



# PCTEST ENGINEERING LABORATORY, INC.

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## MEASUREMENT REPORT

FCC Part 22 & 24 / IC RSS-132/RSS-133

**Applicant Name:**

LG Electronics MobileComm U.S.A., Inc.  
10101 Old Grove Road,  
San Diego, CA 92131  
USA

**Date of Testing:**

November 16, 2011

**Test Site/Location:**

PCTEST Lab., Columbia, MD, USA

**Test Report Serial No.:**

0Y1111151966.ZNF

**FCC ID:**

**ZNFLN272**

**APPLICANT:**

**LG ELECTRONICS MOBILECOMM U.S.A., INC.**

**Application Type:** Class II Permissive Change

**FCC Classification:** PCS Licensed Transmitter Held to Ear (PCE)

**FCC Rule Part(s):** §2; §22(H), §24(E)

**IC Specification(s):** RSS-132 Issue 2; RSS-133 Issue 5

**EUT Type:** Portable Handset

**Model(s):** LN272, LG-LN272, LGLN272, LG272

**Test Device Serial No.:** *identical prototype [S/N: RF #2]*

**Class II Permissive Change:** See Change Document

**Original Grant Date:** 10/06/2011

Mode	Tx Frequency (MHz)	Emission Designator	ERP/EIRP	
			Maximum Power (Watts)	Maximum Power (dBm)
CDMA850	824.70 - 848.31	1M27F9W	0.171	22.33
CDMA1900	1851.25 - 1908.75	1M27F9W	0.537	27.30

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 §2.947. 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.

*PCTEST certifies that no party to this application has been subject to a denial of Federal benefits that includes FCC benefits pursuant to Section 5301 of the Anti-Drug Abuse Act of 1988, 21 U.S.C. 862.*

  
\_\_\_\_\_  
Randy Ortanez  
President



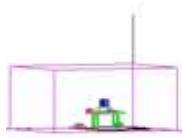
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## MEASUREMENT REPORT

### FCC Part 22 & 24



#### §2.1033 General Information

**APPLICANT:** LG Electronics MobileComm U.S.A., Inc.  
**APPLICANT ADDRESS:** 10101 Old Grove Road,  
San Diego, CA 92131, USA  
**TEST SITE:** PCTEST ENGINEERING LABORATORY, INC.  
**TEST SITE ADDRESS:** 6660-B Dobbin Road, Columbia, MD 21045 USA  
**FCC RULE PART(S):** §2; §22(H), §24(E)  
**IC SPECIFICATION(S):** RSS-132 Issue 2; RSS-133 Issue 5  
**BASE MODEL:** LN272  
**FCC ID:** ZNFLN272  
**FCC CLASSIFICATION:** PCS Licensed Transmitter Held to Ear (PCE)  
**MODE:** CDMA / EvDO  
**FREQUENCY TOLERANCE:** ±0.00025 % (2.5 ppm)  
**Test Device Serial No.:** RF #2  Production  Pre-Production  Engineering  
**DATE(S) OF TEST:** November 16, 2011  
**TEST REPORT S/N:** 0Y1111151966.ZNF

#### Test Facility / Accreditations

Measurements were performed at PCTEST Engineering Lab. located in Columbia, MD 21045, 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.



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## 1.0 INTRODUCTION

### 1.1 Scope

Measurement and determination of electromagnetic emissions (EME) 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 Testing Facility

The map below shows the location of the PCTEST LABORATORY, its proximity to the FCC Laboratory, the Columbia vicinity are, the Baltimore-Washington Intert'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 C63.4-2003 on January 28, 2009.

