9.4 Maximum Conducted Output Power

9.4.1 Test Requirement:

FCC CFR 47 Rule Part 15.407 (a)
ISED RSS-247 [6.2]

9.4.2 Test Method:

Measurements were performed according to the procedures defined in KDBs 789033- General UNII Test Procedures New Rules v01r03, 662911 D01 Multiple Transmitter Output v02r01, and ANSI C63.10 2013.

Spectrum Analyzer settings:

Average Power:

RBW= 1 MHz
VBW= 3 MHz
Detector = RMS
Trace Mode= Average over 100 traces
Sweep time= Auto
Sweep Point ≥ 2*Span/RBW
Span= large enough to encompass the 26-dB Emission Bandwidth or alternatively the 99% Occupied Bandwidth.
Use the band power measurement function to integrate the power over the 26-dB Emission Bandwidth or 99% Occupied Bandwidth.

9.4.3 Limits:

15.407: The maximum conducted output power shall not exceed the limits given the following table for antennas that do not exceed a directional gain > 6dBi:

Band of Operation (MHz)	15.407 Limit
5150 – 5250	24 dBm
5250 – 5350	24dBm or 11 dBm + 10 log (B)(1)
5470 – 5725	24dBm or 11 dBm + 10 log (B)(1)
5725 – 5825	30 dBm

Note(1): B is the 26-dB Emission bandwidth of signal.

RSS-247: The maximum conducted output power shall not exceed the limits given the following table:

Band of Operation (MHz)	RSS-247 Conducted Output Power Limit	RSS-247 E.I.R.P Limit
5150 – 5250	--	23 dBm or 10 + 10 log (B)(1)
5250 – 5350	24 dBm or 11 + 10 log (B)(1)	30 dBm or 17 + 10 log (B)(1)
5470 – 5725	24 dBm or 11 + 10 log (B)(1)	30 dBm or 17 + 10 log (B)(1)
5725 – 5825	30 dBm	--

Note(1): B is the 99% Occupied Bandwidth of the signal.

9.4.4 Test Results:

Pass. See Section 9.5.5 for test data.

9.5 Power Spectral Density

9.5.1 Test Requirement:

FCC CFR 47 Rule Part 15.407 (a)
ISED RSS-247 [6.2]

9.5.2 Test Method:

Measurements were performed according to the procedures defined in KDBs 789033- General UNII Test Procedures New Rules v01r03, 662911 D01 Multiple Transmitter Output v02r01, and ANSI C63.10 2013.

Spectrum Analyzer settings for devices operating in the bands 5.15 – 5.25 GHz, 5.25 – 5.35GHz, and 5.47 – 5.725GHz:

RBW= 1 MHz
VBW= 3 MHz
Detector = RMS
Trace Mode= Average over 100 traces
Sweep time= Auto
Sweep Point ≥ 2*Span/RBW
Span= large enough to encompass the 26-dB Emission Bandwidth or alternatively the 99% Occupied Bandwidth. Use the peak marker function to identify the Maximum Power Spectral Density

Spectrum Analyzer settings for devices operating in the bands 5.725 – 5.85 GHz:

RBW= 100 kHz
VBW= 300 kHz
Detector = RMS
Trace Mode= Average over 100 traces
Sweep time= Auto
Sweep Point ≥ 2*Span/RBW
Span= large enough to encompass the 26-dB Emission Bandwidth or alternatively the 99% Occupied Bandwidth. Use the peak marker function to identify the Maximum Power Spectral Density
Offset is added if measurements are performed using a reduced resolution bandwidth 100 kHz, add 10* log (500KHz/RBW USED) to the measured result.

9.5.3 Limits:

15.407: The Maximum Power Spectral Density shall not exceed the limits given the following table for antennas that do not exceed a directional gain > 6dBi:

Band of Operation (MHz)	15.407 Limits
5150 – 5250	11dBm/MHz
5250 – 5350	11dBm/MHz
5470 – 5725	11dBm/MHz
5725 – 5825	30dBm/500kHz

Band of Operation (MHz)	RSS-247 Limits
5150 – 5250	10dBm/MHz e.i.r.p.
5250 – 5350	11dBm/MHz
5470 – 5725	11dBm/MHz
5725 – 5825	30dBm/500kHz

9.5.4 Test Results:

Pass.

9.5.5 Test Data

9.5.5.1 Chain A+B 802.11a Maximum Conducted Output Power

Chain A+B 802.11a Maximum Conducted Output Power								
Chan. No.	Freq. (MHz)	Chain A (dBm)	Chain B (dBm)	Total Power (dBm)	15.407 Limit (dBm)	RSS-247 Limit (dBm)	15.407 Margin (dB)	RSS-247 Margin (dB)
36	5180	11.67	11.54	14.64	24.00	--	-9.36	--
44	5220	11.74	11.55	14.68	24.00	--	-9.32	--
48	5240	11.75	11.37	14.60	24.00	--	-9.40	--
52	5260	14.7	14.66	17.71	23.67	23.21	-5.96	-5.50
60	5300	14.72	14.73	17.76	23.65	23.21	-5.89	-5.45
64	5320	14.94	14.75	17.88	23.66	23.21	-5.78	-5.33
100	5500	14.42	14.19	17.34	23.19	23.22	-5.85	-5.88
116	5580	13.82	14.66	17.29	23.16	23.22	-5.87	-5.92
140	5700	11.93	12.86	15.45	23.17	23.22	-7.72	-7.77
149	5745	13.12	13.84	16.53	30.00	30.00	-13.47	-13.47
157	5785	13.68	14.65	17.22	30.00	30.00	-12.78	-12.78
165	5825	13.18	13.61	16.43	30.00	30.00	-13.57	-13.57

Chain A+B 802.11a E.I.R.P						
Channel No.	Frequency (MHz)	Total Power (dBm)	Antenna Gain (dBi)	E.I.R.P (dBm)	RSS-247 E.I.R.P Limit (dBm)	RSS-247 E.I.R.P. Margin (dB)
36	5180	14.64	5.48	20.12	22.21	-2.10
44	5220	14.68	5.48	20.16	22.21	-2.06
48	5240	14.60	5.48	20.08	22.22	-2.14
52	5260	17.71	6.30	24.01	29.21	-5.20
60	5300	17.76	6.30	24.06	29.21	-5.16
64	5320	17.88	6.30	24.18	29.21	-5.03
100	5500	17.34	6.80	24.14	29.22	-5.08
116	5580	17.29	6.80	24.09	29.22	-5.12
140	5700	15.45	6.80	22.25	29.22	-6.97
149	5745	16.53	5.31	21.84	--	--
157	5785	17.22	5.31	22.53	--	--
165	5825	16.43	5.31	21.74	--	--

9.5.5.2 Chain A+B 802.11a Maximum Power Spectral Density

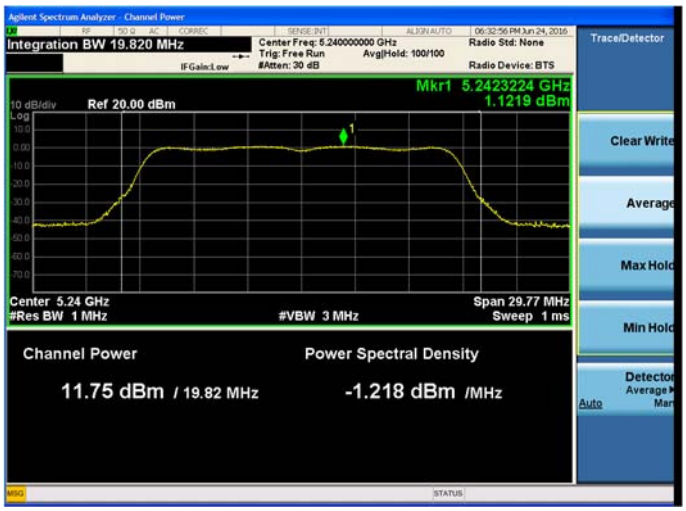
UNII-1 Chain A+B 802.11a Maximum Power Spectral Density/MHz										
Chan. No.	Freq. (MHz)	Chain A (dBm)	Chain B (dBm)	Total PSD $(\frac{dBm}{MHz})$	Total Ant. Gain (dBi)	Total EIRP PSD $(\frac{dBm}{MHz})$	15.407 Limit $(\frac{dBm}{MHz})$	RSS-247 EIRP PSD Limit $(\frac{dBm}{MHz})$	15.407 Margin (dB)	RSS-247 Margin (dB)
36	5180	1.08	0.87	4.01	5.48	9.49	11.00	10.00	-6.99	-0.51
44	5220	1.04	1.01	4.06	5.48	9.54	11.00	10.00	-6.94	-0.46
48	5240	1.12	0.75	3.97	5.48	9.45	11.00	10.00	-7.03	-0.55

UNII-2A and UNII-2C Chain A+B 802.11a Maximum Power Spectral Density/MHz								
Channel No.	Frequency (MHz)	Chain A (dBm)	Chain B (dBm)	Total PSD $(\frac{dBm}{MHz})$	15.407 Limit $(\frac{dBm}{MHz})$	RSS-247 Limit $(\frac{dBm}{MHz})$	15.407 Margin (dB)	RSS-247 Margin (dB)
52	5260	4.06	4.00	7.06	10.70	11.00	-3.64	-3.94
60	5300	4.02	4.01	7.05	10.70	11.00	-3.65	-3.95
64	5320	4.27	4.11	7.22	10.70	11.00	-3.48	-3.78
100	5500	3.97	3.51	6.78	10.20	11.00	-3.42	-4.22
116	5580	2.63	4.06	6.43	10.20	11.00	-3.77	-4.57
140	5700	1.36	2.13	4.79	10.20	11.00	-5.41	-6.21

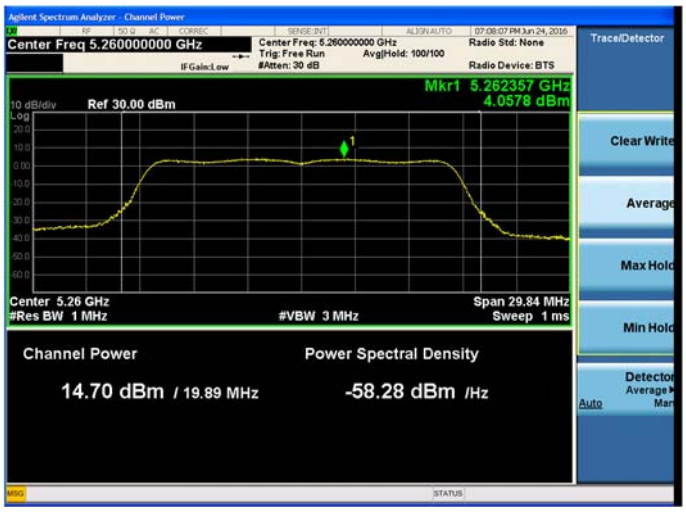
UNII-3 Chain A+B 802.11a Maximum Power Spectral Density/500kHz								
Chan. No.	Freq. (MHz)	Chain A (dBm)	Chain B (dBm)	Total PSD $(\frac{dBm}{500\ kHz})$	15.407 Limit $(\frac{dBm}{500\ kHz})$	RSS-247 Limit $(\frac{dBm}{500\ kHz})$	15.407 Margin (dB)	RSS-247 Margin (dB)
149	5745	0.48	0.89	3.70	30.00	30.00	-26.30	-26.30
157	5785	1.23	2.05	4.67	30.00	30.00	-25.33	-25.33
165	5825	0.79	0.95	3.88	30.00	30.00	-26.12	-26.12

Plot 9-95. Maximum Conducted Output Power and PSD Chain A 802.11a (Ch. 36)

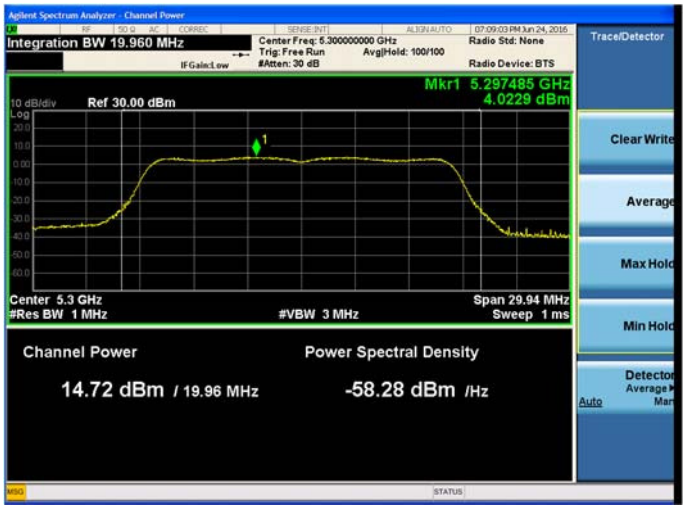
Plot 9-96. Maximum Conducted Output Power and PSD Chain A 802.11a (Ch. 44)



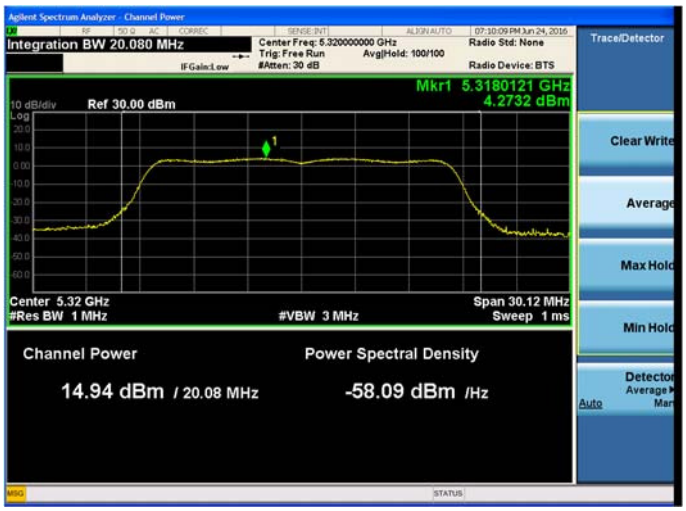
Plot 9-97. Maximum Conducted Output Power and PSD Chain A 802.11a (Ch. 48)



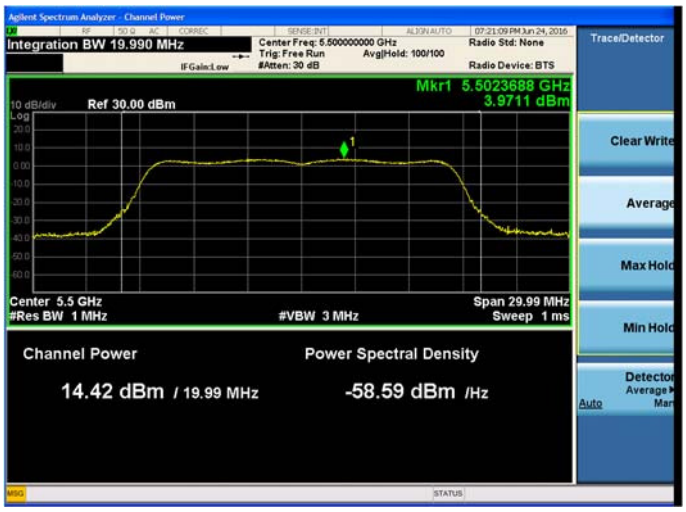
Plot 9-98. Maximum Conducted Output Power and PSD Chain A 802.11a (Ch. 52)



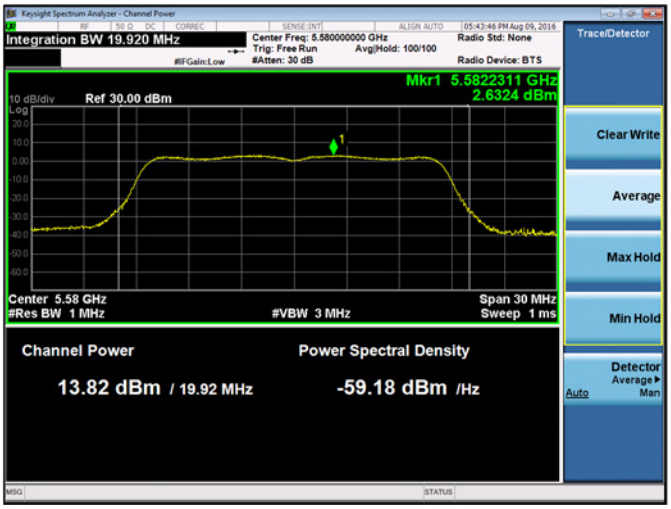
Plot 9-99. Maximum Conducted Output Power and PSD Chain A 802.11a (Ch. 60)



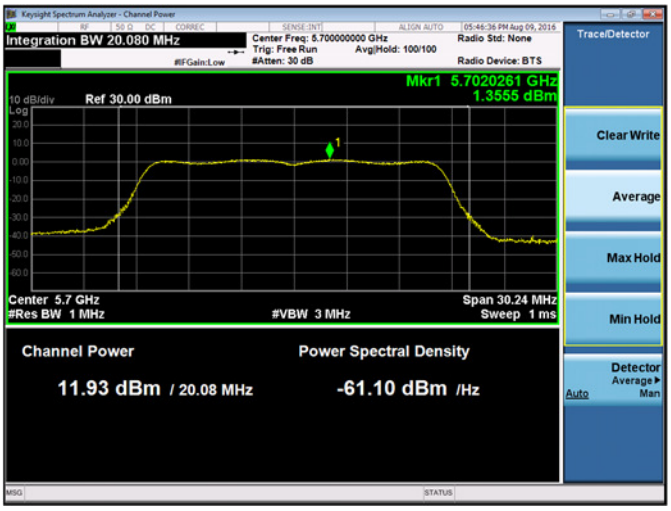
Plot 9-100. Maximum Conducted Output Power and PSD Chain A 802.11a (Ch. 64)



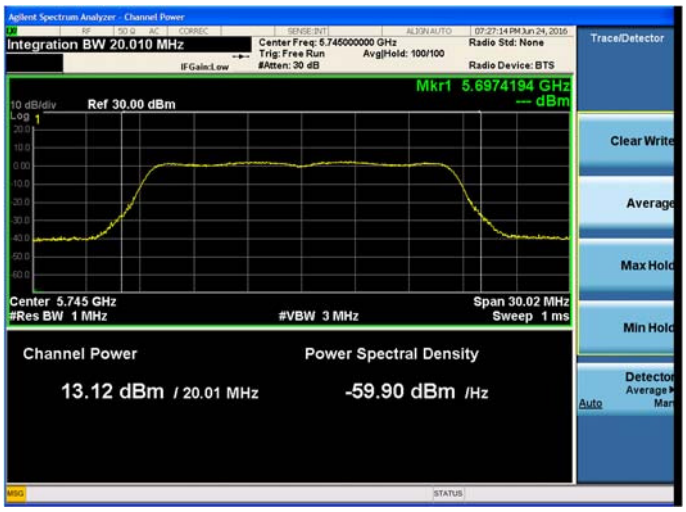
Plot 9-101. Maximum Conducted Output Power and PSD Chain A 802.11a (Ch. 100)



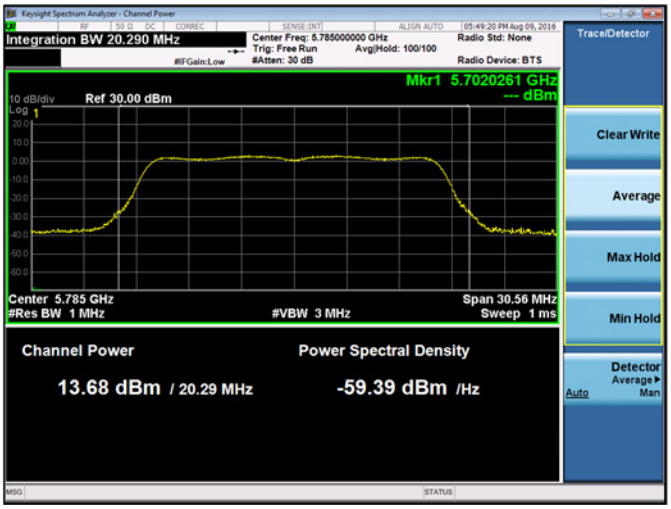
Plot 9-102. Maximum Conducted Output Power and PSD Chain A 802.11a (Ch. 116)



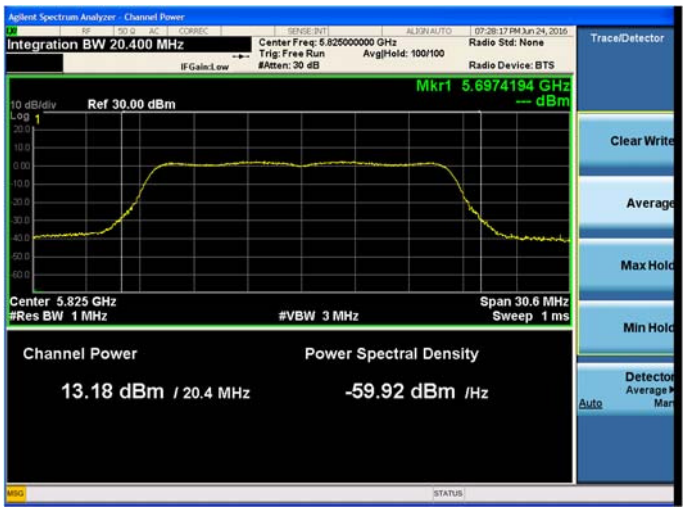
Plot 9-103. Maximum Conducted Output Power and PSD Chain A 802.11a (Ch. 140)



Plot 9-104. Maximum Conducted Output Power Chain A 802.11a (Ch. 149)



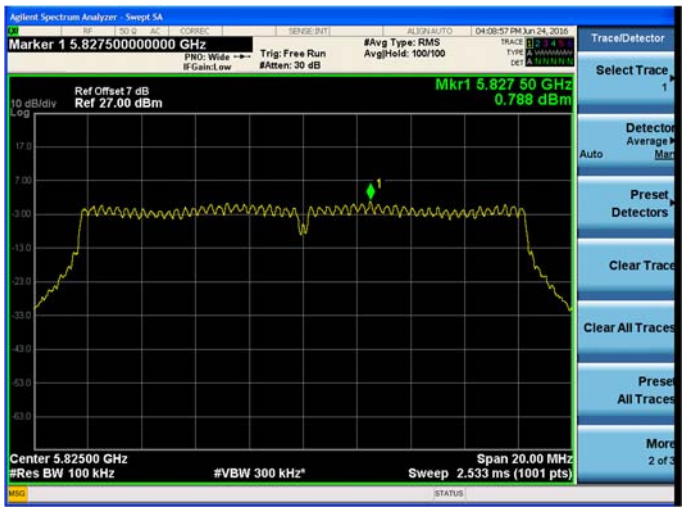
Plot 9-105. Maximum Conducted Output Power Chain A 802.11a (Ch. 157)



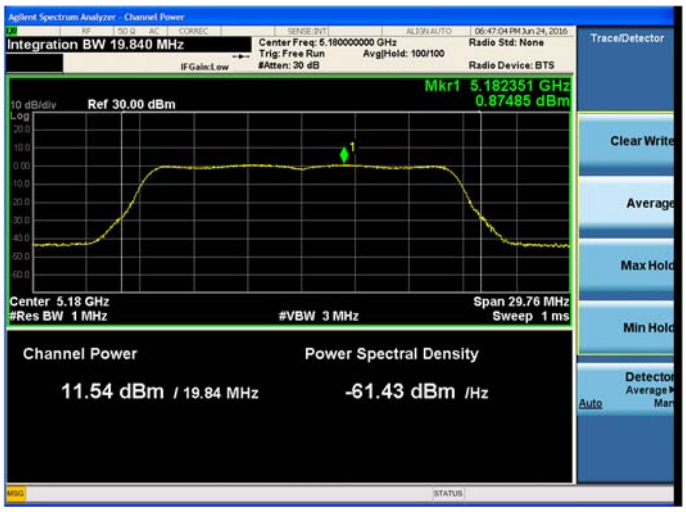
Plot 9-106. Maximum Conducted Output Power Chain A 802.11a (Ch. 165)

Plot 9-107. Maximum Power Spectral Density Chain A 802.11a (Ch. 149)

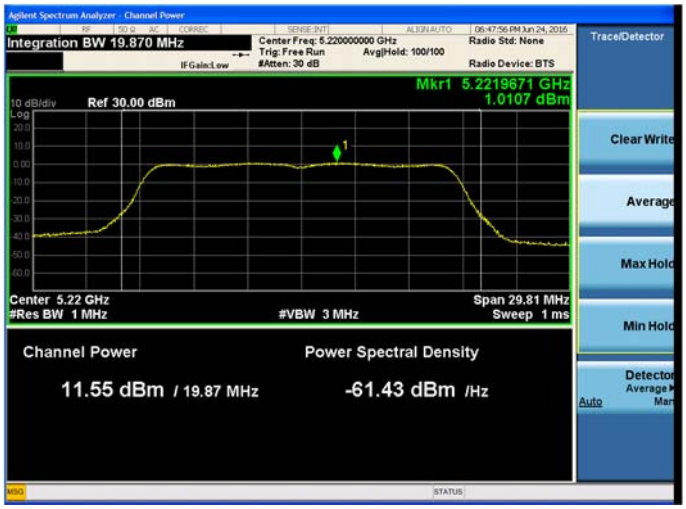
Plot 9-108. Maximum Power Spectral Density Chain A 802.11a (Ch. 157)



Plot 9-109. Maximum Power Spectral Density Chain A 802.11a (Ch. 165)

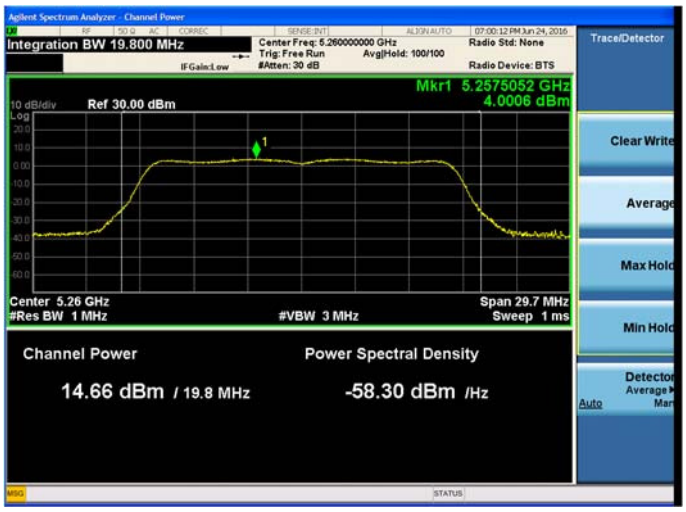


Plot 9-110. Maximum Conducted Output Power and PSD Chain B 802.11a (Ch. 36)

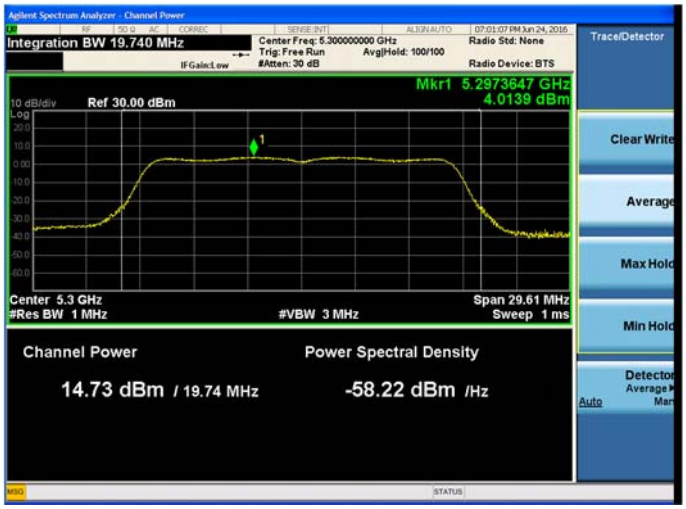


Plot 9-111. Maximum Conducted Output Power and PSD Chain B 802.11a (Ch. 44)

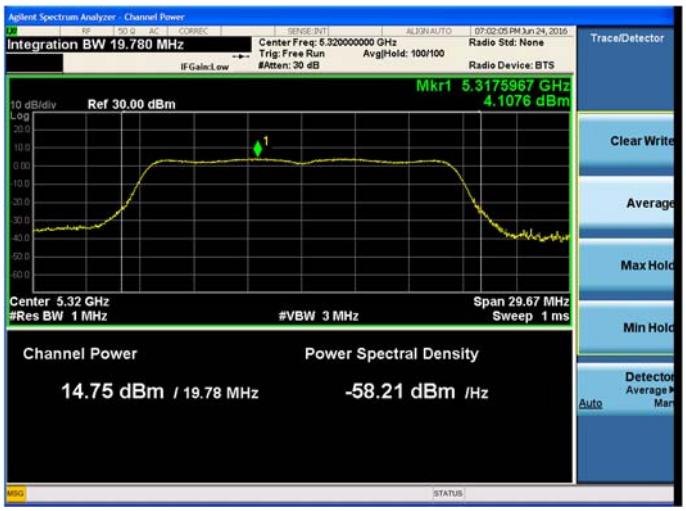
Plot 9-112. Maximum Conducted Output Power and PSD Chain B 802.11a (Ch. 48)



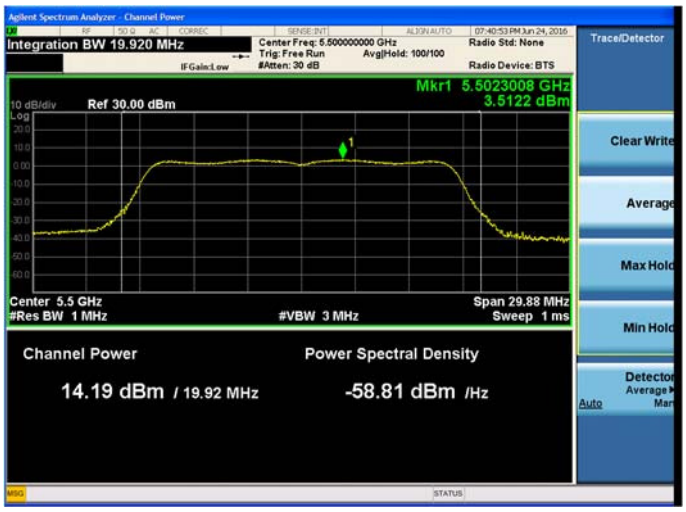
Plot 9-113. Maximum Conducted Output Power and PSD Chain B 802.11a (Ch. 52)



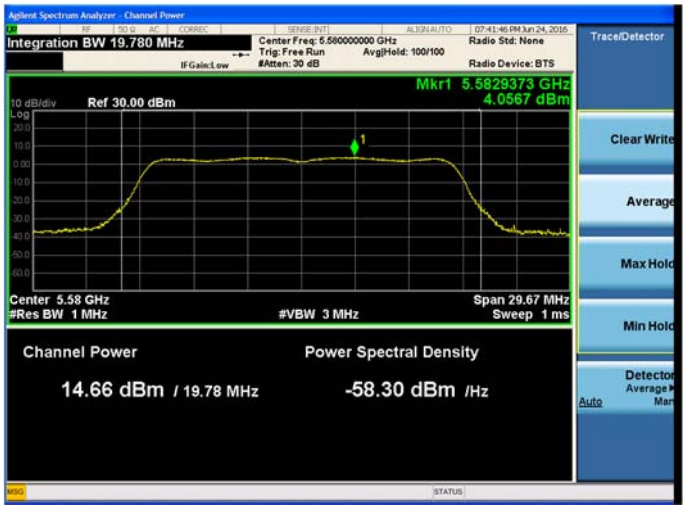
Plot 9-114. Maximum Conducted Output Power and PSD Chain B 802.11a (Ch. 60)



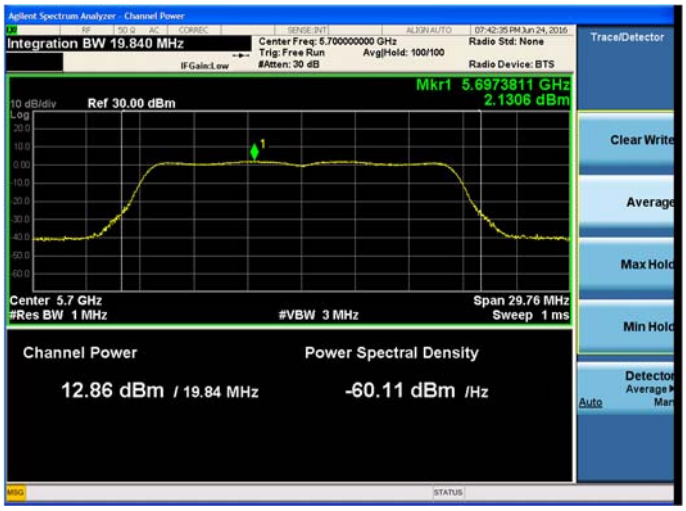
Plot 9-115. Maximum Conducted Output Power and PSD Chain B 802.11a (Ch. 64)



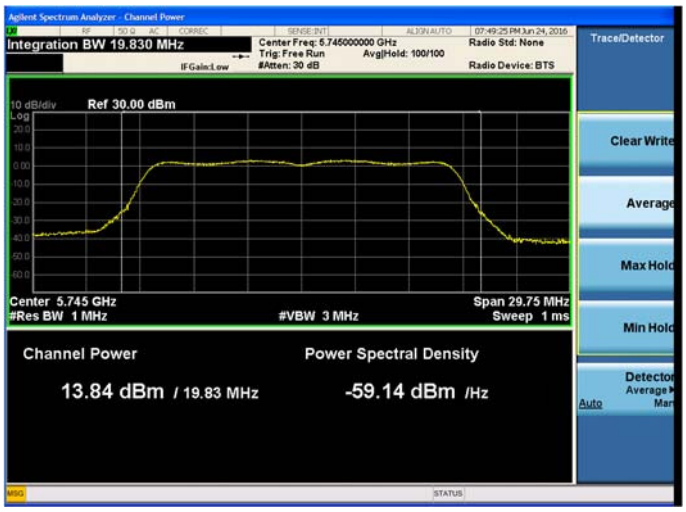
Plot 9-116. Maximum Conducted Output Power and PSD Chain B 802.11a (Ch. 100)



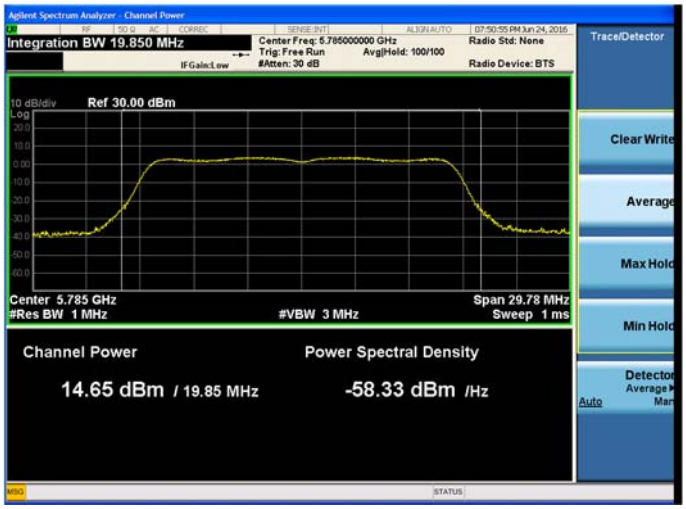
Plot 9-117. Maximum Conducted Output Power and PSD Chain B 802.11a (Ch. 116)



Plot 9-118. Maximum Conducted Output Power and PSD Chain B 802.11a (Ch. 140)



Plot 9-119. Maximum Conducted Output Power Chain B 802.11a (Ch. 149)



Plot 9-120. Maximum Conducted Output Power Chain B 802.11a (Ch. 157)

Plot 9-121. Maximum Conducted Output Power Chain B 802.11a (Ch. 165)

Plot 9-122. Maximum Power Spectral Density Chain B 802.11a (Ch. 149)

Plot 9-123. Maximum Power Spectral Density Chain B 802.11a (Ch. 157)

Plot 9-124. Maximum Power Spectral Density Chain B 802.11a (Ch. 165)

9.5.5.3 Chain A+B 802.11n HT20 Maximum Conducted Output Power

Chain A+B 802.11n HT20 Maximum Conducted Output Power								
Chan. No.	Freq. (MHz)	Chain A (dBm)	Chain B (dBm)	Total Power (dBm)	15.407 Limit (dBm)	RSS-247 Limit (dBm)	15.407 Margin (dB)	RSS-247 Margin (dB)
36	5180	11.52	11.61	14.59	24.00	--	-9.41	--
44	5220	11.72	11.57	14.67	24.00	--	-9.33	--
48	5240	12.02	11.54	14.81	24.00	--	-9.19	--
52	5260	14.53	14.48	17.53	23.70	23.47	-6.17	-5.94
60	5300	14.86	14.86	17.88	23.70	23.47	-5.82	-5.59
64	5320	14.55	14.89	17.75	23.70	23.47	-5.95	-5.72
100	5500	14.39	13.95	17.20	23.20	23.47	-6.00	-6.27
116	5580	14.49	14.37	17.45	23.20	23.47	-5.75	-6.02
140	5700	12.5	12.94	15.75	23.20	23.47	-7.45	-7.72
149	5745	13.24	13.6	16.45	30.00	30.00	-13.55	-13.55
157	5785	14.19	13.87	17.06	30.00	30.00	-12.94	-12.94
165	5825	13.23	13.7	16.49	30.00	30.00	-13.51	-13.51

