Antenna-2 Power Spectral Density Measurements

	Frequency [MHz]	Channel No.	802.11 Mode	Data Rate [Mbps]	Measured Power Density [dBm]	Max Permissible Power Density [dBm/MHz]	Margin [dB]	Pass / Fail
Band 1	5180	36	a	6	3.99	11.0	-7.01	Pass
	5200	40	a	6	4.21	11.0	-6.79	Pass
	5240	48	a	6	4.41	11.0	-6.59	Pass
	5180	36	n (20MHz)	6.5/7.2 (MCS0)	3.54	11.0	-7.46	Pass
	5200	40	n (20MHz)	6.5/7.2 (MCS0)	3.41	11.0	-7.59	Pass
	5240	48	n (20MHz)	6.5/7.2 (MCS0)	3.54	11.0	-7.47	Pass
	5190	38	n (40MHz)	13.5/15 (MCS0)	-1.42	11.0	-12.42	Pass
	5230	46	n (40MHz)	13.5/15 (MCS0)	-1.29	11.0	-12.29	Pass
	5210	42	ac (80MHz)	29.3/32.5 (MCS0)	-4.38	11.0	-15.38	Pass
Band 2A	5260	52	a	6	4.26	11.0	-6.74	Pass
	5280	56	a	6	3.75	11.0	-7.26	Pass
	5320	64	a	6	3.04	11.0	-7.96	Pass
	5260	52	n (20MHz)	6.5/7.2 (MCS0)	3.30	11.0	-7.70	Pass
	5280	56	n (20MHz)	6.5/7.2 (MCS0)	3.25	11.0	-7.75	Pass
	5320	64	n (20MHz)	6.5/7.2 (MCS0)	2.85	11.0	-8.15	Pass
	5270	54	n (40MHz)	13.5/15 (MCS0)	-0.98	11.0	-11.98	Pass
	5310	62	n (40MHz)	13.5/15 (MCS0)	-1.45	11.0	-12.45	Pass
	5290	58	ac (80MHz)	29.3/32.5 (MCS0)	-4.77	11.0	-15.77	Pass
Band 2C	5500	100	a	6	3.97	11.0	-7.03	Pass
	5580	116	a	6	3.87	11.0	-7.13	Pass
	5720	144	a	6	3.32	11.0	-7.68	Pass
	5500	100	n (20MHz)	6.5/7.2 (MCS0)	2.78	11.0	-8.22	Pass
	5580	116	n (20MHz)	6.5/7.2 (MCS0)	1.65	11.0	-9.35	Pass
	5720	144	n (20MHz)	6.5/7.2 (MCS0)	2.10	11.0	-8.90	Pass
	5510	102	n (40MHz)	13.5/15 (MCS0)	-1.37	11.0	-12.37	Pass
	5550	110	n (40MHz)	13.5/15 (MCS0)	-0.45	11.0	-11.45	Pass
	5710	142	n (40MHz)	13.5/15 (MCS0)	-3.09	11.0	-14.09	Pass
	5530	106	ac (80MHz)	29.3/32.5 (MCS0)	-5.25	11.0	-16.25	Pass
	5690	138	ac (80MHz)	29.3/32.5 (MCS0)	-6.38	11.0	-17.38	Pass

Table 6-19. Conducted Power Spectral Density Measurements

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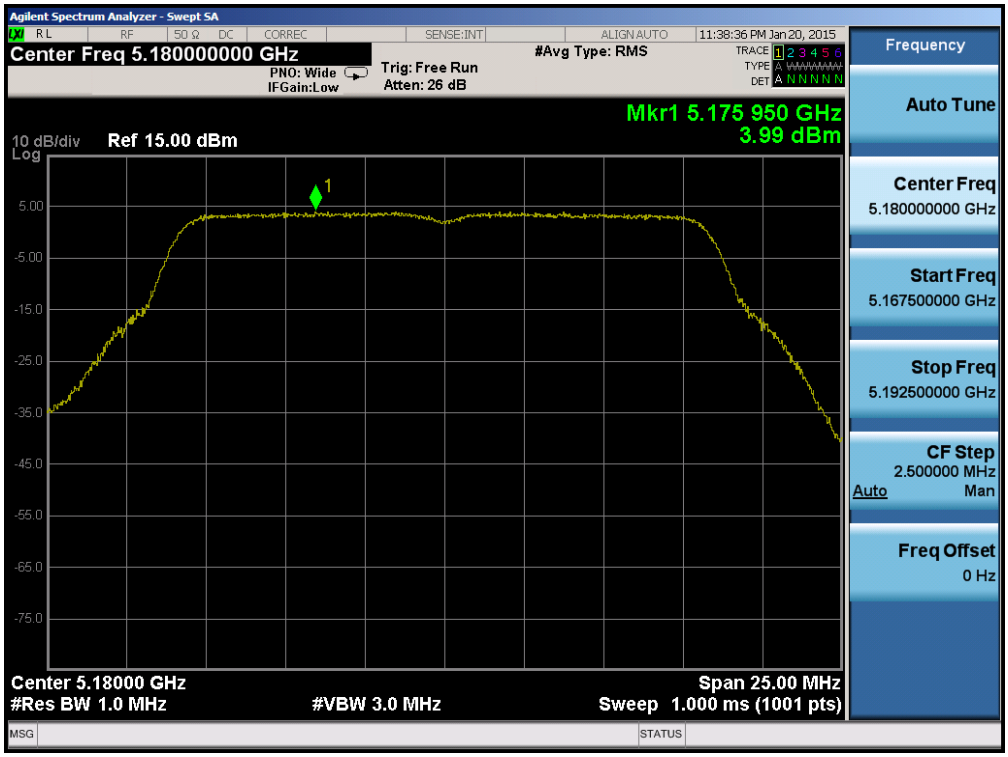
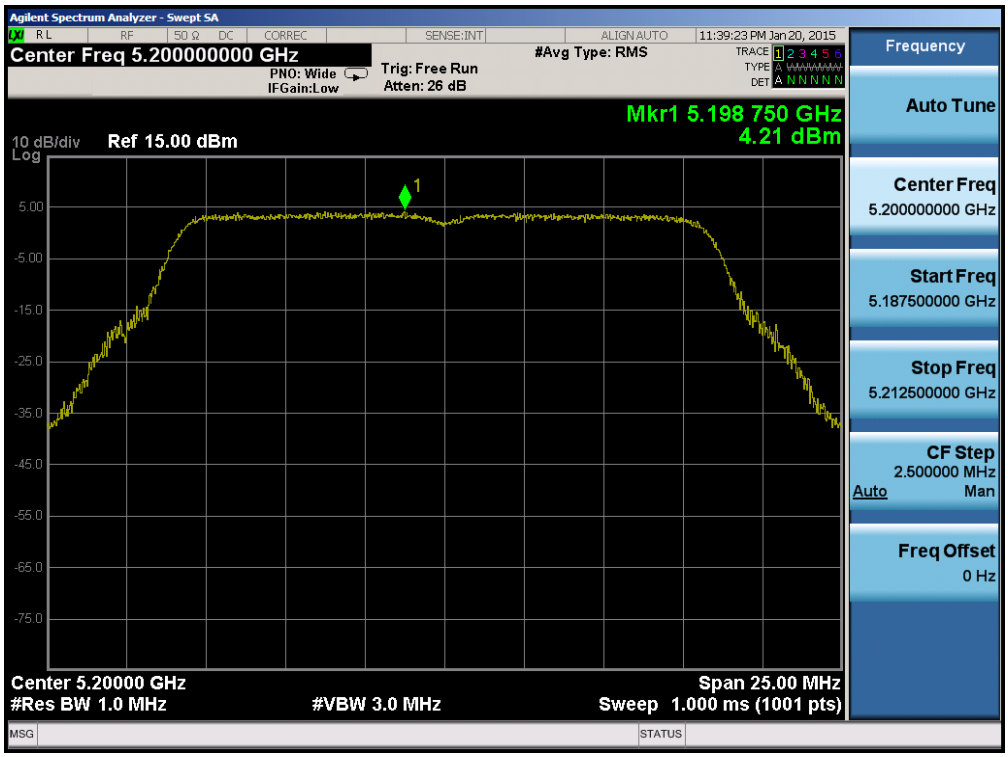


Plot 6-115. Power Spectral Density Plot (802.11a (UNII Band 1) – Ch. 36)



Plot 6-116. Power Spectral Density Plot (802.11a (UNII Band 1) – Ch. 40)

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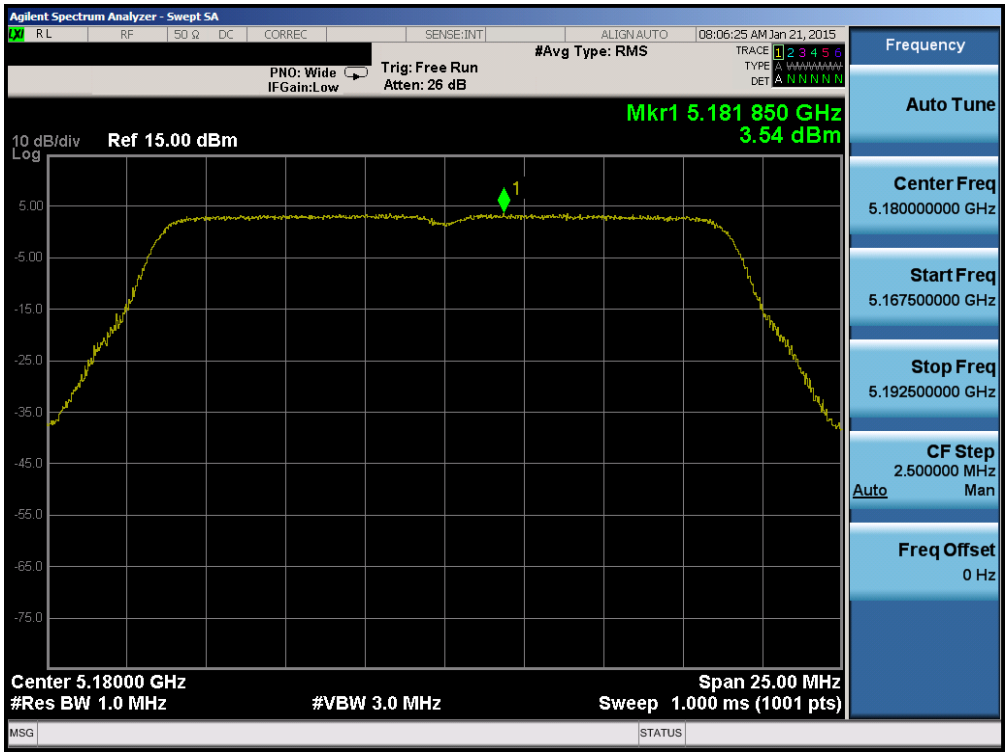
Plot 6-117. Power Spectral Density Plot (802.11a (UNII Band 1) – Ch. 48)



Plot 6-118. Power Spectral Density Plot (20MHz BW 802.11n (UNII Band 1) – Ch. 36)

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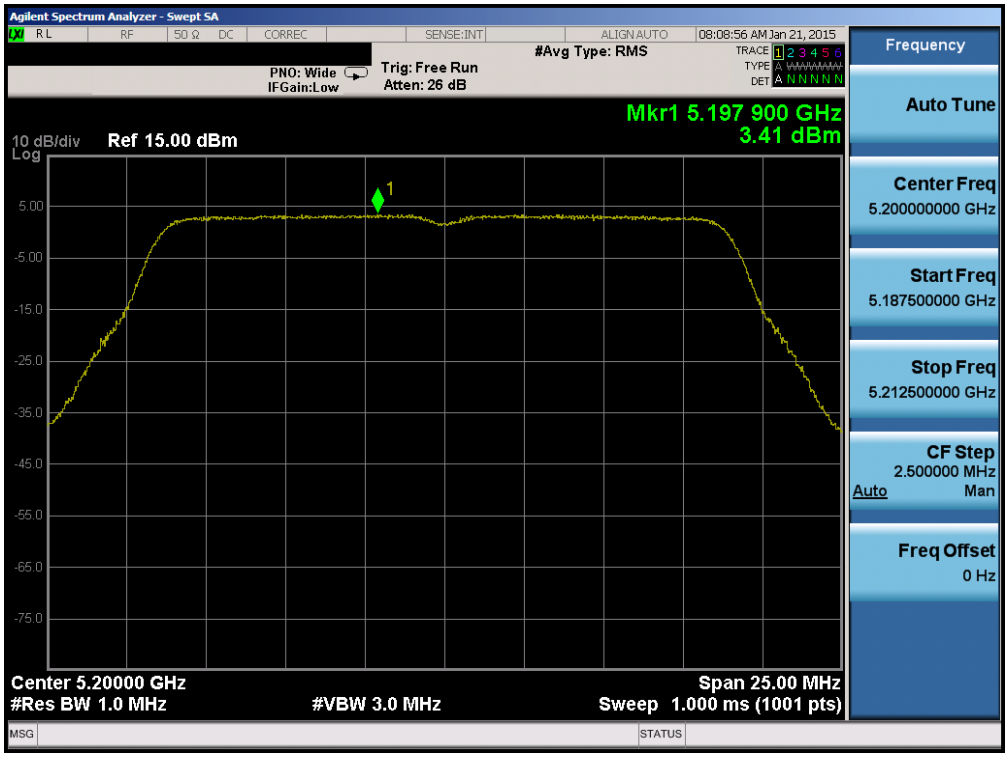
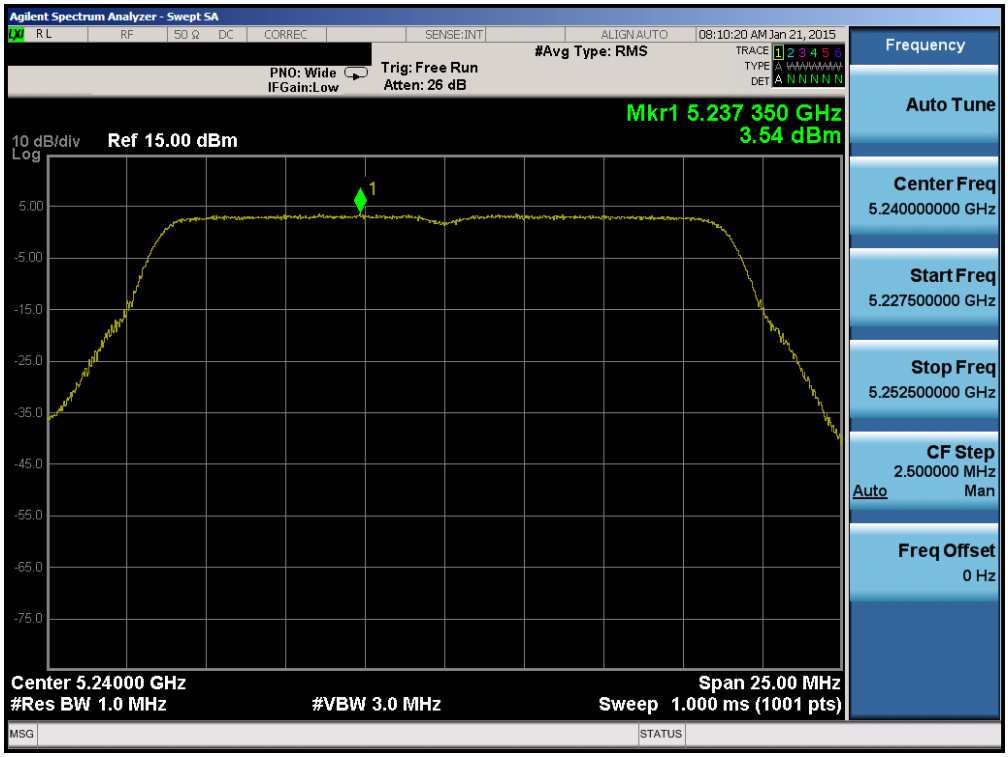


Plot 6-119. Power Spectral Density Plot (20MHz BW 802.11n (UNII Band 1) – Ch. 40)



Plot 6-120. Power Spectral Density Plot (20MHz BW 802.11n (UNII Band 1) – Ch. 48)

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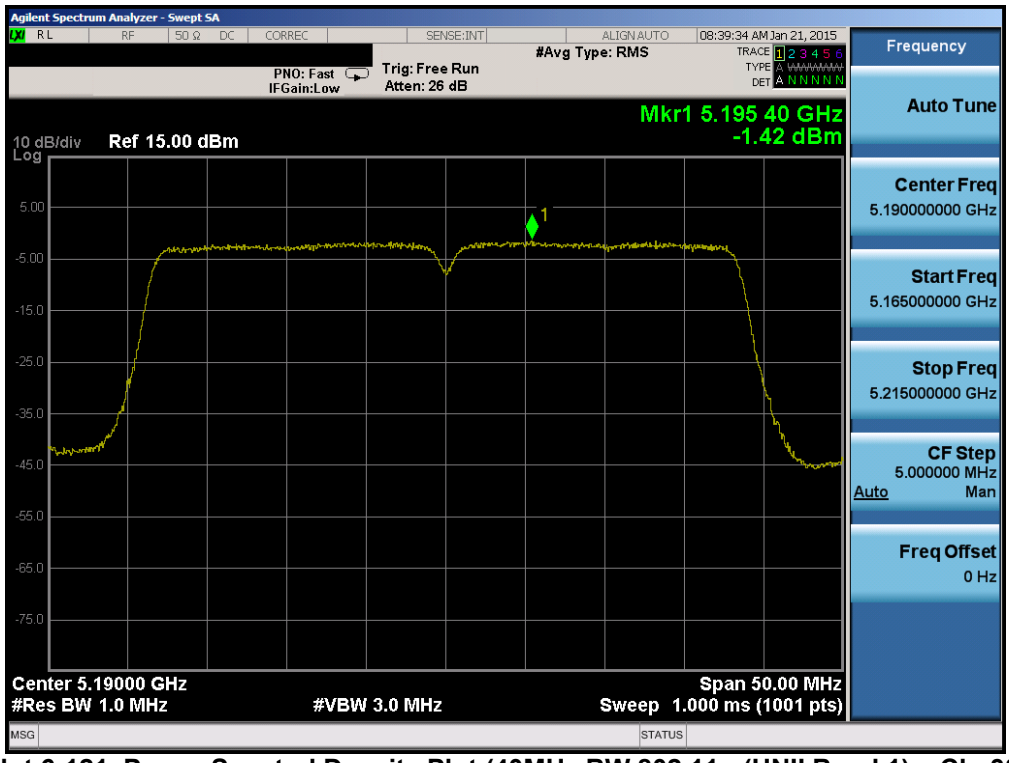
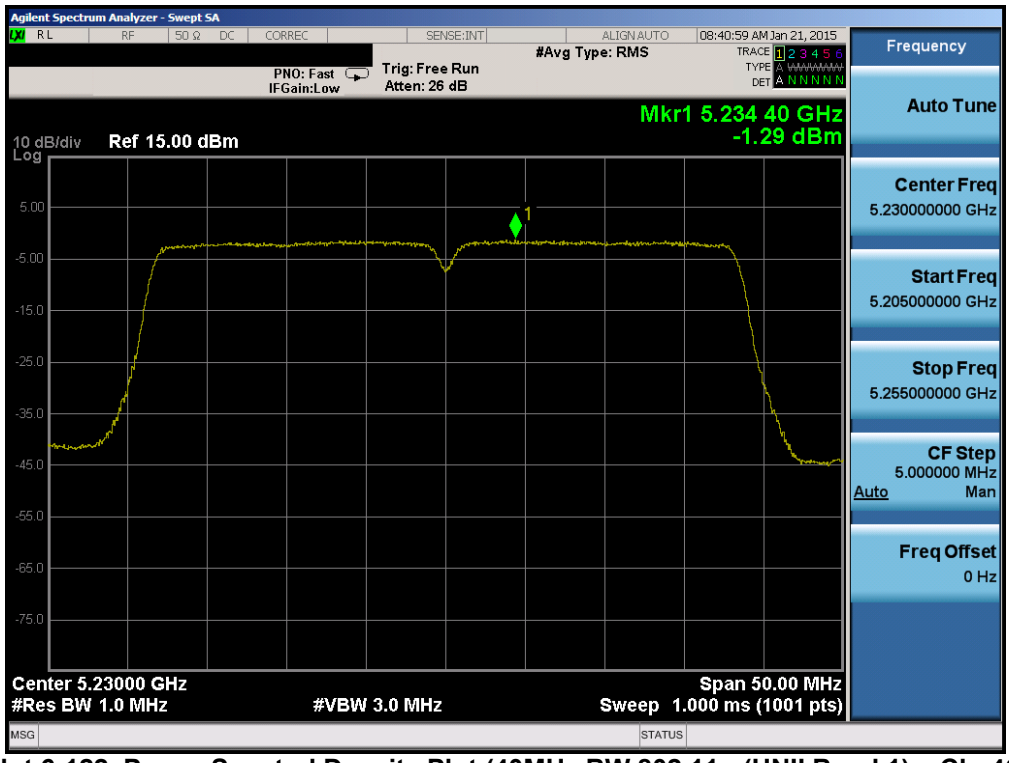


Plot 6-121. Power Spectral Density Plot (40MHz BW 802.11n (UNII Band 1) – Ch. 38)



Plot 6-122. Power Spectral Density Plot (40MHz BW 802.11n (UNII Band 1) – Ch. 46)

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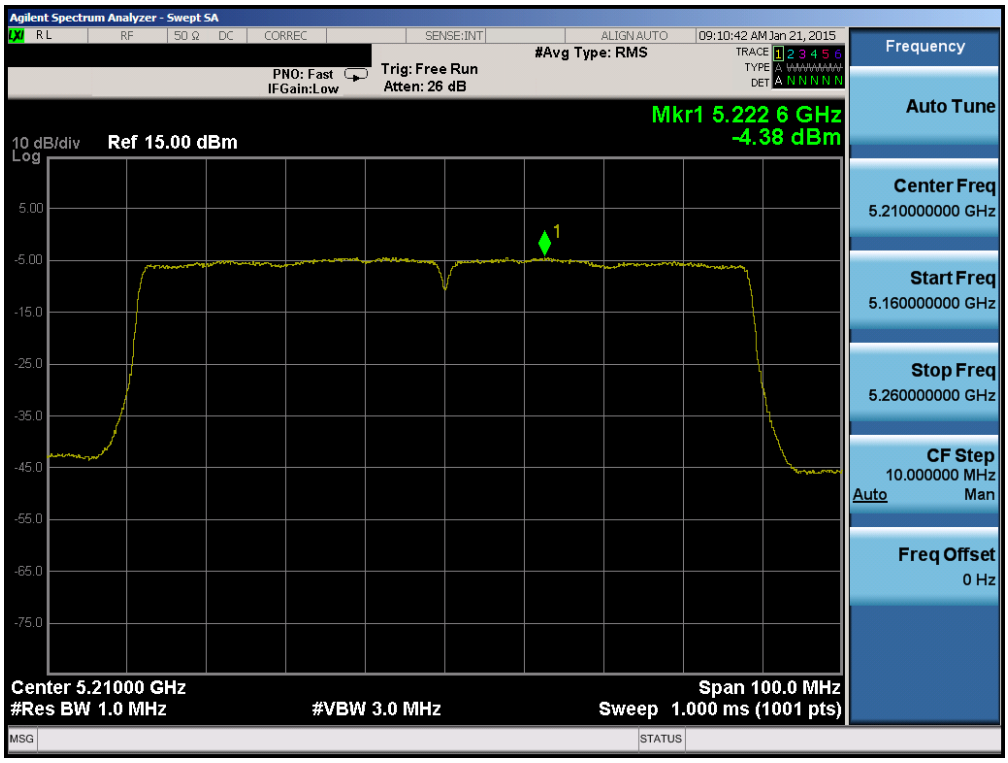
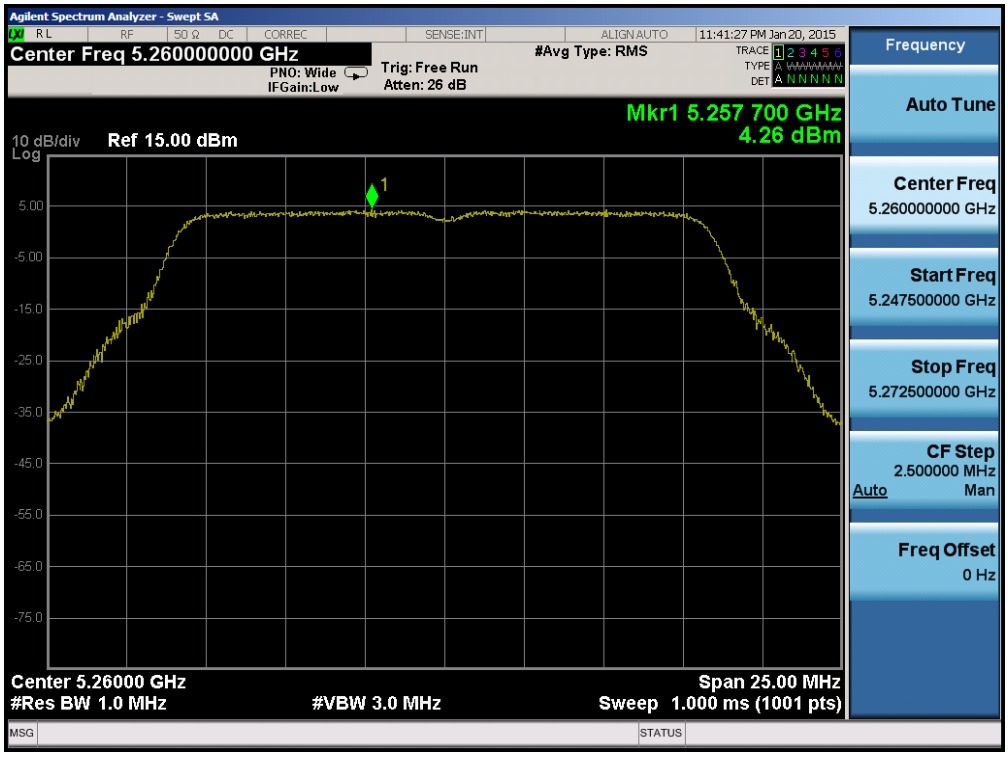


Plot 6-123. Power Spectral Density Plot (80MHz BW 802.11ac (UNII Band 1) – Ch. 42)



Plot 6-124. Power Spectral Density Plot (802.11a (UNII Band 2A) – Ch. 52)

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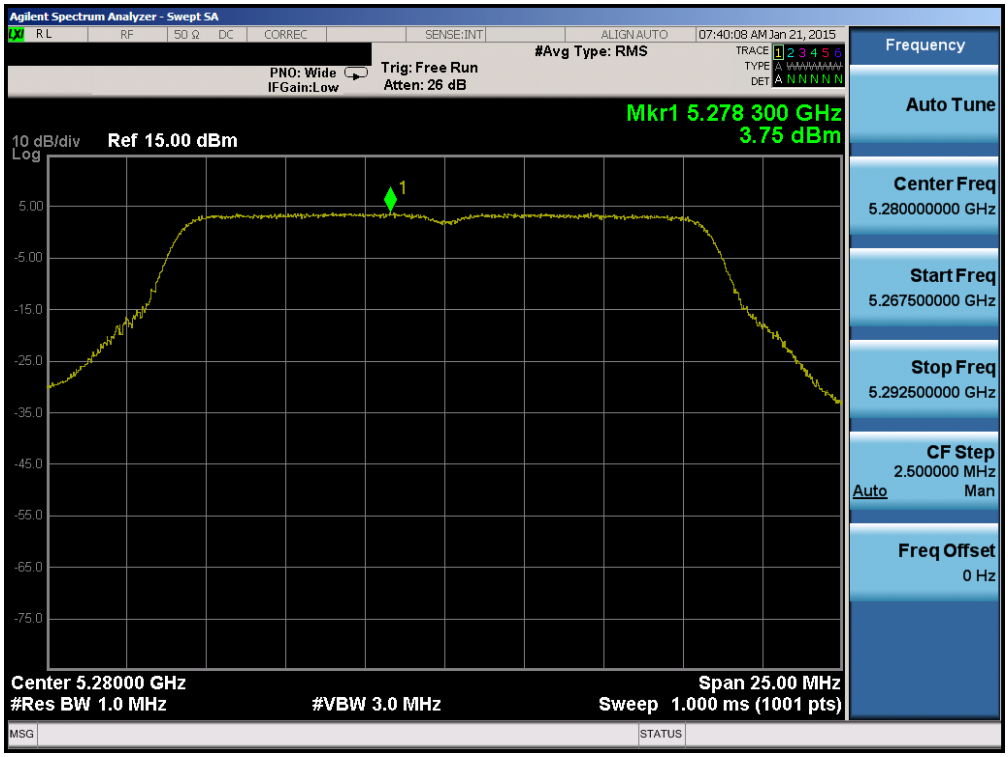
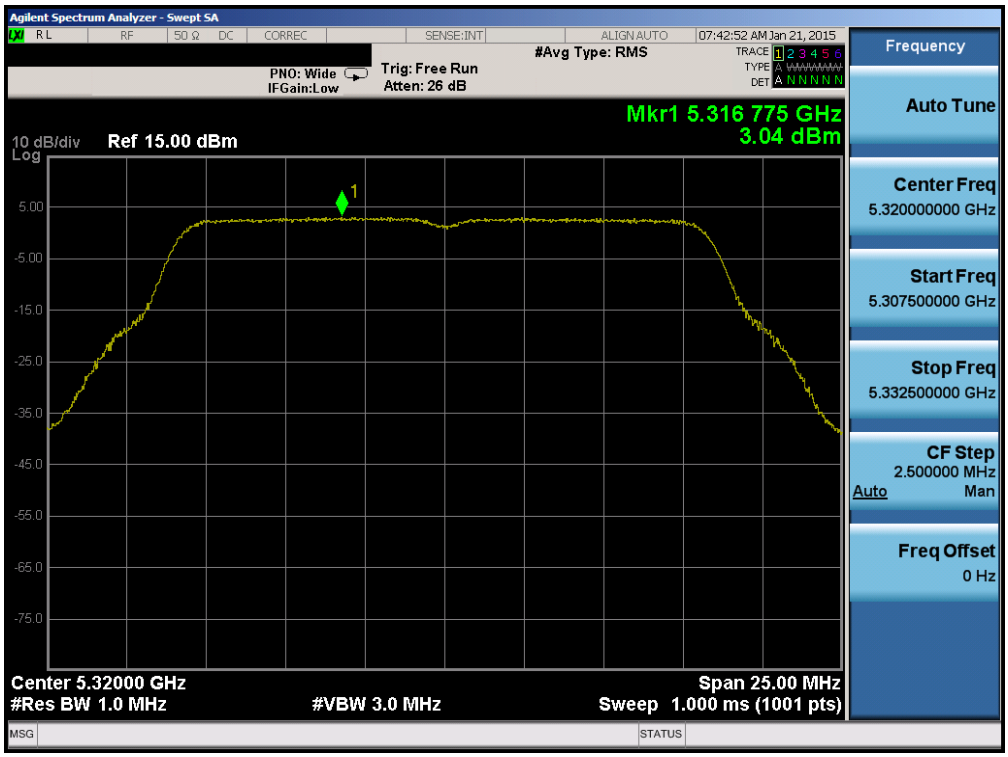


Plot 6-125. Power Spectral Density Plot (802.11a (UNII Band 2A) – Ch. 56)



Plot 6-126. Power Spectral Density Plot (802.11a (UNII Band 2A) – Ch. 64)

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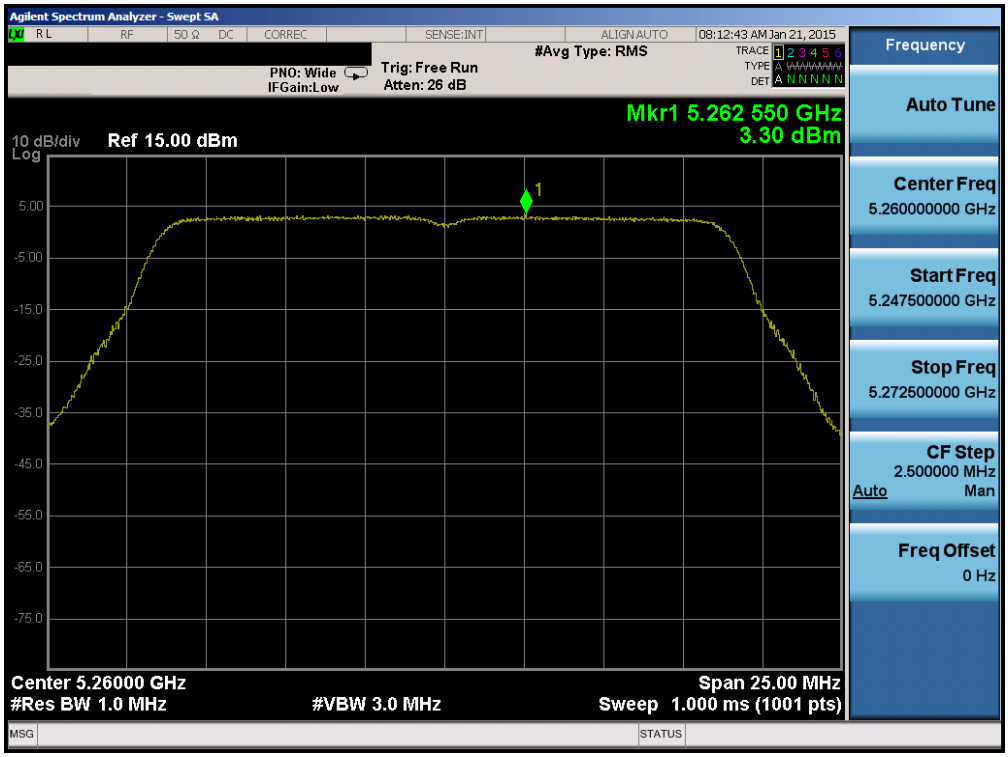
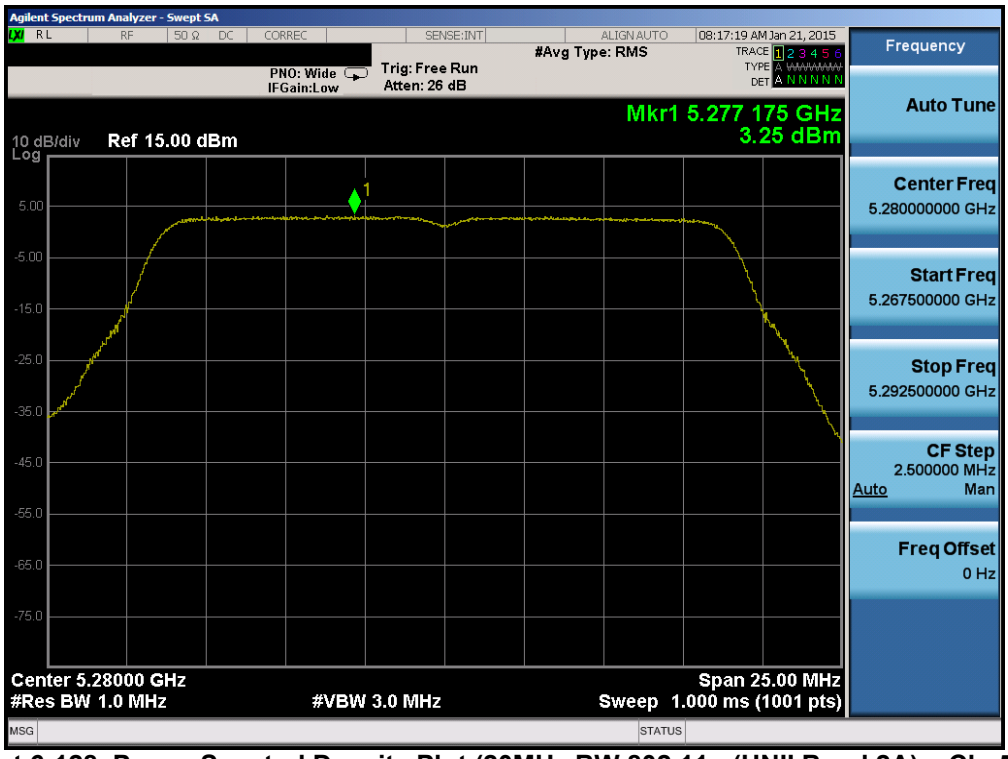


Plot 6-127. Power Spectral Density Plot (20MHz BW 802.11n (UNII Band 2A) – Ch. 52)



Plot 6-128. Power Spectral Density Plot (20MHz BW 802.11n (UNII Band 2A) – Ch. 56)

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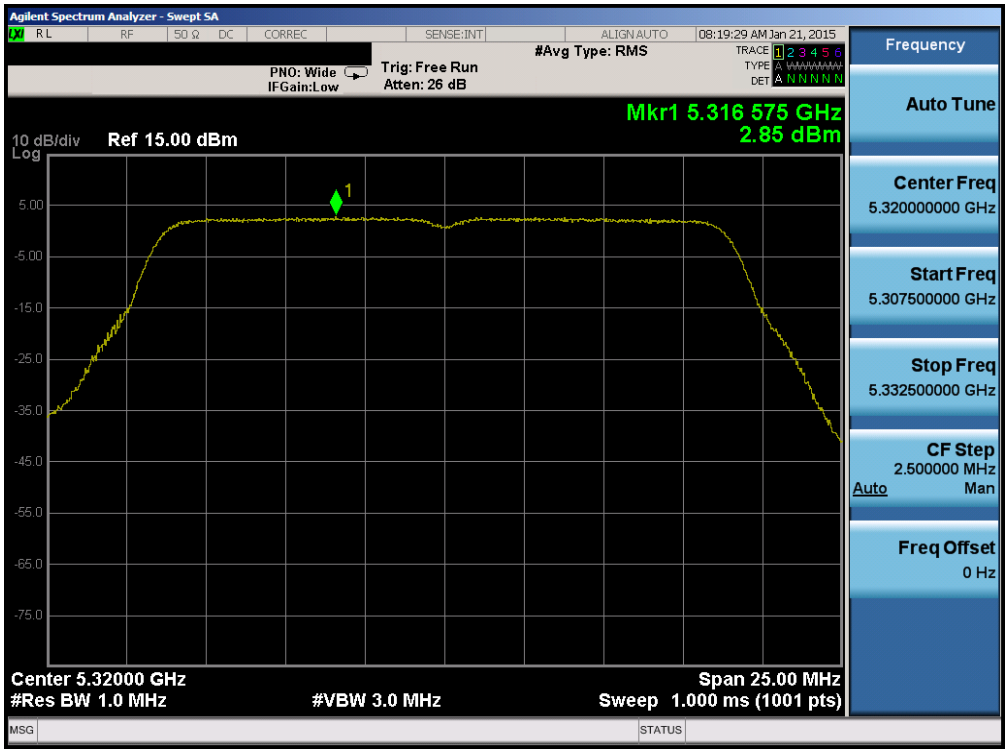
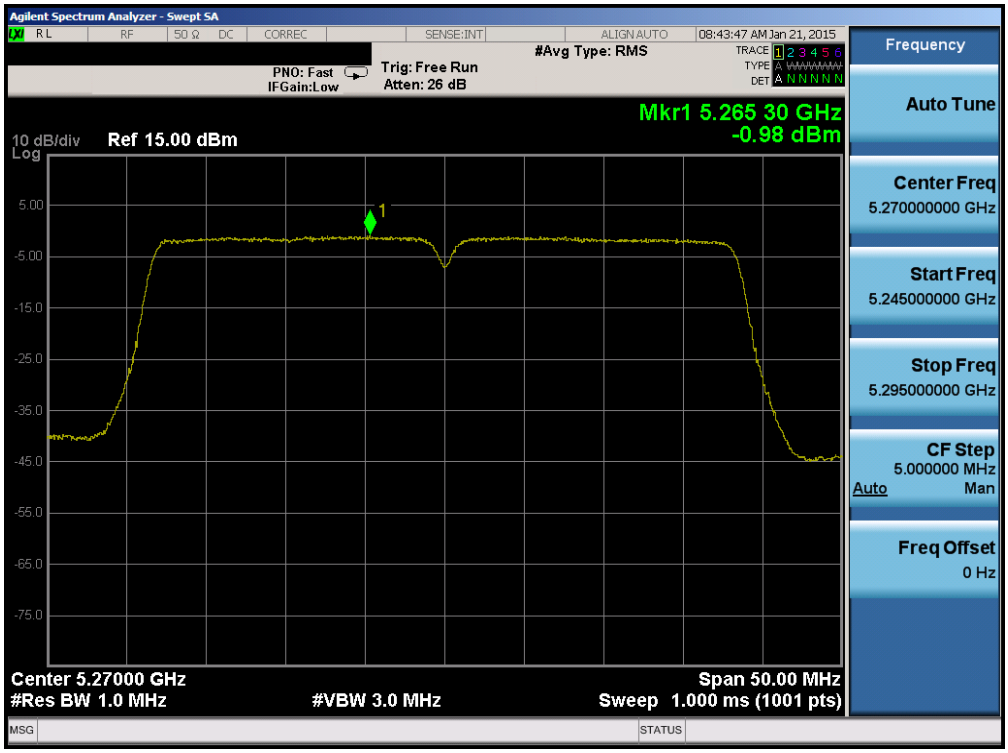


Plot 6-129. Power Spectral Density Plot (20MHz BW 802.11n (UNII Band 2A) – Ch. 64)



Plot 6-130. Power Spectral Density Plot (40MHz BW 802.11n (UNII Band 2A) – Ch. 54)

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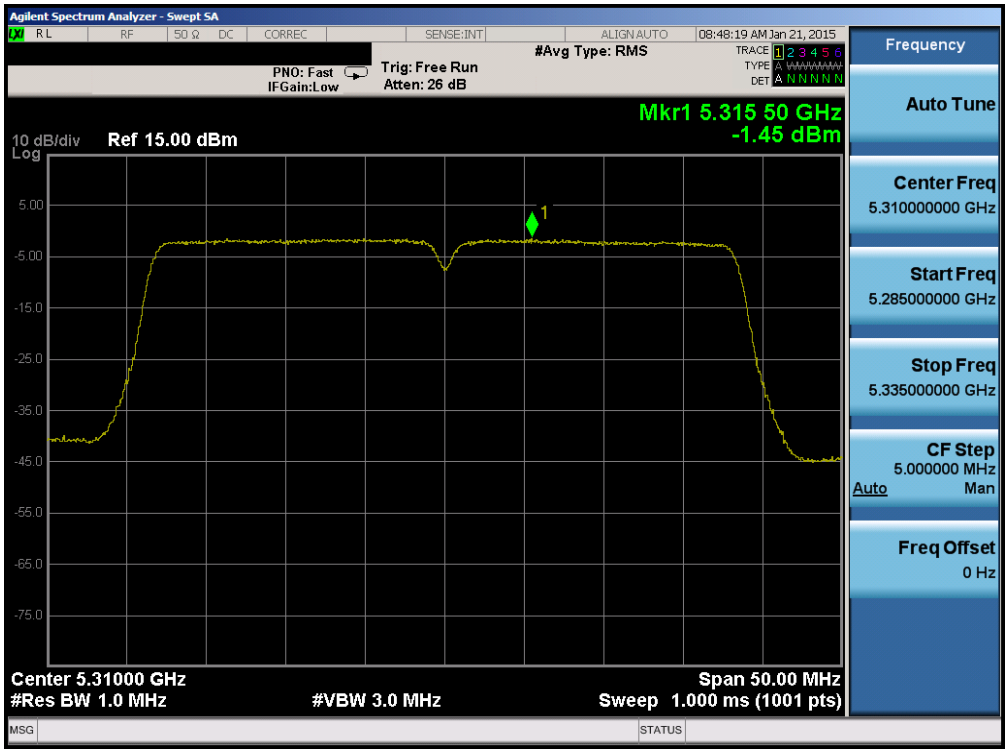
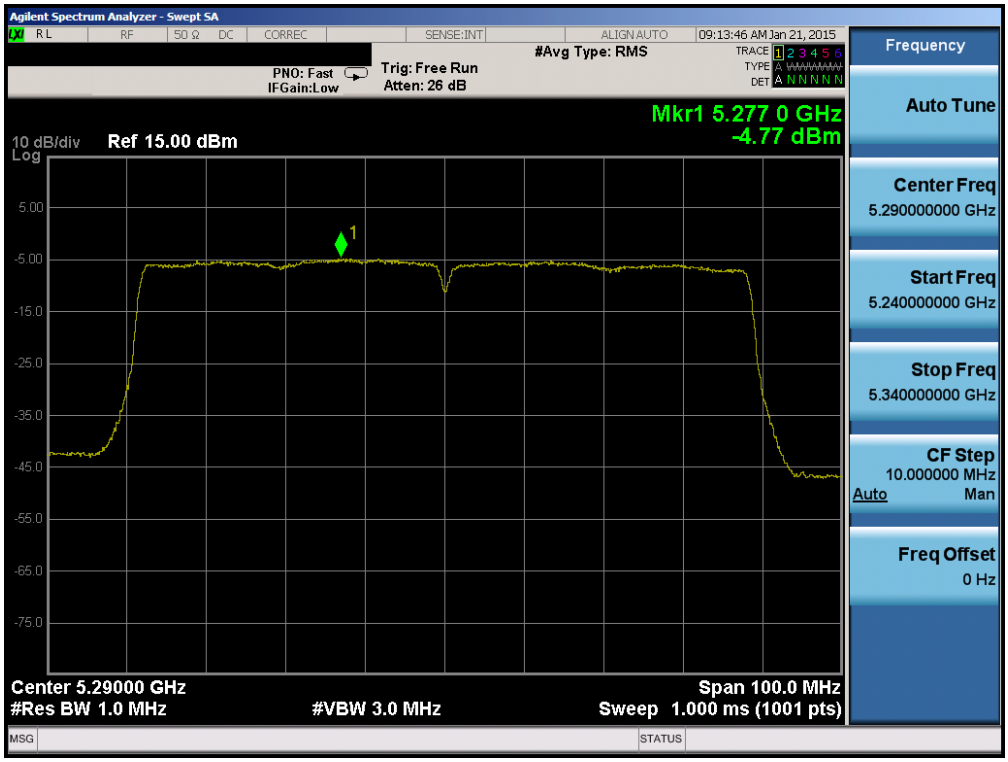


Plot 6-131. Power Spectral Density Plot (40MHz BW 802.11n (UNII Band 2A) – Ch. 62)



Plot 6-132. Power Spectral Density Plot (80MHz BW 802.11ac (UNII Band 2A) – Ch. 58)

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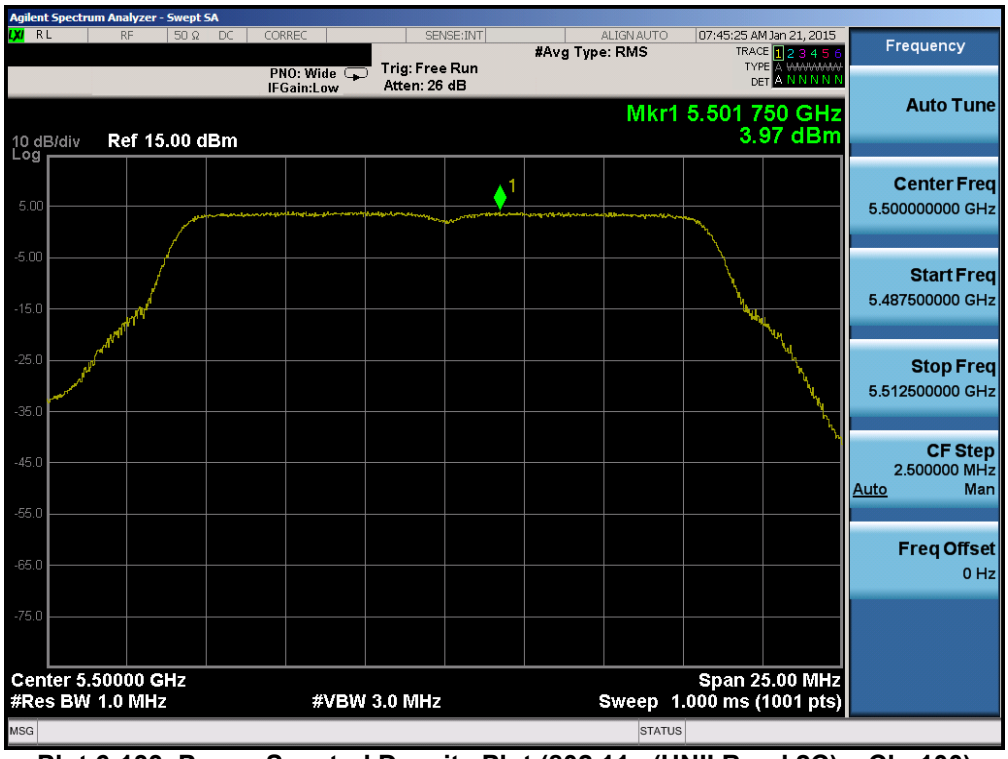
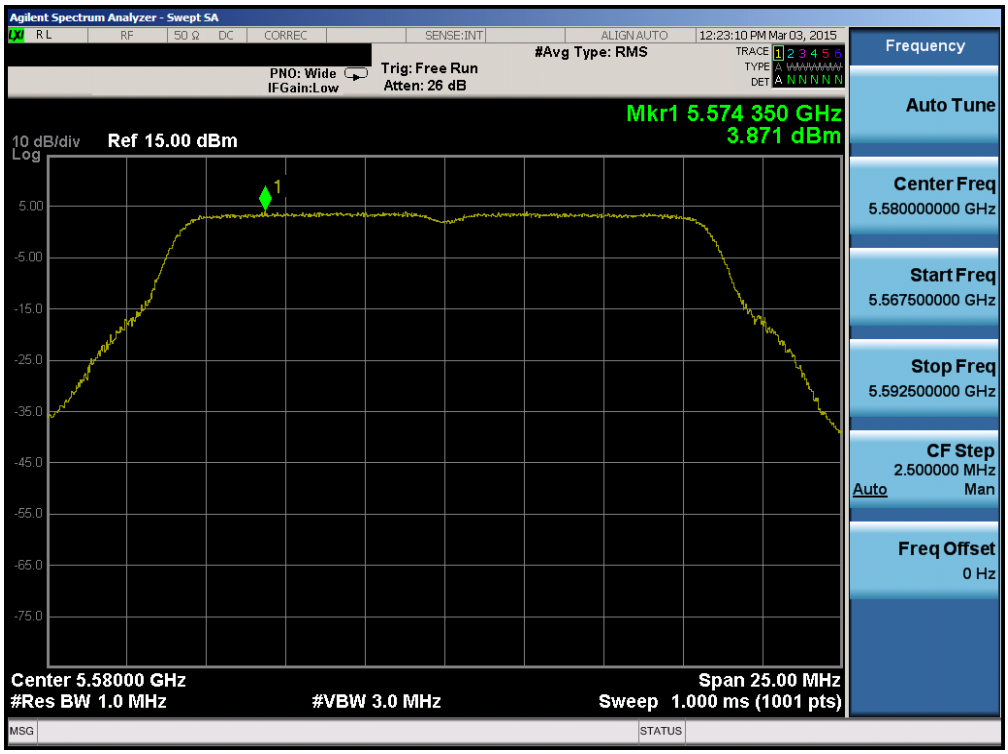


Plot 6-133. Power Spectral Density Plot (802.11a (UNII Band 2C) – Ch. 100)



Plot 6-134. Power Spectral Density Plot (802.11a (UNII Band 2C) – Ch. 116)

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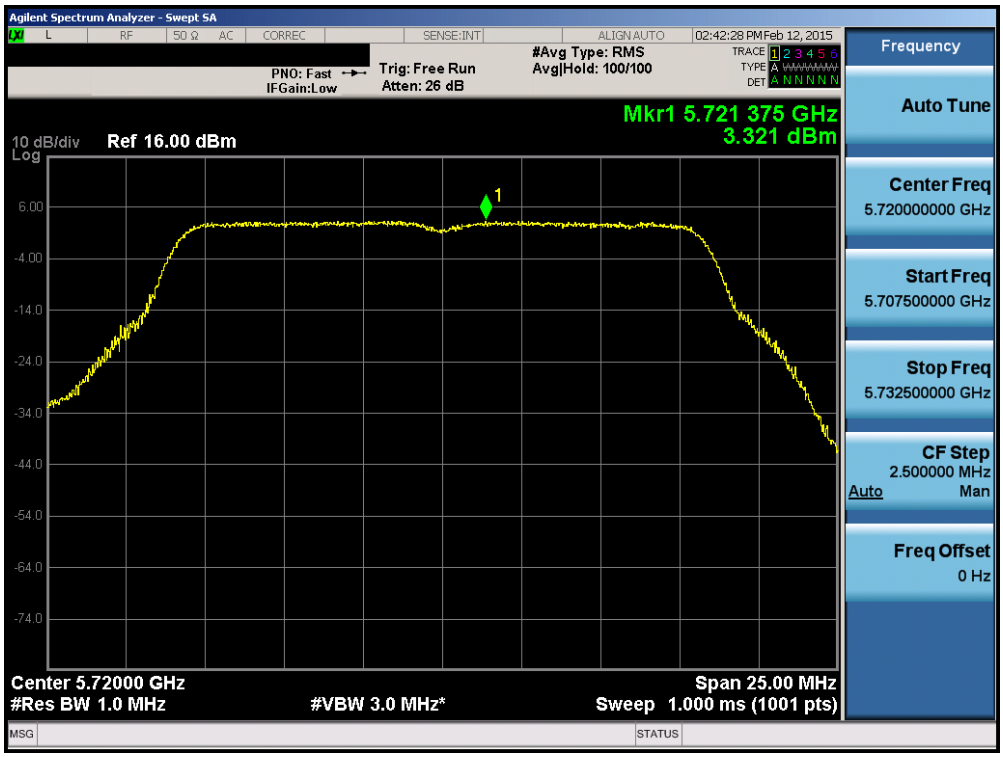
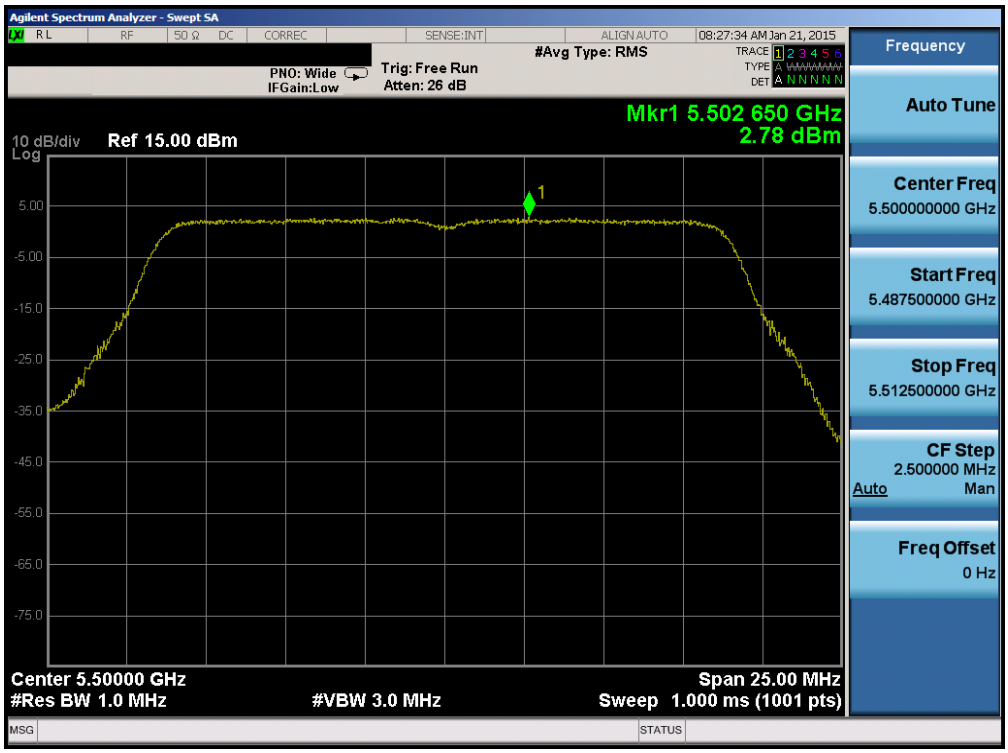


