PCTEST ENGINEERING LABORATORY, INC.
6660-B Dobbin Road, Columbia, MD 21045 USA
Tel. 410.290.6652 / Fax 410.290.6654
http://www.pctestlab.com

# MEASUREMENT REPORT
## FCC PART 15.407 (UNII)

**Applicant Name:**
LG Electronics MobileComm U.S.A
1000 Sylvan Avenue
Englewood Cliffs, NJ 07632
United States

**Date of Testing:**
12/4 - 12/13/2013
**Test Site/Location:**
PCTEST Lab, Columbia, MD, USA
**Test Report Serial No.:**
0Y1312022327.ZNF

| | |
|---|---|
| **FCC ID:** | **ZNFD959** |
| **APPLICANT:** | **LG Electronics MobileComm U.S.A** |

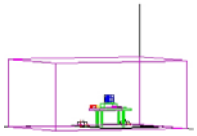
| | |
|---|---|
| **Application Type:** | Class II Permissive Change |
| **Model(s):** | LG-D959, D959, LGD959, LG-D959BK, D959BK, LGD959BK |
| **EUT Type:** | Portable Handset |
| **FCC Classification:** | Unlicensed National Information Infrastructure (UNII) |
| **FCC Rule Part(s):** | Part 15.407 (UNII Band 1, 2a, 2c), 15.247 (UNII Band 3, 802.11ac) |
| **Test Procedure(s):** | KDB 789033 v01r03, KDB 644545 v01r01 |
| **Class II Permissive Change:** | Please see FCC change documents. |
| **Original Grant Date:** | 11/15/2013 |

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 789033 v01r03 and KDB 644545 v01r01. Test results reported herein relate only to the item(s) tested.

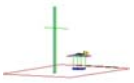
I attest to the accuracy of data. All measurements reported herein were performed by me or were made under my supervision and are correct to the best of my knowledge and belief. I assume full responsibility for the completeness of these measurements and vouch for the qualifications of all persons taking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

Randy Ortanez
President

# TABLE OF CONTENTS



# MEASUREMENT REPORT
## FCC Part 15.407



## § 2.1033 General Information

| | |
|---|---|
| **APPLICANT:** | LG Electronics MobileComm U.S.A |
| **APPLICANT ADDRESS:** | 1000 Sylvan Avenue |
| | Englewood Cliffs, NJ 07632, United States |
| **TEST SITE:** | PCTEST ENGINEERING LABORATORY, INC. |
| **TEST SITE ADDRESS:** | 6660-B Dobbin Road, Columbia, MD 21045 USA |
| **FCC RULE PART(S):** | Part 15.407 |
| **IC SPECIFICATION(S):** | RSS-210 Issue 8 |
| **MODEL NAME:** | LG-D959 |
| **FCC ID:** | ZNFD959 |
| **Test Device Serial No.:** | WIFI RAD ☐ Production ☒ Pre-Production ☐ Engineering |
| **FCC CLASSIFICATION:** | Unlicensed National Information Infrastructure (UNII) |
| **DATE(S) OF TEST:** | 12/4 - 12/13/2013 |
| **TEST REPORT S/N:** | 0Y1312022327.ZNF |

## 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. 90864) 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 (2451A-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 (2451A-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.

# 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 Internt'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 in New Concept Business Park, Guilford Industrial Park, Columbia, Maryland. The site address is 6660-B Dobbin Road, Columbia, MD 21045. The test site is one of the highest points in the Columbia area with an elevation of 390 feet above mean sea level. The site coordinates are 39° 11'15" N latitude and 76° 49'38" W longitude. The facility is 1.5 miles North of the FCC laboratory, and the ambient signal and ambient signal strength are approximately equal to those of the FCC laboratory. There are no FM or TV transmitters within 15 miles of the site. 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 January 10, 2012.