Chain A+B 802.11n HT20 E.I.R.P						
Channel No.	Frequency (MHz)	Total Power (dBm)	Antenna Gain (dBi)	E.I.R.P (dBm)	RSS-247 E.I.R.P Limit (dBm)	RSS-247 E.I.R.P. Margin (dB)
36	5180	14.59	5.48	20.07	22.47	-2.40
44	5220	14.67	5.48	20.15	22.47	-2.32
48	5240	14.81	5.48	20.29	22.47	-2.18
52	5260	17.53	6.30	23.83	29.47	-5.64
60	5300	17.88	6.30	24.18	29.47	-5.29
64	5320	17.75	6.30	24.05	29.47	-5.42
100	5500	17.20	6.80	24.00	29.47	-5.47
116	5580	17.45	6.80	24.25	29.47	-5.22
140	5700	15.75	6.80	22.55	29.47	-6.92
149	5745	16.45	5.31	21.76	--	--
157	5785	17.42	5.31	22.73	--	--
165	5825	16.49	5.31	21.81	--	--

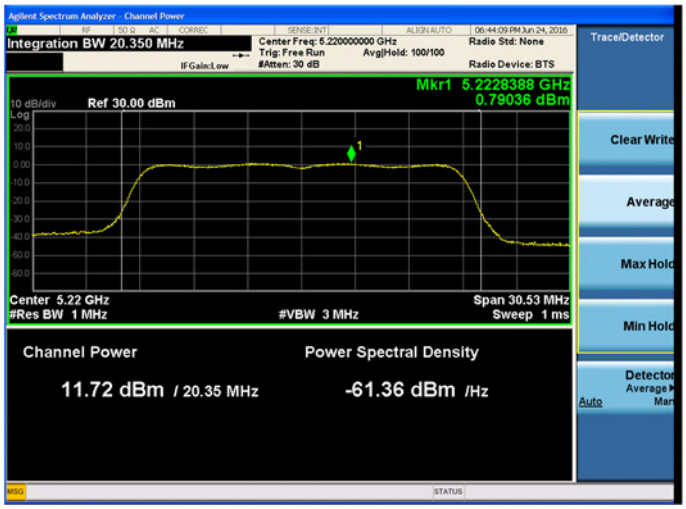
9.5.5.4 Chain A+B 802.11n HT20 Maximum Power Spectral Density

UNII-1 Chain A+B 802.11n HT20 Maximum Power Spectral Density/MHz										
Chan. No.	Freq. (MHz)	Chain A (dBm)	Chain B (dBm)	Total PSD $(\frac{dBm}{MHz})$	Total Ant. Gain (dBi)	Total EIRP PSD $(\frac{dBm}{MHz})$	15.407 Limit $(\frac{dBm}{MHz})$	RSS-247 EIRP PSD Limit $(\frac{dBm}{MHz})$	15.407 Margin (dB)	RSS-247 Margin (dB)
36	5180	0.72	0.63	3.70	5.48	9.18	11.00	10.00	-7.30	-0.82
44	5220	0.79	0.77	3.80	5.48	9.28	11.00	10.00	-7.20	-0.72
48	5240	0.96	0.49	3.75	5.48	9.24	11.00	10.00	-7.25	-0.76

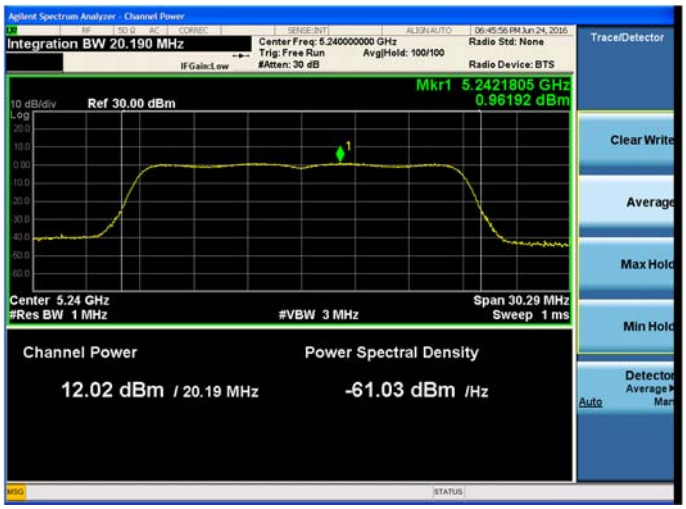
UNII-2A and UNII-2C Chain A+B 802.11n HT20 Maximum Power Spectral Density/MHz								
Channel No.	Frequency (MHz)	Chain A (dBm)	Chain B (dBm)	Total PSD $(\frac{dBm}{MHz})$	15.407 Limit $(\frac{dBm}{MHz})$	RSS-247 Limit $(\frac{dBm}{MHz})$	15.407 Margin (dB)	RSS-247 Margin (dB)
52	5260	3.86	3.62	6.76	10.70	11.00	-3.94	-4.24
60	5300	4.13	3.94	7.05	10.70	11.00	-3.65	-3.95
64	5320	3.57	4.19	6.91	10.70	11.00	-3.79	-4.09
100	5500	3.56	2.99	6.30	10.20	11.00	-3.90	-4.70
116	5580	3.54	3.42	6.51	10.20	11.00	-3.69	-4.49
140	5700	1.56	2.04	4.83	10.20	11.00	-5.37	-6.17

UNII-3 Chain A+B 802.11n HT20 Maximum Power Spectral Density/500kHz								
Chan. No.	Freq. (MHz)	Chain A (dBm)	Chain B (dBm)	Total PSD $(\frac{dBm}{500\ kHz})$	15.407 Limit $(\frac{dBm}{500\ kHz})$	RSS-247 Limit $(\frac{dBm}{500\ kHz})$	15.407 Margin (dB)	RSS-247 Margin (dB)
149	5745	0.54	0.78	3.67	30.00	30.00	-26.33	-26.33
157	5785	0.64	2.12	4.46	30.00	30.00	-25.54	-25.54
165	5825	0.25	0.69	3.49	30.00	30.00	-26.51	-26.51

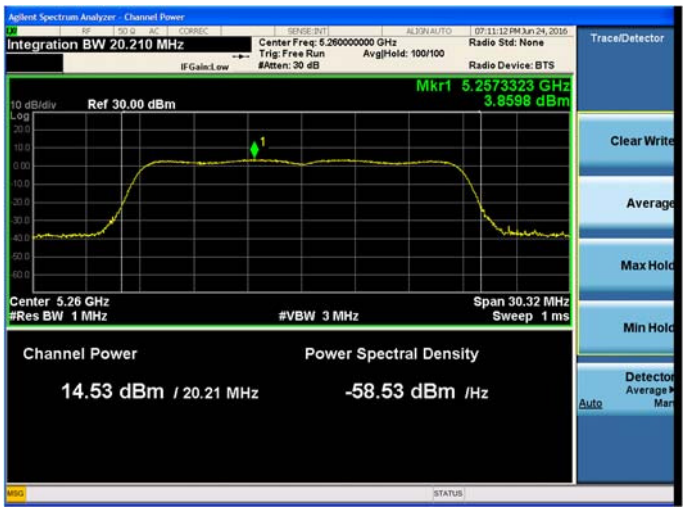
Plot 9-125. Maximum Conducted Output Power and PSD Chain A 802.11n HT20 (Ch. 36)



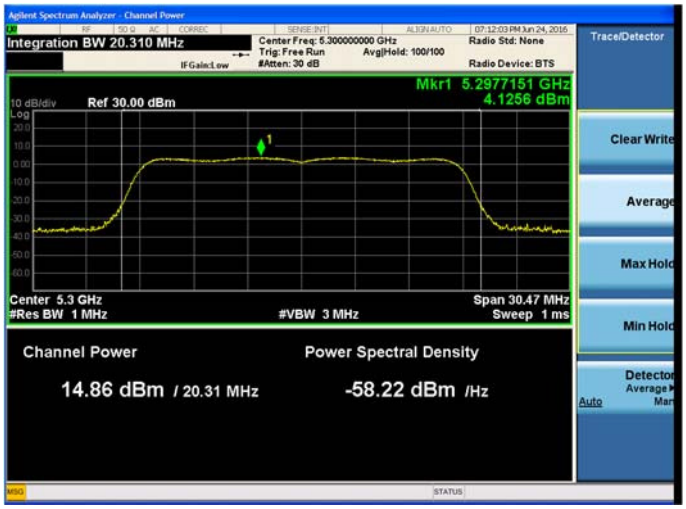
Plot 9-126. Maximum Conducted Output Power and PSD Chain A 802.11n HT20 (Ch. 44)



Plot 9-127. Maximum Conducted Output Power and PSD Chain A 802.11n HT20 (Ch. 48)

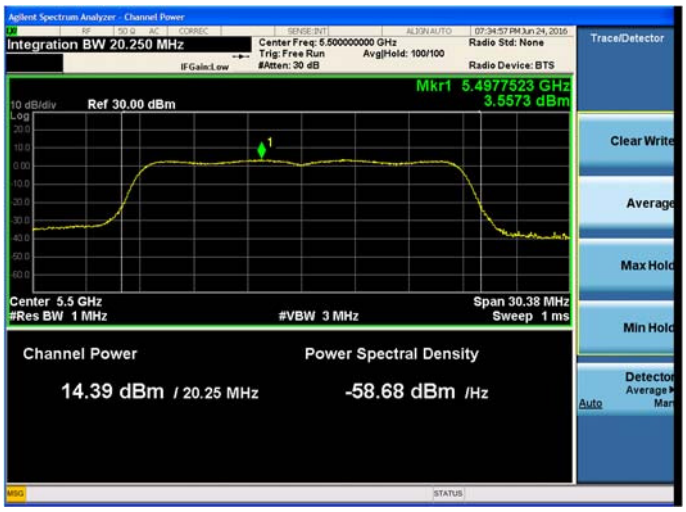


Plot 9-128. Maximum Conducted Output Power and PSD Chain A 802.11n HT20 (Ch. 52)



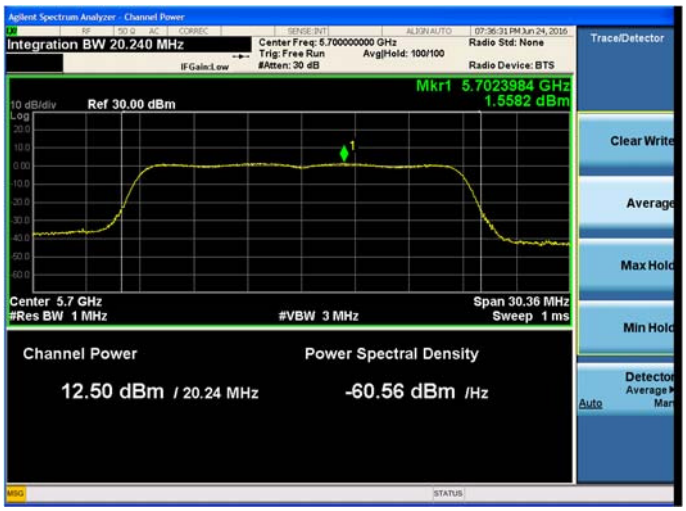
Plot 9-129. Maximum Conducted Output Power and PSD Chain A 802.11n HT20 (Ch. 60)

Plot 9-130. Maximum Conducted Output Power and PSD Chain A 802.11n HT20 (Ch. 64)

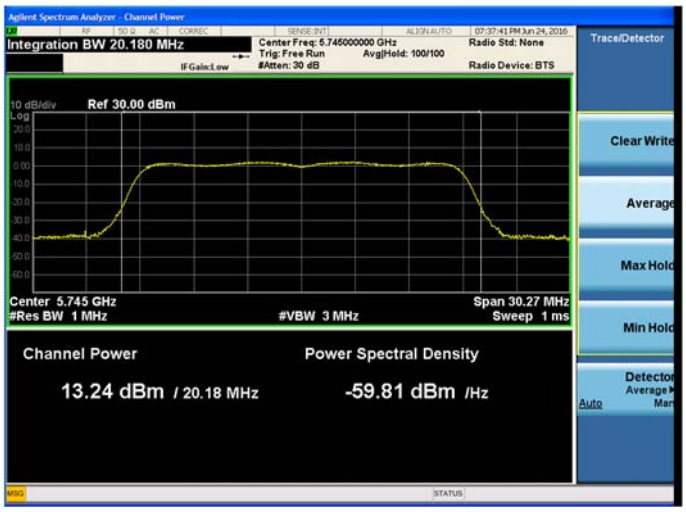


Plot 9-131. Maximum Conducted Output Power and PSD Chain A 802.11n HT20 (Ch. 100)

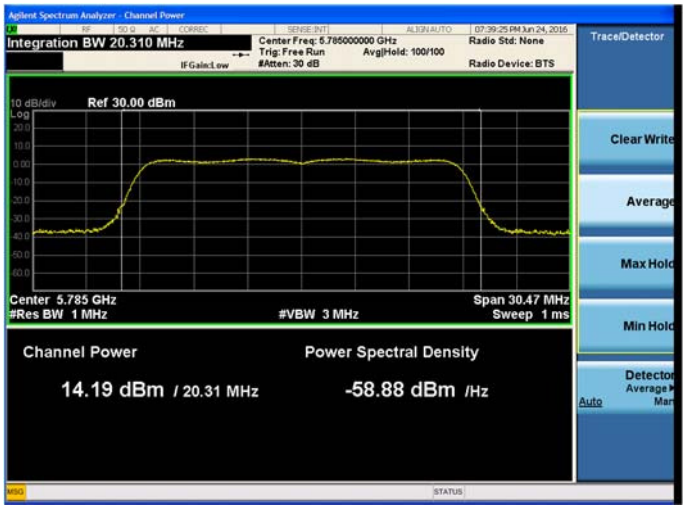
Plot 9-132. Maximum Conducted Output Power and PSD Chain A 802.11n HT20 (Ch. 116)



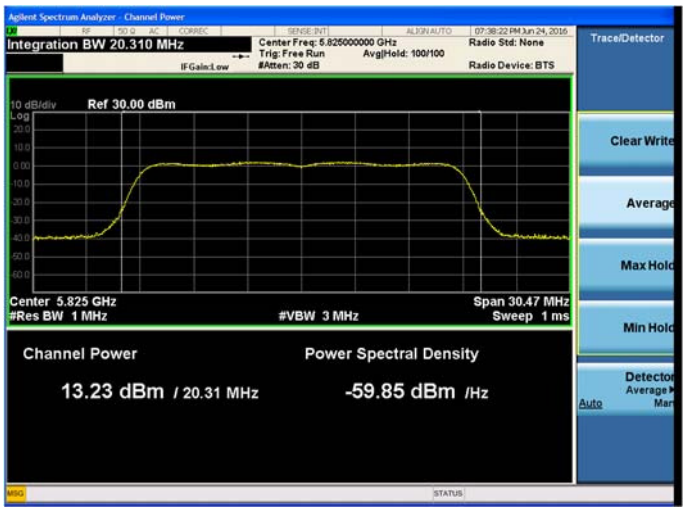
Plot 9-133. Maximum Conducted Output Power and PSD Chain A 802.11n HT20 (Ch. 140)



Plot 9-134. Maximum Conducted Output Power Chain A 802.11n HT20 (Ch. 149)



Plot 9-135. Maximum Conducted Output Power Chain A 802.11n HT20 (Ch. 157)



Plot 9-136. Maximum Conducted Output Power Chain A 802.11n HT20 (Ch. 165)

Plot 9-137. Maximum Power Spectral Density Chain A 802.1n HT20 (Ch. 149)

Plot 9-138. Maximum Power Spectral Density Chain A 802.11n HT20 (Ch. 157)

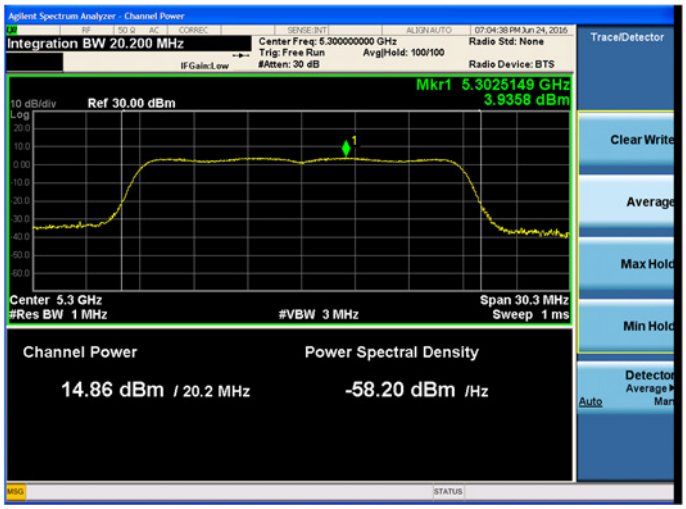
Plot 9-139. Maximum Power Spectral Density Chain A 802.11n HT20 (Ch. 165)

Plot 9-140. Maximum Conducted Output Power and PSD Chain B 802.11n HT20 (Ch. 36)

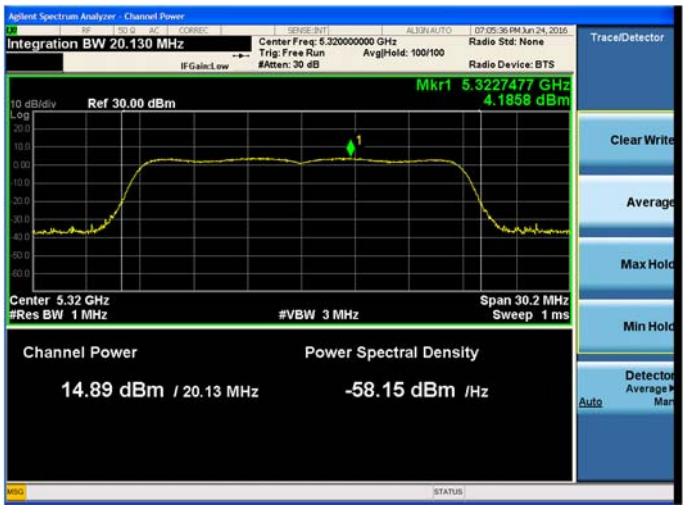
Plot 9-141. Maximum Conducted Output Power and PSD Chain B 802.11n HT20 (Ch. 44)

Plot 9-142. Maximum Conducted Output Power and PSD Chain B 802.11n HT20 (Ch. 48)

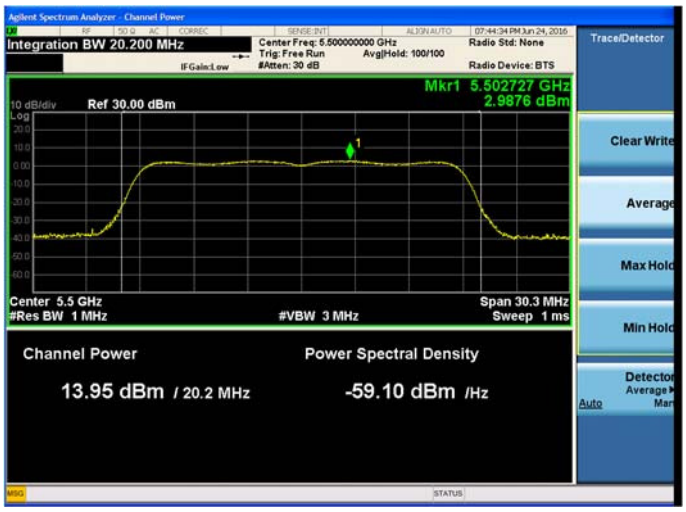
Plot 9-143. Maximum Conducted Output Power and PSD Chain B 802.11n HT20 (Ch. 52)



Plot 9-144. Maximum Conducted Output Power and PSD Chain B 802.11n HT20 (Ch. 60)

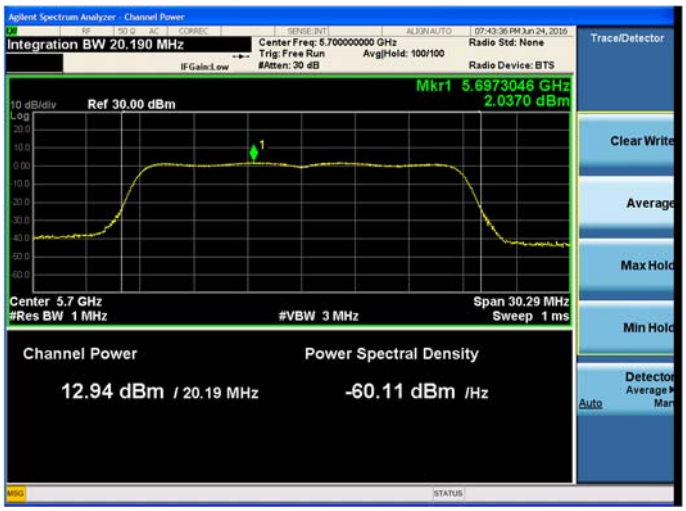


Plot 9-145. Maximum Conducted Output Power and PSD Chain B 802.11n HT20 (Ch. 64)

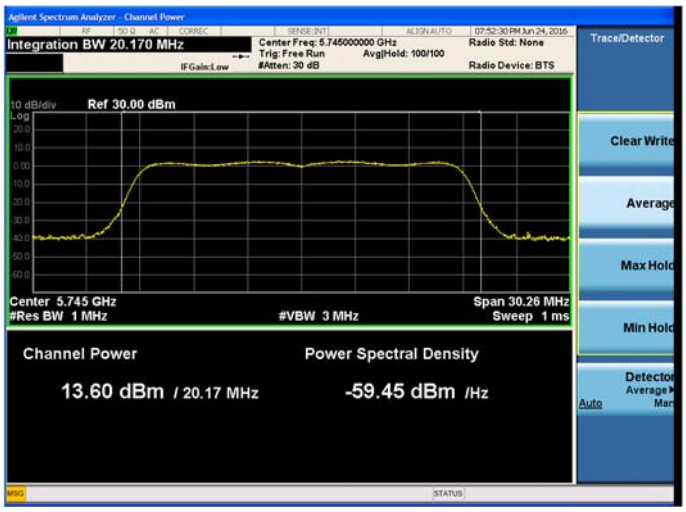


Plot 9-146. Maximum Conducted Output Power and PSD Chain B 802.11n HT20 (Ch. 100)

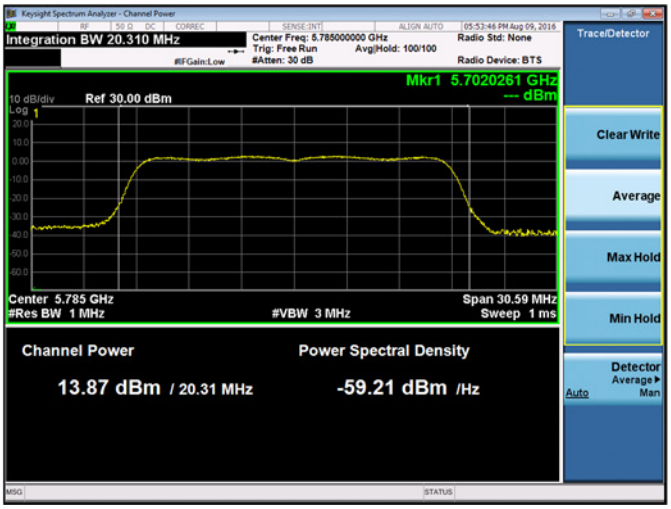
Plot 9-147. Maximum Conducted Output Power and PSD Chain B 802.11n HT20 (Ch. 116)



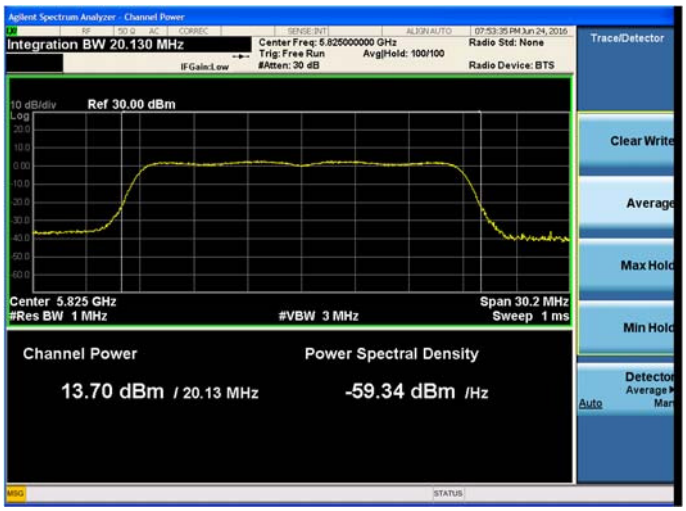
Plot 9-148. Maximum Conducted Output Power and PSD Chain B 802.11n HT20 (Ch. 140)



Plot 9-149. Maximum Conducted Output Power Chain B 802.11n HT20 (Ch. 149)



Plot 9-150. Maximum Conducted Output Power Chain B 802.11n HT20 (Ch. 157)



Plot 9-151. Maximum Conducted Output Power Chain B 802.11n HT20 (Ch. 165)

Plot 9-152. Maximum Power Spectral Density Chain B 802.11n HT20 (Ch. 149)

Plot 9-153. Maximum Power Spectral Density Chain B 802.11n HT20 (Ch. 157)

Plot 9-154. Maximum Power Spectral Density Chain B 802.11n HT20 (Ch. 165)

9.5.5.5 Chain A+B 802.11n HT40 Maximum Conducted Output Power

Chain A+B 802.11n HT40 Maximum Conducted Output Power								
Chan. No.	Freq. (MHz)	Chain A (dBm)	Chain B (dBm)	Total Power (dBm)	15.407 Limit (dBm)	RSS-247 Limit (dBm)	15.407 Margin (dB)	RSS-247 Margin (dB)
38	5190	10.32	10.31	13.36	24.00	--	-10.64	--
46	5230	13.44	13.52	16.52	24.00	--	-7.48	--
54	5270	13.57	13.44	16.55	23.70	24.00	-7.15	-7.45
62	5310	12.87	12.41	15.69	23.70	24.00	-8.01	-8.31
102	5510	11.64	11.59	14.66	23.20	24.00	-8.54	-9.34
110	5550	13.31	13.52	16.46	23.20	24.00	-6.74	-7.54
134	5670	13.16	13.74	16.50	23.20	24.00	-6.70	-7.50
151	5755	12.43	12.47	15.49	30.00	30.00	-14.51	-14.51
159	5795	12.59	12.93	15.81	30.00	30.00	-14.19	-14.19

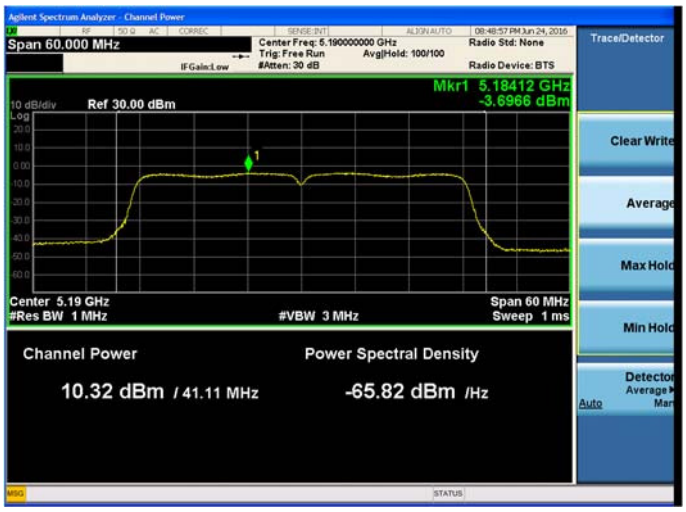
Chain A+B 802.11n HT40 E.I.R.P						
Channel No.	Frequency (MHz)	Total Power (dBm)	Antenna Gain (dBi)	E.I.R.P (dBm)	RSS-247 E.I.R.P Limit (dBm)	RSS-247 E.I.R.P. Margin (dB)
38	5190	13.36	5.48	18.84	23.00	-4.16
46	5230	16.52	5.48	22.00	23.00	-1.00
54	5270	16.55	6.30	22.85	30.00	-7.15
62	5310	15.69	6.30	21.99	30.00	-8.01
102	5510	14.66	6.80	21.46	30.00	-8.54
110	5550	16.46	6.80	23.26	30.00	-6.74
134	5670	16.50	6.80	23.30	30.00	-6.70
151	5755	15.49	5.31	20.81	--	--
159	5795	15.81	5.31	21.12	--	--

9.5.5.6 Chain A+B 802.11n HT40 Maximum Power Spectral Density

UNII-1 Chain A+B 802.11n HT40 Maximum Power Spectral Density/MHz										
Chan. No.	Freq. (MHz)	Chain A (dBm)	Chain B (dBm)	Total PSD $(\frac{dBm}{MHz})$	Total Ant. Gain (dBi)	Total EIRP PSD $(\frac{dBm}{MHz})$	15.407 Limit $(\frac{dBm}{MHz})$	RSS-247 EIRP PSD Limit $(\frac{dBm}{MHz})$	15.407 Margin (dB)	RSS-247 Margin (dB)
38	5190	-3.70	-3.56	-0.58	5.48	4.9	11.00	10.00	-11.58	-5.1
46	5230	-0.65	-0.46	2.49	5.48	7.97	11.00	10.00	-8.51	-2.03

UNII-2A and UNII-2C Chain A+B 802.11n HT40 Maximum Power Spectral Density/MHz								
Channel No.	Frequency (MHz)	Chain A (dBm)	Chain B (dBm)	Total PSD $(\frac{dBm}{MHz})$	15.407 Limit $(\frac{dBm}{MHz})$	RSS-247 Limit $(\frac{dBm}{MHz})$	15.407 Margin (dB)	RSS-247 Margin (dB)
54	5270	-0.29	-0.36	2.72	10.70	11.00	-7.98	-8.28
62	5310	-0.86	-1.59	1.84	10.70	11.00	-8.86	-9.16
102	5510	-2.22	-2.29	0.79	10.20	11.00	-9.41	-10.21
110	5550	-0.69	-0.33	2.53	10.20	11.00	-7.67	-8.47
134	5670	-0.73	0.10	2.74	10.20	11.00	-7.46	-8.26

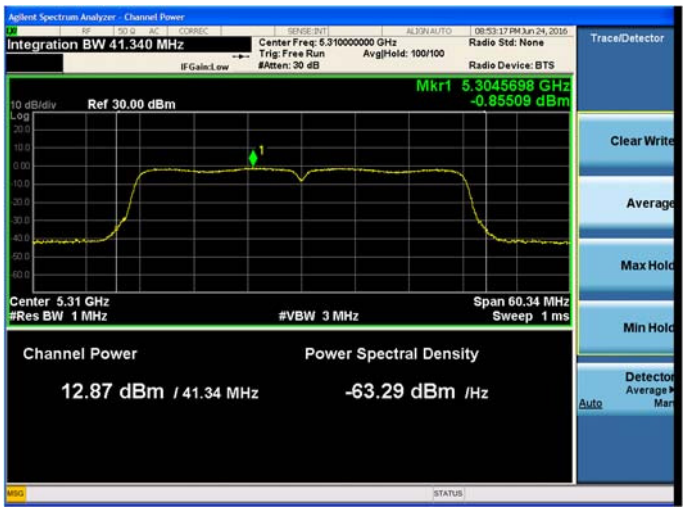
UNII-3 Chain A+B 802.11n HT40 Maximum Power Spectral Density/500kHz								
Chan. No.	Freq. (MHz)	Chain A (dBm)	Chain B (dBm)	Total PSD $(\frac{dBm}{500\ kHz})$	15.407 Limit $(\frac{dBm}{500\ kHz})$	RSS-247 Limit $(\frac{dBm}{500\ kHz})$	15.407 Margin (dB)	RSS-247 Margin (dB)
151	5755	-3.71	-3.27	-0.44	30.00	30.00	-30.44	-30.44
159	5795	-3.98	-3.46	-0.67	30.00	30.00	-30.67	-30.67



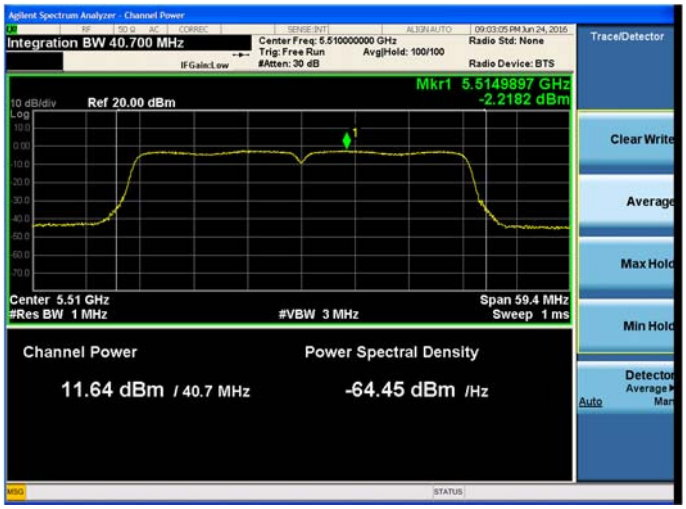
Plot 9-155. Maximum Conducted Output Power and PSD Chain A 802.11n HT40 (Ch. 38)

Plot 9-156. Maximum Conducted Output Power and PSD Chain A 802.11n HT40 (Ch. 46)

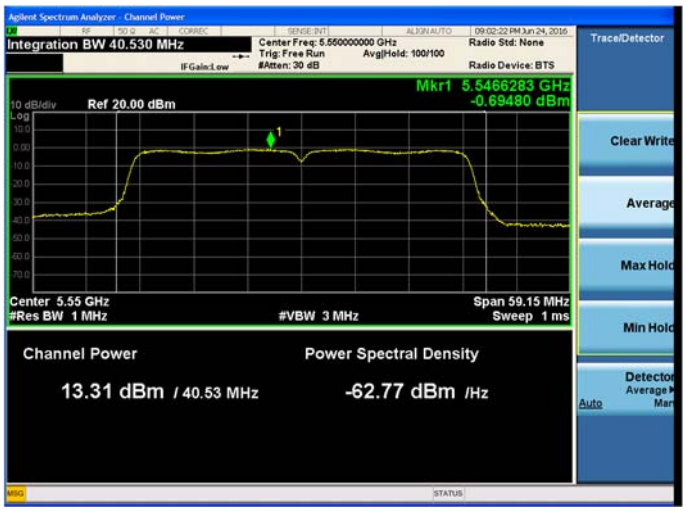
Plot 9-157. Maximum Conducted Output Power and PSD Chain A 802.11n HT40 (Ch. 54)



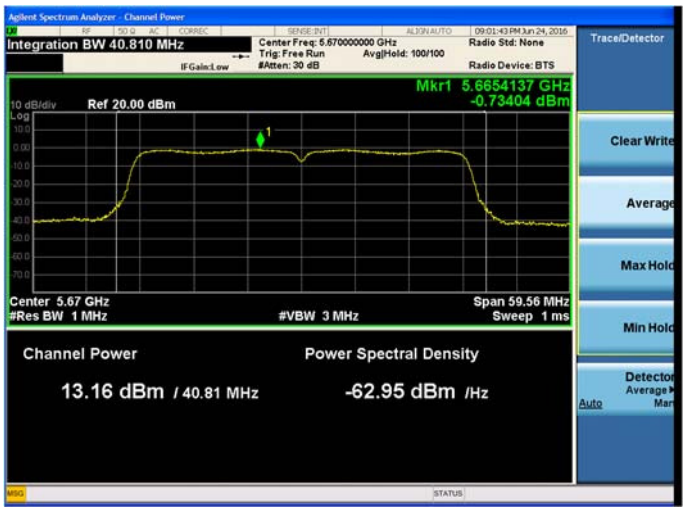
Plot 9-158. Maximum Conducted Output Power and PSD Chain A 802.11n HT40 (Ch. 62)



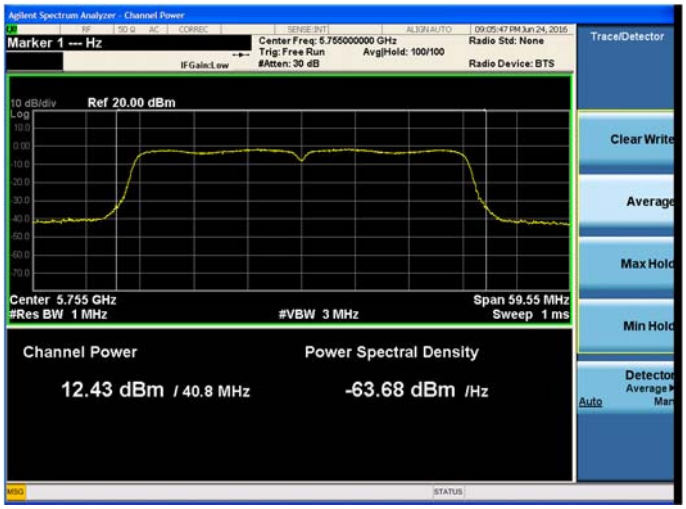
Plot 9-159. Maximum Conducted Output Power and PSD Chain A 802.11n HT40 (Ch. 102)



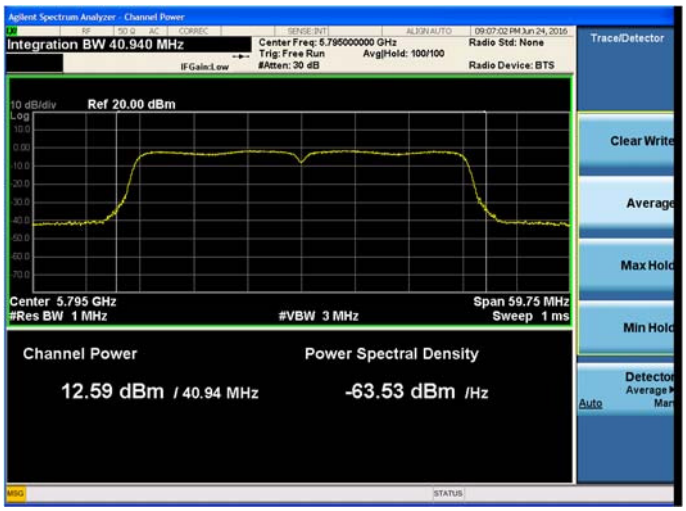
Plot 9-160. Maximum Conducted Output Power and PSD Chain A 802.11n HT40 (Ch. 110)



