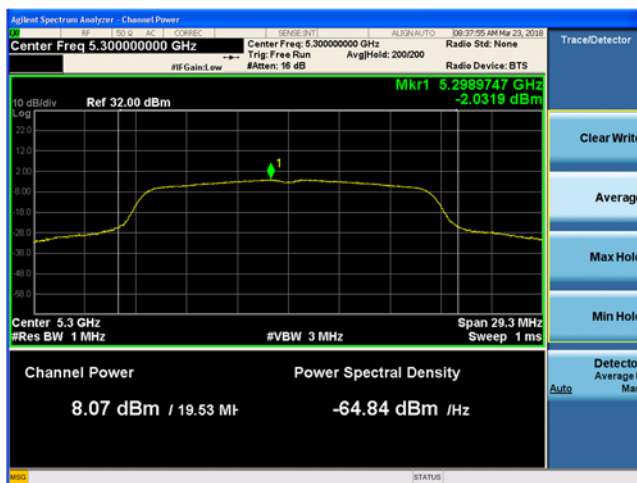


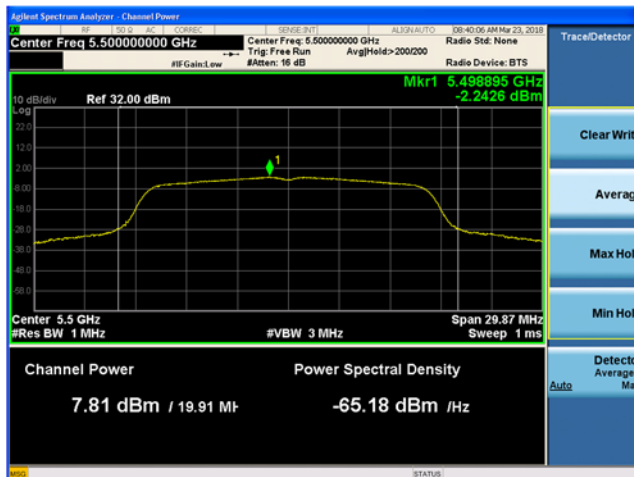
Plot 9-64. Maximum Conducted Output Power and PSD, Main antenna 802.11a (Ch. 52)



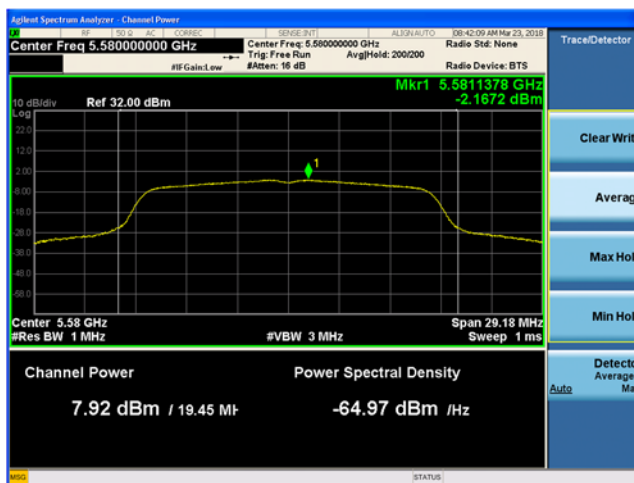
Plot 9-65. Maximum Conducted Output Power and PSD, Main antenna 802.11a (Ch. 60)



Plot 9-66. Maximum Conducted Output Power and PSD, Main antenna 802.11a (Ch. 64)



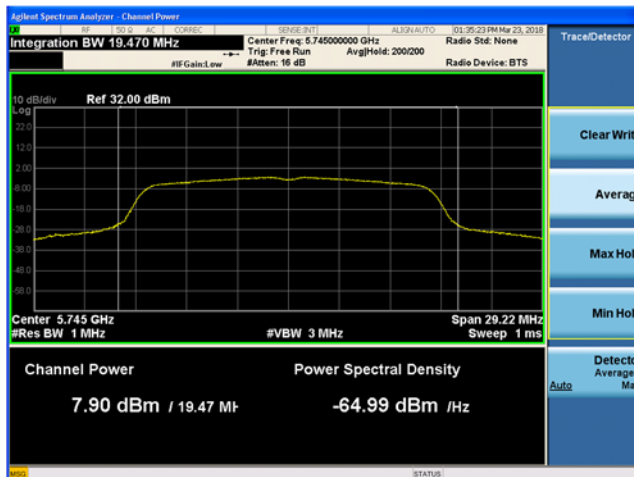
Plot 9-67. Maximum Conducted Output Power and PSD, Main antenna 802.11a (Ch. 100)



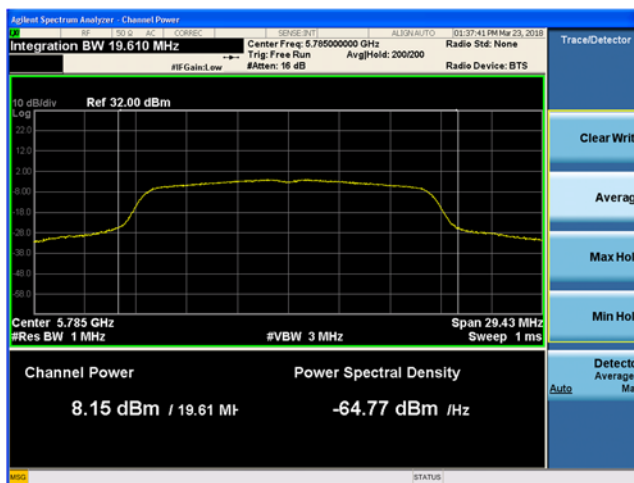
Plot 9-68. Maximum Conducted Output Power and PSD, Main antenna 802.11a (Ch. 116)



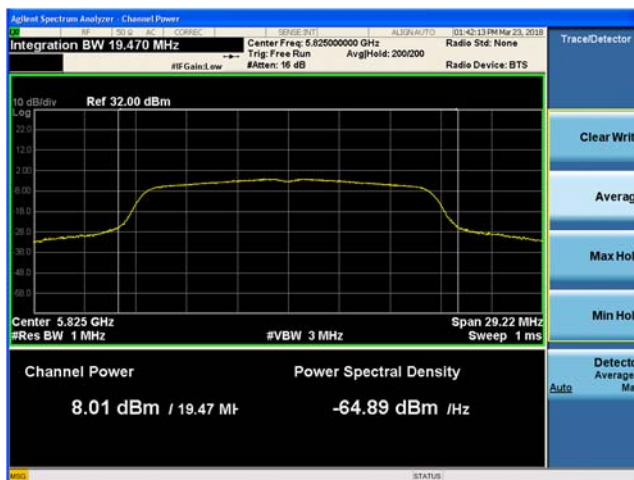
Plot 9-69. Maximum Conducted Output Power and PSD, Main antenna 802.11a (Ch. 140)



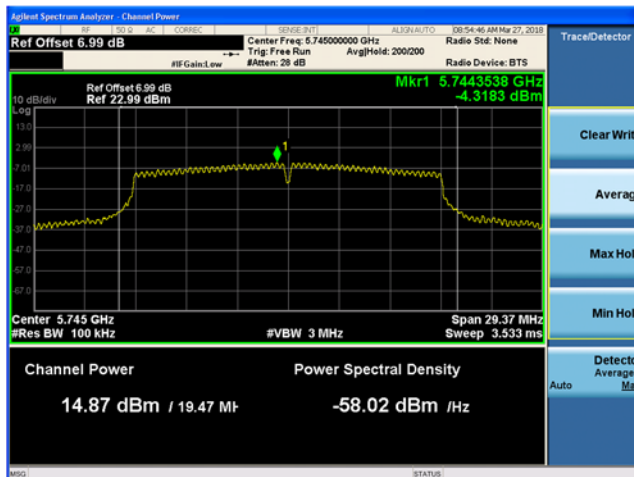
Plot 9-70. Maximum Conducted Output Power, Main antenna 802.11a (Ch. 149)



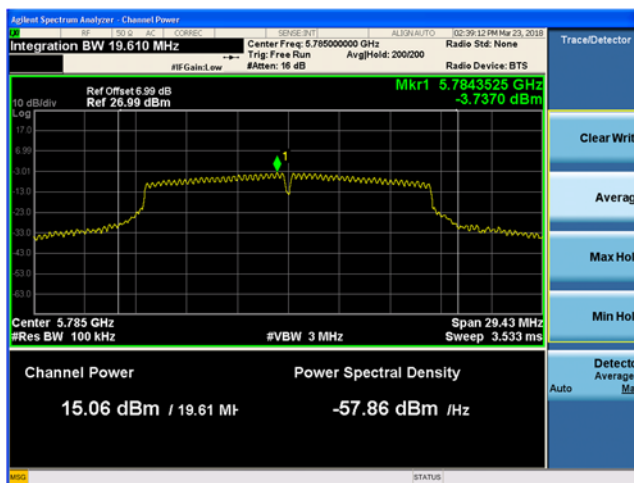
Plot 9-71. Maximum Conducted Output Power, Main antenna 802.11a (Ch. 157)



Plot 9-72. Maximum Conducted Output Power, Main antenna 802.11a (Ch. 165)



Plot 9-73. Maximum Power Spectral Density, Main antenna 802.11a (Ch. 149)



Plot 9-74. Maximum Power Spectral Density, Main antenna 802.11a (Ch. 157)



Plot 9-75. Maximum Power Spectral Density, Main antenna 802.11a (Ch. 165)

**9.5.5.3 Main antenna 802.11n HT20 Maximum Conducted Output Power**

Main antenna 802.11n HT20 Maximum Conducted Output Power								
Chan. No.	Freq. (MHz)	Avg Power (dBm)	Duty Cycle correction factor (dBm)	Total Power (dBm)	15.407 Limit (dBm)	RSS-247 Limit (dBm)	15.407 Margin (dB)	RSS-247 Margin (dB)
36	5180	7.81	0.21	8.02	23.80	--	-15.78	--
44	5220	8.21	0.21	8.42	23.80	--	-15.38	--
48	5240	8.25	0.21	8.46	23.80	--	-15.34	--
52	5260	7.79	0.21	8.00	23.79	22.96	-15.79	-14.96
60	5300	7.89	0.21	8.10	23.80	22.96	-15.70	-14.86
64	5320	7.87	0.21	8.08	23.80	22.97	-15.72	-14.89
100	5500	8.03	0.21	8.24	23.99	23.17	-15.75	-14.93
116	5580	8.00	0.21	8.21	24.00	23.17	-15.79	-14.96
140	5700	8.03	0.21	8.24	24.00	23.17	-15.76	-14.93
149	5745	8.13	0.21	8.34	30.00	30.00	-21.66	-21.66
157	5785	7.95	0.21	8.16	30.00	30.00	-21.84	-21.84
165	5825	7.92	0.21	8.13	30.00	30.00	-21.87	-21.87

