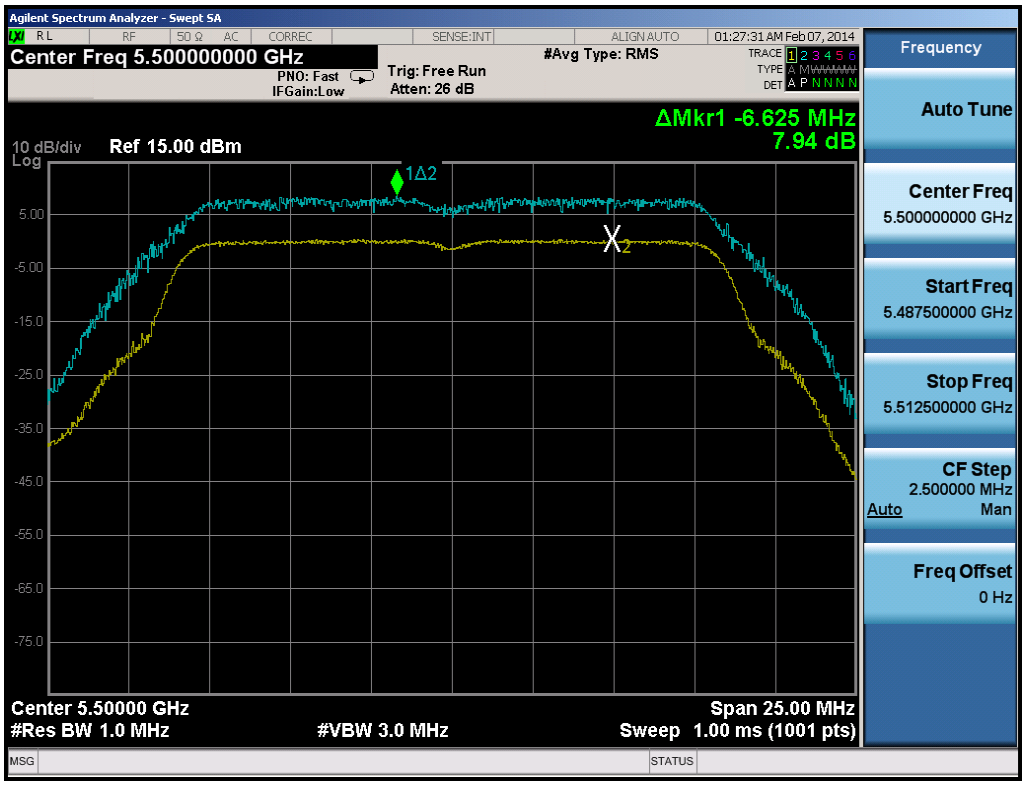
Antenna 2 Peak Excursion Ratio

Frequency [MHz]	Channel No.	802.11 Mode	Data Rate [Mbps]	Measured Peak Excursion Ratio [dBm]	Max Permissible Peak Excursion Ratio [dBm/MHz]	Margin [dB]
5500	100	a	6	7.94	13.0	-5.06
5240	48	n (20MHz)	6.5/7.2 (MCS0)	8.83	13.0	-4.17
5190	38	n (40MHz)	13.5/15 (MCS0)	8.93	13.0	-4.07
5210	42	ac (80MHz)	29.3/32.5 (MCS0)	8.35	13.0	-4.65

Table 6-28. Conducted Peak Excursion Ratio Measurements



Plot 6-130. Peak Excursion Ratio Plot (802.11a)

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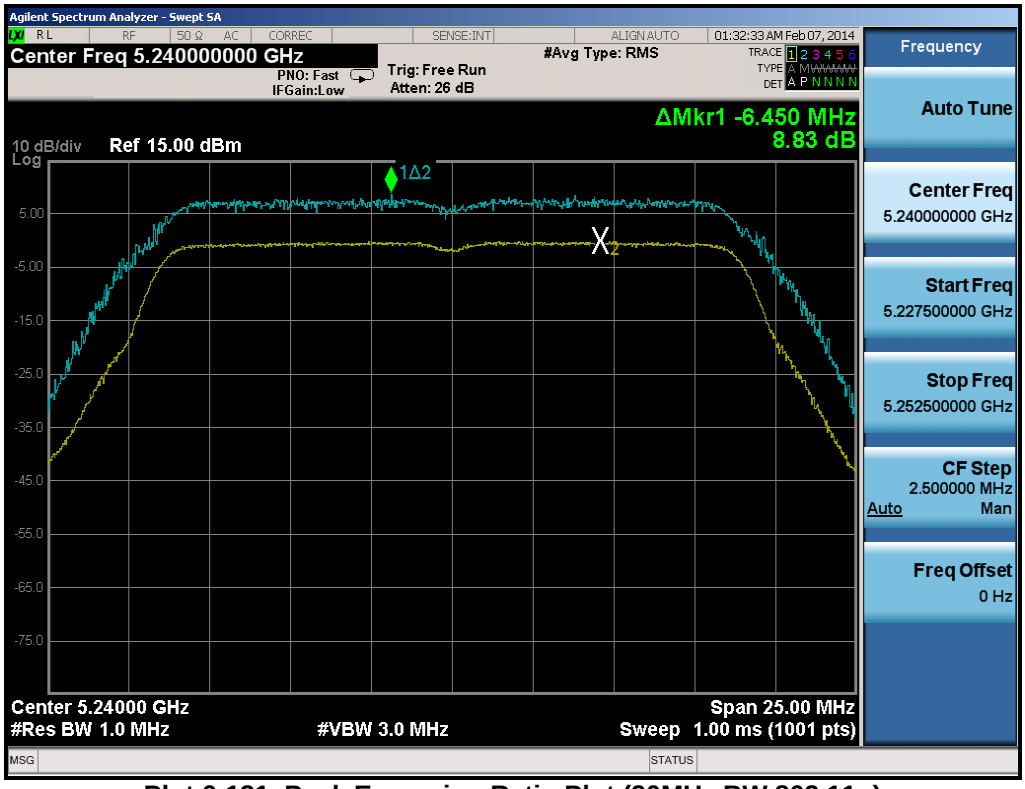
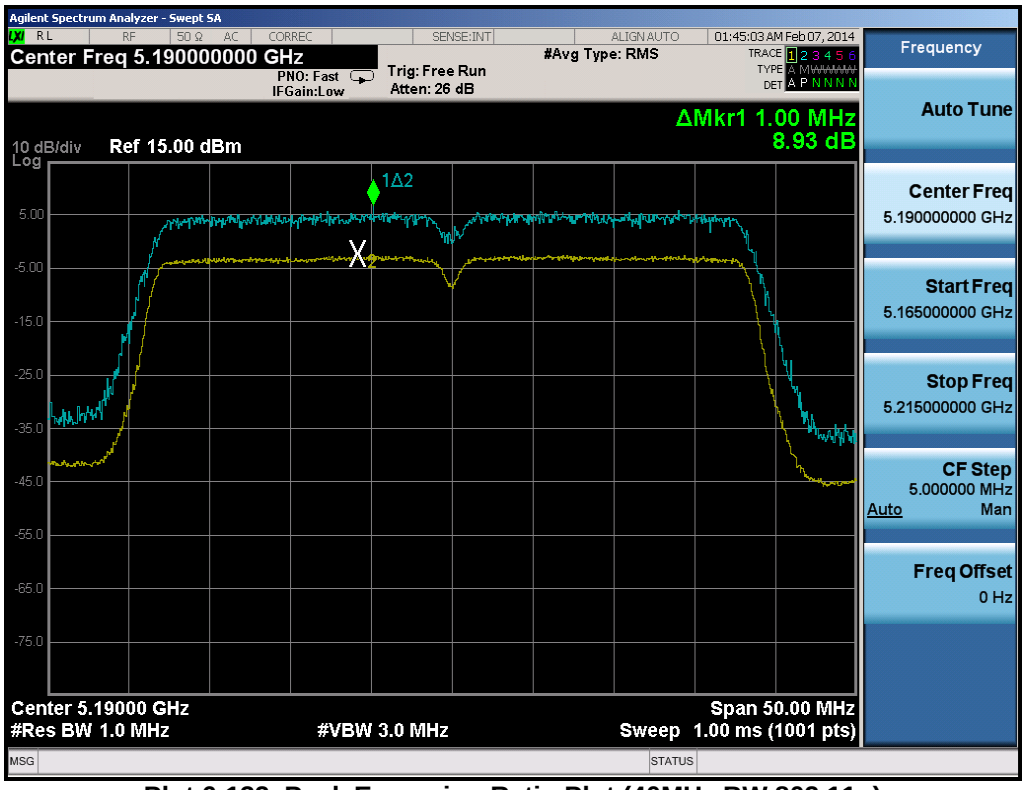


Plot 6-131. Peak Excursion Ratio Plot (20MHz BW 802.11n)



Plot 6-132. Peak Excursion Ratio Plot (40MHz BW 802.11n)

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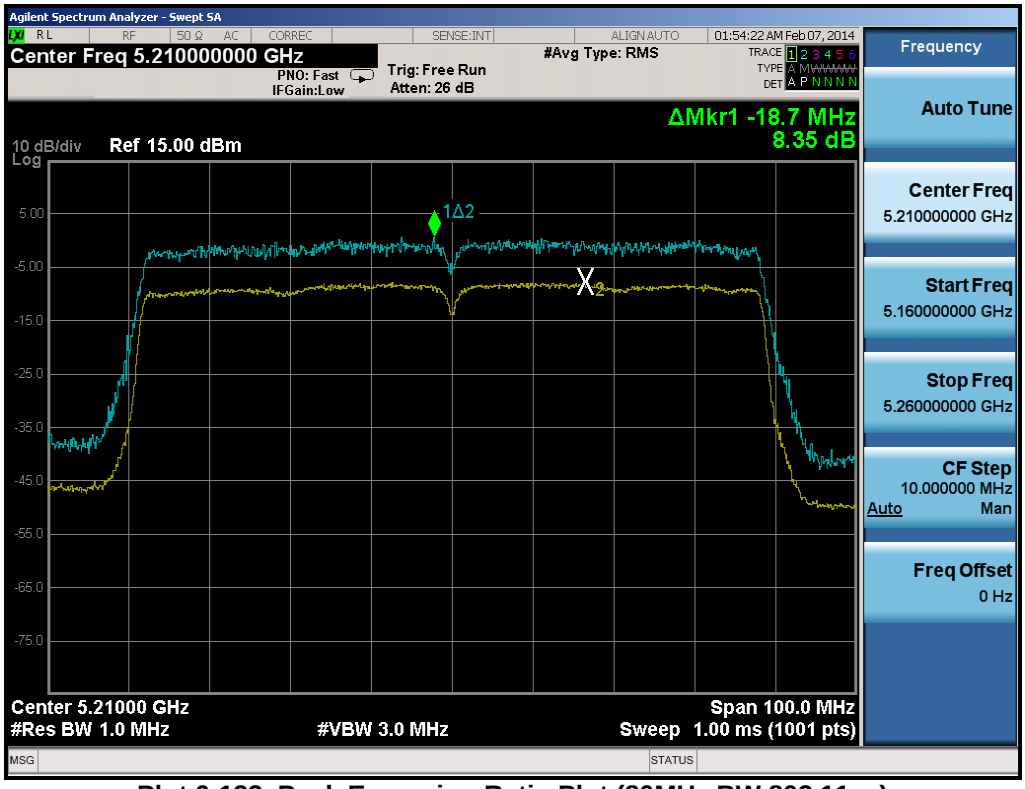

Plot 6-133. Peak Excursion Ratio Plot (80MHz BW 802.11ac)

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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: 3.8 VDC

VOLTAGE (%)	POWER (VDC)	TEMP (°C)	FREQUENCY (Hz)	Freq. Dev. (Hz)	Deviation (%)
100 %	3.80	+ 20 (Ref)	5,179,999,983	-17	-0.00000033
100 %		- 30	5,180,000,003	3	0.00000006
100 %		- 20	5,179,999,991	-9	-0.00000017
100 %		- 10	5,180,000,010	10	0.00000019
100 %		0	5,179,999,994	-6	-0.00000012
100 %		+ 10	5,180,000,008	8	0.00000015
100 %		+ 20	5,179,999,999	-1	-0.00000002
100 %		+ 30	5,180,000,019	19	0.00000037
100 %		+ 40	5,179,999,996	-4	-0.00000008
100 %		+ 50	5,179,999,985	-15	-0.00000029
115 %	4.37	+ 20	5,179,999,985	-15	-0.00000029
BATT. ENDPOINT	3.40	+ 20	5,179,999,993	-7	-0.00000014

Table 6-29. 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 (Cont'd)
§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: 3.8 VDC

VOLTAGE (%)	POWER (VDC)	TEMP (°C)	FREQUENCY (Hz)	Freq. Dev. (Hz)	Deviation (%)
100 %	3.80	+ 20 (Ref)	5,260,000,008	8	0.00000015
100 %		- 30	5,259,999,984	-16	-0.00000030
100 %		- 20	5,259,999,981	-19	-0.00000036
100 %		- 10	5,260,000,018	18	0.00000034
100 %		0	5,259,999,988	-12	-0.00000023
100 %		+ 10	5,259,999,986	-14	-0.00000027
100 %		+ 20	5,259,999,985	-15	-0.00000029
100 %		+ 30	5,259,999,995	-5	-0.00000010
100 %		+ 40	5,260,000,001	1	0.00000002
100 %		+ 50	5,259,999,986	-14	-0.00000027
115 %	4.37	+ 20	5,260,000,014	14	0.00000027
BATT. ENDPOINT	3.40	+ 20	5,259,999,989	-11	-0.00000021

Table 6-30. 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 (Cont'd)
§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: 3.8 VDC

VOLTAGE (%)	POWER (VDC)	TEMP (°C)	FREQUENCY (Hz)	Freq. Dev. (Hz)	Deviation (%)
100 %	3.80	+ 20 (Ref)	5,500,000,003	3	0.00000005
100 %		- 30	5,499,999,990	-10	-0.00000018
100 %		- 20	5,500,000,000	0	0.00000000
100 %		- 10	5,500,000,005	5	0.00000009
100 %		0	5,499,999,998	-2	-0.00000004
100 %		+ 10	5,500,000,011	11	0.00000020
100 %		+ 20	5,499,999,989	-11	-0.00000020
100 %		+ 30	5,499,999,983	-17	-0.00000031
100 %		+ 40	5,500,000,019	19	0.00000035
100 %		+ 50	5,499,999,980	-20	-0.00000036
115 %	4.37	+ 20	5,499,999,985	-15	-0.00000027
BATT. ENDPOINT	3.40	+ 20	5,499,999,998	-2	-0.00000004

Table 6-31. 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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6.7 Radiated Spurious Emission Measurements

§15.407(b)(1), (6), §15.205, §15.209; RSS-210 [A9.2]

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 (>98%), at its maximum power control level, as defined in KDB 789033 v01r03, and at the appropriate frequencies. All channels, modes (e.g. 802.11a, 802.11n (20MHz BW), 802.11n (40MHz BW), and 802.11ac (80MHz BW)), and modulations/data rates were investigated among all UNII bands. Only the radiated emissions of the configuration that produced the worst case emissions are reported in this section.

All out of band emissions appearing in a restricted band as specified in Section 15.205 of the Title 47 CFR must not exceed the limits shown in Table 6-32 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 6-32. Radiated Limits

Test Procedures Used

KDB 789033 v01r03 – Section H

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

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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

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.

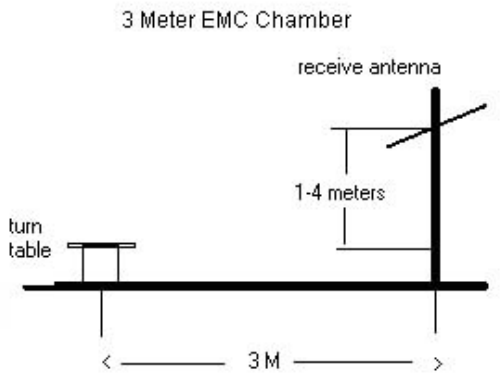

Figure 6-5. Test Instrument & Measurement Setup

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Test Notes

1. All radiated spurious emissions levels were measured in a radiated test setup per the guidance of KDB 789033 v01r03 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 6-32.
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. The NFC antenna is integrated into the standard battery and is the only battery available from the manufacturer for this device. All spurious emissions were investigated and the worst case emissions were found with the EUT powered by this battery.
6. The spectrum is measured from 9kHz to the 10th harmonic of the fundamental frequency of the transmitter using CISPR quasi peak detector below 1GHz. Above 1 GHz, average and peak 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. Average levels at -135dBm and peak levels at -125dBm represent the analyzer noise floor and signify that no emission was detected.
9. Radiated spurious emissions were investigated while operating in MIMO mode and were found to be insignificant.

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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Antenna-1 Radiated Spurious Emission Measurements

§15.407(b)(1) and (2), §15.205 & §15.209; RSS-210 [A9.2]

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	Pol. [H/V]	AFCL [dB/m]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
10360.00	-125.00	Peak	V	46.40	28.40	68.20	-39.80
15540.00	-135.00	Average	V	51.18	23.18	53.98	-30.80
15540.00	-125.00	Peak	V	51.18	33.18	73.98	-40.80
20720.00	-135.00	Average	V	44.00	16.00	53.98	-37.98
20720.00	-125.00	Peak	V	44.00	26.00	73.98	-47.98
25900.00	-125.00	Peak	V	44.87	26.87	68.20	-41.33

Table 6-33. 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	Pol. [H/V]	AFCL [dB/m]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
10400.00	-125.00	Peak	V	46.61	28.61	68.20	-39.59
15600.00	-135.00	Average	V	51.15	23.15	53.98	-30.83
15600.00	-125.00	Peak	V	51.15	33.15	73.98	-40.83
20800.00	-135.00	Average	V	43.99	15.99	53.98	-37.99
20800.00	-125.00	Peak	V	43.99	25.99	73.98	-47.99
26000.00	-125.00	Peak	V	44.97	26.97	68.20	-41.23

Table 6-34. Radiated Measurements

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Radiated Spurious Emission Measurements (Cont'd)

§15.407(b)(1) and (2), §15.205 & §15.209; RSS-210 [A9.2]

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	Pol. [H/V]	AFCL [dB/m]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
10480.00	-125.00	Peak	V	46.61	28.61	68.20	-39.59
15720.00	-135.00	Average	V	51.36	23.36	53.98	-30.62
15720.00	-125.00	Peak	V	51.36	33.36	73.98	-40.62
20960.00	-135.00	Average	V	43.90	15.90	53.98	-38.08
20960.00	-125.00	Peak	V	43.90	25.90	73.98	-48.08
26200.00	-125.00	Peak	V	44.76	26.76	68.20	-41.44

Table 6-35. Radiated Measurements

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	Pol. [H/V]	AFCL [dB/m]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
10520.00	-125.00	Peak	V	46.67	28.67	68.20	-39.53
15780.00	-135.00	Average	V	51.47	23.47	53.98	-30.51
15780.00	-125.00	Peak	V	51.47	33.47	73.98	-40.51
21040.00	-135.00	Average	V	43.84	15.84	53.98	-38.14
21040.00	-125.00	Peak	V	43.84	25.84	73.98	-48.14
26300.00	-125.00	Peak	V	44.78	26.78	68.20	-41.42

Table 6-36. Radiated Measurements

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Radiated Spurious Emission Measurements (Cont'd)

§15.407(b)(1) and (2), §15.205 & §15.209; RSS-210 [A9.2]

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	Pol. [H/V]	AFCL [dB/m]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
10560.00	-125.00	Peak	V	46.80	28.80	68.20	-39.40
15840.00	-135.00	Average	V	51.41	23.41	53.98	-30.57
15840.00	-125.00	Peak	V	51.41	33.41	73.98	-40.57
21120.00	-135.00	Average	V	43.74	15.74	53.98	-38.24
21120.00	-125.00	Peak	V	43.74	25.74	73.98	-48.24
26400.00	-125.00	Peak	V	44.72	26.72	68.20	-41.48

Table 6-37. 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	Pol. [H/V]	AFCL [dB/m]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
10640.00	-135.00	Average	V	46.91	18.91	53.98	-35.07
10640.00	-125.00	Peak	V	46.91	28.91	73.98	-45.07
15960.00	-135.00	Average	V	51.56	23.56	53.98	-30.42
15960.00	-125.00	Peak	V	51.56	33.56	73.98	-40.42
21280.00	-135.00	Average	V	43.64	15.64	53.98	-38.34
21280.00	-125.00	Peak	V	43.64	25.64	73.98	-48.34
26600.00	-125.00	Peak	V	47.28	29.28	68.20	-38.92

Table 6-38. Radiated Measurements

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Radiated Spurious Emission Measurements (Cont'd)

§15.407(b)(1) and (2), §15.205 & §15.209; RSS-210 [A9.2]

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	Pol. [H/V]	AFCL [dB/m]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
11000.00	-135.00	Average	V	46.89	18.89	53.98	-35.09
11000.00	-125.00	Peak	V	46.89	28.89	73.98	-45.09
16500.00	-125.00	Peak	V	52.90	34.90	68.20	-33.30
22000.00	-125.00	Peak	V	44.65	26.65	68.20	-41.55
27500.00	-125.00	Peak	V	48.51	30.51	68.20	-37.69

Table 6-39. 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	Pol. [H/V]	AFCL [dB/m]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
11160.00	-135.00	Average	V	47.05	19.05	53.98	-34.93
11160.00	-125.00	Peak	V	47.05	29.05	73.98	-44.93
16740.00	-125.00	Peak	V	53.06	35.06	68.20	-33.14
22320.00	-135.00	Average	V	43.93	15.93	53.98	-38.05
22320.00	-125.00	Peak	V	43.93	25.93	73.98	-48.05
27900.00	-125.00	Peak	V	48.13	30.13	68.20	-38.07

Table 6-40. Radiated Measurements

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Radiated Spurious Emission Measurements (Cont'd)

§15.407(b)(1) and (2), §15.205 & §15.209; RSS-210 [A9.2]

Worst Case Mode:	802.11a
Worst Case Transfer Rate:	6 Mbps
Distance of Measurements:	1 & 3 Meters
Operating Frequency:	5700MHz
Channel:	140

Frequency [MHz]	Analyzer Level [dBm]	Detector	Pol. [H/V]	AFCL [dB/m]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
11400.00	-135.00	Average	V	47.26	19.26	53.98	-34.72
11400.00	-125.00	Peak	V	47.26	29.26	73.98	-44.72
17100.00	-125.00	Peak	V	52.93	34.93	68.20	-33.27
22800.00	-135.00	Average	V	43.39	15.39	53.98	-38.59
22800.00	-125.00	Peak	V	43.39	25.39	73.98	-48.59
28500.00	-125.00	Peak	V	48.03	30.03	68.20	-38.17

Table 6-41. Radiated Measurements

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Antenna-2 Radiated Spurious Emission Measurements

§15.407(b)(1) and (2), §15.205 & §15.209; RSS-210 [A9.2]

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	Pol. [H/V]	AFCL [dB/m]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
10360.00	-125.00	Peak	H	46.40	28.40	68.20	-39.80
15540.00	-135.00	Average	H	51.18	23.18	53.98	-30.80
15540.00	-125.00	Peak	H	51.18	33.18	73.98	-40.80
20720.00	-135.00	Average	H	44.00	16.00	53.98	-37.98
20720.00	-125.00	Peak	H	44.00	26.00	73.98	-47.98
25900.00	-125.00	Peak	H	44.87	26.87	68.20	-41.33

Table 6-42. 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	Pol. [H/V]	AFCL [dB/m]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
10400.00	-125.00	Peak	H	46.61	28.61	68.20	-39.59
15600.00	-135.00	Average	H	51.15	23.15	53.98	-30.83
15600.00	-125.00	Peak	H	51.15	33.15	73.98	-40.83
20800.00	-135.00	Average	H	43.99	15.99	53.98	-37.99
20800.00	-125.00	Peak	H	43.99	25.99	73.98	-47.99
26000.00	-125.00	Peak	H	44.97	26.97	68.20	-41.23

Table 6-43. Radiated Measurements

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Radiated Spurious Emission Measurements (Cont'd)

§15.407(b)(1) and (2), §15.205 & §15.209; RSS-210 [A9.2]

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	Pol. [H/V]	AFCL [dB/m]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
10480.00	-125.00	Peak	H	46.61	28.61	68.20	-39.59
15720.00	-135.00	Average	H	51.36	23.36	53.98	-30.62
15720.00	-125.00	Peak	H	51.36	33.36	73.98	-40.62
20960.00	-135.00	Average	H	43.90	15.90	53.98	-38.08
20960.00	-125.00	Peak	H	43.90	25.90	73.98	-48.08
26200.00	-125.00	Peak	H	44.76	26.76	68.20	-41.44

Table 6-44. Radiated Measurements

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	Pol. [H/V]	AFCL [dB/m]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
10520.00	-125.00	Peak	H	46.67	28.67	68.20	-39.53
15780.00	-135.00	Average	H	51.47	23.47	53.98	-30.51
15780.00	-125.00	Peak	H	51.47	33.47	73.98	-40.51
21040.00	-135.00	Average	H	43.84	15.84	53.98	-38.14
21040.00	-125.00	Peak	H	43.84	25.84	73.98	-48.14
26300.00	-125.00	Peak	H	44.78	26.78	68.20	-41.42

Table 6-45. Radiated Measurements

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Radiated Spurious Emission Measurements (Cont'd)

§15.407(b)(1) and (2), §15.205 & §15.209; RSS-210 [A9.2]

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	Pol. [H/V]	AFCL [dB/m]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
10560.00	-125.00	Peak	H	46.80	28.80	68.20	-39.40
15840.00	-135.00	Average	H	51.41	23.41	53.98	-30.57
15840.00	-125.00	Peak	H	51.41	33.41	73.98	-40.57
21120.00	-135.00	Average	H	43.74	15.74	53.98	-38.24
21120.00	-125.00	Peak	H	43.74	25.74	73.98	-48.24
26400.00	-125.00	Peak	H	44.72	26.72	68.20	-41.48

Table 6-46. 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	Pol. [H/V]	AFCL [dB/m]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
10640.00	-135.00	Average	H	46.91	18.91	53.98	-35.07
10640.00	-125.00	Peak	H	46.91	28.91	73.98	-45.07
15960.00	-135.00	Average	H	51.56	23.56	53.98	-30.42
15960.00	-125.00	Peak	H	51.56	33.56	73.98	-40.42
21280.00	-135.00	Average	H	43.64	15.64	53.98	-38.34
21280.00	-125.00	Peak	H	43.64	25.64	73.98	-48.34
26600.00	-125.00	Peak	H	47.28	29.28	68.20	-38.92

Table 6-47. Radiated Measurements

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Radiated Spurious Emission Measurements (Cont'd)

§15.407(b)(1) and (2), §15.205 & §15.209; RSS-210 [A9.2]

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	Pol. [H/V]	AFCL [dB/m]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
11000.00	-135.00	Average	H	46.89	18.89	53.98	-35.09
11000.00	-125.00	Peak	H	46.89	28.89	73.98	-45.09
16500.00	-125.00	Peak	H	52.90	34.90	68.20	-33.30
22000.00	-125.00	Peak	H	44.65	26.65	68.20	-41.55
27500.00	-125.00	Peak	H	48.51	30.51	68.20	-37.69

Table 6-48. 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	Pol. [H/V]	AFCL [dB/m]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
11160.00	-135.00	Average	H	47.05	19.05	53.98	-34.93
11160.00	-125.00	Peak	H	47.05	29.05	73.98	-44.93
16740.00	-125.00	Peak	H	53.06	35.06	68.20	-33.14
22320.00	-135.00	Average	H	43.93	15.93	53.98	-38.05
22320.00	-125.00	Peak	H	43.93	25.93	73.98	-48.05
27900.00	-125.00	Peak	H	48.13	30.13	68.20	-38.07

Table 6-49. Radiated Measurements

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Radiated Spurious Emission Measurements (Cont'd)

§15.407(b)(1) and (2), §15.205 & §15.209; RSS-210 [A9.2]

Worst Case Mode:	802.11a
Worst Case Transfer Rate:	6 Mbps
Distance of Measurements:	1 & 3 Meters
Operating Frequency:	5700MHz
Channel:	140

Frequency [MHz]	Analyzer Level [dBm]	Detector	Pol. [H/V]	AFCL [dB/m]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
11400.00	-135.00	Average	H	47.26	19.26	53.98	-34.72
11400.00	-125.00	Peak	H	47.26	29.26	73.98	-44.72
17100.00	-125.00	Peak	H	52.93	34.93	68.20	-33.27
22800.00	-135.00	Average	H	43.39	15.39	53.98	-38.59
22800.00	-125.00	Peak	H	43.39	25.39	73.98	-48.59
28500.00	-125.00	Peak	H	48.03	30.03	68.20	-38.17

Table 6-50. Radiated Measurements

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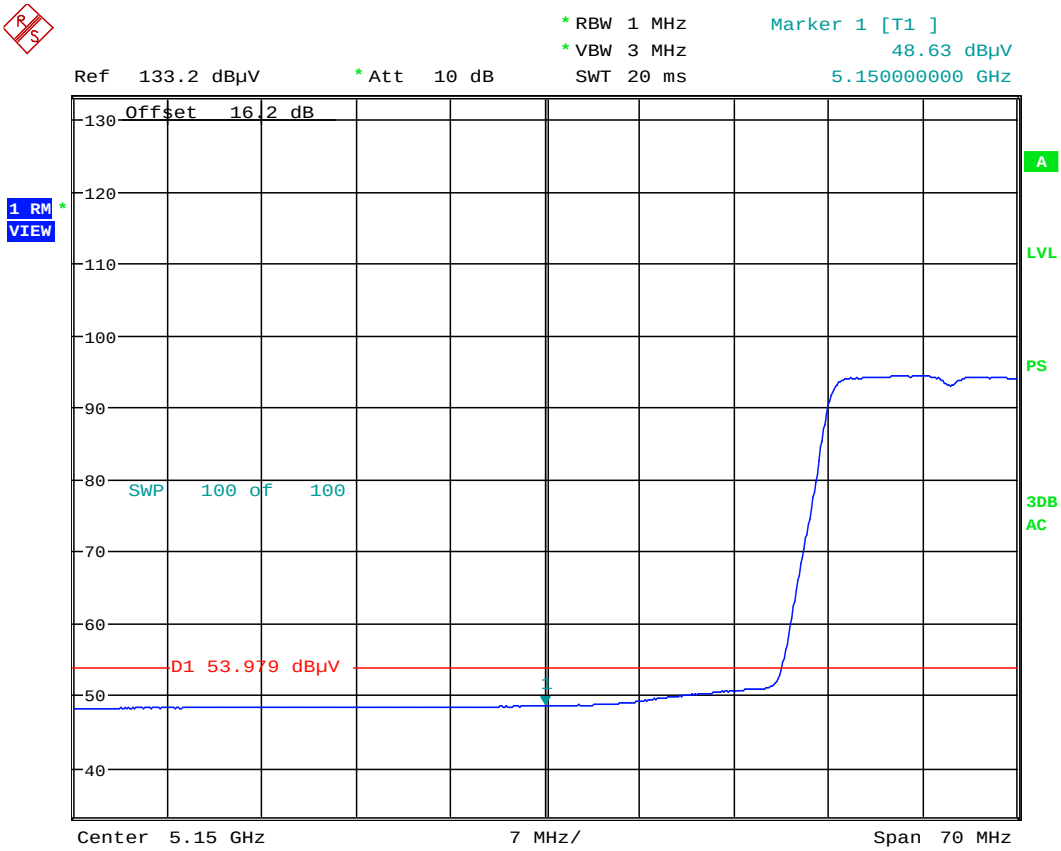
6.8 Antenna-1 Radiated Band Edge Measurements

