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	0.47	11.0	-10.53	Pass
	5200	40	a	6	0.58	11.0	-10.42	Pass
	5240	48	a	6	0.53	11.0	-10.47	Pass
	5180	36	n (20MHz)	6.5/7.2 (MCS0)	0.14	11.0	-10.86	Pass
	5200	40	n (20MHz)	6.5/7.2 (MCS0)	-0.07	11.0	-11.07	Pass
	5240	48	n (20MHz)	6.5/7.2 (MCS0)	0.19	11.0	-10.81	Pass
	5190	38	n (40MHz)	13.5/15 (MCS0)	-3.91	11.0	-14.91	Pass
	5230	46	n (40MHz)	13.5/15 (MCS0)	-3.75	11.0	-14.75	Pass
	5210	42	ac (80MHz)	29.3/32.5 (MCS0)	-7.12	11.0	-18.12	Pass
Band 2A	5260	52	a	6	0.27	11.0	-10.73	Pass
	5280	56	a	6	0.09	11.0	-10.91	Pass
	5320	64	a	6	0.26	11.0	-10.74	Pass
	5260	52	n (20MHz)	6.5/7.2 (MCS0)	-0.37	11.0	-11.37	Pass
	5280	56	n (20MHz)	6.5/7.2 (MCS0)	-0.52	11.0	-11.52	Pass
	5320	64	n (20MHz)	6.5/7.2 (MCS0)	-0.51	11.0	-11.51	Pass
	5270	54	n (40MHz)	13.5/15 (MCS0)	-4.20	11.0	-15.20	Pass
	5310	62	n (40MHz)	13.5/15 (MCS0)	-4.25	11.0	-15.25	Pass
	5290	58	ac (80MHz)	29.3/32.5 (MCS0)	-7.40	11.0	-18.40	Pass
Band 2C	5500	100	a	6	0.88	11.0	-10.12	Pass
	5580	116	a	6	0.94	11.0	-10.06	Pass
	5720	144	a	6	0.53	11.0	-10.47	Pass
	5500	100	n (20MHz)	6.5/7.2 (MCS0)	0.15	11.0	-10.85	Pass
	5580	116	n (20MHz)	6.5/7.2 (MCS0)	0.38	11.0	-10.62	Pass
	5720	144	n (20MHz)	6.5/7.2 (MCS0)	-0.08	11.0	-11.08	Pass
	5510	102	n (40MHz)	13.5/15 (MCS0)	-3.96	11.0	-14.96	Pass
	5710	142	n (40MHz)	13.5/15 (MCS0)	-4.01	11.0	-15.01	Pass
	5530	106	ac (80MHz)	29.3/32.5 (MCS0)	-7.43	11.0	-18.43	Pass
	5690	138	ac (80MHz)	29.3/32.5 (MCS0)	-7.20	11.0	-18.20	Pass

Table 6-19. Conducted Power Spectral Density Measurements

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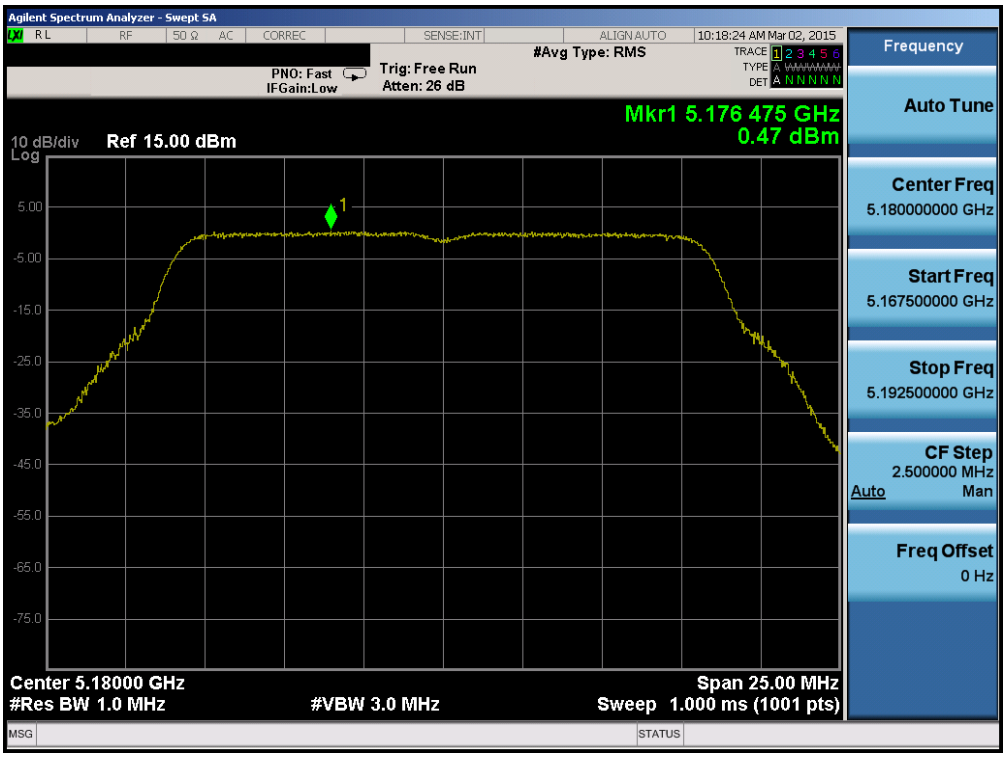
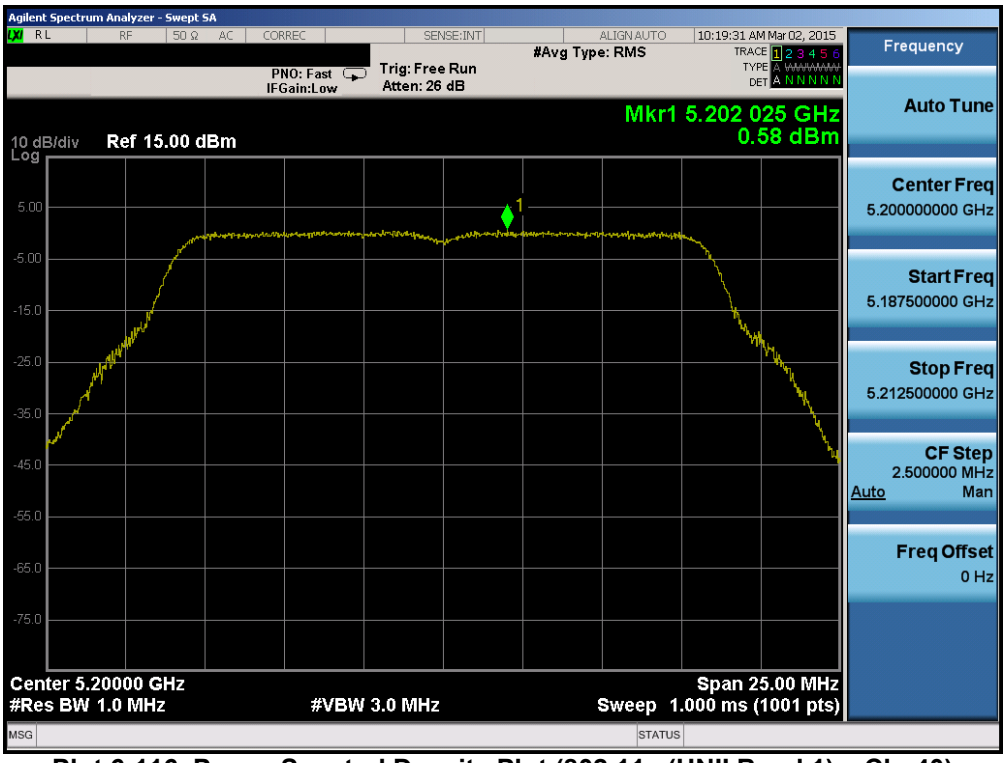


Plot 6-115. Power Spectral Density Plot (802.11a (UNII Band 1) – Ch. 36)



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

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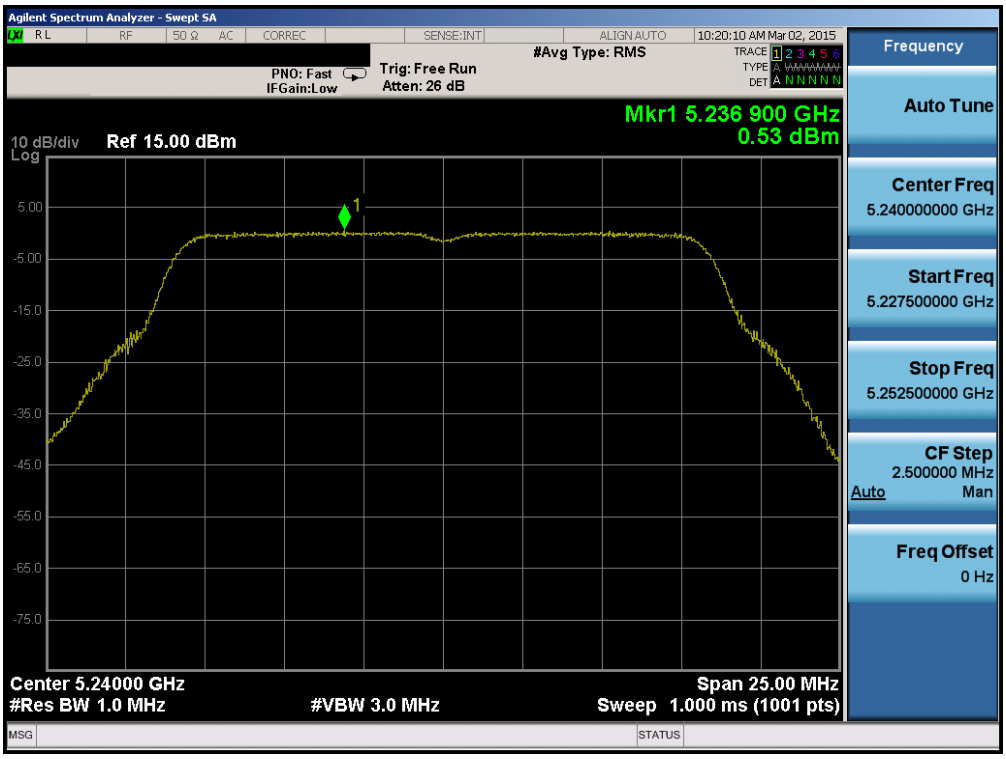
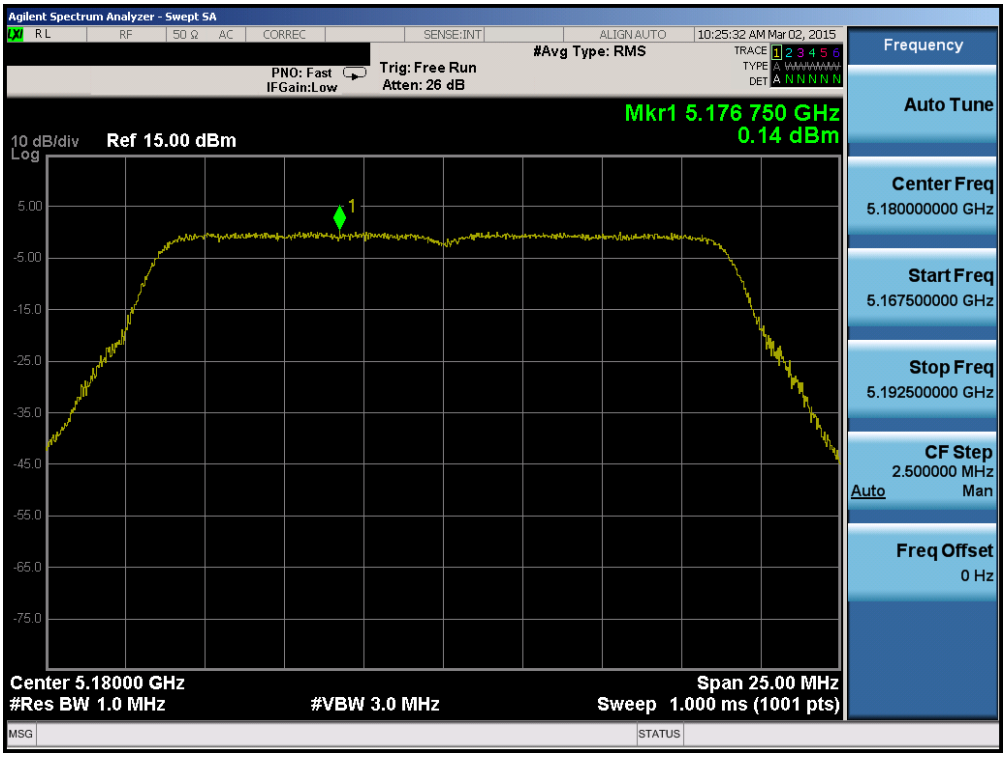


Plot 6-117. Power Spectral Density Plot (802.11a (UNII Band 1) – Ch. 48)



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

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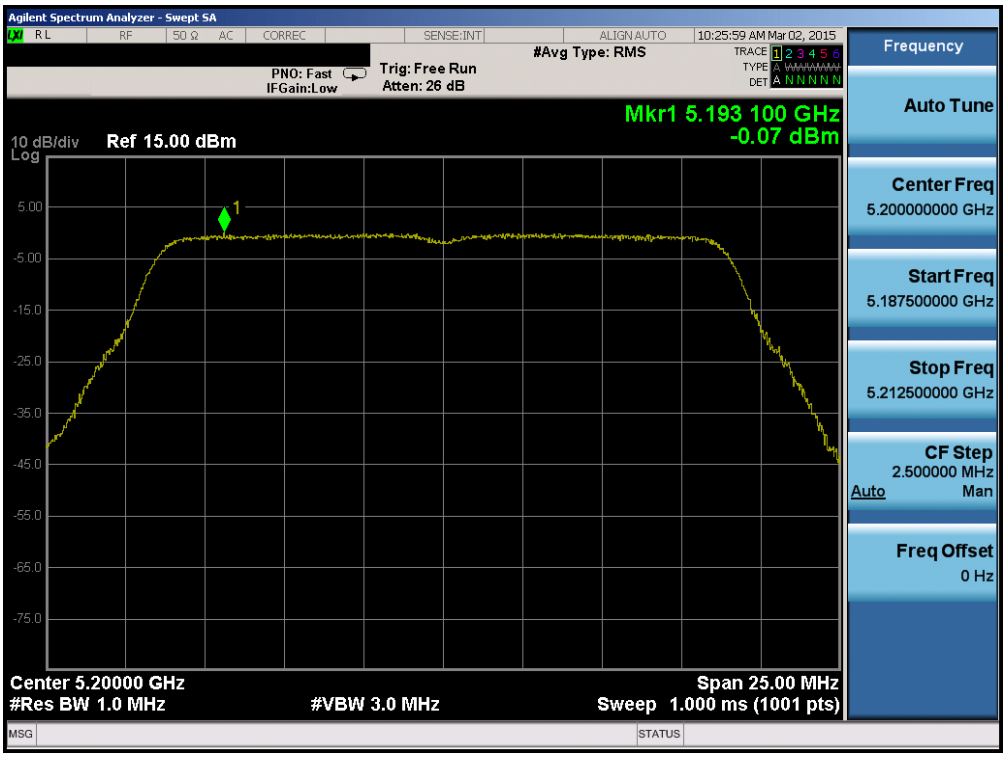
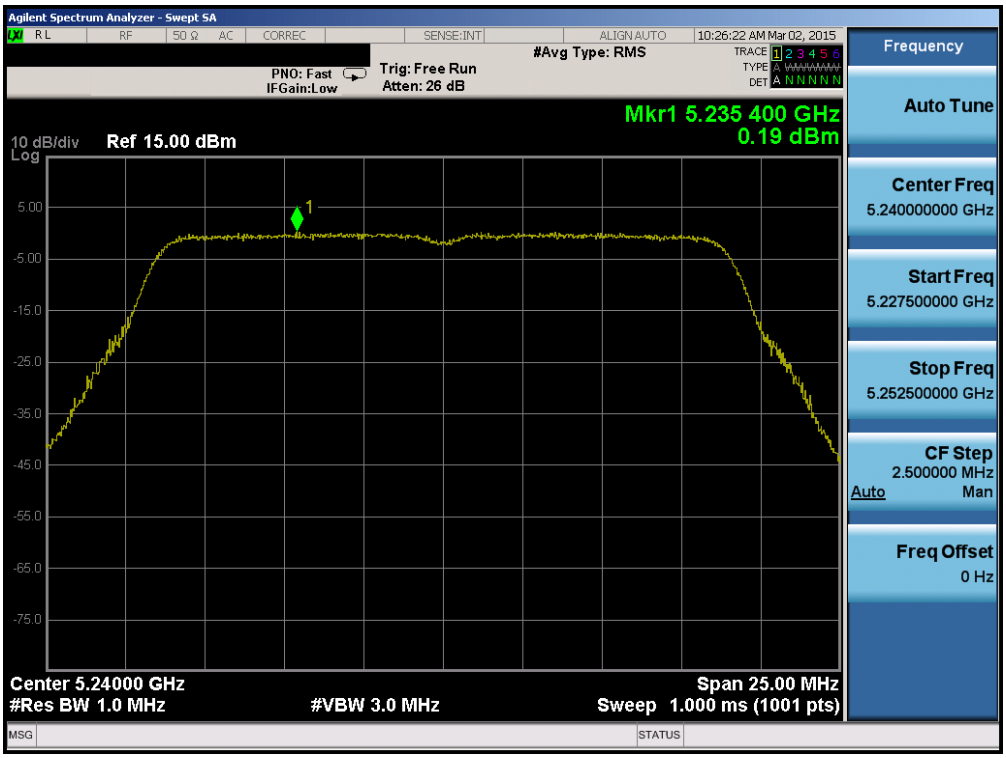


Plot 6-119. Power Spectral Density Plot (20MHz BW 802.11n (UNII Band 1) – Ch. 40)



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

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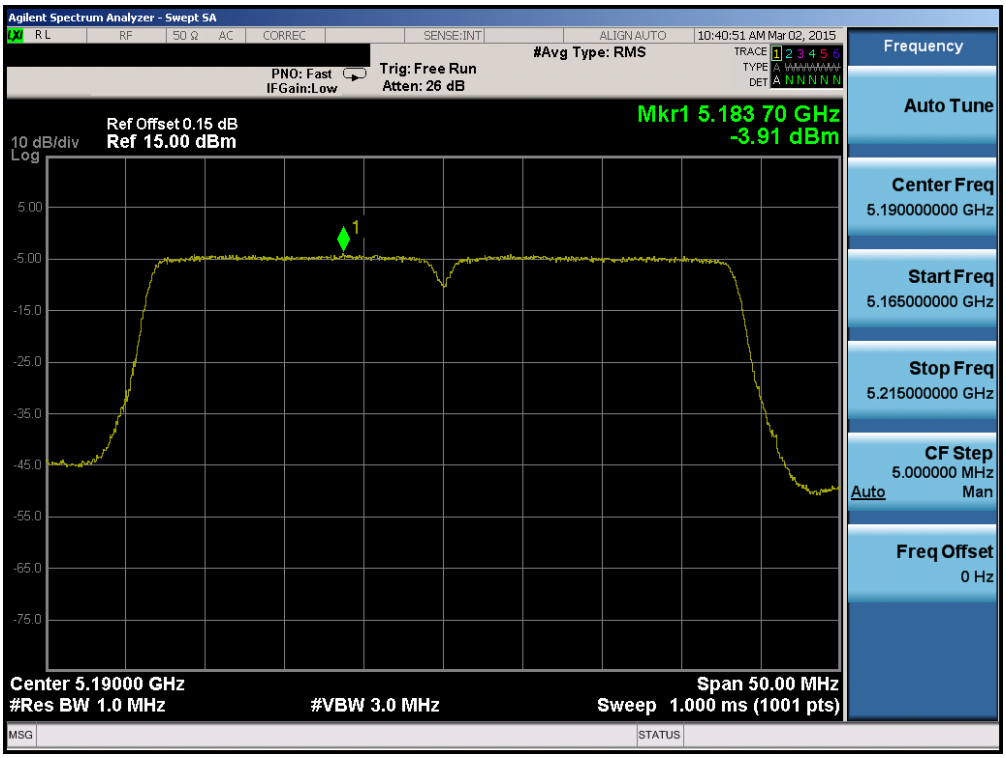
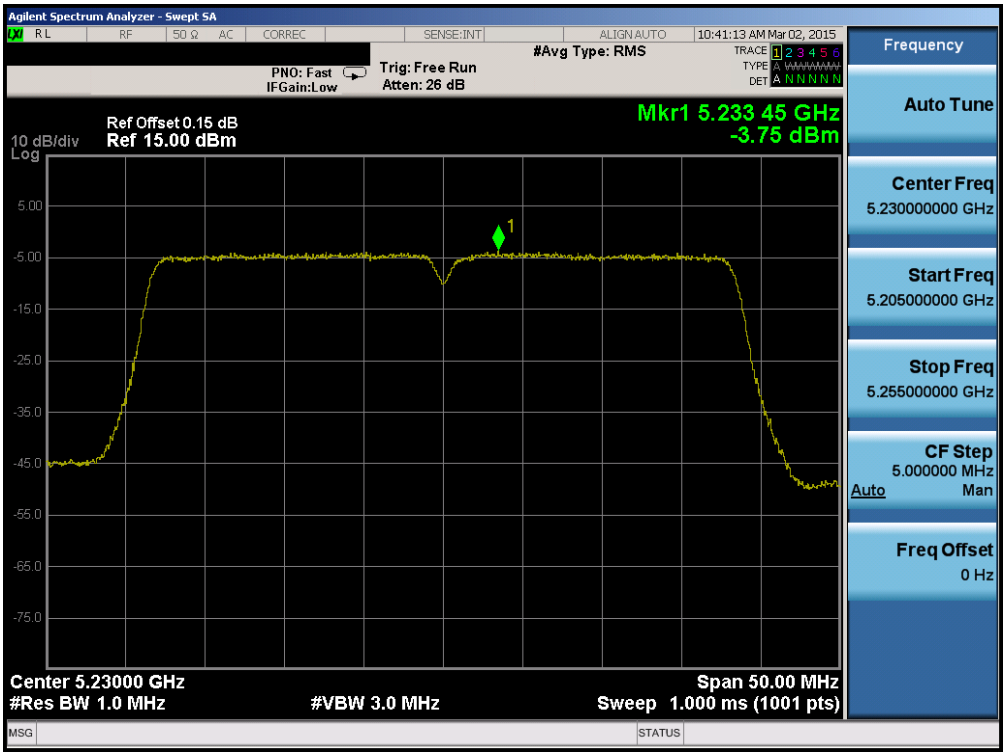


Plot 6-121. Power Spectral Density Plot (40MHz BW 802.11n (UNII Band 1) – Ch. 38)



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

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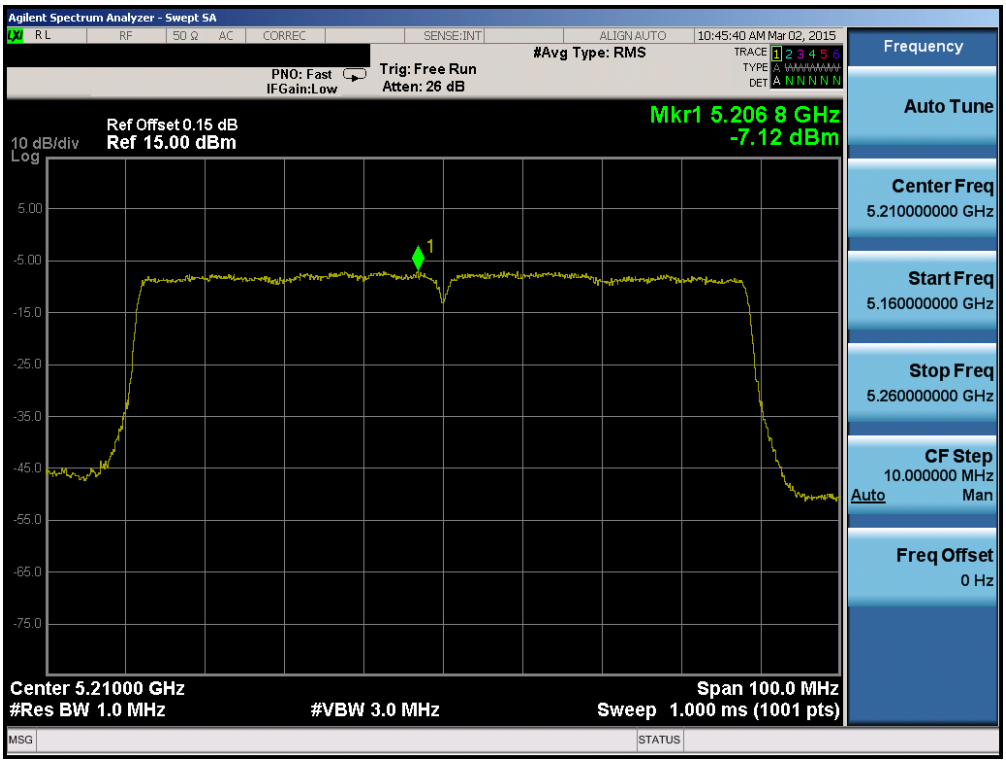
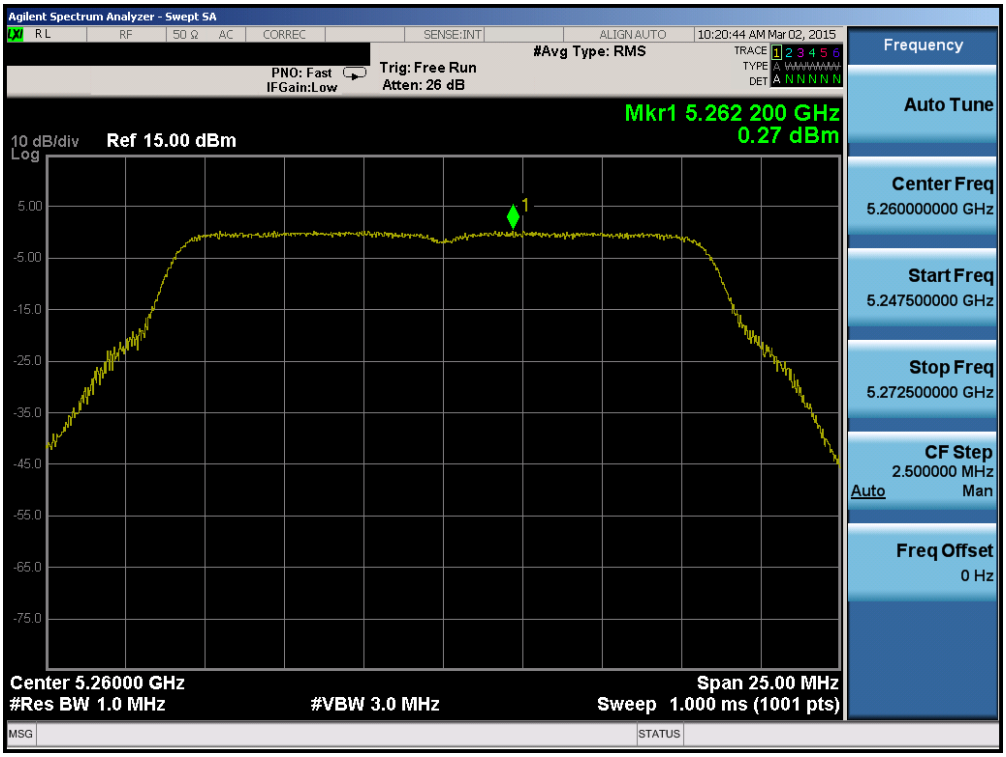


Plot 6-123. Power Spectral Density Plot (80MHz BW 802.11ac (UNII Band 1) – Ch. 42)



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

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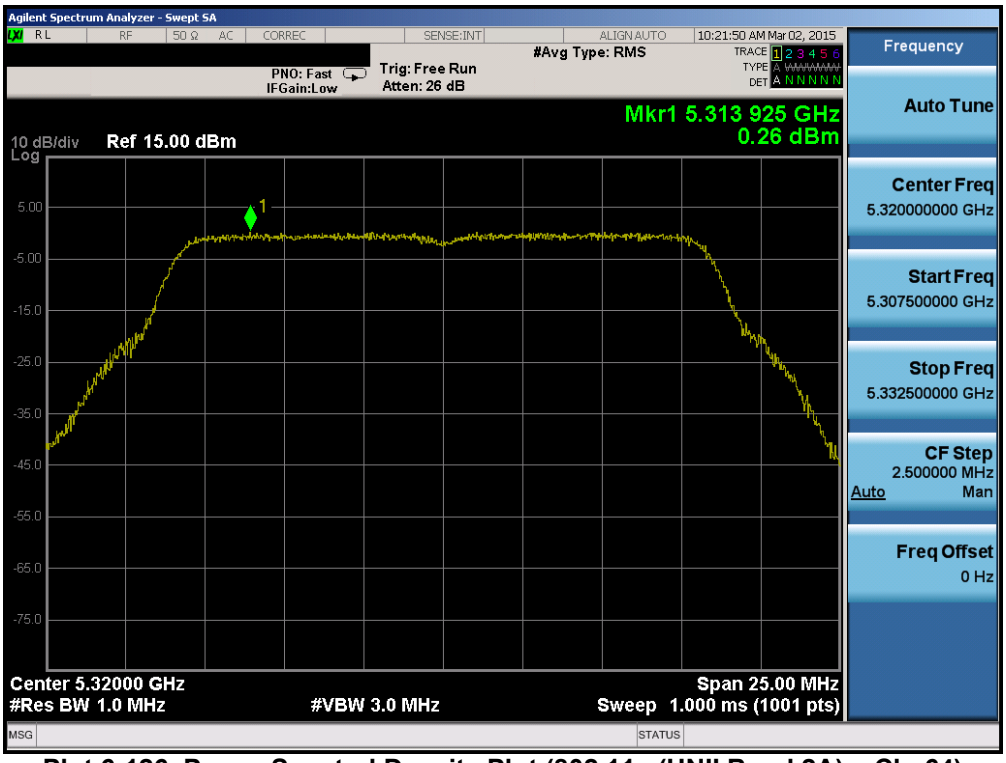
Plot 6-125. Power Spectral Density Plot (802.11a (UNII Band 2A) – Ch. 56)



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

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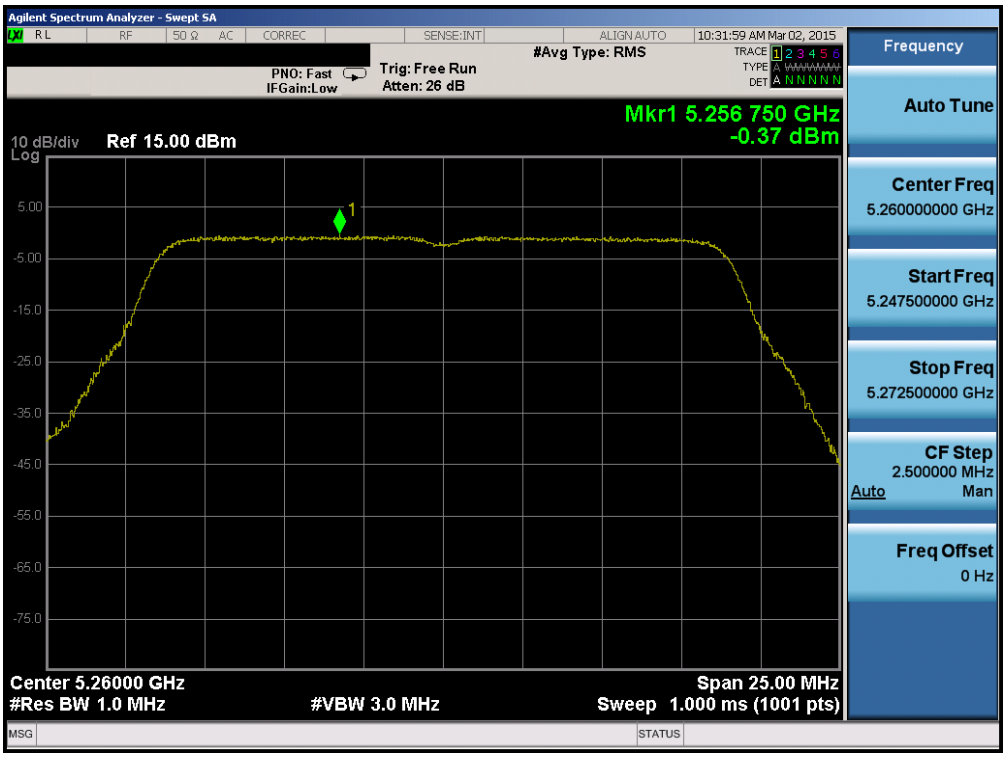
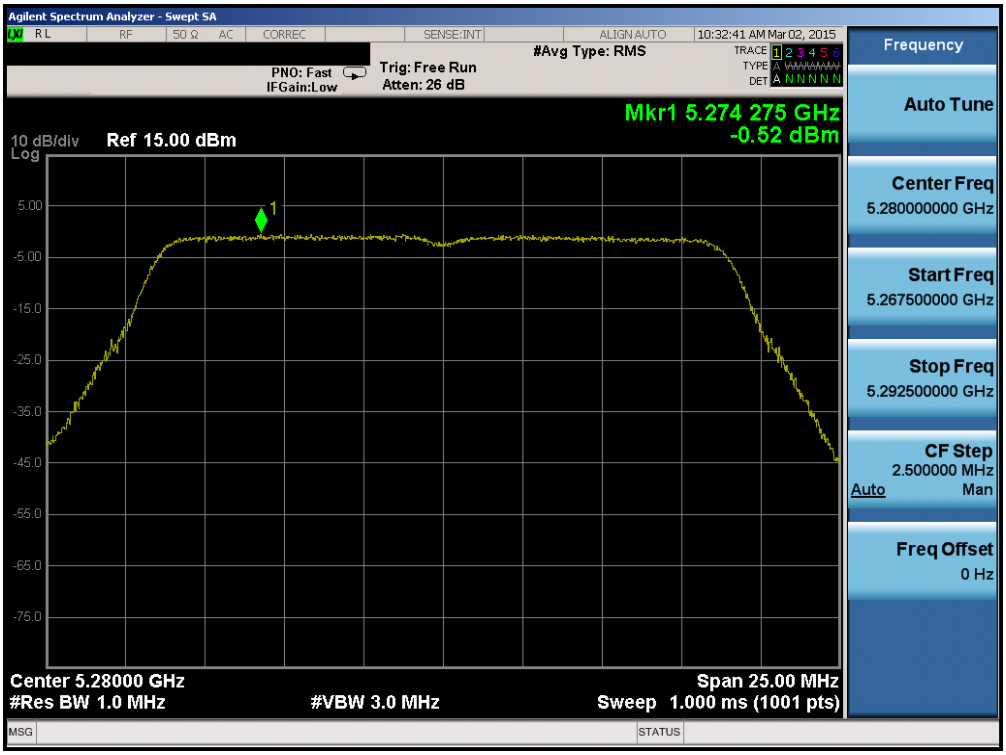


Plot 6-127. Power Spectral Density Plot (20MHz BW 802.11n (UNII Band 2A) – Ch. 52)



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

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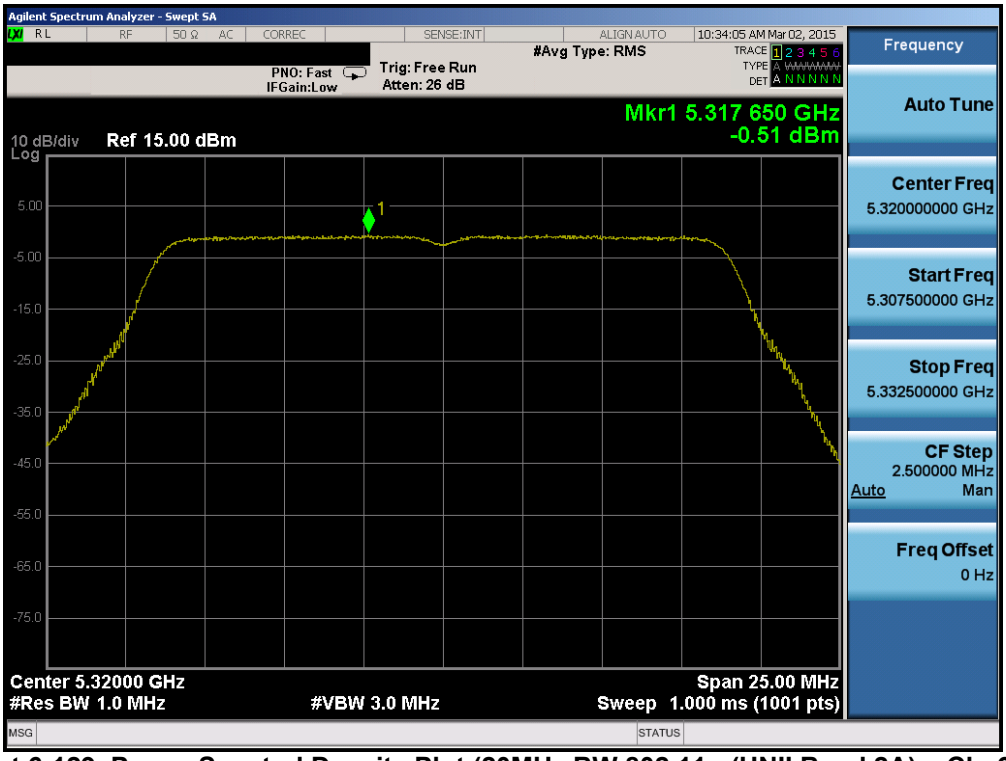
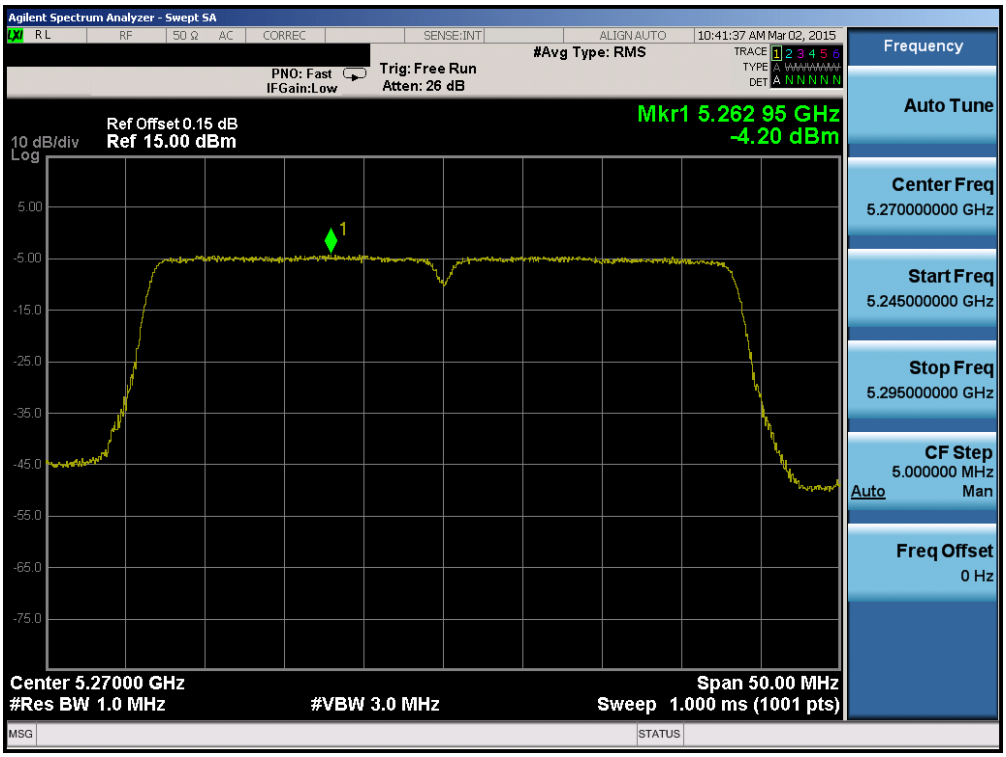


Plot 6-129. Power Spectral Density Plot (20MHz BW 802.11n (UNII Band 2A) – Ch. 64)



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

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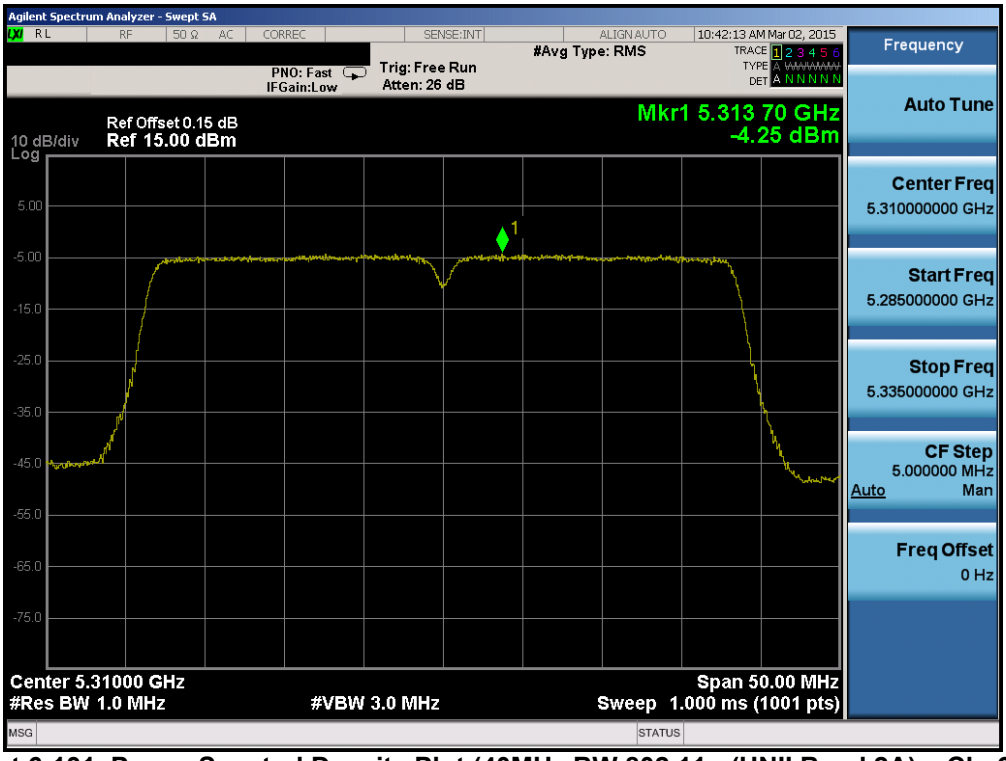
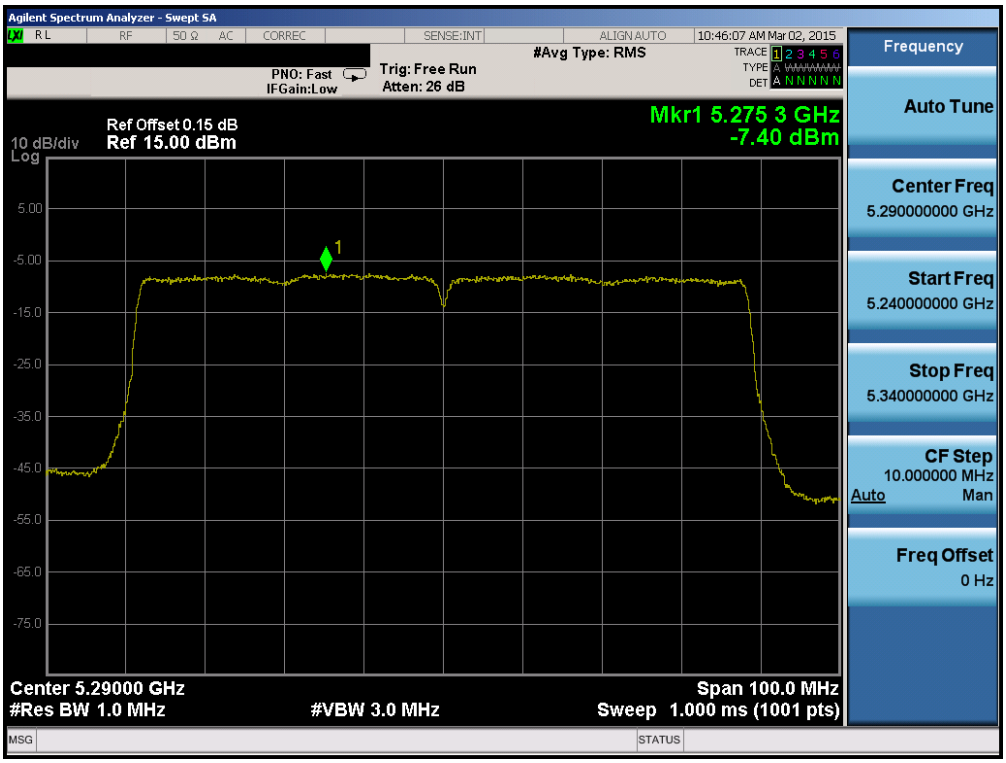


Plot 6-131. Power Spectral Density Plot (40MHz BW 802.11n (UNII Band 2A) – Ch. 62)



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

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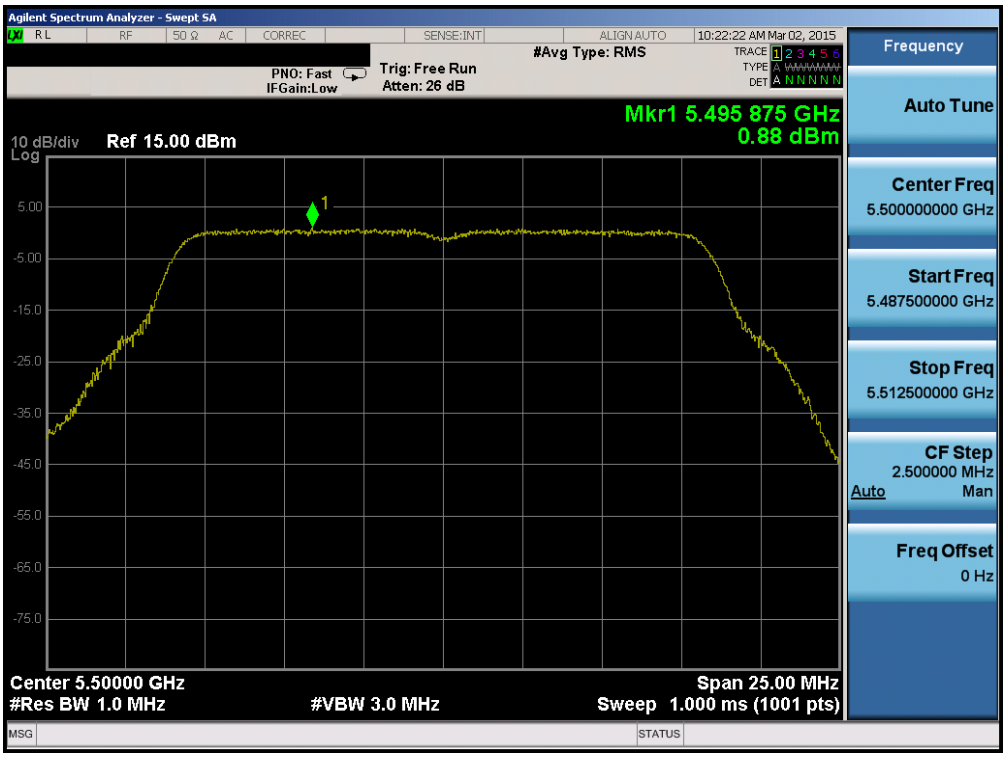

Plot 6-133. Power Spectral Density Plot (802.11a (UNII Band 2C) – Ch. 100)