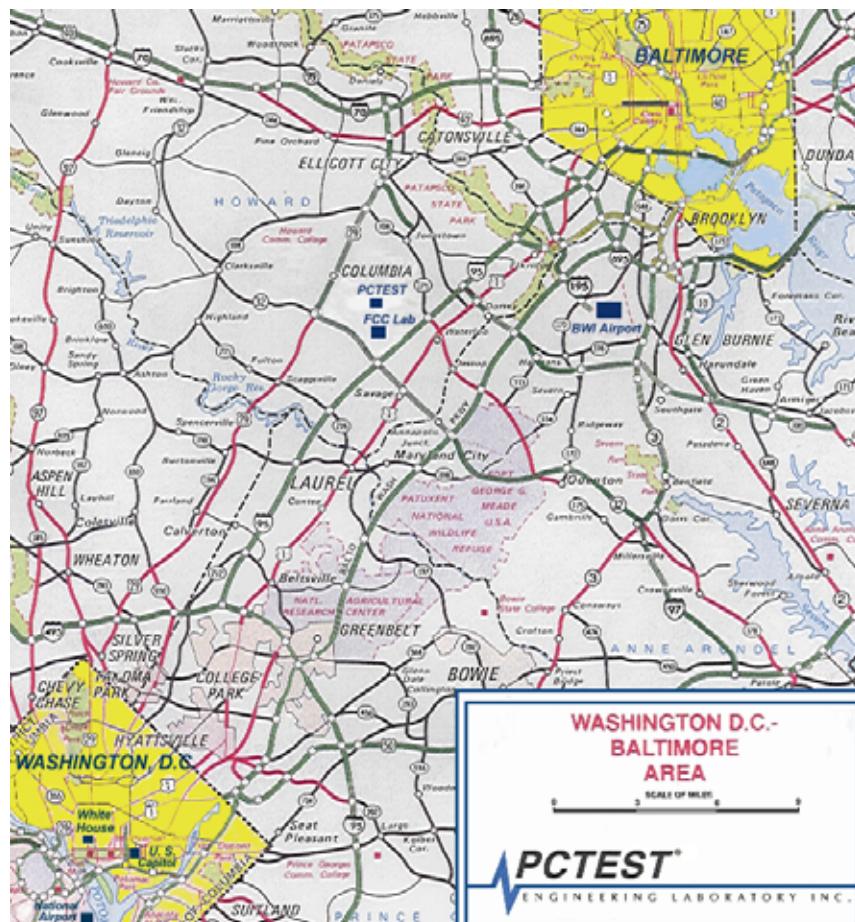


Figure 1-1. Map of the Greater Baltimore and Metropolitan Washington, D.C. area

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## 2.0 PRODUCT INFORMATION

### 2.1 Equipment Description

The Equipment Under Test (EUT) is the **LGE Portable Handset FCC ID: ZNFLN272**. The EUT consisted of the following component(s):

Trade Name / Base Model	FCC ID	Description
LGE / Model: LN272	ZNFLN272	Portable Handset

Table 2-1. EUT Equipment Description

### 2.2 Device Capabilities

This device contains the following capabilities:

850/1900 CDMA/EvDO (BC0, BC1, BC10), Bluetooth

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

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

### 2.4 Labeling Requirements

Per 2.925

The FCC identifier shall be permanently affixed to the equipment and shall be readily visible to the purchaser at the time of purchase.

Per 15.19; Docket 95-19

In addition to this requirement, a device subject to certification shall be labeled as follows:

*This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.*

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(b)(2).

Please see attachment for FCC ID label and label location.

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## 3.0 DESCRIPTION OF TESTS

### 3.1 Measurement Procedure

The radiated spurious measurements were made outdoors at a 3-meter test range (See Figure 3-1). The equipment under test is placed on a wooden turntable 80cm above the ground plane and 3 meters from the receive antenna. The receive antenna height and turntable rotations were adjusted for the highest reading on the receive spectrum analyzer. This power level was recorded using a broadband average power meter. A half-wave dipole was substituted in place of the EUT. This dipole antenna was driven by a signal generator and the level of the signal generator was adjusted to obtain the same receive spectrum analyzer reading. This level is recorded with the power meter. For readings above 1GHz, the above procedure is repeated using horn antennas and the difference between the gain of the horn and an isotropic antenna are taken into consideration.

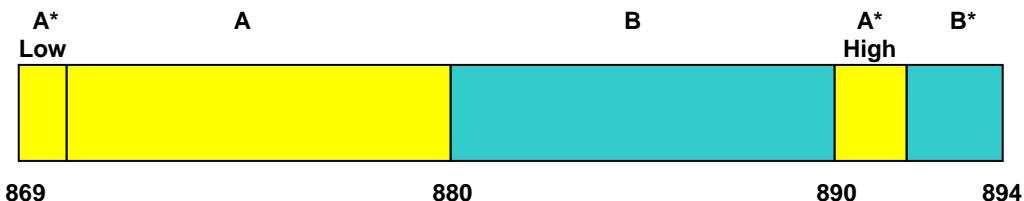
Deviation from Measurement Procedure.....**None**

### 3.2 Occupied Bandwidth

#### §2.1049, RSS-Gen (4.6.1)

The occupied bandwidth, that is the frequency bandwidth such that, below its lower and above its upper frequency limits, the mean powers radiated are each equal to 0.5 percent of the total mean power radiated by a given emission shall be measured. The span of the analyzer shall be set to capture all products of the modulation process, including the emission skirts. The resolution bandwidth shall be set to as close to 1 percent of the selected span as is possible without being below 1 percent. The video bandwidth shall be set to 3 times the resolution bandwidth. Video averaging is not permitted. Where practical, a sampling detector shall be used since a peak or, peak hold, may produce a wider bandwidth than actual. The trace data points are recovered and are directly summed in linear terms. The recovered amplitude data points, beginning at the lowest frequency, are placed in a running sum until 0.5 percent of the total is reached and that frequency recorded. The process is repeated for the highest frequency data points. This frequency is recorded. The span between the two recorded frequencies is the occupied bandwidth.