§15.407(b)(1) and (2), §15.205 & §15.209; RSS-210 [A9.2]

Worst Case Mode:	802.11n (20MHz)
Worst Case Transfer Rate:	MCS0
Distance of Measurements:	3 Meters
Operating Frequency:	5180MHz
Channel:	36



Plot 6-134. Radiated Restricted Lower Band Edge Plot (Average – UNII Band 1)

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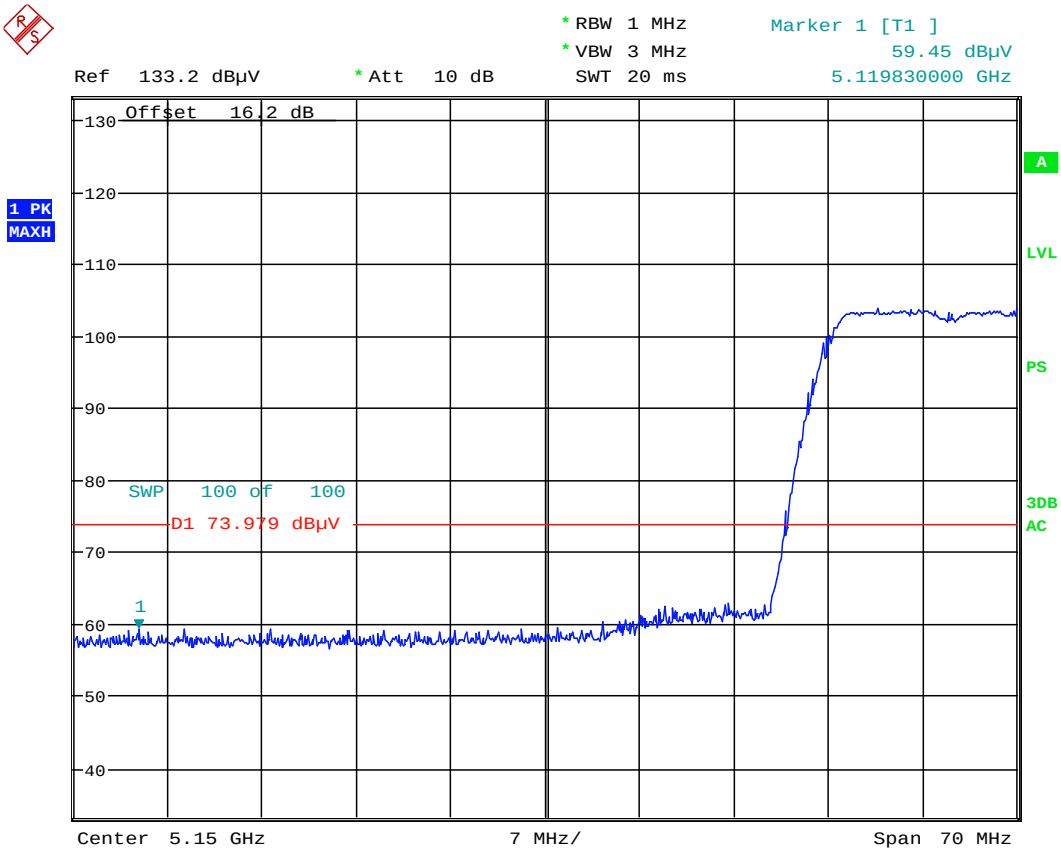
Radiated Band Edge Measurements (20MHz BW) (Cont'd)

§15.407(b)(1) and (2), §15.205 & §15.209; RSS-210 [A9.2]



Plot 6-135. Radiated Restricted Lower Band Edge Plot (Peak – UNII Band 1)

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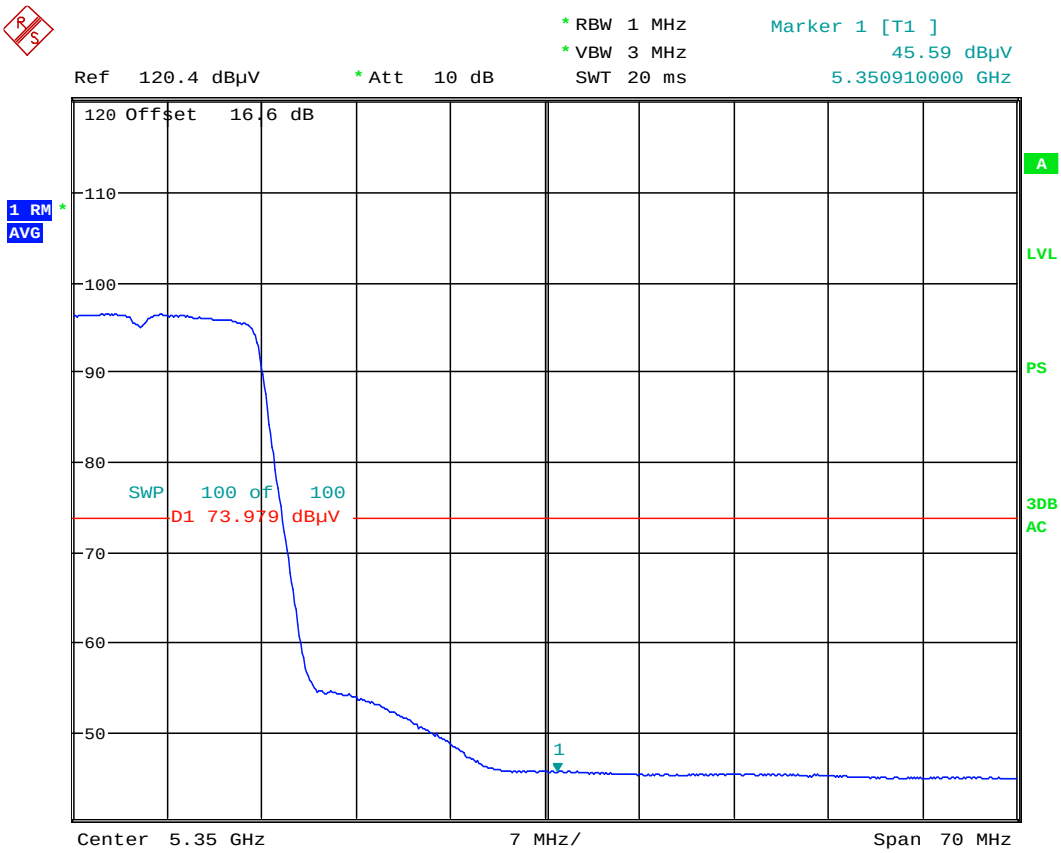
Radiated Band Edge Measurements (20MHz BW) (Cont'd)

§15.407(b)(1) and (2), §15.205 & §15.209; RSS-210 [A9.2]

Worst Case Mode:	802.11n (20MHz)
Worst Case Transfer Rate:	MCS0
Distance of Measurements:	3 Meters
Operating Frequency:	5320MHz
Channel:	64



Plot 6-136. Radiated Restricted Upper Band Edge Plot (Average – UNII Band 2A)

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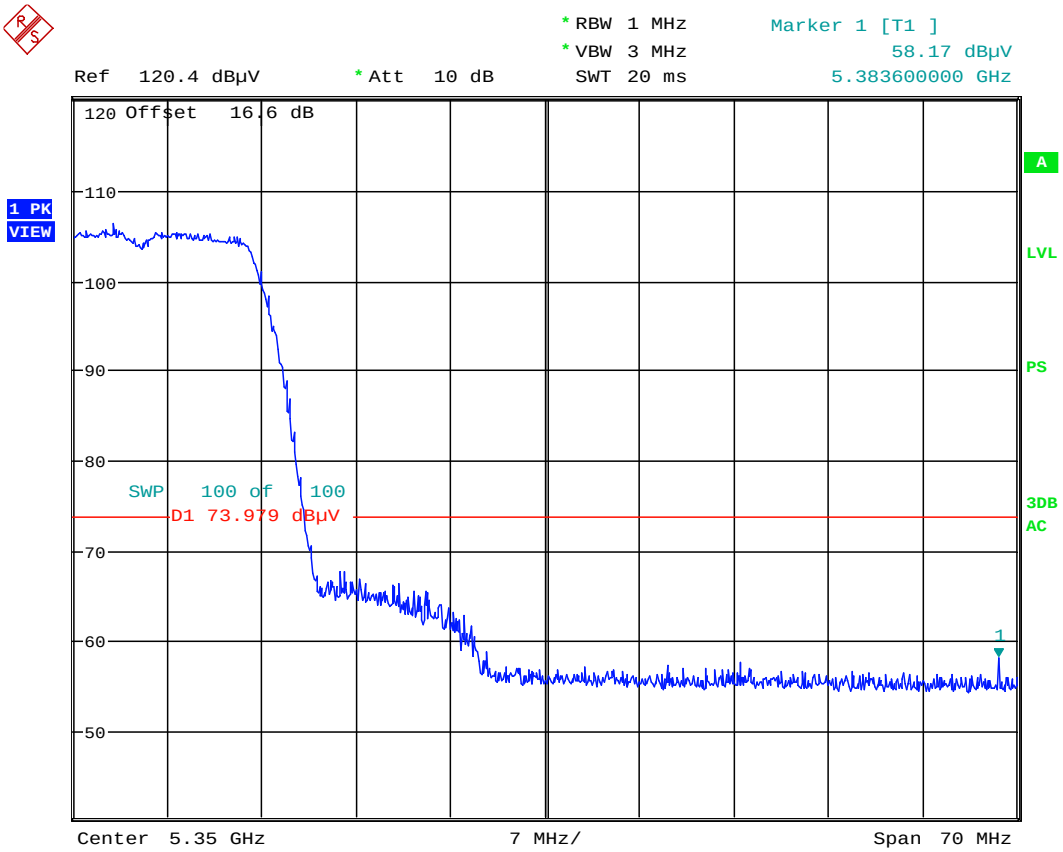
Radiated Band Edge Measurements (20MHz BW) (Cont'd)

§15.407(b)(1) and (2), §15.205 & §15.209; RSS-210 [A9.2]



Plot 6-137. Radiated Restricted Upper Band Edge Plot (Peak – UNII Band 2A)

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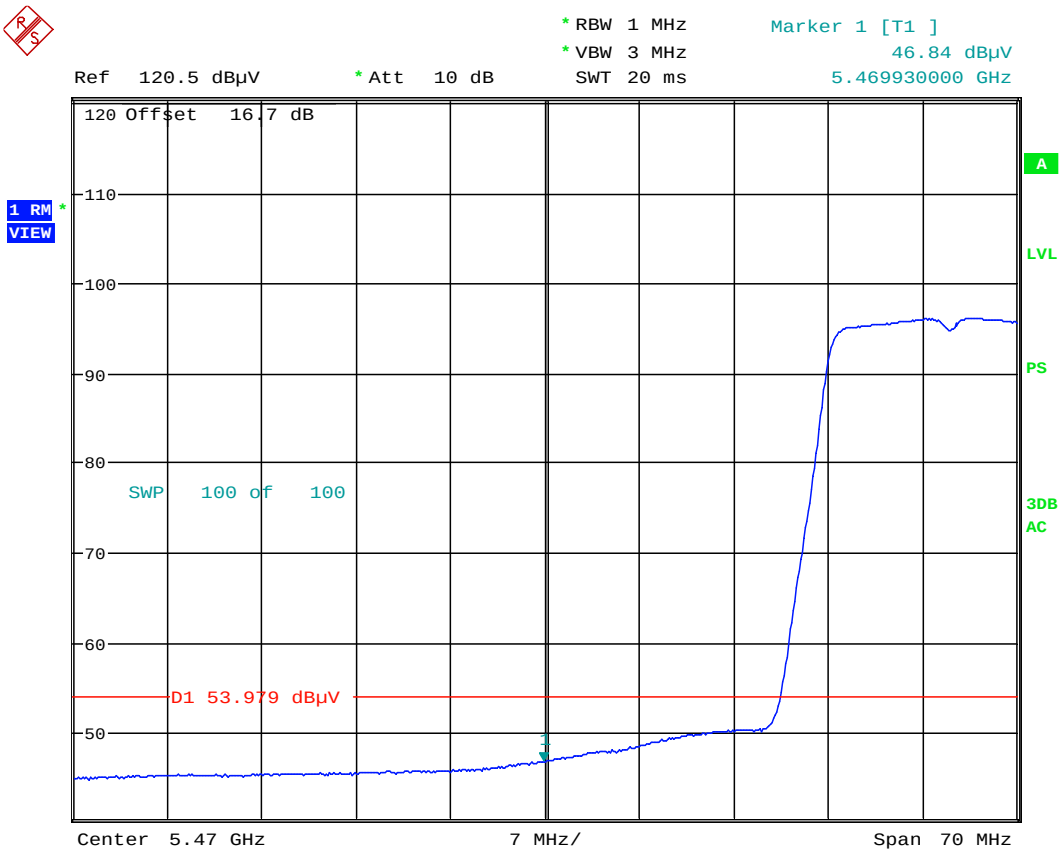
Radiated Band Edge Measurements (20MHz BW) (Cont'd)

§15.407(b)(1) and (2), §15.205 & §15.209; RSS-210 [A9.2]

Worst Case Mode:	802.11n (20MHz)
Worst Case Transfer Rate:	MCS0
Distance of Measurements:	3 Meters
Operating Frequency:	5500MHz
Channel:	100



Plot 6-138. Radiated Restricted Lower Band Edge Plot (Average – UNII Band 2C)

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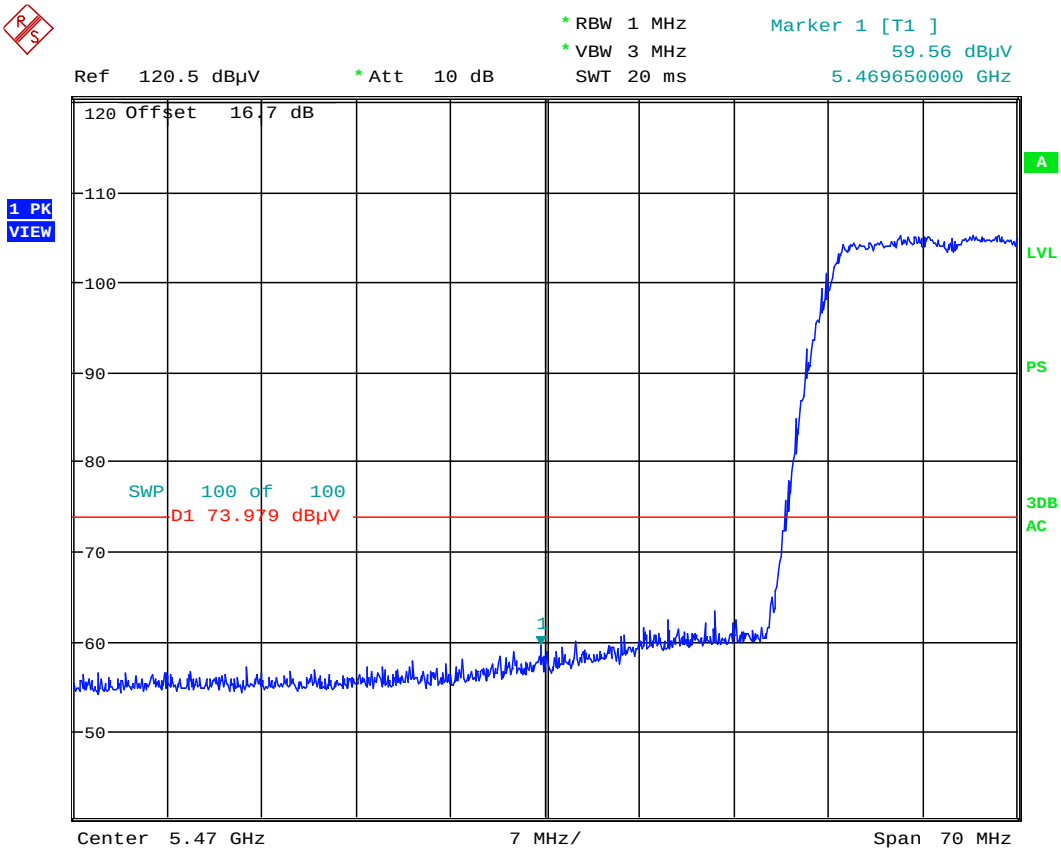
Radiated Band Edge Measurements (20MHz BW) (Cont'd)

§15.407(b)(1) and (2), §15.205 & §15.209; RSS-210 [A9.2]



Plot 6-139. Radiated Restricted Lower Band Edge Plot (Peak – UNII Band 2C)

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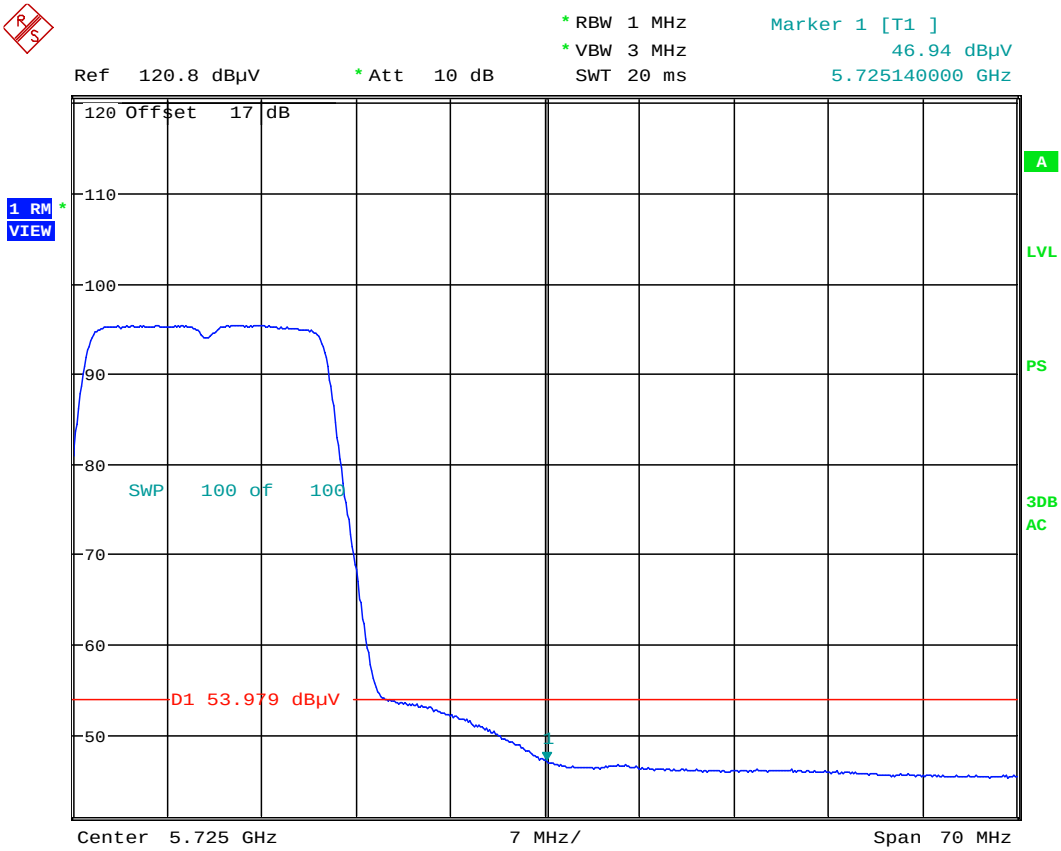
Radiated Band Edge Measurements (20MHz BW) (Cont'd)

§15.407(b)(1) and (2), §15.205 & §15.209; RSS-210 [A9.2]

Worst Case Mode:	802.11n (20MHz)
Worst Case Transfer Rate:	MCS0
Distance of Measurements:	3 Meters
Operating Frequency:	5700MHz
Channel:	140



Plot 6-140. Radiated Upper Band Edge Plot (Average – UNII Band 2C)

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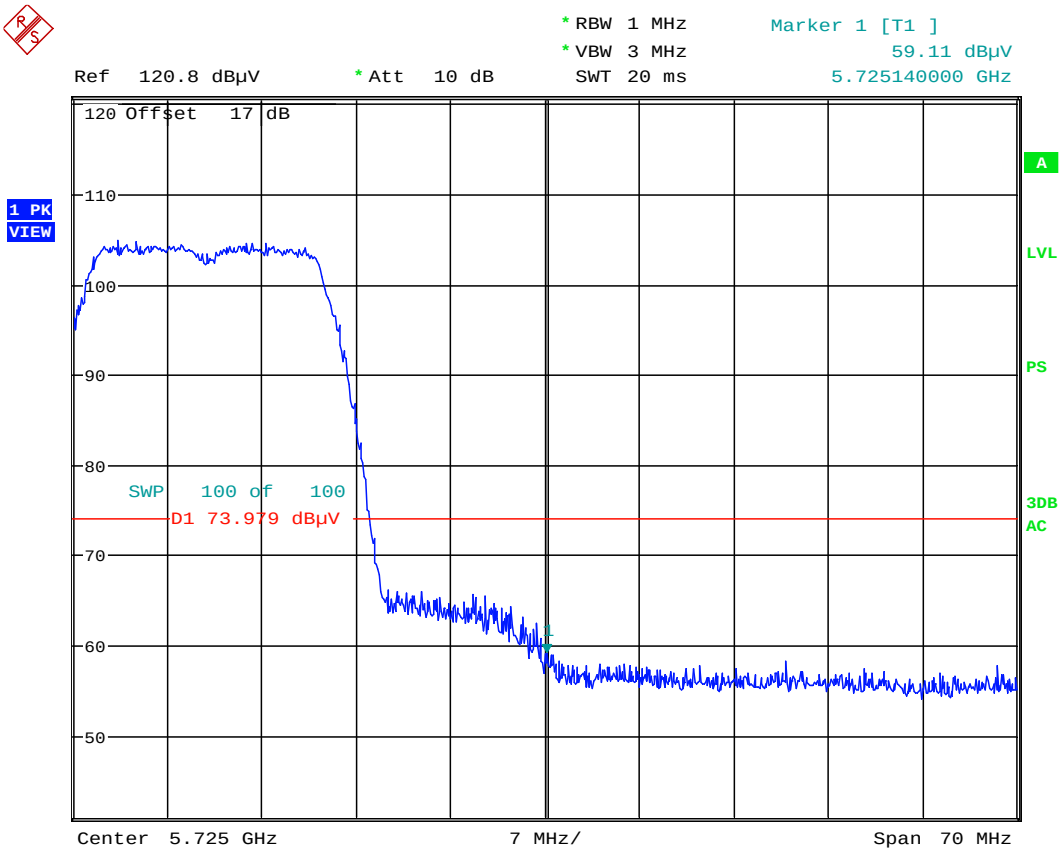
Radiated Band Edge Measurements (20MHz BW) (Cont'd)

§15.407(b)(1) and (2), §15.205 & §15.209; RSS-210 [A9.2]

Worst Case Mode:	802.11n (20MHz)
Worst Case Transfer Rate:	MCS0
Distance of Measurements:	3 Meters
Operating Frequency:	5700MHz
Channel:	140



Plot 6-141. Radiated Upper Band Edge Plot (Peak – UNII Band 2C)

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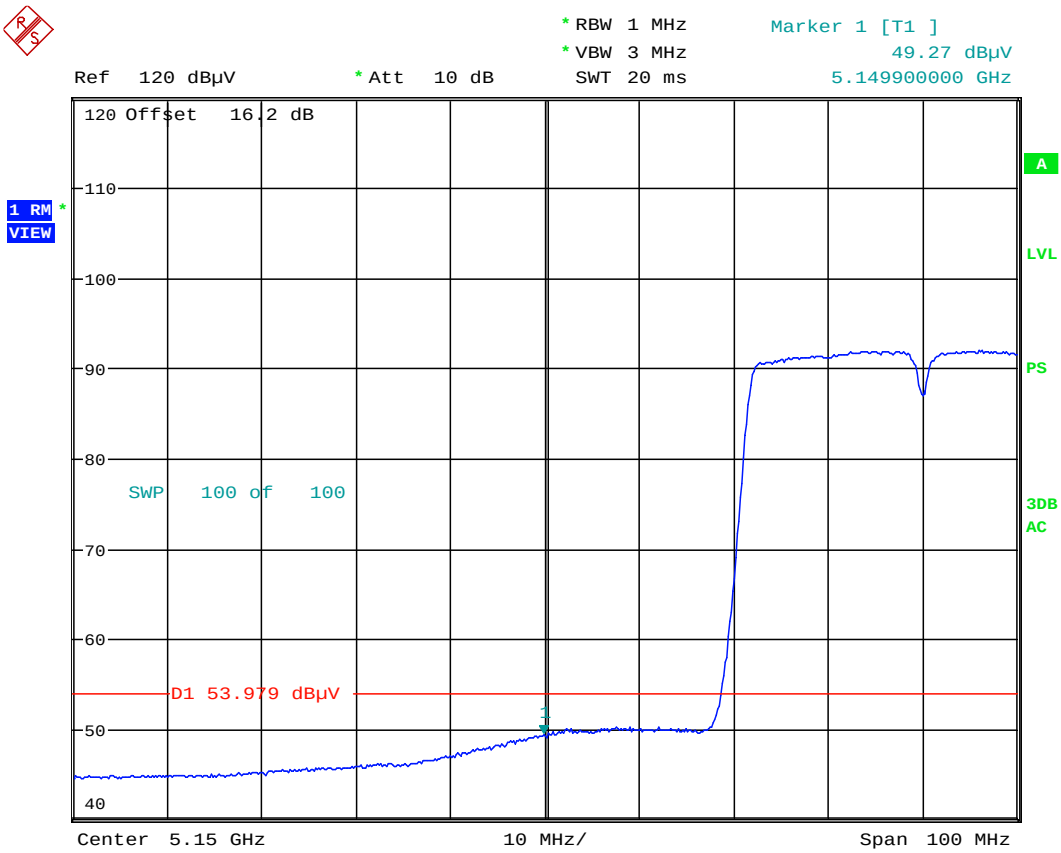
Radiated Band Edge Measurements (40MHz BW)

§15.407(b)(1) and (2), §15.205 & §15.209; RSS-210 [A9.2]

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



Plot 6-142. Radiated Restricted Lower Band Edge Plot (Average – UNII Band 1)

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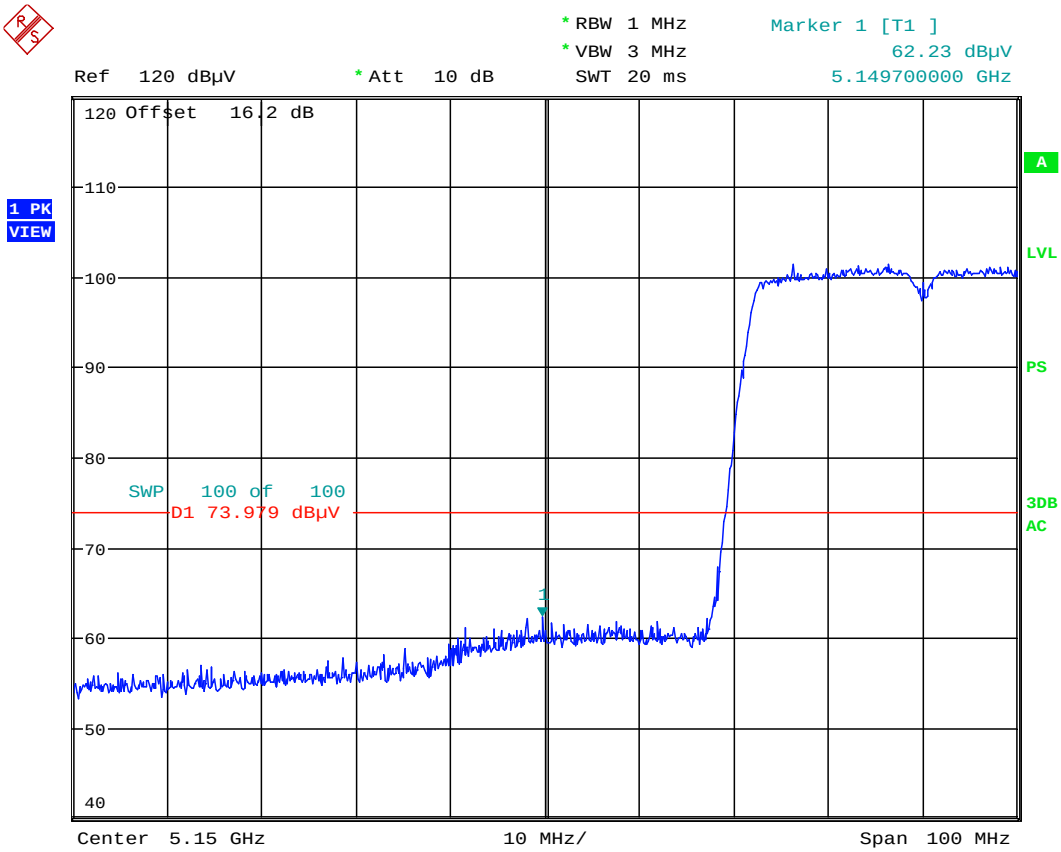
Radiated Band Edge Measurements (40MHz BW) (Cont'd)

§15.407(b)(1) and (2), §15.205 & §15.209; RSS-210 [A9.2]



Plot 6-143. Radiated Restricted Lower Band Edge Plot (Peak – UNII Band 1)

