

MIMO Peak Power Spectral Density – 802.11a/n/ac

§15.407 (a)(1)(2),(5) / RSS-210 [A9.2]

	Frequency [MHz]	Channel No.	802.11 Mode	Data Rate [Mbps]	ANT1 Power Density [dBm]	ANT2 Power Density [dBm]	Summed MIMO Pwr Density [dBm]	Max Permissible Power Density [dBm/MHz]	Margin [dB]
Band I	5180	36	n (20MHz)	MCS0	-2.767	1.788	3.092	4.0	-0.91
	5200	40	n (20MHz)	MCS0	-2.794	2.186	3.384	4.0	-0.62
	5240	48	n (20MHz)	MCS0	-2.580	2.484	3.662	4.0	-0.34
	5190	38	n (40MHz)	MCS0	-0.547	-0.301	2.588	4.0	-1.41
	5190	38	n (40MHz)	MCS0	-0.199	-1.869	-2.569	4.0	-6.57
	5230	42	ac (80MHz)	MCS0	-4.654	-6.756	-2.569	4.0	-6.57
Band 2A	5260	52	n (20MHz)	MCS0	3.931	2.676	6.359	11.0	-4.64
	5280	56	n (20MHz)	MCS0	3.753	2.367	6.125	11.0	-4.87
	5320	64	n (20MHz)	MCS0	2.693	1.894	5.322	11.0	-5.68
	5270	54	n (40MHz)	MCS0	0.630	-1.785	2.599	11.0	-8.40
	5310	62	n (40MHz)	MCS0	-0.159	-2.382	2.599	11.0	-8.40
	5290	58	ac (80MHz)	MCS0	-3.770	-6.859	-2.035	11.0	-13.04
Band 2C	5500	100	n (20MHz)	MCS0	1.967	1.548	4.773	11.0	-6.23
	5580	116	n (20MHz)	MCS0	3.884	1.009	5.690	11.0	-5.31
	5700	140	n (20MHz)	MCS0	1.724	1.371	4.561	11.0	-6.44
	5510	102	n (40MHz)	MCS0	-1.411	-2.924	0.908	11.0	-10.09
	5550	110	n (40MHz)	MCS0	-1.923	-2.561	0.780	11.0	-10.22
	5670	134	n (40MHz)	MCS0	-2.463	-2.725	0.780	11.0	-10.22
	5530	106	ac (80MHz)	MCS0	-5.871	-7.199	-2.346	11.0	-13.35

Table 6-33. Conducted Power Spectral Density Measurements – MIMO

Note:

As shown in the section above, the power spectral density at Antenna 1 and Antenna 2 were first measured separately. The measured values were then summed in linear power units then converted back to dBm.

Sample MIMO Calculation:

At 5180 MHz the average conducted spectral density was measured to be -2.767 dBm for Antenna 1 and 1.788 dBm for Antenna 2.

$$\text{Antenna 1} + \text{Antenna 2} = \text{MIMO}$$

$$(-2.767 \text{ dBm} + 1.788 \text{ dBm}) = (0.5288 \text{ mW} + 1.509 \text{ mW}) = 2.039 \text{ mW} = 3.092 \text{ dBm}$$

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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.

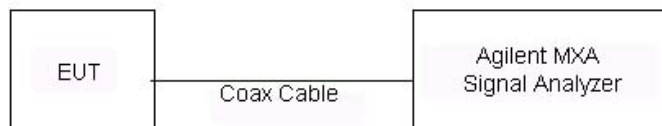


Figure 6-4. Test Instrument & Measurement Setup

Test Notes

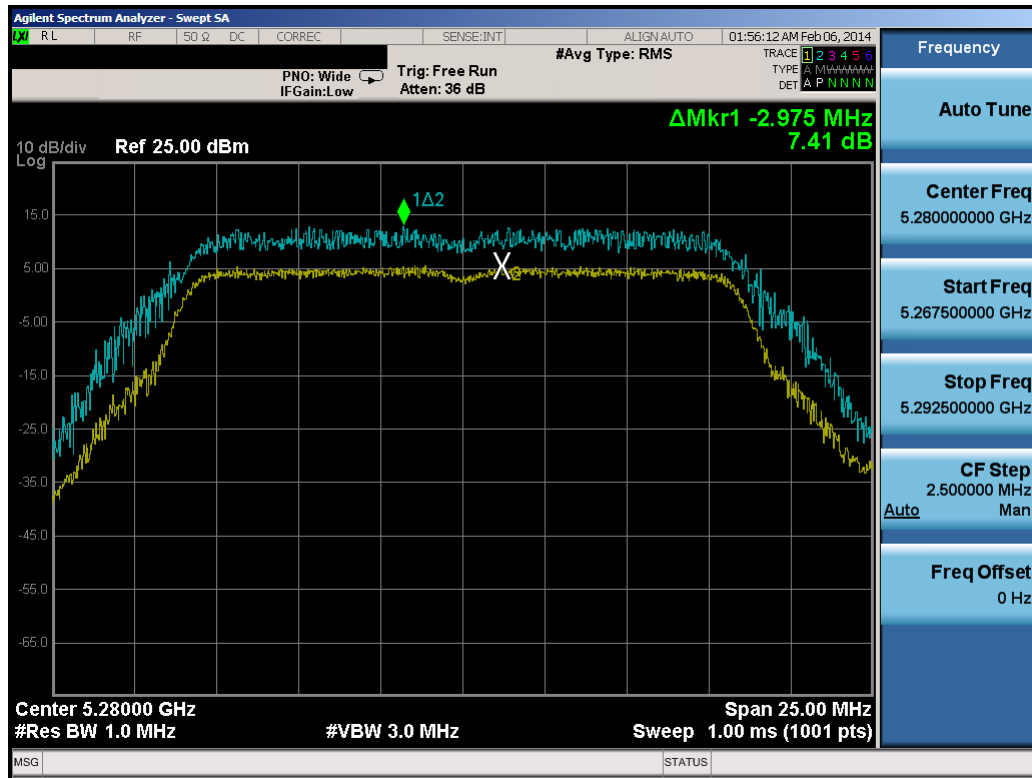
The peak excursion was investigated for all signal types, modulation types, channel bandwidths, and variations in signal parameters and the worst case data is shown below. Only the worst case modulation mode on a single channel among all bands is reported since that is sufficient to demonstrate compliance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

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ANTENNA 1 Peak Excursion Ratio – 802.11a/n/ac
§15.407(a)(6)

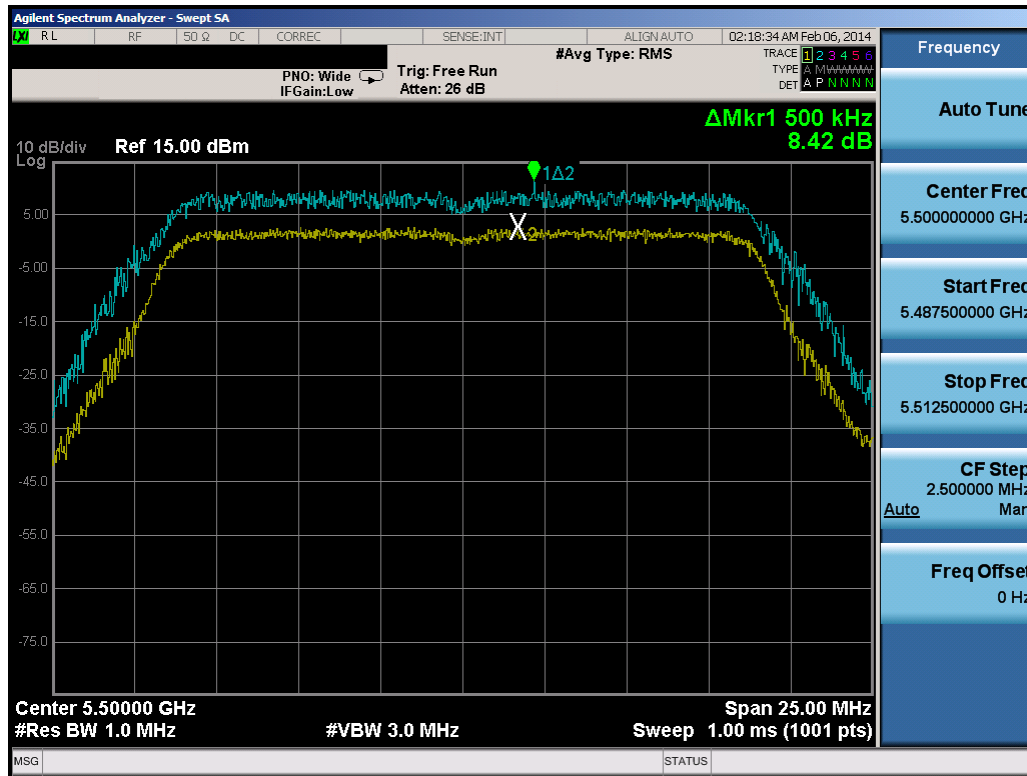
Frequency [MHz]	Channel No.	802.11 Mode	Data Rate [Mbps]	Measured Peak Excursion Ratio [dBm]	Max Permissible Peak Excursion Ratio [dBm/MHz]	Margin [dB]
5280	56	a	6	7.41	13.0	-5.59
5500	100	n (20MHz)	6.5/7.2 (MCS0)	8.42	13.0	-4.58
5670	134	n (40MHz)	13.5/15 (MCS0)	8.11	13.0	-4.89
5210	42	ac (80MHz)	29.3/32.5 (MCS0)	7.30	13.0	-5.70

Table 6-34. Conducted Peak Excursion Ratio Measurements – Antenna 1

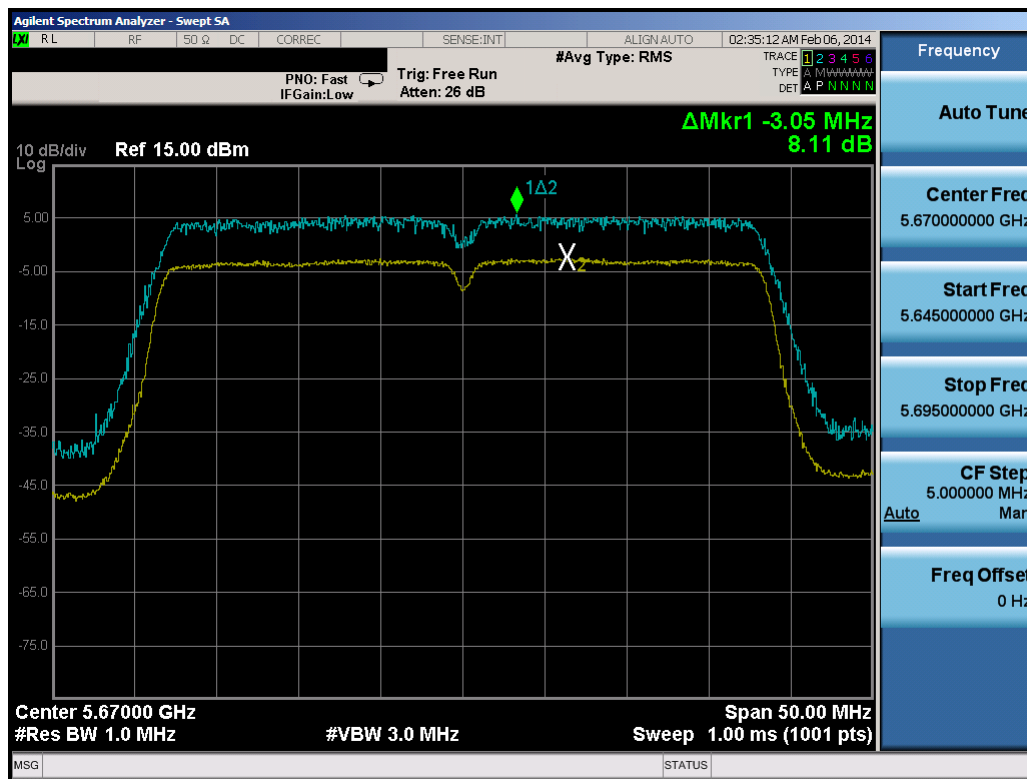


Plot 6-127. Peak Excursion Ratio Plot (802.11a)

FCC ID: A3LSMG9009D	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Reviewed by: Quality Manager
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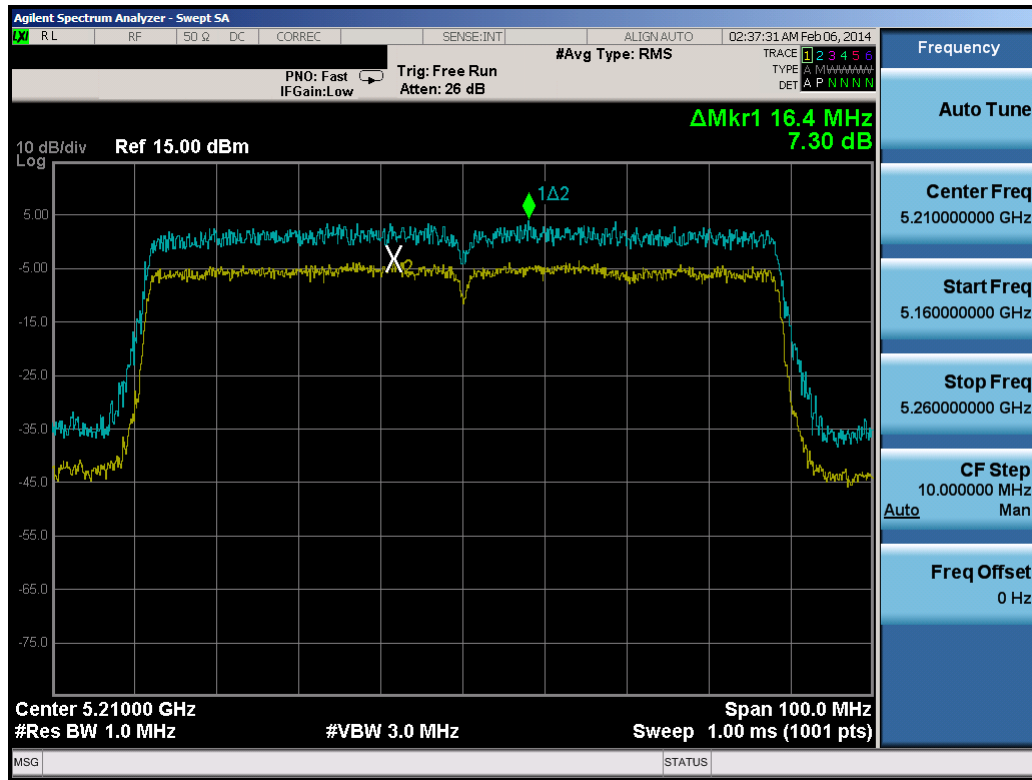


Plot 6-128. Peak Excursion Ratio Plot (20MHz BW 802.11n)



Plot 6-129. Peak Excursion Ratio Plot (40MHz BW 802.11n)

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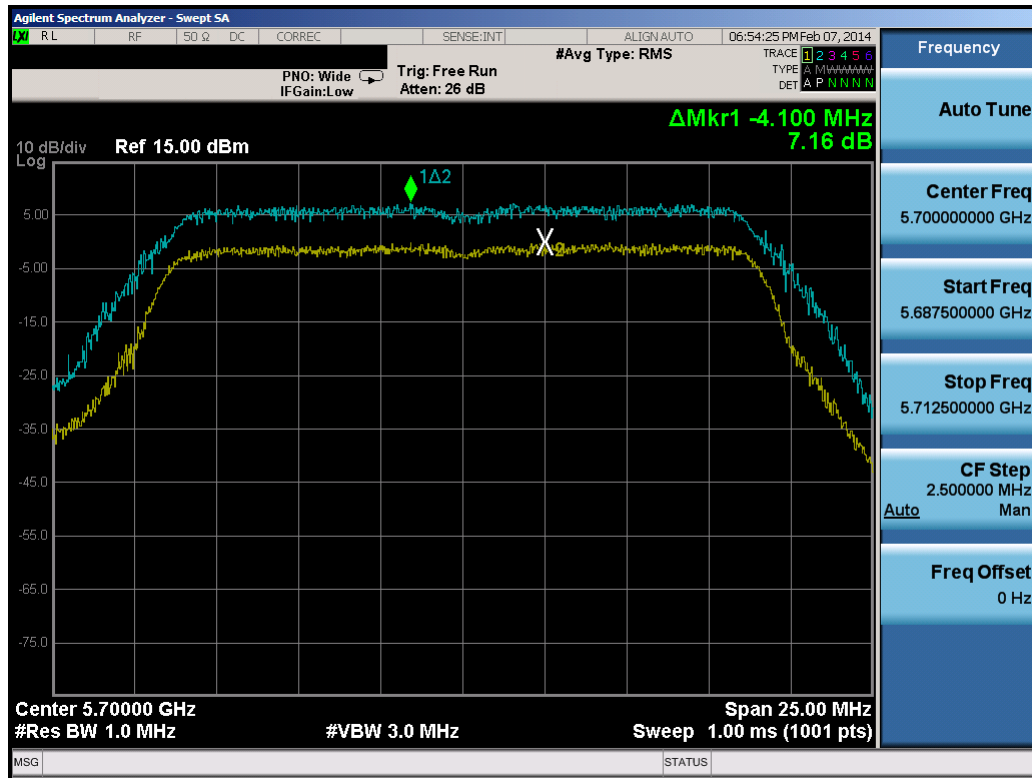
Plot 6-130. Peak Excursion Ratio Plot (80MHz BW 802.11ac)

FCC ID: A3LSMG9009D	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Reviewed by: Quality Manager
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ANTENNA 2 Peak Excursion Ratio – 802.11a/n/ac
§15.407(a)(6)

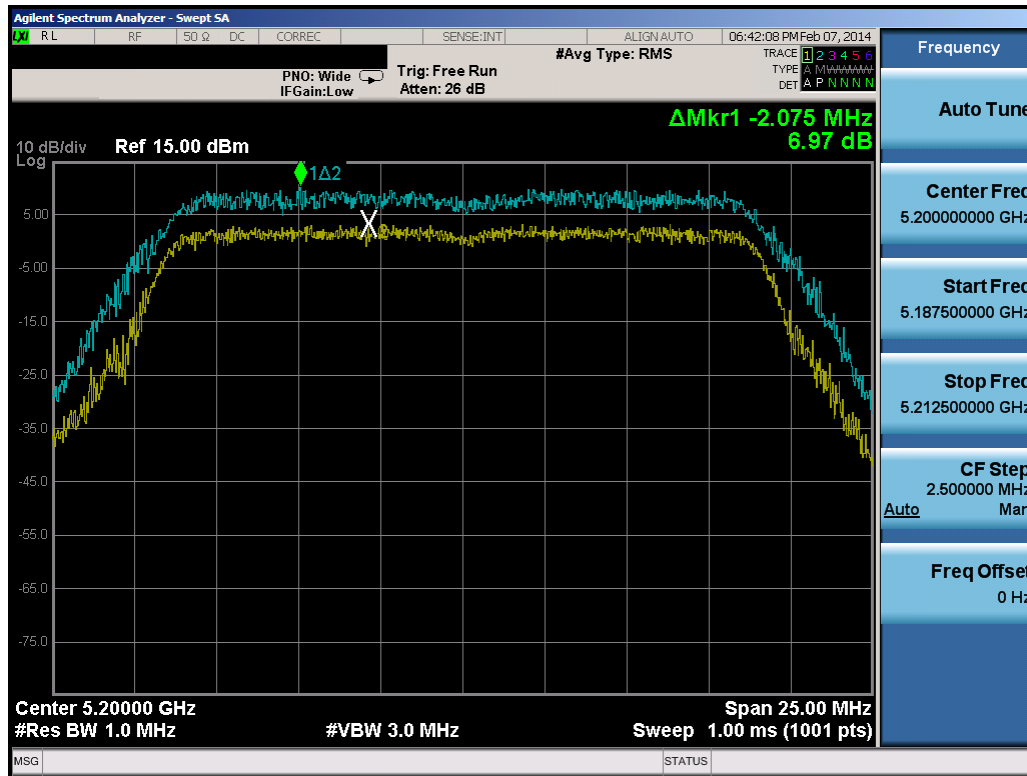
Frequency [MHz]	Channel No.	802.11 Mode	Data Rate [Mbps]	Measured Peak Excursion Ratio [dBm]	Max Permissible Peak Excursion Ratio [dBm/MHz]	Margin [dB]
5700	140	a	6	7.16	13.0	-5.84
5200	40	n (20MHz)	6.5/7.2 (MCS0)	6.97	13.0	-6.03
5230	46	n (40MHz)	13.5/15 (MCS0)	7.34	13.0	-5.67
5210	42	ac (80MHz)	29.3/32.5 (MCS0)	7.31	13.0	-5.69

Table 6-35. Conducted Peak Excursion Ratio Measurements – Antenna 2

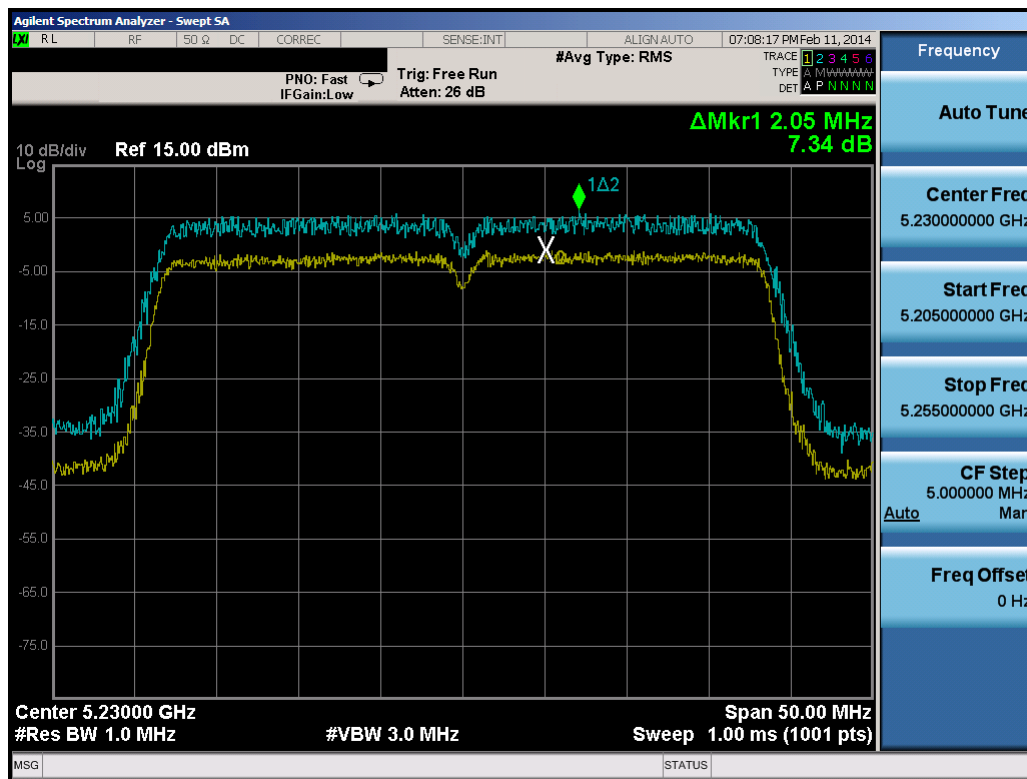


Plot 6-131. Peak Excursion Ratio Plot (802.11a)

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Plot 6-132. Peak Excursion Ratio Plot (20MHz BW 802.11n)



Plot 6-133. Peak Excursion Ratio Plot (40MHz BW 802.11n)

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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.

ANTENNA 1

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)	5,179,999,984	-16	-0.00000031
100 %		- 30	5,180,000,004	4	0.00000008
100 %		- 20	5,180,000,015	15	0.00000029
100 %		- 10	5,179,999,985	-15	-0.00000029
100 %		0	5,179,999,984	-16	-0.00000031
100 %		+ 10	5,179,999,995	-5	-0.00000010
100 %		+ 20	5,180,000,015	15	0.00000029
100 %		+ 30	5,179,999,998	-2	-0.00000004
100 %		+ 40	5,180,000,010	10	0.00000019
100 %		+ 50	5,180,000,003	3	0.00000006
115 %	4.37	+ 20	5,180,000,019	19	0.00000037
BATT. ENDPOINT	3.50	+ 20	5,180,000,010	10	0.00000019

Table 6-36. 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.

FCC ID: A3LSMG9009D		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
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Frequency Stability (Cont'd)

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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)	5,259,999,996	-4	-0.00000008
100 %		- 30	5,259,999,999	-1	-0.00000002
100 %		- 20	5,259,999,981	-19	-0.00000036
100 %		- 10	5,260,000,008	8	0.00000015
100 %		0	5,259,999,995	-5	-0.00000010
100 %		+ 10	5,260,000,015	15	0.00000029
100 %		+ 20	5,259,999,988	-12	-0.00000023
100 %		+ 30	5,259,999,994	-6	-0.00000011
100 %		+ 40	5,260,000,007	7	0.00000013
100 %		+ 50	5,260,000,008	8	0.00000015
115 %		+ 20	5,259,999,990	-10	-0.00000019
BATT. ENDPOINT	3.50	+ 20	5,260,000,018	18	0.00000034

Table 6-37. 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)	5,500,000,006	6	0.00000011
100 %		- 30	5,499,999,986	-14	-0.00000025
100 %		- 20	5,499,999,984	-16	-0.00000029
100 %		- 10	5,499,999,982	-18	-0.00000033
100 %		0	5,500,000,010	10	0.00000018
100 %		+ 10	5,500,000,019	19	0.00000035
100 %		+ 20	5,499,999,989	-11	-0.00000020
100 %		+ 30	5,499,999,984	-16	-0.00000029
100 %		+ 40	5,500,000,010	10	0.00000018
100 %		+ 50	5,500,000,011	11	0.00000020
115 %	4.37	+ 20	5,499,999,987	-13	-0.00000024
BATT. ENDPOINT	3.50	+ 20	5,499,999,986	-14	-0.00000025

Table 6-38. 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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ANTENNA 2

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)	5,180,000,017	17	0.00000033
100 %		- 30	5,180,000,001	1	0.00000002
100 %		- 20	5,180,000,011	11	0.00000021
100 %		- 10	5,179,999,987	-13	-0.00000025
100 %		0	5,180,000,003	3	0.00000006
100 %		+ 10	5,179,999,984	-16	-0.00000031
100 %		+ 20	5,179,999,992	-8	-0.00000015
100 %		+ 30	5,179,999,987	-13	-0.00000025
100 %		+ 40	5,179,999,995	-5	-0.00000010
100 %		+ 50	5,179,999,990	-10	-0.00000019
115 %		+ 20	5,179,999,993	-7	-0.00000014
BATT. ENDPOINT	3.50	+ 20	5,179,999,998	-2	-0.00000004

Table 6-39. 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)	5,259,999,994	-6	-0.00000011
100 %		- 30	5,260,000,007	7	0.00000013
100 %		- 20	5,259,999,991	-9	-0.00000017
100 %		- 10	5,259,999,983	-17	-0.00000032
100 %		0	5,260,000,001	1	0.00000002
100 %		+ 10	5,260,000,004	4	0.00000008
100 %		+ 20	5,259,999,999	-1	-0.00000002
100 %		+ 30	5,259,999,988	-12	-0.00000023
100 %		+ 40	5,259,999,999	-1	-0.00000002
100 %		+ 50	5,260,000,001	1	0.00000002
115 %		+ 20	5,260,000,006	6	0.00000011
BATT. ENDPOINT	3.50	+ 20	5,259,999,994	-6	-0.00000011

Table 6-40. 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)

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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)	5,499,999,987	-13	-0.00000024
100 %		- 30	5,500,000,010	10	0.00000018
100 %		- 20	5,500,000,006	6	0.00000011
100 %		- 10	5,499,999,985	-15	-0.00000027
100 %		0	5,499,999,990	-10	-0.00000018
100 %		+ 10	5,500,000,019	19	0.00000035
100 %		+ 20	5,499,999,987	-13	-0.00000024
100 %		+ 30	5,500,000,002	2	0.00000004
100 %		+ 40	5,499,999,998	-2	-0.00000004
100 %		+ 50	5,499,999,985	-15	-0.00000027
115 %	4.37	+ 20	5,499,999,996	-4	-0.00000007
BATT. ENDPOINT	3.50	+ 20	5,500,000,003	3	0.00000005

Table 6-41. 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) and 802.11n (40MHz BW)), and modulations/data rates were investigated among all UNII bands. Only the radiated emissions of the configuration that produced the worst case emissions are reported in this section.

All out of band emissions appearing in a restricted band as specified in Section 15.205 of the Title 47 CFR must not exceed the limits shown in Table 6-42 per Section 15.209.

Frequency	Field Strength [$\mu\text{V/m}$]	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 6-42. 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 $\geq 2 \times \text{span/RBW}$)
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.

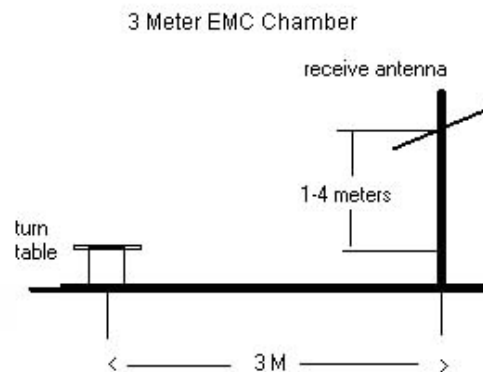


Figure 6-5. Test Instrument & Measurement Setup

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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 6-42.
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 μ 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 μ 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. This unit was tested with its standard battery.
6. The spectrum is measured from 9kHz to the 10th harmonic of the fundamental frequency of the transmitter using CISPR quasi peak detector below 1GHz. Above 1 GHz, average and peak 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. For MIMO mode, radiated spurious emissions were investigated and no significant emissions detected.

