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

Applicant Name:

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

Date of Testing:

January 22 - 23, 2013

Test Site/Location:

PCTEST Lab., Columbia, MD, USA

Test Report Serial No.:

0Y1301150080.ZNF

FCC ID:

ZNFVS870

APPLICANT:

LG ELECTRONICS MOBILECOMM U.S.A

Application Type:

Class II Permissive Change

Model(s):

VS870, LG-VS870, LGVS870, LG-AS870, LGAS870, AS870

EUT Type:

Portable Handset

FCC Classification:

PCS Licensed Transmitter Held to Ear (PCE)

FCC Rule Part(s):

§2 §22(H) §24(E) §27(L)

IC Specification(s):

RSS-132 Issue 3 RSS-133 Issue 6

Test Procedure(s):

ANSI/TIA-603-C-2004, KDB 971168

Test Device Serial No.:

identical prototype [S/N: N/A]

Class II Permissive Change:

Please see FCC change documents.

Original Grant Date:

January 22, 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 §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.


Randy Ortañez
President

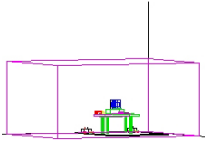


FCC ID: ZNFVS870		FCC Pt. 22, 24 CDMA/EVDO MEASUREMENT REPORT (CLASS II PERMISSIVE CHANGE)		Reviewed by: Quality Manager
Test Report S/N: 0Y1301150080.ZNF	Test Dates: January 22 - 23, 2013	EUT Type: Portable Handset		Page 1 of 19

T A B L E O F C O N T E N T S

FCC PART 22 & 24 MEASUREMENT REPORT	3
1.0 INTRODUCTION	4
1.1 SCOPE	4
1.2 TESTING FACILITY	4
2.0 PRODUCT INFORMATION	5
2.1 EQUIPMENT DESCRIPTION	5
2.2 DEVICE CAPABILITIES	5
2.3 TEST CONFIGURATION	5
2.4 EMI SUPPRESSION DEVICE(S)/MODIFICATIONS	5
3.0 DESCRIPTION OF TESTS	6
3.1 EVALUATION PROCEDURE	6
3.2 CELLULAR - BASE FREQUENCY BLOCKS	6
3.3 CELLULAR - MOBILE FREQUENCY BLOCKS	6
3.4 PCS - MOBILE FREQUENCY BLOCKS	6
3.5 RADIATED POWER AND RADIATED SPURIOUS EMISSIONS	7
4.0 TEST EQUIPMENT CALIBRATION DATA	8
5.0 SAMPLE CALCULATIONS	9
6.0 TEST RESULTS	10
6.1 SUMMARY	10
6.2 CELLULAR EFFECTIVE RADIATED POWER (ERP)	11
6.3 PCS EFFECTIVE RADIATED POWER (EIRP)	12
6.4 CELLULAR CDMA RADIATED MEASUREMENTS	13
6.5 PCS CDMA RADIATED MEASUREMENTS	16
7.0 CONCLUSION	19

FCC ID: ZNFVS870		FCC Pt. 22, 24 CDMA/EVDO MEASUREMENT REPORT (CLASS II PERMISSIVE CHANGE)		Reviewed by: Quality Manager
Test Report S/N: 0Y1301150080.ZNF	Test Dates: January 22 - 23, 2013	EUT Type: Portable Handset		Page 2 of 19



MEASUREMENT REPORT

FCC Part 22 24

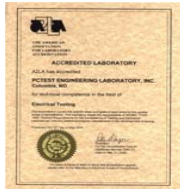


§2.1033 General Information

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): §2 §22(H) §24(E) §27(L)
BASE MODEL: VS870
FCC ID: ZNFVS870
FCC CLASSIFICATION: PCS Licensed Transmitter Held to Ear (PCE)
MODE: CDMA/EvDO
FREQUENCY TOLERANCE: ± 0.00025 % (2.5 ppm)
Test Device Serial No.: N/A ☐ Production ☒ Pre-Production ☐ Engineering
DATE(S) OF TEST: January 22 - 23, 2013
TEST REPORT S/N: 0Y1301150080.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.