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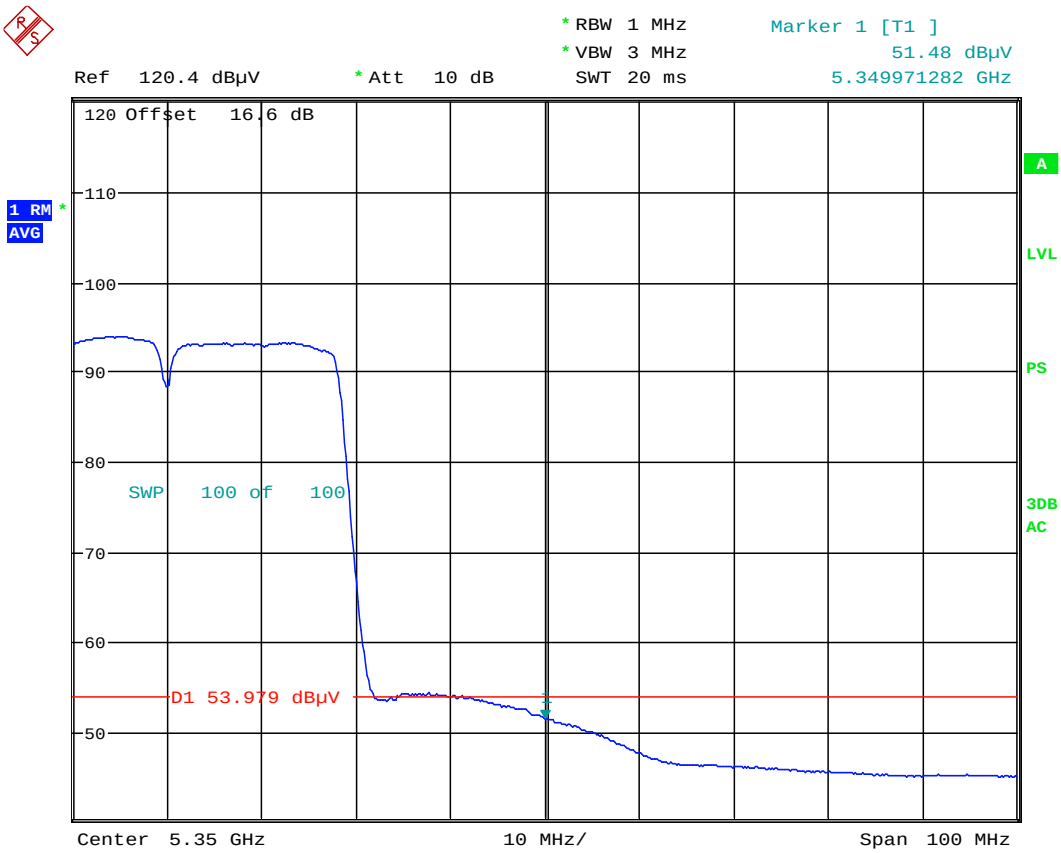
Radiated Band Edge Measurements (40MHz BW) (Cont'd)

§15.407(b)(1) and (2), §15.205 & §15.209; RSS-210 [A9.2]

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



Plot 6-144. Radiated Restricted Upper Band Edge Plot (Average – UNII Band 2A)

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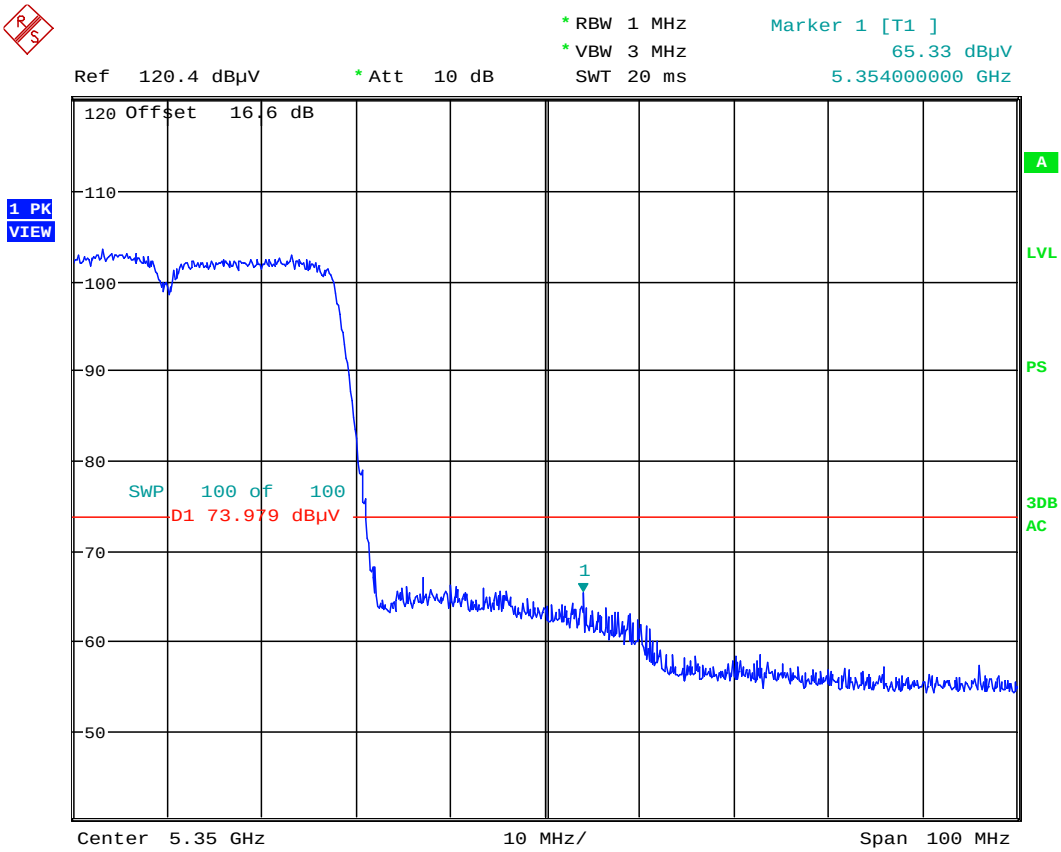
Radiated Band Edge Measurements (40MHz BW) (Cont'd)

§15.407(b)(1) and (2), §15.205 & §15.209; RSS-210 [A9.2]



Plot 6-145. Radiated Restricted Upper Band Edge Plot (Peak – UNII Band 2A)

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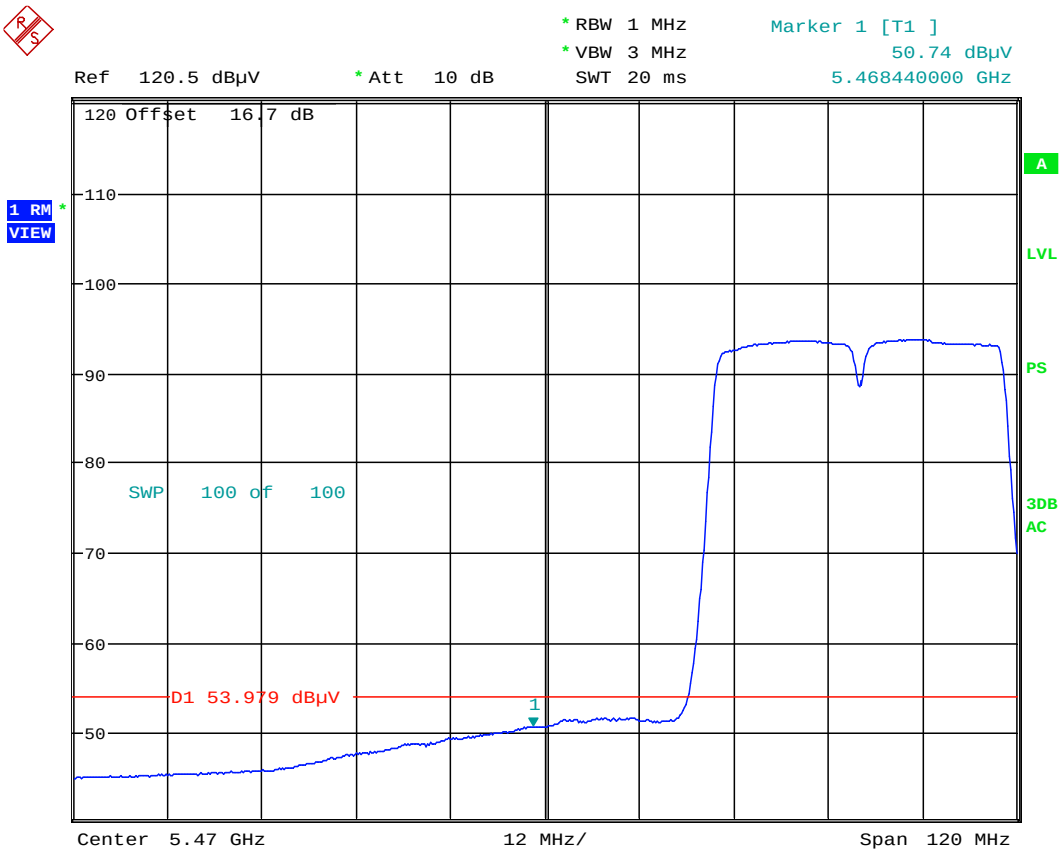
Radiated Band Edge Measurements (40MHz BW) (Cont'd)

§15.407(b)(1) and (2), §15.205 & §15.209; RSS-210 [A9.2]

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



Plot 6-146. Radiated Restricted Lower Band Edge Plot (Average – UNII Band 2C)

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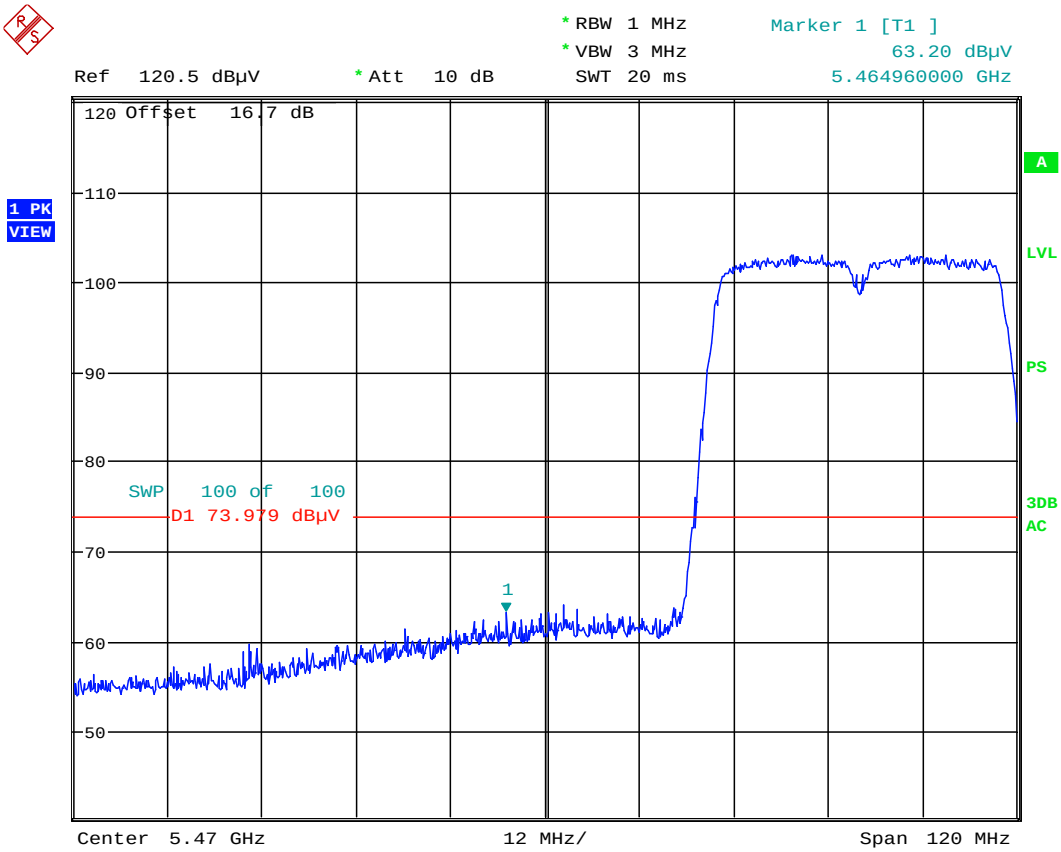
Radiated Band Edge Measurements (40MHz BW) (Cont'd)

§15.407(b)(1) and (2), §15.205 & §15.209; RSS-210 [A9.2]



Plot 6-147. Radiated Restricted Lower Band Edge Plot (Peak – UNII Band 2C)

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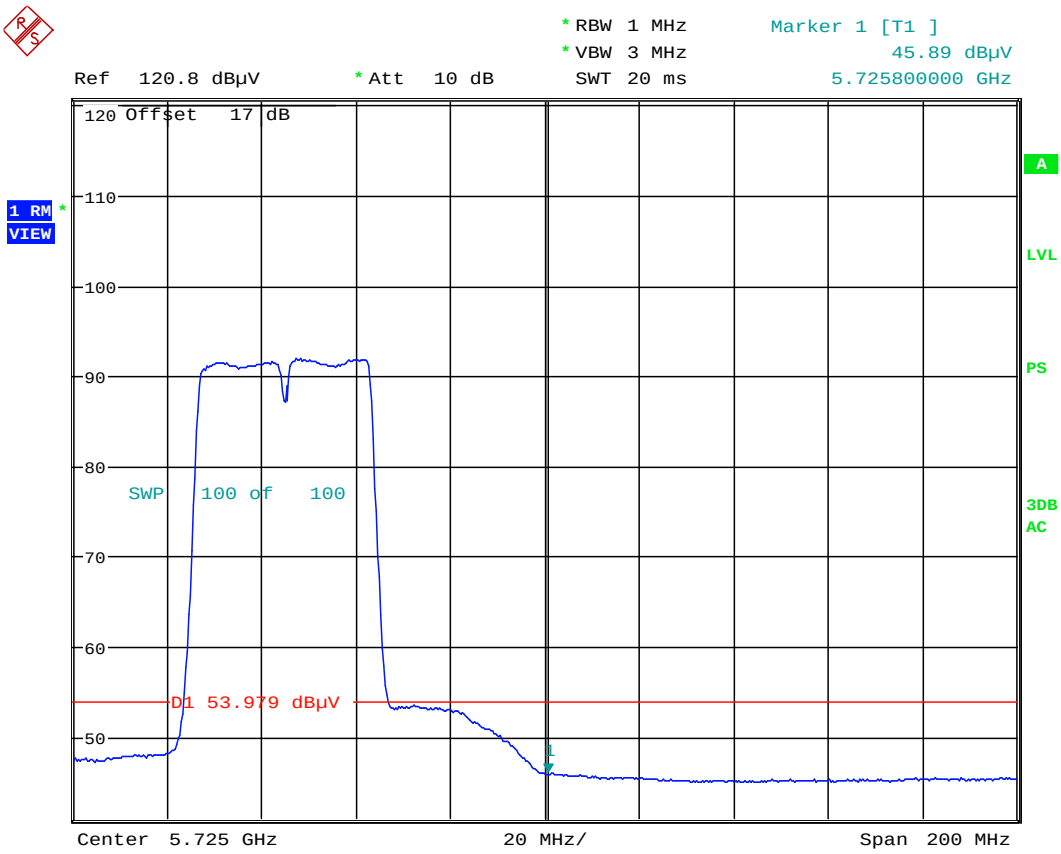
Radiated Band Edge Measurements (40MHz BW) (Cont'd)

§15.407(b)(1) and (2), §15.205 & §15.209; RSS-210 [A9.2]

Worst Case Mode:	802.11n (40MHz)
Worst Case Transfer Rate:	MCS0
Distance of Measurements:	3 Meters
Operating Frequency:	5700MHz
Channel:	140



Plot 6-148. Radiated Upper Band Edge Plot (Average – UNII Band 2C)

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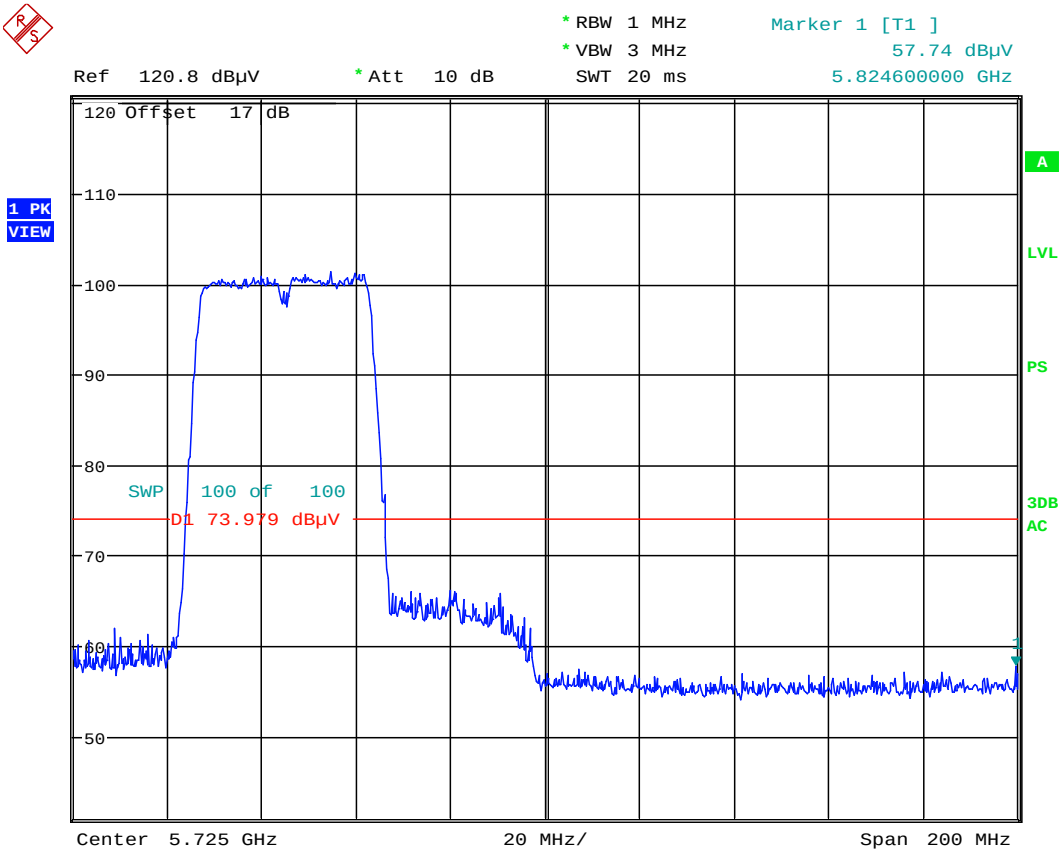
Radiated Band Edge Measurements (40MHz BW) (Cont'd)

§15.407(b)(1) and (2), §15.205 & §15.209; RSS-210 [A9.2]

Worst Case Mode:	802.11n (40MHz)
Worst Case Transfer Rate:	MCS0
Distance of Measurements:	3 Meters
Operating Frequency:	5670MHz
Channel:	134



Plot 6-149. Radiated Upper Band Edge Plot (Peak – UNII Band 2C)

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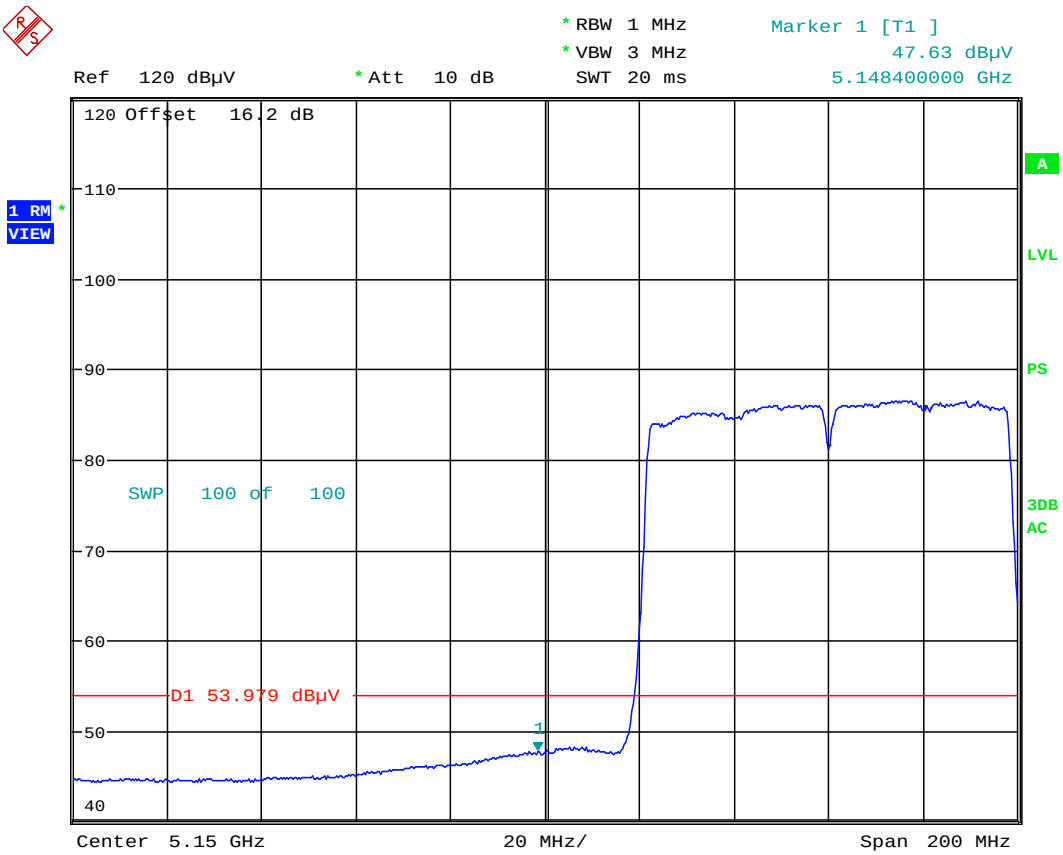
Radiated Band Edge Measurements (80MHz BW)

§15.407(b)(1) and (2), §15.205 & §15.209; RSS-210 [A9.2]

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



Plot 6-150. Radiated Restricted Lower Band Edge Plot (Average – UNII Band 1)

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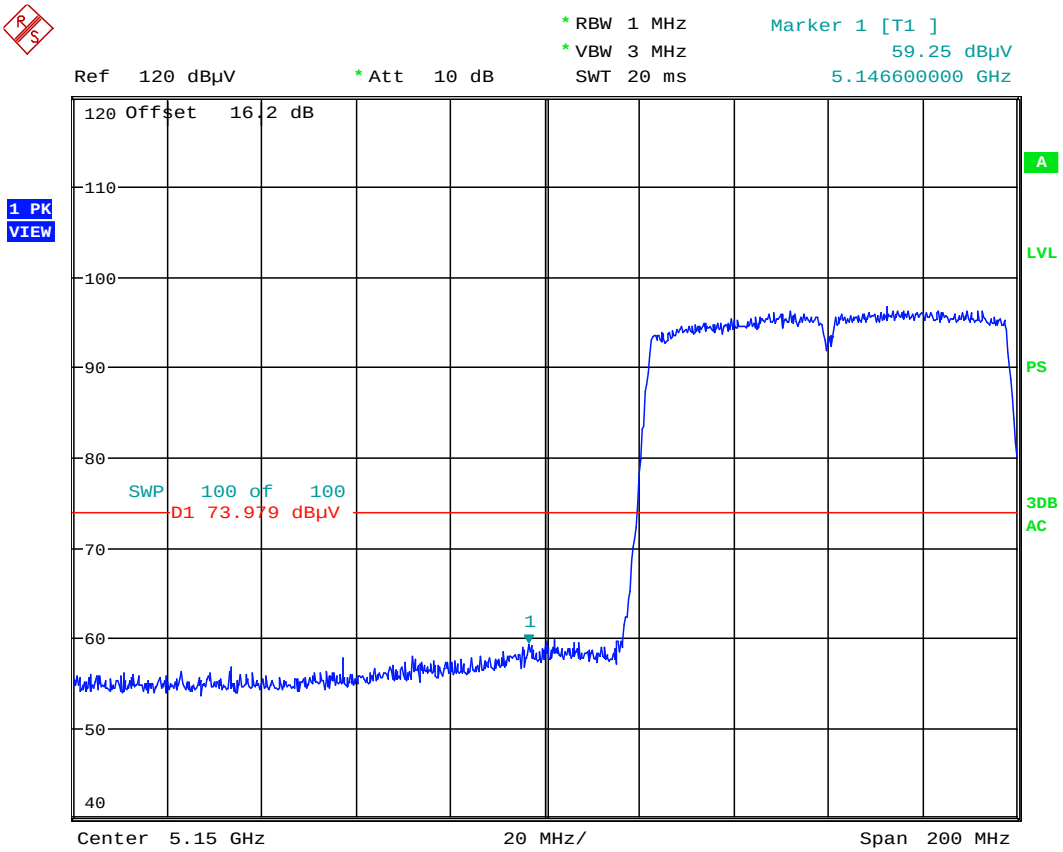
Radiated Band Edge Measurements (80MHz BW) (Cont'd)

§15.407(b)(1) and (2), §15.205 & §15.209; RSS-210 [A9.2]



Plot 6-151. Radiated Restricted Lower Band Edge Plot (Peak – UNII Band 1)

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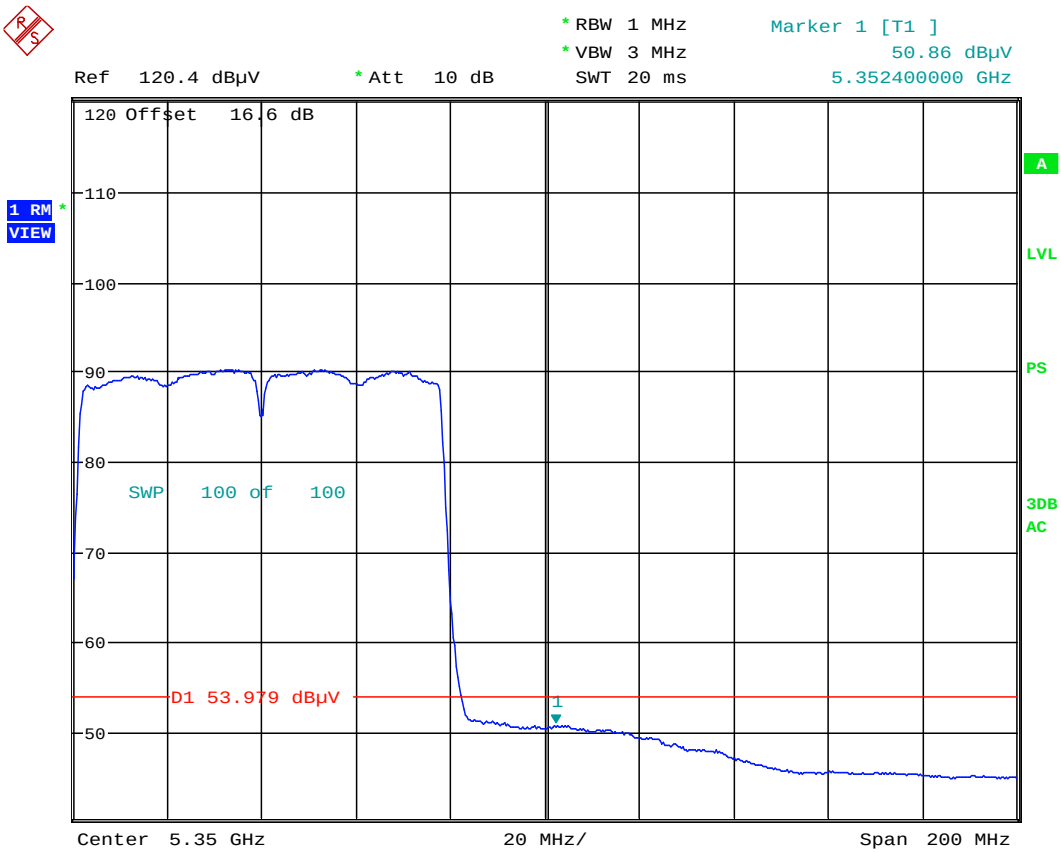
Radiated Band Edge Measurements (80MHz BW) (Cont'd)

§15.407(b)(1) and (2), §15.205 & §15.209; RSS-210 [A9.2]

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



Plot 6-152. Radiated Restricted Upper Band Edge Plot (Average – UNII Band 2A)

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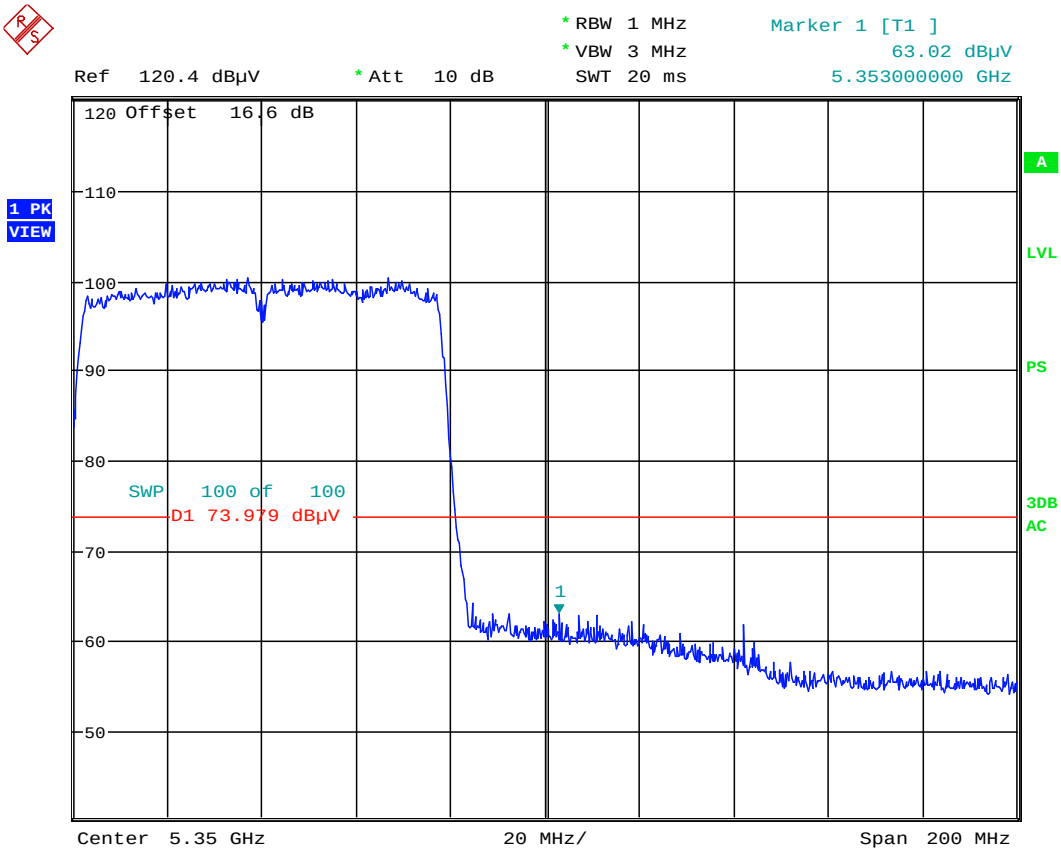
Radiated Band Edge Measurements (80MHz BW) (Cont'd)

