

## 6.5 Peak Excursion Ratio – 802.11a/n/ac §15.407(a.6)

### Test Overview and Limit

The spectrum analyzer was connected to the antenna terminal while the EUT was operating at its maximum duty cycle (>98%), at its maximum power control level, as defined in KDB 789033 v01r03, and at the appropriate frequencies. Method SA-1, as defined in KDB 789033 v01r03, was used to capture the average trace used to make the peak excursion measurement.

***The largest permissible difference between the modulation envelope (measured using a peak hold function) and the maximum power spectral density is 13 dBm/MHz.***

### Test Procedure Used

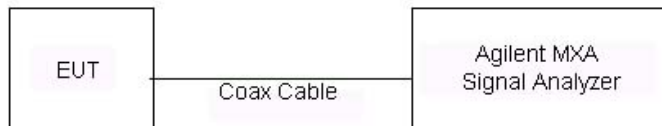
KDB 789033 v01r03 – Section G

### Test Settings

1. Analyzer was set to the center frequency of the UNII channel under investigation
2. Span was set to encompass the entire emission bandwidth of the signal
3. RBW = 1MHz
4. VBW = 3MHz
5. Detector = peak
6. Trace mode = max hold
7. Trace was allowed to stabilize
8. The peak search function of the spectrum analyzer was used to find the peak of the spectrum. This level was compared to the peak power density level found from the previous section to determine the peak excursion.

### Test Setup



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



**Figure 6-4. Test Instrument & Measurement Setup**

### Test Notes

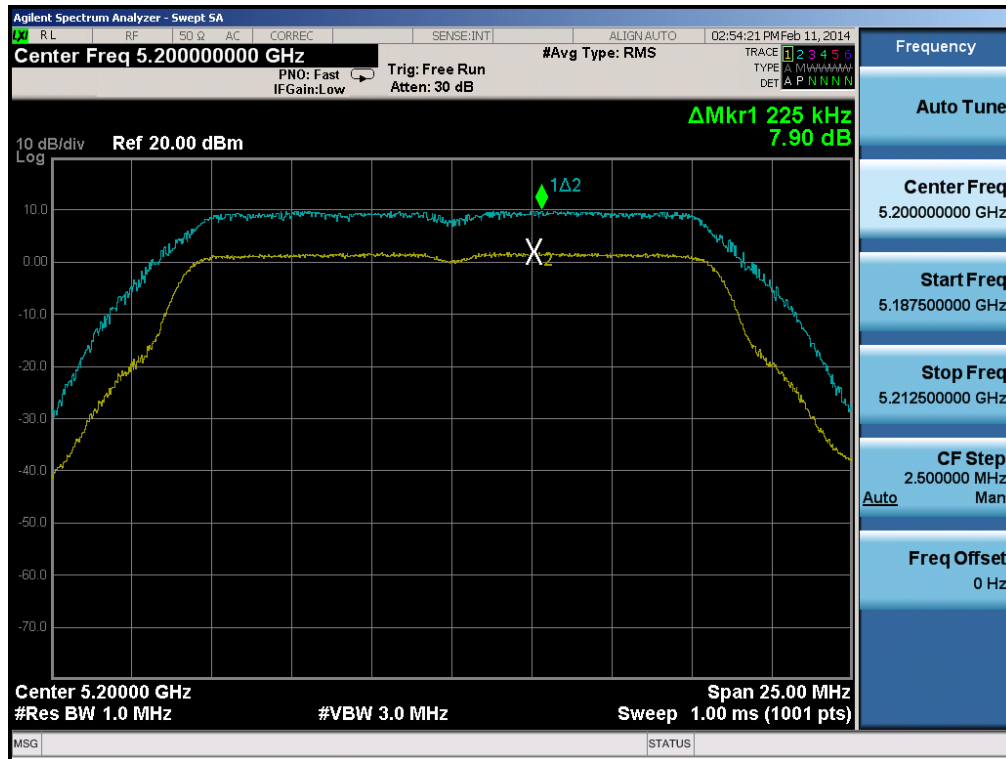
The peak excursion was investigated for all signal types, modulation types, channel bandwidths, and variations in signal parameters and the worst case data is shown below. Only the worst case modulation mode on a single channel among all bands is reported since that is sufficient to demonstrate compliance to the peak excursion requirement per KDB 789033 v01r03.

FCC ID: A3LSMG9008W		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
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### Antenna-1 Peak Excursion Ratio – 802.11a/n/ac

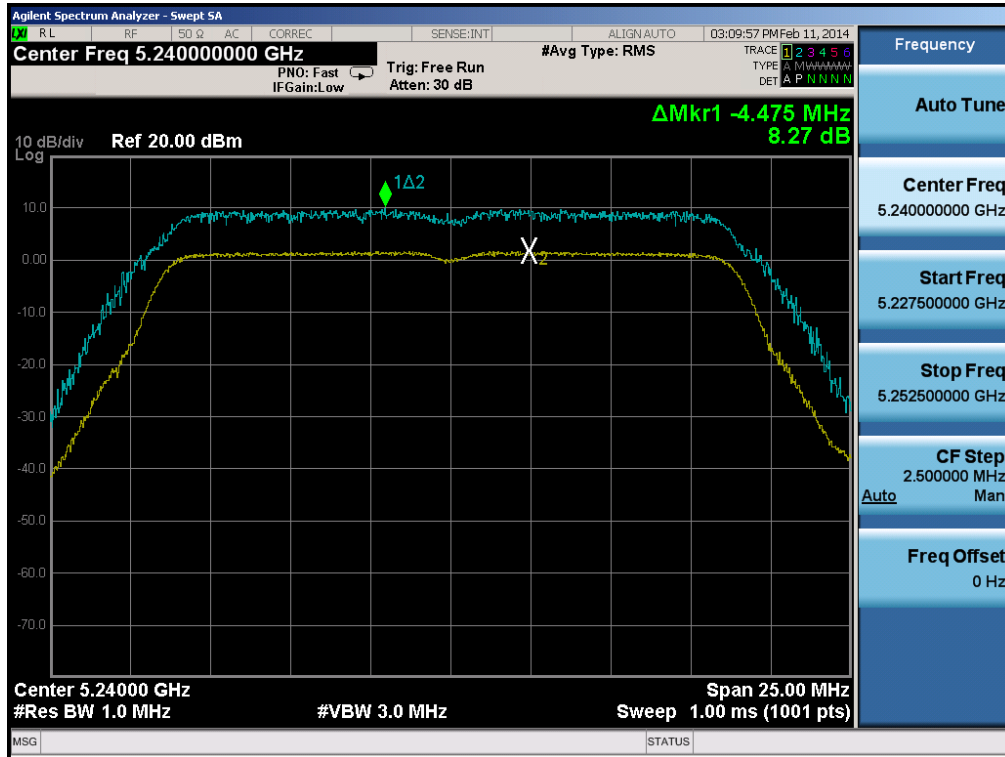
Frequency [MHz]	Channel No.	802.11 Mode	Data Rate [Mbps]	Measured Peak Excursion Ratio [dBm]	Max Permissible Peak Excursion Ratio [dBm/MHz]	Margin [dB]
5200	40	a	6	7.90	13.0	-5.10
5240	48	n (20MHz)	6.5/7.2 (MCS0)	8.27	13.0	-4.73
5190	38	n (40MHz)	13.5/15 (MCS0)	8.77	13.0	-4.23
5210	42	ac (80MHz)	29.3/32.5 (MCS0)	7.94	13.0	-5.06

**Table 6-27. Conducted Peak Excursion Ratio Measurements**

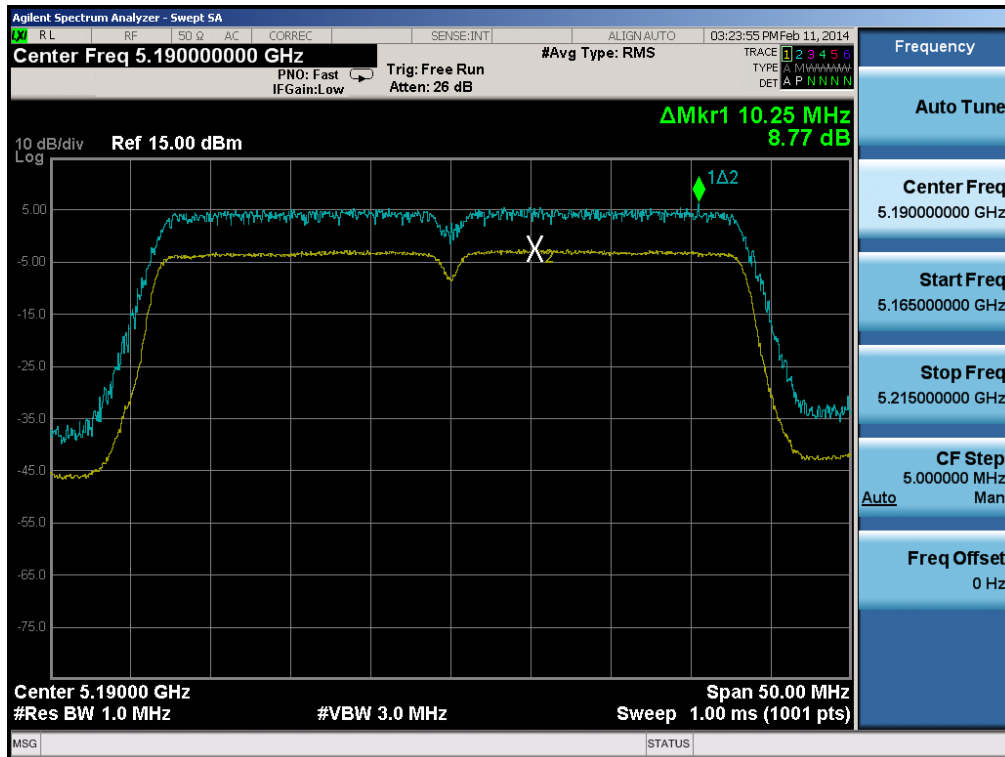


**Plot 6-131. Peak Excursion Ratio Plot (802.11a (UNII Band 1) – Ch. 40)**

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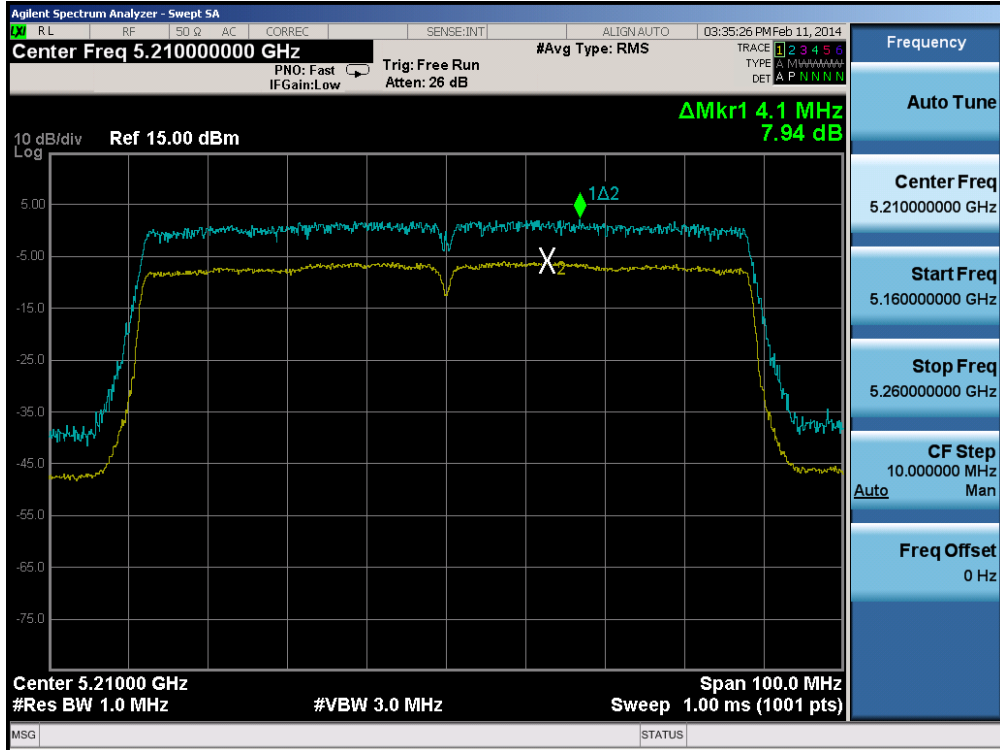


Plot 6-132. Peak Excursion Ratio Plot (20MHz BW 802.11n (UNII Band 1) – Ch. 48)



Plot 6-133. Peak Excursion Ratio Plot (40MHz BW 802.11n (UNII Band 1) – Ch. 38)

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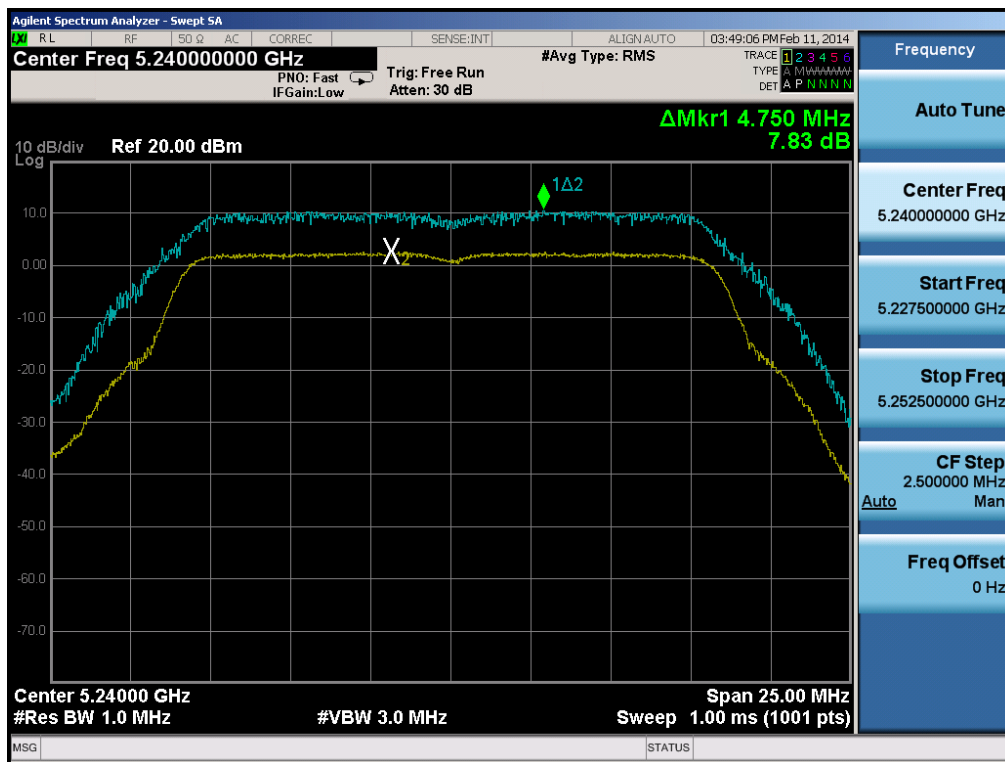
Plot 6-134. Peak Excursion Ratio Plot (80MHz BW 802.11ac (UNII Band 1) – Ch. 42)

FCC ID: A3LSMG9008W		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
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### Antenna-2 Peak Excursion Ratio – 802.11a/n/ac

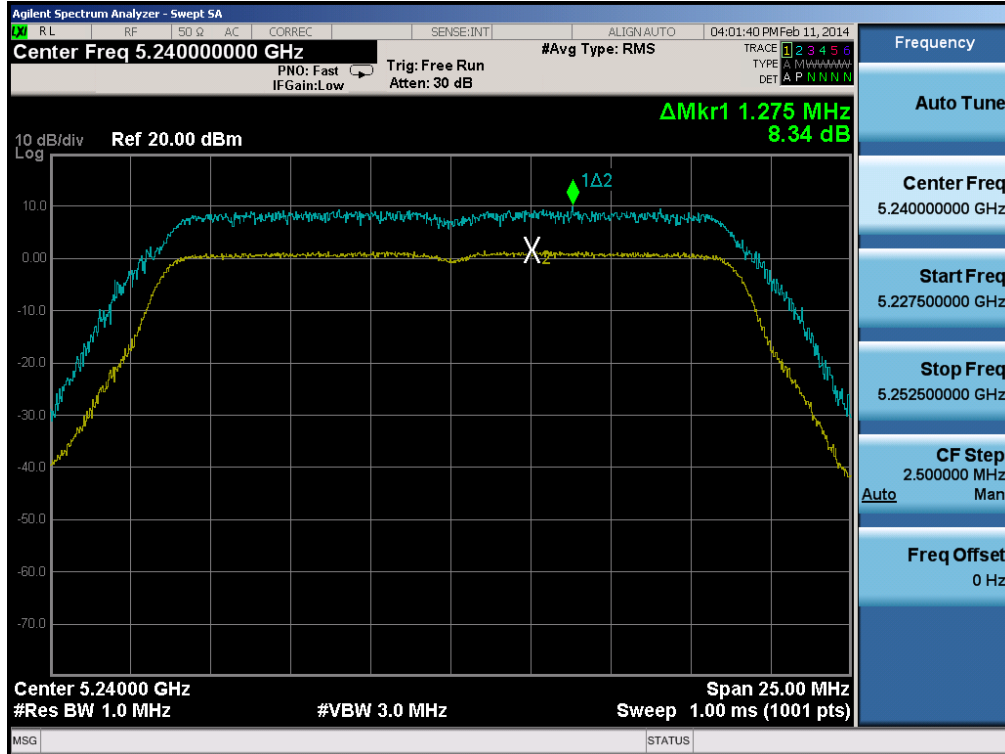
Frequency [MHz]	Channel No.	802.11 Mode	Data Rate [Mbps]	Measured Peak Excursion Ratio [dBm]	Max Permissible Peak Excursion Ratio [dBm/MHz]	Margin [dB]
5240	48	a	6	7.83	13.0	-5.17
5240	48	n (20MHz)	6.5/7.2 (MCS0)	8.34	13.0	-4.66
5230	46	n (40MHz)	13.5/15 (MCS0)	8.07	13.0	-4.94
5210	42	ac (80MHz)	29.3/32.5 (MCS0)	9.51	13.0	-3.49

**Table 6-28. Conducted Peak Excursion Ratio Measurements**

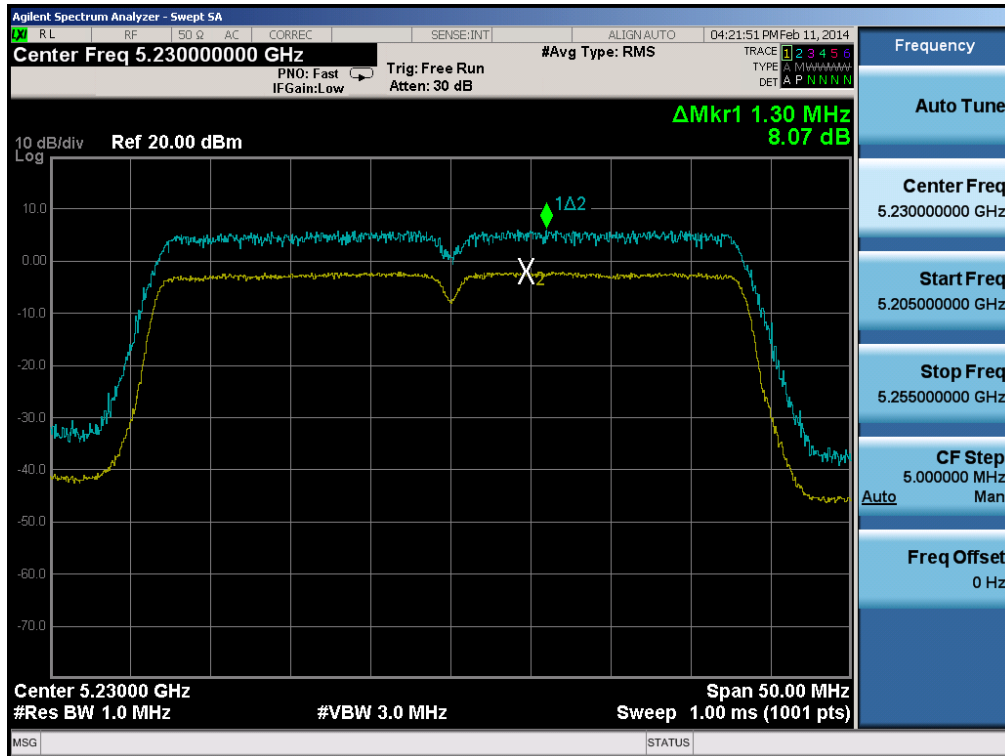


**Plot 6-135. Peak Excursion Ratio Plot (802.11a (UNII Band 1) – Ch. 48)**

FCC ID: A3LSMG9008W		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
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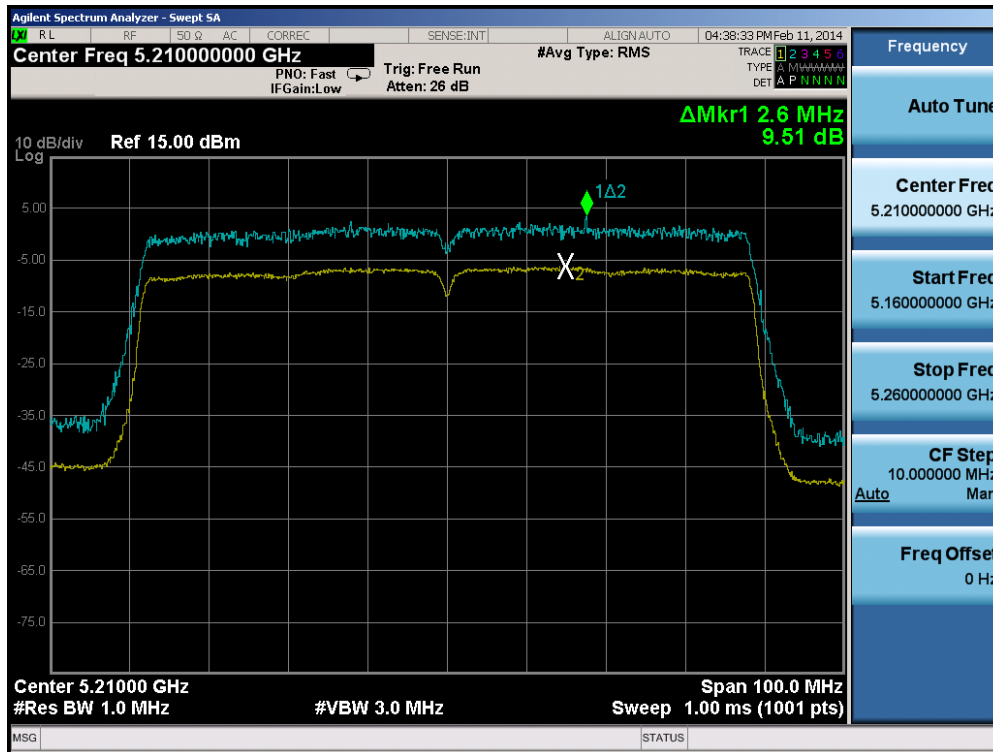


Plot 6-136. Peak Excursion Ratio Plot (20MHz BW 802.11n (UNII Band 1) – Ch. 48)



Plot 6-137. Peak Excursion Ratio Plot (40MHz BW 802.11n (UNII Band 1) – Ch. 46)

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Plot 6-138. Peak Excursion Ratio Plot (80MHz BW 802.11ac (UNII Band 1) – Ch. 42)

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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: 3.80 VDC

VOLTAGE (%)	POWER (VDC)	TEMP (°C)	FREQUENCY (Hz)	Freq. Dev. (Hz)	Deviation (%)
100 %	3.80	+ 20 (Ref)	5,180,000,005	5	0.00000010
100 %		- 30	5,179,999,974	-26	-0.00000050
100 %		- 20	5,179,999,973	-27	-0.00000052
100 %		- 10	5,180,000,000	0	0.00000000
100 %		0	5,180,000,013	13	0.00000025
100 %		+ 10	5,179,999,977	-23	-0.00000044
100 %		+ 20	5,180,000,007	7	0.00000014
100 %		+ 30	5,179,999,980	-20	-0.00000039
100 %		+ 40	5,180,000,018	18	0.00000035
100 %		+ 50	5,180,000,013	13	0.00000025
115 %		4.37	+ 20	5,179,999,980	-20
BATT. ENDPOINT	3.40	+ 20	5,179,999,981	-19	-0.00000037

**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: 3.80 VDC

VOLTAGE (%)	POWER (VDC)	TEMP (°C)	FREQUENCY (Hz)	Freq. Dev. (Hz)	Deviation (%)
100 %	3.80	+ 20 (Ref)	5,259,999,995	-5	-0.00000010
100 %		- 30	5,260,000,023	23	0.00000044
100 %		- 20	5,259,999,981	-19	-0.00000036
100 %		- 10	5,259,999,982	-18	-0.00000034
100 %		0	5,259,999,983	-17	-0.00000032
100 %		+ 10	5,260,000,020	20	0.00000038
100 %		+ 20	5,259,999,988	-12	-0.00000023
100 %		+ 30	5,260,000,006	6	0.00000011
100 %		+ 40	5,259,999,980	-20	-0.00000038
100 %		+ 50	5,259,999,995	-5	-0.00000010
115 %		4.37	+ 20	5,260,000,011	11
BATT. ENDPOINT	3.40	+ 20	5,259,999,983	-17	-0.00000032

**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: 3.80 VDC

VOLTAGE (%)	POWER (VDC)	TEMP (°C)	FREQUENCY (Hz)	Freq. Dev. (Hz)	Deviation (%)
100 %	3.80	+ 20 (Ref)	5,500,000,008	8	0.00000015
100 %		- 30	5,499,999,995	-5	-0.00000009
100 %		- 20	5,499,999,986	-14	-0.00000025
100 %		- 10	5,500,000,005	5	0.00000009
100 %		0	5,500,000,002	2	0.00000004
100 %		+ 10	5,499,999,996	-4	-0.00000007
100 %		+ 20	5,499,999,986	-14	-0.00000025
100 %		+ 30	5,500,000,002	2	0.00000004
100 %		+ 40	5,499,999,987	-13	-0.00000024
100 %		+ 50	5,500,000,001	1	0.00000002
115 %		4.37	+ 20	5,499,999,994	-6
BATT. ENDPOINT	3.40	+ 20	5,500,000,008	8	0.00000015

**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)(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 (>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 [ $\mu$ V/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  $\geq 2 \times$  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

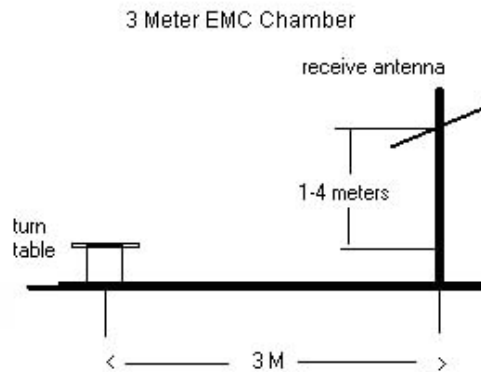
1. Analyzer center frequency was set to the frequency of the radiated spurious emission of interest
2. RBW = 1MHz
3. VBW = 3MHz
4. Detector = peak
5. Sweep time = auto couple
6. Trace mode = max hold
7. Trace was allowed to stabilize

### 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 dB $\mu$ V/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 68.2dB $\mu$ V/m.
4. The antenna is manipulated through typical positions, polarity and length during the tests. The EUT is manipulated through three orthogonal planes.
5. The EUT is supplied with a new/fully-recharged battery. The battery for this model EB-BG900BBE contains an embedded NFC antenna.
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. Significant radiated spurious emissions levels were not found for MIMO test configurations.

