

6.5 Peak Excursion Ratio – 802.11a/n §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, and at the appropriate frequencies. Method SA-1, as defined in KDB 789033, 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 v01r02 – Section F

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.

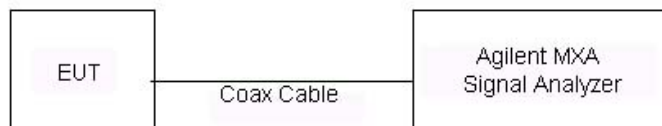


Figure 6-4. Test Instrument & Measurement Setup

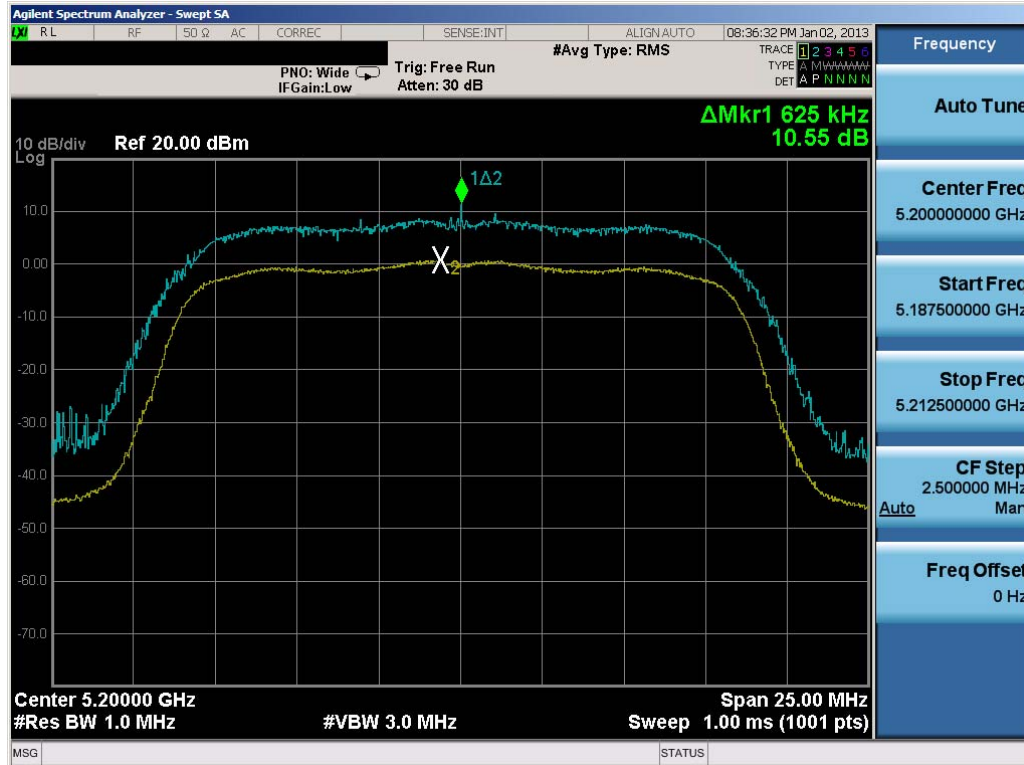
Test Notes

1. 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 v01r02.

FCC ID: A3LGTI8190T		FCC Pt. 15.407 802.11a/n UNII MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1212211844.A3L	Test Dates: Jan 1-8, 2012	EUT Type: Portable Handset		Page 43 of 73

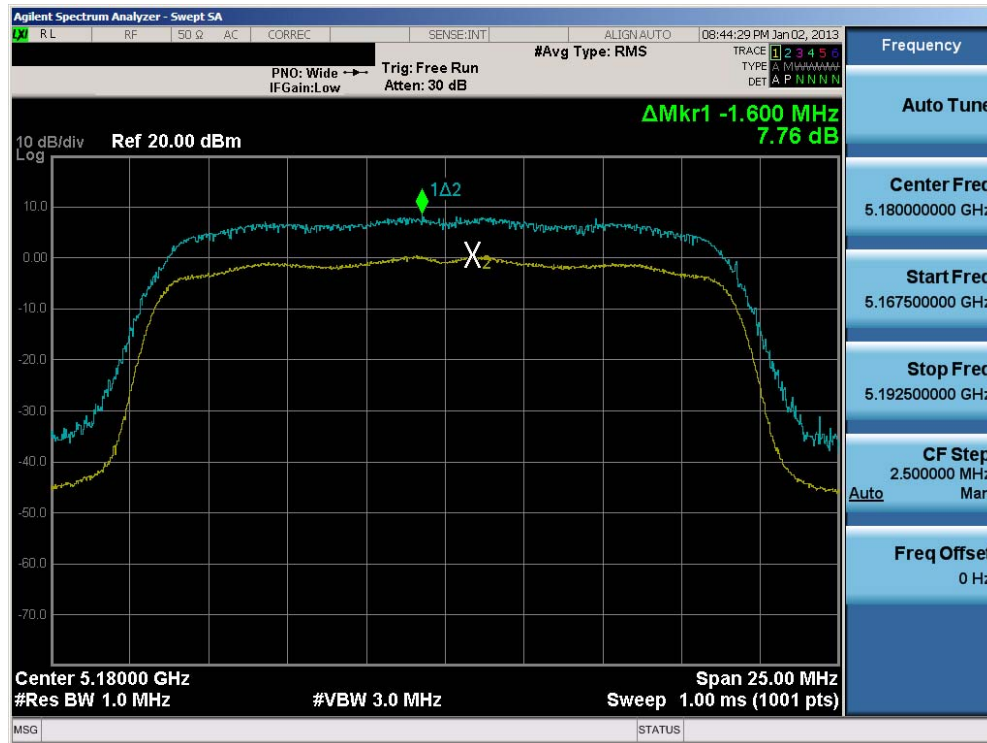
Frequency [MHz]	Channel No.	802.11 Mode	Data Rate [Mbps]	Measured Peak Excursion Ratio [dBm]	Max Permissible Peak Excursion Ratio [dBm/MHz]	Margin [dB]
5200	40	a	6	10.55	13.0	-2.45
5180	36	n (20MHz)	6.5/7.2 (MCS0)	9.20	13.0	-3.80
5550	110	n (40MHz)	13.5/15 (MCS0)	8.50	13.0	-4.51