§15.407(b)(1) and (2), §15.205 & §15.209; RSS-210 [A9.2]



Plot 6-153. Radiated Restricted Upper Band Edge Plot (Peak – UNII Band 2A)

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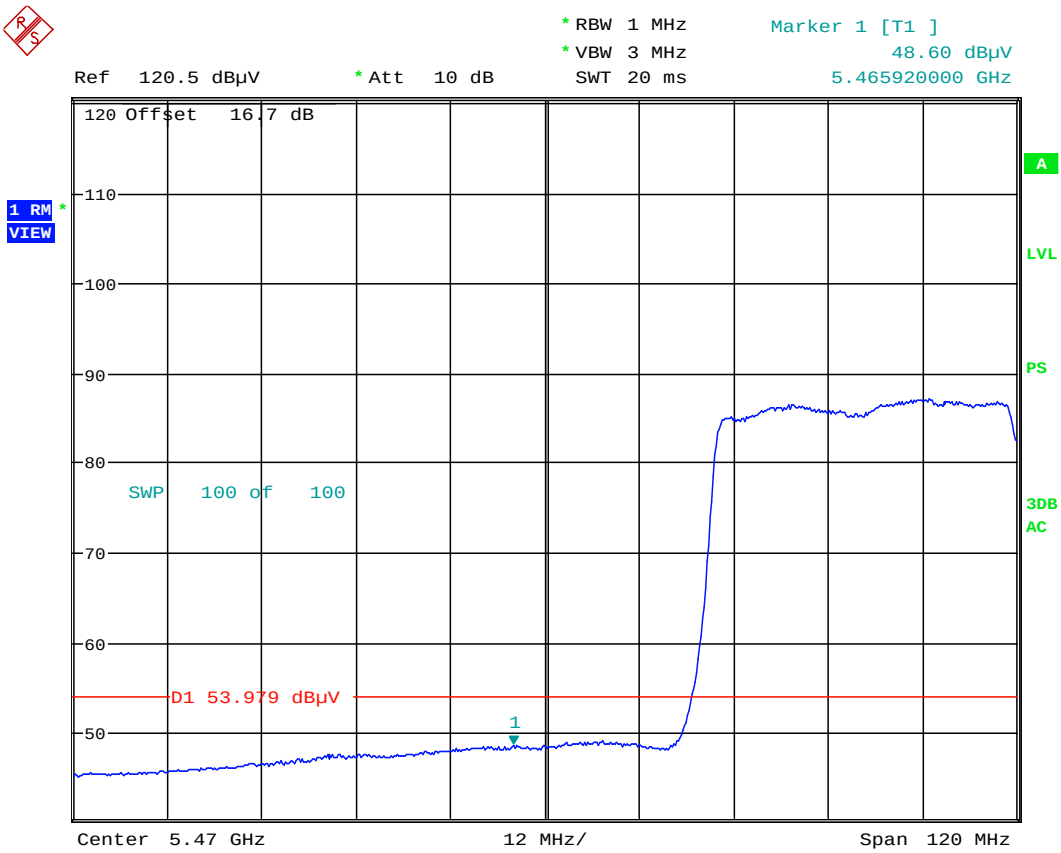
Radiated Band Edge Measurements (80MHz BW) (Cont'd)

§15.407(b)(1) and (2), §15.205 & §15.209; RSS-210 [A9.2]

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



Plot 6-154. Radiated Restricted Lower Band Edge Plot (Average – UNII Band 2C)

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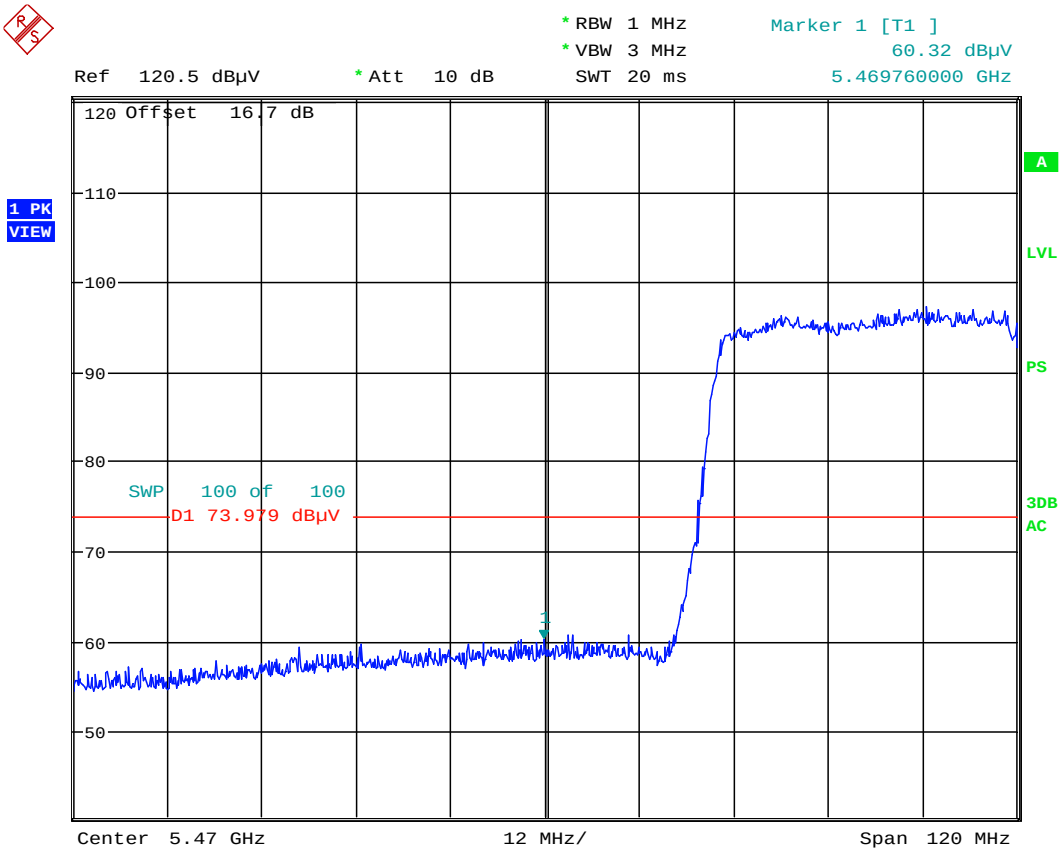
Radiated Band Edge Measurements (80MHz BW) (Cont'd)

§15.407(b)(1) and (2), §15.205 & §15.209; RSS-210 [A9.2]



Plot 6-155. Radiated Restricted Lower Band Edge Plot (Peak – UNII Band 2C)

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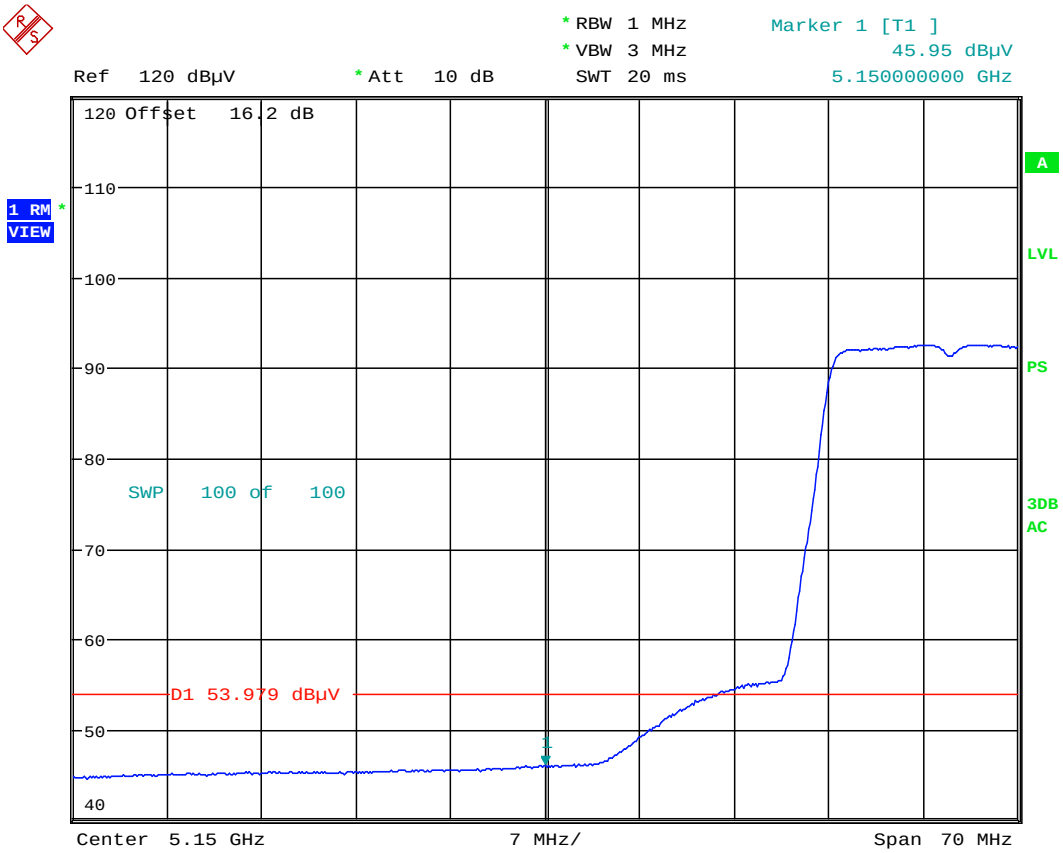
6.9 Antenna-2 Radiated Band Edge Measurements

Worst Case Mode:	802.11n (20MHz)
Worst Case Transfer Rate:	MCS0
Distance of Measurements:	3 Meters
Operating Frequency:	5180MHz
Channel:	36



Plot 6-156. Radiated Restricted Lower Band Edge Plot (Average – UNII Band 1)

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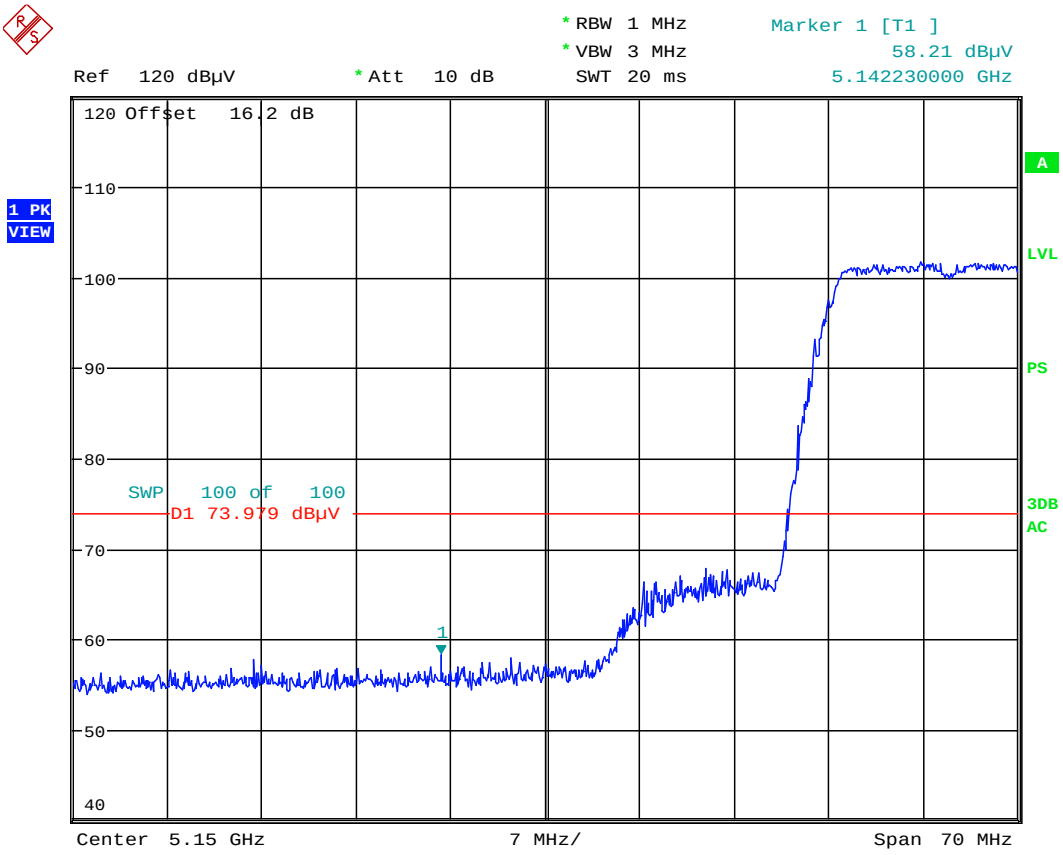
Radiated Band Edge Measurements (20MHz BW) (Cont'd)

§15.407(b)(1) and (2), §15.205 & §15.209; RSS-210 [A9.2]



Plot 6-157. Radiated Restricted Lower Band Edge Plot (Peak – UNII Band 1)

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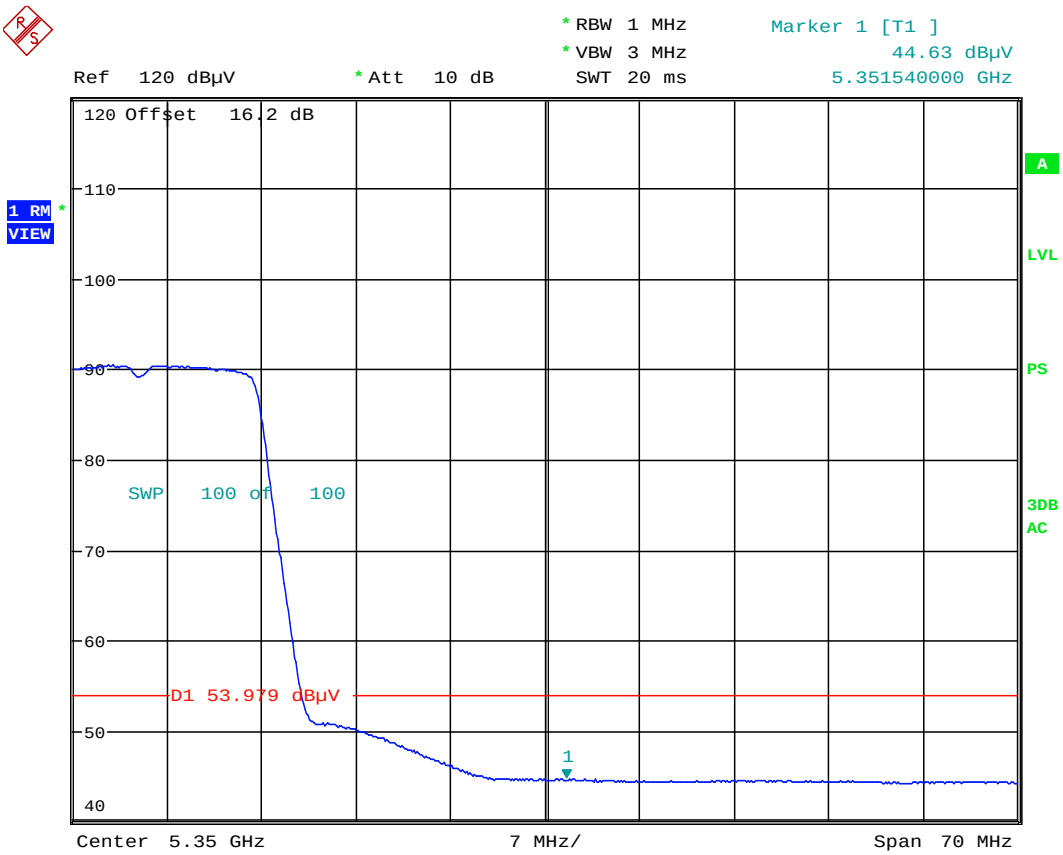
Radiated Band Edge Measurements (20MHz BW) (Cont'd)

§15.407(b)(1) and (2), §15.205 & §15.209; RSS-210 [A9.2]

Worst Case Mode:	802.11n (20MHz)
Worst Case Transfer Rate:	MCS0
Distance of Measurements:	3 Meters
Operating Frequency:	5320MHz
Channel:	64



Plot 6-158. Radiated Restricted Upper Band Edge Plot (Average – UNII Band 2A)

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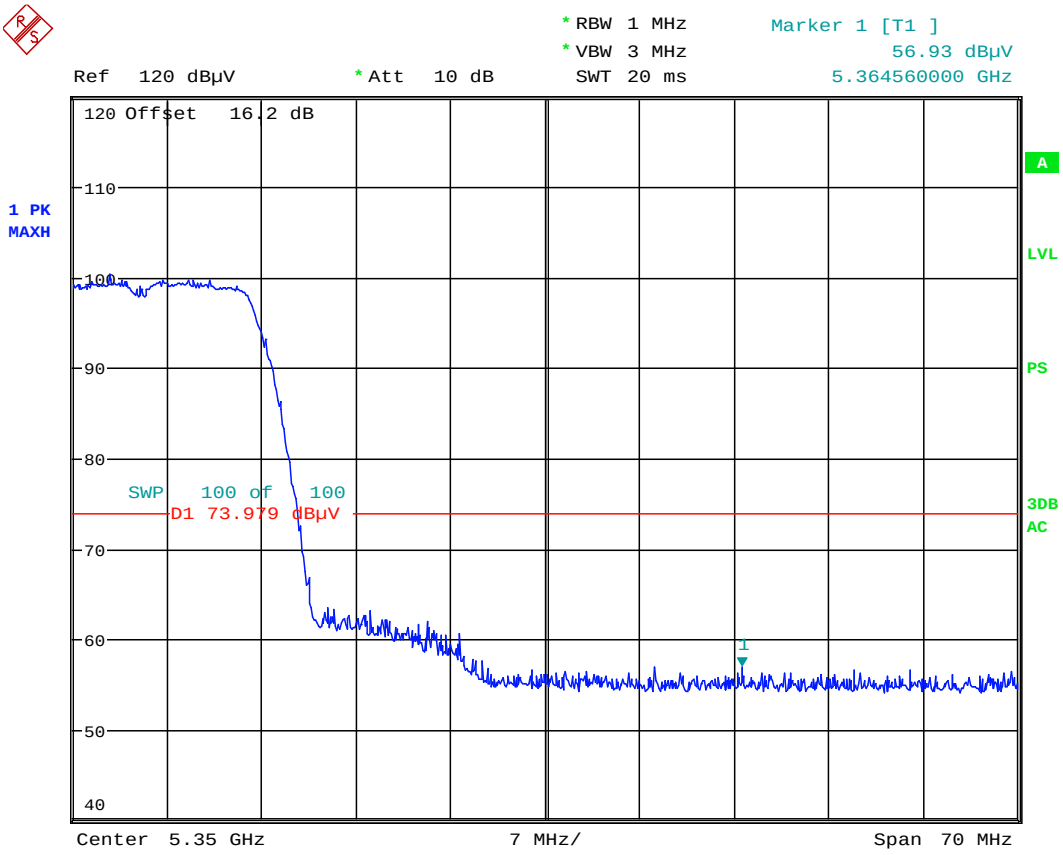
Radiated Band Edge Measurements (20MHz BW) (Cont'd)

§15.407(b)(1) and (2), §15.205 & §15.209; RSS-210 [A9.2]



Plot 6-159. Radiated Restricted Upper Band Edge Plot (Peak – UNII Band 2A)

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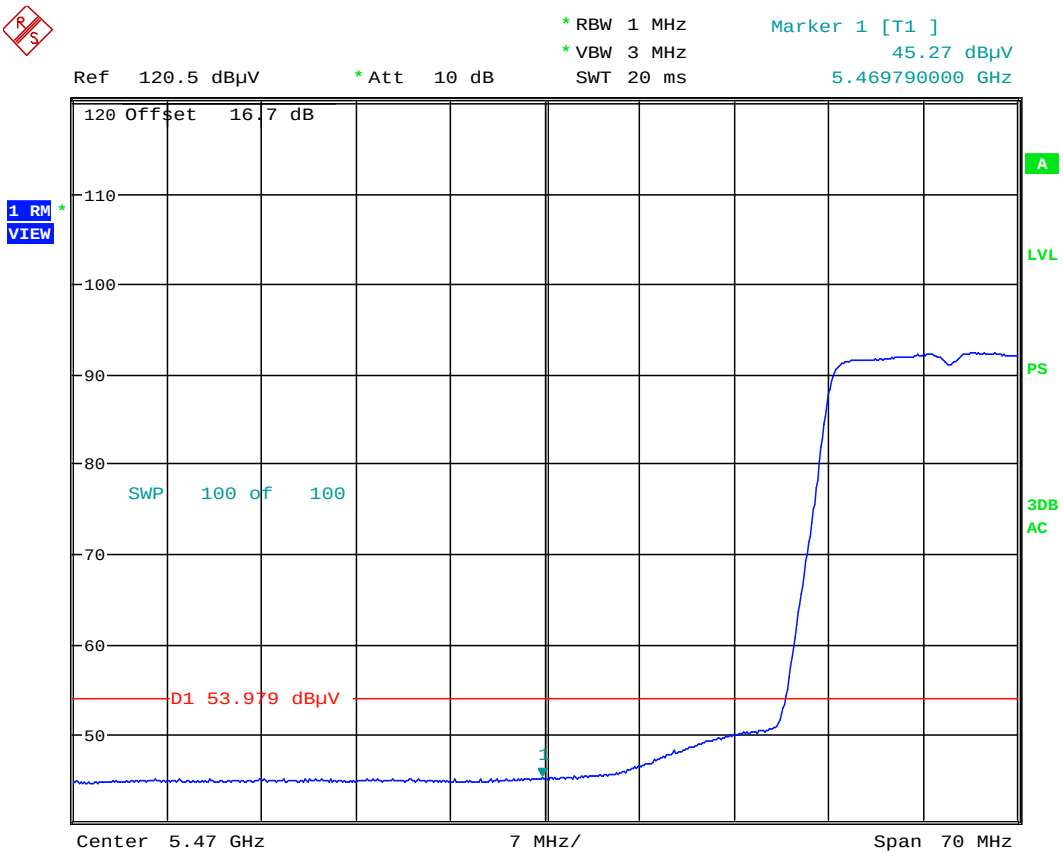
Radiated Band Edge Measurements (20MHz BW) (Cont'd)

§15.407(b)(1) and (2), §15.205 & §15.209; RSS-210 [A9.2]

Worst Case Mode:	802.11n (20MHz)
Worst Case Transfer Rate:	MCS0
Distance of Measurements:	3 Meters
Operating Frequency:	5500MHz
Channel:	100



Plot 6-160. Radiated Restricted Lower Band Edge Plot (Average – UNII Band 2C)

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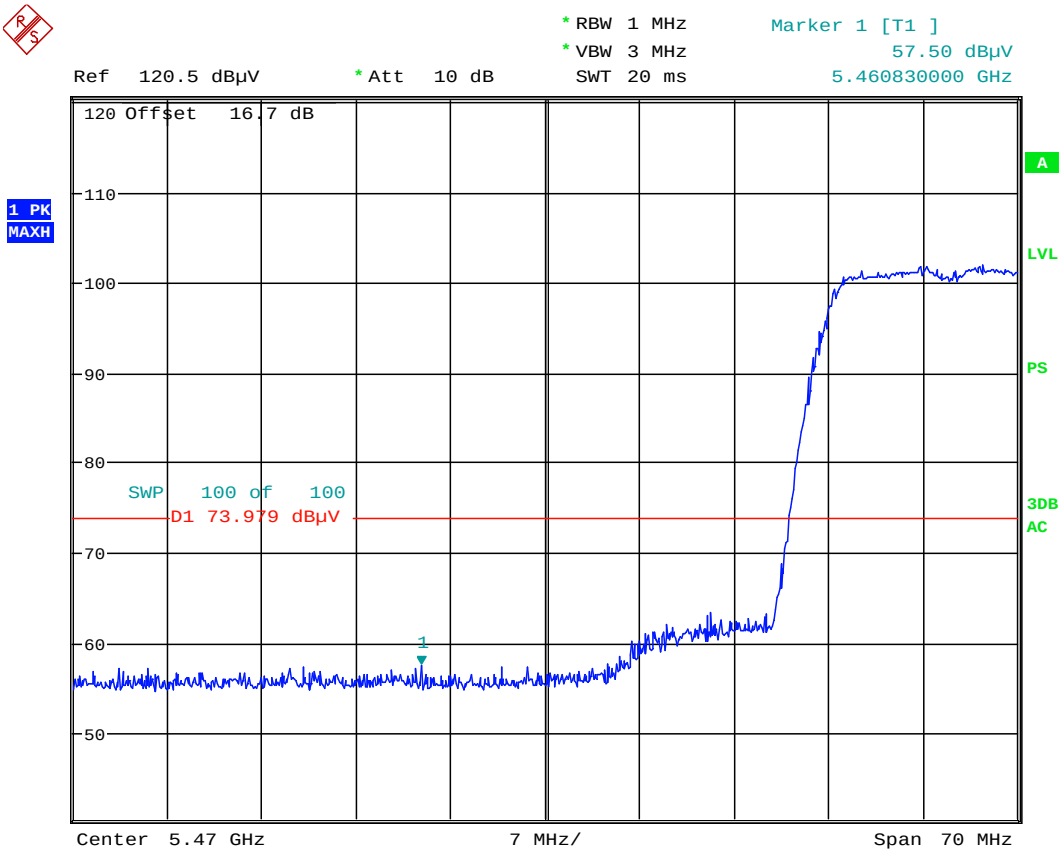
Radiated Band Edge Measurements (20MHz BW) (Cont'd)

§15.407(b)(1) and (2), §15.205 & §15.209; RSS-210 [A9.2]



Plot 6-161. Radiated Restricted Lower Band Edge Plot (Peak – UNII Band 2C)

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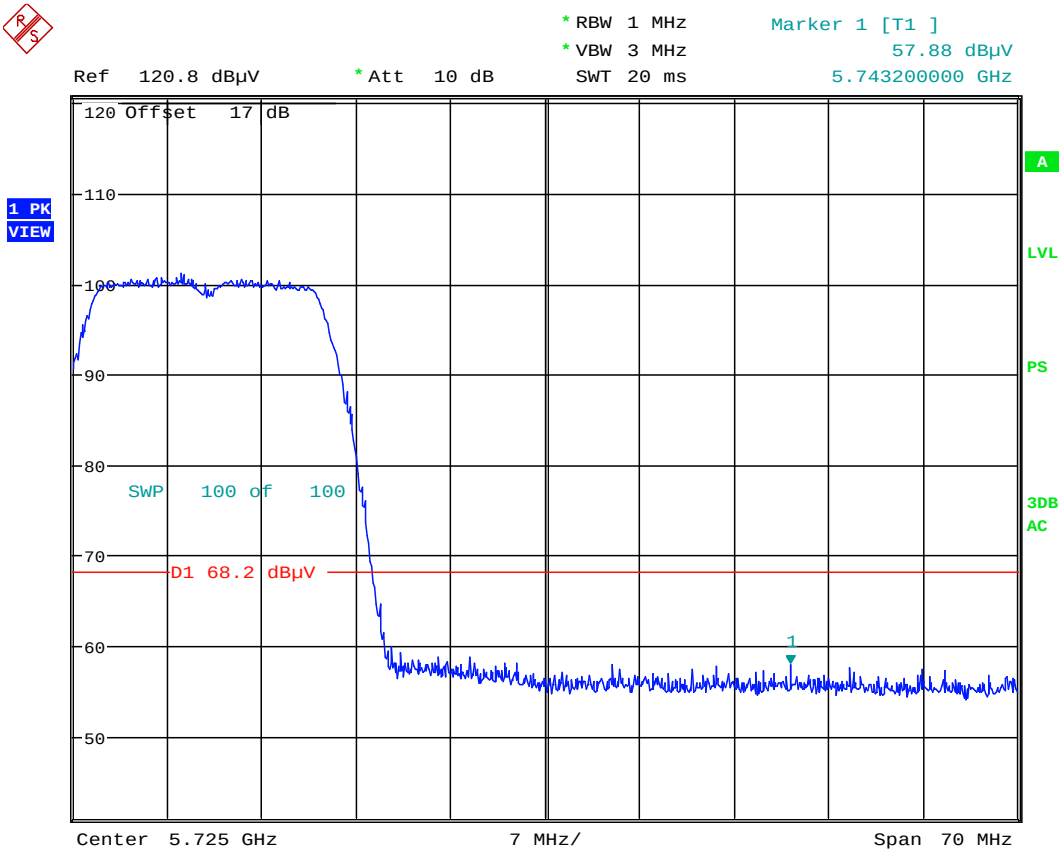
Radiated Band Edge Measurements (20MHz BW) (Cont'd)

§15.407(b)(1) and (2), §15.205 & §15.209; RSS-210 [A9.2]

Worst Case Mode:	802.11n (20MHz)
Worst Case Transfer Rate:	MCS0
Distance of Measurements:	3 Meters
Operating Frequency:	5700MHz
Channel:	140



Plot 6-162. Radiated Upper Band Edge Plot (Peak – UNII Band 2C)

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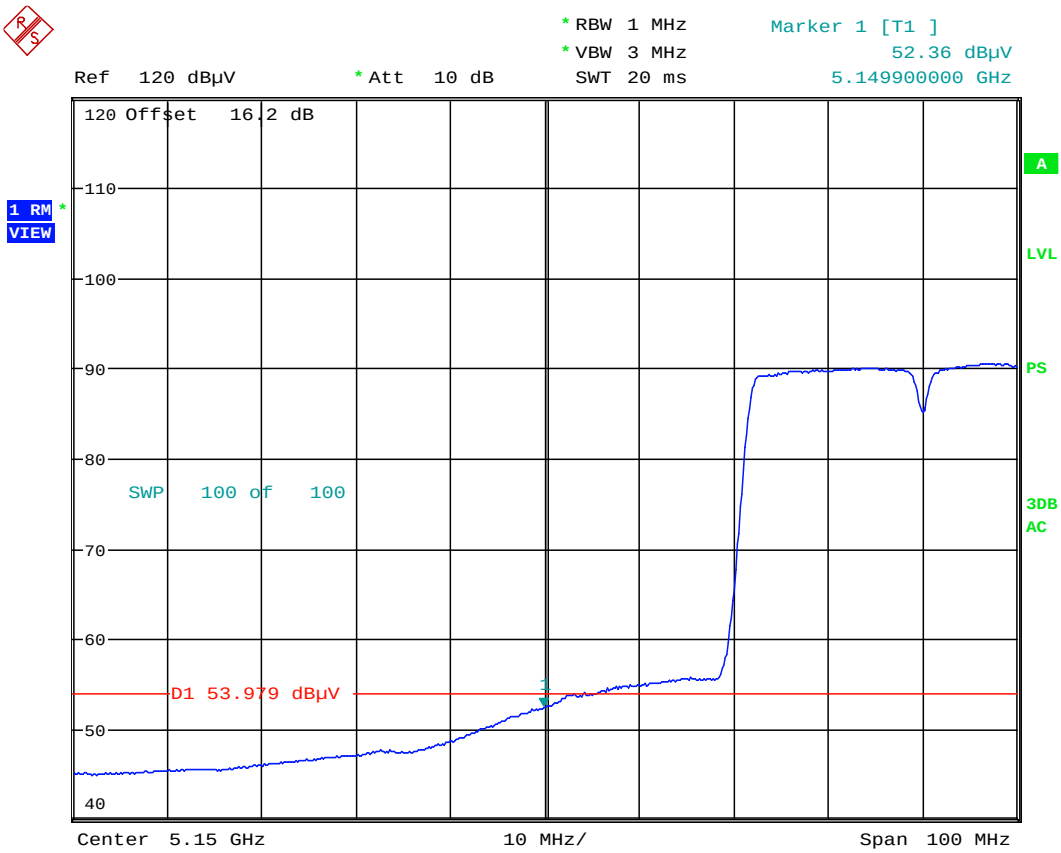
Radiated Band Edge Measurements (40MHz BW)