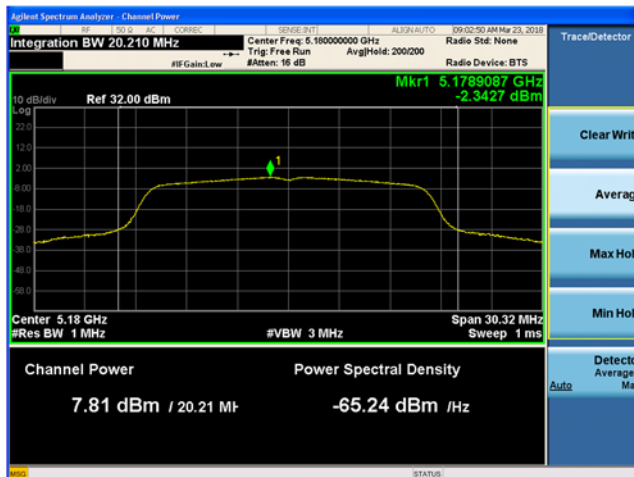
Main antenna 802.11n HT20 E.I.R.P						
Channel No.	Frequency (MHz)	Total Power (dBm)	Antenna Gain (dBi)	E.I.R.P (dBm)	RSS-247 E.I.R.P Limit (dBm)	RSS-247 E.I.R.P. Margin (dB)
36	5180	8.02	6.20	14.22	22.24	-8.02
44	5220	8.42	6.20	14.62	22.24	-7.62
48	5240	8.46	6.20	14.66	22.24	-7.58
52	5260	8.00	6.20	14.20	29.24	-15.04
60	5300	8.10	6.20	14.30	29.24	-14.94
64	5320	8.08	6.20	14.28	29.23	-14.95
100	5500	8.24	5.90	14.14	29.44	-15.30
116	5580	8.21	5.90	14.11	29.44	-15.33
140	5700	8.24	5.90	14.14	29.43	-15.29
149	5745	8.34	5.60	13.94	--	--
157	5785	8.16	5.60	13.76	--	--
165	5825	8.13	5.60	13.73	--	--

9.5.5.4 Main antenna 802.11n HT20 Maximum Power Spectral Density

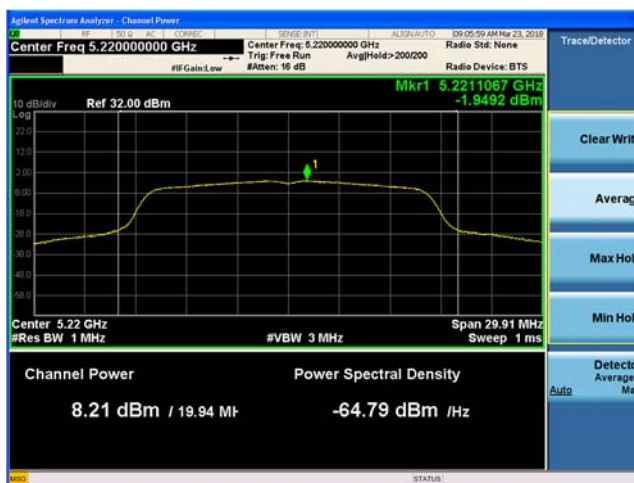
UNII-1 Main antenna 802.11n HT20 Maximum Power Spectral Density/MHz										
Chan. No.	Freq. (MHz)	Measured PSD/MHz (dBm)	Duty Cycle correction factor (dBm)	Total PSD $\left(\frac{dBm}{MHz}\right)$	Total Ant. Gain (dBi)	Total EIRP PSD $\left(\frac{dBm}{MHz}\right)$	15.407 Limit $\left(\frac{dBm}{MHz}\right)$	RSS-247 EIRP PSD Limit $\left(\frac{dBm}{MHz}\right)$	15.407 Margin (dB)	RSS-247 Margin (dB)
36	5180	-2.34	0.21	-2.13	6.20	4.07	10.80	10.00	-12.93	-5.93
44	5220	-1.95	0.21	-1.74	6.20	4.46	10.80	10.00	-12.54	-5.54
48	5240	-2.06	0.21	-1.85	6.20	4.35	10.80	10.00	-12.65	-5.65

UNII-2A and UNII-2C Main antenna 802.11n HT20 Maximum Power Spectral Density/MHz									
Channel No.	Frequency (MHz)	Measured PSD/MHz (dBm)	Duty Cycle correction factor (dBm)	Total PSD $\left(\frac{dBm}{MHz}\right)$	15.407 Limit $\left(\frac{dBm}{MHz}\right)$	RSS-247 Limit $\left(\frac{dBm}{MHz}\right)$	15.407 Margin (dB)	RSS-247 Margin (dB)	
52	5260	-2.50	0.21	-2.29	10.80	11.00	-13.09	-13.29	
60	5300	-2.41	0.21	-2.20	10.80	11.00	-13.00	-13.20	
64	5320	-2.55	0.21	-2.34	10.80	11.00	-13.14	-13.34	
100	5500	-2.29	0.21	-2.08	11.00	11.00	-13.08	-13.08	
116	5580	-2.29	0.21	-2.08	11.00	11.00	-13.08	-13.08	
140	5700	-2.20	0.21	-1.99	11.00	11.00	-12.99	-12.99	

UNII-3 Main antenna 802.11n HT20 Maximum Power Spectral Density/500kHz								
Chan. No.	Freq. (MHz)	Measured PSD/MHz (dBm)	Duty Cycle correction factor (dBm)	Total PSD $\left(\frac{dBm}{500 kHz}\right)$	15.407 Limit $\left(\frac{dBm}{500 kHz}\right)$	RSS-247 Limit $\left(\frac{dBm}{500 kHz}\right)$	15.407 Margin (dB)	RSS-247 Margin (dB)
149	5745	-3.47	0.21	-3.26	30.00	30.00	-33.26	-33.26
157	5785	-3.86	0.21	-3.65	30.00	30.00	-33.65	-33.65
165	5825	-4.19	0.21	-3.98	30.00	30.00	-33.98	-33.98



Plot 9-76. Maximum Conducted Output Power and PSD, Main antenna 802.11n HT20 (Ch. 36)



Plot 9-77. Maximum Conducted Output Power and PSD, Main antenna 802.11n HT20 (Ch. 44)

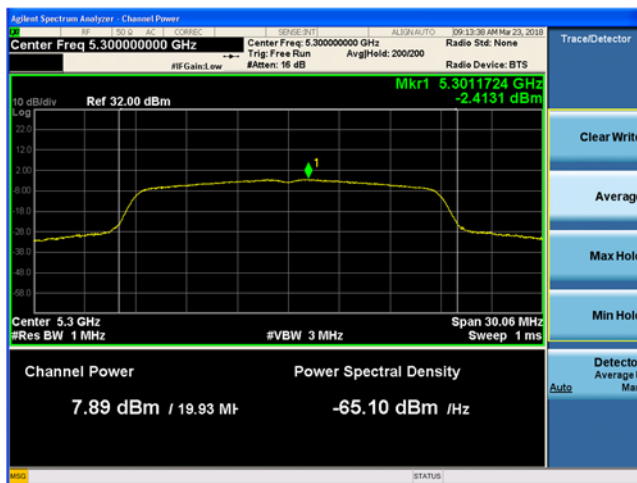


Plot 9-78. Maximum Conducted Output Power and PSD, Main antenna 802.11n HT20 (Ch. 48)





Plot 9-79. Maximum Conducted Output Power and PSD, Main antenna 802.11n HT20 (Ch. 52)

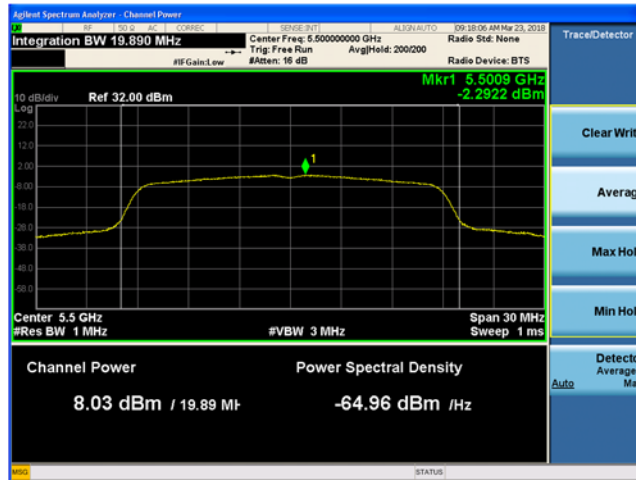


Plot 9-80. Maximum Conducted Output Power and PSD, Main antenna 802.11n HT20 (Ch. 60)



Plot 9-81. Maximum Conducted Output Power and PSD, Main antenna 802.11n HT20 (Ch. 64)





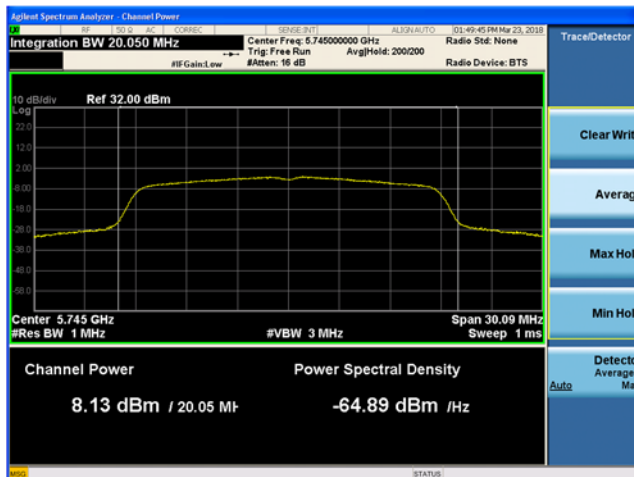
Plot 9-82. Maximum Conducted Output Power and PSD, Main antenna 802.11n HT20 (Ch. 100)



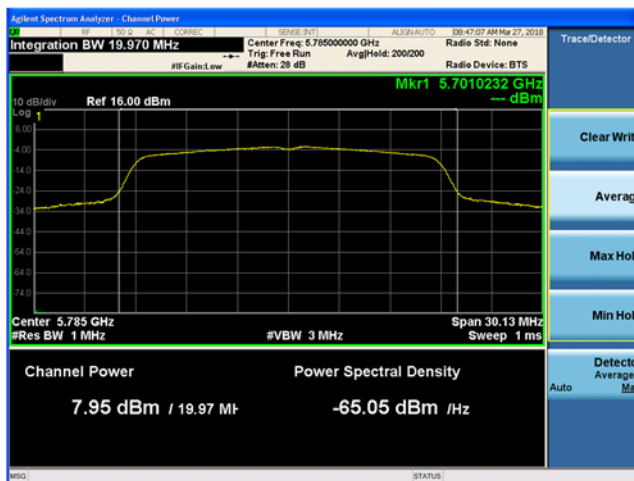
Plot 9-83. Maximum Conducted Output Power and PSD, Main antenna 802.11n HT20 (Ch. 116)



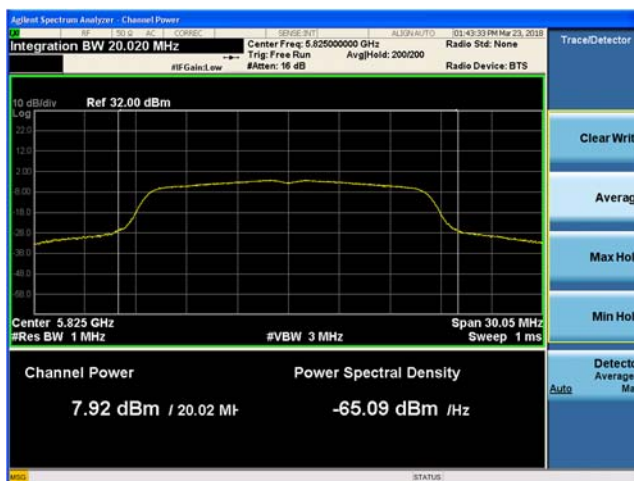
Plot 9-84. Maximum Conducted Output Power and PSD, Main antenna 802.11n HT20 (Ch. 140)