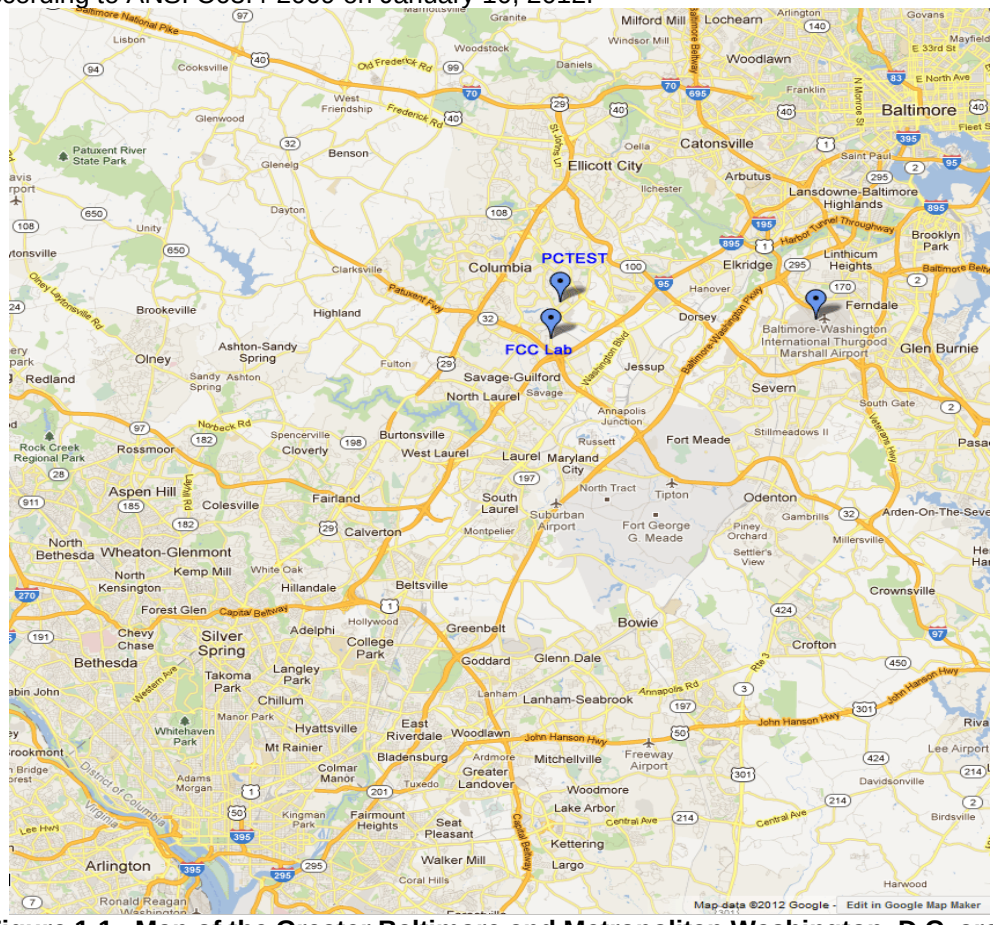



**Figure 1-1. Map of the Greater Baltimore and Metropolitan Washington, D.C. area**

# 2.0 PRODUCT INFORMATION

## 2.1 Equipment Description

The Equipment Under Test (EUT) is the **LGE Portable Handset FCC ID: ZNFD959**. The test data contained in this report pertains only to the emissions due to the EUT's UNII transmitter.

## 2.2 Device Capabilities

This device contains the following capabilities:

850/1900 GSM/GPRS/EDGE, 850/1700/1900 WCDMA/HSPA, Band 2 (5, 10, 15, and 20MHz BW), 4 (5, 10, 15, and 20MHz BW), and 17 (5 and 10MHz BW) LTE, 802.11a/b/g/n/ac WLAN (DTS/NII), Bluetooth (1x,EDR, LE), NFC

**Note:** 5GHz WLAN (DTS/NII) operation is possible in 20MHz, 40MHz, and 80MHz channel bandwidths. The maximum achievable duty cycles for all modes were determined based on measurements performed on a spectrum analyzer in zero-span mode with RBW = 8MHz, VBW = 50MHz, and detector = peak per the guidance of Section B)2)b) of KDB 789033. The RBW and VBW were both greater than 50/T, where T is the minimum transmission duration, and the number of sweep points across T was greater than 100. The duty cycles are as follows:

- 802.11a/n 20MHz Bandwidth – 95.38 %
- 802.11n 40MHz Bandwidth – 91.42 %
- 802.11ac 80MHz Bandwidth – 83.03 %

## 2.3 Test Configuration

The LGE Portable Handset FCC ID: ZNFD959 was tested per the guidance of KDB 789033 v01r03. 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 of this test report for a description of the AC radiated emissions test setups.

## 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.

# 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 789033 v01r03 were used in the measurement of **LGE Portable Handset FCC ID: ZNFD959.**

**Deviation from measurement procedure……..……..None**

## 3.2 Radiated Emissions

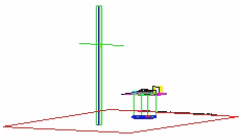


**Figure 3-1. 3-Meter Test Site**

The radiated test facilities consisted of an indoor semi-anechoic chamber used for exploratory measurements and an open area test site (OATS) used for final measurements. 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 higher than the upper frequency range of the broadband antenna used for testing, linearly polarized double ridge horn antennas were used. For frequencies below 30MHz, a calibrated loop antenna was used.

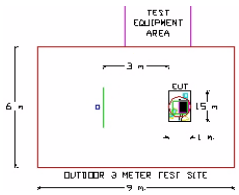



**Figure 3-2. Dimensions of Outdoor Test Site**

Exploratory measurements were performed at 1 meter test distance inside the semi-anechoic chamber using broadband antennas, broadband amplifiers, and spectrum analyzers to determine the frequencies 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 a 0.8 meter high non-metallic 1 x 1.5 meter table (*see Figure 3-3*). 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, turntable azimuth, and receive antenna height was noted for each frequency found. To record the exploratory measurements, the analyzers' detector function was set to peak mode and the bandwidth was set to 100kHz.

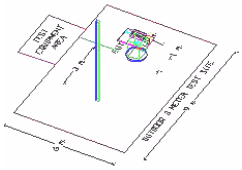


**Figure 3-3. Turntable and System Setup**

Final measurements were made on the OATS at 3 meter test range using calibrated, linearly polarized broadband or horn antennas (*see Figure 3-1*). The measurement area is situated on an 18 meter x 20 meter galvanized 1/2" hardware cloth as the conducting ground plane. This material is sewn together in sections 4 feet wide and 60 feet long. A total of eighteen sections are required to cover the entire measurement area. Sections are laid across the width of the pad, overlapped 1" and sewn and soldered together at intervals of 3" (7.6 cm.) The terrain of the test site is reasonably flat and level. Power and cable to the test site are buried 18" deep into the ground outside the perimeter of the site. An all-weather non-metallic housing is situated on a 2 x 3 meter area adjacent to the measurement area to house the test equipment (*see Figure 3-2*). The test set-up was again placed on top of the same a 0.8 meter high non-metallic 1 x 1.5 meter table on the OATS as used for exploratory measurements in the indoor chamber. The test set-up was re-configured to the same setup that was previously determined through exploratory measurements to have produced the worst case emissions. The spectrum analyzer was set to the frequencies found to have caused the highest radiated disturbances with respect to the limit during preliminary radiated measurements. The turntable containing the system 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. The Theoretical Normalized Site Attenuation Curves for both horizontal and vertical polarization are shown in Figure 3-4.