Plot 9-161. Maximum Conducted Output Power and PSD Chain A 802.11n HT40 (Ch. 134)



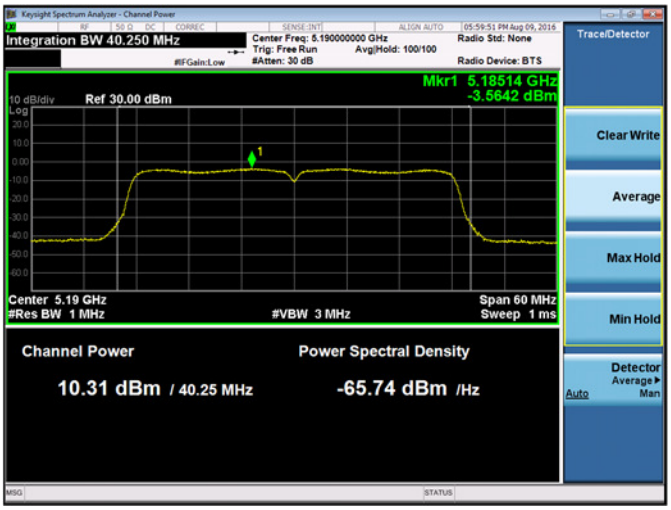
Plot 9-162. Maximum Conducted Output Power Chain A 802.11n HT40 (Ch. 151)



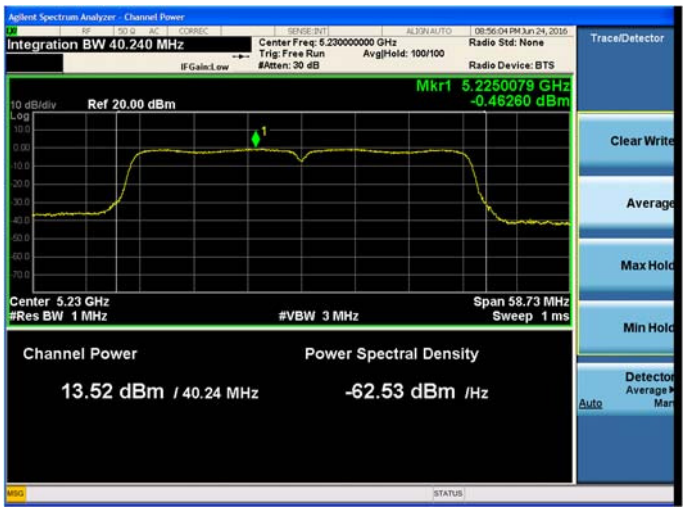
Plot 9-163. Maximum Conducted Output Power Chain A 802.11n HT40 (Ch. 159)

Plot 9-164. Maximum Power Spectral Density Chain A 802.11n HT40 (Ch. 151)

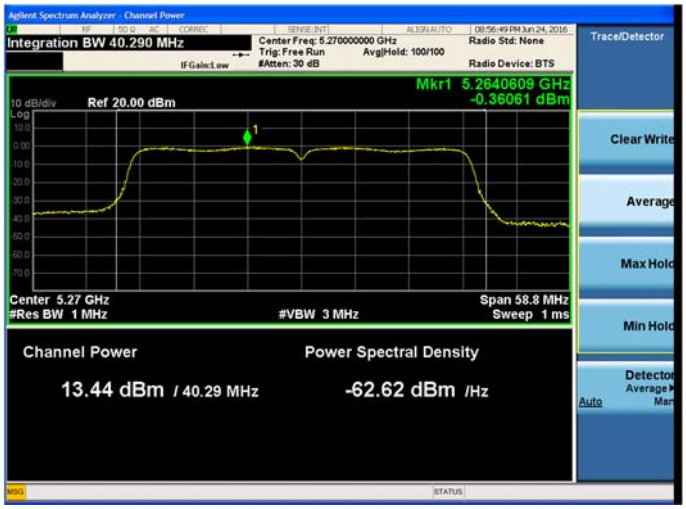
Plot 9-165. Maximum Power Spectral Density Chain A 802.11n HT40 (Ch. 159)



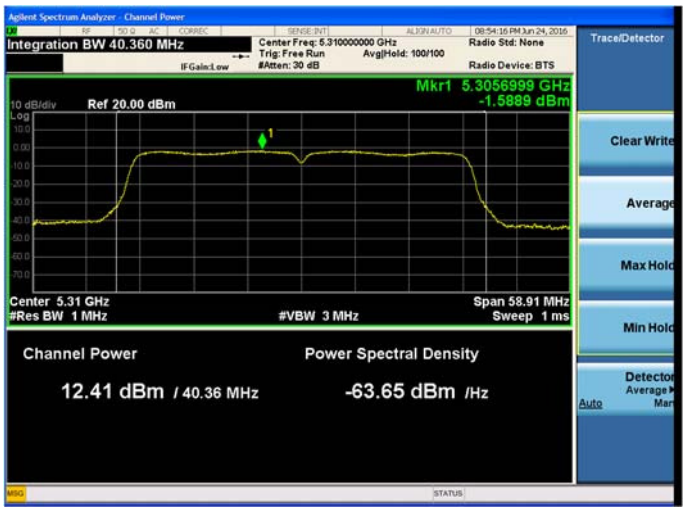
Plot 9-166. Maximum Conducted Output Power and PSD Chain B 802.11n HT40 (Ch. 38)



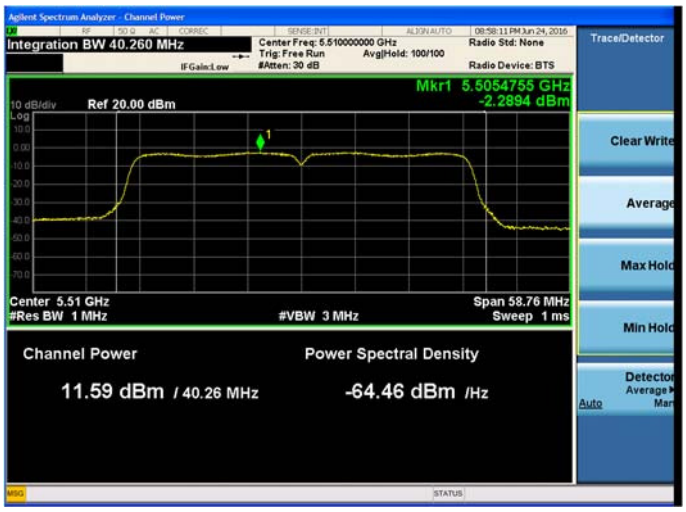
Plot 9-167. Maximum Conducted Output Power and PSD Chain B 802.11n HT40 (Ch. 46)



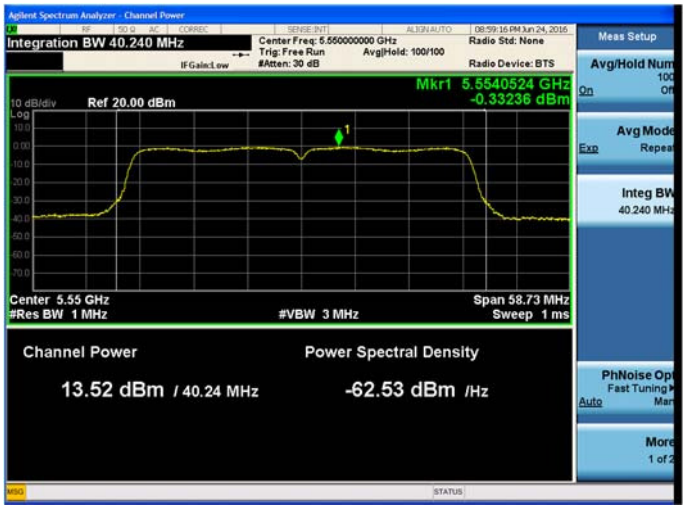
Plot 9-168. Maximum Conducted Output Power and PSD Chain B 802.11n HT40 (Ch. 54)



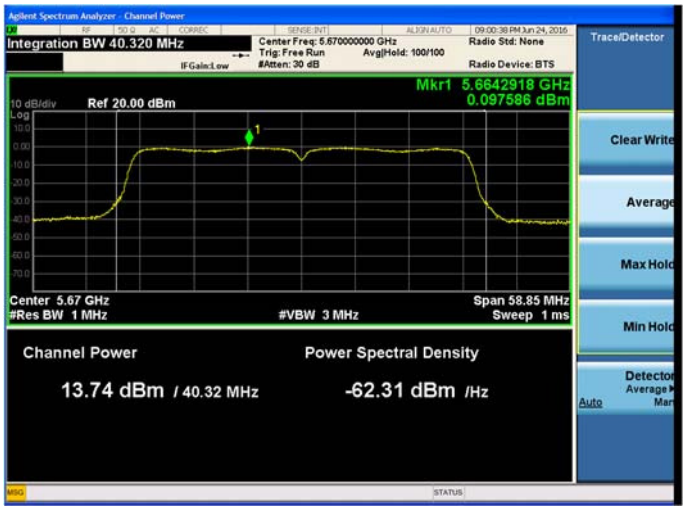
Plot 9-169. Maximum Conducted Output Power and PSD Chain B 802.11n HT40 (Ch. 62)



Plot 9-170. Maximum Conducted Output Power and PSD Chain B 802.11n HT40 (Ch. 102)

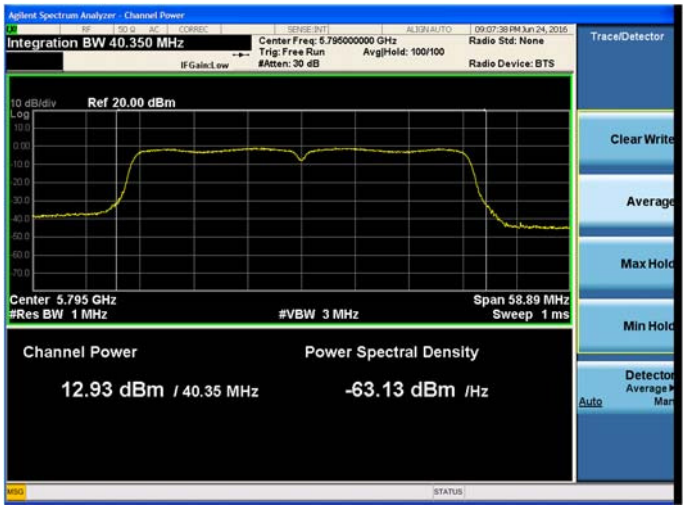


Plot 9-171. Maximum Conducted Output Power and PSD Chain B 802.11n HT40 (Ch. 110)



Plot 9-172. Maximum Conducted Output Power and PSD Chain B 802.11n HT40 (Ch. 134)

Plot 9-173. Maximum Conducted Output Power Chain B 802.11n HT40 (Ch. 151)



Plot 9-174. Maximum Conducted Output Power Chain B 802.11n HT40 (Ch. 159)

Plot 9-175. Maximum Power Spectral Density Chain B 802.11n HT40 (Ch. 151)

Plot 9-176. Maximum Power Spectral Density Chain B 802.11n HT40 (Ch. 159)

9.5.5.7 Chain A+B 802.11ac VHT80 Maximum Conducted Output Power

Chain A+B 802.11ac VHT80 Maximum Conducted Output Power								
Chan. No.	Freq. (MHz)	Chain A (dBm)	Chain B (dBm)	Total Power (dBm)	15.407 Limit (dBm)	RSS-247 Limit (dBm)	15.407 Margin (dB)	RSS-247 Margin (dB)
42	5210	8.87	8.63	11.81	24.00	--	-12.19	--
58	5290	7.93	7.78	10.91	23.70	24.00	-12.79	-13.09
106	5530	9.27	8.44	11.93	23.20	24.00	-11.27	-12.07
122	5610	13.01	12.74	15.93	23.20	24.00	-7.27	-8.07
155	5775	8.79	8.87	11.89	30.00	30.00	-18.11	-18.11

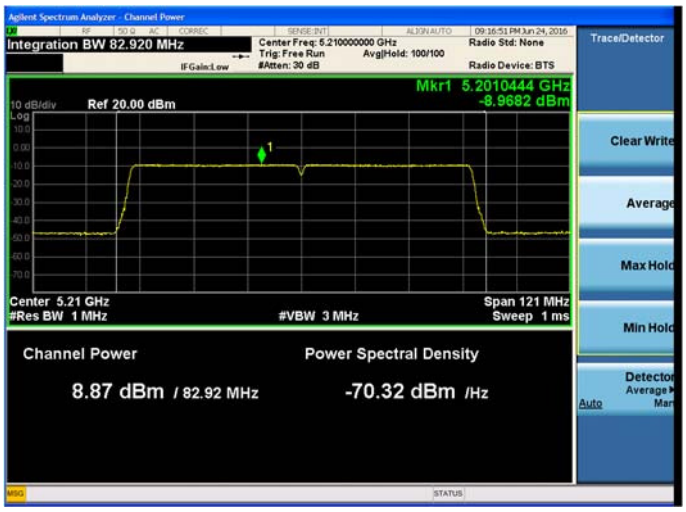
Chain A+B 802.11ac VHT80 E.I.R.P						
Channel No.	Frequency (MHz)	Total Power (dBm)	Antenna Gain (dBi)	E.I.R.P (dBm)	RSS-247 E.I.R.P Limit (dBm)	RSS-247 E.I.R.P. Margin (dB)
42	5210	11.81	5.48	17.29	23.00	-5.71
58	5290	10.91	6.30	17.21	30.00	-12.79
106	5530	11.93	6.80	18.73	30.00	-11.27
122	5610	15.93	6.80	22.73	30.00	-7.27
155	5775	11.89	5.31	17.20	--	--

9.5.5.8 Chain A+B 802.11ac VHT80 Maximum Power Spectral Density

UNII-1 Chain A+B 802.11ac VHT80 Maximum Power Spectral Density/MHz										
Chan. No.	Freq. (MHz)	Chain A (dBm)	Chain B (dBm)	Total PSD $(\frac{dBm}{MHz})$	Total Ant. Gain (dBi)	Total EIRP PSD $(\frac{dBm}{MHz})$	15.407 Limit $(\frac{dBm}{MHz})$	RSS-247 EIRP PSD Limit $(\frac{dBm}{MHz})$	15.407 Margin (dB)	RSS-247 Margin (dB)
42	5210	-8.97	-8.96	-5.91	5.48	-0.43	11.00	10.00	-16.91	-10.43

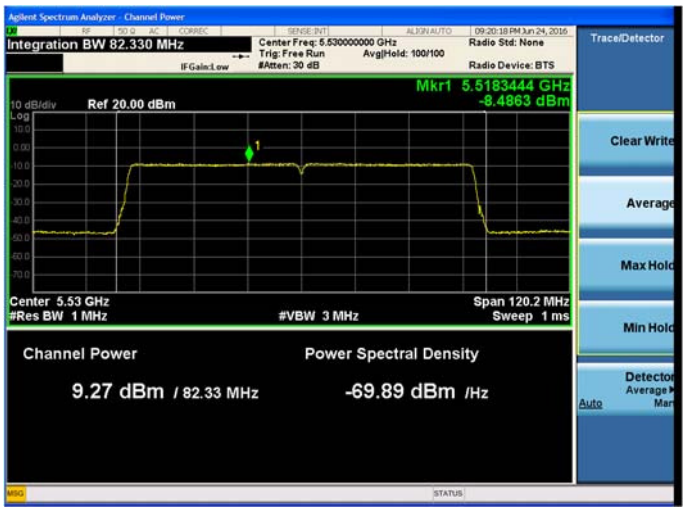
UNII-2A and UNII-2C Chain A+B 802.11ac VHT80 Maximum Power Spectral Density/MHz								
Channel No.	Frequency (MHz)	Chain A (dBm)	Chain B (dBm)	Total PSD $(\frac{dBm}{MHz})$	15.407 Limit $(\frac{dBm}{MHz})$	RSS-247 Limit $(\frac{dBm}{MHz})$	15.407 Margin (dB)	RSS-247 Margin (dB)
58	5290	-9.61	-9.46	-6.48	10.70	11.00	-17.18	-17.48
106	5530	-8.49	-9.14	-5.75	10.20	11.00	-15.95	-16.75
122	5610	-4.50	-4.88	-1.63	10.20	11.00	-11.83	-12.63

UNII-3 Chain A+B 802.11ac VHT80 Maximum Power Spectral Density/500kHz								
Chan. No.	Freq. (MHz)	Chain A (dBm)	Chain B (dBm)	Total PSD $(\frac{dBm}{500\ kHz})$	15.407 Limit $(\frac{dBm}{500\ kHz})$	RSS-247 Limit $(\frac{dBm}{500\ kHz})$	15.407 Margin (dB)	RSS-247 Margin (dB)
155	5775	-11.36	-10.81	-8.02	30.00	30.00	-38.02	-38.02

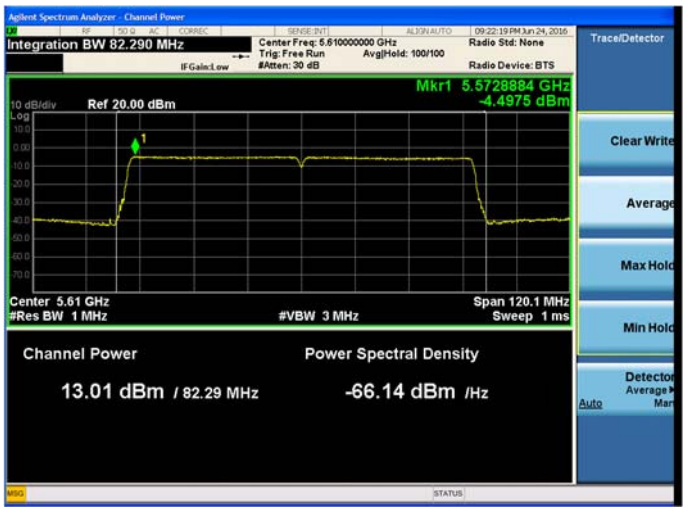


Plot 9-177. Maximum Conducted Output Power and PSD Chain A 802.11ac VHT80 (Ch. 42)

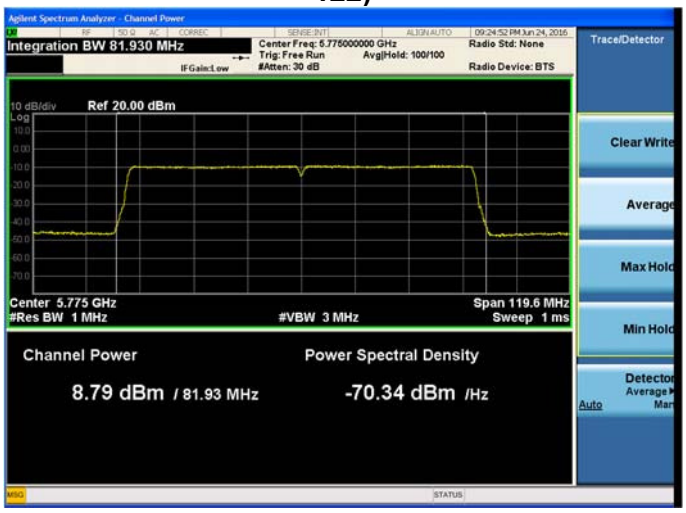
Plot 9-178. Maximum Conducted Output Power and PSD Chain A 802.11ac VHT80 (Ch. 58)



Plot 9-179. Maximum Conducted Output Power and PSD Chain A 802.11ac VHT80 (Ch. 106)

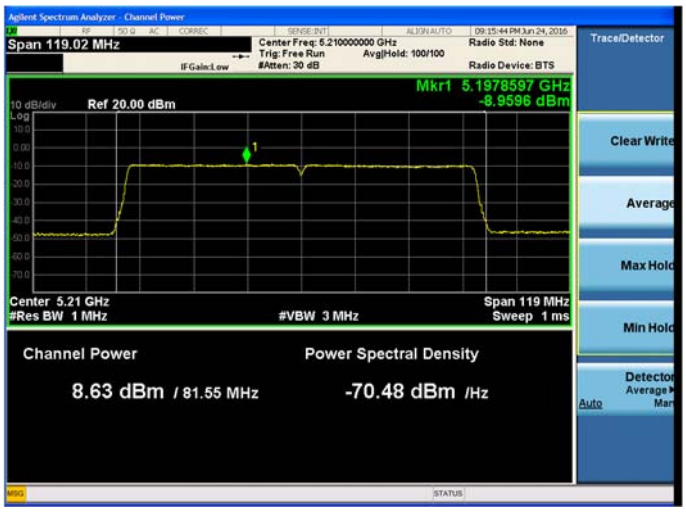


Plot 9-180. Maximum Conducted Output Power and PSD Chain A 802.11ac VHT80 (Ch. 122)



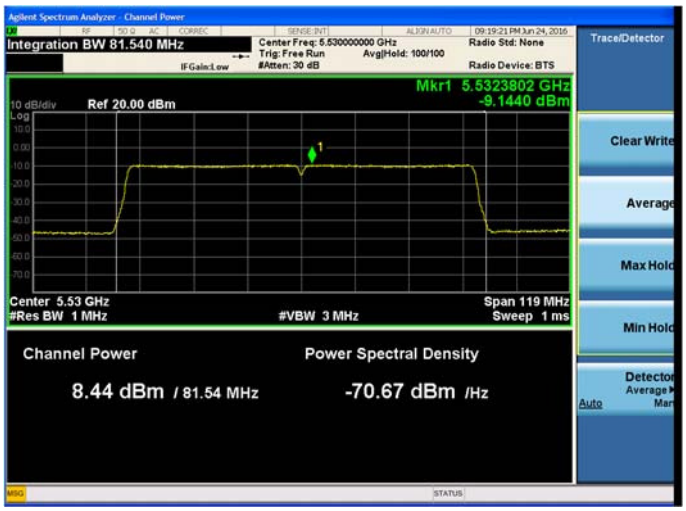
Plot 9-181. Maximum Conducted Output Power Chain A 802.11ac VHT80 (Ch. 155)

Plot 9-182. Maximum Power Spectral Density Chain A 802.11ac VHT80 (Ch. 155)

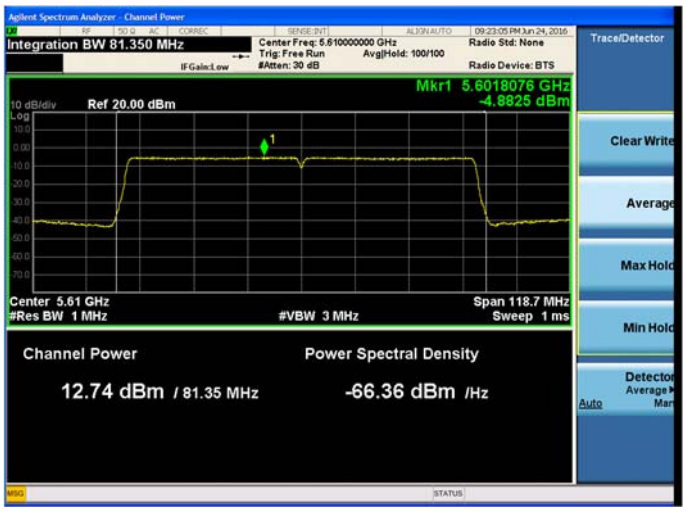


Plot 9-183. Maximum Conducted Output Power and PSD Chain B 802.11ac VHT80 (Ch. 42)

Plot 9-184. Maximum Conducted Output Power and PSD Chain B 802.11ac VHT80 (Ch. 58)



Plot 9-185. Maximum Conducted Output Power and PSD Chain B 802.11ac VHT80 (Ch. 106)



Plot 9-186. Maximum Conducted Output Power and PSD Chain B 802.11ac VHT80 (Ch. 122)

Plot 9-187. Maximum Conducted Output Power Chain B 802.11ac VHT80 (Ch. 155)

Plot 9-188. Maximum Power Spectral Density Chain B 802.11ac VHT80 (Ch. 155)

9.6 Radiated Spurious and Band Edge Emissions

9.6.1 Test Requirement:

FCC CFR 47 Rule Part 15.407 (b)
ISED RSS-247 [6.2] and RSS GEN [8.9]

9.6.2 Test Method:

Measurements were performed according to the procedure defined in KDB 558074 - Guidance for Performing Compliance Measurements on Digital Transmission Systems (DTS) Operating Under §15.247 V03R05 and ANSI C63.10 2013.

Radiated spurious measurements are made from 30MHz to the 10th harmonic of the fundamental frequency of the transmitter. The limit for radiated spurious emissions is per 15.209 and RSS-247 [5.5]. Additionally, emissions found in the restricted bands as listed in 15.205 were tested for compliance per limits in 15.209 and RSS-Gen.

The EUT was tested near the low, middle and high channels of operation in each sub band. Guidelines in ANSI C63.10:2013 were followed with respect to maximizing the emissions. The EUT was placed on a turntable at a height of 80cm from the ground plane in standing position, which was estimated as the worst case orientation for all measurements.

Emissions below 1 GHz were maximized by rotating the EUT for 360 degs and with the antenna height scan performed from 1-4m. The same method was followed for emissions above 1GHz, but with the measurement antenna set in bore-sight mode. Both horizontal and vertical antenna polarizations were investigated. Worst case maximized data is shown in this test report.
A pre-amp and a high pass filter were required for this test, in order to provide the measuring system with sufficient sensitivity. The peak reading of the emission, after being corrected by the antenna factor, cable loss, pre-amp gain, etc., is the peak field strength.
All tests were performed in MIMO transmission mode to measure the worst case for both antennas.

Radiated Spurious Emissions
Spectrum Analyzer Settings:
30 MHz- 1 GHz:
RBW= 120 kHz
VBW ≥ 3 X RBW
Trace Mode: Peak Detector (Max Hold). Final measurements performed using QP Detector.
Span= 30 MHz- 1 GHz
Sweep time= Auto
Above 1 GHz:
RBW= 1 MHz
VBW= 3 MHz
Trace Mode: Peak Detector (Max Hold) and RMS Average Detector (Max Hold)
Span= 1- 18 GHz and 18- 26.5 GHz.
Sweep time= Auto

Restricted Band-Edge Emissions

Spectrum Analyzer Settings:

RBW= 1 MHz
VBW= 3 MHz
Trace Mode: Peak Detector (Max Hold) and RMS Average Detector (Max Hold)
Span= 2310 – 2500 MHz
Sweep Points = 801
Sweep Time = Peak: Auto; Average: 100 s

Sample Calculation:

Field Strength Level: Amplitude (Analyzer level) + AFCL (Antenna Factor and Cable losses) – Amplifier Gain = 50 dBuV + 33 dB – 25 dB = 78dBuV/m

9.6.3 Limits:

Frequency (MHz)	Field Strength (µV/m)	Measurement Distance (meters)	Corrected Field Strength for 3m measurement distance (dBµV/m)
0.009-0.490	2400/F (kHz)	300	48.5- 13.8
0.490-1.705	24000/F (kHz)	30	33.8- 23.0
1.705-30	30	30	29.5
30-88	100	3	40
88-216	150	3	43.5
216-960	200	3	46
960-1000	500	3	54
Above 1000	500	3	54 (Average) 74 (Peak)

9.6.4 Test Result:

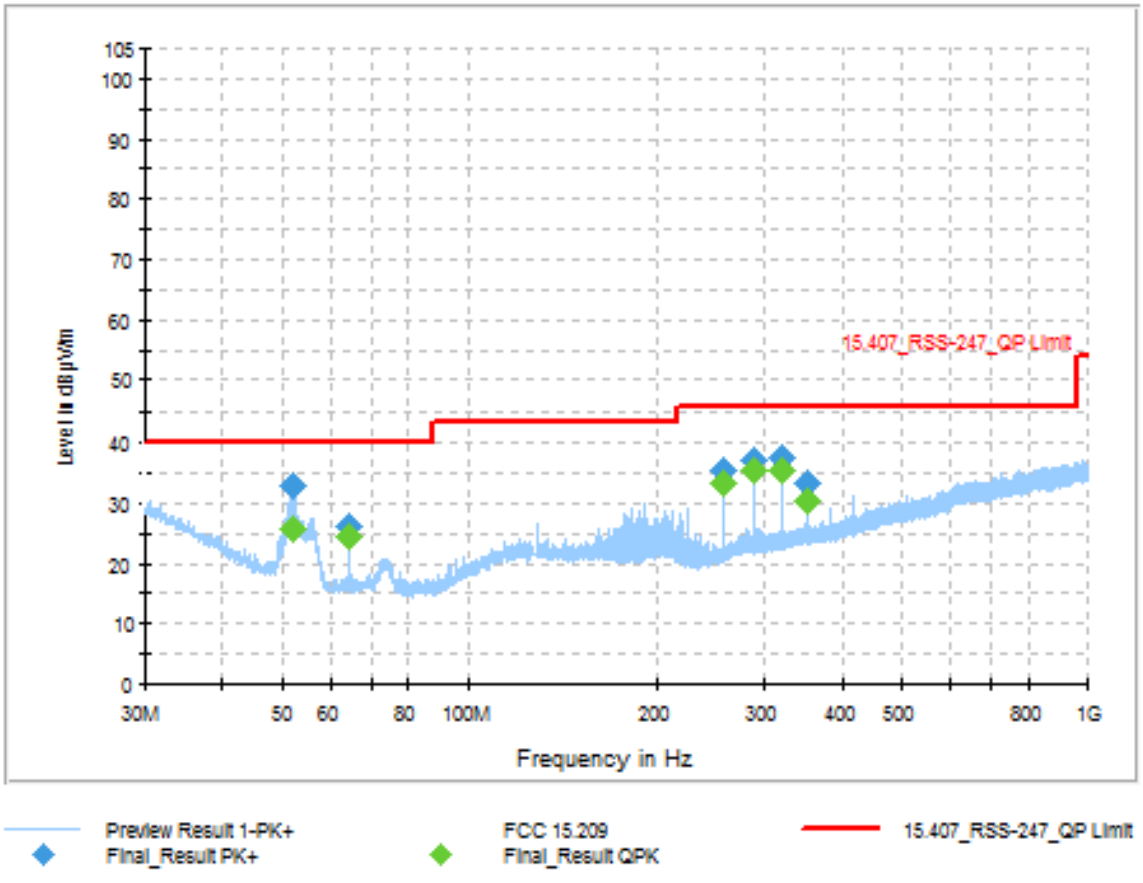
Pass.

9.6.5 Test Data:

9.6.5.1 Radiated Emissions in 30 MHz- 1 GHz range

All channels and modes were tested and worst case emissions in 802.11a mode, channel 48 shown here.

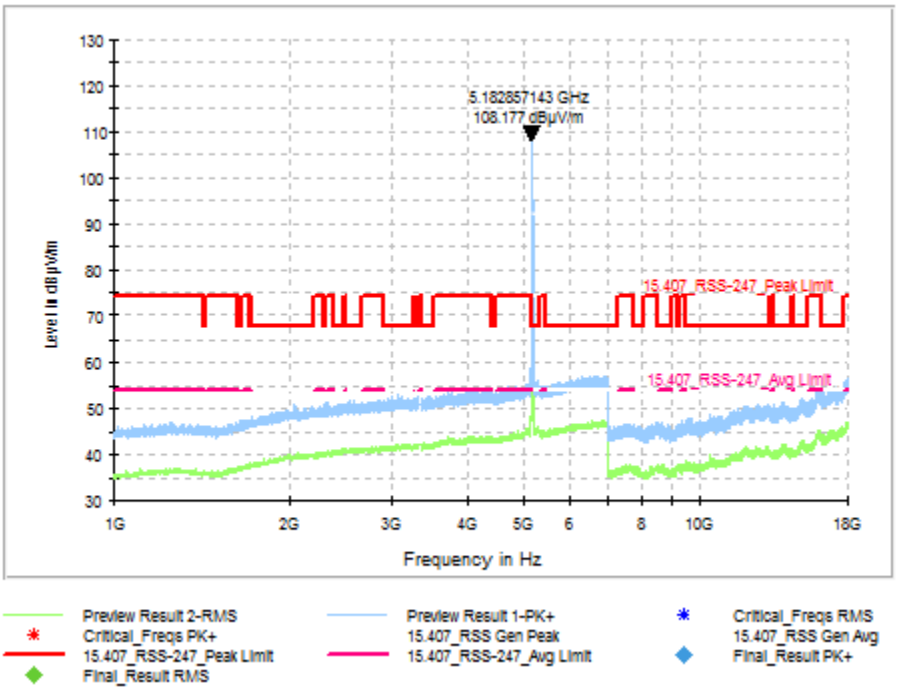
RSE 30-1000 MHz					
Frequency (MHz)	**Raw Quasi-Peak Amplitude (dBµV/m)**	**Correction Factor (dB)**	**Corrected Quasi-Peak Field Strength (dBµV/m)**	**Quasi-Peak Limit (dBµV/m)**	**Quasi-Peak Margin (dB)**
52.01	10.97	14.8	25.77	40.00	-14.23
63.99	10.29	14.2	24.49	40.00	-15.51
255.97	14.05	19.3	33.35	46.02	-12.67
288.01	14.41	20.9	35.31	46.02	-10.71
319.98	14.2	21.4	35.60	46.02	-10.42
351.99	8.56	22.0	30.56	46.02	-15.46



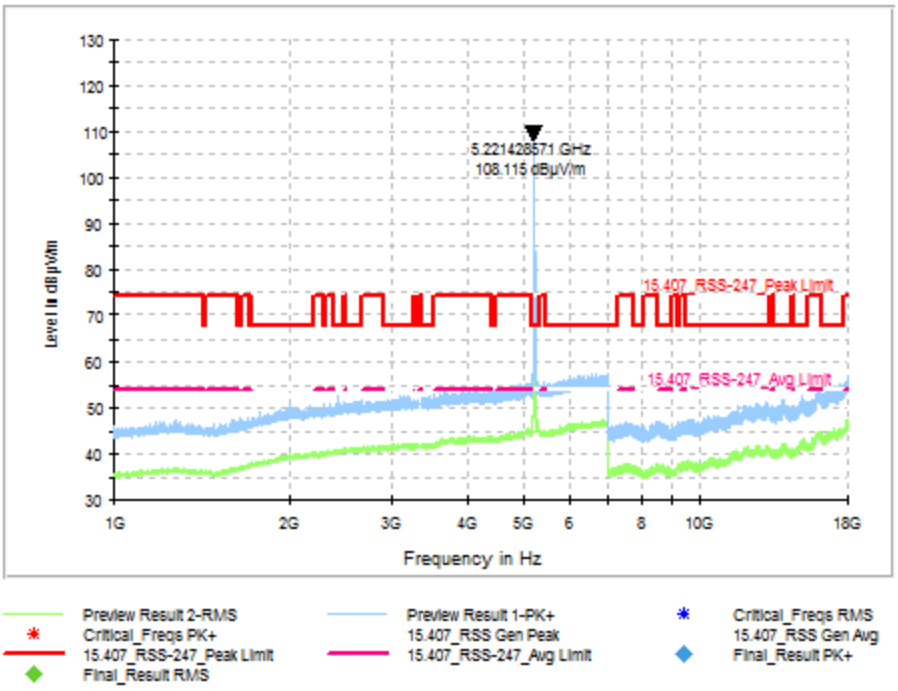
Plot 9-189. Radiated Spurious Emissions 30-1000 MHz Tx Chains A & B 802.11a (Ch. 48)

9.6.5.2 Radiated Emissions in 1-18 GHz range 802.11a

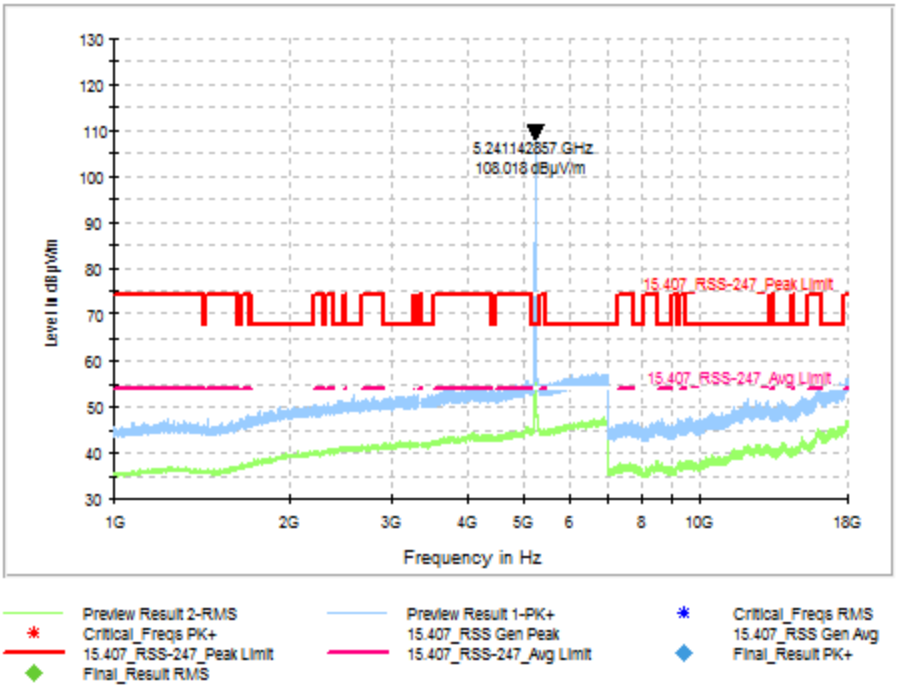
No emissions to report above noise floor.