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

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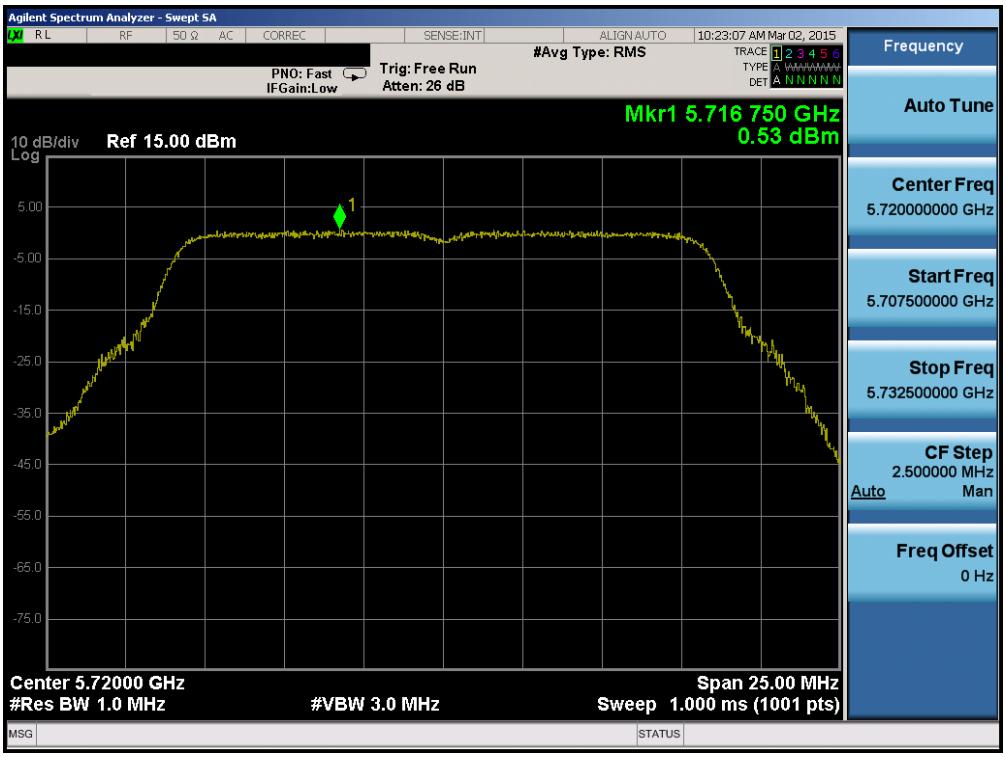
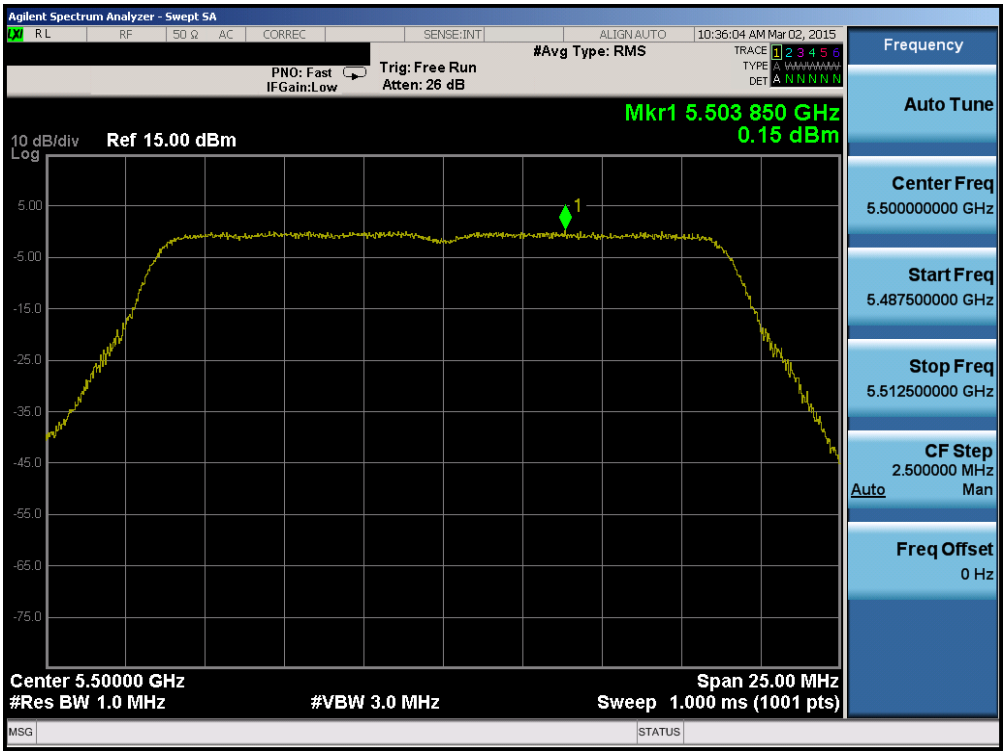


Plot 6-135. Power Spectral Density Plot (802.11a (UNII Band 2C) – Ch. 144)



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

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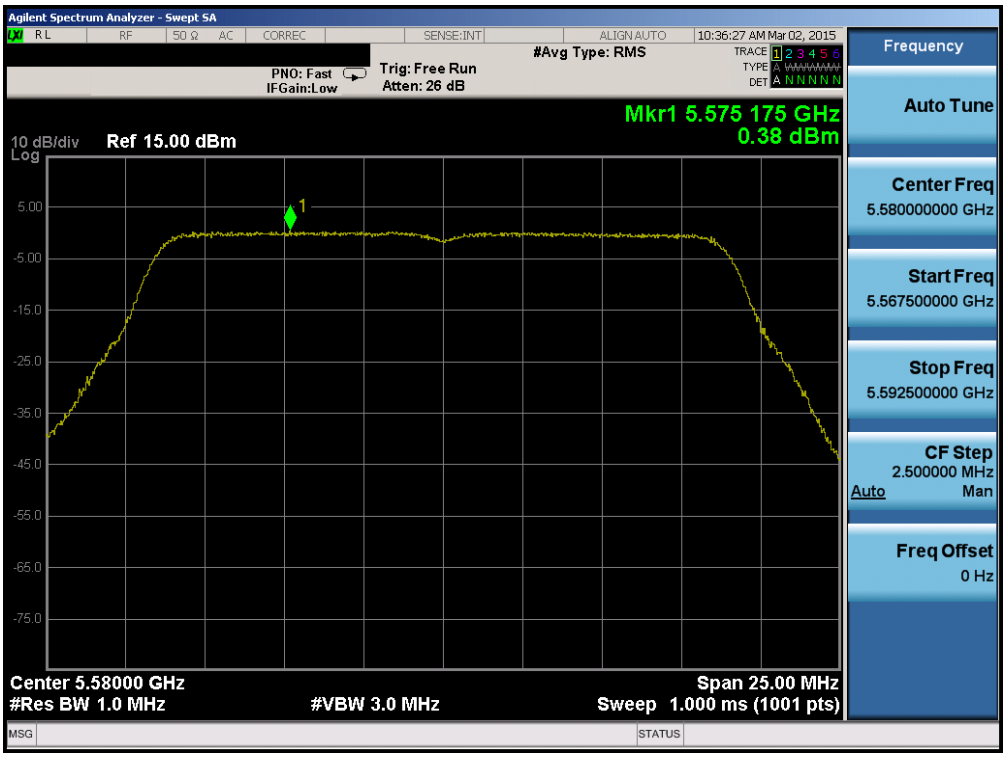
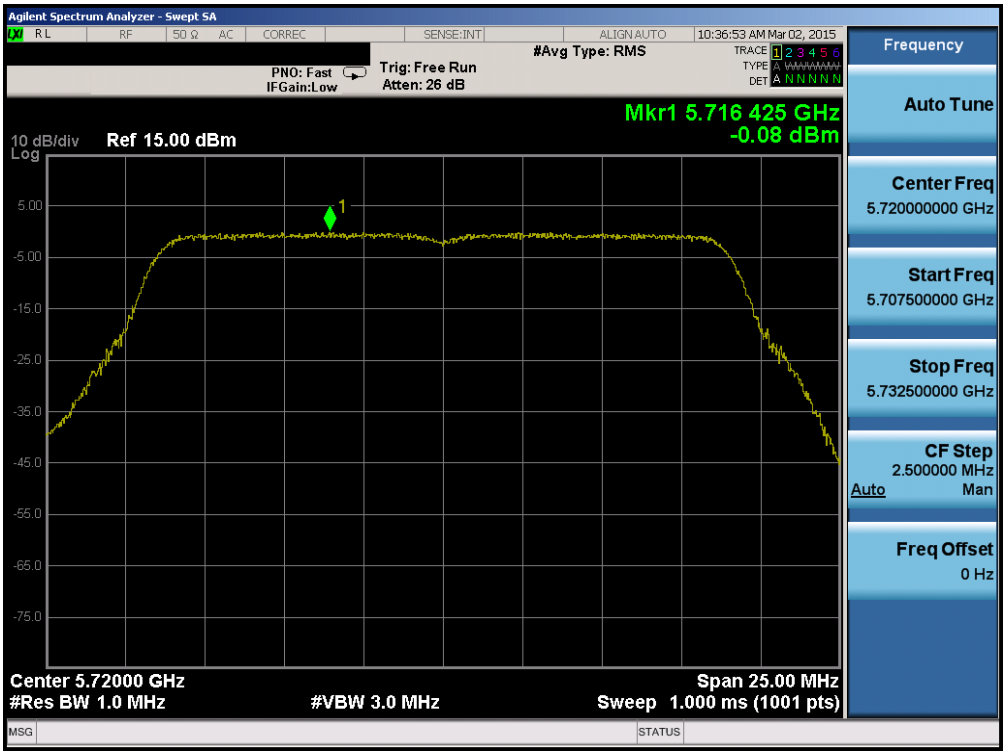


Plot 6-137. Power Spectral Density Plot (20MHz BW 802.11n (UNII Band 2C) – Ch. 116)



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

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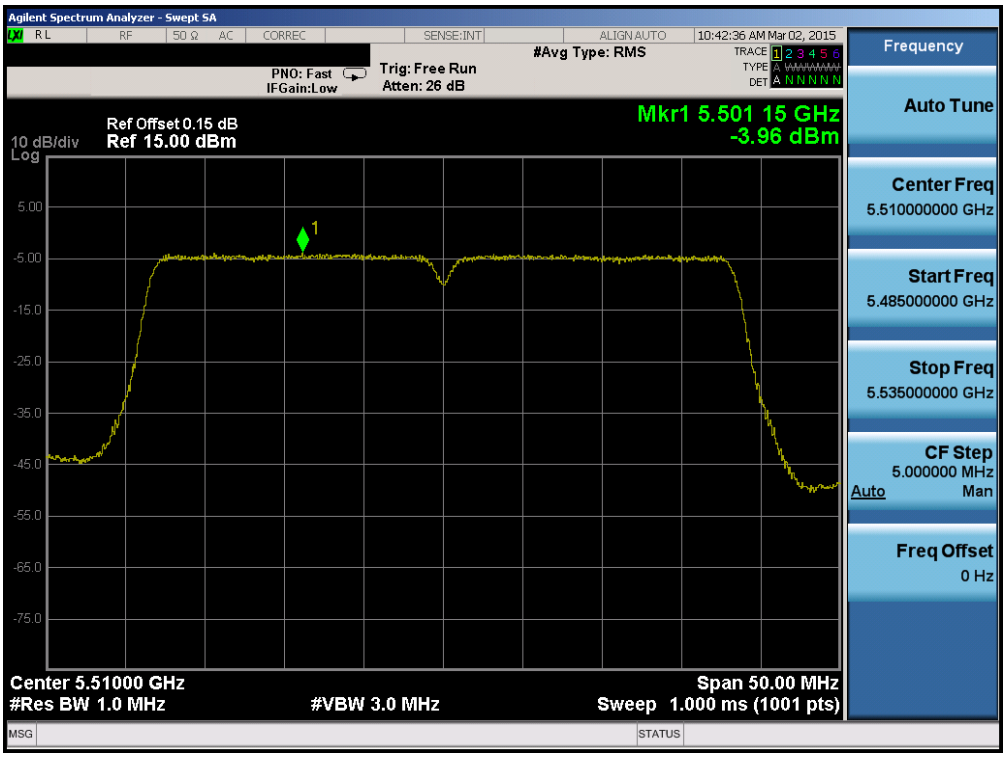
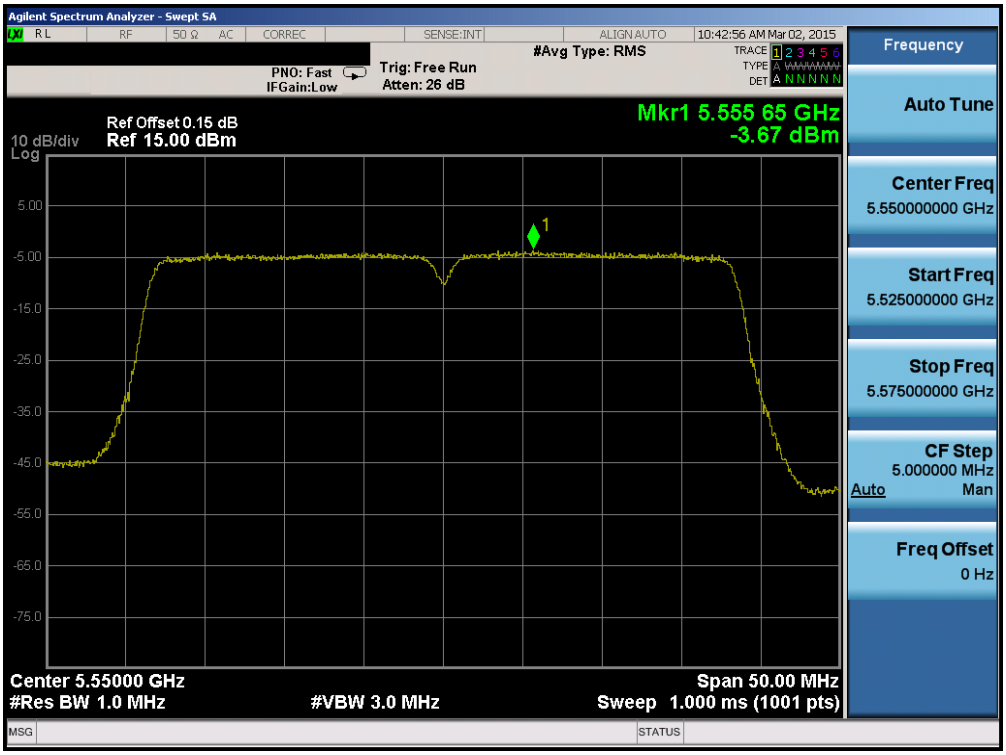


Plot 6-139. Power Spectral Density Plot (40MHz BW 802.11n (UNII Band 2C) – Ch. 102)



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

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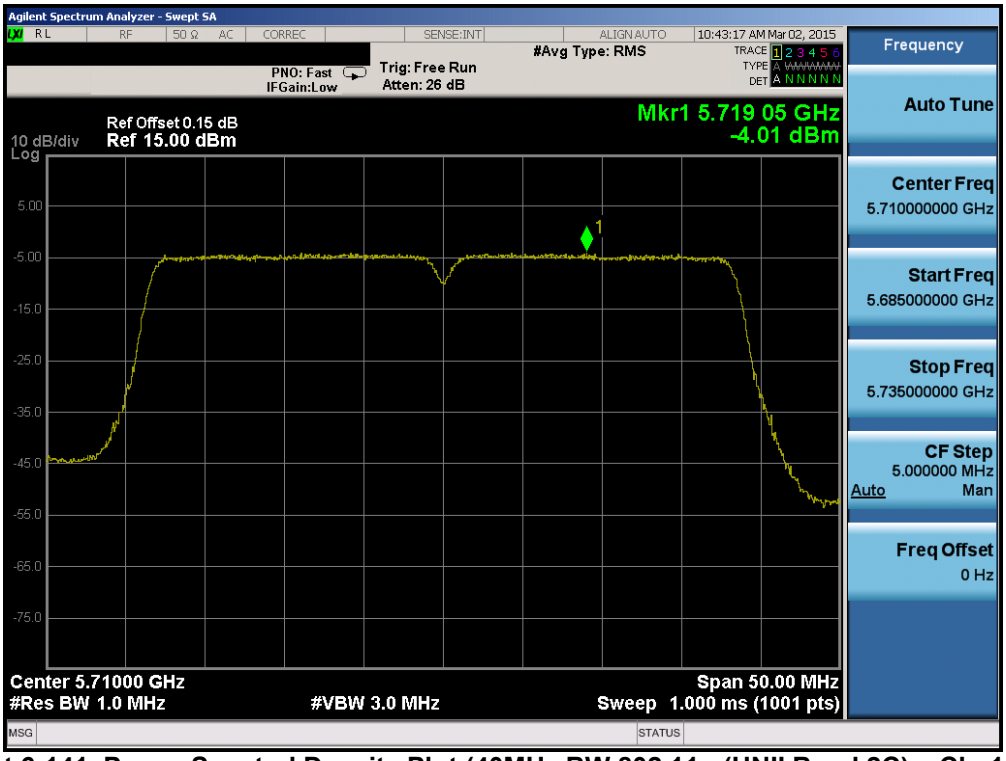
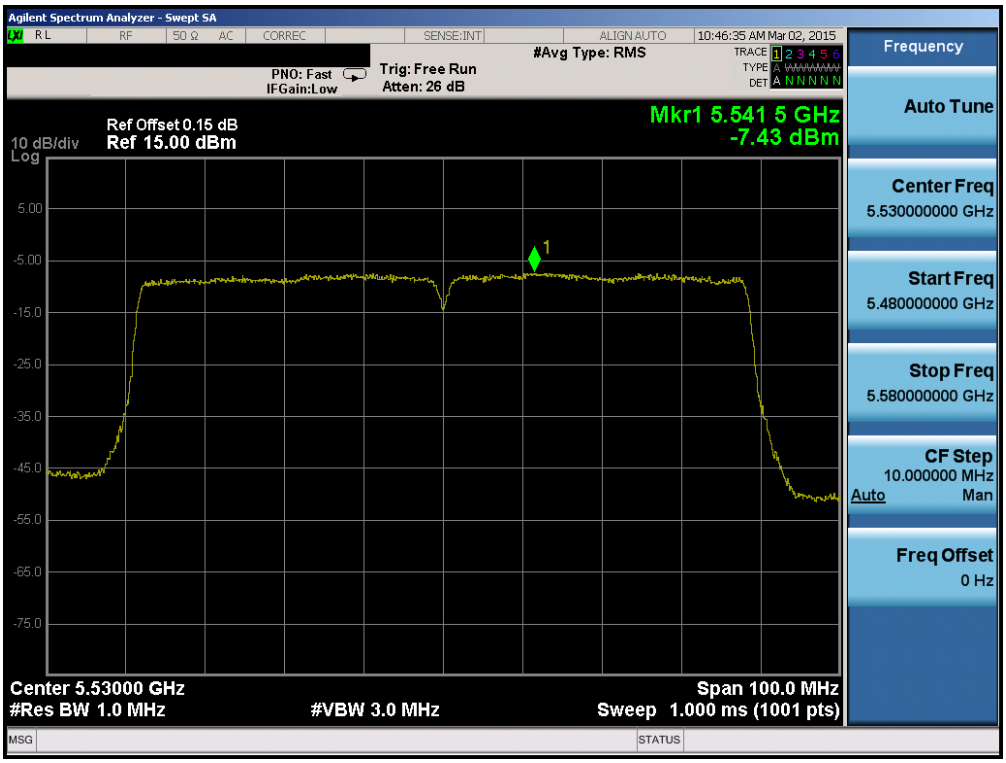


Plot 6-141. Power Spectral Density Plot (40MHz BW 802.11n (UNII Band 2C) – Ch. 142)



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

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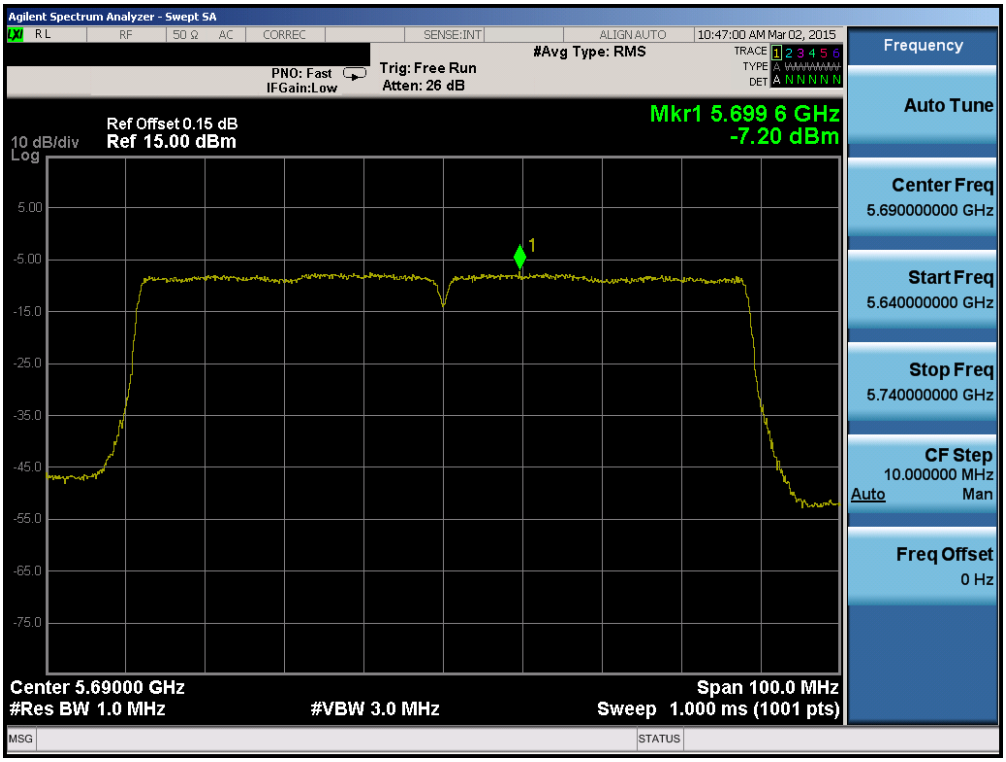

Plot 6-143. Power Spectral Density Plot (80MHz BW 802.11ac (UNII Band 2C) – Ch. 138)

	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	-1.36	30.0	-31.36	Pass
	5785	157	a	6	-1.24	30.0	-31.24	Pass
	5825	165	a	6	-1.47	30.0	-31.47	Pass
	5745	149	n (20MHz)	6.5/7.2 (MCS0)	-2.04	30.0	-32.04	Pass
	5785	157	n (20MHz)	6.5/7.2 (MCS0)	-1.75	30.0	-31.75	Pass
	5825	165	n (20MHz)	6.5/7.2 (MCS0)	-2.16	30.0	-32.16	Pass
	5755	151	n (40MHz)	13.5/15 (MCS0)	-5.96	30.0	-35.96	Pass
	5795	159	n (40MHz)	13.5/15 (MCS0)	-5.81	30.0	-35.81	Pass
	5775	155	ac (80MHz)	29.3/32.5 (MCS0)	-8.77	30.0	-38.77	Pass

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

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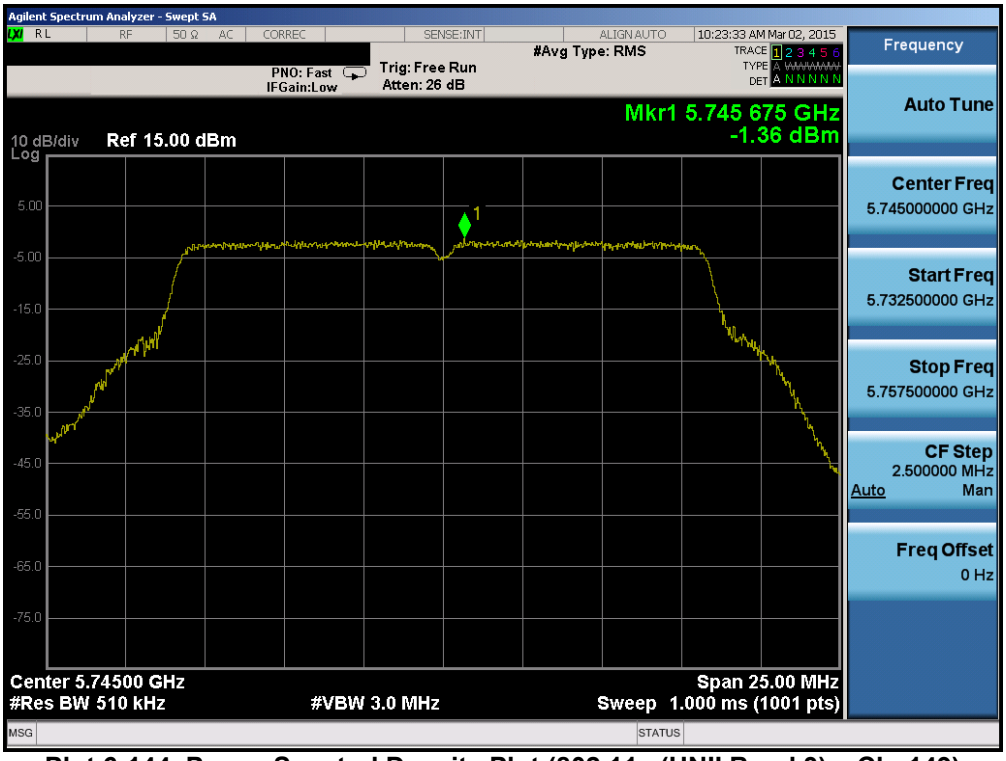
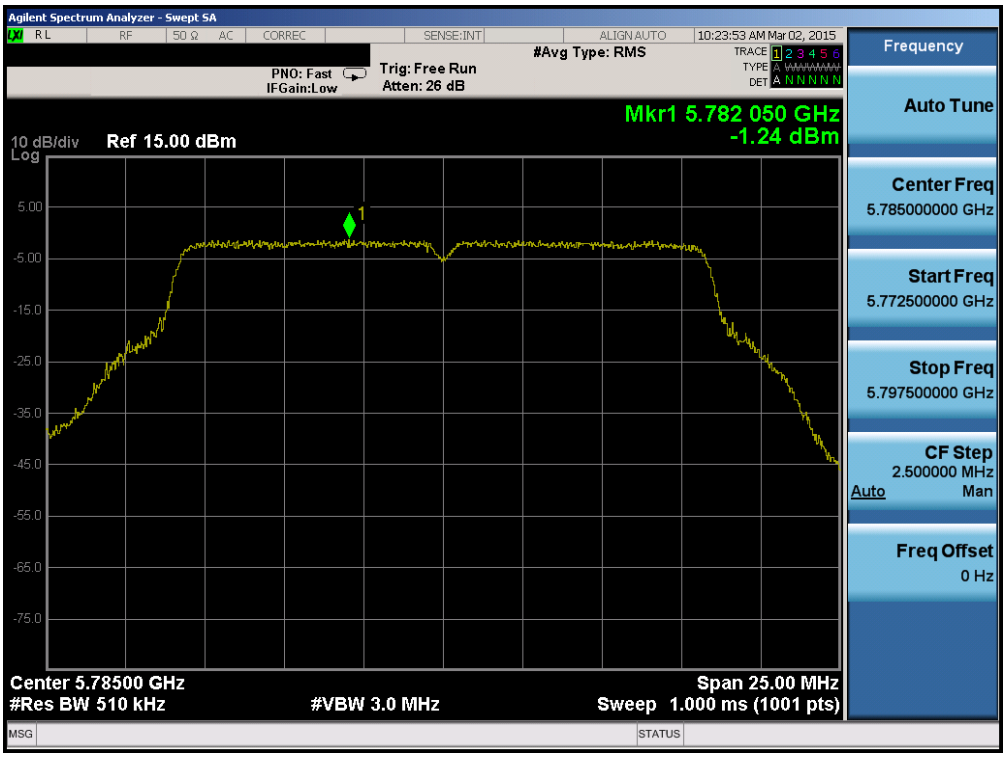


Plot 6-144. Power Spectral Density Plot (802.11a (UNII Band 3) – Ch. 149)



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

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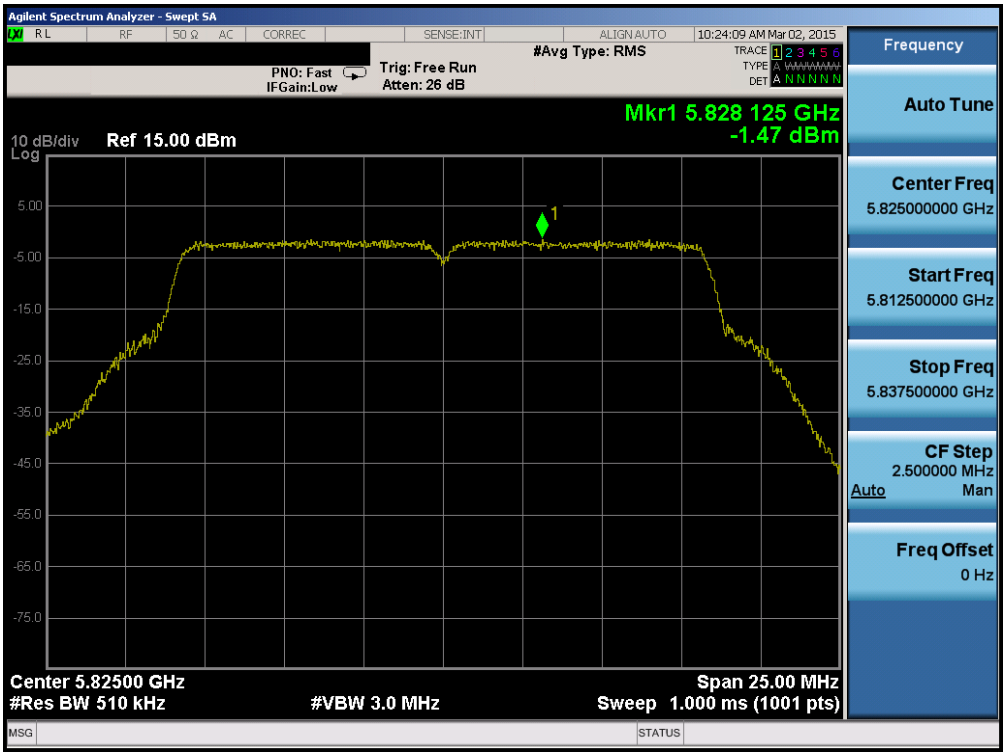
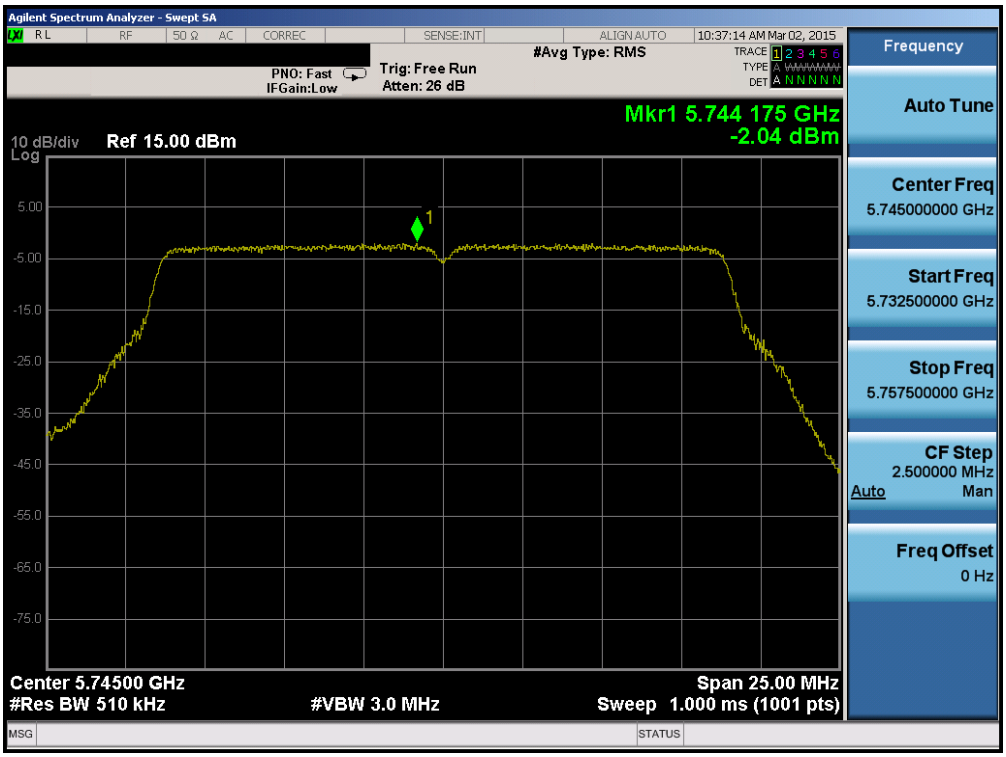


Plot 6-146. Power Spectral Density Plot (802.11a (UNII Band 3) – Ch. 165)



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

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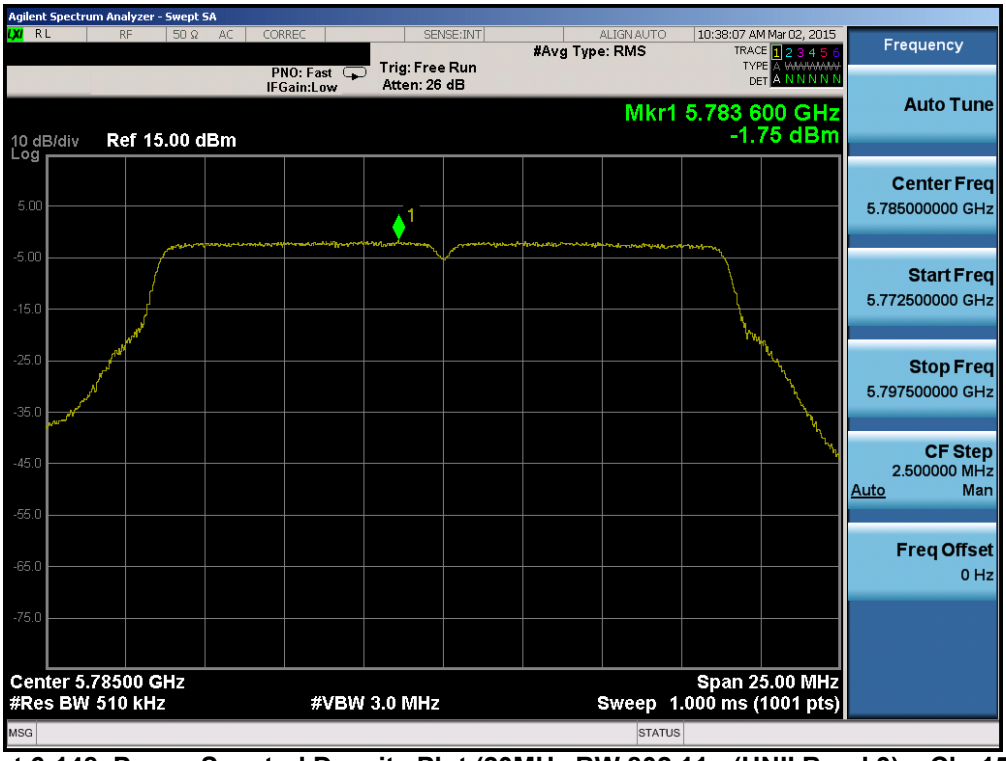
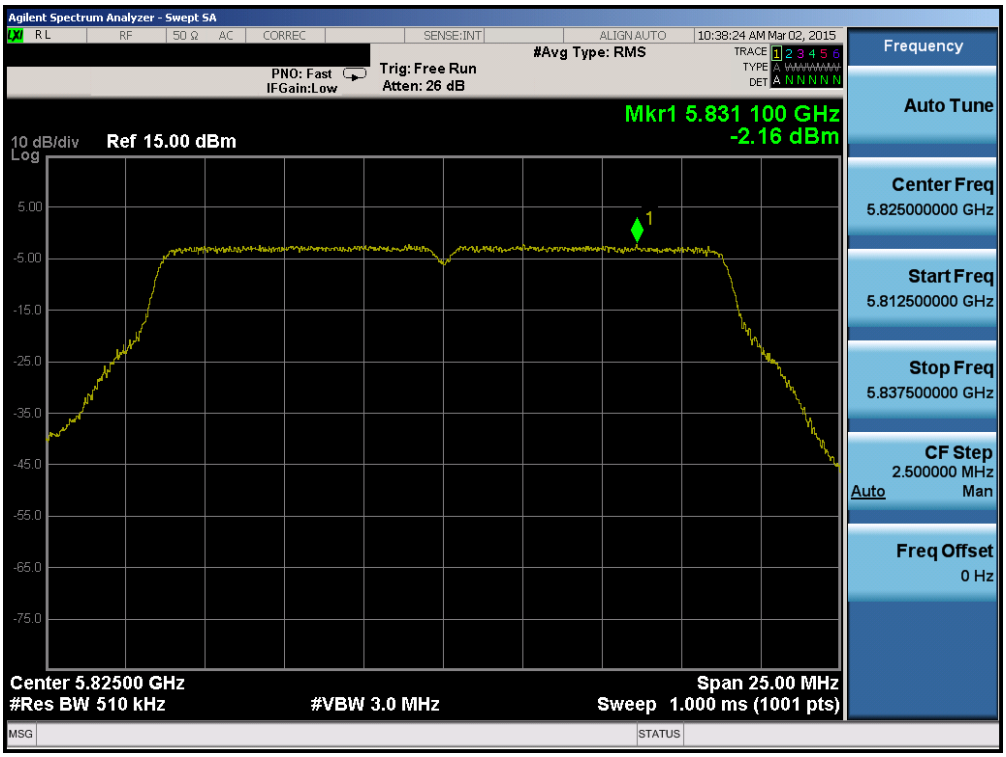


Plot 6-148. Power Spectral Density Plot (20MHz BW 802.11n (UNII Band 3) – Ch. 157)



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

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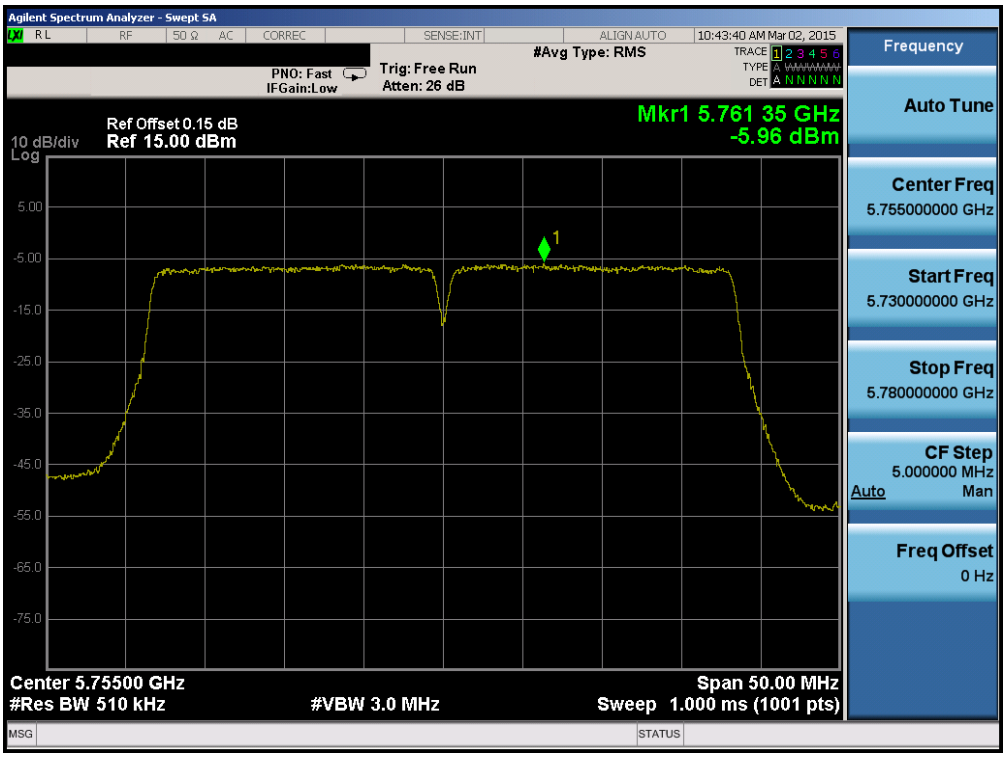
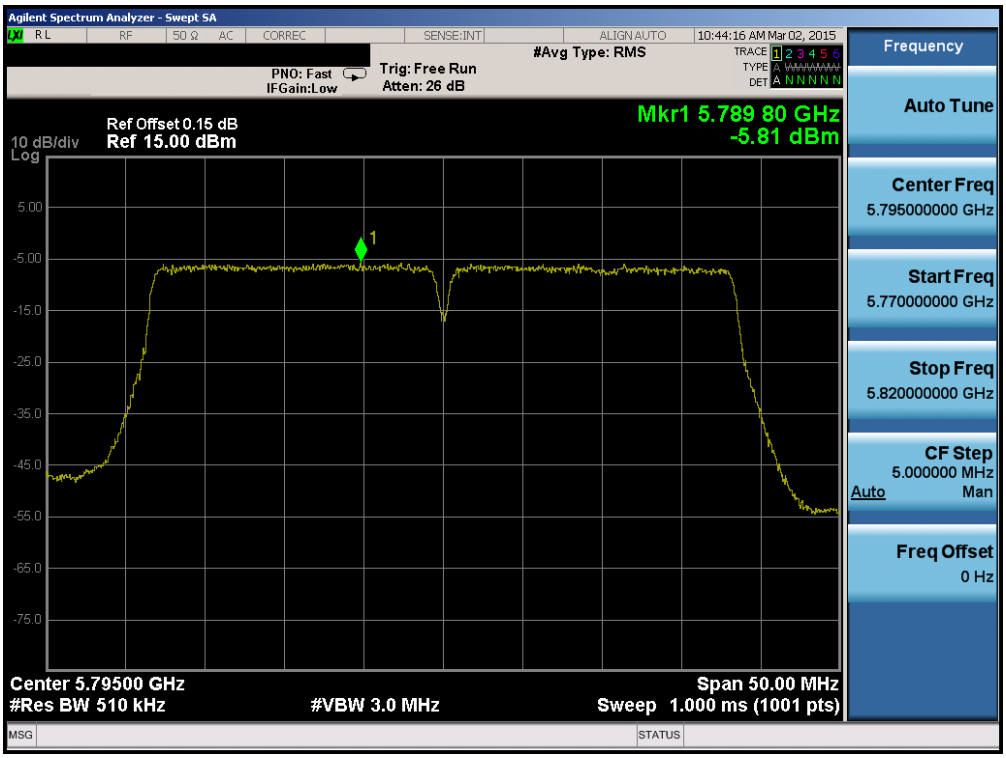


Plot 6-150. Power Spectral Density Plot (40MHz BW 802.11n (UNII Band 3) – Ch. 151)



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

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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)	1.28	0.14	3.76	11.0	-7.24	Pass
	5200	40	n (20MHz)	6.5/7.2 (MCS0)	0.61	-0.07	3.29	11.0	-7.71	Pass
	5240	48	n (20MHz)	6.5/7.2 (MCS0)	0.38	0.19	3.30	11.0	-7.70	Pass
	5190	38	n (40MHz)	13.5/15 (MCS0)	-0.79	-3.91	0.94	11.0	-10.06	Pass
	5230	46	n (40MHz)	13.5/15 (MCS0)	-0.23	-3.75	1.37	11.0	-9.63	Pass
	5210	42	ac (80MHz)	29.3/32.5 (MCS0)	-3.51	-7.12	-1.94	11.0	-12.94	Pass
Band 2A	5260	52	n (20MHz)	6.5/7.2 (MCS0)	1.72	-0.37	3.81	11.0	-7.19	Pass
	5280	56	n (20MHz)	6.5/7.2 (MCS0)	0.90	-0.52	3.26	11.0	-7.74	Pass
	5320	64	n (20MHz)	6.5/7.2 (MCS0)	0.27	-0.51	2.91	11.0	-8.09	Pass
	5270	54	n (40MHz)	13.5/15 (MCS0)	0.75	-4.20	1.95	11.0	-9.05	Pass
	5310	62	n (40MHz)	13.5/15 (MCS0)	-0.17	-4.25	1.26	11.0	-9.74	Pass
	5290	58	ac (80MHz)	29.3/32.5 (MCS0)	-3.28	-7.40	-1.86	11.0	-12.86	Pass
Band 2C	5500	100	n (20MHz)	6.5/7.2 (MCS0)	1.47	0.15	3.87	11.0	-7.13	Pass
	5580	116	n (20MHz)	6.5/7.2 (MCS0)	0.20	0.38	3.30	11.0	-7.70	Pass
	5720	144	n (20MHz)	6.5/7.2 (MCS0)	0.40	-0.08	3.18	11.0	-7.82	Pass
	5510	102	n (40MHz)	13.5/15 (MCS0)	-0.20	-3.96	1.33	11.0	-9.67	Pass
	5710	142	n (40MHz)	13.5/15 (MCS0)	-0.93	-4.01	0.80	11.0	-10.20	Pass
	5530	106	ac (80MHz)	29.3/32.5 (MCS0)	-3.89	-7.43	-2.30	11.0	-13.30	Pass
	5690	138	ac (80MHz)	29.3/32.5 (MCS0)	-3.98	-7.20	-2.29	11.0	-13.29	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)	-1.14	-2.04	1.45	30.0	-28.55	Pass
	5785	157	n (20MHz)	6.5/7.2 (MCS0)	-2.06	-1.75	1.11	30.0	-28.89	Pass
	5825	165	n (20MHz)	6.5/7.2 (MCS0)	-1.73	-2.16	1.07	30.0	-28.93	Pass
	5755	151	n (40MHz)	13.5/15 (MCS0)	-2.24	-5.96	-0.70	30.0	-30.70	Pass
	5795	159	n (40MHz)	13.5/15 (MCS0)	-2.56	-5.81	-0.88	30.0	-30.88	Pass
	5775	155	ac (80MHz)	29.3/32.5 (MCS0)	-5.45	-8.77	-3.79	30.0	-33.79	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 1.28 dBm for Antenna-1 and 0.14 dBm for Antenna-2.

Antenna 1 + Antenna 2 = MIMO

(1.28 dBm + 0.14 dBm) = (1.34 mW + 1.03 mW) = 2.37 mW = 3.76 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)	5,180,000,134	134	0.00000259
100 %		- 30	5,180,000,190	190	0.00000367
100 %		- 20	5,180,000,154	154	0.00000297
100 %		- 10	5,179,999,872	-128	-0.00000247
100 %		0	5,179,999,832	-168	-0.00000324
100 %		+ 10	5,180,000,186	186	0.00000359
100 %		+ 20	5,180,000,014	14	0.00000027
100 %		+ 30	5,179,999,856	-144	-0.00000278
100 %		+ 40	5,179,999,898	-102	-0.00000197
100 %		+ 50	5,179,999,851	-149	-0.00000288
BATT. ENDPOINT	3.45	+ 20	5,180,000,116	116	0.00000224

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)	5,259,999,983	-17	-0.00000032
100 %		- 30	5,259,999,892	-108	-0.00000205
100 %		- 20	5,260,000,112	112	0.00000213
100 %		- 10	5,260,000,161	161	0.00000306
100 %		0	5,259,999,889	-111	-0.00000211
100 %		+ 10	5,260,000,028	28	0.00000053
100 %		+ 20	5,259,999,914	-86	-0.00000163
100 %		+ 30	5,260,000,158	158	0.00000300
100 %		+ 40	5,260,000,192	192	0.00000365
100 %		+ 50	5,260,000,037	37	0.00000070
BATT. ENDPOINT	3.45	+ 20	5,259,999,985	-15	-0.00000029

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)	5,499,999,910	-90	-0.00000164
100 %		- 30	5,499,999,920	-80	-0.00000145
100 %		- 20	5,500,000,113	113	0.00000205
100 %		- 10	5,500,000,133	133	0.00000242
100 %		0	5,500,000,086	86	0.00000156
100 %		+ 10	5,499,999,942	-58	-0.00000105
100 %		+ 20	5,500,000,058	58	0.00000105
100 %		+ 30	5,500,000,052	52	0.00000095
100 %		+ 40	5,500,000,182	182	0.00000331
100 %		+ 50	5,500,000,043	43	0.00000078
BATT. ENDPOINT	3.45	+ 20	5,500,000,093	93	0.00000169

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)	5,745,000,049	49	0.00000085
100 %		- 30	5,744,999,804	-196	-0.00000341
100 %		- 20	5,744,999,847	-153	-0.00000266
100 %		- 10	5,744,999,869	-131	-0.00000228
100 %		0	5,744,999,943	-57	-0.00000099
100 %		+ 10	5,744,999,947	-53	-0.00000092
100 %		+ 20	5,744,999,954	-46	-0.00000080
100 %		+ 30	5,744,999,818	-182	-0.00000317
100 %		+ 40	5,744,999,996	-4	-0.00000007
100 %		+ 50	5,745,000,194	194	0.00000338
BATT. ENDPOINT	3.45	+ 20	5,744,999,878	-122	-0.00000212

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 – Above 1GHz

§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 duty cycle, 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), 802.11n (40MHz BW), and 802.11ac (80MHz)), 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.

