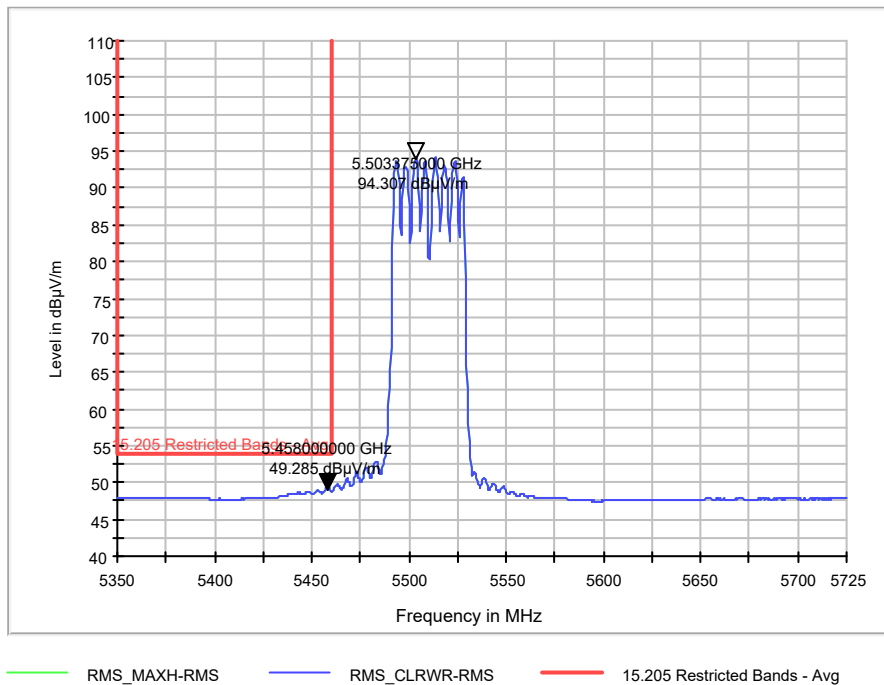


Figure 689. Average Radiated Band Edge Emissions Tx Chains A & B 802.11ac VHT40 (Ch. 102)

9.7.5.14 Radiated Restricted Band-edge emissions 802.11ac VHT80

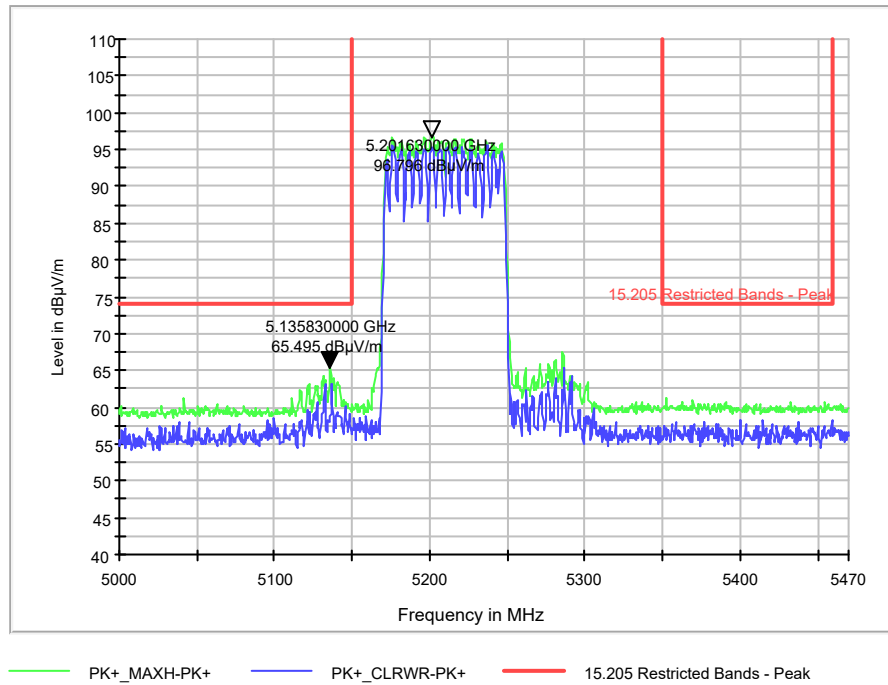


Figure 690. Peak Radiated Band Edge Emissions Tx Chains A & B 802.11ac VHT80 (Ch. 42)