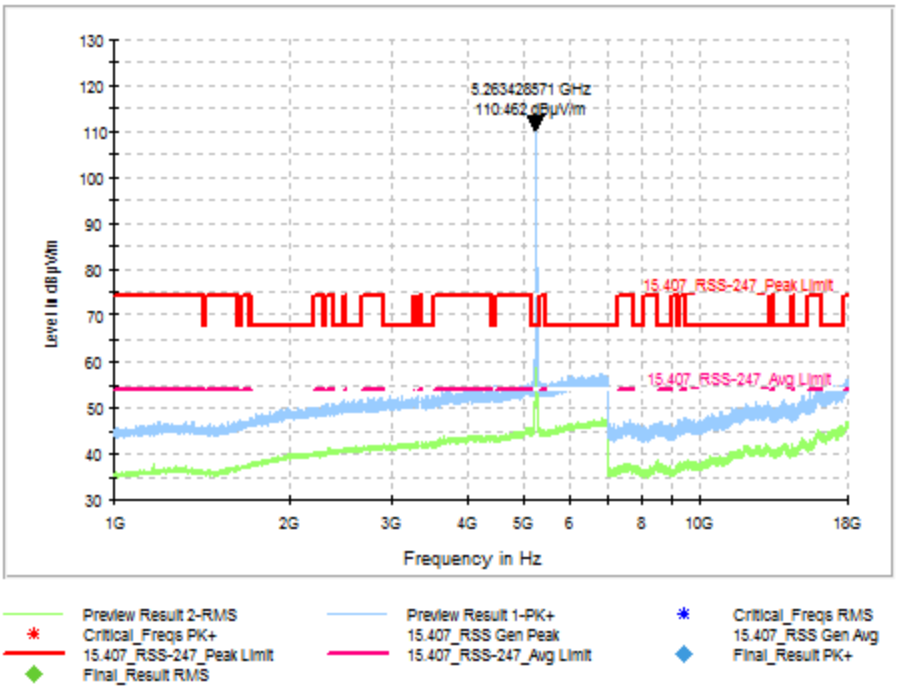
Plot 9-190. Radiated Spurious Emissions 1-18 GHz Tx Chains A & B 802.11a (Ch. 36)



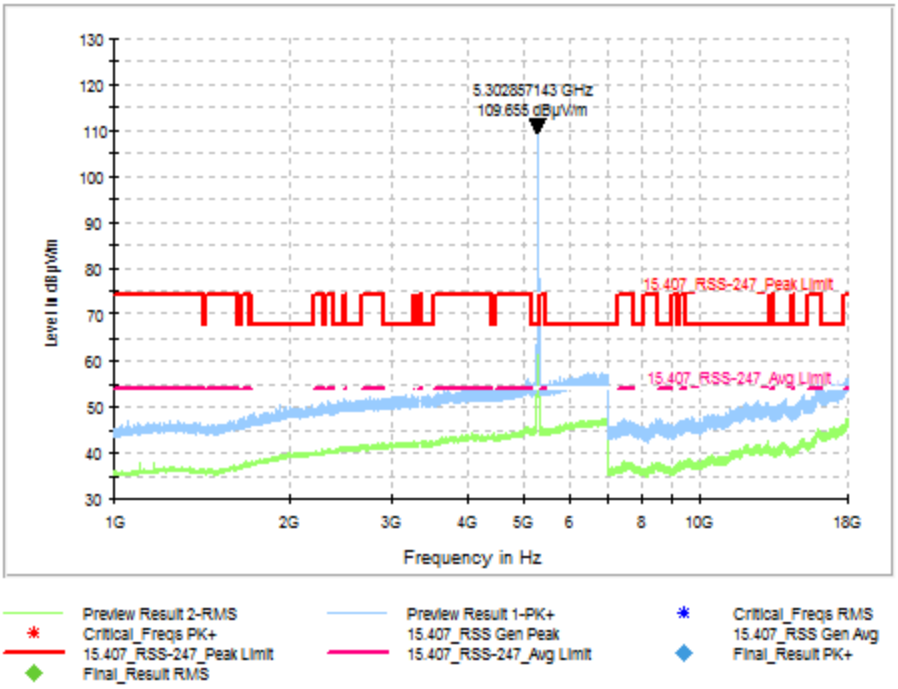
Plot 9-191. Radiated Spurious Emissions 1-18 GHz Tx Chains A & B 802.11a (Ch. 44)



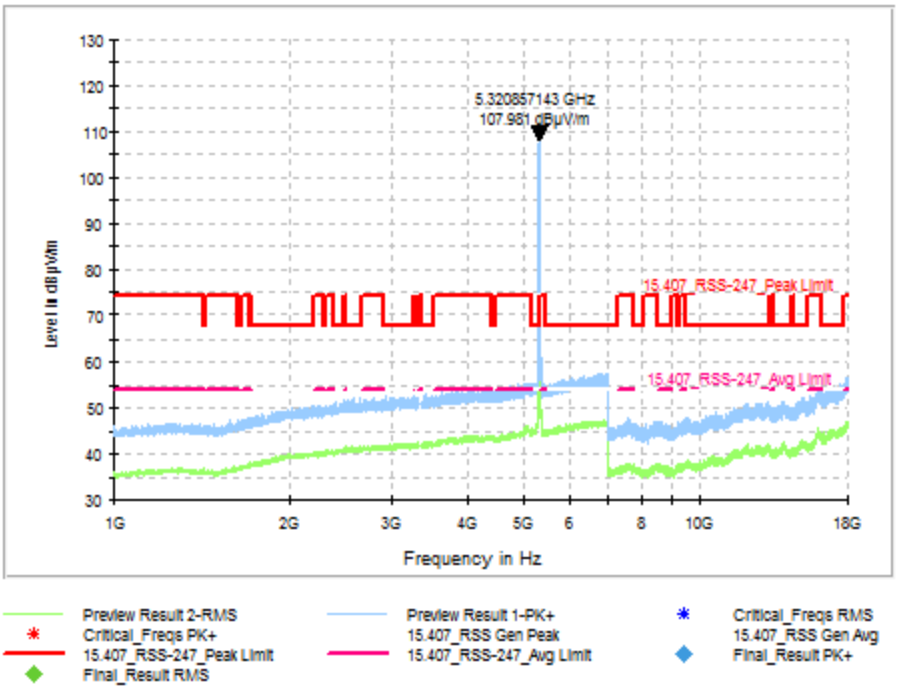
Plot 9-192. Radiated Spurious Emissions 1-18 GHz Tx Chains A & B 802.11a (Ch. 48)



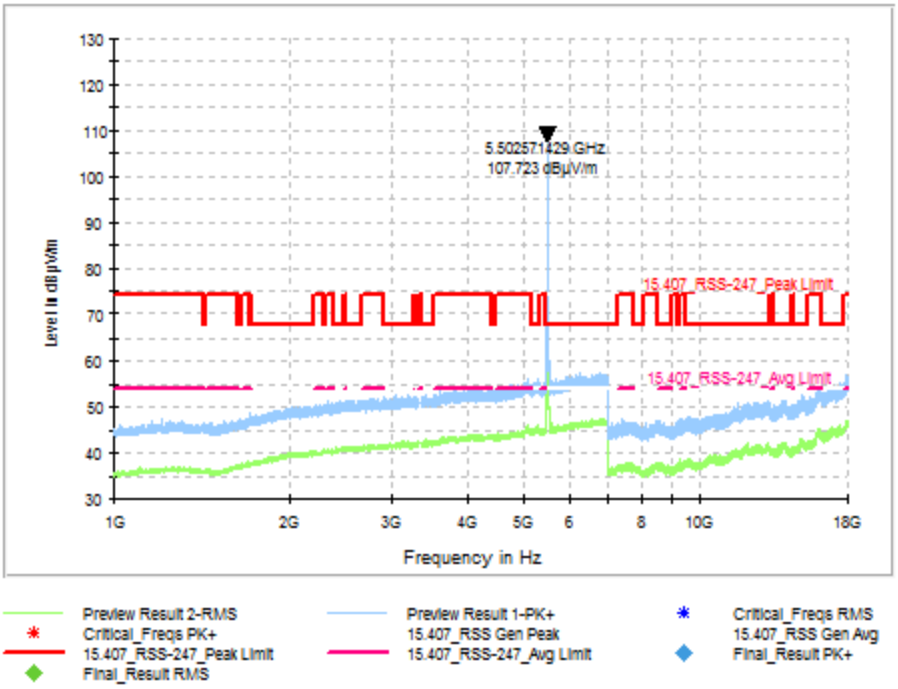
Plot 9-193. Radiated Spurious Emissions 1-18 GHz Tx Chains A & B 802.11a (Ch. 52)



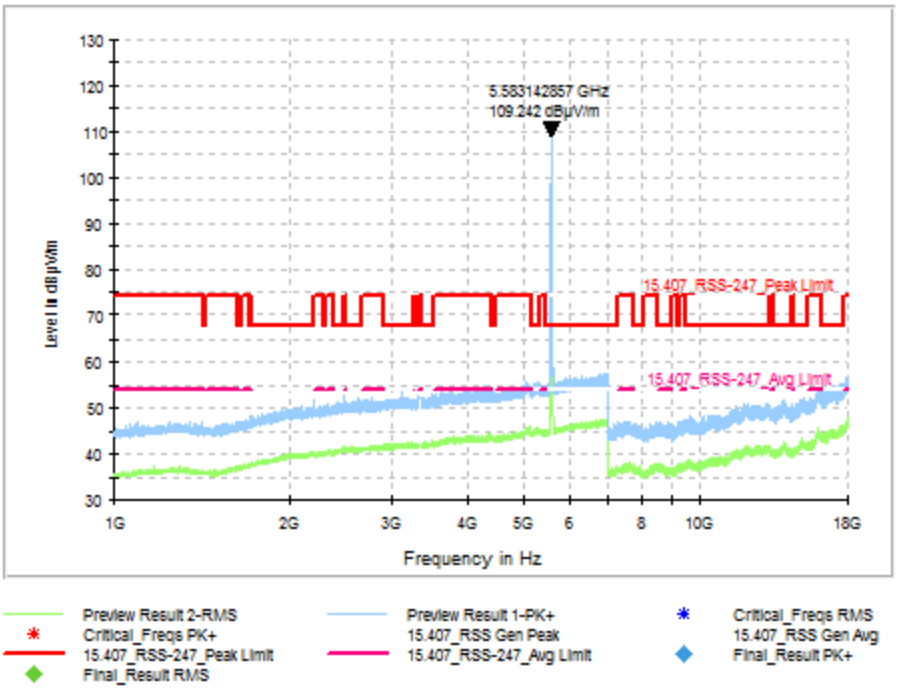
Plot 9-194. Radiated Spurious Emissions 1-18 GHz Tx Chains A & B 802.11a (Ch. 60)



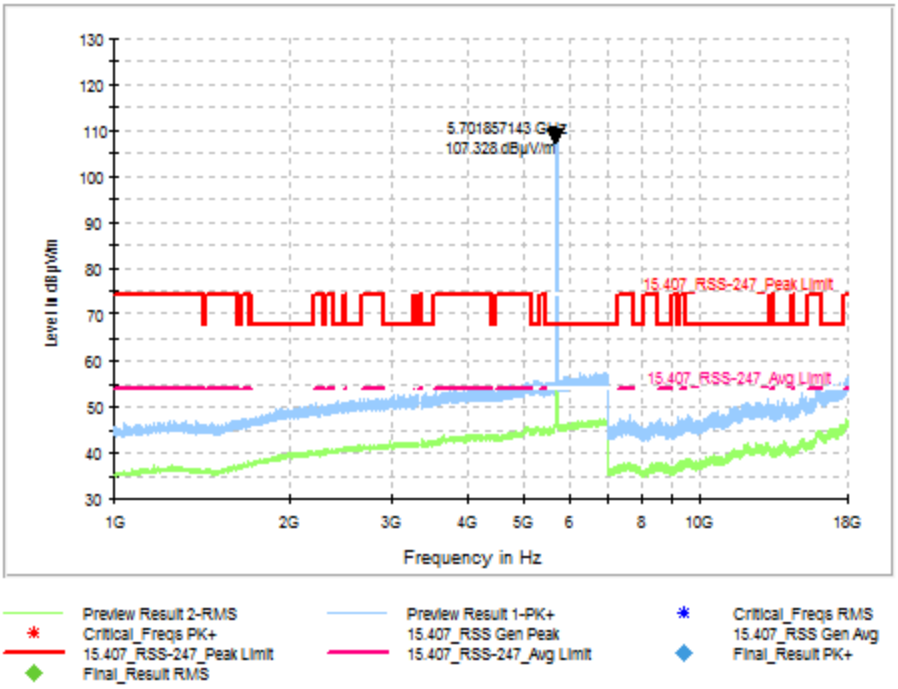
Plot 9-195. Radiated Spurious Emissions 1-18 GHz Tx Chains A & B 802.11a (Ch. 64)



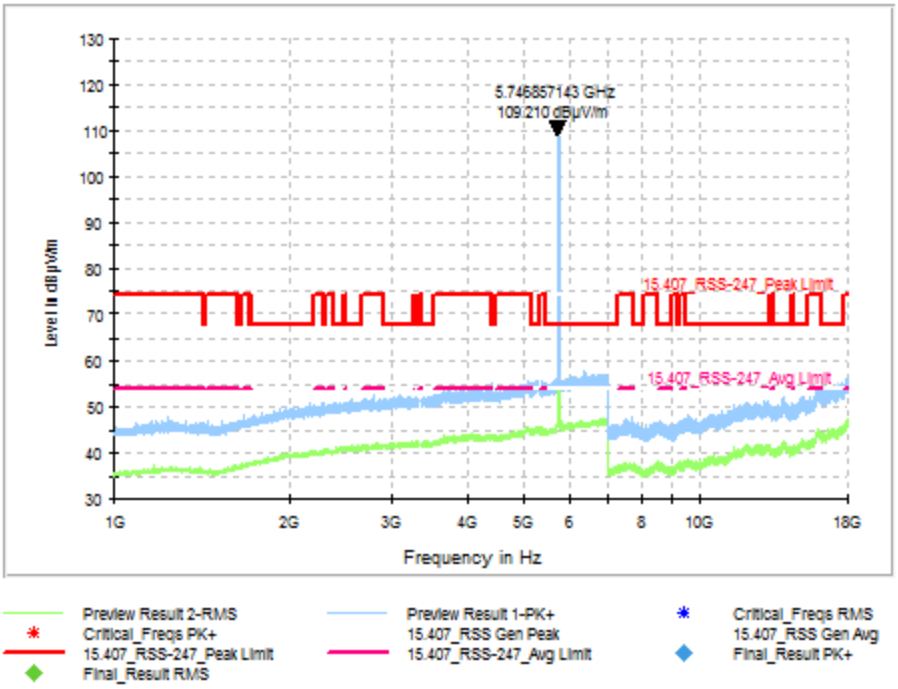
Plot 9-196. Radiated Spurious Emissions 1-18 GHz Tx Chains A & B 802.11a (Ch. 100)



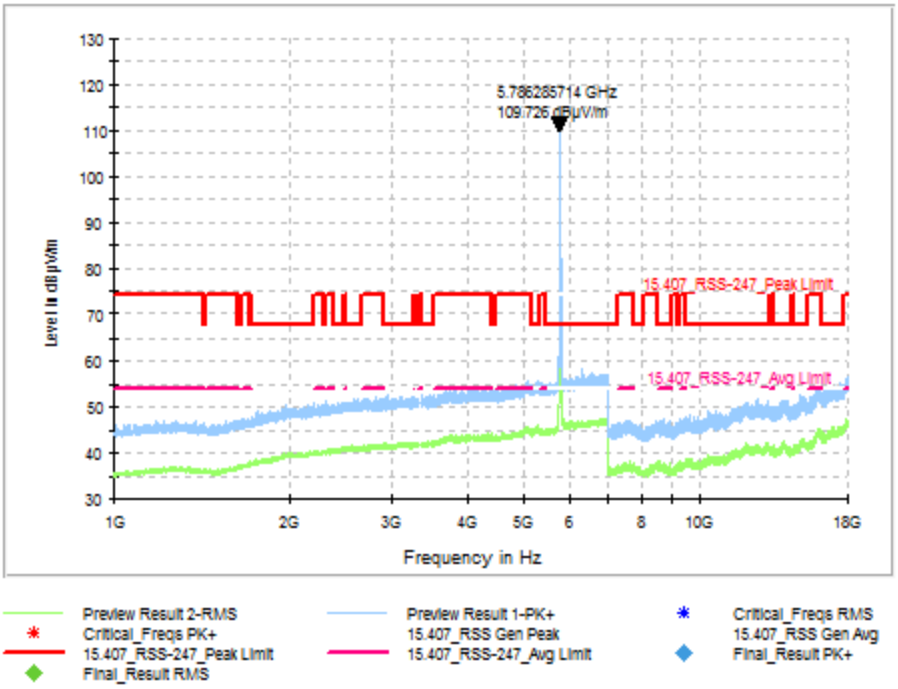
Plot 9-197. Radiated Spurious Emissions 1-18 GHz Tx Chains A & B 802.11a (Ch. 116)



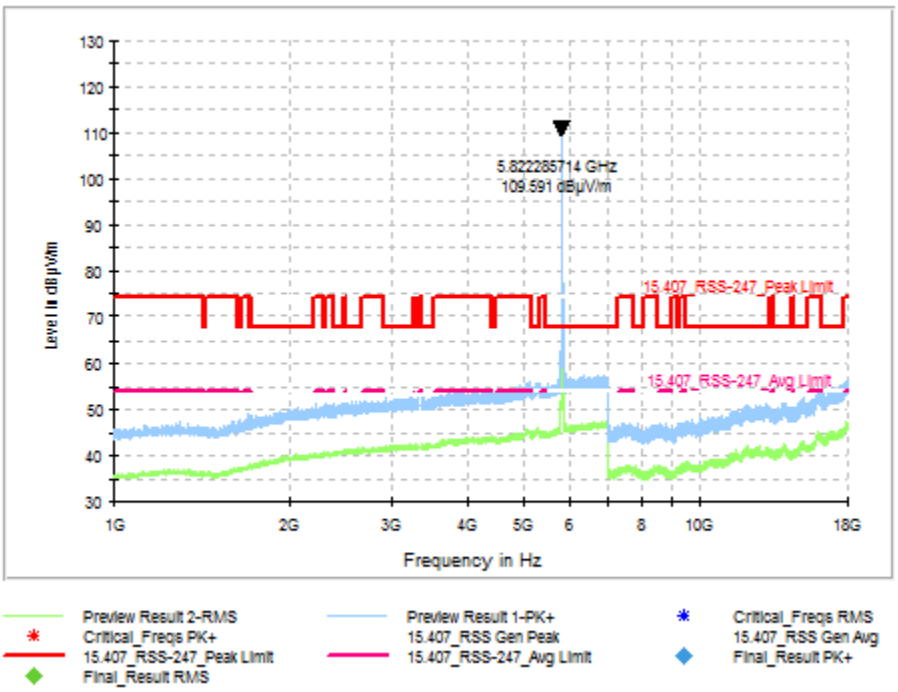
Plot 9-198. Radiated Spurious Emissions 1-18 GHz Tx Chains A & B 802.11a (Ch. 140)



Plot 9-199. Radiated Spurious Emissions 1-18 GHz Tx Chains A & B 802.11a (Ch. 149)



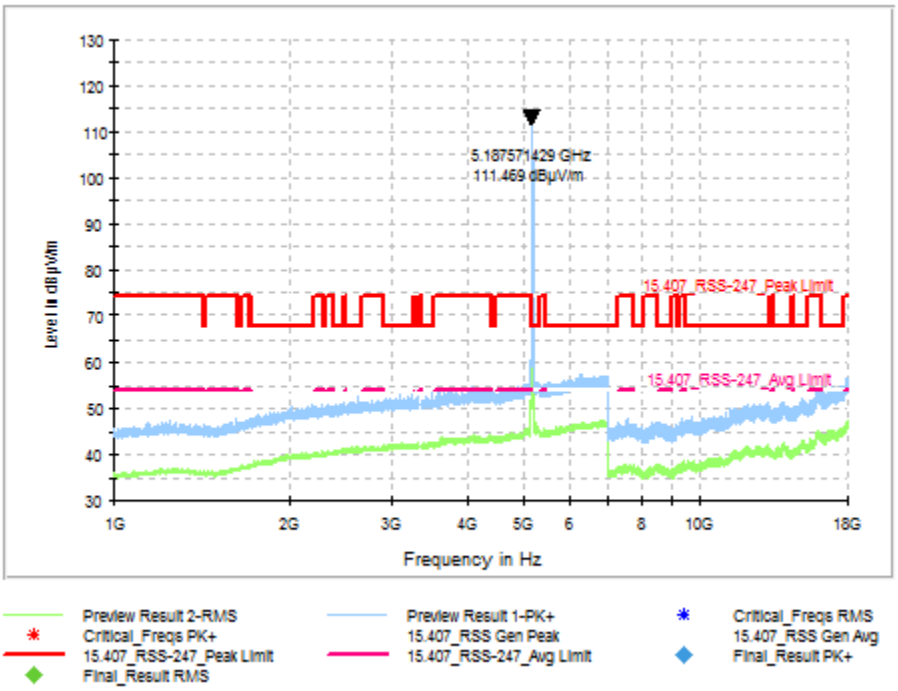
Plot 9-200. Radiated Spurious Emissions 1-18 GHz Tx Chains A & B 802.11a (Ch. 157)



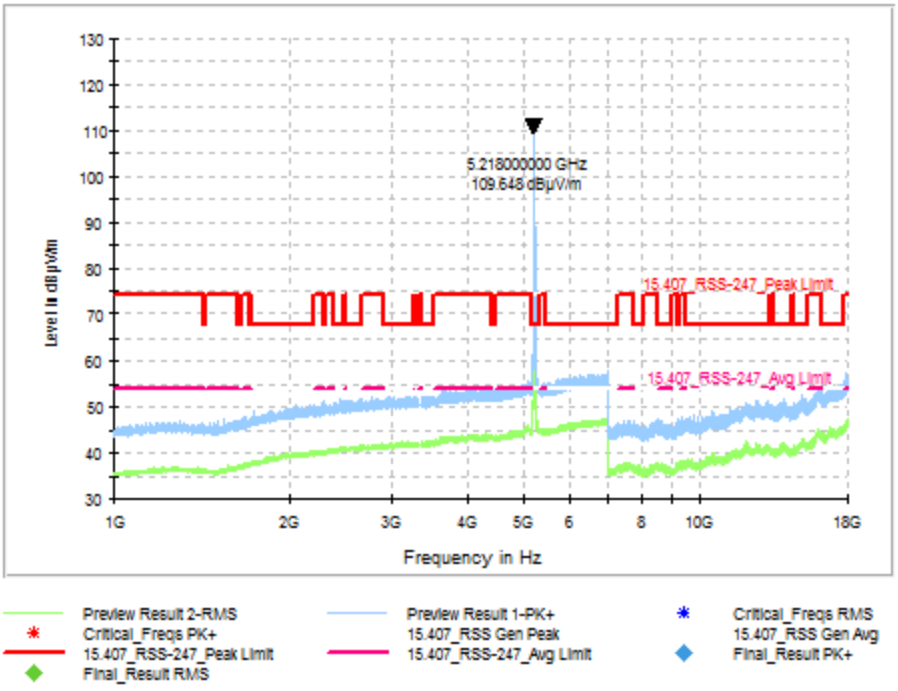
Plot 9-201. Radiated Spurious Emissions 1-18 GHz Tx Chains A & B 802.11a (Ch. 165)

9.6.5.3 Radiated Emissions in 1-18 GHz range 802.11n HT20

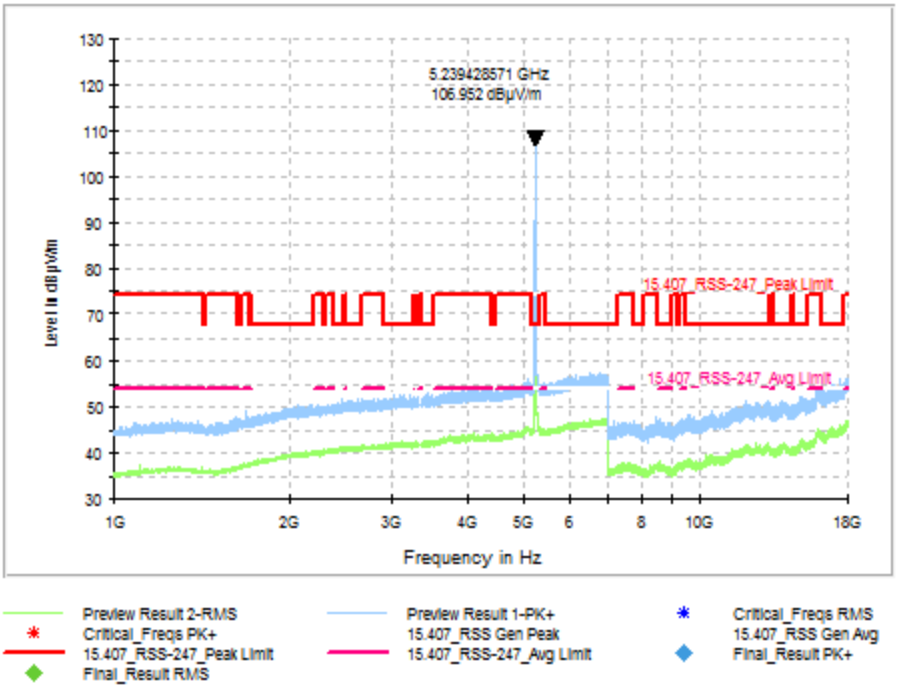
No emissions to report above noise floor.



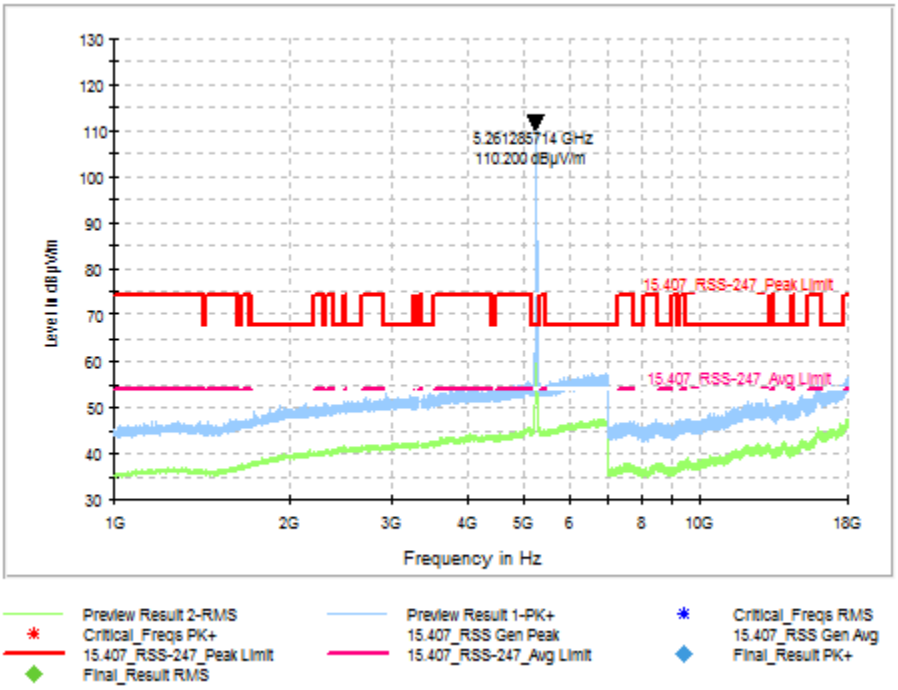
Plot 9-202. Radiated Spurious Emissions 1-18 GHz Tx Chains A & B 802.11n HT20 (Ch. 36)



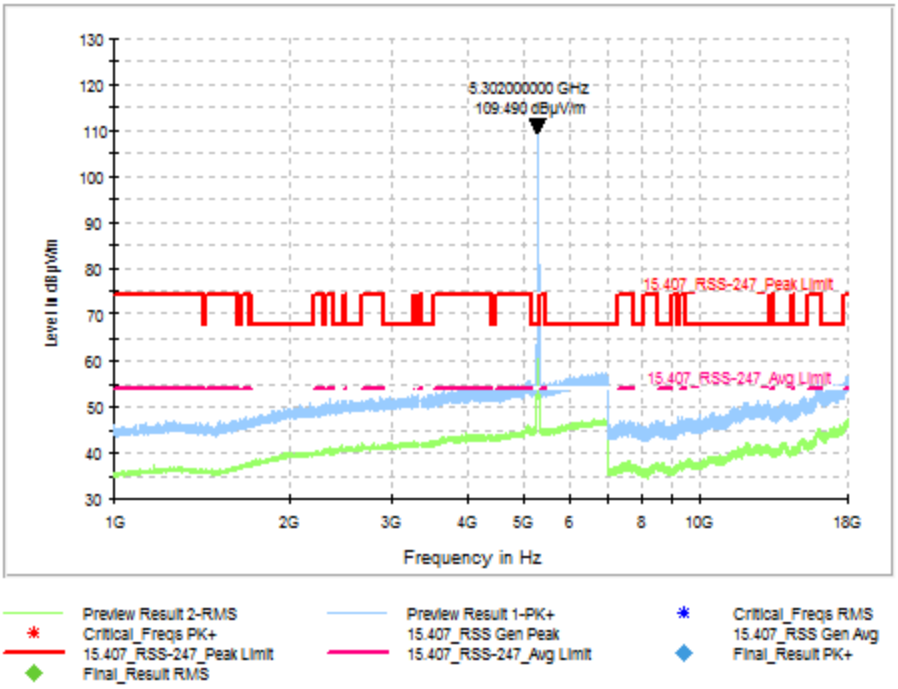
Plot 9-203. Radiated Spurious Emissions 1-18 GHz Tx Chains A & B 802.11n HT20 (Ch. 44)



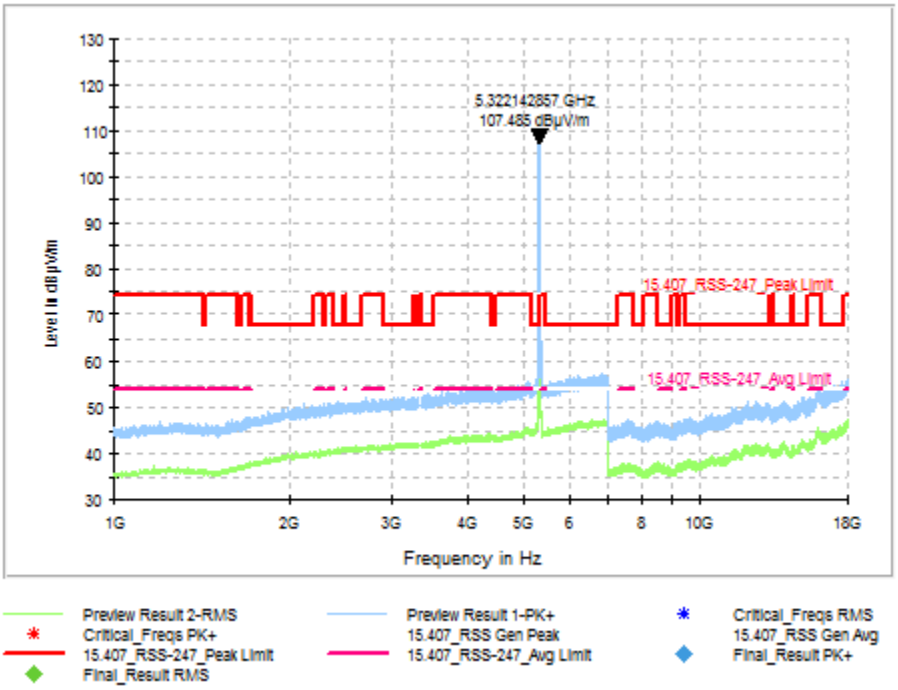
Plot 9-204. Radiated Spurious Emissions 1-18 GHz Tx Chains A & B 802.11n HT20 (Ch. 48)



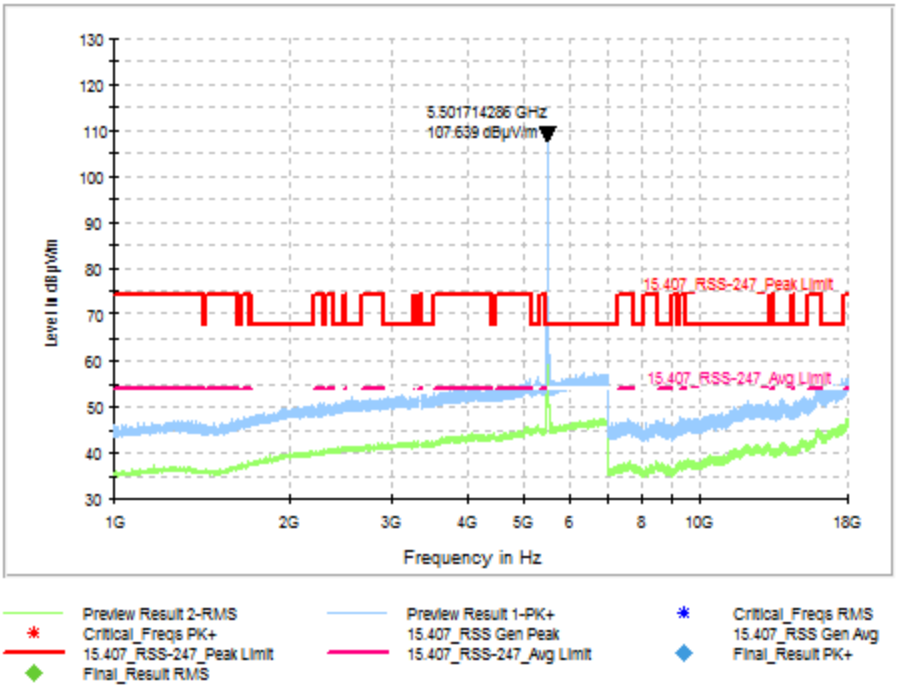
Plot 9-205. Radiated Spurious Emissions 1-18 GHz Tx Chains A & B 802.11n HT20 (Ch. 52)



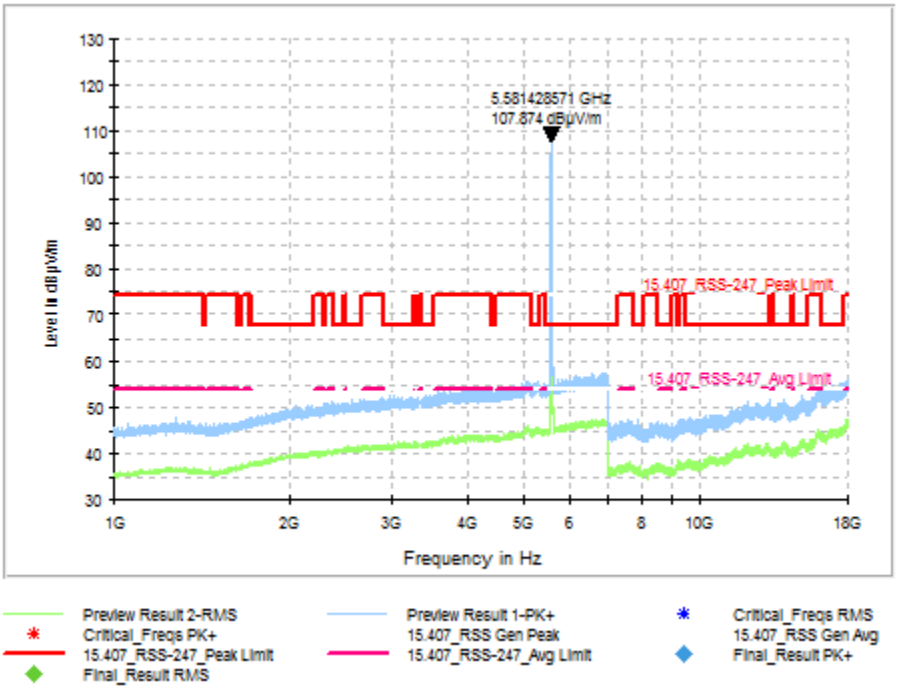
Plot 9-206. Radiated Spurious Emissions 1-18 GHz Tx Chains A & B 802.11n HT20 (Ch. 60)



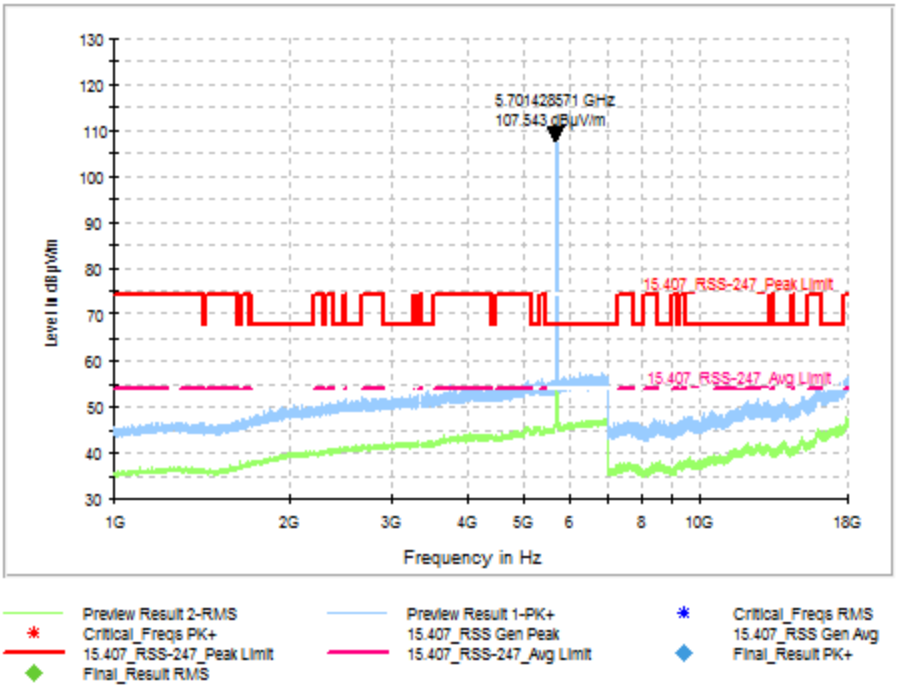
Plot 9-207. Radiated Spurious Emissions 1-18 GHz Tx Chains A & B 802.11n HT20 (Ch. 64)