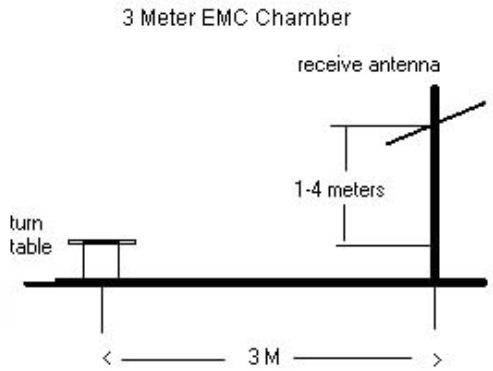

Figure 6-5. Test Instrument & Measurement Setup

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.

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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 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. The wide spectrum spurious emissions plots shown on the following pages are used only for the purpose of emission identification. Any emissions found to be within 20dB of the limit are fully investigated and the results are shown in this section. 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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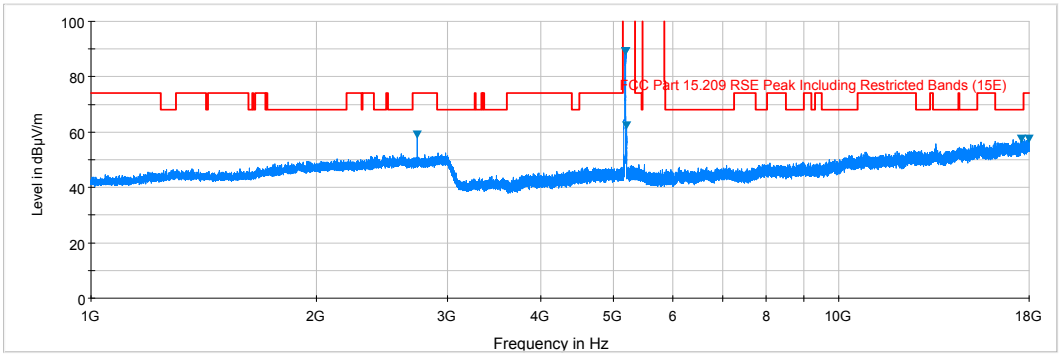
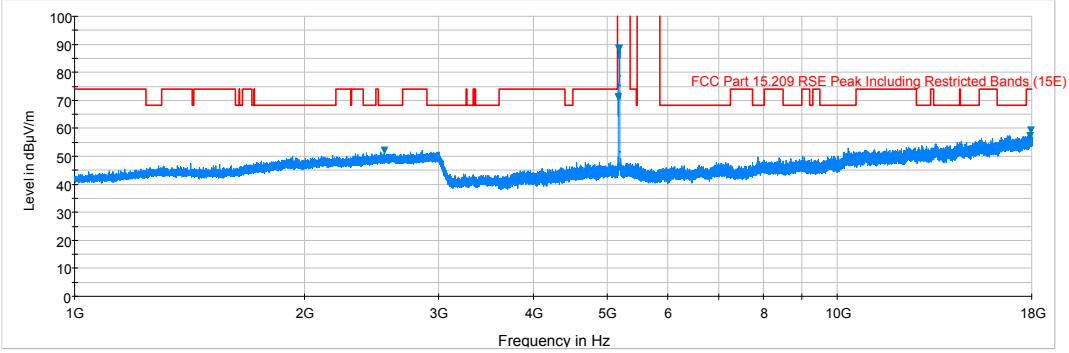
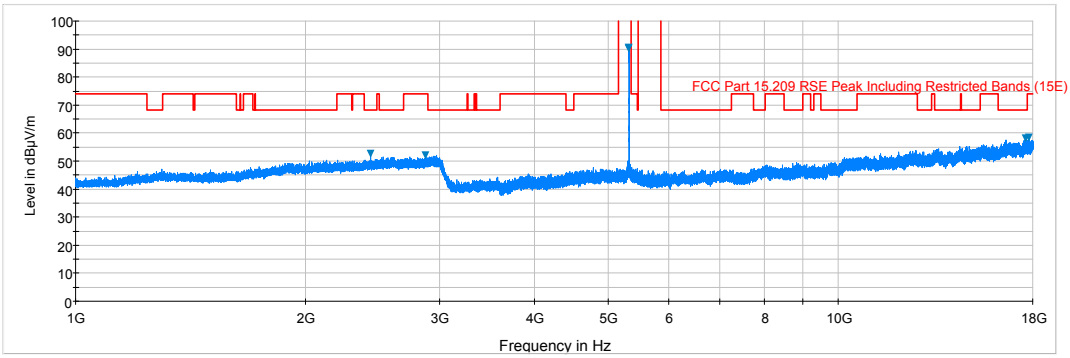
6.7.1 Antenna-1 Radiated Spurious Emission Measurements



Plot 6-153. Radiated Spurious Plot above 1GHz (802.11a – U1 Ch. 40, Ant. Pol. H)



Plot 6-154. Radiated Spurious Plot above 1GHz (802.11a – U1 Ch. 40, Ant. Pol. V)



Plot 6-155. Radiated Spurious Plot above 1GHz (802.11a – U2A Ch. 56, Ant. Pol. H)

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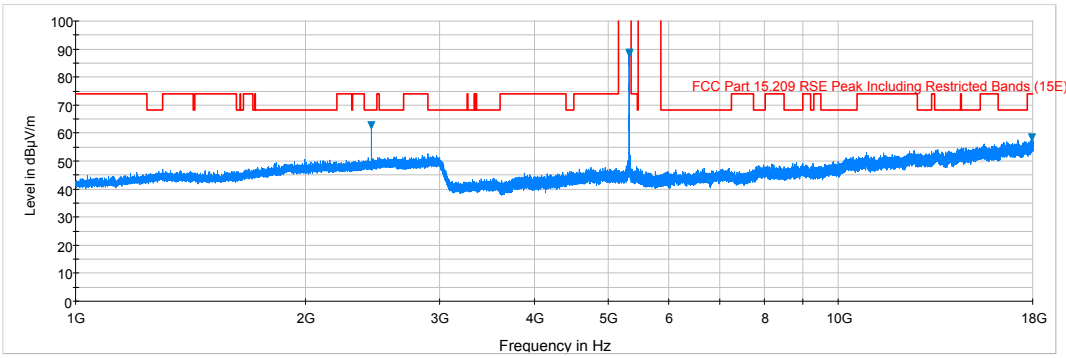
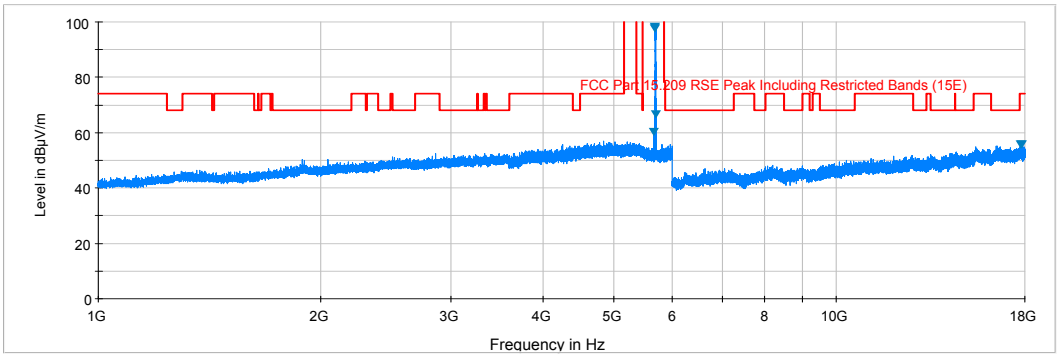
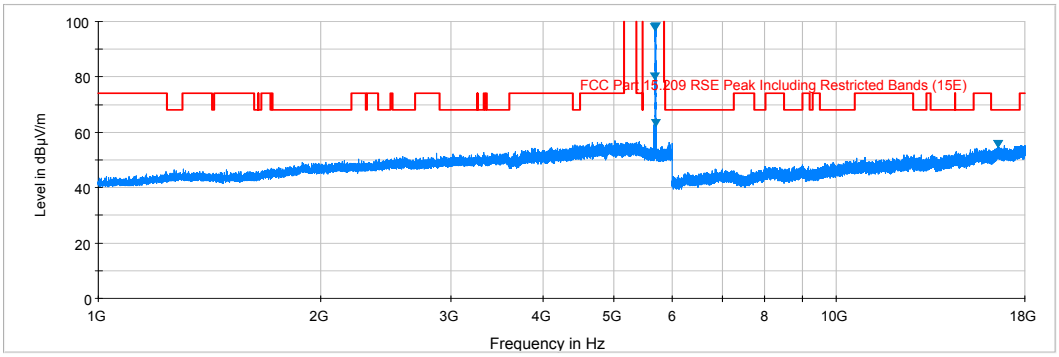


Plot 6-156. Radiated Spurious Plot above 1GHz (802.11a – U2A Ch. 56, Ant. Pol. V)



Plot 6-157. Radiated Spurious Plot above 1GHz (802.11a – U2C Ch. 116, Ant. Pol. H)



Plot 6-158. Radiated Spurious Plot above 1GHz (802.11a – U2C Ch. 116, Ant. Pol. V)

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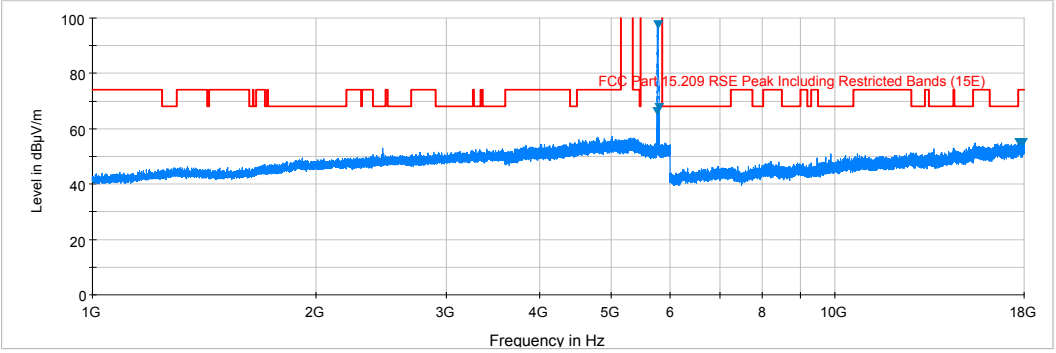
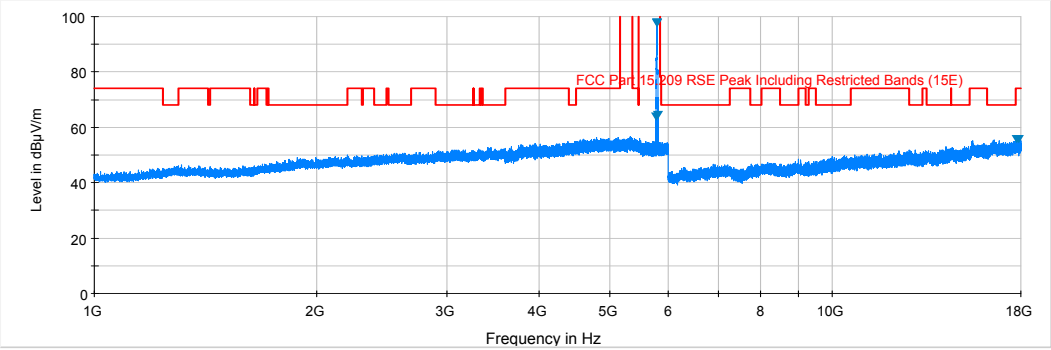


Plot 6-159. Radiated Spurious Plot above 1GHz (802.11a – U3 Ch. 157, Ant. Pol. H)



Plot 6-160. Radiated Spurious Plot above 1GHz (802.11a – U3 Ch. 157, Ant. Pol. V)

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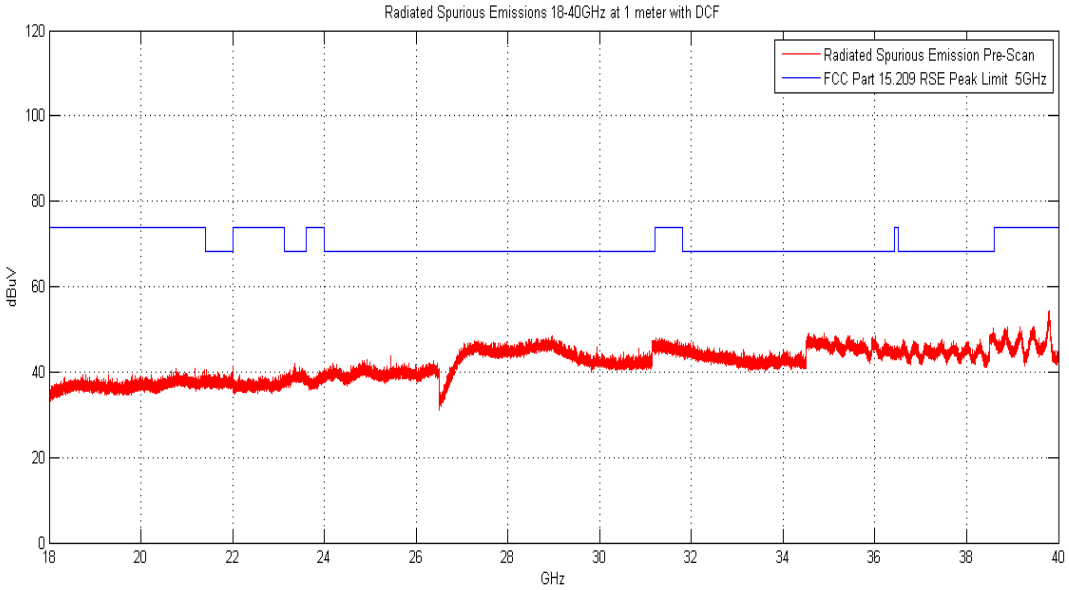
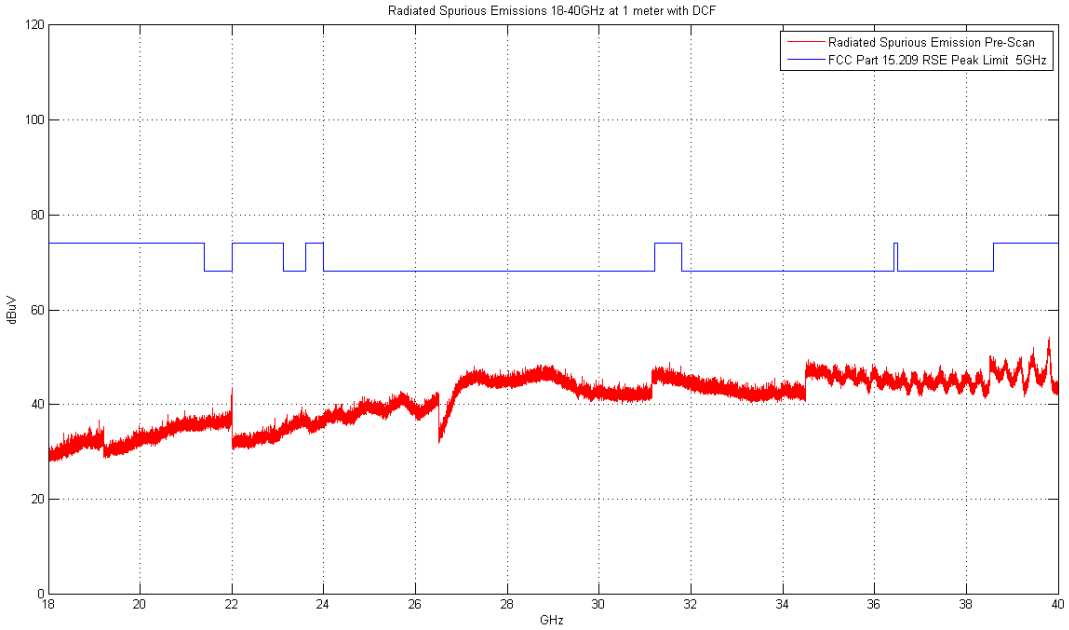
Antenna-1 Radiated Spurious Emissions Measurements (Above 18GHz)

§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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Antenna-1 Radiated Spurious Emission Measurements

§15.247(d) §15.205 & §15.209

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	-104.13	Peak	H	44.79	0.00	47.65	68.20	-20.55
*	15540.00	-116.99	Average	H	49.29	0.00	39.30	53.98	-14.68
*	15540.00	-106.14	Peak	H	49.29	0.00	50.15	73.98	-23.83
*	20720.00	-100.46	Average	H	48.73	-9.54	45.73	53.98	-8.25
*	20720.00	-96.06	Peak	H	48.73	-9.54	50.13	73.98	-23.85
	25900.00	-101.03	Peak	H	51.07	-9.54	47.50	68.20	-20.70

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	-104.09	Peak	H	44.87	0.00	47.79	68.20	-20.41
*	15600.00	-116.99	Average	H	49.31	0.00	39.32	53.98	-14.66
*	15600.00	-106.16	Peak	H	49.31	0.00	50.16	73.98	-23.82
*	20800.00	-96.77	Average	H	48.83	-9.54	49.52	53.98	-4.46
*	20800.00	-94.39	Peak	H	48.83	-9.54	51.90	73.98	-22.08
	26000.00	-101.82	Peak	H	51.15	-9.54	46.79	68.20	-21.41

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	-104.14	Peak	H	45.08	0.00	47.94	68.20	-20.26
*	15720.00	-117.03	Average	H	49.40	0.00	39.37	53.98	-14.61
*	15720.00	-106.18	Peak	H	49.40	0.00	50.22	73.98	-23.76
*	20960.00	-98.70	Average	H	48.98	-9.54	47.73	53.98	-6.25
*	20960.00	-96.37	Peak	H	48.98	-9.54	50.06	73.98	-23.92
	26200.00	-100.50	Peak	H	51.17	-9.54	48.13	68.20	-20.07

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	-104.16	Peak	H	45.08	0.00	47.92	68.20	-20.28
*	15720.00	-117.01	Average	H	49.40	0.00	39.39	53.98	-14.59
*	15720.00	-106.16	Peak	H	49.40	0.00	50.24	73.98	-23.74
*	20960.00	-113.20	Average	H	48.98	-9.54	33.23	53.98	-20.75
*	20960.00	-102.10	Peak	H	48.98	-9.54	44.33	73.98	-29.65
	26200.00	-100.86	Peak	H	51.17	-9.54	47.77	68.20	-20.43

Table 6-31. Radiated Measurements with 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	-104.77	Peak	H	45.13	0.00	47.36	68.20	-20.84
*	15780.00	-117.51	Average	H	49.46	0.00	38.94	53.98	-15.04
*	15780.00	-107.45	Peak	H	49.46	0.00	49.00	73.98	-24.98
*	21040.00	-98.51	Average	H	49.04	-9.54	47.98	53.98	-6.00
*	21040.00	-96.10	Peak	H	49.04	-9.54	50.39	73.98	-23.59
	26300.00	-99.08	Peak	H	51.24	-9.54	49.61	68.20	-18.59

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	-104.78	Peak	H	45.13	0.00	47.35	68.20	-20.85
*	15840.00	-117.54	Average	H	49.54	0.00	39.01	53.98	-14.97
*	15840.00	-107.48	Peak	H	49.54	0.00	49.07	73.98	-24.91
*	21120.00	-99.29	Average	H	49.07	-9.54	47.24	53.98	-6.74
*	21120.00	-96.20	Peak	H	49.07	-9.54	50.33	73.98	-23.65
	26400.00	-98.00	Peak	H	51.37	-9.54	50.83	68.20	-17.37

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	-116.10	Average	H	45.16	0.00	36.06	53.98	-17.92
*	10640.00	-104.86	Peak	H	45.16	0.00	47.30	73.98	-26.68
*	15960.00	-117.58	Average	H	49.75	0.00	39.17	53.98	-14.81
*	15960.00	-107.52	Peak	H	49.75	0.00	49.23	73.98	-24.75
*	21280.00	-103.11	Average	H	49.15	-9.54	43.49	53.98	-10.48
*	21280.00	-99.42	Peak	H	49.15	-9.54	47.18	73.98	-26.79
	26600.00	-102.88	Peak	H	47.61	-9.54	42.19	68.20	-26.01

Table 6-34. 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	-116.12	Average	H	45.16	0.00	36.04	53.98	-17.94
*	10640.00	-104.91	Peak	H	45.16	0.00	47.25	73.98	-26.73
*	15960.00	-117.60	Average	H	49.75	0.00	39.15	53.98	-14.83
*	15960.00	-107.49	Peak	H	49.75	0.00	49.26	73.98	-24.72
*	21280.00	-114.45	Average	H	49.15	-9.54	32.15	53.98	-21.82
*	21280.00	-102.57	Peak	H	49.15	-9.54	44.03	73.98	-29.94
	26600.00	-103.28	Peak	H	47.61	-9.54	41.79	68.20	-26.41

Table 6-35. Radiated Measurements with 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	-116.32	Average	H	45.24	0.00	35.92	53.98	-18.06
*	11000.00	-105.80	Peak	H	45.24	0.00	46.44	73.98	-27.54
	16500.00	-107.08	Peak	H	50.35	0.00	50.27	68.20	-17.93
	22000.00	-98.76	Peak	H	49.46	-9.54	48.16	68.20	-20.04
	27500.00	-104.47	Peak	H	47.92	-9.54	40.91	68.20	-27.29

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	-116.17	Average	H	45.23	0.00	36.06	53.98	-17.92
*	11160.00	-105.65	Peak	H	45.23	0.00	46.58	73.98	-27.40
	16740.00	-107.10	Peak	H	50.51	0.00	50.41	68.20	-17.79
*	22320.00	-99.26	Average	H	49.87	-9.54	48.07	53.98	-5.91
*	22320.00	-96.74	Peak	H	49.87	-9.54	50.59	73.98	-23.39
	27900.00	-105.32	Peak	H	48.09	-9.54	40.23	68.20	-27.97

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:	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	-116.03	Average	H	45.38	0.00	36.35	53.98	-17.63
*	11440.00	-105.51	Peak	H	45.38	0.00	46.87	73.98	-27.11
	17160.00	-107.00	Peak	H	50.43	0.00	50.43	68.20	-17.77
*	22880.00	-97.96	Average	H	49.98	-9.54	49.48	53.98	-4.50
*	22880.00	-96.26	Peak	H	49.98	-9.54	51.18	73.98	-22.80
	28600.00	-105.48	Peak	H	48.35	-9.54	40.33	68.20	-27.87

Table 6-38. Radiated Measurements

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	-116.00	Average	H	45.38	0.00	36.38	53.98	-17.60
*	11440.00	-105.52	Peak	H	45.38	0.00	46.86	73.98	-27.12
	17160.00	-106.95	Peak	H	50.43	0.00	50.48	68.20	-17.72
*	22880.00	-111.52	Average	H	49.98	-9.54	35.92	53.98	-18.06
*	22880.00	-102.62	Peak	H	49.98	-9.54	44.82	73.98	-29.16
	28600.00	-105.77	Peak	H	48.35	-9.54	40.04	68.20	-28.16

Table 6-39. Radiated Measurements with WCP

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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	-115.10	Average	H	45.43	0.00	37.33	53.98	-16.65
*	11490.00	-104.16	Peak	H	45.43	0.00	48.27	73.98	-25.71
	17235.00	-107.49	Peak	H	50.61	0.00	50.12	68.20	-18.08
*	22980.00	-102.74	Average	H	49.94	-9.54	44.66	53.98	-9.32
*	22980.00	-98.92	Peak	H	49.94	-9.54	48.48	73.98	-25.50
	28725.00	-103.96	Peak	H	48.26	-9.54	41.76	68.20	-26.44

Table 6-40. 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	-115.00	Average	H	45.55	0.00	37.55	53.98	-16.43
*	11570.00	-104.97	Peak	H	45.55	0.00	47.58	73.98	-26.40
	17355.00	-107.92	Peak	H	51.00	0.00	50.08	68.20	-18.12
	23140.00	-99.58	Peak	H	50.05	-9.54	47.93	68.20	-20.27
	28925.00	-103.26	Peak	H	48.28	-9.54	42.47	68.20	-25.73

Table 6-41. 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	-113.94	Average	H	45.67	0.00	38.73	53.98	-15.25
*	11650.00	-103.13	Peak	H	45.67	0.00	49.54	73.98	-24.44
	17475.00	-107.04	Peak	H	51.30	0.00	51.27	68.20	-16.93
	23300.00	-97.67	Peak	H	50.10	-9.54	49.88	68.20	-18.32
	29125.00	-103.80	Peak	H	48.24	-9.54	41.90	68.20	-26.30

Table 6-42. 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]
*	11650.00	-114.02	Average	H	45.67	0.00	38.65	53.98	-15.33
*	11650.00	-103.23	Peak	H	45.67	0.00	49.44	73.98	-24.54
	17475.00	-106.90	Peak	H	51.30	0.00	51.41	68.20	-16.79
	23300.00	-100.63	Peak	H	50.10	-9.54	46.92	68.20	-21.28
	29125.00	-104.30	Peak	H	48.24	-9.54	41.40	68.20	-26.80

Table 6-43. Radiated Measurements with WCP

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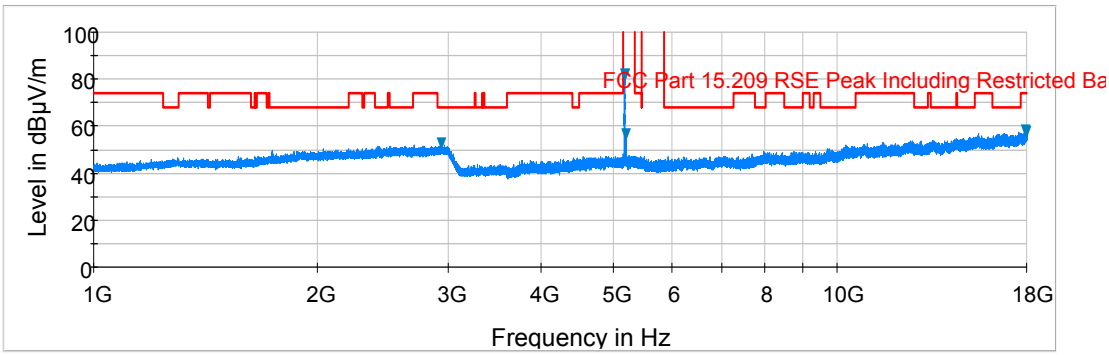
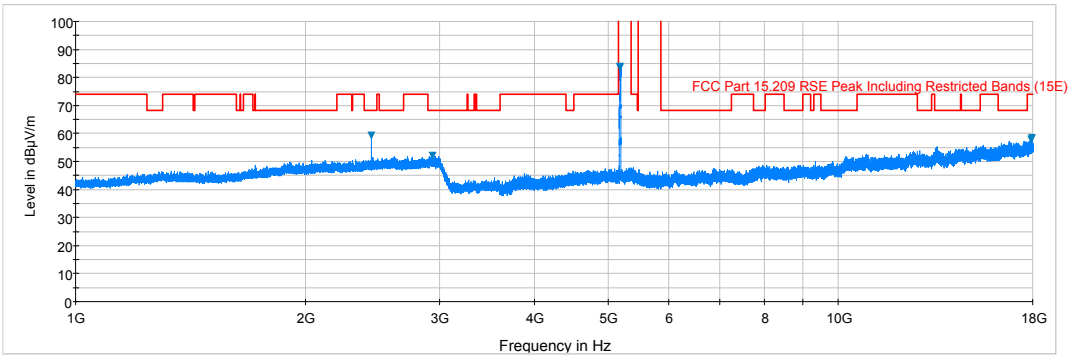
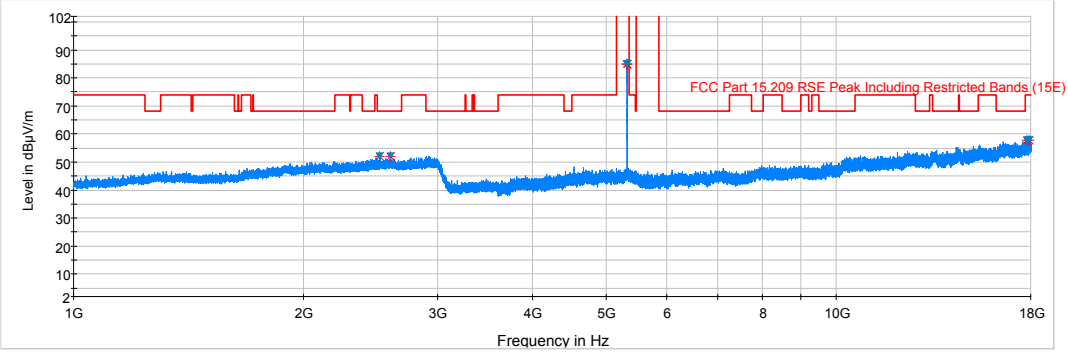
6.7.2 Antenna-2 Radiated Spurious Emission Measurements



Plot 6-163. Radiated Spurious Plot above 1GHz (802.11a – U1 Ch. 40, Ant. Pol. H)



Plot 6-164. Radiated Spurious Plot above 1GHz (802.11a – U1 Ch. 40, Ant. Pol. V)



Plot 6-165. Radiated Spurious Plot above 1GHz (802.11a – U2A Ch. 56, Ant. Pol. H)

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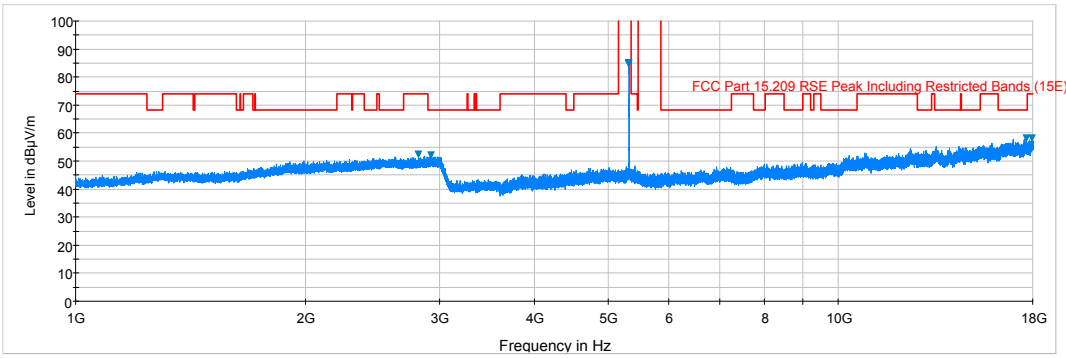
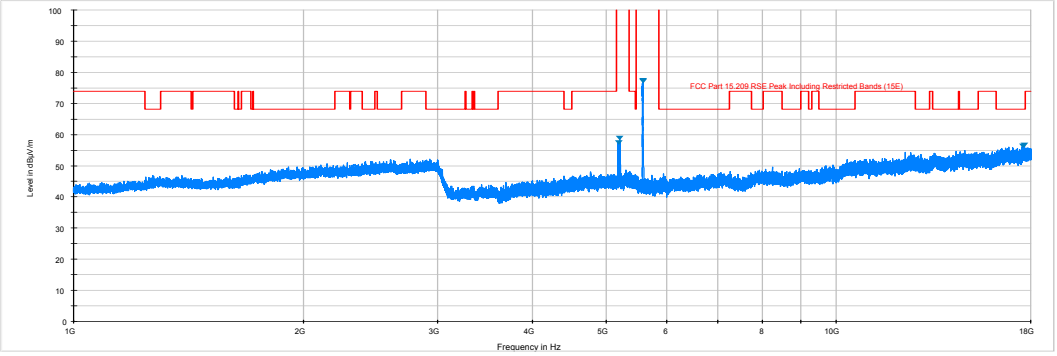
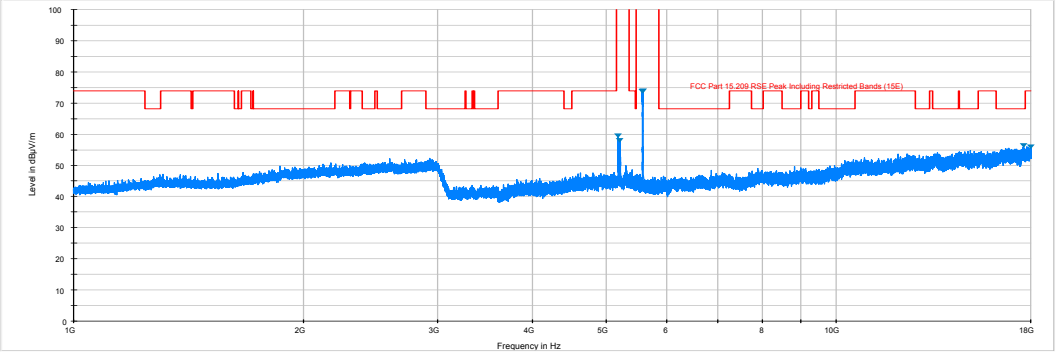


Plot 6-166. Radiated Spurious Plot above 1GHz (802.11a – U2A Ch. 56, Ant. Pol. V)



Plot 6-167. Radiated Spurious Plot above 1GHz (802.11a – U2C Ch. 116, Ant. Pol. H)



Plot 6-168. Radiated Spurious Plot above 1GHz (802.11a – U2C Ch. 116, Ant. Pol. V)

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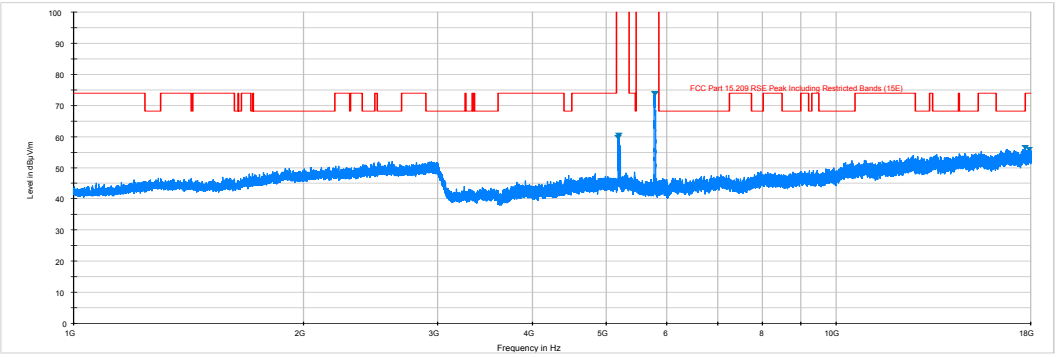
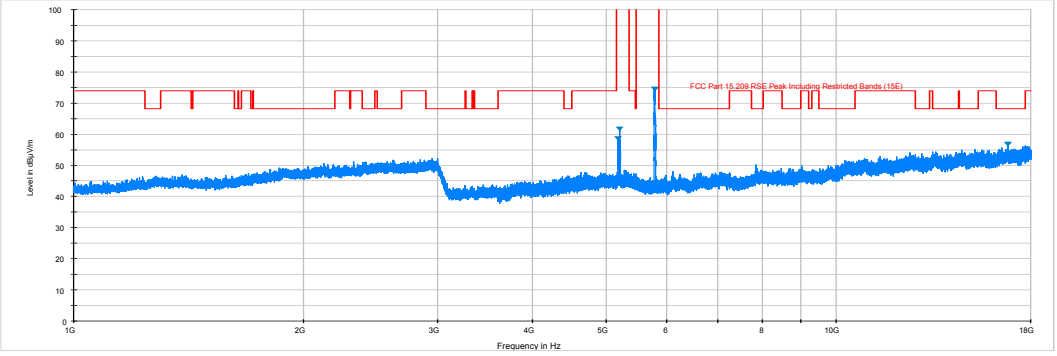


Plot 6-169. Radiated Spurious Plot above 1GHz (802.11a – U3 Ch. 157, Ant. Pol. H)



Plot 6-170. Radiated Spurious Plot above 1GHz (802.11a – U3 Ch. 157, Ant. Pol. V)

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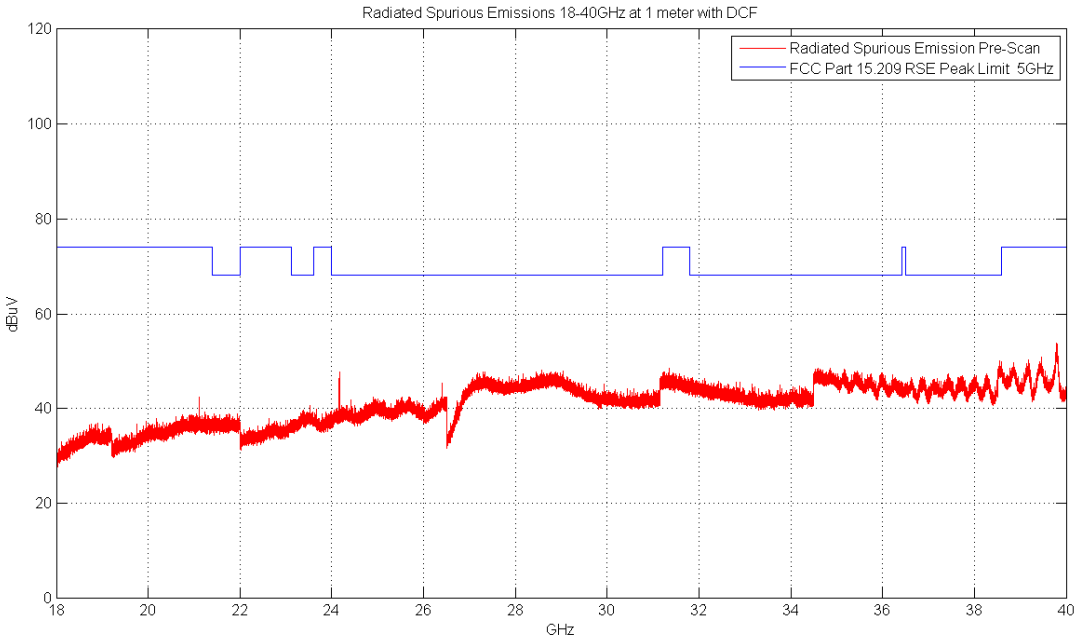
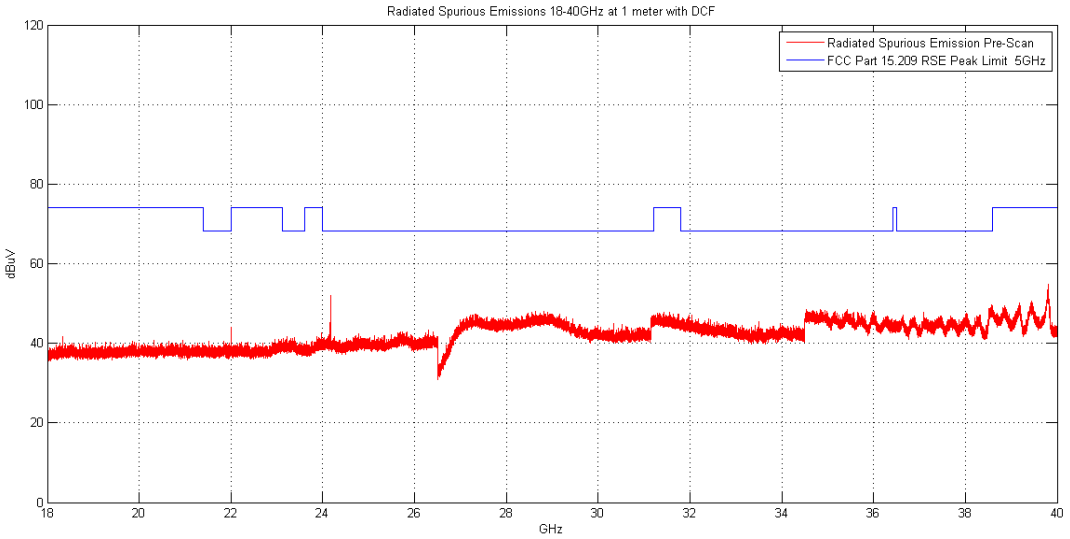
Antenna-2 Radiated Spurious Emissions Measurements (Above 18GHz)

§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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Antenna-2 Radiated Spurious Emission Measurements

§15.247(d) §15.205 & §15.209

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	-105.14	Peak	H	44.79	0.00	46.64	68.20	-21.56
*	15540.00	-117.16	Average	H	49.29	0.00	39.13	53.98	-14.85
*	15540.00	-106.08	Peak	H	49.29	0.00	50.21	73.98	-23.77
*	20720.00	-103.63	Average	H	48.73	-9.54	42.56	53.98	-11.42
*	20720.00	-99.27	Peak	H	48.73	-9.54	46.92	73.98	-27.06
	25900.00	-101.26	Peak	H	51.07	-9.54	47.27	68.20	-20.93

Table 6-44. 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	-105.14	Peak	H	44.87	0.00	46.74	68.20	-21.46
*	15600.00	-117.17	Average	H	49.31	0.00	39.14	53.98	-14.84
*	15600.00	-106.09	Peak	H	49.31	0.00	50.22	73.98	-23.76
*	20800.00	-100.53	Average	H	48.83	-9.54	45.76	53.98	-8.22
*	20800.00	-96.74	Peak	H	48.83	-9.54	49.55	73.98	-24.43
	26000.00	-101.20	Peak	H	51.15	-9.54	47.41	68.20	-20.79

Table 6-45. 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	-105.12	Peak	H	45.08	0.00	46.96	68.20	-21.24
*	15720.00	-117.20	Average	H	49.40	0.00	39.20	53.98	-14.78
*	15720.00	-106.12	Peak	H	49.40	0.00	50.28	73.98	-23.70
*	20960.00	-96.96	Average	H	48.98	-9.54	49.47	53.98	-4.51
*	20960.00	-94.71	Peak	H	48.98	-9.54	51.72	73.98	-22.26
	26200.00	-99.33	Peak	H	51.17	-9.54	49.30	68.20	-18.90

Table 6-46. 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	-105.12	Peak	H	45.08	0.00	46.96	68.20	-21.24
*	15720.00	-117.20	Average	H	49.40	0.00	39.20	53.98	-14.78
*	15720.00	-106.12	Peak	H	49.40	0.00	50.28	73.98	-23.70
*	20960.00	-111.96	Average	H	48.98	-9.54	34.47	53.98	-19.51
*	20960.00	-102.17	Peak	H	48.98	-9.54	44.26	73.98	-29.72
	26200.00	-100.77	Peak	H	51.17	-9.54	47.86	68.20	-20.34

Table 6-47. Radiated Measurements with 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	-105.40	Peak	H	45.13	0.00	46.73	68.20	-21.47
*	15780.00	-117.53	Average	H	49.46	0.00	38.92	53.98	-15.06
*	15780.00	-107.74	Peak	H	49.46	0.00	48.71	73.98	-25.27
*	21040.00	-100.44	Average	H	49.04	-9.54	46.05	53.98	-7.93
*	21040.00	-98.16	Peak	H	49.04	-9.54	48.33	73.98	-25.65
	26300.00	-99.27	Peak	H	51.24	-9.54	49.42	68.20	-18.78

Table 6-48. 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	-105.41	Peak	H	45.13	0.00	46.72	68.20	-21.48
*	15840.00	-117.56	Average	H	49.54	0.00	38.99	53.98	-14.99
*	15840.00	-107.77	Peak	H	49.54	0.00	48.78	73.98	-25.20
*	21120.00	-99.50	Average	H	49.07	-9.54	47.03	53.98	-6.95
*	21120.00	-96.87	Peak	H	49.07	-9.54	49.66	73.98	-24.32
	26400.00	-97.87	Peak	H	51.37	-9.54	50.96	68.20	-17.24

Table 6-49. 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	-115.95	Average	H	45.16	0.00	36.21	53.98	-17.77
*	10640.00	-105.45	Peak	H	45.16	0.00	46.71	73.98	-27.27
*	15960.00	-117.60	Average	H	49.75	0.00	39.15	53.98	-14.83
*	15960.00	-107.81	Peak	H	49.75	0.00	48.94	73.98	-25.04
*	21280.00	-100.84	Average	H	49.15	-9.54	45.76	53.98	-8.21
*	21280.00	-98.01	Peak	H	49.15	-9.54	48.59	73.98	-25.38
	26600.00	-103.44	Peak	H	47.61	-9.54	41.63	68.20	-26.57

Table 6-50. 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	-115.92	Average	H	45.16	0.00	36.24	53.98	-17.74
*	10640.00	-105.42	Peak	H	45.16	0.00	46.74	73.98	-27.24
*	15960.00	-117.61	Average	H	49.75	0.00	39.14	53.98	-14.84
*	15960.00	-107.78	Peak	H	49.75	0.00	48.97	73.98	-25.01
*	21280.00	-114.18	Average	H	49.15	-9.54	32.42	53.98	-21.55
*	21280.00	-103.16	Peak	H	49.15	-9.54	43.44	73.98	-30.53
	26600.00	-103.17	Peak	H	47.61	-9.54	41.90	68.20	-26.30

Table 6-51. Radiated Measurements with 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	-116.32	Average	H	45.24	0.00	35.92	53.98	-18.06
*	11000.00	-105.64	Peak	H	45.24	0.00	46.60	73.98	-27.38
	16500.00	-106.85	Peak	H	50.35	0.00	50.50	68.20	-17.70
	22000.00	-100.53	Peak	H	49.46	-9.54	46.39	68.20	-21.81
	27500.00	-104.99	Peak	H	47.92	-9.54	40.39	68.20	-27.81

Table 6-52. 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	-116.17	Average	H	45.23	0.00	36.06	53.98	-17.92
*	11160.00	-105.49	Peak	H	45.23	0.00	46.74	73.98	-27.24
	16740.00	-106.87	Peak	H	50.51	0.00	50.64	68.20	-17.56
*	22320.00	-103.35	Average	H	49.87	-9.54	43.98	53.98	-10.00
*	22320.00	-99.30	Peak	H	49.87	-9.54	48.03	73.98	-25.95
	27900.00	-105.07	Peak	H	48.09	-9.54	40.48	68.20	-27.72

Table 6-53. 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:	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	-116.03	Average	H	45.38	0.00	36.35	53.98	-17.63
*	11440.00	-105.35	Peak	H	45.38	0.00	47.03	73.98	-26.95
	17160.00	-106.77	Peak	H	50.43	0.00	50.66	68.20	-17.54
*	22880.00	-99.05	Average	H	49.98	-9.54	48.39	53.98	-5.59
*	22880.00	-96.39	Peak	H	49.98	-9.54	51.05	73.98	-22.93
	28600.00	-105.67	Peak	H	48.35	-9.54	40.14	68.20	-28.06

Table 6-54. Radiated Measurements

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	-116.23	Average	H	45.38	0.00	36.15	53.98	-17.83
*	11440.00	-106.25	Peak	H	45.38	0.00	46.13	73.98	-27.85
	17160.00	-106.79	Peak	H	50.43	0.00	50.64	68.20	-17.56
*	22880.00	-113.30	Average	H	49.98	-9.54	34.14	53.98	-19.84
*	22880.00	-103.88	Peak	H	49.98	-9.54	43.56	73.98	-30.42
	28600.00	-105.95	Peak	H	48.35	-9.54	39.86	68.20	-28.34

Table 6-55. Radiated Measurements with WCP

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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	-115.31	Average	H	45.43	0.00	37.12	53.98	-16.86
*	11490.00	-104.23	Peak	H	45.43	0.00	48.20	73.98	-25.78
	17235.00	-106.62	Peak	H	50.61	0.00	50.99	68.20	-17.21
*	22980.00	-103.99	Average	H	49.94	-9.54	43.41	53.98	-10.57
*	22980.00	-100.09	Peak	H	49.94	-9.54	47.31	73.98	-26.67
	28725.00	-104.11	Peak	H	48.26	-9.54	41.61	68.20	-26.59

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	-115.25	Average	H	45.55	0.00	37.30	53.98	-16.68
*	11570.00	-104.87	Peak	H	45.55	0.00	47.68	73.98	-26.30
	17355.00	-106.70	Peak	H	51.00	0.00	51.30	68.20	-16.90
	23140.00	-100.03	Peak	H	50.05	-9.54	47.48	68.20	-20.72
	28925.00	-103.63	Peak	H	48.28	-9.54	42.10	68.20	-26.10

Table 6-57. 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	-115.43	Average	H	45.67	0.00	37.24	53.98	-16.74
*	11650.00	-104.59	Peak	H	45.67	0.00	48.08	73.98	-25.90
	17475.00	-107.06	Peak	H	51.30	0.00	51.25	68.20	-16.95
	23300.00	-99.38	Peak	H	50.10	-9.54	48.17	68.20	-20.03
	29125.00	-103.43	Peak	H	48.24	-9.54	42.27	68.20	-25.93

