



# PCTEST ENGINEERING LABORATORY, INC.

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## MEASUREMENT REPORT FCC PART 15.247 WLAN 802.11a/n/ac

**Applicant Name:**

Samsung Electronics, Co. Ltd.  
129, Samsung-ro, Maetan dong,  
Yeongtong-gu, Suwon-si  
Gyeonggi-do 443-742, Korea

**Date of Testing:**

7/19/2013

**Test Site/Location:**

PCTEST Lab, Columbia, MD, USA

**Test Report Serial No.:**

0Y1307101234.A3L

**FCC ID:**

A3LSCHI545

**APPLICANT:**

Samsung Electronics, Co. Ltd.

**Application Type:**

Class II Permissive Change

**Model(s):**

SCH-I545

**EUT Type:**

Portable Handset

**FCC Classification:**

Digital Transmission System (DTS)

**FCC Rule Part(s):**

Part 15.247

**Test Procedure(s):**

KDB 558074 v03r01, KDB 648474 v01r02

**Class II Permissive Change:**

Please see FCC change documents.

**Original Grant Date:**



03/29/2013

This equipment has been shown to be capable of compliance with the applicable technical standards as indicated in the measurement report and was tested in accordance with the measurement procedures specified in KDB 558074 v03r01. Test results reported herein relate only to the item(s) tested.

I attest to the accuracy of data. All measurements reported herein were performed by me or were made under my supervision and are correct to the best of my knowledge and belief. I assume full responsibility for the completeness of these measurements and vouch for the qualifications of all persons taking them.



  
Randy Ortanez  
President

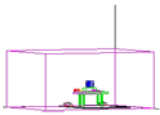


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| <b>Test Report S/N:</b><br>0Y1307101234.A3L | <b>Test Dates:</b><br>7/19/2013   | <b>EUT Type:</b><br>Portable Handset   |   | Page 1 of 16                           |

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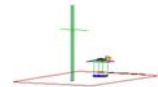
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# MEASUREMENT REPORT

## FCC Part 15.247



### § 2.1033 General Information

**APPLICANT:** Samsung Electronics, Co. Ltd.

**APPLICANT ADDRESS:** 129, Samsung-ro, Maetan dong,  
Yeongtong-gu, Suwon-si, Gyeonggi-do 443-742, Korea

**TEST SITE:** PCTEST ENGINEERING LABORATORY, INC.

**TEST SITE ADDRESS:** 7185 Oakland Mills Road, Columbia, MD 21046 USA

**FCC RULE PART(S):** Part 15.247

**IC SPECIFICATION(S):** RSS-210 Issue 8

**MODEL NAME:** SCH-I545

**FCC ID:** A3LSCHI545

**Test Device Serial No.:** FK-195-B ☐ Production ☒ Pre-Production ☐ Engineering

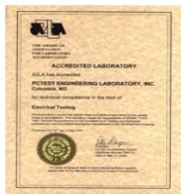
**FCC CLASSIFICATION:** Digital Transmission System (DTS)

**DATE(S) OF TEST:** 7/19/2013



**TEST REPORT S/N:** 0Y1307101234.A3L

### Test Facility / Accreditations

Measurements were performed at PCTEST Engineering Lab located in Columbia, MD 21046, U.S.A.



- PCTEST facility is an FCC registered (PCTEST Reg. No. 159966) test facility with the site description report on file and has met all the requirements specified in Section 2.948 of the FCC Rules and Industry Canada (2451B-1).
- PCTEST Lab is accredited to ISO 17025 by U.S. National Institute of Standards and Technology (NIST) under the National Voluntary Laboratory Accreditation Program (NVLAP Lab code: 100431-0) in EMC, FCC and Telecommunications.
- PCTEST Lab is accredited to ISO 17025-2005 by the American Association for Laboratory Accreditation (A2LA) in Specific Absorption Rate (SAR) testing, Hearing Aid Compatibility (HAC) testing, CTIA Test Plans, and wireless testing for FCC and Industry Canada Rules.
- PCTEST Lab is a recognized U.S. Conformity Assessment Body (CAB) in EMC and R&TTE (n.b. 0982) under the U.S.-EU Mutual Recognition Agreement (MRA).
- PCTEST TCB is a Telecommunication Certification Body (TCB) accredited to ISO/IEC Guide 65 by the American National Standards Institute (ANSI) in all scopes of FCC Rules and Industry Canada Standards (RSS).
- PCTEST facility is an IC registered (2451B-1) test laboratory with the site description on file at Industry Canada.
- PCTEST is a CTIA Authorized Test Laboratory (CATL) for AMPS, CDMA, and EvDO wireless devices and for Over-the-Air (OTA) Antenna Performance testing for AMPS, CDMA, GSM, GPRS, EGPRS, UMTS (W-CDMA), CDMA 1xEVDO, and CDMA 1xRTT.