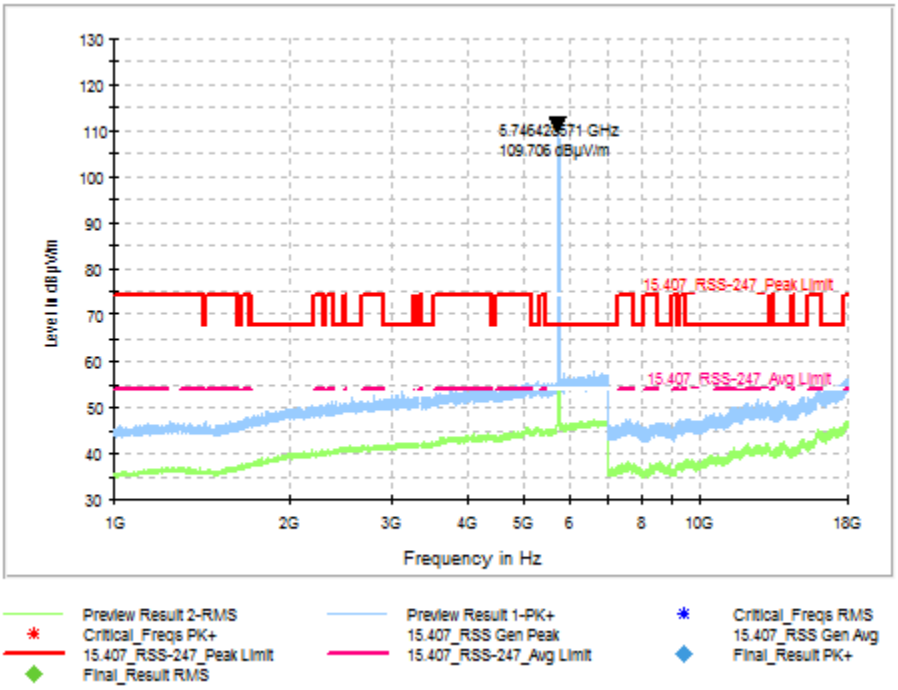
Plot 9-208. Radiated Spurious Emissions 1-18 GHz Tx Chains A & B 802.11n HT20 (Ch. 100)



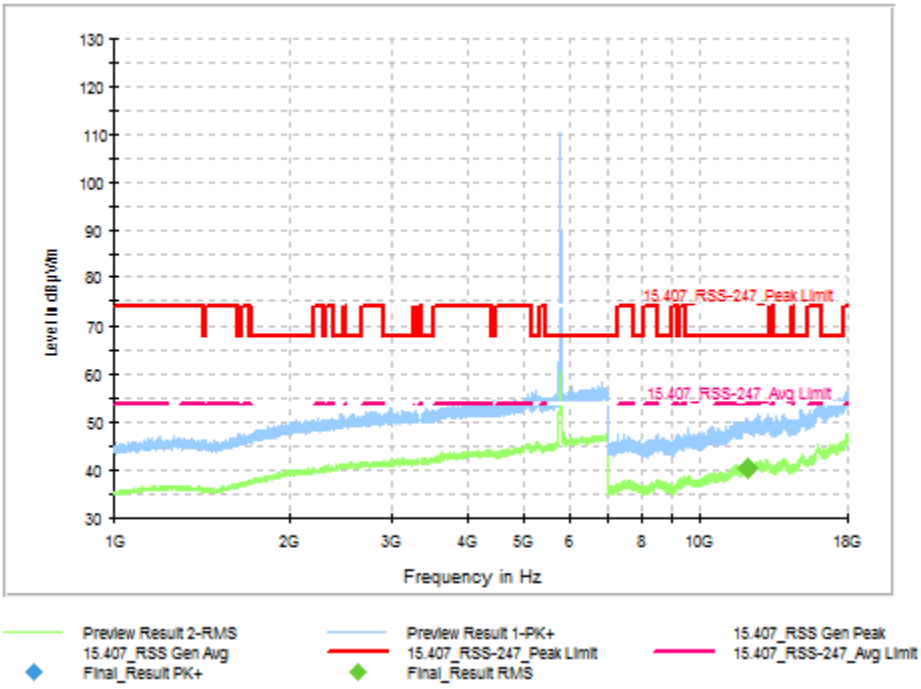
Plot 9-209. Radiated Spurious Emissions 1-18 GHz Tx Chains A & B 802.11n HT20 (Ch. 116)



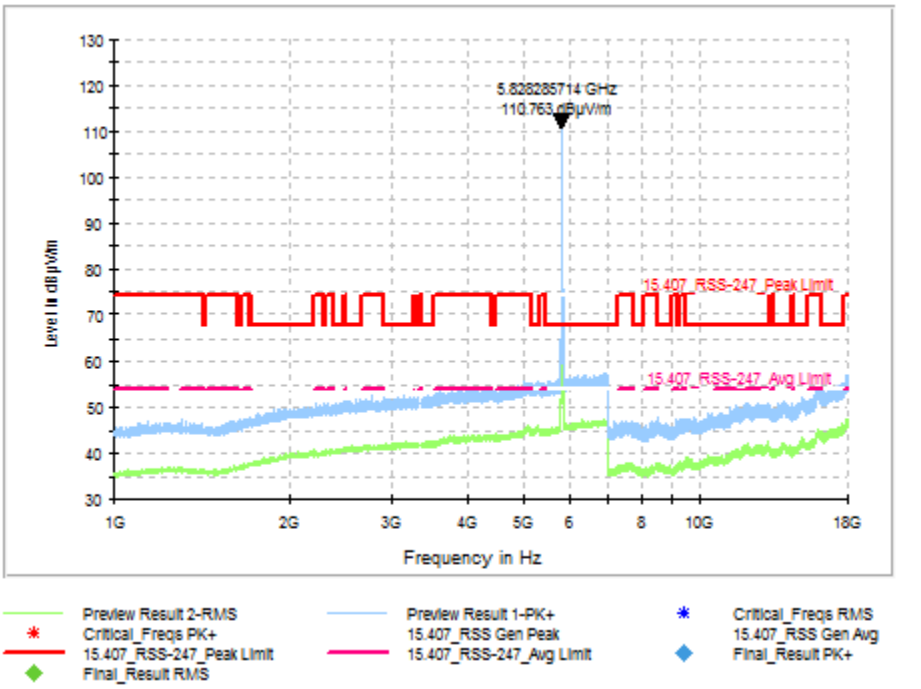
Plot 9-210. Radiated Spurious Emissions 1-18 GHz Tx Chains A & B 802.11n HT20 (Ch. 140)



Plot 9-211. Radiated Spurious Emissions 1-18 GHz Tx Chains A & B 802.11n HT20 (Ch. 149)



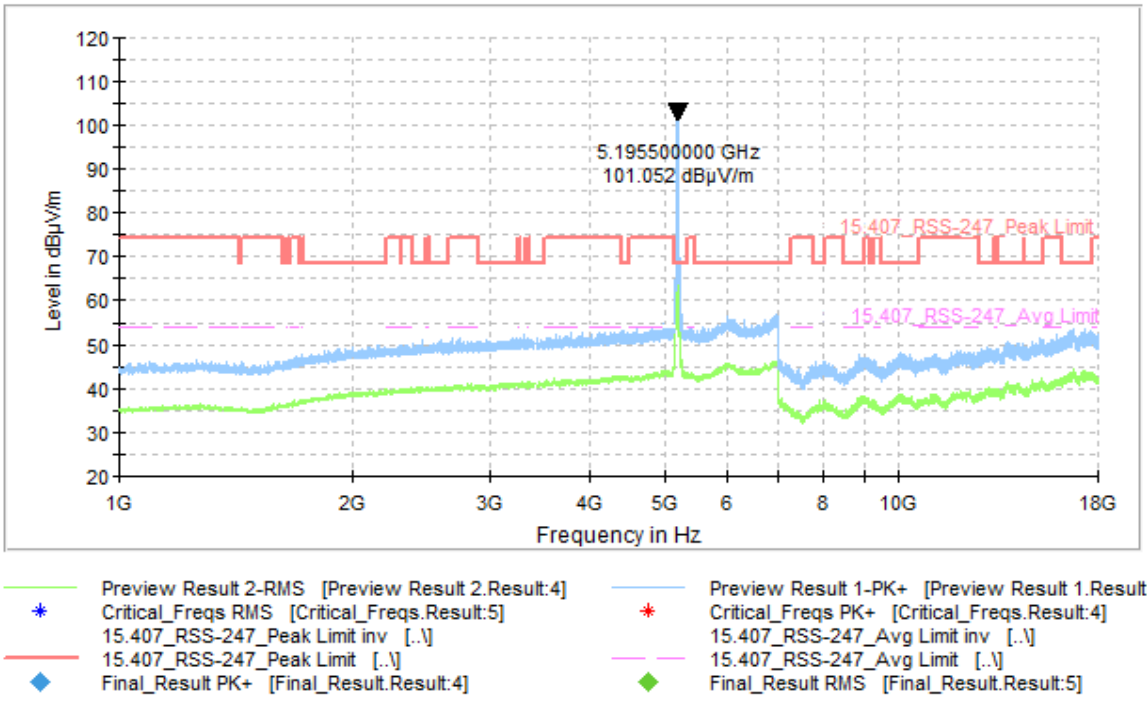
Plot 9-212. Radiated Spurious Emissions 1-18 GHz Tx Chains A & B 802.11n HT20 (Ch. 157)



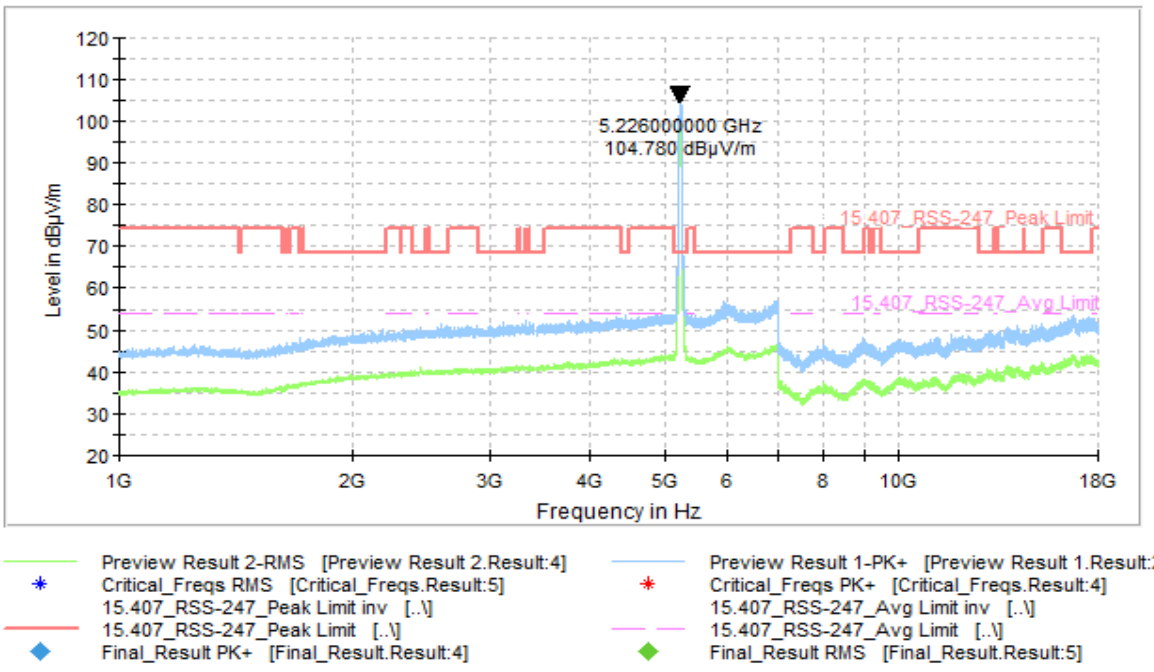
Plot 9-213. Radiated Spurious Emissions 1-18 GHz Tx Chains A & B 802.11n HT20 (Ch. 165)

9.6.5.4 Radiated Emissions in 1-18 GHz range 802.11n HT40

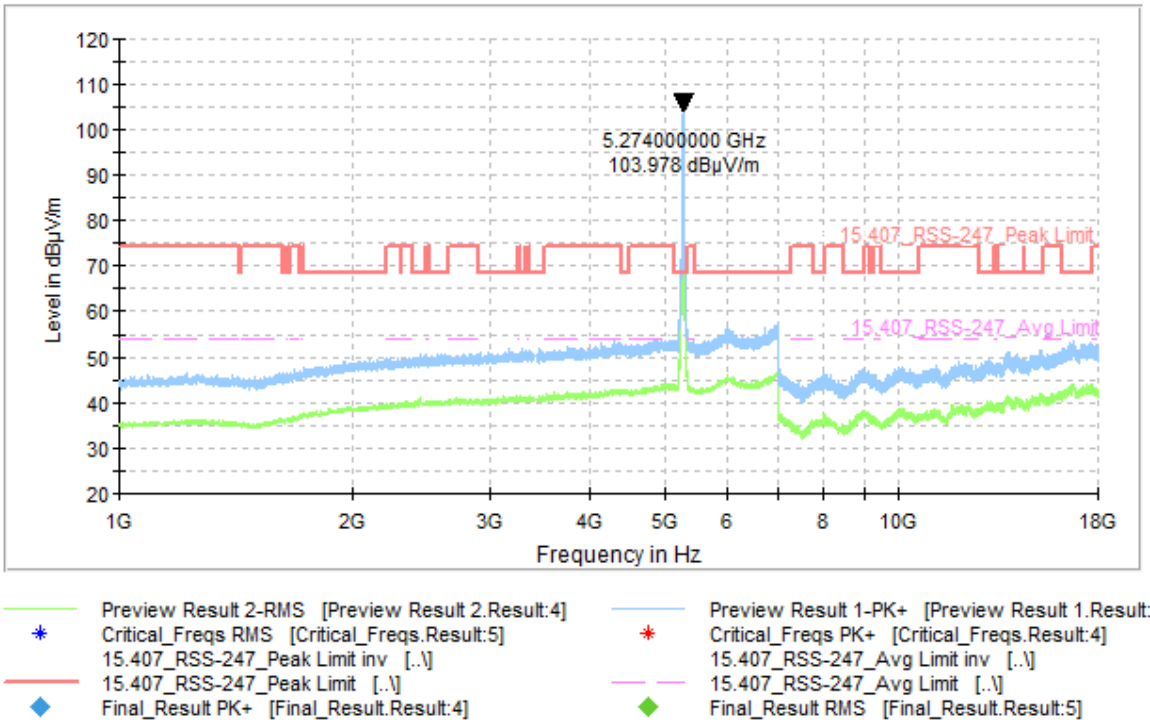
No emissions to report above noise floor.



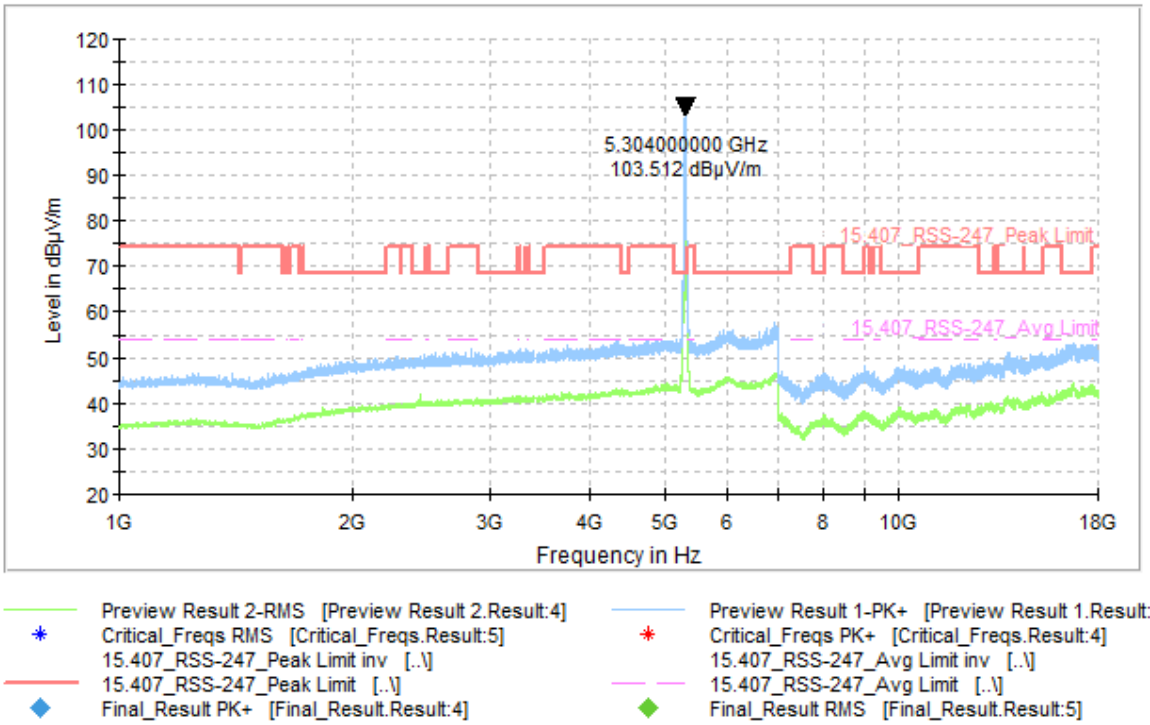
Plot 9-214. Radiated Spurious Emissions 1-18 GHz Tx Chains A & B 802.11n HT40 (Ch. 38)



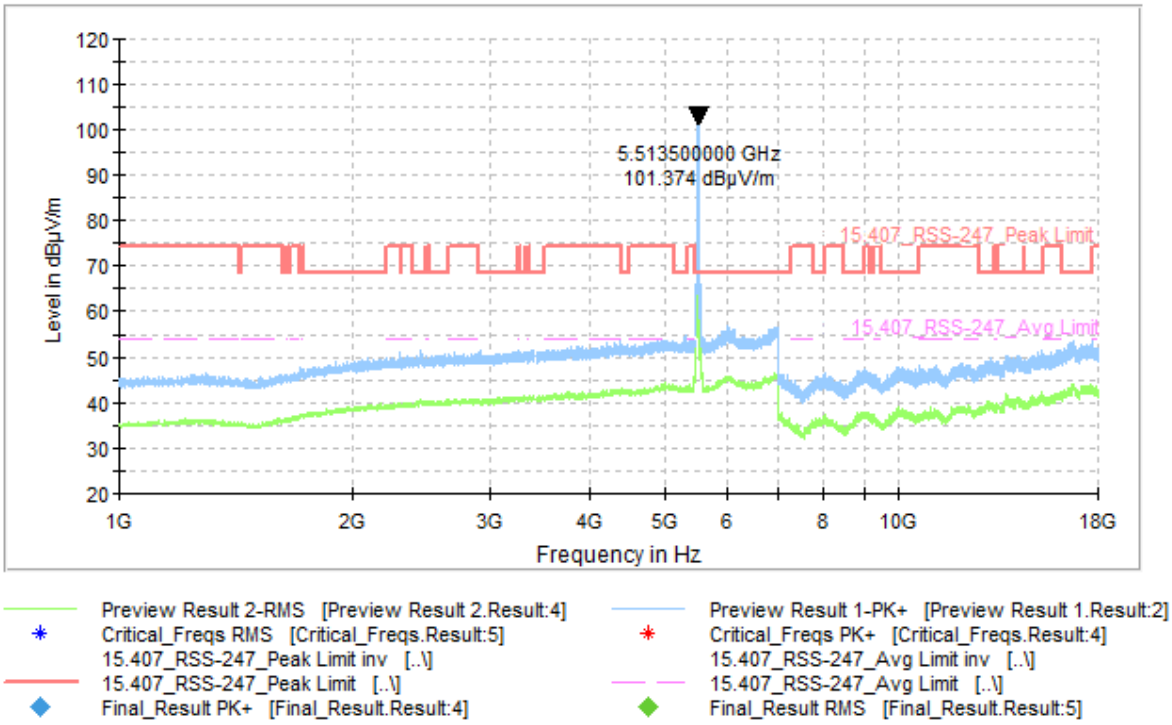
Plot 9-215. Radiated Spurious Emissions 1-18 GHz Tx Chains A & B 802.11n HT40 (Ch. 46)



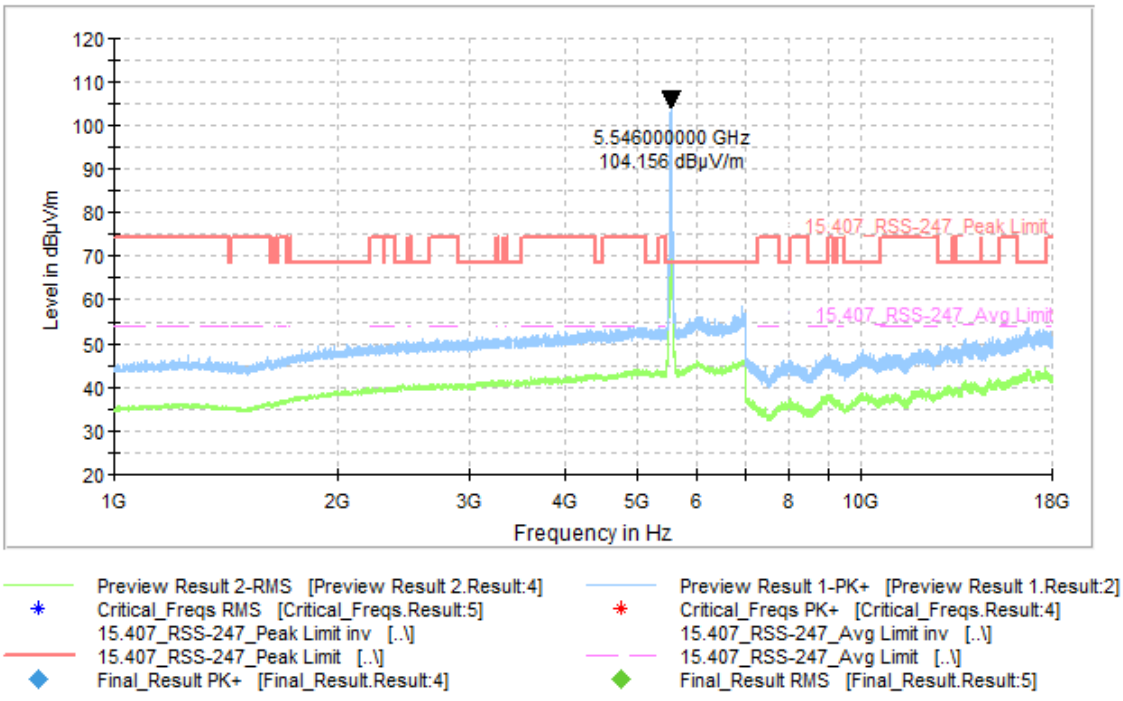
Plot 9-216. Radiated Spurious Emissions 1-18 GHz Tx Chains A & B 802.11n HT40 (Ch. 54)



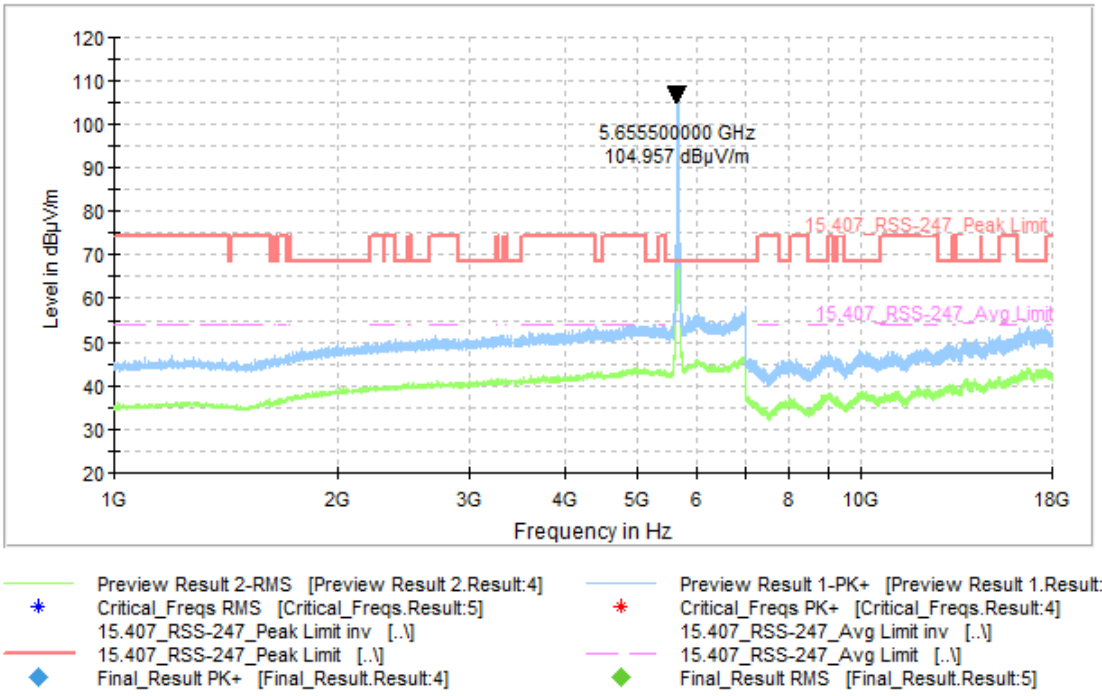
Plot 9-217. Radiated Spurious Emissions 1-18 GHz Tx Chains A & B 802.11n HT40 (Ch. 62)



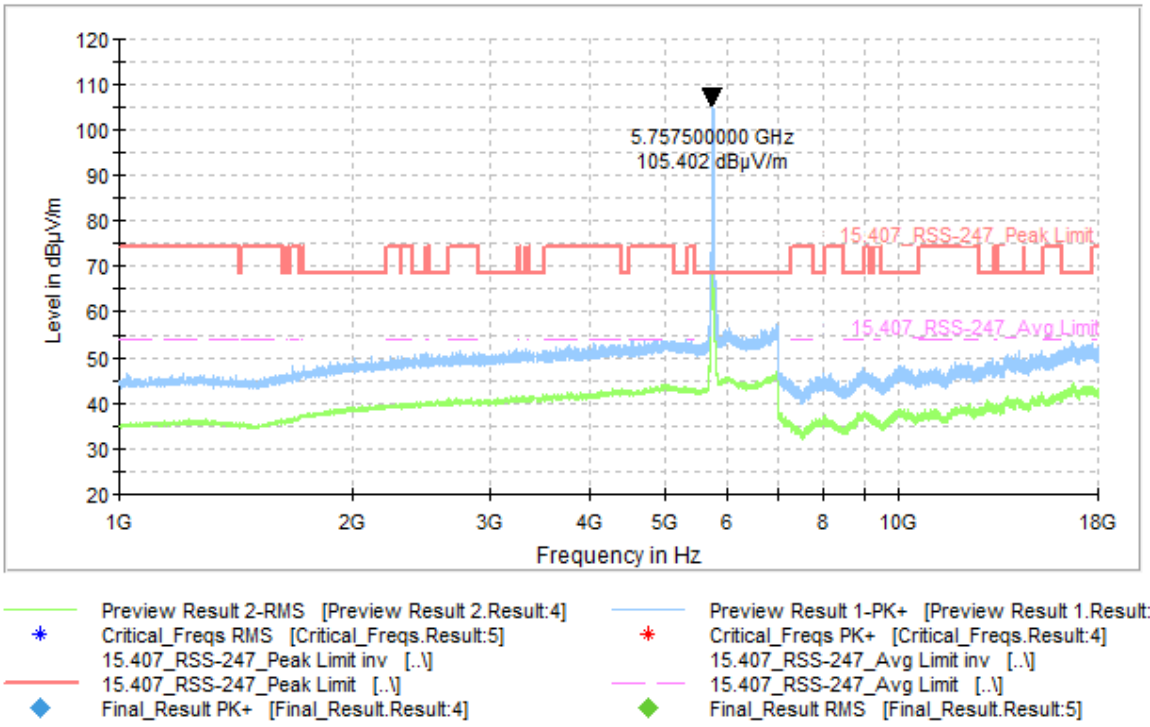
Plot 218. Radiated Spurious Emissions 1-18 GHz Tx Chains A & B 802.11n HT40 (Ch. 102)



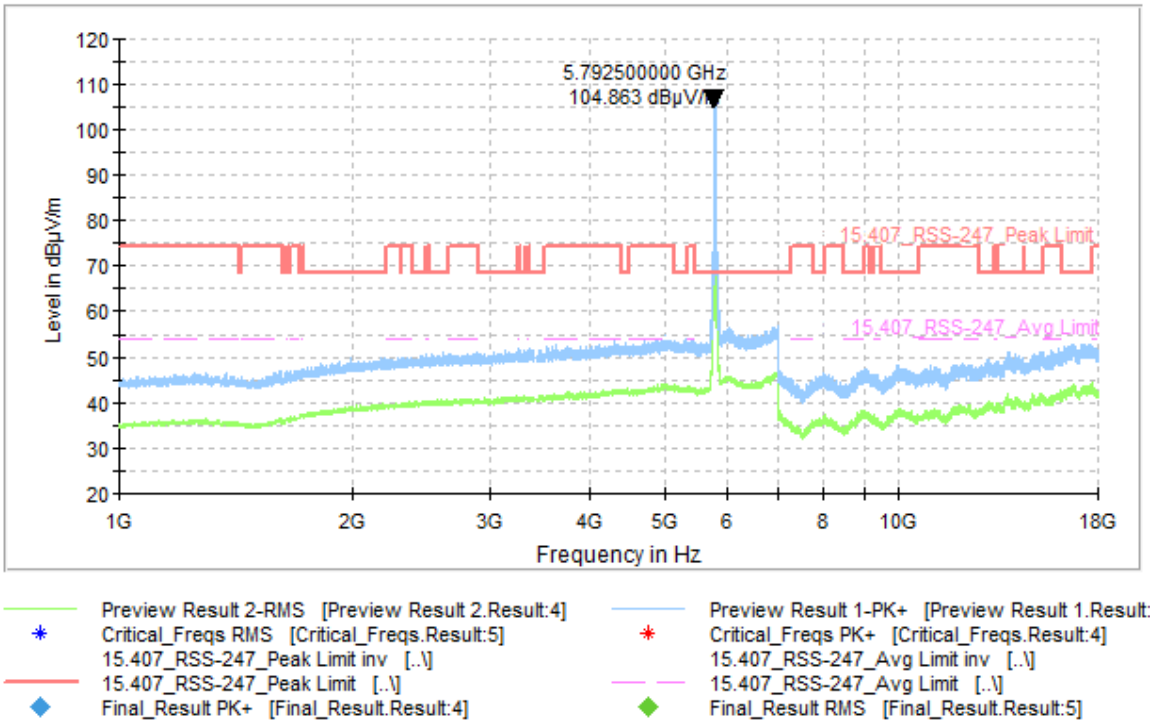
Plot 9-219. Radiated Spurious Emissions 1-18 GHz Tx Chains A & B 802.11n HT40 (Ch. 110)



Plot 9-220. Radiated Spurious Emissions 1-18 GHz Tx Chains A & B 802.11n HT40 (Ch. 134)



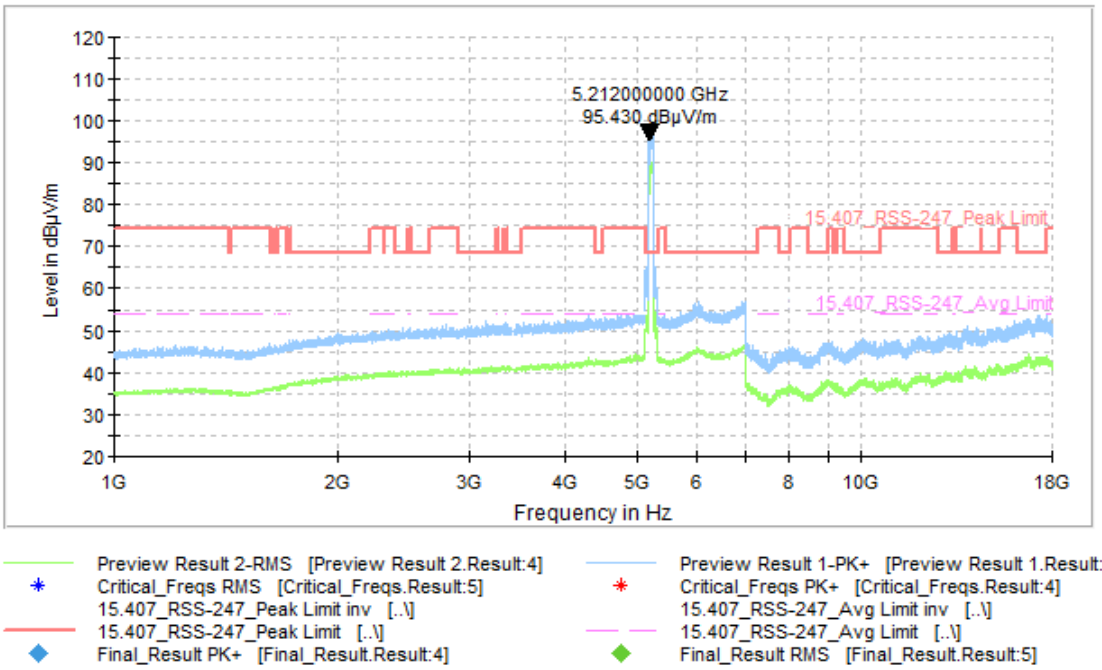
Plot 9-221. Radiated Spurious Emissions 1-18 GHz Tx Chains A & B 802.11n HT40 (Ch. 151)



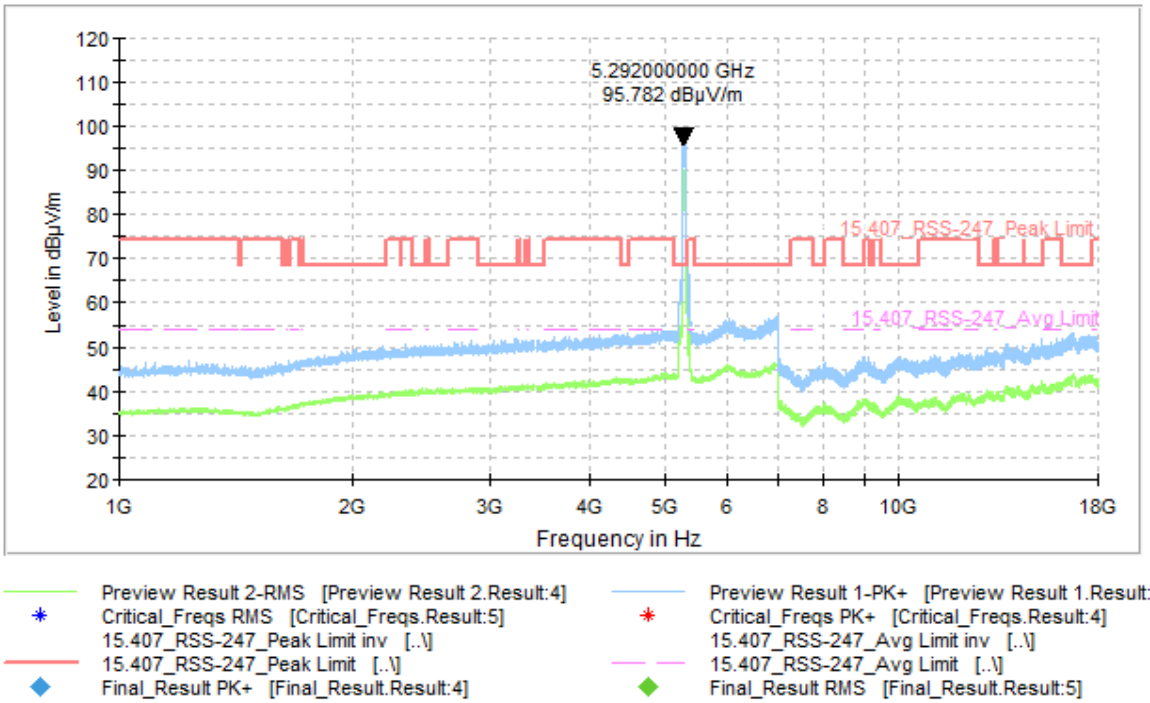
Plot 9-222. Radiated Spurious Emissions 1-18 GHz Tx Chains A & B 802.11n HT40 (Ch. 159)

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

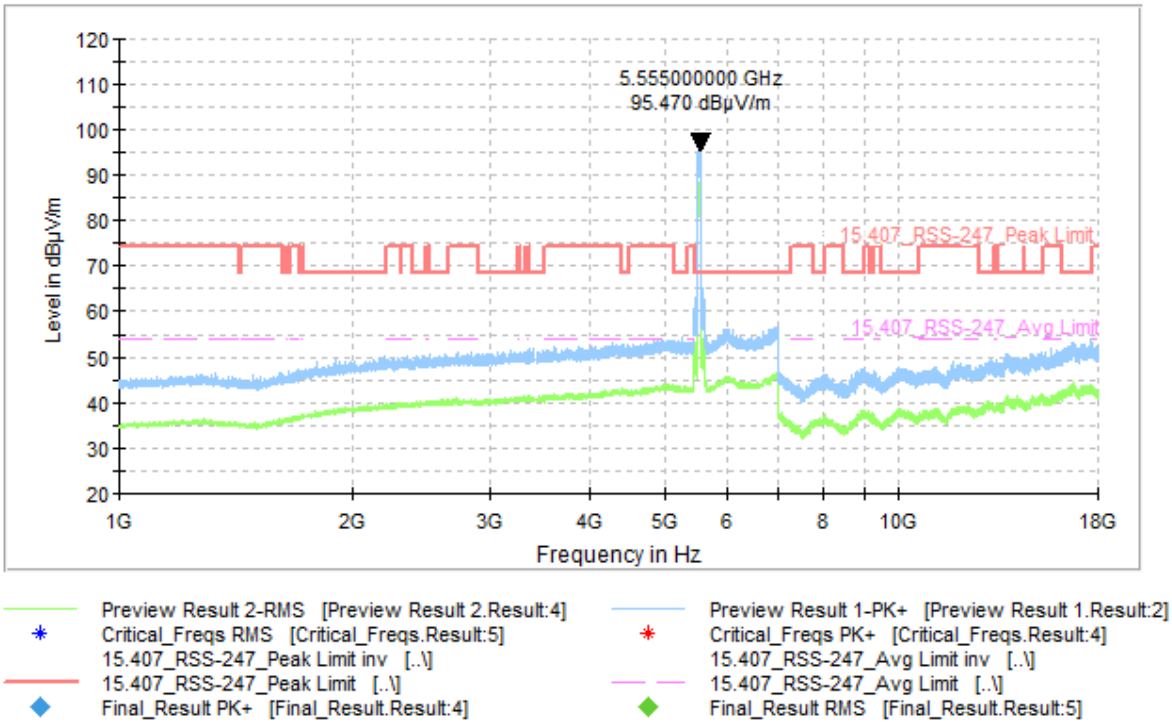
No emissions to report above noise floor.