Plot 9-85. Maximum Conducted Output Power, Main antenna 802.11n HT20 (Ch. 149)



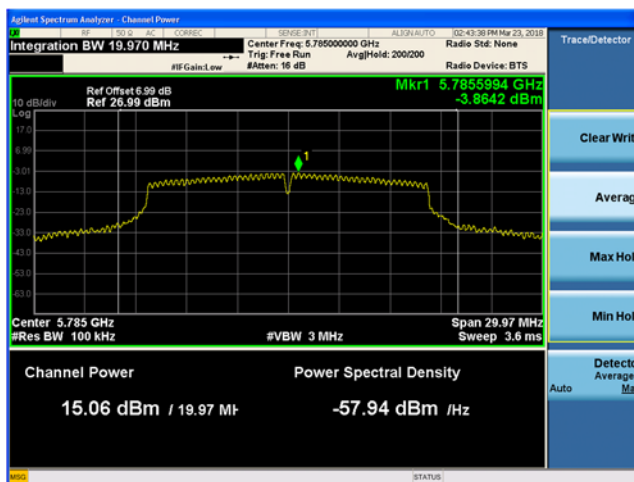
Plot 9-86. Maximum Conducted Output Power, Main antenna 802.11n HT20 (Ch. 157)



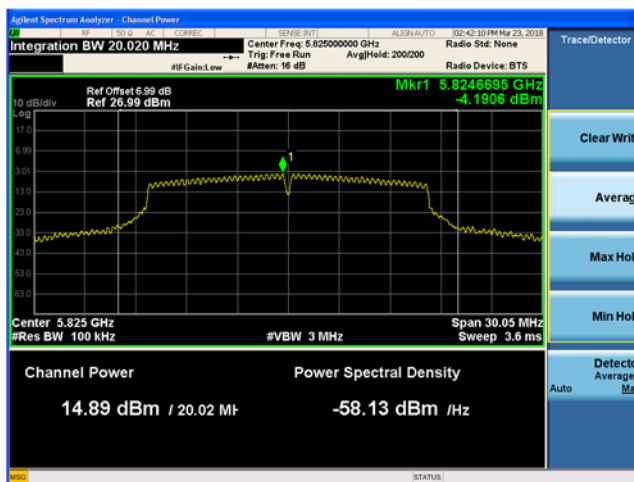
Plot 9-87. Maximum Conducted Output Power, Main antenna 802.11n HT20 (Ch. 165)



Plot 9-88. Maximum Power Spectral Density, Main antenna 802.1n HT20 (Ch. 149)



Plot 9-89. Maximum Power Spectral Density, Main antenna 802.11n HT20 (Ch. 157)



Plot 9-90. Maximum Power Spectral Density, Main antenna 802.11n HT20 (Ch. 165)

**9.5.5.5 Diversity Antenna 802.11a Maximum Conducted Output Power**

Diversity antenna 802.11a Maximum Conducted Output Power								
Chan. No.	Freq. (MHz)	Diversity Antenna (dBm)	Duty Cycle correction factor (dBm)	Total Power (dBm)	15.407 Limit (dBm)	RSS-247 Limit (dBm)	15.407 Margin (dB)	RSS-247 Margin (dB)
36	5180	7.96	0.20	8.16	23.30	--	-15.14	--
44	5220	7.95	0.20	8.15	23.30	--	-15.15	--
48	5240	7.84	0.20	8.04	23.30	--	-15.26	--
52	5260	7.90	0.20	8.10	23.90	23.90	-15.80	-15.80
60	5300	8.11	0.20	8.31	23.92	23.92	-15.61	-15.61
64	5320	7.80	0.20	8.00	23.91	23.91	-15.91	-15.91
100	5500	8.00	0.20	8.20	23.80	23.80	-15.60	-15.60
116	5580	8.05	0.20	8.25	23.83	23.83	-15.58	-15.58
140	5700	7.82	0.20	8.02	23.80	23.80	-15.78	-15.78
149	5745	7.83	0.20	8.03	29.60	29.60	-21.57	-21.57
157	5785	8.08	0.20	8.28	29.60	29.60	-21.32	-21.32
165	5825	7.90	0.20	8.10	29.60	29.60	-21.50	-21.50

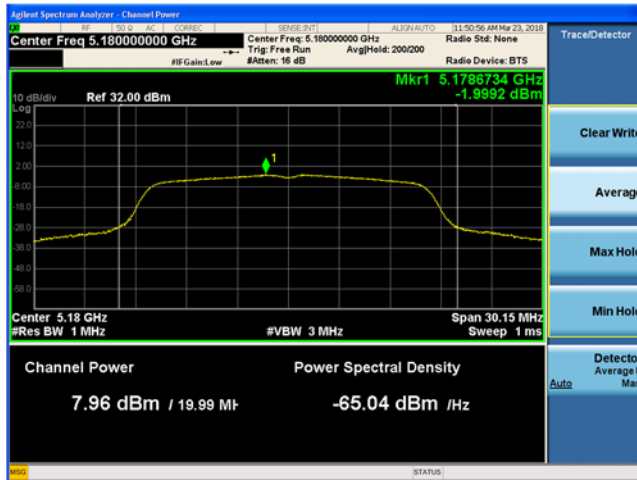
Diversity antenna 802.11a E.I.R.P						
Channel No.	Frequency (MHz)	Total Power (dBm)	Antenna Gain (dBi)	E.I.R.P (dBm)	RSS-247 E.I.R.P Limit (dBm)	RSS-247 E.I.R.P. Margin (dB)
36	5180	8.16	6.70	14.86	21.48	-6.62
44	5220	8.15	6.70	14.85	21.47	-6.62
48	5240	8.04	6.70	14.74	21.47	-6.73
52	5260	8.10	6.00	14.10	29.16	-15.06
60	5300	8.31	6.00	14.31	29.16	-14.85
64	5320	8.00	6.00	14.00	29.17	-15.17
100	5500	8.20	6.10	14.30	29.07	-14.77
116	5580	8.25	6.10	14.35	29.07	-14.72
140	5700	8.02	6.10	14.12	29.07	-14.95
149	5745	8.03	6.40	14.43	--	--
157	5785	8.28	6.40	14.68	--	--
165	5825	8.10	6.40	14.50	--	--

9.5.5.6 Diversity antenna 802.11a Maximum Spectral Density

UNII-1 Diversity antenna 802.11a Maximum Power Spectral Density/MHz										
Chan. No.	Freq. (MHz)	Measured PSD/MHz (dBm)	Duty Cycle correction factor (dBm)	Total PSD $\left(\frac{dBm}{MHz}\right)$	Total Ant. Gain (dBi)	Total EIRP PSD $\left(\frac{dBm}{MHz}\right)$	15.407 Limit $\left(\frac{dBm}{MHz}\right)$	RSS-247 EIRP PSD Limit $\left(\frac{dBm}{MHz}\right)$	15.407 Margin (dB)	RSS-247 Margin (dB)
36	5180	-1.99	0.20	-1.79	6.70	4.91	10.30	10.00	-12.09	-5.09
44	5220	-2.19	0.20	-1.99	6.70	4.71	10.30	10.00	-12.29	-5.29
48	5240	-2.29	0.20	-2.09	6.70	4.61	10.30	10.00	-12.39	-5.39

UNII-2A and UNII-2C Diversity antenna 802.11a Maximum Power Spectral Density/MHz									
Channel No.	Frequency (MHz)	Measured PSD/MHz (dBm)	Duty Cycle correction factor (dBm)	Total PSD $\left(\frac{dBm}{MHz}\right)$	15.407 Limit $\left(\frac{dBm}{MHz}\right)$	RSS-247 Limit $\left(\frac{dBm}{MHz}\right)$	15.407 Margin (dB)	RSS-247 Margin (dB)	
52	5260	-2.28	0.20	-2.08	11.00	11.00	-13.08	-13.08	
60	5300	-2.17	0.20	-1.97	11.00	11.00	-12.97	-12.97	
64	5320	-2.23	0.20	-2.03	11.00	11.00	-13.03	-13.03	
100	5500	-2.17	0.20	-1.97	10.90	11.00	-12.87	-12.97	
116	5580	-2.14	0.20	-1.94	10.90	11.00	-12.84	-12.94	
140	5700	-2.28	0.20	-2.08	10.90	11.00	-12.98	-13.08	

UNII-3 Diversity antenna 802.11a Maximum Power Spectral Density/500kHz								
Chan. No.	Freq. (MHz)	Measured PSD/MHz (dBm)	Duty Cycle correction factor (dBm)	Total PSD $\left(\frac{dBm}{500 kHz}\right)$	15.407 Limit $\left(\frac{dBm}{500 kHz}\right)$	RSS-247 Limit $\left(\frac{dBm}{500 kHz}\right)$	15.407 Margin (dB)	RSS-247 Margin (dB)
149	5745	-4.15	0.20	-3.95	29.60	29.60	-33.55	-33.55
157	5785	-3.77	0.20	-3.57	29.60	29.60	-33.17	-33.17
165	5825	-4.02	0.20	-3.82	29.60	29.60	-33.42	-33.42



Plot 9-91. Maximum Conducted Output Power and PSD, Diversity antenna 802.11a (Ch. 36)



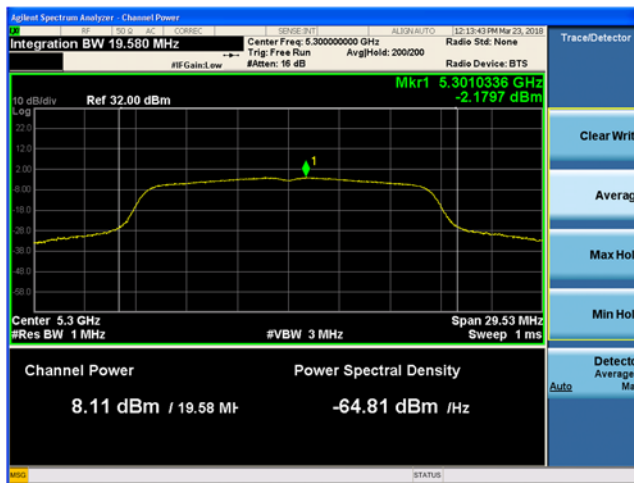
Plot 9-92. Maximum Conducted Output Power and PSD, Diversity antenna 802.11a (Ch. 44)



Plot 9-93. Maximum Conducted Output Power and PSD, Diversity antenna 802.11a (Ch. 48)



Plot 9-94. Maximum Conducted Output Power and PSD, Diversity antenna 802.11a (Ch. 52)

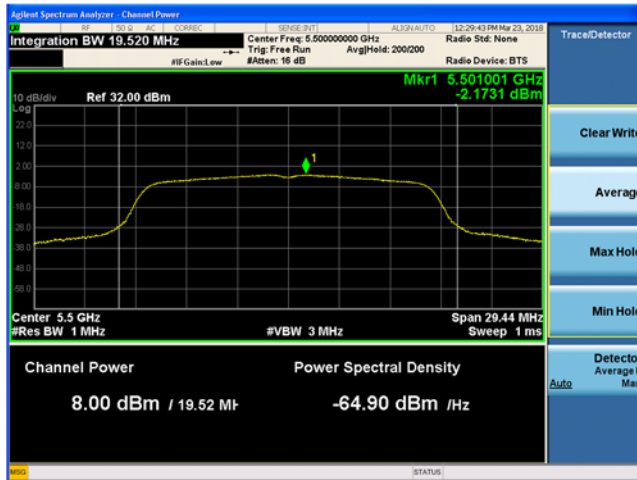


Plot 9-95. Maximum Conducted Output Power and PSD, Diversity antenna 802.11a (Ch. 60)