FCC ID: ZNFVS870		FCC Pt. 22, 24 CDMA/EvDO MEASUREMENT REPORT (CLASS II PERMISSIVE CHANGE)		Reviewed by: Quality Manager
Test Report S/N: 0Y1301150080.ZNF	Test Dates: January 22 - 23, 2013	EUT Type: Portable Handset		Page 3 of 19

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, 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.

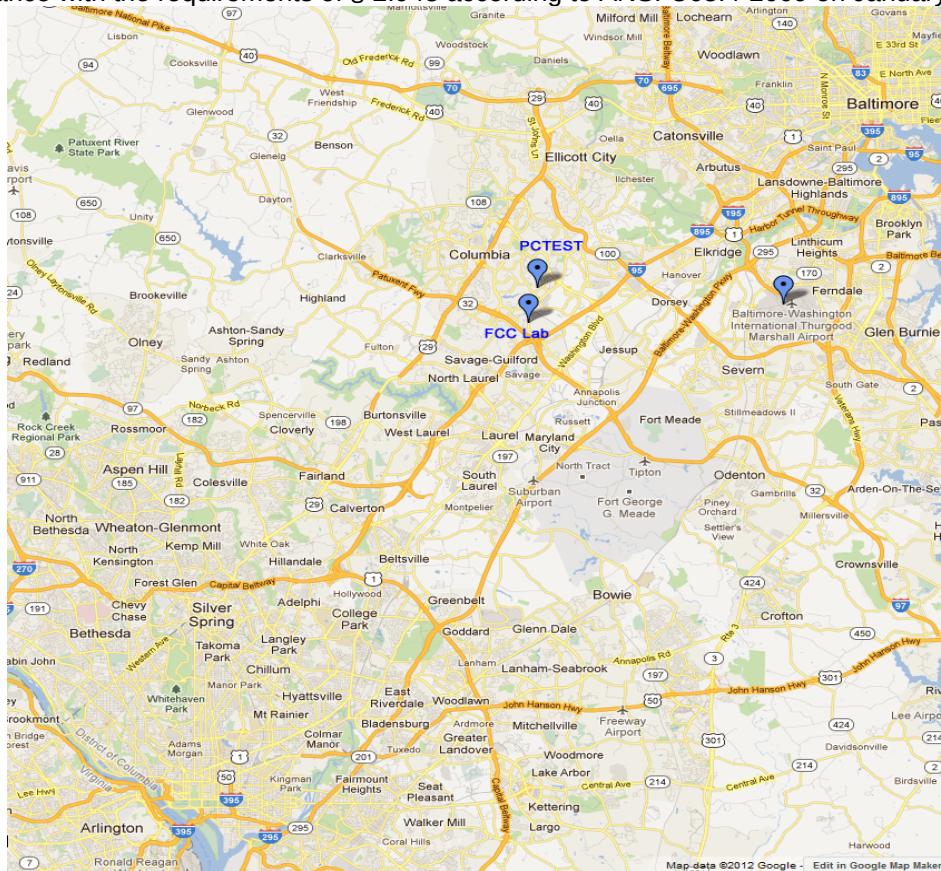


Figure 1-1. Map of the Greater Baltimore and Metropolitan Washington, D.C. area

FCC ID: ZNFVS870		FCC Pt. 22, 24 CDMA/EVDO MEASUREMENT REPORT (CLASS II PERMISSIVE CHANGE)		Reviewed by: Quality Manager
Test Report S/N: 0Y1301150080.ZNF	Test Dates: January 22 - 23, 2013	EUT Type: Portable Handset		Page 4 of 19

2.0 PRODUCT INFORMATION

2.1 Equipment Description

The Equipment Under Test (EUT) is the **LG Portable Handset FCC ID: ZNFVS870**. The test data contained in this report pertains only to the emissions due to the EUT's GSM and CDMA transmitters.

2.2 Device Capabilities

This device contains the following capabilities:

850/1900 CDMA/EvDO Rev0/A (BC0, BC1), Band 13 LTE, 802.11a/b/g/n WLAN (DTS/NII), Bluetooth (1x,EDR,LE)

2.3 Test Configuration

The LG Portable Handset FCC ID: ZNFVS870 was tested per the guidance of ANSI/TIA-603-C-2004 and KDB 971168. See Section 3.0 of this test report for a description of the radiated and antenna port conducted emissions tests.