|   |   |  |   |  |
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## 1.0 INTRODUCTION

### 1.1 Scope

Measurement and determination of electromagnetic emissions (EMC) of radio frequency devices including intentional and/or unintentional radiators for compliance with the technical rules and regulations of the Federal Communications Commission and the Industry Canada Certification and Engineering Bureau.

### 1.2 PCTEST Test Location

The map below shows the location of the PCTEST LABORATORY, its proximity to the FCC Laboratory, the Columbia vicinity, the Baltimore-Washington Intern'l (BWI) airport, the city of Baltimore and the Washington, DC area. (See Figure 1-1).

These measurement tests were conducted at the PCTEST Engineering Laboratory, Inc. facility located at 7185 Oakland Mills Road, Columbia, MD 21046. The site coordinates are 39° 10'23" N latitude and 76° 49'50" W longitude. The facility is 0.4 miles North of the FCC laboratory, and the ambient signal and ambient signal strength are approximately equal to those of the FCC laboratory. The detailed description of the measurement facility was found to be in compliance with the requirements of § 2.948 according to ANSI C63.4-2009 on February 15, 2012.

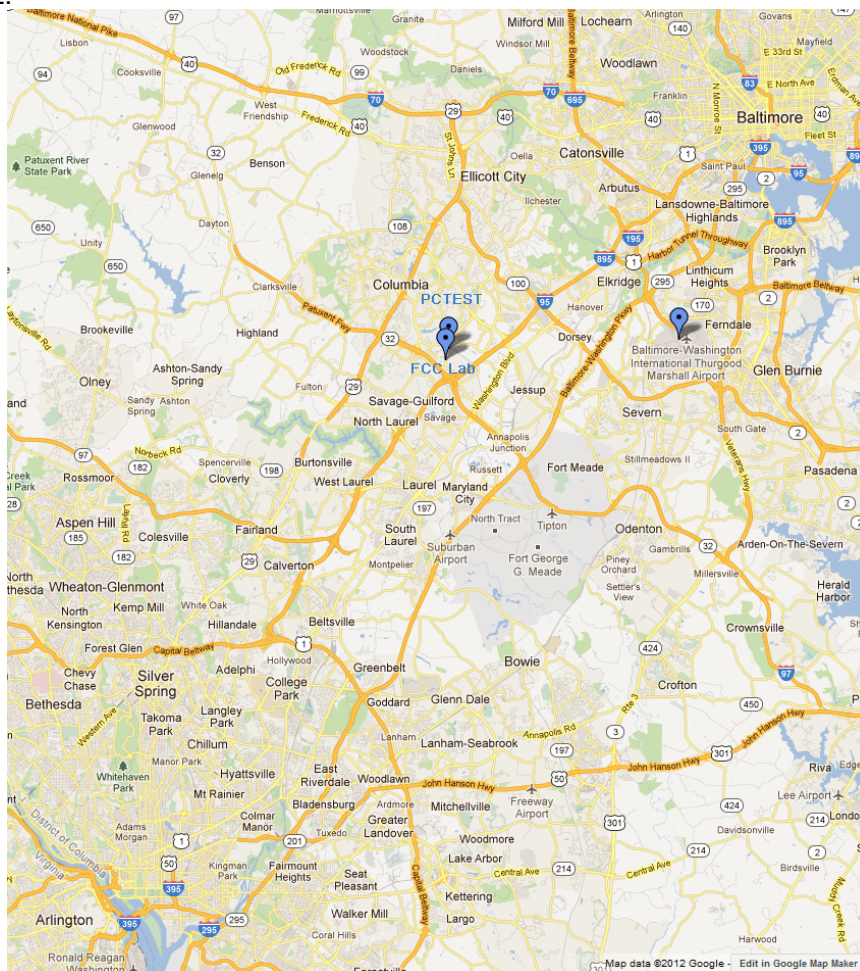


Figure 1-1. Map of the Greater Baltimore and Metropolitan Washington, D.C. area

|                                      |   |  |                |                                 |
|--------------------------------------|---|--|----------------|---------------------------------|
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## 2.0 PRODUCT INFORMATION