Plot 9-96. Maximum Output Power and PSD, Diversity antenna 802.11a (Ch. 64)





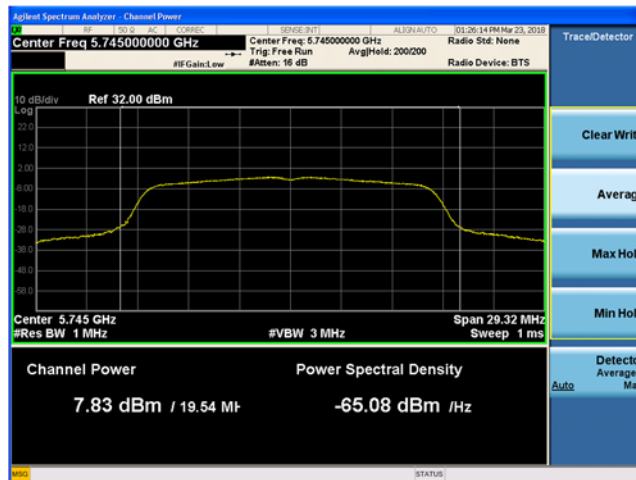
Plot 9-97. Maximum Output Power and PSD, Diversity antenna 802.11a (Ch. 100)



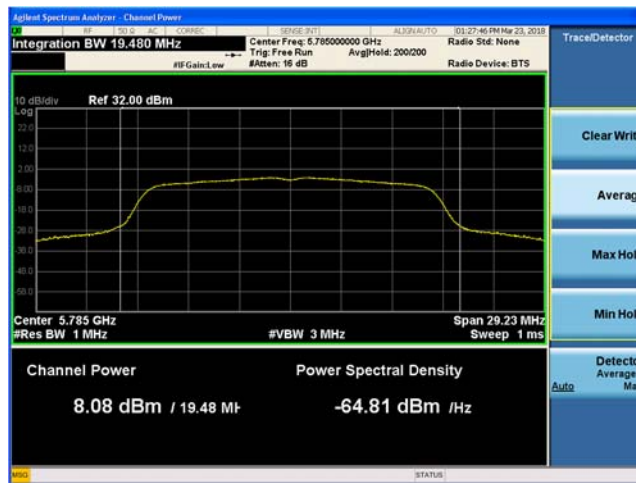
Plot 9-98. Maximum Output Power and PSD, Diversity antenna 802.11a (Ch. 116)



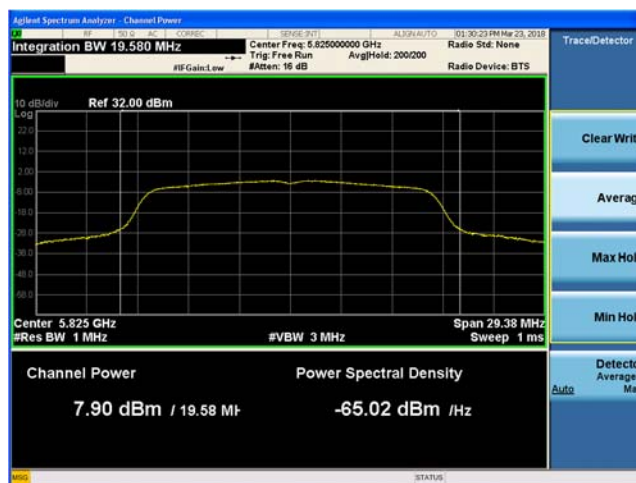
Plot 9-99. Maximum Output Power and PSD, Diversity antenna 802.11a (Ch. 140)



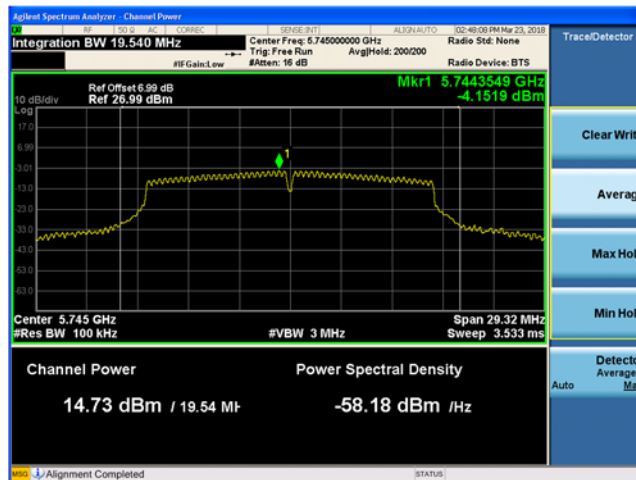
Plot 9-100. Maximum Output Power, Diversity antenna 802.11a (Ch. 149)



Plot 9-101. Maximum Output Power, Diversity antenna 802.11a (Ch. 157)



Plot 9-102. Maximum Output Power, Diversity antenna 802.11a (Ch. 165)



Plot 9-103. Maximum Power Density, Diversity antenna 802.11a (Ch. 157)



Plot 9-104. Maximum Power Density, Diversity antenna 802.11a (Ch. 165)



Plot 9-105. Maximum Power Density, Diversity antenna 802.11a (Ch. 144)

**9.5.5.7 Diversity Antenna 802.11n HT20 Maximum Conducted Output Power**

Diversity antenna 802.11n HT20 Maximum Conducted Output Power								
Chan. No.	Freq. (MHz)	Diversity Antenna (dBm)	Duty Cycle correction factor (dBm)	Total Power (dBm)	15.407 Limit (dBm)	RSS-247 Limit (dBm)	15.407 Margin (dB)	RSS-247 Margin (dB)
36	5180	7.87	0.21	8.08	23.30	--	-15.22	--
44	5220	7.81	0.21	8.02	23.30	--	-15.28	--
48	5240	8.23	0.21	8.44	23.30	--	-14.86	--
52	5260	8.17	0.21	8.38	23.99	23.99	-15.61	-15.61
60	5300	8.02	0.21	8.23	24.00	24.00	-15.77	-15.77
64	5320	8.00	0.21	8.21	23.99	23.99	-15.78	-15.78
100	5500	8.16	0.21	8.37	23.89	23.89	-15.52	-15.52
116	5580	7.94	0.21	8.15	23.90	23.90	-15.75	-15.75
140	5700	8.11	0.21	8.32	23.90	23.90	-15.58	-15.58
149	5745	7.84	0.21	8.05	29.60	29.60	-21.55	-21.55
157	5785	7.82	0.21	8.03	29.60	29.60	-21.57	-21.57
165	5825	8.12	0.21	8.33	29.60	29.60	-21.27	-21.27

Diversity antenna 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	8.08	6.70	14.78	21.74	-6.96
44	5220	8.02	6.70	14.72	21.74	-7.02
48	5240	8.44	6.70	15.14	21.74	-6.60
52	5260	8.38	6.00	14.38	29.44	-15.06
60	5300	8.23	6.00	14.23	29.44	-15.21
64	5320	8.21	6.00	14.21	29.43	-15.22
100	5500	8.37	6.10	14.47	29.33	-14.86
116	5580	8.15	6.10	14.25	29.33	-15.08
140	5700	8.32	6.10	14.42	29.33	-14.91
149	5745	8.05	6.40	14.45	--	--
157	5785	8.03	6.40	14.43	--	--
165	5825	8.33	6.40	14.73	--	--

9.5.5.8 Diversity Antenna 802.11n HT20 Maximum Spectral Density

UNII-1 Diversity antenna 802.11n HT20 Maximum Power Spectral Density/MHz										
Chan. No.	Freq. (MHz)	Measured PSD/MHz (dBm)	Duty Cycle correction factor (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	-2.31	0.21	-2.10	6.70	4.60	10.30	10.00	-12.40	-5.40
44	5220	-2.44	0.21	-2.23	6.70	4.47	10.30	10.00	-12.53	-5.53
48	5240	-2.06	0.21	-1.85	6.70	4.85	10.30	10.00	-12.15	-5.15

UNII-2A and UNII-2C Diversity antenna 802.11n HT20 Maximum Power Spectral Density/MHz									
Channel No.	Frequency (MHz)	Measured PSD/MHz (dBm)	Duty Cycle correction factor (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	-1.97	0.21	-1.76	11.00	11.00	-12.76	-12.76	
60	5300	-2.32	0.21	-2.11	11.00	11.00	-13.11	-13.11	
64	5320	-2.39	0.21	-2.18	11.00	11.00	-13.18	-13.18	
100	5500	-2.05	0.21	-1.84	10.90	11.00	-12.74	-12.84	
116	5580	-2.31	0.21	-2.10	10.90	11.00	-13.00	-13.10	
140	5700	-2.22	0.21	-2.01	10.90	11.00	-12.91	-13.01	

UNII-3 Diversity antenna 802.11n HT20 Maximum Power Spectral Density/500kHz								
Chan. No.	Freq. (MHz)	Measured PSD/MHz (dBm)	Duty Cycle correction factor (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	-3.73	0.21	-3.52	29.60	29.60	-33.12	-33.12
157	5785	-3.61	0.21	-3.40	29.60	29.60	-33.00	-33.00
165	5825	-3.38	0.21	-3.17	29.60	29.60	-32.77	-32.77



Plot 9-106. Maximum Conducted Output Power and PSD, Diversity Antenna 802.11n HT20 (Ch. 36)

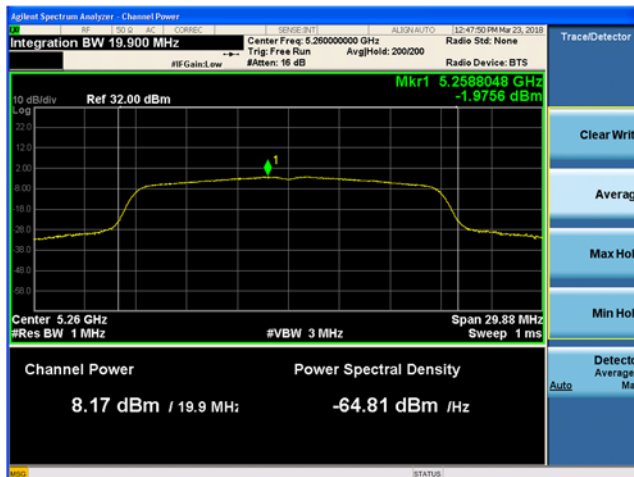


Plot 9-107. Maximum Conducted Output Power and PSD, Diversity Antenna 802.11a HT20 (Ch. 44)

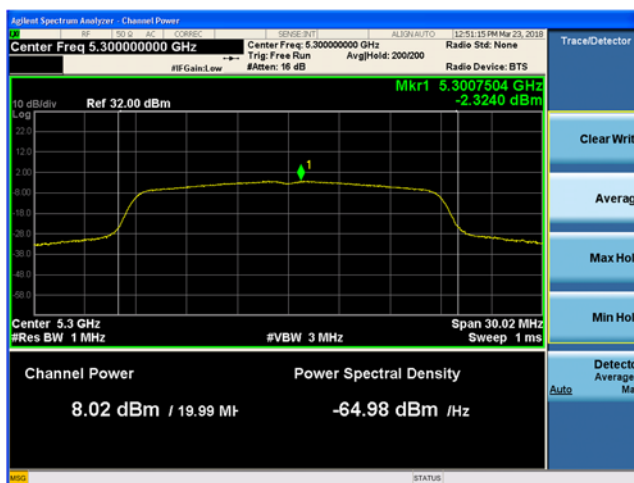


Plot 9-108. Maximum Conducted Output Power and PSD, Diversity Antenna 802.11n HT20 (Ch. 48)