Plot 6-135. Power Spectral Density Plot (20MHz BW 802.11a (UNII Band 2C) – Ch. 144)



Plot 6-136. Power Spectral Density Plot (20MHz BW 802.11n (UNII Band 2C) – Ch. 100)

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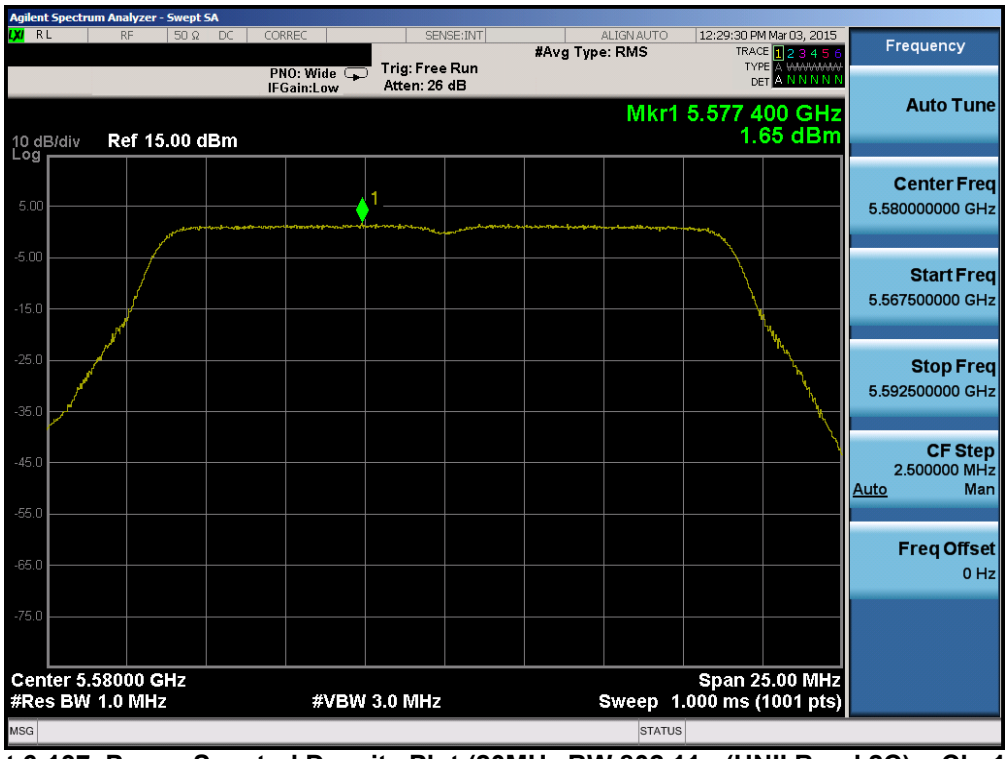
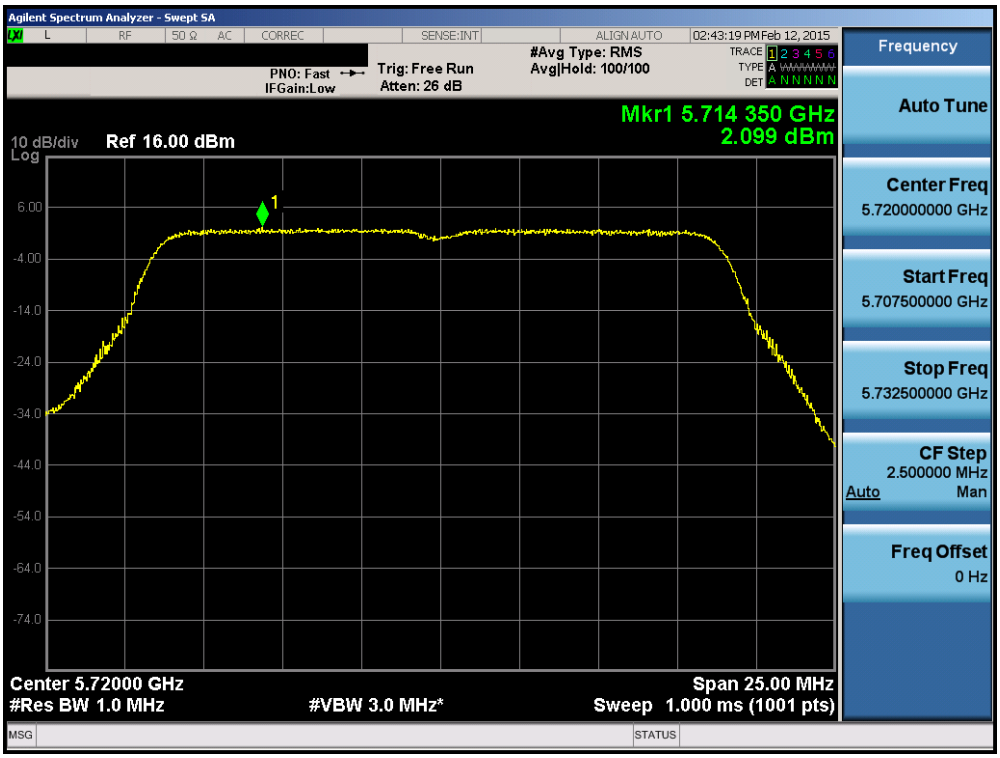


Plot 6-137. Power Spectral Density Plot (20MHz BW 802.11n (UNII Band 2C) – Ch. 116)



Plot 6-138. Power Spectral Density Plot (20MHz BW 802.11n (UNII Band 2C) – Ch. 144)

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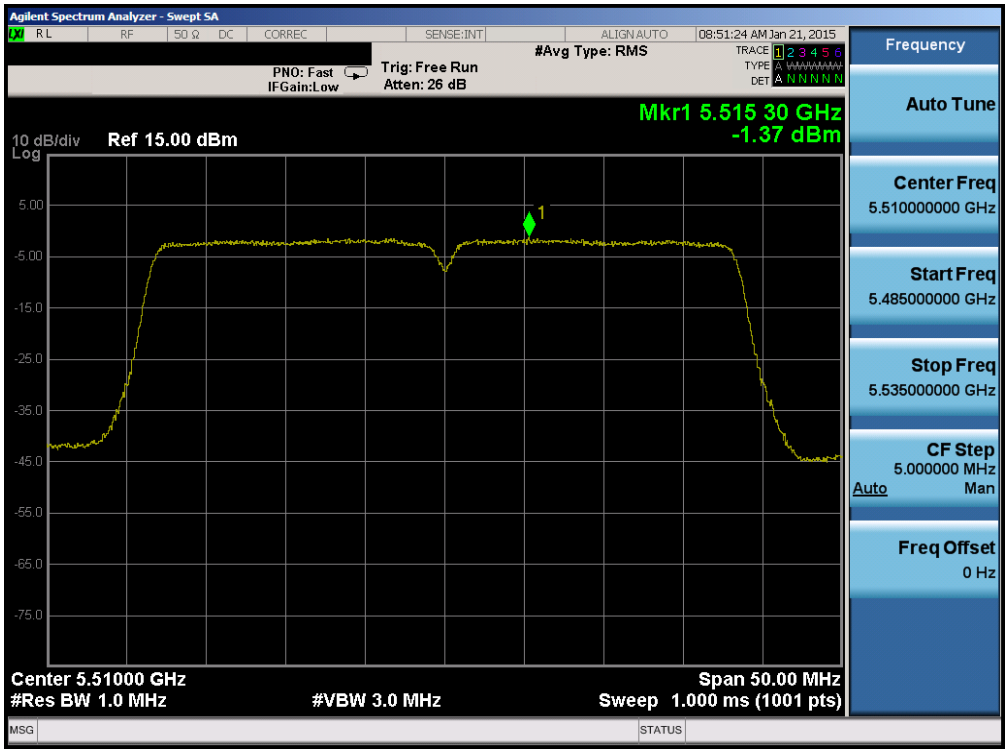
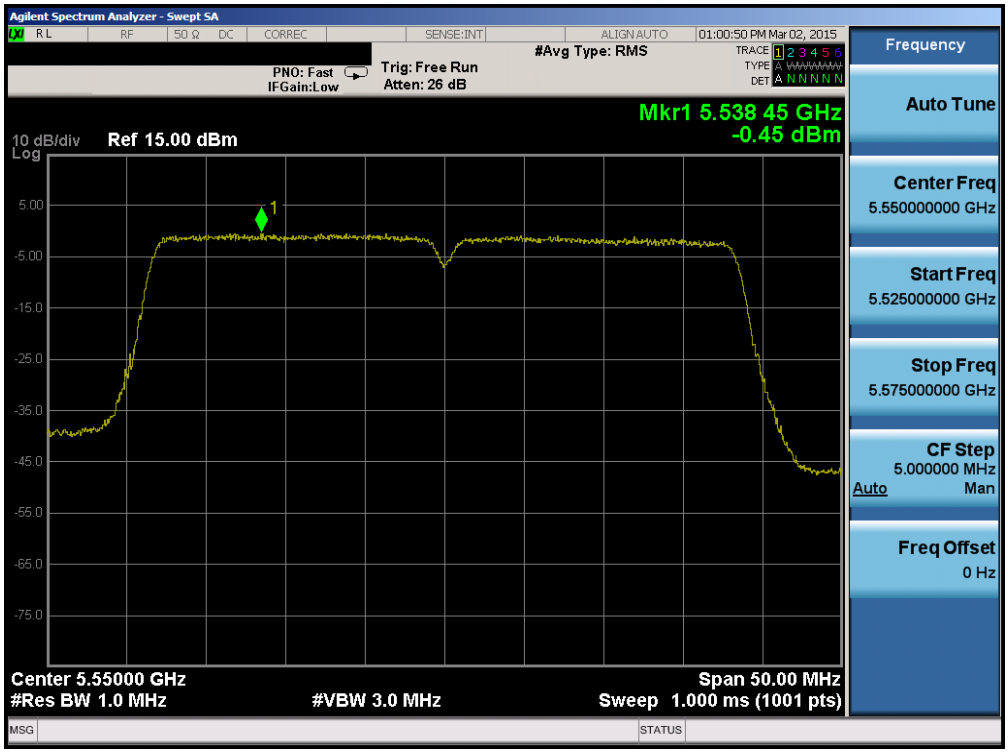


Plot 6-139. Power Spectral Density Plot (40MHz BW 802.11n (UNII Band 2C) – Ch. 102)



Plot 6-140. Power Spectral Density Plot (40MHz BW 802.11n (UNII Band 2C) – Ch. 110)

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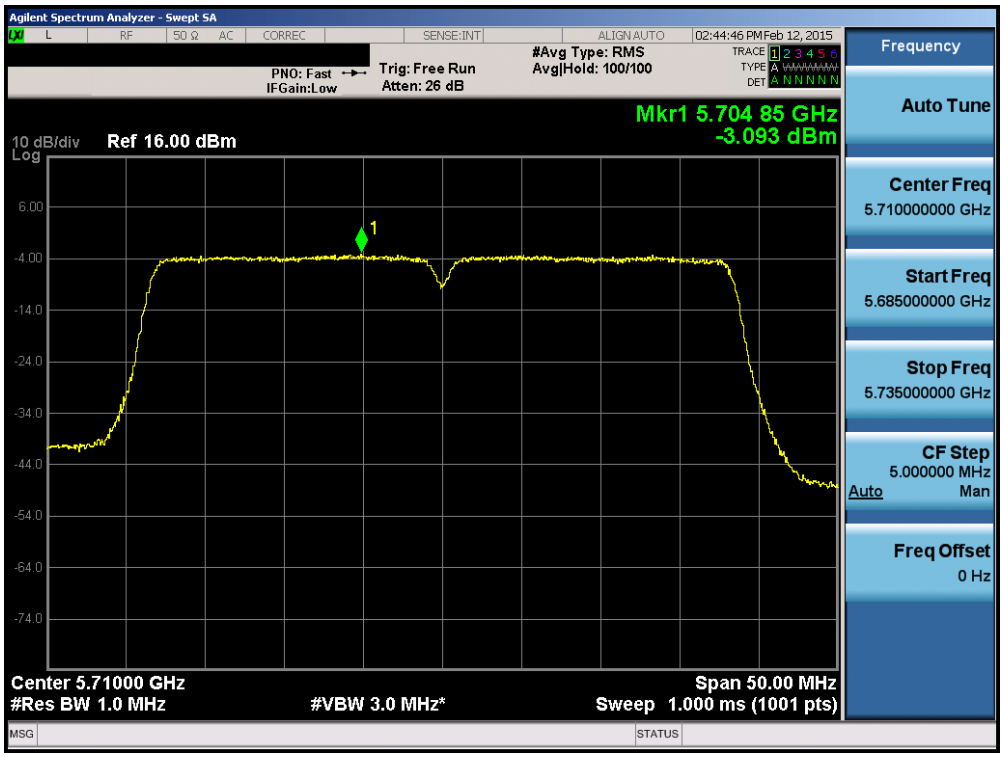
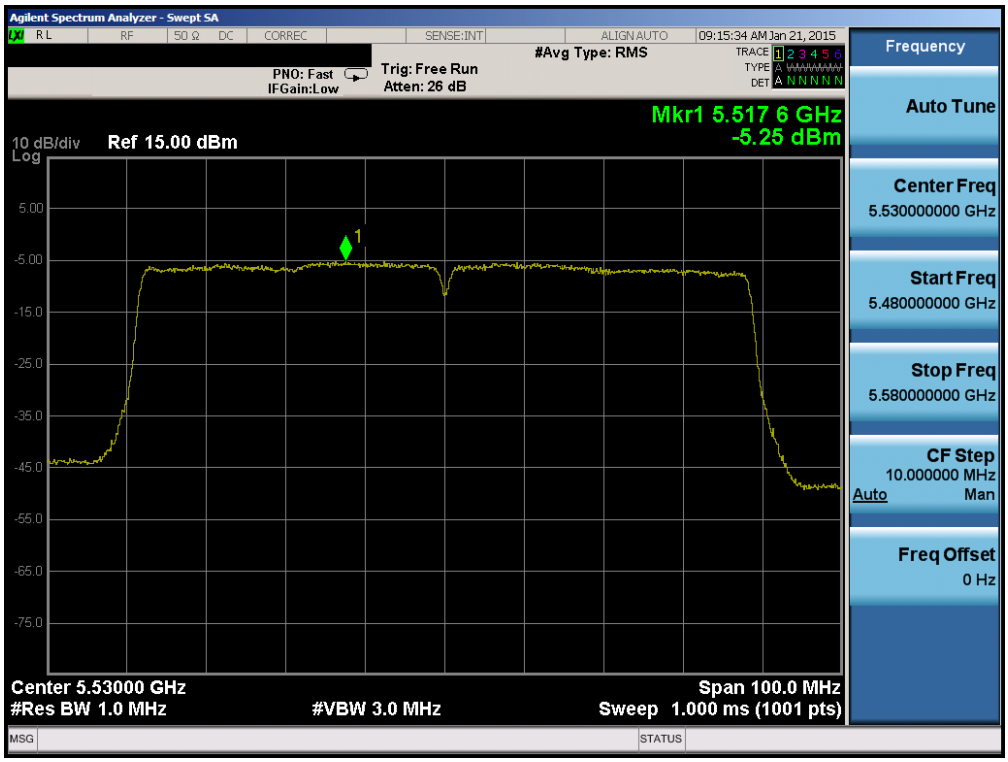


Plot 6-141. Power Spectral Density Plot (40MHz BW 802.11n (UNII Band 2C) – Ch. 142)



Plot 6-142. Power Spectral Density Plot (80MHz BW 802.11ac (UNII Band 2C) – Ch. 106)

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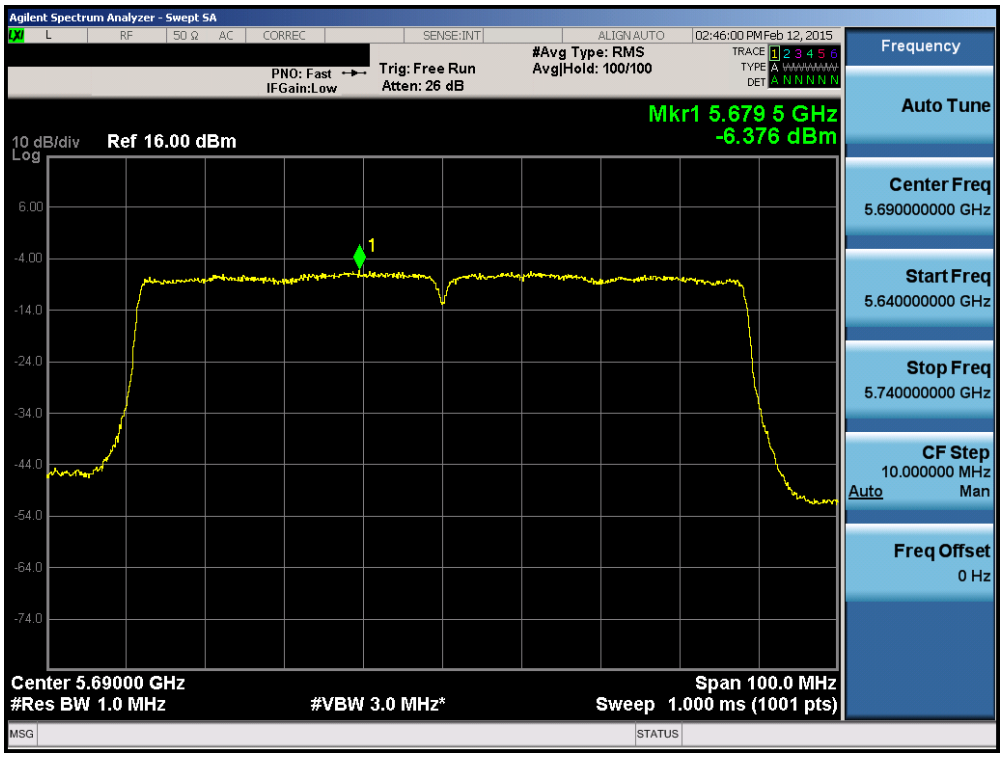

Plot 6-143. Power Spectral Density Plot (80MHz BW 802.11ac (UNII Band 2C) – Ch. 138)

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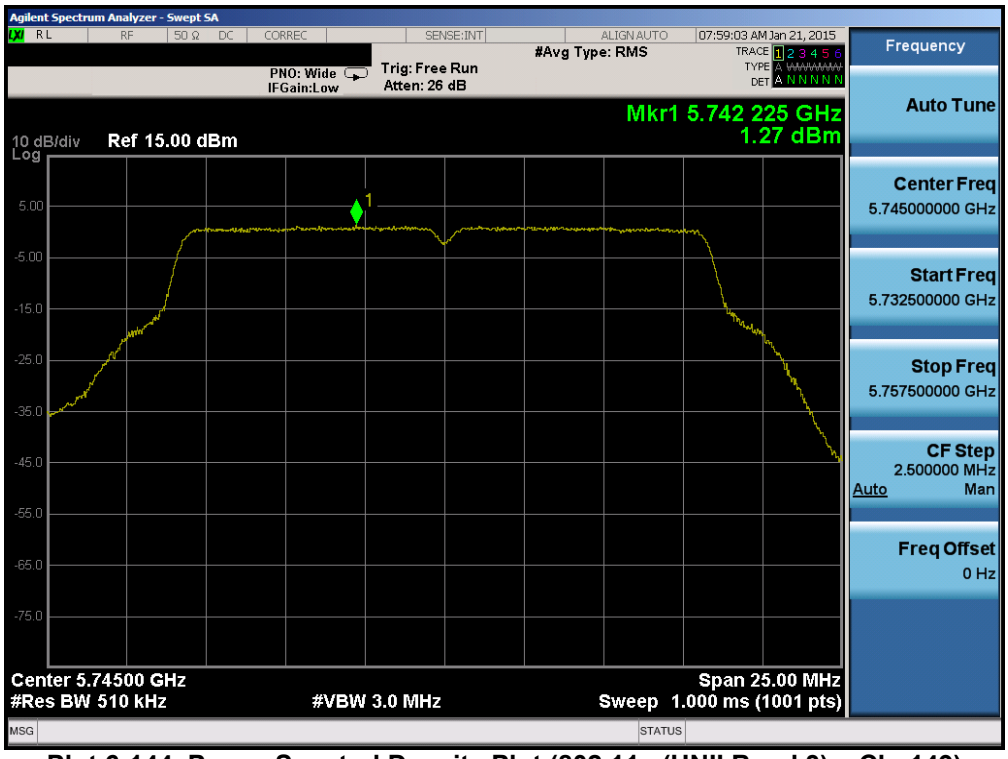
	Frequency [MHz]	Channel No.	802.11 Mode	Data Rate [Mbps]	Measured Power Density [dBm]	Max Permissible Power Density [dBm/500kHz]	Margin [dB]	Pass / Fail
Band 3	5745	149	a	6	1.27	30.0	-28.73	Pass
	5785	157	a	6	0.88	30.0	-29.12	Pass
	5825	165	a	6	0.76	30.0	-29.24	Pass
	5745	149	n (20MHz)	6.5/7.2 (MCS0)	-0.22	30.0	-30.22	Pass
	5785	157	n (20MHz)	6.5/7.2 (MCS0)	-0.41	30.0	-30.41	Pass
	5825	165	n (20MHz)	6.5/7.2 (MCS0)	-0.16	30.0	-30.16	Pass
	5755	151	n (40MHz)	13.5/15 (MCS0)	-3.77	30.0	-33.77	Pass
	5795	159	n (40MHz)	13.5/15 (MCS0)	-4.51	30.0	-34.51	Pass
	5775	155	ac (80MHz)	29.3/32.5 (MCS0)	-8.41	30.0	-38.41	Pass

Table 6-20. Band 3 Conducted Power Spectral Density Measurements



Plot 6-144. Power Spectral Density Plot (802.11a (UNII Band 3) – Ch. 149)

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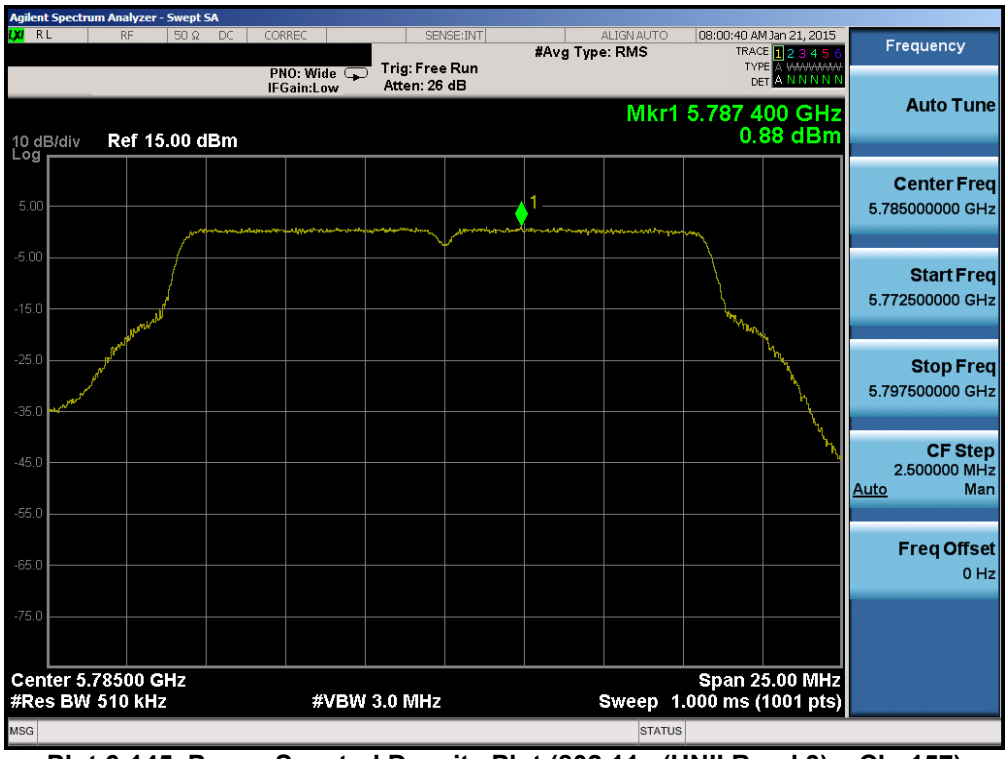

Plot 6-145. Power Spectral Density Plot (802.11a (UNII Band 3) – Ch. 157)

Plot 6-146. Power Spectral Density Plot (802.11a (UNII Band 3) – Ch. 165)

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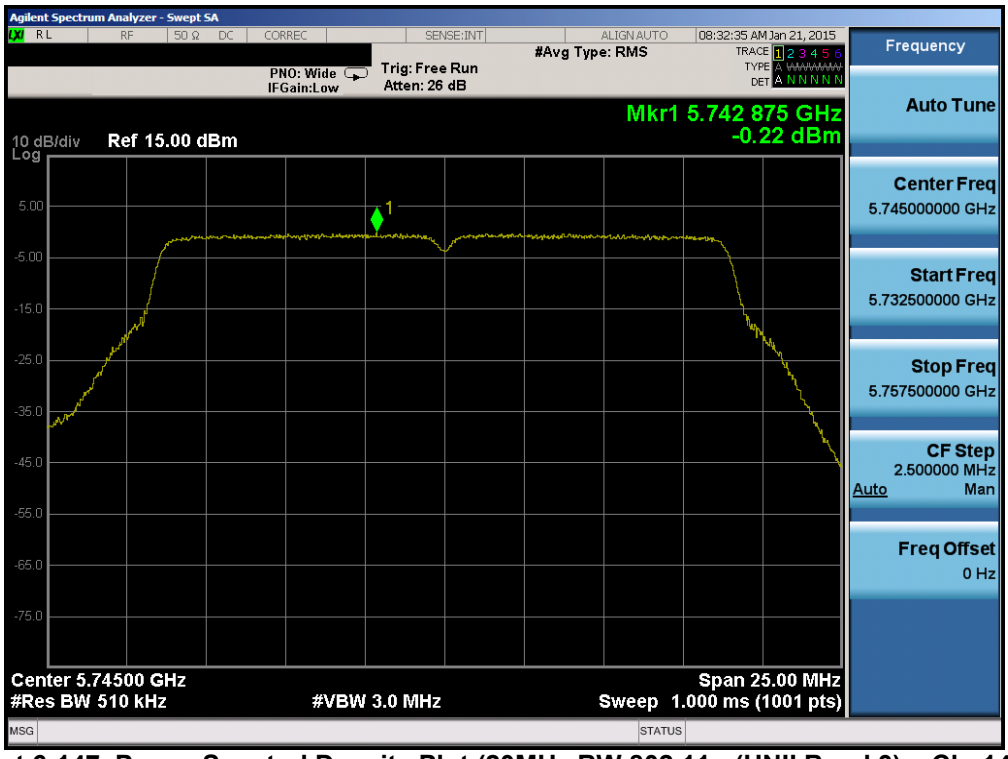
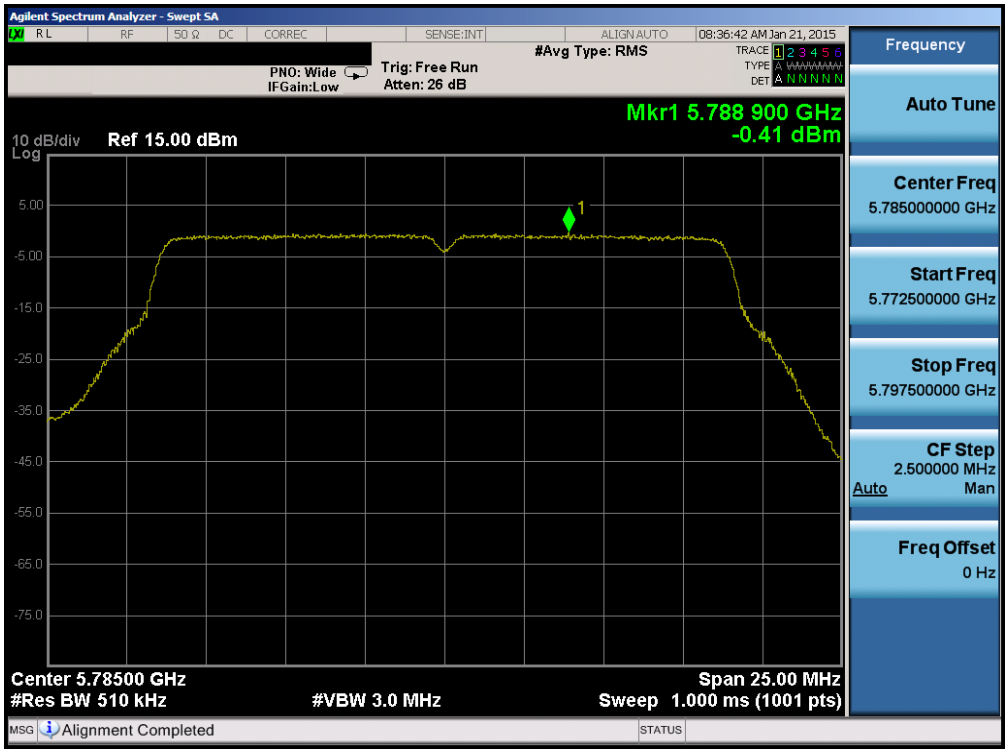


Plot 6-147. Power Spectral Density Plot (20MHz BW 802.11n (UNII Band 3) – Ch. 149)



Plot 6-148. Power Spectral Density Plot (20MHz BW 802.11n (UNII Band 3) – Ch. 157)

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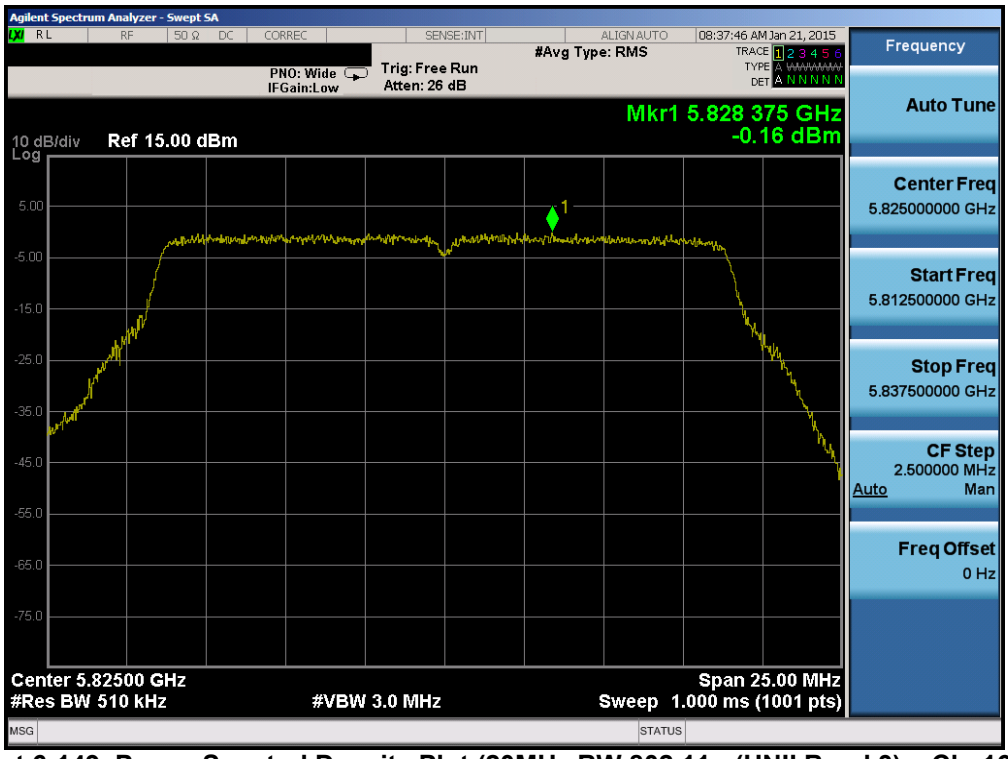
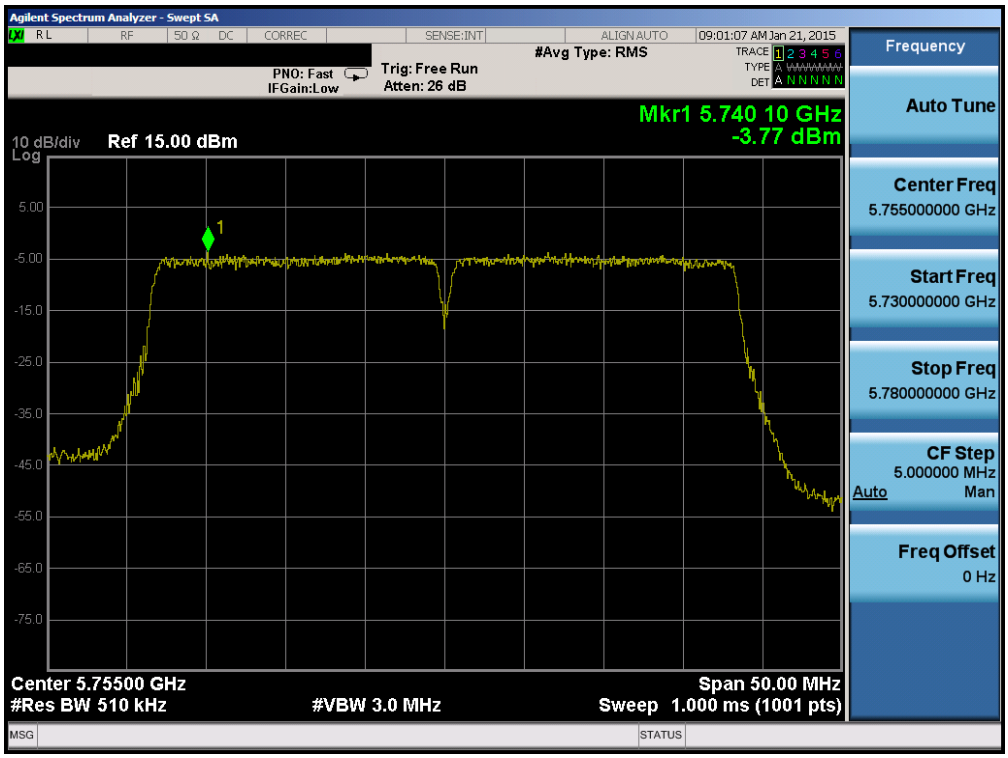


Plot 6-149. Power Spectral Density Plot (20MHz BW 802.11n (UNII Band 3) – Ch. 165)



Plot 6-150. Power Spectral Density Plot (40MHz BW 802.11n (UNII Band 3) – Ch. 151)

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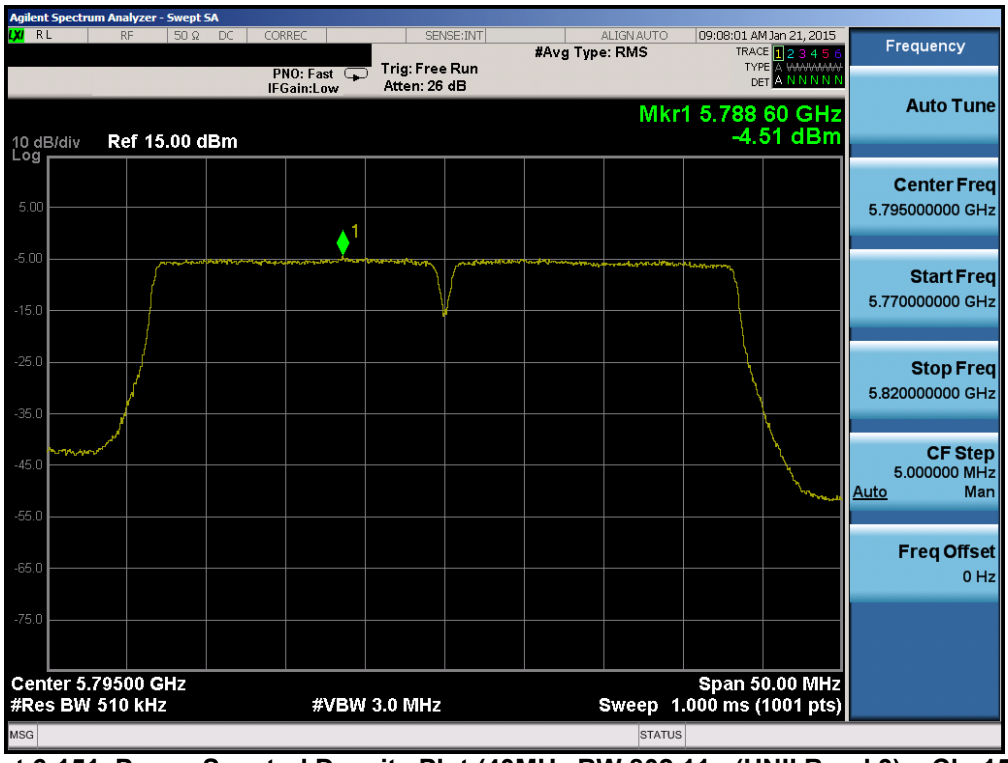
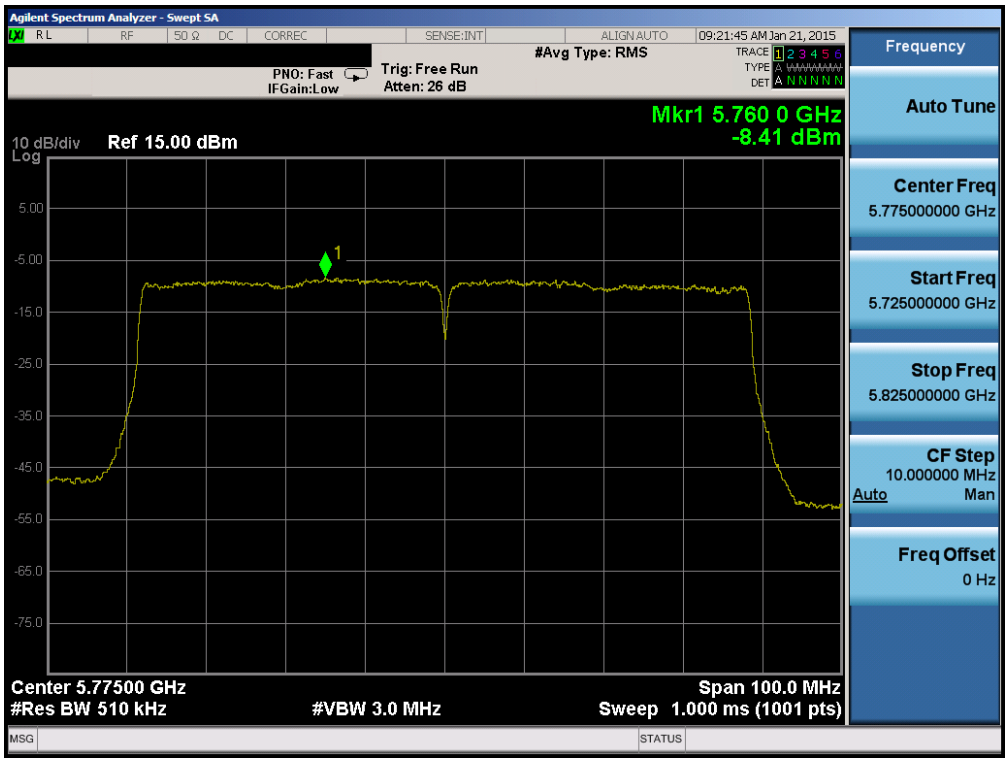


Plot 6-151. Power Spectral Density Plot (40MHz BW 802.11n (UNII Band 3) – Ch. 159)



Plot 6-152. Power Spectral Density Plot (80MHz BW 802.11ac (UNII Band 3) – Ch. 155)

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Summed MIMO Power Spectral Density Measurements

	Frequency [MHz]	Channel No.	802.11 Mode	Data Rate [Mbps]	Antenn-1 Power Density [dBm]	Antenn-2 Power Density [dBm]	Summed MIMO Power Density [dBm]	Max Permissible Power Density [dBm/MHz]	Margin [dB]	Pass / Fail
Band 1	5180	36	n (20MHz)	6.5/7.2 (MCS0)	3.39	3.54	6.47	11.0	-4.53	Pass
	5200	40	n (20MHz)	6.5/7.2 (MCS0)	3.52	3.41	6.47	11.0	-4.53	Pass
	5240	48	n (20MHz)	6.5/7.2 (MCS0)	3.73	3.54	6.64	11.0	-4.36	Pass
	5190	38	n (40MHz)	13.5/15 (MCS0)	-1.30	-1.42	1.65	11.0	-9.35	Pass
	5230	46	n (40MHz)	13.5/15 (MCS0)	-0.46	-1.29	2.16	11.0	-8.84	Pass
	5210	42	ac (80MHz)	29.3/32.5 (MCS0)	-4.30	-4.38	-1.33	11.0	-12.33	Pass
Band 2A	5260	52	n (20MHz)	6.5/7.2 (MCS0)	3.75	3.30	6.54	11.0	-4.46	Pass
	5280	56	n (20MHz)	6.5/7.2 (MCS0)	3.72	3.25	6.50	11.0	-4.50	Pass
	5320	64	n (20MHz)	6.5/7.2 (MCS0)	2.96	2.85	5.91	11.0	-5.09	Pass
	5270	54	n (40MHz)	13.5/15 (MCS0)	-0.21	-0.98	2.43	11.0	-8.57	Pass
	5310	62	n (40MHz)	13.5/15 (MCS0)	-0.88	-1.45	1.85	11.0	-9.15	Pass
	5290	58	ac (80MHz)	29.3/32.5 (MCS0)	-3.87	-4.77	-1.28	11.0	-12.28	Pass
Band 2C	5500	100	n (20MHz)	6.5/7.2 (MCS0)	3.23	2.78	6.02	11.0	-4.98	Pass
	5580	116	n (20MHz)	6.5/7.2 (MCS0)	2.80	1.65	5.27	11.0	-5.73	Pass
	5720	144	n (20MHz)	6.5/7.2 (MCS0)	2.57	2.10	5.35	11.0	-5.65	Pass
	5510	102	n (40MHz)	13.5/15 (MCS0)	-0.68	-1.37	2.00	11.0	-9.00	Pass
	5550	110	n (40MHz)	13.5/15 (MCS0)	-0.39	-0.45	2.59	11.0	-8.41	Pass
	5710	142	n (40MHz)	13.5/15 (MCS0)	-2.27	-3.09	0.35	11.0	-10.65	Pass
	5530	106	ac (80MHz)	29.3/32.5 (MCS0)	-4.47	-5.25	-1.83	11.0	-12.83	Pass
	5690	138	ac (80MHz)	29.3/32.5 (MCS0)	-6.65	-6.38	-3.50	11.0	-14.50	Pass

Table 6-21. Bands 1, 2A, 2C MIMO Conducted Power Spectral Density Measurements

	Frequency [MHz]	Channel No.	802.11 Mode	Data Rate [Mbps]	Antenn-1 Power Density [dBm]	Antenn-2 Power Density [dBm]	Summed MIMO Power Density [dBm]	Max Permissible Power Density [dBm/500kHz]	Margin [dB]	Pass / Fail
Band 3	5745	149	n (20MHz)	6.5/7.2 (MCS0)	-0.15	-0.22	2.82	30.0	-27.18	Pass
	5785	157	n (20MHz)	6.5/7.2 (MCS0)	-0.28	-0.41	2.66	30.0	-27.34	Pass
	5825	165	n (20MHz)	6.5/7.2 (MCS0)	-0.83	-0.16	2.53	30.0	-27.47	Pass
	5755	151	n (40MHz)	13.5/15 (MCS0)	-3.95	-3.77	-0.85	30.0	-30.85	Pass
	5795	159	n (40MHz)	13.5/15 (MCS0)	-4.27	-4.52	-1.38	30.0	-31.38	Pass
	5775	155	ac (80MHz)	29.3/32.5 (MCS0)	-7.50	-8.41	-4.92	30.0	-34.92	Pass

Table 6-22. Band 3 MIMO Conducted Power Spectral Density Measurements

Note:

Per KDB 662911 v02r01 Section E)2), the power spectral density at Antenna 1 and Antenna 2 were first measured separately as shown in the section above. The measured values were then summed in linear power units then converted back to dBm.

Sample MIMO Calculation:

At 5180MHz the average conducted power spectral density was measured to be 3.39 dBm for Antenna-1 and 3.55 dBm for Antenna-2.

Antenna 1 + Antenna 2 = MIMO

(3.39 dBm + 3.55 dBm) = (2.18 mW + 2.26 mW) = 4.44 mW = 6.48 dBm

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6.6 Frequency Stability

§15.407(g)

The EUT was placed inside of an environmental chamber as the temperature in the chamber was varied between -30°C and +50°C. The temperature was incremented by 10° intervals and the unit was allowed to stabilize at each temperature before each measurement. The center frequency of the transmitting channel was evaluated at each temperature and the frequency deviation from the channel's center frequency was recorded. Data for the worst case channel is shown below.

OPERATING FREQUENCY: 5,180,000,000 Hz

CHANNEL: 36

REFERENCE VOLTAGE: 3.85 VDC

VOLTAGE (%)	POWER (VDC)	TEMP (°C)	FREQUENCY (Hz)	Freq. Dev. (Hz)	Deviation (%)
100 %	3.85	+ 20 (Ref)	5,179,999,653	-347	-0.00000670
100 %		- 30	5,180,000,043	43	0.00000083
100 %		- 20	5,179,999,867	-133	-0.00000257
100 %		- 10	5,180,000,282	282	0.00000544
100 %		0	5,179,999,880	-120	-0.00000232
100 %		+ 10	5,180,000,073	73	0.00000141
100 %		+ 20	5,180,000,350	350	0.00000676
100 %		+ 30	5,180,000,394	394	0.00000761
100 %		+ 40	5,180,000,099	99	0.00000191
100 %		+ 50	5,179,999,986	-14	-0.00000027
BATT. ENDPOINT	3.40	+ 20	5,180,000,144	144	0.00000278

Table 6-23. Frequency Stability Measurements for UNII Band 1 (Ch. 36)

Note:

Based on the results of the frequency stability test shown above the frequency deviation results measured are very small. As such it is determined that the channels at the band edge would remain in-band when the maximum measured frequency deviation noted during the frequency stability tests is applied. Therefore the device is determined to remain operating in band over the temperature and voltage range as tested.

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Frequency Stability
§15.407(g)

The EUT was placed inside of an environmental chamber as the temperature in the chamber was varied between -30°C and +50°C. The temperature was incremented by 10° intervals and the unit was allowed to stabilize at each temperature before each measurement. The center frequency of the transmitting channel was evaluated at each temperature and the frequency deviation from the channel's center frequency was recorded. Data for the worst case channel is shown below.

OPERATING FREQUENCY: 5,260,000,000 Hz

CHANNEL: 52

REFERENCE VOLTAGE: 3.85 VDC

VOLTAGE (%)	POWER (VDC)	TEMP (°C)	FREQUENCY (Hz)	Freq. Dev. (Hz)	Deviation (%)
100 %	3.85	+ 20 (Ref)	5,259,999,796	-204	-0.00000388
100 %		- 30	5,259,999,895	-105	-0.00000200
100 %		- 20	5,260,000,070	70	0.00000133
100 %		- 10	5,260,000,304	304	0.00000578
100 %		0	5,260,000,087	87	0.00000165
100 %		+ 10	5,260,000,263	263	0.00000500
100 %		+ 20	5,260,000,036	36	0.00000068
100 %		+ 30	5,259,999,704	-296	-0.00000563
100 %		+ 40	5,260,000,154	154	0.00000293
100 %		+ 50	5,259,999,900	-100	-0.00000190
BATT. ENDPOINT	3.40	+ 20	5,259,999,999	-1	-0.00000002

Table 6-24. Frequency Stability Measurements for UNII Band 2A (Ch. 52)

Note:

Based on the results of the frequency stability test shown above the frequency deviation results measured are very small. As such it is determined that the channels at the band edge would remain in-band when the maximum measured frequency deviation noted during the frequency stability tests is applied. Therefore the device is determined to remain operating in band over the temperature and voltage range as tested.

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Frequency Stability
§15.407(g)

The EUT was placed inside of an environmental chamber as the temperature in the chamber was varied between -30°C and +50°C. The temperature was incremented by 10° intervals and the unit was allowed to stabilize at each temperature before each measurement. The center frequency of the transmitting channel was evaluated at each temperature and the frequency deviation from the channel's center frequency was recorded. Data for the worst case channel is shown below.

OPERATING FREQUENCY: 5,500,000,000 Hz

CHANNEL: 100

REFERENCE VOLTAGE: 3.85 VDC

VOLTAGE (%)	POWER (VDC)	TEMP (°C)	FREQUENCY (Hz)	Freq. Dev. (Hz)	Deviation (%)
100 %	3.85	+ 20 (Ref)	5,500,000,136	136	0.00000247
100 %		- 30	5,500,000,267	267	0.00000485
100 %		- 20	5,500,000,125	125	0.00000227
100 %		- 10	5,500,000,016	16	0.00000029
100 %		0	5,500,000,298	298	0.00000542
100 %		+ 10	5,500,000,028	28	0.00000051
100 %		+ 20	5,500,000,297	297	0.00000540
100 %		+ 30	5,499,999,743	-257	-0.00000467
100 %		+ 40	5,500,000,343	343	0.00000624
100 %		+ 50	5,499,999,952	-48	-0.00000087
BATT. ENDPOINT	3.40	+ 20	5,500,000,001	1	0.00000002

Table 6-25. Frequency Stability Measurements for UNII Band 2C (Ch. 100)

Note:

Based on the results of the frequency stability test shown above the frequency deviation results measured are very small. As such it is determined that the channels at the band edge would remain in-band when the maximum measured frequency deviation noted during the frequency stability tests is applied. Therefore the device is determined to remain operating in band over the temperature and voltage range as tested.

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Frequency Stability
§15.407(g)

The EUT was placed inside of an environmental chamber as the temperature in the chamber was varied between -30°C and +50°C. The temperature was incremented by 10° intervals and the unit was allowed to stabilize at each temperature before each measurement. The center frequency of the transmitting channel was evaluated at each temperature and the frequency deviation from the channel's center frequency was recorded. Data for the worst case channel is shown below.

OPERATING FREQUENCY: 5,745,000,000 Hz

CHANNEL: 149

REFERENCE VOLTAGE: 3.85 VDC

VOLTAGE (%)	POWER (VDC)	TEMP (°C)	FREQUENCY (Hz)	Freq. Dev. (Hz)	Deviation (%)
100 %	3.85	+ 20 (Ref)	5,744,999,628	-372	-0.00000648
100 %		- 30	5,744,999,987	-13	-0.00000023
100 %		- 20	5,745,000,184	184	0.00000320
100 %		- 10	5,744,999,854	-146	-0.00000254
100 %		0	5,744,999,816	-184	-0.00000320
100 %		+ 10	5,744,999,647	-353	-0.00000614
100 %		+ 20	5,745,000,000	0	0.00000000
100 %		+ 30	5,745,000,224	224	0.00000390
100 %		+ 40	5,745,000,290	290	0.00000505
100 %		+ 50	5,745,000,058	58	0.00000101
BATT. ENDPOINT	3.40	+ 20	5,744,999,987	-13	-0.00000023

Table 6-26. Frequency Stability Measurements for UNII Band 3 (Ch. 149)

Note:

Based on the results of the frequency stability test shown above the frequency deviation results measured are very small. As such it is determined that the channels at the band edge would remain in-band when the maximum measured frequency deviation noted during the frequency stability tests is applied. Therefore the device is determined to remain operating in band over the temperature and voltage range as tested.

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6.7 Radiated Spurious Emission Measurements

§15.407(b.1)(b.6) §15.205 §15.209

Test Overview and Limit

All out of band radiated spurious emissions are measured with a spectrum analyzer connected to a receive antenna while the EUT is operating at its maximum power control level, as defined in KDB 789033 D02 v01, and at the appropriate frequencies. All channels, modes (e.g. 802.11a, 802.11n (20MHz BW) and 802.11n (40MHz BW)), and modulations/data rates were investigated among all UNII bands. Only the radiated emissions of the configuration that produced the worst case emissions are reported in this section.

All out of band emissions appearing in a restricted band as specified in Section 15.205 of the Title 47 CFR must not exceed the limits shown in Table 6-27 per Section 15.209.

Frequency	Field Strength [μV/m]	Measured Distance [Meters]
Above 960.0 MHz	500	3

Table 6-27. Radiated Limits

Test Procedures Used

KDB 789033 D02 v01 – Section G

Test Settings

Average Measurements above 1GHz (Method AD)

1. Analyzer center frequency was set to the frequency of the radiated spurious emission of interest
2. RBW = 1MHz
3. VBW = 3MHz
4. Detector = power average (RMS)
5. Number of measurement points = 1001 (Number of points must be ≥ 2 x span/RBW)
6. Averaging type = power (RMS)
7. Sweep time = auto couple
8. Trace was averaged over 100 sweeps

Peak Measurements above 1GHz

1. Analyzer center frequency was set to the frequency of the radiated spurious emission of interest
2. RBW = 1MHz
3. VBW = 3MHz
4. Detector = peak
5. Sweep time = auto couple
6. Trace mode = max hold
7. Trace was allowed to stabilize

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Peak Measurements below 1GHz

1. Analyzer center frequency was set to the frequency of the radiated spurious emission of interest
2. Span was set greater than 1MHz
3. RBW = 120kHz
4. Detector = CISPR quasi-peak
5. Sweep time = auto couple
6. Trace was allowed to stabilize

Test Setup

The EUT and measurement equipment were set up as shown in the diagram below.