### 3.3 Cellular - Base Frequency Blocks

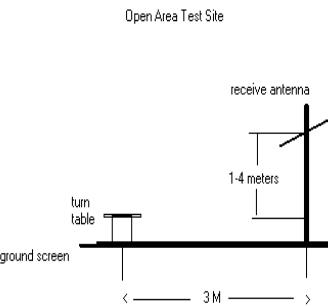


**BLOCK 1: 869 – 880 MHz (A\* Low + A)**

**BLOCK 2: 880 – 890 MHz (B)**

**BLOCK 3: 890 – 891.5 MHz (A\* High)**

**BLOCK 4: 891.5 – 894 MHz (B\*)**



**Figure 3-1. Diagram of 3-meter outdoor test range**

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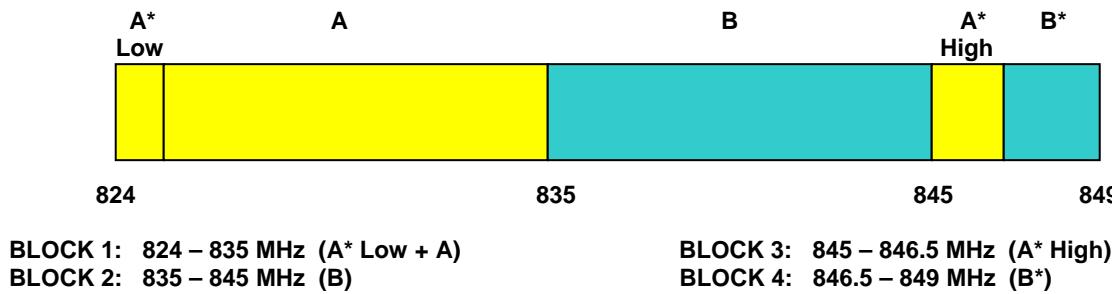
Test Report S/N:  
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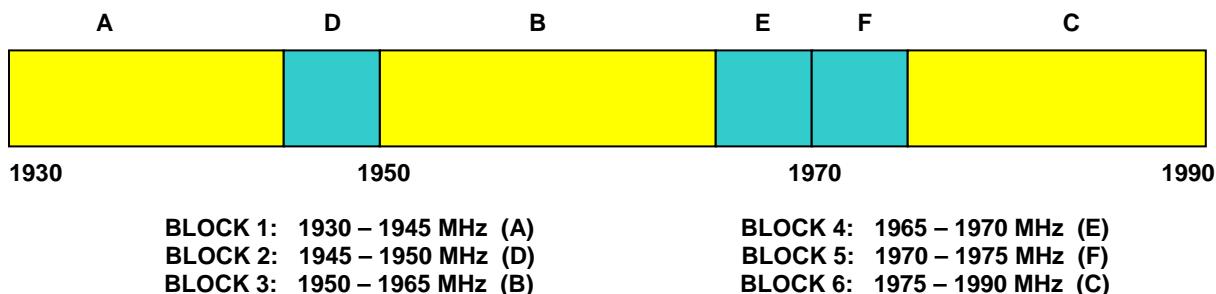
EUT Type:  
Portable Handset

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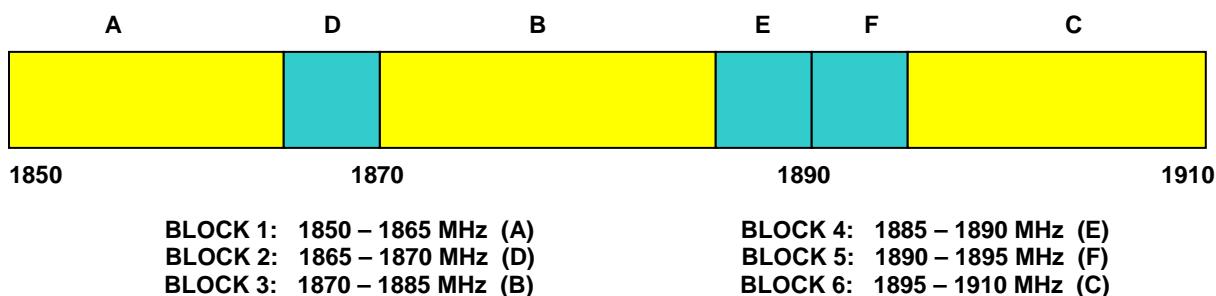
### 3.4 Cellular - Mobile Frequency Blocks