## 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:

$$\text{Offset (dB)} = (\text{Antenna Factor} + \text{Cable Loss} + 10 \text{ dB Attenuator}) - \text{Pre-amplifier Gain}$$

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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]	Distance Correction Factor [dB]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
10360.00	-125.00	Peak	H	46.44	0.00	28.44	68.20	-39.76
* 15540.00	-135.00	Average	H	51.12	0.00	23.12	53.98	-30.86
* 15540.00	-125.00	Peak	H	51.12	0.00	33.12	73.98	-40.86
* 20720.00	-106.07	Average	H	44.00	-9.54	35.39	53.98	-18.59
* 20720.00	-95.83	Peak	H	44.00	-9.54	45.63	73.98	-28.35
25900.00	-125.00	Peak	H	44.87	0.00	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]	Distance Correction Factor [dB]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
10400.00	-125.00	Peak	H	46.65	0.00	28.65	68.20	-39.55
* 15600.00	-135.00	Average	H	51.11	0.00	23.11	53.98	-30.87
* 15600.00	-125.00	Peak	H	51.11	0.00	33.11	73.98	-40.87
* 20800.00	-104.41	Average	H	43.99	-9.54	37.03	53.98	-16.95
* 20800.00	-96.55	Peak	H	43.99	-9.54	44.89	73.98	-29.09
26000.00	-125.00	Peak	H	44.97	0.00	26.97	68.20	-41.23

**Table 6-34. 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	Pol. [H/V]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
10480.00	-125.00	Peak	H	46.65	0.00	28.65	68.20	-39.55
* 15720.00	-135.00	Average	H	51.40	0.00	23.40	53.98	-30.58
* 15720.00	-125.00	Peak	H	51.40	0.00	33.40	73.98	-40.58
* 20960.00	-104.41	Average	H	43.90	-9.54	36.94	53.98	-17.04
* 20960.00	-97.46	Peak	H	43.90	-9.54	43.89	73.98	-30.09
26200.00	-125.00	Peak	H	44.76	0.00	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]	Distance Correction Factor [dB]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
10520.00	-125.00	Peak	H	46.71	0.00	28.71	68.20	-39.49
* 15780.00	-135.00	Average	H	51.48	0.00	23.48	53.98	-30.50
* 15780.00	-125.00	Peak	H	51.48	0.00	33.48	73.98	-40.50
* 21040.00	-105.99	Average	H	43.84	-9.54	35.31	53.98	-18.67
* 21040.00	-97.52	Peak	H	43.84	-9.54	43.78	73.98	-30.20
26300.00	-125.00	Peak	H	44.78	0.00	26.78	68.20	-41.42

**Table 6-36. 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: 5280MHz  
 Channel: 56



Frequency [MHz]	Analyzer Level [dBm]	Detector	Pol. [H/V]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
10560.00	-125.00	Peak	H	46.84	0.00	28.84	68.20	-39.36
* 15840.00	-135.00	Average	H	51.38	0.00	23.38	53.98	-30.60
* 15840.00	-125.00	Peak	H	51.38	0.00	33.38	73.98	-40.60
* 21120.00	-104.80	Average	H	43.74	-9.54	36.39	53.98	-17.58
* 21120.00	-97.33	Peak	H	43.74	-9.54	43.87	73.98	-30.11
26400.00	-125.00	Peak	H	44.72	0.00	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]	Distance Correction Factor [dB]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
* 10640.00	-135.00	Average	H	46.94	0.00	18.94	53.98	-35.04
* 10640.00	-125.00	Peak	H	46.94	0.00	28.94	73.98	-45.04
* 15960.00	-135.00	Average	H	51.55	0.00	23.55	53.98	-30.43
* 15960.00	-125.00	Peak	H	51.55	0.00	33.55	73.98	-40.43
* 21280.00	-105.48	Average	H	43.64	-9.54	35.61	53.98	-18.37
* 21280.00	-96.67	Peak	H	43.64	-9.54	44.43	73.98	-29.55
26600.00	-125.00	Peak	H	47.28	0.00	29.28	68.20	-38.92

**Table 6-38. Radiated Measurements**

FCC ID: A3LSMG9008W		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1404250857.A3L	Test Dates: 1/27 - 2/25/2014	EUT Type: Portable Handset	Page 106 of 180	

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]	Distance Correction Factor [dB]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
* 11000.00	-135.00	Average	H	46.89	0.00	18.89	53.98	-35.09
* 11000.00	-125.00	Peak	H	46.89	0.00	28.89	73.98	-45.09
16500.00	-125.00	Peak	H	52.96	0.00	34.96	68.20	-33.24
22000.00	-97.41	Peak	H	43.92	-9.54	43.97	68.20	-24.23
27500.00	-125.00	Peak	H	48.51	0.00	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]	Distance Correction Factor [dB]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
* 11160.00	-135.00	Average	H	47.07	0.00	19.07	53.98	-34.91
* 11160.00	-125.00	Peak	H	47.07	0.00	29.07	73.98	-44.91
16740.00	-125.00	Peak	H	53.12	0.00	35.12	68.20	-33.08
* 22320.00	-106.32	Average	H	44.40	-9.54	35.53	53.98	-18.45
* 22320.00	-97.86	Peak	H	44.40	-9.54	44.00	73.98	-29.98
27900.00	-125.00	Peak	H	48.13	0.00	30.13	68.20	-38.07

**Table 6-40. Radiated Measurements**

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]	Distance Correction Factor [dB]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
* 11400.00	-135.00	Average	H	47.30	0.00	19.30	53.98	-34.68
* 11400.00	-125.00	Peak	H	47.30	0.00	29.30	73.98	-44.68
17100.00	-125.00	Peak	H	53.07	0.00	35.07	68.20	-33.13
* 22800.00	-107.55	Average	H	44.39	-9.54	34.29	53.98	-19.69
* 22800.00	-99.06	Peak	H	44.39	-9.54	42.79	73.98	-31.19
28500.00	-125.00	Peak	H	48.03	0.00	30.03	68.20	-38.17

**Table 6-41. Radiated Measurements**

FCC ID: A3LSMG9008W		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1404250857.A3L	Test Dates: 1/27 - 2/25/2014	EUT Type: Portable Handset	Page 108 of 180	

## 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]	Distance Correction Factor [dB]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
10360.00	-125.00	Peak	H	46.44	0.00	28.44	68.20	-39.76
* 15540.00	-135.00	Average	H	51.12	0.00	23.12	53.98	-30.86
* 15540.00	-125.00	Peak	H	51.12	0.00	33.12	73.98	-40.86
* 20720.00	-102.65	Average	H	44.00	-9.54	38.81	53.98	-15.17
* 20720.00	-95.48	Peak	H	44.00	-9.54	45.98	73.98	-28.00
25900.00	-125.00	Peak	H	44.87	0.00	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]	Distance Correction Factor [dB]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
10400.00	-125.00	Peak	H	46.65	0.00	28.65	68.20	-39.55
* 15600.00	-135.00	Average	H	51.11	0.00	23.11	53.98	-30.87
* 15600.00	-125.00	Peak	H	51.11	0.00	33.11	73.98	-40.87
* 20800.00	-102.39	Average	H	43.99	-9.54	39.05	53.98	-14.92
* 20800.00	-94.43	Peak	H	43.99	-9.54	47.01	73.98	-26.97
26000.00	-125.00	Peak	H	44.97	0.00	26.97	68.20	-41.23

**Table 6-43. Radiated Measurements**

FCC ID: A3LSMG9008W		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1404250857.A3L	Test Dates: 1/27 - 2/25/2014	EUT Type: Portable Handset	Page 109 of 180	

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]	Distance Correction Factor [dB]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
10480.00	-125.00	Peak	H	46.65	0.00	28.65	68.20	-39.55
* 15720.00	-135.00	Average	H	51.40	0.00	23.40	53.98	-30.58
* 15720.00	-125.00	Peak	H	51.40	0.00	33.40	73.98	-40.58
* 20960.00	-102.63	Average	H	43.90	-9.54	38.73	53.98	-15.25
* 20960.00	-94.41	Peak	H	43.90	-9.54	46.94	73.98	-27.04
26200.00	-125.00	Peak	H	44.76	0.00	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]	Distance Correction Factor [dB]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
10520.00	-125.00	Peak	H	46.71	0.00	28.71	68.20	-39.49
* 15780.00	-135.00	Average	H	51.48	0.00	23.48	53.98	-30.50
* 15780.00	-125.00	Peak	H	51.48	0.00	33.48	73.98	-40.50
* 21040.00	-104.97	Average	H	43.84	-9.54	36.33	53.98	-17.65
* 21040.00	-96.20	Peak	H	43.84	-9.54	45.10	73.98	-28.88
26300.00	-125.00	Peak	H	44.78	0.00	26.78	68.20	-41.42

**Table 6-45. 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	Pol. [H/V]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
10560.00	-125.00	Peak	H	46.84	0.00	28.84	68.20	-39.36
* 15840.00	-135.00	Average	H	51.38	0.00	23.38	53.98	-30.60
* 15840.00	-125.00	Peak	H	51.38	0.00	33.38	73.98	-40.60
* 21120.00	-104.02	Average	H	43.74	-9.54	37.18	53.98	-16.80
* 21120.00	-94.78	Peak	H	43.74	-9.54	46.42	73.98	-27.56
26400.00	-125.00	Peak	H	44.72	0.00	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]	Distance Correction Factor [dB]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
* 10640.00	-135.00	Average	H	46.94	0.00	18.94	53.98	-35.04
* 10640.00	-125.00	Peak	H	46.94	0.00	28.94	73.98	-45.04
* 15960.00	-135.00	Average	H	51.55	0.00	23.55	53.98	-30.43
* 15960.00	-125.00	Peak	H	51.55	0.00	33.55	73.98	-40.43
* 21280.00	-105.05	Average	H	44.39	-9.54	36.80	53.98	-17.18
* 21280.00	-98.65	Peak	H	44.39	-9.54	43.20	73.98	-30.78
26600.00	-125.00	Peak	H	47.28	0.00	29.28	68.20	-38.92

**Table 6-47. Radiated Measurements**

FCC ID: A3LSMG9008W		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1404250857.A3L	Test Dates: 1/27 - 2/25/2014	EUT Type: Portable Handset	Page 111 of 180	

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]	Distance Correction Factor [dB]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
* 11000.00	-135.00	Average	H	46.89	0.00	18.89	53.98	-35.09
* 11000.00	-125.00	Peak	H	46.89	0.00	28.89	73.98	-45.09
16500.00	-125.00	Peak	H	52.96	0.00	34.96	68.20	-33.24
22000.00	-97.64	Peak	H	43.92	-9.54	43.74	68.20	-24.46
27500.00	-125.00	Peak	H	48.51	0.00	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]	Distance Correction Factor [dB]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
* 11160.00	-135.00	Average	H	47.07	0.00	19.07	53.98	-34.91
* 11160.00	-125.00	Peak	H	47.07	0.00	29.07	73.98	-44.91
16740.00	-125.00	Peak	H	53.12	0.00	35.12	68.20	-33.08
* 22320.00	-104.47	Average	H	44.40	-9.54	37.38	53.98	-16.60
* 22320.00	-98.27	Peak	H	44.40	-9.54	43.59	73.98	-30.39
27900.00	-125.00	Peak	H	48.13	0.00	30.13	68.20	-38.07

**Table 6-49. Radiated Measurements**

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]	Distance Correction Factor [dB]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
* 11400.00	-135.00	Average	H	47.30	0.00	19.30	53.98	-34.68
* 11400.00	-125.00	Peak	H	47.30	0.00	29.30	73.98	-44.68
17100.00	-125.00	Peak	H	53.07	0.00	35.07	68.20	-33.13
* 22800.00	-104.34	Average	H	44.39	-9.54	37.51	53.98	-16.47
* 22800.00	-98.10	Peak	H	44.39	-9.54	43.75	73.98	-30.23
28500.00	-125.00	Peak	H	48.03	0.00	30.03	68.20	-38.17

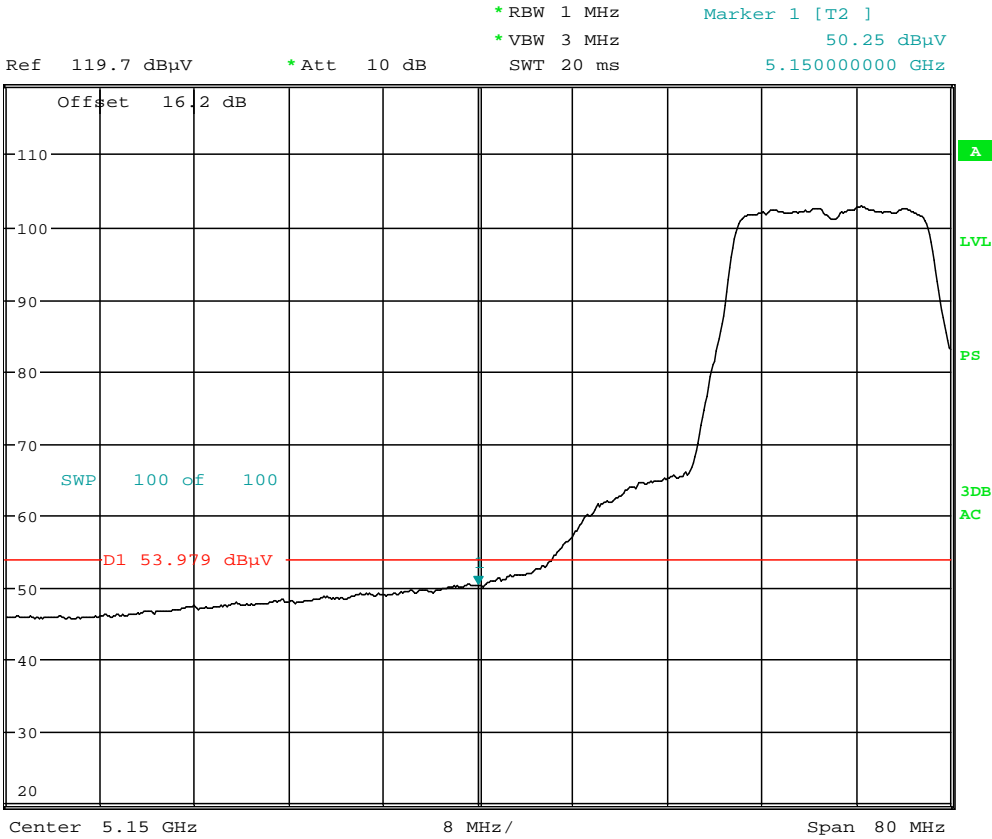
**Table 6-50. Radiated Measurements**

<b>FCC ID:</b> A3LSMG9008W		<b>FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)</b>		<b>Reviewed by:</b> Quality Manager
<b>Test Report S/N:</b> 0Y1404250857.A3L	<b>Test Dates:</b> 1/27 - 2/25/2014	<b>EUT Type:</b> Portable Handset		Page 113 of 180

## 6.8 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

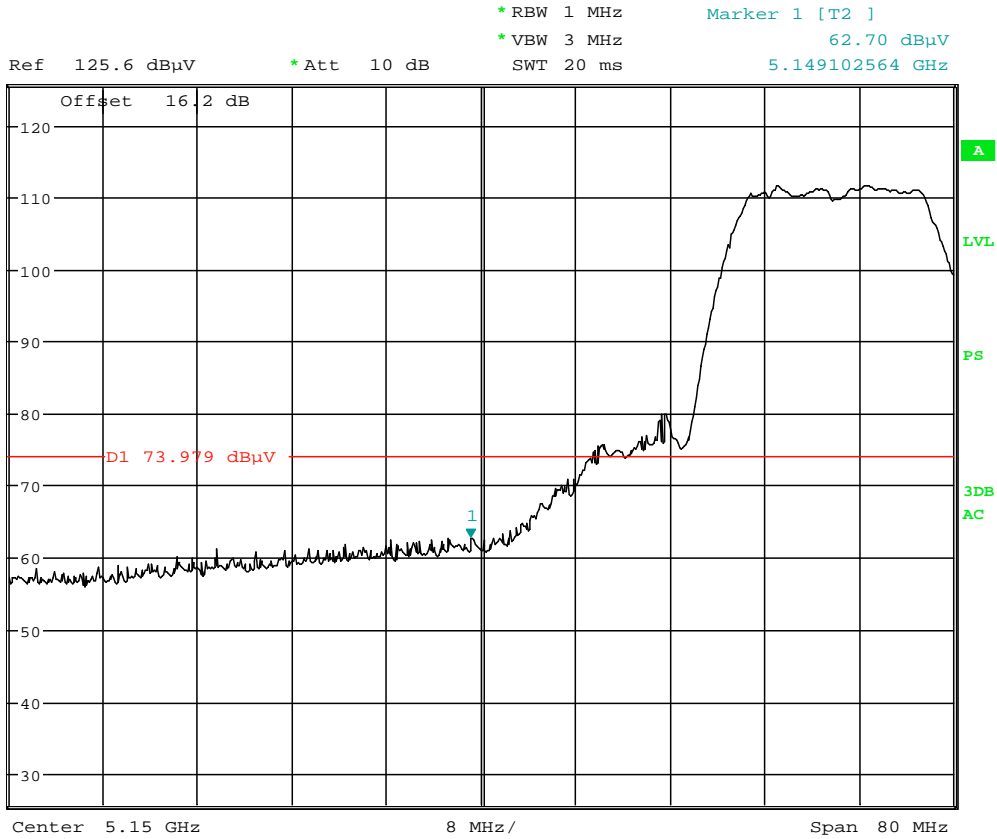


Date: 12.FEB.2014 12:27:05

**Plot 6-139. Radiated Restricted Lower Band Edge Plot (Average – UNII Band 1)**

FCC ID: A3LSMG9008W		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1404250857.A3L	Test Dates: 1/27 - 2/25/2014	EUT Type: Portable Handset	Page 114 of 180	

**Radiated Band Edge Measurements (20MHz BW) (Cont'd)**  
**§15.407(b.1)(b.2) §15.205 §15.209**



Date: 12.FEB.2014 12:25:49

**Plot 6-140. Radiated Restricted Lower Band Edge Plot (Peak – UNII Band 1)**

FCC ID: A3LSMG9008W		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1404250857.A3L	Test Dates: 1/27 - 2/25/2014	EUT Type: Portable Handset	Page 115 of 180	

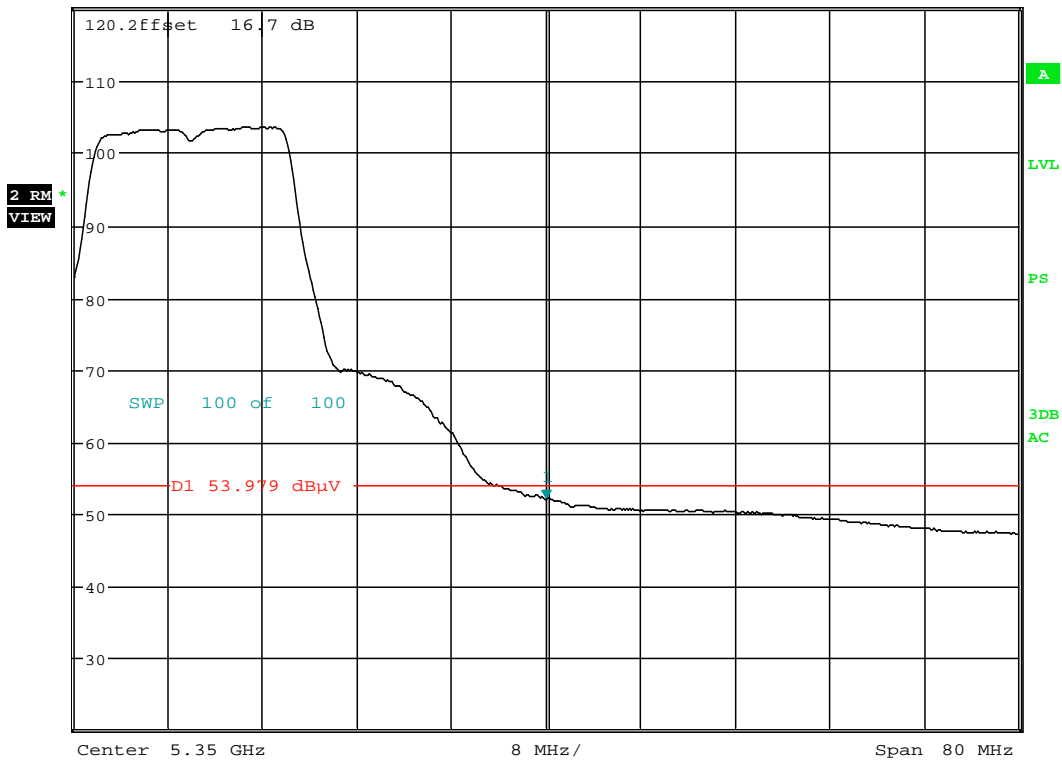
# Radiated Band Edge Measurements (20MHz BW) (Cont'd)

§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



Ref 120.2 dBµV      \* Att 10 dB      SWT 20 ms      Marker 1 [T2 ]      52.00 dBµV  
 \* RBW 1 MHz      \* VBW 3 MHz      5.35000000 GHz

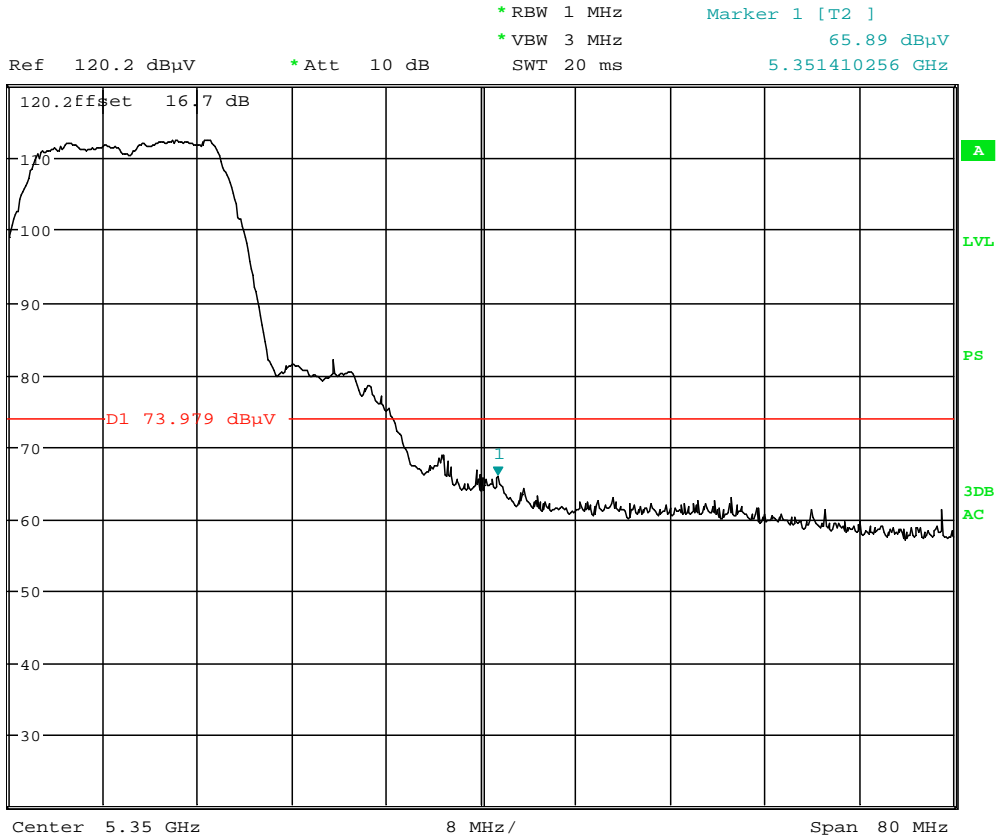


Date: 12.FEB.2014 12:57:09

**Plot 6-141. Radiated Restricted Upper Band Edge Plot (Average – UNII Band 2A)**

FCC ID: A3LSMG9008W		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1404250857.A3L	Test Dates: 1/27 - 2/25/2014	EUT Type: Portable Handset	Page 116 of 180	

**Radiated Band Edge Measurements (20MHz BW) (Cont'd)**  
**§15.407(b.1)(b.2) §15.205 §15.209**



Date: 12.FEB.2014 12:58:24

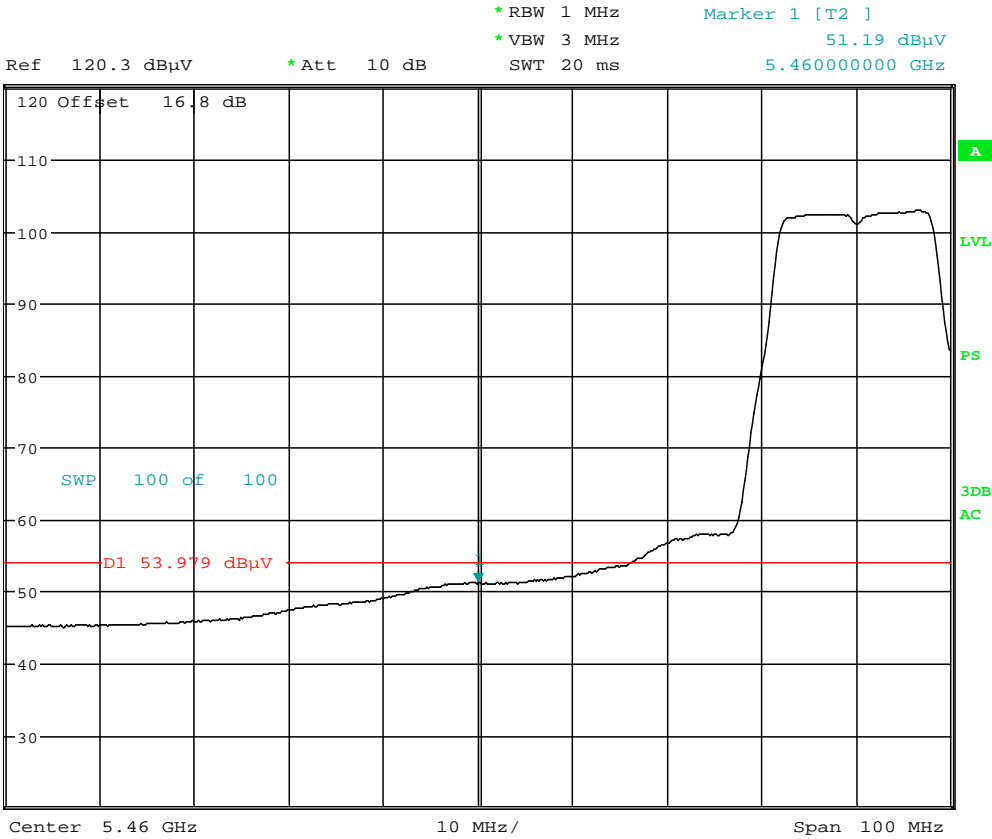
**Plot 6-142. Radiated Restricted Upper Band Edge Plot (Peak – UNII Band 2A)**

FCC ID: A3LSMG9008W		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1404250857.A3L	Test Dates: 1/27 - 2/25/2014	EUT Type: Portable Handset	Page 117 of 180	

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

\$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

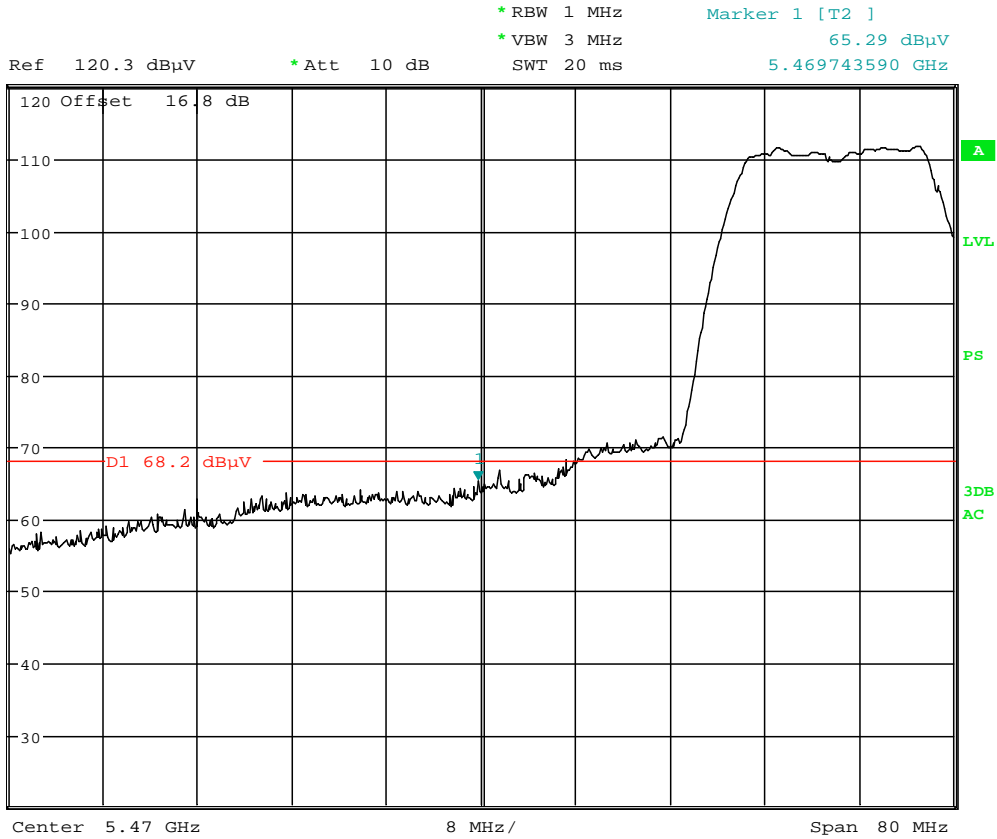


Date: 12.FEB.2014 13:25:48

**Plot 6-143. Radiated Restricted Lower Band Edge Plot (Average – UNII Band 2C)**

FCC ID: A3LSMG9008W		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1404250857.A3L	Test Dates: 1/27 - 2/25/2014	EUT Type: Portable Handset	Page 118 of 180	

**Radiated Band Edge Measurements (20MHz BW) (Cont'd)**  
**§15.407(b.1)(b.2) §15.205 §15.209**



Date: 12.FEB.2014 13:26:49

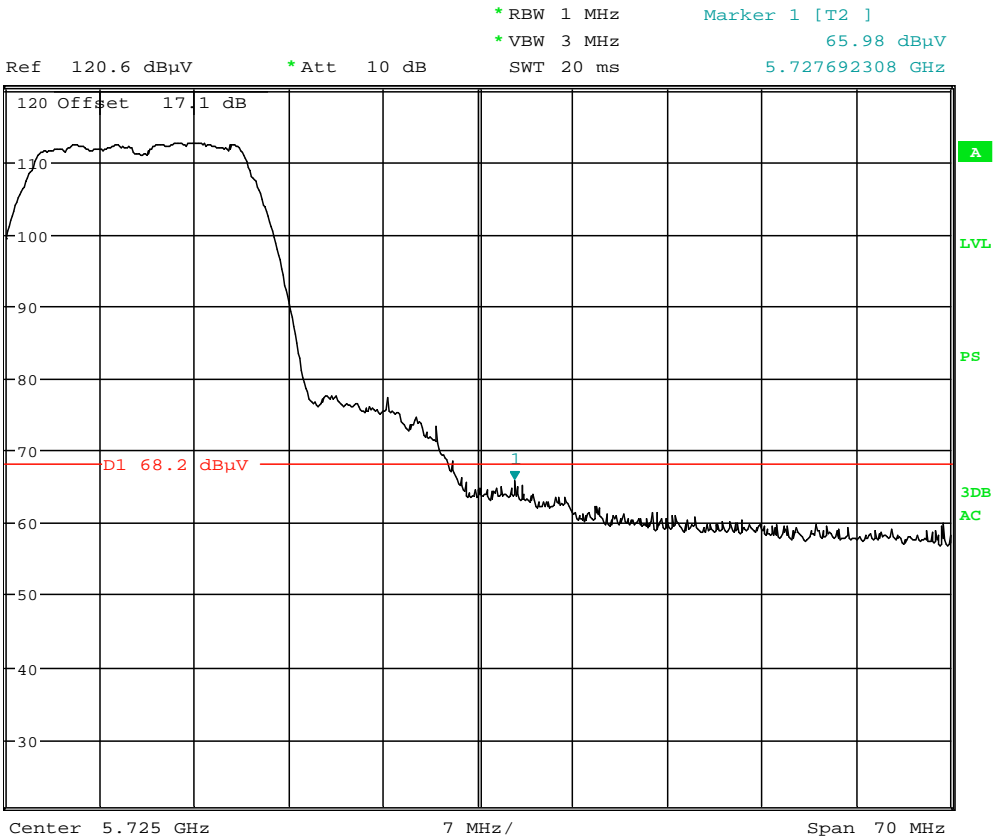
**Plot 6-144. Radiated Restricted Lower Band Edge Plot (Peak – UNII Band 2C)**