§15.407(b)(1) and (2), §15.205 & §15.209; RSS-210 [A9.2]

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



Plot 6-163. Radiated Restricted Lower Band Edge Plot (Average – UNII Band 1)

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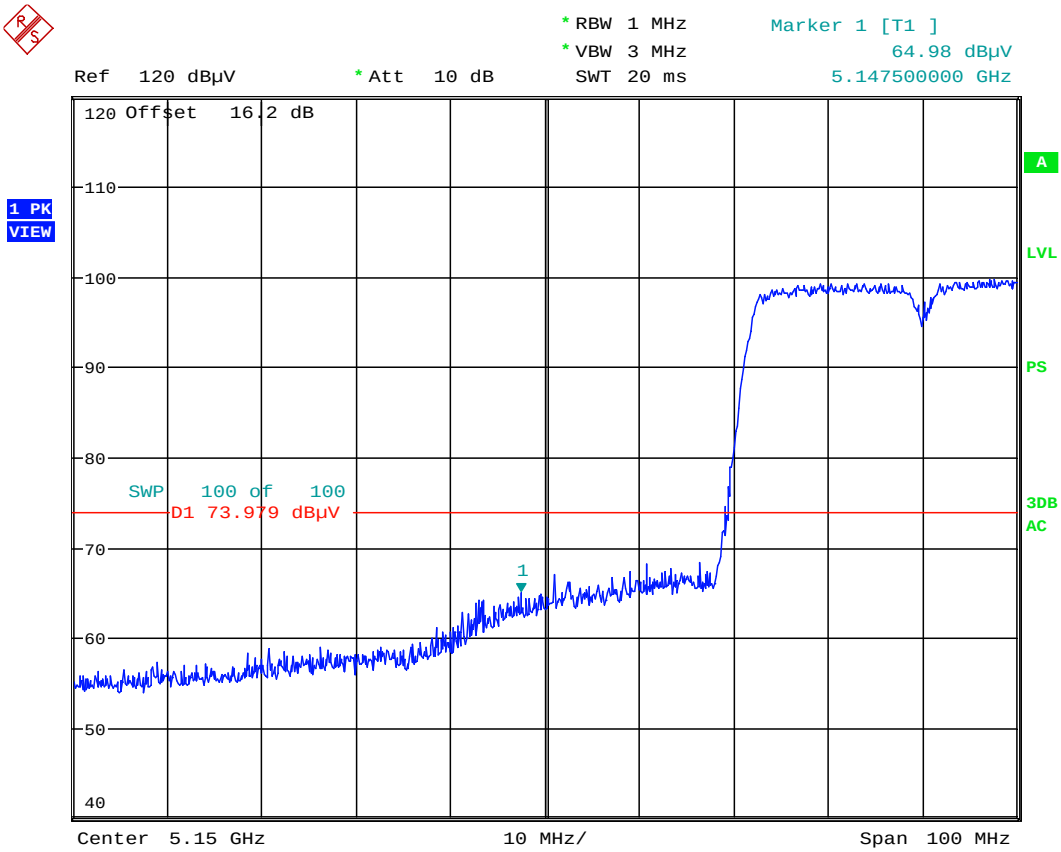
Radiated Band Edge Measurements (40MHz BW) (Cont'd)

§15.407(b)(1) and (2), §15.205 & §15.209; RSS-210 [A9.2]



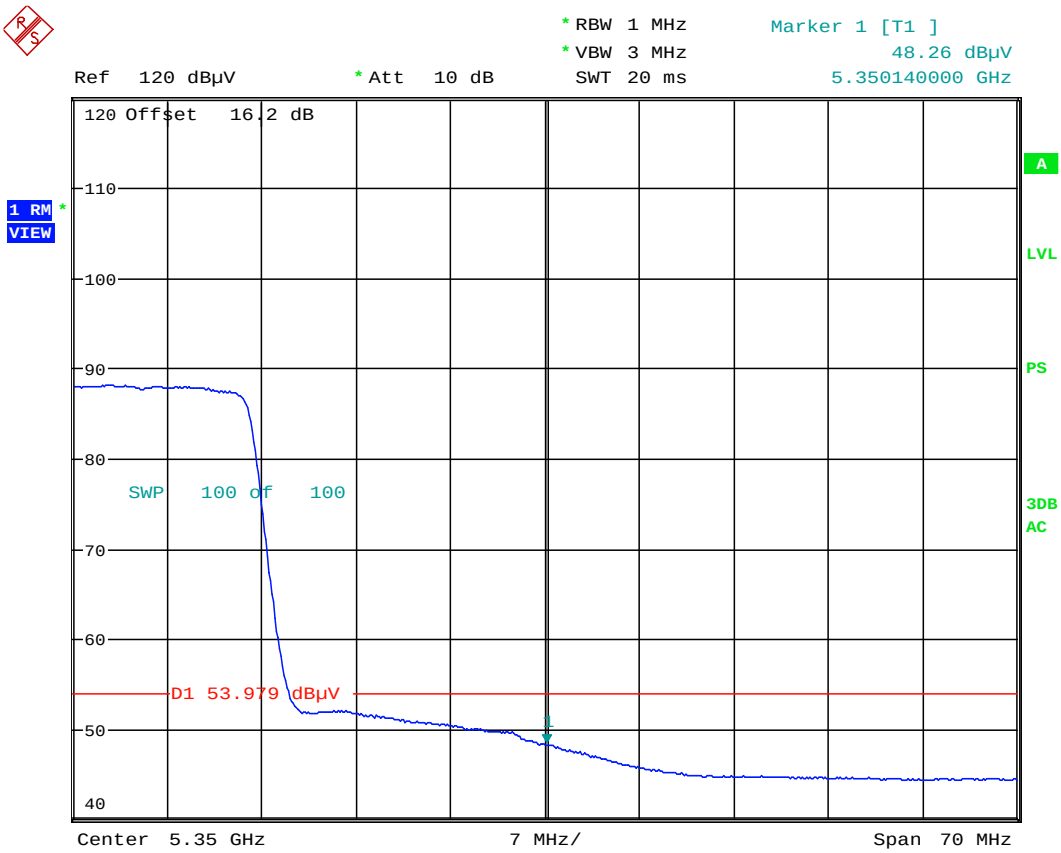
Plot 6-164. Radiated Restricted Lower Band Edge Plot (Peak – UNII Band 1)

© 2014 PCTEST Engineering Laboratory, Inc.

Radiated Band Edge Measurements (40MHz BW) (Cont'd)

§15.407(b)(1) and (2), §15.205 & §15.209; RSS-210 [A9.2]

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



Plot 6-165. Radiated Restricted Upper Band Edge Plot (Average – UNII Band 2A)

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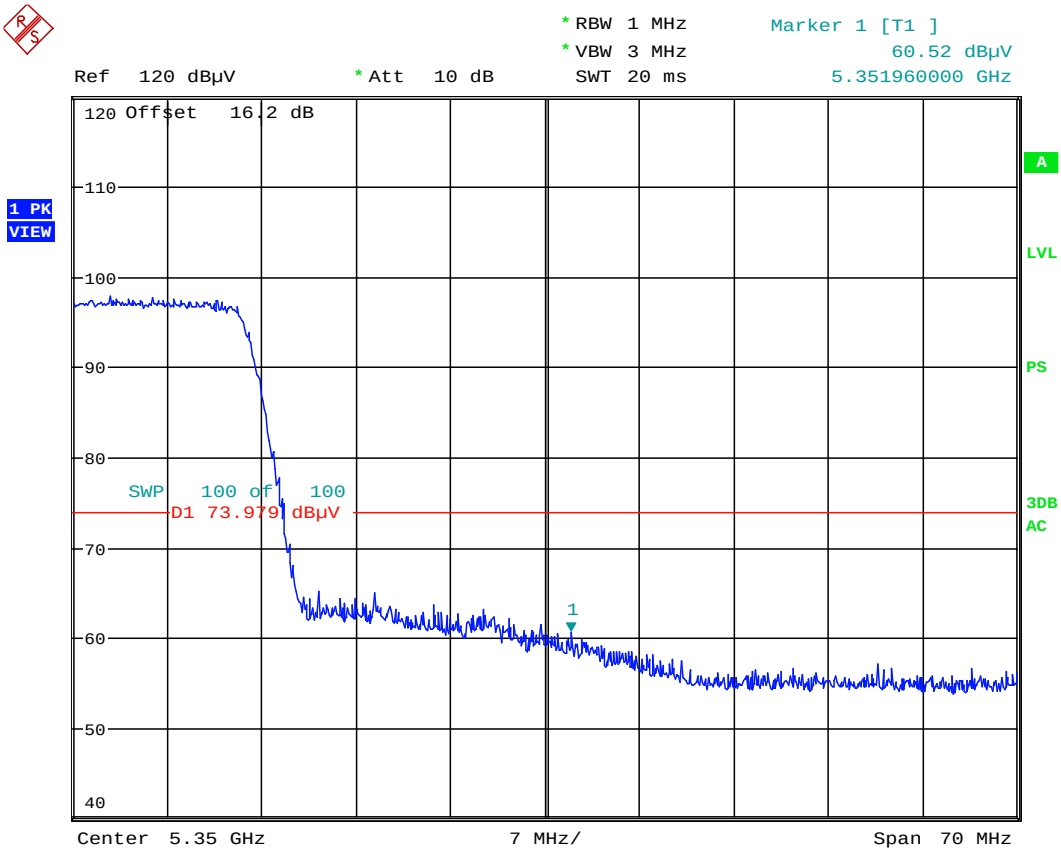
Radiated Band Edge Measurements (40MHz BW) (Cont'd)

§15.407(b)(1) and (2), §15.205 & §15.209; RSS-210 [A9.2]



Plot 6-166. Radiated Restricted Upper Band Edge Plot (Peak – UNII Band 2A)

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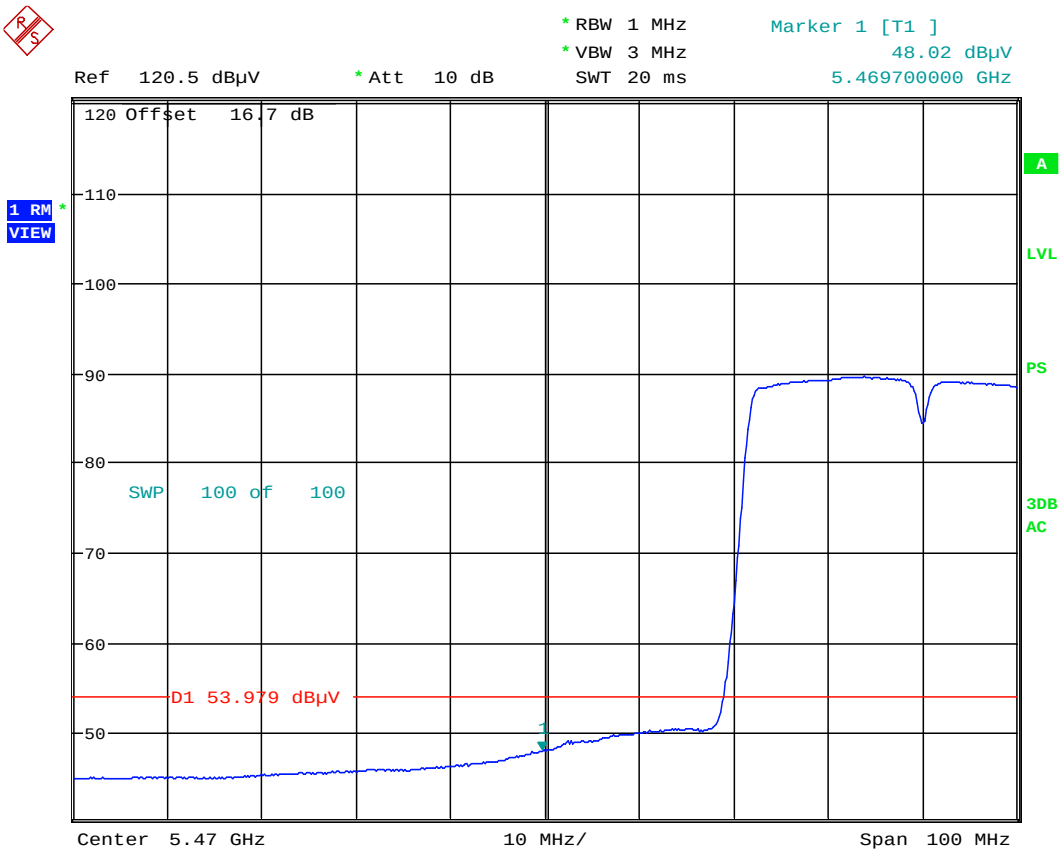
Radiated Band Edge Measurements (40MHz BW) (Cont'd)

§15.407(b)(1) and (2), §15.205 & §15.209; RSS-210 [A9.2]

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



Plot 6-167. Radiated Restricted Lower Band Edge Plot (Average – UNII Band 2C)

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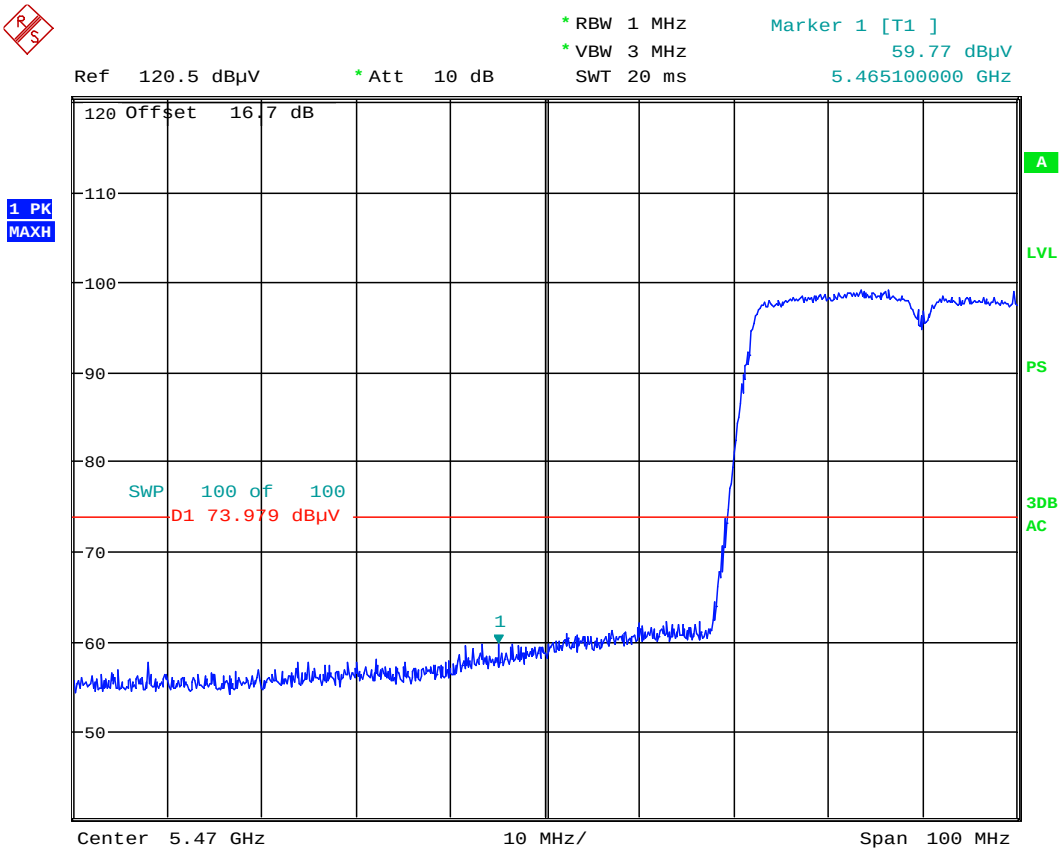
Radiated Band Edge Measurements (40MHz BW) (Cont'd)

§15.407(b)(1) and (2), §15.205 & §15.209; RSS-210 [A9.2]



Plot 6-168. Radiated Restricted Lower Band Edge Plot (Peak – UNII Band 2C)

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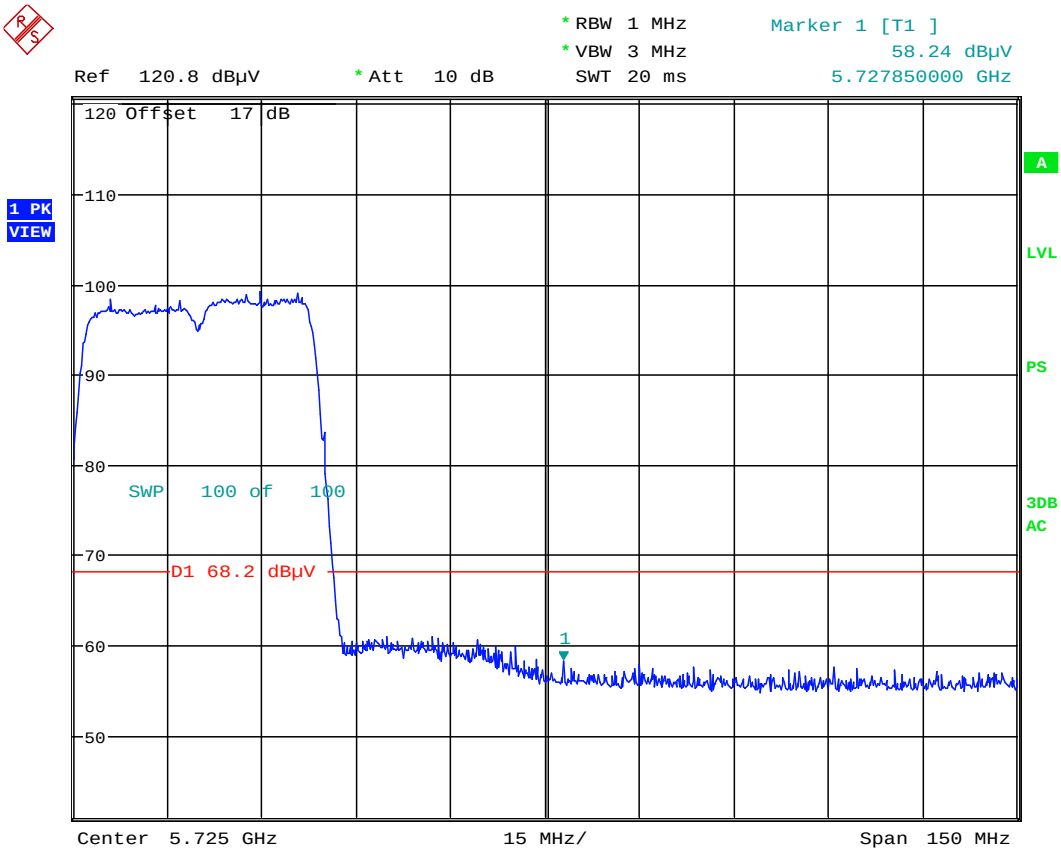
Radiated Band Edge Measurements (40MHz BW) (Cont'd)

§15.407(b)(1) and (2), §15.205 & §15.209; RSS-210 [A9.2]

Worst Case Mode:	802.11n (40MHz)
Worst Case Transfer Rate:	MCS0
Distance of Measurements:	3 Meters
Operating Frequency:	5670MHz
Channel:	134



Plot 6-169. Radiated Upper Band Edge Plot (Peak – UNII Band 2C)

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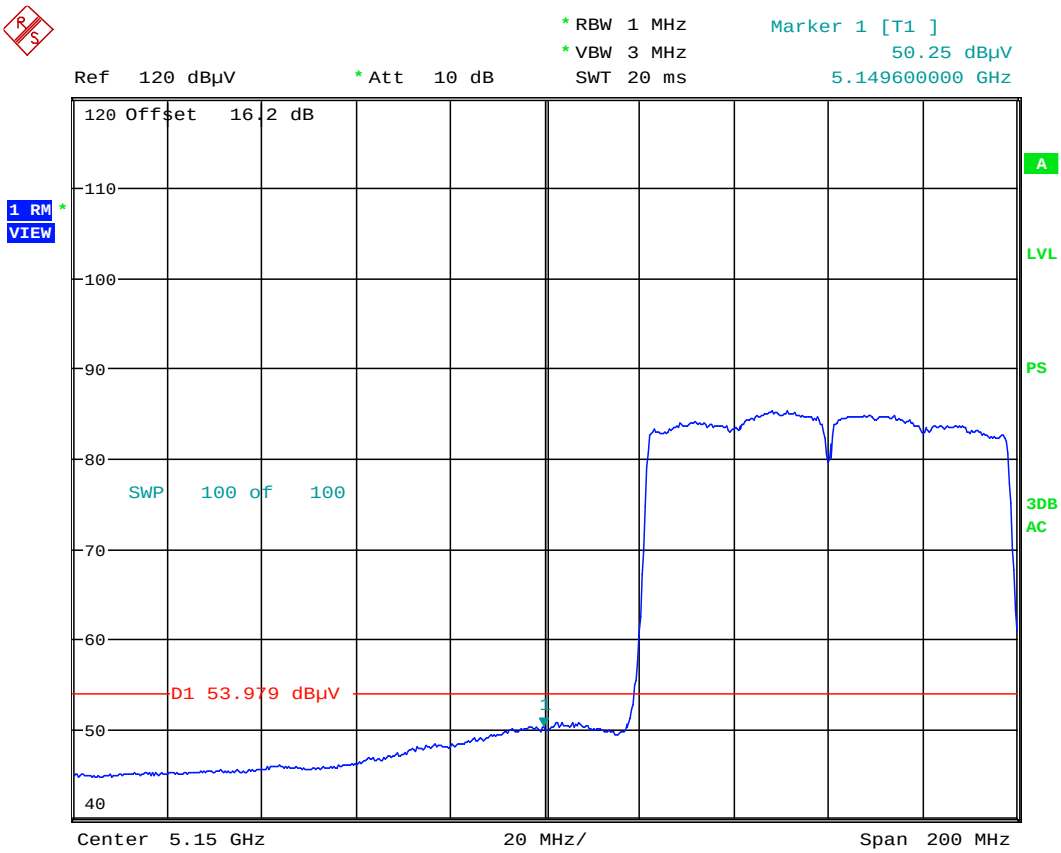
Radiated Band Edge Measurements (80MHz BW)

§15.407(b)(1) and (2), §15.205 & §15.209; RSS-210 [A9.2]

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



Plot 6-170. Radiated Restricted Lower Band Edge Plot (Average – UNII Band 1)

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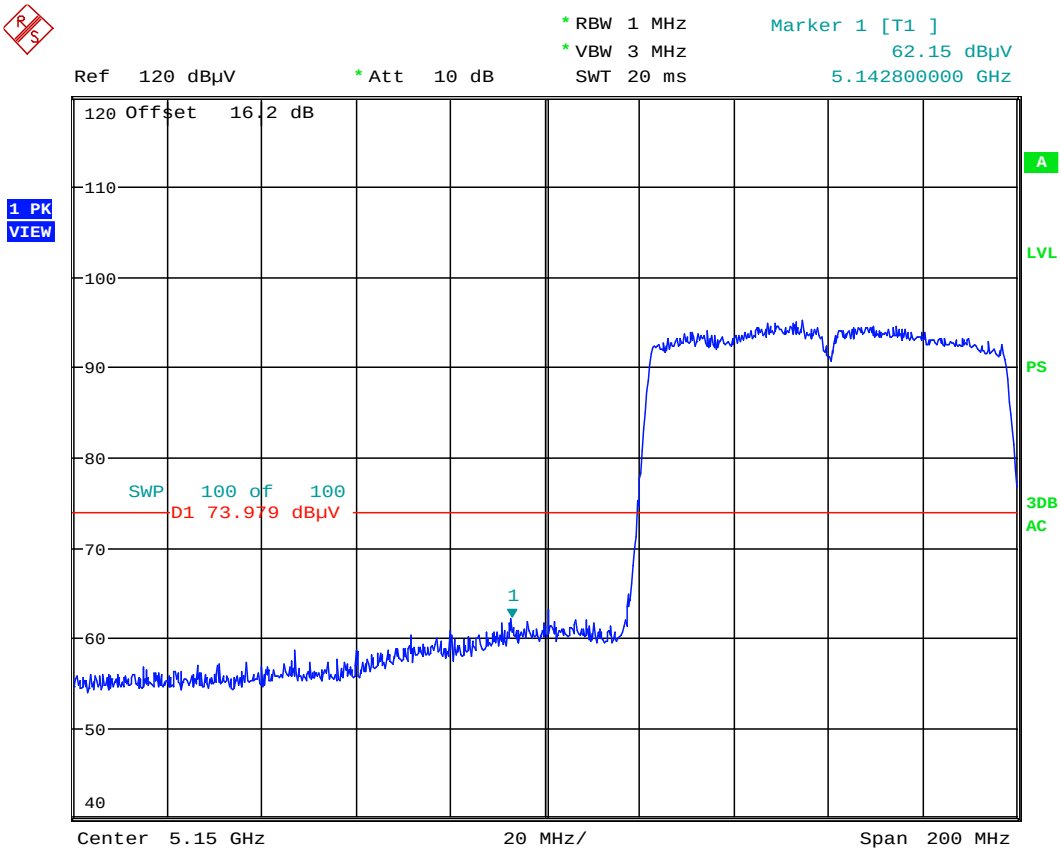
Radiated Band Edge Measurements (80MHz BW) (Cont'd)

§15.407(b)(1) and (2), §15.205 & §15.209; RSS-210 [A9.2]



Plot 6-171. Radiated Restricted Lower Band Edge Plot (Peak – UNII Band 1)

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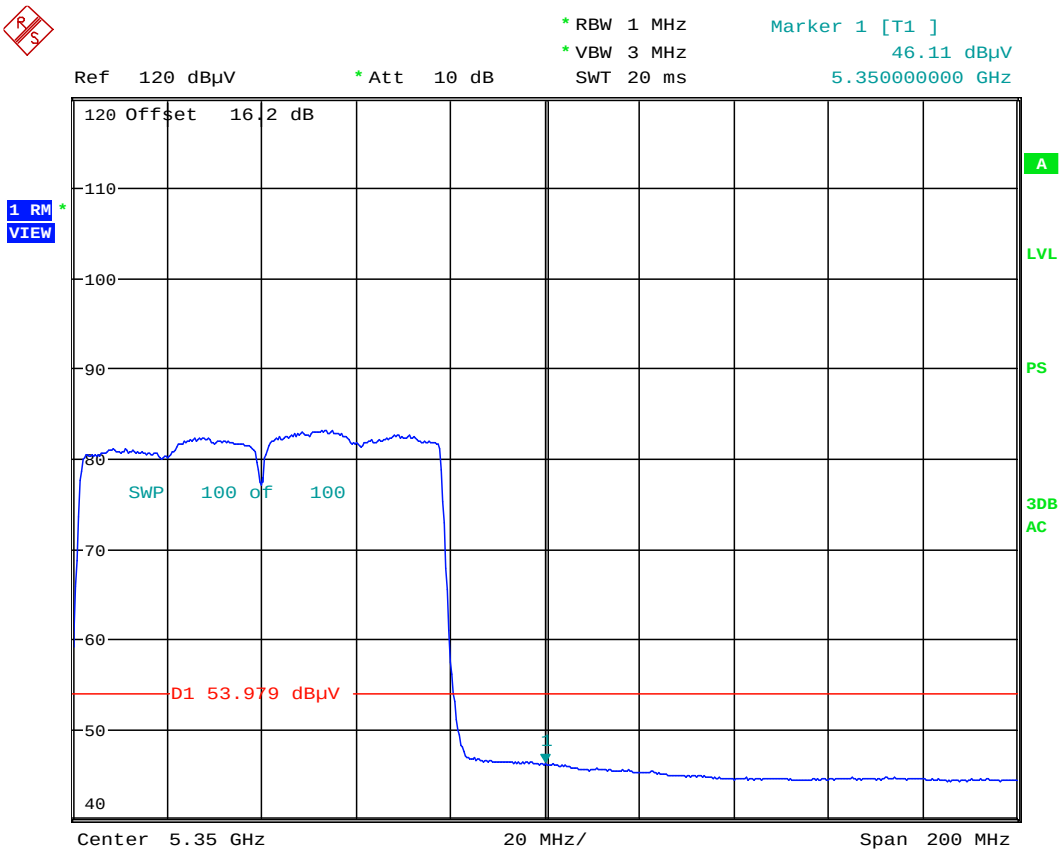
Radiated Band Edge Measurements (80MHz BW) (Cont'd)

§15.407(b)(1) and (2), §15.205 & §15.209; RSS-210 [A9.2]

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



Plot 6-172. Radiated Restricted Upper Band Edge Plot (Average – UNII Band 2A)