Table 6-7. Conducted Peak Excursion Ratio Measurements

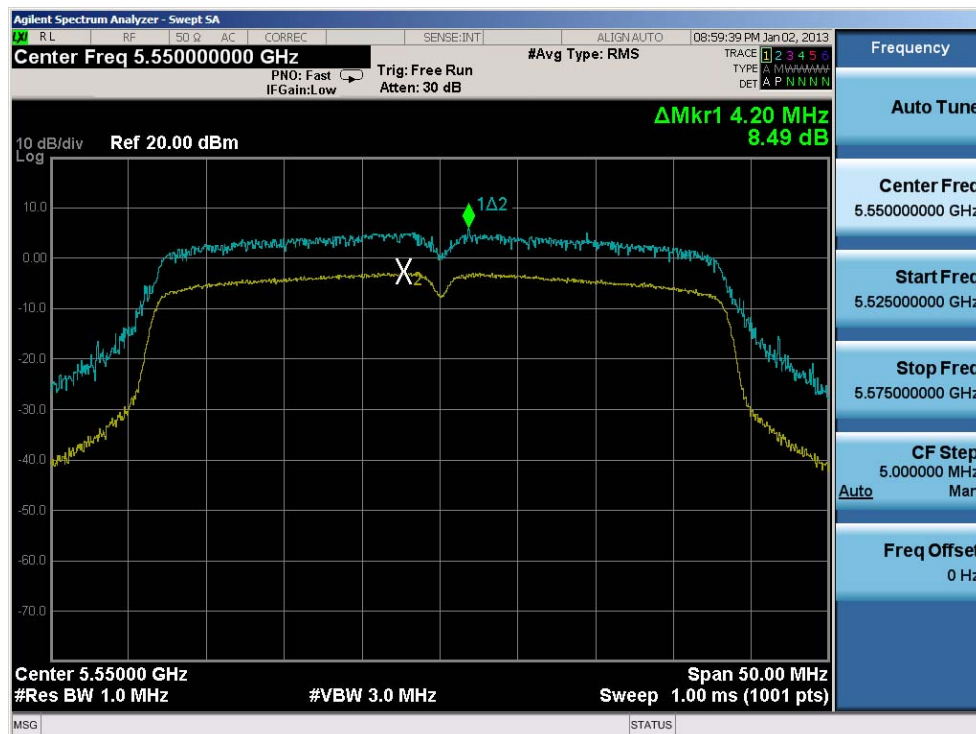


Plot 6-51. Peak Excursion Ratio Plot (802.11a)

FCC ID: A3LGTI8190T	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 15.407 802.11a/n UNII MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Reviewed by: Quality Manager
Test Report S/N: 0Y1212211844.A3L	Test Dates: Jan 1-8, 2012	EUT Type: Portable Handset		Page 44 of 73



Plot 6-52. Peak Excursion Ratio Plot (20MHz BW 802.11n)



Plot 6-53. Peak Excursion Ratio Plot (40MHz BW 802.11n)

FCC ID: A3LGTI8190T	 FCC Pt. 15.407 802.11a/n UNII MEASUREMENT REPORT (CERTIFICATION) 		Reviewed by: Quality Manager
Test Report S/N: 0Y1212211844.A3L	Test Dates: Jan 1-8, 2012	EUT Type: Portable Handset	Page 45 of 73

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: 3.7 VDC

VOLTAGE (%)	POWER (VDC)	TEMP (°C)	FREQUENCY (Hz)	Freq. Dev. (Hz)	Deviation (%)
100 %	3.70	+ 20 (Ref)	5,179,999,993	-7	-0.0000001339
100 %		- 30	5,179,999,983	-17	-0.0000003185
100 %		- 20	5,179,999,990	-10	-0.0000001976
100 %		- 10	5,179,999,981	-19	-0.0000003736
100 %		0	5,179,999,999	-1	-0.0000000197
100 %		+ 10	5,179,999,995	-5	-0.0000000921
100 %		+ 20	5,179,999,992	-8	-0.0000001536
100 %		+ 30	5,179,999,999	-1	-0.0000000257
100 %		+ 40	5,179,999,988	-12	-0.0000002301
100 %		+ 50	5,179,999,982	-18	-0.0000003488
115 %	4.26	+ 20	5,179,999,995	-5	-0.0000000944
BATT. ENDPOINT	3.40	+ 20	5,179,999,996	-4	-0.0000000699

Table 6-8. 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: A3LGTI8190T		FCC Pt. 15.407 802.11a/n UNII MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1212211844.A3L	Test Dates: Jan 1-8, 2012	EUT Type: Portable Handset	Page 46 of 73	

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: 3.7 VDC

VOLTAGE (%)	POWER (VDC)	TEMP (°C)	FREQUENCY (Hz)	Freq. Dev. (Hz)	Deviation (%)
100 %	3.70	+ 20 (Ref)	5,259,999,982	-18	-0.0000003499
100 %		- 30	5,259,999,986	-14	-0.0000002671
100 %		- 20	5,259,999,989	-11	-0.0000002030
100 %		- 10	5,259,999,984	-16	-0.0000003104
100 %		0	5,259,999,981	-19	-0.0000003567
100 %		+ 10	5,259,999,983	-17	-0.0000003184
100 %		+ 20	5,259,999,994	-6	-0.0000001052
100 %		+ 30	5,259,999,981	-19	-0.0000003558
100 %		+ 40	5,259,999,994	-6	-0.0000001136
100 %		+ 50	5,259,999,998	-2	-0.0000000358
115 %	4.26	+ 20	5,260,000,000	0	-0.0000000077
BATT. ENDPOINT	3.40	+ 20	5,259,999,989	-11	-0.0000002108

Table 6-9. Frequency Stability Measurements for UNII Band 2 (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.

FCC ID: A3LGTI8190T		FCC Pt. 15.407 802.11a/n UNII MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1212211844.A3L	Test Dates: Jan 1-8, 2012	EUT Type: Portable Handset	Page 47 of 73	

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: 3.7 VDC

VOLTAGE (%)	POWER (VDC)	TEMP (°C)	FREQUENCY (Hz)	Freq. Dev. (Hz)	Deviation (%)
100 %	3.70	+ 20 (Ref)	5,499,999,981	-19	-0.0000003483
100 %		- 30	5,499,999,989	-11	-0.0000001993
100 %		- 20	5,499,999,998	-2	-0.0000000408
100 %		- 10	5,499,999,986	-14	-0.0000002551
100 %		0	5,499,999,984	-16	-0.0000002972
100 %		+ 10	5,499,999,990	-10	-0.0000001843
100 %		+ 20	5,499,999,981	-19	-0.0000003408
100 %		+ 30	5,499,999,996	-4	-0.0000000719
100 %		+ 40	5,499,999,994	-6	-0.0000001085
100 %		+ 50	5,499,999,982	-18	-0.0000003250
115 %	4.26	+ 20	5,499,999,994	-6	-0.0000001152
BATT. ENDPOINT	3.40	+ 20	5,499,999,995	-5	-0.0000000823

Table 6-10. Frequency Stability Measurements for UNII Band 3 (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.