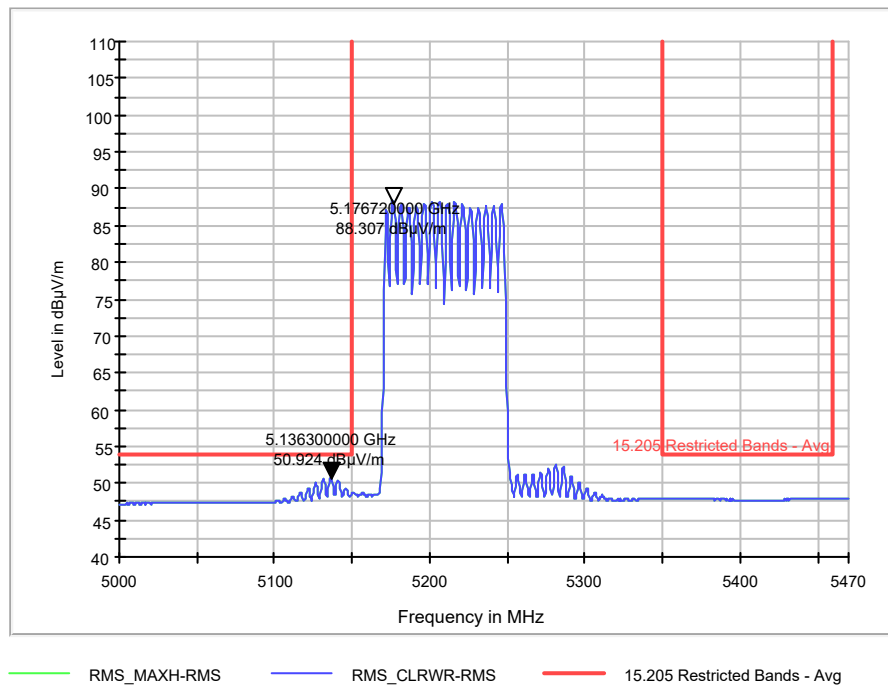


Figure 691. Average Radiated Band Edge Emissions Tx Chains A & B 802.11ac VHT80 (Ch. 42)

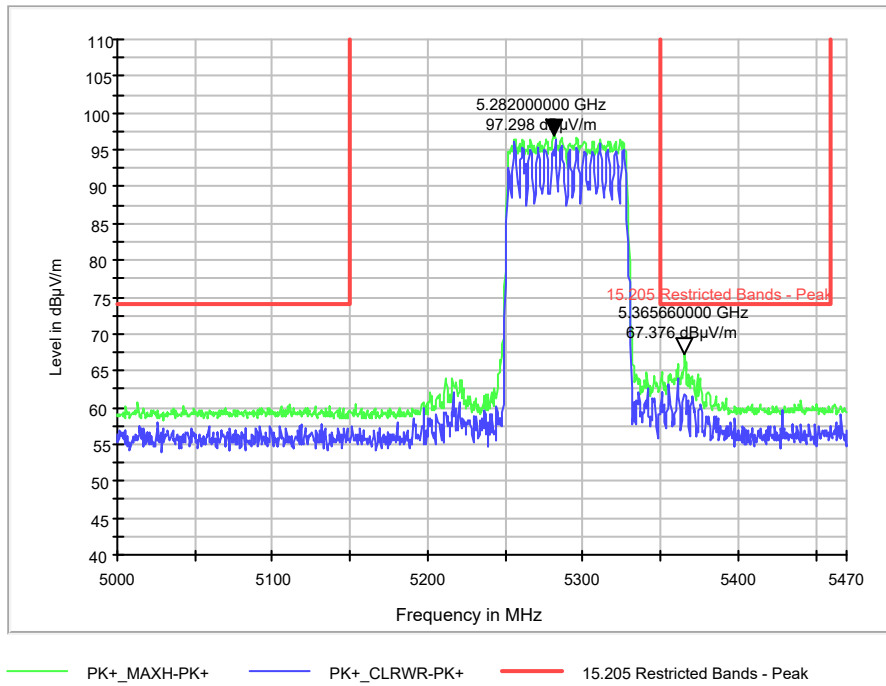


Figure 692. Peak Radiated Band Edge Emissions Tx Chains A & B 802.11ac VHT80 (Ch. 58)