Sample Calculations

Determining Spurious Emissions Levels

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

Radiated Band Edge Measurement Offset

- o The amplitude offset shown in the radiated restricted band edge plots in Section 6.8 was calculated using the formula:

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

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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	H	46.44	28.44	68.20	-39.76
* 15540.00	-135.00	Average	H	51.12	23.12	53.98	-30.86
* 15540.00	-125.00	Peak	H	51.12	33.12	73.98	-40.86
* 20720.00	-135.00	Average	H	44.04	16.04	53.98	-37.94
* 20720.00	-125.00	Peak	H	44.04	26.04	73.98	-47.94
25900.00	-125.00	Peak	H	44.84	26.84	68.20	-41.36

Table 6-43. Radiated Measurements

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

Frequency [MHz]	Analyzer Level [dBm]	Detector	Pol. [H/V]	AFCL [dB/m]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
10400.00	-125.00	Peak	H	46.65	28.65	68.20	-39.55
* 15600.00	-135.00	Average	H	51.11	23.11	53.98	-30.87
* 15600.00	-125.00	Peak	H	51.11	33.11	73.98	-40.87
* 20800.00	-135.00	Average	H	44.03	16.03	53.98	-37.95
* 20800.00	-125.00	Peak	H	44.03	26.03	73.98	-47.95
26000.00	-125.00	Peak	H	44.96	26.96	68.20	-41.24

Table 6-44. Radiated Measurements

FCC ID: A3LSMG9009D		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
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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	46.65	28.65	68.20	-39.55
* 15720.00	-135.00	Average	H	51.40	23.40	53.98	-30.58
* 15720.00	-125.00	Peak	H	51.40	33.40	73.98	-40.58
* 20960.00	-135.00	Average	H	44.00	16.00	53.98	-37.98
* 20960.00	-125.00	Peak	H	44.00	26.00	73.98	-47.98
26200.00	-125.00	Peak	H	44.75	26.75	68.20	-41.45

Table 6-45. 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	46.71	28.71	68.20	-39.49
* 15780.00	-135.00	Average	H	51.48	23.48	53.98	-30.50
* 15780.00	-125.00	Peak	H	51.48	33.48	73.98	-40.50
* 21040.00	-135.00	Average	H	43.95	15.95	53.98	-38.03
* 21040.00	-125.00	Peak	H	43.95	25.95	73.98	-48.03
26300.00	-125.00	Peak	H	44.78	26.78	68.20	-41.42

Table 6-46. Radiated Measurements

FCC ID: A3LSMG9009D		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
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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	46.84	28.84	68.20	-39.36
* 15840.00	-135.00	Average	H	51.38	23.38	53.98	-30.60
* 15840.00	-125.00	Peak	H	51.38	33.38	73.98	-40.60
* 21120.00	-135.00	Average	H	43.83	15.83	53.98	-38.15
* 21120.00	-125.00	Peak	H	43.83	25.83	73.98	-48.15
26400.00	-125.00	Peak	H	44.72	26.72	68.20	-41.48

Table 6-47. 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	46.94	18.94	53.98	-35.04
* 10640.00	-125.00	Peak	H	46.94	28.94	73.98	-45.04
* 15960.00	-135.00	Average	H	51.55	23.55	53.98	-30.43
* 15960.00	-125.00	Peak	H	51.55	33.55	73.98	-40.43
* 21280.00	-135.00	Average	H	43.71	15.71	53.98	-38.27
* 21280.00	-125.00	Peak	H	43.71	25.71	73.98	-48.27
26600.00	-125.00	Peak	H	47.29	29.29	68.20	-38.91

Table 6-48. Radiated Measurements

FCC ID: A3LSMG9009D		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
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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	52.96	34.96	68.20	-33.24
	22000.00	-125.00	Peak	H	43.95	25.95	68.20	-42.25
	27500.00	-125.00	Peak	H	48.50	30.50	68.20	-37.70

Table 6-49. 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	47.07	19.07	53.98	-34.91
*	11160.00	-125.00	Peak	H	47.07	29.07	73.98	-44.91
	16740.00	-125.00	Peak	H	53.12	35.12	68.20	-33.08
*	22320.00	-135.00	Average	H	44.47	16.47	53.98	-37.50
*	22320.00	-125.00	Peak	H	44.47	26.47	73.98	-47.50
	27900.00	-125.00	Peak	H	48.02	30.02	68.20	-38.18

Table 6-50. Radiated Measurements

FCC ID: A3LSMG9009D		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
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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	47.30	19.30	53.98	-34.68
*	11400.00	-125.00	Peak	H	47.30	29.30	73.98	-44.68
	17100.00	-125.00	Peak	H	53.07	35.07	68.20	-33.13
*	22800.00	-135.00	Average	H	44.47	16.47	53.98	-37.51
*	22800.00	-125.00	Peak	H	44.47	26.47	73.98	-47.51
	28500.00	-125.00	Peak	H	48.08	30.08	68.20	-38.12

Table 6-51. Radiated Measurements

FCC ID: A3LSMG9009D		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
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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	46.44	28.44	68.20	-39.76
* 15540.00	-135.00	Average	H	51.12	23.12	53.98	-30.86
* 15540.00	-125.00	Peak	H	51.12	33.12	73.98	-40.86
* 20720.00	-135.00	Average	H	44.04	16.04	53.98	-37.94
* 20720.00	-125.00	Peak	H	44.04	26.04	73.98	-47.94
25900.00	-125.00	Peak	H	44.84	26.84	68.20	-41.36

Table 6-52. 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	46.65	28.65	68.20	-39.55
* 15600.00	-135.00	Average	H	51.11	23.11	53.98	-30.87
* 15600.00	-125.00	Peak	H	51.11	33.11	73.98	-40.87
* 20800.00	-135.00	Average	H	44.03	16.03	53.98	-37.95
* 20800.00	-125.00	Peak	H	44.03	26.03	73.98	-47.95
26000.00	-125.00	Peak	H	44.96	26.96	68.20	-41.24

Table 6-53. Radiated Measurements

FCC ID: A3LSMG9009D		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
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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	46.65	28.65	68.20	-39.55
* 15720.00	-135.00	Average	H	51.40	23.40	53.98	-30.58
* 15720.00	-125.00	Peak	H	51.40	33.40	73.98	-40.58
* 20960.00	-135.00	Average	H	44.00	16.00	53.98	-37.98
* 20960.00	-125.00	Peak	H	44.00	26.00	73.98	-47.98
26200.00	-125.00	Peak	H	44.75	26.75	68.20	-41.45

Table 6-54. 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	46.71	28.71	68.20	-39.49
* 15780.00	-135.00	Average	H	51.48	23.48	53.98	-30.50
* 15780.00	-125.00	Peak	H	51.48	33.48	73.98	-40.50
* 21040.00	-135.00	Average	H	43.95	15.95	53.98	-38.03
* 21040.00	-125.00	Peak	H	43.95	25.95	73.98	-48.03
26300.00	-125.00	Peak	H	44.78	26.78	68.20	-41.42

Table 6-55. Radiated Measurements

FCC ID: A3LSMG9009D		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
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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	46.84	28.84	68.20	-39.36
* 15840.00	-135.00	Average	H	51.38	23.38	53.98	-30.60
* 15840.00	-125.00	Peak	H	51.38	33.38	73.98	-40.60
* 21120.00	-135.00	Average	H	43.83	15.83	53.98	-38.15
* 21120.00	-125.00	Peak	H	43.83	25.83	73.98	-48.15
26400.00	-125.00	Peak	H	44.72	26.72	68.20	-41.48

Table 6-56. 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	46.94	18.94	53.98	-35.04
* 10640.00	-125.00	Peak	H	46.94	28.94	73.98	-45.04
* 15960.00	-135.00	Average	H	51.55	23.55	53.98	-30.43
* 15960.00	-125.00	Peak	H	51.55	33.55	73.98	-40.43
* 21280.00	-135.00	Average	H	43.71	15.71	53.98	-38.27
* 21280.00	-125.00	Peak	H	43.71	25.71	73.98	-48.27
26600.00	-125.00	Peak	H	47.29	29.29	68.20	-38.91

Table 6-57. Radiated Measurements

FCC ID: A3LSMG9009D		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
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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	52.96	34.96	68.20	-33.24
	22000.00	-125.00	Peak	H	43.95	25.95	68.20	-42.25
	27500.00	-125.00	Peak	H	48.50	30.50	68.20	-37.70

Table 6-58. 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	47.07	19.07	53.98	-34.91
*	11160.00	-125.00	Peak	H	47.07	29.07	73.98	-44.91
	16740.00	-125.00	Peak	H	53.12	35.12	68.20	-33.08
*	22320.00	-135.00	Average	H	44.47	16.47	53.98	-37.50
*	22320.00	-125.00	Peak	H	44.47	26.47	73.98	-47.50
	27900.00	-125.00	Peak	H	48.02	30.02	68.20	-38.18

Table 6-59. Radiated Measurements

FCC ID: A3LSMG9009D		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
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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	47.30	19.30	53.98	-34.68
*	11400.00	-125.00	Peak	H	47.30	29.30	73.98	-44.68
	17100.00	-125.00	Peak	H	53.07	35.07	68.20	-33.13
*	22800.00	-135.00	Average	H	44.47	16.47	53.98	-37.51
*	22800.00	-125.00	Peak	H	44.47	26.47	73.98	-47.51
	28500.00	-125.00	Peak	H	48.08	30.08	68.20	-38.12

Table 6-60. Radiated Measurements

FCC ID: A3LSMG9009D		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1402040301.A3L	Test Dates: 2/6-2/26/2014	EUT Type: Portable Handset		Page 114 of 181

6.8 Radiated Band Edge Measurements (20MHz BW) – ANTENNA 1

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

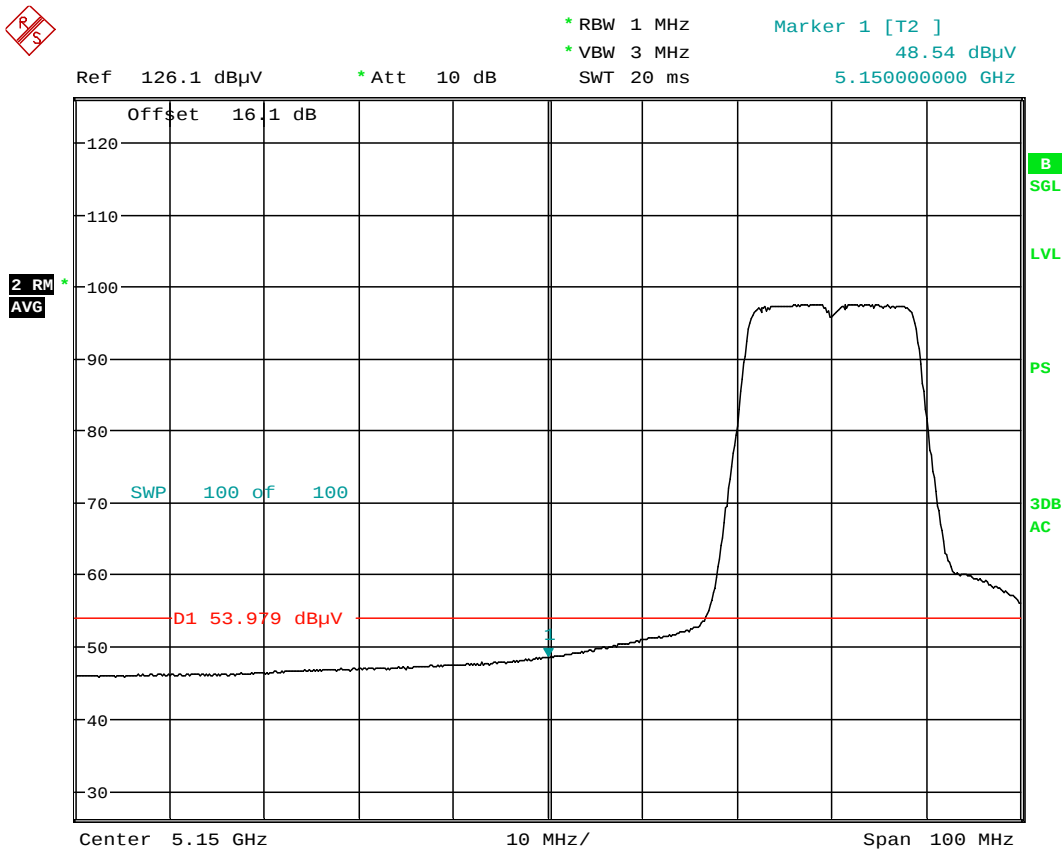
Worst Case Mode: 802.11n (20MHz)

Worst Case Transfer Rate: MCS0

Distance of Measurements: 3 Meters

Operating Frequency: 5180MHz

Channel: 36

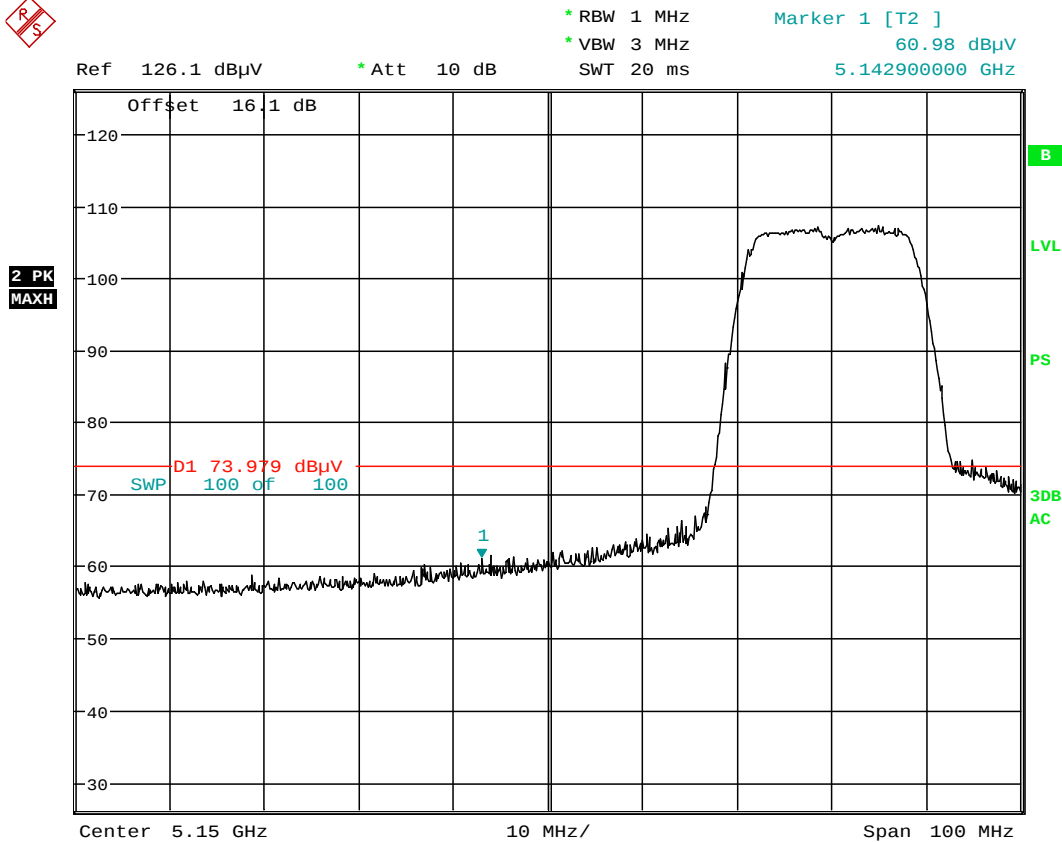


Date: 6.FEB.2014 21:42:50

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

FCC ID: A3LSMG9009D	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Reviewed by: Quality Manager
Test Report S/N: 0Y1402040301.A3L	Test Dates: 2/6-2/26/2014	EUT Type: Portable Handset		Page 115 of 181

Radiated Band Edge Measurements (20MHz BW) (Cont'd) §15.407(b)(1) and (2), §15.205 & §15.209; RSS-210 [A9.2]



Date: 6.FEB.2014 21:43:51

Plot 6-136. Radiated Restricted Lower Band Edge Plot (Peak – UNII Band 1)

FCC ID: A3LSMG9009D	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Reviewed by: Quality Manager
Test Report S/N: 0Y1402040301.A3L	Test Dates: 2/6-2/26/2014	EUT Type: Portable Handset		Page 116 of 181

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

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

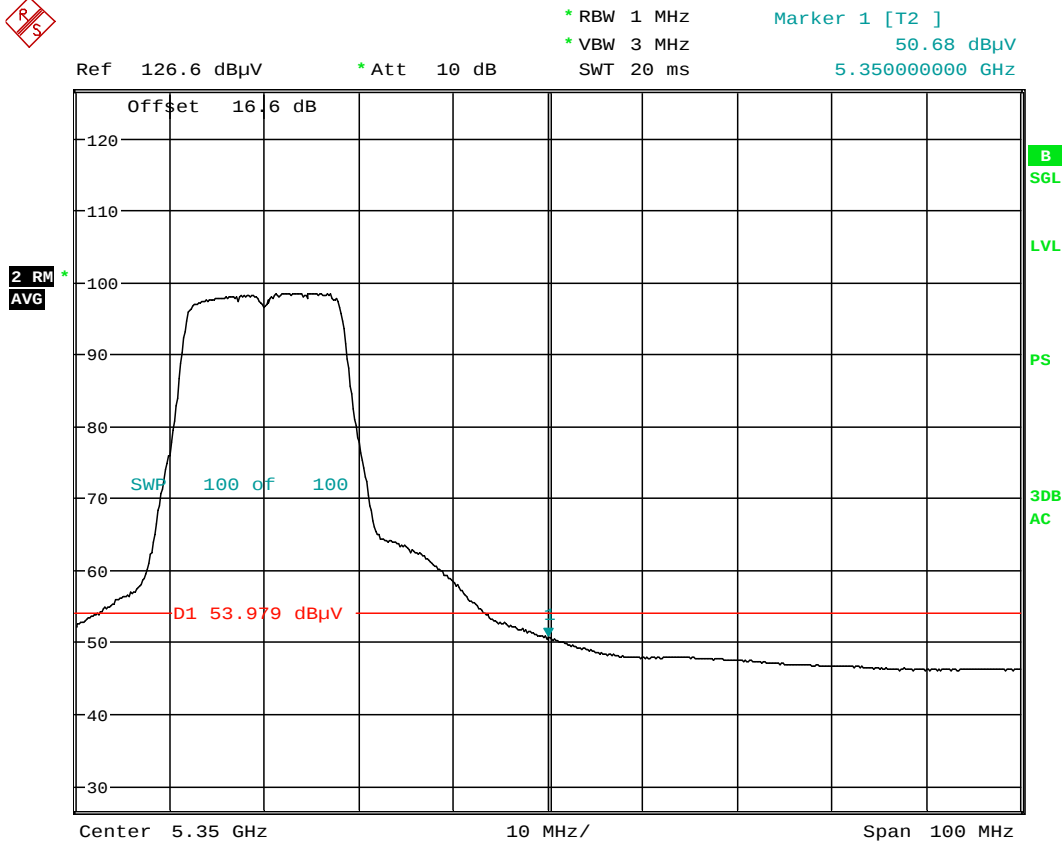
Worst Case Mode: 802.11n (20MHz)

Worst Case Transfer Rate: MCS0

Distance of Measurements: 3 Meters

Operating Frequency: 5320MHz

Channel: 64

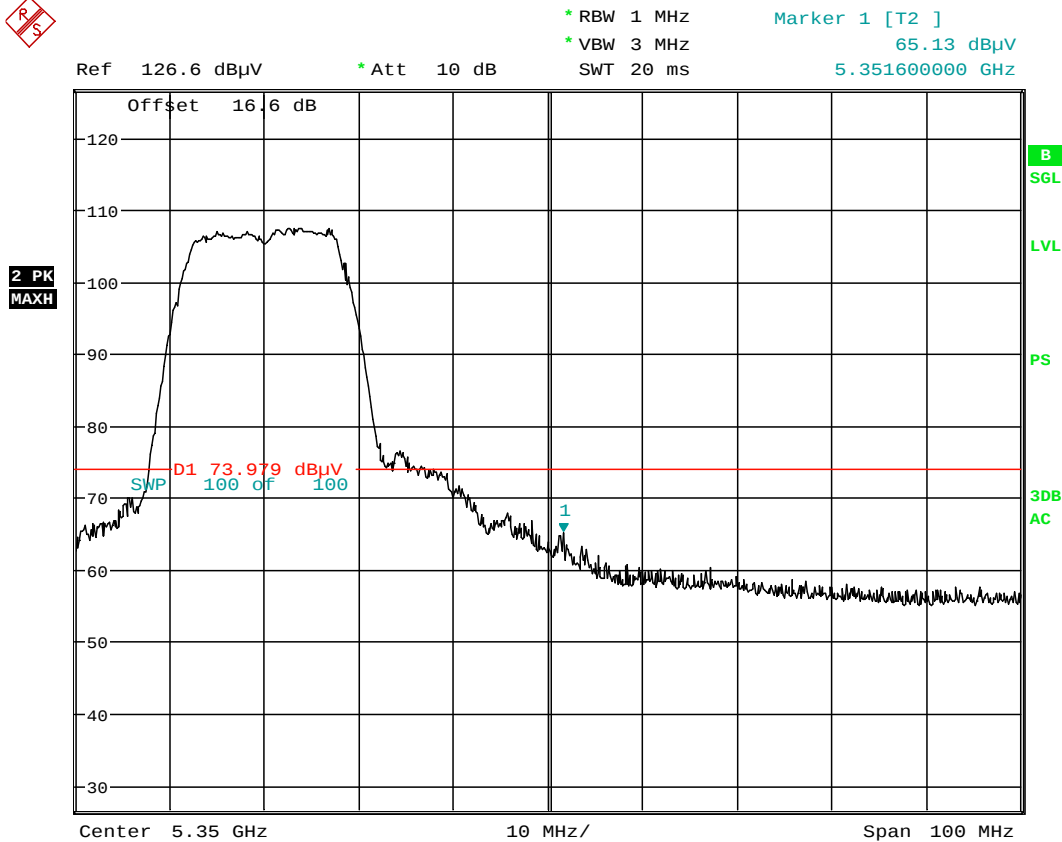


Date: 6.FEB.2014 21:48:48

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

FCC ID: A3LSMG9009D	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Reviewed by: Quality Manager
Test Report S/N: 0Y1402040301.A3L	Test Dates: 2/6-2/26/2014	EUT Type: Portable Handset		Page 117 of 181

Radiated Band Edge Measurements (20MHz BW) (Cont'd) §15.407(b)(1) and (2), §15.205 & §15.209; RSS-210 [A9.2]



Date: 6.FEB.2014 21:49:29

Plot 6-138. Radiated Restricted Upper Band Edge Plot (Peak – UNII Band 2A)

FCC ID: A3LSMG9009D	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Reviewed by: Quality Manager
Test Report S/N: 0Y1402040301.A3L	Test Dates: 2/6-2/26/2014	EUT Type: Portable Handset		Page 118 of 181

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

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

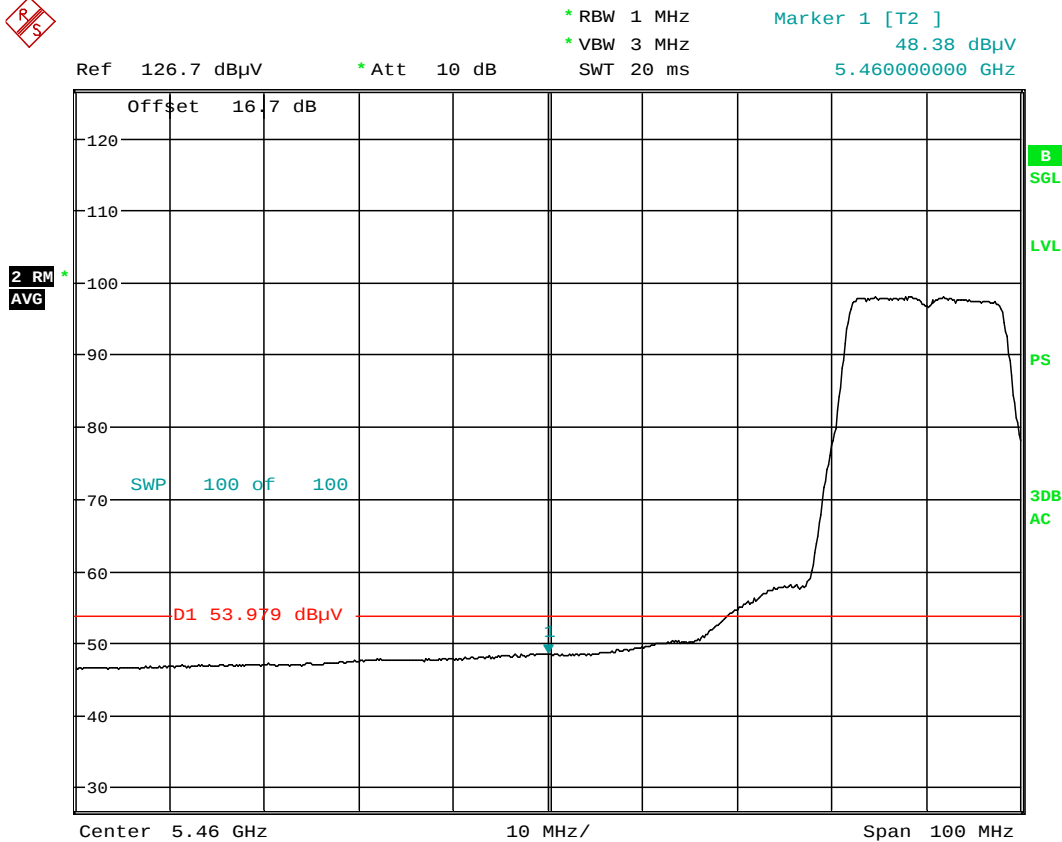
Worst Case Mode: 802.11n (20MHz)

Worst Case Transfer Rate: MCS0

Distance of Measurements: 3 Meters

Operating Frequency: 5500MHz

Channel: 100

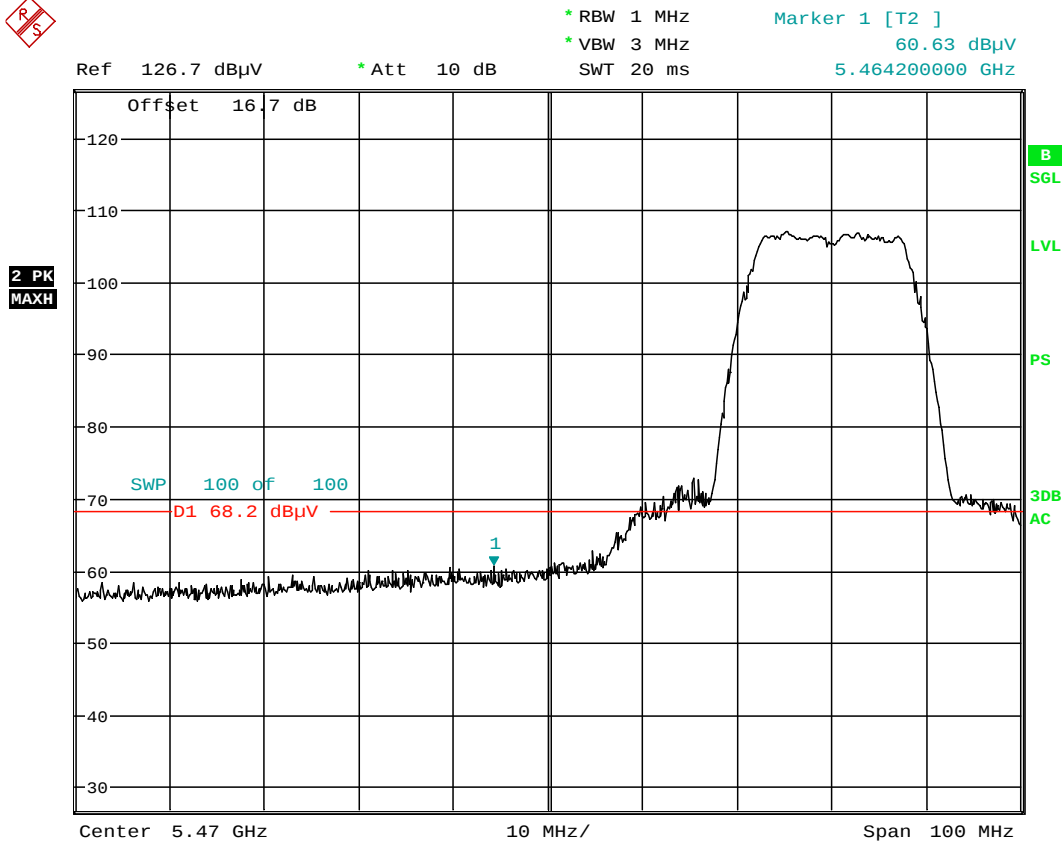


Date: 6.FEB.2014 21:53:17

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

FCC ID: A3LSMG9009D	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Reviewed by: Quality Manager
Test Report S/N: 0Y1402040301.A3L	Test Dates: 2/6-2/26/2014	EUT Type: Portable Handset		Page 119 of 181

Radiated Band Edge Measurements (20MHz BW) (Cont'd) §15.407(b)(1) and (2), §15.205 & §15.209; RSS-210 [A9.2]



Date: 6.FEB.2014 21:53:57

Plot 6-140. Radiated Restricted Lower Band Edge Plot (Peak – UNII Band 2C)

FCC ID: A3LSMG9009D	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Reviewed by: Quality Manager
Test Report S/N: 0Y1402040301.A3L	Test Dates: 2/6-2/26/2014	EUT Type: Portable Handset		Page 120 of 181

Radiated Band Edge Measurements (20MHz BW) (Cont'd) §15.407(b)(1) and (2), §15.205 & §15.209; RSS-210 [A9.2]

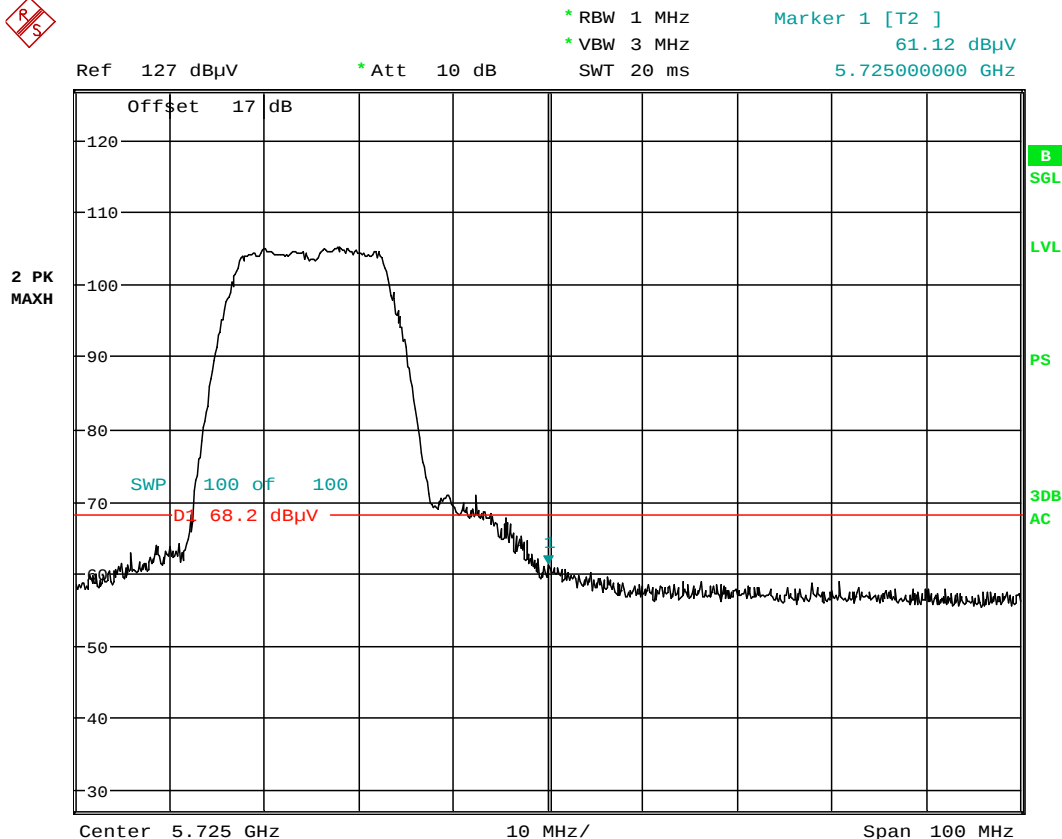
Worst Case Mode: 802.11n (20MHz)

Worst Case Transfer Rate: MCS0

Distance of Measurements: 3 Meters

Operating Frequency: 5700MHz

Channel: 140



Date: 6.FEB.2014 21:56:57

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

FCC ID: A3LSMG9009D	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Reviewed by: Quality Manager
Test Report S/N: 0Y1402040301.A3L	Test Dates: 2/6-2/26/2014	EUT Type: Portable Handset		Page 121 of 181

6.9 Radiated Band Edge Measurements (40MHz BW) – ANTENNA 1

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

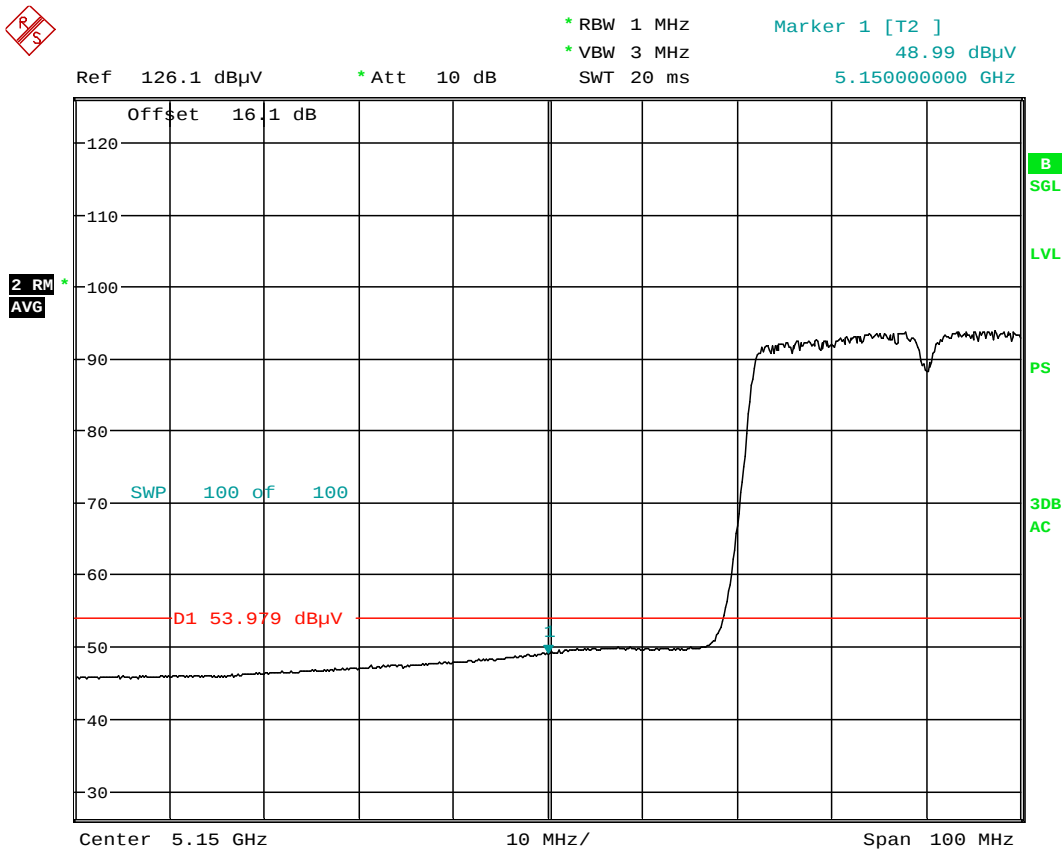
Worst Case Mode: 802.11n (40MHz)