FCC ID: A3LGTI8190T		FCC Pt. 15.407 802.11a/n UNII MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1212211844.A3L	Test Dates: Jan 1-8, 2012	EUT Type: Portable Handset	Page 48 of 73	

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, 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 6-11 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 6-11. Radiated Limits

Test Procedures Used

ANSI C63.10-2009

KDB 789033 v01r02 – Section G

Test Settings

Average Measurements above 1GHz (Method AD)

1. Analyzer center frequency was set to the frequency of the radiated spurious emission of interest
2. RBW = 1MHz
3. VBW = 3MHz
4. Detector = power average (RMS)
5. Number of measurement points = 1001 (Number of points must be $\geq 2 \times \text{span/RBW}$)
6. Sweep time = auto couple
7. Trace was averaged over 100 sweeps

FCC ID: A3LGTI8190T		FCC Pt. 15.407 802.11a/n UNII MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1212211844.A3L	Test Dates: Jan 1-8, 2012	EUT Type: Portable Handset		Page 49 of 73

Peak Measurements above 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 = 1MHz
4. VBW = 3MHz
5. Detector = peak
6. Sweep time = auto couple
7. Trace mode = max hold
8. 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.

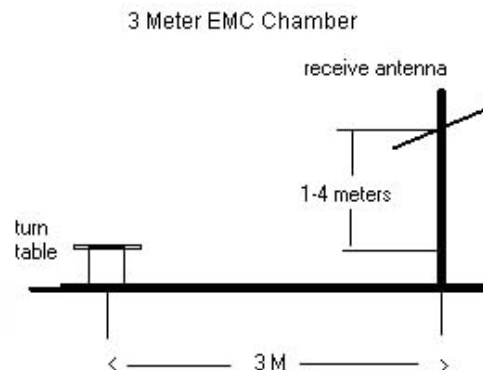


Figure 6-5. Test Instrument & Measurement Setup

FCC ID: A3LGTI8190T	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 15.407 802.11a/n UNII MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Reviewed by: Quality Manager
Test Report S/N: 0Y1212211844.A3L	Test Dates: Jan 1-8, 2012	EUT Type: Portable Handset		Page 50 of 73

Test Notes

1. The optional test procedures for antenna port conducted measurements of unwanted emissions per the guidance of KDB 789033 v01r02 were not used to evaluate this device.
2. All spurious emissions lying in restricted bands specified in §15.205 are below the limit shown in Table 6-10. 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.
3. The antenna is manipulated through typical positions, polarity and length during the tests. The EUT is manipulated through three orthogonal planes.
4. The EUT is supplied with nominal AC voltage and/or a new/fully-recharged battery.
5. 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.
6. Radiated Spurious Emissions (below 10GHz, including Band Edge Emissions) were measured at a 3 meter test distance. Radiated Spurious Emissions above 10GHz were measured at a 1 meter test distance with the application of a distance correction factor
7. Average levels at -135dBm and peak levels at -125dBm represent the analyzer noise floor and signify that no emission was 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:
Offset (dB) = (Antenna Factor + Cable Loss + 10 dB Attenuator) – Preamplifier Gain

FCC ID: A3LGTI8190T		FCC Pt. 15.407 802.11a/n UNII MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1212211844.A3L	Test Dates: Jan 1-8, 2012	EUT Type: Portable Handset		Page 51 of 73

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 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	-97.49	Peak	V	55.55	-9.54	55.52	68.20	-12.68
15540.00	-135.00	Average	V	58.12	0.00	30.12	53.98	-23.86
15540.00	-125.00	Peak	V	58.12	0.00	40.12	73.98	-33.86
20720.00	-111.10	Average	V	44.02	-9.54	30.38	53.98	-23.60
20720.00	-100.45	Peak	V	44.02	-9.54	41.03	73.98	-32.95
25900.00	-100.45	Peak	V	44.85	-9.54	41.86	68.20	-26.34

Table 6-12. Radiated Measurements

FCC ID: A3LGTI8190T		FCC Pt. 15.407 802.11a/n UNII MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1212211844.A3L	Test Dates: Jan 1-8, 2012	EUT Type: Portable Handset		Page 52 of 73

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 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	-98.32	Peak	V	55.81	-9.54	54.94	68.20	-13.26
15600.00	-135.00	Average	V	58.08	0.00	30.08	53.98	-23.90
15600.00	-125.00	Peak	V	58.08	0.00	40.08	73.98	-33.90
20800.00	-110.78	Average	V	44.00	-9.54	30.67	53.98	-23.31
20800.00	-99.73	Peak	V	44.00	-9.54	41.72	73.98	-32.26
26000.00	-100.17	Peak	V	44.88	-9.54	42.17	68.20	-26.03

Table 6-13. Radiated Measurements

FCC ID: A3LGTI8190T		FCC Pt. 15.407 802.11a/n UNII MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1212211844.A3L	Test Dates: Jan 1-8, 2012	EUT Type: Portable Handset		Page 53 of 73

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 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	-97.67	Peak	V	56.33	-9.54	56.12	68.20	-12.08
15720.00	-135.00	Average	V	57.92	0.00	29.92	53.98	-24.06
15720.00	-125.00	Peak	V	57.92	0.00	39.92	73.98	-34.06
20960.00	-112.33	Average	V	43.99	-9.54	29.12	53.98	-24.86
20960.00	-101.39	Peak	V	43.99	-9.54	40.06	73.98	-33.92
26200.00	-125.00	Peak	V	44.82	0.00	26.82	68.20	-41.38

Table 6-14. Radiated Measurements

FCC ID: A3LGTI8190T		FCC Pt. 15.407 802.11a/n UNII MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1212211844.A3L	Test Dates: Jan 1-8, 2012	EUT Type: Portable Handset		Page 54 of 73