FCC ID: A3LSMG9008W		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1404250857.A3L	Test Dates: 1/27 - 2/25/2014	EUT Type: Portable Handset	Page 119 of 180	

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

§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: 5700MHz  
 Channel: 140



Date: 12.FEB.2014 14:28:23

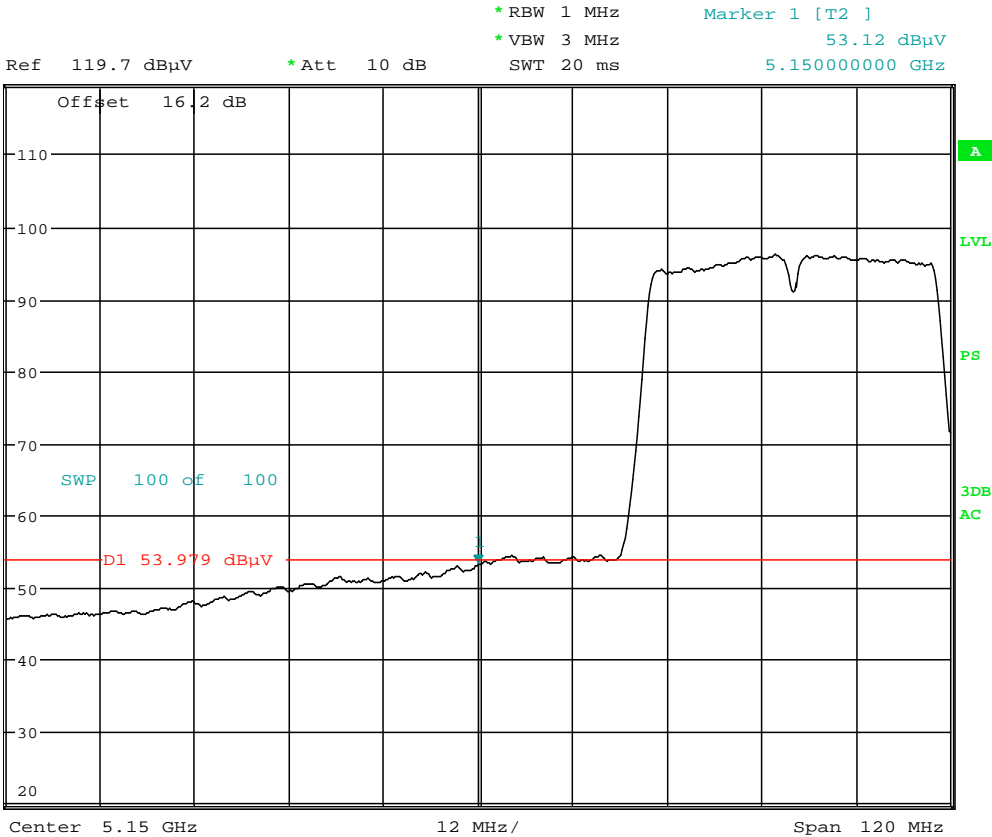
**Plot 6-145. Radiated Upper Band Edge Plot (Peak – UNII Band 2C)**

FCC ID: A3LSMG9008W		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1404250857.A3L	Test Dates: 1/27 - 2/25/2014	EUT Type: Portable Handset	Page 120 of 180	

## 6.9 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

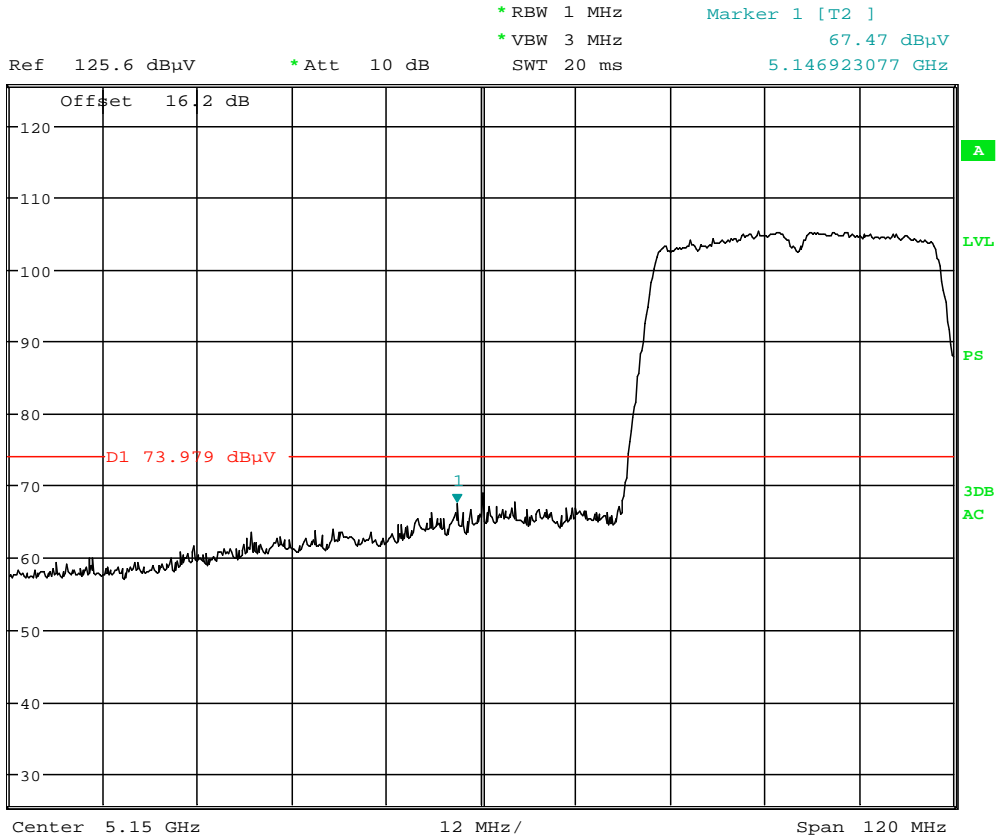


Date: 14.FEB.2014 14:54:25

**Plot 6-146. Radiated Restricted Lower Band Edge Plot (Average – UNII Band 1)**

FCC ID: A3LSMG9008W		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1404250857.A3L	Test Dates: 1/27 - 2/25/2014	EUT Type: Portable Handset	Page 121 of 180	

**Radiated Band Edge Measurements (40MHz BW) (Cont'd)**  
**§15.407(b.1)(b.2) §15.205 §15.209**



Date: 14.FEB.2014 14:55:57

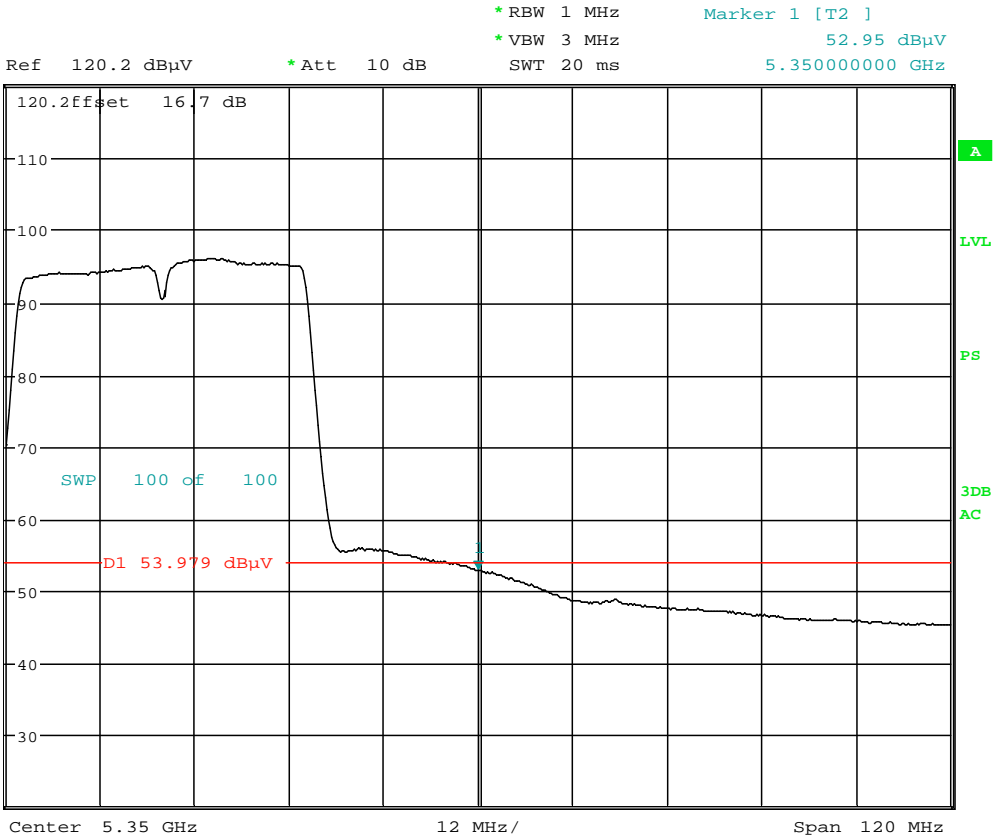
**Plot 6-147. Radiated Restricted Lower Band Edge Plot (Peak – UNII Band 1)**

FCC ID: A3LSMG9008W		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1404250857.A3L	Test Dates: 1/27 - 2/25/2014	EUT Type: Portable Handset	Page 122 of 180	

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

§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

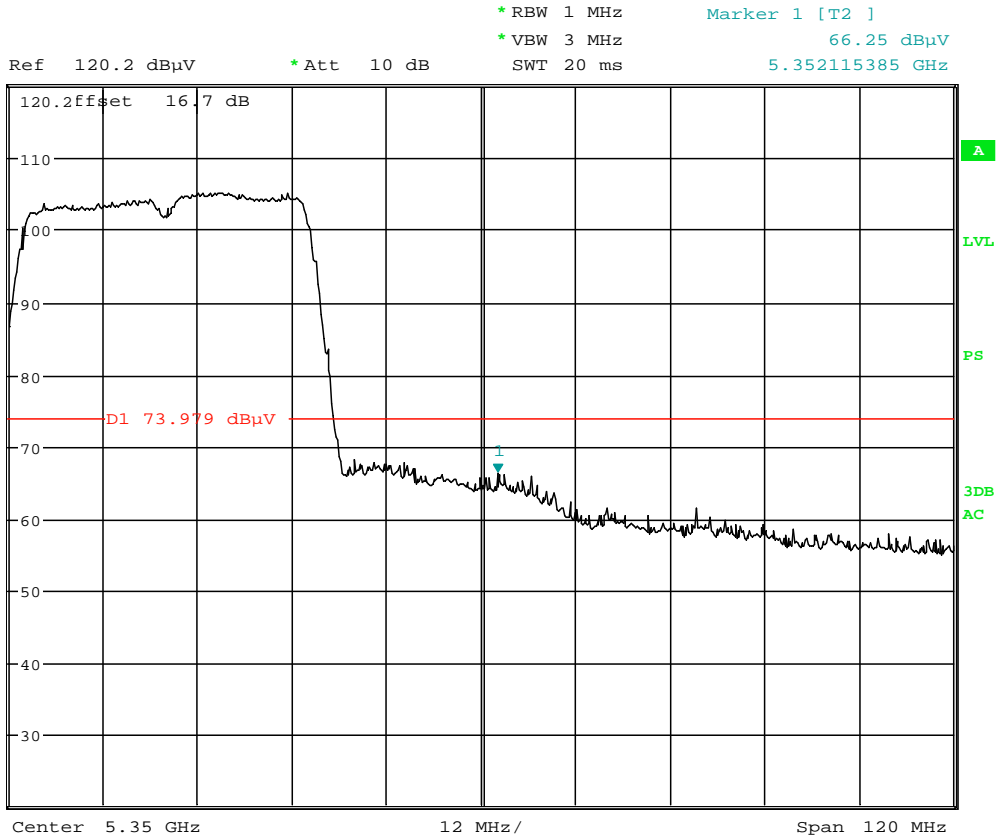


Date: 14.FEB.2014 15:08:57

**Plot 6-148. Radiated Restricted Upper Band Edge Plot (Average – UNII Band 2A)**

FCC ID: A3LSMG9008W		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1404250857.A3L	Test Dates: 1/27 - 2/25/2014	EUT Type: Portable Handset	Page 123 of 180	

**Radiated Band Edge Measurements (40MHz BW) (Cont'd)**  
**§15.407(b.1)(b.2) §15.205 §15.209**



Date: 14.FEB.2014 15:13:55

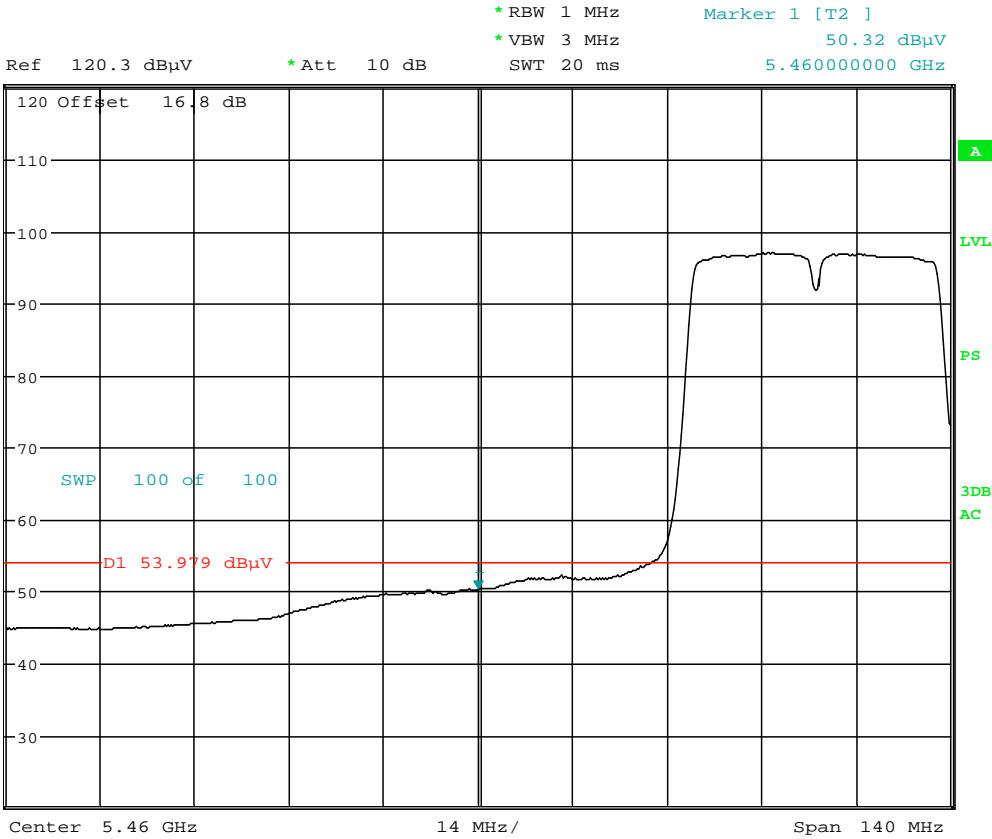
**Plot 6-149. Radiated Restricted Upper Band Edge Plot (Peak – UNII Band 2A)**

FCC ID: A3LSMG9008W		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1404250857.A3L	Test Dates: 1/27 - 2/25/2014	EUT Type: Portable Handset	Page 124 of 180	

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

\$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

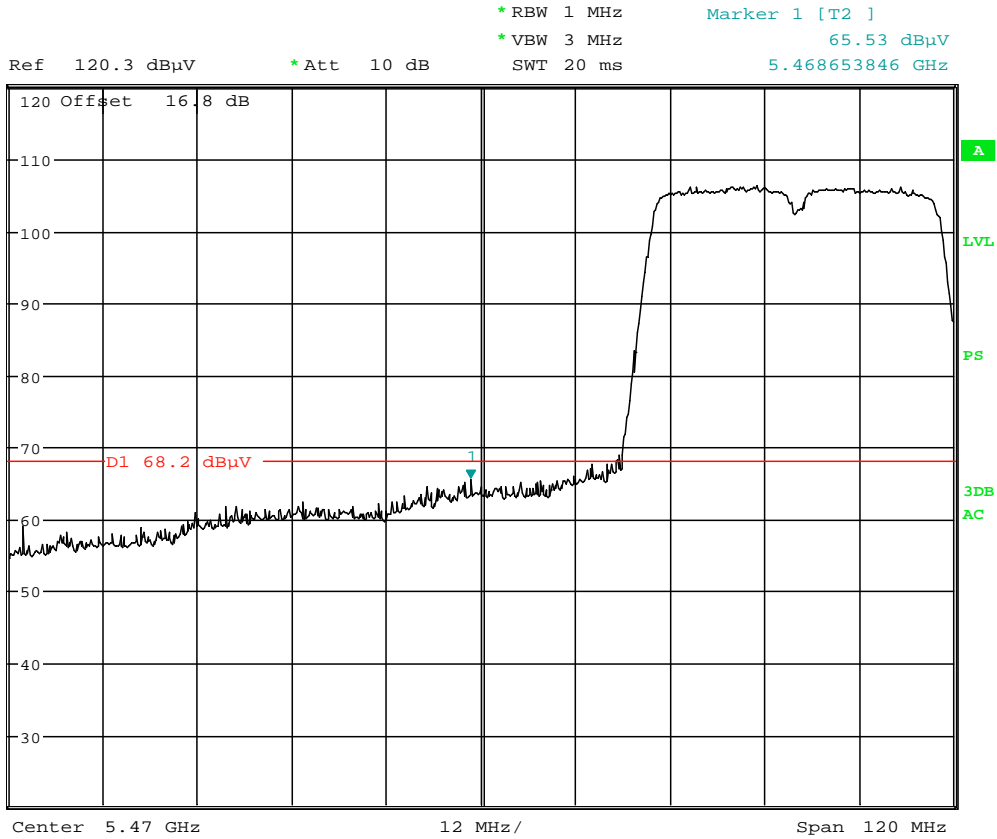


Date: 14.FEB.2014 15:35:29

**Plot 6-150. Radiated Restricted Lower Band Edge Plot (Average – UNII Band 2C)**

FCC ID: A3LSMG9008W		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1404250857.A3L	Test Dates: 1/27 - 2/25/2014	EUT Type: Portable Handset	Page 125 of 180	

**Radiated Band Edge Measurements (40MHz BW) (Cont'd)**  
**§15.407(b.1)(b.2) §15.205 §15.209**



Date: 14.FEB.2014 15:38:10

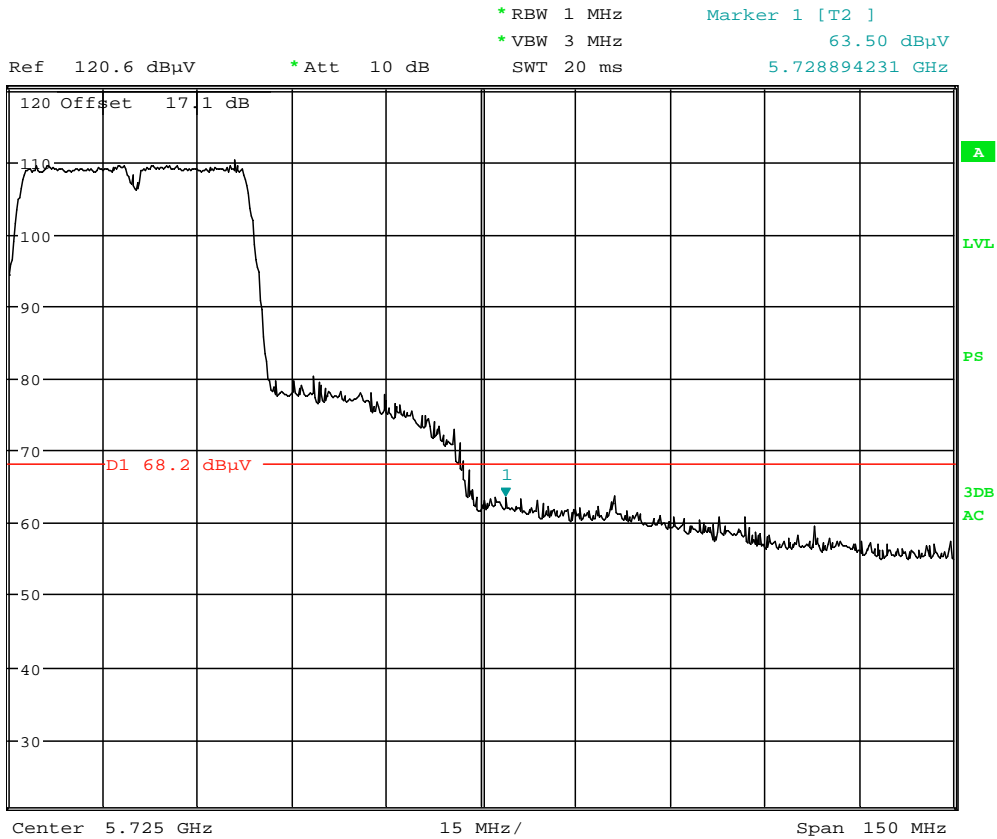
**Plot 6-151. Radiated Restricted Lower Band Edge Plot (Peak – UNII Band 2C)**

FCC ID: A3LSMG9008W		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1404250857.A3L	Test Dates: 1/27 - 2/25/2014	EUT Type: Portable Handset		Page 126 of 180

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

§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: 5670MHz  
 Channel: 134



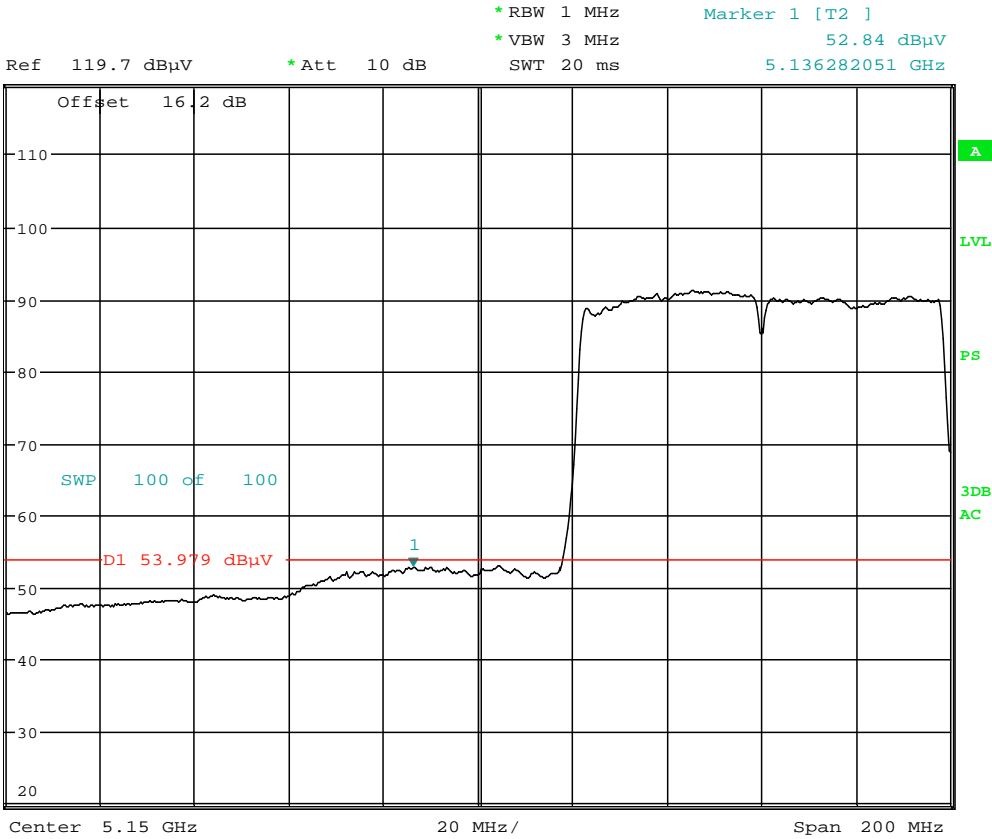
Date: 12.FEB.2014 14:33:58

**Plot 6-152. Radiated Upper Band Edge Plot (Peak – UNII Band 2C)**

FCC ID: A3LSMG9008W		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1404250857.A3L	Test Dates: 1/27 - 2/25/2014	EUT Type: Portable Handset	Page 127 of 180	

### 6.10 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: 5210MHz  
 Channel: 42

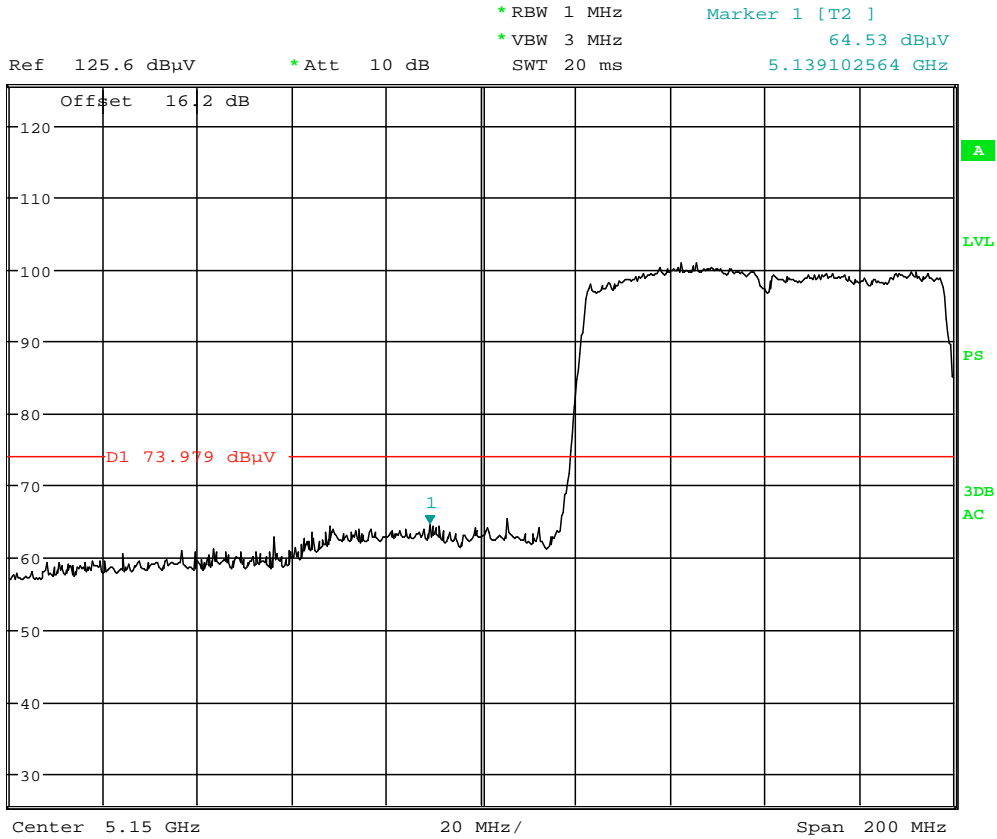


Date: 14.FEB.2014 15:01:16

**Plot 6-153. Radiated Restricted Lower Band Edge Plot (Average – UNII Band 1)**

FCC ID: A3LSMG9008W		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1404250857.A3L	Test Dates: 1/27 - 2/25/2014	EUT Type: Portable Handset	Page 128 of 180	

**Radiated Band Edge Measurements (80MHz BW) (Cont'd)**  
**§15.407(b.1)(b.2) §15.205 §15.209**



Date: 14.FEB.2014 15:03:12

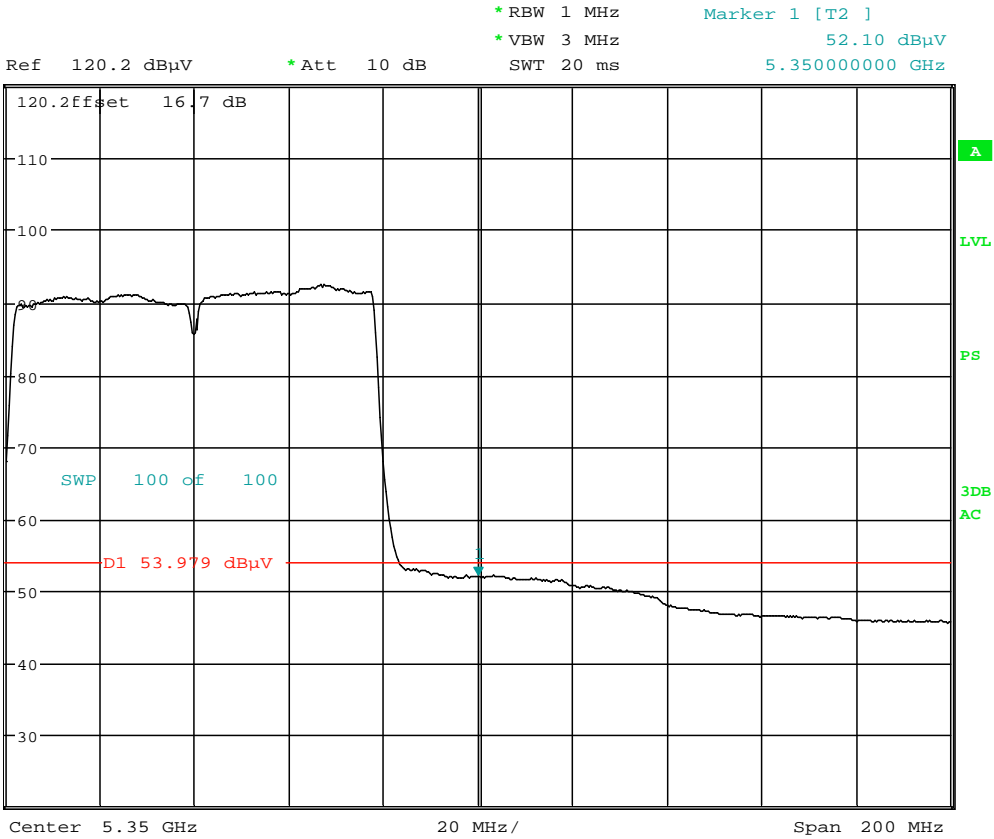
**Plot 6-154. Radiated Restricted Lower Band Edge Plot (Peak – UNII Band 1)**