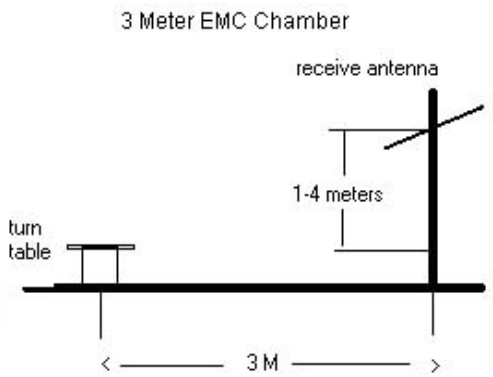

Figure 6-5. Test Instrument & Measurement Setup

Test Notes

1. All radiated spurious emissions levels were measured in a radiated test setup per the guidance of KDB 789033 D02 v01 Section H.
2. All emissions that lie in the restricted bands (denoted by a * next to the frequency) specified in §15.205 are below the limit shown in Table 6-27.
3. All spurious emissions lying in restricted bands specified in §15.205 are below the limit shown in Table 6-11. All spurious emissions that do not lie in a restricted band are subject to a peak limit of -27dBm/MHz. At a distance of 3 meters, the field strength limit in dBμV/m can be determined by adding a "conversion" factor of 95.2dB to the EIRP limit of -27dBm/MHz to obtain the limit for out of band spurious emissions of 68.2dBμV/m.
4. The antenna is manipulated through typical positions, polarity and length during the tests. The EUT is manipulated through three orthogonal planes.
5. This unit was tested with its standard battery.
6. The spectrum is measured from 9kHz to the 10th harmonic of the fundamental frequency of the transmitter using CISPR quasi peak detector below 1GHz. Above 1 GHz, average and peak

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measurements were taken using linearly polarized horn antennas. The worst-case emissions are reported however emissions whose levels were not within 20dB of the respective limits were not reported.

7. Emissions below 18GHz were measured at a 3 meter test distance while emissions above 18GHz were measured at a 1 meter test distance with the application of a distance correction factor.
8. Radiated spurious emissions were investigated while operating in MIMO mode, however, it was determined that single antenna operation produced the worst case emissions. Since the emissions produced from MIMO operation were found to be more than 20dB below the limit, the MIMO emissions are not reported.
9. Radiated spurious emissions pre-scan plots are also reported at the beginning of the next section. The plots apply the appropriate system corrections, however, they do not show the fully maximized spectrum. The plots are only included for the purposes of identifying spurious emissions requiring further investigation. Rohde & Schwarz EMC32, Version 9.15.00 automated test software was used to perform the Radiated Spurious Emissions Pre-Scan testing.

Sample Calculations

Determining Spurious Emissions Levels

- Field Strength Level $_{[dB\mu V/m]}$ = Analyzer Level $_{[dBm]}$ + 107 + AFCL $_{[dB/m]}$
- AFCL $_{[dB/m]}$ = Antenna Factor $_{[dB/m]}$ + Cable Loss $_{[dB]}$
- Margin $_{[dB]}$ = Field Strength Level $_{[dB\mu V/m]}$ – Limit $_{[dB\mu V/m]}$

Radiated Band Edge Measurement Offset

- The amplitude offset shown in the radiated restricted band edge plots in Section 6.8 was calculated using the formula:
  Offset (dB) = (Antenna Factor + Cable Loss + 10 dB Attenuator) – Preamplifier Gain

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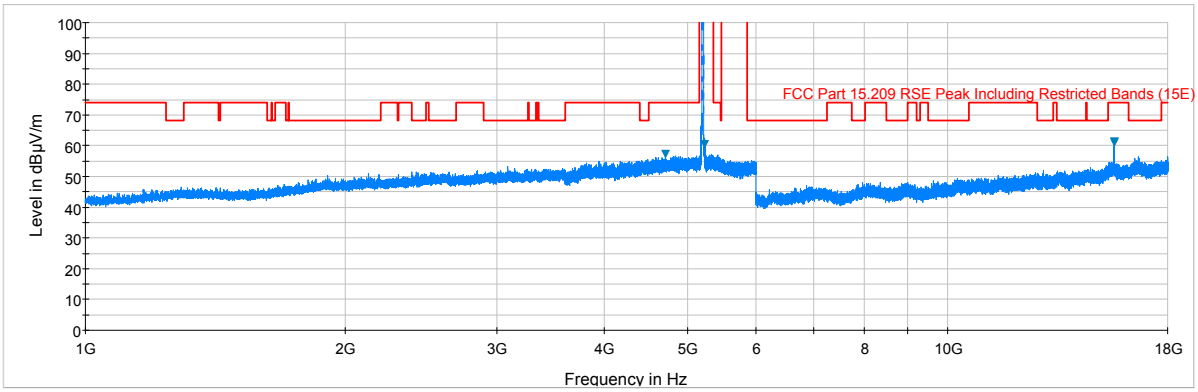
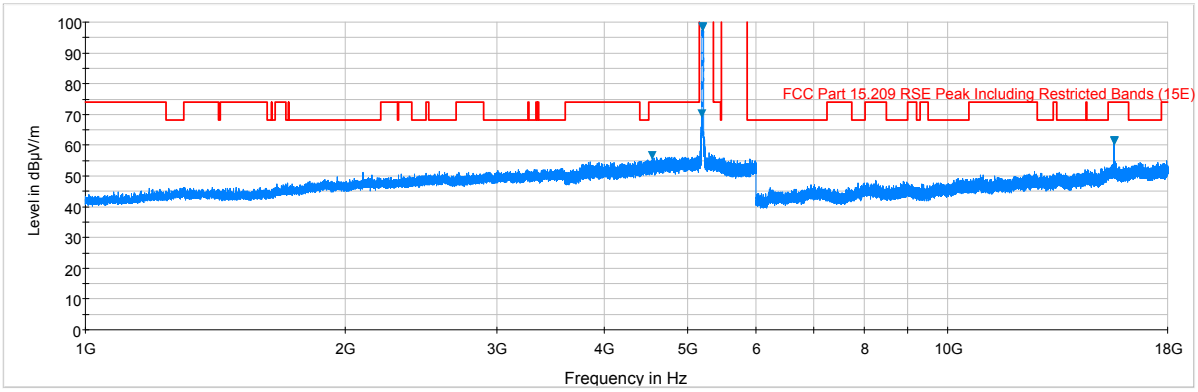
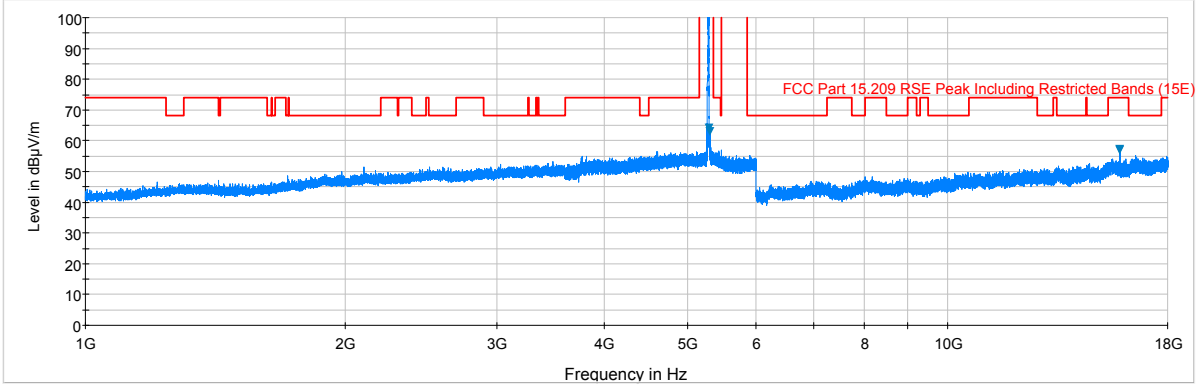
6.7.1 Antenna-1 Radiated Spurious Emission Measurements



Plot 6-153. Radiated Spurious Plot above 1GHz (802.11a – U1, Ant. Pol. H)



Plot 6-154. Radiated Spurious Plot above 1GHz (802.11a – U1, Ant. Pol. V)



Plot 6-155. Radiated Spurious Plot above 1GHz (802.11a – U2A, Ant. Pol. H)

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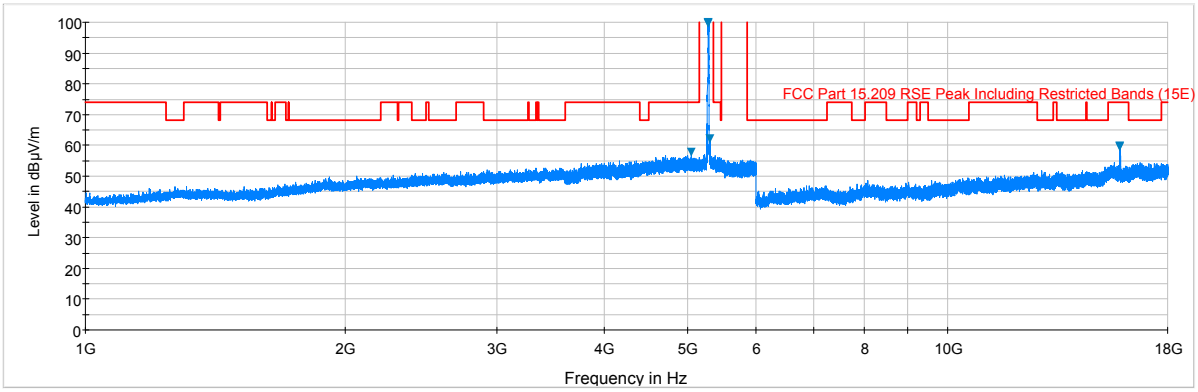
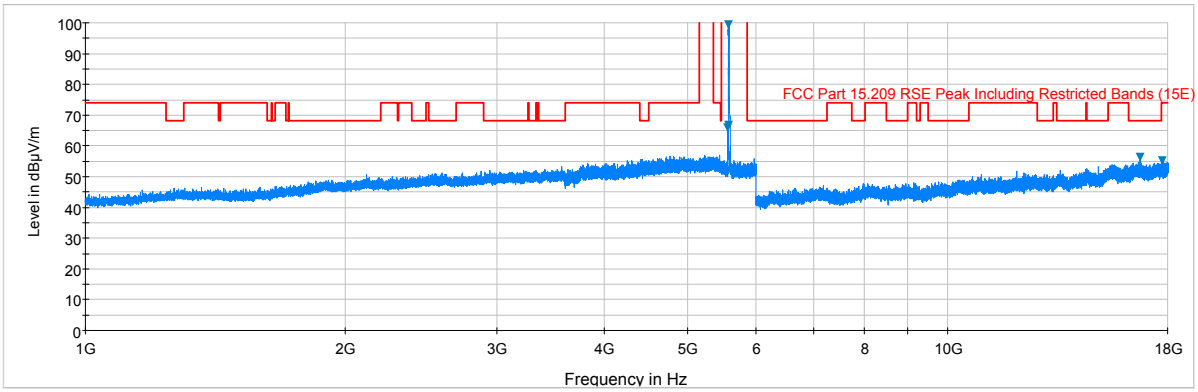
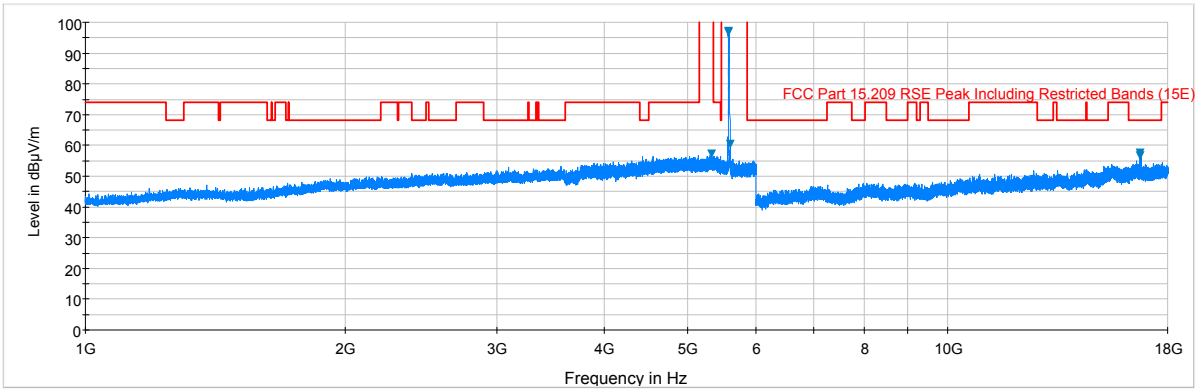


Plot 6-156. Radiated Spurious Plot above 1GHz (802.11a – U2A, Ant. Pol. V)



Plot 6-157. Radiated Spurious Plot above 1GHz (802.11a – U2C, Ant. Pol. H)



Plot 6-158. Radiated Spurious Plot above 1GHz (802.11a – U2C, Ant. Pol. V)

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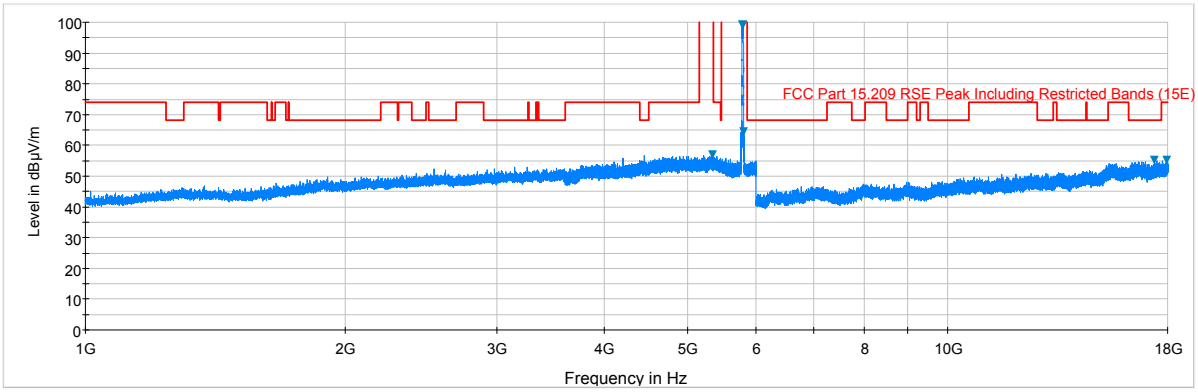
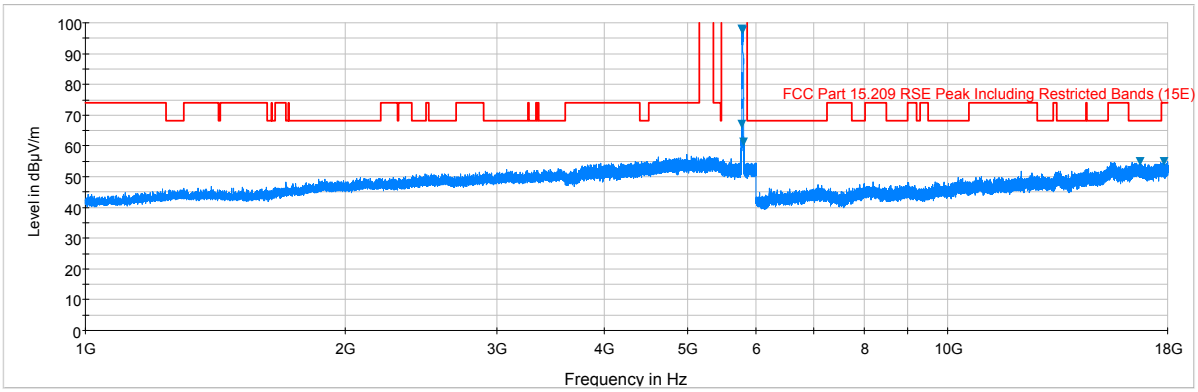


Plot 6-159. Radiated Spurious Plot above 1GHz (802.11a – U3, Ant. Pol. H)



Plot 6-160. Radiated Spurious Plot above 1GHz (802.11a – U3, Ant. Pol. V)

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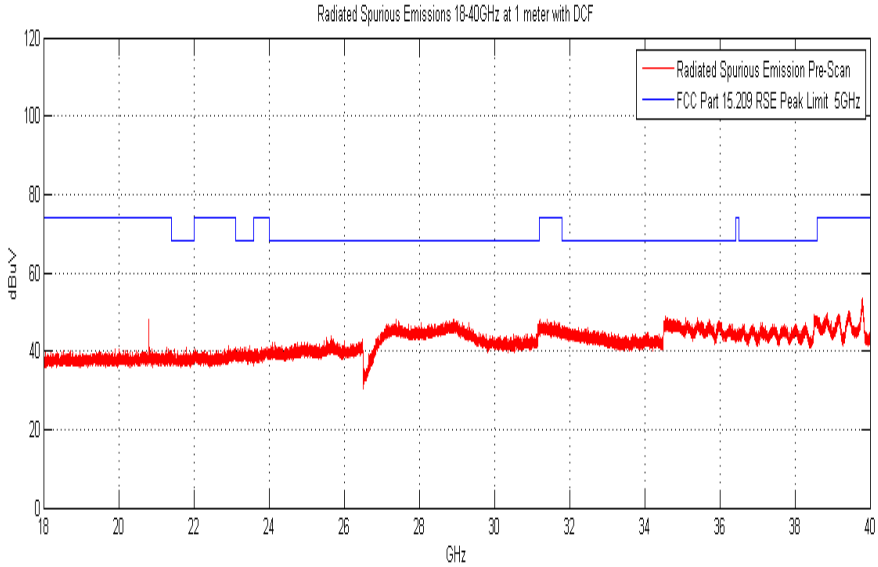
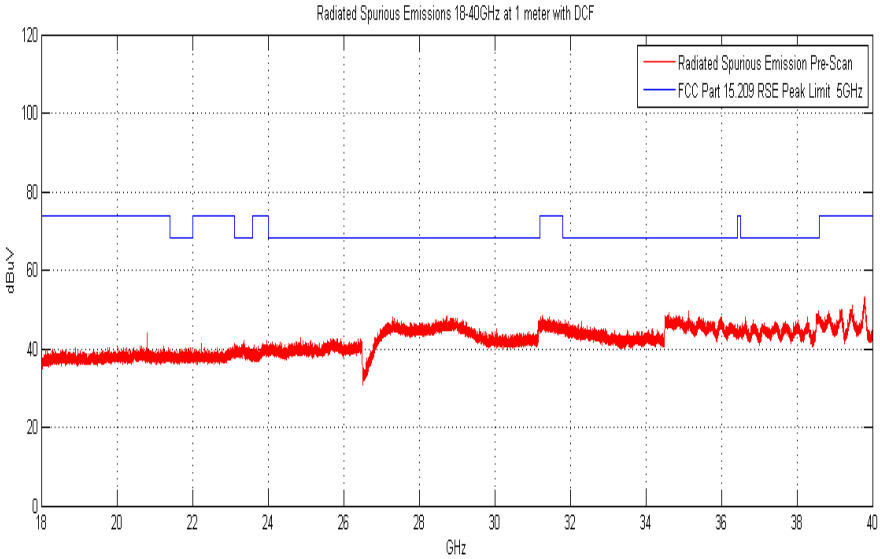
Antenna-1 Radiated Spurious Emissions Measurements (Above 18GHz)

§15.209



Plot 6-161. Radiated Spurious Plot above 18GHz (802.11a – Ant. Pol. H)



Plot 6-162. Radiated Spurious Plot above 18GHz (802.11a – Ant. Pol. V)

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Worst Case Mode:	802.11a
Worst Case Transfer Rate:	6 Mbps
Distance of Measurements:	1 & 3 Meters
Operating Frequency:	5180MHz
Channel:	36

	Frequency [MHz]	Analyzer Level [dBm]	Detector	Ant. Pol. [H/V]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
	10360.00	-103.03	Peak	V	44.78	0.00	48.75	68.20	-19.45
*	15540.00	-113.15	Average	V	49.27	0.00	43.12	53.98	-10.86
*	15540.00	-99.52	Peak	V	49.27	0.00	56.75	73.98	-17.23
*	20720.00	-97.44	Average	V	44.20	-9.54	44.21	53.98	-9.77
*	20720.00	-93.79	Peak	V	44.20	-9.54	47.86	73.98	-26.12
	25900.00	-99.27	Peak	V	45.08	-9.54	43.26	68.20	-24.94

Table 6-28. Radiated Measurements

Worst Case Mode:	802.11a
Worst Case Transfer Rate:	6 Mbps
Distance of Measurements:	1 & 3 Meters
Operating Frequency:	5200MHz
Channel:	40

	Frequency [MHz]	Analyzer Level [dBm]	Detector	Ant. Pol. [H/V]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
	10400.00	-104.18	Peak	V	44.87	0.00	47.70	68.20	-20.50
*	15600.00	-112.59	Average	V	49.29	0.00	43.70	53.98	-10.28
*	15600.00	-99.50	Peak	V	49.29	0.00	56.80	73.98	-17.18
*	20800.00	-94.37	Average	V	44.20	-9.54	47.29	53.98	-6.69
*	20800.00	-92.10	Peak	V	44.20	-9.54	49.56	73.98	-24.42
	26000.00	-99.33	Peak	V	45.11	-9.54	43.24	68.20	-24.96

Table 6-29. Radiated Measurements

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Worst Case Mode: 802.11a
Worst Case Transfer Rate: 6 Mbps
Distance of Measurements: 1 & 3 Meters
Operating Frequency: 5240MHz
Channel: 48

	Frequency [MHz]	Analyzer Level [dBm]	Detector	Ant. Pol. [H/V]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
	10480.00	-103.69	Peak	V	45.08	0.00	48.39	68.20	-19.81
*	15720.00	-112.57	Average	V	49.40	0.00	43.83	53.98	-10.15
*	15720.00	-99.11	Peak	V	49.40	0.00	57.29	73.98	-16.69
*	20960.00	-95.71	Average	V	44.19	-9.54	45.93	53.98	-8.05
*	20960.00	-92.72	Peak	V	44.19	-9.54	48.92	73.98	-25.06
	26200.00	-99.68	Peak	V	44.95	-9.54	42.73	68.20	-25.47

Table 6-30. Radiated Measurements

Worst Case Mode: 802.11a
Worst Case Transfer Rate: 6 Mbps
Distance of Measurements: 1 & 3 Meters
Operating Frequency: 5240MHz
Channel: 48

	Frequency [MHz]	Analyzer Level [dBm]	Detector	Ant. Pol. [H/V]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
	10480.00	-104.29	Peak	H	45.08	0.00	47.79	68.20	-20.41
*	15720.00	-113.81	Average	H	49.40	0.00	42.59	53.98	-11.39
*	15720.00	-100.63	Peak	H	49.40	0.00	55.77	73.98	-18.21
*	20800.00	-105.30	Average	H	44.20	-9.54	36.36	53.98	-17.62
*	20800.00	-99.28	Peak	H	44.20	-9.54	42.38	73.98	-31.60
	26000.00	-99.42	Peak	H	45.11	-9.54	43.15	68.20	-25.05

Table 6-31. Radiated Measurements w/ WCP

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Worst Case Mode: 802.11a
Worst Case Transfer Rate: 6 Mbps
Distance of Measurements: 1 & 3 Meters
Operating Frequency: 5260MHz
Channel: 52

	Frequency [MHz]	Analyzer Level [dBm]	Detector	Ant. Pol. [H/V]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
	10520.00	-102.62	Peak	V	45.13	0.00	49.52	68.20	-18.68
*	15780.00	-113.21	Average	V	49.45	0.00	43.24	53.98	-10.74
*	15780.00	-99.78	Peak	V	49.45	0.00	56.67	73.98	-17.31
*	21040.00	-96.15	Average	V	44.18	-9.54	45.48	53.98	-8.49
*	21040.00	-92.90	Peak	V	44.18	-9.54	48.73	73.98	-25.24
	26300.00	-98.93	Peak	V	44.95	-9.54	43.47	68.20	-24.73

Table 6-32. Radiated Measurements

Worst Case Mode: 802.11a
Worst Case Transfer Rate: 6 Mbps
Distance of Measurements: 1 & 3 Meters
Operating Frequency: 5280MHz
Channel: 56

	Frequency [MHz]	Analyzer Level [dBm]	Detector	Ant. Pol. [H/V]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
	10560.00	-103.33	Peak	V	45.14	0.00	48.80	68.20	-19.40
*	15840.00	-110.71	Average	V	49.53	0.00	45.83	53.98	-8.15
*	15840.00	-96.67	Peak	V	49.53	0.00	59.87	73.98	-14.11
*	21120.00	-96.25	Average	V	44.17	-9.54	45.38	53.98	-8.60
*	21120.00	-94.06	Peak	V	44.17	-9.54	47.57	73.98	-26.41
	26400.00	-98.58	Peak	V	45.01	-9.54	43.88	68.20	-24.32

Table 6-33. Radiated Measurements

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Worst Case Mode: 802.11a
Worst Case Transfer Rate: 6 Mbps
Distance of Measurements: 1 & 3 Meters
Operating Frequency: 5320MHz
Channel: 64

	Frequency [MHz]	Analyzer Level [dBm]	Detector	Ant. Pol. [H/V]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
*	10640.00	-115.04	Average	V	45.17	0.00	37.13	53.98	-16.85
*	10640.00	-102.76	Peak	V	45.17	0.00	49.41	73.98	-24.57
*	15960.00	-111.64	Average	V	49.72	0.00	45.08	53.98	-8.90
*	15960.00	-98.44	Peak	V	49.72	0.00	58.28	73.98	-15.70
*	21280.00	-97.37	Average	V	44.18	-9.54	44.26	53.98	-9.71
*	21280.00	-93.43	Peak	V	44.18	-9.54	48.20	73.98	-25.77
	26600.00	-103.01	Peak	V	47.61	-9.54	42.06	68.20	-26.14

Table 6-34. Radiated Measurements

Worst Case Mode: 802.11a
Worst Case Transfer Rate: 6 Mbps
Distance of Measurements: 1 & 3 Meters
Operating Frequency: 5280MHz
Channel: 56

	Frequency [MHz]	Analyzer Level [dBm]	Detector	Ant. Pol. [H/V]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
	10560.00	-103.49	Peak	H	45.14	0.00	48.64	68.20	-19.56
*	15840.00	-111.77	Average	H	49.53	0.00	44.77	53.98	-9.21
*	15840.00	-98.28	Peak	H	49.53	0.00	58.26	73.98	-15.72
*	21120.00	-98.64	Average	H	44.17	-9.54	42.99	53.98	-10.99
*	21120.00	-94.42	Peak	H	44.17	-9.54	47.21	73.98	-26.77
	26400.00	-99.37	Peak	H	45.01	-9.54	43.09	68.20	-25.11

Table 6-35. Radiated Measurements w/ WCP

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Worst Case Mode:	802.11a
Worst Case Transfer Rate:	6 Mbps
Distance of Measurements:	1 & 3 Meters
Operating Frequency:	5500MHz
Channel:	100

	Frequency [MHz]	Analyzer Level [dBm]	Detector	Ant. Pol. [H/V]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
*	11000.00	-115.23	Average	V	45.24	0.00	37.01	53.98	-16.97
*	11000.00	-102.74	Peak	V	45.24	0.00	49.50	73.98	-24.48
	16500.00	-99.58	Peak	V	50.35	0.00	57.77	68.20	-10.43
	22000.00	-90.08	Peak	V	44.47	-9.54	51.85	68.20	-16.35
	27500.00	-103.23	Peak	V	47.92	-9.54	42.15	68.20	-26.05

Table 6-36. Radiated Measurements

Worst Case Mode:	802.11a
Worst Case Transfer Rate:	6 Mbps
Distance of Measurements:	1 & 3 Meters
Operating Frequency:	5580MHz
Channel:	116

	Frequency [MHz]	Analyzer Level [dBm]	Detector	Ant. Pol. [H/V]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
*	11160.00	-114.30	Average	V	45.22	0.00	37.93	53.98	-16.05
*	11160.00	-102.74	Peak	V	45.22	0.00	49.49	73.98	-24.49
	16740.00	-101.75	Peak	V	50.47	0.00	55.73	68.20	-12.47
*	22320.00	-98.59	Average	V	44.59	-9.54	43.46	53.98	-10.52
*	22320.00	-89.67	Peak	V	44.59	-9.54	52.38	73.98	-21.60
	27900.00	-99.78	Peak	V	48.09	-9.54	45.77	68.20	-22.43

Table 6-37. Radiated Measurements

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Worst Case Mode: 802.11a
Worst Case Transfer Rate: 6 Mbps
Distance of Measurements: 1 & 3 Meters
Operating Frequency: 5500MHz
Channel: 100

	Frequency [MHz]	Analyzer Level [dBm]	Detector	Ant. Pol. [H/V]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
*	11000.00	-115.41	Average	H	45.24	0.00	36.83	53.98	-17.15
*	11000.00	-102.66	Peak	H	45.24	0.00	49.58	73.98	-24.40
	16500.00	-99.98	Peak	H	50.35	0.00	57.37	68.20	-10.83
	22000.00	-90.72	Peak	H	44.47	-9.54	51.21	68.20	-16.99
	27500.00	-103.82	Peak	H	47.92	-9.54	41.56	68.20	-26.64

Table 6-38. Radiated Measurements w/ WCP

Worst Case Mode: 802.11a
Worst Case Transfer Rate: 6 Mbps
Distance of Measurements: 1 & 3 Meters
Operating Frequency: 5720MHz
Channel: 144

Frequency [MHz]	Analyzer Level [dBm]	Detector	Ant. Pol. [H/V]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
11440.00	-109.66	Average	V	45.37	0.00	42.71	53.98	-11.27
11440.00	-97.14	Peak	V	45.37	0.00	55.23	73.98	-18.75
17160.00	-101.45	Peak	V	50.51	0.00	56.05	68.20	-12.15
22880.00	-99.45	Average	V	44.62	-9.54	42.63	53.98	-11.35
22880.00	-88.89	Peak	V	44.62	-9.54	53.19	73.98	-20.79
28600.00	-100.04	Peak	V	48.35	-9.54	45.77	68.20	-22.43

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Worst Case Mode: 802.11a
Worst Case Transfer Rate: 6 Mbps
Distance of Measurements: 1 & 3 Meters
Operating Frequency: 5745MHz
Channel: 149

	Frequency [MHz]	Analyzer Level [dBm]	Detector	Ant. Pol. [H/V]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
*	11490.00	-109.90	Average	V	45.46	0.00	42.56	53.98	-11.42
*	11490.00	-96.83	Peak	V	45.46	0.00	55.63	73.98	-18.35
	17235.00	-98.44	Peak	V	50.68	0.00	59.24	68.20	-8.96
*	22980.00	-106.72	Average	V	44.64	-9.54	35.37	53.98	-18.61
*	22980.00	-95.20	Peak	V	44.64	-9.54	46.89	73.98	-27.09
	28725.00	-130.52	Peak	V	48.26	-9.54	15.20	68.20	-53.00

Table 6-39. Radiated Measurements

Worst Case Mode: 802.11a
Worst Case Transfer Rate: 6 Mbps
Distance of Measurements: 1 & 3 Meters
Operating Frequency: 5785MHz
Channel: 157

	Frequency [MHz]	Analyzer Level [dBm]	Detector	Ant. Pol. [H/V]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
*	11570.00	-107.16	Average	V	45.56	0.00	45.40	53.98	-8.58
*	11570.00	-94.69	Peak	V	45.56	0.00	57.87	73.98	-16.11
	17355.00	-94.79	Peak	V	51.04	0.00	63.24	68.20	-4.96
	23140.00	-92.93	Peak	V	44.73	-9.54	49.26	68.20	-18.94
	28925.00	-129.07	Peak	V	48.28	-9.54	16.66	68.20	-51.54

Table 6-40. Radiated Measurements

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Worst Case Mode: 802.11a
Worst Case Transfer Rate: 6 Mbps
Distance of Measurements: 1 & 3 Meters
Operating Frequency: 5825MHz
Channel: 165

	Frequency [MHz]	Analyzer Level [dBm]	Detector	Ant. Pol. [H/V]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
*	11650.00	-110.39	Average	V	45.68	0.00	42.29	53.98	-11.68
*	11650.00	-98.27	Peak	V	45.68	0.00	54.41	73.98	-19.56
	17475.00	-102.26	Peak	V	51.35	0.00	56.10	68.20	-12.10
	23300.00	-93.68	Peak	V	44.73	-9.54	48.51	68.20	-19.69
	29125.00	-130.48	Peak	V	48.24	-9.54	15.22	68.20	-52.98

Table 6-41. Radiated Measurements

Worst Case Mode: 802.11a
Worst Case Transfer Rate: 6 Mbps
Distance of Measurements: 1 & 3 Meters
Operating Frequency: 5825MHz
Channel: 165

	Frequency [MHz]	Analyzer Level [dBm]	Detector	Ant. Pol. [H/V]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
*	11570.00	-108.23	Average	H	45.56	0.00	44.33	53.98	-9.65
*	11570.00	-95.40	Peak	H	45.56	0.00	57.16	73.98	-16.82
	17355.00	-97.12	Peak	H	51.04	0.00	60.91	68.20	-7.29
	23140.00	-93.70	Peak	H	44.73	-9.54	48.49	68.20	-19.71
	28925.00	-128.82	Peak	H	48.28	-9.54	16.91	68.20	-51.29

Table 6-42. Radiated Measurements w/ WCP

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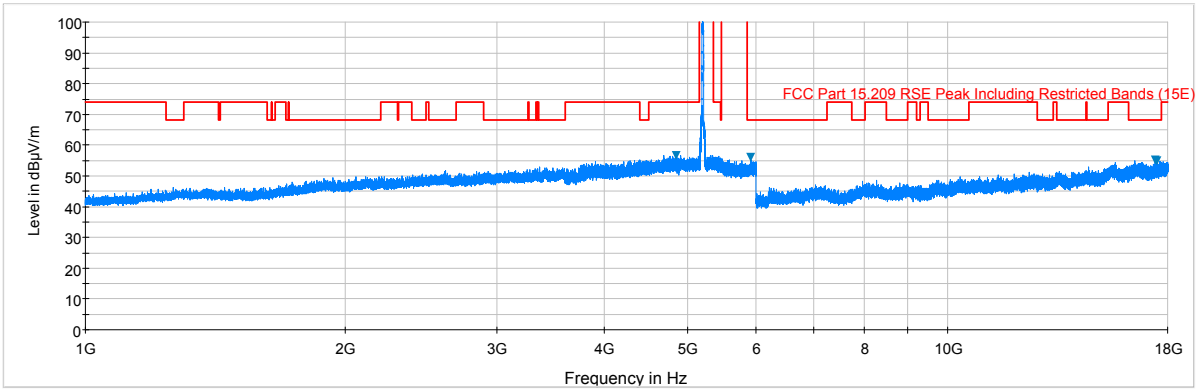
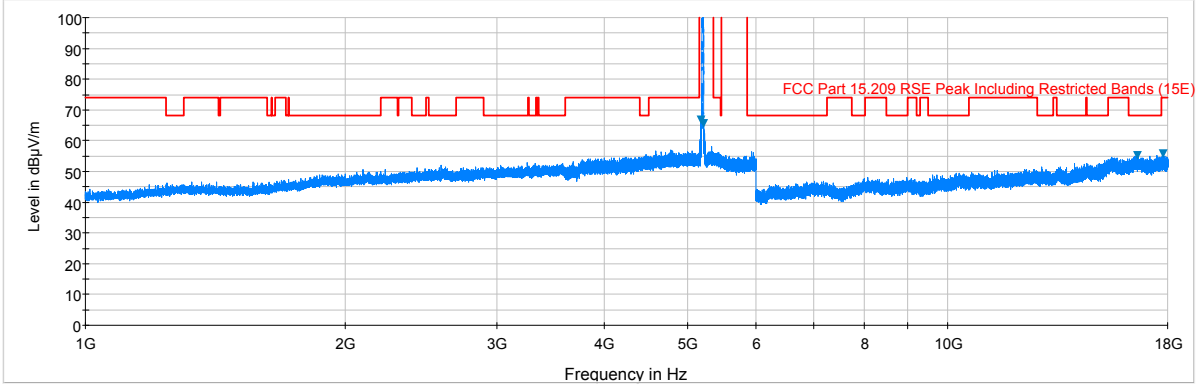
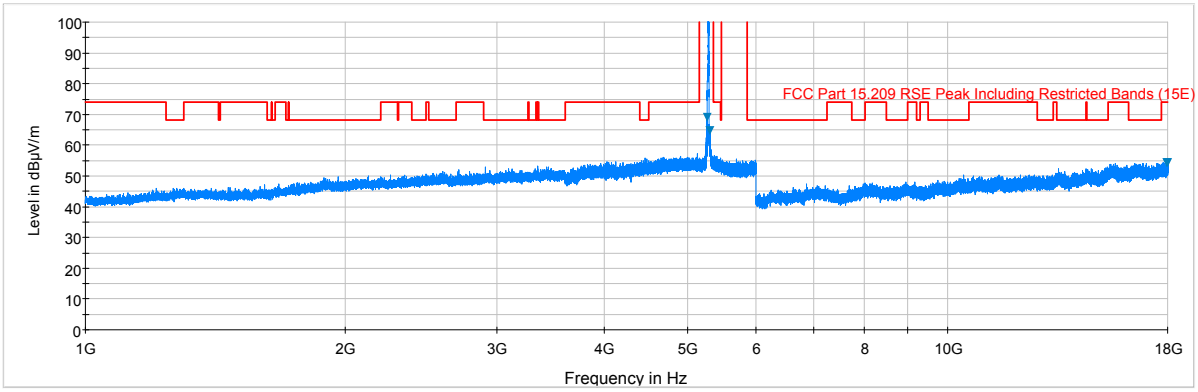
6.7.2 Antenna-2 Radiated Spurious Emission Measurements



Plot 6-163. Radiated Spurious Plot above 1GHz (802.11a – U1, Ant. Pol. H)



Plot 6-164. Radiated Spurious Plot above 1GHz (802.11a – U1, Ant. Pol. V)



Plot 6-165. Radiated Spurious Plot above 1GHz (802.11a – U2A, Ant. Pol. H)

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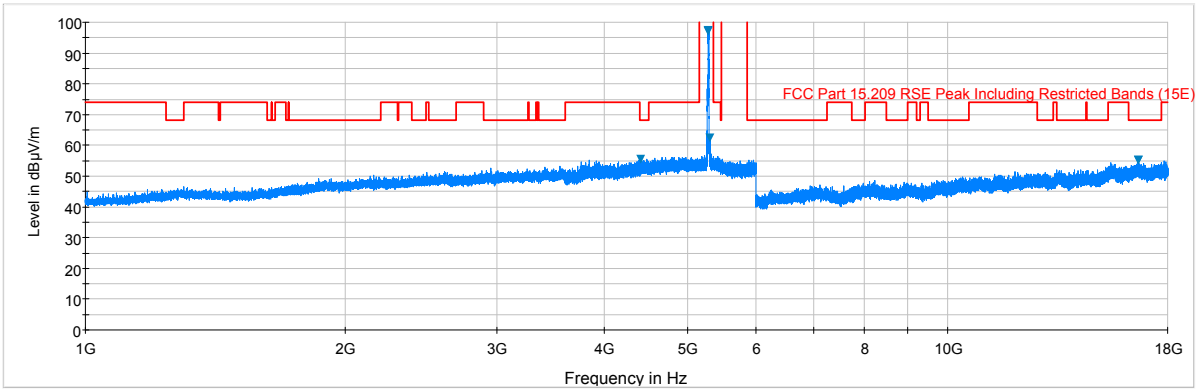
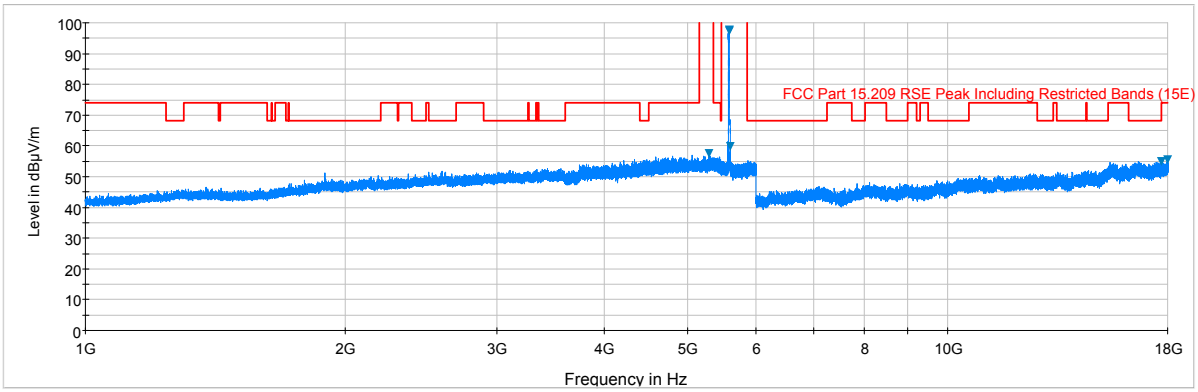
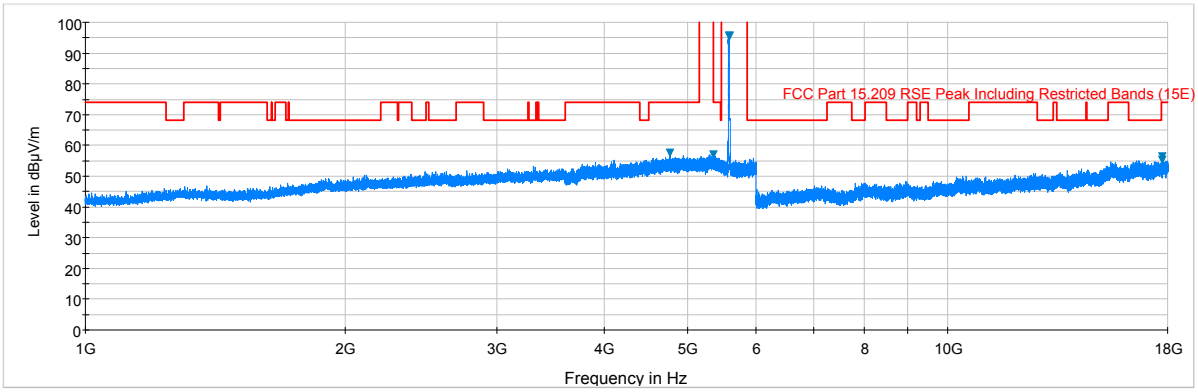


Plot 6-166. Radiated Spurious Plot above 1GHz (802.11a – U2A, Ant. Pol. V)



Plot 6-167. Radiated Spurious Plot above 1GHz (802.11a – U2C, Ant. Pol. H)



Plot 6-168. Radiated Spurious Plot above 1GHz (802.11a – U2C, Ant. Pol. V)

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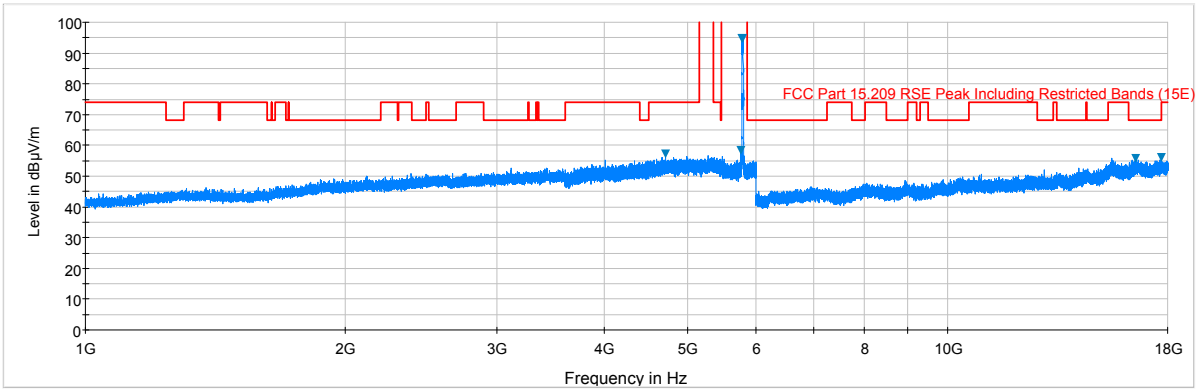
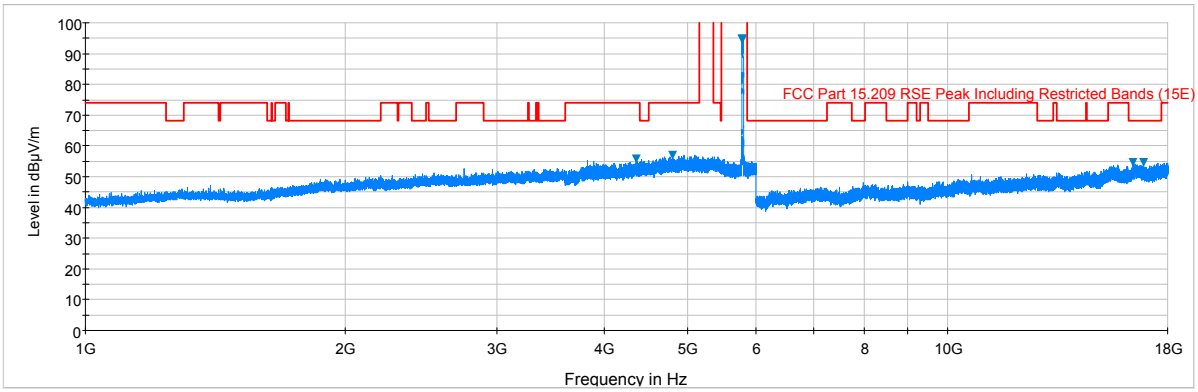


Plot 6-169. Radiated Spurious Plot above 1GHz (802.11a – U3, Ant. Pol. H)



Plot 6-170. Radiated Spurious Plot above 1GHz (802.11a – U3, Ant. Pol. V)

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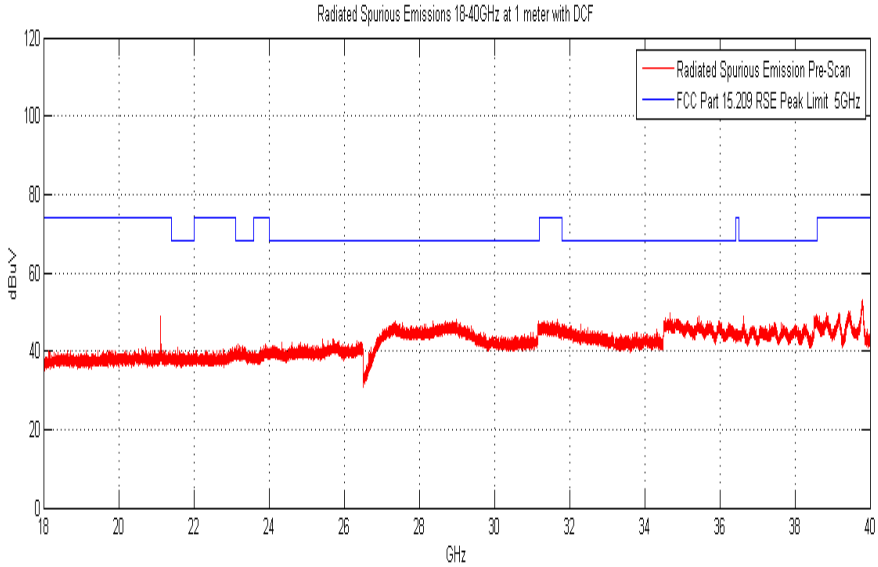
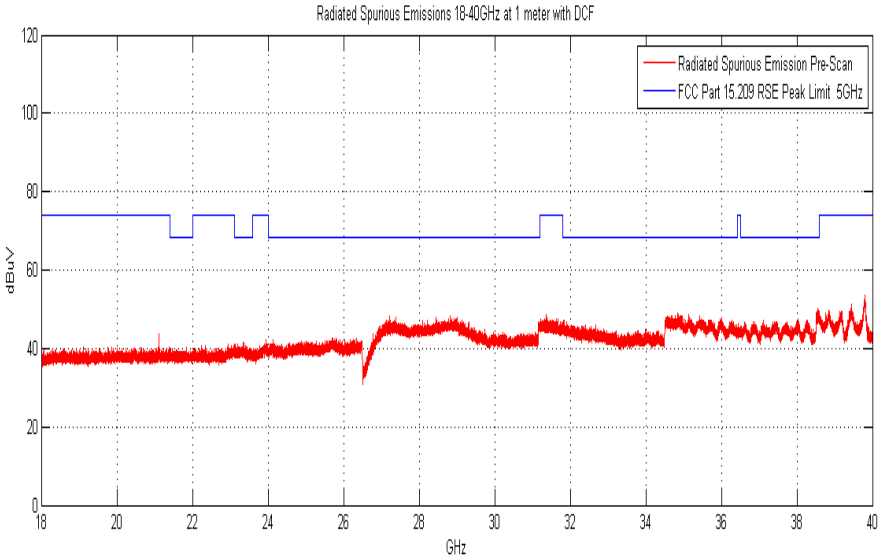
Antenna-2 Radiated Spurious Emissions Measurements (Above 18GHz)
§15.209



Plot 6-171. Radiated Spurious Plot above 18GHz (802.11a – Ant. Pol. H)



Plot 6-172. Radiated Spurious Plot above 18GHz (802.11a – Ant. Pol. V)

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Worst Case Mode: 802.11a
Worst Case Transfer Rate: 6 Mbps
Distance of Measurements: 1 & 3 Meters
Operating Frequency: 5180MHz
Channel: 36

	Frequency [MHz]	Analyzer Level [dBm]	Detector	Ant. Pol. [H/V]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
	10360.00	-103.80	Peak	V	44.78	0.00	47.98	68.20	-20.22
*	15540.00	-117.39	Average	V	49.27	0.00	38.88	53.98	-15.10
*	15540.00	-105.48	Peak	V	49.27	0.00	50.79	73.98	-23.19
*	20720.00	-107.01	Average	V	44.20	-9.54	34.64	53.98	-19.34
*	20720.00	-98.84	Peak	V	44.20	-9.54	42.81	73.98	-31.17
	25900.00	-101.09	Peak	V	45.08	-9.54	41.44	68.20	-26.76

Table 6-43. Radiated Measurements

Worst Case Mode: 802.11a
Worst Case Transfer Rate: 6 Mbps
Distance of Measurements: 1 & 3 Meters
Operating Frequency: 5200MHz
Channel: 40

	Frequency [MHz]	Analyzer Level [dBm]	Detector	Ant. Pol. [H/V]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
	10400.00	-104.61	Peak	V	44.87	0.00	47.27	68.20	-20.93
*	15600.00	-116.30	Average	V	49.29	0.00	39.99	53.98	-13.99
*	15600.00	-104.07	Peak	V	49.29	0.00	52.22	73.98	-21.76
*	20800.00	-102.57	Average	V	44.20	-9.54	39.09	53.98	-14.89
*	20800.00	-97.08	Peak	V	44.20	-9.54	44.58	73.98	-29.40
	26000.00	-99.71	Peak	V	45.11	-9.54	42.86	68.20	-25.34

Table 6-44. Radiated Measurements

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Worst Case Mode:	802.11a
Worst Case Transfer Rate:	6 Mbps
Distance of Measurements:	1 & 3 Meters
Operating Frequency:	5240MHz
Channel:	48

	Frequency [MHz]	Analyzer Level [dBm]	Detector	Ant. Pol. [H/V]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
	10480.00	-104.73	Peak	V	45.08	0.00	47.35	68.20	-20.85
*	15720.00	-115.93	Average	V	49.40	0.00	40.47	53.98	-13.51
*	15720.00	-103.35	Peak	V	49.40	0.00	53.05	73.98	-20.93
*	20960.00	-102.55	Average	V	44.19	-9.54	39.09	53.98	-14.89
*	20960.00	-97.25	Peak	V	44.19	-9.54	44.39	73.98	-29.59
	26200.00	-98.93	Peak	V	44.95	-9.54	43.48	68.20	-24.72

Table 6-45. Radiated Measurements

Worst Case Mode:	802.11a
Worst Case Transfer Rate:	6 Mbps
Distance of Measurements:	1 & 3 Meters
Operating Frequency:	5240MHz
Channel:	48

	Frequency [MHz]	Analyzer Level [dBm]	Detector	Ant. Pol. [H/V]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
	10480.00	-104.87	Peak	H	45.08	0.00	47.21	68.20	-20.99
*	15720.00	-115.81	Average	H	49.40	0.00	40.59	53.98	-13.39
*	15720.00	-103.52	Peak	H	49.40	0.00	52.88	73.98	-21.10
*	20960.00	-103.82	Average	H	44.19	-9.54	37.82	53.98	-16.16
*	20960.00	-99.37	Peak	H	44.19	-9.54	42.27	73.98	-31.71
	26200.00	-99.11	Peak	H	44.95	-9.54	43.30	68.20	-24.90

Table 6-46. Radiated Measurements w/ WCP

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Worst Case Mode: 802.11a
Worst Case Transfer Rate: 6 Mbps
Distance of Measurements: 1 & 3 Meters
Operating Frequency: 5260MHz
Channel: 52

	Frequency [MHz]	Analyzer Level [dBm]	Detector	Ant. Pol. [H/V]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
	10520.00	-104.96	Peak	V	45.13	0.00	47.18	68.20	-21.02
*	15780.00	-116.37	Average	V	49.45	0.00	40.08	53.98	-13.90
*	15780.00	-104.62	Peak	V	49.45	0.00	51.83	73.98	-22.15
*	21040.00	-101.74	Average	V	44.18	-9.54	39.89	53.98	-14.08
*	21040.00	-95.98	Peak	V	44.18	-9.54	45.65	73.98	-28.32
	26300.00	-98.30	Peak	V	44.95	-9.54	44.10	68.20	-24.10

Table 6-47. Radiated Measurements

Worst Case Mode: 802.11a
Worst Case Transfer Rate: 6 Mbps
Distance of Measurements: 1 & 3 Meters
Operating Frequency: 5280MHz
Channel: 56

	Frequency [MHz]	Analyzer Level [dBm]	Detector	Ant. Pol. [H/V]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
	10560.00	-104.49	Peak	V	45.14	0.00	47.64	68.20	-20.56
*	15840.00	-116.48	Average	V	49.53	0.00	40.06	53.98	-13.92
*	15840.00	-104.76	Peak	V	49.53	0.00	51.78	73.98	-22.20
*	21120.00	-101.33	Average	V	44.17	-9.54	40.30	53.98	-13.68
*	21120.00	-96.07	Peak	V	44.17	-9.54	45.56	73.98	-28.42
	26400.00	-97.31	Peak	V	45.01	-9.54	45.15	68.20	-23.05