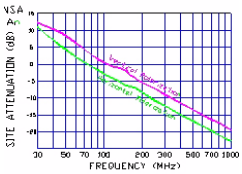



**Figure 3-4. Normalized Site Attenuation Curves (H&V)**

# 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 **LGE Portable Handset FCC ID: ZNFD959** unit complies with the requirement of §15.203.

| Ch. | Frequency (MHz) |
|---|---|
| 36 | 5180 |
| : | : |
| 42 | 5210 |
| : | : |
| 48 | 5240 |

**Band 1**

| Ch. | Frequency (MHz) |
|---|---|
| 52 | 5260 |
| : | : |
| 56 | 5280 |
| : | : |
| 64 | 5320 |

**Band 2A**

| Ch. | Frequency (MHz) |
|---|---|
| 100 | 5500 |
| : | : |
| 116 | 5580 |
| : | : |
| 144 | 5720 |

**Band 2C**

| Ch. | Frequency (MHz) |
|---|---|
| 149 | 5745 |
| : | : |
| 157 | 5785 |
| : | : |
| 165 | 5825 |

**Band 3**

**Table 4-1. 802.11a / 802.11n (20MHz) Frequency / Channel Operations**

| Ch. | Frequency (MHz) |
|---|---|
| 38 | 5190 |
| : | : |
| 46 | 5230 |

**Band 1**

| Ch. | Frequency (MHz) |
|---|---|
| 54 | 5270 |
| : | : |
| 62 | 5310 |

**Band 2A**

| Ch. | Frequency (MHz) |
|---|---|
| 102 | 5510 |
| : | : |
| 110 | 5550 |
| : | : |
| 142 | 5710 |

**Band 2C**

| Ch. | Frequency (MHz) |
|---|---|
| 151 | 5755 |
| : | : |
| 159 | 5795 |

**Band 3**

**Table 4-2. 802.11n (40MHz BW) Frequency / Channel Operations**

| Ch. | Frequency (MHz) |
|---|---|
| 42 | 5210 |

**Band 1**

| Ch. | Frequency (MHz) |
|---|---|
| 58 | 5290 |

**Band 2A**

| Ch. | Frequency (MHz) |
|---|---|
| 106 | 5530 |

**Band 2C**

| Ch. | Frequency (MHz) |
|---|---|
| 155 | 5755 |

**Band 3**

**Table 4-3. 802.11ac (80MHz BW) Frequency / Channel Operations**

# 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 |
| Agilent | 8449B | (1-26.5GHz) Pre-Amplifier | 4/17/2013 | Annual | 4/17/2014 | 3008A00985 |
| Agilent | N9030A | PXA Signal Analyzer (44GHz) | 1/11/2013 | Annual | 1/11/2014 | MY52350166 |
| Agilent | 8447D | Broadband Amplifier | 5/31/2013 | Annual | 5/31/2014 | 1937A03348 |
| Agilent | N9020A | MXA Signal Analyzer | 10/29/2013 | Annual | 10/29/2014 | US46470561 |
| Anritsu | MA2411B | Pulse Sensor | 11/13/2013 | Annual | 11/13/2014 | 846215 |
| Anritsu | ML2495A | Power Meter | 10/31/2013 | Annual | 10/31/2014 | 1039008 |
| Emco | 3116 | Horn Antenna (18 - 40GHz) | 1/20/2012 | Triennial | 1/20/2015 | 9203-2178 |
| Emco | 3816/2 | LISN | 2/12/2013 | Biennial | 2/12/2015 | 9707-1077 |
| Emco | 6502 | Active Loop Antenna (10k - 30 MHz) | 5/31/2012 | Biennial | 5/31/2014 | 267 |
| Huber+Suhner | Sucoflex 102A | 40GHz Radiated Cable | 3/1/2013 | Annual | 3/1/2014 | 251425001 |
| Mini-Circuits | VHF-3100+ | High Pass Filter | 1/21/2013 | Annual | 1/21/2014 | 31144 |
| Mini-Circuits | VHF-8400+ | 3.4GHz - 9.9GHz High Pass Filter | 1/17/2013 | Annual | 1/17/2014 | 31048 |
| 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 |
| Schwarzbeck | VULB-9161SE | Trilog Super Broadband Test Antenna | 10/23/2013 | Biennial | 10/23/2015 | 9161-4075 |
| Sunol | DRH-118 | Horn Antenna (1-18 GHz) | 6/19/2013 | Biennial | 6/19/2015 | A042511 |