2.4 EMI Suppression Device(s)/Modifications

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

FCC ID: ZNFVS870		FCC Pt. 22, 24 CDMA/EvDO MEASUREMENT REPORT (CLASS II PERMISSIVE CHANGE)		Reviewed by: Quality Manager
Test Report S/N: 0Y1301150080.ZNF	Test Dates: January 22 - 23, 2013	EUT Type: Portable Handset		Page 5 of 19

3.0 DESCRIPTION OF TESTS

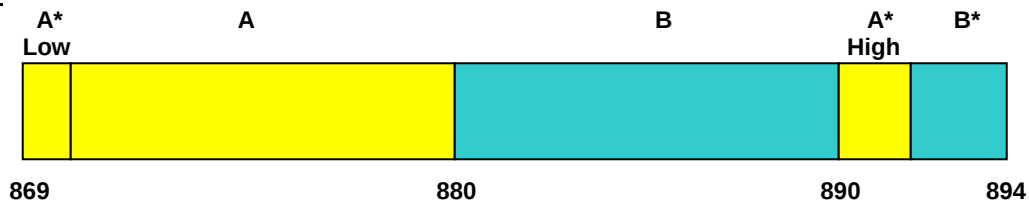
3.1 Evaluation Procedure

The measurement procedures described in the "Land Mobile FM or PM – Communications Equipment – Measurements and Performance Standards" (ANSI/TIA-603-C-2004) and "Procedures for Compliance Measurement of the Fundamental Emission Power of Licensed Wideband (> 1 MHz) Digital Transmission Systems" were used in the measurement of the measurement of the **LG Portable Handset** **FCC ID: ZNFVS870**.

Deviation from Measurement Procedure.....None

3.2 Cellular - Base Frequency Blocks

§24.905



BLOCK 1: 869 – 880 MHz (A* Low + A)

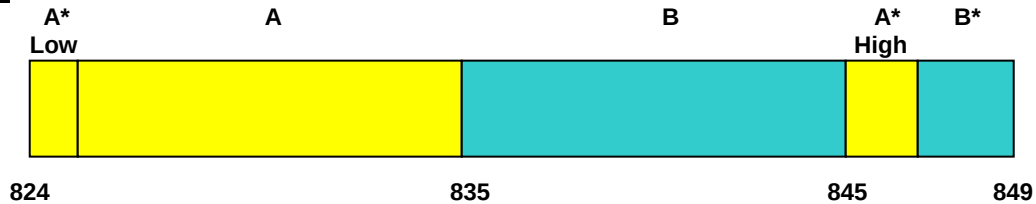
BLOCK 3: 890 – 891.5 MHz (A* High)

BLOCK 2: 880 – 890 MHz (B)

BLOCK 4: 891.5 – 894 MHz (B*)

3.3 Cellular - Mobile Frequency Blocks

§24.905



BLOCK 1: 824 – 835 MHz (A* Low + A)

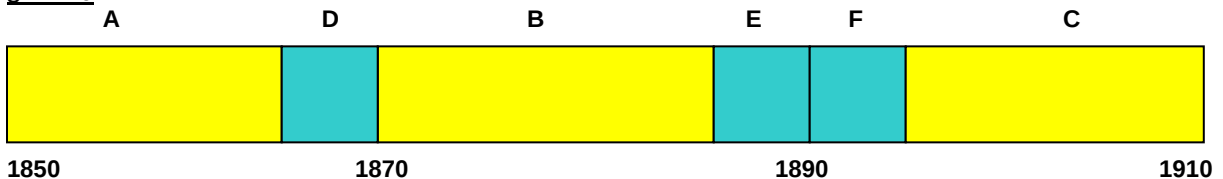
BLOCK 3: 845 – 846.5 MHz (A* High)

BLOCK 2: 835 – 845 MHz (B)

BLOCK 4: 846.5 – 849 MHz (B*)

3.4 PCS - Mobile Frequency Blocks

§24.229



BLOCK 1: 1850 – 1865 MHz (A)

BLOCK 4: 1885 – 1890 MHz (E)

BLOCK 2: 1865 – 1870 MHz (D)

BLOCK 5: 1890 – 1895 MHz (F)

BLOCK 3: 1870 – 1885 MHz (B)

BLOCK 6: 1895 – 1910 MHz (C)