Table 6-58. 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]
*	11650.00	-115.30	Average	H	45.67	0.00	37.37	53.98	-16.61
*	11650.00	-104.64	Peak	H	45.67	0.00	48.03	73.98	-25.95
	17475.00	-107.00	Peak	H	51.30	0.00	51.31	68.20	-16.89
	23300.00	-100.91	Peak	H	50.10	-9.54	46.64	68.20	-21.56
	29125.00	-103.90	Peak	H	48.24	-9.54	41.80	68.20	-26.40

Table 6-59. Radiated Measurements with WCP

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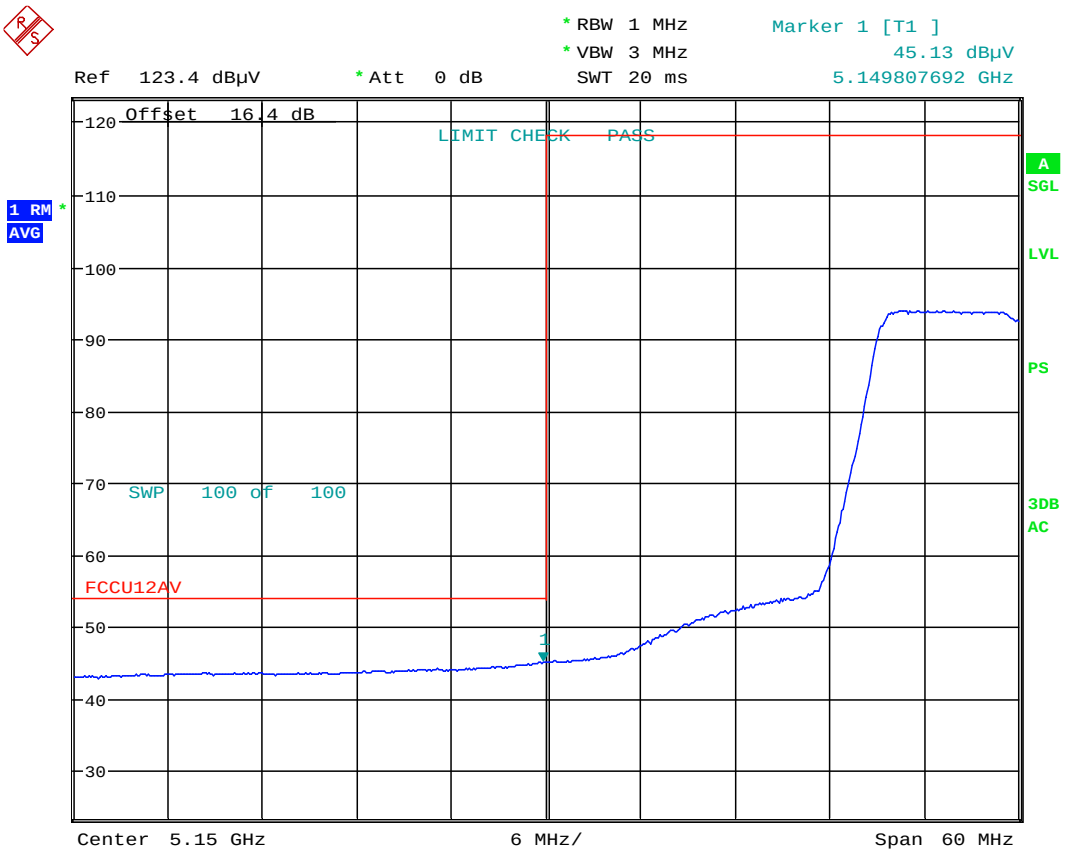
6.7.3 Antenna-1 Radiated Band Edge Measurements (20MHz BW)

§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: 18.FEB.2015 03:04:37

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

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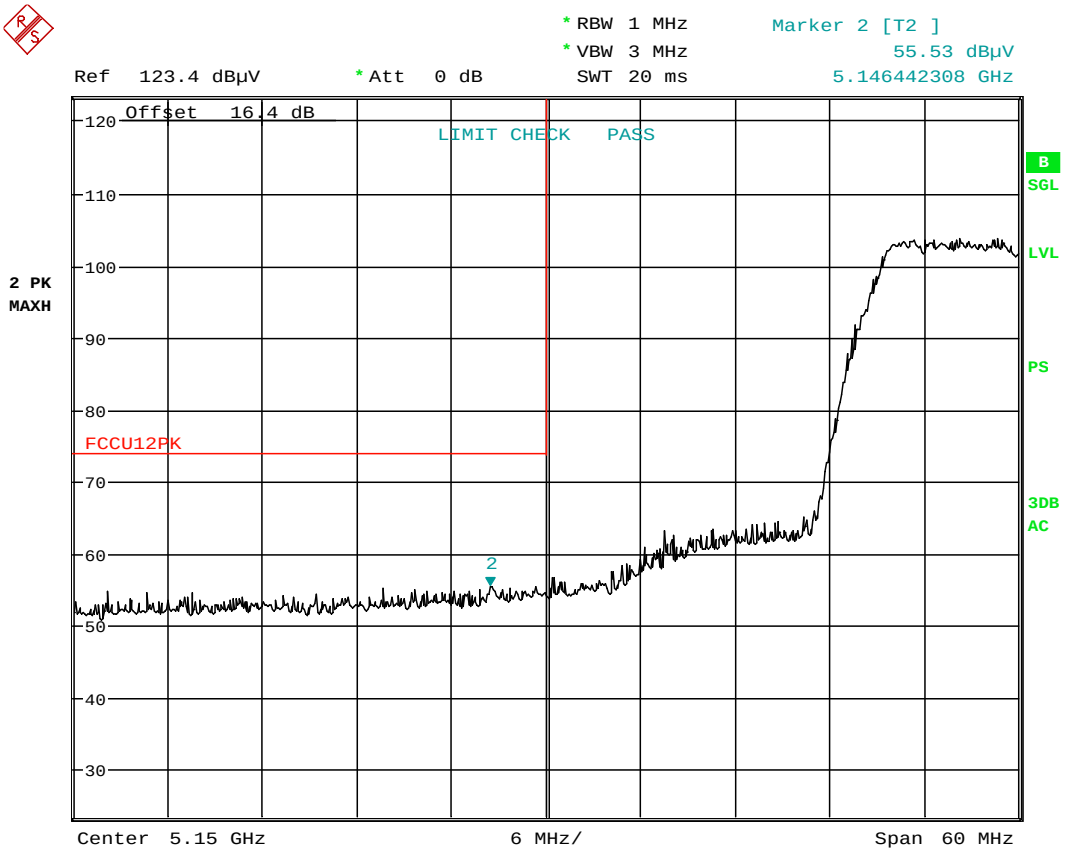
Antenna-1 Radiated Band Edge Measurements (20MHz BW)

§15.407(b.1)(b.2) §15.205 §15.209



Date: 18.FEB.2015 03:04:54

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

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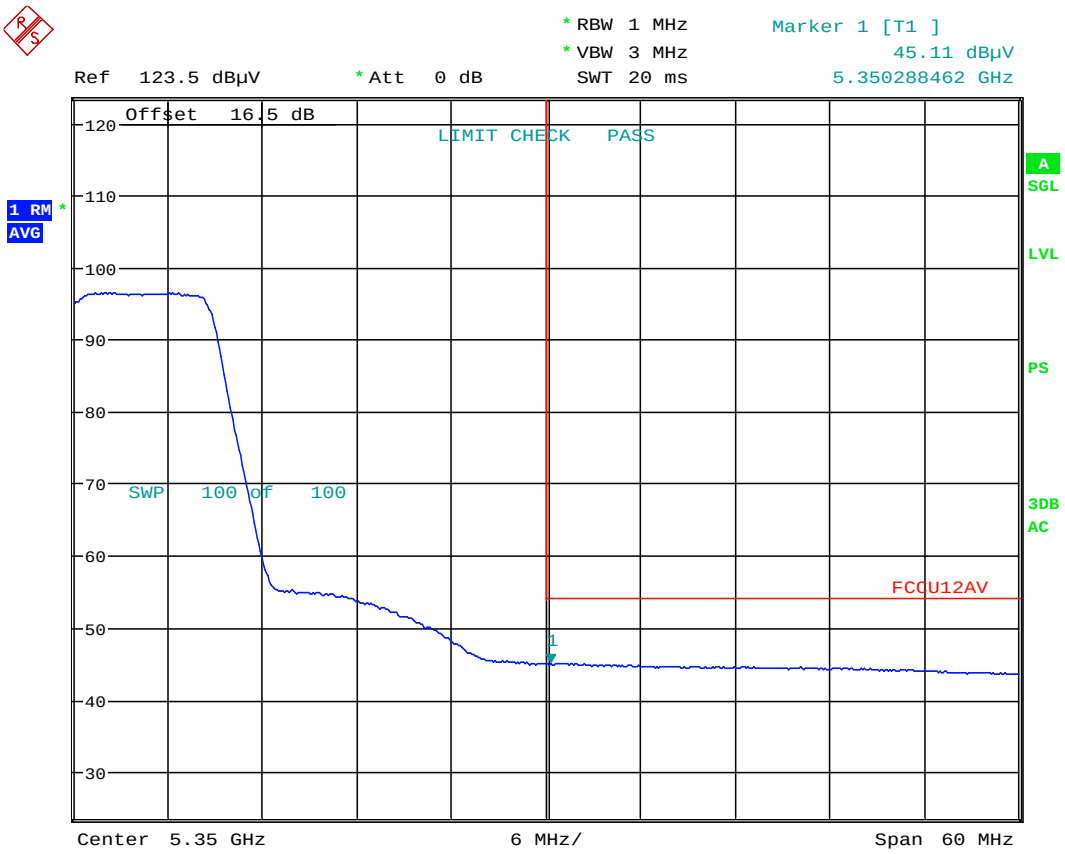
Antenna-1 Radiated Band Edge Measurements (20MHz BW)

§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: 18.FEB.2015 03:17:14

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

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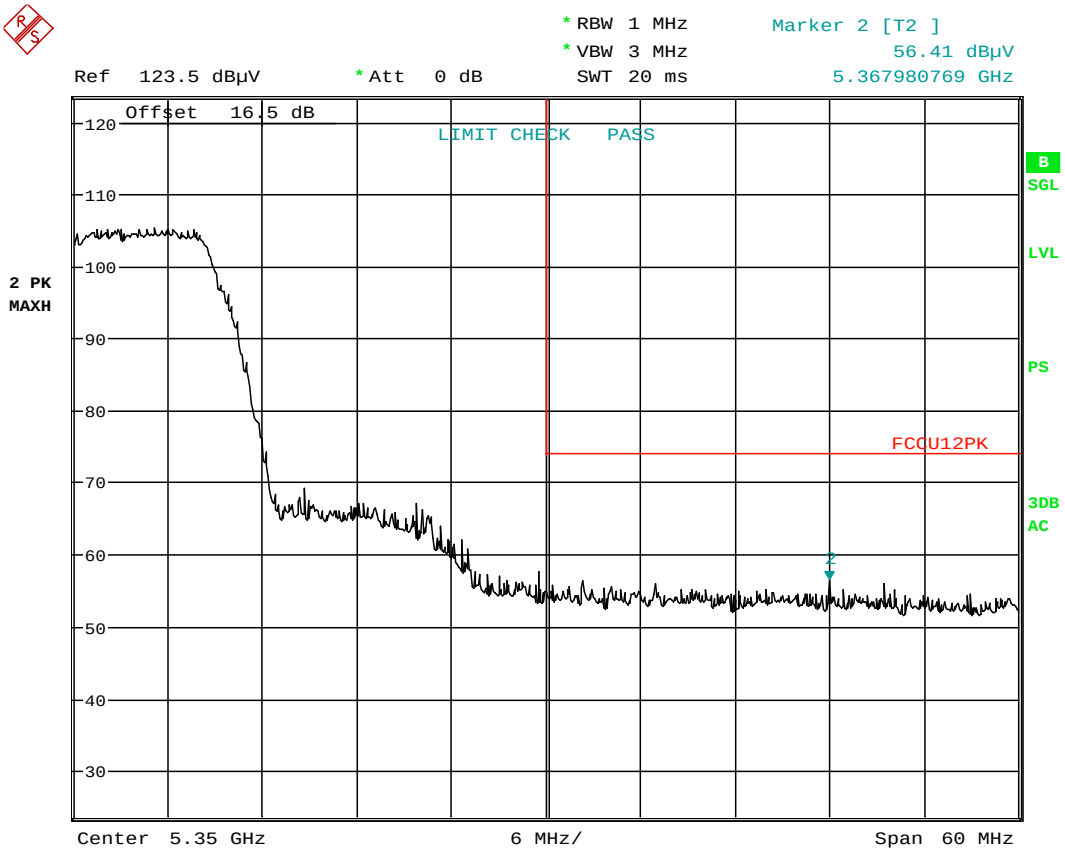
Antenna-1 Radiated Band Edge Measurements (20MHz BW)

§15.407(b.1)(b.2) §15.205 §15.209



Date: 18.FEB.2015 03:17:30

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

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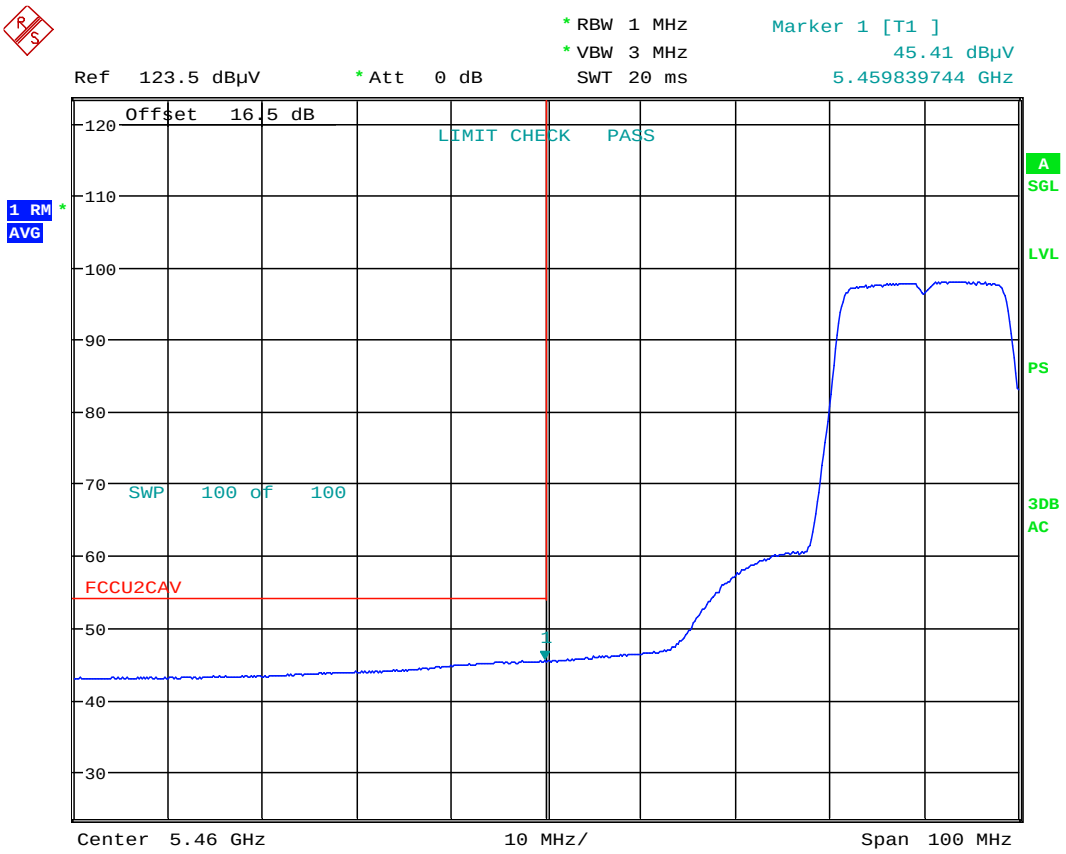
Antenna-1 Radiated Band Edge Measurements (20MHz BW)

§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: 18.FEB.2015 03:28:17

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

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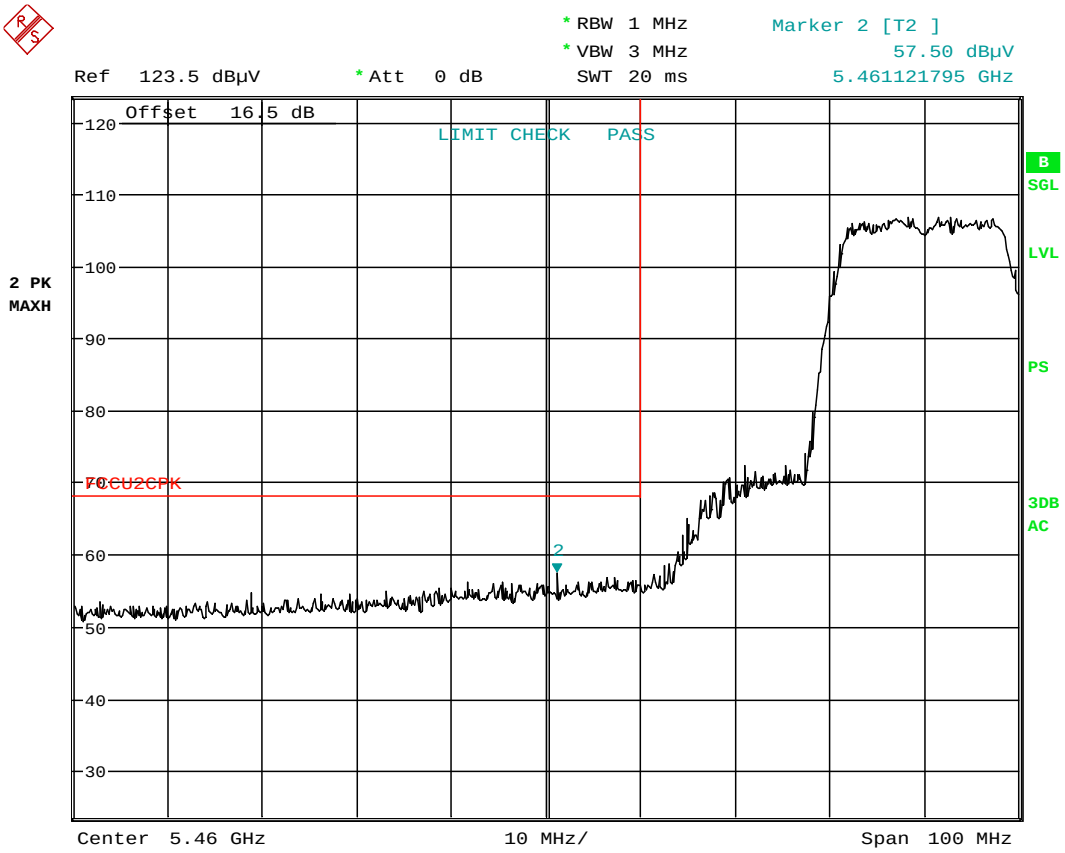
Antenna-1 Radiated Band Edge Measurements (20MHz BW)

§15.407(b.1)(b.2) §15.205 §15.209



Date: 18.FEB.2015 03:28:42

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

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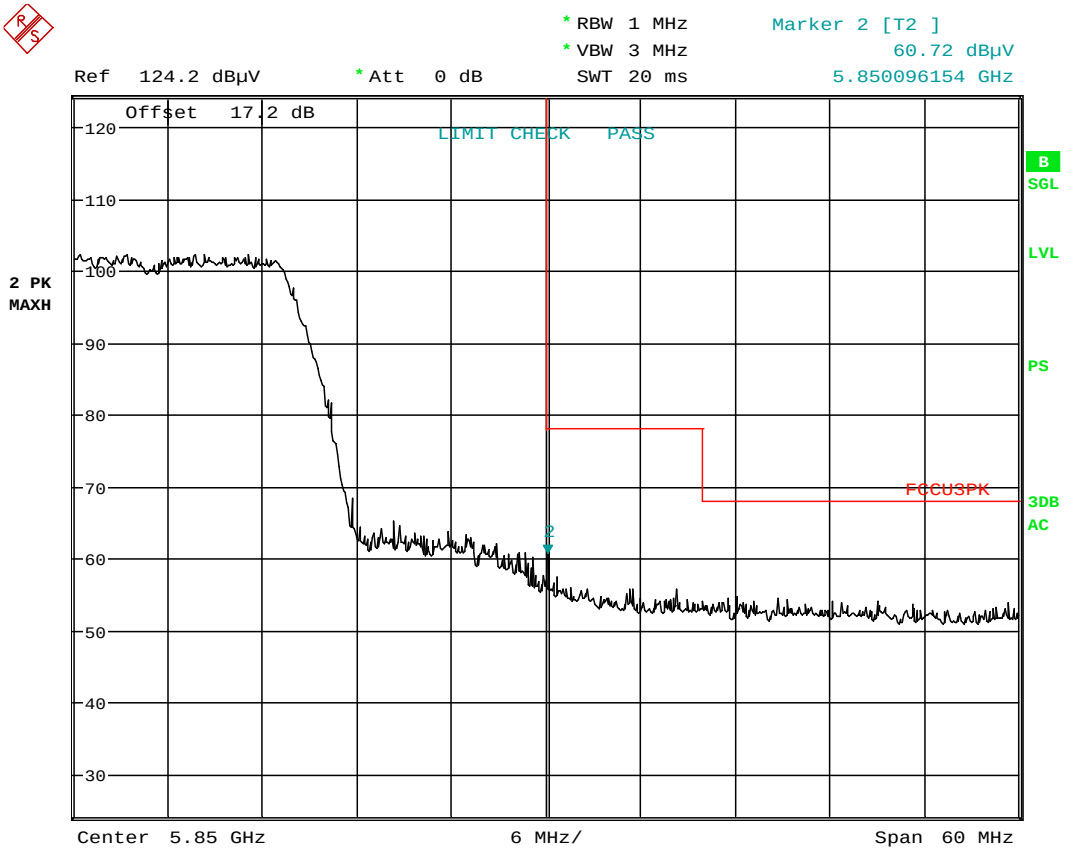
Antenna-1 Radiated Band Edge Measurements (20MHz BW)

§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: 18.FEB.2015 03:43:29

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

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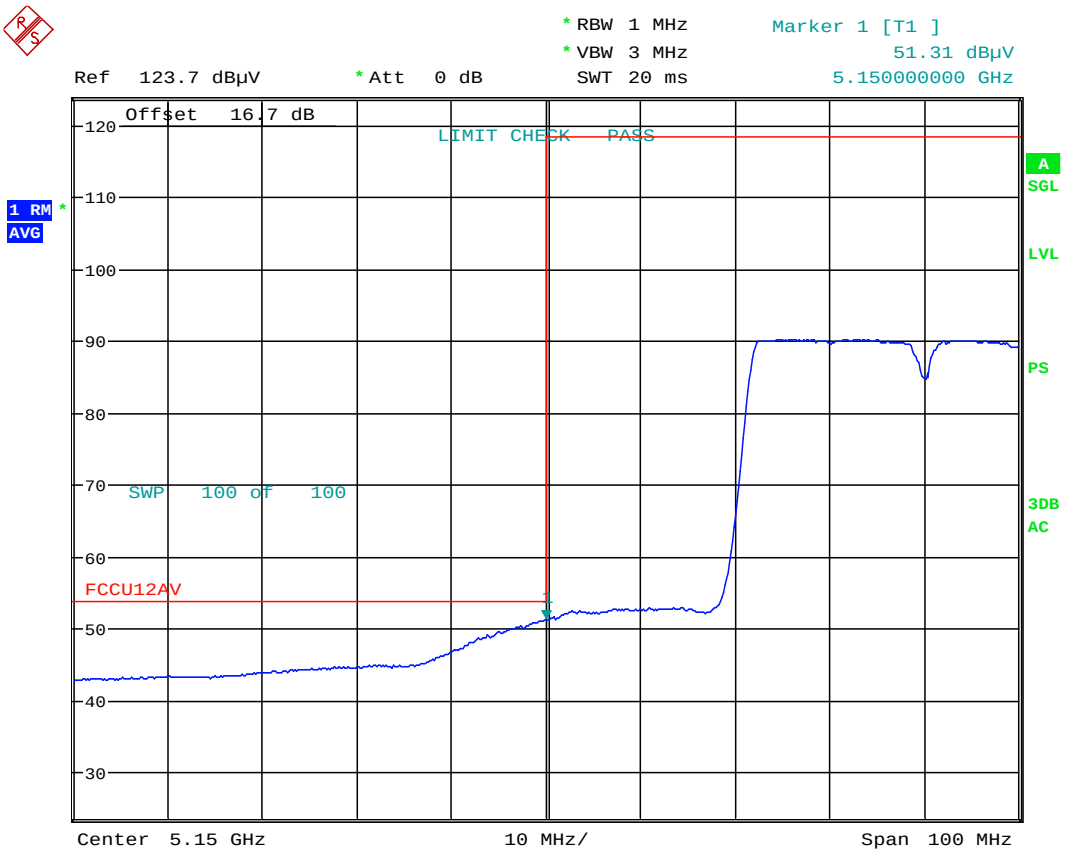
6.7.4 Antenna-1 Radiated Band Edge Measurements (40MHz BW)

§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



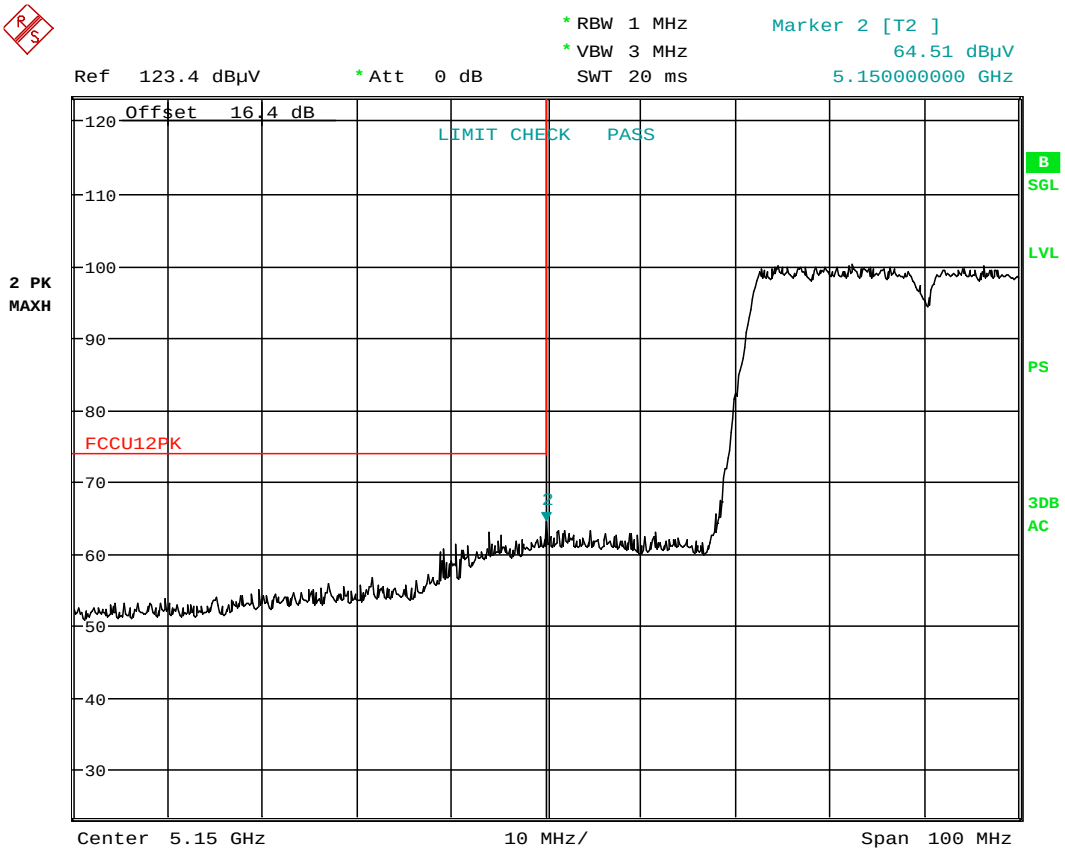
Date: 18.FEB.2015 03:08:37

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

© 2015 PCTEST Engineering Laboratory, Inc.

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

§15.407(b.1)(b.2) §15.205 §15.209



Date: 18.FEB.2015 03:08:48

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

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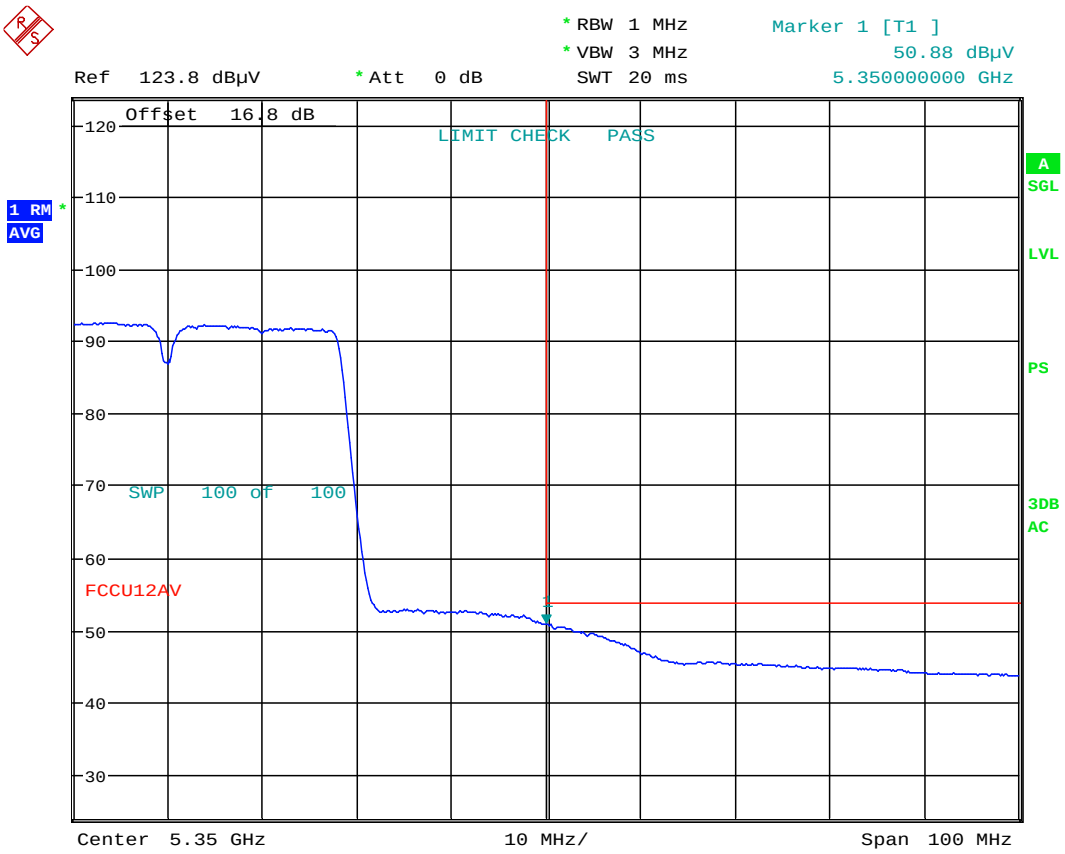
Antenna-1 Radiated Band Edge Measurements (40MHz BW)

§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: 18.FEB.2015 03:19:15

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

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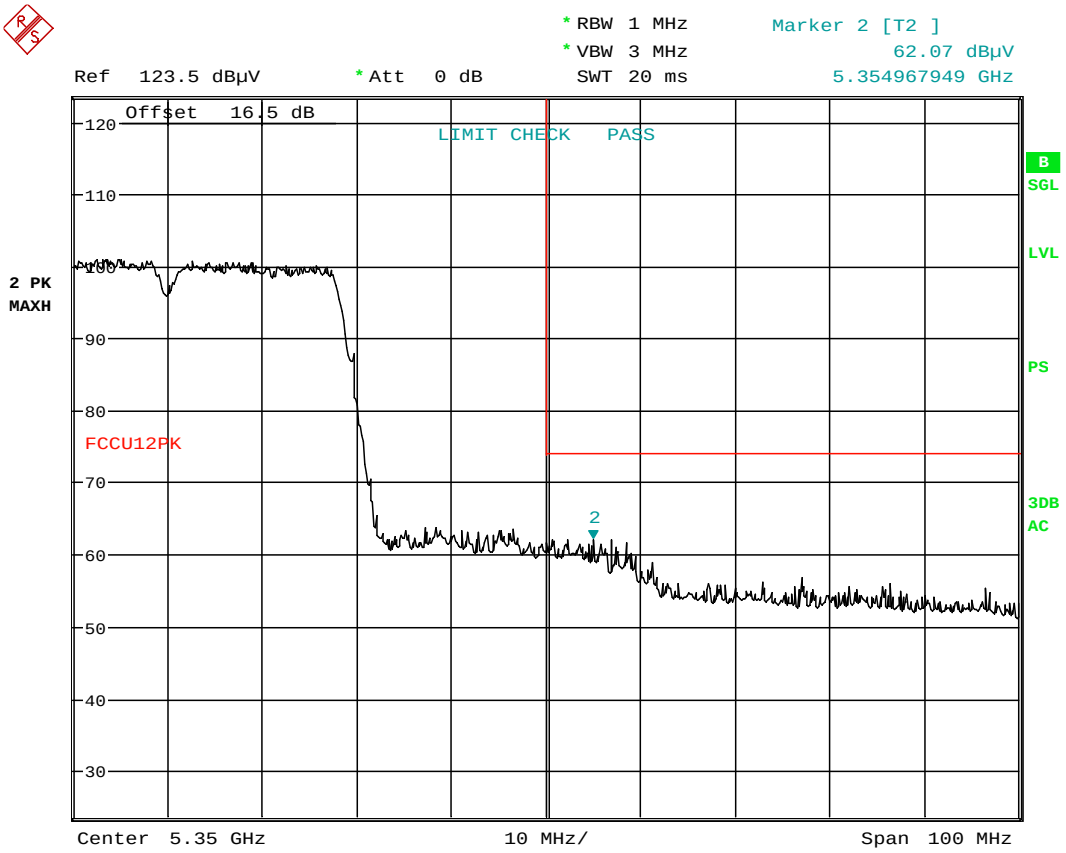
Antenna-1 Radiated Band Edge Measurements (40MHz BW)

§15.407(b.1)(b.2) §15.205 §15.209



Date: 18.FEB.2015 03:19:38

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

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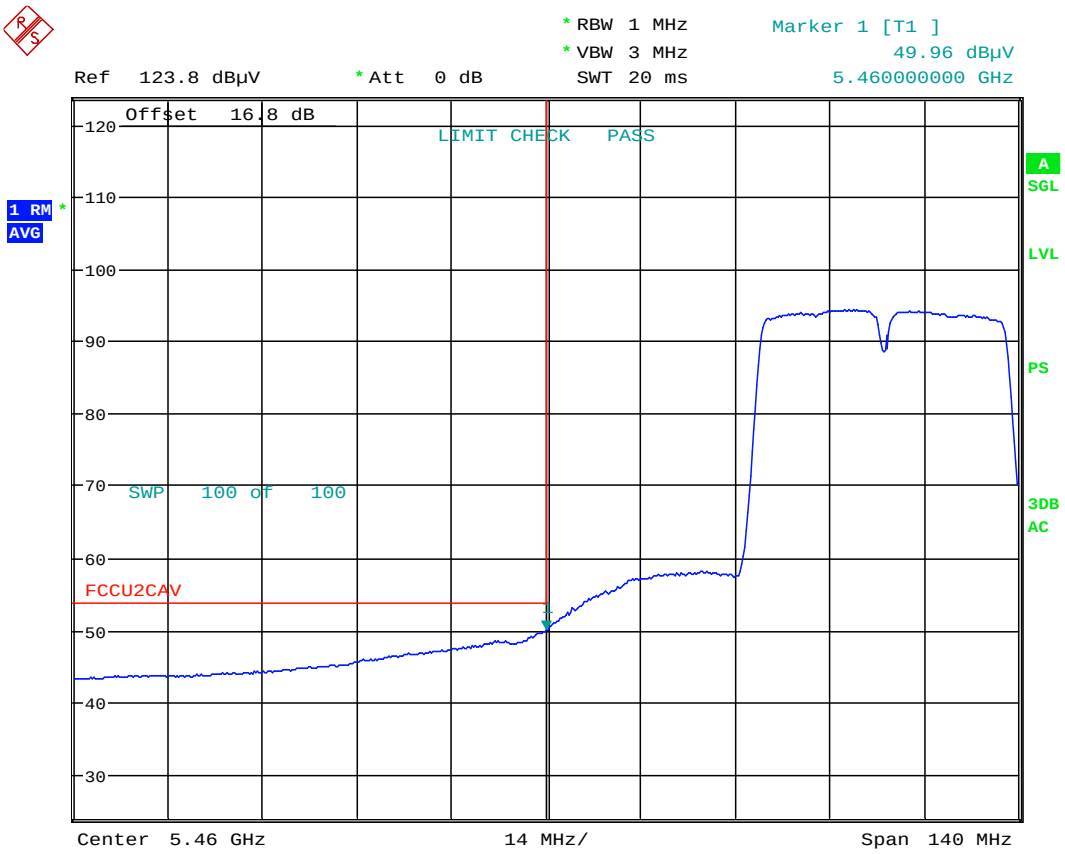
Antenna-1 Radiated Band Edge Measurements (40MHz BW)

§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: 18.FEB.2015 03:29:43

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

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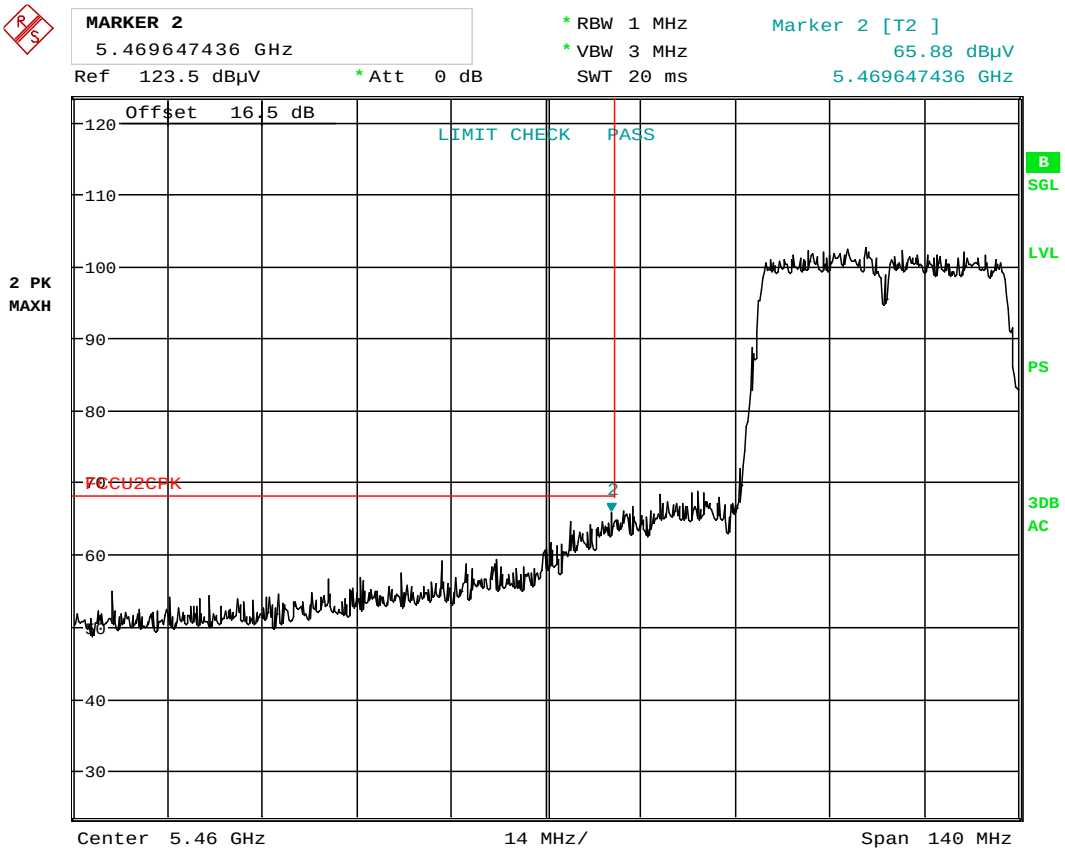
Antenna-1 Radiated Band Edge Measurements (40MHz BW)

§15.407(b.1)(b.2) §15.205 §15.209



Date: 18.FEB.2015 03:30:28

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

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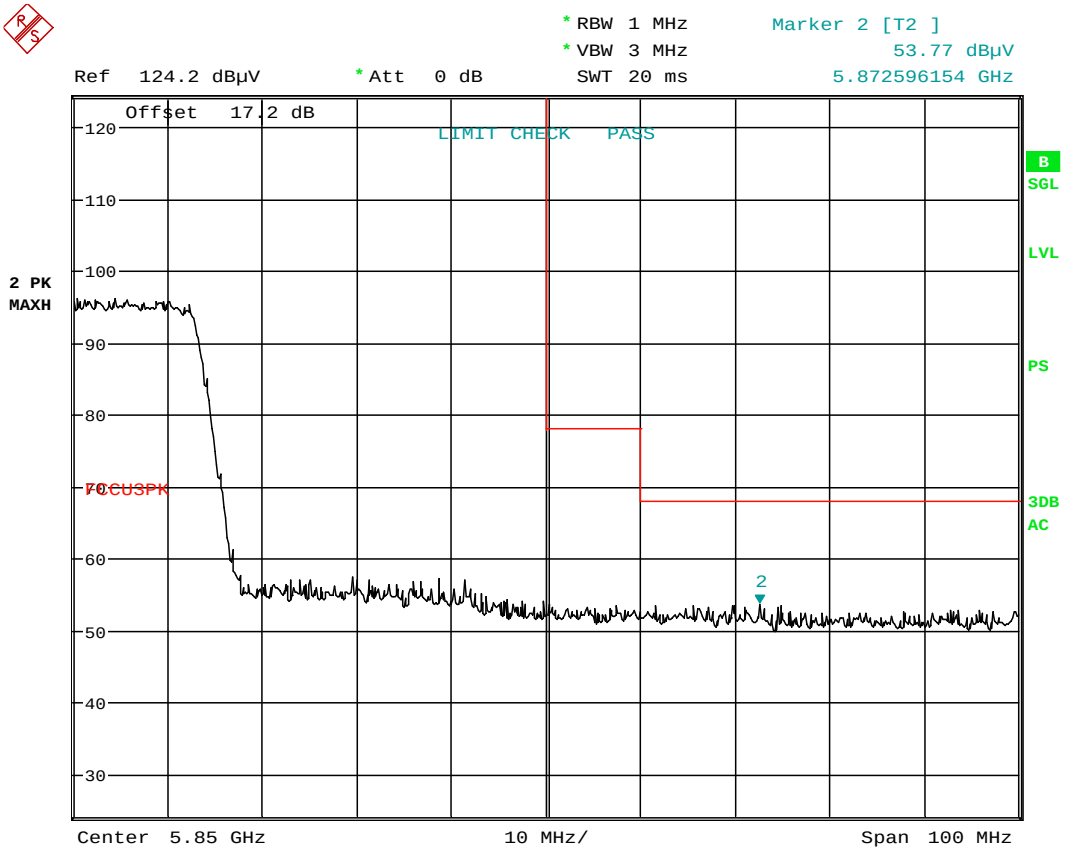
Antenna-1 Radiated Band Edge Measurements (40MHz BW)

§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:	5795MHz
Channel:	159



Date: 18.FEB.2015 03:44:29

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

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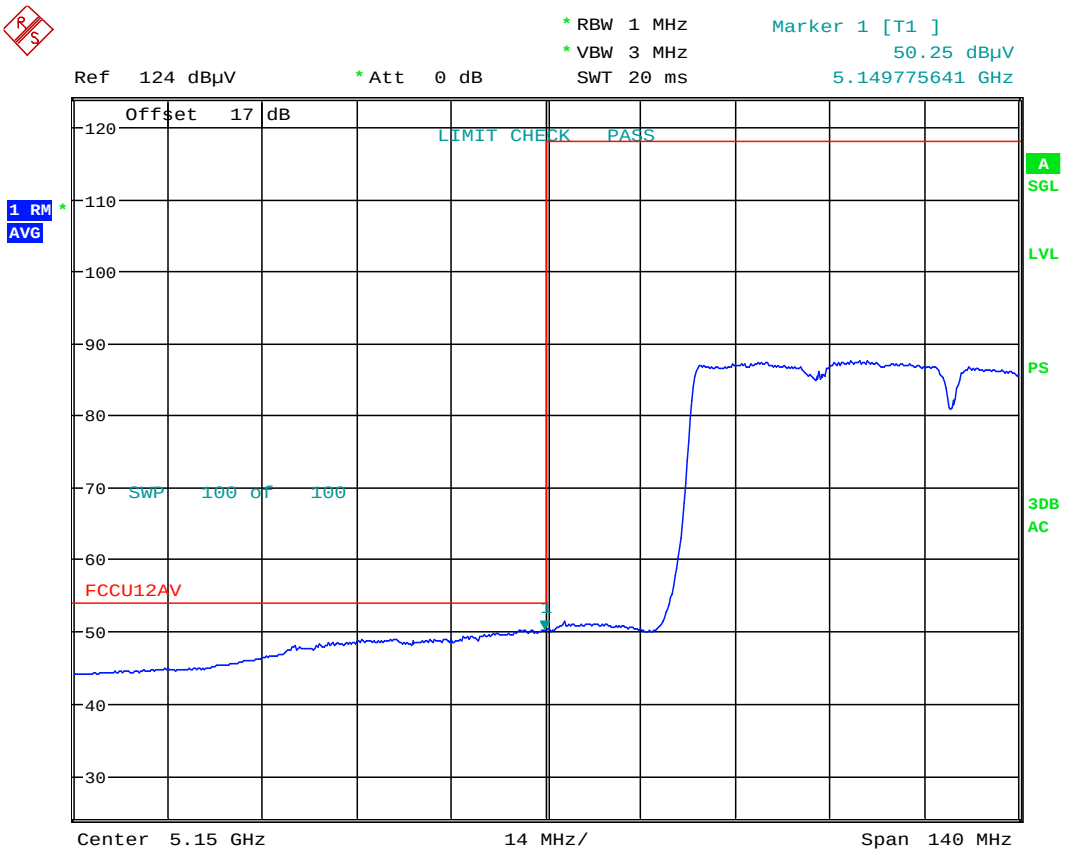
6.7.5 Antenna-1 Radiated Band Edge Measurements (80MHz BW)

§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



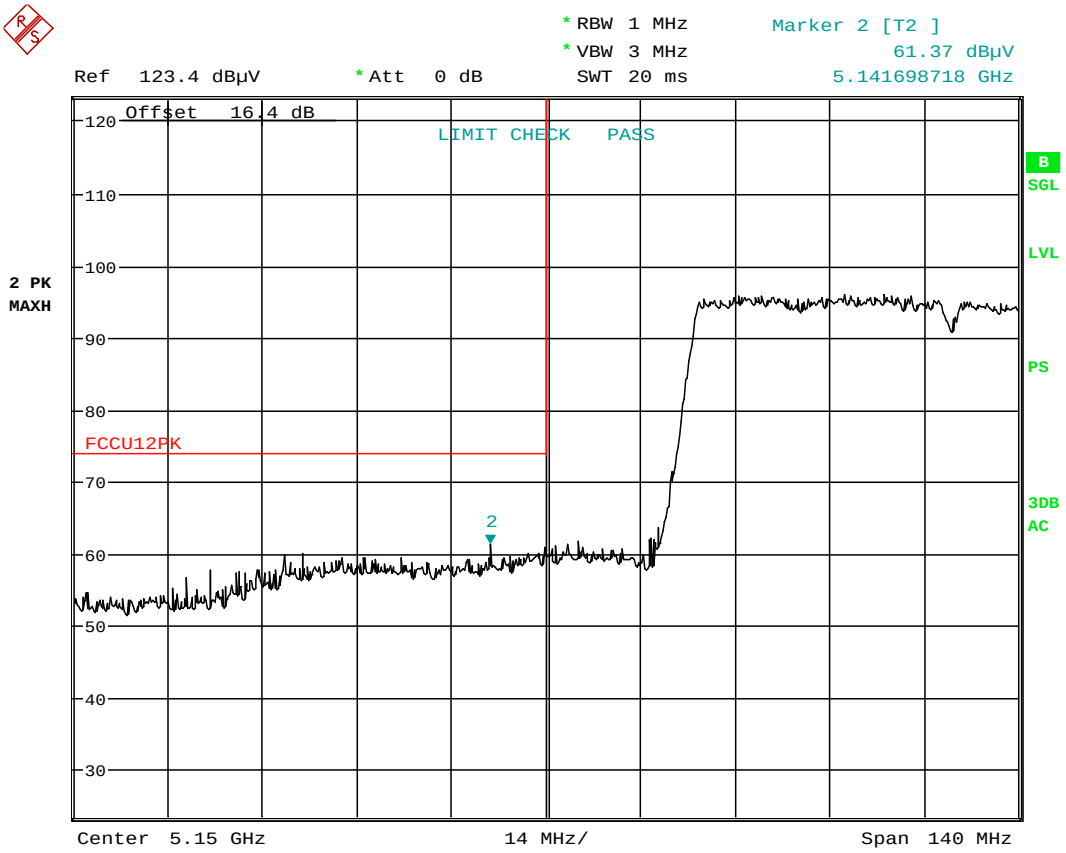
Date: 18.FEB.2015 03:11:38

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: 18.FEB.2015 03:11:51

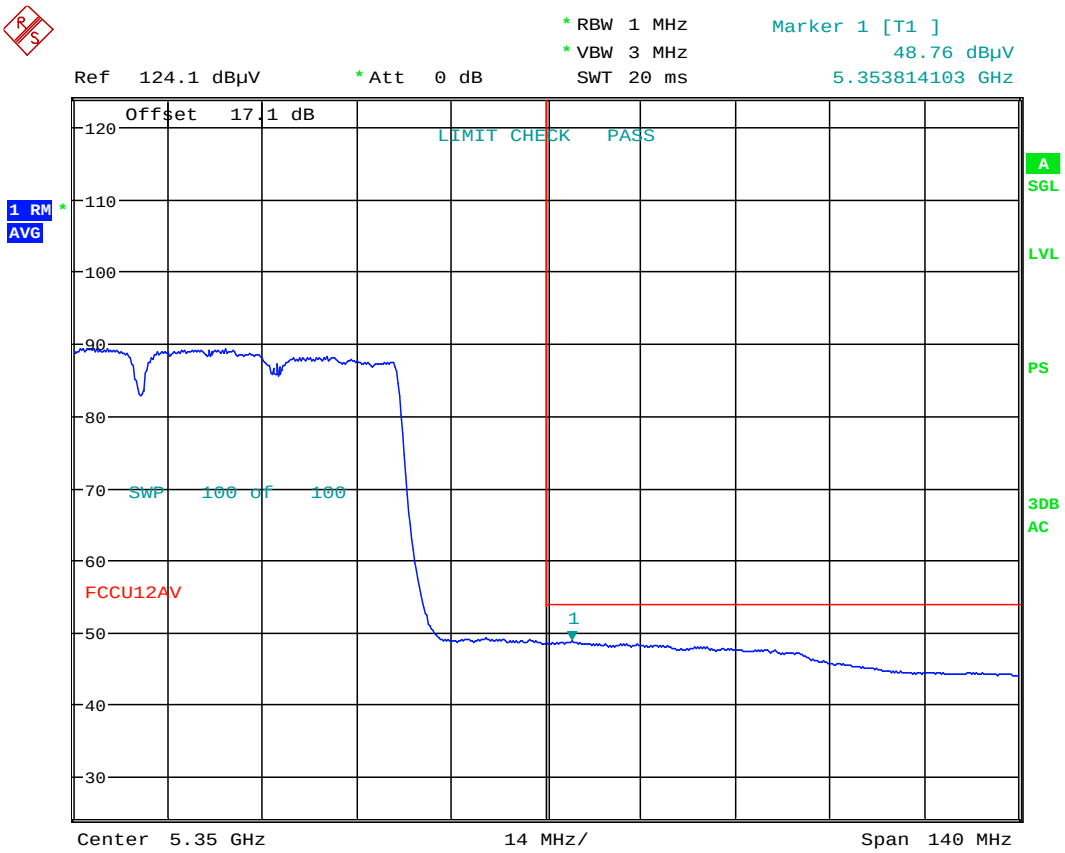
Plot 6-188. Radiated Restricted Lower Band Edge Plot (Peak – UNII Band 1)

© 2015 PCTEST Engineering Laboratory, Inc.