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

# 6.0 TEST RESULTS

## 6.1 Summary

Company Name: LG Electronics MobileComm U.S.A
FCC ID: ZNFD959
Method/System: Unlicensed National Information Infrastructure (UNII)
Data Rate(s) Tested: 6, 9, 12, 18, 24, 36, 48, 54Mbps (802.11a)
6.5/7.2, 13/14.4, 19.5/21.7, 26/28.9, 39/43.3, 52/57.8, 58.5/65, 65/72.2 (n – 20MHz)
13.5/15, 27/30, 40.5/45, 54/60, 81/90, 108/120, 121.5/135, 135/150 (n – 40MHz BW)
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 |
|---|---|---|---|---|---|---|
| **TRANSMITTER MODE (TX)** | | | | | | |
| 15.407(b)(1), (2),(3) | RSS-210 [A9.2] | Undesirable Emissions | < -27 dBm/MHz EIRP (5150-5350MHz, 5470-5725MHz) | RADIATED | PASS | Section 6.2 |
| 15.205, 15.407(b)(1), (5), (6) | RSS-Gen [7.2.3.2] | General Field Strength Limits (Restricted Bands and Radiated Emission Limits) | Emissions in restricted bands must meet the radiated limits detailed in 15.209 (RSS-210 table 3 limits) | | PASS | Section 6.3, 6.4, 6.5 |

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

**Notes:**

1) All channels, modes, and modulations/data rates were investigated among all UNII bands. The test results shown in the following sections represent the worst case emissions.

## 6.2 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 6-2 per Section 15.209.***

| Frequency | Field Strength [μV/m] | Measured Distance [Meters] |
|---|---|---|
| 0.009 – 0.490 MHz | 2400/F (kHz) | 300 |
| 0.490 – 1.705 MHz | 24000/F (kHz) | 30 |
| 1.705 – 30.00 MHz | 30 | 30 |
| 30.00 – 88.00 MHz | 100 | 3 |
| 88.00 – 216.0 MHz | 150 | 3 |
| 216.0 – 960.0 MHz | 200 | 3 |
| Above 960.0 MHz | 500 | 3 |

**Table 6-2. Radiated Limits**

### Test Procedures Used

KDB 789033 v01r03 – Section H

### Test Settings

#### Average Measurements above 1GHz (Method AD)

1. Analyzer center frequency was set to the frequency of the radiated spurious emission of interest
2. RBW = 1MHz
3. VBW = 3MHz
4. Detector = power average (RMS)
5. Number of measurement points = 1001 (Number of points must be ≥ 2 x span/RBW)
6. Averaging type = power (RMS)
7. Sweep time = auto couple
8. Trace was averaged over 100 sweeps

**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.

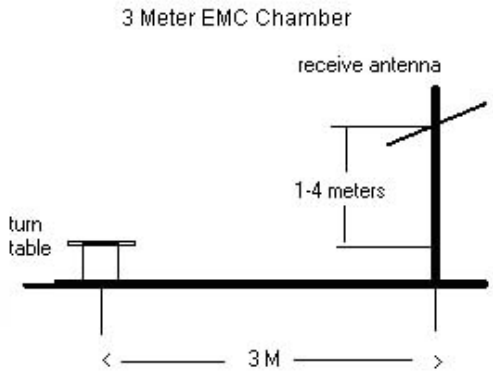



**Figure 6-1. Test Instrument & Measurement Setup**

## 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 6-2.
3. All spurious emissions lying in restricted bands specified in §15.205 are below the limit shown in Table 6-11. All spurious emissions that do not lie in a restricted band are subject to a peak limit of -27dBm/MHz. At a distance of 3 meters, the field strength limit in dBμV/m can be determined by adding a "conversion" factor of 95.2dB to the EIRP limit of -27dBm/MHz to obtain the limit for out of band spurious emissions of 68.2dBμV/m.
4. The antenna is manipulated through typical positions, polarity and length during the tests. The EUT is manipulated through three orthogonal planes.
5. This unit was tested with its standard battery.
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.

## Sample Calculations

### Determining Spurious Emissions Levels

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

### Radiated Band Edge Measurement Offset

- The amplitude offset shown in the radiated restricted band edge plots in Section 6.8 was calculated using the formula:
  Offset (dB) = (Antenna Factor + Cable Loss + 10 dB Attenuator) – Preamplifier Gain

## 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: | 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 | -97.04 | Peak | H | 54.86 | -9.54 | 55.28 | 68.20 | -12.92 |
| * | 15540.00 | -135.00 | Average | H | 57.19 | 0.00 | 29.19 | 53.98 | -24.79 |
| * | 15540.00 | -125.00 | Peak | H | 57.19 | 0.00 | 39.19 | 73.98 | -34.79 |
| * | 20720.00 | -135.00 | Average | H | 44.04 | 0.00 | 16.04 | 53.98 | -37.94 |
| * | 20720.00 | -125.00 | Peak | H | 44.04 | 0.00 | 26.04 | 73.98 | -47.94 |
| | 25900.00 | -125.00 | Peak | H | 44.84 | 0.00 | 26.84 | 68.20 | -41.36 |

**Table 6-3. Radiated Measurements**

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

| | Frequency [MHz] | Analyzer Level [dBm] | Detector | Pol. [H/V] | AFCL [dB/m] | Distance Correction Factor [dB] | Field Strength [dBµV/m] | Limit [dBµV/m] | Margin [dB] |
|---|---|---|---|---|---|---|---|---|---|
| | 10400.00 | -97.49 | Peak | H | 55.07 | -9.54 | 55.04 | 68.20 | -13.16 |
| * | 15600.00 | -135.00 | Average | H | 57.00 | 0.00 | 29.00 | 53.98 | -24.98 |
| * | 15600.00 | -125.00 | Peak | H | 57.00 | 0.00 | 39.00 | 73.98 | -34.98 |
| * | 20800.00 | -135.00 | Average | H | 44.03 | 0.00 | 16.03 | 53.98 | -37.95 |
| * | 20800.00 | -125.00 | Peak | H | 44.03 | 0.00 | 26.03 | 73.98 | -47.95 |
| | 26000.00 | -125.00 | Peak | H | 44.96 | 0.00 | 26.96 | 68.20 | -41.24 |