Plot 9-109. Max Conducted Output Power and PSD, Diversity Antenna 802.11n HT40 (Ch. 52)

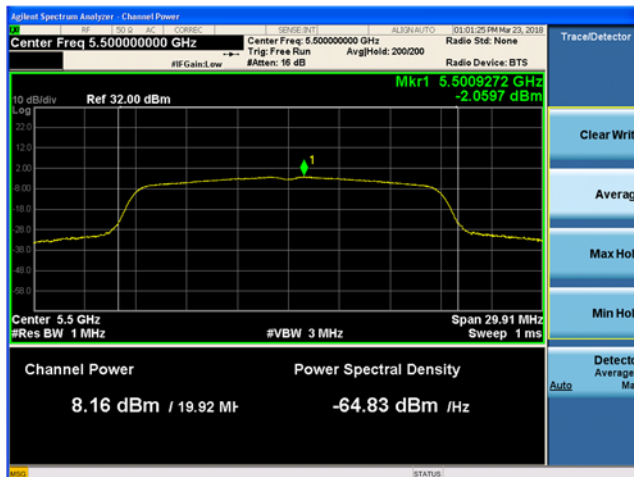


Plot 9-110. Max Conducted Output Power and PSD, Diversity Antenna 802.11n HT20 (Ch. 60)

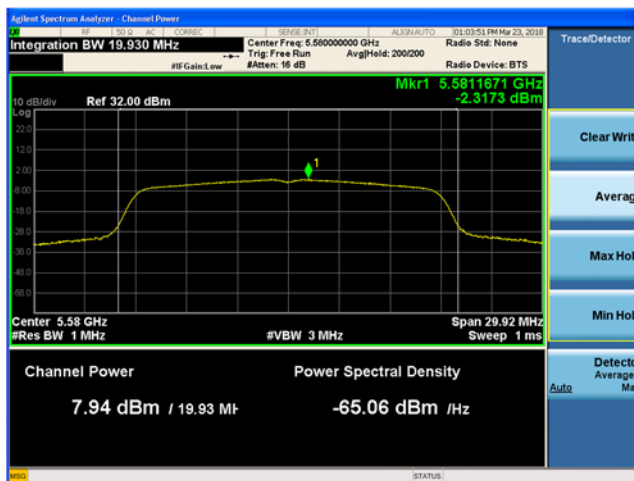


Plot 9-111. Max Conducted Output Power and PSD, Diversity Antenna 802.11n HT20 (Ch. 64)





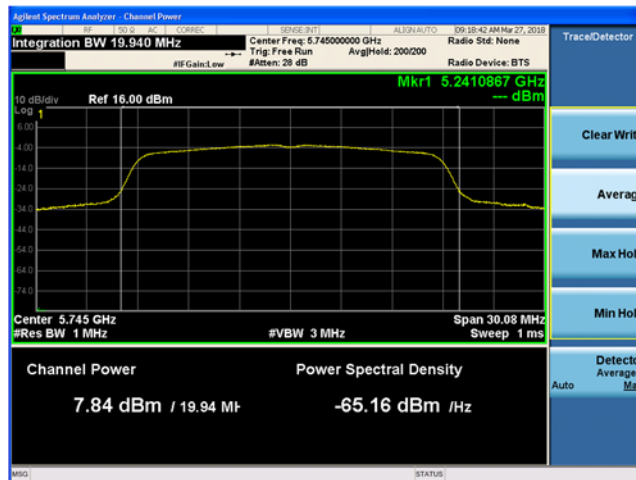
Plot 9-112. Max Conducted Output Power and PSD, Diversity Antenna 802.11n HT20 (Ch. 100)



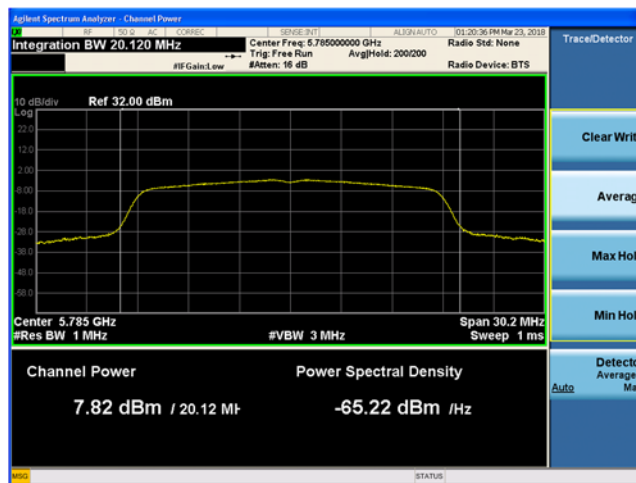
Plot 9-113. Max Conducted Output Power and PSD, Diversity Antenna 802.11n HT20 (Ch. 116)



Plot 9-114. Max Conducted Output Power and PSD, Diversity Antenna 802.11n HT20 (Ch. 140)



Plot 9-115. Max Conducted Output Power, Diversity Antenna 802.11n HT20 (Ch. 149)



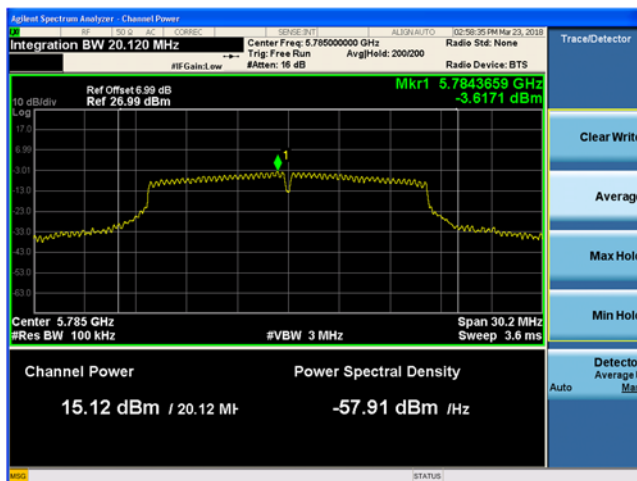
Plot 9-116. Maximum Conducted Output Power, Diversity Antenna 802.11n HT20 (Ch. 157)



Plot 9-117. Maximum Conducted Output Power, Diversity Antenna 802.11n HT20 (Ch. 165)



Plot 9-118. Maximum Power Spectrum Density, Diversity Antenna 802.11n HT20 (Ch. 149)



Plot 9-119. Maximum Power Spectrum Density, Diversity Antenna 802.11n HT20 (Ch. 157)



Plot 9-120. Maximum Power Spectrum Density, Diversity Antenna 802.11n HT20 (Ch. 165)

## 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 789033 D02 v01r03 - Guidelines for Compliance Testing of Unlicensed National Information Infrastructure (U-NII) Devices Part 15, Subpart E and ANSI C63.10 2013.

Radiated spurious measurements are made from 9kHz 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 and RSS-Gen 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.

A pre-amp and a high pass filter were required for this test, 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.

Both horizontal and vertical antenna polarizations were investigated. Worst case maximized data for both polarizations is shown in this test report.

### **Radiated Spurious Emissions**

#### **Spectrum Analyzer Settings:**

##### **9kHz - 30 MHz:**

RBW= 1 kHz | 10kHz

VBW  $\geq$  3 X RBW

Trace Mode: Peak Detector (Max Hold). Final measurements performed using QP Detector and RBW's as defined in ANSI C63.2.

Span= 9kHz – 150kHz and 150kHz- 30 MHz

Sweep time= Auto

##### **30 MHz- 1 GHz:**

RBW= 120 kHz

VBW  $\geq$  3 X RBW

Trace Mode: Peak Detector (Max Hold). Final measurements performed using QP Detector.

Span= 30 MHz- 1 GHz

Sweep time= Auto Couple

Sweep points  $\geq$  2 x Span/RBW

**Above 1 GHz:**

RBW= 1 MHz

VBW= 10 MHz

Trace Mode: Peak Detector (Max Hold) and RMS Average Detector (Max Hold) (Pre-scan Only)

Span= 1- 18 GHz, 18- 26.5 GHz and 26.5- 40 GHz

Sweep time= Auto Couple

Sweep points  $\geq 2 \times \text{Span}/\text{RBW}$ **Final Peak Measurements above 1 GHz****Spectrum Analyzer Settings:**

RBW= 1 MHz

VBW  $\geq 3 \times \text{RBW}$ 

Detector= Peak

Span= wide enough to encompass the emission

Sweep points  $\geq 2 \times \text{Span}/\text{RBW}$ 

Sweep time = Auto Couple

Trace= Max Hold

**Final RMS Average Measurements above 1 GHz****Spectrum Analyzer Settings:**

RBW= 1 MHz

VBW  $\geq 3 \times \text{RBW}$ 

Detector= RMS

Span= wide enough to encompass the emission

Sweep points  $\geq 2 \times \text{Span}/\text{RBW}$ 

Sweep time = Auto Couple

Trace= Average at least 100 traces

Trace Averaging type= power (RMS)

The duty cycle correction factor is added to the emission level.

**Restricted Band-Edge Emissions****Peak Measurements****Spectrum Analyzer Settings:**

RBW= 1 MHz

VBW= 10 MHz

Trace Mode: Peak Detector (Max Hold)

Span= 5000 – 5470 MHz; 5350 – 5850 MHz; 5600 – 5950 MHz

Sweep Points = 1001; 801; 801

Sweep Time = Auto Couple

**Average Measurements (Reduced Video Bandwidth Method)****Spectrum analyzer Settings:**

RBW= 1 MHz

VBW= 1 kHz

VBW Mode= Linear

Trace Mode: Peak Detector (Max Hold)

Span = 5000 – 5470 MHz; 5350 – 5700 MHz;

Sweep Points: 1001; 801

Sweep Time = Auto Couple

Sweep Count = 200

**Sample Calculation:**

Field Strength Level: Amplitude (Analyzer level) + AFCL (Antenna Factor and Cable losses) –  
Amplifier Gain = 50 dBuV + 33 dB – 25 dB = 58dBuV/m

### 9.6.3 Limits:

Frequency (MHz)	Field Strength ( $\mu\text{V/m}$ )	Measurement Distance (meters)	Corrected Field Strength for 3m measurement distance ( $\text{dB}\mu\text{V/m}$ )
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) <b>Note:</b> The peak limit for emissions in unrestricted bands is -27dBm EIRP (68.2 $\text{dB}\mu\text{V/m}$ at 3m).

### 9.6.4 Test Result:

Pass.



