

FCC CFR47 PART 22 SUBPART H FCC CFR47 PART 24 SUBPART E FCC CFR47 PART 27 SUBPART L FCC CFR47 PART 27 SUBPART E

C2PC CERTIFICATION TEST REPORT

FOR

CDMA/LTE Phone + Bluetooth & DTS/UNII a/b/g/n + NFC

MODEL NUMBER: LG-VS880, VS880, LGVS880 FCC ID: ZNFVS880

REPORT NUMBER: 14U17461-1 ISSUE DATE: June 12, 2014

Prepared for

LG ELECTRONICS MOBILECOMM U.S.A., INC 1000 SYLVAN AVENUE ENGLEWOOD CLIFFS, NEW JERSEY, 07632, U.S.A.

Prepared by

UL VERIFICATION SERVICES INC. 47173 BENICIA STREET FREMONT, CA 94538, U.S.A. TEL: (510) 771-1000 FAX: (510) 661-0888



Revision History

	Issue		
Rev.	Date	Revisions	Revised By
-	6/12/14	Initial Issue	P. Kim

TEL: (510) 771-1000

TABLE OF CONTENTS

1.			ESTATION OF TEST RESULTS	
2.		TES	T METHODOLOGY	6
3.			CILITIES AND ACCREDITATION	
4.		CAL	IBRATION AND UNCERTAINTY	6
	4.1.	M	EASURING INSTRUMENT CALIBRATION	6
	4.2.	SA	AMPLE CALCULATION	6
	<i>4.3.</i>	M	EASUREMENT UNCERTAINTY	6
5.		EQI	JIPMENT UNDER TEST	7
	5.1.	DE	ESCRIPTION OF EUT	7
	5.2.	M	AXIMUM OUTPUT POWER	7
	5.3.		AXIMUM OUTPUT POWER (LTE)	
	5.4.	DE	ESCRIPTION OF AVAILABLE ANTENNAS	9
	5.5.		ESCRIPTION OF TEST SETUP	
6.			T AND MEASUREMENT EQUIPMENT1	
7.		Sun	nmary Table1	4
	8.1.	CL	OMA20001	15
	8.1	1.1.	1xRTT1	5
	8.1	1.2.	CDMA2000 OUTPUT POWER RESULT1	
	8.1	1.3.	1xEV-DO Release 01	
	8.1	1.4.	1XEVDO REL 0 OUTPUT POWER RESULT1	
	8.1	1.5.	1xEV-DO Rev. A1	
	8.1	1.6.	1xEVDO REV A OUTPUT RESULT2	20
	8.2.	L7	E OUTPUT VERIFICATION2	? 1
	8.2	2.1.	LTE OUTPUT RESULT2	<u>?</u> 1
9.		RAD	DIATED TEST RESULTS2	<u> 2</u>
	9.1.	RA	ADIATED POWER (ERP & EIRP)2	?4
	9.1	1.1.	ERP/EIRP Results	25
	9.1	1.2.	LTE ERP/EIRP Results2	26
	9.1	1.3.	ERP/EIRP DATA2	28
	9.2.	FI	ELD STRENGTH OF SPURIOUS RADIATION4	12
			Page 3 of 57	

	9.2.1.	SPURIOUS RADIATION DATA	43
10.	SET	FUP PHOTOS	57

DATE: June 12, 2014

FCC ID: ZNFVS880

1. ATTESTATION OF TEST RESULTS

COMPANY NAME: LG ELECTRONICS MOBILECOMM U.S.A., INC

EUT DESCRIPTION: CDMA/LTE Phone + Bluetooth & DTS/UNII a/b/g/n + NFC

MODEL: LG-VS880, VS880, LGVS880

SERIAL NUMBER: 1978444

DATE TESTED: MAY 20 - JUNE 12, 2014

APPLICABLE STANDARDS

STANDARD TEST RESULTS

FCC PART 22H, 24E, 27E and 27L PASS

UL Verification Services Inc. tested the above equipment in accordance with the requirements set forth in the above standards. All indications of Pass/Fail in this report are opinions expressed by UL Verification Services Inc. based on interpretations and/or observations of test results. Measurement Uncertainties were not taken into account and are published for informational purposes only. The test results show that the equipment tested is capable of demonstrating compliance with the requirements as documented in this report.

Note: The results documented in this report apply only to the tested sample, under the conditions and modes of operation as described herein. This document may not be altered or revised in any way unless done so by UL Verification Services Inc. and all revisions are duly noted in the revisions section. Any alteration of this document not carried out by UL Verification Services Inc. will constitute fraud and shall nullify the document. This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, any agency of the Federal Government, or any agency of any government.

Approved & Released

Min K.

For UL Verification Services Inc. By: Tested By:

PHILIP KIM

CONSUMER TECHNOLOGY DIVISION PROGRAM MANAGER
UL Verification Services Inc.

CHARLES VERGONIO

CONSUMER TECHNOLOGY DIVISION LAB TECHNICIAN
UL Verification Services Inc.

Page 5 of 57

UL VERIFICATION SERVICES INC. 47173 BENICIA STREET, FREMONT, CA 94538, USA

TEL: (510) 771-1000

FORM NO: CCSUP4701I FAX: (510) 661-0888

2. TEST METHODOLOGY

The tests documented in this report were performed in accordance with TIA-603-C, FCC CFR 47 Part 22, FCC CFR Part 24, FCC CFR 47 Part 27

3. FACILITIES AND ACCREDITATION

The test sites and measurement facilities used to collect data are located at 47173 Benicia Street, Fremont, California, USA.

UL Verification Services Inc. is accredited by NVLAP, Laboratory Code 200065-0. The full scope of accreditation can be viewed at http://www.ul.com

4. CALIBRATION AND UNCERTAINTY

4.1. MEASURING INSTRUMENT CALIBRATION

The measuring equipment utilized to perform the tests documented in this report has been calibrated in accordance with the manufacturer's recommendations, and is traceable to recognized national standards

4.2. SAMPLE CALCULATION

Where relevant, the following sample calculation is provided:

EIRP = PSA reading with EUT worst orientation (dBm) + Path loss (dB) – cable loss(between the SG and substitution antenna) + Substitution Antenna Factor (dBi)

ERP = PSA reading with EUT worst orientation (dBm) + Path loss (dB) – cable loss(between the SG and substitution antenna)

(Path loss = Signal generator output - PSA reading with substitution antenna)

4.3. MEASUREMENT UNCERTAINTY

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the apparatus:

PARAMETER	UNCERTAINTY
Conducted Disturbance, 0.15 to 30 MHz	3.52 dB
Radiated Disturbance, 30 to 18000 MHz	4.94 dB

Uncertainty figures are valid to a confidence level of 95%.

Page 6 of 57

FCC ID: ZNFVS880

5. EQUIPMENT UNDER TEST

5.1. DESCRIPTION OF EUT

The EUT is a CDMA/LTE Phone + Bluetooth & DTS/UNII a/b/g/n + NFC.

5.2. MAXIMUM OUTPUT POWER

The transmitter has a maximum peak conducted and radiated ERP / EIRP output powers as follows:

FCC Part 22/24								
Band	Frequency	Modulation	Cond	ucted	Radiated			
	Range(MHz)	Peak	Avg (dBm)	Avg (mW)	Avg (dBm)	Avg (mW)		
	824~849	1xRTT	25.3	338.84	22.011	158.89		
BC0	824~849	EVDO REL. 0	25.3	338.84	22.81	190.99		
	824~849	EVDO REV. A	25.3	338.84				
	1850~1910	1xRTT	24.5	281.84	25.92	390.84		
BC1	1850~1910	EVDO REL. 0	24.5	281.84	25.29	338.06		
	1850~1910	EVDO REV. A	24.5	281.84				

5.3. MAXIMUM OUTPUT POWER (LTE)

The transmitter has a maximum peak conducted and radiated ERP/EIRP output powers as follows:

FCC Part 27								
Band	Band Frequency		Modulation	Conducted		Radiated		
	Range(MHz)	(MHz)	Peak	Avg (dBm)	Avg (mW)	Avg (dBm)	Avg (mW)	
LTE13	777~787	10MHz	QPSK	24.7	295.12	21.40	138.04	
	777~787	10MHz	16QAM	23.5	223.87	20.35	108.39	

FCC Part 27								
Band	Frequency	BandWidth	Ith Modulation Conducted Radiated		Conducted		ated	
Barra	Range(MHz)	(MHz)	Peak	Avg (dBm)	Avg (mW)	Avg (dBm)	Avg (mW)	
LTE4	1710~1755	20MHz	QPSK	24.7	295.12	24.87	306.90	
	1710~1755	20MHz	16QAM	23.7	234.42	23.7	234.42	
FCC Part 27								
Band	Frequency	BandWidth	Modulation	Cond	ucted	Radi	ated	
	Range(MHz)	(MHz)	Peak	Avg (dBm)	Avg (mW)	Avg (dBm)	Avg (mW)	
LTE4	1710~1755	15MHz	QPSK	24.7	295.12	24.68	293.76	
	1710~1755	15MHz	16QAM	23.7	234.42	24.60	288.40	
			FCC P	art 27				
Band	Frequency	BandWidth	Modulation	Cond	ucted	Radiated		
	Range(MHz)	(MHz)	Peak	Avg (dBm)	Avg (mW)	Avg (dBm)	Avg (mW)	
LTE4	1710~1755	10MHz	QPSK	24.7	295.12	24.48	280.54	
	1710~1755	10MHz	16QAM	23.7	234.42	23.47	222.33	
			FCC P	art 27				
Band	Frequency	BandWidth	Modulation	Cond	ucted	Radi	ated	
	Range(MHz)	(MHz)	Peak	Avg (dBm)	Avg (mW)	Avg (dBm)	Avg (mW)	
LTE4	1710~1755	5MHz	QPSK	24.7	295.12	25.16	328.1	
	1710~1755	5MHz	16QAM	23.6	229.09	24.31	269.77	

FCC ID: ZNFVS880

5.4. DESCRIPTION OF AVAILABLE ANTENNAS

The radio utilizes a PIFA antenna for the [List the bands supported] with a maximum peak gain as follow:

Frequency (MHz)	Peak Gain (dBi)
BC0, 824~849MHz	-4.52
BC1, 1850~1910MHz	-0.42
LTE4, 1710~1755MHz	-0.50
LTE13, 777~787MHz	-3.11

TEL: (510) 771-1000

FCC ID: ZNFVS880

5.5. DESCRIPTION OF TEST SETUP

SUPPORT EQUIPMENT

Support Equipment List							
Description Manufacturer Model Serial Number FCC I							
AC Adapter	LG	MCS-01WD	DB390078751	N/A			
Headset	LG	N/A	N/A	N/A			

I/O CABLES (CONDUCTED SETUP)

	I/O Cable List										
Cable No	Cable Port # of identical ports		Connector Type	Cable Type	Cable Length (m)	Remarks					
1	RF Out	1	Spectrum Analyzer	Shielded	None	NA					
2	Antenna Port	1	EUT	Shielded	0.1m	NA					
3	RF In/Out	1	Communication Test Set	Shielded	1m	NA					