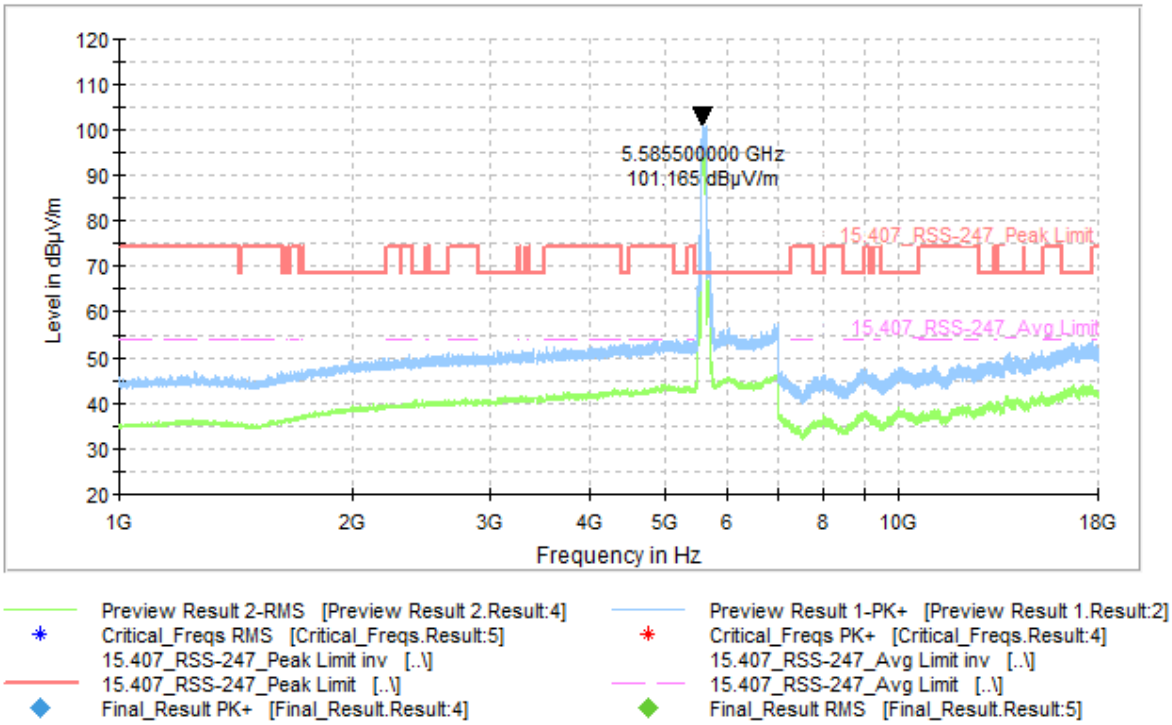
Plot 9-223. Radiated Spurious Emissions 1-18 GHz Tx Chains A & B 802.11ac VHT80 (Ch. 42)



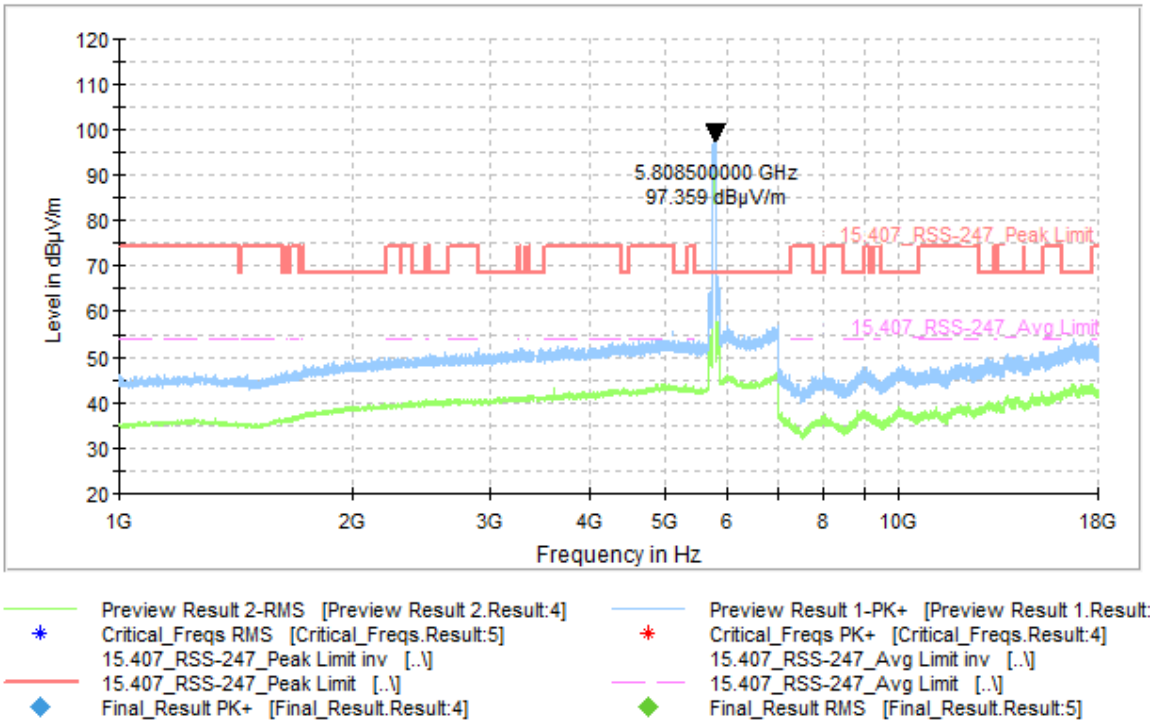
Plot 9-224. Radiated Spurious Emissions 1-18 GHz Tx Chains A & B 802.11ac VHT80 (Ch. 58)



Plot 9-225. Radiated Spurious Emissions 1-18 GHz Tx Chains A & B 802.11ac VHT80 (Ch. 106)



Plot 9-226. Radiated Spurious Emissions 1-18 GHz Tx Chains A & B 802.11ac VHT80 (Ch. 122)

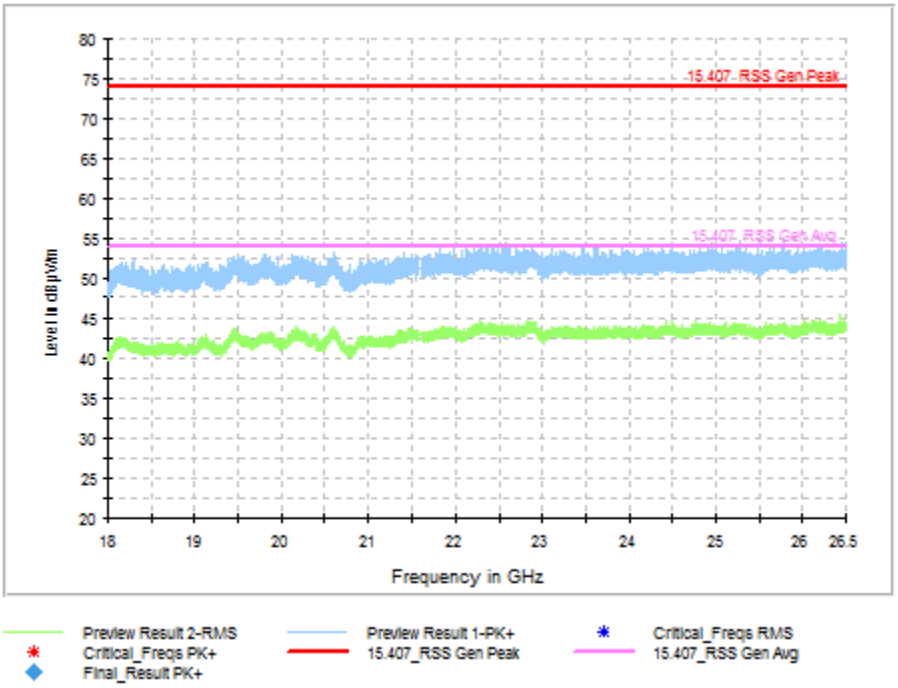


Plot 9-227. Radiated Spurious Emissions 1-18 GHz Tx Chains A & B 802.11ac VHT80 (Ch. 155)

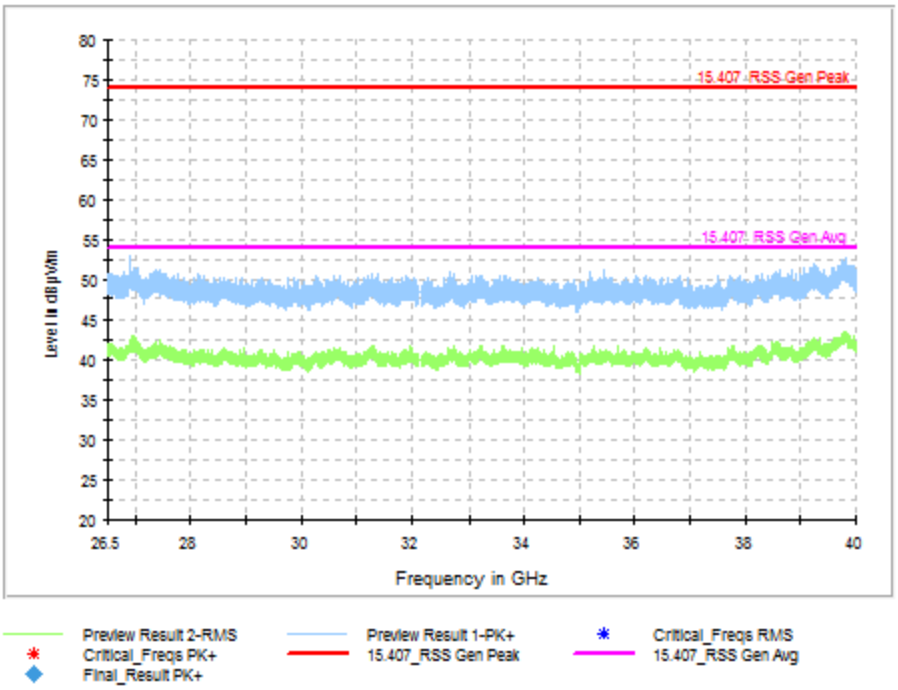
9.6.5.6 Emissions in 18-40 GHz range

No significant emissions to report above noise floor.

All channels and modes were tested and data from 802.11n mode, channel 116 shown here.

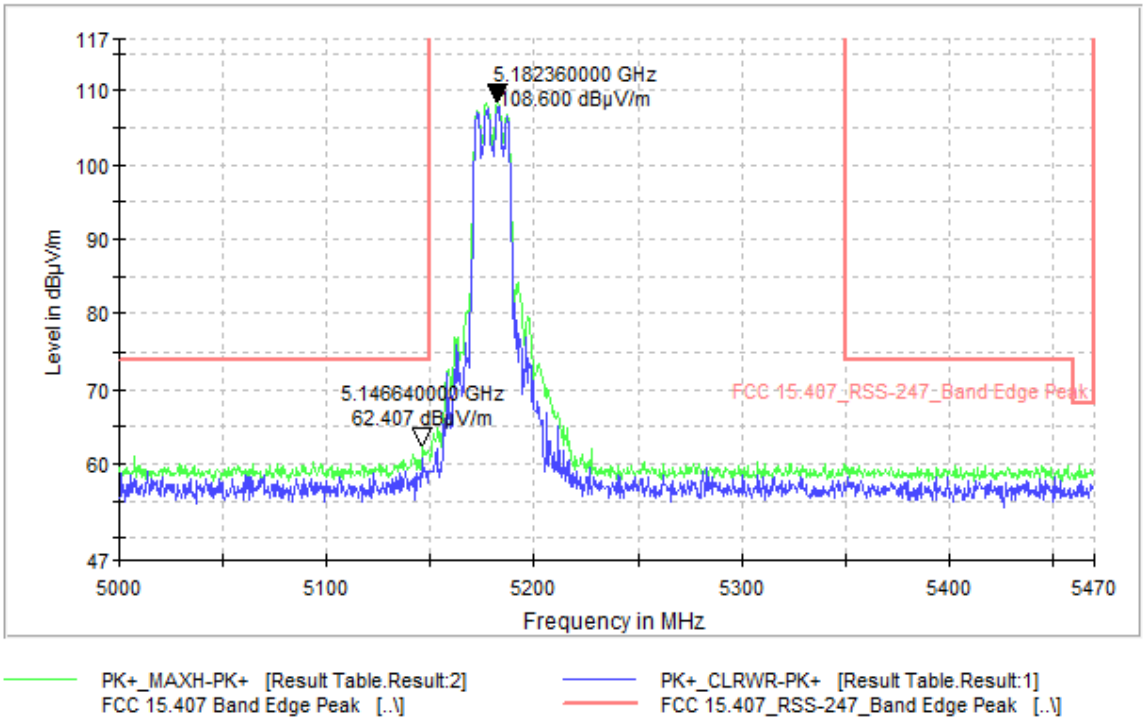


Plot 9-228. Radiated Spurious Emissions 18-26 GHz Tx A & B 802.11n HT20 (Ch. 116)

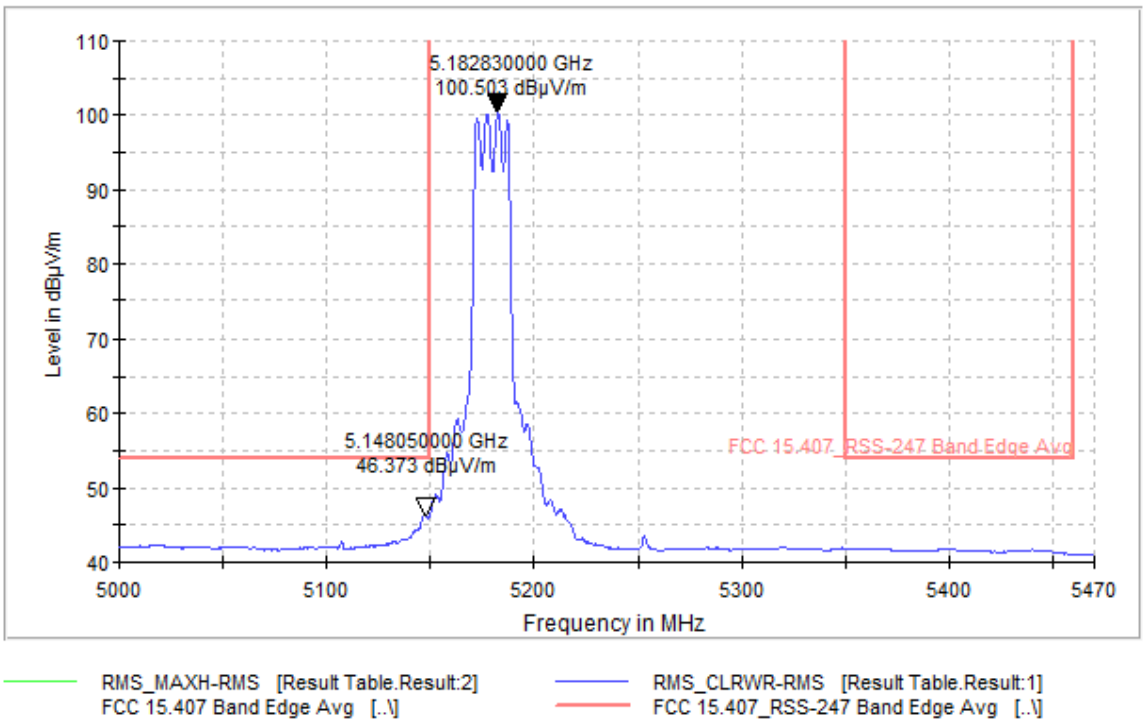


Plot 9-229. Radiated Spurious Emissions 26-40 GHz Tx A & B 802.11n HT20 (Ch. 116)

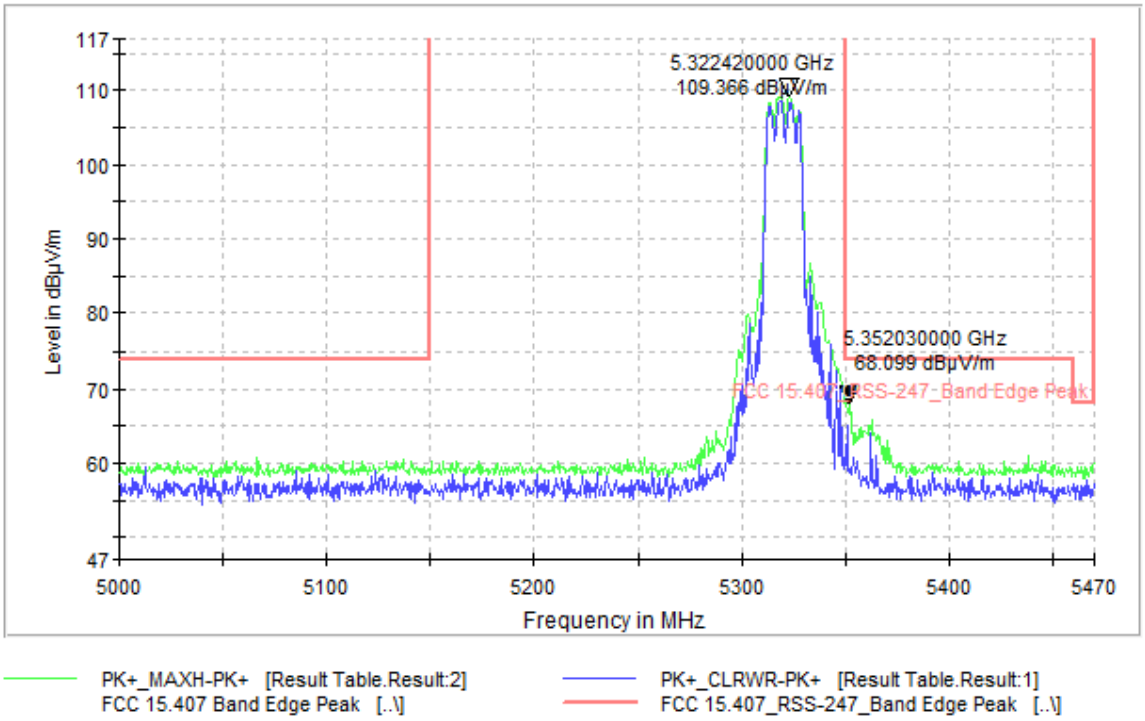
9.6.5.7 Radiated Restricted Band-edge emissions 802.11a



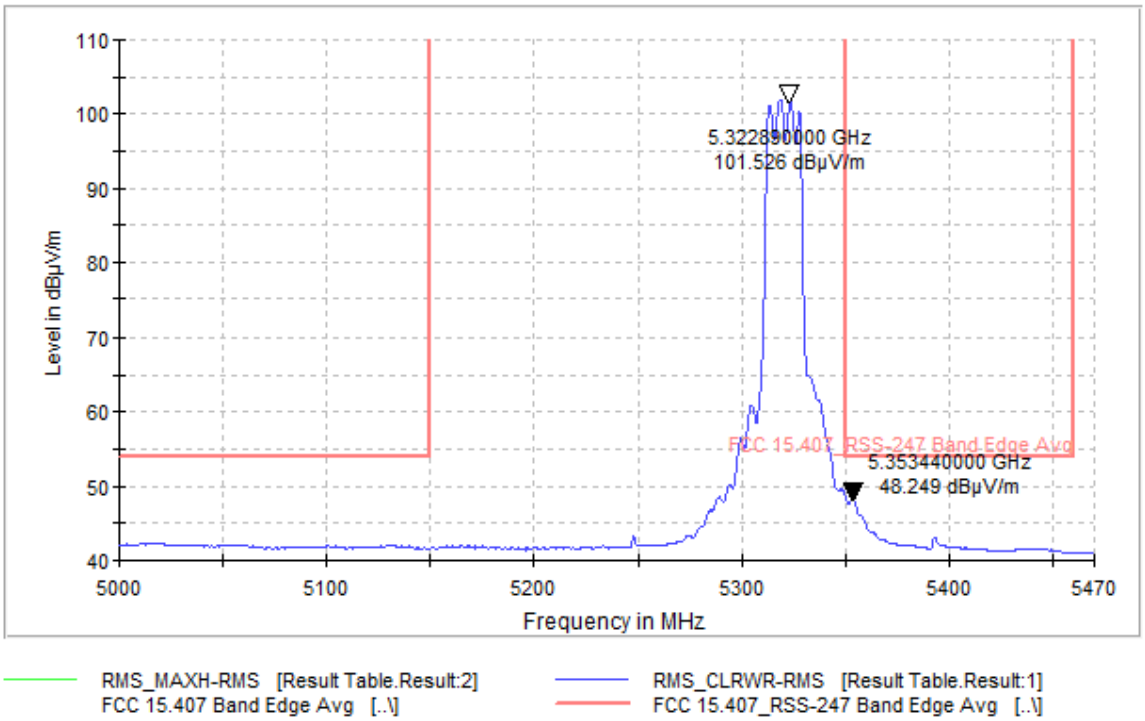
Plot 9-230. Peak Radiated Band Edge Emissions Tx Chains A & B 802.11a (Ch. 36)



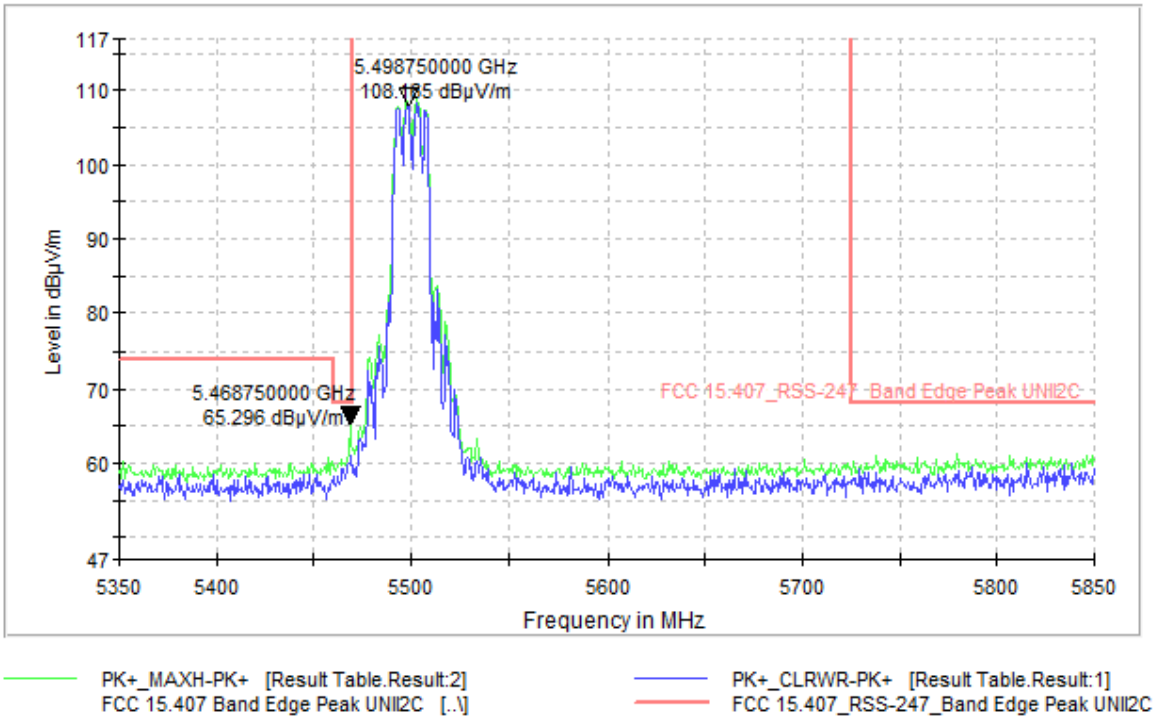
Plot 9-231. Average Radiated Band Edge Emissions Tx Chains A & B 802.11a (Ch. 36)



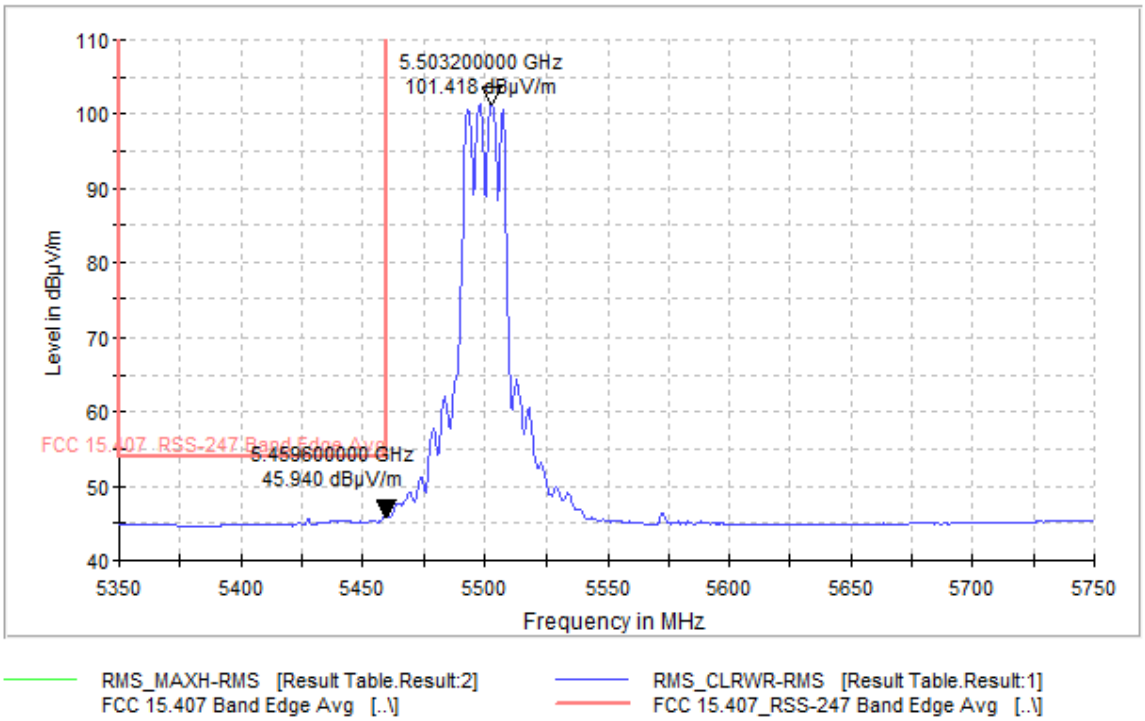
Plot 9-232. Peak Radiated Band Edge Emissions Tx Chains A & B 802.11a (Ch. 64)



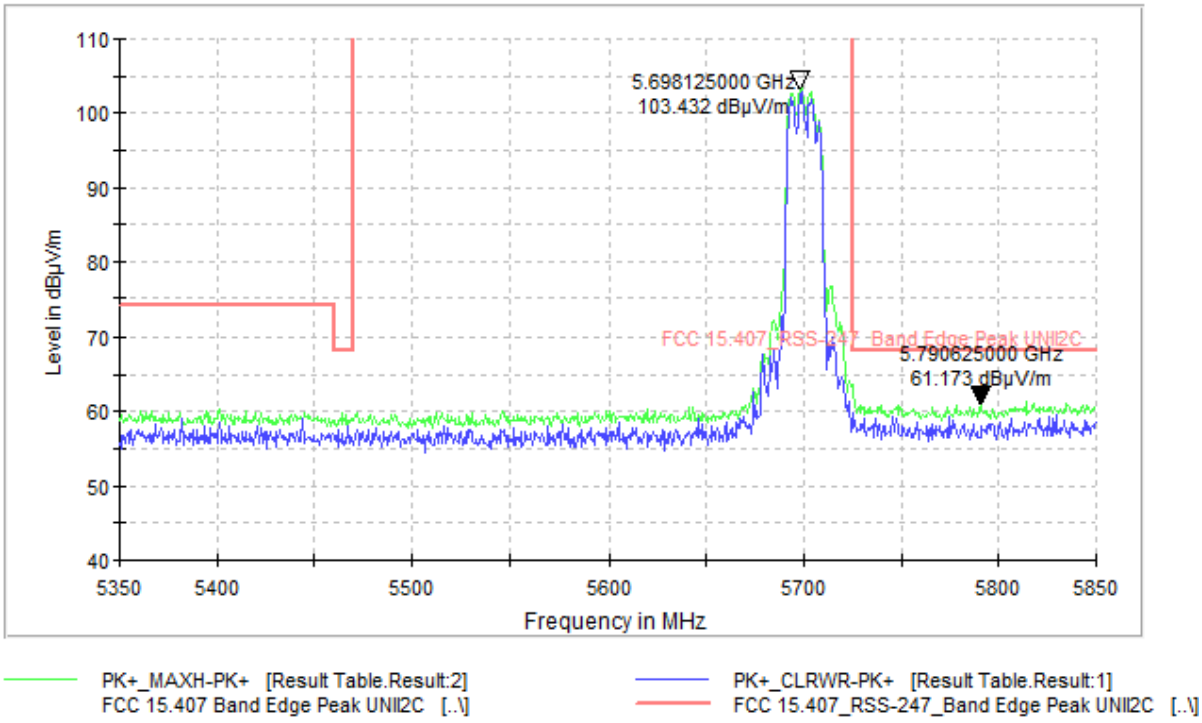
Plot 9-233. Average Radiated Band Edge Emissions Tx Chains A & B 802.11a (Ch. 64)



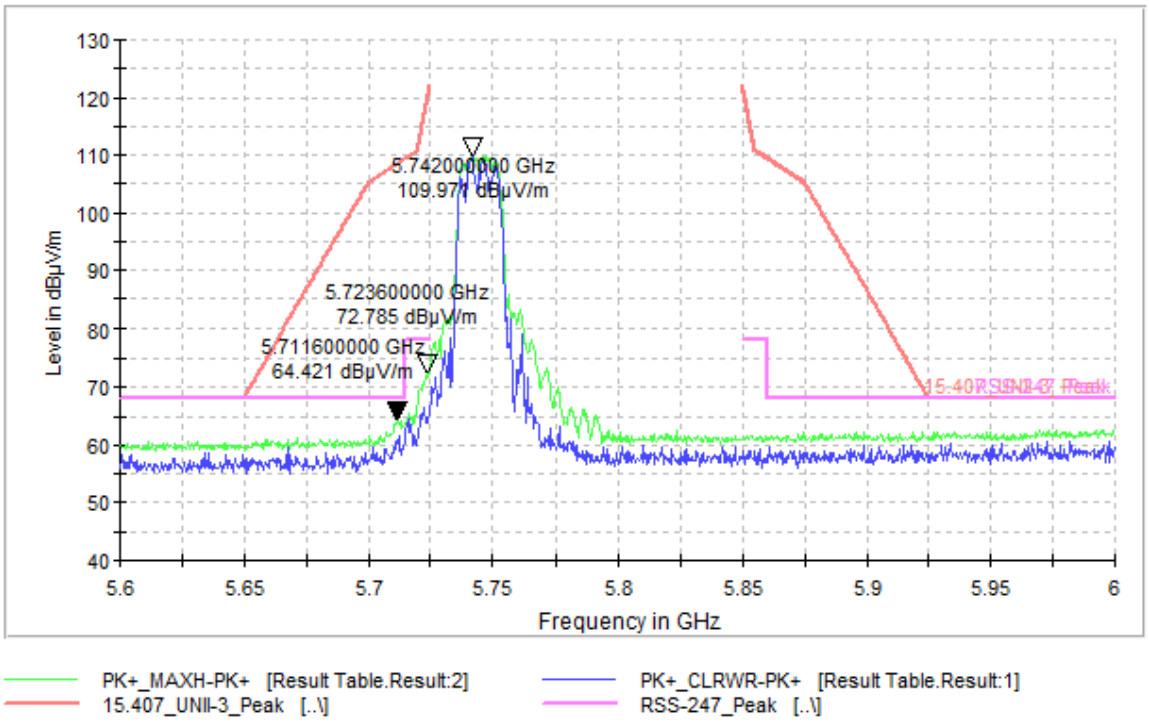
Plot 9-234. Peak Radiated Band Edge Emissions Tx Chains A & B 802.11a (Ch. 100)



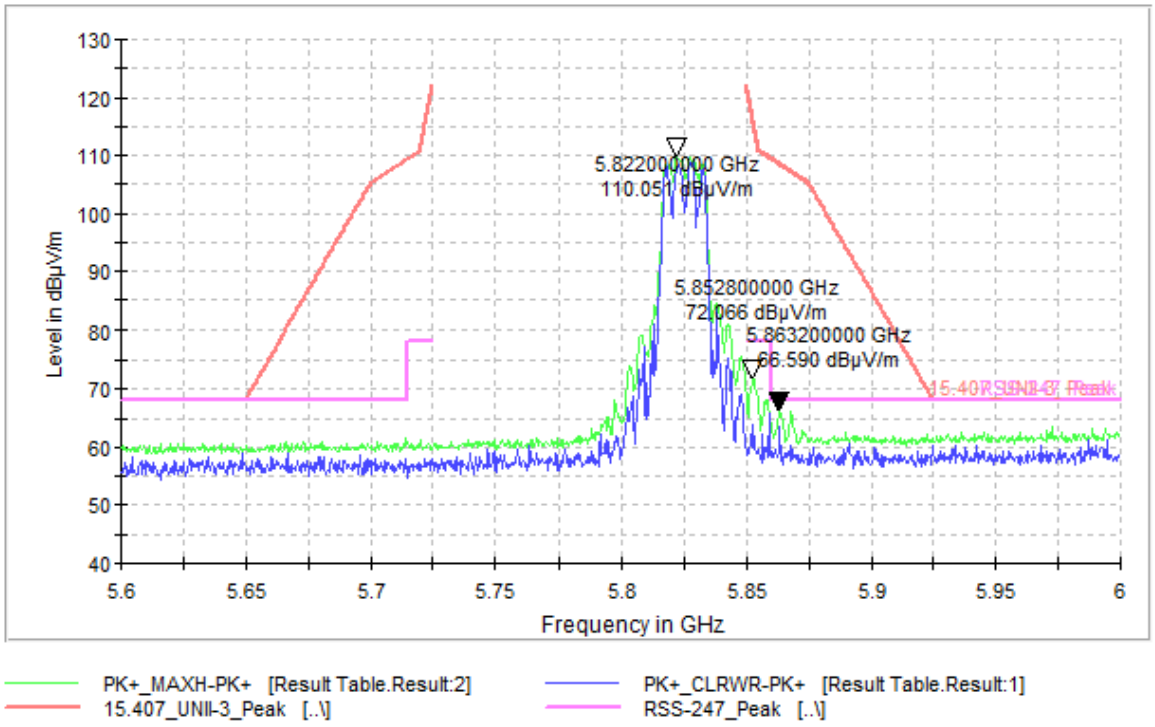
Plot 9-260. Average Radiated Band Edge Emissions Tx Chains A & B 802.11a (Ch. 100)



Plot 9-261. Peak Radiated Band Edge Emissions Tx Chains A & B 802.11a (Ch. 140)