### 3.5 PCS - Base Frequency Blocks



### 3.6 PCS - Mobile Frequency Blocks



### 3.7 Radiated Power and Radiated Spurious Emissions

§2.1053, 22.913(a)(2), 22.917(a), 24.232(c), 24.238(a), RSS-132 (4.5.1.2), RSS-133 (6.5.1)

Radiated power and radiated spurious emissions are measured outdoors at our 3-meter test range. The equipment under test is placed on a wooden turntable 80cm above the ground plane and 3 meters from the receive antenna. The receive antenna height and turntable rotations were adjusted for the highest reading on the receive spectrum analyzer. This level is then measured with a broadband average power meter. The spectrum is scanned from the lowest frequency generated in the equipment up to a frequency including its 10<sup>th</sup> harmonic. A half-wave dipole was substituted in place of the EUT. This dipole antenna was driven by a signal generator with the level of the signal generator being adjusted to obtain the same receive average power meter reading. This spurious level is recorded with the power meter. For readings above 1 GHz, the above procedure is repeated using horn antennas and the difference between the gain of the horn and an isotropic or dipole antenna are taken into consideration. This device was tested under all R.C.s and S.O.s and the worst case is reported with RC3/SO55 with "All Up" power control bits.

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## 4.0 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
-	263-10dB	(DC-18GHz) 10 dB Attenuator	N/A		N/A	N/A
-	No.166	(1000-26500MHz) Microwave RF Cable	N/A		N/A	N/A
-	No.167	(100kHz - 100MHz) RG58 Coax Cable	N/A		N/A	N/A
Agilent	8447D	Broadband Amplifier	3/17/2011	Annual	3/17/2012	1937A03348
Agilent	8449B	(1-26.5GHz) Pre-Amplifier	2/8/2011	Annual	2/8/2012	3008A00985
Agilent	E8257D	(250kHz-20GHz) Signal Generator	4/8/2011	Annual	4/8/2012	MY45470194
Agilent	N9020A	MXA Signal Analyzer	10/10/2011	Annual	10/10/2012	US46470561
Agilent	N9038A	MXE EMI Receiver	8/5/2011	Annual	8/5/2012	MY51210133
Anritsu	ML2495A	Power Meter	10/13/2011	Annual	10/13/2012	1039008
ETS Lindgren	3160-09	18-26.5 GHz Standard Gain Horn	5/31/2011	Annual	5/31/2012	135427
MiniCircuits	VHF-3100+	High Pass Filter	N/A		N/A	30721
Pasternack	PE2209-10	Bidirectional Coupler	N/A		N/A	N/A
Pasternack	PE7000-6	6 dB Attenuator	N/A		N/A	N/A
Rohde & Schwarz	CMU200	Base Station Simulator	N/A		N/A	836536/0005
Rohde & Schwarz	RS-PR26	18-26.5 GHz Pre-Amplifier	6/9/2011	Annual	6/9/2012	100040
Sunol	DRH-118	Horn Antenna (1 - 18GHz)	7/5/2011	Biennial	7/5/2013	A050307
Sunol	JB5	Bi-Log Antenna (30M - 5GHz)	12/17/2009	Biennial	12/17/2011	A051107

Table 4-1. Test Equipment

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## 5.0 SAMPLE CALCULATIONS

### Emission Designator

**Emission Designator = 1M25F9W**

CDMA BW = 1.25 MHz

F = Frequency Modulation

9 = Composite Digital Info

W = Combination (Audio/Data) (Measured at the 99.75% power bandwidth)

### Spurious Radiated Emission - PCS Band

**Example: Channel 25 PCS Mode 2<sup>nd</sup> Harmonic (3702.50 MHz)**

The average receive power meter reading at 3 meters with the EUT on the turntable was -81.0 dBm. The gain of the substituted antenna is 8.1 dBi. The signal generator connected to the substituted antenna terminals is adjusted to produce a reading of -81.0 dBm on the power meter. The loss of the cable between the signal generator and the terminals of the substituted antenna is 2.0 dB at 3702.50 MHz. So 6.1 dB is added to the signal generator reading of -30.9 dBm yielding -24.80 dBm. The fundamental EIRP was 25.501 dBm so this harmonic was 25.501 dBm - (-24.80) = 50.3 dBc.