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

§15.407(b.1)(b.2) §15.205 §15.209

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



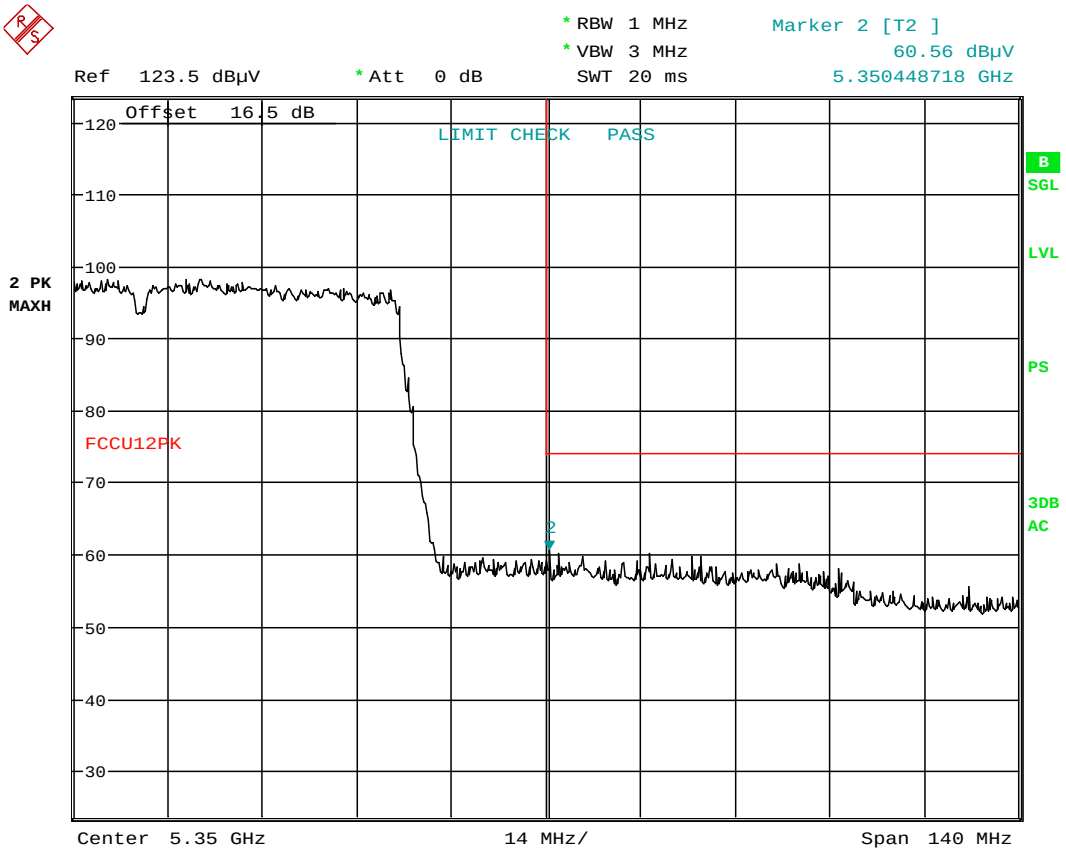
Date: 18.FEB.2015 03:21:25

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

© 2015 PCTEST Engineering Laboratory, Inc.

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

§15.407(b.1)(b.2) §15.205 §15.209



Date: 18.FEB.2015 03:21:38

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

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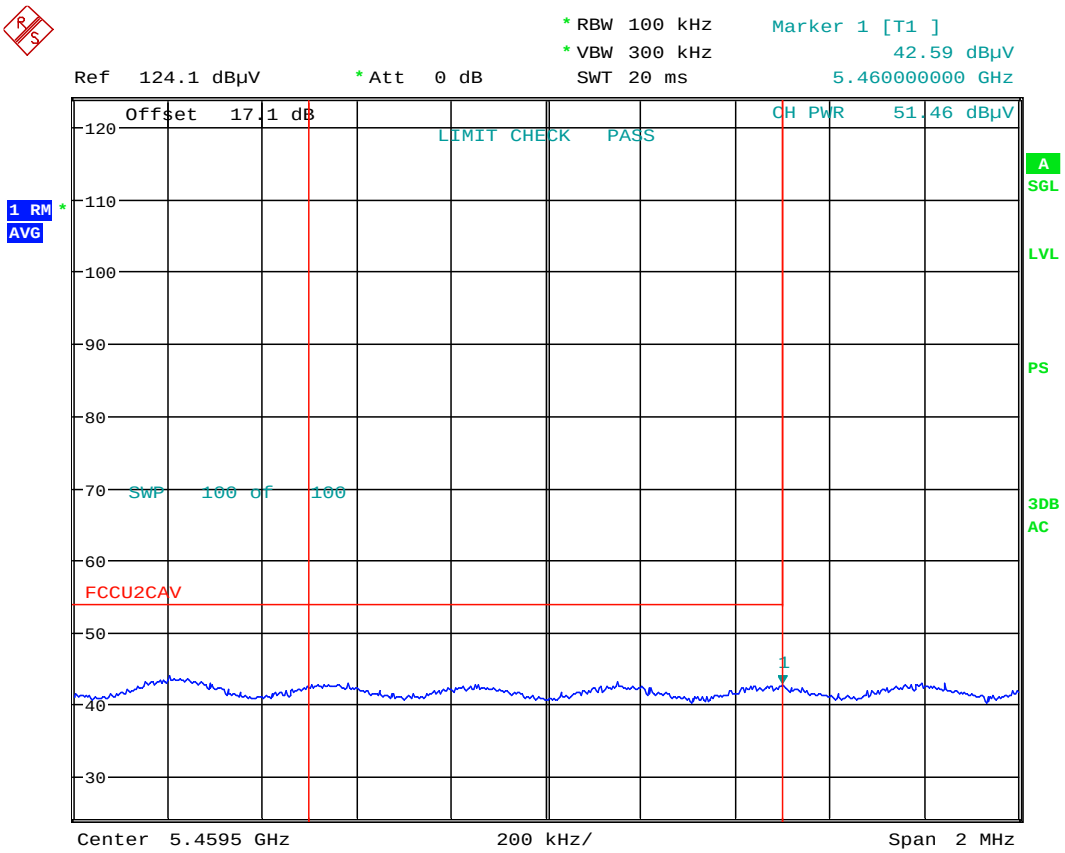
Antenna-1 Radiated Band Edge Measurements (80MHz BW)

§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



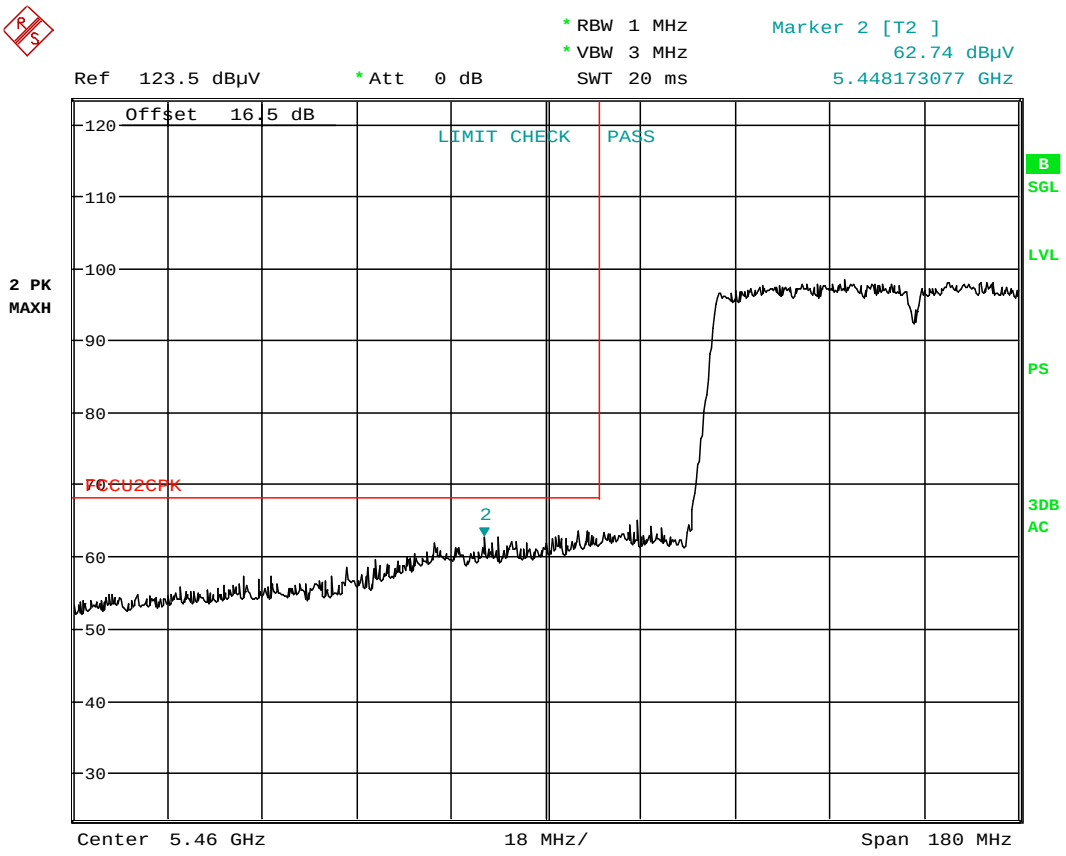
Date: 18.FEB.2015 03:33:34

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

© 2015 PCTEST Engineering Laboratory, Inc.

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

§15.407(b.1)(b.2) §15.205 §15.209



Date: 18.FEB.2015 03:34:17

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

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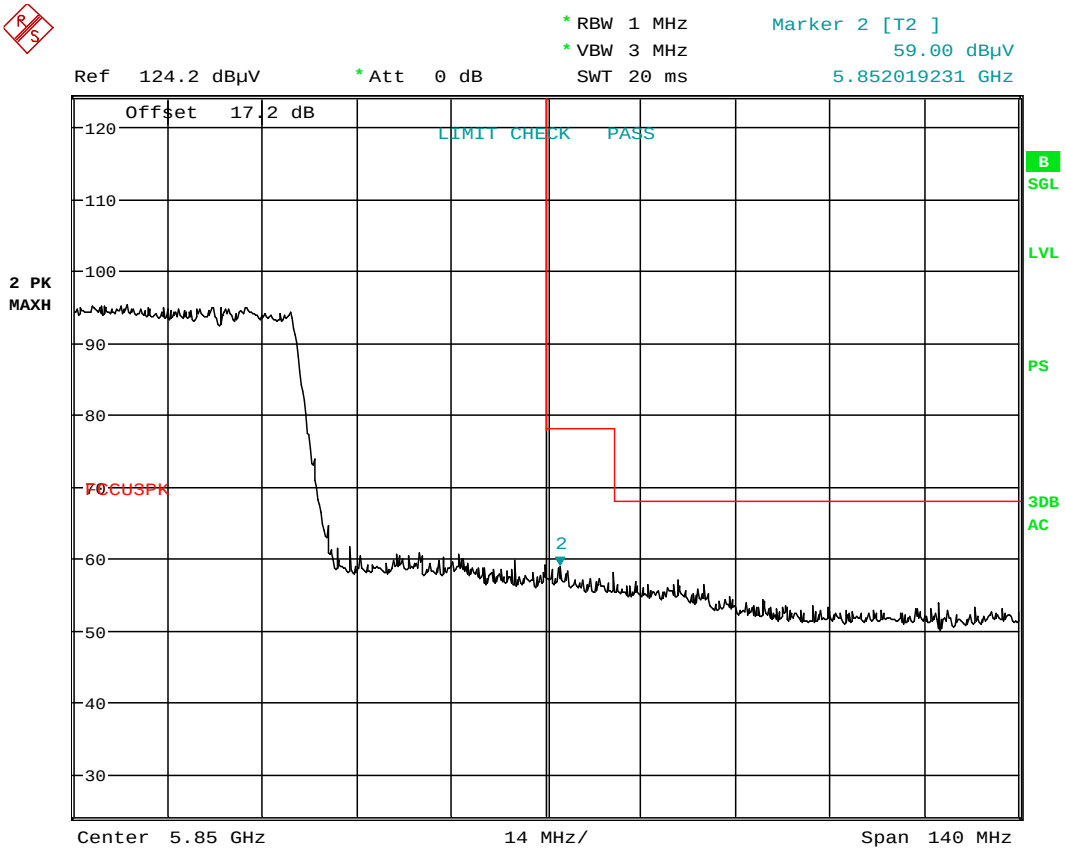
Antenna-1 Radiated Band Edge Measurements (80MHz BW)

§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: 18.FEB.2015 03:45:54

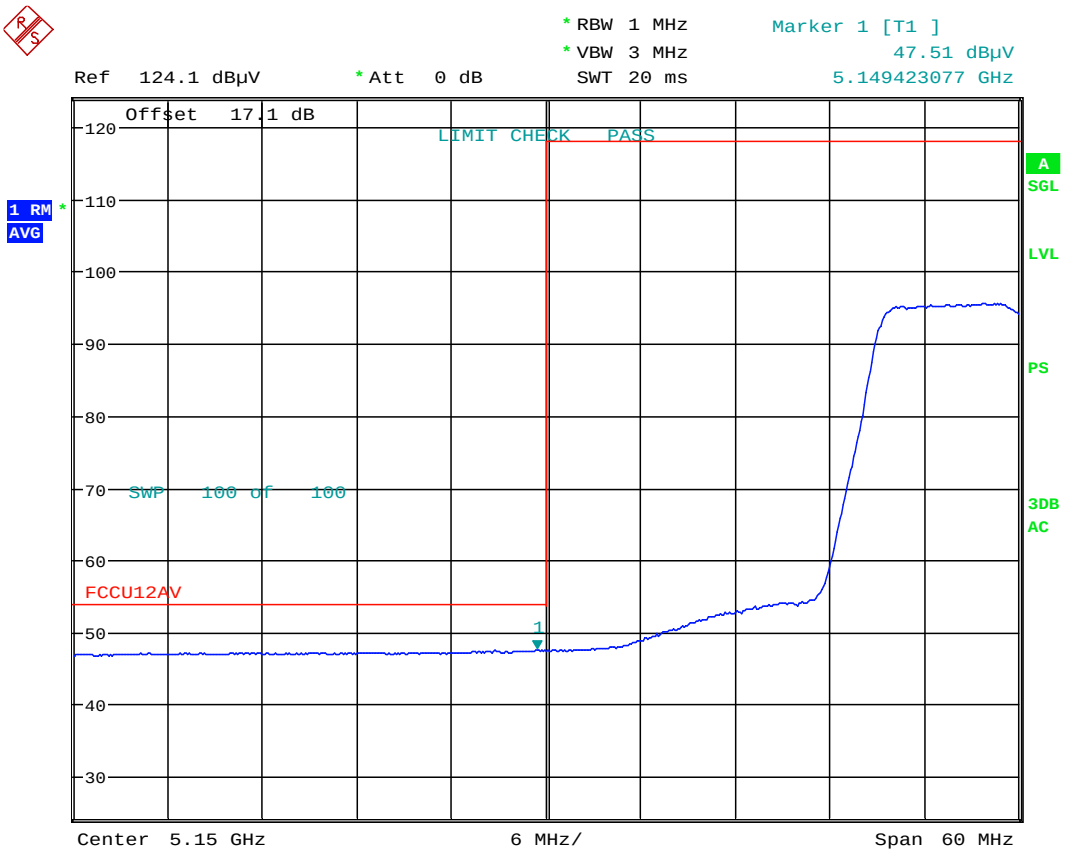
Plot 6-193. Radiated Upper Band Edge Plot (Peak – UNII Band 3)

© 2015 PCTEST Engineering Laboratory, Inc.

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



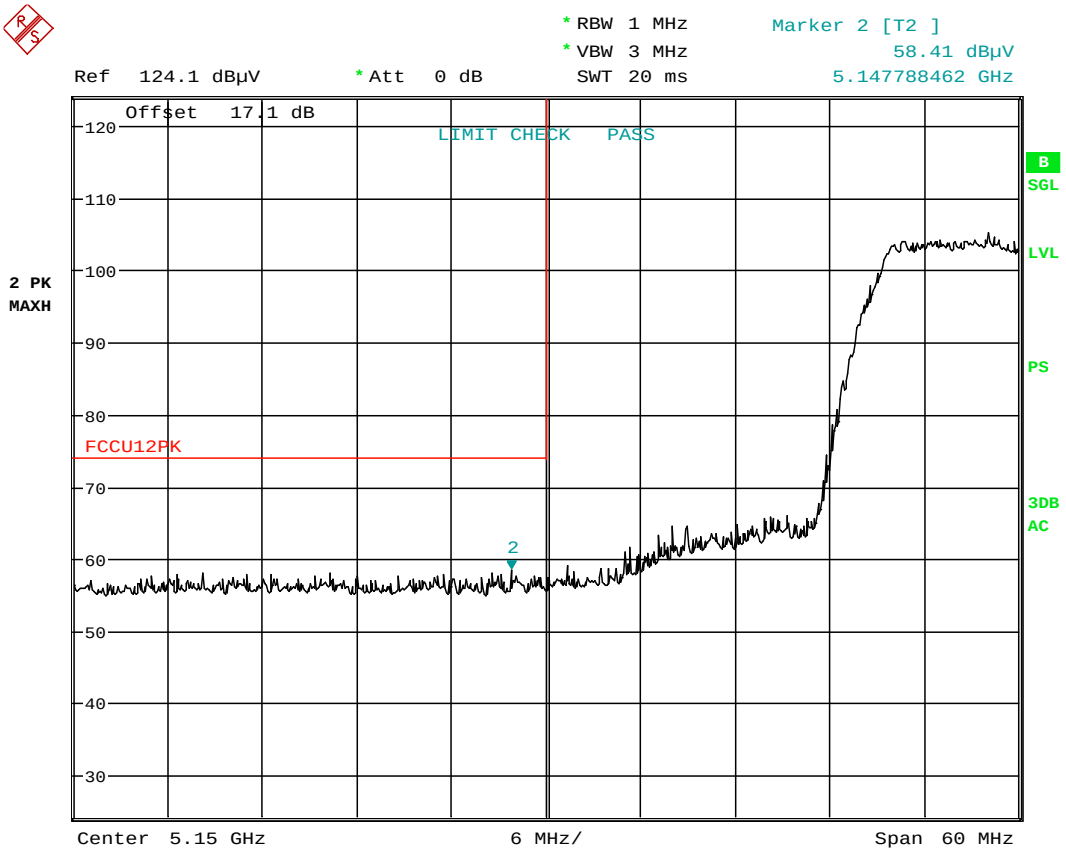
Date: 18.FEB.2015 17:47:46

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

© 2015 PCTEST Engineering Laboratory, Inc.

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

§15.407(b.1)(b.2) §15.205 §15.209



Date: 18.FEB.2015 17:48:02

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

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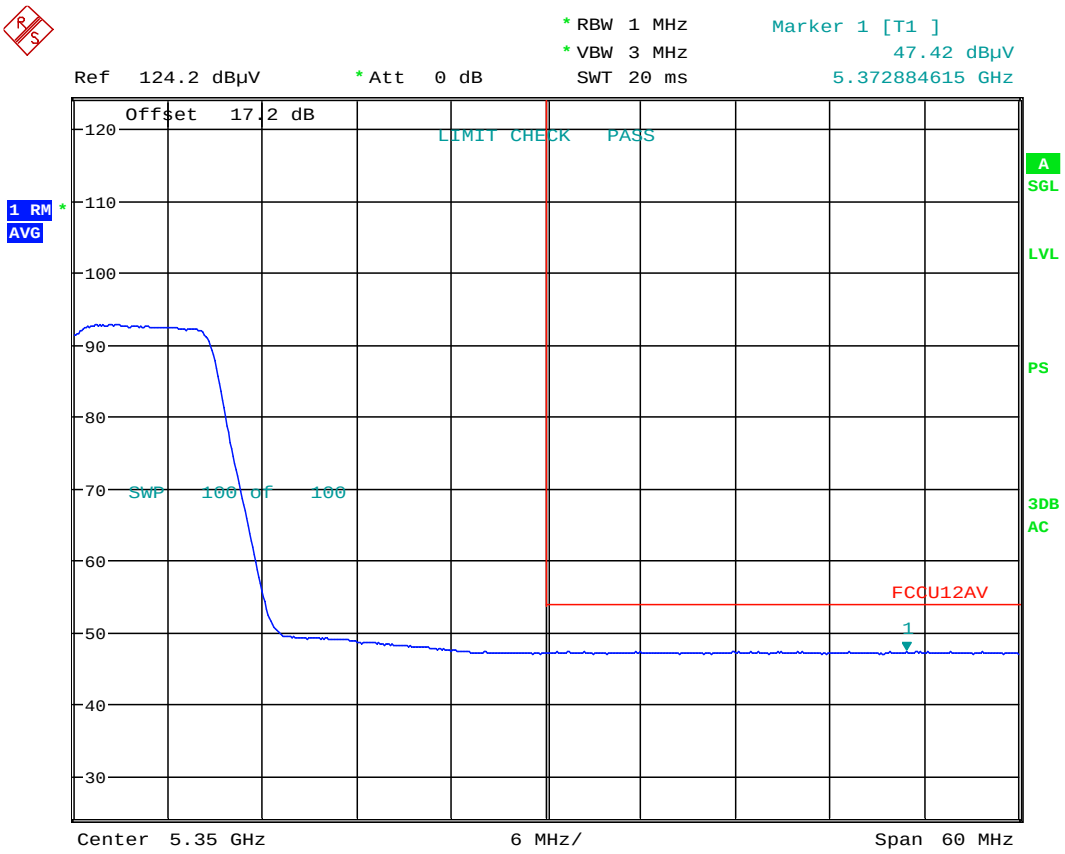
Antenna-2 Radiated Band Edge Measurements (20MHz BW)

§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



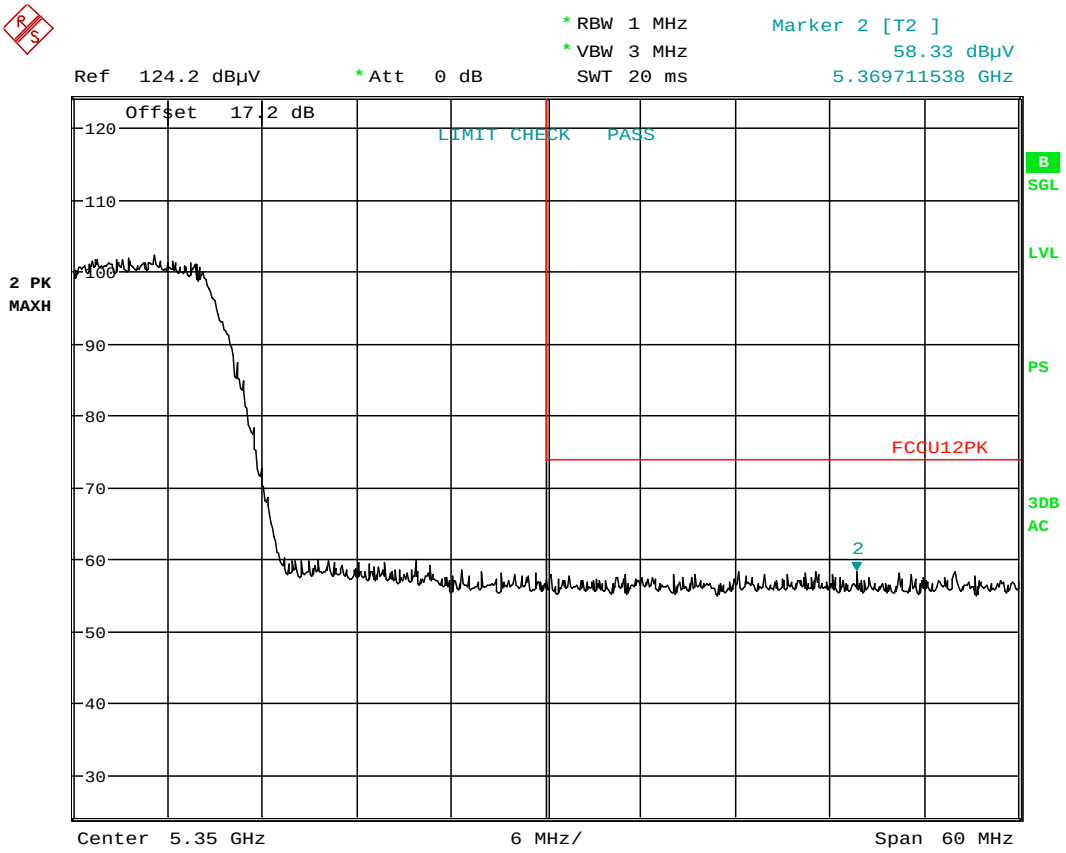
Date: 18.FEB.2015 17:26:52

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: 18.FEB.2015 17:27:33

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

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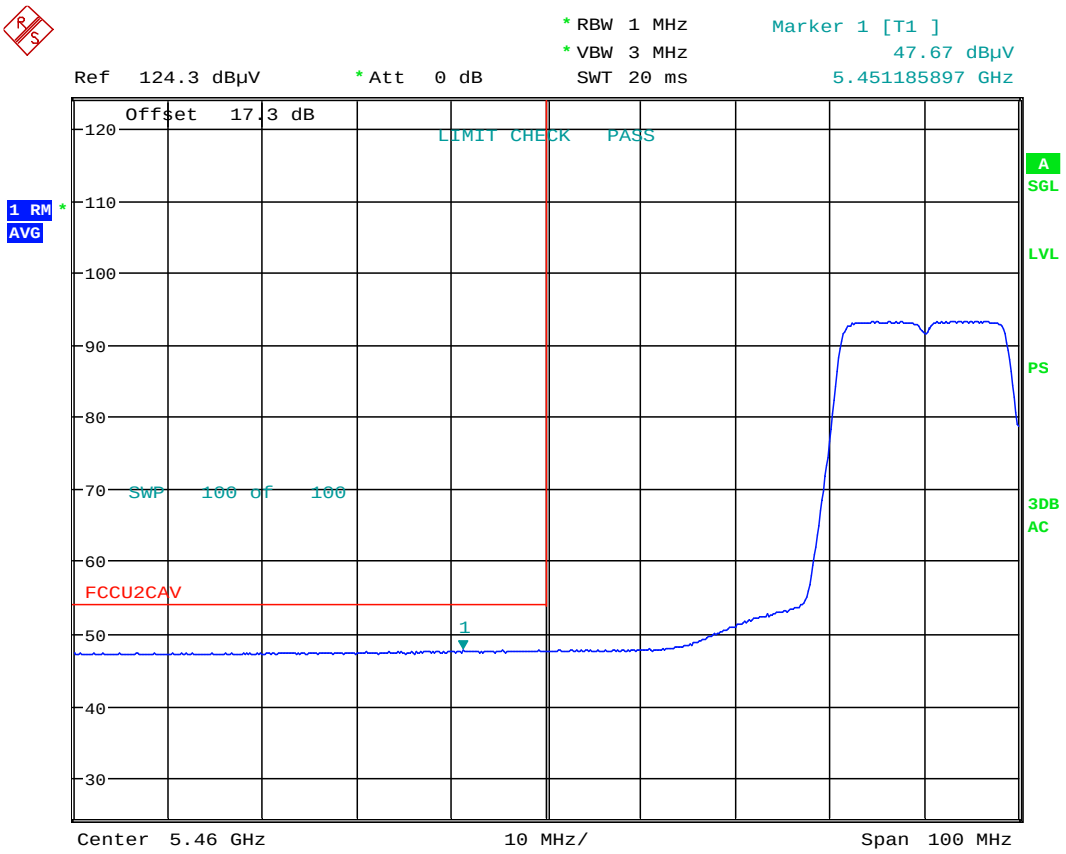
Antenna-2 Radiated Band Edge Measurements (20MHz BW)

§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: 18.FEB.2015 17:57:18

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

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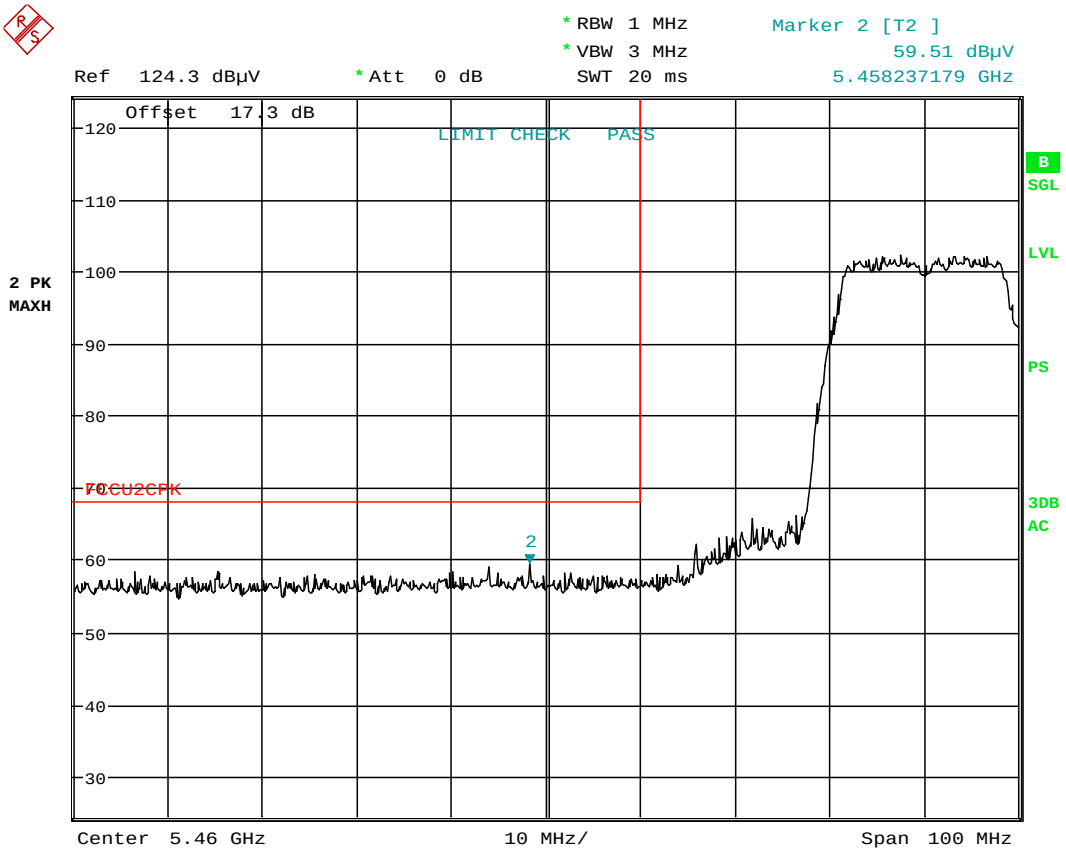
Antenna-2 Radiated Band Edge Measurements (20MHz BW)

§15.407(b.1)(b.2) §15.205 §15.209



Date: 18.FEB.2015 17:57:29

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

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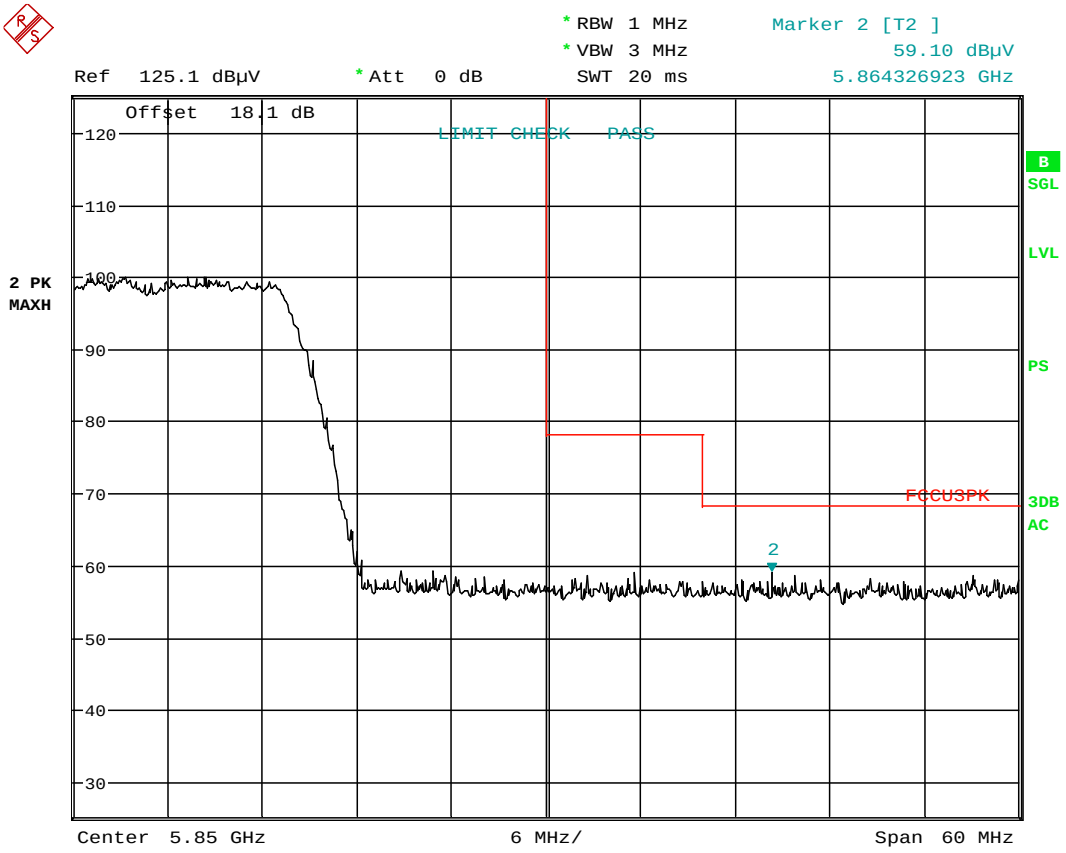
Antenna-2 Radiated Band Edge Measurements (20MHz BW)

§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: 18.FEB.2015 18:23:03

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

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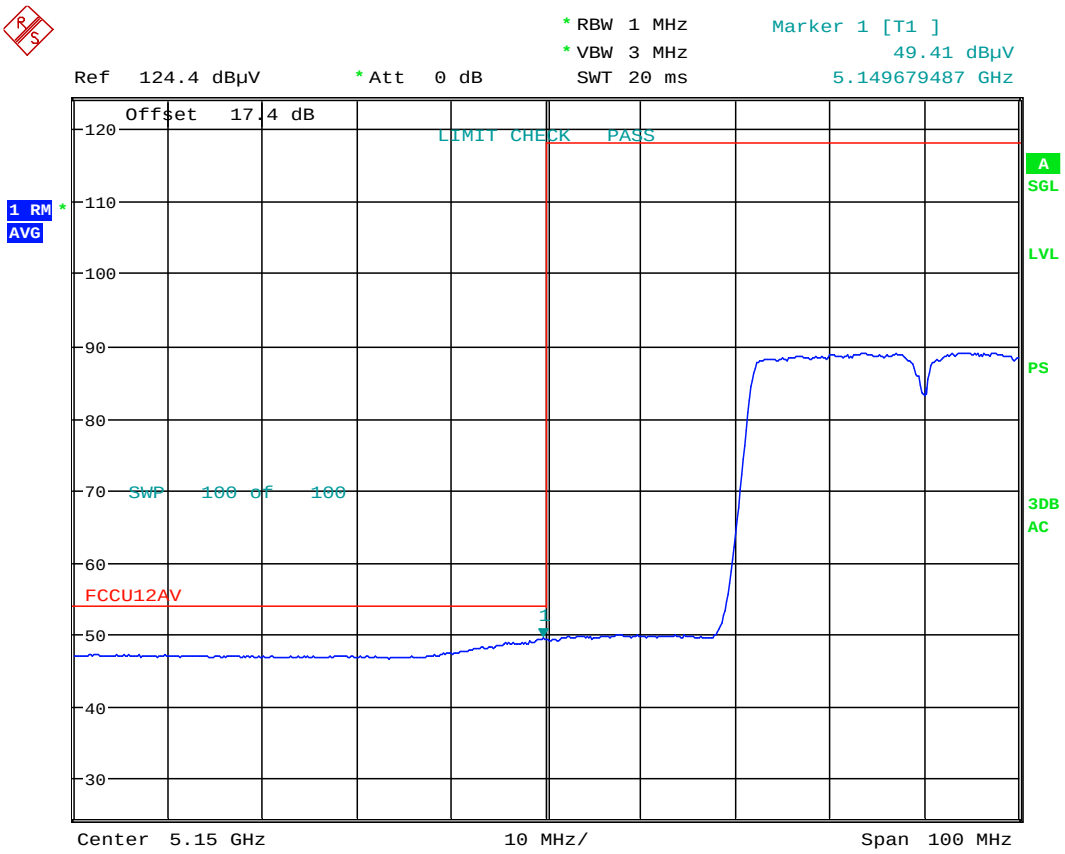
6.7.7 Antenna-2 Radiated Band Edge Measurements (40MHz BW)

§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



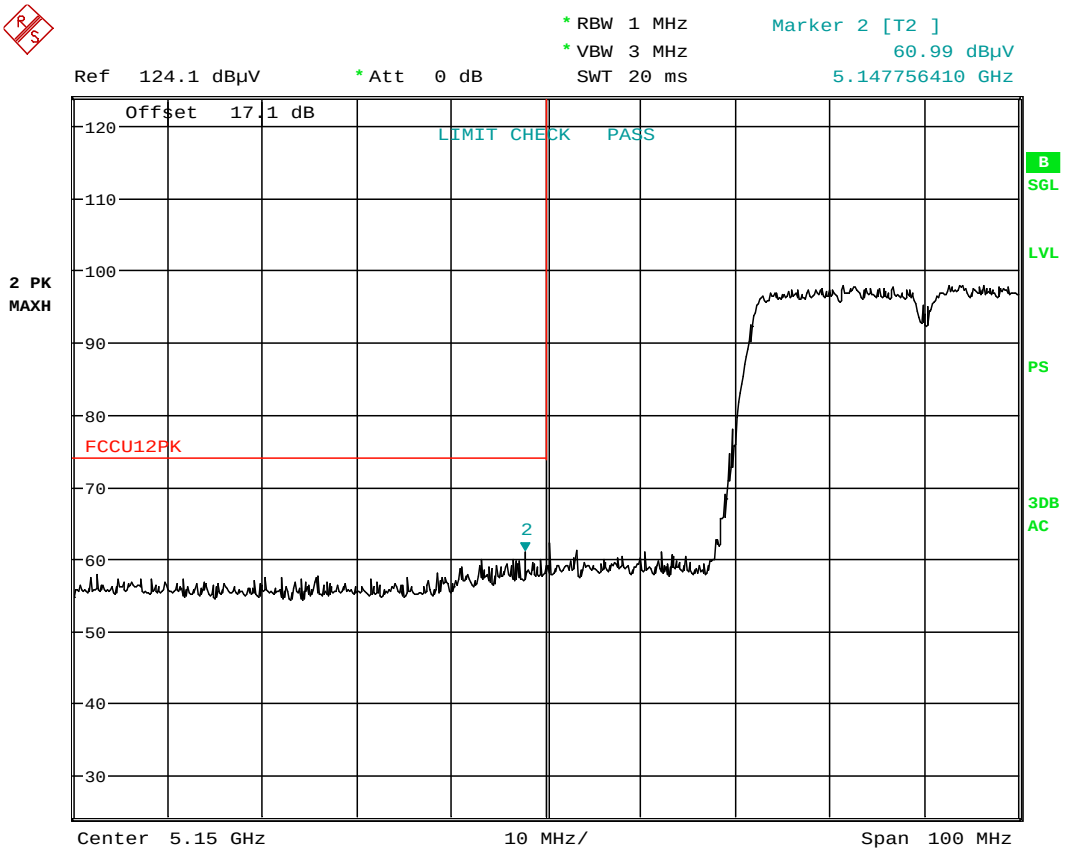
Date: 18.FEB.2015 17:46:31

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: 18.FEB.2015 17:46:20

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

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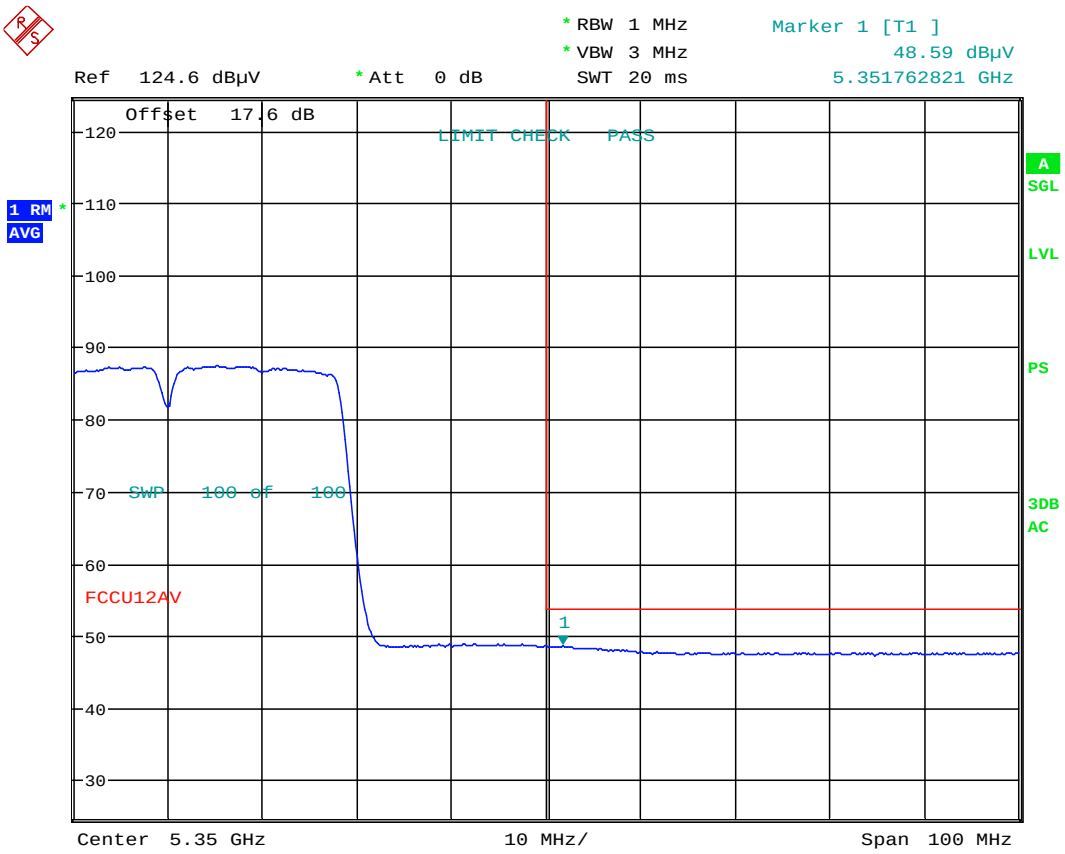
Antenna-2 Radiated Band Edge Measurements (40MHz BW)