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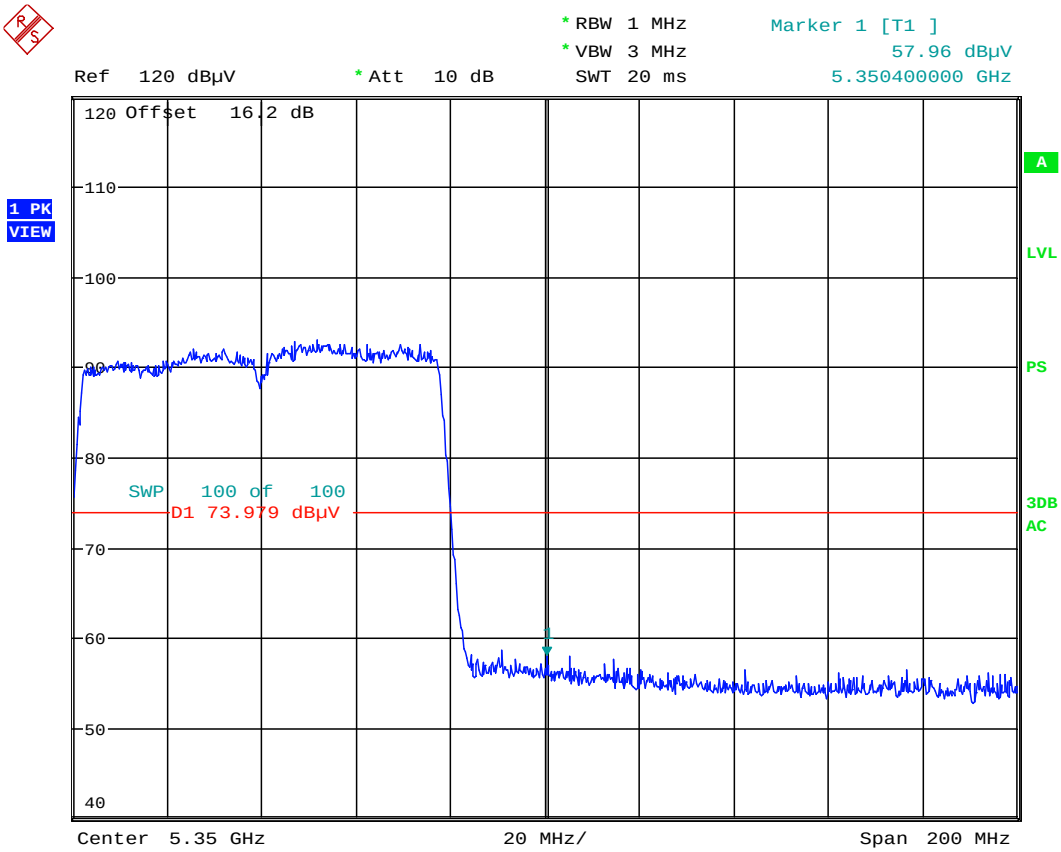
Radiated Band Edge Measurements (80MHz BW) (Cont'd)

§15.407(b)(1) and (2), §15.205 & §15.209; RSS-210 [A9.2]



Plot 6-173. Radiated Restricted Upper Band Edge Plot (Peak – UNII Band 2A)

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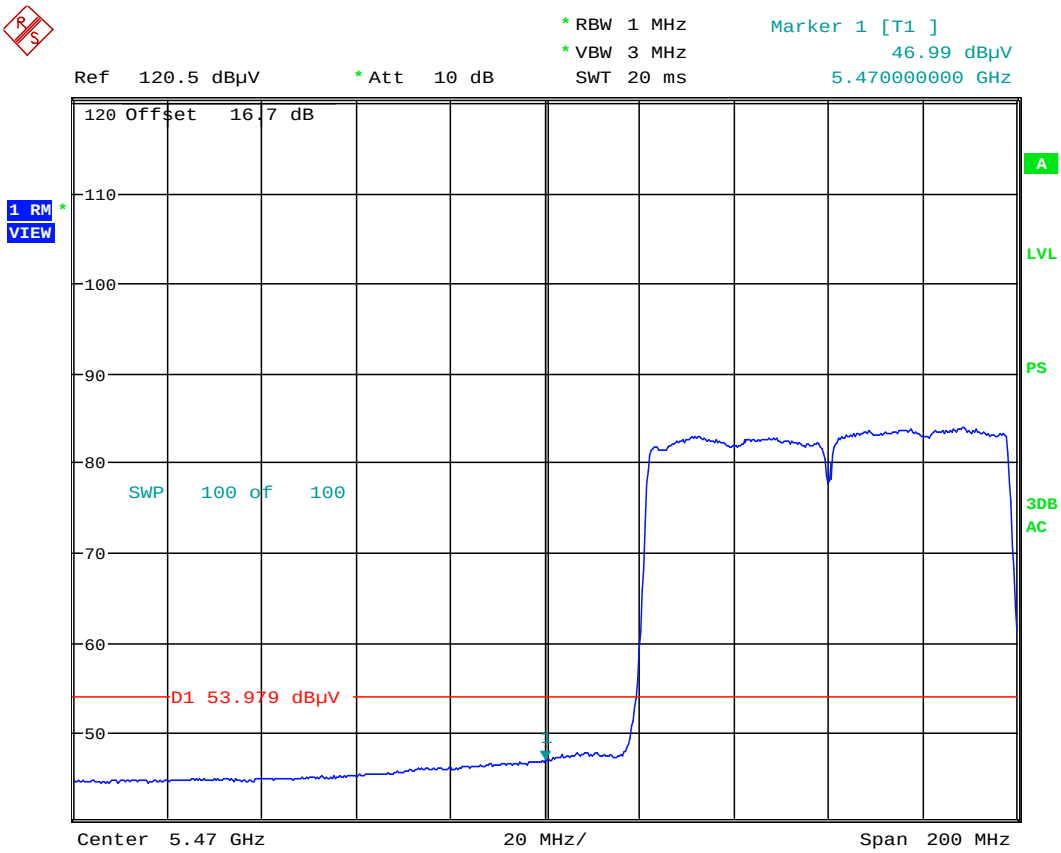
Radiated Band Edge Measurements (80MHz BW) (Cont'd)

§15.407(b)(1) and (2), §15.205 & §15.209; RSS-210 [A9.2]

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



Plot 6-174. Radiated Restricted Lower Band Edge Plot (Average – UNII Band 2C)

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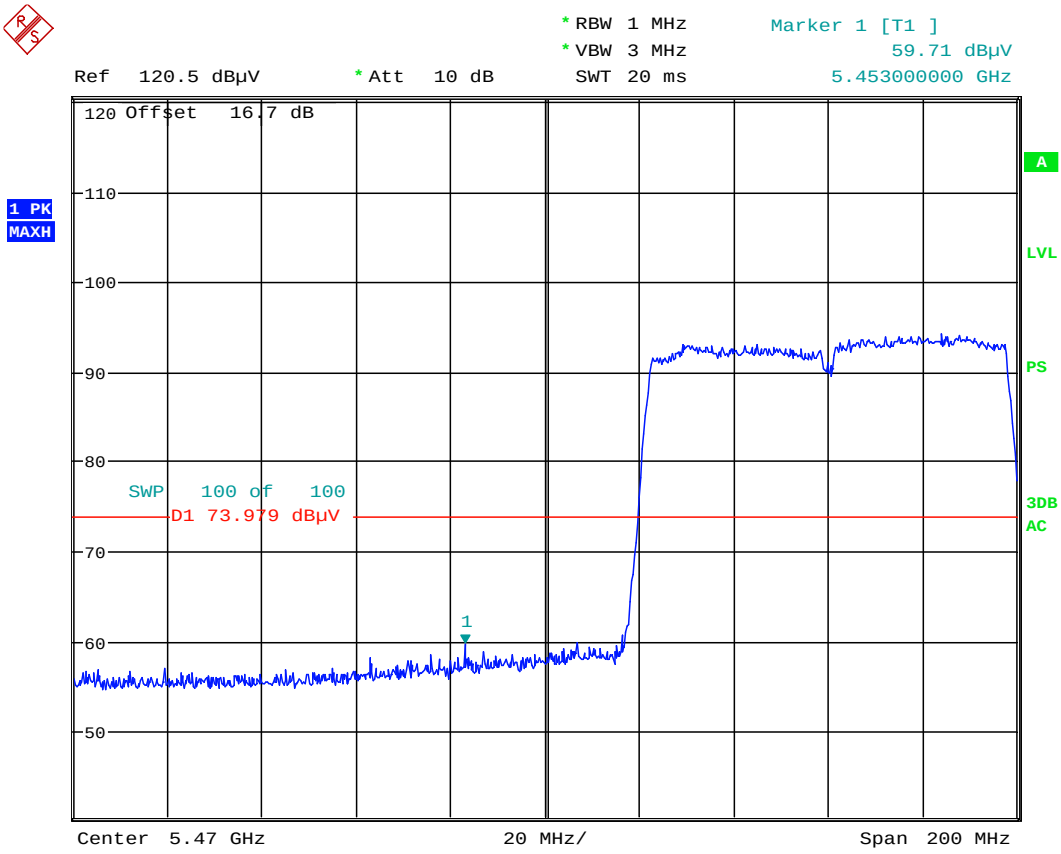
Radiated Band Edge Measurements (80MHz BW) (Cont'd)

§15.407(b)(1) and (2), §15.205 & §15.209; RSS-210 [A9.2]



Plot 6-175. Radiated Restricted Lower Band Edge Plot (Peak – UNII Band 2C)

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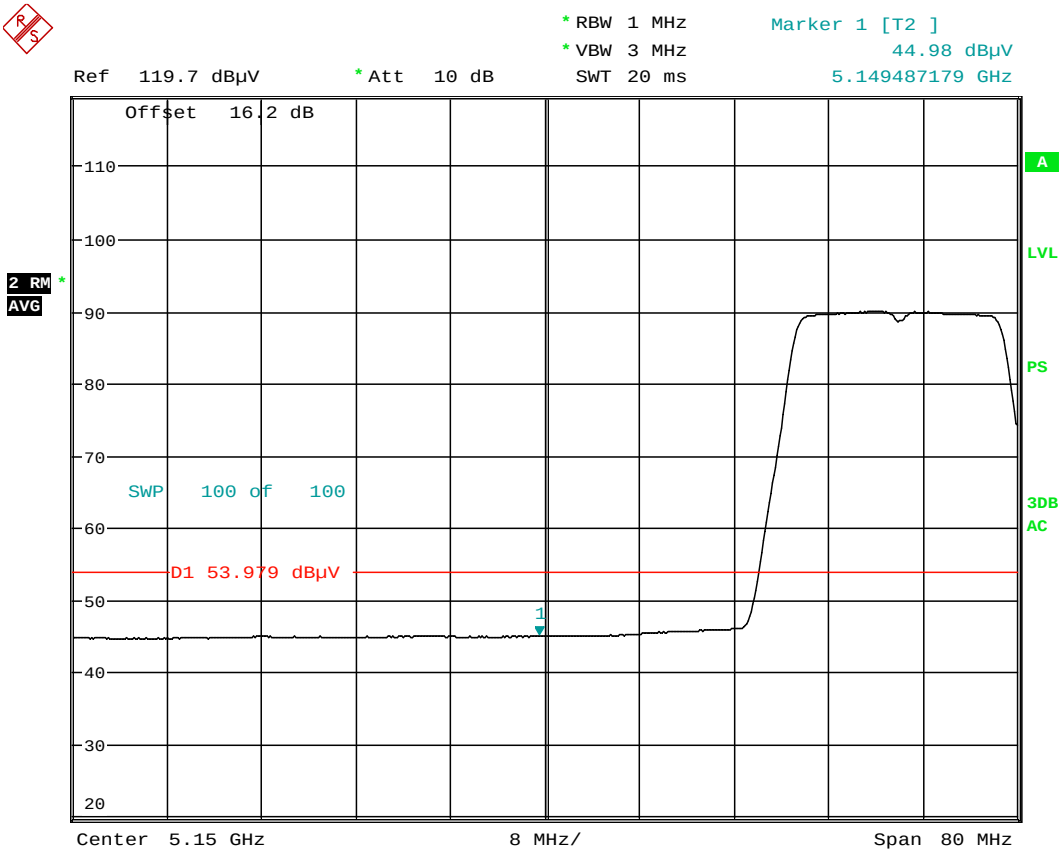
6.10 MIMO Radiated Band Edge Measurements

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



Plot 6-176. Radiated Restricted Lower Band Edge Plot (Average – UNII Band 1)

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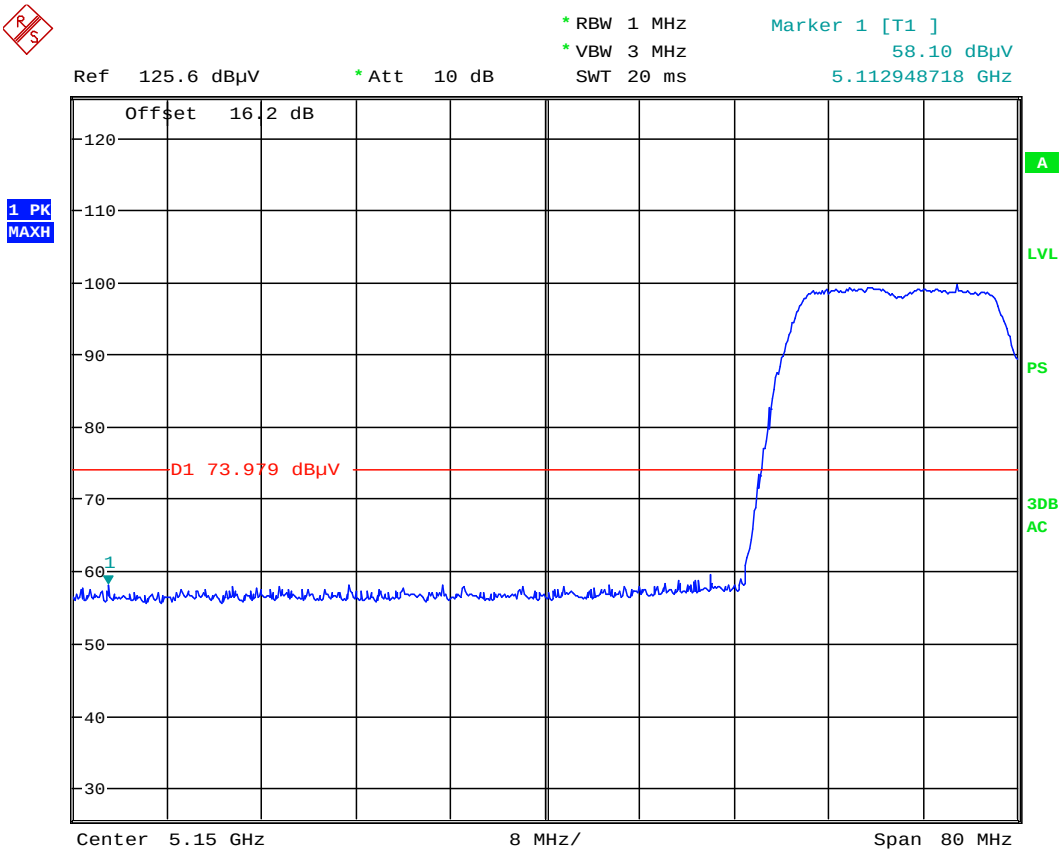
Radiated Band Edge Measurements (20MHz BW) (Cont'd)

§15.407(b)(1) and (2), §15.205 & §15.209; RSS-210 [A9.2]



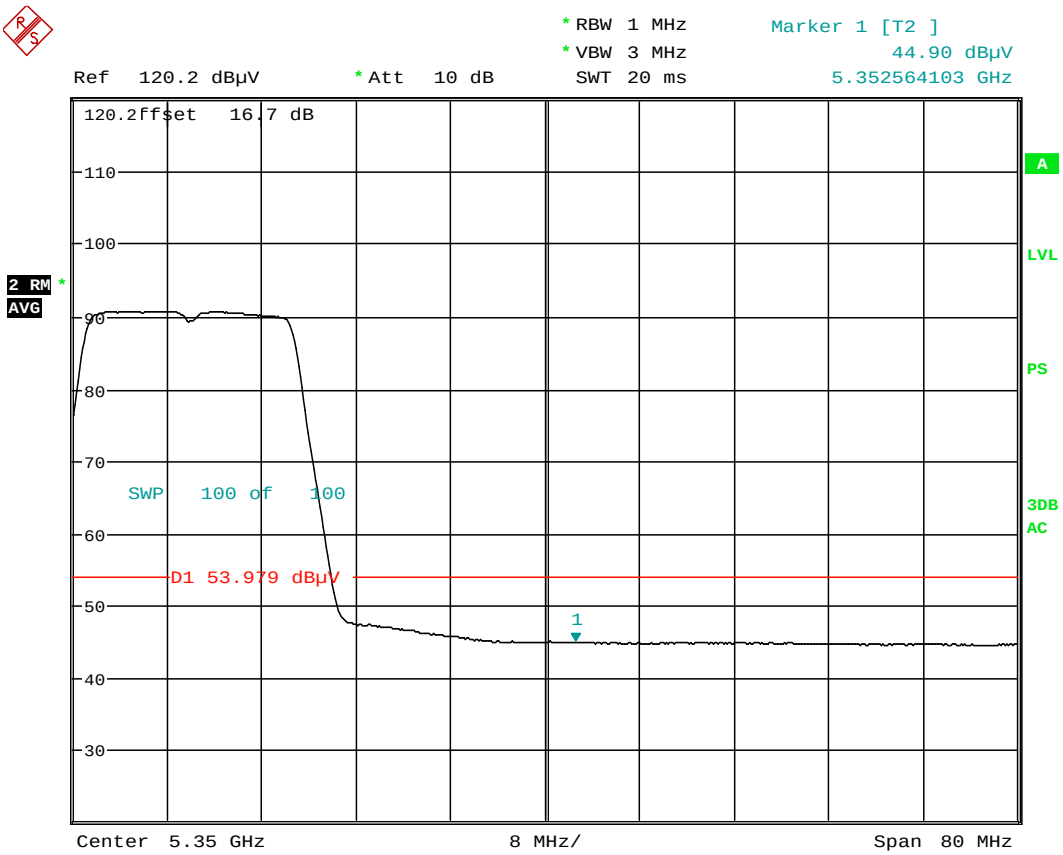
Plot 6-177. Radiated Restricted Lower Band Edge Plot (Peak – UNII Band 1)

© 2014 PCTEST Engineering Laboratory, Inc.

Radiated Band Edge Measurements (20MHz BW) (Cont'd)

§15.407(b)(1) and (2), §15.205 & §15.209; RSS-210 [A9.2]

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



Plot 6-178. Radiated Restricted Upper Band Edge Plot (Average – UNII Band 2A)

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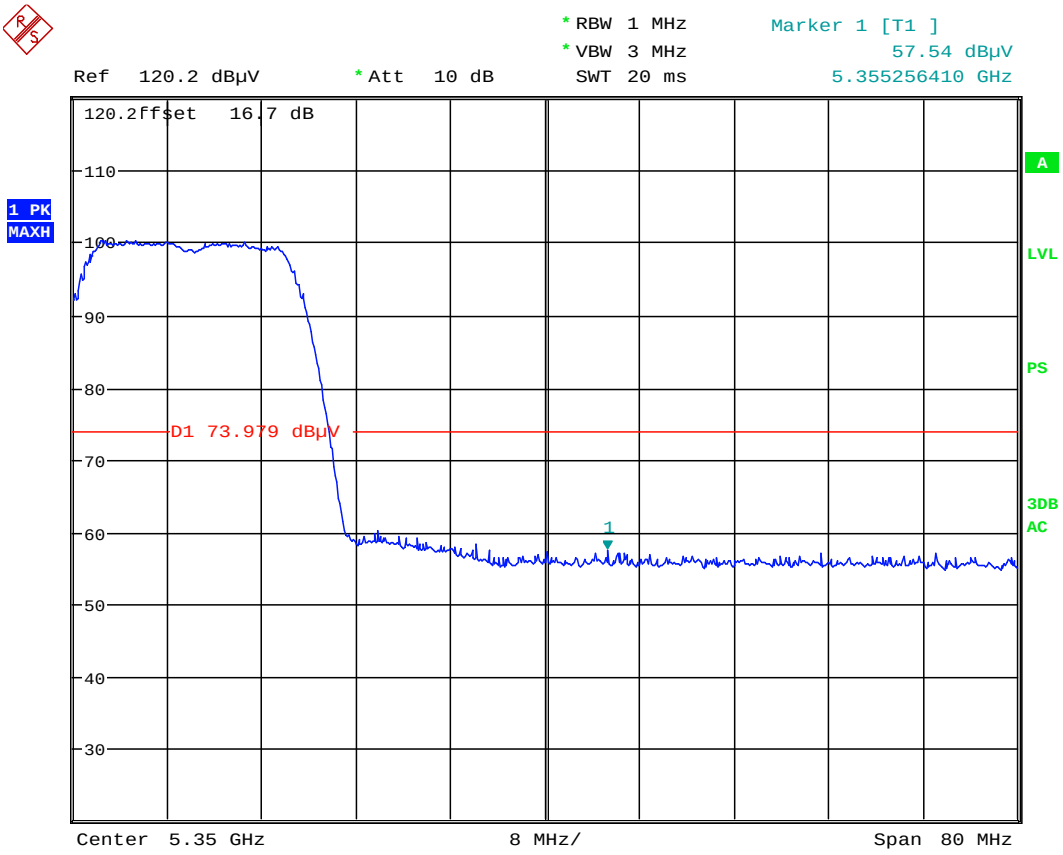
Radiated Band Edge Measurements (20MHz BW) (Cont'd)

§15.407(b)(1) and (2), §15.205 & §15.209; RSS-210 [A9.2]



Plot 6-179. Radiated Restricted Upper Band Edge Plot (Peak – UNII Band 2A)

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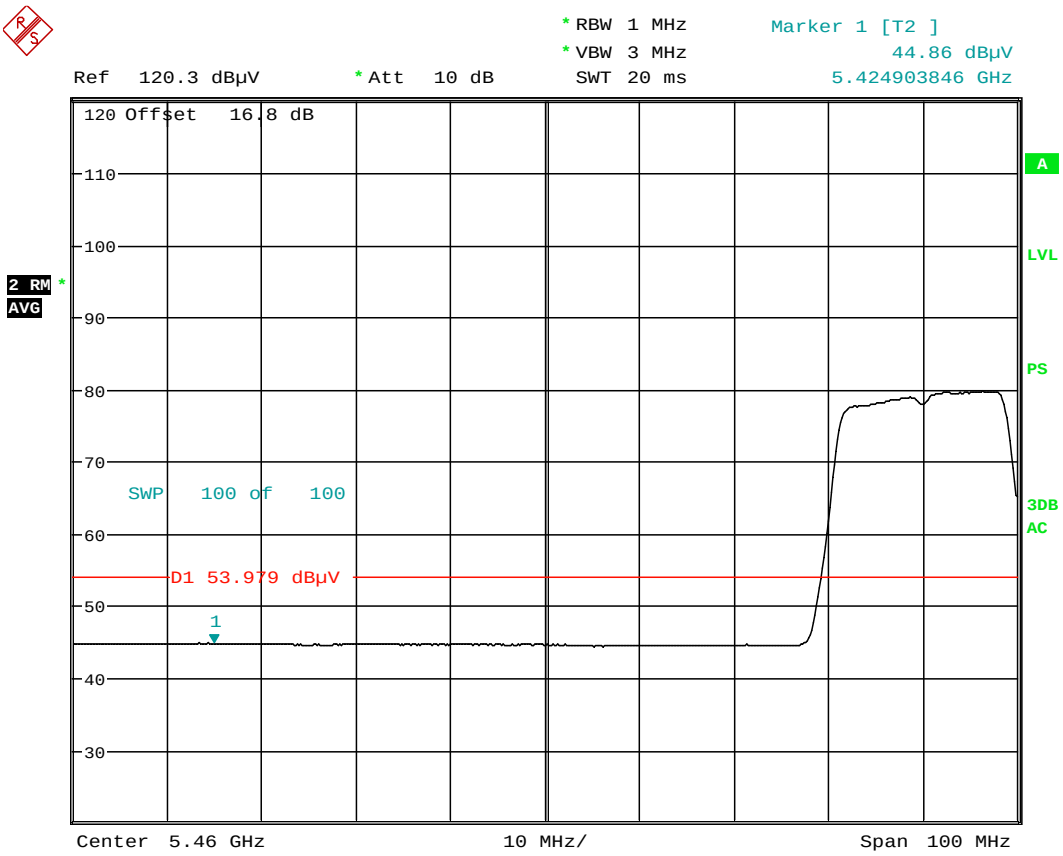
Radiated Band Edge Measurements (20MHz BW) (Cont'd)

§15.407(b)(1) and (2), §15.205 & §15.209; RSS-210 [A9.2]

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



Plot 6-180. Radiated Restricted Lower Band Edge Plot (Average – UNII Band 2C)

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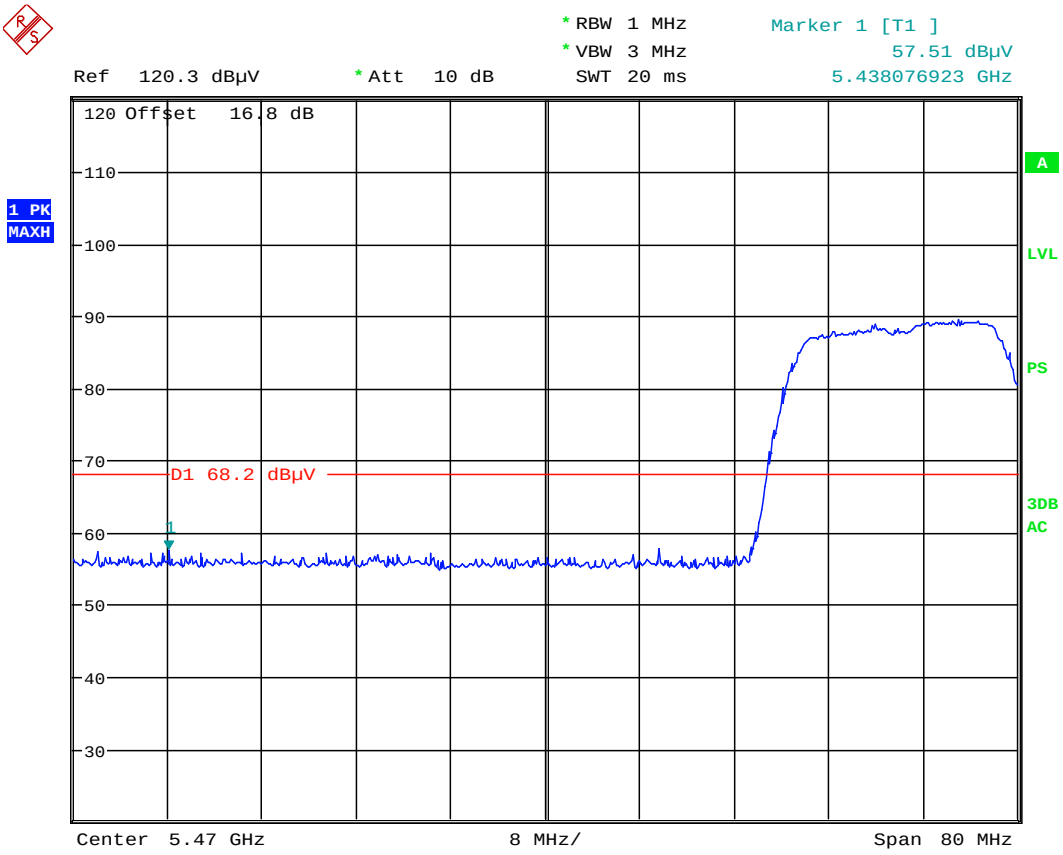
Radiated Band Edge Measurements (20MHz BW) (Cont'd)

§15.407(b)(1) and (2), §15.205 & §15.209; RSS-210 [A9.2]



Plot 6-181. Radiated Restricted Lower Band Edge Plot (Peak – UNII Band 2C)

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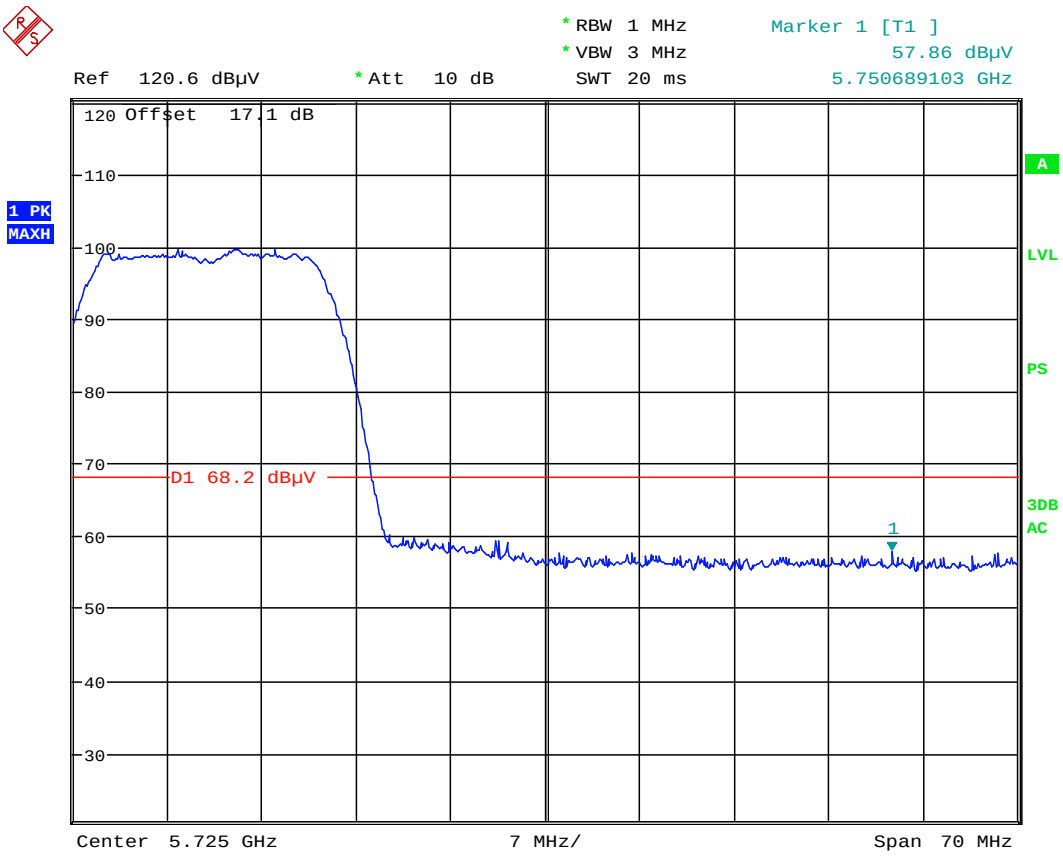
Radiated Band Edge Measurements (20MHz BW) (Cont'd)

§15.407(b)(1) and (2), §15.205 & §15.209; RSS-210 [A9.2]

Worst Case Mode:	802.11n (20MHz)
Worst Case Transfer Rate:	MCS8
Distance of Measurements:	3 Meters
Operating Frequency:	5700MHz
Channel:	140



Plot 6-182. Radiated Upper Band Edge Plot (Peak – UNII Band 2C)