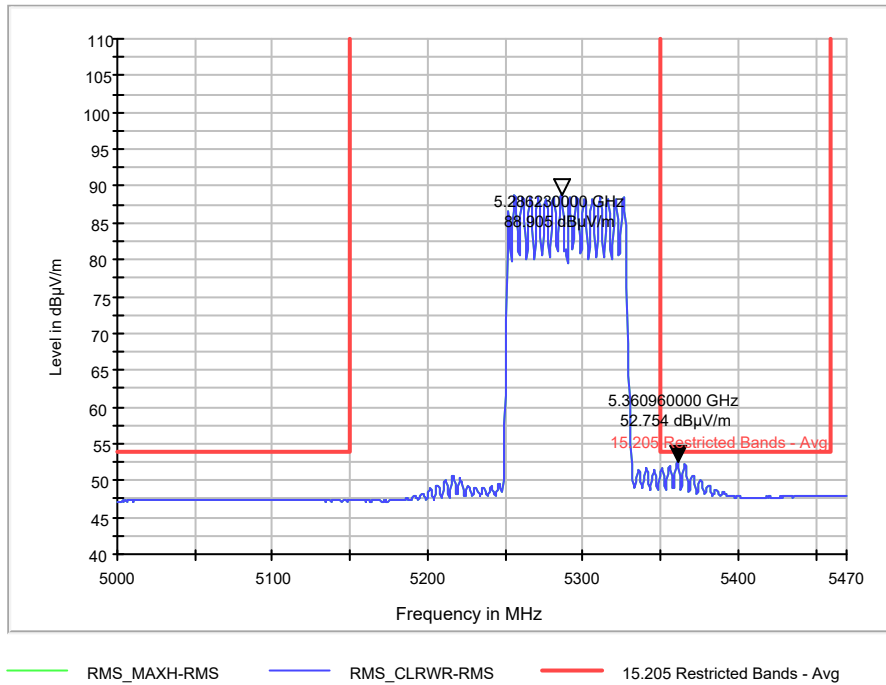


Figure 693. Average Radiated Band Edge Emissions Tx Chains A & B 802.11ac VHT80 (Ch. 58)

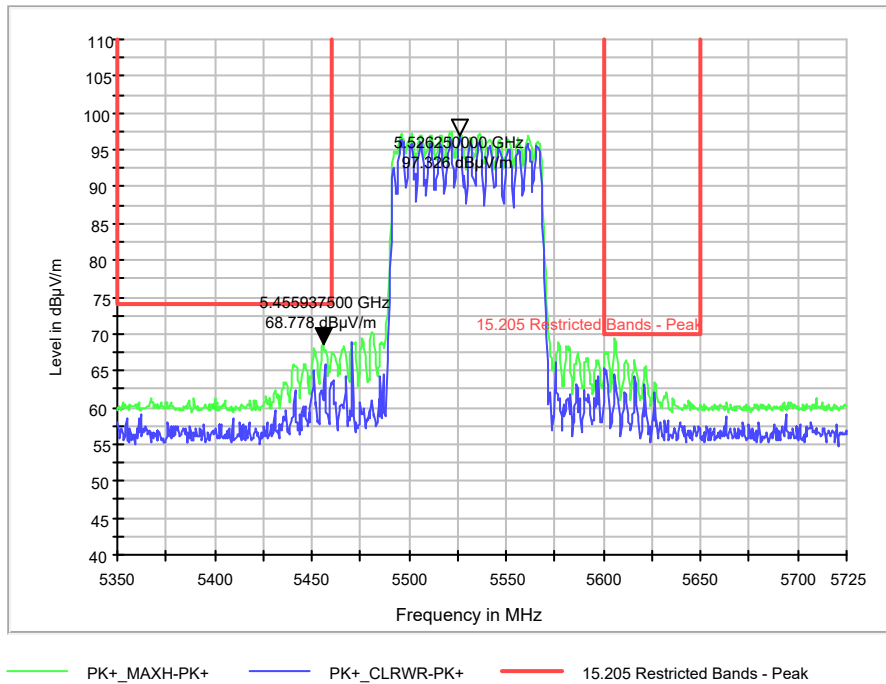


Figure 694. Peak Radiated Band Edge Emissions Tx Chains A & B 802.11ac VHT80 (Ch. 106)