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 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	-97.59	Peak	V	56.72	-9.54	56.59	68.20	-11.61
15780.00	-135.00	Average	V	57.75	0.00	29.75	53.98	-24.23
15780.00	-125.00	Peak	V	57.75	0.00	39.75	73.98	-34.23
21040.00	-112.33	Average	V	44.01	-9.54	29.14	53.98	-24.84
21040.00	-101.96	Peak	V	44.01	-9.54	39.51	73.98	-34.47
26300.00	-125.00	Peak	V	44.87	0.00	26.87	68.20	-41.33

Table 6-15. Radiated Measurements

FCC ID: A3LGTI8190T		FCC Pt. 15.407 802.11a/n UNII MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1212211844.A3L	Test Dates: Jan 1-8, 2012	EUT Type: Portable Handset		Page 55 of 73

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 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	-99.03	Peak	V	57.21	-9.54	55.64	68.20	-12.56
15840.00	-135.00	Average	V	57.68	0.00	29.68	53.98	-24.30
15840.00	-125.00	Peak	V	57.68	0.00	39.68	73.98	-34.30
21120.00	-112.98	Average	V	44.00	-9.54	28.48	53.98	-25.50
21120.00	-100.64	Peak	V	44.00	-9.54	40.82	73.98	-33.16
26400.00	-125.00	Peak	V	44.81	0.00	26.81	68.20	-41.39

Table 6-16. Radiated Measurements

FCC ID: A3LGTI8190T		FCC Pt. 15.407 802.11a/n UNII MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1212211844.A3L	Test Dates: Jan 1-8, 2012	EUT Type: Portable Handset		Page 56 of 73

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 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	-108.99	Average	V	58.20	-9.54	46.66	53.98	-7.32
10640.00	-98.64	Peak	V	58.20	-9.54	57.02	73.98	-16.96
15960.00	-135.00	Average	V	57.67	0.00	29.67	53.98	-24.31
15960.00	-125.00	Peak	V	57.67	0.00	39.67	73.98	-34.31
21280.00	-112.60	Average	V	44.02	-9.54	28.88	53.98	-25.10
21280.00	-101.77	Peak	V	44.02	-9.54	39.71	73.98	-34.27

Table 6-17. Radiated Measurements

FCC ID: A3LGTI8190T		FCC Pt. 15.407 802.11a/n UNII MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1212211844.A3L	Test Dates: Jan 1-8, 2012	EUT Type: Portable Handset		Page 57 of 73

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 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	-109.48	Average	V	63.56	-9.54	51.54	53.98	-2.44
11000.00	-98.21	Peak	V	63.56	-9.54	62.81	73.98	-11.17
16500.00	-125.00	Peak	V	57.95	0.00	39.95	68.20	-28.25
22000.00	-100.69	Peak	V	44.30	-9.54	41.07	68.20	-27.13
27500.00	-125.00	Peak	V	47.96	0.00	29.96	68.20	-38.24

Table 6-18. Radiated Measurements

FCC ID: A3LGTI8190T		FCC Pt. 15.407 802.11a/n UNII MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1212211844.A3L	Test Dates: Jan 1-8, 2012	EUT Type: Portable Handset		Page 58 of 73

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 Meters

Operating Frequency: 5580MHz

Channel: 116

Frequency [MHz]	Analyzer Level [dBm]	Detector	Pol. [H/V]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dB λ V/m]	Limit [dB λ V/m]	Margin [dB]
11160.00	-110.04	Average	V	61.06	-9.54	48.47	53.98	-5.51
11160.00	-99.68	Peak	V	61.06	-9.54	58.83	73.98	-15.14
16740.00	-125.00	Peak	V	58.27	0.00	40.27	68.20	-27.93
22320.00	-112.01	Average	V	44.40	-9.54	29.85	53.98	-24.13
22320.00	-101.39	Peak	V	44.40	-9.54	40.47	73.98	-33.51
27900.00	-125.00	Peak	V	48.14	0.00	30.14	68.20	-38.06

Table 6-19. Radiated Measurements

FCC ID: A3LGTI8190T		FCC Pt. 15.407 802.11a/n UNII MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1212211844.A3L	Test Dates: Jan 1-8, 2012	EUT Type: Portable Handset		Page 59 of 73

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 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	-109.76	Average	V	57.86	-9.54	45.55	53.98	-8.43
11400.00	-98.99	Peak	V	57.86	-9.54	56.33	73.98	-17.65
17100.00	-125.00	Peak	V	61.12	0.00	43.12	68.20	-25.08
22800.00	-111.27	Average	V	44.45	-9.54	30.64	53.98	-23.34
22800.00	-101.69	Peak	V	44.45	-9.54	40.22	73.98	-33.76
28500.00	-125.00	Peak	V	48.28	0.00	30.28	68.20	-37.92

Table 6-20. Radiated Measurements

FCC ID: A3LGTI8190T		FCC Pt. 15.407 802.11a/n UNII MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1212211844.A3L	Test Dates: Jan 1-8, 2012	EUT Type: Portable Handset		Page 60 of 73

6.8 Radiated Band Edge Measurements (20MHz BW)

§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

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]
5150.00	-101.68	Average	V	42.86	0.00	48.18	53.98	-5.80
5150.00	-89.78	Peak	V	42.86	0.00	60.08	73.98	-13.90
5139.25	-101.77	Average	V	42.86	0.00	48.09	53.98	-5.89
5139.25	-92.00	Peak	V	42.86	0.00	57.86	73.98	-16.12
5134.55	-102.11	Average	V	42.80	0.00	47.69	53.98	-6.29
5134.55	-92.18	Peak	V	42.80	0.00	57.62	73.98	-16.36

Table 6-21. Radiated Restricted Band Measurements (4.5 – 5.15GHz)

FCC ID: A3LGTI8190T		FCC Pt. 15.407 802.11a/n UNII MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1212211844.A3L	Test Dates: Jan 1-8, 2012	EUT Type: Portable Handset		Page 61 of 73

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

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]
5350.00	-100.95	Average	V	44.03	0.00	50.08	53.98	-3.89
5350.00	-92.19	Peak	V	44.03	0.00	58.84	73.98	-15.13
5357.44	-101.41	Average	V	43.73	0.00	49.32	53.98	-4.66
5357.44	-92.16	Peak	V	43.73	0.00	58.57	73.98	-15.41
5272.64	-101.74	Average	V	43.73	0.00	48.99	53.98	-4.99
5272.64	-91.10	Peak	V	43.73	0.00	59.63	73.98	-14.35