FCC ID: A3LSMG9008W		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1404250857.A3L	Test Dates: 1/27 - 2/25/2014	EUT Type: Portable Handset	Page 129 of 180	

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

§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

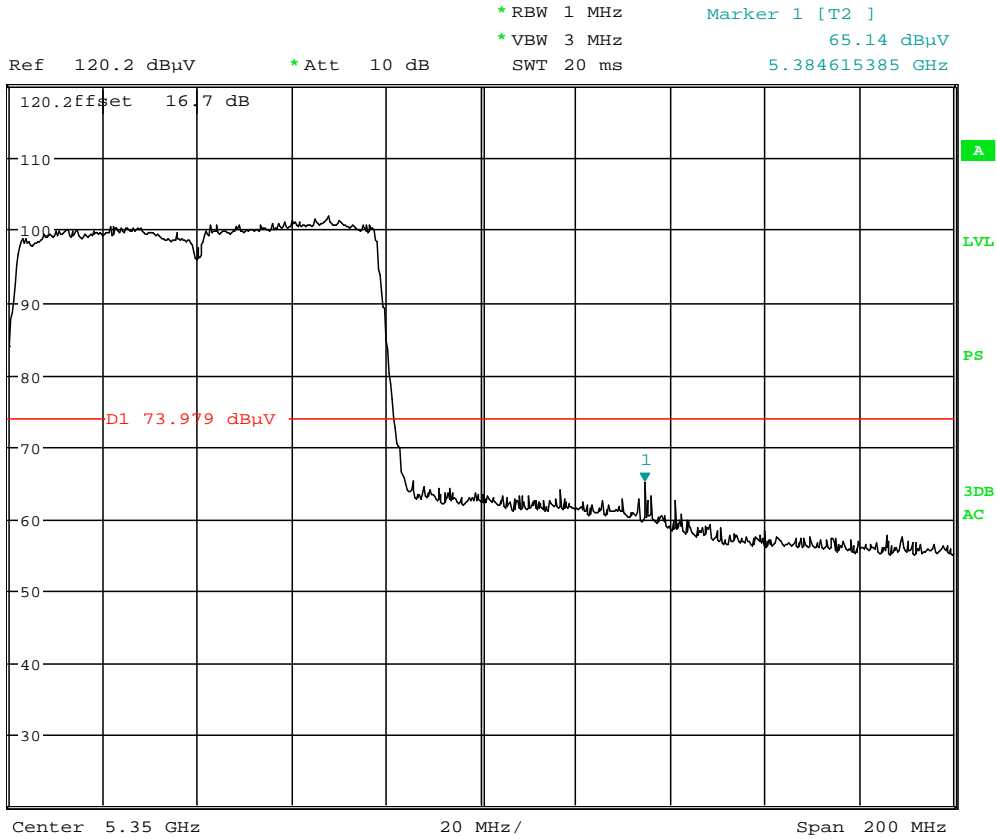


Date: 14.FEB.2014 15:21:00

**Plot 6-155. Radiated Restricted Upper Band Edge Plot (Average – UNII Band 2A)**

FCC ID: A3LSMG9008W		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1404250857.A3L	Test Dates: 1/27 - 2/25/2014	EUT Type: Portable Handset	Page 130 of 180	

**Radiated Band Edge Measurements (80MHz BW) (Cont'd)**  
**§15.407(b.1)(b.2) §15.205 §15.209**



Date: 14.FEB.2014 15:22:17

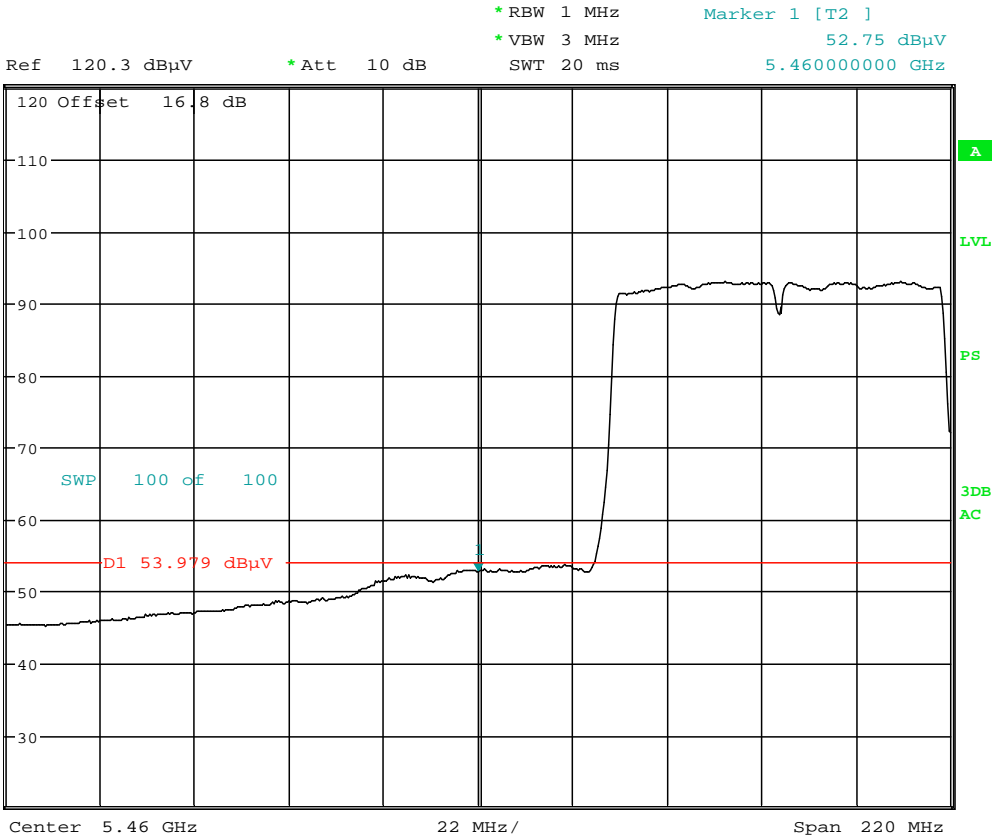
**Plot 6-156. Radiated Restricted Upper Band Edge Plot (Peak – UNII Band 2A)**

FCC ID: A3LSMG9008W		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1404250857.A3L	Test Dates: 1/27 - 2/25/2014	EUT Type: Portable Handset	Page 131 of 180	

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

§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

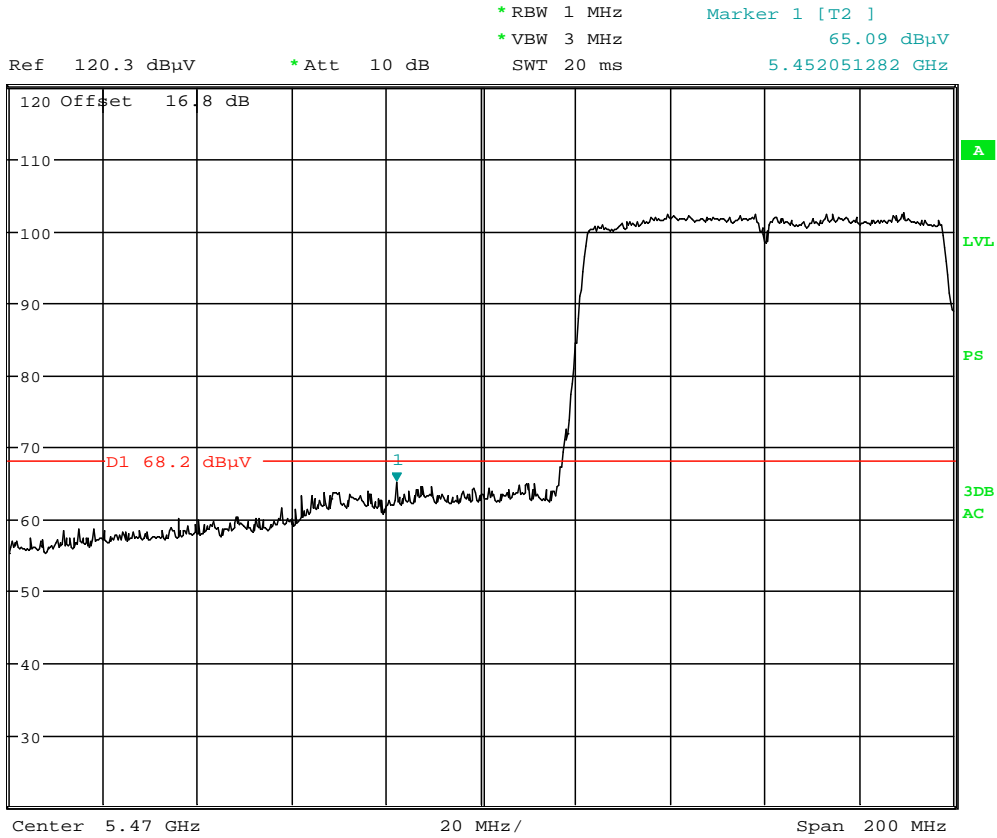


Date: 12.FEB.2014 14:05:52

**Plot 6-157. Radiated Restricted Lower Band Edge Plot (Average – UNII Band 2C)**

FCC ID: A3LSMG9008W		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1404250857.A3L	Test Dates: 1/27 - 2/25/2014	EUT Type: Portable Handset	Page 132 of 180	

**Radiated Band Edge Measurements (80MHz BW) (Cont'd)**  
**§15.407(b.1)(b.2) §15.205 §15.209**



Date: 12.FEB.2014 14:07:53

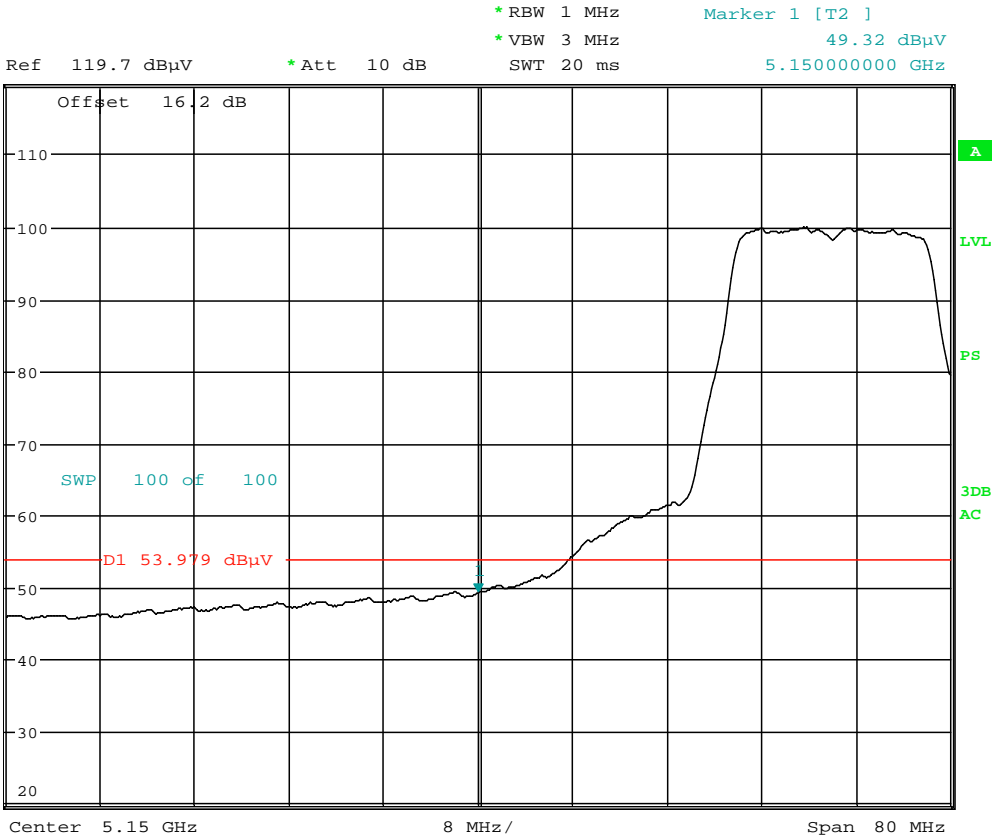
**Plot 6-158. Radiated Restricted Lower Band Edge Plot (Peak – UNII Band 2C)**

FCC ID: A3LSMG9008W		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1404250857.A3L	Test Dates: 1/27 - 2/25/2014	EUT Type: Portable Handset	Page 133 of 180	

## 6.11 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

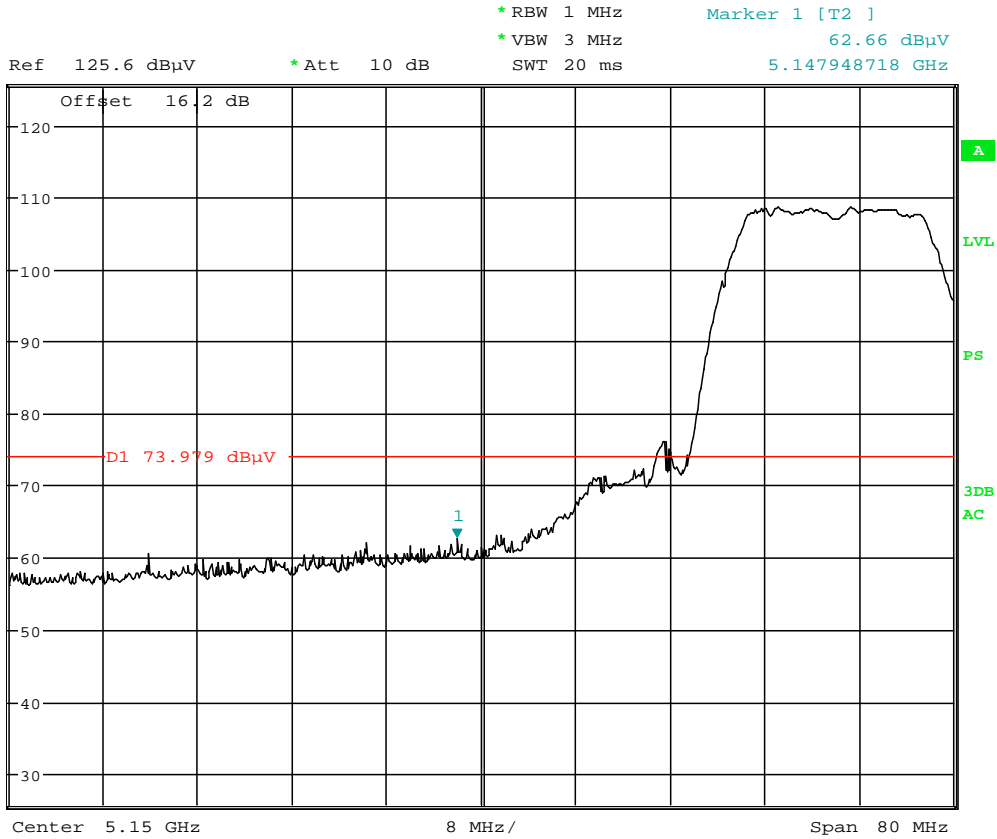


Date: 12.FEB.2014 14:50:23

**Plot 6-159. Radiated Restricted Lower Band Edge Plot (Average – UNII Band 1)**

FCC ID: A3LSMG9008W		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1404250857.A3L	Test Dates: 1/27 - 2/25/2014	EUT Type: Portable Handset	Page 134 of 180	

**Radiated Band Edge Measurements (20MHz BW) (Cont'd)**  
**§15.407(b.1)(b.2) §15.205 §15.209**



Date: 12.FEB.2014 14:49:45

**Plot 6-160. Radiated Restricted Lower Band Edge Plot (Peak – UNII Band 1)**

FCC ID: A3LSMG9008W		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1404250857.A3L	Test Dates: 1/27 - 2/25/2014	EUT Type: Portable Handset	Page 135 of 180	

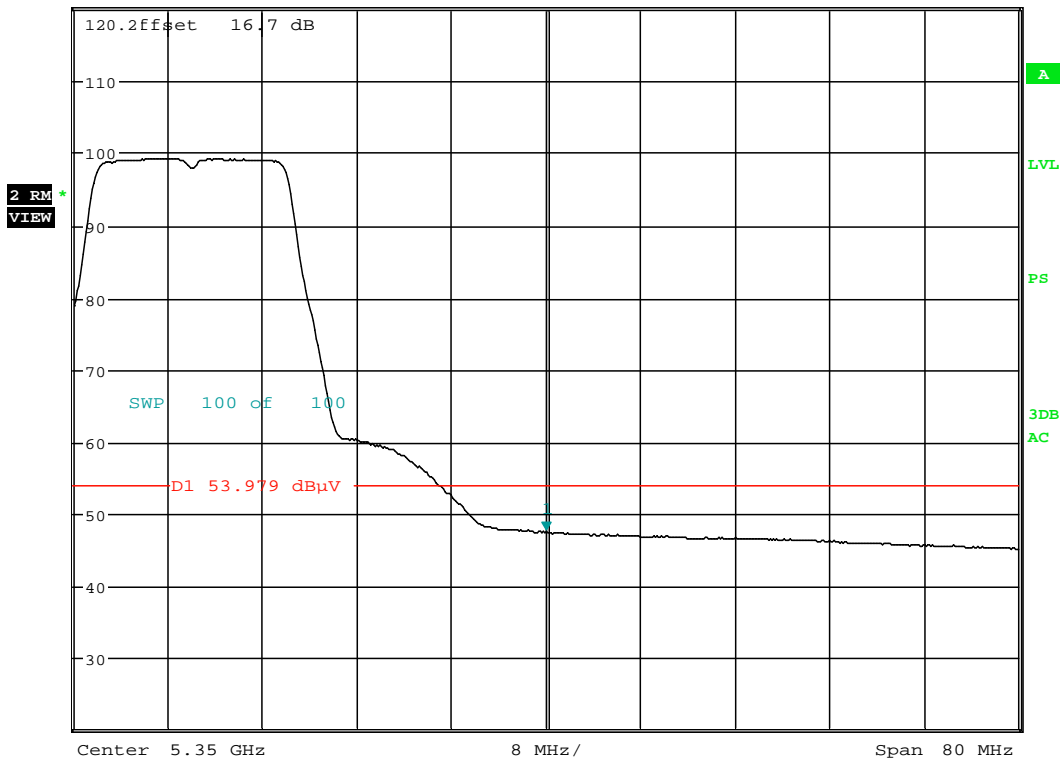
# Radiated Band Edge Measurements (20MHz BW) (Cont'd)

§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



Ref 120.2 dBµV      \* Att 10 dB      SWT 20 ms      Marker 1 [T2] 47.59 dBµV  
 \* RBW 1 MHz      \* VBW 3 MHz      5.35000000 GHz

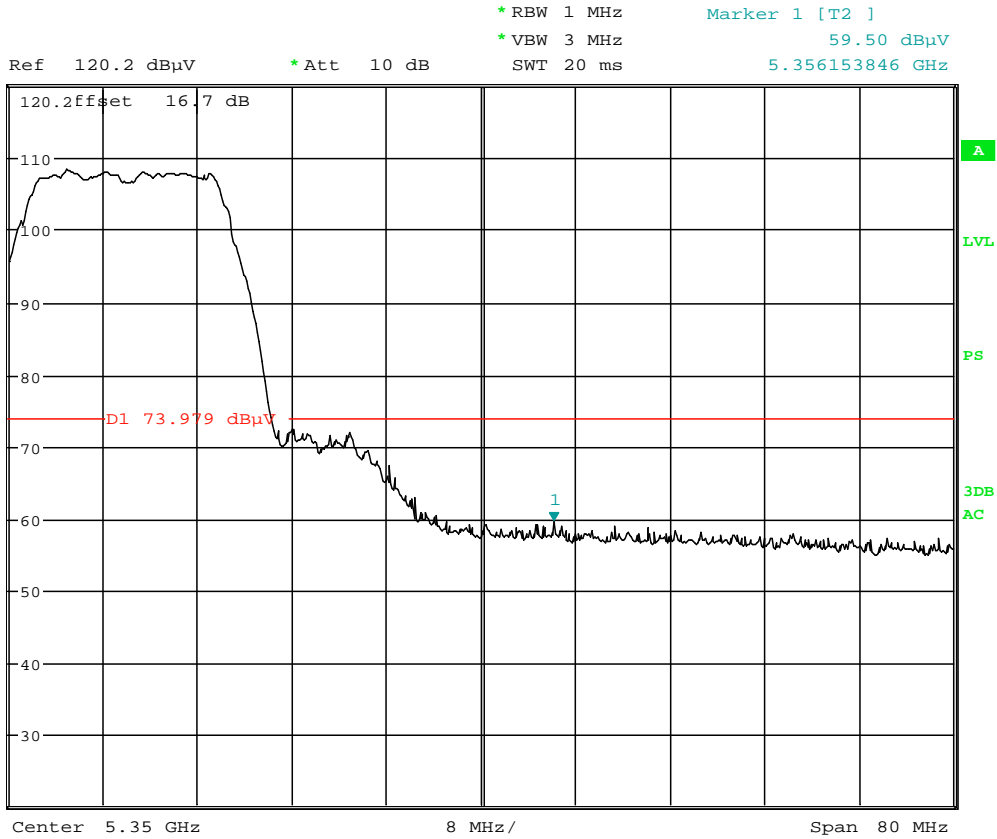


Date: 12.FEB.2014 15:14:28

**Plot 6-161. Radiated Restricted Upper Band Edge Plot (Average – UNII Band 2A)**

FCC ID: A3LSMG9008W		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1404250857.A3L	Test Dates: 1/27 - 2/25/2014	EUT Type: Portable Handset	Page 136 of 180	

**Radiated Band Edge Measurements (20MHz BW) (Cont'd)**  
**§15.407(b.1)(b.2) §15.205 §15.209**



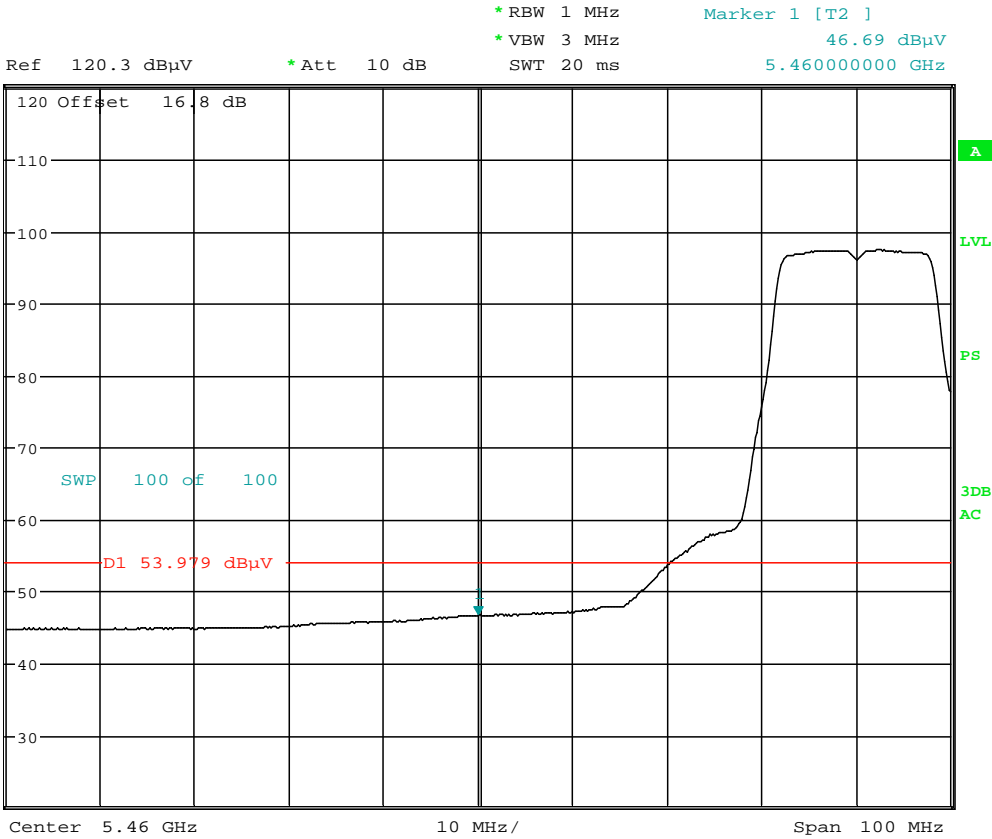
Date: 12.FEB.2014 15:13:53

**Plot 6-162. Radiated Restricted Upper Band Edge Plot (Peak – UNII Band 2A)**

FCC ID: A3LSMG9008W		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1404250857.A3L	Test Dates: 1/27 - 2/25/2014	EUT Type: Portable Handset	Page 137 of 180	

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

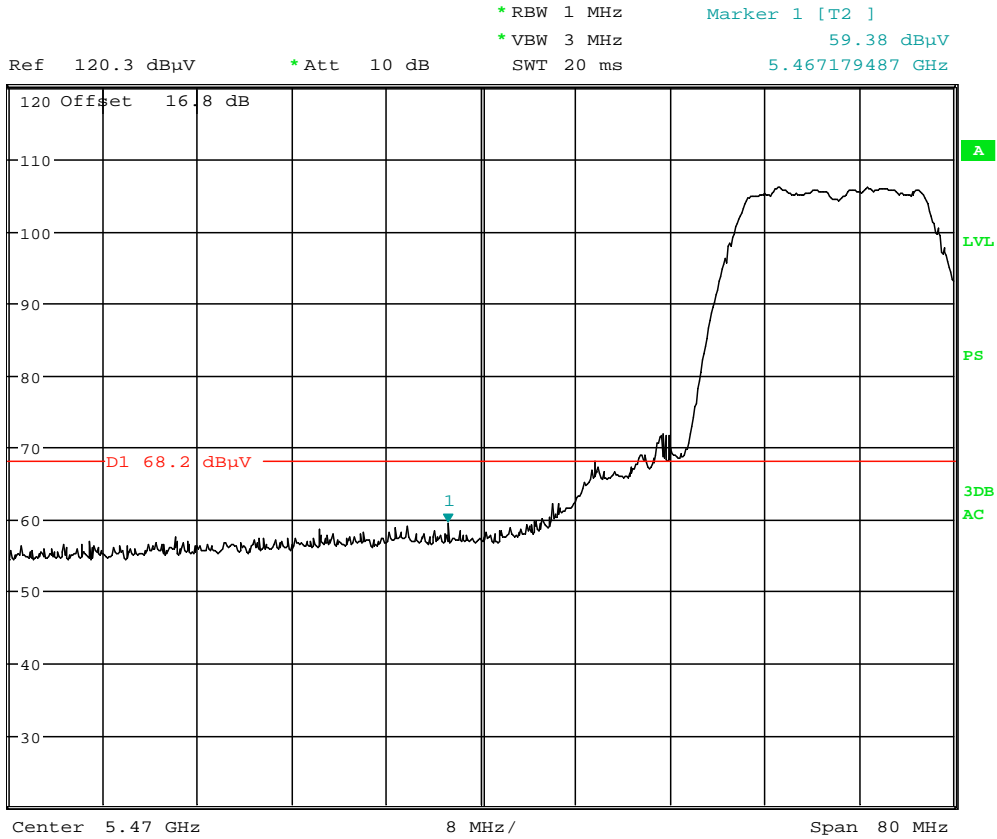


Date: 12.FEB.2014 15:29:53

**Plot 6-163. Radiated Restricted Lower Band Edge Plot (Average – UNII Band 2C)**

FCC ID: A3LSMG9008W		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1404250857.A3L	Test Dates: 1/27 - 2/25/2014	EUT Type: Portable Handset	Page 138 of 180	

**Radiated Band Edge Measurements (20MHz BW) (Cont'd)**  
**§15.407(b.1)(b.2) §15.205 §15.209**



Date: 12.FEB.2014 15:29:07

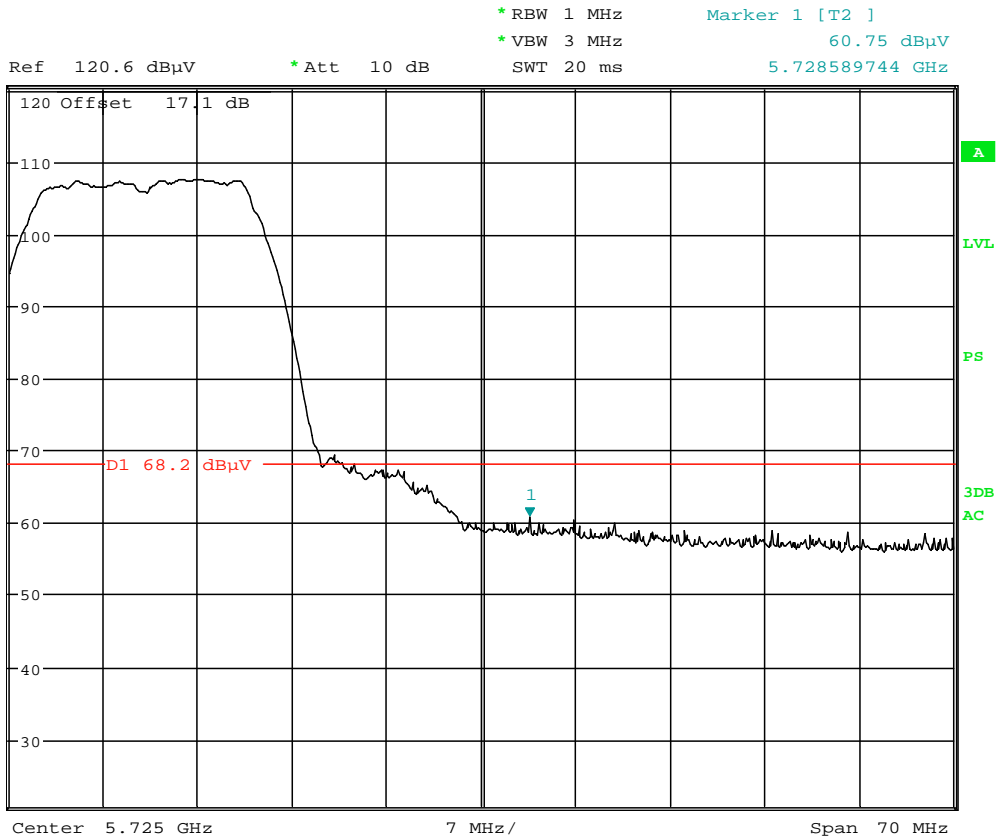
**Plot 6-164. Radiated Restricted Lower Band Edge Plot (Peak – UNII Band 2C)**