Worst Case Transfer Rate: MCS0

Distance of Measurements: 3 Meters

Operating Frequency: 5190MHz

Channel: 38



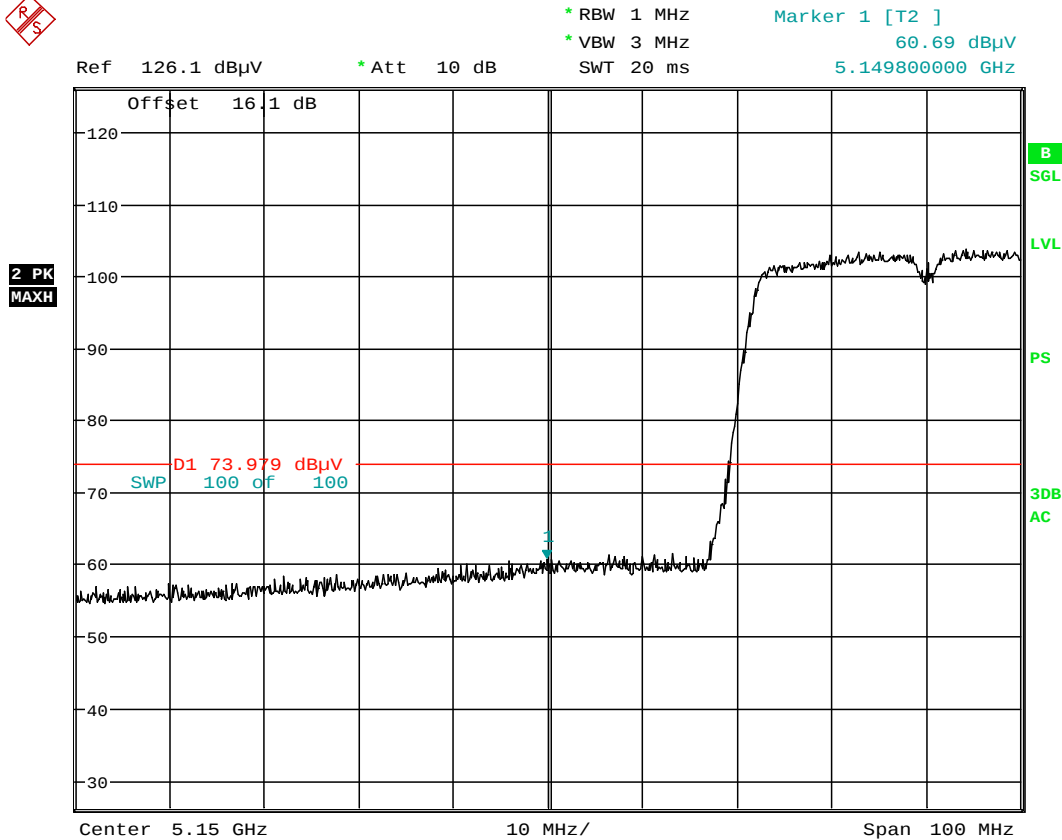
Date: 6.FEB.2014 22:03:49

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

FCC ID: A3LSMG9009D	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Reviewed by: Quality Manager
Test Report S/N: 0Y1402040301.A3L	Test Dates: 2/6-2/26/2014	EUT Type: Portable Handset		Page 122 of 181

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

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



Date: 6.FEB.2014 22:04:32

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

FCC ID: A3LSMG9009D		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1402040301.A3L	Test Dates: 2/6-2/26/2014	EUT Type: Portable Handset		Page 123 of 181

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

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

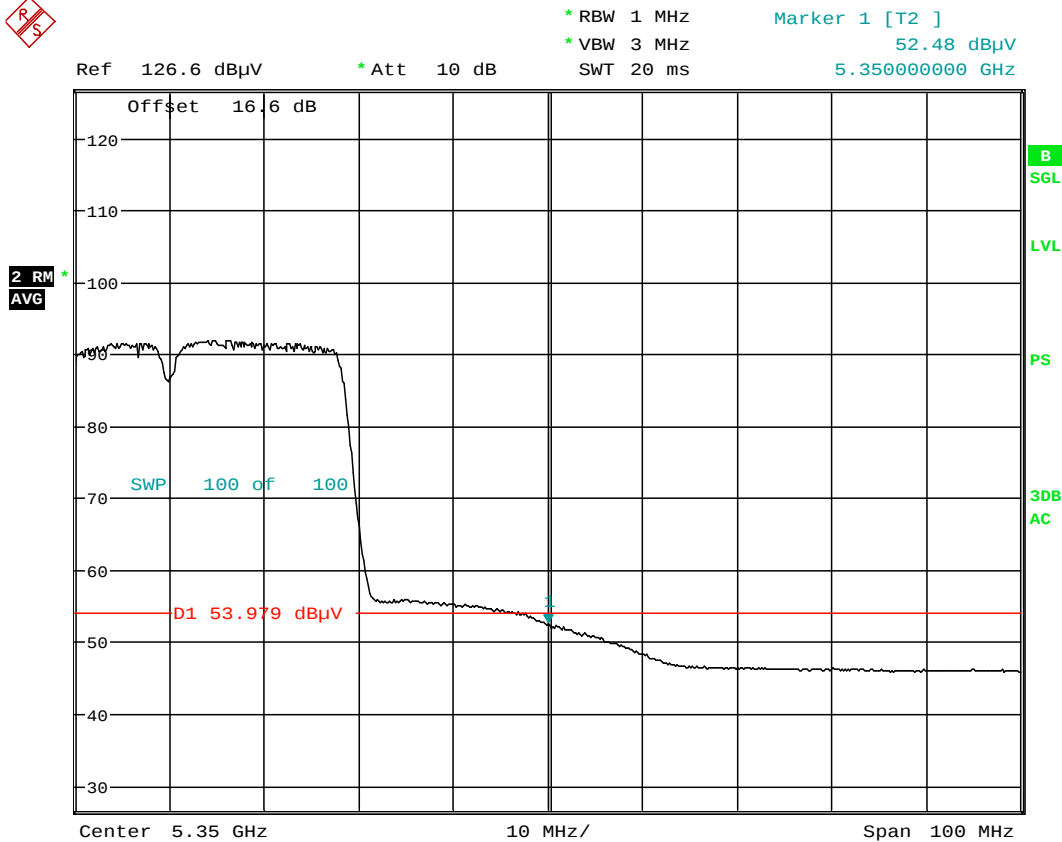
Worst Case Mode: 802.11n (40MHz)

Worst Case Transfer Rate: MCS0

Distance of Measurements: 3 Meters

Operating Frequency: 5310MHz

Channel: 62



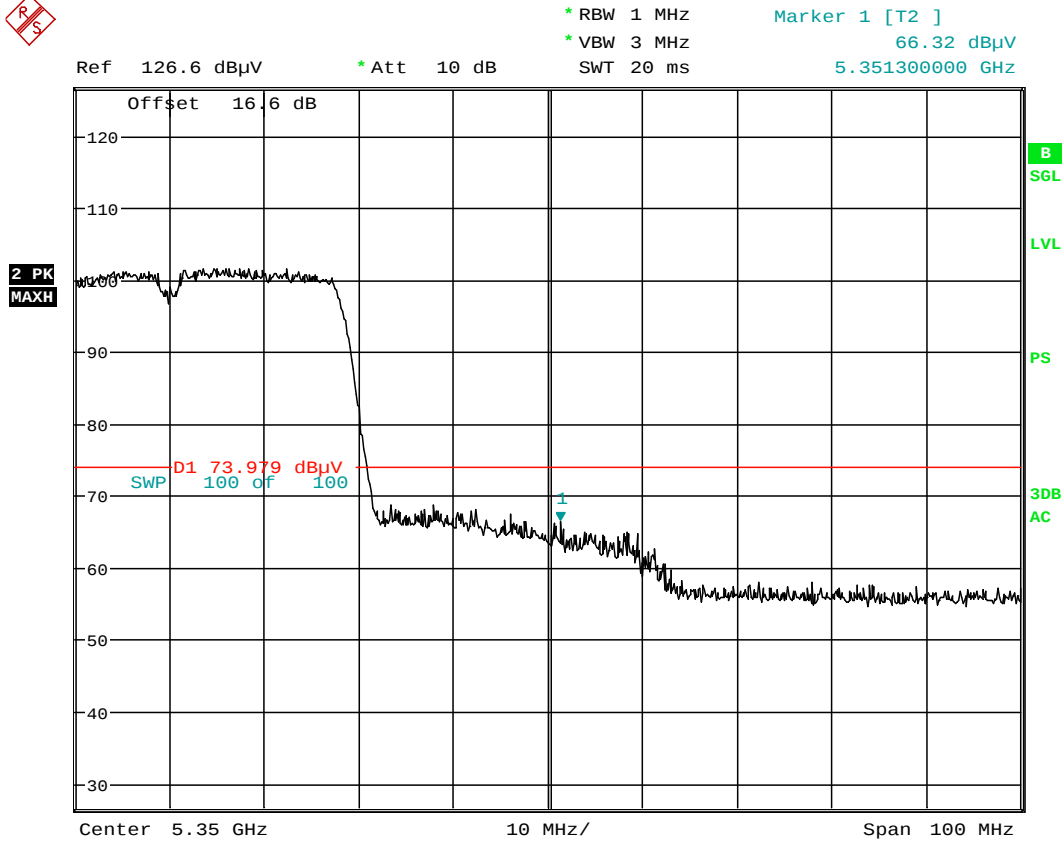
Date: 6.FEB.2014 22:07:48

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

FCC ID: A3LSMG9009D	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Reviewed by: Quality Manager
Test Report S/N: 0Y1402040301.A3L	Test Dates: 2/6-2/26/2014	EUT Type: Portable Handset		Page 124 of 181

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

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



Date: 6.FEB.2014 22:08:40

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

FCC ID: A3LSMG9009D		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1402040301.A3L	Test Dates: 2/6-2/26/2014	EUT Type: Portable Handset		Page 125 of 181

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

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

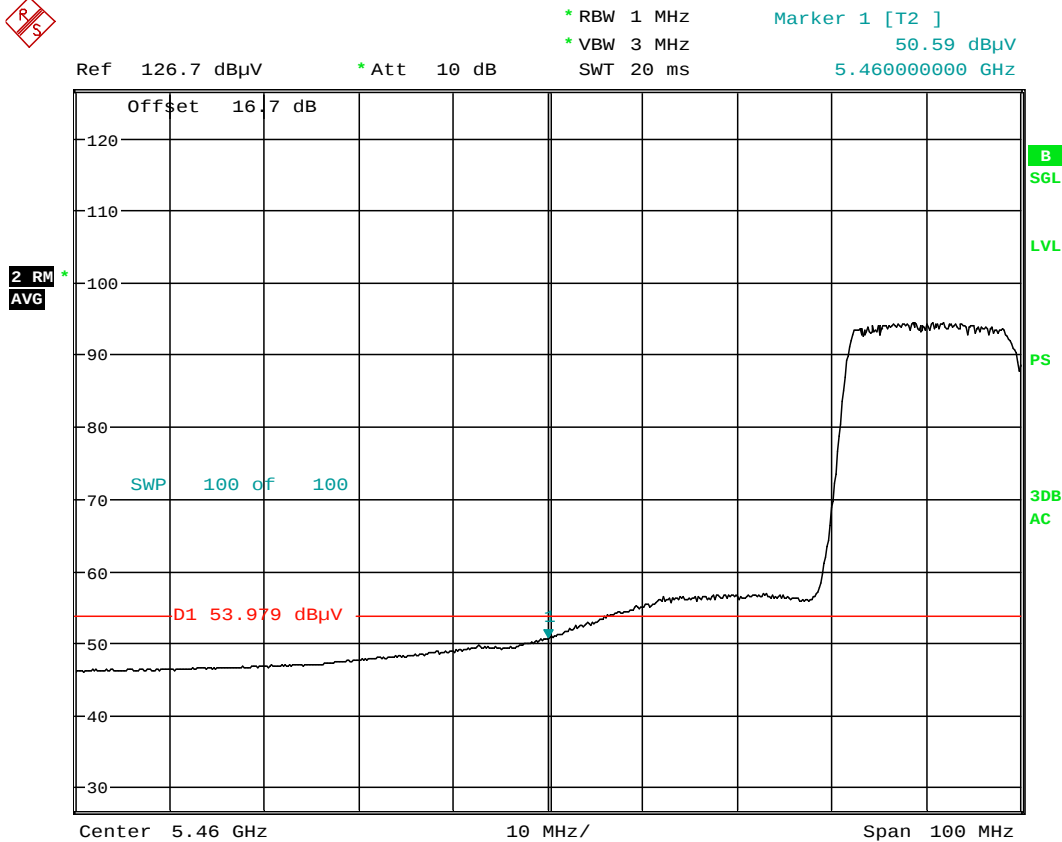
Worst Case Mode: 802.11n (40MHz)

Worst Case Transfer Rate: MCS0

Distance of Measurements: 3 Meters

Operating Frequency: 5510MHz

Channel: 102

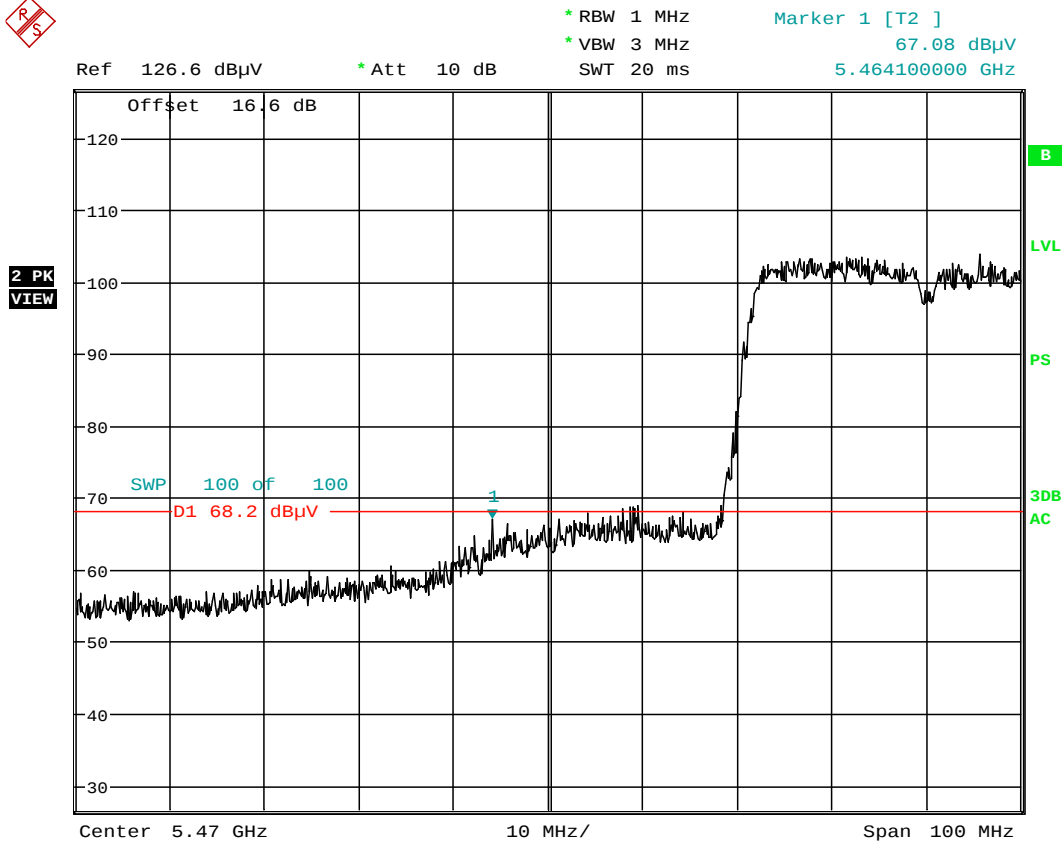


Date: 6.FEB.2014 22:11:25

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

FCC ID: A3LSMG9009D	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Reviewed by: Quality Manager
Test Report S/N: 0Y1402040301.A3L	Test Dates: 2/6-2/26/2014	EUT Type: Portable Handset		Page 126 of 181

Radiated Band Edge Measurements (40MHz BW) (Cont'd) §15.407(b)(1) and (2), §15.205 & §15.209; RSS-210 [A9.2]



Date: 6.FEB.2014 22:14:03

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

FCC ID: A3LSMG9009D	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Reviewed by: Quality Manager
Test Report S/N: 0Y1402040301.A3L	Test Dates: 2/6-2/26/2014	EUT Type: Portable Handset		Page 127 of 181

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

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

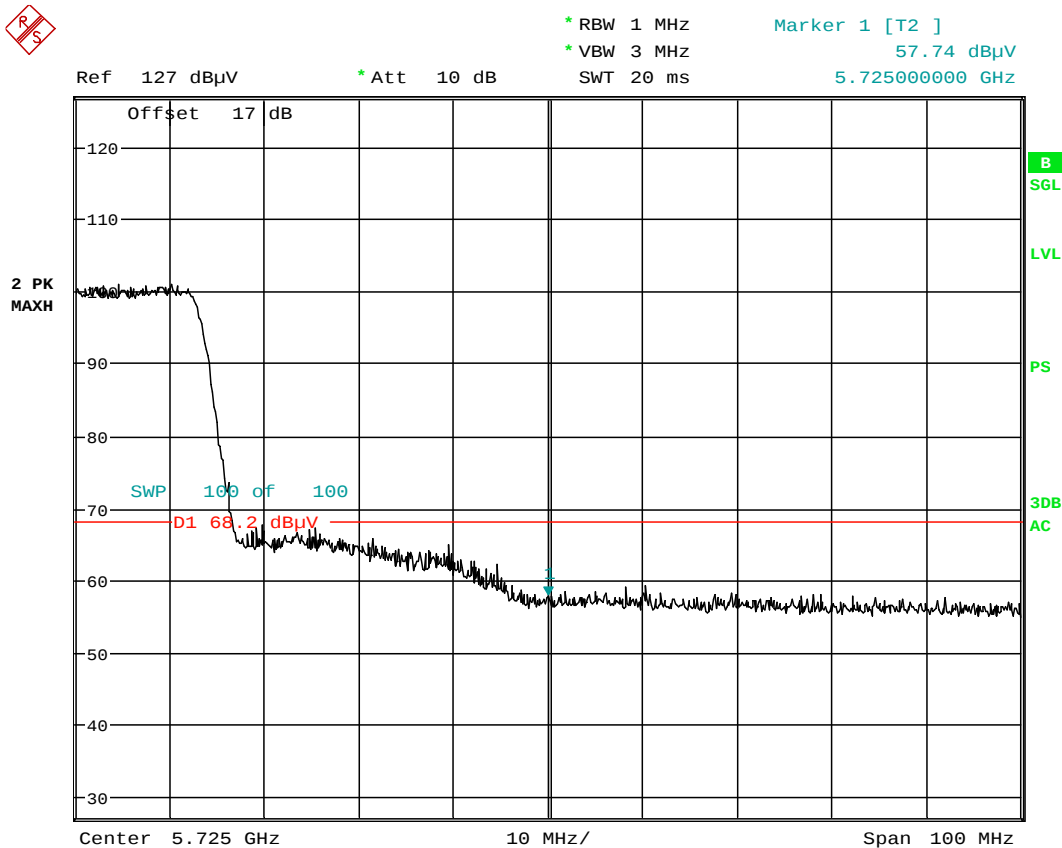
Worst Case Mode: 802.11n (40MHz)

Worst Case Transfer Rate: MCS0

Distance of Measurements: 3 Meters

Operating Frequency: 5670MHz

Channel: 134



Date: 6.FEB.2014 22:17:09

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

FCC ID: A3LSMG9009D	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Reviewed by: Quality Manager
Test Report S/N: 0Y1402040301.A3L	Test Dates: 2/6-2/26/2014	EUT Type: Portable Handset		Page 128 of 181

6.10 Radiated Band Edge Measurements (80MHz BW) – ANTENNA 1

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

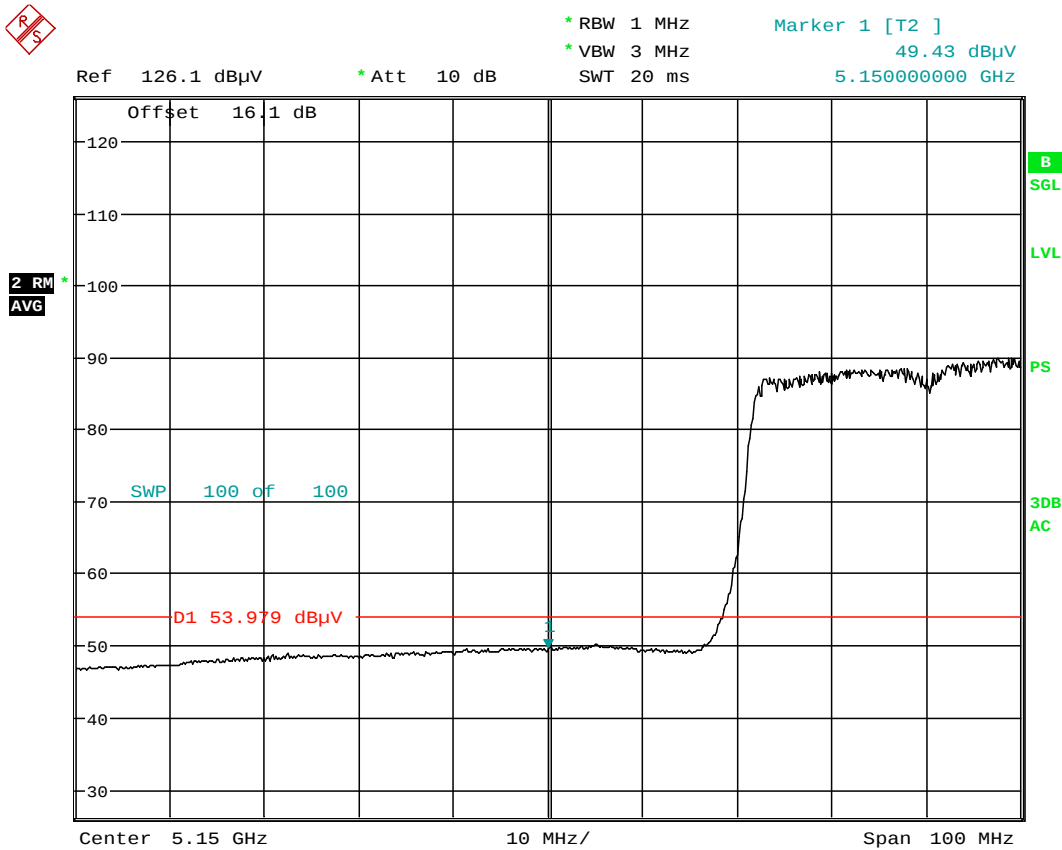
Worst Case Mode: 802.11ac (80MHz)

Worst Case Transfer Rate: MCS0

Distance of Measurements: 3 Meters

Operating Frequency: 5210MHz

Channel: 42

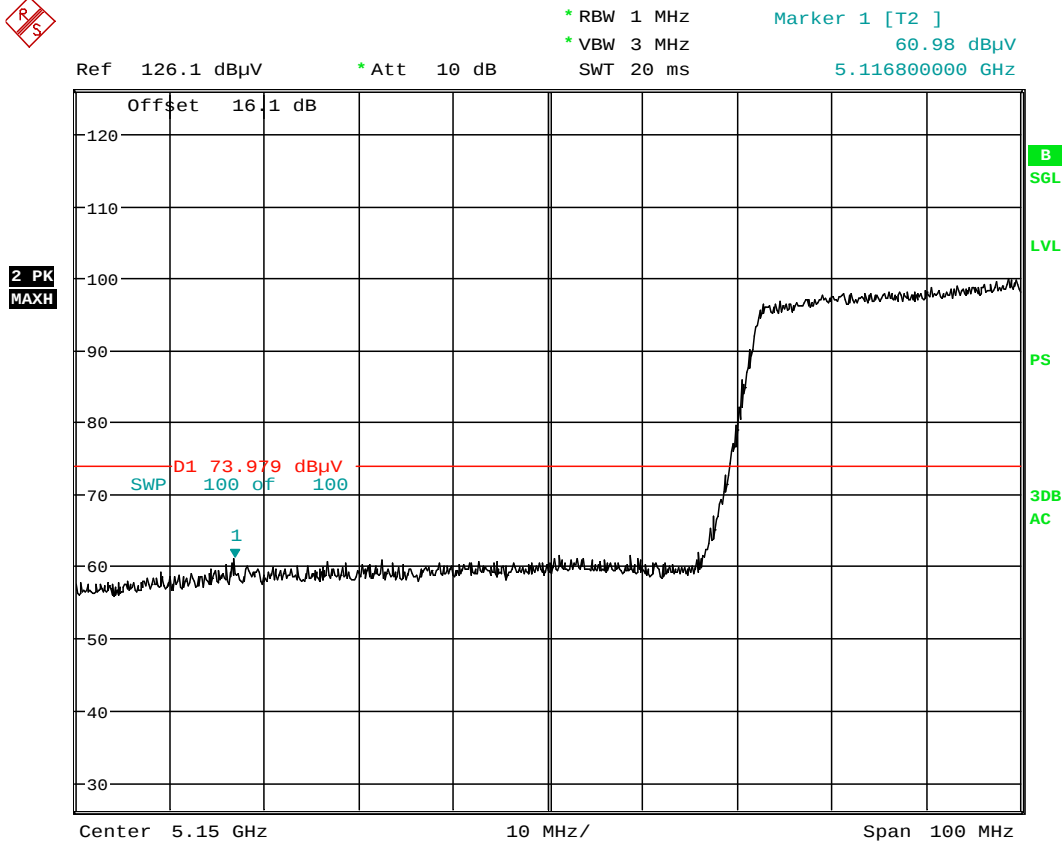


Date: 6.FEB.2014 22:21:59

Plot 6-149. Radiated Restricted Lower Band Edge Plot (Average – UNII Band 1)

FCC ID: A3LSMG9009D	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Reviewed by: Quality Manager
Test Report S/N: 0Y1402040301.A3L	Test Dates: 2/6-2/26/2014	EUT Type: Portable Handset		Page 129 of 181

Radiated Band Edge Measurements (80MHz BW) (Cont'd) §15.407(b)(1) and (2), §15.205 & §15.209; RSS-210 [A9.2]



Date: 6.FEB.2014 22:22:40

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

FCC ID: A3LSMG9009D		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1402040301.A3L	Test Dates: 2/6-2/26/2014	EUT Type: Portable Handset		Page 130 of 181

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

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

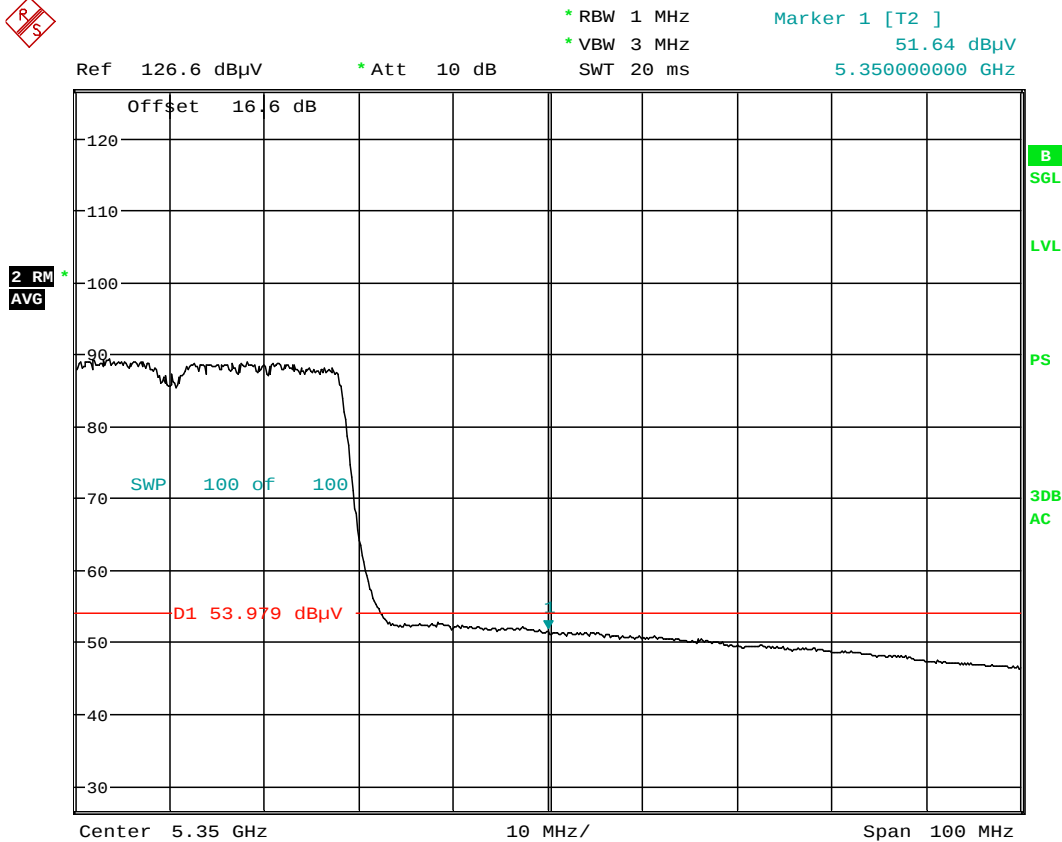
Worst Case Mode: 802.11ac (80MHz)

Worst Case Transfer Rate: MCS0

Distance of Measurements: 3 Meters

Operating Frequency: 5290MHz

Channel: 58

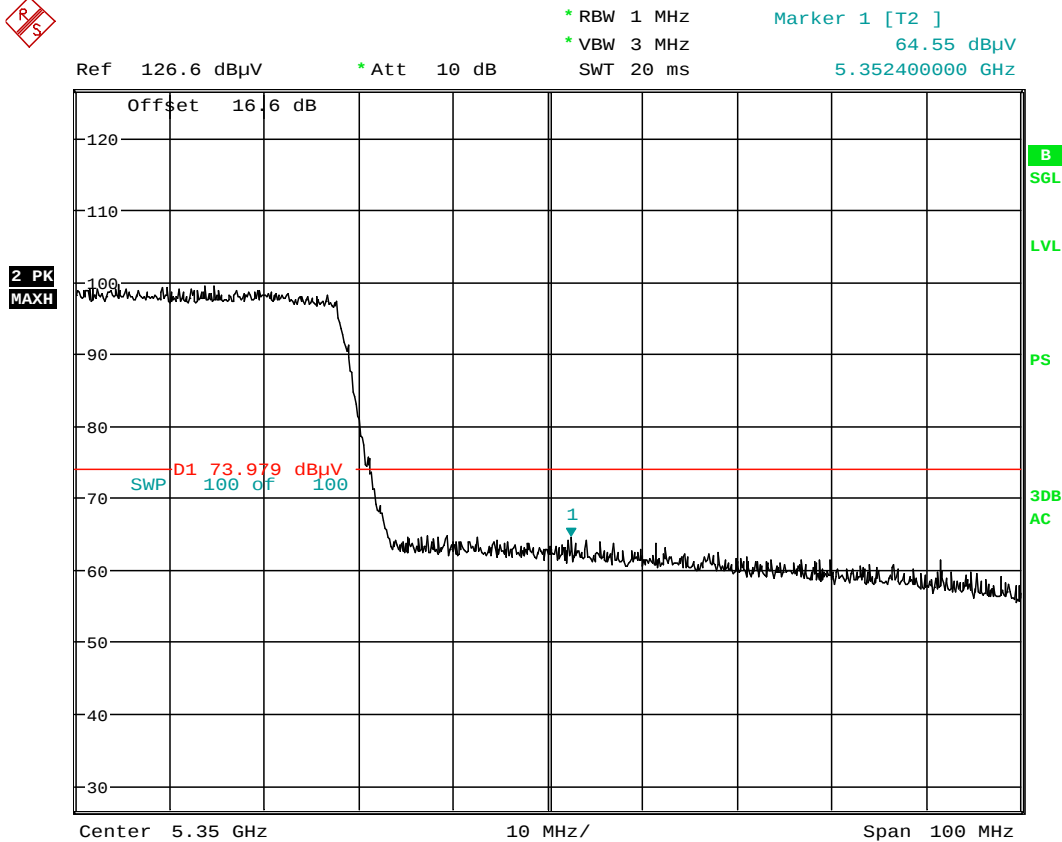


Date: 6.FEB.2014 22:24:40

Plot 6-151. Radiated Restricted Upper Band Edge Plot (Average – UNII Band 2A)