Table 6-22. Radiated Restricted Band Measurements (5.35 – 5.46GHz, 5.46 – 5.47GHz)

FCC ID: A3LGTI8190T		FCC Pt. 15.407 802.11a/n UNII MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1212211844.A3L	Test Dates: Jan 1-8, 2012	EUT Type: Portable Handset		Page 62 of 73

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

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]
5433.10	-102.07	Average	V	44.20	0.00	49.13	53.98	-4.85
5433.10	-92.19	Peak	V	44.20	0.00	59.01	73.98	-14.97
5459.50	-101.54	Average	V	44.27	0.00	49.74	53.98	-4.24
5459.50	-92.48	Peak	V	44.27	0.00	58.79	73.98	-15.19
5469.75	-92.36	Peak	V	44.30	0.00	58.94	68.20	-9.26

Table 6-23. Radiated Restricted Band Measurements (5.35 – 5.46GHz, 5.46 – 5.47GHz)

Worst Case Mode: 802.11n (20MHz)

Worst Case Transfer Rate: MCS0

Distance of Measurements: 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]
5725.00	-91.16	Peak	V	44.34	0.00	60.19	68.20	-8.01
5726.40	-91.37	Peak	V	44.34	0.00	59.97	68.20	-8.23
5727.63	-90.91	Peak	V	44.35	0.00	60.44	68.20	-7.76

Table 6-24. Radiated Restricted Band Measurements

FCC ID: A3LGTI8190T		FCC Pt. 15.407 802.11a/n UNII MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1212211844.A3L	Test Dates: Jan 1-8, 2012	EUT Type: Portable Handset		Page 63 of 73

6.9 Radiated Band Edge Measurements (40MHz BW)

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

Worst Case Mode: 802.11n (40MHz)

Worst Case Transfer Rate: MCS0

Distance of Measurements: 3 Meters

Operating Frequency: 5190MHz

Channel: 38

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]
5150.00	-101.84	Average	V	42.86	0.00	48.02	53.98	-5.96
5150.00	-91.43	Peak	V	42.86	0.00	58.43	73.98	-15.55
5139.48	-101.58	Average	V	42.86	0.00	48.28	53.98	-5.70
5139.48	-93.44	Peak	V	42.86	0.00	56.42	73.98	-17.56
5130.19	-101.67	Average	V	42.80	0.00	48.14	53.98	-5.84
5130.19	-91.47	Peak	V	42.80	0.00	58.34	73.98	-15.64

Table 6-25. Radiated Restricted Band Measurements (4.5 – 5.15GHz)

FCC ID: A3LGTI8190T		FCC Pt. 15.407 802.11a/n UNII MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1212211844.A3L	Test Dates: Jan 1-8, 2012	EUT Type: Portable Handset		Page 64 of 73

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

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]
5350.00	-101.41	Average	V	44.02	0.00	49.62	53.98	-4.36
5350.00	-92.31	Peak	V	44.02	0.00	58.71	73.98	-15.27
5352.07	-101.58	Average	V	44.03	0.00	49.46	53.98	-4.52
5352.07	-91.30	Peak	V	44.03	0.00	59.73	73.98	-14.25
5357.47	-101.75	Average	V	44.03	0.00	49.28	53.98	-4.70
5357.47	-92.43	Peak	V	44.03	0.00	58.60	73.98	-15.38

Table 6-26. Radiated Restricted Band Measurements (5.35 – 5.46GHz, 5.46 – 5.47GHz)

FCC ID: A3LGTI8190T		FCC Pt. 15.407 802.11a/n UNII MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1212211844.A3L	Test Dates: Jan 1-8, 2012	EUT Type: Portable Handset		Page 65 of 73

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

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]
5439.91	-101.85	Average	V	44.22	0.00	49.36	53.98	-4.61
5439.91	-92.12	Peak	V	44.22	0.00	59.10	73.98	-14.88
5459.41	-101.82	Average	V	44.27	0.00	49.45	53.98	-4.53
5459.41	-91.96	Peak	V	44.27	0.00	59.31	73.98	-14.67
5469.50	-90.81	Peak	V	44.30	0.00	60.49	68.20	-7.71

Table 6-27. Radiated Restricted Band Measurements (5.35 – 5.46GHz, 5.46 – 5.47GHz)

Worst Case Mode: 802.11n (40MHz)

Worst Case Transfer Rate: MCS0

Distance of Measurements: 3 Meters

Operating Frequency: 5690MHz

Channel: 138

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]
5725.00	-91.56	Peak	V	44.34	0.00	59.78	68.20	-8.42
5728.69	-91.22	Peak	V	44.35	0.00	60.13	68.20	-8.07
5733.10	-91.35	Peak	V	44.36	0.00	60.00	68.20	-8.20

Table 6-28. Radiated Restricted Band Measurements

FCC ID: A3LGTI8190T		FCC Pt. 15.407 802.11a/n UNII MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1212211844.A3L	Test Dates: Jan 1-8, 2012	EUT Type: Portable Handset		Page 66 of 73