§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:	5310MHz
Channel:	62



Date: 18.FEB.2015 17:30:05

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

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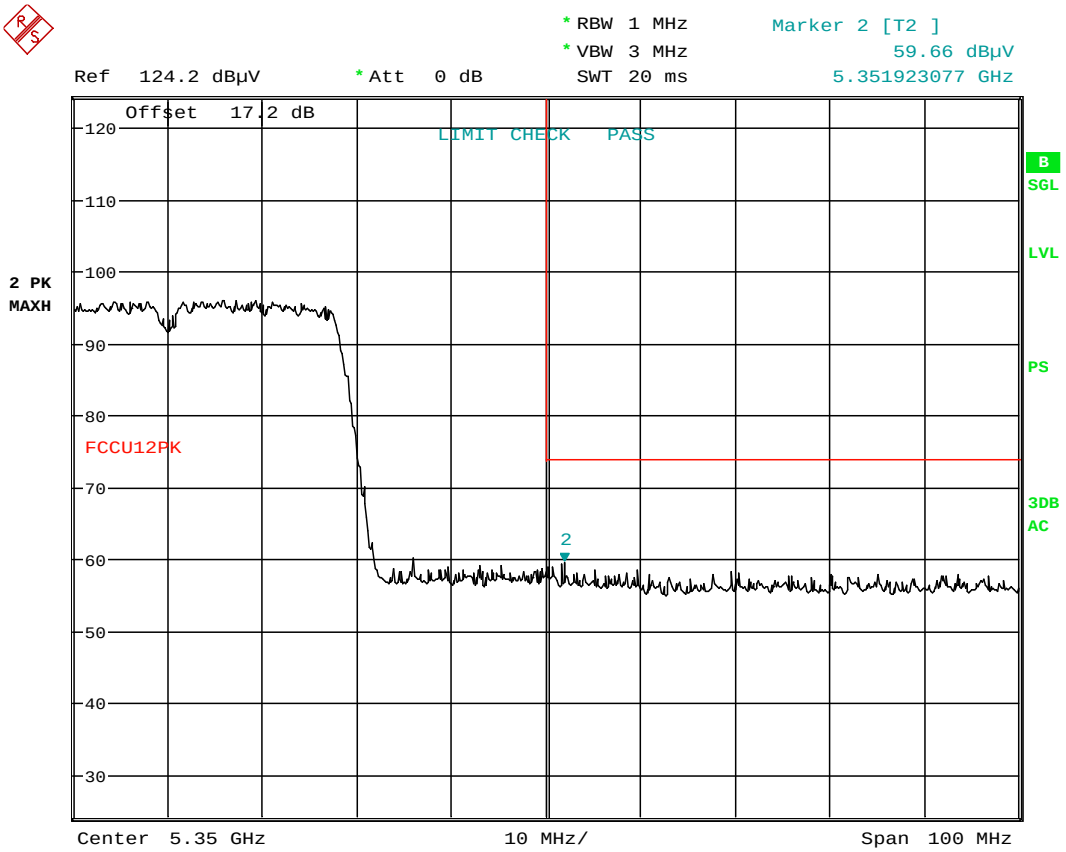
Antenna-2 Radiated Band Edge Measurements (40MHz BW)

§15.407(b.1)(b.2) §15.205 §15.209



Date: 18.FEB.2015 17:29:53

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

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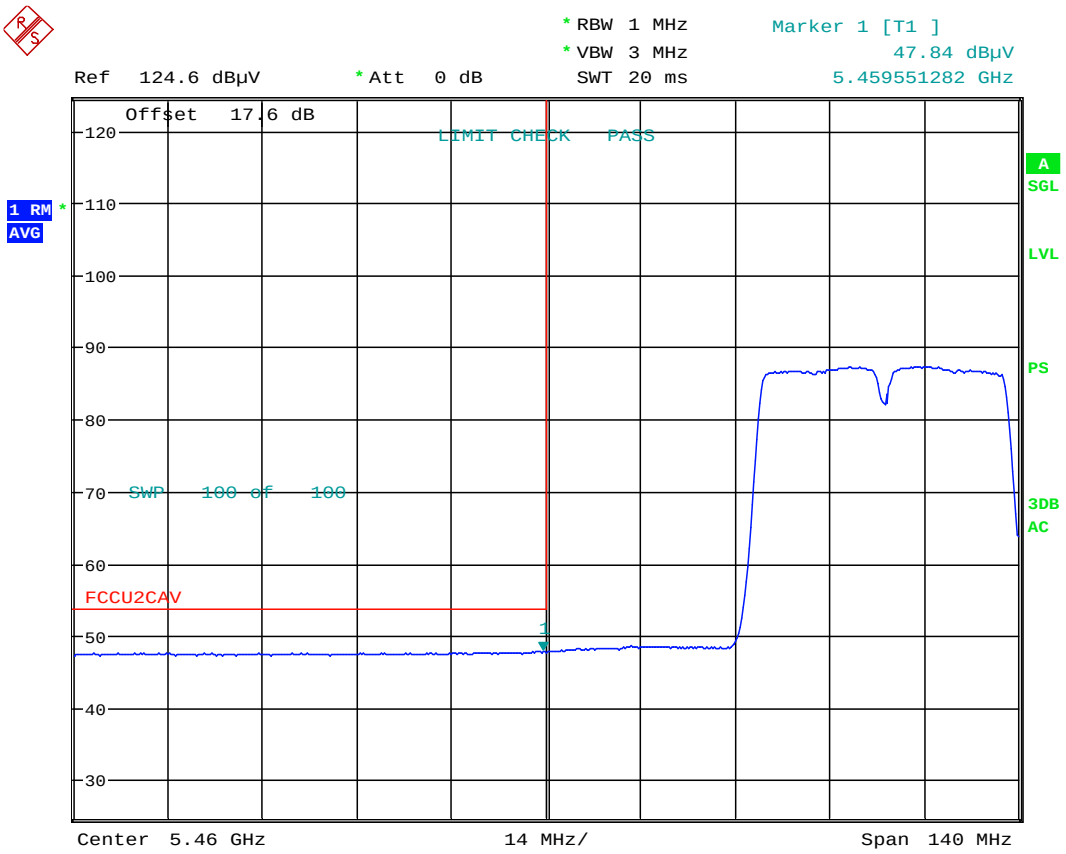
Antenna-2 Radiated Band Edge Measurements (40MHz BW)

§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



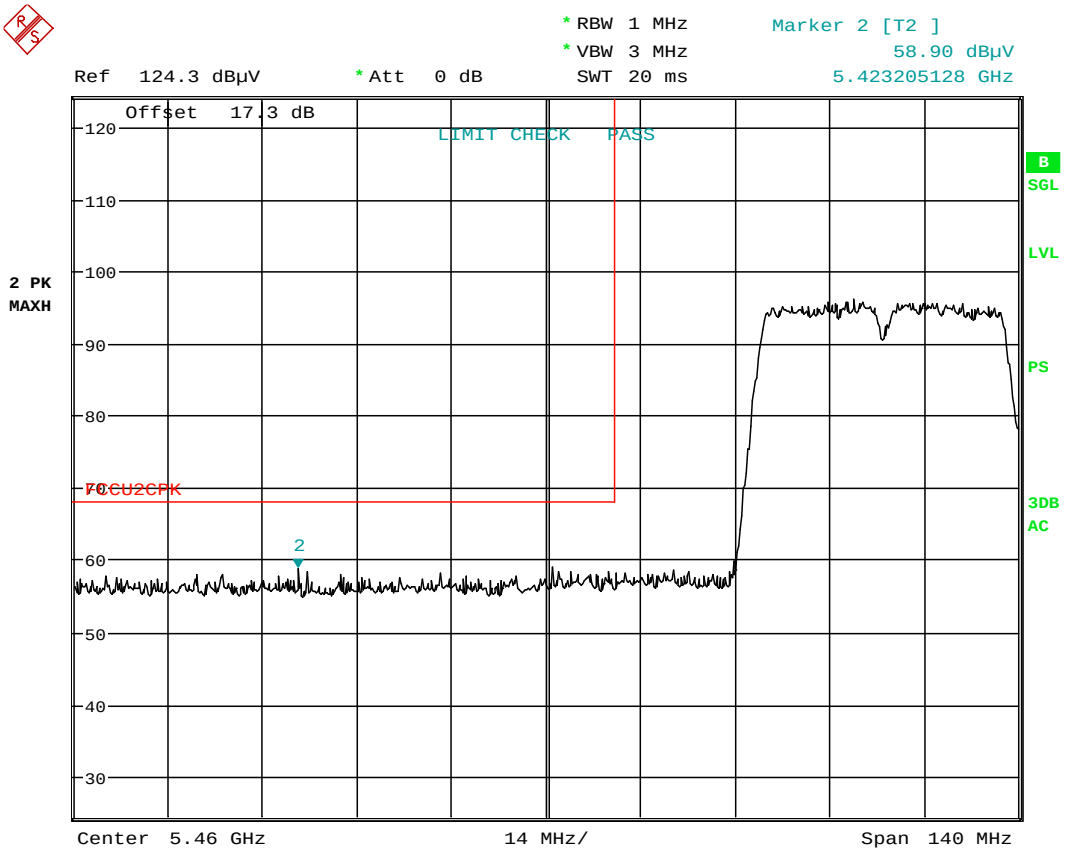
Date: 18.FEB.2015 17:58:43

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: 18.FEB.2015 17:58:31

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

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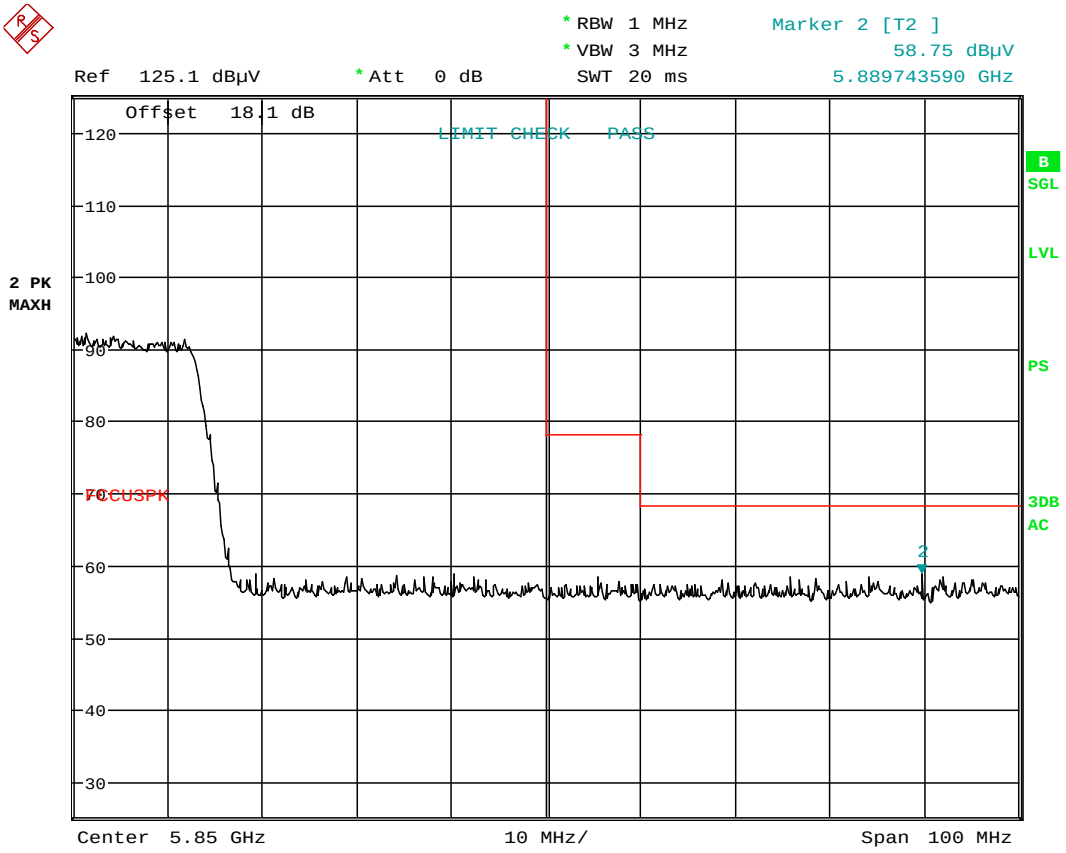
Antenna-2 Radiated Band Edge Measurements (40MHz BW)

§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:	5795MHz
Channel:	159



Date: 18.FEB.2015 18:20:28

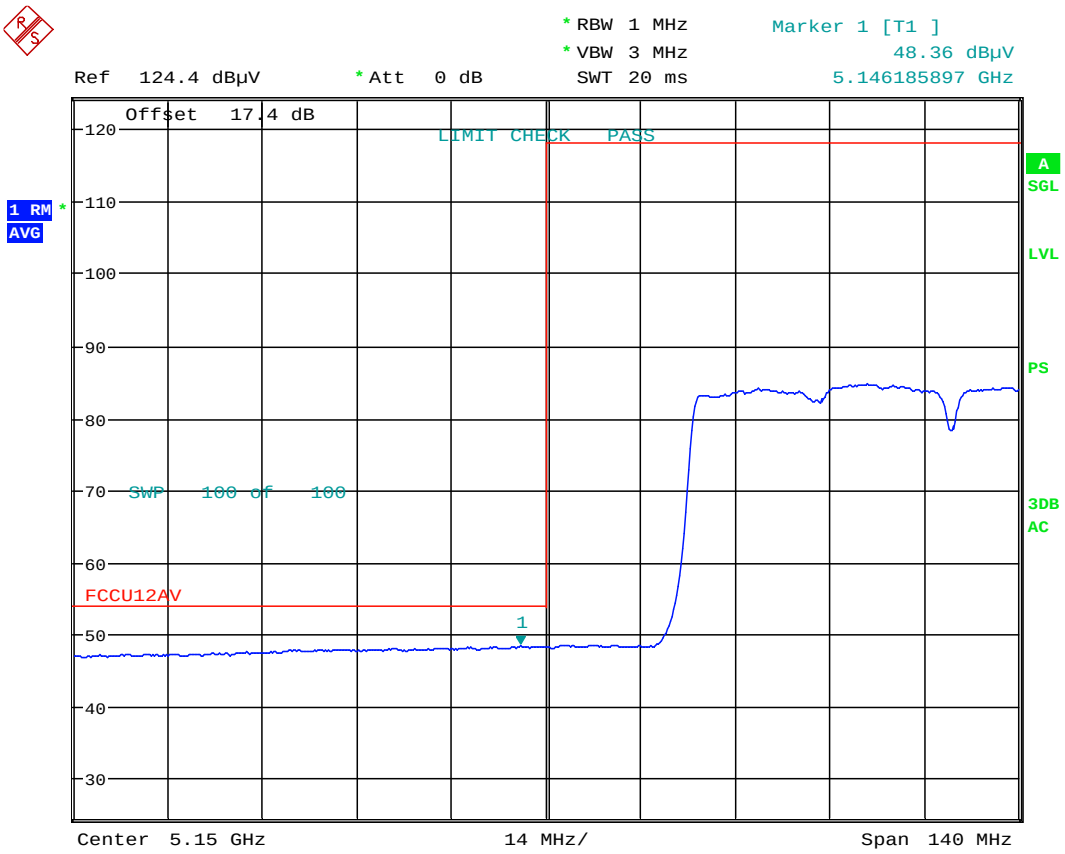
Plot 6-207. Radiated Upper Band Edge Plot (Peak – UNII Band 3)

© 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



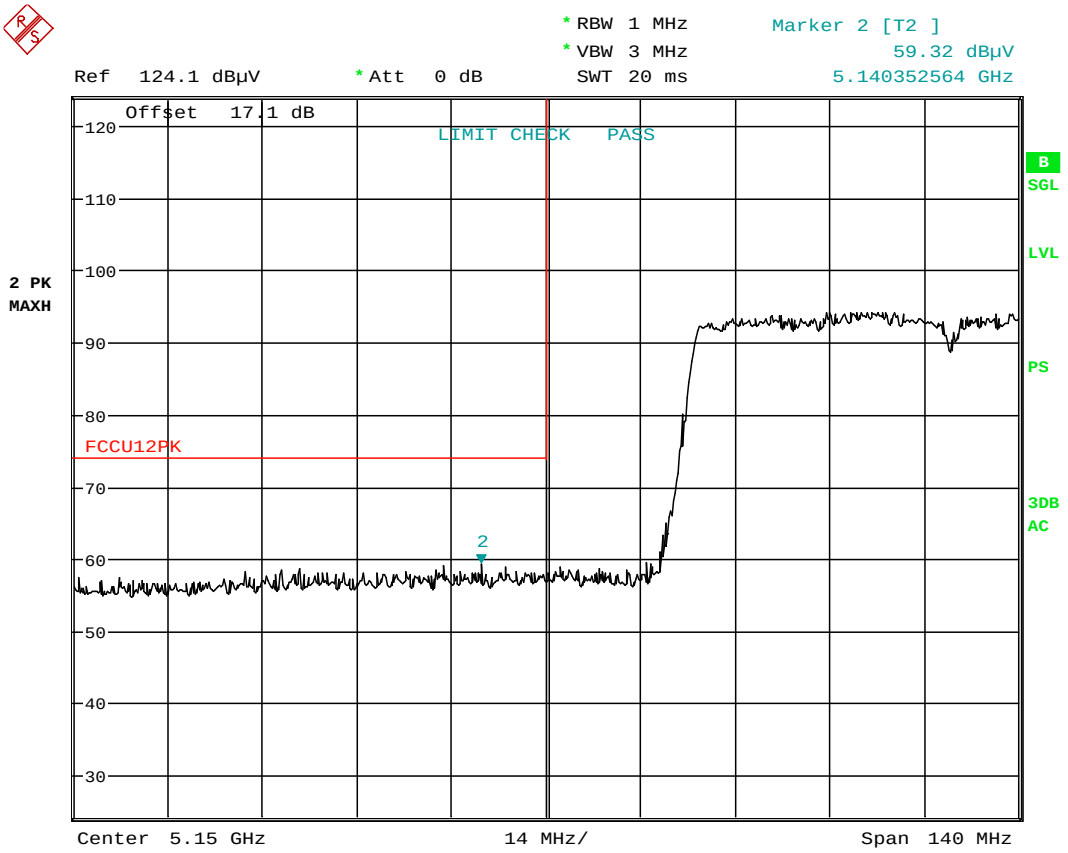
Date: 18.FEB.2015 17:41:59

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: 18.FEB.2015 17:42:16

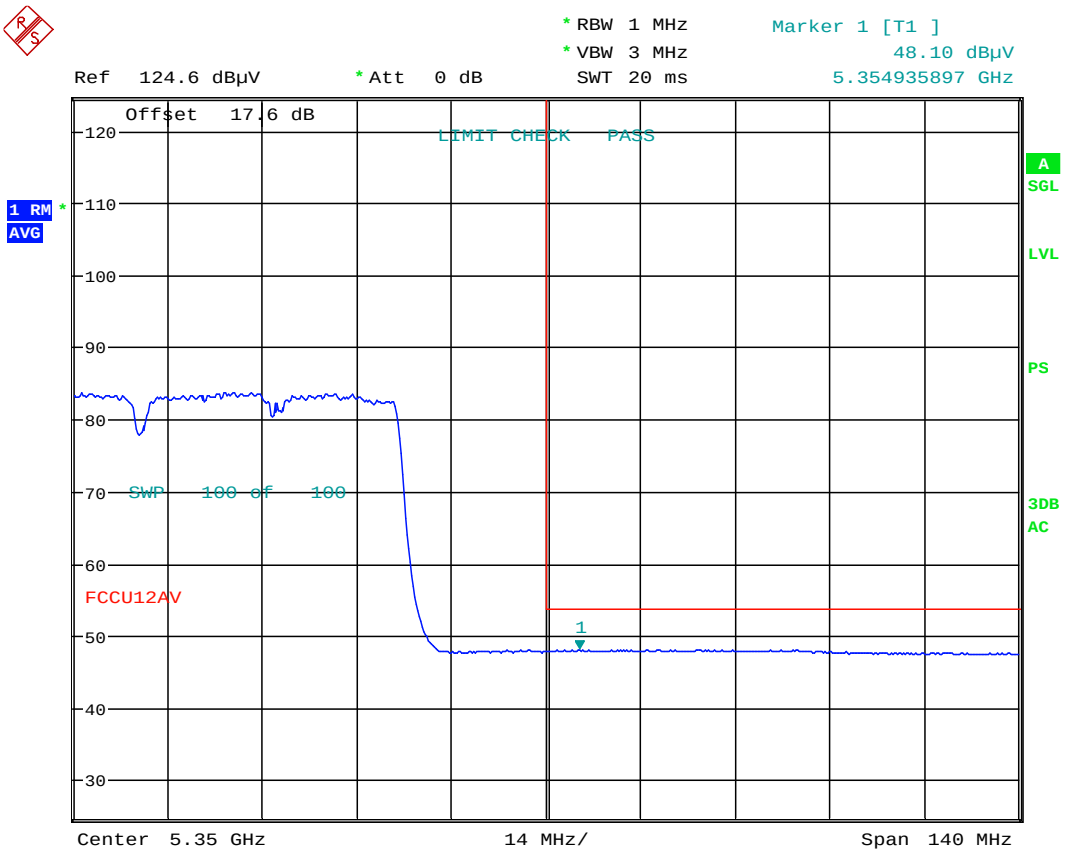
Plot 6-209. Radiated Restricted Lower Band Edge Plot (Peak – UNII Band 1)

© 2015 PCTEST Engineering Laboratory, Inc.

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

§15.407(b.1)(b.2) §15.205 §15.209

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



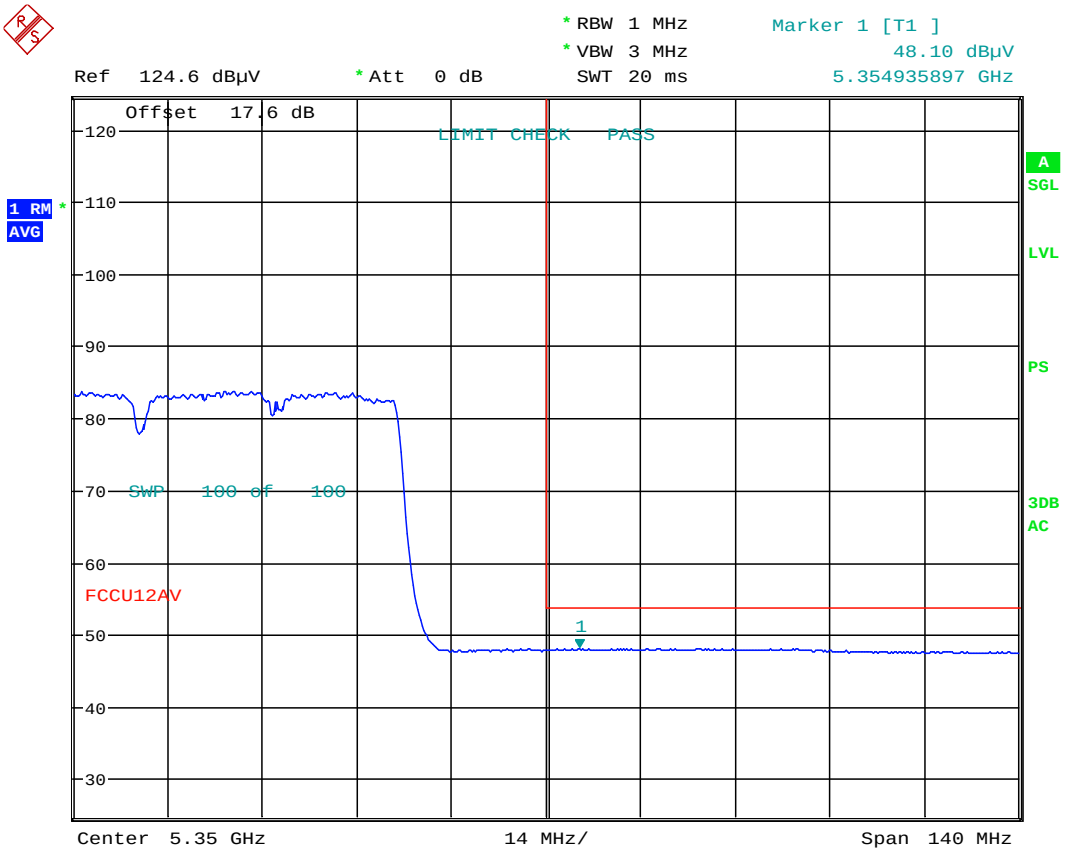
Date: 18.FEB.2015 17:34:57

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: 18.FEB.2015 17:35:07

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

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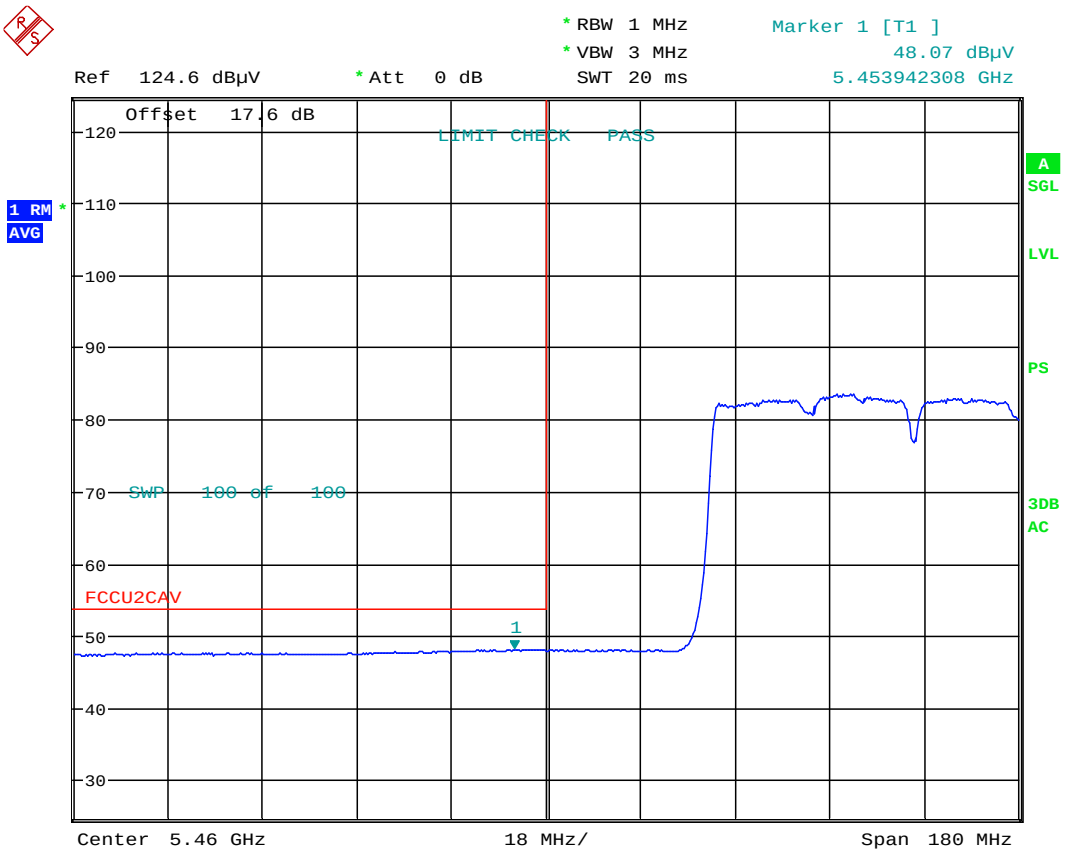
Antenna-2 Radiated Band Edge Measurements (80MHz BW)

§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



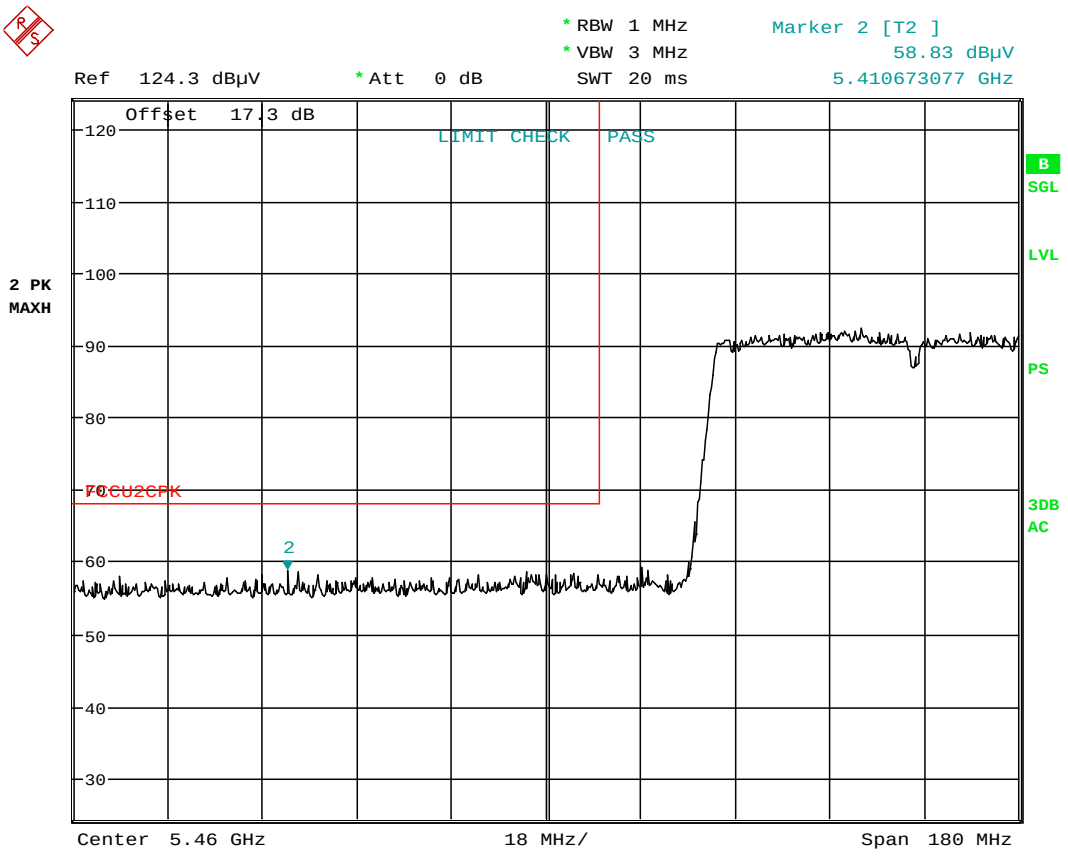
Date: 18.FEB.2015 18:06:47

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: 18.FEB.2015 18:06:57

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

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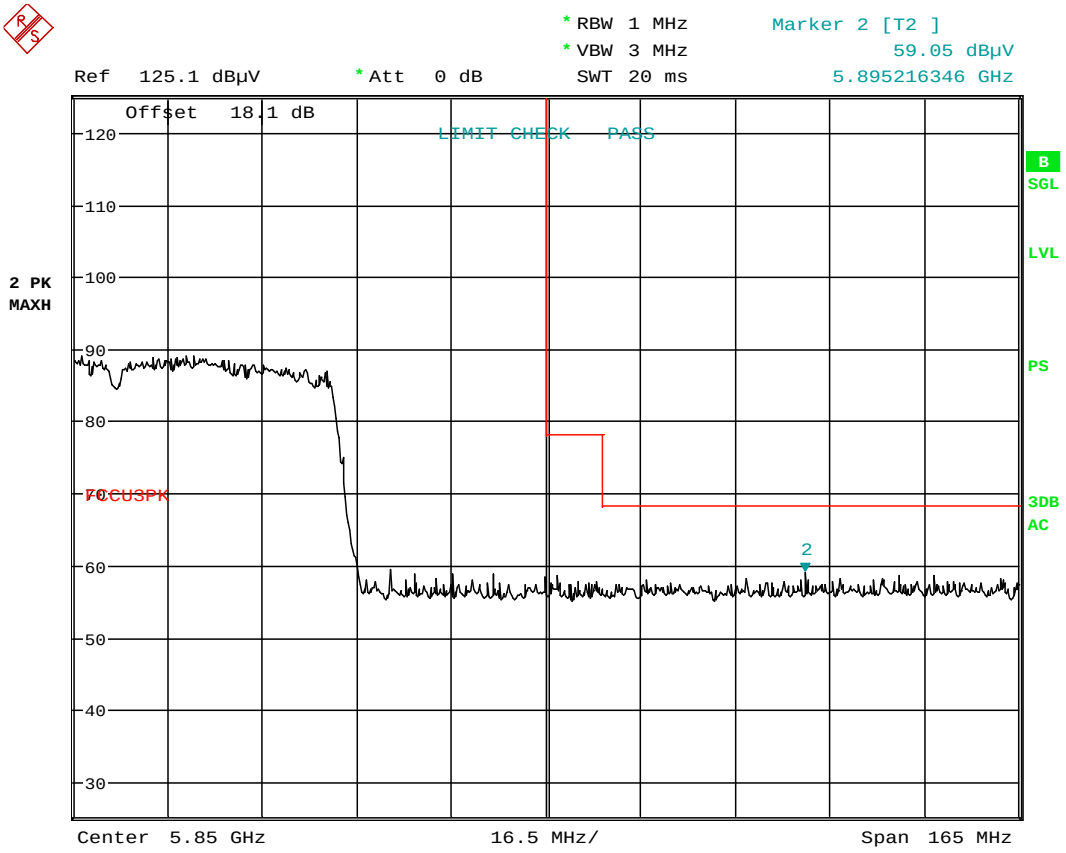
Antenna-2 Radiated Band Edge Measurements (80MHz BW)

§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: 18.FEB.2015 18:21:32

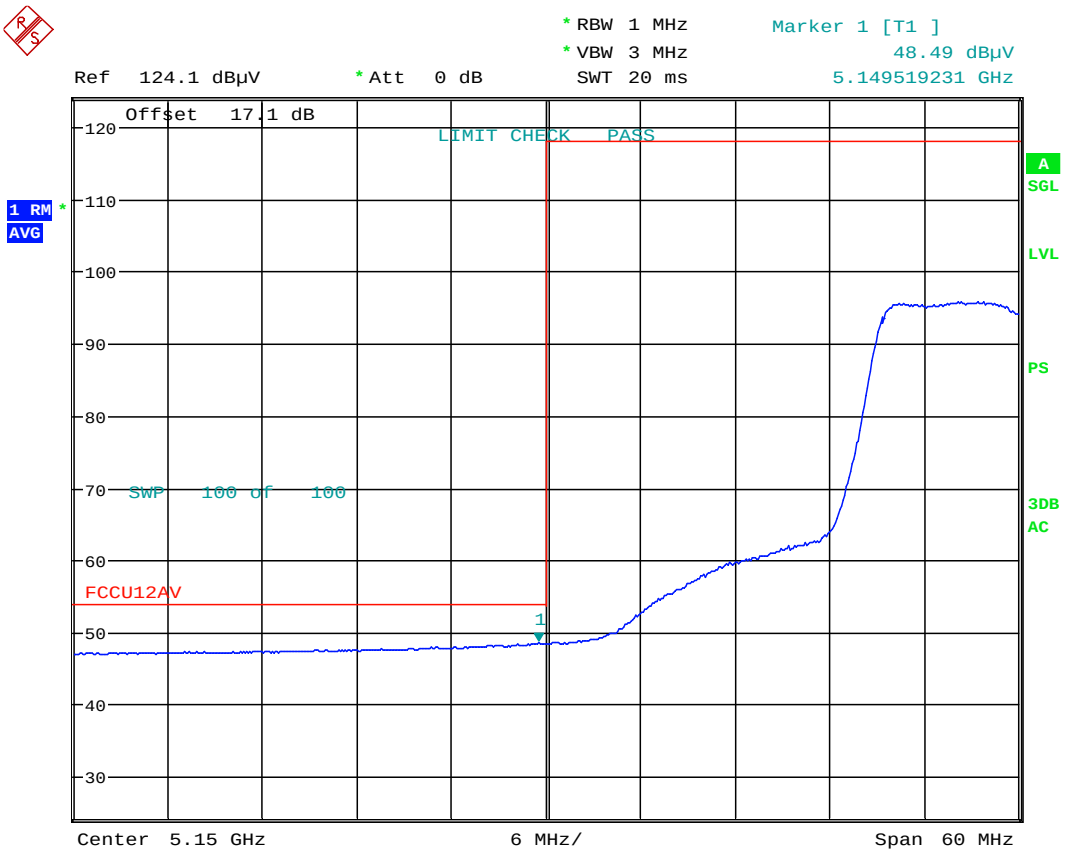
Plot 6-214. Radiated Upper Band Edge Plot (Peak – UNII Band 3)

© 2015 PCTEST Engineering Laboratory, Inc.

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



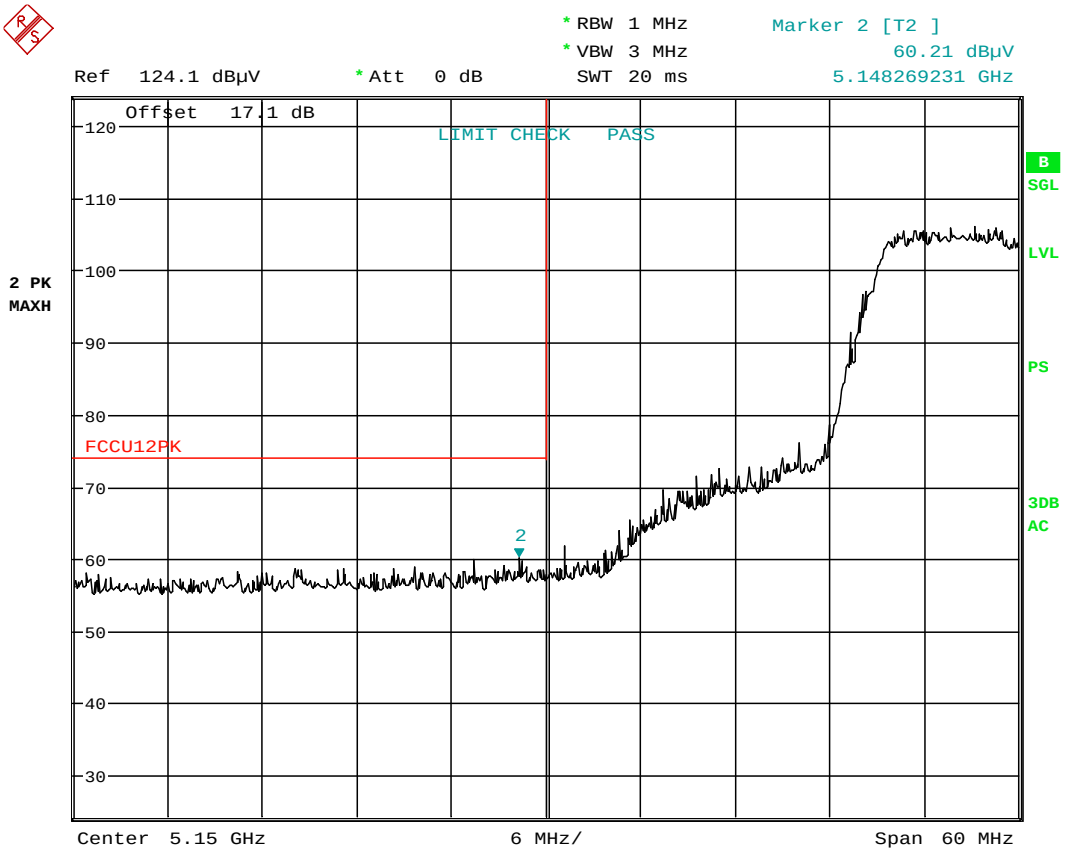
Date: 18.FEB.2015 18:40:52

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: 18.FEB.2015 18:41:09

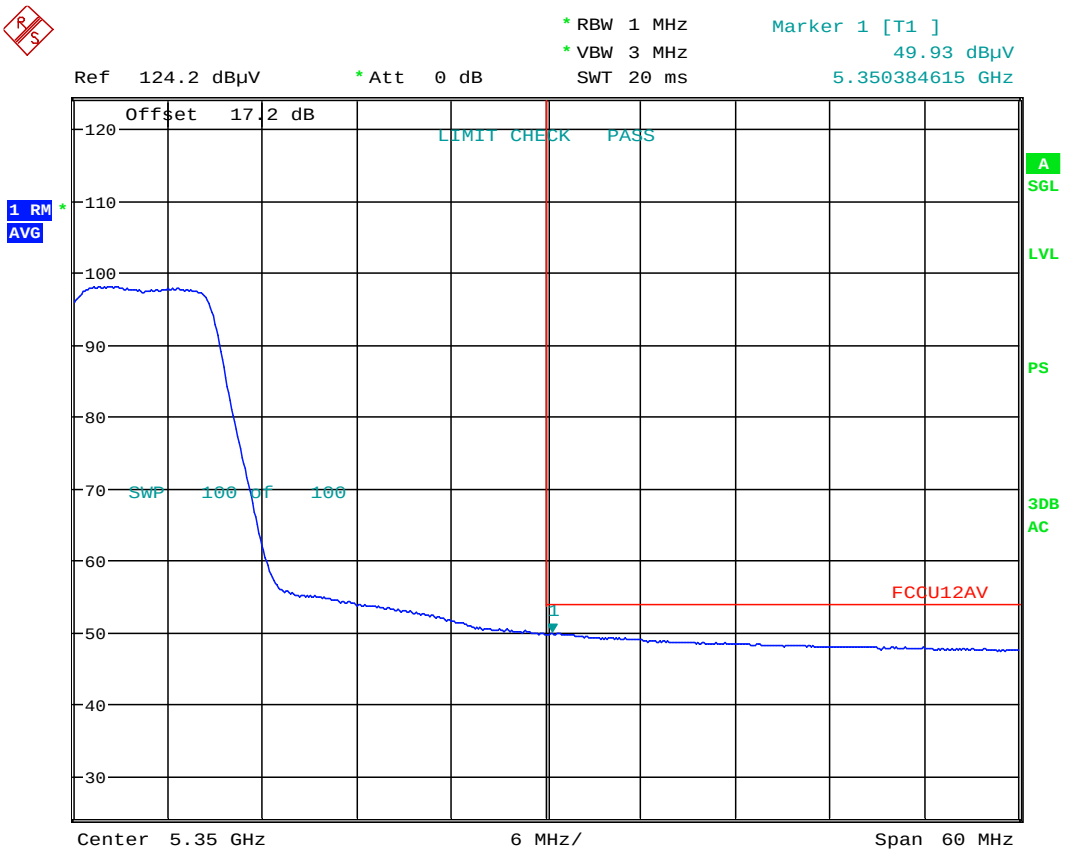
Plot 6-216. Radiated Restricted Lower Band Edge Plot (Peak – UNII Band 1)

© 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: 18.FEB.2015 19:03:54

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

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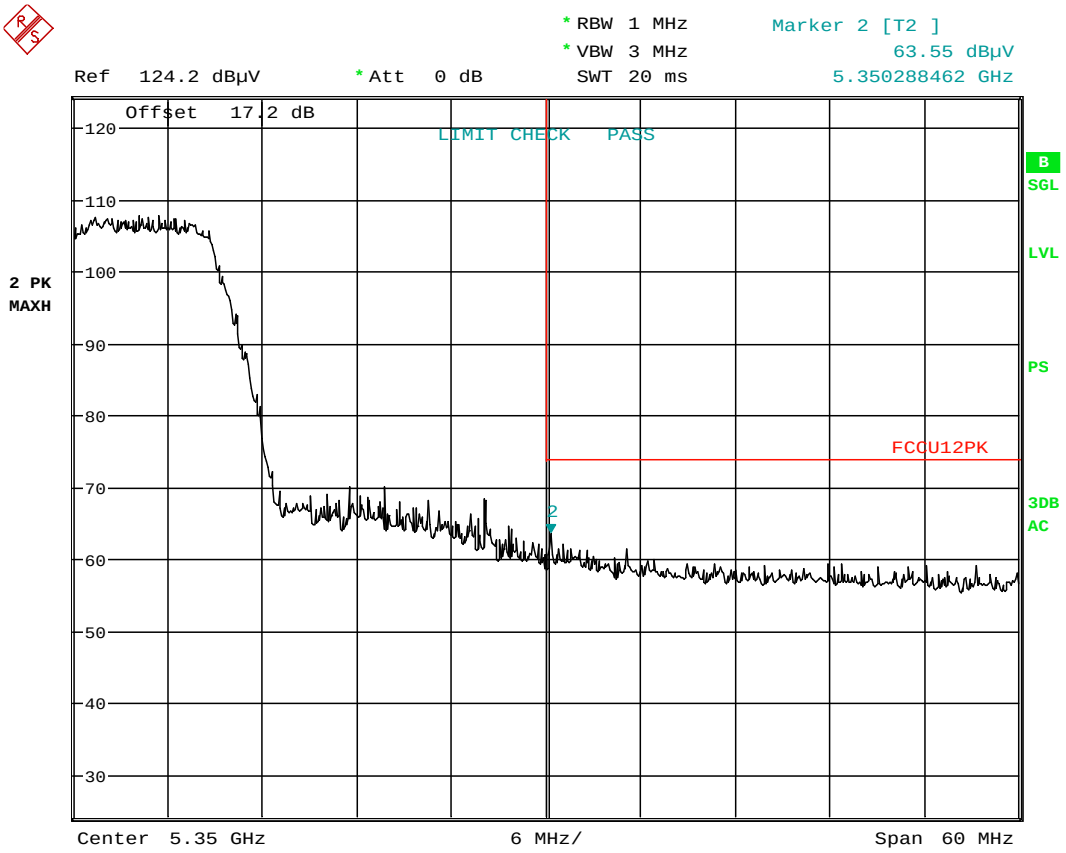
MIMO Radiated Band Edge Measurements (20MHz BW)

§15.407(b.1)(b.2) §15.205 §15.209



Date: 18.FEB.2015 19:04:04

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

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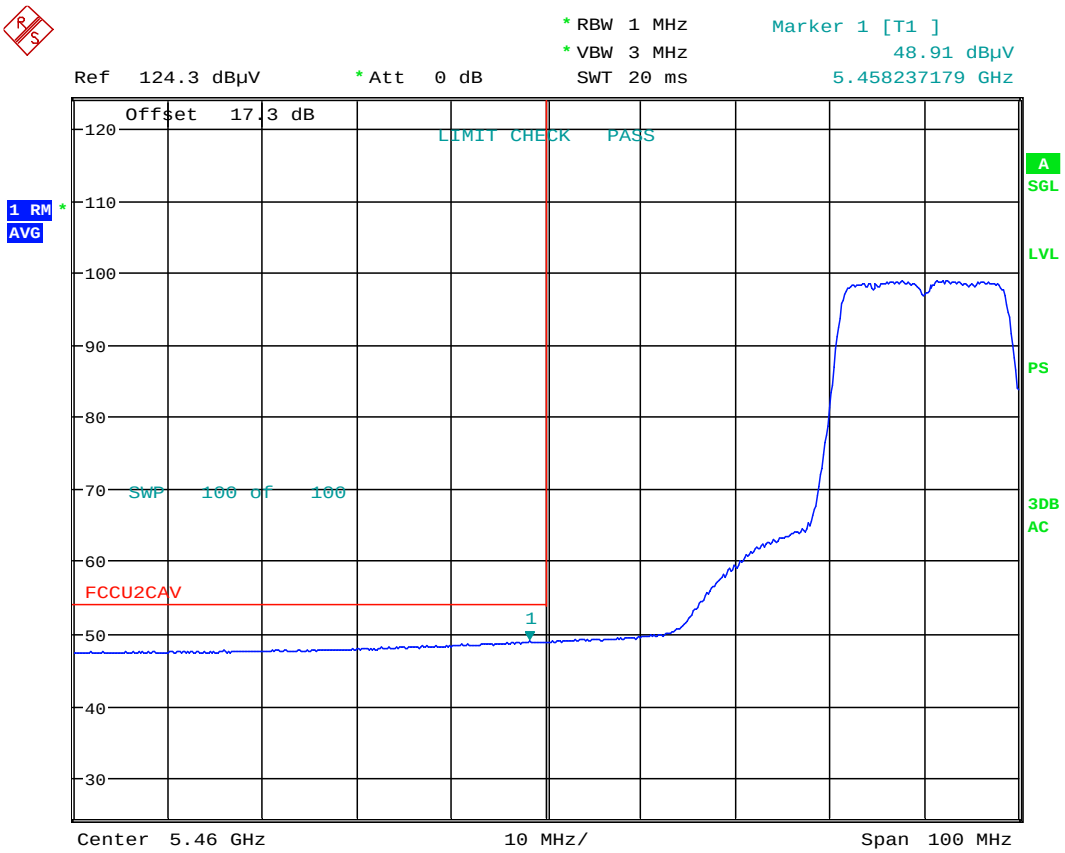
MIMO Radiated Band Edge Measurements (20MHz BW)