FCC ID: A3LSMG9009D	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Reviewed by: Quality Manager
Test Report S/N: 0Y1402040301.A3L	Test Dates: 2/6-2/26/2014	EUT Type: Portable Handset		Page 131 of 181

Radiated Band Edge Measurements (80MHz BW) (Cont'd) §15.407(b)(1) and (2), §15.205 & §15.209; RSS-210 [A9.2]



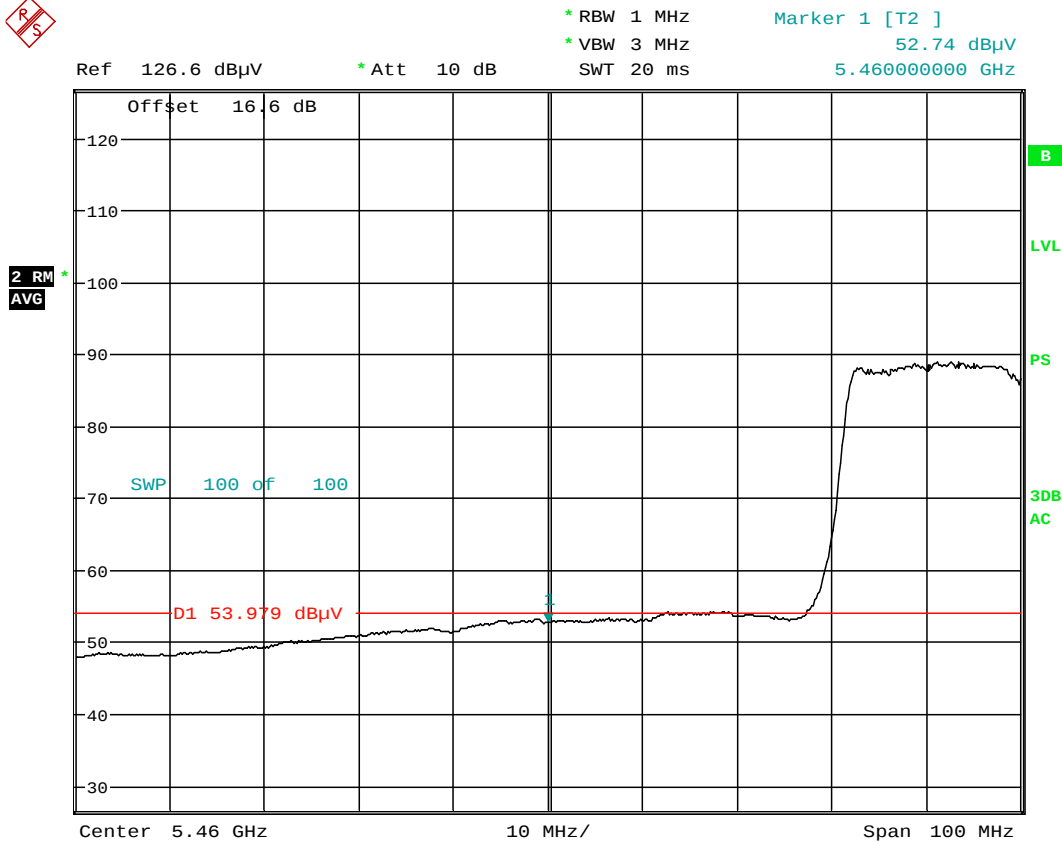
Date: 6.FEB.2014 22:25:13

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

FCC ID: A3LSMG9009D	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Reviewed by: Quality Manager
Test Report S/N: 0Y1402040301.A3L	Test Dates: 2/6-2/26/2014	EUT Type: Portable Handset		Page 132 of 181

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

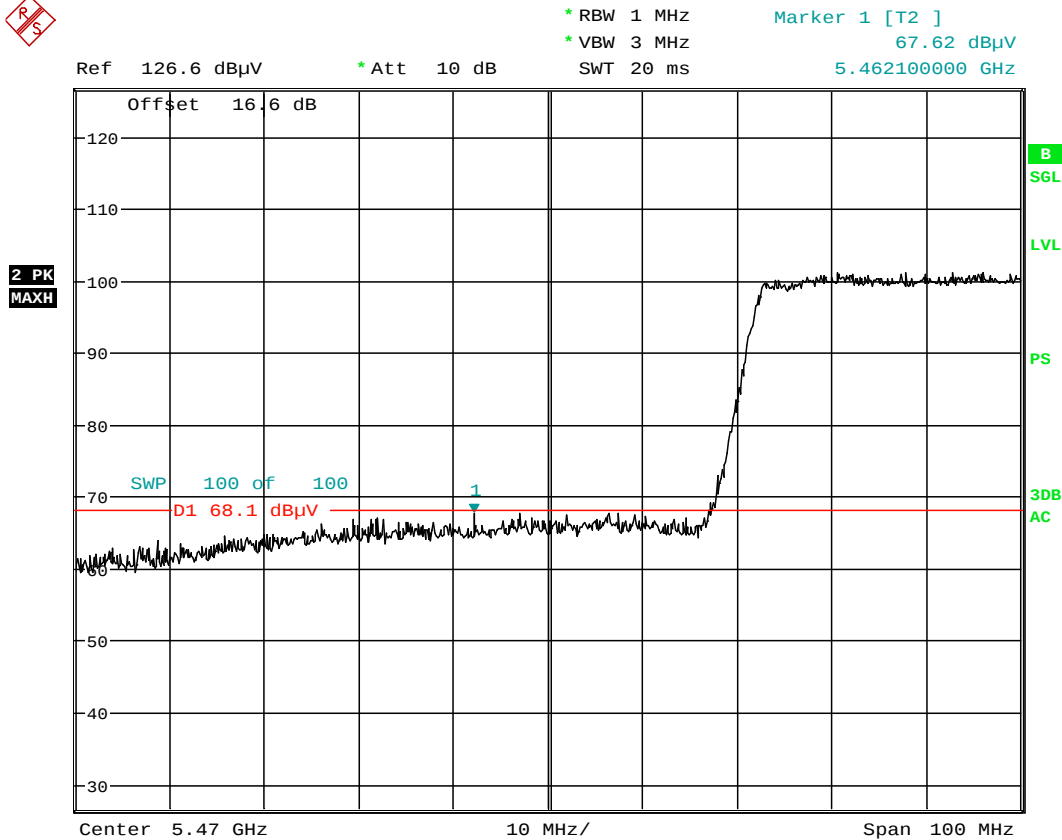


Date: 6.FEB.2014 23:02:19

Plot 6-153. Radiated Restricted Lower Band Edge Plot (Average – UNII Band 2C)

FCC ID: A3LSMG9009D	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Reviewed by: Quality Manager
Test Report S/N: 0Y1402040301.A3L	Test Dates: 2/6-2/26/2014	EUT Type: Portable Handset		Page 133 of 181

Radiated Band Edge Measurements (80MHz BW) (Cont'd) §15.407(b)(1) and (2), §15.205 & §15.209; RSS-210 [A9.2]



Date: 6.FEB.2014 22:30:24

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

FCC ID: A3LSMG9009D	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Reviewed by: Quality Manager
Test Report S/N: 0Y1402040301.A3L	Test Dates: 2/6-2/26/2014	EUT Type: Portable Handset		Page 134 of 181

6.11 Radiated Band Edge Measurements (20MHz BW) – ANTENNA 2

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

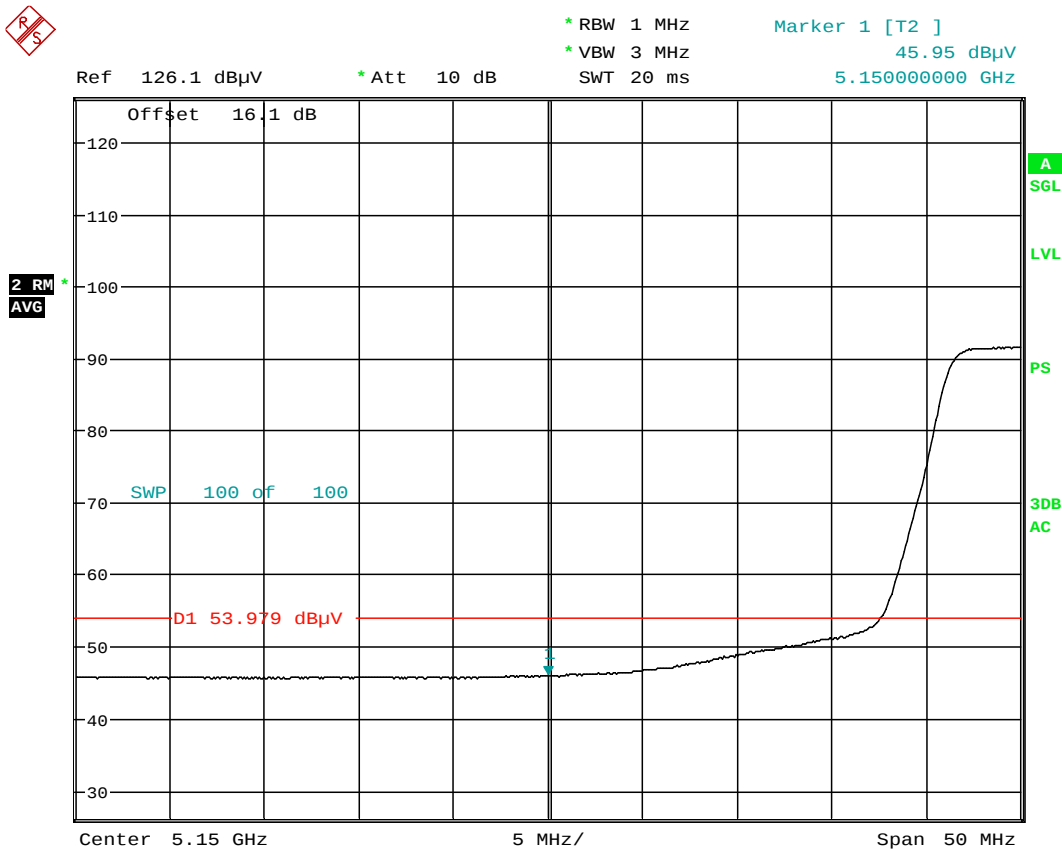
Worst Case Mode: 802.11n (20MHz)

Worst Case Transfer Rate: MCS0

Distance of Measurements: 3 Meters

Operating Frequency: 5180MHz

Channel: 36

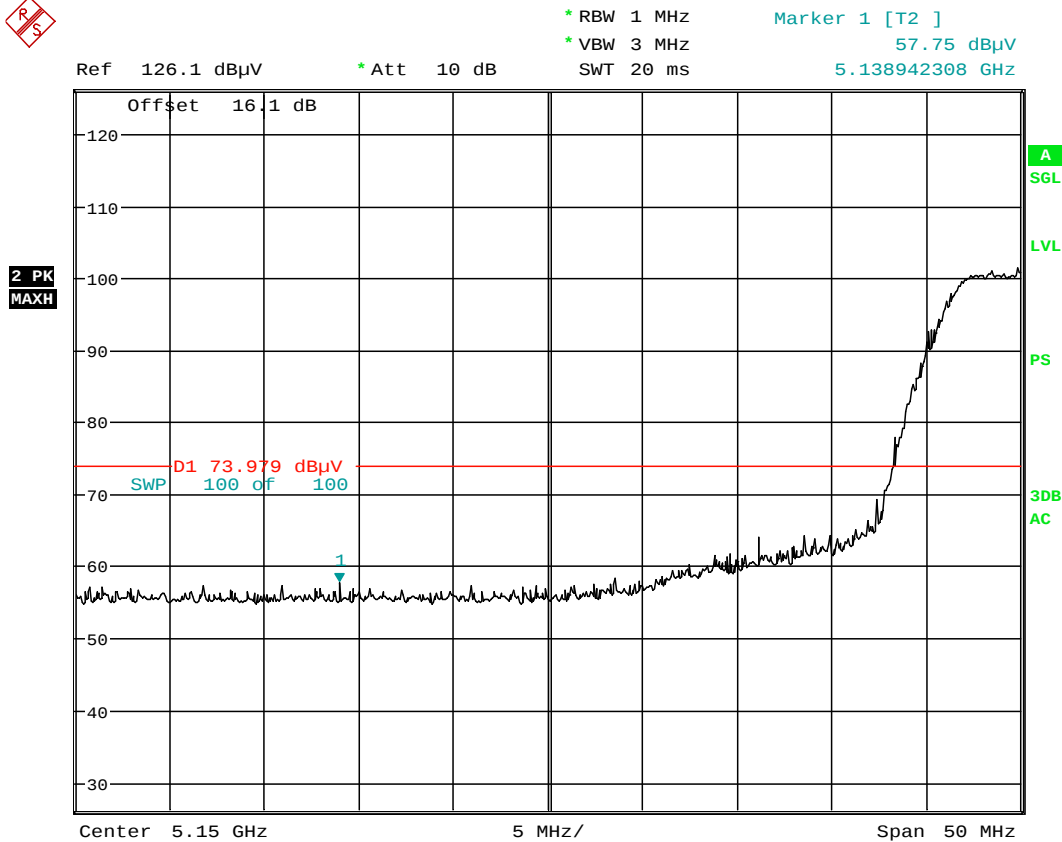


Date: 7.FEB.2014 01:11:32

Plot 6-155. Radiated Restricted Lower Band Edge Plot (Average – UNII Band 1)

FCC ID: A3LSMG9009D	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Reviewed by: Quality Manager
Test Report S/N: 0Y1402040301.A3L	Test Dates: 2/6-2/26/2014	EUT Type: Portable Handset		Page 135 of 181

Radiated Band Edge Measurements (20MHz BW) (Cont'd) §15.407(b)(1) and (2), §15.205 & §15.209; RSS-210 [A9.2]



Date: 7.FEB.2014 01:13:16

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

FCC ID: A3LSMG9009D	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Reviewed by: Quality Manager
Test Report S/N: 0Y1402040301.A3L	Test Dates: 2/6-2/26/2014	EUT Type: Portable Handset		Page 136 of 181

Radiated Band Edge Measurements (20MHz BW) (Cont'd) §15.407(b)(1) and (2), §15.205 & §15.209; RSS-210 [A9.2]

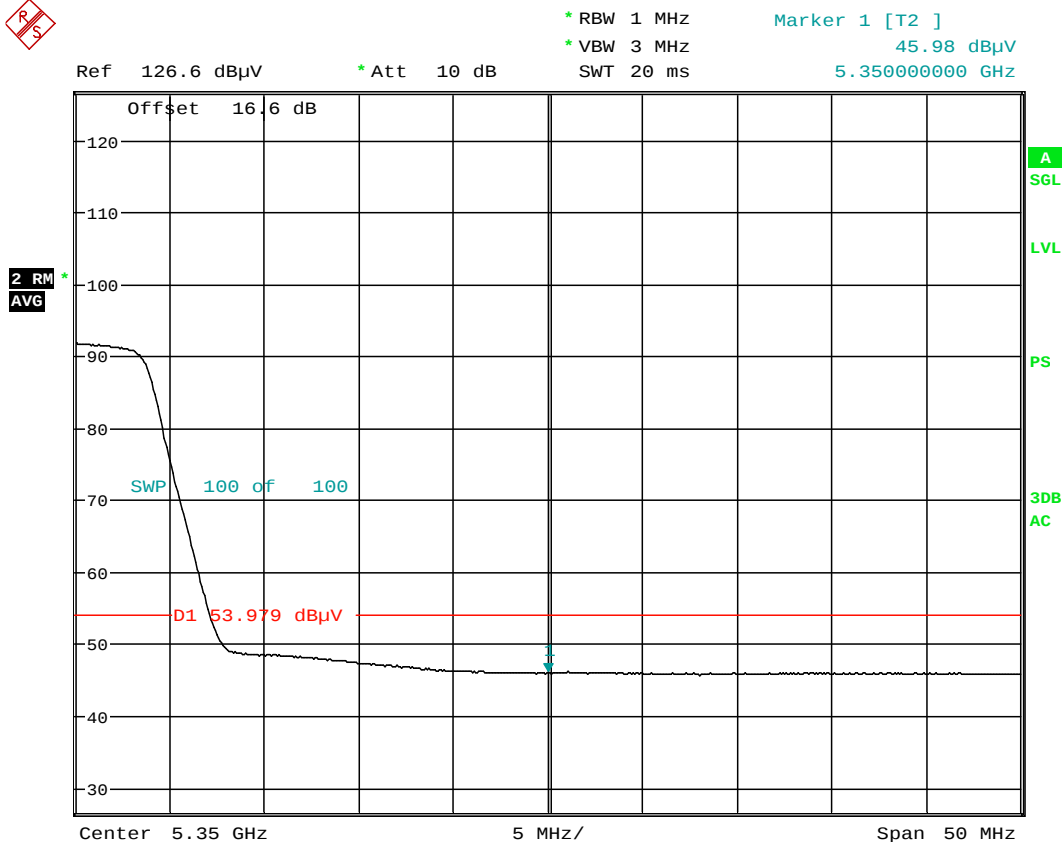
Worst Case Mode: 802.11n (20MHz)

Worst Case Transfer Rate: MCS0

Distance of Measurements: 3 Meters

Operating Frequency: 5320MHz

Channel: 64

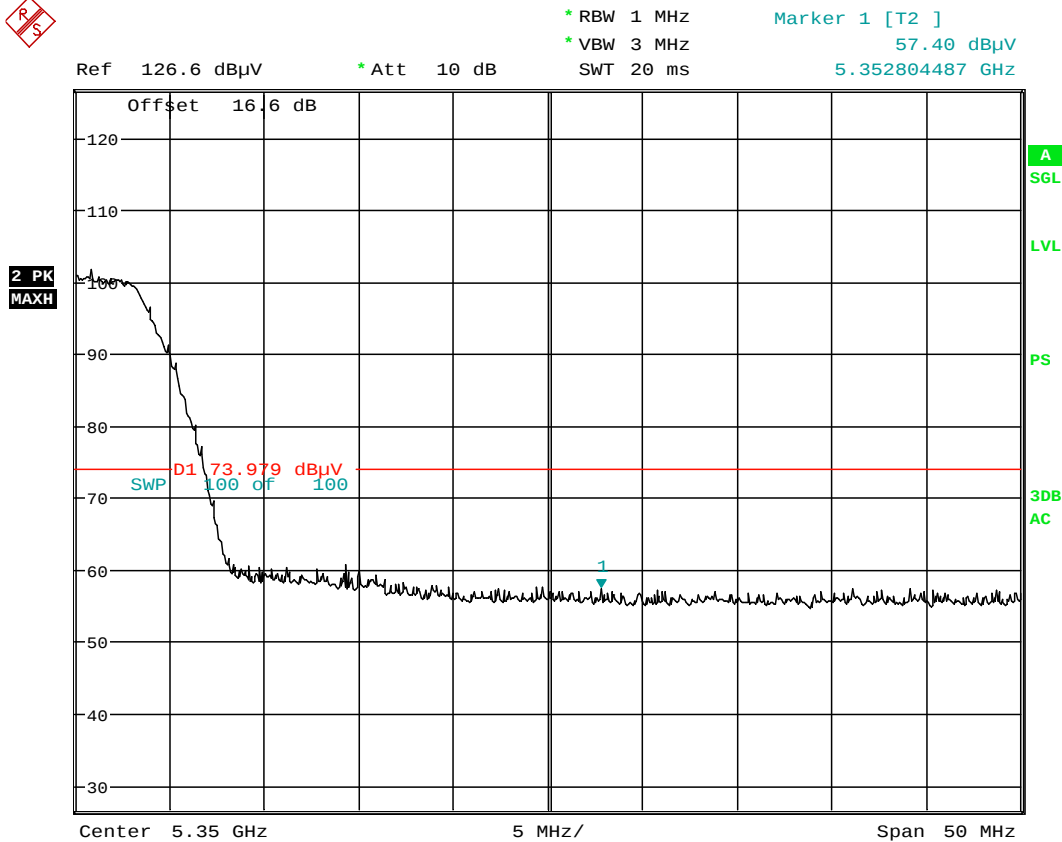


Date: 7.FEB.2014 01:16:25

Plot 6-157. Radiated Restricted Upper Band Edge Plot (Average – UNII Band 2A)

FCC ID: A3LSMG9009D	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Reviewed by: Quality Manager
Test Report S/N: 0Y1402040301.A3L	Test Dates: 2/6-2/26/2014	EUT Type: Portable Handset		Page 137 of 181

Radiated Band Edge Measurements (20MHz BW) (Cont'd) §15.407(b)(1) and (2), §15.205 & §15.209; RSS-210 [A9.2]



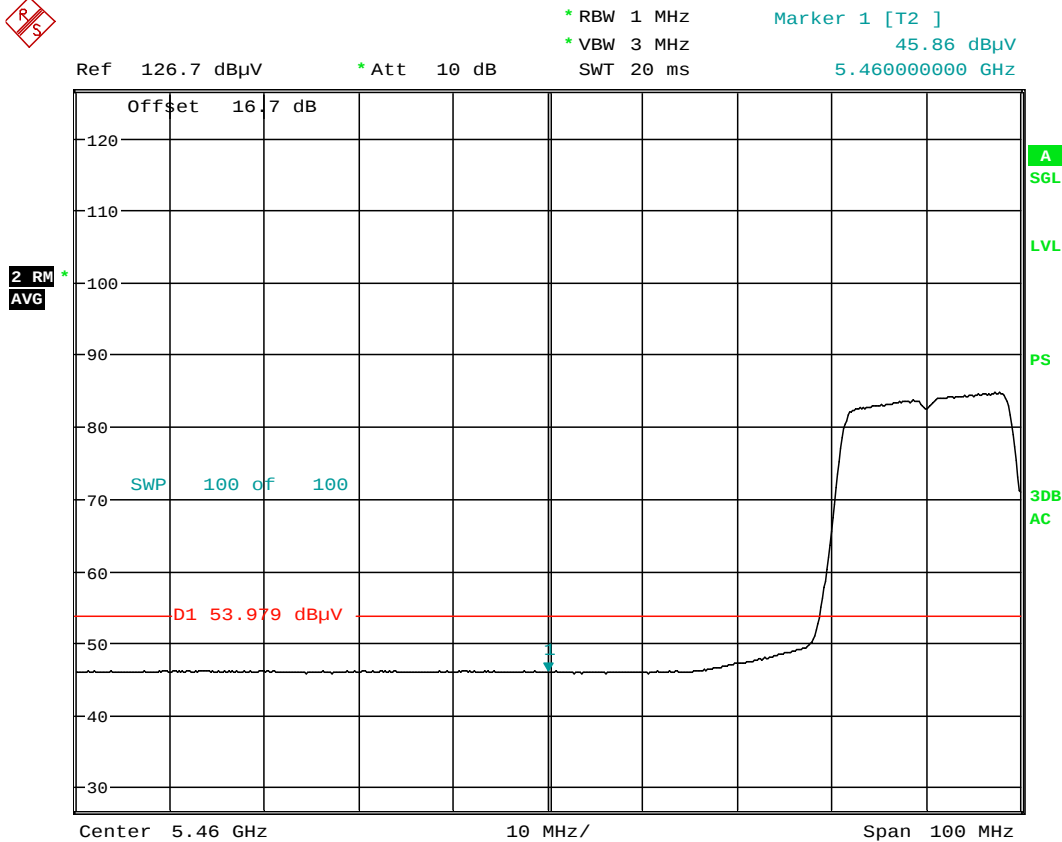
Date: 7.FEB.2014 01:17:06

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

FCC ID: A3LSMG9009D	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Reviewed by: Quality Manager
Test Report S/N: 0Y1402040301.A3L	Test Dates: 2/6-2/26/2014	EUT Type: Portable Handset		Page 138 of 181

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

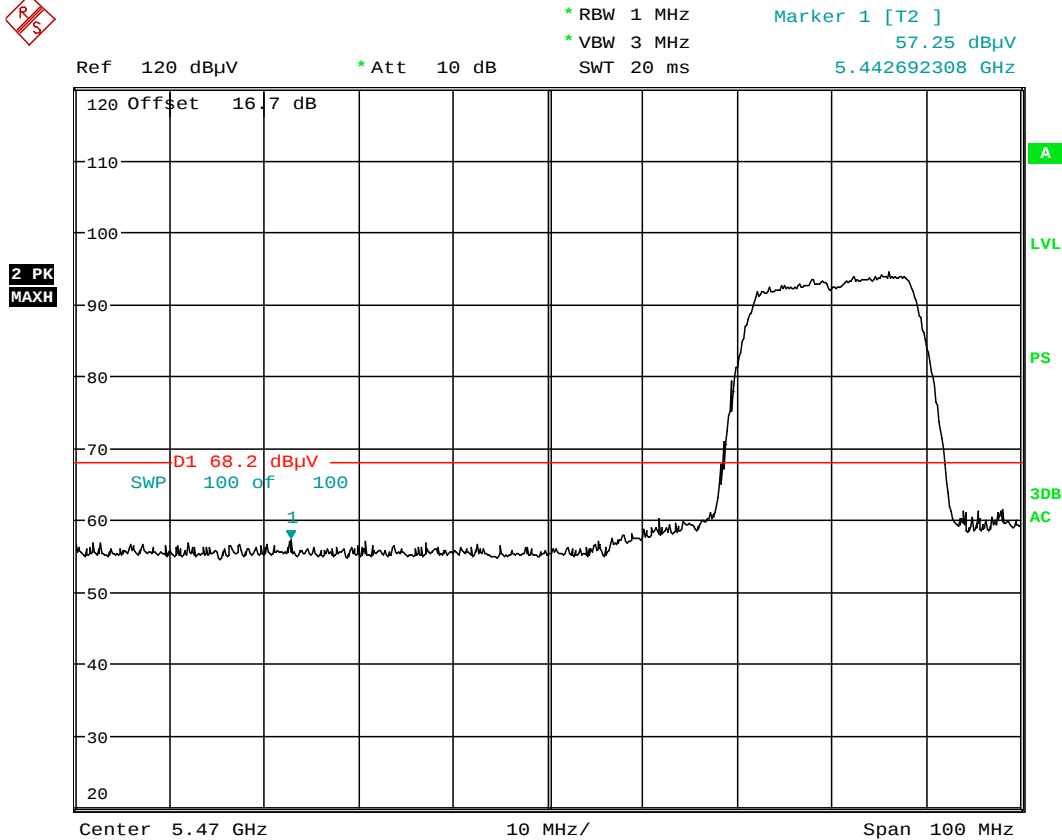


Date: 7.FEB.2014 01:21:54

Plot 6-159. Radiated Restricted Lower Band Edge Plot (Average – UNII Band 2C)

FCC ID: A3LSMG9009D	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Reviewed by: Quality Manager
Test Report S/N: 0Y1402040301.A3L	Test Dates: 2/6-2/26/2014	EUT Type: Portable Handset		Page 139 of 181

Radiated Band Edge Measurements (20MHz BW) (Cont'd) §15.407(b)(1) and (2), §15.205 & §15.209; RSS-210 [A9.2]



Date: 7.FEB.2014 01:23:17

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

FCC ID: A3LSMG9009D	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Reviewed by: Quality Manager
Test Report S/N: 0Y1402040301.A3L	Test Dates: 2/6-2/26/2014	EUT Type: Portable Handset		Page 140 of 181

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

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

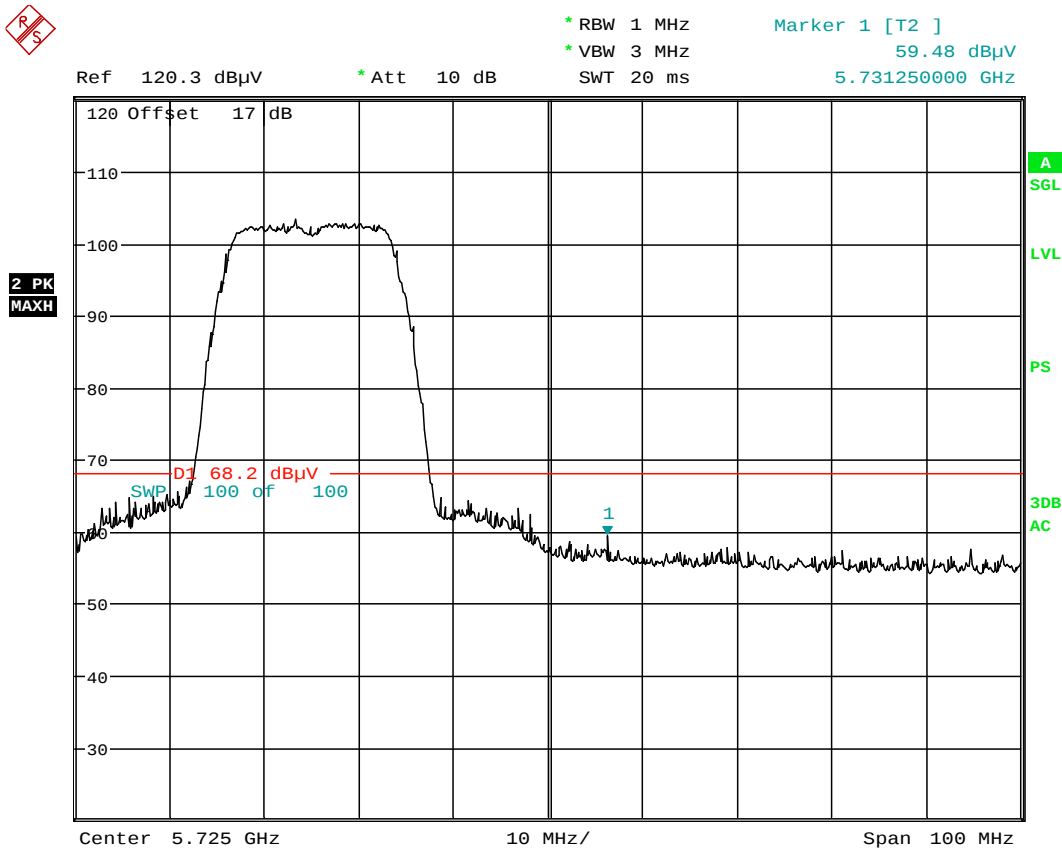
Worst Case Mode: 802.11n (20MHz)

Worst Case Transfer Rate: MCS0

Distance of Measurements: 3 Meters

Operating Frequency: 5700MHz

Channel: 140



Date: 7.FEB.2014 01:26:52

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

FCC ID: A3LSMG9009D	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Reviewed by: Quality Manager
Test Report S/N: 0Y1402040301.A3L	Test Dates: 2/6-2/26/2014	EUT Type: Portable Handset		Page 141 of 181