### 2.1 Equipment Description

The Equipment Under Test (EUT) is the **Samsung Portable Handset FCC ID: A3LSCHI545**. The test data contained in this report pertains only to the 5GHz emissions of the EUT's WLAN (DTS) transmitter since the change is not associated with the 2.4GHz operation.

### 2.2 Device Capabilities

This device contains the following capabilities:

850/1900 CDMA/EvDO Rev0/A (BC0, BC1), 850/1900 GSM/GPRS/EDGE, 850/1900 WCDMA/HSPA, Band 4(5,10,15,20 MHz BW), 13 (5,10 MHz BW) LTE, 802.11a/ac/b/g/n WLAN (DTS/NII), Bluetooth (1x,EDR, LE), NFC

### 2.3 Test Configuration

The Samsung Portable Handset FCC ID: A3LSCHI545 was tested per the guidance of KDB 558074 v03r01. ANSI C63.10-2009 was used to reference the appropriate EUT setup for radiated spurious emissions testing and AC line conducted testing. See Sections 3.2, and 6.1 of this test report for a description of the radiated emissions test setup.

This device supports a wireless charging cover. Additional emissions testing was performed per KDB 648474 D03 v01r02. The handset was placed on the representative charging pad (FCC ID: A3LEPP100IJWU) under normal conditions and in a simulated call configuration. The additional worst case emissions are reported herein and identified as WCC.



### 2.4 EMI Suppression Device(s)/Modifications

No EMI suppression device(s) were added and/or no modifications were made during testing.

### 2.5 Labeling Requirements

Per 2.1074 & 15.19; Docket 95-19

The label shall be permanently affixed at a conspicuous location on the device; instruction manual or pamphlet supplied to the user and be readily visible to the purchaser at the time of purchase. However, when the device is so small wherein placement of the label with specified statement is not practical, only the trade name and FCC ID must be displayed on the device per Section 15.19(a)(5). Please see attachment for FCC ID label and label location.

|   |   |  |   |  |
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## 3.0 DESCRIPTION OF TEST

### 3.1 Evaluation Procedure

The measurement procedures described in the American National Standard for Testing Unlicensed Wireless Devices (ANSI C63.10-2009), and the guidance provided in KDB 558074 v03r01 were used in the measurement of the **Samsung Portable Handset FCC ID: A3LSCHI545**.



Deviation from measurement procedure.....None

### 3.2 Radiated Emissions

The radiated test facilities consisted of an indoor 3 meter semi-anechoic chamber used for final measurements and exploratory measurements, when necessary. The measurement area is contained within the semi-anechoic chamber which is shielded from any ambient interference. For measurements above 1GHz absorbers are arranged on the floor between the turn table and the antenna mast in such a way so as to maximize the reduction of reflections. For measurements below 1GHz, the absorbers are removed. An ETS Lindgren Model 2188 raised turntable is used for radiated measurement. It is a continuously rotatable, remote-controlled, metallic turntable and 2 meters (6.56 ft.) in diameter. The turn table is flush with the raised floor of the chamber in order to maintain its function as a ground plane. A 78cm high PVC support structure is placed on top of the turntable. A ¾" (~1.9cm) sheet of high density polyethylene is used as the table top and is placed on top of the PVC supports to bring the total height of the table to 80cm.

For all measurements, the spectrum was scanned through all EUT azimuths and from 1 to 4 meter receive antenna height using a broadband antenna from 30MHz up to the upper frequency shown in 15.33(b)(1) depending on the highest frequency generated or used in the device or on which the device operates or tunes. For frequencies above 1GHz, linearly polarized double ridge horn antennas were used. For frequencies below 30MHz, a calibrated loop antenna was used. When exploratory measurements were necessary, they were performed at 1 meter test distance inside the semi-anechoic chamber using broadband antennas, broadband amplifiers, and spectrum analyzers to determine the frequencies and modes producing the maximum emissions. Sufficient time for the EUT, support equipment, and test equipment was allowed in order for them to warm up to their normal operating condition. The test set-up was placed on top of the 0.8 meter high, 1 x 1.5 meter table. The EUT, support equipment, and interconnecting cables were arranged and manipulated to maximize each emission. Appropriate precaution was taken to ensure that all emissions from the EUT were maximized and investigated. The system configuration, clock speed, mode of operation or video resolution, if applicable, turntable azimuth, and receive antenna height was noted for each frequency found.