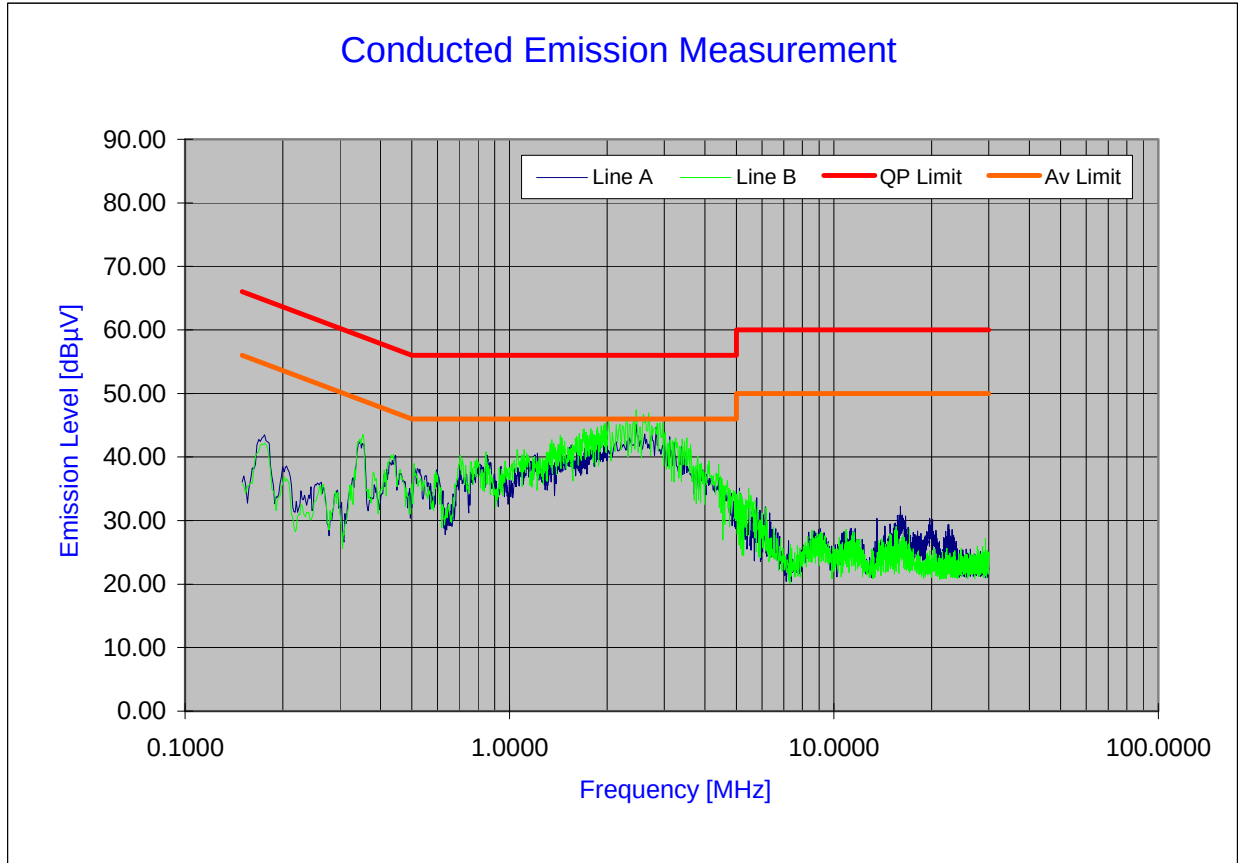
6.10 Line-Conducted Test Data

§15.207; RSS-Gen [7.2.2]

PCTEST Engineering Laboratory Inc.

Company : Samsung Electronics Co., Ltd.
Model Number : GT-I8190T
FCC ID Code : A3LGTI8190T
Standard : FCC Part 15C, 15.207

Power Source : AC120V/60Hz
Tested Date : 01/01/2013
Note : Tested with 802.11a
UNII Band 1 ON



Plot 6-54. Line Conducted Plot with 802.11a (UNII Band 1)

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. Line A = Phase; Line B = Neutral
4. Traces shown in plot made using a peak detector.
5. Deviations to the Specifications: None.

FCC ID: A3LGTI8190T	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 15.407 802.11a/n UNII MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Reviewed by: Quality Manager
Test Report S/N: 0Y1212211844.A3L	Test Dates: Jan 1-8, 2012	EUT Type: Portable Handset		Page 67 of 73

Line-Conducted Test Data (Cont'd)

§15.207; RSS-Gen [7.2.2]

No.	Line	Frequency [MHz]	Factor [dB]	QP [dBμV]	Limit [dBμV]	Margin [dB]	Average [dBμV]	Limit [dBμV]	Margin [dB]
1	A	1.523	7.11	32.11	56.00	-23.89	22.93	46.00	-23.07
2	A	1.540	7.11	32.31	56.00	-23.69	23.02	46.00	-22.98
3	A	1.551	7.11	32.59	56.00	-23.41	22.33	46.00	-23.67
4	A	1.608	7.12	32.17	56.00	-23.83	22.88	46.00	-23.12
5	A	1.691	7.12	32.12	56.00	-23.88	23.64	46.00	-22.36
6	A	1.797	7.13	32.93	56.00	-23.07	23.70	46.00	-22.30
7	A	1.902	7.14	32.55	56.00	-23.45	23.97	46.00	-22.03
8	A	2.460	7.21	34.66	56.00	-21.34	25.84	46.00	-20.16
9	A	3.154	7.28	32.38	56.00	-23.62	23.46	46.00	-22.54
10	A	3.411	7.30	30.13	56.00	-25.87	22.14	46.00	-23.86
11	B	1.634	7.12	32.40	56.00	-23.60	23.83	46.00	-22.17
12	B	1.697	7.12	34.51	56.00	-21.49	25.48	46.00	-20.52
13	B	1.782	7.13	34.28	56.00	-21.72	25.56	46.00	-20.44
14	B	1.804	7.13	33.40	56.00	-22.60	25.36	46.00	-20.64
15	B	1.863	7.14	34.61	56.00	-21.39	25.74	46.00	-20.26
16	B	1.931	7.14	33.53	56.00	-22.47	24.95	46.00	-21.05
17	B	1.961	7.15	35.20	56.00	-20.80	26.05	46.00	-19.95
18	B	2.038	7.16	35.34	56.00	-20.66	26.61	46.00	-19.39
19	B	2.536	7.22	36.70	56.00	-19.30	27.17	46.00	-18.83
20	B	2.621	7.23	36.99	56.00	-19.01	26.97	46.00	-19.03

Table 6-29. Line Conducted Data with 802.11a (UNII Band 1)

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. Line A = Phase; Line B = Neutral
4. Factor (dB) = Cable loss (dB) + LISN insertion factor (dB)
5. QP/AV Level (dBμV) = QP/AV Analyzer/Receiver Level (dBμV) + Factor (dB)
6. Margin (dB) = QP/AV Level (dBμV) – Limit (dBμV)
7. Traces shown in plot are made using a peak detector.
8. Deviations to the Specifications: None.