6.12 Radiated Band Edge Measurements (40MHz BW) – ANTENNA 2

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

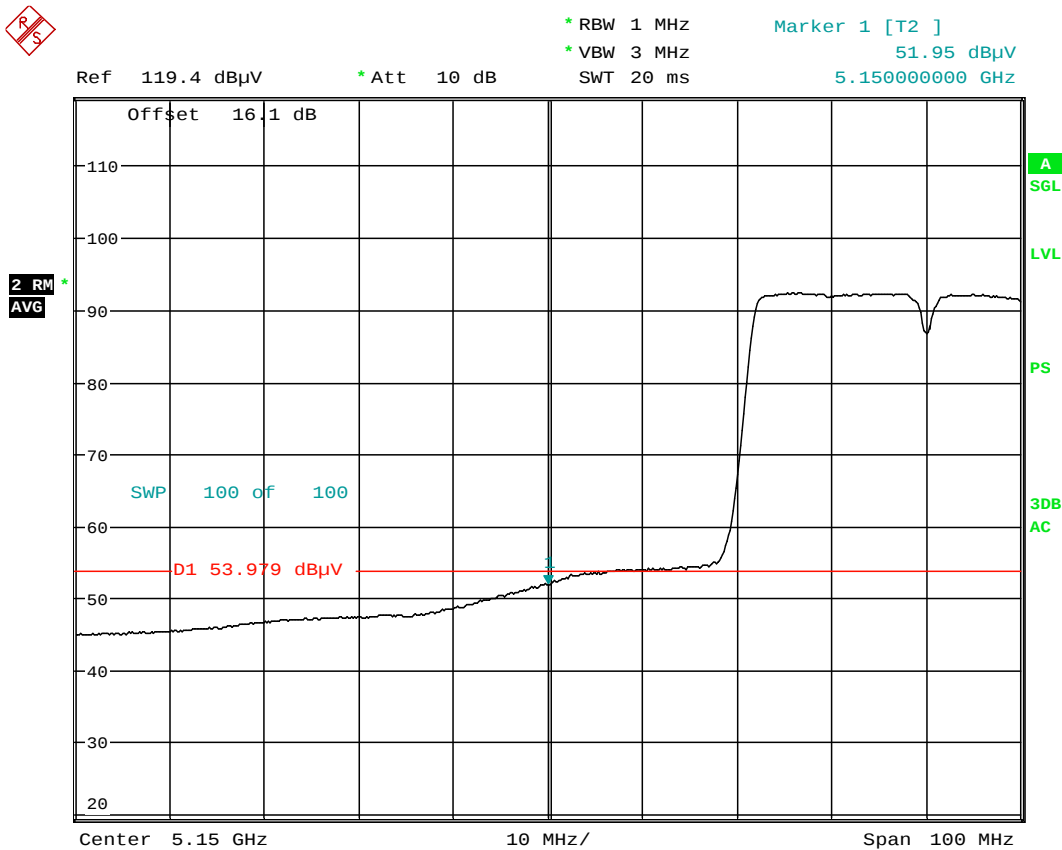
Worst Case Mode: 802.11n (40MHz)

Worst Case Transfer Rate: MCS0

Distance of Measurements: 3 Meters

Operating Frequency: 5190MHz

Channel: 38

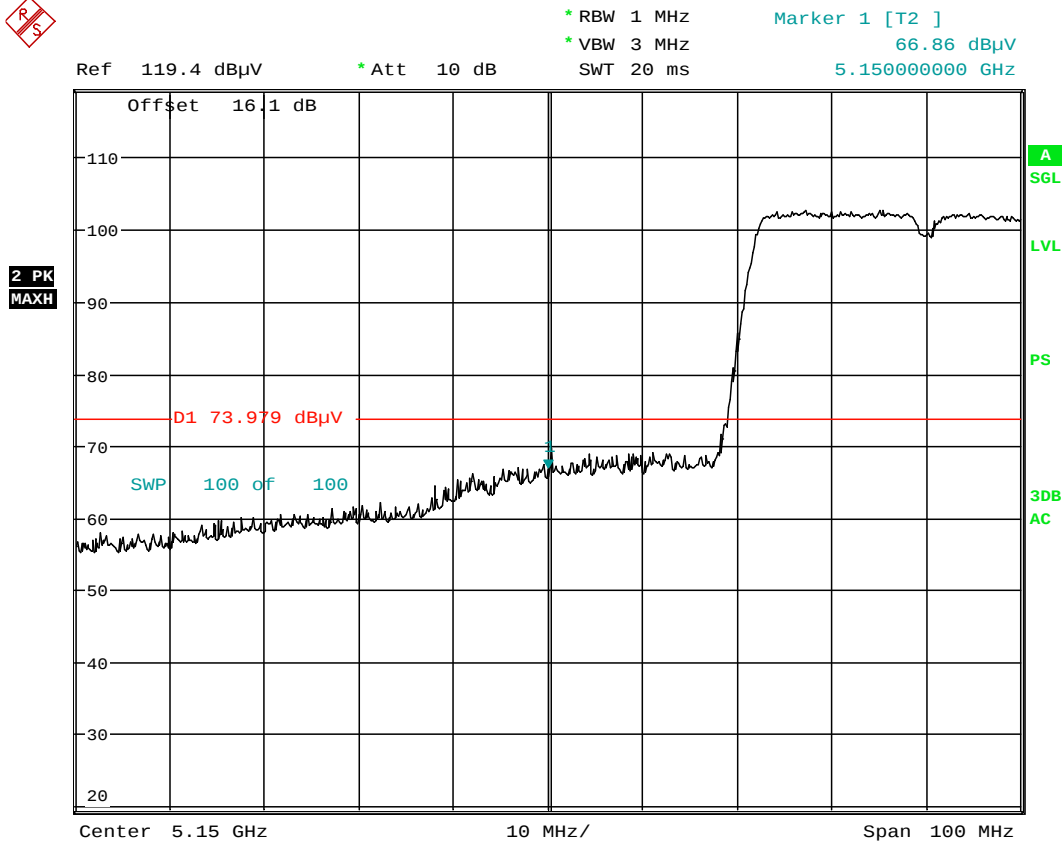


Date: 7.FEB.2014 01:40:32

Plot 6-162. Radiated Restricted Lower Band Edge Plot (Average – UNII Band 1)

FCC ID: A3LSMG9009D	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Reviewed by: Quality Manager
Test Report S/N: 0Y1402040301.A3L	Test Dates: 2/6-2/26/2014	EUT Type: Portable Handset		Page 142 of 181

Radiated Band Edge Measurements (40MHz BW) (Cont'd) §15.407(b)(1) and (2), §15.205 & §15.209; RSS-210 [A9.2]



Date: 7.FEB.2014 01:38:49

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

FCC ID: A3LSMG9009D	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Reviewed by: Quality Manager
Test Report S/N: 0Y1402040301.A3L	Test Dates: 2/6-2/26/2014	EUT Type: Portable Handset		Page 143 of 181

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

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

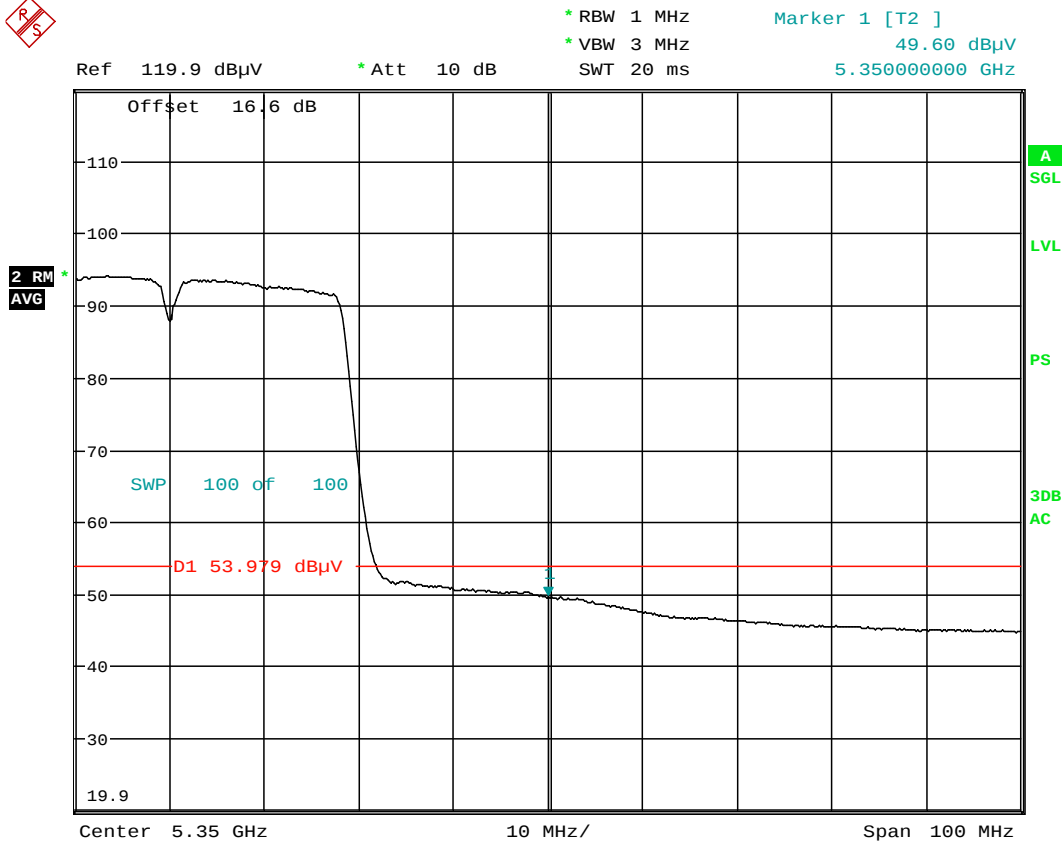
Worst Case Mode: 802.11n (40MHz)

Worst Case Transfer Rate: MCS0

Distance of Measurements: 3 Meters

Operating Frequency: 5310MHz

Channel: 62

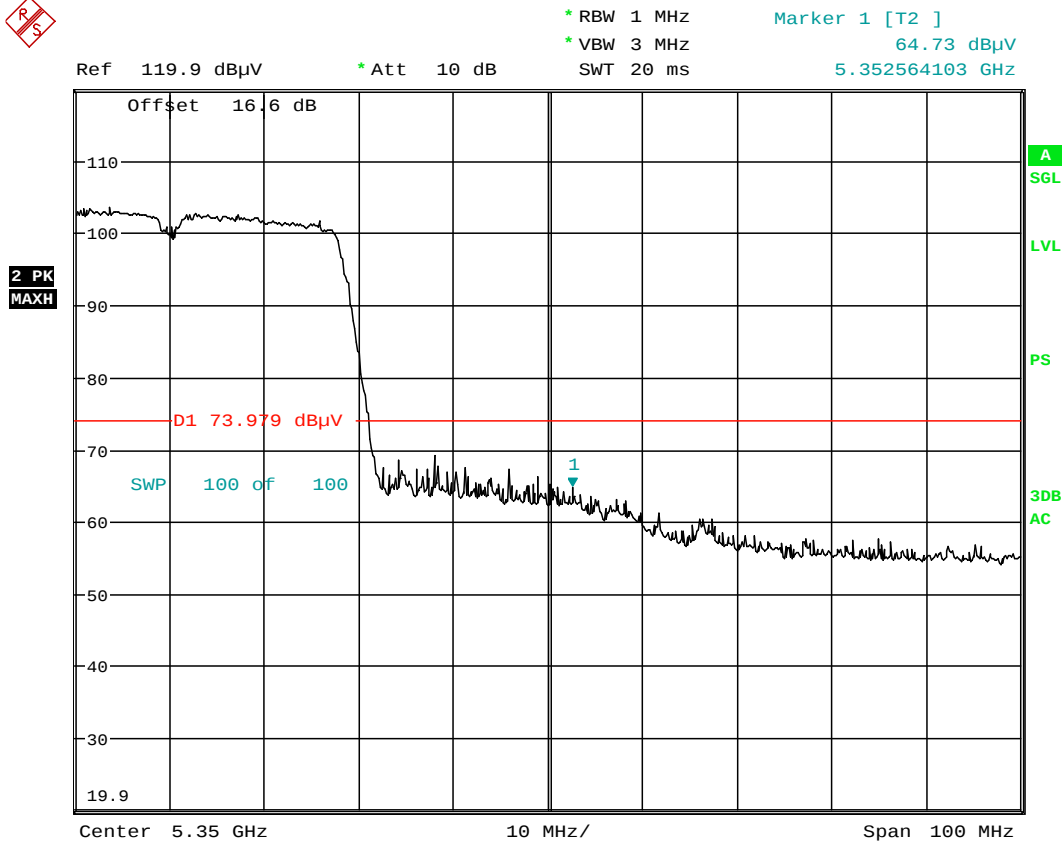


Date: 7.FEB.2014 01:43:18

Plot 6-164. Radiated Restricted Upper Band Edge Plot (Average – UNII Band 2A)

FCC ID: A3LSMG9009D	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Reviewed by: Quality Manager
Test Report S/N: 0Y1402040301.A3L	Test Dates: 2/6-2/26/2014	EUT Type: Portable Handset		Page 144 of 181

Radiated Band Edge Measurements (40MHz BW) (Cont'd) §15.407(b)(1) and (2), §15.205 & §15.209; RSS-210 [A9.2]



Date: 7.FEB.2014 01:44:15

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

FCC ID: A3LSMG9009D	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Reviewed by: Quality Manager
Test Report S/N: 0Y1402040301.A3L	Test Dates: 2/6-2/26/2014	EUT Type: Portable Handset		Page 145 of 181

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

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

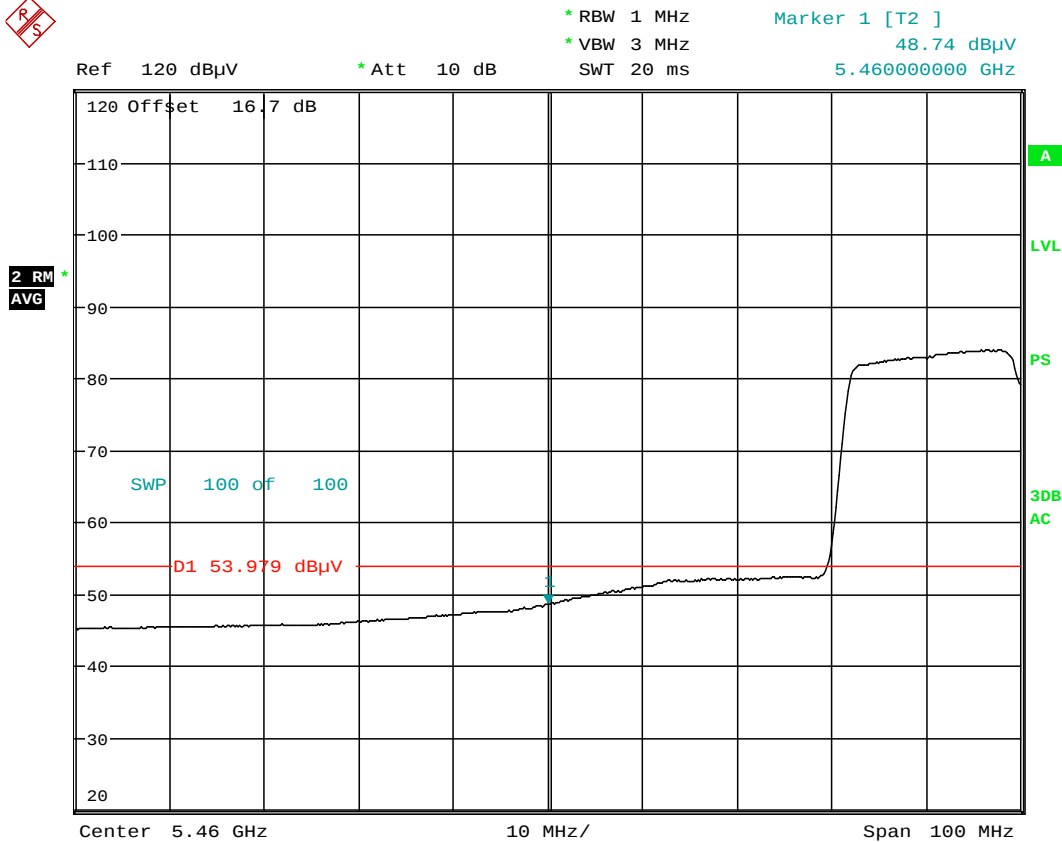
Worst Case Mode: 802.11n (40MHz)

Worst Case Transfer Rate: MCS0

Distance of Measurements: 3 Meters

Operating Frequency: 5510MHz

Channel: 102



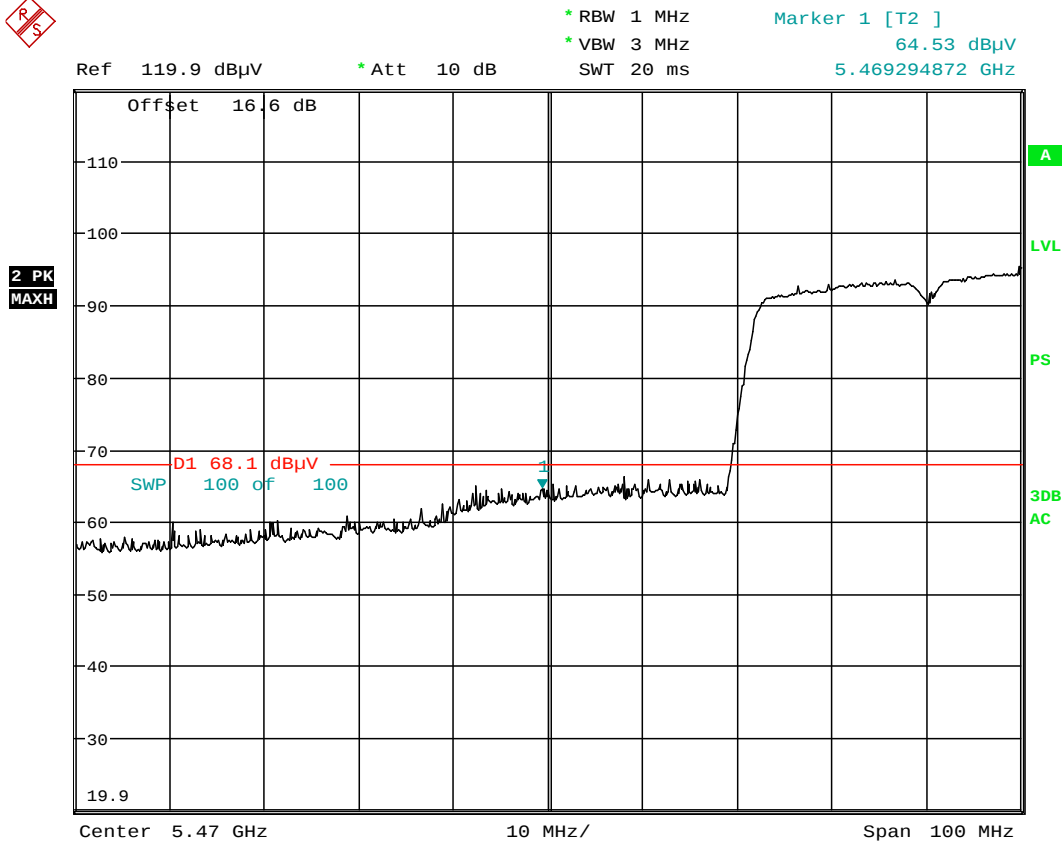
Date: 7.FEB.2014 01:48:28

Plot 6-166. Radiated Restricted Lower Band Edge Plot (Average – UNII Band 2C)

FCC ID: A3LSMG9009D	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Reviewed by: Quality Manager
Test Report S/N: 0Y1402040301.A3L	Test Dates: 2/6-2/26/2014	EUT Type: Portable Handset		Page 146 of 181

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

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



Date: 7.FEB.2014 01:49:36

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

FCC ID: A3LSMG9009D	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Reviewed by: Quality Manager
Test Report S/N: 0Y1402040301.A3L	Test Dates: 2/6-2/26/2014	EUT Type: Portable Handset		Page 147 of 181

Radiated Band Edge Measurements (40MHz BW) (Cont'd) §15.407(b)(1) and (2), §15.205 & §15.209; RSS-210 [A9.2]

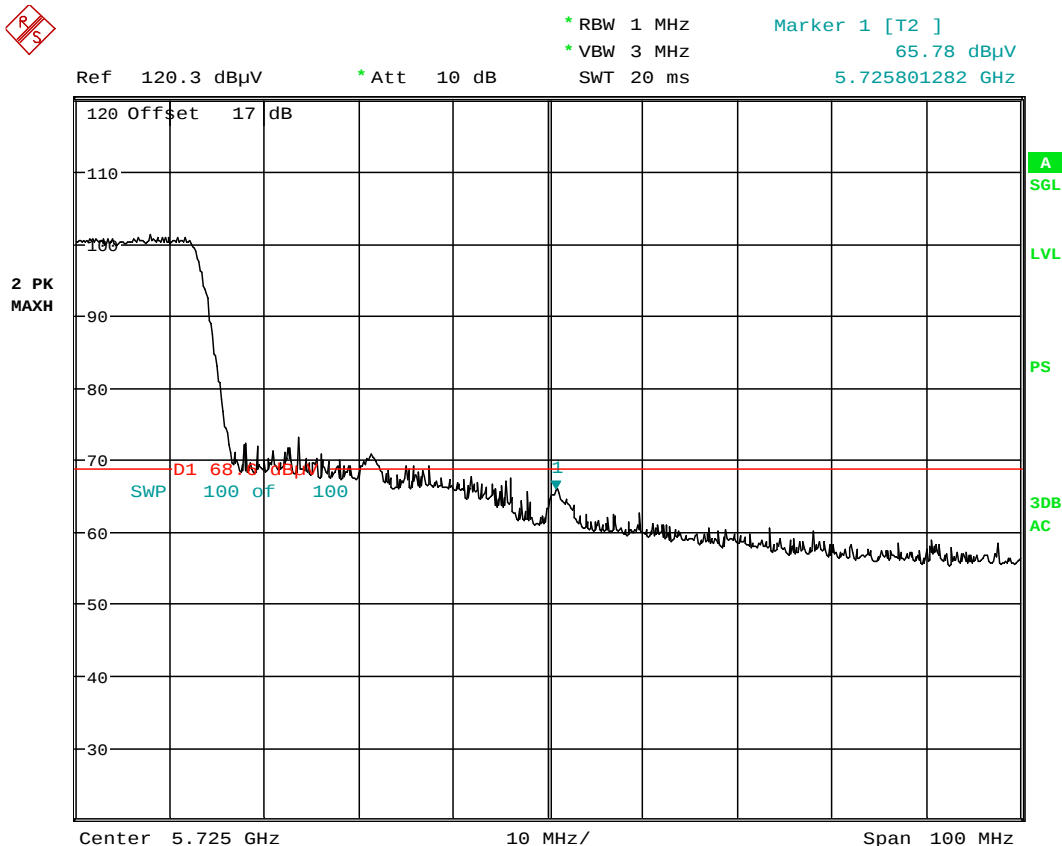
Worst Case Mode: 802.11n (40MHz)

Worst Case Transfer Rate: MCS0

Distance of Measurements: 3 Meters

Operating Frequency: 5670MHz

Channel: 134



Date: 7.FEB.2014 01:52:34

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

FCC ID: A3LSMG9009D	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Reviewed by: Quality Manager
Test Report S/N: 0Y1402040301.A3L	Test Dates: 2/6-2/26/2014	EUT Type: Portable Handset		Page 148 of 181

6.13 Radiated Band Edge Measurements (80MHz BW) – ANTENNA 2

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

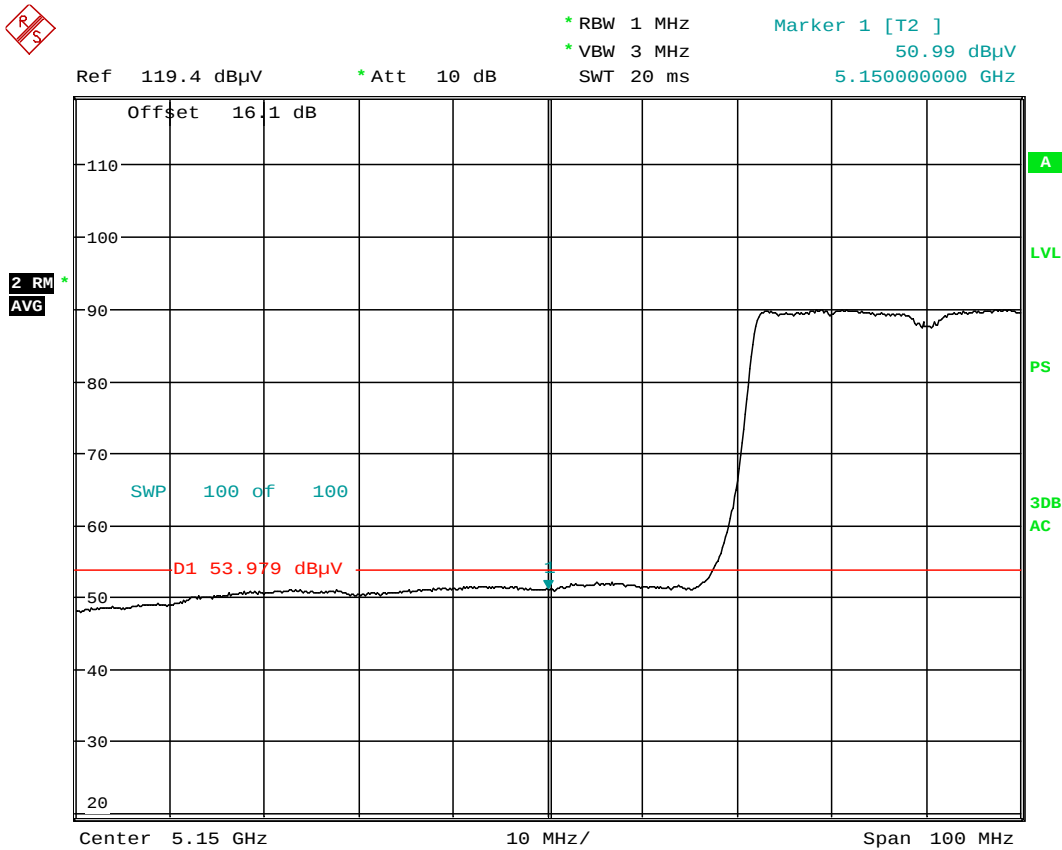
Worst Case Mode: 802.11ac (80MHz)

Worst Case Transfer Rate: MCS0

Distance of Measurements: 3 Meters

Operating Frequency: 5210MHz

Channel: 42

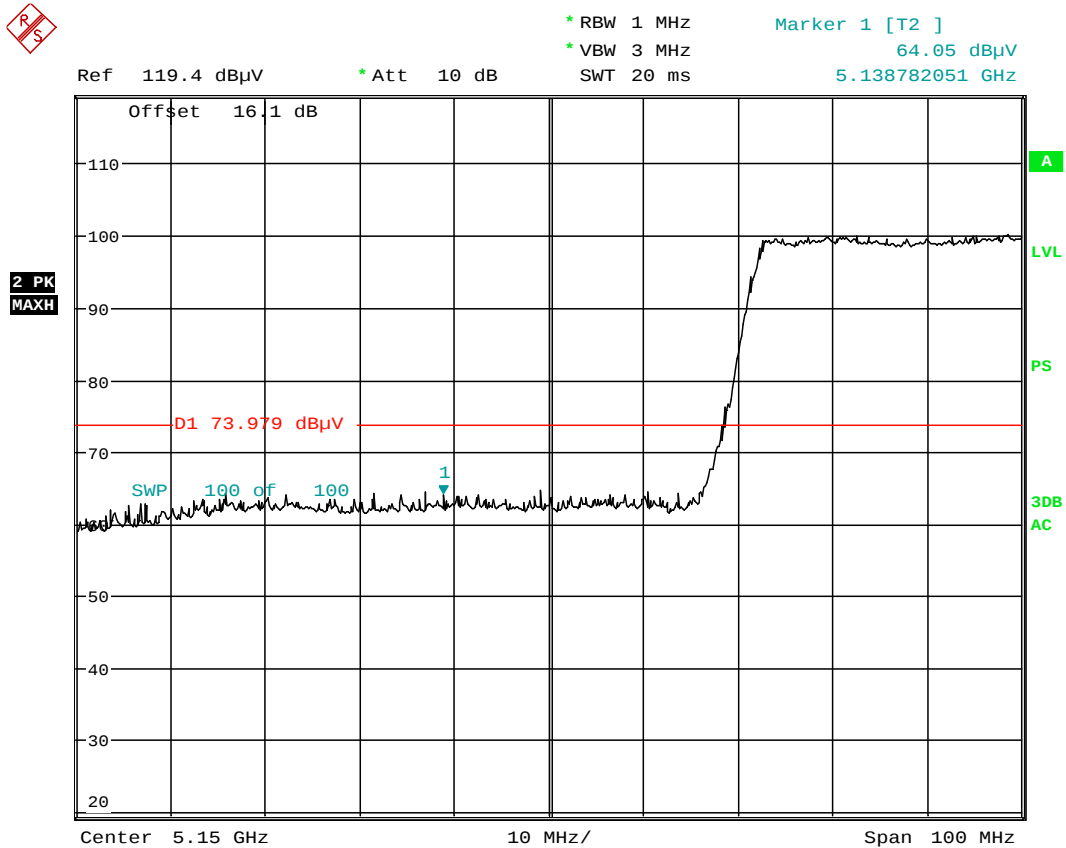


Date: 7.FEB.2014 01:55:38

Plot 6-169. Radiated Restricted Lower Band Edge Plot (Average – UNII Band 1)

FCC ID: A3LSMG9009D	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Reviewed by: Quality Manager
Test Report S/N: 0Y1402040301.A3L	Test Dates: 2/6-2/26/2014	EUT Type: Portable Handset		Page 149 of 181

Radiated Band Edge Measurements (80MHz BW) (Cont'd)
§15.407(b)(1) and (2), §15.205 & §15.209; RSS-210 [A9.2]



Date: 7.FEB.2014 01:56:29

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

FCC ID: A3LSMG9009D	 FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION) 		Reviewed by: Quality Manager
Test Report S/N: 0Y1402040301.A3L	Test Dates: 2/6-2/26/2014	EUT Type: Portable Handset	Page 150 of 181

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

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

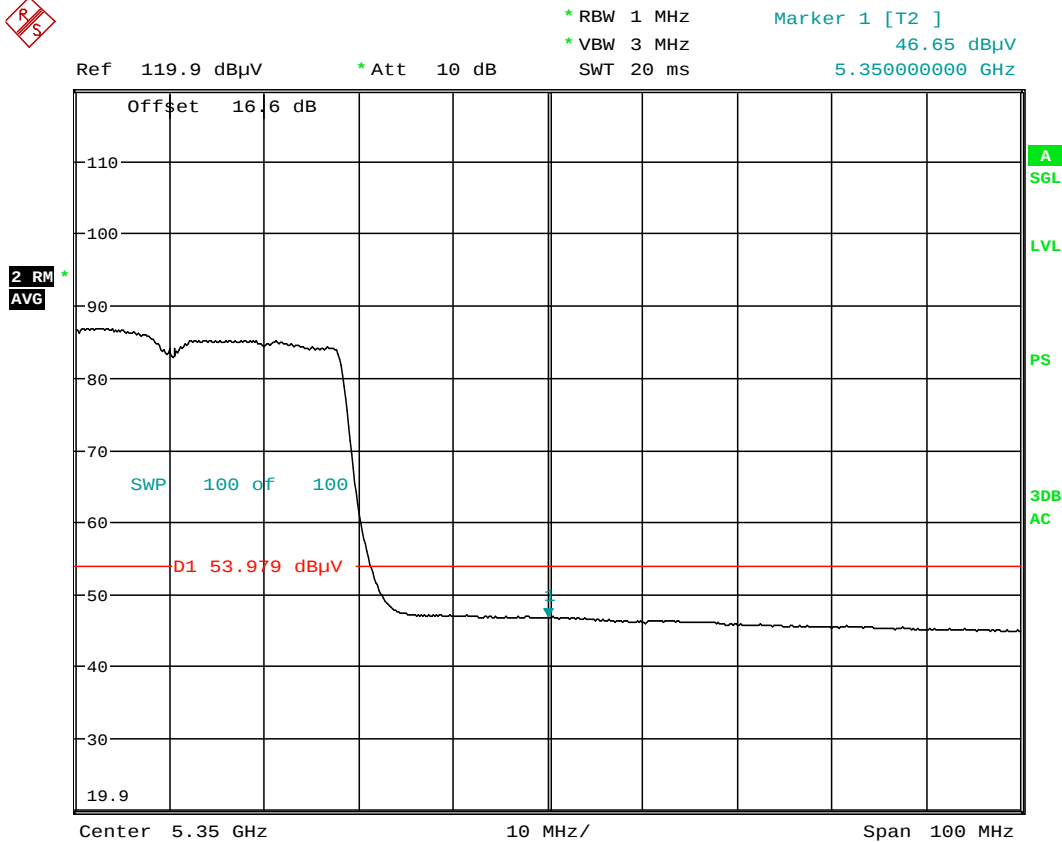
Worst Case Mode: 802.11ac (80MHz)