Final measurements were made in the semi-anechoic chamber using calibrated, linearly polarized broadband and horn antennas. The test setup was configured to the setup that produced the worst case emissions. The spectrum analyzer was set to investigate all frequencies required for testing to compare the highest radiated disturbances with respect to the specified limits. The turntable containing the EUT was rotated through 360 degrees and the height of the receive antenna was varied 1 to 4 meters and stopped at the azimuth and height producing the maximum emission. Each emission was maximized by changing the orientation of the EUT through three orthogonal planes and changing the polarity of the receive antenna, whichever produced the worst-case emissions. For the EUT positioning, "H" is defined with the EUT lying flat on the test surface, "H2" is defined with the EUT standing up on its side, and "V" is defined with the EUT standing upright.

|                                      |   |  |   |                                 |
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## 4.0 ANTENNA REQUIREMENTS

### Excerpt from §15.203 of the FCC Rules/Regulations:

“An intentional radiator antenna shall be designed to ensure that no antenna other than that furnished by the responsible party can be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this section.”



- The antennas of the Portable Handset are **permanently attached**.
- There are no provisions for connection to an external antenna.

### Conclusion:

The **Samsung Portable Handset FCC ID: A3LSCHI545** unit complies with the requirement of §15.203.

| Ch. | BW (MHz) | Frequency (MHz) | Ch. | BW (MHz) | Frequency (MHz) |
|-----|----------|-----------------|-----|----------|-----------------|
| 149 | 20       | 5745            | 159 | 20 / 40  | 5795            |
| 151 | 20 / 40  | 5755            | 161 | 20       | 5805            |
| 153 | 20       | 5765            | 163 | 20       | 5815            |
| 155 | 20 / 80  | 5775            | 165 | 20       | 5825            |
| 157 | 20       | 5785            |     |          |                 |

**Table 4-1. Frequency/ Channel Operations**



|   |   |  |   |  |
|---|---|--|---|--|
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## 5.0 TEST EQUIPMENT CALIBRATION DATA

Test Equipment Calibration is traceable to the National Institute of Standards and Technology (NIST).

| Manufacturer    | Model         | Description                            | Cal Date  | Cal Interval | Cal Due   | Serial Number |
|-----------------|---------------|--|-----------|--------------|-----------|---------------|
| -               | RE1           | Radiated Emissions Cable Set (UHF/EHF) | 3/29/2013 | Annual       | 3/29/2014 | N/A           |
| -               | RE2           | Radiated Emissions Cable Set (VHF/UHF) | 3/29/2013 | Annual       | 3/29/2014 | N/A           |
| Agilent         | 8447D         | Broadband Amplifier                    | 5/31/2013 | Annual       | 5/31/2014 | 2443A01900    |
| Com-Power       | AL-130        | 9kHz - 30MHz Loop Antenna              | 6/26/2013 | Annual       | 6/26/2014 | 121034        |
| Emco            | 3115          | Horn Antenna (1-18GHz)                 | 1/12/2012 | Biennial     | 1/12/2014 | 9704-5182     |
| ETS Lindgren    | 3160-09       | 18-26.5 GHz Standard Gain Horn         | 5/30/2012 | Biennial     | 5/30/2014 | 135427        |
| ETS Lindgren    | 3160-10       | 26.5-40 GHz Standard Gain Horn         | 6/6/2012  | Biennial     | 6/6/2014  | 130993        |
| Huber+Suhner    | Sucoflex 102A | 40GHz Radiated Cable                   | 3/1/2013  | Annual       | 3/1/2014  | 251425001     |
| K & L           | 6000/T18000   | High Pass Filter                       | 3/4/2013  | Annual       | 3/4/2014  | 1             |
| Rohde & Schwarz | TS-PR18       | 1-18 GHz Pre-Amplifier                 | 5/31/2013 | Annual       | 5/31/2014 | 100071        |
| Rohde & Schwarz | TS-PR26       | 18-26.5 GHz Pre-Amplifier              | 5/31/2013 | Annual       | 5/31/2014 | 100040        |
| Rohde & Schwarz | TS-PR40       | 26.5-40 GHz Pre-Amplifier              | 6/6/2012  | Biennial     | 6/6/2014  | 100037        |
| Rohde & Schwarz | ESU26         | EMI Test Receiver                      | 2/25/2013 | Annual       | 2/25/2014 | 100342        |
| Sunol           | JB5           | Bi-Log Antenna (30M - 5GHz)            | 1/26/2012 | Biennial     | 1/26/2014 | A051107       |