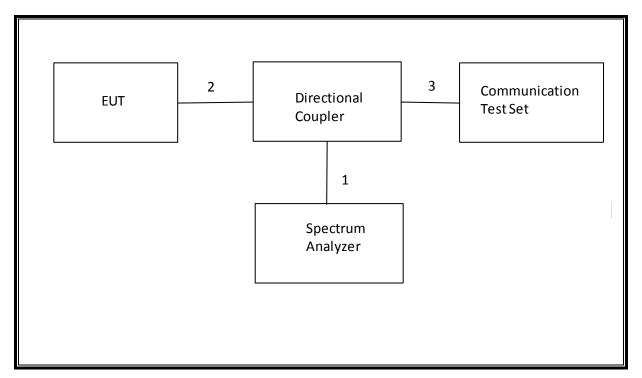
I/O CABLES (RADIATED SETUP)

	I/O CABLE LIST									
Cable Port # of Identical Ports		Connector Type	Cable Type	Cable Length	Remarks					
1	USB	1	AC Adapter	Un-shielded	1.2m	No				
2	Jack	1	Headset	Shielded	1m	No				
3	RF In/out	1	Communication Test Set	Un-shielded	2m	Yes				

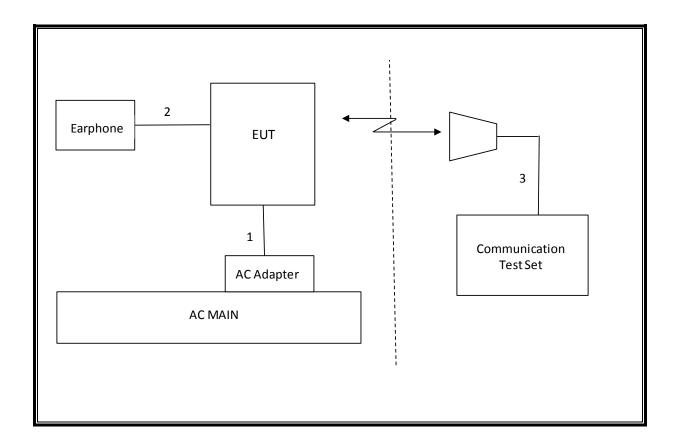
TEST SETUP

The EUT is continuously communicated to the call box during the tests.

SETUP DIAGRAM FOR TESTS (CONDUCTED TEST SETUP)



SETUP DIAGRAM FOR TESTS (RADIATED TEST SETUP)



FCC ID: ZNFVS880

6. TEST AND MEASUREMENT EQUIPMENT

The following test and measurement equipment was utilized for the tests documented in this report:

TEST EQUIPMENT LIST							
Description	Manufacturer	Model	Asset	Cal Due			
Antenna, Horn, 18 GHz	EMCO	3115	C00872	10/25/14			
Antenna, Horn, 18 GHz	EMCO	3115	C00783	10/25/14			
Preamplifier, 1300 MHz	Agilent / HP	8447D	C00885	12/11/14			
Spectrum Analyzer, 44 GHz	Agilent / HP	E4446A	C01179	02/26/15			
Preamplifier, 26.5 GHz	Agilent / HP	8449B	C01063	10/22/14			
Communication Test Set	Agilent / HP	E5515C	C01086	06/20/14			
Temperature / Humidity Chamber	Thermotron	SE 600-10-10	C00930	01/09/15			
Highpass Filter, 1.5 GHz	Micro-Tronics	HPM13193	N02689	CNR			
Highpass Filter, 2.7 GHz	Micro-Tronics	HPM13194	N02687	CNR			
Antenna, Biconolog, 30MHz-1 GHz	Sunol Sciences	JB1	C01016	08/14/14			
Vector signal generator, 6 GHz	Agilent / HP	E4438C	None	07/06/14			

FCC ID: ZNFVS880

7. Summary Table

FCC Part Section	RSS Section(s)	Test Description	Test Limit	Test Condition	Test Result	Worst Case
2.1049	N/A	Occupied Band width (99%)	N/A		Pass	see original
22.917(a) 24.238(a) 27.53(g) 90.691	RSS-132(4.5.1) RSS-133(6.5.1) RSS-139(6.5.1)	Band Edge / Conducted Spurious Emission	-13dBm	Conducted	Pass	see original
2.1046	N/A	Conducted output power	N/A	Conducted	Pass	see original
22.355 24.235 27.54 90.213	RSS-132(4.3) RSS-133(6.3) RSS-139(6.3) RSS-199(4.3)	Frequency Stability	2.5PPM		Pass	see original
22.913(a)(2)	RSS-132(4.4)	Effective Radiated Power	38 dBm		Pass	22.81dBm
27.50(b)(10)	N/A	Ellective Radiated Power	34.77 dBm		Pass	22.8106111
24.232(c)	RSS-133(6.4)	Equivalent Isotropic Radiated	33dBm		Pass	
27.50(d)(4)	RSS-139(6.4)	Power	30dBm	Radiated	Pass	25.92dBm
22.917(a) 24.238(a) 27.53(g)	RSS-132(4.5.1) RSS-133(6.5.1) RSS-139(6.5.1)	Radiated Spurious Emission	-13dBm		Pass	-22.4dBm

FCC ID: ZNFVS880

8.1. CDMA2000

8.1.1. 1xRTT

TEST PROCEDURE

This procedure assumes the Agilest 8960 Test Set has the following applications installed and with valid license.

Application Rev, License
CDMA2000 Mobile Test B.13.08, L

- Call Setup > Shift & Preset
- Cell Info > Cell Parameters > System ID (SID) > 7

> Network ID (NID) > 1

- Protocol Rev > 6 (IS-2000-0)
- Radio Config (RC) > Please see following table or details
- FCH Service Option (SO) Setup > Please see following table or details
- Traffic Data Rate > Full
- TDSO SCH Info > F-SCH Parameters > F-SCH Data Rate > 153.6 kbps
 - > R-SCH Parameters > R-SCH Data Rate > 153.6 kbps
- Rvs Power Ctrl > Active bits
 - o Rvs Power Ctrl > All Up bits (Maximum TxPout)

8.1.2. CDMA2000 OUTPUT POWER RESULT

1xRTT Full Power								
Band	Mode	Ch	Freq. (MHz)	Avg Pwr (dBm)				
		1013	824.70	25.1				
	RC1, SO55 (Loopback)	384	836.52	25.3				
	(соорьаск)	777	848.31	25.1				
		1013	824.70	25.1				
BC 0	RC3, SO55 (Loopback)	384	836.52	25.2				
	(======================================	777	848.31	25.0				
		1013	824.70	25.1				
	RC3, SO32 (+F-SCH)	384	836.52	25.2				
	(1. 3311)	777	848.31	25.1				

1xRTT				Full Power
Band	Mode	Ch	Freq. (MHz)	Avg Pwr (dBm)
		25	1851.25	24.5
	RC1 SO55 (Loopback)	600	1880.00	24.5
	(200)200	1175	1908.75	24.5
	RC3 SO55 (Loopback)	25	1851.25	24.5
BC 1		600	1880.00	24.5
		1175	1908.75	24.5
		25	1851.25	24.5
	RC3 SO32	600	1880.00	24.5

1175

(+F-SCH)

1908.75

24.5

8.1.3. 1xEV-DO Release 0

TEST PROCEDURE

This procedure assumes the Agilent 8960 Test Set has the following applications installed and with valid license.

Application Rev, License 1xEV-DO Terminal Test A.09.13

EVDO Release 0 - RTAP

- Call Setup > Shift & Preset
- Call Control:
- Access Network Info > Cell Parameters > Sector ID > 00000000 > Subnet Mask > 0
- o Generator Info > Termination Parameters > Max Forward Packet Duration > 16 Slots
- Call Parms:
- Cell Power > -105.5 dBm/1.23 MHz
- Cell Band > (Select US Cellular or US PCS)
- Channel > (Enter channel number)
- Application Config > Enhanced Test Application Protocol > RTAP
- RTAP Rate > 153.6 kbps
- Rvs Power Ctrl > Active bits
- Protocol Rel > 0 (1xEV-DO)
- Press "Start Data Connection" when "Session Open" appear in "Active Cell"
- Rvs Power Ctrl > All Up bits (Maximum TxPout)

EVDO Release 0 - FTAP

- Call Setup > Shift & Preset
- Call Control:
- Access Network Info > Cell Parameters > Sector ID > 00000000 > Subnet Mask > 0
- o Generator Info > Termination Parameters > Max Forward Packet Duration > 16 Slots
- Call Parms:
- Cell Power > -105.5 dBm/1.23 MHz
- Cell Band > (Select US Cellular or US PCS)
- Channel > (Enter channel number)
- Application Config > Enhanced Test Application Protocol > FTAP (default)
- FTAP Rate > 307.2 kbps (2 Slot, QPSK)
- Rvs Power Ctrl > Active bits
- Protocol Rel > 0 (1xEV-DO)
- Press "Start Data Connection" when "Session Open" appear in "Active Cell"
- Rvs Power Ctrl > All Up bits (Maximum TxPout)

Page 17 of 57

UL VERIFICATION SERVICES INC. 47173 BENICIA STREET, FREMONT, CA 94538, USA

TEL: (510) 771-1000

FORM NO: CCSUP4701I FAX: (510) 661-0888

FCC ID: ZNFVS880

8.1.4. 1XEVDO REL 0 OUTPUT POWER RESULT

1xEv-Do Rel. 0

Band	FTAP Rate	Channel	f (MHz)	Avg Pwr (dBm)
BC0		1013	824.70	25.2
	307.2 kbps (2 slot, QPSK)	384	836.52	25.3
	(= 5.5., 4. 5.)	777	848.31	25.2

1xEv-Do Rel. 0

Band	FTAP Rate	Channel	f (MHz)	Avg Pwr (dBm)
BC 1		25	1851.25	24.5
	307.2 kbps (2 slot, QPSK)	600	1880.00	24.5
	(= 5:5:, =: 5:5)	1175	1908.75	24.5

8.1.5. 1xEV-DO Rev. A

TEST PROCEDURE

This procedure assumes the Agilent 8960 Test Set has the following applications installed and with valid license.

Application Rev, License 1xEV-DO Terminal Test A.09.13

EVDO Release A - RETAP

- Call Setup > Shift & Preset
- Cell Power > -60 dBm/1.23 MHz
- Protocol Rev > A (1xEV-DO-A)
- Application Config > Enhanced Test Application Protocol > RETAP
- R-Data Pkt Size > 4096
- Protocol Subtype Config > Release A Physical Layer Subtype > Subtype 2
- > PL Subtype 2 Access Channel MAC Subtype > Default (Subtype 0)
- Access Network Info > Cell Parameters > Sector ID > 00000000 > Subnet Mask > 0
- Generator Info > Termination Parameters > Max Forward Packet Duration >16 Slots
 - > ACK R-Data After > Subpacket 0 (All ACK)
- Rvs Power Ctrl > All Up bits (to get the maximum power)

EVDO Release A - FETAP

- Call Setup > Shift & Preset
- Cell Power > -60 dBm/1.23 MHz
- Protocol Rev > A (1xEV-DO-A)
- Application Config > Enhanced Test Application Protocol > FETAP

Rvs Power Ctrl > All Up bits (to get the maximum power)

- F-Traffic Format > 4 (1024, 2,128) Canonical (307.2k, QPSK)
- Protocol Subtype Config > Release A Physical Layer Subtype > Subtype 2
- > PL Subtype 2 Access Channel MAC Subtype > Default (Subtype 0)
- Access Network Info > Cell Parameters > Sector ID > 00000000 > Subnet Mask > 0
- Generator Info > Termination Parameters > Max Forward Packet Duration >16 Slots
 A SUA DURANT AND A
 - > ACK R-Data After > Subpacket 0 (All ACK)