FCC ID: A3LSMG9008W		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1404250857.A3L	Test Dates: 1/27 - 2/25/2014	EUT Type: Portable Handset	Page 139 of 180	

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

§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: 5700MHz  
 Channel: 140



Date: 12.FEB.2014 15:57:20

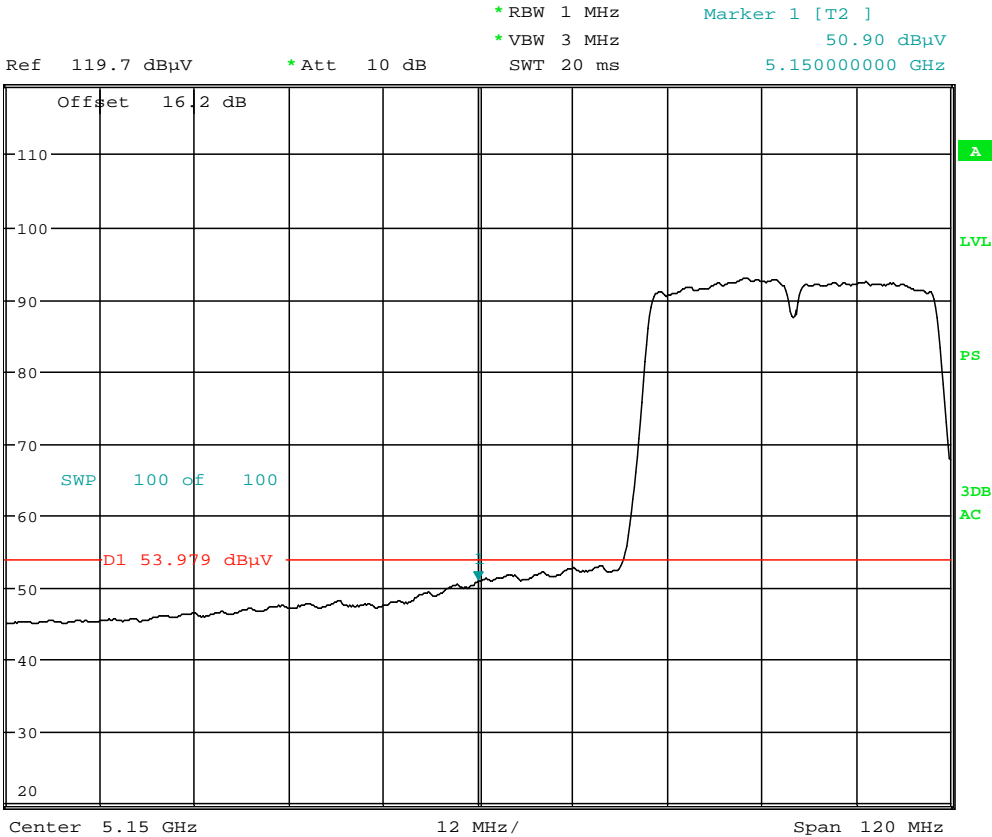
**Plot 6-165. Radiated Upper Band Edge Plot (Peak – UNII Band 2C)**

FCC ID: A3LSMG9008W		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1404250857.A3L	Test Dates: 1/27 - 2/25/2014	EUT Type: Portable Handset	Page 140 of 180	

## 6.12 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

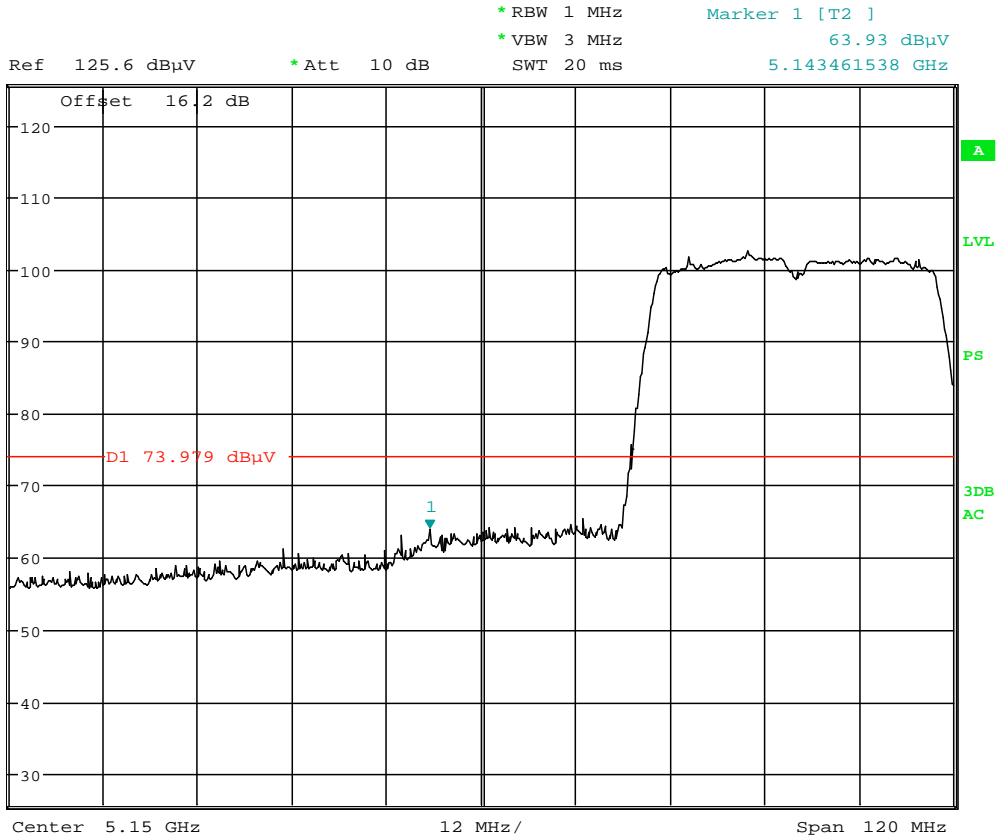


Date: 14.FEB.2014 15:52:34

**Plot 6-166. Radiated Restricted Lower Band Edge Plot (Average – UNII Band 1)**

FCC ID: A3LSMG9008W		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1404250857.A3L	Test Dates: 1/27 - 2/25/2014	EUT Type: Portable Handset	Page 141 of 180	

**Radiated Band Edge Measurements (40MHz BW) (Cont'd)**  
**§15.407(b.1)(b.2) §15.205 §15.209**



Date: 14.FEB.2014 15:53:34

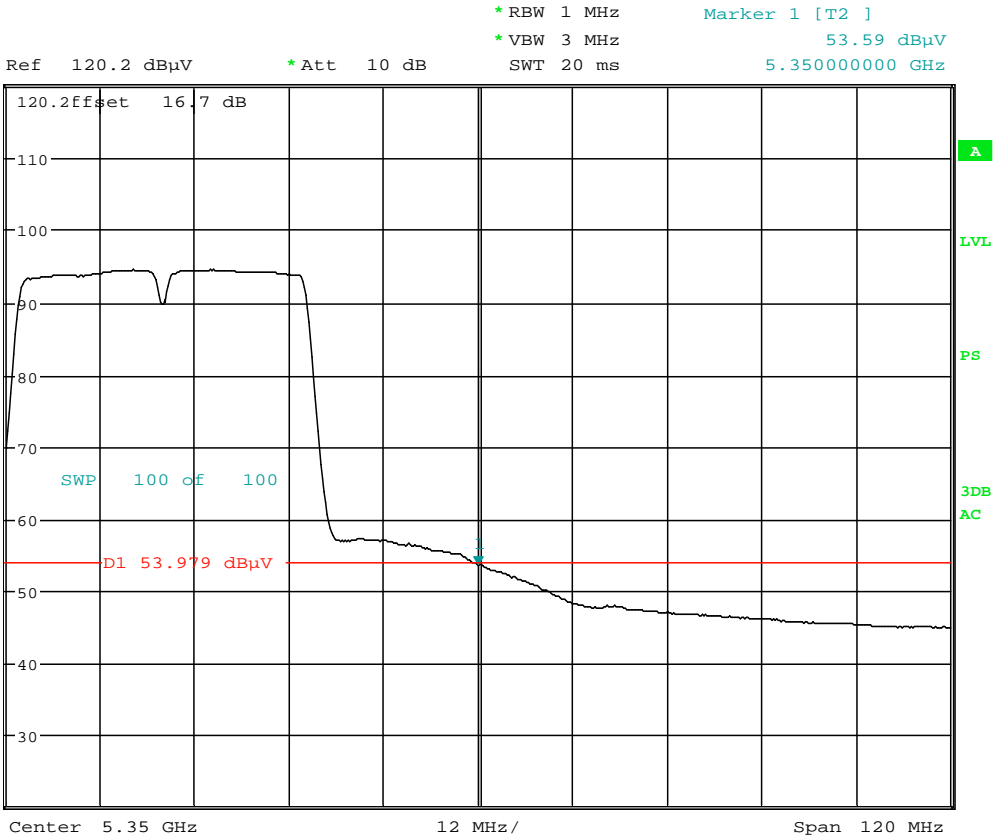
**Plot 6-167. Radiated Restricted Lower Band Edge Plot (Peak – UNII Band 1)**

FCC ID: A3LSMG9008W		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1404250857.A3L	Test Dates: 1/27 - 2/25/2014	EUT Type: Portable Handset	Page 142 of 180	

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

§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

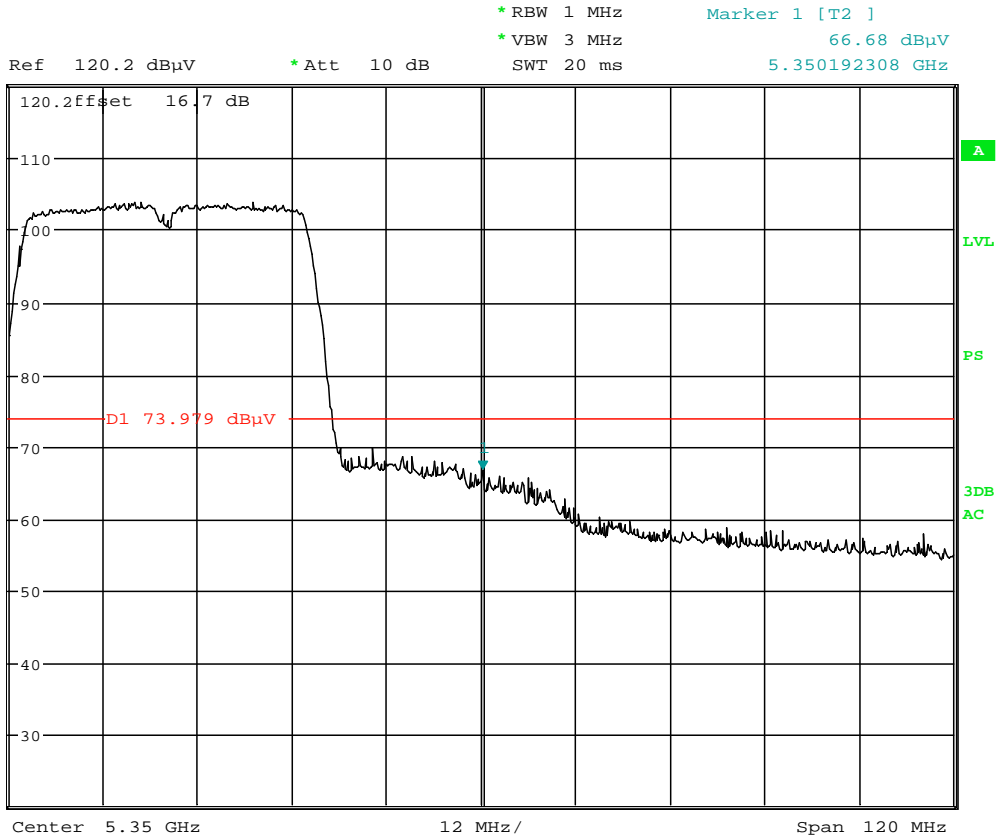


Date: 12.FEB.2014 15:18:47

**Plot 6-168. Radiated Restricted Upper Band Edge Plot (Average – UNII Band 2A)**

FCC ID: A3LSMG9008W		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1404250857.A3L	Test Dates: 1/27 - 2/25/2014	EUT Type: Portable Handset	Page 143 of 180	

**Radiated Band Edge Measurements (40MHz BW) (Cont'd)**  
**§15.407(b.1)(b.2) §15.205 §15.209**



Date: 12.FEB.2014 15:21:35

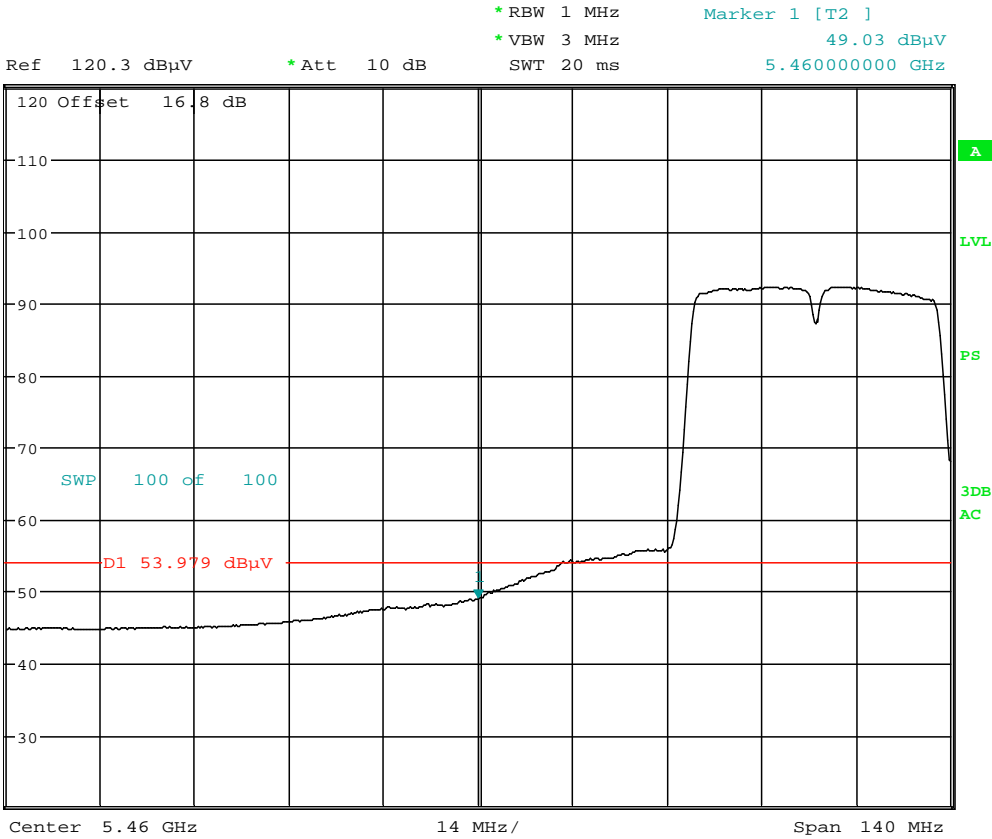
**Plot 6-169. Radiated Restricted Upper Band Edge Plot (Peak – UNII Band 2A)**

FCC ID: A3LSMG9008W		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1404250857.A3L	Test Dates: 1/27 - 2/25/2014	EUT Type: Portable Handset	Page 144 of 180	

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

\$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

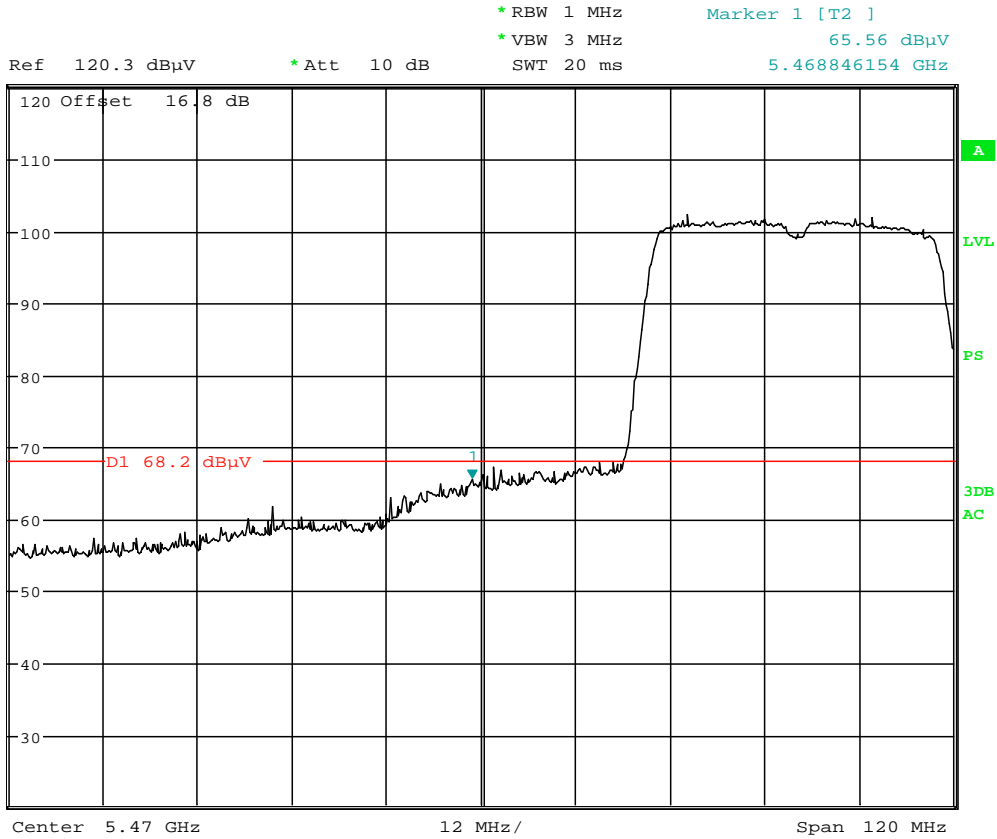


Date: 12.FEB.2014 15:31:37

**Plot 6-170. Radiated Restricted Lower Band Edge Plot (Average – UNII Band 2C)**

FCC ID: A3LSMG9008W		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1404250857.A3L	Test Dates: 1/27 - 2/25/2014	EUT Type: Portable Handset	Page 145 of 180	

**Radiated Band Edge Measurements (40MHz BW) (Cont'd)**  
**§15.407(b.1)(b.2) §15.205 §15.209**



Date: 12.FEB.2014 15:32:42

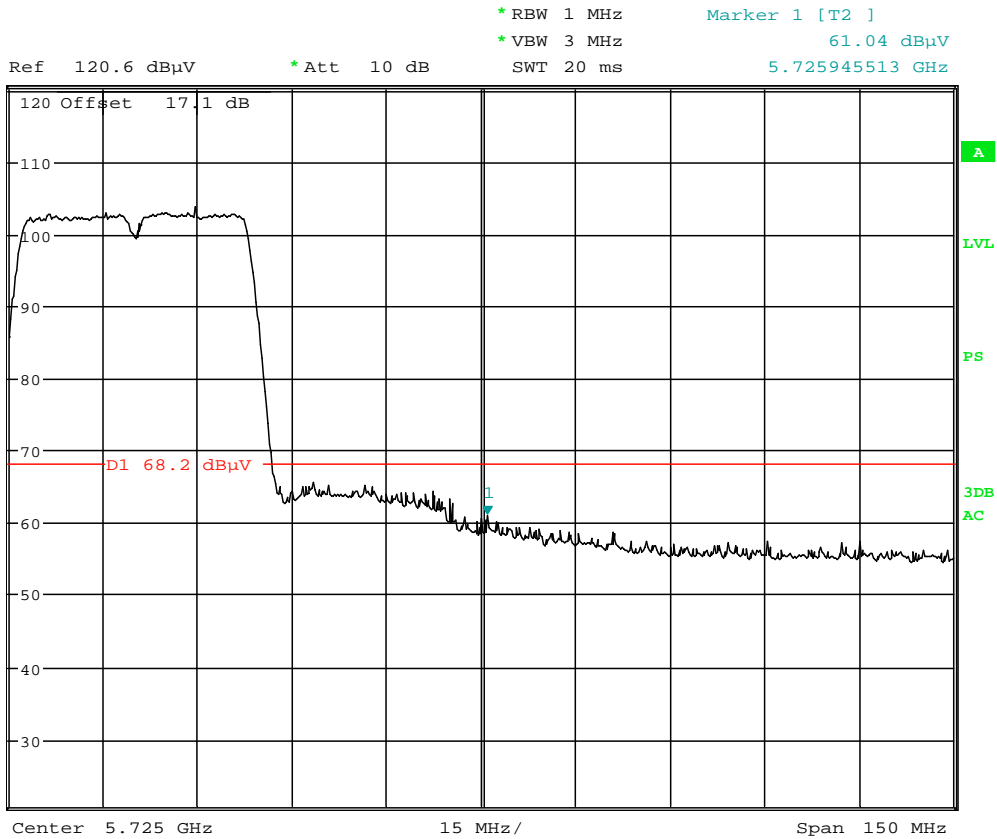
**Plot 6-171. Radiated Restricted Lower Band Edge Plot (Peak – UNII Band 2C)**

FCC ID: A3LSMG9008W		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1404250857.A3L	Test Dates: 1/27 - 2/25/2014	EUT Type: Portable Handset	Page 146 of 180	

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

§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: 5670MHz  
 Channel: 134



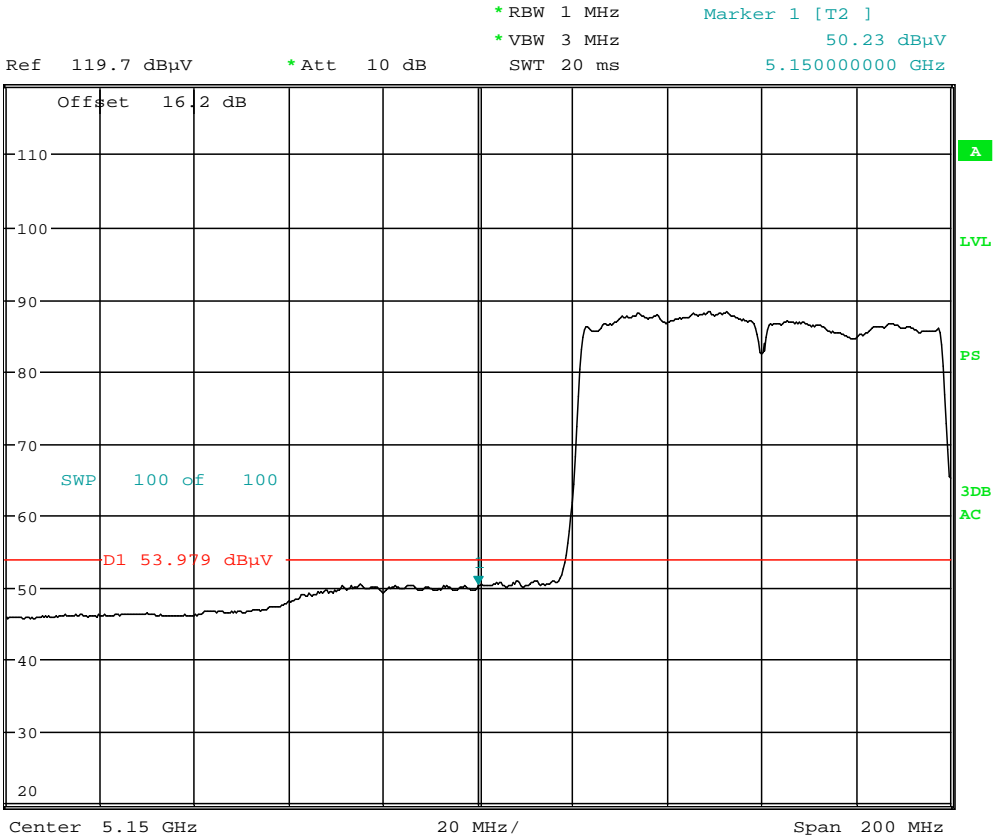
Date: 12.FEB.2014 15:59:21

**Plot 6-172. Radiated Upper Band Edge Plot (Peak – UNII Band 2C)**

FCC ID: A3LSMG9008W		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1404250857.A3L	Test Dates: 1/27 - 2/25/2014	EUT Type: Portable Handset		Page 147 of 180

### 6.13 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: 5210MHz  
 Channel: 42

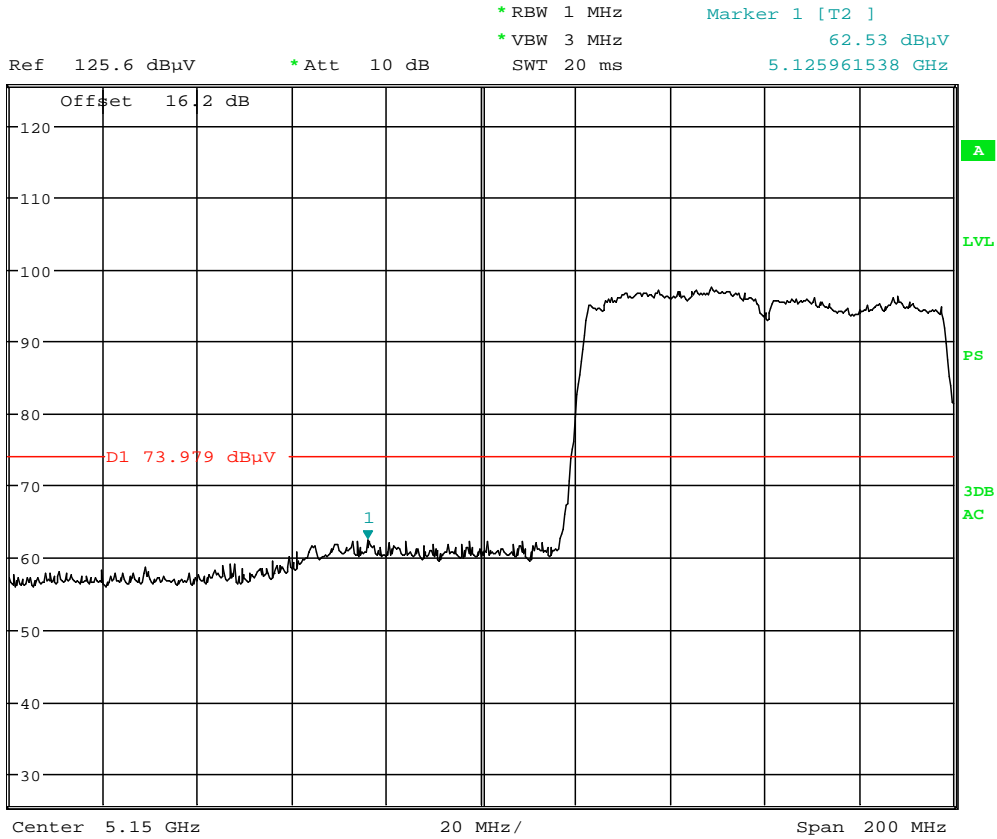


Date: 14.FEB.2014 15:57:15

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

FCC ID: A3LSMG9008W		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1404250857.A3L	Test Dates: 1/27 - 2/25/2014	EUT Type: Portable Handset	Page 148 of 180	

**Radiated Band Edge Measurements (80MHz BW) (Cont'd)**  
**§15.407(b.1)(b.2) §15.205 §15.209**



Date: 14.FEB.2014 15:58:32

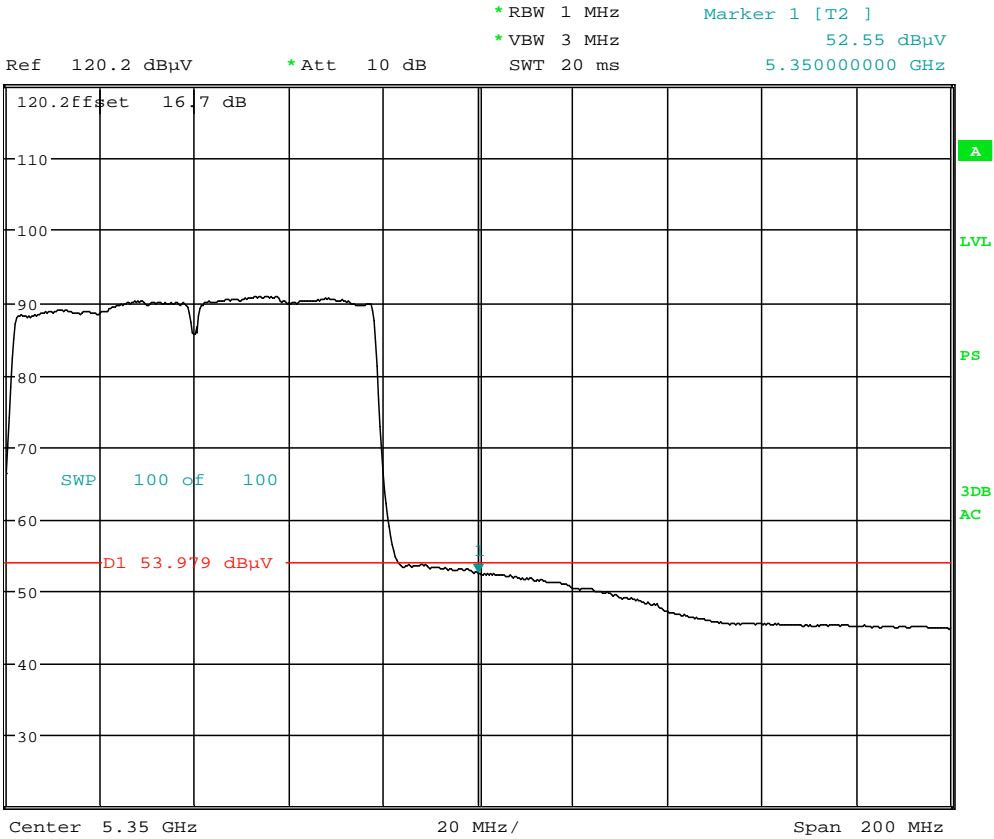
**Plot 6-174. Radiated Restricted Lower Band Edge Plot (Peak – UNII Band 1)**

FCC ID: A3LSMG9008W		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1404250857.A3L	Test Dates: 1/27 - 2/25/2014	EUT Type: Portable Handset	Page 149 of 180	