Table 6-48. Radiated Measurements

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Worst Case Mode: 802.11a
Worst Case Transfer Rate: 6 Mbps
Distance of Measurements: 1 & 3 Meters
Operating Frequency: 5320MHz
Channel: 64

	Frequency [MHz]	Analyzer Level [dBm]	Detector	Ant. Pol. [H/V]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
*	10640.00	-115.91	Average	V	45.17	0.00	36.26	53.98	-17.72
*	10640.00	-103.39	Peak	V	45.17	0.00	48.78	73.98	-25.20
*	15960.00	-116.56	Average	V	49.72	0.00	40.16	53.98	-13.82
*	15960.00	-104.63	Peak	V	49.72	0.00	52.09	73.98	-21.89
*	21280.00	-102.67	Average	V	44.18	-9.54	38.96	53.98	-15.01
*	21280.00	-97.51	Peak	V	44.18	-9.54	44.12	73.98	-29.85
	26600.00	-104.15	Peak	V	47.61	-9.54	40.92	68.20	-27.28

Table 6-49. Radiated Measurements

Worst Case Mode: 802.11a
Worst Case Transfer Rate: 6 Mbps
Distance of Measurements: 1 & 3 Meters
Operating Frequency: 5320MHz
Channel: 64

	Frequency [MHz]	Analyzer Level [dBm]	Detector	Ant. Pol. [H/V]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
*	10640.00	-116.11	Average	H	45.17	0.00	36.06	53.98	-17.92
*	10640.00	-103.55	Peak	H	45.17	0.00	48.62	73.98	-25.36
*	15960.00	-116.52	Average	H	49.72	0.00	40.20	53.98	-13.78
*	15960.00	-104.77	Peak	H	49.72	0.00	51.95	73.98	-22.03
*	21280.00	-103.36	Average	H	44.18	-9.54	38.27	53.98	-15.70
*	21280.00	-98.83	Peak	H	44.18	-9.54	42.80	73.98	-31.17
	26600.00	-105.84	Peak	H	47.61	-9.54	39.23	68.20	-28.97

Table 6-50. Radiated Measurements w/ WCP

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Worst Case Mode: 802.11a
Worst Case Transfer Rate: 6 Mbps
Distance of Measurements: 1 & 3 Meters
Operating Frequency: 5500MHz
Channel: 100

	Frequency [MHz]	Analyzer Level [dBm]	Detector	Ant. Pol. [H/V]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
*	11000.00	-115.56	Average	V	45.24	0.00	36.68	53.98	-17.30
*	11000.00	-103.57	Peak	V	45.24	0.00	48.67	73.98	-25.31
	16500.00	-105.20	Peak	V	50.35	0.00	52.15	68.20	-16.05
	22000.00	-97.55	Peak	V	44.47	-9.54	44.38	68.20	-23.82
	27500.00	-129.42	Peak	V	47.92	-9.54	15.96	68.20	-52.24

Table 6-51. Radiated Measurements

Worst Case Mode: 802.11a
Worst Case Transfer Rate: 6 Mbps
Distance of Measurements: 1 & 3 Meters
Operating Frequency: 5580MHz
Channel: 116

	Frequency [MHz]	Analyzer Level [dBm]	Detector	Ant. Pol. [H/V]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
*	11160.00	-115.55	Average	V	45.22	0.00	36.68	53.98	-17.30
*	11160.00	-103.36	Peak	V	45.22	0.00	48.87	73.98	-25.11
	16740.00	-104.31	Peak	V	50.47	0.00	53.17	68.20	-15.03
*	22320.00	-104.48	Average	V	44.59	-9.54	37.57	53.98	-16.41
*	22320.00	-97.92	Peak	V	44.59	-9.54	44.13	73.98	-29.85
	27900.00	-104.39	Peak	V	48.09	-9.54	41.16	68.20	-27.04

Table 6-52. Radiated Measurements

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Worst Case Mode: 802.11a
Worst Case Transfer Rate: 6 Mbps
Distance of Measurements: 1 & 3 Meters
Operating Frequency: 5580MHz
Channel: 116

	Frequency [MHz]	Analyzer Level [dBm]	Detector	Ant. Pol. [H/V]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
*	11160.00	-115.49	Average	H	45.22	0.00	36.74	53.98	-17.24
*	11160.00	-103.25	Peak	H	45.22	0.00	48.98	73.98	-25.00
	16740.00	-104.27	Peak	H	50.47	0.00	53.21	68.20	-14.99
*	22320.00	-104.78	Average	H	44.59	-9.54	37.27	53.98	-16.71
*	22320.00	-98.91	Peak	H	44.59	-9.54	43.14	73.98	-30.84
	27900.00	-105.69	Peak	H	48.09	-9.54	39.86	68.20	-28.34

Table 6-53. Radiated Measurements w/ WCP

Worst Case Mode: 802.11a
Worst Case Transfer Rate: 6 Mbps
Distance of Measurements: 1 & 3 Meters
Operating Frequency: 5720MHz
Channel: 144

Frequency [MHz]	Analyzer Level [dBm]	Detector	Ant. Pol. [H/V]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
11440.00	-115.99	Average	V	45.37	0.00	36.38	53.98	-17.60
11440.00	-103.91	Peak	V	45.37	0.00	48.46	73.98	-25.52
17160.00	-105.41	Peak	V	50.51	0.00	52.09	68.20	-16.11
22880.00	-104.72	Average	V	44.62	-9.54	37.36	53.98	-16.62
22880.00	-99.13	Peak	V	44.62	-9.54	42.95	73.98	-31.03
28600.00	-105.81	Peak	V	48.35	-9.54	40.00	68.20	-28.20

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Worst Case Mode: 802.11a
Worst Case Transfer Rate: 6 Mbps
Distance of Measurements: 1 & 3 Meters
Operating Frequency: 5745MHz
Channel: 149

	Frequency [MHz]	Analyzer Level [dBm]	Detector	Ant. Pol. [H/V]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
*	11490.00	-115.52	Average	V	45.46	0.00	36.94	53.98	-17.04
*	11490.00	-103.19	Peak	V	45.46	0.00	49.27	73.98	-24.71
	17235.00	-104.73	Peak	V	50.68	0.00	52.95	68.20	-15.25
*	22980.00	-104.36	Average	V	44.64	-9.54	37.73	53.98	-16.25
*	22980.00	-92.65	Peak	V	44.64	-9.54	49.44	73.98	-24.54
	28725.00	-130.05	Peak	V	48.26	-9.54	15.67	68.20	-52.53

Table 6-54. Radiated Measurements

Worst Case Mode: 802.11a
Worst Case Transfer Rate: 6 Mbps
Distance of Measurements: 1 & 3 Meters
Operating Frequency: 5785MHz
Channel: 157

	Frequency [MHz]	Analyzer Level [dBm]	Detector	Ant. Pol. [H/V]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
*	11570.00	-114.81	Average	V	45.56	0.00	37.75	53.98	-16.23
*	11570.00	-102.18	Peak	V	45.56	0.00	50.38	73.98	-23.60
	17355.00	-103.95	Peak	V	51.04	0.00	54.08	68.20	-14.12
	23140.00	-95.73	Peak	V	44.73	-9.54	46.46	68.20	-21.74
	28925.00	-130.26	Peak	V	48.28	-9.54	15.47	68.20	-52.73

Table 6-55. Radiated Measurements

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Worst Case Mode: 802.11a
Worst Case Transfer Rate: 6 Mbps
Distance of Measurements: 1 & 3 Meters
Operating Frequency: 5825MHz
Channel: 165

	Frequency [MHz]	Analyzer Level [dBm]	Detector	Ant. Pol. [H/V]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
*	11650.00	-115.31	Average	V	45.68	0.00	37.37	53.98	-16.60
*	11650.00	-102.95	Peak	V	45.68	0.00	49.73	73.98	-24.24
	17475.00	-105.30	Peak	V	51.35	0.00	53.06	68.20	-15.14
	23300.00	-93.44	Peak	V	44.76	-9.54	48.78	68.20	-19.42
	29125.00	-130.03	Peak	V	48.24	-9.54	15.67	68.20	-52.53

Table 6-56. Radiated Measurements

Worst Case Mode: 802.11a
Worst Case Transfer Rate: 6 Mbps
Distance of Measurements: 1 & 3 Meters
Operating Frequency: 5785MHz
Channel: 157

	Frequency [MHz]	Analyzer Level [dBm]	Detector	Ant. Pol. [H/V]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
*	11570.00	-114.92	Average	H	45.56	0.00	37.64	53.98	-16.34
*	11570.00	-102.13	Peak	H	45.56	0.00	50.43	73.98	-23.55
	17355.00	-103.95	Peak	H	51.04	0.00	54.08	68.20	-14.12
	23140.00	-95.61	Peak	H	44.73	-9.54	46.58	68.20	-21.62
	28925.00	-130.51	Peak	H	48.28	-9.54	15.22	68.20	-52.98

Table 6-57. Radiated Measurements w/ WCP

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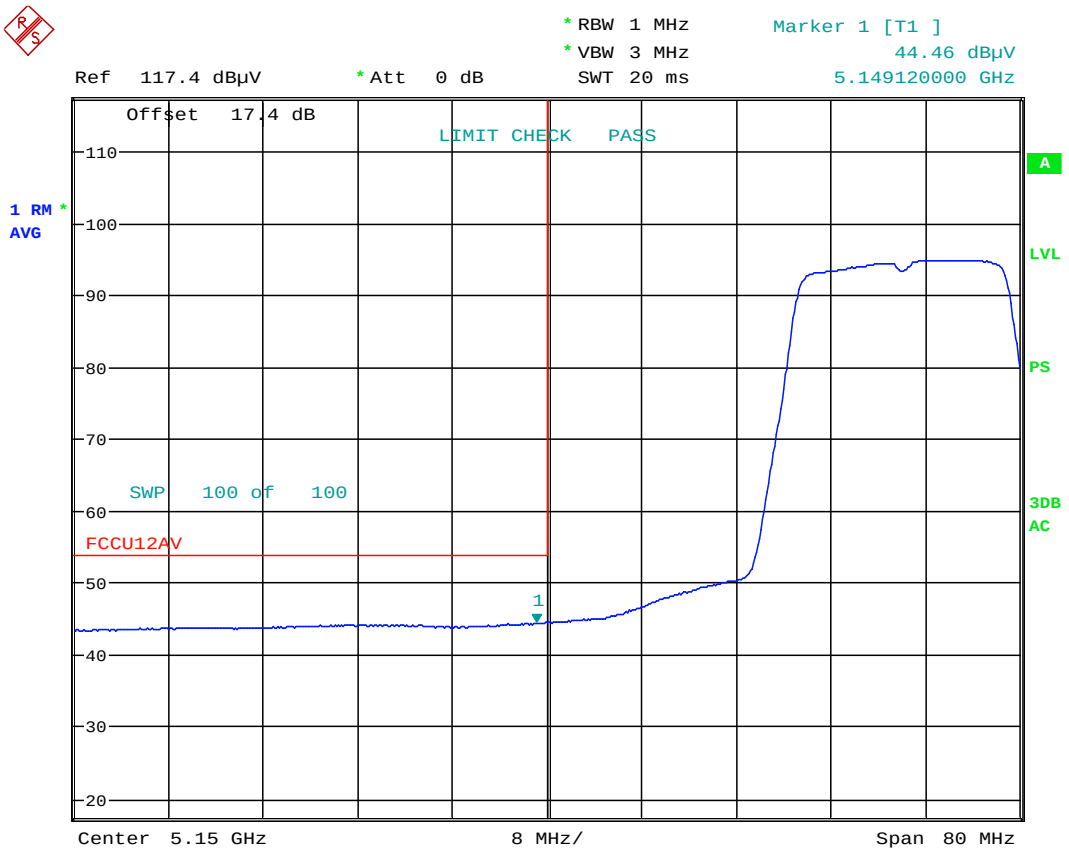
6.7.3 Antenna-1 Radiated Band Edge Measurements (20MHz BW)

§15.407(b.1)(b.2) §15.205 §15.209

Worst Case Mode:	802.11a
Worst Case Transfer Rate:	6 Mbps
Distance of Measurements:	3 Meters
Operating Frequency:	5180MHz
Channel:	36



Date: 22.JAN.2015 12:13:03

Plot 6-173. Radiated Restricted Lower Band Edge Plot (Average – UNII Band 1)

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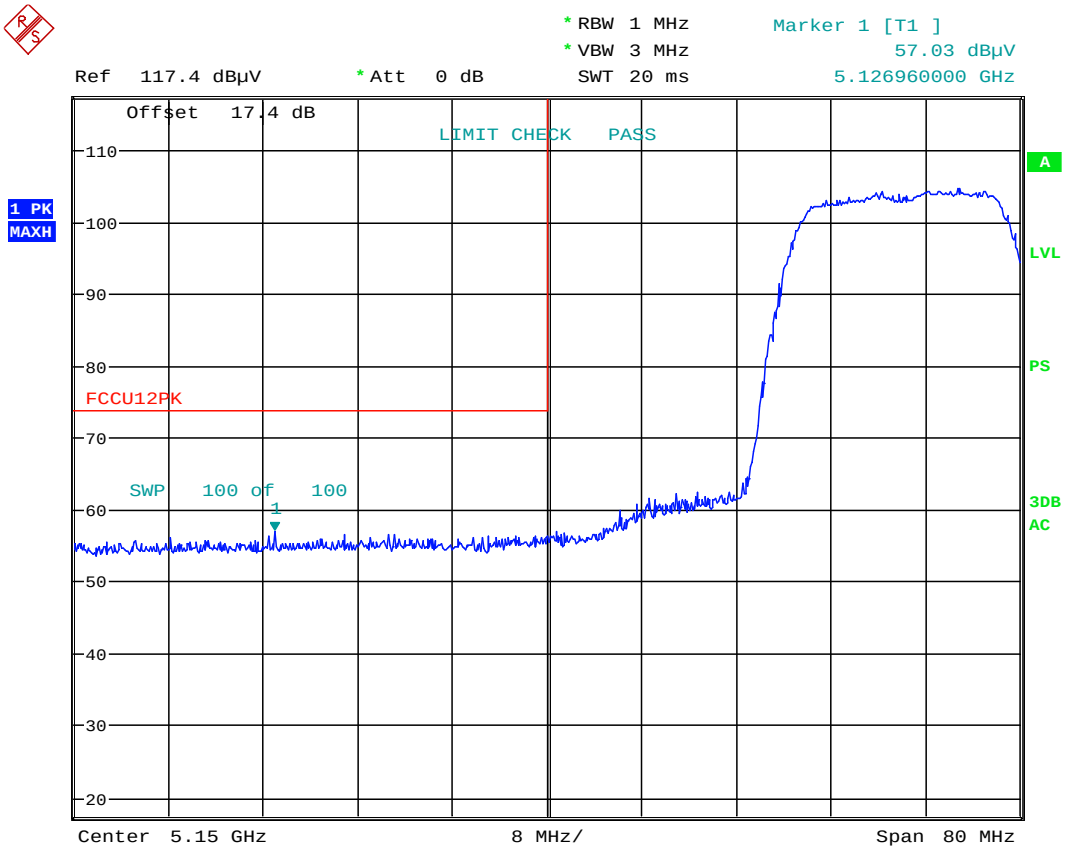
Antenna-1 Radiated Band Edge Measurements (20MHz BW)

§15.407(b.1)(b.2) §15.205 §15.209



Date: 22.JAN.2015 12:14:46

Plot 6-174. Radiated Restricted Lower Band Edge Plot (Peak – UNII Band 1)

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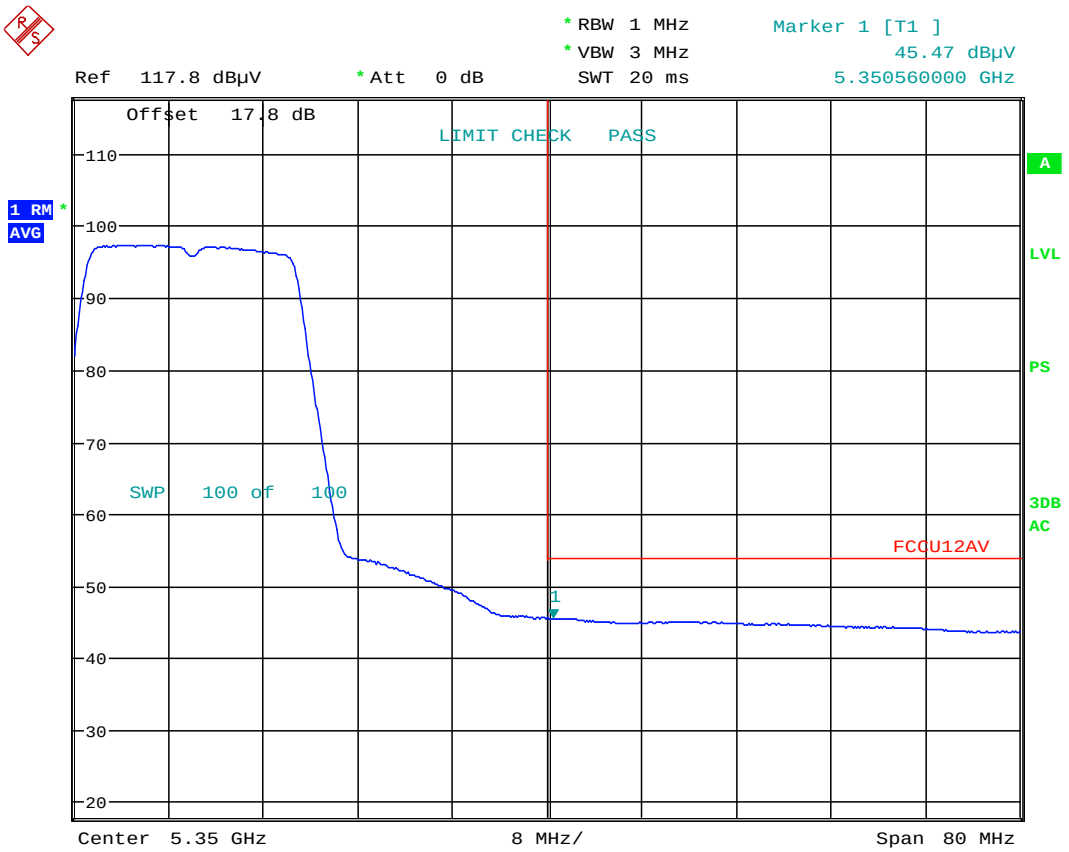
Antenna-1 Radiated Band Edge Measurements (20MHz BW)

§15.407(b.1)(b.2) §15.205 §15.209

Worst Case Mode:	802.11a
Worst Case Transfer Rate:	6 Mbps
Distance of Measurements:	3 Meters
Operating Frequency:	5320MHz
Channel:	64



Date: 22.JAN.2015 12:55:39

Plot 6-175. Radiated Restricted Upper Band Edge Plot (Average – UNII Band 2A)

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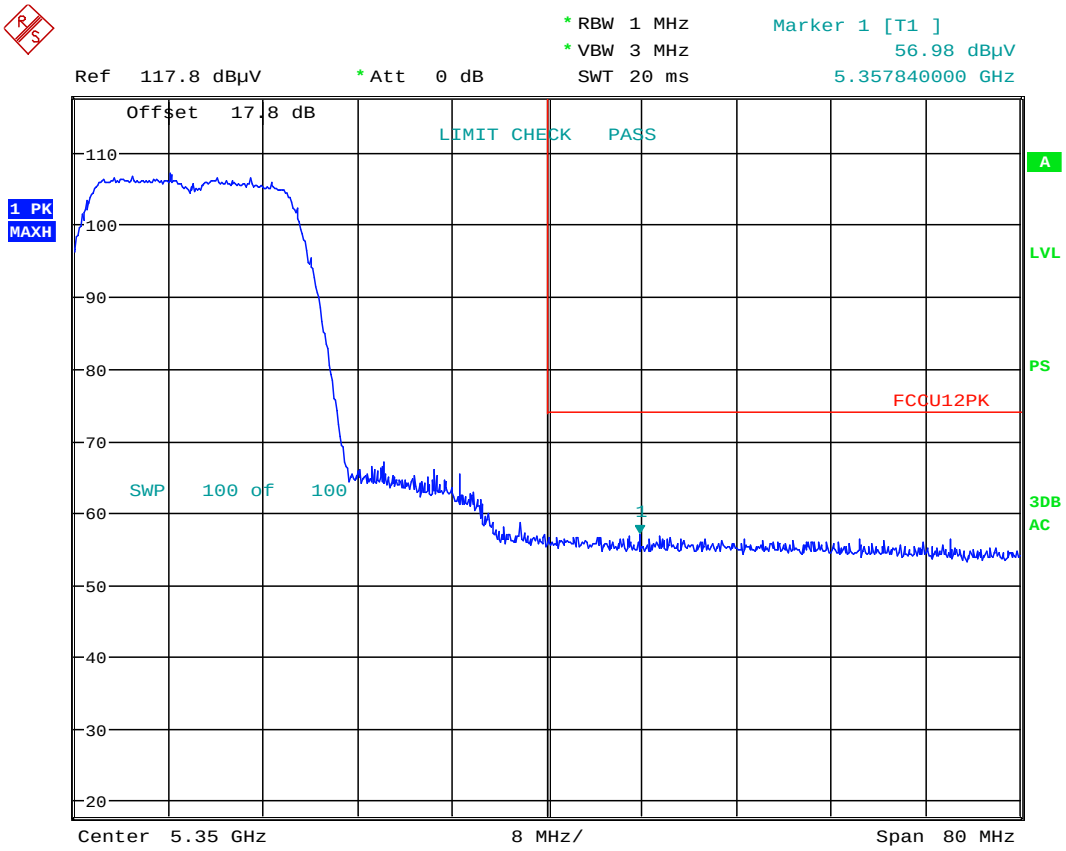
Antenna-1 Radiated Band Edge Measurements (20MHz BW)

§15.407(b.1)(b.2) §15.205 §15.209



Date: 22.JAN.2015 12:56:04

Plot 6-176. Radiated Restricted Upper Band Edge Plot (Peak – UNII Band 2A)

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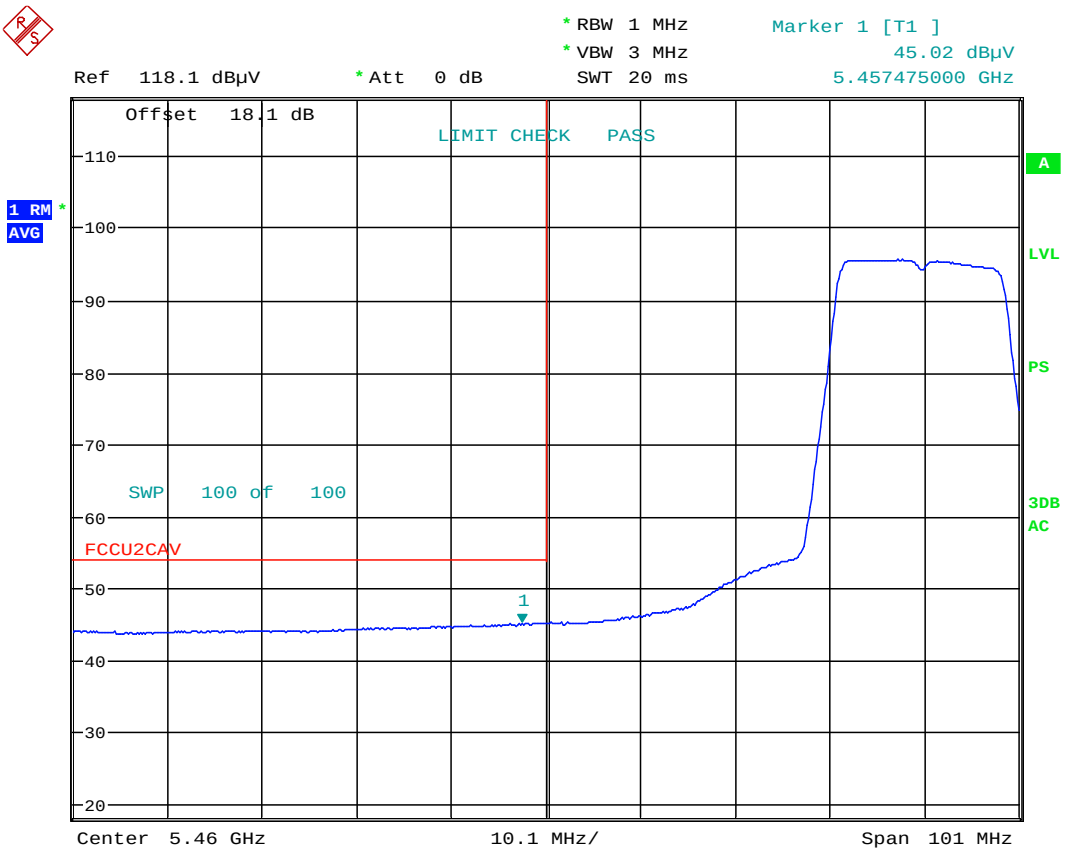
Antenna-1 Radiated Band Edge Measurements (20MHz BW)

§15.407(b.1)(b.2) §15.205 §15.209

Worst Case Mode:	802.11a
Worst Case Transfer Rate:	6 Mbps
Distance of Measurements:	3 Meters
Operating Frequency:	5500MHz
Channel:	100



Date: 22.JAN.2015 13:10:19

Plot 6-177. Radiated Restricted Lower Band Edge Plot (Average – UNII Band 2C)

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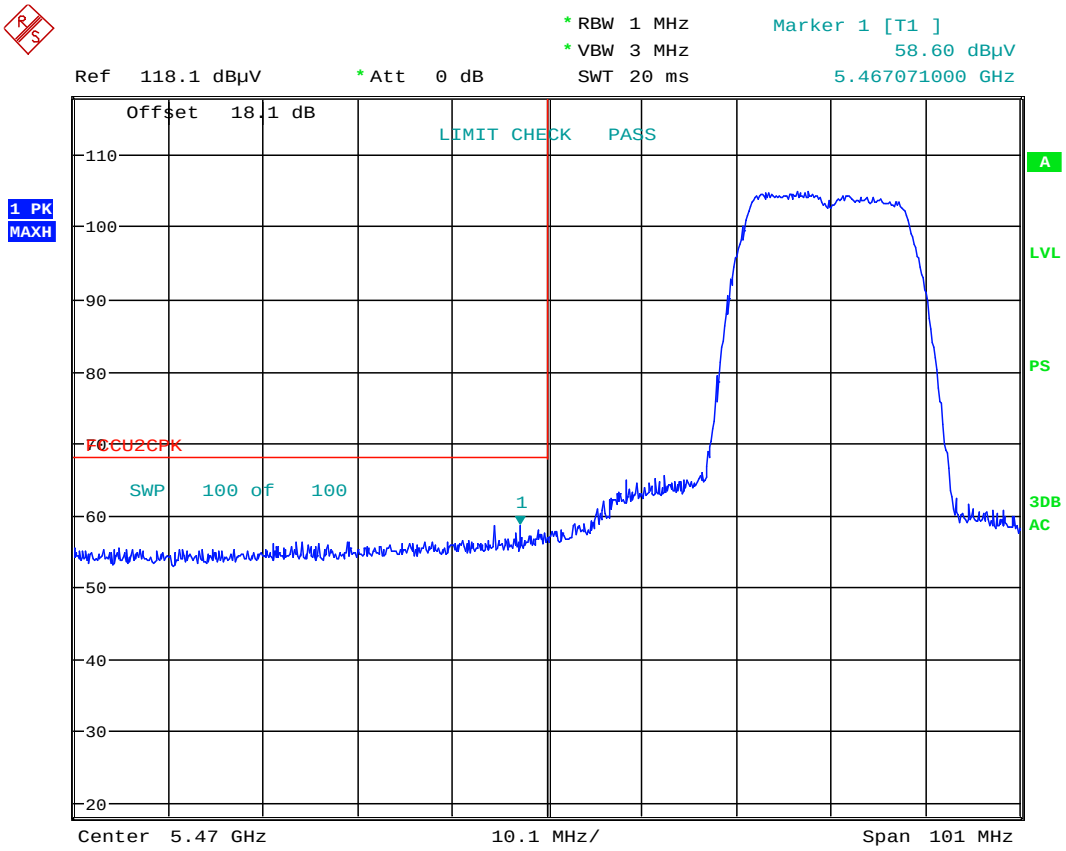
Antenna-1 Radiated Band Edge Measurements (20MHz BW)

§15.407(b.1)(b.2) §15.205 §15.209



Date: 22.JAN.2015 13:10:56

Plot 6-178. Radiated Restricted Lower Band Edge Plot (Peak – UNII Band 2C)

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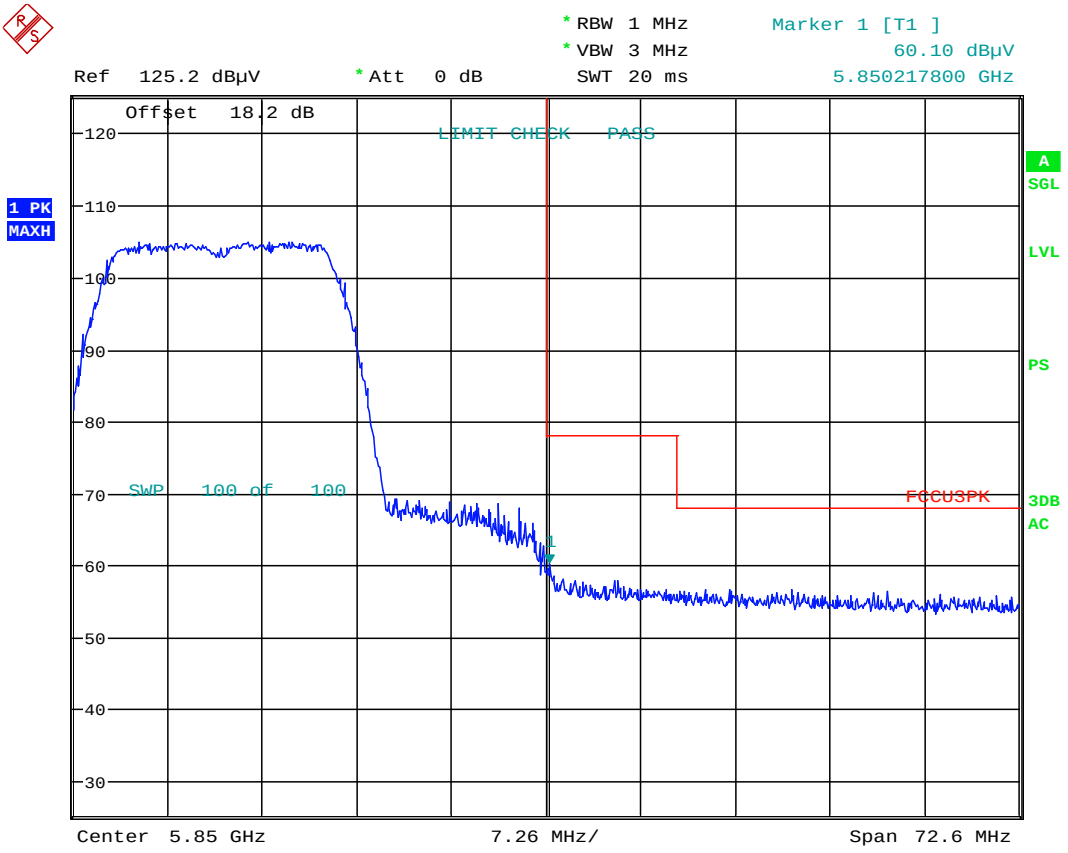
Antenna-1 Radiated Band Edge Measurements (20MHz BW)

§15.407(b.1)(b.2) §15.205 §15.209

Worst Case Mode:	802.11a
Worst Case Transfer Rate:	6 Mbps
Distance of Measurements:	3 Meters
Operating Frequency:	5825MHz
Channel:	165



Date: 22.JAN.2015 13:52:37

Plot 6-179. Radiated Upper Band Edge Plot (Peak – UNII Band 3)

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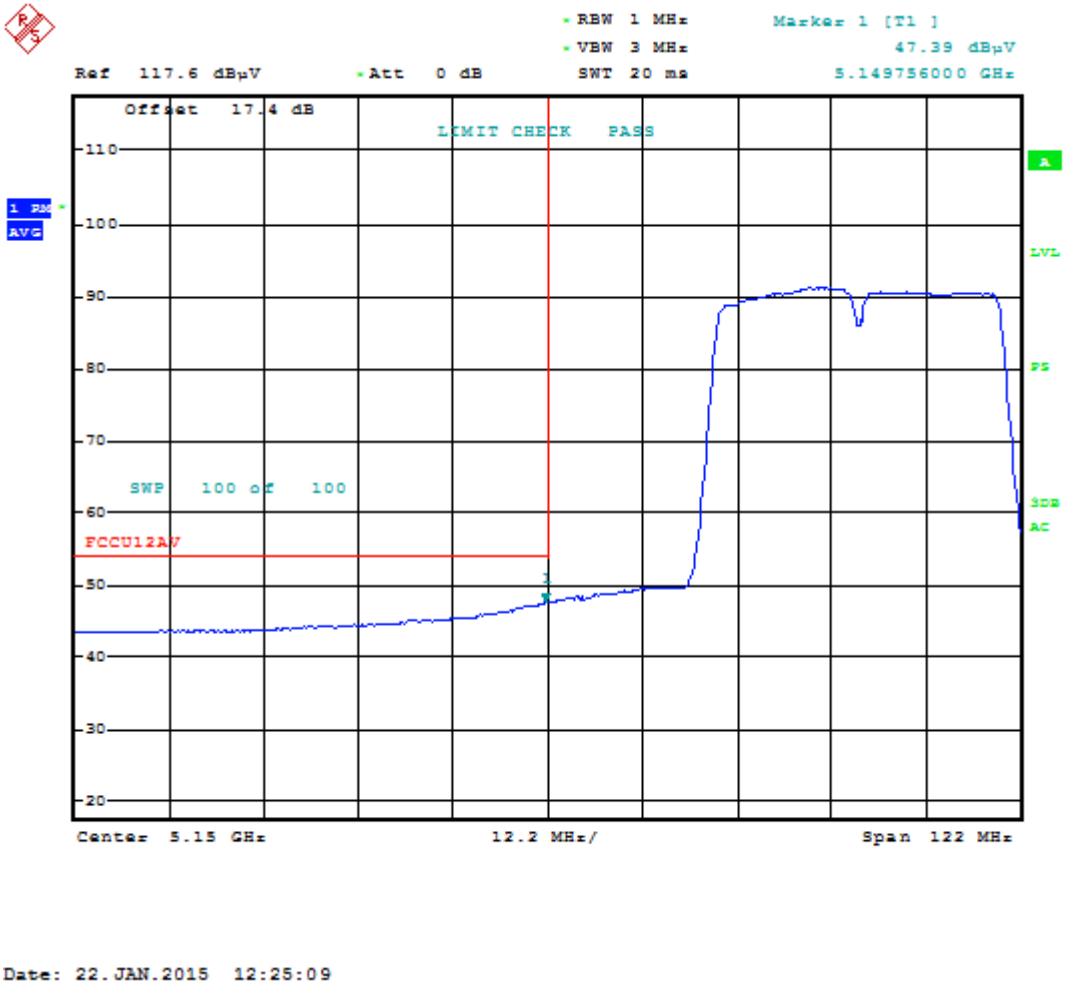
6.7.4 Antenna-1 Radiated Band Edge Measurements (40MHz BW)

§15.407(b.1)(b.2) §15.205 §15.209

Worst Case Mode:	802.11n (40MHz)
Worst Case Transfer Rate:	MCS0
Distance of Measurements:	3 Meters
Operating Frequency:	5190MHz
Channel:	38



Plot 6-180. Radiated Restricted Lower Band Edge Plot (Average – UNII Band 1)

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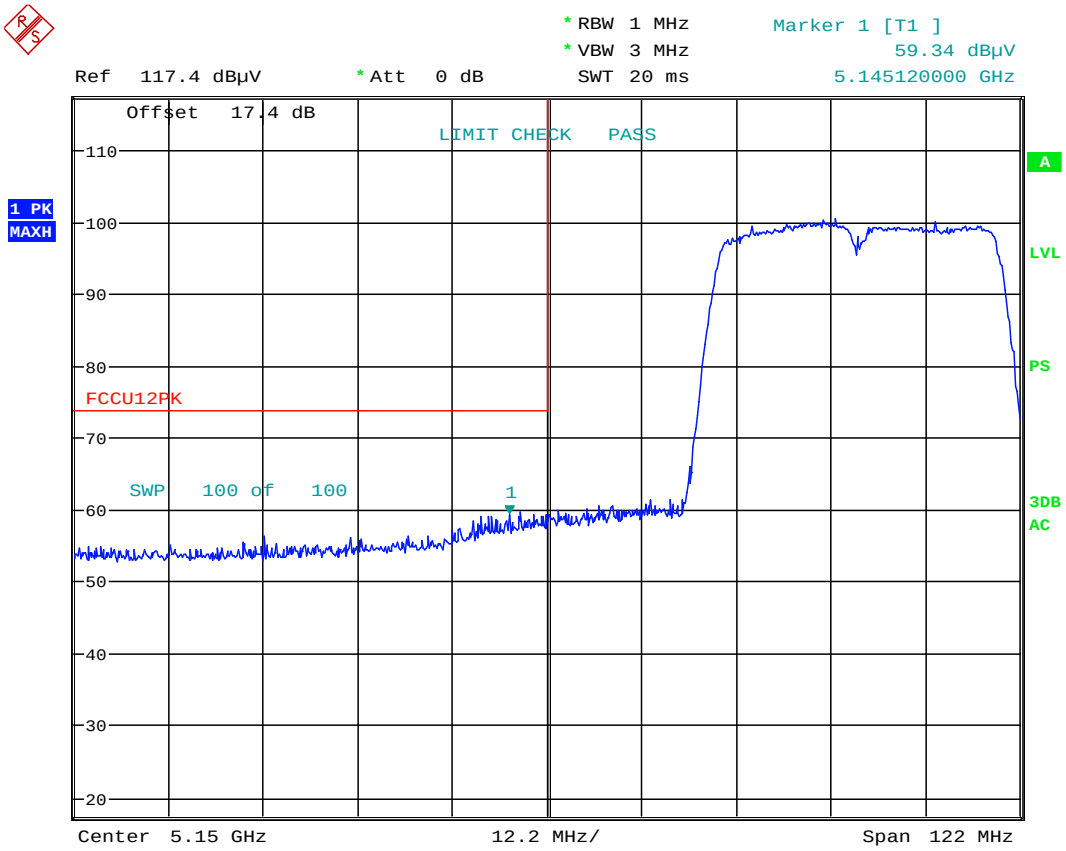
Antenna-1 Radiated Band Edge Measurements (40MHz BW)

§15.407(b.1)(b.2) §15.205 §15.209



Date: 22.JAN.2015 12:25:46

Plot 6-181. Radiated Restricted Lower Band Edge Plot (Peak – UNII Band 1)

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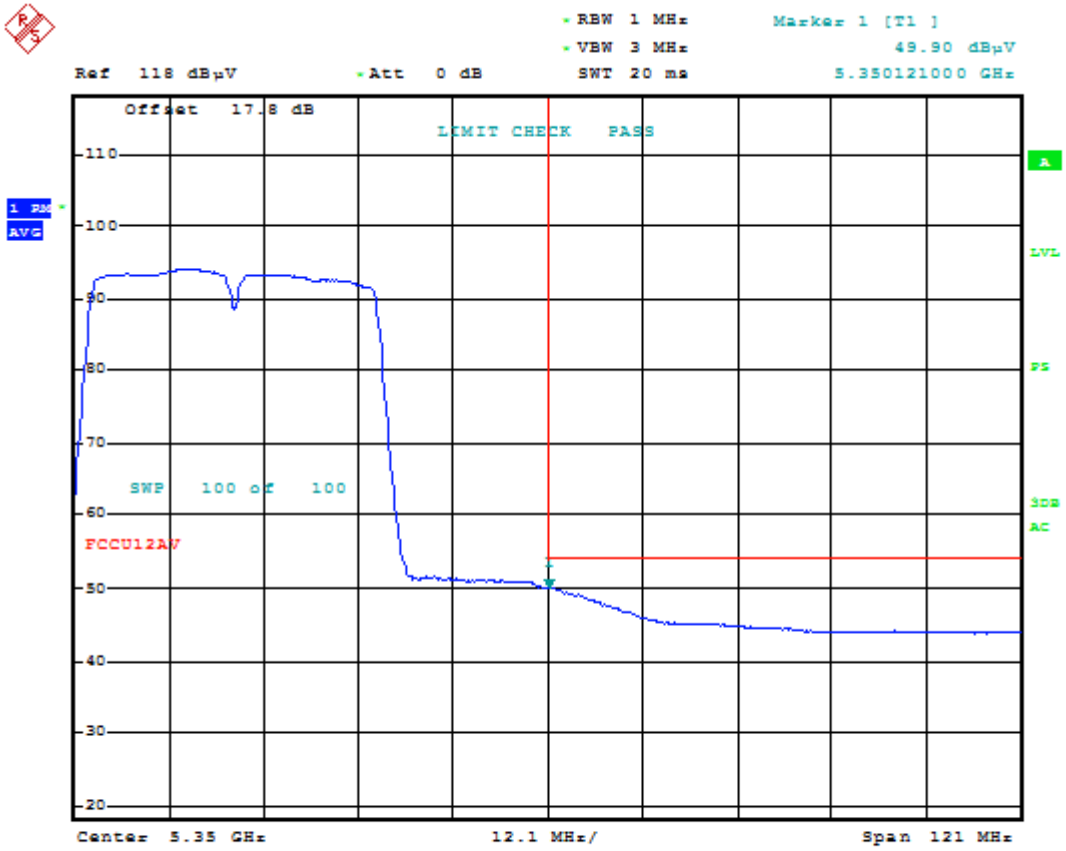
Antenna-1 Radiated Band Edge Measurements (40MHz BW)
§15.407(b.1)(b.2) §15.205 §15.209

Worst Case Mode:	802.11n (40MHz)
Worst Case Transfer Rate:	MCS0
Distance of Measurements:	3 Meters
Operating Frequency:	5310MHz
Channel:	62



Date: 22.JAN.2015 12:58:27

Plot 6-182. Radiated Restricted Upper Band Edge Plot (Average – UNII Band 2A)

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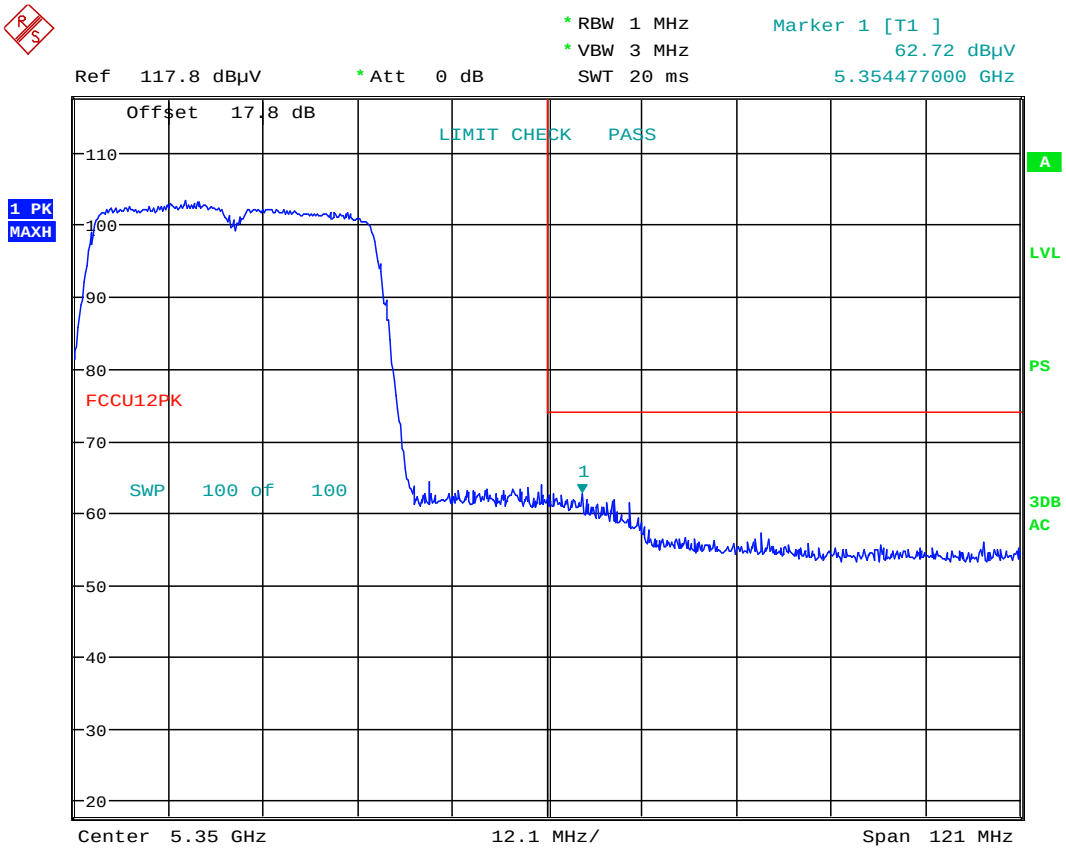
Antenna-1 Radiated Band Edge Measurements (40MHz BW)

§15.407(b.1)(b.2) §15.205 §15.209



Date: 22.JAN.2015 12:59:39

Plot 6-183. Radiated Restricted Upper Band Edge Plot (Peak – UNII Band 2A)

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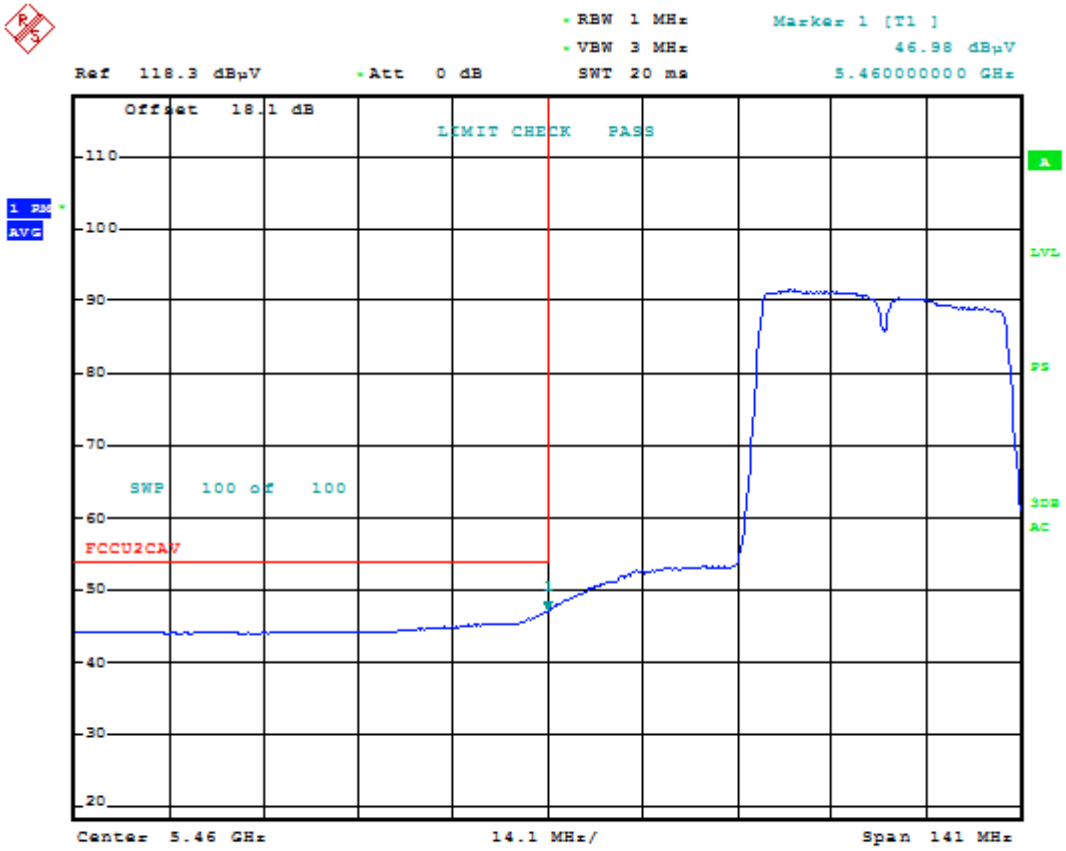
Antenna-1 Radiated Band Edge Measurements (40MHz BW)
§15.407(b.1)(b.2) §15.205 §15.209

Worst Case Mode:	802.11n (40MHz)
Worst Case Transfer Rate:	MCS0
Distance of Measurements:	3 Meters
Operating Frequency:	5510MHz
Channel:	102



Date: 22.JAN.2015 13:13:03

Plot 6-184. Radiated Restricted Lower Band Edge Plot (Average – UNII Band 2C)

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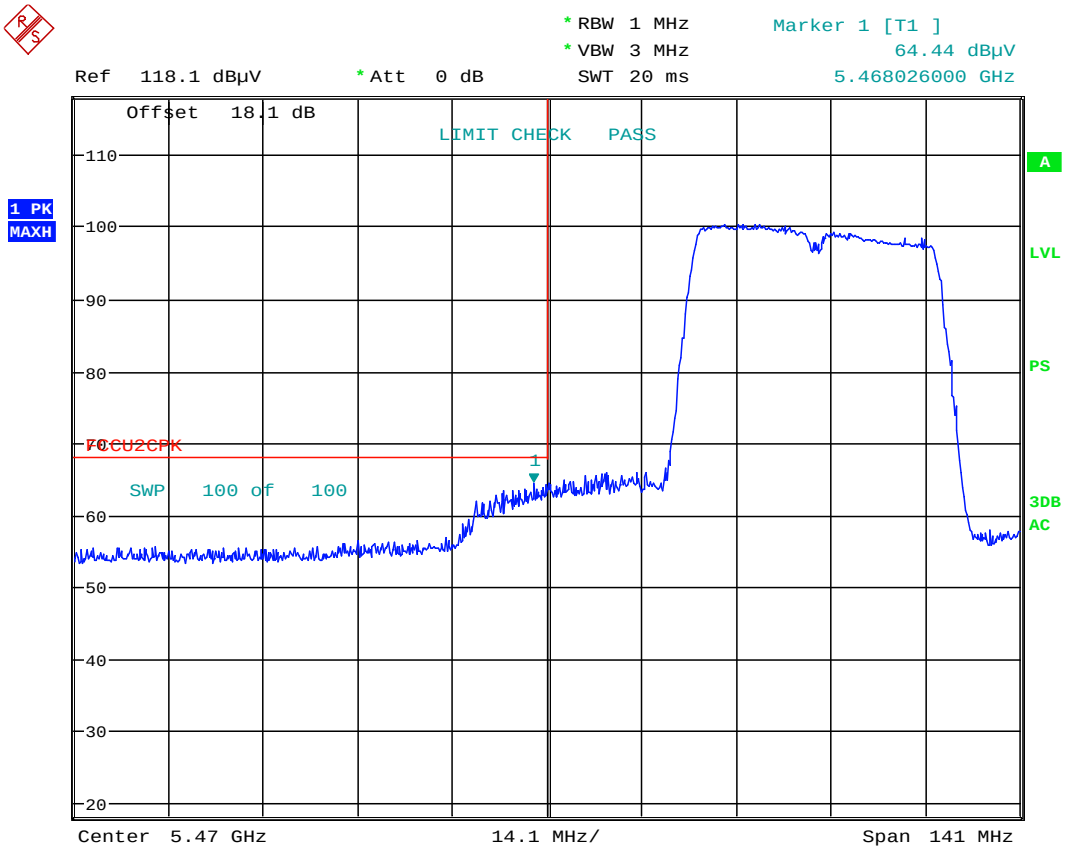
Antenna-1 Radiated Band Edge Measurements (40MHz BW)

§15.407(b.1)(b.2) §15.205 §15.209



Date: 22.JAN.2015 13:13:43

Plot 6-185. Radiated Restricted Lower Band Edge Plot (Peak – UNII Band 2C)

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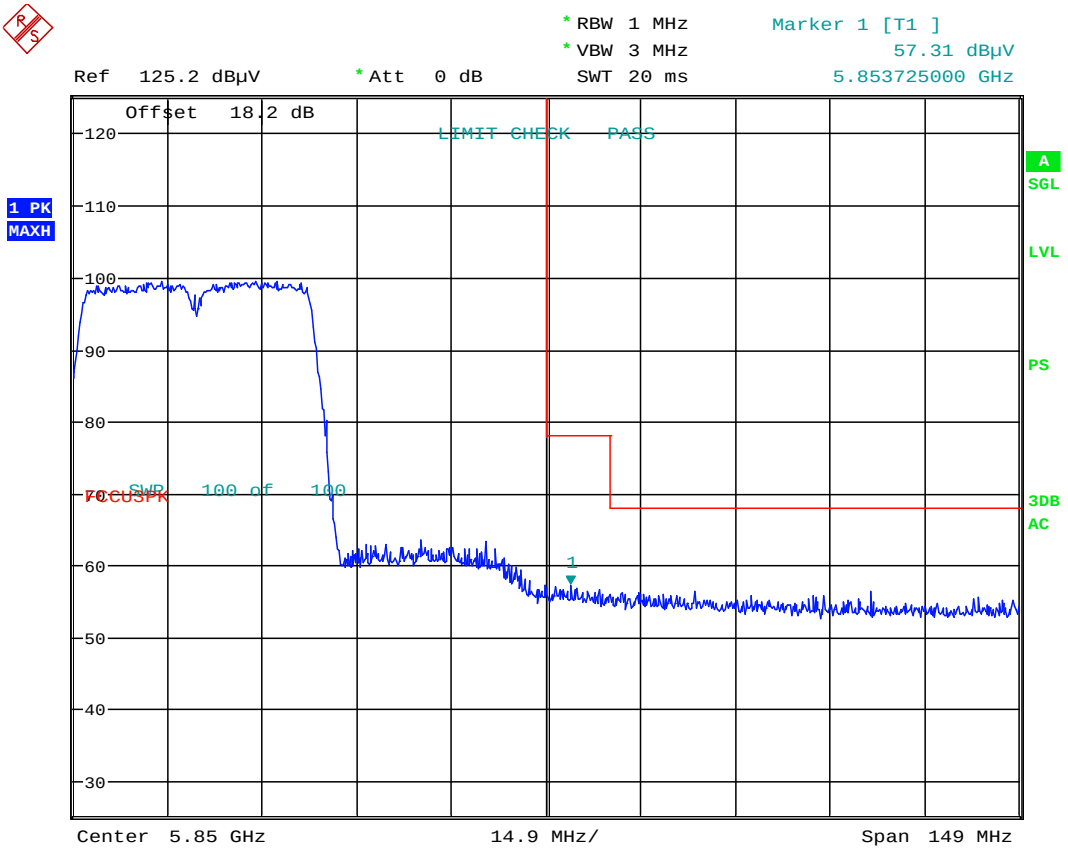
Antenna-1 Radiated Band Edge Measurements (40MHz BW)

§15.407(b.1)(b.2) §15.205 §15.209

Worst Case Mode:	802.11n (40MHz)
Worst Case Transfer Rate:	MCS0
Distance of Measurements:	3 Meters
Operating Frequency:	5815MHz
Channel:	163



Date: 22.JAN.2015 13:54:46

Plot 6-186. Radiated Upper Band Edge Plot (Peak – UNII Band 3)

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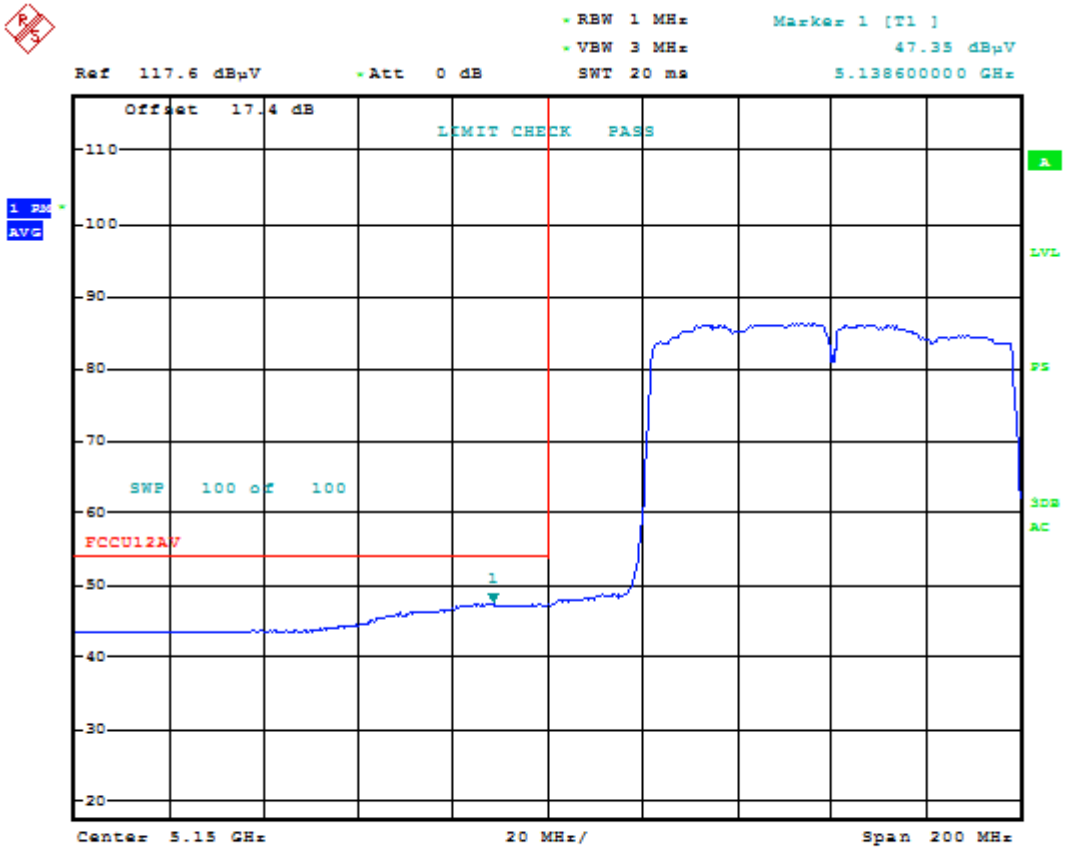
6.7.5 Antenna-1 Radiated Band Edge Measurements (80MHz BW)

§15.407(b.1)(b.2) §15.205 §15.209

Worst Case Mode:	802.11n (80MHz)
Worst Case Transfer Rate:	MCS0
Distance of Measurements:	3 Meters
Operating Frequency:	5210MHz
Channel:	42

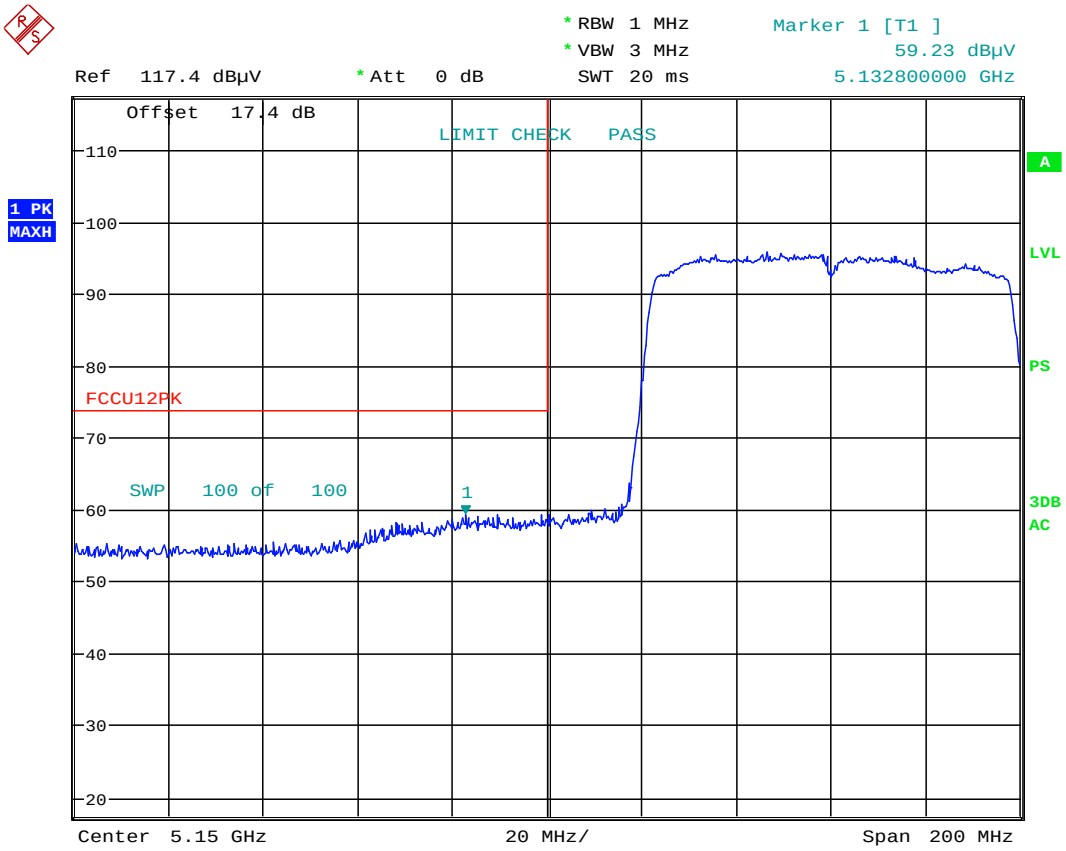


Plot 6-187. Radiated Restricted Lower Band Edge Plot (Average – UNII Band 1)

© 2015 PCTEST Engineering Laboratory, Inc.