FCC ID: ZNFVS880

8.1.6. 1xEVDO REV A OUTPUT RESULT

1xEv-Do Rev. A

Band	FETAP Traffic Format	Channel	f (MHz)	Avg Pwr (dBm)
	307.2k, QPSK/	1013	824.70	25.2
BC0	ACK channel is transmitted at	384	836.52	25.3
	all the slots	777	848.31	25.2

1xEv-Do Rev. A

Band	FETAP Traffic Format	Channel	f (MHz)	Avg Pwr (dBm)
	307.2k, QPSK/	25	1851.25	24.4
BC 1	ACK channel is transmitted at	600	1880	24.4
	all the slots	1175	1908.75	24.5

TEL: (510) 771-1000

8.2. LTE OUTPUT VERIFICATION

8.2.1. LTE OUTPUT RESULT

							Avg Pwr (dBm)			
Band	BW Mode	RB	RB	Target	20050	20175	20300				
	(MHz)		Allocation	Size	MPR	1720 MHz	1732.5 MHz	1745 MHz			
			1	0	0	24.7	24.7	24.7			
			1	49	0	24.6	24.7	24.6			
			1	99	0	24.6	24.6	24.7			
		QPSK	50	0	1	23.6	23.4	23.5			
			50	25	1	23.6	23.6	23.5			
			50	50	1	23.5	23.6	23.5			
LTE	20		100	0	1	23.5	23.5	23.6			
Band 4	20		1	0	1	23.6	23.5	23.7			
			1	49	1	23.6	23.6	23.4			
			1	99	1	23.5	23.3	23.7			
		16QAM	50	0	2	22.3	22.3	22.2			
			50	25	2	22.3	22.5	21.9			
			50	50	2	22.4	22.5	22.2			
			100	0	2	22.4	22.4	22.3			
							Avg Pwr (dBm)			
Band	BW	Mode	RB Allocation	RB O'	Target	20025	20175	20325			
	(MHz)		Allocation	Size	MPR	1717.5	1732.5	1747.5			
			1	0	0	MHz 24.5	MHz 24.6	MHz 24.7			
			1	36	0	24.7	24.7	24.6			
			1	74	0	24.5	24.7	24.7			
		QPSK	36	0	1	23.5	23.5	23.4			
			36	18	1	23.6	23.6	23.5			
						36	37	1	23.5	23.5	23.5
LTE			75	0	1	23.6	23.6	23.5			
Band 4	15		1	0	1	23.3	23.6	23.6			
			1	36	1	23.5	23.7	23.7			
			1	74	1	23.2	23.7	23.7			
		16QAM	36	0	2	22.1	22.4	21.9			
			36	18	2	22.3	22.5	22.1			
			36	37	2	22.3	22.5	22.2			
			75	0	2	22.3	22.5	22.2			
							Avg Pwr (dBm)			
Band	BW	Mode	RB	RB	Target	20000	20175	20350			
	(MHz)		Allocation	Size	MPR	1715 MHz	1732.5 MHz	1750 MHz			
LTE			1	0	0	24.5	24.6	24.5			
Band 4	10	QPSK									

Page 21 of 57

FCC ID: ZNFVS880

			1	49	0	24.6	24.7	24.7
			25	0	1	23.3	23.4	23.5
			25	12	1	23.4	23.5	23.6
			25	25	1	23.6	23.5	23.6
			50	0	1	23.5	23.6	23.6
			1	0	1	23.2	23.7	23.2
			1	25	1	23.4	23.7	23.3
			1	49	1	23.3	23.7	23.6
		16QAM	25	0	2	22.0	22.3	22.3
			25	12	2	22.2	22.4	22.3
			25	25	2	22.3	22.4	22.3
			50	0	2	22.3	22.5	22.3
							Avg Pwr (dBm))
Band	BW	Mode	RB Allocation	RB Size	Target MPR	19975	20175	20375
	(MHz)		Allocation	Size	IVIPR	1712.5	1732.5	1752.5
			1	0	0	MHz 24.6	MHz 24.7	MHz 24 7
			1	0	0	24.6	24.7	24.7
			1	12	0	24.6 24.5	24.7 24.7	24.7 24.7
		QPSK				24.6	24.7	24.7
		QPSK	1	12 24	0	24.6 24.5 24.6	24.7 24.7 24.7	24.7 24.7 24.7
		QPSK	1 1 12	12 24 0	0 0 1	24.6 24.5 24.6 23.5	24.7 24.7 24.7 23.4	24.7 24.7 24.7 23.6
LTE	_	QPSK	1 1 12 12	12 24 0 6	0 0 1 1 1	24.6 24.5 24.6 23.5 23.4	24.7 24.7 24.7 23.4 23.5	24.7 24.7 24.7 23.6 23.7
LTE Band 4	5	QPSK	1 1 12 12 12	12 24 0 6 13	0 0 1 1 1 1	24.6 24.5 24.6 23.5 23.4 23.4	24.7 24.7 24.7 23.4 23.5 23.6	24.7 24.7 24.7 23.6 23.7 23.7
	5	QPSK	1 1 12 12 12 12 25	12 24 0 6 13	0 0 1 1 1	24.6 24.5 24.6 23.5 23.4 23.4 23.3	24.7 24.7 24.7 23.4 23.5 23.6 23.6	24.7 24.7 24.7 23.6 23.7 23.7 23.6
	5	QPSK	1 1 12 12 12 12 25 1	12 24 0 6 13 0	0 0 1 1 1 1	24.6 24.5 24.6 23.5 23.4 23.4 23.3 23.3	24.7 24.7 24.7 23.4 23.5 23.6 23.6 23.4	24.7 24.7 24.7 23.6 23.7 23.7 23.6 23.4
	5	QPSK 16QAM	1 1 12 12 12 12 25 1	12 24 0 6 13 0 0	0 0 1 1 1 1 1	24.6 24.5 24.6 23.5 23.4 23.4 23.3 23.3 23.2	24.7 24.7 24.7 23.4 23.5 23.6 23.6 23.4 23.5	24.7 24.7 24.7 23.6 23.7 23.7 23.6 23.4 23.5
	5		1 1 12 12 12 12 25 1 1	12 24 0 6 13 0 0 12 24	0 0 1 1 1 1 1 1	24.6 24.5 24.6 23.5 23.4 23.4 23.3 23.3 23.2 23.3	24.7 24.7 24.7 23.4 23.5 23.6 23.6 23.4 23.5 23.5	24.7 24.7 24.7 23.6 23.7 23.7 23.6 23.4 23.5 23.6
	5		1 1 12 12 12 12 25 1 1 1 1	12 24 0 6 13 0 0 12 24	0 0 1 1 1 1 1 1 1	24.6 24.5 24.6 23.5 23.4 23.4 23.3 23.3 23.2 23.3 22.2	24.7 24.7 23.4 23.5 23.6 23.6 23.4 23.5 23.5 23.5 22.3	24.7 24.7 23.6 23.7 23.7 23.6 23.4 23.5 23.6 22.4

FCC ID: ZNFVS880

					_	Avg Pwr (dBm)			
Band	BW (MHz)	Mode	RB Allocation	RB Size	Target MPR	23230			
	(1711 12)					711100011011	0.20	1011 12	782 MHz
			1	0	0	24.7			
			1	25	0	24.7			
			1	49	0	24.7			
		QPSK	25	0	1	23.7			
			25	12	1	23.7			
			25	25	1	23.6			
LTE	10		50	0	1	23.7			
Band 13	10		1	0	1	23.7			
			1	25	1	23.6			
			1	49	1	23.6			
		16QAM	25	0	2	22.7			
			25	12	2	22.7			
			25	25	2	22.6			
			50	0	2	22.6			

TEL: (510) 771-1000

FCC ID: ZNFVS880

9. RADIATED TEST RESULTS

9.1. RADIATED POWER (ERP & EIRP)

RULE PART(S)

FCC: §2.1046, §22.913, §24.232, and § 27.

LIMITS

22.913(a) - The ERP of mobile transmitters and auxiliary test transmitters must not exceed 7 Watts.

24.232(c) - Mobile/portable stations are limited to 2 watts e.i.r.p. peak power and the equipment must employ means to limit the power to the minimum necessary for successful communications.

In addition, when the transmitter power is measured in terms of average value, the peak-to-average ratio of the power shall not exceed 13dB.

TEST PROCEDURE

ANSI / TIA / EIA 603C Clause 2.2.17

MODES TESTED

CDMA2000 BC0/BC1; LTE B4/B13

FCC ID: ZNFVS880

TEST RESULTS

9.1.1. ERP/EIRP Results

Band	Mode	Channel	f(MHz)	ERP / EIRP	
				dBm	mW
		25	1851.25	25.76	376.7
	1xRTT	600	1880	25.92	390.84
BC1		1175	1908.75	25.47	352.37
		25	1851.25	24.67	293.09
	EVDO REL. 0	600	1880	25.00	316.23
		1175	1908.75	25.29	338.06

Band	Mode	Channel	f(MHz)	ERP / EIRP	
				dBm	mW
		1013	824.7	21.341	136.18
	1xRTT	384	836.52	21.781	150.7
BCO		777	848.31	22.011	158.89
	EVDO REL. 0	1013	824.7	21.94	156.31
		384	836.52	22.16	164.44
		777	848.31	22.81	190.99

9.1.2. LTE ERP/EIRP Results

Band	BW (MHz)	Mode	RB/RB Size	f (MHz)	ERP/	/ EIRP	
					dBm	mW	
LTE13	10	QPSK	1/0	782	21.40	138.04	
		16QAM	1/0	782	20.35	108.39	

Band	BW (MHz)	Mode	de RB/RB Size f (MHz)		ERP / EIRP		
					dBm	mW	
			1/0	1720	24.03	252.93	
	20	QPSK	1/0	1732.5	24.43	277.33	
LTE4			1/0	1745	24.87	306.90	
		16QAM	1/0	1720	22.49	177.42	
			1/0	1732.5	23.40	218.78	
			1/0	1745	23.7	234.42	

Band	BW (MHz)	Mode	RB/RB Size f (MHz)		ERP / EIRP		
					dBm	mW	
			1/0	1717.5	23.82	240.99	
	15	QPSK	1/0	1732.5	24.56	285.76	
LTE4			1/0	1747.5	24.68	293.76	
		16QAM	1/0	1717.5	23.52	224.91	
			1/0	1732.5	24.52	283.14	
			1/0	1747.5	24.60	288.40	

Band	BW (MHz)	Mode	RB/RB Size	f (MHz)	ERP / EIRP		
	` '		·		dBm	mW	
			1/0	1715	24.04	253.51	
		QPSK	1/0	1732.5	24.14	259.42	
LTE4	10		1/0	1750	24.48	280.54	
		16QAM	1/0	1715	23.04	201.37	
			1/0	1732.5	23.21	209.41	

Page 26 of 57

FCC ID: ZNFVS880

	1/0	1750	23.47	222.33

Band	BW (MHz)	Mode	RB/RB Size	f (MHz)	ERP / EIRP		
					dBm	mW	
			1/0	1712.5	24.34	271.64	
		QPSK	1/0	1732.5	25.16	328.1	
LTE4	5		1/0	1752.5	24.81	302.69	
		16QAM	1/0	1712.5	24.29	268.53	
			1/0	1732.5	24.31	269.77	
			1/0	1752.5	23.92	246.6	

TEL: (510) 771-1000

9.1.3. ERP/EIRP DATA

High Frequency Substitution Measurement Compliance Certification Services Chamber B

 Company:
 LG

 Project #:
 14U17461

 Date:
 05/22/14

 Test Engineer:
 D. Soper

 Configuration:
 Z position

Mode: LTE_B13_10MHz_QPSK

Band

Test Equipment:

LTE13

Receiving: Sunol T243, and Chamber B Cable (Setup this one for testing EUT) Substitution: Dipole S/N: 00022117, 8ft SMA Cable (SN # 208955002) Warehouse.