Worst Case Transfer Rate: MCS0

Distance of Measurements: 3 Meters

Operating Frequency: 5290MHz

Channel: 58

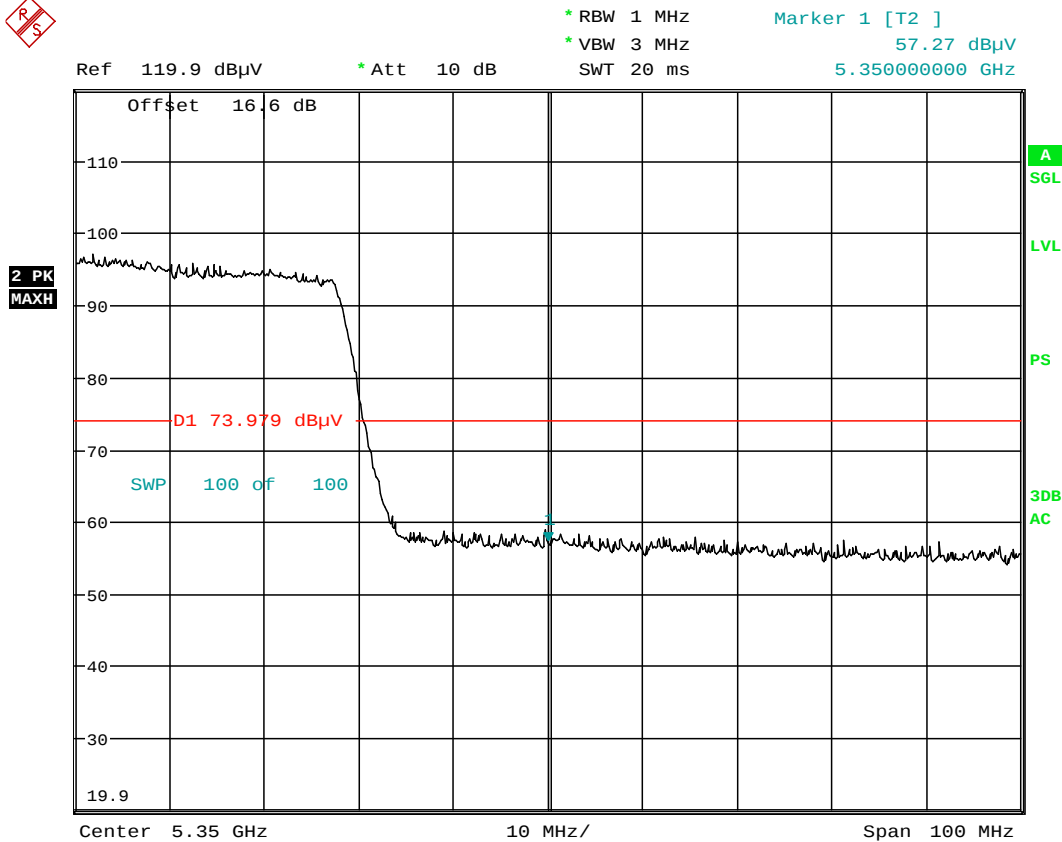


Date: 7.FEB.2014 01:59:07

Plot 6-171. Radiated Restricted Upper Band Edge Plot (Average – UNII Band 2A)

FCC ID: A3LSMG9009D	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Reviewed by: Quality Manager
Test Report S/N: 0Y1402040301.A3L	Test Dates: 2/6-2/26/2014	EUT Type: Portable Handset		Page 151 of 181

Radiated Band Edge Measurements (80MHz BW) (Cont'd) §15.407(b)(1) and (2), §15.205 & §15.209; RSS-210 [A9.2]



Date: 7.FEB.2014 01:59:57

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

FCC ID: A3LSMG9009D	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Reviewed by: Quality Manager
Test Report S/N: 0Y1402040301.A3L	Test Dates: 2/6-2/26/2014	EUT Type: Portable Handset		Page 152 of 181

Radiated Band Edge Measurements (80MHz BW) (Cont'd) §15.407(b)(1) and (2), §15.205 & §15.209; RSS-210 [A9.2]

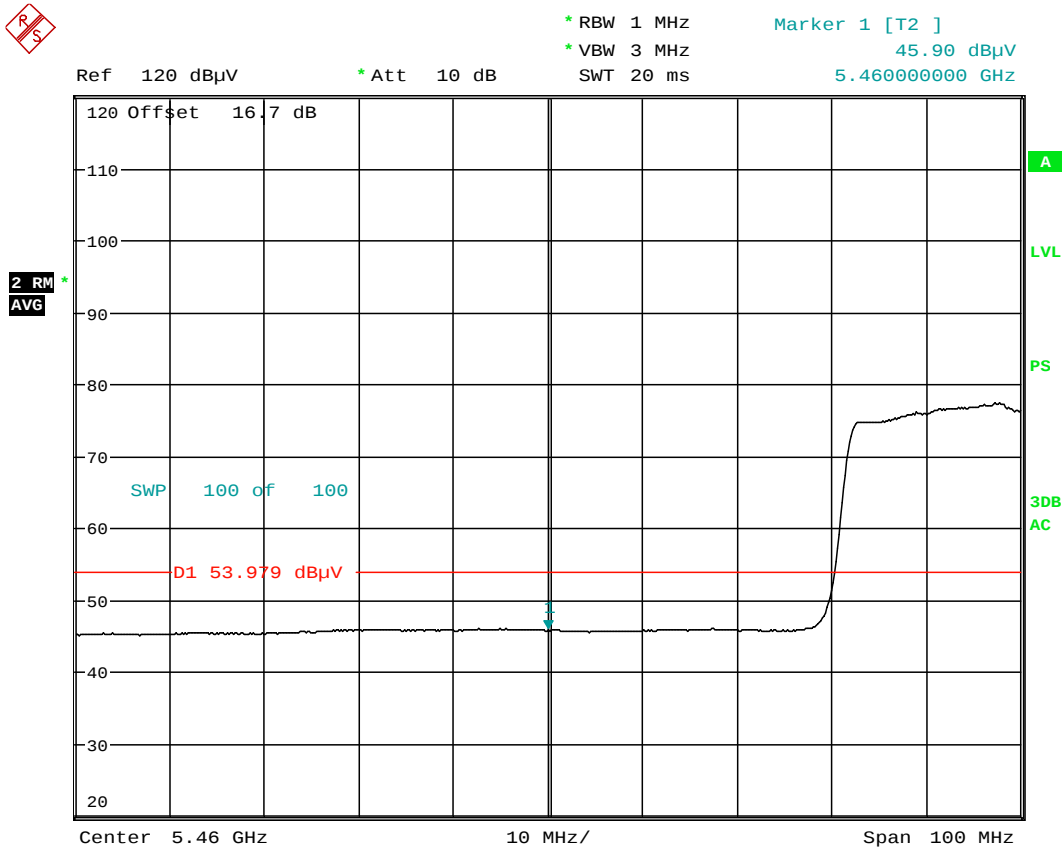
Worst Case Mode: 802.11ac (80MHz)

Worst Case Transfer Rate: MCS0

Distance of Measurements: 3 Meters

Operating Frequency: 5530MHz

Channel: 106

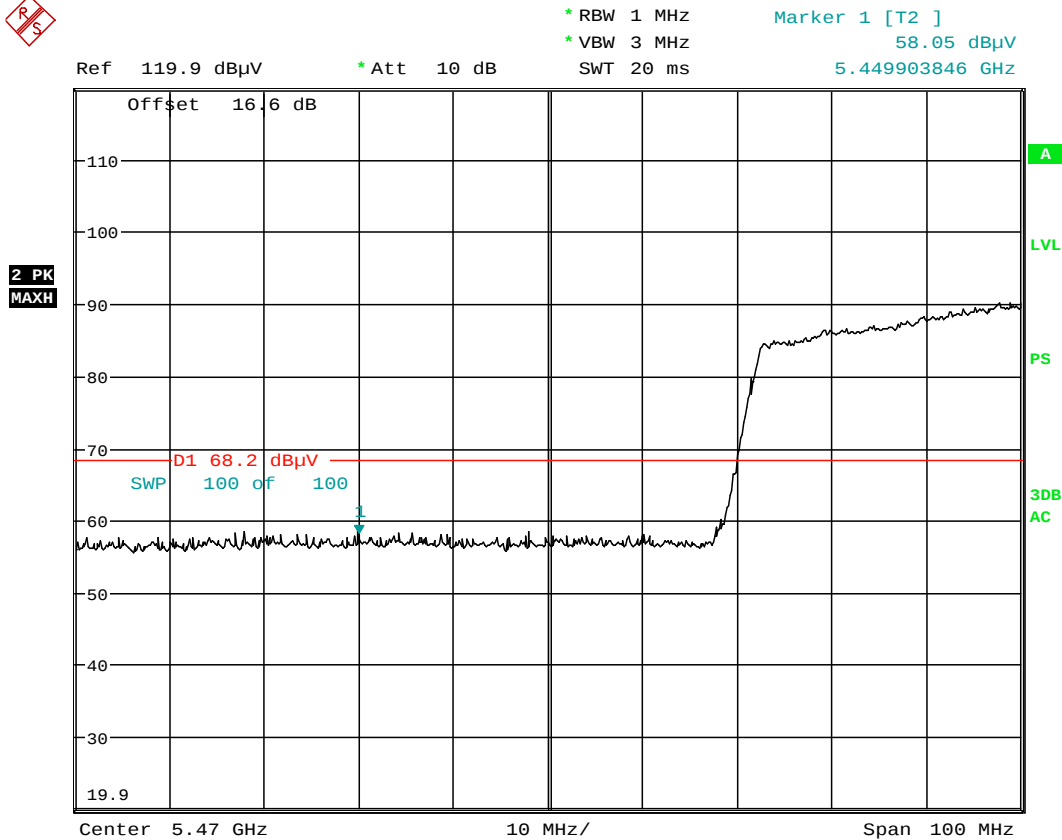


Date: 7.FEB.2014 02:05:14

Plot 6-173. Radiated Restricted Lower Band Edge Plot (Average – UNII Band 2C)

FCC ID: A3LSMG9009D	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Reviewed by: Quality Manager
Test Report S/N: 0Y1402040301.A3L	Test Dates: 2/6-2/26/2014	EUT Type: Portable Handset		Page 153 of 181

Radiated Band Edge Measurements (80MHz BW) (Cont'd) §15.407(b)(1) and (2), §15.205 & §15.209; RSS-210 [A9.2]



Date: 7.FEB.2014 02:06:32

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

FCC ID: A3LSMG9009D	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Reviewed by: Quality Manager
Test Report S/N: 0Y1402040301.A3L	Test Dates: 2/6-2/26/2014	EUT Type: Portable Handset		Page 154 of 181

6.14 MIMO Radiated Band Edge Measurements (20MHz BW) – MIMO

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

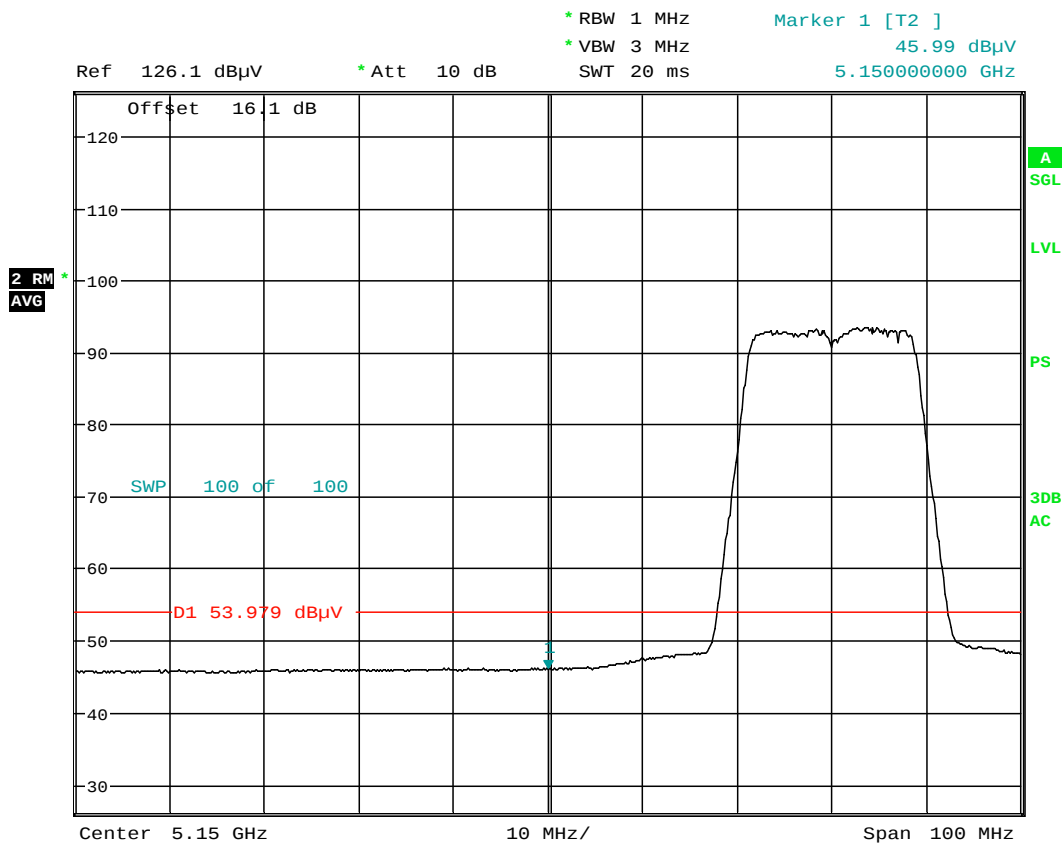
Worst Case Mode: 802.11n (20MHz)

Worst Case Transfer Rate: MCS8

Distance of Measurements: 3 Meters

Operating Frequency: 5180MHz

Channel: 36

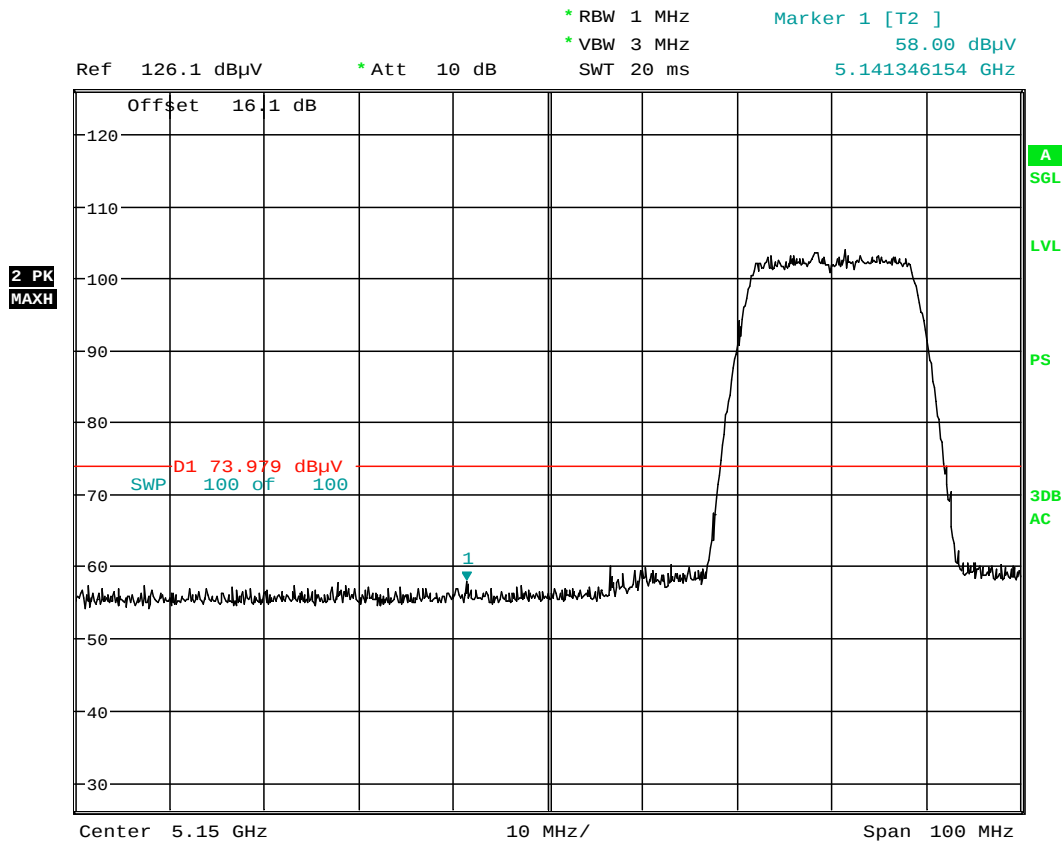


Date: 11.FEB.2014 02:29:24

Plot 6-175. Radiated Restricted Lower Band Edge Plot (Average – UNII Band 1)

FCC ID: A3LSMG9009D	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Reviewed by: Quality Manager
Test Report S/N: 0Y1402040301.A3L	Test Dates: 2/6-2/26/2014	EUT Type: Portable Handset		Page 155 of 181

Radiated Band Edge Measurements (20MHz BW) (Cont'd) §15.407(b)(1) and (2), §15.205 & §15.209; RSS-210 [A9.2]



Date: 11.FEB.2014 02:30:02

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

FCC ID: A3LSMG9009D	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Reviewed by: Quality Manager
Test Report S/N: 0Y1402040301.A3L	Test Dates: 2/6-2/26/2014	EUT Type: Portable Handset		Page 156 of 181

Radiated Band Edge Measurements (20MHz BW) (Cont'd) §15.407(b)(1) and (2), §15.205 & §15.209; RSS-210 [A9.2]

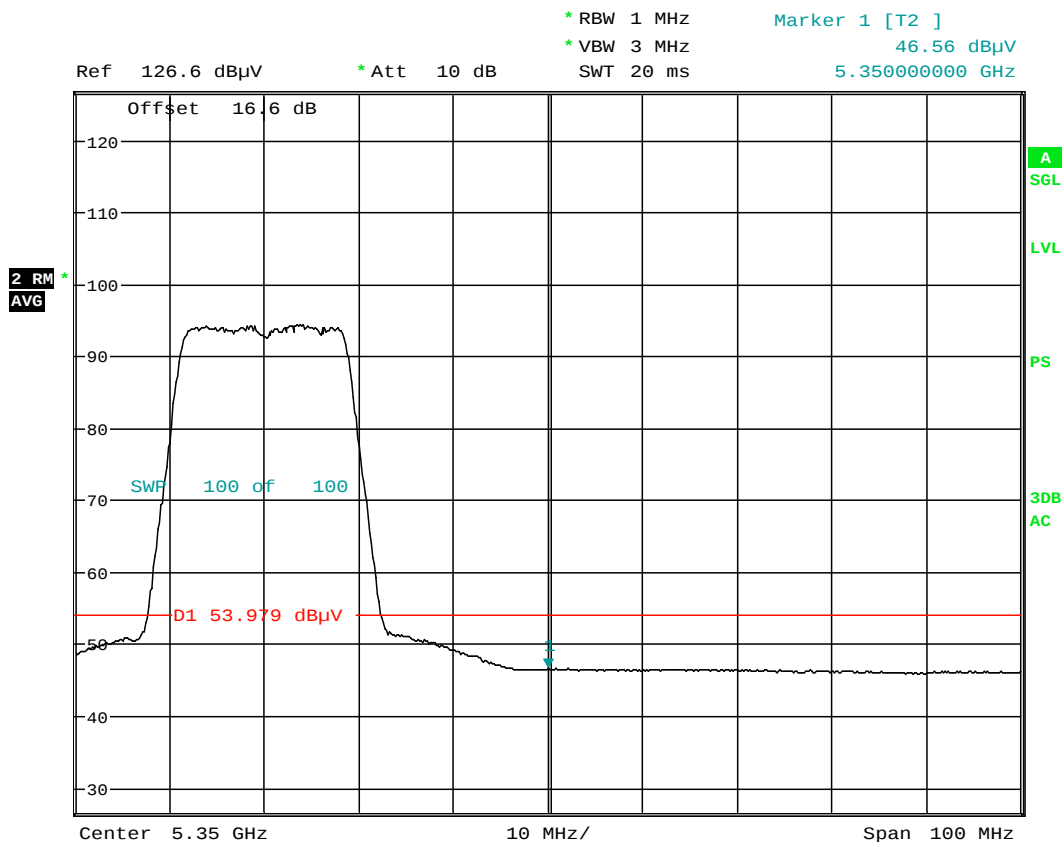
Worst Case Mode: 802.11n (20MHz)

Worst Case Transfer Rate: MCS8

Distance of Measurements: 3 Meters

Operating Frequency: 5320MHz

Channel: 64

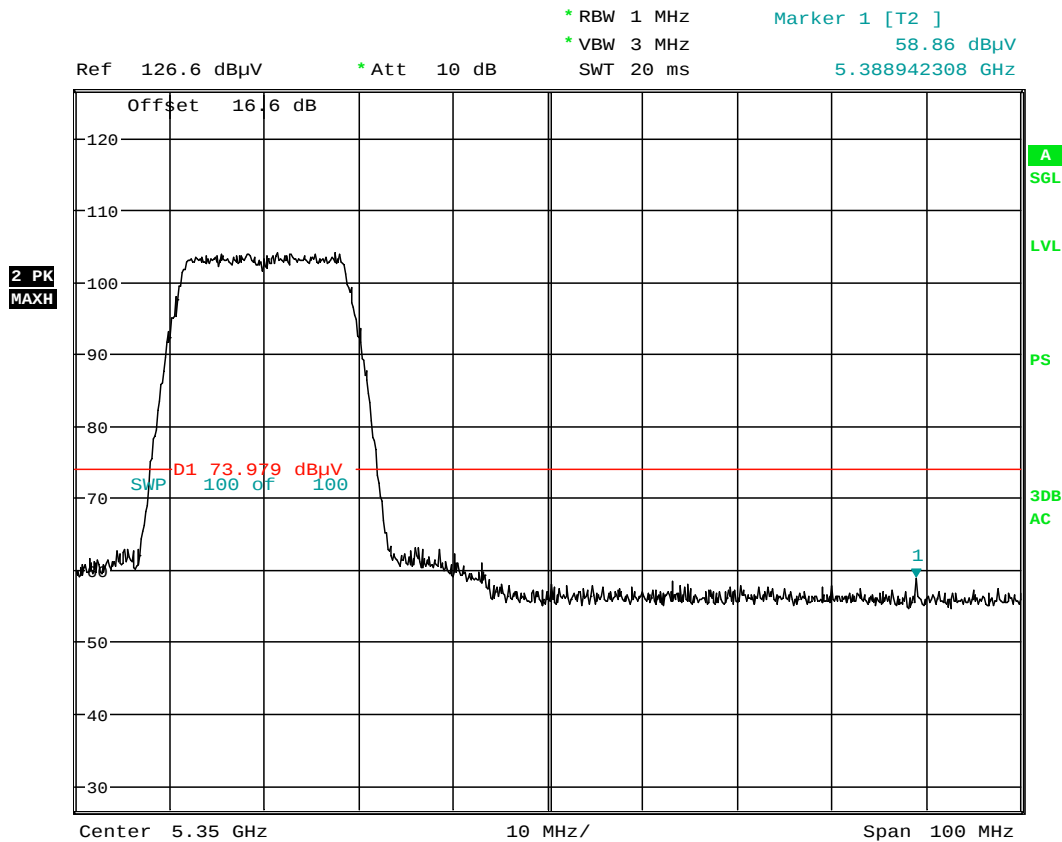


Date: 11.FEB.2014 02:32:05

Plot 6-177. Radiated Restricted Upper Band Edge Plot (Average – UNII Band 2A)

FCC ID: A3LSMG9009D	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Reviewed by: Quality Manager
Test Report S/N: 0Y1402040301.A3L	Test Dates: 2/6-2/26/2014	EUT Type: Portable Handset		Page 157 of 181

Radiated Band Edge Measurements (20MHz BW) (Cont'd) §15.407(b)(1) and (2), §15.205 & §15.209; RSS-210 [A9.2]



Date: 11.FEB.2014 02:32:48

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

FCC ID: A3LSMG9009D	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Reviewed by: Quality Manager
Test Report S/N: 0Y1402040301.A3L	Test Dates: 2/6-2/26/2014	EUT Type: Portable Handset		Page 158 of 181

Radiated Band Edge Measurements (20MHz BW) (Cont'd) §15.407(b)(1) and (2), §15.205 & §15.209; RSS-210 [A9.2]

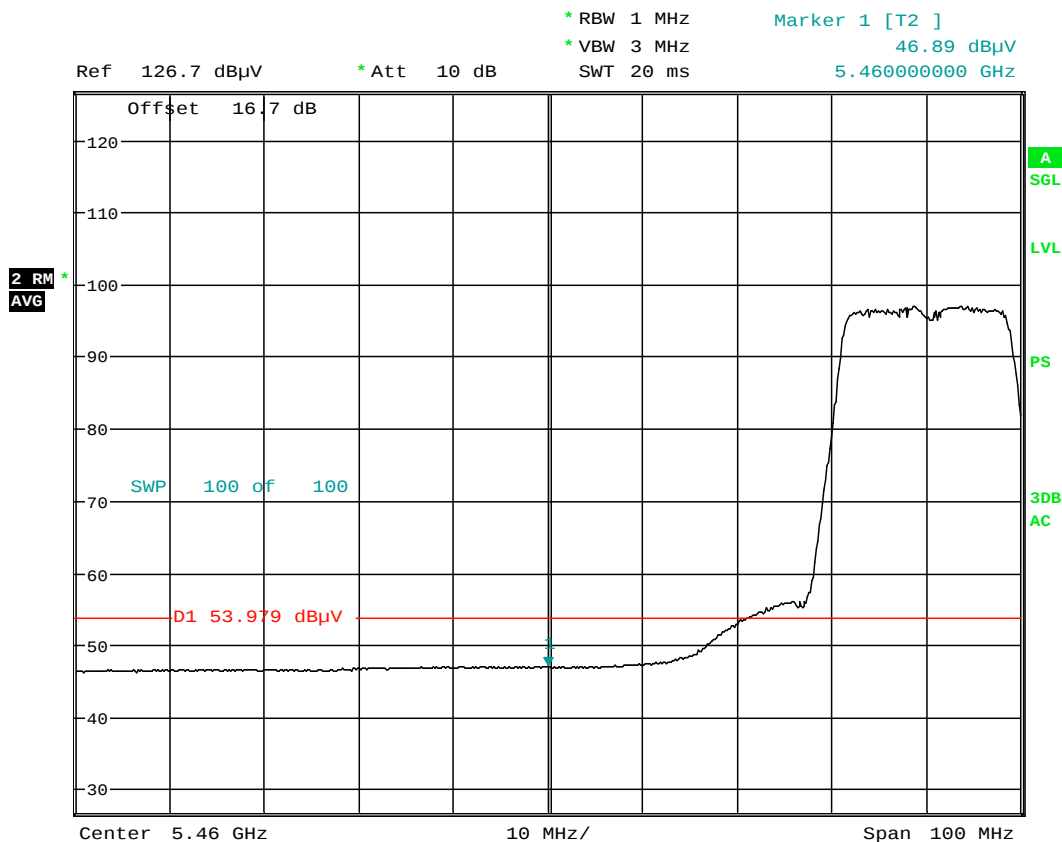
Worst Case Mode: 802.11n (20MHz)

Worst Case Transfer Rate: MCS0

Distance of Measurements: 3 Meters

Operating Frequency: 5500MHz

Channel: 100

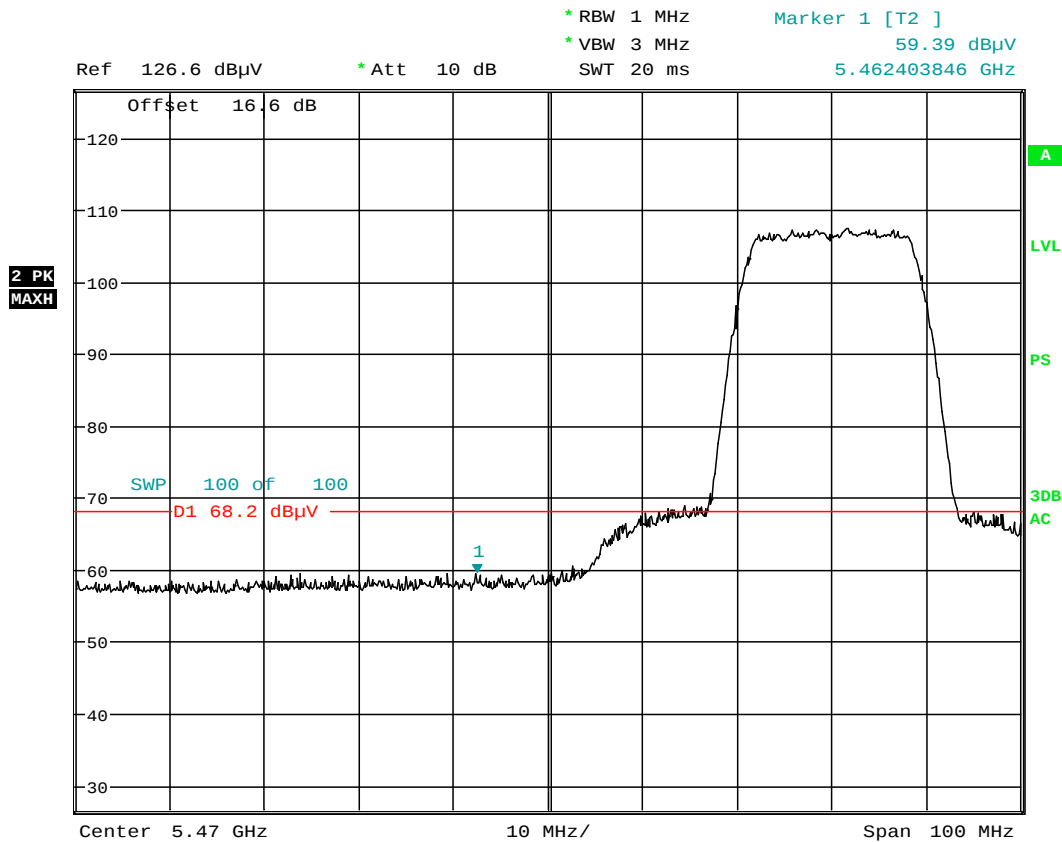


Date: 11.FEB.2014 02:35:04

Plot 6-179. Radiated Restricted Lower Band Edge Plot (Average – UNII Band 2C)

FCC ID: A3LSMG9009D	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Reviewed by: Quality Manager
Test Report S/N: 0Y1402040301.A3L	Test Dates: 2/6-2/26/2014	EUT Type: Portable Handset		Page 159 of 181

Radiated Band Edge Measurements (20MHz BW) (Cont'd) §15.407(b)(1) and (2), §15.205 & §15.209; RSS-210 [A9.2]



Date: 11.FEB.2014 02:38:49

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

FCC ID: A3LSMG9009D	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Reviewed by: Quality Manager
Test Report S/N: 0Y1402040301.A3L	Test Dates: 2/6-2/26/2014	EUT Type: Portable Handset		Page 160 of 181

Radiated Band Edge Measurements (20MHz BW) (Cont'd) §15.407(b)(1) and (2), §15.205 & §15.209; RSS-210 [A9.2]

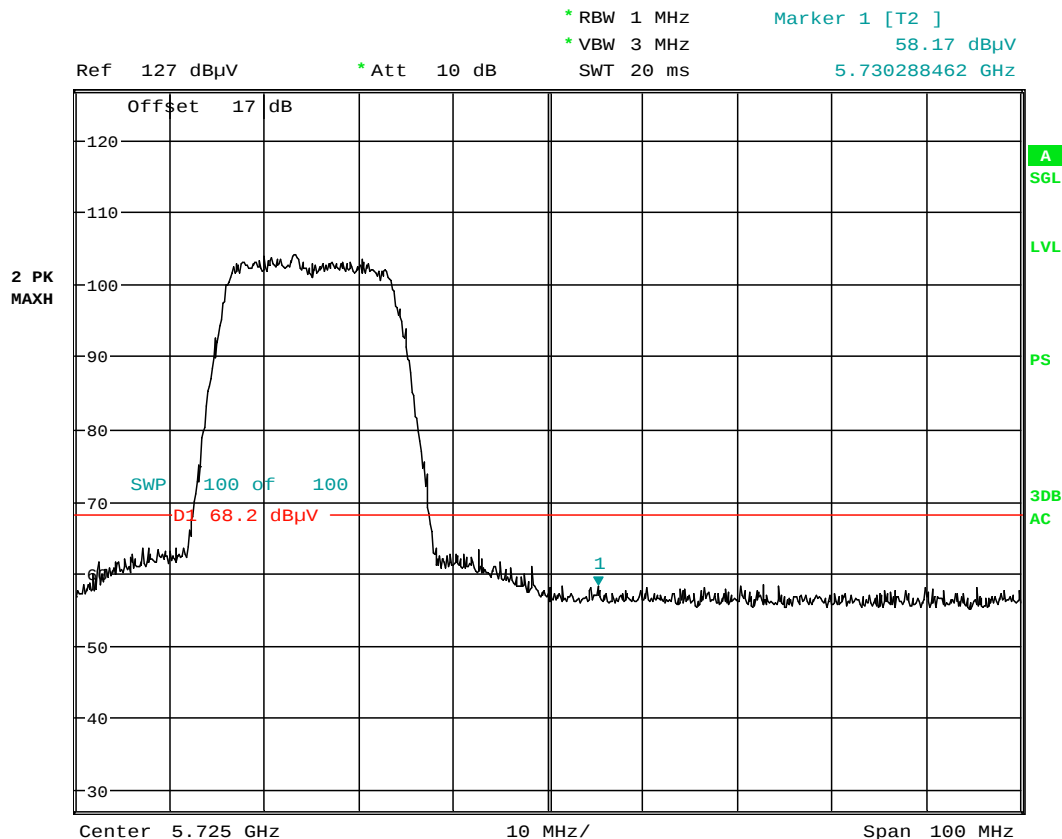
Worst Case Mode: 802.11n (20MHz)