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## 6.0 TEST RESULTS

### 6.1 Summary

Company Name: LG Electronics MobileComm U.S.A., Inc.  
 FCC ID: ZNFLN272  
 FCC Classification: PCS Licensed Transmitter Held to Ear (PCE)  
 Mode(s): CDMA / EvDO

FCC Part Section(s)	RSS Sections	Test Description	Test Limit	Test Condition	Test Result	Reference
<b>TRANSMITTER MODE (TX)</b>						
22.913(a)(2)	RSS-132 (4.4)	Effective Radiated Power	< 7 Watts max. ERP	RADIATED	PASS	Section 6.2
24.232(c)	RSS-133 (6.4) [SRSP-510 (5.1.2)]	Equivalent Isotropic Radiated Power	< 2 Watts max. EIRP		PASS	Section 6.3
2.1053, 22.917(a), 24.238(a)	RSS-132 (4.5.1.2) RSS-133 (6.5.1)	Undesirable Emissions	< $43 + 10\log_{10}(P[\text{Watts}])$ for all out-of-band emissions		PASS	Sections 6.4, 6.5

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

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## 6.2 Effective Radiated Power Output Data

§22.913(a)(2), RSS-132 (4.4)

Frequency [MHz]	Mode	Measured Level [dBm]	Substitute Level [dBm]	Antenna Gain [dBi]	Pol [H/V]	ERP [dBm]	ERP [Watts]	Battery Type
824.70	CDMA850	-15.240	22.08	0.00	V	22.08	0.161	Standard
836.52	CDMA850	-15.430	21.89	0.00	V	21.89	0.155	Standard
848.31	CDMA850	-14.990	22.33	0.00	V	22.33	0.171	Standard

Table 6-2. Effective Radiated Power Output Data

### NOTES:

Effective Radiated Power Output Measurements by Substitution Method according to ANSI/TIA/EIA-603-C-2004, Aug. 17, 2004:

The EUT was placed on a wooden turn table 80cm above the ground plane and 3 meters from the receive antenna. The receive antenna height and turntable rotation was adjusted for the highest reading on the receive spectrum analyzer. Final power measurements are made with a broadband average power meter. A half-wave dipole was substituted in place of the EUT. This dipole antenna was driven by a signal generator and the level of the signal generator was adjusted to obtain the same spectrum analyzer reading. This level is recorded using the power meter. The conducted power at the terminals of the dipole is measured. The ERP is recorded.

This device was tested under all R.C.s and S.O.s and the worst case is reported with RC3/SO55 with "All Up" power control bits. This unit was tested with its standard battery. The EUT was tested in three orthogonal planes and in all possible test configurations and positioning. The worst case test configuration was found in the vertical, slider-in setup for the cellular band and the horizontal, slider-out setup for the PCS band. The data reported in the table above was measured in this test setup.

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### 6.3 Equivalent Isotropic Radiated Power Output Data

§24.232(c), RSS-133 (6.4) [SRSP-510 (5.1.2)]

Frequency [MHz]	Mode	Measured Level [dBm]	Substitute Level [dBm]	Antenna Gain [dBi]	Pol [H/V]	EIRP [dBm]	EIRP [Watts]	Battery Type
1851.25	CDMA1900	-14.780	19.35	7.95	H	27.30	0.537	Standard
1880.00	CDMA1900	-16.610	17.52	7.99	H	25.51	0.355	Standard
1908.75	CDMA1900	-15.850	18.28	8.06	H	26.34	0.430	Standard

Table 6-3. Equivalent Isotropic Radiated Power Output Data

**NOTES:**

Equivalent Isotropic Radiated Power Measurements by Substitution Method according to ANSI/TIA/EIA-603-C-2004, Aug. 17, 2004:

The EUT was placed on a wooden turn table 80cm above the ground plane and 3 meters from the receive antenna. The receive antenna height and turntable rotation was adjusted for the highest reading on the receive spectrum analyzer. Final power measurements are made with a broadband average power meter. A Horn antenna was substituted in place of the EUT. This Horn antenna was driven by a signal generator and the level of the signal generator was adjusted to obtain the same spectrum analyzer reading. This level is recorded using the power meter. The conducted power at the terminals of the Horn antenna is measured. The difference between the gain of the horn and an isotropic antenna is taken into consideration and the EIRP is recorded.

This device was tested under all R.C.s and S.O.s and the worst case is reported with RC3/SO55 with "All Up" power control bits. This unit was tested with its standard battery. The EUT was tested in three orthogonal planes and in all possible test configurations and positioning. The worst case test configuration was found in the vertical, slider-in setup for the cellular band and the horizontal, slider-out setup for the PCS band. The data reported in the table above was measured in this test setup.