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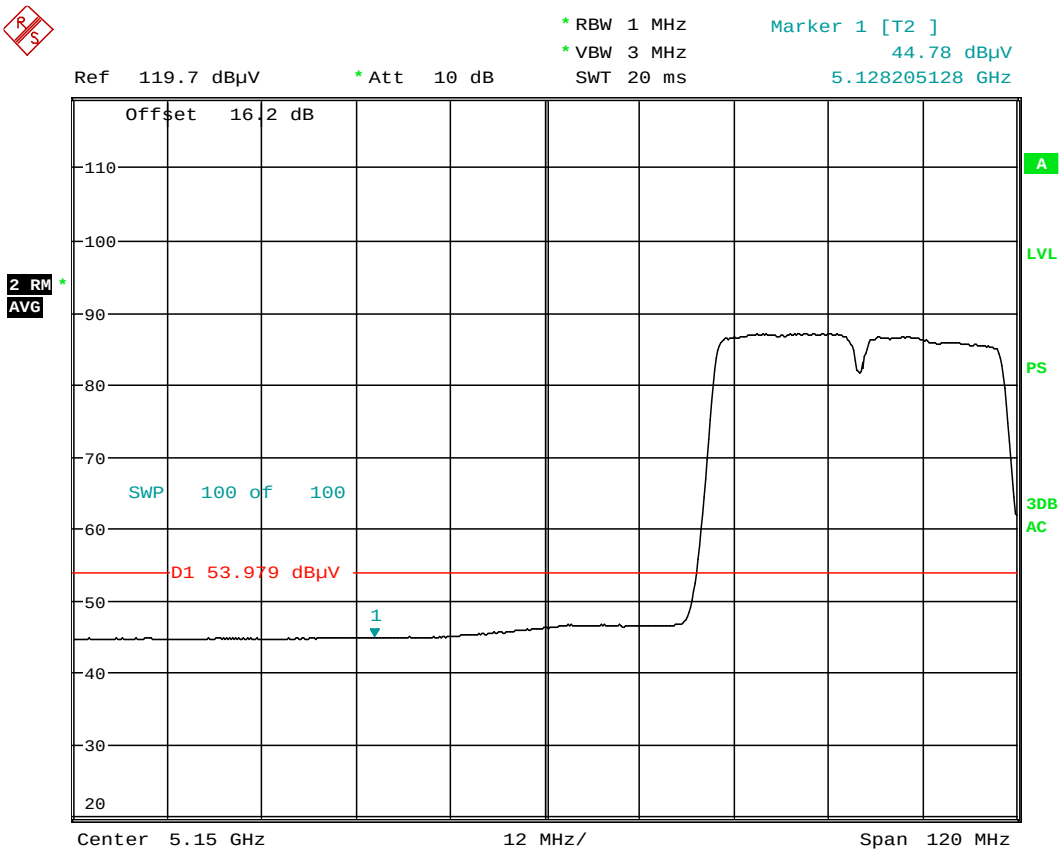
Radiated Band Edge Measurements (40MHz BW)

§15.407(b)(1) and (2), §15.205 & §15.209; RSS-210 [A9.2]

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



Plot 6-183. Radiated Restricted Lower Band Edge Plot (Average – UNII Band 1)

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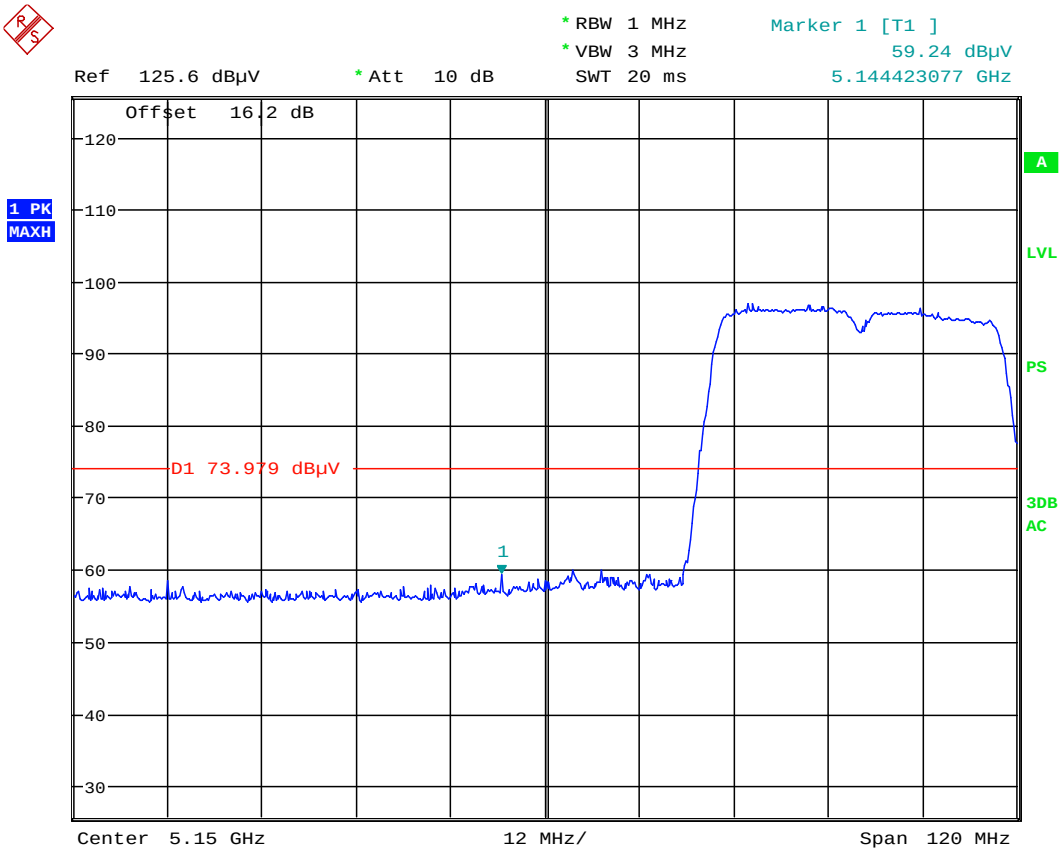
Radiated Band Edge Measurements (40MHz BW) (Cont'd)

§15.407(b)(1) and (2), §15.205 & §15.209; RSS-210 [A9.2]



Plot 6-184. Radiated Restricted Lower Band Edge Plot (Peak – UNII Band 1)

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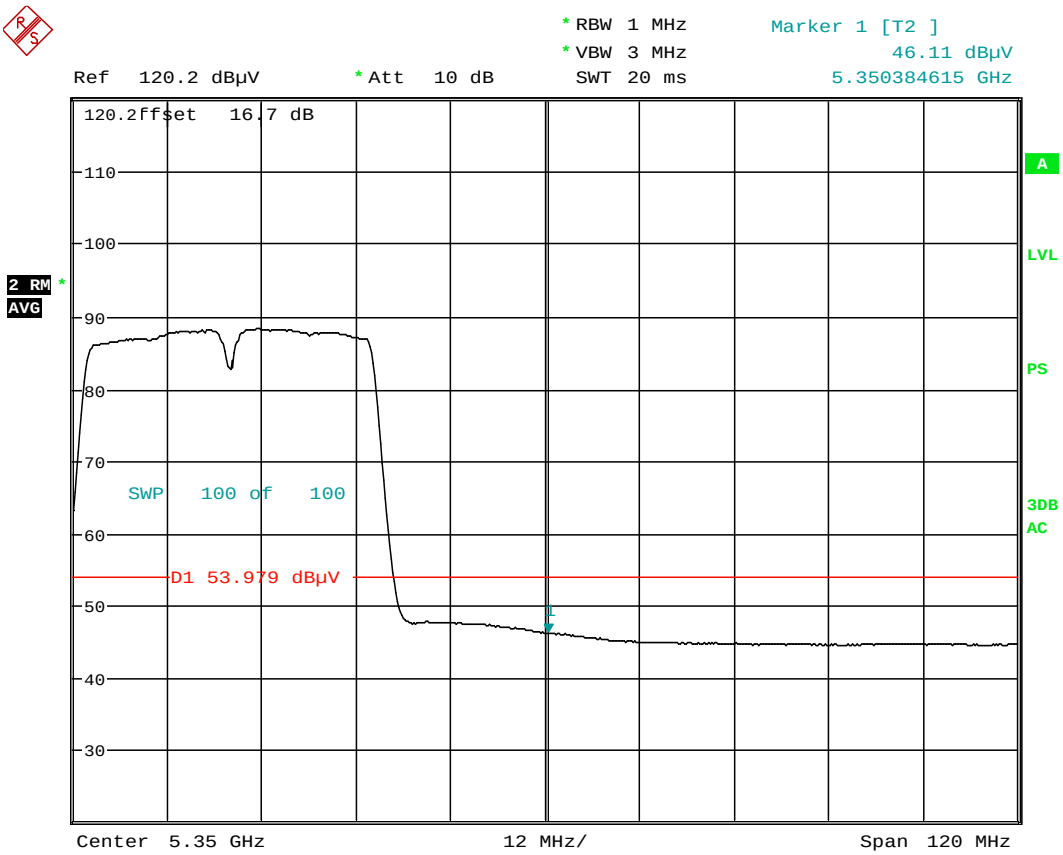
Radiated Band Edge Measurements (40MHz BW) (Cont'd)

§15.407(b)(1) and (2), §15.205 & §15.209; RSS-210 [A9.2]

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



Plot 6-185. Radiated Restricted Upper Band Edge Plot (Average – UNII Band 2A)

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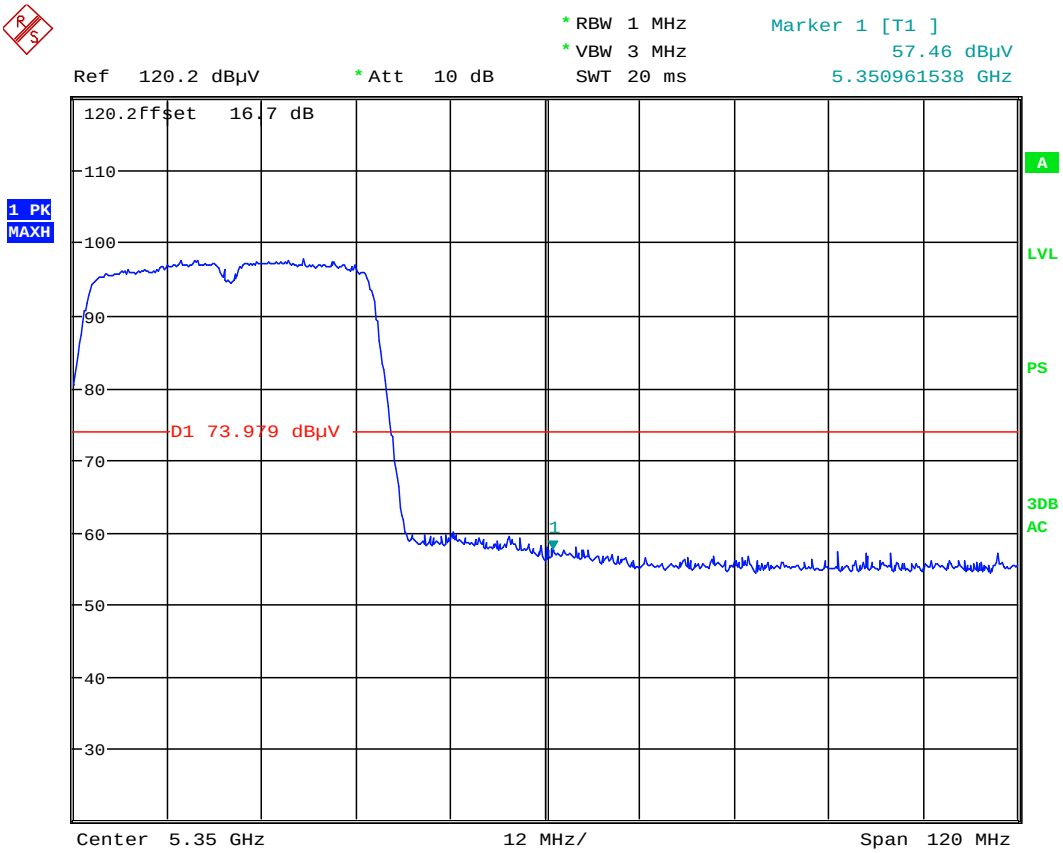
Radiated Band Edge Measurements (40MHz BW) (Cont'd)

§15.407(b)(1) and (2), §15.205 & §15.209; RSS-210 [A9.2]



Plot 6-186. Radiated Restricted Upper Band Edge Plot (Peak – UNII Band 2A)

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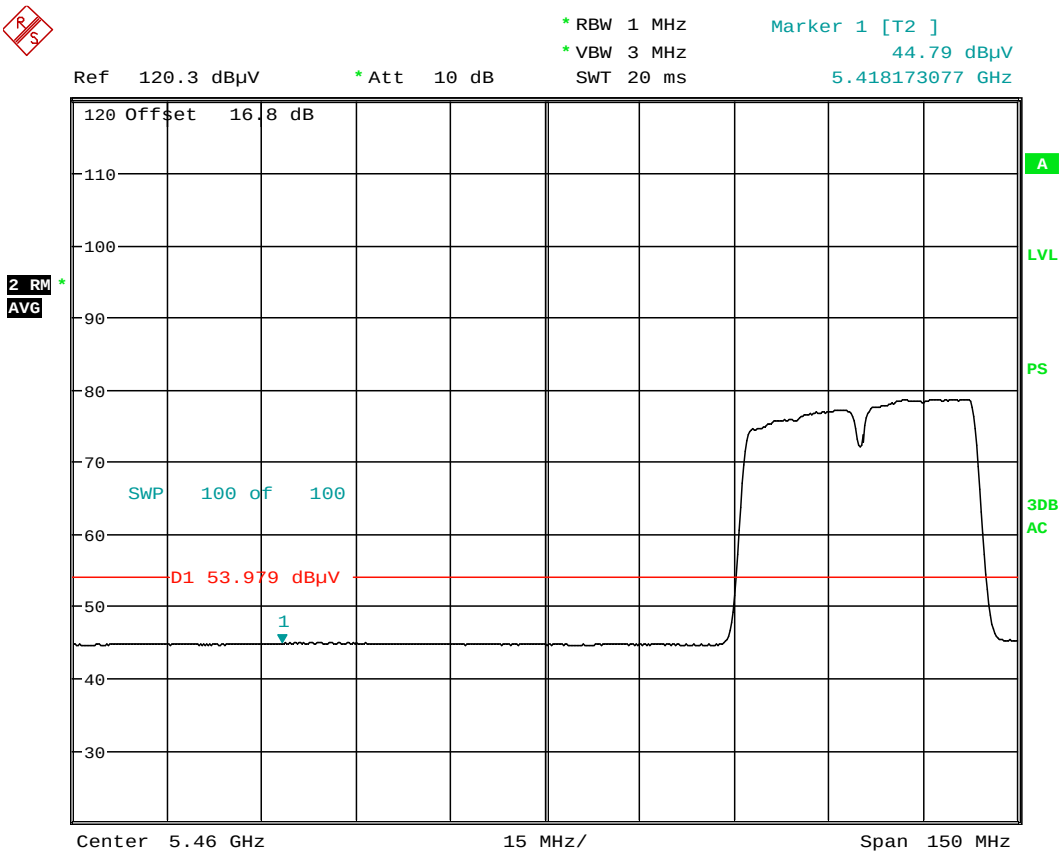
Radiated Band Edge Measurements (40MHz BW) (Cont'd)

§15.407(b)(1) and (2), §15.205 & §15.209; RSS-210 [A9.2]

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



Plot 6-187. Radiated Restricted Lower Band Edge Plot (Average – UNII Band 2C)

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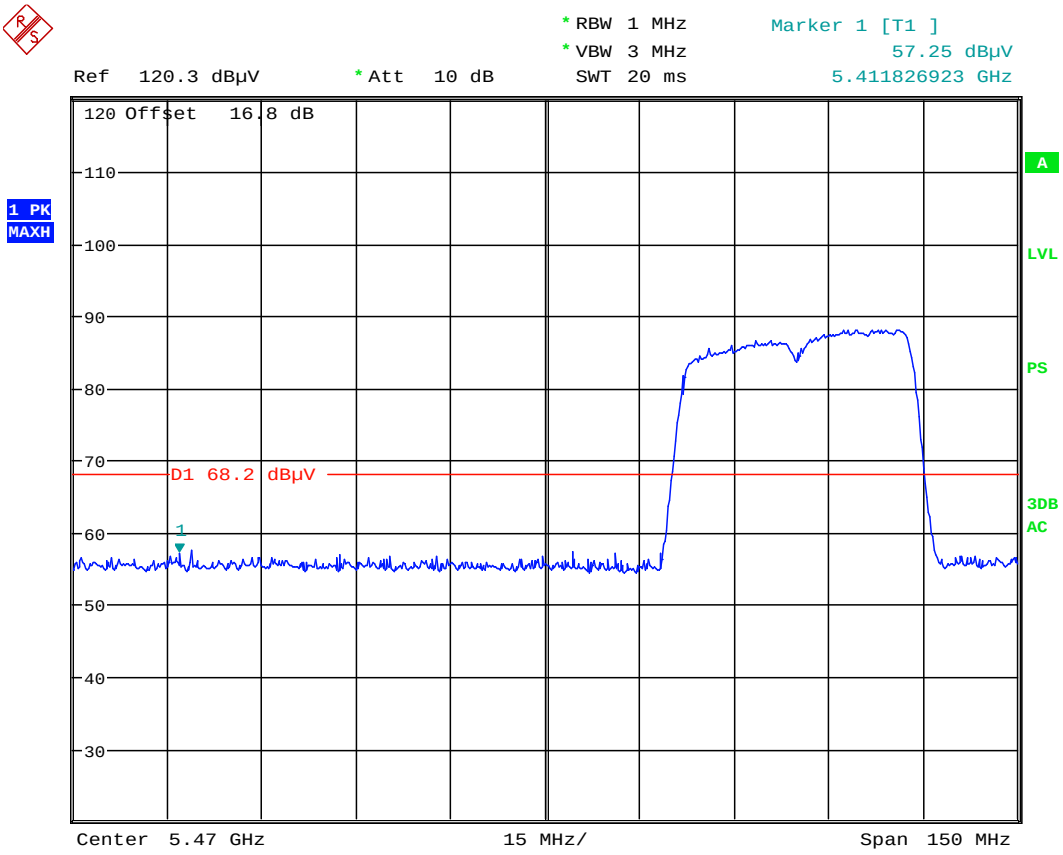
Radiated Band Edge Measurements (40MHz BW) (Cont'd)

§15.407(b)(1) and (2), §15.205 & §15.209; RSS-210 [A9.2]



Plot 6-188. Radiated Restricted Lower Band Edge Plot (Peak – UNII Band 2C)

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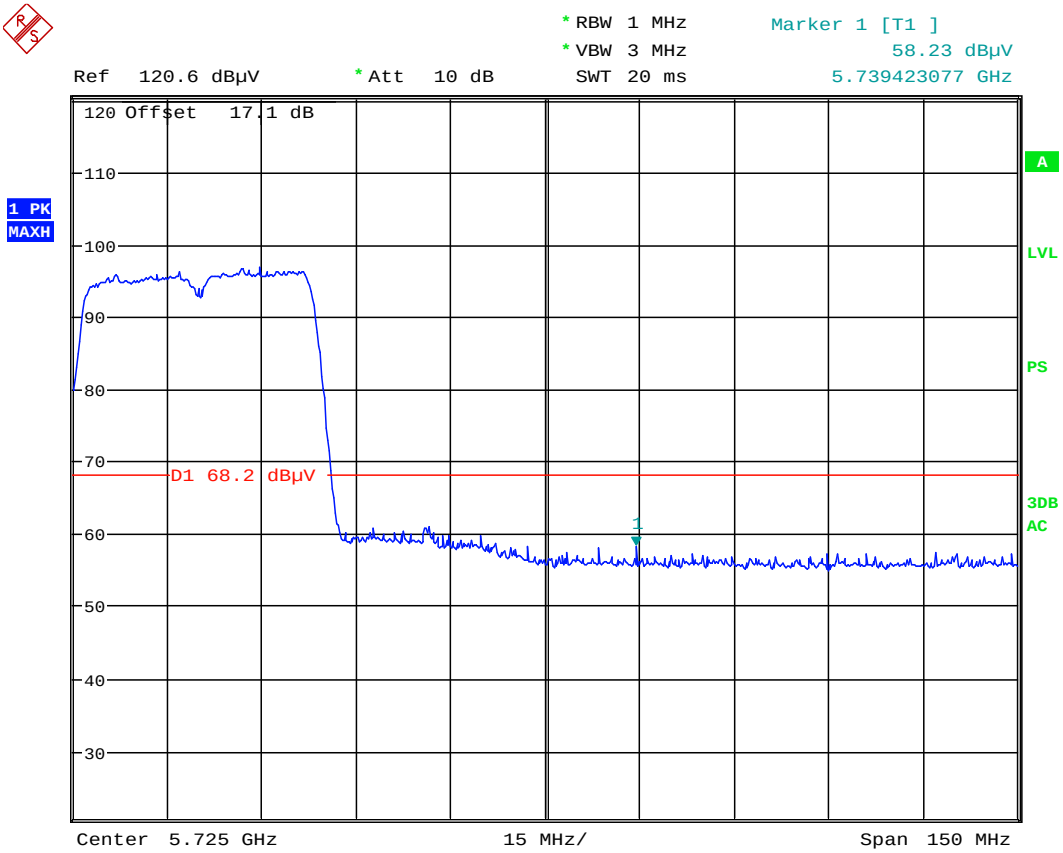
Radiated Band Edge Measurements (40MHz BW) (Cont'd)

§15.407(b)(1) and (2), §15.205 & §15.209; RSS-210 [A9.2]

Worst Case Mode:	802.11n (40MHz)
Worst Case Transfer Rate:	MCS8
Distance of Measurements:	3 Meters
Operating Frequency:	5670MHz
Channel:	134



Plot 6-189. Radiated Upper Band Edge Plot (Peak – UNII Band 2C)

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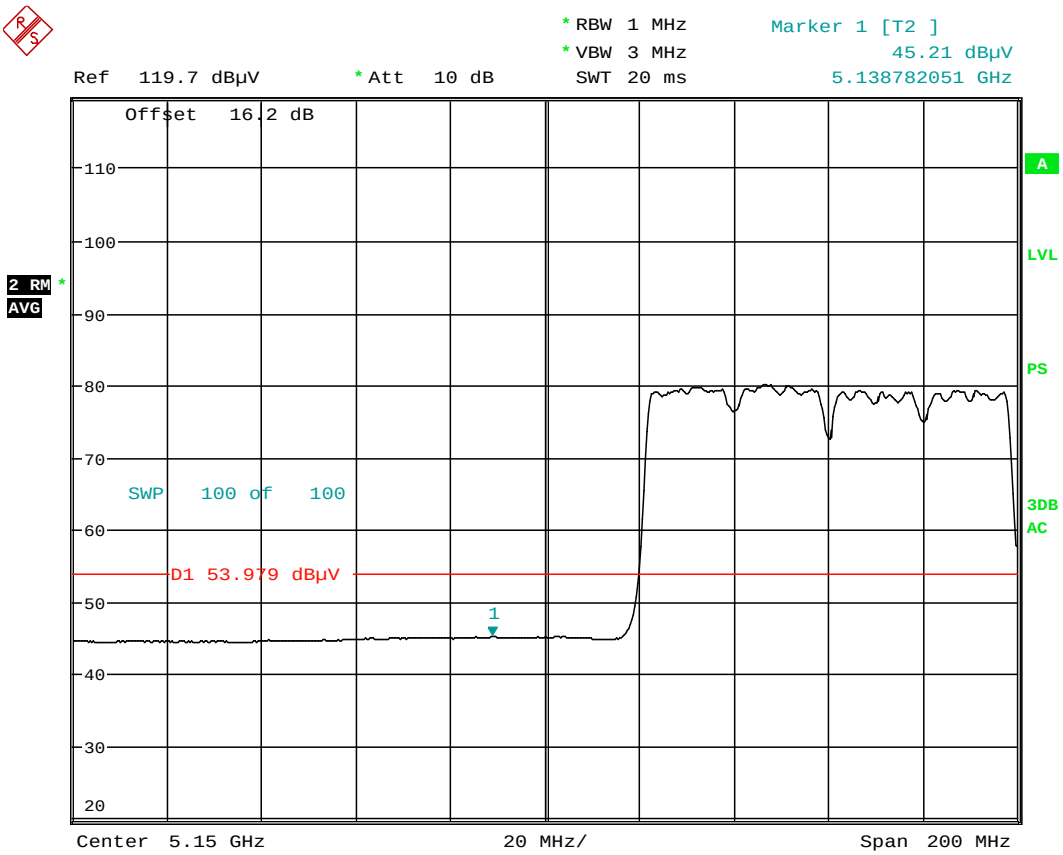
Radiated Band Edge Measurements (80MHz BW)

§15.407(b)(1) and (2), §15.205 & §15.209; RSS-210 [A9.2]

Worst Case Mode:	802.11n (80MHz)
Worst Case Transfer Rate:	MCS8
Distance of Measurements:	3 Meters
Operating Frequency:	5210MHz
Channel:	42



Plot 6-190. Radiated Restricted Lower Band Edge Plot (Average – UNII Band 1)

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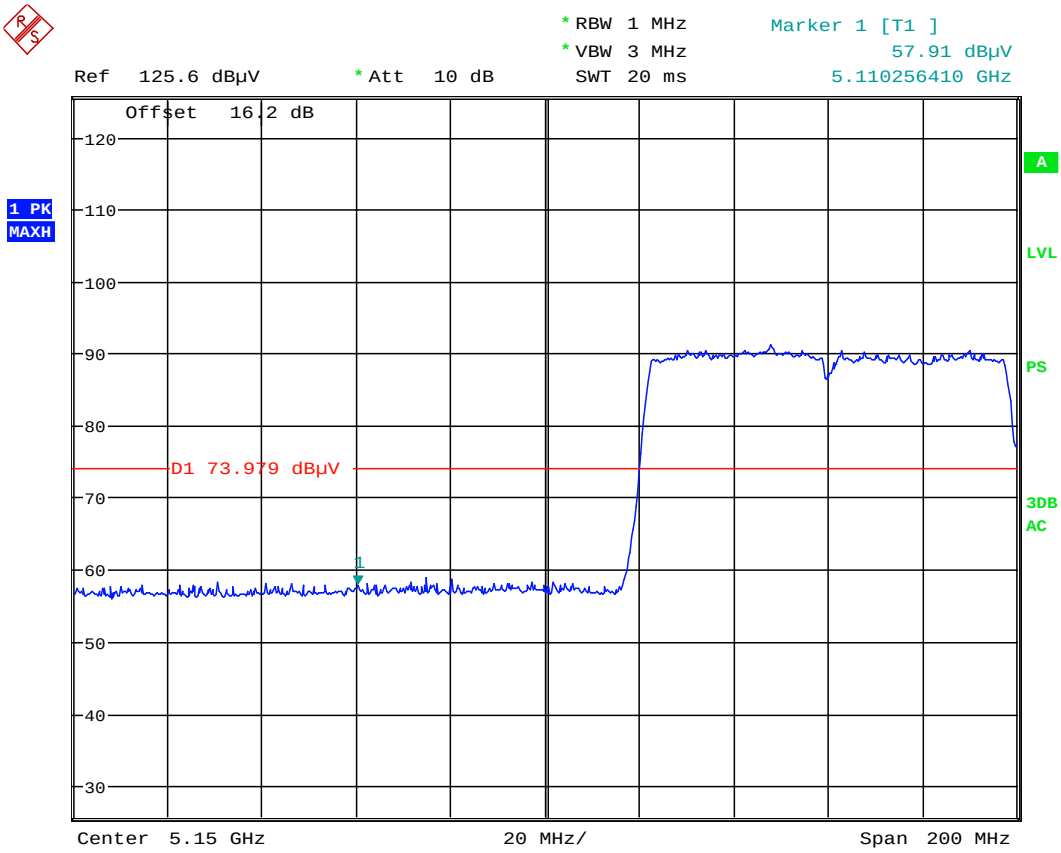
Radiated Band Edge Measurements (80MHz BW) (Cont'd)

§15.407(b)(1) and (2), §15.205 & §15.209; RSS-210 [A9.2]



Plot 6-191. Radiated Restricted Lower Band Edge Plot (Peak – UNII Band 1)

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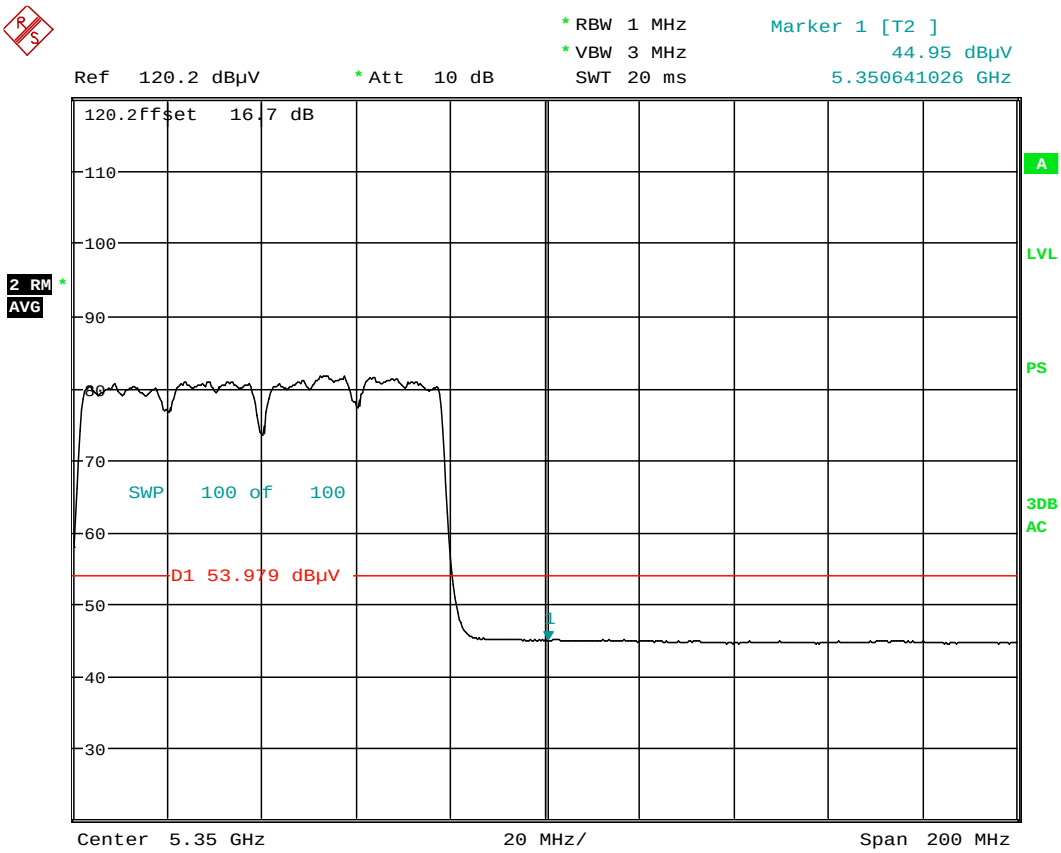
Radiated Band Edge Measurements (80MHz BW) (Cont'd)