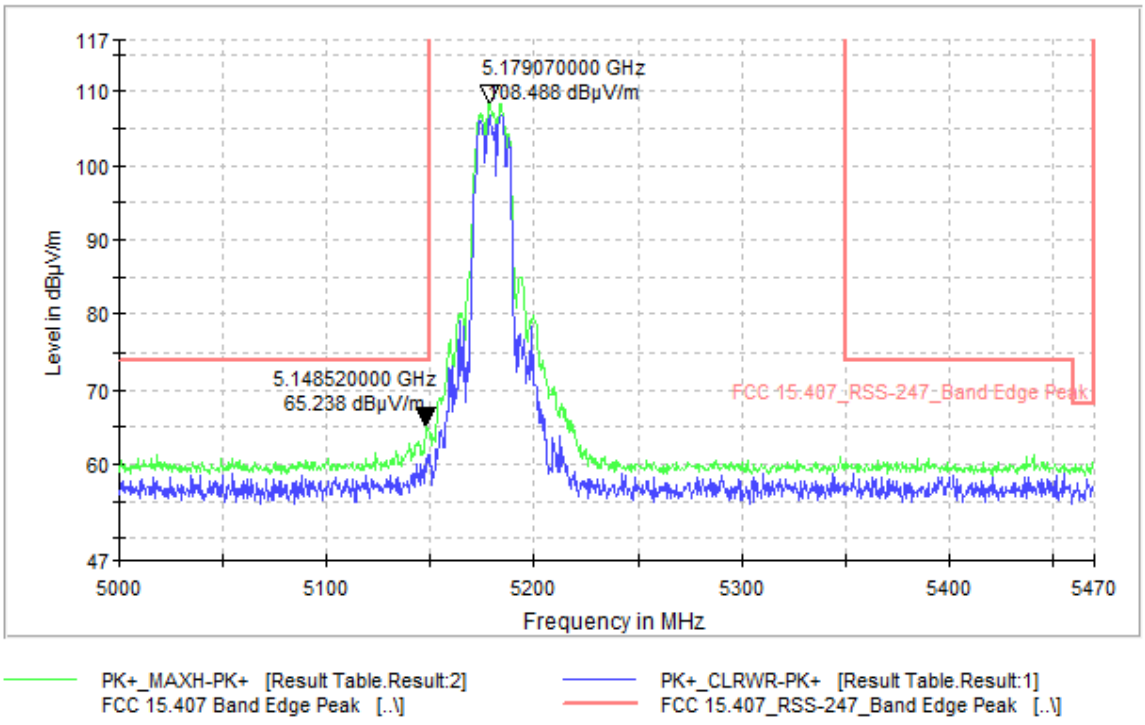


Plot 9-262. Peak Radiated Band Edge Emissions Tx Chains A & B 802.11a (Ch. 149)

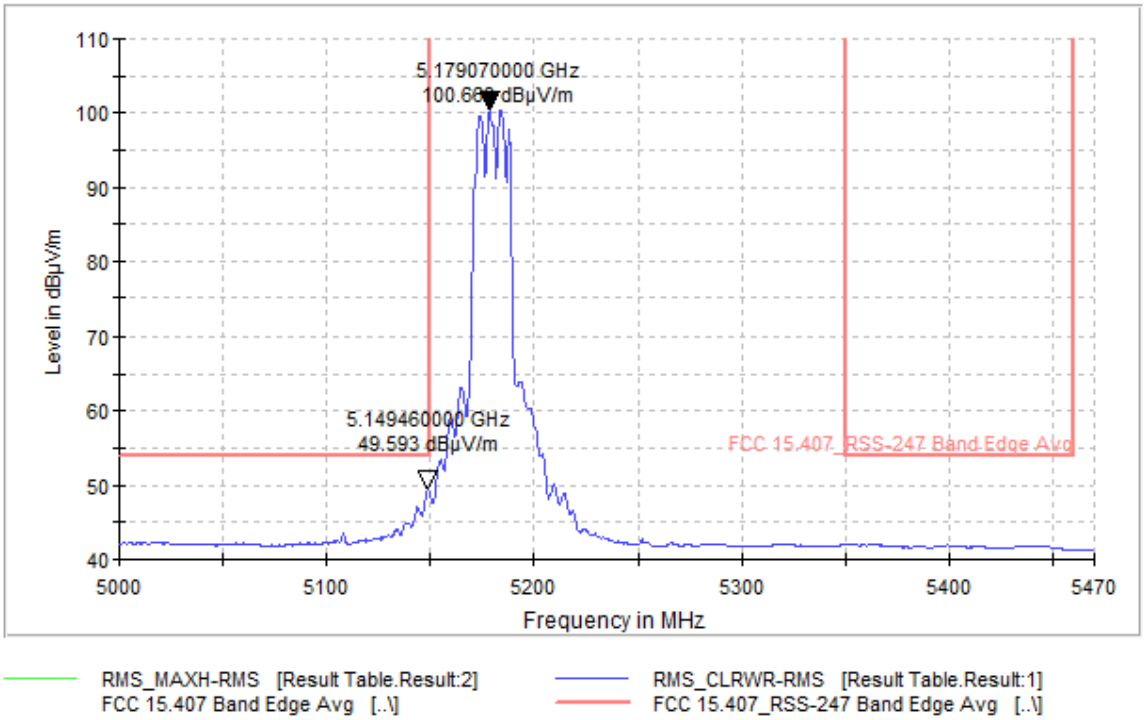


Plot 9-263. Peak Radiated Band Edge Emissions Tx Chains A & B 802.11a (Ch. 149)

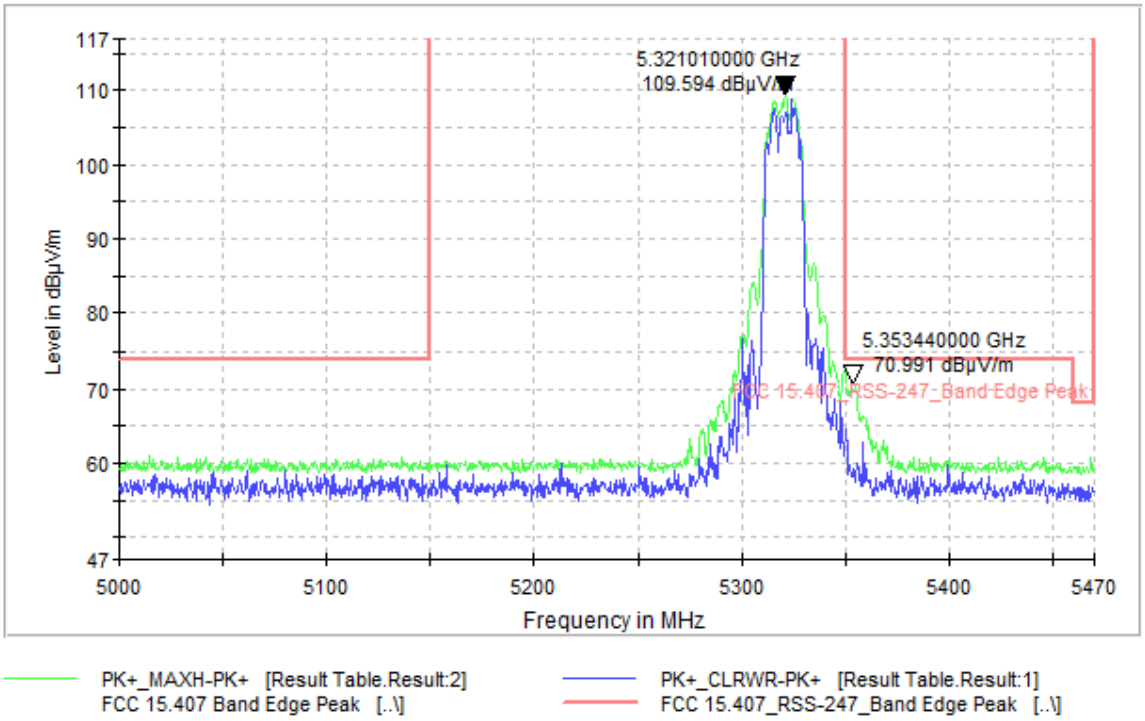
9.6.5.8 Radiated Restricted Band-edge emissions 802.11n HT20



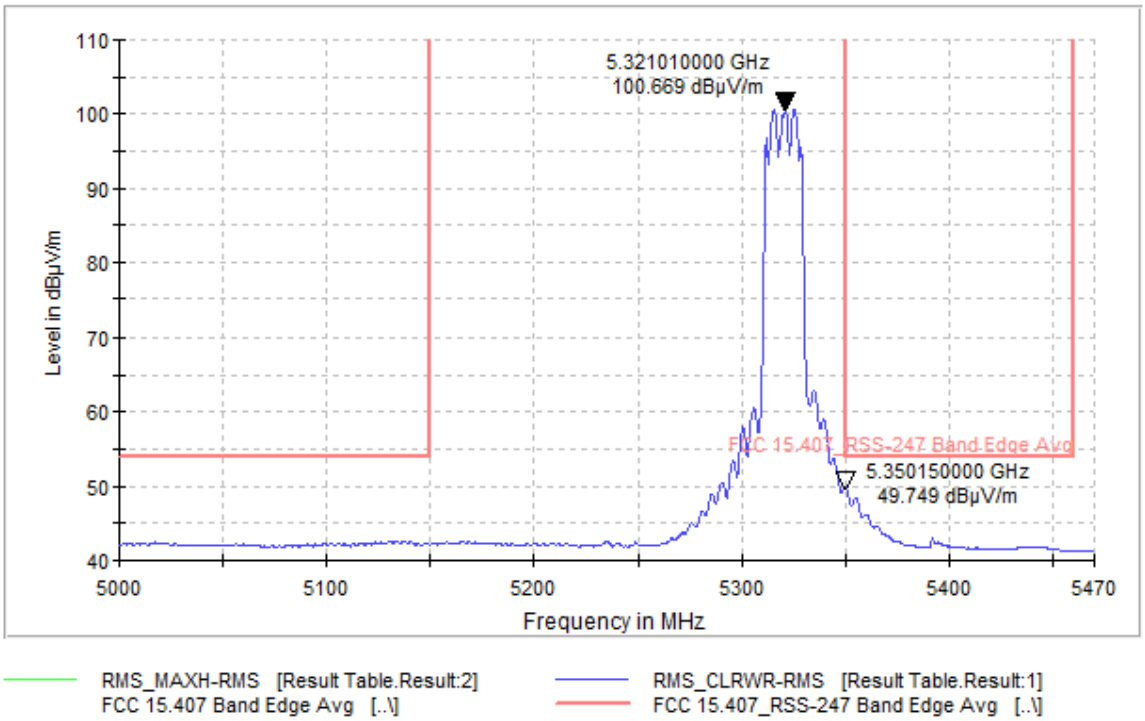
Plot 9-264. Peak Radiated Band Edge Emissions Tx Chains A & B 802.11n HT20 (Ch. 36)



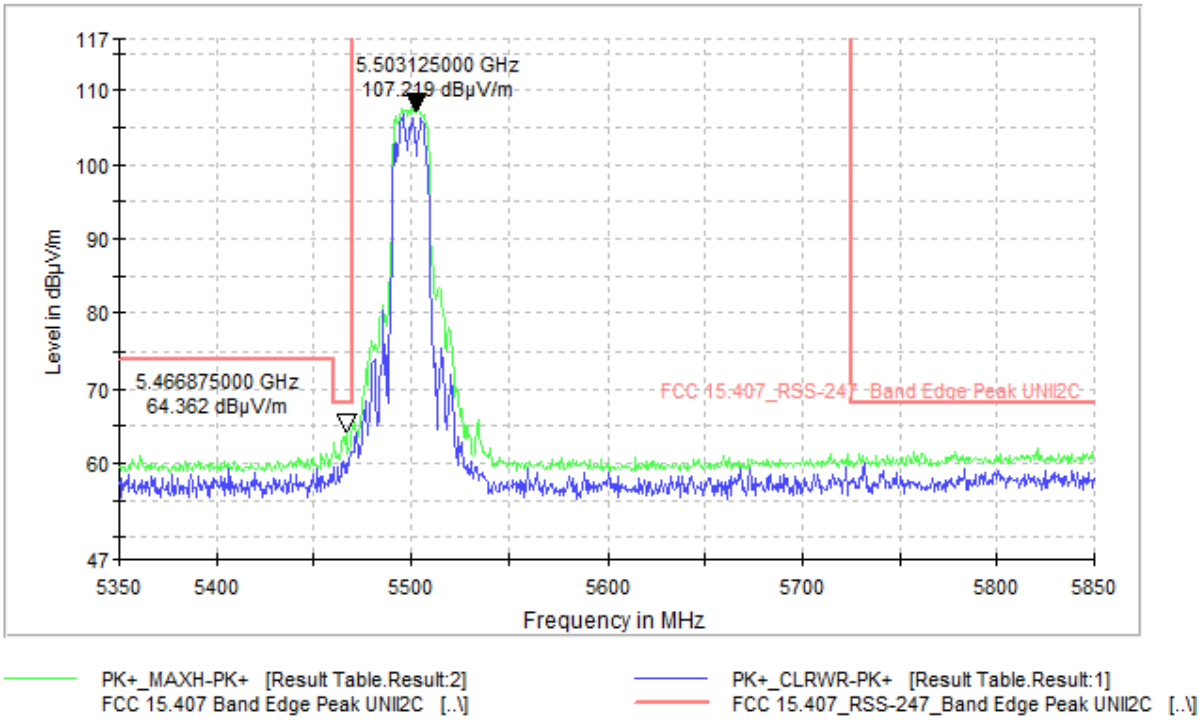
Plot 9-265. Average Radiated Band Edge Emissions Tx Chains A & B 802.11n HT20 (Ch. 36)



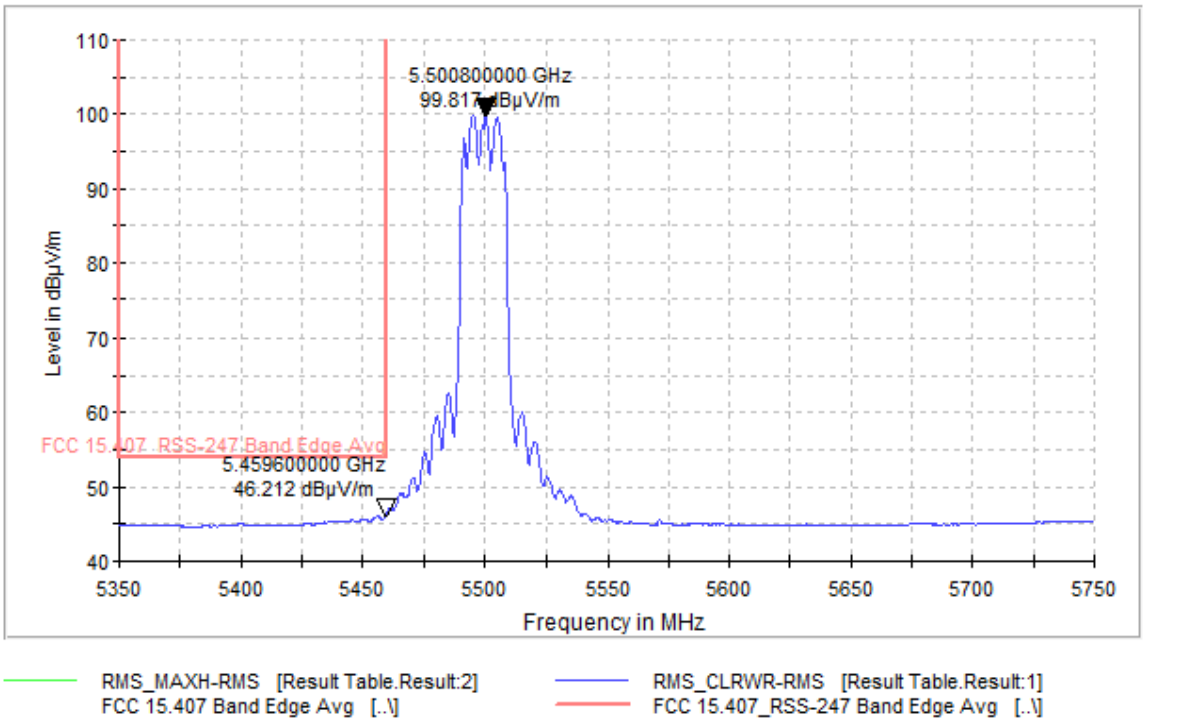
Plot 9-235. Peak Radiated Band Edge Emissions Tx Chains A & B 802.11n HT20 (Ch. 64)



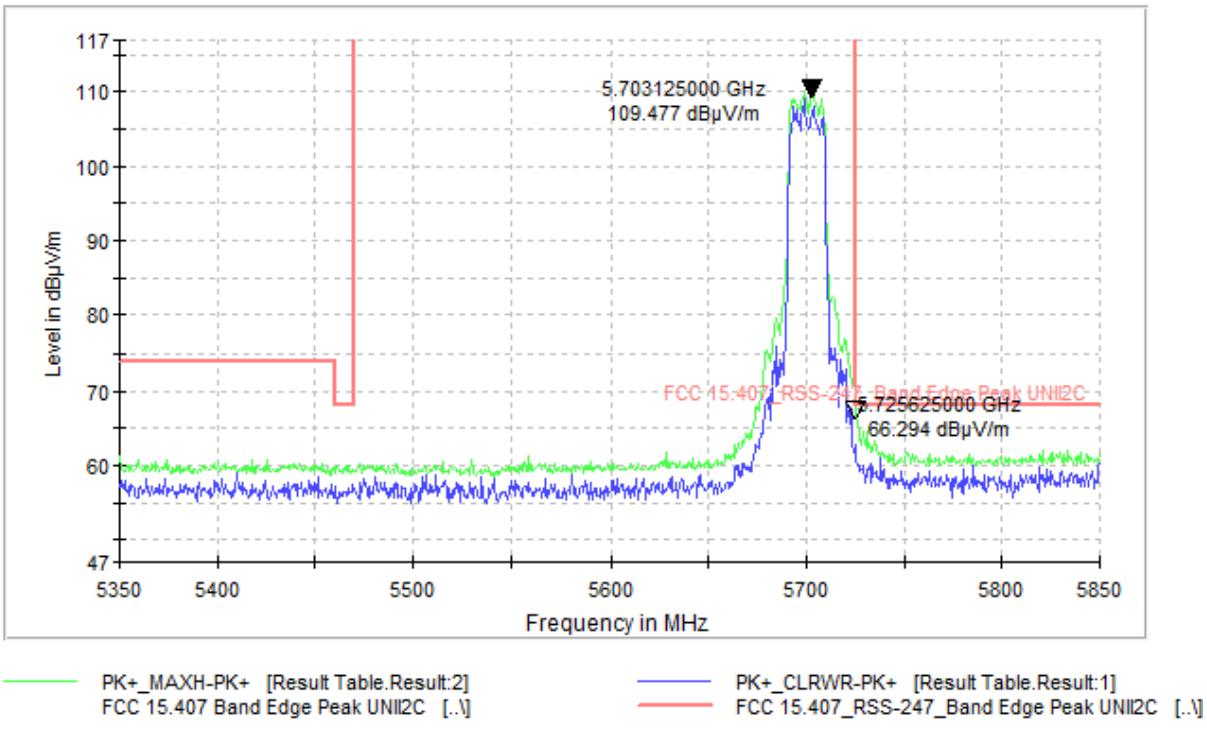
Plot 9-2367 Average Radiated Band Edge Emissions Tx Chains A & B 802.11n HT20 (Ch. 64)



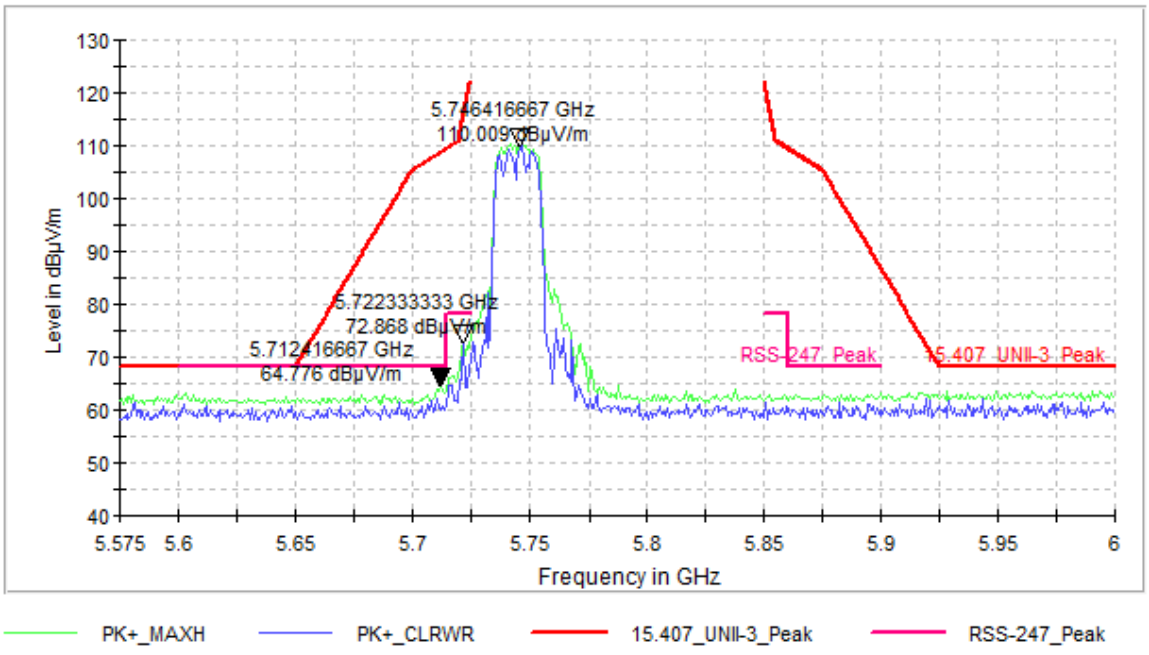
Plot 9-2378. Peak Radiated Band Edge Emissions Tx Chains A & B 802.11n HT20 (Ch. 100)



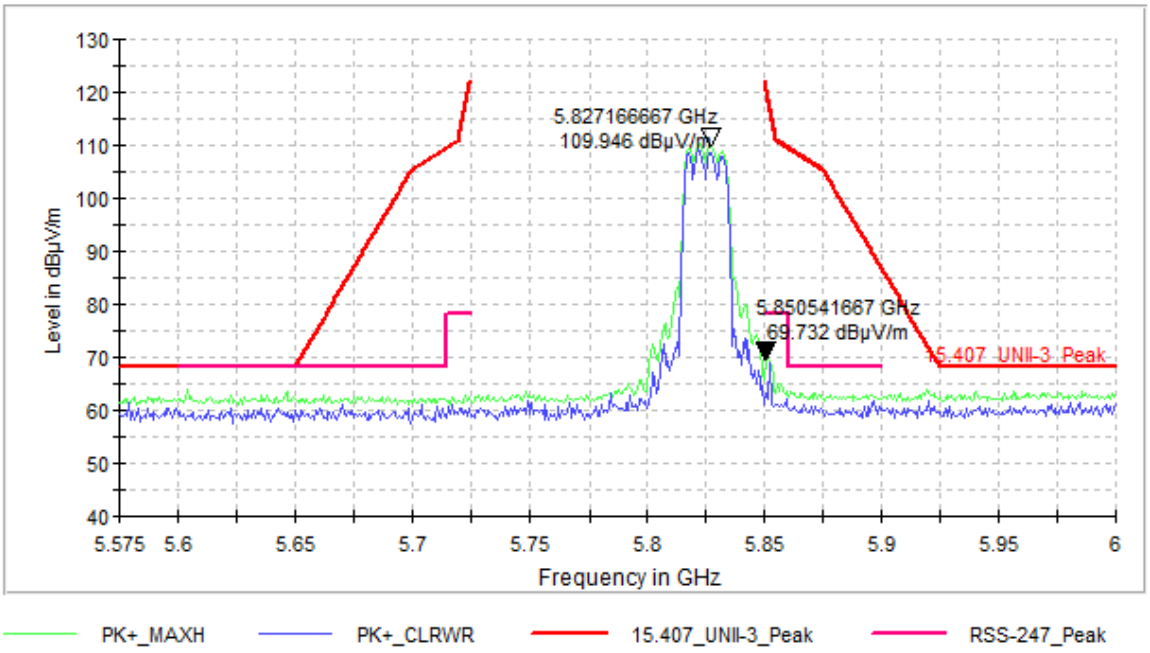
Plot 9-269. Average Radiated Band Edge Emissions Tx Chains A & B 802.11n HT20 (Ch. 100)



Plot 9-270. Peak Radiated Band Edge Emissions Tx Chains A & B 802.11n HT20 (Ch. 140)

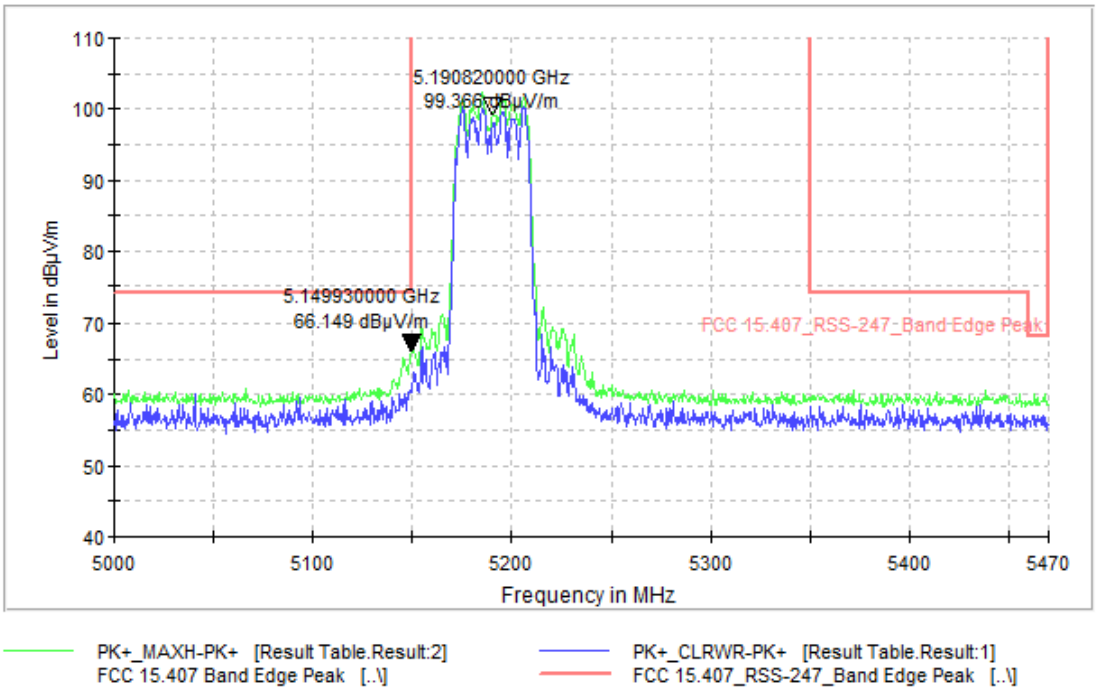


Plot 9-271. Peak Radiated Band Edge Emissions Tx Chains A & B 802.11n HT20 (Ch. 149)

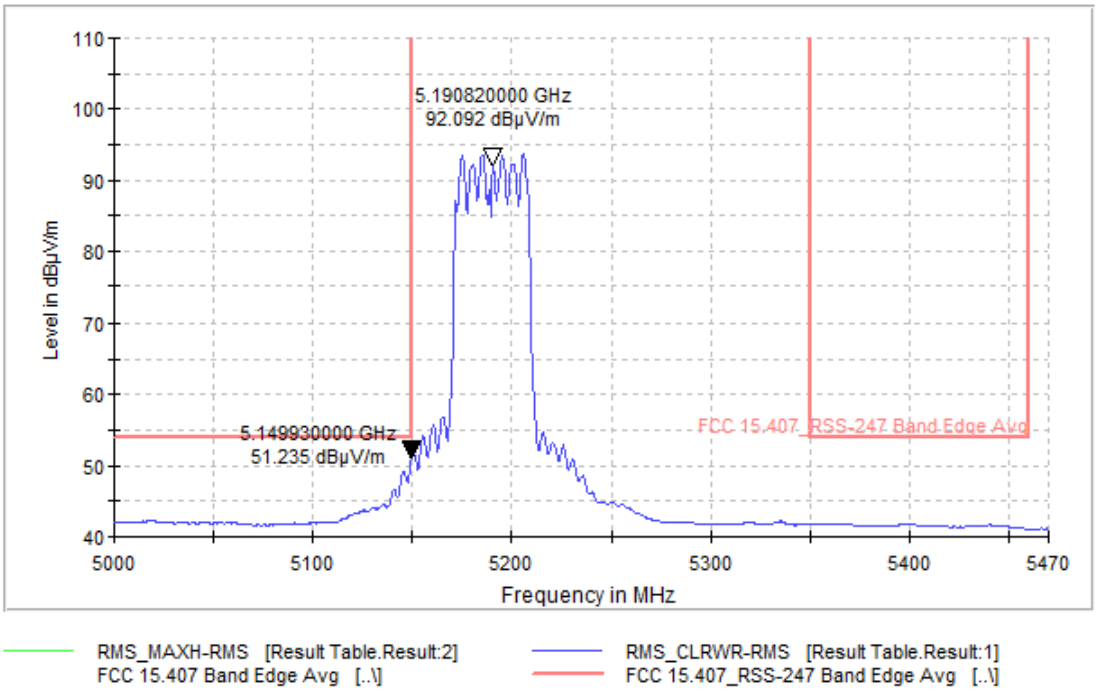


Plot 9-272. Peak Radiated Band Edge Emissions Tx Chains A & B 802.11n HT20 (Ch. 165)

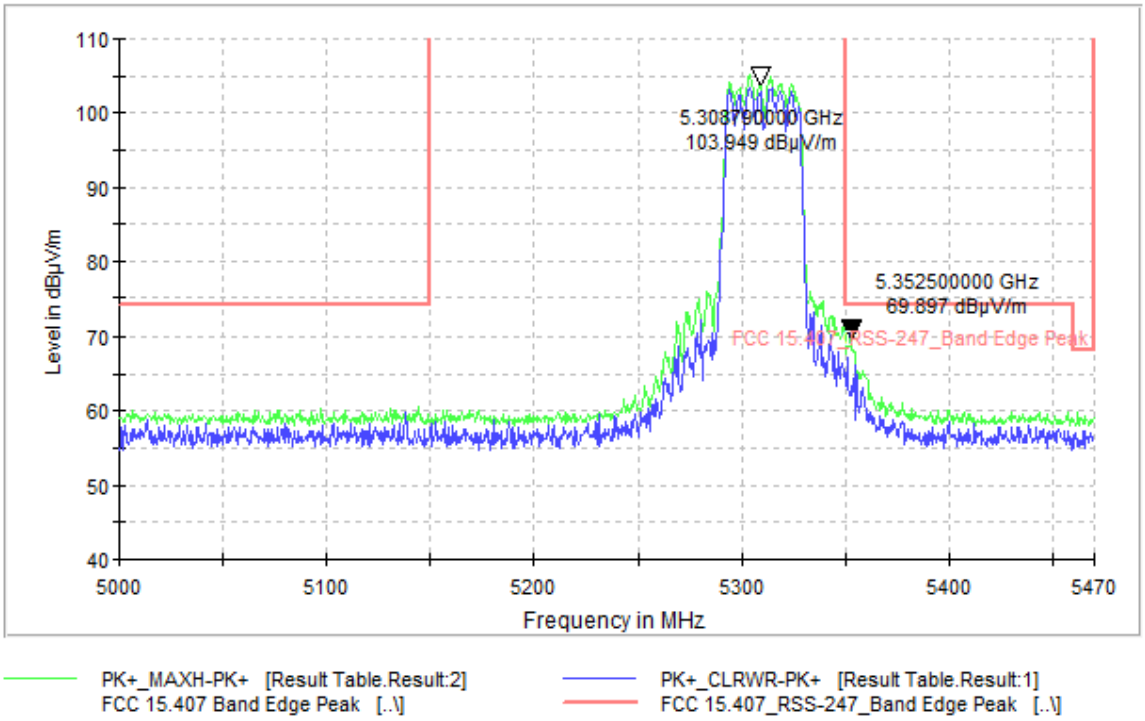
9.6.5.9 Radiated Restricted Band-edge emissions 802.11n HT40



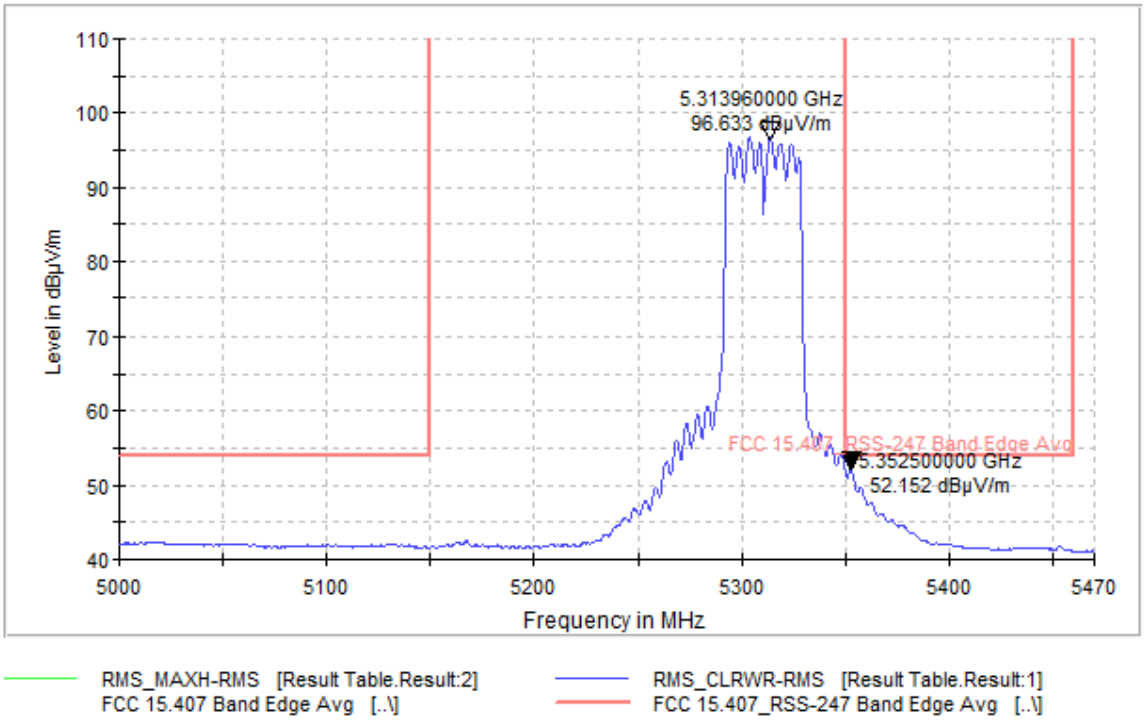
Plot 9-273. Peak Radiated Band Edge Emissions Tx Chains A & B 802.11n HT40 (Ch. 38)



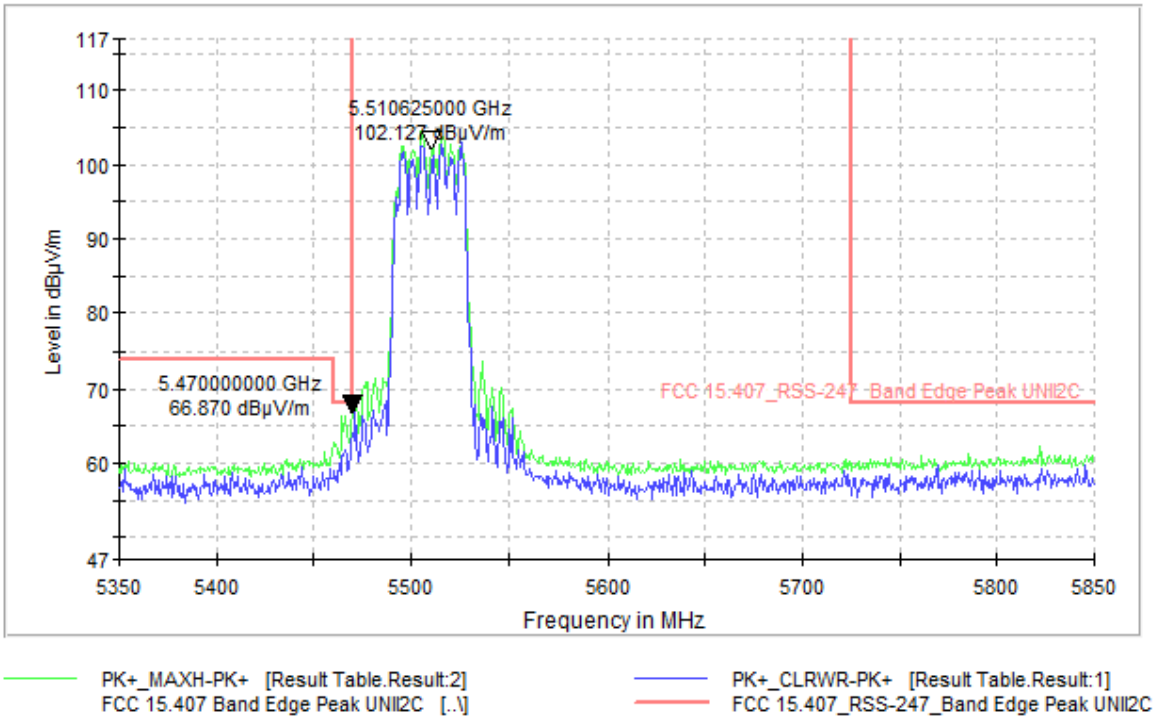
Plot 9-274. Average Radiated Band Edge Emissions Tx Chains A & B 802.11n HT40 (Ch. 38)