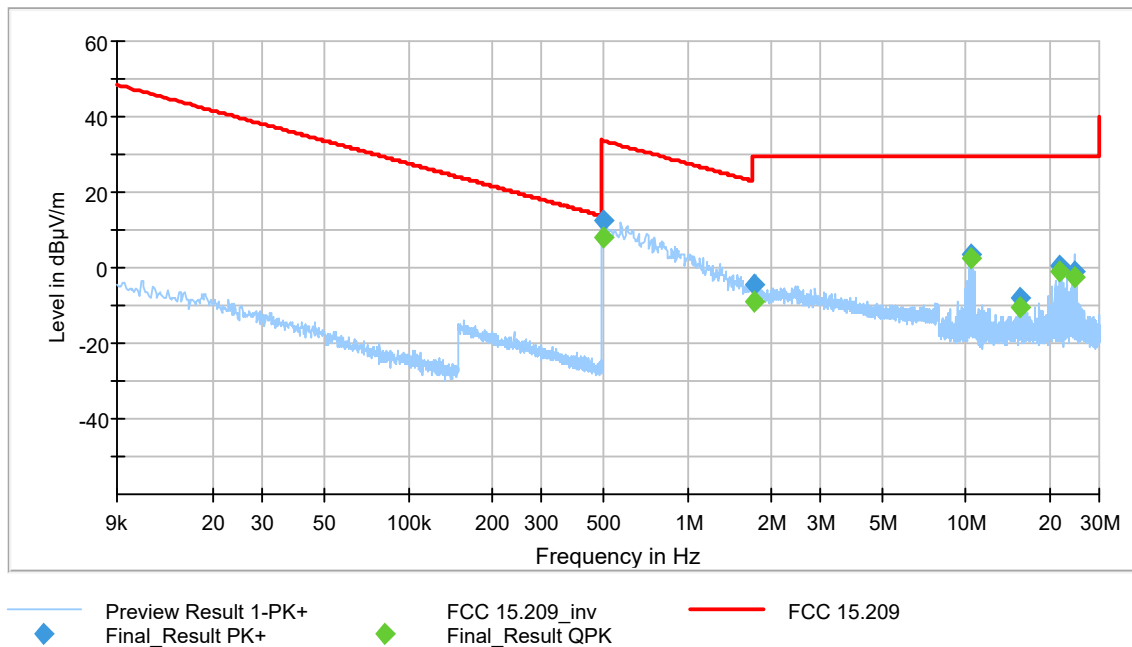
9.6.5 Test Data:

9.6.5.1 Radiated Emissions in 9kHz – 30MHz range

All channels and modes were tested and worst case results from 802.11a mode, channel 100, Flat Antenna position, main antenna shown here.

Where average limits apply, QP data is used to determine compliance.

RSE 9kHz -30MHz					
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)
0.534	-4.25	11.6	7.35	33.05	-25.70
0.95067	-6.83	7.0	0.17	28.04	-27.87
10.487972	7.40	-5.0	2.40	29.54	-27.14
16.227667	-4.19	-4.9	-9.09	29.54	-38.63
21.662425	3.38	-5.1	-1.72	29.54	-31.26
24.352753	6.74	-4.7	2.04	29.54	-27.50

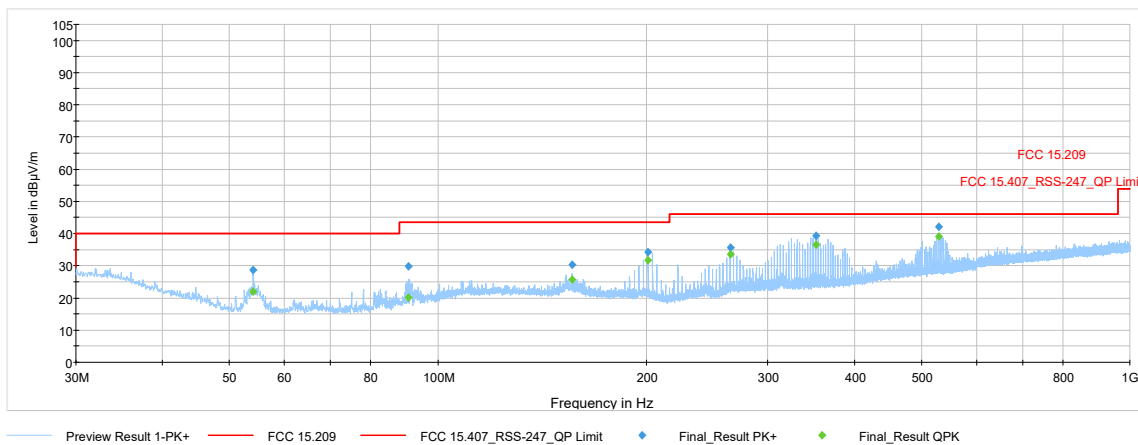


Plot 9-121. Radiated Spurious Emissions 9kHz - 30MHz Tx Main Antenna 802.11a (Ch. 100)

9.6.5.2 Radiated Emissions in 30 MHz- 1 GHz range

All channels and modes were tested and worst case results from 802.11a mode, channel 116, Main antenna 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)
54.096	8.08	14.00	22.08	40.00	-17.92
90.573	5.47	14.70	20.17	43.50	-23.33
156.277	5.76	19.80	25.56	43.50	-17.94
201.302	12.19	19.40	31.59	43.50	-11.91
264.529	13.03	20.50	33.53	46.00	-12.47
351.555	14.25	22.40	36.65	46.00	-9.35

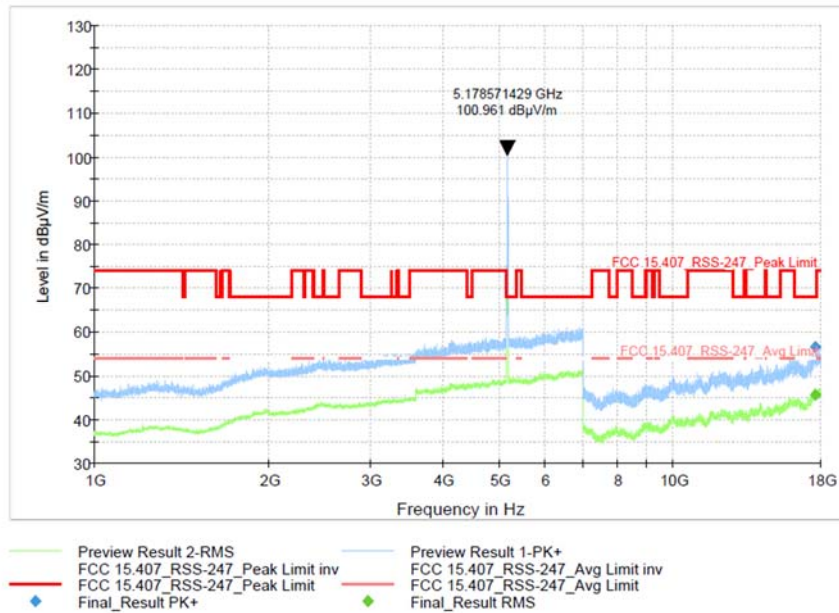


Plot 9-122. Radiated Spurious Emissions 30-1000 MHz Tx Main Antenna 802.11a (Ch. 116)

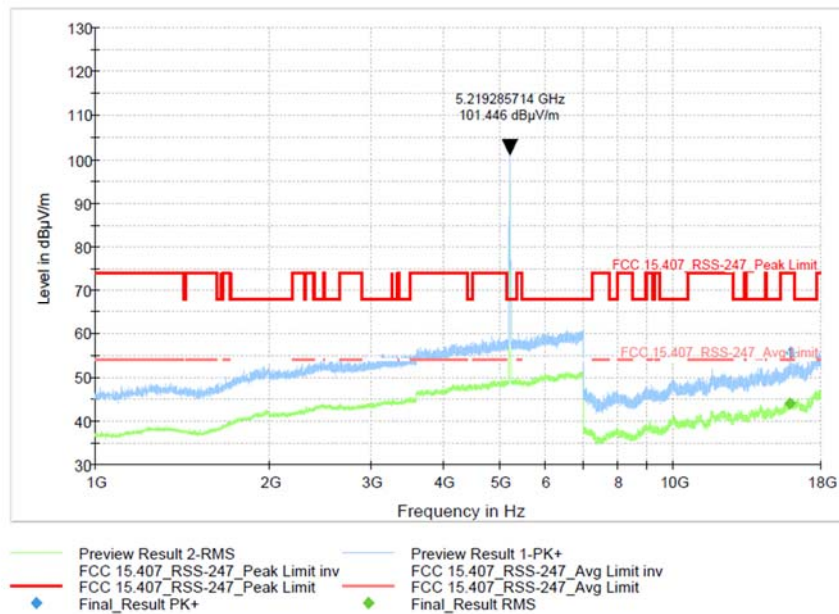
**9.6.5.3 Radiated Emissions in 1-18 GHz range 802.11a\_Main Antenna**

802.11a_Main Antenna 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)
5180	17632.63	31.13	25.50	56.63	68.2	-11.57
5220	15971.69	31.43	24.10	55.53	74	-18.47
5240	6420.37	39.59	21.70	61.29	68.2	-6.91
5240	17962.91	30.87	27.20	58.07	74	-15.93
5260	17897.24	30.88	26.90	57.78	74	-16.22
5300	17685.59	31.72	25.10	56.82	68.2	-11.38
5320	17945.50	30.39	27.40	57.79	74	-16.21
5500	17600.85	30.89	25.90	56.79	68.2	-11.41
5580	1429.25	38.92	9.60	48.52	68.2	-19.68
5580	17905.43	31.03	26.90	57.93	74	-16.07
5700	17595.56	31.48	25.80	57.28	68.2	-10.92
5745	17944.78	30.44	27.40	57.84	74	-16.16
5785	17857.38	30.78	26.80	57.58	74	-16.42
5825	17943.71	30.19	27.30	57.49	74	-16.51

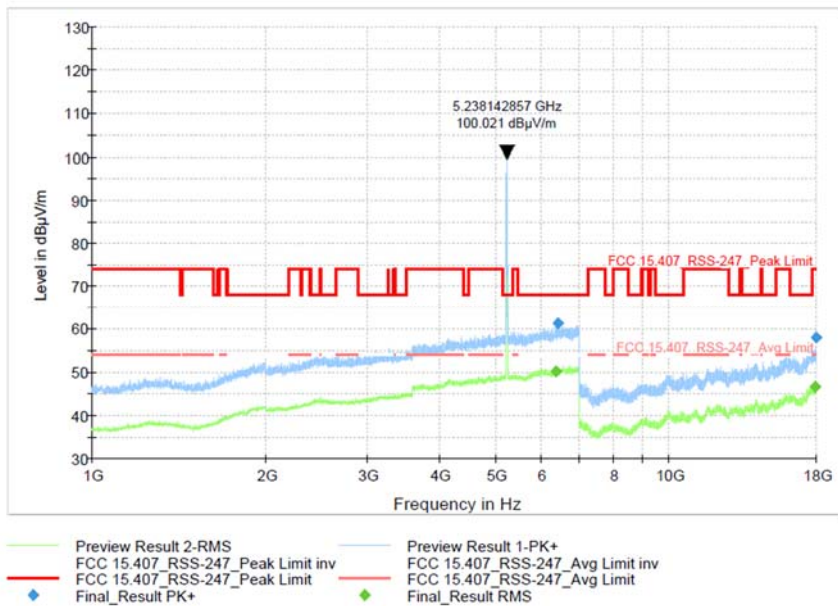
802.11a_Main Antenna RSE 1 - 18GHz Average Data						
Carrier Frequency (MHz)	Frequency (MHz)	Raw Avg. Amplitude (dBμV)	Correction Factor (dB)	Corrected Avg. Field Strength (dBμV/m)	Average Limit (dBμV/m)	Margin (dB)
5180	17621.50	19.87	25.70	45.57	54	-8.43
5220	15950.35	19.69	24.20	43.89	54	-10.11
5240	6382.94	28.31	21.90	50.21	54	-3.79
5240	17949.70	19.09	27.50	46.59	54	-7.41
5260	17987.24	19.23	26.90	46.13	54	-7.87
5300	17680.39	20.00	25.20	45.20	54	-8.80
5320	17949.50	19.06	27.50	46.56	54	-7.44
5500	17883.66	20.34	25.90	46.24	54	-7.76
5580	1408.28	26.71	9.70	36.41	54	-9.70
5580	17895.85	19.22	26.90	46.12	54	-7.88
5700	17600.39	19.81	25.90	45.71	54	-8.29
5745	17946.40	19.06	27.40	46.46	54	-7.54
5785	17859.38	19.18	26.80	45.98	54	-8.02
5825	17944.91	18.95	27.40	46.35	54	-7.65