**Table 6-4. Radiated Measurements**

## 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] | Distance Correction Factor [dB] | Field Strength [dBµV/m] | Limit [dBµV/m] | Margin [dB] |
|---|---|---|---|---|---|---|---|---|---|
| | 10480.00 | -97.85 | Peak | H | 55.49 | -9.54 | 55.10 | 68.20 | -13.10 |
| * | 15720.00 | -135.00 | Average | H | 56.93 | 0.00 | 28.93 | 53.98 | -25.04 |
| * | 15720.00 | -125.00 | Peak | H | 56.93 | 0.00 | 38.93 | 73.98 | -35.04 |
| * | 20960.00 | -135.00 | Average | H | 44.00 | 0.00 | 16.00 | 53.98 | -37.98 |
| * | 20960.00 | -125.00 | Peak | H | 44.00 | 0.00 | 26.00 | 73.98 | -47.98 |
| | 26200.00 | -125.00 | Peak | H | 44.75 | 0.00 | 26.75 | 68.20 | -41.45 |

**Table 6-5. Radiated Measurements**

| | |
|---|---|
| Worst Case Mode: | 802.11a |
| Worst Case Transfer Rate: | 6 Mbps |
| Distance of Measurements: | 1 & 3 Meters |
| Operating Frequency: | 5260MHz |
| Channel: | 52 |

| | Frequency [MHz] | Analyzer Level [dBm] | Detector | Pol. [H/V] | AFCL [dB/m] | Distance Correction Factor [dB] | Field Strength [dBµV/m] | Limit [dBµV/m] | Margin [dB] |
|---|---|---|---|---|---|---|---|---|---|
| | 10520.00 | -97.73 | Peak | H | 55.86 | -9.54 | 55.59 | 68.20 | -12.61 |
| * | 15780.00 | -135.00 | Average | H | 56.90 | 0.00 | 28.90 | 53.98 | -25.08 |
| * | 15780.00 | -125.00 | Peak | H | 56.90 | 0.00 | 38.90 | 73.98 | -35.08 |
| * | 21040.00 | -135.00 | Average | H | 43.95 | 0.00 | 15.95 | 53.98 | -38.03 |
| * | 21040.00 | -125.00 | Peak | H | 43.95 | 0.00 | 25.95 | 73.98 | -48.03 |
| | 26300.00 | -125.00 | Peak | H | 44.78 | 0.00 | 26.78 | 68.20 | -41.42 |

**Table 6-6. Radiated Measurements**

## 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] | Distance Correction Factor [dB] | Field Strength [dBµV/m] | Limit [dBµV/m] | Margin [dB] |
|---|---|---|---|---|---|---|---|---|---|
| | 10560.00 | -97.57 | Peak | H | 56.40 | -9.54 | 56.28 | 68.20 | -11.92 |
| * | 15840.00 | -135.00 | Average | H | 56.87 | 0.00 | 28.87 | 53.98 | -25.11 |
| * | 15840.00 | -125.00 | Peak | H | 56.87 | 0.00 | 38.87 | 73.98 | -35.11 |
| * | 21120.00 | -135.00 | Average | H | 43.83 | 0.00 | 15.83 | 53.98 | -38.15 |
| * | 21120.00 | -125.00 | Peak | H | 43.83 | 0.00 | 25.83 | 73.98 | -48.15 |
| | 26400.00 | -125.00 | Peak | H | 44.72 | 0.00 | 26.72 | 68.20 | -41.48 |

**Table 6-7. Radiated Measurements**

| | |
|---|---|
| Worst Case Mode: | 802.11a |
| Worst Case Transfer Rate: | 6 Mbps |
| Distance of Measurements: | 1 & 3 Meters |
| Operating Frequency: | 5320MHz |
| Channel: | 64 |

| | Frequency [MHz] | Analyzer Level [dBm] | Detector | Pol. [H/V] | AFCL [dB/m] | Distance Correction Factor [dB] | Field Strength [dBµV/m] | Limit [dBµV/m] | Margin [dB] |
|---|---|---|---|---|---|---|---|---|---|
| * | 10640.00 | -107.90 | Average | H | 57.46 | -9.54 | 47.02 | 53.98 | -6.96 |
| * | 10640.00 | -97.42 | Peak | H | 57.46 | -9.54 | 57.50 | 73.98 | -16.48 |
| * | 15960.00 | -135.00 | Average | H | 56.77 | 0.00 | 28.77 | 53.98 | -25.21 |
| * | 15960.00 | -125.00 | Peak | H | 56.77 | 0.00 | 38.77 | 73.98 | -35.21 |
| * | 21280.00 | -135.00 | Average | H | 43.71 | 0.00 | 15.71 | 53.98 | -38.27 |
| * | 21280.00 | -125.00 | Peak | H | 43.71 | 0.00 | 25.71 | 73.98 | -48.27 |
| | 26600.00 | -125.00 | Peak | H | 44.53 | 0.00 | 26.53 | 68.20 | -41.67 |