Worst Case Transfer Rate: MCS8

Distance of Measurements: 3 Meters

Operating Frequency: 5700MHz

Channel: 140



Date: 11.FEB.2014 02:41:35

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

FCC ID: A3LSMG9009D	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Reviewed by: Quality Manager
Test Report S/N: 0Y1402040301.A3L	Test Dates: 2/6-2/26/2014	EUT Type: Portable Handset		Page 161 of 181

6.15 Radiated Band Edge Measurements (40MHz BW) – MIMO

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

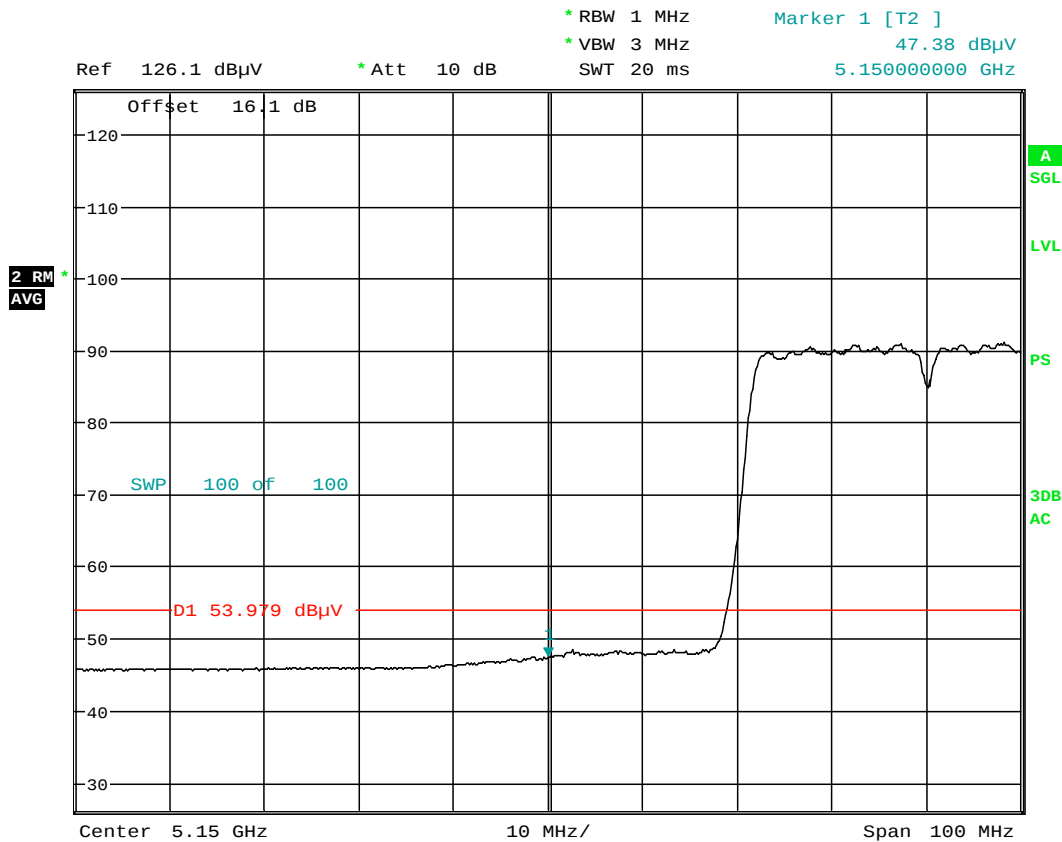
Worst Case Mode: 802.11n (40MHz)

Worst Case Transfer Rate: MCS0

Distance of Measurements: 3 Meters

Operating Frequency: 5190MHz

Channel: 38



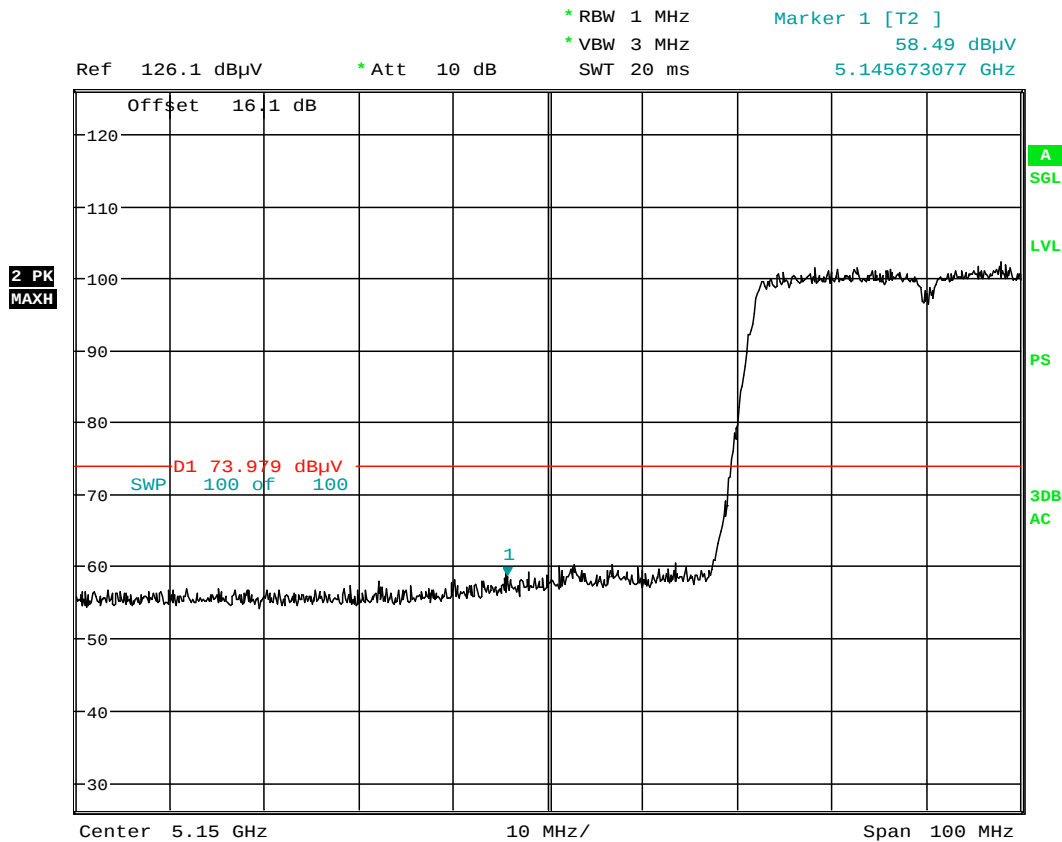
Date: 11.FEB.2014 03:32:30

Plot 6-182. Radiated Restricted Lower Band Edge Plot (Average – UNII Band 1)

FCC ID: A3LSMG9009D	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Reviewed by: Quality Manager
Test Report S/N: 0Y1402040301.A3L	Test Dates: 2/6-2/26/2014	EUT Type: Portable Handset		Page 162 of 181

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

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



Date: 11.FEB.2014 03:33:10

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

FCC ID: A3LSMG9009D	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Reviewed by: Quality Manager
Test Report S/N: 0Y1402040301.A3L	Test Dates: 2/6-2/26/2014	EUT Type: Portable Handset		Page 163 of 181

Radiated Band Edge Measurements (40MHz BW) (Cont'd) §15.407(b)(1) and (2), §15.205 & §15.209; RSS-210 [A9.2]

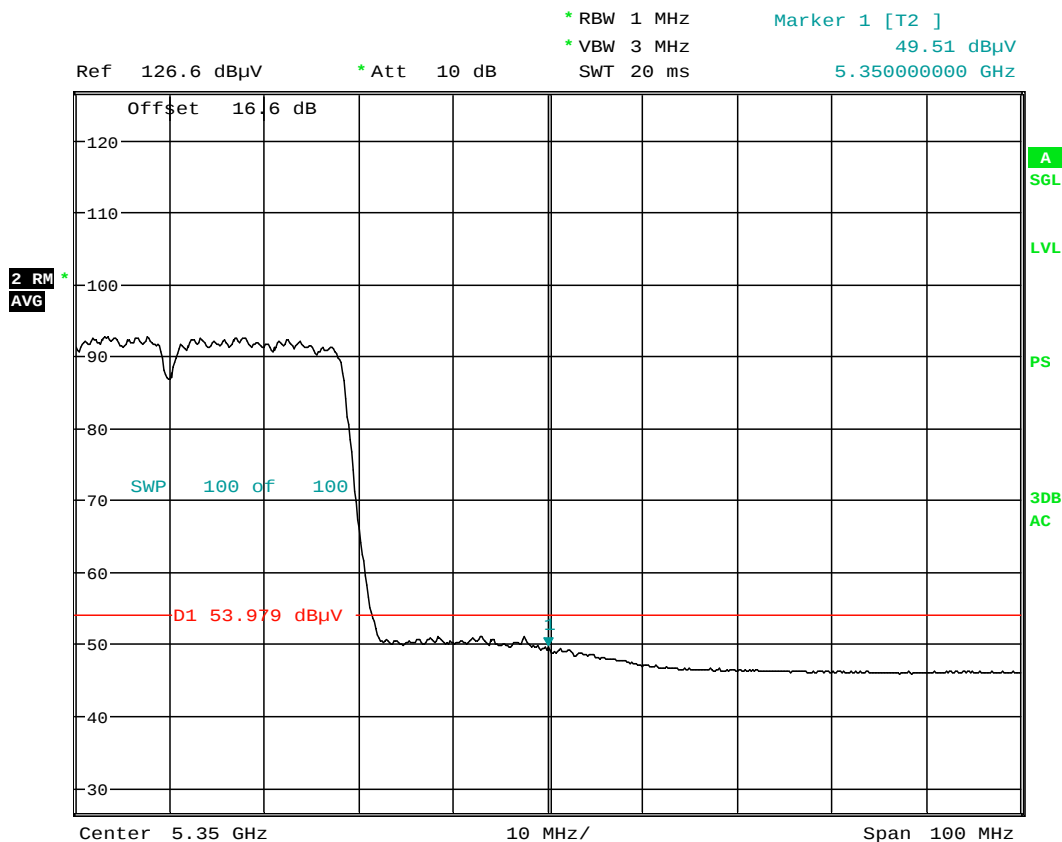
Worst Case Mode: 802.11n (40MHz)

Worst Case Transfer Rate: MCS8

Distance of Measurements: 3 Meters

Operating Frequency: 5310MHz

Channel: 62



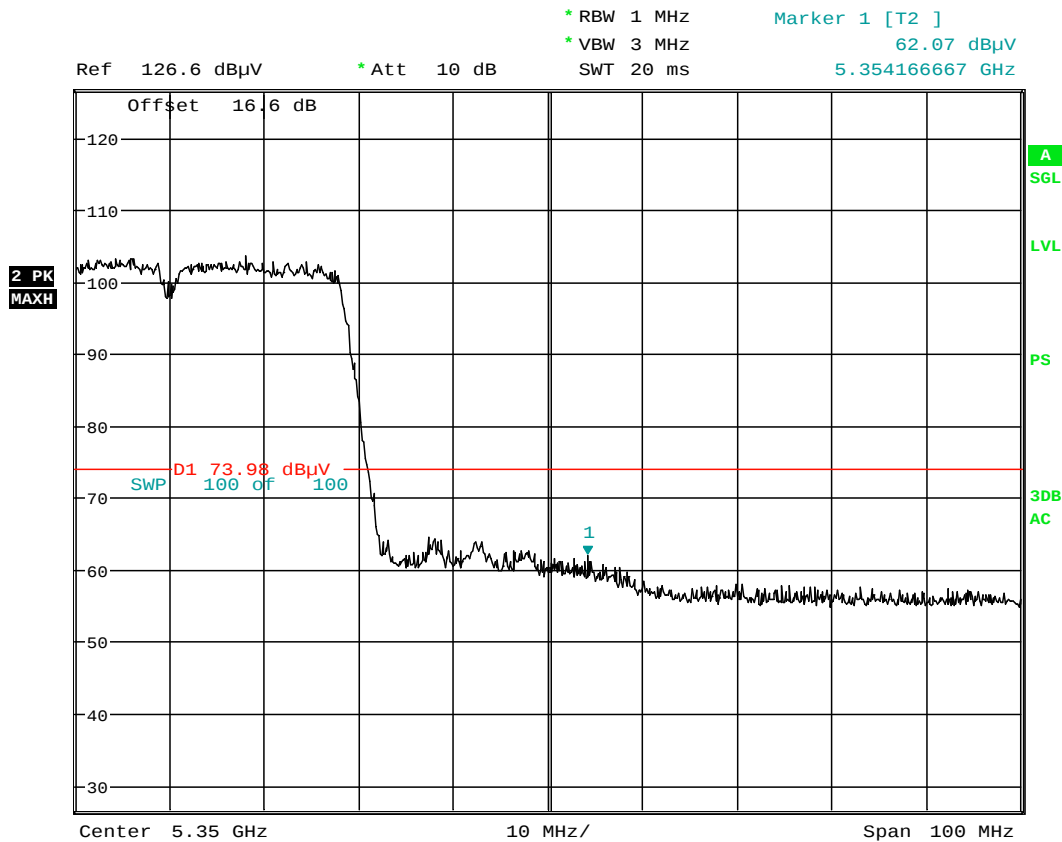
Date: 11.FEB.2014 03:36:21

Plot 6-184. Radiated Restricted Upper Band Edge Plot (Average – UNII Band 2A)

FCC ID: A3LSMG9009D	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Reviewed by: Quality Manager
Test Report S/N: 0Y1402040301.A3L	Test Dates: 2/6-2/26/2014	EUT Type: Portable Handset		Page 164 of 181

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

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



Date: 11.FEB.2014 03:37:05

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

FCC ID: A3LSMG9009D	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Reviewed by: Quality Manager
Test Report S/N: 0Y1402040301.A3L	Test Dates: 2/6-2/26/2014	EUT Type: Portable Handset		Page 165 of 181

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

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

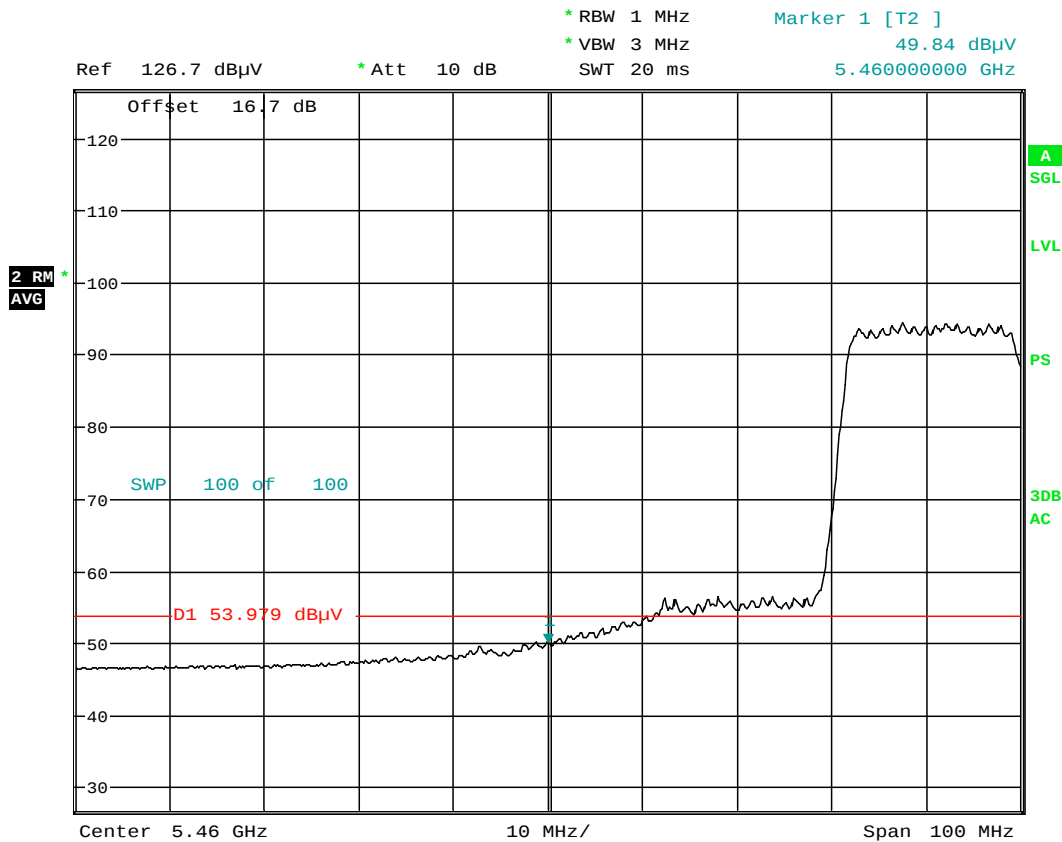
Worst Case Mode: 802.11n (40MHz)

Worst Case Transfer Rate: MCS8

Distance of Measurements: 3 Meters

Operating Frequency: 5510MHz

Channel: 102

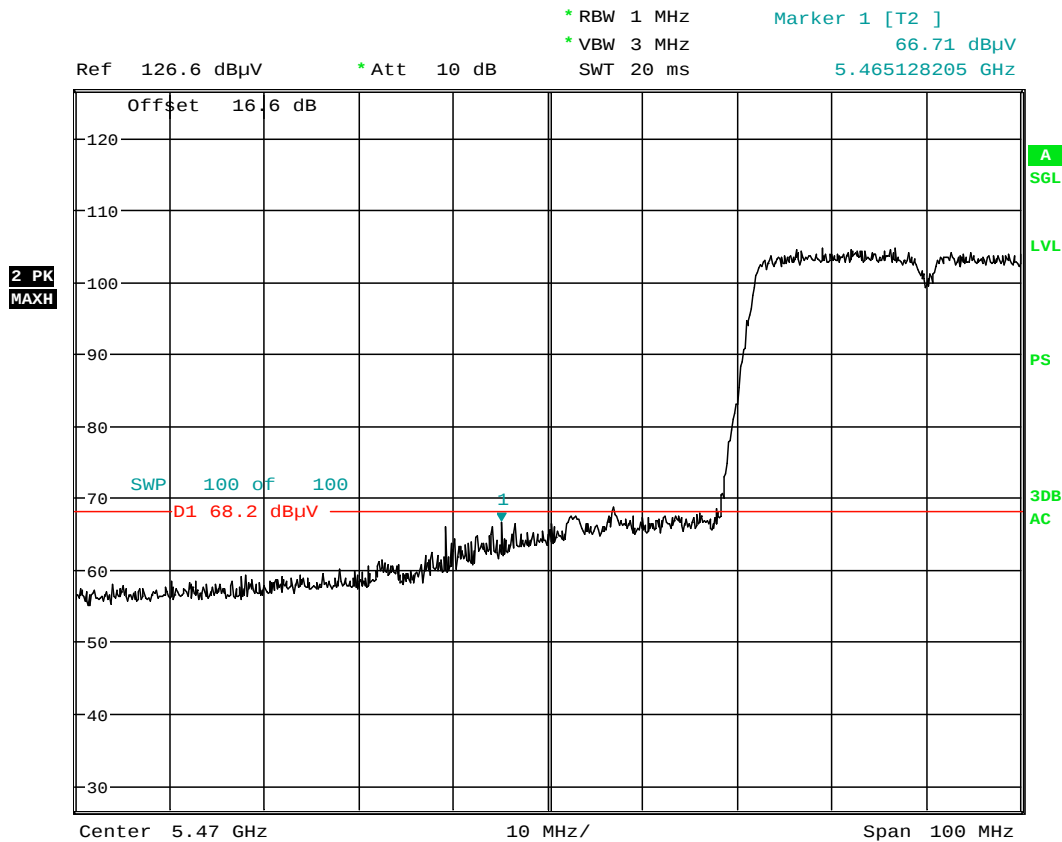


Date: 11.FEB.2014 03:39:41

Plot 6-186. Radiated Restricted Lower Band Edge Plot (Average – UNII Band 2C)

FCC ID: A3LSMG9009D	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Reviewed by: Quality Manager
Test Report S/N: 0Y1402040301.A3L	Test Dates: 2/6-2/26/2014	EUT Type: Portable Handset		Page 166 of 181

Radiated Band Edge Measurements (40MHz BW) (Cont'd) §15.407(b)(1) and (2), §15.205 & §15.209; RSS-210 [A9.2]



Date: 11.FEB.2014 03:41:19

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

FCC ID: A3LSMG9009D	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Reviewed by: Quality Manager
Test Report S/N: 0Y1402040301.A3L	Test Dates: 2/6-2/26/2014	EUT Type: Portable Handset		Page 167 of 181

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

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

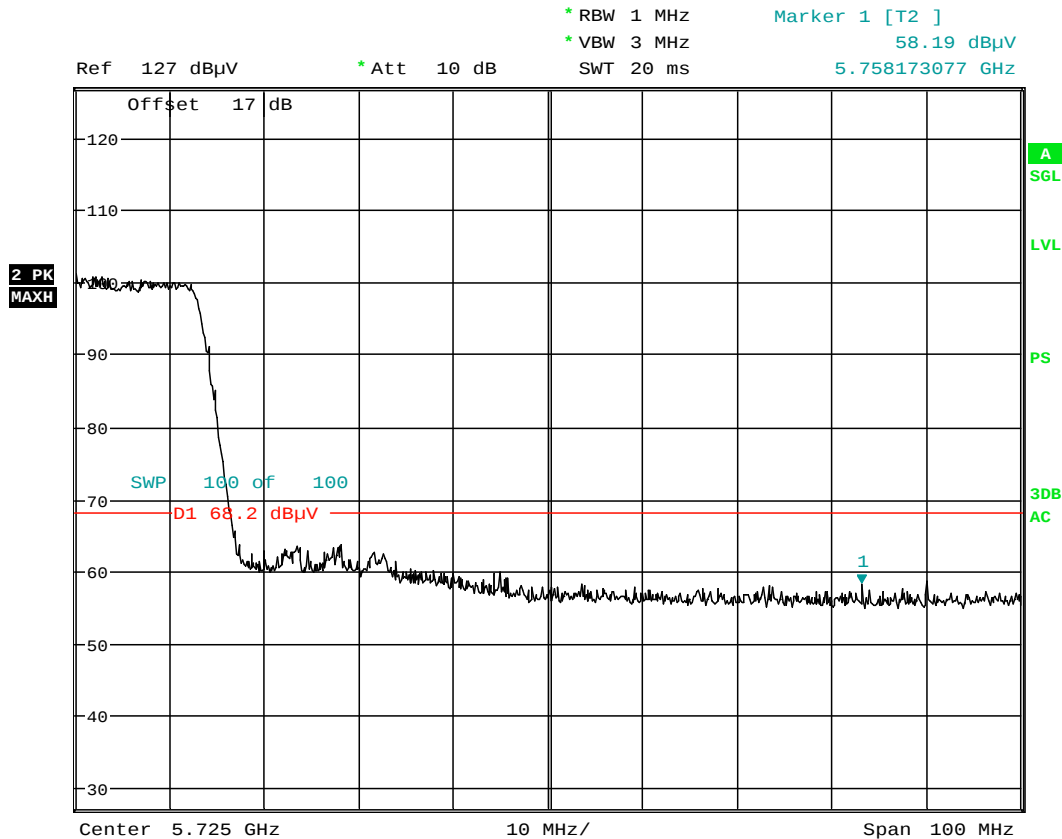
Worst Case Mode: 802.11n (40MHz)

Worst Case Transfer Rate: MCS8

Distance of Measurements: 3 Meters

Operating Frequency: 5670MHz

Channel: 134



Date: 11.FEB.2014 03:43:56

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

FCC ID: A3LSMG9009D	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Reviewed by: Quality Manager
Test Report S/N: 0Y1402040301.A3L	Test Dates: 2/6-2/26/2014	EUT Type: Portable Handset		Page 168 of 181

6.16 Radiated Band Edge Measurements (80MHz BW) – MIMO

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

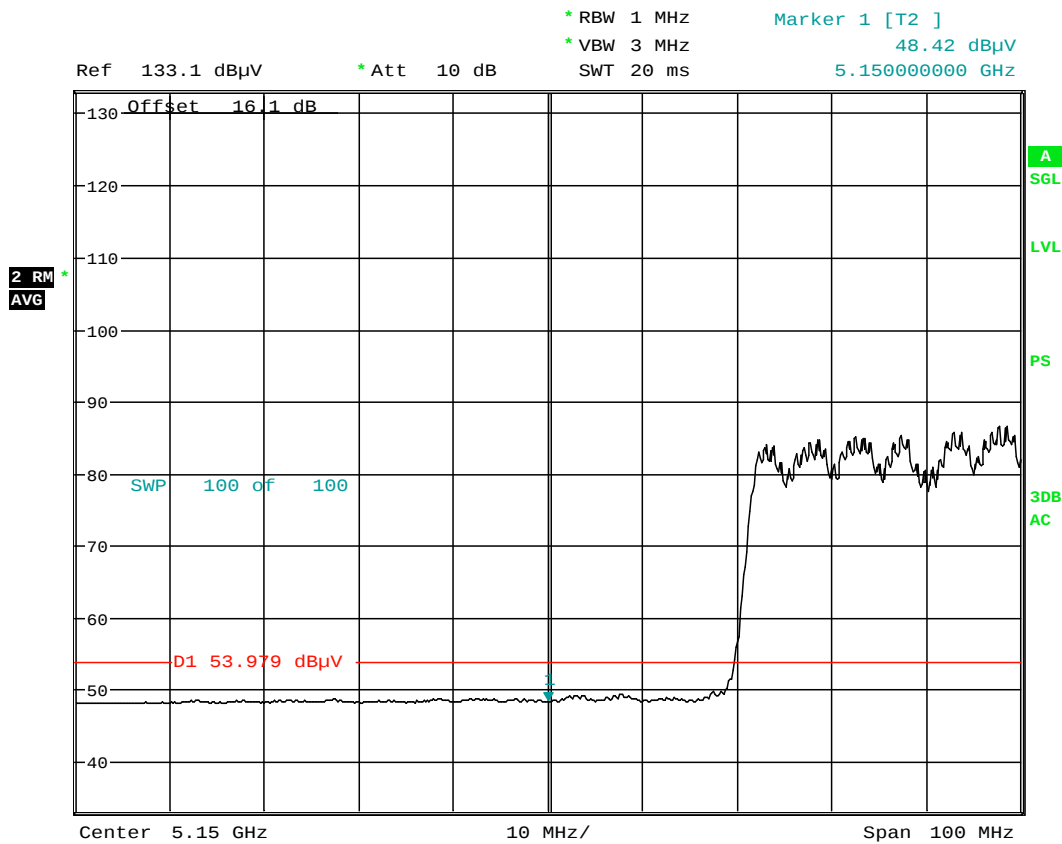
Worst Case Mode: 802.11ac (80MHz)

Worst Case Transfer Rate: MCS8

Distance of Measurements: 3 Meters

Operating Frequency: 5210MHz

Channel: 42



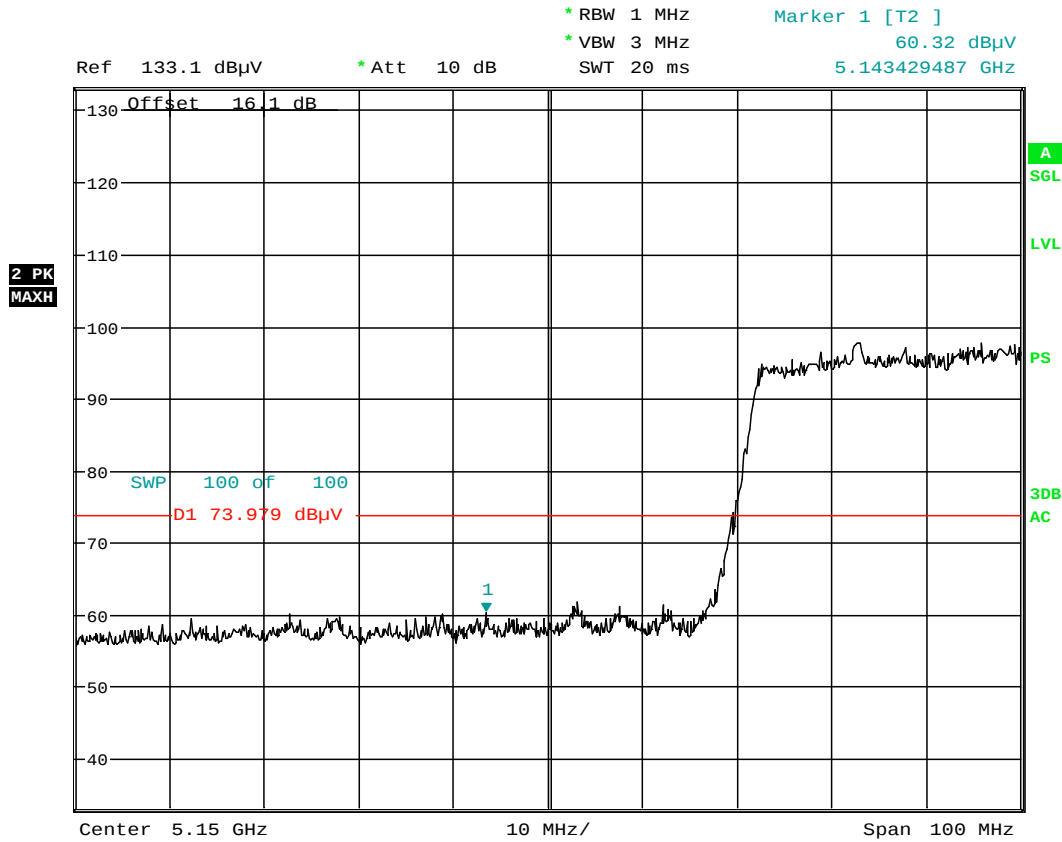
Date: 11.FEB.2014 03:52:06

Plot 6-189. Radiated Restricted Lower Band Edge Plot (Average – UNII Band 1)

FCC ID: A3LSMG9009D	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Reviewed by: Quality Manager
Test Report S/N: 0Y1402040301.A3L	Test Dates: 2/6-2/26/2014	EUT Type: Portable Handset		Page 169 of 181

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

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



Date: 11.FEB.2014 03:52:48

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

FCC ID: A3LSMG9009D	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Reviewed by: Quality Manager
Test Report S/N: 0Y1402040301.A3L	Test Dates: 2/6-2/26/2014	EUT Type: Portable Handset		Page 170 of 181

Radiated Band Edge Measurements (80MHz BW) (Cont'd) §15.407(b)(1) and (2), §15.205 & §15.209; RSS-210 [A9.2]