FCC ID: ZNFLN272		FCC Pt. 22/24 CDMA / EVDO MEASUREMENT REPORT (CLASS II PERMISSIVE CHANGE)		Reviewed by: Quality Manager
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## 6.4 Cellular CDMA Radiated Measurements

§2.1053, 22.917(a), RSS-132 (4.5.1.2)

### Field Strength of SPURIOUS Radiation

OPERATING FREQUENCY: 824.70 MHz  
 CHANNEL: 1013  
 MEASURED OUTPUT POWER: 22.08 dBm = 0.161 W  
 MODULATION SIGNAL: CDMA  
 DISTANCE: 3 meters  
 LIMIT:  $43 + 10 \log_{10} (W) =$  35.08 dBc

FREQUENCY (MHz)	LEVEL @ ANTENNA TERMINALS (dBm)	SUBSTITUTE ANTENNA GAIN (dBD)	SPURIOUS EMISSION LEVEL (dBm)	POL (H/V)	(dBc)
1649.40	-34.74	6.16	-28.58	V	50.7
2474.10	-48.38	6.34	-42.04	V	64.1
3298.80	-52.99	6.71	-46.28	V	68.4
4123.50	-90.54	7.39	-83.15	V	105.2
4948.20	-90.07	8.91	-81.16	V	103.2

Table 6-4. Radiated Spurious Data (Cellular CDMA Mode – Ch. 1013)

#### NOTES:

Radiated Spurious Emission Measurements by Substitution Method according to ANSI/TIA/EIA-603-C-2004, Aug. 17, 2004:

The EUT was placed on a wooden turn table 80cm above the ground plane and 3 meters from the receive antenna. The receive antenna height and turntable rotation was adjusted for the highest reading on the receive spectrum analyzer. Final power measurements are made with a broadband average power meter. A half-wave dipole was substituted in place of the EUT. This dipole antenna was driven by a signal generator and the level of the signal generator was adjusted to obtain the same spectrum analyzer reading. This spurious level is recorded using the power meter. For readings above 1GHz, the above procedure is repeated using horn antennas and the difference between the gain of the horn and an isotropic or dipole antenna are taken into consideration.

This device was tested under all R.C.s and S.O.s and the worst case is reported with RC3/SO55 with "All Up" power control bits. This unit was tested with its standard battery. The EUT was tested in three orthogonal planes and in all possible test configurations and positioning. The worst case test configuration was found in the vertical, slider-in setup for the cellular band and the horizontal, slider-out setup for the PCS band. The data reported in the table above was measured in this test setup.

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## Cellular CDMA Radiated Measurements (Cont'd)

§2.1053, 22.917(a), RSS-132 (4.5.1.2)

### Field Strength of SPURIOUS Radiation

OPERATING FREQUENCY: 836.52 MHz  
 CHANNEL: 384  
 MEASURED OUTPUT POWER: 21.89 dBm = 0.155 W  
 MODULATION SIGNAL: CDMA  
 DISTANCE: 3 meters  
 LIMIT:  $43 + 10 \log_{10} (W) =$  34.89 dBc

FREQUENCY (MHz)	LEVEL @ ANTENNA TERMINALS (dBm)	SUBSTITUTE ANTENNA GAIN (dBi)	SPURIOUS EMISSION LEVEL (dBm)	POL (H/V)	(dBc)
1673.04	-42.93	6.09	-36.84	V	58.7
2509.56	-48.77	6.38	-42.39	V	64.3
3346.08	-53.26	6.90	-46.36	V	68.3
4182.60	-91.13	7.79	-83.34	V	105.2
5019.12	-89.62	8.83	-80.79	V	102.7

Table 6-5. Radiated Spurious Data (Cellular CDMA Mode – Ch. 384)

#### NOTES:

Radiated Spurious Emission Measurements by Substitution Method according to ANSI/TIA/EIA-603-C-2004, Aug. 17, 2004.

The EUT was placed on a wooden turn table 80cm above the ground plane and 3 meters from the receive antenna. The receive antenna height and turntable rotation was adjusted for the highest reading on the receive spectrum analyzer. Final power measurements are made with a broadband average power meter. A half-wave dipole was substituted in place of the EUT. This dipole antenna was driven by a signal generator and the level of the signal generator was adjusted to obtain the same spectrum analyzer reading. This spurious level is recorded using the power meter. For readings above 1GHz, the above procedure is repeated using horn antennas and the difference between the gain of the horn and an isotropic or dipole antenna are taken into consideration.

This device was tested under all R.C.s and S.O.s and the worst case is reported with RC3/SO55 with "All Up" power control bits. This unit was tested with its standard battery. The EUT was tested in three orthogonal planes and in all possible test configurations and positioning. The worst case test configuration was found in the vertical, slider-in setup for the cellular band and the horizontal, slider-out setup for the PCS band. The data reported in the table above was measured in this test setup.