FCC ID: ZNFVS870	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 22, 24 CDMA/EVDO MEASUREMENT REPORT (CLASS II PERMISSIVE CHANGE)	LG	Reviewed by: Quality Manager
Test Report S/N: 0Y1301150080.ZNF	Test Dates: January 22 - 23, 2013	EUT Type: Portable Handset		Page 6 of 19

3.5 Radiated Power and Radiated Spurious Emissions

§2.1053 §22.913(a.2) §22.917(a) §24.232(c) §24.238(a) §27.50(d.10) §27.53(h) RSS-132(4.4) RSS-132(4.5.1) RSS-133(6.4) RSS-133(6.5.1) RSS-139(6.5.2)

Radiated power measurements are performed on the 3 meter OATS per the guidelines of ANSI/TIA-603-C-2004. 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. The equipment under test was transmitting while connected to its integral antenna and is placed on a wooden turntable 80cm above the ground plane and 3 meters from the receive antenna. The receive antenna height is adjusted between 1 and 4 meter height, the turntable is rotated through 360 degrees, and the EUT is manipulated through all orthogonal planes representative of its typical use to achieve the highest reading on the receive spectrum analyzer. Radiated power levels are also investigated with the receive antenna horizontally and vertically polarized. The maximized power level is recorded using the spectrum analyzer "Channel Power" function with the integration band set to the emissions' occupied bandwidth, a RMS detector, RBW = 100kHz, VBW = 300kHz, and a 1 second sweep time over a minimum of 10 sweeps, per the guidelines of KDB 971168.

Per the guidance of ANSI/TIA-603-C-2004, a half-wave dipole is then substituted in place of the EUT. For emissions above 1GHz, a horn antenna is substituted in place of the EUT. The substitute antenna is driven by a signal generator with the level of the signal generator being adjusted to obtain the same receive spectrum analyzer level previously recorded from the spurious emission from the EUT. The power of the emission is calculated using the following formula:

$$P_d \text{ [dBm]} = P_g \text{ [dBm]} - \text{cable loss [dB]} + \text{antenna gain [dBd/dBi]}$$

Where, P_d is the dipole equivalent power, P_g is the generator output into the substitution antenna, and the antenna gain is the gain of the substitute antenna used relative to either a half-wave dipole (dBd) or an isotropic source (dBi). The substitute level is equal to $P_g \text{ [dBm]} - \text{cable loss [dB]}$.

The calculated P_d levels are then compared to the absolute spurious emission limit of -13dBm which is equivalent to the required minimum attenuation of $43 + 10\log_{10}(\text{Power}_{\text{[Watts]}})$ specified in 22.917(a) and 24.238(a).

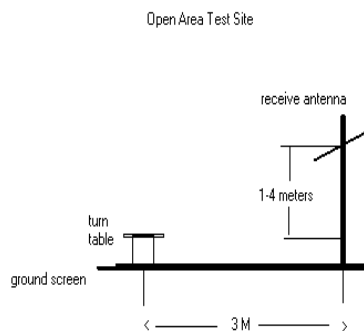


Figure 3-1. Diagram of 3-meter outdoor test range

FCC ID: ZNFVS870		FCC Pt. 22, 24 CDMA/EVDO MEASUREMENT REPORT (CLASS II PERMISSIVE CHANGE)		Reviewed by: Quality Manager
Test Report S/N: 0Y1301150080.ZNF	Test Dates: January 22 - 23, 2013	EUT Type: Portable Handset		Page 7 of 19