§15.407(b)(1) and (2), §15.205 & §15.209; RSS-210 [A9.2]

Worst Case Mode:	802.11ac (80MHz)
Worst Case Transfer Rate:	MCS8
Distance of Measurements:	3 Meters
Operating Frequency:	5290MHz
Channel:	58



Plot 6-192. Radiated Restricted Upper Band Edge Plot (Average – UNII Band 2A)

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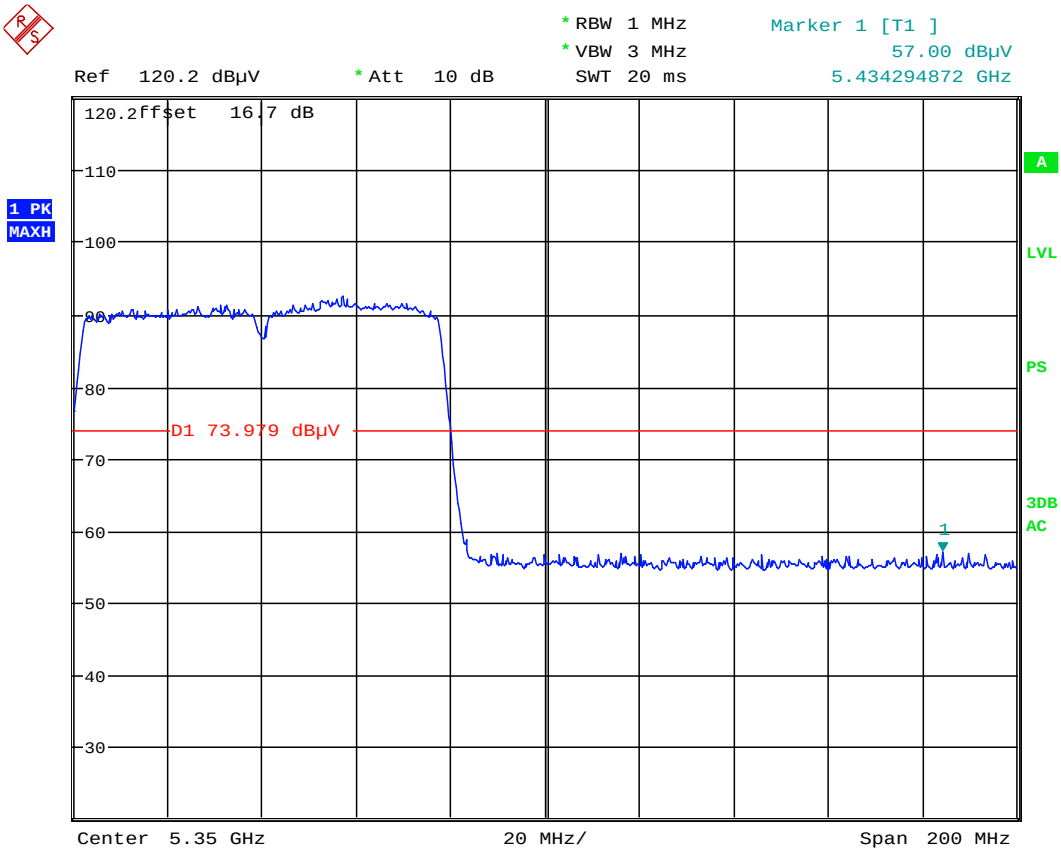
Radiated Band Edge Measurements (80MHz BW) (Cont'd)

§15.407(b)(1) and (2), §15.205 & §15.209; RSS-210 [A9.2]



Plot 6-193. Radiated Restricted Upper Band Edge Plot (Peak – UNII Band 2A)

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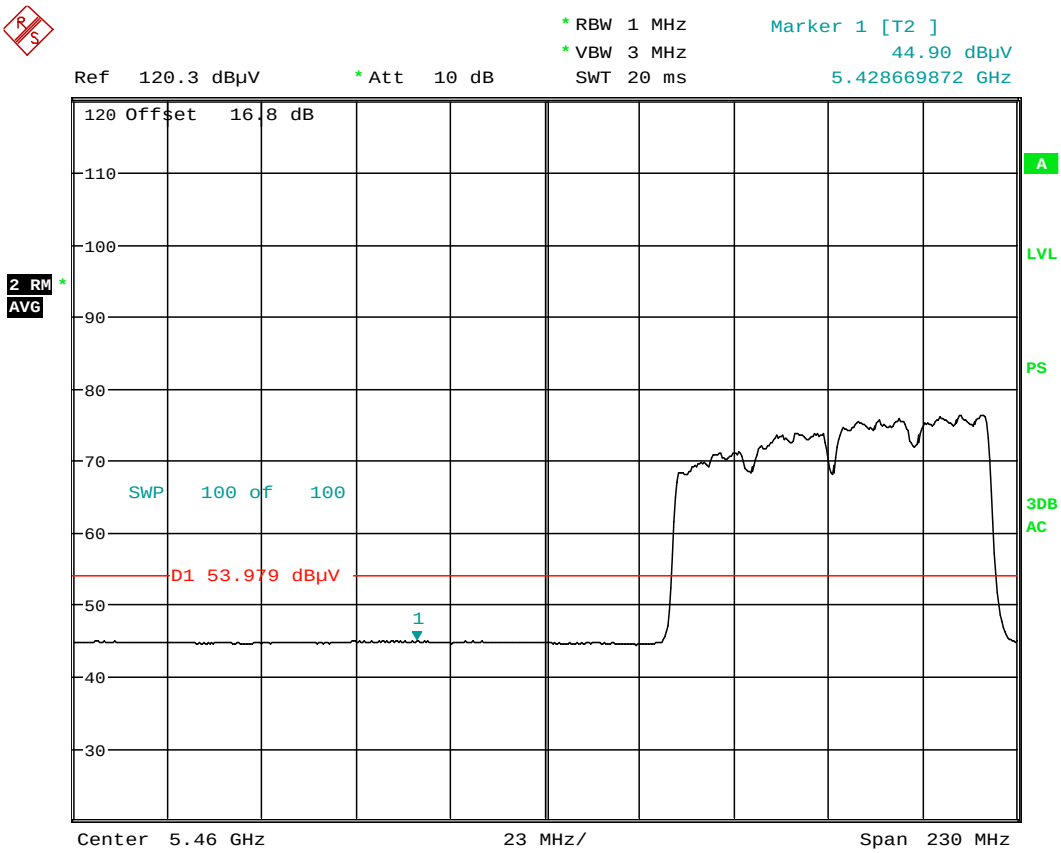
Radiated Band Edge Measurements (80MHz BW) (Cont'd)

§15.407(b)(1) and (2), §15.205 & §15.209; RSS-210 [A9.2]

Worst Case Mode:	802.11ac (80MHz)
Worst Case Transfer Rate:	MCS8
Distance of Measurements:	3 Meters
Operating Frequency:	5530MHz
Channel:	106



Plot 6-194. Radiated Restricted Lower Band Edge Plot (Average – UNII Band 2C)

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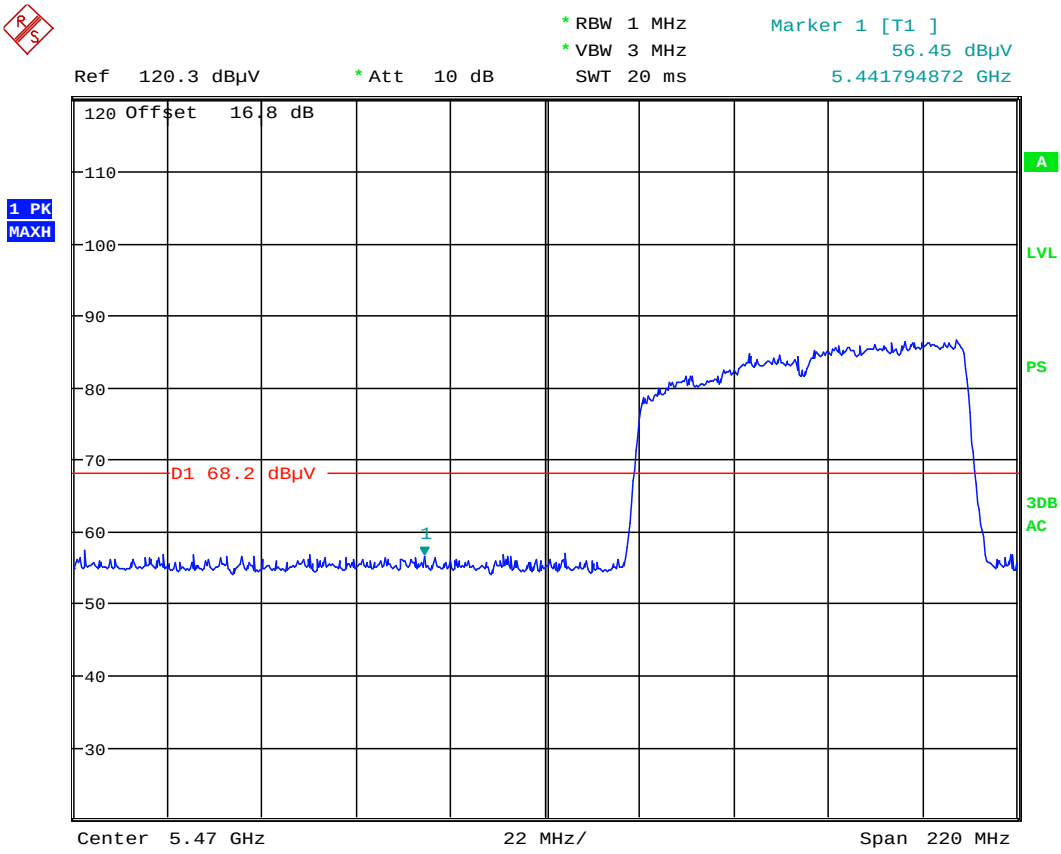
Radiated Band Edge Measurements (80MHz BW) (Cont'd)

§15.407(b)(1) and (2), §15.205 & §15.209; RSS-210 [A9.2]



Plot 6-195. Radiated Restricted Lower Band Edge Plot (Peak – UNII Band 2C)

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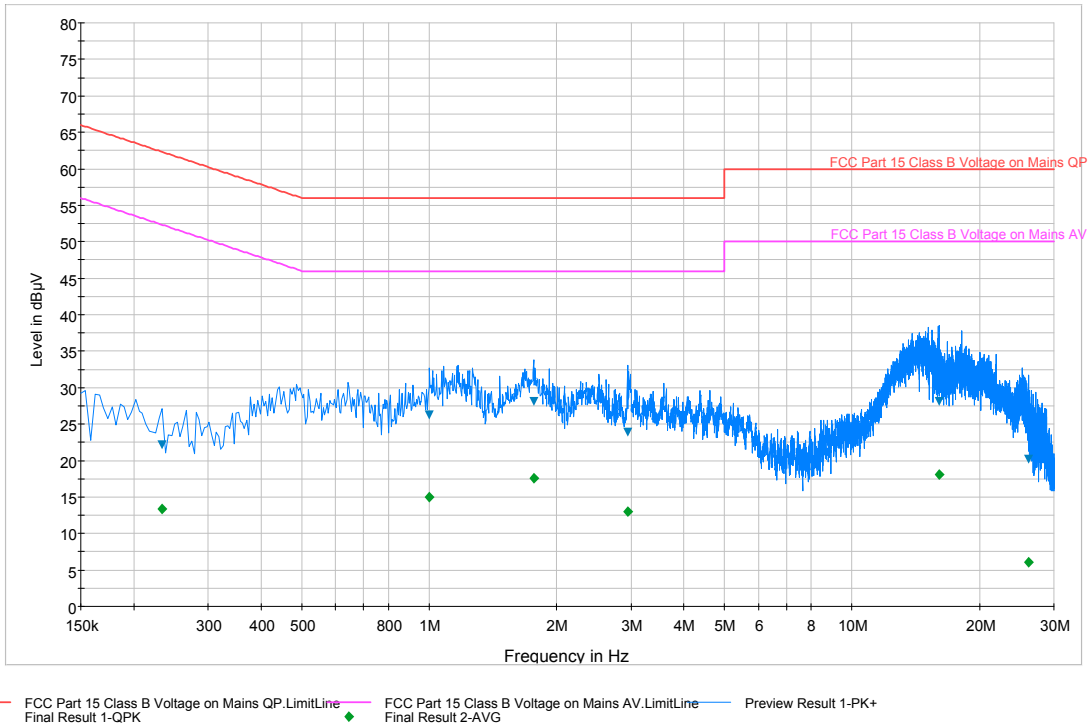
6.11 Line-Conducted Test Data

§15.207; RSS-Gen [7.2.2]



Plot 6-196. Line Conducted Plot with 802.11a UNII Band 1 (L1)

Frequency MHz	Line	Corr. dB	QuasiPeak dBµV	Limit dBµV	Margin dB	Average dBµV	Limit dBµV	Margin dB
0.234	L1	0.1	22.20	62.30	40.10	13.40	52.30	38.90
1.002	L1	0.1	26.30	56.00	29.70	15.00	46.00	31.00
1.766	L1	0.1	28.10	56.00	27.90	17.60	46.00	28.40
2.942	L1	0.2	23.90	56.00	32.10	13.00	46.00	33.00
16.046	L1	0.5	28.10	60.00	31.90	18.10	50.00	31.90
26.170	L1	0.8	20.20	60.00	39.80	6.10	50.00	43.90

Table 6-51. Line Conducted Data 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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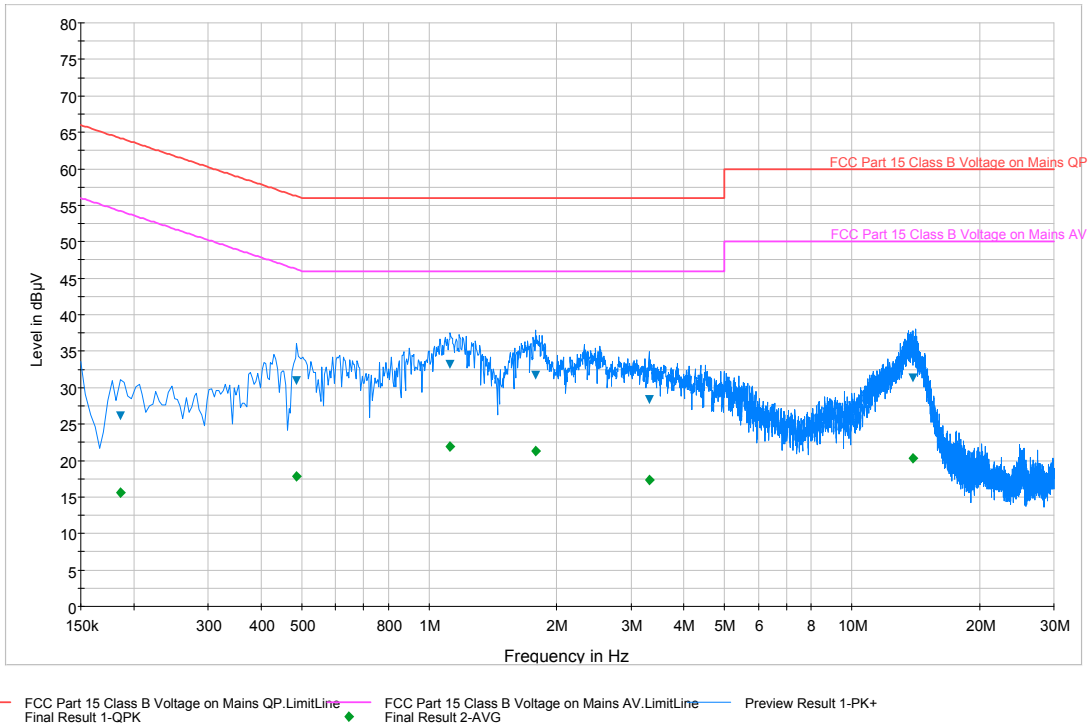
Line-Conducted Test Data (Cont'd)

§15.207; RSS-Gen [7.2.2]



Plot 6-197. Line Conducted Plot with 802.11a UNII Band 1 (N)

Frequency MHz	Line	Corr. dB	QuasiPeak dBµV	Limit dBµV	Margin dB	Average dBµV	Limit dBµV	Margin dB
0.186	N	0.2	26.20	64.20	38.00	15.60	54.20	38.60
0.486	N	0.1	30.90	56.20	25.30	17.80	46.20	28.40
1.122	N	0.1	33.20	56.00	22.80	21.90	46.00	24.10
1.782	N	0.2	31.70	56.00	24.30	21.30	46.00	24.70
3.310	N	0.2	28.40	56.00	27.60	17.30	46.00	28.70
13.942	N	0.4	31.30	60.00	28.70	20.30	50.00	29.70

Table 6-52. Line Conducted Data 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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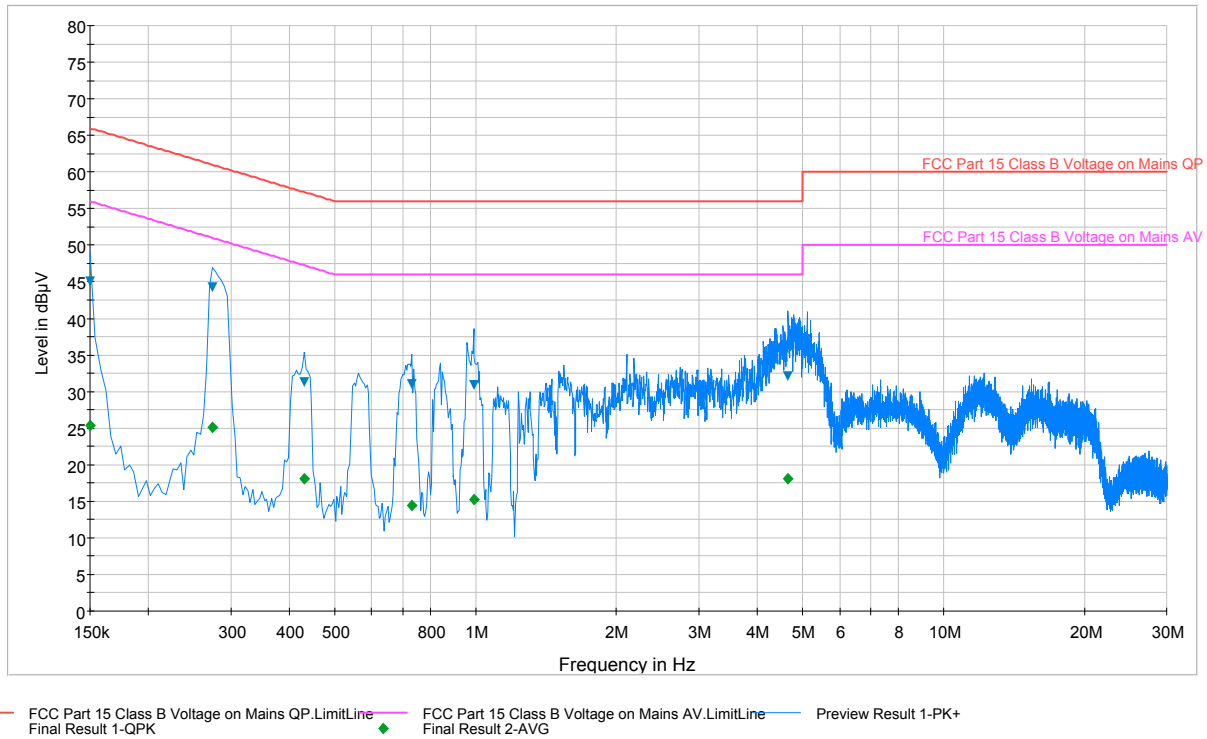
Line-Conducted Test Data (Cont'd)

§15.207; RSS-Gen [7.2.2]



Plot 6-198. Line Conducted Plot with 802.11a UNII Band 2A (L1)

Frequency MHz	Line	Corr. dB	QuasiPeak dBµV	Limit dBµV	Margin dB	Average dBµV	Limit dBµV	Margin dB
0.150	L1	0.2	45.00	66.00	21.00	25.40	56.00	30.60
0.274	L1	0.1	44.30	61.00	16.70	25.10	51.00	25.90
0.430	L1	0.1	31.40	57.30	25.90	18.10	47.30	29.20
0.730	L1	0.1	31.00	56.00	25.00	14.40	46.00	31.60
0.990	L1	0.1	30.90	56.00	25.10	15.30	46.00	30.70
4.658	L1	0.2	32.10	56.00	23.90	18.10	46.00	27.90

Table 6-53. Line Conducted Data 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.

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8. Deviations to the Specifications: None.

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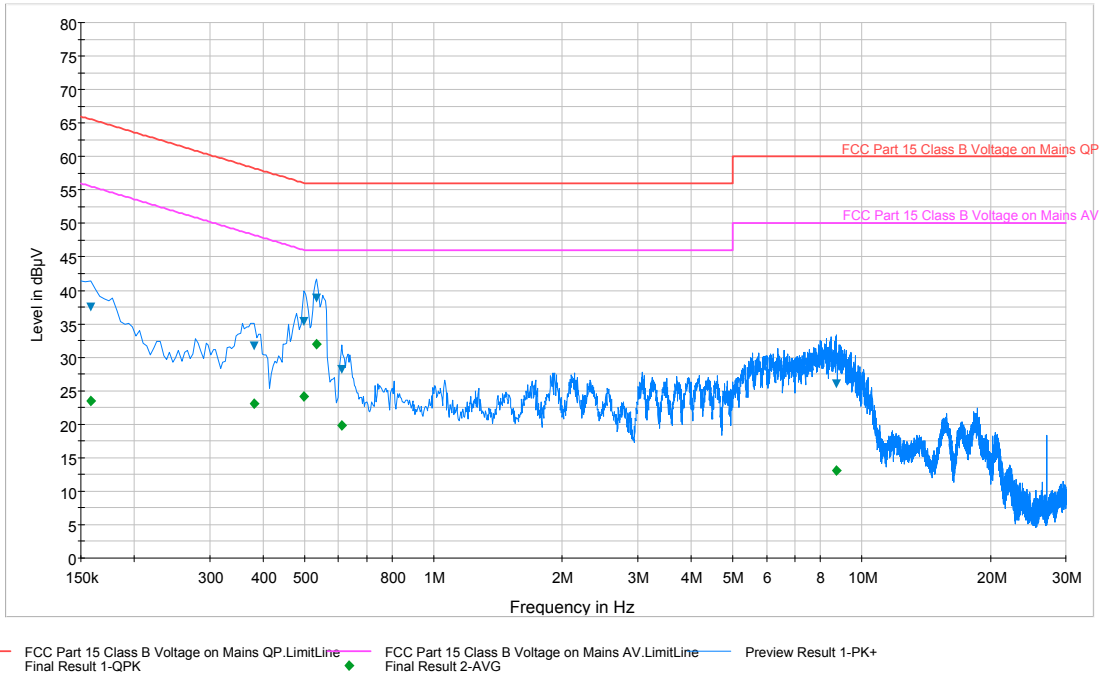
Line-Conducted Test Data (Cont'd)

§15.207; RSS-Gen [7.2.2]



Plot 6-199. Line Conducted Plot with 802.11a UNII Band 2A (N)

Frequency	Line	Corr.	QuasiPeak	Limit	Margin	Average	Limit	Margin
MHz		dB	dBµV	dBµV	dB	dBµV	dBµV	dB
0.158	N	0.3	37.50	65.60	28.10	23.50	55.60	32.10
0.382	N	0.1	31.70	58.20	26.50	23.10	48.20	25.10
0.498	N	0.1	35.30	56.00	20.70	24.10	46.00	21.90
0.534	N	0.1	38.90	56.00	17.10	31.90	46.00	14.10
0.610	N	0.1	28.20	56.00	27.80	19.90	46.00	26.10
8.730	N	0.3	26.00	60.00	34.00	13.10	50.00	36.90

Table 6-54. Line Conducted Data 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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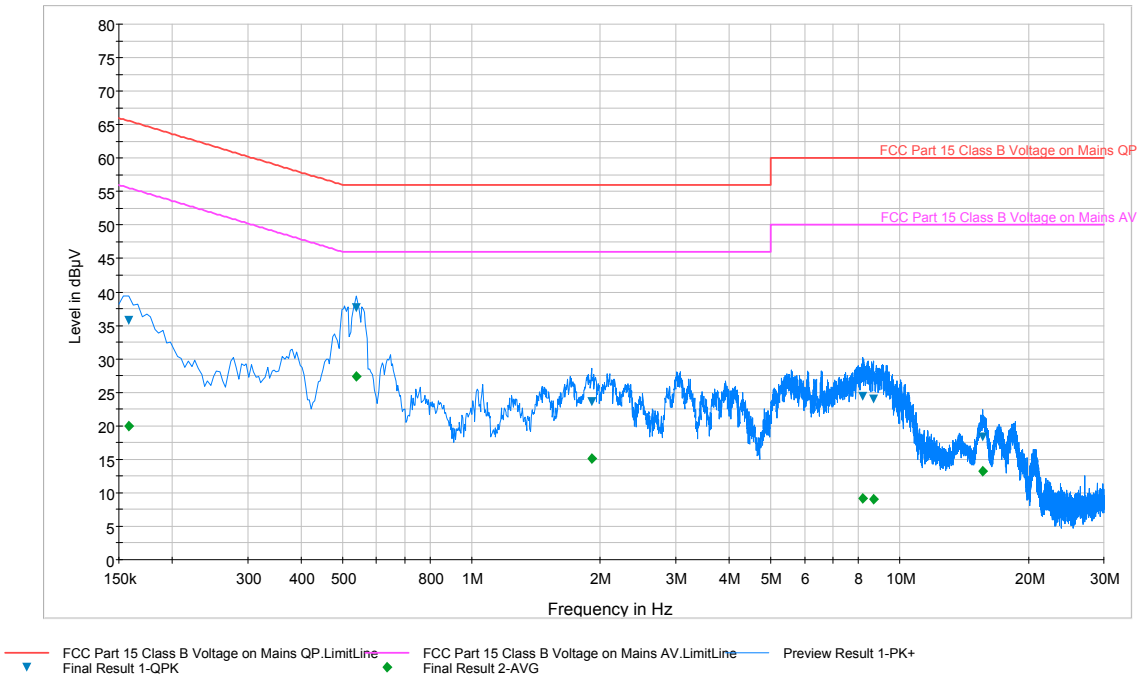
Line-Conducted Test Data (Cont'd)

§15.207; RSS-Gen [7.2.2]



Plot 6-200. Line Conducted Plot with 802.11a UNII Band 2C (L1)

Frequency MHz	Line	Corr. dB	QuasiPeak dBµV	Limit dBµV	Margin dB	Average dBµV	Limit dBµV	Margin dB
0.158	L1	0.2	35.70	65.60	29.90	20.00	55.60	35.60
0.538	L1	0.1	37.60	56.00	18.40	27.40	46.00	18.60
1.910	L1	0.1	23.60	56.00	32.40	15.20	46.00	30.80
8.210	L1	0.3	24.40	60.00	35.60	9.20	50.00	40.80
8.682	L1	0.3	24.00	60.00	36.00	9.10	50.00	40.90
15.658	L1	0.5	18.40	60.00	41.60	13.20	50.00	36.80

Table 6-55. 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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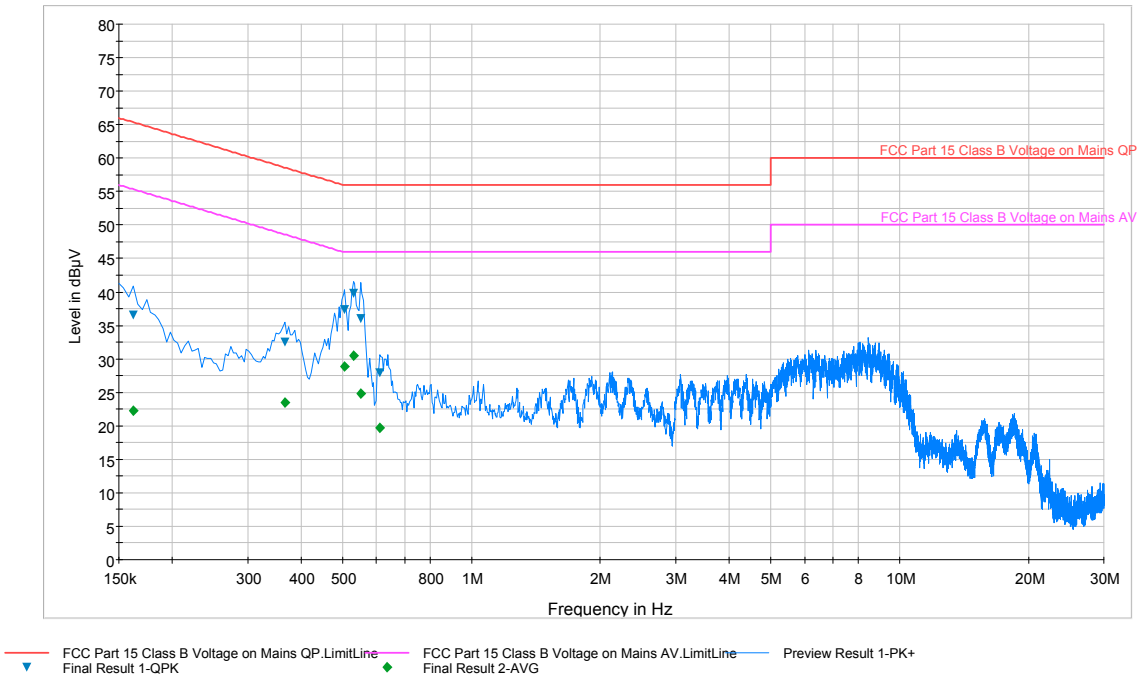
Line-Conducted Test Data (Cont'd)

§15.207; RSS-Gen [7.2.2]



Plot 6-201. Line Conducted Plot with 802.11a UNII Band 2C (N)

Frequency MHz	Line	Corr. dB	QuasiPeak dBµV	Limit dBµV	Margin dB	Average dBµV	Limit dBµV	Margin dB
0.162	N	0.3	36.50	65.40	28.90	22.20	55.40	33.20
0.366	N	0.1	32.50	58.60	26.10	23.40	48.60	25.20
0.506	N	0.1	37.40	56.00	18.60	28.90	46.00	17.10
0.530	N	0.1	39.80	56.00	16.20	30.50	46.00	15.50
0.550	N	0.1	36.10	56.00	19.90	24.90	46.00	21.10
0.610	N	0.1	28.00	56.00	28.00	19.60	46.00	26.40

Table 6-56. Line Conducted Data 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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7.0 CONCLUSION

The data collected relate only the item(s) tested and show that the **Samsung Portable Handset FCC ID: A3LSMG900S** is in compliance with Part 15E of the FCC Rules and RSS-210 of the Industry Canada Rules.

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