§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: 18.FEB.2015 19:16:11

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

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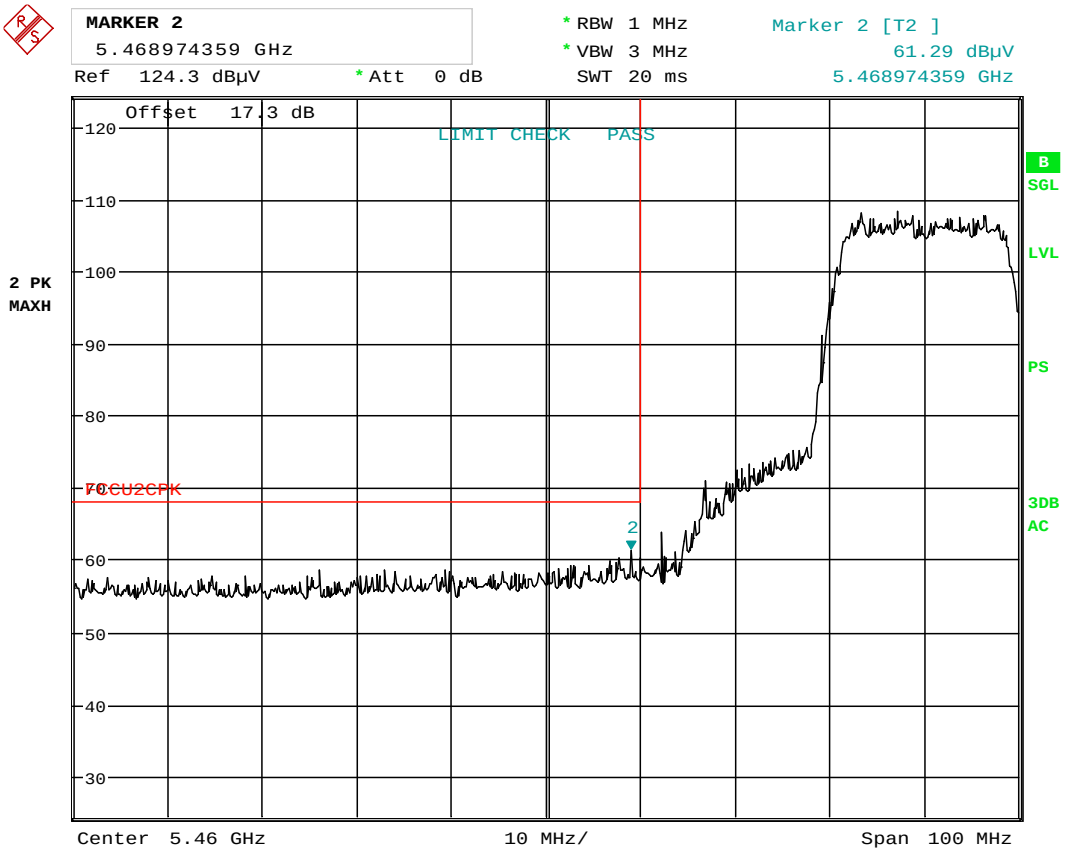
MIMO Radiated Band Edge Measurements (20MHz BW)

§15.407(b.1)(b.2) §15.205 §15.209



Date: 18.FEB.2015 19:16:40

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

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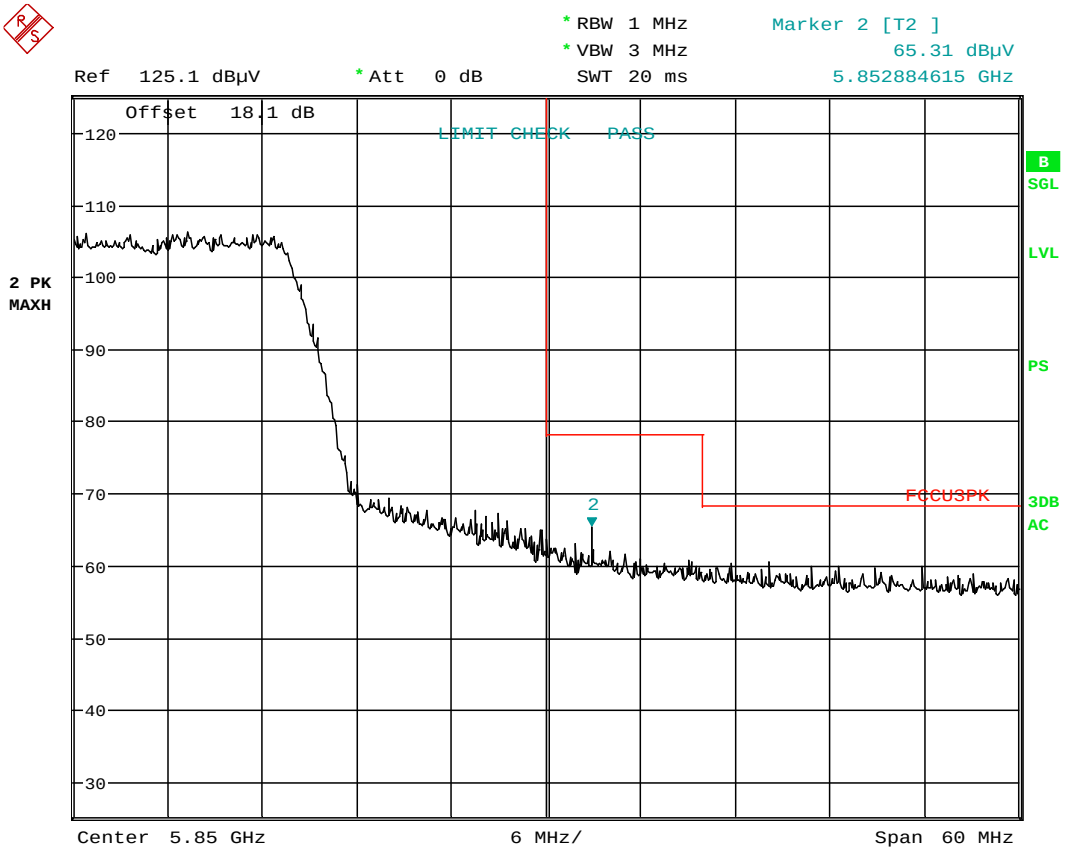
MIMO Radiated Band Edge Measurements (20MHz BW)

§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: 18.FEB.2015 19:27:42

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

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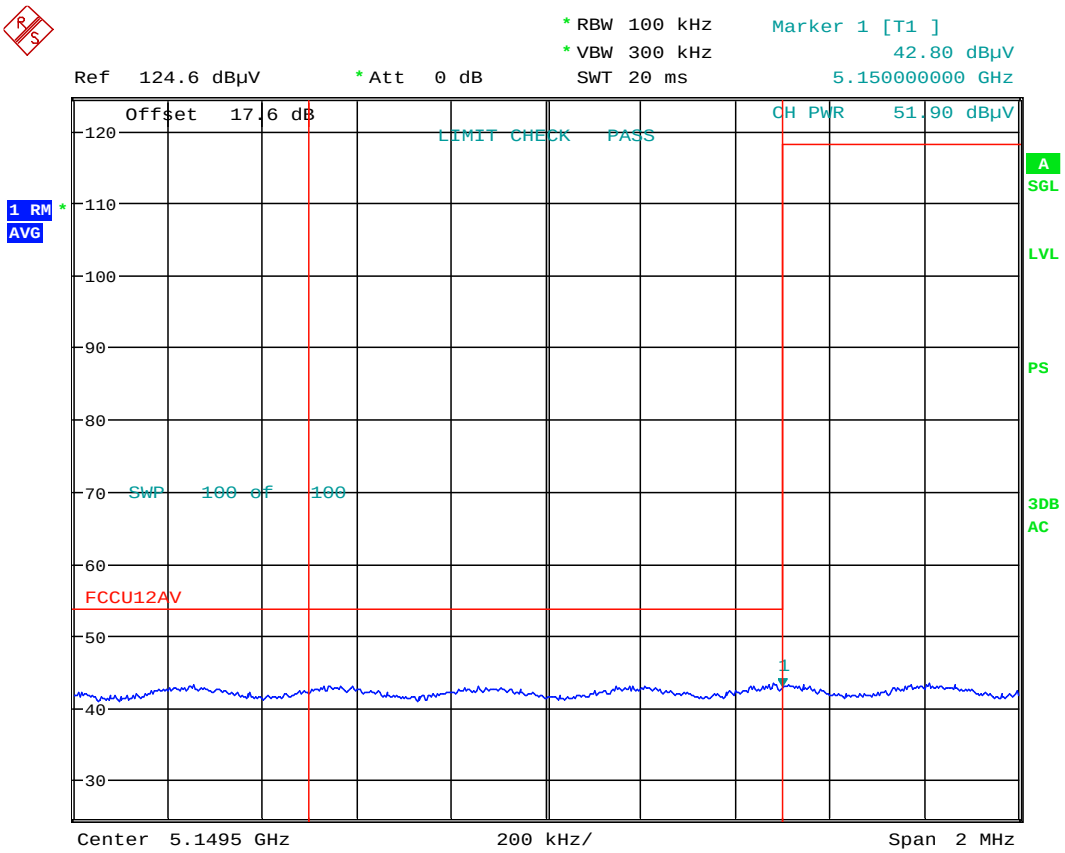
6.7.10 MIMO Radiated Band Edge Measurements (40MHz BW)

§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: 18.FEB.2015 18:49:24

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

NOTE:
A channel integration method was used to determine compliance with the out of band average radiated spurious emissions limit in the 2483.5 – 2500MHz band. Per KDB 789033 Section G.3.d.ii, a measurement was performed using a RBW of 100kHz. The results were integrated up to the 1MHz reference bandwidth to show compliance with the 15.209 radiated limit for emissions greater than 1GHz.

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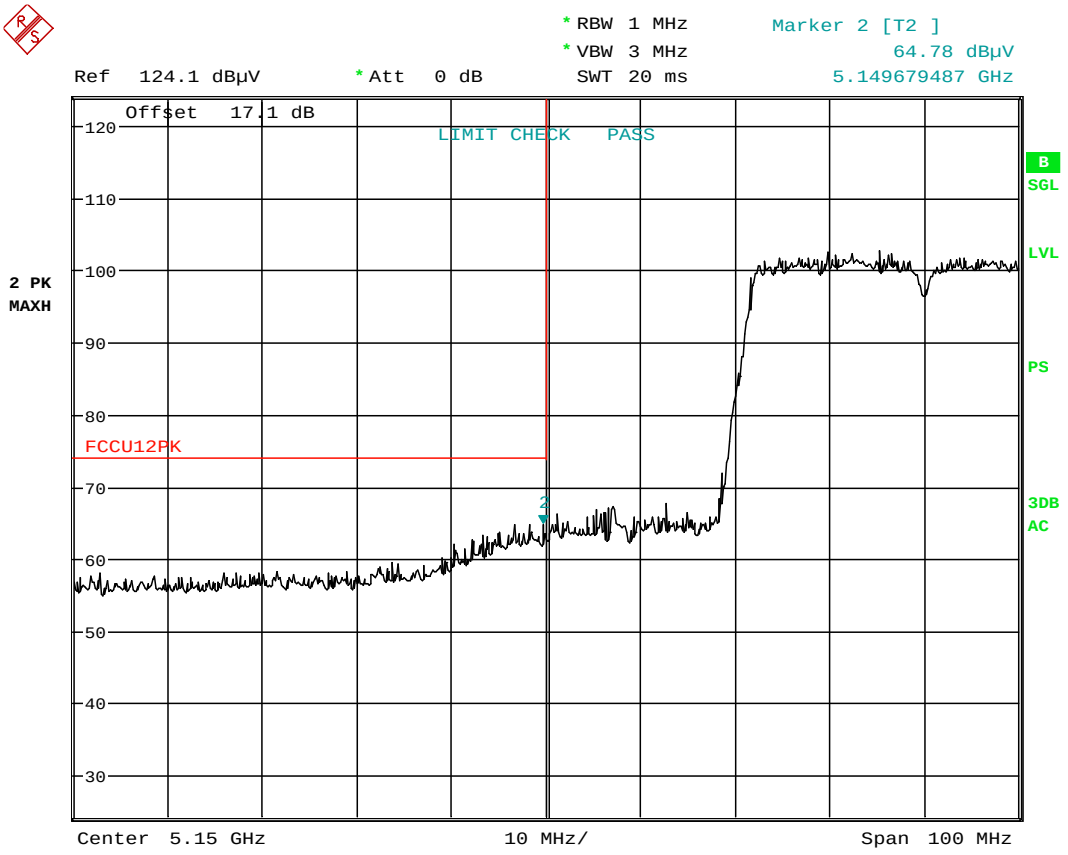
MIMO Radiated Band Edge Measurements (40MHz BW)

§15.407(b.1)(b.2) §15.205 §15.209



Date: 18.FEB.2015 18:43:07

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

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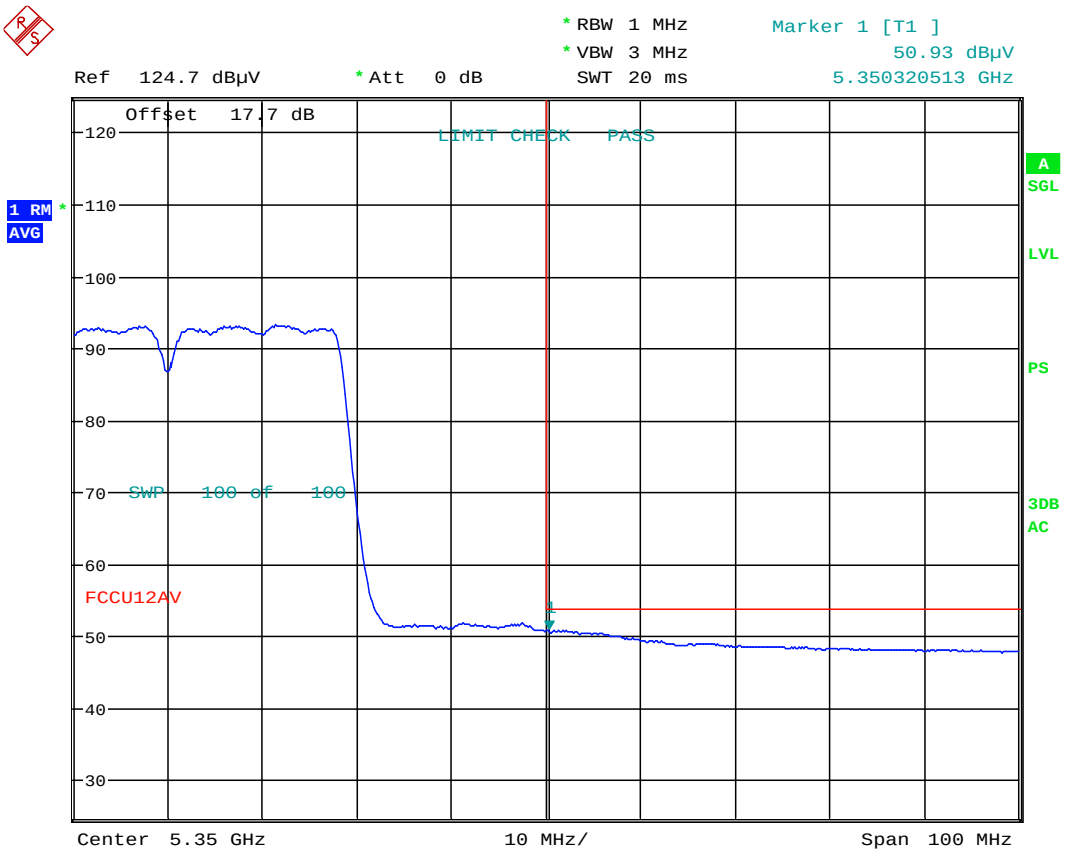
MIMO Radiated Band Edge Measurements (40MHz BW)

§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: 18.FEB.2015 19:06:20

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

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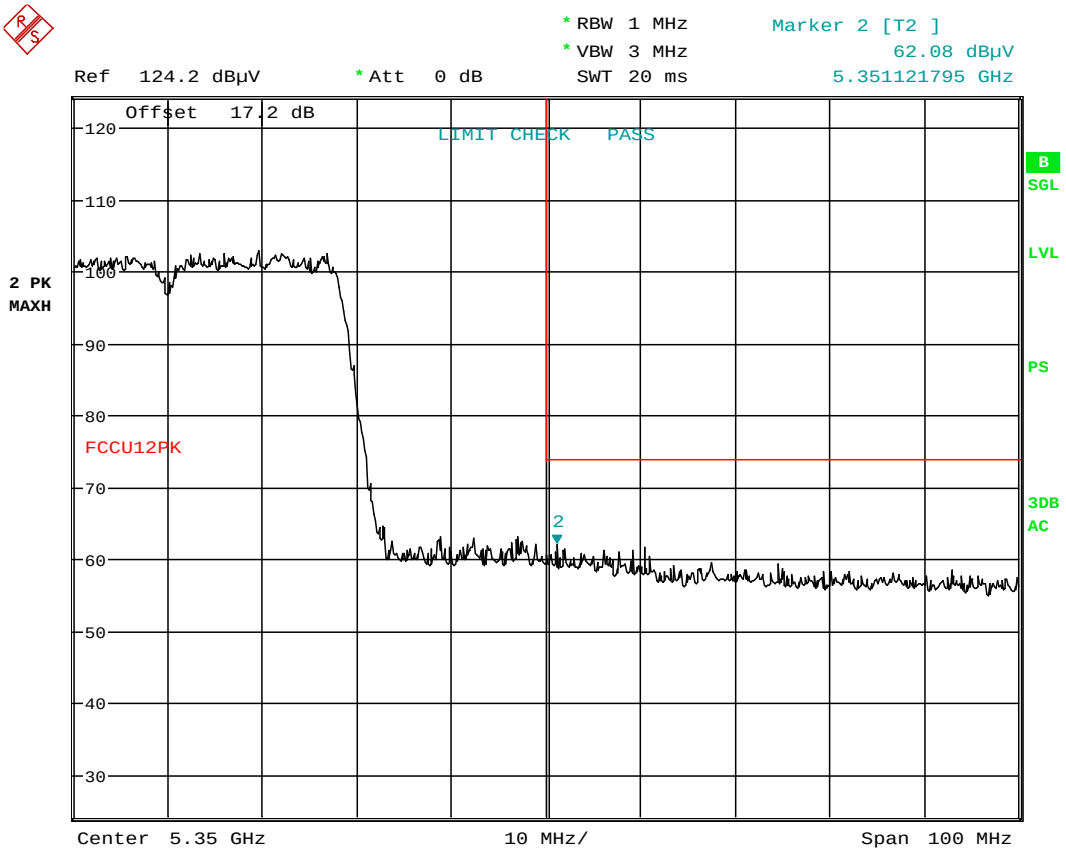
MIMO Radiated Band Edge Measurements (40MHz BW)

§15.407(b.1)(b.2) §15.205 §15.209



Date: 18.FEB.2015 19:06:32

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

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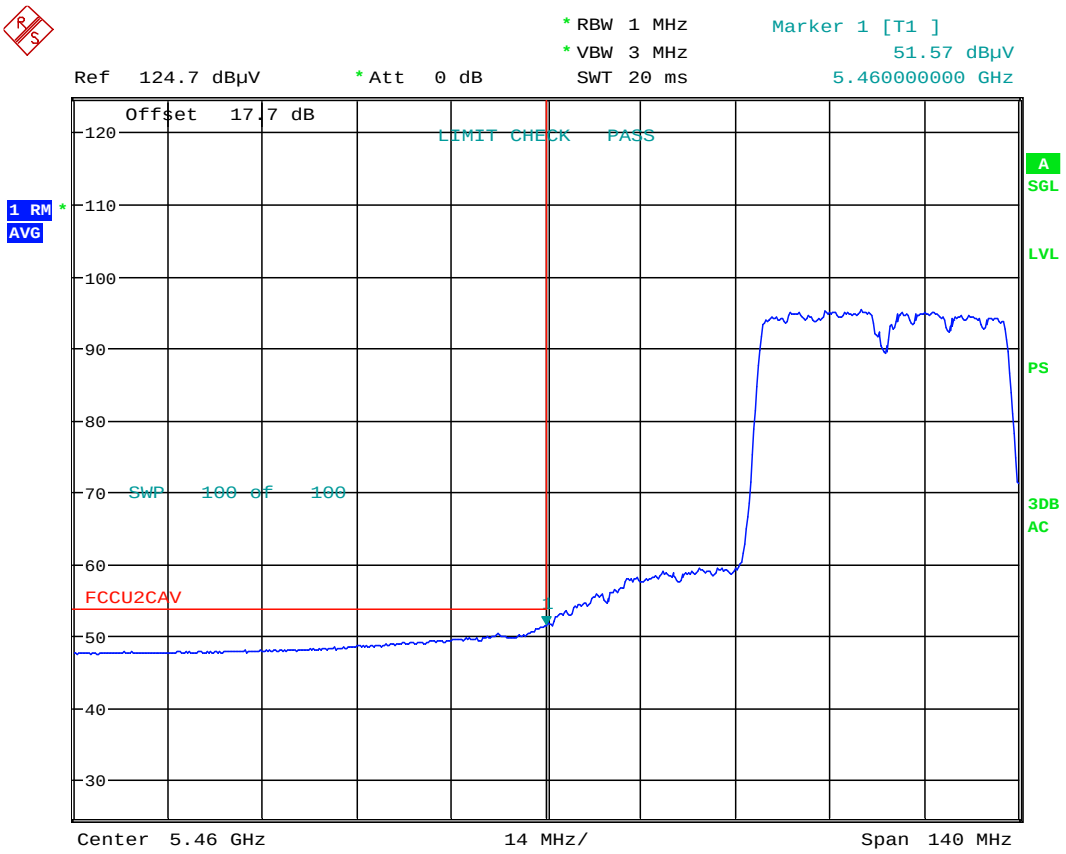
MIMO Radiated Band Edge Measurements (40MHz BW)

§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: 18.FEB.2015 19:19:18

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

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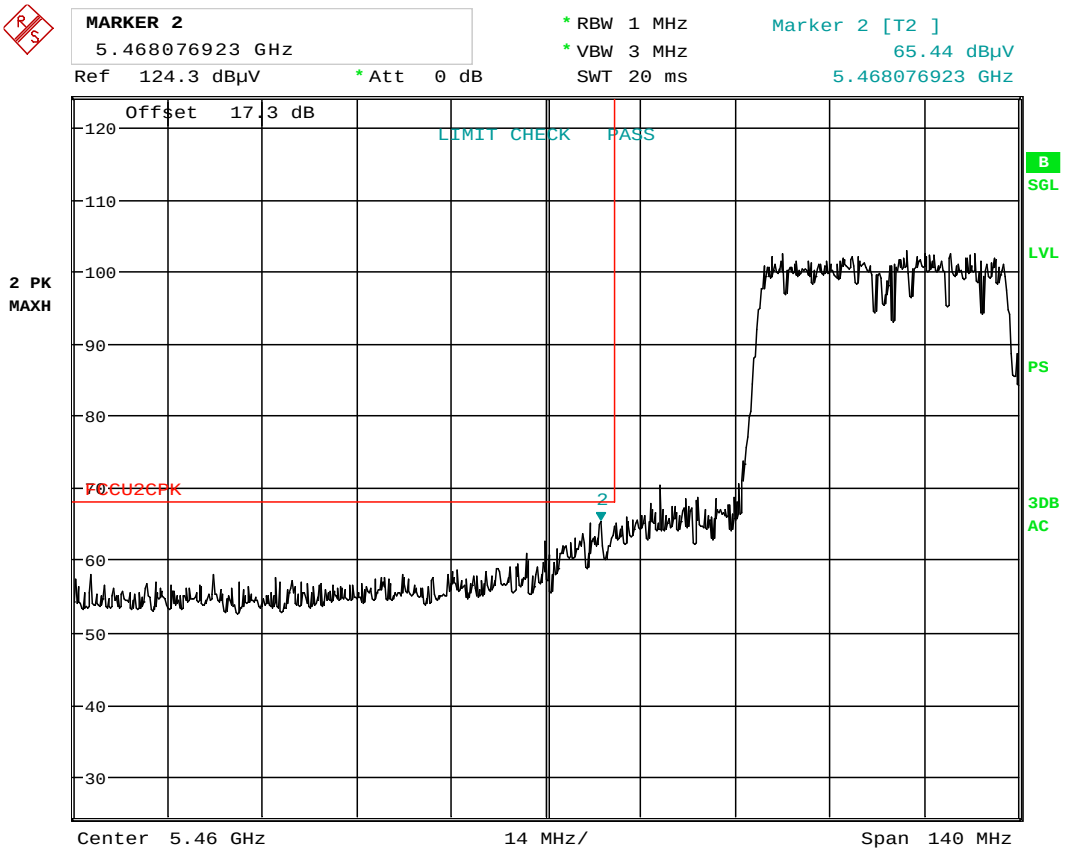
MIMO Radiated Band Edge Measurements (40MHz BW)

§15.407(b.1)(b.2) §15.205 §15.209



Date: 18.FEB.2015 19:18:59

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

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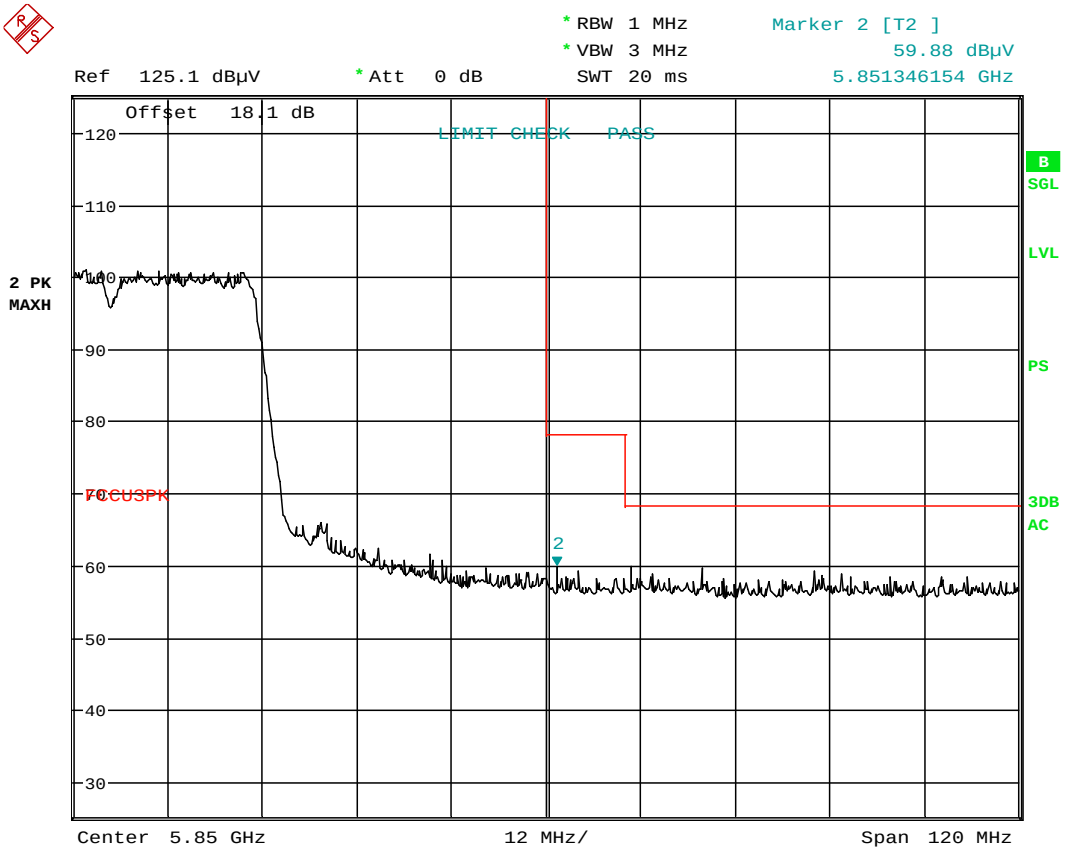
MIMO Radiated Band Edge Measurements (40MHz BW)

§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:	5795MHz
Channel:	159



Date: 18.FEB.2015 19:29:25

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

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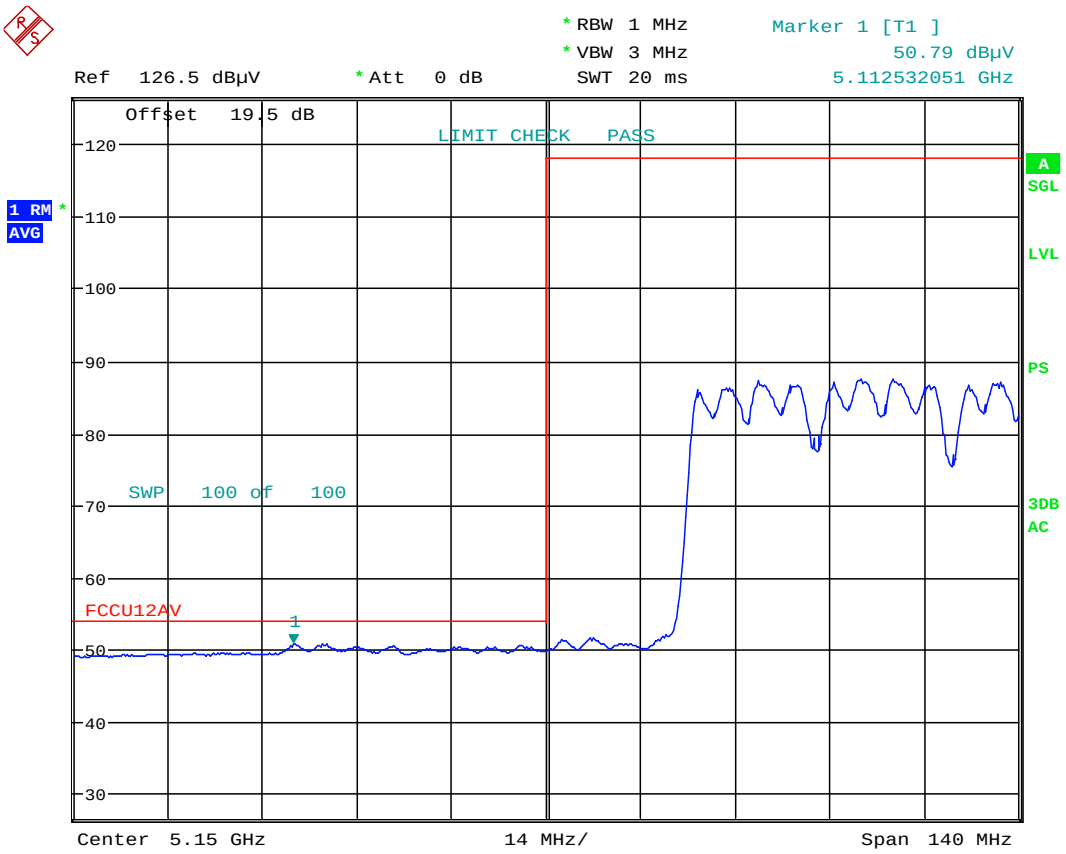
6.7.11 MIMO Radiated Band Edge Measurements (80MHz BW)

§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: 18.FEB.2015 18:58:05

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

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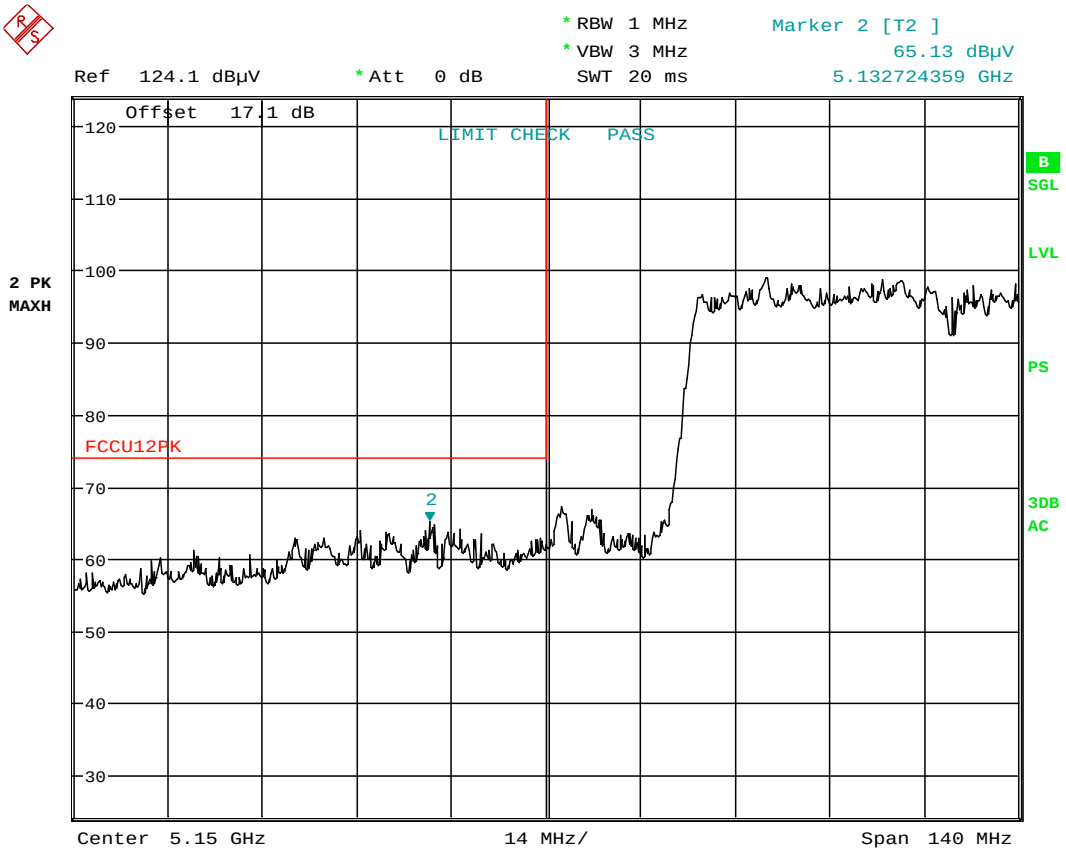
MIMO Radiated Band Edge Measurements (80MHz BW)

§15.407(b.1)(b.2) §15.205 §15.209



Date: 18.FEB.2015 18:51:01

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

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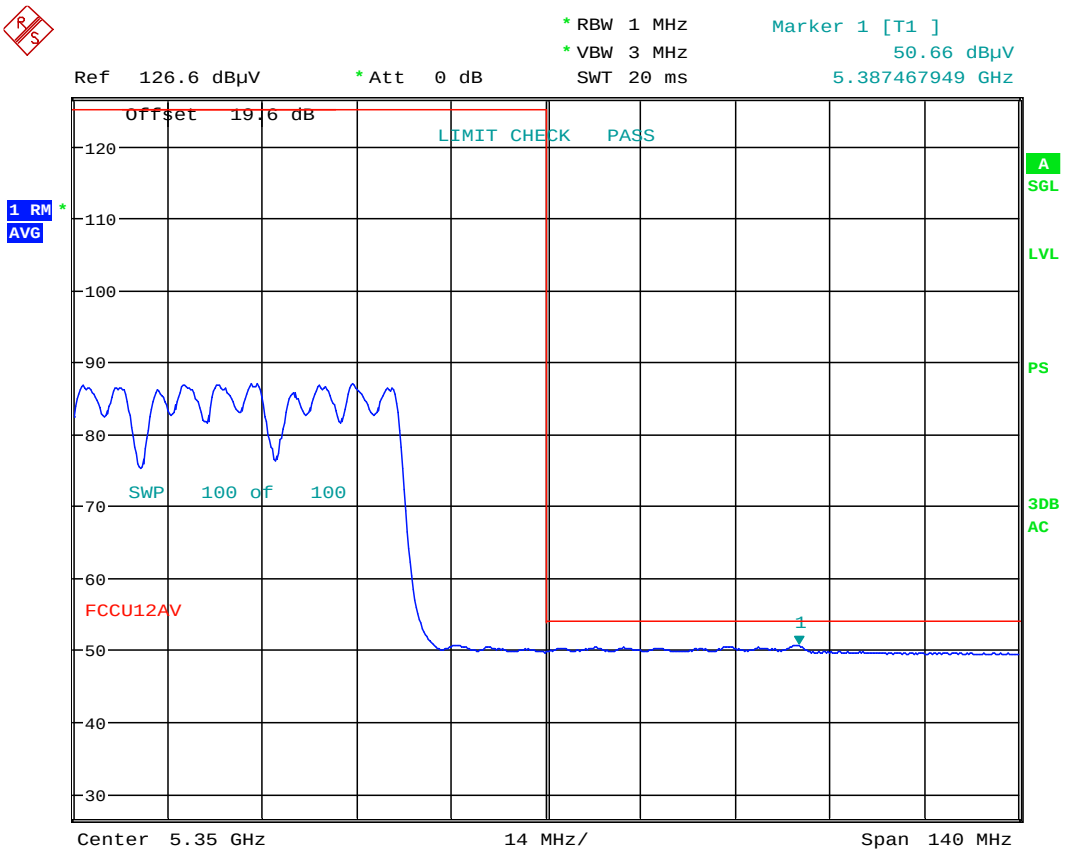
MIMO Radiated Band Edge Measurements (80MHz BW)

§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: 18.FEB.2015 19:10:53

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

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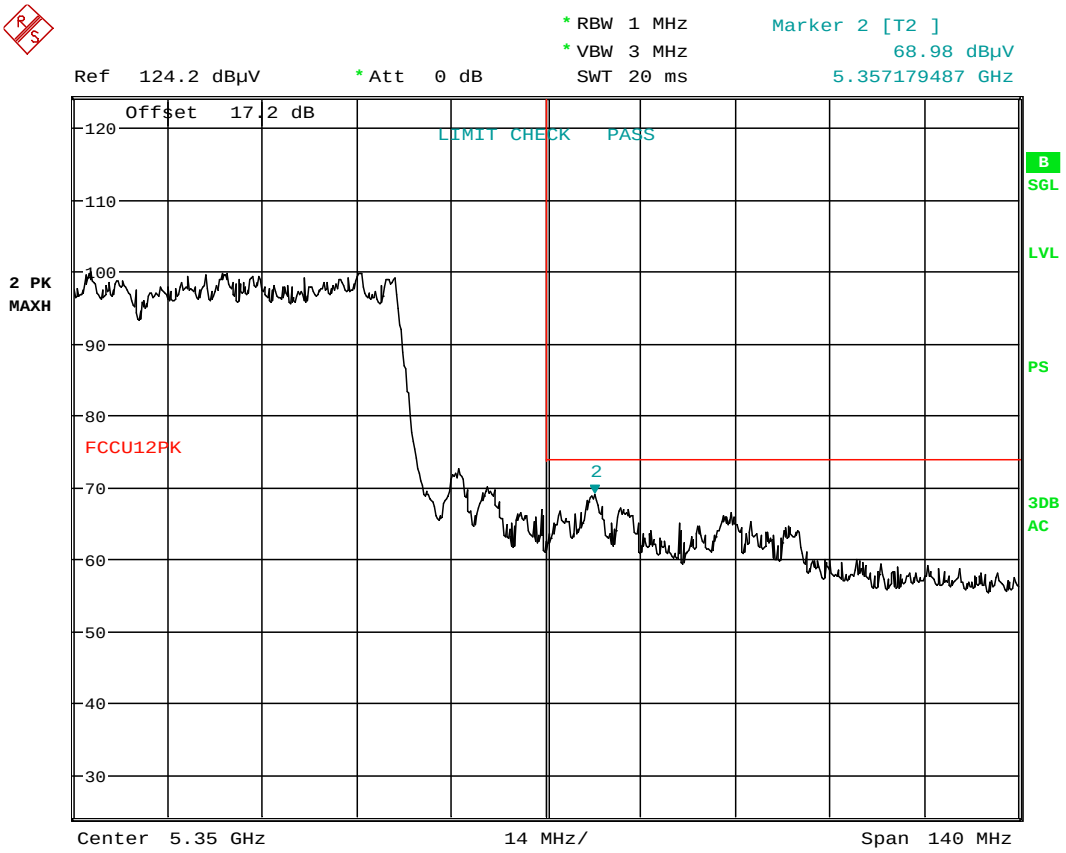
MIMO Radiated Band Edge Measurements (80MHz BW)

§15.407(b.1)(b.2) §15.205 §15.209



Date: 18.FEB.2015 19:07:33

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

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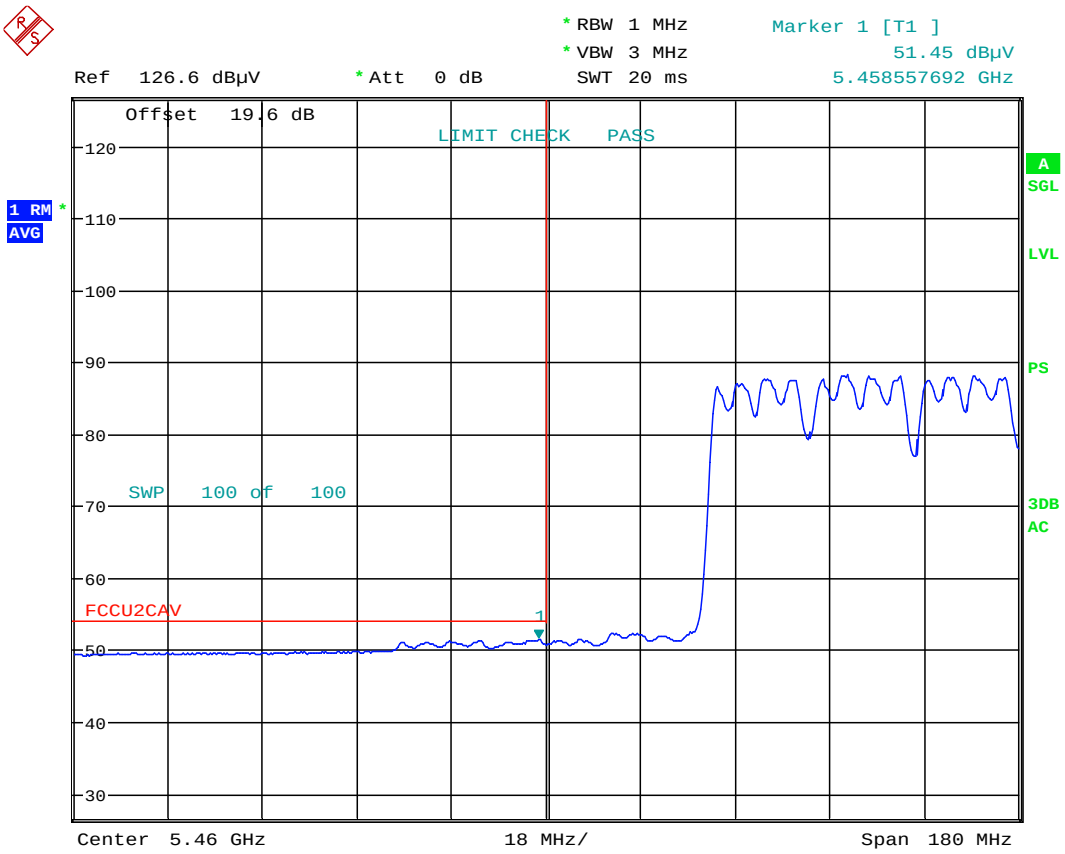
MIMO Radiated Band Edge Measurements (80MHz BW)

§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: 18.FEB.2015 19:22:26

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

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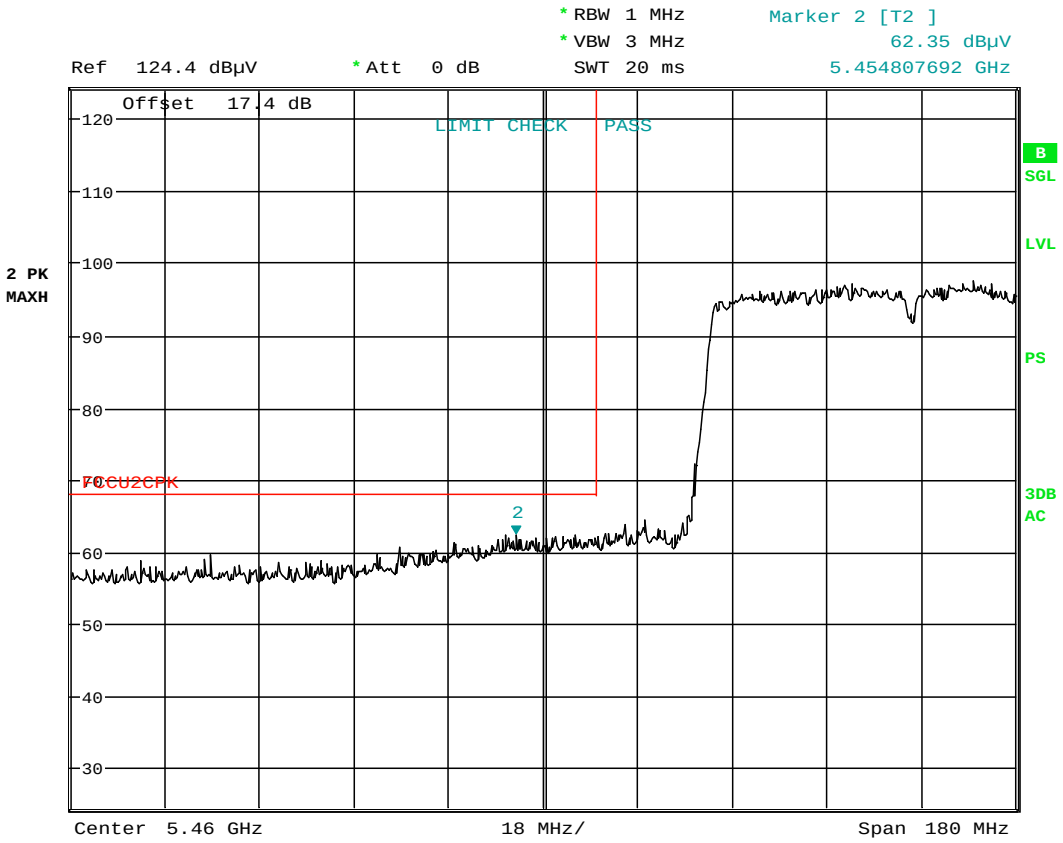
MIMO Radiated Band Edge Measurements (80MHz BW)

§15.407(b.1)(b.2) §15.205 §15.209



Date: 11.MAR.2015 00:54:58

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

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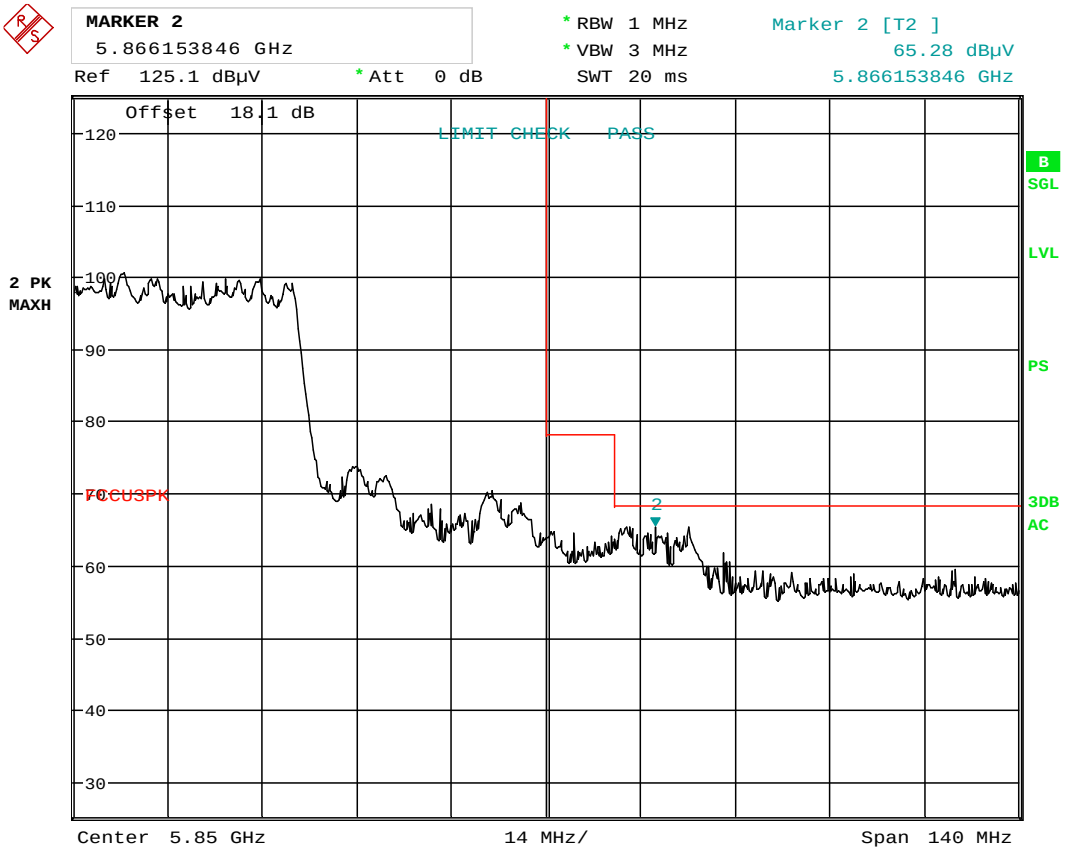
MIMO Radiated Band Edge Measurements (80MHz BW)

§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: 18.FEB.2015 19:30:30

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 6-60 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 6-60. 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.