10MHz

16QAM

f	SG reading	Ant. Pol.	Cable Loss	Antenna Gain	ERP	Limit	Margin	Notes
MHz	(dBm)	(H/V)	(dB)	(dBd)	(dBm)	(dBm)	(dB)	
Low Ch								
Mid Ch								
782.000	21.20	V	0.9	0.0	20.35	34.8	-14.4	
782.000	14.90	Н	0.9	0.0	14.00	34.8	-20.8	
Mid Ch								
NEW								

High Frequency Substitution Measurement Compliance Certification Services Chamber B

Company: LG
Project #: 14U17461
Date: 05/22/14
Test Engineer: D. Soper
Configuration: Z position

Mode: LTE_B13_10MHz_QPSK

Band

Test Equipment:

LTE13 Rece

Receiving: Sunol T243, and Chamber B Cable (Setup this one for testing EUT) Substitution: Dipole S/N: 00022117, 8ft SMA Cable (SN # 208955002) Warehouse.

10MHz QPSK

f	SG reading	Ant. Pol.	Cable Loss	Antenna Gain	ERP	Limit	Margin	Notes
MHz	(dBm)	(H/V)	(dB)	(dBd)	(dBm)	(dBm)	(dB)	
Low Ch								
Mid Ch								
782.000	22.30	V	0.9	0.0	21.40	34.8	-13.4	
782.000	16.50	Н	0.9	0.0	15.60	34.8	-19.2	
Mid Ch								
NEW								
Rev. 3.17.11							^	······

Page 29 of 57

High Frequency Fundamental Measurement Compliance Certification Services Chamber B

 Company:
 LG

 Project #:
 14U17461

 Date:
 05/22/14

 Test Engineer:
 D. Soper

 Configuration:
 EUT Z position

 Mode:
 LTE_B4_20MHz_16QAM

Band LTE4

Test Equipment:

Receiving: Horn T345, and Chamber B SMA Cables

Substitution: Horn T59 Substitution, 4ft SMA Cable (244639001) Warehouse

20MHz

16QAM

f	SG reading	Ant. Pol.	Cable Loss	Antenna Gain	EIRP	Limit	Delta	Notes
GHz	(dBm)	(H/V)	(dB)	(dBi)	(dBm)	(dBm)	(dB)	
Low Ch								
1.720	11.7	V	0.85	8.29	19.11	30.0	-10.9	
1.720	15.1	Н	0.85	8.29	22.49	30.0	-7.5	
Mid Ch								
1.732	12.4	V	0.85	8.29	19.81	30.0	-10.2	
1.732	16.0	Н	0.85	8.29	23.40	30.0	-6.6	
High Ch								
1.745	13.8	V	0.85	8.29	21.23	30.0	-8.8	
1.745	16.3	Н	0.85	8.29	23.70	30.0	-6.3	

High Frequency Fundamental Measurement Compliance Certification Services Chamber B

 Company:
 LG

 Project #:
 14U17461

 Date:
 05/22/14

 Test Engineer:
 D. Soper

 Configuration:
 EUT Z position

 Mode:
 LTE_B4_20MHz_QPSK

Band

LTE4

Test Equipment:

Receiving: Horn T345, and Chamber B SMA Cables

Substitution: Horn T59 Substitution, 4ft SMA Cable (244639001) Warehouse

20MHz

QPSK

f	SG reading	Ant. Pol.	Cable Loss	Antenna Gain	EIRP	Limit	Delta	Notes
GHz	(dBm)	(H/V)	(dB)	(dBi)	(dBm)	(dBm)	(dB)	
Low Ch								
1.720	12.9	V	0.85	8.29	20.36	30.0	-9.6	
1.720	16.6	Н	0.85	8.29	24.03	30.0	-6.0	
Mid Ch								
1.732	13.0	V	0.85	8.29	20.47	30.0	-9.5	
1.732	17.0	Н	0.85	8.29	24.43	30.0	-5.6	
High Ch								
1.745	14.7	V	0.85	8.29	22.14	30.0	-7.9	
1.745	17.4	Н	0.85	8.29	24.87	30.0	-5.1	

High Frequency Fundamental Measurement Compliance Certification Services Chamber B

 Company:
 LG

 Project #:
 14U17461

 Date:
 05/22/14

 Test Engineer:
 D. Soper

 Configuration:
 EUT Z position

 Mode:
 LTE_B4_15MHz_16QAM

Band

LTE4

Test Equipment:

Receiving: Horn T345, and Chamber B SMA Cables

Substitution: Horn T59 Substitution, 4ft SMA Cable (244639001) Warehouse

15MHz

16QAM

f	SG reading	Ant. Pol.	Cable Loss	Antenna Gain	EIRP	Limit	Delta	Notes
GHz	(dBm)	(H/V)	(dB)	(dBi)	(dBm)	(dBm)	(dB)	
Low Ch								
1.718	13.3	V	0.85	8.29	20.74	30.0	-9.3	
1.718	16.1	Н	0.85	8.29	23.52	30.0	-6.5	
Mid Ch								
1.732	12.4	V	0.85	8.29	19.82	30.0	-10.2	
1.732	17.1	Н	0.85	8.29	24.52	30.0	-5.5	
High Ch								
1.748	13.4	V	0.85	8.29	20.83	30.0	-9.2	
1.748	17.2	Н	0.85	8.29	24.60	30.0	-5.4	

High Frequency Fundamental Measurement Compliance Certification Services Chamber B

 Company:
 LG

 Project #:
 14U17461

 Date:
 05/22/14

 Test Engineer:
 D. Soper

 Configuration:
 EUT Z position

 Mode:
 LTE_B4_15MHz_QPSK

Band LTE4

Test Equipment:

Receiving: Horn T345, and Chamber B SMA Cables

Substitution: Horn T59 Substitution, 4ft SMA Cable (244639001) Warehouse

15MHz

QPSK

f	SG reading	Ant. Pol.	Cable Loss	Antenna Gain	EIRP	Limit	Delta	Notes
GHz	(dBm)	(H/V)	(dB)	(dBi)	(dBm)	(dBm)	(dB)	
Low Ch								
1.718	14.2	V	0.85	8.29	21.67	30.0	-8.3	
1.718	16.4	Н	0.85	8.29	23.82	30.0	-6.2	
Mid Ch								
1.732	13.3	V	0.85	8.29	20.76	30.0	-9.2	
1.732	17.1	Н	0.85	8.29	24.56	30.0	-5.4	
High Ch								
1.748	13.9	V	0.85	8.29	21.37	30.0	-8.6	
1.748	17.2	Н	0.85	8.29	24.68	30.0	-5.3	

High Frequency Fundamental Measurement Compliance Certification Services Chamber A

 Company:
 LG

 Project #:
 14U17461

 Date:
 05/22/14

 Test Engineer:
 D. Soper

 Configuration:
 EUT Z position

 Mode:
 LTE_B4_10MHz_16QAM

Band

LTE4

Test Equipment:

Receiving: Horn T345, and Chamber A SMA Cables

Substitution: Horn T59 Substitution, 4ft SMA Cable (244639001) Warehouse

10MHz

16QAM

f	SG reading	Ant. Pol.	Cable Loss	Antenna Gain	EIRP	Limit	Delta	Notes
GHz	(dBm)	(H/V)	(dB)	(dBi)	(dBm)	(dBm)	(dB)	
Low Ch								
1.715	10.9	V	0.85	8.29	18.36	30.0	-11.6	
1.715	15.6	Н	0.85	8.29	23.04	30.0	-7.0	
Mid Ch								
1.733	12.1	V	0.85	8.29	19.56	30.0	-10.4	
1.733	15.8	Н	0.85	8.29	23.21	30.0	-6.8	
High Ch								
1.750	12.1	V	0.85	7.92	19.18	30.0	-10.8	
1.750	16.4	Н	0.85	7.92	23.47	30.0	-6.5	

High Frequency Fundamental Measurement Compliance Certification Services Chamber A

 Company:
 LG

 Project #:
 14U17461

 Date:
 05/22/14

 Test Engineer:
 D. Soper

 Configuration:
 EUT Z position

 Mode:
 LTE_B4_10MHz_QPSK

Band LTE4

Test Equipment:

Receiving: Horn T345, and Chamber A SMA Cables

Substitution: Horn T59 Substitution, 4ft SMA Cable (244639001) Warehouse

10MHz

QPSK

f	SG reading	Ant. Pol.	Cable Loss	Antenna Gain	EIRP	Limit	Delta	Notes
GHz	(dBm)	(H/V)	(dB)	(dBi)	(dBm)	(dBm)	(dB)	
Low Ch								
1.715	12.4	V	0.85	8.29	19.79	30.0	-10.2	
1.715	16.6	Н	0.85	8.29	24.04	30.0	-6.0	
Mid Ch								
1.733	13.1	V	0.85	8.29	20.53	30.0	-9.5	
1.733	16.7	Н	0.85	8.29	24.14	30.0	-5.9	
High Ch								
1.750	13.0	V	0.85	7.92	20.09	30.0	-9.9	
1.750	17.4	Н	0.85	7.92	24.48	30.0	-5.5	

High Frequency Fundamental Measurement Compliance Certification Services Chamber B

 Company:
 LG

 Project #:
 14U17461

 Date:
 05/22/14

 Test Engineer:
 D. Soper

 Configuration:
 EUT Z position

 Mode:
 LTE_B4_5MHz_16QAM

Band

LTE4

Test Equipment:

Receiving: Horn T345, and Chamber B SMA Cables

Substitution: Horn T59 Substitution, 4ft SMA Cable (244639001) Warehouse

5MHz

16QAM

f	SG reading	Ant. Pol.	Cable Loss	Antenna Gain	EIRP	Limit	Delta	Notes
GHz	(dBm)	(H/V)	(dB)	(dBi)	(dBm)	(dBm)	(dB)	
Low Ch								
1.713	12.0	V	0.85	8.29	19.42	30.0	-10.6	
1.713	16.9	Н	0.85	8.29	24.29	30.0	-5.7	
Mid Ch								
1.733	12.1	V	0.85	8.29	19.56	30.0	-10.4	
1.733	16.9	Н	0.85	8.29	24.31	30.0	-5.7	
High Ch								
1.753	12.6	V	0.85	7.92	19.66	30.0	-10.3	
1.753	16.9	Н	0.85	7.92	23.92	30.0	-6.1	

FCC ID: ZNFVS880

High Frequency Fundamental Measurement Compliance Certification Services Chamber B

 Company:
 LG

 Project #:
 14U17461

 Date:
 05/22/14

 Test Engineer:
 D. Soper

 Configuration:
 EUT Z position

 Mode:
 LTE_B4_5MHz_QPSK

Band LTE4

Test Equipment:

Receiving: Horn T345, and Chamber C SMA Cables

Substitution: Horn T59 Substitution, 4ft SMA Cable (244639001) Warehouse

5MHz

QPSK

f	SG reading	Ant. Pol.	Cable Loss	Antenna Gain	EIRP	Limit	Delta	Notes
GHz	(dBm)	(H/V)	(dB)	(dBi)	(dBm)	(dBm)	(dB)	
Low Ch								
1.713	13.1	V	0.85	8.29	20.58	30.0	-9.4	
1.713	16.9	Н	0.85	8.29	24.34	30.0	-5.7	
Mid Ch								
1.733	13.3	V	0.85	8.29	20.77	30.0	-9.2	
1.733	17.7	Н	0.85	8.29	25.16	30.0	-4.8	
High Ch								
1.753	13.2	V	0.85	7.92	20.29	30.0	-9.7	
1.753	17.7	Н	0.85	7.92	24.81	30.0	-5.2	