Antenna-1 Radiated Band Edge Measurements (80MHz BW)

§15.407(b.1)(b.2) §15.205 §15.209



Date: 22.JAN.2015 12:42:40

Plot 6-188. Radiated Restricted Lower Band Edge Plot (Peak – UNII Band 1)

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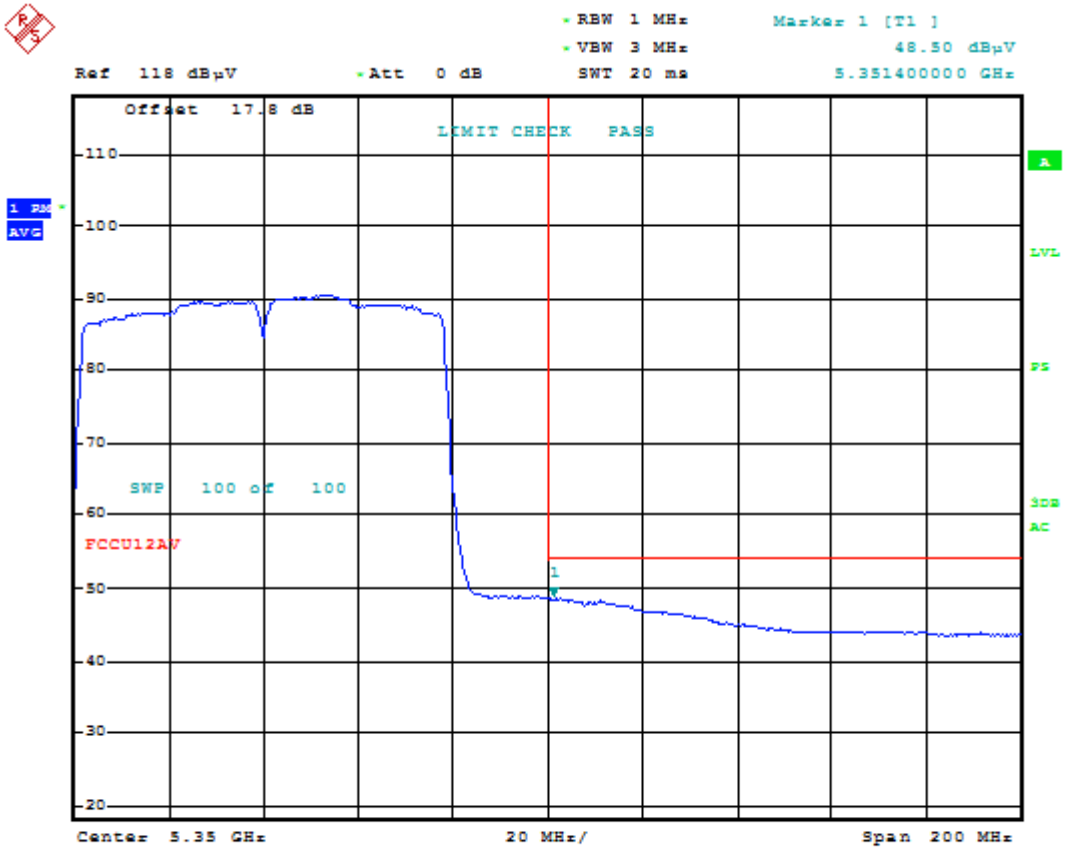
Antenna-1 Radiated Band Edge Measurements (80MHz BW)
§15.407(b.1)(b.2) §15.205 §15.209

Worst Case Mode:	802.11ac (80MHz)
Worst Case Transfer Rate:	MCS0
Distance of Measurements:	3 Meters
Operating Frequency:	5290MHz
Channel:	58



Date: 22.JAN.2015 13:03:03

Plot 6-189. Radiated Restricted Upper Band Edge Plot (Average – UNII Band 2A)

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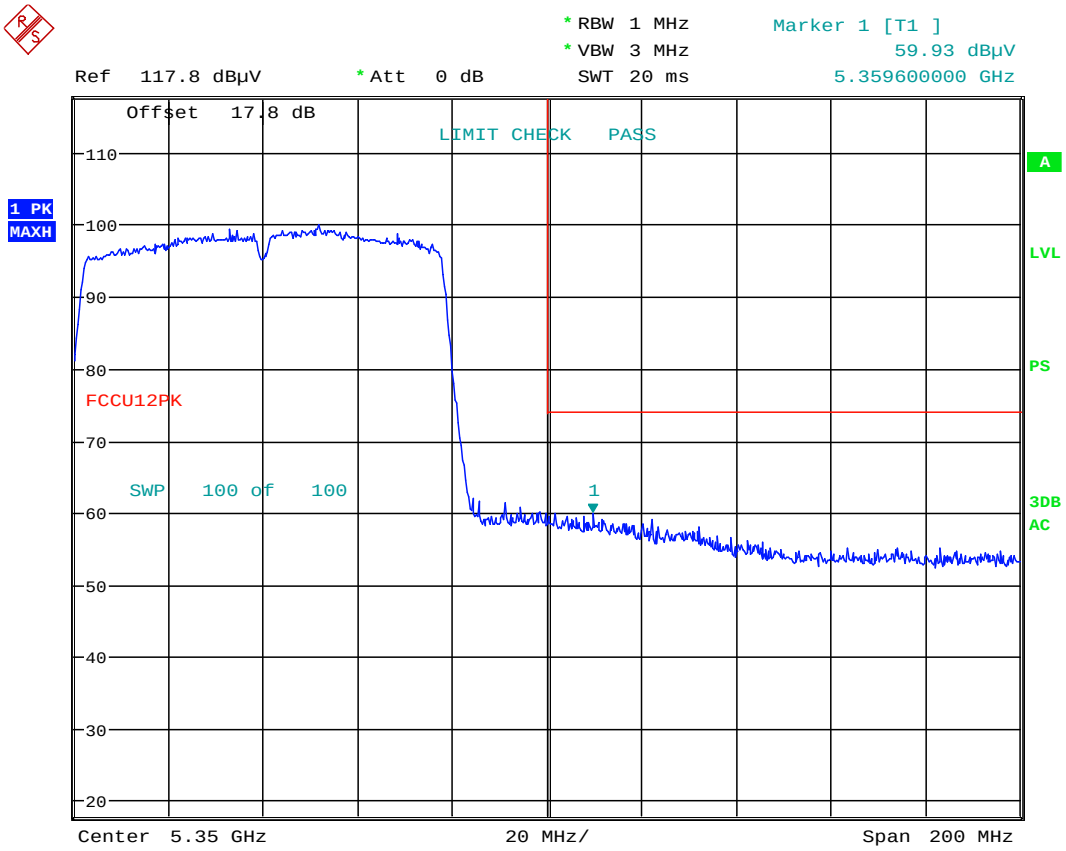
Antenna-1 Radiated Band Edge Measurements (80MHz BW)

§15.407(b.1)(b.2) §15.205 §15.209



Date: 22.JAN.2015 13:03:33

Plot 6-190. Radiated Restricted Upper Band Edge Plot (Peak – UNII Band 2A)

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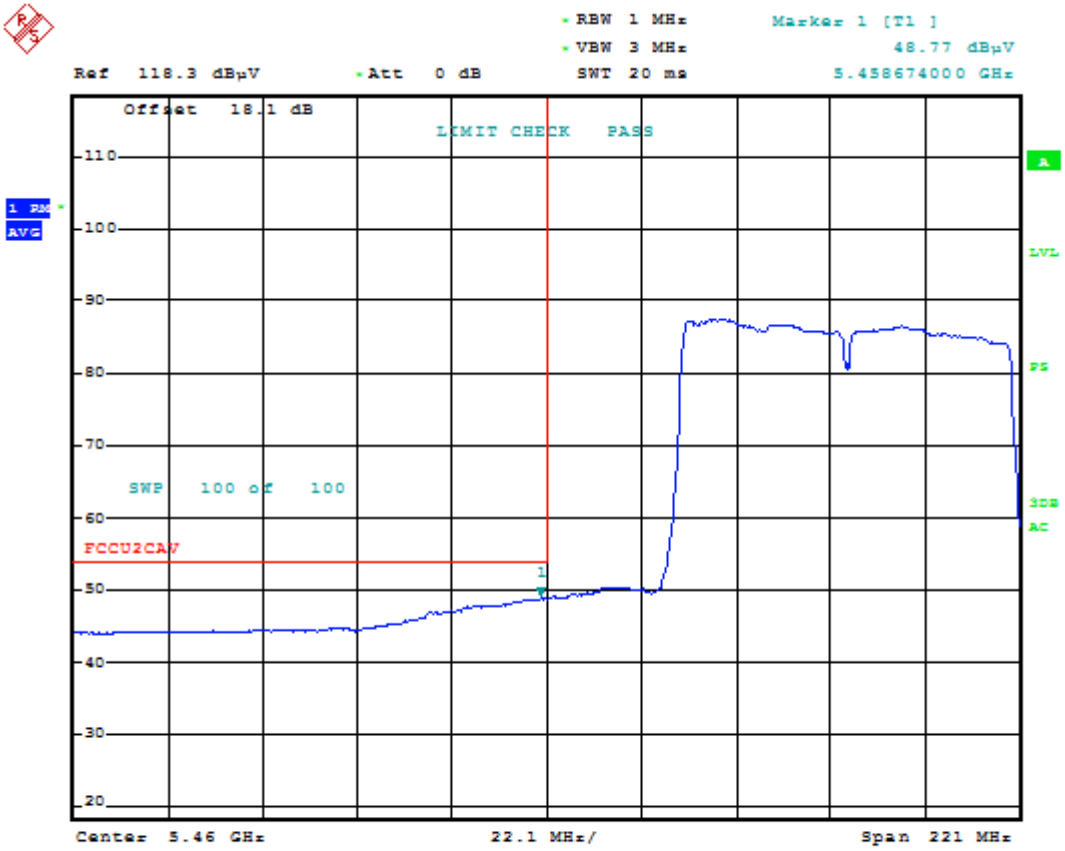
Antenna-1 Radiated Band Edge Measurements (80MHz BW)
§15.407(b.1)(b.2) §15.205 §15.209

Worst Case Mode:	802.11ac (80MHz)
Worst Case Transfer Rate:	MCS0
Distance of Measurements:	3 Meters
Operating Frequency:	5530MHz
Channel:	106



Date: 22.JAN.2015 13:25:22

Plot 6-191. Radiated Restricted Lower Band Edge Plot (Average – UNII Band 2C)

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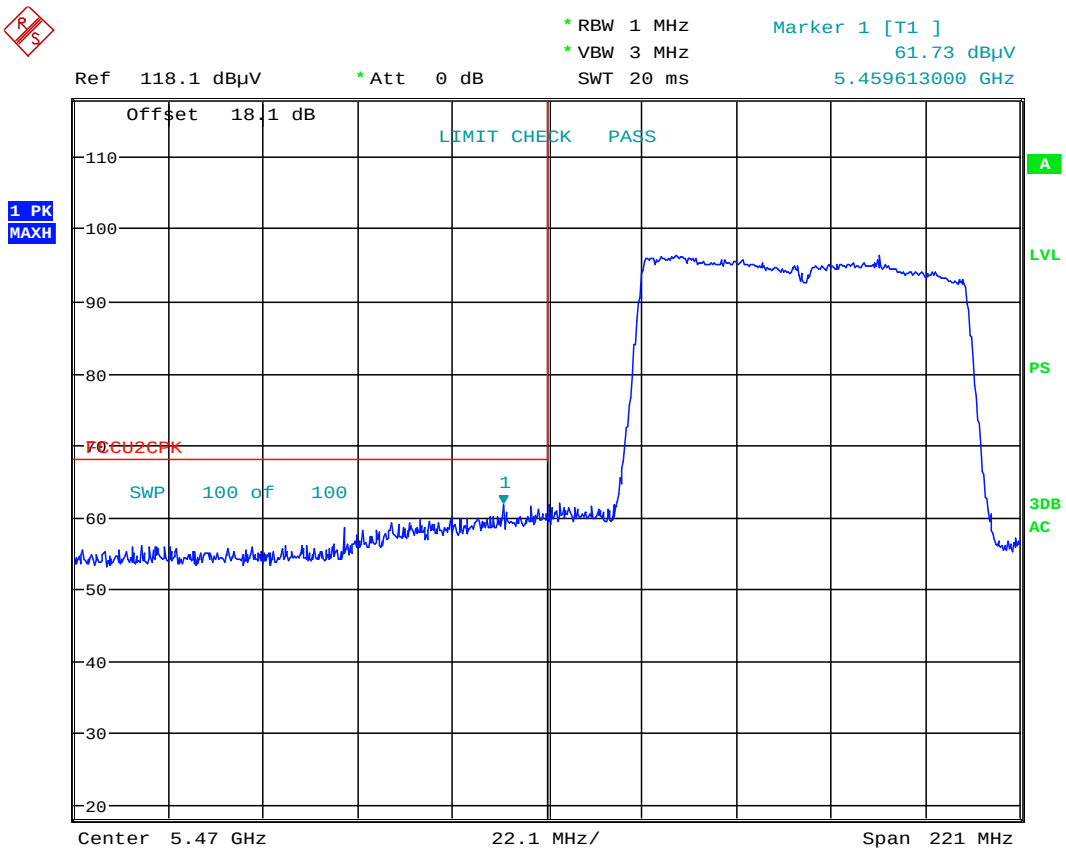
Antenna-1 Radiated Band Edge Measurements (80MHz BW)

§15.407(b.1)(b.2) §15.205 §15.209



Date: 22.JAN.2015 13:26:02

Plot 6-192. Radiated Restricted Lower Band Edge Plot (Peak – UNII Band 2C)

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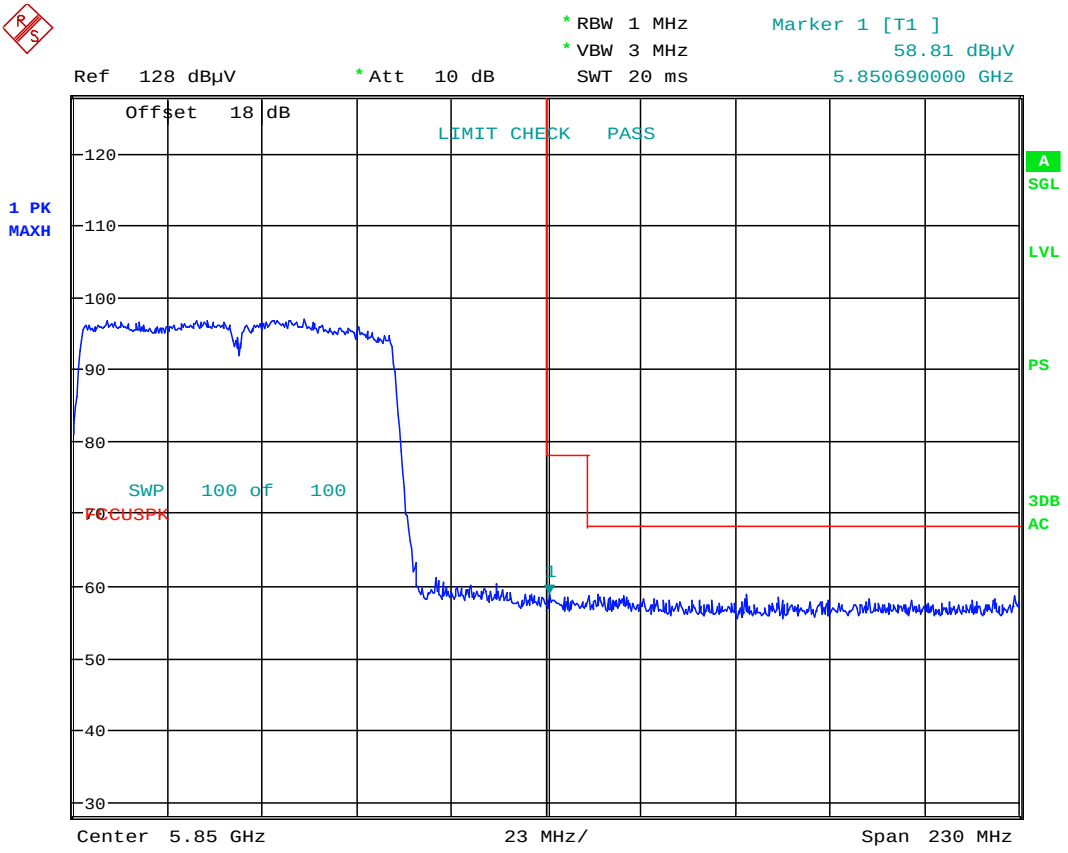
Antenna-1 Radiated Band Edge Measurements (80MHz BW)

§15.407(b.1)(b.2) §15.205 §15.209

Worst Case Mode:	802.11ac (80MHz)
Worst Case Transfer Rate:	MCS0
Distance of Measurements:	3 Meters
Operating Frequency:	5775MHz
Channel:	155



Date: 22.JAN.2015 13:45:41

Plot 6-193. Radiated Upper Band Edge Plot (Peak – UNII Band 3)

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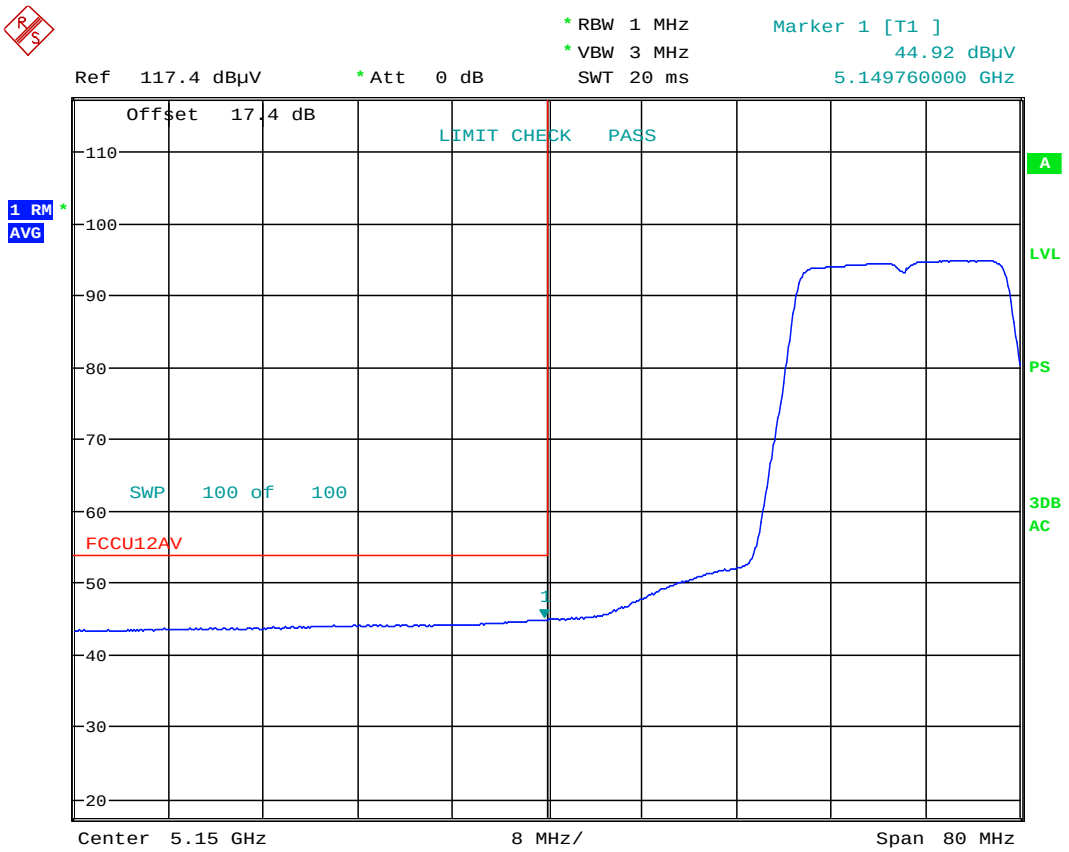
6.7.6 Antenna-2 Radiated Band Edge Measurements (20MHz BW)

§15.407(b.1)(b.2) §15.205 §15.209

Worst Case Mode:	802.11a
Worst Case Transfer Rate:	6 Mbps
Distance of Measurements:	3 Meters
Operating Frequency:	5180MHz
Channel:	36



Date: 23.JAN.2015 14:25:39

Plot 6-194. Radiated Restricted Lower Band Edge Plot (Average – UNII Band 1)

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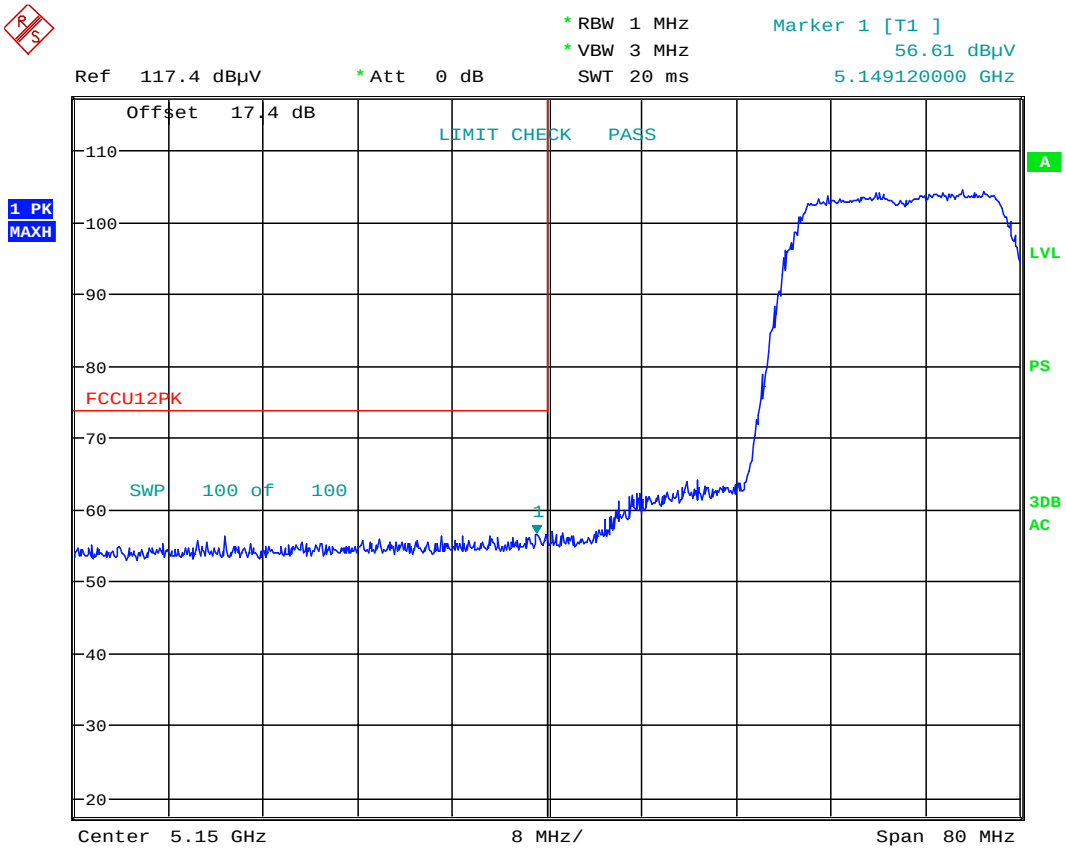
Antenna-2 Radiated Band Edge Measurements (20MHz BW)

§15.407(b.1)(b.2) §15.205 §15.209



Date: 23.JAN.2015 14:26:04

Plot 6-195. Radiated Restricted Lower Band Edge Plot (Peak – UNII Band 1)

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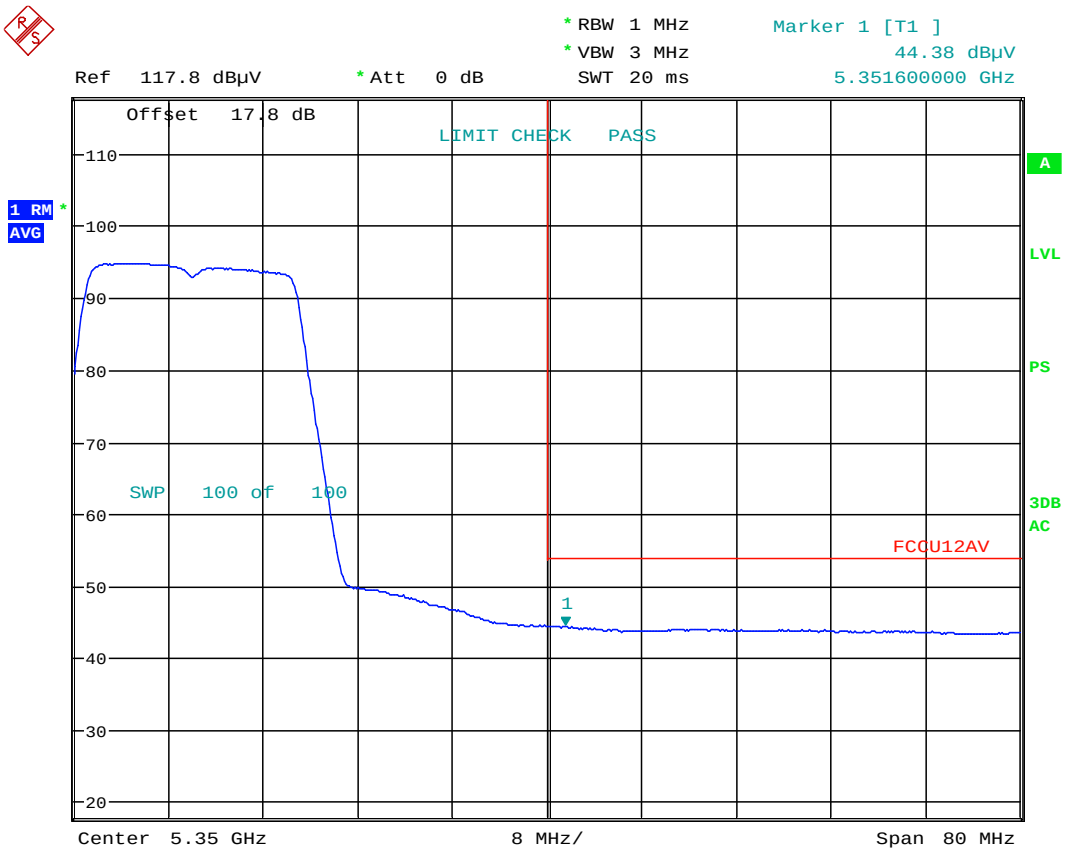
Antenna-2 Radiated Band Edge Measurements (20MHz BW)

§15.407(b.1)(b.2) §15.205 §15.209

Worst Case Mode:	802.11a
Worst Case Transfer Rate:	6 Mbps
Distance of Measurements:	3 Meters
Operating Frequency:	5320MHz
Channel:	64



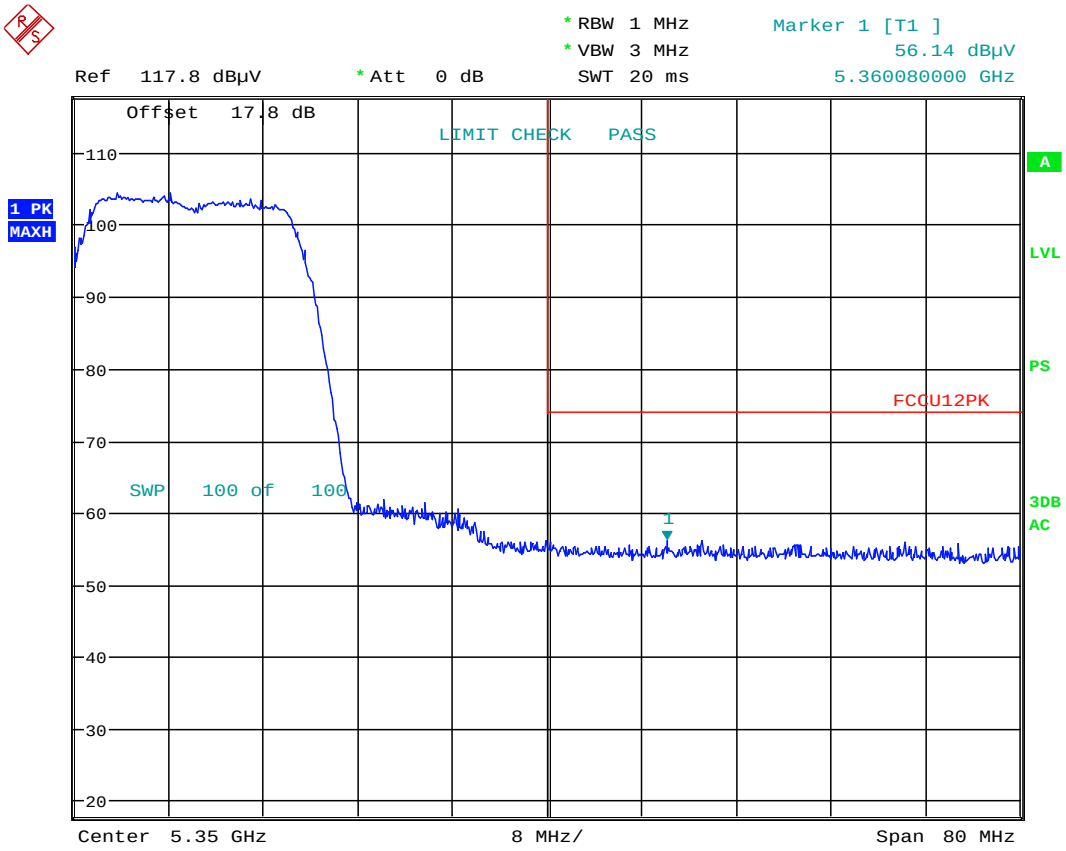
Date: 23.JAN.2015 14:54:56

Plot 6-196. Radiated Restricted Upper Band Edge Plot (Average – UNII Band 2A)

© 2015 PCTEST Engineering Laboratory, Inc.

Antenna-2 Radiated Band Edge Measurements (20MHz BW)

§15.407(b.1)(b.2) §15.205 §15.209



Date: 23.JAN.2015 14:55:20

Plot 6-197. Radiated Restricted Upper Band Edge Plot (Peak – UNII Band 2A)

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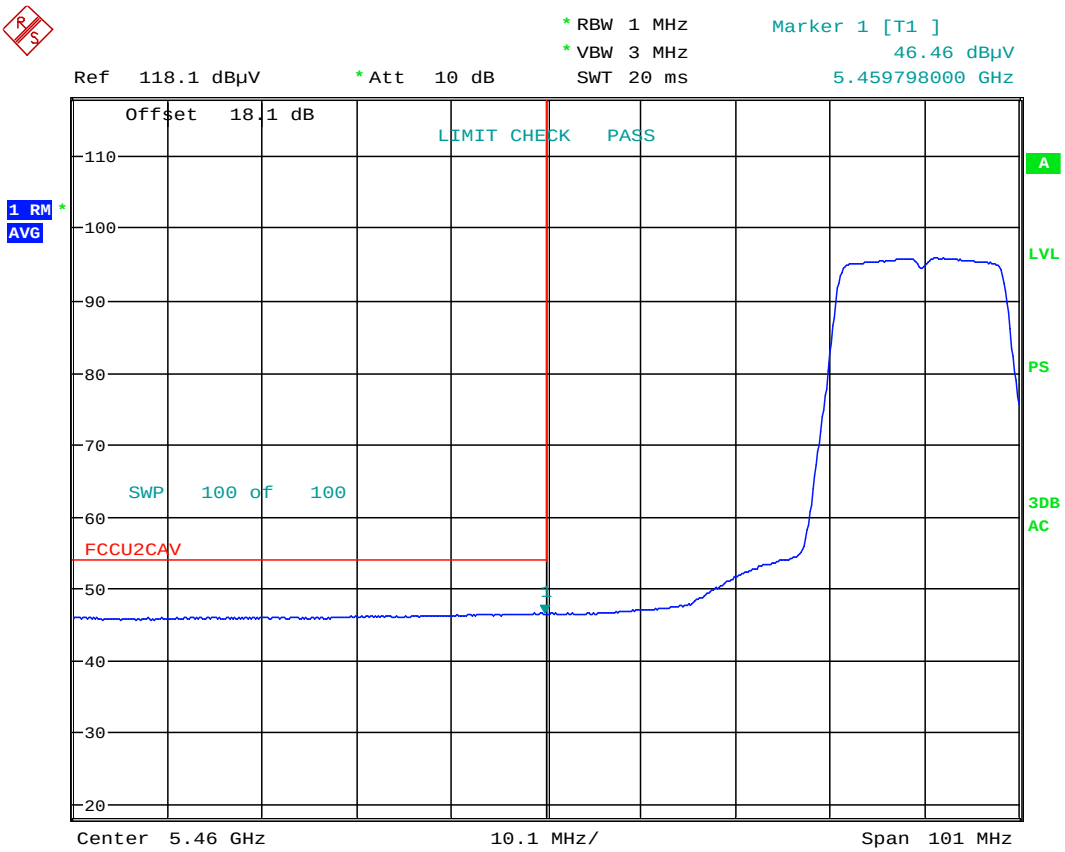
Antenna-2 Radiated Band Edge Measurements (20MHz BW)

§15.407(b.1)(b.2) §15.205 §15.209

Worst Case Mode:	802.11a
Worst Case Transfer Rate:	6 Mbps
Distance of Measurements:	3 Meters
Operating Frequency:	5500MHz
Channel:	100



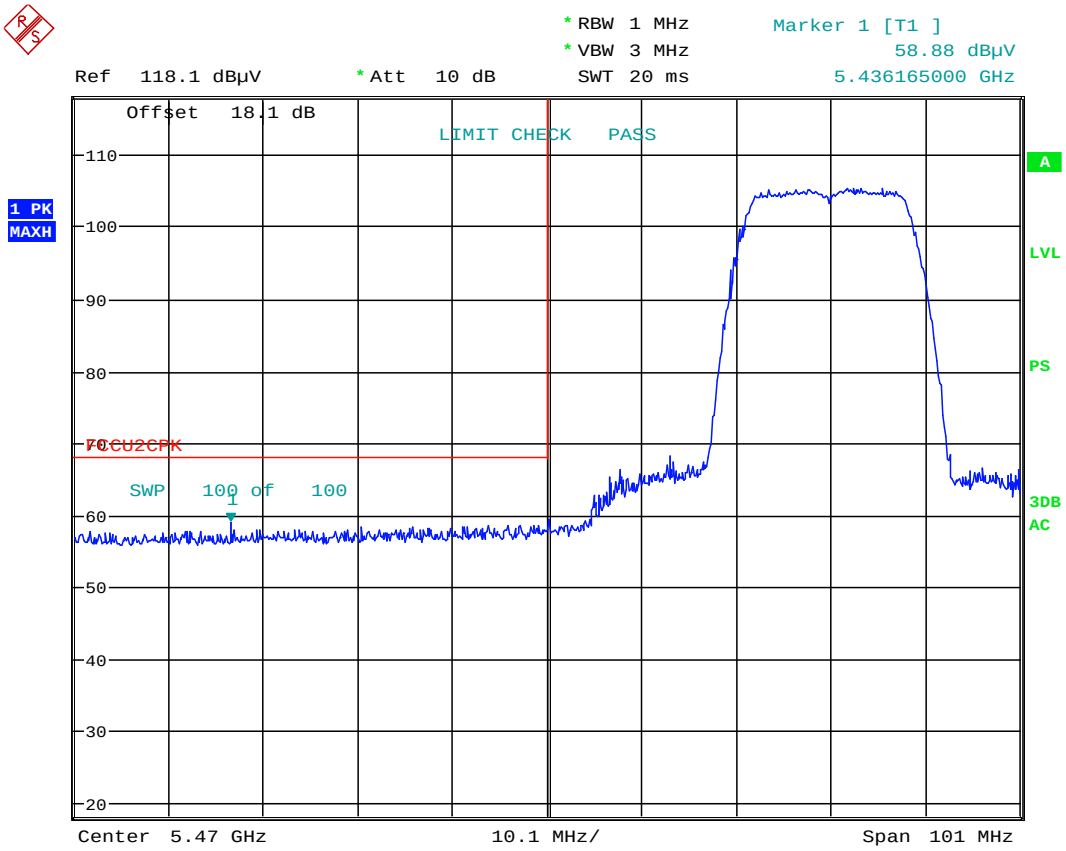
Date: 23.JAN.2015 15:10:22

Plot 6-198. Radiated Restricted Lower Band Edge Plot (Average – UNII Band 2C)

© 2015 PCTEST Engineering Laboratory, Inc.

Antenna-2 Radiated Band Edge Measurements (20MHz BW)

§15.407(b.1)(b.2) §15.205 §15.209



Date: 23.JAN.2015 15:11:46

Plot 6-199. Radiated Restricted Lower Band Edge Plot (Peak – UNII Band 2C)

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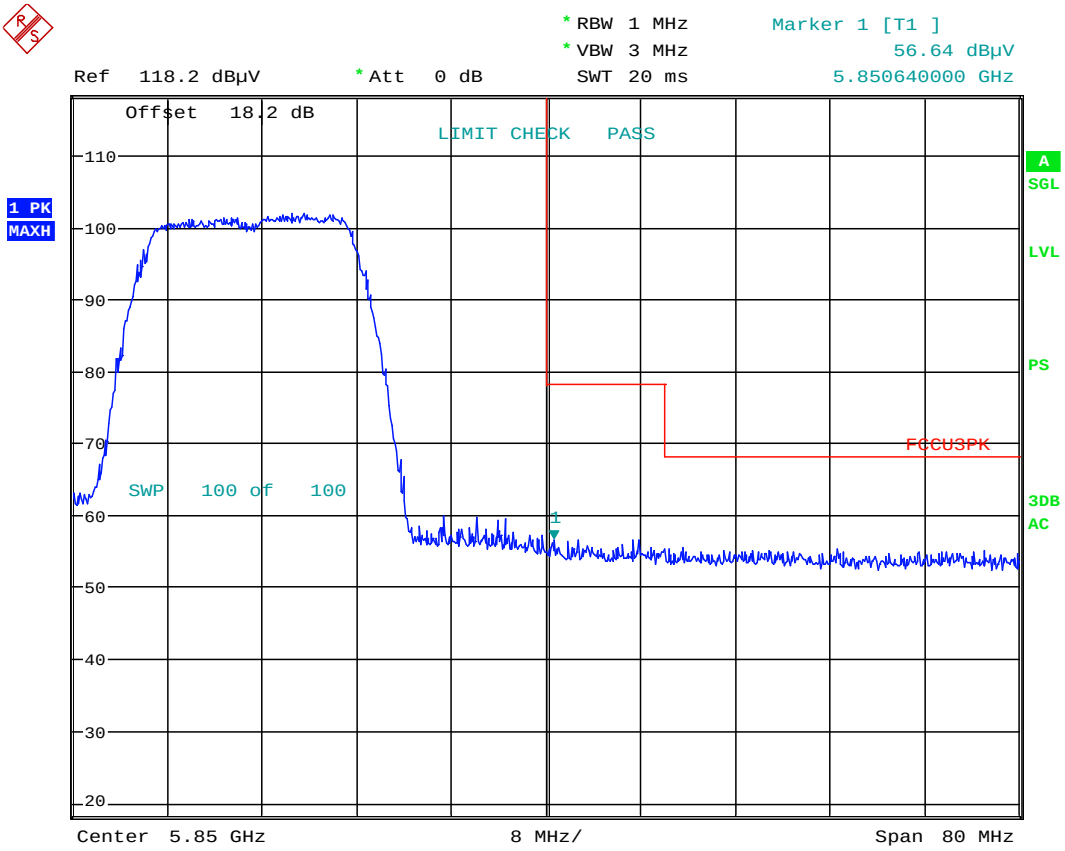
Antenna-2 Radiated Band Edge Measurements (20MHz BW)

§15.407(b.1)(b.2) §15.205 §15.209

Worst Case Mode:	802.11a
Worst Case Transfer Rate:	6 Mbps
Distance of Measurements:	3 Meters
Operating Frequency:	5825MHz
Channel:	165



Date: 23.JAN.2015 15:47:48

Plot 6-200. Radiated Upper Band Edge Plot (Peak – UNII Band 3)

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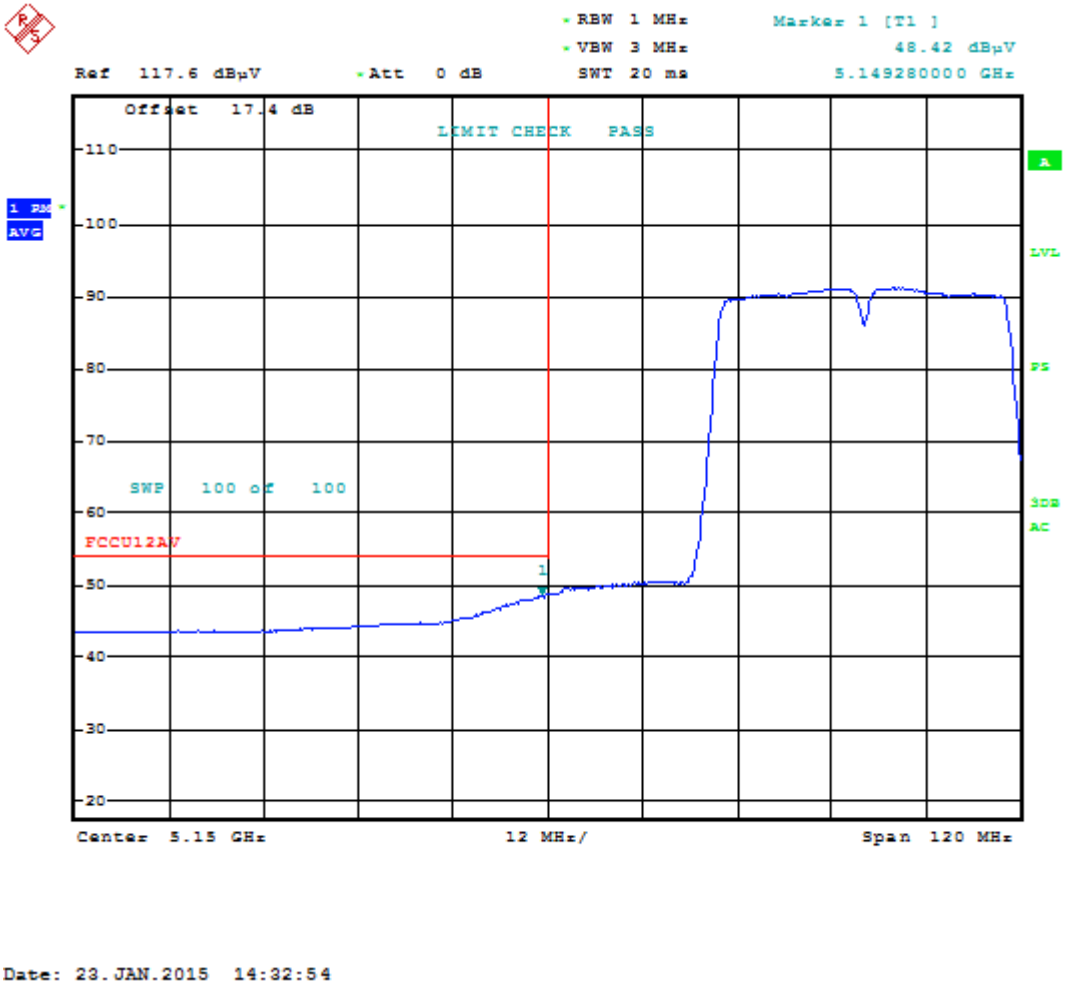
6.7.7 Antenna-2 Radiated Band Edge Measurements (40MHz BW)

§15.407(b.1)(b.2) §15.205 §15.209

Worst Case Mode:	802.11n (40MHz)
Worst Case Transfer Rate:	MCS0
Distance of Measurements:	3 Meters
Operating Frequency:	5190MHz
Channel:	38

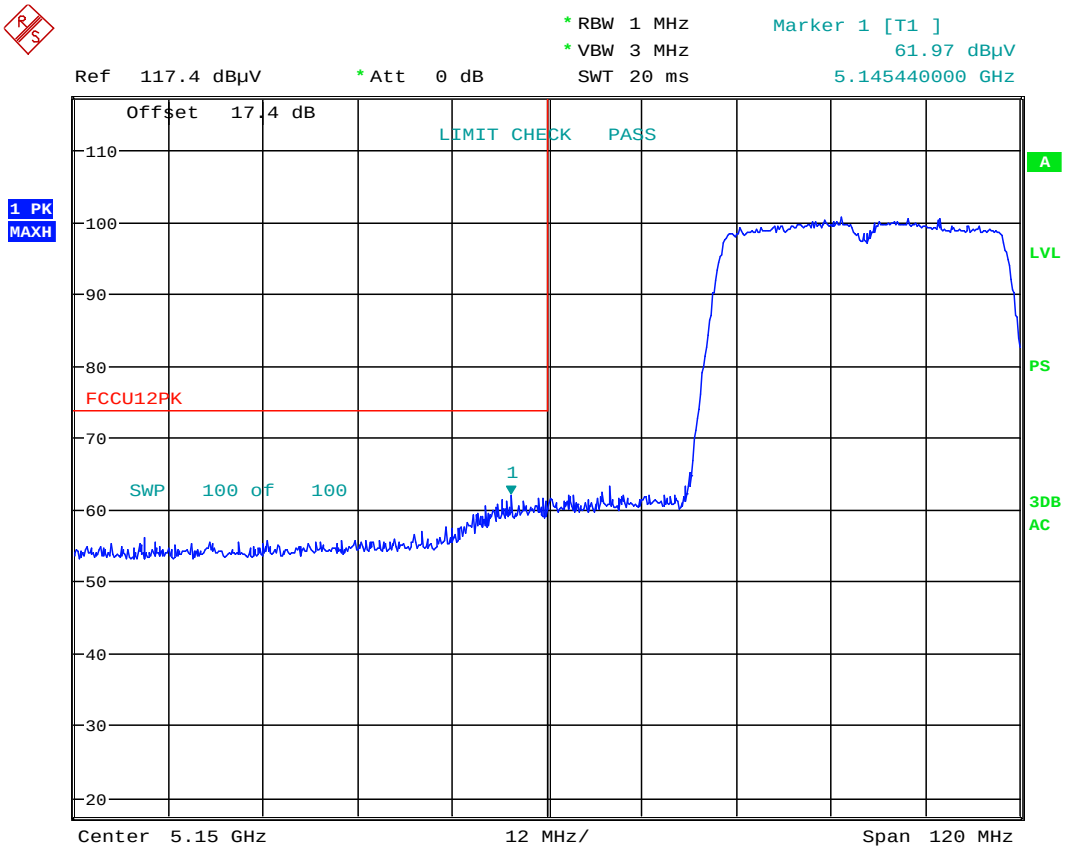


Plot 6-201. Radiated Restricted Lower Band Edge Plot (Average – UNII Band 1)

© 2015 PCTEST Engineering Laboratory, Inc.