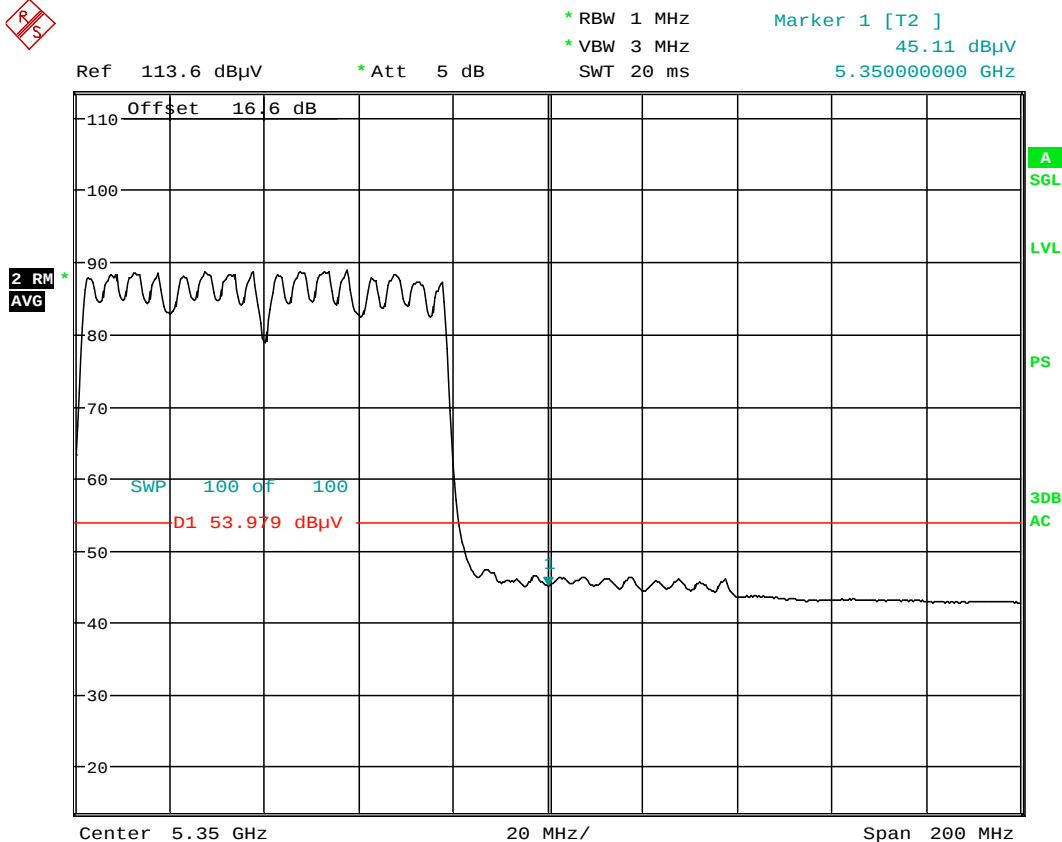
Worst Case Mode: 802.11ac (80MHz)

Worst Case Transfer Rate: MCS8

Distance of Measurements: 3 Meters

Operating Frequency: 5290MHz

Channel: 58

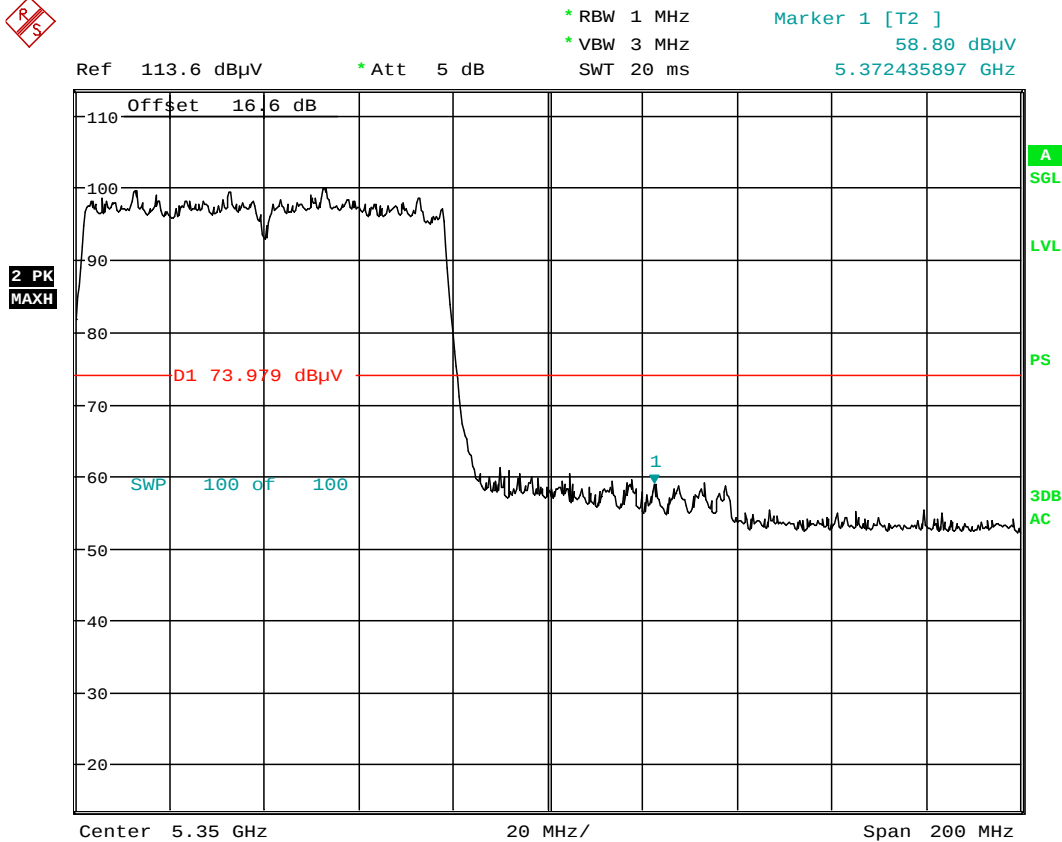


Date: 11.FEB.2014 11:08:16

Plot 6-191. Radiated Restricted Upper Band Edge Plot (Average – UNII Band 2A)

FCC ID: A3LSMG9009D	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Reviewed by: Quality Manager
Test Report S/N: 0Y1402040301.A3L	Test Dates: 2/6-2/26/2014	EUT Type: Portable Handset		Page 171 of 181

Radiated Band Edge Measurements (80MHz BW) (Cont'd) §15.407(b)(1) and (2), §15.205 & §15.209; RSS-210 [A9.2]



Date: 11.FEB.2014 11:09:05

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

FCC ID: A3LSMG9009D	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Reviewed by: Quality Manager
Test Report S/N: 0Y1402040301.A3L	Test Dates: 2/6-2/26/2014	EUT Type: Portable Handset		Page 172 of 181

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

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

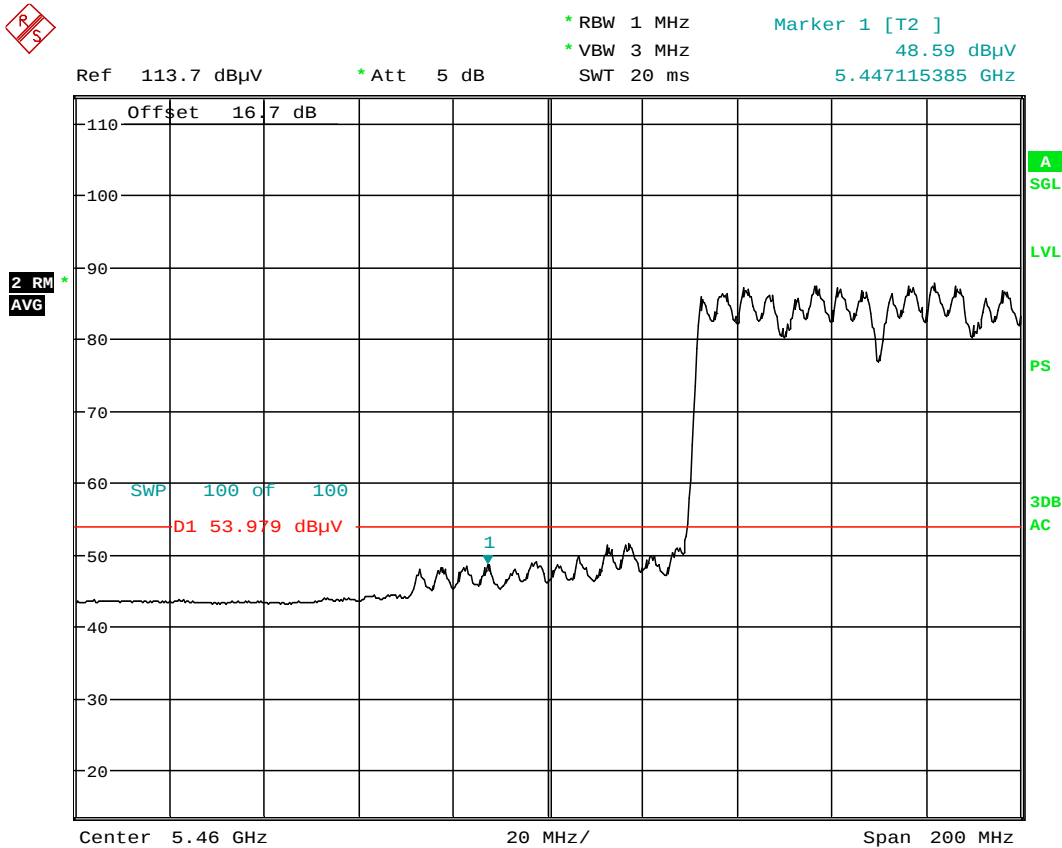
Worst Case Mode: 802.11ac (80MHz)

Worst Case Transfer Rate: MCS8

Distance of Measurements: 3 Meters

Operating Frequency: 5530MHz

Channel: 106

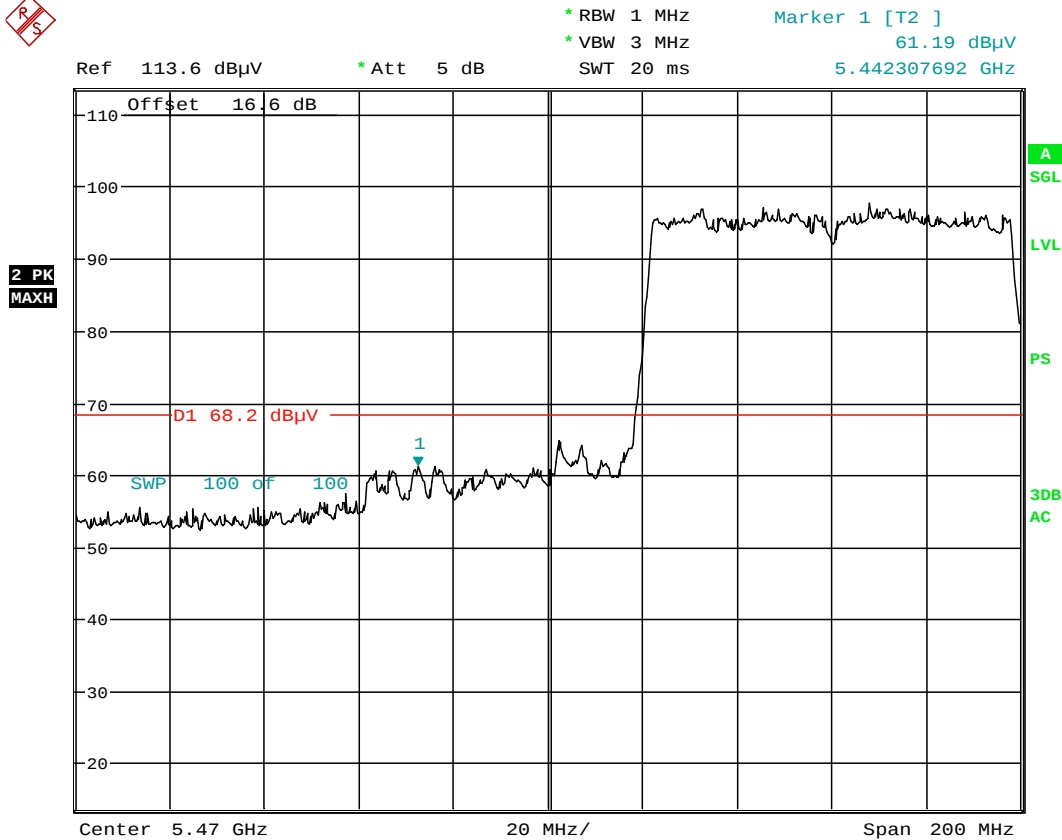


Date: 11.FEB.2014 11:12:56

Plot 6-193. Radiated Restricted Lower Band Edge Plot (Average – UNII Band 2C)

FCC ID: A3LSMG9009D	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Reviewed by: Quality Manager
Test Report S/N: 0Y1402040301.A3L	Test Dates: 2/6-2/26/2014	EUT Type: Portable Handset		Page 173 of 181

Radiated Band Edge Measurements (80MHz BW) (Cont'd) §15.407(b)(1) and (2), §15.205 & §15.209; RSS-210 [A9.2]



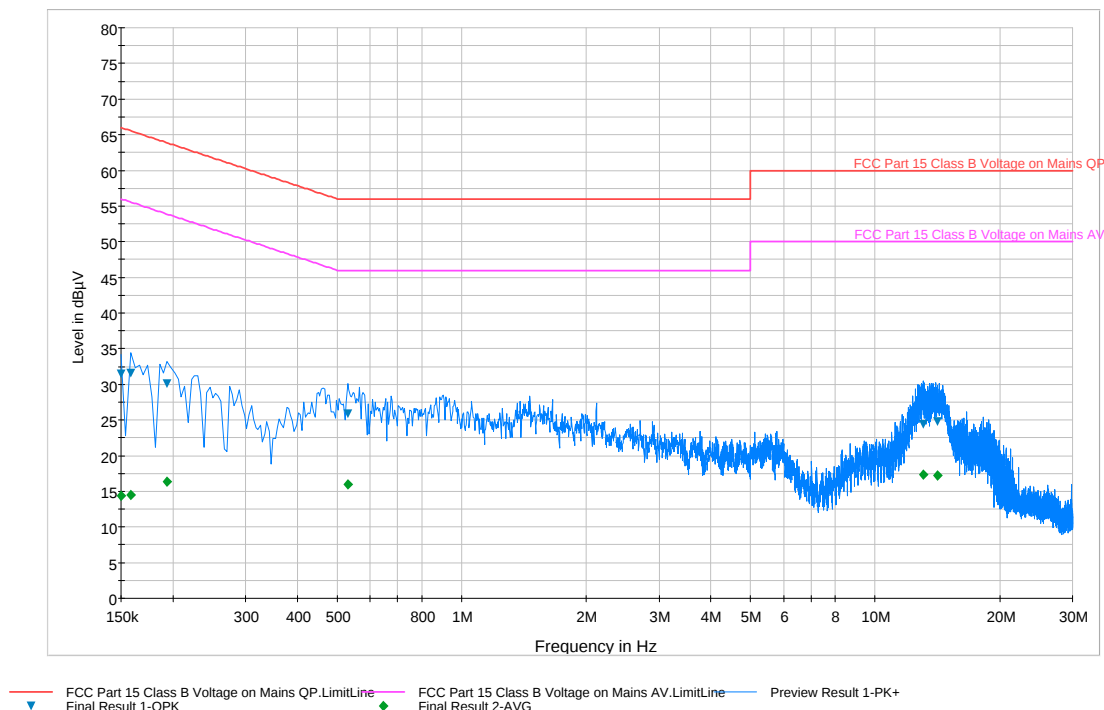
Date: 11.FEB.2014 11:14:10

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

FCC ID: A3LSMG9009D	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Reviewed by: Quality Manager
Test Report S/N: 0Y1402040301.A3L	Test Dates: 2/6-2/26/2014	EUT Type: Portable Handset		Page 174 of 181

6.17 Line-Conducted Test Data

§15.207; RSS-Gen [7.2.2]



Plot 6-195. 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
0.150	L1	0.2	31.40	66.00	34.60	14.30	56.00	41.70
0.158	L1	0.2	31.50	65.60	34.10	14.50	55.60	41.10
0.194	L1	0.2	30.10	63.90	33.80	16.30	53.90	37.60
0.530	L1	0.1	25.80	56.00	30.20	16.00	46.00	30.00
13.046	L1	0.4	24.40	60.00	35.60	17.30	50.00	32.70
14.170	L1	0.4	24.80	60.00	35.20	17.20	50.00	32.80

Table 6-61. Line Conducted Data with 802.11a UNII Band 1 (L1)

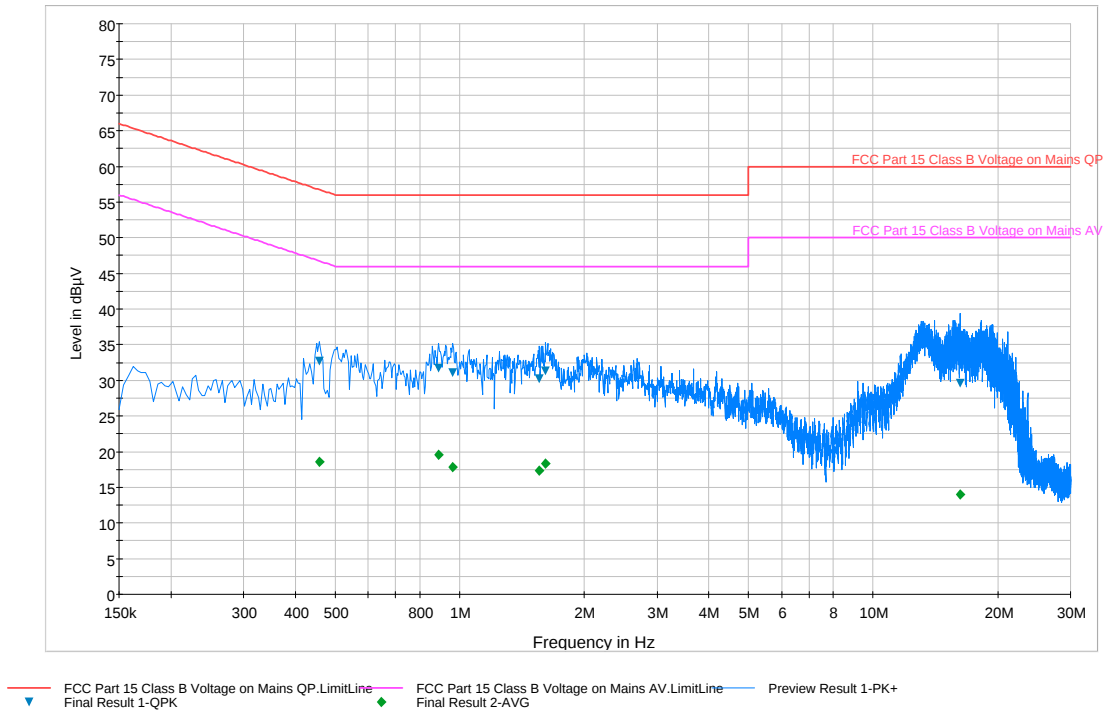
Notes:

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.

FCC ID: A3LSMG9009D	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Reviewed by: Quality Manager
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Line-Conducted Test Data (Cont'd)

§15.207; RSS-Gen [7.2.2]



Plot 6-196. 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
0.458	N	0.1	32.70	56.70	24.00	18.60	46.70	28.10
0.890	N	0.1	31.80	56.00	24.20	19.50	46.00	26.50
0.962	N	0.1	31.10	56.00	24.90	17.80	46.00	28.20
1.558	N	0.2	30.30	56.00	25.70	17.30	46.00	28.70
1.614	N	0.2	31.40	56.00	24.60	18.40	46.00	27.60
16.214	N	0.6	29.60	60.00	30.40	14.00	50.00	36.00

Table 6-62. Line Conducted Data with 802.11a UNII Band 1 (N)

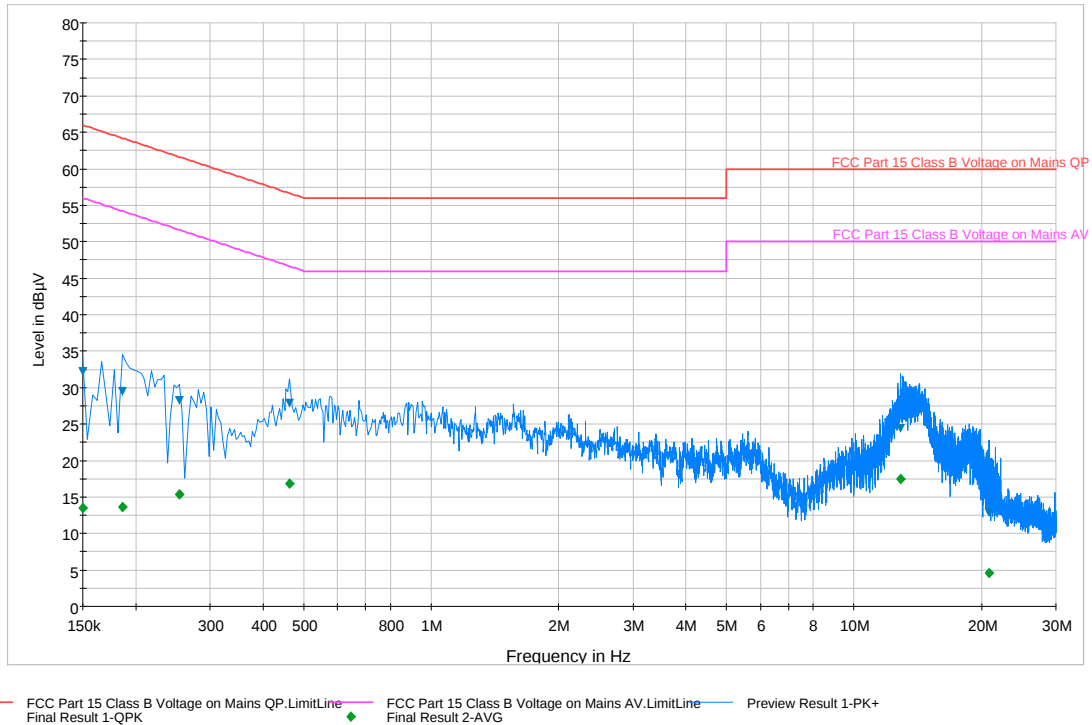
Notes:

- 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.

FCC ID: A3LSMG9009D	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Reviewed by: Quality Manager
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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 2A (L1)

Frequency MHz	Line	Corr. dB	QuasiPeak dBµV	Limit dBµV	Margin dB	Average dBµV	Limit dBµV	Margin dB
0.150	L1	0.2	32.20	66.00	33.80	13.60	56.00	42.40
0.186	L1	0.2	29.40	64.20	34.80	13.60	54.20	40.60
0.254	L1	0.1	28.20	61.60	33.40	15.30	51.60	36.30
0.462	L1	0.1	27.80	56.70	28.90	16.80	46.70	29.90
12.894	L1	0.4	24.40	60.00	35.60	17.40	50.00	32.60
20.834	L1	0.7	12.80	60.00	47.20	4.60	50.00	45.40

Table 6-63. Line Conducted Data with 802.11a UNII Band 2A (L1)

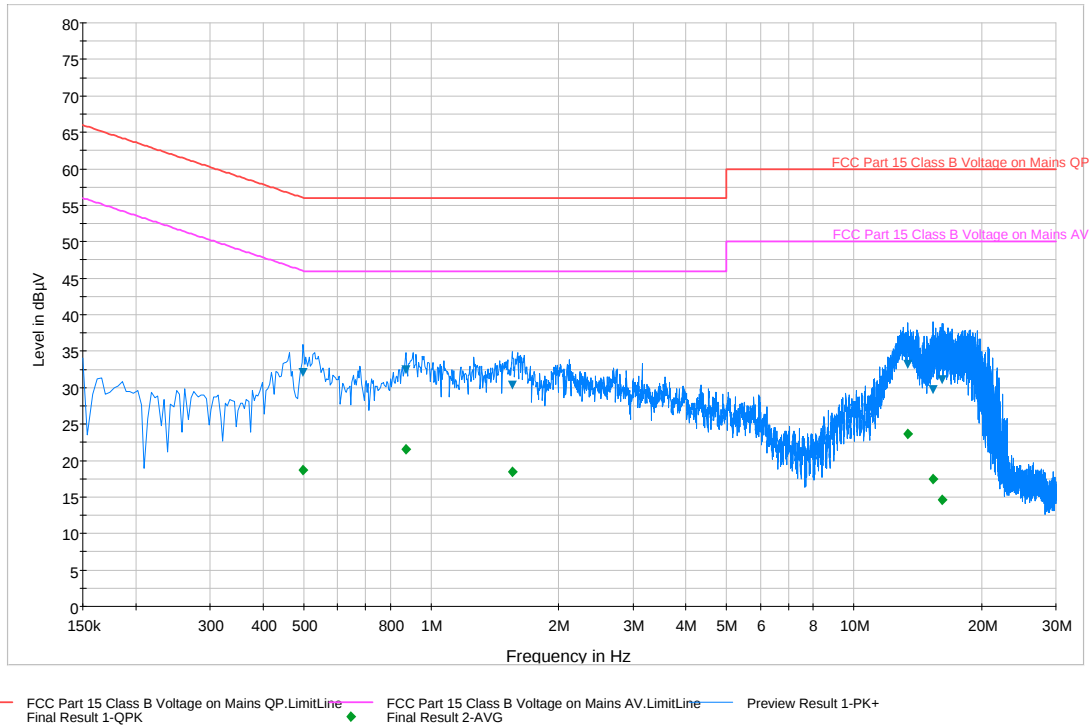
Notes:

- 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: A3LSMG9009D	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Reviewed by: Quality Manager
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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 (N)

Frequency MHz	Line	Corr. dB	QuasiPeak dBµV	Limit dBµV	Margin dB	Average dBµV	Limit dBµV	Margin dB
0.498	N	0.1	32.10	56.00	23.90	18.60	46.00	27.40
0.870	N	0.1	32.40	56.00	23.60	21.60	46.00	24.40
1.554	N	0.2	30.30	56.00	25.70	18.50	46.00	27.50
13.414	N	0.4	33.10	60.00	26.90	23.60	50.00	26.40
15.346	N	0.5	29.70	60.00	30.30	17.40	50.00	32.60
16.170	N	0.6	31.10	60.00	28.90	14.60	50.00	35.40

Table 6-64. Line Conducted Data with 802.11a UNII Band 2A (N)

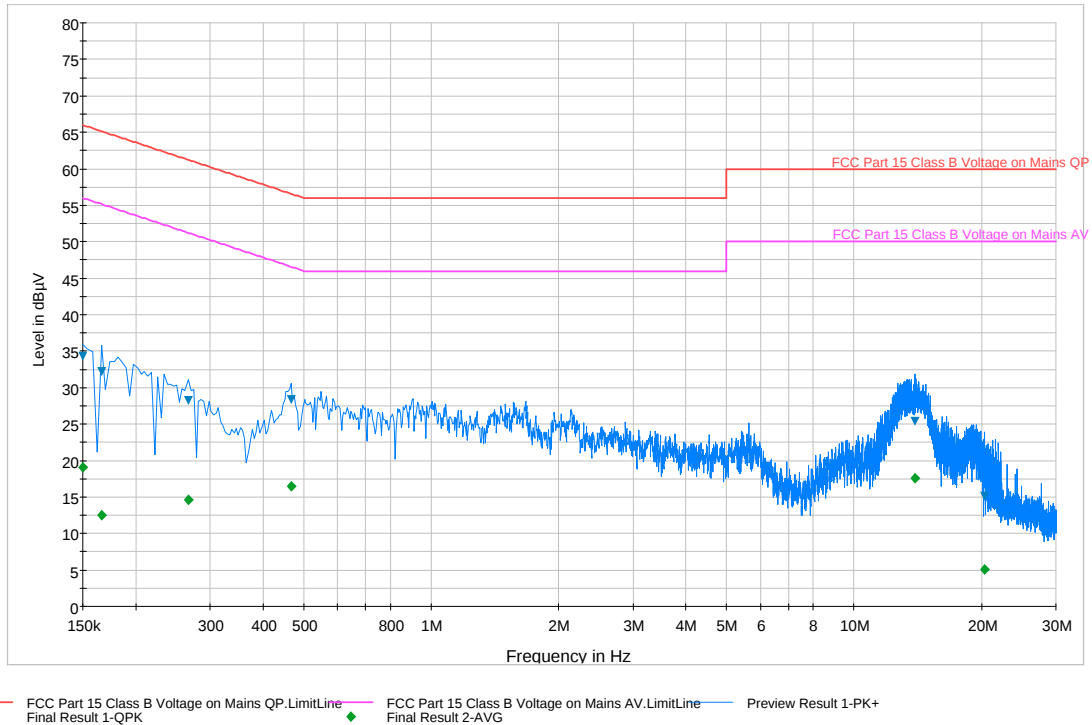
Notes:

- 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.

FCC ID: A3LSMG9009D	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Reviewed by: Quality Manager
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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 2C (L1)

Frequency MHz	Line	Corr. dB	QuasiPeak dBµV	Limit dBµV	Margin dB	Average dBµV	Limit dBµV	Margin dB
0.150	L1	0.2	34.30	66.00	31.70	19.10	56.00	36.90
0.166	L1	0.2	32.20	65.20	33.00	12.60	55.20	42.60
0.266	L1	0.1	28.20	61.20	33.00	14.60	51.20	36.60
0.466	L1	0.1	28.30	56.60	28.30	16.50	46.60	30.10
13.942	L1	0.4	25.40	60.00	34.60	17.60	50.00	32.40
20.338	L1	0.7	15.10	60.00	44.90	5.10	50.00	44.90

Table 6-65. Line Conducted Plot with 802.11a UNII Band 2C (L1)

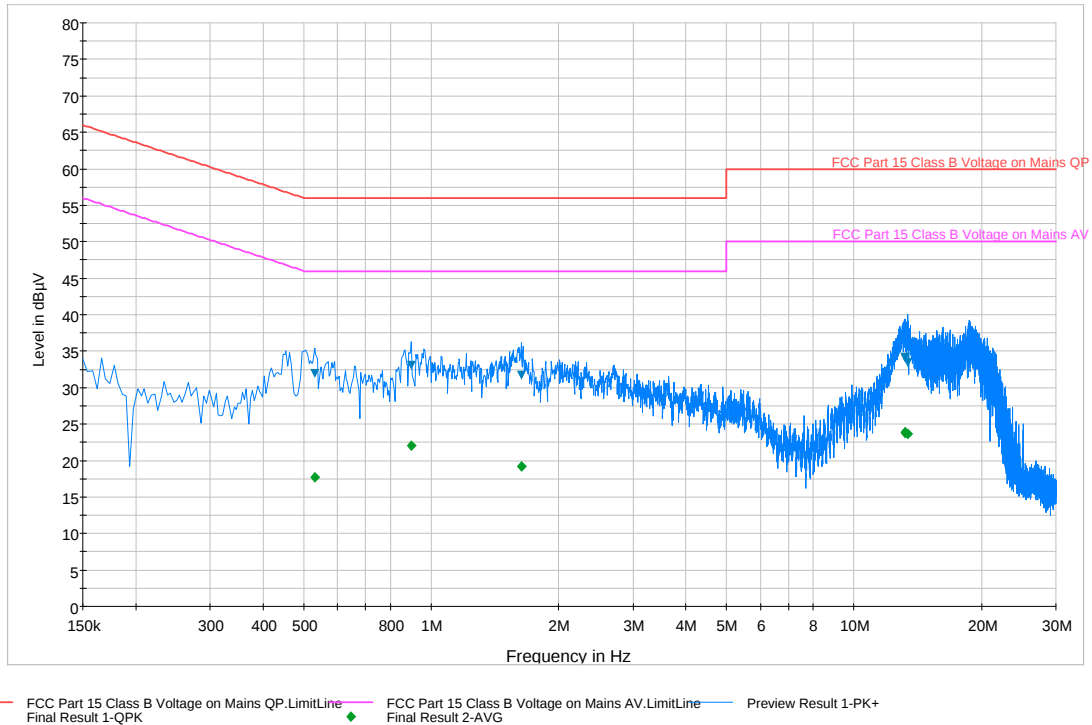
Notes:

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.

FCC ID: A3LSMG9009D	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Reviewed by: Quality Manager
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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 (N)

Frequency MHz	Line	Corr. dB	QuasiPeak dBµV	Limit dBµV	Margin dB	Average dBµV	Limit dBµV	Margin dB
0.530	N	0.1	32.00	56.00	24.00	17.80	46.00	28.20
0.898	N	0.1	33.00	56.00	23.00	22.10	46.00	23.90
1.634	N	0.2	31.80	56.00	24.20	19.20	46.00	26.80
13.190	N	0.4	34.20	60.00	25.80	23.80	50.00	26.20
13.230	N	0.4	34.10	60.00	25.90	23.80	50.00	26.20
13.378	N	0.4	33.50	60.00	26.50	23.70	50.00	26.30

Table 6-66. 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.

FCC ID: A3LSMG9009D	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Reviewed by: Quality Manager
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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: A3LSMG9009D** is in compliance with Part 15E of the FCC Rules.

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