**Table 6-8. Radiated Measurements**

## 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] | Distance Correction Factor [dB] | Field Strength [dBµV/m] | Limit [dBµV/m] | Margin [dB] |
|---|---|---|---|---|---|---|---|---|---|
| * | 11000.00 | -108.90 | Average | H | 62.37 | -9.54 | 50.93 | 53.98 | -3.05 |
| * | 11000.00 | -98.25 | Peak | H | 62.37 | -9.54 | 61.58 | 73.98 | -12.40 |
| | 16500.00 | -125.00 | Peak | H | 56.95 | 0.00 | 38.95 | 68.20 | -29.25 |
| | 22000.00 | -125.00 | Peak | H | 43.95 | 0.00 | 25.95 | 68.20 | -42.25 |
| | 27500.00 | -125.00 | Peak | H | 44.64 | 0.00 | 26.64 | 68.20 | -41.56 |

**Table 6-9. Radiated Measurements**

| | |
|---|---|
| Worst Case Mode: | 802.11a |
| Worst Case Transfer Rate: | 6 Mbps |
| Distance of Measurements: | 1 & 3 Meters |
| Operating Frequency: | 5580MHz |
| Channel: | 116 |

| | Frequency [MHz] | Analyzer Level [dBm] | Detector | Pol. [H/V] | AFCL [dB/m] | Distance Correction Factor [dB] | Field Strength [dBµV/m] | Limit [dBµV/m] | Margin [dB] |
|---|---|---|---|---|---|---|---|---|---|
| * | 11160.00 | -107.80 | Average | H | 60.25 | -9.54 | 49.91 | 53.98 | -4.07 |
| * | 11160.00 | -98.05 | Peak | H | 60.25 | -9.54 | 59.66 | 73.98 | -14.32 |
| | 16740.00 | -125.00 | Peak | H | 57.32 | 0.00 | 39.32 | 68.20 | -28.88 |
| * | 22320.00 | -135.00 | Average | H | 44.47 | 0.00 | 16.47 | 53.98 | -37.50 |
| * | 22320.00 | -125.00 | Peak | H | 44.47 | 0.00 | 26.47 | 73.98 | -47.50 |
| | 27900.00 | -125.00 | Peak | H | 43.83 | 0.00 | 25.83 | 68.20 | -42.37 |

**Table 6-10. Radiated Measurements**

## 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] | Distance Correction Factor [dB] | Field Strength [dBµV/m] | Limit [dBµV/m] | Margin [dB] |
|---|---|---|---|---|---|---|---|---|---|
| * | 11400.00 | -108.38 | Average | H | 57.00 | -9.54 | 46.07 | 53.98 | -7.91 |
| * | 11400.00 | -97.24 | Peak | H | 57.00 | -9.54 | 57.21 | 73.98 | -16.77 |
| | 17100.00 | -125.00 | Peak | H | 60.07 | 0.00 | 42.07 | 68.20 | -26.13 |
| * | 22800.00 | -135.00 | Average | H | 44.47 | 0.00 | 16.47 | 53.98 | -37.51 |
| * | 22800.00 | -125.00 | Peak | H | 44.47 | 0.00 | 26.47 | 73.98 | -47.51 |
| | 28500.00 | -125.00 | Peak | H | 43.44 | 0.00 | 25.44 | 68.20 | -42.76 |

**Table 6-11. Radiated Measurements**

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

| 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] |
|---|---|---|---|---|---|---|---|---|
| 11490.00 | -108.27 | Avg | H | 55.75 | -9.54 | 44.94 | 53.98 | -9.04 |
| 11490.00 | -98.06 | Peak | H | 55.75 | -9.54 | 55.16 | 73.98 | -18.82 |
| 17235.00 | -125.00 | Peak | H | 61.96 | 0.00 | 43.96 | 68.20 | -26.29 |
| 22980.00 | -135.00 | Avg | H | 44.53 | 0.00 | 16.53 | 53.98 | -37.45 |
| 22980.00 | -125.00 | Peak | H | 44.53 | 0.00 | 26.53 | 73.98 | -47.45 |

**Table 6-12. Radiated Measurements**

## 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: | 5785MHz |
| Channel: | 157 |

| 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] |
|---|---|---|---|---|---|---|---|---|
| 11570.00 | -107.15 | Avg | H | 51.41 | -9.54 | 41.72 | 53.98 | -12.26 |
| 11570.00 | -96.52 | Peak | H | 51.42 | -9.54 | 52.35 | 73.98 | -21.63 |
| 17355.00 | -125.00 | Peak | H | 54.14 | 0.00 | 36.14 | 68.20 | -26.47 |
| 23140.00 | -125.00 | Peak | H | 44.49 | 0.00 | 26.49 | 68.20 | -41.71 |
| 28925.00 | -125.00 | Peak | H | 42.76 | 0.00 | 24.76 | 68.20 | -22.71 |

**Table 6-13. Radiated Measurements**

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

| 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] |
|---|---|---|---|---|---|---|---|---|
| 11650.00 | -107.11 | Avg | H | 51.23 | -9.54 | 41.58 | 53.98 | -12.40 |
| 11650.00 | -96.76 | Peak | H | 51.23 | -9.54 | 51.93 | 73.98 | -22.04 |
| 17475.00 | -125.00 | Peak | H | 54.28 | 0.00 | 36.28 | 68.20 | -26.53 |
| 23300.00 | -125.00 | Peak | H | 44.47 | 0.00 | 26.47 | 68.20 | -41.73 |
| 29125.00 | -125.00 | Peak | H | 42.71 | 0.00 | 24.71 | 68.20 | -43.49 |