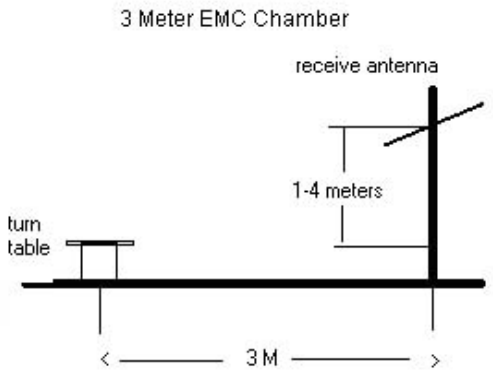

Figure 6-6. Test Instrument & Measurement Setup

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.
9. The wide spectrum spurious emissions plots shown on the following pages are used only for the purpose of emission identification. There were no emissions detected in the 30MHz – 1GHz frequency range, as shown in the subsequent plots.

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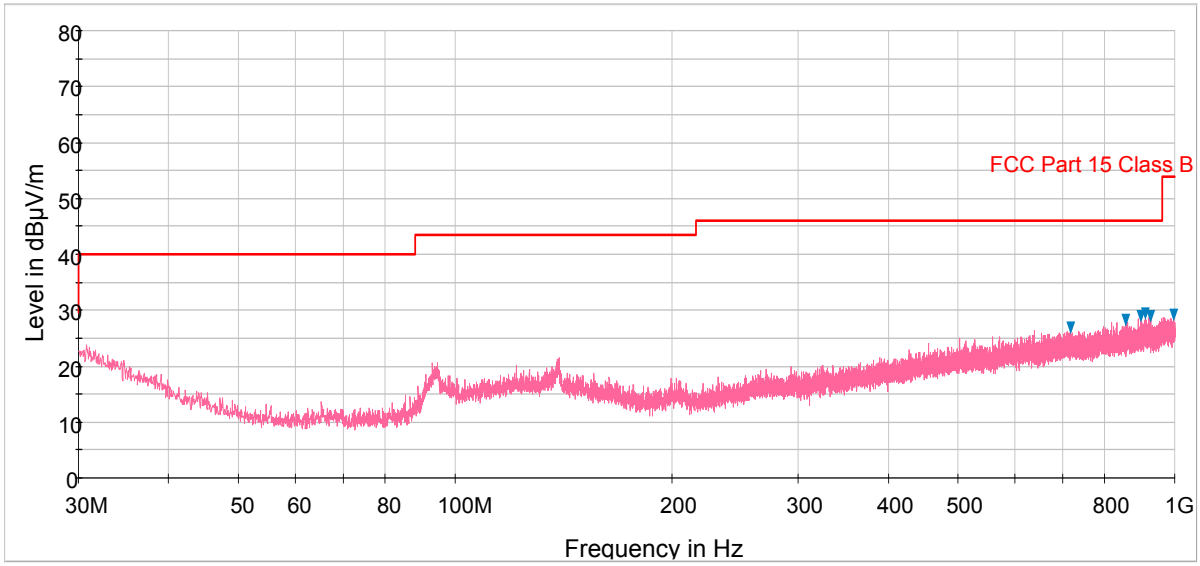
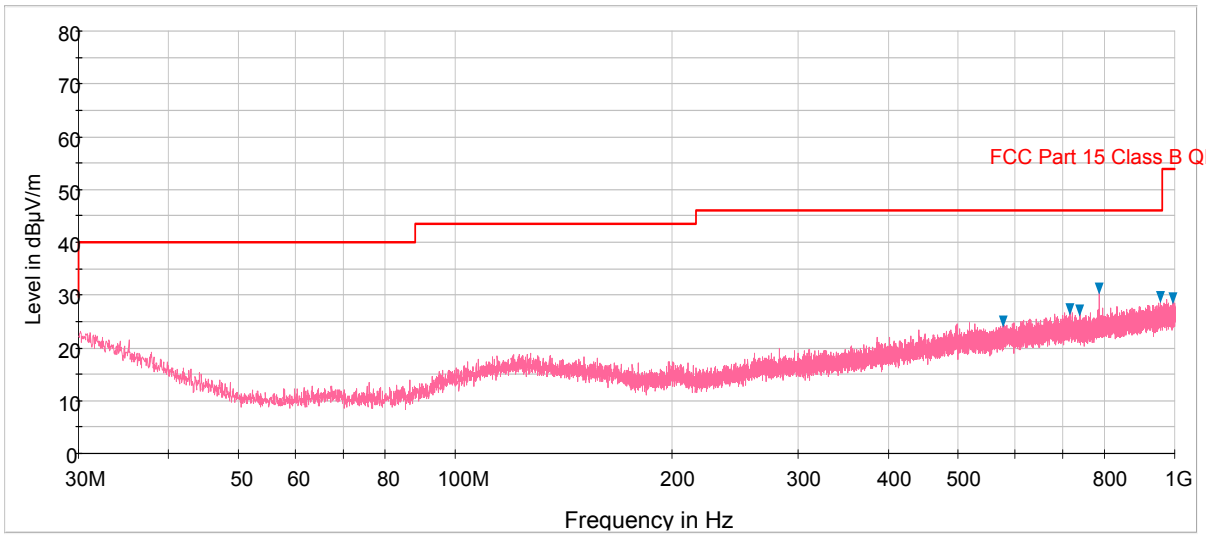
Antenna-1 Radiated Spurious Emissions Measurements (Below 1GHz)

§15.209



Plot 6-236. Radiated Spurious Plot below 1GHz (802.11a – U3 Ch. 157, Ant. Pol. H)



Plot 6-237. Radiated Spurious Plot below 1GHz (802.11a – U3 Ch. 157, Ant. Pol. V)

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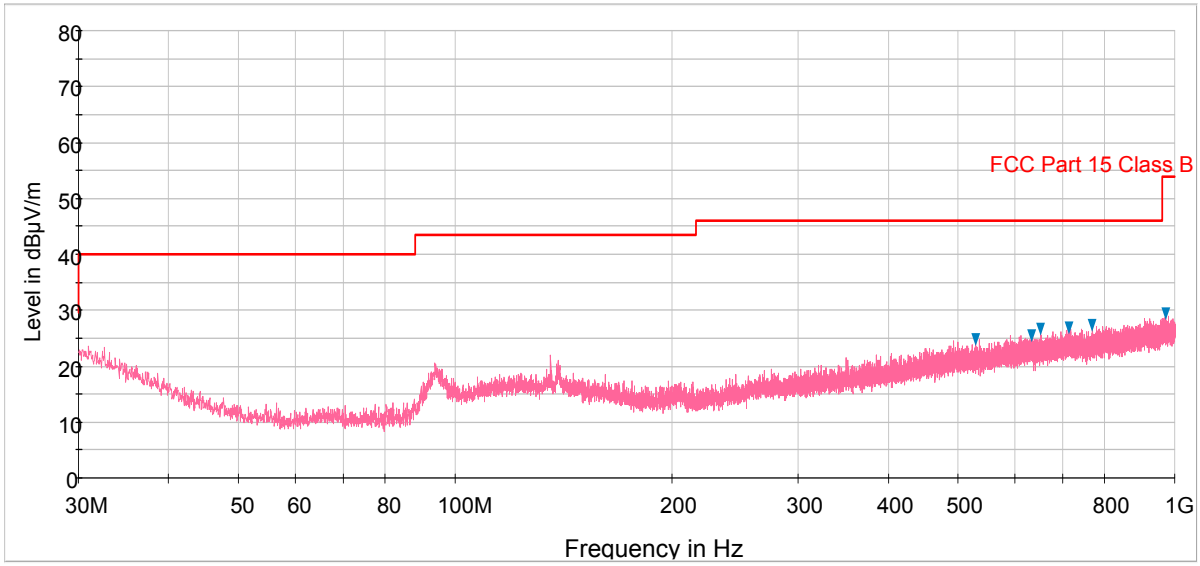
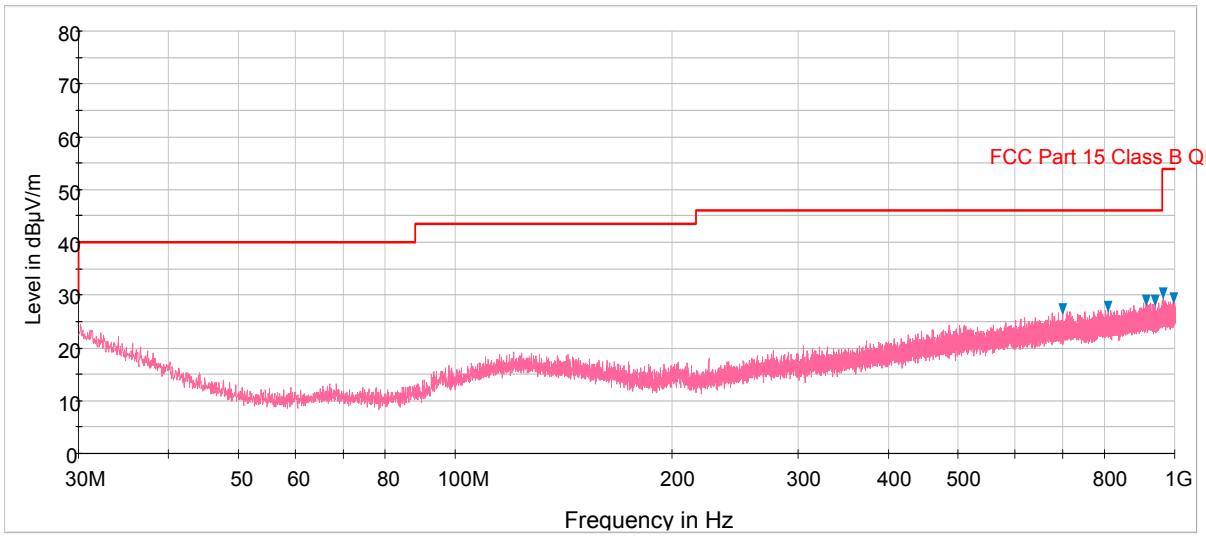
Antenna-2 Radiated Spurious Emissions Measurements (Below 1GHz)

§15.209



Plot 6-238. Radiated Spurious Plot below 1GHz (802.11a – U3 Ch. 157, Ant. Pol. H)



Plot 6-239. Radiated Spurious Plot below 1GHz (802.11a – U3 Ch. 157, Ant. Pol. V)

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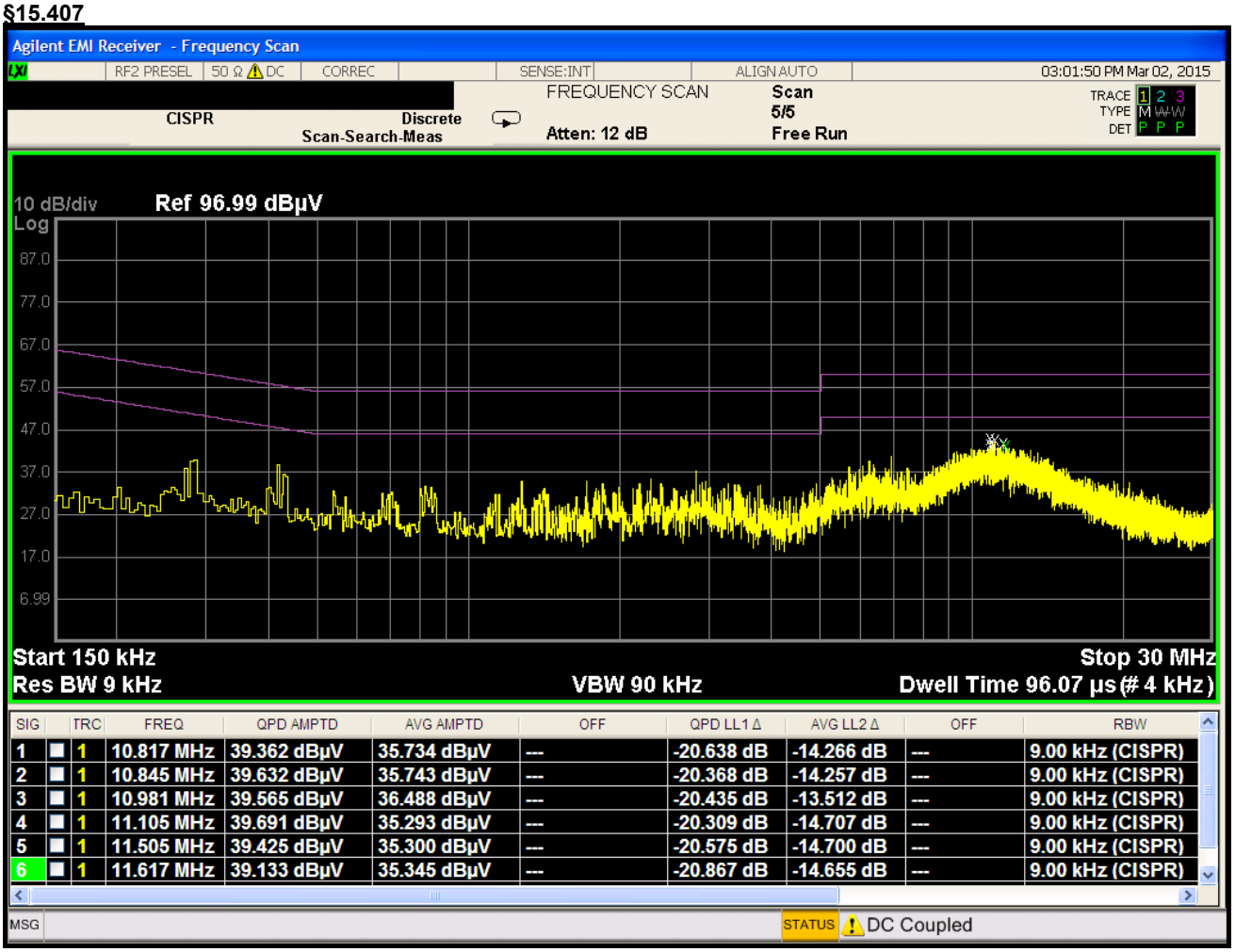
6.9 Line-Conducted Test Data

§15.407



SIG	TRC	FREQ	QPD AMPTD	AVG AMPTD	OFF	QPD LL1 Δ	AVG LL2 Δ	OFF	RBW
1	1	10.817 MHz	39.362 dBµV	35.734 dBµV	---	-20.638 dB	-14.266 dB	---	9.00 kHz (CISPR)
2	1	10.845 MHz	39.632 dBµV	35.743 dBµV	---	-20.368 dB	-14.257 dB	---	9.00 kHz (CISPR)
3	1	10.981 MHz	39.565 dBµV	36.488 dBµV	---	-20.435 dB	-13.512 dB	---	9.00 kHz (CISPR)
4	1	11.105 MHz	39.691 dBµV	35.293 dBµV	---	-20.309 dB	-14.707 dB	---	9.00 kHz (CISPR)
5	1	11.505 MHz	39.425 dBµV	35.300 dBµV	---	-20.575 dB	-14.700 dB	---	9.00 kHz (CISPR)
6	1	11.617 MHz	39.133 dBµV	35.345 dBµV	---	-20.867 dB	-14.655 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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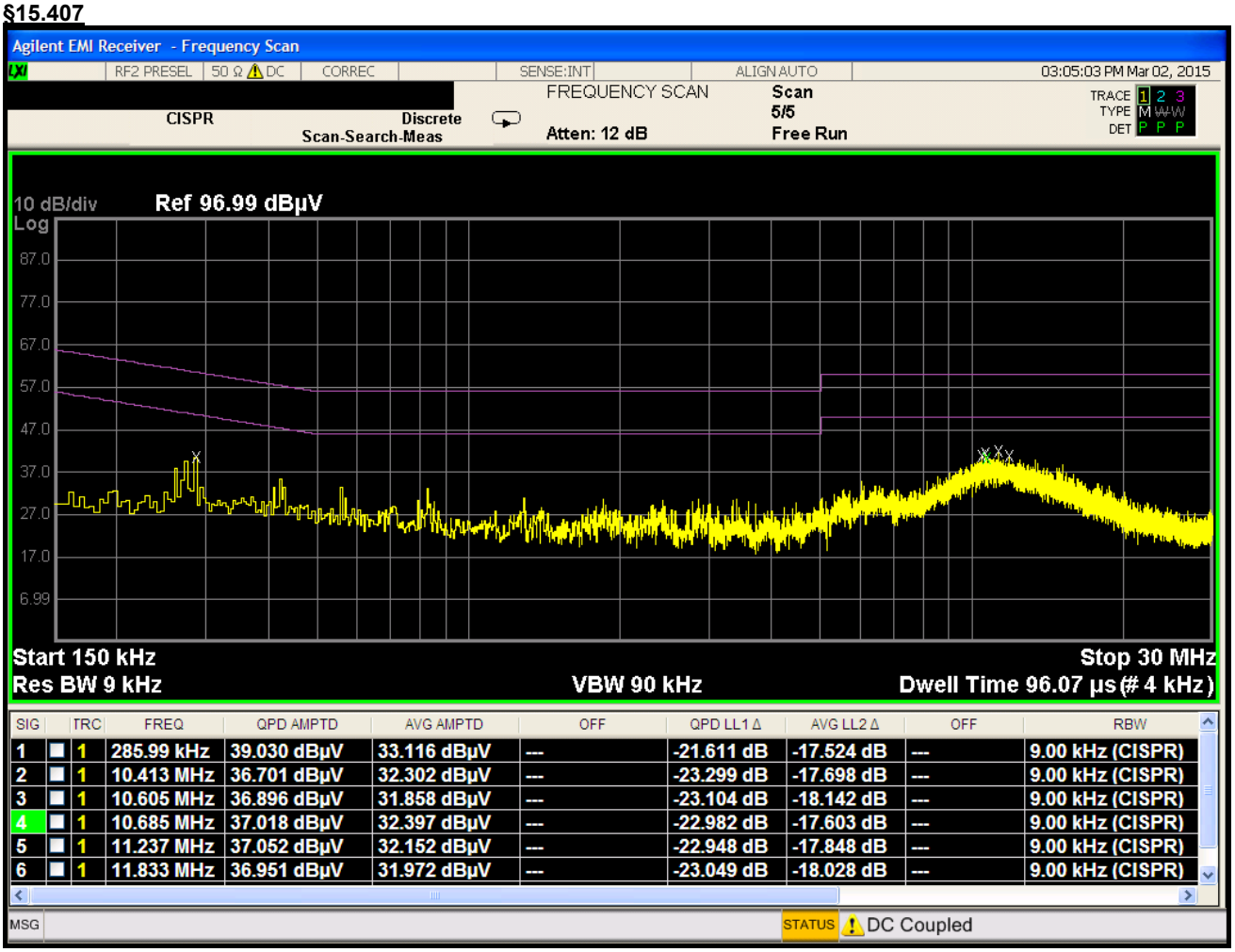
Line-Conducted Test Data

§15.407



SIG	TRC	FREQ	QPD AMPTD	AVG AMPTD	OFF	QPD LL1 Δ	AVG LL2 Δ	OFF	RBW
1	1	285.99 kHz	39.030 dBµV	33.116 dBµV	---	-21.611 dB	-17.524 dB	---	9.00 kHz (CISPR)
2	1	10.413 MHz	36.701 dBµV	32.302 dBµV	---	-23.299 dB	-17.698 dB	---	9.00 kHz (CISPR)
3	1	10.605 MHz	36.896 dBµV	31.858 dBµV	---	-23.104 dB	-18.142 dB	---	9.00 kHz (CISPR)
4	1	10.685 MHz	37.018 dBµV	32.397 dBµV	---	-22.982 dB	-17.603 dB	---	9.00 kHz (CISPR)
5	1	11.237 MHz	37.052 dBµV	32.152 dBµV	---	-22.948 dB	-17.848 dB	---	9.00 kHz (CISPR)
6	1	11.833 MHz	36.951 dBµV	31.972 dBµV	---	-23.049 dB	-18.028 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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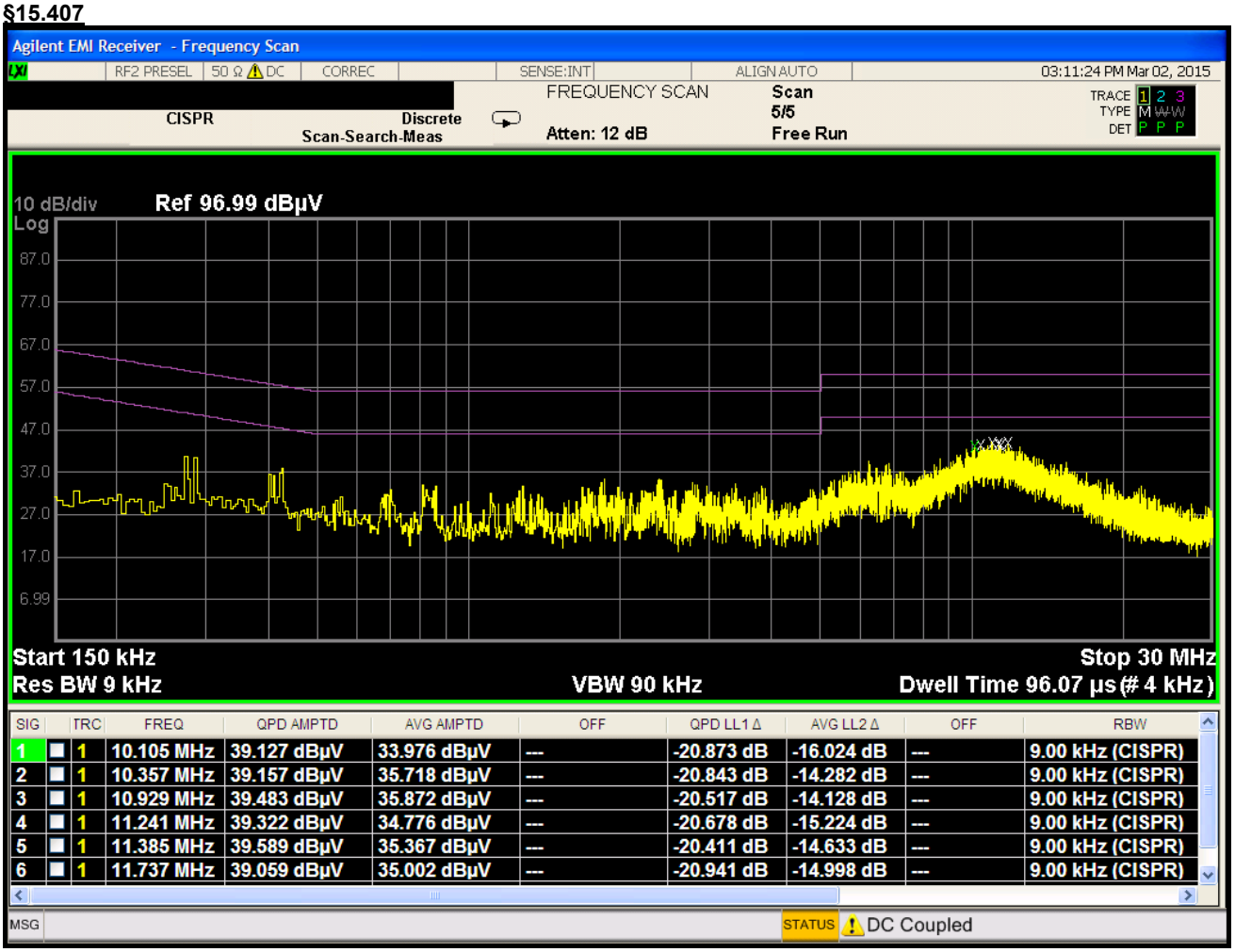
Line-Conducted Test Data

§15.407



SIG	TRC	FREQ	QPD AMPTD	AVG AMPTD	OFF	QPD LL1 Δ	AVG LL2 Δ	OFF	RBW
1	1	10.105 MHz	39.127 dBµV	33.976 dBµV	---	-20.873 dB	-16.024 dB	---	9.00 kHz (CISPR)
2	1	10.357 MHz	39.157 dBµV	35.718 dBµV	---	-20.843 dB	-14.282 dB	---	9.00 kHz (CISPR)
3	1	10.929 MHz	39.483 dBµV	35.872 dBµV	---	-20.517 dB	-14.128 dB	---	9.00 kHz (CISPR)
4	1	11.241 MHz	39.322 dBµV	34.776 dBµV	---	-20.678 dB	-15.224 dB	---	9.00 kHz (CISPR)
5	1	11.385 MHz	39.589 dBµV	35.367 dBµV	---	-20.411 dB	-14.633 dB	---	9.00 kHz (CISPR)
6	1	11.737 MHz	39.059 dBµV	35.002 dBµV	---	-20.941 dB	-14.998 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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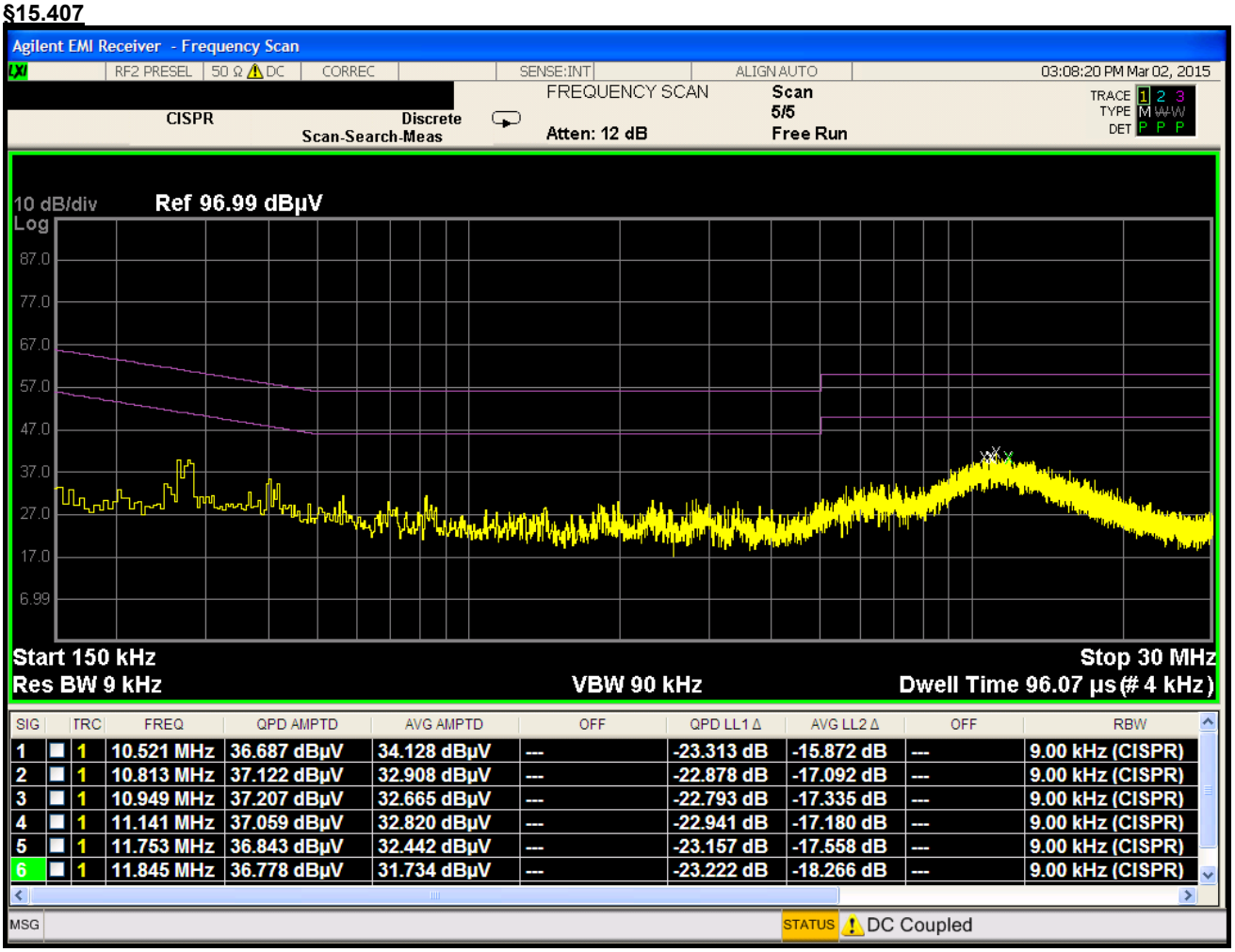
Line-Conducted Test Data

§15.407



SIG	TRC	FREQ	QPD AMPTD	AVG AMPTD	OFF	QPD LL1 Δ	AVG LL2 Δ	OFF	RBW
1	1	10.521 MHz	36.687 dBµV	34.128 dBµV	---	-23.313 dB	-15.872 dB	---	9.00 kHz (CISPR)
2	1	10.813 MHz	37.122 dBµV	32.908 dBµV	---	-22.878 dB	-17.092 dB	---	9.00 kHz (CISPR)
3	1	10.949 MHz	37.207 dBµV	32.665 dBµV	---	-22.793 dB	-17.335 dB	---	9.00 kHz (CISPR)
4	1	11.141 MHz	37.059 dBµV	32.820 dBµV	---	-22.941 dB	-17.180 dB	---	9.00 kHz (CISPR)
5	1	11.753 MHz	36.843 dBµV	32.442 dBµV	---	-23.157 dB	-17.558 dB	---	9.00 kHz (CISPR)
6	1	11.845 MHz	36.778 dBµV	31.734 dBµV	---	-23.222 dB	-18.266 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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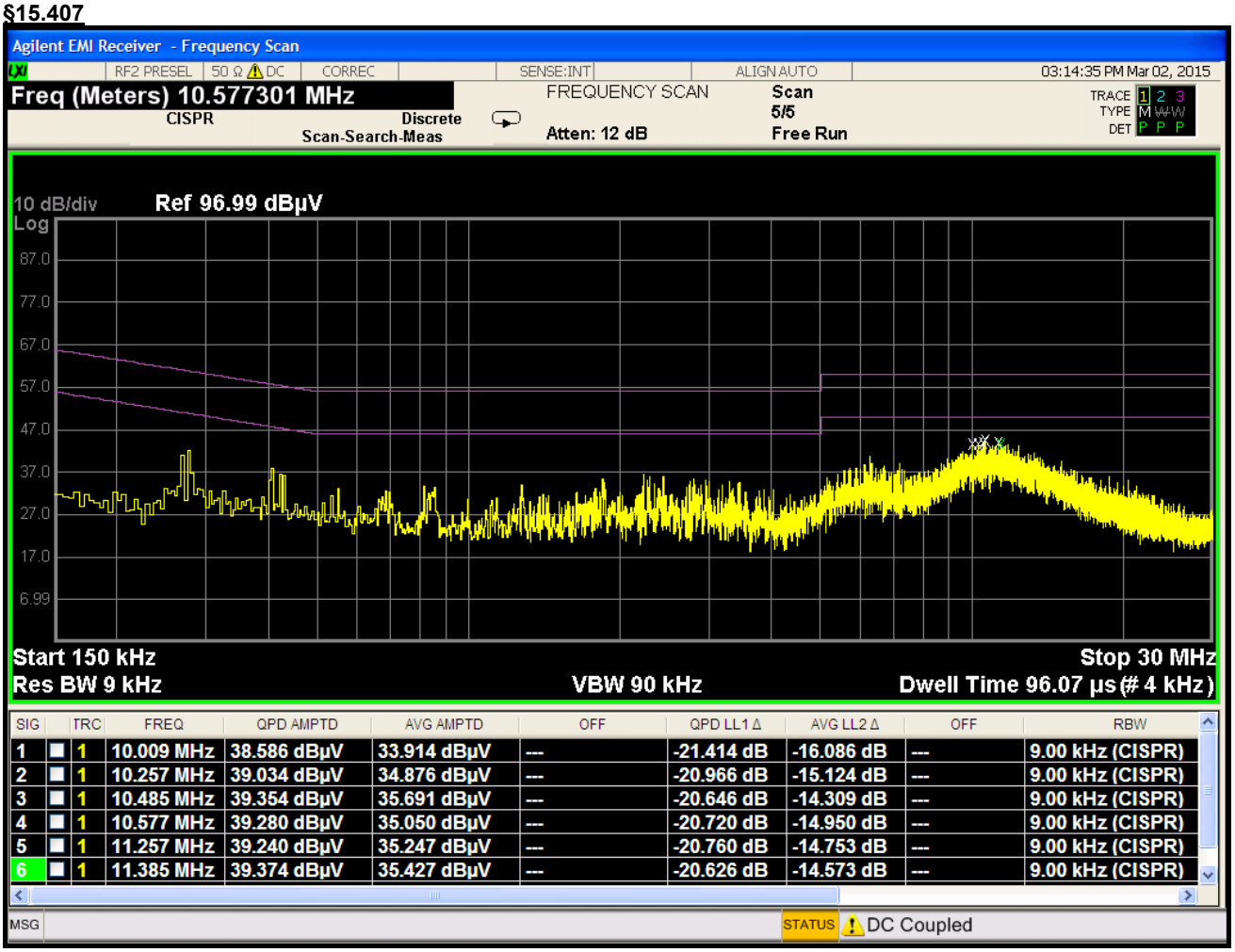

SIG	TRC	FREQ	QPD AMPTD	AVG AMPTD	OFF	QPD LL1 Δ	AVG LL2 Δ	OFF	RBW
1	1	10.009 MHz	38.586 dBµV	33.914 dBµV	---	-21.414 dB	-16.086 dB	---	9.00 kHz (CISPR)
2	1	10.257 MHz	39.034 dBµV	34.876 dBµV	---	-20.966 dB	-15.124 dB	---	9.00 kHz (CISPR)
3	1	10.485 MHz	39.354 dBµV	35.691 dBµV	---	-20.646 dB	-14.309 dB	---	9.00 kHz (CISPR)
4	1	10.577 MHz	39.280 dBµV	35.050 dBµV	---	-20.720 dB	-14.950 dB	---	9.00 kHz (CISPR)
5	1	11.257 MHz	39.240 dBµV	35.247 dBµV	---	-20.760 dB	-14.753 dB	---	9.00 kHz (CISPR)
6	1	11.385 MHz	39.374 dBµV	35.427 dBµV	---	-20.626 dB	-14.573 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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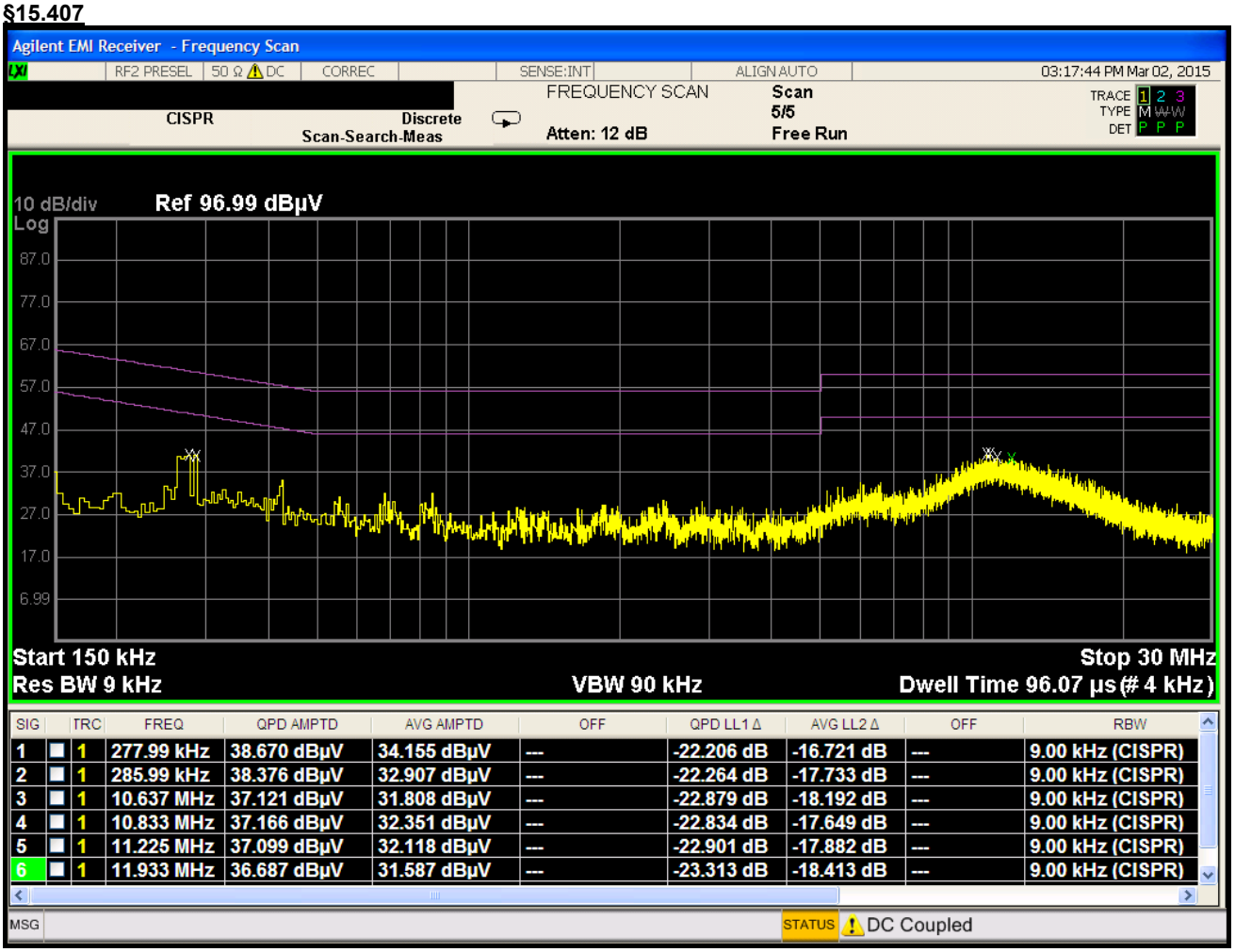
Line-Conducted Test Data

§15.407



SIG	TRC	FREQ	QPD AMPTD	AVG AMPTD	OFF	QPD LL1 Δ	AVG LL2 Δ	OFF	RBW
1	1	277.99 kHz	38.670 dBµV	34.155 dBµV	---	-22.206 dB	-16.721 dB	---	9.00 kHz (CISPR)
2	1	285.99 kHz	38.376 dBµV	32.907 dBµV	---	-22.264 dB	-17.733 dB	---	9.00 kHz (CISPR)
3	1	10.637 MHz	37.121 dBµV	31.808 dBµV	---	-22.879 dB	-18.192 dB	---	9.00 kHz (CISPR)
4	1	10.833 MHz	37.166 dBµV	32.351 dBµV	---	-22.834 dB	-17.649 dB	---	9.00 kHz (CISPR)
5	1	11.225 MHz	37.099 dBµV	32.118 dBµV	---	-22.901 dB	-17.882 dB	---	9.00 kHz (CISPR)
6	1	11.933 MHz	36.687 dBµV	31.587 dBµV	---	-23.313 dB	-18.413 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

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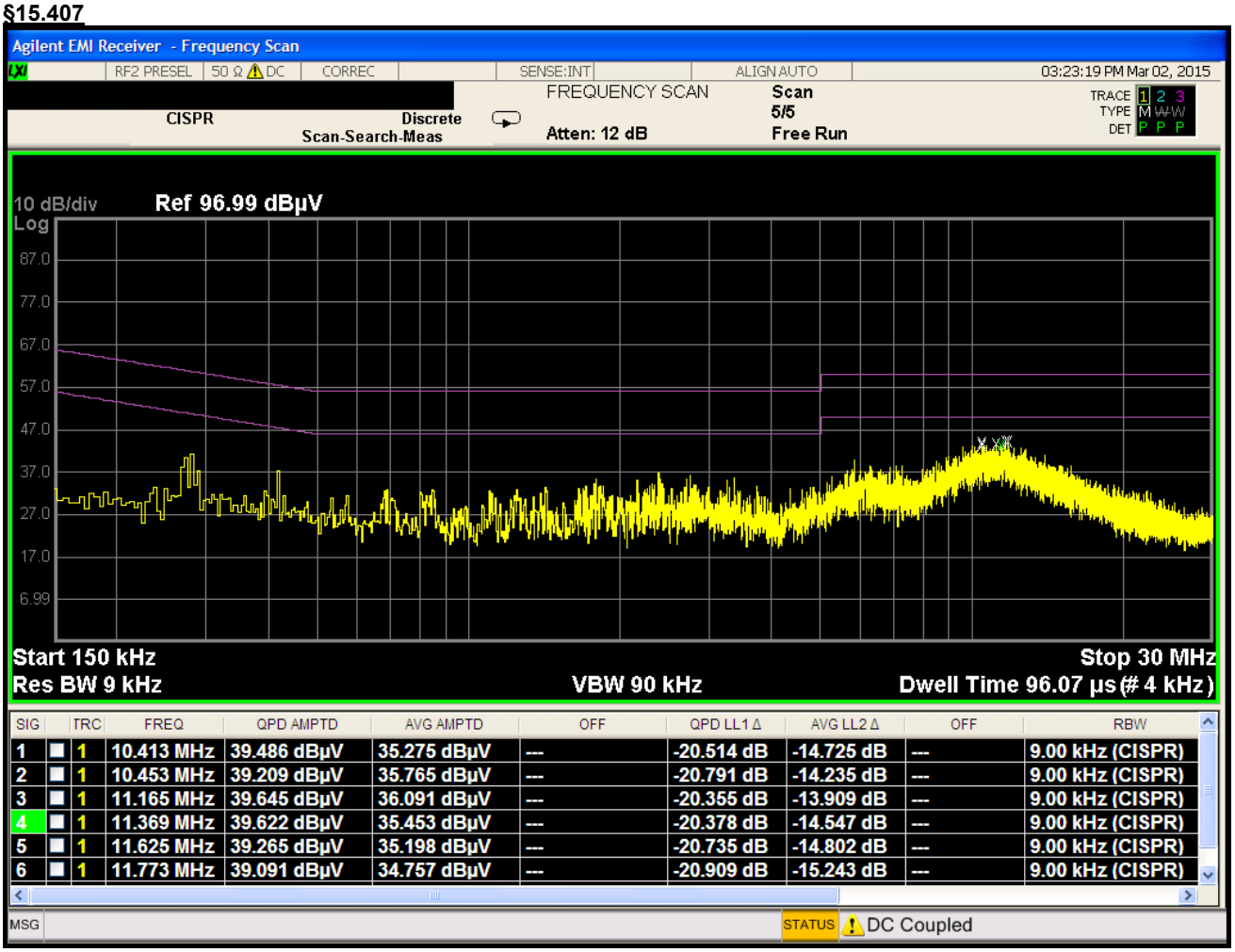

SIG	TRC	FREQ	QPD AMPTD	AVG AMPTD	OFF	QPD LL1 Δ	AVG LL2 Δ	OFF	RBW
1	1	10.413 MHz	39.486 dBµV	35.275 dBµV	---	-20.514 dB	-14.725 dB	---	9.00 kHz (CISPR)
2	1	10.453 MHz	39.209 dBµV	35.765 dBµV	---	-20.791 dB	-14.235 dB	---	9.00 kHz (CISPR)
3	1	11.165 MHz	39.645 dBµV	36.091 dBµV	---	-20.355 dB	-13.909 dB	---	9.00 kHz (CISPR)
4	1	11.369 MHz	39.622 dBµV	35.453 dBµV	---	-20.378 dB	-14.547 dB	---	9.00 kHz (CISPR)
5	1	11.625 MHz	39.265 dBµV	35.198 dBµV	---	-20.735 dB	-14.802 dB	---	9.00 kHz (CISPR)
6	1	11.773 MHz	39.091 dBµV	34.757 dBµV	---	-20.909 dB	-15.243 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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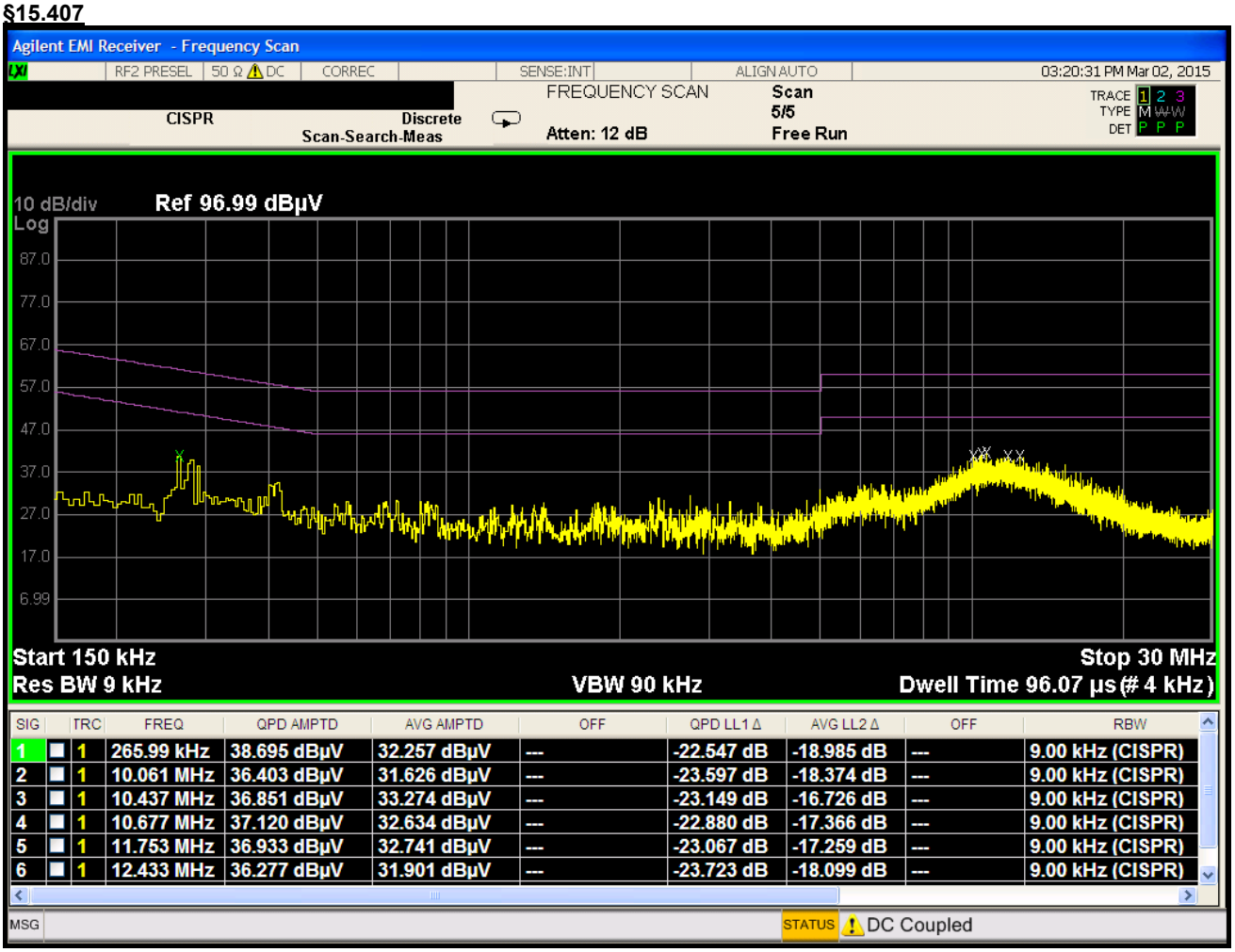
Line-Conducted Test Data

§15.407



SIG	TRC	FREQ	QPD AMPTD	AVG AMPTD	OFF	QPD LL1 Δ	AVG LL2 Δ	OFF	RBW
1	1	265.99 kHz	38.695 dBµV	32.257 dBµV	---	-22.547 dB	-18.985 dB	---	9.00 kHz (CISPR)
2	1	10.061 MHz	36.403 dBµV	31.626 dBµV	---	-23.597 dB	-18.374 dB	---	9.00 kHz (CISPR)
3	1	10.437 MHz	36.851 dBµV	33.274 dBµV	---	-23.149 dB	-16.726 dB	---	9.00 kHz (CISPR)
4	1	10.677 MHz	37.120 dBµV	32.634 dBµV	---	-22.880 dB	-17.366 dB	---	9.00 kHz (CISPR)
5	1	11.753 MHz	36.933 dBµV	32.741 dBµV	---	-23.067 dB	-17.259 dB	---	9.00 kHz (CISPR)
6	1	12.433 MHz	36.277 dBµV	31.901 dBµV	---	-23.723 dB	-18.099 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: A3LSC05G** is in compliance with Part 15E of the FCC Rules.

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