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

§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

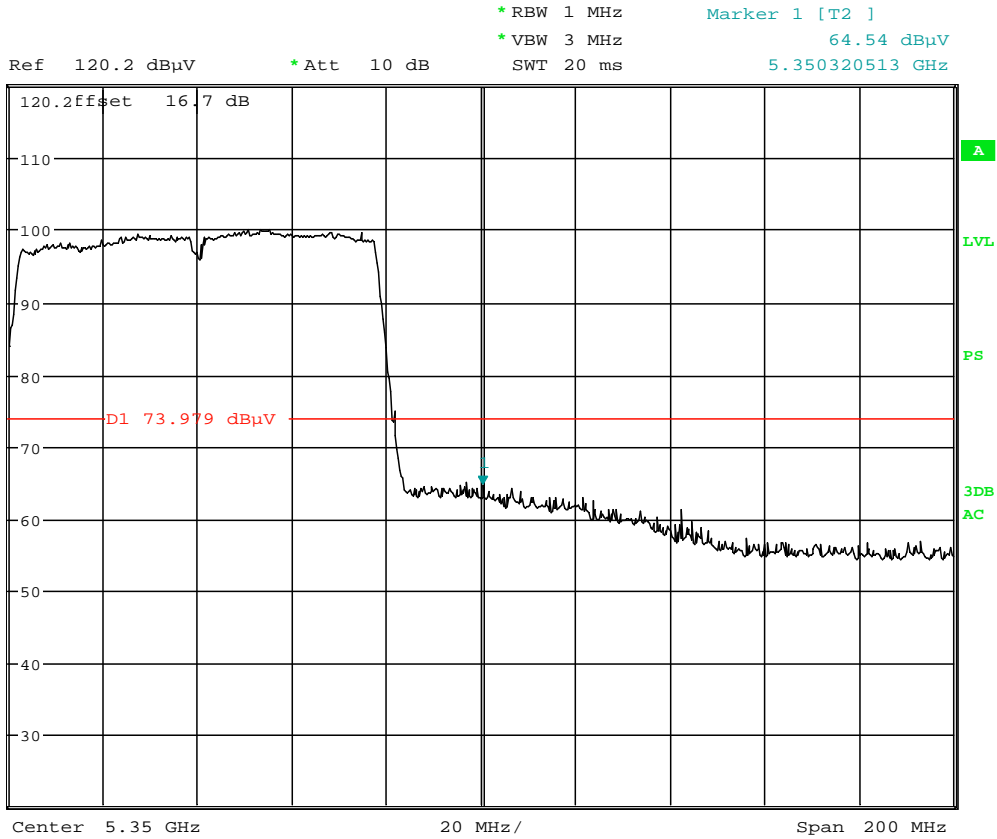


Date: 12.FEB.2014 15:24:06

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

FCC ID: A3LSMG9008W		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1404250857.A3L	Test Dates: 1/27 - 2/25/2014	EUT Type: Portable Handset	Page 150 of 180	

**Radiated Band Edge Measurements (80MHz BW) (Cont'd)**  
**§15.407(b.1)(b.2) §15.205 §15.209**



Date: 12.FEB.2014 15:25:21

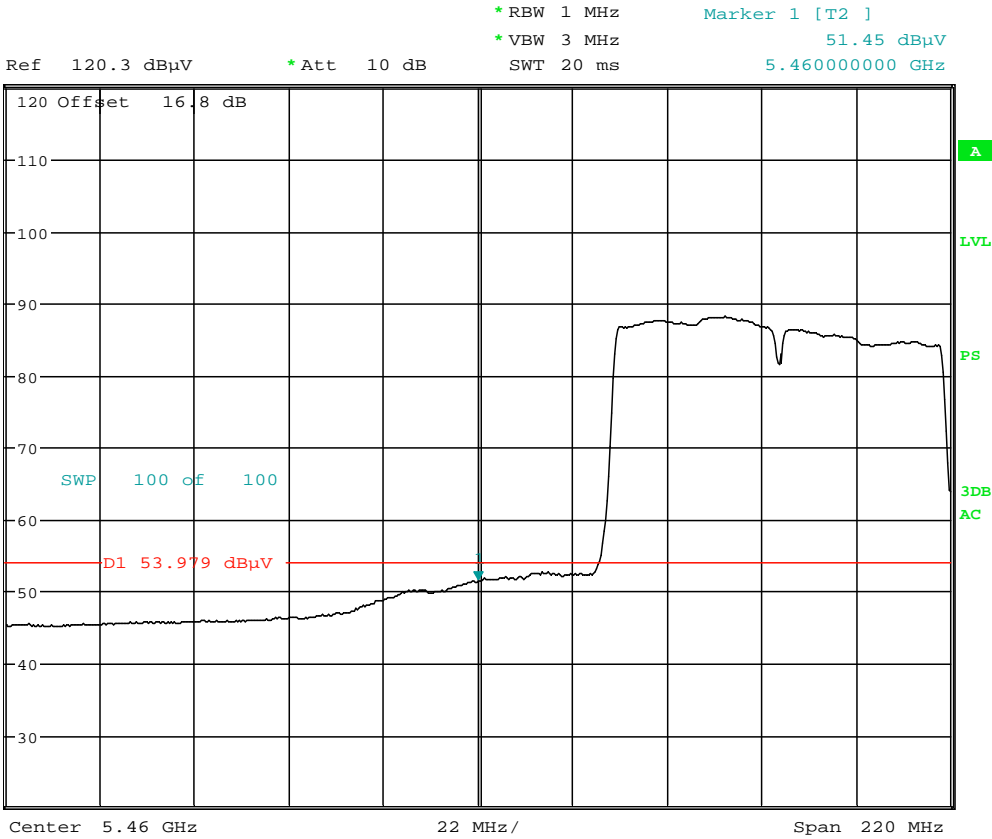
**Plot 6-176. Radiated Restricted Upper Band Edge Plot (Peak – UNII Band 2A)**

FCC ID: A3LSMG9008W		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1404250857.A3L	Test Dates: 1/27 - 2/25/2014	EUT Type: Portable Handset	Page 151 of 180	

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

\$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

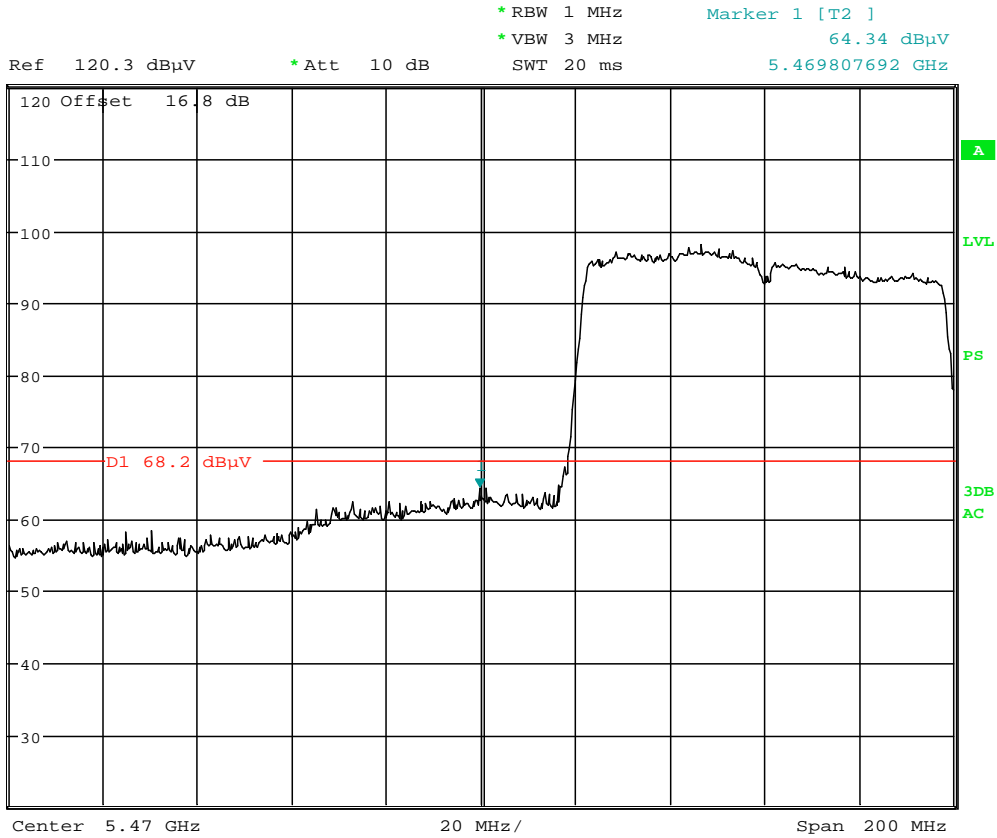


Date: 12.FEB.2014 15:49:51

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

FCC ID: A3LSMG9008W		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1404250857.A3L	Test Dates: 1/27 - 2/25/2014	EUT Type: Portable Handset	Page 152 of 180	

**Radiated Band Edge Measurements (80MHz BW) (Cont'd)**  
**§15.407(b.1)(b.2) §15.205 §15.209**



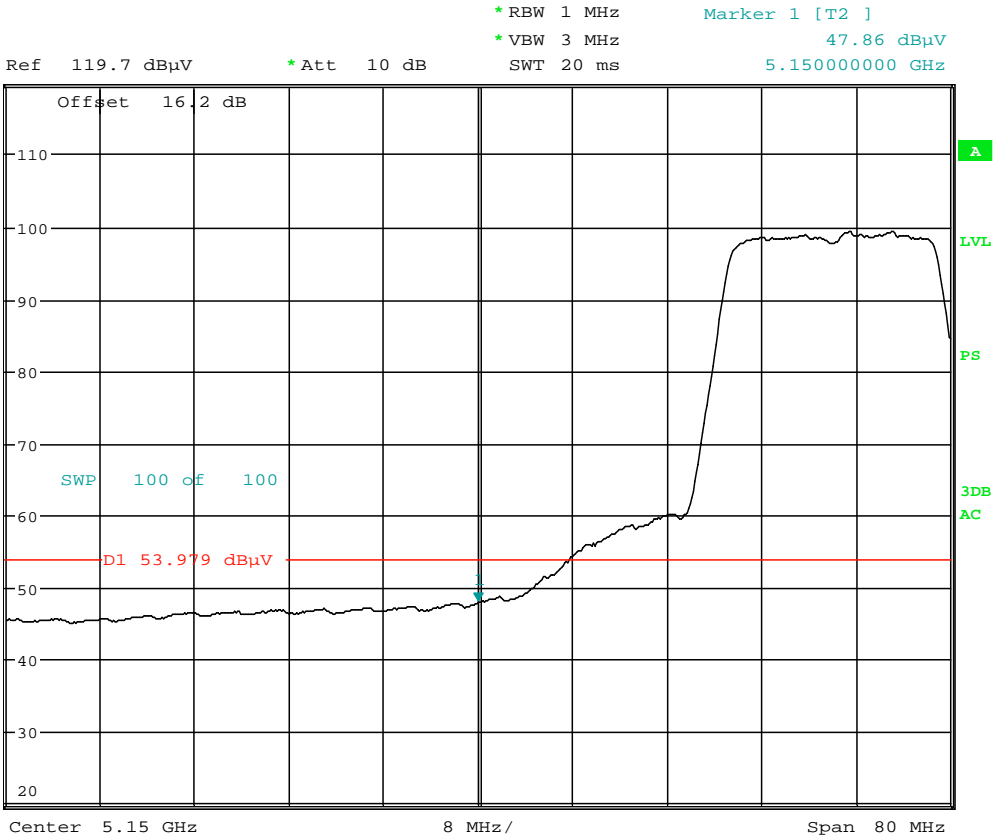
Date: 12.FEB.2014 15:47:36

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

FCC ID: A3LSMG9008W		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1404250857.A3L	Test Dates: 1/27 - 2/25/2014	EUT Type: Portable Handset	Page 153 of 180	

### 6.14 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

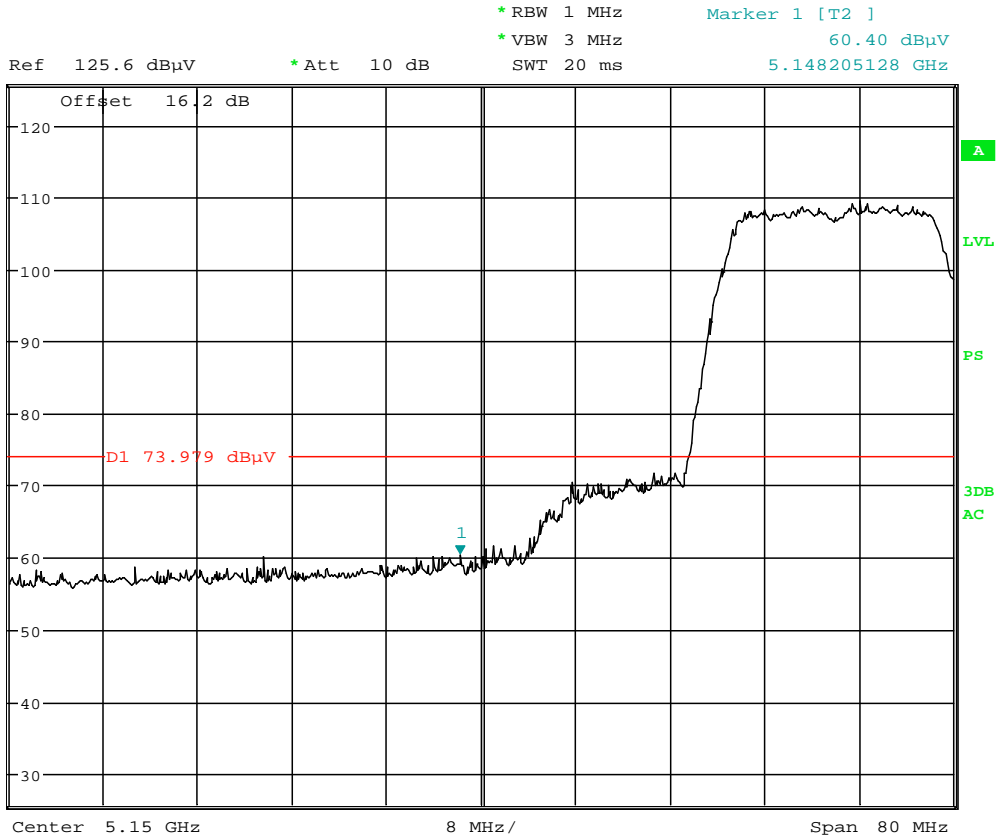


Date: 12.FEB.2014 16:07:32

**Plot 6-179. Radiated Restricted Lower Band Edge Plot (Average – UNII Band 1)**

FCC ID: A3LSMG9008W		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1404250857.A3L	Test Dates: 1/27 - 2/25/2014	EUT Type: Portable Handset	Page 154 of 180	

**Radiated Band Edge Measurements (20MHz BW) (Cont'd)**  
**§15.407(b.1)(b.2) §15.205 §15.209**



Date: 12.FEB.2014 16:06:49

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

FCC ID: A3LSMG9008W		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1404250857.A3L	Test Dates: 1/27 - 2/25/2014	EUT Type: Portable Handset	Page 155 of 180	

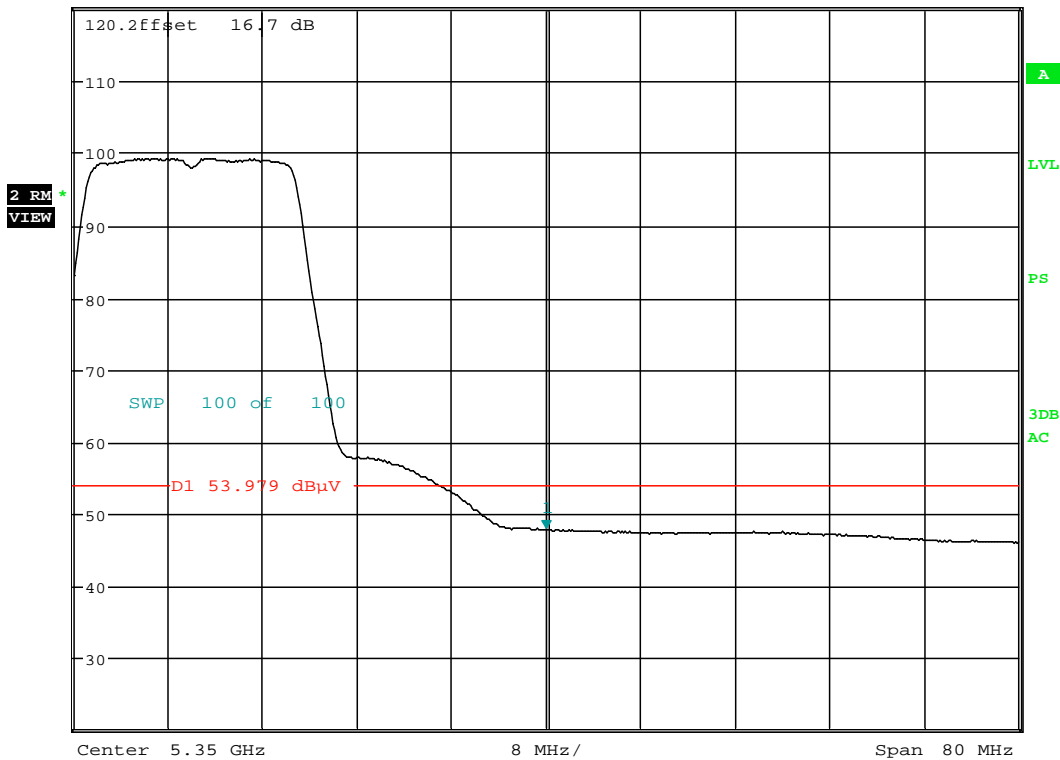
# Radiated Band Edge Measurements (20MHz BW) (Cont'd)

§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



Ref 120.2 dBµV      \* Att 10 dB      SWT 20 ms      Marker 1 [T2] 47.81 dBµV  
 \* RBW 1 MHz      \* VBW 3 MHz      5.35000000 GHz

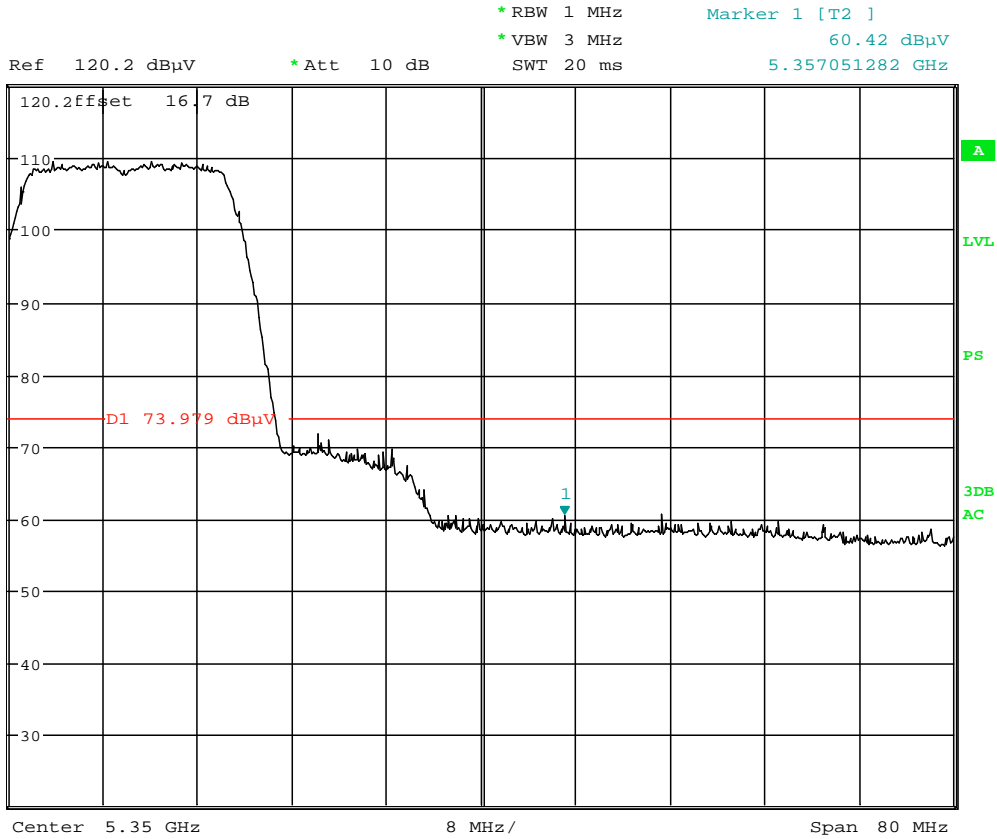


Date: 12.FEB.2014 16:27:36

**Plot 6-181. Radiated Restricted Upper Band Edge Plot (Average – UNII Band 2A)**

FCC ID: A3LSMG9008W		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1404250857.A3L	Test Dates: 1/27 - 2/25/2014	EUT Type: Portable Handset	Page 156 of 180	

**Radiated Band Edge Measurements (20MHz BW) (Cont'd)**  
**§15.407(b.1)(b.2) §15.205 §15.209**



Date: 12.FEB.2014 16:26:53

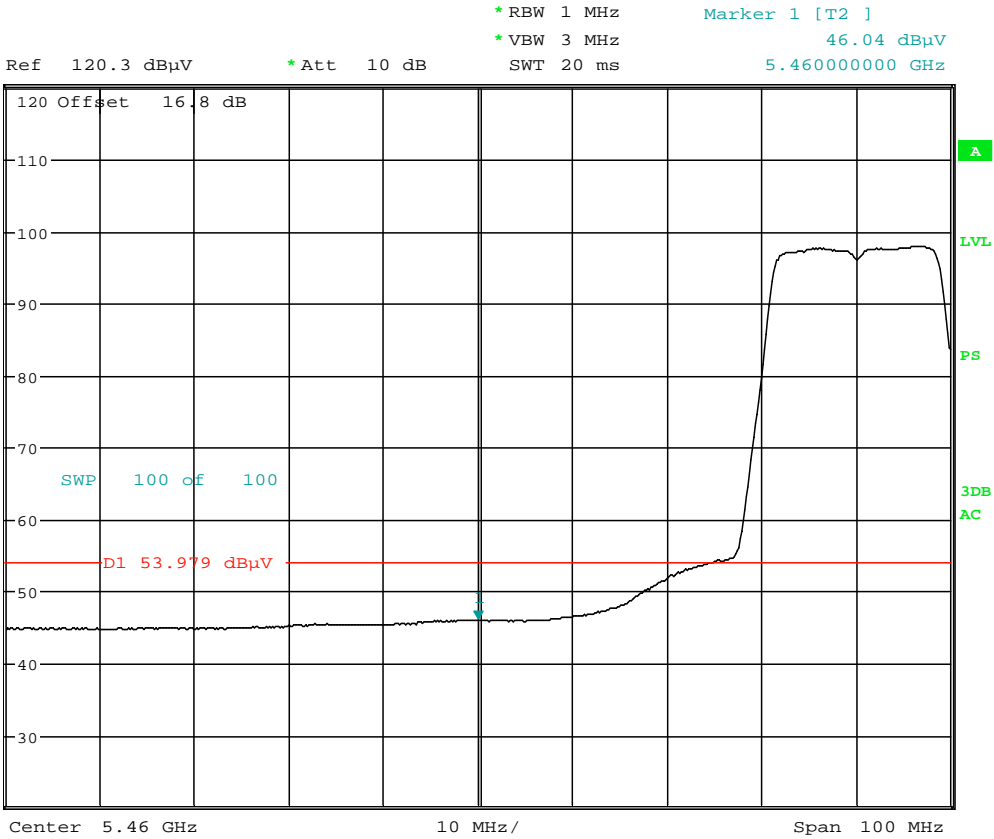
**Plot 6-182. Radiated Restricted Upper Band Edge Plot (Peak – UNII Band 2A)**

FCC ID: A3LSMG9008W		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1404250857.A3L	Test Dates: 1/27 - 2/25/2014	EUT Type: Portable Handset		Page 157 of 180

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

§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

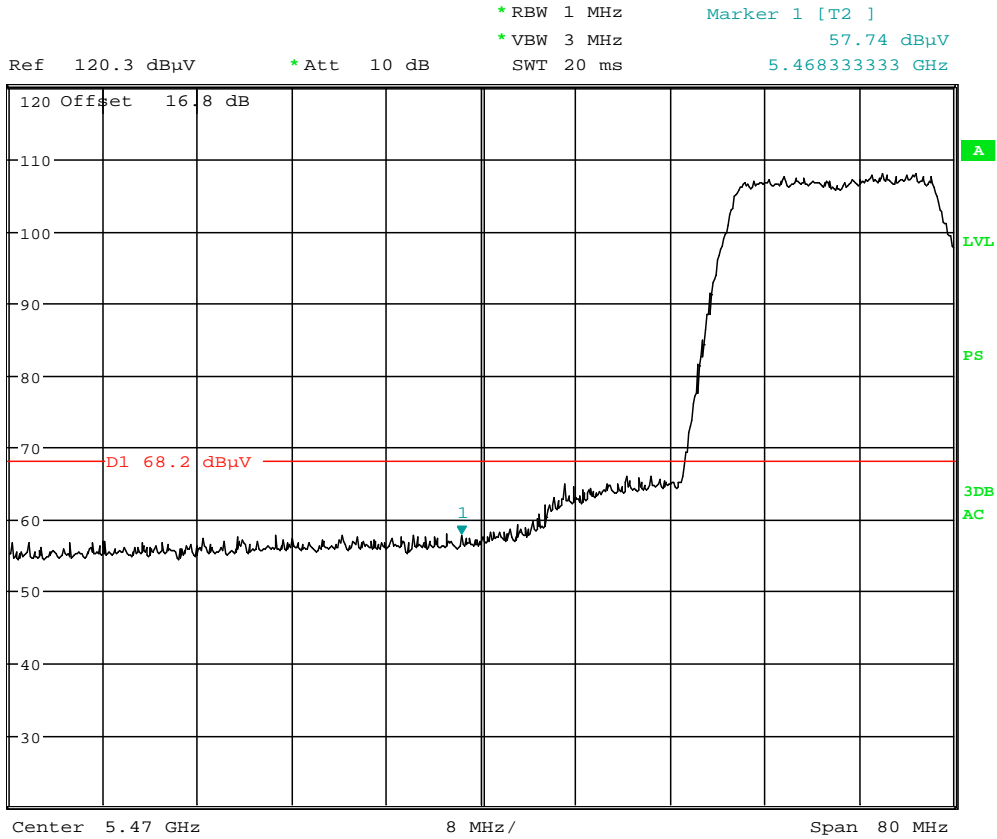


Date: 12.FEB.2014 16:43:58

**Plot 6-183. Radiated Restricted Lower Band Edge Plot (Average – UNII Band 2C)**

FCC ID: A3LSMG9008W		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1404250857.A3L	Test Dates: 1/27 - 2/25/2014	EUT Type: Portable Handset	Page 158 of 180	

**Radiated Band Edge Measurements (20MHz BW) (Cont'd)**  
**§15.407(b.1)(b.2) §15.205 §15.209**



Date: 12.FEB.2014 16:43:27

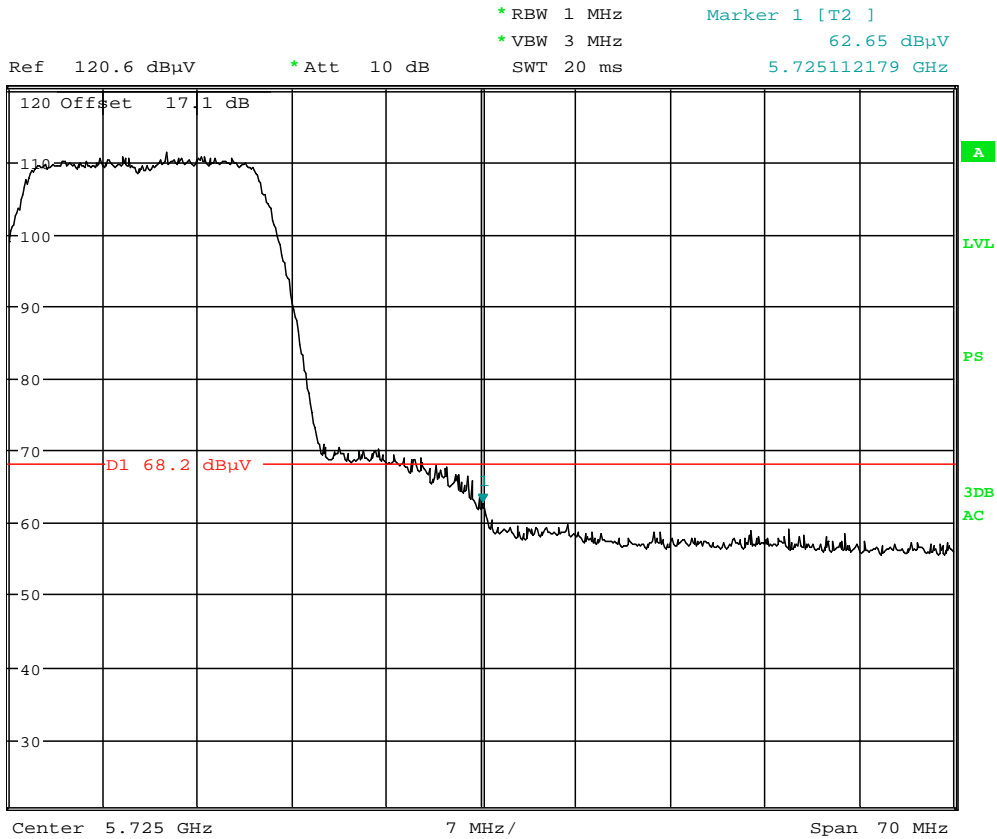
**Plot 6-184. Radiated Restricted Lower Band Edge Plot (Peak – UNII Band 2C)**

FCC ID: A3LSMG9008W		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1404250857.A3L	Test Dates: 1/27 - 2/25/2014	EUT Type: Portable Handset	Page 159 of 180	