Antenna-2 Radiated Band Edge Measurements (40MHz BW)

§15.407(b.1)(b.2) §15.205 §15.209



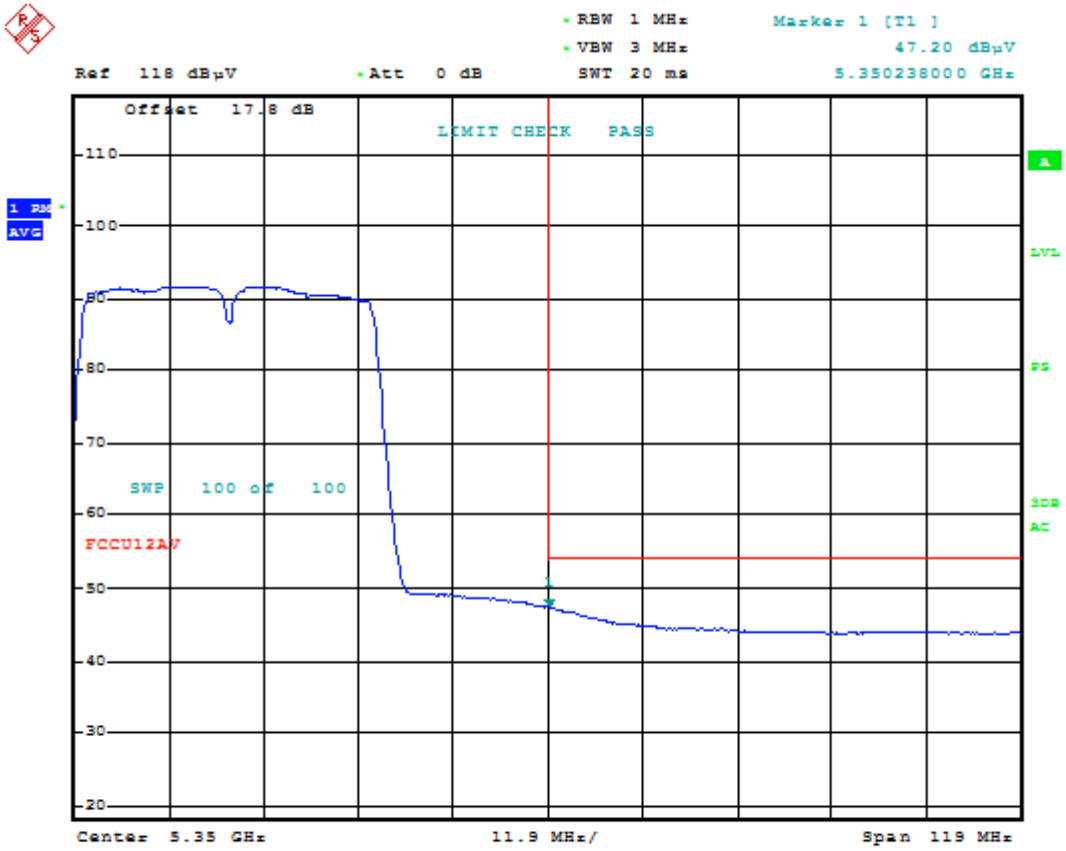
Date: 23.JAN.2015 14:33:53

Plot 6-202. Radiated Restricted Lower Band Edge Plot (Peak – UNII Band 1)

© 2015 PCTEST Engineering Laboratory, Inc.

Antenna-2 Radiated Band Edge Measurements (40MHz BW)
§15.407(b.1)(b.2) §15.205 §15.209

Worst Case Mode:	802.11n (40MHz)
Worst Case Transfer Rate:	MCS0
Distance of Measurements:	3 Meters
Operating Frequency:	5310MHz
Channel:	62



Date: 23.JAN.2015 14:57:52

Plot 6-203. Radiated Restricted Upper Band Edge Plot (Average – UNII Band 2A)

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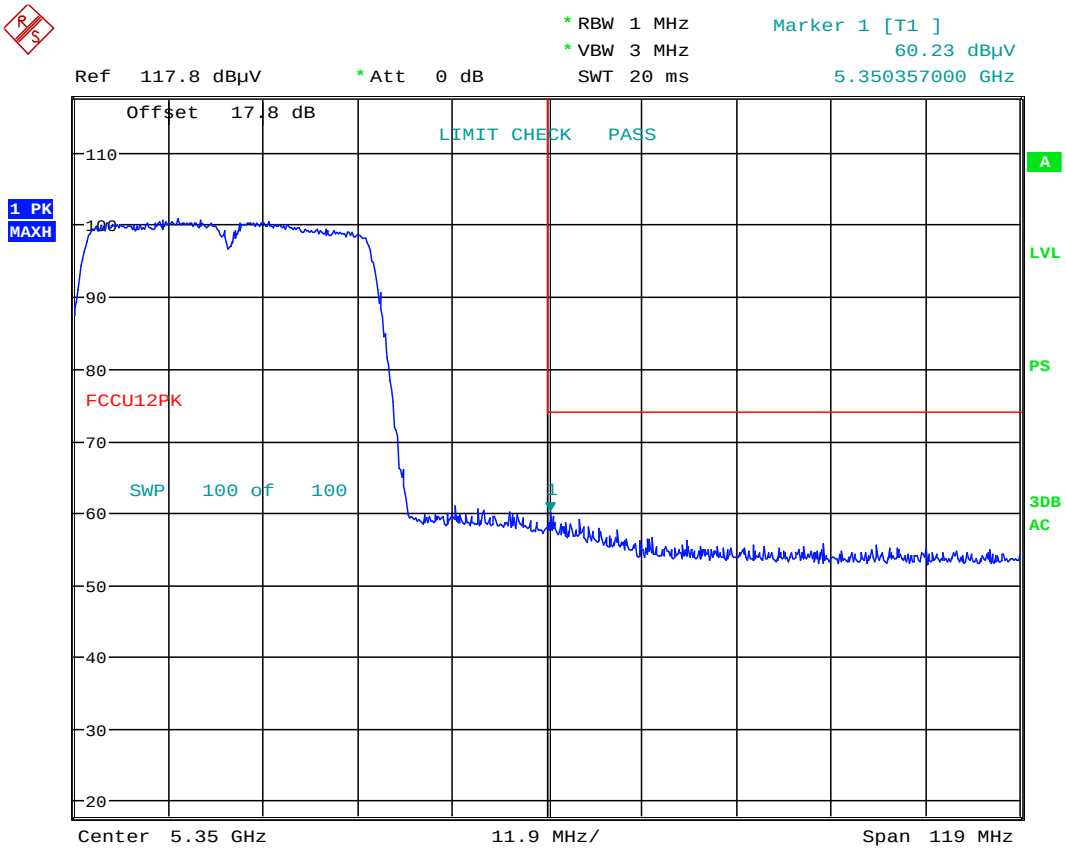
Antenna-2 Radiated Band Edge Measurements (40MHz BW)

§15.407(b.1)(b.2) §15.205 §15.209



Date: 23.JAN.2015 14:58:25

Plot 6-204. Radiated Restricted Upper Band Edge Plot (Peak – UNII Band 2A)

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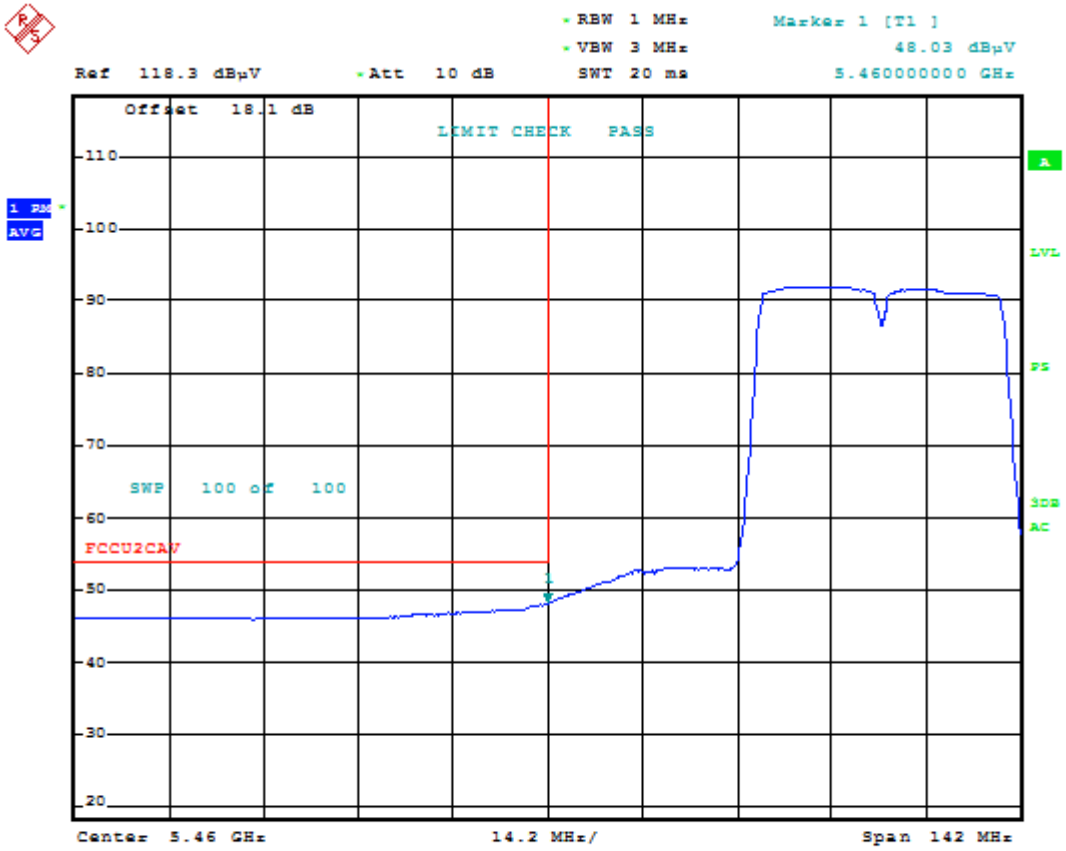
Antenna-2 Radiated Band Edge Measurements (40MHz BW)
§15.407(b.1)(b.2) §15.205 §15.209

Worst Case Mode:	802.11n (40MHz)
Worst Case Transfer Rate:	MCS0
Distance of Measurements:	3 Meters
Operating Frequency:	5510MHz
Channel:	102



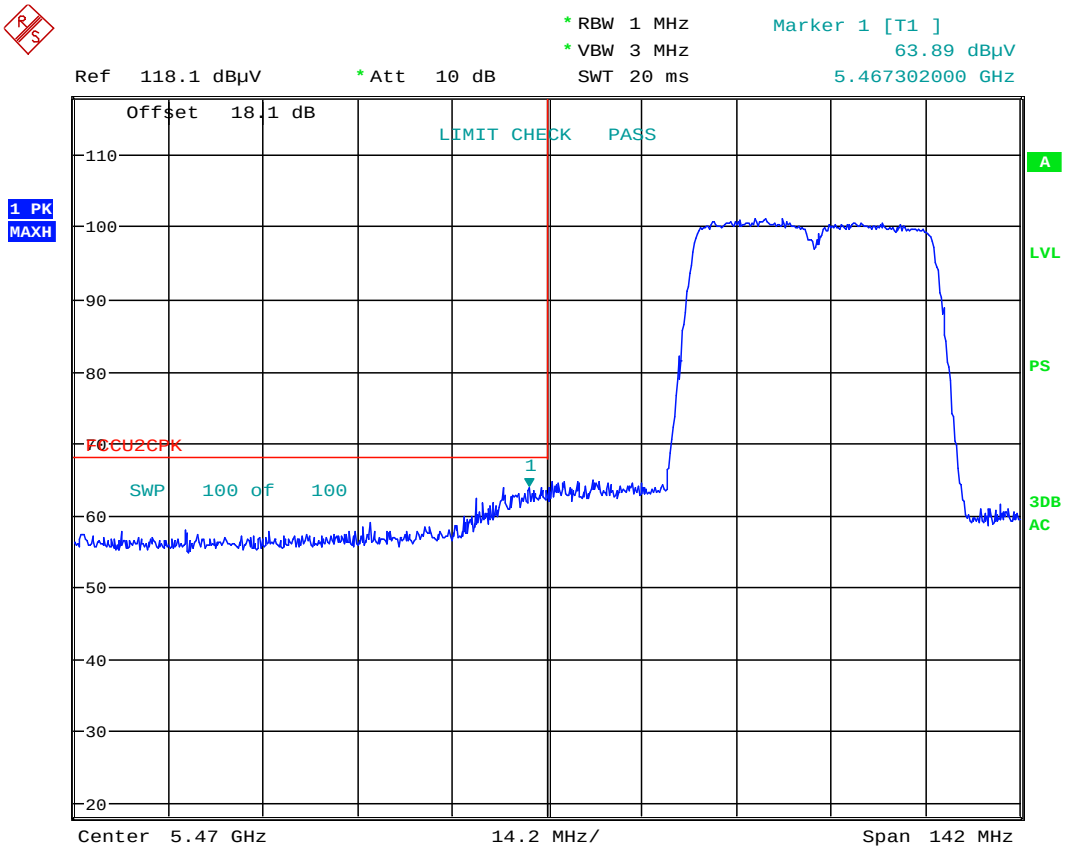
Date: 23.JAN.2015 15:13:53

Plot 6-205. Radiated Restricted Lower Band Edge Plot (Average – UNII Band 2C)

© 2015 PCTEST Engineering Laboratory, Inc.

Antenna-2 Radiated Band Edge Measurements (40MHz BW)

§15.407(b.1)(b.2) §15.205 §15.209



Date: 23.JAN.2015 15:14:38

Plot 6-206. Radiated Restricted Lower Band Edge Plot (Peak – UNII Band 2C)

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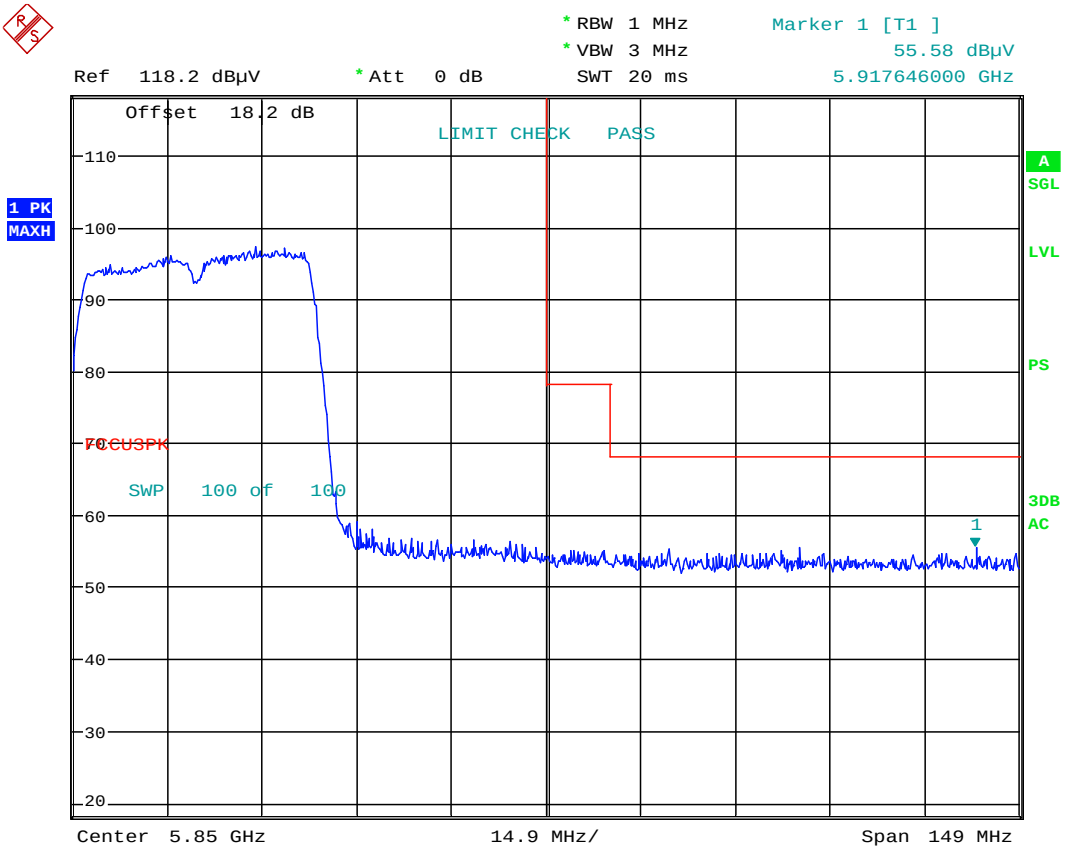
Antenna-2 Radiated Band Edge Measurements (40MHz BW)

§15.407(b.1)(b.2) §15.205 §15.209

Worst Case Mode:	802.11n (40MHz)
Worst Case Transfer Rate:	MCS0
Distance of Measurements:	3 Meters
Operating Frequency:	5815MHz
Channel:	163



Date: 23.JAN.2015 15:49:48

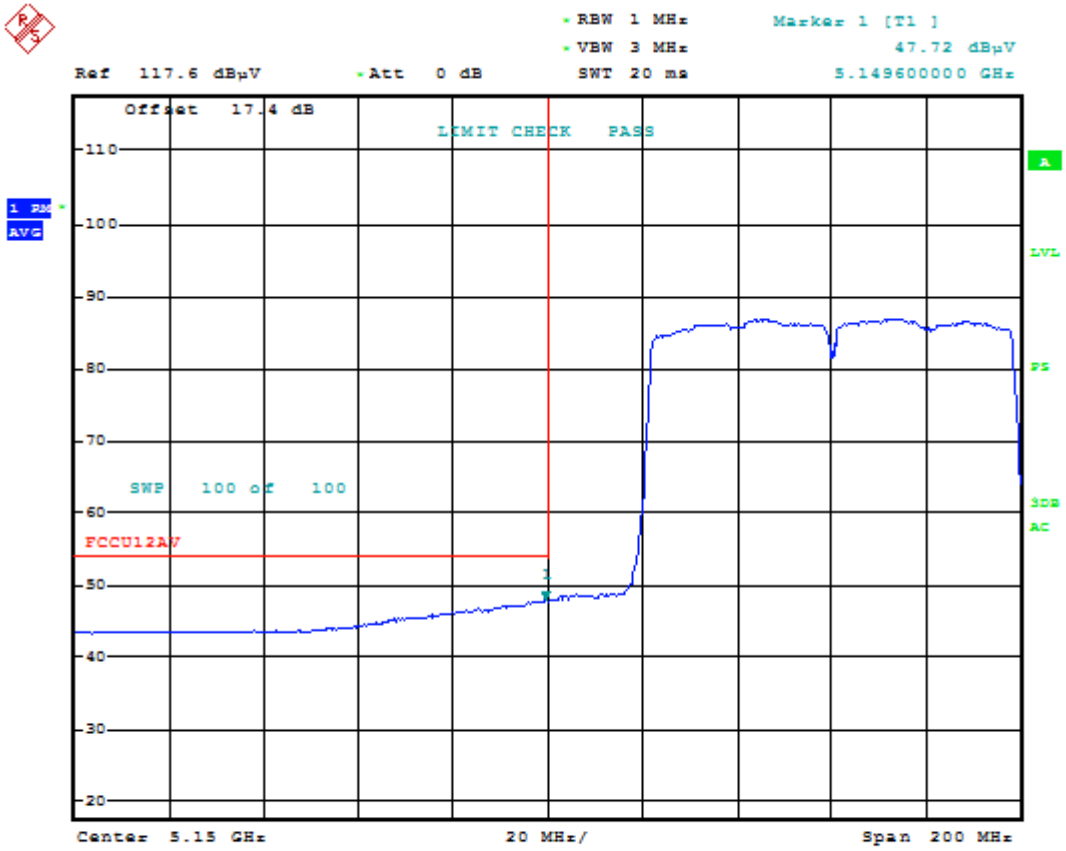
Plot 6-207. Radiated Upper Band Edge Plot (Peak – UNII Band 3)

© 2015 PCTEST Engineering Laboratory, Inc.

6.7.8 Antenna-2 Radiated Band Edge Measurements (80MHz BW)

§15.407(b.1)(b.2) §15.205 §15.209

Worst Case Mode:	802.11n (80MHz)
Worst Case Transfer Rate:	MCS0
Distance of Measurements:	3 Meters
Operating Frequency:	5210MHz
Channel:	42

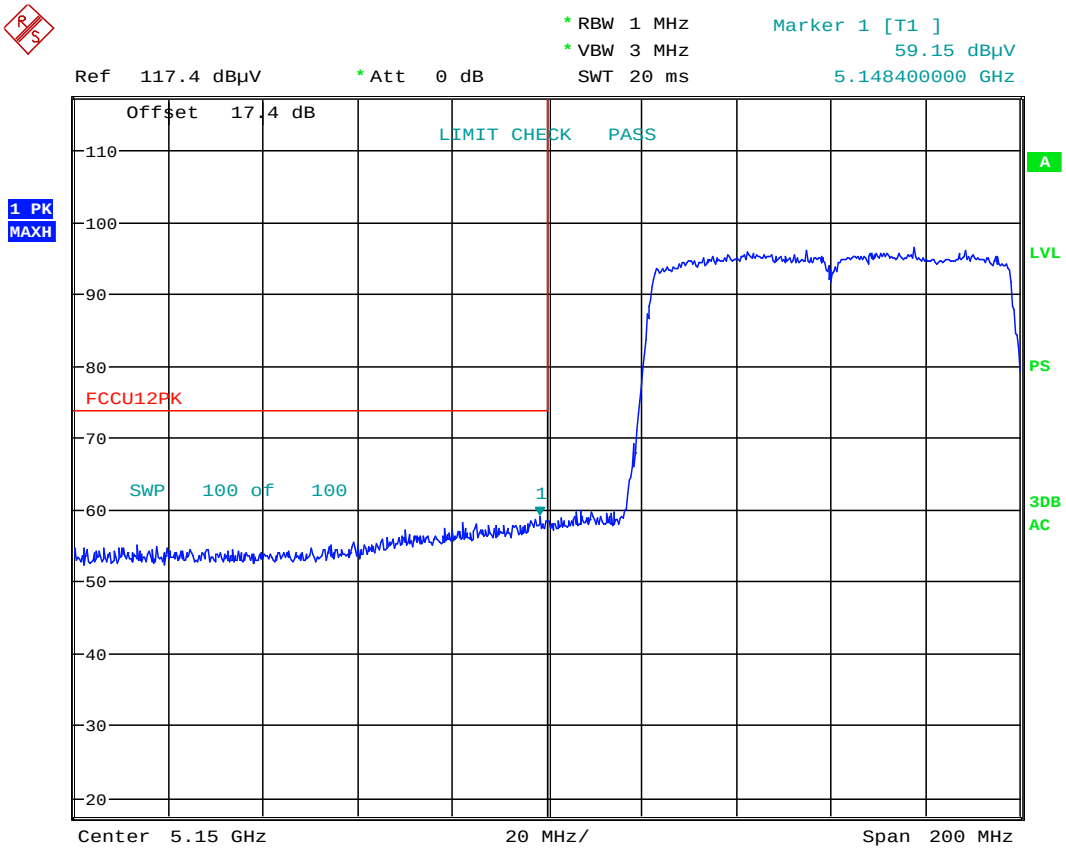


Plot 6-208. Radiated Restricted Lower Band Edge Plot (Average – UNII Band 1)

© 2015 PCTEST Engineering Laboratory, Inc.

Antenna-2 Radiated Band Edge Measurements (80MHz BW)

§15.407(b.1)(b.2) §15.205 §15.209



Date: 23.JAN.2015 14:42:34

Plot 6-209. Radiated Restricted Lower Band Edge Plot (Peak – UNII Band 1)

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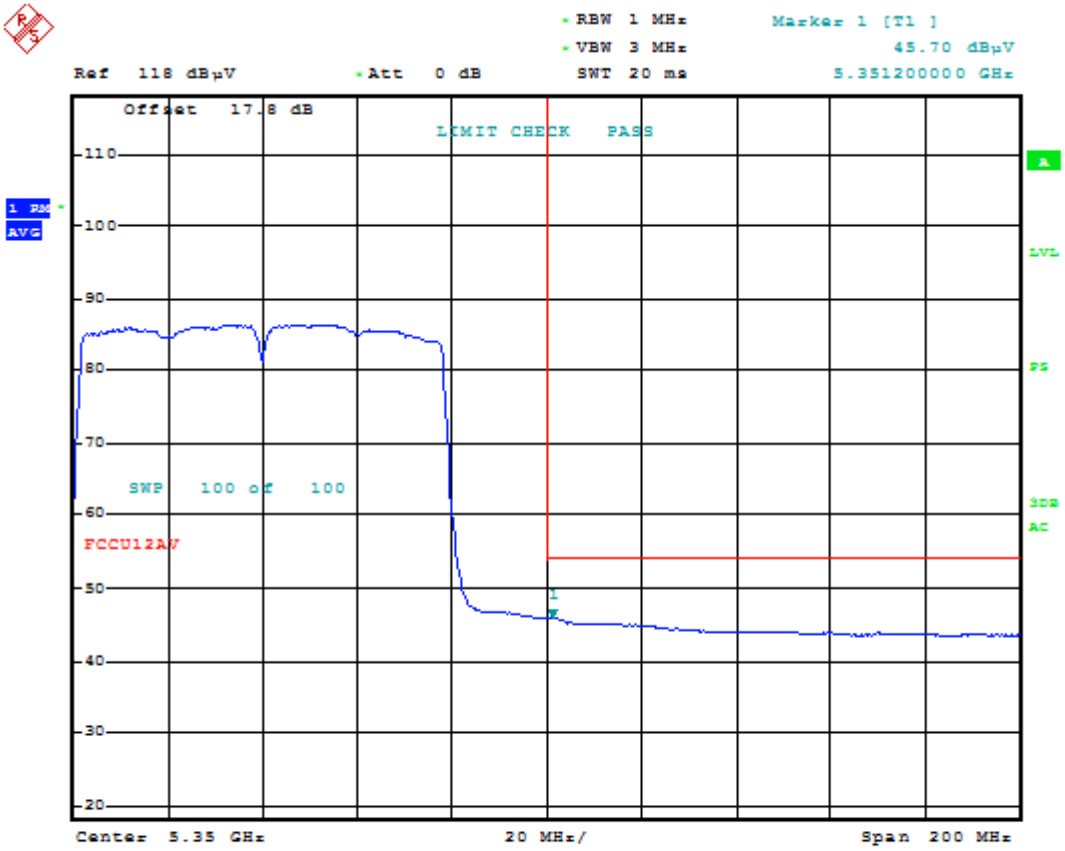
Antenna-2 Radiated Band Edge Measurements (80MHz BW)

§15.407(b.1)(b.2) §15.205 §15.209

Worst Case Mode:	802.11ac (80MHz)
Worst Case Transfer Rate:	MCS0
Distance of Measurements:	3 Meters
Operating Frequency:	5290MHz
Channel:	58



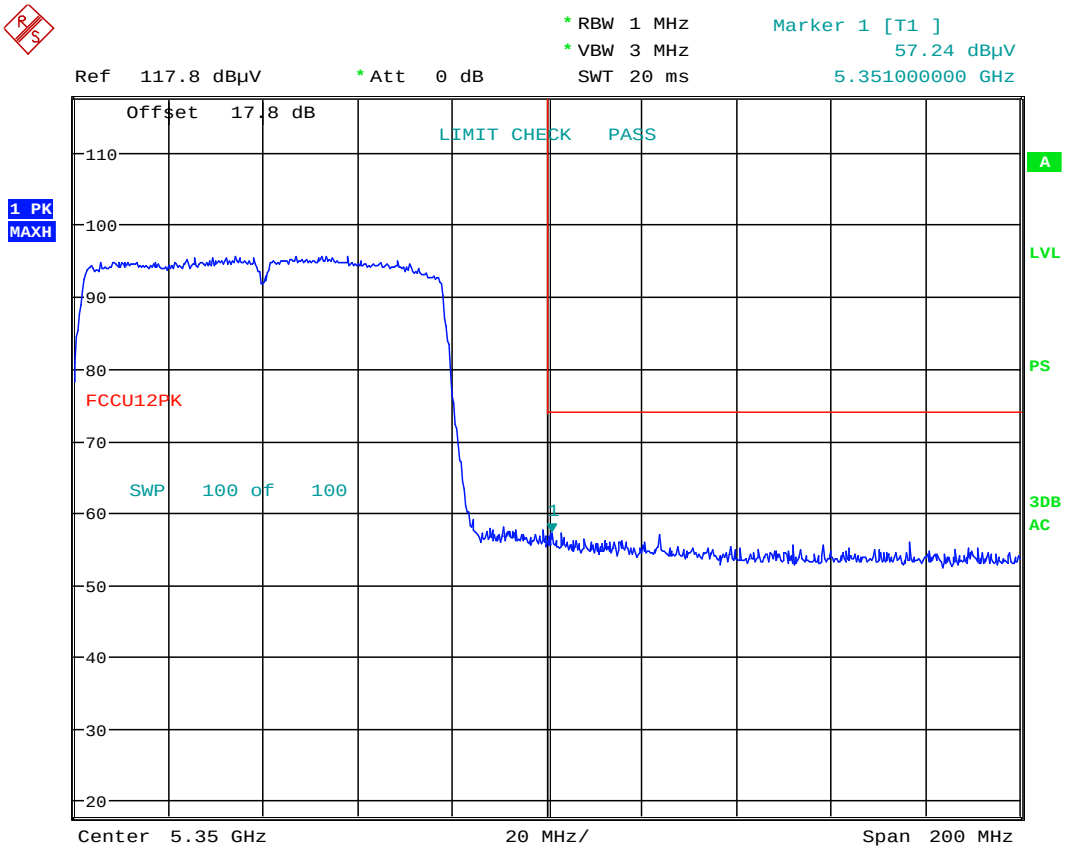
Date: 23.JAN.2015 15:01:13

Plot 6-210. Radiated Restricted Upper Band Edge Plot (Average – UNII Band 2A)

© 2015 PCTEST Engineering Laboratory, Inc.

Antenna-2 Radiated Band Edge Measurements (80MHz BW)

§15.407(b.1)(b.2) §15.205 §15.209



Date: 23.JAN.2015 15:02:55

Plot 6-211. Radiated Restricted Upper Band Edge Plot (Peak – UNII Band 2A)

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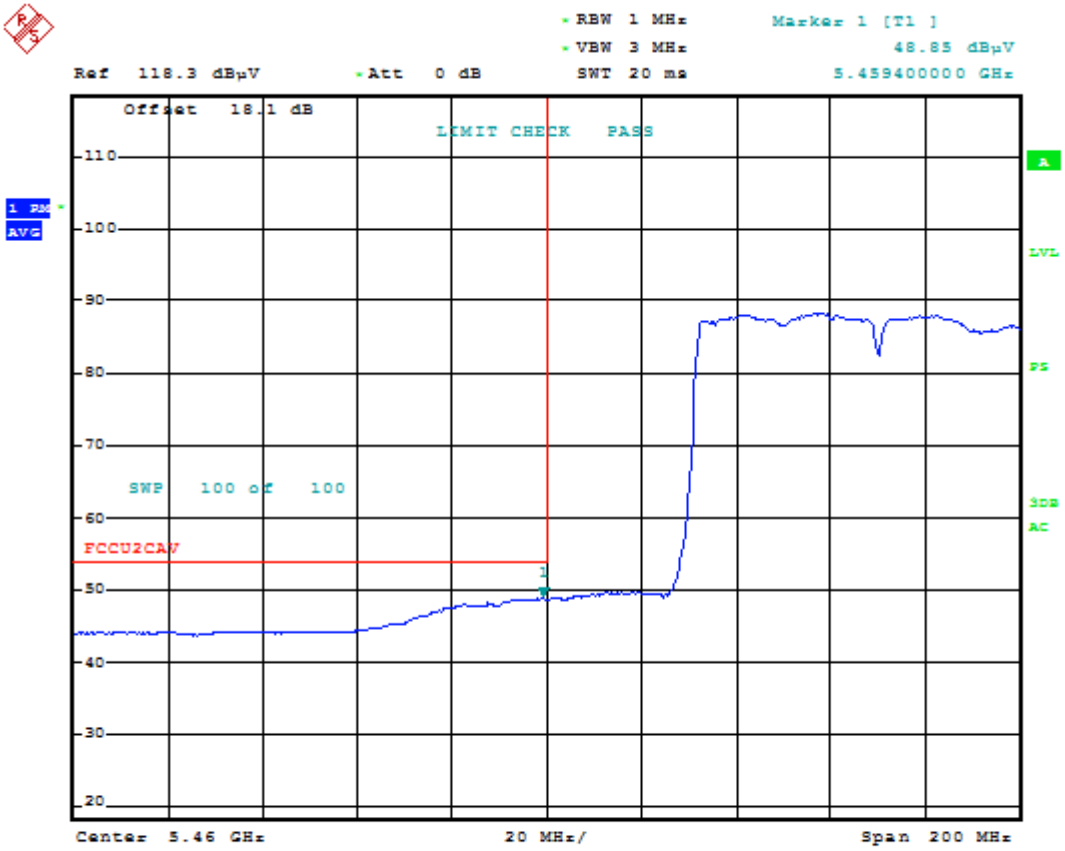
Antenna-2 Radiated Band Edge Measurements (80MHz BW)
§15.407(b.1)(b.2) §15.205 §15.209

Worst Case Mode:	802.11ac (80MHz)
Worst Case Transfer Rate:	MCS0
Distance of Measurements:	3 Meters
Operating Frequency:	5530MHz
Channel:	106



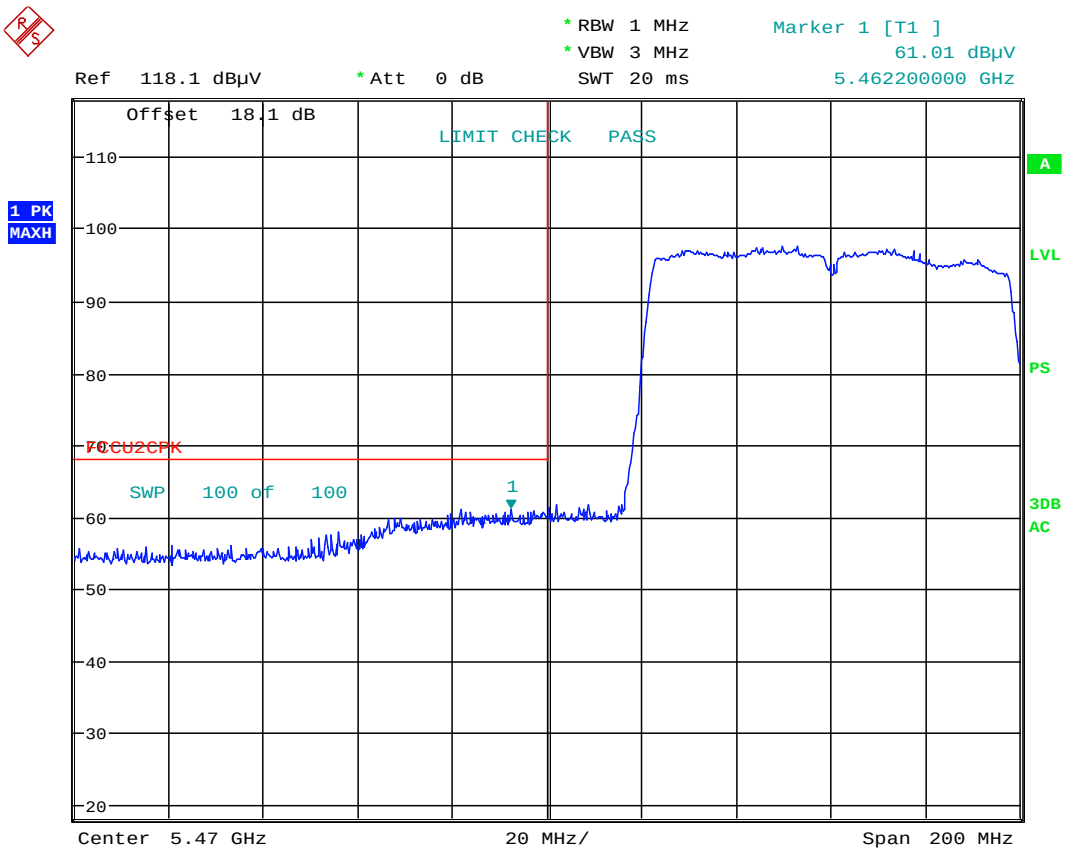
Date: 23.JAN.2015 15:17:30

Plot 6-212. Radiated Restricted Lower Band Edge Plot (Average – UNII Band 2C)

© 2015 PCTEST Engineering Laboratory, Inc.

Antenna-2 Radiated Band Edge Measurements (80MHz BW)

§15.407(b.1)(b.2) §15.205 §15.209



Date: 23.JAN.2015 15:18:49

Plot 6-213. Radiated Restricted Lower Band Edge Plot (Peak – UNII Band 2C)

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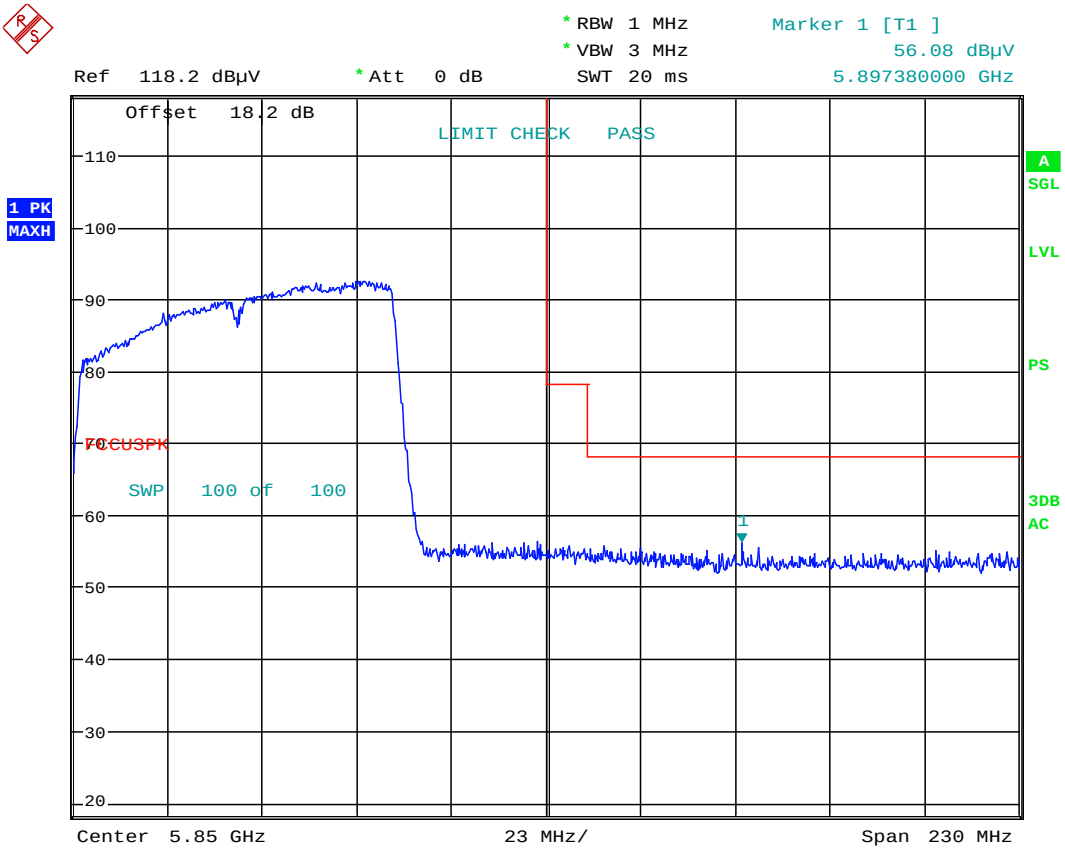
Antenna-2 Radiated Band Edge Measurements (80MHz BW)

§15.407(b.1)(b.2) §15.205 §15.209

Worst Case Mode:	802.11ac (80MHz)
Worst Case Transfer Rate:	MCS0
Distance of Measurements:	3 Meters
Operating Frequency:	5775MHz
Channel:	155



Date: 23.JAN.2015 15:51:15

Plot 6-214. Radiated Upper Band Edge Plot (Peak – UNII Band 3)

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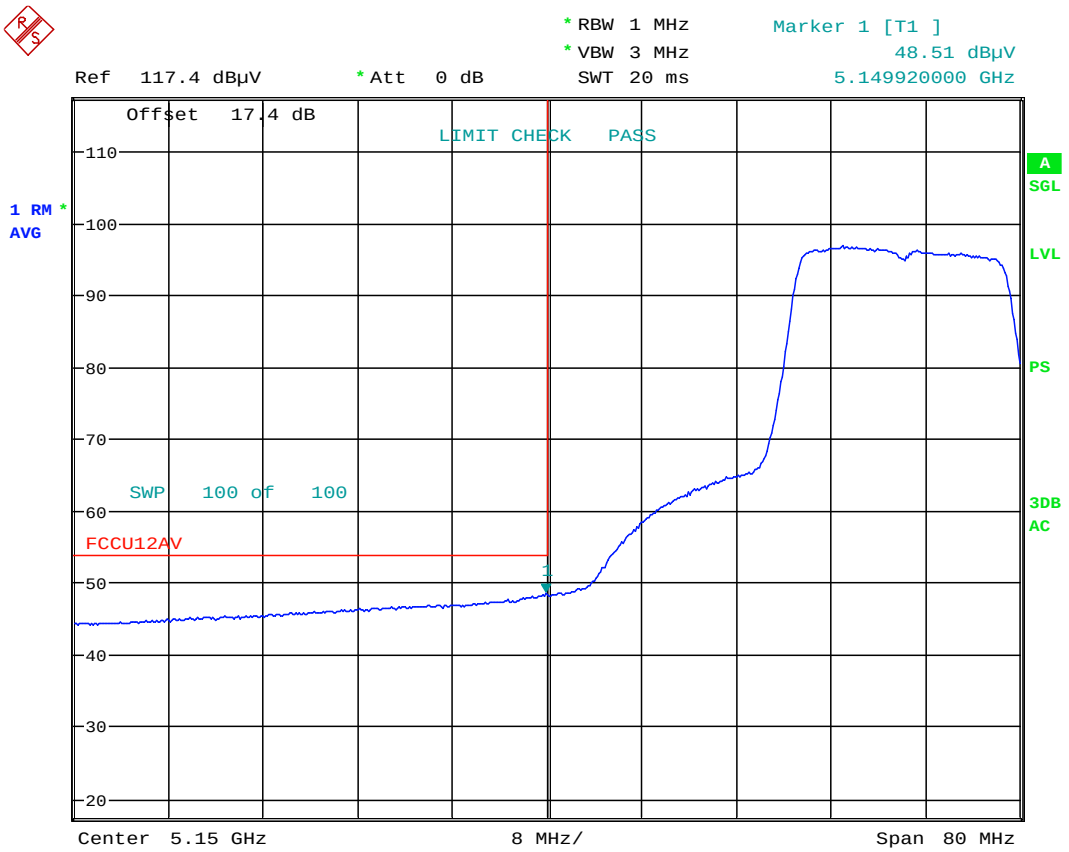
6.7.9 MIMO Radiated Band Edge Measurements (20MHz BW)

§15.407(b.1)(b.2) §15.205 §15.209

Worst Case Mode:	802.11n (20MHz)
Worst Case Transfer Rate:	MCS8
Distance of Measurements:	3 Meters
Operating Frequency:	5180MHz
Channel:	36



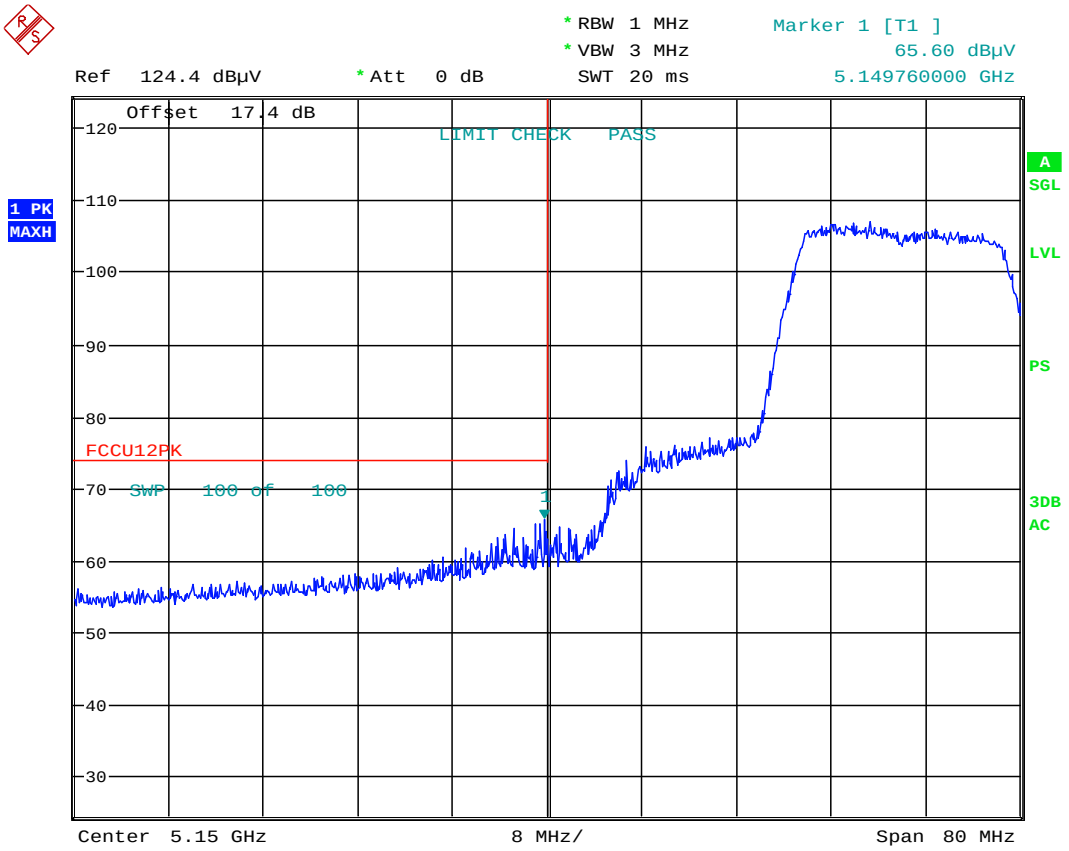
Date: 26.JAN.2015 11:37:11

Plot 6-215. Radiated Restricted Lower Band Edge Plot (Average – UNII Band 1)

© 2015 PCTEST Engineering Laboratory, Inc.

MIMO Radiated Band Edge Measurements (20MHz BW)

§15.407(b.1)(b.2) §15.205 §15.209



Date: 26.JAN.2015 11:38:47

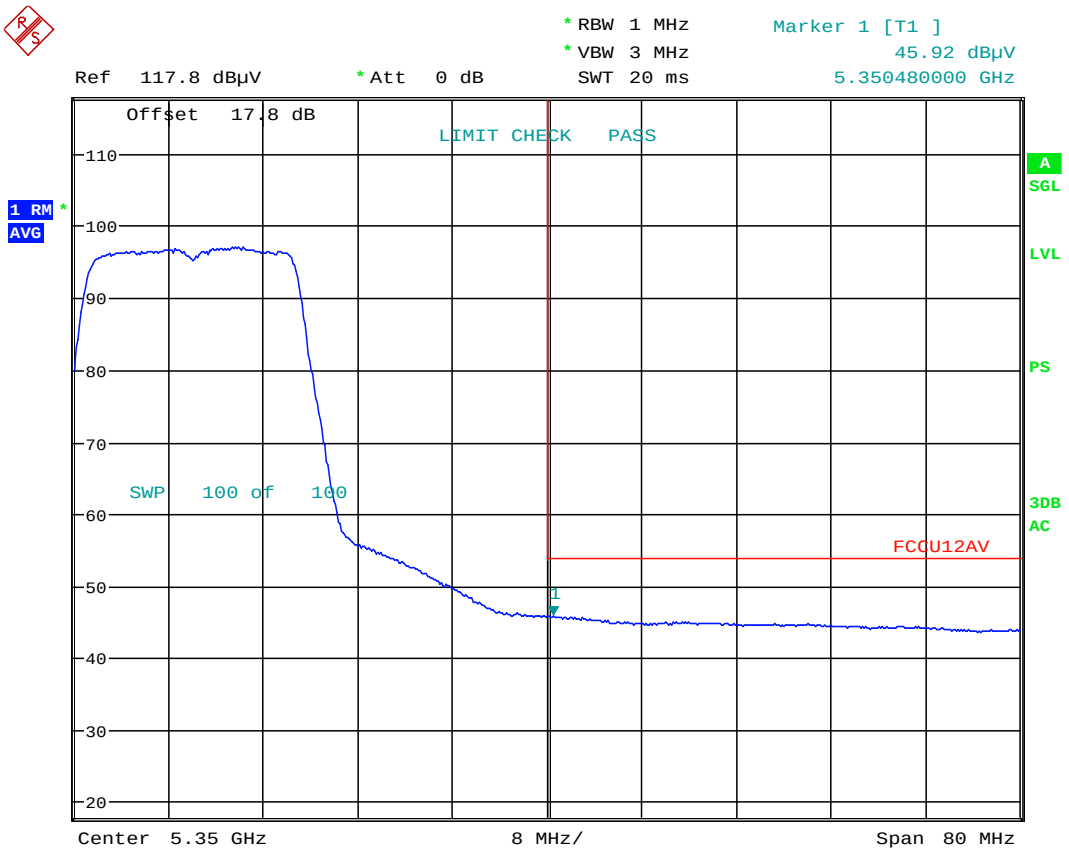
Plot 6-216. Radiated Restricted Lower Band Edge Plot (Peak – UNII Band 1)

© 2015 PCTEST Engineering Laboratory, Inc.