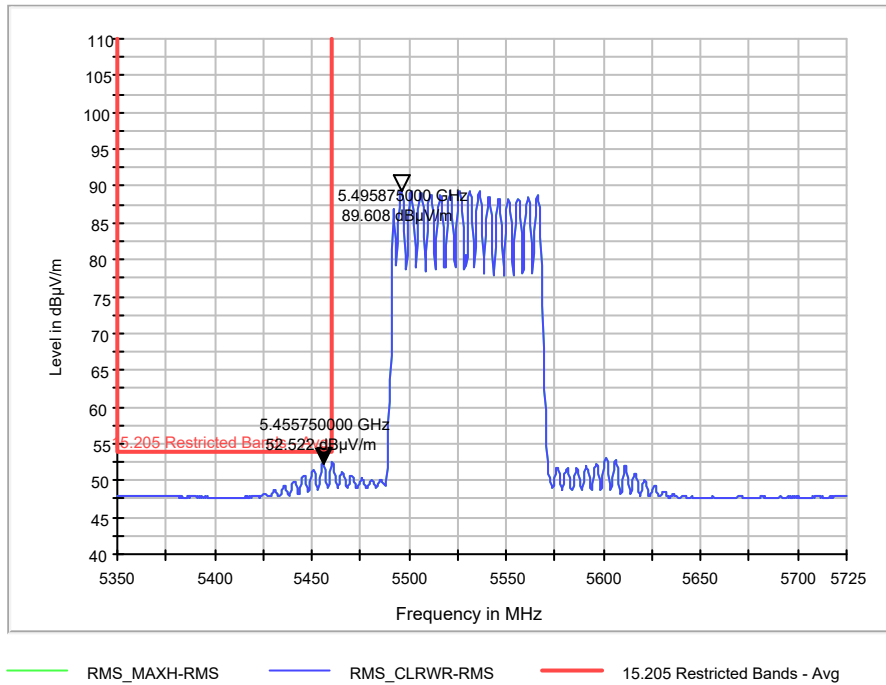


Figure 695. Average Radiated Band Edge Emissions Tx Chains A & B 802.11ac VHT80 (Ch. 106)

9.8 AC Line Conducted Emissions

9.8.1 Test Requirements

FCC CFR 47 Rule Part 15.207 (a)

Industry Canada RSS Gen [8.8]

9.8.2 Test Method

Conducted power line measurements were made, unless otherwise specified, over the frequency range from 150 kHz to 30 MHz to determine the line-to-ground 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 was tested with the power cords that were used under normal operating conditions. The following measurements were made using a LISN (Line Impedance Stabilization Network). AC powered peripherals were attached to a second LISN with the 50 ohm measurement port terminated by a 50 ohm resistive load.

EMI Receiver Settings:

150 kHz – 30 MHz:

RBW= 9 kHz

VBW ≥ 3 X RBW

Trace Mode: Peak Detector (Max Hold).

Final measurements were performed using Quasi-Peak and Average Detectors.

Span= 150 kHz – 30 MHz

Sweep time= Auto

9.8.3 Limit

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

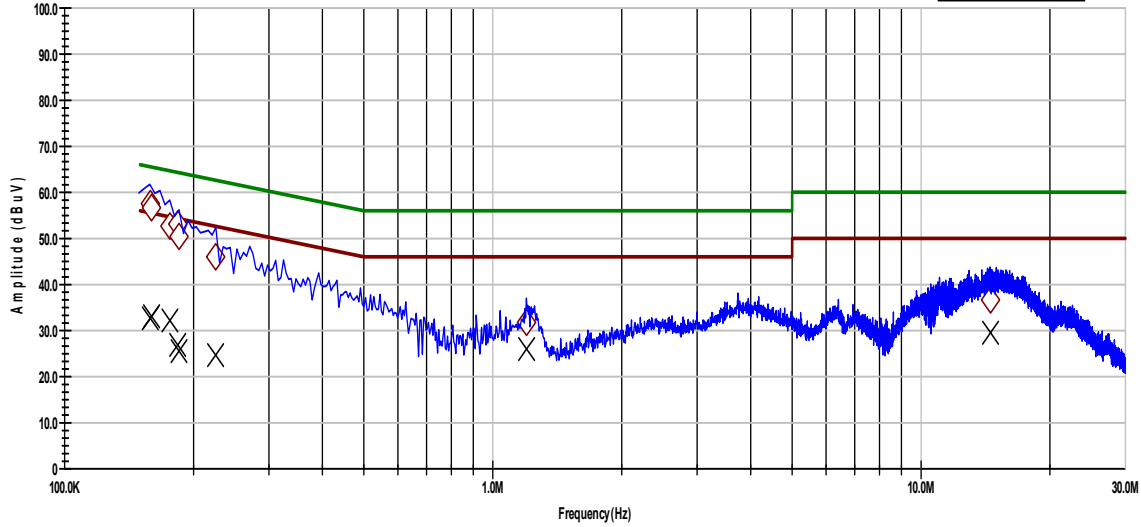
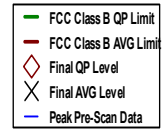
9.8.4 Test Result:

Pass

9.8.5 Test Data:

Frequency (MHz)	QP Net Reading (dB μ V)	AVG Net Reading (dB μ V)	Quasi-Peak Limit (dB μ V)	Average Limit (dB μ V)	Line Tested (L or N)	Quasi-Peak Margin (dB)	Average Margin (dB)
0.15	56.91	38.51	66	56	L	-9.09	-17.49
0.18	52.49	37.82	65.13	55.13	L	-12.64	-17.31
0.19	49.05	34.42	64.87	54.87	L	-15.82	-20.45
0.2	48.48	35.62	64.49	54.49	L	-16	-18.86
0.22	47.41	34.38	64.1	54.1	L	-16.69	-19.72
0.26	43.97	31.59	62.94	52.94	L	-18.97	-21.35
0.73	43.75	38.22	56	46	L	-12.25	-7.78
1.03	41.25	35.5	56	46	L	-14.75	-10.5
5.87	29.49	28.35	60	50	L	-30.51	-21.65
0.15	52.1	37.6	66	56	N	-13.9	-18.4
0.16	50.92	32.08	65.64	55.64	N	-14.72	-23.56
0.18	50.76	35.05	65.13	55.13	N	-14.37	-20.08
0.73	43.56	37.68	56	46	N	-12.44	-8.32
1.02	41.5	36.2	56	46	N	-14.5	-9.8
1.25	40.32	31.84	56	46	N	-15.68	-14.16
6.93	29.64	28.47	60	50	N	-30.36	-21.53

Microsoft EMC Laboratory
 Redmond 17760
 Final Line Measurements



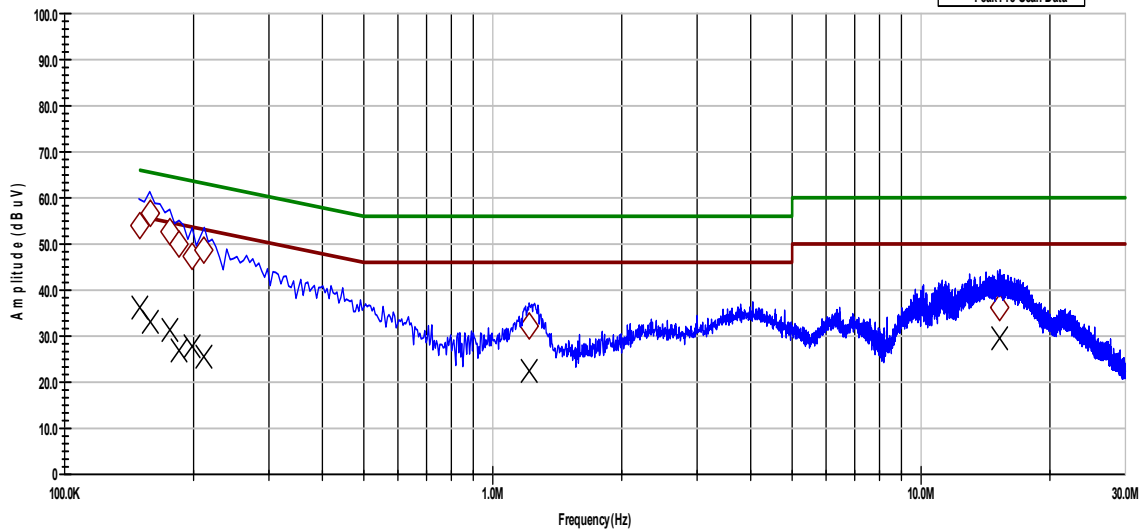
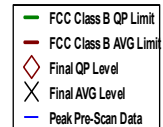
Operator: Daniel Salinas

Current Time -11:54:41 AM, Thursday August 13, 2015

TILE Profile: CE Rev 1.7

Plot 9-29. AC Line Conducted Emissions- Line (150 kHz- 30 MHz)

Microsoft EMC Laboratory
 Redmond 17760
 Final Neutral Measurements



Operator: Daniel Salinas

Current Time -11:54:41 AM, Thursday August 13, 2015

TILE Profile: CE Rev 1.7

Plot 9-30. AC Line Conducted Emissions- Neutral (150 kHz- 30 MHz)

End of Report