High Frequency Fundamental Measurement Compliance Certification Services Chamber E

 Company:
 LG

 Project #:
 14U17461

 Date:
 05/23/14

 Test Engineer:
 D. Soper

 Configuration:
 EUT, X Position

 Mode:
 CDMA EVDO BC1

Test Equipment:

Band Receiving: T345, and Chamber E SMA Cables

Substitution: Horn T59 Substitution, 4ft SMA Cable (244639001) Warehouse

BC1

Notes	Delta	Limit	EIRP	Antenna Gain	Cable Loss	Ant. Pol.	SG reading	f
	(dB)	(dBm)	(dBm)	(dBi)	(dB)	(H/V)	(dBm)	GHz
								Low Ch
	-8.9	33.0	24.09	7.90	0.85	V	17.0	1.851
	-8.3	33.0	24.67	7.90	0.85	Н	17.6	1.851
								Mid Ch
	-10.7	33.0	22.35	7.90	0.85	V	15.3	1.880
	-8.0	33.0	25.00	7.90	0.85	Н	18.0	1.880
								High Ch
	-15.4	33.0	17.61	7.80	0.85	V	10.7	1.909
	-7.7	33.0	25.29	7.80	0.85	Н	18.3	1.909

High Frequency Fundamental Measurement Compliance Certification Services Chamber E

 Company:
 LG

 Project #:
 14U17461

 Date:
 05/23/14

 Test Engineer:
 D. Soper

 Configuration:
 EUT, X Position

 Mode:
 CDMA RTT BC1

Test Equipment:

Band Receiving: T345, and Chamber E SMA Cables

Substitution: Horn T59 Substitution, 4ft SMA Cable (244639001) Warehouse

BC1
1xRTT

ıg	SG reading	G reading Ant. Pol. Cable Loss	Antenna Gain	EIRP	Limit	Delta	Notes
	(dBm)	(dBm) (H/V) (dB)	(dBi)	(dBm)	(dBm)	(dB)	
	18.4	18.4 V 0.85	7.90	25.40	33.0	-7.6	
	18.7	18.7 H 0.85	7.90	25.76	33.0	-7.2	
•••••							
	16.6	16.6 V 0.85	7.90	23.65	33.0	-9.4	
	18.9	18.9 H 0.85	7.90	25.92	33.0	-7.1	
•••••	ı						
	16.8	16.8 V 0.85	7.80	23.78	33.0	-9.2	
	18.5	18.5 H 0.85	7.80	25.47	33.0	-7.5	
H 0.85 7.90 25.92 V 0.85 7.80 23.78	H 0.85 7.90 25.92 V 0.85 7.80 23.78	7.90 25.92 7.80 23.78	25.92 3 23.78 3		33.0 33.0	-7.1 -9.2	

FCC ID: ZNFVS880

High Frequency Substitution Measurement Compliance Certification Services Chamber E

 Company:
 LG

 Project #:
 14U17461

 Date:
 05/23/14

 Test Engineer:
 D. Soper

 Configuration:
 EUT, X Position

 Mode:
 CDMA EVDO BC0

Band BC0

Test Equipment:

Receiving: Sunol T243, and Chamber E Cable (Setup this one for testing EUT) Substitution: Dipole S/N: 00022117, 8ft SMA Cable (SN # 208955002) Warehouse.

f	SG reading	Ant. Pol.	Cable Loss	Antenna Gain	ERP	Limit	Margin	Notes
MHz	(dBm)	(H/V)	(dB)	(dBd)	(dBm)	(dBm)	(dB)	
Low Ch								
824.70	14.55	V	0.9	0.0	13.65	38.5	-24.8	
824.70	22.84	Н	0.9	0.0	21.94	38.5	-16.5	
Mid Ch								
836.52	14.20	V	0.9	0.0	13.30	38.5	-25.1	
836.52	23.06	Н	0.9	0.0	22.16	38.5	-16.3	
High Ch								
848.31	15.00	V	0.9	0.0	14.10	38.5	-24.3	
848.31	23.71	Н	0.9	0.0	22.81	38.5	-15.6	

FCC ID: ZNFVS880

High Frequency Substitution Measurement Compliance Certification Services Chamber E

 Company:
 LG

 Project #:
 14U17461

 Date:
 05/23/14

 Test Engineer:
 D. Soper

 Configuration:
 EUT, X Position

 Mode:
 CDMA RTT BC0

Band BC0 **Test Equipment:**

Receiving: Sunol T243, and Chamber E Cable (Setup this one for testing EUT) Substitution: Dipole S/N: 00022117, 8ft SMA Cable (SN # 208955002) Warehouse.

1xRTT

f	SG reading	Ant. Pol.	Cable Loss	Antenna Gain	ERP	Limit	Margin	Notes
MHz	(dBm)	(H/V)	(dB)	(dBd)	(dBm)	(dBm)	(dB)	
Low Ch								
824.70	14.50	V	0.9	0.0	13.60	38.5	-24.8	
824.70	22.24	Н	0.9	0.0	21.34	38.5	-17.1	
Mid Ch								
836.52	15.20	V	0.9	0.0	14.30	38.5	-24.1	
836.52	22.68	Н	0.9	0.0	21.78	38.5	-16.7	
High Ch								
848.31	15.06	V	0.9	0.0	14.16	38.5	-24.3	
848.31	22.91	Н	0.9	0.0	22.01	38.5	-16.4	
						•		

REPORT NO: 14U17461-1 DATE: June 12, 2014

FCC ID: ZNFVS880

9.2. FIELD STRENGTH OF SPURIOUS RADIATION

RULE PART(S)

FCC: §2.1053, §22.917, §24.238, §27

LIMIT

§22.917 (e) and §24.238 (a): Out of band emissions. The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least 43 + 10 log (P) dB

TEST PROCEDURE

For Cellular equipment - Compliance with these rules is based on the use of measurement instrumentation employing a resolution bandwidth of 100 kHz or greater. In the 1 MHz bands immediately outside and adjacent to the frequency block a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed. A narrower resolution bandwidth is permitted in all cases to improve measurement accuracy provided the measured power is integrated over the full required measurement bandwidth (i.e. 100 kHz or 1 percent of emission bandwidth, as specified). The emission bandwidth is defined as the width of the signal between two points, one below the carrier center frequency and one above the carrier center frequency, outside of which all emissions are attenuated at least 26 dB below the transmitter power.

For PCS equipment - Compliance with these rules is based on the use of measurement instrumentation employing a resolution bandwidth of 1 MHz or greater. However, in the 1 MHz bands immediately outside and adjacent to the frequency block a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed. A narrower resolution bandwidth is permitted in all cases to improve measurement accuracy provided the measured power is integrated over the full required measurement bandwidth (i.e. 1 MHz or 1 percent of emission bandwidth, as specified). The emission bandwidth is defined as the width of the signal between two points, one below the carrier center frequency and one above the carrier center frequency, outside of which all emissions are attenuated at least 26 dB below the transmitter power.

RESULTS

9.2.1. SPURIOUS RADIATION DATA

Compliance Certification Services Above 1GHz High Frequency Substitution Measurement

Company: LG Project #: 14U17461 Date: 05/28/14 Test Engineer: D. Soper

Configuration: EUT / AC Adapter

Mode: TX, LTE band 13, 10MHz BW, 16QAM

Filter Limit Pre-amplifer Chamber T145 8449B Filter 1 3m Chamber

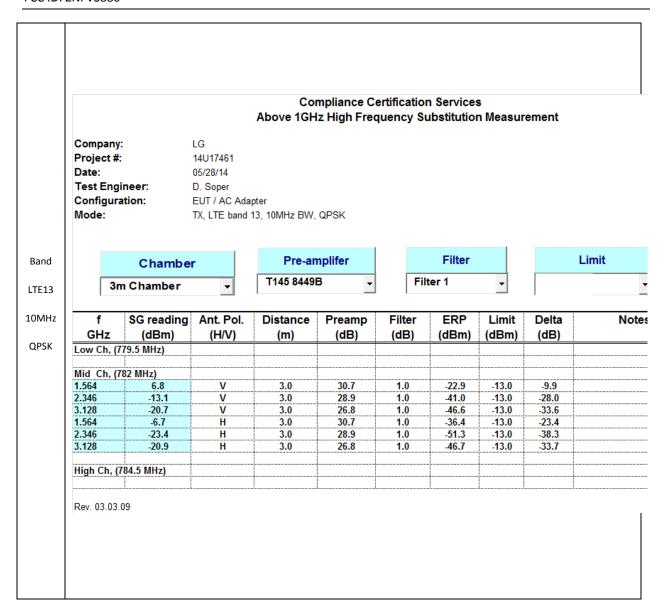
Band

LTE13 10MHz

16QAM

f	SG reading	Ant. Pol.	Distance	Preamp	Filter	ERP	Limit	Delta	Notes
GHz	(dBm)	(H/V)	(m)	(dB)	(dB)	(dBm)	(dBm)	(dB)	
Low Ch, (7									
Mid Ch, (7	782 MHz)								
1.564	7.3	V	3.0	30.7	1.0	-22.4	-13.0	-9.4	
2.346	-12.0	V	3.0	28.9	1.0	-39.9	-13.0	-26.9	
3.128	-20.6	V	3.0	26.8	1.0	-46.4	-13.0	-33.4	
1.564	-6.7	Н	3.0	30.7	1.0	-36.4	-13.0	-23.4	
2.346	-23.8	H	3.0	28.9	1.0	-51.6	-13.0	-38.6	
3.128	-21.0	Н	3.0	26.8	1.0	-46.8	-13.0	-33.8	
High Ch, (784.5 MHz)								
				•					

Rev. 03.03.09



 Company:
 LG

 Project #:
 14U17461

 Date:
 05/28/14

 Test Engineer:
 D. Soper

Configuration: EUT / AC Adapter

Mode: TX, LTE band 4, 20MHz BW, 16QAM

 Chamber
 Pre-amplifer
 Filter
 Limit

 3m Chamber
 ▼
 T145 8449B
 ▼
 Filter 1
 ▼

Band LTE4

20MHz

16QAM

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	ERP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch. (1720 MHz)								
3.440	-21.6	V	3.0	30.4	1.0	-51.0	-13.0	-38.0	
5.160	-15.6	V	3.0	28.7	1.0	-43.4	-13.0	-30.4	
6.880	-16.9	V	3.0	27.1	1.0	-43.1	-13.0	-30.1	
3.440	-22.5	Н	3.0	30.4	1.0	-51.9	-13.0	-38.9	
5.160	-16.0	Н	3.0	28.7	1.0	-43.8	-13.0	-30.8	
6.880	-16.2	Н	3.0	27.1	1.0	-42.3	-13.0	-29.3	
Mid Ch, (1732.5 MHz)								
3.465	-19.4	V	3.0	30.4	1.0	-48.8	-13.0	-35.8	
5.198	-16.7	V	3.0	28.7	1.0	-44.4	-13.0	-31.4	
6.930	-16.9	V	3.0	27.1	1.0	-42.9	-13.0	-29.9	
3.465	-22.7	Н	3.0	30.4	1.0	-52.1	-13.0	-39.1	
5.198	-15.3	Н	3.0	28.7	1.0	-43.0	-13.0	-30.0	
6.930	-16.0	Н	3.0	27.1	1.0	-42.1	-13.0	-29.1	
Ulah Ch /	1745 MU~\								
3.490	1745 MHz) -20.5	V	3.0	30.4	1.0	-49.9	-13.0	-36.9	
5.235	-20.5 -16.9	V	3.0	28.7	1.0	-49.9 -44.6	-13.0	-30.9	
6.980	-16.9	v V	3.0	27.0	1.0	-44.0	-13.0	-29.9	
				\$					
3.490	-21.6	Н	3.0	30.4	1.0	-51.0	-13.0	-38.0	
5.235	-17.2	Н	3.0	28.7	1.0	-44.9	-13.0	-31.9	
6.980	-15.8	Н	3.0	27.0	1.0	-41.8	-13.0	-28.8	
	<u> </u>			ii			i		