**Table 5-1. Annual Test Equipment Calibration Schedule**

|   |   |  |   |  |
|---|---|--|---|--|
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## 6.0 TEST RESULTS

### 6.1 Summary



Company Name: Samsung Electronics, Co. Ltd.  
 FCC ID: A3LSCHI545  
 FCC Classification: Digital Transmission System (DTS)  
 Data Rate(s) Tested: 6Mbps, 9Mbps, 12Mbps, 18Mbps, 24Mbps, 36Mbps, 48Mbps, 54Mbps (a)  
6.5/7.2Mbps, 13/14.4Mbps, 19.5/21.7Mbps, 26/28.9Mbps, 39/43.3Mbps,  
52/57.8Mbps, 58.5/65Mbps, 65/72.2Mbps (n – 20MHz)  
13.5/15Mbps, 27/30Mbps, 40.5/45Mbps, 54/60Mbps, 81/90Mbps, 108/120Mbps,  
121.5/135Mbps, 135/150Mbps (n – 40MHz)  
29.3/32.5Mbps, 58.5/65Mbps, 87.8/97.5Mbps, 117/130Mbps, 175.5/195Mbps,  
234/260Mbps, 263.3/292.5Mbps, 292.5/325Mbps, 351/390Mbps, 390/433.3Mbps  
(ac – 80MHz BW)

| FCC Part Section(s)          | RSS Section(s) | Test Description  | Test Limit   | Test Condition | Test Result | Reference         |
|------------------------------|----------------|---|--|----------------|-------------|-------------------|
| <b>TRANSMITTER MODE (TX)</b> |                |   |  |                |             |                   |
| 15.205<br>15.209             | RSS-210 [A8.5] | General Field Strength Limits (Restricted Bands and Radiated Emission Limits) | Emissions in restricted bands must meet the radiated limits detailed in 15.209 | RADIATED       | PASS        | Sections 6.2, 6.3 |

**Table 6-1. Summary of Test Results**

#### Notes:

All modes of operation and data rates were investigated. The test results shown in the following sections represent the worst case emissions.

|                                      |   |  |   |                                 |
|--------------------------------------|---|--|---|---------------------------------|
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## 6.2 Radiated Spurious Emission Measurements

§15.247(d) / §15.205 & §15.209; RSS-210 [A8.5]

### 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 maximum power, and at the appropriate frequencies. All data rates and modes were investigated for radiated spurious emissions. Only the radiated emissions of the configuration that produced the worst case emissions are reported in this section.

***All out of band emissions appearing in a restricted band as specified in Section 15.205 of the Title 47 CFR must not exceed the limits shown in Table 6-2 per Section 15.209.***

| Frequency         | Field Strength<br>[ $\mu\text{V/m}$ ] | Measured Distance<br>[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 6-2. Radiated Limits**

### Test Procedures Used



KDB 558074 v03r01 – Section 12.2.5 (average power measurements)

KDB 558074 v03r01 – Section 12.2.4 (peak power measurements)

### Test Settings

#### Average Field Strength Measurements per Section 12.2.5.1 of KDB 558074 v03r01

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
7. Trace (RMS) averaging was performed over at least 100 traces

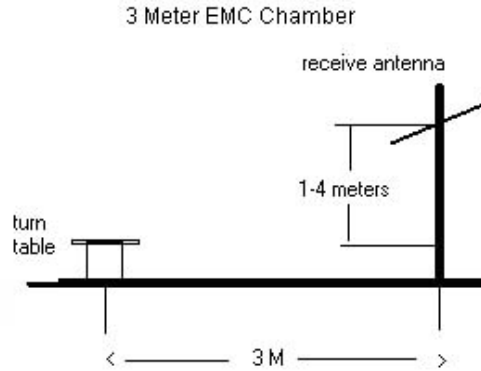
|                                      |   |  |   |                                 |
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**Peak Field Strength Measurements per Section 12.2.4 of KDB 558074 v03r01**