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

§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: 5700MHz  
 Channel: 140



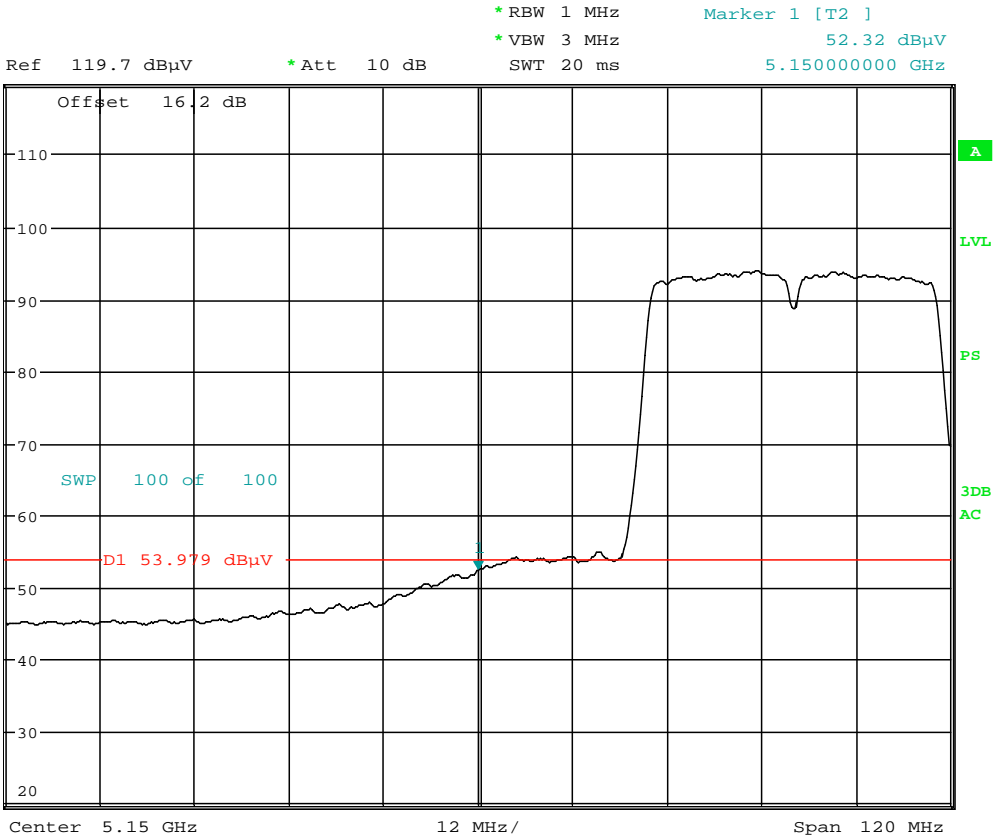
Date: 12.FEB.2014 16:55:47

**Plot 6-185. Radiated Upper Band Edge Plot (Peak – UNII Band 2C)**

FCC ID: A3LSMG9008W		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1404250857.A3L	Test Dates: 1/27 - 2/25/2014	EUT Type: Portable Handset	Page 160 of 180	

### 6.15 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

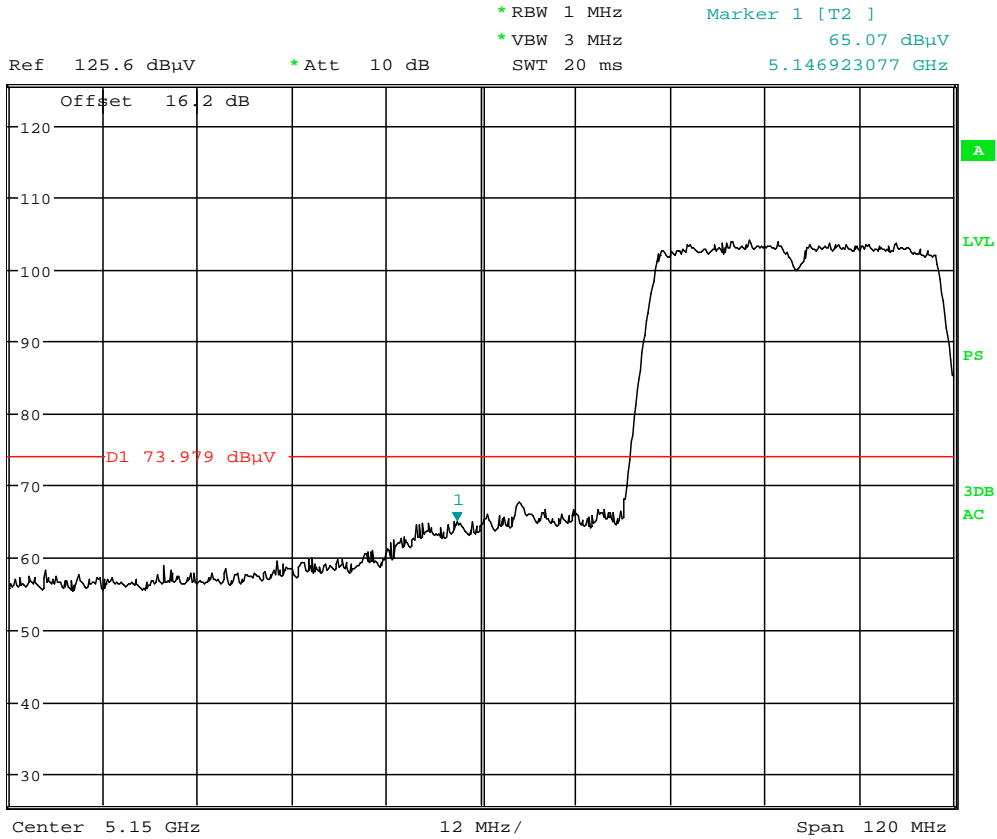


Date: 12.FEB.2014 16:11:39

**Plot 6-186. Radiated Restricted Lower Band Edge Plot (Average – UNII Band 1)**

FCC ID: A3LSMG9008W		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1404250857.A3L	Test Dates: 1/27 - 2/25/2014	EUT Type: Portable Handset	Page 161 of 180	

**Radiated Band Edge Measurements (40MHz BW) (Cont'd)**  
**§15.407(b.1)(b.2) §15.205 §15.209**



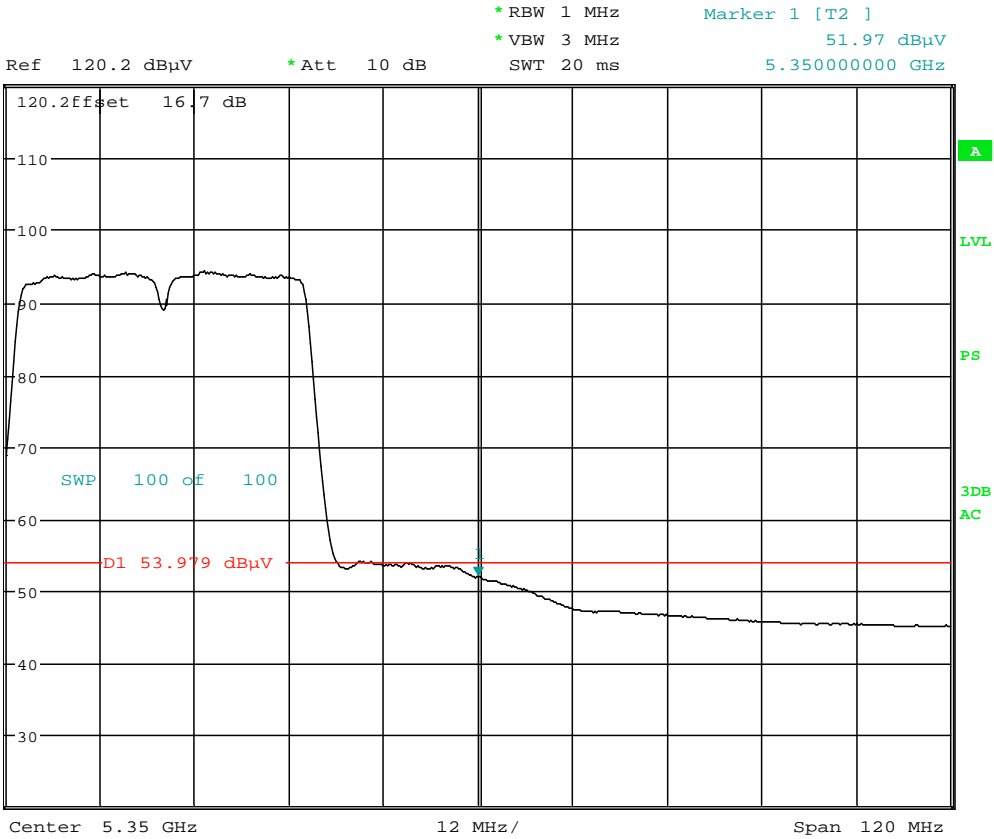
Date: 12.FEB.2014 16:13:31

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

FCC ID: A3LSMG9008W		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1404250857.A3L	Test Dates: 1/27 - 2/25/2014	EUT Type: Portable Handset	Page 162 of 180	

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

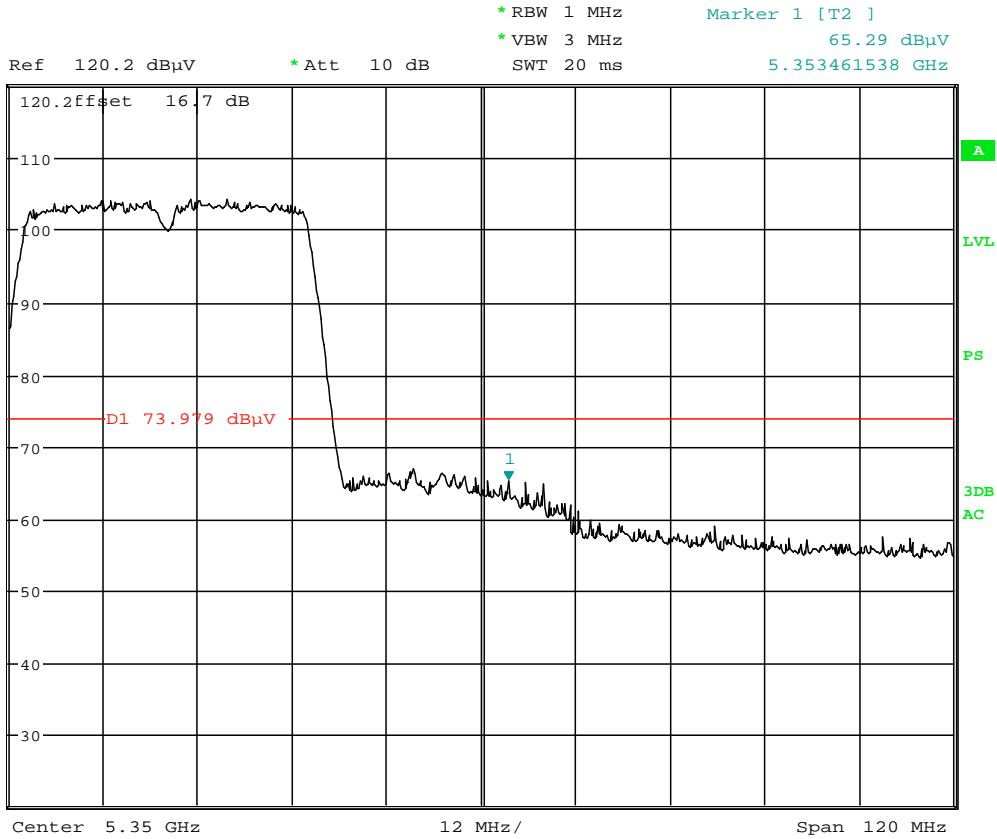


Date: 12.FEB.2014 16:31:19

**Plot 6-188. Radiated Restricted Upper Band Edge Plot (Average – UNII Band 2A)**

FCC ID: A3LSMG9008W		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1404250857.A3L	Test Dates: 1/27 - 2/25/2014	EUT Type: Portable Handset	Page 163 of 180	

**Radiated Band Edge Measurements (40MHz BW) (Cont'd)**  
**§15.407(b.1)(b.2) §15.205 §15.209**



Date: 12.FEB.2014 16:35:11

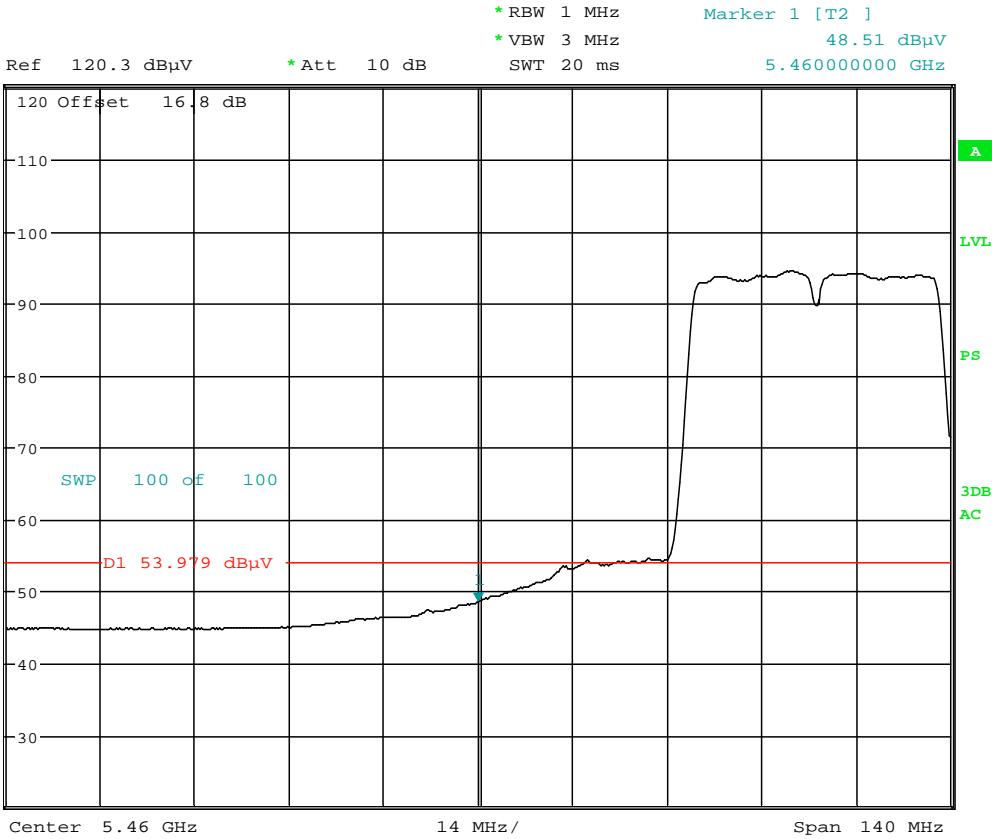
**Plot 6-189. Radiated Restricted Upper Band Edge Plot (Peak – UNII Band 2A)**

FCC ID: A3LSMG9008W		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1404250857.A3L	Test Dates: 1/27 - 2/25/2014	EUT Type: Portable Handset	Page 164 of 180	

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

§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

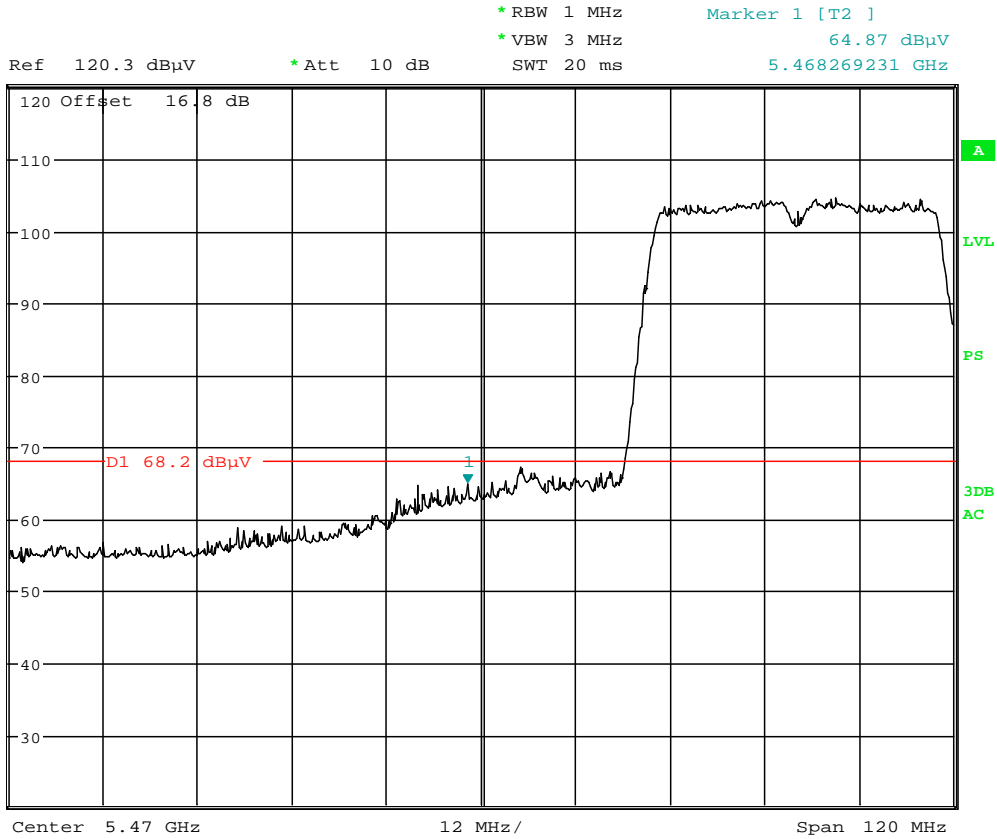


Date: 12.FEB.2014 16:46:21

**Plot 6-190. Radiated Restricted Lower Band Edge Plot (Average – UNII Band 2C)**

FCC ID: A3LSMG9008W		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1404250857.A3L	Test Dates: 1/27 - 2/25/2014	EUT Type: Portable Handset	Page 165 of 180	

**Radiated Band Edge Measurements (40MHz BW) (Cont'd)**  
**§15.407(b.1)(b.2) §15.205 §15.209**



Date: 12.FEB.2014 16:48:46

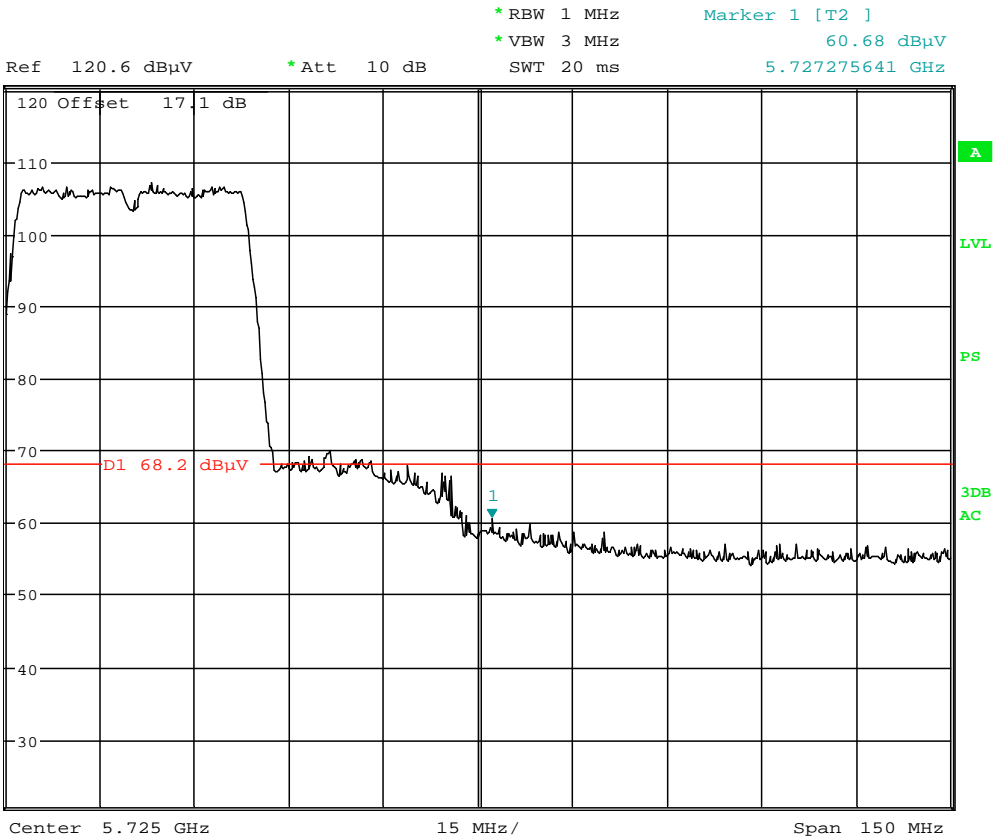
**Plot 6-191. Radiated Restricted Lower Band Edge Plot (Peak – UNII Band 2C)**

FCC ID: A3LSMG9008W		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1404250857.A3L	Test Dates: 1/27 - 2/25/2014	EUT Type: Portable Handset	Page 166 of 180	

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

§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: 5670MHz  
 Channel: 134



Date: 12.FEB.2014 16:57:25

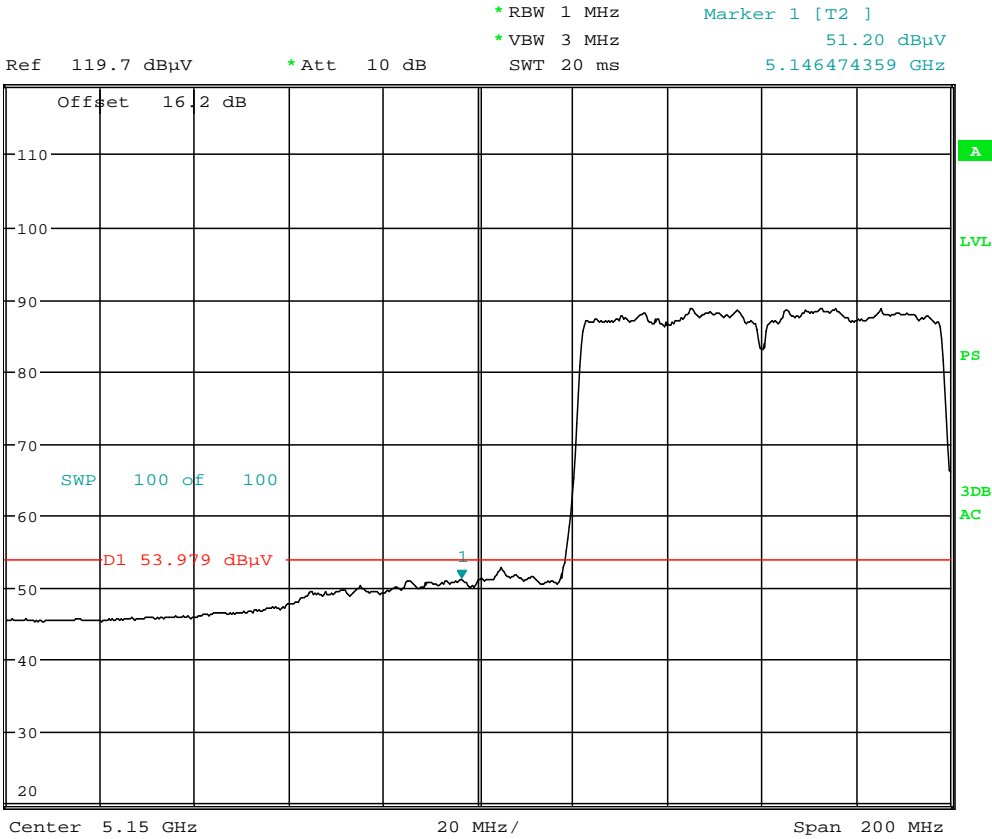
**Plot 6-192. Radiated Upper Band Edge Plot (Peak – UNII Band 2C)**

FCC ID: A3LSMG9008W		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1404250857.A3L	Test Dates: 1/27 - 2/25/2014	EUT Type: Portable Handset	Page 167 of 180	

## 6.16 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

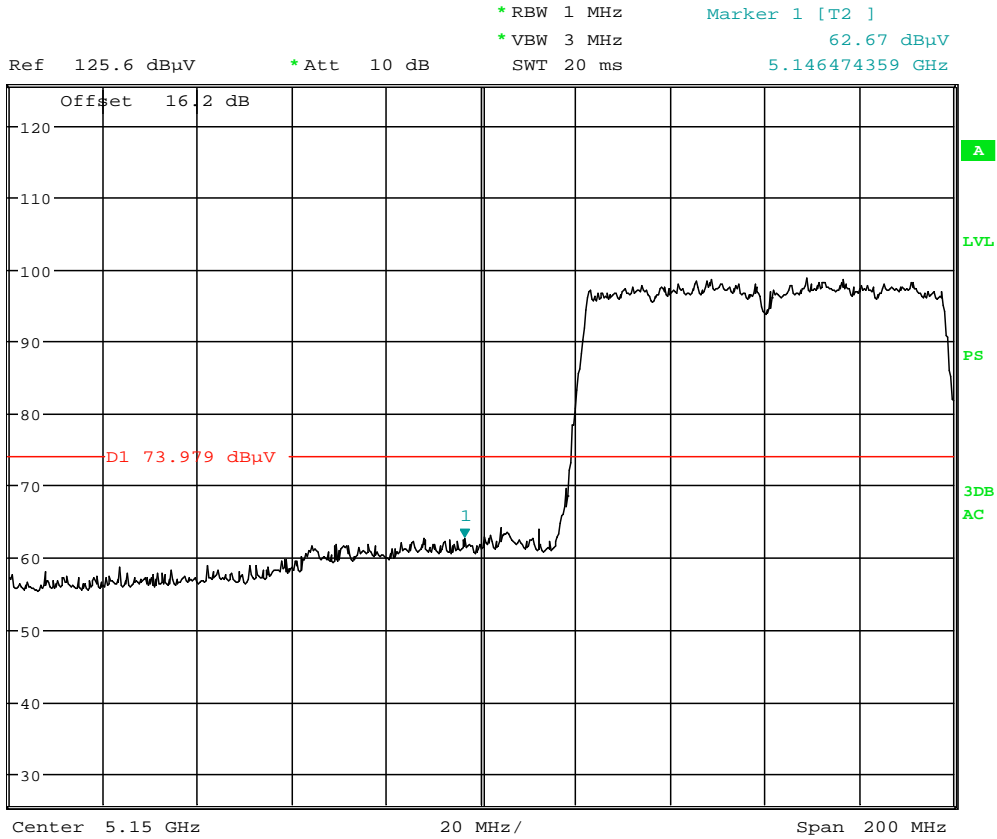


Date: 14.FEB.2014 14:12:54

**Plot 6-193. Radiated Restricted Lower Band Edge Plot (Average – UNII Band 1)**

FCC ID: A3LSMG9008W		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1404250857.A3L	Test Dates: 1/27 - 2/25/2014	EUT Type: Portable Handset	Page 168 of 180	

**Radiated Band Edge Measurements (80MHz BW) (Cont'd)**  
**§15.407(b.1)(b.2) §15.205 §15.209**



Date: 14.FEB.2014 14:14:05

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

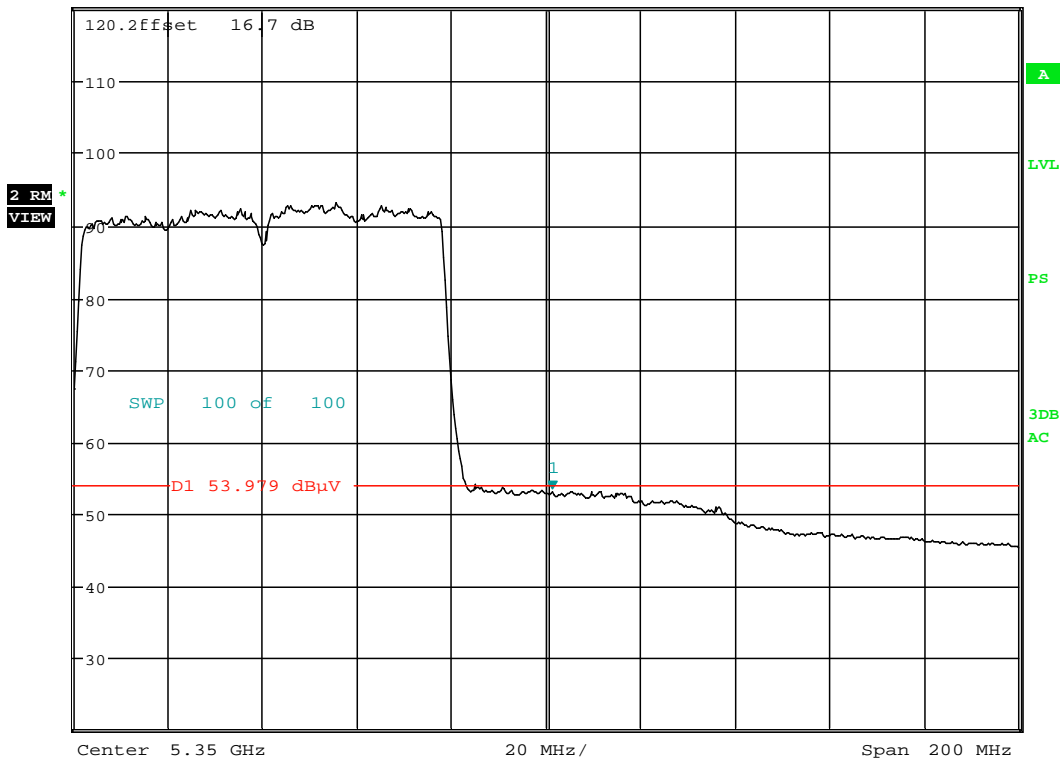
FCC ID: A3LSMG9008W		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1404250857.A3L	Test Dates: 1/27 - 2/25/2014	EUT Type: Portable Handset	Page 169 of 180	

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



Ref 120.2 dBµV      \* Att 10 dB      SWT 20 ms      Marker 1 [T2 ]      53.22 dBµV  
 \* RBW 1 MHz      \* VBW 3 MHz      5.351282051 GHz