 Company:
 LG

 Project #:
 14U17461

 Date:
 05/28/14

 Test Engineer:
 D. Soper

Configuration: EUT / AC Adapter

Mode: TX, LTE band 4, 20MHz BW, QPSK

Chamber -

Pre-amplifer
T145 8449B

Filter 1

Limit

Band LTE4

20MHz QPSK

f	SG reading	Ant. Pol.	Distance	Preamp	Filter	ERP	Limit	Delta	Note
GHz	(dBm)	(H/V)	(m)	(dB)	(dB)	(dBm)	(dBm)	(dB)	
Low Ch, (1	720 MHz)								
3.440	-24.6	V	3.0	30.4	1.0	-54.0	-13.0	-41.0	
5.160	-17.0	V	3.0	28.7	1.0	-44.7	-13.0	-31.7	
6.880	-12.6	V	3.0	27.1	1.0	-38.7	-13.0	-25.7	
3.440	-24.2	Н	3.0	30.4	1.0	-53.6	-13.0	-40.6	
5.160	-18.3	Н	3.0	28.7	1.0	-46.0	-13.0	-33.0	
6.880	-10.5	Н	3.0	27.1	1.0	-36.6	-13.0	-23.6	
Mid Ch, (1	732.5 MHz)								
3.465	-21.7	V	3.0	30.4	1.0	-51.1	-13.0	-38.1	
5.198	-16.1	V	3.0	28.7	1.0	-43.8	-13.0	-30.8	
6.930	-16.7	V	3.0	27.1	1.0	-42.8	-13.0	-29.8	
3.465	-23.4	Н	3.0	30.4	1.0	-52.8	-13.0	-39.8	
5.198	-18.1	Н	3.0	28.7	1.0	-45.8	-13.0	-32.8	
6.930	-16.0	Н	3.0	27.1	1.0	-42.1	-13.0	-29.1	
High Ch, (1745 MHz)								
3.490	-21.3	V	3.0	30.4	1.0	-50.7	-13.0	-37.7	
5.235	-17.0	V	3.0	28.7	1.0	-44.6	-13.0	-31.6	
6.980	-16.8	V	3.0	27.0	1.0	-42.8	-13.0	-29.8	
3.490	-20.8	Н	3.0	30.4	1.0	-50.1	-13.0	-37.1	
5.235	-15.5	Н	3.0	28.7	1.0	-43.2	-13.0	-30.2	
6.980	-15.9	Н	3.0	27.0	1.0	-41.9	-13.0	-28.9	
	.]		<u> </u>	<u> </u>					

 Company:
 LG

 Project #:
 14U17461

 Date:
 05/22/14

 Test Engineer:
 O. Stoelting

Configuration: EUT Z position, AC Charger, Headphones
Mode: TX, LTE band 4, 15MHz BW, 16QAM

Chamber

5m Chamber A ▼

Pre-amplifer
T145 8449B

Filter 1

Limit

Band LTE4

15MHz

16QAM

f	SG reading	Ant. Pol.	Distance	Preamp	Filter	ERP	Limit	Delta	Notes
GHz	(dBm)	(H/V)	(m)	(dB)	(dB)	(dBm)	(dBm)	(dB)	
Low Ch, (1	717.5 MHz)								
3.435	-33.9	V	3.0	30.4	1.0	-63.3	-13.0	-50.3	
5.153	-36.2	V	3.0	28.7	1.0	-64.0	-13.0	-51.0	
6.870	-37.0	V	3.0	27.1	1.0	-63.1	-13.0	-50.1	
3.435	-33.3	Н	3.0	30.4	1.0	-62.7	-13.0	-49.7	
5.153	-31.6	Н	3.0	28.7	1.0	-59.4	-13.0	-46.4	
6.870	-35.7	Н	3.0	27.1	1.0	-61.8	-13.0	-48.8	
Mid Ch, (1	732.5 MHz)								
3.465	-30.8	V	3.0	30.4	1.0	-60.2	-13.0	-47.2	
5.198	-37.2	V	3.0	28.7	1.0	-64.9	-13.0	-51.9	
6.930	-37.3	V	3.0	27.1	1.0	-63.3	-13.0	-50.3	
3.465	-36.4	Н	3.0	30.4	1.0	-65.8	-13.0	-52.8	
5.198	-33.5	Н	3.0	28.7	1.0	-61.2	-13.0	-48.2	
6.930	-35.4	Н	3.0	27.1	1.0	-61.5	-13.0	-48.5	
High Ch, (1	747.5 MHz)								
3.495	-32.8	V	3.0	30.4	1.0	-62.2	-13.0	-49.2	
5.243	-29.5	V	3.0	28.7	1.0	-57.1	-13.0	-44.1	
6.990	-34.7	V	3.0	27.0	1.0	-60.7	-13.0	-47.7	
3.495	-35.1	Н	3.0	30.4	1.0	-64.5	-13.0	-51.5	
5.243	-37.2	Н	3.0	28.7	1.0	-64.9	-13.0	-51.9	
6.990	-36.0	Н	3.0	27.0	1.0	-62.0	-13.0	-49.0	

 Company:
 LG

 Project #:
 14U17461

 Date:
 05/22/14

 Test Engineer:
 O. Stoelting

Configuration: EUT Z position, AC Charger, Headphones
Mode: TX, LTE band 4, 15MHz BW, QPSK

Chamber
5m Chamber A

Pre-amplifer
T145 8449B

Filter 1

Limit

Band LTE4

15MHz QPSK

f	SG reading	Ant. Pol.	Distance	Preamp	Filter	ERP	Limit	Delta	Notes
GHz	(dBm)	(H/V)	(m)	(dB)	(dB)	(dBm)	(dBm)	(dB)	
Low Ch, (17	717.5 MHz)								
3.435	-34.0	V	3.0	30.4	1.0	-63.4	-13.0	-50.4	
5.153	-36.8	V	3.0	28.7	1.0	-64.5	-13.0	-51.5	
6.870	-37.1	V	3.0	27.1	1.0	-63.2	-13.0	-50.2	
3.435	-33.0	Н	3.0	30.4	1.0	-62.4	-13.0	-49.4	
5.153	-31.4	Н	3.0	28.7	1.0	-59.2	-13.0	-46.2	
6.870	-35.8	Н	3.0	27.1	1.0	-61.9	-13.0	-48.9	
Mid Ch, (17	732.5 MHz)								
3.465	-30.9	V	3.0	30.4	1.0	-60.3	-13.0	-47.3	
5.198	-37.2	V	3.0	28.7	1.0	-64.9	-13.0	-51.9	
6.930	-37.2	V	3.0	27.1	1.0	-63.2	-13.0	-50.2	
3.465	-36.2	Н	3.0	30.4	1.0	-65.6	-13.0	-52.6	
5.198	-34.0	Н	3.0	28.7	1.0	-61.7	-13.0	-48.7	
6.930	-36.1	Н	3.0	27.1	1.0	-62.2	-13.0	-49.2	
High Ch, (1	747.5 MHz)								
3.495	-33.0	V	3.0	30.4	1.0	-62.4	-13.0	-49.4	
5.243	-29.6	V	3.0	28.7	1.0	-57.3	-13.0	-44.3	
6.990	-34.8	V	3.0	27.0	1.0	-60.9	-13.0	-47.9	
3.495	-35.2	Н	3.0	30.4	1.0	-64.6	-13.0	-51.6	
5.243	-37.7	Н	3.0	28.7	1.0	-65.4	-13.0	-52.4	
6.990	-36.2	Н	3.0	27.0	1.0	-62.2	-13.0	-49.2	
							<u> </u>		

 Company:
 LG

 Project #:
 14U17461

 Date:
 05/22/14

 Test Engineer:
 O. Stoelting

Configuration: EUT Z position, AC Charger, Headphones
Mode: TX, LTE band 4, 10MHz BW, 16QAM

Chamber
5m Chamber A

Pre-amplifer
T145 8449B

Filter 1

Limit

Band LTE4

10MHz

16QAM

f	SG reading	Ant. Pol.	Distance	Preamp	Filter	ERP	Limit	Delta	Notes
GHz	(dBm)	(H/V)	(m)	(dB)	(dB)	(dBm)	(dBm)	(dB)	
Low Ch, (1	715 MHz)								
3.430	-25.5	V	3.0	30.4	1.0	-54.9	-13.0	-41.9	
5.145	-31.5	V	3.0	28.8	1.0	-59.3	-13.0	-46.3	
6.860	-37.3	V	3.0	27.1	1.0	-63.5	-13.0	-50.5	
3.430	-34.6	Н	3.0	30.4	1.0	-64.0	-13.0	-51.0	
5.145	-36.0	Н	3.0	28.8	1.0	-63.7	-13.0	-50.7	
6.860	-36.3	Н	3.0	27.1	1.0	-62.4	-13.0	-49.4	
Mid Ch, (1	732.5 MHz)								
3.465	-34.0	V	3.0	30.4	1.0	-63.4	-13.0	-50.4	
5.198	-37.1	V	3.0	28.7	1.0	-64.8	-13.0	-51.8	
6.930	-37.0	V	3.0	27.1	1.0	-63.1	-13.0	-50.1	
3.465	-27.0	Н	3.0	30.4	1.0	-56.4	-13.0	-43.4	
5.198	-35.7	Н	3.0	28.7	1.0	-63.4	-13.0	-50.4	
6.930	-36.0	Н	3.0	27.1	1.0	-62.1	-13.0	-49.1	
High Ch, (1	750 MHz)								
3.500	-35.8	V	3.0	30.4	1.0	-65.1	-13.0	-52.1	
5.250	-35.6	V	3.0	28.7	1.0	-63.2	-13.0	-50.2	
7.000	-37.3	V	3.0	27.0	1.0	-63.3	-13.0	-50.3	
3.500	-35.5	Н	3.0	30.4	1.0	-64.8	-13.0	-51.8	
5.250	-37.0	Н	3.0	28.7	1.0	-64.7	-13.0	-51.7	
7.000	-36.3	Н	3.0	27.0	1.0	-62.3	-13.0	-49.3	
						<u> </u>	<u> </u>		

 Company:
 LG

 Project #:
 14U17461

 Date:
 05/22/14

 Test Engineer:
 O. Stoelting

Configuration: EUT Z position, AC Charger, Headphones
Mode: TX, LTE band 4, 10MHz BW, QPSK