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
-	RE1	Radiated Emissions Cable Set (UHF/EHF)	7/10/2012	Annual	7/10/2013	N/A
-	RE2	Radiated Emissions Cable Set (VHF/UHF)	2/13/2012	Annual	2/13/2013	N/A
-	LTX2	Licensed Transmitter Cable Set	2/17/2012	Annual	2/17/2013	N/A
Agilent	8447D	Broadband Amplifier	5/8/2012	Annual	5/8/2013	1937A03348
Agilent	E4432B	ESG-D Series Signal Generator	3/15/2012	Annual	3/15/2013	US40053896
Agilent	E8257D	(250kHz-20GHz) Signal Generator	4/5/2012	Annual	4/5/2013	MY45470194
Agilent	E8267C	Vector Signal Generator	10/10/2011	Biennial	10/10/2013	US42340152
Agilent	N9020A	MXA Signal Analyzer	10/9/2012	Annual	10/9/2013	US46470561
Agilent	N9030A	PXA Signal Analyzer	2/23/2012	Annual	2/23/2013	MY49432391
Anritsu	MA2411B	Power Sensor	3/5/2012	Annual	3/5/2013	846215
Anritsu	ML2495A	Power Meter	10/13/2012	Annual	10/13/2013	1039008
Espec	ESX-2CA	Environmental Chamber	4/4/2012	Annual	4/4/2013	17620
ETS Lindgren	3117	1-18 GHz DRG Horn (Medium)	7/22/2011	Biennial	7/22/2013	125518
ETS Lindgren	3160-09	18-26.5 GHz Standard Gain Horn	5/30/2012	Annual	5/30/2013	135427
ETS Lindgren	3164-08	Quad Ridge Horn Antenna	10/1/2012	Biennial	10/1/2014	128337
Mini-Circuits	VHF-3100+	High Pass Filter	2/7/2012	Annual	2/7/2013	31144
Rohde & Schwarz	CMU200	Base Station Simulator	N/A		N/A	836072/0063
Mini-Circuits	VHF-1300+	High Pass Filter	2/7/2012	Annual	2/7/2013	30716
Rohde & Schwarz	RS-PR18	1-18 GHz Pre-Amplifier	6/26/2012	Annual	6/26/2013	100071
Rohde & Schwarz	RS-PR26	18-26.5 GHz Pre-Amplifier	5/30/2012	Annual	5/30/2013	100040
Schwarzbeck	UHA 9105	Dipole Antenna (400 - 1GHz) Rx	11/14/2011	Biennial	11/14/2013	9105-2404
Schwarzbeck	UHA 9105	Dipole Antenna (400 - 1GHz) Tx	11/14/2011	Biennial	11/14/2013	9105-2403
Seekonk	NC-100	Torque Wrench (8" lb)	3/5/2012	Triennial	3/5/2015	N/A

Table 4-1. Test Equipment

Note:

Equipment used for signaling with a calibration date of "N/A" shown in this list was only used for maintaining a link between the piece of equipment and the EUT. This equipment was not used to make direct calibrated measurements.

FCC ID: ZNFVS870		FCC Pt. 22, 24 CDMA/EVDO MEASUREMENT REPORT (CLASS II PERMISSIVE CHANGE)		Reviewed by: Quality Manager
Test Report S/N: 0Y1301150080.ZNF	Test Dates: January 22 - 23, 2013	EUT Type: Portable Handset		Page 8 of 19

5.0 SAMPLE CALCULATIONS

CDMA 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 – Cellular PCS Bands

Example: CDMA Channel 25 PCS Mode 2nd Harmonic (3702.50 MHz)

The receive spectrum analyzer 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 spectrum analyzer. 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 25.50 dBm so this harmonic was 25.50 dBm – (-24.80) = 50.3 dBc.

FCC ID: ZNFVS870		FCC Pt. 22, 24 CDMA/EVDO MEASUREMENT REPORT (CLASS II PERMISSIVE CHANGE)		Reviewed by: Quality Manager
Test Report S/N: 0Y1301150080.ZNF	Test Dates: January 22 - 23, 2013	EUT Type: Portable Handset		Page 9 of 19

6.0 TEST RESULTS

6.1 Summary

Company Name: LG Electronics MobileComm U.S.A
 FCC ID: ZNFVS870
 FCC Classification: PCS Licensed Transmitter Held to Ear (PCE)
 Mode(s): CDMA/EvDO

FCC Part Section(s)	RSS Section(s)	Test Description	Test Limit	Test Condition	Test Result	Reference
TRANSMITTER MODE (TX)						
22.913(a.2)	RSS-132(4.4) [SRSP-503(5.1.3)]	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) RSS-133(6.5.2)	Undesirable Emissions	< 43 + log ₁₀ (P[Watts]) for all out-of-band emissions		PASS	Sections 6.4, 6.5

Table 6-1. Summary of Test Results

Notes:

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

FCC ID: ZNFVS870		FCC Pt. 22, 24 CDMA/EvDO MEASUREMENT REPORT (CLASS II PERMISSIVE CHANGE)		Reviewed by: Quality Manager
Test Report S/N: 0Y1301150080.ZNF	Test Dates: January 22 - 23, 2013	EUT Type: Portable Handset	Page 10 of 19	