MIMO Radiated Band Edge Measurements (20MHz BW)

§15.407(b.1)(b.2) §15.205 §15.209

Worst Case Mode:	802.11n (20MHz)
Worst Case Transfer Rate:	MCS8
Distance of Measurements:	3 Meters
Operating Frequency:	5320MHz
Channel:	64



Date: 26.JAN.2015 11:43:54

Plot 6-217. Radiated Restricted Upper Band Edge Plot (Average – UNII Band 2A)

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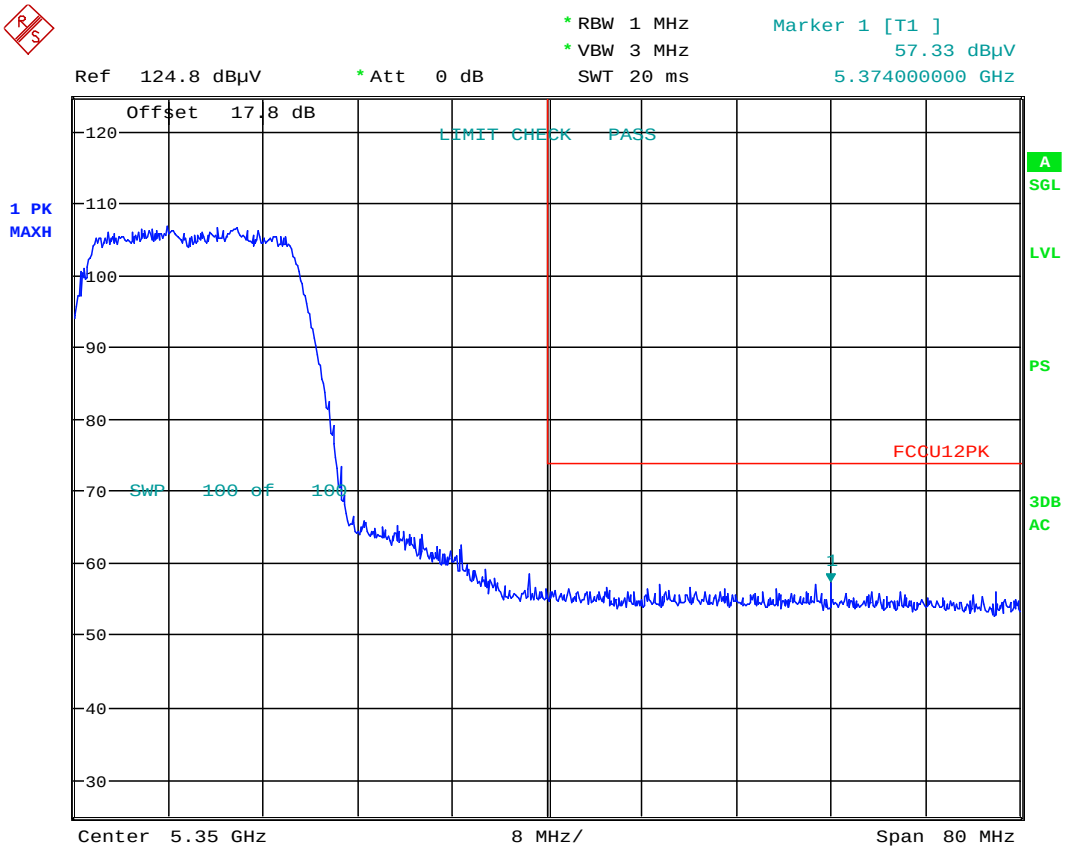
MIMO Radiated Band Edge Measurements (20MHz BW)

§15.407(b.1)(b.2) §15.205 §15.209



Date: 26.JAN.2015 12:06:55

Plot 6-218. Radiated Restricted Upper Band Edge Plot (Peak – UNII Band 2A)

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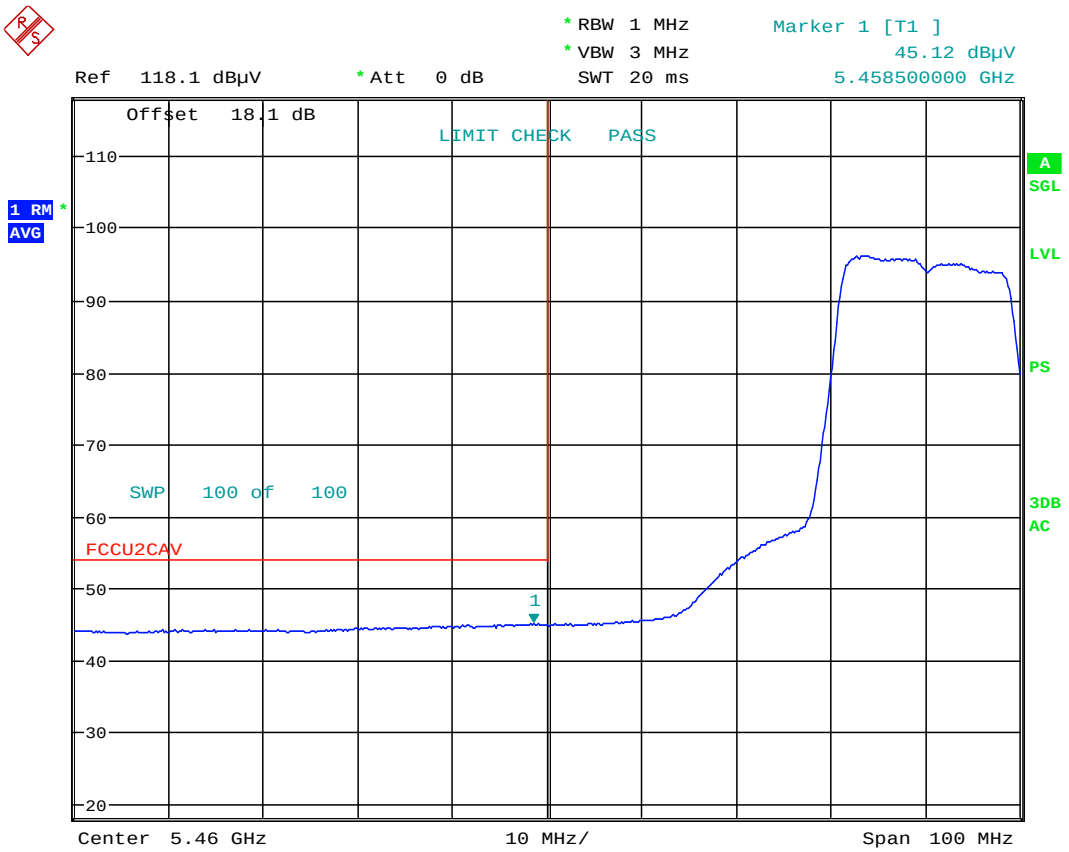
MIMO Radiated Band Edge Measurements (20MHz BW)

§15.407(b.1)(b.2) §15.205 §15.209

Worst Case Mode:	802.11n (20MHz)
Worst Case Transfer Rate:	MCS8
Distance of Measurements:	3 Meters
Operating Frequency:	5500MHz
Channel:	100



Date: 26.JAN.2015 12:13:17

Plot 6-219. Radiated Restricted Lower Band Edge Plot (Average – UNII Band 2C)

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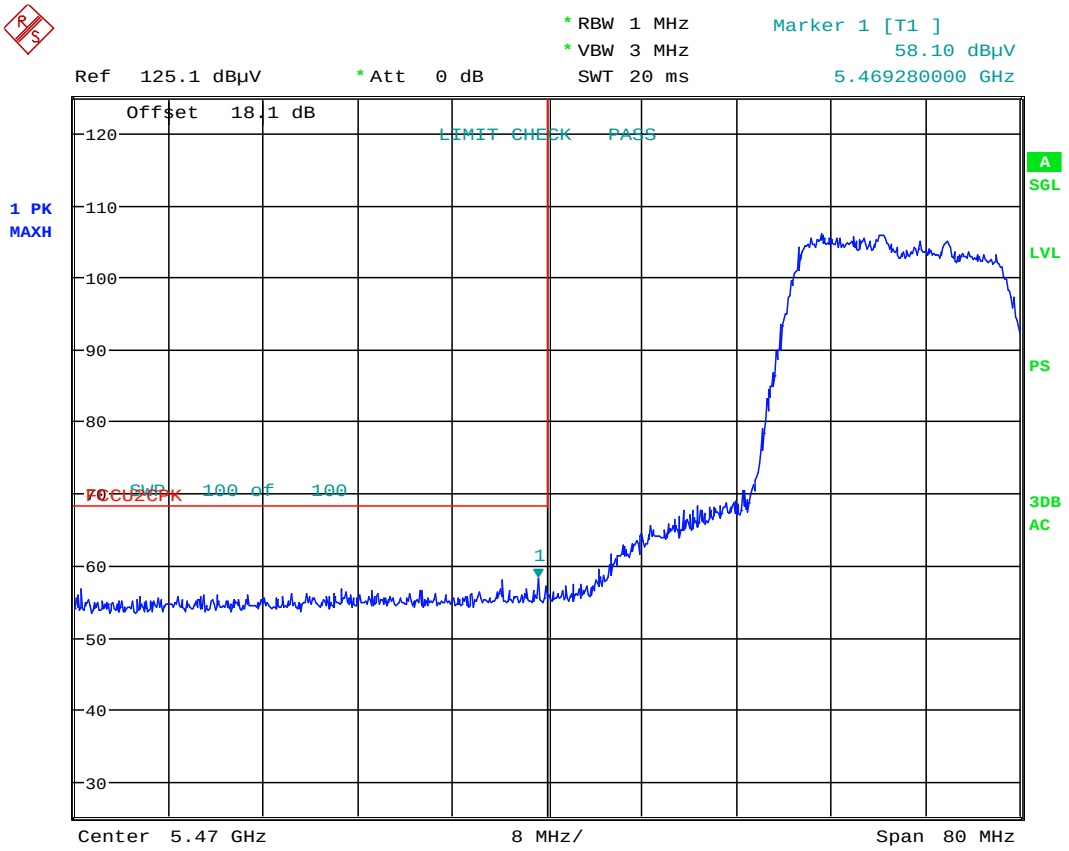
MIMO Radiated Band Edge Measurements (20MHz BW)

§15.407(b.1)(b.2) §15.205 §15.209



Date: 26.JAN.2015 12:25:46

Plot 6-220. Radiated Restricted Lower Band Edge Plot (Peak – UNII Band 2C)

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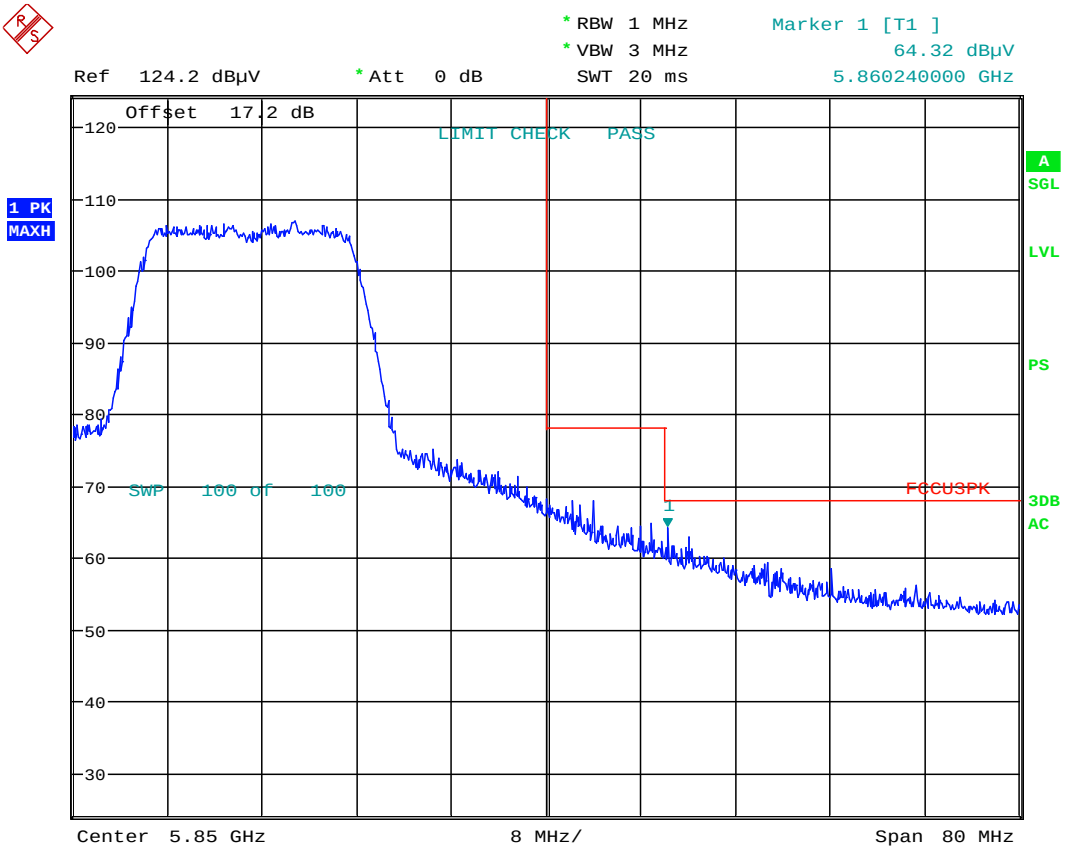
MIMO Radiated Band Edge Measurements (20MHz BW)

§15.407(b.1)(b.2) §15.205 §15.209

Worst Case Mode:	802.11n (20MHz)
Worst Case Transfer Rate:	MCS8
Distance of Measurements:	3 Meters
Operating Frequency:	5825MHz
Channel:	165



Date: 7.FEB.2015 00:22:30

Plot 6-221. Radiated Upper Band Edge Plot (Peak – UNII Band 3)

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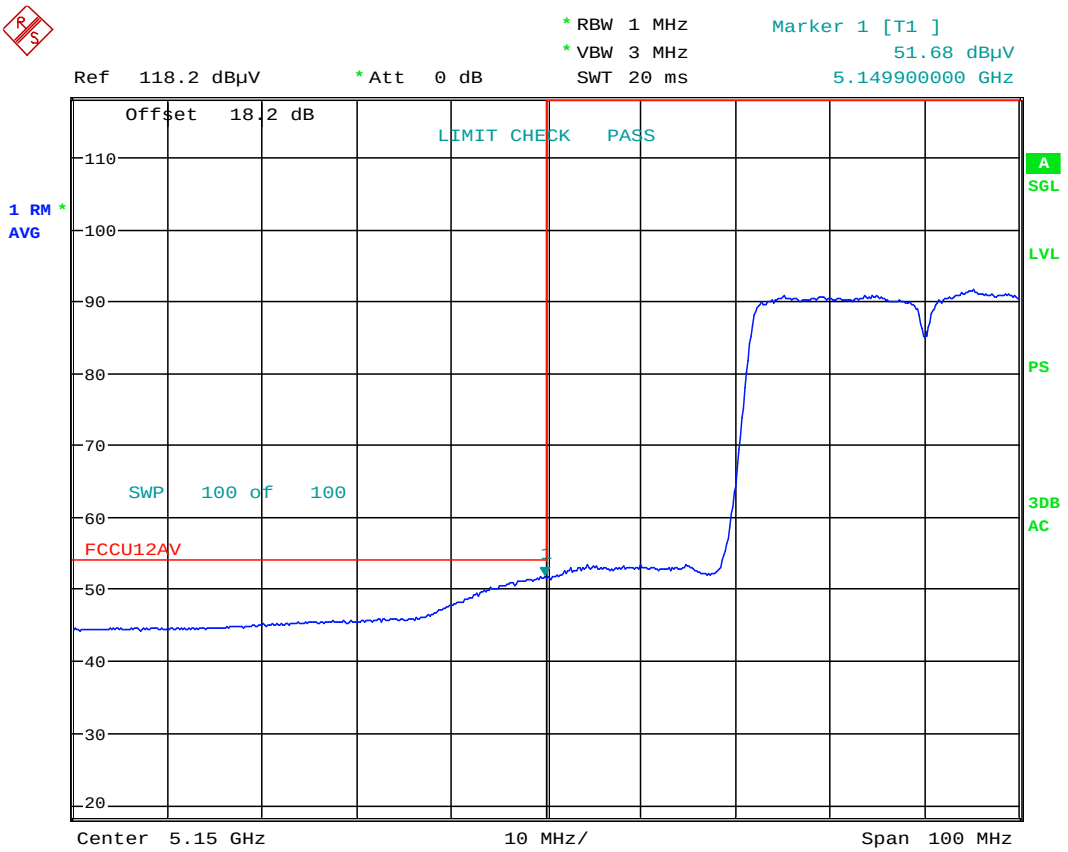
6.7.10 MIMO Radiated Band Edge Measurements (40MHz BW)

§15.407(b.1)(b.2) §15.205 §15.209

Worst Case Mode:	802.11n (40MHz)
Worst Case Transfer Rate:	MCS8
Distance of Measurements:	3 Meters
Operating Frequency:	5190MHz
Channel:	38



Date: 26.JAN.2015 12:39:17

Plot 6-222. Radiated Restricted Lower Band Edge Plot (Average – UNII Band 1)

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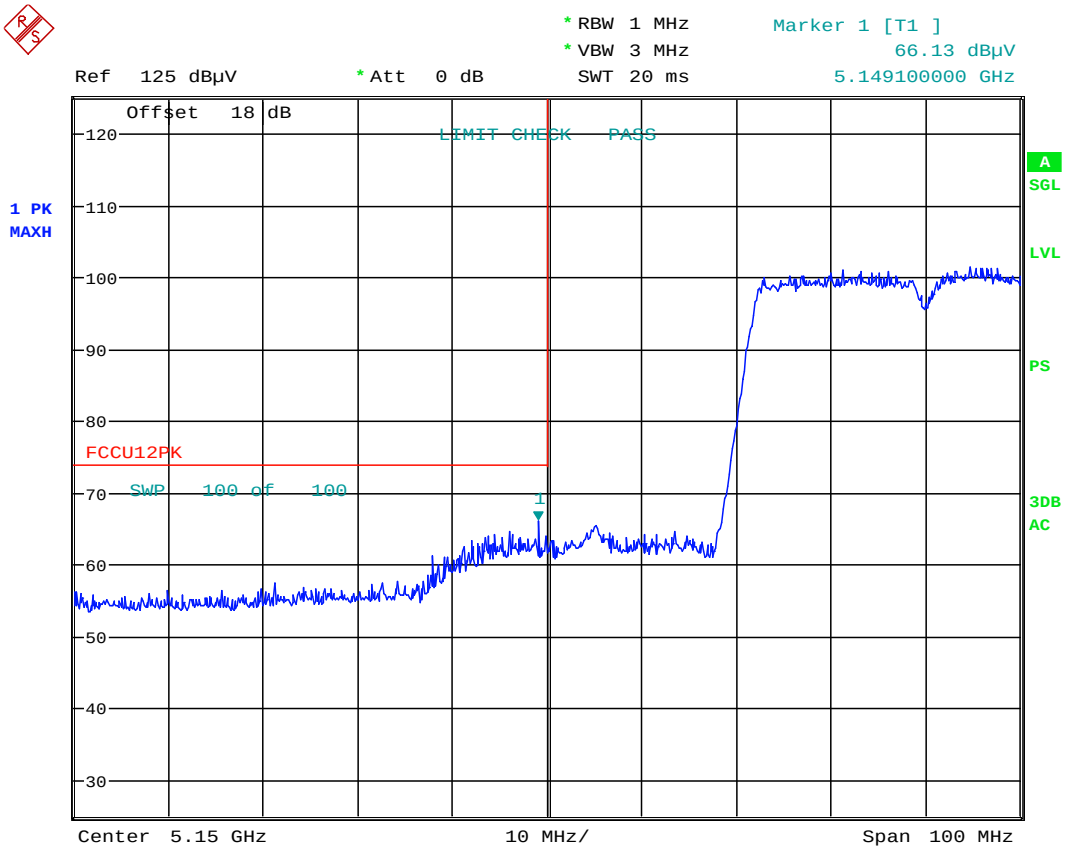
MIMO Radiated Band Edge Measurements (40MHz BW)

§15.407(b.1)(b.2) §15.205 §15.209



Date: 26.JAN.2015 12:44:57

Plot 6-223. Radiated Restricted Lower Band Edge Plot (Peak – UNII Band 1)

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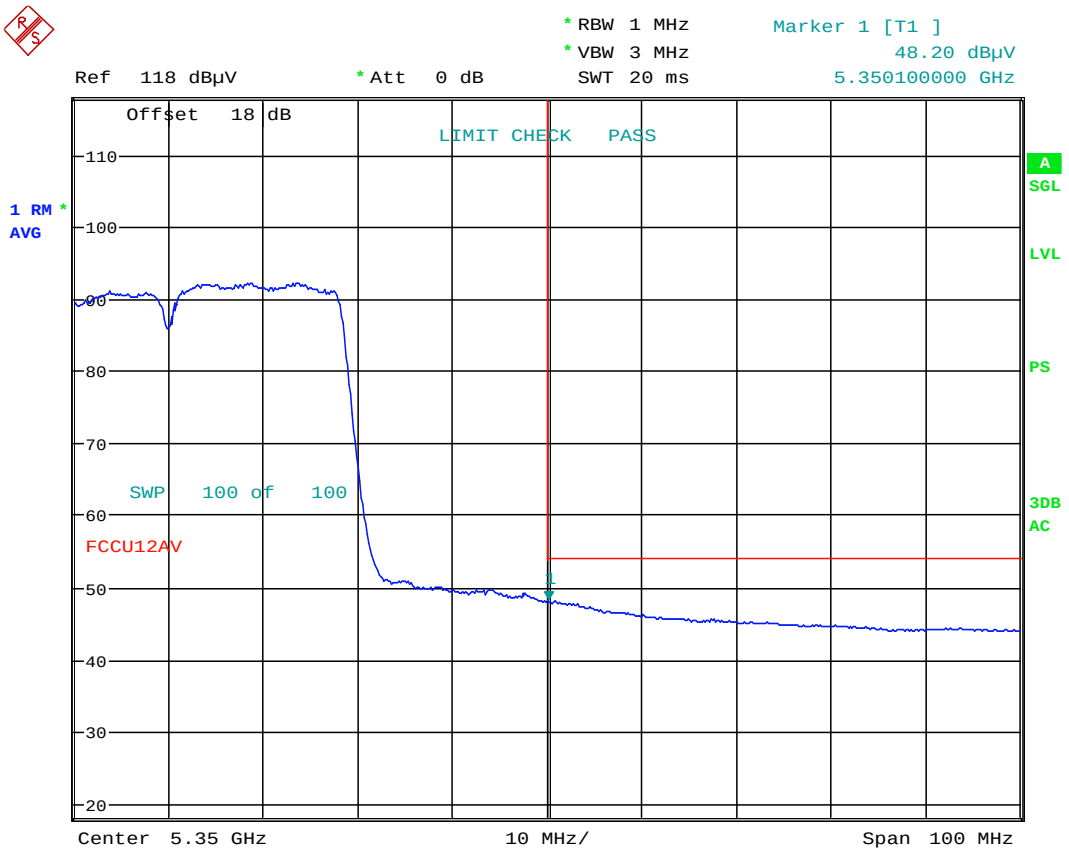
MIMO Radiated Band Edge Measurements (40MHz BW)

§15.407(b.1)(b.2) §15.205 §15.209

Worst Case Mode:	802.11n (40MHz)
Worst Case Transfer Rate:	MCS8
Distance of Measurements:	3 Meters
Operating Frequency:	5310MHz
Channel:	62



Date: 26.JAN.2015 11:53:09

Plot 6-224. Radiated Restricted Upper Band Edge Plot (Average – UNII Band 2A)

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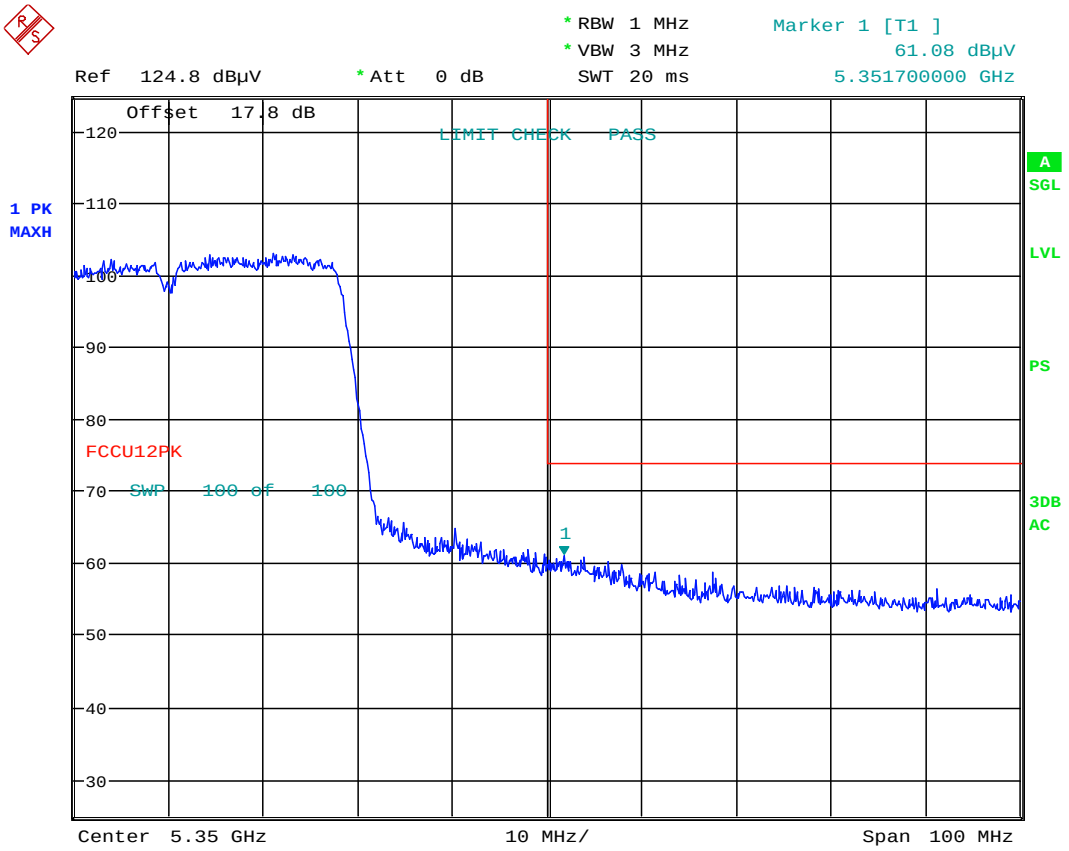
MIMO Radiated Band Edge Measurements (40MHz BW)

§15.407(b.1)(b.2) §15.205 §15.209



Date: 26.JAN.2015 12:05:17

Plot 6-225. Radiated Restricted Upper Band Edge Plot (Peak – UNII Band 2A)

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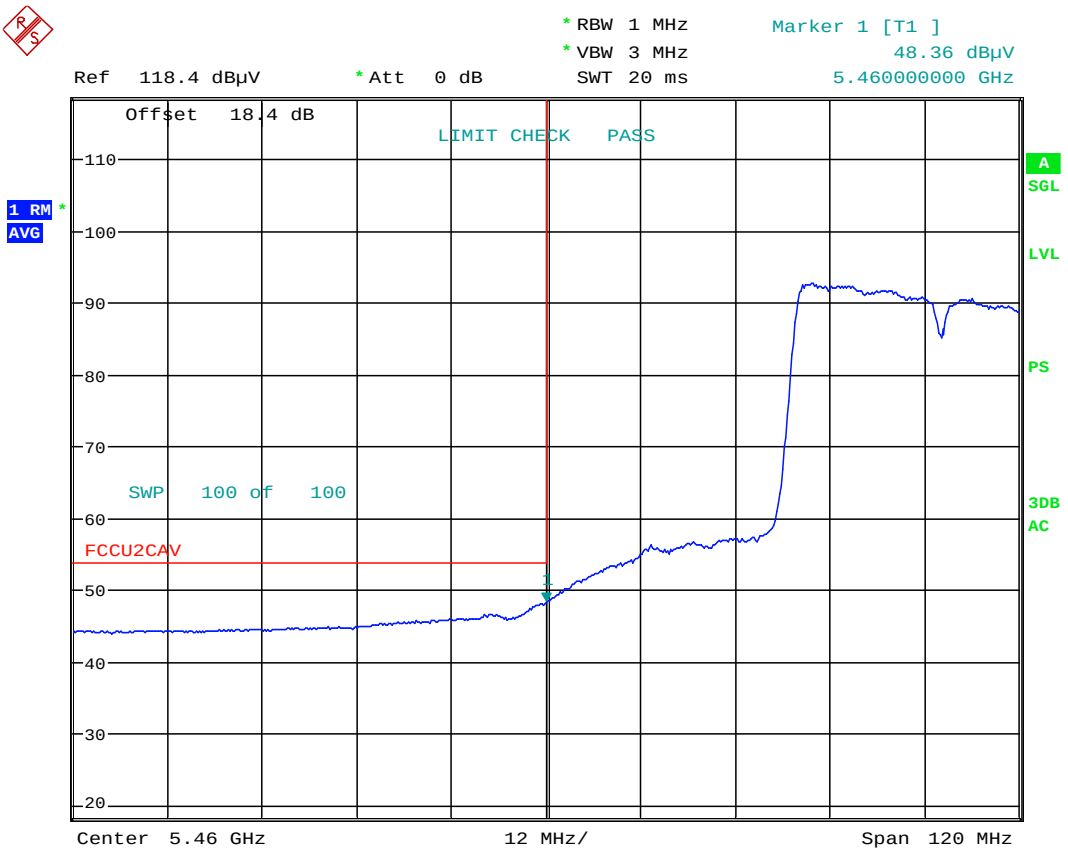
MIMO Radiated Band Edge Measurements (40MHz BW)

§15.407(b.1)(b.2) §15.205 §15.209

Worst Case Mode:	802.11n (40MHz)
Worst Case Transfer Rate:	MCS8
Distance of Measurements:	3 Meters
Operating Frequency:	5510MHz
Channel:	102



Date: 26.JAN.2015 12:15:50

Plot 6-226. Radiated Restricted Lower Band Edge Plot (Average – UNII Band 2C)

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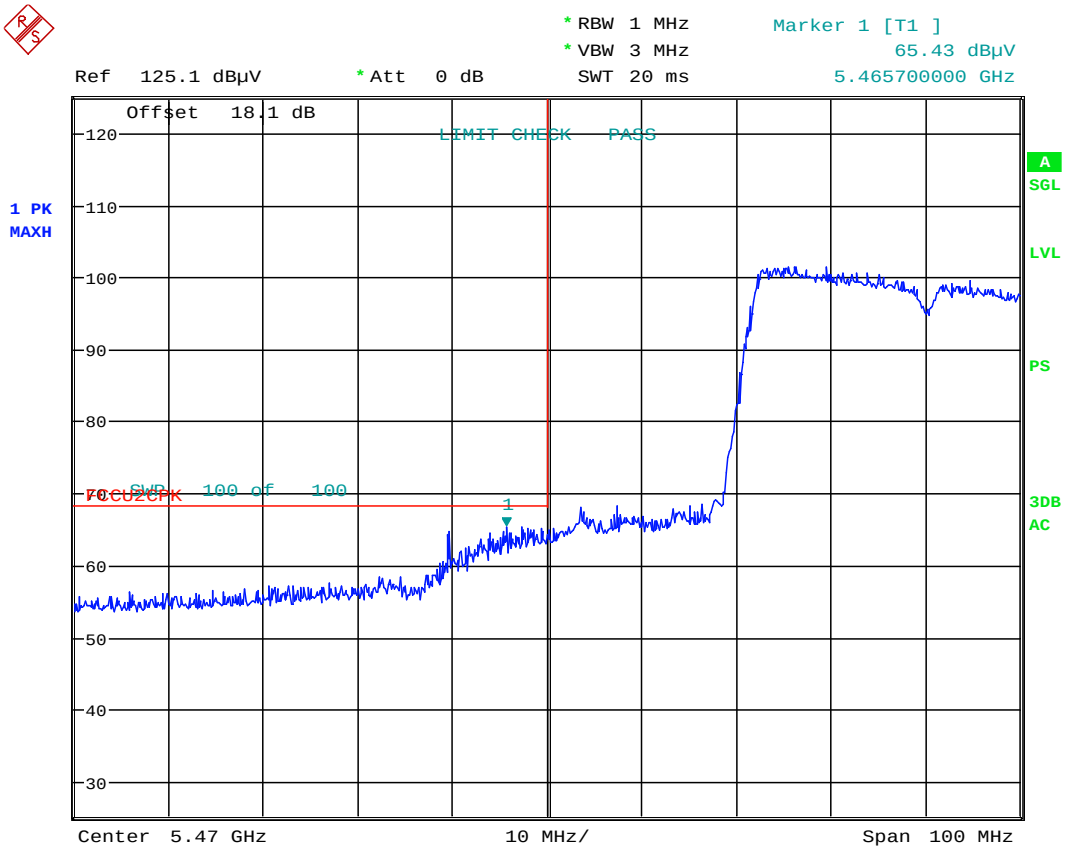
MIMO Radiated Band Edge Measurements (40MHz BW)

§15.407(b.1)(b.2) §15.205 §15.209



Date: 26.JAN.2015 12:23:57

Plot 6-227. Radiated Restricted Lower Band Edge Plot (Peak – UNII Band 2C)

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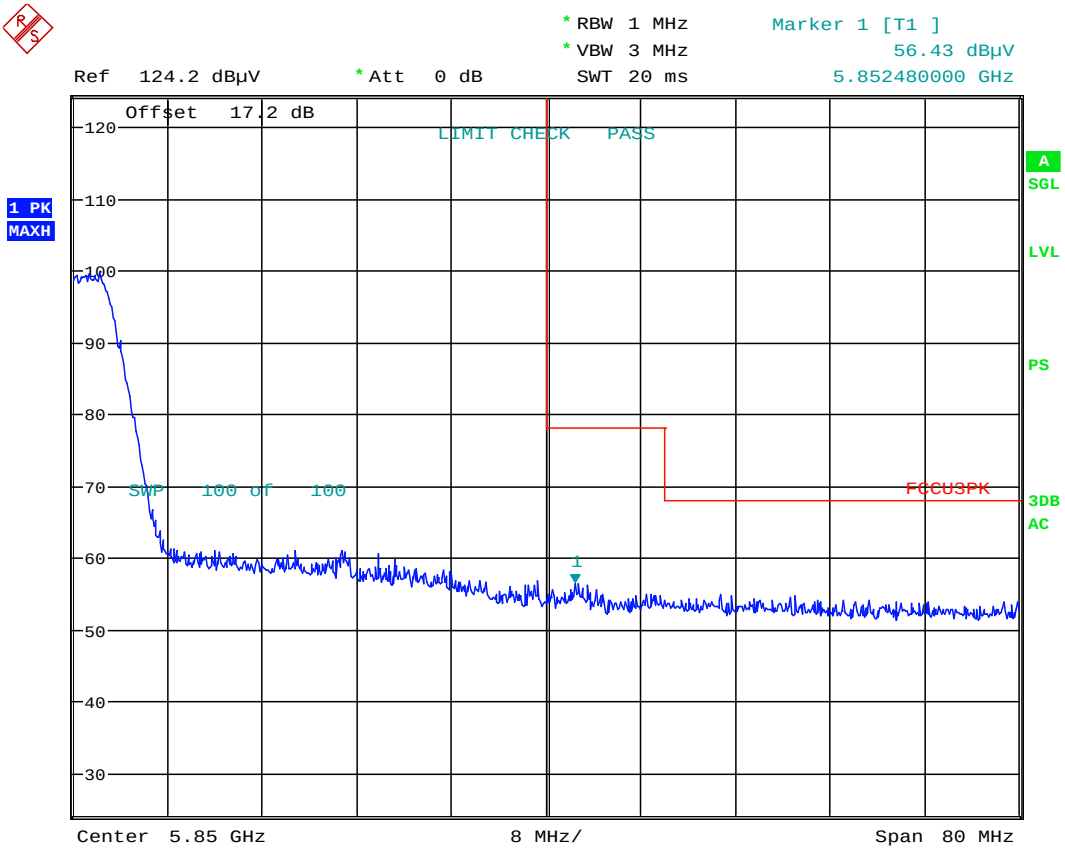
MIMO Radiated Band Edge Measurements (40MHz BW)

§15.407(b.1)(b.2) §15.205 §15.209

Worst Case Mode:	802.11n (40MHz)
Worst Case Transfer Rate:	MCS8
Distance of Measurements:	3 Meters
Operating Frequency:	5815MHz
Channel:	163



Date: 7.FEB.2015 00:23:52

Plot 6-228. Radiated Upper Band Edge Plot (Peak – UNII Band 3)

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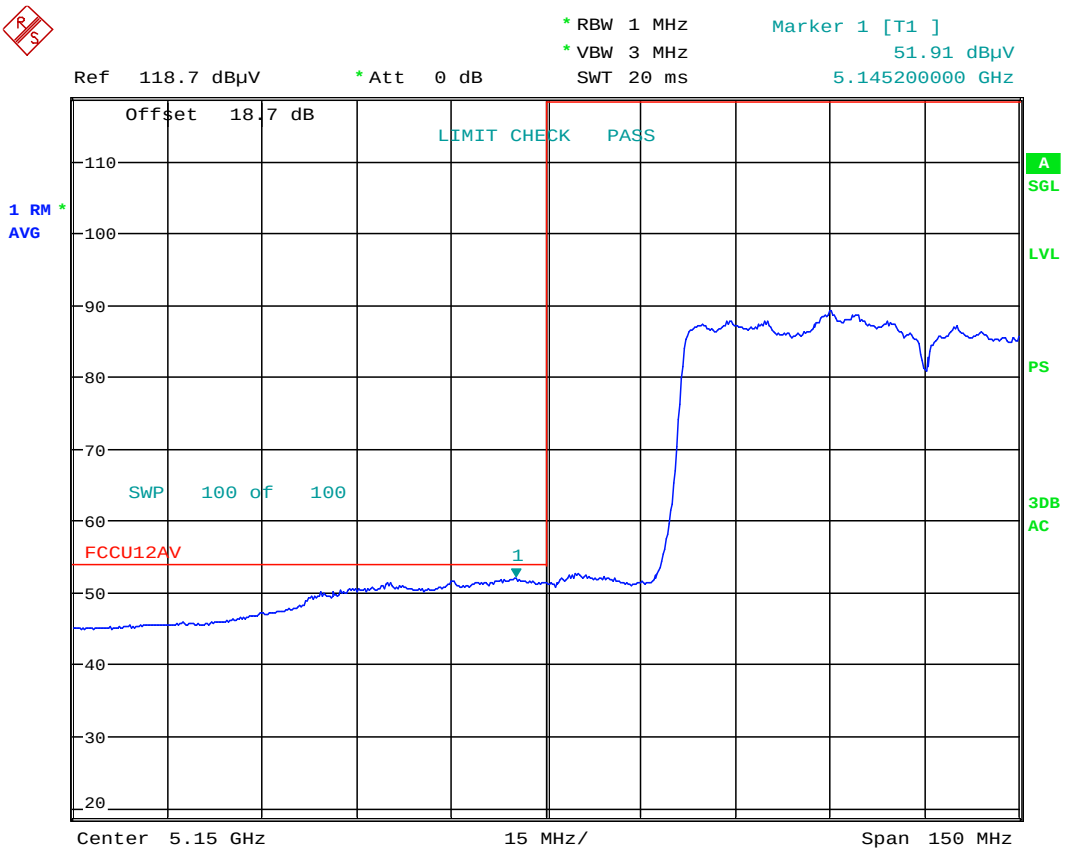
6.7.11 MIMO Radiated Band Edge Measurements (80MHz BW)

§15.407(b.1)(b.2) §15.205 §15.209

Worst Case Mode:	802.11ac (80MHz)
Worst Case Transfer Rate:	MCS0
Distance of Measurements:	3 Meters
Operating Frequency:	5210MHz
Channel:	42



Date: 26.JAN.2015 12:41:58

Plot 6-229. Radiated Restricted Lower Band Edge Plot (Average – UNII Band 1)

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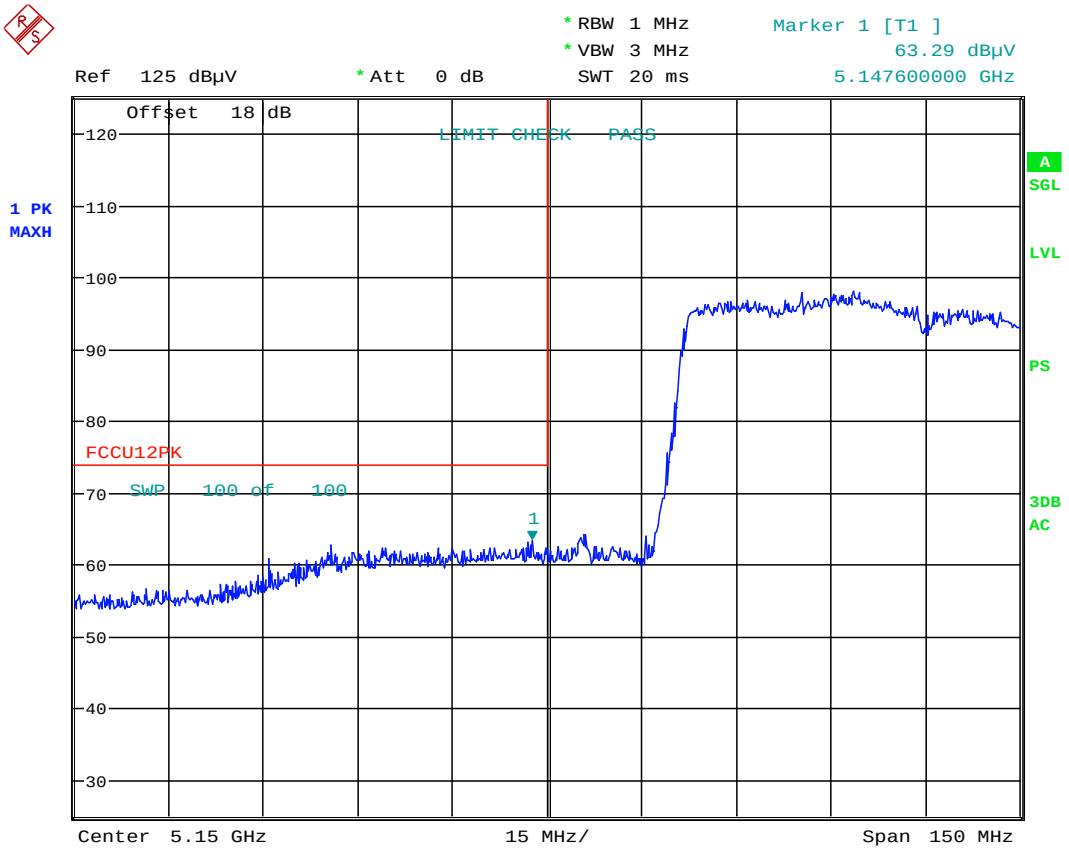
MIMO Radiated Band Edge Measurements (80MHz BW)

§15.407(b.1)(b.2) §15.205 §15.209



Date: 26.JAN.2015 12:43:18

Plot 6-230. Radiated Restricted Lower Band Edge Plot (Peak – UNII Band 1)

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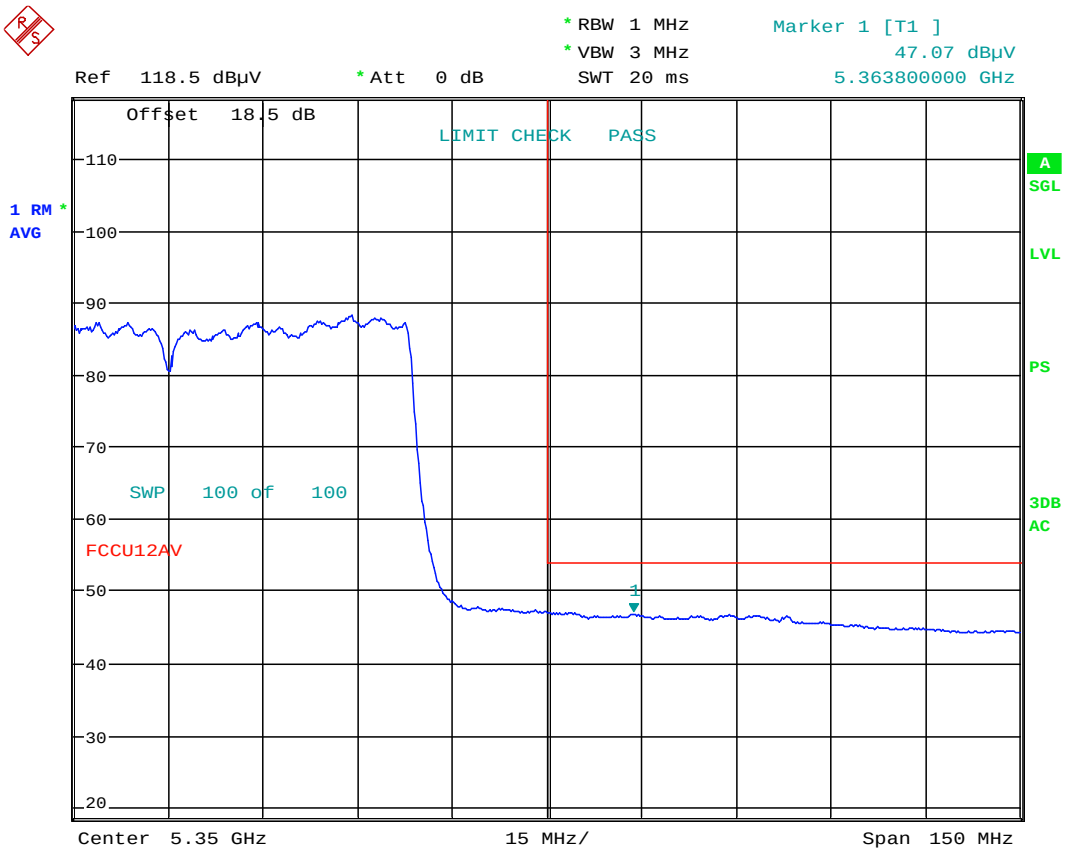
MIMO Radiated Band Edge Measurements (80MHz BW)

§15.407(b.1)(b.2) §15.205 §15.209

Worst Case Mode:	802.11ac (80MHz)
Worst Case Transfer Rate:	MCS0
Distance of Measurements:	3 Meters
Operating Frequency:	5290MHz
Channel:	58



Date: 26.JAN.2015 12:00:36

Plot 6-231. Radiated Restricted Upper Band Edge Plot (Average – UNII Band 2A)

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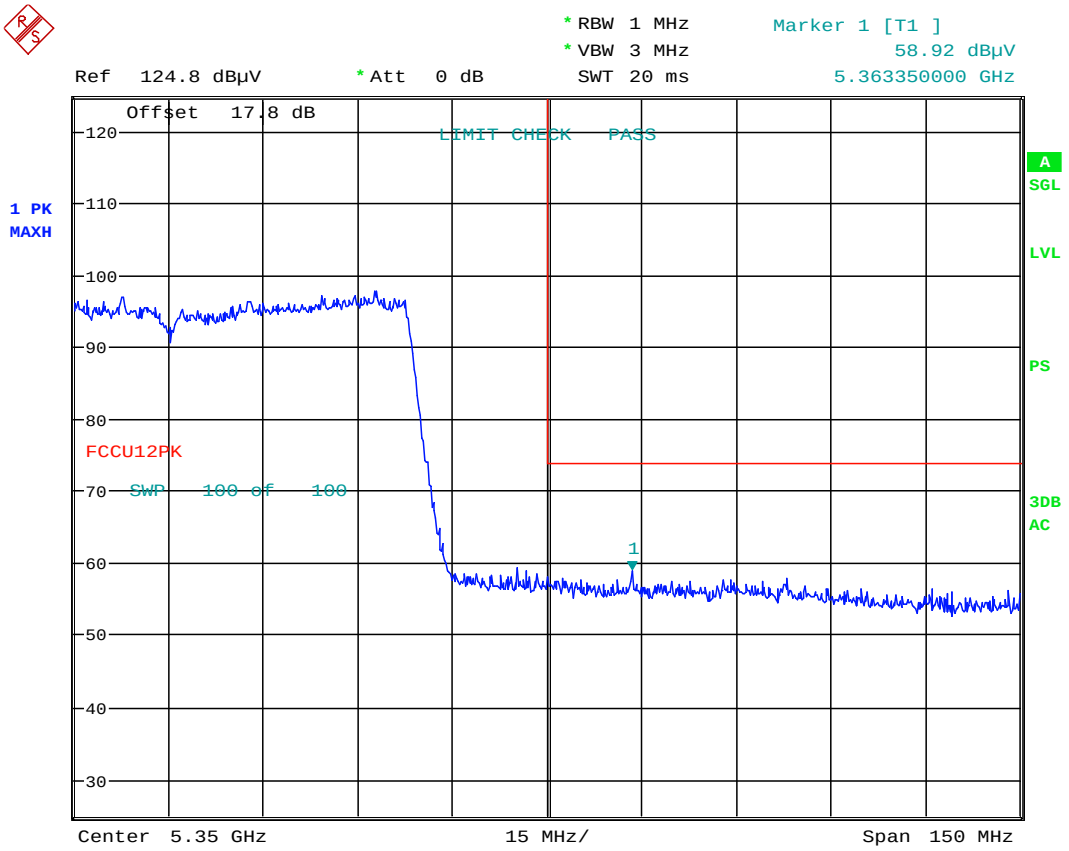
MIMO Radiated Band Edge Measurements (80MHz BW)

§15.407(b.1)(b.2) §15.205 §15.209



Date: 26.JAN.2015 12:02:07

Plot 6-232. Radiated Restricted Upper Band Edge Plot (Peak – UNII Band 2A)

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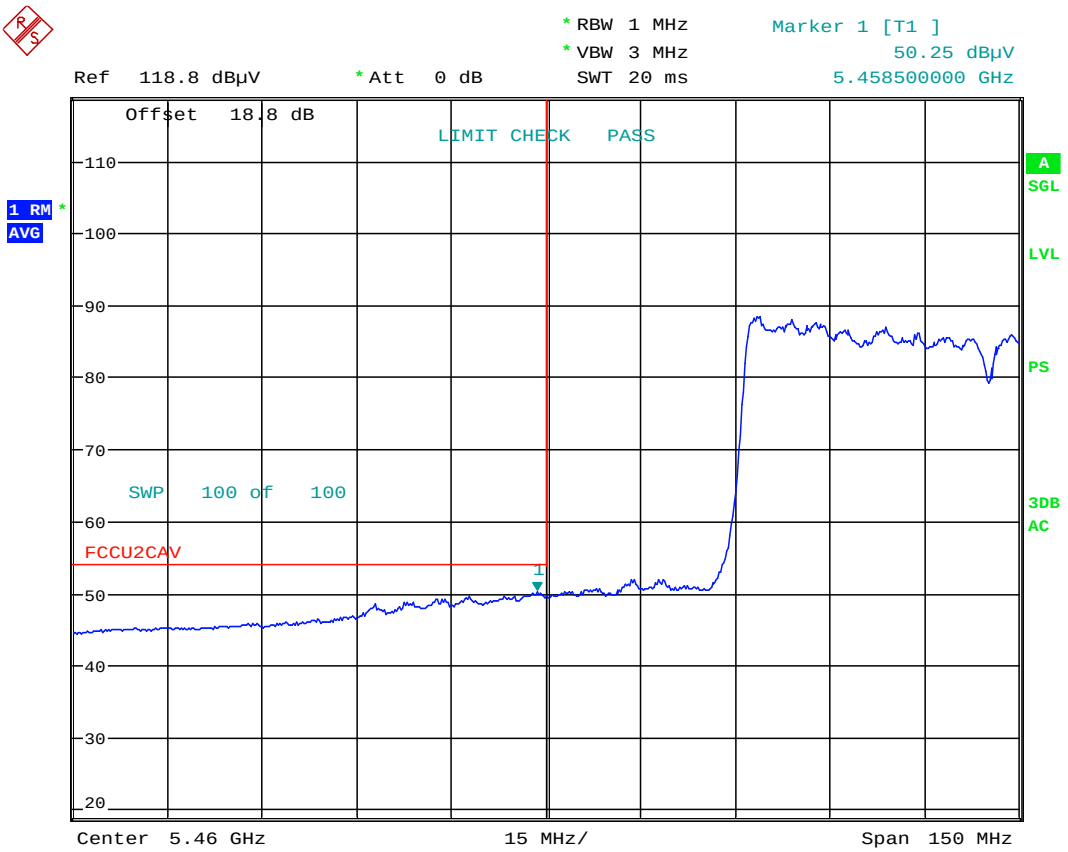
MIMO Radiated Band Edge Measurements (80MHz BW)

§15.407(b.1)(b.2) §15.205 §15.209

Worst Case Mode:	802.11ac (80MHz)
Worst Case Transfer Rate:	MCS0
Distance of Measurements:	3 Meters
Operating Frequency:	5530MHz
Channel:	106



Date: 26.JAN.2015 12:19:57

Plot 6-233. Radiated Restricted Lower Band Edge Plot (Average – UNII Band 2C)

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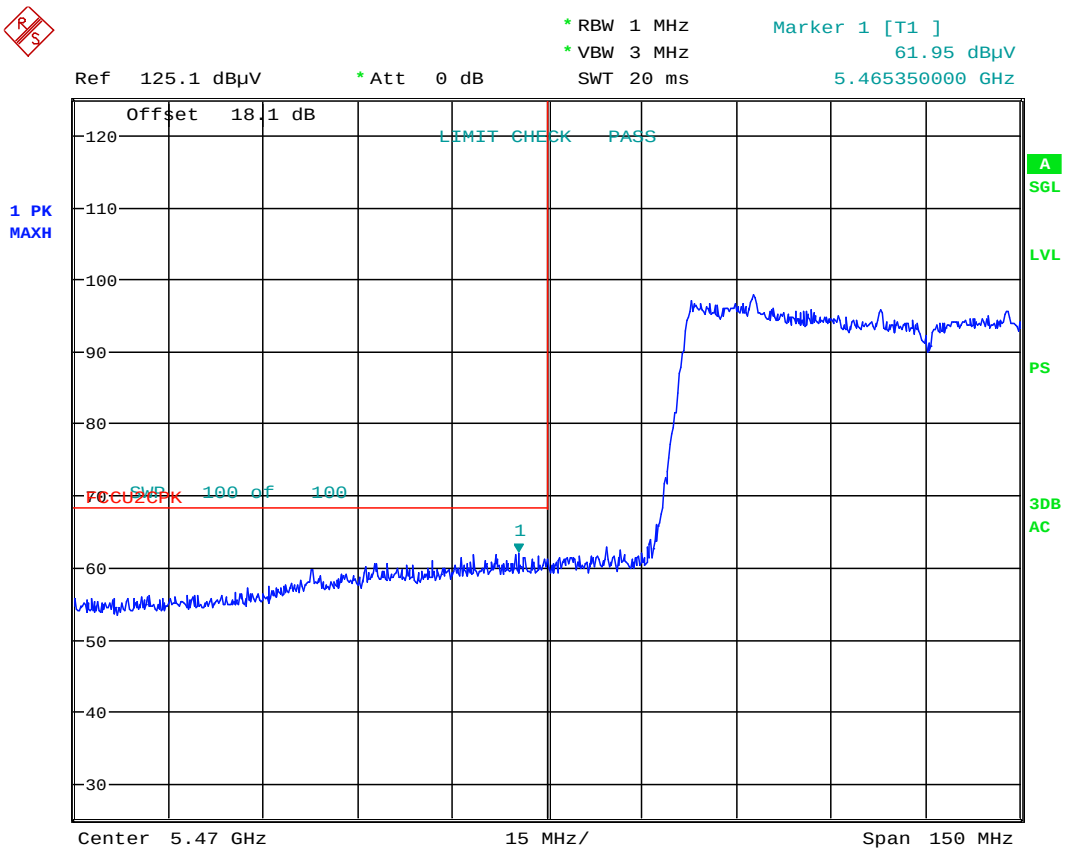
MIMO Radiated Band Edge Measurements (80MHz BW)

§15.407(b.1)(b.2) §15.205 §15.209



Date: 26.JAN.2015 12:21:41

Plot 6-234. Radiated Restricted Lower Band Edge Plot (Peak – UNII Band 2C)

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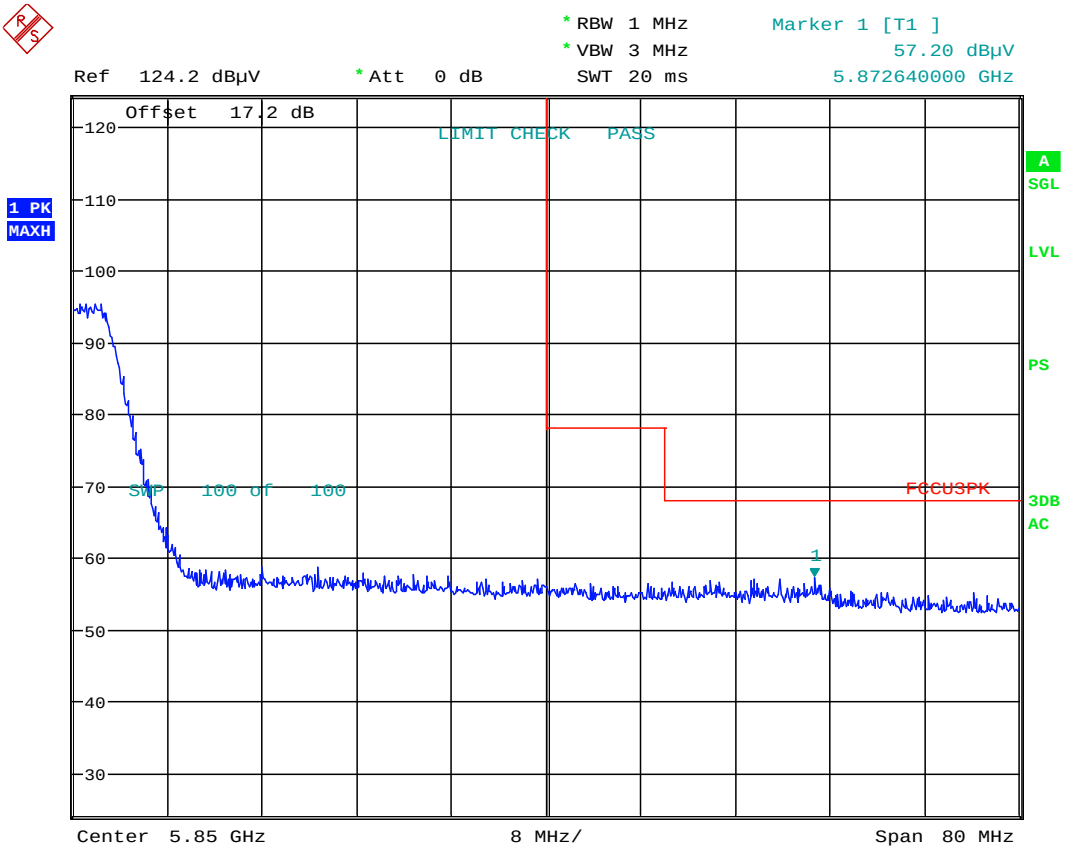
MIMO Radiated Band Edge Measurements (80MHz BW)

§15.407(b.1)(b.2) §15.205 §15.209

Worst Case Mode:	802.11ac (80MHz)
Worst Case Transfer Rate:	MCS0
Distance of Measurements:	3 Meters
Operating Frequency:	5775MHz
Channel:	155



Date: 7.FEB.2015 00:25:12

Plot 6-235. Radiated Upper Band Edge Plot (Peak – UNII Band 3)

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6.8 Radiated Spurious Emissions Measurements – Below 1GHz

§15.209

Test Overview and Limit

All out of band radiated spurious emissions are measured with a spectrum analyzer connected to a receive antenna while the EUT is operating at its maximum duty cycle, at maximum power, and at the appropriate frequencies. All data rates and modes were investigated for radiated spurious emissions. Only the radiated emissions of the configuration that produced the worst case emissions are reported in this section.