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

**Test Setup**

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



**Figure 6-1. Test Instrument & Measurement Setup**

|   |   |  |                |  |
|---|---|--|----------------|--|
| <b>FCC ID:</b> A3LSCHI545                   | <b>PCTEST</b><br>ENGINEERING LABORATORY, INC. | <b>FCC Pt. 15.247 802.11a/n/ac MEASUREMENT REPORT<br/>(CLASS II PERMISSIVE CHANGE)</b> | <b>SAMSUNG</b> | <b>Reviewed by:</b><br>Quality Manager |
| <b>Test Report S/N:</b><br>0Y1307101234.A3L | <b>Test Dates:</b><br>7/19/2013               | <b>EUT Type:</b><br>Portable Handset   |                | Page 11 of 16                          |



## Test Notes

1. The optional test procedures for antenna port conducted measurements of unwanted emissions per the guidance of KDB 558074 v03r01 were not used to evaluate this device for compliance to radiated limits. All radiated spurious emissions levels were measured in a radiated test setup.
2. All emissions lying in restricted bands specified in §15.205 are below the limit shown in Table 6-2.
3. The antenna is manipulated through typical positions, polarity and length during the tests. The EUT is manipulated through three orthogonal planes.
4. This unit was tested with its standard 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. 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.
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

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

|                                      |   |  |  |   |                                 |
|--------------------------------------|---|--|--|---|---------------------------------|
| FCC ID: A3LSCHI545                   |  | FCC Pt. 15.247 802.11a/n/ac MEASUREMENT REPORT<br>(CLASS II PERMISSIVE CHANGE) |  |  | Reviewed by:<br>Quality Manager |
| Test Report S/N:<br>0Y1307101234.A3L | Test Dates:<br>7/19/2013  | EUT Type:<br>Portable Handset  |  |   | Page 12 of 16                   |

## Radiated Spurious Emission Measurements (Cont'd)

§15.247(d) / §15.205 & §15.209; RSS-210 [A8.5]

Worst Case Mode: 802.11a  
Worst Case Transfer Rate: 6 Mbps  
Distance of Measurements: 1 & 3 Meters  
Operating Frequency: 5745MHz  
Channel: 149

| Frequency [MHz] | Analyzer Level [dBm] | Detector | Pol. [H/V] | AFCL [dB/m] | Distance Correction Factor [dB] | Field Strength [dB $\mu$ V/m] | Limit [dB $\mu$ V/m] | Margin [dB] |
|-----------------|----------------------|----------|------------|-------------|---------------------------------|-------------------------------|----------------------|-------------|
| 11490.00        | -114.98              | Avg      | H          | 49.71       | 0.00                            | 41.73                         | 53.98                | -12.25      |
| 11490.00        | -101.78              | Peak     | H          | 49.71       | 0.00                            | 54.93                         | 73.98                | -19.05      |
| 22980.00        | -135.00              | Avg      | H          | 44.53       | -9.54                           | 16.53                         | 53.98                | -37.45      |
| 22980.00        | -125.00              | Peak     | H          | 44.53       | -9.54                           | 26.53                         | 73.98                | -47.45      |

Table 6-3. Radiated Measurements



## Radiated Spurious Emission Measurements (Cont'd)

§15.247(d) / §15.205 & §15.209; RSS-210 [A8.5]

Worst Case Mode: 802.11a  
Worst Case Transfer Rate: 6 Mbps  
Distance of Measurements: 1 & 3 Meters  
Operating Frequency: 5785MHz  
Channel: 157

| Frequency [MHz] | Analyzer Level [dBm] | Detector | Pol. [H/V] | AFCL [dB/m] | Field Strength [dB $\mu$ V/m] | Limit [dB $\mu$ V/m] | Margin [dB] |
|-----------------|----------------------|----------|------------|-------------|-------------------------------|----------------------|-------------|
| 11570.00        | -114.01              | Avg      | H          | 49.87       | 42.86                         | 53.98                | -11.12      |
| 11570.00        | -100.38              | Peak     | H          | 49.87       | 56.49                         | 73.98                | -17.49      |