6.2 Cellular Effective Radiated Power (ERP)

§22.913(a)(2) RSS-132(4.4) [SRSP-503(5.1.3)]

Frequency [MHz]	Mode	Battery Type	Substitute Level [dBm]	Antenna Gain [dBi]	Pol [H/V]	ERP [dBm]	ERP [Watts]	ERP Limit [dBm]	Margin [dB]
824.70	CDMA850	Standard	21.10	0.00	H	21.10	0.129	38.45	-17.35
836.52	CDMA850	Standard	22.21	0.00	H	22.21	0.166	38.45	-16.24
848.31	CDMA850	Standard	22.89	0.00	H	22.89	0.195	38.45	-15.56

Table 6-2. ERP (Cellular CDMA)

NOTES:

- 1) 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.
- 2) This unit was tested with its standard battery.
- 3) 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 horizontal polarity for both bands. The data reported in the table above was measured in this test setup.

FCC ID: ZNFVS870		FCC Pt. 22, 24 CDMA/EVDO MEASUREMENT REPORT (CLASS II PERMISSIVE CHANGE)		Reviewed by: Quality Manager
Test Report S/N: 0Y1301150080.ZNF	Test Dates: January 22 - 23, 2013	EUT Type: Portable Handset		Page 11 of 19

6.3 PCS Effective Radiated Power (EIRP)

§22.913(a)(2) RSS-132(4.4) [SRSP-503(5.1.3)]

Frequency [MHz]	Mode	Battery Type	Substitute Level [dBm]	Antenna Gain [dBd]	Pol [H/V]	ERP [dBm]	ERP [Watts]	EIRP Limit [dBm]	Margin [dB]
1851.25	CDMA1900	Standard	15.76	7.75	H	23.51	0.224	33.01	-9.50
1880.00	CDMA1900	Standard	17.45	7.83	H	25.28	0.337	33.01	-7.73
1908.75	CDMA1900	Standard	15.00	7.93	H	22.93	0.196	33.01	-10.08

Table 6-3. EIRP (PCS CDMA)

NOTES:

- 1) 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.
- 2) This unit was tested with its standard battery.
- 3) 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 horizontal polarity for both bands. The data reported in the table above was measured in this test setup.

FCC ID: ZNFVS870		FCC Pt. 22, 24 CDMA/EVDO MEASUREMENT REPORT (CLASS II PERMISSIVE CHANGE)		Reviewed by: Quality Manager
Test Report S/N: 0Y1301150080.ZNF	Test Dates: January 22 - 23, 2013	EUT Type: Portable Handset		Page 12 of 19

6.4 Cellular CDMA Radiated Measurements

§2.1053 §22.917(a) RSS-132(4.5.1)

Field Strength of SPURIOUS Radiation

OPERATING FREQUENCY: 824.70 MHz
 CHANNEL: 1013
 MEASURED OUTPUT POWER: 21.10 dBm = 0.129 W
 MODULATION SIGNAL: CDMA
 DISTANCE: 3 meters
 LIMIT: $43 + 10 \log_{10} (W) =$ 34.10 dBc

FREQUENCY (MHz)	LEVEL @ ANTENNA TERMINALS (dBm)	SUBSTITUTE ANTENNA GAIN (dBd)	SPURIOUS EMISSION LEVEL (dBm)	POL (H/V)	(dBc)
1649.40	-56.65	6.16	-50.49	H	71.6
2474.10	-84.95	6.34	-78.61	H	99.7
3298.80	-82.54	6.71	-75.83	H	96.9
4123.50	-80.80	7.39	-73.41	H	94.5
4948.20	-80.58	8.91	-71.67	H	92.8

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

NOTES:

- 1) 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.
- 2) This unit was tested with its standard battery.
- 3) 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 horizontal polarity for both bands. The data reported in the table above was measured in this test setup.