FCC ID: A3LGTI8190T		FCC Pt. 15.407 802.11a/n UNII MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1212211844.A3L	Test Dates: Jan 1-8, 2012	EUT Type: Portable Handset		Page 68 of 73

Line-Conducted Test Data (Cont'd)

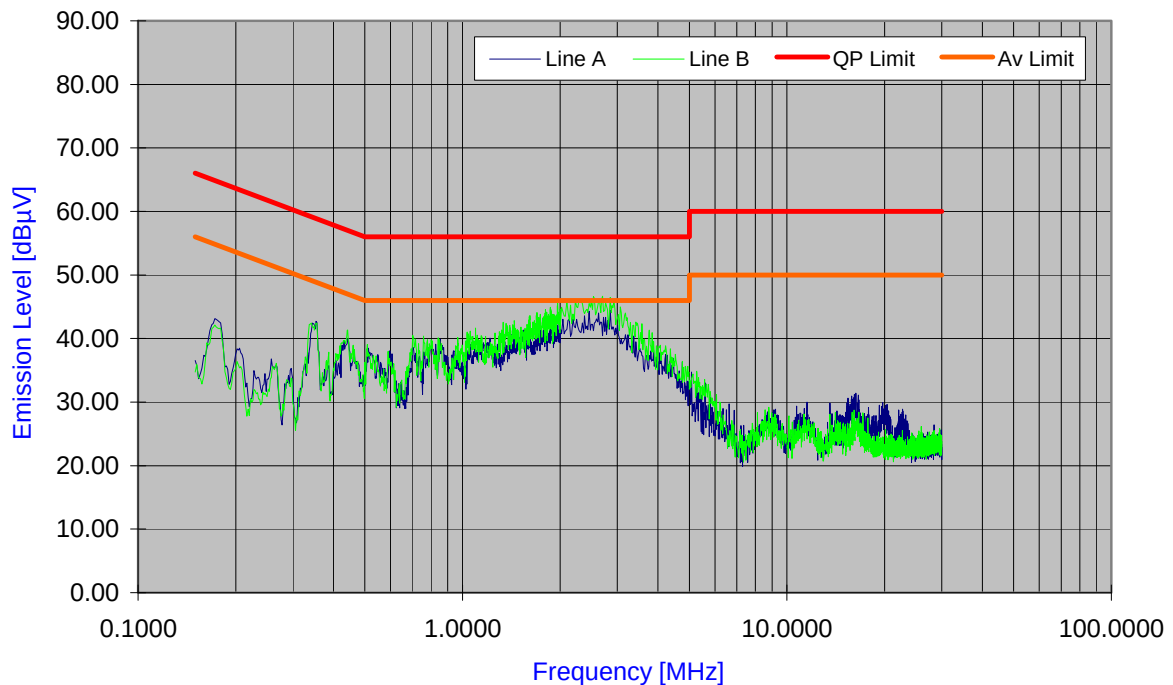
§15.207; RSS-Gen [7.2.2]

PCTEST Engineering Laboratory Inc.

Company : Samsung Electronics Co., Ltd.
Model Number : GT-I8190T
FCC ID Code : A3LGTI8190T
Standard : FCC Part 15C, 15.207

Power Source : AC120V/60Hz
Tested Date : 01/01/2013
Note : Tested with 802.11a
UNII Band 2 ON

Conducted Emission Measurement



Ver.1.1 ©PCTEST 2006.08

Plot 6-55. Line Conducted Plot with 802.11a (UNII Band 2)

Notes:

1. All modes of operation, data rates, and test channels were investigated and the worst-case emissions are reported in 802.11a mode using 6Mbps on Channel 52. The emissions found were not affected by the choice of channel used during testing.
2. The limit for Class B device(s) from 150kHz to 30MHz are specified in Section 15.207 of the Title 47 CFR.
3. Line A = Phase; Line B = Neutral
4. Traces shown in plot made using a peak detector.
5. Deviations to the Specifications: None.

FCC ID: A3LGTI8190T	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 15.407 802.11a/n UNII MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Reviewed by: Quality Manager
Test Report S/N: 0Y1212211844.A3L	Test Dates: Jan 1-8, 2012	EUT Type: Portable Handset		Page 69 of 73

Line-Conducted Test Data (Cont'd)

§15.207; RSS-Gen [7.2.2]

No.	Line	Frequency [MHz]	Factor [dB]	QP [dBμV]	Limit [dBμV]	Margin [dB]	Average [dBμV]	Limit [dBμV]	Margin [dB]
1	A	1.443	7.10	32.00	56.00	-24.00	22.98	46.00	-23.02
2	A	1.522	7.11	32.42	56.00	-23.58	22.82	46.00	-23.18
3	A	1.690	7.12	31.82	56.00	-24.18	23.95	46.00	-22.05
4	A	1.754	7.13	31.71	56.00	-24.29	23.58	46.00	-22.42
5	A	1.796	7.13	32.89	56.00	-23.11	24.44	46.00	-21.56
6	A	1.813	7.13	32.38	56.00	-23.62	23.57	46.00	-22.43
7	A	1.864	7.14	32.96	56.00	-23.04	23.46	46.00	-22.54
8	A	2.204	7.18	34.00	56.00	-22.00	25.55	46.00	-20.45
9	A	2.833	7.25	34.18	56.00	-21.82	25.07	46.00	-20.93
10	A	3.149	7.28	32.49	56.00	-23.51	23.54	46.00	-22.46
11	B	1.803	7.13	33.41	56.00	-22.59	25.33	46.00	-20.67
12	B	1.872	7.14	34.97	56.00	-21.03	25.65	46.00	-20.35
13	B	1.883	7.14	35.32	56.00	-20.68	25.90	46.00	-20.10
14	B	1.961	7.15	35.26	56.00	-20.74	25.62	46.00	-20.38
15	B	1.978	7.15	34.75	56.00	-21.25	25.48	46.00	-20.52
16	B	2.373	7.20	36.78	56.00	-19.22	26.54	46.00	-19.46
17	B	2.591	7.23	36.78	56.00	-19.22	26.89	46.00	-19.11
18	B	2.681	7.24	36.85	56.00	-19.15	27.31	46.00	-18.69
19	B	2.849	7.26	36.24	56.00	-19.76	26.40	46.00	-19.60
20	B	2.989	7.27	36.06	56.00	-19.94	25.46	46.00	-20.54

Table 6-30. Line Conducted Data with 802.11a (UNII Band 2)

Notes:

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

FCC ID: A3LGTI8190T		FCC Pt. 15.407 802.11a/n UNII MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1212211844.A3L	Test Dates: Jan 1-8, 2012	EUT Type: Portable Handset		Page 70 of 73

Line-Conducted Test Data (Cont'd)