Chamber
5m Chamber A

Pre-amplifer
T145 8449B

Filter 1

Limit

Band LTE4

10MHz

QPSK

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Distance (m)	Preamp (dB)	Filter (dB)	ERP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, (1	1715 MHz)	. ,		, ,		1			
3.430	-24.8	V	3.0	30.4	1.0	-54.2	-13.0	-41.2	
5.145	-33.0	V	3.0	28.8	1.0	-60.7	-13.0	-47.7	
6.860	-37.4	V	3.0	27.1	1.0	-63.5	-13.0	-50.5	
3.430	-34.4	Н	3.0	30.4	1.0	-63.9	-13.0	-50.9	
5.145	-35.5	Н	3.0	28.8	1.0	-63.3	-13.0	-50.3	
6.860	-36.1	Н	3.0	27.1	1.0	-62.3	-13.0	-49.3	
Mid Ch. (1	1732.5 MHz)								
3.465	-33.8	V	3.0	30.4	1.0	-63.2	-13.0	-50.2	
5.198	-37.5	V	3.0	28.7	1.0	-65.2	-13.0	-52.2	
6.930	-36.8	V	3.0	27.1	1.0	-62.8	-13.0	-49.8	
3.465	-27.1	Н	3.0	30.4	1.0	-56.5	-13.0	-43.5	
5.198	-35.3	Н	3.0	28.7	1.0	-63.0	-13.0	-50.0	
6.930	-35.8	Н	3.0	27.1	1.0	-61.9	-13.0	-48.9	
High Ch. (1750 MHz)								
3.500	-35.9	V	3.0	30.4	1.0	-65.3	-13.0	-52.3	
5.250	-35.6	V	3.0	28.7	1.0	-63.3	-13.0	-50.3	
7.000	-37.3	V	3.0	27.0	1.0	-63.3	-13.0	-50.3	
3.500	-34.9	Н	3.0	30.4	1.0	-64.3	-13.0	-51.3	
5.250	-36.9	Н	3.0	28.7	1.0	-64.6	-13.0	-51.6	
7.000	-36.2	H	3.0	27.0	1.0	-62.2	-13.0	-49.2	

 Company:
 LG

 Project #:
 14U17461

 Date:
 05/22/14

 Test Engineer:
 O. Stoelting

Configuration: EUT Z position, AC Charger, Headphones
Mode: TX, LTE band 4, 5MHz BW, 16 QAM

Chamber
5m Chamber B

Pre-amplifer
T145 8449B

Filter 1

Limit

Band LTE4

5MHz

16QAM

f	SG reading	Ant. Pol.	Distance	Preamp	Filter	ERP	Limit	Delta	Notes
GHz	(dBm)	(H/V)	(m)	(dB)	(dB)	(dBm)	(dBm)	(dB)	
Low Ch, (17	712.5 MHz)								
3.425	-20.0	V	3.0	30.4	1.0	-49.5	-13.0	-36.5	
5.138	-24.3	V	3.0	28.8	1.0	-52.0	-13.0	-39.0	
6.850	-21.9	V	3.0	27.1	1.0	-48.0	-13.0	-35.0	
3.425	-24.4	Н	3.0	30.4	1.0	-53.9	-13.0	-40.9	
5.138	-23.0	Н	3.0	28.8	1.0	-50.7	-13.0	-37.7	
6.850	-21.6	Н	3.0	27.1	1.0	-47.7	-13.0	-34.7	
Mid Ch, (17	732.5 MHz)								
3.465	-20.0	V	3.0	30.4	1.0	-49.4	-13.0	-36.4	
5.198	-21.6	V	3.0	28.7	1.0	-49.3	-13.0	-36.3	
6.930	-23.0	V	3.0	27.1	1.0	-49.1	-13.0	-36.1	
3.465	-14.4	Н	3.0	30.4	1.0	-43.8	-13.0	-30.8	
5.198	-23.1	Н	3.0	28.7	1.0	-50.8	-13.0	-37.8	
6.930	-21.3	Н	3.0	27.1	1.0	-47.4	-13.0	-34.4	
High Ch, (1	752.5 MHz)								
3.505	-18.9	V	3.0	30.4	1.0	-48.3	-13.0	-35.3	
5.258	-22.7	V	3.0	28.6	1.0	-50.3	-13.0	-37.3	
7.010	-21.8	V	3.0	27.0	1.0	-47.8	-13.0	-34.8	
3.505	-25.4	Н	3.0	30.4	1.0	-54.8	-13.0	-41.8	
5.258	-23.8	Н	3.0	28.6	1.0	-51.4	-13.0	-38.4	
7.010	-20.6	Н	3.0	27.0	1.0	-46.6	-13.0	-33.6	
							<u> </u>		

 Company:
 LG

 Project #:
 14U17461

 Date:
 05/22/14

 Test Engineer:
 O. Stoelting

Configuration: EUT Z position, AC Charger, Headphones
Mode: TX, LTE band 4, 5MHz BW, QPSK

Chamber
5m Chamber B ▼

Pre-amplifer
T145 8449B

Filter 1

Limit

Band LTE4

5MHz

QPSK

f	SG reading	Ant. Pol.	Distance	Preamp	Filter	ERP	Limit	Delta	Note
GHz	(dBm)	(H/V)	(m)	(dB)	(dB)	(dBm)	(dBm)	(dB)	
Low Ch, (1	712.5 MHz)								
3.425	-20.3	V	3.0	30.4	1.0	-49.7	-13.0	-36.7	
5.138	-23.7	V	3.0	28.8	1.0	-51.4	-13.0	-38.4	
6.850	-21.6	V	3.0	27.1	1.0	-47.8	-13.0	-34.8	
3.425	-23.5	Н	3.0	30.4	1.0	-53.0	-13.0	-40.0	
5.138	-22.8	Н	3.0	28.8	1.0	-50.6	-13.0	-37.6	
6.850	-21.5	Н	3.0	27.1	1.0	-47.7	-13.0	-34.7	
Mid Ch, (1	732.5 MHz)								
3.465	-19.9	V	3.0	30.4	1.0	-49.3	-13.0	-36.3	
5.198	-23.5	V	3.0	28.7	1.0	-51.2	-13.0	-38.2	
6.930	-22.8	V	3.0	27.1	1.0	-48.9	-13.0	-35.9	
3.465	-14.5	Н	3.0	30.4	1.0	-43.9	-13.0	-30.9	
5.198	-23.0	Н	3.0	28.7	1.0	-50.7	-13.0	-37.7	
6.930	-21.4	Н	3.0	27.1	1.0	-47.4	-13.0	-34.4	
High Ch, (1	752.5 MHz)								
3.505	-18.2	V	3.0	30.4	1.0	-47.6	-13.0	-34.6	
5.258	-22.9	V	3.0	28.6	1.0	-50.6	-13.0	-37.6	
7.010	-21.3	V	3.0	27.0	1.0	-47.3	-13.0	-34.3	
3.505	-25.4	Н	3.0	30.4	1.0	-54.7	-13.0	-41.7	
5.258	-23.9	Н	3.0	28.6	1.0	-51.5	-13.0	-38.5	
7.010	-20.8	Н	3.0	27.0	1.0	-46.8	-13.0	-33.8	

 Company:
 LG

 Project #:
 14U17461

 Date:
 05/23/14

 Test Engineer:
 D. Soper

 Configuration:
 EUT, X Position

 Mode:
 CDMA EVDO BC1

Chamber -

Pre-amplifer
T343 8449B

Filter 1

Limit Part 24

Band BC1

f	SG reading	Ant. Pol.	Distance	Preamp	Filter	EIRP	Limit	Delta	Notes
GHz	(dBm)	(H/V)	(m)	(dB)	(dB)	(dBm)	(dBm)	(dB)	
Low Ch, 18	851.25MHz								
3.703	-18.0	V	3.0	35.4	1.0	-52.4	-13.0	-39.4	
5.554	-18.0	V	3.0	34.7	1.0	-51.8	-13.0	-38.8	
7.405	-16.6	V	3.0	34.9	1.0	-50.5	-13.0	-37.5	
3.703	-16.4	Н	3.0	35.4	1.0	-50.8	-13.0	-37.8	
5.554	-17.3	Н	3.0	34.7	1.0	-51.1	-13.0	-38.1	
7.405	-15.7	Н	3.0	34.9	1.0	-49.6	-13.0	-36.6	
Mid Ch, 18	80.0MHz								
3.760	-17.1	V	3.0	35.3	1.0	-51.4	-13.0	-38.4	
5.640	-17.9	V	3.0	34.7	1.0	-51.6	-13.0	-38.6	
7.520	-16.1	V	3.0	34.9	1.0	-50.1	-13.0	-37.1	
3.760	-13.3	Н	3.0	35.3	1.0	-47.6	-13.0	-34.6	
5.640	-17.6	Н	3.0	34.7	1.0	-51.3	-13.0	-38.3	
7.520	-15.2	Н	3.0	34.9	1.0	-49.1	-13.0	-36.1	
High Ch, 19	908.75 MHz								
3.818	-16.2	V	3.0	35.3	1.0	-50.5	-13.0	-37.5	
5.726	-17.9	V	3.0	34.7	1.0	-51.7	-13.0	-38.7	
7.635	-15.6	V	3.0	34.9	1.0	-49.6	-13.0	-36.6	
3.818	-16.4	Н	3.0	35.3	1.0	-50.6	-13.0	-37.6	
5.726	-17.3	Н	3.0	34.7	1.0	-51.0	-13.0	-38.0	
7.635	-14.5	Н	3.0	34.9	1.0	-48.4	-13.0	-35.4	
Rev. 03.03.0	09								

 Company:
 LG

 Project #:
 14U17461

 Date:
 05/23/14

 Test Engineer:
 D. Soper

 Configuration:
 EUT, X Position

 Mode:
 CDMA RTT BC1

Chamber
5m Chamber A ▼

Pre-amplifer
T343 8449B

Filter 1

Limit Part 24

Band BC1

1xRTT

f	SG reading	Ant. Pol.	Distance	Preamp	Filter	EIRP	Limit	Delta	Notes
GHz	(dBm)	(H/V)	(m)	(dB)	(dB)	(dBm)	(dBm)	(dB)	
Low Ch, 1	851.25MHz								
3.703	-16.0	V	3.0	35.4	1.0	-50.4	-13.0	-37.4	
5.554	-19.0	V	3.0	34.7	1.0	-52.7	-13.0	-39.7	
7.405	-18.1	V	3.0	34.9	1.0	-52.0	-13.0	-39.0	
3.703	-20.6	Н	3.0	35.4	1.0	-55.0	-13.0	-42.0	
5.554	-18.4	Н	3.0	34.7	1.0	-52.1	-13.0	-39.1	
7.405	-17.0	Н	3.0	34.9	1.0	-50.9	-13.0	-37.9	
Mid Ch, 1	880.0MHz								
3.760	-17.8	V	3.0	35.3	1.0	-52.2	-13.0	-39.2	
5.640	-18.8	V	3.0	34.7	1.0	-52.6	-13.0	-39.6	
7.520	-17.8	V	3.0	34.9	1.0	-51.7	-13.0	-38.7	
3.760	-20.0	Н	3.0	35.3	1.0	-54.3	-13.0	-41.3	
5.640	-18.5	Н	3.0	34.7	1.0	-52.2	-13.0	-39.2	
7.520	-16.8	Н	3.0	34.9	1.0	-50.7	-13.0	-37.7	
High Ch, 1	908.75 MHz								
3.818	-15.3	V	3.0	35.3	1.0	-49.6	-13.0	-36.6	
5.726	-18.6	V	3.0	34.7	1.0	-52.4	-13.0	-39.4	
7.635	-17.7	V	3.0	34.9	1.0	-51.6	-13.0	-38.6	
3.818	-18.9	Н	3.0	35.3	1.0	-53.2	-13.0	-40.2	
5.726	-18.5	Н	3.0	34.7	1.0	-52.2	-13.0	-39.2	
7.635	-16.2	Н	3.0	34.9	1.0	-50.2	-13.0	-37.2	
D 00.00	00								