FCC ID: ZNFVS870		FCC Pt. 22, 24 CDMA/EVDO MEASUREMENT REPORT (CLASS II PERMISSIVE CHANGE)		Reviewed by: Quality Manager
Test Report S/N: 0Y1301150080.ZNF	Test Dates: January 22 - 23, 2013	EUT Type: Portable Handset		Page 13 of 19

Cellular CDMA Radiated Measurements (Cont'd)

§2.1053 §22.917(a) RSS-132(4.5.1)

Field Strength of SPURIOUS Radiation

OPERATING FREQUENCY: 836.52 MHz
 CHANNEL: 384
 MEASURED OUTPUT POWER: 22.21 dBm = 0.166 W
 MODULATION SIGNAL: CDMA
 DISTANCE: 3 meters
 LIMIT: $43 + 10 \log_{10} (W) =$ 35.21 dBc

FREQUENCY (MHz)	LEVEL @ ANTENNA TERMINALS (dBm)	SUBSTITUTE ANTENNA GAIN (dBd)	SPURIOUS EMISSION LEVEL (dBm)	POL (H/V)	(dBc)
1673.04	-55.43	6.16	-49.26	H	71.5
2509.56	-84.85	6.34	-78.51	H	100.7
3346.08	-82.55	6.71	-75.84	H	98.1
4182.60	-80.99	7.39	-73.60	H	95.8
5019.12	-80.24	8.91	-71.33	H	93.5

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

NOTES:

- 1) 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.
- 1) This unit was tested with its standard battery.
- 2) 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 horizontal polarity for both bands. The data reported in the table above was measured in this test setup.

FCC ID: ZNFVS870		FCC Pt. 22, 24 CDMA/EVDO MEASUREMENT REPORT (CLASS II PERMISSIVE CHANGE)		Reviewed by: Quality Manager
Test Report S/N: 0Y1301150080.ZNF	Test Dates: January 22 - 23, 2013	EUT Type: Portable Handset		Page 14 of 19

Cellular CDMA Radiated Measurements (Cont'd)

§2.1053 §22.917(a) RSS-132(4.5.1)

Field Strength of SPURIOUS Radiation

OPERATING FREQUENCY: 848.31 MHz
 CHANNEL: 777
 MEASURED OUTPUT POWER: 22.89 dBm = 0.195 W
 MODULATION SIGNAL: CDMA
 DISTANCE: 3 meters
 LIMIT: $43 + 10 \log_{10} (W) =$ 35.89 dBc

FREQUENCY (MHz)	LEVEL @ ANTENNA TERMINALS (dBm)	SUBSTITUTE ANTENNA GAIN (dBd)	SPURIOUS EMISSION LEVEL (dBm)	POL (H/V)	(dBc)
1696.62	-55.27	6.16	-49.11	H	72.0
2544.93	-84.80	6.34	-78.46	H	101.3
3393.24	-82.57	6.71	-75.86	H	98.7
4241.55	-81.08	7.39	-73.68	H	96.6
5089.86	-79.93	8.91	-71.02	H	93.9

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

NOTES:

- 1) 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.
- 2) This unit was tested with its standard battery.
- 3) 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 horizontal polarity for both bands. The data reported in the table above was measured in this test setup.

FCC ID: ZNFVS870		FCC Pt. 22, 24 CDMA/EVDO MEASUREMENT REPORT (CLASS II PERMISSIVE CHANGE)		Reviewed by: Quality Manager
Test Report S/N: 0Y1301150080.ZNF	Test Dates: January 22 - 23, 2013	EUT Type: Portable Handset		Page 15 of 19

6.5 PCS CDMA Radiated Measurements

§2.1053 §24.238(a) RSS-133(6.5.2)

Field Strength of SPURIOUS Radiation

OPERATING FREQUENCY: 1851.25 MHz
 CHANNEL: 25
 MEASURED OUTPUT POWER: 23.51 dBm = 0.224 W
 MODULATION SIGNAL: CDMA
 DISTANCE: 3 meters
 LIMIT: $43 + 10 \log_{10} (W) =$ 36.51 dBc

FREQUENCY (MHz)	LEVEL @ ANTENNA TERMINALS (dBm)	SUBSTITUTE ANTENNA GAIN (dBi)	SPURIOUS EMISSION LEVEL (dBm)	POL (H/V)	(dBc)
3702.50	-44.18	9.62	-34.56	H	58.1
5553.75	-79.11	10.61	-68.50	H	92.0
7405.00	-75.14	10.84	-64.29	H	87.8
9256.25	-73.86	12.20	-61.66	H	85.2
11107.50	-71.01	12.86	-58.16	H	81.7

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

NOTES:

- 1) 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.
- 2) This unit was tested with its standard battery.
- 3) 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 horizontal polarity for both bands. The data reported in the table above was measured in this test setup.