**Table 6-14. Radiated Measurements**

## 6.3 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] | Field Strength [dBμV/m] | Limit [dBμV/m] | Margin [dB] |
|---|---|---|---|---|---|---|---|
| 5138.30 | -104.88 | Average | H | 42.63 | 44.75 | 53.98 | -9.23 |
| 5138.30 | -93.47 | Peak | H | 42.63 | 56.16 | 73.98 | -17.82 |
| 5146.35 | -103.62 | Average | H | 42.64 | 46.02 | 53.98 | -7.96 |
| 5146.35 | -90.14 | Peak | H | 42.64 | 59.50 | 73.98 | -14.48 |
| 5150.00 | -101.61 | Average | H | 42.65 | 48.03 | 53.98 | -5.94 |
| 5150.00 | -87.71 | Peak | H | 42.65 | 61.93 | 73.98 | -12.05 |

**Table 6-15. Radiated Restricted Band Measurements (4.5 – 5.15GHz)**

## 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] | Field Strength [dBμV/m] | Limit [dBμV/m] | Margin [dB] |
|---|---|---|---|---|---|---|---|
| 5350.00 | -104.10 | Average | H | 43.10 | 46.00 | 53.98 | -7.98 |
| 5350.00 | -89.48 | Peak | H | 43.10 | 60.62 | 73.98 | -13.36 |
| 5351.60 | -104.85 | Average | H | 43.10 | 45.26 | 53.98 | -8.72 |
| 5351.60 | -93.01 | Peak | H | 43.10 | 57.10 | 73.98 | -16.88 |
| 5353.95 | -105.22 | Average | H | 43.11 | 44.89 | 53.98 | -9.09 |
| 5353.95 | -93.84 | Peak | H | 43.11 | 56.26 | 73.98 | -17.72 |

**Table 6-16. Radiated Restricted Band Measurements (5.35 – 5.46GHz, 5.46 – 5.47GHz)**

## 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] | Field Strength [dBμV/m] | Limit [dBμV/m] | Margin [dB] |
|---|---|---|---|---|---|---|---|
| 5451.03 | -108.72 | Average | H | 43.40 | 41.68 | 53.98 | -12.30 |
| 5451.03 | -98.45 | Peak | H | 43.40 | 51.95 | 73.98 | -22.03 |
| 5459.50 | -108.39 | Average | H | 43.44 | 42.05 | 53.98 | -11.93 |
| 5459.50 | -97.33 | Peak | H | 43.44 | 53.11 | 73.98 | -20.87 |
| 5461.51 | -95.43 | Peak | H | 43.45 | 55.02 | 68.20 | -13.18 |

**Table 6-17. Radiated Restricted Band Measurements (5.35 – 5.46GHz, 5.46 – 5.47GHz)**

## 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

| Frequency [MHz] | Analyzer Level [dBm] | Detector | Pol. [H/V] | AFCL [dB/m] | Field Strength [dBµV/m] | Limit [dBµV/m] | Margin [dB] |
|---|---|---|---|---|---|---|---|
| 5850.00 | -93.54 | Peak | H | 44.27 | 57.74 | 68.20 | -10.46 |
| 5852.45 | -96.44 | Peak | H | 44.28 | 54.84 | 68.20 | -13.36 |
| 5863.10 | -97.32 | Peak | H | 44.29 | 53.97 | 68.20 | -14.23 |

**Table 6-18. Radiated Restricted Band Measurements**

## 6.4 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] | Field Strength [dBμV/m] | Limit [dBμV/m] | Margin [dB] |
|---|---|---|---|---|---|---|---|
| 5139.15 | -101.55 | Average | H | 42.63 | 48.08 | 53.98 | -5.90 |
| 5139.15 | -93.57 | Peak | H | 42.63 | 56.06 | 73.98 | -17.92 |
| 5144.55 | -99.74 | Average | H | 42.64 | 49.90 | 53.98 | -4.08 |
| 5144.55 | -89.12 | Peak | H | 42.64 | 60.52 | 73.98 | -13.46 |
| 5150.00 | -98.73 | Average | H | 42.65 | 50.92 | 53.98 | -3.06 |
| 5150.00 | -85.02 | Peak | H | 42.65 | 64.63 | 73.98 | -9.35 |

**Table 6-19. Radiated Restricted Band Measurements (4.5 – 5.15GHz)**

## 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] | Field Strength [dBμV/m] | Limit [dBμV/m] | Margin [dB] |
|---|---|---|---|---|---|---|---|
| 5350.00 | -104.98 | Average | H | 43.10 | 45.12 | 53.98 | -8.86 |
| 5350.00 | -89.17 | Peak | H | 43.10 | 60.93 | 73.98 | -13.05 |
| 5356.50 | -106.62 | Average | H | 43.11 | 43.49 | 53.98 | -10.49 |
| 5356.50 | -89.31 | Peak | H | 43.11 | 60.80 | 73.98 | -13.18 |
| 5360.40 | -107.11 | Average | H | 43.12 | 43.00 | 53.98 | -10.98 |
| 5360.40 | -93.96 | Peak | H | 43.12 | 56.16 | 73.98 | -17.82 |