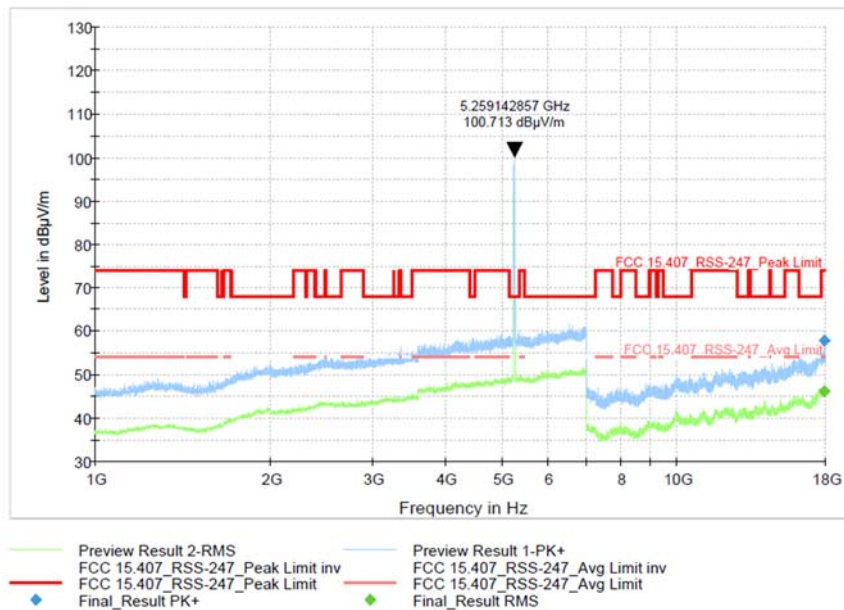
Plot 9--123. Radiated Spurious Emissions 1-18 GHz Tx 802.11a Main Antenna (Ch. 36)



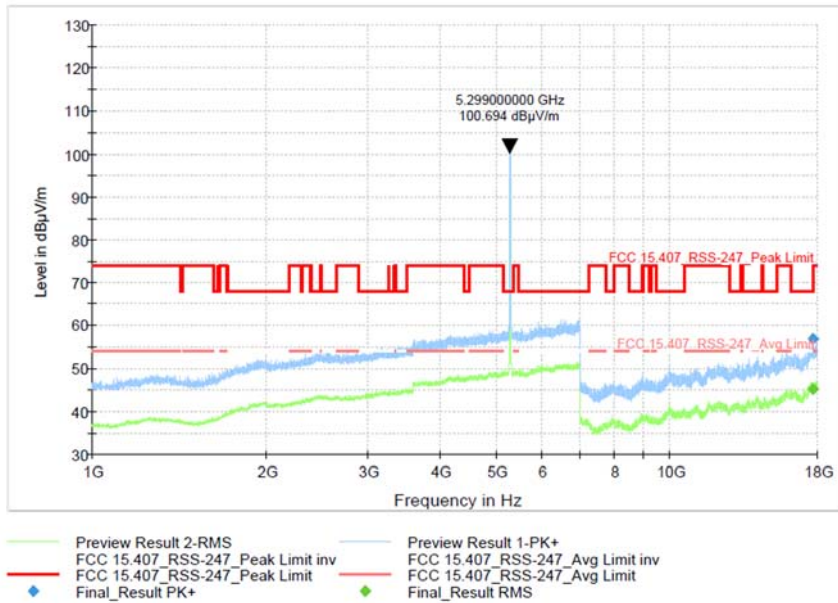
Plot 9-124. Radiated Spurious Emissions 1-18 GHz Tx 802.11a Main Antenna (Ch. 44)



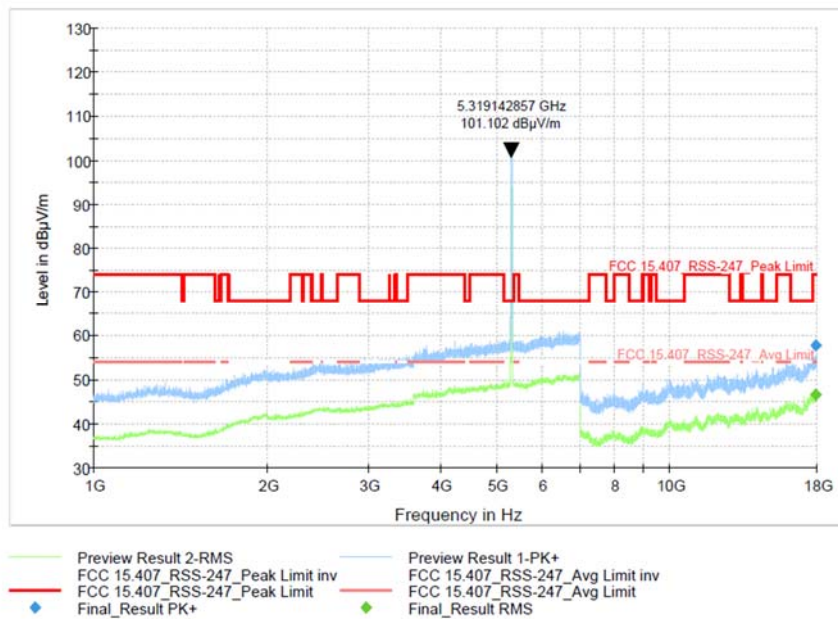
Plot 9-125. Radiated Spurious Emissions 1-18 GHz Tx 802.11a Main Antenna (Ch. 48)



Plot 9-126. Radiated Spurious Emissions 1-18 GHz Tx 802.11a Main Antenna (Ch. 52)

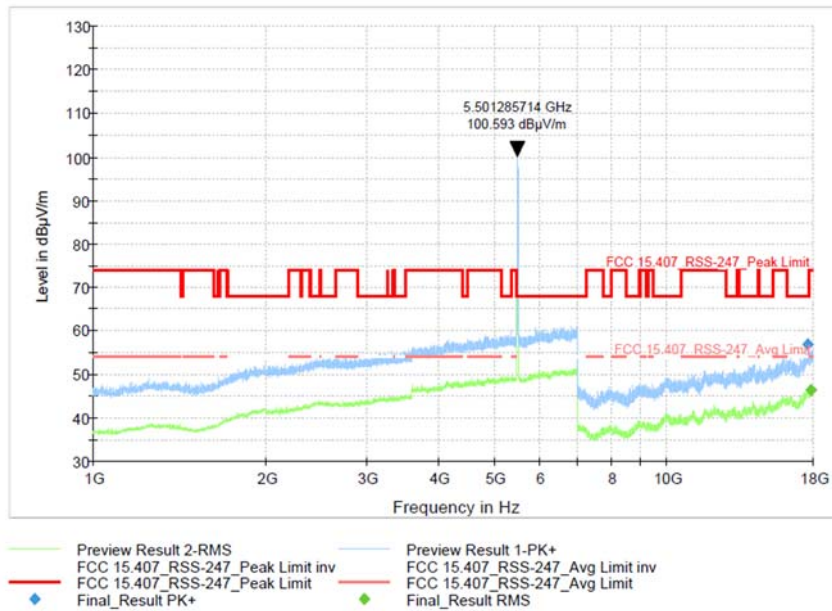


Plot 9-127. Radiated Spurious Emissions 1-18 GHz Tx 802.11a Main Antenna (Ch. 60)

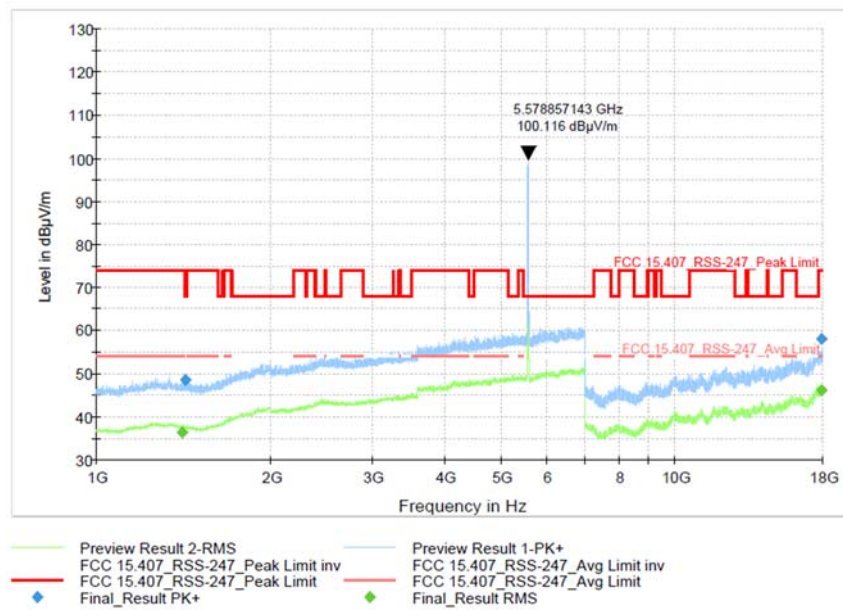


Plot 9-128. Radiated Spurious Emissions 1-18 GHz Tx 802.11a Main Antenna (Ch. 64)



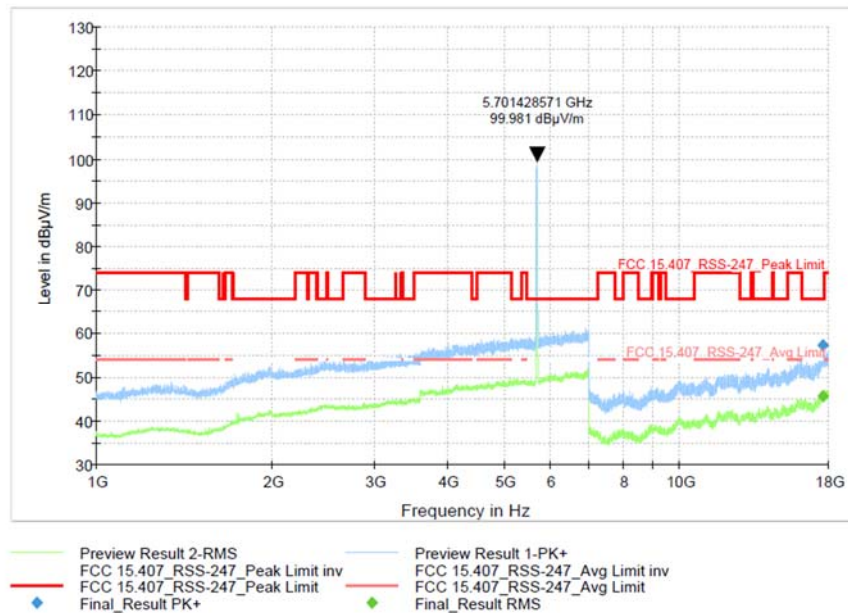


Plot 9-129. Radiated Spurious Emissions 1-18 GHz Tx 802.11a Main Antenna (Ch. 100)