All out of band emissions appearing in a restricted band as specified in Section 15.205 of the Title 47 CFR must not exceed the limits shown in Table 6-58 per Section 15.209.

Frequency	Field Strength [µV/m]	Measured Distance [Meters]
0.009 – 0.490 MHz	2400/F (kHz)	300
0.490 – 1.705 MHz	24000/F (kHz)	30
1.705 – 30.00 MHz	30	30
30.00 – 88.00 MHz	100	3
88.00 – 216.0 MHz	150	3
216.0 – 960.0 MHz	200	3
Above 960.0 MHz	500	3

Table 6-58. Radiated Limits

Test Procedures Used

ANSI C63.4-2009

Test Settings

Quasi-Peak Field Strength Measurements

1. Analyzer center frequency was set to the frequency of the radiated spurious emission of interest
2. RBW = 120kHz (for emissions from 30MHz – 1GHz)
3. Detector = quasi-peak
4. Sweep time = auto couple
5. Trace mode = max hold
6. Trace was allowed to stabilize

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Test Setup

The EUT and measurement equipment were set up as shown in the diagram below.

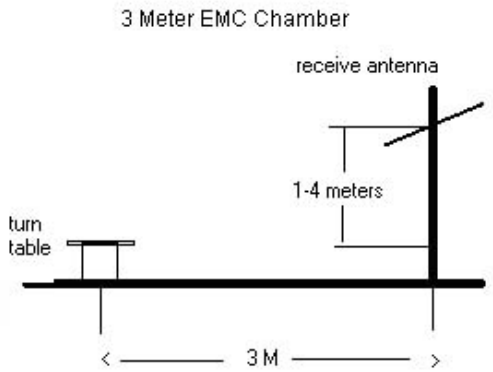

Figure 6-6. Test Instrument & Measurement Setup

Test Notes

1. All emissions lying in restricted bands specified in §15.205 are below the limit shown in Table 6-10.
2. The broadband receive antenna is manipulated through vertical and horizontal polarizations during the tests. The EUT is manipulated through three orthogonal planes.
3. This unit was tested with its standard battery.
4. The spectrum is investigated using a peak detector and final measurements are recorded using CISPR quasi peak detector. The worst-case emissions are reported however emissions whose levels were not within 20dB of the respective limits were not reported.
5. Emissions were measured at a 3 meter test distance.
6. Emissions are investigated while operating on the center channel of the mode, band, and modulation that produced the worst case results during the transmitter spurious emissions testing.
7. No spurious emissions were detected within 20dB of the limit below 30MHz.
8. The results recorded using the broadband antenna is known to correlate with the results obtained by using a tuned dipole with an acceptable degree of accuracy. The VSWR for the measurement antenna was found to be less than 2:1.

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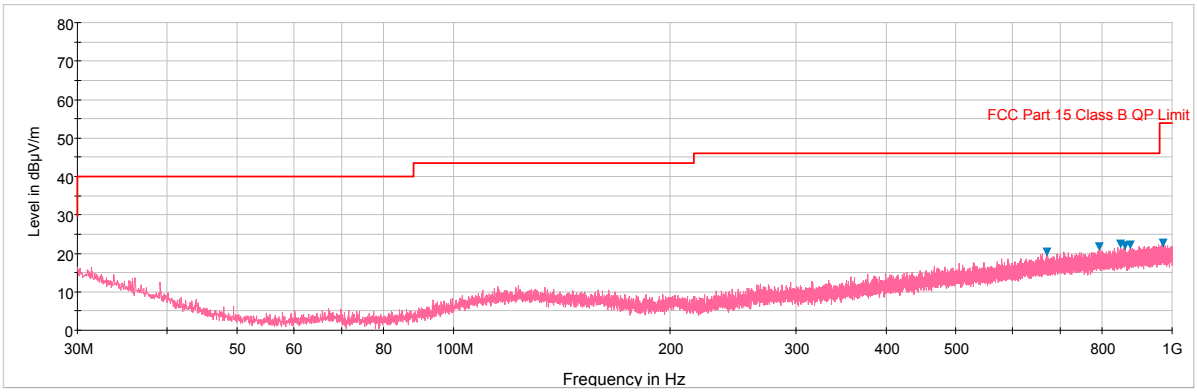
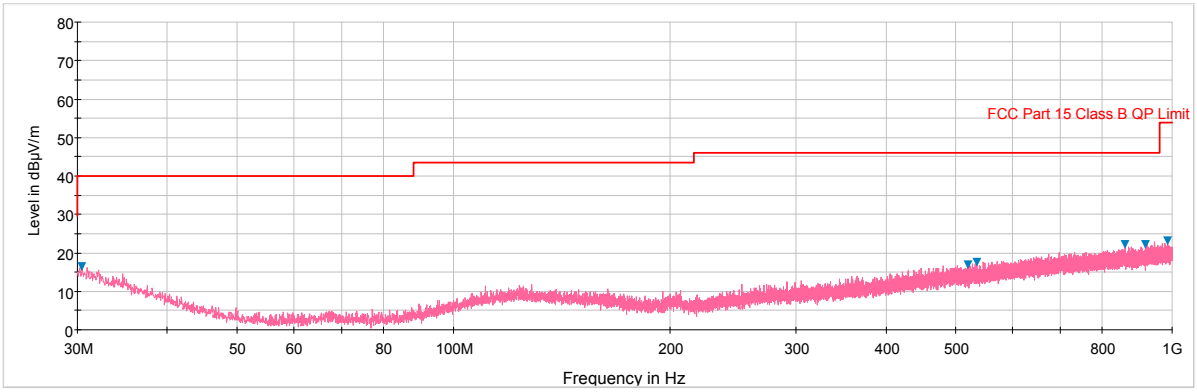
Antenna-1 Radiated Spurious Emissions Measurements (Below 1GHz)

§15.209



Plot 6-236. Radiated Spurious Plot below 1GHz (802.11a – U3, Ant. Pol. H)



Plot 6-237. Radiated Spurious Plot below 1GHz (802.11a – U3, Ant. Pol. V)

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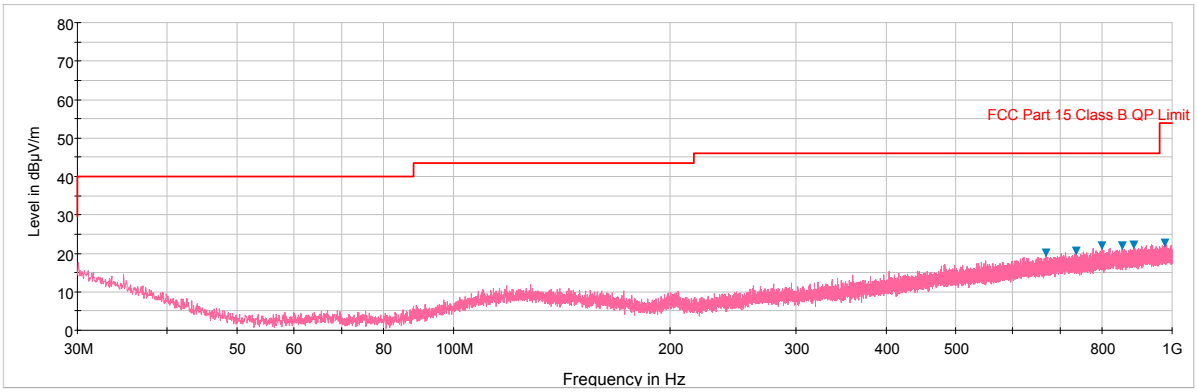
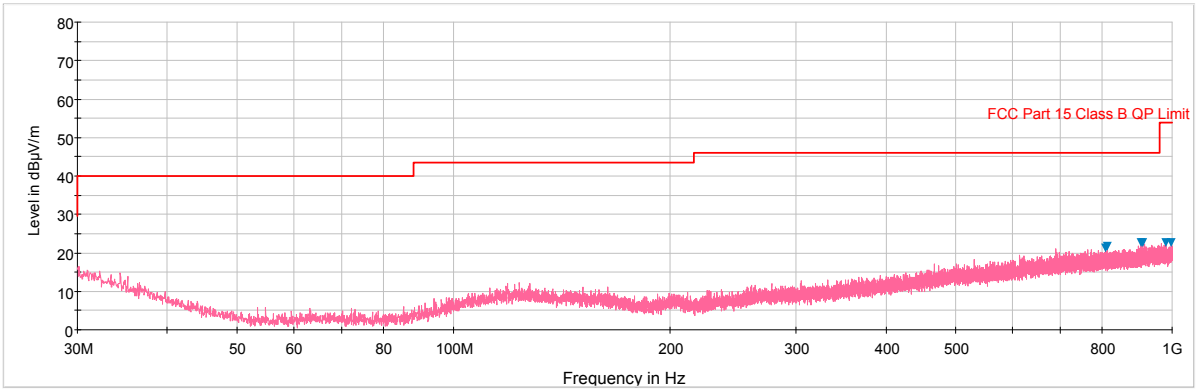
Antenna-2 Radiated Spurious Emissions Measurements (Below 1GHz)

§15.209



Plot 6-238. Radiated Spurious Plot below 1GHz (802.11a – U3, Ant. Pol. H)



Plot 6-239. Radiated Spurious Plot below 1GHz (802.11a – U3, Ant. Pol. V)

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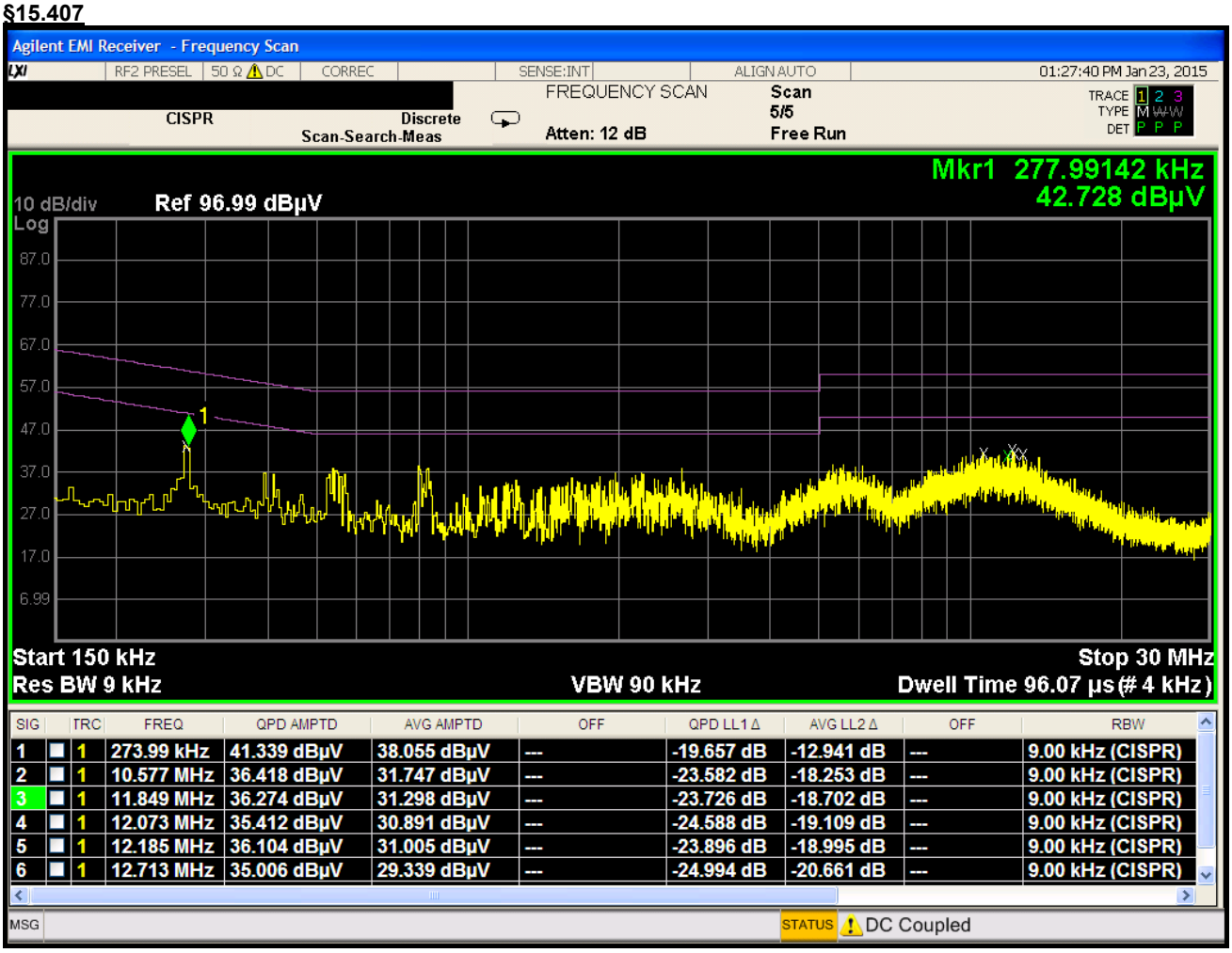
6.9 Line-Conducted Test Data

§15.407



SIG		TRC	FREQ	QPD AMPTD	AVG AMPTD	OFF	QPD LL1 Δ	AVG LL2 Δ	OFF	RBW
1	■	1	273.99 kHz	41.339 dBµV	38.055 dBµV	---	-19.657 dB	-12.941 dB	---	9.00 kHz (CISPR)
2	■	1	10.577 MHz	36.418 dBµV	31.747 dBµV	---	-23.582 dB	-18.253 dB	---	9.00 kHz (CISPR)
3	■	1	11.849 MHz	36.274 dBµV	31.298 dBµV	---	-23.726 dB	-18.702 dB	---	9.00 kHz (CISPR)
4	■	1	12.073 MHz	35.412 dBµV	30.891 dBµV	---	-24.588 dB	-19.109 dB	---	9.00 kHz (CISPR)
5	■	1	12.185 MHz	36.104 dBµV	31.005 dBµV	---	-23.896 dB	-18.995 dB	---	9.00 kHz (CISPR)
6	■	1	12.713 MHz	35.006 dBµV	29.339 dBµV	---	-24.994 dB	-20.661 dB	---	9.00 kHz (CISPR)

Plot 6-240. Line Conducted Plot with 802.11a UNII Band 1 (L1)

Notes:

1. All modes of operation, data rates, and test channels were investigated and the worst-case emissions are reported in 802.11a mode using 6Mbps on Channel 36. The emissions found were not affected by the choice of channel used during testing.
2. The limit for Class B device(s) from 150kHz to 30MHz are specified in Section 15.207 of the Title 47 CFR.
3. L1 = Phase; N = Neutral
4. Corr. (dB) = Cable loss (dB) + LISN insertion factor (dB)
5. QP/AV Level (dBµV) = QP/AV Analyzer/Receiver Level (dBµV) + Corr. (dB)
6. Margin (dB) = QP/AVLimit (dBµV) - QP/AV Level (dBµV)
7. Traces shown in plot are made using a peak detector.
8. Deviations to the Specifications: None.

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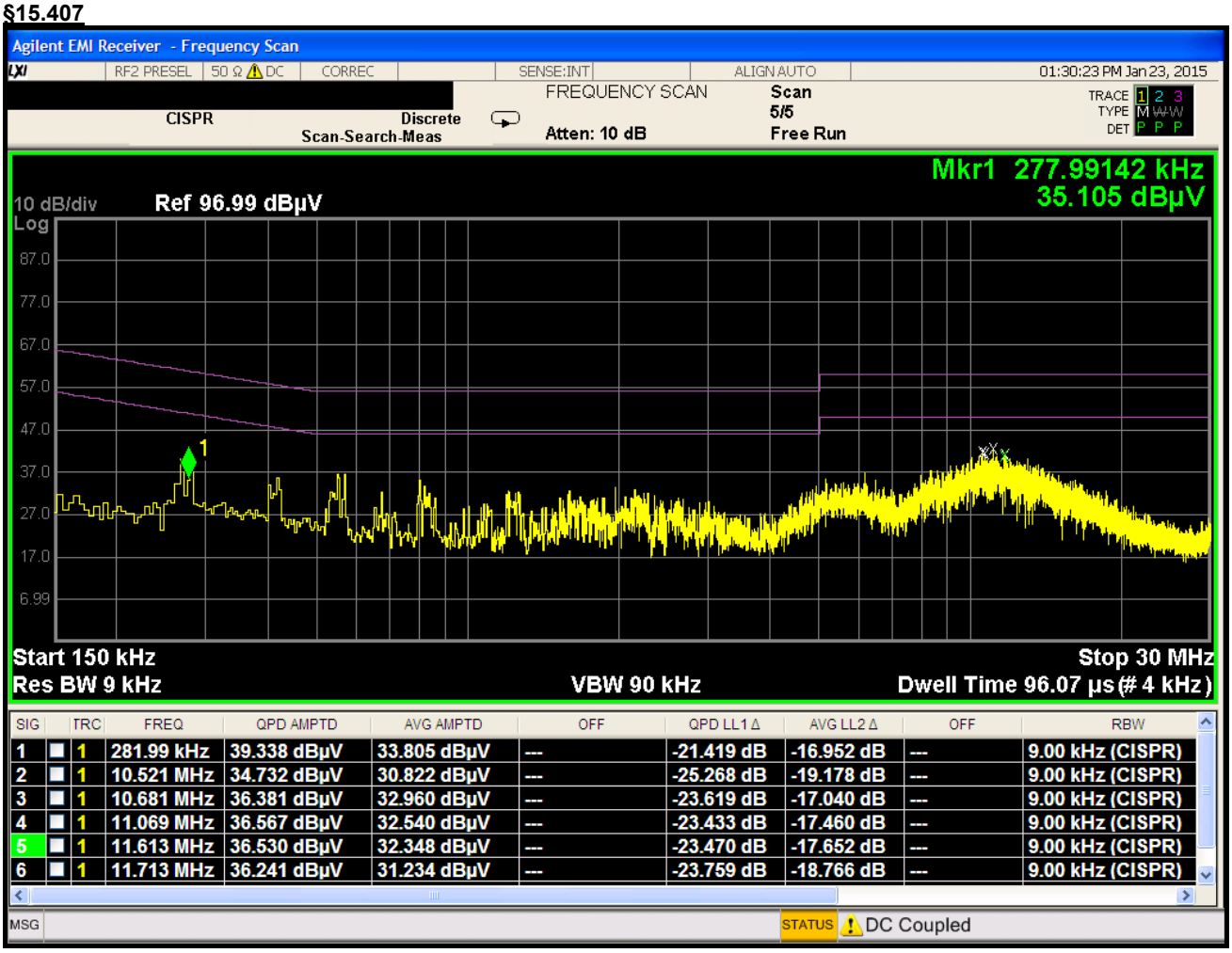
Line-Conducted Test Data

§15.407



SIG	TRC	FREQ	QPD AMPTD	AVG AMPTD	OFF	QPD LL1 Δ	AVG LL2 Δ	OFF	RBW
1	1	281.99 kHz	39.338 dBµV	33.805 dBµV	---	-21.419 dB	-16.952 dB	---	9.00 kHz (CISPR)
2	1	10.521 MHz	34.732 dBµV	30.822 dBµV	---	-25.268 dB	-19.178 dB	---	9.00 kHz (CISPR)
3	1	10.681 MHz	36.381 dBµV	32.960 dBµV	---	-23.619 dB	-17.040 dB	---	9.00 kHz (CISPR)
4	1	11.069 MHz	36.567 dBµV	32.540 dBµV	---	-23.433 dB	-17.460 dB	---	9.00 kHz (CISPR)
5	1	11.613 MHz	36.530 dBµV	32.348 dBµV	---	-23.470 dB	-17.652 dB	---	9.00 kHz (CISPR)
6	1	11.713 MHz	36.241 dBµV	31.234 dBµV	---	-23.759 dB	-18.766 dB	---	9.00 kHz (CISPR)

Plot 6-241. Line Conducted Plot with 802.11a UNII Band 1 (N)

Notes:

1. All modes of operation, data rates, and test channels were investigated and the worst-case emissions are reported in 802.11a mode using 6Mbps on Channel 36. The emissions found were not affected by the choice of channel used during testing.
2. The limit for Class B device(s) from 150kHz to 30MHz are specified in Section 15.207 of the Title 47 CFR.
3. L1 = Phase; N = Neutral
4. Corr. (dB) = Cable loss (dB) + LISN insertion factor (dB)
5. QP/AV Level (dBµV) = QP/AV Analyzer/Receiver Level (dBµV) + Corr. (dB)
6. Margin (dB) = QP/AVLimit (dBµV) - QP/AV Level (dBµV)
7. Traces shown in plot are made using a peak detector.
8. Deviations to the Specifications: None.

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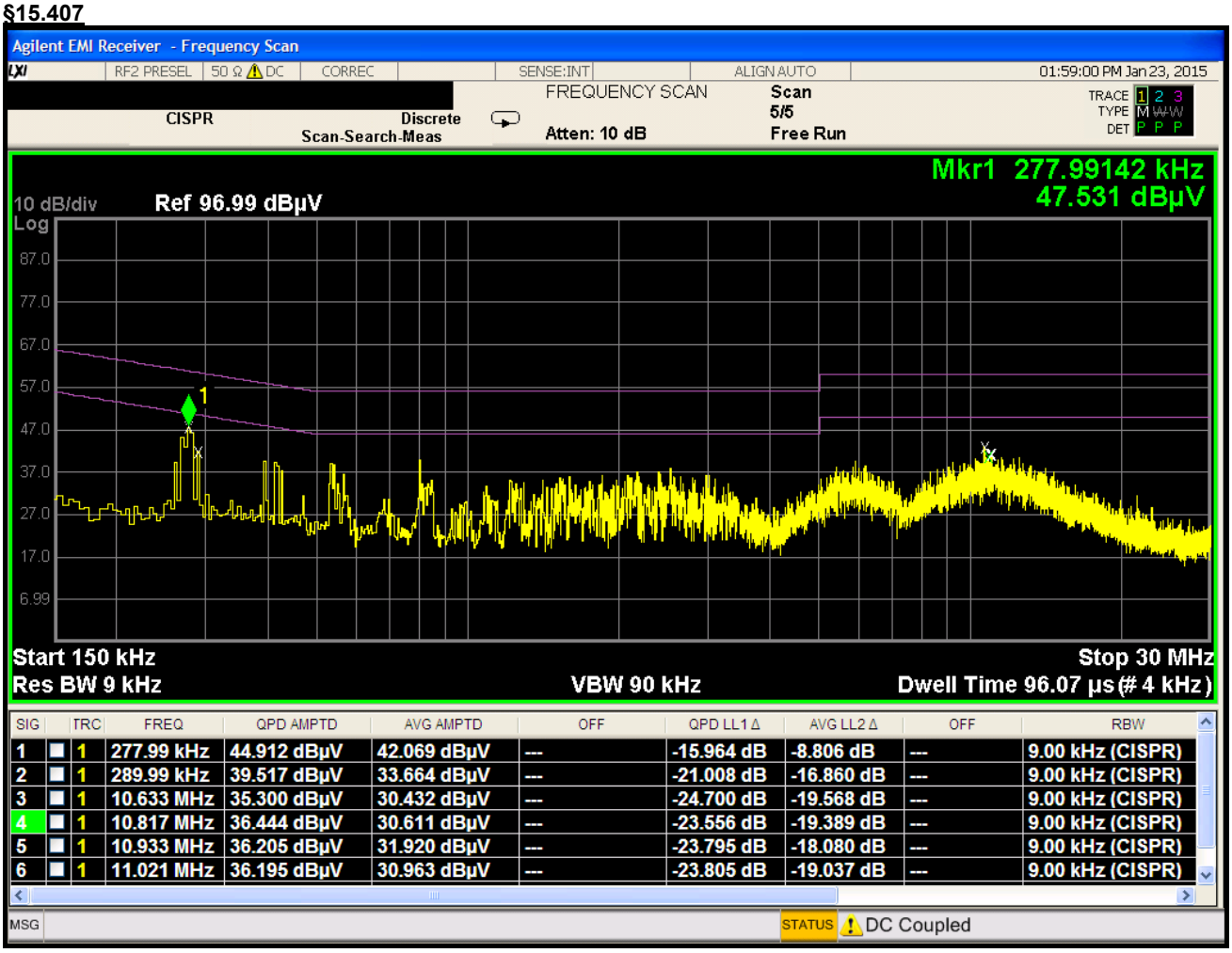
Line-Conducted Test Data

§15.407



SIG		TRC	FREQ	QPD AMPTD	AVG AMPTD	OFF	QPD LL1 Δ	AVG LL2 Δ	OFF	RBW
1	■	1	277.99 kHz	44.912 dBµV	42.069 dBµV	---	-15.964 dB	-8.806 dB	---	9.00 kHz (CISPR)
2	■	1	289.99 kHz	39.517 dBµV	33.664 dBµV	---	-21.008 dB	-16.860 dB	---	9.00 kHz (CISPR)
3	■	1	10.633 MHz	35.300 dBµV	30.432 dBµV	---	-24.700 dB	-19.568 dB	---	9.00 kHz (CISPR)
4	■	1	10.817 MHz	36.444 dBµV	30.611 dBµV	---	-23.556 dB	-19.389 dB	---	9.00 kHz (CISPR)
5	■	1	10.933 MHz	36.205 dBµV	31.920 dBµV	---	-23.795 dB	-18.080 dB	---	9.00 kHz (CISPR)
6	■	1	11.021 MHz	36.195 dBµV	30.963 dBµV	---	-23.805 dB	-19.037 dB	---	9.00 kHz (CISPR)

Plot 6-242. Line Conducted Plot with 802.11a UNII Band 2A (L1)

Notes:

1. All modes of operation, data rates, and test channels were investigated and the worst-case emissions are reported in 802.11a mode using 6Mbps on Channel 52. The emissions found were not affected by the choice of channel used during testing.
2. The limit for Class B device(s) from 150kHz to 30MHz are specified in Section 15.207 of the Title 47 CFR.
3. L1 = Phase; N = Neutral
4. Corr. (dB) = Cable loss (dB) + LISN insertion factor (dB)
5. QP/AV Level (dBµV) = QP/AV Analyzer/Receiver Level (dBµV) + Corr. (dB)
6. Margin (dB) = QP/AVLimit (dBµV) - QP/AV Level (dBµV)
7. Traces shown in plot are made using a peak detector.
8. Deviations to the Specifications: None.

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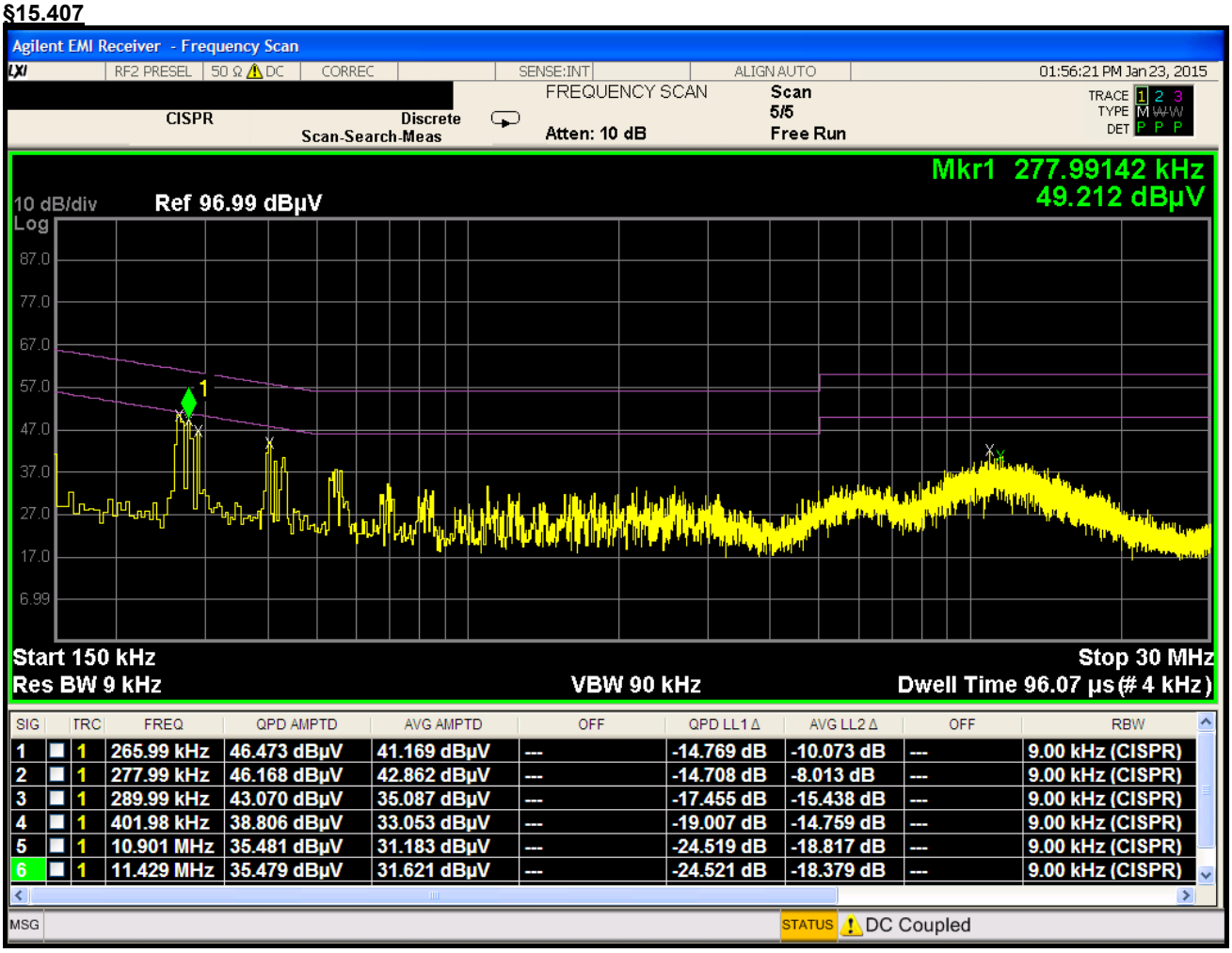
Line-Conducted Test Data

§15.407



SIG	TRC	FREQ	QPD AMPTD	AVG AMPTD	OFF	QPD LL1 Δ	AVG LL2 Δ	OFF	RBW
1	1	265.99 kHz	46.473 dBµV	41.169 dBµV	---	-14.769 dB	-10.073 dB	---	9.00 kHz (CISPR)
2	1	277.99 kHz	46.168 dBµV	42.862 dBµV	---	-14.708 dB	-8.013 dB	---	9.00 kHz (CISPR)
3	1	289.99 kHz	43.070 dBµV	35.087 dBµV	---	-17.455 dB	-15.438 dB	---	9.00 kHz (CISPR)
4	1	401.98 kHz	38.806 dBµV	33.053 dBµV	---	-19.007 dB	-14.759 dB	---	9.00 kHz (CISPR)
5	1	10.901 MHz	35.481 dBµV	31.183 dBµV	---	-24.519 dB	-18.817 dB	---	9.00 kHz (CISPR)
6	1	11.429 MHz	35.479 dBµV	31.621 dBµV	---	-24.521 dB	-18.379 dB	---	9.00 kHz (CISPR)

Plot 6-243. Line Conducted Plot with 802.11a UNII Band 2A (N)

Notes:

1. All modes of operation, data rates, and test channels were investigated and the worst-case emissions are reported in 802.11a mode using 6Mbps on Channel 52. The emissions found were not affected by the choice of channel used during testing.
2. The limit for Class B device(s) from 150kHz to 30MHz are specified in Section 15.207 of the Title 47 CFR.
3. L1 = Phase; N = Neutral
4. Corr. (dB) = Cable loss (dB) + LISN insertion factor (dB)
5. QP/AV Level (dBµV) = QP/AV Analyzer/Receiver Level (dBµV) + Corr. (dB)
6. Margin (dB) = QP/AVLimit (dBµV) - QP/AV Level (dBµV)
7. Traces shown in plot are made using a peak detector.
8. Deviations to the Specifications: None.

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Line-Conducted Test Data

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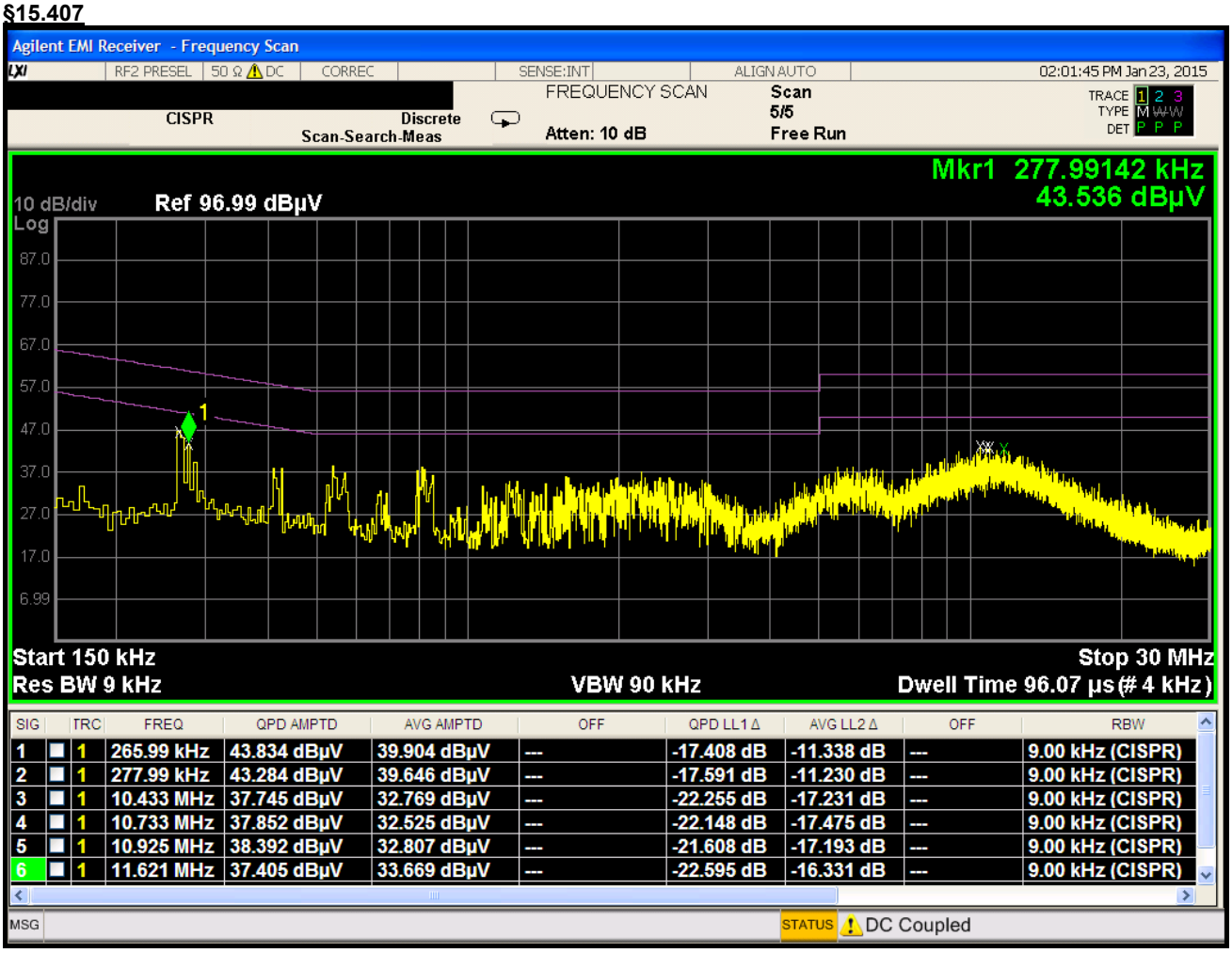

SIG	TRC	FREQ	QPD AMPTD	AVG AMPTD	OFF	QPD LL1 Δ	AVG LL2 Δ	OFF	RBW
1	1	265.99 kHz	43.834 dBµV	39.904 dBµV	---	-17.408 dB	-11.338 dB	---	9.00 kHz (CISPR)
2	1	277.99 kHz	43.284 dBµV	39.646 dBµV	---	-17.591 dB	-11.230 dB	---	9.00 kHz (CISPR)
3	1	10.433 MHz	37.745 dBµV	32.769 dBµV	---	-22.255 dB	-17.231 dB	---	9.00 kHz (CISPR)
4	1	10.733 MHz	37.852 dBµV	32.525 dBµV	---	-22.148 dB	-17.475 dB	---	9.00 kHz (CISPR)
5	1	10.925 MHz	38.392 dBµV	32.807 dBµV	---	-21.608 dB	-17.193 dB	---	9.00 kHz (CISPR)
6	1	11.621 MHz	37.405 dBµV	33.669 dBµV	---	-22.595 dB	-16.331 dB	---	9.00 kHz (CISPR)

Plot 6-244. Line Conducted Plot with 802.11a UNII Band 2C (L1)

Notes:

1. All modes of operation, data rates, and test channels were investigated and the worst-case emissions are reported in 802.11a mode using 6Mbps on Channel 100. The emissions found were not affected by the choice of channel used during testing.
2. The limit for Class B device(s) from 150kHz to 30MHz are specified in Section 15.207 of the Title 47 CFR.
3. L1 = Phase; N = Neutral
4. Corr. (dB) = Cable loss (dB) + LISN insertion factor (dB)
5. QP/AV Level (dBµV) = QP/AV Analyzer/Receiver Level (dBµV) + Corr. (dB)
6. Margin (dB) = QP/AVLimit (dBµV) - QP/AV Level (dBµV)
7. Traces shown in plot are made using a peak detector.
8. Deviations to the Specifications: None.

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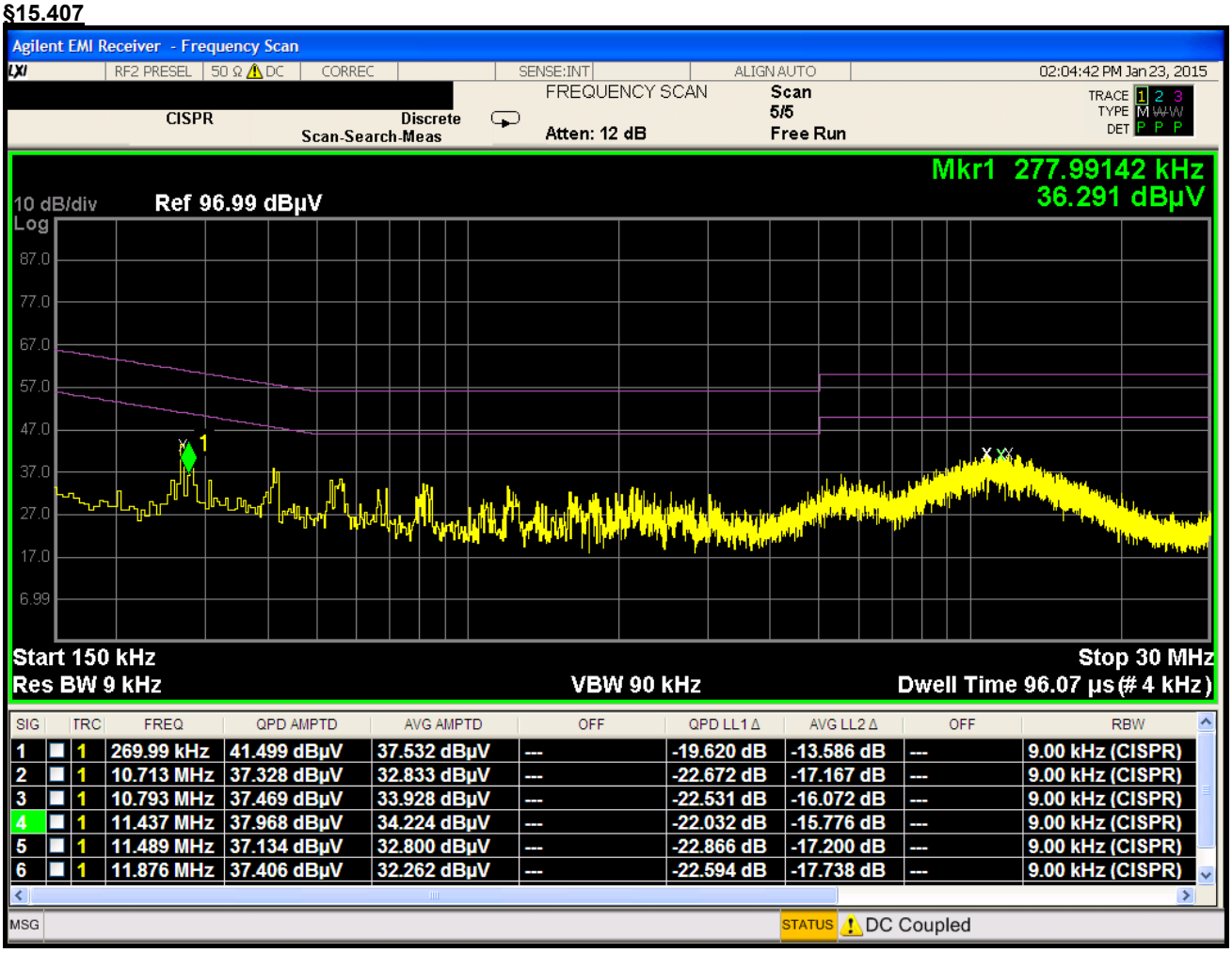
Line-Conducted Test Data

§15.407



SIG	TRC	FREQ	QPD AMPTD	AVG AMPTD	OFF	QPD LL1 Δ	AVG LL2 Δ	OFF	RBW
1	1	269.99 kHz	41.499 dBµV	37.532 dBµV	---	-19.620 dB	-13.586 dB	---	9.00 kHz (CISPR)
2	1	10.713 MHz	37.328 dBµV	32.833 dBµV	---	-22.672 dB	-17.167 dB	---	9.00 kHz (CISPR)
3	1	10.793 MHz	37.469 dBµV	33.928 dBµV	---	-22.531 dB	-16.072 dB	---	9.00 kHz (CISPR)
4	1	11.437 MHz	37.968 dBµV	34.224 dBµV	---	-22.032 dB	-15.776 dB	---	9.00 kHz (CISPR)
5	1	11.489 MHz	37.134 dBµV	32.800 dBµV	---	-22.866 dB	-17.200 dB	---	9.00 kHz (CISPR)
6	1	11.876 MHz	37.406 dBµV	32.262 dBµV	---	-22.594 dB	-17.738 dB	---	9.00 kHz (CISPR)

Plot 6-245. Line Conducted Plot with 802.11a UNII Band 2C (N)

Notes:

1. All modes of operation, data rates, and test channels were investigated and the worst-case emissions are reported in 802.11a mode using 6Mbps on Channel 100. The emissions found were not affected by the choice of channel used during testing.
2. The limit for Class B device(s) from 150kHz to 30MHz are specified in Section 15.207 of the Title 47 CFR.
3. L1 = Phase; N = Neutral
4. Corr. (dB) = Cable loss (dB) + LISN insertion factor (dB)
5. QP/AV Level (dBµV) = QP/AV Analyzer/Receiver Level (dBµV) + Corr. (dB)
6. Margin (dB) = QP/AVLimit (dBµV) - QP/AV Level (dBµV)
7. Traces shown in plot are made using a peak detector.
8. Deviations to the Specifications: None.

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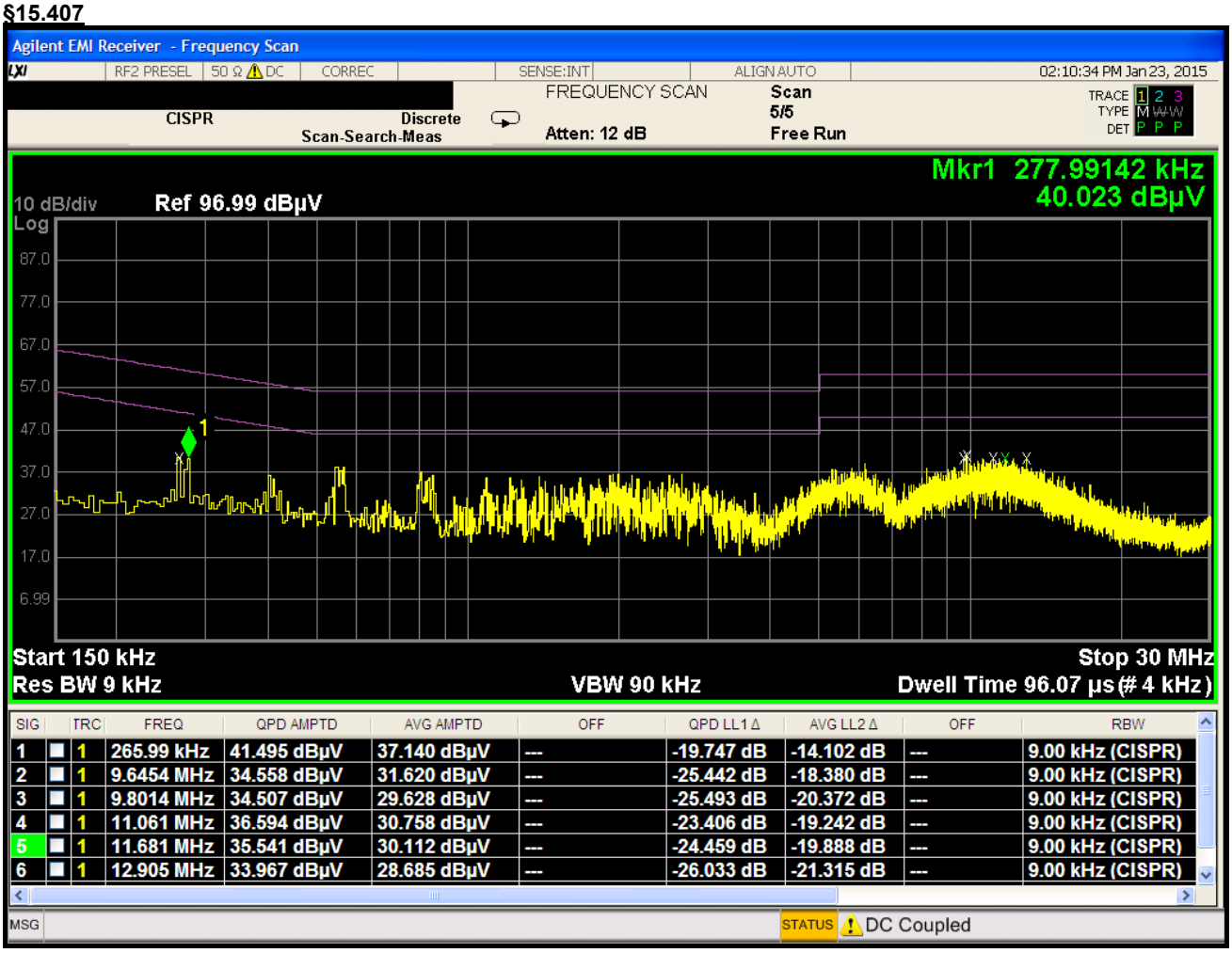
Line-Conducted Test Data

§15.407



SIG	TRC	FREQ	QPD AMPTD	AVG AMPTD	OFF	QPD LL1 Δ	AVG LL2 Δ	OFF	RBW
1	1	265.99 kHz	41.495 dBµV	37.140 dBµV	---	-19.747 dB	-14.102 dB	---	9.00 kHz (CISPR)
2	1	9.6454 MHz	34.558 dBµV	31.620 dBµV	---	-25.442 dB	-18.380 dB	---	9.00 kHz (CISPR)
3	1	9.8014 MHz	34.507 dBµV	29.628 dBµV	---	-25.493 dB	-20.372 dB	---	9.00 kHz (CISPR)
4	1	11.061 MHz	36.594 dBµV	30.758 dBµV	---	-23.406 dB	-19.242 dB	---	9.00 kHz (CISPR)
5	1	11.681 MHz	35.541 dBµV	30.112 dBµV	---	-24.459 dB	-19.888 dB	---	9.00 kHz (CISPR)
6	1	12.905 MHz	33.967 dBµV	28.685 dBµV	---	-26.033 dB	-21.315 dB	---	9.00 kHz (CISPR)

Plot 6-246. Line Conducted Plot with 802.11a UNII Band 3 (L1)

Notes:

1. All modes of operation, data rates, and test channels were investigated and the worst-case emissions are reported in 802.11a mode using 6Mbps on Channel 149. The emissions found were not affected by the choice of channel used during testing.
2. The limit for Class B device(s) from 150kHz to 30MHz are specified in Section 15.207 of the Title 47 CFR.
3. L1 = Phase; N = Neutral
4. Corr. (dB) = Cable loss (dB) + LISN insertion factor (dB)
5. QP/AV Level (dBµV) = QP/AV Analyzer/Receiver Level (dBµV) + Corr. (dB)
6. Margin (dB) = QP/AVLimit (dBµV) - QP/AV Level (dBµV)
7. Traces shown in plot are made using a peak detector.
8. Deviations to the Specifications: None.

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Line-Conducted Test Data

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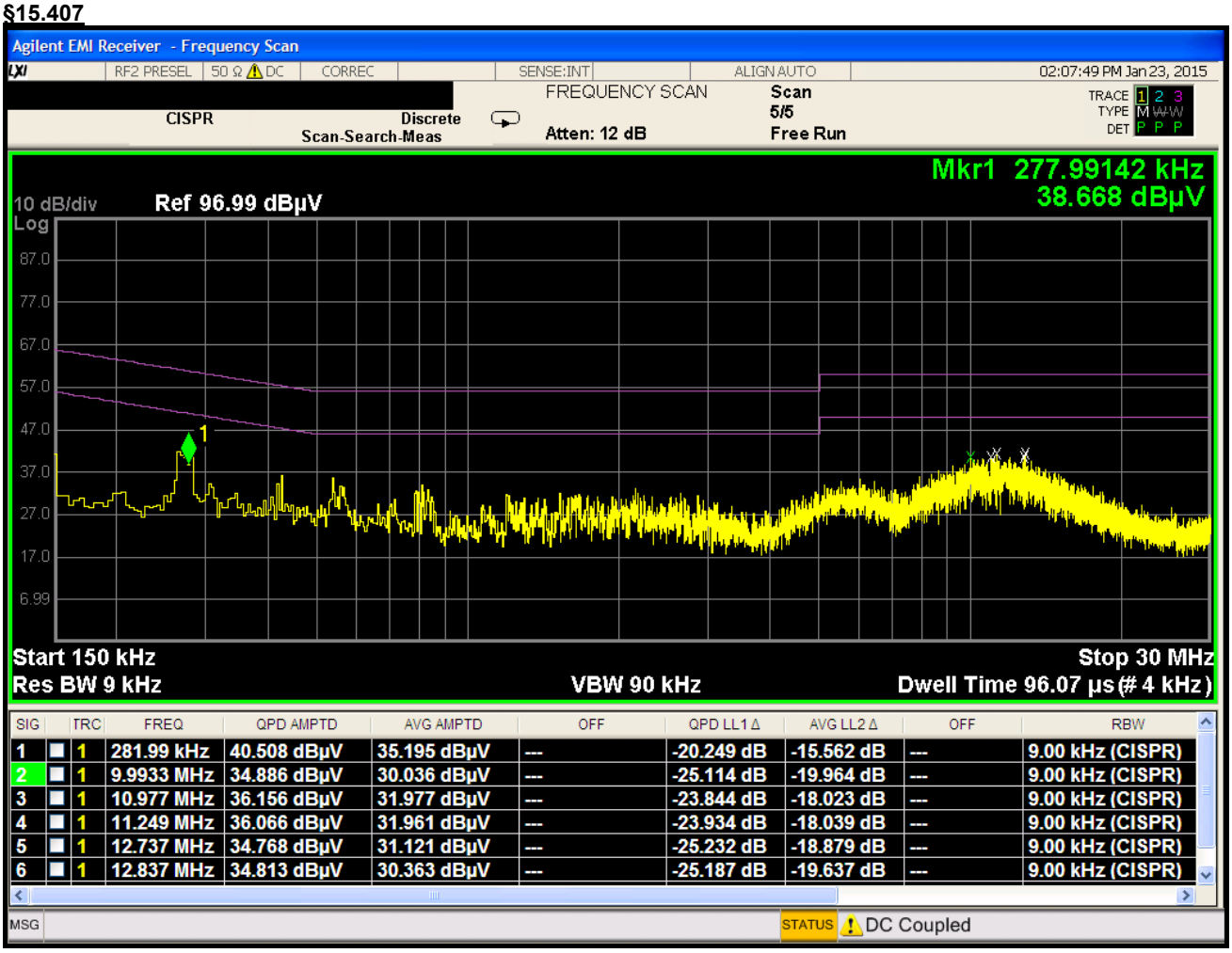

SIG		TRC	FREQ	QPD AMPTD	AVG AMPTD	OFF	QPD LL1 Δ	AVG LL2 Δ	OFF	RBW
1	■	1	281.99 kHz	40.508 dBµV	35.195 dBµV	---	-20.249 dB	-15.562 dB	---	9.00 kHz (CISPR)
2	■	1	9.9933 MHz	34.886 dBµV	30.036 dBµV	---	-25.114 dB	-19.964 dB	---	9.00 kHz (CISPR)
3	■	1	10.977 MHz	36.156 dBµV	31.977 dBµV	---	-23.844 dB	-18.023 dB	---	9.00 kHz (CISPR)
4	■	1	11.249 MHz	36.066 dBµV	31.961 dBµV	---	-23.934 dB	-18.039 dB	---	9.00 kHz (CISPR)
5	■	1	12.737 MHz	34.768 dBµV	31.121 dBµV	---	-25.232 dB	-18.879 dB	---	9.00 kHz (CISPR)
6	■	1	12.837 MHz	34.813 dBµV	30.363 dBµV	---	-25.187 dB	-19.637 dB	---	9.00 kHz (CISPR)

Plot 6-247. Line Conducted Plot with 802.11a UNII Band 3 (N)

Notes:

1. All modes of operation, data rates, and test channels were investigated and the worst-case emissions are reported in 802.11a mode using 6Mbps on Channel 149. The emissions found were not affected by the choice of channel used during testing.
2. The limit for Class B device(s) from 150kHz to 30MHz are specified in Section 15.207 of the Title 47 CFR.
3. L1 = Phase; N = Neutral
4. Corr. (dB) = Cable loss (dB) + LISN insertion factor (dB)
5. QP/AV Level (dBµV) = QP/AV Analyzer/Receiver Level (dBµV) + Corr. (dB)
6. Margin (dB) = QP/AVLimit (dBµV) - QP/AV Level (dBµV)
7. Traces shown in plot are made using a peak detector.
8. Deviations to the Specifications: None.

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7.0 CONCLUSION

The data collected relate only the item(s) tested and show that the **Samsung Portable Handset FCC ID: A3LSMG925R4** is in compliance with Part 15E of the FCC Rules.

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