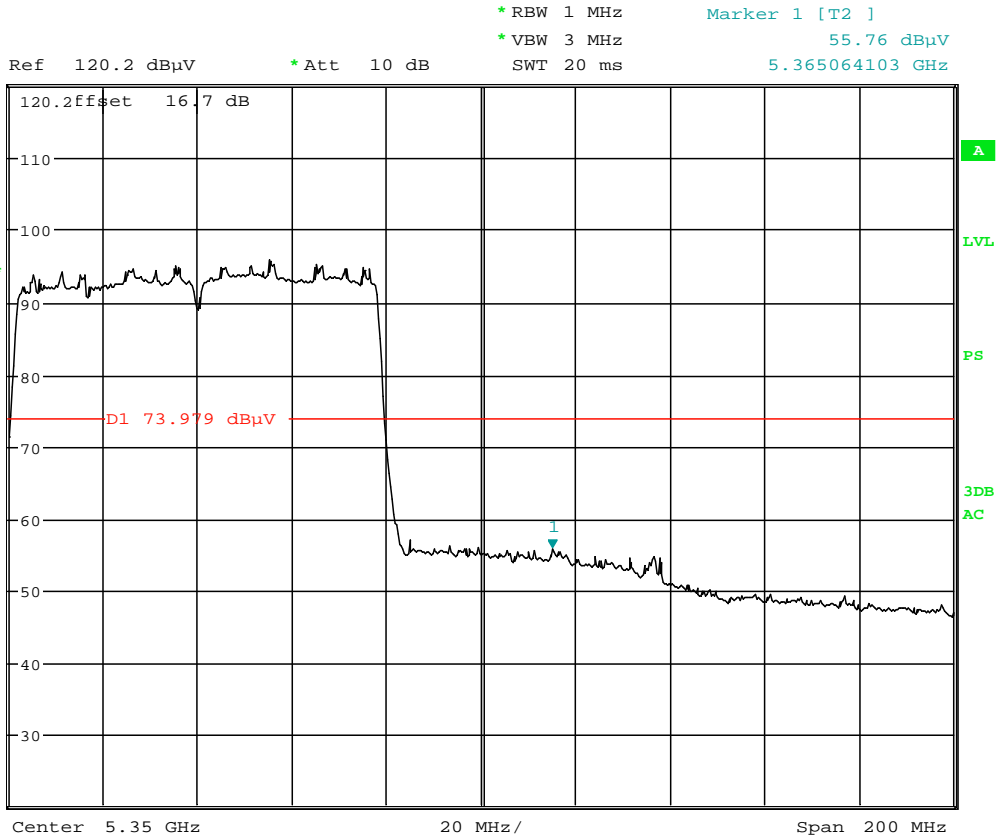


Date: 12.FEB.2014 16:38:00

**Plot 6-195. Radiated Restricted Upper Band Edge Plot (Average – UNII Band 2A)**

FCC ID: A3LSMG9008W		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1404250857.A3L	Test Dates: 1/27 - 2/25/2014	EUT Type: Portable Handset	Page 170 of 180	

**Radiated Band Edge Measurements (80MHz BW) (Cont'd)**  
**§15.407(b.1)(b.2) §15.205 §15.209**



Date: 12.FEB.2014 16:39:09

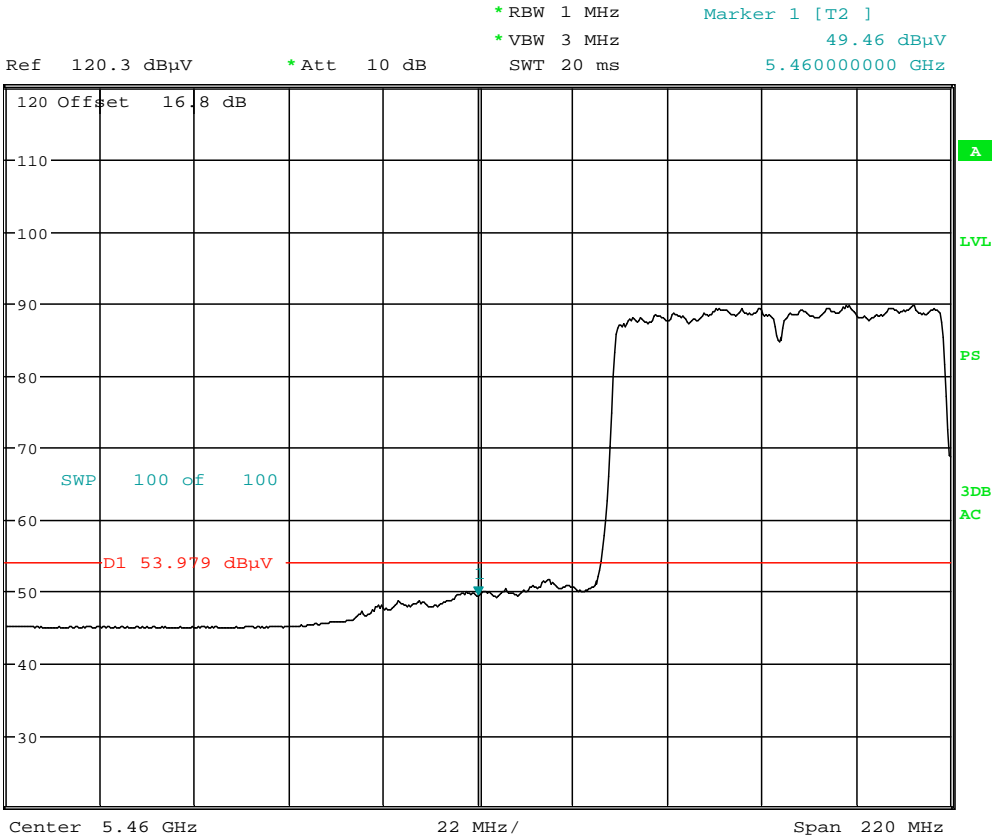
**Plot 6-196. Radiated Restricted Upper Band Edge Plot (Peak – UNII Band 2A)**

FCC ID: A3LSMG9008W		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1404250857.A3L	Test Dates: 1/27 - 2/25/2014	EUT Type: Portable Handset	Page 171 of 180	

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

\$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

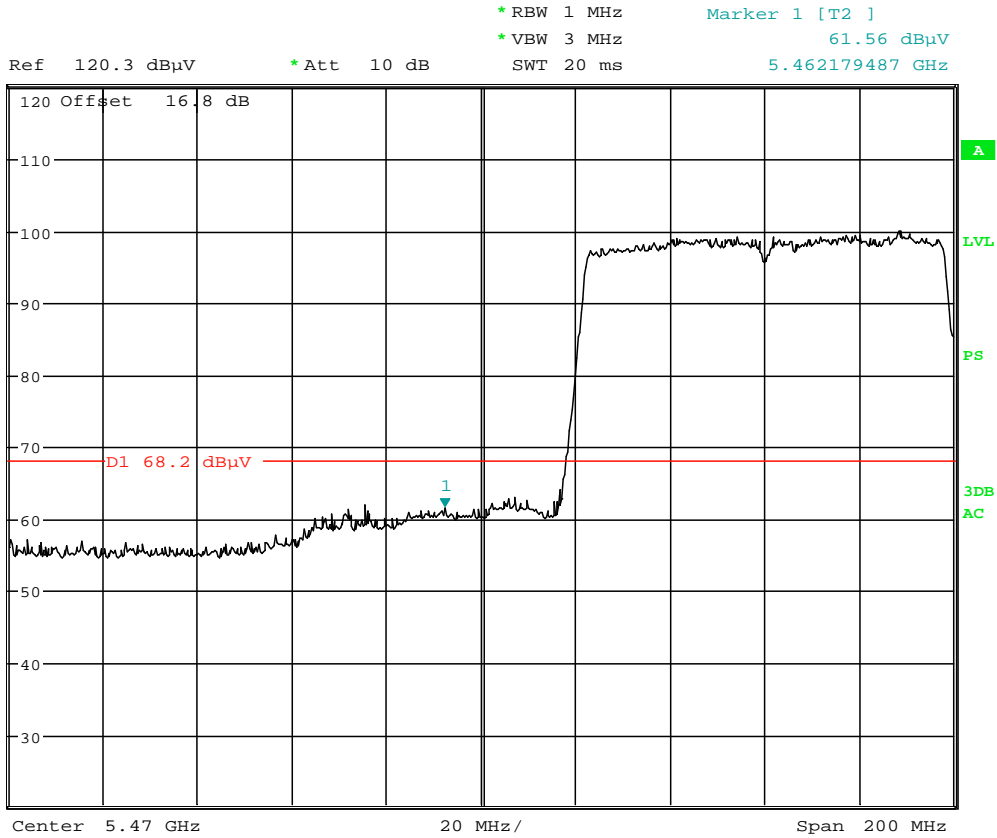


Date: 12.FEB.2014 16:52:02

**Plot 6-197. Radiated Restricted Lower Band Edge Plot (Average – UNII Band 2C)**

FCC ID: A3LSMG9008W		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1404250857.A3L	Test Dates: 1/27 - 2/25/2014	EUT Type: Portable Handset	Page 172 of 180	

**Radiated Band Edge Measurements (80MHz BW) (Cont'd)**  
**§15.407(b.1)(b.2) §15.205 §15.209**



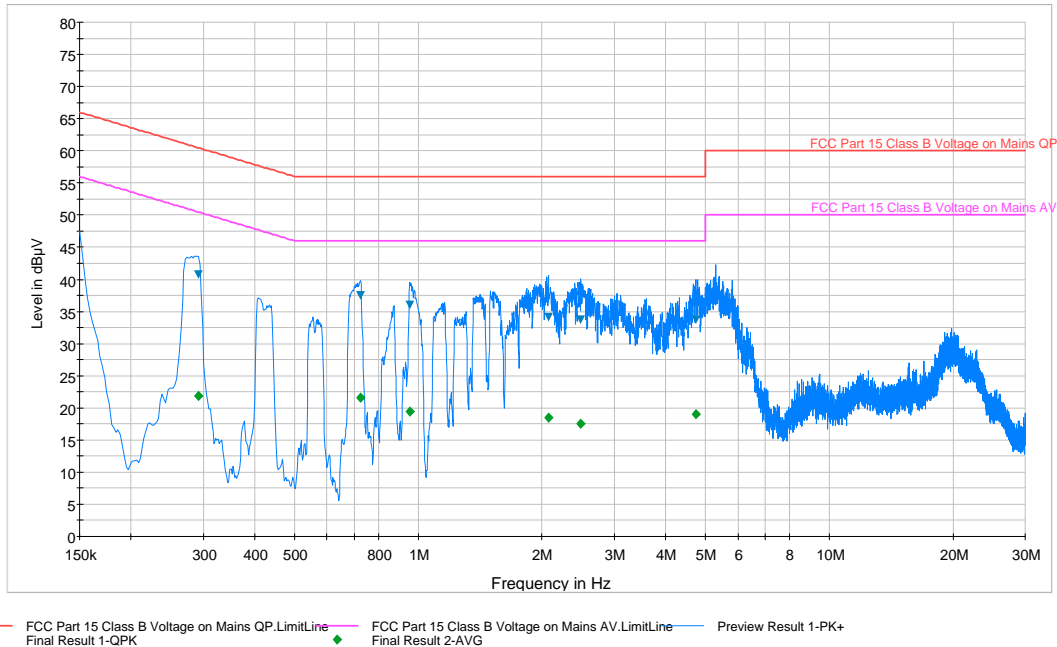
Date: 12.FEB.2014 16:50:53

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

FCC ID: A3LSMG9008W		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1404250857.A3L	Test Dates: 1/27 - 2/25/2014	EUT Type: Portable Handset	Page 173 of 180	

## 6.17 Line-Conducted Test Data

### \$15.407



**Plot 6-199. 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
0.292	L1	0.1	40.70	60.50	19.70	21.80	50.50	28.70
0.724	L1	0.1	37.50	56.00	18.50	21.60	46.00	24.40
0.953	L1	0.1	36.00	56.00	20.00	19.40	46.00	26.60
2.076	L1	0.1	34.10	56.00	21.90	18.40	46.00	27.60
2.490	L1	0.1	33.70	56.00	22.30	17.50	46.00	28.50
4.733	L1	0.2	33.70	56.00	22.30	19.00	46.00	27.00

**Table 6-51. Line Conducted Data with 802.11a UNII Band 1 (L1)**

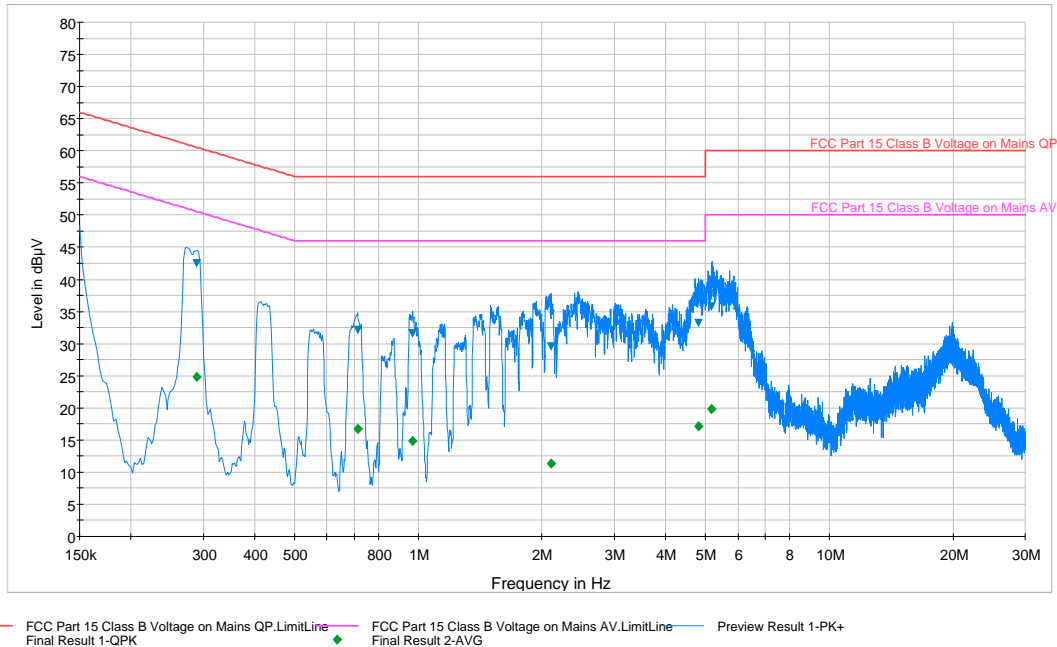
**Notes:**

- 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.
- The limit for Class B device(s) from 150kHz to 30MHz are specified in Section 15.207 of the Title 47 CFR.
- L1 = Phase; N = Neutral
- Corr. (dB) = Cable loss (dB) + LISN insertion factor (dB)
- QP/AV Level (dBµV) = QP/AV Analyzer/Receiver Level (dBµV) + Corr. (dB)
- Margin (dB) = QP/AVLimit (dBµV) - QP/AV Level (dBµV)
- Traces shown in plot are made using a peak detector.
- Deviations to the Specifications: None.

FCC ID: A3LSMG9008W		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
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## Line-Conducted Test Data (Cont'd)

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**Plot 6-200. 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
0.290	N	0.1	42.50	60.50	18.00	24.80	50.50	25.70
0.713	N	0.1	32.10	56.00	23.90	16.70	46.00	29.30
0.969	N	0.1	31.50	56.00	24.50	14.80	46.00	31.20
2.108	N	0.2	29.50	56.00	26.50	11.30	46.00	34.70
4.819	N	0.2	33.10	56.00	22.90	17.20	46.00	28.80
5.183	N	0.2	35.80	60.00	24.20	19.90	50.00	30.10

**Table 6-52. Line Conducted Data with 802.11a UNII Band 1 (N)**

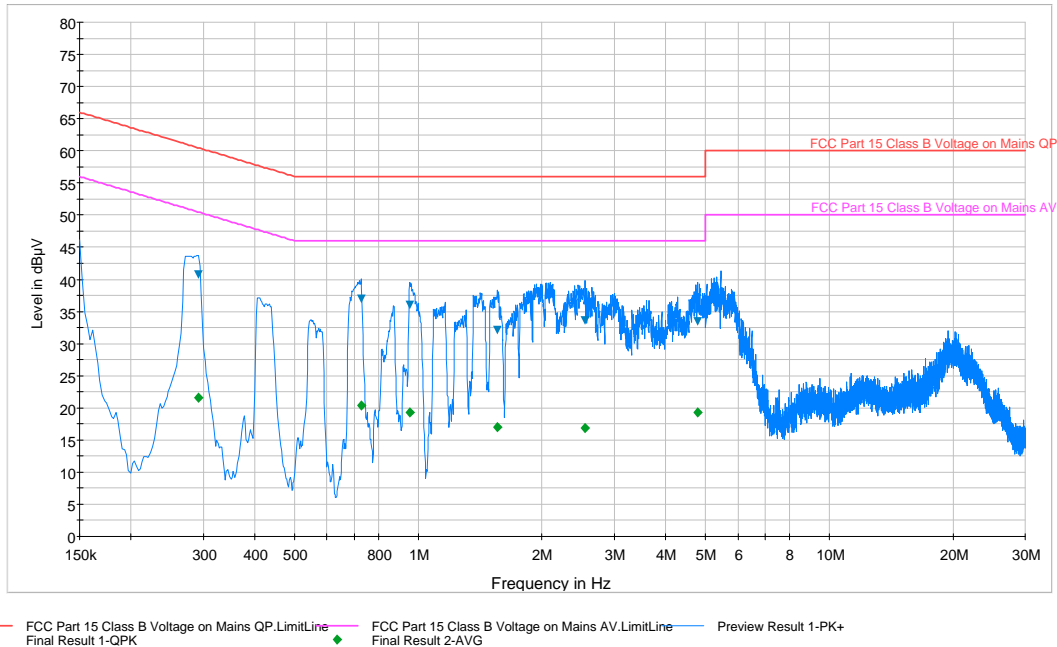
**Notes:**

- 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.
- The limit for Class B device(s) from 150kHz to 30MHz are specified in Section 15.207 of the Title 47 CFR.
- L1 = Phase; N = Neutral
- Corr. (dB) = Cable loss (dB) + LISN insertion factor (dB)
- QP/AV Level (dBµV) = QP/AV Analyzer/Receiver Level (dBµV) + Corr. (dB)
- Margin (dB) = QP/AVLimit (dBµV) - QP/AV Level (dBµV)
- Traces shown in plot are made using a peak detector.
- Deviations to the Specifications: None.

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## Line-Conducted Test Data (Cont'd)

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**Plot 6-201. 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
0.292	L1	0.1	40.70	60.50	19.80	21.60	50.50	28.90
0.726	L1	0.1	37.00	56.00	19.00	20.40	46.00	25.60
0.953	L1	0.1	36.10	56.00	19.90	19.30	46.00	26.70
1.559	L1	0.1	32.20	56.00	23.80	17.00	46.00	29.00
2.546	L1	0.1	33.60	56.00	22.40	16.90	46.00	29.10
4.783	L1	0.2	33.50	56.00	22.50	19.30	46.00	26.70

**Table 6-53. Line Conducted Data with 802.11a UNII Band 2A (L1)**

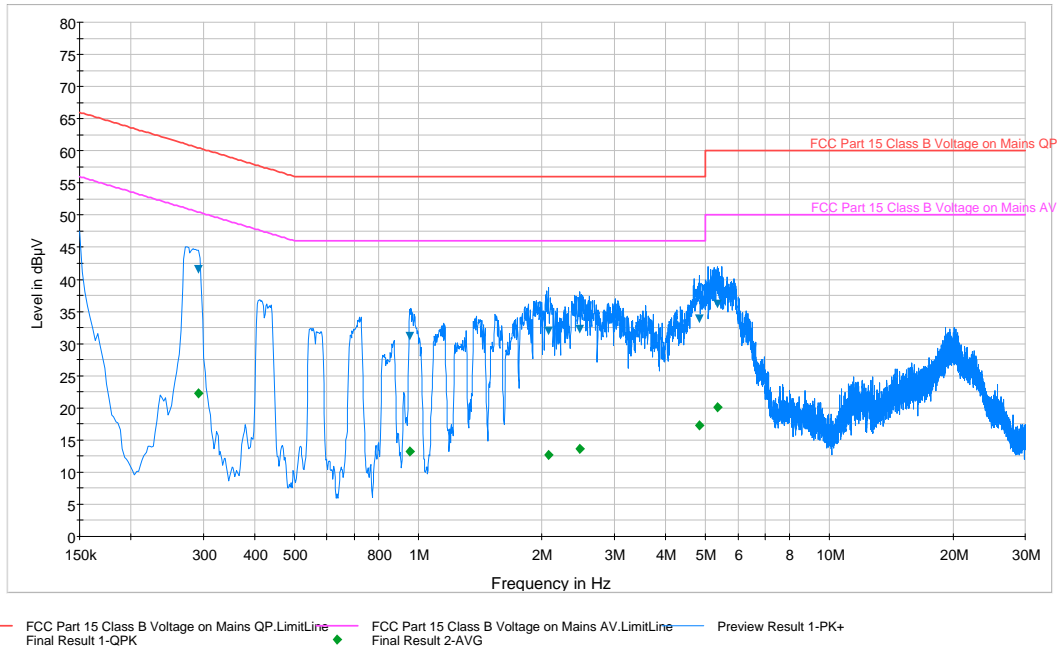
**Notes:**

- 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.
- The limit for Class B device(s) from 150kHz to 30MHz are specified in Section 15.207 of the Title 47 CFR.
- L1 = Phase; N = Neutral
- Corr. (dB) = Cable loss (dB) + LISN insertion factor (dB)
- QP/AV Level (dBµV) = QP/AV Analyzer/Receiver Level (dBµV) + Corr. (dB)
- Margin (dB) = QP/AVLimit (dBµV) - QP/AV Level (dBµV)
- Traces shown in plot are made using a peak detector.
- Deviations to the Specifications: None.

FCC ID: A3LSMG9008W		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
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## Line-Conducted Test Data (Cont'd)

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**Plot 6-202. Line Conducted Plot with 802.11a UNII Band 2A (N)**

Frequency MHz	Line	Corr. dB	QuasiPeak dBµV	Limit dBµV	Margin dB	Average dBµV	Limit dBµV	Margin dB
0.292	N	0.1	41.60	60.50	18.90	22.30	50.50	28.20
0.953	N	0.1	31.10	56.00	24.90	13.20	46.00	32.80
2.076	N	0.2	31.90	56.00	24.10	12.70	46.00	33.30
2.470	N	0.2	32.30	56.00	23.70	13.60	46.00	32.40
4.828	N	0.2	33.90	56.00	22.10	17.30	46.00	28.70
5.339	N	0.2	36.20	60.00	23.80	20.20	50.00	29.80

**Table 6-54. Line Conducted Data with 802.11a UNII Band 2A (N)**

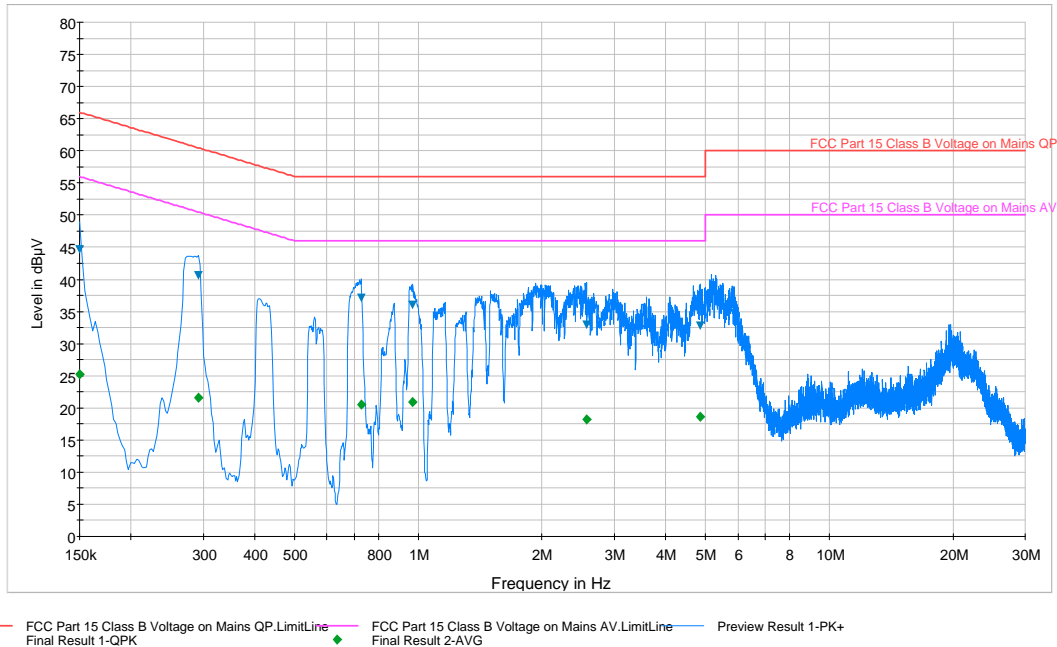
**Notes:**

- 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.
- The limit for Class B device(s) from 150kHz to 30MHz are specified in Section 15.207 of the Title 47 CFR.
- L1 = Phase; N = Neutral
- Corr. (dB) = Cable loss (dB) + LISN insertion factor (dB)
- QP/AV Level (dBµV) = QP/AV Analyzer/Receiver Level (dBµV) + Corr. (dB)
- Margin (dB) = QP/AVLimit (dBµV) - QP/AV Level (dBµV)
- Traces shown in plot are made using a peak detector.
- Deviations to the Specifications: None.

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## Line-Conducted Test Data (Cont'd)

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**Plot 6-203. 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
0.150	L1	0.2	44.60	66.00	21.40	25.20	56.00	30.80
0.292	L1	0.1	40.60	60.50	19.90	21.50	50.50	28.90
0.726	L1	0.1	37.10	56.00	18.90	20.50	46.00	25.50
0.969	L1	0.1	36.00	56.00	20.00	21.00	46.00	25.00
2.569	L1	0.1	32.90	56.00	23.10	18.20	46.00	27.80
4.848	L1	0.2	32.70	56.00	23.30	18.60	46.00	27.40

**Table 6-55. Line Conducted Plot with 802.11a UNII Band 2C (L1)**

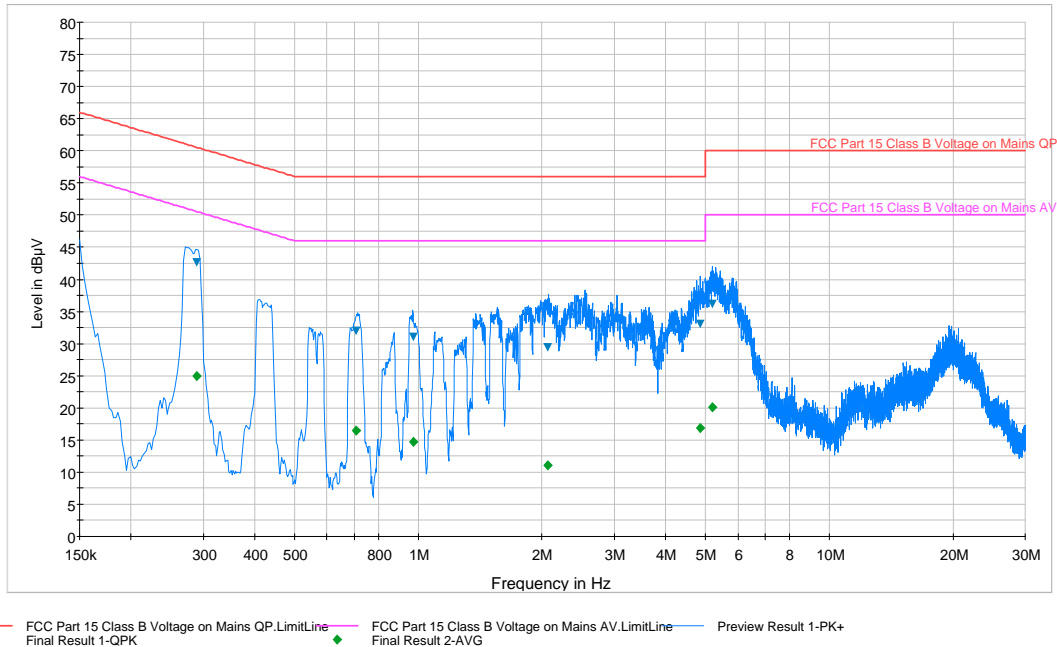
**Notes:**

- 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.
- The limit for Class B device(s) from 150kHz to 30MHz are specified in Section 15.207 of the Title 47 CFR.
- L1 = Phase; N = Neutral
- Corr. (dB) = Cable loss (dB) + LISN insertion factor (dB)
- QP/AV Level (dBµV) = QP/AV Analyzer/Receiver Level (dBµV) + Corr. (dB)
- Margin (dB) = QP/AVLimit (dBµV) - QP/AV Level (dBµV)
- Traces shown in plot are made using a peak detector.
- Deviations to the Specifications: None.

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## Line-Conducted Test Data (Cont'd)

### §15.407



**Plot 6-204. 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
0.290	N	0.1	42.70	60.50	17.90	25.00	50.50	25.50
0.706	N	0.1	32.00	56.00	24.00	16.50	46.00	29.50
0.971	N	0.1	31.00	56.00	25.00	14.70	46.00	31.30
2.067	N	0.2	29.40	56.00	26.60	11.10	46.00	34.90
4.855	N	0.2	33.10	56.00	22.90	16.80	46.00	29.20
5.199	N	0.2	36.10	60.00	23.90	20.10	50.00	29.90

**Table 6-56. Line Conducted Data with 802.11a UNII Band 2C (N)**



**Notes:**

- 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.
- The limit for Class B device(s) from 150kHz to 30MHz are specified in Section 15.207 of the Title 47 CFR.
- L1 = Phase; N = Neutral
- Corr. (dB) = Cable loss (dB) + LISN insertion factor (dB)
- QP/AV Level (dBµV) = QP/AV Analyzer/Receiver Level (dBµV) + Corr. (dB)
- Margin (dB) = QP/AVLimit (dBµV) - QP/AV Level (dBµV)
- Traces shown in plot are made using a peak detector.
- 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: A3LSMG9008W** is in compliance with Part 15E of the FCC Rules.

<b>FCC ID:</b> A3LSMG9008W	 <b>PCTEST</b> ENGINEERING LABORATORY, INC.	<b>FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)</b>		<b>Reviewed by:</b> Quality Manager
<b>Test Report S/N:</b> 0Y1404250857.A3L	<b>Test Dates:</b> 1/27 - 2/25/2014	<b>EUT Type:</b> Portable Handset	Page 180 of 180	