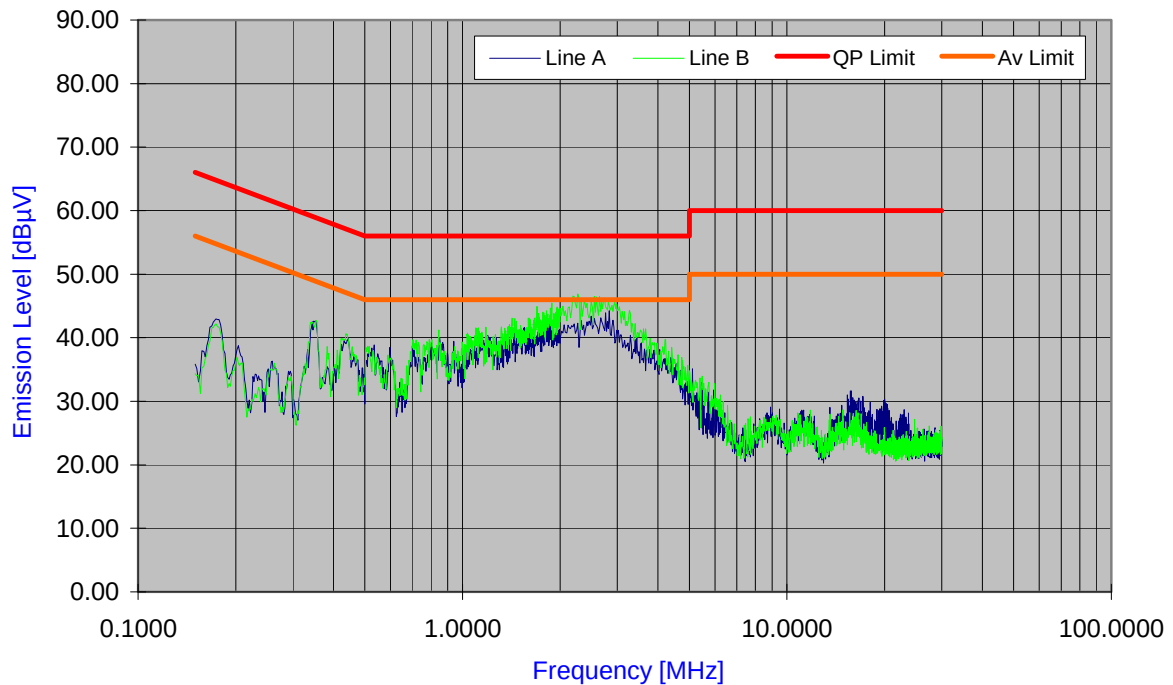
§15.207; RSS-Gen [7.2.2]

PCTEST Engineering Laboratory Inc.

Company : Samsung Electronics Co., Ltd.
Model Number : GT-I8190T
FCC ID Code : A3LGTI8190T
Standard : FCC Part 15C, 15.207

Power Source : AC120V/60Hz
Tested Date : 01/01/2013
Note : Tested with 802.11a
UNII Band 3 ON

Conducted Emission Measurement



Ver.1.1 ©PCTEST 2006.08

Plot 6-56. Line Conducted Plot with 802.11a (UNII Band 3)

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. Line A = Phase; Line B = Neutral
4. Traces shown in plot made using a peak detector.
5. Deviations to the Specifications: None.

FCC ID: A3LGTI8190T	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 15.407 802.11a/n UNII MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Reviewed by: Quality Manager
Test Report S/N: 0Y1212211844.A3L	Test Dates: Jan 1-8, 2012	EUT Type: Portable Handset		Page 71 of 73

Line-Conducted Test Data (Cont'd)

§15.207; RSS-Gen [7.2.2]

No.	Line	Frequency [MHz]	Factor [dB]	QP [dBμV]	Limit [dBμV]	Margin [dB]	Average [dBμV]	Limit [dBμV]	Margin [dB]
1	A	1.547	7.11	32.49	56.00	-23.51	23.24	46.00	-22.76
2	A	1.607	7.12	32.33	56.00	-23.67	22.14	46.00	-23.86
3	A	1.710	7.13	32.06	56.00	-23.94	23.72	46.00	-22.28
4	A	1.863	7.14	33.43	56.00	-22.57	24.26	46.00	-21.74
5	A	1.948	7.15	32.86	56.00	-23.14	24.47	46.00	-21.53
6	A	1.974	7.15	32.58	56.00	-23.42	23.82	46.00	-22.18
7	A	2.124	7.17	33.85	56.00	-22.15	25.59	46.00	-20.41
8	A	2.471	7.21	34.51	56.00	-21.49	25.76	46.00	-20.24
9	A	2.807	7.25	34.10	56.00	-21.90	25.07	46.00	-20.93
10	A	2.902	7.26	33.93	56.00	-22.07	24.52	46.00	-21.48
11	B	1.698	7.12	35.25	56.00	-20.75	25.29	46.00	-20.71
12	B	1.873	7.14	35.32	56.00	-20.68	25.98	46.00	-20.02
13	B	1.884	7.14	35.01	56.00	-20.99	25.95	46.00	-20.05
14	B	1.892	7.14	34.21	56.00	-21.79	25.88	46.00	-20.12
15	B	1.951	7.15	35.70	56.00	-20.30	25.84	46.00	-20.16
16	B	1.991	7.15	35.28	56.00	-20.72	26.19	46.00	-19.81
17	B	2.303	7.19	36.56	56.00	-19.44	27.09	46.00	-18.91
18	B	2.506	7.22	36.48	56.00	-19.52	27.18	46.00	-18.82
19	B	2.645	7.23	36.90	56.00	-19.10	26.93	46.00	-19.07
20	B	3.187	7.29	34.39	56.00	-21.61	23.96	46.00	-22.04

Table 6-31. Line Conducted Data with 802.11a (UNII Band 3)

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. Line A = Phase; Line B = Neutral
4. Factor (dB) = Cable loss (dB) + LISN insertion factor (dB)
5. QP/AV Level (dBμV) = QP/AV Analyzer/Receiver Level (dBμV) + Factor (dB)
6. Margin (dB) = QP/AV Level (dBμV) – Limit (dBμV)
7. Traces shown in plot are made using a peak detector.
8. Deviations to the Specifications: None.

FCC ID: A3LGTI8190T		FCC Pt. 15.407 802.11a/n UNII MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1212211844.A3L	Test Dates: Jan 1-8, 2012	EUT Type: Portable Handset		Page 72 of 73

7.0 CONCLUSION

The data collected relate only the item(s) tested and show that the **Samsung Portable Handset FCC ID: A3LGTI8190T** is in compliance with Part 15E of the FCC Rules and RSS-210 of the Industry Canada Rules.

FCC ID: A3LGTI8190T		FCC Pt. 15.407 802.11a/n UNII MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1212211844.A3L	Test Dates: Jan 1-8, 2012	EUT Type: Portable Handset		Page 73 of 73