FCC ID: ZNFVS870		FCC Pt. 22, 24 CDMA/EVDO MEASUREMENT REPORT (CLASS II PERMISSIVE CHANGE)		Reviewed by: Quality Manager
Test Report S/N: 0Y1301150080.ZNF	Test Dates: January 22 - 23, 2013	EUT Type: Portable Handset		Page 16 of 19

PCS CDMA Radiated Measurements (Cont'd)

§2.1053 §24.238(a) RSS-133(6.5.2)

Field Strength of SPURIOUS Radiation

OPERATING FREQUENCY: 1880.00 MHz
 CHANNEL: 600
 MEASURED OUTPUT POWER: 25.28 dBm = 0.337 W
 MODULATION SIGNAL: CDMA
 DISTANCE: 3 meters
 LIMIT: $43 + 10 \log_{10} (W) =$ 38.28 dBc

FREQUENCY (MHz)	LEVEL @ ANTENNA TERMINALS (dBm)	SUBSTITUTE ANTENNA GAIN (dBi)	SPURIOUS EMISSION LEVEL (dBm)	POL (H/V)	(dBc)
3760.00	-48.15	9.62	-38.53	H	63.8
5640.00	-79.11	10.61	-68.50	H	93.8
7520.00	-75.14	10.84	-64.29	H	89.6
9400.00	-73.86	12.20	-61.66	H	86.9
11280.00	-71.01	12.86	-58.16	H	83.4

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

NOTES:

- 1) 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.
- 2) This unit was tested with its standard battery.
- 3) 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 horizontal polarity for both bands. The data reported in the table above was measured in this test setup.

FCC ID: ZNFVS870		FCC Pt. 22, 24 CDMA/EVDO MEASUREMENT REPORT (CLASS II PERMISSIVE CHANGE)		Reviewed by: Quality Manager
Test Report S/N: 0Y1301150080.ZNF	Test Dates: January 22 - 23, 2013	EUT Type: Portable Handset		Page 17 of 19

PCS CDMA Radiated Measurements (Cont'd)

§2.1053 §24.238(a) RSS-133(6.5.2)

Field Strength of SPURIOUS Radiation

OPERATING FREQUENCY: 1908.75 MHz
 CHANNEL: 1175
 MEASURED OUTPUT POWER: 22.93 dBm = 0.196 W
 MODULATION SIGNAL: CDMA
 DISTANCE: 3 meters
 LIMIT: $43 + 10 \log_{10} (W) =$ 35.93 dBc

FREQUENCY (MHz)	LEVEL @ ANTENNA TERMINALS (dBm)	SUBSTITUTE ANTENNA GAIN (dBi)	SPURIOUS EMISSION LEVEL (dBm)	POL (H/V)	(dBc)
3817.50	-48.09	9.62	-38.47	H	61.4
5726.25	-79.11	10.61	-68.50	H	91.4
7635.00	-75.14	10.84	-64.29	H	87.2
9543.75	-73.86	12.20	-61.66	H	84.6
11452.50	-71.01	12.86	-58.16	H	81.1

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

NOTES:

- 1) 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.
- 2) This unit was tested with its standard battery.
- 3) 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 horizontal polarity for both bands. The data reported in the table above was measured in this test setup.

FCC ID: ZNFVS870		FCC Pt. 22, 24 CDMA/EVDO MEASUREMENT REPORT (CLASS II PERMISSIVE CHANGE)		Reviewed by: Quality Manager
Test Report S/N: 0Y1301150080.ZNF	Test Dates: January 22 - 23, 2013	EUT Type: Portable Handset		Page 18 of 19

7.0 CONCLUSION

The data collected relate only to the item(s) tested and show that the **LG Portable Handset FCC ID: ZNFVS870** 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.

FCC ID: ZNFVS870		FCC Pt. 22, 24 CDMA/EVDO MEASUREMENT REPORT (CLASS II PERMISSIVE CHANGE)		Reviewed by: Quality Manager
Test Report S/N: 0Y1301150080.ZNF	Test Dates: January 22 - 23, 2013	EUT Type: Portable Handset		Page 19 of 19