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## Cellular CDMA Radiated Measurements (Cont'd)

§2.1053, 22.917(a), RSS-132 (4.5.1.2)

### Field Strength of SPURIOUS Radiation

OPERATING FREQUENCY: 848.31 MHz  
CHANNEL: 777  
MEASURED OUTPUT POWER: 22.33 dBm = 0.171 W  
MODULATION SIGNAL: CDMA  
DISTANCE: 3 meters  
LIMIT:  $43 + 10 \log_{10} (W) =$  35.33 dBc

FREQUENCY (MHz)	LEVEL @ ANTENNA TERMINALS (dBm)	SUBSTITUTE ANTENNA GAIN (dBD)	SPURIOUS EMISSION LEVEL (dBm)	POL (H/V)	(dBc)
1696.62	-29.17	6.01	-23.15	V	45.5
2544.93	-51.31	6.47	-44.83	V	67.2
3393.24	-53.39	7.10	-46.29	V	68.6
4241.55	-91.51	8.09	-83.42	V	105.8
5089.86	-89.37	8.86	-80.51	V	102.8

Table 6-6. Radiated Spurious Data (Cellular CDMA Mode – Ch. 777)

#### NOTES:

Radiated Spurious Emission Measurements by Substitution Method according to ANSI/TIA/EIA-603-C-2004, Aug. 17, 2004.

The EUT was placed on a wooden turn table 80cm above the ground plane and 3 meters from the receive antenna. The receive antenna height and turntable rotation was adjusted for the highest reading on the receive spectrum analyzer. Final power measurements are made with a broadband average power meter. A half-wave dipole was substituted in place of the EUT. This dipole antenna was driven by a signal generator and the level of the signal generator was adjusted to obtain the same spectrum analyzer reading. This spurious level is recorded using the power meter. For readings above 1GHz, the above procedure is repeated using horn antennas and the difference between the gain of the horn and an isotropic or dipole antenna are taken into consideration.

This device was tested under all R.C.s and S.O.s and the worst case is reported with RC3/SO55 with "All Up" power control bits. This unit was tested with its standard battery. The EUT was tested in three orthogonal planes and in all possible test configurations and positioning. The worst case test configuration was found in the vertical, slider-in setup for the cellular band and the horizontal, slider-out setup for the PCS band. The data reported in the table above was measured in this test setup.

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## 6.5 PCS CDMA Radiated Measurements

§2.1053, 24.238(a), RSS-133 (6.5.1)

### Field Strength of SPURIOUS Radiation

OPERATING FREQUENCY: 1851.25 MHz  
 CHANNEL: 25  
 MEASURED OUTPUT POWER: 27.30 dBm = 0.537 W  
 MODULATION SIGNAL: CDMA  
 DISTANCE: 3 meters  
 LIMIT:  $43 + 10 \log_{10} (W) =$  40.30 dBc

FREQUENCY (MHz)	LEVEL @ ANTENNA TERMINALS (dBm)	SUBSTITUTE ANTENNA GAIN (dBi)	SPURIOUS EMISSION LEVEL (dBm)	POL (H/V)	(dBc)
3702.50	-49.96	9.62	-40.35	H	67.7
5553.75	-50.61	10.61	-40.00	H	67.3
7405.00	-84.50	10.84	-73.65	H	101.0
9256.25	-82.72	12.20	-70.52	H	97.8
11107.50	-77.98	12.86	-65.12	H	92.4

Table 6-7. Radiated Spurious Data (PCS CDMA Mode – Ch. 25)

#### NOTES:

Radiated Spurious Emission Measurements by Substitution Method according to ANSI/TIA/EIA-603-C-2004, Aug. 17, 2004.

The EUT was placed on a wooden turn table 80cm above the ground plane and 3 meters from the receive antenna. The receive antenna height and turntable rotation was adjusted for the highest reading on the receive spectrum analyzer. Final power measurements are made with a broadband average power meter. A half-wave dipole was substituted in place of the EUT. This dipole antenna was driven by a signal generator and the level of the signal generator was adjusted to obtain the same spectrum analyzer reading. This spurious level is recorded using the power meter. For readings above 1GHz, the above procedure is repeated using horn antennas and the difference between the gain of the horn and an isotropic or dipole antenna are taken into consideration.

This device was tested under all R.C.s and S.O.s and the worst case is reported with RC3/SO55 with "All Up" power control bits. This unit was tested with its standard battery. The EUT was tested in three orthogonal planes and in all possible test configurations and positioning. The worst case test configuration was found in the vertical, slider-in setup for the cellular band and the horizontal, slider-out setup for the PCS band. The data reported in the table above was measured in this test setup.