Table 6-4. Radiated Measurements

|                                      |   |  |   |                                 |
|--------------------------------------|---|--|---|---------------------------------|
| FCC ID: A3LSCHI545                   |  | FCC Pt. 15.247 802.11a/n/ac MEASUREMENT REPORT<br>(CLASS II PERMISSIVE CHANGE) |  | Reviewed by:<br>Quality Manager |
| Test Report S/N:<br>0Y1307101234.A3L | Test Dates:<br>7/19/2013  | EUT Type:<br>Portable Handset  |   | Page 13 of 16                   |



## Radiated Spurious Emission Measurements (Cont'd)

§15.247(d) / §15.205 & §15.209; RSS-210 [A8.5]

Worst Case Mode: 802.11a  
Worst Case Transfer Rate: 6 Mbps  
Distance of Measurements: 1 & 3 Meters  
Operating Frequency: 5825MHz  
Channel: 165

| Frequency [MHz] | Analyzer Level [dBm] | Detector | Pol. [H/V] | AFCL [dB/m] | Field Strength [dB $\mu$ V/m] | Limit [dB $\mu$ V/m] | Margin [dB] |
|-----------------|----------------------|----------|------------|-------------|-------------------------------|----------------------|-------------|
| 11650.00        | -114.36              | Avg      | H          | 50.04       | 42.68                         | 53.98                | -11.30      |
| 11650.00        | -101.21              | Peak     | H          | 50.04       | 55.83                         | 73.98                | -18.15      |

**Table 6-5. Radiated Measurements**

|                                      |   |  |   |                                 |
|--------------------------------------|---|--|---|---------------------------------|
| FCC ID: A3LSCHI545                   |  | FCC Pt. 15.247 802.11a/n/ac MEASUREMENT REPORT<br>(CLASS II PERMISSIVE CHANGE) |  | Reviewed by:<br>Quality Manager |
| Test Report S/N:<br>0Y1307101234.A3L | Test Dates:<br>7/19/2013  | EUT Type:<br>Portable Handset  |   | Page 14 of 16                   |



### 6.3 Radiated Spurious Emission Measurements with WCC

§15.247(d) / §15.205 & §15.209; RSS-210 [A8.5]



Worst Case Mode: 802.11a with WCC  
Worst Case Transfer Rate: 6 Mbps  
Distance of Measurements: 1 & 3 Meters  
Operating Frequency: 5745MHz  
Channel: 149

| Frequency [MHz] | Analyzer Level [dBm] | Detector | Pol. [H/V] | AFCL [dB/m] | Distance Correction Factor [dB] | Field Strength [dB $\mu$ V/m] | Limit [dB $\mu$ V/m] | Margin [dB] |
|-----------------|----------------------|----------|------------|-------------|---------------------------------|-------------------------------|----------------------|-------------|
| 11490.00        | -115.33              | Avg      | H          | 49.71       | 0.00                            | 41.38                         | 53.98                | -12.60      |
| 11490.00        | -102.55              | Peak     | H          | 49.71       | 0.00                            | 54.16                         | 73.98                | -19.82      |
| 22980.00        | -135.00              | Avg      | H          | 44.53       | -9.54                           | 16.53                         | 53.98                | -37.45      |
| 22980.00        | -160.98              | Peak     | H          | 44.53       | -9.54                           | 26.53                         | 73.98                | -47.45      |

**Table 6-6. Radiated Measurements**

## 7.0 CONCLUSION

The data collected relate only the item(s) tested and show that the **Samsung Portable Handset FCC ID: A3LSCHI545** is in compliance with Part 15C of the FCC Rules.

|   |   |  |   |  |
|---|---|--|---|--|
| <b>FCC ID:</b> A3LSCHI545                   |  | <b>FCC Pt. 15.247 802.11a/n/ac MEASUREMENT REPORT<br/>(CLASS II PERMISSIVE CHANGE)</b> |  | <b>Reviewed by:</b><br>Quality Manager |
| <b>Test Report S/N:</b><br>0Y1307101234.A3L | <b>Test Dates:</b><br>7/19/2013   | <b>EUT Type:</b><br>Portable Handset   | Page 16 of 16   |  |