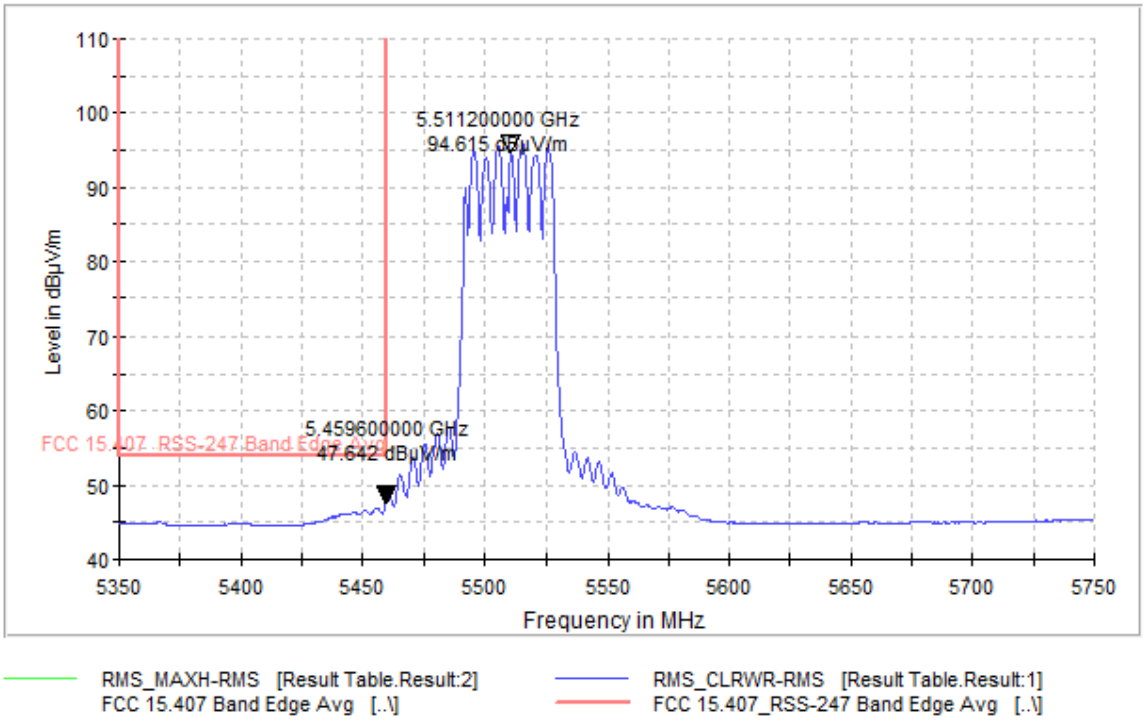
Plot 9-275. Peak Radiated Band Edge Emissions Tx Chains A & B 802.11n HT40 (Ch. 62)



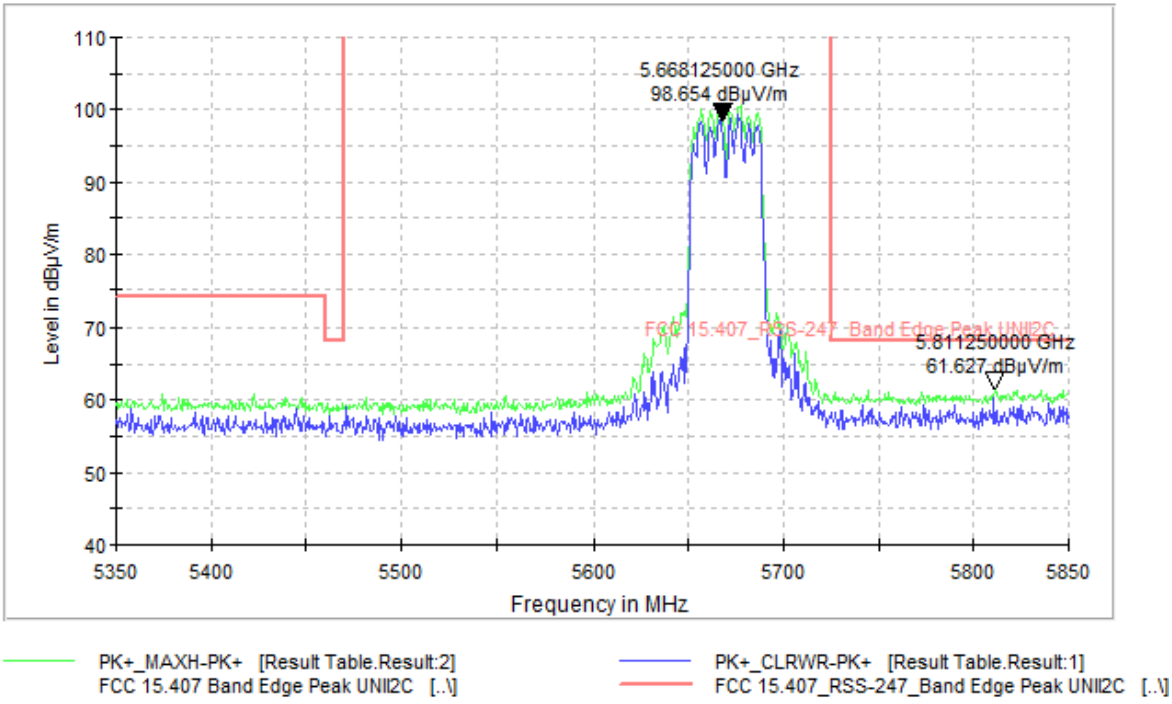
Plot 9-276. Average Radiated Band Edge Emissions Tx Chains A & B 802.11n HT40 (Ch. 62)



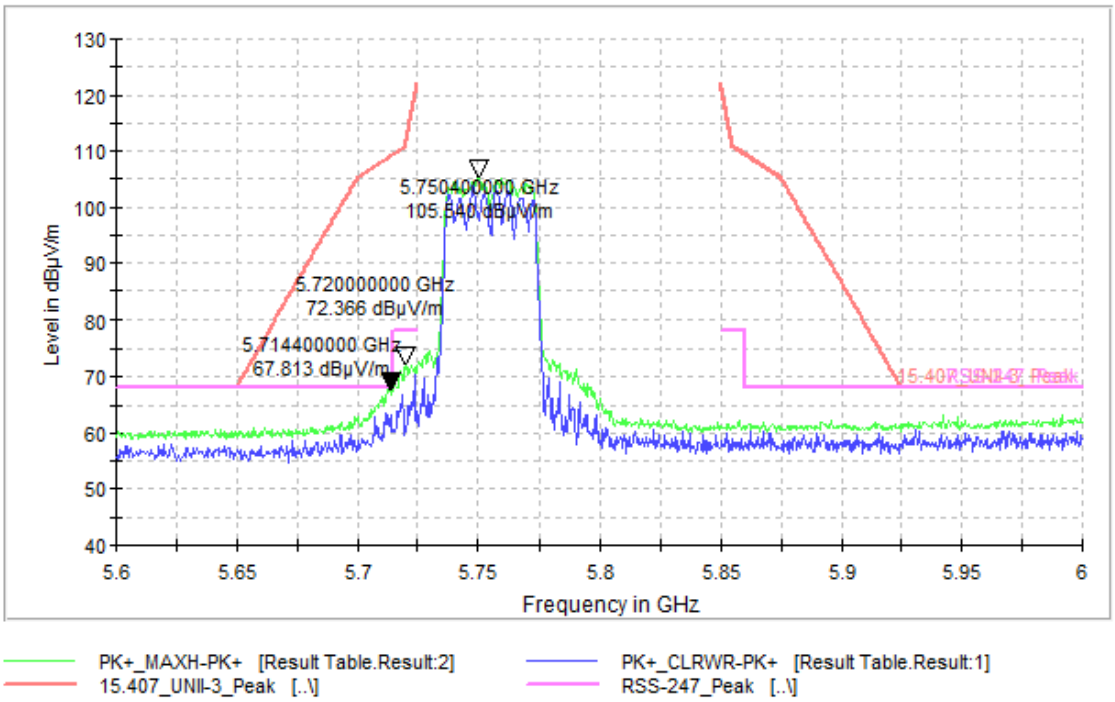
Plot 9-277. Peak Radiated Band Edge Emissions Tx Chains A & B 802.11n HT40 (Ch. 102)



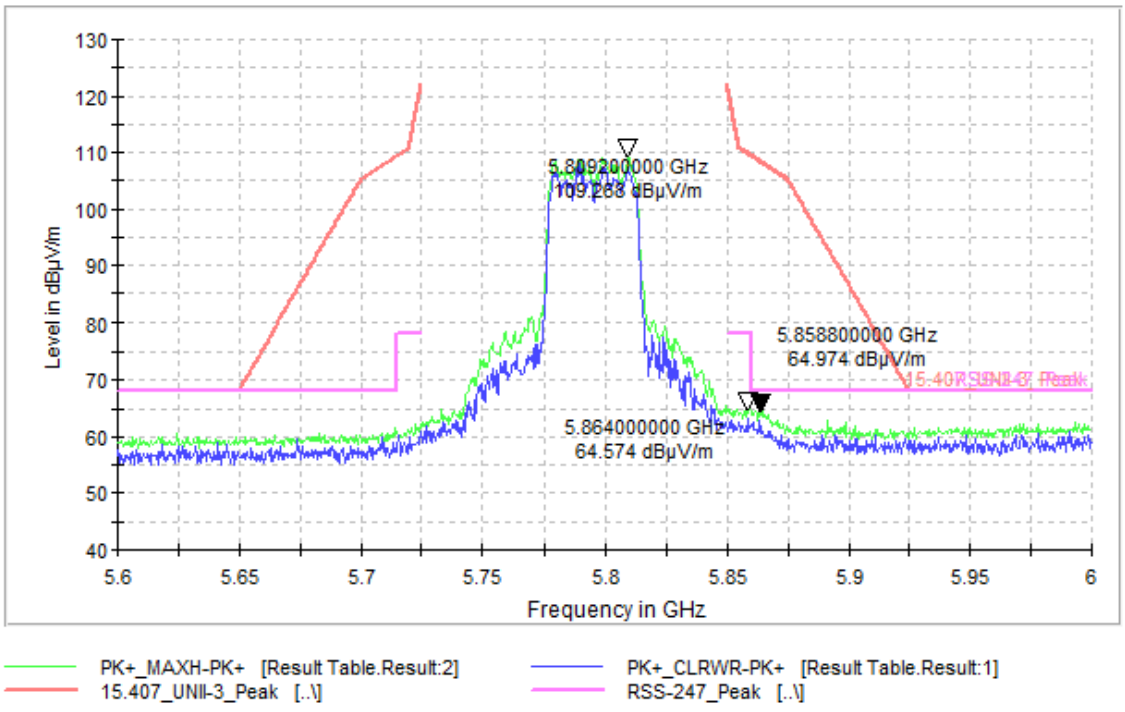
Plot 9-278. Average Radiated Band Edge Emissions Tx Chains A & B 802.11n HT40 (Ch. 102)



Plot 9-279. Peak Radiated Band Edge Emissions Tx Chains A & B 802.11n HT40 (Ch. 134)

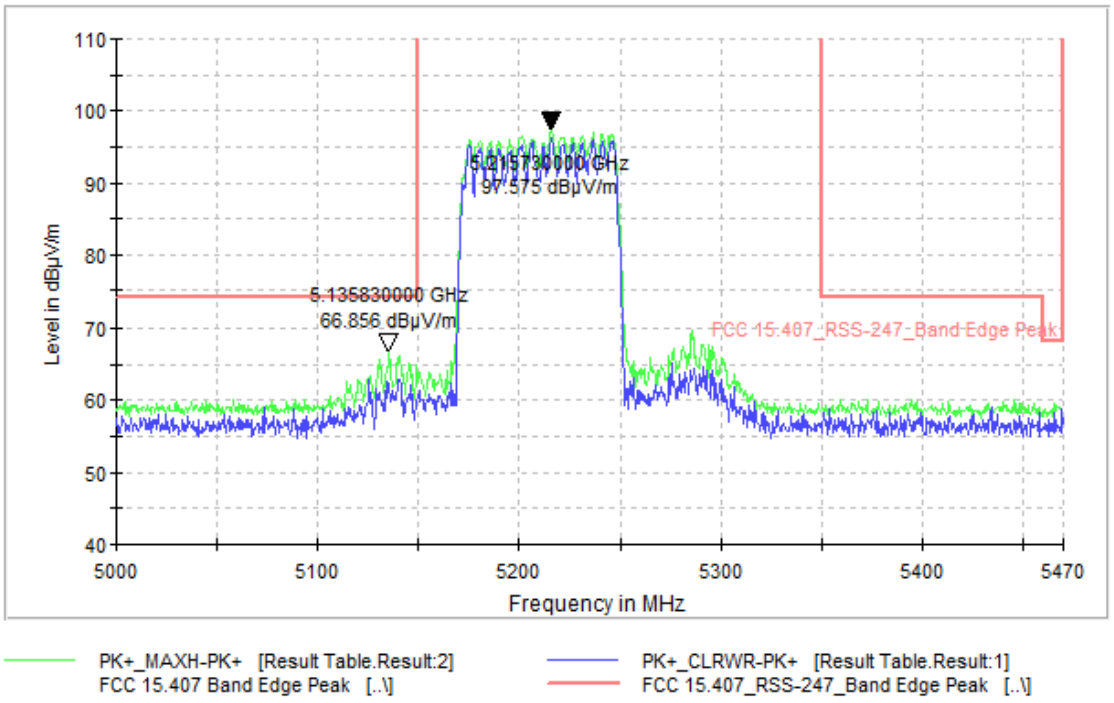


Plot 9-280. Peak Radiated Band Edge Emissions Tx Chains A & B 802.11n HT40 (Ch. 151)

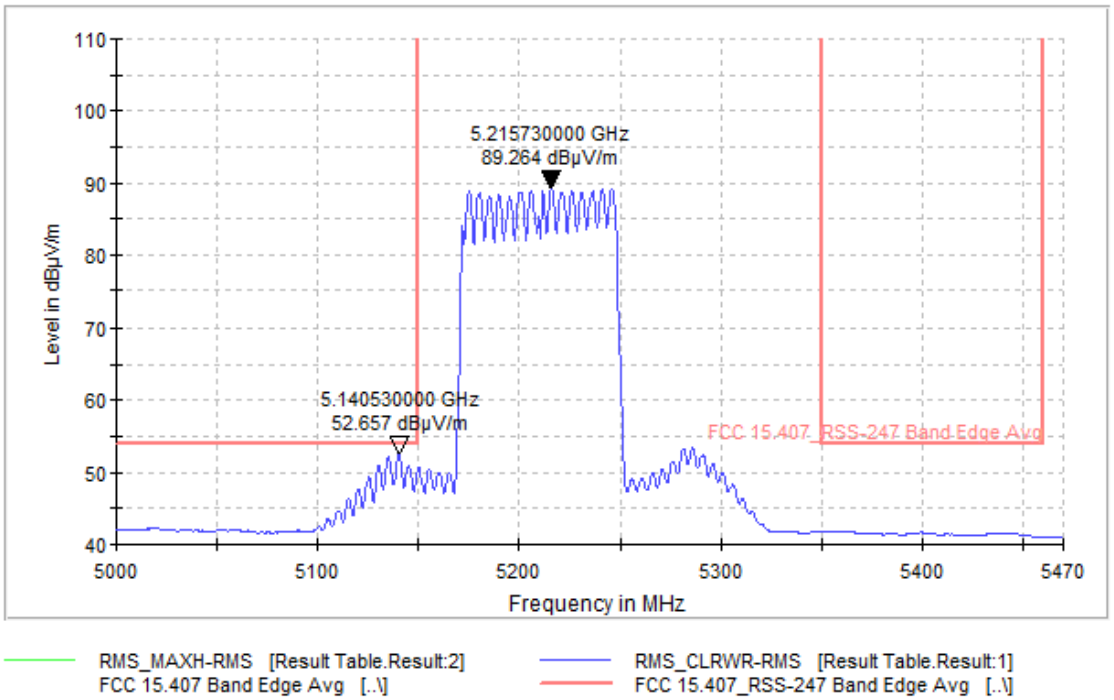


Plot 9-281. Peak Radiated Band Edge Emissions Tx Chains A & B 802.11n HT40 (Ch. 159)

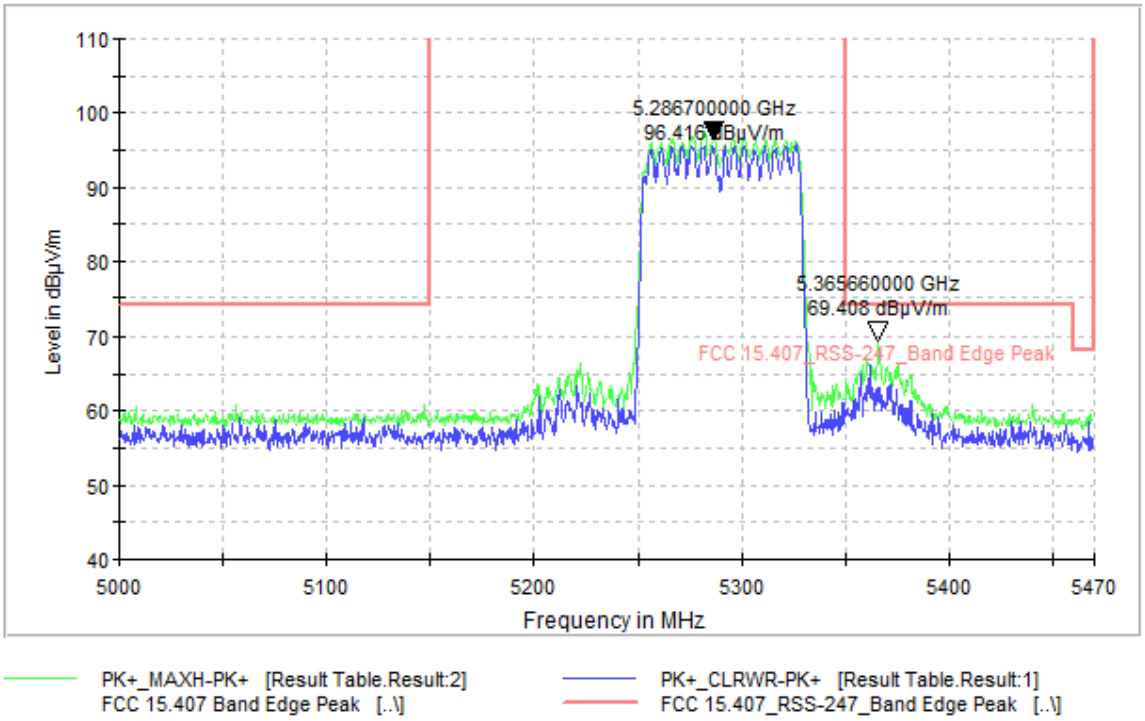
9.6.5.10 Radiated Restricted Band-edge emissions 802.11ac VHT80



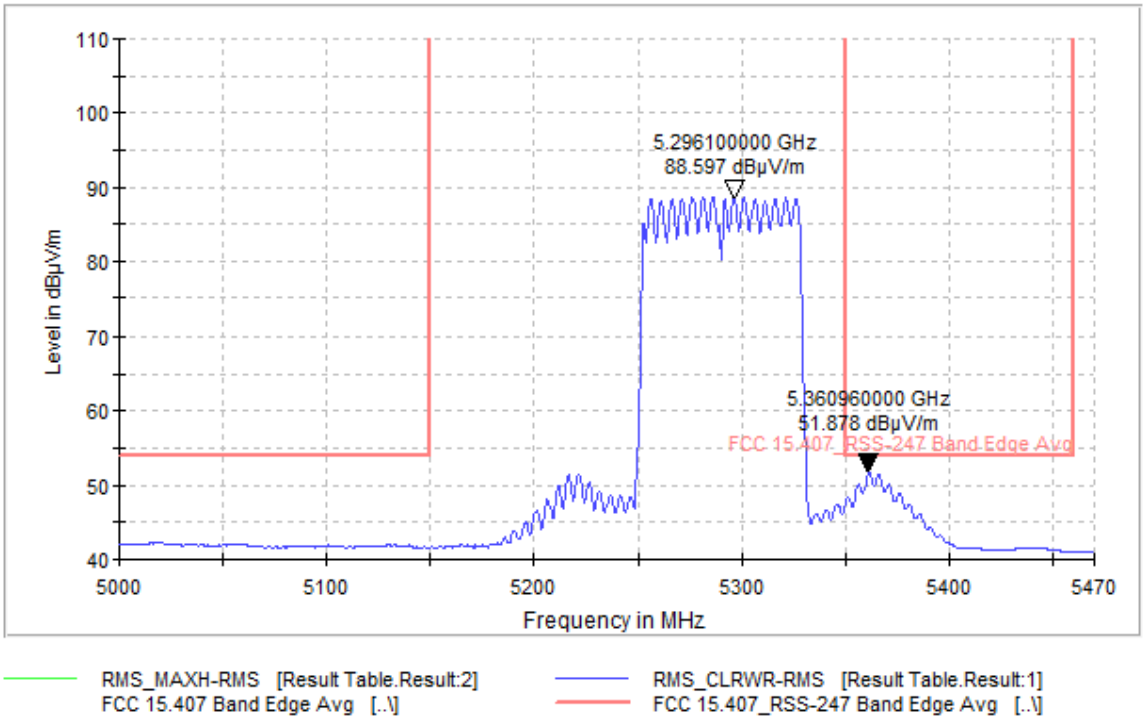
Plot 9-282. Peak Radiated Band Edge Emissions Tx Chains A & B 802.11ac VHT80 (Ch. 42)



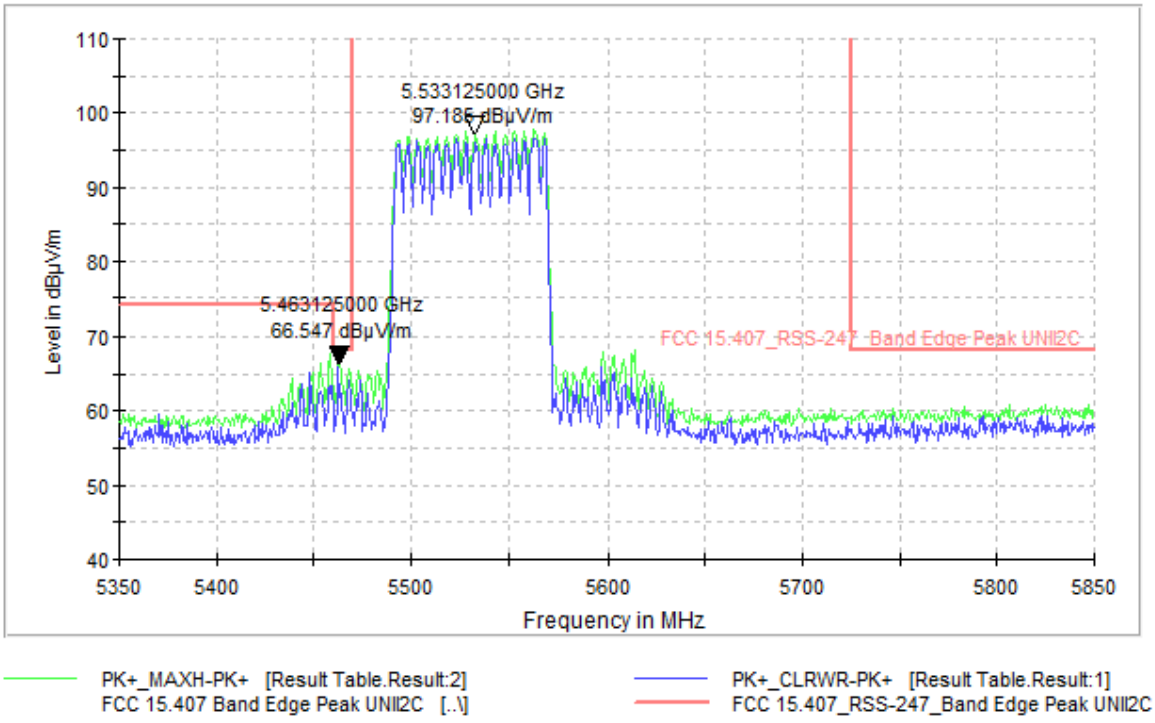
Plot 9-283. Average Radiated Band Edge Emissions Tx Chains A & B 802.11ac VHT80 (Ch. 42)



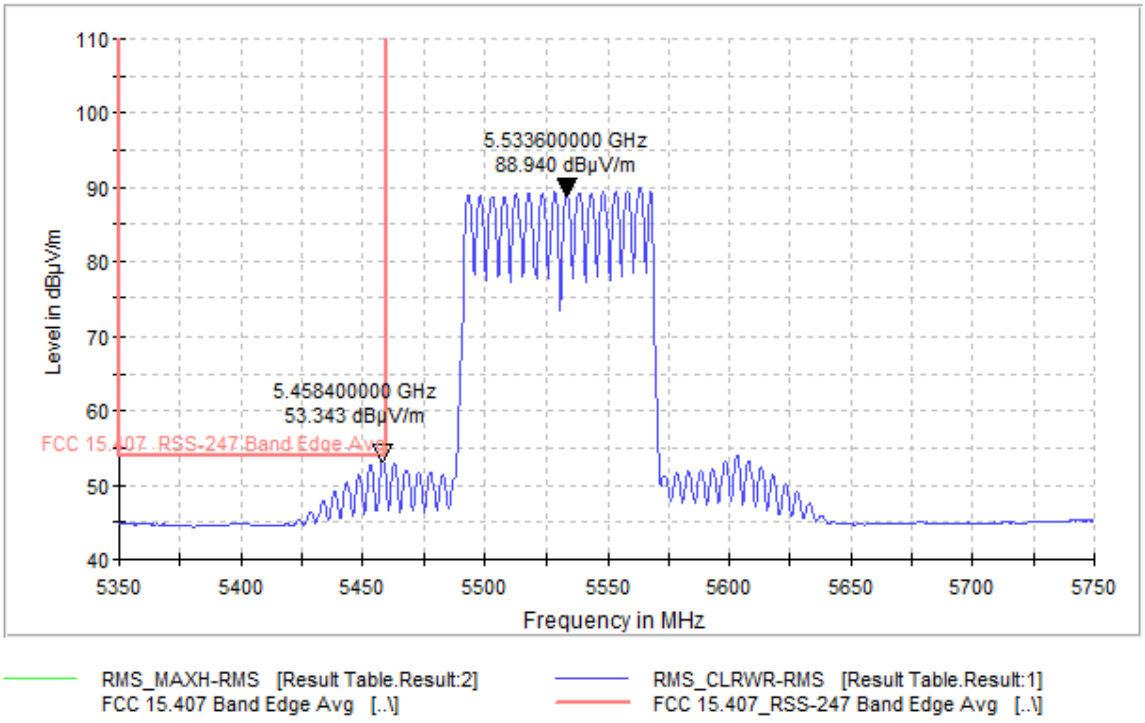
Plot 9-284. Peak Radiated Band Edge Emissions Tx Chains A & B 802.11ac VHT80 (Ch. 58)



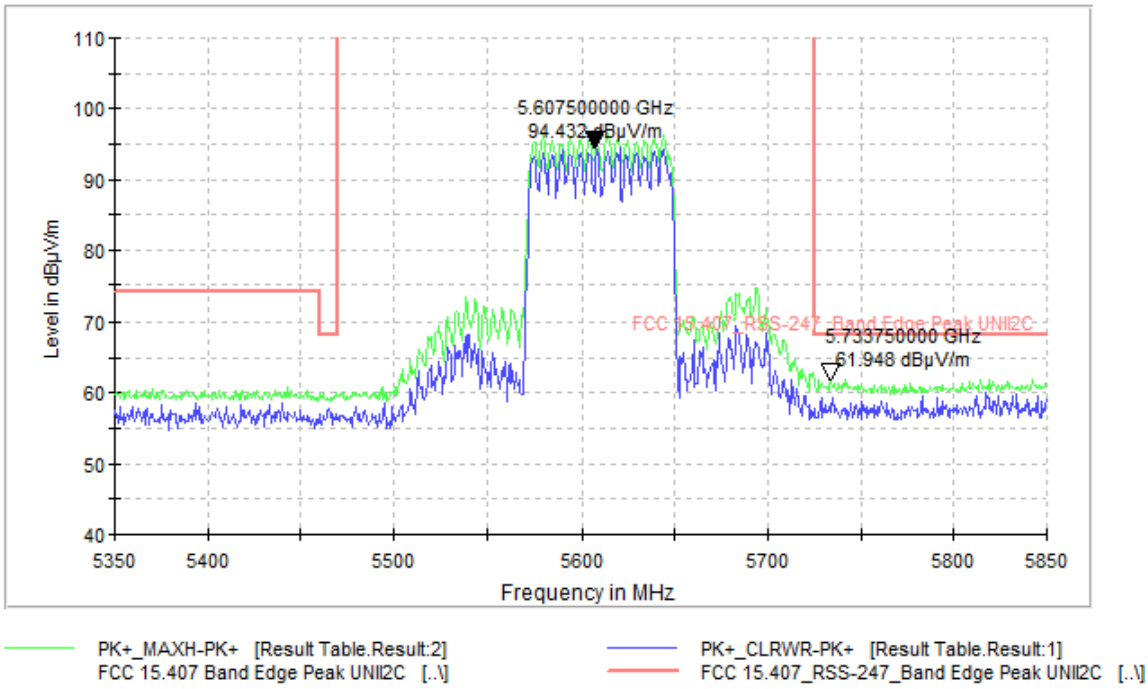
Plot 9-285. Average Radiated Band Edge Emissions Tx Chains A & B 802.11ac VHT80 (Ch. 58)



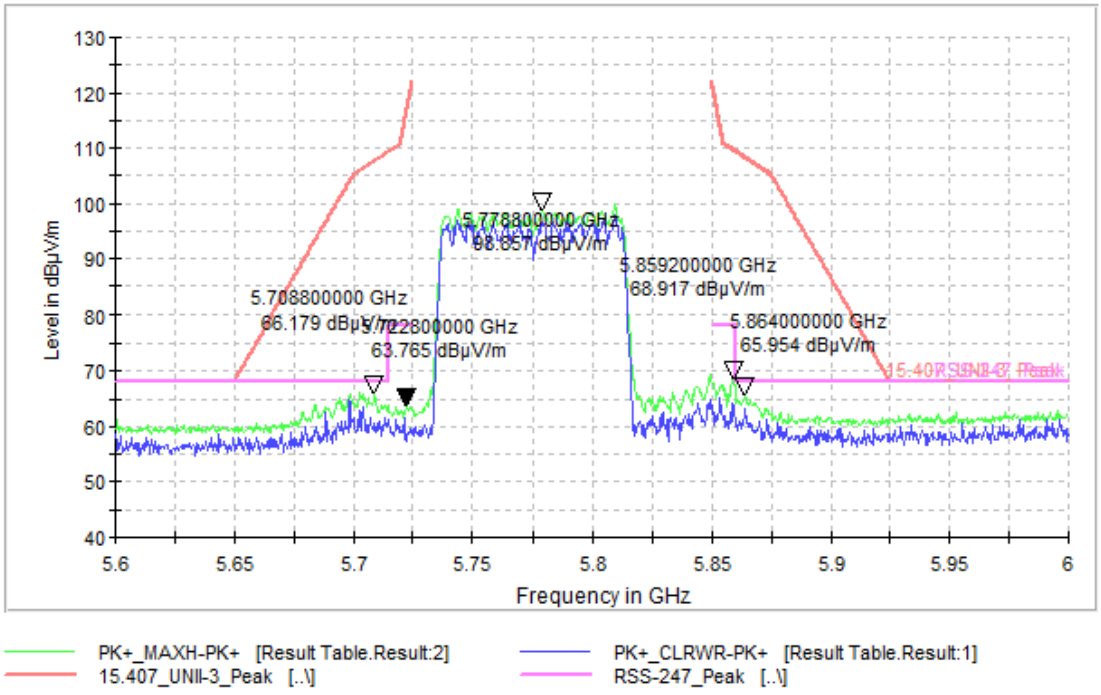
Plot 9-286. Peak Radiated Band Edge Emissions Tx Chains A & B 802.11ac VHT80 (Ch. 106)



Plot 9-287. Average Radiated Band Edge Emissions Tx Chains A & B 802.11ac VHT80 (Ch. 106)



Plot 9-288. Peak Radiated Band Edge Emissions Tx Chains A & B 802.11ac VHT80 (Ch. 122)



Plot 9-2389. Peak Radiated Band Edge Emissions Tx Chains A & B 802.11ac VHT80 (Ch. 155)

9.7 AC Line Conducted Emissions

9.7.1 Test Requirements

FCC CFR 47 Rule Part 15.207 (a)
ISED RSS Gen [8.8]

9.7.2 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

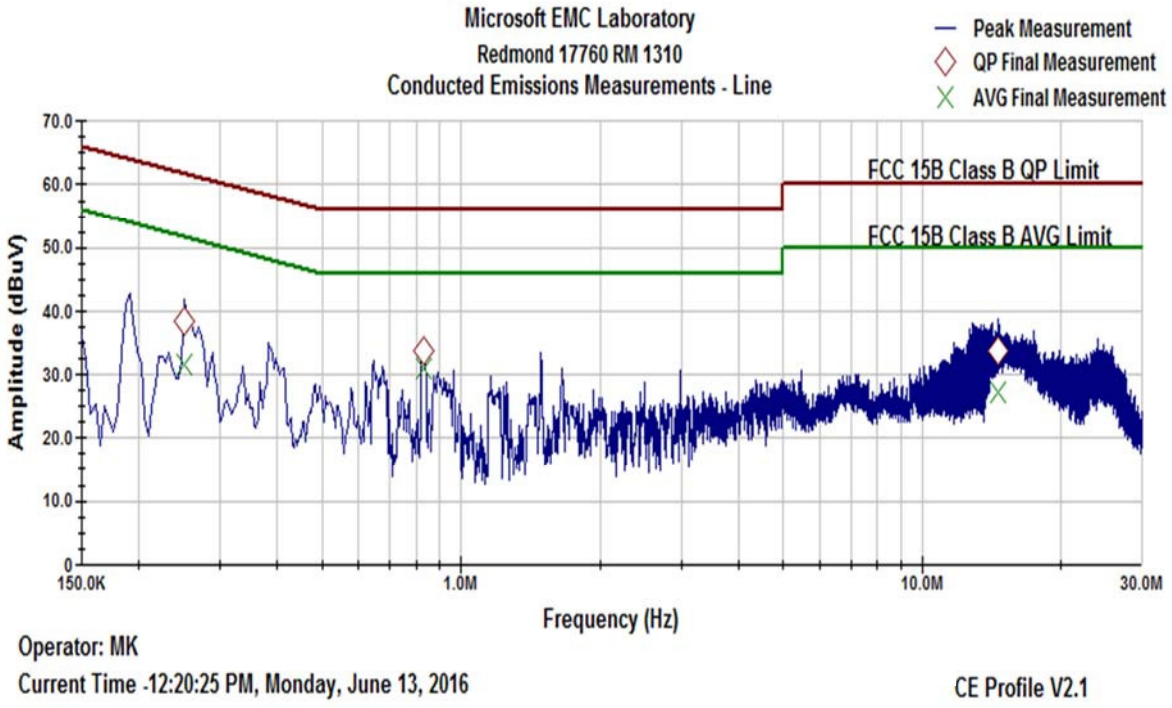
9.7.3 Limit

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

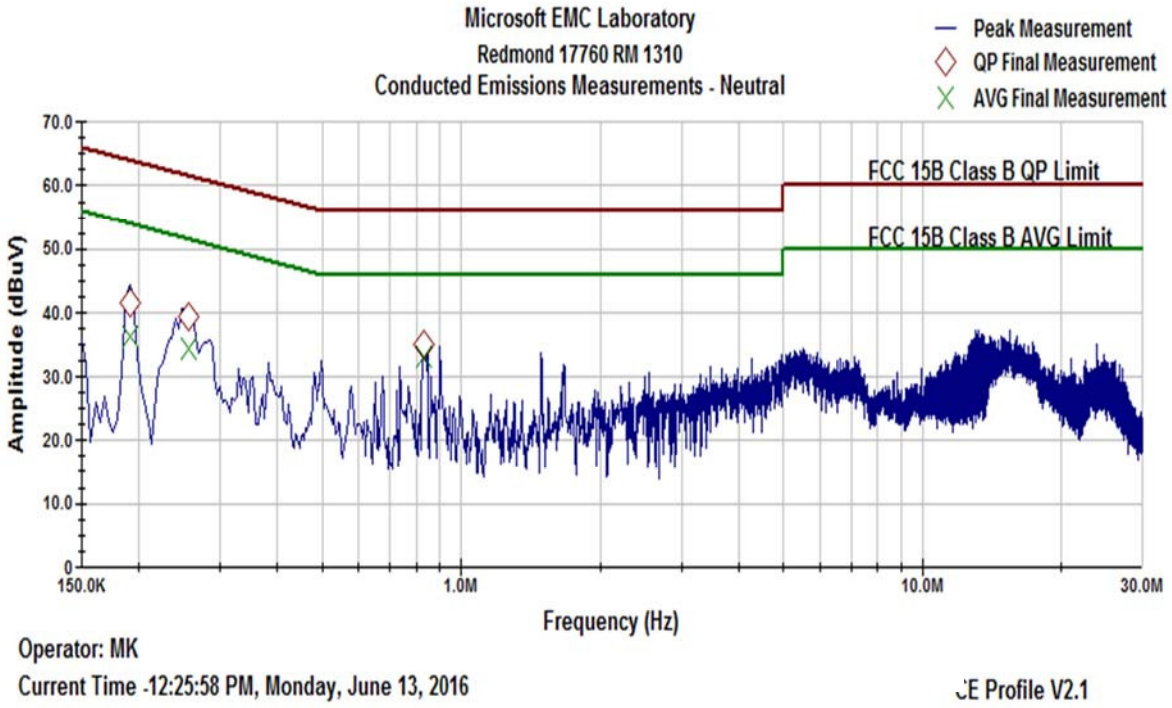
9.7.4 Test Result:

Pass.

9.7.5 Test Data:



Plot 9-290. AC Line Conducted Emissions- Line (150 kHz- 30 MHz)



Plot 9-291. AC Line Conducted Emissions- Neutral (150 kHz- 30 MHz)

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)
0.191	41.424	36.165	64.823	54.823	N	-23.399	-18.659
0.251	38.395	31.641	63.114	53.114	L	-24.720	-21.473
0.257	39.377	34.248	62.937	52.937	N	-23.561	-18.689
0.828	33.618	30.884	56.00	46.00	L	-22.382	-15.116
0.831	34.937	33.084	56.00	46.00	N	-21.063	-12.916
14.601	33.678	27.152	60.00	50.00	L	-26.322	-22.848

End of Report