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## PCS CDMA Radiated Measurements (Cont'd)

§2.1053, 24.238(a), RSS-133 (6.5.1)

### Field Strength of SPURIOUS Radiation

OPERATING FREQUENCY: 1880.00 MHz  
CHANNEL: 600  
MEASURED OUTPUT POWER: 25.51 dBm = 0.355 W  
MODULATION SIGNAL: CDMA  
DISTANCE: 3 meters  
LIMIT:  $43 + 10 \log_{10} (W) =$  38.51 dBc

FREQUENCY (MHz)	LEVEL @ ANTENNA TERMINALS (dBm)	SUBSTITUTE ANTENNA GAIN (dBi)	SPURIOUS EMISSION LEVEL (dBm)	POL (H/V)	(dBc)
3760.00	-50.69	9.30	-41.39	H	66.9
5640.00	-51.96	10.89	-41.07	H	66.6
7520.00	-84.23	10.85	-73.38	H	98.9
9400.00	-82.63	12.17	-70.46	H	96.0
11280.00	-77.73	13.05	-64.68	H	90.2

Table 6-8. Radiated Spurious Data (PCS CDMA Mode – Ch. 600)

#### NOTES:

Radiated Spurious Emission Measurements by Substitution Method according to ANSI/TIA/EIA-603-C-2004, Aug. 17, 2004.

The EUT was placed on a wooden turn table 80cm above the ground plane and 3 meters from the receive antenna. The receive antenna height and turntable rotation was adjusted for the highest reading on the receive spectrum analyzer. Final power measurements are made with a broadband average power meter. A half-wave dipole was substituted in place of the EUT. This dipole antenna was driven by a signal generator and the level of the signal generator was adjusted to obtain the same spectrum analyzer reading. This spurious level is recorded using the power meter. For readings above 1GHz, the above procedure is repeated using horn antennas and the difference between the gain of the horn and an isotropic or dipole antenna are taken into consideration.

This device was tested under all R.C.s and S.O.s and the worst case is reported with RC3/SO55 with "All Up" power control bits. This unit was tested with its standard battery. The EUT was tested in three orthogonal planes and in all possible test configurations and positioning. The worst case test configuration was found in the vertical, slider-in setup for the cellular band and the horizontal, slider-out setup for the PCS band. The data reported in the table above was measured in this test setup.

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## PCS CDMA Radiated Measurements (Cont'd)

§2.1053, 24.238(a), RSS-133 (6.5.1)

### Field Strength of SPURIOUS Radiation

OPERATING FREQUENCY: 1908.75 MHz  
 CHANNEL: 1175  
 MEASURED OUTPUT POWER: 26.34 dBm = 0.430 W  
 MODULATION SIGNAL: CDMA  
 DISTANCE: 3 meters  
 LIMIT:  $43 + 10 \log_{10} (W) =$  39.34 dBc

FREQUENCY (MHz)	LEVEL @ ANTENNA TERMINALS (dBm)	SUBSTITUTE ANTENNA GAIN (dBi)	SPURIOUS EMISSION LEVEL (dBm)	POL (H/V)	(dBc)
3817.50	-47.06	9.05	-38.01	H	64.3
5726.25	-52.01	11.07	-40.93	H	67.3
7635.00	-84.42	11.11	-73.31	H	99.6
9543.75	-82.85	12.36	-70.50	H	96.8
11452.50	-77.72	13.23	-64.49	H	90.8

Table 6-9. Radiated Spurious Data (PCS CDMA Mode – Ch. 1175)

#### NOTES:

Radiated Spurious Emission Measurements by Substitution Method according to ANSI/TIA/EIA-603-C-2004, Aug. 17, 2004.

The EUT was placed on a wooden turn table 80cm above the ground plane and 3 meters from the receive antenna. The receive antenna height and turntable rotation was adjusted for the highest reading on the receive spectrum analyzer. Final power measurements are made with a broadband average power meter. A half-wave dipole was substituted in place of the EUT. This dipole antenna was driven by a signal generator and the level of the signal generator was adjusted to obtain the same spectrum analyzer reading. This spurious level is recorded using the power meter. For readings above 1GHz, the above procedure is repeated using horn antennas and the difference between the gain of the horn and an isotropic or dipole antenna are taken into consideration.

This device was tested under all R.C.s and S.O.s and the worst case is reported with RC3/SO55 with "All Up" power control bits. This unit was tested with its standard battery. The EUT was tested in three orthogonal planes and in all possible test configurations and positioning. The worst case test configuration was found in the vertical, slider-in setup for the cellular band and the horizontal, slider-out setup for the PCS band. The data reported in the table above was measured in this test setup.

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## 7.0 CONCLUSION

The data collected relate only to the item(s) tested and show that the **LGE Portable Handset** **FCC ID: ZNFLN272** complies with all the requirements of Parts 2, 22, and 24 of the FCC rules and RSS-132 and RSS-133 of the Industry Canada rules.

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