**Table 6-20. Radiated Restricted Band Measurements (5.35 – 5.46GHz, 5.46 – 5.47GHz)**

## 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] | Field Strength [dBμV/m] | Limit [dBμV/m] | Margin [dB] |
|---|---|---|---|---|---|---|---|
| 5458.96 | -106.82 | Average | H | 43.43 | 43.61 | 53.98 | -10.37 |
| 5458.96 | -92.46 | Peak | H | 43.43 | 57.97 | 73.98 | -16.01 |
| 5459.68 | -107.17 | Average | H | 43.44 | 43.27 | 53.98 | -10.71 |
| 5459.68 | -98.93 | Peak | H | 43.44 | 51.51 | 73.98 | -22.47 |
| 5469.50 | -89.00 | Peak | H | 43.48 | 61.48 | 68.20 | -6.72 |

**Table 6-21. Radiated Restricted Band Measurements (5.35 – 5.46GHz, 5.46 – 5.47GHz)**

## 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: 5690MHz

Channel: 138

| Frequency [MHz] | Analyzer Level [dBm] | Detector | Pol. [H/V] | AFCL [dB/m] | Field Strength [dBµV/m] | Limit [dBµV/m] | Margin [dB] |
|---|---|---|---|---|---|---|---|
| 5850.00 | -101.07 | Peak | H | 44.27 | 50.20 | 68.20 | -18.00 |
| 5860.85 | -97.32 | Peak | H | 44.28 | 53.97 | 68.20 | -14.23 |
| 5879.70 | -100.26 | Peak | H | 44.30 | 51.04 | 68.20 | -17.16 |

**Table 6-22. Radiated Restricted Band Measurements**

## 6.5 Radiated Band Edge Measurements (80MHz BW)

**§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

| Frequency [MHz] | Analyzer Level [dBm] | Detector | Pol. [H/V] | AFCL [dB/m] | Field Strength [dBµV/m] | Limit [dBµV/m] | Margin [dB] |
|---|---|---|---|---|---|---|---|
| 5136.65 | -101.51 | Average | H | 42.63 | 48.12 | 53.98 | -5.86 |
| 5136.65 | -90.29 | Peak | H | 42.63 | 59.34 | 73.98 | -14.64 |
| 5143.40 | -99.22 | Average | H | 42.64 | 50.42 | 53.98 | -3.56 |
| 5143.40 | -90.87 | Peak | H | 42.64 | 58.77 | 73.98 | -15.21 |
| 5150.00 | -100.26 | Average | H | 42.65 | 49.39 | 53.98 | -4.59 |
| 5150.00 | -87.95 | Peak | H | 42.65 | 61.70 | 73.98 | -12.28 |

**Table 6-23. Radiated Restricted Band Measurements**

## 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

| Frequency [MHz] | Analyzer Level [dBm] | Detector | Pol. [H/V] | AFCL [dB/m] | Field Strength [dBµV/m] | Limit [dBµV/m] | Margin [dB] |
|---|---|---|---|---|---|---|---|
| 5350.00 | -106.93 | Average | H | 43.10 | 43.17 | 53.98 | -10.81 |
| 5350.00 | -94.97 | Peak | H | 43.10 | 55.13 | 73.98 | -18.85 |
| 5354.60 | -105.41 | Average | H | 43.11 | 44.70 | 53.98 | -9.28 |
| 5354.60 | -83.45 | Peak | H | 43.11 | 66.66 | 73.98 | -7.32 |
| 5359.80 | -107.50 | Average | H | 43.12 | 42.61 | 53.98 | -11.37 |
| 5359.80 | -90.76 | Peak | H | 43.12 | 59.35 | 73.98 | -14.63 |

**Table 6-24. Radiated Restricted Band Measurements**

## 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

| Frequency [MHz] | Analyzer Level [dBm] | Detector | Pol. [H/V] | AFCL [dB/m] | Field Strength [dBµV/m] | Limit [dBµV/m] | Margin [dB] |
|---|---|---|---|---|---|---|---|
| 5454.30 | -105.74 | Average | H | 43.41 | 44.67 | 53.98 | -9.31 |
| 5454.30 | -89.07 | Peak | H | 43.41 | 61.34 | 73.98 | -12.64 |
| 5459.50 | -103.31 | Average | H | 43.44 | 47.13 | 53.98 | -6.85 |
| 5459.50 | -88.87 | Peak | H | 43.44 | 61.57 | 73.98 | -12.41 |
| 5469.50 | -85.37 | Peak | H | 43.48 | 65.11 | 68.20 | -3.09 |

**Table 6-25. Radiated Restricted Band Measurements**

## 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: 5775MHz

Channel: 155

| Frequency [MHz] | Analyzer Level [dBm] | Detector | Pol. [H/V] | AFCL [dB/m] | Field Strength [dBμV/m] | Limit [dBμV/m] | Margin [dB] |
|---|---|---|---|---|---|---|---|
| 5850.00 | -64.41 | Peak | H | 44.27 | 51.41 | 68.20 | -16.79 |
| 5852.00 | -60.59 | Peak | H | 44.28 | 55.23 | 68.20 | -12.97 |
| 5864.70 | -60.62 | Peak | H | 44.29 | 55.24 | 68.20 | -12.96 |

# 7.0 CONCLUSION

The data collected relate only the item(s) tested and show that the **LGE Portable Handset FCC ID: ZNFD959** is in compliance with Part 15E of the FCC Rules.