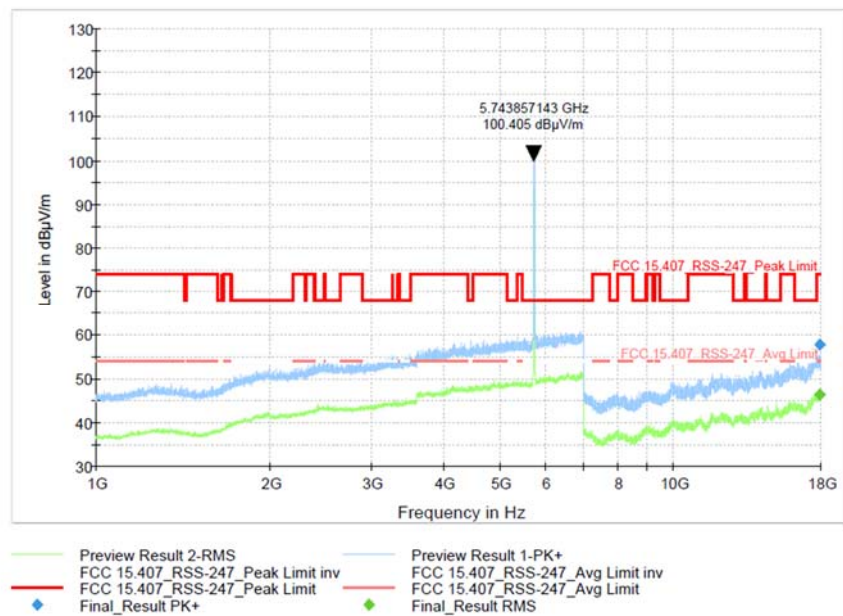


Plot 9-130. Radiated Spurious Emissions 1-18 GHz Tx 802.11a Main Antenna (Ch. 116)

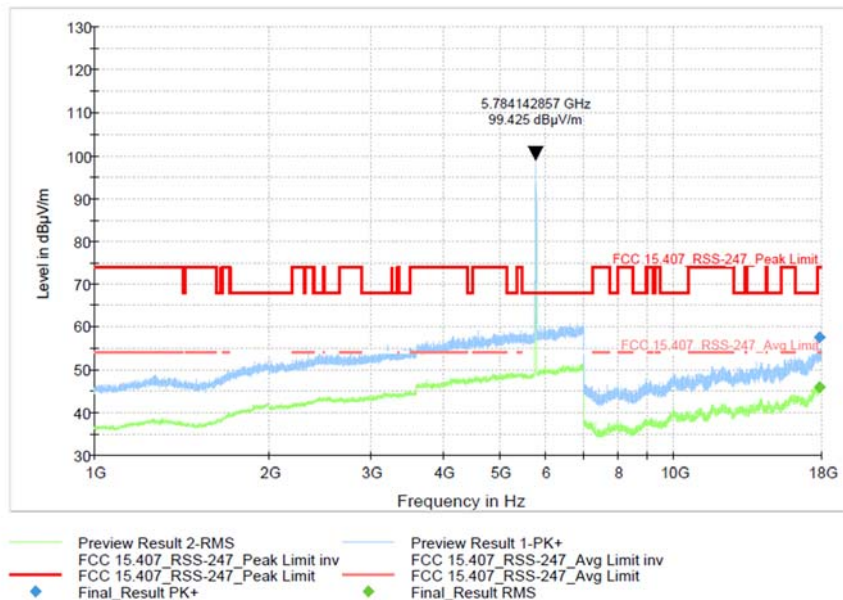




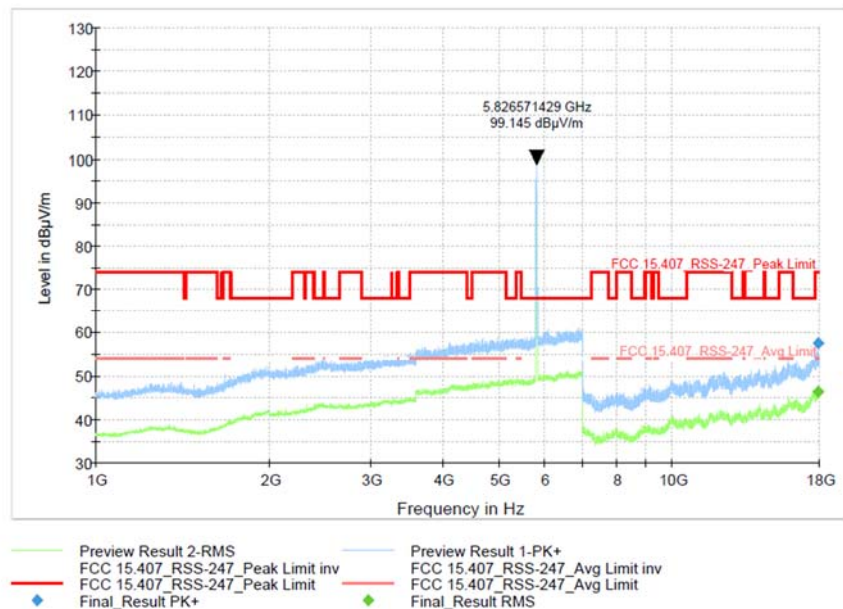
Plot 9-131. Radiated Spurious Emissions 1-18 GHz Tx 802.11a Main Antenna (Ch. 140)



Plot 9-132. Radiated Spurious Emissions 1-18 GHz Tx 802.11a Main Antenna (Ch. 149)



Plot 9-133. Radiated Spurious Emissions 1-18 GHz Tx 802.11a Main Antenna (Ch. 157)

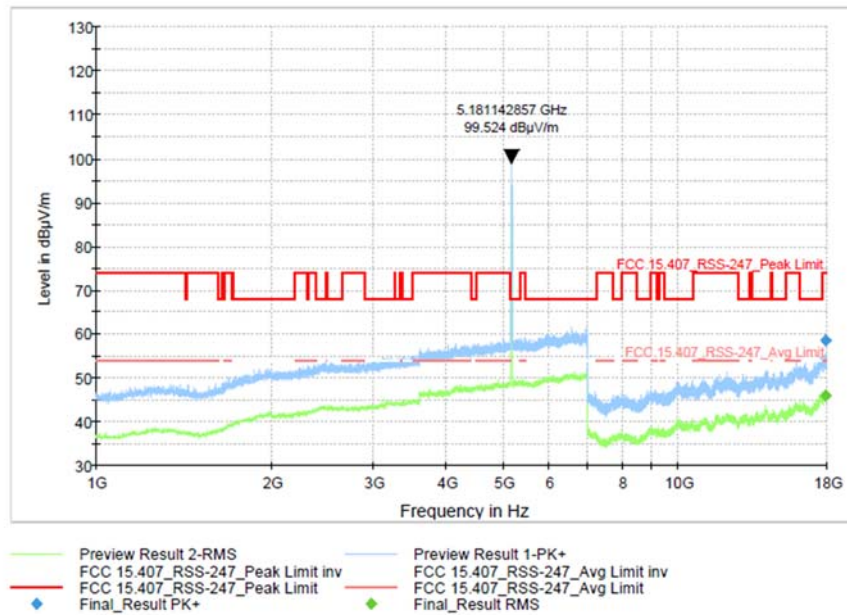


Plot 9-134. Radiated Spurious Emissions 1-18 GHz Tx 802.11a Main Antenna (Ch. 165)

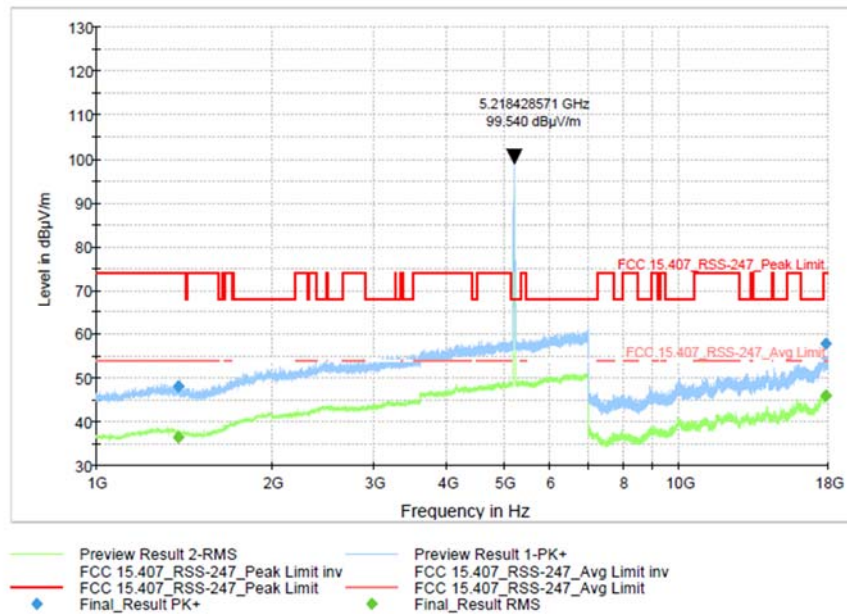
9.6.5.4 Radiated Emission in 1-18 GHz range 802.11n\_Main Antenna HT20

802.11n HT20 Main Antenna 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)
5180	17919.05	31.60	26.80	58.40	74	-15.60
5220	1387.25	38.24	9.80	48.04	74	-25.96
5220	17859.04	30.99	26.80	57.79	74	-16.21
5240	17957.79	30.55	27.30	57.85	74	-16.15
5260	17796.47	31.57	26.10	57.67	74	-16.33
5300	17874.06	30.29	26.90	57.19	74	-16.81
5320	17875.55	31.19	26.90	58.09	74	-15.91
5500	17939.80	30.83	27.20	58.03	74	-15.97
5580	17839.18	30.48	26.50	56.98	74	-17.02
5700	15820.25	31.54	22.90	54.44	74	-19.56
5745	11654.55	28.12	22.90	51.02	74	-22.98
5745	17804.95	39.76	17.10	56.86	74	-17.14
5785	1728.65	37.65	11.60	49.25	74	-18.95
5785	17856.85	30.56	26.80	57.36	74	-16.64
5825	17862.05	31.31	26.80	58.11	74	-15.89

802.11n HT20 Main Antenna RSE 1 - 18GHz Average Data Main Antenna						
Carrier Frequency (MHz)	Frequency (MHz)	Raw Avg. Amplitude (dBµV)	Correction Factor (dB)	Corrected Avg. Field Strength (dBµV/m)	Average Limit (dBµV/m)	Margin (dB)
5180	17931.62	18.91	27.00	45.91	54	-8.09
5220	1385.57	26.54	9.800	36.34	54	-17.66
5220	17867.99	19.08	26.90	45.98	54	-8.02
5240	17999.93	18.88	27.60	46.48	54	-7.52
5260	17799.99	19.71	26.20	45.91	54	-8.09
5300	17855.90	19.23	26.80	46.03	54	-7.97
5320	17896.94	19.16	26.90	46.06	54	-7.94
5500	17855.54	19.27	26.80	46.07	54	-7.93
5580	17800.11	19.77	26.20	45.97	54	-8.03
5700	15802.20	19.80	23.00	42.80	54	-11.20
5745	11667.35	20.33	19.40	39.73	54	-14.27
5745	17804.95	19.69	26.20	45.89	54	-8.11
5785	1742.25	26.47	11.80	38.27	54	-11.80
5785	17860.57	19.24	26.80	46.04	54	-26.80
5825	17859.58	19.30	26.80	46.10	54	-7.90



Plot 9-135. Radiated Spurious Emissions 1-18 GHz Tx 802.11n Main Antenna (Ch. 36)



Plot 9-136. Radiated Spurious Emissions 1-18 GHz Tx 802.11n Main Antenna (Ch. 44)