Rev. 03.03.09

 Company:
 LG

 Project #:
 14U17461

 Date:
 05/23/14

 Test Engineer:
 D. Soper

 Configuration:
 EUT, X Position

 Mode:
 CDMA EVDO BC0

Chamber
5m Chamber A ▼

Pre-amplifer
T343 8449B

Filter 1

Limit Part 22

Band BC0

) (H/V)	(m)	(dB)	(dB)	(dBm)	(dBm)	(dB)	
	_		(/	(42,	(uDiii)	(ub)	
V	3.0	37.4	1.0	-65.9	-13.0	-52.9	
V	3.0	36.4	1.0	-58.3	-13.0	-45.3	
V	3.0	35.8	1.0	-55.4	-13.0	-42.4	
Н	3.0	37.4	1.0	-66.2	-13.0	-53.2	
Н	3.0	36.4	1.0	-60.0	-13.0	-47.0	
Н	3.0	35.8	1.0	-55.3	-13.0	-42.3	
V	3.0	37.3	1.0	-65.6	-13.0	-52.6	
V	3.0	36.4	1.0	-58.1	-13.0	-45.1	
V	3.0	35.8	1.0	-55.0	-13.0	-42.0	
Н	3.0	37.3	1.0	-65.8	-13.0	-52.8	
Н	3.0	36.4	1.0	-59.6	-13.0	-46.6	
Н	3.0	35.8	1.0	-54.8	-13.0	-41.8	
V	3.0	37.3	1.0	-65.4	-13.0	-52.4	
V	3.0	36.3	1.0	-57.9	-13.0	-44.9	
V	3.0	35.7	1.0	-54.8	-13.0	-41.8	
Н	3.0	37.3	1.0	-65.8	-13.0	-52.8	
Н	3.0	36.3	1.0	-59.6	-13.0	-46.6	
	V H H H V V V V H H	V 3.0 H 3.0 H 3.0 H 3.0 V 3.0 V 3.0 V 3.0 V 3.0 H 3.0	V 3.0 35.8 H 3.0 37.3 H 3.0 36.4 H 3.0 35.8 V 3.0 37.3 V 3.0 37.3 V 3.0 36.3 V 3.0 35.7 H 3.0 37.3	V 3.0 35.8 1.0 H 3.0 37.3 1.0 H 3.0 36.4 1.0 H 3.0 35.8 1.0 V 3.0 37.3 1.0 V 3.0 36.3 1.0 V 3.0 35.7 1.0 H 3.0 37.3 1.0	V 3.0 35.8 1.0 -55.0 H 3.0 37.3 1.0 -65.8 H 3.0 36.4 1.0 -59.6 H 3.0 35.8 1.0 -54.8 V 3.0 37.3 1.0 -65.4 V 3.0 36.3 1.0 -57.9 V 3.0 35.7 1.0 -54.8 H 3.0 37.3 1.0 -65.8	V 3.0 35.8 1.0 -55.0 -13.0 H 3.0 37.3 1.0 -65.8 -13.0 H 3.0 36.4 1.0 -59.6 -13.0 H 3.0 35.8 1.0 -54.8 -13.0 V 3.0 37.3 1.0 -65.4 -13.0 V 3.0 36.3 1.0 -57.9 -13.0 V 3.0 35.7 1.0 -54.8 -13.0 H 3.0 37.3 1.0 -65.8 -13.0	V 3.0 35.8 1.0 -55.0 -13.0 -42.0 H 3.0 37.3 1.0 -65.8 -13.0 -52.8 H 3.0 36.4 1.0 -59.6 -13.0 -46.6 H 3.0 35.8 1.0 -54.8 -13.0 -41.8 V 3.0 37.3 1.0 -65.4 -13.0 -52.4 V 3.0 36.3 1.0 -57.9 -13.0 -44.9 V 3.0 35.7 1.0 -54.8 -13.0 -41.8 H 3.0 37.3 1.0 -65.8 -13.0 -52.8

Rev. 03.03.09

 Company:
 LG

 Project #:
 14U17461

 Date:
 05/23/14

 Test Engineer:
 D. Soper

 Configuration:
 EUT, X Position

 Mode:
 CDMA RTT BC0

Chamber
5m Chamber A

Pre-amplifer
T343 8449B

Filter 1

Limit
Part 22

Band BC0

1xRTT

SG reading	Ant. Pol.	Distance	Preamp	Filter	EIRP	Limit	Delta	Notes
(dBm)	(H/V)	(m)	(dB)	(dB)	(dBm)	(dBm)	(dB)	
24.7MHz								
-27.8	V	3.0	37.4	1.0	-64.2	-13.0	-51.2	
-21.2	V	3.0	36.4	1.0	-56.6	-13.0	-43.6	
-18.0	V	3.0	35.8	1.0	-52.8	-13.0	-39.8	
-24.4	Н	3.0	37.4	1.0	-60.8	-13.0	-47.8	
-18.8	Н	3.0	36.4	1.0	-54.2	-13.0	-41.2	
-15.0	Н	3.0	35.8	1.0	-49.7	-13.0	-36.7	
6.52MHz								
-23.8	V	3.0	37.3	1.0	-60.1	-13.0	-47.1	
-17.3	V	3.0	36.4	1.0	-52.6	-13.0	-39.6	
-12.8	V	3.0	35.8	1.0	-47.6	-13.0	-34.6	
-25.2	Н	3.0	37.3	1.0	-61.5	-13.0	-48.5	
-19.0	Н	3.0	36.4	1.0	-54.4	-13.0	-41.4	
-13.4	Н	3.0	35.8	1.0	-48.2	-13.0	-35.2	
48.31 MHz								
-23.1	V	3.0	37.3	1.0	-59.4	-13.0	-46.4	
-17.2	V	3.0	36.3	1.0	-52.6	-13.0	-39.6	
-14.6	V	3.0	35.7	1.0	-49.3	-13.0	-36.3	
-24.1	Н	3.0	37.3	1.0	-60.4	-13.0	-47.4	
-18.5	Н	3.0	36.3	1.0	-53.8	-13.0	-40.8	
-13.8	Н	3.0	35.7	1.0	-48.5	-13.0	-35.5	
	(dBm) 4.7MHz -27.8 -21.2 -18.0 -24.4 -18.8 -15.0 66.52MHz -23.8 -17.3 -12.8 -25.2 -19.0 -13.4 48.31 MHz -23.1 -17.2 -14.6 -24.1 -18.5	(dBm) (H/V) 4.7MHz -27.8 V -21.2 V -18.0 V -24.4 H -18.8 H -15.0 H 66.52MHz -23.8 V -17.3 V -12.8 V -25.2 H -19.0 H -13.4 H 18.31 MHz -23.1 V -17.2 V -14.6 V -24.1 H -18.5 H	(dBm) (H/V) (m) 24.7MHz 3.0 -21.2 V 3.0 -18.0 V 3.0 -18.0 V 3.0 -24.4 H 3.0 -18.8 H 3.0 -15.0 H 3.0 66.52MHz 3.0 3.0 -17.3 V 3.0 -17.3 V 3.0 -12.8 V 3.0 -25.2 H 3.0 -19.0 H 3.0 -19.0 H 3.0 -13.4 H 3.0 -17.2 V 3.0 -17.2 V 3.0 -17.2 V 3.0 -14.6 V 3.0 -24.1 H 3.0	(dBm) (H/V) (m) (dB) 24.7MHz -27.8 V 3.0 37.4 -21.2 V 3.0 36.4 -18.0 V 3.0 35.8 -24.4 H 3.0 37.4 -18.8 H 3.0 36.4 -15.0 H 3.0 35.8 66.52MHz -23.8 V 3.0 37.3 -17.3 V 3.0 36.4 -12.8 V 3.0 35.8 -25.2 H 3.0 37.3 -19.0 H 3.0 36.4 -13.4 H 3.0 35.8 18.31 MHz -23.1 V 3.0 37.3 -17.2 V 3.0 36.3 -14.6 V 3.0 35.7 -24.1 H 3.0 36.3 -18.5 H 3.0 36.3	(dBm) (H/V) (m) (dB) (dB) 24.7MHz -27.8 V 3.0 37.4 1.0 -21.2 V 3.0 36.4 1.0 -18.0 V 3.0 35.8 1.0 -24.4 H 3.0 37.4 1.0 -18.8 H 3.0 36.4 1.0 -15.0 H 3.0 35.8 1.0 66.52MHz -23.8 V 3.0 37.3 1.0 -17.3 V 3.0 36.4 1.0 -12.8 V 3.0 35.8 1.0 -25.2 H 3.0 37.3 1.0 -19.0 H 3.0 36.4 1.0 -13.4 H 3.0 35.8 1.0 18.31 MHz -23.1 V 3.0 37.3 1.0 -17.2 V 3.0 36.3 1.0 -14.6 V 3.0 35	(dBm) (H/V) (m) (dB) (dBm) 44.7MHz -27.8 V 3.0 37.4 1.0 -64.2 -21.2 V 3.0 36.4 1.0 -56.6 -18.0 V 3.0 35.8 1.0 -52.8 -24.4 H 3.0 37.4 1.0 -60.8 -18.8 H 3.0 36.4 1.0 -54.2 -15.0 H 3.0 35.8 1.0 49.7 66.52MHz -23.8 V 3.0 37.3 1.0 -60.1 -17.3 V 3.0 36.4 1.0 -52.6 -12.8 V 3.0 35.8 1.0 47.6 -25.2 H 3.0 37.3 1.0 -61.5 -19.0 H 3.0 36.4 1.0 -54.4 -13.4 H 3.0 35.8 1.0 48.2 48.31 MHz	(dBm) (H/V) (m) (dB) (dBm) (dBm) (dBm) 24.7MHz -27.8 V 3.0 37.4 1.0 -64.2 -13.0 -21.2 V 3.0 36.4 1.0 -56.6 -13.0 -18.0 V 3.0 35.8 1.0 -52.8 -13.0 -24.4 H 3.0 37.4 1.0 -60.8 -13.0 -18.8 H 3.0 36.4 1.0 -54.2 -13.0 -15.0 H 3.0 35.8 1.0 -49.7 -13.0 66.52MHz -23.8 V 3.0 37.3 1.0 -60.1 -13.0 -17.3 V 3.0 36.4 1.0 -52.6 -13.0 -12.8 V 3.0 35.8 1.0 -47.6 -13.0 -25.2 H 3.0 37.3 1.0 -61.5 -13.0 -19.0 H 3.0 36.4	(dBm) (H/V) (m) (dB) (dB) (dBm) (dBm) (dB) 447MHz 27.8 V 3.0 37.4 1.0 -64.2 -13.0 -51.2 -21.2 V 3.0 36.4 1.0 -56.6 -13.0 -43.6 -18.0 V 3.0 35.8 1.0 -52.8 -13.0 -39.8 -24.4 H 3.0 37.4 1.0 -60.8 -13.0 -47.8 -18.8 H 3.0 36.4 1.0 -54.2 -13.0 -47.8 -15.0 H 3.0 35.8 1.0 -49.7 -13.0 -36.7 66.52MHz

Rev. 03.03.09